# 400-660LC42003

## **REPAIR MANUAL**

REPARATURANLEITUNG MANUALE DI RIPARAZIONE MANUEL DE RÉPARATION MANUAL DE REPARACIÓN









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3	REMOVING AND REFITTING ENGINE
4	DISASSEMBLING THE ENGINE
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## IMPORTANT INFORMATION/UPDATING INSTRUCTIONS

To be able to continue using the existing loose-leaf repair instructions, simply print the following pages and insert them in the existing repair instructions:

## 15-18, 20-28, 32, 35, 40-54, 64, 66-69, 73, 77, 79-81, 84-207, 219, 280-291, 314-319, 323, 378-387

Remove page (s)	Replace by page (s)	Insert page (s)	after page
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7-1 to 7-49C	7-1D to 7-51D		
8-1C to 8-37C	8-1D to 8-49D		
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11-1C	11-1D	11-22D to 11-27D	
12-2C	12-2D	12-57D to 12-66D	

#### KTM REPAIR MANUAL IN LOOSE-LEAF FORM

#### STORING THE REPAIR MANUAL IN THE BINDER

- Put the index into the binder.
- Put the front page of the repair manual (210x297 mm) into the transparent pocket provided for this purpose on the outside of the binder.
- Put the spine label (170x45 mm) into the transparent pocket provided for this purpose on the spine of the binder.
- Put the summary list of contents (150x297 mm) into the transparent pocket provided for this purpose on the inside of the binder or insert this page on the beginning of the manual.
- Then insert the individual chapters of the manual between the sheets of the index according to the page number printed in the right bottom corner of each page.
   Example: page no. 3-5 3 = chapter 3 5 = page 5
   All pages with a page number that begins with the digit 3, for example, must be put under the index heading "Chapter 3".
- Index sheets that have not been marked with a certain chapter are for your personal convenience. The respective headings can be entered in the list of contents.



	EXPLANATION - UPDATING	
3.205.49-Е	<b>Repair Manual LC4</b> Basicversion Modelyear 1998 (Engine number with first digit "8")	6/1998
3.205.73-Е	<b>Updating of Rep.Manual LC4</b> Modelyear 1999 (Engine number with first digit "9")	7/1999
3.205.89-Е	<b>Updating of Rep.Manual LC4</b> Modelyear 2000/2001 (Engine number with first digit "0" and "1")	9/2000
3.210.30-Е	<b>Updating of Rep.Manual LC4</b> Modelljahr 2002 (Engine number with first digit "2")	12/2001
3.206.006-Е	Updating of Rep.Manual LC4 Modelljahr 2003 (Engine number with first digit "3")	4/2003
	Modification / Updating: Special tools, hydraulic clutch, Keihin carburator, technical details model 2003, technical specification, Maintenance schedule and wiring diagrams for modell 2003	

Edition 4/2003

#### INTRODUCTION

This repair manual offers extensiv repair-instructions and is an up-to-date version that describes the latest models of the series. However, the right to modifications in the interest of technical improvement is reserved without updating the current issue of this manual.

A description of general working modes common in work shops has not been included. Safety rules common in the work shop have also not been listed. We take it for granted that the repairs are made by qualified profesionally trained mechanics.

Read through the repair manual before beginning with the repair work.

		VARN	ING	$\land$		
STRICT	COMPLIANCE	WITH	THESE	INSTRUCTIONS	IS	
ESSENTIAL TO AVOID DANGER TO LIFE AND LIMB.						

CAUTION

NON-COMPLIANCE WITH THESE INSTRUCTIONS CAN LEAD TO DAMAGE OF MOTORCYCLE COMPONENTS OR RENDER MOTORCYCLES UNFIT FOR TRAFFIC !

"NOTE" POINTS OUT USEFUL TIPS.

Use only ORIGINAL KTM SPARE PARTS when replacing parts.

The KTM high performance engine is only able to meet user expectations if the maintenance work is performed regularly and professionally.



REG.NO. 12 100 6061

KTM Austria's certificate of achievement for its quality system ISO 9001 is the beginning of an ongoing total reengineered quality plan for a brighter tomorrow.

KTM Sportmotorcycle AG 5230 Mattighofen, Austria

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## **REPLY FAX FOR REPAIR MANUALS**

We have made every effort to make our repair manuals as accurate as possible but it is always possible for a mistake or two to creep in.

To keep improving the quality of our repair manuals, we request mechanics and shop foremen to assist us as follows:

If you find any errors or inaccuracies in one of our repair manual – whether these are technical errors, incorrect or unclear repair procedures, tool problems, missing technical data or torques, inaccurate or incorrect translations or wording, etc. – please enter the error(s) in the table below and fax the completed form to us at 0043/7742/6000/5349.

NOTE to table:

- Enter the complete item no. for the repair manual in column 1 (e.g.: 3.210.66-E).
- You will find the number on the cover page or in the left margin on each right page of the manual.
- Enter the corresponding page number in the repair manual (e.g.: 5-7c) in column 2.
- Enter the current text (inaccurate or incomplete) in column 3 by quoting or describing the respective passage of the text. If your text deviates from the text contained in the repair manual, please write your text in German or English if possible.
- Enter the correct text in column 4.

Your corrections will be reviewed and incorporated in the next issue of our repair manual.

Item no. of repair manual	Page	Current text	Correct text

Additional suggestions, requests or comments on our Repair Manuals (in German or English):

Name mechanic/shop foreman

#### 2-1D

# **GENERAL INFORMATION**

#### INDEX

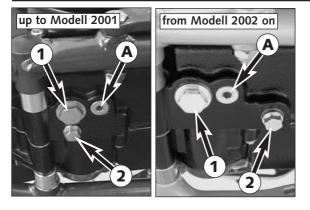
#### **MODELS WITHOUT FRAME OIL**

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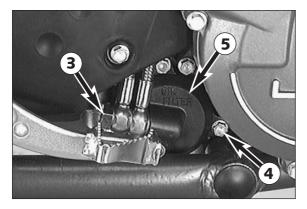
#### **MODELS WITH FRAME OIL**

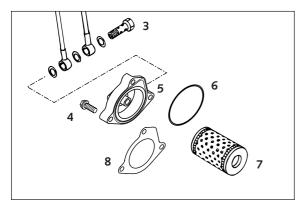
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#### Changing the engine oil (models without frame oil)

NOTE: The engine oil change is to be carried out when the engine is still warm.

⚠	WARNING	$\land$

An engine having been run warm, and the engine oil in it are very hot - do not burn yourself.

 Place the motorbike on a horizontal surface. Remove the two plugs (1) and (2), and drain oil into a container.

NOTE: A third plug was installed in the 660 SMC model. Tightening torque: 20  $\rm Nm$ 

E CAUTION E
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The screw plug 🚯 must not be removed, this is part of the by-pass valve.

- Clean the plugs thoroughly with a fireproof solvent and compressed air, in order to remove the metal abrasion.
- After all the oil has drained through, clean raised and flat faces and install plugs with seals. Tighten plug ● with 30 Nm (22 ft.lb) and plug ● with 20 Nm (15ft.lb).
- Remove the oil dipstick at the clutch cover, pour in engine oil and replace the oil dipstick.

Oil capacity (up to model 2002) : 1.40 | Oil capacity (from model 2003 on) : 1.50 |

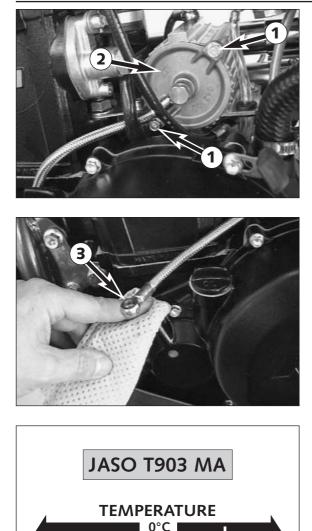
#### Changing the oil filter

Replace the oil filter when changing the engine oil.

- Press the foot brake pedal and place a screwdriver or similar between foot brake pedal and stopper roll so that the oil filter cover is more accessible.
- Remove banjo bolt **③** and the three bolts **④**.
- Remove oil filter cover 6 and oil filter.
- Clean filter housing, oil filter cover and sealing surfaces. Check oil duct in oil filter cover if clogged.
- Press the new O-ring <sup>(3)</sup> into the groove of the filter cover (if necessary fix with grease). Mount a new oil filter <sup>(3)</sup> on the connection piece of the oil filter cover an mount the whole unit.

NOTE: From model 2001 onwards the gasket ③ is mounted with a changed filter cover ⑤. If the new gasket ③ should be used on older engines, the filter cover must be flat regrinded or renewed (see Technical Info Nr. 0201/30/01).

- Mount three bolts and tighten with 5 Nm (4 ft.lb).
- Mount hollow bolt with seal rings and tighten with 15 Nm (11 ft.lb).



3201

10W/50

5W/40

Replace the microfilter while changing the engine oil.

- To do so, remove bolts **1** and take off the microfilter cover **2**.
- Remove the microfilter, clean its parts and check the O-ring on the microfilter cover for signs of damage.
- Insert a new microfilter into the filter housing, tilt the motorcycle sideways and fill the microfilter housing with engine oil.
- Slightly grease the O-ring and mount the microfilter cover. Then put the motorcycle back on its stand.
- It is necessary to bleed the microfilter so that all lubricating points can be quickly supplied with engine oil.
- To do this, fill with oil and remove the jet screw from the oil line on the clutch cover.
- Start the engine and close off the bore on the clutch cover with a rag.
- Allow the engine to run at idle until oil runs out of the oil line ③.
- Turn off the engine. Mount the jet screw, using two new seal rings.

- Torque the jet screw to 10 Nm and check for leaks.

- Start the engine and let it idle for 1 - 2 minutes

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	!	CAUTION	!
O NOT REV		ENGINE IMMEDIATELY AFTER AN OIL	CHANCE I KEEP IN MIND

Do not rev up the engine immediately after an oil change ! Keep in mind that it takes some time until all lubricating points are properly provided with engine oil.

- Allow the engine to run until warm. Then, turn off the engine, and place the motorbike on a flat, level surface in an upright position (center stand). Wait for 5 minutes. Unscrew and remove the oil dipstick, and wipe it clean with a cloth.
- Screw the dipstick in all the way and remove it again. The oil level should be between the two marks on the oil dipstick, however, it must never rise above the MAX mark. Otherwise, engine oil would get into the air filter box by way of the engine venting system. Add engine oil, if necessary.
- Finally, check oil system and engine for leaks.

! CAUTION			!					
	LICE						TUE	

- Only use high-quality oils meeting or surpassing the quality requirements of JASO T903 MA (for specifications see containers).
- INSUFFICIENT OIL OR POOR QUALITY OIL RESULTS IN PREMATURE WEAR OF THE ENGINE.
- YOU MAY USE EITHER MINERAL OILS OR SYNTHETIC OILS FULFILLING THE ABOVE CRITERIA.

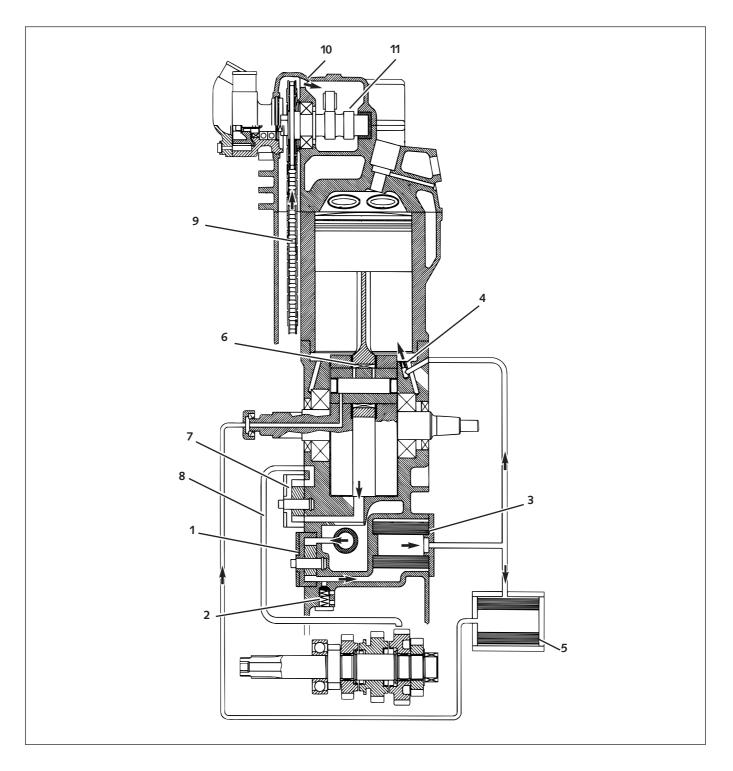
#### NOTE: Dispose of used oil properly !

Under no circumstances may used oil be disposed of in the sewage system or in the open countryside.

1 liter oil contaminates 1.000.000 liter water.

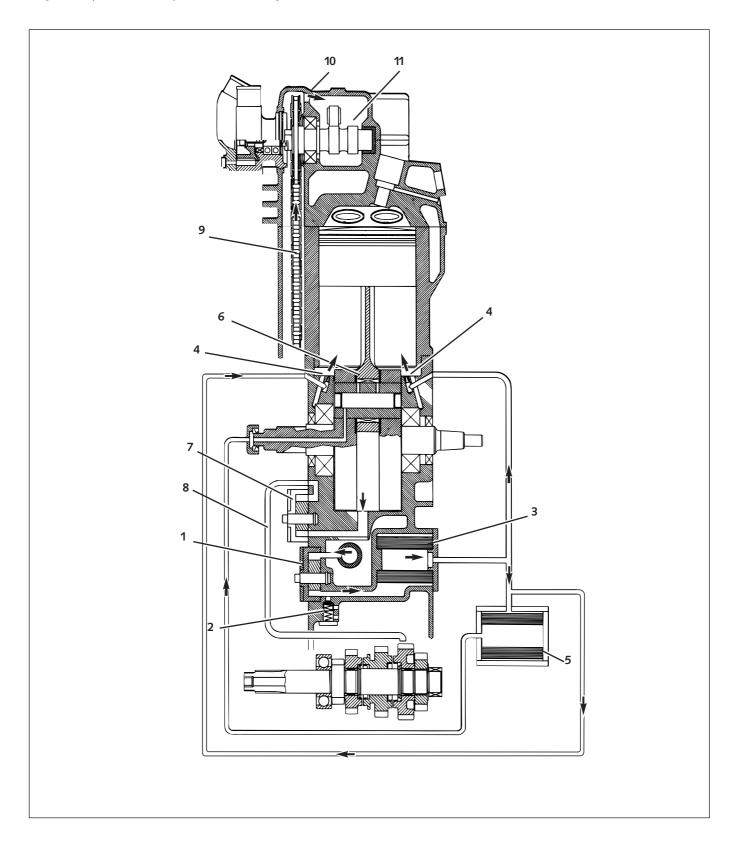
#### Oil circuit

The oil pump ① pumps the engine oil past the by-pass valve ② through the oil filter ③. After the oil filter, an oil lead branches off to a jet ③ which sprays engine oil onto the piston pin bearing and piston head. The second oil lead takes the main flow of oil to the microfilter ④, which filters out even the finest impurities. The cleaned engine oil is pumped through the oil lead and the clutch cover into the crankshaft to the connecting rod bearing ⑤ and drips into the crankcase. An additional oil pump ④ sucks the engine oil out of the crankcase and pumps it through the oil line ③ to the gear wheels of the 4th and 5th gear. Via the gear wheels, the engine oil reaches the oil sump. The timing chain ③ runs through the oil sump and transports the engine oil upwards to the cylinder head. Through the bore ④ the oil reaches the camshaft ④ and the valves.



### Oil circuit 660 SMC

The oil pump ① pumps the engine oil past the by-pass valve ② through the oil filter ③. After the oil filter, an oil lead branches off to a jet ③ which sprays engine oil onto the piston pin bearing and piston head. The second oil lead takes the main flow of oil to the second jet ④ and the microfilter ⑤, which filters out even the finest impurities. The cleaned engine oil is pumped through the oil lead and the clutch cover into the crankshaft to the connecting rod bearing ⑥ and drips into the crankcase. An additional oil pump ③ sucks the engine oil out of the crankcase and pumps it through the oil line ③ to the gear wheels of the 4th and 5th gear. Via the gear wheels, the engine oil reaches the oil sump. The timing chain ③ runs through the oil sump and transports the engine oil upwards to the cylinder head. Through the bore ⑩ the oil reaches the camshaft ① and the valves.



#### Changing the engine oil (models with frame oil)

NOTE: For improved cooling of the engine oil, the front tube of the frame was integrated into the oil circuit.Thus, when you change the oil, you also have to drain the engine oil from the front tube and bleed the oil system.

If the oil system is not bled at all or bled insufficiently, the bearings of the engine will not get enough lubrication, which in turn may result in engine failure.

The engine oil change is to be carried out when the engine is still warm.

⚠	WARNING	⚠	

An engine having been run warm, and the engine oil in it are very hot - do not burn yourself.

- Place the motorcycle on a horizontal surface. When working on a motorcycle with engine guard, remove the latter before commencing to change the engine oil.
- Remove the two plugs **0** and **0**, and drain oil into a container.

PLUG () MUST NOT BE REMOVED, THIS IS PART OF THE BY-PASS VALVE.

#### Changing the fine screen filter

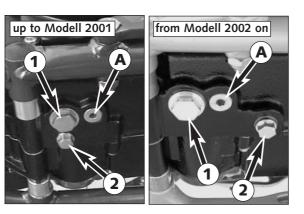
RESULT IN DAMAGE TO THE ENGINE!

Replace the fine screen **③** filter when changing the engine oil.

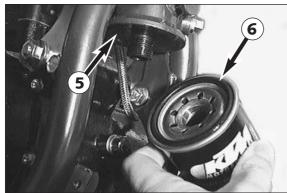
- Loosen the three bolts and remove the cover.
- Undo the spin-on filter 
   with the corresponding special tool, twist it off manually and let the engine oil out of the front pipe of the frame.
- Unscrew plug **4** at the lower end of the front pipe and drain oil (**up to model 2000**).
- Clean sealing surfaces on the front pipe <sup>(3)</sup>, fill new fine screen filter with engine oil, and oil rubber gasket <sup>(3)</sup>. Replace fine screen filter and screw it back in place, your bare hand will do.

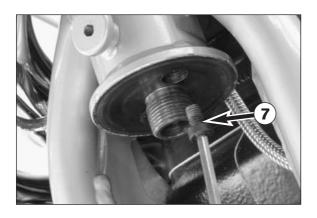
!	CAUTIO	N	!
Use only original KT	TM FINE SCREEN FILTERS.	Using another	FILTER BRAND CAN

- From model 2001 onwards the drain plug of the frame oil is located in the oil filter flange, draining is only possible after removing the oil filter.
  - Clean all 3 plugs thoroughly with a fireproof solvent and compressed air, in order to remove the metal abrasion.
  - After all the oil has drained through, clean sealing areas and install plugs with gaskets. Tighten plug **①** with 30 Nm (23 ft.lb), plug **②** with 20 Nm and plug **③** with 10 Nm (**up to model 2000**). Drain plug of frame oil (**model 2001 onwards**) is to be mounted without a gasket and tightened to 10 Nm (7 lb.ft).

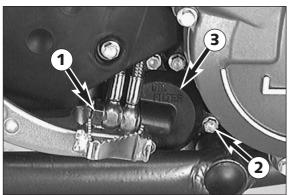








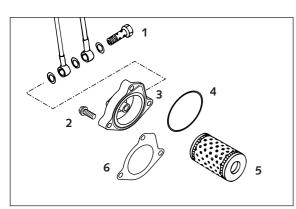




#### Changing the oil filter

Replace the oil filter when changing the engine oil.

- Press the foot brake pedal and place a screwdriver or similar between foot brake pedal and stopper roll so that the oil filter cover is more accessible.
- Remove banjo bolt ① and the three bolts ②.
- Remove oil filter cover <sup>3</sup> and oil filter.
- Clean filter housing, oil filter cover and sealing surfaces. Check oil duct in oil filter cover if clogged.



Press the new O-ring I into the groove of the filter cover (if necessary fix with grease). Mount a new oil filter I on the connection piece of the oil filter cover an mount the whole unit.

NOTE: From model 2001 onwards the gasket **③** is mounted with a changed filter cover **③**. If the new gasket **③** should be used on older engines, the filter cover must be flat regrinded or renewed (see Technical Info Nr. 0201/30/01).

- Mount three bolts and tighten with 5 Nm (4 ft.lb).
  - Mount banjo bolt with seal rings and tighten with 15 Nm (11 ft.lb).
- Remove the oil dipstick at the clutch cover, pour in engine oil and replace the oil dipstick.

Oil quantity (engine only) : 1.40 liter

!	CAUTION	!

If the engine oil has been drained from the front pipe of the frame, you must bleed the oil system!

- Remove the plug next to the steering head and use a lubricating syringe (see special tools) to fill the front pipe with approx. 0.6 l engine oil. Add oil until it begins to emerge at bore .
  - Mount the plug, using a new seal ring.

! CAUTION !
Do not rev up the engine immediately after an oil change. Keep in mind
THAT IT TAKES SOME TIME UNTIL ALL LUBRICATING POINTS ARE PROPERLY PROVIDED
WITH ENGINE OIL.

- Allow the engine to run until warm. Then, turn off the engine, and place the motorbike on a flat, level surface in an upright position (center stand). Wait for 5 minutes. Unscrew and remove the oil dipstick, and wipe it clean with a cloth.
- Screw the dipstick in all the way and remove it again. The oil level should be between the two marks on the oil dipstick, however, it must never rise above the MAX mark. Otherwise, engine oil would get into the air filter box by way of the engine venting system. Add engine oil, if necessary.
- Finally, check oil system and engine for leaks.

_	-			•			
		ļ	CA	UTION	J	!	
		ПСС			OP	тиг	

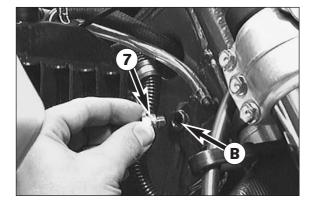
- ONLY USE HIGH-QUALITY OILS MEETING OR SURPASSING THE QUALITY REQUIREMENTS OF JASO T903 MA (FOR SPECIFICATIONS SEE CONTAINERS).
- INSUFFICIENT OIL OR POOR QUALITY OIL RESULTS IN PREMATURE WEAR OF THE ENGINE.
- You may use either mineral oils or synthetic oils fulfilling the above criteria.

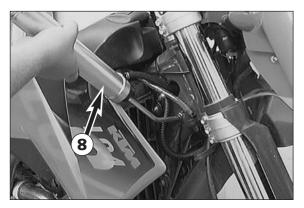
#### NOTE: Dispose of used oil properly !

Under no circumstances may used oil be disposed of in the sewage system or in the open countryside !

1 liter oil contaminates 1.000.000 liter water !



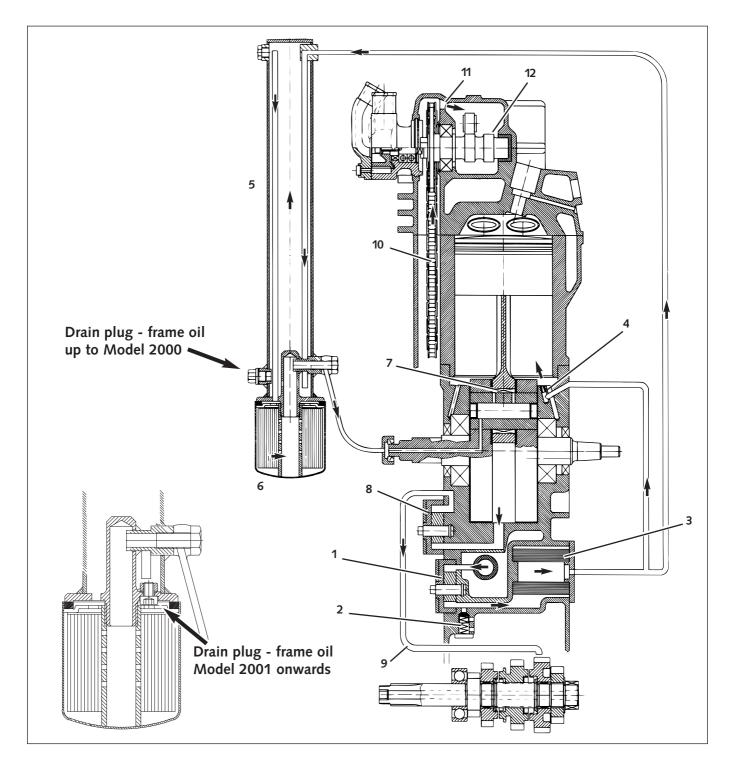




#### 2-8D

#### Oil circuit

The oil pump ① pumps the engine oil past the by-pass valve ② through the oil filter ③. After the oil filter, an oil line branches off to a jet ④ which sprays engine oil onto the piston pin bearing and piston head. The second oil line takes the main flow of oil into the front pipe of the frame ⑤, where the engine oil is cooled down. Afterwards the engine oil runs through the fine screen filter ⑤, which filters out even the finest impurities. The cleaned engine oil is pumped through the oil line and the clutch cover into the crankshaft to the conrod bearing ⑦ and drips into the crankcase. An additional oil pump ③ sucks the engine oil out of the crankcase and pumps it through the oil line ③ to the gear wheels of the 4th and 5th gear. Via the gear wheels, the engine oil reaches the oil sump. The timing chain ⑪ runs through the oil sump and transports the engine oil upwards to the cylinder head. Through the bore hole ⑪ the oil reaches the camshaft ⑫ and the valves.



#### 2-9D

#### Functional characteristics of the secondary air system (SLS)

When the exhaust value is open, the hot exhaust gases flow through the exhaust port ① at a very high speed. As a consequence of the flow conditions in the exhaust port and due to the influence exerted by the entire exhaust system on the escaping gases, the pressure in the exhaust port drops temporarily (underpressure).

During these cyclic underpressure phases, the secondary air valve 2 opens, thus adding oxygen of the air to the hot exhaust gases through pipe 3.

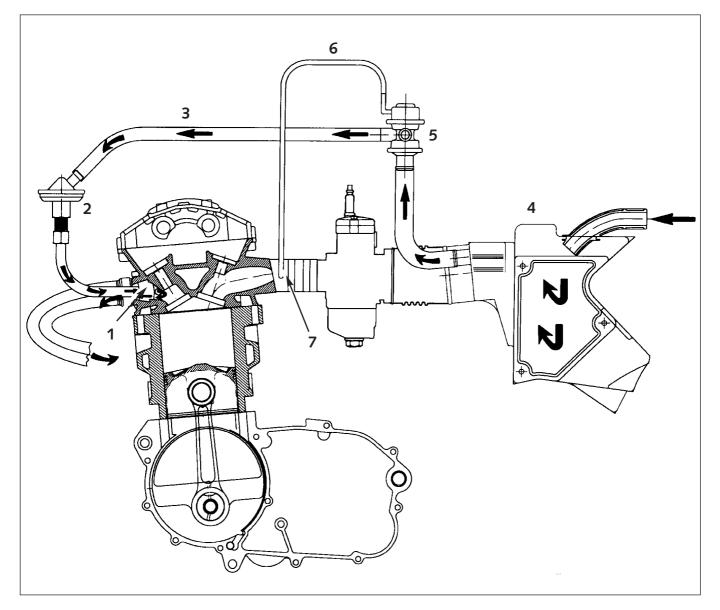
At higher engine speeds, the secondary air valve interrupts the oxygen supply to prevent overheating of the catalytic converter. Additionally, the secondary air valve prevents the exhaust gases from flowing back into the air filter box **4**.

When the motorcycle is pushed (high underpressure in the intake port) the control valve (ASV) **(**ASV) **(**as interrupts the air flow into the exhaust port to prevent exhaust detonations.

The control value is controlled via a control pipe 0. This control pipe transmits the underpressure from the intake port 0 to the control value.

During normal operation (slight underpressure in the intake port), the control valve is open.

The reaction between the oxygen of the air and the harmful components of the exhaust gases (CO - carbon monoxide, HC - hydrocarbon) reduces the content of harmful substances by approximately 50%. The use of a catalytic converter, in combination with the SLS, allows an additional significant reduction of pollutant emissions.



#### Electronic Power Control System (EPC)

Main components of the EPC system:

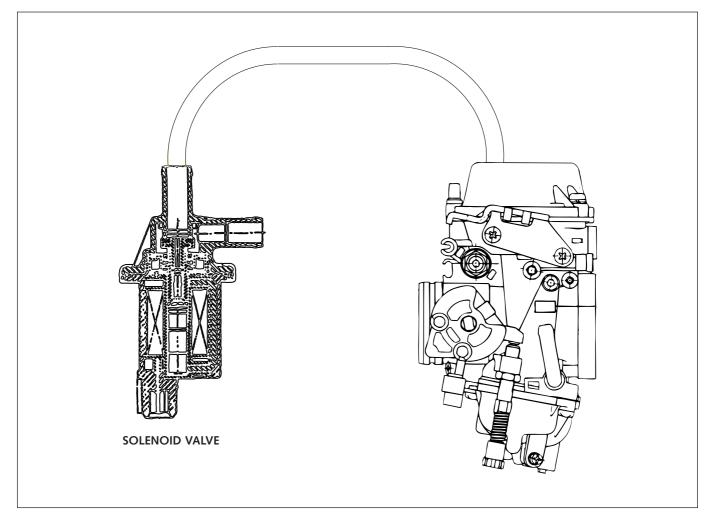
- Constant-pressure carburetor
- Control device
- Solenoid valve
- 2 contact screws at the engine
- Micro-switch (at carburetor)

#### FUNCTIONAL CHARACTERISTICS:

The EPC system is not activated during normal operation of the motorcycle.

It is, however, activated as soon as the throttle is fully opened at a speed of 45 - 55 km/h while the second or third gear are engaged.

The EPC control device opens the solenoid valve, directing an appropriate flow of fresh air onto the upper side of the slide membrane of the constant-pressure carburetor, thus reducing the opening speed of the slide. This mechanism significantly reduces the exhaust gas emissions of the vehicle.



## SPECIAL TOOLS

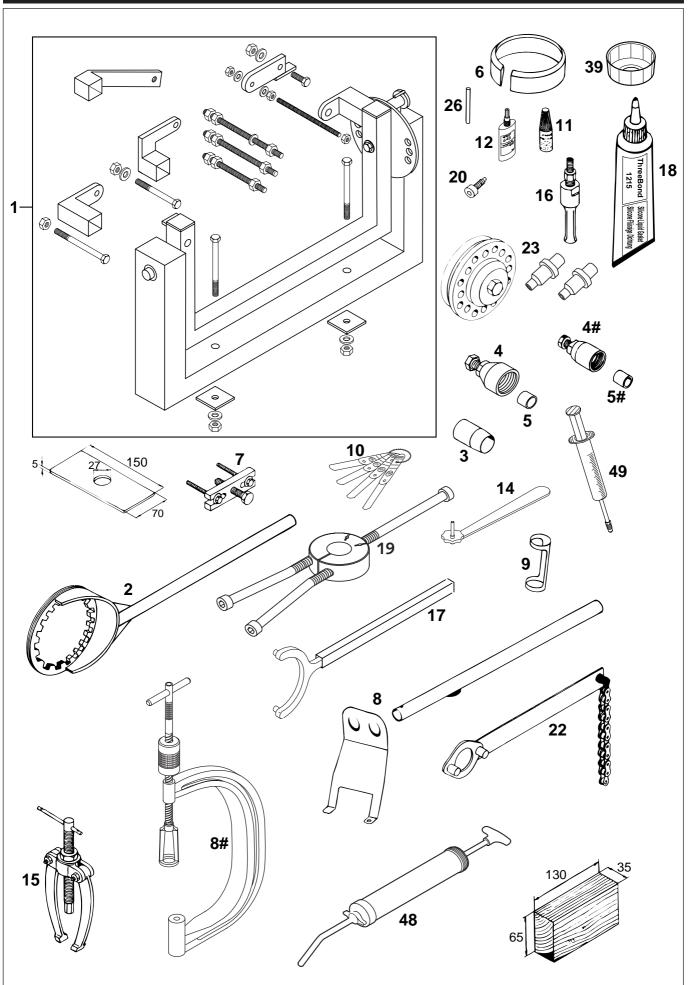
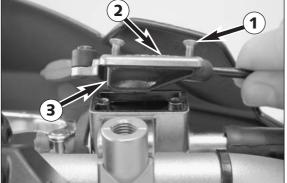


FIG.	PART NO.	DESCRIPTION
1	560.12.001.000	Universal engine work stand
2	583.29.003.000	Clutch holder
3	580.12.005.025	Mounting sleeve for crankshaft seal ring Ø 25 mm
4	584.29.009.000	Magneto extractor (Kokusan)
4#	580.12.009.000	Magneto extractor (SEM)
5	510.12.016.000	Protection cover for crankshaft (SEM)
5#	584.29.031.000	Protection cover for crankshaft (Kokusan)
6	580.12.015.089	Piston ringspanner Ø 89 mm
	580.12.015.095	Piston ringspanner Ø 95 mm
	580.12.015.100	Piston ringspanner Ø 100 mm
	580.12.015.101	Piston ringspanner Ø 101 mm
	585.29.015.102	Piston ringspanner Ø 102 mm
7	590.29.021.044	Extractor for primary gear and clutch hub
8	580.12.019.000	Valve mounting set
8#	590.29.019.000	Valve mounting set
9	6.276.470	Valve spring-push insert
10	590.29.041.000	Feeler gauge for valve clearance
11	6.899.785	Loctite 243 blue 6 ml
12	584.29.059.000	Loctite 648 red 20 ml
14	590.29.034.000	Wrench for mixture regulating screw
15	151.12.017.000	Gear puller
16	151.12.018.000	Internal bearing puller 12 - 16 mm
16	151.12.018.100	Internal bearing puller 18 - 23 mm
17	584.29.012.000	Flywheel holding spanner (Kokusan)
18	3090.98	Seal (Three-Bond)
19	584.29.037.040	Mounting tool inner ring NJ207 (all versions of LC4)
19	584.29.037.043	Mounting tool inner ring NJ306 (LC4-E)
20	580.30.080.000	Crankshaft locking bolt
22	510.12.012.000	Chain sprocket holder
23	546.29.027.000	Clutch rivetting tool
26	580.29.026.007	Limit plug gauge Ø 7,05 mm
39	583.29.039.000	Oil filter wrench
48	584.29.048.000	Syringe for pipe oil
49	503.29.050.000	Bleeding syringe for hydraulic clutch
L		



# Motorex Kupplungs-Fluid 75).

#### Checking the oil level of the hydraulic clutch

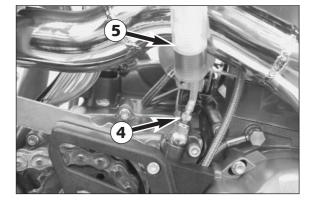
To check the oil level in the master cylinder of the clutch remove the cover. For this purpose, remove screws 1 and cover 2 together with the rubber boot 6. The oil level in the horizontal-standing master cylinder should be 4 mm below the upper edge. If necessary, fill up with biodegradable hydraulic oil SAE 10 (f.ex.

		1 0	-					
	!		CAUTI	10	J		i	
– KTM	USES	BIODEGRADABLE	HYDRAULIC	OIL	FOR	THE	HYDRAULIC	CLUTCH

- CONTROL. NEVER MIX BIODEGRADABLE HYDRAULIC OILS WITH MINERAL OILS. Always use biodegradable hydraulic oil SAE 10 to fill up the master
- CYLINDER. NEVER REFILL WITH MINERAL HYDRAULIC OIL OR BRAKE FLUID.

#### Bleeding of the hydraulic clutch

To bleed, the cover of the master cylinder of the clutch needs to be removed. For this purpose, remove screws  $\bullet$  and take off cover O together with rubber bellows O. At the slave cylinder of the clutch, remove the bleeder nipple 4. In its place, mount the bleeder syringe 6 which is filled with SAE 10 hydraulic oil. Refill oil until oil is discharged from the bore **6** of the master cylinder in a bubble-free state. Make sure that the oil does not overflow. The bleeder syringe can be purchased from your KTM dealer.



6

Having completed the bleeding procedure, you have to verify that the oil level in the master cylinder is correct. If necessary, fill up with biodegradable hydraulic oil SAE 10 (f.ex. Motorex Kupplungs-Fluid 75).

! CAUTION					i				
-	KTM	USES	BIODEGRADABLE	HYDRAULIC	OIL	FOR	THE	HYDRAULIC	CLUTCH

CONTROL. NEVER MIX BIODEGRADABLE HYDRAULIC OILS WITH MINERAL OILS. Always use biodegradable hydraulic oil SAE 10 to fill up the master CYLINDER. NEVER REFILL WITH MINERAL HYDRAULIC OIL OR BRAKE FLUID.

# REMOVING AND REFITTING ENGINE 3

#### INDEX

REMOVING THE ENGINE	2
REFITTING THE ENGINE	4



#### Removing the engine

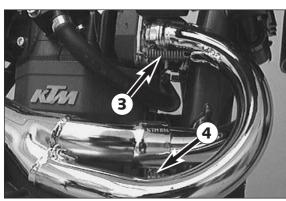
\_

- Thoroughly clean the entire motorcycle. When working on a motorcycle with engine guard, remove the latter.
- Jack the motorcycle up on a stable supporting device. Remove the seat, the side covers as well as the tank and the spoilers. Remove the seat, the side covers as well as
  Disconnect the negative pole of the battery.

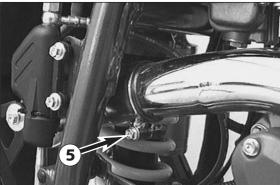
Undo the 2 hose clamps 1 as well as hose clamp 2. Pull the

carburetor backwards out of the intake flange and swing it aside.





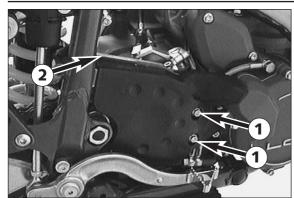
Unhook the 4 springs **③** at the exhaust manifold. -\_ Undo bolt 4.



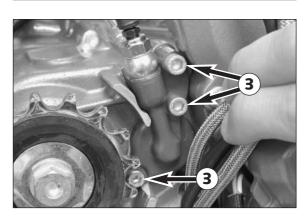
- Undo bolt **(5)** and remove the exhaust manifold.



- Disconnect water hoses 6 and 7 from the water pump and let out the cooling liquid.
- Remove the two bolts 3, disconnect and remove the fan.
- \_ \_ \_ Unhook the clutch cable and the decompression cable.
- Disconnect the bleeder hose at the valve cover.

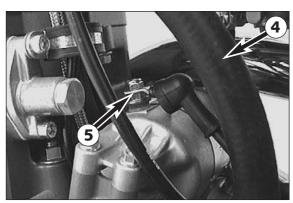


- Remove the two bolts ① and take off the chain guard.
  Remove the chain damping plate ③.
  Remove the chain joint and take off the chain.



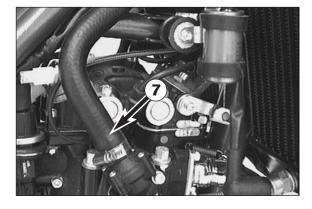
- From model 2003 on: Remove the 3 bolts ③ of the clutch slave cylinder and pull the clutch slave cylinder off the casing.

\_ Disconnect the bleeder hose **4**. Disconnect the positive cable **6** from the electric starter motor.

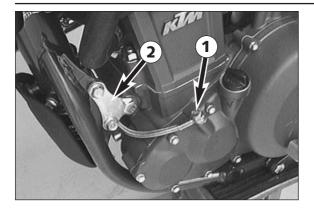


- Disconnect all electric plug and socket connections from the engine.
  Remove the banjo bolt ③.

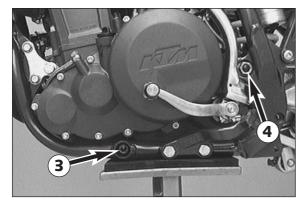
– Disconnect the water hose **⑦**.



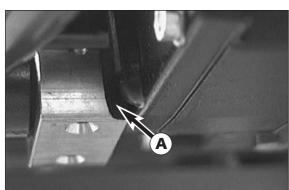
- Remove the jet screw **①**.
- Remove the left as well as the right engine retaining bracket  $\boldsymbol{Q}$ .



Remove bolt ③ as well as the swingarm pivot ④.
Then lift the engine out of the frame.



0



#### Installing the engine

NOTE: To install the engine reverse the procedure indicated above.

- When working on a model with an engine guard keep in mind that opening **()** must be located on the right side and face the engine.

Tightening torques:

Swingarm pivot:	100 Nm	74 ft.lb
Engine mounting bolts M8:	40 Nm	30 ft.lb
Engine mounting bolts M10:	70 Nm	50 ft.lb
Banjo bolt (oil pipe on the frame):	15 Nm	11 ft.lb
Jet screw (clutch cover):	10 Nm	7 ft.lb
All other M6 bolts:	10 Nm	7 ft.lb
All other M8 bolts:	25 Nm	19 ft.lb
All other M10 bolts:	45 Nm	33 ft.lb

NOTE: Use only high-quality antifreeze (e.g. Shell Advance Coolant) for the cooling system. The frame oil should always be changed after engine repair.

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After installing the engine carefully bleed the oil system (see oil change instructions). Do not rev the engine during the bleeding process !

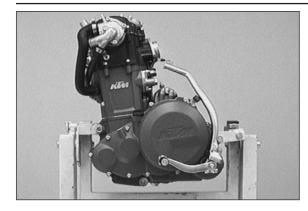
- The motorcycle can be tested as soon as the engine is running smoothly. After the test run check and, if necessary, correct all liquid levels.

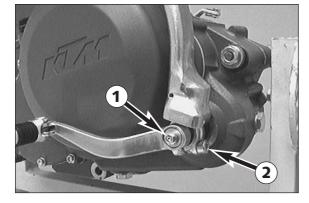
# DISASSEMBLING THE ENGINE

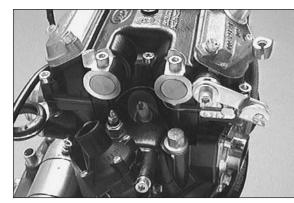
DRAIN ENGINE OIL
REMOVING THE ELECTRIC STARTER MOTOR4-2
REMOVING THE CLUTCH RELEASE LEVER AND THE OIL HOSES4-3
REMOVING THE OIL FILTER4-3
REMOVING THE EPC WIRING HARNESS
REMOVING THE IGNITION (KOKUSAN 4K-2)
REMOVING THE IGNITION (SEM)4-5
REMOVING THE IGNITION (KOKUSAN 4K-3)
REMOVING THE ELECTRIC STARTER DRIVE
REMOVING THE CYLINDER HEAD TOP SECTION
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REMOVING THE KICKSTARTER SHAFT4-17

4

- Fit engine to engine work stand.



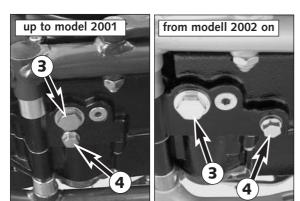




Remove bolt 1 together with the washers. Then remove the shift lever together with the V-seal ring behind. Remove bolt **2** together with the washer. Then remove the

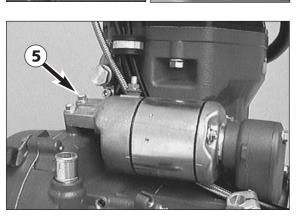
kickstarter.

- Remove spark plug



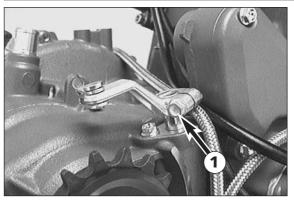
# Drain engine oil

- Remove oil drain plug 3 and magnetic plug 4 and drain oil.



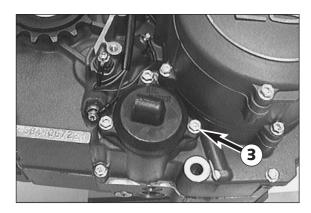
# Removing the electric starter motor

Undo 2 bolts 6 and remove the electric starter motor from the \_ flange.



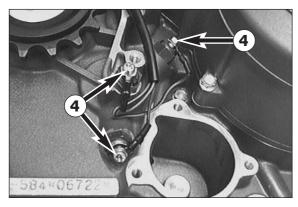
**Removing the clutch release lever and the oil hoses** – Undo bolt **1** and remove the clutch release lever.

- Remove the two banjo bolts ② together with the seal rings and remove both oil hoses.



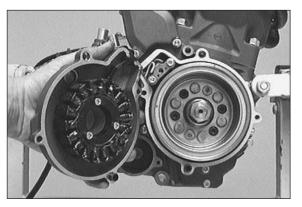
# Removing the oil filter

- Remove all three bolts 
  and take off the oil filter cover together with the O-ring or gasket.
- Take the oil filter out of the engine housing.



# Removing the EPC wiring harness

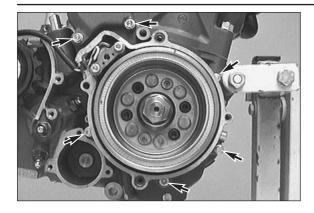
- Undo the 3 bolts @ and remove the EPC wiring harness.

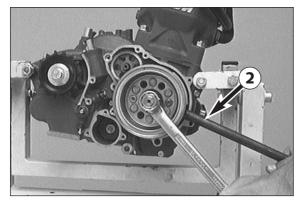


# Removing the ignition (Kokusan 4K-2)

- Undo 4 bolts and remove the ignition cover with the stator incl. gasket.

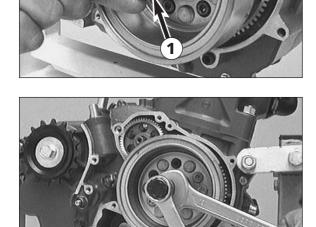
- Undo 6 bolts and remove starter flange incl. gasket.





- Insert the holding spanner 2 into the 2 bores of the flywheel. \_
- \_ Hold the flywheel and remove the hexagon nut (LH thread).
  - Remove the disc.
- CAUTION l 1 To avoid distortion of the crank web, never mount the crankshaft LOCKING BOLT TO STEADY THE FLYWHEEL.

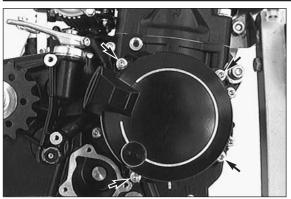
Put the protection cover  ${\color{black} \bullet}$  onto the crankshaft and mount the \_ flywheel extractor.



Pull off the flywheel and take the woodruff key out of the crankshaft.

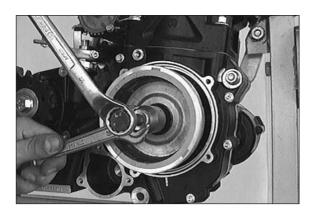
! CAUTION				!						
		^	0.0	OTUED	TOOL	011	TUE		то	

Never use a hammer or any other tool on the flywheel to avoid LOOSENING OF THE MAGNETS.



# Removing the ignition (SEM)

- Undo the 4 bolts and remove ignition cover and O-ring.
- Use the crankshaft locking bolt to block the crankshaft.



- Unscrew collar nut (LH thread) and remove spring disc. \_
  - Fit extractor and pull off flywheel. Use protective sleeve. Remove woodruff key from the crankshaft.
- \_
- \_ Twist the crankshaft locking bolt out until the crankshaft is no longer blocked.

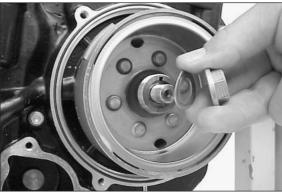
! CAUTION					ļ							
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Never use a hammer or any other tool on the flywheel to avoid LOOSENING OF THE MAGNETS.

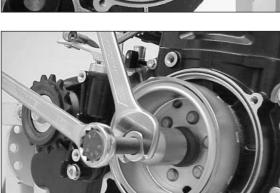


# Removing the ignition (Kokusan 4K-3)

- Undo the 4 bolts and take off the ignition cover together with the \_ O-ring.
- Use the crankshaft locking bolt to block the crankshaft. \_



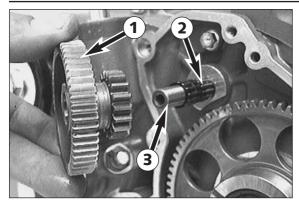
- Undo the collar nut (LH thread) and remove the spring washer.



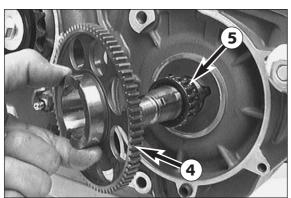
- Mount the extractor and pull off the flywheel. \_
- Take the woodruff key out of the crankshaft.
- Finally, twist out the crankshaft locking bolt until the crankshaft is no \_ longer blocked.

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VER	USE	А	HAMMER	OR	SIMILAR	TOOL	ON	THE	FLYWHEEL	то	PREVENT

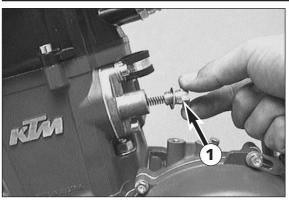
Nev LOOSENING OF THE MAGNETS.



- Removing the electric starter drive
  Pull the reduction gear ① off the bearing bolt.
  Remove both needle bearings ② and pull the bearing bolt ③ out of the engine housing.

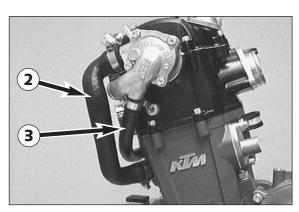


– Remove the freewheel gear  ${\bf 4}$  and the needle bearing  ${\bf 5}$ .



# Removing the cylinder head top section

- Unscrew plug **1** with gasket and remove pressure spring from automatic tensioner.

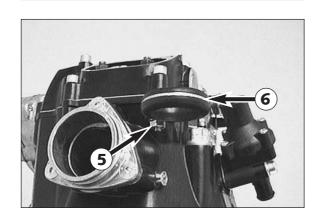


- Undo the 4 hose clamps and remove both hoses (2) and 3).

- Remove all 6 bolts ④ together with the seal rings and take off both valve covers together with the gaskets.

- Remove the hexagon nut **6** and take off the retaining bracket of the solenoid valve **6**.

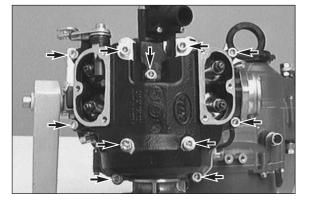
NOTE: A retaining bracket is only used in engines with EPC.

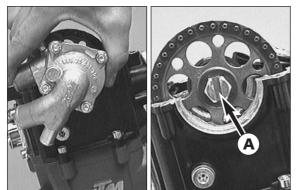


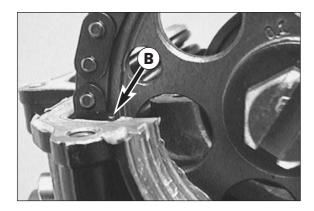
- Remove all 11 bolts. Then remove the cylinder head top section.

!	C		N		
When removing	CYLINDER HEAD	TOP SECTION	DO NOT	СНОСК ІТ.	This would
DAMAGE THE HOU	SING OF THE WA	TER PUMP.			

NOTE: The control valve of SLS models can be removed after undoing the bolts of the cylinder head top section.







# Blocking the crankshaft

application of force.

Turn the piston to position TDC (mark <sup>®</sup> must coincide with the plane surface of the cylinder head).

- Pull water pump upward and simultaneously turn crankshaft.

NOTE: When groove () in the HH bolt is vertical, the water pump can be pulled upward and taken out of the cylinder head without the

- Undo the crankshaft locking bolt  $\mathbf{0}$ .
- \_ Remove the copper disc **2**.

NOTE: Same engines are equipped with a normal bolt M8x16 and a copper washer 8x12x1 instead of the crankshaft locking bolt M8 and a copper washer 8x14x3. In this case the special tool 580.30.080.000 must be used.

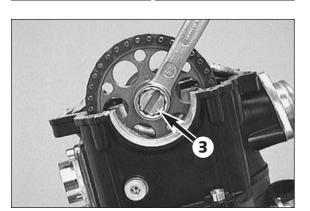
- Reinsert crankshaft locking bolt by hand.
- If the bolt does not slide smoothly into its bore, slightly move the camshaft gear (if cylinder head top section is mounted turn the flywheel) back and forth until the crankshaft locking bolt engages in its bore.
- Tighten crankshaft locking bolt with 20 Nm

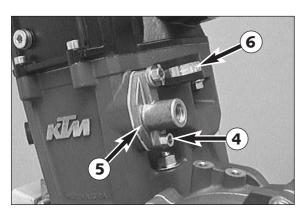
fighten erankshar	t locking bolt with 20 Nin.	
!	CAUTION	!

Under no circumstances apply force to **bolt** in crankshaft locking bolt AS THIS WILL DAMAGE THE CRANKSHAFT.

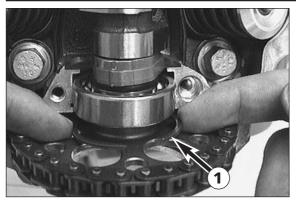
# Removing the camshaft and the automatic tensioner

- Remove the driving bolt **③** together with the two washers.

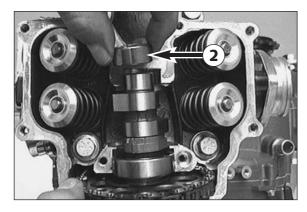




Remove the two bolt **4** and take off the automatic tensioner **5** and the clamp **6**.



- Using a screwdriver, lever circlip **1** out of the groove.



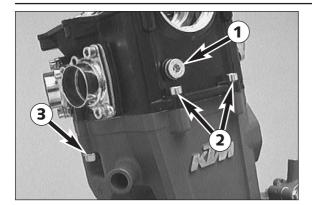
- Tilt camshaft and remove needle bushing **2**.

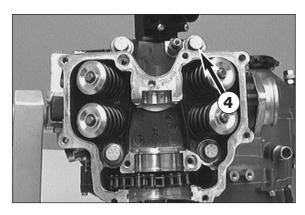
- While tilted, pull camshaft from camshaft gear and remove together with grooved ball bearing and circlip.

- Take the camshaft gear out of the timing chain as indicated in the illustration.

# Removing cylinder head

- Unscrew chain guide bolt 1 incl. gasket, bolts 2 and collar nuts 3.



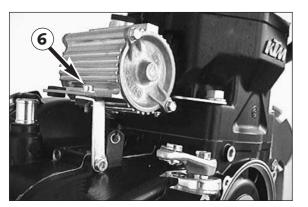


5

- Unscrew the 4 collar bolts  ${f 0}$  and detach cylinder head with gasket.

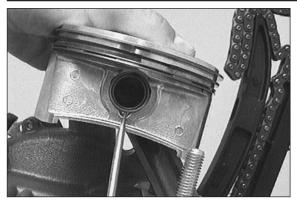
# Removing cylinder and piston

- Unscrew the 4 collar nuts at the cylinder base **6**. Remove cylinder and cylinder base gasket.
- \_

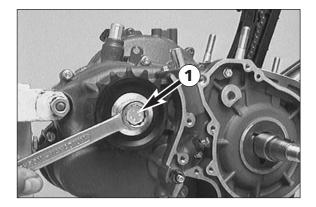


- microfilter together with the holder.

Art.-Nr. 3.206.006 -E



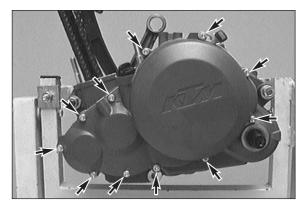
- Remove two wire circlips and press piston pin out of piston.
- Remove piston.



# Removing engine sprocket

- Remove collar bolt **1** and spring washer.
- Remove the sprocket from the counteshaft.
- Remove the distance bushing from the countershaft.

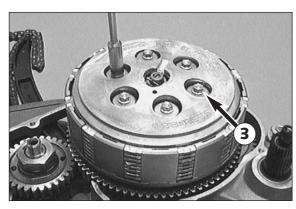
NOTE: If the gear-box and the clutch of the engine are in good condition, throw it into gear in order to block the take-off shaft (frictional connection to the blocked crankshaft is present). If the take-off shaft cannot be blocked as described above, a chain sprocket holder must be applied for the removal of the chain sprocket nut.

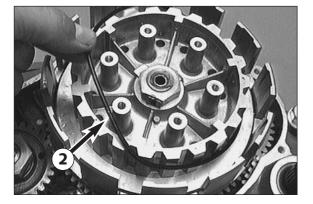


# Removing clutch and primary drive

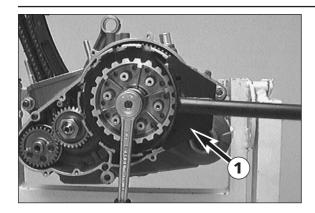
- Remove the 11 bolts and detach clutch cover with gasket.

- Unscrew the bolts ③ of the clutch crosswise to prevent the clutch discs from jamming when the springs are relieved of tension.
  Remove bolts, spring retainer and springs.
  - Remove pressure cap with push rod.





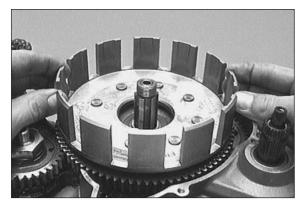
Remove the disc package and take the O-ring 2 also off the inner clutch hub.



- Release the lock washer of the inner clutch hub.
- Put the clutch holder  ${\rm f 0}$  onto the inner clutch hub and undo the hexagon nut (see illustration).
- Remove the clutch holder.

\_

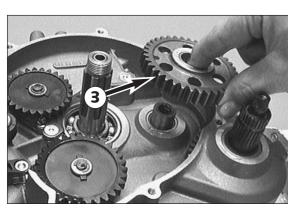
- Take the hexagon nut, the lock washer and the inner clutch hub off the main shaft.



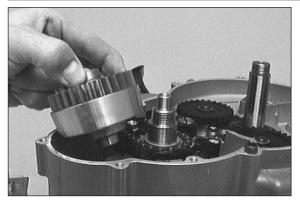
- Try to turn the outer clutch hub in both directions to check the absorbing elements. Dead travel in either direction is inadmissible.

– Take the outer clutch hub and the needle bearing  $\ensuremath{ 2 \ }$  off the main shaft.

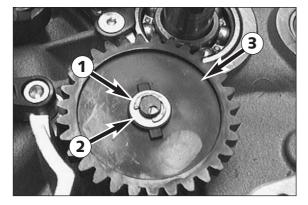
– Remove the kickstarter intermediate gear  $\boldsymbol{\Theta}$ .



- Unscrew hexagon nut of primary gear wheel and detach spring washer from the crankshaft.
- Fit extractor for primary gear and pull off primary gear.



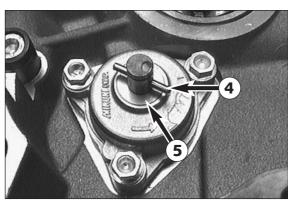
- Remove the balancer shaft from the bearing by hand.



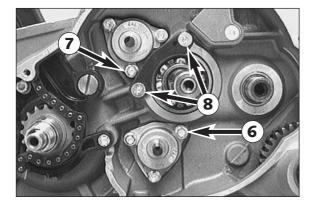
# Removing the oil pumps

NOTE: The following procedure must always be performed on both oil pumps.

- Remove the locking washer ①.
  Remove stop disc ② and the oil pump gear ③.

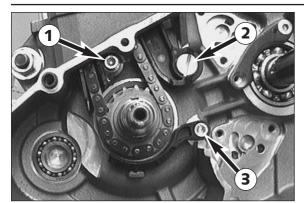


- Remove the needle roll **4** and stop disc **5**.



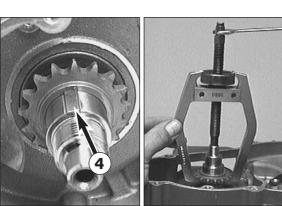
- Twist out the 6 bolts 6 and remove the oil pumps from the housing.

NOTE: For better access to bolt  $\boldsymbol{0}$  remove bolts  $\boldsymbol{0}$  and take off the retaining bracket.



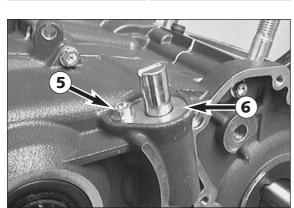
# Removing the timing chain and the timing gear

- Remove allan head bolt 1 and remove timing chain guide from the casing.
- Unscrew flat-head screw 2 and remove timing chain tensioner. \_
- \_ Unscrew allan head bolt **③** and remove timing chain securing guide. Insert timing chain into the clutch compartment of the engine
  - housing and disengage from timing gear.
- Remove the primary gear woodruff key 4 from the crankshaft. \_
- \_
- Withdraw the timing pinion from crankshaft with a 2-jaw puller. Take the woodruff key of the timing gear out of the crankshaft.

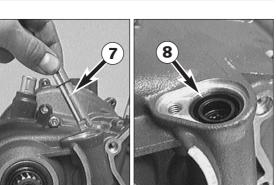


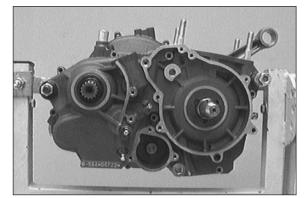
# Removing the clutch release shaft

Remove bolt(s) **③** and take off the retaining bracket **⑥**. \_



- Pull the clutch release shaft **⑦** out of the housing.
- \_ Remove the grooved ring  $\boldsymbol{0}$ .





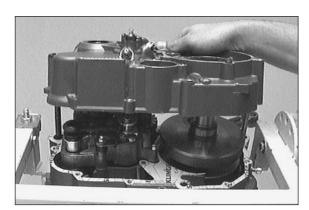
# Parting of engine housing

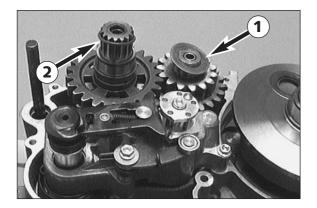
- Loosen the crankshaft locking bolt.
- Tip ignition side upwards and remove all the housing bolts.
- Release engine mount on engine repair stand.
- Lift right hand housing half with suitable tools bearing on the bosses provided, or part with a few light plastic mallet blows against the counter shaft.



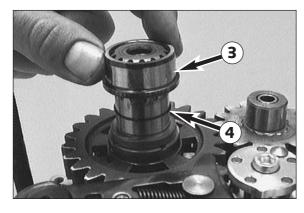
LEVERING APART WITH A SCREW-DRIVER OR SIMILAR TOOL MUST BE AVOIDED, SINCE THE SEALING SURFACES ARE EASILY DAMAGED.

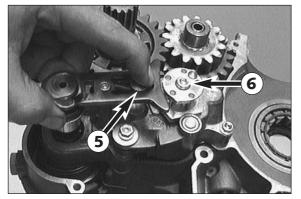
- Remove housing-half and gasket.





- Take the stop disc  ${\rm f 0}$  off the main shaft (can stick to the inside of the housing).
- Take the O-ring **2** off the countershaft.
- Remove the crankshaft from the bearing by hand.



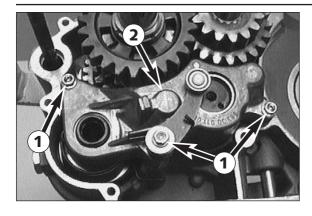


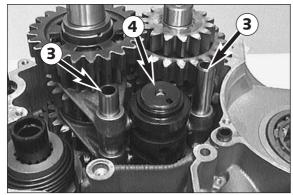
Take the inner ring ③ of the roller bearing and the O-ring below ④ off the countershaft.

# Removing the shift mechanism

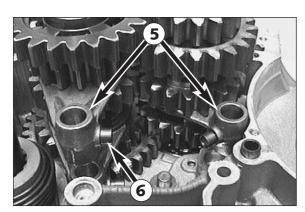
- Push back slide plate **()** and pull shift shaft out of the kickstarter shaft.
- Remove allan head bolt <sup>(6)</sup> and detach locking piece.

- Remove the 3 bolts 1 and detach the shift mechanism support 2.



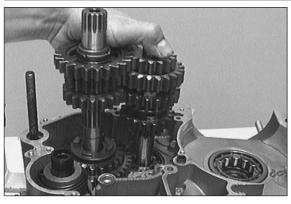


- Pull out the shift rails ③ and swing the shift forks aside, taking care of the shift rolls ③ on the driving pins of the shift forks.
  Pull the shift roller ④ out of the bearing seat.



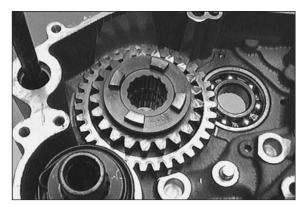
- Take the shift forks 6 together with the shift rolls 6 out of the engine housing.

NOTE: Although the counter shaft shift forks are identical they should be refitted in the same position as before if reused. Therefore mark accordingly upon removal.



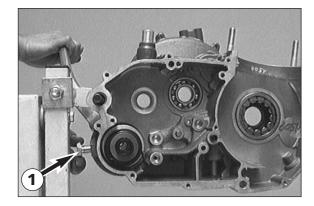
# Removing the transmission shafts

- Pull both transmission shafts out of the bearing seats.



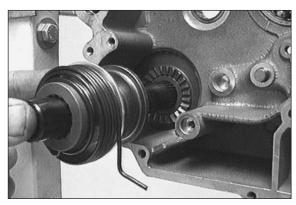
- Take the 3rd gear/sliding gear and the 1st gear/idler gear out of the engine housing together with the needle bearing and the stop disc.

NOTE: A roller bearing was installed in the 660 SMC model, thus a stop disc is unnecessary.

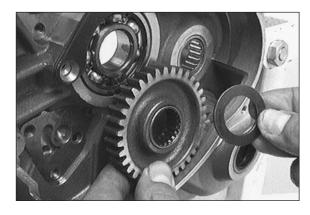


# Removing the kickstarter shaft

- Put kickstarter onto kickstarter shaft and hold in this position.
- Unscrew stop bolt **1** and relieve starter spring tension by releasing the kickstarter.



- Remove kickstarter shaft assembly from housing.



- Take the starter gear out of the housing bag together with the needle bearing and the stop discs.
- Clean all parts and check for wear, replace if necessary.

NOTE: When an engine is completely overhauled it is recommended that all gaskets, shaft seal rings, O-rings and, possibly, all bearings are renewed.

# SERVICING ON INDIVIDUAL COMPONENTS 5

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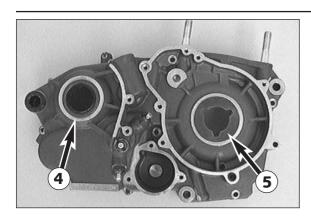
# IMPORTANT NOTE REGARDS WORKING ON ENGINE HOUSING

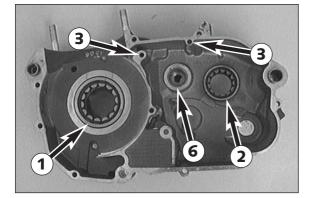
Read through the following section before commencing work. Then determine the assembly sequence so that the engine housing halves only need to be heated up once before replacing the bearings.

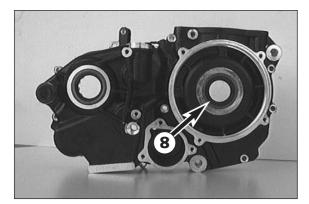
Having first removed the dowels, in order to expel the bearings or remove them with light mallet blows, the housing halves must be placed on a suitably large plane surface, supporting the whole of the sealing surface without damaging it. A wooden panel is best used as a base.

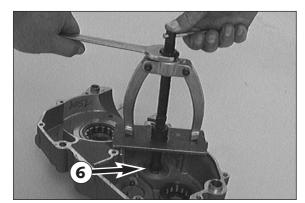
Bearings or shaft seal rings should not be hammered into their seats. If no suitable press is available, use a suitable mandrel and hammer them in with great care. Cold bearings will practically drop into their seats at an engine housing temperature of approx. 150° C.

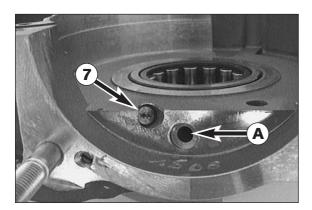
After cooling, should the bearings fail to lock in the bore, they are bound to rotate after warming. In that event the housing must be replaced.











# Working on the right housing half

Remove shaft seal rings and heat housing half to approx. 150° C by means of a hot-plate.

Roller bearing of crankshaft **1** Proceed as for left housing half.

Cylinder roller bearing of counter shaft Remove shaft seal ring. Press old bearing inwards. Press in new bearing from inside as far as stop.

# Oil ducts 3

Use compressed air to clean all oil ducts. Ensure that the oil ducts are not clogged.

Counter shaft seal ring **4** Press in new shaft seal ring from outside until flush.

## Crankshaft seal ring 8

Press in new shaft seal ring from outside until flush.

NOTE: Engine with an electric starter have a stop disk instead of the shaft seal ring s. Do not remove this disk.

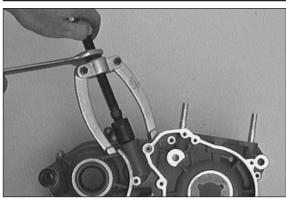
## Needle bearing of main shaft 6

Pull old bearing from bearing seat using bearing extracto and insert. In order to apply the bearing extractor in an vertical position, a steel plate (see special tools) must be laid on the sealing area of the housing. The bearing extractor jaws should fit as close as possible up to the housing walls. Then press in new bearing from inside until flush.

#### Oil nozzle 🕖

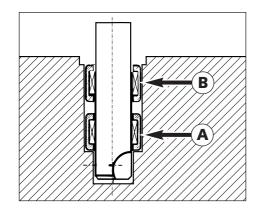
For the cleaning of the oil nozzle and the oil duct simply blow it through with compressed air from the nozzle side. If the oil nozzle is disassembled, secure it with Loctite 243 when mounting again. Then check the lubrication bore 0 of the crankshaft roller bearing for free passage.

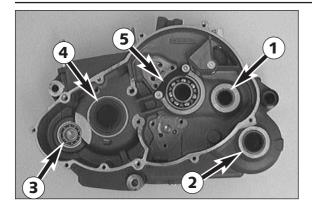
After the case half has cooled down, check bearings for secure fit.

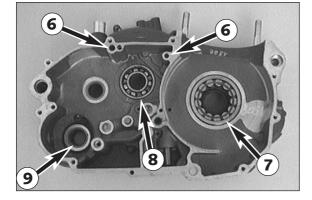


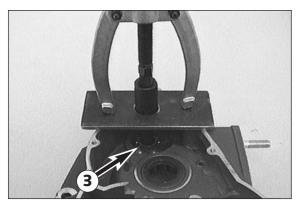
Needle bushes of the clutch disengagementPull out the needle bushes of the clutch disengagement with a gear puller and insert from the housing half.

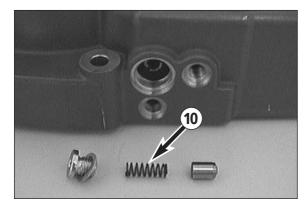
- Oil the needle bushes.
  Press the first needle bush (1) to stop.
  Press the second needle bush (1) so that it is flush.

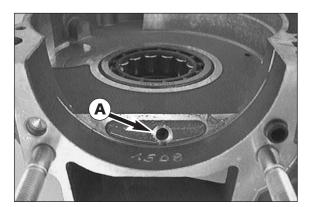












# Working on the left half of the housing

Remove shaft seal rings and heat housing half to approx. 150° C by means of a hot-plate.

## Needle bearing of counter shaft **1**

Press in new needle bearing from inside until flush.

#### Shaft seal ring of kickstarter shaft 2

Press in new shaft seal ring from outside with sealing lip facing inwards until flush.

#### Grooved ball bearing of the balancer shaft **3**.

Use an extractor and insert to remove the grooved ball bearing from the housing half.

#### Shaft seal ring of crankshaft @

Press in new shaft seal ring from outside with sealing lip facing inwards until flush.

#### Retaining plate for main shaft grooved ball bearing 6

If the retaining plate has been removed, use Loctite 243 for the two countersunk bolts during assembly.

#### Oil ducts 6

Use compressed air to clean all oil ducts. Ensure that the oil ducts are not clogged.

#### Roller bearing of crankshaft 1

From outside press crankshaft roller bearing inwards using a suitable mandrel.

Press in new roller bearing from inside up to the stop.

#### Grooved ball bearing of main shaft 8

Press in new grooved ball bearing from inside up to the stop.

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Do not use force when pressing the grooved ball bearing against the retaining plate (5) to avoid a bending of the plate, which would result in excessive axial play of the main shaft.

#### Needle bearing of kickstarter shaft 9

Press in new needle bearing from inside until flush.

#### Bypass valve

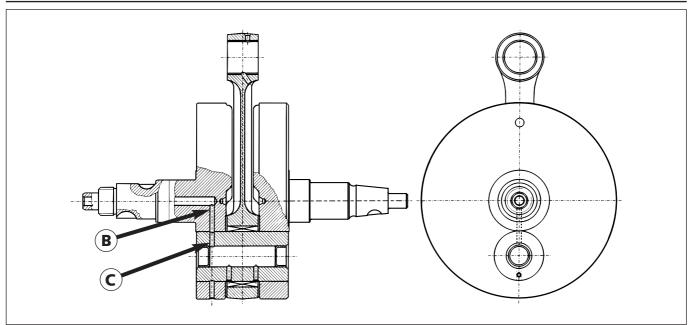
Test valve piston, tight fit and pressure spring for damage.

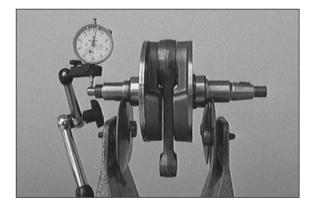
Minimum length of the pressure spring **(**): 23,5 mm

NOTE: The opening pressure of the bypass valve is reduced when the length of the pressure spring decreases below 23,5 mm. This reduces the oil pressure and causes engine damage.

Ensure that neither the lubrication bore of the roller bearing ( nor the oil ducts of the oil pumps are clogged.

- After the housing half has cooled down, check bearings for tight fit.
- Finally, insert both dowels so that the dowel with internal diameter 15.4 mm is mounted at the rear (swingarm pivot).





# Crankshaft

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If the conrod bearing is replaced, take care to properly position the crankpin. The bores of the crank web 0 and crank pin 0 must coincide.

CALITION

Т

	CAUTION	· · · · · · · · · · · · · · · · · · ·
IF THE CRANK PIN IS PF	RESSED IN THE WRONG POSITIC	N, THE CONROD BEARING IS
SUPPLIED INSUFFICIENTL	y or not at all with eng	INE OIL, WHICH RESULTS IN
BEARING DAMAGE.		

If the crankshaft is continued to be used, check crankshaft journals for run out. Place crankshaft on a roller block or a similar device and check the outer end of the journals for run out with a dial gauge.

run out of crankshaft journals: max. 0.04 mm (0.0016 in)

The radial clearance and axial clearance on the conrod bearing must be checked.

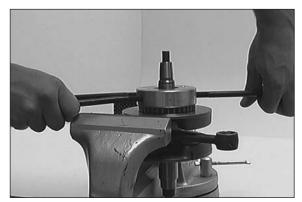
radial clearance: max. 0.05 mm (0.0019 in) axial clearance: max. 1.00 mm (0.04 in)

- If the crankshaft roller bearings are replaced, the inner rings on the crankshaft should also be changed.
- Heat special tool on a heating pad up to approx. 150°C and slip it on the inner ring immediately. Press the special tool together tightly to obtain a good heat transfer and pull the inner ring off the crankshaft.
- To mount the new inner ring, heat the special tool again to approx. 150°C, engage the inner ring and slip it on the crankshaft journal immediately.
- In order to safely press on new rings, a middle panel should be inserted between the crankshaft webs. This panel should be big enough to be supported on both sides, so that the crankshaft lies free and accessible.

NOTE: Because LC4-E models have different diameters of inner crankshaft bearing rings, it is necessary to have both special tools (584.29.037.040 and 584.29.037.043).

!	CAUTION	!

Never clamp the crankshaft with a crankshaft journal or web in the vice, and never try to knock the inner ring free. The crankshaft webs may be compressed thereby making the crankshaft unuseable.



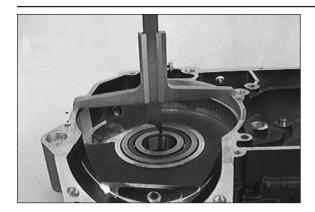
in)

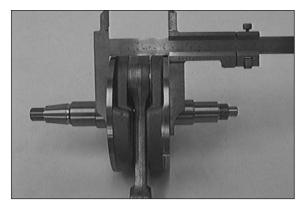
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# Measuring and adjusting of crankshaft axial clearance

- Should the crankshaft, engine housing, or a roller bearing be replaced, the axial clearance of the crankshaft should also be checked.
- The housing should be laid inside upwards, then measure the distance from the sealing area to the inner rings of the roller bearings. Note the readings and then add on 0.3 mm to allow for gasket thickness.
- $\bar{M}$ easure the crankshaft at touching points and then subtract the measured value from the housing dimensions. This figure will be the axial play of the crankshaft, which should be 0.03- 0.12 mm (0.001- 0.005 in).

# EXAMPLE:

Left-hand housing half	33.0 mm 1.300 (
Right-hand housing half	+ 32.8 mm 1.290 (
Gasket	+ 0.3 mm 0.012 (
Total housing dimension	= 66.1 mm 2.602 (
Crankshaft dimension	– 65.8 mm 2.590 (
Axial play present	= 0.3 mm 0.012 (

The compensating washers should be equally distributed between the two sides of the crankshaft. In our example, one compensation washer ( $\neq$  0.1 mm / 0.004 in.) must be mounted on either side.

# Checking the piston

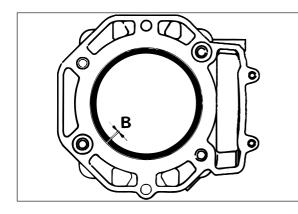
- Replace the piston in the case of excessive oil consumption or grooves in the piston skirt.
- If reinstalling the old piston perform the following steps:
- 1. Piston bearing surface check for damage
- 2. Piston ring grooves the piston rings must move easily in the groove. Old piston rings or sandpaper (400 grit) may be used to clean the piston ring grooves.
- 3. Piston rings check for damage and end gap (see below).
- 4. The piston pin must move freely in the piston when mounted. If the piston pin changed its color badly or shows running traces, it must be replaced. Insert piston pin also into the conrod and check for clearance. Maximum clearance in the conrod eye 0.08 mm (0.003 in).

NOTE: When in place, the piston pin may not have any play. It must be possible to shift it with slight counterpressure.

# Mounting instructions for piston rings

- Insert the oil scraper ring in the lower ring groove. Side of ring marked facing piston head.
- Mount compression ring (tapered compression piston ring) in middle ring groove. Side of ring marked facing piston head.
- Insert the compression ring (rectangular ring) in the upper piston ring groove (the surface marked must be on top).

	ELKO Ø 89 mm	ELKO Ø 95 mm	ELKO Ø 101 mm	ARIAS Ø 101 mm
Compression ring	0	0	0	N 100
Tapered ring	ТОР	ТОР	ТОР	N 101
Oil scraper ring	ELKO	ТОР	ТОР	

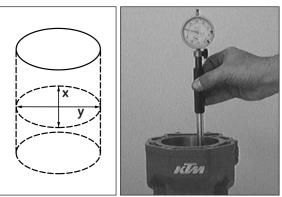


# Piston ring end gap

- Insert pisto ring into the cylinder and adjust. Piston ring must be approx. 10 mm (1/2 inch) from top of cylinder.
- The end gap **B** can now be checked which a feeler gauge.

Compression rings: max. 0.60 mm (0.023 in) Oil scraper ring: max. 0.80 mm (0.03 in)

If the end gap is greater check piston and cylinder for wear. If piston and cylinder wear are within the permitted tolerance limits, replace the piston ring.

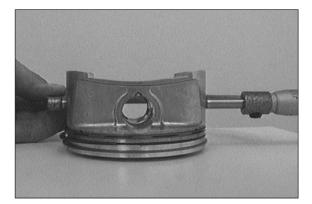


# Measuring piston and cylinder, determining the piston fitting clearance

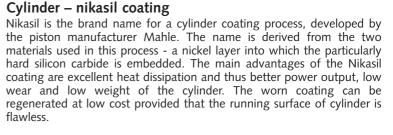
- In order to determine the wear of the cylinder, measure the cylinder center of the running area with a micrometer.
- Measure the diameter of the x-axis and the y-axis in order to check for oval wear, if any.

- The piston is measured on the piston skirt across to the piston pin as shown in the illustration.
- The cylinder diameter minus the piston diameter yields the piston assembly clearance.

Piston assembly clearence: see Technical Specification





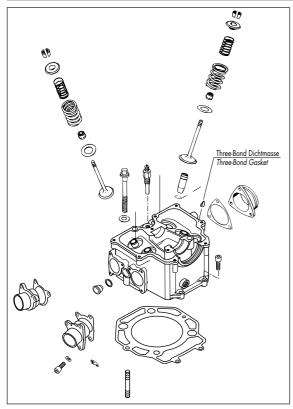


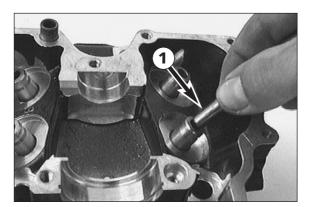


# **Recoated cylinder**

If the Nikasil coating of your cylinder is worn but undamaged, you may obtain a recoated cylinder at your KTM dealer (new Nikasil coating on used cylinder).

It may be that your spare cylinder shows color changes on the exterior side.





# Disassembling the cylinder head and checking the components for wear

- Mount cylinder head in vice using the studs. Do not allow it to rest on sealing surface.
- Mark valves and remove using special tool (see illustration).
- Clean all parts.

# Sealing area

Check spark plug threads and valve seats for damage or cracks. Check the sealing area to the cylinder for distortions with a straightedge and a feeler gauge. Distortion limit 0.10 mm (0.004 in).

#### Valve guides

The valve guides are checked with a limit plug gauge ① (Ø 7.05 mm). If the limit plug gauge can be easily inserted into the valve guide, the guide must be replaced in a specialized workshop.

#### Valve seats

The valve seats must not be pocketed. Seat sealing width: intake max. 1.5 mm (0.059 in); exhaust max. 2.0 mm (0.079 in). Grind valves if necessary.

#### Valves

Check valve heads for wear and run out. Max. run-out on valve heads 0.03 mm (0.001 in). Valve seats should not be pocketed. The sealing area must be located in the center of the valve seat. The valve stem is hard-chrome plated. Experience shows that wear appears primarily on the valve guide.

#### Valve springs

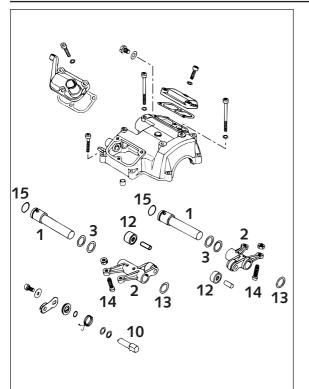
Only visual check for breakage or wear is necessary.

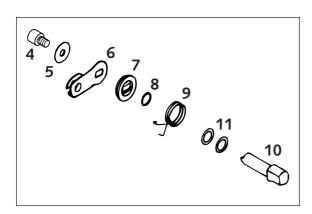
#### Valve stem seals

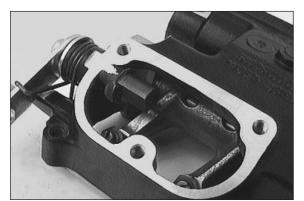
Always renew valve stem seals when the valves are removed.

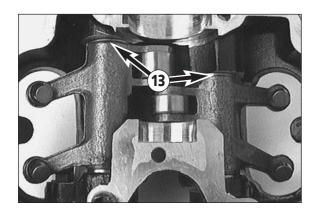
#### Intake flange

Check flange surface for distortion, scrape on glas plate if necessary.









# Disassembling the cylinder head top section and checking the components for wear

Simply pull the rocker arm axles ① out of the cylinder head top section. Then take both rocker arms ② together with thrust washers ③ and ③ out of the cylinder head top section.

Undo bolt **4** and remove the following components:

Washer <sup>(5)</sup> Decompression shaft lever <sup>(6)</sup> Covering disc <sup>(7)</sup> O-ring <sup>(3)</sup> Decompression lever spring <sup>(9)</sup>

- Press the decompression shaft **1** inwards and take it out of the cylinder head top section together with the washers **1**.
- Clean all components.

## Rocker arm shafts 1

The rocker arm shafts must be free of grooves and should turn easily within the rocker arms  $\boldsymbol{2}$ .

# Rocker arm rollers 😰

The rocker arm rollers must move smoothly. Rocker arm rollers must be removed in the case of radial clearance.

# Adjusting screws 🛽

The contact surfaces of the adjusting screws must be plane.

# Decompression shaft 1

Check for smooth operation and clearance in the bearing bore.

# Pre-assembling the cylinder head top section

- Insert decompression shaft  ${\rm I}\!{\rm I}$  with compensation washers  ${\rm I}\!{\rm I}$  into the top section.
- Mount the new O-ring 3, the decompression lever spring and the cover disc 7 in such a way that the O-ring fits into the recess of the cover disc.
- Mount the decompression shaft lever **6**.

Į.

- Apply Loctite 243 to the thread of bolt @ and mount the bolt together with washer ⑤.
- Hook the decompression lever spring onto the decompression shaft lever.

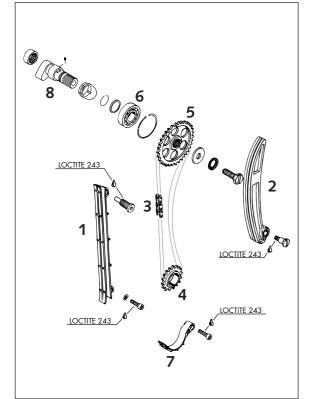
CAUTION	!

The decompression shaft must exhibit no axial play when the allan head bolt 0 is tightened. To ensure that the o-ring 0 forms a seal, it must be slightly pressed against the top section by the cover disc 0. However, the pressure on the O-ring must not be excessively high as the decompression shaft will become sluggish. Adjust out with compensation washers 0 if necessary.

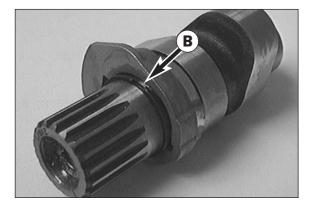
NOTE: Discs **(1)** are available 0.15 mm, 0.30 mm and 0.50 mm thick.

- Mount new O-rings 
   <sup>(1)</sup>
   on rocker arm shafts
   <sup>(1)</sup>
   .
- Mount rocker arms 2, thrust washers 3 and rocker arm shafts 1.
- − On the side of the water pump one thrust washer  $\textcircled{B} \neq 1.0 \text{ mm}$  (0.04 in) must be mounted.
- The axial play on the opposite side is roughly equalized with thrust washers ≠ 1.0 (0.04 in) and ≠ 0.5 mm (0.02 in).

The axial clearance of the rocker arm axles must be 0.20 - 0.30 mm.



# 



# Checking the components of the timing mechanism for wear

Timing chain guide **①** Check for signs of wear.

Timing chain tensioner **2** Check for signs of wear.

Timing chain <sup>(6)</sup> Check rollers for smooth operation and signs of wear.

Timing gear **4** Check teeth for signs of wear.

Camshaft gear **③** Check teeth for signs of wear.

Grooved ball bearing **(6)** Check clearance.

Safety device **7** Check for signs of wear.

Camshaft <sup>1</sup>Camshaft <sup>1</sup>Camsha

# Disassembling the camshaft and checking the components for wear

- Remove both the stepped ring **(**) and the circlip **(**). Carefully remove the decompression cam **(**). Keep a watch on the spring **(**).

Supporting pin **1** Check for signs of wear.

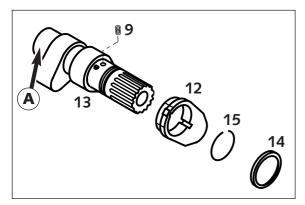
Guide pin **(1)** Check for signs of wear.

Decompression cam  ${\rm I}\!{\rm O}$  Check the contact surfaces towards the supporting pin for signs of wear.

Spring **③** Check length (minimum length: 7.0 mm/0.275 in).

# Camshaft 🚯

Check for signs of wear at pivot point 0. Minimum diameter of the pivot point 19.97 mm.

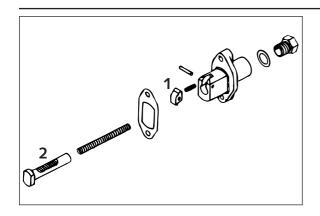


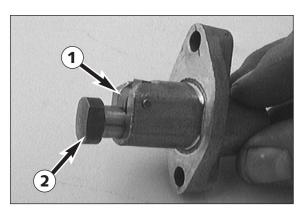
# Preassembling the camshaft

- Place spring 9 in the bore, compress and slide decompression cam 1 over it.
- Mount circlip **(**) with the sharp side towards the decompression cam.
- Position the open side <sup>(3)</sup> of the circlip between the open spaces of the decompression cam.
- Slide the step ring @ with open spaces over the lock washer.

# Automatic tensioner

- Check ratcheting pawl **1** for smooth operation and wear.
- Check thrust bolt 🛛 for wear at teeth.



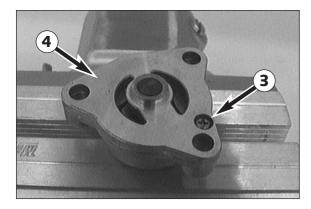


# Preassembly of automatic tensioner

Insert thrust bolt into tensioner housing and engage ratcheting pawl into first notch (see illustration).

!	CAUTION	!	
	DAVA/L IS NOT ENCACED INTO THE EIDST		CALICE

IF THE RATCHETING PAWL IS NOT ENGAGED INTO THE FIRST NOTCH THIS WILL CAUSE EXCESSIVE TENSION OF THE CHAIN.

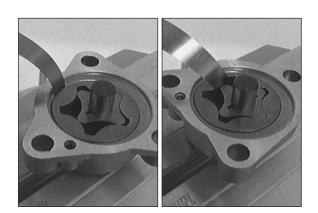


5

# Disassembling the oil pumps and checking the components for wear

NOTE: The two oil pumps are similar in design but work at different speeds. Disassemble and check the oil pumps separately to avoid mixing up of components.

- Remove screw 3 and take off the oil pump cover 4.
- Pull the oil pump shaft **③** out of the oil pump housing together with the bearing needle.
- Take the inner rotor 0 and the outer rotor 0 out of the oil pump housing.
- Clean all components and check for signs of wear.
- When reassembling the unit insert the inner rotor and the outer rotor into the oil pump housing, making sure that the point faces the inside.
- Mount oil pump shaft and bearing needle



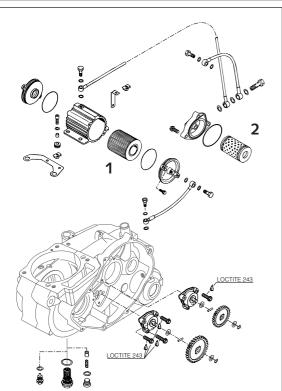
Now perform the following measurements to determine the degree of wear:

Outer rotor - oil pump housing: max. 0.20 mm Outer rotor - inner rotor: max. 0.20 mm

Fill the oil pump housing with oil and mount the oil pump cover.
 Apply Loctite 243 to the thread of screw ③ and mount the screw.

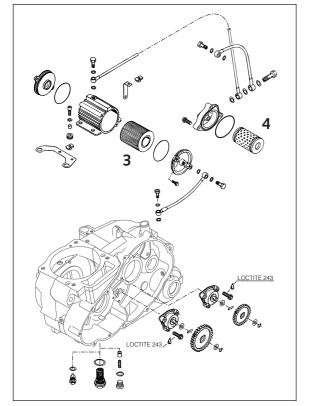
!	CAUTION	!

Fill oil pumps with oil before preassembling.



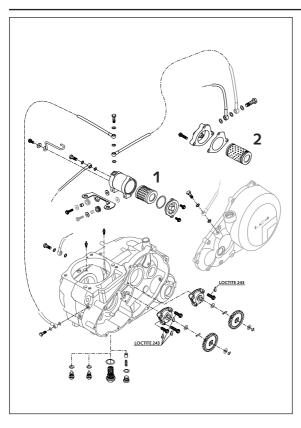
# Oil lines (SX, SXC)

- Check oil lines and banjo bolts for damage and clear passage.
  When repairing the engine, the microfilter **1** and the oil filter **2** must be replaced.



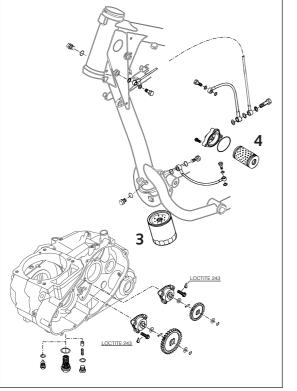
# Oil lines (SC)

- Check oil lines and banjo bolts for damage and clear passage.
  When repairing the engine, the microfilter ③ and the oil filter ④ must be replaced.



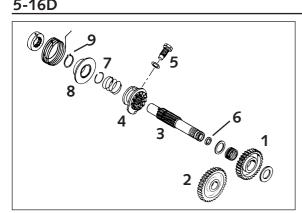
# Oil lines (660 SMC)

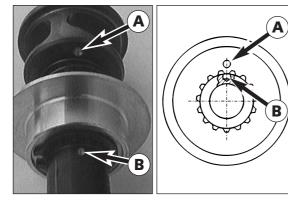
- Check oil lines and banjo bolts for damage and clear passage.
  When repairing the engine, the microfilter **1** and the oil filter **2** must be replaced.



# Oil lines (Models with frame oil)

- Check oil lines and banjo bolts for damage and clear passage.
  When repairing the engine, the fine filter ③ and the oil filter ④ must be replaced.





# Checking the kickstarter components for wear Starter gear **1**

Check the bearing for clearance (the starter gear must be in permanent mesh with the outer clutch hub).

Intermediate starter gear 2 Check the bearing for clearance.

Kick starter shaft 3 Check the toothing for signs of wear.

Ratchet gear **4** 

Check the ascending surface and the toothing for signs of wear.

# Stop bolt 6

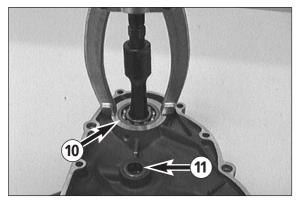
Check for signs of wear.

Replace the seal ring **6** 

NOTE: Due to a parts change from 2000 onwards the seal ring is blue-green and is to be mounted with the seal lip to the outer side.

# Preassembly of kickstarter shaft

- Clamp kickstarter shaft with toothed end in vice (use soft jawcovers).
- Mount circlip **1** in lower ring groove.
- Fit spring guide <sup>(3)</sup> with collar facing downwards and circlip <sup>(3)</sup> with sharp edge facing upwards.
- Remove kickstarter shaft from vice and fit ratchet gear spring.
- Mount the ratchet gear 4 on the kickstarter shaft in such a way that the markings **()** and **()** coincide.



# **Clutch cover**

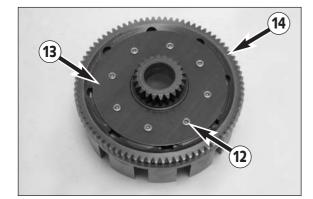
Balancer shaft bearing 10

Use the bearing extractor tool with insert to remove the grooved ball bearing from the bearing seat.

Insert the new bearing into the seat and ensure flush fit.

## Seal ring **(**

Use a screwdriver to lever the old shaft seal ring out of the clutch cover. Insert the new shaft seal ring and ensure flush fit.



# Replacing absorbing elements of the outer clutch hub

- Drill open the clutch rivets 10 in area of the retaining bracket 18 and take off the parts.

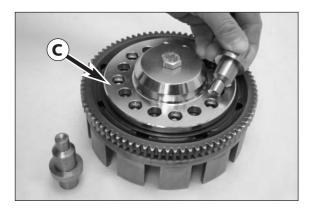
NOTE: When performing repair work always exchange all 8 absorbing elements.

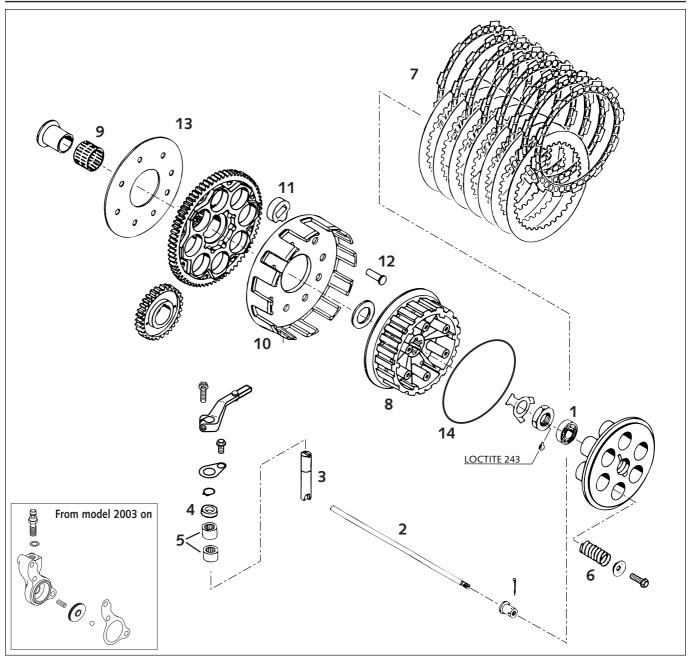
!			C	AUTIO	!			
Тне	DAMPING	ELEMENTS	ARE WIDE	R THAN TH	e primary	GEAR C	rown 🕐. To	
ENSU	JRE THAT	THE OUTER	CLUTCH I	HUB AND RE	TAINING B	RACKET A	ARE POSITIONED	

Ŧ Е DIRECTLY ON THE PRIMARY GEAR CROWN, THE PARTS MUST BE HELD IN POSITION UNDER TENSION WITH THE CLUTCH RIVETTING TOOL **()** BEFORE RIVETTING.

- Apply the special tool as shown, screw together and lock the rivets with a pointed mandrel and a round mandrel.

Locking pressure for the pointed mandrel: approx. 4000 kg Locking pressure for the round mandrel: approx. 5000 kg





# Checking the clutch components for wear

Thrust bearing **①** – Check for signs of wear.

Push rod **2** – Check the face side for signs of wear.

Clutch release shaft 6, sealing cup 4 and needle bearing 5 – Check for damage and signs of wear.

Clutch pressure springs <sup>(a)</sup> – Minimum length: 34.5 mm (1.36 in) (length/new spring: 37 mm (1.457 in)). Replace all 6 springs if necessary.

Clutch discs **1** – Clutch discs must be plane.

7 steel discs  $\neq$  1.5 mm (0.066 in) must be free of grooves.

8 lining discs  $\neq$  2.7 mm (0.106 in), wear limit: 2.5 mm (0.1 in)

Inner clutch hub <sup>(3)</sup> – Check both the exterior and the interior toothing for signs of wear.

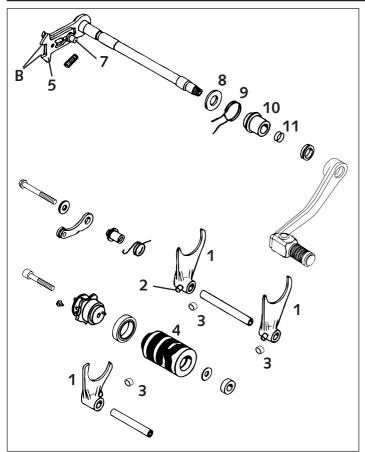
Needle bearing 9 - Check for signs of wear.

Outer clutch hub **1** – Check if all rivets **1** are tight.

#### Absorbing elements

Power transmission from the primary drive to the clutch is cushioned by rubber elements ①. These rubber elements must be checked in the course of normal checking for signs of wear. It is recommended to check the elements while disassembling the engine. Try to turn the outer clutch hub after removing the inner clutch hub (engine will lock). Dead travel should be impossible.

Check O-ring @ for brittleness and cracks. If the cross section of the O-ring is oval (deformed) replace the O-ring.



# Checking the shift mechanism components for wear

# Shift forks 1

Check the fork leaf for signs of wear. Check the shift roller driving pin **2** for signs of wear.

# Shift rolls 6

Check the shift rolls for hairline cracks and pressure marks. Additionally, make sure that the shift rolls turn easily on the driving pins @ of the shift forks.

# Shift roller @

Check the shift grooves for signs of wear. Check the two grooved ball bearings of the shift roller for wear.

# Slide plate 6

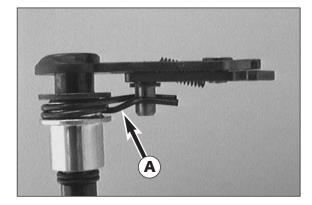
Check the contact surfaces for signs of wear. Check the return surface of the slide plate for signs of wear (replace in the case of deep grooves).

## Slide guides

Check clearance (maximum clearance between guide bolt and slider 0.70 mm / 0.027 in.).

# Guide bolt 🕖

Check for tight fit and signs of wear.

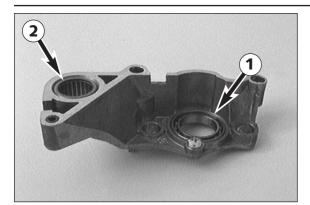


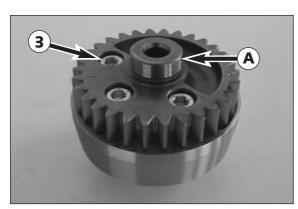
# Preassembly of shift shaft

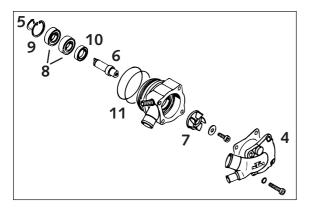
- Push steel disc (14x28x2 mm) onto shift shaft.
- Mount the return spring <sup>(1)</sup>, positioning the offset <sup>(1)</sup> on the side of the shift quadrant.

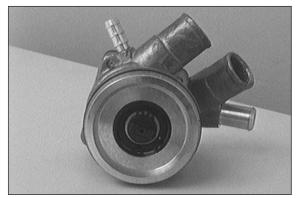
- Mount spring sleeve  $\mathbf{0}$  with shallower collar facing shift quadrant.
- Cross return spring legs and hook in shift quadrant.
- Grease and mount both O-rings **(**).











# Shift mechanism support

If the grooved ball bearing 1 of the shift roller must be exchanged, press the new grooved ball bearing all the way into the seat.

		0	6,							
	! CAUTION			ΓΙΟΝ		!				
)	PREVENT	DAMAGING	OF	THE	SHIFT	MECHANISM	SUPPORT.	DO	NOT	APPLY

То EXCESSIVE FORCE WHEN INSERTING THE GROOVED BALL BEARINGS.

- Apply Loctite 243 to the screw and fix the bearing.
- \_ The new needle bearing of the kickstarter shaft 2 has to be pressed in flush.

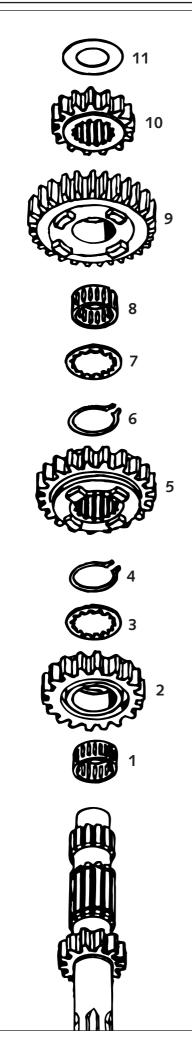
# **Balancer shaft**

Check bearing seat (a) for wear and tear.

Check three allan head bolts 6 for tight fit.

# Disassembling and reassembling the water pump

- Remove the water pump cover ④ together with the gasket. Remove circlip ⑤ from the water pump shaft ⑥ and pull shaft and water pump wheel **1** out of the grooved ball bearings.
- If grooved ball bearings 3 are replaced, remove circlip 9 and shaft seal ring 10 and press out bearing.
- Properly lubricate new grooved ball bearings and press in to stop with the open sides facing each to them.
- Mount circlip 9.
- Cover new shaft seal ring with Loctite 648 and press in with the printing facing outward.
- Lubricate water pump shaft and mount carefully so as to not damage sealing lips of shaft seal ring and check for smooth working.
- Mount circlip **6** and water pump cover **6** with gasket. Finally, remove silicone from the sealing flange and mount 2 new
- O-rings **①**.



## Important note regards working on transmission

- Fix the main shaft or countershaft, respectively, in the vise (use special vise jaws to avoid damaging of the shafts) and remove the gear wheels.
- Clean and check all parts.

Always use new lock washers when performing repair work on the transmission !

Check the tooth profiles of transmission shafts and sliding gears for signs of wear.

Slide the sliding gears onto the transmission shafts and check the toothing for easy operation.

Check the pivot points of the transmission shafts.

Mount the idler gears with the bearings on the transmission shafts and check for clearance.

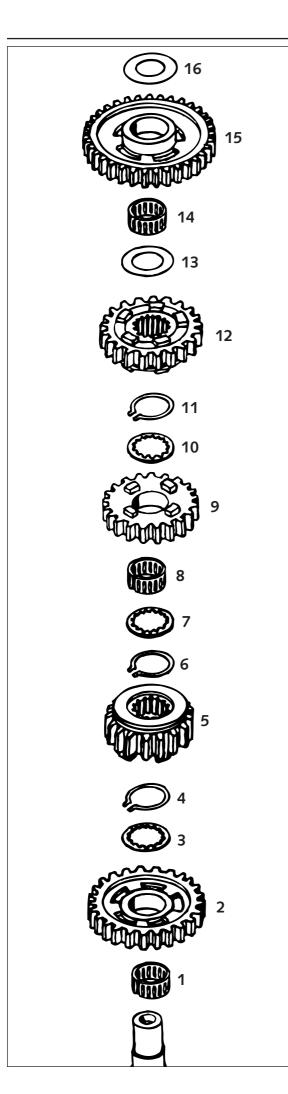
Check the needle bearings of the idler gears.

# Assembling the main shaft

- Mount the main shaft in a vise with the gearwheel facing downwards (use protective jaws).
- Mount the needle cage 1 and slide the 3rd gear 2 with the shift dogs facing upwards.
- Mount stop disc 3 (22.7x32x1.5 mm) and the circlip 4 with the sharp edge facing up.Mount 4th gear with the shift groove facing down.
- Secure it with the circlip 6 with the sharp edge down and mount \_ the stop disc **7** (22.7x32x1.5 mm).
- Mount needle cage <sup>3</sup> and 5th gear <sup>9</sup> with the shift dogs down.
- Mount 2nd gear **1** and stop disc **1** (20.2x35x1 mm).

NOTE: Check all gears for smooth operation.





#### Important note regards working on transmission

- Fix the main shaft or countershaft, respectively, in the vise (use special vise jaws to avoid damaging of the shafts) and remove the gear wheels.
- Clean and check all parts.

Always use new lock washers when performing repair work on the transmission  $! \end{tabular}$ 

Check the tooth profiles of transmission shafts and sliding gears for signs of wear.  $% \left( {{{\left[ {{{C_{\rm{B}}} \right]}} \right]}_{\rm{B}}} \right)$ 

Slide the sliding gears onto the transmission shafts and check the toothing for easy operation.  $% \label{eq:sliding}$ 

Check the pivot points of the transmission shafts.

Mount the idler gears with the bearings on the transmission shafts and check for clearance.  $% \label{eq:constraint}$ 

Check the needle bearings of the idler gears.

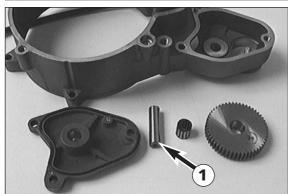
#### Assembling the counter shaft

- Mount counter shaft in vise with collar facing downwards.
- Oil and mount needle cage  $\mathbf{0}$ .
- Slide 2nd gear Ø over needle cage with collar facing downwards.
   Mount stop disc Ø (22.7x32.0x1.50 mm) with clearance towards
- Mount 5th gear <sup>(3)</sup> with shift groove facing upwards.
- Fit circlip 
   with sharp edge down and stop disc
   disc
   (22.7x32.0x1.50
   mm).
- Mount needle cage **3** and fit 4th gear **9** with shift dogs facing up.
- Fit 3rd gear 
   with shift groove down and mount stop disc (22.2x35.0x1.50 mm)
   .
- Mount needle cage (1), 1st gear (1) with collar facing up and fit stop disc (20.2x35.0x1.0 mm) (1).

NOTE: A roller bearing was installed in the 660 SMC model, thus a stop disc is unnecessary.

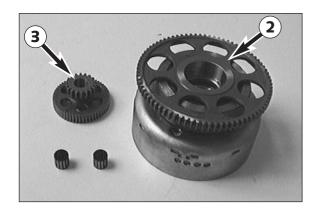
Check all gears for smooth operation.





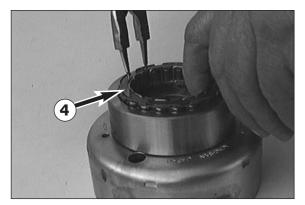
#### Removing the intermediate gear

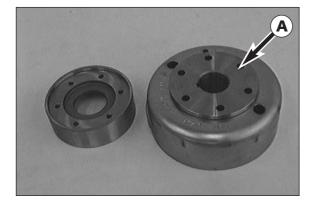
- Remove the starter cover.
- Pull out the bearing bolt  $\mathbf{0}$ .
- Remove the intermediate gear and the needle bearing.
- Check the parts for signs of wear.
- Insert the intermediate gear with the collar downward into the housing for preassembly.
- Oil the needle bearing and install it with the bearing bolt.
- Do not yet replace the starter cover.

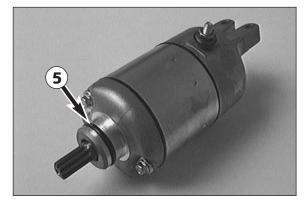


#### Checking the freewheel

- Insert the freewheel gear **2** into the freewheel.
- The freewheel gear must turn clockwise.
- The freewheel gear must lock without empty run if turned anticlockwise.
- Check the reduction gear **③** and the needle bearings for signs of wear.
- Check the needle bearing of the freewheel gear for signs of wear.







#### Replacing the freewheel hub

AVOID LOOSENING OF THE MAGNETS.

- Squeeze the spreader ring  ${f 0}$  with the circlip pliers and remove it together with the freewheel.
- Check the freewheel segments for signs of wear.
- Check the freewheel hub sections at the freewheel running surface for signs of wear.
- Heat the flywheel to a temperature of approx. 80° C (176° F) and remove the 6 bolts.

	! CAUTION					!							
Make	SURE	THAT	THE	FLYWHEEL	IS	NOT	HEATED	BEYOND	80°	С	(176°	F)	то

Carefully tap the side of the freewheel hub with a plastic hammer and take off the freewheel hub.

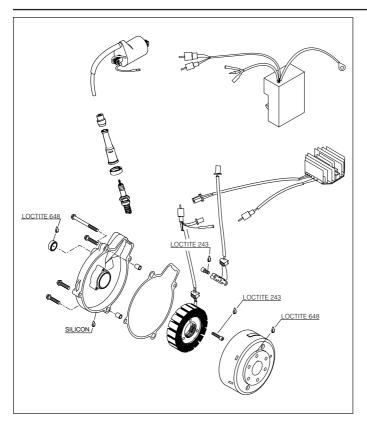
- Apply Loctite 648 to the flange surface <sup>(1)</sup> of the flywheel and the freewheel hub.
- Mount the freewheel hub on the flywheel.
- Apply Loctite 648 to the thread of the bolts and tighten them crosswise (18 Nm).

!	CAUTION	!
ALWAYS USE NEW BOLTS (1	2.9) and apply Loctite 64	8 to the threads.

- Thoroughly oil the free-wheel and insert it into the freewheel hub.
- Insert the spreader ring into the groove with a pair of circlip pliers and make sure that it properly rests in the groove.

#### Electric starter motor

- The starter showed only slight signs of wear after 10.000 starting processes, and exchanging individual parts must be considered uneconomical. Therefore, such work is not described in the present documentation.
- Exchange the O-ring **6** at the starter flange (incl. in the gasket set).



#### Ignition (Kokusan 4K2) General information

The measurements described below will only reveal severe problems. Coil short circuits leading to weak ignition sparks or low generator output, respectively, can only be detected with the help of an ignition test bench. In the case of malfunction always check the cables and the plug and socket connections of the ignition system first.

Make sure to select the correct measuring range when performing measurements.

#### Checking the stator and the pulse generator (Kokusan 4K2) Use an ohmmeter to perform the following measurements:

NOTE: The measuring must be performed at a temperature of 20° C. Otherwise significant deviations must be expected.

CABLE COLORS	RESISTANCE
red/black – black/red yellow – black/red yellow – red/black	0.45 – 0.56 Ω
white – green	80 – 120 Ω
	red/black – black/red yellow – black/red yellow – red/black

Replace the stator and/or the pulse generator if the measured values deviate significantly from the setpoint values or in the case of continuity between one of the cables and ground.

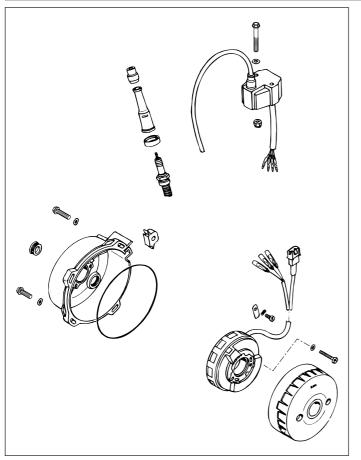
### Replacing the stator (Kokusan 4K2)

- Loosen the 3 bolts and remove the stator.





- Insert a new stator into the ignition cover.
- Apply Loctite 243 to 3 new bolts and tighten the bolts.
   Insert the cable guide in the opening provided for the
- Insert the cable guide in the opening provided for that purpose in the ignition cover.



+ POLE	– POLE	MEASURE VALUE
black	red	1.7 kΩ
red	black	1.7 kΩ
black	green	165 Ω +/- 20 Ω
green	red	1.7 kΩ
yellow	yellow	1.0 Ω

#### Ignition (SEM) General information

The measurements described below will only reveal severe problems. Coil short circuits leading to weak ignition sparks or low generator output, respectively, can only be detected with the help of an ignition test bench. In the case of malfunction always check the cables and the plug and socket connections of the ignition system first.

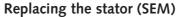
Make sure to select the correct measuring range when performing measurements.

#### Checking the stator (SEM)

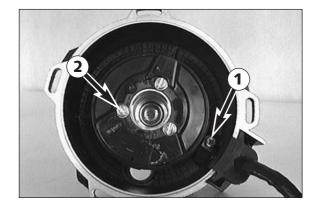
Perform the measurements indicated to the left with an ohmmeter.

NOTE: The measuring must be performed at a temperature of 20° C. Otherwise significant deviations must be expected.

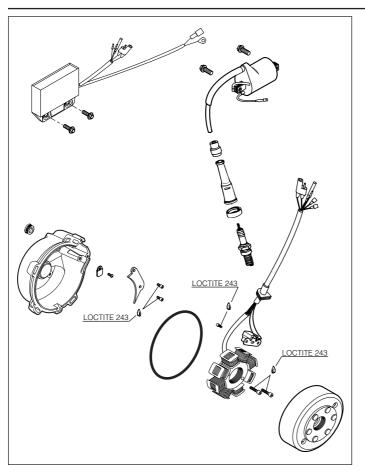
The stator must be exchanged if any of the measured values deviates significantly from the respective nominal value or in the case of continuity between one of the cables and ground.



- Remove bolt **1** with retaining bracket.
- Remove the three clamp bolts **2** and lift the stator out of the ignition cover.



- Mount the new stator in such a way that the timing mark 
   is visible in the checking hole on the rear side.
- Apply Loctite 243 to the threads of the bolts 2 and insert the bolts without, however, tightening them yet.
- Apply Loctite 243 to the thread of bolt ①, turn the stator clockwise all the way to the stop.
- Fix the cable strand with retaining clips and insert the rubber cable guide into the opening provided for that purpose.
- Turn the stator until the mark becomes visible in the peephole. Then tighten the bolts ❷.



#### Ignition (Kokusan 4K-3) General information

The measurements described below will only reveal severe problems. Coil short circuits leading to weak ignition sparks or low generator output, respectively, can only be detected with the help of an ignition test bench. In the case of malfunction always check the cables and the plug and socket connections of the ignition system first.

Make sure to select the correct measuring range when performing measurements.

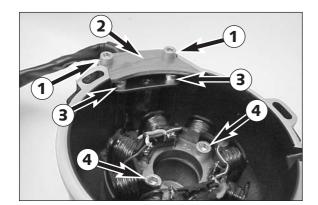
### Checking the stator (Kokusan 4K-3)

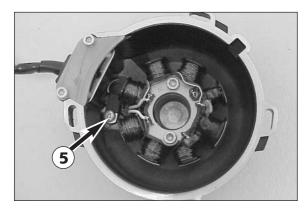
Use an ohmmeter to perform the following measurements.

Note: The measuring must be performed at a temperature of 20° C. Otherwise significant deviations must be expected.

Replace the stator if the measured values deviate significantly from the setpoint values.

Ignition	Measure	Cable colours	Resistance
	Pulser coil	red – green	$100 \ \Omega \ \pm \ 20\%$
4K-3	Stator	black/red – red/white	12,7 $\Omega$ $\pm$ 20%
	Charging coil	ground – yellow	0,65 $\Omega$ $\pm$ 20%
		white – yellow	0,16 $\Omega$ $\pm$ 20%





#### Installing a new stator (Kokusan 4K-3)

- Remove the 2 bolts ① and take the cover plate ② out of the ignition cover.
- Remove the 2 bolts ③ of the pulse generator and the 2 bolts ④ of the stator.
- Undo bolt ③ and take the retaining platelet out of the ignition cover. Take the stator and the pulse generator out of the ignition cover.

NOTE: When reassembling the unit, degrease and apply Loctite 243 to the threads of all bolts.

- Put the new stator into the ignition cover and fix it with the two bolts  ${f 0}$ .
- Position the pulse generator in the ignition cover and fix it with the two bolts <sup>(3)</sup>.
- Put the cable guide into the recess provided for this purpose and fix the cover plate 2 with the two bolts 1.
- Position the wiring harness, taking care to avoid tension, and use the retaining platelet and the bolt <sup>(3)</sup> to fix it in the ignition cover.

# ASSEMBLING THE ENGINE

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MOUNTING THE KICKSTARTER UNIT	
MOUNTING TRANSMISSION AND SHIFT MECHANISM	
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PRETENSIONING OF THE STARTER SPRING	
MOUNTING CRANKSHAFT	
ASSEMBLY OF ENGINE HOUSING	
MOUNTING OIL FILTER	
MOUNTING THE ENGINE SPROCKET	
MOUNTING THE TIMING GEAR AND THE TIMING CHAIN	
MOUNTING THE OIL PUMPS	
MOUNTING THE BALANCER SHAFT AND THE PRIMARY PINION	
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MOUNTING THE WATER HOSES	
POURING IN ENGINE OIL	
MOUNTING THE KICKSTARTER AND THE SHIFT LEVER	

6

- Place left-hand housing half in engine work stand.

#### Mounting the kickstarter unit

 Insert stop disc (22.2x35x2 mm), starter gear ①, needle bearing and stop disc ② (22.2x30x1.5 mm) into housing.

- Insert the pre-assembled kickstarter shaft into the bearing seat, putting it through the starter gear. Make sure that the starter spring slips into opening (a) of the housing.

#### Mounting transmission and shift mechanism

Insert stop disc (20.2x35x1 mm), 1st gear wheel ③ with collar facing down into the housing and the needle bearing into the idler gear.

NOTE: A roller bearing was installed in the 660 SMC model, thus a stop disc is unnecessary.

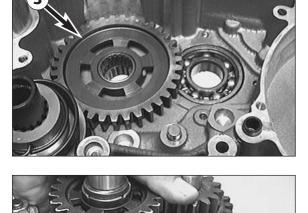
- Mount transmission shafts together and slightly turn them.

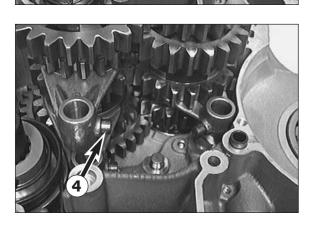
- Grease the driving pins of the shift forks and mount the shift rollers **4**.
- Hook shift fork with legs of same length in the sliding gear of the main shaft.
- Fit the other two shift forks into the gears of the counter shaft, paying attention to the marks applied during disassembly.

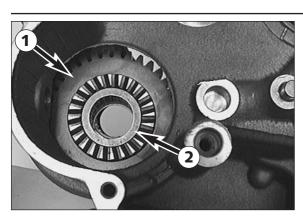
CAUTION

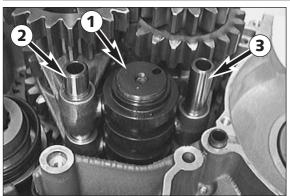
Used shift forks should be mounted in the same sliding gear as before.

Art.-Nr. 3.206.006 -E

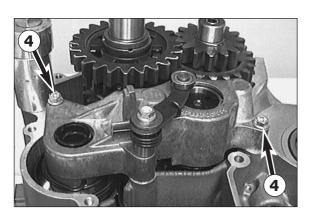








- Insert shift roller **1** into the housing with the holder for the locking piece facing up.
- Hook the shift forks into the shift roller and mount shift rails 2 + 3.
   The shorter shift rail 3 must be fitted to the main shaft.



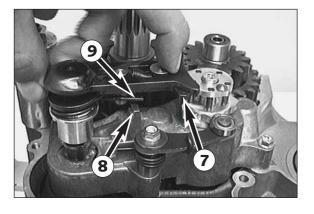
- Before mounting the shift mechanism support, check whether the two dowels have been fitted.
- Mount shift mechanism support, secure the two bolts @ with Loctite 243 and tighten.

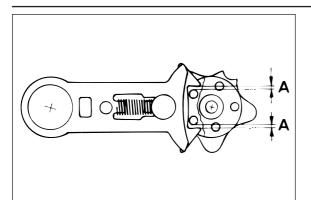
- Put the washer (6.2x18x2 mm), the locking lever, the locking spring bushing and the locking lever spring onto the third bolt.
- Apply Loctite 243 to the thread of the bolt and mount it.

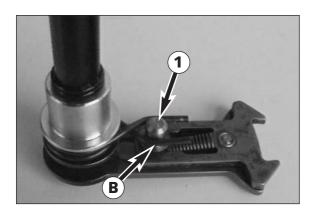


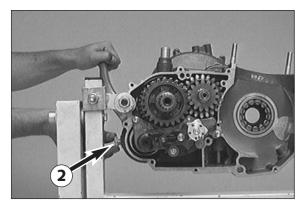
- Pull locking lever **6** away from the shift roller.
- Put the shift drum locating device ③ onto the shift roller, apply Loctite 243 to the thread of the bolt and fix the shift drum locating device.

- Oil the O-rings and grease the shank of the shift shaft.
- Slide preassembled shift shaft into kickstarter shaft.
- At the same time, push back the slide plate **1** and make sure that the ends of the return spring **1** are resting against the centering cup of the shift mechanism support **3**.









#### Adjustment of return spring

- Engage second or third gear.
- Check free travel of slide plate and check shift pin play.
- The free travel of the slide plate is the path this component travels until the shift roller is moved. The return spring pressure will be felt. Proceeding from the basic position, this free travel ( should be identical for upward and downward movement.
- If necessary, the free travel must be readjusted by adjusting the return spring.
- For this purpose, remove the shift shaft and bend the return spring by an appropriate amount at points <sup>(3)</sup> using a pair of pliers. Refit shift shaft. After the shifting shaft has been fitted, the return spring must rest against shift pin <sup>(4)</sup> and against the centering cup on the shift mechanism support.
- If necessary, bend the return spring accordingly.

#### Pretensioning of the starter spring

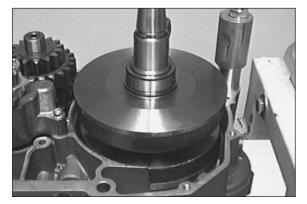
- Fit kickstarter onto kickstarter shaft, turn one revolution in starting direction and hold in this position.
- Mount the stop bolt O together with a new seal ring and tighten it manually.

! CAUTION								i		
MUST	BE	POSSIBLE	то	MOUNT	THE	STOP	BOLT	WITHOUT	APPLYING	EXCESSIVE

It must be possible to mount the stop bolt without applying excessive force. If it is not possible to mount the stop bolt manually, turn the kickstarter shaft further against the force of the spring until the stop bolt can be mounted.

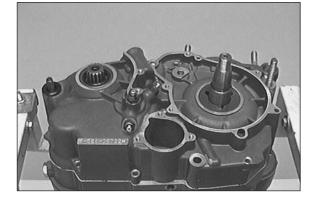
- Move kickstarter to stop and remove.
- Tighten stop bolt 2 with 50 Nm.
- Place O-ring (22x1 mm) and inner ring of roller bearing on the counter shaft with the collar facing the gear.
- Mount stop disc 6 (20.2x35x1 mm) onto the main shaft.

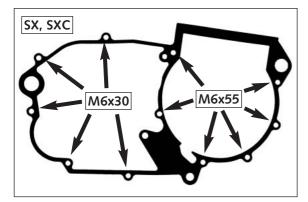




#### Mounting crankshaft

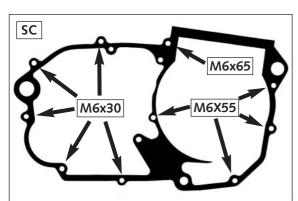
- Grease the shaft seal ring of the crankshaft and thoroughly oil the roller bearing of the crankshaft.
- Fit mounting sleeve onto crankshaft and place crankshaft into bearing.



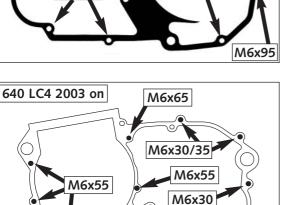


#### Assembly of engine housing

- Make sure both dowels are in place in the left housing half, and put gasket on the sealing surface. Use a little bit of grease to hold the gasket in place. Grease all shaft seal rings in the left side of the housing.
- Oil all bearings in the right side of the housing and put on the \_ housing half. If necessary, tap lightly with a plastic mallet and turn transmission shafts.
- Check to make sure that the gasket is in the proper position before \_ final assembly.
- Grease housing bolts (threads and contact surfaces of bolts heads). Insert bolts and assemble the housing (see sketch for bolt lengths).
- Check all the shafts for smooth operation before and after tightening \_ with 7-8 Nm.
- Mount case in mounting rack and check function of gear-change by engaging all gears.
- Check crankshaft axial clearance (0.03 0.12 mm) (0.0012 0.0047 \_ in) and fit crankshaft locking bolt.

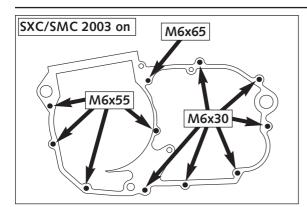


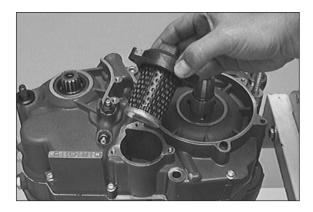
LC4-E M6x65 M6x30/35 M6x55 M6x30 M6x95

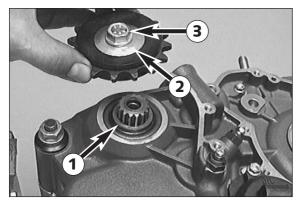


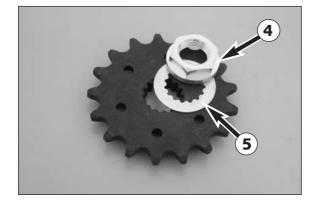
NOTE: On Adventure-models bolts M6x35 are used instead of the two upper bolts M6x30.

NOTE: On Adventure-models bolts M6x35 are used instead of the two upper bolts M6x30.









#### Mounting oil filter

- Fit oil filter with rubber gasket onto the connection in the oil filter cover.
- Fit a new O-ring into the oil filter cover groove or use new gasket and fix the oil filter cover with the 3 bolts, tighten bolts with 5 Nm.

#### Mounting the engine sprocket

- Lubricate O-ring (25x2 mm) with oil and slide over countershaft.
- Slide distance bushing 

   in position so that O-ring is in correct position.

NOTE: The distance bushing for Duke and Supermoto-models is  $2 \, \rm mm$  thicker.

!	CAUTION	!			

Do not reverse dust lip of the shaft seal.

- Fit the engine sprocket with the collar facing the housing.

NOTE: For Duke and Supermoto-models an additional 2 mm washer is used.

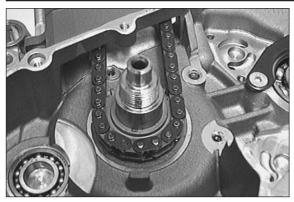
- Apply Loctite 243 to thread of sprocket bolt.
- Mount spring retainer **2** and sprocket bolt **3**.
- Apply counterpressure with the sprocket holding spanner and tighten sprocket bolt.

NOTE: Tighten bolts with quality 8.8 to 40 Nm, bolts with quality 10.9 to 60 Nm.

NOTE (from model 2003 on):

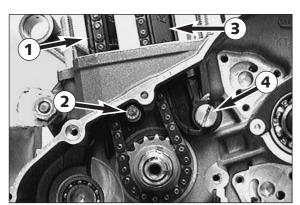
A collar nut  ${f 0}$  and a lock washer  ${f 0}$  are installed in some of the models instead of a collar screw.

Tightening torque off the collar nut: 60 Nm

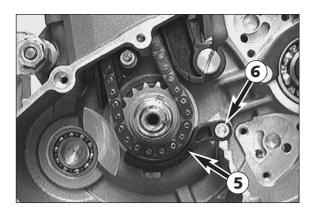


#### Mount the timing gear and the timing chain

- Insert woodruff key for timing gear into crankshaft and fit timing gear onto crankshaft with high collar towards housing.
- Fit timing chain onto timing gear and draw up through chain tunnel.



- Insert the timing chain guide ①, apply Loctite 243 to the Allen head bolt ② and mount.
- Apply Loctite 243 to the thread of the flat-head screw **4**.
- Fasten timing chain tensioner **3** with flat head screw.
- Check timing chain tensioner for smooth operation.



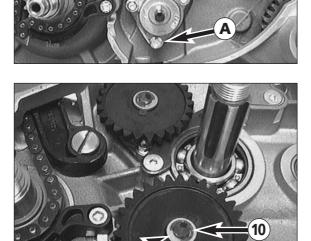
Insert the safety device <sup>(3)</sup>, apply Loctite 243 to the Allen head bolt
(3) and mount.

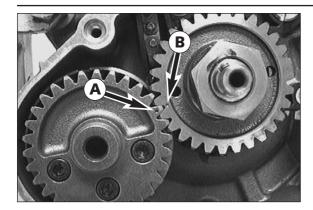
#### Mounting the oil pumps

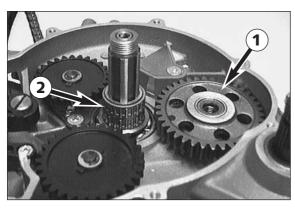
- Clean the sealing surfaces and install the oil pumps in the engine housing (
   M6x25!)
- Degrease the threads and use Loctite 243 to secure the bolts in their position.
- Degrease the threads of both bolts **1**, apply Loctite 243 and mount the retaining bracket **3**.
- Put the stop discs (8.1x15x0.5 mm) onto the oil pump shafts.
- Insert the bearing needles into the oil pump shafts and slide on the oil pump gears (high collars must face the casing; the small oil pump gear must face the upper oil pump).

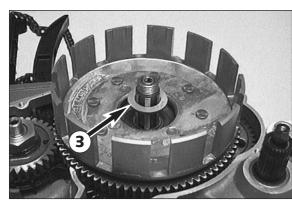
NOTE: From model 2002 onwards both oil pumps are fitted with the same size of oil pump gear.

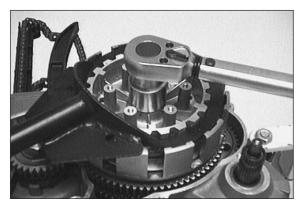
- Put on the upper stop discs 0 (8.1x15x0.5 mm) and mount the locking discs 0 .

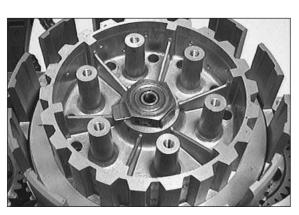












#### Mounting the balancer shaft and the primary pinion

- Fit balancer shaft in the bearing.
- Mount woodruff key in crankshaft and place primary pinion on the crankshaft. When doing so, adjust the teeth of the primary pinion and the balancer shaft in such a way that the markings (4) and (3) coincide.
- Apply Loctite 243 to the crankshaft thread.
- Mount spring ring and hexagon nut and tighten hexagon nut to 170 Nm.

CAUTION	!

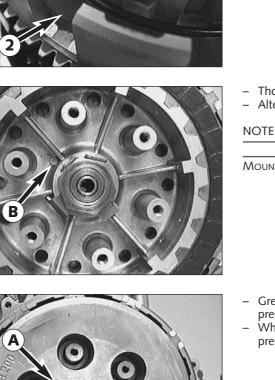
IF THE BALANCER SHAFT IS NOT INSTALLED ALSO REMOVE BOTH GROOVED BALL BEARINGS (IN THE CLUTCH COVER AND IN THE ENGINE HOUSING). OTHERWISE THE GROOVED BALL BEARINGS WOULD DROP OUT OF THE BEARING SEATS AND CAUSE ENGINE DAMAGE AS SOON AS THE ENGINE HEATS UP.

#### Mounting the clutch

- Fit kickstarter intermediate gear 
   onto counter shaft with clearance space towards housing.
- Slide the inner ring and the needle bearing 2 onto the main shaft.

- Fit outer clutch hub and outer stop disc 3 (22.2x35x3 mm).

- Degrease the thread of the main shaft.
- Place inner clutch hub and a new safety plate on the main shaft.
- Coat the thread of the main shaft with Loctite 243 and mount hexagon nut.
- Fit clutch holder and tighten hexagon nut to 100 Nm (60 ft.lb.).
- Remove clutch holder.
- Check clutch hub and main shaft for smooth operation and axial clearance.
- Secure outer clutch hub hexagon nut by bending the safety plate up into place.



#### Mounting the clutch discs

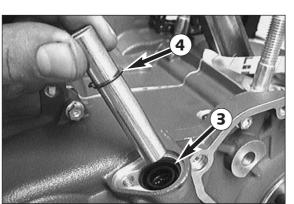
- Thoroughly oil the O-ring **1** and put it onto the inner clutch hub. Oil the lining disc **2** (internal diameter: 127 mm) and mount it, \_
  - making sure that the disc encircles the O-ring (see illustration).

Thoroughly oil all clutch discs before mounting. Alternately mount 1 steel disc and one lining disc.

NOTE: The last disc must be a lining disc.

	!	CAU	ΓΙΟΝ	!	
OUNT ALL ST	TEEL DISKS \	WITH THE SHARP	EDGE FACING	DOWNWARD.	

- Grease the end of the push rod with Molykote grease and fit the pressure cap together with the push rod.
- When mounting the pressure cap make sure that bore () in the pressure cap and the pin **(b)** of the inner clutch hub coincide.



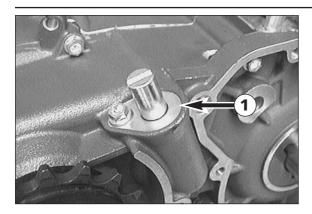
- Place the springs in the pressure cap and fit the HH srews with spring retainers.
- Secure carefully to 6 Nm in a diagonal pattern, to avoid any damage to the inner clutch hub thread.

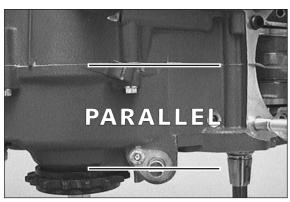
#### NOTE:

- Use offset instead of flat spring retainers for 640 ccm engines.
- From model 2000 onwards spring retainers 6,5x20x2 replaced spring \_ retainers 6,2x20x3,2, these can be used for all models with 540, 620 and 640 engines.

#### Installing the clutch release shaft

- Oil needle bushings in engine housing.
- Insert the grooved ring S into the housing with the open side up.
- Check for the right position of the circlip 4 on the clutch release \_ shaft.
- Slide the release shaft into the housing until it lies on the clutch push \_ rod.





Adjusting the clutch release

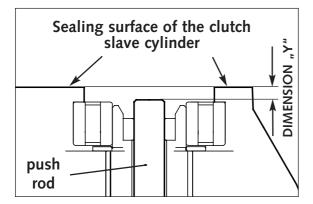
Apply Loctite 243 to the bolt (s).

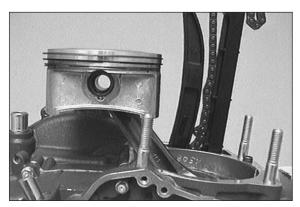
- Turn the clutch release shaft clockwise to stop.
- The slot on the front side of the release shaft should now be parallel to the sealing surface of the housing (see ill.).

Turn the release shaft clockwise until it glides a bit further into the

Fasten the retaining bracket for the clutch release **1** with bolt(s).

housing. The push rod now sits on the release shaft.





- To adjust the clutch release remove pin  $\boldsymbol{2}$  and turn the push rod  $\boldsymbol{3}$ with a screwdriver until the desired setting is achieved.
- Once you have completed the adjustment, the push rod is to be secured with a pin.

				CAUTION			!			
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THE CLUTCH DISENGAGES PERFECTLY, THE CLUTCH O MAKE SURE THAT MUST BE PROPERLY ADJUSTED.

#### Measure the dimension "Y" (from model 2003 on)

NOTE: The dimension "Y" must be adjusted to make sure the clutch release operates correctly.

The dimension "Y" is the distance between the sealing area of the clutch slave cylinder and the pushrod.

- Oil the pushrod and insert in the main shaft all the way in to the stop.
- Measure the distance between the mounting face (without the gasket) of the clutch slave cylinder to the pushrod using a depth gauge.
- To adjust, remove the splint 2 and turn the pushrod 3 with a screwdriver.
- After making the adjustment, lock the pushrod with the splint again. Dimension "Y" = 2.75 mm

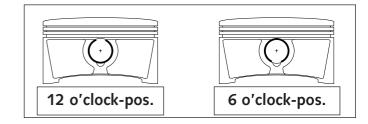
#### Mounting piston and cylinder

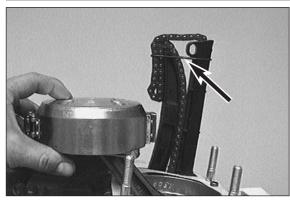
Lubricate the piston pin eye in the connecting rod and the piston pin with oil.

Mount piston and secure pisto	n pin with 2 new wire circlips.
-------------------------------	---------------------------------

_			
	!	CAUTION	!
=			_
		E DISTONI LIEAD MUIST DOINT IN THE	DIDECTION OF TRAVEL

HE ARROW ON THE PISTON HEAD MUST POINT IN THE DIRECTION OF TRAVEL. MOUNT WIRE CIRCLIPS IN "6 O'CLOCK" OR "12 O'CLOCK" POSITION (SEE ILL.).





- Cut off the section of the housing gasket protruding around the cylinder flange and mount 2 dowels.
- Apply sealing compound to the sections near the chain tunnel and mount the cylinder base gasket.

NOTE:

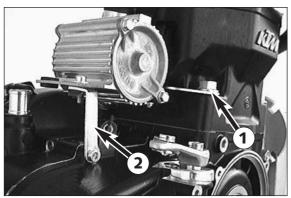
- To facilitate the installation of the cylinder it is recommended to place a rubber band (see illustration) around the timing chain guide and the timing chain tensioner.
- Oil the piston, adjust the piston rings (piston rings must be turned 120 ° against each other) and mount the piston mounting ring.
- Only for 640 LC4 engines a black cylinder base gasket (0,7 mm thickness) is used, the other LC4 engines need the green gasket (0,5mm thickness).

#### - Slide the cylinder over the piston and remove the mounting ring.

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Apply particular care when mounting the cylinder! The oil scraper ring is extremely fragile.



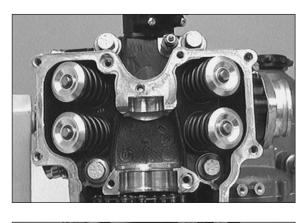


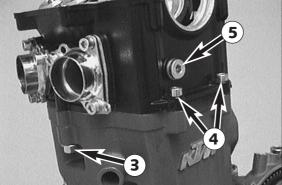
- Hook in the preassembled microfilter with the holding device onto the rear studs and mount the collar nuts **1** at the cylinder base.
- Tighten collar nuts with 40 Nm (30 ft.lb.) crosswise.
- Then mount the bracket ② and attach the microfilter.

NOTE: The upper edge of the piston is higher than the upper edge of the cylinder when the cylinder is screwed down.

#### Mounting the cylinder head

- Check both dowels within the cylinder for proper fit.
- Mount cylinder head gasket and fit cylinder head.
- Oil the 4 bolt (threads and contact surfaces of bolt head) and then mount with new copper seal rings.
- Tighten collar bolts crosswise in three rounds up to the prescribed torque of 50 Nm. During the first round only tighten until a slight resistance is felt.



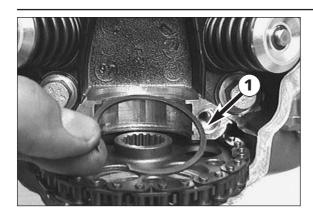


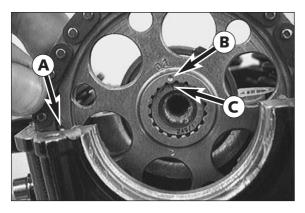
- Mount M8 collar nuts ③ on the front and rear side of cylinder and tighten.
- Mount and tighten bolts 4.
- Put a new seal ring on the chain guide bolt  $\ensuremath{\textcircled{0}}$  and degrease the thread.
- Apply Loctite 243 to the thread of the chain guide bolt, mount and tighten it (30 Nm).

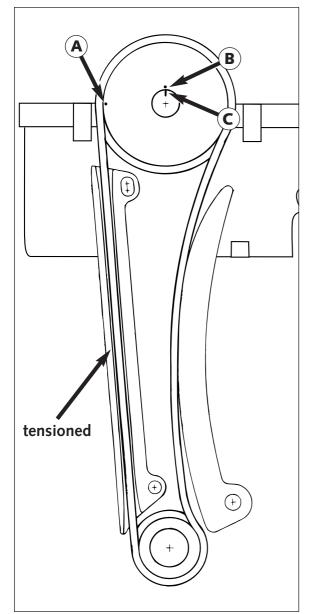
I

CAUTION

Before mounting the chain guide bolt make sure that the opening of the timing chain guide is visible through the threaded hole. If this is the case the chain guide bolt can easily be mounted without exerting excessive force.



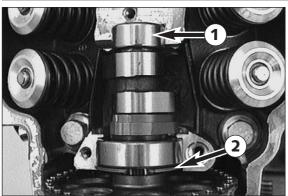




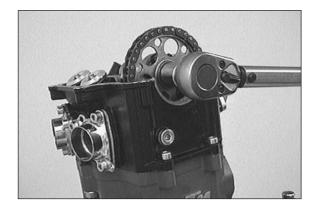
- Mounting the camshaft, timing marks
  Fit the camshaft gear into the timing chain so that mark (a point) is aligned with the top surface of the cylinder head when the timing chain strand tensioned.
- Tilt engine to one side and place circlip **1** on camshaft gear. \_

Slide grooved ball bearing flush onto the preassembled camshaft and fit the camshaft into the camshaft gear so that the mark  $\ 0$  and mark \_ • are aligned.

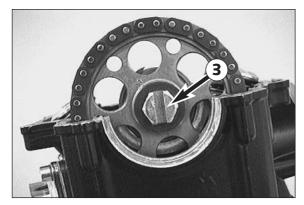
6-13D



- Lubricate the needle bushing **1** with oil and slide it onto the camshaft.
- Mount camshaft together with bearing and circlip 2 into cylinder head.



- Degrease the threads in the camshaft and the driving bolt and apply Loctite 243.
- Mount the driving bolt together with the lock washer and the washer (10x28x3 mm) and tighten (35 Nm/25 ft.lb).

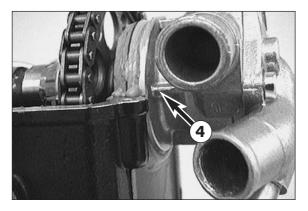


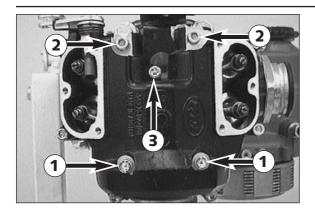
#### Mounting the water pump

- Loosen crankshaft locking bolt and turn crankshaft until groove ③ is at a position vertical to the sealing surface for the cylinder head top section.
- Coat O-ring of water pump with sealing compound (Three-Bond) and carefully mount the water pump. The flat part of the water pump shaft must be introduced into the groove of the HH bolt.

!	CAUTION	!
	LOCATED ON THE HOUSING OF THE WATED	

The marking **4** located on the housing of the water pump must be flush to the seal surface.





#### Mounting the cylinder head top section

- Clean the sealing area of the cylinder head top section and apply a thin layer of sealing compound.
- Fit dowel in the area of the spark plug.
- Carefully position cylinder head top section (do not jam with water pump) and mount bolts.



- Tighten bolts 1 and 2 to 8 Nm diagonally.
- Tighten bolts 2 to 15 Nm.
- \_ Tighten all other bolts of the cylinder head top section with 8 Nm.

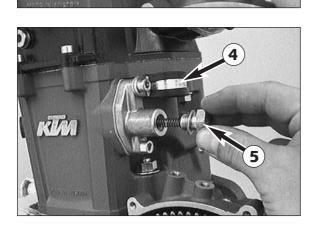
#### Mounting the automatic tensioner

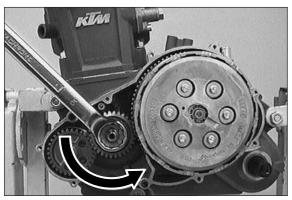
- Fit preassembled automatic tensioner with gasket into the cylinder.

Mount the clamp $\bullet$	and two bolts with copper	seal rings.
!	CAUTION	!

IF THE RATCHETING PAWL IS NOT ENGAGED INTO THE FIRST NOTCH THIS WILL CAUSE EXCESSIVE TENSION OF THE CHAIN.

- Fit pressure spring and plug **6** with gasket and tighten with 20 Nm.

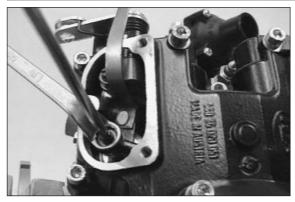


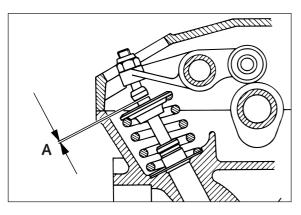


#### Automatic decompression testing

Rotate the crankshaft in the usual direction of rotation (i.e. forward). \_ After every other rotation, the decompression cam must be clearly heard to click as it disengages.

NOTE: If turning of the engine does not produce a click of the decompression cam, first of all check the tightening torque of the driving bolt (camshaft gear).





#### Adjustment of valve clearance

 Adjust piston to ignition top dead center (check marks of flywheel) and screw crankshaft locking bolt back in.

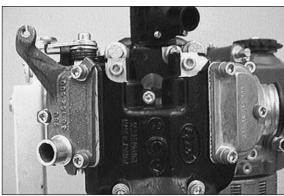
 
 I
 CAUTION
 I

 IF THE PISTON IS NOT IN IGNITION TDC, VALVES ARE OPENED AND A CORRECT ADJUSTMENT IS NOT POSSIBLE - IN THAT CASE CRANKSHAFT MUST BE MOVED A FULL TURN.

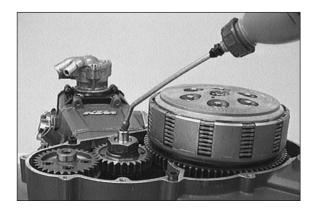
- Valve clearance **()** is measured at cold engine between valve stem and adjusting screw.

VALVE CLEARANCE 400 : INTAKE 0.20 mm / EXHAUST 0.20 mm VALVE CLEARANCE 540 : INTAKE 0.15 mm / EXHAUST 0.15 mm VALVE CLEARANCE 620 : INTAKE 0.15 mm / EXHAUST 0.15 mm VALVE CLEARANCE 625 : INTAKE 0.15 mm / EXHAUST 0.15 mm VALVE CLEARANCE 640 : INTAKE 0.15 mm / EXHAUST 0.15 mm VALVE CLEARANCE 660 : INTAKE 0.15 mm / EXHAUST 0.15 mm

- Tighten counternuts with 20 Nm.
- Remove the crankshaft locking bolt.



- Mount both valve covers with new gaskets and bolts with copper seal rings.
- Tighten bolts with 8 Nm.
- Insert and tighten spark plug with 20 Nm.



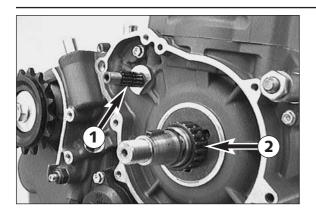
#### Mounting the clutch cover

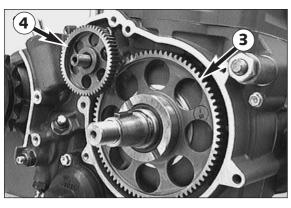
- Pour approx. 30 ml of oil into the crankshaft journal hole.

- Make sure that the two dowels are mounted.
- Fit new gasket and fix with dabs of grease.
- Apply grease to the shaft seal ring in the clutch cover and mount clutch cover.
- Fit bolts and bump rubber **1** for kickstarter.

NOTE: Bolts 2 must each be provided with a copper seal ring.

- Tighten bolts with 8 Nm.





- Mount the freewheel gear **3** and the reduction gear **4**.

Insert the woodruff key into the crankshaft. Slide 2 needle bearings **1** onto the bearing pin of the reduction gear.

Mounting the electric starter drive

Oil the needle bearings.

Slide the needle bearing 2 onto the crankshaft.

\_ \_

\_ \_

- Mounting the ignition (Kokusan 4K-2)
- Degrease the cones of flywheel and crankshaft. Thoroughly oil the freewheel and mount the flywheel. \_

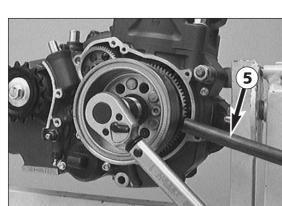
NOTE: Turn the reduction gear for easier mounting of the flywheel.

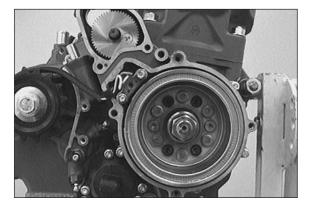
- Mount disk with the nut.
- Use the holding tool 6 to hold the flywheel and tighten the \_ hexagon nut with 150 Nm.

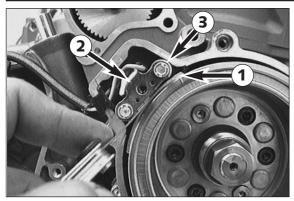
-									
! CAUTION					ļ				
AVOID	DISTORTION	OF	THE	CRANK	WEB,	NEVER	MOUNT	THE	CRANKSHAFT

То LOCKING BOLT TO TIGHTEN THE HEXAGON NUT OF THE FLYWHEEL.

- Insert 2 dowels into the housing. \_
- Apply silicone to both sealing surfaces and mount a new gasket. \_ \_ Mount the preassembled starter flange and use 4 bolts to fasten the starter flange.







#### Adjusting the pulse generator

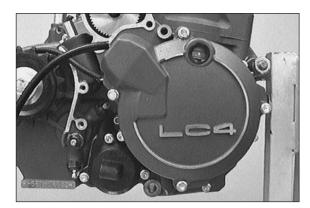
- Turn the flywheel until the elevated section of the flywheel **1** \_ coincides with the pulse generator 2.
- Use a feeler gauge to measure the distance between the pulse generator and the flywheel. \_

Setpoint value: 0.75 mm (0.03 in) +/- 0.2 mm (0.008 in)

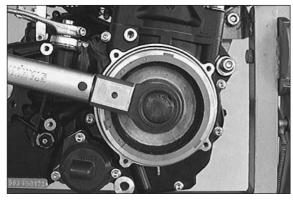
If necessary undo the two bolts 3 and adjust the distance by \_ moving the pulse generator. When mounting the two bolts secure them with Loctite 243.

– Insert 2 dowels.

- Apply silicone to both sealing surfaces and mount a new gasket. \_
- Mount ignition cover and tighten all bolts.

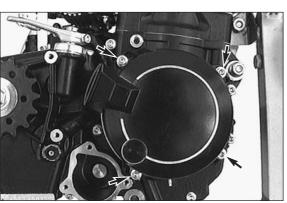


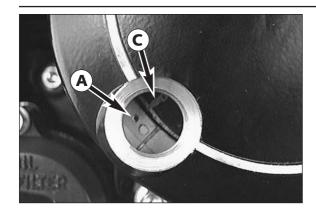
- 4
- Insert a new O-ring 4 into the groove of the starter cover and \_ fasten the starter cover with 3 bolts.

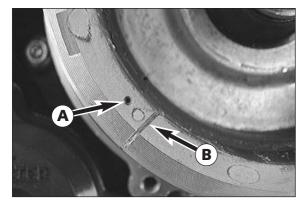


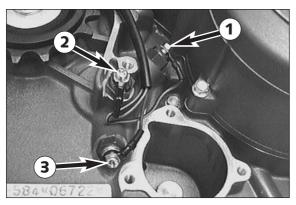
#### Mounting the ignition (SEM)

- Block crankshaft with crankshaft locking bolt.
- \_ Place woodruff key in crankshaft.
- Clean cones of crankshaft and flywheel and mount flywheel.
- Fit spring washer and collar nut.
- Tighten collar nut to 60 Nm.
- \_ Place the O-ring into the groove of the engine housing.
- Fit preassembled ignition cover and mount the 4 bolts but do not \_ tighten.









#### Adjustment of ignition point (SEM)

NOTE: The ignition point is adjusted after the crankshaft locking bolt has been mounted.

- Remove the plug at the ignition cover. \_
- \_ Turn ignition cover so that the mark O on the stator and the mark If on the flywheel are aligned.
- Tighten the 4 bolts of the ignition cover.
- \_ Finally, mount the ignition cover plug.

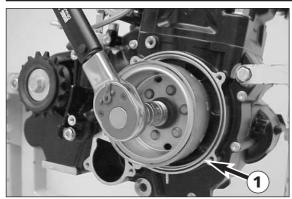
NOTE: The 400 LC4 engine needs more preignition than the other LC4 engines. As all LC4 engines are equipped with the same ignition system, the flywheel is provided with an additional mark (groove) for the 400 LC4 engine. The ignition adjustment procedure is exactly the same.

- In the 400 LC4 model the marking <sup>(1)</sup> (notch) must coincide with the marking on the stator.
- In the 540 LC4, 620 LC4 and 640 LC4 model the marking (2 mm bore) must coincide with the marking on the stator.

#### Mounting the EPC wiring harness

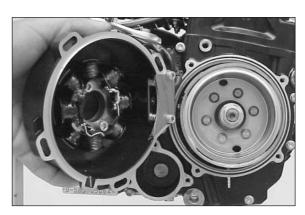
- Put the wiring harness through the clip at the automatic tensioner \_ and connect all 3 cable lugs to the contact screws, making sure to connect each cable to the corresponding screw:
- Connect the black/orange cable to contact screw  $\mathbf{0}$ . \_
- \_ Connect the black/green cable to contact screw 2.
- Connect the black/blue cable to contact screw 3.

6-19D

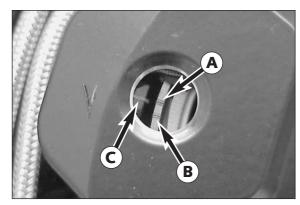


#### Installing the ignition (Kokusan 4K-3)

- Block the crankshaft with the crankshaft locking bolt.
- Insert the woodruff key into the crankshaft.
- Clean the cone of the flywheel and the crankshaft and mount the flywheel.
- Mount the spring washer and the collar nut (LH thread).
- Tighten the collar nut with 60 Nm.
- Insert the O-ring **1** into the groove in the engine housing.



- Mount the pre-assembled ignition cover. Insert the 4 bolts without tightening them yet.



#### Adjusting the ignition point (Kokusan 4K-3)

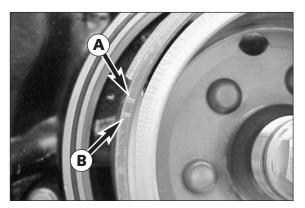
NOTE: The ignition point is adjusted while the crankshaft locking bolt is still twisted in.

- Remove the plug at the clutch cover.

NOTE: In 400 LC4 engines mark <sup>1</sup> must coincide with the mark on the pulse generator.

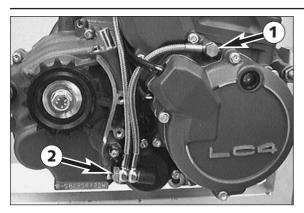
In 620/660 LC4 engines mark ( ) must coincide with the mark on the pulse generator.

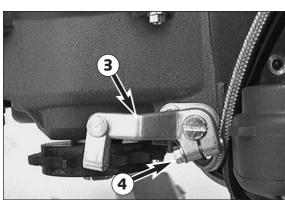
- Tighten the 4 bolts of the ignition cover.
- Finally, mount the plug.



## Mounting the oil hoses

Mount the two oil hoses. Tighten banjo bolt **1** with 10 Nm and banjo bolt **2** with 15 Nm. \_





### Mounting the clutch release lever

- To mount the clutch release lever 6, turn the clutch release shaft \_ clockwise as far as stop and fit the release lever as illustrated.
- Tighten clamp bolt **4**. \_

## Mounting the electric starter motor

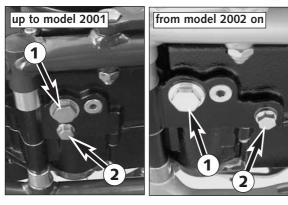
- Slightly oil the O-ring on the flange of the electric starter motor.
  Mount the electric starter motor and fix it with 2 bolts ⑤.





#### Mounting the water hoses

- Mount the two water hoses and use the four hose clamps to fasten.

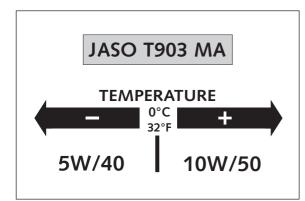


#### Pouring in engine oil

- Mount oil drain plug with seal ring and tighten with 30 Nm.
- Mount the magnetic plug 2 and tighten with 20 Nm.

NOTE: A third plug was installed in the 660 SMC model. Tightening torque: 20  $\rm Nm$ 



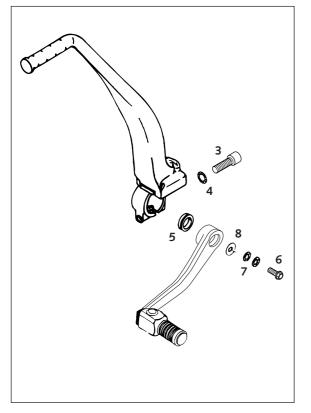


#### Remove the oil dipstick or the oil filler screw on the clutch cover and add engine oil (see below for quality and viscosity). Remount the oil dipstick or the oil filler screw.

_		ļ		CA	UTION	J			
_	ONLY	USE	HIGH-QUALITY	OILS	MEETING	OR	SURPASSING	THE	QUALITY

- REQUIREMENTS OF JASO T903 MA (FOR SPECIFICATIONS SEE CONTAINERS).
- INSUFFICIENT OIL OR POOR QUALITY OIL RESULTS IN PREMATURE WEAR OF THE ENGINE.
- You may use either mineral oils or synthetic oils fulfilling the above criteria.

Oil capacity (up to model 2002) : 1.40 | Oil capacity (from model 2003 on) : 1.50 |



#### Mounting the kickstarter and the shift lever

- Put the kickstarter onto the kickstarter shaft, then mount bolt together with a new Schnorr lock washer and tighten it.
- Put the V- seal ring **③** and the shift lever onto the shifting shaft.
- Mount bolt <sup>(3)</sup> together with 2 Nordlock discs <sup>(7)</sup> and washer <sup>(3)</sup>.
- Adjust the stop rubber for the kickstarter so that it rests against the kickstarter.

NOTE: As soon as the engine is assembled close all openings providing access to the engine (intake port, exhaust port, water connections, bleeding openings ...) with appropriate plugs to prevent small parts from slipping into the interior of the engine during the further installation process.

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CHECKING THE CAPACITOR7-4
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SPARK PLUG CONNECTOR
CHECKING THE SIDE STAND RELAY
CHECKING THE SIDE STAND SWITCH
TROUBLE SHOOTING IN THE IGNITION SYSTEM

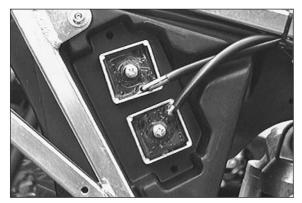
## **MEASUREMENTS WITH PEAK VOLTAGE ADAPTER**

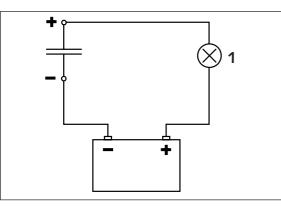
(FROM MODEL 2000 ON)

DYNAMIC GENERATOR VALUES 400/640 LC4-E, 625 SXC, DUKE, ADVENTURE7-42
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STATIC GENERATOR VALUES 400/620/625 SC, 660 SMC7-49

# **ELECTRICAL – SUPER COMPETITION**









#### Checking the voltage regulator-rectifier

- Start the engine and switch on the low beam.
- Connect a voltmeter to the two terminals of the capacitor (red/white cable = positive, brown cable = negative).
- Accelerate the engine to a speed of 5000 r.p.m. and read off the voltage.

#### Nominal value: 14.0 - 15.0 V

If the reading significantly deviates from the nominal value above, check the capacitor. If the capacitor is intact, replace the voltage regulator-rectifier.

#### Checking the voltage regulator

The two voltage regulators are located under the right side cover at the air filter box.

The voltage regulators are connected downstream of the switches. One of the voltage regulators regulates only the brake light circuit, the other regulates the circuit for the head light, the tail light, the speedometer illumination and the horn.

A defect voltage regulator can cause different kinds of trouble:

• No voltage in the circuit

In this case, the voltage regulator must be disconnected at idle speed. The voltage regulator is defect if the power consumers now work properly.

If the power consumers are still not supplied with power, the switch, the wiring harness or the ignition system must be checked for defects.

- Excessive voltage in the circuit
- The bulbs burn out.

Connect a voltmeter (yellow cable = positive, brown cable = negative) to check the voltage. Start the engine and switch on the power consumers.

At an engine speed of 3000 r.p.m, the voltage regulator must supply a voltage of 12.0 - 14.0 V A.C. At higher engine speeds, the limit of 14 V should not be exceeded either.

If the reading significantly deviates from the nominal value, replace the voltage regulator.

#### Checking the capacitor

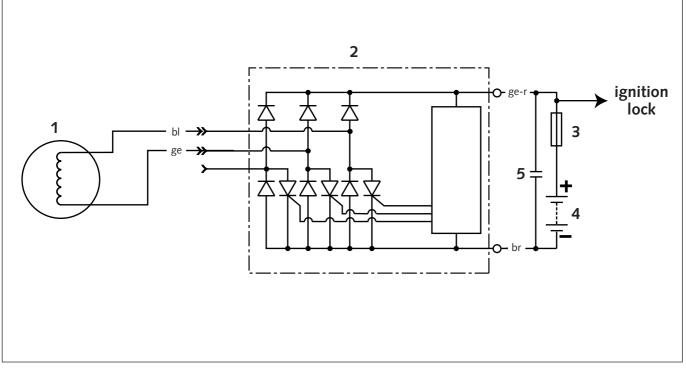
- Discharge the capacitor 1 by bridging the two terminals with a screwdriver and remove.
- Connect the negative pole of a 12V battery with the negative terminal of the capacitor. The connection between the positive pole of the battery and the positive terminal of the capacitor (marked +) is made with a test lamp  $\bullet$ .
- When the power circuit is closed, the test lamp must begin to light up. As capacitor charging increases, the brightness of the test lamp must decrease.
- The test lamp must go out after 0,5-2 seconds (depending on the lamp capacity).
- If the test lamp does not go out or does not light up at all, the capacitor is faulty.

i	CAU	TION	!

DISCHARGE THE CAPACITOR BEFORE AND AFTER EACH TEST.

When installing the capacitor, make sure that the terminals are connected in accordance with their markings. Connect red/white cable to + terminal.

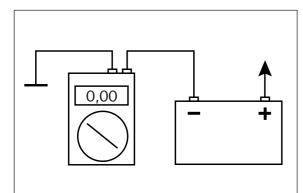
# **ELECTRICAL – LC4 COMPETITION**



#### Charging system

- Generator
- 2 Regulator-rectifier
- Main fuse (20 A)
- Battery (12V / 8 Ah)
- 6 Capacitor





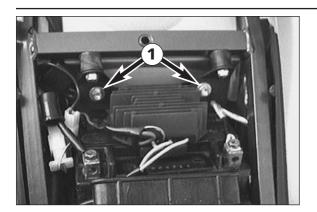
#### Leakage inspection

The drop test must be performed before checking the voltage regulator/rectifier

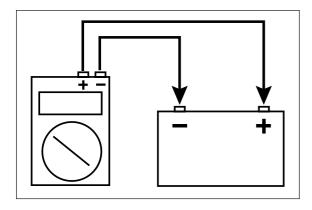
- Turn off the ignition and disconnect the ground wire from the battery.
- Insert an amperemeter between the ground wire and the negative pole of the battery.

#### Setpoint value: max. 1 mA

- Check for power consumers, should the measured value exceed the indicated maximum value.
- Example:
- defective voltage regulator-rectifier
- leak currents in the socket connectors, in the ignition lock or in the starter relay.









# Removing the battery

- Remove the seat.
- Disconnect first the negative and then the positive pole of the battery.
- Remove the bolts **1** and swing the battery support with the voltage regulator-rectifier sideways.
  - Remove the battery.
- When reinstalling the battery, connect the negative pole last.

CAUTION	!

FOLLOW THE INSTRUCTIONS OF THE MANUFACTURER WHEN FILLING A NEW BATTERY. The relevant safety instructions are also contained in the user manual SUPPLIED WITH THE BATTERY.

# Charging the battery

- Remove the battery and check the charging level. Use a voltmeter to measure the voltage between the battery poles (off-load voltage). Accurate results can only be obtained if the battery has neither been
- charged nor discharged during a period of 30 minutes preceding the measuring.
- If the battery is empty, it can be recharged for a maximum period of 10 hours at 0.8 A and a maximum of 14.4 V.

!	CAUTION	!	
	DO NOT DEMOVE THE LOCKING BAD		

- To avoid damage, do not remove the locking bar ALWAYS CONNECT THE BATTERY TO THE CHARGING UNIT BEFORE TURNING THE CHARGING UNIT ON.
- When recharging the battery in closed rooms ensure sufficient VENTILATION. EXPLOSIVE GASES ARE RELEASED DURING THE BATTERY CHARGING PROCESS.
- Charging time and charging voltage should not exceed the stated VALUES. OTHERWISE ELECTROLYTE WILL BE RELEASED THROUGH THE SAFETY VALVES.
- AVOID QUICK CHARGING IF POSSIBLE.

off load voltage	charging level	charging time	charging voltage
Volt	%	0.8 A	
>12.7	100	—	max.
~12.5	75	4 h	
~12.2	50	7 h	
~12.0	25	11 h	14.4 V
~11.8	0	14 h	

# Charging voltage / checking the voltage regulator-rectifier

NOTE: The values stated below apply only to fully charged batteries (minimum charging level 90%).

- Start the engine and switch on the low beam.
- Connect a voltmeter to both battery connections.
- Accelerate the engine to a speed of 5000 rpm and read off the voltage.

#### Nominal value: 14.0 - 15.0 V

In the case of a significant deviation from the nominal value:

- Check the connector between the stator and the voltage regulatorrectifier and the connector between the voltage regulator-rectifier and the cable tree.
- Check the stator.
- Replace the voltage regulator-rectifier.



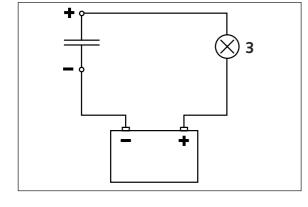
# Checking the capacitor

- Pull main fuse out of the fuse holder.
- Discharge the capacitor 1 by bridging the two terminals with a screwdriver and remove.
- Connect the negative pole of a 12V battery with the negative terminal of the capacitor. The connection between the positive pole of the battery and the positive terminal of the capacitor (marked +) is made with a test lamp  $\textcircled{\bullet}$ .
- When the power circuit is closed, the test lamp must begin to light up. As capacitor charging increases, the brightness of the test lamp must decrease.
- The test lamp must go out after 0,5-2 seconds (depending on the lamp capacity).
- If the test lamp does not go out or does not light up at all, the capacitor is faulty.

i	CAUTION	!

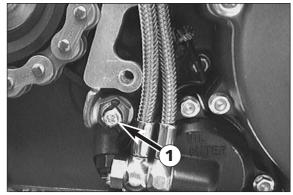
Discharge the capacitor before and after each test.

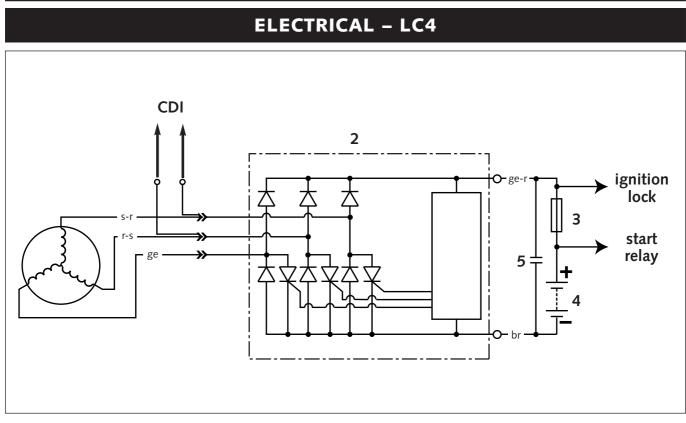
When installing the capacitor, make sure that the terminals are connected in accordance with their markings. Connect red/white cable to + terminal.



# Checking the neutral switch

- Remove the chain cover.
  - Connect one terminal of a test lamp to the positive pole of the battery and the other to connection  $\bullet$  of the neutral switch.
  - The test lamp must light up when the transmission is switched to neutral.
- The test lamp must go out as soon as a gear is put in.



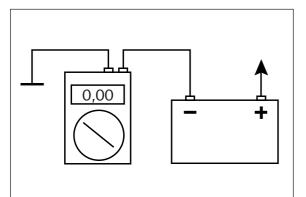


bl					.blue
br					.brown
ge					.yellow
gr					.grey
g					.green
0					.orange
r.					.red
ra					.pink
ς.					.black
V					.violet
W					.white

# Charging system

- Generator
- 2 Regulator-rectifier
- Main fuse (20 A)
- Battery (12V / 8 Ah)
- **6** Capacitor





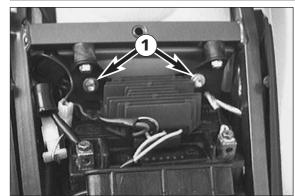
#### Leakage inspection

The drop test must be performed before checking the voltage regulator/rectifier

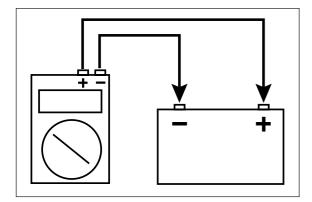
- Turn off the ignition and disconnect the ground wire from the battery.
- Insert an amperemeter between the ground wire and the negative pole of the battery.

#### Setpoint value: max. 1 mA

- Check for power consumers, should the measured value exceed the indicated maximum value.
   Example:
- defective voltage regulator-rectifier
- leak currents in the socket connectors, in the ignition lock or in the starter relay.









# Removing the battery

- Remove the seat.
- Disconnect first the negative and then the positive pole of the battery.
- Remove the bolts **1** and swing the battery support with the voltage regulator-rectifier sideways.
- Remove the battery.
- When reinstalling the battery, connect the negative pole last.

	•	* .
!	CAUTION	!
FOLLOW THE INSTRUCTIONS	OF THE MANUFACTURER V	VHEN FILLING A NEW BATTERY.
The relevant safety instr	RUCTIONS ARE ALSO CON	TAINED IN THE USER MANUAL
SUPPLIED WITH THE BATTERY	. Any failure to obser	VE THESE INSTRUCTIONS MAY
RESULT IN SEVERE INJURIES.		

# Charging the battery

- Remove the battery and check the charging level. Use a voltmeter to measure the voltage between the battery poles (off-load voltage).
  Accurate results can only be obtained if the battery has neither been
- Accurate results can only be obtained if the battery has neither been charged nor discharged during a period of 30 minutes preceding the measuring.
- If the battery is empty, it can be recharged for a maximum period of 10 hours at 0.8 A and a maximum of 14.4 V.

!	CAUTION	!	
	DO NOT DEMONIE THE LOCIUME DAD		

- TO AVOID DAMAGE, DO NOT REMOVE THE LOCKING BAR.
- ALWAYS CONNECT THE BATTERY TO THE CHARGING UNIT BEFORE TURNING THE CHARGING UNIT ON.
- When recharging the battery in closed rooms ensure sufficient ventilation. Explosive gases are released during the battery charging process.
- CHARGING TIME AND CHARGING VOLTAGE SHOULD NOT EXCEED THE STATED VALUES. OTHERWISE ELECTROLYTE WILL BE RELEASED THROUGH THE SAFETY VALVES.

- AVOID QUICK CHARGING IF POSSIBLE.

off load voltage Volt	charging level %	charging time 0.8 A	charging voltage
>12.7	100	_	
~12.5	75	4 h	
~12.2	50	7 h	max. 14.4 V
~12.0	25	11 h	14.4 V
~11.8	0	14 h	

# Charging voltage / checking the voltage regulator-rectifier

NOTE: The values stated below apply only to fully charged batteries (minimum charging level 90%).

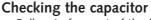
- Start the engine and switch on the low beam.
- Connect a voltmeter to both battery connections.
- Accelerate the engine to a speed of 5000 rpm and read off the voltage.

#### Nominal value: 14.0 - 15.0 V

In the case of a significant deviation from the nominal value:

- Check the connector between the stator and the voltage regulatorrectifier and the connector between the voltage regulator-rectifier and the cable tree.
- Check the stator.
- Replace the voltage regulator-rectifier.

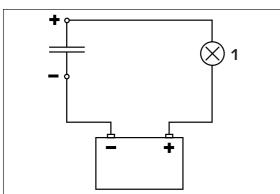


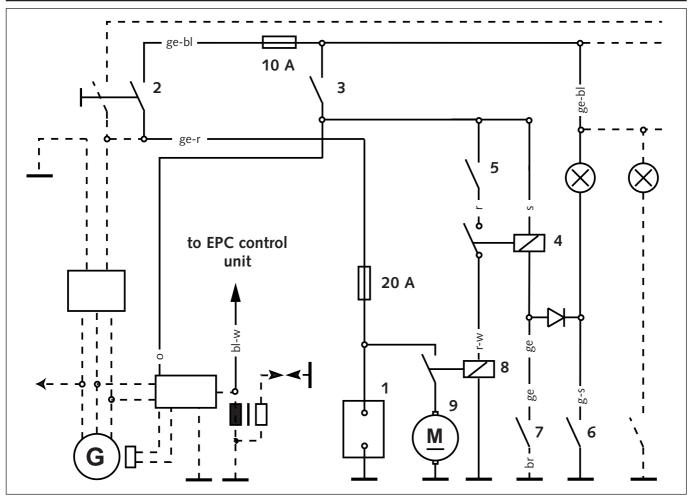


- Pull main fuse out of the fuse holder.
- Discharge the capacitor 1 by bridging the two terminals with a \_ screwdriver and remove.
- Connect the negative pole of a 12V battery with the negative terminal of the capacitor. The connection between the positive pole of the battery and the positive terminal of the capacitor (marked +) is made with a test lamp  $\mathbf{0}$ .
- When the power circuit is closed, the test lamp must begin to light \_ up. As capacitor charging increases, the brightness of the test lamp must decrease.
- The test lamp must go out after 0,5-2 seconds (depending on the lamp capacity).
- If the test lamp does not go out or does not light up at all, the capacitor is faulty.

CAUTION DISCHARGE THE CAPACITOR BEFORE AND AFTER EACH TEST.

When installing the capacitor, make sure that the terminals are CONNECTED IN ACCORDANCE WITH THEIR MARKINGS. CONNECT RED/WHITE CABLE TO + TERMINAL.





- Battery
- Ignition lock
- 8 Emergency off switch
- 4 Auxiliary relay
- **6** Tip switch built in emergency off switch
- Neutral switch
- Clutch switch
- **8** Starter relay
- Starter motor

bl					.blue
br					.brown
ge					.yellow
gr					.grey
g					.green
0					.orange
r.					.red
ra					.pink
s .					.black
v					.violet
w					.white

# **Electric Starter system**

NOTE: The electric starter system is equipped with a safety mechanism. Starting is possible only in the following conditions:

- ignition lock in position  $\bigcirc$  or  $\stackrel{\circ}{\bigcirc}$
- emergency OFF switch in position ()
- transmission set to idle, or clutch is pulled

Function of the electric starter system:

From the battery ①, battery voltage is supplied via the ignition lock ② and the emergency OFF switch ③ to the coil of the auxiliary starter relay ④ and the tip switch ⑤.

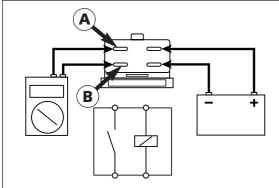
The contact of the auxiliary starter relay will enable starting only if at least one of the following conditions is met :

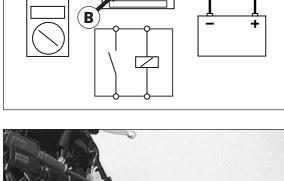
- transmission is set to idle (idle switch 6 closed)
- clutch is pulled (clutch switch **1** closed)

If the tip switch 0 is actuated, the electric starter motor 0 is turned on by way of the starter relay 0.

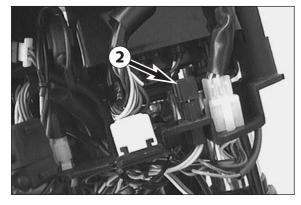
# Check start auxiliary relay

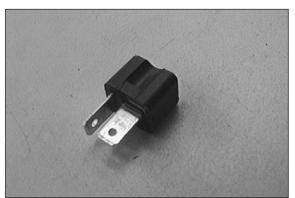
- Remove headlight mask and remove the start auxiliary relay.











- Connect the start auxiliary relay to a 12 V battery as shown in the illustration.
- Use an ohmmeter to measure the continuity between the terminals **and B**.

Reading 0  $\Omega$  relay intact Reading  $\infty \Omega$  relay defect

#### Checking the auxiliary starting relay for faultless operation Preparation:

- Pull the auxiliary starter relay out of its holder.
- Connect an ohmmeter or a continuity tester to the cables of the auxiliary starting relay (colors: red and red/white).
- Perform the tests in the order indicated below. The auxiliary starting relay must respond in either of the following two cases:
- Put in a gear and slowly pull the clutch lever. The auxiliary starting relay should respond when the lever is pulled approximately half of the overall distance. If this is not the case, please check the clutch switch. Keep an eye on the neutral control lamp while performing this test. The neutral control lamp should not light up. If it lights up, check the diode.
- Switch the transmission to neutral without previously pulling the clutch. The auxiliary starting relay should now connect and be tripped as soon as a gear is put in. If this is not the case, please check the diode and the neutral switch.

NOTE: Connecting of the auxiliary starting relay is always accompanied by a faint clicking sound. The ohmmeter or continuity tester indicates continuity while the auxiliary starting relay is on.

# Checking the diode

NOTE: Diodes conduct current only in the direction indicated by the arrow, preventing the conduction of current in the opposite direction.

Two different kinds of diode defects can be distinguished:

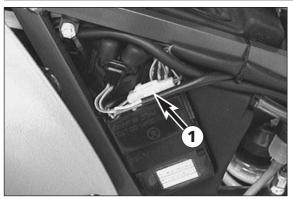
- The diode conducts no current at all.
- The diode conducts current in both directions.

Diode defects can lead to different kinds of trouble, depending on the type of defect.

NOTE: The diode is located in a 2-pole connector.

Checking for faultless operation:

- Remove the headlight mask.
- Pull the diode **2** out of the connector.
- Connect an appropriate ohmmeter to the diode and check for continuity.
- Connect the ohmmeter in the opposite direction and check if the diode prevents current conduction in the opposite direction.



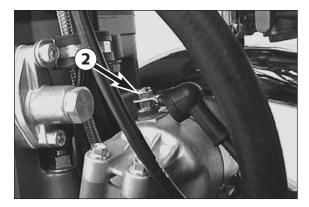
# Checking the starter relay

- Remove the seat and the right side cover and disconnect the combination connector  $\bullet$  of the starter relay.
- Disconnect negative terminal at battery and the two cables at the \_ starter relay.

- C + D
- Connect the starter relay to a 12 V battery as indicated in the \_ diagram.
- Check continuity between terminals **()** and **()** using an ohmmeter.

Reading:  $0 \Omega$  OK Reading:  $\infty \Omega$  defect

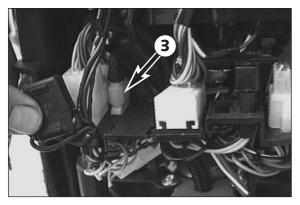
NOTE: The response of the starter relay is accompanied by a faint clicking sound.

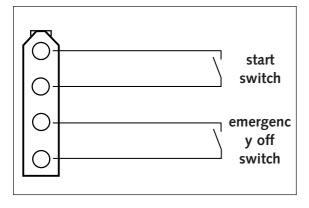


# Checking the electric starter motor

- Switch off the ignition. \_
- \_ Disconnect the negative pole of the battery and remove the electric starter motor.
- Connect the negative pole of a 12 V battery to the housing of the E \_ starter motor and briefly connect the positive pole of the battery to connection **2** of the electric starter motor (use thick cables).
- The starter must turn as soon as the circuit is closed.
- The starter must turn as soon as the case.
  If this is not the case, replace the starter motor.







# Checking the clutch switch

- Disconnect the clutch switch from the cable tree.
  - Connect the ohmmeter to the 2-pole connector  $\ensuremath{ 2 \ }$  (cable colors:
- yellow/yellow) of the clutch switch and slowly pull the clutch lever. - The switch must connect when the lever is pulled approximately half
- of the overall distance.

# Checking the tip switch and the emergency OFF switch

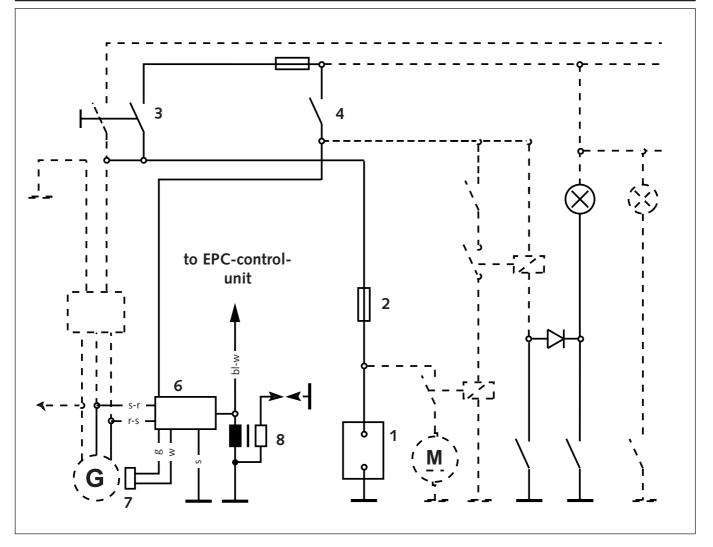
- Remove the headlight mask.
- Disconnect the 4-pole connector **③** of the tip switch/emergency OFF switch from the cable tree.
- Use an ohmmeter and test both switches according to the table below (please refer to the sketch for the configuration of the connector).
- Then check all lines for ground contact.

Circuit	Position	Condition
Emergency off switch	0	duct
Emergency off switch	$\boxtimes$	no duct
Tip switch	operated	duct
Tip switch	not operated	no duct

# Trouble shooting in the electric starter system

When the starter motor fails to turn upon operation of the tip switch, perform the following checks first:

- Is the ignition lock in position  $\bigcirc$  or  $\frac{-\bigcirc}{2}$ ?
- Is the emergency OFF switch position  $\bigcirc$  ?
- Is the neutral control lamp on while the ignition is on?
- Can the engine be started with the clutch pulled?
- Is the battery charged?
- Has the main fuse blown?
- Has the fuse for startsystem and ignition blown?
- Fuse for starter system and ignition has melted?
- Check the auxiliary starting relay
- Check the starter relay
- Check the electric starter motor



- Battery
- 2 Main fuse (20 A)
- Ignition lock
- Emergency-off switch
- O Auxiliary relay
- CDI
- Pulse generator
- Ignition coil

bl					.blue
br					.brown
ge					.yellow
gr					.grey
g					.green
0					.orange
r.					.red
ra					.pink
s .					.black
v					.violet
w					.white

#### Ignition system

From the battery ①, battery voltage is delivered via the main fuse ②, through the activated ignition lock ③ and the activated emergency OFF switch ④ to the CDI unit ③.

During each revolution of the crankshaft, the pulse generator O supplies a signal to the CDI unit O. In the CDI unit, this signal is processed so as to calculate the ignition point.

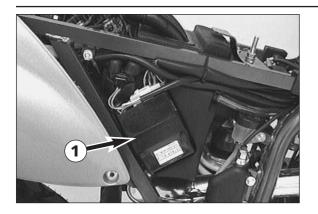
This ignition pulse is passed on to the ignition coil ③ (the ignition spark is produced).

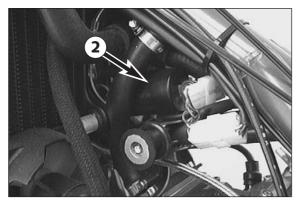
The ignition system is a digital high voltage capacitor ignition that receives its power supply from the battery. Therefore, it works only with an intact battery.

When the battery is discharged below the threshold level, the voltage can, due to the starting process, drop below the minimum supply voltage required by the ignition. In this case, turn off the light, and use the kickstarter.

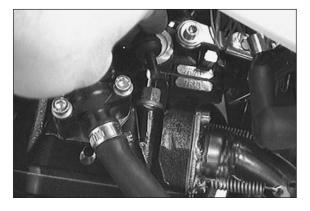
#### CAUTION

SAFE AND FAULTLESS OPERATION OF THE DIGITAL IGNITION REQUIRES SPARK PLUG CONNECTORS AND SPARK PLUGS WITH INTEGRATED RESISTANCE TYPE SUPPRESSORS.









# CDI unit

Check the cables and plug and socket connections of the CDI unit  $\bullet$ . The CDI unit function can only be checked on an ignition test bench.

	!	CAUTI	ON	!			
 		 		 		CDI	

Never use a commercial measuring device to check the CDI unit. Commercial measuring devices can destroy highly sensitive electronic components.

# Checking the ignition coil

- Disconnect all cables and remove the spark plug connector.
- Use an ohmmeter to measure the following values.

NOTE: The indicated setpoint values correspond to a temperature of 20° C.

Replace the ignition coil if the measured values deviate significantly from the setpoint values.

MEASUREMENT	COLOURS	RESISTANCE
primary coil	blue/white – ground	0,425 – 0,575 Ω
secondary coil	blue/white – ignition wire	10,80 – 16,20 kΩ

# Trouble shooting in the ignition system

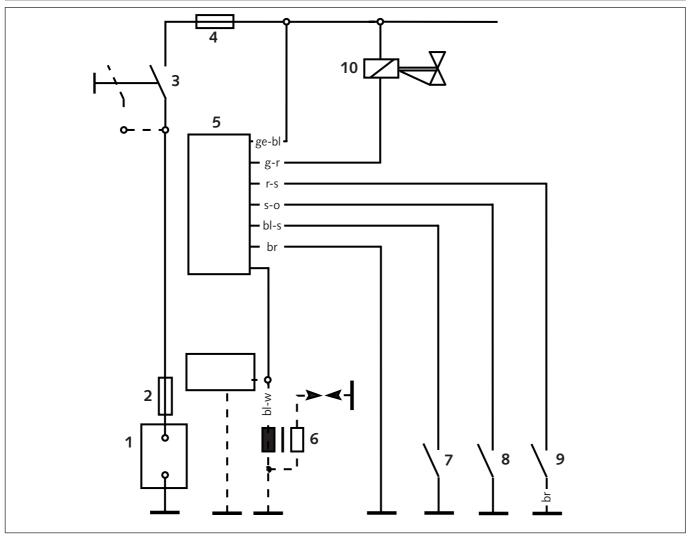
Before checking the ignition system check:

- if the ignition lock is in position  $\bigcirc$  or  $\stackrel{\circ}{\bigcirc}$
- if the emergency off switch is in position  $\bigcirc$
- if the neutral control lamp is on
- if the motorcycle can be started with the clutch pulled
- if the battery is charged
- the main fuse

Check if an ignition spark is produced when the starter is operated. Proceed as follows:

- Pull off the spark plug connector.
- Disconnect the spark plug connector from the ignition cable.
- Hold the free end of the ignition cable approximately 5 mm from ground.
- A strong spark should be visible when the electric starter is now operated. If the battery level is low, turn off the light, and use the kick starter.
- If a spark is visible, replace the spark plug connector.
- Twist out the spark plug and insert it into the spark plug connector.
- Connect the spark plug to ground. A strong spark should be visible at the electrode when the electric starter is now operated. If this is not the case, the spark plug connector or the spark plug is defect.
- If no spark is produced during the first test, perform the following checks:
- Does the ignitionis power supply line (orange) carry battery voltage?
- If this is not the case, check the ignition lock, the emergency OFF switch and, if applicable, the side stand relay as well as the corresponding parts of the cable tree.
- If the ignition is sufficiently supplied with power and no spark is produced, check:
- ground connection of CDI unit and ignition coil
- the cable between CDI unit and ignition coil
- pulse generator
- stator
- ignition coil

NOTE: The CDI unit can't be tested with simple devices. It can only be replaced. It can only be tested on an ignition test bench.



- Battery (12V / 8 Ah)
- Main fuse (20 A)
- Ignition lock
- G Fuse for ignition and start system
- EPC-control unit
- Ignition lock
- Contact screw 2nd gear
- Contact screw 3rd gear
- Micro switch
- Solenoid valve

bl					.blue
br					.brown
ge					.yellow
gr					.grey
g					.green
0					.orange
r.					.red
ra					.pink
s.					.black
v					.violet
w					.white

#### **EPC** system

Function:

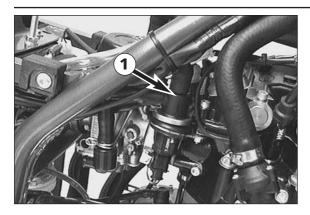
From the battery ①, battery voltage is supplied to the EPC controller ③ via the main fuse ②, the activated ignition lock ③, and the fuse ④.

The blue/white cable leading to the ignition coil **(3)** provides an r.p.m. signal to the EPC controller **(3)**. Using this signal, the EPC controller will then calculate the current speed.

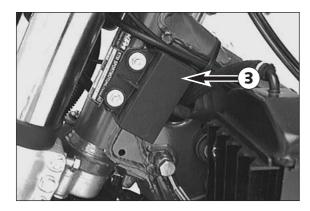
When the throttle grip is opened all the way (microswitch O closes) at a certain speed, the EPC controller will activate the solenoid valve O, provided that either the 2nd or the 3rd gear has been engaged.

By opening the solenoid value  $\mathbf{\Phi}$ , a dosed amount of fresh air will get to the upper end of the slide membranes of the carburetor. This causes the throttle slide to open slowly. Thereby, the operating noise of the motorbike is reduced.

NOTE: If malfunctions develop in the EPC system, the EPC controller can be unplugged. This will not cause damage to any other parts of the motorcycle.









# Dismount / renew solenoid valve for EPC

- Remove seat, side covers, and tank with spoilers.
- Unplug the solenoid-valve connector.
- Disconnect the two hoses, and pull solenoid valve ① upwards and out of the holder.
- Insert new solenoid valve into the holder.
- Connect the two hoses, and plug in connector.

# Check of solenoid valve for EPC

NOTE: When you turn on the ignition, the solenoid valve must open for approx. 1 second. During this process, you can hear a slight clicking noise.

- For checking, disconnect the 2-pole connector 2 at the solenoid valve.
- Now, connect a 12V battery to both terminals of the solenoid valve.
- When closing the power circuit, a clicking noise must be audible in the solenoid valve (the membrane opens).
- If you cannot hear any clicking noise, you have to replace the solenoid valve.

# Controller of the EPC system

NOTE: The controller  $\ensuremath{\mathfrak{G}}$  cannot be checked by means of standard measuring methods.

If malfunctions develop in the EPC system, start by checking:

solenoid valve microswitch plug-and-socket connection ④ and cables contact screws at engine hose from magnetic valve to carburetor

- If the above components are okay, the controller has to be replaced.

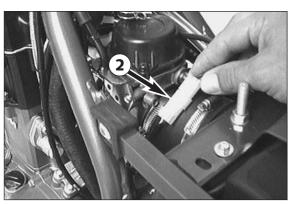
ICAUTIONIBEFORE CONNECTING THE CONTROLLER, IT IS ABSOLUTELY NECESSARY THAT YOUTURN OFF THE IGNITION. OTHERWISE, MALFUNCTIONS IN THE ELECTRONIC SYSTEMMAY DEVELOP.

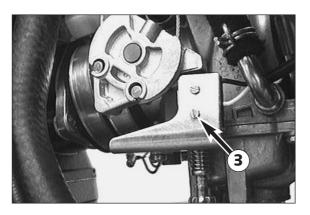


# Check of EPC system microswitch

NOTE: The microswitch is arranged on the left side of the constantdepression carburetor in the area of the throttle valve. If the throttle valve is opened all the way, the microswitch will close the power circuit.

- Remove seat and tank.
- Disconnect the 2-pole plug **2** of the microswitch.
- Connect an ohmmeter to both terminals of the microswitch.
- With the throttle valve closed, the ohmmeter must indicate zero continuity.
- Open throttle valve all the way by twisting the throttle grip as far as possible. In this case, you will hear a slight clicking noise of the microswitch. In this position, the ohmmeter must indicate conductive continuity.

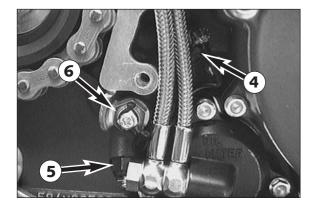




# Replacing the EPC system microswitch

- Remove seat and tank.
- Disconnect the microswitch plug.
- Remove the 2 screws **3**, and take off the microswitch.
- Apply Loctite 243 to the threads of the two screws.
- Position the new microswitch, and fasten it with the two screws.
- Connect the plug, mount tank and seat.





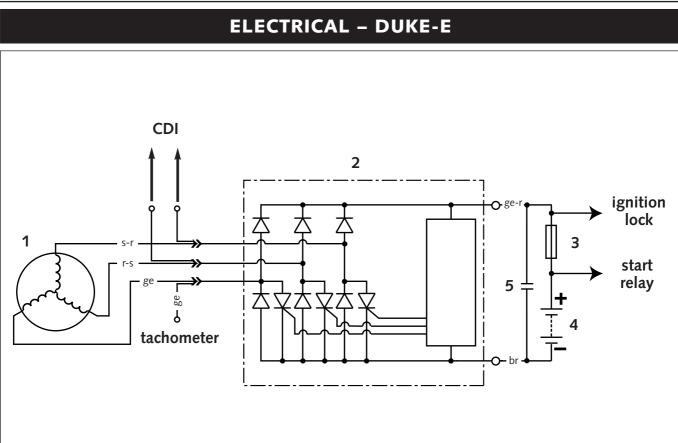
#### Check of idle switch / contact screws

NOTE: The contact screw having the cable colors black/blue closes the contact, when the 2nd gear is engaged.

The contact screw having the cable colors black/orange closes the contact, when the 3rd gear is engaged.

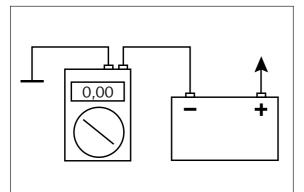
The contact screw having the cable colors black/green closes the contact, when the idle gear is engaged.

- Before you start with the check, disconnect the plug-and-socket connection **1** to the EPC controller.
- For checking of the contact screws, connect a test lamp to the positive terminal of the battery.
- Touch the connection of the central contact screw ③ with the test probe. With the transmission set to idle, the test lamp has to be lit.
- When a gear is engaged, the test lamp must cease to be lit.
- - With the transmission set to idle, the test lamp must not be lit.
- Shift to 3rd gear, and touch the connection of the upper contact screw 
   with the test probe. The test lamp must light up.
- With the transmission set to idle, the test lamp must not be lit.



bl					.blue
br					.brown
ge					.yellow
gr					.grey
g					.green
					.orange
r.					.red
ra					.pink
ς.					.black
V					.violet
w					.white





# Charging system

- Generator
- 2 Regulator-rectifier
- Main fuse (20 A)
- Battery (12V / 8 Ah)
- 6 Capacitor

# Leakage inspection

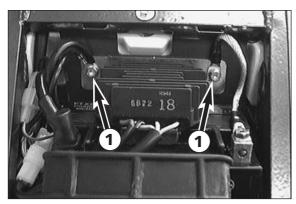
The drop test must be performed before checking the voltage regulator/rectifier

- Turn off the ignition and disconnect the ground wire from the battery.
- Insert an amperemeter between the ground wire and the negative pole of the battery.

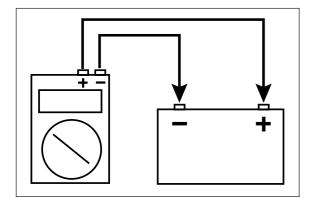
#### Setpoint value: max. 1 mA

- Check for power consumers, should the measured value exceed the indicated maximum value. Example:
- defective voltage regulator-rectifier
- leak currents in the socket connectors, in the ignition lock or in the starter relay.









# Charging voltage / checking the voltage regulator-rectifier

NOTE: The values stated below apply only to fully charged batteries (minimum charging level 90 %).

- Start the engine and switch on the low beam.
- Connect a voltmeter to both battery connections.
- Accelerate the engine to a speed of 5000 rpm and read off the voltage.

Nominal value: 14.0 - 15.0 V

- In the case of a significant deviation from the nominal value:
- Check the connector between the stator and the voltage regulatorrectifier and the connector between the voltage regulator-rectifier and the cable tree.
- Check the stator.
- Replace the voltage regulator-rectifier.

# Removing the battery

- Remove the seat.
- Disconnect first the negative and then the positive pole of the battery.
- Remove the bolts ① and swing the battery support with the voltage regulator-rectifier sideways.
- Remove the battery.
- When reinstalling the battery, connect the negative pole last.

	0		0	1	
	!	CAUTIO	ON	!	
FOLLOW THE	INSTRUCTIONS	OF THE MANUFAC	TURER WHEN F	ILLING A NEW BA	TTERY

Follow the instructions of the manufacturer when filling a new battery. The relevant safety instructions are also contained in the user manual supplied with the battery.

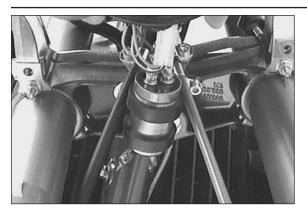
# Charging the battery

- Remove the battery and check the charging level. Use a voltmeter to measure the voltage between the battery poles (off-load voltage).
- Accurate results can only be obtained if the battery has neither been charged nor discharged during a period of 30 minutes preceding the measuring.
- If the battery is empty, it can be recharged for a maximum period of 10 hours at 0.8 A and a maximum of 14.4 V.

! CAUTION

- TO AVOID DAMAGE, DO NOT REMOVE THE LOCKING BAR
   Always connect the battery to the charging linit e
- ALWAYS CONNECT THE BATTERY TO THE CHARGING UNIT BEFORE TURNING THE CHARGING UNIT ON.
- When recharging the battery in closed rooms ensure sufficient ventilation. Explosive gases are released during the battery charging process.
- Charging time and charging voltage should not exceed the stated values. Otherwise electrolyte will be released through the safety valves.
- AVOID QUICK CHARGING IF POSSIBLE.

off load voltage Volt	charging level %	charging time 0.8 A	charging voltage
>12.7	100		
~12.5	75	4 h	
~12.2	50	7 h	max. 14.4 V
~12.0	25	11 h	14.4 V
~11.8	0	14 h	

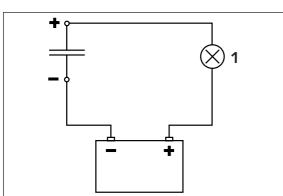


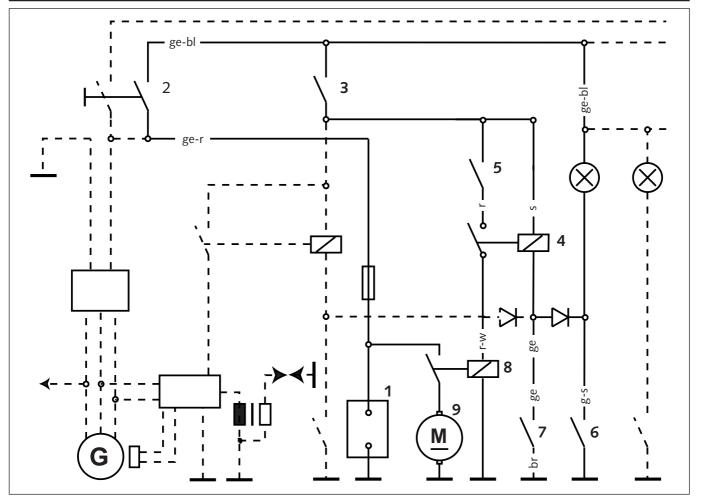
# Checking the capacitor

- Pull main fuse out of the fuse holder. \_
- \_ Discharge the capacitor by bridging the two terminals with a screwdriver and remove.
- Connect the negative pole of a 12V battery with the negative terminal of the capacitor. The connection between the positive pole of the battery and the positive terminal of the capacitor (marked +) is made with a test lamp  $\mathbf{0}$ .
- When the power circuit is closed, the test lamp must begin to light up. As capacitor charging increases, the brightness of the test lamp must decrease.
- The test lamp must go out after 0,5-2 seconds (depending on the lamp capacity).
- If the test lamp does not go out or does not light up at all, the capacitor is faulty.

CAUTION DISCHARGE THE CAPACITOR BEFORE AND AFTER EACH TEST.

When installing the capacitor, make sure that the terminals are CONNECTED IN ACCORDANCE WITH THEIR MARKINGS. CONNECT RED/WHITE CABLE TO + TERMINAL.





- Battery
- 2 Ignition lock
- 8 Emergency off switch
- Auxiliary relay
- **5** Tip switch built in emergency off switch
- Neutral switch
- Clutch switch
- **8** Start relay
- Starter motor

bl					.blue
br					.brown
ge					.yellow
gr					.grey
g					.green
0					.orange
r.					.red
ra					.pink
s .					.black
v					.violet
W					.white

# Electric starter system

The system is equipped with a safety mechanism. Electric starting is only possible when

- the ignition lock is in the position  $\bigcirc$
- the emergency OFF switch is in the position  $\bigcirc$
- the transmission is switched to neutral or the clutch is pulled.

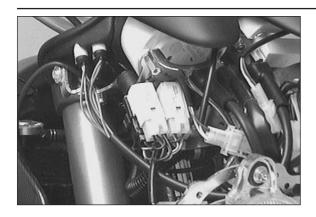
#### Function of the electric starter system:

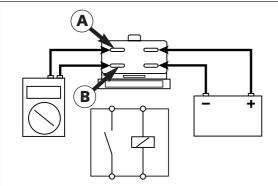
From the battery ① the battery voltage is transmitted via the ignition lock ② and the emergency OFF switch ③ to the coil of the auxiliary starting relay ④ and to the tip switch ⑤.

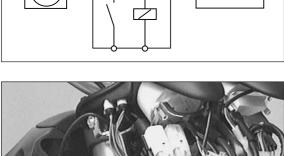
The contact of the auxiliary starting relay prevents starting unless at least one of the following requirements is met :

- The transmission must be switched to neutral (neutral switch ③ is closed).
- The clutch must be pulled (clutch switch 
   must be closed).

When the tip switch 6 is operated, the starter motor 9 is switched on via the starter relay 6.







# Check start auxiliary relay

- Remove headlight mask and remove the start auxiliary relay (cable colours red and red-white).

- Connect the start auxiliary relay to a 12 V battery as shown in the illustration.
- Use an ohmmeter to measure the continuity between the terminals ( ) and ( ).

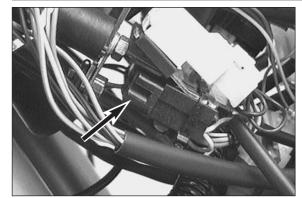
Reading 0  $\Omega$  relay intact Reading  $\infty \Omega$  relay defect

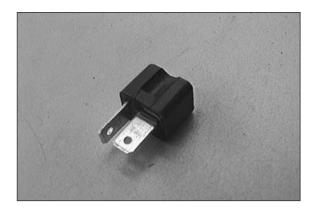
#### Checking the auxiliary starting relay for faultless operation Preparation:

- Connect an ohmmeter or a continuity tester to the cables of the auxiliary starting relay (colors: red and red/white).
- Perform the tests in the order indicated below. The auxiliary starting relay must respond in either of the following two cases:
- Put in a gear and slowly pull the clutch lever. The auxiliary starting relay should respond when the lever is pulled approximately half of the overall distance. If this is not the case, please check the clutch switch. Keep an eye on the neutral control lamp while performing this test. The neutral control lamp should not light up. If it lights up, check the diode with the cable colors yellow and green/black.
- Switch the transmission to neutral without previously pulling the clutch. The auxiliary starting relay should now connect and be tripped as soon as a gear is put in. If this is not the case, please check the diode in the connector with the cable colors yellow and green/black and the neutral switch.

NOTE: Connecting of the auxiliary starting relay is always accompanied by a faint clicking sound. The ohmmeter or continuity tester indicates continuity while the auxiliary starting relay is on.

<u>7-25D</u>





# Checking the diodes

NOTE: Diodes conduct current only in the direction indicated by the arrow, preventing the conduction of current in the opposite direction.

Two different kinds of diode defects can be distinguished:

- The diode conducts no current at all.

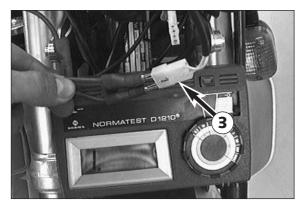
- The diode conducts current in both directions.

Diode defects can lead to different kinds of trouble, depending on the type of defect.

NOTE: Both diodes are the same type and require the same testing procedure. They are each located in a 2-pole connector and can be identified by the color of the cables leading up to and away from the respective connector.

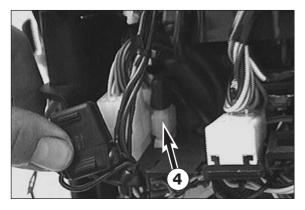
Checking the diodes for faultless operation:

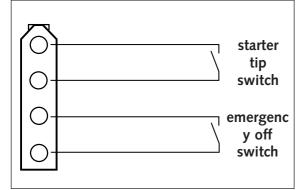
- Remove the headlight mask.
- Pull the diode to be tested out of the connector.
- Connect an appropriate ohmmeter to the diode and check for continuity.
- Connect the ohmmeter in the opposite direction and check if the diode prevents current conduction in the opposite direction.



# Checking the clutch switch

- Disconnect the clutch switch from the cable tree.
- Connect the ohmmeter to the 2-pole connector **③** (cable colors: yellow/yellow) of the clutch switch and slowly pull the clutch lever.
- The switch must connect when the lever is pulled approximately half of the overall distance.

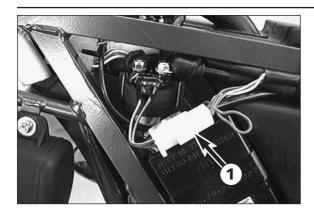


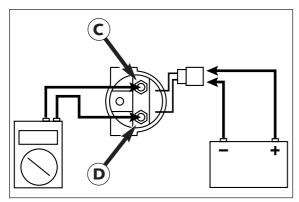


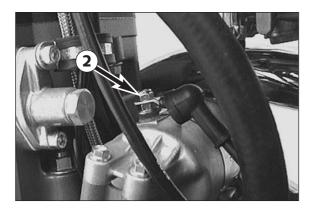
# Checking the tip switch and the emergency off switch

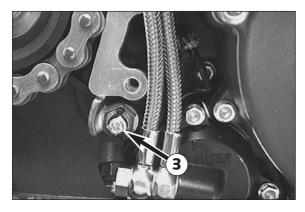
- Remove the headlight mask.
- Use an ohmmeter and test both switches according to the table below (please refer to the sketch for the configuration of the connector).
- Then check all lines for ground contact.

Circuit	Position	Condition
Emergency off switch	0	duct
Emergency off switch	$\otimes$	no duct
Tip switch	operated	duct
Tip switch	not operated	no duct









#### Checking the starter relay

- Remove the seat and the right side cover and disconnect the combination connector lacksquare of the starter relay.
- Disconnect negative terminal at battery and the two cables at the starter relay.

- Connect the starter relay to a 12 V battery as indicated in the diagram.
- Check continuity between terminals **()** and **()** using an ohmmeter.

 $\begin{array}{rl} \mbox{Reading: 0 } \Omega & \mbox{OK} \\ \mbox{Reading: } \infty & \Omega & \mbox{defect} \end{array}$ 

NOTE: The response of the starter relay is accompanied by a faint clicking sound.

#### Checking the electric starter motor

- Switch off the ignition.
- Disconnect the negative pole of the battery and remove the electric starter motor.
- Connect the negative pole of a 12 V battery to the housing of the E starter motor and briefly connect the positive pole of the battery to connection ② of the electric starter motor (use thick cables).
- The starter must turn as soon as the circuit is closed.
- If this is not the case, replace the starter.

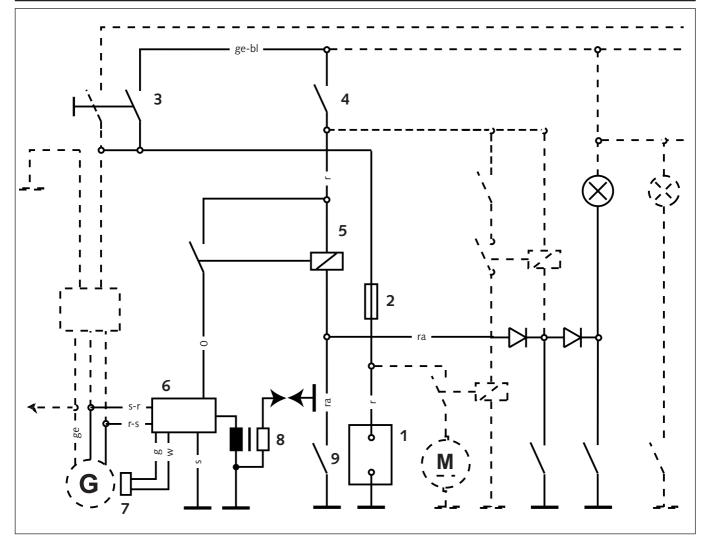
#### Checking the neutral switch

- Remove the chain cover.
- Connect one terminal of a test lamp to the positive pole of the battery and the other to connection 0 of the neutral switch.
- The test lamp must light up when the transmission is switched to neutral.
- The test lamp must go out as soon as a gear is put in.

# Trouble shooting in the electric starter system

When the starter motor fails to turn upon operation of the tip switch, perform the following checks first:

- Is the ignition lock switched to  $\bigcirc$  ?
- Is the emergency OFF switch in the position  $\bigcirc$  ?
- Is the neutral control lamp on while the ignition is on?
- Can the engine be started with the clutch pulled?
- Is the battery charged?
- Has the main fuse blown?
- Check the auxiliary starting relay
- Check the starter relay
- Check the starter motor



- Battery
- 2 Main fuse
- Ignition lock
- Emergency-off switch
- 6 Auxiliary relay
- 6 CDI
- Pulse generator
- Ignition coil
- Side stand switch

bl					.blue
br					.brown
ge					.yellow
gr					.grey
g					.green
0					.orange
r.					.red
ra					.pink
s .					.black
v					.violet
W					.white

#### Ignition system

From the battery ① the battery voltage is conducted via the main fuse ② through the ignition lock ③ and the emergency OFF switch ④, which are both ON, to the side stand relay ⑤.

The side stand relay conducts the battery voltage to the CDI unit O, if at least one of the following requirements is met :

- The side stand is up (side stand switch closed).
- The transmission is switched to neutral (neutral switch closed).
- The clutch is pulled (clutch switch closed).

The pulse generator **⑦** transmits a signal to the CDI unit **③** upon every rotation of the crankshaft. In the CDI unit, the ignition point is computed from this signal.

The ignition pulse is transmitted to the ignition coil 0 (i.e. an ignition spark is generated).

NOTE: The ignition system is a digital high voltage capacitor ignition that receives its power supply from the battery. Therefore, it works only with an intact battery.

When the battery is discharged below the threshold level, the voltage can, due to the starting process, drop below the minimum supply voltage required by the ignition.

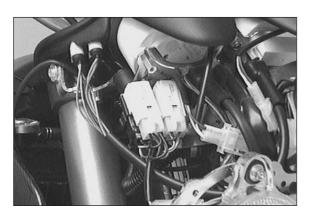
	!	CAUTION	l
SAFE			

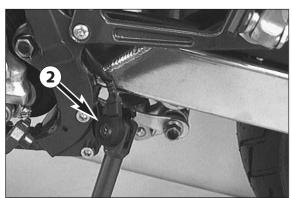
SAFE AND FAULTLESS OPERATION OF THE DIGITAL IGNITION REQUIRES SPARK PLUG CONNECTORS AND SPARK PLUGS WITH INTEGRATED RESISTANCE TYPE SUPPRESSORS.











# CDI unit

Check the cables and plug and socket connections of the CDI unit **1**. The CDI unit function can only be checked on an ignition test bench.

	1	CAUTI	ON		1		
 		 		 		CDI	

Never use a commercial measuring device to check the CDI unit. Commercial measuring devices can destroy highly sensitive electronic components.

# Check ignition coil

- Disconnect all cables and remove the spark plug connector.
- Use an ohmmeter to measure the following values.

NOTE: The indicated setpoint values correspond to a temperature of 20° C.

Replace the ignition coil if the measured values deviate significantly from the setpoint values.

MEASUREMENT	COLOURS	RESISTANCE
primary coil	blue/white – ground	0,425 – 0,575 Ω
secondary coil	blue/white – ignition wire	10,80 – 16,20 kΩ

# Spark plug connector

- Check the spark plug connector for cracks and fissures.
- Measure spark plug connector resistance.

Setpoint value:  $3.0 - 7.5 \text{ k}\Omega$ 

# Checking the side stand relay

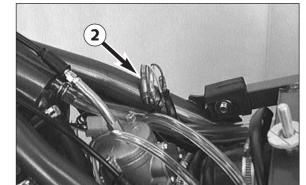
Preparation:

- Remove the seat, the right side cover and the headlight mask.
- Disconnect the power supply from the CDI (orange cable).
- To check the current status of the relay connect the orange cable coming from the cable tree either to the positive line of a voltmeter or to a test lamp.
- The negative line of the voltmeter or test lamp is connected to ground.
- Switch on the ignition lock and the emergency OFF switch.

Perform the following tests in the order indicated below:

- The relay must connect in either of the following three cases:
- Put a gear in but do not pull the clutch. Slowly swing up the side stand. When the side stand is approximately halfway up, the side stand relay should respond. If this is not the case, please check the relay, the side stand switch **2** as well as the corresponding parts of the cable tree.
- With the side stand down and a gear put in, slowly pull the clutch lever. The side stand relay should respond when the lever is pulled approximately half of the overall distance. If this is not the case, please check the diode in the connector with the yellow and the pink cable and the neutral switch.
- With the side stand down and the clutch not pulled, switch the transmission to neutral. The relay should connect when the transmission is switched to neutral and be tripped when a gear is put in. If this is not the case, please check the diode in the connector with the yellow and the green/black cable and the neutral switch.

NOTE: Responding of the relay is accompanied by a faint clicking sound and the CDI's power supply is switched on. The voltmeter or the test lamp indicates a battery voltage. After testing, reconnect the CDI unit's power supply (orange cable).



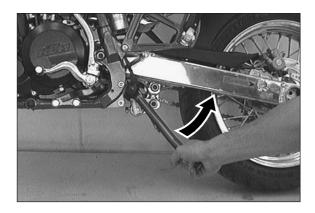
# Checking the side stand switch

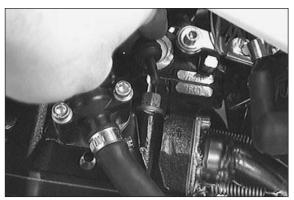
- Disconnect the 2 connectors connecting the side stand switch @ with the cable tree (below the tank).
- Connect an ohmmeter to the side stand cable.
- Slowly swing up the side stand.
- The switch must be open while the side stand is down.
- The side stand switch must connect when the side stand is approximately halfway up.
- If this is not the case, replace the side stand switch.

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Never short-circuit the side stand switch so as to be able to drive on. This would deactivate the ignition cut-off with the side stand down, and your motorcycle would no longer comply with the applicable safety standards.

NOTE: If the side stand is removed, for example when subsequently installing a center stand, the two connectors of the cable tree that lead to the side stand switch must also be connected.







# Trouble shooting in the ignition system

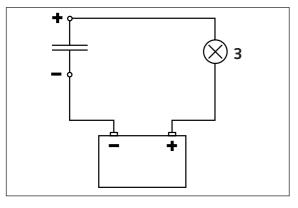
- Before checking the ignition system check
- if the ignition lock is in position  $\bigcirc$
- if the emergency off switch is in the position ()
- if the neutral control lamp is on
- if the motorcycle can be started with the clutch pulled
- if the battery is charged
- the main fuse

Check if an ignition spark is produced when the starter is operated. Proceed as follows:

- Pull the spark plug connector.
  - Disconnect the spark plug connector from the ignition cable.
- Hold the free end of the ignition cable approximately 5 mm from ground.
- A strong spark should be visible when the electric starter is now operated. If the battery is discharged below the threshold level required for electric starting, please use the kickstarter.
- If a spark is visible, replace the spark plug connector.
  - Twist out the spark plug and insert it into the spark plug connector.
- Connect the spark plug to ground. A strong spark should be visible at the electrode when the electric starter is now operated. If this is not the case, the spark plug connector or the spark plug is defect.
- If no spark is produced during the first test, perform the following checks:
- Does the ignition's power supply line (orange) carry battery voltage?
- If this is not the case, check the ignition lock, the emergency off switch and, if applicable, the side stand relay as well as the corresponding parts of the cable tree.
- If the ignition is sufficiently supplied with power and no spark is produced, check:
- ground connection of CDI unit and ignition coil
- the cable between CDI unit and ignition coil
- pulse generator
- stator
- ignition coil

# ELECTRICAL - SXC '99







# Checking the voltage regulator-rectifier

- Start the engine and switch on the low beam.
- Connect a voltmeter to the two terminals of the capacitor (red/white cable = positive, brown cable = negative).
- Accelerate the engine to a speed of 5000 r.p.m. and read off the voltage.

#### Nominal value: 14.0 - 15.0 V

If the reading significantly deviates from the nominal value above, check the capacitor. If the capacitor is intact, replace the voltage regulator-rectifier.

# Checking the capacitor

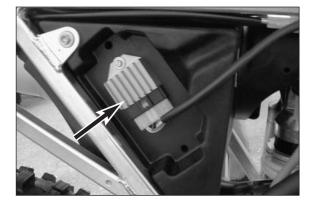
- Discharge the capacitor by bridging the two terminals with a screwdriver and remove.
- Connect the negative pole of a 12V battery with the negative terminal of the capacitor. The connection between the positive pole of the battery and the positive terminal of the capacitor (marked +) is made with a test lamp .
- When the power circuit is closed, the test lamp must begin to light up. As capacitor charging increases, the brightness of the test lamp must decrease.
- The test lamp must go out after 0,5-2 seconds (depending on the lamp capacity).
- If the test lamp does not go out or does not light up at all, the capacitor is faulty.

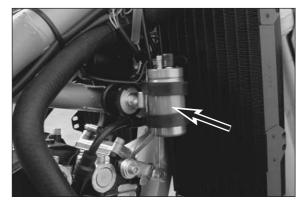


Discharge the capacitor before and after each test. When installing the capacitor, make sure that the terminals are

CONNECTED IN ACCORDANCE WITH THEIR MARKINGS. CONNECT RED/WHITE CABLE TO + TERMINAL.

# ELECTRICAL - SC '99





# 

# Checking the voltage regulator (Kokusan)

A defect voltage regulator can cause different kinds of trouble:

• No voltage in the circuit

In this case, the voltage regulator must be disconnected at idle speed. The voltage regulator is defect if the power consumers now work properly.

If the power consumers are still not supplied with power, the switch, the wiring harness or the ignition system must be checked for defects.

• Excessive voltage in the circuit The bulbs burn out. In this case the voltage regulator must be replaced.

#### Checking the capacitor

- Discharge the capacitor 1 by bridging the two terminals with a screwdriver and remove.
- Connect the negative pole of a 12V battery with the negative terminal of the capacitor. The connection between the positive pole of the battery and the positive terminal of the capacitor (marked +) is made with a test lamp ③.
- When the power circuit is closed, the test lamp must begin to light up. As capacitor charging increases, the brightness of the test lamp must decrease.
- The test lamp must go out after 0,5-2 seconds (depending on the lamp capacity).
- If the test lamp does not go out or does not light up at all, the capacitor is faulty.

### CAUTION

DISCHARGE THE CAPACITOR BEFORE AND AFTER EACH TEST.

When installing the capacitor, make sure that the terminals are connected in accordance with their markings. Connect red/white cable to + terminal.



#### Check ignition coil

- Disconnect all cables and remove the spark plug connector.

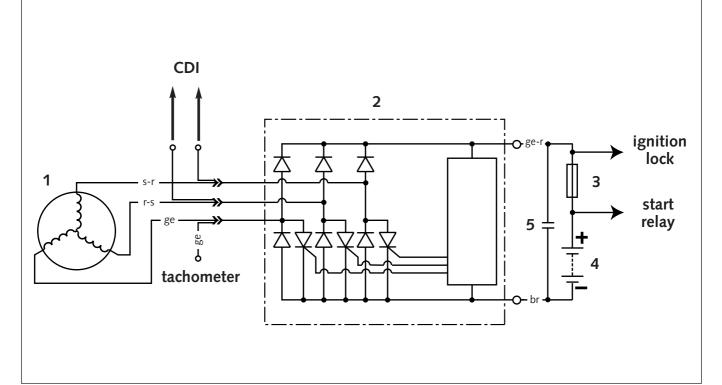
- Use an ohmmeter to measure the following values.

NOTE: The indicated setpoint values correspond to a temperature of 20° C.

Replace the ignition coil if the measured values deviate significantly from the setpoint values.

MEASUREMENT	COLOURS	RESISTANCE
primary coil	blue/white – ground	0,425 – 0,575 Ω
secondary coil	blue/white – ignition wire	10,80 – 16,20 kΩ

# ELECTRICAL – DUKE '99

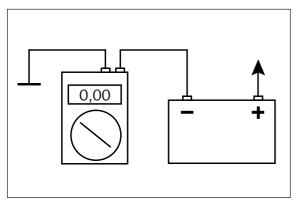


Repair manual KTM LC4

bl					.blue
br					.brown
ge					.yellow
gr					.grey
g					.green
0					.orange
r.					.red
ra					.pink
ς.					.black
v					.violet
w					.white

# Charging system

- Generator
- 2 Regulator-rectifier
- Main fuse (20 A)
- Battery (12V / 8 Ah)
- 6 Capacitor



#### Leakage inspection

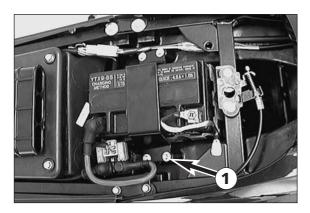
The drop test must be performed before checking the voltage regulator/rectifier.

- Turn off the ignition and disconnect the ground wire from the battery.
- Insert an amperemeter between the ground wire and the negative pole of the battery.

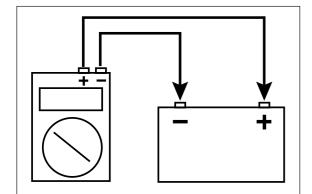
#### Setpoint value: max. 1 mA

- Check for power consumers, should the measured value exceed the indicated maximum value. Example:
- defective voltage regulator-rectifier
- leak currents in the socket connectors, in the ignition lock or in the starter relay.









# Charging voltage / checking the voltage regulator-rectifier

NOTE: The values stated below apply only to fully charged batteries (minimum charging level 90 %).

- Start the engine and switch on the low beam.
- Connect a voltmeter to both battery connections.
- Accelerate the engine to a speed of 5000 rpm and read off the voltage.

Nominal value: 14.0 - 15.0 V

- In the case of a significant deviation from the nominal value:
- Check the connector between the stator and the voltage regulatorrectifier and the connector between the voltage regulator-rectifier and the cable tree.
- Check the stator.
- Replace the voltage regulator-rectifier.

#### Removing the battery

Remove the seat.

\_

- Disconnect first the negative and then the positive pole of the battery.
- Remove the bolts **1** and swing the battery support with the voltage regulator-rectifier sideways.
- Remove the battery.
- When reinstalling the battery, connect the negative pole last.

!	CAUTION	!
OW THE INSTRUCTIONS	OF THE MANUFACTURER WH	HEN FILLING A NEW BATTERY.

Follow the instructions of the manufacturer when filling a new battery. The relevant safety instructions are also contained in the user manual supplied with the battery.

# Charging the battery

- Remove the battery and check the charging level. Use a voltmeter to measure the voltage between the battery poles (off-load voltage).
- Accurate results can only be obtained if the battery has neither been charged nor discharged during a period of 30 minutes preceding the measuring.
- If the battery is empty, it can be recharged for a maximum period of 10 hours at 0.8 A and a maximum of 14.4 V.

	!	CAUTION	!
_	To avoid damage, do	D NOT REMOVE THE LOCKING BAR	
	ALVAVANC CONNECT THE	DATTERY TO THE CHARCINE HIN	

- Always connect the battery to the charging unit before turning the charging unit on.
- When recharging the battery in closed rooms ensure sufficient ventilation. Explosive gases are released during the battery charging process.
- CHARGING TIME AND CHARGING VOLTAGE SHOULD NOT EXCEED THE STATED VALUES. OTHERWISE ELECTROLYTE WILL BE RELEASED THROUGH THE SAFETY VALVES.
- AVOID QUICK CHARGING IF POSSIBLE.

off load voltage Volt	charging level %	charging time 0.8 A	charging voltage
>12.7	100		
~12.5	75	4 h	
~12.2	50	7 h	max.
~12.0	25	11 h	14.4 V
~11.8	0	14 h	

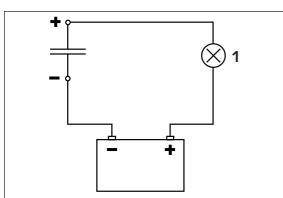


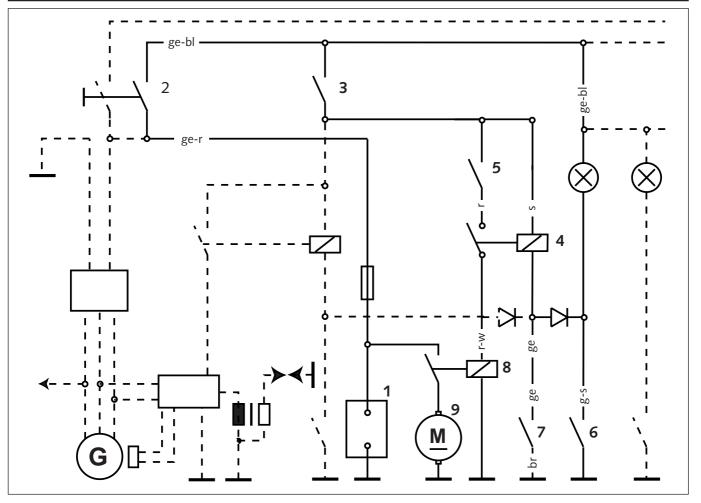
# Checking the capacitor

- Pull main fuse out of the fuse holder. \_
- \_ Discharge the capacitor by bridging the two terminals with a screwdriver and remove.
- Connect the negative pole of a 12V battery with the negative terminal of the capacitor. The connection between the positive pole of the battery and the positive terminal of the capacitor (marked +) is made with a test lamp  $\mathbf{0}$ .
- When the power circuit is closed, the test lamp must begin to light up. As capacitor charging increases, the brightness of the test lamp must decrease.
- The test lamp must go out after 0,5-2 seconds (depending on the lamp capacity).
- If the test lamp does not go out or does not light up at all, the capacitor is faulty.

CAUTION DISCHARGE THE CAPACITOR BEFORE AND AFTER EACH TEST.

When installing the capacitor, make sure that the terminals are CONNECTED IN ACCORDANCE WITH THEIR MARKINGS. CONNECT RED/WHITE CABLE TO + TERMINAL.





- Battery
- Ignition lock
- 8 Emergency off switch
- Auxiliary relay
- **6** Tip switch built in emergency off switch
- 6 Neutral switch
- Clutch switch
- **8** Start relay
- **9** Starter motor

bl					.blue
br					.brown
ge					.yellow
gr					.grey
g					.green
0					.orange
r.					.red
ra					.pink
ς.					.black
v					.violet
w					.white

#### Electric starter system

The system is equipped with a safety mechanism. Electric starting is only possible when

- the ignition lock is in the position  $\bigcirc$
- the emergency OFF switch is in the position ()
- the transmission is switched to neutral or the clutch is pulled.

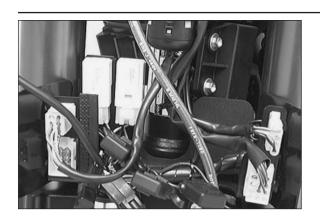
Function of the electric starter system:

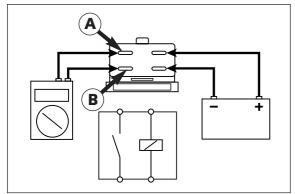
From the battery ① the battery voltage is transmitted via the ignition lock ② and the emergency OFF switch ③ to the coil of the auxiliary starting relay ④ and to the tip switch ⑤.

The contact of the auxiliary starting relay prevents starting unless at least one of the following requirements is met :

- The transmission must be switched to neutral (neutral switch ③ is closed).
- The clutch must be pulled (clutch switch 
   must be closed).

When the tip switch 6 is operated, the starter motor 9 is switched on via the starter relay 3.





# Check start auxiliary relay

- Remove headlight mask and remove the start auxiliary relay (cable colours red and red-white).

- Connect the start auxiliary relay to a 12 V battery as shown in the illustration.
- Use an ohmmeter to measure the continuity between the terminals ( ) and ( ).

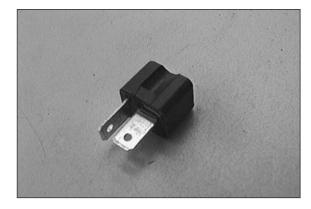
Reading 0  $\Omega$  relay intact Reading  $\infty \Omega$  relay defect

# Checking the auxiliary starting relay for faultless operation

- Preparation:
- Connect an ohmmeter or a continuity tester to the cables of the auxiliary starting relay (colors: red and red/white).
- Perform the tests in the order indicated below. The auxiliary starting relay must respond in either of the following two cases:
- Put in a gear and slowly pull the clutch lever. The auxiliary starting relay should respond when the lever is pulled approximately half of the overall distance. If this is not the case, please check the clutch switch. Keep an eye on the neutral control lamp while performing this test. The neutral control lamp should not light up. If it lights up, check the diode with the cable colors yellow and green/black.
- Switch the transmission to neutral without previously pulling the clutch. The auxiliary starting relay should now connect and be tripped as soon as a gear is put in. If this is not the case, please check the diode in the connector with the cable colors yellow and green/black and the neutral switch.

NOTE: Connecting of the auxiliary starting relay is always accompanied by a faint clicking sound. The ohmmeter or continuity tester indicates continuity while the auxiliary starting relay is on.





# Checking the diodes

NOTE: Diodes conduct current only in the direction indicated by the arrow, preventing the conduction of current in the opposite direction.

Two different kinds of diode defects can be distinguished:

- The diode conducts no current at all.

- The diode conducts current in both directions.

Diode defects can lead to different kinds of trouble, depending on the type of defect.

NOTE: Both diodes are the same type and require the same testing procedure. They are each located in a 2-pole connector and can be identified by the color of the cables leading up to and away from the respective connector.

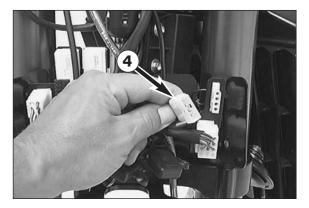
Checking the diodes for faultless operation:

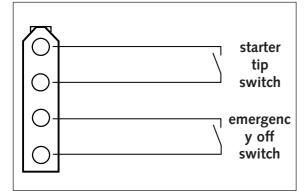
- Remove the headlight mask.
- Pull the diode to be tested out of the connector.
- Connect an appropriate ohmmeter to the diode and check for continuity.
- Connect the ohmmeter in the opposite direction and check if the diode prevents current conduction in the opposite direction.



# Checking the clutch switch

- Disconnect the clutch switch from the cable tree.
- Connect the ohmmeter to the 2-pole connector **③** (cable colors: yellow/yellow) of the clutch switch and slowly pull the clutch lever.
- The switch must connect when the lever is pulled approximately half of the overall distance.

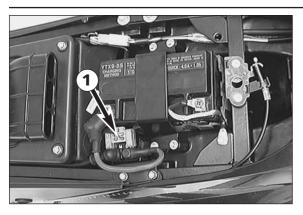


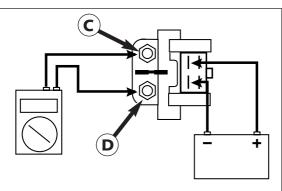


# Checking the tip switch and the emergency off switch

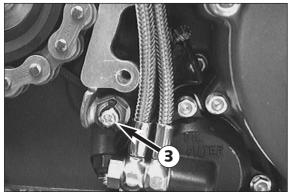
- Remove the headlight mask.
- Use an ohmmeter and test both switches according to the table below (please refer to the sketch for the configuration of the connector).
- Then check all lines for ground contact.

Circuit	Position	Condition
Emergency off switch	$\bigcirc$	duct
Emergency off switch	$\otimes$	no duct
Tip switch	operated	duct
Tip switch	not operated	no duct









# Checking the starter relay

- Remove the seat and disconnect the combination connector **①** of the starter relay.
- Disconnect negative terminal at battery and the two cables at the starter relay.

- Connect the starter relay to a 12 V battery as indicated in the diagram.
- Check continuity between terminals **()** and **()** using an ohmmeter.

Reading: 0  $\Omega$  OK Reading:  $\infty$   $\Omega$  defect

NOTE: The response of the starter relay is accompanied by a faint clicking sound.

# Checking the electric starter motor

- Switch off the ignition.
- Disconnect the negative pole of the battery and remove the electric starter motor.
- Connect the negative pole of a 12 V battery to the housing of the E starter motor and briefly connect the positive pole of the battery to connection ② of the electric starter motor (use thick cables).
- The starter must turn as soon as the circuit is closed.
- If this is not the case, replace the starter.

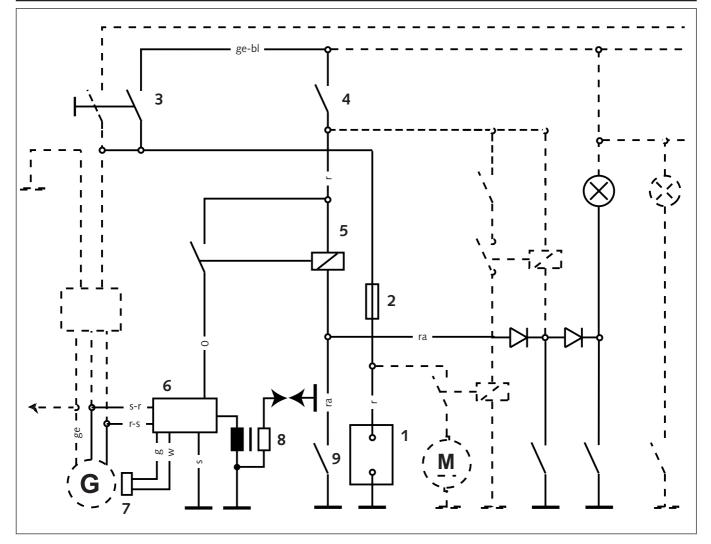
#### Checking the neutral switch

- Remove the chain cover.
- Connect one terminal of a test lamp to the positive pole of the battery and the other to connection **③** of the neutral switch.
- The test lamp must light up when the transmission is switched to neutral.
- The test lamp must go out as soon as a gear is put in.

#### Trouble shooting in the electric starter system

When the starter motor fails to turn upon operation of the tip switch, perform the following checks first:

- Is the ignition lock switched to  $\bigcirc$  ?
- Is the emergency OFF switch in the position ()?
- Is the neutral control lamp on while the ignition is on?
- Can the engine be started with the clutch pulled?
- Is the battery charged?
- Has the main fuse blown?
- Has the fuse under headlight mask blown?
- Check the auxiliary starting relay
- Check the starter relay
- Check the starter motor



- Battery
- 2 Main fuse
- Ignition lock
- Emergency-off switch
- Auxiliary relay
- CDI
- Pulse generator
- Ignition coil
- Side stand switch

#### 

#### Ignition system

From the battery ① the battery voltage is conducted via the main fuse ② through the ignition lock ③ and the emergency OFF switch ④, which are both ON, to the side stand relay ⑤.

The side stand relay conducts the battery voltage to the CDI unit O, if at least one of the following requirements is met :

- The side stand is up (side stand switch closed).
- The transmission is switched to neutral (neutral switch closed).
- The clutch is pulled (clutch switch closed).

The pulse generator **⑦** transmits a signal to the CDI unit **③** upon every rotation of the crankshaft. In the CDI unit, the ignition point is computed from this signal.

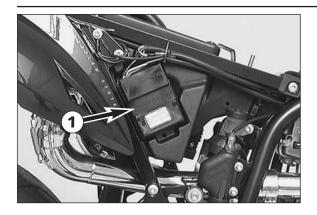
The ignition pulse is transmitted to the ignition coil 0 (i.e. an ignition spark is generated).

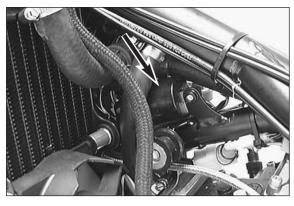
NOTE: The ignition system is a digital high voltage capacitor ignition that receives its power supply from the battery. Therefore, it works only with an intact battery.

When the battery is discharged below the threshold level, the voltage can, due to the starting process, drop below the minimum supply voltage required by the ignition.

	!	CAUTION	ļ
CAFE			CHITICAL REQUIRES CRARK RULE

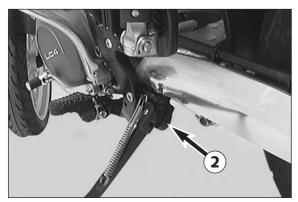
SAFE AND FAULTLESS OPERATION OF THE DIGITAL IGNITION REQUIRES SPARK PLUG CONNECTORS AND SPARK PLUGS WITH INTEGRATED RESISTANCE TYPE SUPPRESSORS.











# CDI unit

Check the cables and plug and socket connections of the CDI unit  $\blacksquare$ . The CDI unit function can only be checked on an ignition test bench.

	1	CAUTI	!					
 		 					CDI	

Never use a commercial measuring device to check the CDI unit. Commercial measuring devices can destroy highly sensitive electronic components.

# Check ignition coil

- Disconnect all cables and remove the spark plug connector.
- Use an ohmmeter to measure the following values.

NOTE: The indicated setpoint values correspond to a temperature of 20° C.

Replace the ignition coil if the measured values deviate significantly from the setpoint values.

MEASUREMENT	COLOURS	RESISTANCE
primary coil	blue/white – ground	0,425 – 0,575 Ω
secondary coil	blue/white – ignition wire	10,80 – 16,20 kΩ

# Spark plug connector

- Check the spark plug connector for cracks and fissures.
- Measure spark plug connector resistance.

Setpoint value:  $3.0 - 7.5 \text{ k}\Omega$ 

# Checking the side stand relay

Preparation:

- Remove the seat, the right side cover. Swing the headlight mask forward.
- Disconnect the power supply from the CDI (orange cable).
- To check the current status of the relay connect the orange cable coming from the cable tree either to the positive line of a voltmeter or to a test lamp.
- The negative line of the voltmeter or test lamp is connected to ground.
- Switch on the ignition lock and the emergency OFF switch.

Perform the following tests in the order indicated below:

- The relay must connect in either of the following three cases:
- Put a gear in but do not pull the clutch. Slowly swing up the side stand. When the side stand is approximately halfway up, the side stand relay should respond. If this is not the case, please check the relay, the side stand switch **2** as well as the corresponding parts of the cable tree.
- With the side stand down and a gear put in, slowly pull the clutch lever. The side stand relay should respond when the lever is pulled approximately half of the overall distance. If this is not the case, please check the diode in the connector with the yellow and the pink cable and the neutral switch.
- With the side stand down and the clutch not pulled, switch the transmission to neutral. The relay should connect when the transmission is switched to neutral and be tripped when a gear is put in. If this is not the case, please check the diode in the connector with the yellow and the green/black cable and the neutral switch.

NOTE: Responding of the relay is accompanied by a faint clicking sound and the CDI's power supply is switched on. The voltmeter or the test lamp indicates a battery voltage. After testing, reconnect the CDI unit's power supply (orange cable).



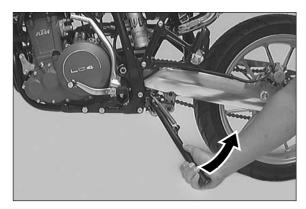
#### Checking the side stand switch

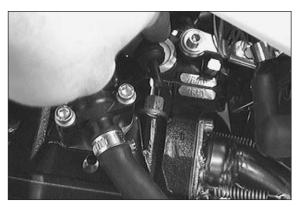
- Disconnect the 2 connectors connecting the side stand switch @ with the cable tree (below the tank).
- Connect an ohmmeter to the side stand cable.
- Slowly swing up the side stand.
- The switch must be open while the side stand is down.
- The side stand switch must connect when the side stand is approximately halfway up.
- If this is not the case, replace the side stand switch.

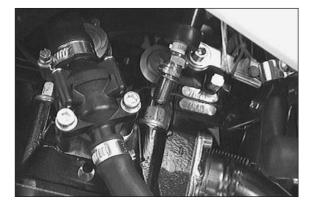
		CA	UTI	ON	
--	--	----	-----	----	--

Never short-circuit the side stand switch so as to be able to drive on. This would deactivate the ignition cut-off with the side stand down, and your motorcycle would no longer comply with the applicable safety standards.

NOTE: If the side stand is removed, for example when subsequently installing a center stand, the two connectors of the cable tree that lead to the side stand switch must also be connected.







# Trouble shooting in the ignition system

- Before checking the ignition system check
- if the ignition lock is in position ()
- if the emergency off switch is in the position ()
- if the neutral control lamp is on
- if the motorcycle can be started with the clutch pulled
- if the battery is charged
- the main fuse and the fuse under the headlight mask

Check if an ignition spark is produced when the starter is operated. Proceed as follows:

- Pull the spark plug connector.
  - Disconnect the spark plug connector from the ignition cable.
- Hold the free end of the ignition cable approximately 5 mm from ground.
- A strong spark should be visible when the electric starter is now operated. If the battery is discharged below the threshold level required for electric starting, please use the kickstarter.
- If a spark is visible, replace the spark plug connector.
  - Twist out the spark plug and insert it into the spark plug connector.
- Connect the spark plug to ground. A strong spark should be visible at the electrode when the electric starter is now operated. If this is not the case, the spark plug connector or the spark plug is defect.
- If no spark is produced during the first test, perform the following checks:
- Does the ignition's power supply line (orange) carry battery voltage?
- If this is not the case, check the ignition lock, the emergency off switch and, if applicable, the side stand relay as well as the corresponding parts of the cable tree.
- If the ignition is sufficiently supplied with power and no spark is produced, check:
- ground connection of CDI unit and ignition coil
- the cable between CDI unit and ignition coil
- pulse generator
- stator
- ignition coil

#### DYNAMIC GENERATOR VALUES 400/640 LC4-E / 625 SXC (KOKUSAN 4K-2)

Measuring conditions:

- remove seat (also side trim and left side cover for Racing model)
- all connectors and the ground connection in a non-corroding condition, connectors tightly connected
- battery in a startable condition, not fully loaded (start several times for fully loaded battery)

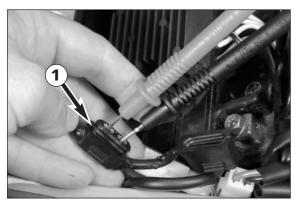


**Regulator rectifier output** – measure the voltage with the measuring leads of the peak voltage adapter directly on the poles of the vehicle battery:

- unstressed and stressed for the entire speed range

Multimeter display: 14 volts +/- 1 volt

NOTE: The black measuring lead on the peak voltage adapter should be applied to the ground (negative terminal).



Check the **charge current** – remove main fuse, apply the multimeter measuring leads (without the peak voltage adapter) to both connectors on the fuse carrier ① and measure the current (set the multimeter DCA to 10 amperes):

 Unstressed (no electric consumer switched on), engine running at idle speed (1400 +/-50 rpm)

Multimeter display: 6 amperes +/- 0.1 ampere

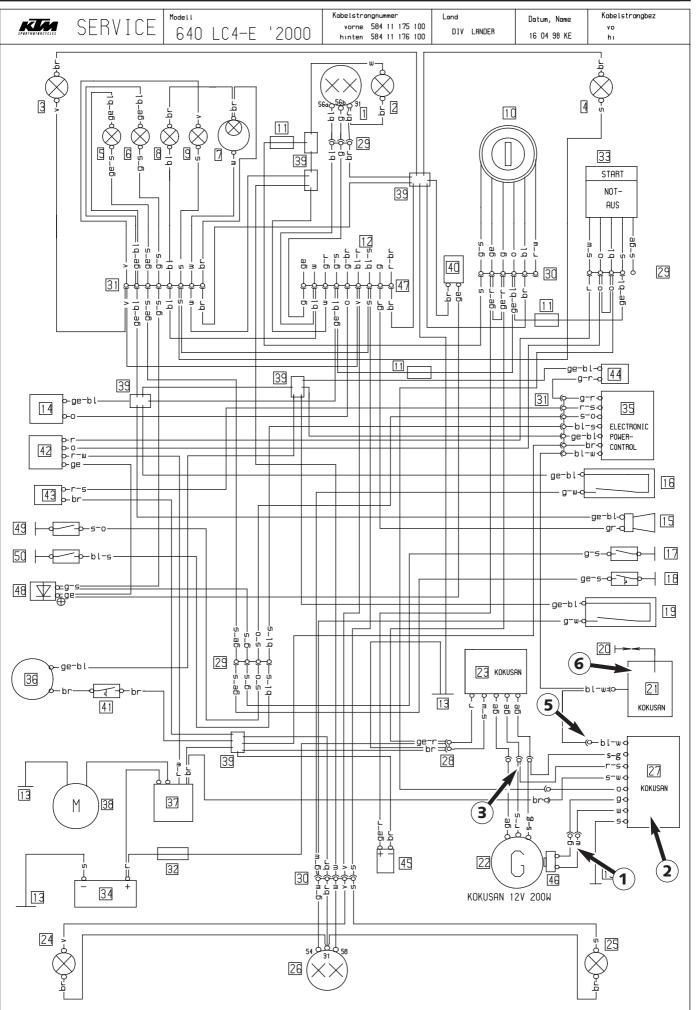
- Stressed (light switched on, horn and brake actuated), engine running at idle speed

Multimeter display: 0 amperes +/- 0.1 ampere

- Stressed (light switched on, horn and brake actuated), engine running at increasing speed (up to 8000 rpm)

Multimeter display: 2 amperes +/- 0.1 ampere

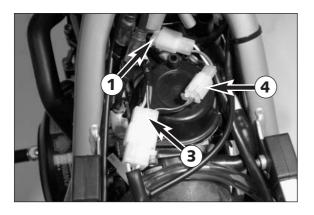
7-43D



#### STATIC IGNITION VALUES 400/640 LC4-E / 625 SXC (KOKUSAN 4K-2)

Measuring conditions:

- cold engine
- seat, side trim and tank removed
- all connectors and the ground connection in a non-corroding condition, connectors tightly connected
- battery loaded, ignition switch to position 1 (without light)
- the gap between the rotor and pulse generator must be set to 0.75 mm
- compression release lever pulled
- kick the kick starter forcefully at least 5 times for each measurement



NOTE: Before performing a test with the peak voltage adapter, make sure that the orange cable (battery voltage) is applied to the CDI unit and the black and white/black cables are applied to the ground.

Check the **pulse generator** for an output signal – two-pin connector ① with green and white cable colors (also see circuit diagram on opposite page):

 Apply the red measuring lead of the peak voltage adapter to the green cable and the black measuring lead to the white cable, disconnect connector ● to disconnect the CDI unit ❷.

Multimeter display: 7 volts +/- 1 volt

- Same measurement with CDI unit connected

Multimeter display: 4 volts +/- 1 volt

Check the **generator phase for detection of the direction of rotation** three-pin connector **③** with red/black and black/yellow cables (also see circuit diagram on opposite page):

- Apply the red measuring lead of the peak voltage adapter to the red/black cable and the black measuring lead to the black/yellow cable, disconnect connectors ③ and ④

Multimeter display: 17 volts +/- 1 volt

- Same measurement with connectors 3 and 4 connected

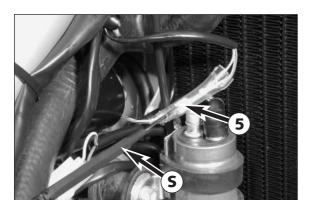
Multimeter display: 12.5 volts +/- 0.5 volt

Check the **primary voltage output** for ignition coil control for output voltage – one-pin connector **(5)** with blue/white cable (also see circuit diagram on opposite page):

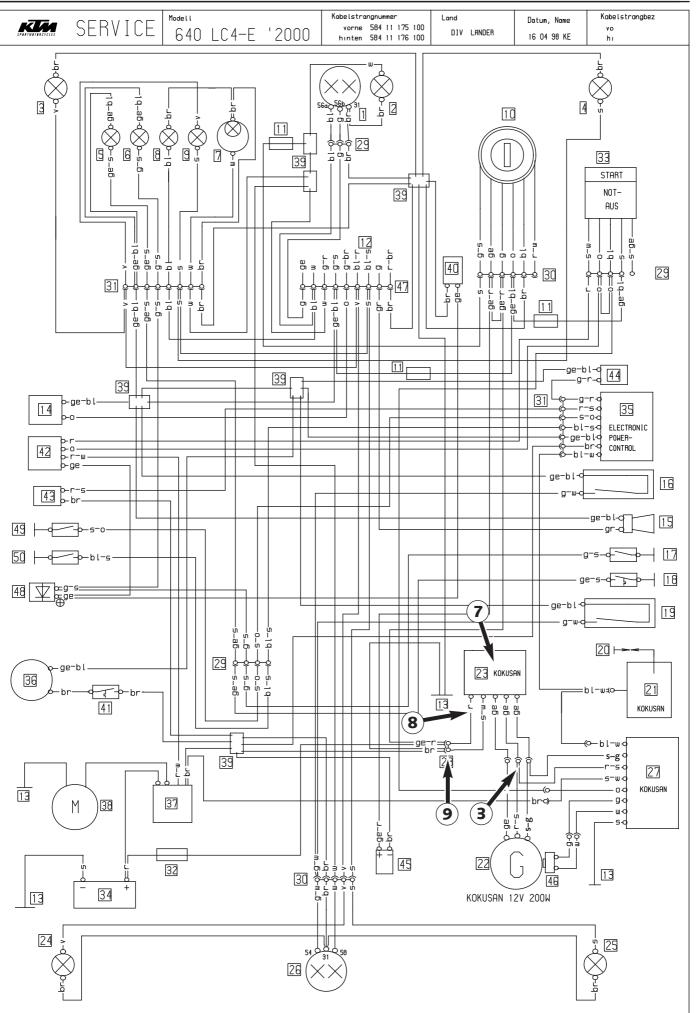
Apply the red measuring lead of the peak voltage adapter to the ground and the black measuring lead S to the blue/white cable, CDI unit 2 and ignition coil S connected

Multimeter display: 220 volts +/- 10 volts





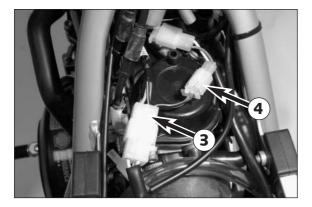
7-45D



#### STATIC GENERATOR VALUES 400/640 LC4-E / 625 SXC (KOKUSAN 4K-2)

#### Measuring conditions:

- cold engine
- seat, side trim and tank removed
- all connectors and the ground connection in a non-corroding condition, connectors tightly connected
- battery loaded, ignition switch to position 1 (without light)
- compression release lever pulled
- kick the kick starter forcefully at least 5 times for each measurement



Check the **generator output** for voltage between the following cable colors

– three-pin connector O (also see circuit diagram on opposite page), connectors O and O disconnected; this disconnects the regulator rectifier O and the CDI unit:

- between black/yellow and red/black
- between black/yellow and yellow
- between red/black and yellow

Multimeter display: 17 volts +/- 1 volt

NOTE: The measuring leads of the peak voltage adapter can be randomly applied.

Check **generator output for voltage to ground** – three-pin connector ③ (also see circuit diagram on opposite page), connectors ③ and ④ connected; this connects the regulatorl rectifier ④ and the CDI unit:

- between black/yellow and ground
- between yellow and ground
- between red/black and ground

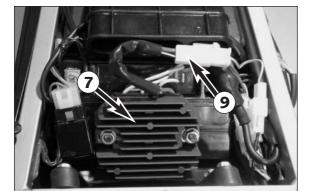
Multimeter display: 12.5 volts +/- 0.5 volt

NOTE: The black measuring lead of the peak voltage adapter must be applied to the ground.

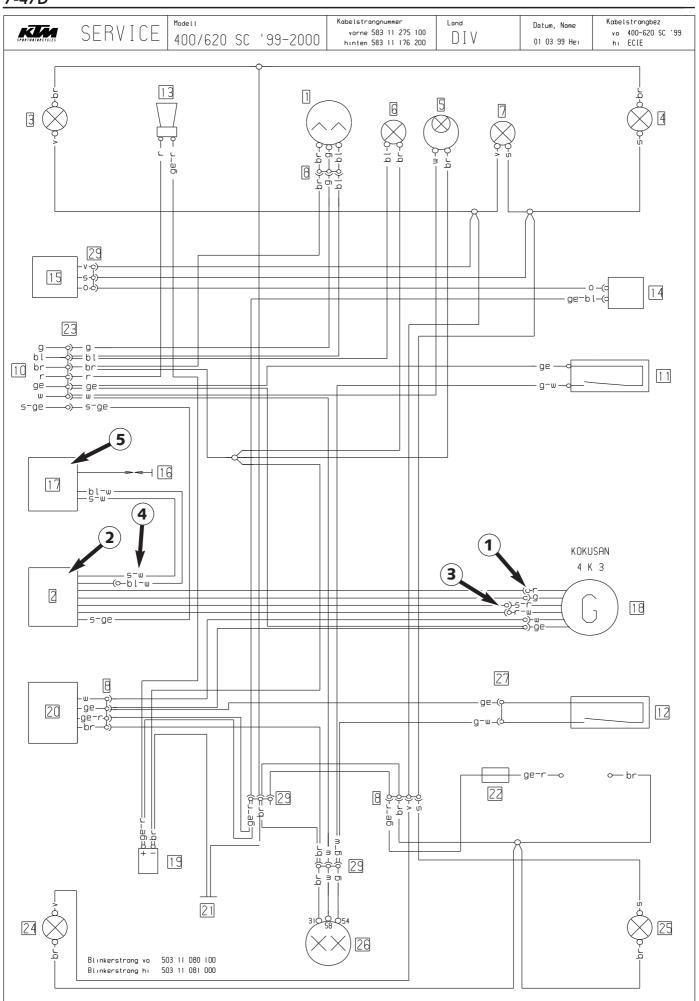
Check **regulator rectifier output voltage ③** - two-pin connector **④** with cable colors red and black/white disconnected, connectors **④** and **④** connected (also see circuit diagram on opposite page):

- between red and black/white (ground)

Multimeter display: 13 volts +/- 0.5 volt



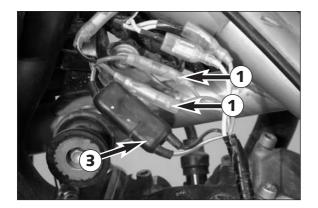
7-47D



#### STATIC IGNITION VALUES 400/620/625 SC / 660 SMC (KOKUSAN 4K-3, 3C)

Measuring conditions:

- cold engine
- seat, right side trim and tank removed
- all connectors and the ground connection in a non-corroding condition, connectors tightly connected
- light switch turned off
- the gap between the rotor and pulse generator must be set to 0.75 mm
- compression release lever pulled
- kick the kick starter forcefully at least 5 times for each measurement



Check the **pulse generator** for an output signal – two one-pin connectors  $\bullet$  with green and red cable colors (also see circuit diagram on opposite page):

Apply the red measuring lead of the peak voltage adapter to the green cable and the black measuring lead to the red cable, disconnect both connectors ● to disconnect the CDI unit ●

Multimeter display: 4.5 volts +/- 0.5 volt

- Same measurement with CDI unit connected

Multimeter display: 3 volts +/- 0.5 volt

NOTE: On 625 SC-models one two-pin connector is used instead of the two one-pin connectors, the colors of the cable are the same.

Check the **generator charging coil** for ignition capacitor charge for an output signal– two-pin connector **③** with black/red and red/white cable colors (also see circuit diagram on opposite page):

Multimeter display: 30 volts +/- 5 volts

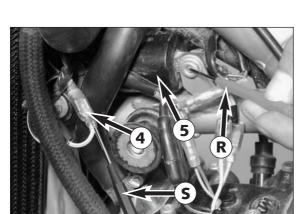
- Same measurement with connectors CDI unit connected

Multimeter display: 180 volts +/- 10 volts

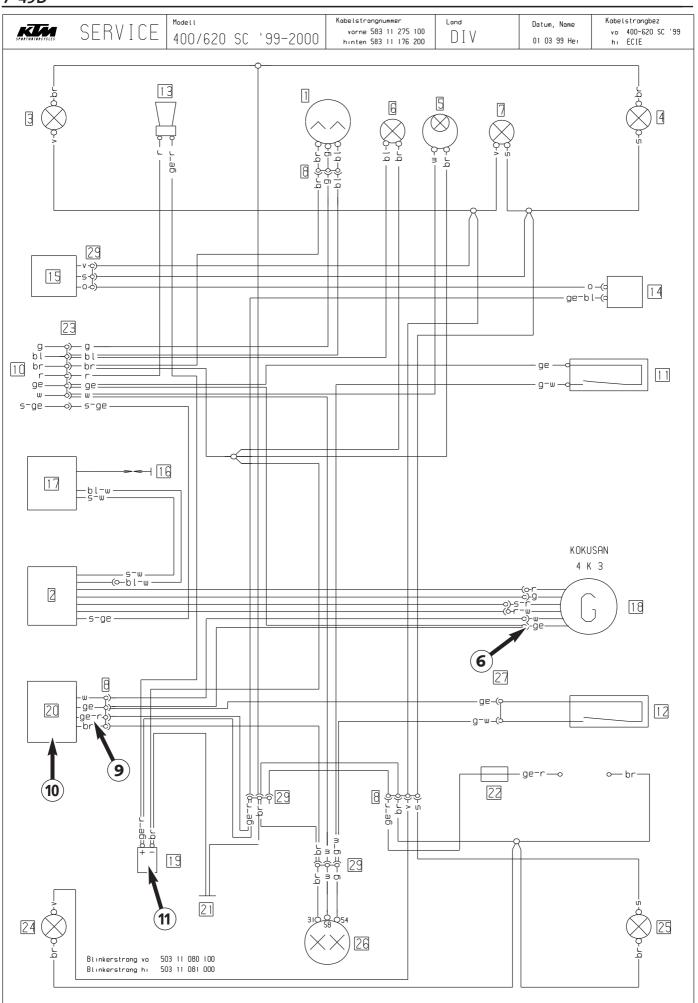
Check the **primary voltage output ④** for ignition coil control (also see circuit diagram on opposite page) for output voltage (blue/white cable color):

Apply the red measuring lead <sup>1</sup> of the peak voltage adapter to ground and the black measuring lead <sup>3</sup> to the blue/white cable, CDI unit <sup>2</sup> and ignition coil <sup>5</sup> connected

Multimeter display: 180 volts +/- 10 volts



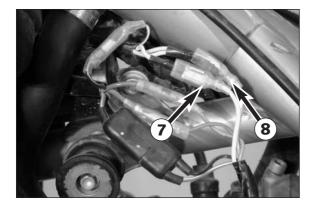
7-49D



#### STATIC GENERATOR VALUES 400/620/625 SC / 660 SMC (KOKUSAN 4K-3, 3C)

Measuring conditions:

- cold engine
- seat, right side trim and tank removed
- all connectors and the ground connection in a non-corroding condition, connectors tightly connected
- light switch turned off
- compression release lever pulled
- kick the kick starter forcefully at least 5 times for each measurement



Check the **generator output (a)** (also see circuit diagram on opposite page) for voltage between the following cable colors:

- between yellow and brown (ground), connector 🛛 disconnected

Multimeter display: 15 volts +/- 1 volt

- between white and brown (ground), connector (3) disconnected

Multimeter display: 19 volts +/- 1 volt

- Repeat both measurements with connector **1** and **3** connected. The measured values should be the same.

NOTE: The black measuring lead of the peak voltage adapter must be applied to the ground.

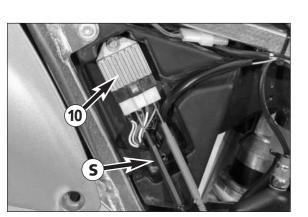
Check **regulator rectifier output voltage** (also see circuit diagram on opposite page, cable colors yellow/red), regulator rectifier connected, capacitor **1** disconnected:

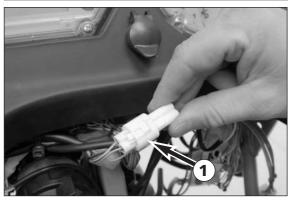
- between yellow/red and brown (ground)

Multimeter display: 14 volts +/- 1 volt

#### NOTE:

- The black measuring lead **③** of the peak voltage adapter must be applied to the ground.
- The regulator rectifier **1** is located on the right behind the side trim.





2

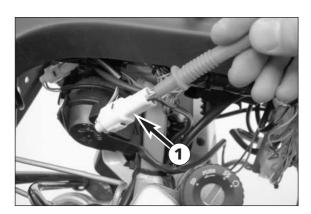
Checking the speedometer sensor and the speedometer (Adventure - from the 2002 model) Checking the speedometer:

– Disconnect the connector **1** from the speedometer.

NOTE: The connector **1** is located under the cockpit covering.

\_

Switch on the ignition. Briefly connect pins ② and ③ (cable colors black/brown and black/orange) with a cable several times while you observe the speed reading. If the speedometer is functioning correctly, the speed should be indicated.



Checking the speedometer sensor:

NOTE: The measurement must be made with the ignition switched on and the plug and socket connection connected.

- Use a digital multimeter to measure the voltage at the black cable on \_ connector **1** against the ground.
- Slowly turn the front wheel. \_
- \_ The measured value should be over 4.5 volts when the wheel is turned or less than 1 volt when the magnet on the front-wheel hub is within the range of the speed sensor.

CAUTION

Since you must measure with the connector attached. Make sure to CAREFULLY PUSH THE MEASURING TIPS ON THE MULTIMETER THROUGH THE SEALING FROM THE CABLE SIDE AND NOT TO DAMAGE ANY PART OF THE CONNECTOR.

## FUEL SYSTEM

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## **DELL'ORTO**

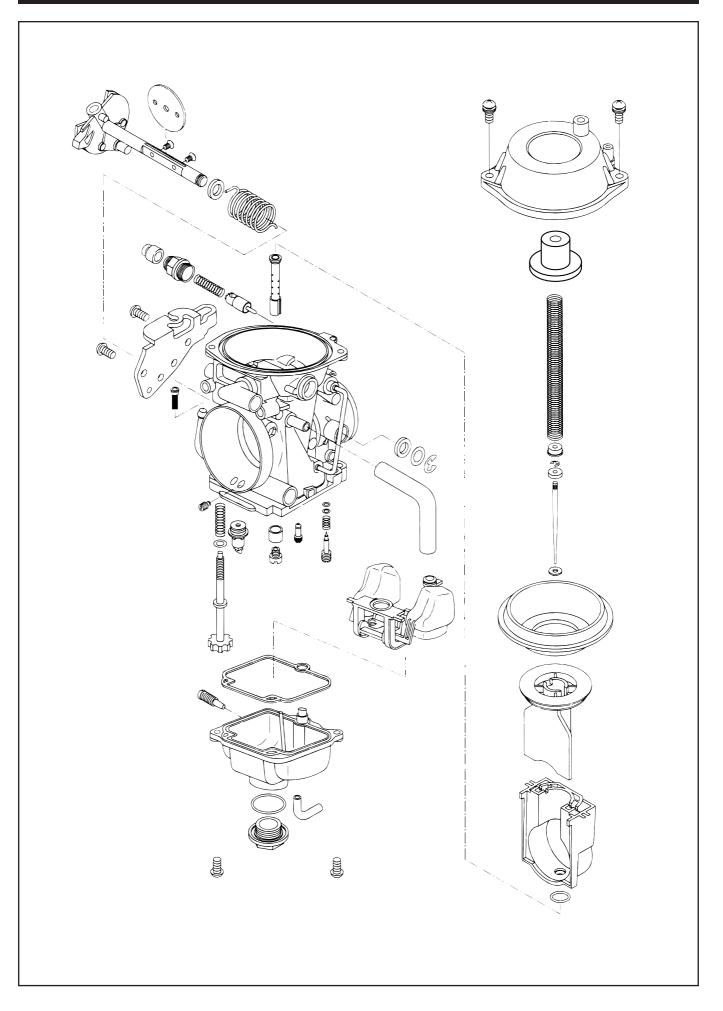
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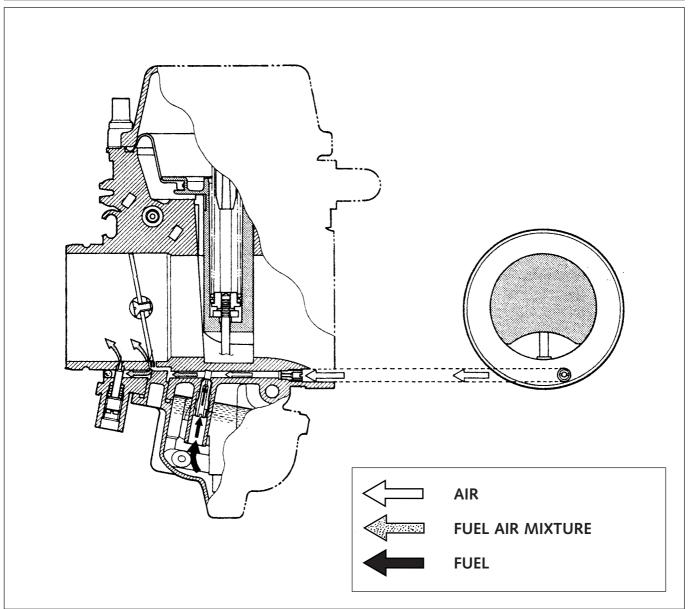
## **KEIHIN FCR 41**

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## **CARBURETOR - MIKUNI BST 40**





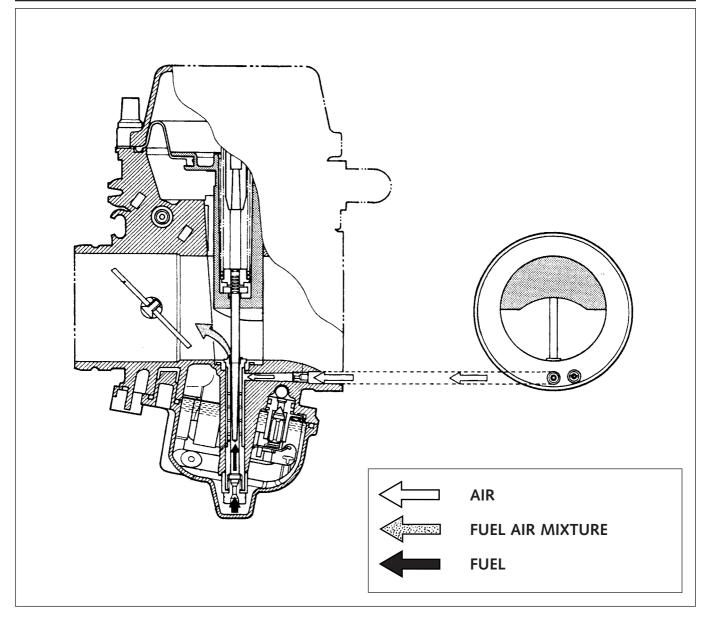
Part-load system (Mikuni BST 40)

The part-load system supplies the engine with fuel while the throttle slide is closed or only slightly opened.

From the float chamber the fuel enters the mixture pipe through the idling jet. There the fuel mixes with the air that flows in through the idling air jet.

Then the fuel air mixture reaches the idle adjusting screw and the bypass bores through the mixture pipe.

A certain amount of the fuel air mixture is sucked into the intake pipe through the bypass bores. The remaining fuel air mixture is adjusted by the idle adjusting screw and enters the intake pipe through the idling bore.



## Full-load system (Mikuni BST 40)

When the throttle value is opened the engine speed increases and the negative pressure in the venturi pipe grows. The same negative pressure is transferred to the upper side of the slide membrane and pulls the throttle slide upwards.

At the same time the fuel flows from the float chamber through the main jet into the needle jet. There it mixes with the air flowing in through the main air jet. The result is a fuel air mixture.

Negative pressure causes this fuel air mixture to flow through the space between the needle jet and the jet needle into the venturi pipe. There it meets the main air flow sucked in by the engine.

The precise amount of the mixture released is adjusted in the needle jet. The space through which the mixture passes changes depending on the position of the throttle slide.

Throttle slide in top position: large space Throttle slide in bottom position: small space

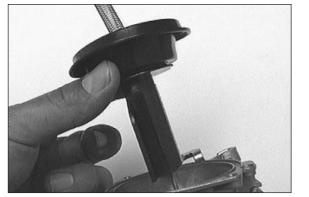
#### Disassembling the carburetor (Mikuni BST-40)

NOTE: Before commencing to disassemble the carburetor make sure that your workplace is clean and large enough to properly arrange all carburetor components before you.

		!	CAUTION						!			
То	PREVENT	DAMAGING	OF	THE	SLIDE	MEMBRANE	DO	NOT	APPLY	COMPRESSED	AIR	

TO PREVENT DAMAGING OF THE SLIDE MEMBRANE DO NOT APPLY COMPRESSED AIR TO CLEAN THE CARBURETOR BEFORE REMOVING THE MEMBRANE.

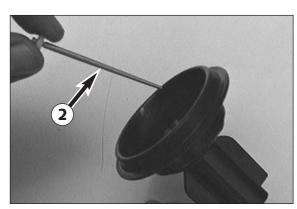
Remove the two screws ① and take off the membrane cover.
Remove the throttle stop.



1

- Take the throttle slide out of the carburetor together with the spring.

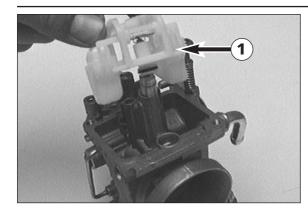
- Pull the jet needle **2** out of the throttle slide.

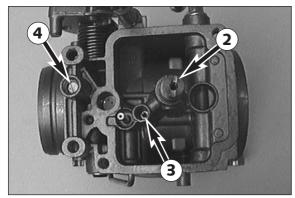


- Remove the 2 screws ③ and take off the float chamber together with the gasket.



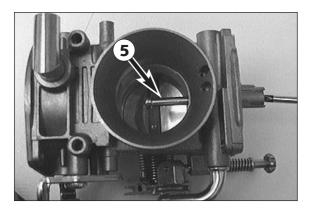
- Take the entire float unit **1** out of the carburetor.

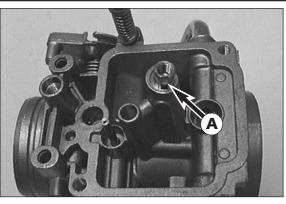




- Then remove the main jet **2** together with the distance bushing. Remove the idling jet **3**. \_
- \_
- Twist the mixture adjusting screw 4 clockwise all the way in. Count
- and write down the number of twists. Twist out the mixture adjusting screw and remove it together with the spring, the O-ring and the washer.

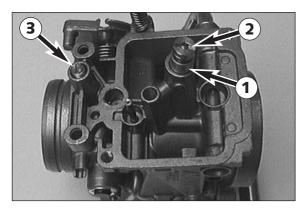
- Use a screwdriver to push the needle jet 6 upwards out of the \_ carburetor.
- Clean all jets and blow them through with compressed air.Clean the carburetor housing and use compressed air to blow through all ducts within the carburetor.



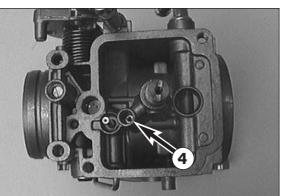


#### Assembling the carburetor (Mikuni BST 40)

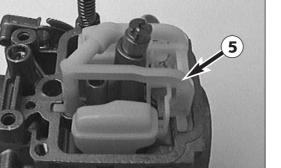
- Put the needle jet into the carburetor, making sure that the flat portion (1) is located next to the jet needle.



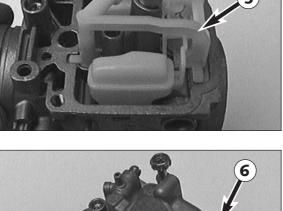
- Put the distance bushing **1** onto the needle jet and mount the main jet 🛛.
- Mount the spring, the washer and a new O-ring on the mixture adjusting screw <sup>(1)</sup> and twist the mixture adjusting screw all the way in.
- Then twist the mixture adjusting screw back out, applying the same number of twists you have written down when disassembling the device.



– Mount the idling jet 4.



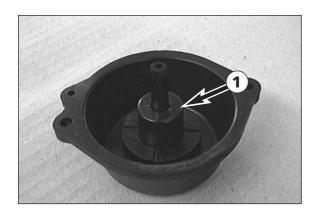
- Insert the float unit <sup>(3)</sup> into the carburetor.



- Mount the float chamber together with a new gasket and tighten both screws 6.



- Mount the throttle slide, making sure that the membrane of the throttle slide rests properly against the round wall of the carburetor housing.
- Insert the spring into the throttle slide.



– Put the throttle stop  ${\ensuremath{\bullet}}$  into the membrane cover.

NOTE: The throttle stop shown in the picture is fitted in a restricted version.

- Mount the membrane cover and fasten it with the two screws **2**.

#### Checking the throttle sensor (from model 2003 on)

NOTE: the adjustment must be made in a mounted condition with the cable connected and the ignition switched on.

- Use a digital multimeter to measure the voltage between the black and yellow cables at the connector ③ (CDI).

CAUTION	!

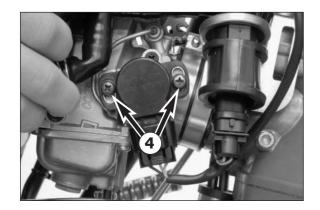
Since you must measure with the connector attached, make sure to carefully push the measuring tips on the multimeter through the sealing from the cable side and not to damage any part of the connector.

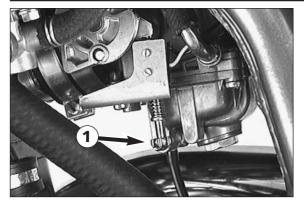
- Reading with closed throttle (neutral position): 0.88 +/- 0,075 volts
- Slowly open the throttle valve with the throttle grip, the measured voltage should increase uniformly up to the full load reading.
  - Reading with fully opened throttle grip (full throttle position): 3,88 +/- 0,1 volts.

#### Adjusting the throttle sensor

- Loosen the screw on the throttle sensor **4** and turn the throttle sensor until you reach the reading for the neutral position.
- Tighten the screw on the throttle sensor.



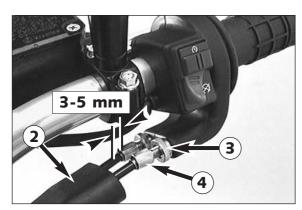




#### Adjust idling speed

NOTE: Warm up the engine before adjusting the idle speed.

Use the adjusting screw ① to adjust the basic position of the throttle valve and, thus, the idle speed. Turning in clockwise direction will increase the idling speed, turning in counterclockwise direction will reduce the idling speed. Normal idling speed 1400 - 1500 rpm.



#### Adjusting the throttle cable

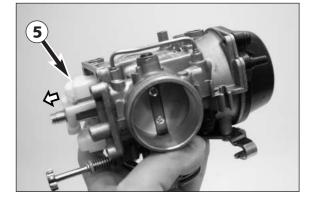
A play of 3-5 mm must at any time be left in the throttle cables. To check the play of the throttle cables, first push back the protective cap **②** on the throttle twist grip. Now it should be possible to lift the outer sleeve of one of the two cables 3-5 mm off the adjusting screw **③** before resistance is felt. The play of the throttle cables can be adjusted, if necessary, using the two adjusting screws.

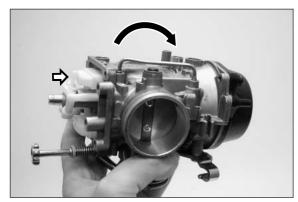
For this purpose, undo counter nut 3 and turn the adjusting screw until the desired play is achieved. Then tighten the counter nut and replace the protective cap.

After adjusting the throttle cables turn the handlebar all the way to the left and to the right while the engine is still running. The idle speed should not change.

#### Check float level

Take off the float chamber, press down the float frame and hold carburator as shown in the picture. The float **(5)** mooves downwards.



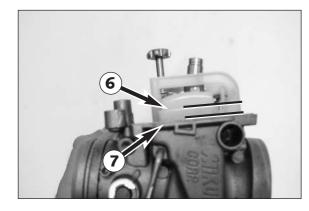


Turn carburator slowly until the float moves towards the carburator. In this position the edge of the float O must be parallel to the sealing surface of the carburator O.

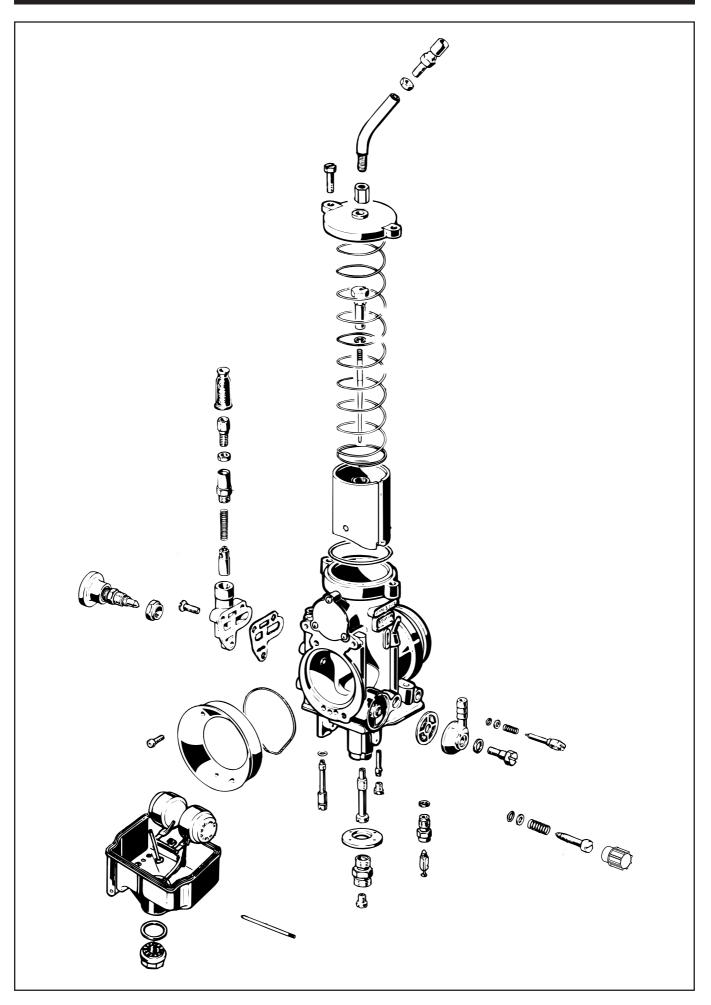
!	CAUTION	!

If you hold on turning the carburator, the float will press against the spring of the needle valve and a correct check is not possible. In that case the carburator is to be turned back and the check must be done twice.

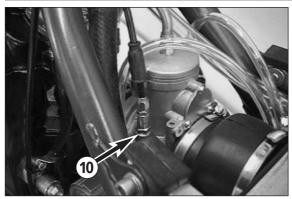
If the two edges are not parallel, correction can be done by bending the lever of the needle valve. At the end a check is necessary again.



CARBURETOR - DELL'ORTO PHM 40 SD



1



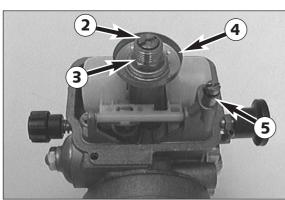
#### Disassembling the carburetor (Dell'Orto PHM 40 SD)

NOTE: Before commencing to disassemble the carburetor make sure that your workplace is clean and large enough to properly arrange all carburetor components before you.

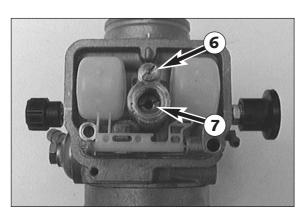
- Remove the two screws and pull the carburetor cover out of the carburetor together with the throttle slide.
- Wrap the throttle slide in a clean piece of cloth and put it onto the air filter box.
- Undo screw  $\mathbf{0}$  and take the starting piston out of the carburetor.
- Remove the plug ① together with the seal ring and take off the float chamber.



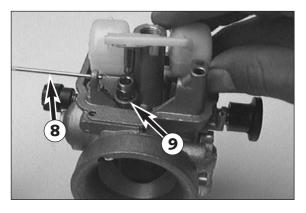
Remove the main jet 2, the main jet holder 3 and the baffle 4.
Twist out the starting jet 5.

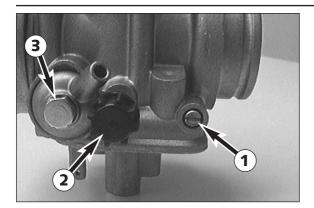


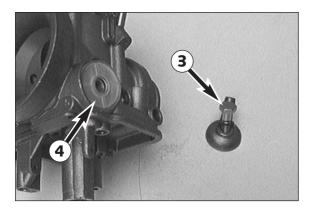
- Remove the idling jet 
   o
   together with the idle mixture pipe below.
- Twist out the needle jet **1**.



- Pull out the pin <sup>(3)</sup> and remove the float.
- Remove the entire needle valve 9 together with the gasket behind.







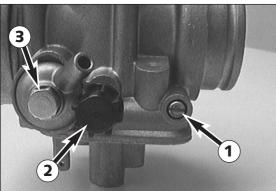


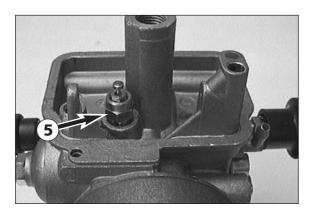
- Twist the mixture adjusting screw ① clockwise all the way in, counting and writing down the number of twists. Twist out the mixture regulating screw and remove it together with the spring, the washer and the O-ring.
- Twist the adjusting screw O clockwise all the way in, counting and writing down the number of twists. Twist out the adjusting screw and remove it together with the spring, the O-ring and the washer.
- Remove screw  ${\rm (3)}$  , and take off the hose connection together with the fuel filter  ${\rm (4)}$  .
- Clean all jets and other components and blow them through with compressed air.
- Clean the carburetor housing and use compressed air to blow through all ducts within the carburetor.
- Check all gaskets for damage and exchange them, if necessary.

#### Assembling the carburetor (Dell'Orto PHM 40 SD)

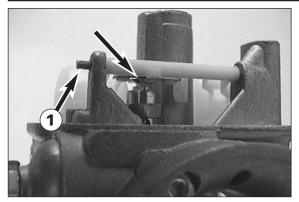
- Put the spring, the washer and the O-ring onto the mixture adjusting screw **1** and twist the mixture adjusting screw all the way in.
- Twist out the mixture adjusting screw, applying the same number of twists previously written down during the disassembly of the device.
- Put the spring, the washer and the O-ring onto the adjusting screw
   and twist the adjusting screw all the way in.
- Twist out the adjusting screw, applying the same number of twists previously written down during the disassembly of the device.
- Insert the fuel filter into the carburetor. Properly position the hose connection and mount screw ③ together with the seal ring.





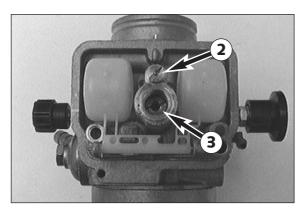


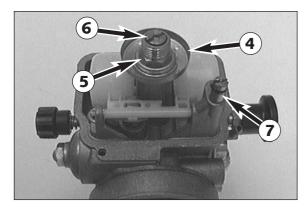
Insert the seal ring into the carburetor bore and mount the needle valve 6.



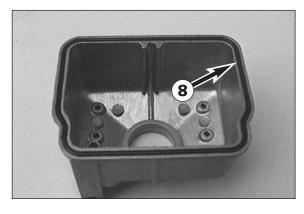
– Position the float and mount the pin  $\bullet$ . When mounting the float make sure that the needle valve properly engages with the float. Check by moving the float upwards: the needle valve must move with the float.

- Mount the idling mixture pipe and the idling jet ②.
  Mount the needle jet ③.

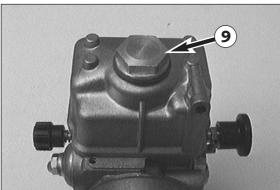




- Position the baffle ④ and fasten it with the main jet holder ⑤.
  Mount and tighten the main jet ⑥
- Mount and tighten the main jet **6**.
  Mount and tighten the starting jet **6**.

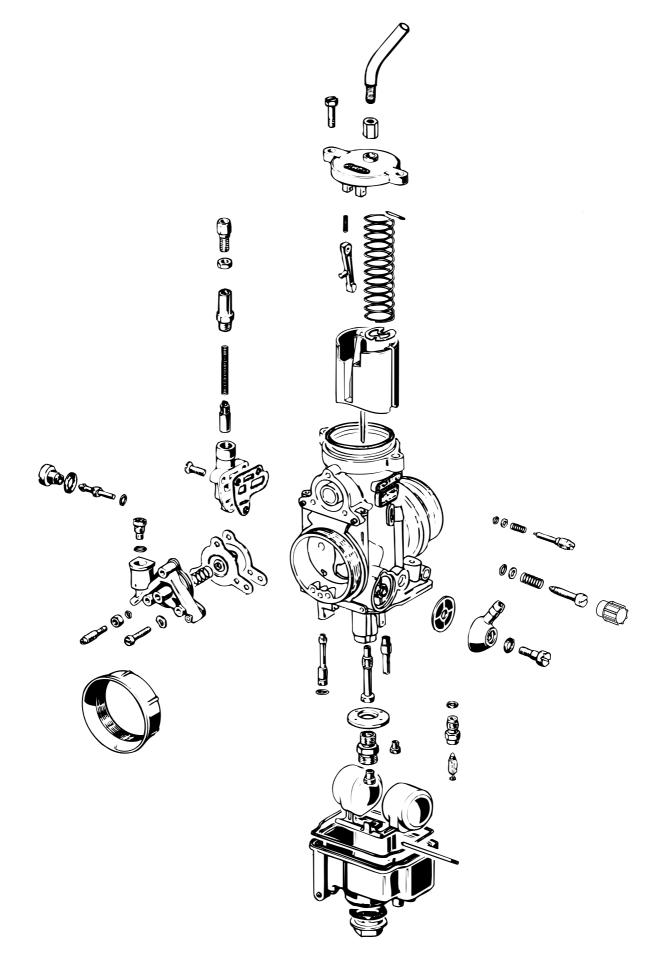


Check the O-ring <sup>(3)</sup> in the float chamber for proper fit.



- Position the float chamber and fasten it with the plug 9. Do not forget the seal ring.

# CARBURETOR - DELL'ORTO PHM 38 ND 1 N

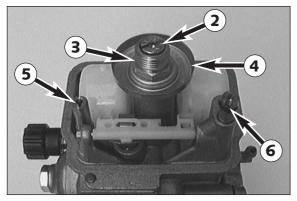


#### Disassembling the carburetor (Dell'Orto PHM 38 ND)

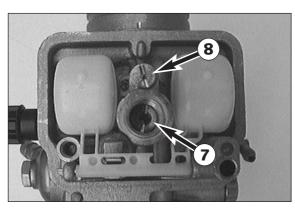
NOTE: Before commencing to disassemble the carburetor make sure that your workplace is clean and large enough to properly arrange all carburetor components before you.

- Remove the two screws and pull the carburetor cover out of the carburetor together with the throttle slide.
- Wrap the throttle slide in a clean piece of cloth and put it onto the air filter box.
- Undo screw and take the starting piston out of the carburetor.
- Remove the plug 
   together with the seal ring and take off the float chamber.

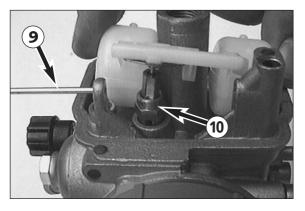
- Remove the main jet 2, the main jet holder 3 and the baffle 4.
  - Twist out the starting jet <sup>(6)</sup>.
  - Twist out the return valve **③**.

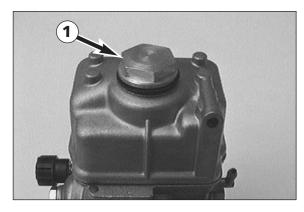


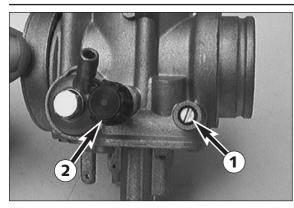
- Remove the idling jet <sup>(a)</sup> together with the idle mixture pipe below.
- Twist out the needle jet **1**.



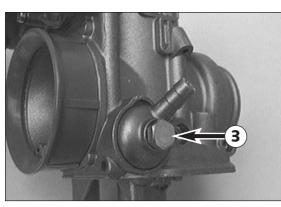
- Pull out the pin (9) and remove the float.
- Remove the entire needle valve **1** together with the gasket behind.







- Twist the mixture adjusting screw ① clockwise all the way in, counting and writing down the number of twists. Twist out the mixture regulating screw and remove it together with the spring, the washer and the O-ring.
- Twist the adjusting screw O clockwise all the way in, counting and writing down the number of twists. Twist out the adjusting screw and remove it together with the spring, the O-ring and the washer.
- Remove screw **3**, and take off the hose connection together with the fuel filter.



- Twist out the jet holder 4 together with the accelerating jet 6.

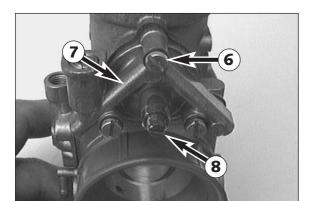
- Remove the 3 screws **()** and take off the entire pump housing **()** together with the gasket.

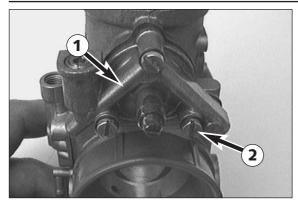
	!		CAU	ΤΙΟ	N		!		
Do Not	DAMAGE	THE	MEMBRANE	WHEN	REMOVING	THE	PUMP	HOUSING.	

Remove the membrane before cleaning the pump housing. – Adjustment screw ③ is factory calibrated and must not be turned.

- Clean all jets and other components and blow them through with

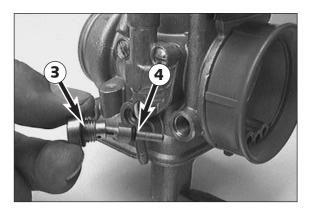
- compressed air. - Clean the carburetor housing and use compressed air to blow
- through all ducts within the carburetor.
- Check all gaskets for damage and exchange them, if necessary.





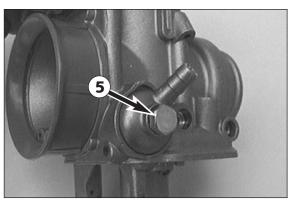
#### Assembling the carburetor (Dell'Orto PHM 38 ND)

 Position the pump housing ① together with the gasket and fasten them with the 3 screws. Make sure that the membrane is properly positioned in the pump housing.

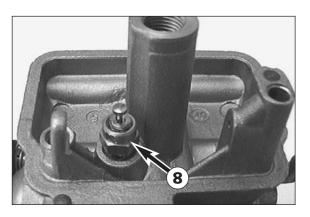


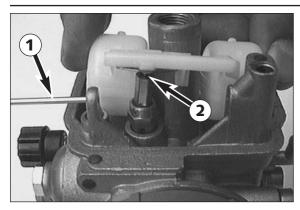
Put the seal ring onto the jet holder ③ and mount the jet holder together with the accelerating jet ④. The flat section of the accelerating jet must face backwards.

 Insert the fuel filter into the carburetor. Position the hose connection and mount screw 
 **6** together with the seal ring.



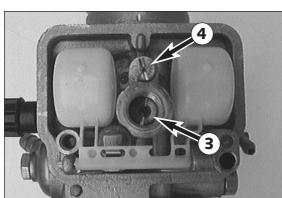
- Put the spring, the washer and the O-ring onto the mixture adjusting screw 
   and twist the mixture adjusting screw all the way in.
- Twist out the mixture adjusting screw, applying the same number of twists previously written down during the disassembly of the device.
- Put the spring, the washer and the O-ring onto the adjusting screw
   and twist the adjusting screw all the way in.
- Twist out the adjusting screw, applying the same number of twists previously written down during the disassembly of the device.
- Insert the seal ring into the carburetor bore and mount the needle value  $\boldsymbol{0}$ .

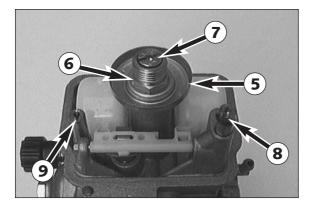




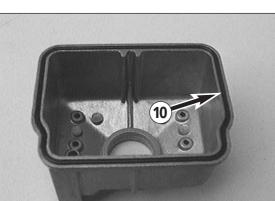
Position the float and mount the pin **1**. When mounting the float \_ make sure that the needle  $\ensuremath{ @ }$  valve properly engages with the float. Check by moving the float upwards: the needle valve must move with the float.

- Mount the idling mixture pipe and the idling jet **4**. \_
- Mount the needle jet **③**.





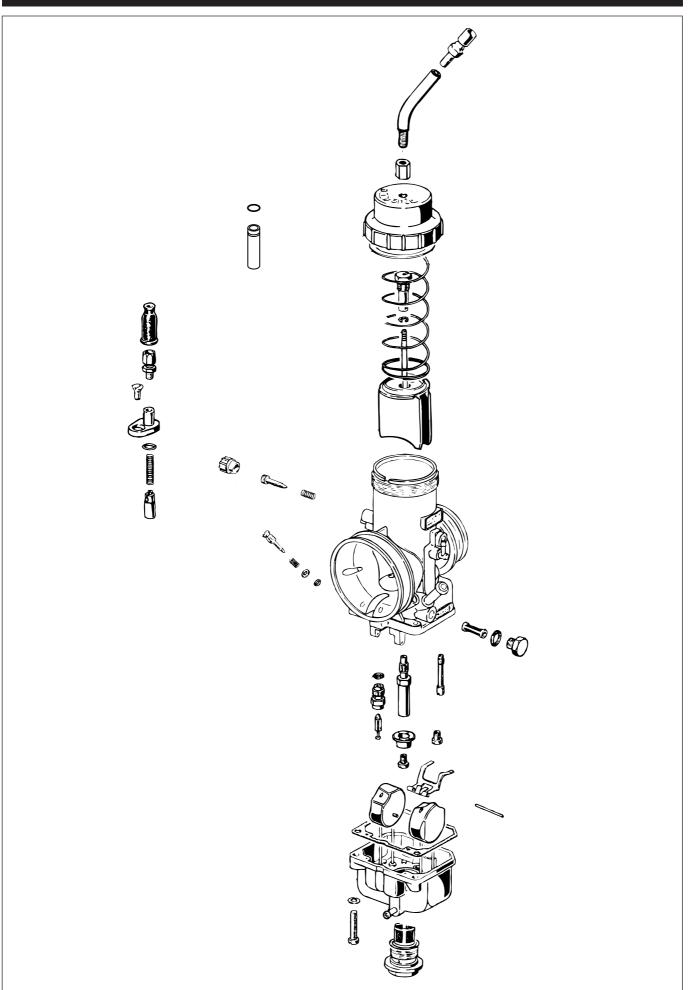
- Position the baffle 6 and fasten it with the main jet holder 6. Mount and tighten the main jet 0. Mount and tighten the starting jet 6. Mount the return value 6.
- \_
- \_
- \_



Check the O-ring **(**) in the float chamber for proper fit.

- Position the float chamber and fasten it with the plug **1**. Do not \_ forget the seal ring.

## CARBURETOR – DELL'ORTO VHSB 38 QS



#### Disassembling the carburetor (Dell'Orto VHSB 38 QS)

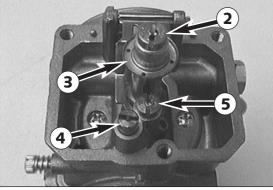
NOTE: Before commencing to disassemble the carburetor make sure that your workplace is clean and large enough to properly arrange all carburetor components before you.

- Open the cap and pull the carburetor cover out of the carburetor together with the throttle slide.
- Wrap the throttle slide in a clean piece of cloth and put it onto the air filter box.
- Undo the screw and pull the entire cold-starting device out of the carburetor.
- Remove the three screws **1** and take off the float chamber together with the gasket.
- Take the two floats out of the carburetor. Take the perforated bushing off the baffle. \_

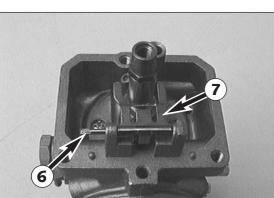
Remove the main jet  $\boldsymbol{2}$  and the baffle  $\boldsymbol{3}$ .

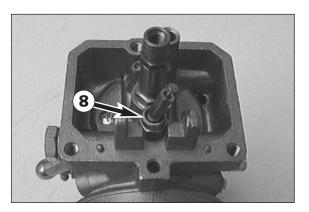
Twist out the starting jet  $\boldsymbol{4}$  and the idling jet  $\boldsymbol{5}$ .

\_



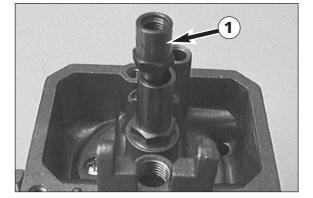
- Pull out pin 0 and remove the float arm 0.

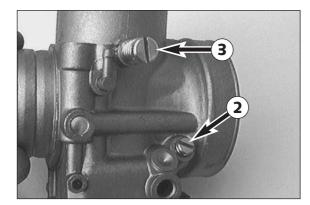




Remove the entire needle valve <sup>(3)</sup> together with the seal ring behind.

#### 8-22D

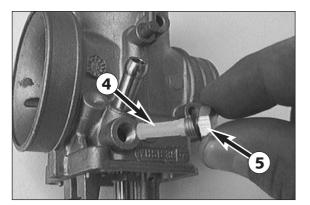




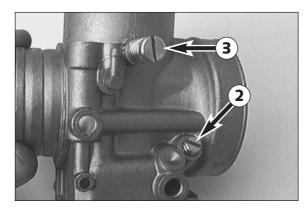
 Twist the mixture adjusting screw ② clockwise all the way in, counting and writing down the number of twists. Twist out the mixture regulating screw and remove it together with the spring, the washer and the O-ring.

Twist out the needle jet ①.

- Twist the adjusting screw **③** clockwise all the way in, counting and writing down the number of twists. Twist out the adjusting screw and remove it together with the spring.

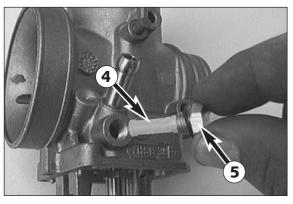


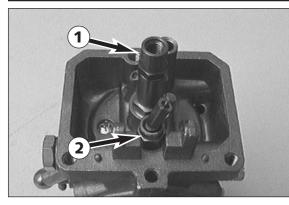
- Remove plug **5** together with the seal ring and take off the fuel filter **4**.
- Clean all jets and other components and blow them through with compressed air.
- Clean the carburetor housing and use compressed air to blow through all ducts within the carburetor.
- Check all gaskets for damage and exchange them, if necessary.



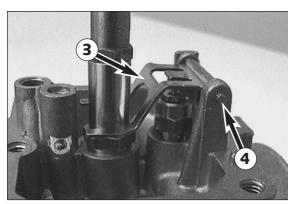
#### Assembling the carburetor (VHSB 38 QS)

- Put the spring, the washer and the O-ring onto the mixture adjusting screw ② and twist the mixture adjusting screw all the way in.
- Twist out the mixture adjusting screw, applying the same number of twists previously written down during the disassembly of the device.
- Put the spring, the washer and the O-ring onto the adjusting screw
   and twist the adjusting screw all the way in.
- Twist out the adjusting screw, applying the same number of twists previously written down during the disassembly of the device.
- Insert the fuel filter ④ into the plug ⑤ and mount the plug together with the seal ring.



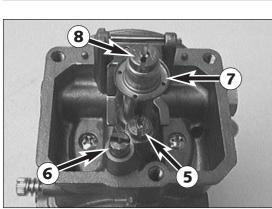


- Mount the needle jet ①.
  Insert the seal ring into the carburetor bore and mount the needle valve ②.



- Position the float arm 0 and mount pin 0.

- \_
- Mount the idling jet 0 and the starting jet 0. Position the baffle 0 and fasten it with the main jet 0.

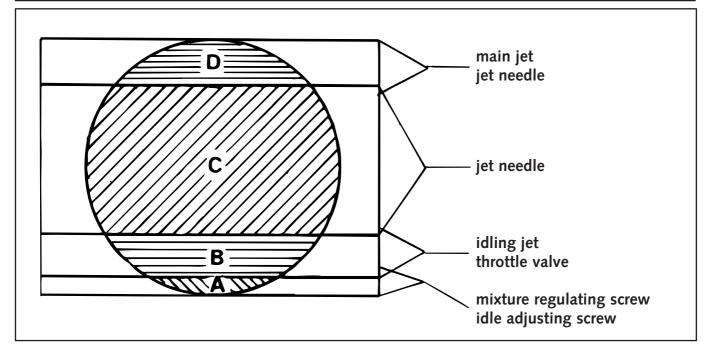


- 0 (10)

- Put the perforated bushing ③ onto the baffle and mount the gasket.

Insert the two floats 10 into the float chamber and mount the float \_ chamber.

8-24D



#### Idling range – A

Operation with closed throttle valve. This range is influenced by the position of the air control screw ① and the idle adjusting screw ②. Idling adjustment of the carburetor strongly affects the engine's starting behavior. That is, an engine whose idling speed is adjusted correctly will be easier to start than one whose idling speed has not been adjusted correctly.

The throttle stop screw is used to adjust the basic position of the throttle. The mixture control screw is used to control the idle mixture which arrives at the engine via the idle system. Turning it clockwise will reduce the amount of gasoline (lean mixture), turning it counterclockwise will increase the amount of gasoline (rich mixture).

TO ADJUST IDLING CORRECTLY, PROCEED AS FOLLOWS:

- 1 Turn in mixture control screw up to the stop, and turn it back out by 1.5 turns
- 2 Warm up the engine
- 3 Use throttle stop screw to adjust normal idling speed (1400-1500 r.p.m.)
- 4 Turn mixture control screw slowly clockwise until idling speed starts to decrease. Memorize this position, and turn mixture control screw slowly counterclockwise until the idling speed will decrease again. Adjust the point of the highest idling speed between these two positions. (The highly competitive user will make his adjustment 1/4 turn leaner because his engine will heat up more in competitive use).

NOTE: If you fail to obtain a satisfying result by following the procedure described above, an incorrectly dimensioned idling nozzle may be the cause. In case:

a) the mixture control screw has been screwed in up to the stop without causing any change in rotational speed, a smaller idling jet has to be installed;

b) the engine dies when the mixture control screw is still open by 2 turns, a larger idling jet needs to be selected;

Naturally, in cases of jet changes, you have to start your adjusting work from the beginning.

- 5 Now, use the slide stop screw to adjust the desired idling speed
- 6 In cases of greater changes in outside temperature and extremely different altitudes, the idling speed should be readjusted.

#### Opening up – B

Engine behavior when the throttle opens. The idle jet and the shape of the throttle valve influences this range. If, despite good idling-speed and part-throttle setting, the engine sputters when the throttle is fully opened and develops its full power not smoothly but suddenly at high engine speeds, the mixture to the carburetor will be too rich, the fuel level too high or the float needle is leaking.

#### Part-throttle range – C

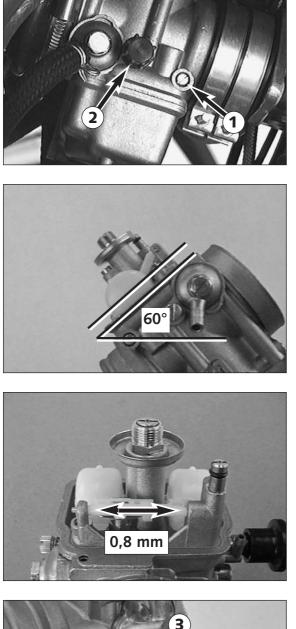
Operation with partly open throttle valve. This range is only influenced by the jet needle (shape and position). The optimum partthrottle setting is controlled by the idling setting in the lower range and by the main jet in the upper range.

#### Full throttle range – D

Operation with the throttle fully open (flat out). This range is influenced by the main jet and the jet needle. If the porcelain of the new spark plug is found to have a very bright or white coating after a short distance of riding flat out, a larger main jet is required. If the porcelain is dark brown or black with soot the main jet must be replaced by a smaller one.

#### Basic information on carburetor wear

As a result of engine vibrations, throttle valve, jet needle, and needle jet are subjected to increased wear. This wear may cause carburetor malfunction (e.g., overly rich mixture). Therefore, these parts should be replaced after 10000 kilometers (6000 miles).



Mixture too rich: Too much fuel in proportion to air

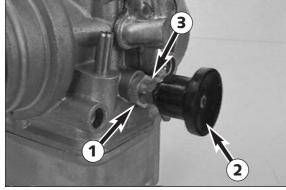
Mixture too lean: Not enough fuel in proportion to air

### Check float level (Dell'Orto PHM 38ND / 40SD)

Stand the carburettor diagonally at about  $60^{\circ}$  so that the spring in the float needle valve is not pressed together. In this position, the edge of the float should be parallel with the float bowl sealing surface (see illustration).

### Checking axial play of float (Dell'Orto PHM 38ND / 40SD)

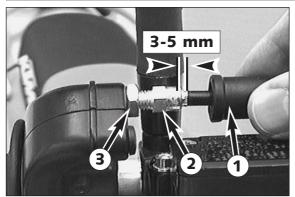
For proper functioning of the float, there must be an axial play of 0.8 mm (0,03 in). If necessary, slightly abrade and deburr lateral float guide.



### Adjust hot start device (Dell'Orto PHM 40SD)

If the hot start button was removed when cleaning the carburetor, readjust the hot start device.

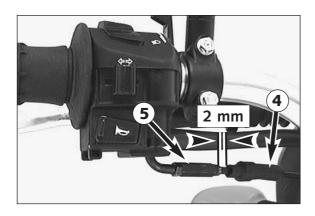
Install carburetor and adjust idling as discribed above. Then unlock nut ●, press in hot start device ② and adjust engine rev with adjusting screw ③ to 2000-2500 rpm. Tighten locking nut.



### Adjusting the throttle cable

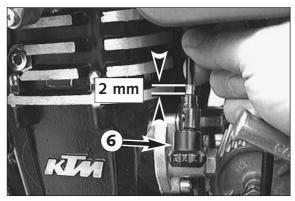
There must always be a 3-5 mm (0.1-0.2 in) play in the throttle cable. To check this, move back the protective cover ① on the throttle grip. You must be able to lift the outer covering of the cable 3-5 mm from the adjusting screw ②, until resistance is felt.

To adjust, loosen the counter nut **③** and turn the adjusting screw accordingly. Finally tighten counter nut and slide the protective cover back on.



### Adjusting the choke cable

At the choke cable, there must always exist a play of approx. 2 mm (0.1 in). To check this, push choke lever fully forward and pull protective cover **④** from the adjuster piece **⑤**. Now, it must be possible to lift the outer covering of the cable by approx. 2 mm from the adjuster piece until feeling a resistance. If necessary, loosen counter nut and readjust play by turning the adjuster piece. Tighten counter nut, and slide on protective cover.



### Adjusting the choke cable

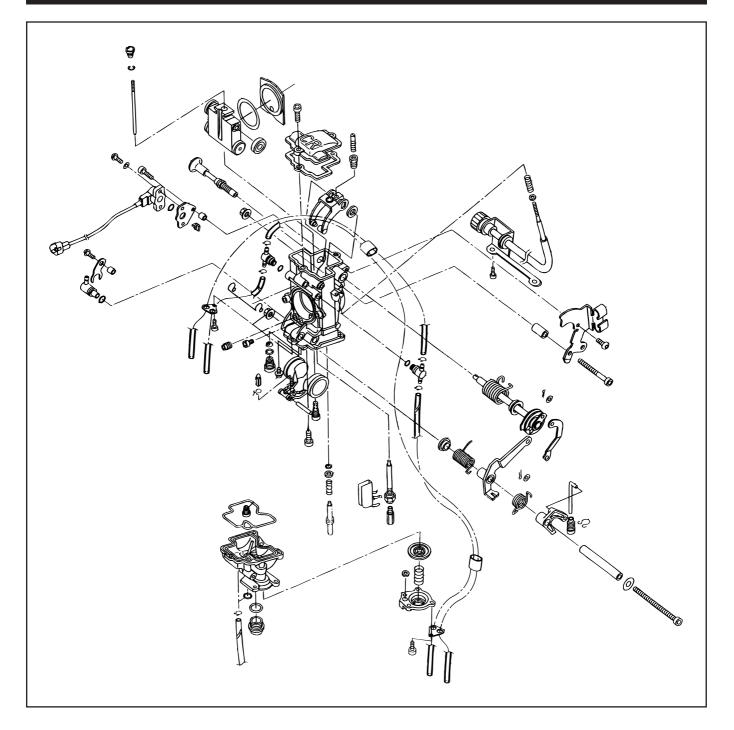
The choke cable must have a play of approximately 2 mm at all times. To check the play turn the knob 0 into the initial position. Now it should be possible to lift the exterior case of the choke cable approximately 2 mm from the supporting surface of the choke knob before the upward movement is blocked by resistance.

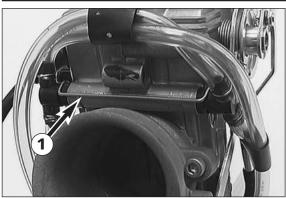


To adjust, remove the seat and the gastank, push the protective cover upwards, loosen the counter nut and turn the adjustment screw O accordingly. Turn the adjustment screw clockwise for more play or anticlockwise for less play.

Tighten the counter nut, replace the protective cover and mount the gas-tank and the seat.

# **CARBURATOR - KEIHIN FCR 41**



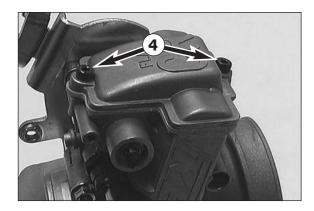


### Disassembling the carburetor

NOTE: Before you start disassembling the carburetor, you should look for a clean work place. It should offer you enough space to lay out all individual components of the carburetor in perfect order.

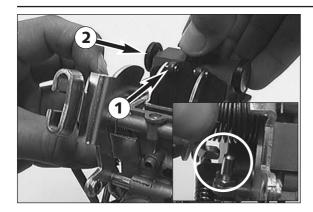
- Dismount the carburetor and remove any coarse dirt.

- Remove the wire clip and pull the ventilation hoses out of the carburetor.
- Disconnect the hose 2.
- Loosen the 2 screws  $\ensuremath{\mathfrak{S}}$  and dismount all ventilation hoses from the carburetor.



- Remove the 2 screws ④ and dismount the slide cover together with its gasket.

- Remove the screw ③ and take the jet needle out of the throttle valve.
  Remove the screw ⑤.



- Now, pull the cable disc approx. 5 mm outward and turn it until the throttle valve can be lifted out of the carburetor and detach the rollers **1** at the throttle valve.
- Take the throttle valve together with the 4 rollers 2 and the valve paddle out of the carburetor.

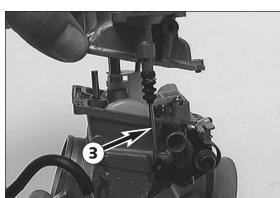
NOTE: When you turn the cable disc, it must not be blocked by the stop bolt (see photo). Otherwise, pull the shaft further outward.



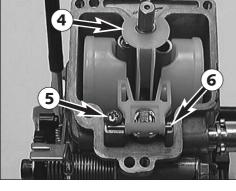
Turn the carburetor around, remove the 3 screws and remove the cover of the accelerator pump.

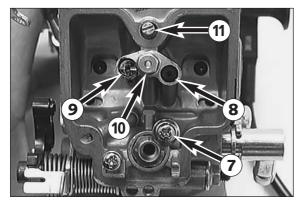
NOTE: When dismounting the cover, watch out for the spring and the sealing rings as they may get lost easily.

- Remove the 2 sealing rings, the spring and the diaphragm from the pump housing.
- Remove the screw and dismount the float chamber.
- Unhitch the push rod **③** of the accelerator pump and dismount it.



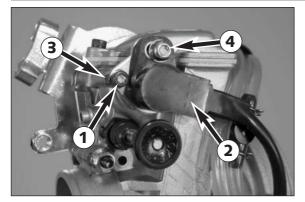
- - Take the plastic part **4** off the needle jet. \_ Loosen the screw 6, pull out the float hinge pin 6 and dismount the float together with the float needle valve.





- Remove the screw **1** and use pliers to carefully extract the seat of the float needle valve from the carburetor.
- Turn out the idling jet 3, the starting jet 3 and the needle jet together with the main jet  $\mathbf{0}$ .
- Turn in the mixture control screw  ${\rm I}\!{\rm O}$  down to the stop, count the number of turns and write it down.
- Turn out the mixture control screw and dismount it together with the spring, the washer, and the O-ring.

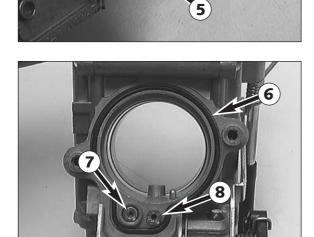
NOTE: The spring, the washer, and the O-ring will usually remain in the bore. These parts can be removed with the help of compressed air.



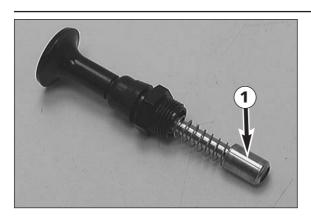
Remove the screw ① and dismount the throttle-valve sensor ②.
 When unfastening the screw, be sure to watch out for the bushing ③.

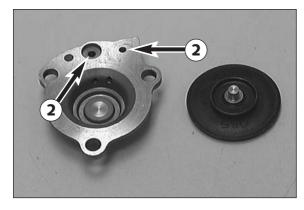
NOTE: To dismount the throttle-valve sensor, always remove the screw ①. After the screw ② was loosened, the throttle-valve sensor must be adjusted again.

- Remove the screw and the clip together with the bushing and pull the connection piece **G** out of the carburetor.



- Remove the 2 screws and take the intake trumpet together with the O-ring <sup>(i)</sup> off the carburetor.
- Unscrew the idle-air jet  $\boldsymbol{0}$  and the main air jet  $\boldsymbol{0}$ .
- Thoroughly clean all jets and other parts and blow compressed air through them.
- Clean the carburetor housing and blow compressed air through all ducts in the carburetor.
- Check all gaskets for damage and, if necessary, replace them.







Checking the choke slide

marks or deposits.

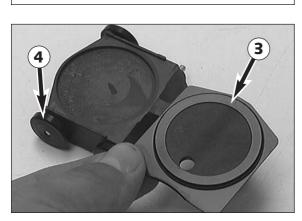
It must be easy to actuate the choke slide.

The piston **1** of the choke slide must not have any pronounced score

Checking the accelerator pump Check the membranes for cracking or brittleness. Check gaskets for damage. Check if the bores **2** are unobstructed.

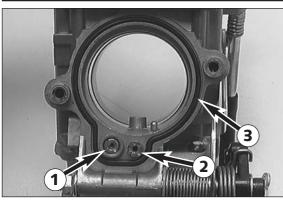
Checking the jet needle Check the jet needle for bending and wear.

**Checking the float needle valve** Check the sealing surface of the needle valve for notches. There must not be any dirt between valve seat and float needle.



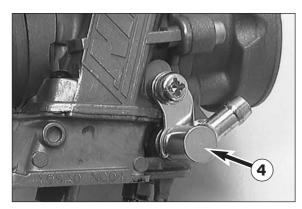
## Checking the throttle valve

Check the throttle valve paddles ③ for damage. The rollers ④ at the throttle valve must be easy to turn and must not have any flat spots.



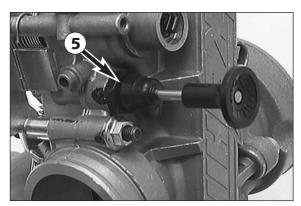
### Assembling the carburetor

- Mount the idle-air jet **1** and the main air jet **2**. Place the O-ring **3** in the groove and secure the intake trumpet to \_ the carburetor by means of the 2 screws.

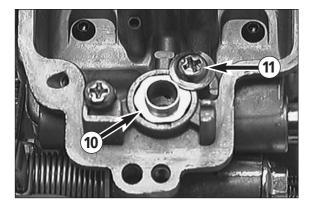


- Insert the fuel connection 4 into the carburetor and secure it with the clip.

NOTE: In the mounted state, the connection piece must be easy to turn.



Mount the choke slide 6 and actuate it several times, checking \_ whether it can be moved smoothly. Besides, check whether the choke locks properly.



- Thread the spring, the washer and the O-ring onto the mixture control screw 6 and screw the mixture control screw in as far as it will go.
- Now, unscrew the mixture control screw the number of turns written down during disassembly.

NOTE: Basic setting see technical spezifications.

- Mount idling jet  $\mathbf{0}$ , starting jet  $\mathbf{0}$  and needle jet together with main \_ jet 🛛.
- Insert the needle jet **1** into bore and secure it by means of the screw \_ 0.

- Position the float, mount the float hinge pin and secure it by means of the screw.
- Check the float level.
- Stick the plastic component  $oldsymbol{0}$  on the needle jet.



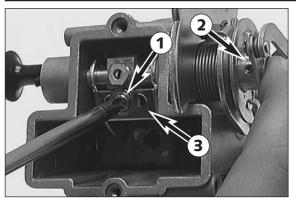
Engage the push rod ② of the accelerator pump at the lever.

Mount the float chamber and at first secure it with only 1 screw.
 When positioning the float chamber, make sure that the push rod ② of the accelerator pump slides into the bore.

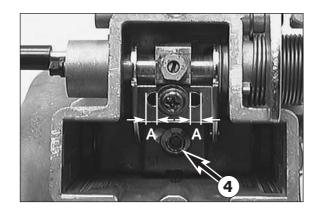
- Place the membrane 
   with the labeling facing upwards and the spring into the pump housing.
- Place the O-ring I into the groove. Secure the sealing ring I with some grease in the cover and fasten the cover by means of 3 screws.

- Turn the cable disc and push the throttle valve into the carburetor such that the rollers 
   • engage the throttle valve (see photo). Push the throttle valve all the way into the carburetor.
- Turn the cable disc several times and while doing so check whether the throttle valve moves smoothly.





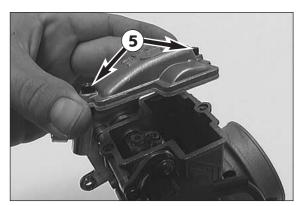
- Coat the thread of the screw **①** with Loctite 243 and mount the screw, however, do not tighten it yet.
- Push the slide pin ② inward. At the same time, push the slide lever
  ③ to the extreme right and tighten the screw ①.



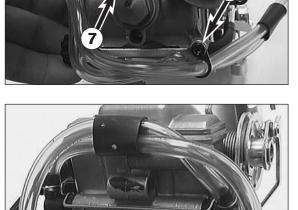
- Now, the distances 

   on the left and on the right should be identical. Then, turn the cable disc and check if the throttle valve moves smoothly.
- Mount the jet needle and secure it with the screw 4.

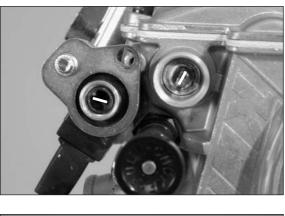
- Position the slide cover together with its gasket and fasten it by means of the 2 screws **⑤**.

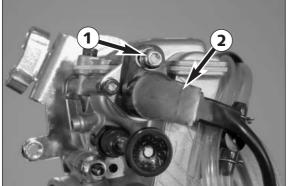


- Secure the ventilation hoses with the 2 screws (6) of the float chamber and connect the hose (7).

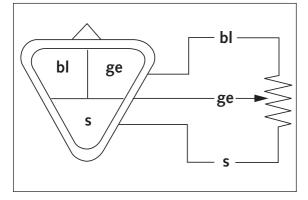


- Insert the 2 hose connections into the bores and fasten them with the retaining clip **③**.









### Adjusting the position of the throttle valve sensor

secure it by means of the screw.

NOTE: Before checking the position of the throttle valve sensor, you have to adjust the idle speed correctly.

Mount the throttle valve sensor such that the flat spot at the carburetor engages the groove of the throttle valve sensor and

- Disengage the plug-and-socket connection of the throttle valve sensor.
- Connect a multimeter (measuring range  $\Omega \times 1k$ ) to the **blue** (+) and the **black** (-) cable of the throttle valve sensor and measure the throttle valve resistance.
- Now, multiply this value by 0.15. This yields the adjustment value for the throttle valve sensor.

Example: throttle valve sensor resistance (bl/s) = 5 k $\Omega$ 

throttle valve sensor resistance (ge/s) =  $5 \text{ k}\Omega \times 0.15 = 750 \ \Omega \pm 50 \ \Omega$ 

- Connect the multimeter (measuring range  $\Omega x100$ ) to the **yellow** (+) and the **black** (-) cable of the throttle valve sensor and measure the throttle valve sensor resistance with the throttle grip closed. According to the above example, this value should be 750  $\Omega \pm$  50  $\Omega$ .
- If the value measured does not correspond to the desired value, loosen the screw **1** and turn the throttle valve sensor **2** until the instrument displays the desired value.
- Secure the throttle valve sensor in this position by fastening the screw and check the value once more.
- Connect the throttle valve sensor to the wiring harness.

8-36D

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### Checking the throttle valve sensor

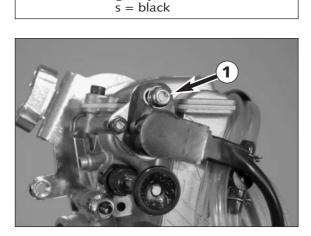
NOTE: The following measurement must be taken at a component temperature of approx. 20°C.

- Open the plug-and-socket connection of the throttle valve sensor.
- Connect a multimeter (measuring range  $\Omega \times 1k$ ) to the **blue (+)** and the **black (-)** cable of the throttle valve sensor.

throttle valve sensor resistance: 4 - 6 k $\Omega$ 

- Now, connect the multimeter to the **yellow (+)** and the **black (-)** cable of the throttle valve sensor.
- As you open the throttle grip slowly, the resistance must change evenly.

throttle valve sensor resistance: 0-5 k $\Omega~\pm 1~k\Omega$  (while opening the throttle grip)

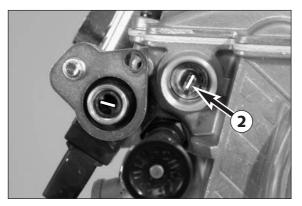


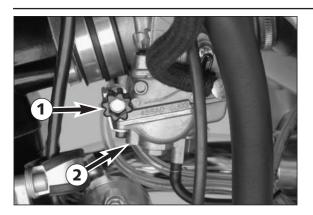
bl = blue ge = yellow

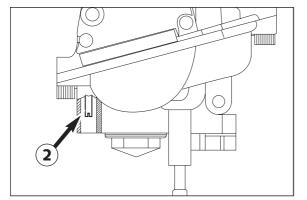
### Dismounting and installing the throttle valve sensor

- Disconnect the plug-and-socket connection of the throttle value sensor and remove the bolt  $\mathbf{0}$ .
- Take the throttle valve sensor off the carburetor.

- When mounting the throttle valve sensor, make sure that the flat spot at the throttle valve pin ② engages the groove on the throttle valve sensor.
  - Mount the bolt, however, do not yet tighten fully and adjust the position of the throttle valve sensor. Secure the bolt with Loctite 243.







### Adjust idling

Idling adjustment of the carburetor strongly affects the engine's starting behavior. That is, an engine whose idling speed is adjusted correctly will be easier to start than one whose idling speed has not been adjusted correctly.

The idle speed is controlled by means of the adjusting wheel ① and the mixture control screw ②. The adjusting wheel is used to adjust the basic setting of the slide. The mixture control screw is used to control the idle mixture which arrives at the engine by way of the idle system. Clockwise turning reduces the fuel quantity (lean mixture), counterclockwise turning increases the fuel quantity (rich mixture).

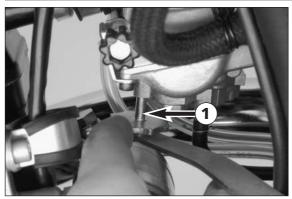
TO ADJUST IDLING CORRECTLY, PROCEED AS FOLLOWS:

- 1 Turn in mixture control screw ② up to the stop, and turn it back out to the basic position (see technical data engine)
- 2 Warm up the engine
- 3 Use the adjusting wheel **1** to set the normal idle speed (1400 1500 rpm).
- 4 Turn mixture control screw **②** slowly clockwise until idling speed starts to decrease. Memorize this position, and turn mixture control screw slowly counterclockwise until the idling speed will decrease again. Adjust the point of the highest idling speed between these two positions. If, in the course of this procedure, the speed undergoes a relatively high increase, reduce the idle speed to a normal level and repeat the procedure specified in 4. Serious competitive racers will choose a setting approx. 1/4 turn (clockwise) leaner than this ideal value because their engine will heat up more when used in competitions.

NOTE: If you fail to obtain a satisfying result by following the procedure described above, an incorrectly dimensioned idling nozzle may be the cause.

a) If the mixture control screw has been screwed in up to the stop without causing any change in rotational speed, a smaller idling jet has to be installed;

- b) If the engine dies when the mixture control screw is still open by 2 turns, a larger idling jet needs to be selected;
- Naturally, in cases of jet changes, you have to start your adjusting work from the beginning.
- 5 Then, use the adjusting wheel to set the desired idle speed.
- 6 In cases of greater changes in outside temperature and extremely different altitudes, the idling speed should be readjusted.

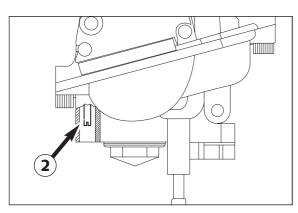


### Adjusting the mixture control screw

The mixture control screw is difficult to reach. For this reasons, we have created an appropriate special tool 590.29.034.000.

Introduce the special tool into the bore at the carburetor bottom. Press the tool slightly upward and turn the adjusting wheel ① until the tool engages the slot of the mixture control screw ②.

Now, you can go about adjusting the screw. Marks were provided on the adjusting wheel, making it easier to keep track of the turns.



# 

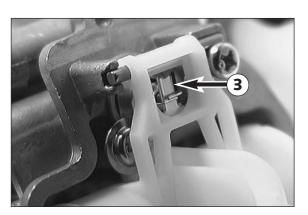
### Checking the float level (float height)

For this purpose, dismount the carburetor and remove the float chamber. Hold the carburetor in a slanted position such that the float will abut the float needle valve but not compress it (see photo).

Now, use a sliding caliper to measure the distance **(1)** between the casing edge and the float's upper edge.

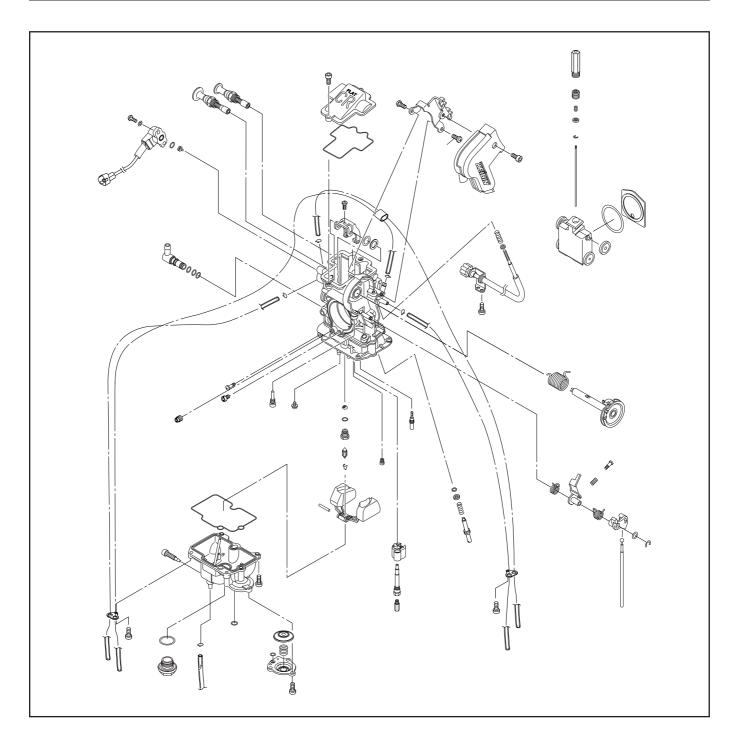
The float height ① is to be 9 mm. If the float height does not correspond to the desired value, check the

float needle valve and, if necessary, replace it.

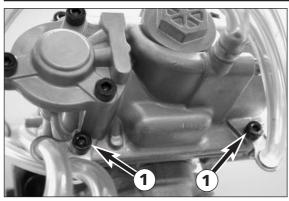


If the float needle valve is correct, you can adjust the float height by bending of the float lever  $\Im$ .

Mount the float chamber, install the carburetor, and adjust the idle speed.



2



2

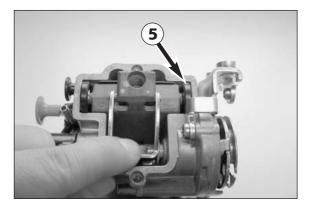
## Disassembling the carburetor Keihin FCR - MX 41

NOTE: Before you start disassembling the carburetor, you should look for a clean workplace. It should offer you enough space to lay out all individual components of the carburetor in perfect order.

- Dismount the carburetor and remove any coarse dirt.
- Loosen both bolts **1** and remove all of the vent hoses from the carburetor.
- Remove both bolts ② and remove the slide cover and gasket from the carburetor.

- Remove screw ③ and pull the jet needle out of the throttle slide.
  Remove screw ④.

- Pull the throttle slide arm up and take the throttle slide roller **6** and the slide shim out of the carburetor.



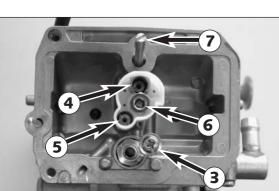


Turn the carburetor around, remove the 3 screws and remove the \_ cover of the accelerator pump.

NOTE: When dismounting the cover, watch out for the spring and the sealing rings as they may get lost easily.

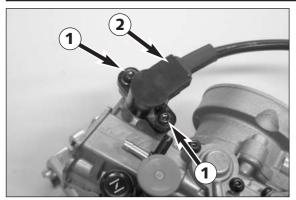
- Remove the 2 sealing rings, the spring and the diaphragm from the pump housing.
- Remove the screws on the float chamber and remove the housing.

- Pull out the float hinge pin 1 and remove the float together with the float needle valve.
- Remove the main jet **2**.



- Remove the screw ③ and use pliers to carefully extract the seat of the float needle valve from the carburetor.
- Screw out the idling jet **4**, the starting jet **5** and the needle jet **6**.
- Turn in the mixture control screw  $\boldsymbol{O}$  down to the stop, count the number of turns and write it down.
- Turn out the mixture control screw and dismount it together with the spring, the washer, and the O-ring.

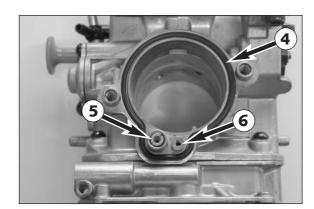
NOTE: The spring, the washer, and the O-ring will usually remain in the bore. These parts can be removed with the help of compressed air.



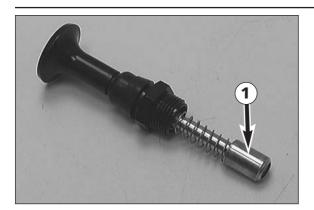
- Remove bolts **1** and the throttle sensor **2**.

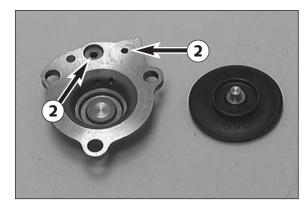
NOTE: the throttle sensor should only be dismounted if defective. If the bolts ① are loosened, the throttle sensor must be adjusted again.

- Remove screw ③ and pull the connecting piece out of the carburetor.



- Remove the 2 screws and take the intake trumpet together with the O-ring ④ off the carburetor.
- Unscrew the idle-air jet **③** and the main air jet **⑤**.
- Thoroughly clean all jets and other parts and blow compressed air through them.
- Clean the carburetor housing and blow compressed air through all the ducts in the carburetor.
- Check all gaskets for damage and, if necessary, replace them.







### Checking the choke slide and hot start knob Choke slide:

The choke slide must be easy to actuate . The piston  ${\rm lash}$  of the choke slide must not have any pronounced score marks or deposits.

## Hot start knob:

The hot start knob must be easily actuated. The piston on the hot start knob may not have any scores or deposits.

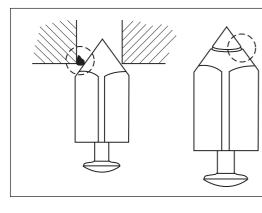
### Checking the accelerator pump

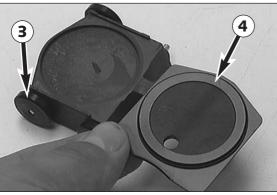
Check the membranes for cracking or brittleness. Check gaskets for damage. Check if the bores **2** are unobstructed.

**Checking the jet needle** Check the jet needle for bending and wear.

### Checking the float needle valve

Check the sealing surface of the needle valve for notches. There must not be any dirt between the valve seat and the float needle.

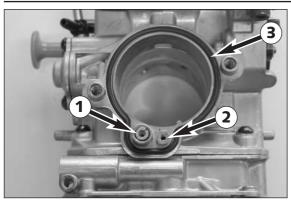




### Checking the throttle valve

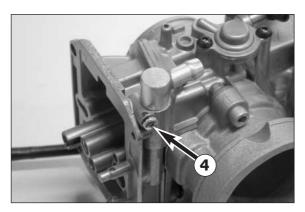
The rollers ③ at the throttle valve must be easy to turn and must not have any flat spots. Check the throttle valve paddles ④ for damage.

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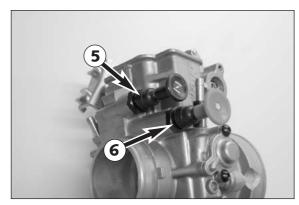
### Assembling the carburetor Keihin FCR-MX 41

- Mount the idle-air jet **1** and the main air jet **2**.
  Place the O-ring **3** in the groove and secure t
- Place the O-ring **()** in the groove and secure the intake trumpet to the carburetor by means of the 2 screws.

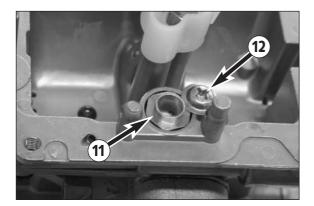


- Insert the fuel port in the carburetor and fix with screw 4.

NOTE: In the mounted state, the connection piece must be easy to turn.



Mount the choke slide <sup>(5)</sup>, the hot start knob <sup>(6)</sup> and actuate several times, checking for smooth operation. Also make sure the choke and the hot start knob lock into place.



- Now, unscrew the mixture control screw the number of turns written down during disassembly.

NOTE: See the Technical Specifications for the basic carburetor setting.

- Mount idling jet <sup>(3)</sup>, starting jet <sup>(9)</sup> and needle jet together with main jet <sup>(0)</sup>.
- Insert the needle valve seat  $\mathbf{0}$  in the bore and fix with screw  $\mathbf{0}$ .

Mount the float chamber and the gasket, position the bracket for the \_ adjustment screw 2 and fix the float chamber with the screws 3.

NOTE: When positioning the float chamber, make sure that the push rod **4** of the accelerator pump slides into the bore.

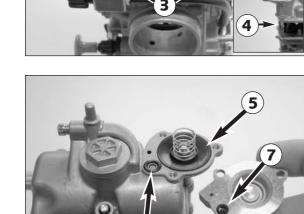
- Place the membrane **6** with the labeling facing upwards and the spring into the pump housing.
- Place the O-ring O into the groove. Secure the sealing ring O with some grease in the cover and fasten the cover by means of 3 screws.

- Mount the throttle valve sensor such that the flat spot at the carburetor engages the groove of the throttle valve sensor and secure it by means of the bolt.

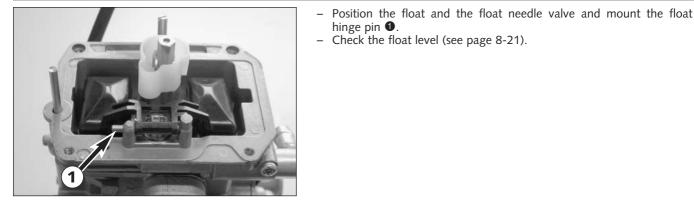
- Pull up the throttle slide arm, push the throttle slide together with roll 0 and the slide shim into the carburetor so that the rolls 0\_ engage in the throttle slide (see illustration).
- Check the throttle slide for smooth operation.

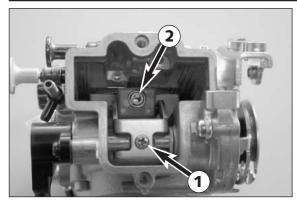
Repair manual KTM LC4

- Art.-Nr. 3.206.006 -E

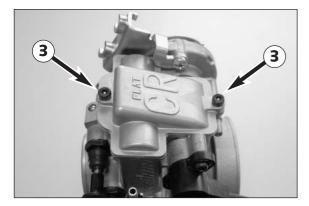


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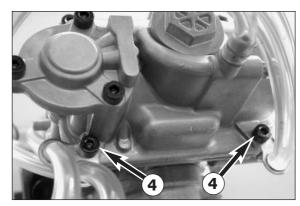




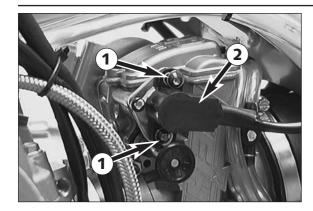
- Apply Loctite 243 to the screw **1** and tighten.
  Mount the jet needle and fix with the screw **2**.



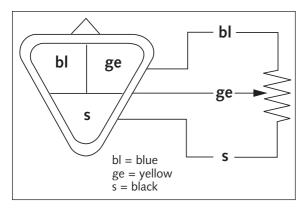
- Position the slide cover with the gasket and fasten with the 2 screws  $\ensuremath{\mathfrak{S}}$ .



- Fix the vent hoses on the float chamber with the 2 bolts ④.







### Adjusting the position of the throttle valve sensor

NOTE: Before checking the position of the throttle valve sensor, you have to adjust the idle speed correctly.

- Disengage the plug-and-socket connection of the throttle valve sensor.
- Connect a multimeter (measuring range  $\Omega \times 1k$ ) to the **blue** (+) and the **black** (-) cable of the throttle valve sensor and measure the throttle valve resistance.
- Now, multiply this value by 0.15. This yields the adjustment value for the throttle valve sensor.

Example:

Throttle valve sensor resistance (bl/s) =  $5k\Omega$ 

Throttle valve sensor resistance (ge/s) =  $5 \text{ k}\Omega \times 0.15 = 750 \ \Omega \pm 50 \ \Omega$ 

- Connect the multimeter (measuring range  $\Omega x100$ ) to the **yellow (+)** and the **black (-)** cable of the throttle valve sensor and measure the throttle valve sensor resistance with the throttle grip closed. According to the above example, this value should be  $750\Omega \pm 50\Omega$ .
- If the value measured does not correspond to the desired value, loosen the 2 bolts **①** and turn the throttle valve sensor **②** until the instrument displays the desired value.
- Secure the throttle valve sensor in this position by fastening the bolts and check the value once more.
- Connect the throttle valve sensor to the wiring harness.

8-48D

bl

ς

ge

bl = blue ge = yellow s = black



bl

ge

ς

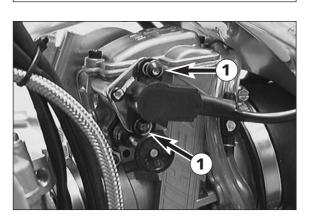
### Checking the throttle valve sensor

NOTE: The following measurement must be taken at a component temperature of approx. 20°C.

- Open the plug-and-socket connection of the throttle valve sensor.
- Connect a multimeter (measuring range  $\Omega \times 1k$ ) to the **blue (+)** and the **black (-)** cable of the throttle valve sensor.

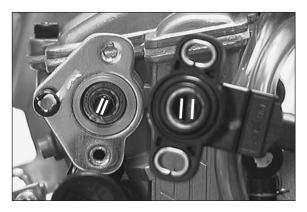
Resistance of throttle valve sensor: 4 - 6 k $\Omega$ 

- Now, connect the multimeter to the **yellow** (+) and the **black** (-) cable of the throttle valve sensor.
- As you open the throttle grip slowly, the resistance must change evenly.

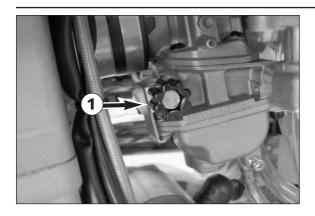


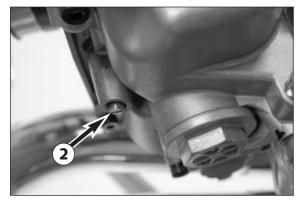
### Dismounting and installing the throttle valve sensor

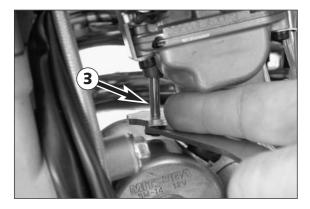
- Disconnect the plug-and-socket connection of the throttle value sensor and remove the bolts  ${\color{black} \bullet}.$
- Take the throttle valve sensor off the carburetor.

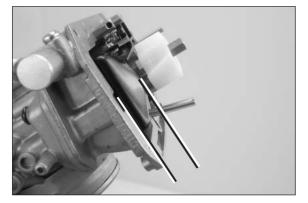


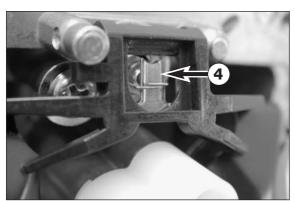
- When mounting the throttle valve sensor, make sure that the flat spot at the throttle valve pin engages the groove on the throttle valve sensor.
- Mount the 2 bolts, however, do not yet tighten them fully and adjust the position of the throttle valve sensor. Secure the 2 bolts with Loctite 243.











### CARBURETOR – Adjust idling (Keihin FCR-MX 41)

Idling adjustment of the carburetor strongly affects the engine's starting behavior. That is, an engine whose idling speed is adjusted correctly will be easier to start than one whose idling speed has not been adjusted correctly.

The idle speed is controlled by means of the adjusting wheel ① and the mixture control screw ②. The adjusting wheel is used to adjust the basic setting of the slide. The mixture control screw is used to control the idle mixture which arrives at the engine by way of the idle system. Clockwise turning reduces the fuel quantity (lean mixture), counterclockwise turning increases the fuel quantity (rich mixture).

TO ADJUST IDLING CORRECTLY, PROCEED AS FOLLOWS:

- 1 Turn in mixture control screw ② up to the stop, and turn it back out to the basic position (see technical date-engine)
- 2 Warm up the engine
- 3 Use the adjusting wheel 1 to set the normal idle speed (1400 1500 rpm).
- <sup>4</sup> Turn mixture control screw <sup>2</sup> slowly clockwise until idling speed starts to decrease. Memorize this position, and turn mixture control screw slowly counterclockwise until the idling speed decreases again. Adjust the point of the highest idling speed between these two positions. If, in the course of this procedure, the speed undergoes a relatively high increase, reduce the idle speed to a normal level and repeat the procedure specified in 4. Serious competitive racers will choose a setting approx. 1/4 turn (clockwise) leaner than this ideal value because their engine will heat up more when used in competitions.

NOTE: If you fail to obtain a satisfying result by following the procedure described above, an incorrectly dimensioned idling nozzle may be the cause. If:

a) the mixture control screw has been screwed in up to the stop without causing any change in rotational speed, a smaller idling jet has to be installed;

b) the engine dies when the mixture control screw is still open by 2 turns, a larger idling jet needs to be selected.

Naturally, in cases of jet changes, you have to start your adjusting work from the beginning.

- Then, use the adjusting wheel to set the desired idle speed.
- 6 In cases of greater changes in the outside temperature and extremely different altitudes, the idling speed should be readjusted.

### Basic information on carburetor wear

As a result of engine vibrations, the throttle valve, jet needle, and needle jet are subjected to increased wear. This wear may cause the carburetor to malfunction (e.g., overly rich mixture). Therefore, these parts should be replaced after 200 hours.

### Adjusting the mixture control screw

Especially on the EXC models, accessing the mixture control screw is difficult. For this reasons, we have created an appropriate special tool.

Introduce the special tool on the mixture control screw @ at the carburetor bottom. Press the tool slightly upward and turn the adjusting wheel ③ until the tool engages the slot of the mixture control screw. Now, you can go about adjusting the screw. Marks were provided on the adjusting wheel, making it easier to keep track of the turns.

### Checking the float level (float height)

For this purpose, dismount the carburetor and remove the float chamber. Hold the carburetor in a slanted position such that the float will abut the float needle valve but not compress it.

In this position, the edge of the float should be parallel with the float chamber sealing surface (see illustration).

If the float height does not correspond to the desired value, check the float needle valve and, if necessary, replace it.

If the float needle valve is o.k., you can adjust the float height by bending the float lever  $\mathbf{Q}$ .

Mount the float chamber, install the carburetor, and adjust the idle speed.

# **TROUBLE SHOOTING**

INDEX

TROUBLE SHOOTING (SX, SXC, SC, SMC)	
TROUBLE SHOOTING (LC4 COMPETITION)	
TROUBLE SHOOTING (LC4)	

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# TROUBLE SHOOTING – SX, SXC, SC, SMC

TROUBLE	CAUSE	REMEDY
Engine will not start	Operating error	Switch on ignition, switch on emergency OFF switch, open fuel tap, tank fuel, do not use choke i.e. the hotstart device. Pay attention to starting off information (see driving instructions).
	Fuel supply interrupted	Close fuel tap, loosen fuel hose at carburettor, lead into a basin and open fuel tap, – if fuel leaks out, clean carburettor – if no fuel leaks out, check tank ventilation, i.e. clean fuel tap
	Flooded engine	See driving instructions
	Sooty or wet spark plug	Clean or replace spark plug
	Electrode gap too large	Adjust spark plug electrode gap to 0,6 mm
	Spark plug connector or spark plug faulty	<ul> <li>Dismount spark plug, connect ignition cable, hold to ground (blank place on engine) and actuate kickstarter, a strong spark must be produced at the spark plug</li> <li>If no spark is produced, loosen spark plug cap from ignition cable, hold about 5 mm from ground and actuate kickstarter</li> <li>If a spark now occurs, replace spark plug cap</li> <li>If no spark is produced, control ignition system</li> </ul>
	If connector oxidates from generator to ignition coil	Remove fuel tank, clean connector and treat with contact spray
	Short circuit cable scored in wiring harness, ignition lock, emergency OFF switch or short circuit button faulty	Remove fuel tank, draw off blue/black cable from orange cable of ignition coil and check spark. – If a spark is produced, seek fault in short circuit current
	The plug connection of the CDI- unit, the pulse generator or the ignition coil has oxydized	Remove the seat, the right side cover and the fuel tank. Clean the plug connection and treat it with contact spray
	Water in short emergency OFF switch	Remove 2-pole connector located underneath the headlight mask, treat emergency OFF switch with contact spray
	Water in carburettor or jets blocked	Dismount and clean carburettor
	Carburettor does not fit in properly at intake flange	Check if carburettor is fitted in correctly
Engine will not idle	Idling jet blocked	Dismount carburettor and clean jets
	Adjusting screws on carburettor uncorrect adjusted	Adjust carburettor
	Ignition system faulty	Check ignition system
Engine does not rev high	Carburettor fuel level too high because float needle valve is dirty or worn out	Dismount carburettor and check if worn out
	Loose carburettor jets	Tighten jets
	Electronical ignition timing faulty	Check ignition system

TROUBLE	CAUSE	REMEDY
Engine will not reach full power	Fuel supply partically interrupted or carburettor dirty	Clean and check fuel system as well as carburettor
	Float is not tight, or no axial play	Replace or abrade the float
	Air filter very dirty	Clean or replace air filter
	Exhaust leaking or blocked	Check if exhaust is damaged, replace glas fibre yarn in exhaust silencer
	Valve gap to small	Adjust valve gap
	Loss of compression because hand decompressor has no play	Check setting of the hand decompression cable
	Electronical ignition timing faulty	Check ignition system
Engine stops or splutters in carburettor	Insuffient fuel	Clean and check fuel system and carburettor
in carburettor	Engine takes air out of control	Check intake flange and carburettor if firmly setted
Engine gets to hot,	Insufficient cooling liquid	Refill cooling liquid (see maintenace work), check cooling system for leaks
	Not enough air stream	Drive on briskly
	Radiators very dirty	Clean radiators with water jet
	Foam formation in cooling system	Replace cooling liquid, use anti freeze liquid with brand name
	Bent cooling hose	Shorten or replace cooling hose
	Thermostat defective	Dismount and check thermostat (opening temperature 70° C, 158° F) or replace it
High oil consumption	Buckling gearing ventilation hose	Dislocate i.e. replace non-buckling vetilation hose
	Engine oil level too high	Check engine oil level when the engine is warm; correct if necessary
	Motor oil too thin (viscosity)	Use thicker engine oil; see chapter "Engine oil"
All switched on lamps blown out	Capacitor or voltage regulator faulty	Remove right side cover and control connections. Check capacitor and voltage regulator

# TROUBLE SHOOTING – LC4 COMPETITION

TROUBLE	CAUSE	REMEDY
Engine will not start	Operating error	Switch on ignition, switch on emergency OFF switch, open fuel tap, tank fuel, do not use choke i.e. the hotstart device. Pay attention to starting off information (see driving instructions).
	The motorcycle has been out of operation for a longer period of time. Therefore the float chamber is filled with old fuel.	The easily inflammable components of the new fuels evaporate during longer periods of standstill. When the motorcycle has been out of operation for more than a week, it is therefore recommended to drain the old fuel from the float chamber. The engine will immediately start off when the float chamber is filled with new fuel.
	Fuel supply interrupted	Close fuel tap, loosen fuel hose at carburetor, lead into a basin and open fuel tap, – if fuel leaks out, clean carburetor – if no fuel leaks out, check tank ventilation, i.e. clean fuel tap
	Flooded engine	Fully open the throttle when starting or replace the spark plug, respectively.
	Sooty or wet spark plug	Clean / dry or replace spark plug.
	Electrode gap too large	Adjust spark plug electrode gap to 0,7 mm
	Spark plug connector or spark plug faulty	<ul> <li>Dismount spark plug, connect ignition cable, hold to ground (blank place on engine) and actuate kickstarter, a strong spark must be produced at the spark plug</li> <li>If no spark is created exchange the spark plug.</li> <li>If the new spark plug doesn't produce a spark either, disconnect the spark plug connector from the ignition cable, hold it approx. 5 mm from ground and start.</li> <li>If a spark now occurs, replace spark plug cap</li> <li>If no spark is produced, control ignition system</li> </ul>
	If connector oxidates from generator to ignition coil	Remove fuel tank, clean connector and treat with contact spray
	Short circuit cable scored in wiring harness, ignition lock, emergency OFF switch faulty	Remove fuel tank, draw off blue/black cable from orange cable of ignition coil and check spark. – If a spark is produced, seek fault in short circuit current
	Water in short emergency OFF switch	Remove 2-pole connector located underneath the headlight mask, treat emergency OFF switch with contact spray
	Water in carburetor or jets blocked	Dismount and clean carburetor
	Carburetor does not fit in properly at intake flange	Check if carburetor is fitted in correctly
Engine will not idle	Idling jet blocked	Dismount carburetor and clean jets
	Adjusting screws on carburetor uncorrect adjusted	Adjust carburetor
	Spark plug faulty	Exchange the spark plug
	Ignition system faulty	Check ignition system

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TROUBLE	CAUSE	REMEDY
Engine does not rev high	Carburetor fuel level too high because	Dismount carburetor and check if worn out
	Float needle is dirty or worn out	Replace float needle
	Float leaks	Replace float
	The cold starting system is permanently activated due to a lack of play in the choke cable.	Adjust choke cable.
	Carburetor jets have loosened.	Retighten jets.
	Defective electronic ignition timing device.	Check ignition system
Engine will not reach full power	Fuel supply partically interrupted or carburetor dirty	Clean and check fuel system as well as carburetor
	Float is not tight	Replace the float
	Air filter very dirty	Clean or replace air filter
	Valve gap to small	Adjust valve gap
	Loss of compression because hand decompressor has no play	Check setting of the hand decompression cable
	Electronical ignition timing faulty	Check ignition system
Engine gets to hot, cooling liquid tmperature warning lamp lights up	Insufficient cooling liquid	Refill cooling liquid (see maintenace work), check cooling system for leaks
	Radiators very dirty	Clean radiators with water jet
	Foam formation in cooling system	Replace cooling liquid, use anti freeze liquid with brand name
	Bent cooling hose	Shorten or replace cooling hose
	Thermostat defective	Dismount and check thermostat (opening temperature 70°C, 158°F) or replace it
High oil consumption	Buckling gearing ventilation hose	Dislocate i.e. replace non-buckling ventilation hose
	Engine oil level too high	Check engine oil level when the engine is warm; correct if necessary
	Motor oil too thin (viscosity)	Use thicker engine oil; see chapter "Engine oil"
All lamps that were on have burned out.	Defective voltage regulator.	Remove seat, check connections, Check the voltage regulator
Headlight and parking light fail.	Blown fuse.	Replace fuse (below the headlight mask).
Flasher lights, brake light, fan and horn fail.	Blown fuse	Replace fuse (below the headlight mask).

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TROUBLE	CAUSE	REMEDY
The neutral indicator lamp doesn't light up when the motorcycle is put into neutral.	Defective indicator lamp.	Replace indicator lamp.
neutrai.	Defective idle switch.	Connect the cable to ground. The neutral switch must be replaced if the indicator lamp lights up.
	Loose connections, defective cable.	Check connections and cable.
Discharged battery.	The ignition (power consumer) has been left on.	Recharge the battery according to the relevant instructions.
	The generator doesn't recharge the battery.	Remove the seat and check the voltage regulator connections. Check the voltage regulator and the generator.

# TROUBLE SHOOTING LC4

TROUBLE	CAUSE	REMEDY
Engine doesn't crank.	Operating errror	Turn on the ignition, switch the gear to neutral and switch the emergency OFF switch on.
	Discharged battery.	Recharge the battery and investigate the causes for discharging.
	Defect ignition lock or emergency OFF switch	Check ignition lock and emergency OFF switch.
The engine doesn't crank.	Blown fuse safe-starting system.	Replace fuse (below the headlight mask).
The neutral indicator lamp doesn't light up.	Blown main fuse.	Remove seat and replace the main fuse.
The engine cranks only with pulled clutch lever	Defect safe-starting system.	Check the components of the safe-starting system.
Engine cranks with gear engaged.	Defect safe-starting system.	Check the components of the safe-starting system.
Engine cranks but doesn't start.	Operating error	Open fuel tap, tank fuel, you did not use choke i.e. the warmstart device. Pay attention to starting off information (see driving instructions).
	The motorcycle has been out of operation for a longer period of time. Therefore old fuel has accumulated in the float chamber	The easily inflammable components of the new fuels evaporate during longer periods of standstill. When the motorcycle has been out of operation for more than a week, it is therefore recommended to drain the old fuel from the float chamber. The engine will immediately start off when the float chamber is filled with new fuel.
	Fuel supply interrupted	Loosen fuel hose at carburettor, lead into a basin and open fuel tap – if fuel leaks out, the carburetor might need cleaning – if no fuel leaks out, check tank ventilation, i.e. clean fuel tap
	Flooded engine	Fully open the throttle when starting or exchange the spark plug, respectively
	Sooty or wet spark plug	Clean and dry the spark plug or exchange it, respectively
	Electrode gap too large	Adjust spark plug electrode gap to 0,7 mm
	Spark plug connector or spark plug faulty	<ul> <li>Dismount spark plug, connect ignition cable, hold to ground (blank place on engine) and actuate starter, a strong spark must be produced at the spark plug</li> <li>If no spark is created exchange the spark plug.</li> <li>If the new spark plug doesn't produce a spark either, disconnect the spark plug connector from the ignition cable, hold it a distance of approx. 5 mm from ground and start.</li> <li>If a spark now occurs, replace spark plug cap</li> <li>If no spark is produced, control ignition system</li> </ul>
	The plug connection of the CDI- unit, the pulse generator or the ignition coil has oxydized	Remove the seat, the right side cover and the fuel tank. Clean the plug connection and treat it with contact spray
	Water in carburetor or jets blocked	Dismount and clean carburetor

TROUBLE	CAUSE	REMEDY
Engine fails to idle	Glogged idling jet	Disassemble carburetor and clean jets
	Uncorrect adjustment of adjusting screws on carburetor	Adjust carburetor
	Defective spark plug	Replace spark plug
	Defective ignition system	Check ignition system
Engine does not rev high	Carburetor fuel level too high because	Dismount carburetor and check if worn out
	Float needle is dirty or worn out	Replace float needle
	Float leaks	Replace float
	The cold starting system is permanently activated due to a lack of play in the choke cable.	Adjust choke cable.
	Defective membrane of slide (640)	Replace membrane
	Loose carburettor jets	Tighten jets
	Electronic ignition timing faulty	Check pulse generator and ignition system
Engine will not reach full power	Fuel supply partically interrupted or carburetor dirty	Clean and check fuel system as well as carburetor
	Float leaks	Replace the float
	Defective membrane of slide (640)	Replace membrane
	Air filter very dirty	Clean or replace air filter
	Valve clearance to small	Adjust valve clearance
	Loss of compression because hand decompressor has no play	Check setting of the hand decompression cable
	Electronic ignition timing faulty	Check pulse generator and ignition system
Engine overheats	Insufficient cooling liquid	Refill cooling liquid (see maintenace work), check cooling system for leaks
	Radiator fins are extremely dirty	Clean radiator with water jet
	Foam forms in cooling system	Replace cooling liquid, use antifreezer with brand name
	Bent cooling hose	Shorten or replace cooling hose
	Thermostat defective	Remove and check thermostat (opening temperature 70°C (158°F) or replace it.
	Blown fan fuse	Replace fuse and check if fan operates properly (see below)
	Defect thermo switch	Replace thermo switch
	Fan defective	Check if fan operates properly. To do this, start the engine, then bypass the connections to the thermo switch (bottom right radiator).
High oil consumption	Buckling gear ventilation hose	Readjust or replace ventilation hose
	Engine oil level too high	Check engine oil level when the engine is warm; correct if necessary
	Engine oil too thin (viscosity)	Use thicker engine oil; see chapter "Engine oil"

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TROUBLE	CAUSE	REMEDY
All switched on lamps blown out	Voltage regulator faulty	Remove seat and check connections. Check voltage regulator
Headlight and parking light fail	Blown fuse	Replace fuse (below the headlight mask).
Flasher lights, brake light, fan and horn fail	Blown fuse	Replace fuse (below the headlight mask).
The NEUTRAL lamp is	Defect indicator lamp.	Replace indicator lamp
not on even though the gear is in NEUTRAL	Defect neutral switch.	Connect cable to ground; neutral switch must be replaced if indicator lamp lights up.
	Loose connections, defect cable.	Check connections and cables.
The battery is discharged	The ignition (power consumer) hasn't been switched off	Recharge the battery according to the relevant instructions.
	The battery isn't charged by the generator	Remove seat and check voltage regulator connections; Check voltage regulator and generator.

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# TECHNICAL SPECIFICATIONS - ENGINE 400/540 SXC '98

Design         Liquid-cooled single cylinder 4-stoke engine with and without balancer shaft           Displacement         338, 6 rml         338, 5 rml           Displacement         339, 6 rml         338, 5 rml           Displacement         338, 6 rml         338, 5 rml           Displacement         10, 81         11, 1: 1         11, 1: 1           Displacement         10, 81         10, 22° BDC         10, 12° BDC         10, 12° BDC         11, 4 rml           Displacement         10, 22° BDC         10, 23° BDC         10, 23° BDC         10, 23° BDC         10, 23° BDC           Valve clarence         10, 11, 24° S mm         Exhaust. 0, 20 mm         Exhaust. 0, 20 mm         Exhaust. 0, 15 mm         Exhaust. 0, 15 mm           Valve clarence cold         11, rake: 36 mm         Exhaust. 0, 16 mm         10, 11 at ker. 0, 21 mm         Exhaust. 0, 15 mm           Valve clarence cold         11, rake: 36 mm         Exhaust. 0, 20 mm         Exhaust. 0, 21 mm         Exhaust. 0, 16 mm           Valve clarence cold         11, rake: 36 mm         10, 01 stmp         10 stop         10 sto	Engine	400 LC4	540 LC4
ement         398 cm <sup>3</sup> 398 cm <sup>3</sup> 538,5           Stroke         89 / 64 mm         99 / 64 mm         95 / 7           Stroke         89 / 64 mm         99 / 64 mm         95 / 7           Stroke         89 / 64 mm         10,8 1         10,1           Indecode         10,8 1         10,8 1         11,1           Indecode         10,22° BTDC         E0 60° BBDC         10,13° BTDC           aft         10,22° BTDC         E0 60° BBDC         10,13° BTDC           iametr         10,22° BTDC         E0 60° BBDC         10,13° BTDC           iametr         10,22° BTDC         E0 60° BBDC         10,13° BTDC           iametr         10,20 mm         Exhaust: 30 mm         BatDC           iametr         10,20 mm         Exhaust: 30 mm         Intake: 0,15 mm           iametr         10,20 mm         Exhaust: 30 mm         Intake: 0,15 mm           iametr         10,10 mpc stom         2 cylinder face fug         10 screper fig           iametr         10,10 mpc stom         2 cylinder face fug         10 screper fig           iametr         10,10 mpc stom         2 cylinder face fug         10 screper fig           iametr         10,10 mpc stom         2 cylinder face fug	Design	Liquid-cooled single cylinder 4-stroke e	engine with and without balancer shaft
Stroke         89 / 64 mm         95 / 7           Stroke $10,8:1$ $1.1$ $1.1$ ming $1.1$ $1.0,8:1$ $1.1$ ming $1.1$ $1.0,8:1$ $1.1$ ming $1.1$ $1.0,8:1$ $1.1$ ming $1.1$ $1.0.12^{\circ}$ BTDC $1.0.13^{\circ}$ BTDC           ming $1.1$ $1.0.22^{\circ}$ BTDC $1.0.13^{\circ}$ BTDC           lameter $1.0.12^{\circ}$ BTDC $1.0.13^{\circ}$ BTDC           lameter $1.0.22^{\circ}$ BTDC $1.0.13^{\circ}$ BTDC           lameter $1.0.22^{\circ}$ BTDC $1.0.3^{\circ}$ BTDC           lameter $1.1.14^{\circ}$ Bacing $1.0.13^{\circ}$ BTDC           lameter $1.4.14^{\circ}$ S.0.0 mm         Exhaust.3.0 mm           lameter $1.1.14^{\circ}$ S.3 mm $1.1.44^{\circ}$ S.0 mm           lameter $1.1.46^{\circ}$ S.3 mm $1.1.46^{\circ}$ Bacing           lameter $1.1.46^{\circ}$ S.3 mm $1.1.46^{\circ}$ S.3 mm           lameter $1.1.46^{\circ}$ S.3 m $1.1.46^{\circ}$ S.3 mm           lameter $1.1.46^{\circ}$ S.3 m $1.1.46^{\circ}$ S.3 mm           lameter $1.1.46^{\circ}$ S.3 m	Displacement	398 cm³	538,5 cm <sup>3</sup>
10,8<:1         10,8<:1         11,1           ming         valves over rocker arm and 1 overhead carnshaft, carshaft fanke thin after         11,1           aft         0         249° (249/1)         1013° BTDC           aft         10.0.22° BTDC         EC0 60° BBDC         10.0.13° BTDC           learence         10.0.22° BTDC         EC0 60° BBDC         10.0.13° BTDC           learence         10.0.22° BTDC         EC0 60° BBDC         10.0.13° BTDC           learence         10.0.22° BTDC         249° (249/1)         10.0.13° BTDC           learence         10.0.22° BTDC         EC0 60° BBDC         10.0.13° BTDC           learence         10.0.22° BTDC         12.49° (24)/1         10.0.13° BTDC           learence         11.14.00         10.0.13° BTDC         10.0.13° BTDC           learence         11.14.00         10.0.13° BTDC         10.0.13° BTDC           learence         11.0.0.10         11.0.0.13° BTDC         10.0.13° BTDC           learence         10.0.10         11.0.0.13° BTDC         10.0.13° BTDC           learence         10.0.10         10.0.13° BTDC         10.0.13° BTDC         10.0.13° BTDC           datantity         10.0.10         10.0.11° BTDC         10.0.13° BTDC         10.13° BTDC <td< td=""><td>Bore / Stroke</td><td>89 / 64 mm</td><td>95 / 76 mm</td></td<>	Bore / Stroke	89 / 64 mm	95 / 76 mm
ming         unleaded premium gasoline with a least RON 95           ming         4 valves over rocker arm and 1 overhead carnshaft, carnshaft drive thruation           aft         10 22° BTDC $249^\circ$ $249/1$ $101^3$ BTDC           ming by 1 mm         10 22° BTDC $249/1$ $101^3$ BTDC $1001^3$ BTDC           ming by 1 mm         10 22° BTDC $1002^\circ$ BTDC $1001^3$ BTDC $1001^3$ $1001^3$ iameter         10 22° BTDC $1002^\circ$ BTDC $1001^3$ $1001^3$ $1001^3$ iameter         Intake: 0,20 mm         Exhaust: 0,20 mm         Intake: 0,15 mm $1001^3$ $1001^3^3$ $1001^3^3$ $1001$	Ratio	10,8 : 1	11,1:1
ming         4 valves over rocker arm and 1 overhead camshaft, camshaft drive thructure           aft         249^/10         10         13° BTDC           iming by 1 mm         10         249^/10         10         13° BTDC           iming by 1 mm         10         22° BTDC         EC 4° ATDC         EC 4° ATDC <thec 4°="" atdc<="" th="">         EC 4° ATDC</thec>	Fuel	unleaded premium gaso	oline with a least RON 95
aft         249°         (249/1)           ming by 1 mm         Iol 22° BTDC         EC 4° ATDC         Intake: 36 mm         Exhaust: 30 mm           immeter         Intake: 36 mm         Exhaust: 30 mm         Intake: 0,15 mm           lameter         Intake: 36 mm         Exhaust: 30 mm         Intake: 0,15 mm           lameter         Intake: 0,20 mm         Exhaust: 0,20 mm         Intake: 0,15 mm           interter         Intake: 0,20 mm         Exhaust: 0,120 mm         Intake: 0,15 mm           interter         Intake: 0,20 mm         Form         Intake: 0,15 mm           interter         Intake: 0,20 mm         Intake: 0,15 mm         Intake: 0,15 mm           interter         Intake: 0,20 mm         Formation         Intake: 0,15 mm           into bearing         Intake: 0,20 mm         Intake: 0,15 mm         Intake: 0,15 mm           into bearing         Intake: 0,120 mm         Intake: 0,15 mm         Intake: 0,15 mm           into bearing         Intake: 0,120 mm         Intake: 0,120 mm         Intake: 0,15 mm           into bearing         Intake: 0,120 mm         Intake: 0,120 mm         Intake: 0,120 mm           into bearing         Intake: 0,120 mm         Intake: 0,120 mm         Intake: 0,12 mm           into perter         Int	Valve timing	4 valves over rocker arm and 1 overhead ca	amshaft, camshaft drive through single chain
ming by 1 mmIO 22° BTDCEO 60° BBDCIO 13° BTDClearenceIC 42° ATDCIC 51° ABDClearenceIntake: 0.20 mmIntake: 30 mmlearenceIntake: 0.20 mmIntake: 0.15 mmlearenceIntake: 0.20 mmIntake: 0.15 mmhaft bearingIntake: 0.20 mmIntake: 0.16 mmshaft bearingIntake: 0.20 mmIntake: 0.16 mmshaft bearingIntake: 0.20 mmIntake: 0.16 mmshaft bearingIntake: 0.20 mmIntake: 0.16 mmtheoredIntake: 0.20 mmIntake: 0.16 mmtheoredIntake: 0.20 mmIntake: 0.16 mmtheoredIntake: 0.20 mmIntake: 0.16 mmtheoredIntake: 0.16 mmIntake: 0.16 mmtheoredIntake: 0.16 mmIntake: 0.16 mmtheoredIntegradedIntake: 0.16 mmtheoredIntake: 0.16 mmIntake: 0.16 mmtheoredIntake: 0.17 mmIntake: 0.16 mmtheoredIntake: 0.16 mmIntake: 0.16 mmtheoredIntake: 0.16 mmIntake: 0.16 mmtheoredIntegradedIntake: 0.16 mmtheoredIntakeIntaketheoredIntakeIntaketheoredIntakeIntaketheoredIntakeIntaketheoredIntakeIn	Camshaft		(249/1)
learence         IC 42° ABDC         EC 4° ATDC         IC 51° ABDC           lameter         Intake: 36 mm         Exhaust: 30 mm         Exhaust: 30 mm           learence         Intake: 0,20 mm         Exhaust: 0,20 mm         Intake: 0,15 mm           haft bearing         Intake: 0,20 mm         Exhaust: 0,20 mm         Intake: 0,15 mm           citing rod bearing         Intake: 0,20 mm         Intake: 0,16 mm         Intake: 0,15 mm           citing rod bearing         Intake: 0,20 mm         Intake: 0,15 mm         Intake: 0,15 mm           citing rod bearing         Intake: 0,12 mm         Intake: 0,15 mm         Intake: 0,15 mm           citing rod bearing         Intake: 0,20 mm         Intake: 0,15 mm         Intake: 0,15 mm           dig quantity         Intake: 0,16 mm         Intake: 0,15 mm         Intake: 0,15 mm           dig quantity         Intake: 0,16 mm         Intake: 0,16 mm         Intake: 0,16 mm           oil         Intake: 0,16 mm         Intake: 0,16 mm         Intake: 0,15 mm           oil         Intake: 0,16 mm         Intake: 0,16 mm         Intake: 0,16 mm           oil         Intake: 0,16 mm         Intake: 0,16 mm         Intake: 0,16 mm           oil         Intake: 0,16 mm         Intake: 0,16 mm         Intake: 0,16 mm	Valve timing by 1 mm		
iameter         Intake: 36 mm         Exhaust: 30 mm           iameter         Intake: 0,20 mm         Thake: 0,15 mm           earence cold         Intake: 0,20 mm         Thake: 0,15 mm           citing rod bearing         2 cylinder roller bearing         Intake: 0,15 mm           citing rod bearing         needle bearing         Intake: 0,15 mm           d bearing         needle bearing         Intake: 0,15 mm           d bearing         needle bearing         needle bearing           d bearing         forged/cast aluminium alloy         Intake: 0,15 mm           d bearing         forged/cast aluminium alloy         Intake: 0,10 mps with oid           ulbrication         forced-feed lubrication through two Eaton-Oilpumps with oid         Intake: 0,10 mm           ulbrication         forced-feed lubrication through two Eaton-Oilpumps with oid         Intake: 0,10 mm           ulbrication         forced-feed lubrication through two Eaton-Oilpumps with oid         Intake           ulbrication         forced-feed lubrication through two Eaton-Oilpumps with oid         Intake           ulbrication         multi disc clutch in oil bath         Intake           id quantity         straight geared spur wheels 30: 81 teeth           ratio         141 2: 21         Intake           ision         straight	valve clearence		
Intake:         0,20 mm         Intake:         0,15 mm           ishaft bearing         2 cylinder roller bearing         1           iting rod bearing         2 cylinder roller bearing         1           iting rod bearing         1 compression ring, 1 taper face ring, 1 oil scraper ring         1           itings         1 compression ring, 1 taper face ring, 1 oil scraper ring         1           iubrication         0         1 compression ring, 1 taper face ring, 1 oil scraper ring           iubrication         0         1 compression ring, 1 taper face ring, 1 oil scraper ring           oil         0         1 compression ring, 1 taper face ring, 1 oil scraper ring           ubrication         5         5         5           oil         1         1,401ters         1           ratio         1         1         1           oil         1         1         1           ratio         1         5         2           ratio         1         1         1         1	Valve diameter	Intake: 36 mm	Exhaust: 30 mm
shaft bearing ting rod bearing d bearing d bearing lubrication oil oil quantity ratio ratio ission to to to to to to to to to s system s system s system s system s s system	Valve clearence cold		
cting rod bearing cling rod bearing clings cod bearing clings clings clings clings cling c	Crank shaft bearing	2 cylinder r	oller bearing
d bearing ings oil quantity oil quantity ratio ission ttio ttio ttio ttio system s system s system s system	Connecting rod bearing	needle	bearing
ings inlubrication oil oil quantity ratio ission tito tito tor tor tor tor system s system s equipment	Top end bearing	bronze	bushing
irings iubrication oil quantity ratio ratio tito tito tito tito tito tor tor system s system s system	Piston	forged/cast al	luminium alloy
Iubrication oil quantity oil quantity ratio sision tito tito tito tito tito tito system tito system system system system sequipment sequipment	Piston rings	1 compression ring, 1 tape	r face ring, 1 oil scraper ring
oil quantity ratio ission tio tio tin timing tor tor system s system s equipment	Engine lubrication	forced-feed lubrication through t	wo Eaton-Oilpumps with oil sump
oil quantity ratio ission ttio ttio ttiming tor tor s system s system s equipment	Engine oil	see be	ellow #
r ratio ission ttio ttio n system n timing tor tor system s system s equipment	Engine oil quantity	1,40	Dliters
ission tio system n system n timing tor lug system s system s equipment	Primary ratio	straight geared spur	wheels 30:81 teeth
	Clutch	multi disc clu	tch in oil bath
	Transmission	5-speed cl	law shifted
	Gear ratio	1st	14:35
		2nd	15:24
		3rd	18:21
		4th	20:19
		5th	22:18
	Ignition system	contactless thyristor ignition with el	lectronic advanced system type SEM
	Ignition timing	400 SXC : adjustment to I	max. 38 ° BTDC at 6000 rpm
		540 SXC: adjustment to I	max. 32 ° BTDC at 6000 rpm
	Generator	12V	130W
	Spark plug	NGK	D8EA
	Spark plug gap	0,6	mm
	Cooling system	liquid cooled, permanent rotation of cooling	f liquid through mechanic driven water pump
	Cooling liquid	1 liter, 40% antifreeze, 60% w	rater, at least -25 ° C (-13 ° F)
	Starting equipment	decompressor automatic and hand actuat	ted, cold and hot start knob on carburetor

TOLERANCE	TOLERANCE, ASSEMBLY CLEARANCE
Crank shaft	axial play0,03 - 0,12 mm(0,001-0,005 in)
	run out of crank studmax. 0,04 mm (0,0016 in)
Connecting rod bearing	Connecting rod bearing radial play
	axial play
Piston	assembly clearance 400/540/620max. 0,12 mm (0,005 in)
Piston rings end gap	compression rings
	oil scraper ring
Valves	seat sealing intake059 in) 0,059 in)
	seat sealing exhaust
	run out of valve headsmax. 0,03 mm (0,001 in)
	valve guides diametermax. 7,05 mm (0,277 in)
Oil pump	clearance outer rotor - housingmax. 0,20 mm (0,008 in)
	clearance outer rotor - inner rotormax. 0,20 mm (0,008 in)
Bypaß valve	minimum spring lenght
Clutch discs	wear limit organic
Transmission shafts	axial play0,1 - 0,4 mm (0,004 in)
Clutch	minimum clutchspring lenght34,5 mm (new 37 mm)(1,36 in - new 1,45 in)

<b>TIGHTENING TORQUES</b>	ES - ENGINE	NE	
Hexagon nut at primary gear	M20x1,5	Loctite 243 + 170 Nm (125 ft.lb)	(125 ft.lb)
Collar nut flywheel	M12x1 LH thread	ead 60 Nm	(44 ft.lb)
Hexagon nut for inner clutch hub	M18×1,5	Loctite 243 + 80 Nm	(59 ft.lb)
Kickstarter stop bolt	M12×1,5	50 Nm	(37 ft.lb)
AH bolts oil pump	M6	Loctite 243 + 8 Nm	(6 ft.lb)
Hexagon bolt camshaft gear	M10	Loctite 243 + 35 Nm	(26 ft.lb)
AH bolt cylinder head top sect.	M6x25	8 Nm	(6 ft.lb)
AH bolt cylinder head top sect.	M6x50/M6x55 (12.9)	5 (12.9) 20 Nm	(15 ft.lb)
AH bolt cylinder head top sect.	M6x65/M6x70 (8.8)	0 (8.8) 8 Nm	(6 ft.lb)
Cylinder head bolts	M10	50 Nm	(37 ft.lb)
Collar nuts at cylinder base	M10	40 Nm	(30 ft.lb)
Hexagon bolt chain sprocket	M10	Loctite 243 + 40 Nm	(30 ft.lb)
Oil drain plug	M22×1,5	30 Nm	(22 ft.lb)
Magnetic plug	M12×1,5	20 Nm	(15 ft.lb)
Plug bypass valve	M12×1,5	20 Nm	(15 ft.lb)
Banjo bolts oil lines	M8×1	10 Nm	(7 ft.lb)
Banjo bolt oil lines	M10x1	15 Nm	(11 ft.lb)
Jet screw clutch cover	M8x1	10 Nm	(7 ft.lb)
Bolt plug timing-chain tensioner	M12x1,5	20 Nm	(15 ft.lb)
Counternuts valve adjusting screws	M7×0,75	20 Nm	(15 ft.lb)
Spark Plug	M12	20 Nm	(15 ft.lb)

15W 50
10W 50 10W 60

**Engine oil** Use only oil brands, which meet quality requirements of API-classes SF, SG or SH (informations on bottles) or higher. Both, mineral and synthetic oils with above specifications can be used.

CAUTION

Poor oil quality or minor quantity effect early engine-wear.

<b>BASIC CARBURETOR SETTING</b>	OR SETTING			
	400 SXC	400 SXC (20 kW)	540 SXC	540 SXC (20 kW)
Carburetor	PHM 38 ND	PHM 38 ND	VHSB 38 QS	VHSB 38 QS
Carburetor setting number	120198	120198	081297	091297
Main jet	140	140	185	140 (185)
Needle jet	AB 265	AB 265	FN 260	FN 260
Idling jet	50	50	33	33
Jet needle	K 32	K 32	K 32	K 32
Needle position from top	=	=	=	=
Mixture.adju. screw open	1,5 turn	1,5 turn	1,5 turn	1,5 turn
Throttle valve	50/1	50/1	50	50
Starting jet	45	45	40	40
Performance restrictor	I	slide stop 56mm	I	slide stop 36mm

# TECHNICAL SPECIFICATIONS - CHASSIS 400/540 SXC '98

	400/540 SXC
Frame	Central chrome-moly-steel frame
Fork	WP Extreme
Wheel travel front/rear	285/320 mm (11,2/12,6 in)
Rear suspension	Central shock absorber (WP) with PRO-LEVER linkage to rear-swingarm with needle bearing
Front brake	Disc brake with carbon-steel brake disc , brake caliper floated
	brake disc $\emptyset = 260 \text{ mm} (10,2 \text{ in})$
Rear brake	Disc brake with carbon-steel brake disc Ø 220 mm (8,7 in), brake caliper floated
Tyres front	90/90 - 21
Air pressure offroad	1,0 bar (14 psi)
Air press. road, driver only Air press. road with passenger	(1, psi) (2,
Tyres rear	140/80 - 18
Air pressure offroad	1,2 bar (17 psi)
Air press. road, driver only Air press road with passenger	2,0 bar (28 psi) _
Fuel tank capacity	9 liter (3 US gallons) of that 1,5 liter (0,4 US gallons) reserve
Final drive ratio	400: 14:50 540:15:50
Chain	<sup>5</sup> / <sub>8</sub> x <sup>1</sup> / <sub>4</sub> " O-Ring
Steering angle	62,5°
Wheel base	1510 ± 10 mm (59,4 ± 0,4 in)
Seat high	940 mm (37 in)
Ground clearance	350 mm (13,8 in)
Dead weight without fuel	400: 121 kg (267 lbs) 540: 122 kg (269 lbs)

WP 09.18.57.44           Compression adjuster         12           Rebound adjuster         12           Spring         4,2 N/mm           Spring preload         7 mm           Air chamber length         7 mm           Capacity per fork leg         580 ccm	STANDARD ADJU	STANDARD ADJUSTMENT - FORK
djuster djuster ter been die		WP 09.18.57.44
ter	Compression adjuster	12
ngth ork leg	Rebound adjuster	12
ngth ork leg	Spring	4,2 N/mm
nber length / per fork leg	Spring preload	7 mm
/ per fork leg	Air chamber length	155 mm
	Capacity per fork leg	ca 800 ccm
	Fork oil	SAE 5

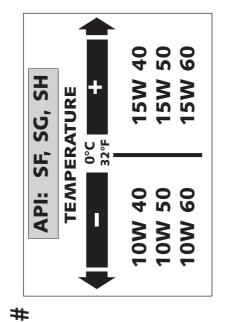
STANDARD-ADJ	STANDARD-ADJUSTMENT - SHOCK ABSORBER
	WP 01.18.Q7.82
Compression adjuster	ĸ
Rebound adjuster	4
Spring	63/260
Spring preload	23 mm

TORQUES			
Collar bolt front axle	M 10	40 Nm	(30 ft.lb)
Brake caliper front	M 8	Loctite 243 + 25 Nm	(18 ft.lb)
Collar nut rear axle	M 20x1,5	80 Nm	(59 ft.lb)
Hex. nut swing arm bolt	M 14x1,5	100 Nm	(74 ft.lb)
Clamping bolt top triple clamp	M 8	15 Nm	(11 ft.lb)
Clamping bolt bottom triple clamp	M 8	20 Nm	(15 ft.lb)
Clamping bolts fork leg axle passage	M 8	10 Nm	10 Nm (7,4 ft.lb)
Other bolts chassis	A 6 A 8 A 10	10 Nm 25 Nm 45 Nm	(7,4 ft.lb) (18 ft.lb) (33 ft.lb)

20	400 LC4	620 LC4	TOLER
Design	Liquid-cooled single cylinder 4-stroke engine with balancer shaft	oke engine with balancer shaft	Crank shaft
Displacement	398 cm <sup>3</sup>	609 cm <sup>3</sup>	
Bore / Stroke	89 / 64 mm	101 / 76 mm	Connecting ro
Ratio	10,8 : 1	SX: 11,5 : 1 SC: 10,4 : 1	
Fuel	unleaded premium gasoline with a least RON 95	ne with a least RON 95	Piston
Valve timing	4 valves over rocker arm and 1 overhead camshaft, camshaft drive through single chain	nshaft, camshaft drive through single chain	Piston rings
Camshaft	249° (249)	(249)	
Valve timing by 1 mm	IO 22° BTDC EO 59° BBDC	IO 14° BTDC EO 56° BBDC	Valves
valve clearence	IC 47° ABDC EC 10° ATDC	IC 55° ABDC EC 13° ATDC	
Valve diameter	Intake: 36 mm	Exhaust: 30 mm	
Valve clearence cold	Intake: 0,20 mm Exhaust: 0,20 mm	Intake: 0,15 mm Exhaust: 0,15 mm	Oil numb
Crank shaft bearing	2 cylinder roller bearing	ller bearing	
Connecting rod bearing	needle bearing	bearing	Bvbaß valve
Top end bearing	bronze bushing	ushing	Clutch discs
Piston	forged/cast aluminium alloy	iminium alloy	Transmission
Piston rings	1 compression ring, 1 taper face ring, 1 oil scraper ring	face ring, 1 oil scraper ring	Clutch
Engine lubrication	forced-feed lubrication through Eaton-Oilpump with oil sump	Eaton-Oilpump with oil sump	5
Engine oil	see bellow #	low #	TIGHTE
Engine oil quantity	1,40 liters	liters	Hexagon nu
Primary ratio	straight geared spur wheels 30:81 teeth	vheels 30:81 teeth	Collar nut f
Clutch	multi disc clutch in oil bath	ch in oil bath	
Transmission	5-speed claw shifted	w shifted	kickstarter o
Gear ratio	1st	14:35	AH holts oil
	2nd	15:24	Hevaron ho
	3rd	18:21	
	4th	20:19	
	5th	22:18	
Ignition system	contactless thyristor ignition with electronic advanced system type SEM	ctronic advanced system type SEM	
Ignition timing	adjustment to max. 38 ° BTDC at 6000 rpm	SX: adjustment to max. 38 ° BTDC at 6000 rpm	Coller auto
		SC: adjustment to max. 32 ° BTDC at 6000 rpm	
Generator	12V 130W	30W	Hexagon bo
Spark plug	NGK D8EA	08EA	Oil drain pli
Spark plug gap	0,6 mm	mu	Magnetic p
Cooling system	liquid cooled, permanent rotation of cooling liquid through mechanic driven water pump	iquid through mechanic driven water pump	Plug bypass
Cooling liquid	1 liter, 40% antifreeze, 60% water, at least –25 ° C (–13 ° F)	ter, at least -25 ° C (-13 ° F)	Banjo bolts
Chamble a service set			Banio bolt o

<b>TECHNICAL SPECIFICAT</b>	PECIFICATIONS – ENGINE	400/620 SX, SC '98	98	
400 LC4	620 LC4	TOLERANCE. ASSEMBLY CLEARANCE	ABLY CLEARANCE	
Liauid-cooled single cylinder 4-stroke engine with	stroke engine with balancer shaft	Crant chaft avial alar	avial alari 0.001 0.001 0.001 0.005 int	m / 0 0 1 0 0 m
398 cm <sup>3</sup>			מאומו אומיד, 2 - 0, 12 וווווי רווח סווד of crank stud	(ni 200,0-100,0/m) (ni 20016 in)
89 / 64 mm	101 / 76 mm	Connecting rod bearing radial play	Connecting rod bearing radial play	
10,8 : 1	SX: 11,5 : 1 SC: 10,4 : 1	axial play	axial play	
unleaded premium gas	unleaded premium gasoline with a least RON 95	Piston assembly cle	assembly clearance 400/620max. 0,12 mm	m (0,005 in)
er rocker arm and 1 overhead c	er rocker arm and 1 overhead camshaft, camshaft drive through single chain	rings end gap	compression rings	
249°	249° (249)		oil scraper ring	m (0,031 in)
TDC EO 59° BBDC	IO 14° BTDC EO 56° BBDC	Valves seat sealing	seat sealing intakemax. 1,50 mm	
	ABDC	seat sealing	seat sealing exhaust	
Intake: 36 mm	Exhaust: 30 mm		valve guides diameter	m (0.277 in)
mm Exhaust: 0,20 mm	Intake: 0,15 mm Exhaust: 0,15 mm	Oil num clearance oi	clearance outer rotor - housing max 0.20 mm	
2 cylinder	2 cylinder roller bearing		clearance outer rotor - inner rotormax. 0.20 mm	
needle	needle bearing	Bypaß valve minimum sp	minimum spring lenght25 mm	
bronze	bronze bushing		wear limit organic	0
forged/cast	forged/cast aluminium alloy	n chafts	avial plav 0.1 - 0.4 mm	0)
1 compression ring, 1 tape	1 compression ring, 1 taper face ring, 1 oil scraper ring		actual pred	m)/1 36 in - new 1 45 i
forced-feed lubrication through Eaton-Oilpump	gh Eaton-Oilpump with oil sump			
see b	see bellow #	<b>TIGHTENING TORQUES - ENGINE</b>	JES - ENGINE	
1,40	1,40 liters	Hexagon nut at primary gear	M20x1 5 1 octite 243 + 170Nm (125 ft l)	70Nm (125 ft lb
straight geared spur	straight geared spur wheels 30 : 81 teeth	Collar nut flywheel	Hhrea	60 Nm (44 ft lb)
multi disc cli	multi disc clutch in oil bath			
5-speed	5-speed claw shifted		FUCIITE 040 +	
-	14.35	Kickstarter stop bolt		
161 Lar		AH bolts oil pump	M6 Loctite 243 + 8	+ 8 Nm (6 ft.lb)
	42.Cl	Hexagon bolt camshaft gear	M10 3!	35 Nm (26 ft.lb)
370	18:21	AH bolt cylinder head top sect.	M6x25	8 Nm (6 ft.lb)
4t.N	20.12	AH bolt cylinder head top sect.	M6x50/M6x55 (12.9) 20	20 Nm (15 ft.lb)
Inc dtim noitinni votnivudt noitin dt	21.1 22.10 Anatlace thrugitae insition with alastranic advanced contam tune CEM	AH bolt cylinder head top sect.	M6x65/M6x70 (8.8)	8 Nm (6 ft.lb)
nav 38 ° RTDC at 6000 rnm	Controlled advanced system type 3E/M	Cylinder head bolts	M10 50	50 Nm (37 ft.lb)
	SC: adjustment to max. 32 ° BTDC at 6000 rpm	Collar nuts at cylinder base		
12V	12V 130W	Hexagon bolt chain sprocket	Loctite 243 +	
NGK	NGK D8EA	Oil drain plug		
0.6	0.6 mm	Magnetic plug	M12x1,5 20	20 Nm (15 ft.lb)
d. permanent rotation of coolin	bermanent rotation of cooling liquid through mechanic driven water pump	Plug bypass valve	M12×1,5 20	20 Nm (15 ft.lb)
1 liter, 40% antifreeze, 60% v	1 liter, 40% antifreeze, 60% water, at least –25 ° C (–13 ° F)	Banjo bolts oil lines	M8x1 10	10 Nm (7 ft.lb)
essor automatic and hand actué	essor automatic and hand actuated, cold and hot start knob on carburetor	Banjo bolt oil lines	M10×1 15	15 Nm (11 ft.lb)
		Jet screw clutch cover	M8x1 10	10 Nm (7 ft.lb)
		Bolt plug timing-chain tensioner	M12×1,5 20	20 Nm (15 ft.lb)
		Counternuts valve adjusting screws M7x0,75		20 Nm (15 ft.lb)
		Spark plug	M12 2(	20 Nm (15 ft.lb)

<b>BASIC CARBURETOR SETTING</b>	<b>TOR SETTING</b>			
	400 SC (20 kW)	400 SC	620 SX 620 SC	620 SC (20 kW)
Carburetor	PHM 38 SD	PHM 38 SD	PHM 40 SD	PHM 40 SD
Carburetor setting number	300896	4894/6	4922	110996
Main jet	150	190	195	155
Needle jet	DR 266	DR 270	DR 272	DR 268
Idling jet	45	45	45	45
Jet needle	K 51	K 51	K 51	K 51
Needle position from top	3 rd	2 nd	2 nd	3 rd
Mixture.adju. screw open	1,5 turn	1,5 turn	1,5 turn	1,5 turn
Throttle valve	40	40	40	40
Starting jet	45	45	45	45
Performance restrictor	slide stop 22 mm	I	I	slide stop 26 mm



**Engine oil** Use only oil brands, which meet quality requirements of API-classes SF, SG or SH (informations on bottles) or higher. Both, mineral and synthetic oils with above specifications can be used.

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EARLY Poor oil quality or minor quantity effect engine-wear.

	TECHNICAL SPECIFICA	CIFICATIONS - CHASSIS 400 / 620 SX, SC <sup>1</sup> 98	00 / 620 SX, SG	86, 3			
	620 SX	400/620 SC	STANDARD ADJU	<b>ADJUSTMENT</b> -	- FORK		
Frame	Central chrome-	Central chrome-moly-steel frame		WP 09.18.57.40	WP 09.18.57.44	7.44	
Fork	WP E	WP Extreme	Compression adjuster	œ	12		
Wheel travel front/rear	285/320 mm (11,2/12,6	(11,2/12,6 in)	Rebound adjuster	12	12		
Rear suspension	Central shock absorber (WP) with PRO-LEVER linkage to	linkage to rear-swingarm with needle bearing	Spring	4,4 N/mm	4,2 N/mm	E	
Front brake	Disc brake with carbon-steel b	Disc brake with carbon-steel brake disc , brake caliper floated	Spring preload	8 mm	7 mm		
	brake disc $\emptyset = 2$	brake disc $\emptyset$ = 260 mm (10,2 in)	Air chamber length	140 mm	155 mm	F	
Rear brake	Disc brake with carbon-steel brake disc Ø 220 mm (8,7 in), brake caliper floated	ð 220 mm (8,7 in), brake caliper floated	Capacity per fork leg	ca 800 ccm	ca 800 ccm	m	
Tyres front	80/100-21	90/90-21	Fork oil	SAE 5	SAE 5		
Air pressure offroad Air press. road, driver only	1,0 bar (14 psi) _	1,0 bar (14 psi) 1,5 bar (21 psi)	NOTE FOR WHITE POWER FORKS:	FORKS:	-	-	-
Tyres rear	110/90-19	140/80-18 70R	The damping units in the left and the right fork leg are of different design. Make sure not to mix them up in case of repair or service works.	t and the right to tase of repair or s	ork leg are of d ervice works.	Itterent desi	gn. Make
Air pressure offroad Air press. road. driver only	1,2 bar (17 psi) _	1,2 bar (17 psi) 2.0 bar (28 psi)		· · ·			
Fuel tank capacity	9 liter (3 US gallons)		STANDART-ADJUSTMENT - SHOCK ABSORBER	<b>VENT - SHOCH</b>	K ABSORBE	R	
-	of that 1,5 liter (0,4	of that 1,5 liter (0,4 US gallons) reserve		WP 01.18.Q7.82	WP 01.18.Q7.81	7.81	
Final drive ratio	14:48, 14:50, 15:40, 15:45, 15:48 15:	15:48 15:50, 16:40, 16:45	Compression adjuster	m	m		
Chain	5/8 ×	5/8 × 1/4 "	Rebound adjuster	4	4		
Steering angle	62	62,5°	Spring	63/260	66/260		
Wheel base	1510 ± 10 mm	1510 ± 10 mm (59,4 ± 0,4 in)	Spring preload	23 mm	23 mm		
Seat high	940 mm	940 mm (37 in)					
Ground clearance	350 mm	350 mm (13,8 in)	TORQUES				
Dead weight without fuel	115 kg (254 lbs)	400:121 kg (267 lbs) 620:122 kg (269 lbs)	Collar bolt front axle	M 10		40 Nm	(30 ft.lb)
Max. permissible front axle load	211 kg (466 lbs)		Brake caliper front	M 8		25 Nm	(19 ft.lb)
Max. permissible rear axle load	335 kg (737 lbs)	(37 lbs)					+ Loctite 243
Max. permissible laden weight	350 kg (770 lbs)	70 lbs)	Collar nut rear axle	M 20×1,5	)x1,5	80 Nm	(59 ft.lb)
-			Hex. nut swing arm bolt	M 14	M 14x1,5	100 Nm	(74 ft.lb)
			Clamping bolt top triple clamp		M 8 (Extreme) M8 (USD)	15 Nm 15 Nm	(11 ft.lb) (11 ft.lb)
			Clamping bolt bottom triple clamp		M 8 (Extreme) M8 (USD)	20 Nm 15 Nm	(15 ft.lb) (11 ft.lb)
			Clamping bolts fork leg axle passage	ssage M 7/M8		7/10 Nm	(5/7 ft.lb)
			Other bolts chassis	M6 M8 M10		10 Nm 25 Nm 45 Nm	(7 ft.lb) (19 ft.lb) (33 ft.lb)

### <u>10-8D</u>

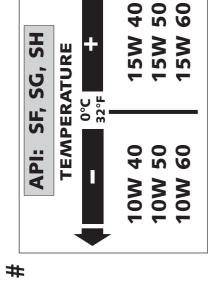
# 620 LC4 COMPETITION '98 **TECHNICAL SPECIFICATIONS – ENGINE**

Engine	620 LC4 COMP.
Design	Liquid-cooled single cylinder 4-stroke engine with balancer shaft
Displacement	609 cm <sup>3</sup>
Bore / Stroke	101 / 76 mm
Ratio	10,4 : 1
Fuel	unleaded premium gasoline with a least RON 95
Valve timing	4 valves over rocker arm and 1 overhead camshaft, camshaft drive through single chain
Camshaft	249° (249/1)
Valve timing by 1 mm	IO 15° BTDC EO 52° BBDC
valve clearence	IC 54° ABDC EC 17° ATDC
Valve diameter	Intake: 36 mm Exhaust: 30 mm
Valve clearence cold	Intake: 0,15 mm Exhaust: 0,15 mm
Crank shaft bearing	2 cylinder roller bearing
Connecting rod bearing	needle bearing
Top end bearing	bronze bushing
Piston	forged/cast aluminium alloy
Piston rings	1 compression ring, 1 taper face ring, 1 oil scraper ring
Engine lubrication	forced-feed lubrication through Eaton-Oilpump with oil sump
Engine oil	see bellow #
Engine oil quantity	2,1 liters including frame
Primary ratio	straight geared spur wheels 30 : 81 teeth
Clutch	multi disc clutch in oil bath
Transmission	5-speed claw shifted
Gear ratio	1st 14:35
	2nd 15:24
	3rd 18:21
	4th 20:19
	5th 22:18
Ignition system	contactless thyristor ignition with electronic advanced system type SEM
Ignition timing	adjustment to max. 32 ° BTDC at 6000 rpm
Generator	12V 130W
Spark plug	NGK DR8EA
Spark plug gap	0,7 mm
Cooling system	liquid cooled, permanent rotation of cooling liquid through mechanic driven water pump
Cooling liquid	1 liter, 40% antifreeze, 60% water, at least –25 ° C (–13 ° F)
Starting equipment	decompressor automatic and hand actuated, cold and hot start knob on carburetor

# ACTEADIV CIEADANCE WEAR LIN

<b>ASSEMBLY C</b>	ASSEMBLY CLEARANCE, WEAR LIMIT
Crank shaft	axial play0,03 - 0,12 mm (0,001-0,005 in)
	run out of crank studmax. 0,08 mm (0,0031 in)
Connecting rod bearing	Connecting rod bearing radial play
	axial play
Piston	assembly clearancemax. 0,12 mm (0,005 in)
Piston rings end gap compression rings.	compression rings
	oil scraper ring
Valves	seat sealing intake
	seat sealing exhaust
	run out of valve headsmax. 0,05 mm (0,002 in)
	valve guides diametermax. 7,05 mm (0,277 in)
Oil pump	clearance outer rotor - housingmax. 0,20 mm (0,008 in)
	clearance outer rotor - inner rotormax. 0,20 mm (0,008 in)
Bypaß valve	minimum spring lenght
Clutch discs	wear limit organic
Transmission shafts	axial play0,1 - 0,4 mm (0,004 in)
Clutch	minimum clutchspring lenght34,5 mm (new 37 mm)(1,36 in - new 1,45 in)

TIGHTENING TORQUES - ENGINE	IES - ENGI	Z		
Hexagon nut at primary gear	M20×1,5	Loctite 243 +170Nm (125 ft.lb)	170Nm	(125 ft.lb)
Collar nut flywheel	M12x1 LH thread		60 Nm	(44 ft.lb)
Hexagon nut for inner clutch hub	M18x1,5	Loctite 243 + 8	80 Nm	(59 ft.lb)
Kickstarter stop bolt	M12×1,5	4	50 Nm	(37 ft.lb)
AH bolts oil pump	M6	Loctite 243 +	+ 8 Nm	(6 ft.lb)
Hexagon bolt camshaft gear	M10	Loctite 243 + 3	35 Nm	(26 ft.lb)
AH bolt cylinder head top sect.	M6x25		8 Nm	(6 ft.lb)
AH bolt cylinder head top sect.	M6x50/M6x55 (12.9)		20 Nm	(15 ft.lb)
AH bolt cylinder head top sect.	M6x65/M6x70 (8.8)	(8.8)	8 Nm	(6 ft.lb)
Cylinder head bolts	M10	4	50 Nm	(37 ft.lb)
Collar nuts at cylinder base	M10	7	40 Nm	(30 ft.lb)
Hexagon bolt chain sprocket	M10	Loctite 243 + 40 Nm	40 Nm	(30 ft.lb)
Oil drain plug	M22×1,5		30 Nm	(22 ft.lb)
Magnetic plug	M12×1,5		20 Nm	(15 ft.lb)
Plug bypass valve	M12×1,5		20 Nm	(15 ft.lb)
Banjo bolts oil lines	M8x1		10 Nm	(7 ft.lb)
Banjo bolt oil lines	M10x1		15 Nm	(11 ft.lb)
Jet screw clutch cover	M8x1		10 Nm	(7 ft.lb)
Bolt plug timing-chain tensioner	M12×1,5		20 Nm	(15 ft.lb)
Counternuts valve adjusting screws	M7×0,75		20 Nm	(15 ft.lb)
Spark plug	M 12		20 Nm	(15 ft.lb)



**Engine oil** Use only oil brands, which meet quality requirements of API-classes SF, SG or SH (informations on bottles) or higher. Both, mineral and synthetic oils with above specifications can be used. 

CAUTION

POOR OIL QUALITY OR MINOR QUANTITY EFFECT EARLY ENGINE-WEAR.

<b>BASIC CARBURETOR SETTING</b>	OR SETTING
	620 LC4 COMP.
Carburetor	PHM 40 SD
Carburetor setting number	110996
Main jet	155
Needle jet	DR 268
Idling jet	45
Jet needle	K 51
Needle position from top	3 rd
Mixture.adju. screw open	1,5 turn
Throttle valve	40
Starting jet	45
Performance restrictor	slide stop 26 mm

# TECHNICAL SPECIFICATIONS - CHASSIS 620 LC4 COMP. '98

	620 LC4 COMP.
Frame	Central chrome-moly-steel frame
Fork	WP Extreme
Wheel travel front/rear	280 / 320 mm (11,0 / 12,6 in)
Rear suspension	Central shock absorber (WP) with PRO-LEVER linkage to rear-swingarm with needle bearing
Front brake	Disc brake with carbon-steel brake disc , brake caliper floated
	brake disc $\emptyset$ = 300 mm (11,8 in)
Rear brake	Disc brake with carbon-steel brake disc Ø 220 mm (8,7 in), brake caliper floated
Tyres front Air press. road, driver only Air press. road with passenger	90/90-21 T63 1,5 bar (21 psi) 2,0 bar (28 psi)
Tyres rear Air press. road, driver only Air press. road with passenger	130/80-18 T63 2,0 bar (28 psi) 2,2 bar (31 psi)
Fuel tank capacity	12 liter (3,2 US gallons) of that 2,5 liter (0,7 US gallons) res
Final drive ratio	16:40
Chain	O-ring <sup>5</sup> / <sub>8</sub> x <sup>1</sup> / <sub>4</sub> "
Battery	maintenance-free battery 12V 8Ah
Steering angle	62,5°
Wheel base	1510 ± 10 mm (59,4 ± 0,4 in)
Seat high	955 mm (37,6 in)
Ground clearance	335 mm (13,2 in)
Dead weight without fuel	133 kg (293 lbs)
Max. permissible front axle load	211 kg (466 lbs)
Max. permissible rear axle load	335 kg (737 lbs)
Max. permissible laden weight	350 kg (770 lbs)

STANDARD-ADJUSTMENT - SHOCK ABSORBER			
118 S 701			
Compression adjuster	3		
Rebound adjuster 5			
Spring 66/260			
Spring preload	23 mm		

NOTE FOR WP EXTREME FORKS: The damping units in the left and the right fork leg are of different design. Make sure not to mix them up in case of repair or service works.

Art.-Nr. 3.206.006 -E

STANDARD ADJUSTMENT - FORK			
	918 S 757		
Compression adjuster	12		
Rebound adjuster	12		
Spring	4,4 N/mm		
Spring preload	10 mm		
Air chamber length	160 mm		
Capacity per fork leg	ca. 800 ccm		
Fork oil	SAE 5		

TORQUES			
Collar bolt front axle	M 10	40 Nm	(30 ft.lb)
Brake caliper front	M 8	25 Nm	(19 ft.lb)
		+	Loctite 243
Collar nut rear axle	M 20x1,5	80 Nm	(59 ft.lb)
Hex. nut swing arm bolt	M 14x1,5	100 Nm	(74 ft.lb)
Clamping bolt top triple clamp	M 8	15 Nm	(11 ft.lb)
Clamping bolt bottom triple clamp	M 8	20 Nm	(15 ft.lb)
Clamping bolts fork leg axle passage	M8	10 Nm	(7 ft.lb)
Other bolts chassis	M6 M8 M10	10 Nm 25 Nm 45 Nm	(7 ft.lb) (19 ft.lb) (33 ft.lb)

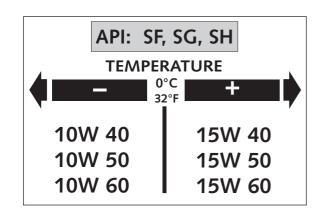
# TECHNICAL DATA - ENGINE 400 / 640 LC4 '98

Engine	400 LC4	640 LC4	
Design	Liquid-cooled single cylinder 4-stroke engine with balancer shaft and electric starter		
Displacement	398 ccm	624.6 ccm	
Bore / Stroke	89 / 64 mm	101 / 78 mm	
Ratio	10,8 : 1	11 : 1	
Fuel	unleaded premium gasoline with a least RON 95		
Valve timing	4 valves over rocker arm and 1 overhead camshaft, camshaft drive through single chain		
Camshaft	249° (249/1)		
Valve timing by 1 mm	IO 22° BTDC EO 60° BBDC	IO 13° BTDC EO 53° BBDC	
valve clearence	IC 47° ABDC EC 4° ATDC	IC 51° ABDC EC 11° ATDC	
Valve diameter	Intake: 36 mm Exhaust: 30 mm		
Valve clearence cold	Intake: 0,20 mm Exhaust: 0,20 mm	0,15 mm Exhaust: 0,15 mm	
Crank shaft bearing	2 cylinder roller bearing		
Connecting rod bearing	needle bearing		
Top end bearing	bronze bushing		
Piston	forged/cast aluminium alloy		
Piston rings	1 compression ring, 1 taper face ring, 1 oil scraper ring		
Engine lubrication	two Eaten-oilpumps		
Engine oil	see bellow #		
Engine oil quantity	appr. 2,1 liters including frame		
Primary ratio	straight geared spur wheels 30 : 81 teeth		
Clutch	multi disc clutch in oil bath		
Transmission	5-speed claw shifted		
Ignition system	contactless DC-CDI ignition with digital advanced system type KOKUSAN		
Ignition timing	adjustment to max. 38° BTDC at 6000 rpm		
Generator	12V 200W		
Spark plug	NGK DR8EA		
Spark plug gap	0,7 mm		
Cooling system	liquid cooled, permanent rotation of cooling liquid through mechanic driven water pump		
Cooling liquid	1 liter, 40% antifreeze, 60% water, at least -25 ° C (-13 ° F)		
Starting equipment	electric starter and kickstarter		

ASSEMBLY CLEARANCE, WEAR LIMIT				
Crank shaft	axial play0,03 - 0,12 mm	(0,001-0,005 in)		
	run out of crank studmax. 0,08 mm	(0,0031 in)		
Connecting rod bearing	radial playmax. 0,05 mm	(0,0019 in)		
	axial playmax. 1,00 mm	(0,04 in)		
Piston	assembly clearancemax. 0,12 mm	(0,005 in)		
Piston rings end gap	compression ringsmax. 0,60 mm	(0,023 in)		
	oil scraper ringmax. 0,80 mm	(0,031 in)		
Valves	seat sealing intakemax. 1,50 mm	0,059 in)		
	seat sealing exhaustmax. 2,00 mm	(0,079 in)		
	run out of valve headsmax. 0,05 mm	(0,002 in)		
	valve guides diametermax. 7,05 mm	(0,277 in)		
Oil pump	clearance outer rotor - housingmax. 0,20 mm	(0,008 in)		
	clearance outer rotor - inner rotormax. 0,20 mm	(0,008 in)		
Bypaß valve	minimum spring lenght25 mm	(1 in)		
Clutch discs	wear limit organic2,5 mm	(0,1 in)		
Transmission shafts	axial play0,1 - 0,4 mm	(0,004 in)		
Clutch	minimum clutch spring lenght	36 in - new 1,45 in)		

TIGHTENING TORQUES - ENGINI	E	
Hexagon nut at primary gear	M20x1,5	Loctite 243 + 170Nm (125 ft.lb)
Hexagon nut flywheel	M16x1,25 LH thread	150 Nm (110 ft.lb)
Hexagon nut for inner clutch hub	M18x1,5	80 Nm (59 ft.lb)
Kickstarter stop bolt	M12x1,5	50 Nm (37 ft.lb)
Allen head bolts oil pump	M6	Loctite 243 + 8 Nm (6 ft.lb)
Hexagon bolt camshaft gear	M10	Loctite 243 + 35 Nm (26 ft.lb)
Allen head bolts outer race	M6x12/M6x12,5	Loctite 648 + 18 Nm (13 ft.lb)
Allen head bolt cylinder head top sect.	M6x50/M6x55 (12.9)	20 Nm (15 ft.lb)
Allen head bolt cylinder head top sect.	M6x25/M6x65/M6x70 (8.8)	8 Nm (6 ft.lb)
Cylinder head bolts	M10	50 Nm (37 ft.lb)
Collar nuts at cylinder base	M10	40 Nm (30 ft.lb
Hexagon bolt chain sprocket	M10	Loctite 243 + 40 Nm (30 ft.lb)
Oil drain plug	M22x1,5	30 Nm (22 ft.lb
Magnetic plug	M12x1,5	20 Nm (15 ft.lb)
Plug bypass valve	M12x1,5	20 Nm (15 ft.lb)
Crankshaft locating bolt	M8	25 Nm (18 ft.lb)
Hollow bolts oil lines	M8x1	10 Nm (7 ft.lb)
Hollow bolts oil lines	M10x1	15 Nm (11 ft.lb)
Jet screw clutch cover	M8	10 Nm (7 ft.lb)
Bolt plug timing-chain tensioner	M12x1,5	20 Nm (15 ft.lb)
Counternuts valve adjusting screws	M7x0,75	20 Nm (15 ft.lb)
Engine fastening bolt	M8	40 Nm (30 ft.lb)
	M10	70 Nm (52 ft.lb)

GEAR RATIOS				
Primary ratio	Transmission	Original final drive ratio	Available chain drive sprockets	Available final drive sprockets
30:81	1st gear14:352nd gear15:243rd gear18:214th gear20:195th gear22:18	15:45 16:40 16:42 17:38	15 16 for chain 17 <sup>5</sup> ∕8 x <sup>1</sup> ⁄4"	38 40 42 45 48 for chain ⁵/₅ x ¹/₄"



### Engine oil

Use only oil brands (Shell Advance Ultra 4), which meet quality requirements of API-classes SF, SG or SH (informations on bottles) or higher. Both, mineral and synthetic oils with above specifications can be used.



Poor oil quality or minor quantity effect early engine-wear.

BASIC CARBURETOR SETTING				
	<b>400 LC4</b> 25 kW	<b>400 LC4</b> 31 kW		
Carburetor	PHM 38 ND	PHM 38 ND		
Carburetor setting number	100197	100197		
Main jet	130	130		
Needle jet	AR 264	AR 264		
Idling jet	50	50		
Jet needle	K 23	K 23		
Needle position from top	2 nd	2 nd		
Mixture.adju. screw open	1,5 turn	1,5 turn		
Throttle valve	50/1	50/1		
Starting jet	45 (50, 55)	45 (50, 55)		
Performance restrictor	slide stop 51 mm	_		

BASIC CARBURETOR SETTING					
	640 DUKE-E 640 ADVR 25 kW	640 DUKE-E 640 ADVR <sup>37 kW</sup>	<b>640 LC4</b> 25 kW	<b>640 LC4</b> 37 kW	
Туре	PHM 40 SD	PHM 40 SD	BST40-225	BST40-225	
Carbsetting number	210198	210198	080298	080298	
Main jet	155	155	142,5	142,5	
Needle jet	DR 268	DR 268	689 X-6	689 X-6	
Idling jet	45	45	45	45	
Jet needle	K 51	K 51	6G5	6G5	
Needle clip pos. f. top	4. from top	4. from top	3 rd	3 rd	
Mixt. adj. screw open	1.5 turns	1,5 turns	_	-	
Throttle valve	40	40	_	_	
Starting jet	55	55	_	-	
Performance restrictor	slide stop 28mm	_	slide stop 17 mm	_	

# TECHNICAL SPECIFICATIONS - CHASSIS 400 / 640 LC4 '98

	400/640 LC4 '98	
Frame	Central chrome-moly-steel frame	
Fork	WP Extreme	
Wheel travel front/rear	280 / 320 mm (11 / 12.6 in)	
Rear suspension	Central shock absorber WP IBS with PRO-LEVER linkage to rear- swing-arm with needle bearing	
Front brake	Disc brake with carbon-steel brake disc $\emptyset$ 300 mm (11.8 in), brake caliper floated	
Rear brake	Disc brake with carbon-steel brake disc $\varnothing$ 220 mm (8.7 in), brake caliper floated	
Tyres front	90/90 - 21 Enduro 3	
Air press. road, driver only	1.5 bar (22 psi)	
Air press. road with passenger	2.0 bar (29 psi)	
Tyres rear	140/80 - 18 Enduro 3	
Air press. road, driver only	2.0 bar (29 psi)	
Air press. road with passenger	2.2 bar (31 psi)	
Fuel tank capacity	12 liter (3.2 US gallons), 2.5 liter (0,6 US gallons) reserve	
Final drive ratio	400 LC4 = 15:45t	
	640 LC4 = 16:42t	
Chain	O – Ring <sup>5</sup> /8 x <sup>1</sup> /4"	
Battery	maintenance-free battery 12V 8Ah	
Steering angle	62,5 °	
Wheel base	1510 ± 10 mm (59.4 ± 0.4 in)	
Seat high	955 mm (37.6 in)	
Ground clearance	355 mm (37.8 in)	
Dead weight without fuel	136 kg (300 lbs)	
Max. permissible front axle load	211 kg (465 lbs)	
Max. permissible rear axle load	335 kg (740 lbs)	
Max. permissible laden weight	350 kg (773 lbs)	

STANDARD ADJUSTMENT - FORK				
9185757				
Compression adjuster 12				
Rebound adjuster 12				
Spring 4,4 N/mm				
Spring preload	10 mm (0,4 in)			
Air chamber length 160 mm (6,3 in)				
Capacity per fork leg ca 800 ccm				
Fork oil         SAE 5				

STANDARD-ADJUSTMENT - SHOCK ABSORB				
1185701				
Compression adjuster	3			
Rebound adjuster	5			
Spring	66/260			
Spring preload	23 mm (0,9 in)			

Art.-Nr. 3.206.006 -E

TORQUES			
Collar bolt front axle	M10	40 Nm	(30 ft.lb)
Brake caliper front	M8	Loctite 243 + 25 Nm	(20 ft.lb)
Collar nut rear axle	M20x1	,5 80 Nm	(60 ft.lb)
Hex. nut swing arm bolt	M14x1,	5 100 Nm	(74 ft.lb)
Clamping bolt upper fork bridge	M8	25 Nm	(11 ft.lb)
Clamping bolt lower fork bridge	M8	20 Nm	(15 ft.lb)
Clamping bolts fork stubs	M8	10 Nm	(7 ft.lb)
Other bolts chassis	M6	10 Nm	(7 ft.lb)
	M8	25 Nm	(20 ft.lb)
	M10	45 Nm	(33 ft.lb)

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ADVENTURE
640
<b>CHASSIS</b>
TECHNICAL SPECIFICATIONS - CHASSIS 640 ADVENTURE R '98
TECHNICA

	640 ADVENTURE R
	Central chrome-moly-steel frame
	WP-Extreme Ø 50 mm
	300 / 320 mm (11,8 / 12,6 in)
	Central shock absorber WP IBS with PRO-LEVER linkage to rear- swing-arm with needle bearing
	Disc brake with carbon-steel brake disc $arnothing$ 300 mm (11,8 in), brake caliper floated
28 liter (7,4 US,	Disc brake with carbon-steel brake disc $arnothing220~{ m mm}$ (8,7 in), brake caliper floated
28 liter (7,4 US	90/90 - 21 545 Enduro 3
28 liter (7,4 US , mai	1,5 bar (22 psi)
28 liter (7,4 US, mai	2,0 bar (29 psi)
28 liter (7,4 US	140/80 - 18 70R Enduro 3
28 liter (7,4 US i mai	2,0 bar (29 psi)
28 liter (7,4 US, mai	2,2 bar (31 psi)
	28 litter (7,4 US gallons), 3,8 litter (1 US gallons) reserve
	16:40 t
	$O - Ring^{5/8} \times ^{1/4}$ "
	maintenance-free battery 12V 8Ah
	62,5 °
Seat high Ground clearance Dead weight without fuel Max. permissible rear axle load Max. permissible rear axle load	1510 ± 10 mm (59,4 ± 0,4 in)
Ground clearance Dead weight without fuel Max. permissible rear axle load Max. permissible rear axle load	940 mm (37 in)
Dead weight without fuel Max. permissible front axle load Max. permissible rear axle load	320 mm (12,6 in)
Max. permissible front axle load Max. permissible rear axle load	154kg (340 lbs)
Max. permissible rear axle load	150 kg (331 lbs)
	230 kg (507 lbs)
Max. permissible laden weight	380 kg (839 lbs)

STANDARD ADJUSTMENT - FORK	- FORK
	09.18.S7.55
Compression adjuster	14
Rebound adjuster	12
Spring	4,4 N/mm
Spring preload	10 mm (0,4 in)
Air chamber length	155 mm (5,9 in)
Capacity per fork leg	ca 800 ccm
Fork oil	SAE5

STANDARD-ADJUSTMENT - SHOCK ABSORBER	<b>1 - SHOCK ABSORBER</b>
	01.18.R7.97
Compression adjuster	£
Rebound adjuster	5
Spring	70/260
Spring preload	23 mm (0,9 in)

TORQUES				
Collar bolt front axle	M 10	40 Nm	(30 ft.lb)	
Collar nut rear axle	M 20x1,5	80 Nm	(59 ft.lb)	
Hex. nut swing arm bolt	M 14x1,5	100 Nm	(74 ft.lb)	
Clamping bolt upper fork bridge	M 8	15 Nm	(11 ft.lb)	
Clamping bolt lower fork bridge	M 8	20 Nm	(15 ft.lb)	
Clamping bolts fork stubs	M 8	10 Nm	(7 ft.lb)	
Other bolts chassis	M6	10 Nm	(7 ft.lb)	
	M8	25 Nm	(19 ft.lb)	
	M10	45 Nm	(33 ft.lb)	

# TECHNICAL SPECIFICATIONS - CHASSIS KTM 640 DUKE-E '98

Туре		640 DUKE	last edition	
Frame	(	Central chrome-	moly-steel frame	
Fork	type wheel travel standard adjustment compre standard adjustment reboun fork leg projection upper for oil capacity per fork leg air chamber lenght	d	140 mm (5,5 driver only = driver only = 10 mm (0,4 i	14, with passenger = 14 14, with passenger = 14 n) n (45 cubic in) / SAE 5
Rear suspension	WP central shock absorber with PRO-LEVER linkage to rear- swing-arm with needle bearing			
WP central shock absorber BAVF 170 mm (6.7 in)				type
driver only = 3, with passenge driver only = 5, with passenge	r = 5 r = 3			andard adjustment compression standard adjustment rebound
70 - 260	1 01			
Front brake	Disc brake with carbon-stee	el brake disc Ø 3	320 mm (12,6 in)	and 4-piston brake caliper
Rear brake	Disc brake with carbon-steel b	rake disc Ø 220	mm (8,7 in) and s	ingle-piston brake caliper floated
Tyres Air pressure rider only Air pressure with passenger	front: 120/7 2.0 bar 2.2 bar	(29 psi)		rear: 160/60 R 17 69H 2.2 bar (32 psi) 2.4 bar (35 psi)
Fuel tank capacity	11,3 liter (3 US gal	llons), out of thi	s 1,5 liter (0,42 L	JS gallons) reserve
Final drive ratio		17	: 38	
Chain		o-ring	<sup>5</sup> / <sub>8</sub> x <sup>1</sup> / <sub>4</sub> "	
Lamps	low beam high beam parking light speedometer, tachometer light indicator lamp stop and taillight flasher	H1 12V 55W ( H1 12V 55W ( 12V 4W (sock 12V 1,2W (soc 12V 1,2W (soc 12V 21/5W (soc 12V 21/5W (soc	socket P14,5s) et Ba9s) cket W2x4,6d) cket W2x4,6d) ocket BaY15d)	HS1 12V 35/35W (socket Px43t) HS1 12V 35/55W (socket Px43t) 12V 4W (socket W2.1 9,5D) 12V 1,2W (socket W2x4.6d) 12V 1,2W (socket W2x4.6d) 12V 21/5W (socket BaY15d) 12V 10W (socket Ba15s)
Battery	m	aintenance-free	battery 12V 8A	h
Steering angle		62	,5°	
Wheel base		1460 ± 15 mm	(57.5 ± 0.6 in)	
Seat high		860 mm	(33.9 in)	
Ground clearance	250 mm (9.9 in)			

TORQUES		
Front axle	M 17	40 Nm (30 ft.lb)
Rear axle	M 20x1.5	80 Nm (59 ft.lb)
Hex. nut swing arm bolt	M 14x1.5	100 Nm (74 ft.lb)
Clamping bolt upper fork bridge	M 8	15 Nm (18 ft.lb)
Clamping bolt lower fork bridge	M 8	15 Nm (11 ft.lb)
AH bolts front brake caliper	M10	40 Nm (30 ft.lb)
AH bolt rear brake caliper support	M10	40 Nm (30 ft.lb)
Collar nuts chain tension eccentrics	M10	40 Nm (30 ft.lb)
Clamping bolts fork stubs	M 8	15 Nm (11 ft.lb)
Other bolts chassis	M6	10 Nm (7 ft.lb)
	M8	25 Nm (22 ft.lb)
	M10	45 Nm (33 ft.lb)

### TECHNICAL SPECIFICATIONS – ENGINE 400/540 SXC, 620 SX '99

Engine	400 SXC	540 SXC	620 SX		
Design	Li	quid-cooled single cylinder 4-stroke en	gine		
Displacement	398 ccm	538,5 ccm	609 ccm		
Bore / Stroke	89 / 64 mm		101 / 76 mm		
Ratio	10,8 : 1	11,3 : 1	11,5 : 1		
Fuel	unle	unleaded premium gasoline with at least RON 95			
Valve timing	4 valves over rocker arr	4 valves over rocker arm and 1 overhead camshaft, camshaft drive through single chain			
Camshaft		249/1			
Valve timing by 1 mm	IO 22° BTDC EO 60° BBDC	IO 13° BTDC	EO 53° BBDC		
valve clearance	IC 42° ABDC EC 4° ATDC	IC 51° ABDC	EC 11° ATDC		
Valve diameter		Intake: 36 mm Exhaust: 30 mm			
Valve clearance cold	Intake: 0,20 mm Exhaust: 0,20 mm	Intake: 0,15 mm	Exhaust: 0,15 mm		
Crankshaft bearing		2 cylinder roller bearing			
Conrod bearing		needle bearing			
Top end bearing		bronze bushing			
Piston		forged/cast aluminium alloy			
Piston rings	1 comp	1 compression ring, 1 taper face ring, 1 oil scraper ring			
Engine lubrication	force	ed-feed lubrication through 2 Eaten-oil	lpumps		
Engine oil		see bellow #			
Engine oil quantity		1,45 liters (0,38 US gallons)			
Primary ratio	5	straight geared spur wheels 30 : 81 te	eth		
Clutch		multi disc clutch in oil bath			
Transmission		5-speed claw shifted			
Gear ratio		1st 14:35			
		2nd 15:24			
		3rd 18:21			
		4th 20:19			
		5th 22:18			
Ignition system	contactless thy	ristor ignition with electronic advanced	system type SEM		
Ignition timing	400 SXC/6	20 SX: adjustment to max. 38 ° BTDC	C at 6000 rpm		
	540 SX	C: adjustment to max. 32 ° BTDC at	6000 rpm		
Generator		12V 130W			
Spark plug		NGK D8EA NGK DPR8 EA-9			
Spark plug gap		0,90 mm			
Cooling system	liquid cooled, permanen	t rotation of cooling liquid through me	echanic driven water pump		
Cooling liquid	1 liter, 40	% antifreeze, 60% water, at least -25	5°C (–13°F)		
Starting equipment	decompressor autom	atic and hand actuated, cold and hot s	tart knob on carburetor		

BASIC CARBURETOR SETTING					
	400 SXC	400 SC (20 kW)	540 SXC	540 SXC (20 kW)	620 SX
Carburetor	PHM 38 ND	PHM 38 ND	VHSB 38 QS	VHSB 38 QS	PHM 40 SD
Carburetor setting number	120198	120198	081297	091297	4922
Main jet	150 (155)	150 (155)	185	140 (185)	195
Needle jet	AB 265	AB 265	FN 260 (FN 258)	FN 260 (FN 258)	DR 272
Idling jet	52 (50)	52 (50)	33	33	45
Jet needle	K 11	K 11	K 35 (K 32)	K 35 (K32)	K 51
Needle position from top	I	1	11	II	Ш
Mixture.adju. screw open	1,5 turn	1,5 turn	1,5 turn	1,5 turn	1,5 turn
Throttle valve	50/1	50/1	50	50	40
Starting jet	45	45	40	40	45
Performance restrictor	_	slide stop 48mm	_	slide stop 36mm	_
Pump jet	33 (38)	33 (38)	-	_	-

ASSEMBLY CLE	ARANCE, WEAR LIMIT	
Crank shaft	axial play0,03 - 0,12 mm	(0,001-0,005 in)
	run out of crank studmax. 0,08 mm	(0,003 in)
Conrod bearing	radial playmax. 0,05 mm	(0,002 in)
	axial playmax. 1,00 mm	(0,04 in)
Piston forged	assembly clearancemax. 0,12 mm	(0,005 in)
Piston cast	assembly clearancemax. 0,05 mm	(0,002 in)
Piston rings end gap	compression ringsmax. 0,60 mm	(0,023 in)
	oil scraper ringmax. 0,80 mm	(0,031 in)
Valves	seat sealing intakemax. 1,50 mm	0,059 in)
	seat sealing exhaustmax. 2,00 mm	(0,080 in)
	run out of valve headsmax. 0,03 mm	(0,001 in)
	valve guides diametermax. 7,05 mm	(0,277 in)
Oil pump	clearance outer rotor - housingmax. 0,20 mm	(0,008 in)
	clearance outer rotor - inner rotormax. 0,20 mm	(0,008 in)
Bypaß valve	minimum spring length25 mm	(1 in)
Clutch discs	wear limit organic2,5 mm	(0,1 in)
Clutch springs	minimum length	(1,36 in - new 1,45 in)
Transmission shafts	axial play0,1 - 0,4 mm	(0,004 - 0,016 in)

<b>TIGHTENING TORQUES -</b>	ENGINE		
Hexagon nut at primary gear	M 20x1,5	Loctite 243 +170 Nm	(125 ft.lb)
Collar nut flywheel	M 12x1 LH thread	60 Nm	(44 ft.lb)
Hexagon nut for inner clutch hub	M 18x1,5	Loctite 648 + 80 Nm	(59 ft.lb)
Kickstarter stop bolt	M 12x1,5	50 Nm	(37 ft.lb)
AH bolts oil pump	M 6	Loctite 243 + 8 Nm	(6 ft.lb)
Hexagon bolt camshaft gear	M 10	Loctite 243 + 35 Nm	(26 ft.lb)
AH bolt cylinder head top sect.	M 6x25	8 Nm	(6 ft.lb)
AH bolt cylinder head top sect.	M 6x50/M 6x55 (12.9)	20 Nm	(15 ft.lb)
AH bolt cylinder head top sect.	M 6x65/M 6x70 (8.8)	8 Nm	(6 ft.lb)
Cylinder head bolts	M 10	50 Nm	(37 ft.lb)
Collar nuts at cylinder base	M 10	40 Nm	(30 ft.lb)
Hexagon bolt chain sprocket	M 10	Loctite 243 + 40 Nm	(30 ft.lb)
Oil drain plug	M 22x1,5	30 Nm	(22 ft.lb)
Magnetic plug	M 12x1,5	20 Nm	(15 ft.lb)
Plug bypass valve	M 12x1,5	20 Nm	(15 ft.lb)
Banjo bolts oil lines	M 8x1	10 Nm	(7 ft.lb)
Banjo bolt oil lines	M 10x1	15 Nm	(11 ft.lb)
Jet screw clutch cover	M 8x1	10 Nm	(7 ft.lb)
Bolt plug timing-chain tensioner	M 12x1,5	20 Nm	(15 ft.lb)
Counternuts valve adjusting screws	M 7x0,75	20 Nm	(15 ft.lb)
Spark plug	M 12x1,25	20 Nm	(15 ft.lb)
Crankshaft locking bolt	M 8	25 Nm	18 ft.lb)
Engine fastening bolt	M 8	40 Nm	(30 ft.lb)
	M 10	70 Nm	(51 ft.lb)

		с сн	
	0°C		
	32°F	T	
40		15W	40
50		15W	50
60		15W	60
		TEMPERA           0°C           32°F           40           50	40 15W 50 15W

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**Engine oil** Use only oil brands, (Shell Advance Ultra 4) which meet quality requirements of API-classes SF, SG or SH (informations on bottles) or higher. Both, mineral and synthetic oils with above specifications can be used.

CAUTION	ļ

POOR OIL QUALITY OR MINOR QUANTITY EFFECT EARLY ENGINE-WEAR.

# TECHNICAL SPECIFICATIONS - CHASSIS 400/540 SXC, 620 SX '99

	400/540 SXC	620 SX	
Frame	Central chrome-moly-steel frame		
Fork	W	P Extreme	
Wheel travel front/rear	280/320	mm (11/12,6 in)	
Rear suspension	Central shock absorber (WP) with PRO-LE	VER linkage to rear-swingarm with needle bearing	
Front brake	Disc brake with carbon-steel brake dis	sc Ø 260 mm (10,2 in), brake caliper floated	
Rear brake	Disc brake with carbon-steel brake d	isc Ø 220 mm (8,7 in), brake caliper floated	
Tyres front	90/90-21 54R	80/100-21 51M	
Air pressure offroad	1,0 bar (14 psi)	1,0 bar (14 psi)	
Air press. road, driver only	_	1,5 bar (21 psi)	
Tyres rear	140/80-18 70R	110/90-19 62M	
Air pressure offroad	1,2 bar (17 psi)	1,2 bar (17 psi)	
Air press. road, driver only	2,0 bar (28 psi)	_	
Fuel tank capacity	9 liter (3 US gallons) of tha	t 1,5 liter (0,4 US gallons) reserve	
Final drive ratio	400 = 14 : 50, 540 = 15 : 50	15 : 50	
Chain	5/	8 x 1/4 "	
Steering angle		62,5°	
Wheel base	1510 ± 10 mm (59,4 ± 0,4 in)		
Seat high	940	mm (37 in)	
Ground clearance	375 r	nm (14,8 in)	
Dead weight without fuel	121 kg (267 lbs)	117 kg (258 lbs)	

STANDARD ADJUSTMENT - FORK				
	09.18.57.40	09.18.57.44		
Compression adjuster	8	12		
Rebound adjuster	12	12		
Spring	4,4 N/mm	4,2 N/mm		
Spring preload	8 mm	7 mm		
Air chamber length	140 mm	155 mm		
Capacity per fork leg	ca 800 ccm	ca 800 ccm		
Fork oil	SAE 5	SAE 5		

STANDARD ADJUSTMENT - SHOCK ABSORBER				
	01.18.S7.98 01.18.Q7.8			
Compression adjuster	3	3		
Rebound adjuster	5	4		
Spring	66/260	63/260		
Spring preload	17 mm	23 mm		

NOTE FOR WHITE POWER FORKS:

The damping units in the left and the right fork leg are of different design. Make sure not to mix them up in case of repair or service works.

TIGHTENING TORQUES -	- CHASSIS		
Collar bolt front axle	M 10	40 Nm	(30 ft.lb)
Brake caliper front	M 8	Loctite 243 + 25 Nm	(18 ft.lb)
Collar nut rear axle	M 20x1,5	80 Nm	(59 ft.lb)
Hex. nut swing arm bolt	M 14x1,5	100 Nm	(74 ft.lb)
Clamping bolt top triple clamp	M 8	15 Nm	(11 ft.lb)
Clamping bolt bottom triple clamp	M 8	20 Nm	(15 ft.lb)
Clamping bolts fork leg axle passage	M 8	10 Nm	(7 ft.lb)
Other bolts chassis	M 6	10 Nm	(7 ft.lb)
	M 8	25 Nm	(18 ft.lb)
	M 10	45 Nm	(33 ft.lb)

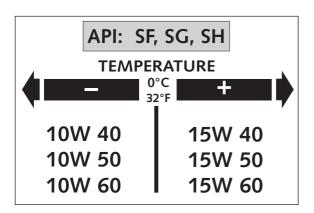
# TECHNICAL SPECIFICATIONS – ENGINE 400/620 Supercompetition '99

Engine	400 LC4	620 LC4		
Design	Liquid-cooled single cylinder 4-stroke engine with balancer shaft			
Displacement	398 ccm	609 ccm		
Bore / Stroke	89 / 64 mm	101 / 76 mm		
Ratio	10,8 : 1	10,4 : 1		
Fuel	unleaded premium gasc	line with a least RON 95		
Valve timing	4 valves over rocker arm and 1 overhead ca	amshaft, camshaft drive through single chain		
Camshaft	24	19/1		
Valve timing by 1 mm	IO 22° BTDC EO 60° BBDC	IO 15° BTDC EO 52° BBDC		
valve clearance	IC 42° ABDC EC 4° ATDC	IC 54° ABDC EC 17° ATDC		
Valve diameter	Intake: 36 mm	Exhaust: 30 mm		
Valve clearance cold	Intake: 0,20 mm Exhaust: 0,20 mm	Intake: 0,15 mm Exhaust: 0,15 mm		
Crank shaft bearing	2 cylinder r	oller bearing		
Conrod bearing	needle	bearing		
Top end bearing	bronze	bushing		
Piston	cast alum	inium alloy		
Piston rings	1 compression ring, 1 tape	r face ring, 1 oil scraper ring		
Engine lubrication	forced-feed lubrication t	hrough 2 Eaten-oilpumps		
Engine oil	see bellow #			
Engine oil quantity	1,6 liters (0,42 US gallons)			
Primary ratio	straight geared spur	wheels 30:81 teeth		
Clutch	multi disc clu	tch in oil bath		
Transmission	5-speed c	law shifted		
Gear ratio	1st 14:35			
	2	nd 15:24		
	3rd 18:21			
	4	th 20:19		
	5	th 22:18		
Ignition system	contactless thyristor ignition with elect	ronic advanced system type KOKUSAN		
Ignition timing	adjustment to max. 40 ° BTDC at 5000 rpm	adjustment to max. 36 ° BTDC at 5000 rpm		
Generator	12V	110W		
Spark plug	NGK DF	PR8 EA-9		
Spark plug gap	0,90	) mm		
Cooling system	liquid cooled, permanent rotation of cooling	liquid through mechanic driven water pump		
Cooling liquid	1 liter, 40% antifreeze, 60%	water, at least -25°C (-13°F)		
Starting equipment	decompressor automatic and hand actua	ted, cold and hot start knob on carburetor		

BASIC CARBURETOR SETTING					
	400 SC (20 kW)	400 SC	620 SC (20 kW)	620 SC	
Carburetor	PHM 38 SD	PHM 38 SD	PHM 40 SD	PHM 40 SD	
Carburetor setting number	300896	4894/6	110996	4922	
Main jet	150	190	155	195	
Needle jet	DR 266	DR 270 (DR 272)	DR 268	DR 272	
Idling jet	45	45	45	45	
Jet needle	K 51	K 51	K 51	K 51	
Needle position from top	3 rd	2 nd	3 rd	2 nd	
Mixture.adj. screw open	1,5 turn	1,5 turn	1,5 turn	1,5 turn	
Throttle valve	40	40	40	40	
Starting jet	45	45	45	45	
Performance restrictor	slide stop 22 mm	_	slide stop 26 mm	_	

ASSEMBLY CLE	ARANCE, WEAR LIMIT	
Crank shaft	axial play0,03 - 0,12 mm	(0,001-0,005 in)
	run out of crank studmax. 0,04 mm	(0,002 in)
Conrod bearing	radial playmax. 0,05 mm	(0,002 in)
	axial playmax. 1,00 mm	(0,04 in)
Piston forged	assembly clearancemax. 0,12 mm	(0,005 in)
Piston cast	assembly clearancemax. 0,05 mm	(0,002 in)
Piston rings end gap	compression ringsmax. 0,60 mm	(0,023 in)
	oil scraper ringmax. 0,80 mm	(0,031 in)
Valves	seat sealing intakemax. 1,50 mm	0,059 in)
	seat sealing exhaustmax. 2,00 mm	(0,080 in)
	run out of valve headsmax. 0,03 mm	(0,001 in)
	valve guides diametermax. 7,05 mm	(0,277 in)
Oil pump	clearance outer rotor - housingmax. 0,20 mm	(0,008 in)
	clearance outer rotor - inner rotormax. 0,20 mm	(0,008 in)
Bypaß valve	minimum spring length25 mm	(1 in)
Clutch discs	wear limit organic2,5 mm	(0,1 in)
Clutch springs	minimum length34,5 mm (new 37 mm)	(1,36 in - new 1,45 in)
Transmission shafts	axial play0,1 - 0,4 mm	(0,004 - 0,016 in)

<b>TIGHTENING TORQUES -</b>	ENGINE		
Hexagon nut at primary gear	M 20x1,5	Loctite 243 +170 Nm	(125 ft.lb)
Collar nut flywheel	M 12x1 LH thread	60 Nm	(44 ft.lb)
Hexagon nut for inner clutch hub	M 18x1,5	Loctite 648 + 80 Nm	(59 ft.lb)
Kickstarter stop bolt	M 12x1,5	50 Nm	(37 ft.lb)
AH bolts oil pump	M 6	Loctite 243 + 8 Nm	(6 ft.lb)
Hexagon bolt camshaft gear	M 10	Loctite 243 + 35 Nm	(26 ft.lb)
AH bolt cylinder head top sect.	M 6x25	8 Nm	(6 ft.lb)
AH bolt cylinder head top sect.	M 6x50/M 6x55 (12.9)	20 Nm	(15 ft.lb)
AH bolt cylinder head top sect.	M 6x65/M6x70 (8.8)	8 Nm	(6 ft.lb)
Cylinder head bolts	M 10	50 Nm	(37 ft.lb)
Collar nuts at cylinder base	M 10	40 Nm	(30 ft.lb)
Hexagon bolt chain sprocket	M 10	Loctite 243 + 40 Nm	(30 ft.lb)
Oil drain plug	M 22x1,5	30 Nm	(22 ft.lb)
Magnetic plug	M 12x1,5	20 Nm	(15 ft.lb)
Plug bypass valve	M 12x1,5	20 Nm	(15 ft.lb)
Banjo bolts oil lines	M 8x1	10 Nm	(7 ft.lb)
Banjo bolt oil lines	M 10x1	15 Nm	(11 ft.lb)
Jet screw clutch cover	M 8x1	10 Nm	(7 ft.lb)
Bolt plug timing-chain tensioner	M 12x1,5	20 Nm	(15 ft.lb)
Counternuts valve adjusting screws	M 7x0,75	20 Nm	(15 ft.lb)
Spark plug	M 12x1,25	20 Nm	(15 ft.lb)
Crankshaft locking bolt	M 8	25 Nm	18 ft.lb)
Engine fastening bolt	M 8	40 Nm	(30 ft.lb)
	M 10	70 Nm	(51 ft.lb)



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### Engine oil

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Use only oil brands (Shell Advance Ultra 4), which meet quality requirements of API-classes SF, SG or SH (informations on bottles) or higher. Both, mineral and synthetic oils with above specifications can be used.

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Poor oil quality or minor quantity effect early engine-wear.

### TECHNICAL SPECIFICATIONS - CHASSIS 400 / 620 Supercompetition **'99**

	400 SC	620 SC	
Frame	Central chrome-moly-steel frame		
Fork	White Power – L	Jp Side Down 43	
Wheel travel front/rear	295 / 320 mm	(11,6 / 12,6 in)	
Rear suspension	Central shock absorber (WP) with PRO-LEVER	R linkage to rear-swingarm with needle bearing	
Front brake	Disc brake with carbon-steel brake disc &	ð 260 mm (10,2 in), brake caliper floated	
Rear brake	Disc brake with carbon-steel brake disc	Ø 220 mm (8,7 in), brake caliper floated	
Tyres front	90/90-	-21 54R	
Air pressure offroad	1,0 bar	(14 psi)	
Air press. road, driver only	1,5 bar	(21 psi)	
Tyres rear	140/80-18 70R		
Air pressure offroad	1,2 bar	(17 psi)	
Air press. road, driver only	2,0 bar	(28 psi)	
Fuel tank capacity	9 liter (2,38 US gallons) of that 2	2,5 liter (0,66 US gallons) reserve	
Final drive ratio	16:48 (14:50)	16:40 (15:50)	
Chain	5/8 x 1/4	" O-Ring	
Steering angle	62,5°		
Wheel base	1510 ± 10 mm (59,4 ± 0,4 in)		
Seat high	940 mm (37 in)		
Ground clearance	375 mm (14,8 in)		
Dead weight without fuel	122 kg	(269 lbs)	

STANDARD ADJUSTMENT - FORK			
	05.18.T7.81		
Compression adjuster	10		
Rebound adjuster	12		
Spring	4,2 N/mm		
Spring preload	6 mm (0,24 in)		
Air chamber length	130 mm (5,1 in)		
Capacity per fork leg	app. 700 ccm		
Fork oil	SAE 5		

STANDARD-ADJUSTMENT - SHOCK ABSORBER			
	01.18.T7.05		
Compression adjuster	3		
Rebound adjuster	5		
Spring	63 / 260		
Spring preload	23 mm (0,9 in)		

NOTE FOR WHITE POWER FORKS:

The damping units in the left and the right fork leg are of different design. Make sure not to mix them up in case of repair or service works.

TIGHTENING TORQUES - CHASSIS				
Collar bolt front axle	M 10	40 Nm	(30 ft.lb)	
Brake caliper front	M 8	Loctite 243 + 25 Nm	(18 ft.lb)	
Collar nut rear axle	M 20x1,5	80 Nm	(59 ft.lb)	
Hex. nut swing arm bolt	M 14x1,5	100 Nm	(74 ft.lb)	
Collar bolts handlebar clamps	M 8	20 Nm	(15 ft.lb)	
Collar bolts handlebar support	M 10	40 Nm	(30 ft.lb)	
Clamping bolt top triple clamp	M 8	23 Nm	(17 ft.lb)	
Clamping bolt bottom triple clamp	M 8	18 Nm	(13 ft.lb)	
Clamping bolts fork leg axle passage	M 8	10 Nm	(7 ft.lb)	
Other bolts chassis	M 6	10 Nm	(7 ft.lb)	
	M 8	25 Nm	(18 ft.lb)	
	M 10	45 Nm	(33 ft.lb)	

### TECHNICAL SPECIFICATIONS – ENGINE 620 LC4 COMPETITION '99

Engine	620 LC4 COMPETITION		
Design	Liquid-cooled single cylinder 4-stroke engine with balancer shaft		
Displacement	609 cm <sup>3</sup>		
Bore / Stroke	101 / 76 mm		
Ratio	10,4 : 1		
Fuel	unleaded premium gasoline with a least RON 95		
Valve timing	4 valves over rocker arm and 1 overhead camshaft, camshaft drive through single chain		
Camshaft	249/1		
Valve timing by 1 mm	IO 15° BTDC EO 52° BBDC		
valve clearance	IC 54° ABDC EC 17° ATDC		
Valve diameter	Intake: 36 mm Exhaust: 30 mm		
Valve clearance cold	Intake: 0,15 mm Exhaust: 0,15 mm		
Crankshaft bearing	2 cylinder roller bearing		
Conrod bearing	needle bearing		
Top end bearing	bronze bushing		
Piston	cast aluminium alloy		
Piston rings	1 compression ring, 1 taper face ring, 1 oil scraper ring		
Engine lubrication	forced-feed lubrication through 2 Eaten-oilpumps		
Engine oil	see bellow #		
Engine oil quantity	2,1 liters including frame		
Primary ratio	straight geared spur wheels 30 : 81 teeth		
Clutch	multi disc clutch in oil bath		
Transmission	5-speed claw shifted		
Gear ratio	1st 14:35		
	2nd 15:24		
	3rd 18:21		
	4th 20:19		
	5th 22:18		
Ignition system	contactless thyristor ignition with electronic advanced system type SEM		
Ignition timing	adjustment to max. 32 ° BTDC at 6000 rpm		
Generator	12V 130W		
Spark plug	NGK DPR8 EA-9		
Spark plug gap	0,90 mm		
Cooling system	liquid cooled, permanent rotation of cooling liquid through mechanic driven water pump		
Cooling liquid	1 liter, 40% antifreeze, 60% water, at least $-25$ ° C (-13 ° F)		
Starting equipment	decompressor automatic and hand actuated, cold and hot start knob on carburetor		

TIGHTENING TORQUES - E	NGINE			
Hexagon nut at primary gear	M 20x1,5		Loctite 243 +170 Nm	(125 ft.lb)
Collar nut flywheel	M 12x1 LH 1	thread	60 Nm	(44 ft.lb)
Hexagon nut for inner clutch hub	M 18x1,5		Loctite 648 + 80 Nm	(59 ft.lb)
Kickstarter stop bolt	M 12x1,5		50 Nm	(37 ft.lb)
AH bolts oil pump	M 6		Loctite 243 + 8 Nm	(6 ft.lb)
Hexagon bolt camshaft gear	M 10		Loctite 243 + 35 Nm	(26 ft.lb)
AH bolt cylinder head top sect.	M 6x25		8 Nm	(6 ft.lb)
AH bolt cylinder head top sect.	M 6x50/M 6	6x55 (12.9)	20 Nm	(15 ft.lb)
AH bolt cylinder head top sect.	M 6x65/M 6	6x70 (8.8)	8 Nm	(6 ft.lb)
Cylinder head bolts	M 10		50 Nm	(37 ft.lb)
Collar nuts at cylinder base	M 10		40 Nm	(30 ft.lb)
Hexagon bolt chain sprocket	M 10		Loctite 243 + 40 Nm	(30 ft.lb)
Oil drain plug	M 22x1,5		30 Nm	(22 ft.lb)
Magnetic plug	M 12x1,5		20 Nm	(15 ft.lb)
Plug bypass valve	M 12x1,5		20 Nm	(15 ft.lb)
Banjo bolts oil lines	M 8x1		10 Nm	(7 ft.lb)
Banjo bolt oil lines	M 10x1		15 Nm	(11 ft.lb)
Jet screw clutch cover	M 8x1		10 Nm	(7 ft.lb)
Bolt plug timing-chain tensioner	M 12x1,5		20 Nm	(15 ft.lb)
Counternuts valve adjusting screws	M 7x0,75		20 Nm	(15 ft.lb)
Spark plug	M 12		20 Nm	(15 ft.lb)

	ARANCE, WEAR LIMIT	
Crank shaft	axial play0,03 - 0,12 mm	(0,001-0,005 in)
Clark shart		
	run out of crank studmax. 0,08 mm	(0,0031 in)
Conrod bearing	radial playmax. 0,05 mm	(0,0019 in)
	axial playmax. 1,00 mm	(0,04 in)
Piston	assembly clearancemax. 0,12 mm	(0,005 in)
Piston ring end gap	compression ringsmax. 0,60 mm	(0,023 in)
	oil scraper ringmax. 0,80 mm	(0,031 in)
Valves	seat sealing intakemax. 1,50 mm	0,059 in)
	seat sealing exhaustmax. 2,00 mm	(0,079 in)
	run out of valve headsmax. 0,05 mm	(0,002 in)
	valve guides diametermax. 7,05 mm	(0,277 in)
Oil pump	clearance outer rotor - housingmax. 0,20 mm	(0,008 in)
	clearance outer rotor - inner rotormax. 0,20 mm	(0,008 in)
Bypaß valve	minimum spring length25 mm	(1 in)
Clutch discs	wear limit organic2,5 mm	(0,1 in)
Transmission shafts	axial play0,1 - 0,4 mm	(0,004 in)
Clutch	minimum clutchspring length	(1,36 in - new 1,45 in)

BASIC CARBURETOR SETTING				
	620 LC4 COMP. 24 kW	620 LC4 COMP. 37 kW		
Carburetor	PHM 40 SD	PHM 40 SD		
Carburetor setting number	110996	110996		
Main jet	155	155		
Needle jet	DR 268	DR 268		
Idling jet	45	45		
Jet needle	K 51	K 51		
Needle position from top	3 rd	3 rd		
Mixture.adju. screw open	1,5 turn	1,5 turn		
Throttle valve	40	40		
Starting jet	45	45		
Performance restrictor	slide stop 26 mm	_		



	91: SF, 9	SG, SH	
	EMPER	•	
	0°C 32°F	+	
10W 4	40 I	15W	40
10W -		15W	
10W (	60	15W	60

### Engine oil

Use only oil brands,(Shell Advance Ultra 4) which meet quality requirements of API-classes SF, SG or SH (informations on bottles) or higher. Both, mineral and synthetic oils with above specifications can be used.

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Poor oil quality or minor quantity effect early engine-wear.

### TECHNICAL SPECIFICATIONS - CHASSIS 620 LC4 COMPETITION '99

	620 LC4 COMPETITION		
Frame	Central chrome-moly-steel frame		
Fork	WP Extreme		
Wheel travel front/rear	280 / 320 mm (11,0 / 12,6 in)		
Rear suspension	Central shock absorber (WP) with PRO-LEVER linkage to rear-swingarm with needle bearing		
Front brake	Disc brake with carbon-steel brake disc , brake caliper floated		
	brake disc $\emptyset$ = 300 mm (11,8 in)		
Rear brake	Disc brake with carbon-steel brake disc Ø 220 mm (8,7 in), brake caliper floated		
Tyres front	90/90-21 T63		
Air press. road, driver only	1,5 bar (21 psi)		
Air press. road with passenger	2,0 bar (28 psi)		
Tyres rear	130/80-18 T63		
Air press. road, driver only	2,0 bar (28 psi)		
Air press. road with passenger	2,2 bar (31 psi)		
Fuel tank capacity	12 liter (3,2 US gallons)		
	of that 2,5 liter (0,7 US gallons) res		
Final drive ratio	16:40		
Chain	O-ring 5/8 x 1/4"		
Battery	maintenance-free battery 12V 8Ah		
Steering angle	62,5°		
Wheel base	1510 ± 10 mm (59,4 ± 0,4 in)		
Seat high	955 mm (37,6 in)		
Ground clearance	335 mm (13,2 in)		
Dead weight without fuel	133 kg (293 lbs)		
Max. permissible front axle load	211 kg (466 lbs)		
Max. permissible rear axle load	335 kg (737 lbs)		
Max. permissible laden weight	350 kg (770 lbs)		

STANDARD ADJUSTMENT - FORK				
	918 S 757			
Compression adjuster	12			
Rebound adjuster	12			
Spring	4,4 N/mm			
Spring preload	10 mm			
Air chamber length	160 mm			
Capacity per fork leg	app. 800 ccm			
Fork oil	SAE 5			

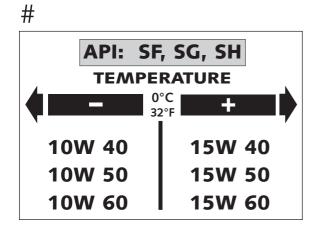
STANDARD-ADJUSTMENT - SHOCK ABSORBER				
118 S 701				
Compression adjuster	3			
Rebound adjuster	5			
Spring	66/260			
Spring preload	23 mm			

NOTE FOR WP EXTREME FORKS: The damping units in the left and the right fork leg are of different design. Make sure not to mix them up in case of repair or service works.

TIGHTENING TORQUES - CHASSIS					
Collar bolt front axle	M 10	40 Nm (30 ft.lb)			
Brake caliper front	M 8	25 Nm (19 ft.lb)			
		+ Loctite 243			
Collar nut rear axle	M 20x1,5	80 Nm (59 ft.lb)			
Hex. nut swing arm bolt	M 14x1,5	100 Nm (74 ft.lb)			
Clamping bolt top triple clamp	M 8	15 Nm (11 ft.lb)			
Clamping bolt bottom triple clamp	M 8	20 Nm (15 ft.lb)			
Clamping bolts fork leg axle passage	M 8	10 Nm (7 ft.lb)			
Other bolts chassis	M 6	10 Nm (7 ft.lb)			
	M 8	25 Nm (19 ft.lb)			
	M 10	45 Nm (33 ft.lb)			

### TECHNICAL DATA - ENGINE 400 / 640 LC4 '99

Engine	400 LC4-E	640 LC4-E		
Design	Liquid-cooled single cylinder 4-stroke engine with balancer shaft and electric starter			
Displacement	398 ccm	625 ccm		
Bore / Stroke	89 / 64 mm	101 / 78 mm		
Ratio	10,8 : 1	11 : 1		
Fuel	unleaded premium gaso	line with at least RON 95		
Valve timing	4 valves over rocker arm and 1 overhead ca	amshaft, camshaft drive through single chain		
Camshaft	24	9/1		
Valve timing by 1 mm	IO 22° BTDC EO 60° BBDC	IO 13° BTDC EO 53° BBDC		
valve clearance	IC 47° ABDC EC 4° ATDC	IC 51° ABDC EC 11° ATDC		
Valve diameter	Intake: 36 mm	Exhaust: 30 mm		
Valve clearance cold	Intake: 0,20 mm Exhaust: 0,20 mm	Intake: 0,15 mm Exhaust: 0,15 mm		
Crank shaft bearing	2 cylinder r	oller bearing		
Conrod bearing	needle	bearing		
Top end bearing	bronze	bushing		
Piston	forged/cast aluminium alloy			
Piston rings	1 compression ring, 1 taper face ring, 1 oil scraper ring			
Engine lubrication	two Eaten-oilpumps			
Engine oil	see bellow #			
Engine oil quantity	appr. 2,1 liters including frame			
Primary ratio	straight geared spur wheels 30 : 81 teeth			
Clutch	multi disc clutch in oil bath			
Transmission	5-speed claw shifted			
Gear ratio	1st	14:35		
	2nd	15:24		
	3rd 18:21			
	4th 20:19			
	5th	22:18		
Ignition system	contactless DC-CDI ignition with dig	ital advanced system type KOKUSAN		
Ignition timing	adjustment to max. 38° BTDC at 6000 rpm			
Generator	12V 200W			
Spark plug	NGK DPR8 EA-9			
Spark plug gap	0,90	) mm		
Cooling system	liquid cooled, permanent rotation of cooling liquid through mechanic driven water pump			
Cooling liquid	1 liter, 40% antifreeze, 60% water, at least -25 ° C (-13 ° F)			
Starting equipment	electric starter and kickstarter			



### Engine oil

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!	CAUTION	

POOR OIL QUALITY OR MINOR QUANTITY EFFECT EARLY ENGINE-WEAR.

BASIC CARBURETOR SETTING					
	<b>400 LC4</b> 25 kW	<b>400 LC4</b> 31 kW	<b>640 LC4</b> 25 kW	<b>640 LC4</b> 37 kW	
Carburetor	PHM 38 ND	PHM 38 ND	BST40-225	BST40-225	
Carburetor setting number	100197	100197	080298	090298	
Main jet	130	130	142,5	142,5	
Needle jet	AR 264	AR 264	689 X-6	689 X-6	
Idling jet	50	50	45	45	
Jet needle	К 23	K 23	6G5	6G5	
Needle position from top	2 nd	2 nd	3 rd	3 rd	
Mixture adj. screw open	1,5 turn	1,5 turn	-	-	
Throttle valve	50/1	50/1	_	-	
Starting jet	45 (50, 55)	45 (50, 55)	_	-	
Performance restrictor	slide stop 51 mm	_	slide stop 17 mm	-	

### **TIGHTENING TORQUES - ENGINE**

	GINE	
Hexagon nut at primary gear	M 20x1,5	Loctite 243 + 170 Nm (125 ft.lb)
Hexagon nut flywheel	M 16x1,25 LH thread	150 Nm (110 ft.lb)
Hexagon nut for inner clutch hub	M 18x1,5	80 Nm (59 ft.lb)
Kickstarter stop bolt	M 12x1,5	50 Nm (37 ft.lb)
Allen head bolts oil pump	M 6	Loctite 243 + 8 Nm (6 ft.lb)
Hexagon bolt camshaft gear	M 10	Loctite 243 + 35 Nm (26 ft.lb)
Allen head bolts outer race	M 6x12/M 6x12,5	Loctite 648 + 18 Nm (13 ft.lb)
Allen head bolt cylinder head top sect.	M 6x50/M 6x55 (12.9	<ol> <li>20 Nm (15 ft.lb)</li> </ol>
Allen head bolt cylinder head top sect.	M 6x25/M 6x65/M 6	x70 (8.8) 8 Nm (6 ft.lb)
Cylinder head bolts	M 10	50 Nm (37 ft.lb)
Collar nuts at cylinder base	M 10	40 Nm (30 ft.lb)
Hexagon bolt chain sprocket	M 10	Loctite 243 + 40 Nm (30 ft.lb)
Oil drain plug	M 22x1,5	30 Nm (22 ft.lb)
Magnetic plug	M 12x1,5	20 Nm (15 ft.lb)
Plug bypass valve	M 12x1,5	20 Nm (15 ft.lb)
Crankshaft locating bolt	M 8	25 Nm (18 ft.lb)
Hollow bolts oil lines	M 8x1	10 Nm (7 ft.lb)
Hollow bolts oil lines	M 10x1	15 Nm (11 ft.lb)
Jet screw clutch cover	M 8	10 Nm (7 ft.lb)
Bolt plug timing-chain tensioner	M 12x1,5	20 Nm (15 ft.lb)
Counternuts valve adjusting screws	M 7x0,75	20 Nm (15 ft.lb)
Engine fastening bolt	M 8	40 Nm (30 ft.lb)
	M 10	70 Nm (52 ft.lb)

### ASSEMBLY CLEARANCE, WEAR LIMIT

axial play0,03 - 0,12 mm (0,0012 - 0,0047 in)
run out of crank studmax. 0,04 mm (0,0031 in)
radial playmax. 0,05 mm (0,002 in)
axial playmax. 1,00 mm (0,043 in)
bore diametermax. 101,04 mm (3,9779 in)
assembly clearancemax. 0,12 mm (0,0047 in)
compression ringsmax. 0,80 mm (0,0315 in)
oil scraper ringmax. 1,0 mm (0,0394 in)
seat sealing intakemax. 1,50 mm (0,0591 in)
seat sealing exhaustmax. 2,00 mm (0,0788 in)
run out of valve headsmax. 0,05 mm (0,0019 in)
valve guides diametermax. 7,05 mm (0,2778 in)
clearance outer rotor - housingmax. 0,20 mm (0,0079 in)
clearance outer rotor - inner rotormax. 0,20 mm (0,0079 in)
minimum spring length25 mm (0,985 in)
clutchspring lengthmin. 34,5 mm (1,36 in), new 37 mm (1,458 in)
wear limit organicmin. 2,5 mm (0,0985 in)
diameter of bearing boltmin. 19,97 mm (0,7868 in) (needle bearing)
axial play0,1 - 0,4 mm (0,0039 - 0,0158 in)

# TECHNICAL SPECIFICATIONS - CHASSIS 400 LC4 / 640 LC4 (R) / SUPERMOTO '99

	400 LC4 / 640 LC4	640 Supermoto	400 LC4 R / 640 LC4 R	
Frame	Central chrome-moly-steel frame			
Fork	WP Extreme			
Wheel travel front/rear	280 / 320 mm	(11 / 12.6 in)	250 / 290 mm (10 / 11.4 in)	
Rear suspension	Central shock absorber (	WP) with PRO-LEVER linkage to rear- swi	ng-arm with needle bearing	
Front brake	Disc brake with ca	arbon-steel brake disc Ø300 mm (11.8 in),	, brake caliper floated	
Rear brake	Disc brake with c	arbon-steel brake disc Ø220 mm (8.7 in),	brake caliper floated	
Tyres front	90/90-21	120/70-17	90/90-21	
Air press. road, driver only	1.5 bar (22 psi)	2.0 bar (29 psi	1.5 bar (22 psi)	
Air press. road with passenger	2.0 bar (29 psi)	2.2 bar (31 psi)	2.0 bar (29 psi)	
Tyres rear	140/80-18	160/60-17	140/80-18	
Air press. road, driver only	2.0 bar (29 psi)	2.2 bar (31 psi)	2.0 bar (29 psi)	
Air press. road with passenger	2.2 bar (31 psi)	2.4 bar (34 psi)	2.2 bar (31 psi)	
Fuel tank capacity	12 or 18 liter (3.2 or 4.8 US gallons), 2.5 liter (0,6 US gallons) reserve			
Final drive ratio	400 LC4 - 15:45 640 LC4 - 16:42	17:40	16:42	
Chain	O – Ring <sup>5</sup> /8 x <sup>1</sup> /4"			
Battery	maintenance-free battery 12V 8Ah			
Steering angle	62,5 °	63°	62.5°	
Wheel base	1510 ± 10 mm (59.4 ± 0.4 in)			
Seat high	955 mm (37.6 in)	935 mm (36.8 in)		
Ground clearance	375 mm (14.8 in) 355 mm (13.9 in)			
Dead weight without fuel	136kg (300 lbs)	137 kg (302 lbs)	135 kg (298 lbs)	
Max. permissible front axle load		211 kg (465 lbs)		
Max. permissible rear axle load	335 kg (740 lbs)			
Max. permissible loaden weight	350 kg (773 lbs)			

STANDARD ADJUSTMENT - FORK					
	918\$757	9185776			
Compression adjuster	12	12			
Rebound adjuster	12	12			
Spring	4,4 N/mm	4,4 N/mm			
Spring preload	10 mm (0,4 in)	15 mm (0,6 in)			
Air chamber length	160 mm (6,3 in)	160 mm (6,3 in)			
Capacity per fork leg	app. 800 ccm	app. 800 ccm			
Fork oil	SAE 5	SAE 5			

STANDARD-ADJUSTMENT - SHOCK ABSORBER				
1185701 118Q784				
Compression adjuster	3	3		
Rebound adjuster	5	4		
Spring	66/260	63/260		
Spring preload	23 mm (0,9 in)	23 mm (0,9 in)		

<b>TIGHTENING TORQUES -</b>	CHASS	IS	
Collar bolt front axle	M 10	40 Nm	(30 ft.lb)
Brake caliper front	M 8 L	octite 243 + 25 Nm	(20 ft.lb)
Collar nut rear axle	M 20x1,	5 80 Nm	(60 ft.lb)
Hexagon nut swingarm bolt	M 14x1,5	5 100 Nm	(74 ft.lb)
Clamping bolt upper triple clamp	M 8	15 Nm	(11 ft.lb)
Clamping bolt lower triple clamp	M 8	20 Nm	(15 ft.lb)
Clamping bolts fork stubs	M 8	10 Nm	(7 ft.lb)
Other bolts chassis	M 6	10 Nm	(7 ft.lb)
	M 8	25 Nm	(20 ft.lb)
	M 10	45 Nm	(33 ft.lb)

# TECHNICAL DATA – ENGINE 640 LC4-E ADVENTURE R '99

Engine	640 LC4-E			
Design	Liquid-cooled single cylinder 4-stroke engine with balancer shaft and electric starter			
Displacement	625 ccm			
Bore / Stroke	101 / 78 mm			
Ratio	11,0 : 1			
Fuel	unleaded premium gasoline with a least RON 95			
Valve timing	4 valves over rocker arm and 1 overhead camshaft, camshaft drive through single chain			
Camshaft	249° (249/1)			
Valve timing by 1 mm	IO 13° BTDC EO 53° BBDC			
valve clearance	IC 51° ABDC EC 11° ATDC			
Valve diameter	Intake: 36 mm Exhaust: 30 mm			
Valve clearance cold	0,15 mm Exhaust: 0,15 mm			
Crank shaft bearing	2 cylinder roller bearing			
Conrod bearing	needle bearing			
Top end bearing	bronze bushing			
Piston	cast aluminium alloy			
Piston rings	1 compression ring, 1 taper face ring, 1 oil scraper ring			
Engine lubrication	two Eaten-oilpumps			
Engine oil	see below #			
Engine oil quantity	appr. 2,1 liters including frame			
Primary ratio	straight geared spur wheels 30 : 81 teeth			
Clutch	multi disc clutch in oil bath			
Transmission	5-speed claw shifted			
Gear ratio	1st 14:35			
	2nd 15:24			
	3rd 18:21			
	4th 20:19			
	5th 22:18			
Ignition system	contactless DC-CDI ignition with digital advanced system type KOKUSAN			
Ignition timing	adjustment to max. 38° BTDC at 6000 rpm			
Generator	12V 200W			
Spark plug	NGK DPR8 EA-9			
Spark plug gap	0,90 mm			
Cooling system	liquid cooled, permanent rotation of cooling liquid through mechanic driven water pump			
Cooling liquid	1 liter, 40% antifreeze, 60% water, at least -25 ° C (-13 ° F)			
Starting equipment	electric starter and kickstarter			

BASIC CARBURETOR SETTING					
	<b>640 ADVENTURE</b> 25 kW	640 ADVENTURE 36 kW			
Carburetor	BST40-225	BST40-225			
Carburetor setting number	080298	090298			
Main jet	142,5	142,5			
Needle jet	689 X-6	689 X-6			
Idling jet	45	45			
Jet needle	6G5	6G5			
Needle position from top	3 <sup>rd</sup>	3 <sup>rd</sup>			
Mixt. adj. screw open	-	-			
Throttle valve	-	-			
Starting jet	-	-			
Permormance restrictor	slide stop 17 mm	-			

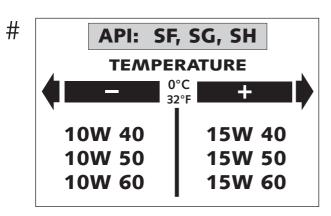
	TIGH	TENING	TORQUES	-	ENGINE
Г					

Hexagon nut at primary gear	M 20x1,5	Loctite 243 + 170 Nm (125 ft.lb)
Hexagon nut flywheel	M 16x1,25 LH thread	150 Nm (110 ft.lb)
Hexagon nut for inner clutch hub	M 18x1,5	80 Nm (59 ft.lb)
Kickstarter stop bolt	M 12x1,5	50 Nm (37 ft.lb)
Allen head bolts oil pump	M 6	Loctite 243 + 8 Nm (6 ft.lb)
Hexagon bolt camshaft gear	M 10	Loctite 243 + 35 Nm (26 ft.lb)
Allen head bolts outer race	M 6x12/M 6x12,5	Loctite 648 + 18 Nm (13 ft.lb)
Allen head bolt cylinder head top sect.	M 6x50/M 6x55 (12.9	9) 20 Nm (15 ft.lb)
Allen head bolt cylinder head top sect.	M 6x25/M 6x65/M 6	x70 (8.8) 8 Nm (6 ft.lb)
Cylinder head bolts	M 10	50 Nm (37 ft.lb)
Collar nuts at cylinder base	M 10	40 Nm (30 ft.lb)
Hexagon bolt chain sprocket	M 10	Loctite 243 + 40 Nm (30 ft.lb)
Oil drain plug	M 22x1,5	30 Nm (22 ft.lb)
Magnetic plug	M 12x1,5	20 Nm (15 ft.lb)
Plug bypass valve	M 12x1,5	20 Nm (15 ft.lb)
Crankshaft locating bolt	M 8	25 Nm (18 ft.lb)
Hollow bolts oil lines	M 8x1	10 Nm (7 ft.lb)
Hollow bolts oil lines	M 10x1	15 Nm (11 ft.lb)
Jet screw clutch cover	M 8	10 Nm (7 ft.lb)
Bolt plug timing-chain tensioner	M 12x1,5	20 Nm (15 ft.lb)
Counternuts valve adjusting screws	M 7x0,75	20 Nm (15 ft.lb)
Engine fastening bolt	M 8	40 Nm (30 ft.lb)
	M 10	70 Nm (52 ft.lb)

Crank shaft	axial play0,03 - 0,12 mm (0,0012 - 0,0047 in)
	run out of crank studmax. 0,08 mm (0,0031 in)
Conrod bearing	radial play max. 0,05 mm (0,002 in)
	axial playmax. 1,10 mm (0,043 in)
Cylinder	bore diametermax. 101,04 mm (3,9779 in)
Piston	assembly clearancemax. 0,12 mm (0,0047 in)
Piston ring end gap	compression ringsmax. 0,80 mm (0,0315 in)
	oil scraper ringmax. 1,0 mm (0,0394 in)
Valves	seat sealing intakemax. 1,50 mm (0,0591 in)

**ASSEMBLY CLEARANCE, WEAR LIMIT** 

assembly clearancemax. 0,12 mm (0,0047 in)
compression ringsmax. 0,80 mm (0,0315 in)
oil scraper ringmax. 1,0 mm (0,0394 in)
seat sealing intakemax. 1,50 mm (0,0591 in)
seat sealing exhaustmax. 2,00 mm (0,0788 in)
run out of valve headsmax. 0,05 mm (0,0019 in)
valve guides diametermax. 7,05 mm (0,2778 in)
clearance outer rotor - housingmax. 0,20 mm (0,0079 in)
clearance outer rotor - inner rotormax. 0,20 mm (0,0079 in)
minimum spring length25 mm (0,985 in)
clutchspring lengthmin. 34,5 mm (1,36 in), new 37 mm (1,458 in)
Wear limit organicmin. 2,5 mm (0,0985 in)
diameter of bearing boltmin. 19,97 mm (0,7868 in) (needle bearing)
axial play0,1 - 0,4 mm (0,0039 - 0,0158 in)



### Engine oil

Use only oil brands, which meet quality requirements of API-classes SF, SG or SH (informations on bottles) or higher. Both, mineral and synthetic oils with above specifications can be used.

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Poor	OIL	QUALITY	OR	MINOR	QUANTITY	EFFECT	EARLY
ENGINE	-WEA	R.					

# TECHNICAL SPECIFICATIONS - CHASSIS 640 ADVENTURE R '99

	640 ADVENTURE R			
Frame	Central chrome-moly-steel frame			
Fork	WP-Extreme Ø 50 mm			
Wheel travel front/rear	300 / 320 mm (11,8 / 12,6 in)			
Rear suspension	Central shock absorber WP IBS with PRO-LEVER linkage to rear- swing-arm with needle bearing			
Front brake	Disc brake with carbon-steel brake disc $arnothing$ 300 mm (11,8 in), brake caliper floated			
Rear brake	Disc brake with carbon-steel brake disc $arnothing$ 220 mm (8,7 in), brake caliper floated			
Tyres front	90/90 - 21 54S Enduro 3			
Air press. road, driver only	1,5 bar (22 psi)			
Air press. road with passenger	2,0 bar (29 psi)			
Tyres rear	140/80 - 18 70R Enduro 3			
Air press. road, driver only	2,0 bar (29 psi)			
Air press. road with passenger	2,2 bar (31 psi)			
Fuel tank capacity	28 liter (7,4 US gallons), 3,8 liter (1 US gallons) reserve			
Final drive ratio	16:40 t			
Chain	O – Ring 5/8 x 1/4"			
Battery	maintenance-free battery 12V 8Ah			
Steering angle	62,5 °			
Wheel base	1510 ± 10 mm (59,4 ± 0,4 in)			
Seat high	940 mm (37 in)			
Ground clearance	320 mm (12,6 in)			
Dead weight without fuel	154 kg (340 lbs)			
Max. permissible front axle load	150 kg (331 lbs)			
Max. permissible rear axle load	230 kg (507 lbs)			
Max. permissible loaden weight	380 kg (839 lbs)			

STANDARD ADJUSTMENT - FORK				
	09.18.57.55			
Compression adjuster	14			
Rebound adjuster	12			
Spring	4,4 N/mm			
Spring preload	10 mm (0,4 in)			
Air chamber length	155 mm (5,9 in)			
Capacity per fork leg	app. 800 ccm			
Fork oil	SAE 5			

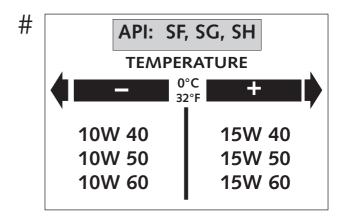
STANDARD-ADJUSTMENT - SHOCK ABSORBER				
01.18.R7.97				
Compression adjuster	3			
Rebound adjuster	5			
Spring	70/260			
Spring preload	23 mm (0,9 in)			

TORQUES			
Collar bolt front axle	M 10	40 Nm	(30 ft.lb)
Brake caliper front	M 8	Loctite 243 + 25 Nm	(18 ft.lb)
Collar nut rear axle	M 20x1,5	80 Nm	(59 ft.lb)
Hexagon nut swingarm bolt	M 14x1,5	100 Nm	(74 ft.lb)
Clamping bolt upper triple clamp	M 8	15 Nm	(11 ft.lb)
Clamping bolt lower triple clamp	M 8	20 Nm	(15 ft.lb)
Clamping bolts fork stubs	M 8	10 Nm	(7 ft.lb)
Other bolts chassis	M 6	10 Nm	(7 ft.lb)
	M 8	25 Nm	(19 ft.lb)
	M 10	45 Nm	(33 ft.lb)

### TECHNICAL DATA – ENGINE KTM 640 DUKE '99

Туре	640 LC4-E	
Design	Liquid-cooled single cylinder 4-stroke engine with balancer shaft and electric starter	
Displacement	625 ccm	
Bore / Stroke	101 / 78 mm	
Ratio	11,0 : 1	
Fuel	unleaded premium gasoline with a least RON 95	
Valve timing	4 valves over rocker arm and 1 overhead camshaft, camshaft drive through single chain	
Camshaft	249° (249/1)	
Valve timing by 1 mm	IO 13° BTDC EO 53° BBDC	
valve clearence	IC 53° ABDC EC 11° ATDC	
Valve diameter	Intake: 36 mm Exhaust: 30 mm	
Valve clearence cold	Intake: 0.15 mm Exhaust: 0.15 mm	
Crank shaft bearing	2 cylinder roller bearing	
Connecting rod bearing	needle bearing	
Top end bearing	bronze bushing	
Piston	cast aluminium alloy	
Piston rings	1 compression ring, 1 taper face ring, 1 oil scraper ring	
Engine lubrication	2 Eaton-Oilpumps	
Quantity of engine oil	see below #	
Engine oil	2.1 liters including frame	
Primary ratio	straight geared spur wheels 30 : 81 teeth	
Clutch	multi disc clutch in oil bath	
Transmission	5-speed claw shifted	
Gear ratio	1st 14:35	
	2nd 15:24	
	3rd 18:21	
	4th 20:19	
	5th 22:18	
Ignition system	contactless DC- CDI ignition with digital advanced system type KOKUSAN	
Ignition timing	adjustment to max. 38° BTDC at 6000 rpm	
Generator	12V 200W	
Spark plug	NGK DPR8 EA-9	
Spark plug gap	0.90 mm	
Cooling system	liquid cooled, permanent rotation of cooling liquid through mechanic driven water pump	
Cooling liquid	1 liter, 40% antifreeze, 60% water, at least -25° C (-13° F)	
Starting equipment	electric starter, kick starter	

BASIC CARBURETOR SETTING		
	<b>640 DUKE</b> 40 kW	
Carburetor	BST40-225	
Carburetor setting number	100299	
Main jet	145	
Needle jet	689 X-6	
Idling jet	45	
Jet needle	6G5	
Needle position from top	3 rd	
Mixture.adju. screw open	2,25 turn	



### Engine oil

Use only oil brands (Shell Advance Ultra 4), which meet quality requirements of API-classes SF, SG or SH (informations on bottles) or higher. Both, mineral and synthetic oils with above specifications can be used.



POOR OIL QUALITY OR MINOR QUANTITY EFFECT EARLY ENGINE-WEAR.

TIGHTENING TORQUES - E	NGINE	
Hexagon nut at primary gear	M 20x1,5	Loctite 243 + 170 Nm (125 ft.lb)
Hexagon nut flywheel	M 16x1,25 LH thread	150 Nm (110 ft.lb)
Hexagon nut for inner clutch hub	M 18x1,5	Loctite 243 + 80 Nm (59 ft.lb)
Kickstarter stop bolt	M 12x1,5	50 Nm (37 ft.lb)
Allen head bolts oil pump	M 6	Loctite 243 + 8 Nm (6 ft.lb)
Hexagon bolt camshaft gear	M 10	Loctite 243 + 35 Nm (26 ft.lb)
Allen head bolts outer race	M 6x12/M 6x12,5	Loctite 648 + 18 Nm (13 ft.lb)
Allen head bolt cylinder head top sect.	M 6x50/M 6x55 (12.9	) 20 Nm (15 ft.lb)
Allen head bolt cylinder head top sect.	M 6x25/M 6x65/M 6x	270 (8.8) 8 Nm (6 ft.lb)
Cylinder head bolts	M 10	50 Nm (37 ft.lb)
Collar nuts at cylinder base	M 10	40 Nm (30 ft.lb)
Hexagon bolt chain sprocket	M 10	Loctite 243 + 40 Nm (30 ft.lb)
Oil drain plug	M 22x1,5	30 Nm (22 ft.lb)
Magnetic plug	M 12x1,5	20 Nm (15 ft.lb)
Plug bypass valve	M 12x1,5	20 Nm (15 ft.lb)
Crankshaft locating bolt	M 8	25 Nm (18 ft.lb)
Hollow bolts oil lines	M 8x1	10 Nm (7 ft.lb)
Hollow bolts oil lines	M 10x1	15 Nm (11 ft.lb)
Jet screw clutch cover	M 8	10 Nm (7 ft.lb)
Bolt plug timing-chain tensioner	M 12x1,5	20 Nm (15 ft.lb)
Counternuts valve adjusting screws	M 7x0,75	20 Nm (15 ft.lb)
Engine fastening bolt	M 8	40 Nm (30 ft.lb)
	M 10	70 Nm (52 ft.lb)

ASSEMBLY CI	EARANCE, WEAR LIMIT
Crankshaft	axial play0,03 - 0,12 mm (0,0012 - 0,0047 in)
	run out of crank studmax. 0,08 mm (0,0031 in)
Conrod bearing	radial play 0,05 mm (0,002 in)
	axial playmax. 1,10 mm (0,043 in)
Cylinder	bore diametermax. 101,04 mm (3,9779 in)
Piston	assembly clearancemax. 0,12 mm (0,0047 in)
Piston ring end gap	compression ringsmax. 0,80 mm (0,0315 in)
	oil scraper ringmax. 1,0 mm (0,0394 in)
Valves	seat sealing intakemax. 1,50 mm (0,0591 in)
	seat sealing exhaustmax. 2,00 mm (0,0788 in)
	run out of valve headsmax. 0,05 mm (0,0019 in)
	valve guides diametermax. 7,05 mm (0,2778 in)
Oil pump	clearance outer rotor - housingmax. 0,20 mm (0,0079 in)
	clearance outer rotor - inner rotormax. 0,20 mm (0,0079 in)
Bypaß valve	minimum spring length25 mm (0,985 in)
Clutch	clutchspring lengthmin. 34,5 mm (1,36 in), new 37 mm (1,458 in)
	Wear limit organicmin. 2,5 mm (0,0985 in)
Camshaft	diameter of bearing boltmin. 19,97 mm (0,7868 in) (needle bearing)
Transmission shafts	axial play0,1 - 0,4 mm (0,0039 - 0,0158 in)

## TECHNICAL SPECIFICATIONS - CHASSIS KTM 640 DUKE '99

Frame	Central chrome-mol	ly-steel frame					
Fork	type	WP - USD 43 Top adjuster 518T780					
	wheel travel						
	standard adjustment compression driver only = 14, with passenger = 14						
	standard adjustment rebound	driver only = 14, with passenger = 14					
	fork leg projection upper fork bridge	. 3 mm (0.12 in)					
	oil capacity per fork leg	appr. 750 ccm (45 cubic in) / SAE 5					
	air chamber lenght	. 100 mm (4 in)					
Rear suspension	WP central shock absorber with PRO-LEVER linka	age to rear- swing-arm with needle bearing					
Shock absorber	type	WP central shock absorber BAVP 118Q785					
	rear wheel travel	. 170 mm (6.7 in)					
	standard adjustment compression	driver only = 3, with passenger = $5$					
	standard adjustment rebound	driver only = 5, with passenger = 3					
	spring preload	driver only = 23 mm (0.9 in), with passenger = 28 mm (1.1 in)					
	spring type	. 70 - 260					
Front brake	Disc brake with carbon-steel brake disc Ø 320	mm (12,6 in) and 4-piston brake caliper					
Rear brake	Disc brake with carbon-steel brake disc Ø 220 mm (	(8,7 in) and single-piston brake caliper floated					
Tyres	front: 120/70 R 17 58H	rear: 160/60 R 17 69H					
Air pressure rider only	2.0 bar (29 psi)	2.2 bar (32 psi)					
Air pressure with passenger	2.2 bar (32 psi)	2.4 bar (35 psi)					
Fuel tank capacity	12 liter (3,2 US gallons), out of this 2	,5 liter (0,6 US gallons) reserve					
Final drive ratio	17 : 38	3					
Chain	o-ring 5/8 x	< 1/4"					
Lamps	low beam	HB3 12V 65W (socket P20d)					
	high beam	HB3 12V 65W (socket P20d)					
	parking light	12V 5W (socket W2,1x9,5d)					
	speedometer, tachometer light	12V 1,2W (socket W2x4,6d)					
	indicator lamp	12V 1,2W (socket W2x4,6d)					
	stop and taillight	12V 21/5W (socket BaY15d)					
	flasher	12V 10W (socket Ba15s)					
Battery	maintenance-free bat	tery 12V 8Ah					
Steering angle	64,2°						
Wheel base	1460 ± 15 mm (57	7.5 ± 0.6 in)					
Seat high	860 mm (33.9 in)						
Ground clearance	250 mm (9.	.9 in)					
Dead weight without fuel	145 kg (3	lbs)					
Max. permissible front axle load	150 kg (2	lbs)					
Max. permissible rear axle load	200 kg (4 lbs)						
Max. permissible laden weight	350 kg (773	3 lbs)					

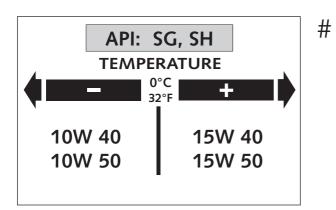
TIGHTENING TORQUES - CHASSIS								
Front axle	M 17	40 Nm	(30 ft.lb)					
Rear axle	M20x1.5	80 Nm	(59 ft.lb)					
Hex. nut swing arm bolt	M14x1.5	100 Nm	(74 ft.lb)					
Clamping bolt upper fork bridge	M8	15 Nm	(11 ft.lb)					
Clamping bolt lower fork bridge	M8	15 Nm	(11 ft.lb)					
Clamping bolts fork stubs	M8	15 Nm	(11 ft.lb)					
AH bolts front brake caliper	M10x1,25	Loctite 243 + 40 Nm	(30 ft.lb)					
AH bolt rear brake caliper support	M10	40 Nm	(30 ft.lb)					
Collar nuts chain tension eccentrics	M10	40 Nm	(30 ft.lb)					
Collar nut conrod pro lever system	M12x1,75	60 Nm	(44 ft.lb)					
Bolts handlebar clamps	M8	25 Nm	(15 lb.ft)					
Bolt adjusting ring spring preload shock absorber	M6	8 Nm	(6 ft.lb9					
Other bolts chassis	M6	10 Nm	(7 ft.lb)					
	M8	25 Nm	(22 ft.lb)					
	M10	45 Nm	(33 ft.lb)					

# TECHNICAL SPECIFICATIONS – ENGINE 400/620 SC, Supermoto 2000

Engine	400 LC4	620 LC4					
Design	Liquid-cooled single cylinder 4	4-stroke engine with balancer shaft					
Displacement	398 ccm	609 ccm					
Bore / Stroke	89 / 64 mm	101 / 76 mm					
Ratio	10,8 : 1	10,4 : 1					
Fuel	unleaded premium gasoline with a least RON 95						
Valve timing	4 valves over rocker arm and 1 overhead	camshaft, camshaft drive through single chain					
Camshaft		249/1					
Valve timing by 1 mm	IO 22° BTDC EO 60° BBDC	IO 15° BTDC EO 52° BBDC					
valve clearence	IC 42° ABDC EC 4° ATDC	IC 54° ABDC EC 17° ATDC					
Valve diameter	Intake: 36 mm	Exhaust: 30 mm					
Valve clearence cold	Intake: 0,20 mm Exhaust: 0,20 mm	Intake: 0,15 mm Exhaust: 0,15 mm					
Crank shaft bearing	2 cylinder	r roller bearing					
Conrod bearing	need	le bearing					
Top end bearing	bronz	ze bushing					
Piston	cast alu	minium alloy					
Piston rings	1 compression ring, 1 taper face ring, 1 oil scraper ring						
Engine lubrication	forced-feed lubrication through 2 Eaten-oilpumps with oil sump						
Engine oil	see below #						
Engine oil quantity	1,6 liters (0,42 US gallons)						
Primary ratio	straight geared spur wheels 30 : 81 teeth						
Clutch	multi disc clutch in oil bath						
Transmission	5-speed claw shifted						
Gear ratio	1st	14:35					
	2nc	15:24					
	3rd	18:21					
	4th	20:19					
	5th	22:18					
Ignition system	contactless thyristor ignition with electr	onic advanced system type KOKUSAN 4K-3					
Ignition timing	adjustment to max. 40 ° BTDC at 5000 rpm	adjustment to max. 36 ° BTDC at 5000 rpm					
Generator	12\	/ 110W					
Spark plug	NGK I	DPR8 EA-9					
Spark plug gap		90 mm					
Cooling system	liquid cooled, permanent rotation of coolin	ng liquid through mechanic driven water pump					
Cooling liquid	1 liter, 40% antifreeze, 60% water, at least -25°C (-13°F)						
Starting equipment	decompressor automatic and hand actu	ated, cold and hot start knob on carburetor					

BASIC CARBURETOR SETTING						
	400 SC (20 kW)	400 SC	620 SC (20 kW)	620 SC		
Carburetor	PHM 38 SD	PHM 38 SD	PHM 40 SD	PHM 40 SD		
Carburetor setting number	300896	4894/6	110996	4922		
Main jet	150	190	155	195		
Needle jet	DR 266	DR 270 (DR 272)	DR 268	DR 272		
Idling jet	45	45	45	45		
Jet needle	K 51	K 51	K 51	K 51		
Needle position from top	3 rd	2 nd	3 rd	2 nd		
Mixture.adju. screw open	1,5 turn	1,5 turn	1,5 turn	1,5 turn		
Throttle valve	40	40	40	40		
Starting jet	45	45	45	45		
Performance restrictor	slide stop 22 mm	-	slide stop 26 mm	_		

ASSEMBLY CLE	ARANCE, WEAR LIMIT	
Crank shaft	axial play0.03 - 0.12 mm	(0.001-0.005 in)
	run out of crank studmax. 0.04 mm	(0.002 in)
Conrod bearing	radial playmax. 0.05 mm	(0.002 in)
	axial playmax. 1.00 mm	(0.04 in)
Piston forged	assembly clearancemax. 0.12 mm	(0.005 in)
Piston cast	assembly clearancemax. 0.05 mm	(0.002 in)
Piston rings end gap	compression ringsmax. 0.60 mm	(0.023 in)
	oil scraper ringmax. 0.80 mm	(0.031 in)
Valves	seat sealing intakemax. 1.50 mm	0.059 in)
	seat sealing exhaustmax. 2.00 mm	(0.080 in)
	run out of valve headsmax. 0.03 mm	(0.001 in)
	valve guides diametermax. 7.05 mm	(0.277 in)
Oil pump	clearance outer rotor - housingmax. 0.20 mm	(0.008 in)
	clearance outer rotor - inner rotormax. 0.20 mm	(0.008 in)
Bypaß valve	minimum spring length25 mm	(1 in)
Clutch discs	wear limit organic2.5 mm	(0.1 in)
Clutch springs	minimum length	(1.36 in - new 1.45 in)
Transmission shafts	axial play0.1 - 0.4 mm	(0.004 - 0.016 in)



#### Engine oil

Use only synthetic oil (Shell Advance Ultra 4), which meet quality requirements of API-classes SG or SH (informations on bottles) or higher.

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POOR OIL QUALITY OR MINOR QUANTITY EFFECT EARLY ENGINE-WEAR.

## TECHNICAL SPECIFICATIONS - CHASSIS 400 / 620 SC, Supermoto 2000

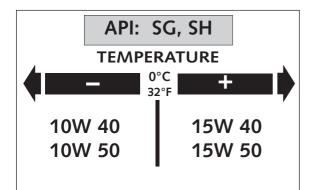
	400/620 SC	620 Supermoto				
Frame	Central chrome-moly-steel frame					
Fork	White Power –	Up Side Down 43				
Wheel travel front/rear	295 / 320 mm	n (11.6 / 12.6 in)				
Rear suspension	Central shock absorber (WP) with PRO-LEVE	R linkage to rear-swingarm with needle bearing				
Front brake	Disc brake with carbon-steel brake disc	Disc brake with carbon-steel brake disc				
	Ø 260 mm (10.2 in), brake caliper floated	Ø 320 mm (12.6 in), brake caliper floated				
Rear brake	Disc brake with carbon-steel brake disc	Ø 220 mm (8.7 in), brake caliper floated				
Tyres front	90/90-21 Pirelli MT 21	120/70-17 Pirelli MT 60				
Air pressure offroad	1.0 bar (14 psi)	_				
Air press. road, driver only	1.5 bar (21 psi)	2.0 bar (28 psi)				
Tyres rear	140/80-18 Pirelli MT 21	160/60-17 Pirelli MT 60				
Air pressure offroad	1.2 bar (17 psi)	_				
Air press. road, driver only	2.0 bar (28 psi)	2.2 bar (31 psi)				
Fuel tank capacity	9 liter (2.38 US gallons) of that	2.5 liter (0.66 US gallons) reserve				
Final drive ratio	400: 16:48 620: 16:40	17:38				
Chain	5/8 x 1/-	4 " O-Ring				
Steering angle	6	2.5°				
Wheel base	1510 ± 10 mm (59.4 ± 0.4 in)					
Seat height	940 mm (37 in)	920 mm (36 in)				
Ground clearance	375 mm (14.8 in)	355 mm (14 in)				
Dead weight without fuel	122 kg (269 lbs)	123 kg (271 lbs)				

STANDARD ADJUSTMENT - FORK					
	05.18.U7.82				
Compression adjuster	14				
Rebound adjuster	14				
Spring	4.2 N/mm				
Spring preload	7 mm (0.28 in)				
Air chamber length	120 mm (4.72 in)				
Capacity per fork leg	app. 420 ccm				
Fork oil	SAE 5				

STANDARD ADJUSTMENT - SHOCK ABSORBER					
01.18.T7.05					
Compression adjuster	3				
Rebound adjuster	5				
Spring	63 / 260				
Spring preload	23 mm (0.9 in)				

### TECHNICAL DATA - ENGINE 400/640 LC4-E, 640 ADVENTURE, DUKE 2000

Туре	400 LC4-E	640 LC4-E				
Design	Liquid-cooled single cylinder 4-stroke engine with balancer shaft and electric starter					
Displacement	398 ccm 624,6 ccm					
Bore / Stroke	89 / 64 mm	101 / 78 mm				
Ratio	10,8 : 1	11,0 : 1				
Fuel	unleaded premium gasol	ine with a least RON 95				
Valve timing	4 valves over rocker arm and 1 overhea	d camshaft, camshaft drive through single chain				
Camshaft	(249	0/1)				
Valve timing by 1 mm	IO 22° BTDC EO 60° BBDC	IO 13° BTDC EO 53° BBDC				
valve clearence	IC 42° ABDC EC 4° ATDC	IC 51° ABDC EC 11° ATDC				
Valve diameter	Intake: 36 mm	Exhaust: 30 mm				
Valve clearence cold	Intake: 0.20 mm Exhaust: 0.20 mm	Intake: 0.15 mm Exhaust: 0.15 mm				
Crank shaft bearing	2 cylinder ro	ller bearing				
Connecting rod bearing	needle bearing					
Top end bearing	bronze bushing					
Piston	forged/cast aluminium alloy					
Piston rings	1 compression ring, 1 taper face ring, 1 oil scraper ring					
Engine lubrication	2 Eaton-Oilpumps					
Quantity of engine oil	see table					
Engine oil	2.1 liters including frame					
Primary ratio	straight geared spur v	vheels 30 : 81 teeth				
Clutch	multi disc clut	ch in oil bath				
Transmission	5-speed cla	aw shifted				
Ignition system	contactless DC- CDI ignition with digital advanced system type KOKUSAN					
Ignition timing	adjustment to max. 38° BTDC at 6000 rpm					
Generator	12V 200W					
Spark plug	DPR8 EA9					
Spark plug gap	0.9 ו	mm				
Cooling system	liquid cooled, permanent rotation of cooling	liquid through mechanic driven water pump				
Cooling liquid	1 liter, 40% antifreeze, 60% water, at least -25° C (-13° F)					
Starting equipment	electric starter, kick starter					



#### Engine oil

Use only synthetic oils, which meet quality requirements of API-classes SG or SH (informations on bottles) or higher.

	!		CA	UTIC	<b>DN</b>	!	
Poor	OIL	QUALITY	OR	MINOR	QUANTITY	EFFECT	EARLY
ENGINE	-WEA	R.					

GEAR RATIOS						
Primary ratio	Transmission	Original final drive ratio	Available chain drive sprockets	Available final drive sprockets		
30:81	1st gear 14:35 2nd gear 15:24 3rd gear 18:21 4th gear 20:19 5th gear 22:18	15:45 16:42 17:38 17:42	15 t 16 t for chain 17 t 5⁄8 x 1⁄4"	38 t 40 t for chain 42 t <sup>5</sup> / <sub>8</sub> x <sup>1</sup> / <sub>4</sub> " 45 t 48 t		

ASSEMBLY CLEARANCE, WEA	RLIMIT
Crank shaft	axial play0.03 - 0.12 mm
	run out of crank studmax. 0.08 mm
Connecting rod bearing	radial playmax. 0.05 mm
	axial playmax. 1.10 mm
Cylinder 400	bore
Cylinder 640	bore
Piston forged	assembly clearance
Piston cast	assembly clearance
Piston rings end gap	compression ringsmax. 0.80 mm
	oil scraper ringmax. 1.00 mm
Valves	seat sealing intakemax. 1.50 mm
	seat sealing exhaustmax. 2.00 mm
	run out of valve headsmax. 0.05 mm
	valve guides diametermax. 7.05 mm
Oil pumps	clearance outer rotor - housing
	clearance outer rotor - inner rotor
Bypaß valve	minimum spring length
Clutch	Length of springs
	wear limit organicmin. 2.50 mm
Camshaft	diameter of bearing bolt (needle bearing)min. 19.97 mm
Transmission shafts	axial play0.10 - 0.40 mm

BASIC CARBURETOR SETTING			
	<b>400 LC4-E</b> 25 kW	<b>400 LC4-E</b> 31 kW	<b>400 LC4-E</b> USA
Туре	PHM 38 ND	PHM 38 ND	BST40-225
Carbsetting number	100197	100197	090298
Main jet	130	130	142,5
Needle jet	AR 264	AR 264	689 X-6
Idling jet	50	50	45
Jet needle	K 23	K 23	6G5
Needle clip pos. f. top	2. from top	2. from top	3. from top
Mixt. adj. screw open	1.5 turns	1,5 turns	2,25 turns
Throttle valve	50/1	50/1	-
Starting jet	45(50,55)	45(50,55)	-
Performance restrictor	slide stop 51mm	_	_

BASIC CARBURETOR SETTING			
	640 LC4-E, Adventure 25 kW	640 LC4-E, Adventure 36 kW	<b>640 Duke</b> 40 kW
Туре	BST40-225	BST40-225	BST40-225
Carbsetting number	080298	090298	100299
Main jet	142,5	142,5	145
Needle jet	689 X-6	689 X-6	689 X-6
Idling jet	45	45	45
Jet needle	6G5	6G5	6G5
Needle clip pos. f. top	3. from top	3. from top	3. from top
Mixt. adj. screw open	2,25 turns	2,25 turns	2,25 turns
Throttle valve	-	-	-
Starting jet	-	-	_
Performance restrictor	slide stop 17mm	_	-

## TECHNICAL SPECIFICATIONS - CHASSIS 400/640 LC4-E, 640 LC4-E SUPERMOTO 2000

	400 LC4-E	640 LC4-E	640 LC4-E SUPERMOTO
Frame	Central chrome-moly-steel frame		
Fork	White Power – Up Side Down 43		
Wheel travel front/rear		270 / 300 mm (10,6 / 11,8 in)	
Rear suspension	Central shock absorber (V	/P) with PRO-LEVER linkage to rear-sw	vingarm with needle bearing
Front brake	Disc brake	with carbon-steel brake disc, brake c	aliper floated
Brake Disk front	Ø 300 n	nm (11,8 in)	Ø 320 mm ( 12,6 in)
Rear brake	Disc brake with carbor	n-steel brake disc Ø 220 mm (8,7 in)	, brake caliper floated
Tyres front	90.	/90-21	120/70-17
Air press. road, driver only	1,5 ba	ar (21 psi)	2,0 bar (28 psi)
Air press. road, with passenger	2,0 ba	ar (28 psi)	2,2 bar (31 psi)
Tyres rear	140	/80-18	160/60-17
Air press. road, driver only	2,0 ba	ar (28 psi)	2,2 bar (31 psi)
Air press. road, with passenger	2,2 bar (31 psi) 2,4 bar (34 psi)		
Fuel tank capacity	11	liter (2,9 US gallons) / 18 liter (4,75 US ga	allons)
		2,5 liter (0,66 US gallons) reserve	
Final drive ratio	15:45	16:42	17:42
Chain	5/8 x 1/4 " O-Ring		
Lamps	head lightH4 12V 60/55W (socket P43t)parking light12V 5W (socket W2,1x9,5d)speedometer, tachometer light12V 1,2W (socket W2x4,6d)indicator lamp12V 1,2W (socket W2x4,6d)stop and taillight12V 21/5W (socket BaY15d)flasher12V 10W (socket Ba15s)license plate illumination12V 5W (socket W2,1x9,5d)		
Battery	12V 8Ah		
Steering angle		62,5°	
Wheel base	1510 ± 10 mm (59,4 ± 0,4 in)		
Seat high	935 mm (36,8 in) 915 mm (36		915 mm (36 in)
Ground clearance	355 mm (14 in)		335 mm (13,2 in)
Dead weight without fuel	136 kg	g (300 lbs)	137 kg (302 lbs)
Max. permissable front axe load	211 kg (466 lbs)		
Max. permissable rear axe load	335 kg (740 lbs)		
Max. permissable laden weigth	350 kg (773 lbs)		

STANDARD ADJUSTMENT - FORK	
	WP 0518U790
Compression adjuster	20
Rebound adjuster	12
Spring	4,4 N/mm
Spring preload	6 mm (0,25 in)
Air chamber length	150 mm (5,9 in)
Capacity per fork leg	ca 410 ccm
Fork oil	SAE5

STANDARD-ADJUSTMENT - SHOCK ABSORBER			
WP 0118U707			
Compression adjuster	6		
Rebound adjuster	7		
Spring	66 / 260		
Spring preload	27 mm (1,1 in)		

## TECHNICAL SPECIFICATIONS - CHASSIS LC4 ADVENTURE R 640 2000

	LC4 Adventure R 640	
Frame	Central chrome-moly-steel frame	
Fork	WP Extreme	
Wheel travel front/rear	280/320 mm (11/12,6 in)	
Rear suspension	Central shock absorber (WP) with PRO-LEVER linkage to rear-swingarm with needle bearing	
Front brake	Disc brake with carbon-steel brake disc Ø 300 mm (11,8 in), brake caliper floated	
Rear brake	Disc brake with carbon-steel brake disc $\emptyset$ 220 mm (8,7 in), brake caliper floated	
Tyres front	90/90-21 Enduro3	
Air pressure offroad	1,5 bar (21 psi)	
Air press. road, driver only	2,0 bar (29 psi)	
Tyres rear	140/80-18 Enduro3	
Air press. road, driver only	2,0 bar (29 psi)	
Air press. road, with passenger	2,2 bar (32 psi)	
Fuel tank capacity	28 liter (7,4 US gallons) of that 3,5 liter (1 US gallons) reserve	
Final drive ratio	16 : 42	
Chain	5/8 x 1/4 " O-Ring	
Battery	maintenance-free battery 12V 8Ah	
Steering angle	62,5°	
Wheel base	1510 ± 10 mm (59,4 ± 0,4 in)	
Seat high	955 mm (37,7 in)	
Ground clearance	375 mm (14,8 in)	
Dead weight without fuel	154 kg (340 lbs)	
Max. permissible front axle load	150 kg (331 lbs)	
Max. permissible rear axle load	230 kg (507 lbs)	
Max. permissible laden weight	380 kg (839 lbs)	

STANDARD ADJUSTMENT - FORK		
	09.18.57.55	
Compression adjuster	14	
Rebound adjuster	12	
Spring	4,4 N/mm	
Spring preload	10 mm (0,4 in)	
Air chamber length	155 mm (5,9 in)	
Capacity per fork leg	ca 400 ccm	
Fork oil	SAE5	

STANDARD-ADJUSTMENT - SHOCK ABSORBER			
01.18.R7.97			
Compression adjuster	3		
Rebound adjuster	5		
Spring	70/260		
Spring preload	23 mm (0,9 in)		

## TECHNICAL SPECIFICATIONS - CHASSIS KTM 640 DUKE 2000

Frame	Central chrome-moly-steel frame		
Fork	type	WP - USD 43 Multi adjuster 0518U795	
	wheel travel	140 mm (5,5 in)	
	standard adjustment compression	driver only = 14, with passenger = $14$	
	standard adjustment rebound	driver only = 16, with passenger = 16	
	fork leg projection upper fork bridge	3 mm (0,12 in)	
	oil capacity per fork leg	oil capacity per fork leg	
	air chamber lenght	100 mm (4 in)	
Rear suspension	WP central shock absorber with PRO-LEVER linka	ge to rear- swing-arm with needle bearing	
Shock absorber	type	WP central shock absorber BAVP 118Q785	
	rear wheel travel	170 mm (6.7 in)	
	standard adjustment compression	driver only = 3, with passenger = $5$	
	standard adjustment rebound	driver only = 5, with passenger = $3$	
	spring preload	driver only = 23 mm (0.9 in), with passenger = 28 mm (1.1 in)	
	spring type	70 - 260	
Front brake	Disc brake with carbon-steel brake disc Ø 320 i	mm (12,6 in) and 4-piston brake caliper	
Rear brake	Disc brake with carbon-steel brake disc Ø 220 mm (8	8,7 in) and single-piston brake caliper floated	
Tyres	front: 120/70 R 17 58H	rear: 160/60 R 17 69H	
Air pressure rider only	2.0 bar (29 psi)	2.2 bar (32 psi)	
Air pressure with passenger	2.2 bar (32 psi)	2.4 bar (35 psi)	
Fuel tank capacity	11 liter (2,9 US gallons), out of this 2,	5 liter (0,6 US gallons) reserve	
Final drive ratio	17 : 38		
Chain	O-ring 5/8 x 1/4"		
Lamps	low beam		
	high beam		
	parking light		
	stop and taillight	12V 21/5W (socket BaY15d)	
	flasher		
Battery	maintenance-free battery 12V 8Ah		
Steering angle	64,2°		
Wheel base	1460 ± 15 mm (57.5 ± 0.6 in)		
Seat high	860 mm (33.9 in)		
Ground clearance	250 mm (9.9 in)		
Dead weight without fuel	145 kg (3 lbs)		
Max. permissible front axle load	150 kg (2 lbs)		
Max. permissible rear axle load	200 kg (4 lbs)		
Max. permissible laden weight	350 kg (773 lbs)		

#### TECHNICAL SPECIFICATIONS - CHASSIS 640 DUKE 2000 USA, AUS

Frame	Central chrome-moly-steel frame	
Fork	type	
	wheel travel	140 mm (5,5 in)
	standard adjustment compression	
	standard adjustment rebound driver only = 14, with passenger = 14	
	fork leg projection upper fork bridge	3 mm (0,12 in)
	oil capacity per fork leg	appr. 400 ccm (45 cubic in) / SAE 5
	air chamber lenght	100 mm (4 in)
Rear suspension	WP central shock absorber with PRO-LEVER linka	age to rear- swing-arm with needle bearing
Shock absorber	type	WP central shock absorber BAVP 118Q785
	rear wheel travel	170 mm (6.7 in)
	standard adjustment compression	driver only = 3, with passenger = $5$
	standard adjustment rebound	driver only = 5, with passenger = $3$
	spring preload	driver only = 23 mm (0.9 in), with passenger = 28 mm (1.1 in)
	spring type	70 - 260
Front brake	Disc brake with carbon-steel brake disc Ø 320	mm (12,6 in) and 4-piston brake caliper
Rear brake	Disc brake with carbon-steel brake disc Ø 220 mm (	8,7 in) and single-piston brake caliper floated
Tyres	front: 120/70 R 17 58H	rear: 160/60 R 17 69H
Air pressure rider only	2.0 bar (29 psi)	2.2 bar (32 psi)
Air pressure with passenger	2.2 bar (32 psi)	2.4 bar (35 psi)
Fuel tank capacity	12 liter (3,2 US gallons), out of this 2,	,5 liter (0,6 US gallons) reserve
Final drive ratio	17 : 38	3
Chain	O-ring 5/8 x	x 1/4"
Lamps	low beam	
	high beam	
	parking light	
	indicator lamp	12V 1,2W (socket W2x4,6d)
	stop and taillight	12V 21/5W (socket BaY15d)
	flasher	
Battery	maintenance-free battery 12V 8Ah	
Steering angle	64,2°	
Wheel base	1460 ± 15 mm (57.5 ± 0.6 in)	
Seat high	860 mm (33.9 in)	
Ground clearance	250 mm (9.9 in)	
Dead weight without fuel	145 kg (3 lbs)	
Max. permissible front axle load	150 kg (2 lbs)	
Max. permissible rear axle load	200 kg (4 lbs)	
Max. permissible laden weight	350 kg (773 lbs)	

## TECHNICAL SPECIFICATIONS – ENGINE 400 SXC USA 2000

Engine	400 SXC	
Design	Liquid-cooled single cylinder 4-stroke engine	
Displacement	398 ccm	
Bore / Stroke	89 / 64 mm	
Ratio	10,8 : 1	
Fuel	unleaded premium gasoline with a least RON 95	
Valve timing	4 valves over rocker arm and 1 overhead camshaft, camshaft drive through single chain	
Camshaft	249/1	
Valve timing by 1 mm	IO 22° BTDC EO 60° BBDC	
valve clearence	IC 42° ABDC EC 4° ATDC	
Valve diameter	Intake: 36 mm Exhaust: 30 mm	
Valve clearence cold	Intake: 0,20 mm Exhaust: 0,20 mm	
Crank shaft bearing	2 cylinder roller bearing	
Connecting rod bearing	needle bearing	
Top end bearing	bronze bushing	
Piston	cast aluminium alloy	
Piston rings	1 compression ring, 1 taper face ring, 1 oil scraper ring	
Engine lubrication	forced-feed lubrication through Eaton-Oilpump with oil sump	
Engine oil	see bellow	
Engine oil quantity	1,45 liters (0,38 US gallons)	
Primary ratio	straight geared spur wheels 30 : 81 teeth	
Clutch	multi disc clutch in oil bath	
Transmission	5-speed claw shifted	
Gear ratio	1st 14:35	
	2nd 15:24	
	3rd 18:21	
	4th 20:19	
	5th 22:18	
Ignition system	contactless thyristor ignition with electronic advanced system type SEM	
Ignition timing	adjustment to max. 38 ° BTDC at 6000 rpm	
Generator	12V 130W	
Spark plug	NGK D8EA	
Spark plug gap	0,6 mm	
Cooling system	liquid cooled, permanent rotation of cooling liquid through mechanic driven water pump	
Cooling liquid	1 liter, 40% antifreeze, 60% water, at least -25°C (-13°F)	
Starting equipment	decompressor automatic and hand actuated, cold and hot start knob on carburetor	

ASSEMBLY CLEARANCE, WEAR LIMIT				
Crank shaft	axial play0,03 - 0,12 mm	(0,001-0,005 in)		
	run out of crank studmax. 0,08 mm	(0,003 in)		
Connecting rod bearing	radial playmax. 0,05 mm	(0,002 in)		
	axial playmax. 1,00 mm	(0,04 in)		
Piston cast	assembly clearancemax. 0,05 mm	(0,002 in)		
Piston rings end gap	compression ringsmax. 0,60 mm	(0,023 in)		
	oil scraper ringmax. 0,80 mm	(0,031 in)		
Valves	seat sealing intakemax. 1,50 mm	0,059 in)		
	seat sealing exhaustmax. 2,00 mm	(0,080 in)		
	run out of valve headsmax. 0,03 mm	(0,001 in)		
	valve guides diametermax. 7,05 mm	(0,277 in)		
Oil pump	clearance outer rotor - housingmax. 0,20 mm	(0,008 in)		
	clearance outer rotor - inner rotormax. 0,20 mm	(0,008 in)		
Bypaß valve	minimum spring lenght25 mm	(1 in)		
Clutch discs	wear limit organic2,5 mm	(0,1 in)		
Clutch springs	minimum lenght	(1,36 in - new 1,45 in)		
Transmission shafts	axial play0,1 - 0,4 mm	(0,004 - 0,016 in)		

## TECHNICAL SPECIFICATIONS - CHASSIS 400 SXC USA 2000

	400 SXC	
Frame	Central chrome-moly-steel frame	
Fork	White Power – EXTREME	
Wheel travel front/rear	295 / 320 mm (11,6 / 12,6 in)	
Rear suspension	Central shock absorber (WP) with PRO-LEVER linkage to rear-swingarm with needle bearing	
Front brake	Disc brake with carbon-steel brake disc Ø 260 mm (10,2 in), brake caliper floated	
Rear brake	Disc brake with carbon-steel brake disc Ø 220 mm (8,7 in), brake caliper floated	
Tyres front	90/90-21 54R	
Air pressure offroad	1,0 bar (14 psi)	
Air press. road, driver only	1,5 bar (21 psi)	
Tyres rear	140/80-18 70R	
Air pressure offroad	1,2 bar (17 psi)	
Air press. road, driver only	2,0 bar (28 psi)	
Fuel tank capacity	9 liter (3 US gallons) of that 1,5 liter (0,4 US gallons) reserve	
Final drive ratio	15 : 50	
Chain	5/8 x 1/4 "	
Steering angle	62,5°	
Wheel base	1510 ± 10 mm (59,4 ± 0,4 in)	
Seat high	940 mm (37 in)	
Ground clearance	375 mm (14,8 in)	
Dead weight without fuel	121 kg (267 lbs)	

STANDARD ADJUSTMENT - FORK				
	05.18.T7.81			
Compression adjuster	10			
Rebound adjuster	12			
Spring	4,2 N/mm			
Spring preload	6 mm (0,24 in)			
Air chamber length	130 mm (5,1 in)			
Capacity per fork leg	ca 350 ccm			
Fork oil	SAE5			

STANDART-ADJUSTMENT - SHOCK ABSORBER		
01.18.Q7.82		
Compression adjuster	3	
Rebound adjuster	4	
Spring	63/260	
Spring preload	23 mm	

NOTE FOR WHITE POWER FORKS:

The damping units in the left and the right fork leg are of different design. Make sure not to mix them up in case of repair or service works.

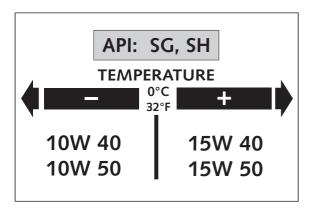
BASIC CARBURETOR SETTING				
Туре	BST40-225			
Carbsetting number	040599			
Main jet	160			
Needle jet	689 X-6			
Idling jet	45			
Jet needle	6G5			
Needle clip pos. f. top	3. from top			
Mixt. adj. screw open	2,25 turns			
Throttle valve	_			
Starting jet	-			
Performance restrictor	_			

# TECHNICAL SPECIFICATIONS - ENGINE 620 SC, 620 SC SUPERMOTO 2001

Engine	620		
Design	Liquid-cooled single cylinder 4-stroke engine with balancer shaft		
Displacement	609 ccm		
Bore / Stroke	101 / 76 mm		
Ratio	10,4 : 1		
Fuel	unleaded premium gasoline with a least RON 95		
Valve timing	4 valves over rocker arm and 1 overhead camshaft, camshaft drive through single chain		
Camshaft	249/1		
Valve diameter	Intake: 36 mm Exhaust: 30 mm		
Valve clearence cold	Intake: 0,15 mm Exhaust: 0,15 mm		
Crank shaft bearing	2 cylinder roller bearing		
Connecting rod bearing	needle bearing		
Top end bearing	bronze bushing		
Piston	forged aluminium		
Piston rings	1 compression ring, 1 taper face ring, 1 oil scraper ring		
Engine lubrication	forced-feed lubrication through Eaton-Oilpump with oil sump		
Engine oil	see table		
Engine oil quantity	1,6 liters (0,42 US gallons)		
Primary ratio	straight geared spur wheels 30 : 81 teeth		
Clutch	multi disc clutch in oil bath		
Transmission	5-speed claw shifted		
Gear ratio	1st 14:35		
	2nd 15:24		
	3rd 18:21		
	4th 20:19		
	5th 22:18		
Ignition system	contactless thyristor ignition with electronic advanced system type KOKUSAN 4K3		
Ignition timing	adjustment to max. 36 ° BTDC at 5000 rpm		
Generator	12V 110W		
Spark plug	NGK DPR8 EA-9		
Spark plug gap	0,9 mm		
Cooling system	liquid cooled, permanent rotation of cooling liquid through mechanic driven water pump		
Cooling liquid	1 liter, 40% antifreeze, 60% water, at least -25°C (-13°F)		
Starting equipment	decompressor automatic and hand actuated, cold and hot start knob on carburetor		

BASIC CARBURETOR SETTING			
	620 SC, 620 SC SUPERMOTO		
Carburetor	PHM 40 SD		
Carburetor setting number	080600		
Main jet	155		
Needle jet	DR 266		
Idling jet	45		
Jet needle	K 51		
Needle position from top	3 rd		
Mixture.adju. screw open	1,5 turns		
Throttle valve	40		
Starting jet	45		
Performance restrictor	Slide stop 24mm		

ASSEMBLY CLEA	ARANCE, WEAR LIMIT	
Crank shaft	axial play0,03 - 0,12 mm	(0,001-0,005 in)
	run out of crank studmax. 0,04 mm	(0,002 in)
Connecting rod bearing	radial playmax. 0,05 mm	(0,002 in)
	axial playmax. 1,00 mm	(0,04 in)
Piston forged	assembly clearancemax. 0,12 mm	(0,005 in)
Piston rings end gap	compression ringsmax. 0,60 mm	(0,023 in)
	oil scraper ringmax. 0,80 mm	(0,031 in)
Valves	seat sealing intakemax. 1,50 mm	0,059 in)
	seat sealing exhaustmax. 2,00 mm	(0,080 in)
	run out of valve headsmax. 0,03 mm	(0,001 in)
	valve guides diametermax. 7,05 mm	(0,277 in)
Oil pump	clearance outer rotor - housingmax. 0,20 mm	(0,008 in)
	clearance outer rotor - inner rotormax. 0,20 mm	(0,008 in)
Bypaß valve	minimum spring lenght25 mm	(1 in)
Clutch discs	wear limit organic2,5 mm	(0,1 in)
Clutch springs	minimum lenght	(1,36 in - new 1,45 in)
Transmission shafts	axial play0,1 - 0,4 mm	(0,004 - 0,016 in)



#### Engine oil

Use only oil brands, which meet quality requirements (Shell Advance Ultra 4) of API-classes SG or SH (informations on bottles) or higher.

	!	CAUTION		ļ			
Poor	OIL	QUALITY	OR	MINOR	QUANTITY	EFFECT	EARLY

ENGINE-WEAR.

## TECHNICAL SPECIFICATIONS - CHASSIS 620 SC, 620 SC SUPERMOTO 2001

	620 SC	620 SC SUPERMOTO	
Frame	Central chrome-moly-steel frame		
Fork	White Power – L	Jp Side Down 43	
Wheel travel front/rear	295 / 320 mm	(11,6 / 12,6 in)	
Rear suspension	Central shock absorber (WP) with PRO-LEVER	linkage to rear-swingarm with needle bearing	
Front brake	Disc brake with carbon-steel b	rake disc, brake caliper floated	
Brake Disk	Ø 260 mm (10,2 in)	Ø 320 mm ( 12,6 in)	
Rear brake	Disc brake with carbon-steel brake c	lisc Ø 220 mm (8,7 in), brake caliper floated	
Tyres front	90/90-21	120/70-17	
Air pressure offroad	1,0 bar (14 psi)	-	
Air press. road, driver only	1,8 bar (21 psi)	2,0 bar (28 psi)	
Tyres rear	140/80-18	160/60-17	
Air pressure offroad	1,2 bar (17 psi)	_	
Air press. road, driver only	2,0 bar (28 psi) 2,2 bar (32 psi)		
Fuel tank capacity	9 liter (2,38 US gallons) of that 2,5 liter (0,66 US gallons) reserve		
Final drive ratio	16:40 17:38		
Chain	5/8 x 1/4 " O-Ring		
Steering angle	62,5°		
Wheel base	1510 ± 10 mm (59,4 ± 0,4 in)		
Seat high	940 mm (37 in)	920 mm (36 in)	
Ground clearance	375 mm (14,8 in) 355 mm (14 in)		
Dead weight without fuel	122 kg (269 lbs) 123 kg (271 lbs)		

STANDARD ADJUSTMENT - FORK				
	620 SC	SC SUPERMOTO		
	WP 0518V706	WP 0518V721		
Compression adjuster	14	14		
Rebound adjuster	12	14		
Spring	4,2 N/mm	5,0 N/mm		
Spring preload	6 mm	9 mm		
Air chamber length	150 mm	130 mm		
Fork oil	SAE 5	SAE 5		

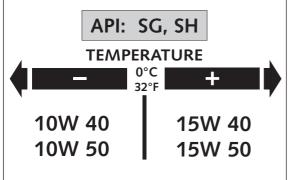
STANDARD-ADJUSTMENT - SHOCK ABSORBER				
	620 SC SC SUPERMOTO			
WP 0118V712 WP 0118V720				
Compression adjuster	3	5		
Rebound adjuster	5	7		
Spring	63 / 260	75 / 260		
Spring preload	23 mm	15 mm		

## TECHNICAL DATA – ENGINE 400/640 LC4-E, 640 ADVENTURE, DUKE 2001

Туре	400 LC4-E	640 LC4-E
Design	Liquid-cooled single cylinder 4-stroke engine with balancer shaft and electric starter	
Displacement	398 ccm	624,6 ccm
Bore / Stroke	89 / 64 mm	101 / 78 mm
Ratio	10,8 : 1	11,0 : 1
Fuel	unleaded premium gase	oline with a least RON 95
Valve timing	4 valves over rocker arm and 1 overhead c	amshaft, camshaft drive through single chain
Camshaft	24	19/1
Valve diameter	Intake: 36 n	nm Exhaust: 30 mm
Valve clearence cold	Intake: 0.20 mm Exhaust: 0.20 mm	Intake: 0.15 mm Exhaust: 0.15 mm
Crank shaft bearing	2 cylin	der roller bearing
Connecting rod bearing	needle	e bearing
Top end bearing	bronze bushing	
Piston	forged/cast aluminium alloy	
Piston rings	1 compression ring, 1 taper face ring, 1 oil scraper ring	
Engine lubrication	2 Eaton-Oilpumps	
Quantity of engine oil	see table	
Engine oil	2.1 liters including frame	
Primary ratio	straight geared spur wheels 30 : 81 teeth	
Clutch	multi disc clutch in oil bath	
Transmission	5-speed claw shifted	
Ignition system	contactless DC- CDI ignition with digital advanced system type KOKUSAN	
Ignition timing	adjustment to max. 38° BTDC at 6000 rpm	
Generator	12V 200W	
Spark plug	NGK DPR8 EA9	
Spark plug gap	0.9 mm	
Cooling system	liquid cooled, permanent rotation of cooling liquid through mechanic driven water pump	
Cooling liquid	1 liter, 40% antifreeze, 60% water, at least -25° C (-13° F)	
Starting equipment	electric starter, kick starter	

ASSEMBLY CLEARANCE,	WEAR LIMIT
Crank shaft	axial play
	run out of crank studmax. 0.08 mm
Connecting rod bearing	radial playmax. 0.05 mm
	axial playmax. 1.10 mm
Cylinder 400	bore
Cylinder 640	bore
Piston forged	assembly clearance
Piston cast	assembly clearance
Piston rings end gap	compression rings
	oil scraper ringmax. 1.00 mm
Valves	seat sealing intakemax. 1.50 mm
	seat sealing exhaustmax. 2.00 mm
	run out of valve headsmax. 0.05 mm
	valve guides diameter
Oil pumps	clearance outer rotor - housing
	clearance outer rotor - inner rotor
Bypaß valve	minimum spring length
Clutch	Length of springs
	wear limit organicmin. 2.50 mm
Camshaft	diameter of bearing bolt (needle bearing)min. 19.97 mm
Transmission shafts	axial play

GEAR RATIOS				
Primary ratio	Transmission	Original final drive ratio	Available chain drive sprockets	Available final drive sprockets
30:81	1st gear 14:35 2nd gear 15:24 3rd gear 18:21 4th gear 20:19 5th gear 22:18	15:45 16:42 17:38 17:42	15 t 16 t for chain 17 t <sup>5</sup> /8 x <sup>1</sup> /4"	38 t 40 t for chain 42 t <sup>5</sup> / <sub>8</sub> x <sup>1</sup> / <sub>4</sub> " 45 t 48 t



#### Engine oil

Use only oil brands, which meet quality requirements (Shell Advance Ultra 4) of API-classes SG or SH (informations on bottles) or higher.

!	CAUTION	!
POOR OIL QUALITY	OR MINOR QUANTITY EFFECT EARLY ENGINE-WE	AR.

BASIC CARBURETOR SETTING			
	<b>400 LC4-E</b> 25 kW	<b>400 LC4-E</b> 31 kW	400 LC4-E USA
Туре	PHM 38 ND	PHM 38 ND	BST40-225
Carbsetting number	100197	100197	090298
Main jet	130	130	142,5
Needle jet	AR 264	AR 264	689 X-6
Idling jet	50	50	45
Jet needle	K 23	K 23	6G5
Needle clip pos. f. top	2. from top	2. from top	3. from top
Mixt. adj. screw open	1.5 turns	1,5 turns	2,25 turns
Throttle valve	50/1	50/1	_
Starting jet	45(50,55)	45(50,55)	_
Performance restrictor	slide stop 51mm	_	_

Repair manual KTM LC4

BASIC CARBURETOR SETTING			
	640 LC4-E, Adventure	640 LC4-E, Adventure	640 Duke
	25 kW	36 kW	40 kW
Туре	BST40-225	BST40-225	BST40-225
Carbsetting number	080298	090298	100299
Main jet	142,5	142,5	145
Needle jet	689 X-6	689 X-6	689 X-6
Idling jet	45	45	45
Jet needle	6G5	6G5	6G5
Needle clip pos. f. top	3. from top	3. from top	3. from top
Mixt. adj. screw open	2,25	2,25	2,25
Throttle valve	-	_	-
Starting jet	_	_	_
Performance restrictor	slide stop 17mm	_	_

### TECHNICAL SPECIFICATIONS - CHASSIS 400/640 LC4-E, 640 LC4-E SUPERMOTO 2001

	400 LC4-E	640 LC4-E	640 LC4-E SUPERMOTO
Frame	Central chrome-moly-steel frame		
Fork	White Power – Up Side Down 43		
Wheel travel front/rear		270 / 300 mm (10,6 / 11,8 ir	1)
Rear suspension	Central shock absorber (	WP) with PRO-LEVER linkage to rear	-swingarm with needle bearing
Front brake	Disc brake	with carbon-steel brake disc, brak	e caliper floated
Brake Disk front	Ø 300	mm (11,8 in)	Ø 320 mm ( 12,6 in)
Rear brake	Disc brake with carbo	n-steel brake disc Ø 220 mm (8,7	in), brake caliper floated
Tyres front	90	0/90-21	120/70-17
Air press. road, driver only	1,5 b	oar (21 psi)	2,0 bar (28 psi)
Air press. road, with passenger	2,0 b	oar (28 psi)	2,2 bar (31 psi)
Tyres rear	14	0/80-18	160/60-17
Air press. road, driver only	2,0 b	oar (28 psi)	2,2 bar (31 psi)
Air press. road, with passenger	2,2 b	oar (31 psi)	2,4 bar (34 psi)
Fuel tank capacity	11 liter (2,9 US gallons) / 18 liter (4,75 US gallons)		
	2,5 liter (0,66 US gallons) reserve		2
Final drive ratio	15:45	16:42	17:42
Chain	5/8 x 1/4 " O-Ring		
Lamps	head lightH4 12V 60/55W (socket P43t)parking light12V 5W (socket W2,1x9,5d)speedometer, tachometer light12V 1,2W (socket W2x4,6d)indicator lamp12V 1,2W (socket W2x4,6d)stop and taillight12V 21/5W (socket BaY15d)flasher12V 10W (socket Ba15s)license plate illumination12V 5W (socket W2,1x9,5d)		
Battery	12V 8Ah		
Steering angle	62,5° 63°		63°
Wheel base	1510 ± 10 mm (59,4 ± 0,4 in)		
Seat high	955 mm (37,6 in)		935 mm (36,8 in)
Ground clearance	355 mm (14 in)		335 mm (13,2 in)
Dead weight without fuel	136 kg (300 lbs) 137 kg (302 lbs)		137 kg (302 lbs)
Max. permissable front axe load	211 kg (466 lbs)		
Max. permissable rear axe load	335 kg (740 lbs)		
Max. permissable laden weigth	350 kg (773 lbs)		

STANDARD ADJUSTMENT - FORK			
	400/640 LC4-E	640 LC4-E	
		SUPERMOTO	
	WP 0518V707	WP 0518V721	
Compression adjuster	20	14	
Rebound adjuster	12	14	
Spring	4,4 N/mm	5,0 N/mm	
Spring preload	6 mm	9 mm	
Air chamber length	150 mm	130 mm	
Fork oil	SAE 5	SAE 5	

STANDARD-ADJUSTMENT - SHOCK ABSORBER			
	400/640 LC4-E	640 LC4-E	
		SUPERMOTO	
	WP 0118V710	WP 0118V720	
Compression adjuster	6	5	
Rebound adjuster	7	7	
Spring	66 / 260	75 / 260	
Spring preload	27 mm	15 mm	

## TECHNICAL SPECIFICATIONS - CHASSIS 640 LC4 ADVENTURE 2001

	640 LC4 Adventure
Frame	Central chrome-moly-steel frame
Fork	WP USD
Wheel travel front/rear	275/300 mm (10,5/12 in)
Rear suspension	Central shock absorber (WP) with PRO-LEVER linkage to rear-swingarm with needle bearing
Front brake	Disc brake with carbon-steel brake disc Ø 320 mm (11,8 in), brake caliper floated
Rear brake	Disc brake with carbon-steel brake disc Ø 220 mm (8,7 in), brake caliper floated
Tyres front	90/90-21 Enduro3
Air pressure offroad	1,8 bar (21 psi)
Air press. road, driver only	2,0 bar (29 psi)
Tyres rear	140/80-18 Enduro3
Air press. road, driver only	2,0 bar (29 psi)
Air press. road, with passenger	2,2 bar (32 psi)
Fuel tank capacity	28 liter (7,4 US gallons) of that 3,5 liter (1 US gallons) reserve
Final drive ratio	16 : 42
Chain	5/8 x 1/4 " O-Ring
Battery	maintenance-free battery 12V 8Ah
Steering angle	62,5°
Wheel base	1510 ± 10 mm (59,4 ± 0,4 in)
Seat high	955 mm (37,7 in)
Ground clearance	355 mm (14,2 in)
Dead weight without fuel	154 kg (340 lbs)
Max. permissible front axle load	150 kg (331 lbs)
Max. permissible rear axle load	230 kg (507 lbs)
Max. permissible laden weight	380 kg (839 lbs)

STANDARD ADJUSTMENT - FORK		
	14.18.V704	
Compression adjuster	14	
Rebound adjuster	14	
Spring	4,4 N/mm	
Spring preload	4 mm	
Air chamber length	120 mm	
Capacity per fork leg	ca 420 ccm	
Fork oil	SAE 5	

STANDARD-ADJUSTMENT - SHOCK ABSORBER		
	01.18.V709	
Compression adjuster	3	
Rebound adjuster	5	
Spring	66/260	
Spring preload	27 mm (0,9 in)	

### TECHNICAL SPECIFICATIONS - CHASSIS KTM 640 DUKE 2001

Frame	Central chrome-moly-steel frame	
Fork	type	. WP - USD 43 Multi adjuster 0518U795
	wheel travel	. 140 mm (5,5 in)
	standard adjustment compression	. driver only = 14, with passenger = 14
	standard adjustment rebound	. driver only = 16, with passenger = 16
	fork leg projection upper fork bridge	. 3 mm (0,12 in)
	oil capacity per fork leg	
	air chamber lenght	
Rear suspension	WP central shock absorber with PRO-LEVER link	kage to rear- swing-arm with needle bearing
Shock absorber	type	. WP central shock absorber BAVP 118Q785
	rear wheel travel	. 170 mm (6.7 in)
	standard adjustment compression	. driver only = 3, with passenger = $5$
	standard adjustment rebound	. driver only = 5, with passenger = $3$
	spring preload	. driver only = 23 mm (0.9 in), with passenger = 28 mm (1.1 in)
	spring type	. 70 - 260
Front brake	Disc brake with carbon-steel brake disc Ø 320	0 mm (12,6 in) and 4-piston brake caliper
Rear brake	Disc brake with carbon-steel brake disc Ø 220 mm (8,7 in) and single-piston brake caliper floated	
Tyres	front: 120/70 R 17 58H	rear: 160/60 R 17 69H
Air pressure rider only	2.0 bar (29 psi)	2.2 bar (32 psi)
Air pressure with passenger	2.2 bar (32 psi)	2.4 bar (35 psi)
Fuel tank capacity	11 liter (2,9 US gallons), out of this	2,5 liter (0,6 US gallons) reserve
Final drive ratio	17 : 3	38
Chain	O-ring 5/8	3 x 1/4"
Lamps	low beam	. HB3 12V 65W (socket P20d)
	high beam	. HB3 12V 65W (socket P20d)
	parking light	. 12V 5W (socket W2,1x9,5d)
	speedometer, tachometer light	. 12V 1,2W (socket W2x4,6d)
	indicator lamp	. 12V 1,2W (socket W2x4,6d)
	stop and taillight	. 12V 21/5W (socket BaY15d)
	flasher	
Battery	maintenance-free ba	attery 12V 8Ah
Steering angle	64,2°	
Wheel base	1460 ± 15 mm (57.5 ± 0.6 in)	
Seat high	860 mm (33.9 in)	
Ground clearance	250 mm (9.9 in)	
Dead weight without fuel	145 kg (3 lbs)	
Max. permissible front axle load	150 kg (2 lbs)	
Max. permissible rear axle load	200 kg (4 lbs)	
Max. permissible laden weight	350 kg (773 lbs)	

## TECHNICAL SPECIFICATIONS - CHASSIS 640 DUKE 2001 USA, AUS

Frame	Central chrome-moly-steel frame	
Fork	type	
	wheel travel	140 mm (5,5 in)
	standard adjustment compression	driver only = 14, with passenger = 14
standard adjustment rebound driver only = 14, with particular technical standard adjustment rebound.		driver only = 14, with passenger = 14
	fork leg projection upper fork bridge3 mm (0,12 in) oil capacity per fork leg	
	air chamber lenght	100 mm (4 in)
Rear suspension	WP central shock absorber with PRO-LEVER linkage	ge to rear- swing-arm with needle bearing
Shock absorber	type	WP central shock absorber BAVP 118Q785
	rear wheel travel	170 mm (6.7 in)
	standard adjustment compression	driver only = 3, with passenger = 5
	standard adjustment rebound	driver only = 5, with passenger = 3
	spring preload	driver only = 23 mm (0.9 in), with passenger = 28 mm (1.1 in)
	spring type	70 - 260
Front brake	Disc brake with carbon-steel brake disc Ø 320 r	mm (12,6 in) and 4-piston brake caliper
Rear brake	Disc brake with carbon-steel brake disc Ø 220 mm (8,7 in) and single-piston brake caliper floated	
Tyres	front: 120/70 R 17 58H	rear: 160/60 R 17 69H
Air pressure rider only	2.0 bar (29 psi)	2.2 bar (32 psi)
Air pressure with passenger	2.2 bar (32 psi)	2.4 bar (35 psi)
Fuel tank capacity	12 liter (3,2 US gallons), out of this 2,	5 liter (0,6 US gallons) reserve
Final drive ratio	17 : 38	
Chain	O-ring 5/8 x 1/4"	
Lamps	low beam	
	high beam	
	parking light	
	speedometer, tachometer light	12V 1,2W (socket W2x4,6d)
	indicator lamp	
	stop and taillight	
	flasher flasher sector flasher sector flasher sector flasher sector flasher sector flasher sector flasher flasher sector	
Battery	maintenance-free batt	ery 12V 8Ah
Steering angle	64,2°	
Wheel base	1460 ± 15 mm (57.5 ± 0.6 in)	
Seat high	860 mm (33.9 in)	
Ground clearance	250 mm (9.9 in)	
Dead weight without fuel	145 kg (3 lbs)	
Max. permissible front axle load	150 kg (2 lbs)	
Max. permissible rear axle load	200 kg (4 lbs)	
Max. permissible laden weight	350 kg (773 lbs)	

## TECHNICAL SPECIFICATIONS – ENGINE 625 SC, 625 SC SUPERMOTO 2002

Engine	625 LC4	
Design	Liquid-cooled single cylinder 4-stroke engine with balancer shaft	
Displacement	625 ccm	
Bore / Stroke	101 / 78 mm	
Ratio	11,0 : 1	
Fuel	unleaded premium gasoline with a least RON 95	
Valve timing	4 valves over rocker arm and 1 overhead camshaft, camshaft drive through single chain	
Camshaft	249/1	
Valve diameter	Intake: 36 mm Exhaust: 30 mm	
Valve clearence cold	Intake: 0,15 mm Exhaust: 0,15 mm	
Crank shaft bearing	2 cylinder roller bearing	
Connecting rod bearing	needle bearing	
Top end bearing	bronze bushing	
Piston	forged aluminium alloy	
Piston rings	1 compression ring, 1 taper face ring, 1 oil scraper ring	
Engine lubrication	two oilpumps	
Engine oil	10W-40 (Shell Advance Ultra 4)	
Engine oil quantity	1,6 liters (0,42 US gallons)	
Primary ratio	straight geared spur wheels 30 : 81 teeth	
Clutch	multi disc clutch in oil bath	
Transmission	5-speed claw shifted	
Gear ratio	1st 14:35	
	2nd 15:24	
	3rd 18:21	
	4th 20:19	
	5th 22:18	
Ignition system	contactless DC-CDI ignition with digital advanced system type KOKUSAN 4K-3C	
Ignition timing	adjustment to max. 38 ° BTDC at 6000 rpm	
Generator	12V 150 W	
Spark plug	NGK DPR8 EA-9	
Spark plug gap	0,9 mm	
Cooling system	liquid cooled, permanent rotation of cooling liquid through mechanic driven water pump	
Cooling liquid	1 liter, 40% antifreeze, 60% water, at least -25°C (-13°F)	
Starting equipment	Kickstarter, cold start knob on carburetor	

BASIC CARBURETOR SETTING		
	625 SC, 625 SC SUPERMOTO	
Carburetor	Keihin FCR41	
Carburetor setting number	140501	
Main jet	180	
Needle jet	OBDVT	
Idling jet	45	
Main air jet	200	
Idling air jet	100	
Needle position from top	5th	
Throttle valve	15	
Starting jet	85	
Performance restrictor	Slide stop 23mm	
Stop pump membrane 3,2mm		

## **TECHNICAL SPECIFICATIONS - CHASSIS 625 SC, 625 SC SUPERMOTO 2002**

	625 SC	625 SC SUPERMOTO	
Frame	Central chrome-moly-steel frame		
Fork	White Power	4357 MXMA	
Wheel travel front/rear	295 / 320 mm (11,8 / 12,8 in)	270 / 320 (10,8 / 12.8 in)	
Rear suspension	Central shock absorber (WP BAVP3612) with PRO-LE	VER linkage to rear- swing-arm with needle bearing	
Front brake	Disc brake with carbon-steel b	rake disc, brake caliper floated	
Front brake disc	Ø 260 mm (10,4 in)	Ø 320 mm (12.8 in)	
Rear brake	Disc brake with carbon-steel brake disc	$\oslash$ 220 mm (8.8 in), brake caliper floated	
Tyres front	90/90-21	120/70-17	
Air press. offroad	1,0 bar (14 psi)	-	
Air press. road	1,8 bar (26 psi)	2,0 bar (29 psi)	
Tyres rear	140/80-18	160/60-17	
Air press offroad	1,2 bar (17 psi)	-	
Air press. road	2,0 bar (29 psi)	2,2 bar (32 psi)	
Fuel tank capacity	9 liter (2,3 US gallons), 1.5 liter (0,4 US gallons) reserve		
Final drive ratio	16:40 (15:50) t	17:38t	
Chain	X – Ring 5/8 x 1/4"		
Bulps	headlight		
	parking light 12V 5W (socket W2,1x9,5d)		
	indicator lamps 12V 1,2W (socket W2x4,6d)		
	brake – rear light 12	2V 21/5 W (socket BaY15d)	
	flasher light	2V 10W (socket Ba15s)	
	license plate illmination 12V 5W (socket W2,1x9,5 d)		
Steering angle	62,5 °	63°	
Wheel base	1510 ± 10 mm (59.4 ± 0.4 in)		
Seat high	950 mm (38 in)	920 mm (36.8 in)	
Ground clearance	340 mm (13,6 in)	300 mm (12 in)	
Dead weight without fuel	122 kg (269 lbs)	123 kg (271 lbs)	

STANDARD ADJUSTMENT - FORK			
	625 SC	625 SC SUPERMOTO	
	WP 0518W712	WP 0518W722	
Compression adjuster	20	14	
Rebound adjuster	12	14	
Spring	4,2 N/mm	5,0 N/mm	
Spring preload	5 mm	9 mm	
Air chamber length	140 mm	130 mm	
Fork oil	SAE 5	SAE 5	

STANDARD-ADJUSTMENT - SHOCK ABSORBER			
625 SC 625 SC SUPERMO WP 0118W714 WP 0118W72			
Compression adjuster	3	5	
Rebound adjuster	5	7	
Spring	63 / 260	75 / 260	
Spring preload	23 mm	15 mm	

## TECHNICAL DATA – ENGINE 640 LC4 2002

Engine	640 LC4	
Design	Liquid-cooled single cylinder 4-stroke engine with balancer shaft and electric starter	
Displacement	624,6 ccm	
Bore / Stroke	101 / 78 mm	
Ratio	11 : 1	
Fuel	unleaded premium gasoline with a least RON 95	
Valve timing	4 valves over rocker arm and 1 overhead camshaft, camshaft drive through single chain	
Camshaft	249/1	
Valve diameter	Intake: 36 mm Exhaust: 30 mm	
Valve clearence cold	0,15 mm Exhaust: 0,15 mm	
Crank shaft bearing	2 cylinder roller bearing	
Connecting rod bearing	needle bearing	
Top end bearing	bronze bushing	
Piston	forged aluminium alloy	
Piston rings	1 compression ring, 1 taper face ring, 1 oil scraper ring	
Engine lubrication	two oilpumps	
Engine oil	10W-40 (Shell Advance Ultra 4)	
Engine oil quantity	appr. 2,1 liters including frame	
Primary ratio	straight geared spur wheels 30 : 81 teeth	
Clutch	multi disc clutch in oil bath	
Transmission	5-speed claw shifted	
Gear ratio	1st 14:35	
	2nd 15:24	
	3rd 18:21	
	4th 20:19	
	5th 22:18	
Ignition system	contactless DC-CDI ignition with digital advanced system type KOKUSAN 4K-2	
Ignition timing	adjustment to max. 38° BTDC at 6000 rpm	
Generator	12V 200W	
Spark plug	NGK DPR8 EA9	
Spark plug gap	0,9 mm	
Cooling system	liquid cooled, permanent rotation of cooling liquid through mechanic driven water pump	
Cooling liquid	1 liter, 40% antifreeze, 60% water, at least –25 ° C (–13 ° F)	
Starting equipment	electric starter and kickstarter	

BASIC CARBURETOR SETTING		
	640 LC4, SUPERMOTO	640 DUKE
	640 LC4 ADVENTURE	40 kW
Туре	BST40-225	BST40-225
Carbsetting number	090298	100299
Main jet	142,5	145
Needle jet	689 X-6	689 X-6
Idling jet	45	45
Jet needle	6G5	6G5
Needle clip pos. f. top	3.	3.
Mixt. adj. screw open	2,25	2,25

## TECHNICAL SPECIFICATIONS - CHASSIS 640 LC4, 640 LC4 SUPERMOTO 2002

	640 LC4	640 LC4 Supermoto	
Frame	Central chrome-moly-steel frame		
Fork	White Power – Up Side Down 4357 MXMA		
Wheel travel front/rear	270 / 300 mm	(10,6 / 11.8 in)	
Rear suspension	Central shock absorber (WP BAVP3612) with PRO-LE	EVER linkage to rear- swing-arm with needle bearing	
Front brake	Disc brake with carbon-steel b	rake disc, brake caliper floated	
Front brake disc	Ø 300 mm (11.8 in)	Ø 320 mm (12.6 in)	
Rear brake	Disc brake with carbon-steel brake disc	$\oslash$ 220 mm (8.7 in), brake caliper floated	
Tyres front	90/90-21	120/70-17	
Air press. road, driver only	1.8 bar (26 psi)	2.0 bar (29 psi)	
Air press. road with passenger	2.0 bar (29 psi)	2.2 bar (31 psi)	
Tyres rear	140/80-18	160/60-17	
Air press. road, driver only	2.0 bar (29 psi)	2.2 bar (31 psi)	
Air press. road with passenger	2.2 bar (31 psi)	2.4 bar (34 psi)	
Fuel tank capacity	11 or 18 liter (2.9 or 4.8 US gallons),	2.5 liter (0,6 US gallons) reserve	
Final drive ratio	16:42t	17:42t	
Chain	X – Ring 5/8 x 1/4"		
Bulps	headlight		
	parking light 12V 5W (socket W2,1x9,5d)		
	instrument lights 12V 1,2W (socket W2x4,6d)		
	indicator lamps1	indicator lamps	
brake – rear light 12V 21/5 W		2V 21/5 W (socket BaY15d)	
	flasher light1	2V 10W (socket Ba15s)	
	license plate illmination 1	2V 5W (socket W2,1x9,5 d)	
Battery	maintenance-free battery 12V 8Ah		
Steering angle	62,5 °	63°	
Wheel base	1510 ± 10 mm (59.4 ± 0.4 in)		
Seat high	940 mm (37.6 in)	910 mm (36.4 in)	
Ground clearance	355 mm (14.0 in)	335 mm (13.2 in)	
Dead weight without fuel	136kg (300 lbs)	137 kg (302 lbs)	
Max. permissible front axle load	211 kg	(465 lbs)	
Max. permissible rear axle load	335 kg (740 lbs)		
Max. permissible laden weight	350 kg (773 lbs)		

STANDARD ADJUSTMENT - FORK			
	640 LC4	640 LC4	
		SUPERMOTO	
	WP 0518W714	WP 0518W722	
Compression adjuster	20	14	
Rebound adjuster	12	14	
Spring	4,2 N/mm	5,0 N/mm	
Spring preload	6 mm (0,24in)	9 mm (0,36in)	
Air chamber length	150 mm (5,9in)	130 mm (5,1in)	
Fork oil	SAE 5	SAE 5	

STANDARD-ADJUSTMENT - SHOCK ABSORBER			
	640 LC4	640 LC4	
		SUPERMOTO	
	WP 0118W724	WP 0118W721	
Compression adjuster	3	5	
Rebound adjuster	7	7	
Spring	66 / 260	75 / 260	
Spring preload	23,5 mm(0,94in)	15 mm(0,6in)	

## TECHNICAL SPECIFICATIONS - CHASSIS 640 LC4 ADVENTURE 2002

	640 LC4 Adventure	
Frame	Central chrome-moly-steel frame	
Fork	WP USD MXMA 4860	
Wheel travel front/rear	275/300 mm (10,5/12 in)	
Rear suspension	Central shock absorber (WP BAVP3612) with PRO-LEVER linkage to rear-swingarm with need	
bearing		
Front brake	Disc brake with carbon-steel brake disc Ø 320 mm (11,8 in), brake caliper floated	
Rear brake	Disc brake with carbon-steel brake disc Ø 220 mm (8,7 in), brake caliper floated	
Tyres front	90/90-21 Enduro3	
Air pressure offroad	1,8 bar (21 psi)	
Air press. road, driver only	2,0 bar (29 psi)	
Tyres rear	140/80-18 Enduro3	
Air press. road, driver only	2,0 bar (29 psi)	
Air press. road, with passenger	2,2 bar (32 psi)	
Fuel tank capacity	28 liter (7,4 US gallons) of that 2 liter (0,5 US gallons) reserve	
Final drive ratio	16 : 42	
Chain	5/8 x 1/4 "X-Ring	
Lampenbestückung	head light	
	parking light	
	brake- rear light	
	flasher light	
	license plate illintion	
Battery	maintenance-free battery 12V 8Ah	
Steering angle	62,5°	
Wheel base	1510 ± 10 mm (59,4 ± 0,4 in)	
Seat high	955 mm (37,7 in)	
Ground clearance	355 mm (14,2 in)	
Dead weight without fuel	154 kg (340 lbs)	
Max. permissible front axle load	150 kg (331 lbs)	
Max. permissible rear axle load	230 kg (507 lbs)	
Max. permissible laden weight	380 kg (839 lbs)	

STANDARD ADJUSTMENT - FORK		
	WP 4860 MXMA	
	1418W711	
Compression adjuster	14	
Rebound adjuster	14	
Spring	4,4 N/mm	
Spring preload	4 mm	
Air chamber length	120 mm	
Capacity per fork leg	approx. 420 ccm	
Fork oil	SAE 5	

STANDARD-ADJUSTMENT - SHOCK ABSORBER		
	WP BAVP3612	
	0118W715	
Compression adjuster	6	
Rebound adjuster	7	
Spring	70/260	
Spring preload	27 mm (0,9 in)	

## TECHNICAL SPECIFICATIONS - CHASSIS 640 DUKE II 2002

Frame	Central chrome-moly-st	eel frame
Fork         type		4357 ROMA 0518716
	wheel travel	) mm (5,5 in)
	standard adjustment compression driv	er only = 14, with passenger = $14$
	standard adjustment rebound driv	er only = 16, with passenger = 16
	fork leg projection upper fork bridge 3 m	ım (0,12 in)
	oil capacity per fork leg	r. 400 ccm (24 cubic in) / SAE 5
	air chamber lenght	) mm (4 in)
Rear suspension	WP central shock absorber with PRO-LEVER linkage t	
Shock absorber	type	central shock absorber BAVP 4681
0118W71		
	rear wheel travel	) mm (6.7 in)
	standard adjustment compressiondriv	er only = 3, with passenger = 5
	standard adjustment rebound driv	
	spring preload	er only = 23 mm (0.9 in), with passenger = 28
mm (1.1 in)		,
	spring type	- 260
Front brake	Disc brake with carbon-steel brake disc Ø 320 mm	(12,6 in) and 4-piston brake caliper
Rear brake	Disc brake with carbon-steel brake disc Ø 220 mm (8,7 in) and single-piston brake caliper floated	
Tyres	front: 120/70 R 17 58H	rear: 160/60 R 17 69H
Air pressure rider only	2.0 bar (29 psi)	2.2 bar (32 psi)
Air pressure with passenger	2.2 bar (32 psi)	2.4 bar (35 psi)
Fuel tank capacity	11 liter (2,9 US gallons), out of this 2,5 liter (0,6 US gallons) reserve	
Final drive ratio	17:38	
Chain	X-ring 5/8 x 1/4"	
Lamps	low beam	
	high beam HB3	3 12V 65W (socket P20d)
	parking light	/ 5W (socket W2,1x9,5d)
	speedometer, tachometer light	/ 1,2W (socket W2x4,6d)
	indicator lamp	/ 1,2W (socket W2x4,6d)
	stop and taillight	/ 21/5W (socket BaY15d)
	flasher	/ 10W (socket Ba15s)
Battery	maintenance-free battery 12V 8Ah	
Steering angle	64,2°	
Wheel base	1460 ± 15 mm (57.5 ± 0.6 in)	
Seat high	880 mm (34,7 in)	
Ground clearance	250 mm (9.9 in)	
Dead weight without fuel	145 kg (3 lbs)	
Max. permissible front axle load	150 kg (2 lbs)	
Max. permissible rear axle load	200 kg (4 lbs)	
Max. permissible laden weight	350 kg (773 lbs)	

### TECHNICAL SPECIFICATIONS – ENGINE 625 SXC 2003

Engine	625 SXC	
Design	Liquid-cooled single cylinder 4-stroke engine with balancer shaft	
Displacement	625 ccm	
Bore / Stroke	101 / 78 mm	
Ratio	11,5 : 1	
Fuel	unleaded premium gasoline with a least RON 95	
Valve timing	4 valves over rocker arm and 1 overhead camshaft, camshaft drive through single chain	
Camshaft	584-V03/1	
Valve diameter	Intake: 36 mm Exhaust: 32 mm	
Valve clearence cold	Intake: 0,15 mm Exhaust: 0,15 mm	
Crank shaft bearing	2 cylinder roller bearing	
Connecting rod bearing	needle bearing	
Top end bearing	bronze bushing	
Piston	forged aluminium alloy	
Piston rings	1 compression ring, 1 taper face ring, 1 oil scraper ring	
Engine lubrication	two Eaton-oilpumps	
Engine oil	SAE 5W/40, 10W-50 (f.ex. Motorex Power Synt 4T)	
Engine oil quantity	1,6 liters (0,42 US gallons)	
Primary ratio	straight geared spur wheels 31 : 79 teeth	
Clutch	multi disc clutch in oil bath	
Transmission	5-speed claw shifted	
Gear ratio	1st 14:35	
	2nd 15:24	
	3rd 18:21	
	4th 20:19	
	5th 22:18	
Ignition system	contactless DC-CDI ignition with digital advanced system type KOKUSAN	
Ignition timing	adjustment to max. 38 ° BTDC at 6000 rpm	
Generator	12V 200W	
Spark plug	NGK DCPR8 E	
Spark plug gap	0,9 mm	
Cooling system	liquid cooled, permanent rotation of cooling liquid through mechanic driven water pump	
Cooling liquid	1 liter, 40% antifreeze, 60% water, at least -25°C (-13°F)	
Starting equipment	kick - electric starter	

BASIC CARBURATOR SETTING		
	625 SXC	
Туре	Keihin FCR-MX 41	
Carburator-setting number	4138A	
Main jet	165	
Jet needle	OBDVT	
Idling jet	42	
Main air jet	200	
Idling air jet	100	
Needle position	5. rd from top	
Starting jet	85	
Mixture control screw open	2	
Slide	15	
Performance restrictor	Slide stop	
Stop pump membrane	858 / 2,15 mm	
Hot start device	3,8 mm	

BASIC CARBURETOR SETTING		
	625 SXC USA	
Туре	Mikuni BST40-266	
Main jet	152,5	
Needle jet	X-6 689	
Idling jet	45	
Jet needle	6G5	
Needle clip pos. f. top	3. from top	
Mixt. adj. screw open	2,25	

## **TECHNICAL SPECIFICATIONS - CHASSIS 625 SXC 2003**

	625 SXC
Frame	Central chrome-moly-steel frame
Fork	White Power 4357 MXMA
Wheel travel front/rear	295 / 320 mm (11,8 / 12,8 in)
Rear suspension	Central shock absorber (WP BAVP4681) with PRO-LEVER linkage to rear- swing-arm with needle bearing
Front brake	Disc brake with carbon-steel brake disc, brake caliper floated
Front brake disc	Ø 260 mm (10,4 in)
Rear brake	Disc brake with carbon-steel brake disc $arnothing$ 220 mm (8.8 in), brake caliper floated
Tyres front	90/90-21
Air press. offroad	1,0 bar (14 psi)
Air press. road	1,8 bar (26 psi)
Tyres rear	140/80-18
Air press offroad	1,2 bar (17 psi)
Air press. road	2,0 bar (29 psi)
Fuel tank capacity	9 liter (2,3 US gallons), 2.5 liter (0,6 US gallons) reserve
Final drive ratio	16:40 ( USA 15:50) t
Chain	X – Ring 5/8 x 1/4"
Bulps	headlight HS1 12V 35/35W (socket PX43t)
	parking light
	indicator lamps 12V 1,2W (socket W2x4,6d)
	brake – rear light 12V 21/5 W (socket BaY15d)
	flasher light
	license plate illmination 12V 5W (socket W2,1x9,5 d)
Battery	maintenance-free battery 12V 8,6 Ah
Steering angle	62,5 °
Wheel base	1510 ± 10 mm (59.4 ± 0.4 in)
Seat high	980 mm (39,2 in)
Ground clearance	360 mm (14,4 in)
Dead weight without fuel	132 kg (291 lbs)

STANDARD ADJUSTMENT - FORK		
	625 SXC	
	WP 0518X729	
Compression adjuster	20	
Rebound adjuster	12	
Spring	4,2 N/mm	
Spring preload	5 mm	
Air chamber length	140 mm	
Fork oil	SAE 5	

STANDARD-ADJUSTMENT-SHOCK ABSORBER		
625 SXC		
	WP 0118X725	
Compression adjuster	3	
Rebound adjuster	5	
Spring	63 / 260	
Spring preload	23 mm	

## TECHNICAL DATA – ENGINE 640 LC4, 640 LC4 Supermoto 2003

Engine	640 LC4	
Design	Liquid-cooled single cylinder 4-stroke engine with balancer shaft and electric starter	
Displacement	625 ccm	
Bore / Stroke	101 / 78 mm	
Ratio	11.5 : 1	
Fuel	unleaded premium gasoline with a least RON 95	
Valve timing	4 valves over rocker arm and 1 overhead camshaft, camshaft drive through single chain	
Camshaft	584-V03/1	
Valve diameter	Intake: 36 mm Exhaust: 32 mm	
Valve clearence cold	0,15 mm Exhaust: 0,15 mm	
Crank shaft bearing	2 cylinder roller bearing	
Connecting rod bearing	needle bearing	
Top end bearing	bronze bushing	
Piston	forged/cast aluminium alloy	
Piston rings	1 compression ring, 1 taper face ring, 1 oil scraper ring	
Engine lubrication	two Eaton-oilpumps	
Engine oil	SAE 5W/40, 10W-50 (f.ex. Motorex Power Synt 4T)	
Engine oil quantity	appr. 2,1 liters including frame	
Primary ratio	straight geared spur wheels 31 : 79 teeth	
Clutch	multi disc clutch in oil bath, hydraulically operated	
Transmission	5-speed claw shifted	
Gear ratio	1st 14:35	
	2nd 15:24	
	3rd 18:21	
	4th 20:19	
	5th 22:18	
Ignition system	contactless DC-CDI ignition with digital advanced system type KOKUSAN 4K5	
Ignition timing	adjustment to max. 38° BTDC at 6000 rpm	
Generator	12V 200W	
Spark plug	NGK DCPR 8 E	
Spark plug gap	0,9 mm	
Cooling system	liquid cooled, permanent rotation of cooling liquid through mechanic driven water pump	
Cooling liquid	1 liter, 40% antifreeze, 60% water, at least -25 ° C (-13 ° F)	
Starting equipment	electric starter and kickstarter	

BASIC CARBURETOR SETTING		
	640 LC4 640 LC4 Supermoto	
Туре	BST40-266	
Main jet	152,5	
Needle jet	X-6 689	
Idling jet	45	
Jet needle	6G5	
Needle clip pos. f. top	3. from top	
Mixt. adj. screw open	2,25	

	640 LC4 Adventure
Туре	BST40-266
Main jet	152,5
Needle jet	X-6 689
Idling jet	45
Jet needle	6G5
Needle clip pos. f. top	3. from top
Mixt. adj. screw open	2,25

BASIC CARBURETOR SETTING

BASIC CARBURETOR SETTING		
	<b>640 DUKE</b> 40 kW	
Carburetor	BST40-258	
Main jet	145	
Needle jet	689 X-6	
Idling jet	45	
Jet needle	6G5	
Needle position from top	3 rd	
Mixture.adju. screw open	2.25 turn	

## TECHNICAL SPECIFICATIONS - CHASSIS 640 LC4, 640 LC4 SUPERMOTO 2003

	640 LC4	640 LC4 Supermoto
Frame	Central chrome-moly-steel frame	
Fork	White Power – Up Side Down 4357 MXMA	White Power – Up Side Down 4860 MXMA
Wheel travel front/rear	270 / 300 mm (10,6 / 11.8 in)	265 / 310 mm (10,4 / 12,2 in)
Rear suspension	Central shock absorber (WP BAVP3612) with PRO-LE	VER linkage to rear- swing-arm with needle bearing
Front brake	Disc brake with carbon-steel brake disc,	Disc brake with carbon-steel brake disc,
	2-piston brake caliper floated	4-piston brake caliper
Front brake disc	Ø 300 mm (11.8 in)	Ø 320 mm (12.6 in)
Rear brake	Disc brake with carbon-steel brake disc	$\oslash$ 220 mm (8.7 in), brake caliper floated
Tyres front	90/90-21	120/70-17
Air press. road, driver only	1.8 bar (26 psi)	2.0 bar (29 psi)
Air press. road with passenger	2.0 bar (29 psi)	2.2 bar (31 psi)
Tyres rear	130/80-18	160/60-17
Air press. road, driver only	2.0 bar (29 psi)	2.2 bar (31 psi)
Air press. road with passenger	2.2 bar (31 psi)	2.4 bar (34 psi)
Fuel tank capacity	11 liter (2.9 US gallons), 2.5 liter (0.6 US gallons) reserve	
Final drive ratio	16:42t	17:42t
Chain	X – Ring 4	5/8 x 1/4"
Bulps	headlight	
	parking light	
indicator lamps 12V 1,2W (socket W2x4,6d)		2V 1,2W (socket W2x4,6d)
	brake – rear light	
	flasher light	
	license plate illmination 12V 5W (socket W2,1x9,5 d)	
Battery	maintenance-free battery 12V 8,6Ah	
Steering angle	62°	63°
Wheel base	1510 ± 10 mm (59.4 ± 0.4 in)	
Seat high	925 mm (36.4 in)	910 mm (35.9 in)
Ground clearance	310 mm (12.2 in)	290 mm (11.4 in)
Dead weight without fuel	149kg (329 lbs)	149 kg (329 lbs)
Max. permissible front axle load	150 kg (	(331 lbs)
Max. permissible rear axle load	230 kg (	508 lbs)
Max. permissible laden weight	350 kg (773 lbs)	

STANDARD ADJUSTMENT - FORK		
	640 LC4	640 LC4
		SUPERMOTO
	WP 0518X730	WP 0518X738
Compression adjuster	20	20
Rebound adjuster	12	15
Spring	4,2 N/mm	4,4 N/mm
Spring preload	6 mm (0.24in)	28 mm (1.1in)
Air chamber length	150 mm (5,9in)	110 mm (4.3in)
Fork oil	SAE 5	SAE 5

STANDARD-ADJUSTMENT - SHOCK ABSORBER		
640 LC4		640 LC4
		SUPERMOTO
	WP 0118X729	WP 0118X730
Compression adjuster	3	4
Rebound adjuster	7	8
Spring	66 / 260	70 / 260
Spring preload	23,5 mm(0,93in)	16 mm(0,63in)

## TECHNICAL SPECIFICATIONS - CHASSIS 640 LC4 ADVENTURE 2003

	640 LC4 Adventure	
Frame	Central chrome-moly-steel frame	
Fork	WP USD MXMA 4860	
Wheel travel front/rear	275/300 mm (10,5/12 in)	
Rear suspension	Central shock absorber (WP BAVP3612) with PRO-LEVER linkage to rear-swingarm with needle bearing	
Front brake	Disc brake with carbon-steel brake disc Ø 320 mm (11,8 in), brake caliper floated	
Rear brake	Disc brake with carbon-steel brake disc Ø 220 mm (8,7 in), brake caliper floated	
Tyres front	90/90-21 Enduro3	
Air pressure offroad	1,8 bar (21 psi)	
Air press. road, driver only	2,0 bar (29 psi)	
Tyres rear	140/80-18 Enduro3	
Air press. road, driver only	2,0 bar (29 psi)	
Air press. road, with passenger	2,2 bar (32 psi)	
Fuel tank capacity	28 liter (7,4 US gallons) of that 3,5 liter (0,9 US gallons) reserve	
Final drive ratio	16 : 42	
Chain	5/8 x 1/4 "X-Ring	
Bulbs	head light	
	brake- rear light	
	flasher light	
	license plate illintion	
Battery	maintenance-free battery 12V 8Ah	
Steering angle	62,5°	
Wheel base	1510 ± 10 mm (59,4 ± 0,4 in)	
Seat high	945 mm (37,2 in)	
Ground clearance	315 mm (12,4 in)	
Dead weight without fuel	158 kg (340 lbs)	
Max. permissible front axle load	150 kg (331 lbs)	
Max. permissible rear axle load	230 kg (507 lbs)	
Max. permissible laden weight	380 kg (839 lbs)	

STANDARD ADJUSTMENT - FORK		
	WP 4860 MXMA	
	1418X728	
Compression adjuster	14	
Rebound adjuster	14	
Spring	4,4 N/mm	
Spring preload	4 mm	
Air chamber length	120 mm	
Capacity per fork leg	ca 420 ccm	
Fork oil	SAE 5	

STANDARD-ADJUSTMENT - SHOCK ABSORBER	
WP BAVP3612	
	0118X726
Compression adjuster	6
Rebound adjuster	7
Spring	70/260
Spring preload	27 mm (0,9 in)

## TECHNICAL SPECIFICATIONS - CHASSIS 640 DUKE II 2003

Frame	Central chrome-m	noly-steel frame
Fork	type	
	wheel travel	140 mm (5.5 in)
	standard adjustment compression	driver only = 14, with passenger = 14
	standard adjustment rebound	driver only = 16, with passenger = 16
	fork leg projection upper fork bridge	3 mm (0.12 in)
	oil capacity per fork leg	appr. 400 ccm (24 cubic in) / SAE 5
	air chamber lenght	100 mm (4 in)
Rear suspension	WP central shock absorber with PRO-LEVER lin	kage to rear- swing-arm with needle bearing
Shock absorber	type	
	rear wheel travel	170 mm (6.7 in)
	standard adjustment compression	driver only = 3, with passenger = 5
	standard adjustment rebound	driver only = 5, with passenger = 3
	spring preload	driver only = 23 mm (0.9 in), with passenger = 28 mm (1.1 in)
	spring type	70 - 260
Front brake	Disc brake with carbon-steel floated brake disc Ø 320 mm (12.6 in) and 4-piston brake caliper	
Rear brake	Disc brake with carbon-steel brake disc Ø 220 mm	n (8.7 in) and single-piston brake caliper floated
Tyres	front: 120/70 R 17 58H	rear: 160/60 R 17 69H
Air pressure rider only	2.0 bar (29 psi)	2.2 bar (32 psi)
Air pressure with passenger	2.2 bar (32 psi)	2.4 bar (35 psi)
Fuel tank capacity	11 liters (2.9 US gallons), out of this	2.5 liters (0.6 US gallons) reserve
Final drive ratio	16 : 3	
Chain	X-ring 5/8	
Lamps	low beam	
	high beam	
	parking light	12V 5W (socket W2,1x9,5d)
	speedometer, tachometer light	
	indicator lamp	
	stop and taillight	
	flasher	
Battery	maintenance-free battery 12V 8Ah	
Steering angle	63.5°	
Wheel base	1460 ± 15 mm (57.5 ± 0.6 in)	
Seat high	900 mm (35.5 in)	
Ground clearance	270 mm (10.6 in)	
Dead weight without fuel	149 kg (329 lbs)	
Max. permissible front axle load	150 kg (331 lbs)	
Max. permissible rear axle load	e e e e e e e e e e e e e e e e e e e	
Max. permissible laden weight	350 kg (773 lbs)	

## **TECHNICAL SPECIFICATIONS – ENGINE 660 SMC 2003**

Engine	660 SMC	
Design	Liquid-cooled single cylinder 4-stroke engine with balancer shaft	
Displacement	653 ccm	
Bore / Stroke	102 / 80 mm	
Ratio	11,5 : 1	
Fuel	unleaded premium gasoline with a least RON 95	
Valve timing	4 valves over rocker arm and 1 overhead camshaft, camshaft drive through single chain	
Camshaft	586-V039	
Valve diameter	Intake: 36 mm Exhaust: 32 mm	
Valve clearence cold	Intake: 0,15 mm Exhaust: 0,15 mm	
Crank shaft bearing	2 cylinder roller bearing	
Connecting rod bearing	needle bearing	
Top end bearing	bronze bushing	
Piston	forged aluminium alloy	
Piston rings	1 compression ring, 1 taper face ring, 1 oil scraper ring	
Engine lubrication	two Eaton-oilpumps	
Engine oil	SAE 5W/40, 10W-50 (f.ex. Motorex Power Synt 4T)	
Engine oil quantity	1,6 liters (0,42 US gallons)	
Primary ratio	straight geared spur wheels 31 : 79 teeth	
Clutch	multi disc clutch in oil bath	
Transmission	5-speed claw shifted	
Gear ratio	1st 14:35	
	2nd 15:24	
	3rd 18:21	
	4th 20:19	
	5th 22:18	
Ignition system	contactless DC-CDI ignition with digital advanced system type KOKUSAN	
Ignition timing	adjustment to max. 38 ° BTDC at 6000 rpm	
Generator	12V 200W	
Spark plug	NGK DCPR8 E	
Spark plug gap	0,9 mm	
Cooling system	liquid cooled, permanent rotation of cooling liquid through mechanic driven water pump	
Cooling liquid	at least –25°C (–13°F)	
Starting equipment	kickstarter	

BASIC CARBURATOR SETTING	
	660 SMC
Туре	Keihin FCR-MX 41
Carburator-setting number	4138A
Main jet	165
Jet needle	OBDVT
Idling jet	42
Main air jet	200
Idling air jet	100
Needle position	5. rd from top
Starting jet	85
Mixture control screw open	2
Slide	15
Performance restrictor	Slide stop
Stop pump membrane	858 / 2,15 mm
Hot start device	3,8 mm

## TECHNICAL SPECIFICATIONS - CHASSIS 660 SMC 2003

	660 SMC
Frame	Central chrome-moly-steel frame
Fork	White Power 4860 MXMA
Wheel travel front/rear	265 / 310 mm (10,6 / 12,4 in)
Rear suspension	Central shock absorber (WP BAVP4681) with PRO-LEVER linkage to rear- swing-arm with needle bearing
Front brake	Disc brake with carbon-steel brake disc, and 4 piston brake caliper
Front brake disc	Ø 320 mm (12,8 in)
Rear brake	Disc brake with carbon-steel brake disc $\varnothing$ 220 mm (8.8 in), brake caliper floated
Tyres front	120/70-17
Air press.	2 bar (29 psi)
Tyres rear	160/60-17
Air press.	2,2 bar (31 psi)
Fuel tank capacity	9 liter (2,3 US gallons), 2.5 liter (0,6 US gallons) reserve
Final drive ratio	16:38
Chain	X – Ring 5/8 x 1/4"
Bulps	headlight HS1 12V 35/35W (socket PX43t)
	parking light
	indicator lamps
	brake – rear light 12V 21/5 W (socket BaY15d)
	flasher light
	license plate illmination 12V 5W (socket W2,1x9,5 d)
Steering angle	63 °
Wheel base	1510 ± 10 mm (59.4 ± 0.4 in)
Seat high	910 mm (36,4 in)
Ground clearance	290 mm (11,6 in)
Dead weight without fuel	131 kg (289 lbs)

STANDARD ADJUSTMENT - FORK			
660 SMC			
WP 1418X738			
20			
15			
4,4 N/mm			
28 mm			
110 mm			
SAE 5			

STANDARD-ADJUSTMENT-SHOCK ABSORBER		
	660 SMC	
	WP 0118X730	
Compression adjuster	4	
Rebound adjuster	8	
Spring	70 / 260	
Spring preload	22 mm	

TIGHTENING TORQUE - ENGINE		
Hexagon nut at primary gear	M20x1,5	Loctite 243 + 170 Nm
Collar nut flywheel (LC4, ADVENTURE, DUKE)	M16x1,25 links	80° C + 150 Nm
Collar nut flywheel (SC, SXC)	M12x1 left	60 Nm
Hexagon nut for inner clutch hub	M18x1,5	Loctite 243 + 100 Nm
Collar bolt clutch springs	M6	10 Nm
Kickstarter stop bolt	M12x1,5	50 Nm
Allen head bolt freewheel hub (E-STARTER)	M6x12/M6x12,5	Loctite 648 + 12/16 Nm
Allen head bolts oil pumps	M6	Loctite 243 + 8 Nm
Collar bolts oil pumps (from modell 2003 on)	M6	Loctite 243 + 10 Nm
Hexagon bolt camshaft gear	M10	Loctite 243 + 35 Nm
Allen head bolts cylinder head top section	M6x25/M6x35/M6x65/	
Allen head bolts cylinder head top section	M6x50/M6x55 (12.9)	15 Nm
Bolts cylinder head top section (from model 2003 on)	M6 (8.8)	10 Nm
Bolts cylinder head top section (from model 2003 on)	M7 (12.9)	15 Nm
Cylinder head to cylinder	M8	25 Nm
Cylinder head to cylinder	M6	8 Nm
Cylinder head to cylinder (from model 2003 on)	M6	10 Nm
Cylinder head bolts	M10	50 Nm
Collar nuts at cylinder base	M10	40 Nm
Plug at cylinder head (SC)	M10	20 Nm
Hexagon bolt chain sprocket 8.8	M10	Loctite 243 + 40 Nm
Hexagon bolt chain sprocket 12.9	M10	Loctite 243 + 60 Nm
Nut chain sprocket	M20x1,5	60 Nm
Oil drain plug	M22x1,5	30 Nm
Magnetic plug	M12x1,5	20 Nm
Plug bypass valve	M12x1,5	20 Nm
Banjo bolts oil lines	M8x1	10 Nm
Banjo bolts oil lines	M10x1	15 Nm
Jet screw clutch cover	M8	10 Nm
Plug timing-chain tensioner	M12x1,5	20 Nm
Timing-chain tensioner to cylinder	M6	Loctite 243 + 8 Nm
Timing-chain tensioner to cylinder (from model 2003 on)	M6	10 Nm
Timing-chain guide to cylinder	M12x1,25	Loctite 243 + 8 Nm
Hexagon bolt timing-chain guide	M6	Loctite 243 + 10 Nm
Tension guide	M8	Loctite 243 + 15 Nm
Timing-chain securing guide	M6	8 Nm
Allen head bolt timing-chain securing guide (from model 2003 on)	M6	Loctite 243 + 10 Nm
Counternuts valve adjusting screws	M7x0,75	16 Nm
Crankshaft locking bolt	M8	25 Nm
Spark plug	M12x1,25	20 Nm
Engine mounting bolt	M8	40 Nm
Engine mounting bolt	M10	70 Nm
Retaining plate for main shaft bearing	M6	Loctite 648 + 8 Nm
Retaining plate for main shaft bearing (from model 2003 on)	M6	Loctite 648 + 10 Nm
Shift mechanism support, securing device for bearing	M5	Loctite 243 + 6 Nm
Shift mechanism support	M6	Loctite 243 + 8 Nm
Shift mechanism support (from model 2003 on)	M6	Loctite 243 + 10 Nm
Shift drum locating	M6	Loctite 243 + 8 Nm
Engine housing, clutch cover, ignition cover	M6	10 Nm
Water pump cover	 M6	10 Nm
Bolts of impuls generator	M5	Loctite 243 + 6 Nm
Stator (SC)	M6	Loctite 243 + 8 Nm
Stator (E-Start)	M5	Loctite 243 + 6 Nm
Kick starter	M8	25 Nm
Shifting lever	 M6	Loctite 243 + 10 Nm
Oil filter cover	M6	10 Nm
Microfilter cover (SC)	M5	6 Nm
Starter flange, starter cover	M6	10 Nm
AH bolt for slave cylinder	 M6	10 Nm
Starter Value cover	M6	10 Nm
Valve cover	M6	10 Nm
Exhaust flange	M6	10 Nm
AH screw for decompression shaft lever	M6	Loctite 243 + 10 Nm
Retaining shim for ignition (SC)	M5	Loctite 243 + 6 Nm
Other bolts, engine	M5 M6	6 Nm 10 Nm

TIGHTENING TORQUE - CHASSIS		
Collar nut front axle	M16x1,5, M17	40 Nm
Collar nut front axle (400 SXC)	M10	40 Nm
Collar nut front axle	M24x1,5	40 Nm
Collar nut rear axle	M20x1,5	80 Nm
Shock absorber top	M10	45 Nm
Shock absorber bottom	M10	45 Nm
Collar bolts brake disk front	M6	Loctite 243 + 10 Nm
Collar bolts brake disk front	M6	Loctite 243 + 10 Nm
Bolts brake caliper front	M8	Loctite 243 + 25 Nm
Bolts brake caliper front (LC4 Supermoto)	M10	Loctite 243 + 40 Nm
Allen head bolts brake caliper front (DUKE)	M10x1,25	Loctite 243 + 45 Nm
Allen head bolt brake caliper support rear (DUKE)	M10	40 Nm
Allen head bolts brake caliper front (660 SMC)	M10	60 Nm
Bearing bolt linkage arm/frame	M12	60 Nm
Collar nuts rocker arm bolts	M14x1,5	100 Nm
Engine mounting bolt	M10	45 Nm
Ball joint for push rod	M8	Loctite 243 + 25 Nm
Sprocket bolts with nuts	M8	Loctite 243 + 35 Nm
Collar nut swingarm bolt	M14x1,5	100 Nm
Clamping bolts top triple clamp (USD 43)	M8	20 Nm
Clamping bolts top triple clamp (EXTREME)	M8	15 Nm
Clamping bolts top triple clamp (USD 48)	M8	20 Nm
Clamping bolts bottom triple clamp (USD 43)	M8	15 Nm
Clamping bolts bottom triple clamp (EXTREME)	M8	20 Nm
Clamping bolts bottom triple clamp (USD 48)	M8	15 Nm
Clamp bolts for front wheel axle clamp	M8	10 Nm
Collar nut for eccentric chain adjuster (DUKE)	M10	40 Nm
Bolts, handlebar clamp	M8	Loctite 243 + 20 Nm
Allen head bolts handle bar support, damped	M10	Loctite 243 + 20 Nm
(LC4, LC4-SM, SMC, ADVENTURE, DUKE)		
Allen head bolts handle bar support, not damped (SC, SC-SM, SXC)	M10	Loctite 243 + 40 Nm
Rim lock	M8	5 Nm
Clamping of steering stemm	M8	20 Nm
Subframe	M8	Loctite 243 + 35 Nm
Spoke nipple	M4	4 Nm
Blocking bolt of adjusting ring for spring preload	M6	8 Nm
Other bolts on chassis	M6	10 Nm
	M8	25 Nm
	M10	45 Nm
Other collar nuts on chassis	M6	15 Nm
	M8	30 Nm
	M10	50 Nm

ASSEMBLY CLEARANCE, WE	AR LIMIT
Crank shaft	axial play0.03 - 0.12 mm
	run out of crank stud
Connecting rod bearing	radial playmax. 0.05 mm
	axial playmax. 1.10 mm
Cylinder 400	bore
Cylinder 640	boremax. 101.04 mm
Cylinder 660	bore
Piston forged	assembly clearance
Piston cast	assembly clearance
Piston rings end gap	compression ringsmax. 0.80 mm
	oil scraper ringmax. 1.00 mm
Valves	seat sealing intakemax. 1.50 mm
	seat sealing exhaustmax. 2.00 mm
	run out of valve headsmax. 0.05 mm
	valve guides diameter
Oil pumps	clearance outer rotor - housing
	clearance outer rotor - inner rotor
Bypaß valve	minimum spring length
Clutch	Length of springs
	wear limit organicmin. 2.50 mm
	Length of the clutch spring 660 SMC min. 31.5 mm (new 33.5 mm)
Camshaft	diameter of bearing bolt (needle bearing)min. 19.97 mm
Transmission shafts	axial play0.10 - 0.40 mm
Crankshaft webs - outer dimension	

# PERIODIC MAINTENANCE SCHEDULE 11

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### **MODEL 1998**

PERIODIC MAINTENANCE SCHEDULE	SX, SXC, SC11-2
PERIODIC MAINTENANCE SCHEDULE	LC4 COMPETITION, LC411-3
PERIODIC MAINTENANCE SCHEDULE	ADVENTURE-R11-4
PERIODIC MAINTENANCE SCHEDULE	DUKE

### **MODEL1999**

PERIODIC MAINTENANCE SCHEDULE	SX, SXC, SC11-6
PERIODIC MAINTENANCE SCHEDULE	LC4 COMPETITION, LC411-7
PERIODIC MAINTENANCE SCHEDULE	ADVENTURE-R11-8
PERIODIC MAINTENANCE SCHEDULE	DUKE

### **MODEL 2001**

PERIODIC MAINTENANCE SCHEDULE	620 SC
PERIODIC MAINTENANCE SCHEDULE	LC4-E, ADVENTURE11-12
PERIODIC MAINTENANCE SCHEDULE	DUKE

### **MODEL 2002**

PERIODIC MAINTENANCE SCHEDULE 625 SC11-16
PERIODIC MAINTENANCE SCHEDULE LC4, ADVENTURE11-18
PERIODIC MAINTENANCE SCHEDULE DUKE

## **MODEL 2003**

PERIODIC MAINTENANCE SCHEDULE 625 SXC, 660 SMC11-22
PERIODIC MAINTENANCE SCHEDULE 640 LC4, 640 LC4 ADVENTURE11-24
PERIODIC MAINTENANCE SCHEDULE DUKE

PERIODIC MAINTENANCE SCHEDULE	KT rid					
SX, SXC, SC 9.97 IF THE MOTORCYCLE IS USED PRIMARILI FOR OFF ROAD RIDING OR COMPETITIVE RACING, THE 5000 KM (3000 MILES) SERVICE NEEDS TO BE CARRIED OUT AFTER EACH RIDE OR RACE	before each start	after washing	1st service, after 1000 km (600 miles) or 10 hours	after 2500 km (1500 miles) or 25 hours	after 5000 km (3000 miles) or once a year	at least once a year
Check engine oil level						
Change engine oil Clean oil screen and magnet of the drain plugs whenever you exchange the engine oil						•
Change oil filter unit						
Change microfilter						
Check oil lines for leakage and proper instalment						
Check valve clearance						
Clean spark plug and adjust electrode gap						
Change spark plug after 10 000 kilometers (6 200 miles)						
Check valve clearance						
Drain and clean carburator float bowl						
Adjust idling					•	
Check breather hoses of engine gase and gas tank for correct position without buckles					•	-
Clean air filter and air filter box Check sprockets, chain guides and chain for wear						
Clean and lube chain			•			
Check chain tension						
Check cooling liquid level						
Check quality of antifreeze	•					
Check cooling system for leaks						•
Check exhaust system for leakage	•					
Change exhaust muffler packing						-
Check exhaust brackets						
Disassemble and clean spark arrestor discs (USA models)						
Check brake fluid level front and rear						
Change brake fluid						
Check brake pad thickness						
Check brake discs						
Check condition and correct instalment of brake hoses Check freeplay and easy operation of hand brake lever and foot brake lever						
Check adjustment and function of fork			-			
Check fork for leaks	•					
Loosen breather screws at fork legs (overpressure)						
Change fork oil					•	
Perform a full maintenance job for the telescopic fork						•
Clean dust scrabber on forks						
Check steering head bearing clearance / adjust						
Clean and grease steering head bearings and its seals						
Check adjustment and funktion of shock absorber						
Check O-ring of the shock absorber for wear					•	•
Servicing the shock absorber						
Grease lubricating nipple of the Pro Lever suspension system Disassemble the Pro Lever suspension system and perform a full maintenance job on it					•	
Servicing swingarm pivots						
Check tightness of spokes and rim join						•
Check wheel bearings for clearance						
Check chock absorber rubbers on the rear wheel hub	-					
Check tire condition and air pressure						
Check cables for damage and easy working						
Lube and adjust cables						
Check the electrical system						
Check adjustment of head light						
Spray ignition lock, short circuit button, and light switch with contact spray						
Check all bolts, nuts and hose clamps for proper tightness						
Grease or lube all pivot points and sliding components						

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Check engine of       Image of the drain plugs whenever you exchange the engine of       Image file screen and magnet of the drain plugs whenever you exchange the engine of         Change of its file its set       Image file screen and magnet of the drain plugs whenever you exchange the engine of       Image file screen and magnet of the drain plugs whenever you exchange the engine of         Change of its file its set       Image file screen file (screen and magnet of the drain plugs whenever you exchange the engine of       Image file screen and magnet of the drain plugs whenever you exchange the engine of         Chees of the leads and proper instalment without kinks       Image file screen and magnet of the drain plug screen and screen an	620 LC4 Comp.'98 4. 98 IF THE MOTORCYCLE IS USED PRIMARILI FOR OFF ROAD RIDING OR	each start	vashing	vice, after n (300 miles)	000 km miles) or year	t once a year			
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Spray ignition lock, emergency off switch, and light switch with contact spray <ul> <li></li></ul>					•				
Check all bolts, nuts and hose clamps for proper tightness					•				
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Grease or lube all pivot points and sliding points		٠		•	•				
	Grease or lube all pivot points and sliding points								

PERIODIC MAINTENANCE SCHEDULE			KTM dealer				
Adventure-R 3.98 IF THE MOTORCYCLE IS USED PRIMARILI FOR OFF ROAD RIDING OR COMPETITIVE RACING, THE 5000 KM (3000 MILES) SERVICE NEEDS TO BE CARRIED OUT AFTER EACH RIDE OR RACE	before each start	after washing	1st service, after 500 km (300 miles)	after 2500 km (1500 miles)	after 5000 km (3000 miles) or once a year	at least once a year	
Check engine oil level Change engine oil	•		•				
Clean oil screen and magnet of the drain plugs whenever you exchange the engine oil Change oil filter insert			•		•	•	
Change fine screen filter (screwed filter) at front pipe (of the frame)			•		•	•	
Check oil lines for leakage and proper instalment without kinks					•		
Check valve clearance					•		
Clean spark plug and adjust electrode gap Change spark plug after 10 000 kilometers (6 200 miles)							
Check ignition point							
Drain and clean carburetor float chamber					•		
Adjust idling							
Check breather hoses of engine gase and gas tank for correct position without buckles							
Clean air filter and air filter box		•				•	
Check sprockets, chain guides and chain for wear Clean and lube chain	•	•					
Check chain tension							
Check cooling liquid level	•				•		
Check quality of antifreezer							
Check cooling system for leaks – visual check							
Check exhaust system for leakage							
Check exhaust brackets			•		•		
Disassemble and clean spark arrestor discs (USA models) Check brake fluid level front and rear							
Change brake fluid			•		•		
Check brake pad thickness						-	
Check brake discs							
Check condition and correct instalment of brake hoses	•						
Check free play and easy operation of foot brake pedal	•		•		•		
Check adjustment and function of telescopic fork					•		
Check telescopic fork for leaks Loosen bleeder screws at fork legs (overpressure)							
Change telescopic fork oil						•	
Perform a full maintenance job for the telescopic fork						•	
Clean dust scrabber of telescopic fork							
Check steering head bearing clearance / adjust							
Clean and grease steering head bearings and its seals							
Check adjustment and funktion of shock absorber Check O-ring of the shock absorber for wear							
Service the shock absorber							
Grease nipple of the Pro Lever suspension system						•	
Disassemble the Pro Lever suspension system linkage and perform a full maintenance job on it							
Service swingarm pivot							
Check spoke tension and join	•		•				
Check wheel bearings for clearance Check shock absorber rubbers on the rear hub							
Check shock absorber rubbers on the rear hub Check tire condition and air pressure							
Check cables for damage and easy working	•						
Lube and adjust cables	-	•	•				
Check the electrical system							
Check battery holder, battery and connections							
Check adjustment of headlight							
Spray ignition lock, emergency off switch, and light switch with contact spray	_	•					
Check all bolts, nuts and hose clamps for proper tightness Grease or lube all pivot points and sliding points							
Grease of tube all proof points and situling points							

DUKE-E 2.98  IF THE MOTORCYCLE IS USED PRIMARILI FOR OFF ROAD RIDING OR COMPETITIVE RACING, THE 5000 KM (3000 MILES) SERVICE NEEDS TO BE CARRIED OUT AFTER EACH RIDE OR RACE  Check engine oil level Change engine oil Clean oil screen and magnet of the drain plugs whenever you exchange the engine oil Change oil filter insert Change fine screen filter (screwed filter) at front pipe (of the frame) Check oil lines for leakage and proper instalment without kinks Check valve clearance Clean spark plug and adjust electrode gap Change spark plug after 10 000 kilometers (6 200 miles) Check ignition point Drain and clean carburetor float chamber Adjust idling Check breather hoses of engine gase and gas tank for correct position without buckles Clean air filter and air filter box	Delore cault start		after 2500 km (1500 miles)	Image: style sty	Image: Second state   Image: Second state
Change engine oilClean oil screen and magnet of the drain plugs whenever you exchange the engine oilChange oil filter insertChange fine screen filter (screwed filter) at front pipe (of the frame)Check oil lines for leakage and proper instalment without kinksCheck valve clearanceClean spark plug and adjust electrode gapChange spark plug after 10 000 kilometers (6 200 miles)Check ignition pointDrain and clean carburetor float chamberAdjust idlingCheck breather hoses of engine gase and gas tank for correct position without buckles				• • • • • •	• • • • • • • • • • • • • • • • • • • •
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Drain and clean carburetor float chamber         Adjust idling         Check breather hoses of engine gase and gas tank for correct position without buckles	•	)			
Adjust idling           Check breather hoses of engine gase and gas tank for correct position without buckles	•			•	
Check breather hoses of engine gase and gas tank for correct position without buckles					•
		•			
					•
Check sprockets, chain guides and chain for wear		<u> </u>			•
Maintain chain tension eccentrics					
Clean and lube chain		)			
Check chain tension				•	
Check cooling liquid level		•			
Check quality of antifreezer					
Check cooling system for leaks – visual check					
Check exhaust system for leakage					
Check exhaust brackets					
Disassemble and clean spark arrestor discs (USA models)					
Check brake fluid level front and rear		•		•	
Change brake fluid		_			
Check brake pad thickness				•	
Check brake discs				•	
Check condition and correct instalment of brake hoses				•	
Check free play and easy operation of foot brake pedal Check adjustment and function of telescopic fork	-				
Check telescopic fork for leaks		_			
Change telescopic fork oil				-	•
Perform a full maintenance job for the telescopic fork					
Clean dust scrabber of telescopic fork					•
Check steering head bearing clearance / adjust		•		•	
Clean and grease steering head bearings and its seals					
Check adjustment and funktion of shock absorber					
Check O-ring of the shock absorber for wear					
Service the shock absorber					
Grease nipple of the Pro Lever suspension system					
Disassemble the Pro Lever suspension system linkage and perform a full maintenance job on it					
Service swingarm pivot		_		_	
Check spoke tension and join		•		•	
Check wheel bearings for clearance Check shock absorber rubbers on the rear hub					
Check the condition and air pressure					
Check tables for damage and easy working		_			
Lube and adjust cables					
Check the electrical system					
Check battery holder, battery and connections	-				
Check adjustment of headlight				•	
Spray ignition lock, emergency off switch, and light switch with contact spray		)		•	
Check all bolts, nuts and hose clamps for proper tightness		•		•	
Grease or lube all pivot points and sliding points					

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PERIODIC MAINTENANCE SCHEDULE		'M ler		M ller		
2.99 620 SX 400/540 SXC 400/620 SC IF THE MOTORCYCLE IS USED PRIMARILI FOR OFF ROAD	before each start	after washing	1st service, after 1000 km (600 miles) or 10 hours	after 2500 km (1500 miles) or 25 hours	after 5000 km (3000 miles) or once a year	at least once a year
RIDING OR COMPETITIVE RACING, THE 5000 KM (3000 MILES) Service needs to be carried out after each ride or race	before	after w	1st ser 1000 k or 10 h	after 2 (1500 or 25 h	after 5 (3000 once a	at least
Check engine oil level	٠					
Change engine oil			•			
Clean oil screen and magnet of the drain plugs whenever you exchange the engine oil			•			
Change oil filter unit			•	•		•
Change microfilter Check oil lines for leakage and proper instalment						•
Check valve clearance						
Clean spark plug and adjust electrode gap			-			
Change spark plug after 10 000 kilometers (6 200 miles)						
Check valve clearance					•	
Drain and clean carburetor float bowl						
Adjust idling					•	
Check breather hoses of engine gase and gas tank for correct position without buckles			•			
Clean air filter and air filter box		•				
Check sprockets, chain guides and chain for wear						
Clean and lube chain	٠					
Check chain tension						
Check cooling liquid level						
Check quality of antifreeze						
Check cooling system for leaks						
Check exhaust system for leakage						
Change exhaust muffler packing (aluminium-muffler)						
Check exhaust brackets			•		•	
Disassemble and clean spark arrestor discs (USA models)						
Check brake fluid level front and rear			•		•	
Change brake fluid						
Check brake pad thickness	•				•	
Check brake discs					•	
Check condition and correct instalment of brake hoses	•		•			
Check freeplay and easy operation of hand brake lever and foot brake lever Check adjustment and function of fork	•		•			
Check for leaks	•				•	
Loosen breather screws at fork legs (overpressure)					-	
Change fork oil						•
Perform a full maintenance job for the telescopic fork						•
Clean dust scrabber on forks						
Check steering head bearing clearance / adjust						•
Clean and grease steering head bearings and its seals			-		•	•
Check adjustment and function of shock absorber	•				•	-
Check O-ring of the shock absorber for wear	-				-	•
Servicing the shock absorber					-	•
Grease lubricating nipple of the Pro Lever suspension system						
Disassemble the Pro Lever suspension system and perform a full maintenance job on it						•
Servicing swingarm pivots						
Check tightness of spokes and rim join						
Check wheel bearings for clearance	•					
Check tire condition and air pressure						
Check cables for damage and easy working						
Lube and adjust cables						
Check the electrical system						
Check adjustment of head light						
Spray ignition lock, emergency OFF switch, short circuit button, and light switch with contact spray		•				
Check all bolts, nuts and hose clamps for proper tightness						
Grease or lube all pivot points and sliding components						

PERIODIC MAINTENANCE SCHEDULE		「M der		KTM dealer	
400/640 LC4 '99 400/640 LC4 R '99 620 LC4 Comp.'99 620/640 Supermoto '99 10. 98	h start ing		, after 00 miles)	km s) or rr	ce a year
IF THE MOTORCYCLE IS USED PRIMARILI FOR OFF ROAD RIDING OR COMPETITIVE RACING, THE 5000 KM (3000 MILES) SERVICE NEEDS TO BE CARRIED OUT AFTER EACH RIDE OR RACE	before each start	after washing	1st service, after 500 km (300 miles)	after 5000 km (3000 miles) or once a year	at least once a year
Check engine oil level	•				
Change engine oil			•		•
Clean oil screen and magnet of the drain plugs whenever you exchange the engine oil					
Change oil filter insert			•		•
Change fine screen filter (screwed filter) at front pipe (of the frame)					•
Check oil lines for leakage and proper instalment without kinks					
Check valve clearance					
Clean spark plug and adjust electrode gap					
Change spark plug after 10 000 kilometers (6 200 miles)					
Drain and clean carburetor float chamber					•
Adjust idling					
Check all air supply and ventilation hoses of the engine and of the carburetor for kinks.					
Clean air filter and air filter box		•			•
Check sprockets, chain guides and chain for wear	•				
Clean and lube chain	•	•			
Check chain tension	•				
Check cooling liquid level	•				
Check quality of antifreezer					
Check cooling system for leaks – visual check					
Check exhaust system for leakage					•
Check exhaust brackets					
Disassemble and clean spark arrestor discs (USA models)					
Check brake fluid level front and rear	•				
Change brake fluid					•
Check brake pad thickness	•				
Check brake discs					
Check condition and correct instalment of brake hoses	•				
Check free play and easy operation of foot brake pedal	•		•		
Check adjustment and function of telescopic fork	•				
Check telescopic fork for leaks					
Loosen bleeder screws at fork legs (overpressure)					
Change telescopic fork oil					•
Perform a full maintenance job for the telescopic fork					•
Clean dust scrabber of telescopic fork					•
Check steering head bearing clearance / adjust			•		
Clean and grease steering head bearings and its seals					•
Check adjustment and function of shock absorber	•				
Check O-ring of the shock absorber for wear					•
Service the shock absorber					•
Grease nipple of the Pro Lever suspension system					
Disassemble the Pro Lever suspension system linkage and perform a full maintenance job on it					•
Service swingarm pivot					
Check spoke tension and join	•				
Check wheel bearings for clearance	•				
Check shock absorber rubbers on the rear hub					
Check tire condition and air pressure	•				
Check cables for damage and easy working	•				
Lube and adjust cables					
Check the electrical system	•				
Check battery holder, battery and connections					
Check adjustment of headlight					
Spray ignition lock, emergency off switch, and light switch with contact spray					
Check all bolts, nuts and hose clamps for proper tightness	•				
Grease or lube all pivot points and sliding points					

PERIODIC MAINTENANCE SCHEDULE	KTM rider			KTM dealer	
Adventure 09.98 IF THE MOTORCYCLE IS USED PRIMARILI FOR OFF ROAD RIDING OR COMPETITIVE RACING, THE 5000 KM (3000 MILES) SERVICE NEEDS TO BE CARRIED OUT AFTER EACH RIDE OR RACE	before each start	after washing	1st service, after 500 km (300 miles)	after 5000 km (3000 miles) or once a year	at least once a year
Check engine oil level	•				
Change engine oil Clean oil screen and magnet of the drain plugs whenever you exchange the engine oil			•		•
Clean of screen and magnet of the drain plugs whenever you exchange the engine of					
Change fine screen filter (screwed filter) at front pipe (of the frame)			•	•	
Check oil lines for leakage and proper instalment without kinks			•	•	•
Check valve clearance			•	•	
Clean spark plug and adjust electrode gap					
Change spark plug after 10 000 kilometers (6 200 miles)					
Check ignition point					
Drain and clean carburetor float chamber					٠
Adjust idling					
Check breather hoses of engine case and gas tank for correct position without buckles					
Clean air filter and air filter box				•	•
Check sprockets, chain guides and chain for wear	•			•	
Clean and lube chain Check chain tension	•	•		•	
	•			•	
Check cooling liquid level Check quality of antifreezer	•		•	•	
Check cooling system for leaks – visual check	•				•
Check exhaust system for leakage					
Check exhaust bysem for reakage					
Disassemble and clean spark arrestor discs (USA models)					
Check brake fluid level front and rear	•		•		
Change brake fluid					•
Check brake pad thickness					
Check brake discs					
Check condition and correct instalment of brake hoses					
Check free play and easy operation of foot brake pedal					
Check adjustment and function of telescopic fork	•				
Check telescopic fork for leaks					
Loosen bleeder screws at fork legs (overpressure)					
Change telescopic fork oil					•
Perform a full maintenance job for the telescopic fork					•
Clean dust scrabber of telescopic fork Check steering head bearing clearance / adjust				•	•
Clean and grease steering head bearings and its seals			•	•	
Check adjustment and function of shock absorber	•				•
Check O-ring of the shock absorber for wear	•				•
Service the shock absorber				•	•
Grease nipple of the Pro Lever suspension system					•
Disassemble the Pro Lever suspension system linkage and perform a full maintenance job on it					•
Service swingarm pivot					٠
Check spoke tension and join	•				
Check wheel bearings for clearance	٠				
Check shock absorber rubbers on the rear hub					
Check tire condition and air pressure	•				
Check cables for damage and easy working	•				
Lube and adjust cables		•	•		
Check the electrical system	•		•		
Check battery holder, battery and connections					•
Check adjustment of headlight		-			
Spray ignition lock, emergency off switch, and light switch with contact spray Check all bolts, nuts and hose clamps for proper tightness					
Grease or lube all pivot points and sliding points	•				
orease or tube an pivor points and silding points					

PERIODIC MAINTENANCE SCHEDULE	KTM rider							KTM dealer	
Duke 5.99 IF THE MOTORCYCLE IS USED FOR COMPETITIVE RACING, THE 5000 KM (3000 MILES) SERVICE NEEDS TO BE CARRIED OUT AFTER EVERY RACE	before each start	after washing	1st service, after 500 km (300 miles)	after 5000 km (3000 miles) or once a year					
Check engine oil level Change engine oil	•								
Clean oil screen and magnet of the drain plugs whenever you exchange the engine oil				•					
Change oil filter insert			•						
Change fine screen filter (screwed filter) at front pipe (of the frame)									
Check oil lines for leakage and proper instalment without kinks									
Check valve clearance									
			•						
Clean spark plug and adjust electrode gap				•					
Change spark plug after 10 000 kilometers (6 200 miles)				-					
Drain and clean carburetor float chamber									
Adjust idling			-	•					
Check breather hoses of engine gase and gas tank for correct position without buckles		-							
Clean air filter and air filter box									
Check sprockets, chain guides and chain for wear									
Maintain chain tension eccentrics									
Clean and lube chain									
Check chain tension									
Check cooling liquid level									
Check quality of antifreezer									
Check cooling system for leaks – visual check									
Check exhaust system for leakage									
Check exhaust brackets									
Clean spark arrestor discs (USA model)									
Check brake fluid level front and rear	•			•					
Change brake fluid									
Check brake pad thickness	•								
Check wear of brake discs	-								
Check condition and correct instalment of brake hoses									
Check free play and easy operation of foot brake pedal									
Check adjustment and function of telescopic fork			-						
Check telescopic fork for leaks	-								
Loosen breather screws at fork legs (overpressure)			-						
Change telescopic fork oil			-	-					
Perform a full maintenance job for the telescopic fork									
Check steering head bearing clearance / adjust									
Clean and grease steering head bearings and its seals				•					
					•				
Check adjustment and funktion of shock absorber	•			•					
Check O-ring of the shock absorber for wear				•					
Service the shock absorber									
Grease nipple of the Pro Lever suspension system									
Disassemble the Pro Lever suspension system linkage and perform a full maintenance job on it									
Service swingarm pivot									
Check spoke tension and join				•					
Check wheel bearings for clearance	•								
Check shock absorber rubbers on the rear hub									
Check tire condition and air pressure									
Check cables for damage and easy working									
Lube and adjust cables									
Check the electrical system									
Check battery holder, battery and connections			1						
Check adjustment of headlight			1						
Spray ignition lock, emergency off switch, and light switch with contact spray				-					
Check all bolts, nuts and hose clamps for proper tightness	•		•						
Grease or lube all pivot points and sliding points									

#### 11-10D

	PERIODIC MAINTENANCE SC	HEDULE		620 S
ļ	A washed motorcycle can be checked more quickly which saves money!	1. Service after 1000 km or 10 hours	after / every 2500 km or 25 hours	after / every 5000 km or once a year
	Change engine oil, oil filter, and micro-filter	•	•	•
	Clean oil screens and magnet of drain plug	•		•
ENGINE	Check oil lines for damage and kink-less arrangement	•		•
ZU	Check and adjust spark plug, replace it every 10,000 km			•
ш	Check and adjust valve clearance	•		•
	Check engine fastening bolts for tight fit	•		•
Š	Check carburetor connection boots for cracks and leaks			•
SUKA	Check idle setting	•		•
CARBURATOR	Check bleeder hoses for damage and kink-free arrangement	•		•
	Check cooling system for leaks, antifreeze protection	•		•
	Check exhaust system for leaks and suspension	•		•
ADD-ON-PARTS	Check actuating cables for damage, smooth operation, and kink-less	•		•
	arrangement, adjust and lubricate			
	Clean air filter and air filter box			•
ż	Check cables for damage and kink-less arrangement			•
5	Check headlamp adjustment			•
	Check electrical system for function; (low/high beams, stop light, turn indicators,	•		•
٩,	tell-tale lamps, speedometer illumination, horn, emergency-off switch)			
~	Check brake fluid level, lining thickness, and brake discs	•		•
BRAKES	Check brake lines for damage and leaks	•		•
KA KA	Check/adjust smooth operation, free travel of handbrake/footbrake levers	•		•
m	Check bolts of brake system for tight fit	•		•
	Check suspension strut and fork for leaks and proper function	•		•
	Check O-ring of suspension strut for wear			•
	Clean dust sleeves			•
SIS	Bleed fork legs	•		•
	Check swinging-fork pivot			•
5	Check/adjust steering-head bearing	•		•
	Lubricate reversing lever			•
	Check all chassis bolts for tight fit (fork plates, fork leg, axle nuts/bolts,	•		•
	swinging-fork pivot, reversing lever, suspension strut)			
	Check spoke tension and rim join	•		
Ļ	Check tire condition and inflation pressure			•
WHEELS	Check chain, chain wheels, chain wheel guides for wear, tight fit, and tension	•		•
$\leq$	Lubricate chain	•		•
	Check wheel bearings and jerk damper for play			•

IMPORTANT RECOMMENDED MAINTENANCE PROCEDURES TO BE PERFORMED BASED ON A SEPARATE SUPPLEMENTARY ORD								
	every 2500 km or 25 hours	at least once a year	every 2 years or 20000 km					
Perform complete fork maintenance		•						
Perform complete suspension strut maintenance			•					
Perform complete reversing lever maintenance			•					
Replace glass-fiber yarn packing of main silencer								
Clean and lubricate steering-head bearing and sealing elements		•						
Clean and adjust the carburetor		•						
Treat the electrical contacts and switches with contact spray		•						
Change brake fluid		•						

IF MOTORCYCLE IS USED FOR COMPETITION 5000 KM SERVICE SHOULD BE CARRIED OUT AFTER EVERY RACE! Service intervalls should never be exceed by moor than 5 hours or 500 km. Maintenance work done by KTM authorised workshops is not a substitute of care and checks done by the rider!

VITAL CHECKS AND CARE PROCEDURES TO BE COND		1	1	1
	before each start	after every cleaning	for cross country use	once a year
Check oil level				
Check brake fluid level	•			
Check brake pads for wear	•			
Check lighting system for proper operation	•			
Check horn for proper operation	•			
Lubricate and adjust actuating cables and nipples		•		
Bleed fork legs in regular intervals			•	
Remove and clean dust sleeves in regular intervals			•	
Clean and lubricate chain as necessary		•	•	
Check chain tension		•	•	
Clean air filter and filter box				•
Check tire pressure and wear				
Check coolant level				
Check fuel lines for leaks				
Drain float chamber		•		
Verify smooth operation of all controls	•			
Check brake performance		•		
Btreat exposed metal components (except for the braking and exhaust		•		
systems) with wax-based anti-corrosion agents				
Treat ignition/steering lock and light switch with contact spray		•		
Check all bolts, nuts, and hose clamps for their tight fit				•

Z	PERIODIC MAINTENANCE SCHEDULE	640	400/640 LC4-E LC4 Adventure
	A washed motorcycle can be checked more quickly which saves money!	1. Service after 1000 km	2. Service after 5000 km, then every 5000 km of once a year
	Change engine oil, oil filter, and fine filter	•	•
	Clean oil screens and magnet of drain plug	•	•
H۳	Check oil lines for damage and kink-less arrangement	•	•
ENGIN	Check and adjust spark plug, replace it every 10,000 km		•
1	Check and adjust valve clearance	•	•
	Check engine fastening bolts for tight fit	•	•
R	Check carburetor connection boots for cracks and leaks		•
JRET	Check idle setting	•	•
CARBURETOR	Check bleeder hoses for damage and kink-free arrangement	•	•
	Check cooling system for leaks, antifreeze protection	•	•
	Check radiator fan for proper operation		•
	Check exhaust system for leaks and suspension	•	
TS	Check actuating cables for damage, smooth operation, and kink-less arrangement,	•	
ADD-ON-PART	and adjust and lubricate them		_
1	Clean air filter and air filter box		•
ļŌ	Check cables for damage and kink-less arrangement		
	Check headlamp adjustment		
₹	Check electrical system for function (low/high beams, stop light, turn indicators,		
	headlamp flasher, tell-tale lamps, speedometer illumination, horn,	•	•
	side-stand switch, clutch switch, emergency-off switch)		
	Check brake fluid level, lining thickness, and brake discs		•
ES	Check brake lines for damage and leaks		
BRAKES	Check/adjust smooth operation, free travel of handbrake/footbrake levers		
B	Check bolts of brake system for tight fit		•
	Check suspension strut and fork for leaks and proper operation		•
	Check O-ring of suspension strut for wear	•	
	Clean dust sleeves		
<u>s</u>	Bleed fork legs		
ASSIS	Check swinging-fork pivot	•	
CH	Check/adjust steering-head bearing	•	
	Lubricate reversing lever	-	
	Check all chassis bolts for tight fit (fork plates, fork leg, axle nuts/bolts,	•	•
	swinging-fork pivot, reversing lever, suspension strut)		
	Check spoke tension and rim join	•	•
N S	Check tire condition and inflation pressure	•	•
	Check chain, chain wheels, chain wheel guides for wear, tight fit, and tension	•	•
WHEELS	Lubricate chain	•	•
[_	Check wheel bearings and jerk damper for play	-	•
			•
IN	APORTANT RECOMMENDED MAINTENANCE PROCEDURES TO BE PERFORMED BASED ON A SEPA	RATE SUPPLEM	ENTARY ORDER
		at least	every 2 years
		once a year	or 20000 km
Pe	rform complete fork maintenance	•	
	rform complete suspension strut maintenance		•
	rform complete reversing lever maintenance		
	ean and lubricate steering-head bearing and sealing elements	•	
Cle	ean and adjust the carburetor	•	
Tre	eat the electrical contacts and switches with contact spray	•	
Tre	eat battery connections with contact grease	•	
Cł	nange the brake fluid	•	

IF MOTORCYCLE IS USED FOR COMPETITION 5000 KM SERVICE SHOULD BE CARRIED OUT AFTER EVERY RACE! Service intervalls should never be exceed by moor than 500 km. Maintenance work done by KTM authorised workshops is not a substitute of care and checks done by the rider!

VITAL CHECKS AND CARE PROCEDURES TO BE COND		1	1	1
	before each start	after every cleaning	for cross country use	once a year
Check oil level	•			
Check brake fluid level	•			
Check brake pads for wear	•			
Check lighting system for proper operation	•			
Check horn for proper operation	•			
Lubricate and adjust actuating cables and nipples		•		
Bleed fork legs in regular intervals			•	
Remove and clean dust sleeves in regular intervals			•	
Clean and lubricate chain as necessary		•	•	
Check chain tension	•	•	•	
Clean air filter and filter box				•
Check tire pressure and wear	•			
Check coolant level	•			
Check fuel lines for leaks	•			
Drain float chamber		•		
Verify smooth operation of all controls	•			
Check brake performance	•	•		
Treat exposed metal components (except for the braking and exhaust		•		
systems) with wax-based anti-corrosion agents				
Treat ignition/steering lock and light switch with contact spray		•		
Check all bolts, nuts, and hose clamps for their tight fit				•

	PERIODIC MAINTENANCE SCHEDULI	Ξ	640 Duke II
A washed motorc	ycle can be checked more quickly which saves money!	1. Service after 1000 km	2. Service after 5000 km, then every 5000 km or once a year
Change engine oil, oil filte	er, and fine filter	•	•
Clean oil screens and mag	net of drain plug	•	•
	e and kink-less arrangement	•	•
Check and adjust spark pl	ug, replace it every 10,000 km		•
Check and adjust valve cle	· · · ·	•	•
Check engine fastening bo			
	ion boots for cracks and leaks		
Check carburetor connecti Check idle setting Check bleeder hoses for d	ווא איז איז איז איז איז איז איז איז איז אי		•
	and and birds from any and the	•	•
	amage and kink-free arrangement	•	•
	leaks, antifreeze protection	•	•
Check radiator fan for pro	•		•
Check exhaust system for		•	•
Check actuating cables for	r damage, smooth operation, and kink-less arrangement,	•	•
adjust and lubricate			
Clean air filter and air filte	r box		•
Check cables for damage	and kink-less arrangement		•
Check actuating cables for adjust and lubricate Clean air filter and air filte Check cables for damage Check headlamp adjustme	<u> </u>		•
Check electrical system for	r function (low/high beams, stop light, turn indicators,	•	•
-	lamps, speedometer illumination, horn, side-stand	•	•
switch, clutch switch, eme			
Check brake fluid level, lin	ning thickness, and brake discs	•	•
Check brake lines for dam		•	•
	ration, free travel of handbrake/footbrake levers		• •
Check bolts of brake syste		•	•
Check suspension strut an	d fork for leaks and proper function	•	•
Check O-ring of suspensic	on strut for wear		•
Clean dust sleeves			•
∽ Bleed fork legs		•	•
Check swinging-fork pivot	t	•	•
			•
Check/adjust steering-hea Service eccentric for chain			
Lubricate reversing lever	Patrick Contractor Contractor and the Indian		•
	tight fit (fork plates, fork leg, axle nuts/bolts,	•	•
	sing lever, suspension strut)		
	tion pressure, and rim condition	•	•
Check chain, chain wheels	s, chain wheel guides for wear, tight fit, and tension	•	•
Check chain, chain wheels		•	•
Check wheel bearings and	l jerk damper for play		•
		1	
IMPORTANT RECOMMENDED	MAINTENANCE PROCEDURES TO BE PERFORMED BASED ON A SE	PARATE SUPPLEM	ENTARY ORDER
		at least	every 2 years
		once a year	or 20000 km
Perform complete fork mainte	enance	•	
Perform complete suspension			•
Perform complete reversing le			
Replace glass-fiber yarn packi			
	-		•
_	nead bearing and sealing elements	•	
Clean and adjust the carburet		•	
	nd switches with contact spray	•	
Treat battery connections with	n contact grease	•	
Change the brake fluid			
Change the brake hulu			

Service intervalls should never be exceed by moor than 500 km! Maintenance work done by KTM authorised workshops is not a substitute of care and checks done by the rider!

VITAL CHECKS AND CARE PROCEDURES TO BE COND		1	1	1
	before each start	after every cleaning	for com- petition use	once a year
Check oil level	•			
Check brake fluid level	•			
Check brake pads for wear	•			
Check lighting system for proper function	•			
Check horn for proper function	•			
Lubricate and adjust actuating cables and nipples		•		
Bleed fork legs in regular intervals			•	•
Remove and clean dust sleeves in regular intervals			•	•
Clean and lubricate chain as necessary		•	•	
Check chain tension	•	•	•	
Clean air filter and filter box			•	•
Check tire pressure and wear	•			
Check coolant level	•			
Check fuel lines for leaks	•			
Drain float chamber		•		
Verify smooth operation of all controls	•			
Check braking performance	•	•		
Treat exposed metal components (except for the braking and exhaust		•		
systems) with wax-based anti-corrosion agents				
Treat ignition/steering lock and light switch with contact spray		•		
Check all bolts, nuts, and hose clamps for their tight fit				•

11-16D

	PERIODIC MAINTENANCE SCHEDU	JLE 2002	0255	625 SC C SUPERMOTO
	A washed motorcycle can be checked more quickly which saves money!	1. Service after 1000 km	after / every 2500 km	after / every 5000 km
		or 10 hours	or 25 hours	or once a year
	Change engine oil, oil filter, and micro-filter	•	٠	•
	Clean oil screens and magnet of drain plug	•		•
ENGINE	Check oil lines for damage and kink-less arrangement	•		•
Q	Check and adjust spark plug, replace every 10,000 km			•
<b></b>	Check and adjust valve clearance	•		•
	Check engine fastening bolts for tight fit	•		•
	Check all engine bolts accessible from the outside for tight fit	•		•
CARBURATOR	Check carburetor connection boots for cracks and leaks			•
BUR	Check idle setting	•		•
S	Check bleeder hoses for damage and kink-free arrangement	•		•
	Check cooling system for leaks, antifreeze protection	•		•
	Check exhaust system for leaks and suspension	•		•
ADD-ON-PARTS	Check actuating cables for damage, smooth operation, and kink-less	•		•
	arrangement, adjust and lubricate Clean air filter and air filter box			
ź	Check cables for damage and kink-less arrangement			•
	Check headlamp adjustment			•
	Check electrical system for function; (low/high beams, stop light, turn indicators,			•
	tell-tale lamps, horn)	•		•
$\vdash$	Make sure all bolts and nuts are tight. Check brake fluid level, lining thickness, and brake discs			
ES	Check brake lines for damage and leaks			
BRAKES	Check/adjust smooth operation, free travel of handbrake/footbrake levers			•
В.	Check bolts of brake system for tight fit	•		•
	Check suspension strut and fork for leaks and proper function	•		•
	Check O-ring of suspension strut for wear			•
	Clean dust sleeves			•
<u>s</u>	Bleed fork legs	•		•
ASSIS	Check swinging-fork pivot			•
GE	Check/adjust steering-head bearing	•		•
	Lubricate reversing lever			•
	Check all chassis bolts for tight fit (fork plates, fork leg, axle nuts/bolts,	•		•
	swinging-fork pivot, reversing lever, suspension strut)			
	Check spoke tension and rim join	•		•
LS	Check tire condition and inflation pressure	•		•
WHEEL	Check chain and chain guides for wear, force fit and tension.	•		•
∣≯	Check bolts on pinion and chain sprocket for locking devices and a tight fit.	•		•
-	Lubricate chain	•		•
	Check wheel bearings and jerk damper for play			•
IM	PORTANT RECOMMENDED MAINTENANCE PROCEDURES TO BE PERFORMED BA	ASED ON A SEPA	RATE SUPPI EM	ENTARY ORDER
		every 2500 km	at least	every 2 years
		or 25 hours	once a year	or 20000 km
Pe	form complete fork maintenance		•	
	form complete suspension strut maintenance			•
	form complete reversing lever maintenance			
	place glass-fiber yarn packing of main silencer	•		
	an and lubricate steering-head bearing and sealing elements		•	
	an and adjust the carburetor		•	
	at the electrical contacts and switches with contact spray		•	
Ch	ange brake fluid		•	
IE	MOTORCYCLE IS USED FOR COMPETITION 5000 KM SERVICE SHOUL			EVERY RACE

IF MOTORCYCLE IS USED FOR COMPETITION 5000 KM SERVICE SHOULD BE CARRIED OUT AFTER EVERY RACE! Service intervalls should never be exceed by moor than 5 hours or 500 km. Maintenance work done by KTM authorised workshops is not a substitute of care and checks done by the rider!

VITAL CHECKS AND CARE PROCEDURES TO BE COND		HE OWNER	K OK THE A	VECHANIC
	before each start	after every cleaning	for cross country use	once a year
Check oil level	•			
Check brake fluid level	•			
Check brake pads for wear	•			
Check lighting system for proper operation	•			
Check horn for proper operation	•			
Lubricate and adjust actuating cables and nipples		•		
Bleed fork legs in regular intervals			•	
Remove and clean dust sleeves in regular intervals			•	
Clean and lubricate chain as necessary		•	•	
Check chain tension	•	•	•	
Clean air filter and filter box			•	
Check tire pressure and wear	•			
Check coolant level	•			
Check fuel lines for leaks				
Drain float chamber		•		
Verify smooth operation of all controls	•			
Check brake performance	•	•		
Treat exposed metal components (except for the braking and exhaust		•		
systems) with wax-based anti-corrosion agents				
Treat steering lock and light switch with contact spray		•		
Check all bolts, nuts, and hose clamps for tight fit				•

82	PERIODIC MAINTENANCE SCHEDULE 2002		4 SUPERMOTO 24 ADVENTURE
	washed motorcycle can be checked more quickly which saves money!	1. Service after 1000 km	2. Service after 5000 km, then every 5000 km or once a year
Change e	ngine oil and oil filter	•	•
Clean oil	screens and magnet of drain plug	•	•
Heck oil	lines for damage and kink-less arrangement	•	•
Check oil Check and Check and	d adjust spark plug, replace it every 10,000 km		•
Check and	d adjust valve clearance	•	•
Check en	gine fastening bolts for tight fit	•	•
Check all	engine bolts accessible from the outside for tight fit	•	
	buretor connection boots for cracks and leaks		
Check car Check idle Check ble	e setting	•	
Check ble	eder hoses for damage and kink-free arrangement	•	•
	oling system for leaks, antifreeze protection	•	•
	liator fan for proper operation		•
	haust system for leaks and suspension	•	•
	uating cables for damage, smooth operation, and kink-less arrangement, adjust and lubricate them	•	•
Clean air	filter and air filter box		•
Check cal	bles for damage and kink-less arrangement		•
Check her	adlamp adjustment		•
Check ele	ctrical system for function (low/high beams, stop light, turn indicators,headlamp flasher,		
	mps, speedometer illumination, horn, side-stand switch, clutch switch, emergency-off switch)	•	•
	e all bolts and nuts are tight.		
Chock br	ake fluid level, lining thickness, and brake discs	•	
Check bra	ake lines for damage and leaks		
	just smooth operation, free travel of handbrake/footbrake levers		
Check/au			
	Its of brake system for tight fit		•
	spension strut and fork for leaks and proper operation	•	•
	ring of suspension strut for wear		•
	k dust sleeves		•
SISS Bleed fork Check sw Check/ad		•	•
	inging-fork pivot	•	•
	just steering-head bearing	•	•
	reversing lever		•
	chassis bolts for tight fit (fork plates, fork leg, axle nuts/bolts,	•	•
	fork pivot, reversing lever, suspension strut)		
	oke tension and rim joint	•	•
	e condition and inflation pressure	•	•
	ain and chain guides for wear, force fit and tension.	•	•
Check bo	Its on pinion and chain sprocket for locking devices and a tight fit.	•	•
Lubricate		•	•
Check wh	neel bearings and jerk damper for play		•
IMPORTANT	RECOMMENDED MAINTENANCE PROCEDURES TO BE PERFORMED BASED ON A SEPA		
		at least	every 2 years
D. (		once a year	or 20000 km
	plete fork maintenance	•	
	plete suspension strut maintenance		
	plete reversing lever maintenance	-	
	pricate steering-head bearing and sealing elements	•	
	just the carburetor	•	
	trical contacts and switches with contact spray	•	
	connections with contact grease	•	
Change the b	prake fluid	•	

IF MOTORCYCLE IS USED FOR COMPETITION 5000 KM SERVICE SHOULD BE CARRIED OUT AFTER EVERY RACE! Service intervalls should never be exceed by moor than 500 km. Maintenance work done by KTM authorised workshops is not a substitute of care and checks done by the rider!

VITAL CHECKS AND CARE PROCEDURES TO BE COND		1	1	1
	before each start	after every cleaning	for cross country use	once a year
Check oil level	•			
Check brake fluid level	•			
Check brake pads for wear	•			
Check lighting system for proper operation	•			
Check horn for proper operation	•			
Lubricate and adjust actuating cables and nipples		•		
Bleed fork legs in regular intervals			•	
Remove and clean fork dust sleeves in regular intervals			•	
Clean and lubricate chain as necessary		•	•	
Check chain tension	•	•	•	
Clean air filter and filter box			•	
Check tire pressure and wear	•			
Check coolant level	•			
Check fuel lines for leaks	•			
Drain float chamber		•		
Check all control elements for smooth running	•			
Check brake performance		•		
Treat exposed metal components (except for the braking and exhaust		•		
systems) with wax-based anti-corrosion agents				
Treat ignition/steering lock and light switch with contact spray		•		
Check all bolts, nuts, and hose clamps for their tight fit				•

	PERIODIC MAINTENANCE SCHEDULE 20	02	640 Duke II
	A washed motorcycle can be checked more quickly which saves money!	1. Service after 1000 km	2. Service after 5000 km, then every 5000 km or once a year
	Change engine oil, oil filter, and fine filter	•	•
	Clean oil screens and magnet of drain plug	•	•
ENGINE	Check oil lines for damage and kink-less arrangement	•	•
2	Check and adjust spark plug, replace it every 10,000 km		
ш	Check and adjust valve clearance	•	
	Check engine fastening bolts for tight fit	•	•
ß	Check carburetor connection boots for cracks and leaks		
CARBUTATOR	Check idle setting	•	•
CARE	Check bleeder hoses for damage and kink-free arrangement	•	•
	Check cooling system for leaks, antifreeze protection	•	•
	Check radiator fan for proper function		•
6	Check exhaust system for leaks and suspension	•	•
RT	Check actuating cables for damage, smooth operation, and kink-less arrangement,	•	•
μ.	adjust and lubricate		
Ż	Clean air filter and air filter box		•
ADD-ON-PARTS	Check cables for damage and kink-less arrangement		•
Q	Check headlamp adjustment		•
	Check electrical system for function (low/high beams, stop light, turn indicators,	•	•
	headlamp flasher, tell-tale lamps, speedometer illumination, horn, side-stand		
	switch, clutch switch, emergency-off switch)		
S	Check brake fluid level, lining thickness, and brake discs	•	•
BRAKES	Check brake lines for damage and leaks	•	•
RA	Check/adjust smooth operation, free travel of handbrake/footbrake levers		• •
	Check bolts of brake system for tight fit	•	•
	Check suspension strut and fork for leaks and proper function	•	•
	Check O-ring of suspension strut for wear		•
	Clean dust sleeves		•
<u>s</u>	Bleed fork legs	•	•
VSSIS	Check swinging-fork pivot	•	•
CHA	Check/adjust steering-head bearing	•	•
0	Service eccentric for chain tension		•
	Lubricate reversing lever		•
	Check all chassis bolts for tight fit (fork plates, fork leg, axle nuts/bolts,	•	•
	swinging-fork pivot, reversing lever, suspension strut)		
ς Ν	Check tire condition, inflation pressure, and rim condition	•	•
WHEEL	Check chain, chain wheels, chain wheel guides for wear, tight fit, and tension	•	•
Ν	Lubricate chain	•	•
<u> </u>	Check wheel bearings and jerk damper for play		•
IMI	PORTANT RECOMMENDED MAINTENANCE PROCEDURES TO BE PERFORMED BASED ON A SEPA	RATE SUPPLEM	ENTARY ORDER
<u> </u>		at least	every 2 years
		once a year	or 20000 km
Pe	rform complete fork maintenance	•	
Pe	rform complete suspension strut maintenance		
Pe	rform complete reversing lever maintenance		•
Re	place glass-fiber yarn packing of the silencers		•
Cle	ean and lubricate steering-head bearing and sealing elements	•	
Cle	ean and adjust the carburetor	•	
Tre	eat the electrical contacts and switches with contact spray	•	
Tre	eat battery connections with contact grease		
Ch	ange the brake fluid		
IE /	MOTORCYCLE IS USED FOR COMPETITION 5000 KM SERVICE SHOULD BE CARRIE		

IF MOTORCYCLE IS USED FOR COMPETITION 5000 KM SERVICE SHOULD BE CARRIED OUT AFTER EVERY RACE! Service intervalls should never be exceed by moor than 500 km! Maintenance work done by KTM authorised workshops is not a substitute of care and checks done by the rider!

	before each start	after every cleaning	once a year
Check oil level			
Check brake fluid level			
Check brake pads for wear			
Check lighting system for proper operation	•		
Check horn for proper operation			
Lubricate and adjust actuating cables and nipples		•	
Bleed fork legs in regular intervals			•
Remove and clean fork dust sleeves in regular intervals			•
Clean and lubricate chain as necessary		•	
Check chain tension	•	•	
Clean air filter and filter box			•
Check tire pressure and wear	•		
Check coolant level			
Check fuel lines for leaks			
Drain float chamber		•	
Check all control elements for smooth running.			
Check brake performance	•	•	
Treat exposed metal components (except for the braking and exhaust		•	
systems) with wax-based anti-corrosion agents			
Treat ignition/steering lock and light switch with contact spray		•	
Check all bolts, nuts, and hose clamps for their tight fit			•

### 11-22D

/	PERIODIC MAINTENANCE SCHE	DULE 20	03	625 SX 660 SM
		1. Service after	after / every	after / every
/	A washed motorcycle can be checked more quickly which saves money!	1000 km or	2500 km or	5000 km or
		10 hours	25 hours	once a year
	Change engine oil, oil filter, and micro-filter	•	•	•
	Clean oil screens and magnet of drain plug	•	٠	•
Ľ	Check oil lines for damage and kink-less arrangement	•		•
ENGINE	Check and adjust spark plug, replace every 10,000 km			•
Ľ	,	•		•
	Check engine fastening bolts for tight fit	•		•
_	Make sure all engine bolts accessible from the outside are screwed tight	•		•
AIC	Check carburetor connection boots for cracks and leaks			•
<b>CAKBUKAI UK</b>	Check idle setting	•		•
5		•		•
	Check cooling system for leaks, antifreeze protection	•		•
	Check exhaust system for leaks and suspension	•		•
N N	Check actuating cables for damage, smooth operation, and kink-less arrangement, adjust and lubricate	-		-
-ON-PARIS	Clean air filter and air filter box			
ż	Check cables for damage and kink-less arrangement			
5	Check headlamp adjustment			
AUU-	Check electrical system for function; (low/high beams, stop light, turn indicators,			
4	tell-tale lamps, horn, emergency-off switch)	•		•
	Make sure all bolts and nuts are tight	•		•
	Check brake fluid level, lining thickness, and brake discs			
ý	Check brake lines for damage and leaks	•		•
BKAKES	Check/adjust smooth operation, free travel of handbrake/footbrake levers	•		•
'n	Check bolts of brake system for tight fit	•		•
	Check suspension strut and fork for leaks and proper function	•		•
	Check O-ring of suspension strut for wear			•
	Clean dust sleeves			•
	Bleed fork legs			•
A V	Check swinging-fork pivot			•
CHAS	Check/adjust steering-head bearing	•		•
<u> </u>	Lubricate reversing lever			•
	Check all chassis bolts for tight fit (fork plates, fork leg, axle nuts/bolts,	•		•
	swinging-fork pivot, reversing lever, suspension strut)			
	Check spoke tension and rim join	•		•
λ	Check tire condition and inflation pressure	•		•
	Check chain and chain guides for wear, force fit and tension	•		•
WHEEL	Check bolts on pinion and chain sprocket for locking devices and a tight fit	•		•
>	Lubricate chain	•		•
	Check wheel bearings and jerk damper for play			•
N	PORTANT RECOMMENDED MAINTENANCE PROCEDURES TO BE PERFORMED BA	ASED ON A SEPA	RATE SUPPLEM	ENTARY ORD
		every 2500 km or 25 hours	at least once a year	every 2 years or 20000 km
	rform complete fork maintenance		•	
	rform complete suspension strut maintenance			•
	rform complete reversing lever maintenance			•
	place glass-fiber yarn packing of main silencer	•		
	ean and lubricate steering-head bearing and sealing elements		٠	
	ean and adjust the carburetor		•	
	eat the electrical contacts and switches with contact spray		•	
Ch	nange brake fluid		•	

IF MOTORCYCLE IS USED FOR COMPETITION 5000 KM SERVICE SHOULD BE CARRIED OUT AFTER EVERY RACE! Service intervalls should never be exceed by moor than 5 hours or 500 km. Maintenance work done by KTM authorised workshops is not a substitute of care and checks done by the rider!

	before each	after every	for cross	once a year
	start	cleaning	country use	
Check oil level	•			
Check brake fluid level	•			
Check brake pads for wear	•			
Check lighting system for proper operation	•			
Check horn for proper operation	•			
Lubricate and adjust actuating cables and nipples		•		
Bleed fork legs in regular intervals			•	
Remove and clean dust sleeves in regular intervals			•	
Clean and lubricate chain as necessary		•	•	
Check chain tension	•	•	•	
Clean air filter and filter box (depending on the dirt accumulation)			•	
Check tire pressure and wear	•			
Check coolant level	•			
Check fuel lines for leaks	•			
Drain float chamber		•		
Verify smooth operation of all controls	•			
Check brake performance	•	•		
Treat exposed metal components (except for the braking and exhaust		•		
systems) with wax-based anti-corrosion agents				
Treat steering lock and light switch with contact spray		•		
Check all bolts, nuts, and hose clamps for tight fit				

11-24D

	<b>7 PERIODIC MAINTENANCE SCHEDULE 2003</b> <sup>64</sup>		4 SUPERMOTO
			4 ADVENTURE
		1. Service	2. Service after
	A washed motorcycle can be checked more quickly which saves money!	after 1000 km	5000 km, then every 5000 km or
		TOOD KIII	once a year
	Change engine oil, oil filter, and fine filter	•	•
	Clean oil screens and magnet of drain plug	•	
ш	Check oil lines for damage and kink-less arrangement		
ENGINE	Check and adjust spark plug, replace it every 10,000 km	•	
١ <u>×</u>	Check and adjust valve clearance		
1	Check engine fastening bolts for tight fit		
	Make sure all engine bolts accessible from the outside are screwed tight		
×	Check carburetor connection boots for cracks and leaks	•	
CARBURETOR	Check idle setting		
ARBU	Check bleeder hoses for damage and kink-free arrangement		
	Check cooling system for leaks, antifreeze protection		
	Check radiator fan for proper operation	•	
S	Check exhaust system for leaks and suspension		
ADD-ON-PARTS	Check actuating cables for damage, smooth operation, and kink-less arrangement, adjust and lubricate them		
A	Clean air filter and air filter box	•	
Ż	Check cables for damage and kink-less arrangement		
	Check headlamp adjustment		
	Check electrical system for function (low/high beams, stop light, turn indicators,headlamp flasher,		
∣∢		•	•
	tell-tale lamps, speedometer illumination, horn, side-stand switch, clutch switch, emergency-off switch)		
<u> </u>	Make sure all bolts and nuts are tight.	•	•
ES	Check brake fluid level, lining thickness, and brake discs	•	•
BRAKES	Check brake lines for damage and leaks	•	•
BR	Check/adjust smooth operation, free travel of handbrake/footbrake levers	•	
	Check bolts of brake system for tight fit	•	•
	Check suspension strut and fork for leaks and proper operation	•	•
	Check O-ring of suspension strut for wear		•
S	Clean fork dust sleeves		•
HASSIS	Bleed fork legs	•	•
₽	Check swinging-fork pivot	•	•
	Check/adjust steering-head bearing	•	•
	Lubricate reversing lever		•
	Check all chassis bolts for tight fit (fork plates, fork leg, axle nuts/bolts,	•	•
<u> </u>	swinging-fork pivot, reversing lever, suspension strut)	•	
	Check spoke tension and rim joint	•	•
EELS	Check tire condition and inflation pressure	•	•
単	Check chain and chain guides for wear, force fit and tension.	•	•
MHN	Check bolts on pinion and chain sprocket for locking devices and a tight fit. Lubricate chain	•	•
		•	
	Check wheel bearings and jerk damper for play		•
IN	PORTANT RECOMMENDED MAINTENANCE PROCEDURES TO BE PERFORMED BASED ON A SEPAI	RATE SUPPLEME	NTARY ORDER
		at least	every 2 years
		once a year	or 20000 km
Pe	form complete fork maintenance	•	
	form complete suspension strut maintenance		
	form complete reversing lever maintenance		•
	an and lubricate steering-head bearing and sealing elements	•	-
	ean and adjust the carburetor	•	
<u> </u>	at the electrical contacts and switches with contact spray	•	
	at battery connections with contact grease	-	
	ange the brake fluid	•	
	5		1

IF MOTORCYCLE IS USED FOR COMPETITION 5000 KM SERVICE SHOULD BE CARRIED OUT AFTER EVERY RACE! Service intervalls should never be exceed by moor than 500 km. Maintenance work done by KTM authorised workshops is not a substitute of care and checks done by the rider!

VITAL CHECKS AND CARE PROCEDURES TO BE COND	UCTED BY T	HE OWNER	R OR THE M	<b>NECHANIC</b>
	before each start	after every cleaning	for cross country use	once a year
Check oil level	•			
Check brake fluid level	•			
Check brake pads for wear	•			
Check lighting system for proper operation	•			
Check horn for proper operation	•			
Lubricate and adjust actuating cables and nipples		•		
Bleed fork legs in regular intervals			•	
Remove and clean fork dust sleeves in regular intervals			•	
Clean and lubricate chain as necessary		•	•	
Check chain tension	•	•	•	
Clean air filter and filter box (depending on the dirt accumulation)			•	
Check tire pressure and wear	•			
Check coolant level	•			
Check fuel lines for leaks	•			
Drain float chamber		•		
Check all control elements for smooth running.	•			
Check brake performance	•	•		
Treat exposed metal components (except for the braking and exhaust		•		
systems) with wax-based anti-corrosion agents				
Treat ignition/steering lock and light switch with contact spray		•		
Check all bolts, nuts, and hose clamps for their tight fit				•

11-26D

Z	PERIODIC MAINTENANCE SCHEDULE 20	03	640 Duke
	A washed motorcycle can be checked more quickly which saves money!	1st Service after 1000 km	2nd Service after 5000 km, then every 5000 km or once a year
	Change engine oil, oil filters, and fine filter	•	•
	Clean oil screens and magnet of drain plug	•	•
ENGINE	Check oil lines for damage and kink-less arrangement	•	•
	Check and adjust spark plug, replace it every 10,000 km		•
	Check and adjust valve clearance	•	•
	Check engine fastening bolts for tight fit	•	•
TOR	Check carburetor connection boots for cracks and leaks		•
CARBUTATOR	Check idle setting	•	•
CARI	Check bleeder hoses for damage and kink-free arrangement	•	•
	Check cooling system for leaks, antifreeze protection	•	•
	Check radiator fan for proper function		•
S	Check exhaust system for leaks and suspension	•	•
	Check actuating cables for damage, smooth operation, and kink-less arrangement,	•	•
PA	adjust and lubricate		
ADD-ON-PART	Clean air filter and air filter box		•
	Check cables for damage and kink-less arrangement		•
	Check headlamp adjustment		•
	Check electrical system for function (low/high beams, stop light, turn indicators,	•	•
	headlamp flasher, tell-tale lamps, speedometer illumination, horn, side-stand		
	switch, clutch switch, emergency-off switch)		
	Check brake fluid level, lining thickness, and brake discs	•	•
BRAKES	Check brake lines for damage and leaks	•	•
R	Check/adjust smooth operation, free travel of handbrake/foot brake levers		•
B	Check bolts of brake system for tight fit	•	•
	Check suspension strut and fork for leaks and proper function	•	•
	Check O-ring of suspension strut for wear		•
	Clean dust sleeves		•
S	Bleed fork legs	•	•
SSIS	Check swinging-fork pivot	•	•
CHA	Check/adjust steering-head bearing	•	•
	Service eccentric for chain tension		•
	Lubricate reversing lever		•
	Check all chassis bolts for tight fit (fork plates, fork leg, axle nuts/bolts,	•	•
	swinging-fork pivot, reversing lever, suspension strut)		
S	Check tire condition, inflation pressure, and rim condition	•	•
	Check chain, chain wheels, chain wheel guides for wear, tight fit, and tension	•	•
WHEEL	Lubricate chain	•	•
$ \leq$	Check wheel bearings and jerk damper for play		•
		1	
IM	PORTANT RECOMMENDED MAINTENANCE PROCEDURES TO BE PERFORMED BASED ON A SEPA	RATE SUPPLEN	ENTARY ORDER
		at least	every 2 years
		once a year	or 20000 km
Pe	rform complete fork maintenance	•	
Pe	rform complete suspension strut maintenance		
Perform complete reversing lever maintenance			
Replace glass-fiber yarn packing of the silencers			•
Clean and lubricate steering-head bearing and sealing elements			
Clean and adjust the carburetor			
Treat the electrical contacts and switches with contact spray			
Treat battery connections with contact grease			
Ch	ange the brake fluid	•	
IF	MOTORCYCLE IS USED FOR COMPETITION 5000 KM SERVICE SHOULD BE CARRIED	OUT AFTER	EVERY RACE!

Service intervalls should never be exceed by more than 500 km! Maintenance work done by KTM authorised workshops is not a substitute of care and checks done by the rider!

	before each start	after every cleaning	once a year
Check oil level			
Check brake fluid level			
Check brake pads for wear			
Check lighting system for proper operation			
Check horn for proper operation			
Lubricate and adjust actuating cables and nipples		•	
Bleed fork legs in regular intervals			•
Remove and clean fork dust sleeves in regular intervals			•
Clean and lubricate chain as necessary		•	
Check chain tension		•	
Clean air filter and filter box			•
Check tire pressure and wear	•		
Check coolant level			
Check fuel lines for leaks			
Drain float chamber		•	
Check all control elements for smooth running.	•		
Check brake performance		•	
Treat exposed metal components (except for the braking and exhaust		•	
systems) with wax-based anti-corrosion agents			
Treat ignition/steering lock and light switch with contact spray		•	
Check all bolts, nuts, and hose clamps for their tight fit			•

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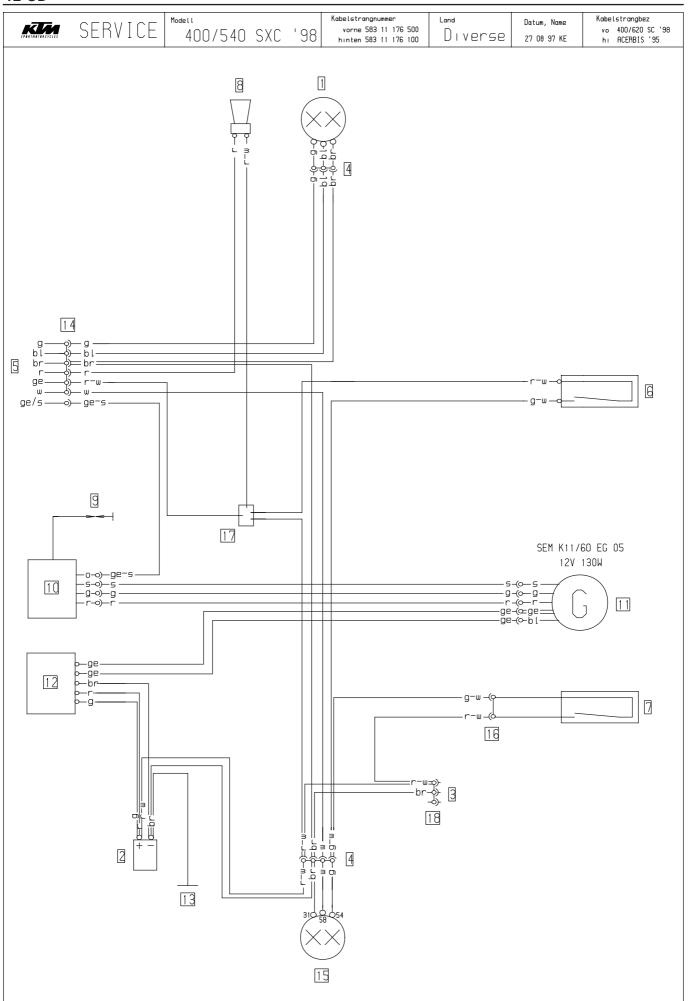
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<u>12-3D</u>



12-4D

$\otimes$	Deutsch	Englisch	Italıenısch	Französısch
$\bigcirc$	1 Scheinwerfer	1 headlight	1 faro	1 phare
$\cap$	2 Kondensator	2 capacitor	2 condensatore	2 condensateur
	3 Anschluß f Blinker	3 connector to blinker	3 connettore lampeg	3 nonnect clignateur
$\bigcirc$	4 4-pol Stecker	4 multip cont plug (4)	4 connettore a 4 poli	4 connect multiple (4)
X	5 zum Kombischalter	5 to combinat switch	5 multicomando	5 commodo
$\hat{S}$	6 Bremslichtsch vo	6 stoplight switch f	6 int luce arresto ant	6 contact de stop av
· /	7 Bremslichtsch hi	7 stoplight switch r	7 int luce arresto pos	t 7 contact Harr de stop
$\bigcirc$	8 Horn	8 horn	8 clacson	8 klaxon
$\forall$	9 Zündkerze	9 spark plug	9 candela	9 bougre
$\Box$	10 Zündspule	10 ignition coil	10 bobina d'accens	10 bobine d'allumage
	11 Generator	11 generator	11 dinamo	11 generateur
$\bigcirc$	12 Spannungsregler	12 voltage regulator	12 regol di tens	12 regulateur
$\bigcirc$	13 Masseanschluß	13 ground connection	13 collegam dı masse	13 masse
4	14 6-pol Stecker	14 multip cont plug (6)	14 connettore a 6 poli	14 connect multiple (6)
	15 Brems-Schlußlicht	15 rear-stoplight	15 fanal post di freno	15 feu arr et de stop
$\sum$	16 2-pol Stecker	16 multip cont plug (2)	16 connettore a 2 poli	16 connect multiple (2)
	17 Parallelverbinder	17 parallel connector	17 parallelo composto	17 parallele connecteur
<u>×</u>	18 3-pol Stecker	18 multip cont plug (3)	18 connettore a 3 poli	18 connect multiple (3)
		1		

	Spanısch		
1	faro		
	condensador		
	conector intermitente		
4	conector multiple (4)		
	interruptor combinado		
	interr luz de freno del		
	interr luz de fren tras		
-	claxon	I I	
	bujia		
	bobina de encendido		1
11	generador		
	regulador de tension		
13	conector a masa		
14	conector multiple (6)		
	luz de freno trasero		Η
	conector multiple (2)		Ζ
17	F		
118	conector multiple (3)		_

Kontaktbelegung – Lichtschalter (Typ CEV 9610)

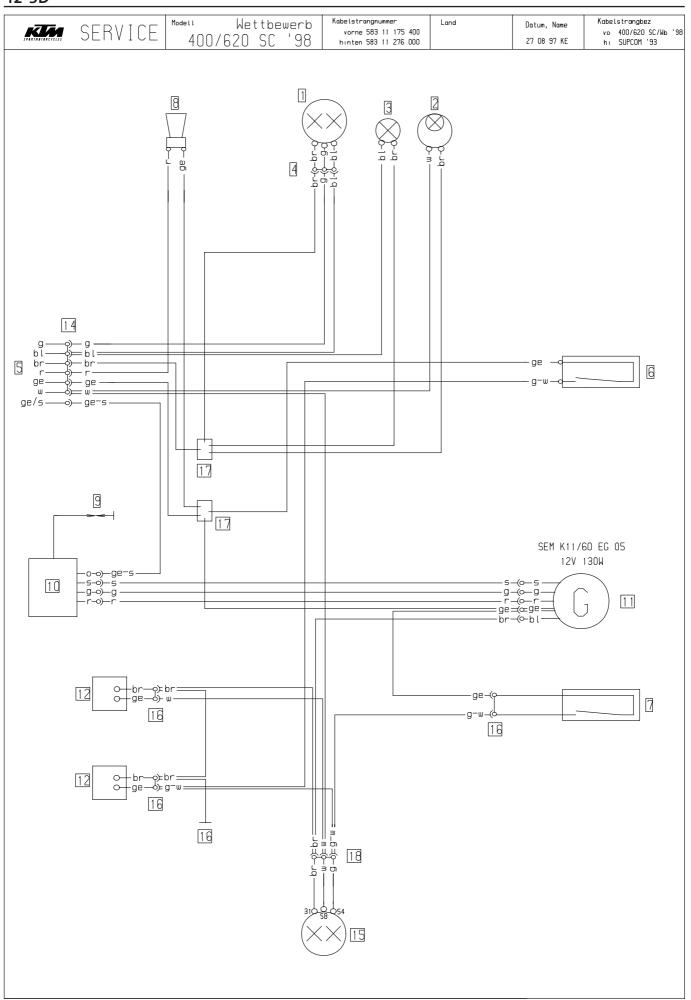
	g	bl	ge	ω	ge /s	r	br
LICHT 0							
Abblendl	•		•	•			
Fernlicht		•	•	•			
HUPE						•	•
ZÜNDUNG AUS					•		•
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Blinkerschalter

$\searrow$	s	о	v
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Deutsch	Englisch	Italıenısch	Französisch	Spanisch
bl blau	bl blue	bl blu	bl bleu	bl azul
br braun	br brown	br marrone	br brun	br marron
ge gelb	ge yellow	ge giallo	ge jaune	ge amarıllo
gr grau	gr grey	gr grigio	gr gris	gr grıs
g grün	g green	g verde	g vert	g verde
o orange	o orange	o arancione	o orange	o naranja
r rot	r red	r rosso	r rouge	r rojo
s schwarz	s black	s nero	s noir	s negro
v violett	v violet	v violetto	v violet	v violeta
w weiß	w white	w bianco	w blanc	w blanco

12-5D



				-
	Deutsch	Englisch	Italıenısch	Französisch
MELLDEWELDI 1000	<ol> <li>Scheinwerfer</li> <li>Tachobeleuchtung</li> <li>Fernlichtkontrolle</li> <li>4-pol Stecker</li> <li>zum Kombischalter</li> <li>Bremslichtsch vo</li> <li>Bremslichtsch hi</li> <li>Horn</li> <li>Zündkerze</li> <li>Zündspule</li> <li>Generator</li> <li>Spannungsregler</li> </ol>	1 headlight 2 speedometer light 3 high beam indicator 4 multip cont plug (4) 5 to combinat switch 6 stoplight switch f 7 stoplight switch r 8 horn 9 spark plug 10 ignition coil 11 generator 12 voltage regulator	1 faro 2 luce di tachimetro 3 spia abbagliante 4 connettore a 4 poli 5 multicomando 6 int luce arresto ant 7 int luce arresto pos 8 clacson 9 candela 10 bobina d'accens 11 dinamo 12 regol di tens	1 phare 2 eclair comp vitesse 3 temoin feu route 4 connect multiple (4) 5 commodo 6 contact de stop av t 7 contact Harr de stop 8 klaxon 9 bougie 10 bobine d'allumage 11 generateur 12 regulateur
	13 Masseanschluß 14 6-pol Stecker 15 Brems-Schlußlicht 16 2-pol Stecker 17 Parallelverbinder 18 3-pol Stecker	13 ground connection 14 multip cont plug (6) 15 rear-stoplight 16 multip cont plug (2) 17 parallel connector 18 multip cont plug (3)	17 parallelo composto	13 masse 14 connect multiple (6) 15 feu arr et de stop 16 connect multiple (2) 17 parallele connecteur 18 connect multiple (3)

Spanisch	
Spannsen	

1	faro
2	luz tacometro
3	lampara aviso luces largas
4	conector multiple (4)
5	interruptor combinado
6	ınterr luz de freno del
	interr luz de fren tras
-	claxon
9	bujia
10	bobina de encendido
11	generador
12	regulador de tension
13	conector a masa
14	conector multiple (6)
15	luz de freno trasero
16	conector multiple (2)
	parallele connecteur
18	conector multiple (3)
L	

Kontaktbelegung -Lichtschalter (Typ CEV 9610)

	g	bl	ge	ω	ge /s	r	br
LICHT 0							
Abblendl	•		•	-•			
Fernlicht		•	•	-•			
HUPE						•	-0
ZUNDUNG AUS					0		•
	5	2	1	3	6	4	

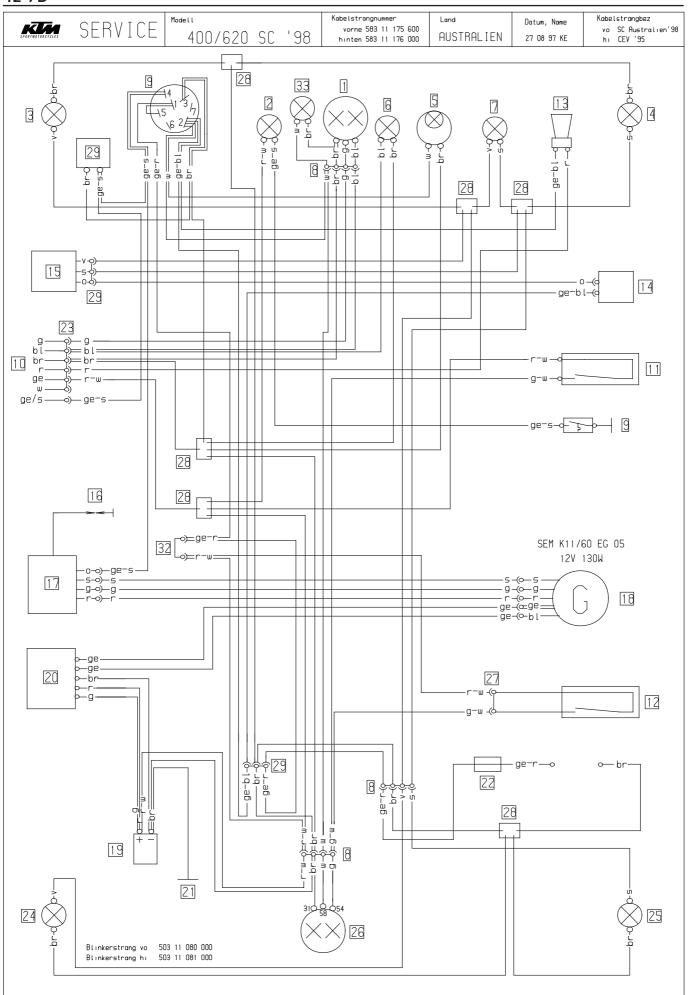
Blinkerschalter

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Deutsch	Englisch	Italıenısch	Französisch	Spanisch
bl blau	bl blue	bl blu	bl bleu	bl azul
br braun	br brown	br marrone	br brun	br marron
ge gelb	ge yellow	ge giallo	ge jaune	ge amarıllo
gr grau	gr grey	gr grigio	gr gris	gr grıs
g grün	g green	g verde	g vert	g verde
o orange	o orange	o arancione	o orange	o naranja
r rot	r red	r rosso	r rouge	r rojo
s schwarz	s black	s nero	s noir	s negro
v violett	v violet	v violetto	v violet	v violeta
w weiß	w white	w bianco	w blanc	w blanco

Art.-Nr. 3.206.006 -E

12-7D



12-8D

				12-8D
98	Deutsch	Englisch	Italıenısch	Französısch
0	1 Scheinwerfer 2 Temperaturkontrolle 3 Blinker li vo	1 headlight 2 temperature control 3 turn indic left fr	1 faro 2 indicazione tempera 3 lampegg ant sn	1 phare 2 temoin de temp 3 clignoteur av gauche
tion	4 Blinker re vo 5 Tαchobeleuchtung 6 Fernlichtkontrolle	4 turn indic right fr 5 speedometer light 6 high beam indicator	4 lampegg ant dx 5 luce di tachimetro 6 spia abbagliante	4 clignoteur av droit 5 eclair comp vitesse 6 temoin feu route
Super Competit	7 Blinkerkontrolle 8 4-pol Stecker 9 Thermoschalter	7 turn indicator 8 multip cont plug (4) 9 temperature switch	7 spia lampeggiatori 8 connettore a 4 poli 9 interr temperatura	7 temoin de clignoteur 8 connect multiple (4) 9 contact de temp
	10 zum Kombischalter 11 Bremslichtsch vo 12 Bremslichtsch hi 13 Horn	10 to combinat switch 11 stoplight switch f 12 stoplight switch r 13 horn	10 multicomando 11 int luce arresto ant 12 int luce arresto pos 13 clacson	10 commodo 11 contact de stop av t12 contact Harr de stop 13 klaxon
	14 Blinkgeber 15 Blinkerschalter 16 Zündkerze	14 turn indicator 15 blink switch 16 spark plug	14 trasmett di lampeg 15 int lampeggiatori 16 candela	14 centrale clignot 15 contact d clignateur 16 bougie
	17 Zündspule 18 Generator 19 Kondensator	17 ignition coil 18 generator 19 capacitor	17 bobina d'accens 18 dinamo 19 condensatore	17 bobine d'allumage 18 generateur 19 condensateur
400/620	20 Spannungsregler 21 Masseanschluβ 22 Stecksicherung 10A 23 G-pol Stecker	20 voltage regulator 21 ground connection 22 fuse 10A 23 multip cont plug (6)	20 regol di tens 21 collegam di masse 22 fusibile 10A 23 connettore a 6 poli	20 regulateur 21 masse 22 fusible 10A 23 connect multiple (6)
400/	24 Blinker li hi 25 Blinker re hi 26 Brems-Schlußlicht 27 2-pol Stecker	24 blinker left rear 25 blinker right rear 26 rear-stoplight 27 multip cont plug (2)	24 lampegg post sn 25 lampegg post dx 26 fanal post di freno 27 connettore a 2 poli	24 clign arr gauche 25 clign arr droite 26 feu arr et de stop 27 connect multiple (2)
$\mathbb{X}_{\mathbb{X}}$	28 Parallelverbinder 29 3-pol Stecker	28 parallel connector 29 multip cont plug (3)	28 parallelo composto 29 connettore a 3 poli	28 parallele connecteur 29 connect multiple (3)

Blinkerschalter

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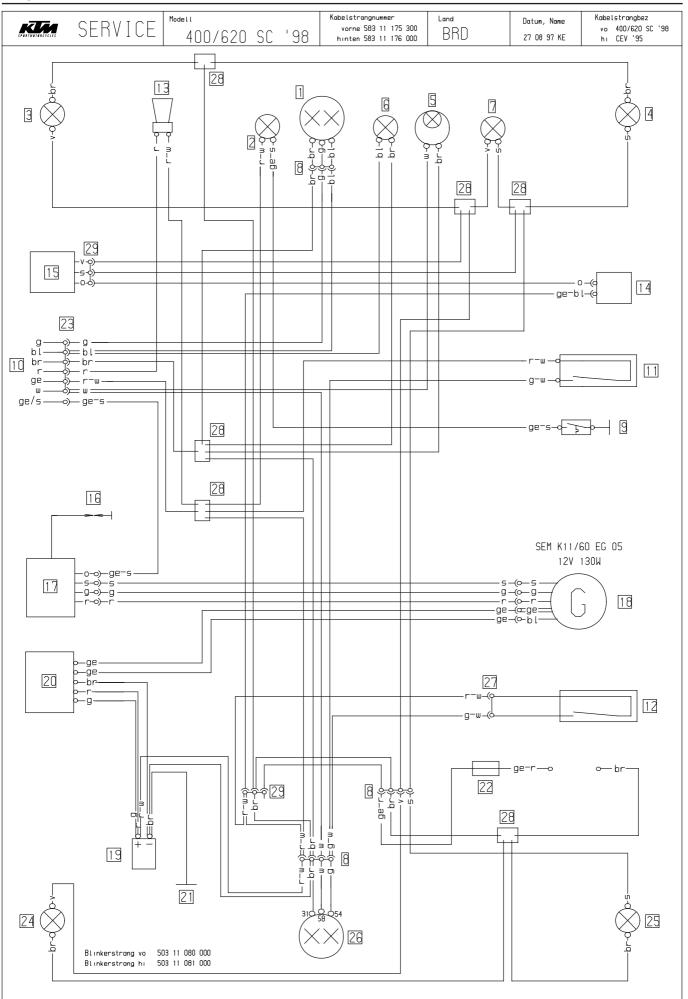
Deutsch	Englisch	Italienisch	Französisch	Spanısch
bl blau br braun ge gelb gr grau g grün o orange r rot s schwarz v violett w weiß	bl blue br brown ge yellow g green o orange r red s black v violet w white	bl blu br marrone ge giallo gr grigio g verde o arancione r rosso s nero v violetto w bianco	bl bleu br brun ge jaune gr gris g vert o orange r rouge s noir v violet w blanc	bl azul br marron ge amarıllo gr grıs g verde o naranja r rojo s negro v violeta w blanco

	Spanısch
3 4 5 6 7 7 8 9 9 0 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	faro control temperatura interm izquierdo delantero intermitente derecho delantero luz tacometro lampara aviso luces largas lampara aviso intermitentes conector multiple (4) interruptor temperatura interruptor combinado interr luz de freno del interr luz de freno del interr luz de fren tras claxon conjunto del intermintente interuptor clignoteur bujia bobina de encendido generador condensador regulador de tension conector a masa fusible principal 10A conector multiple (6) intermitente derecho trasero luz de freno trasero conector multiple (2) parallele connecteur

Kontaktb	pelegu	ung
Lıchtschalter	(Typ	CEV

	g	bl	ge	w	ge /s	r	br
LICHT O							
Abblendl	0		•	-•			
Fernlicht		•	•	-•			
HUPE						•	0
ZÜNDUNG AUS					•		0
	5	2	1	3	6	4	

12-9D



## KTM 400 / 640 SC 1998

Deutsch	Englisch	Italienisch	Französisch
1 Scheinwerfer 2 CDI 3 Blinker li vo 4 Blinker re vo 5 Tachobeleuchtung 6 Fernlichtkontrolle 7 Blinkerkontrolle 8 4-pol Stecker	1 headlight 2 CDI 3 turn indic left fr 4 turn indic right fr 5 speedometer light 6 high beam indicator 7 turn indicator 8 multip cont plug (4)	1 faro 2 CDI 3 lampegg ant sn 4 lampegg ant dx 5 luce di tachimetro 6 spia abbagliante 7 spia lampeggiatori 8 connettore a 4 poli	1 phare 2 CDI 3 clignoteur av gauche 4 clignoteur av droit 5 eclair comp vitesse 6 temoin feu route 7 temoin de clignoteur 8 connect multiple (4)
<pre>10 zum Kombischalter 11 Bremslichtsch vo 12 Bremslichtsch hi 13 Horn 14 Blinkgeber 15 Blinkerschalter 16 Zündkerze 17 Zündspule 18 Generator 19 Kondensator 20 Spannungsregler 21 Masseanschluß 22 Stecksicherung 10A 23 6-pol Stecker 24 Blinker li hi 25 Blinker re hi 26 Brems-Schlußlicht 27 2-pol Stecker</pre>	10 to combinat switch 11 stoplight switch f 12 stoplight switch r 13 horn 14 turn indicator 15 blink switch 16 spark plug 17 ignition coil 18 generator 19 capacitor 20 voltage regulator 21 ground connection 22 fuse 10A 23 multip cont plug (6) 24 blinker right rear 26 rear-stoplight 27 multip cont plug (2)	10 multicomando 11 int luce arresto ant 12 int luce arresto post 13 clacson 14 trasmett di lampeg 15 int lampeggiatori 16 candela 17 bobina d'accens 18 dinamo 19 condensatore 20 regol di tens 21 collegam di masse 22 fusibile 10A 23 connettore a 6 poli 24 lampegg post sn 25 lampegg post dx 26 fanal post di freno 27 connettore a 2 poli	10 commodo 11 contact de stop av 12 contact Harr de stop 13 klaxon 14 centrale clignot 15 contact d clignateur 16 bougie 17 bobine d'allumage 18 generateur 19 condensateur 20 regulateur 21 masse 22 fusible 10A 23 connect multiple (6) 24 clign arr gauche 25 clign arr droite 26 feu arr et de stop 27 connect multiple (2)
29 3-pol Stecker	29 multip cont plug (3)	29 connettore a 3 poli	29 connect multiple (3)

Deutsch	Englisch	Italienisch	Französisch	Spanisch
bl blau br braun	bl blue br brown	bl blu br marrone	bl bleu br brun	bl azul br marron
ge gelb gr grau	ge yellow gr grey	ge giallo gr grigio	ge jaune gr gris	ge amarıllo gr grıs
g grün	g green	g verde	g vert	g verde
o orange	o orange	o arancione	o orange	o naranja
r rot	r red	r rosso	r rouge	r rojo
s schwarz	s black	s nero	s noir	s negro
v violett	v violet	v violetto	v violet	v violeta
w weıß	w white	w bianco	w blanc	w blanco

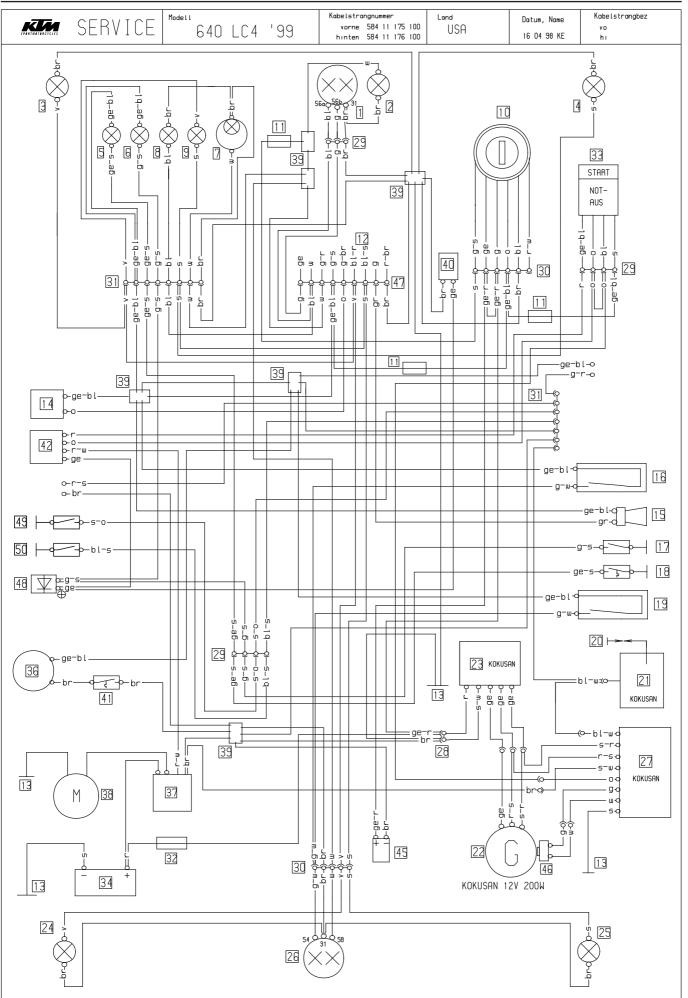
Kontaktb	belegu	ung -	-
Lichtschalter	(Typ	CEV	9610)

	g	bl	ge	ω	ge /s	r	br
LICHT O							
Abblendl	0-		-0-	-0			
Fernlicht		0	-0-	-0			
HUPE						0	þ
ZUNDUNG AUS					0		þ
	5	2	1	3	6	4	

Blin	kers	chal	ter
	s	ο	v
$\langle \neg \Box \rangle$			
$\bigcirc$		•	-0
	-	-0	

	Spanısch
4	faro CDI interm izquierdo delantero intermitente derecho delantero luz tacometro lampara aviso luces largas lampara aviso intermitentes conector multiple (4)
11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	Interruptor combinado Interr luz de freno del Interr luz de freno tras claxon conjunto del Intermintente Interuptor clignoteur bujia bobina de encendido generador condensador regulador de tension conector a masa fusible principal 10A conector multiple (6) Intermitente izquierdo trasero Intermitente derecho trasero luz de freno trasero conector multiple (2)
29	conector multiple (3)

12-11D



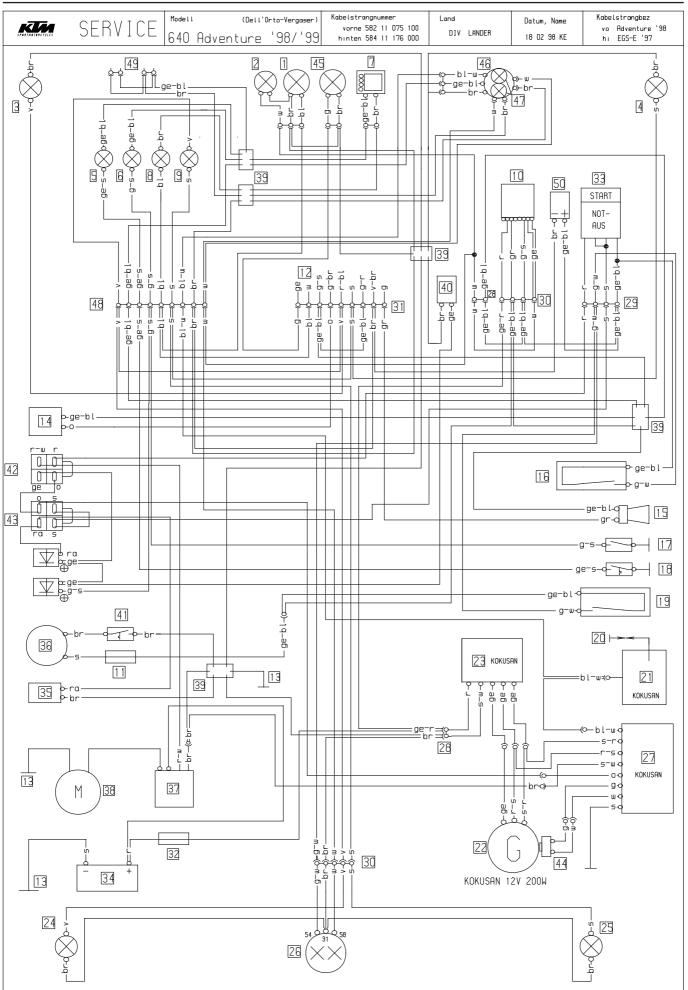
#### 12-12D

	_	Deutsch	Englisch	Italienisch	Französisch
$\bigcirc$	)	1 Scheinwerfer	1 headlight	1 faro	1 phare
$\bigcap$	$\overline{)}$	2 Standlicht 3 Blinker li vo	2 parking light 3 blinker left front	2 luce di posizione 3 lampeggi anti sn	2 feu de position 3 clignoteur av gauche
$\sim$	~	4 Blinker re vo	4 blinker right front	4 lampegg ant dx	4 clignoteur av droit
		5 Temperaturkontrolle	5 temperature control	5 controllo temperatura	5 tempin de temperature
	_	6 Leerlaufanzeige 7 Tachobeleuchtung	6 neutral 7 tachometer light	6 indicat marcia folle 7 luce di tachimetro	6 ind de point mort 7 eclair comp vitesse
		8 Fernlichtkontrolle	8 high beam control	8 spia abbagliante	8 temoin de feu route
		9 Blinkerkontrolle 10 Zündschloß	9 blink control 10 ignition switch	9 spia lampeggiatori 10 int accensione	9 temoin de clignoteur 10 contact d'allum
$\square$		11 Sicherung 10A	11 fuse 10A	11 fusibile 10A	11 fusible 10A
		12 zum Kombischalter	12 to combinat switch	12 multicomando	12 vers commutateur 13 masse
(	$\mathbf{)}$	13 Masseanschluβ  14 Blinkgeber	13 ground connection 14 blink signal system	13 collegam a massa 14 trasmett di lampeg	14 centrale clignot
		15 Horn	15 horn	15 clacson	15 klaxon
		16 Bremslichtsch vo 17 Leerlaufschalter (N)	16 stoplight switch f 17 neutral switch (N)	16 int luce arresto ant 17 interr luce folle (N)	16 cont av de stop 17 contact pt mort (N)
		18 Thermoschalter	18 temperature switch	18 int temperatura	18 contact de temperature
<del></del> +		19 Bremslichtsch hi   20 Zündkerze	19 stoplight switch r 20 spark plug	19 int luce arresto post 20 candela	19 contact arr de stop 20 bougie
$\sim$		21 Zündspule	21 ignition coil	21 bobina d'accens	21 bobine d'allumage
(	)	22 Generator	22 generator	22 dinamo	22 generateur
		23 Regelgleichrichter 24 Blinker li hi	23 regulator-rectifier 24 blinker left rear	23 regolatore di tens 24 lampeggi posti sn	23 regulat redresseur 24 clign arr gauche
		25 Blinker re hi	25 blinker right rear	25 lampegg post dx	25 clign arr droit
		26 Brems-Schlußlicht 27 CDI-Einheit	26 rear-stoplight 27 CDI-unit	26 fanal post di freno 27 CDI-seatola	26 feu arr et de stop 27 boitier CDI
	_	28 2-pol Stecker	28 multip cont plug (2)	28 connettore a 2 poli	28 connect multiple (2)
		29 4-pol Stecker 30 6-pol Stecker	29 multip cont plug (4) 30 multip cont plug (6)	29 connettore a 4 poli 30 connettore a 6 poli	29 connect multiple (4) 30 connect multiple (6)
$\leq$		31 9-pol Stecker	31 multip cont plug (9)	31 connettore a 9 poli	31 connect multiple (9)
	_	32 Hauptsicherung 20A	32 mainfuse 20A	32 fusibile principale 20A	32 fusible principal 20A
	)	33 Starttast Notaussch 34 Batterie 12V 8Ah	33 run-off/start switch 34 battery 12V 8Ah	33 disinseritor/partire 34 batteria 12V 8Ah	33 bout de demar/arr d'urg 34 batterie 12V 8Ah
		36 Lüftermotor	36 fan motor	36 ventilatore	36 ventilateur
		37 Startrelaise 38 Startermotor	37 starter relay 38 starter engine	37 rele d'avviamento	37 relaise de demarreur 38 demarreur electrique
$\geq$		39 Parallelverbinder	39 parallel connector	38 mot d'avviamento elettr 39 parallelo composto	39 parallele connecteur
		40 Kupplungsschalter	40 clutch switch	40 interrutore frizione	40 contact de embrayage
		41 Thermoschalter 42 Starterhilfsrelaise	41 temperature switch 42 startar auxil relay	41 int temperatura 42 rele avviam ausiliario	41 contact de temperature 42 relaise auxi demarrage
$\sim$	/	45 Kondensator	45 capacitor	45 condensatore	45 condensateur
	_	46 Impulsgeber	46 pulser coil	46 trasmettitore d'impulsi	46 capteur
		47 12-pol Stecker	47 multip cont plug (12)	47 connettore a 12 poli	47 connect multiple (12) 48 diode
		48 Diode 49 Kontaktstift 3 Gang	48 diode   49 gear switch 3rd gear	48 diodo 49 3 secondo marcia	49 cont d boite d vites (3)
		50 Kontaktstift 2 Gang	48 gear switch 2th gear	50 2 secondo marcia	50 cont d bolte d vites (2)
ſ					
		1 faro 2 luz de posicion	18 interruptor 19 interruptor		entilador electrica ele de arranque
		3 interm izquierdo delo			otor de arranque
		4 intermitente derecho d 5 control temperatura			nector paralelo
	<u>ج</u>	5 control temperatura   6 indicador punto muerto	22 generador 23 regulador da		nterruptor de embraque Iterruptor temperatura
Spanısch		7 luz tacometro	24 intermitente	e izquierdo trasero 🛛 42 re	ele del arranque
		8 lampara aviso luces lo   9 lampara aviso intermit			ndensador nerado de impulsos
		10 llave de contacto	27 unıdad cdı	47 co	nector multiple (12)
		11 fusible 10A 12 interruptor combinado	28 conecdor mu 29 conector mu		odo iterruptor de cambio (3)
		13 conector a masa	29 conector mu 30 conector mu		iterruptor de cambio (3) iterruptor de cambio (2)
		14 conjunto del intermite	ente 31 conector mu	ltiple (9)	
		15 claxon	32 fusible prir	ncingi ZUH	
		16 interruptor		ranque par de urg	

Kombischa	lter	• (T	Jp C	EV 1		2600	))	
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TURN R 🖒					•	-•		
LIGHTS •								
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HORN	•						•	
PASSING 🖅		:						:

Kontaktbelegung Start- Notaus- Schalter									
		CEV		ge- bl	bl				
	ENGINE				•	•			
	Ň E								
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#### 12-14D

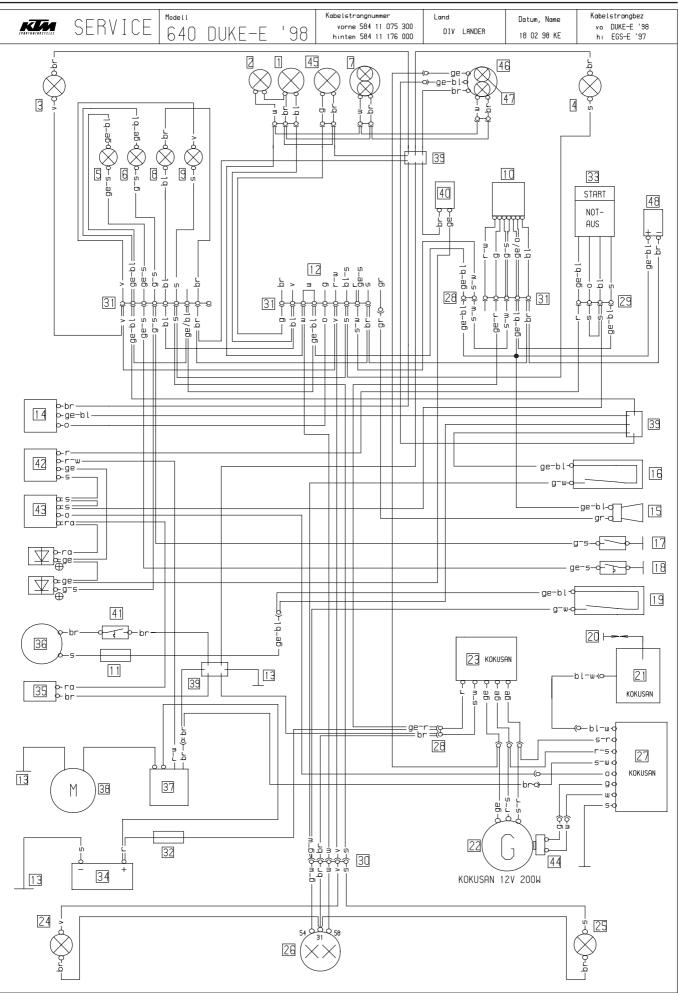
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$\frown$		Deutsch	Englisch	Italienisch	Französisch
		1 Fernlicht-Scheinwerfer 2 Standlicht 3 Blinker Li vo 4 Blinker re vo 5 Temperaturkontrolle	1 main beam headlight 2 parking light 3 blinker left front 4 blinker right front 5 temperature control	1 abbagliante 2 luce di posizione 3 lampegg ant sn 4 lampegg ant dx 5 controllo temperatura	l phare 2 feu de position 3 clignoteur av gauche 4 clignoteur av droit 5 temoin de temperature
998/19	6 Leerloufanzeige       6 neutral         7 Tachometer       7 tachometer         8 Fernlichtkontrolle       8 high beam control         9 Blinkerkontrolle       9 blink control         10 Zündschloß       10 ignition switch         11 Lüftersicherung 5A       11 fan fuse 5A         12 zum Kombischalter       12 to combinat switch         13 Masseanschluß       13 ground connection         14 Blinkgeber       14 blink signal system		6 indicat marcia folle 7 tachimetro 8 spia abbagliante 9 spia lampeggiatori 10 int accensione 11 fusibile 5A per ventola 12 multicomando 13 collegam a mossa 14 trasmett di lampeg	6 ind de point mort 7 compteur de vitesse 8 tempin de feu route 9 tempin de clignoteur 10 contact d'allum 11 fusible 5A pour ventil 12 vers commutateur 13 masse 14 centrale clignot	
Adventure 1	<ul> <li>15 Horn</li> <li>15 Horn</li> <li>16 Bremslichtsch vo</li> <li>16 stoplight switch f</li> <li>17 Leerlaufschalter (N)</li> <li>17 neutral switch (N)</li> <li>19 Theorem to be</li> </ul>		15 clacson 16 int luce arresto ant 17 interr luce folle (N) 18 int temperatura 19 int luce arresto post 20 candela 21 bobina d'accens 22 dinamo 23 regolatore di tens 24 lampegg post sn 25 lampegg post dx 26 fanal post di freno 27 CDI-seatola 28 connettore a 2 poli 29 connettore a 9 poli 31 connettore a 9 poli	15 klaxon 16 cont av de stop 17 contact pt mort (N) 18 contact de temperature 19 contact arr de stop 20 bougie 21 bobine d'allumage 22 generateur 23 regulat redresseur 24 clign arr gauche 25 clign arr droit 26 feu arr et de stop 27 boitier CDI 28 connect multiple (2) 29 connect multiple (6) 31 connect multiple (9)	
$\bigcirc$		32 Hauptsicherung 10A 33 Starttast Notaussch 34 Batterie 12V 8Ah 35 Seitenständerschalter 36 Lüftermotor	32 mainfuse 10A 33 run-off/start switch 34 battery 12V 8Ah 35 sidestand switch 36 fan motor	32 fusibile principale 10A 33 disinseritor/partire 34 batteria 12V 8Ah 35 int del cavalleto later 36 ventilatore	32 fusible principal 10A 33 bout de demar/arr d'ung 34 batterie 12V 8Ah 35 commut de bequille later 36 ventilateur
640		<ul> <li>37 Startrelaise</li> <li>38 Startermotor</li> <li>39 Parallelverbinder</li> <li>40 Kupplungsschalter</li> <li>41 Thermoschalter</li> <li>42 Starterhilfsrelaise</li> </ul>	37 starter relay 38 starter engine 39 parallel connector 40 clutch switch 41 temperature switch 42 startar auxil relay	37 rele d'avviamento 38 mot d'avviamento elettr 39 parallelo composto 40 interrutore frizione 41 int temperatura 42 rele avviam ausiliario	<ul> <li>37 relaise de demarreur</li> <li>38 demarreur electrique</li> <li>39 parallele connecteur</li> <li>40 contact de embrayage</li> <li>41 contact de temperature</li> <li>42 relaise auxi demarrage</li> </ul>
$\sum$		43 Seitenständerrelaise43 sidestand relay44 Impulsgeber44 pulser coil45 Abblendlicht45 low beam46 Drehzahlmesser46 tachometer47 Drehzahlmesserbel47 tachometer light		<ul> <li>43 rele del cavalleto later</li> <li>44 trasmettitore d'impulsi</li> <li>45 anabbaglianti</li> <li>46 contagiri</li> <li>47 luce di contagiri</li> <li>48 connettore a 12 poli</li> <li>49 roadbook-energia</li> <li>50 condensatore</li> </ul>	43 relaise com de bequilat 43 capteur 45 feu de croisement 46 compte-tours 47 eclair compte-tours 48 connect multiple (12) 49 roadbook-energie 50 condensateur
(Dell'Orto-Vergaser)	Spanısch	1 faro 2 luz de posicion 3 interm izquierdo delai 4 intermitente derecho di 5 control temperatura 6 indicador punto muerto 7 tacometro 8 lampara aviso luces lai 9 lampara aviso intermiti 10 llave de contacto 11 fusible del ventilador 12 interruptor combinado 13 conector a masa 14 conjunto del intermiter 15 claxon 16 interruptor 17 interruptor punto muer	ntero 20 bujia elantero 21 bobina de er 22 generador 23 regulador de 24 intermitente entes 26 luz de freno 27 unidad cdi 5A 28 conector mu 30 conector mu 31 conector mu 32 fusible prir 33 boton de arr	luz de frendo tras36 ve 37 reancendido38 mo 39 co e tension39 co 40 in e izquierdo traseroe derecho trasero41 in 42 re a traserob trasero43 reltiple (2)44 ge 45 lu ltiple (6)ltiple (9)47 lu tocipal IOAranque par de urg49 roo	t del caballete lateral nilador electrica le de arranque tor de arranque nector paralelo terruptor de embraque terruptor temperatura le del arranque le del arranque le del caballette lateral nerado de impulsos ces de crule entarreveluciones z del cuentarrevolucion nector multiple (12) adbook-energia ndensador

					Start-Notaus-Schalter	
Deutsch	Englisch	Italienisch	Französisch	Spanisch	Kombischalter (Typ CEV 100826000)	
bl blau	bl blue	bl blu	bl bleu	bl azul		ge
br braun	br brown	br marrone	br brun	br marron	- (§) ++	
ge gelb	ge yellow	ge grallo	ge jaune	ge amarıllo	Zündschloß (Typ Zadi) TURN R ->	-
gr grau	gr grey	gr grigio	gr gr is	gr gris		
g grün	g green	g verde	g vert	g verde	ge gr g- r bl LIGHTS o	
o orange	o orange	o arancione	o orange	o naranja		
r rot	r red	r rosso	r rouge	r rojo		-
ra rosa	ra pink	ra rosa	ra rose	ra rosado		
s schwarz	s black	s nero	s noir	s negro		-
v violett	v violet	v violetto	v violet	v violeta	Image: Second	
w weιβ	w white	w bianco	w blanc	w blanco		-0





	Deutsch	Englisch	Italienisch	Französisch
	<pre>Deulsch 1 Fernlicht-Scheinwerfer 2 Standlicht 3 Blinker Li vo 4 Blinker re vo 5 Temperaturkontrolle 6 Leerlaufanzeige 7 Tachobeleuchtung 8 Fernlichtkontrolle 10 Zündschloß 11 Lüftersicherung 5A 12 zum Kombischalter 13 Masseanschluß 14 Blinkgeber 15 Horn 16 Bremslichtsch vo 17 Leerlaufschalter (N) 18 Thermoschalter 19 Bremslichtsch hi 20 Zündkerze 21 Zündspule 22 Generator 23 Regelgleichrichter 24 Blinker Li hi 25 Blinker re hi 26 Brems-Schlußlicht 27 CDI-Einheit 28 Jecker 39 -pol Stecker 31 9-pol Stecker 31 9-pol Stecker 31 9-pol Stecker 32 Hauptsicherung 10A 33 Starttast Notaussch 34 Batterie 12V 8Ah 35 Seitenständerschalter 36 Lüftermotor 37 Startrelaise 38 Startermotor 39 Parallelverbinder 40 Kupplungsschalter 41 Thermoschalter 43 Seitenständerrelaise 43 Seitenständerrelaise 43 Seitenständerrelaise 43 Seitenständerrelaise 43 Seitenständerrelaise 43 Seitenständerrelaise 44 Impulsgeber 45 Abblendlicht 46 Drehzahlmesser 47 Drehzahlmesser 47 Drehzahlmesser 48 Kondensator</pre>	<pre>Englisch i main beam headlight parking light blinker left front blinker right front temperature control neutral rtachometer light high beam control blink control light switch if fan fuse 5A to combinat switch is droud connection blink signal system blink signal system blink signal system blink signal system blink signal switch ight switch f routral switch (N) temperature switch stoplight switch r generator generator generator for neutral left rear blinker left rear blinker left rear blinker right rear for neutral switch for neutral switch stoplight switch f compare the switch stoplight switch for neutral switch for any switch for any switch for a stoplight for a stoplight for a stoplight for a stoplight switch for a stoplight switch for a stoplight for a</pre>	<pre>Italienisch Italienisch I</pre>	<pre>Franzosisch  1 phare 2 feu de position 3 clignoteur av gauche 4 clignoteur av droit 5 temoin de temperature 6 ind de point mort 7 eclair comp vitesse 8 temoin de feu route 9 temoin de clignoteur 10 contact d'allum 11 fusible SA pour ventil 12 vers commutateur 13 masse 14 centrale clignot 15 klaxon 16 cont av de stop 17 contact pt mort (N) 18 contact de temperature 19 contact ar de stop 20 bougie 21 bobine d'allumage 22 generateur 23 regulat redresseur 24 clign arr gauche 25 clign arr droit 26 feu arr et de stop 27 boitier CD1 28 connect multiple (2) 29 connect multiple (2) 29 connect multiple (4) 30 connect multiple (6) 31 connect multiple (6) 31 connect multiple (1) 32 fusible principal 10A 33 bout de demar/arr d'urg 34 batterie 12V 8Ah 35 commut de bequille later 36 ventilateur 37 relaise de demarreur 38 demarreur electrique 39 parallele connecteur 40 contact de temperature 42 relaise com de bequilat 43 capteur 45 feu de croisement 46 compte-tours 47 eclair compte-tours 48 condensateur </pre>
Spanısch	1 faro 2 luz de posicion 3 interm izquierdo dela 4 intermitente derecho d 5 control temperatura 6 indicador punto muerto 7 luz tacometro 8 lampara aviso intermit 10 llave de contacto 11 fusible del ventilador 12 interruptor combinado 13 conector a masa 14 conjunto del intermite 15 claxon 16 interruptor punto muer 17 interruptor punto muer	ntero 20 bujia elantero 21 bobina de 1 22 generador 23 regulador 24 intermiten entes 26 luz de frei 27 unidad cdi 5A 28 conector m 30 conector m 31 conector m 32 fusible pr 33 boton de a	r luz de frendo tras 36 ver 37 rel ancendido 38 mot 39 cor de tension 40 int te izquierdo trasero 41 int te derecho trasero 42 rel no trasero 43 re ultiple (2) 44 ger ultiple (4) 45 luc ultiple (6) 46 cue ultiple (9) 47 luz incipal 10A 48 cor rranque par de urg	t del caballete lateral atilador electrica le de arranque tor de arranque mector paralelo terruptor de embraque terruptor temperatura le del arranque le del caballette lateral merado de impulsos tes de crule entarreveluciones z del cuentarrevolucion madensador

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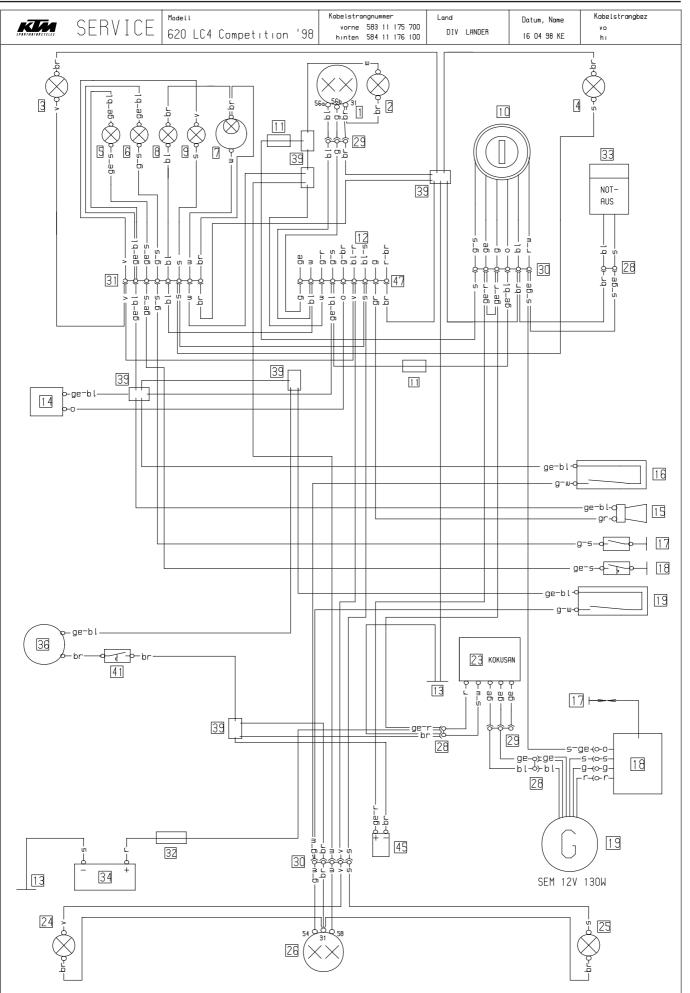
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12-17D



					12-18D
$\bigcirc$		Deutsch	Englisch	Italienisch	Französisch
KIM 620 LC4 Competition 1998	_	<pre>1 Scheinwerfer 2 Standlicht 3 Blinker Li vo 4 Blinker re vo 5 Temperaturkontrolle 6 Leerlaufanzeige 7 Tachobeleuchtung 8 Fernlichtkontrolle 9 Blinkerkontrolle 10 Zündschloß 11 Sicherung 10A 12 zum Kombischalter 13 Masseanschluß 14 Blinkgeber 15 Horn 16 Bremslichtsch vo 17 Leerlaufschalter (N) 18 Thermoschalter 19 Bremslichtsch hi 20 Zündkerze 21 Zündspule 22 Generator 23 Regelgleichrichter 24 Blinker re hi 26 Brems-Schlußlicht 28 2-pol Stecker 30 6-pol Stecker 31 9-pol Stecker 32 Hauptsicherung 20A 33 Notausschalter 34 Batterie 12V 8Ah 36 Lüftermotor 39 Parallelverbinder 41 Thermoschalter 45 Kondensator 46 Impulsgeber 47 12-pol Stecker</pre>	<pre>1 headlight 2 parking light 3 blinker left front 4 blinker right front 5 temperature control 6 neutral 7 tachometer light 8 high beam control 9 blink control 10 ignition switch 11 fuse 10A 12 to combinat switch 13 ground connection 14 blink signal system 15 horn 16 stoplight switch f 17 neutral switch (N) 18 temperature switch 19 stoplight switch r 20 spark plug 21 ignition coil 22 generator 23 regulator-rectifier 24 blinker left rear 25 blinker right rear 26 rear-stoplight 28 multip cont plug (2) 29 multip cont plug (2) 29 multip cont plug (3) 31 multip cont plug (6) 31 multip cont plug (9) 32 mainfuse 20A 33 run-off switch 34 battery 12V 8Ah 36 fan mator 39 parallel connector 41 temperature switch 45 capacitor 46 pulser coil 47 multip cont plug (12)</pre>	1 foro 2 luce di posizione 3 lampegg ant sn 4 lampegg ant sn 4 lampegg ant dx 5 controllo temperatura 6 indicat marcia folle 7 luce di tachimetro 8 spia abbagliante 9 spia lampeggiatori 10 int accensione 11 fusibile 10A 12 multicomando 13 collegam a massa 14 trasmett di lampeg 15 clacson 16 int luce arresto ant 17 interr luce folle (N) 18 int temperatura 19 int luce arresto post 20 condela 21 bobina d'accens 22 dinamo 23 regolatore di tens 24 lampegg post sn 25 lampegg post dx 26 fanal post di freno 28 connettore a 2 poli 29 connettore a 4 poli 30 connettore a 9 poli 31 contettore a 9 poli 32 fusibile principale 20A 33 disinseritor 34 batteria 12V 8Ah 36 ventilatore 39 parallelo composto 41 interr temperatura 45 condensatore 46 trasmettiore a 12 poli	<pre>1 phare 2 feu de position 3 clignoteur av gauche 4 clignoteur av droit 5 temoin de temperature 6 ind de point mort 7 eclair comp vitesse 8 temoin de feu route 9 temoin de clignoteur 10 contact d'allum 11 fusible 10A 12 vers commutateur 13 masse 14 centrale clignot 15 klaxon 16 cont av de stop 17 contact pt mort (N) 18 contact de temperature 19 contact arr de stop 20 bougie 21 bobine d'allumage 22 generateur 23 regulat redresseur 24 clign arr gauche 25 clign arr droit 26 feu arr et de stop 20 connect multiple (2) 29 connect multiple (2) 29 connect multiple (2) 30 connect multiple (2) 31 connect multiple (2) 32 fusible principal 20A 33 bouton d'arret d'urgence 34 batterie 12V 8Ah 36 ventilateur 39 parallele connecteur 41 contact de temperature 45 condensateur 47 connect multiple (12) </pre>
	Spanısch	1 faro 2 luz de posicion 3 interm izquierdo delo 4 intermitente derecho d 5 control temperatura 6 indicador punto muerto 7 luz tacometro 8 lampara aviso luces lo 9 lampara aviso intermit 10 llave de contacto 11 fusible 10A 12 interruptor combinado 13 conector a masa 14 conjunto del intermite 15 claxon 16 interruptor 17 interruptor punto muer	Intero 20 bujia lelantero 21 bobina de er 22 generador 23 regulador de 24 intermitente entes 26 luz de frenc 28 conector mu 30 conector mu 31 conector mu 32 fusible prir 33 interruptor 34 bateria 12V	luz de frendo tras 39 co 41 in ncendido 45 co 46 ge e tension 47 co e izquierdo trasero e derecho trasero o trasero litiple (2) ltiple (4) ltiple (9) ncipal 20A de parada deemergenc	ntilador electrica nector paralelo terruptor temperatura ndensador nerado de impulsos nector multiple (12)

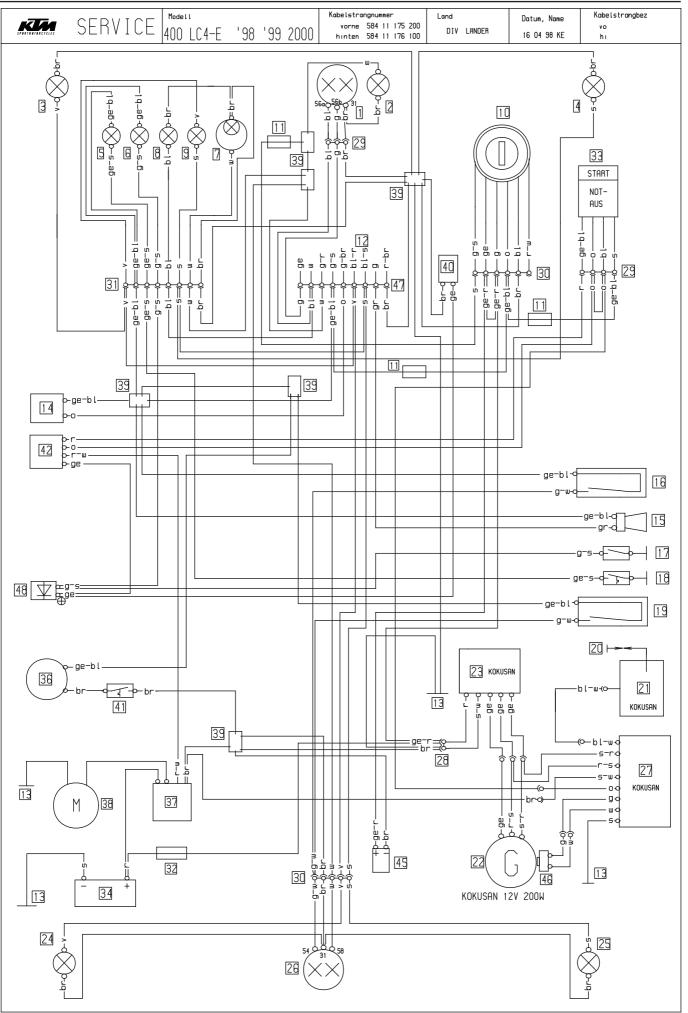
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12-19D



$\bigcirc$	Deutsch	Englisch	Italienisch	Französısch			
	1 Scheinwerfer	1 headlight	1 faro	1 phare			
	2 Standlicht	2 parking light	2 luce di posizione	2 feu de position			
	3 Blinker li vo	3 blinker left front	3 lampeggi anti sn	3 clignoteur av gauche			
	4 Blinker re vo	4 blinker right front	4 lampegg ant sh	4 clignoteur av droit			
	5 Temperaturkontrolle	5 temperature control	5 controllo temperatura	5 temoin de temperature			
	6 Leerlaufanzeige	6 neutral	6 indicat marcia folle	6 ind de point mort			
	7 Tachobeleuchtung	7 tachometer light	7 luce di tachimetro	7 eclair comp vitesse			
	8 Fernlichtkontrolle	8 high beam control	8 spia abbagliante	8 temoin de feu route			
	9 Blinkerkontrolle	9 blink control	9 spia lampeggiatori	9 temoin de clignoteur			
	10 Zündschloß	10 ignition switch	10 int accensione	10 contact d'allum			
$\bigcirc$	11 Sicherung 10A	11 fuse 10A	11 fusibile 10A	11 fusible 10A			
	12 zum Kombischalter	12 to combinat switch	12 multicomando	12 vers commutateur			
	13 Masseanschluß	13 ground connection	13 collegam a massa	13 masse			
	14 Blinkgeber	14 blink signal system	14 trasmett di lampeg	14 centrale clignot			
_	15 Horn	15 horn	15 clacson	15 klaxon			
	16 Bremslichtsch vo	16 stoplight switch f	16 int luce arresto ant	16 cont av de stop			
	17 Leerlaufschalter (N)	17 neutral switch (N)	17 interr luce folle (N)	17 contact pt mort (N)			
	18 Thermoschalter	18 temperature switch	18 int temperatura	18 contact de temperature			
$\bigcirc$	19 Bremslichtsch hi	19 stoplight switch r	19 int luce arresto post	19 contact arr de stop			
	20 Zündkerze	20 spark plug	20 candela	20 bougie			
	21 Zündspule	21 ignition coil	21 bobina d'accens	21 bobine d'allumage			
	22 Generator	22 generator	22 dinamo	22 generateur			
_	23 Regelgleichrichter	23 regulator-rectifier	23 regolatore di tens	23 regulat redresseur			
	24 Blinker li hi	24 blinker left rear	24 lampegg post sn	24 clign arr gauche			
	25 Blinker re hi	25 blinker right rear	25 lampegg post dx	25 clign arr droit			
	26 Brems-Schlußlicht	26 rear-stoplight	26 fanal post di freno	26 feu arr et de stop			
	27 CDI-Einheit 28 2-pol Stecker 29 4-pol Stecker 30 6-pol Stecker	27 CDI-unit 28 multip cont plug (2) 29 multip cont plug (4) 30 multip cont plug (6)	27 CDI-seatola 28 connettore a 2 poli 29 connettore a 4 poli 30 connettore a 6 poli	27 boitier CDI 28 connect multiple (2) 29 connect multiple (4) 30 connect multiple (6) 21			
	31 9-pol Stecker	31 multip cont plug (9)	31 connettore a 9 poli	31 connect multiple (9)			
	32 Hauptsicherung 20A	32 mainfuse 20A	32 fusibile principale 20A	32 fusible principal 20A			
	33 Starttast Notaussch	33 run-off/start switch	33 disinseritor/partire	33 bout de demar/arr d'urg			
	34 Batterie 12V 8Ah	34 battery 12V 8Ah	34 batteria 12V 8Ah	34 batterie 12V 8Ah			
	36 Lüftermotor	36 fan motor	36 ventilatore	36 ventilateur			
	37 Startrelaise	37 starter relay	37 rele d'avviamento	37 relaise de demarreur			
	38 Startermotor	38 starter engine	38 mot d'avviamento elettr	38 demarreur electrique			
	39 Parallelverbinder	39 parallel connector	39 parallelo composto	39 parallele connecteur			
	40 Kupplungsschalter	40 clutch switch	40 internutore frizione	40 contact de embrayage			
	41 Thermoschalter	41 temperature switch	41 int temperatura	41 contact de temperature			
	42 Starterhilfsrelaise	42 startar auxil relay	42 rele avviam ausiliario	42 relaise auxi demarrage			
	45 Kondensator	45 capacitor	45 condensatore	45 condensateur			
$\bigcirc$	46 Impulsgeber	46 pulser coil	46 trasmettitore d'impulsi	46 capteur			
	47 12-pol Stecker	47 multip cont plug (12)	47 connettore a 12 poli	47 connect multiple (12)			
	48 Diode	48 diode	48 diodo	48 diode			
$\geq$	1 faro	18 interruptor	temperatura 36 ve	ntilador electrica			
Spanisch	2 luz de posicion 3 interm izquierdo delo 4 intermitente derecho d 5 control temperatura 6 indicador punto muerto 7 luz tacometro 8 lampara aviso luces lo 9 lampara aviso intermit 10 llave de contacto 11 fusible 10A 12 interruptor combinado 13 conector a masa 14 conjunto del intermite	19 interruptor intero 20 bujia ielantero 21 bobina de el 22 generador 23 regulador di 24 intermitenti entes 26 luz de freno 27 unidad cdi 28 conector mu 30 conector mu 31 conector mu	19 interruptor luz de frendo tras37 rele de arranque20 bujia38 motor de arranque21 bobina de encendido39 conector paralelo22 generador40 interruptor de embri23 regulador de tension41 interruptor tempera24 intermitente izquierdo trasero42 rele del arranque25 intermitente derecho trasero46 generado de impulso				
	15 claxon 16 interruptor 17 interruptor punto muer		ranque par de urg				

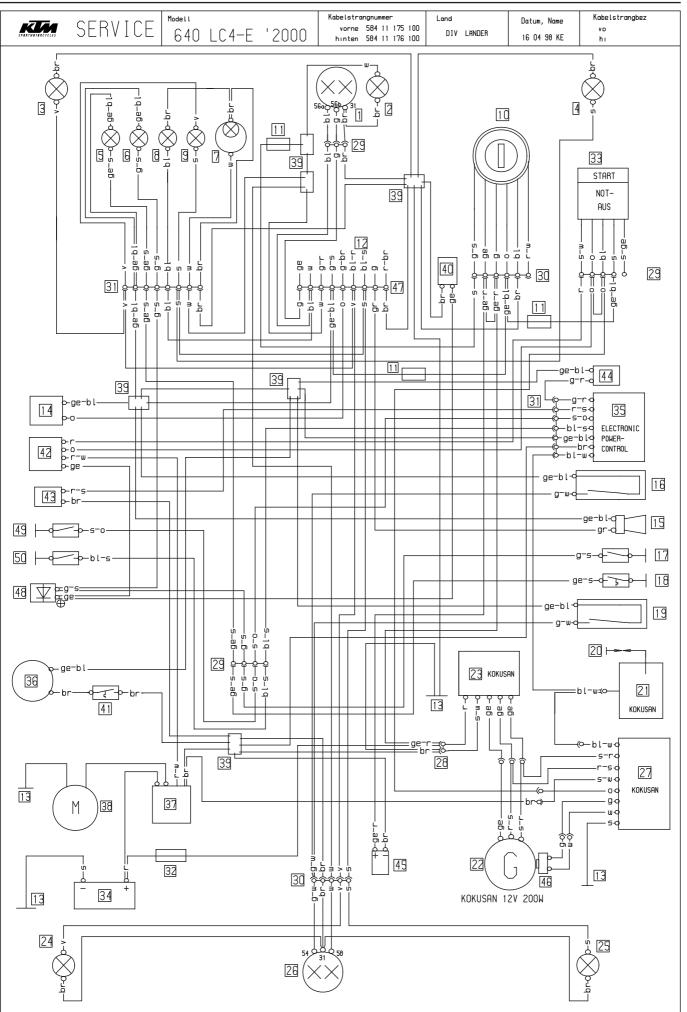
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Deutsch	Englisch	Italienisch	Französisch	Spanisch
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g grün o orange r rot	g green o orange r red	g verde o arancione r rosso	g vert o orange r rouge	g verde o naranja r rojo
ra rosa s schwarz v violett	rapınk s black v violet	ra rosa s nero v violetto	ra rose s noir v violet	ra rosado s negro v violeta
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Kombischalter (Typ CEV 100826000)									
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12-21D



	Deutsch	Englisch	Italienisch	Französısch
	1 Scheinwerfer	1 headlight	1 faro	1 phare
	2 Standlicht	2 parking light	2 luce di posizione	2 feu de position
	3 Blinker li vo	3 blinker left front	3 lampegg ant sn	3 clignoteur av gauche
	4 Blinker re vo	4 blinker right front	4 lampegg ant dx	4 clignoteur av droit
	5 Temperaturkontrolle	5 temperature control	5 controllo temperatura	5 temoin de temperature
	6 Leerlaufanzeige	6 neutral	6 indicat marcia folle	6 ind de point mort
	7 Tachobeleuchtung	7 tachometer light	7 luce di tachimetro	7 eclair comp vitesse
	8 Fernlichtkontrolle	8 high beam control	8 spia abbagliante	8 temoin de feu route
	9 Blinkerkontrolle	9 blink control	9 spia lampeggiatori	9 temoin de clignoteur
	10 Zündschloß	10 ignition switch	10 int accensione	10 contact d'allum
	11 Sicherung 10A	11 fuse 10A	11 fusibile 10A	11 fusible 10A
	12 zum Kombischalter	12 to combinat switch	12 multicomando	12 vers commutateur
	13 Masseanschluß	13 ground connection	13 collegam a massa	13 masse
	14 Blinkgeber	14 blink signal system	14 trasmett di lampeg	14 centrale clignot
$\sim$	15 Horn	15 horn	15 clacson	15 klaxon
	16 Bremslichtsch vo	16 stoplight switch f	16 int luce arresto ant	16 cont av de stop
	17 Leerlaufschalter (N)	17 idle switch (N)	17 interr luce folle (N)	17 contact pt mort (N)
	18 Thermoschalter	18 temperature switch	18 int temperatura	18 contact de temperature
	19 Bremslichtsch hi	19 stoplight switch r	19 int luce arresto post	19 contact arr de stop
	20 Zündkerze	20 spark plug	20 candela	20 bougie
	21 Zündspule	21 ignition coil	21 bobina d'accens	21 bobine d'allumage
	22 Generator	22 generator	22 dinamo	22 generateur
	23 Regelgleichrichter	23 regulator-rectifier	23 regolatore di tens	23 regulat redresseur
$\bigcirc$	24 Blinker li hi	24 blinker left rear	24 lampegg post sn	24 clign arr gauche
	25 Blinker re hi	25 blinker right rear	25 lampegg post dx	25 clign arr droit
	26 Brems-Schlußlicht	26 rear-stoplight	26 fanal post di freno	26 feu arr et de stop
	27 CDI-Einheit	27 CDI-unit	27 CDI-seatola	27 boitier CDI
	28 2-pol Stecker	28 multip cont plug (2)	28 connettore a 2 poli	28 connect multiple (2)
	29 4-pol Stecker	29 multip cont plug (4)	29 connettore a 4 poli	29 connect multiple (4)
	30 6-pol Stecker	30 multip cont plug (6)	30 connettore a 6 poli	30 connect multiple (6)
	31 9-pol Stecker	31 multip cont plug (9)	31 connettore a 9 poli	31 connect multiple (9)
	32 Hauptsicherung 20A	32 mainfuse 20A	32 fusibile principale 20A	32 fusible principal 20A
$\bigcirc$	33 Starttast Notaussch	33 run-off/start switch	33 disinseritor/partire	33 bout de deman/arr d'urg
	34 Batterie 12V 8Ah	34 battery 12V 8Ah	34 batteria 12V 8Ah	34 batterie 12V 8Ah
	35 EPC	35 EPC	35 EPC	35 EPC
	36 Lüftermotor	36 fan motor	36 ventilatore	36 ventilateur
$\bigcirc$	37 Startrelaise	37 starter relay	37 rele d'avviamento	37 relaise de demarreur
	38 Startermotor	38 starter engine	38 mot d'avviamento elettr	38 demarreur electrique
	40 Kupplungsschalter	40 clutch switch	40 internutore frizione	40 contact de embrayage
	41 Thermoschalter	41 temperature switch	41 int temperatura	41 contact de temperature
	42 Starterhilfsrelaise	42 startar auxil relay	42 rele avviam ausiliario	42 relaise auxi demarrage
	43 Vergaserschalter	43 carburetor switch	43 internutore carburatore	43 contact de carburateur
	44 Magnetventil	44 magnetic valve	44 valvola elettromagnetica	44 electrovanne
	45 Kondensator	45 capacitor	45 condensatore	45 condensateur
	46 Impulsgeber	46 pulser coil	46 trasmettitore d'impulsi	46 capteur
	47 12-pol Stecker	47 multip cont plug (12)	47 connettore a 12 poli	47 connect multiple (12)
	48 Diode	48 diode	48 diodo	48 diode
	49 Kontaktstift 3 Gang	49 gear switch 3rd gear	49 3 secondo marcia	49 cont d boite d vites (3)
	50 Kontaktstift 2 Gang	48 gear switch 2th gear	50 2 secondo marcia	50 cont d boite d vites (2)
Spanisch	1 faro 2 luz de posicion 3 interm izquierdo dela 4 intermitente derecho d 5 control temperatura 6 indicador punto muerta 7 luz tacometro 8 lampara aviso luces la 9 lampara aviso intermit 10 llave de contacto 11 fusible 10A 12 interruptor combinado 13 conector a masa 14 conjunto del intermite 15 claxon 16 interruptor punto muer	Intero 20 bujia lelantero 21 bobina de er 22 generador 23 regulador de 24 intermitente entes 26 luz de frenc 27 unidad cdi 28 conector mu 30 conector mu 31 conector mu 32 fusible prir 33 boton de arr	luz de frendo tras36 ve 37 re 38 moacendido38 moe tension40 in sizquierdo traseroe tension40 in 42 re 50 traseroo trasero43 in 44 voltiple (2)45 co 45 co 1tiple (4)ltiple (6)47 co 46 geltiple (9)48 di in cipal 20Aranque par de urg50 in	ntilador electrica le de arranque tor de arranque terruptor de embraque iterruptor temperatura le del arranque terruptor de carburador ilvola magnetica indensador inerado de impulsos nector multiple (12)

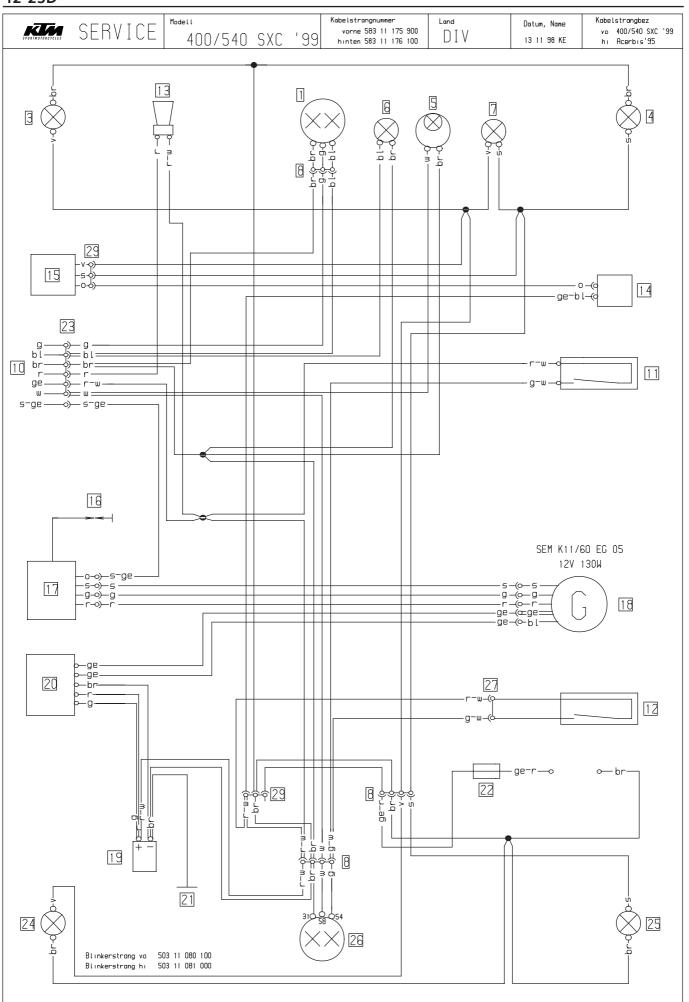
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br ge gr g o	blau braun gelb grau grün orange rot rot schwarz violett weiß	br ge gr g o r	blue brown yellow grey green orange red pink black violet white	br ge gr g o r	blu marrone giallo grigio verde arancione rosso rosa nero violetto bianco	br ge gr g o r	bleu brun jaune gris vert orange rouge rose noir violet blanc	br ge gr g o r	azul marron amarıllo gris verde naranja rojo rosado negro violeta blanco
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Kombischalter (Typ CEV 100826000)								
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12-23D



## KTM 400/540 SXC 1999

Deutsch	Englisch	Italıenısch	Französısch
1 Scheinwerfer	1 headlight	1 faro	1 phare
2 Temperaturkontrolle	2 temperature control	2 indicazione tempera	2 temoin de temp
3 Blinker li vo	3 turn indic left fr	3 lampegg ant sn	3 clignoteur av gauche
4 Blinker re vo	4 turn indic right fr	4 lampegg ant dx	4 clignoteur av droit
5 Tachobeleuchtung	5 speedometer light	5 luce di tachimetro	5 eclair comp vitesse
6 Fernlichtkontrolle	6 high beam indicator	6 spia abbagliante	6 temoin feu route
7 Blinkerkontrolle	7 turn indicator	7 spia lampeggiatori	7 temoin de clignoteur
8 4-pol Stecker	8 multip cont plug (4)	8 connettore a 4 poli	8 connect multiple (4)
9 Thermoschalter	9 temperature switch	9 interr temperatura	9 contact de temp
10 zum Kombischalter	10 to combinat switch	10 multicomando	10 commodo
11 Bremslichtsch vo	11 stoplight switch f	11 int luce arresto ant	11 contact de stop av
12 Bremslichtsch hi	12 stoplight switch r	12 int luce arresto pos	t12 contact Harr de stop
13 Horn	13 horn	13 clacson	13 klaxon
14 Blinkgeber	14 turn indicator	14 trasmett dı lampeg	14 centrale clignot
15 Blinkerschalter	15 blink switch	15 int lampeggiatori	15 contact d clignateur
16 Zündkerze	16 spark plug	16 candela	16 bougre
17 Zündspule	17 ignition coil	17 bobina d'accens	17 bobine d'allumage
18 Generator	18 generator	18 dinamo	18 generateur
19 Kondensator	19 capacitor	19 condensatore	19 condensateur
20 Spannungsregler	20 voltage regulator	20 regol di tens	20 regulateur
21 Masseanschluß	21 ground connection	21 collegam di masse	21 masse
22 Stecksicherung 10A	22 fuse 10A	22 fusibile 10A	22 fusible 10A
23 6-pol Stecker	23 multip cont plug (6)	23 connettore a 6 poli	23 connect multiple (6)
24 Blinker li hi	24 blinker left rear	24 lampegg post sn	24 clign arr gauche
25 Blinker re hi	25 blinker right rear	25 lampegg post dx	25 clign arr droite
26 Brems-Schlußlicht	26 rear-stoplight	26 fanal post di freno	26 feu arr et de stop
27 2-pol Stecker	27 multip cont plug (2)	27 connettore a 2 poli	27 connect multiple (2)
28 Parallelverbinder	28 parallel connector	28 parallelo composto	28 parallele connecteur
29 3-pol Stecker	29 multıp cont plug (3)	29 connettore a 3 poli	29 connect multiple (3)

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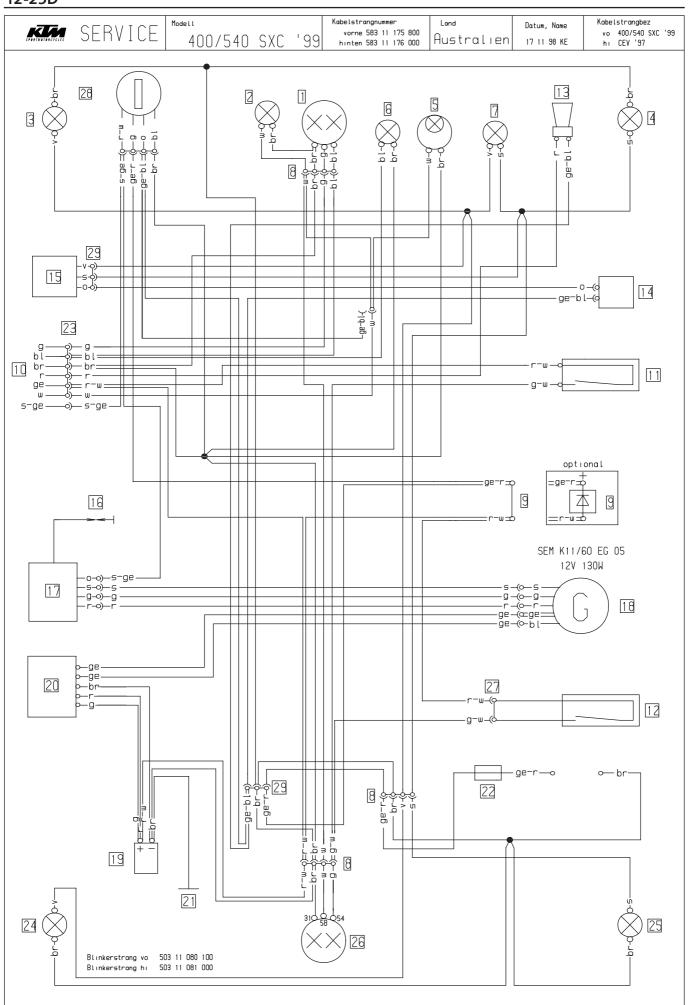
Deutsch	Englisch	Italienisch	Französisch	Spanısch
bl blau	bl blue	bl blu	bl bleu	bl azul
br braun	br brown	br marrone	br brun	br marron
ge gelb	ge yellow	ge giallo	ge jaune	ge amarıllo
gr grau	g grey	g grigio	gn gris	gr grıs
g grün	g green	g verde	g vert	g verde
o orange	o orange	o arancione	o orange	o naranja
r rot	r red	r rosso	r rouge	r rojo
s schwarz	s black	s nero	s noir	s negro
v violett	v violet	v violetto	v violet	v violeta
w weιβ	w white	w bianco	w blanc	w blanco

1faro2control temperatura3interm izquierdo delantero4intermitente derecho delanter5luz tacometro6lampara aviso luces largas7lampara aviso intermitentes8conector multiple (4)9interruptor temperatura10interruptor combinado11interr luz de freno del12interr luz de fren tras13claxon14conjunto del intermintente15interuptor clignoteur16bujia17bobina de encendido18generador
19 condensador 20 regulador de tension 21 conector a masa 22 fusible principal 10A 23 conector multiple (6) 24 intermitente izquierdo traser 25 intermitente derecho trasero 26 luz de freno trasero 27 conector multiple (2) 28 parallele connecteur 29 conector multiple (3)

#### Kontaktbelegung – Lichtschalter (Typ CEV 9610)

	g	bl	ge	w	ge /s	r	br
LICHT O							
Abblendl	•		•	-•			
Fernlicht		•	•	-•			
HUPE						•	-0
ZÜNDUNG AUS					•		-0
	5	2	1	3	6	4	

12-25D



### KTM 400/540 SXC 1999 (Australien)

Deutsch	Englisch	Italienisch	Französisch
1 Scheinwerfer	1 headlight	1 faro	1 phare
2 Standlıcht	2 parking light	2 luce di positione	2 feu-position
3 Blinker li vo	3 turn indic left fr	3 lampegg ant sn	3 clignoteur av gauche
4 Blinker re vo	4 turn indic right fr	4 lampegg ant dx	4 clignoteur av droit
5 Tachobeleuchtung	5 speedometer light	5 luce di tachimetro	5 eclair comp vitesse
6 Fernlichtkontrolle	6 high beam indicator	6 spia abbagliante	6 temoin feu route
7 Blinkerkontrolle	7 turn indicator	7 spia lampeggiatori	7 temoin de clignoteur
8 4-pol Stecker	8 multip cont plug (4)	8 connettore a 4 poli	8 connect multiple (4)
9 Kabelbrücke (Diode)	9 wirebridge (diode)	9 collegamento (diodo)	9 conn d'cables(diode)
10 zum Kombischalter	10 to combinat switch	10 multıcomando	10 commodo
11 Bremslichtsch vo	11 stoplight switch f	11 int luce arresto ant	11 contact de stop av
12 Bremslichtsch hi	12 stoplight switch r	12 int luce arresto pos	t12 contact Harr de stop
13 Horn	13 horn	13 clacson	13 klaxon
14 Blinkgeber	14 turn indicator	14 trasmett dı lampeg	14 centrale clignot
15 Blinkerschalter	15 blink switch	15 int lampeggiatori	15 contact d clignateur
16 Zündkerze	16 spark plug	16 candela	16 bougre
17 Zündspule	17 ignition coil	17 bobina d'accens	17 bobine d'allumage
18 Generator	18 generator	18 dinamo	18 generateur
19 Kondensator	19 capacitor	19 condensatore	19 condensateur
20 Spannungsregler	20 voltage regulator	20 regol di tens	20 regulateur
21 Masseanschluß	21 ground connection	21 collegam dı masse	21 masse
22 Stecksicherung 10A	22 fuse 10A	22 fusibile 10A	22 fusible 10A
23 6-pol Stecker	23 multip cont plug (6)	23 connettore a 6 poli	23 connect multiple (6)
24 Blinker li hi	24 blinker left rear	24 lampegg post sn	24 clign arr gauche
25 Blinker re hi	25 blinker right rear	25 lampegg post dx	25 clign arr droite
26 Brems-Schlußlicht	26 rear-stoplight	26 fanal post di freno	26 feu arr et de stop
27 2-pol Stecker	27 multip cont plug (2)	27 connettore a 2 poli	27 connect multiple (2)
28 Zünd≤chloß	28 ignition lock	28 interr di accensione	28 contacteur
29 3-pol Stecker	29 multip cont plug (3)	29 connettore a 3 poli	29 connect multiple (3)

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Deutsch	Englisch	Italienisch	Französisch	Spanısch
bl blau br braun ge gelb gr grau g grün o orange r rot s schwarz v violett w weiβ	bl blue br brown ge yellow g green o orange r red s black v violet w white	bl blu br marrone ge giallo gr grigio g verde o arancione r rosso s nero v violetto w bianco	bl bleu br brun ge jaune gr gris g vert o orange r rouge s noir v violet w blanc	bl azul br marron ge amarillo gr gris g verde o naranja r rojo s negro v violeta w blanco

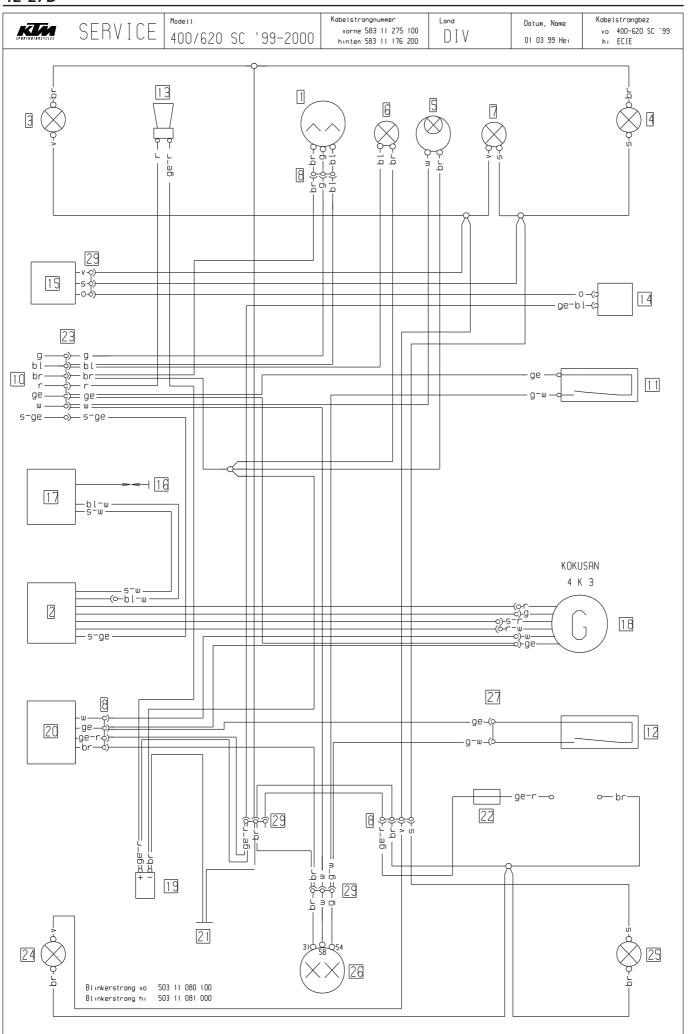
12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27	Intern luz de freno del Intern luz de fren tras claxon conjunto del intermintente Interuptor clignoteun bujia bobina de encendido generador condensador regulador de tension conector a masa fusible principal 10A conector multiple (6) Intermitente izquierdo trasero luz de freno trasero conector multiple (2) cerradura de encendido
29	conector multiple (3)

Spanisch

### Kontaktbelegung – Lichtschalter (Typ CEV 9610)

	g	bl	ge	ω	ge /s	r	br
LICHT 0							
Abblendl	•		•	•			
Fernlicht		•	•	-•			
HUPE						•	•
ZÜNDUNG AUS					0		•
	5	2	1	3	6	4	

12-27D



# KTM 400-620 SC 1999-2000

Deutsch	Englisch	Italienisch	Französisch
<ol> <li>Scheinwerfer</li> <li>CDI</li> <li>Blinker Li vo</li> <li>Blinker re vo</li> <li>Tachobeleuchtung</li> <li>Fernlichtkontrolle</li> <li>Blinkerkontrolle</li> <li>4-pol Stecker</li> </ol>	1 headlight	1 faro	1 phare
	2 CDI	2 CDI	2 CDI
	3 turn indic left fr	3 lampegg ant sn	3 clignoteur av gauche
	4 turn indic right fr	4 lampegg ant dx	4 clignoteur av droit
	5 speedometer light	5 luce di tachimetro	5 eclair comp vitesse
	6 high beam indicator	6 spia abbagliante	6 temoin feu route
	7 turn indicator	7 spia lampeggiatori	7 temoin de clignoteur
	8 multip cont plug (4)	8 connettore a 4 poli	8 connect multiple (4)
<ul> <li>10 zum Kombischalter</li> <li>11 Bremslichtsch vo</li> <li>12 Bremslichtsch hi</li> <li>13 Horn</li> <li>14 Blinkgeber</li> <li>15 Blinkerschalter</li> <li>16 Zündkerze</li> <li>17 Zündspule</li> <li>18 Generator</li> <li>19 Kondensator</li> <li>20 Spannungsregler</li> <li>21 Masseanschluß</li> <li>22 Stecksicherung 10A</li> <li>23 6-pol Stecker</li> <li>24 Blinker li hi</li> <li>25 Blinker re hi</li> <li>26 Brems-Schlußlicht</li> <li>27 2-pol Stecker</li> </ul>	10 to combinat switch	10 multicomando	10 commodo
	11 stoplight switch f	11 int luce arresto ant	11 contact de stop av
	12 stoplight switch r	12 int luce arresto post	12 contact Harr de stop
	13 horn	13 clacson	13 klaxon
	14 turn indicator	14 trasmett di lampeg	14 centrale clignot
	15 blink switch	15 int lampeggiatori	15 contact d clignateur
	16 spark plug	16 candela	16 bougie
	17 ignition coil	17 bobina d'accens	17 bobine d'allumage
	18 generator	18 dinamo	18 generateur
	19 capacitor	19 condensatore	19 condensateur
	20 voltage regulator	20 regol di tens	20 regulateur
	21 ground connection	21 collegam di masse	21 masse
	22 fuse 10A	22 fusibile 10A	22 fusible 10A
	23 multip cont plug (6)	23 connettore a 6 poli	23 connect multiple (6)
	24 blinker left rear	24 lampegg post sn	24 clign arr gauche
	25 blinker right rear	25 lampegg post dx	25 clign arr droite
	26 rear-stoplight	26 fanal post di freno	26 feu arr et de stop
	27 multip cont plug (2)	27 connettore a 2 poli	27 connect multiple (2)
29 3-pol Stecker	29 multip cont plug (3)	29 connettore a 3 poli	29 connect multiple (3)

Deutsch	Englisch	Italıenısch	Französısch	Spanısch
bl blau	bl blue	bl blu	bl bleu	bl azul
br braun	br brown	br marrone	br brun	br marron
ge gelb	ge yellow	ge giallo	ge jaune	ge amarıllo
gr grau	gr grey	gr grigio	gr gris	gr grıs
g grün	g green	g verde	g vert	g verde
o orange	o orange	o arancione	o orange	o naranja
r rot	r red	r rosso	r rouge	r rojo
s schwarz	s black	s nero	s noir	s negro
v violett	v violet	v violetto	v violet	v violeta
w weiß	w white	w bianco	w blanc	w blanco

Kontakti	pelegu	ung -	-
Lichtschalter	(Typ	CEV	9610)

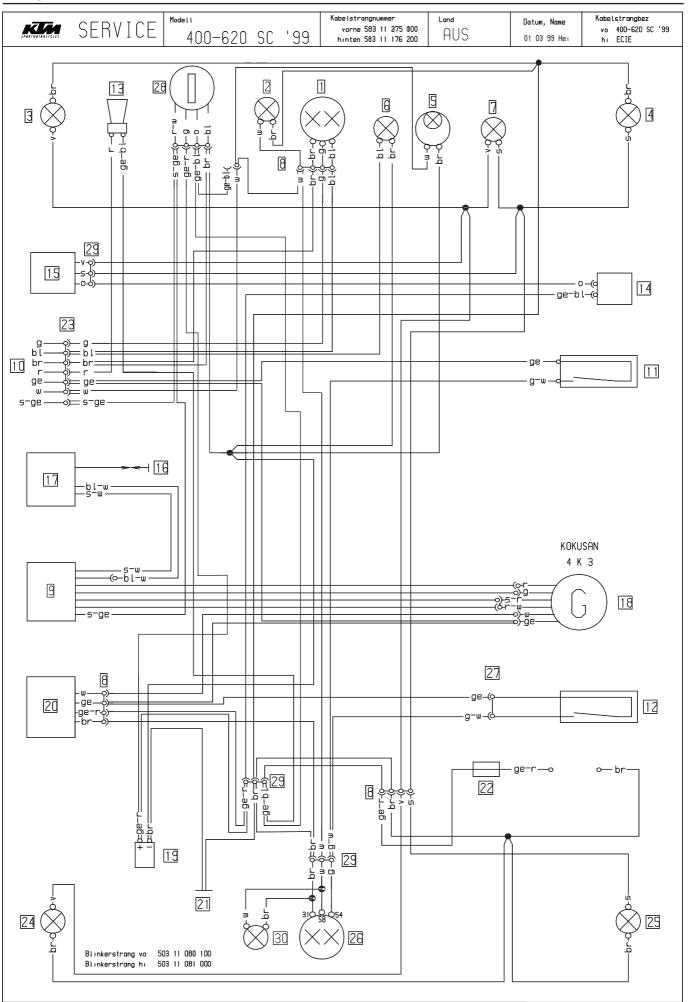
	g	bl	ge	ω	ge /s	r	br
LICHT O							
Abblendl	0		-0-	-0			
Fernlicht		0	-0-	-0			
HUPE						b	-0
ZÜNDUNG AUS					0		-0
	5	2	1	3	6	4	

Bι	ınkerschal	ter

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Û		Ŷ	P
Û	Ŷ	-0	

	Spanisch
2 3 4 5 6	faro CDI interm izquierdo delantero intermitente derecho delantero luz tacometro lampara aviso luces largas lampara aviso intermitentes conector multiple (4)
11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	conjunto del intermintente interuptor clignoteur bujia bobina de encendido generador condensador regulador de tension conector a masa fusible principal 10A
29	conector multiple (3)

12-29D



#### KTM 400-620 SC 1999 AUS

Deutsch	Englisch	Italıenısch	Französisch
1 Scheinwerfer	1 headlight	1 faro	1 phare
2 Standlıcht	2 parking light	2 luce di positione	2 feu-position
3 Blinker li vo	3 turn indic left fr	3 lampegg ant sn	3 clignoteur av gauche
4 Blinker re vo	4 turn indic right fr	4 lampegg ant dx	4 clignoteur av droit
5 Tachobeleuchtung	5 speedometer light	5 luce di tachimetro	5 eclair comp vitesse
6 Fernlichtkontrolle	6 high beam indicator	6 spia abbagliante	6 temoin feu route
7 Blinkerkontrolle	7 turn indicator	7 spia lampeggiatori	7 temoin de clignoteur
8 4-pol Stecker	8 multip cont plug (4)	8 connettore a 4 poli	8 connect multiple (4)
9 CDI	9 CDI	9 CDI	9 CDI
10 zum Kombischalter	10 to combinat switch	10 multıcomando	10 commodo
11 Bremslichtsch vo	11 stoplight switch f	11 int luce arresto ant	11 contact de stop av
12 Bremslichtsch hi	12 stoplight switch r	12 int luce arresto post	12 contact Harr de stop
13 Horn	13 horn	13 clacson	13 klaxon
14 Blinkgeber	14 turn indicator	14 trasmett di lampeg	14 centrale clignot
15 Blinkerschalter	15 blink switch	15 int lampeggiatori	15 contact d clignateur
16 Zündkerze	16 spark plug	16 candela	16 bougre
17 Zündspule	17 ignition coil	17 bobina d'accens	17 bobine d'allumage
18 Generator	18 generator	18 dinamo	18 generateur
19 Kondensator	19 capacitor	19 condensatore	19 condensateur
20 Spannungsregler	20 voltage regulator	20 regol di tens	20 regulateur
21 Masseanschluß	21 ground connection	21 collegam dı masse	21 masse
22 Stecksicherung 10A	22 fuse 10A	22 fusibile 10A	22 fusible 10A
23 6-pol Stecker	23 multip cont plug (6)	23 connettore a 6 poli	23 connect multiple (6)
24 Blinker li hi	24 blinker left rear	24 lampegg post sn	24 clign arr gauche
25 Blinker re hi	25 blinker right rear	25 lampegg post dx	25 clign arr droite
26 Brems-Schlußlicht	26 rear-stoplight	26 fanal post di freno	26 feu arr et de stop
27 2-pol Stecker	27 multip cont plug (2)	27 connettore a 2 poli	27 connect multiple (2)
28 Zündschloß	28 ignition lock	28 interr di accensione	28 contacteur
29 3-pol Stecker	29 multip cont plug (3)	29 connettore a 3 poli	29 connect multiple (3)
30 Kennzeichenbel	30 licence pl lighting	30 illuminat de targa	30 ecl plaque d immat

Blinkerschalter

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De	utsch	Englisch		Italıenısch		Fra	nzösısch	Spanısch		
br ge gr	blau braun gelb grau	br ge gr		br ge gr	blu marrone giallo grigio	br ge gr	bleu brun Jaune gris	br ge gr	azul marron amarıllo grıs	
	grün orange	g o	green orange	g o	verde arancione	g o	vert orange	g o	verde naran ja	
r	rot	r	red	r	rosso	r	rouge	r	rojo	
5	schwarz	S	black	5	nero	5	noır	5	negro	
v	violett	v	violet	v	violetto	v	violet	v	violeta	
W	weιβ	ω	white	W	bıanco	W	blanc	ω	blanco	

<pre>11 interr lu2 de freno det 12 interr luz de freno det 13 claxon 14 conjunto del intermintente 15 interuptor clignoteur 16 bujia 17 bobina de encendido 18 generador 19 condensador 20 regulador de tension 21 conector a masa 22 fusible principal 10A 23 conector multiple (6) 24 intermitente izquierdo trasero 26 luz de freno trasero 27 conector multiple (2) 28 cerradura de encendido 29 conector multiple (3) 30 luz placa de matricula</pre>	0	10	
		12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27	intern luz de fren tras claxon conjunto del intermintente interuptor clignoteur bujia bobina de encendido generador condensador regulador de tension conector a masa fusible principal 10A conector multiple (6) intermitente izquierdo trasero luz de freno trasero conector multiple (2)

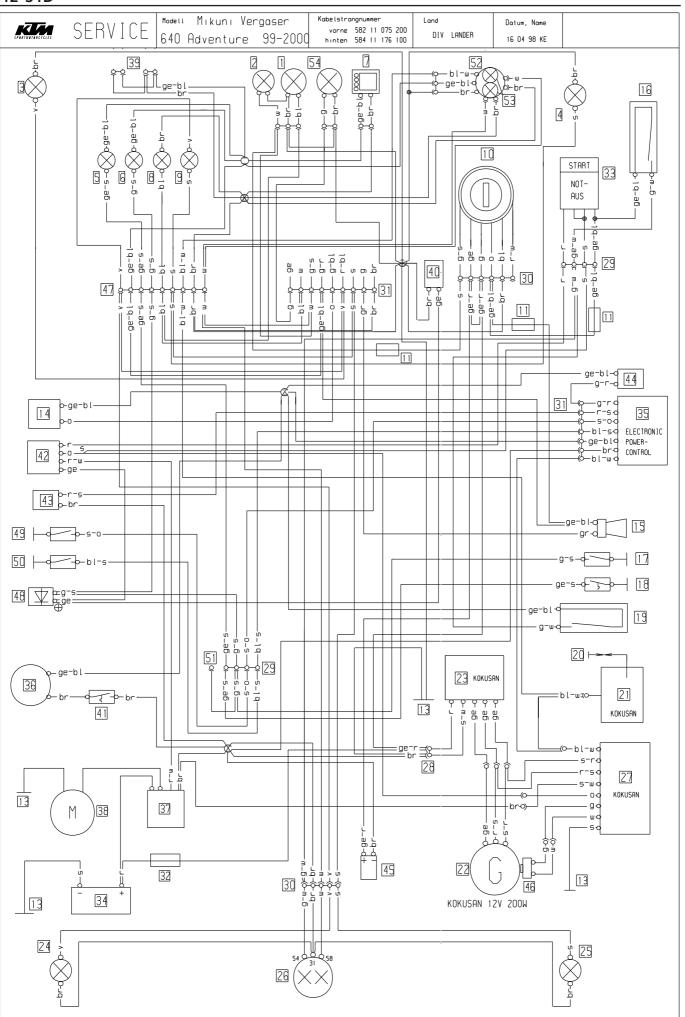
Spanisch

1 faro

Kontakti	pelegu	ung -	-
Lichtschalter	(Typ	CEV	9610)

	g	bl	ge	ω	ge /s	r	br
LICHT 0							
Abblendl	0		•	•			
Fernlicht		•	•	-•			
HUPE						•	-
ZÜNDUNG AUS					•		-0
	5	2	1	3	6	4	

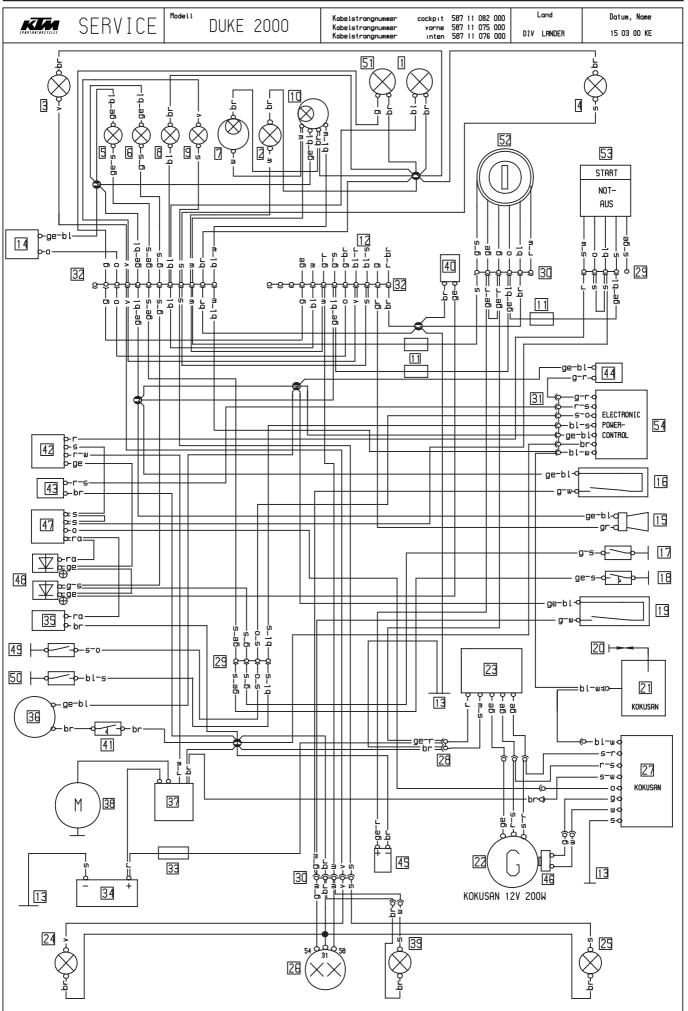
12-31D



																	1	2-2	32D
		[	Deutsch		Engl	ISC	h		Ital	lıer	nısch	ר			Franz	ÖSIS	sch		
M - k un		2 Stan 3 Blin 5 Temp 5 Leer 7 Tach 3 Fern 9 Blin 2 Zünd 1 Sich 2 zum 3 Mass	unwerfer dlicht ker li vo ker vo eraturkontroll laufanzeige ometer lichtkontrolle kerkontrolle schloß erung 10A Kombischalter eanschluß kgeber		5 temper 6 neutra 7 tachom 8 high b 9 blink 10 igniti 11 fuse 1 12 to com 13 ground	g lig r le r rig aturi l eter eam conti on si 0A bina	ft front ght front e control control rol witch t switch		1 faro 2 luce 3 lampe 4 lampe 5 contr 6 indic 7 tachi 8 spia 10 int 11 fusib 12 multi 13 colle 14 trasm	egg egg allo at m abbo lamp acce oile como egam nett	ant ant between aglian beggio ension 10A amo a mo	sn dx peratu a foll atori ne assa	.е	3 4 5 6 7 8 9 10 11 12 13 14	2 feu de position 3 clignoteur av gauche 4 clignoteur av droit 5 temoin de temperature 6 ind de point mort 7 comp vitesse 8 temoin de feu route 9 temoin de clignoteur 10 contact d'allum 11 fusible 10A 12 vers commutateur 13 masse 14 centrale clignot 15 klaxon				
venture 99–2000	16 17 18 19 20 21 22 25 26 25 26 25 26 25 26 25 26 25 26 25 26 25 26 30 31 32 35 36 35 36 36 36 36 36 36 41 42 45 46 45 46 45 46 45 46 45 46 45 46 45 46 45 46 45 46 45 46 45 46 46 46 46 46 46 46 46 46 46 46 46 46	6 Brem 7 Leer 8 Thermode 9 Zünne 1 Zünne 9 Relinn 6 Brem 7 CDI 9 A-poo 9 A-poo	slichtsch vo laufschalter ( moschalter slichtsch hi kerze spule rator lgleichrichter ker li hi ker re hi s-Schlußlicht Einheit l Stecker l Stecker l Stecker l Stecker tischerung 20A ttost Notaussc erie 12V 8Ah ermotor trelaise stermotor bookversorgung blungsschalter moschalter terhilfsrelais paserschalter hetventil densator ulsgeber bool Stecker	N) h	16 stopli 17 idle s 18 temper 19 stopli 20 spark 21 igniti 22 genera 23 regula 24 blinke 26 rears 27 CDI-un 28 multip 29 multip 20 multip 20 multip 31 multip 32 mainfu 33 tarte 36 fan ma 37 starte 38 starte 39 roadba 40 clutch 41 temper 42 starto 43 carbur 44 magnet 45 capaci 46 julser 47 multip 48 diode 49 gear s	witcl atturn plugon c. tor - r rij top con c. con con c. se 2 tor con c. se 2 tor r r ene: switcl r r ene: switcl r tor witcl witcl r con c. switcl witcl r con c. switcl r con con c. switcl r con con con con c. switcl r con	h (N) e switch switch r oil rectifier ft rear ght rear ight t plug (2 t plug (2) t plug (2 t plug (2) t plug (2 t plug (2) t pl	))))) ) 2)	<pre>15 clacson 16 int luce arresto ant 17 interr luce folle (N) 18 int temperatura 19 int luce arresto post 20 candela 21 bobina d'accens 22 dinamo 23 regolatore di tens 24 lampegg post sn 25 lampegg post sn 25 lampegg post dx 26 fanal post di freno 27 CDI-seatola 28 connettore a 2 poli 29 connettore a 4 poli 30 connettore a 4 poli 31 connettore a 9 poli 32 fusibile principale 20A 33 disinseritor/partire 34 batteria 12V 8Ah 35 EPC 36 ventilatore 37 rele d'avviamento elettr 39 roabook-energia 40 interrutore frizione 41 int temperatura 42 rele avviam ausiliario 43 interrutore carburatore 44 valvola elettromagnetica 45 condensatore 46 trosmettitore a 12 poli 48 diodo</pre>				166 177 188 199 202 21 223 245 266 277 288 299 300 311 322 330 313 322 333 34 355 366 377 388 399 400 41 422 433 446 455 466 474 488 49	cont o contac contac bougie bobine genero regulo clign feu ar boitie	av de tett av tett de tett av e d'a arrege e d'a arrege	morit morit temp dresse gauche dresse gauche droit	erop e (2 e (2 e (2 e (4 e (2 e (2) e	2) 2) 2) 2) 2) 2) 2) 2) 2) 2)	
$\bigcirc$	5 52 53	1 Seit 2 Dref 3 Dref	enständersteck nzahlmesser nzahlmesserbel lendlicht	er	51 side s 52 tachom 53 tachom 54 low be	tand eter ieter	connecto	r	50 2 sec 51 caval 52 conto 53 luce 54 anabb	llet bgir di (	to lat 1 contag	terale	e con	n 51 52 53		le l e-tou r com	atera rs pte-t	le c	:onnec
KTM 640	Span-sch	n   / luz tacometro					Interrupt bujia bobina de generador regulador Intermite luz de fr unidad cd conector conector conector fusible p boton de bateria 1 EPC ventilado	en de nte eno mul mul rin 2V	luz de fr cendido tension izquiero derecho trasero tiple (2) tiple (4) tiple (6) tiple (9) cipal 20F anque par 8 Ah	tras	o tras rasero sero		38 39 40 41 42 42 42 42 42 42 42 42 42 51 52 51 52	7 rel 3 mot 3 cor 1 int 2 rel 3 int 2 rel 3 int 3 cor 3 dic 3 dic	e de ar or de a ector p errupta e del a vola ma ndensada nector r	ranq arran baral bor te arran bor de agnet bor de late veluc veluc stort <u>Stort</u>	ue que elo embro mpera que carbo i ca pulso ple ( camb camb ral c i ones i ones	aque tura 5 12) 10   5 10   5 10	(3) (2) tor ion
Deutsch	-		Italienisch					$ \$	Kombisch	5-	g- v-	- r- g	,	0-	je w		$\rightarrow$		e- ol 5 ol 6
bl blau	bl blu	ue	bl blu	bl	bleu	bl	azul	H-			br br		5 9	<u> ' </u> '			<del>ź  </del>		

Deutsch	Englisch	Italienisch	Französisch	Spanısch	Kombischolter         (Typ CEV 100826000)         E         F         ge-         s           5-         g-         y-         r-         g         g-         ge-         s
bl blau	bl blue	bl blu	bl bleu	bl azul	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
br braun	br brown	br marrone	br brun	br marron	
ge gelb	ge yellow	ae giallo	ge jaune	ge amarıllo	
gr grau	gr grey	gr grigio	gr gris	gr gris	
g grün	g green	g verde	g vert	g verde	
o orange	o orange	o arancione	o orange	o naranja	
r rot	r red	r rosso	r rouge	r rojo	
ra rosa	rapınk	ra rosa	ra rose	ra rosado	
s schwarz	s black	s nero	s noir	s negro	
v violett	v violet	v violetto	v violet	v violeta	HORN         Control         One         On
w weiß	w white	w bianco	w blanc	w blanco	

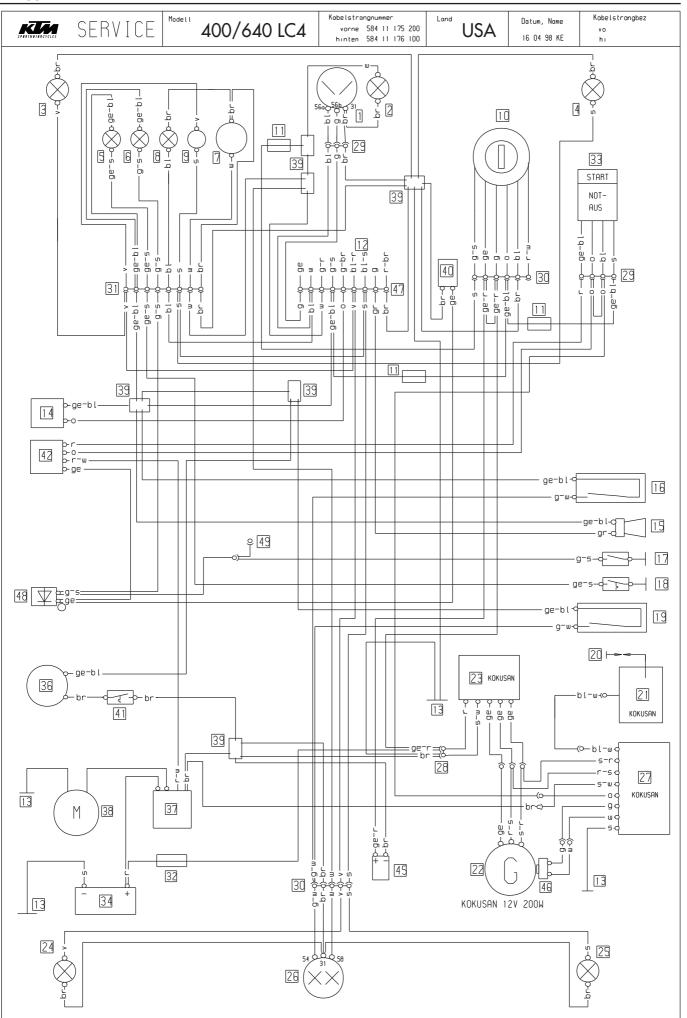




#### 12-34D

									12-34D
		Deuts	ch	E	nglisch		Italienisch		Französisch
		1 Fernlicht		1 headli		1	faro	1	phare
		2 Standlıcht		2 parkır		2	luce di posizione	2	feu de position
		3 Blinker li			er left front	3	1 55		clignoteur av gauche
		4 Blinker re 5 Temperaturk		_	er right front rature control		lampegg ant dx controllo temperatura		clignoteur av droit temoin de temperature
		6 Leerlaufanz		6 neutro			indicat marcia folle		ind de point mort
		7 Tachobeleuc	-		neter light	7	luce di tachimetro	7	
		8 Fernlichtko			peam control	8	spia abbagliante		temoin de feu route
$\bigcap$	ì	9 Blinkerkont		9 blink		10	spia lampeggiatori		temoin de clignoteur
$\square$	)	10 Drehzahlmes 11 Sicherung 1		10 tachom 11 fuse 1			contagiri fusibile 10A		comte-tours fusible 10A
	)	12 zum Kombisc			nbinat switch		multicomando		vers commutateur
		13 Masseanschl	Jβ		d connection	13			masse
	)	14 Blinkgeber 15 Horn		14 blink	sıgnal system		trasmett dı lampeg clacson		centrale clignot klaxon
$\sim$	I.	16 Bremslichts	ch vo		ght switch f		int luce arresto ant		cont av de stop
$( \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$		17 Leerlaufsch			switch (N)		interr luce folle (N)	_	contact pt mort (N)
		18 Thermoschal			ature switch		int temperatura		contact de temperature
		19 Bremslichts 20 Zündkerze	ch hi		ght switch r		int luce arresto post		contact arr de stop
		20 Zundkerze 21 Zündspule		20 spark 21 igniti			candela bobina d'accens		bougie bobine d'allumage
		22 Generator		22 genero			dinamo		generateur
		23 Regelgleich			ator-rectifier		regolatore di tens		regulat redresseur
 、	-	24 Blinker li 25 Blinker so			er left rear		lampegg post sn		clign arr gauche
	_	25 Blinker re 26 Brems-Schlu		25 blinke 26 rear-s	er right rear Stopliaht	25			clign arr droit feu arr et de stop
	$\mathbf{r}$	27 CDI-Einheit		27 CDI-ur	nit	27			boitier CDI
/	J	28 2-pol Steck		28 multip	cont plug (2)	28	connettore a 2 poli	28	connect multiple (2)
$\bigcap$	١	29 4-pol Steck			cont plug (4)		connettore a 4 poli		connect multiple (4)
	L	30 6-pol Steck 31 9-pol Steck			cont plug (6) cont plug (9)	30	connettore a 6 poli connettore a 9 poli		connect multiple (6) connect multiple (9)
		32 12-pol Stec	ker	32 multip	) cont plug (12)	32	connettore a 12 poli	32	connect multible (12)
	_	33 Hauptsicher		33 mainfi			fusibile principale 20A		fusible principal 20A
	_	34 Batterie 12			ry 12V 8Ah		batteria 12V 8Ah		batterie 12V 8Ah
	-	35 Seitenständ 36 Lüftermotor	erschalter	35 510es1 36 fan ma	tandswitch	30	int del cavalleto later ventilatore		commut de bequille later ventilateur
	-	37 Startrelais	e	37 starte			rele d'avviamento		relaise de demarreur
\	-	38 Startermoto		38 starte		38			demarreur electrique
<u> </u>	-	39 Kennzeichen		39 liceno	ce pl lighting	39	ıllumınat de targa		ecl plaque d immat
		40 Kupplungssc		40 clutch			interrutore frizione		contact de embrayage
		41 Thermoschal			rature switch		int temperatura		contact de temperature
		42 Starterhilf 43 Vergasersch			ar auxil relay retor switch		rele avviam ausiliario interrutore carburatore		relaise auxi demarrage contact de carburateur
		44 Magnetventi		44 magnetic valve			valvola elettromagnetic		electrovanne
		45 Kondensator		45 capac	tor	45	condensatore	45	condensateur
		46 Impulsgeber		46 pulser			trasmettitore d'impulsi		capteur
		47 Seitenständ 48 Diode	errelais	47 sides 48 diode	tand relay		rele del cavalleto late diodo		relaise com de bequilat 3 diode
		49 Kontaktstif	t 3 Gang		switch 3rd gear		3 secondo marcia		cont d boite d vites 3
		50 Kontaktstif	t 2 Gang	50 gear s	switch 2th gear	50	2 secondo marcia		) cont d bolte d vites 2
		51 Abblendlich 52 Zündschloß	t	51 low be	eam Ion switch		anabbaglıantı ınterrutore accensione		feu de croisement 2 contact d'allum
		53 Starttast N	otaussch	53 run-of	ion switch if / start switc		disinseritor / partire		B bout de demar/arr d'urg
		54 EPC		54 EPC			EPC		EPC
Γ		1 faro				luz			de arranque
		2 luz de posio		nten	20 bujia 21 bebing da s				de arranque laca de matricula
		3 interm izqu 4 intermitente			21 bobina de e 22 generador	ncer			laca de matricula ruptor de embraque
		5 control temp			23 regulador d	de te			ruptor temperatura
	sch	6 indicador pi		)					del arranque
	ហ _	7 luz tacometr 8 lampara avis		IF AAC	25 intermitent 26 luz de frer				ruptor de carburador
	Spani	9 lampara avi			20 luz de rrer 27 unidad cdi	10 (1			la magnetica nsador
	Sp	10 cuentarreve			28 conecdor mu	ultip			ado de impulsos
		11 fusible 10A			29 conector mu				del caballete lateral
		12 interruptor 13 conector a i			30 conector mu 31 conector mu				ruptor de cambio 3
		14 conjunto de		ente	32 conector mu				ruptor de cambio 2
		15 claxon			33 fusible pri	ncip	al 20A 51 L	JCes	de crule
		16 interruptor			34 bateria 12V				de contacta de arrangue par de urg
		17 interruptor 18 interruptor			35 int delcabo 36 ventilador				de arranque par de urg
	Г.	glisch Italie	1		Spanisch -		Kombischalter (Typ CEV 1008260	-	Stort- Notaus- Schalter
Deutsch									
bl blau		blue bl blu		bleu	blazul		3 01 V W -5 9	l al l	
br braun ge gelb		brown br marr yellow ge gia		brun jaune	br marron   ge amarıllo   -				
gr grau	gr	grey gr gr ig	jio gr	gris	gr gr is	TURN	I R ≓>		2 3 • •
g grün		green g vero		vert	g verde	LIG	ITS O		Zündschloß (Typ Zadı)
o orange r rot		orange o arar red r ross	ncione o	orange rouge	o naranja     r rojo	£	> H LO 🔹	$\square$	→ oggeg-r-bi
ra rosa		pink raroso		rose	ra rosado	ĒC		##	
s schwarz		black s nero		noir	s negro	_			
v violett w weiß		violet v vio white w biar	letto v nco w	violet blanc	v violeta w blanco			$\models$	
			- "			1 1133			

12-35D



				12-36
	Deutsch	Englisch	Italienisch	Französisch
	<ol> <li>Scheinwerfer</li> <li>Standlicht</li> <li>Blinker Li vo</li> <li>Blinker re vo</li> <li>Temperaturkontrolle</li> <li>Leerlaufanzeige</li> <li>Tachobeleuchtung</li> <li>Fernlichtkontrolle</li> <li>Blinkerkontrolle</li> <li>Sicherung 10A</li> <li>zum Kombischalter</li> <li>Masseanschluß</li> <li>Blinkgeber</li> <li>Harmoschalter (N)</li> <li>Thermoschalter (N)</li> <li>Thermoschalter (N)</li> <li>Thermoschalter</li> <li>Bremslichtsch hi</li> <li>Zündspule</li> <li>Generator</li> <li>Regelgleichrichter</li> <li>Binker inhi</li> <li>Brems-Schlußlicht</li> <li>CDI-Einheit</li> <li>Startest Notaussch</li> <li>Startest Notaussch</li> <li>Atterie 12V 8Ah</li> <li>Lüftermotor</li> <li>Startrelaise</li> <li>Startendor</li> <li>Starterhilfsrelaise</li> <li>Kondensotor</li> <li>Fordeleicher</li> <li>Thermoschalter</li> <li>Thermoschalter (N)</li> <li>Bremslichtsch hi</li> <li>Startelaise</li> <li>Starterhilfsrelaise</li> <li>Starterhilfsrelaise</li> <li>Starterhilfsrelaise</li> <li>Starterhilfsrelaise</li> <li>Side e</li> <li>Seitenstönderstecker</li> </ol>	<pre>1 headlight 2 porking light 3 blinker left front 4 blinker right front 5 temperature control 6 neutral 7 tochometer light 8 high beam control 9 blink control 10 ignition switch 11 fuse 10A 12 to combinat switch 13 ground connection 14 blink signal system 15 horn 16 stoplight switch f 17 neutral switch (N) 18 temperature switch 19 stoplight switch r 20 spark plug 21 ignition coil 22 generator 23 regulator=rectifier 24 blinker left rear 25 blinker right rear 26 rear=stoplight 27 CDI=unit 28 multip cont plug (2) 29 multip cont plug (2) 29 multip cont plug (4) 30 multip cont plug (9) 32 moinfies 20A 33 run=off/start switch 34 battery 12V 8Ah 36 fan motor 37 starter relay 38 starter engine 39 parallel connector 40 clutch switch 41 temperature switch 42 start auxil relay 45 copacitor 46 pulser coil 47 multip cont plug (12) 48 diode 49 side stand connector</pre>	<pre>1 foro 2 luce di posizione 3 lampegg ant sn 4 lampegg ant dx 5 controllo temperatura 6 indicat marcia folle 7 luce di tachimetro 8 spia abbagliante 9 spia lampeggiatori 10 int accensione 11 fusibile 10A 12 multicomondo 13 collegam a massa 14 trasmett di lampeg 15 clacson 16 int luce arresto ant 17 interr luce folle (N) 18 int temperatura 19 int luce arresto post 20 condela 21 bobina d'accens 22 dinamo 23 regolatore di tens 24 lampegg post sn 25 lampegg post dx 26 fanal post di freno 27 CDI-seatola 28 connettore a 2 poli 29 connettore a 4 poli 30 connettore a 4 poli 31 connettore a 9 poli 32 fusibile principale 20A 33 disinseritor/partire 34 batteria 12V 8Ah 36 ventilatore 37 rele d'avviamento elettri 39 parallelo composto 40 interrutore frizione 41 int temperatura 42 rele avviam ausiliario 45 condensatore 46 trasmettitore d'impulsi 47 connettore a 12 poli 48 diado 49 cavalletto laterale conni 50 cavalleto laterale conni 51 cavalleto laterale conni 52 condensatore 53 cavalleto laterale conni 54 cavalleto laterale conni 55 condensatore 56 cavalleto laterale conni 55 condensatore 56 cavalleto laterale conni 55 condensatore 56 cavalleto laterale conni 55 condensatore 55 condensatore 55</pre>	<pre>1 phare 2 feu de position 3 clignoteur av gauche 4 clignoteur av droit 5 temoin de temperature 6 ind de point mort 7 eclair comp vitesse 8 temoin de clignoteur 10 contact d'allum 11 fusible 10A 12 vers commutateur 13 mosse 14 centrale clignot 15 klaxon 16 cont av de stop 17 contact pt mort (N) 18 contact de temperature 19 contact arr de stop 20 bougie 21 bobine d'allumage 22 generateur 23 regulat redresseur 24 clign arr gauche 25 clign arr droit 26 feu arr et de stop 27 boitier CDI 28 connect multiple (2) 29 connect multiple (2) 29 connect multiple (9) 32 fusible principal 20A 33 bout de demar/arr d'urg 34 batterie 12V 8Ah 36 ventilateur 37 relaise de demorreur 38 demarreur electrique 39 parallele connecteur 40 contact de temperature 41 contact de temperature 42 relaise auxi demorrage 45 condensateur 47 connect multiple (12) 48 diode 49 bequille laterale connect </pre>
Spanısch	1 foro 2 luz de posicion 3 interm izquierdo delo 4 intermitente derecho d 5 control temperatura 6 indicador punto muerto 7 luz tacometro 8 lampara aviso luces lo 9 lampara aviso intermit 10 llave de contacto 11 fusible 10A 12 interruptor combinado 13 conector a masa 14 conjunto del intermite 15 claxon 16 interruptor punto muer	ntero 20 bujia elantero 21 bobina de er 22 generador 23 regulador de 24 intermitente entes 26 luz de frenc 27 unidad cdi 28 conector mu 30 conector mu 31 conector mu 32 fusible prir 33 boton de are	luz de frendo tras 37 re 38 mo ncendido 39 co 40 in e tension 41 in e izquierdo trasero 42 re e derecho trasero 45 co o trasero 46 ger 47 co ltiple (2) 48 dia ltiple (4) 49 cal ltiple (9) ncipal 20A ranque par de urg	ntilador electrica le de arranque tor de arranque hector paralelo terruptor de embraque terruptor temperatura le del arranque hadensador hector multiple (12) bado ballete lateral conector

Deutsch	Englisch	Italıenısch	Französisch	Spanisch
bl blau br braun ge gelb gr grau g grün	bl blue br brown ge yellow gr grey g green	bl blu br morrone ge giallo gr grigio g verde	bl bleu br brun ge jaune gr gris g vert	bl azul br marron ge amarıllo gr grıs g verde
o orange r rot	o orange r red	o arancione r rosso	o orange r rouge	o naranja r rojo
ra rosa	ra pink	ra rosa	ra rose	ra rosado
s schwarz	s black	s nero	s noir	s negro
v violett	v violet	v violetto	v violet	v violeta
w weiß	w white	w bianco	w blanc	w blanco

Kombischalter (Typ CEV 100826000)										
	5	br	v	r- w	bl -s	g	gr	r/ ge- s		
TURN L <				-		-0				
TURN R ⇐>					~	-0				
LIGHTS O										
ਡ⊃ H LO		-						9		
≣⊂ H HI			•					9		
HORN 🗁	~						-0			
PASSING ≣◯			00					6		

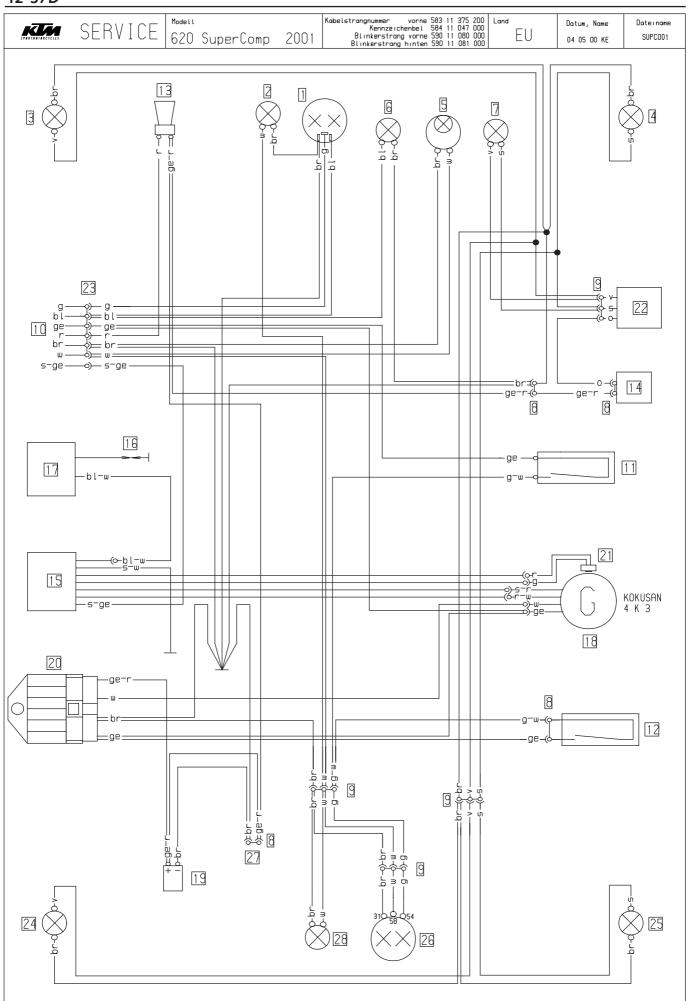
Sta	Kontaktbelegung Start- Notaus- Schalter									
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400/640 LC4 USA 2000

<u>12-37D</u>



# KTM 620 SC 2001

Deutsch	Englisch	Italıenısch	Französisch
1 Scheinwerfer	1 headlight	1 faro	1 phare
2 CDI	2 CDI	2 CDI	2 CDI
3 Blinker li vo	3 turn indic left fr	3 lampegg ant sn	3 clignoteur av gauche
4 Blinker re vo	4 turn indic right fr	4 lampegg ant dx	4 clignoteur av droit
5 Tachobeleuchtung	5 speedometer light	5 luce di tachimetro	5 eclair comp vitesse
6 Fernlichtkontrolle	6 high beam indicator	6 spia abbagliante	6 temoin feu route
7 Blinkerkontrolle	7 turn indicator	7 spia lampeggiatori	7 temoin de clignoteur
8 4-pol Stecker	8 multip cont plug (4)	8 connettore a 4 poli	8 connect multiple (4)
<pre>10 zum Kombischalter</pre>	10 to combinat switch	10 multicomando	<pre>10 commodo</pre>
11 Bremslichtsch vo	11 stoplight switch f	11 int luce arresto ant	11 contact de stop av
12 Bremslichtsch hi	12 stoplight switch r	12 int luce arresto post	12 contact Harr de stop
13 Horn	13 horn	13 clacson	13 klaxon
14 Blinkgeber	14 turn indicator	14 trasmett di lampeg	14 centrale clignot
15 Blinkerschalter	15 blink switch	15 int lampeggiatori	15 contact d clignateur
16 Zündkerze	16 spark plug	16 candela	16 bougie
17 Zündspule	17 ignition coil	17 bobina d'accens	17 bobine d'allumage
18 Generator	18 generator	18 dinamo	18 generateur
19 Kondensator	19 capacitor	19 condensatore	19 condensateur
20 Spannungsregler	20 voltage regulator	20 regol di tens	20 regulateur
21 Masseanschluß	21 ground connection	21 collegam di masse	21 masse
22 Stecksicherung 10A	22 fuse 10A	22 fusibile 10A	22 fusible 10A
23 6-pol Stecker	23 multip cont plug (6)	23 connettore a 6 poli	23 connect multiple (6)
24 Blinker li hi	24 blinker left rear	24 lampegg post sn	24 clign arr gauche
25 Blinker re hi	25 blinker right rear	25 lampegg post dx	25 clign arr droite
26 Brems-Schlußlicht	26 rear-stoplight	26 fanal post di freno	26 feu arr et de stop
27 2-pol Stecker	27 multip cont plug (2)	27 connettore a 2 poli	27 connect multiple (2)
29 3-pol Stecker	29 multip cont plug (3)	29 connettore a 3 poli	29 connect multiple (3)

Blinkerschalter 0 s

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Deutsch Englisch		Italıenısch		Französısch		Spanisch			
g g	raun	br	blue brown yellow grey green orange	br	blu marrone giallo grigio verde arancione	br ge	bleu brun Jaune gris vert orange	br	azul marron amarıllo grıs verde naranıa
rr ss vv	ot chwarz ιolett ειβ	r s v w	red black violet white	r s v w	rosso nero violetto bianco	r s v w	rouge noir violet blanc	r s v w	rojo negro violeta blanco

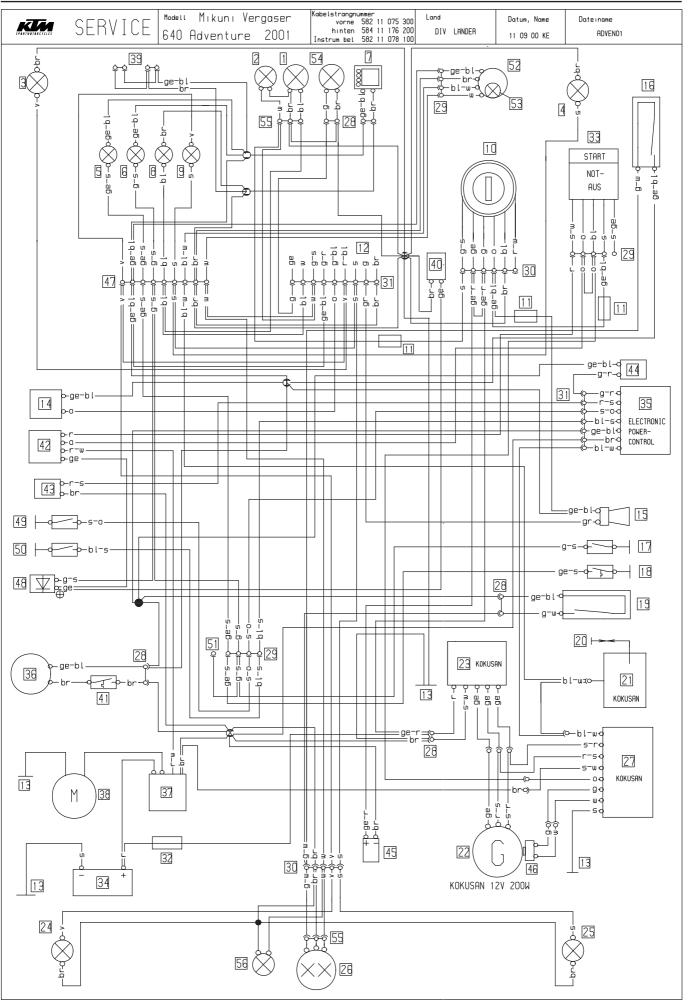
3 4 5 6 7	faro CDI interm izquierdo delantero intermitente derecho delantero luz tacometro lampara aviso luces largas lampara aviso intermitentes conector multiple (4)
11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	Interruptor combinado Interr luz de freno del Interr luz de fren tras claxon conjunto del intermintente Interuptor clignoteur bujia bobina de encendido generador condensador regulador de tension conector a masa fusible principal 10A conector multiple (6) Intermitente izquierdo trasero Intermitente derecho trasero luz de freno trasero conector multiple (2)
29	conector multiple (3)

Spanisch

# Kontaktbelegung – Lichtschalter (Typ CEV 9610)

	g	bl	ge	ω	ge /s	r	br
LICHT O							
Abblendl	•		•	•			
Fernlicht		•	•	-•			
HUPE						•	•
ZÜNDUNG AUS					•		•
	5	2	1	3	6	4	





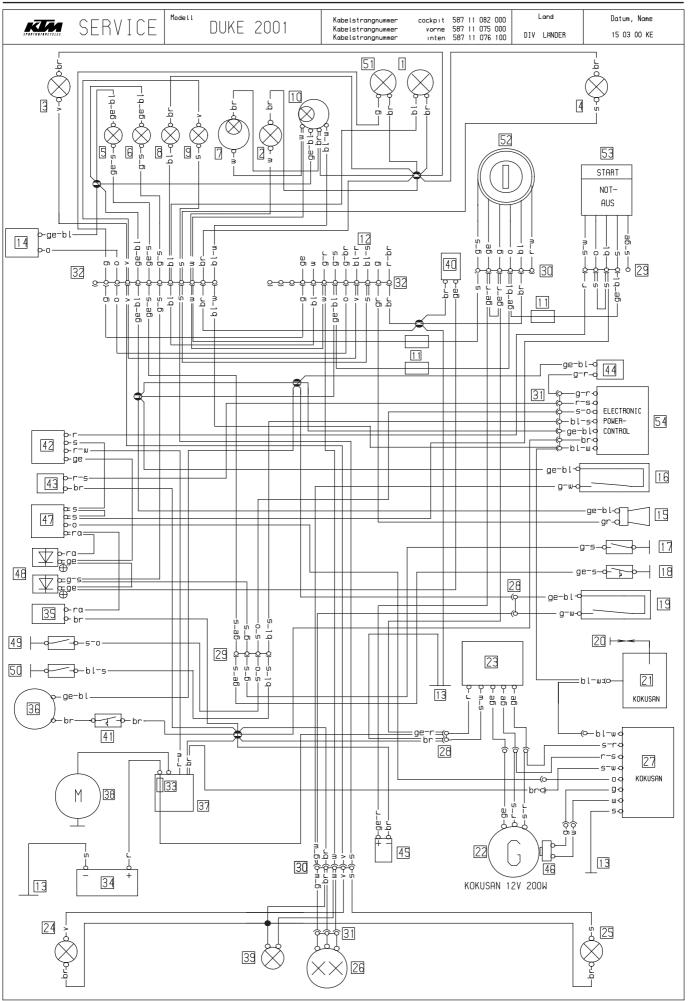
## 12-40D

Art.-Nr. 3.206.006 -E

		Deutsch	Englisch	Italienisch	Französısch
_		1 Scheinwerfer 2 Standlicht 3 Blinker II vo 4 Blinker re vo	1 headlight 2 parking light 3 blinker left front 4 blinker right front	1 faro 2 luce di posizione 3 lampegg ant sn 4 lampegg ant dx	1 phare 2 feu de position 3 clignoteur av gauche 4 clignoteur av droit
Mikun		5 Temperaturkontrolle	5 temperature control 6 neutral	5 controllo temperatura	5 tempin de temperature
$\leq$		6 Leerlaufanzeige 7 Tachometer	7 tachometer	6 indicat marcia folle 7 tachimetro	6 ind de point mort 7 comp vitesse
		8 Fernlichtkontrolle 9 Blinkerkontrolle	8 high beam control   9 blink control	8 spia abbagliante 9 spia lampeggiatori	8 temoin de feu route 9 temoin de clignoteur
$\leq$		10 Zündschloß	10 ignition switch	10 int accensione	10 contact d'allum
		11 Sicherung 10A 12 zum Kombischalter	11 fuse 10A  12 to combinat switch	11 fusibile 10A   12 multicomando	11 fusible 10A 12 vers commutateur
<u> </u>		13 Masseanschluβ	13 ground connection	13 collegam a massa	13 masse 14 centrale clignot
2		14 Blinkgeber 15 Horn	14 blink signal system 15 horn	14 trasmett di lampeg 15 clacson	15 klaxon
		16 Bremslichtsch vo 17 Leerlaufschalter (N)	16 stoplight switch f  17 idle switch (N)	16 int luce arresto ant 17 interr luce folle (N)	16 cont av de stop 17 contact pt mort (N)
		18 Thermoschalter	18 temperature switch	18 int temperatura	18 contact de temperature
		19 Bremslichtsch hi 20 Zündkerze	19 stoplight switch r 20 spark plug	19 int luce arresto post 20 candela	19 contact arr de stop 20 bougie
		21 Zündspule	21 ignition coil	21 bobina d'accens 22 dinamo	21 bobine d'allumage
		22 Generator 23 Regelgleichrichter	22 generator 23 regulator-rectifier	23 regolatore di tens	22 generateur 23 regulat redresseur
		24 Blinker li hi 25 Blinker re hi	24 blinker left rear 25 blinker right rear	24 lampegg post sn 25 lampegg post dx	24 clign arr gauche 25 clign arr droit
<u> </u>		26 Brems−Schlußlıcht	26 rear-stoplight	26 fanal post di freno	26 feu arr et de stop
2001		27 CDI-Einheit 28 2-pol Stecker	27 CDI-unit  28 multip cont plug (2)	27 CDI-seatola   28 connettore a 2 poli	27 boitier CDI 28 connect multiple (2)
		29 4-pol Stecker 30 6-pol Stecker	29 multip cont plug (4) 30 multip cont plug (6)	29 connettore a 4 poli 30 connettore a 6 poli	29 connect multiple (4) 30 connect multiple (6)
$\bigcirc$		31 9-pol Stecker	31 multip cont plug (9)	31 connettore a 9 poli	31 connect multiple (9)
$\frown$		32 Hauptsicherung 20A 33 Starttast Notaussch	32 mainfuse 20A  33 run-off/start switch	32 fusibile principale 20A 33 disinseritor/partire	32 fusible principal 20A 33 bout de demar/arr d'urg
ί G		34 Batterie 12V 8Ah 35 EPC	34 battery 12V 8Ah 35 EPC	34 batteria 12V 8Ah 35 EPC	34 batterie 12V 8Ah 35 EPC
$\bigcap$		36 Lüftermotor 37 Startrelaise	36 fan motor 37 starter relay	36 ventilatore   37 rele d'avviamento	36 ventilateur 37 relaise de demarreur
r		38 Startermotor	38 starter engine	38 mot d'avviamento elettr	38 demarreur electrique
$\leq$		39 Roadbookversorgung 40 Kupplungsschalter	39 roadbook-ernergie 40 clutch switch	39 roabook-energia   40 interrutore frizione	39 roadbook-energie 40 contact de embrayage
$\supset$		41 Thermoschalter	41 temperature switch	41 int temperatura	41 contact de temperature
+		42 Starterhilfsrelaise 43 Vergaserschalter	42 startar auxil relay 43 carburetor switch	42 rele avviam ausiliario 43 interrutore carburatore	42 relaise auxi demarrage 43 contact de carburateur
_		44 Magnetventıl	44 magnetic valve	44 valvola elettromagnetica	44 electrovanne
$\leq$		45 Kondensator 46 Impulsgeber	45 capacitor 46 pulser coil	45 condensatore 46 trasmettitore d'impulsi	45 condensateur 46 capteur
venture		47 12-pol Stecker	47 multip cont plug (12)	47 connettore a 12 poli	47 connect multiple (12)
>		48 Diode 49 Kontaktstift 3 Gang	48 diode 49 gear switch 3rd gear	48 diodo 49 3 secondo marcia	48 diode 49 cont d boite d vites (3)
$\overline{\nabla}$		50 Kontaktstift 2 Gang	50 gear switch 2th gear	50 2 secondo marcia	50 cont d bolte d vites (3)
$\overline{\Box}$		51 Seitenständerstecker	51 side stand connector		51 bequille laterale connec
		52 Drehzahlmesser 53 Drehzahlmesserbel	52 tachometer 53 tachometer light	52 contagiri 53 luce di contagiri	52 compte-tours 53 eclair compte-tours
		54 Abblendlicht	54 low beam	54 anabbaglıantı	54 feu de croisement
$\square$		55 3-pol Stecker 56 Kennzeichenbeleuchtung	55 multip cont plug (3) 56 licence pl lighting	55 connettore a 3 poli   56 illuminat de targa	55 connect multiple (3) 56 ecl plaque d immat
		1 faro	20 bujia		conector paralelo
		2 luz de posicion 3 intermi izquierdo dela	21 bobina de er ntero 22 generador		interruptor de embraque interruptor temperatura
$\bigcirc$		4 intermitente derecho d	elantero 23 regulador de	e tension 42	rele del arranque
	ц.	5 control temperatura 6 indicador punto muerto			interruptor de carburador valvola magnetica
$\overline{}$	ហ	7 luz tacometro 8 lampara aviso luces la	26 luz de frenc	trasero 45	condensador
	Span	9 lampara aviso intermit			generado de impulsos conector multiple (12)
	Sp	10 llave de contacto 11 fusible 10A	29 conector mul	tiple (4) 48	diodo
$\leq$		12 interruptor combinado	30 conector mul 31 conector mul		interruptor de cambio (3) interruptor de cambio (2)
		13 conector a ma≤a  14 conjunto del intermite	32 fusible prin 33 boton de gen		caballete lateral conector
		15 claxon	34 bateria 12V	8 Ah 53	cuentarreveluciones luz del cuentarrevolucion
		16 interruptor  17 interruptor punto muer	to 35 EPC to 36 ventilador e		luces de crule conector multiple (3)
		18 interruptor temperatur 19 interruptor luz de fre	a 37 rele de arro	inque 56	luz placa de matricula
				·	Start- Notaus- Schalter
eutsch   E	nglisch	Italienisch Französis	sch Spanisch  <mark>Kom</mark> i	s- 9- v- r- a - 9- a	Domino 0 ge bl s w

	<b>_</b>	Theliensee	Frank	Casala	Kombischalter (Typ CEV 100826000)
Deutsch	Englisch	litalienisch	Französisch	spanisch	
bl blau	bl blue	bl blu	bl bleu	bl azul	
br braun	br brown	br marrone	br brun	br marron	
ge gelb	ge yellow	ge grallo	ge jaune	ge amarıllo	
gr grau	gr grey	gr grigio	gr gris	gr gris	Zilinderbloß (Jup Zoti)
g grün	g green	g verde	g vert	g verde	
o orange r rot	o orange r red	o arancione	o orange	o naranja	
ra rosa	ra pink	r rosso ra rosa	r rouge ra rose	r rojo ra rosado	
s schwarz	s black	s nero	s noir	s negro	
v violett	v violet	v violetto	v violet	v violeta	
w weiß	w white		w blanc	w blanco	
w werp	w withte		w branc	w stanco	

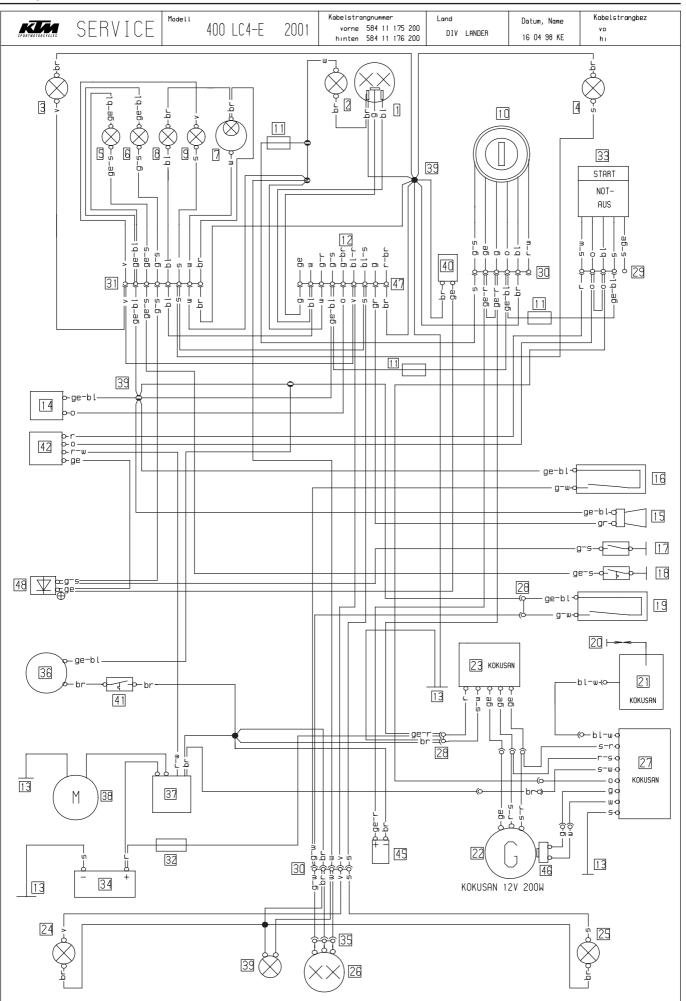




## 12-42D

								12-42D
		Deutsc	h	E	nglisch		Italienisch	Französisch
		1 Fernlicht		1 headl			1 faro	1 phare
		2 Standlicht		2 parkir			2 luce di posizione	2 feu de position
		3 Blinker li vo 4 Blinker re vo			er left front er right front		3 lampegg ant sn 4 lampegg ant dx	3 clignoteur av gauche 4 clignoteur av droit
		5 Temperaturko		_	rature control		5 controllo temperatura	5 tempin de temperature
		6 Leerlaufanze	ıge	6 neutro			6 indicat marcia folle	6 ind de point mort
		7 Tachobeleuch			neter light		7 luce di tachimetro	7 eclair comp vitesse
		8 Fernlichtkon 9 Blinkerkontri		9 blink	peam control		8 spia abbagliante 9 spia lampeggiatori	8 temoin de feu route 9 temoin de clignoteur
<u> </u>	-	10 Drehzahlmess		10 tachor		1	0 contagiri	10 comte-tours
		11 Sicherung 10		11 fuse 1			1 fusibile 10A	11 fusible 10A
	)	12 zum Kombisch 13 Masseanschlu			nbinat switch connection		2 multicomando 2 collogam - a massa	12 vers commutateur 13 masse
	$\mathbf{i}$	14 Blinkgeber	3		signal system		3 collegam a massa 4 trasmett di lampeg	14 centrale clignot
$\subseteq$		15 Horn		15 horn		1	5 clacson	15 klaxon
$\frown$		16 Bremslichtsch			ight switch f		6 int luce arresto ant	16 cont av de stop
		17 Leerlaufscha 18 Thermoschalt			switch (N) rature switch		7 interr luce folle (N) 8 int temperatura	17 contact pt mort (N) 18 contact de temperature
		19 Bremslichtsch			ight switch r		9 int luce arresto post	19 contact arr de stop
		20 Zündkerze		20 spark			0 candela	20 bougre
		21 Zündspule 22 Generator		21 igniti 22 genero			1 bobina d'accens 2 dinamo	21 bobine d'allumage
l i		22 Generator 23 Regelgleichr	Ichter	5	ator ator-rectifier		2 ainamo 3 regolatore di tens	22 generateur 23 regulat redresseur
		24 Blinker li h	I	24 blinke	er left rear	2	4 lampegg post sn	24 clign arr gauche
$\sim$	-	25 Blinker re h			er right rear	2	5 lampegg post dx	25 clign arr droit
	-	26 Brems-Schluß 27 CDI-Einheit	lıcht	26 rear-9 27 CDI-ur			6 fanal post di freno 7 CDI-seatola	26 feu arr et de stop 27 boltier CDI
	)	28 2-pol Stecker	-		p cont plug (2)		8 connettore a 2 poli	28 connect multiple (2)
	$\mathbf{r}$	29 4-pol Stecker	-	29 multip	o cont plug (4)	2	9 connettore a 4 poli	29 connect multiple (4)
		30 6-pol Stecker			cont plug (6)		O connettore a 6 poli	30 connect multiple (6)
		31 3-pol Stecker 32 12-pol Steckr		32 multip	cont plug (3) cont plug (12		1 connettore a 3 poli 2 connettore a 12 poli	31 connect multiple (3) 32 connect multible (12)
	_	33 Hauptsicheru		33 mainfu	use 20A		3 fusibile principale 20A	33 fusible principal 20A
		34 Batterie 12V			ry 12V 8Ah		4 batteria 12V 8Ah	34 batterie 12V 8Ah
	-	35 Seitenstände 36 Lüftermotor	rschalter	35 sides 36 fan ma	tandswitch		5 int del cavalleto later 6 ventilatore	35 commut de bequille later 36 ventilateur
	-	37 Startrelaise		37 starte		-	7 rele d'avviamento	37 relaise de demarreur
	-	38 Startermotor			er engine		8 mot d'avviamento elettr	38 demarreur electrique
_ <u> </u>	-	39 Kennzeichenbi			ce pl lighting		9 illuminat de targa	39 ecl plaque d immat
		40 Kupplungssch		40 clutch			0 interrutore frizione	40 contact de embrayage
		41 Thermoschalt 42 Starterhilfs			rature switch ar auxil relay		1 int temperatura 2 rele avviam ausiliario	41 contact de temperature 42 relaise auxi demarrage
		43 Vergaserscha			retor switch		3 interrutore carburatore	43 contact de carburateur
		44 Magnetventıl			tic valve		4 valvola elettromagnetica	44 electrovanne
		45 Kondensator		45 capac			5 condensatore	45 condensateur
		46 Impulsgeber 47 Seitenständer	rolaic	46 pulser	r coil tand relay		6 trasmettitore d'impulsi 7 rele del cavalleto later	46 capteur 47 relaise com de begu lat
		48 Diode	TELUIS	48 diode			8 diodo	48 diode
		49 Kontaktstift		49 gear :	switch 3rd gear	4	9 3 secondo marcia	49 cont d boite d vites 3
		50 Kontaktstift 51 Abblendlicht	2 bang	50 gear s	sw∣tch 2th gear ⊇am		02 secondo marcia 1 anabbaglianti	50 cont d bolte d vites 2 51 feu de croisement
		52 Zündschloß			ion switch		2 interrutore accensione	52 contact d'allum
		53 Starttast No	taussch		ff / start swite		3 disinseritor / partire	53 bout de demar/arr d'urg
Г		54 EPC		54 EPC	10		4 EPC	54 EPC
		1 faro 2 luz de posici	on		20 bujia	rı		le de arranque tor de arranque
		3 interm izqu	erdo dela		21 bobina de	ence		z placa de matricula
		4 intermitente 5 control tempe		elantero	22 generador 23 regulador	de 4		erruptor de embraque terruptor temperatura
	sch	6 indicador pur						le del arranque
	ហ	7 luz tacometro			25 intermiten	te c	lerecho trasero 43 int	erruptor de carburador
	panı	8 lampara aviso 9 lampara aviso		0	26 luz de fre 27 unidad cdi	no t		lvola magnetica ndensador
	Spi	10 cuentarrevelu			28 conecdor m	ultı		naensador nerado de impulsos
		11 fusible 10A			29 conector m	ultı	ple (4) 47 rel	le del caballete lateral
		12 interruptor a 13 conector a ma			30 conector m 31 conector m			odo terruptor de cambio 3
		14 conjunto del		nte	32 conector m			terruptor de cambio 3 terruptor de cambio 2
		15 claxon			33 fusible pr	Inci	pal 20A 51 luc	ces de crule
		16 interruptor 17 interruptor p	unto muco	to	34 bateria 12 35 int delcab			ave de contacta ton de arranque par de urg
		18 interruptor 1			36 ventilador			
Deutsch	En	glisch Italien	isch Fra	nzösisch	Spanisch		Kombischalter (Typ CEV 100826000	
bl blau		blue bl blu		bleu	bl azul		s br v r- bl g	gr ge- S Domino o ge bl s s- W
bi biau br braun		biue bi bi biu brown br marra		bieu brun	bi azul br marron	TIIF		
ge gelb	ge	yellow ge giall	o ge	Jaune	ge amarıllo			
gr grau g grün	-	grey grigi green giverde	_	grıs vert	gr gris g verde			
o orange		orange o aranc	5	orange	o naranja		GHTS O	Zündschlaß (Typ Zadı)
r rot		red r rosso		rouge	r rojo	-	> H LO •	
ra rosa s schwarz		pink ra rosa black s nero		rose noir	ra rosado s negro		> H HI •	
v violett	v	violet v viole	tto v	violet	v violeta			
w weιβ	w	white w bianc	o w	blanc	w blanco	PAS	SING E	

12-43D



				12-44
	Deutsch	Englisch	Italienisch	Französisch
KTM 400 LC4-E 2001	<pre>1 Scheinwerfer 2 Standlicht 3 Blinker Li vo 4 Blinker re vo 5 Temperaturkontrolle 6 Leerlaufanzeige 7 Tachobeleuchtung 8 Fernlichtkontrolle 9 Blinkerkontrolle 10 Zündschloß 11 Sicherung 10A 12 zum Kombischalter 13 Masseanschluß 14 Blinkgeber 15 Horn 16 Bremslichtsch vo 17 Leerlaufschalter (N) 18 Thermoschalter 19 Bremslichtsch hi 20 Zündkerze 21 Zündspule 22 Generator 23 Regelgleichrichter 24 Blinker Li hi 25 Blinker re hi 26 Brems-Schlußlicht 27 CDI-Einheit 28 Jol Stecker 30 6-pol Stecker 31 9-pol Stecker 32 Hauptsicherung 20A 33 Starttast Notaussch 34 Batterie 12V 8Ah 35 3-pol Stecker 36 Lüftermotor 37 Startrelaise 38 Startermotor 39 Kennzeichenbeleuchtung 40 Kupplungsschalter 41 Thermoschalter 42 Starterhilfsrelaise 45 Kondensator</pre>	<pre>1 headlight 2 parking light 3 blinker light front 4 blinker right front 5 temperature control 6 neutral 7 tachometer light 8 high beam control 9 blink control 10 ignition switch 11 fuse 10A 12 to combinat switch 13 ground connection 14 blink signal system 15 horn 16 stoplight switch f 17 neutral switch (N) 18 temperature switch 19 stoplight switch r 20 spark plug 21 ignition coil 22 generator 23 regulator-rectifier 24 blinker light rear 25 blinker right rear 26 rear-stoplight 27 CDI-unit 28 multip cont plug (2) 29 multip cont plug (2) 30 multip cont plug (3) 31 multip cont plug (3) 32 fan motor 37 starter relay 38 starter engine 39 licence pl lighting 40 clutch switch 41 temperature switch 42 startar auxil relay 45 capacitor</pre>	Italienisch I faro 2 luce di posizione 3 lampegg ant sn 4 lampegg ant sn 4 lampegg ant dx 5 controllo temperatura 6 indicat marcia folle 7 luce di tachimetro 8 spia abbagliante 9 spia lampeggiatori 10 int accensione 11 fusibile 10A 12 multicomando 13 collegam a massa 14 trasmett di lampeg 15 clacson 16 int luce arresto ant 17 interr luce folle (N) 18 int temperatura 19 int luce arresto post 20 candela 21 bobina d'accens 22 dinamo 23 regolatore di tens 24 lampegg post sn 25 lampegg post dx 26 fanal post di freno 27 CDI-seatola 28 connettore a 2 poli 29 connettore a 4 poli 30 connettore a 4 poli 31 connettore a 9 poli 32 fusibile principale 20A 33 disinseritor/partire 34 batteria 12V 8Ah 35 connettore a 3 poli 36 ventilatore 37 rele d'avviamento elettri 39 illuminat de targa 40 interrutore frizione 41 int temperatura 42 rele avviam ausiliario 45 condensatore 46 trasmettiore d'impulsi	Französisch 1 phare 2 feu de position 3 clignoteur av gauche 4 clignoteur av droit 5 temoin de temperature 6 ind de point mort 7 eclair comp vitesse 8 temoin de feu route 9 temoin de clignoteur 10 contact d'allum 11 fusible 10A 12 vers commutateur 13 masse 14 centrale clignot 15 klaxon 16 cont av de stop 17 contact dr mort (N) 18 contact de temperature 19 contact ar de stop 20 bougie 21 bobine d'allumage 22 generateur 23 regulat redresseur 24 clign arr gauche 25 clign arr droit 26 feu arr et de stop 27 boitier CDI 28 connect multiple (2) 29 connect multiple (4) 30 connect multiple (9) 32 fusible principal 20A 33 bout de demar/arr d'urg 34 batterie 12V 8Ah 35 connect multiple (3) 36 ventilateur 37 relaise de demarreur 38 demarreur electrique 39 eci plaque d immat 40 contact de temperature 42 relaise auxi demarrage 43 condensateur 44 contact de temperature 45 condensateur 45 condensateur
	46 Impulsgeber 47 12-pol Stecker 48 Diode	46 pulser coil 47 multip cont plug (12) 48 diode	47 connettore a 12 poli 48 diodo	47 connect multiple (12) 48 diode
Spanisch	1 faro 2 luz de posicion 3 interm izquierdo delai 4 intermitente derecho di 5 control temperatura 6 indicador punto muerto 7 luz tacometro 8 lampara aviso intermiti 10 llave de contacto 11 fusible 10A 12 interruptor combinado 13 conector a masa 14 conjunto del intermiter 15 claxon 16 interruptor punto muer	ntero 20 bujia elantero 21 bobina de er 22 generador 23 regulador de 24 intermitente entes 26 luz de frenc 27 unidad cdi 28 conector mul 30 conector mul 31 conector mul 32 fusible prir 33 boton de arr	luz de frendo tras     36 ver       37 re     37 re       acendido     38 mo       39 lu     39 lu       e tension     40 in       a izquierdo trasero     41 in       e derecho trasero     42 re       b trasero     45 coi       tiple (2)     47 coi       ltiple (4)     48 dia       ltiple (6)     10 in       tiple (9)     10 in       coipal 20A     20A	nector multiple (3) ntilador electrica le de arranque z placa de matricula terruptor de embraque terruptor temperatura le del arranque ndensador nerado de impulsos nector multiple (12) odo

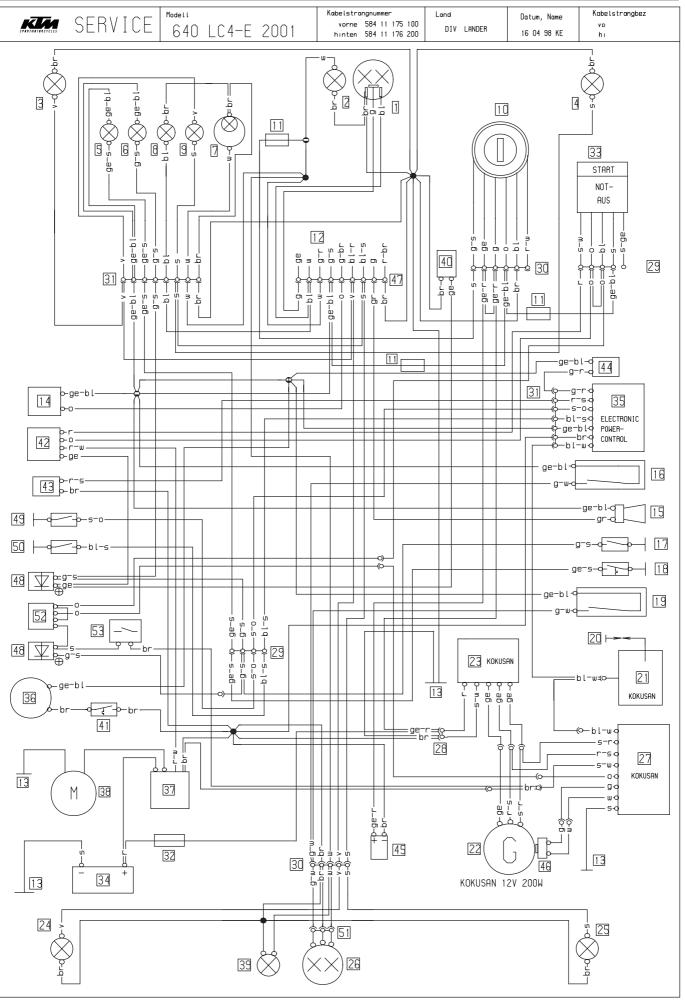
Deutsch	Englisch	Italienisch	Französisch	Spanisch	
bl blau	bl blue	bl blu	bl bleu	bl azul	
br braun	br brown	br marrone	br brun	br marron	
ge gelb	ge yellow	ge grallo	ge jaune	ge amarıllo	
gr grau	gr grey	gr grigio	gr grıs	gr gris	
g grün	g green	g verde	g vert	g verde	
o orange	o orange	o arancione	o orange	o naranja	
r rot	r red	r rosso	r rouge	r rojo	
ra rosa	ra pink	ra rosa	ra rose	ra rosado	Ĺ
s schwarz	s black	s nero	s noir	s negro	Ĺ
v violett	v violet	v violetto	v violet	v violeta	
w weiß	w white	w bianco	w blanc	w blanco	

Kombischalter (Typ CEV 100826000)								
	5	br	v	r- w	bl -s	g	gr	r/ ge- s
TURN L				•		-0		
TURN R ≓>					•			
LIGHTS °								
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≡⊃ H HI			•					-0
HORN 🖂	•						-0	
PASSING ≣◯>		•	8					•

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Zündschloß (Typ Zadı)											
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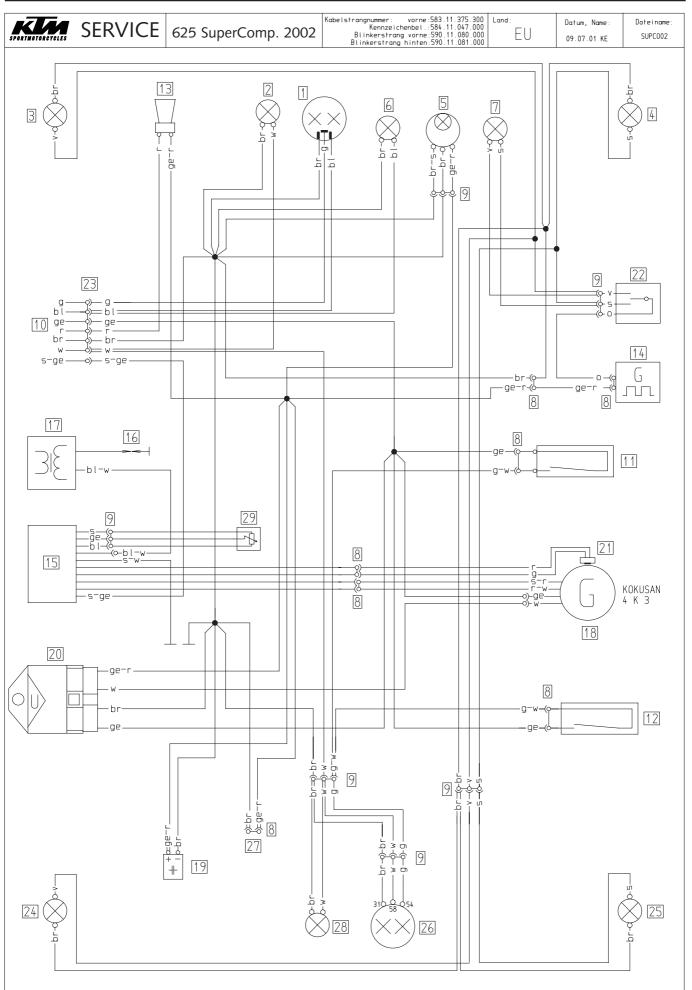
### 12-46D

KTM 640 LC4-E 2001

1         Scheinneurfer         1         Indelight         1         Ford         2         Ford           3         Stendisch         2         parking light         1         Lose appoint one         2         Fee despoint one         5         Fee despoint on		Deutsch	Englisch	Italienisch	Französisch
2         2         Stondicht         2         perking light         2         2         2         Compage and an an analysis         2         fessepartum         2         fessepartum         3         Einser ang and analysis         3         Einser ang and analysis         3         Einser ang					
B Bunker Livo         B bunker ferf front         B banker ref         B bunker ref         B res					
S         Temperaturkontrolle         Stemin di temperature         Stemin di temperature         Stemin di temperature         Stemin di temperature           0         Familiationazia         Familiationazia         Familiationazia         Stemin di temperature         Stemin di temperature           0         Familiationazia         Bing documention         Spin abboginate         Stemin di temperature         Stemin di temperature           0         Stemin di temperature           0         Stemin di temperature           15         Stemin di temperature         Stemin di temperature         Stemin di temperature         Stemin di temperature           15         Stemin di temperature         Stemin di temperature         Stemin di temperature         Stemin di temperature           16         Inticue arresto ant         Stemin di temperature         Stemin di temperature         Stemin di temperature           20         Stemin di temperature         Stemin di temperature         Stemin di temperature         Stemin di temperature           21         Stemin di temperature         Stemin di temperature         Stemin di temperatu					
Image: space of the section           10         Construction         8 high beam control         8 prior abbogliants         8 tenior construction         8 tenior construction         8 tenior construction         10 control         8 tenior construction         10 control         10 contro				4 lampegg ant dx	
7       Tachobal elachträg       7       Tachobal elachträg       7       Tachobal elachträg         8       Fenni controlie       9       9       9       10       2       10 <td< td=""><td></td><td></td><td></td><td></td><td></td></td<>					
B         Frenichtkontrolie         8 high bean control         8 spin abbaglionte         9 tenin die feu route           10         Zundschlöß         10 ignition switch         11 fuse bile         10 into accessione         10 entropaution           11         Schlensschluß         10 ignition switch         10 into accessione         10 entropaution         10 entropaution           12         Singli Georgia         11 fuse bile         10 entropaution         10 entropaution           13         Schlensschluß         12 interropaution         11 fuse bile         10 entropaution           14         Brensilchter         10 entropaution         10 entropaution         11 fuse bile         10 entropaution           16         Brensilchter         11 fuse bile         10 entropaution         10 entropaution         10 entropaution         10 entropaution           17         Leerloudschluter         12 interropaution         12 entropaution         12 entropautio					
9         Blinkerkohrolie         9         9         10         2         9         10				-	
ID         Zundschlaß         ID ignition suith         ID init accensione         ID contact of allum           II Sicherung 100         II fuschle 100         II fuschle 100         II fuschle 100           IZ zum Kabischalter         IZ ocabinat switch         IZ ocabinat switch         IZ unit command         II fuschle 100           IZ mit Kabischalter         IZ ocabinat switch         IZ ocabinat switch         IZ unit command         IZ was fusch and the command           IZ mit Kabischalter         IZ ocabinat switch         IZ ocabinat switch         IZ switch and the command         IZ switch and the command           IZ mit Kabischalter         IZ ocabinat switch         IZ switch and the command         IZ switch and the comma					
11       Sucherung 10B       11       fue 10P       11       fue to bin not seried         12       Rosbischeiter       13       fue to bin not seried       13       fue to bin not seried         14       Binkgeber       15       horn       14       fue to bin not seried       15       fue to bin not seried       16       fue to bin not seried       17       fue to bin not seried       fue to bin not seried       17       f					
11 B linkspace       11 d junct connection       13 collegan a massa       14 destrale clignat         11 B linkspace       14 dissignal system       15 forn       16 contav de stap       16 contav de stap         11 B linkspace       11 dissignal system       15 forn       16 int luce arresto and       15 contav de stap         12 Diaderze       20 conderze       21 pantion cont       21 contact pt sont (N)       18 contact de temperature         21 Diaderze       21 pantion cont       21 contag       20 conderze       21 pantion cont         22 Diaderze       21 innition cont       21 contact pt sont de stap       20 conder de temperature       21 pantion cont         22 Berear-Schulgter       22 innition cont       22 contact arr de stap       22 parentaum destap         23 Berear-Schulgter       27 contact pt sont destap       27 contact pt sont destap       27 contact pt sont destap         23 Contag       27 contact pt sont destap       27 contact pt sont destap       27 contact pt sont destap         24 binker re hi       27 contact pt sont destap       27 contact pt sont destap       27 contact pt sont destap         26 contact destap       27 not ter Coll       28 contact destap       27 contact pt sont destap         27 contact pt sont destap       27 contact pt sont destap       27 contact destap         27 con			11 fuse 10A		11 fusible 10A
14       Blinkgeber       14       Blinkgeber       14       Centrale Cliphot         15       Bremsichter       15       Statum       15       Canon       15       Statum         16       Bremsichter       11       Statum       15       Statum       15       Statum       15       Statum         17       Leer classchalter       11       Statum       11       Statum       11       Statum       11       Statum       12       Contact       Statum       12       Statum       12 <td< td=""><td></td><td></td><td></td><td>-</td><td></td></td<>				-	
16       Breensichter (N)       15       Stoplight switch (N)       16       16       It uce arresta and (N)       18       Stoplight switch (N)       19       18       Therenoschalter (N)       19       Stoplight switch (N)       19       18       Stoplight switch (N)       19       11       Stoplight switch (N)       19       Interperature switch (N)       19       Interperature (N)       10       Stoplight switch (N)       10       Interperature (N)       10       Stoplight (N)					
If Berensichtsch vo       I6 stoplight switch f       I6 int luce arrest ant       I6 cont av de stop         I7 Lecer lourSchalter       I8 temperature switch       I8 int temperature       I8 contact at more stop         18 Theraoscholter       I8 temperature switch       I8 int temperature       I8 contact ar de stop         21 Zundkerze       22 spark plug       22 condels       20 condels       21 bobine d'altimage         22 Generatur       22 generatur       22 generatur       22 generatur       22 generatur         23 Regelgischrichter       23 regolatore di tens       23 regolatore di tens       23 clugal redresseur         25 Blinker re hi       25 blinker right rear       26 fau arr et de stop       27 coll-reatuli       27 coll-reatuli         26 Dimit       27 coll-reinteit       27 coll-reinteit       27 coll-reinteit       27 coll-reinteit       27 coll-reinteit         27 coll-stocker       28 multip cont plug (21 sconnettore a poil       30 connect multiple (41 sconnettore a poil       30 connect multiple (51 sconnettore)       31 connect multiple (51 sconnettore)       33 connect multiple (51 sconnetore)       33 connectore multiple (51 sconnet					
In Therr Luce folle (N)       17 interr Luce folle (N)       17 interr Luce folle (N)       18 contact pt morit (N)         18 Thermoscholter       19 stoplight switch r       19 int Luce arresto post       18 contact pt morit (N)         20 Zindekrze       20 spin/dekrze       20 spin/dekrze       20 spin/dekrze       20 contact pt morit (N)         21 Zindspuie       21 ignition coil       20 spin/dekrze       21 bohind factors       22 bohind factors         23 Regelgleichrichter       23 regulator-restifier       23 regulateredresseur       23 regulateredresseur         23 Rigelgleichrichter       23 regulator-restoplight       25 longeng post dx       26 feu arr dia etap         26 Breek-Schlußlicht       26 reuer at de stop       27 coll-sactiol       27 coll-sactiol       28 contect multiple (2)         28 4-pol Stecker       28 multip cont plug (2)       28 contectors a poil       30 contect multiple (2)       28 contect multiple (3)         31 9-pol Stecker       38 multip cont plug (9)       31 contectors a poil       31 contect multiple (3)       32 contect multiple (3)         33 Startiset Notassch       37 mineter       28 staternol 20/ MN       32 contect multiple (3)       32 contect multiple (3)         34 buitterentor       33 startiset off       35 staternol 20/ MN       32 contect multiple (3)       32 contect multiple (3)         <					
IB Thermoscholter       IB temperature switch       IB int temperature       IB contact de temperature         19 Brenscholter       19 contact de temperature       19 contact de temperature         21 Zunderze       20 spark plug       20 condela       20 condela       20 bouja         22 Generator       22 generator       22 generator       22 generater       23 gepulator-rectrifier       23 regulator-rectrifier       23 regulator-rectrifier       23 regulator-rectrifier       24 tompegg post sn       24 clipn arr gouche         26 Breas-Schlußlicht       26 rear-stoplight       26 fou and to tot di frena       27 toiline oli ter Oli       27 content oli di stop         27 Oliter Altipo Stecker       28 multip cont plug (2)       28 connettore a 2 poli       28 connettore a 0 poli       31 connect multiple (4)         30 Genettore       31 multip cont plug (6)       30 connettore a 0 poli       31 connect multiple (6)         31 Genettore       31 multip cont plug (1)       32 dourettore a 0 poli       31 connect multiple (6)         31 Genettore       31 multip cont plug (2)       32 connettore a 0 poli       31 connect multiple (6)         32 Houptscherung 20A       32 multip cont plug (2)       32 contentore a 0 poli       31 connect multiple (6)         33 termitation       33 multip cont plug (2)       33 contentore a 0 poli       31 connect multiple (6) <td></td> <td></td> <td></td> <td></td> <td>L</td>					L
2020Condelo20bouge21Zundkerze21ganrianton coil21bouna d'accens21boune d'acturage22Generator22generator22generator22generator22generator22generator23regulator-mectrine23regulator-mectrine23regulator-mectrine24clipn ar d'acit28Binker re h25binker reint24binker reint24clipn ar d'acit24clipn ar d'acit27CDI-Enheit27CDI-enheit27connettore a 0point26feau are t de stop27CDI-Enheit27connettore a 0point28connect nuit pile (1)28connect nuit pile (1)30Genol Stecker39multip cont piug (1)33connect nuit pile (1)30connect nuit pile (1)31Batteria 12V 6Hh34batteria 12V 6Hh34batteria 12V 6Hh34batteria 12V 6Hh3434Batteria 12V 6Hh38storter negine38storter negine38storter negine38storter negine38storter negine38storter negine36storter negine37relise de demeareur38Storternator38storter negine38storter negine38storter negine38storter negine37relise de demeareur38Storternator38storter negine38storter negine38storter		18 Thermoschalter	18 temperature switch	18 int temperatura	18 contact de temperature
21       21       21       ignition Coil       21       21       ignition Coil       21       ignition Coil       22       imperator       23       regulatored items					
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18 interruptor temperatura 36 ventilador electrica		18 interruptor temperatur	a 36 ventilador e	electrica	

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bl blau	bl blue	bi biu	bl bleu	bl azul	
br braun	br brown	br marrone	br brun	br marron	
ge gelb	ge yellow	ge giallo	ge jaune	ge amarıllo	
gr grau	gr grey	gr grigio	gr gris	gr gris	TURN R =>
g grün o orange	g green o orange	g verde o arancione	g vert o orange	g verde o naranja	LIGHTS O
r rot	r red	r rosso	r rouge	r rojo	HLO +
ra rosa	ra pink	ra rosa	ra rose	ra rosado	<u>≡</u> > H HI   ●
s schwarz	s black	s nero	s noir	s negro	HORN Do .
ν violett ω weiß	v violet w white	v violetto w bianco	v violet w blanc	v violeta w blanco	
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# KTM 625 SUPER COMPETITION 2002

Deutsch	Englisch	Italienisch	Französisch
1 Scheinwerfer	1 headlight	1 faro	1 phare
2 Standlicht	2 position light	2 luce di posizione	2 feu de position
3 Blinker li vo	3 turn indic left fr	3 lampegg ant sn	3 clignoteur av gauche
4 Blinker re vo	4 turn indic right fr.	4 lampegg.ant.dx.	4 clignoteur av droit
5 Tacho	5 speedometer	5 tachimetro	5 compteur de vitesse
6 Fernlichtkontrolle	6 high beam indicator	6 spia abbagliante	6 temoin feu route
7 Blinkerkontrolle	7 turn indicator	7 spia lampeggiatori	7 temoin de clignoteur
8 2-pol Stecker	8 multip.cont.plug (2)	8 connettore a 2 poli	8 connect multiple (2)
9 3-pol.Stecker	9 multip cont plug (3)	9 connettore a 3 poli	9 connect multiple (3)
10 zum Kombischalter	10 to combinat switch	10 multicomando	10 commodo
11 Bremslichtsch vo	11 stoplight switch f.	11 int luce arresto ant	11 contact de stop av.
12 Bremslichtsch hi	12 stoplight switch r	12 int luce arresto post	12 contact Harr de stop
13 Horn	13 horn	13 clacson	13 klaxon
14 Blinkgeber	14 turn indicator	14 trasmett. di lampeg.	14 centrale clignot.
15 CDI	15 CDI	15 CDI	15 CDI
16 Zündkerze	16 spark plug	16 candela	16 bougie
17 Zündspule	17 ignition coil	17 bobina d'accens.	17 bobine d'allumage
18 Generator	18 generator	18 dinamo	18 generateur
19 Kondensator	19 capacitor	19 condensatore	19 condensateur
20 Spannungsregler	20 voltage regulator	20 regol. di tens.	20 regulateur
21 Impulsgeber	21 pulser coil	21 trasmett d'impulsi	21 generateur d'impuls
22 Blinkerschalter	22 blink switch	22 int. lampeggiatori	22 contact d clignateur
23 6-pol.Stecker	23 multip.cont.plug (6)	23 connettore a 6 poli	23 connect multiple (6)
24 Blinker li hi	24 blinker left rear	24 lampegg.post.sn	24 clign arr gauche
25 Blinker re hi	25 blinker right rear	25 lampegg post dx.	25 clign arr droite
26 Brems-Schlußlicht	26 rear-stoplight	26 fanal.post.di freno	26 feu arr et de stop
27 Lüfteranschluss	27 fan connection	27 connett ventilatore	27 connect ventilateur
28 Kennzeichenbeleucht	28 licence plt lighting	28 illuminat de targa.	28 ecl plaque d'immat.
29 Vergaserpotentiomet.	29 carburetor potentiom	29 carburatore potent.	29 carburateur potenti.

Deutsch	Englisch	Italienisch	Französisch	Spanisch
bl blau br braun	bl blue br brown	bl blu br marrone	bl bleu br brun	bl azul br marron
ge gelb	ge yellow	ge giallo	ge jaune	ge amarillo
gr grau	gr grey	gr grigio	gr gris	gr gris
g grün	g green	g verde	g vert	g verde
o orange	o orange	o arancione	o orange	o naranja
r rot	r red	r rosso	r rouge	r rojo
s schwarz	s black	s nero	s noir	s negro
v violett	v violet	v violetto	v violet	v violeta
w weiß	w white	w bianco	w blanc	w blanco

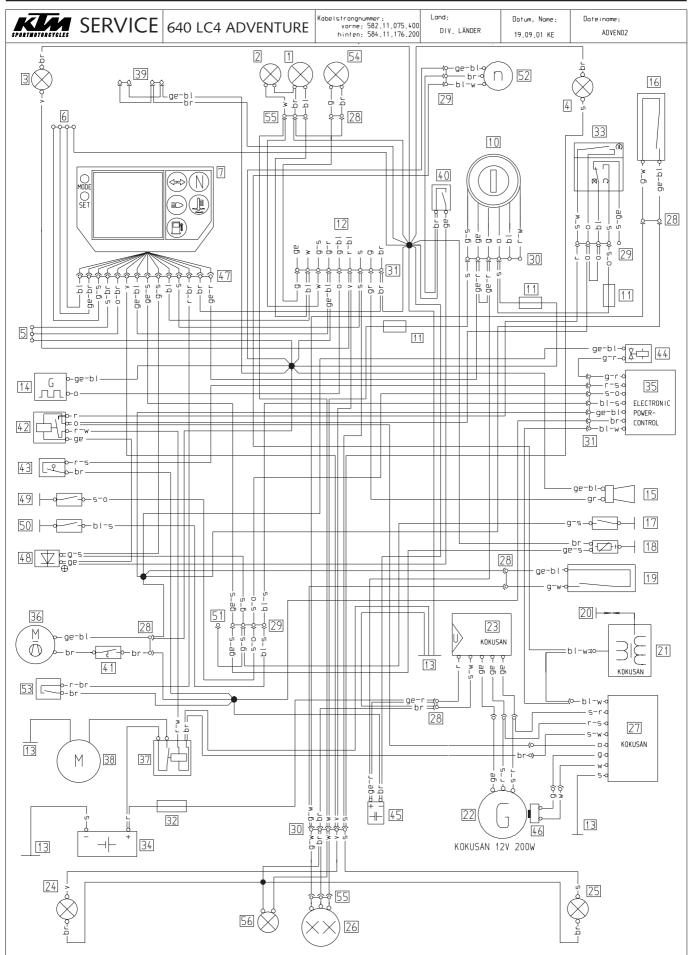
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Lichtschalter	(Typ	CEV	9610)

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Hi beam ≣⊂>		•	•	•			
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	Spanisch
7 8 9 10 11 12	faro luz de posicion interm. izquierdo delantero intermitente derecho delantero tacometro lampara aviso luces largas lampara aviso intermitentes conector multiple (2) conector multiple (3) interruptor combinado interr. luz de freno del. interr. luz. de fren tras. claxon
14 15 16 17 18 20 21 22 23 24 25 26 27	conjunto del intermintente CDI bujia bobina de encendido generador condensador regulador de tension generado de impulsos interuptor clignoteur conector multiple (6) intermitente izquierdo trasero intermitente derecho trasero luz de freno trasero conector ventilador luz plaza de matricula
29	carburador poteciometro

#### 12-49D



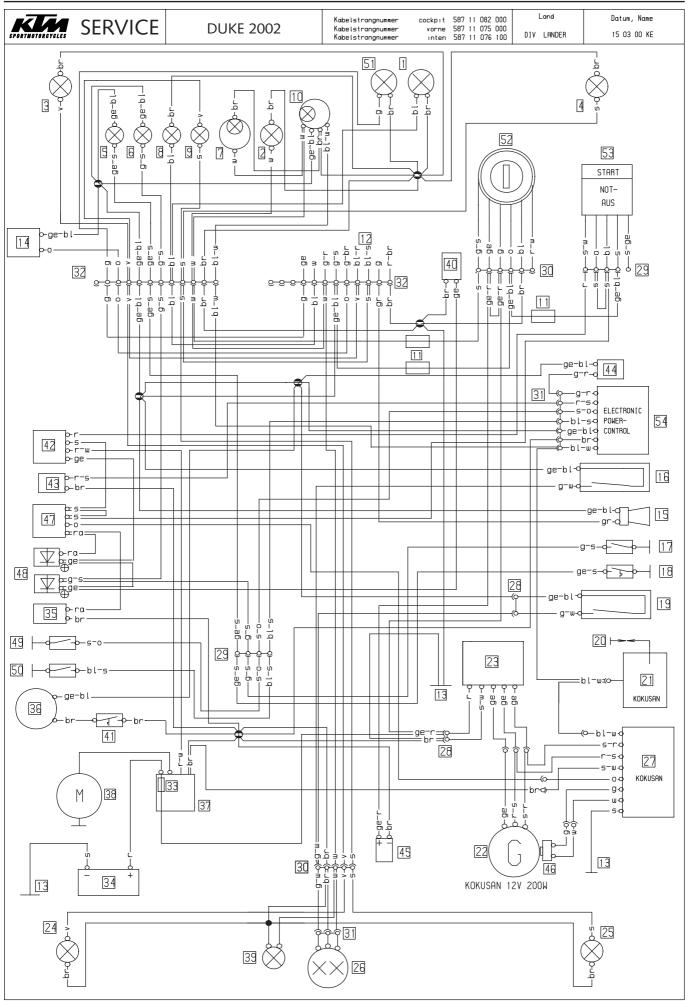
# 12-50D

KTM 640 LC4 ADVENTURE 2002

	Deutso	:h	Englisch		Ital	ienisc	h		Franzö	isisch	1	
	1 Scheinwerfe 2 Standlicht 3 Blinker li 4 Blinker re 5 zum Sensork 6 zum Tachose 7 Tachometer	vo 3 vo 4 kabel 5 ensor 6	headlight parking light blinker left blinker right to the sensor to speedomete tachometer	front front cable	3 lamper 4 lamper 5 sensor	atore d	sn. dx.	2 3 4 5 6	phare feu de clignot clignot palpeur ind.de comp.vi	eur av eur av cable point	. gauc . droi	
	10 Zündschloß 11 Sicherung 1 12 zum Kombisci 13 Masseanschl 14 Blinkgeber 15 Horn 16 Bremslichts 17 Leerlaufsch 18 Temperaturf 19 Bremslichts 20 Zündspule 22 Generator 23 Regelgleich 24 Blinker re 25 Blinker re 26 Brems-Schlu 27 CDI-Einheif 28 2-pol.Stech 29 4-pol.Stech 30 6-pol.Stech 31 9-pol.Stech 32 Hauptsicher 33 Starttast.N 34 Batterie 12 35 EPC 36 Lüftermotor 37 Startrelais 38 Starternoto 39 Roadbookven 40 Kupplungsso 41 Thermoscha 42 Starterhilf 43 Vergasersch 44 Magnetvent 45 Kondensaton 46 Impulsgeber 47 20-pol.Stech 48 Diode 49 Kontaktstin 50 Kontaktstin 51 Seitenständ 54 Abblendlicl 55 Kenzeichen 56 Kenzeichen	10A       11         110A       11         111       12         111       13         111       13         111       13         111       13         111       14         111       15         111       15         111       17         111       17         111       17         111       17         111       19         111       20         111       20         111       21         111       21         111       21         111       21         111       21         111       21         111       21         111       21         111       42         111       44         111       44         111       44         111       44         111       44         111       44         111       44         111       44         111       44         14         14 <td>ignition swit fuse 10A to combinat, ground connect blink signal horn stoplight swi idle switch ( temperature s stoplight swi spark plug ignition coil generator regulator-rect blinker left blinker right rear-stopligh CDI-unit multip.cont.p multip.cont.p multip.cont.p multip.cont.p multip.cont.p multip.cont.p multip.cont.p multip.cont.s run-off/start battery 12V 8 EPC fan motor starter relay starter relay starter relay starter coil multip.cont.s starter coil multip.cont.p diode geor switch 3 geor switch 3 geor switch 2 side stand co tachometer reserve fuel low beam multip.cont.p</td> <td>switch tion system tch f. N) witch tch r. tifier rear rear rear thug (2) lug (2) lug (4) lug (6) lug (6) lug (9) switch Ah regie witch . relay vitch . relay vitch . relay vitch sensor</td> <td>33 disins 34 botter 35 EPC 36 venti 37 rele of 38 mot.d 39 roabor 40 intern 41 int. 42 rele of 43 intern 44 valvo 45 conde 46 diodo 49 3.sec 50 2.sec 51 caval 52 conta 53 carbui 55 conne</td> <td>ite 10A comando gam. a ma estr. di on uce arres c.luce fo temperatu uce arres la a d'accero o a d'accero o a d'accero o a d'accero o a d'accero o satore di gg. post gg. post gg. post d'avviame thore a d' thore a d' avviame cutore fi temperatu avviame cutore d' avviame cutore d' avviame cutore d' thore a d' thore a d' thore a d' thore a d' thore a d' d' avviame cutore d' thore a d' thore a d' thore a d' thore a d' thore a d' d' avviame cutore fi temperatu avviam. cutore d' thore a d' d' avviame cutore d' thore a d' thore a d' d' avviame cutore d' thore a d' d' avviame cutore d' thore a d' thore a d' thore a d' d' avviame cutore d' thore a d' d' avviame cutore d' thore a d' d' avviame cutore d' thore a d' d' avviame cutore d' thore a d' thore a d' thore a d' thore a d' d' avviame cutore d' thore a d' thor</td> <td>assa lampeg. sto ant. olle (N) ura sto post ns. tens . sn. . dx. frena 2 poli 4 poli 2 poli cipale 20A partire 8Ah ento nto elettri ia ausiliaria arburatore romagnetic d'impulsi 20 poli cia cia terale cor serve sens 3 poli</td> <td>111 12 13 14 15 16 17 20 21 22 24 25 26 27 27 28 29 30 31 32 24 25 26 27 27 28 29 30 31 32 33 34 35 33 34 35 33 34 45 45 45 55 50 51 51 52 55 51 51 55 55 55 55 55 55 55 55 55 55</td> <td>feu de connect</td> <td>10A mmutat e clig de st. .pt.mo . de t .arr.d d'allu eur .redre multi .multi .multi .multi .multi .multi .multi .multi .multi .de de eur .de te e auxi .de ca yanne .de te e auxi .de te e auxi</td> <td>eur not. op rt (N) empera e stop mage sseur it stop ple (2 /arr.d 8Ah marreu gie brayag mperat demarr ple (2 d.vite d.vite rale c e ello d ment ple (3</td> <td>) ) ) ) ) ) 0A ' urg e ure age eur 0) s.(3) s.(2) onnec .carb</td>	ignition swit fuse 10A to combinat, ground connect blink signal horn stoplight swi idle switch ( temperature s stoplight swi spark plug ignition coil generator regulator-rect blinker left blinker right rear-stopligh CDI-unit multip.cont.p multip.cont.p multip.cont.p multip.cont.p multip.cont.p multip.cont.p multip.cont.p multip.cont.s run-off/start battery 12V 8 EPC fan motor starter relay starter relay starter relay starter coil multip.cont.s starter coil multip.cont.p diode geor switch 3 geor switch 3 geor switch 2 side stand co tachometer reserve fuel low beam multip.cont.p	switch tion system tch f. N) witch tch r. tifier rear rear rear thug (2) lug (2) lug (4) lug (6) lug (6) lug (9) switch Ah regie witch . relay vitch . relay vitch . relay vitch sensor	33 disins 34 botter 35 EPC 36 venti 37 rele of 38 mot.d 39 roabor 40 intern 41 int. 42 rele of 43 intern 44 valvo 45 conde 46 diodo 49 3.sec 50 2.sec 51 caval 52 conta 53 carbui 55 conne	ite 10A comando gam. a ma estr. di on uce arres c.luce fo temperatu uce arres la a d'accero o a d'accero o a d'accero o a d'accero o a d'accero o satore di gg. post gg. post gg. post d'avviame thore a d' thore a d' avviame cutore fi temperatu avviame cutore d' avviame cutore d' avviame cutore d' thore a d' thore a d' thore a d' thore a d' thore a d' d' avviame cutore d' thore a d' thore a d' thore a d' thore a d' thore a d' d' avviame cutore fi temperatu avviam. cutore d' thore a d' d' avviame cutore d' thore a d' thore a d' d' avviame cutore d' thore a d' d' avviame cutore d' thore a d' thore a d' thore a d' d' avviame cutore d' thore a d' d' avviame cutore d' thore a d' d' avviame cutore d' thore a d' d' avviame cutore d' thore a d' thore a d' thore a d' thore a d' d' avviame cutore d' thore a d' thor	assa lampeg. sto ant. olle (N) ura sto post ns. tens . sn. . dx. frena 2 poli 4 poli 2 poli cipale 20A partire 8Ah ento nto elettri ia ausiliaria arburatore romagnetic d'impulsi 20 poli cia cia terale cor serve sens 3 poli	111 12 13 14 15 16 17 20 21 22 24 25 26 27 27 28 29 30 31 32 24 25 26 27 27 28 29 30 31 32 33 34 35 33 34 35 33 34 45 45 45 55 50 51 51 52 55 51 51 55 55 55 55 55 55 55 55 55 55	feu de connect	10A mmutat e clig de st. .pt.mo . de t .arr.d d'allu eur .redre multi .multi .multi .multi .multi .multi .multi .multi .multi .de de eur .de te e auxi .de ca yanne .de te e auxi .de te e auxi	eur not. op rt (N) empera e stop mage sseur it stop ple (2 /arr.d 8Ah marreu gie brayag mperat demarr ple (2 d.vite d.vite rale c e ello d ment ple (3	) ) ) ) ) ) 0A ' urg e ure age eur 0) s.(3) s.(2) onnec .carb
Spanisch	1 faro 2 luz de pos 3 interm. izz 4 intermitent 5 sensor cab 6 tacometro co 7 luz tacomet 10 llave de co 11 fusible 10/ 12 interruptor 13 conector a 14 conjunto de 15 claxon 16 interruptor 18 interruptor 18 interruptor	quierdo delonte te derecho delo le generator tro ontacto A combinado masa el intermitente punto muerto temperatura luz de frendo	20 buj 21 bot 22 ger 1 tero 23 reg 24 int 25 int 26 luz 27 uni 28 cor 29 cor 30 cor 30 cor 31 cor 32 fus 33 bot 34 bat 35 EPC 36 ver 37 rel tras 38 mot	jia bina de en herador gulador de termitente termitente z de freno idad cdi nector mul hector mul hector mul sible prin ton de arr teria 12V tilador e le de arra ior de arr	tension izquierdo derecho trasero tiple (2) tiple (4) tiple (6) tiple (9) cipal 20A anque par 8 Ah lectrica nque	o trasero trasero .de urg.	- 33 4 4 4 4 4 4 4 4 4 4 4 4 4 5 5 5 5 5 5	cor int int rel int int int int cor dic ger cor int int cor int cor int cor int cor int cor cor cor cor cor cor cor cor cor cor	terruptor ballete entarreve mbustible ces de cr nector mu z placa d	de ca remper remper remper de ca gnetica e impul ultiple de ca lateral elucion e sensa ultiple	braque ratura sos (20) mbio ( conec es r (3) icula	alor 3) 2) tor
Englisch bl blue	Italienisch	Französisch		Komb	ischalter ( s- g bl b	- v- r-	0 0-	ge v	-	Jomino O	c -	s 5- W
bi blue br brown	bl blu br marrone	bl bleu br brun	bl azul br marron	TURN L		•					• •	

Deutsch	Englisch	Italienisch	Französisch	Spanisch	Kombischalter (Typ CEV 100826000)
bl blau	bl blue	bl blu	bl bleu	bl azul	
br braun	br brown	br marrone	br brun	br marron	
ge gelb	ge yellow	ge giallo	ge jaune	ge amarillo	
gr grau	gr grey	gr grigio	gr gris	gr gris	
g grün	g green	g verde	g vert	g verde	
o orange	o orange	o arancione	o orange	o naranja	
r rot	r red	r rosso	r rouge	r rojo	
ra rosa	ra pink	ra rosa	ra rose	ra rosado	
s schwarz	s black	s nero	s noir	s negro	
v violett	v violet	v violetto	v violet	v violeta	HORN         →
w weiß	w white	w bianco	w blanc	w blanco	

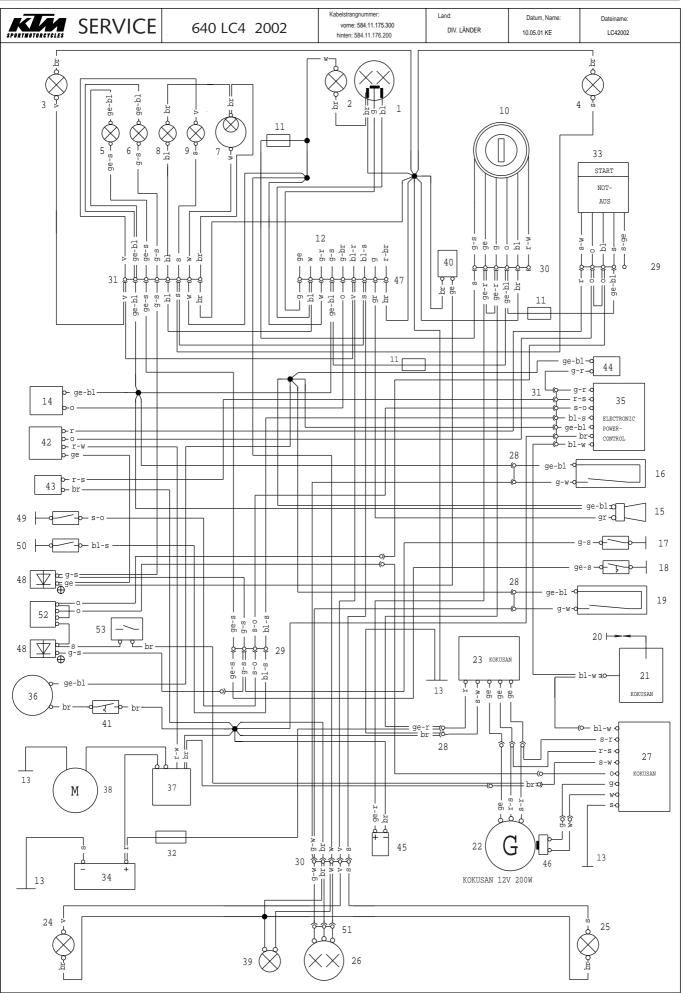




### 12-52D

					12-52D
	Γ	Deutsch	Englisch	Italienisch	Französisch
KTM DUKE 2002		<pre>Deutscn 1 Fernlicht 2 Standlicht 3 Blinker li vo 4 Blinker re vo 5 Temperaturkontrolle 6 Leerlaufanzeige 7 Tachobeleuchtung 8 Fernlichtkontrolle 9 Blinkerkontrolle 9 Blinkerkontrolle 10 Drehzahlmesser 11 Sicherung 10A 12 zum Kombischalter 13 Masseanschluß 14 Blinkgeber 15 Horn 16 Bremslichtsch vo 17 Leerlaufschalter (N) 18 Thermoschalter 19 Bremslichtsch hi 20 Zündkerze 21 Zündspule 22 Generator 23 Regelgleichrichter 24 Blinker li hi 25 Blinker re hi 26 Brems-Schlußlicht 27 CDI-Einheit 28 2-pol Stecker 29 4-pol Stecker 31 3-pol Stecker 31 3-pol Stecker 32 12-pol Stecker 33 Hauptsicherung 20A 34 Batterie 12V 8Ah 35 Seitenständerschalter 36 Lüftermotor 37 Startrelaise 38 Startermotor 39 Kennzeichenbel 40 Kupplungsschalter 41 Thermoschalter 42 Starterhilfsrelaise 43 Vergaserschalter 44 Magnetventil 45 Kondensator 46 Impulsgeber 47 Seitenständerrelais 48 Diode 49 Kontaktstift 3 Gang 50 Kontaktstift 3 Gang 51 Abblendlicht 52 Zündschloß 53 Starttast Notaussch 54 EPC 1 faro</pre>	<pre>1 headlight 2 parking light 3 blinker left front 4 blinker right front 5 temperature control 6 neutral 7 tachometer light 8 high beam control 9 blink control 10 tachometer 11 fuse 10A 12 to combinat switch 13 ground connection 14 blink signal system 15 horn 16 stoplight switch f 17 idle switch (N) 18 temperature switch 19 stoplight switch r 20 spark plug 21 ignition coil 22 generator 23 regulator-rectifier 24 blinker left rear 25 blinker right rear 26 rear-stoplight 27 CDI-unit 28 multip cont plug (2) 29 multip cont plug (2) 30 multip cont plug (3) 31 multip cont plug (12) 33 mainfuse 20A 34 battery 12V 8Ah 35 sidestandswitch 36 fan motor 37 starter relay 38 starter engine 39 licence pl lighting 40 clutch switch 41 temperature switch 42 startar auxil relay 43 carburetor switch 44 magnetic valve 45 capacitor 46 pulser coil 47 sidestand relay 48 diode 49 gear switch 3rd gear 50 gear switch 3rd gear 50 gear switch 2rd gear 51 low beam 52 ignition switch 53 run-off / start switch 54 EPC</pre>	<pre>1 faro 2 luce di posizione 3 lampegg ant sn 4 lampegg ant dx 5 controllo temperatura 6 indicat marcia folle 7 luce di tachimetro 8 spia abbagliante 9 spia lampeggiatori 10 contagiri 11 fusibile 10A 12 multicomando 13 collegam a massa 14 trasmett di lampeg 15 clacson 16 int luce arresto ant 17 interr luce folle (N) 18 int temperatura 19 int luce arresto post 20 candela 21 bobina d'accens 22 dinamo 23 regolatore di tens 24 lampegg post sn 25 lampegg post dx 26 fanal post di freno 27 CDI-seatola 28 connettore a 2 poli 29 connettore a 4 poli 30 connettore a 4 poli 30 connettore a 12 poli 31 del cavalleto later 35 int del cavalleto later 36 wentilatore 37 rele d'avviamento 38 mot d'avviamento elettr 39 illuminat de targa 40 interrutore frizione 41 int temperatura 42 rele avviam ausiliario 43 interrutore carburatore 44 valvola elettromagnetica 45 condensatore 44 trasmettitore d'impulsi 47 rele del cavalleto later 48 diodo 49 3 secondo marcia 50 2 secondo marcia 50 2 secondo marcia 51 anabbaglianti 52 interrutore accensione 53 disinseritor / partire 54 EPC</pre>	<pre>1 phare 2 feu de position 3 clignoteur av gauche 4 clignoteur av droit 5 temoin de temperature 6 ind de point mort 7 eclair comp vitesse 8 temoin de feu route 9 temoin de clignoteur 10 comte-tours 11 fusible 10A 12 vers commutateur 13 masse 14 centrale clignot 15 klaxon 16 cont av de stop 17 contact pt mort (N) 18 contact de temperature 19 contact arr de stop 20 bougie 21 bobine d'allumage 22 generateur 23 regulat redresseur 24 clign arr gauche 25 clign arr droit 26 feu arr et de stop 27 boitier CDI 28 connect multiple (2) 29 connect multiple (3) 32 connect multiple (12) 33 fusible principal 20A 34 batterie 12V 8Ah 35 commut de bequille later 36 ventilateur 37 relaise de demarreur 38 demarreur electrique 39 ecl plaque d immat 40 contact de temperature 42 relaise auxi demarrage 43 contact de temperature 44 electrovanne 45 condensateur 44 electrovanne 45 contact de temperature 45 contact de carburateur 44 electrovanne 45 contact de temperature 45 condensateur 46 capteur 47 relaise com de bequilat 48 diode 49 cont d boite d vites 3 50 cont d boite d vites 3 50 cont d boite d vites 2 51 feu de croisement 52 contact d'allum 53 bout de demar/arr d'urg 54 EPC e de arrangue</pre>
		2 luz de posicion 3 interm izquierdo dela 4 intermitente derecho d 5 control temperatura 6 indicador punto muerta 7 luz tacometro 8 lampara aviso luces la 9 lampara aviso intermit 10 cuentarreveluciones 11 fusible 10A 12 interruptor combinado 13 conector a masa 14 conjunto del intermite 15 claxon 16 interruptor 17 interruptor punto muer 18 interruptor temperatur	elantero 22 generador 23 regulador de 24 intermitente 25 intermitente 26 luz de frenc entes 27 unidad cdi 28 conector mul 30 conector mul 31 conector mul 33 fusible prin 34 bateria 12V to 35 int delcabal	acendido         39 luz           40 int           41 int           42 rel           43 int           44 val           45 con           44 val           45 con           46 ger           41 int           42 rel           44 val           45 con           46 ger           41 int           45 con           44 val           45 con           46 ger           41 inte           42 rel           44 val           45 con           46 ger           41 inte           42 rel           44 val           45 con           46 ger           41 inte           42 inte           43 int           44 val           45 con           46 ger           47 rel           48 dia           49 int           41 inte           42 int           43 int           44 int           45 int           46 int           47 int           48 dia	erruptor de cambio 3 erruptor de cambio 2 ces de crule ave de contacta con de arranque par de urg
Deutsch	· ·	lisch Italienisch Fra		Kombischalter (Typ CEV 100826000)	) <u>Start- Notaus- Schalter</u>
bedisch bl blau br braun ge gelb gr grau g grün o orange r rot ra rosa s schwarz v violett w weiß	blb brb gey grg g o c r r r a g y v v	ilue bl blu bl nrown br marrone br ge grallo ge grey gr grigio gr green g verde g nrange o arancione o red r rosso r	bleu bl azul brun br marron jaune ge amarillo gris gr gris vert g verde orange o naranja rouge r rojo rose ra rosado noir s negro violet v violeta	s     br     v     r_w     bl     g     g       IURN L     I     I     I     I     I     I       IURN R     I     I     I     I     I     I       ILIGHTS     I     I     I     I     I     I       II     I     I     I     I     I     I       II     I     I     I     I     I     I	$\begin{array}{c c} gr \begin{array}{c} g \\ gr \end{array} \\ gr $ \\ gr \end{array} \\ gr \end{array} \\ gr \end{array} \\ gr \end{array} \\ gr  \\ gr \end{array} \\ gr \end{array} \\ gr \end{array} \\ gr  \\ gr \\ gr \end{array} \\ gr \\ gr \end{array} \\ gr  \\ gr \\ gr \\ gr \\ gr \\ gr  \\ gr \\ gr

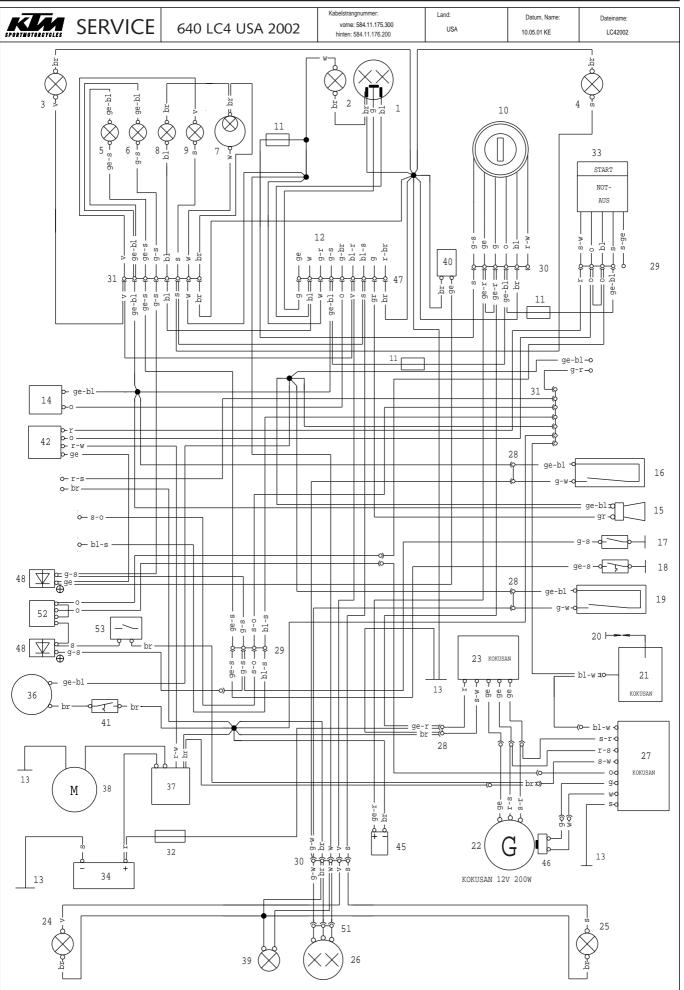




	Deutsch	Englisch	Italienisch	Franz sisch
	1 Scheinwerfer         2 Standlicht         3 Blinker Ii vo         4 Blinker re vo         5 Temperaturkontrolle         6 Leerlaufanzeige         7 Tachobeleuchtung         8 Fernlichtkontrolle         9 Blinkerkontrolle         10 Z ndschlo§         11 Sicherung 10A         12 zum Kombischalter         13 Masseanschlu§         14 Blinkgeber         15 Horn         16 Bremslichtsch. vo         17 Leerlaufschalter (N)         18 Thermoschalter         19 Bremslichtsch. hi         20 Z ndkerze         21 Z ndspule         22 Generator         23 Regelgleichrichter         24 Blinker il hi         25 Blinker re hi         26 Brems-Schlu§licht         27 CDI-Einheit         28 2-pol.Stecker         39 4-pol.Stecker         31 9-pol.Stecker         32 Hauptsicherung 20A         33 Starttast.Notaussch.         34 Batterie 12V 8Ah         35 EPC         36 L ftermotor         37 Startrelaise         38 Startermotor         39 Kennzeichenbeleuchtung         40 Kupplungsschalter         41 The	1 headlight         2 parking light         3 blinker left front         4 blinker right front         5 temperature control         6 neutral         7 tachometer light         8 high beam control         9 blink control         10 ignition switch         11 fuse 10A         12 to combinat. switch         13 ground connection         14 blink signal system         15 horn         16 stoplight switch f.         17 ridle switch (N)         18 temperature switch         19 stoplight switch r.         20 spark plug         21 ignition coil         22 generator         23 regulator-rectifier         24 blinker left rear         25 blinker right rear         26 rear-stoplight         27 CDI-unit         28 multip.cont.plug (2)         29 multip.cont.plug (4)         30 multip.cont.plug (9)         32 mainfuse 20A         33 run-off/start switch         34 battery 12V 8Ah         35 EPC         36 fan motor         37 starter relay         38 izarter engine         39 licence plate lighting         40 clutch switch <td>1 faro 2 luce di posizione 3 lampegg. ant. sn. 4 lampegg. ant. sn. 4 lampegg. ant. sn. 5 controllo temperatura 6 indicat.marcia folle 7 luce di tachimetro 8 spia abbagliante 9 spia lampeggiatori 10 int. accensione 11 fusibile 10A 12 multicomando 13 collegam. a massa 14 trasmett. di lampeg. 15 clacson 16 int.luce arresto ant. 17 interr.luce folle (N) 18 int. temperatura 19 int.luce arresto post 20 candela 21 bobina d'accens. 22 dinamo 23 regolatore di tens 24 lampegg. post. sn. 25 lampegg. post. dx. 26 fanal. post.di freno 27 CDI-seatola 28 connettore a 2 poli 29 connettore a 4 poli 30 connettore a 4 poli 30 connettore a 9 poli 32 fusibile principale 20A 33 disinseritor/partire 34 batteria 12V 8Ah 35 EPC 36 ventilatore 37 rele d'avviamento 38 mot.d'avviamento elettr. 39 illuminat.de.targa 40 interrutore frizione 41 int. temperatura 42 rele avviam. ausiliario 43 interrutore a 12 poli 44 condensatore 44 valvola elettromagnetica 45 condensatore 46 trasmettiore d'impulsi 47 connettore a 12 poli 48 diodo 49 3.secondo marcia</td> <td>1 phare         2 feu de position         3 clignoteur av. gauche         4 clignoteur av. droit         5 temoin de temperature         6 ind.de point mort         7 eclair.comp.vitesse         8 temoin de clignoteur         10 contact.d'allum.         11 fusible 10A         12 vers commutateur         13 masse         14 centrale clignot.         15 klaxon         16 cont.av de stop         17 contact.pt.mort (N)         18 contact. de temperature         19 contact.ar.de stop         20 bougie         21 bobine d'allumage         22 generateur         23 regulat.redresseur         24 clign.arr.gauche         25 clign.art.droit         26 feu arr.et de stop         27 boitier CDI         28 connect.multiple (2)         29 connect.multiple (9)         32 fusible principal 20A         33 bout.de demar/art.d'urg         34 batterie 12V &amp; Ah         35 EPC         36 ventilateur         37 relaise de demarreur         38 demarreur electrique         39 ecl.plaque d.immat.         40 contact.de temperature         42 relaise auxi demarrage&lt;</td>	1 faro 2 luce di posizione 3 lampegg. ant. sn. 4 lampegg. ant. sn. 4 lampegg. ant. sn. 5 controllo temperatura 6 indicat.marcia folle 7 luce di tachimetro 8 spia abbagliante 9 spia lampeggiatori 10 int. accensione 11 fusibile 10A 12 multicomando 13 collegam. a massa 14 trasmett. di lampeg. 15 clacson 16 int.luce arresto ant. 17 interr.luce folle (N) 18 int. temperatura 19 int.luce arresto post 20 candela 21 bobina d'accens. 22 dinamo 23 regolatore di tens 24 lampegg. post. sn. 25 lampegg. post. dx. 26 fanal. post.di freno 27 CDI-seatola 28 connettore a 2 poli 29 connettore a 4 poli 30 connettore a 4 poli 30 connettore a 9 poli 32 fusibile principale 20A 33 disinseritor/partire 34 batteria 12V 8Ah 35 EPC 36 ventilatore 37 rele d'avviamento 38 mot.d'avviamento elettr. 39 illuminat.de.targa 40 interrutore frizione 41 int. temperatura 42 rele avviam. ausiliario 43 interrutore a 12 poli 44 condensatore 44 valvola elettromagnetica 45 condensatore 46 trasmettiore d'impulsi 47 connettore a 12 poli 48 diodo 49 3.secondo marcia	1 phare         2 feu de position         3 clignoteur av. gauche         4 clignoteur av. droit         5 temoin de temperature         6 ind.de point mort         7 eclair.comp.vitesse         8 temoin de clignoteur         10 contact.d'allum.         11 fusible 10A         12 vers commutateur         13 masse         14 centrale clignot.         15 klaxon         16 cont.av de stop         17 contact.pt.mort (N)         18 contact. de temperature         19 contact.ar.de stop         20 bougie         21 bobine d'allumage         22 generateur         23 regulat.redresseur         24 clign.arr.gauche         25 clign.art.droit         26 feu arr.et de stop         27 boitier CDI         28 connect.multiple (2)         29 connect.multiple (9)         32 fusible principal 20A         33 bout.de demar/art.d'urg         34 batterie 12V & Ah         35 EPC         36 ventilateur         37 relaise de demarreur         38 demarreur electrique         39 ecl.plaque d.immat.         40 contact.de temperature         42 relaise auxi demarrage<
	<ul> <li>37 Startrelaise</li> <li>38 Startermotor</li> <li>39 Kennzeichenbeleuchtung</li> <li>40 Kupplungsschalter</li> <li>41 Thermoschalter</li> <li>42 Starterhilfsrelais</li> <li>43 Vergaserschalter</li> </ul>	<ul> <li>37 starter relay</li> <li>38 starter engine</li> <li>39 licence plate lighting</li> <li>40 clutch switch</li> <li>41 temperature switch</li> <li>42 startar auxil. relay</li> <li>43 carburetor switch</li> </ul>	<ul> <li>37 rele d'avviamento</li> <li>38 mot.d'avviamento elettr.</li> <li>39 illuminat.de.targa</li> <li>40 interrutore frizione</li> <li>41 int. temperatura</li> <li>42 rele avviam. ausiliario</li> <li>43 interrutore carburatore</li> </ul>	<ul> <li>37 relaise de demarreur</li> <li>38 demarreur electrique</li> <li>39 ecl.plaque d.immat.</li> <li>40 contact.de embrayage</li> <li>41 contact.de temperature</li> <li>42 relaise auxi demarrage</li> <li>43 contact.de carburateur</li> </ul>
	45 Kondensator 46 Impulsgeber 47 12-pol.Stecker 48 Diode	45 capacitor 46 pulser coil 47 multip.cont.plug (12) 48 diode	45 condensatore 46 trasmettitore d'impulsi 47 connettore a 12 poli 48 diodo	45 condensateur 46 capteur 47 connect.multiple (12) 48 diode
Spanisch	1 faro 2 luz de posicion 3 interm. izquierdo delantero 4 intermitente derecho delantero 5 control temperatura 6 indicador punto muerto 7 luz tacometro 8 lampara aviso luces largas 9 lampara aviso intermitentes 10 llave de contacto 11 fusible 10A 12 interruptor combinado 13 conector a masa 14 conjunto del intermitente 15 claxon 16 interruptor 17 interruptor punto muerto 18 interruptor temperatura	19 interruptor luz de fre 20 bujia 21 bobina de encendid 22 generador 23 regulador de tension 24 intermitente izquier 25 intermitente derech 26 luz de freno trasero 27 unidad cdi 28 conector multiple ( 30 conector multiple ( 31 conector multiple ( 32 fusible principal 20A 33 boton de arranque p 34 bateria 12V 8 Ah 35 EPC 36 ventilador electrica	ondo tras	37 rele de arranque         38 motor de arranque         39 luz plaza de matricula         40 interruptor de embraque         41 interruptor temperatura         42 rele del arranque         43 interruptor de carburador         44 valvola magnetica         45 condensador         46 generado de impulsos         47 conector multiple (12)         48 diodo         49 interruptor de cambio (3)         50 interruptor de cambio (2)         51 concetor multiple (3)         52 rele del caballete lateral         53 int.del caballete lateral

					Start- Notaus- Schalter
Deutsch	Englisch	Italienisch	Franz sisch	Spanisch	Kombischalter
bl blau	bl blue	bl blu	bl bleu	bl azul	
br braun	br brown	br marrone	br brun	br marron	
ge gelb gr grau	ge yellow gr grey	ge giallo gr grigio	ge jaune gr gris	ge amarillo gr gris	
g grn	g green	g verde	g vert	g verde	LIGHTS • Zndschlog (Typ Zadi
o orange r rot	o orange r red	o arancione r rosso	o orange r rouge	o naranja r rojo	
ra rosa	ra pink	ra rosa	ra rose	ra rosado	
s schwarz v violett	s black v violet	s nero v violetto	s noir v violet	s negro v violeta	
w wei§	w white	w bianco	w blanc	w blanco	





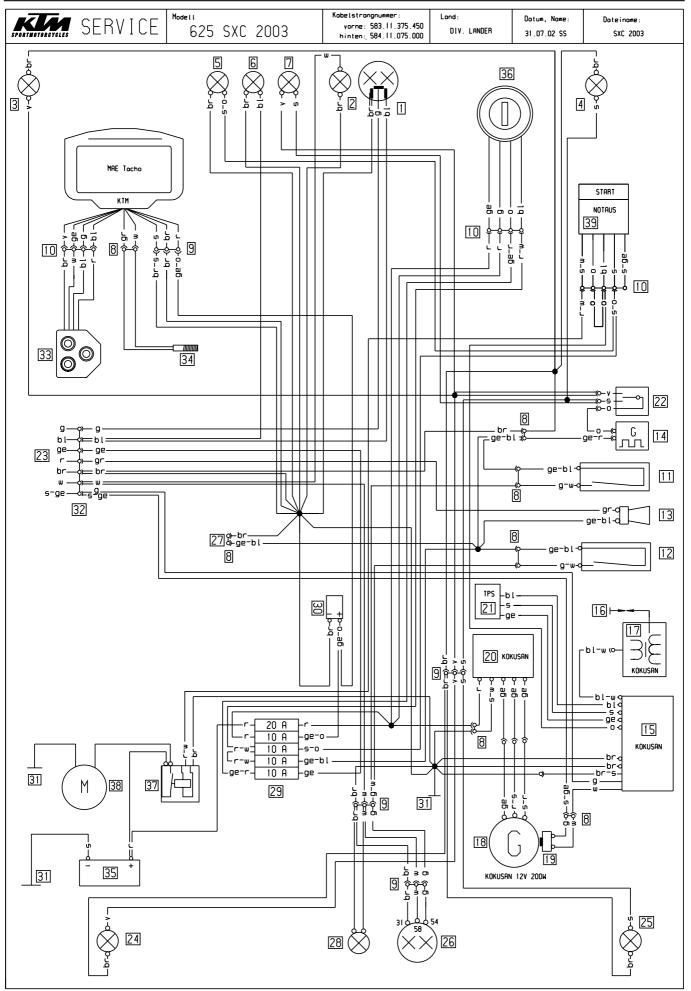
# 12-56D

KTM 640 LC4 USA 2002

				12-300
ſ	Deutsch	Englisch	Italienisch	Franz sisch
-	1 Scheinwerfer	1 headlight	1 faro	1 phare
	2 Standlicht	2 parking light	2 luce di posizione	2 feu de position
	3 Blinker li vo	3 blinker left front	3 lampegg. ant. sn.	3 clignoteur av. gauche
	4 Blinker re vo	4 blinker right front	4 lampegg. ant. dx.	4 clignoteur av. droit
	5 Temperaturkontrolle	5 temperature control	5 controllo temperatura	5 temoin de temperature
	6 Leerlaufanzeige	6 neutral	6 indicat.marcia folle	6 ind de point mort
	7 Tachobeleuchtung	7 tachometer light	7 luce di tachimetro	7 eclair.comp.vitesse
	8 Fernlichtkontrolle	8 high beam control	8 spia abbagliante	8 temoin de feu route
	9 Blinkerkontrolle	9 blink control	9 spia lampeggiatori	9 temoin de clignoteur
	10 Z ndschlo§	10 ignition switch	10 int. accensione	10 contact.d'allum.
	11 Sicherung 10A	11 fuse 10A	11 fusibile 10A	11 fusible 10A
	12 zum Kombischalter	12 to combinat. switch	12 multicomando	12 vers commutateur
	13 Masseanschlu§	13 ground connection	13 collegam. a massa	13 masse
	14 Blinkgeber	14 blink signal system	14 trasmett. di lampeg.	14 centrale clignot.
	15 Horn	15 horn	15 clacson	15 klaxon
	16 Bremslichtsch. vo	16 stoplight switch f.	16 int.luce arresto ant.	16 cont.av de stop
	17 Leerlaufschalter (N)	17 idle switch (N)	17 interr.luce folle (N)	17 contact.pt.mort (N)
	18 Thermoschalter	18 temperature switch	18 int. temperatura	18 contact. de temperature
	19 Bremslichtsch. hi	19 stoplight switch r.	19 int.luce arresto post	19 contact.arr.de stop
	20 Z ndkerze	20 spark plug	20 candela	20 bougie
	21 Z ndspule	21 ignition coil	21 bobina d'accens.	21 bobine d'allumage
	22 Generator	22 generator	22 dinamo	22 generateur
	23 Regelgleichrichter	23 regulator-rectifier	23 regolatore di tens	23 regulat.redresseur
	24 Blinker li hi	24 blinker left rear	24 lampegg. post. sn.	24 clign.arr.gauche
	25 Blinker re hi	25 blinker right rear	25 lampegg. post. dx.	25 clign.arr.droit
	26 Brems-Schlu§licht	26 rear-stoplight	26 fanal.post.di freno	26 feu arr.et de stop
	27 CDI-Einheit	27 CDI-unit	27 CDI-seatola	27 boitier CDI
	28 2-pol.Stecker	28 multip.cont.plug (2)	28 connettore a 2 poli	28 connect.multiple (2)
	29 4-pol.Stecker	29 multip.cont.plug (4)	29 connettore a 4 poli	29 connect.multiple (4)
	30 6-pol.Stecker	30 multip.cont.plug (6)	30 connettore a 6 poli	30 connect.multiple (6)
	31 9-pol.Stecker	31 multip.cont.plug (9)	31 connettore a 9 poli	31 connect.multiple (9)
	32 Hauptsicherung 20A	32 mainfuse 20A	32 fusibile principale 20A	32 fusible principal 20A
	33 Starttast.Notaussch.	33 run-off/start switch	33 disinseritor/partire	33 bout.de demar/arr.d'urg
	34 Batterie 12V 8Ah	34 battery 12V 8Ah	34 batteria 12V 8Ah	34 batterie 12V 8Ah
	54 Datterie 124 OAT		of ballona 12 v bhin	
	36 L ftermotor	36 fan motor	36 ventilatore	36 ventilateur
	37 Startrelaise	37 starter relay	37 rele d'avviamento	37 relaise de demarreur
	38 Startermotor	38 starter engine	38 mot.d'avviamento elettr.	38 demarreur electrique
	39 Kennzeichenbeleuchtung	39 licence plate lighting	39 illuminat.de.targa	39 ecl.plaque d.immat.
	40 Kupplungsschalter	40 clutch switch	40 interrutore frizione	40 contact.de embrayage
	41 Thermoschalter	41 temperature switch	41 int. temperatura	41 contact.de temperature
	42 Starterhilfsrelais	42 startar auxil. relay	42 rele avviam. ausiliario	42 relaise auxi demarrage
	45 Kondensator	45 capacitor	45 condensatore	45 condensateur
	46 Impulsgeber	46 pulser coil	46 trasmettitore d'impulsi	46 capteur
	47 12-pol.Stecker	47 multip.cont.plug (12)	47 connettore a 12 poli	47 connect.multiple (12)
	48 Diode	48 diode	48 diodo	48 diode
	51 3-pol.Stecker	51 multip.cont.plug (3)	51 connettore a 3 poli	51 connect.multiple (3)
	52 Seitenst nderrelais	52 sidestand relay	52 rele del cavalleto later	52 relaise com de begu lat
	53 Seitenst nderschalter	53 side stand switch	53 int del cavalleto later	53 commut de bequille later
	1 faro	19 interruptor luz de fre		37 rele de arranque 38 motor de arranque
	2 luz de posicion	20 bujia		
	3 interm. izquierdo delantero	21 bobina de encendid		39 luz plaza de matricula
	4 intermitente derecho delantero	22 generador		40 interruptor de embraque
	5 control temperatura	23 regulador de tensior		41 interruptor temperatura
	6 indicador punto muerto	24 intermitente izquiero		42 rele del arranque
Spanisch	7 luz tacometro	25 intermitente derecho		
j.	8 lampara aviso luces largas	26 luz de freno trasero		
be	9 lampara aviso intermitentes	27 unidad cdi		45 condensador
0,0	10 llave de contacto	28 conecdor multiple (2	,	46 generado de impulsos
	11 fusible 10A	29 conector multiple (4		47 conector multiple (12)
	12 interruptor combinado	30 conector multiple (6		48 diodo
	13 conector a masa	31 conector multiple (9		
	14 conjunto del intermitente	32 fusible principal 20A		
	15 claxon	33 boton de arranque p		51 conector multiple (3)
	16 interruptor	34 bateria 12V 8 Ah		52 rele del caballete lateral
	17 interruptor punto muerto			53 int.del caballete lateral
	18 interruptor temperatura	36 ventilador electrica		

Deutsch	Englisch	Italienisch	Franz sisch	Spanisch	Start-Notaus-Schalter  Kombischalter  Domino 0 9 9 bl s
bl blau	bl blue	bl blu	bl bleu	bl azul	
br braun	br brown	br marrone	br brun	br marron	
ge gelb gr grau	ge yellow gr grey	ge giallo gr grigio	ge jaune gr gris	ge amarillo gr gris	
g grn	g green	g verde	g vert	g verde	LIGHTS • Zndschloß/€ (Typ Zadi)
o orange r rot	o orange r red	o arancione r rosso	o orange r rouge	o naranja r rojo	
ra rosa	ra pink	ra rosa	ra rose	ra rosado	
s schwarz v violett	s black v violet	s nero v violetto	s noir v violet	s negro v violeta	
w wei§	w white	w bianco	w blanc	w blanco	

12-57D



# KTM 625 SXC 2003

Deutsch	Englisch	Italienisch	Französisch
1 Scheinwerfer 2 Standlicht 3 Blinker li vo 4 Blinker re vo 5 Zündungskontrolle ON 6 Fernlichtkontrolle 7 Blinkerkontrolle 8 2-pol.Stecker 10 4-pol.Stecker 11 Bremslichtsch. vo 12 Bremslichtsch. hi 13 Horn 14 Blinkgeber 15 CDI 16 Zündkerze 17 Zündspule 18 Generator 19 Impulsgeber 20 Reglelgleichrichter 21 TPS 22 Blinkerschalter 23 zum Kombischalter 24 Blinker li hi	1 headlight 2 parking light 3 turn indic.left fr. 4 turn indic.right fr. 5 ignition controll ON 6 high beam indicator 7 turn indicator 8 multip.cont.plug (2) 9 multip.cont.plug (2) 9 multip.cont.plug (3) 10 multip.cont.plug (3) 10 multip.cont.plug (4) 11 stoplight switch f. 12 stoplight switch f. 13 horn 14 turn indicator 15 CDI 16 spark plug 17 ignition coil 18 generator 19 pulser coil 20 regulator-rectifier 21 TPS 22 blink switch 23 to combinat switch 24 blinker left rear	1 faro 2 luce di posizione 3 lampegg.ant.sn. 4 lampegg.ant.dx. 5 spiedicontrollo ON 6 spia abbagliante 7 spia lampeggiatori 8 connettore a 2 poli 9 connettore a 3 poli 10 connettore a 4 poli 11 int.luce arresto ant 12 int.luce arresto post 13 clacson 14 trasmett. di lampeg. 15 CDI 16 candela 17 bobina d'accens. 18 dinamo 19 trasmettitore d imp. 20 regol. di tens. 21 TPS 22 int. lampeggiatori 23 multicomando 24 lampegg.post.sn	1 phare 2 feu de position 3 clignoteur av gauche 4 clignoteur av droit 5 temion ON 6 temoin feu route 7 temoin de clignoteur 8 connect.multiple (2) 9 connect.multiple (2) 9 connect.multiple (3) 10 connect.multiple (3) 10 connect.multiple (4) 11 contact de stop av. 12 contact Harr.de stop 13 klaxon 14 centrale clignot. 15 CDI 16 bougie 17 bobine d'allumage 18 generateur 19 capteur 20 regulat redresseur 21 TPS 22 contact d clignoteur 23 commodo 24 clign.arr.gauche
18 Generator 19 Impulsgeber 20 Reglelgleichrichter 21 TPS 22 Blinkerschalter 23 zum Kombischalter	18 generator 19 pulser coil 20 regulator-rectifier 21 TPS 22 blink switch 23 to combinat switch	18 dinamo 19 trasmettitore d imp. 20 regol. di tens. 21 TPS 22 int. lampeggiatori 23 multicomando	18 generateur 19 capteur 20 regulat redresseur 21 TPS 22 contact d clignoteur 23 commodo
32 6-pol.Stecker 33 Tripmasterschalter 34 Sensorkabel 35 Batterie 12V 36 Zündschloß 37 Startrelaise 38 Startermotor 39 Start-Not-Aus	32 multip.cont.plug (6) 33 tripmaster switch 34 Sensorcable 35 battery 12V 36 ignition switch 37 starter relay 38 starter engine 39 run-off/start switch	32 connettore a 6 poli 33 interrupttore tripm. 34 cavo sensor 35 batteria 12V 36 interrutore accesion 37 rele d avviamento 38 mot d avviamento ele	32 connect.multiple (6) 33 bouton tripmaster 34 capteur cable 35 batterie 12V 36 contact d allum 37 relaise de demarreur 38 demarreur electrique

Deutsch	Englisch	Italienisch	Französisch	Spanisch
bl blau	bl blue	bl blu	bl bleu	bl azul
br braun	br brown	br marrone	br brun	br marron
ge gelb	ge yellow	ge giallo	ge joune	ge amarillo
gr grau	gr grey	gr grigio	gr gris	gr gris
g grün	g green	g verde	g vert	g verde
o orange	o orange	o arancione	o orange	o naranja
r rot	r red	r rosso	r rouge	r rojo
s schwarz	s black	s nero	s noir	s negro
v violett	v violet	v violetto	v violet	v violeto
w weiß	w white	w bionco	w blanc	w blanco

S	icherungskosten
20 A	
10 A	res.
20 A	Houptsicherung
10 A	Kondensator, Tacho
10 A	Stortsystem
10 A	Blinker, Hupe, Bremslicht
10 A	Licht

#### Kontaktbelegung – Lichtschalter (Typ CEV 9610)

	g	ьl	ge	3	ge ,/s	r	br
Lights ●							
LO beom 🔊	•		•	•			
Hi beom 🗐 🔿		•	•	•			
Horn 🔀						•	•
Engine off 🕅					•		•
	5	2	1	3	6	4	

Start- Notaus- Schalter

• •				02.00			
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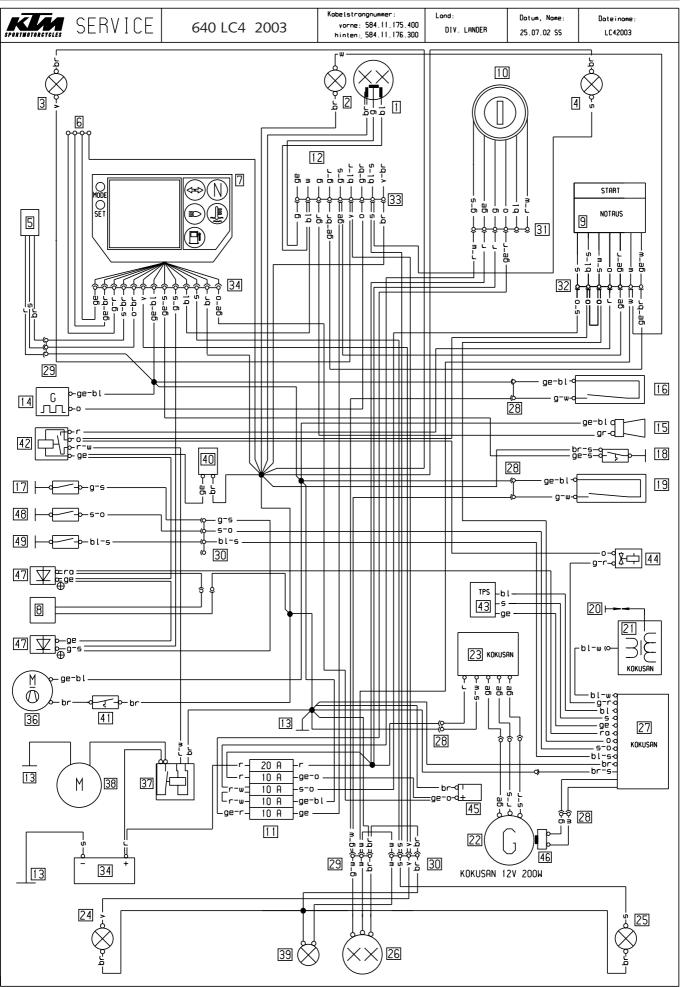
Zündschloß (Typ Zodi)								
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#### Blinkerschalter

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	Spanisch
1	fara
2	luz de posicion
3	interm. izquierdo delantero
4	intermitente derecho delantero
5	luces de aviso ON
6	lampara aviso luces largas
7	
8	conector multiple (2)
9	conector multiple (3)
	conector multiple (4)
	interr. luz de freno del.
12	interr. luz. de fren tras.
-	claxon
	conjunto del intermintente
	CDI
	bujia
17	
	generador
	generado de impulsos
21	regulador de tension TPS
22	
22	interuptor clingoteur interruptor combinodo
24	intermitente izquierdo trasero
25	intermitente derecho trasero
26	luz de freno trosero
27	conector ventilador
	luz lpaca de matricula
29	
	condensador
31	conector a massa
32	conector multiple (6)
	interruptor tripmoster
	sensor cable
35	batteria 12V
	llave de contacta
37	rele de arranque
38	motor de arranque
39	boton de arranque per de urg





# 12-60D

								12-000
	Deutsch			Englisch		Italienisch		Französisch
2 5 5 5 7 1 5 7 1 1 1 1	Scheinwerfer Schandlicht Blinker li vo Blinker re vo Sensorkabel zum Tripmoster Jorto Seitenstönders Start-Not-Aus Zundschloß Sicherungskosl Zum Kombischal Masseanschluß Blinkgeber Horn Bremslichtsch. Zundspule Denerator Begelgleichrid Blinker ze hi Blinker re hi Brems-Schlußli CDI-Einheit 2-pol.Stecker B-pol	schol: ten lter . hi chter	ter N)	Englisch 1 headlight 2 parking light 3 blinker left front 4 blinker right front 5 Sensorcable 6 to tripmoster switch 7 tachometer 8 sidestandswitch 9 run-off/start switch 10 ignition switch 11 fusebox 12 to combinat, switch 13 ground connection 14 blink signal system 15 horn 16 stoplight switch f. 17 idle switch (N) 18 temperature switch 19 stoplight switch r. 20 spark plug 21 ignition coil 22 generator 23 regulator-rectifier 24 blinker left rear 25 blinker right rear 26 rear-stoplight 27 CDI-unit 28 multip.cont.plug (2) 29 multip.cont.plug (3) 30 multip.cont.plug (4) 31 multip.cont.plug (20) 35 battery 12V 8Ah 36 fan motor 37 starter relay 38 starter engine 39 licence plate lighting 40 clutch switch 41 temperature switch 42 startar auxil, relay 43 TPS 44 magnetic valve 45 capacitor 46 gear switch 3rd gear 49 gear switch 2th gear	$\begin{array}{c} 2 \\ 3 \\ 4 \\ 5 \\ 6 \\ 7 \\ 8 \\ 9 \\ 1 \\ 1 \\ 1 \\ 2 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1$	Italienisch faro luce di posizione lampegg. ant. sn. lampegg. ant. sn. lampegg. ant. dx. cavo sensor interrupttore tripmaster tachimetro int.de cavalleto later disinseritor/partire int. dccensione scatola fusibili multicomando collegam. o mossa trosmett. di lampeg. clacson int.luce arresto ant. interr.luce folle (N) int. temperatura int.luce arresto post candela bobina d'accens. dinamo regolatore di tens lampegg. post. sn. lampegg. post. sn. lampegg. post. dx. fanal.post.di freno CDI-seatola connettore a 2 poli connettore a 6 poli connettore a 6 poli connettore a 9 poli connettore a 9 poli connettore a 20 poli batteria 12V 8Ah ventilatore rele d'avviamento mot.d'avviamento mot.d'avviamento int. temperatura rele avviam. ausiliario TPS valvola elettromagnetica condensatore trosmettitore d'impulsi diodo 3.secondo marcia 2.secondo marcia	$\begin{array}{c}123456789\\011123456789\\11123456789\\01122222222222222223333333333444234456789\\012222222222222223333333333334442344567889\\012222222222222222233333333333333333333$	<pre>Französisch phore feu de position clignoteur av. gauche clignoteur av. droit capteur cable bouton tripmoster capteur commut de bequille later bout de demar/oar d'urg contact.d'allum. boite a fusibles vers commutateur mosse centrale clignot. klaxon cont.av de stop contact.pt.mort (N) contact. de temperature contact.orr.de stop bougie bobine d'allumage generateur regulat.redresseur clign.arr.gauche clign.arr.droit feu arr.et de stop boitier CDI connect.multiple (3) connect.multiple (12) connect.multiple (9) connect.multiple (12) connect.multiple (12) connect.multiple (12) connect.multiple (20) batterie 12V &amp;Ah ventilateur relaise demarreur demarreur electrique ecl.plaque d.immat. contact.de temperature relaise auxi demarrage TPS electrovanne condensateur capteur diode cont.d.boite d.vites.(3) cont.d.boite.d.vites.(2)</pre>
i cherungskosti res.		Spanisch	3 in 4 in 5 ser 6 in 7 to 8 in	z de posicion 2 term: izquierdo delontero 2 termitente derecho delontero 2 nsor coble 2 terruptor tripmoster 2 cometro 2 delocobolleteloterol 2	20 bu 21 bo 22 ge 23 re 24 in 25 in 26 lu	terruptor luz de frendo tros jio bino de encendido nerodor gulador de tension termitente izquierdo trosero termitente derecho trosero z de freno trosero idod cdi	38 39 40 41 42 43 44	rele de orronque motor de orronque luz plozo de motriculo interruptor de embraque interruptor temperoturo rele del orronque TPS volvolo mognetico condensador
Hauptsicherung Kondensator, Startsystem Blinker, Hupe	ondensator, Tacho 11 co itartsystem 14 co		lave de contacto 2 ajo de fusibles 2 Iterruptor combinado 3 ancetor a masa 3 anjunto del intermitente 3		necdor multiple (2) nector multiple (3) nector multiple (4) nector multiple (6) nector multiple (9) nector multiple (12)	46 47 48	condensador generado de impulsos diado interruptor de combio (3) interruptor de combio (2)	
Licht	, 5. 25 (10.11)		17 in	terruptor punto muerto 3	35 ba	nector multiple (20) terio 12V 8 Ah ntilodor electrico		

S	icherungskasten	
20 A	555	
10 A	res.	
20 A	Hauptsicherung	
10 A	Kondensator, Tacho	
10 A	Startsystem	
10 A	Blinker, Hupe, Bremslicht	
10 A	Licht	

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	ge gelb ar arau		yellow grey	-	giallo grigio		jaune gris		amarillo gris		TURN R =						
	g grün	g	green	9	verde	g 9	vert	9	verde		LIGHTS •	•					Γ
	o orange r rot	o r	orange red	0	arancione rosso	0	orange rouge	o r	naranja rojo		≣D H	LO		•	=		F
	ra rosa		pink	ra	rosa	ro	rose		rosado			HI			•		F
	s schwarz v violett	s	black violet	s	nero violetto	5 v	noir violet	s	negro violeto		HORN 🖂	7	•		$\dashv$		F
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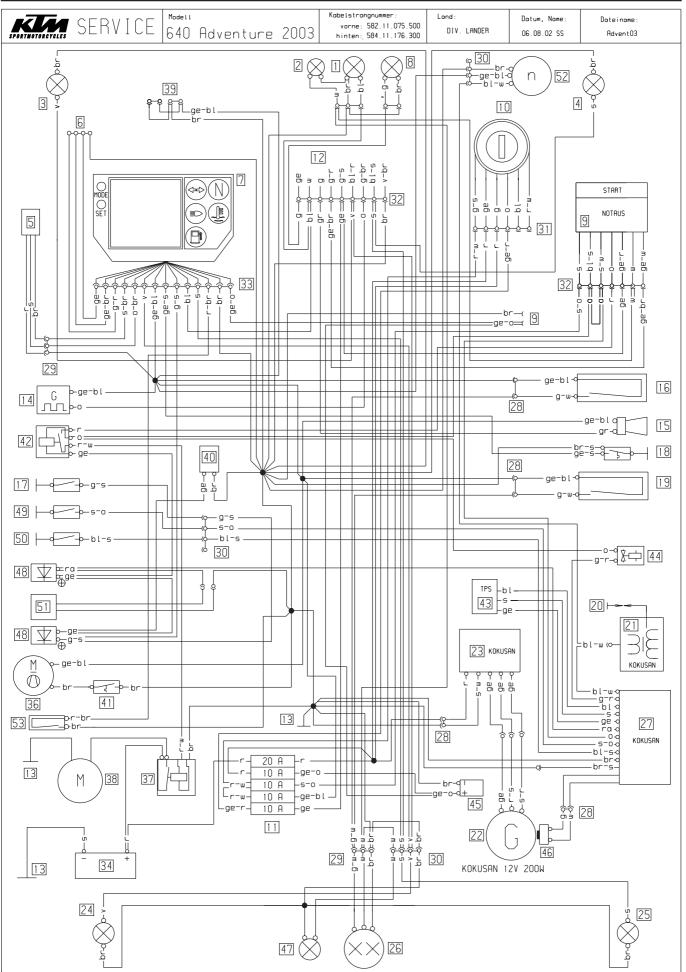
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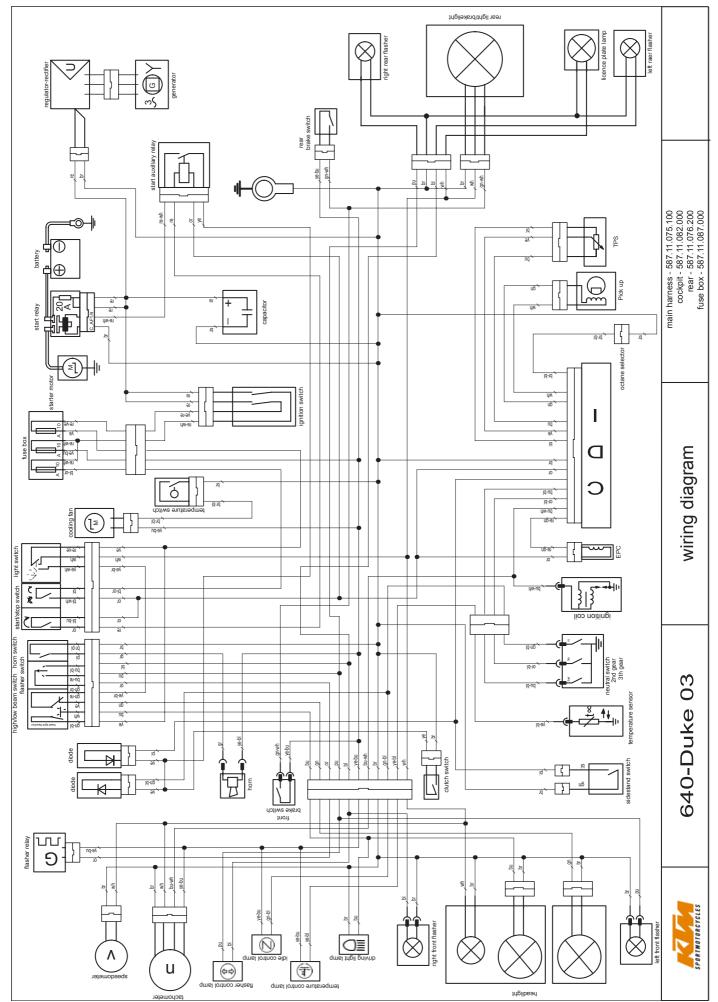
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### 12-62D

					T	
(	$\overline{)}$		Deutsch 1 Fernlicht	Englisch 1 headlight	ltalienisch 1 faro	Französisch 1 ohare
	2 StandLicht		2 parking light	2 luce di posizione	2 feu de position	
		3 Blinker li vo 4 Blinker re vo	3 blinker left front 4 blinker right front	3 lampegg. ant. sn. 4 lampegg. ant. dx.	3 clignoteur av. gauche 4 clignoteur av. droit	
		5 Sensorkabel 6 zum Tripmasterschalter	5 the sensor cable 6 to tripmaster switch	5 sensor cavo 6 interrupttore tripm.	5 palpeur cable 6 bouton tripmaster	
$\sim$			7 Tachometer	7 tochometer	7 tachimetro	7 comp.vitesse
$( \ \ )$			8 Abblendlicht 9 Steckdose	8 low beam 9 socket	8 anabbaglianti 9 la presa a spina	8 feu de croisement 9 prise de courant
			10 Zündschloß	10 ignition switch 11 fusebox	10 int. accensione	10 contact.d'allum.
_			11 Sicherungskasten 12 zum Kombischalter	12 to combinat. switch	11 scatola fusibili 12 multicomando	11 boite a fusibles 12 vers commutateur
			13 Masseanschluß 14 Blinkgeber	13 ground connection 14 blink signal system	13 collegam. a massa 14 trasmett. di lampeg.	13 masse 14 centrale clignot.
 ۲	_		15 Horn	15 horn	15 clacson	15 klaxon
5	_		16 Bremslichtsch, vo   17 Leerlaufschalter (N)	16 stoplight switch f.  17 idle switch (N)	16 int.luce arresto ant. 17 interr.luce folle (N)	16 cont.av de stop 17 contact.pt.mort (N)
	7		18 Temperaturfühler 19 Bremslichtsch, hi	18 temperature switch 19 stoplight switch r.	18 int. temperatura 19 int.luce arresto post	18 contact. de temperature 19 contact.arr.de stop
			20 Zündkerze	20 spark plug	20 candela	20 bougie
			21 Zündspule 22 Generator	21 ignition coil 22 generator	21 bobina d'accens. 22 dinamo	21 bobine d'allumage 22 generateur
$\bigcap$			23 Regelgleichrichter 24 Blinker li hi	23 regulator-rectifier	23 regolatore di tens	23 regulat.redresseur
~	_		25 Blinker re hi	24 blinker left rear 25 blinker right rear	24 lampegg. post. sn. 25 lampegg. post. dx.	24 clign.arr.gauche 25 clign.arr.droit
			26 Brems-Schlußlicht 27 CDI-Einheit	26 rear-stoplight 27 CDI-unit	26 fanal.post.di freno   27 CDI-seatola	26 feu arr.et de stop 27 boitier CDI
			28 2-pol.Stecker	28 multip.cont.plug (2)	28 connettore a 2 poli	28 connect.multiple (2)
/			29 3-pol.Stecker 30 4-pol.Stecker	29 multip.cont.plug (3) 30 multip.cont.plug (4)	29 connettore a 3 poli 30 connettore a 4 poli	29 connect.multiple (3) 30 connect.multiple (4)
	$\sum$		31 6-pol.Stecker 32 9-pol.Stecker	31 multip.cont.plug (6) 32 multip.cont.plug (9)	31 connettore a 6 poli 32 connettore a 9 poli	31 connect.multiple (6) 32 connect.multiple (9)
	_		33 20-pol.Stecker 34 Batterie 12V 8Ah	33 multip.comt.plug (20)	33 connettore a 20 poli	33 connect.multiple (20)
	_		35 Start-Not-Aus	34 battery 12V 8Ah  35 run-off/start switch	34 batteria 12V 8Ah   35 disinsertor/partire	34 batterie 12V 8Ah 35 bout de demar/all d'urg
			36 Lüftermotor 37 Startrelaise	36 fan motor 37 starter relay	36 ventilatore 37 rele d'avviamento	36 ventilateur 37 relaise de demarreur
	~		38 Startermotor	38 starter engine	38 mot.d'avviamento elettr.	38 demarreur electrique
(			39 Roadbookversorgung 40 Kupplungsschalter	39 roadbook-ernergie 40 clutch switch	39 roobook-energia 40 interrutore frizione	39 roadbook-energie 40 contact.de embrayage
$\leq$			41 Thermoschalter	41 temperature switch	41 int. temperatura	41 contact.de temperature
	_		42 Starterhilfsrelaise 43 TPS	42 startar auxil. relay 43 TPS	42 rele avviam. ausiliario 43 TPS	42 relaise auxi demarrage 43 contact.de carburateur
			44 Magnetventil	44 magnetic valve 45 capacitor	44 valvola elettromagnetica	44 electrovanne
			45 Kondensator   46 Impulsgeber	46 pulser coil	45 condensatore 46 trasmettitore d'impulsi	45 condensateur 46 capteur
			47 Kennzeichenbeleuchtun 48 Diode	g 47 licence pl. lighting 48 diode	47 iluminat de targa 48 diodo	47 ecl lpaque d immat 48 diode
$\geq$			49 Kontaktstift 3.Gang	49 gear switch 3rd gear	49 3.secondo marcia	49 cont.d.boite d.vites.(3)
			50 Kontaktstift 2.Gang 51 Seitenständersalter	50 gear switch 2th gear 51 sidestandswitch	50 2.secondo marcia 51 int. de cavalleto later	50 cont.d.bolte.d.vites.(2) 51 commut de bequille later
			52 Drehzahlmesser	52 tachometer	52 contagiri	52 compte-tours
$\sim$			53 Benzinstandgeber	53 reserve fuel sensor	53 carbur de vreserve sensor	53 palpeur d.livello d.carb
	_		•			
	Г					
			1 faro 2 luz de posicion	20 bujia 21 bobina de er		conector paralelo interruptor de embraque
			3 interm. izquierdo delo 4 intermitente derecho o			interruptor temperatura rele del arrangue
		_	5 sensor cable	24 intermitente	e izquierdo trasero 43	
		sch	6 interruptor tripmaster   7 luz tacometro	25 intermitente 26 luz de freno		valvola magnetica condensador
		ani	8 luces de crule 9 tomocorriente	27 unidad cdi	46	generado de impulsos
		Spo	10 Llave de contacto	28 conecdor mul 29 conector mul		luz lpaca de matricula diodo
			11 caja de fusibles 12 interruptor combinado	30 conector mul 31 conector mul		interruptor de cambio (3) interruptor de cambio (2)
			13 conector a masa	32 conector mul	ltiple (9) 51	int delcaballetelateral
			14 conjunto del intermite   15 claxon	ente 33 conector mul 34 bateria 12V	0 O	cuentarreveluciones combustible sensor
			16 interruptor 17 interruptor punto muer	35 boton de arr	ranque per de urg	
			18 interruptor temperatur	ra 37 rele de arro	anque	
23.01.2002	L		19 interruptor luz de fre			Start- Notaus- Schalter
Deutsch	Englis	ch	Italienisch Französie	sch Spanisch Kombische	5- 0- V- c- 0 0-	ASAHI o s-bl- DENSO o w s r w w
bl blau	bl blue		bl blu bl bleu	bl azul	bl br br bl -s g r <sup>ye</sup>	
br braun ge gelb	br brown ge yello		br marrone br brun ge giallo ge jaune	br marron TURN L ge amarillo TURN P		
gr grau	gr grey		gr grigio gr gris	gr gr is		
g grün o orange	g greer o orang		g verde g vert o arancione o orange	g verde LIGHTS o naranja	• H L0	Zündschloß (Typ Zodi)
r rot ra rosa	r red rapink		r rosso r rouge ra rosa ra rose		H HI	
s schwarz	s black		s nero s noir	s negro HORN		
v violett ω weiß	v viole w white		v violetto v violet w bianco w blanc	v violeta PASSING		

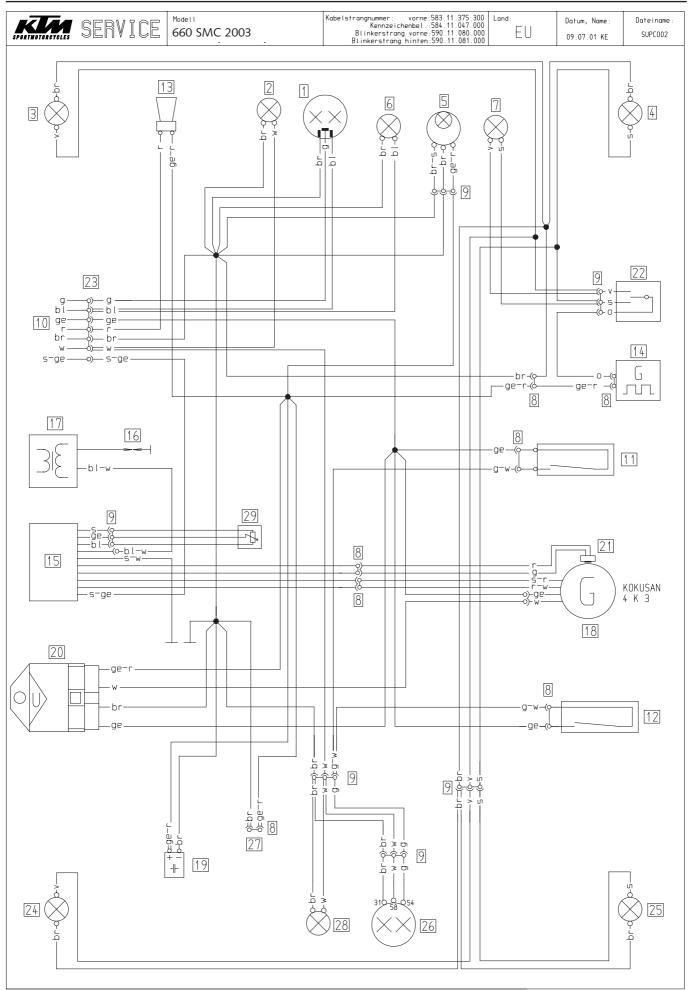


Art.-Nr. 3.206.006 -E

Repair manual KTM LC4

12-63D

12-64D



# KTM 660 SMC 2003

Deutsch	Englisch	Italienisch	Französisch
1 Scheinwerfer	1 headlight	1 faro	1 phare
2 Standlicht	2 position light	2 luce di posizione	2 feu de position
3 Blinker li vo	3 turn indic left fr	3 lampegg.ant.sn.	3 clignoteur av gauche
4 Blinker re vo	4 turn indic right fr	4 lampegg.ant.dx.	4 clignoteur av droit
5 Tacho	5 speedometer	5 tachimetro	5 compteur de vitesse
6 Fernlichtkontrolle	6 high beam indicator	6 spia abbagliante	6 temoin feu route
7 Blinkerkontrolle	7 turn indicator	7 spia lampeggiatori	7 temoin de clignoteur
8 2-pol Stecker	8 multip.cont.plug (2)	8 connettore a 2 poli	8 connect multiple (2)
9 3-pol Stecker	9 multip.cont.plug (3)	9 connettore a 3 poli	9 connect multiple (3)
10 zum Kombischalter	10 to combinat switch	10 multicomando	10 commodo
11 Bremslichtsch vo	11 stoplight switch f	11 int luce arresto ant	11 contact de stop av.
12 Bremslichtsch hi	12 stoplight switch r	12 int luce arresto post	12 contact Harr de stop
13 Horn	13 horn	13 clacson	13 klaxon
14 Blinkgeber	14 turn indicator	14 trasmett di lampeg.	14 centrale clignot.
15 CDI	15 CDI	15 CDI	15 CDI
16 Zündkerze	16 spark plug	16 candela	16 bougie
17 Zündspule	17 ignition coil	17 bobina d'accens.	17 bobine d'allumage
18 Generator	18 generator	18 dinamo	18 generateur
19 Kondensator	19 capacitor	19 condensatore	19 condensateur
20 Spannungsregler	20 voltage regulator	20 regol. di tens.	20 regulateur
21 Impulsgeber	21 pulser coil	21 trasmett d'impulsi	21 generateur d'impuls.
22 Blinkerschalter	22 blink switch	22 int. lampeggiatori	22 contact d clignateur
23 6-pol Stecker	23 multip.cont.plug (6)	23 connettore a 6 poli	23 connect multiple (6)
24 Blinker li hi	24 blinker left rear	24 lampegg.post.sn	24 clign arr gauche
25 Blinker re hi	25 blinker right rear	25 lampegg.post.dx.	25 clign_arr_droite
26 Brems-Schlußlicht	26 rear-stoplight	26 fanal post di freno	26 feu arr.et de stop
27 Lüfteranschluss	27 fan connection	27 connett ventilatore	27 connect ventilateur
28 Kennzeichenbeleucht	28 licence plt lighting	28 illuminat.de.targa.	28 ecl plaque d immat
29 Vergaserpotentiomet.	29 carburetor potentiom	29 carburatore potent.	29 carburateur potenti.

Blinkerschalter

5 0 V

• + •

• + •

 $\Rightarrow$ 

Deutsch Englisch		Italienisch	Französisch	Spanisch	
bl blau br braun ge gelb gr grau g grün	bl blue br brown ge yellow gr grey g green	bl blu br marrone ge giallo gr grigio g verde	bl bleu br brun ge jaune gr gris g vert	bl azul br marron ge amarillo gr gris g verde	
o orange	o orange	o arancione	o orange	o naranja	
r rot	r red	r rosso	r rouge	r rojo	
s schwarz	s black	s nero	s noir	s negro	
v violett	v violet	v violetto	v violet	v violeta	
w weiß	w white	w bianco	w blanc	w blanco	

Kontaktk	beleg	ung -	-
Lichtschalter	(Typ	CEV	9610)

	g	bl	ge	w	ge ./s	r	br
Lights •							
LO beam 🗊	•		•	•			
Hi beam ≣⊂>		•	•	-•			
Horn 🗁						•	-•
Engine off 💢					•		•
	5	2	1	3	6	4	

h	Spanisch
n llo	1 faro 2 luz de posicion 3 interm. izquierdo delantero 4 intermitente derecho delantero
jα	5 tacometro 6 lampara aviso luces largas
ta o	<pre>7 lampara aviso intermitentes 8 conector multiple (2) 9 conector multiple (3) 10 interruptor combinado 11 interr. luz de freno del. 12 interr. luz. de fren tras. 13 claxon 14 conjunto del intermintente</pre>
	<ul> <li>15 CDI</li> <li>16 bujia</li> <li>17 bobina de encendido</li> <li>18 generador</li> <li>19 condensador</li> <li>20 regulador de tension</li> <li>21 generado de impulsos</li> <li>22 interuptor clignoteur</li> <li>23 conector multiple (6)</li> <li>24 intermitente derecho trasero</li> <li>25 internitente derecho trasero</li> <li>26 luz de freno trasero</li> <li>27 conector ventilador</li> <li>28 luz plaza de matricula</li> <li>29 carburador poteciometro</li> </ul>