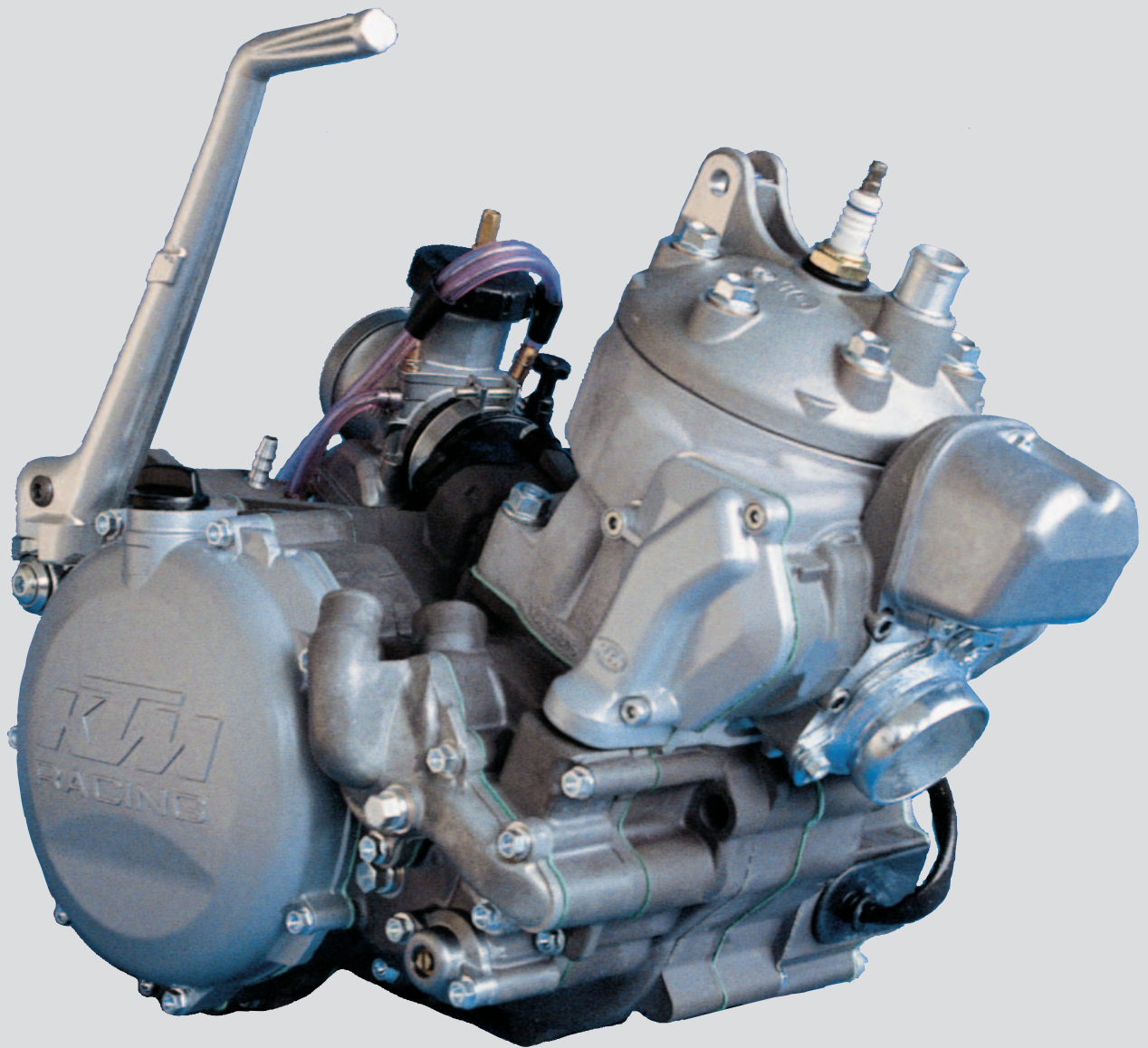


**250/300/380 SX,MXC,EXC**

**KTM**  
SPORTMOTORCYCLES

**REPAIR MANUAL  
ENGINE**



**KTM**  
SPORTMOTORCYCLES

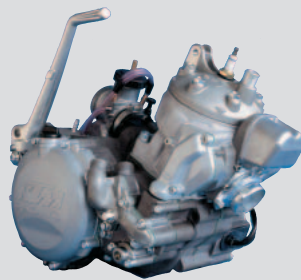
**KTM SPORTMOTORCYCLE AG**  
5230 Mattighofen  
Austria  
[www.ktm.at](http://www.ktm.at)



**250 - 380  
SX, MXC, EXC**

**REPAIR  
MANUAL  
ENGINE**

**KTM**  
SPORTMOTORCYCLES





**1 SERVICE-INFORMATIONS**

---

**2 GENERAL INFORMATION**

---

**3 REMOVING AND REFITTING ENGINE**

---

**4 DISASSEMBLING THE ENGINE**

---

**5 SERVICING ON INDIVIDUAL COMPONENTS**

---

**6 ASSEMBLING THE ENGINE**

---

**7 ELECTRICAL**

---

**8 TROUBLE SHOOTING**

---

**9 TECHNICAL SPECIFICATIONS**

---

**10 PERIODIC MAINTENANCE SCHEDULE**

---

**11 WIRING DIAGRAMS**

---

**12**

---

**13**

---

**14**

---

**15**

---

**16**

---



# 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:

**14-20, 26, 28-36, 37, 41, 42, 50, 51, 67, 72-77, 83, 121-126, 127, 134-136,  
137, 151-153**

Remove page (s)	Replace by page (s)	Insert page (s)	after page
2-1 to 2-4	2-1C to 2-6C		
3-4	3-4C		
4-1 to 4-9	4-1C to 4-8C		
5-1	5-1C		
5-4	5-4C / 5-5C		
5-13 to 5-14	5-13C to 5-14C		
7-1	7-1C	7-5C to 7-10C	
9-1	9-1C	9-37C to 9-42C	
10-1	10-1C	10-6C to 10-8C	
11-1	11-1C	11-14C to 11-16C	

## 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

- |                    |   |                |
|--------------------|---|----------------|
| <b>3.205.63-E</b>  | <b>Repair Manual 250 / 300 / 380 SX, MXC, EXC</b><br>Basicversion Modelyear 1999<br>(Engine number with first digit "9")                        | <b>11/1998</b> |
| <b>3.205.87-E</b>  | <b>Updating of Rep.Manual 3.205.63-E</b><br>Modelyear 2000<br>(Engine number with first digit "0")  | <b>2/2000</b>  |
| <b>3.210.02-E</b>  | <b>Updating of Rep.Manual 3.205.63-E</b><br>Modelyear 2001/2002<br>(Engine number with first digit "1")<br>(Engine number with first digit "2") | <b>3/2001</b>  |
| <b>3.206.004-E</b> | <b>Updating of Rep.Manual 3.205.63-E</b><br>Modelyear 2003<br>(Engine number with first digit "3")  | <b>11/2002</b> |

Modification / Updating:  
Technical Specification,  
Periodic Maintenance Schedule, Wiring Diagrams



## INTRODUCTION

This repair manual offers extensive 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 professionally trained mechanics.

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

---

**⚠ WARNING ⚠**

---

**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

All design and assembly modification rights reserved.



## 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

Company/work shop

# GENERAL INFORMATION

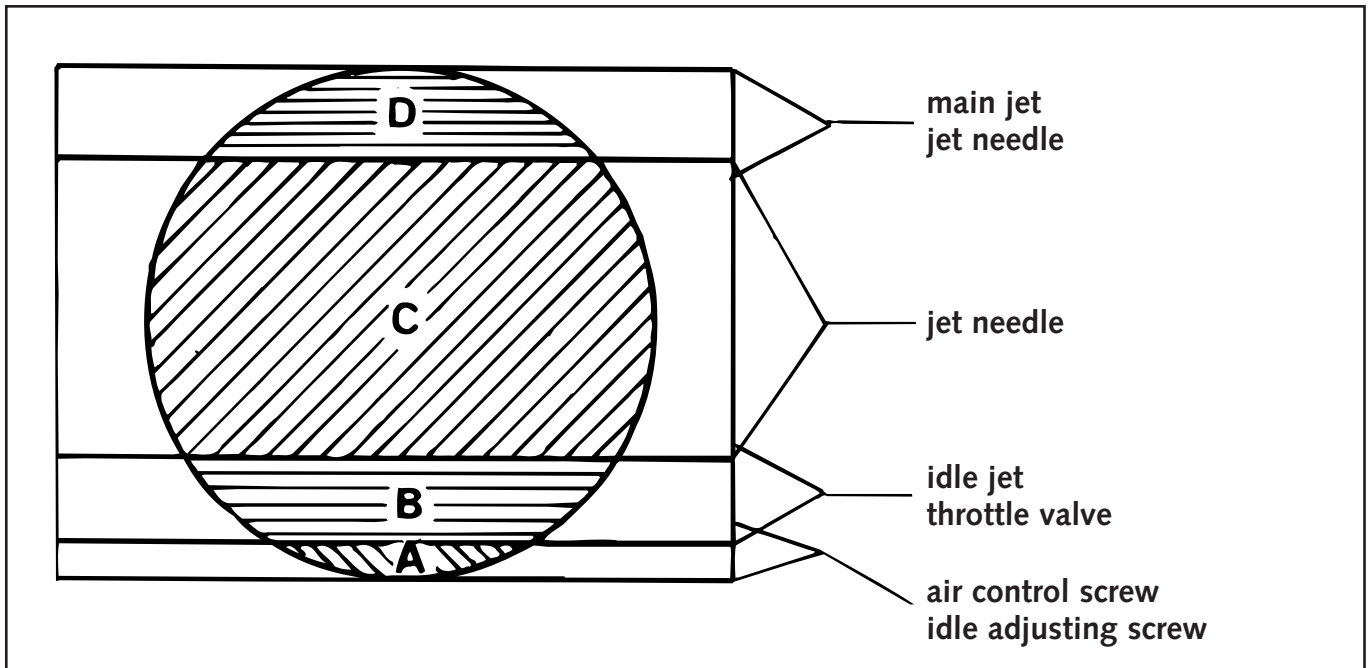
# 2

## INDEX

OPERATING RANGES OF THE CARBURETOR . . . . .	.2-2
CARBURETOR ADJUSTMENT . . . . .	.2-3
CHECKING OF THE SETTING OF THE TVC SYSTEM . . . . .	.2-4
BLEEDING OF THE HYDRAULIC CLUTCH . . . . .	.2-4
SPECIAL TOOLS - ENGINE . . . . .	.2-5
CLEANING . . . . .	.2-6
STORAGE . . . . .	.2-6

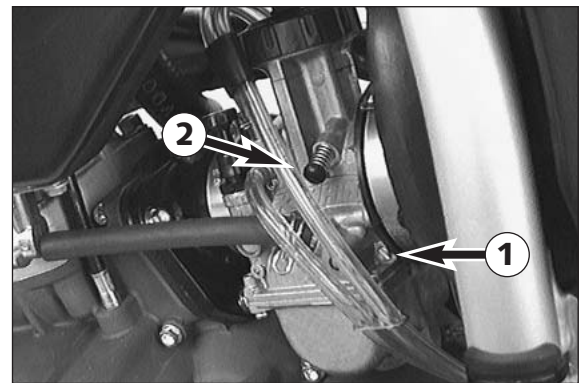


## OPERATING RANGES OF THE CARBURETOR



mixture too lean:  
not enough fuel in proportion to air

mixture too rich:  
too much fuel in proportion to air



### 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**. Only make adjustments when the engine is hot.

To this end, slightly increase the idling speed of the engine by means of the idle adjusting screw. Turning it clockwise produces a higher idling speed and turning the screw counterclockwise produces a lower idling speed. Create a round and stable engine speed using the air control screw (basic position of the air control screw = open by 1.5 turns). Then adjust to the normal idling speed by means of the idle adjusting screw.

### 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 and smokes 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 part-throttle setting is controlled by the idling setting in the lower range and by the main jet in the upper range. If the engine runs on a four-stroke cycle or with reduced power when it is accelerated with the throttle partly open, the jet needle must be lowered by one notch. If then the engine pings, especially when accelerating under full power at maximum engine revs, the jet needle should be raised.

If these faults should occur at the lower end of the part throttle range at a four-stroke running, make the idling range leaner; if the engine pings, adjust the idling range richer.

### 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 or if the engine rings, 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.



**Carburetor adjustment**

**Basic information on the original carburetor setting**

The original carburetor setting was adapted for an altitude of approx. 500 meters (1600 ft.) above sea level, and the ambient temperature of approx. 20° C (68° F), mainly for off-road use and central European premium-grade fuel (ROZ 95 MOZ). Mixing ratio 2-stroke motor oil : super fuel 1:40 – 1:60.

**Basic information on a change of the carburetor setting**

Always start out from the original carburetor setting. Essential requirements are a clean air filter system, air-tight exhaust system and an intact carburetor. Experience has shown that adjusting the main jet, the idling jet and the jet needle is sufficient and that changes of other parts of the carburetor will not greatly affect engine performance.

RULE OF THUMB:

high altitude or high temperatures → choose leaner carburetor adjustment  
 low altitude or low temperatures → choose richer carburetor adjustment



**WARNING**



- ONLY USE PREMIUM-GRADE GASOLINE ROZ 95 MIXED WITH HIGH-GRADE TWO-STROKE ENGINE OIL. OTHER TYPES OF GASOLINE CAN CAUSE ENGINE FAILURE, AND USE OF SAME WILL VOID YOUR WARRANTY.
- ONLY USE HIGH-GRADE 2-STROKE ENGINE OIL OF KNOWN BRANDS.
- NOT ENOUGH OIL OR LOW-GRADE OIL CAN CAUSE EROSION OF THE PISTON. USING TOO MUCH OIL, THE ENGINE CAN START SMOKING AND FOUL THE SPARK PLUG.
- IN THE CASE OF A LEANER ADJUSTMENT OF THE CARBURETOR PROCEED CAUTIOUSLY. ALWAYS REDUCE THE JET SIZE IN STEPS OF ONE NUMBER TO AVOID OVERHEATING AND PISTON SEIZURE.

NOTE: If despite a changed adjustment the engine does not run properly, look for mechanical faults and check the ignition system.

**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).

jet needle	throttle valve open	effect
<b>N 85 A</b>		
<b>N 85 B</b>	0 - 1/4	⊖
<b>N 85 C</b>	0 - 1/4	⊖⊖
<b>N 85 D</b>	0 - 1/4	⊖⊖⊖
<b>N 85 E</b>	0 - 1/4	⊖⊖⊖⊖
<b>NOZ C</b>		
<b>NOZ D</b>	0 - 1/4	⊖
<b>NOZ E</b>	0 - 1/4	⊖⊖
<b>NOZ F</b>	0 - 1/4	⊖⊖⊖
<b>NOZ G</b>	0 - 1/4	⊖⊖⊖⊖
<b>NOZ H</b>	0 - 1/4	⊖⊖⊖⊖⊖
<b>NOZ I</b>	0 - 1/4	⊖⊖⊖⊖⊖⊖
<b>NOZ J</b>	0 - 1/4	⊖⊖⊖⊖⊖⊖⊖
<b>N3CG</b>		
<b>N3CH</b>	0 - 1/4	⊖
<b>N3CW</b>	0 - 1/4	⊖⊖

**Explanation - Example**

Compared to the needle N 85 A, the jet needle N 85 C is two steps leaner in the range from the closed position of the throttle to 1/4 throttle. Otherwise, there are not differences.

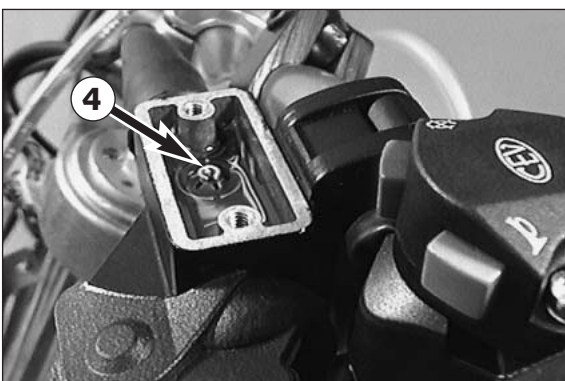
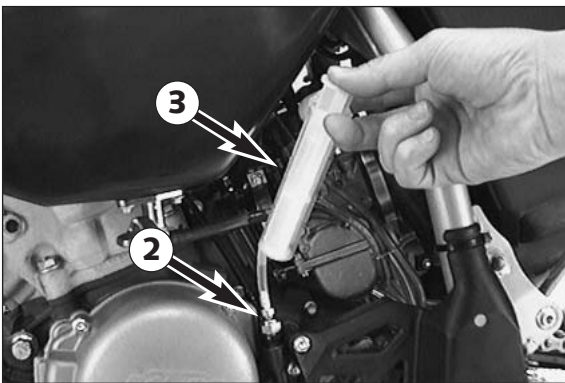
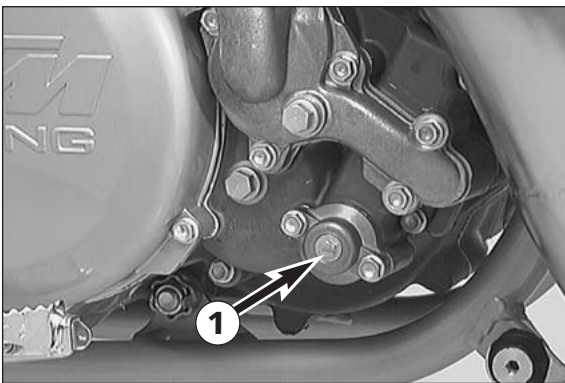
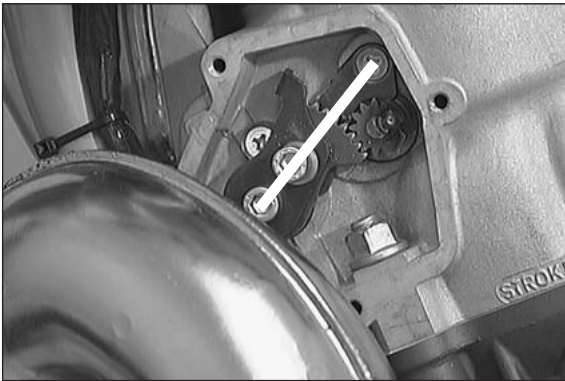
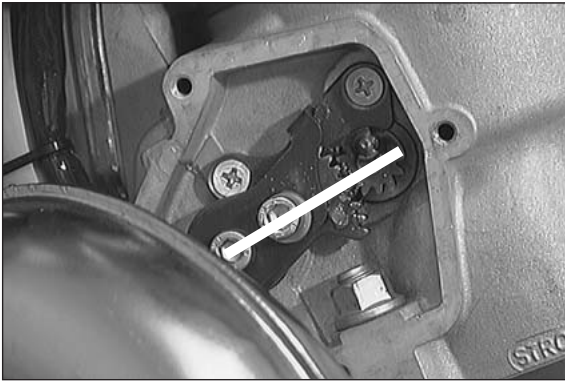
<b>N 85 C</b>	0 - 1/4	⊖⊖
---------------	---------	----



**CAUTION**



WHEN CHANGING THE JET NEEDLE, MAKE SURE THAT YOU USE THE CORRECT NEEDLE TYPE (N 85 ,NOZ OR N3). THE TECHNICAL DATASHEET TELLS YOU WHICH JET NEEDLE CAN BE USED FOR WHICH MODEL.



### Checking the setting of the TVC system

The function of the TVC system is checked with the engine running. This test checks the start of advance and the end of advance.

- For this, remove the left control cover.
- Connect a rev counter (either to the ignition cable or to the blue/white cable in the electronics box, depending on the rev counter design).
- Start engine, accelerate gently and observe when the TVC system starts to advance (tooth segment creeps upwards).

	start of advance	end of advance
250 Model 1999	5400 U/min	7550 U/min
250 from Modell 2000 on	5000 U/min	7000 U/min
300 up to Modell 2000	5300 U/min	7750 U/min
300 from Modell 2001 on	5900 U/min	7750 U/min
380	5200 U/min	7200 U/min

- If necessary, turn the adjusting screw ❶.

NOTE: Twisting the adjusting screw in delays the commencement of adjustment by the TVC system, twisting the adjusting screw out means that the TVC system will perform the adjustment earlier.

### Bleeding of the hydraulic clutch

- Take off cover together with rubber bellows.
- At the slave cylinder of the clutch, remove the bleeder nipple ❷. In its place, mount the bleeder syringe ❸ which is filled with SAE 10 hydraulic oil.

- Refill oil, until oil is discharged from the bore ❹ of the master cylinder in a bubble-free state. Make sure that the oil does not overflow.

#### ! CAUTION !

- HAVING COMPLETED THE BLEEDING PROCEDURE, YOU HAVE TO VERIFY THAT THE OIL LEVEL IN THE MASTER CYLINDER IS CORRECT.
- 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.

## SPECIAL TOOLS – ENGINE 250 / 300 / 380

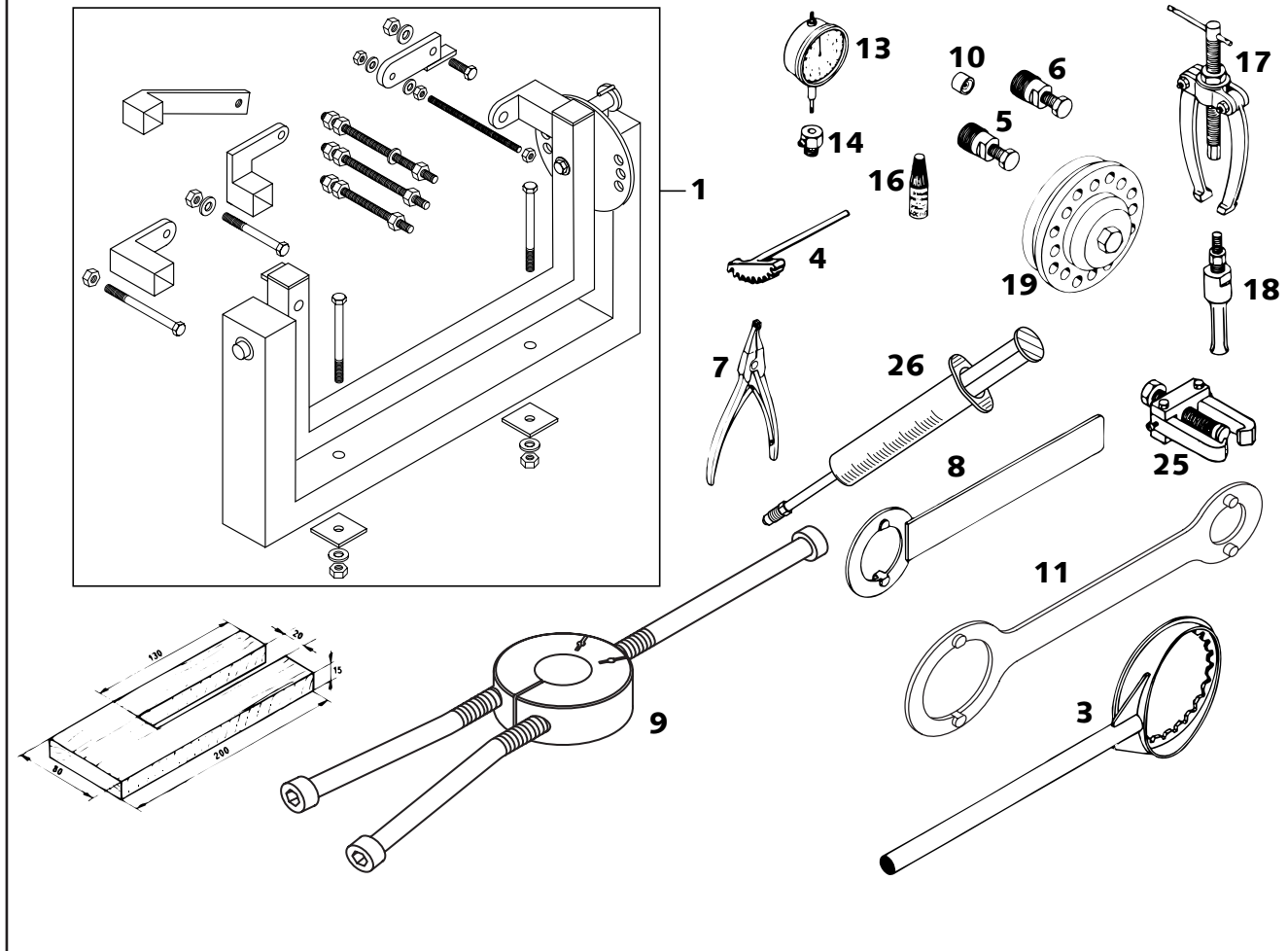


Fig.	Part no.	Description
1	560.12.001.000	Universal engine work stand
3	546.29.003.000	Clutch holder
4	560.12.004.000	Gear wheel segment
5	546.29.009.044	Magneto extractor M 27x1 Kokusan
6	6 276 807	Magneto extractor M 26x1,5 SEM
7	510.12.011.000	Circlip plier
8	544.12.012.000	Holding spanner for flywheel SEM
9	584.29.037.040	Mounting tool inner ring NJ 207
9	584.29.037.043	Mounting tool inner ring NJ 207
10	510.12.016.000	Protection cap
11	546.29.012.100	Holding spanner for flywheel Kokusan
13	501.12.013.000	Dial gauge 0-10 mm
14	501.12.030.000	Dial gauge support
16	6 899 785	Loctite 243 blue 6 ccm
17	151.12.017.000	Bearing puller
18	151.12.018.100	Internal bearing puller 18-23 mm
18	151.12.018.000	Internal bearing puller 12-16 mm
18	151.12.018.200	Internal bearing puller 5-7 mm
19	546.29.027.000	Clutch rivetting tool
25	0276 179 000	Extractor primary gear
26	503.29.050.000	Vent springe for hydraulic clutch

## CLEANING

Clean your motorcycle regularly in order to maintain the beauty of its plastic surfaces.

The best manner would be to use warm water that has been mixed with a normal brand-name washing detergent and a sponge. The hard dirt can be removed before washing with the help of a soft water jet.

!

### CAUTION

!

NEVER CLEAN YOUR MOTORCYCLE WITH A HIGH-PRESSURED CLEANER OR A HIGH-PRESSURED WATER JET. THE WATER COULD OTHERWISE RUN INTO THE ELECTRICAL COMPONENTS, CONNECTORS, SHEATHED CABLES, BEARINGS, CARBURETOR, ETC. AND CAUSE DISTURBANCES OR LEAD TO A PREMATURE DESTRUCTION OF THESE PARTS.

- Before cleaning with water, plug the exhaust pipe to prevent water ingress.
- You should use normal brand-name detergents to clean the motorcycle. Especially dirty parts should also be cleaned with the help of a paint brush.
- After the motorcycle has been rinsed with a soft water jet, it should be dried by air pressure and a cloth. Then take a short drive until the engine has reached the working temperature and also use the brakes. By warming these components, the residual water can evaporate from inaccessible parts of the engine and the brakes.
- Slide back the protective covers on the handlebar-mounted instruments so that any water that may have seeped into this part of the motorcycle is allowed to evaporate.
- After the motorcycle has cooled down, oil and grease all the gliding bearing parts. Treat the chain with a chain spray.
- To prevent failures in the electric system, you should treat the ignition lock, the emergency OFF switch, the short circuit button, the light switch and the socket connectors with contact spray.

## CONSERVATION FOR WINTER OPERATION

In the event that the motorcycle is also used in winter and on roads where one has to expect salt spraying, you will have to take precautions against the aggressive road salt.

- clean the motorcycle thoroughly and let it dry after each ride
- treat the engine, carburetor, swing arm, and all other bare or galvanized parts (except for brake discs) with a wax-based anti-corrosion agent.

⚠

### WARNING

⚠

KEEP THE ANTI-CORROSION AGENT FROM GETTING INTO CONTACT WITH THE BRAKE DISCS, OTHERWISE THIS WILL SIGNIFICANTLY REDUCE THE BRAKING POWER.

!

### CAUTION

!

AFTER RIDES ON SALTED ROADS, CLEAN MOTORCYCLE THOROUGHLY WITH COLD WATER AND LET IT DRY WELL.

## STORAGE

Should you wish to make a pause over a longer space of time, please observe the following instructions:

- Clean motorcycle thoroughly (see chapter: CLEANING)
- Change engine oil (old engine oil contains aggressive contaminants).
- Check antifreeze and amount of cooling liquid.
- Let the engine warm up again, close fuel cock and wait until the engine dies off by itself. In this way the carburetor jets are prevented from becoming resin- clogged by the old fuel.
- Remove spark plug and fill in approx. 5 ccm of engine oil into the cylinder through the opening. Actuate kick-starter 10 times in order to distribute the oil onto the cylinder walls and mount the spark plug.
- Let fuel flow out of tank into an appropriate container.
- Correct tire pressure.
- Lubricate bearing points of the control levers, footrests, etc. as well as the chain.
- The storage place should be dry and not be subjected to too big temperature fluctuations.
- Cover the motorcycle with an air permeated tarp or blanket. Do not use non airtight materials as a possible humidity might not be able to escape and thereby cause corrosion.

!

### CAUTION

!

IT WOULD BE VERY BAD TO LET THE ENGINE RUN FOR A SHORT TIME DURING THE STORAGE PERIOD. THE ENGINE WOULD NOT GET WARMED UP ENOUGH AND THE THUS DEVELOPED STEAM WOULD CONDENSE DURING THE COMBUSTION PROCESS AND CAUSE THE VALVES AND EXHAUST TO RUST.

### USE AFTER A PERIOD OF STORAGE

- Fill up the tank with fresh fuel.
- Check the motorcycle as before each start (see driving instructions)
- Take a short, careful test ride first.

NOTE: Before you put your motorcycle away for the winter, you should check all parts for their function and wear. Should any service jobs, repairs, or any refitting be necessary, you should have them carried out during the off-season (lower workload at mechanics' shops). This way, you can avoid the long waiting times at your shop at the beginning of the next biking season.

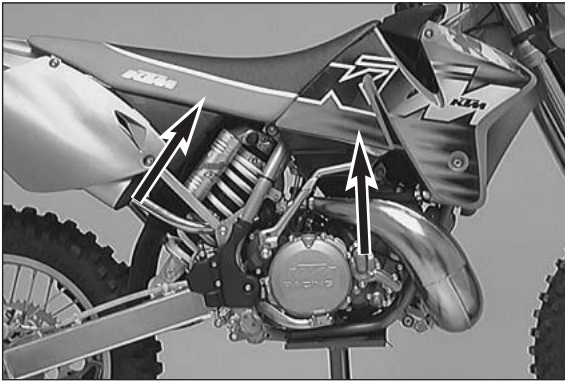


# REMOVING AND REFITTING ENGINE 3

## INDEX

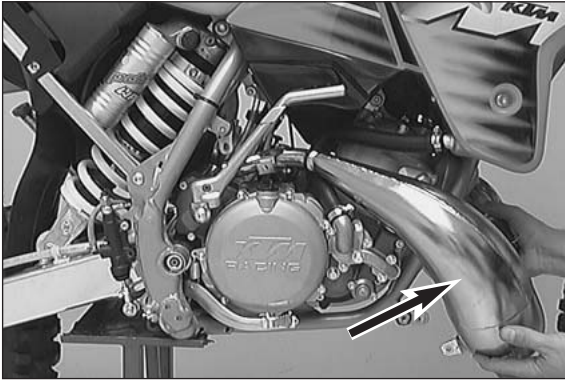
REMOVING THE ENGINE .....	.3-2
REFITTING THE ENGINE .....	.3-4



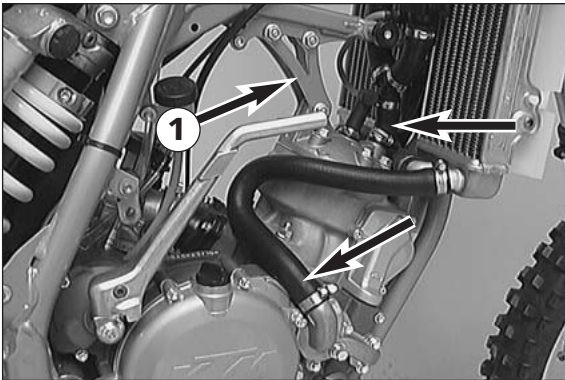


### Dismounting the engine

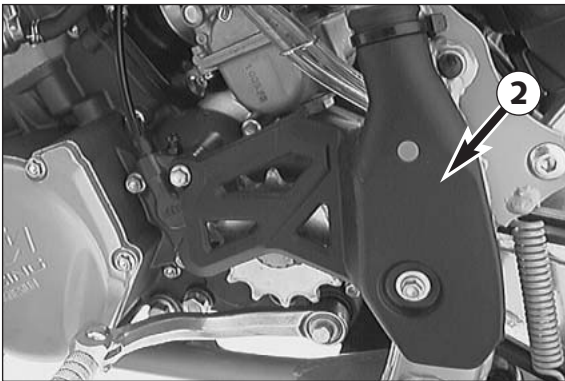
- Clean motorcycle thoroughly.
- Prop up motorcycle on an appropriate stand.
- Remove seat, right side paneling, and tank with spoilers.



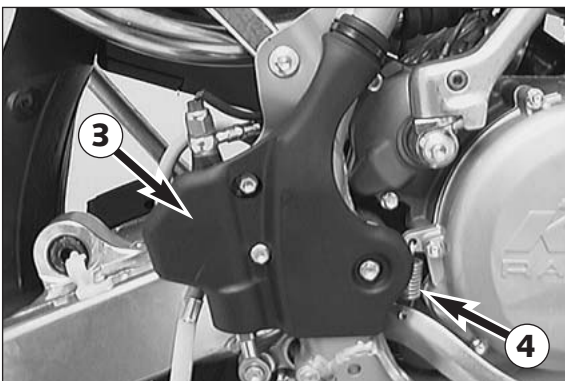
- Dismount exhaust system.



- Drain coolant, and disconnect radiator hoses from engine.
- Dismount engine strut ❶.
- Disconnect plug-and-socket connector of ignition system and spark-plug connector.

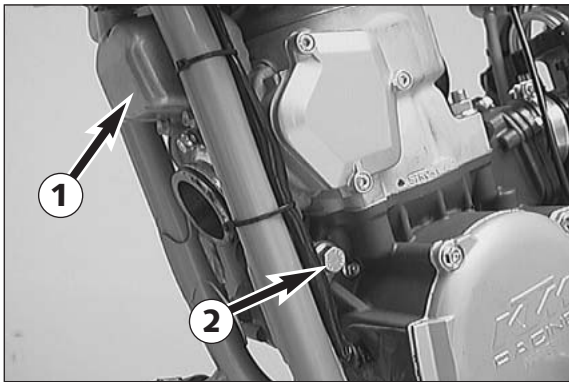


- Remove sprocket cover ❷ and chain.

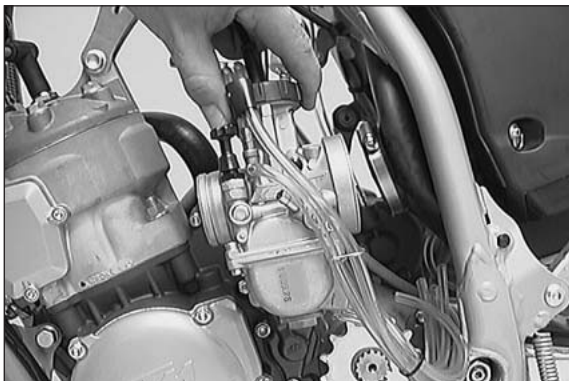


- Remove footbrake cylinder cover ❸.
- Disengage and remove spring ❹.

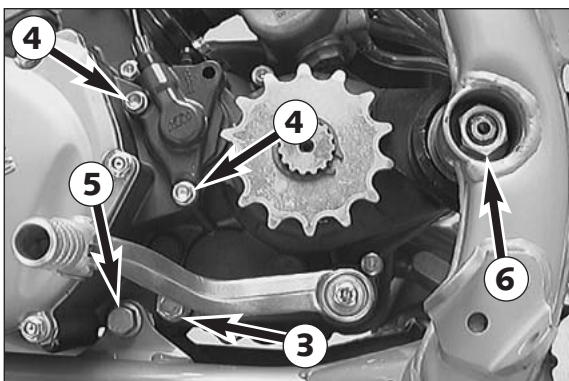




- Loosen the 3 screws, and remove intermediate flange chamber **1** of KTC system together with O-ring.
- Remove engine fastening screw **2**.
- Remove cable ties and loose the cable of ignition from frame.



- Loosen both hose clamps, and pull carburetor out of carburetor connection boot and intake flange.



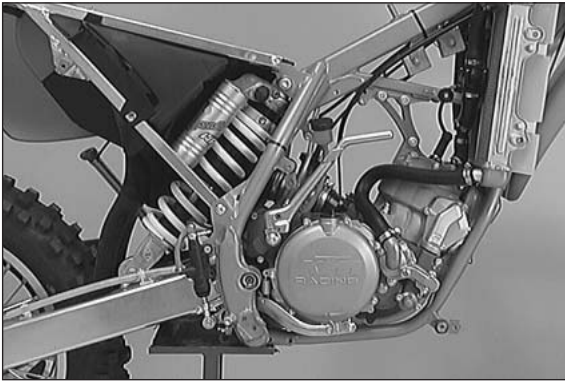
- Remove transmission-oil drain plug **3** together with sealing ring, and drain the transmission oil.
- Remove the 2 screws **4**, and dismount clutch slave cylinder.

**! CAUTION !**

DO NOT ACTUATE THE CLUTCH LEVER WITH THE CLUTCH SLAVE CYLINDER DISMOUNTED.

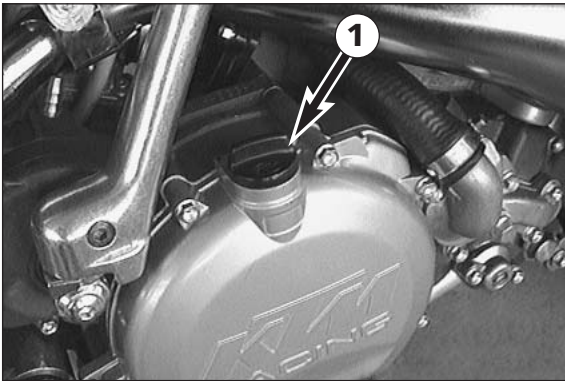
- Remove engine fastening screw **5**.
- Remove hexagon nut of swingarm pivot **6**.
- Remove swingarm pivot, and pull swing arm backward out of the frame so as to make lifting the engine out of the frame easier.
- Lift engine out of frame.

NOTE: Cylinder head and cylinder can be dismounted even if the engine remains mounted. Likewise, work on clutch, primary drive, gearshift mechanism, and ignition system can be carried out.



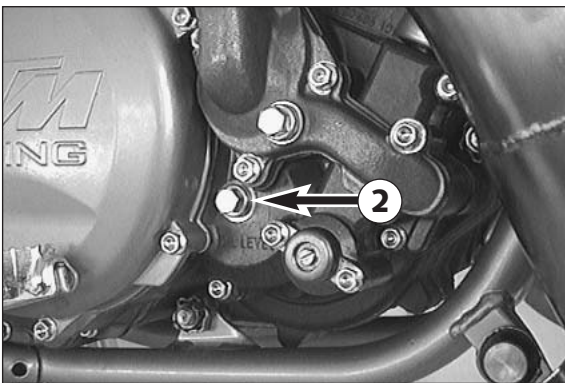
### Refitting the engine

- To install the engine, reverse the steps for removing the engine.



#### Filling in of transmission oil:

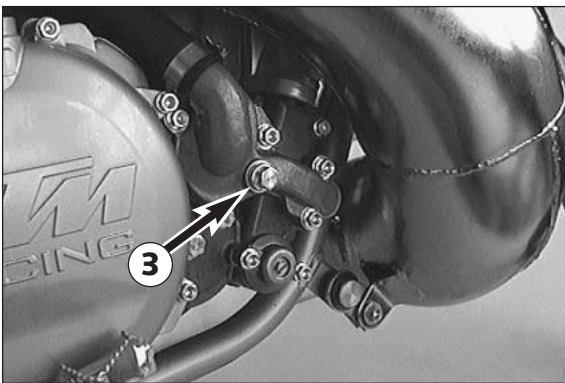
- Remove the plug ① and top up with engine oil 15W-50 (i. e. MOTOREX TOP SPEED 4T).



- In order to check the transmission oil level the control screw ② on the clutch cover is to be removed. Oil should just barely escape from the inspection opening when the motorcycle is in an upright position.

#### ! CAUTION !

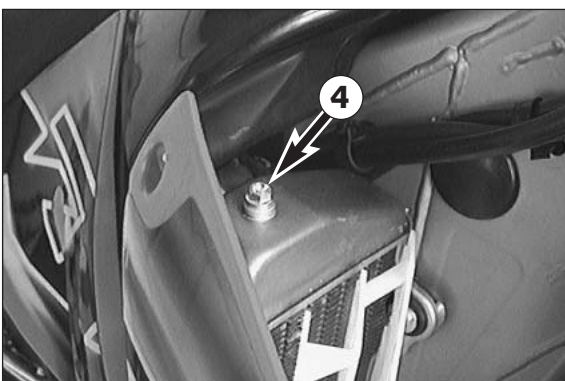
TRANSMISSION AND CLUTCH WILL BE SUBJECT TO AXCESSIVE WEAR AND TEAR, IF YOU USE TOO LITTLE OR LOW GRADE OIL. USE ONLY HIGH-GRADE OIL (I.E. MOTOREX TOP SPEED 4T).



#### Filling in of cooling liquid:

- Make sure that the drain screw ③ is fastened.
- Pour approx. 0.50 litres (0.13 US gallons) coolant into the system.

40% coolant : 60% water



- Remove the screw ④ on the right radiator and tilt the motorcycle to the right approx. 30 degree angle.
- Now add cooling liquid until it emerges free of bubbles at the right radiator. Then immediately mount the screw so that no more air can enter the right radiator.
- Return the motorcycle to its original position and top up the left radiator until the coolant can be seen approx. 10 mm (0.4 in) above the radiator fins.



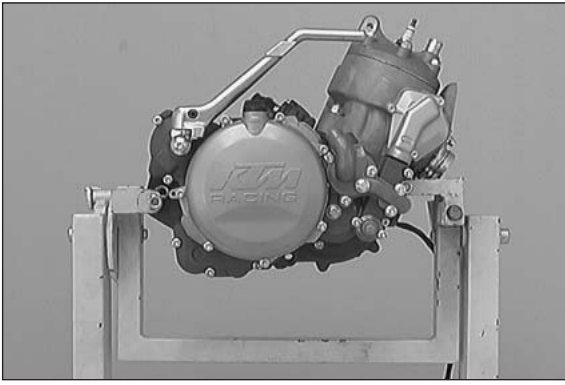
# DISASSEMBLING THE ENGINE

# 4

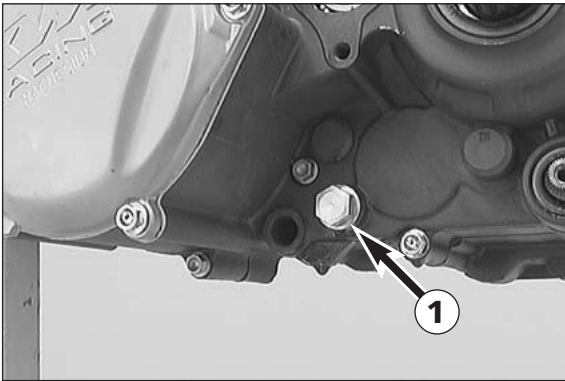
## INDEX

DRAINING GEAR OIL . . . . .	.4-2
DISMOUNTING OF SPROCKET AND SHIFT LEVER . . . . .	.4-2
DISMOUNTING OF CYLINDER HEAD, CYLINDER AND PISTON . . . . .	.4-2
DISMOUNTING OF CLUTCH COVER . . . . .	.4-3
DISMOUNTING OF PRESSURE CAP AND CLUTCH DISCS . . . . .	.4-4
DISMOUNTING OF THE PRIMARY DRIVE . . . . .	.4-4
DISMOUNTING OF KICKSTARTER . . . . .	.4-5
DISMOUNTING OF THE SHIFT LOCK . . . . .	.4-5
DISMOUNTING OF IGNITION COVER . . . . .	.4-5
DISMOUNTING OF THE IGNITION (KOKUSAN) . . . . .	.4-6
DISMOUNTING OF THE IGNITION (SEM) . . . . .	.4-6
DISMOUNTING OF INTAKE FLANGE AND REED VALVE HOUSING . . . . .	.4-7
PARTING OF ENGINE HOUSING HALVES . . . . .	.4-7
DISMOUNTING OF GEARSHIFT MECHANISM AND TRANSMISSION . . . . .	.4-7
DISMOUNTING OF THE CRANKSHAFT . . . . .	.4-8





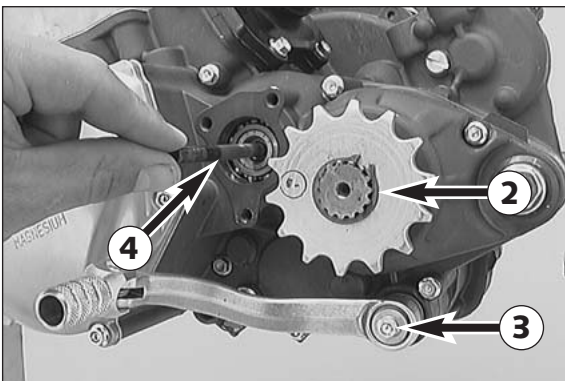
- Cleaning the engine thoroughly.
- Clamp the engine into the workstand.
- Remove the kickstarter together with the distance bushing behind.



### Draining gear oil

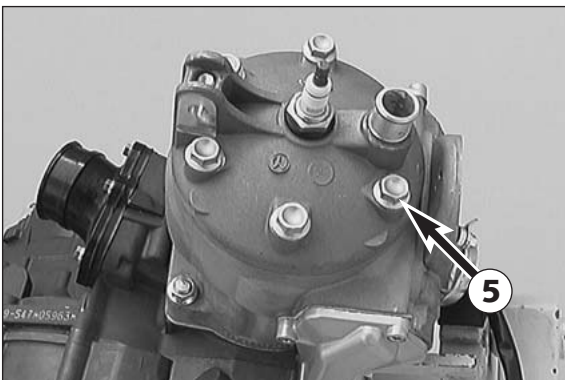
NOTE: The transmission oil should already be drained when the engine is dismantled. Otherwise, the transmission oil will leak out of the drive shaft following the removal of the slave cylinder of the clutch.

- Unscrew plug ①, allowing oil to drain.



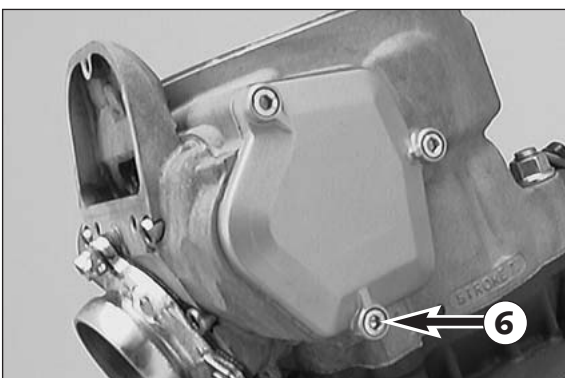
### Dismounting of sprocket and shift lever

- Remove circlip ② from countershaft using circlip pliers. Slide off engine sprocket, distance bushing and O-ring.
- Undo the screw ③ and remove the shift lever.
- Pull out the clutch push rod ④ from drive shaft.

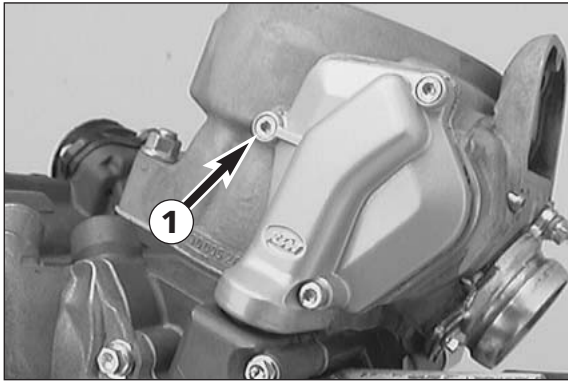


### Dismounting of cylinder head, cylinder and piston

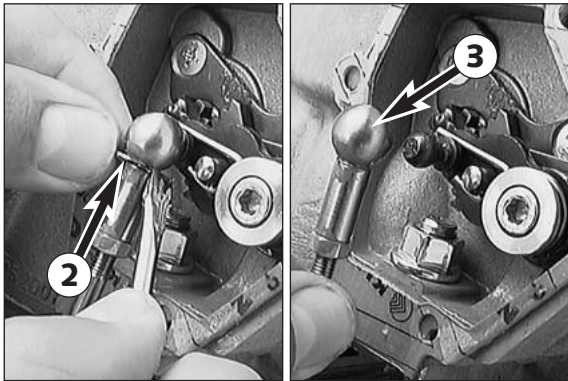
- Unscrew the 6 collar screws ⑤ and remove cylinder head and the two O-rings.



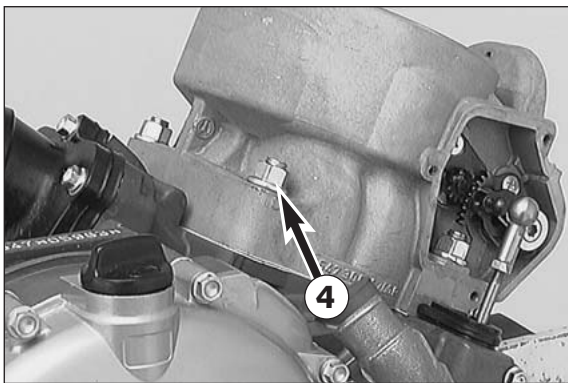
- Undo the screws ⑥ and remove the left control cover together with the gasket.



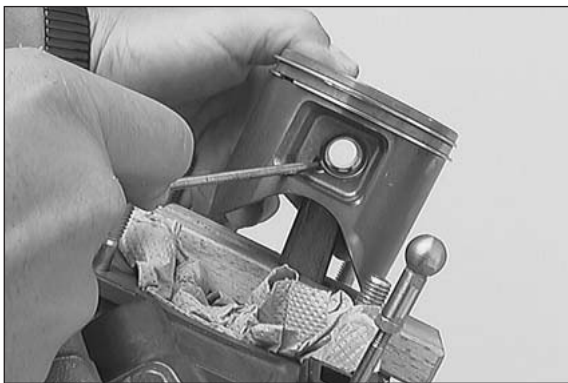
- Undo the screws **1** and remove the right control cover.



- Remove the securing clip of the ball socket **2** and unhook the ball socket **3** from the adjusting lever.
- Remove gasket of the control cover.



- Remove the 4 collar nuts **4** on cylinder base and remove cylinder.



- Cover the crankcase.
- Place piston on wooden jig and remove both piston pin locking pins.
- Expel piston pin from piston without exerting undue force. Use a suitable mandrel if necessary.
- Remove piston and piston pin needle-bearing from conrod eye.
- Remove the cylinder base gaskets.

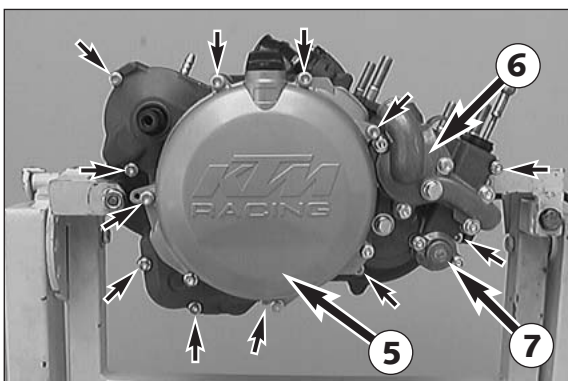
**! CAUTION !**

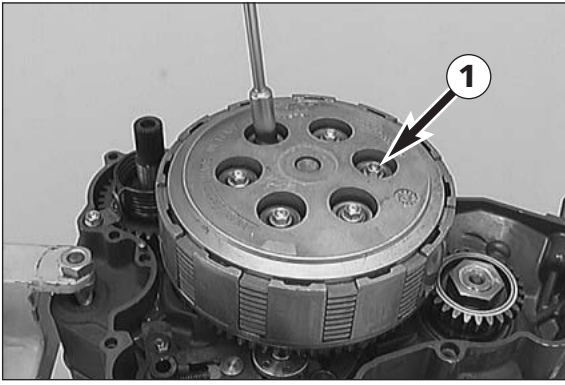
THE PISTON PIN MUST NEVER BE FORCED OUT WITH A PUNCH. THIS WOULD DAMAGE THE CONROD BEARING.

### Dismounting of clutch cover

- Remove collar screws and clutch cover including gasket.

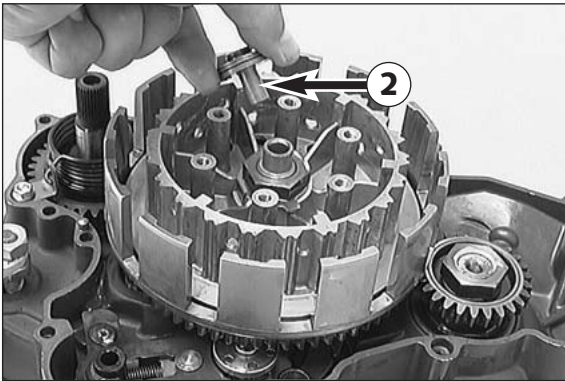
NOTE: The water pump cover **6**, the outer cover **5** and the cover lid **7** do not need to be removed. The water pump and the centrifugal timer remain in the clutch cover.



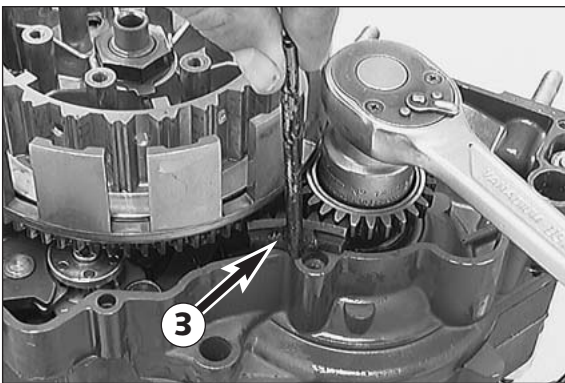


### Dismounting of pressure cap and clutch discs

- Loosen collar screws **1** in diagonally opposite sequence to prevent wedging of discs as springs expand.
- Remove collar screws, springs and spring retainers.

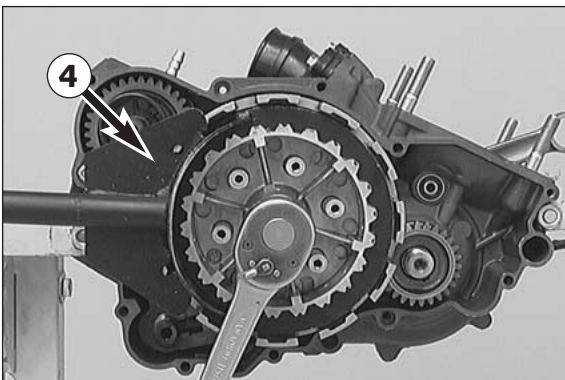


- Take pressure cap and disc package out of outer clutch hub.
- Take thrust bearing **2** off the drive shaft.

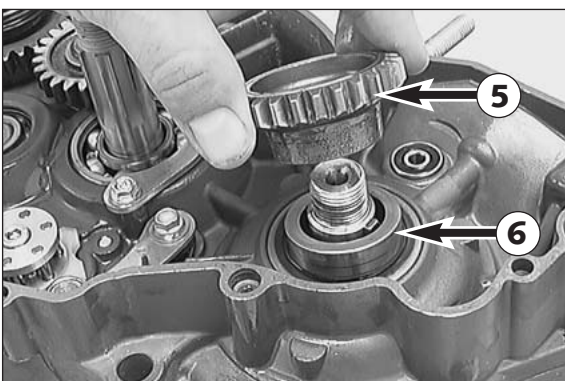


### Dismounting of the primary drive

- Block the primary gear with the gear wheel segment **3** (see illustration).
- Undo the hexagon nut (LH thread) and remove it together with the detent edged ring.



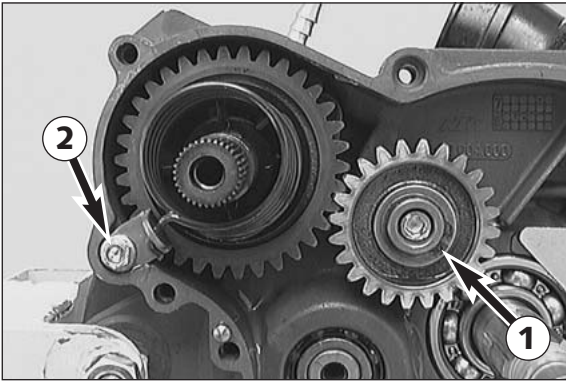
- Release the lock washer of the inner clutch hub.
- Connect clutch holder **4** to inner clutch hub and loosen hexagon nut (see illustration).
- Remove clutch holder.
- Remove inner clutch hub and outer clutch hub together with bearing from main shaft.



- Pulling the primary gear **5** and the distance bushing **6** off the crankshaft.

NOTE: The primary gear and the outer clutch hub belong together. Always replace both together!





### Dismounting of kickstarter

- Remove circlip ① and kickstarter intermediate gear.
- Carefully release collar screw ② kickstarter spring is tensioned, release tension on kickstarter spring and unhook spring hanger.

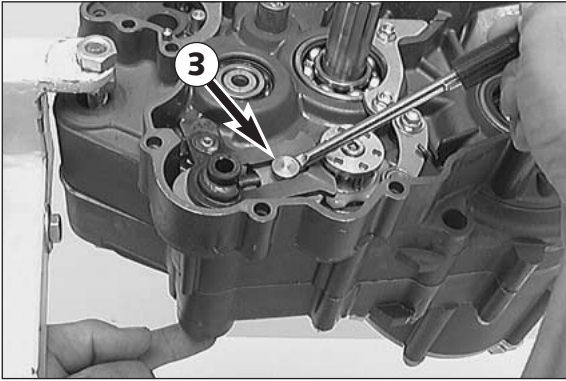
!

**CAUTION**

!

CAREFULLY RELEASE THE KICKSTARTER SPRING! DANGER OF INJURY!

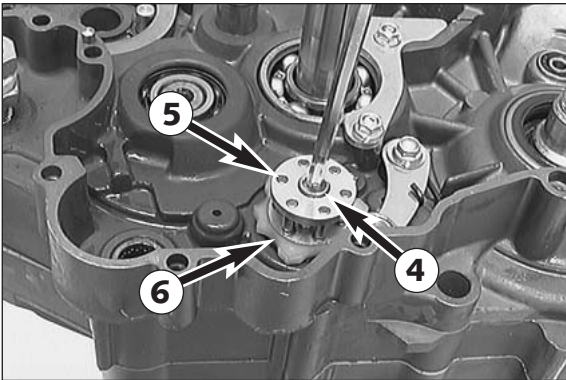
- Take the complete kickstarter shaft out of the housing.
- Take care of the stop disc, which could stay in the housing.



### Dismounting of the shift lock

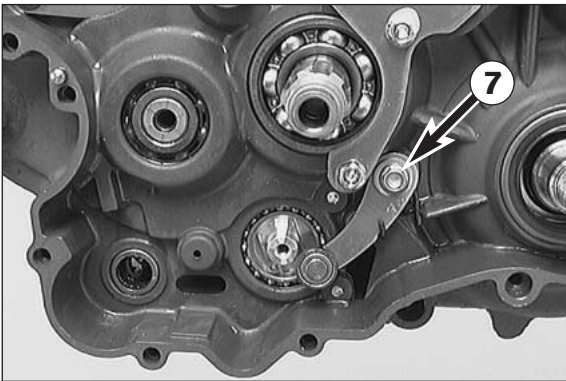
- Press the sliding plate ③ back with a screw driver so it no longer engages with the driver for the shaft roller, at the same time remove shift shaft from the housing.

NOTE: Watch the stop disc which remains in the housing.



- Remove allen head screw ④ and take driver for roller ⑤ and locking piece ⑥ from the shift roller.

NOTE: From model 2002 driver for roller ⑤ and locking piece ⑥ are made of aluminium.



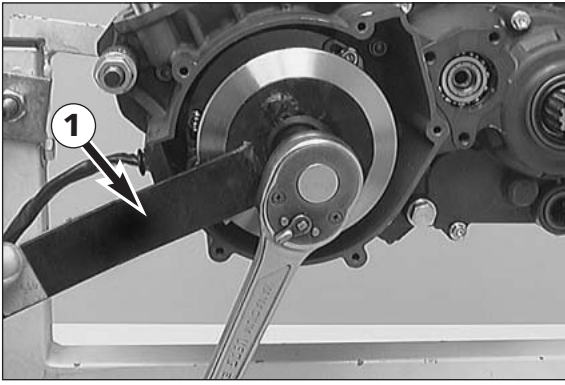
NOTE: Disassemble locating lever only if the engine case must be replaced.

- Remove screw ⑦ and locking lever with spring and bush.



### Dismounting of ignition cover

- Undo the 5 screws and remove the ignition cover together with the gasket.

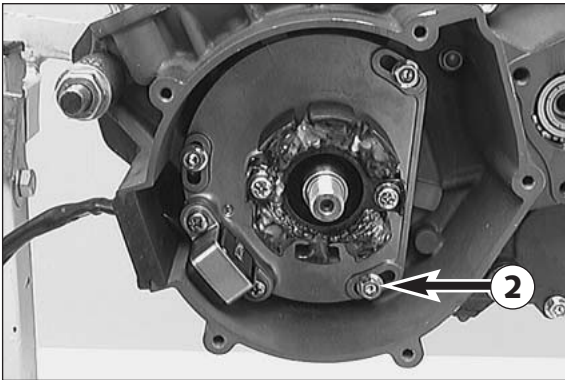


### Dismounting of the ignition (Kokusan)

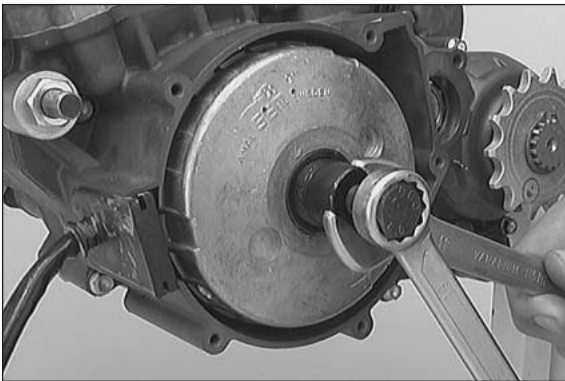
- Hold the flywheel with the holding spanner ❶ and undo the collar nut.



- Put the protection cover on the crankshaft thread, twist in the flywheel extractor and remove the flywheel.

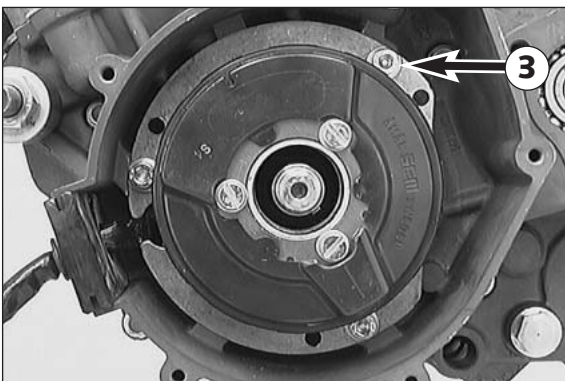


- Undo the 3 screws ❷ and remove the stator together with the base plate.

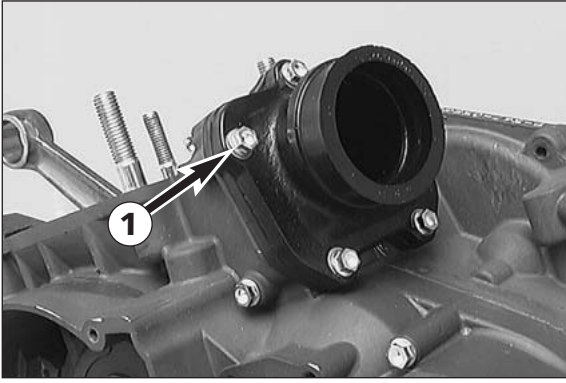


### Dismounting of the ignition (SEM)

- Hold the flywheel with the special tool and undo the collar nut.
- Place protective cap on crankshaft thread.
- Twist in the flywheel extractor and remove the flywheel.

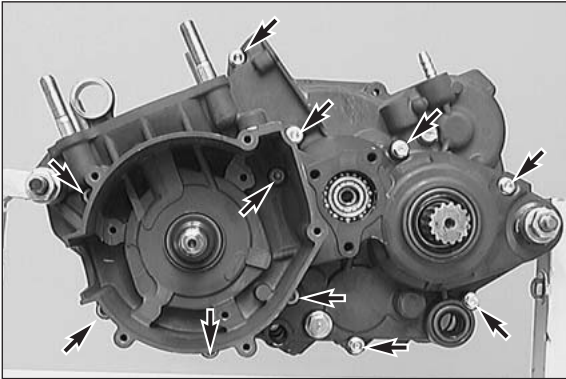


- Loosen the 3 collar screws ❸, and take base plate with stator out of the casing.



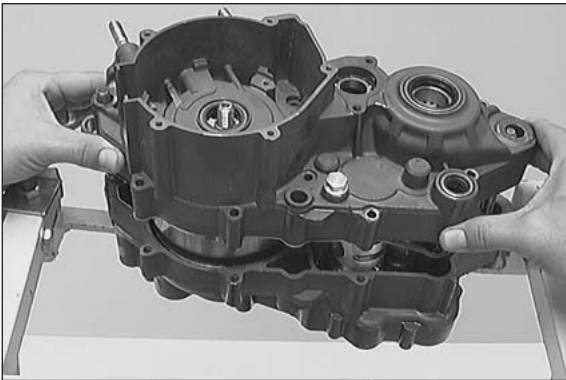
### Dismounting of intake flange and reed valve housing

- Remove the 5 collar screws ❶.
- Remove intake flange and reed valve housing.



### Parting of engine housing halves

- Top ignition-gear upwards and remove all 11 housing screws.
- Loosen the 2 engine fixtures on the engine work stand.



- Lift left-hand housing half with suitable tools by on the bosses provided, or part with a few light plastic mallet blows against the countershaft from the right-hand housing half.

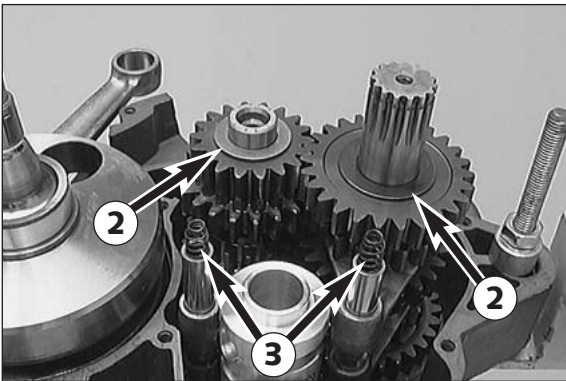
---

### ! CAUTION !

---

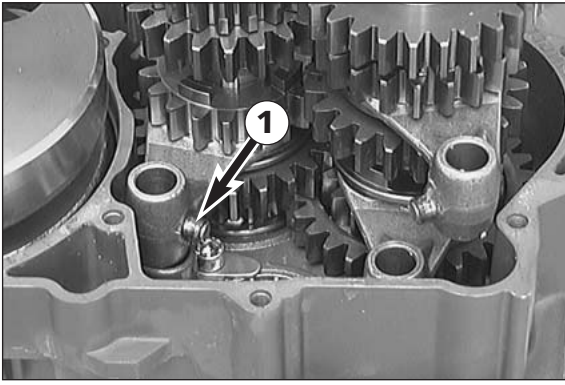
LEVERING APART WITH A SCREW DRIVER OR SIMILAR TOOL MUST BE AVOIDED, SINCE THE SEAL FACES ARE EASILY DAMAGED.

NOTE: Watch gear shaft stop discs ❷ to prevent them sticking to inside of housing.



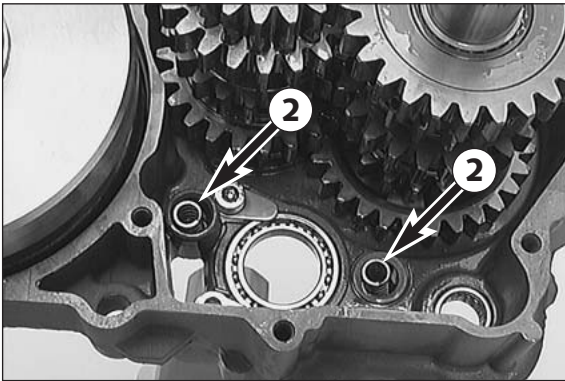
### Dismounting of gearshift mechanism and transmission

- Take the two stop discs ❷ off the transmission shafts.
- Pull the 2 pressure springs ❸ out of the shift rails.

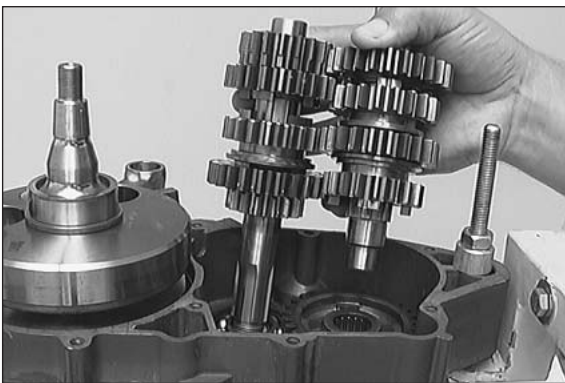


- Pull out the shift rails and swing the shift forks aside.
- Pull the shift roller out of the bearing seat.
- Remove the shift forks.

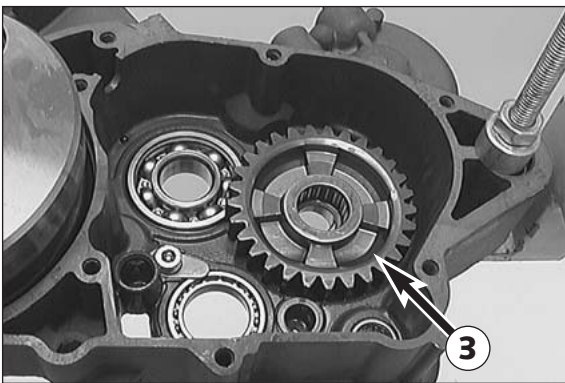
NOTE: During disassembly, watch out for the shift rollers ❶ on the driving pins of the shift forks. They may remain in the shift roller. Although the counter shaft shift forks are identical they should be refitted in the same position as before if reused. Therefore mark accordingly upon removal.



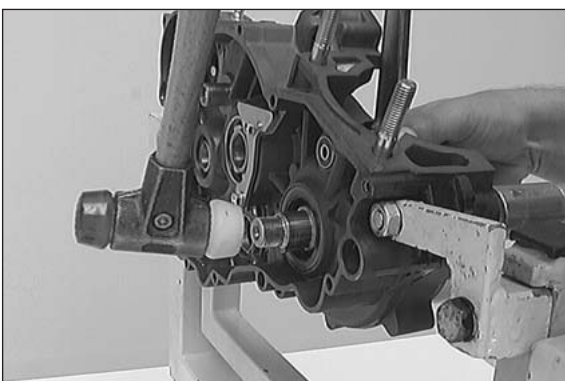
- Remove the 2 pressure springs ❷ from the engine case.



- Pull the drive shaft together with the countershaft out of the bearing seats.



- Remove 1<sup>st</sup>-gear idler gear ❸ with needle cage and the two stop discs from the engine case.



### Dismounting the crankshaft

- Pull crankshaft from the bearing seat (if necessary, use a plastic hammer and tap carefully on the crankshaft journal).

- Remove O-ring from crankshaft.
- 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 and O-rings are renewed.

# SERVICING ON INDIVIDUAL COMPONENTS 5

## INDEX

WORKING ON THE RIGHT-HAND HOUSING HALF . . . . .	.5-2
WORKING ON THE LEFT-HAND HOUSING HALF . . . . .	.5-3
CRANKSHAFT . . . . .	.5-4
CRANKSHAFT WEBS – MEASURE OUTER DIMENSION . . . . .	.5-4
PISTON . . . . .	.5-4
PISTON RING END GAP . . . . .	.5-4
CHECKING CYLINDER FOR WEAR . . . . .	.5-5
RECOATED CYLINDER . . . . .	.5-5
NIKASIL COATING OF CYLINDER . . . . .	.5-5
CYLINDER EXHAUST CONTROL SYSTEM . . . . .	.5-6
CYLINDER PREASSEMBLY . . . . .	.5-6
EXHAUST CONTROL, CLUTCH COVER . . . . .	.5-8
PREASSEMBLY OF CLUTCH COVER . . . . .	.5-8
REED VALVE HOUSING, INTAKE FLANGE . . . . .	.5-9
CLUTCH . . . . .	.5-10
REPLACE OUTER CLUTCH HUB . . . . .	.5-11
SHIFT MECHANISM . . . . .	.5-12
PREASSEMBLY OF SHIFT SHAFT . . . . .	.5-12
IGNITION (KOKUSAN) . . . . .	.5-13
SPARK PLUG . . . . .	.5-13
CHECK STATOR AND PULSE GENERATOR (KOKUSAN) . . . . .	.5-13
IGNITION (SEM) . . . . .	.5-14
CHECK STATOR (SEM) . . . . .	.5-14
TRANSMISSION . . . . .	.5-15
ASSEMBLY MAINSHAFT . . . . .	.5-15
ASSEMBLY COUNTERSHAFT . . . . .	.5-16
KICKSTARTER . . . . .	.5-17
ASSEMBLE OF KICKSTARTER SHAFT . . . . .	.5-17

### Engine housing

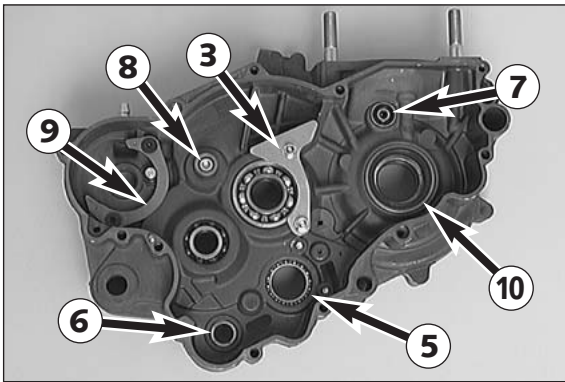
NOTE: Read through the following section before commencing work. Then determine the assembly sequence so that the engine housing halves only need to be heated up once before replacing the bearings.

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-hand housing half

- Remove all shaft seal rings and use an oven to heat the casing half to approx. 150°C.

#### Grooved ball bearing of crankshaft ①

Press old grooved ball-bearing inwards. Press in new ball bearing to the stop. The open side of the ball cage must be towards the bottom (outside) of the case.

#### Grooved ball bearing of main shaft ②

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

### ! CAUTION !

DO NOT USE FORCE WHEN PRESSING THE GROOVED BALL BEARING AGAINST THE RETAINING BRACKET ③ TO AVOID A BENDING OF THE BRACKET, WHICH WOULD RESULT IN EXCESSIVE AXIAL PLAY OF THE MAINSHAFT.

#### Grooved ball bearing of countershaft ④

Press in new grooved ball bearing from downward to the stop. The open side of the ball cage must be face inwards.

#### Grooved ball bearing of the shift roller ⑤

Remove retaining screws ① and press bearing inwards. Press in new ball bearing from inside to the stop and secure retaining screws with Loctite 243.

#### Needle bushing of the shift shaft ⑥

Press old needle bushing inwards, press in new needle bushing flush from the outside.

#### Grooved ball bearing of centrifugal timer ⑦

The bearings usually fall out of their seat of their own accord by knocking the housing half on a plane piece of wood when the housing has a temperature of 150° C. If necessary use a 6 mm internal bearing extractor and guide hammer (see illustration). Press in new grooved ball bearing to the stop.

#### Bearing bolt kickstarter intermediate gear ⑧

Experience has shown that it is never necessary to replace the bearing bolt. It is not recommended to mount a used bearing bolt in a new housing half, as it is practically impossible to remove it without causing damage.

#### Kickstarter release plate ⑨

When replacing the release plate, secure the flat-head screws with Loctite 243.

#### Crankshaft seal ring ⑩

Press in new shaft seal ring from the outside, with sealing lip facing inward, until flush.

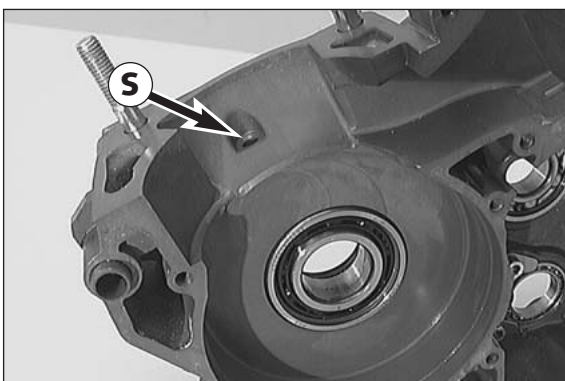
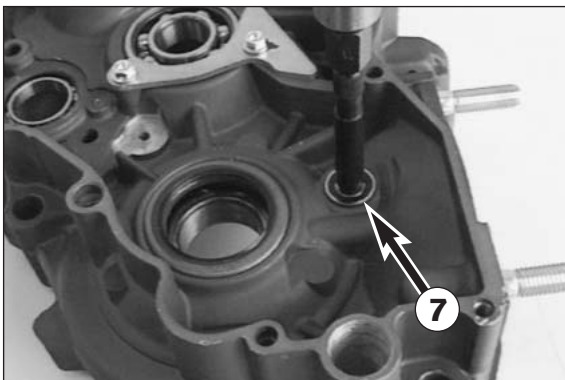
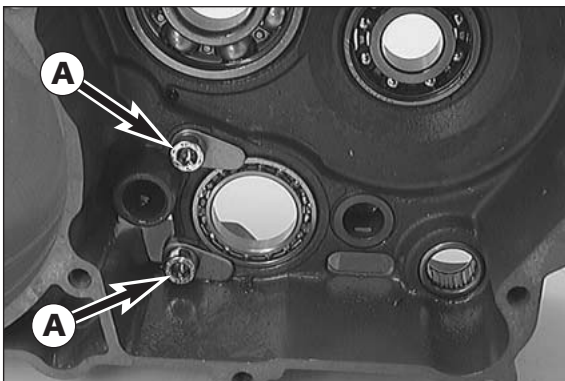
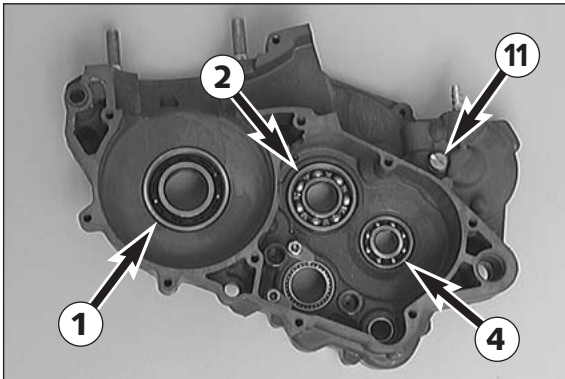
#### Stop screw kickstarter ⑪

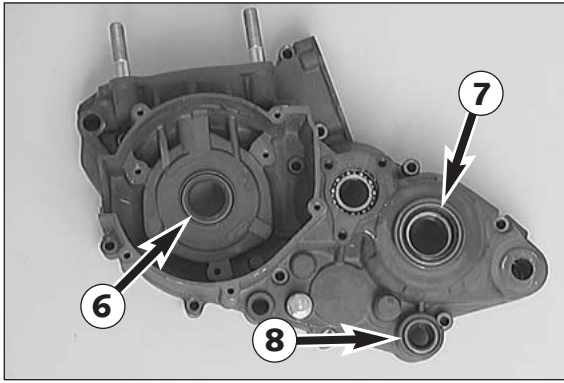
When mounting the stop screw, it must be secured with Loctite 243. Do not forget new copper seal ring.

#### Retaining bracket ⑬

When replacing the retaining bracket, the two collar screws are to be secured with Loctite 243.

- Finally check clear passage of the crankshaft ball bearing lubrication bore ⑭.





### Working on the left-hand housing half

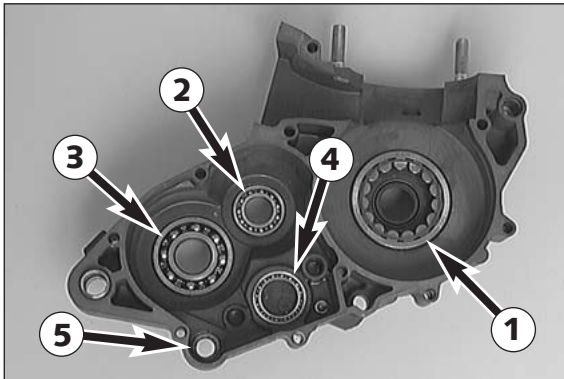
- Remove all shaft seal rings and use an oven to heat the casing half to approx. 150°C.

#### Crankshaft roller bearing ①

Press old roller bearing inwards, press in new ball bearing to the stop with the open side of ball cage downwards (outside). The inner ring on the crankshaft must also be renewed (see paragraph about crankshaft).

#### Needle bearing of drive shaft ②

Press old grooved ball bearing inward, press new grooved ball bearing from the inside up to the stop.



#### Grooved ball bearing of countershaft ③

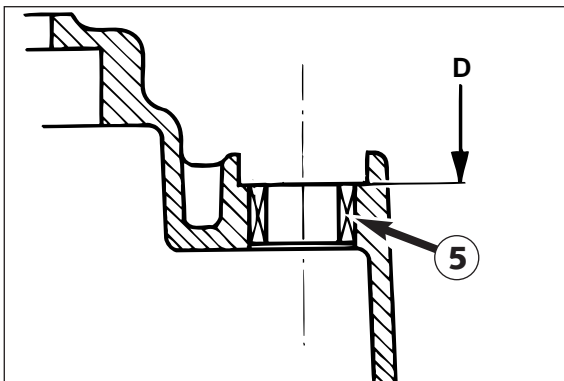
Press old ball bearing inwards, press in new ball bearing to the stop from inside.

#### Grooved ball bearing of shift roller ④

Ball bearing falls out of its seat of its own accord when housing half has been heated to approx. 150° C. If necessary, knock housing half on a plane piece of wood. Press in new grooved ball bearing to the stop.

#### Needle bushing of shift shaft ⑤

Remove shaft seal ring and press old needle bushing inwards. Press in new needle bushing from the outside to the collar ①.



#### Crankshaft seal ring ⑥

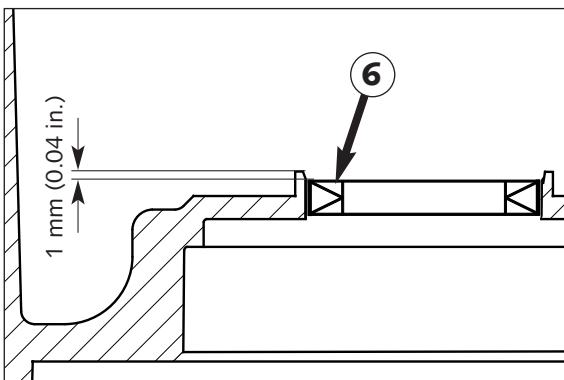
Press in new crankshaft seal ring from the outside, with sealing lip facing inwards. The seal ring is 1 mm (0.04 in) lower than the upper edge of the collar (see sketch).

#### Counter shaft seal ring ⑦

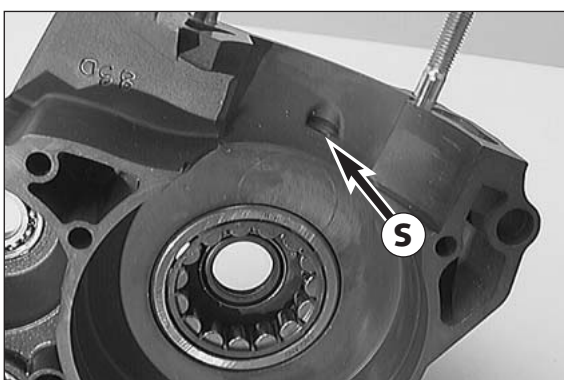
Press in the new shaft seal ring, until it is flush with machined surface.

#### Shift shaft seal ring ⑧

Press in the new shaft seal ring, until it is flush with machined surface.



When housing half has cooled off, check to see that the bearings are tight.



- Finally check clear passage of the crankshaft roller bearing lubrication bore ⑨.





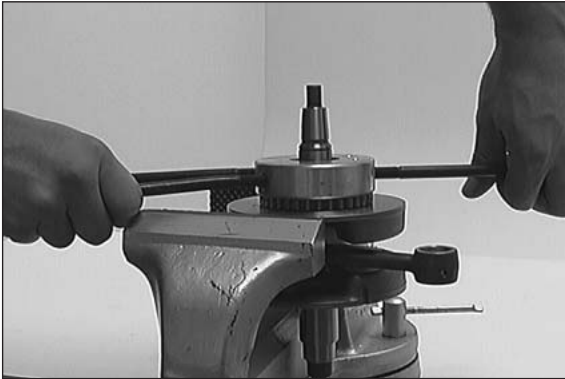
### Crankshaft

- When replacing the roller bearing, the inner crankshaft ring must also be renewed.
- Heat special tool 584.29.037.040 on a heating pad up to approx. 150°C and slip it on the inner ring immediately. Press the special tool together tightly so as 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.

#### ! CAUTION !

NEVER CLAMP THE CRANKSHAFT WITH A STUD OR WEB IN THE VICE, AND NEVER TRY TO KNOCK THE BEARING INNER RING FREE. THE CRANKSHAFT WEBS MAY BE COMPRESSED AND THE CONROD PLUG AND BEARING MAY BE DAMAGED, THEREBY MAKING THE CRANKSHAFT UNUSABLE.

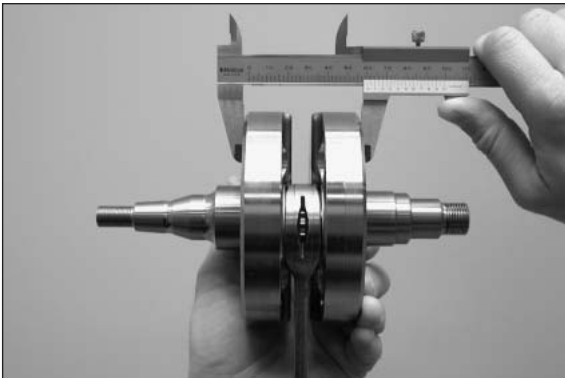
NOTE: Distance adjustment of the main bearings is not requested.



### Crankshaft webs – measure outer dimension

Crankshaft webs – measure outer dimension with a sliding caliper as illustrated.

Crankshaft webs – outer dimension = 60 mm ± 0.05 mm



### Piston

If a used piston is to remain in service then the following should be checked:

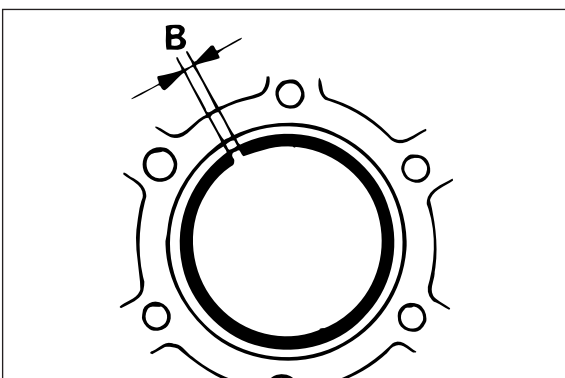
1. Piston running surface: Check for pressure marks (seizing marks) minor friction marks can be removed with a fine abrasive stick.
2. Piston ring grooves: The piston rings must not get jammed in the grooves. For cleaning the grooves, use an old piston ring or abrasive paper (grain size 400).
3. The piston ring locating pins must be firmly seated in the piston and must not be worn out.
4. Check piston rings for wear and check end gap.

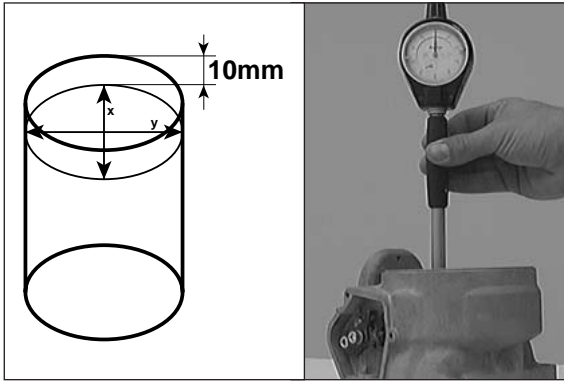
### Piston ring end gap

- Insert piston 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 with a feeler gauge.

Piston ring end gap: max. 0.40 mm (0.015 in)

NOTE: 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.

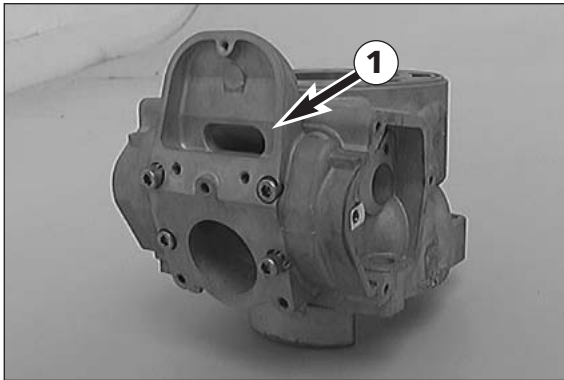




### Checking cylinder for wear

Measure diameter of cylinder approx. 10 mm (0.4 in.) below top of cylinder edge. Check diameter in several corresponding places to see if cylinder is worn oval.

Engine	Cylinder Ø	Piston size
250	67,500 - 67,512	1
	67,513 - 67,525	2
300	72,000 - 72,012	1
	72,013 - 72,025	2
380	78,000 - 78,012	1
	78,013 - 78,025	2
250 <small>starting with the 2000 mod</small>	66,340 - 66,350	1
	66,351 - 66,360	2
300 <small>starting with the 2000 mod</small>	71,940 - 71,950	1
	71,951 - 71,960	2



### Recoated cylinder

NOTE: If the cylinder diameter is larger than e.g. 66.360 mm the cylinder must be regenerated or replaced.

For reconditioning of the old cylinder all exhaust control components must be removed. The intermediate flange ❶ remains with the cylinder. The piston size is stamped into the bottom of the piston.



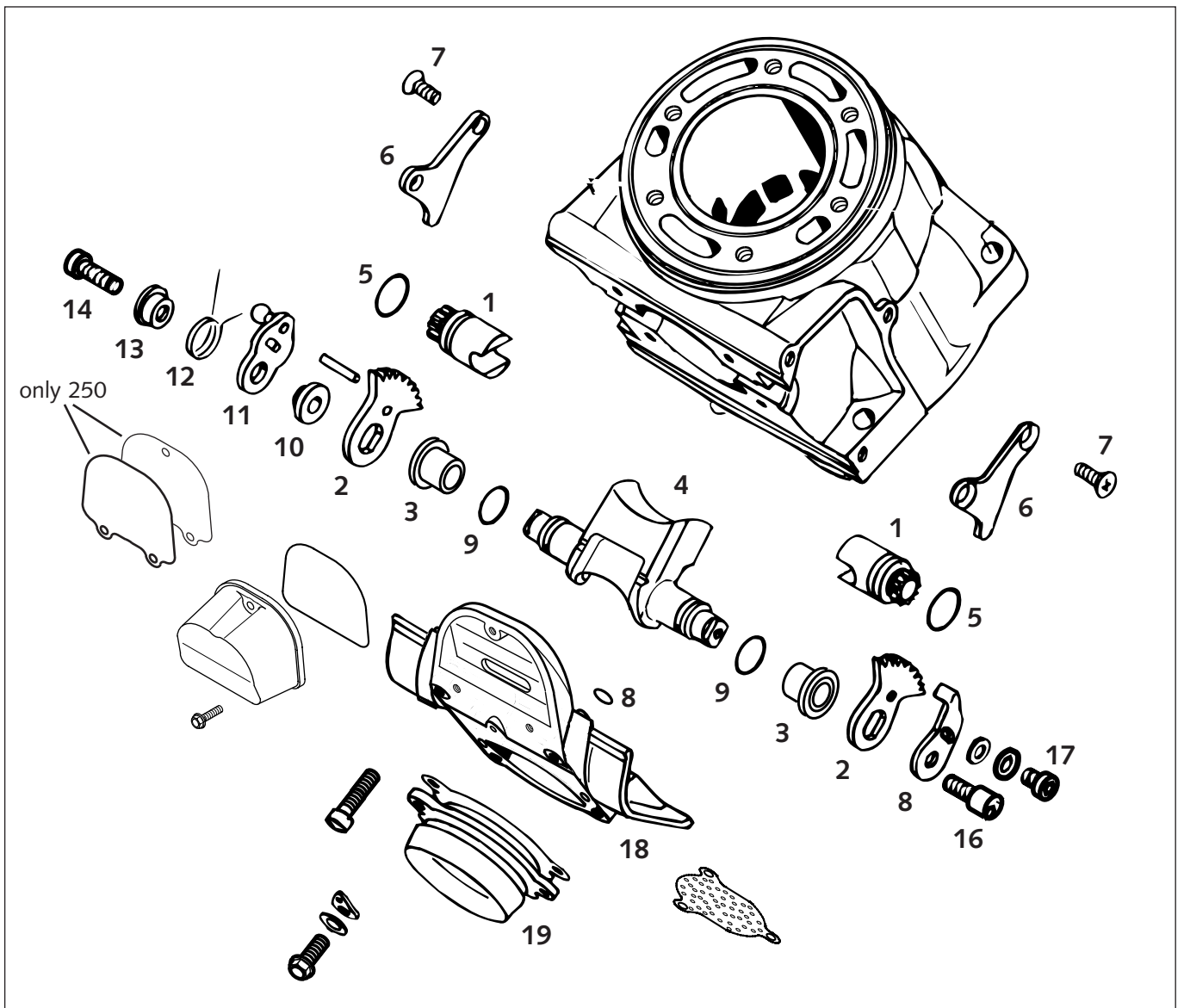
### Nikasil coating of cylinder

Nikasil is the brand name for a cylinder coating process, developed by the piston manufacturer Mahle. The name is derived from the two materials used in this process - a nickel layer into which the particularly hard silicon carbide is inbedded.

The main advantages of the Nikasil coating are:

- excellent heat dissipation and thus better power output
- low wear
- low weight of the cylinder.

NOTE: The worn coating can be regenerated at low cost provided that the cylinders running surface is flawless.



### Cylinder exhaust control system

Dismantle and clean all exhaust control components, check for signs of wear and damage.

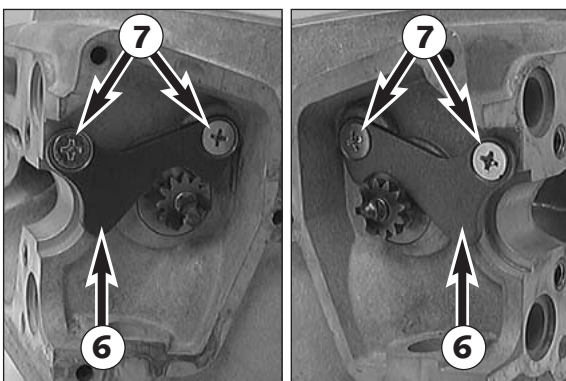
Control rollers ① – Check clearance of bearings. Remove oil-derived deposits. Check toothing of control rollers for signs of wear.

Gear segments ② – Check toothing of gear segments and control rollers for signs of wear.

Bearing sleeves ③ – Check bearing sleeves of the control flap for play and easy operation.

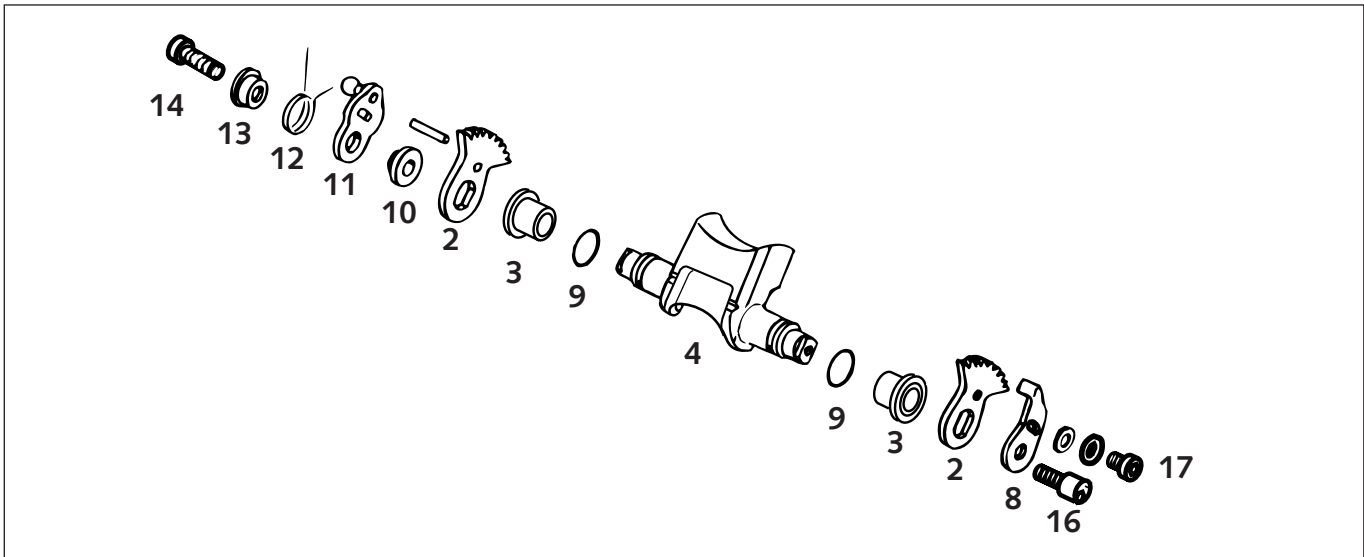
Control flap ④ – Clean the control flap. The control flap must not graze inside the exhaust port.

Silicon O-rings ⑤, ⑧ + ⑨ – Check silicon O-rings of control flap and control rollers for signs of wear. Renew if necessary.

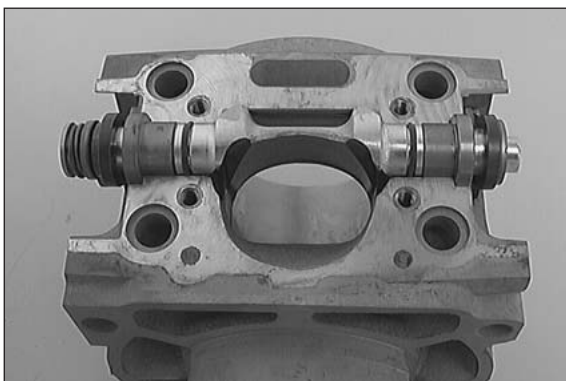


### Cylinder preassembly

- Mount silicon O-rings (16x2 mm) ⑤ on control rollers and grease.
- Place control rollers ① in cylinder and mount retaining brackets ⑥; secure flat-head screws ⑦ with Loctite 243.

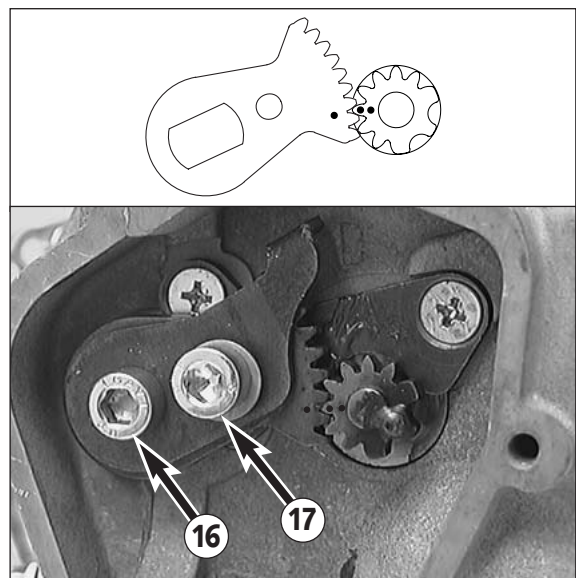
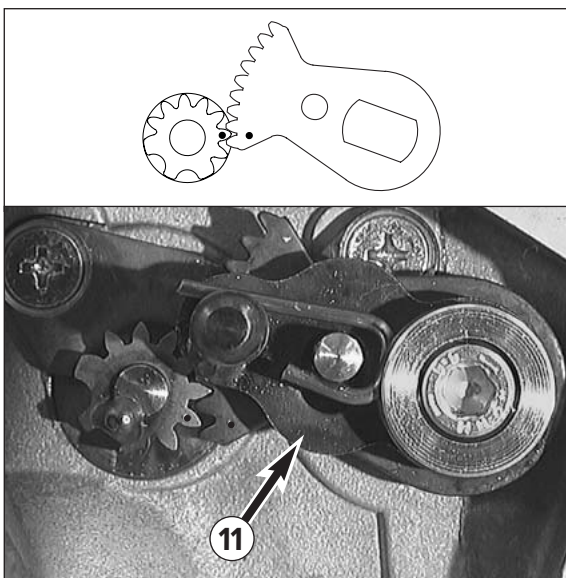


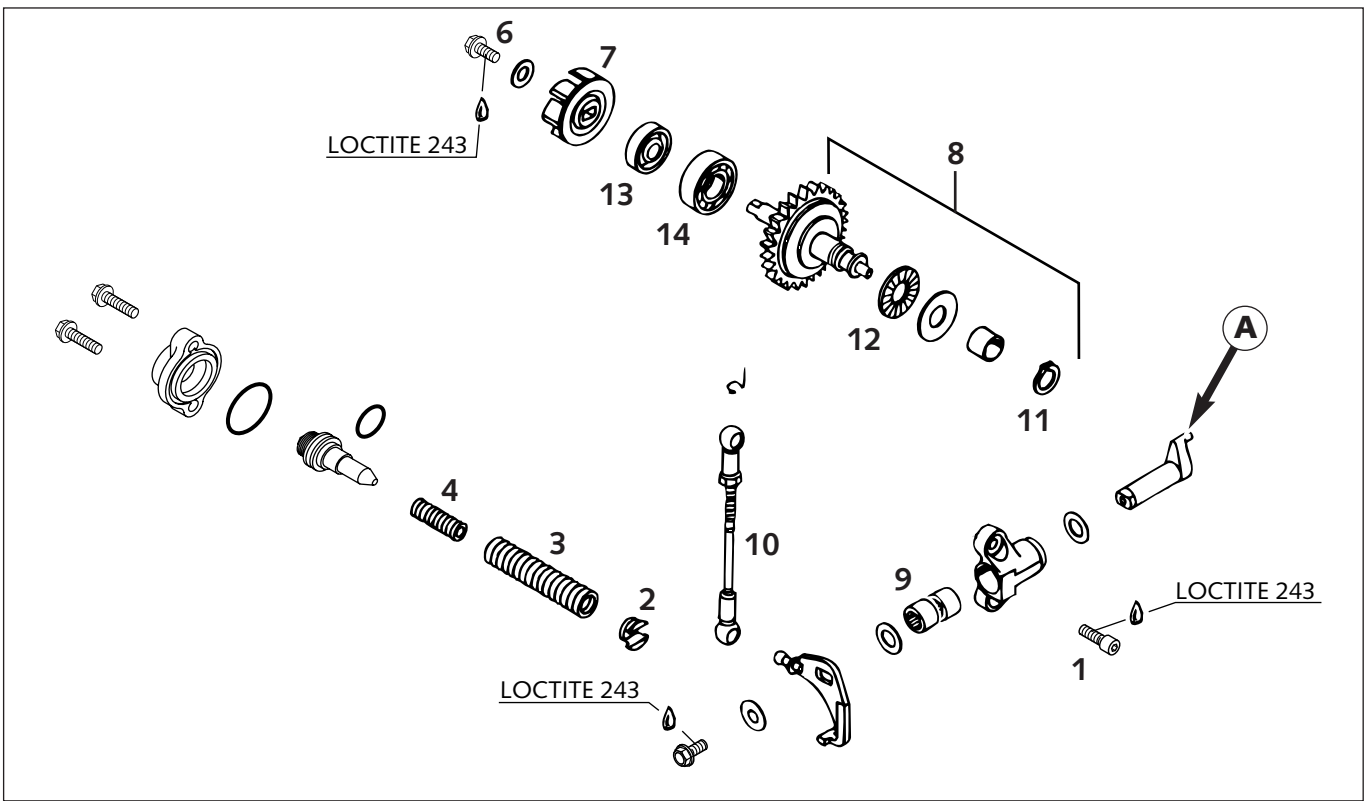
- Mount and grease silicon O-rings (15x1,50 mm) ⑨ on control flap and grease.
- Slightly grease the bearing sleeves ③ and plug them on the control flap.
- Mount toothed segments ② (the toothed segment with the cylindrical pin has to be mounted on the right side).
- On the right-hand side, mount bearing bushing ⑩ with collar outside, adjusting lever ⑪ with ball head on outside, overload spring ⑫ with short leg on outside and spring sleeve ⑬ to control flap.
- Coat allan head screw ⑭ with Loctite 243 and screw up about 5 revolutions, hook the short leg of the overload spring on to the cylinder pin (see illustration) and tighten the allan head screw.
- On the left side, mount the stop plate ⑧. Apply Loctite 243 to the threads of the two screws ⑯ + ⑰, and mount them.
- Turn control rollers ① in cylinder in such a way that ports are completely open and no edges protrude.



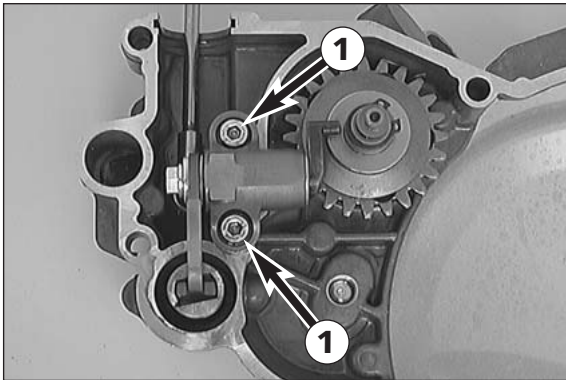
- Place preassembled control flap in cylinder, engage gear segments in control rollers in such a manner that, when the control flap is open (pivoted right to the top), the markings of the gear segments and the gear rollers coincide. Please check that the two control rollers do not block the cross-section of the port when the control flap is open.
- Coat sealing surface thinly with silicon and mount intermediate flange ⑯ with 4 O-rings (11,3x2,4 mm).
- Mount exhaust flange ⑰ and spring hangers. If you are dealing with a throttled version, do not forget the exhaust throttle.
- Finally check smooth running of exhaust control system.

NOTE: It must be possible to push adjusting lever ⑪ further upwards against the spring force.





Art No 3206004 - E



**Exhaust control, clutch cover**

- Remove screws 1 and take off the bearing support.
- Take cup tappet 2, adjusting spring 3 and auxiliary spring 4 out of the clutch cover.
- Take off water pump cover, remove allen head screw 6 and take off water pump wheel 7.
- The centrifugal timer 8 can be pulled out of the bearing.
- Clean all parts and check for signs of wear.

Check play and easy operatability of the adjusting lever in the bearing 9.

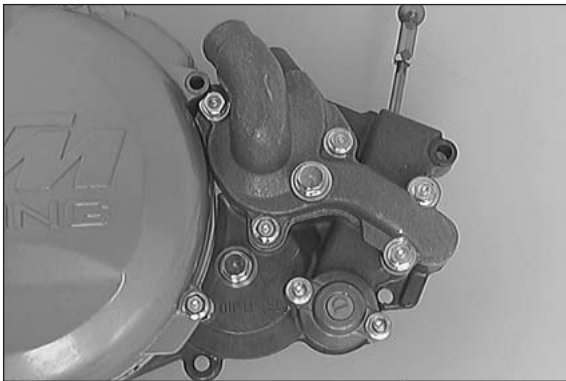
Check pin A of adjusting lever for wear.

Check linkage ball heads 10 for clearance.

Remove circlip 5 and check axial bearings 12 and washers for signs of wear.

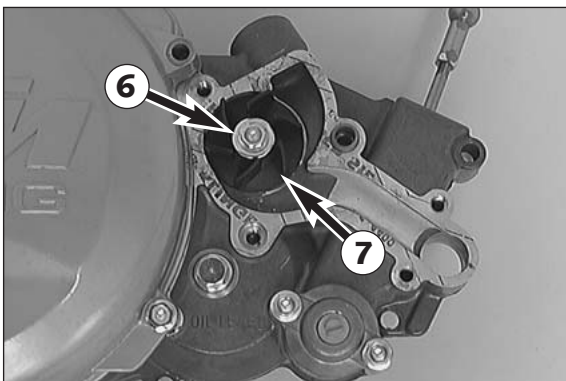
If the water pump shaft seal ring 13 is replaced, it should be coated with Loctite 243 on the outside.

Check grooved ball bearing 14 for clearance.

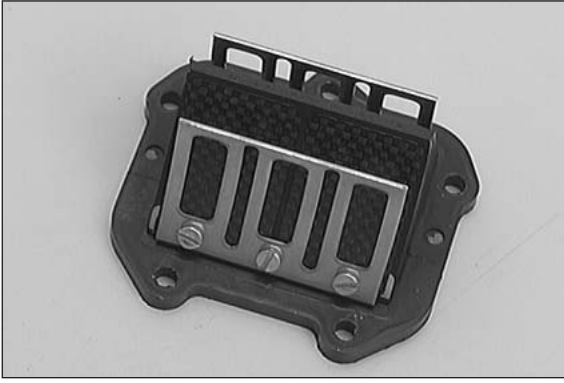


**Preassembly of clutch cover**

- Grease water pump shaft seal ring 13 and mount centrifugal timer 8.
- Fit adjusting spring 3, auxiliary spring 4 and cup tappet 2 in the clutch cover.
- Fit bearing support with control lever and linkage. Secure both screws 1 with Loctite 243.
- Mount water pump wheel 7, coat screw 6 with Loctite 243 and mount with washer.
- Mount dowels of the water pump cover.
- Position gasket and fix water pump cover with 5 collar screws. The two screws mounted at the dowels must each be provided with one copper gasket.



Repair manual KTM 250 / 300 / 380

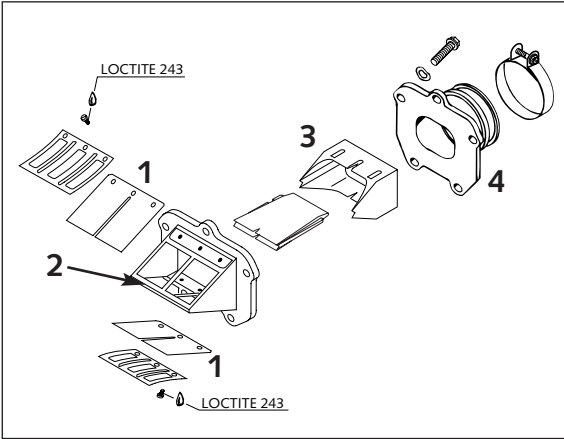


### Reed valve housing, intake flange

NOTE: Reed paddles ❶ gradually lose tension through operation, resulting in power loss. Damaged or worn reed paddles must be replaced. If the reed sealing surfaces ❷ of the reed valve housing are also damaged, replace the complete reed valve housing.

**! CAUTION !**

SECURE ALL SCREWS OF THE REED VALVE HOUSING WITH LOCTITE 243.

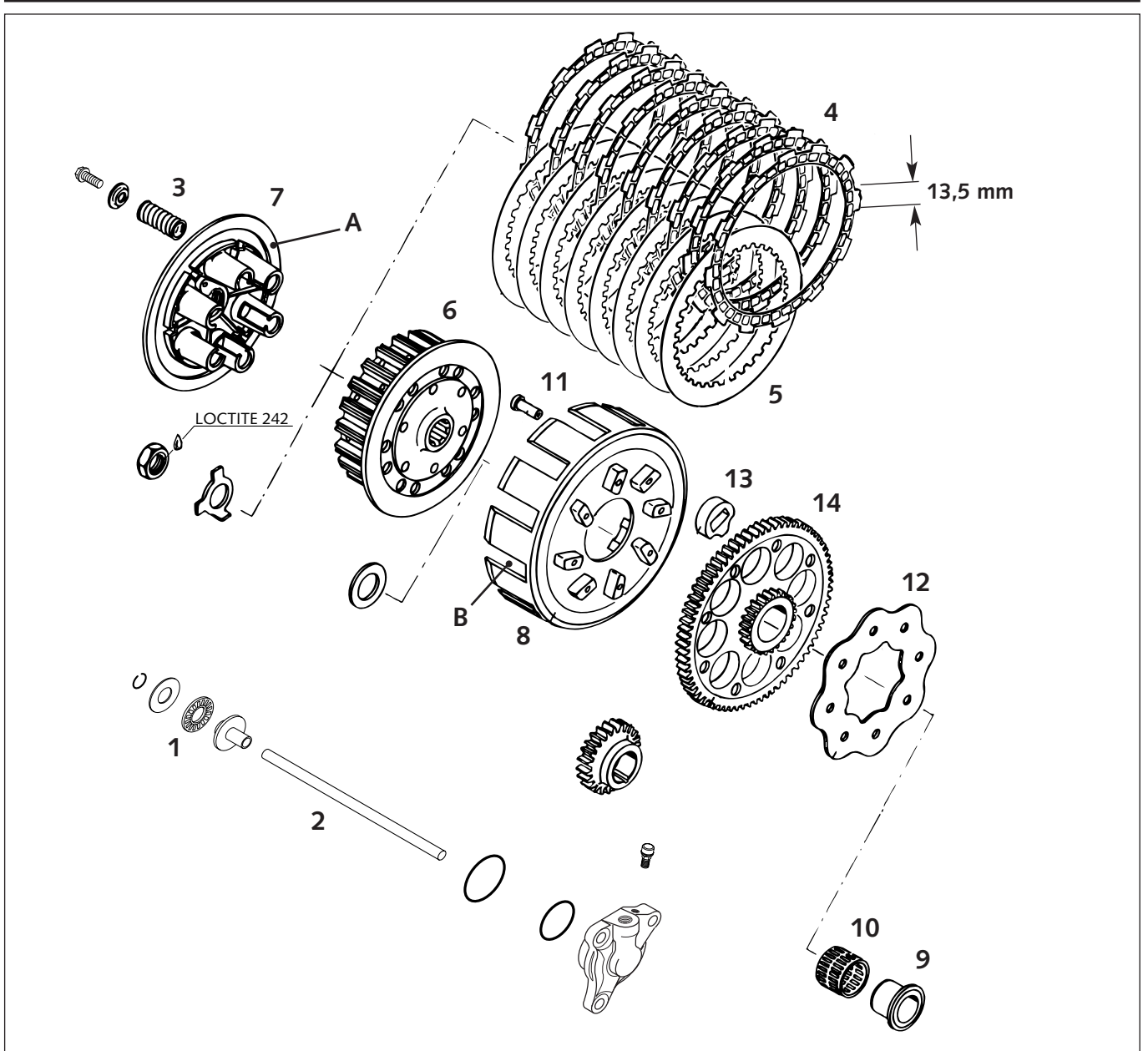


Velocity insert ❸

Check for firm mounting and for signs of damage.

Intake flange ❹

Check for cracks and other signs of damage.



## Clutch

Thrust bearing ❶ check for wear

Push rod ❷ Check for wear. Minimum length: 199 mm (new: 199.80 mm)

Clutch springs ❸

New spring length 42,5 mm / 1.7 in (new 43 mm / 1.73 in). Replace all 6 springs if applicable.

9 Lining discs ❹

Minimum thickness 2.60 mm (0.102 in) / new disc 2.70 mm (0.106 in). Discs must be plane; there must be minimum spacing of 13.50 mm (0.531 in) between starting surfaces.

8 Steel discs ❺

Must be plane, check for mechanical damage.

Inner clutch hub ❻

Check contact surfaces of steel discs on the inner clutch hub, maximum 0.50 mm (0.02 in) indentations.

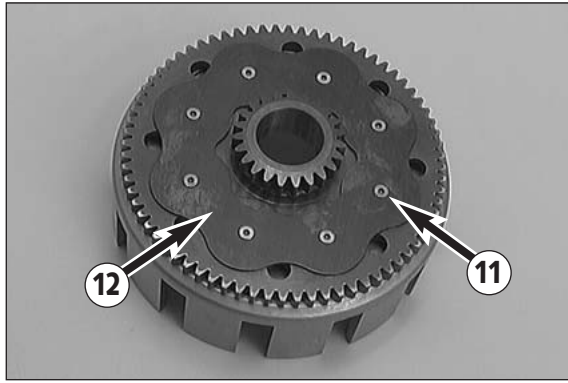
Pressure cap ❼

Check contact surfaces ❶ between lining disc and pressure cap for signs of mechanical damage and score marks.

Outer clutch hub ⓸

Check start surfaces of clutch discs on for wear. If indentations exceed 0.50 mm (0.02 in), replace outer clutch hub (see below).

Check inner ring ❾ and needle cage ❿ for wear.

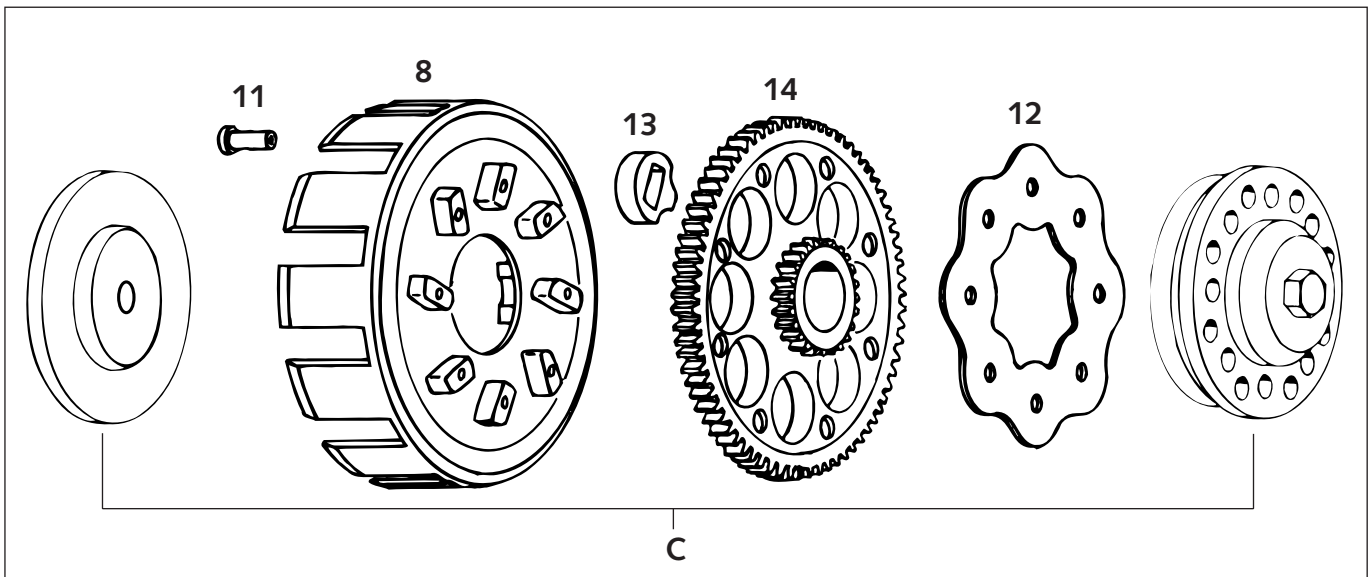
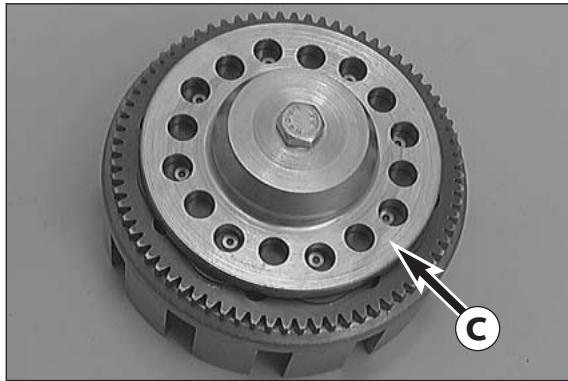


### Replace outer clutch hub

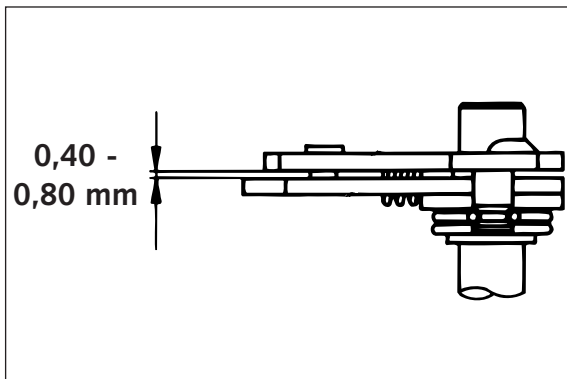
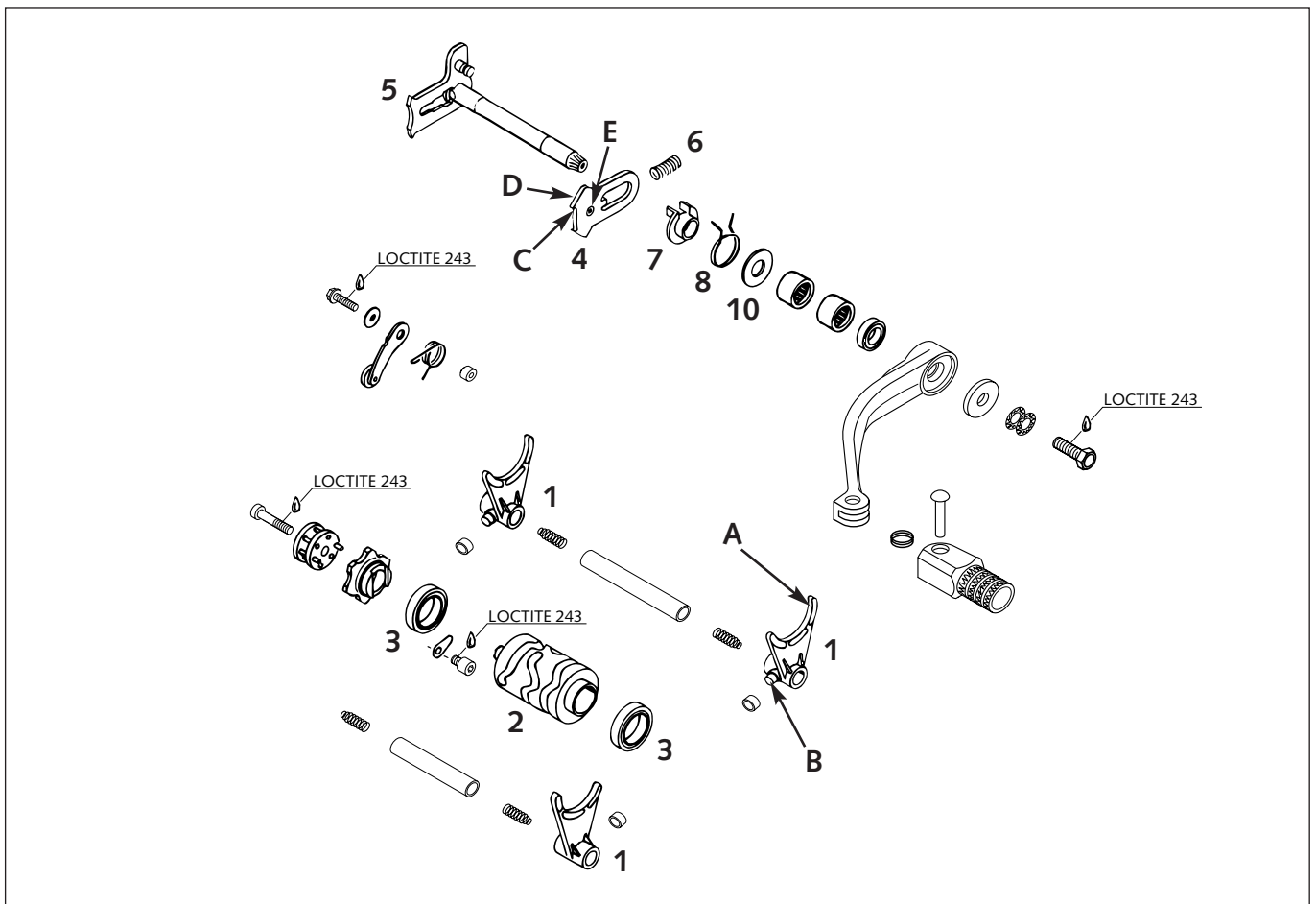
- Drill open the clutch rivets 11 in area of retaining bracket 12 and remove parts.
- Check 8 absorbing elements 13 for signs of mechanical damage, replace all 8 where applicable.

### ! CAUTION !

THE ABSORBING ELEMENTS ARE WIDER THAN THE PRIMARY GEAR CROWN. TO ENSURE THAT THE OUTER CLUTCH HUB 6 AND RETAINING BRACKET ARE POSITIONED DIRECTLY ON THE PRIMARY GEAR CROWN 14, THE PARTS MUST BE HELD IN POSITION UNDER TENSION WITH THE CLUTCH RIVETTING TOOL 7 WHILE RIVETING.







### Shift mechanism

Shift forks ①

Check shift fork blades ④ and shift roller driving pin ⑤ for signs of wear.

Shift roller ②

Check shift grooves for wear.

Check position of shift roller in grooved ball bearings ③.

Slide plate ④

Check slide plate at meshing points ⑥ for wear.

Check return surface ① for wear (renew, if strongly notched).

Check that guide pin ⑤ is securely fixed and check for wear.

Sliding guides

Check sliding guides (excess between guide pin and shift quadrant not to be more than 0.7 mm / 0.03 in).

Grooved ball bearings ③

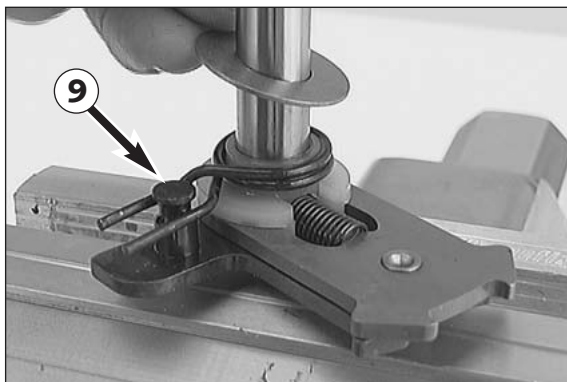
Check grooved ball bearings for easy movement.

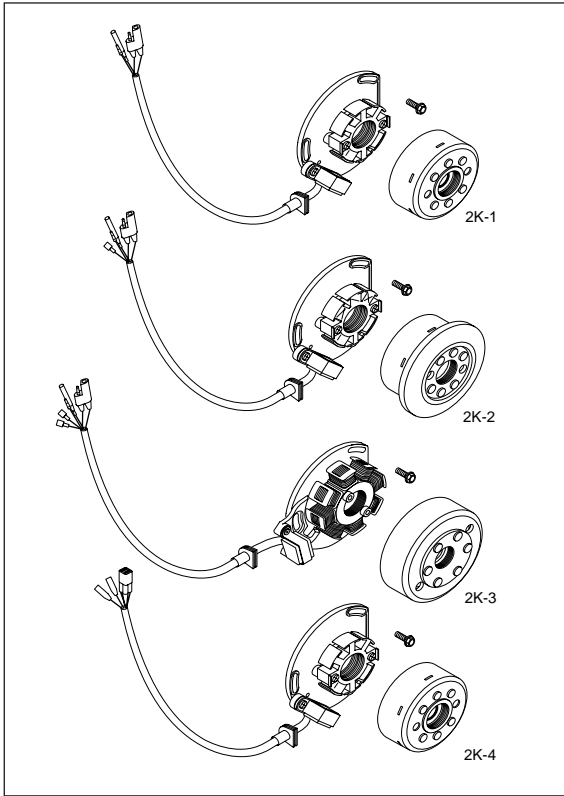
Shift mechanism

Assemble shift mechanism (see below) and check free play between slide plate ④ and shift quadrant ⑤. Free play should be 0.40 - 0.80 mm (0.016 - 0.032 in).

### Preassembly of shift shaft

- Fix shift shaft in vice at shorter end (use covered clamps).
- Mount slide plate ④ with guide pins downwards, hook guide pins into shift quadrant ⑤.
- Mount pressure spring ⑥.
- Slide on spring guide ⑦, slide on return spring ⑧ with offset end upwards over the spring guide and lift offset end over bolt ⑨ (see illustration).
- Mount the stop disc ⑩ (14x30x1 mm).





### Ignition (Kokusan)

#### 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.

#### Spark plug

- Set the electrode distance.

Electrode distance: 0.60 mm (0.024 in)

#### Insulator

Check for cracks and fissures.

**! CAUTION !**

ALWAYS USE A SPARK PLUG WITH RESISTOR. OTHERWISE PROBLEMS CAN OCCUR IN THE CDI UNIT.



**Kokusan 2K-1/2K-4**



**Kokusan 2K-2**



**Kokusan 2K-3**

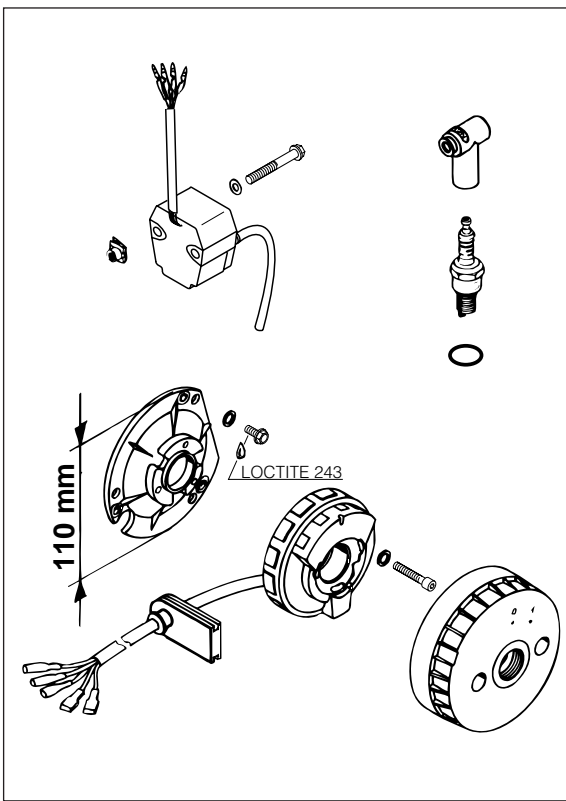
### Check stator and pulse generator (Kokusan)

Use an ohmmeter to perform the following measurements:

Ignition	Measure	Cable colours	Resistance
2K-1	Pulser coil	red – green	100 Ω ± 15%
	Exciter	black/red – red/white	24 Ω ± 15%
2K-2	Pulser coil	red – green	100 Ω ± 15%
	Exciter	black/red – red/white	24 Ω ± 15%
	Charge coil	ground – yellow	0,74 Ω ± 15%
2K-3	Pulser coil	red – green	100 Ω ± 15%
	Exciter	black/red – red/white	12.7 Ω ± 15%
	Charge coil	ground – yellow	0.65 Ω ± 15%
		white – yellow	0.16 Ω ± 15%
2K-4	Pulser coil	red – green	100 Ω ± 15%
	Exciter	black/red – red/white	24 Ω ± 15%
	Charge coil	yellow – yellow	0.65 Ω ± 15%

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 (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.

#### Spark plug

- Set the electrode distance.

Electrode distance: 0.60 mm (0.024 in)

#### Insulator

Check for cracks and fissures.

**! CAUTION !**

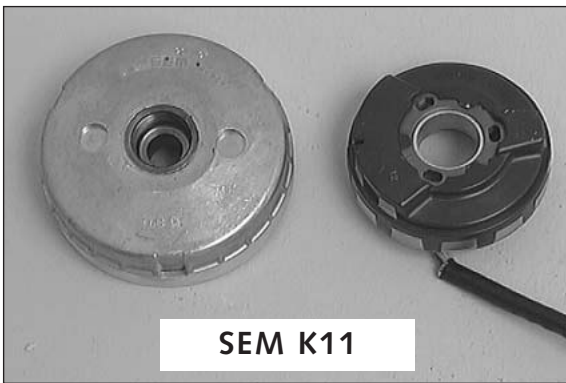
ALWAYS USE A SPARK PLUG WITH RESISTOR. OTHERWISE PROBLEMS CAN OCCUR IN THE CDI UNIT.

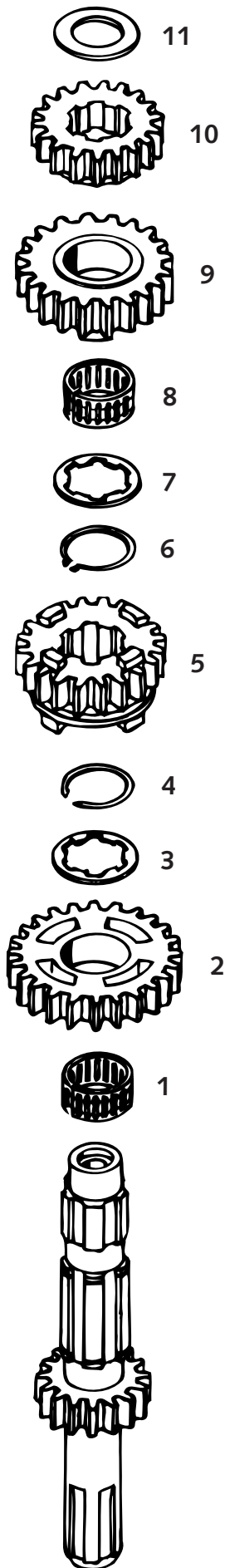
#### Check stator (SEM)

Perform the following measurements with an ohmmeter.

+ Pole	- Pole	Resistance
black	red	1,7 kΩ
black	green	165 Ω ± 20 Ω
green	red	1,7 kΩ
yellow	yellow	1,0 Ω

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.





### Transmission

Secure mainshaft or countershaft in the vice (using soft jaw-covers).

Remove gears and check the following for wear:

- Needle bearing
- Mainshaft and countershaft pivot points including idler gears
- Shift dogs and gear wheels
- Tooth faces of all gears
- Tooth profile of mainshaft and countershaft and corresponding gears
- Easy operation of gear-change

Carefully clean components and replace damaged components.

NOTE: Always place circlips with sharp edge facing the components secured, ensuring that they are not overexpanded (use special pliers).

Check that after any repair of the transmission, circlips should axially not move more than 0.20 mm (0.006 in) and must not seize between stop discs.

### Assembly mainshaft

- Fix mainshaft in vice with toothed end upwards (use covered clamps).
- Oil all parts before assembly.
- Mount the split needle cage ① on mainshaft, push 5th idler gear ② over it with collar downwards.
- Place internally toothed stop disc ③ (22.4x25.7x32.0x1.5 mm) in position and mount circlip ④ (25x1.64 mm) with sharp edge upwards.
- Place 3rd sliding gear ⑤ in position with shift groove downwards, mount circlip ⑥ (25x1.64 mm) with sharp edge downwards and internally toothed stop disc ⑦ (22.4x25.7x32.0x1.5 mm)
- Mount the split needle cage ⑧, 4th idler gear ⑨ with shift dogs downwards 2nd gear ⑩ with collar downwards and stop disc ⑪ (20.2x33x1.5 mm).
- Finally check all gears for easy running.



## Transmission

Secure mainshaft or countershaft in the vice (using soft jaw-covers).

Remove gears and check the following for wear:

- Needle bearing
- Mainshaft and countershaft pivot points including idler gears
- Shift dogs and gear wheels
- Tooth faces of all gears
- Tooth profile of mainshaft and countershaft and corresponding gears
- Easy operation of gear-change

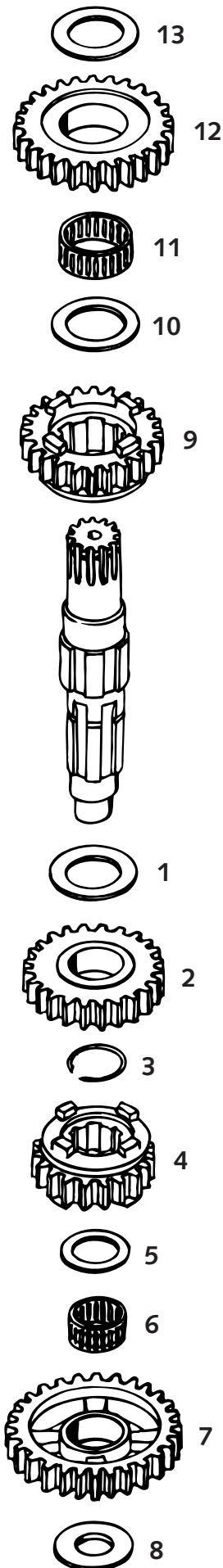
Carefully clean components and replace damaged components.

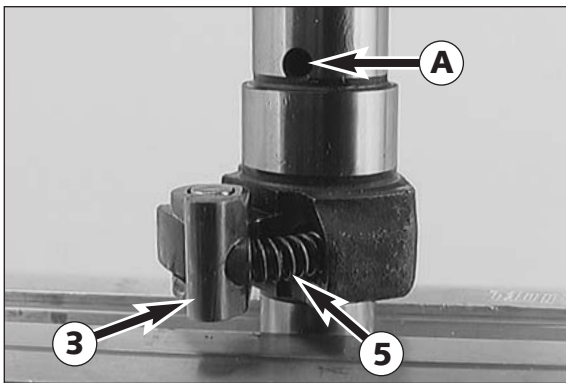
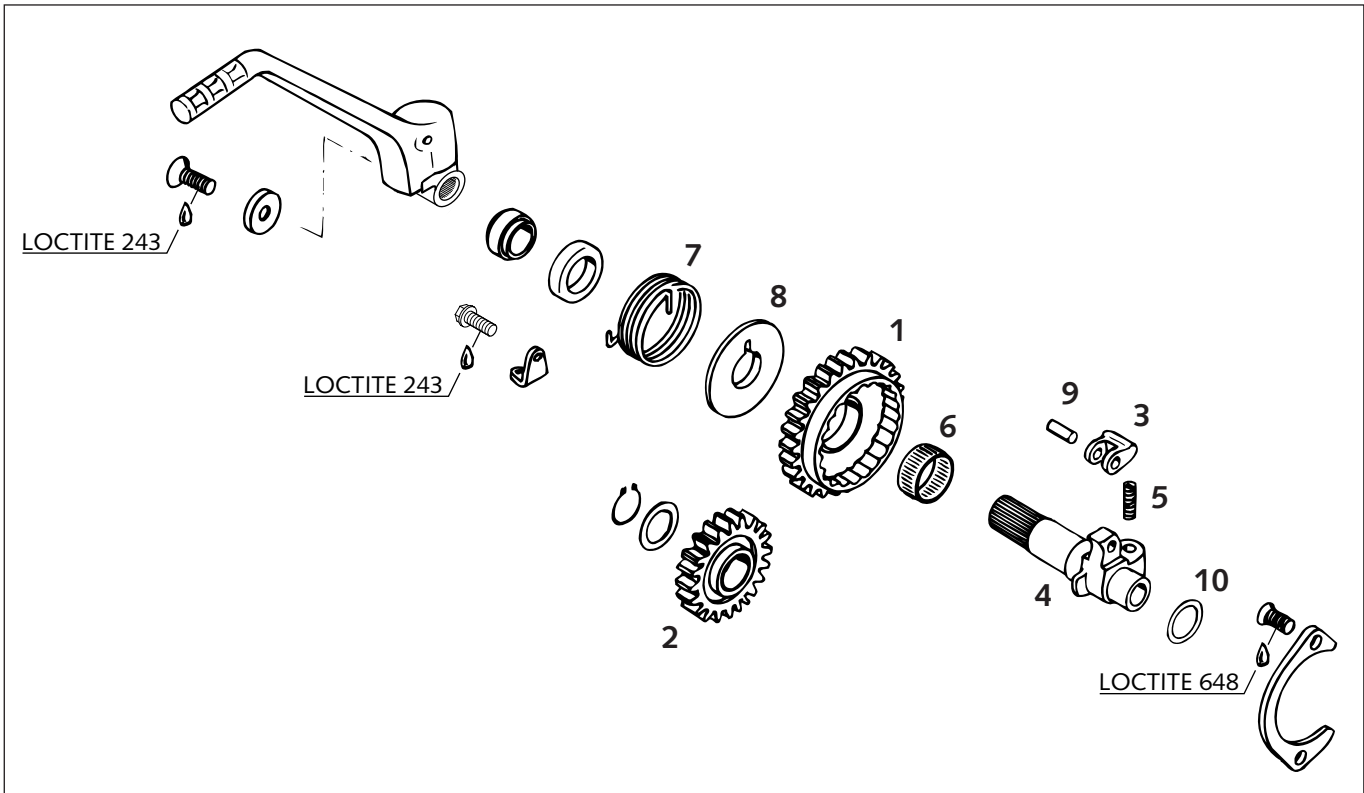
NOTE: Always place circlips with sharp edge facing the components secured, ensuring that they are not overexpanded (use special pliers).

Check that after any repair of the transmission, circlips should axially not move more than 0.20 mm (0.006 in) and must not seize between stop discs.

## Assembly countershaft

- Fix countershaft in vice with toothed end (use covered clamps).
- Oil all parts before assembly.
- Push stop disc ① (26x40x1,5 mm) onto countershaft.
- Mount 3rd idler gear ② with shift dog recesses upwards and circlip ③ (25x2 mm) with sharp edge upwards.
- Mount 5th sliding gear ④ with shift groove downwards, stop disc ⑤ (22,2x33x1,5 mm), needle cage ⑥, 1st free gear ⑦ with shift dog recesses downwards and stop disc ⑧ (17,2x34x1,5 mm) with collar upwards on the countershaft.
- Remove countershaft from vice and fix again with toothed end upwards.
- Mount 4th sliding gear ⑨ with shift dog upwards, stop disc ⑩ (28,2x40x1,5 mm), needle cage ⑪, 2nd idler gear ⑫ with shift dog recesses downwards and stop disc ⑬ (25,7x40x1,5 mm).
- Finally check all gears for easy running.





### Kickstarter

Starter gear ①

Check clearance of starter gear.

Starter intermediate gear ②

Check clearance of starter intermediate gear.

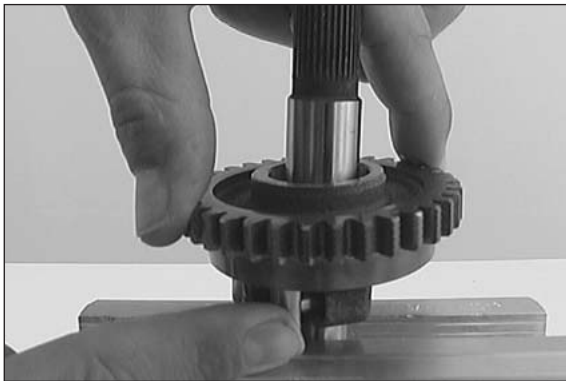
Locking pawl ③

Check for signs of wear and damage.

Kickstarter shaft ④

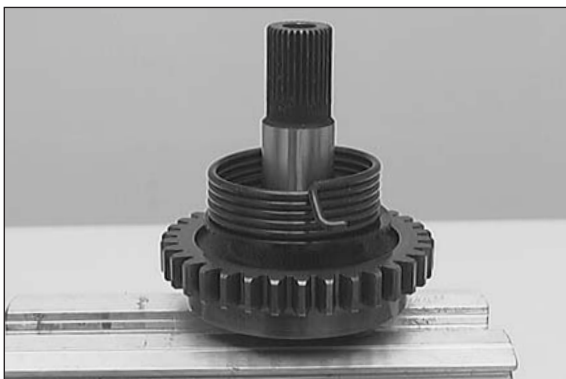
Check for signs of wear and damage.

For changing the locking pawl, press bearing needle ⑨ out of the kickstarter shaft.



### Assemble of kickstarter shaft

- Fix the kickstarter shaft ④ in a vice with the toothed end upwards (use covered vice clamps).
- Mount ratchet spring ⑤ on kickstarter shaft as shown in the illustration.
- Place needle cage ⑥ in position, push starter gear ① over it, pressing locking pawl ③ inwards so that starter gear passes smoothly over it.
- Hook legs of the starter spring ⑦ into driving hub ⑧, push both together on the starter shaft, hook starter spring leg into kickstarter shaft bore ④.
- Release kickstarter shaft, and fix stop disc ⑩ with a small amount of grease on the kickstarter shaft.



# ASSEMBLING THE ENGINE

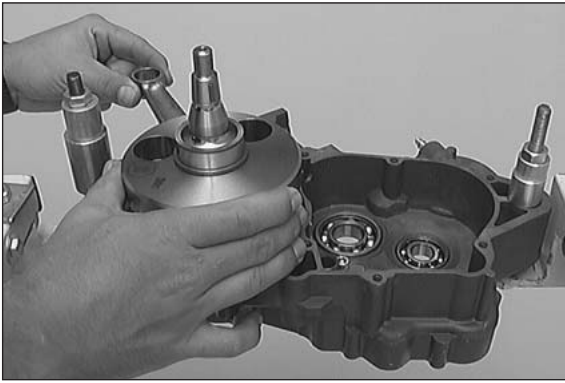
# 6

## INDEX

CRANKSHAFT .....	.6-2
TRANSMISSION .....	.6-2
ASSEMBLING THE ENGINE HOUSING .....	.6-3
MOUNTING SHIFT MECHANISM .....	.6-4
MOUNTING KICKSTARTER .....	.6-4
MOUNT PRIMARY DRIVE AND CLUTCH .....	.6-5
MOUNTING CLUTCH DISCS AND PRESSURE CAP .....	.6-6
MOUNTING CLUTCH COVER .....	.6-6
MOUNTING PISTON AND CYLINDER .....	.6-7
ADJUSTING DIMENSION „X“ .....	.6-7
ADJUSTING CONTROL FLAP (DIMENSION „Z“)	.6-8
MOUNTING STEERING COVERS .....	.6-9
MOUNTING CYLINDER HEAD .....	.6-9
MOUNTING REED VALVE HOUSING AND INTAKE FLANGE .....	.6-9
MOUNTING ENGINE SPROCKET .....	.6-10
MOUNTING THE IGNITION (KOKUSAN) .....	.6-10
MOUNTING THE IGNITION (SEM) .....	.6-11
ADJUSTING IGNITION POINT (SEM) .....	.6-11
MOUNTING IGNITION COVER .....	.6-11
MOUNTING STARTING LEVER AND SHIFT LEVER .....	.6-11







- Secure the right-hand housing half in the engine work stand.

**Crankshaft**

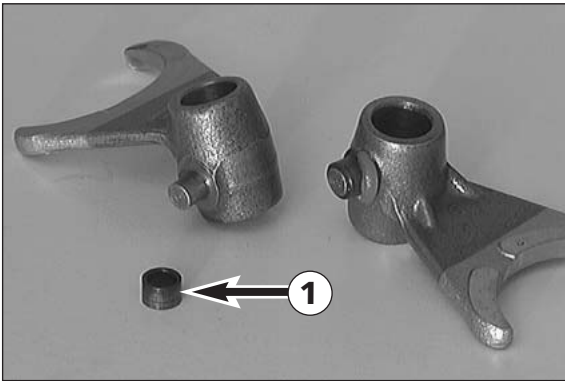
- Insert crankshaft from above through grooved ball bearing and push carefully as far as stop.

---

**! CAUTION !**

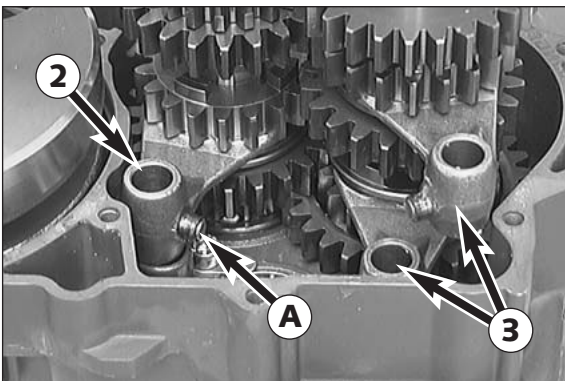
---

WHEN PUSHING IN CRANKSHAFT, MAKE SURE CONROD IS FACING CYLINDER.



**Transmission**

- Grease the driving pins of the shift forks and mount the shift rollers ①.
- Fix the lower stop disc on the countershaft with a small amount of grease.
- Mount drive shaft together with countershaft, and insert them into the bearings as far as they will go.



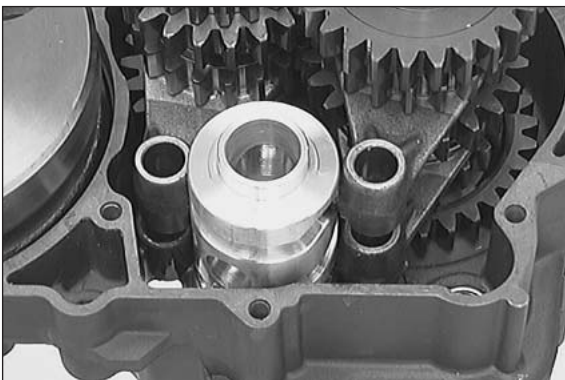
- Shift fork ② with driving pin ④ in the middle belongs to the mainshaft.
- Mount the two other shift forks ③ at the countershaft, using the marks applied before disassembly for better orientation.

---

**! CAUTION !**

---

USED SHIFT FORKS SHOULD BE MOUNTED IN THE SAME SLIDING GEAR AS BEFORE. WATCH AT THE MARKINGS FROM DISMANTLING.



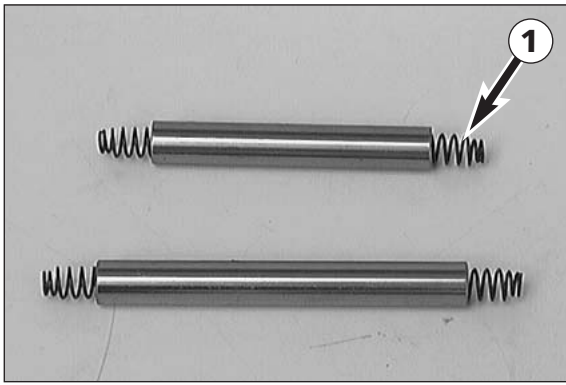
- Attach the shift forks to the sliding gears, and insert shift roller into the grooved ball bearing.
- Attach the shift forks to the shift roller.

---

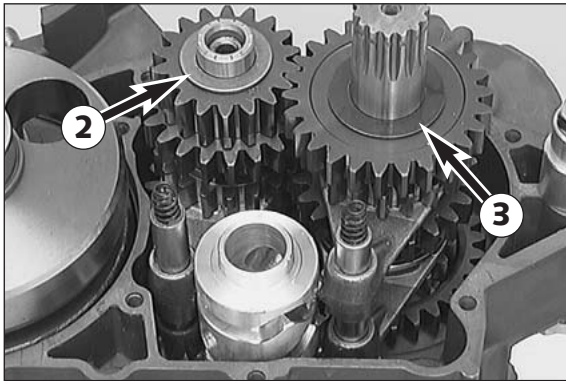
**! CAUTION !**

---

WHEN ATTACHING THE SHIFT FORKS, MAKE SURE THAT THE SHIFT DRUMS DO NOT SLIDE OFF THE SHIFT FORKS.



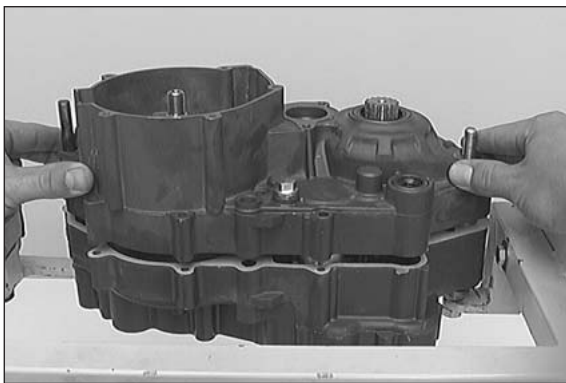
- Fix the 4 pressure springs **1** with ample amounts of grease in the gearshift rails.



- Oil gearshift rails and insert them into the gearshift forks (short gearshift rail toward drive shaft). Insert gearshift rails into the casing bores as far as they will go.

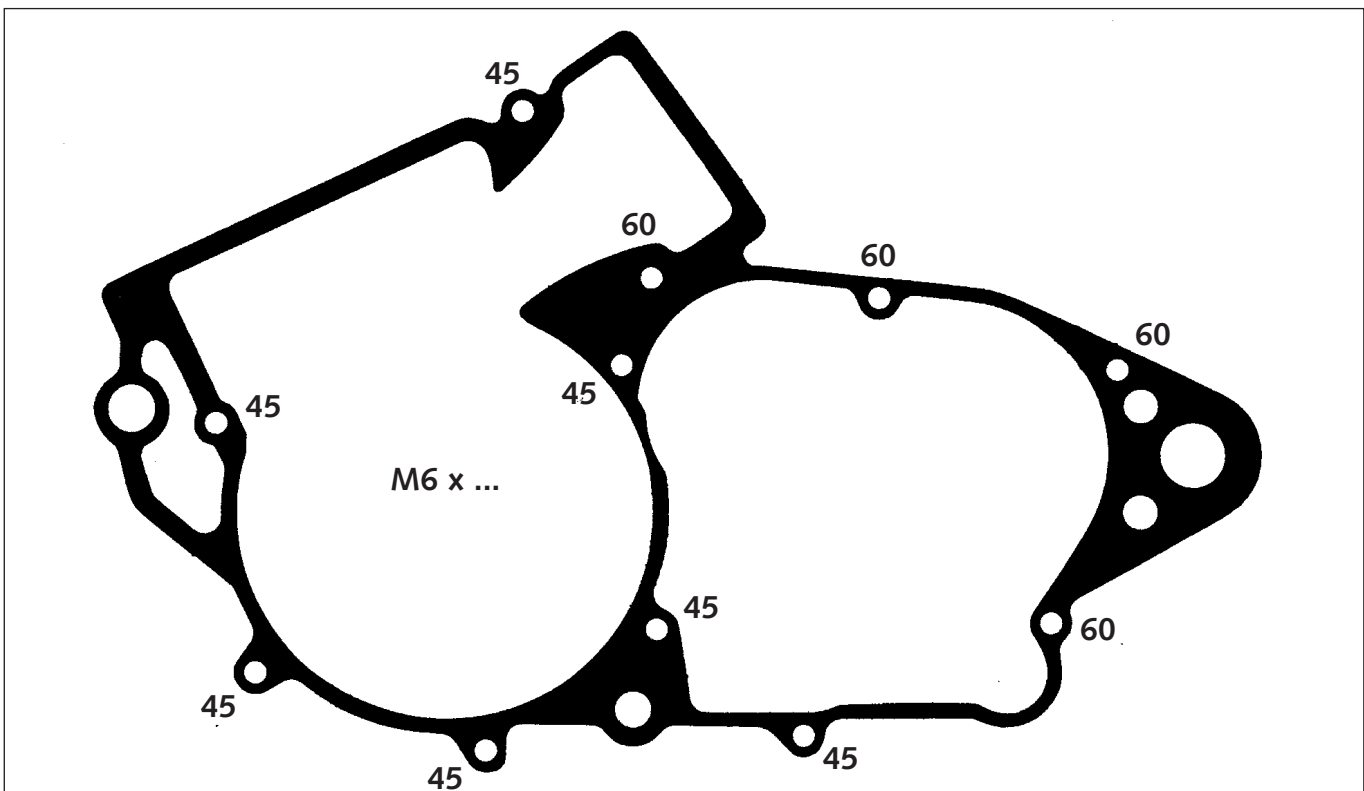
NOTE: It must now be possible to gently turn gear shafts.

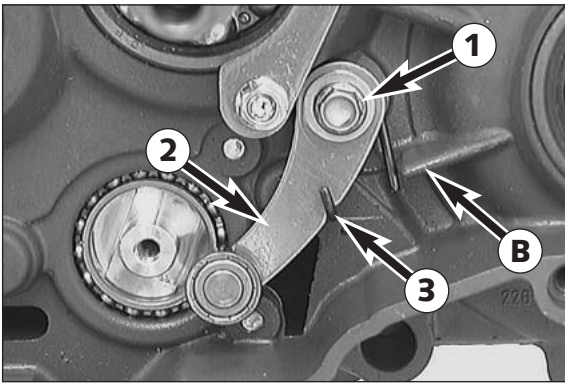
- Slide stop disc **2** (20.2x 33x1.5 mm) on the drive shaft, and stop disc **3** (25.7x40 x1.5 mm) on the countershaft.



#### Assembling the engine housing

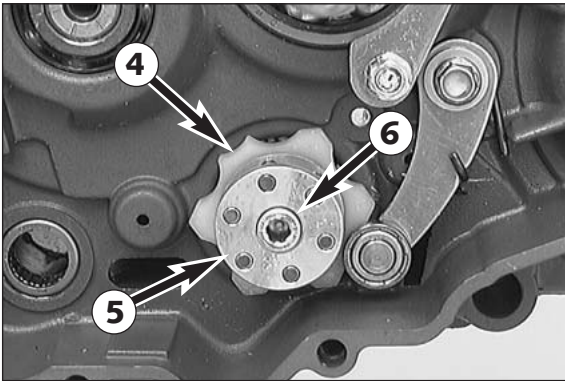
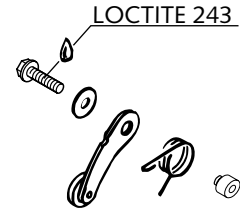
- Remove engine fastener from engine work stand.
- Check that both dowels are in proper place in right-hand housing and that transmission shaft stop discs have been mounted.
- Apply light coat of grease to sealing surfaces of the housing and position new gasket.
- Grease shaft seal rings in left-hand half and place left-hand half in position.
- Position screws and tighten with 8 Nm (6 ft.lb).
- Gently knock crankshaft with plastic hammer and check easy running of shafts.
- Fix engine in work stand.





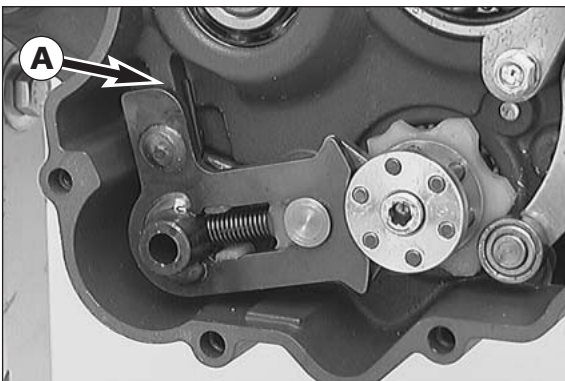
### Mounting shift mechanism

- Place locating spring with bent leg upwards into engine housing.
- Insert collar sleeve into spring with collar upwards.
- Coat collar screw ① with Loctite 243.
- Insert locating lever ② with roll upwards and fix all parts with collar screw.
- Hook locking spring ③ to lever. The other end of the retaining spring must abut the casing nose ④.

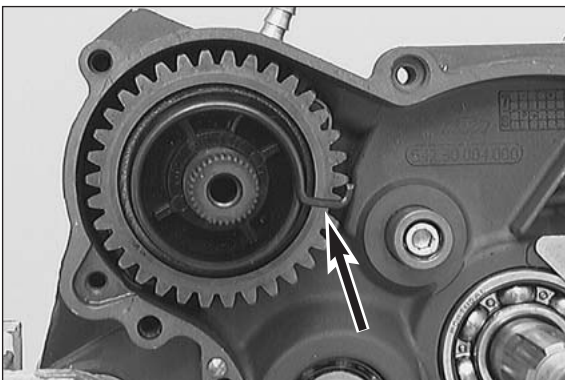


- Mount roller locking device ④ (plastic part) to shift roller. Ensure that the flat parts are not in the middle. Pull locking lever from shift roller.
- Mount driver for shift roller ⑤.
- Coat allen head screw ⑥ with Loctite 243 and mount.

NOTE: From model 2002 on driver for roller ⑤ and locking piece ④ are made of aluminium.



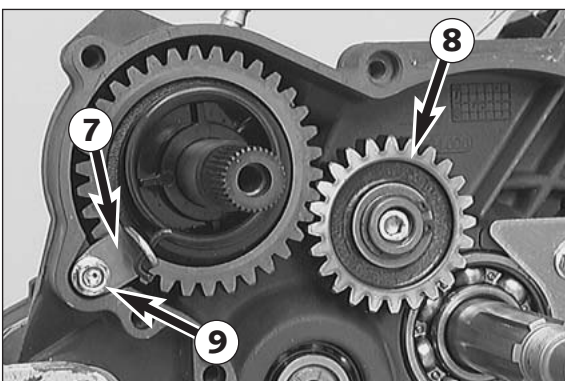
- Grease assembled shift shaft and push into bearings together with stop disc until slide plate contacts driver for shaft roller.
- Now squeeze, and push shift shaft in to the stop.
- Check that legs of return spring surround both left and right side of housing nose ①.
- Mount the foot shift lever and shift through all gears. When shifting through the gears, turn the countershaft. Then remove the foot shift lever.



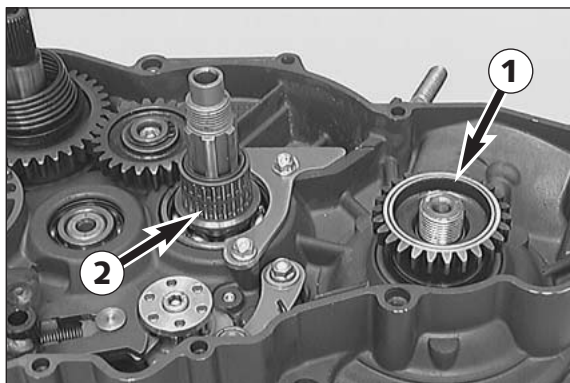
### Mounting kickstarter

- Place spacing washer on the stop face and place preassembled kickstarter shaft in bearing bore in such a way that the locking pawl is outside the release plate.

NOTE: If the kickstarter shaft is mounted correctly, the visible end of the starter spring must point forward (see photo).

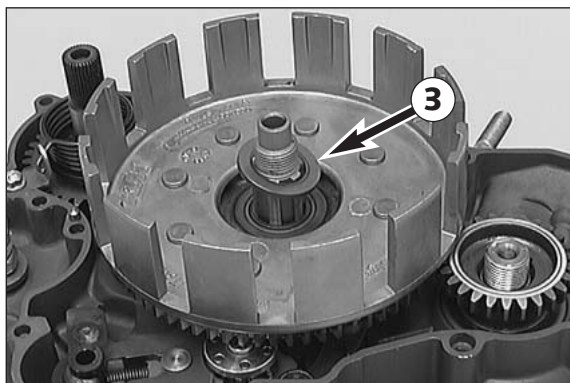


- Hook spring hanger ⑦ to starter spring, coat screw ⑨ with Loctite 243, tighten starter spring approx. 90° clock-wise and fix spring pawl with allen head screw.
- Adjust starter spring so that the distance to the kickstarter shaft is the same all around.
- Place starter intermediate gear ⑧ with the high collar (see sketch) showing towards the engine casing on to the bearing.
- Slip on stop disc (17.2x25x1 mm) and mount circlip with the sharp edge showing upwards.

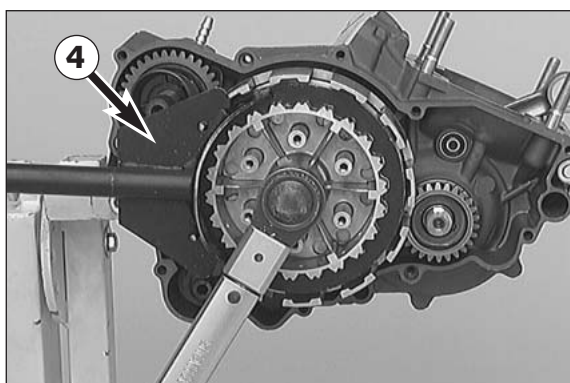


### Mount primary drive and clutch

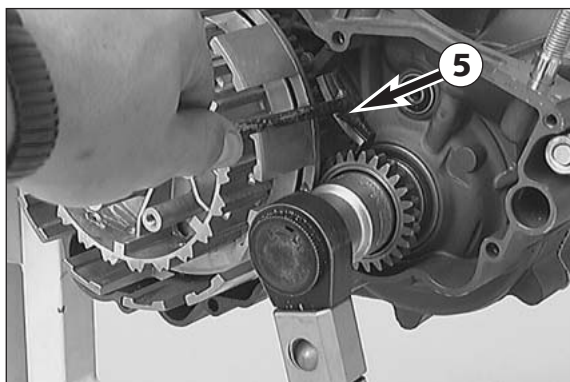
- Grease crankshaft seal ring.
- Put the oiled O-ring (25x1.50 mm) onto the crankshaft and mount the distance bushing with the chamfer facing the crank web.
- Insert woodruff key into crankshaft.
- Place primary gear **1** onto crankshaft with collar downwards.
- Put the inner ring onto the main shaft with the collar facing downwards, then mount the oiled needle cage **2**.



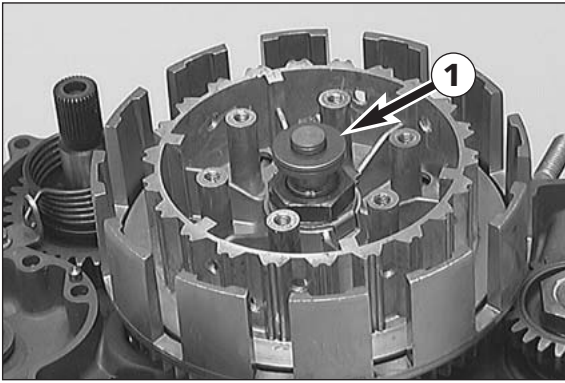
- Mount outer clutch hub and stop disc **3**.



- Apply Loctite 243 to the thread of the main shaft.
- Mount inner clutch hub, new lock washer and hexagon nut to main shaft.
- Position clutch holder **4** and tighten hexagon nut with 100 Nm (74 ft.lb.).
- Remove the clutch holder and secure the hexagon nut by bending both brackets of the lock washer upwards.



- Apply Loctite 243 to thread of the crankshaft.
- Fit locking washer and hexagon nut (left hand thread) by hand.
- Block primary drive with gear segment **5** and tighten primary gear hexagon nut with 150 Nm (110 ft.lb.).
- Remove gear segment and check easy running of primary drive by turning crankshaft.

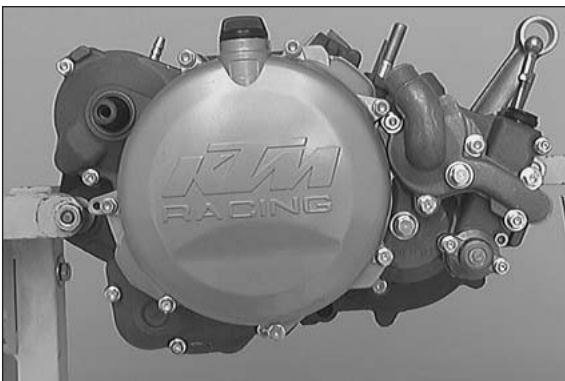


### Mounting clutch discs and pressure cap

- Oil the thrust bearing ①, and slide it over the drive shaft.



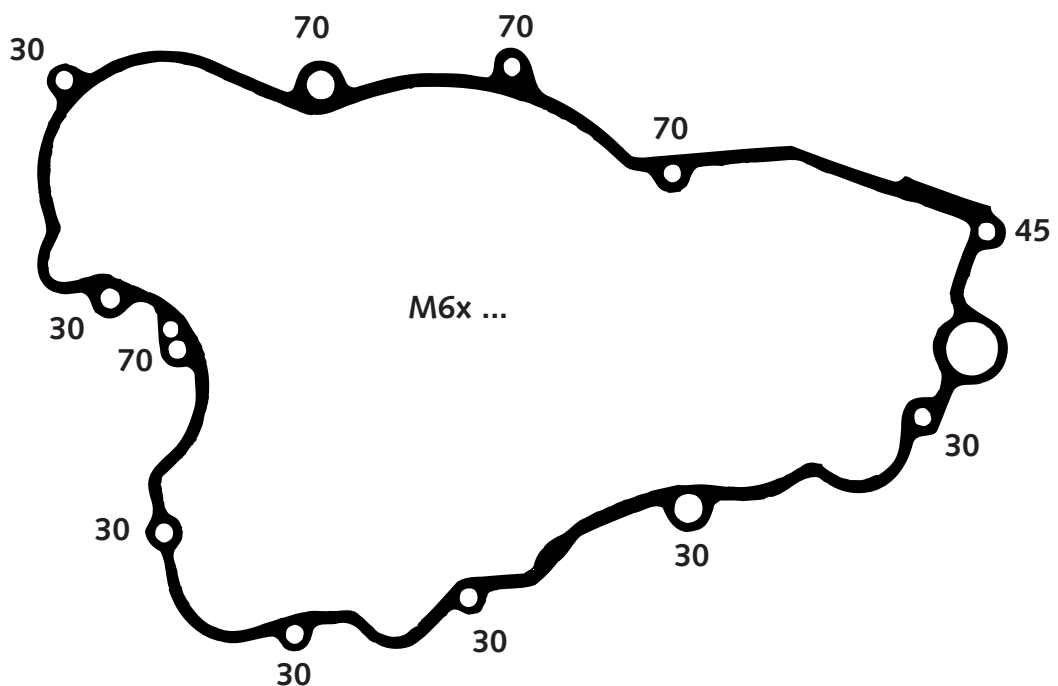
- Oil lining discs before mounting.
- Beginning with one lining disc, mount alternately 9 lining discs ( $\neq 2.70$  mm / 0.10 in) and 8 intermediate discs ( $\neq 1.20$  mm / 0.047 in), with a lining disc forming the final layer upwards.
- Place pressure cap into position; fit clutch springs, spring retainer and collar screws.
- Tighten the collar screws crosswise. Do not apply more than 6 Nm (4.5 ft.lb.) to prevent damaging of the threads in the inner clutch hub.

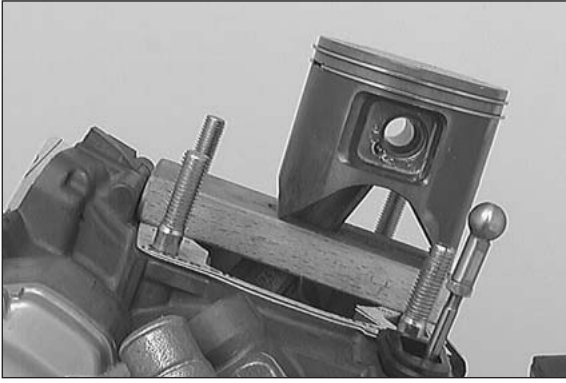


### Mounting clutch cover

- Check whether both dowels are mounted in clutch cover or engine housing.
- Grease kickstarter shaft seal ring and position clutch cover gasket.
- Secure gasket with a little grease.
- Carefully position preassembled clutch cover and press into place, turning crankshaft so that centrifugal timer can engage in the primary gear.
- Fit collar screws (see sketch for screw lengths) and tighten with 8 Nm (6 ft.lb.).
- Then check easy running of all shafts.

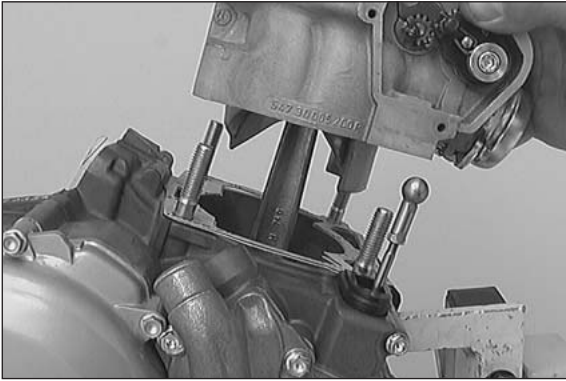
NOTE: If the clutch cover cannot be mounted, verify whether or not the kickstarter spring has been positioned correctly.



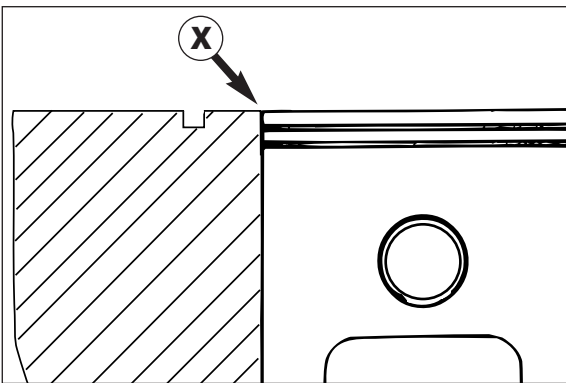


### Mounting piston and cylinder

- Before assembly, oil all parts thoroughly at the sliding points.
- Insert needle bearing in conrod eye, mount piston (arrow on piston head shows direction for exhaust duct).
- Mount piston pin and wire circlips with open side showing downwards (see sketch).
- Mount cylinder base gaskets.
- Place piston on selfmade wooden stand and position piston ring.



- Place on preassembled cylinder, remove wooden stand and tighten cylinder down crosswise, using two nuts.

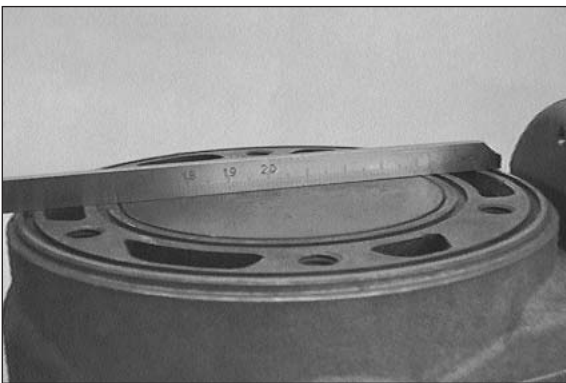


### Adjusting dimension „X“

Dimension „X“ is the dimension from upper edge of piston to upper edge of cylinder with cylinder under low tension and piston in TDC position. The dimension „X“ should be adjusted extremely carefully by inserting cylinder base gaskets of suitable thicknesses.

#### ! CAUTION !

IF THE DIMENSION „X“ IS TOO LARGE, THE COMPRESSION RATIO WILL BE REDUCED AND THE ENGINE LOOSES POWER. ON THE OTHER HAND, IF THE DIMENSION „X“ IS TOO SMALL, THE ENGINE WILL PING AND OVERHEAT.

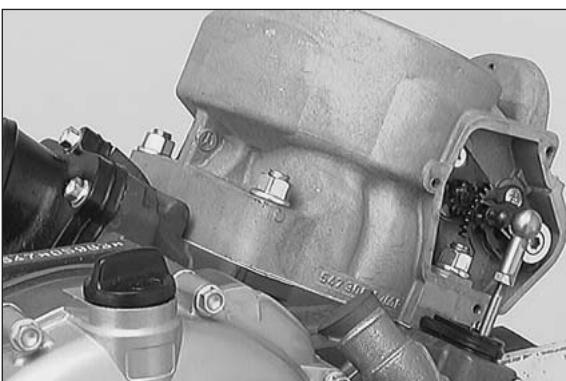


- Set the piston to TDC, and apply a sliding gage or straight-edge to the cylinder. Now, check the distance between the piston's upper edge and the sliding gage. This distance should be from 0 mm to 0.10 mm at the most. It can be corrected, if necessary, by adding or removing of cylinder-base gaskets.

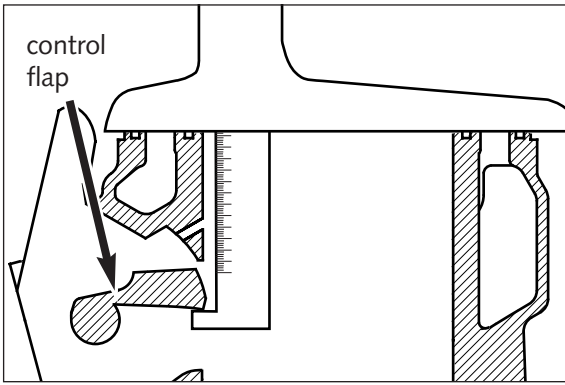
#### ! CAUTION !

THE PISTON MUST NOT PROTRUDE BEYOND THE CYLINDER'S UPPER EDGE.

$$\text{Dimension „X“} = 0 \text{ mm} + 0,1 \text{ mm}$$



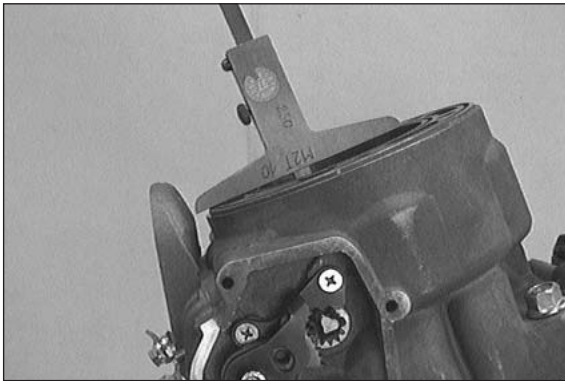
- Mount the 2 remaining collar nuts at the cylinder base, and tighten each of the 4 collar nuts to 35 Nm (27 ft.lb.).



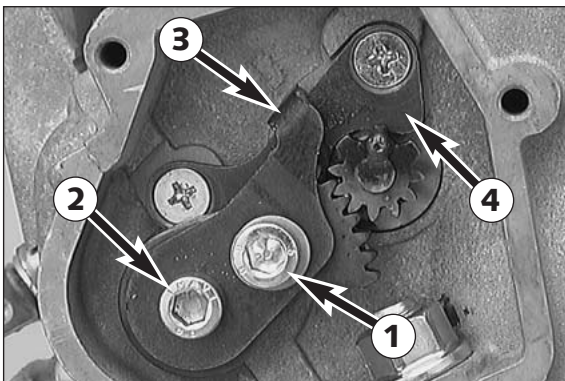
### Adjusting control flap (dimension "Z")

Note: Dimension "Z" is the distance from the lower edge of the control flap to the upper edge of the cylinder, as measured in the centre of the exhaust port.

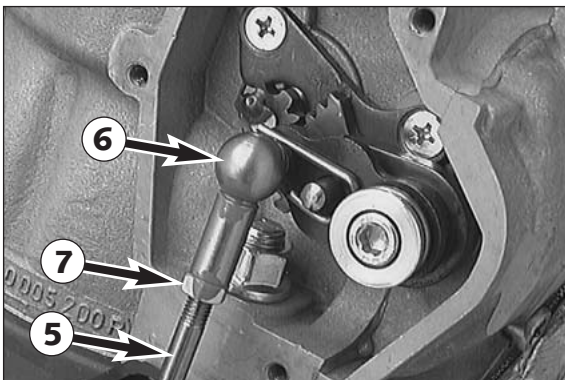
250 Model 1999	: 48,0 mm	+0,2 / -0,6 mm
250 Model 2000	: 50,5 mm	+0,2 / -0,6 mm
250 ab Model 2001	: 49,5 mm	+0,2 / -0,6 mm
300	: 46,0 mm	+0,2 / -0,6 mm
380	: 50,5 mm	+0,2 / -0,6 mm



- Undo the screws of the stop plate (left side of the cylinder) **1** and **2** and apply Loctite 243 to the threads. Then mount both screws but do not tighten them yet.
- Set preselected value on depth gauge and fix.
- Swivel control flap upwards and hold depth gauge into cylinder as shown in the illustration.
- Control flap must rest against depth gauge.



- Allow bump plate **3** to rest against retaining bracket **4**.
- Secure bump plate fastening screws **1** and **2**.
- Remove depth gauge.
- Having tightened the screws **1** + **2**, you have to check the dimension "Z" again and correct it, if necessary.

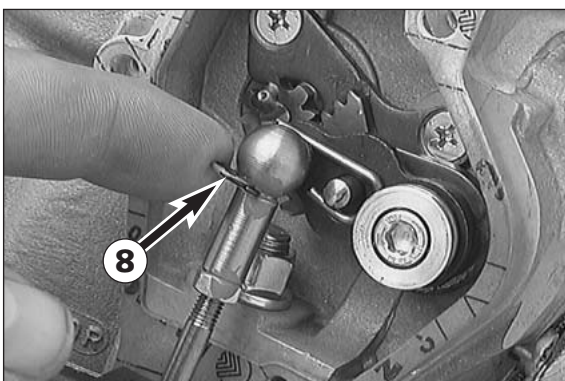


- Press linkage of control flap **5** down-wards as far as stop and press ball socket **6** onto ball of adjusting lever.

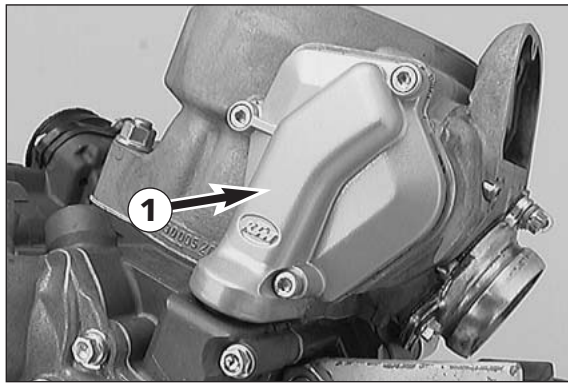
When pressing ball socket do not:

- pull the linkage too far up (max. 1 mm / 0.04 in).
- swivel control flap upwards.

- Adjust linkage length if necessary.
- To do so, loosen counter nut **7** and turn ball socket accordingly.
- Retighten counter nut.

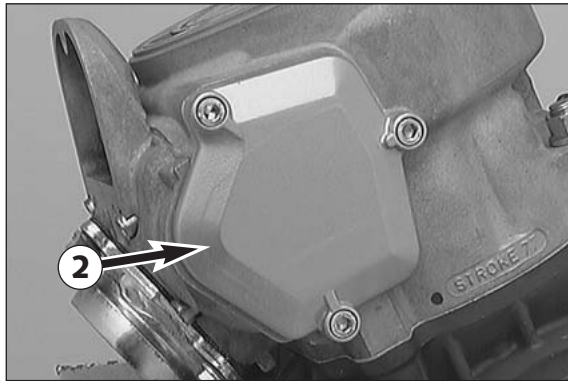


- Once adjustments are completed, remove ball socket once again and fit gasket for control cover.
- Refit ball socket and fit safety device **8**.

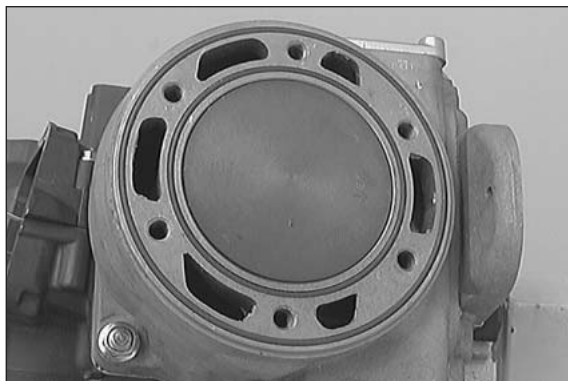


### Mounting steering covers

- Mount the right-hand control cover ①, and fix it with 3 screws.

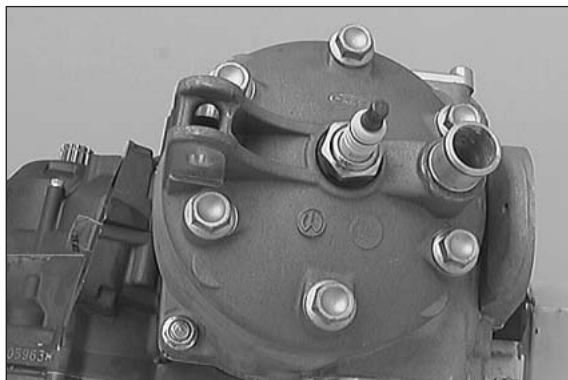


- Place gasket in position and fix left-hand steering cover ② on cylinder.

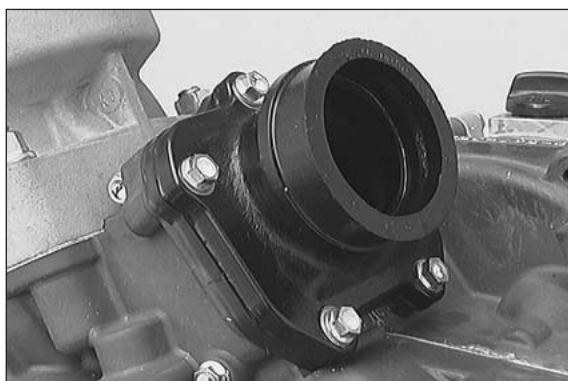


### Mounting cylinder head

- Clean cylinder and cylinder head sealing surface, place O-rings in grooves.
- Mount cylinder head with water nozzle on the exhaust side.



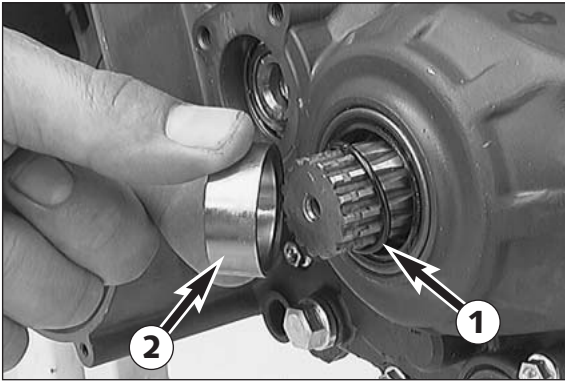
- Oil the collar nuts at threads and contact faces.
- Mount the collar screws with new copper gaskets and tighten them crosswise, taking three turns to achieve the total tightening torque of 35 Nm (25 ft.lb.).
- In first stage, only tighten until slight resistance is felt.



### Mounting reed valve housing and intake flange

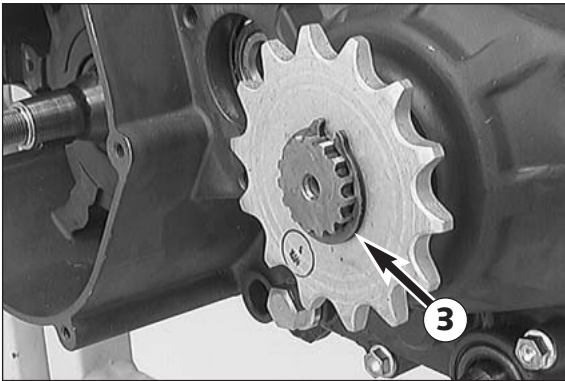
- Place reed valve housing with velocity insert in inlet duct and fix intake flange with the 5 collar screws.



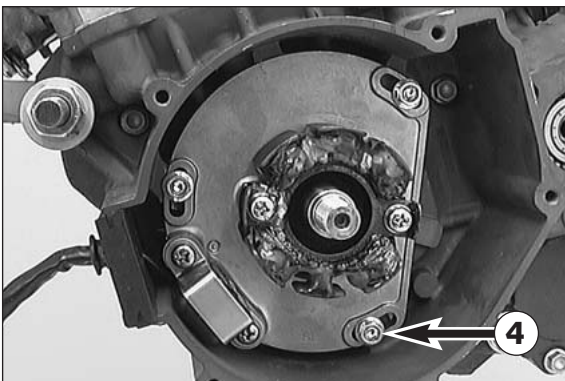


### Mounting engine sprocket

- Lubricate O-ring **1** with oil and slide over counter shaft.
- Slide distance bushing **2** in position so that O-ring is in correct position.

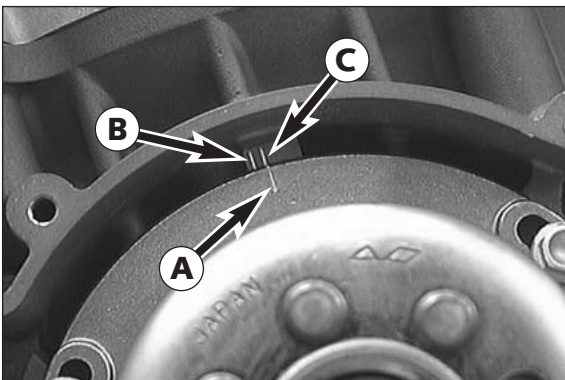


- Slide sprocket onto the countershaft with the collar facing inward, and fix it with the circlip **3** (sharp edge facing outward).

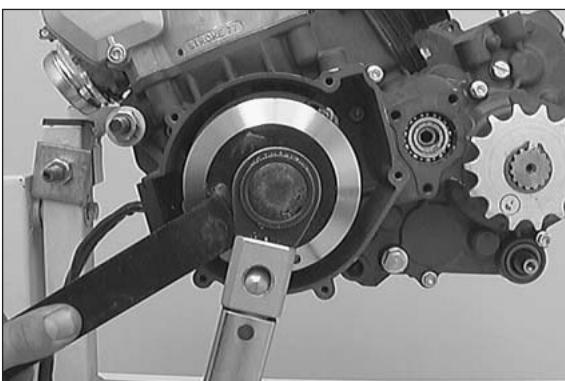


### Mounting the ignition (Kokusan)

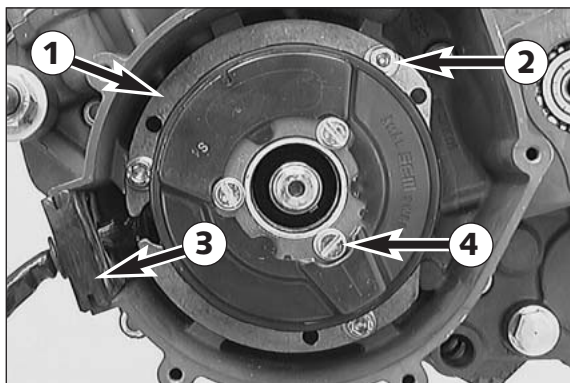
- Insert the woodruff key into the crankshaft.
- Apply Loctite 243 to 3 screws **4** and fix the stator (do not yet tighten the 3 screws all the way).



- Turn stator such that the mark **A** on the stator coincides with the mark in the casing, and tighten the 3 screws of the stator.
- At engines with ignition type 2K-4 the marking **C** must coincide with the marking on the stator.
- At engines with all other ignitions (not SEM) the marking **B** must coincide with the marking on the stator.

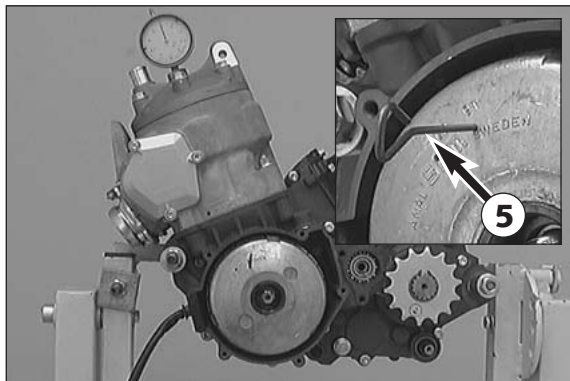


- Mount the rotor.
- Mount the detent edged ring and the nut.
- Hold the rotor with the holding spanner and tighten the nut with 60 Nm (45 ft.lb.).



### Mounting the ignition (SEM)

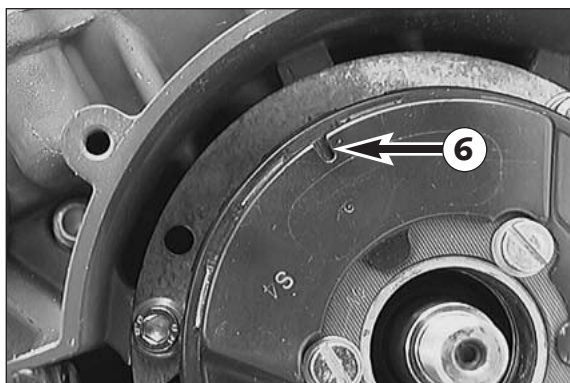
- Insert woodruff key into crankshaft.
- Apply Loctite 243 to the threads of the 3 screws ②.
- Mount base plate ① together with stator, and tighten the 3 screws.
- Mount the cable guide ③ into the cutaway portion of the casing.
- Mount the rotor.
- Mount the detent edged ring and the nut.
- Hold the rotor with the holding spanner and tighten the nut with 60 Nm (45 ft.lb.).



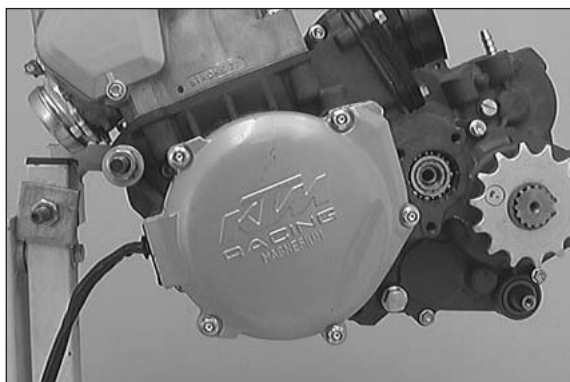
### Adjusting ignition point (SEM)

- Make sure that the stator can be turned on the intermediate plate. Otherwise, loosen the 3 screws ④.
- Mount flywheel.
- Screw dial gauge into spark plug thread.
- Place adjusting pin ⑤ in flywheel bore ("91") 2 mm (0.08 in) and turn flywheel until pin slots into recess ⑥ in stator.
- Turn flywheel and stator jointly to TDC.
- Turn dial gauge scale to 0 and turn flywheel with stator clockwise accordingly to preignition.

Ignition point:

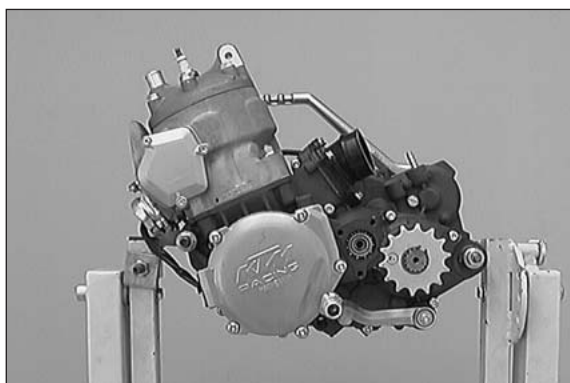


- Carefully remove flywheel to prevent further turning of stator.
- Tighten the three stator cylinder screws.
- Mount flywheel and tighten collar nut with 60 Nm (45 ft.lb.).
- Check ignition point once more.
- Remove dial gauge and fit spark plug with OR.



### Mounting ignition cover

- Put on a new gasket, and fix the ignition cover by means of the 5 screws.



### Mounting starting lever and shift lever

- Push distance bushing onto kickstarter shaft and mount kickstarter.
- Mount shift lever.
- Operate the kickstarter a few times and check if the engine turns freely.
- Oil the push rod, and insert it into the drive shaft.

NOTE: The transmission oil should be filled in only after the engine has been mounted. Otherwise, a part of the transmission oil would leak out through the drive shaft.

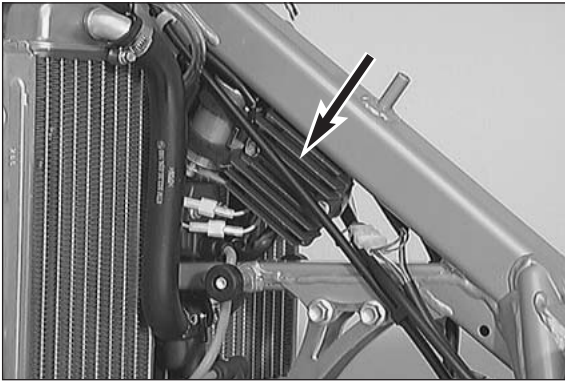
# ELECTRICAL

# 7

## INDEX

CHECKING THE VOLTAGE REGULATOR-RECTIFIER (SHINDENGEN) . . .	.7-2
CHECKING THE VOLTAGE REGULATOR (KOKUSAN) . . . . .	.7-2
CHECKING THE VOLTAGE REGULATOR (TYMPANIUM) . . . . .	.7-2
CHECKING THE CAPACITOR . . . . .	.7-3
IGNITION COIL (SEM) . . . . .	.7-3
IGNITION COIL (KOKUSAN) . . . . .	.7-3
CDI UNIT . . . . .	.7-3
CHECKING THE VOLTAGE REGULATOR (MOD. 2000) . . . . .	.7-4
CHECKING THE CAPACITOR (MOD. 2000) . . . . .	.7-4
STATIC IGNITION VALUES 250 - 380 SX, EXC . . . . .	.7-5
STATIC GENERATOR VALUES 250 - 380 EXC . . . . .	.7-7
STATIC IGNITION AND GENERATOR VALUES 250 MXC, EXC (USA) . .	.7-9





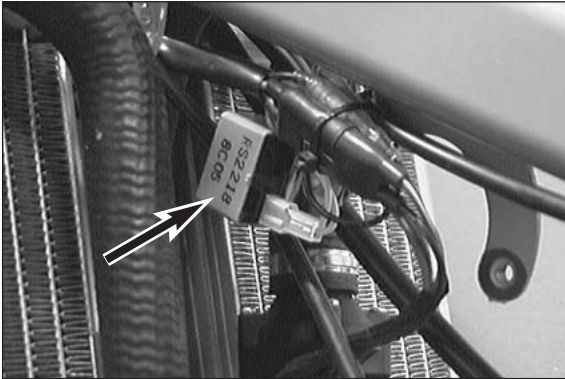
### Checking the voltage regulator-rectifier (Shindengen)

- 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

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

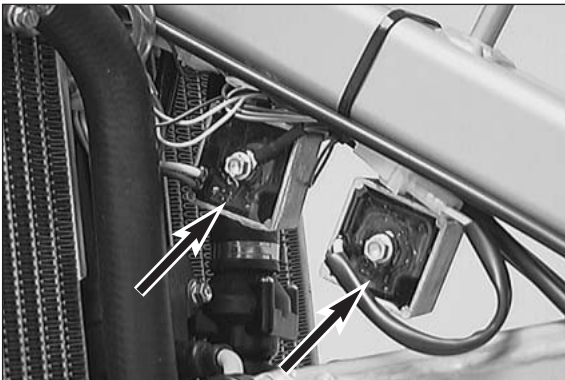
- Check the capacitor
- Check the connector between the stator and the voltage regulator-rectifier and the connector between the voltage regulator-rectifier and the cable tree.
- Check the stator.
- Replace the voltage regulator-rectifier.



### 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 voltage regulator (Tympanium)

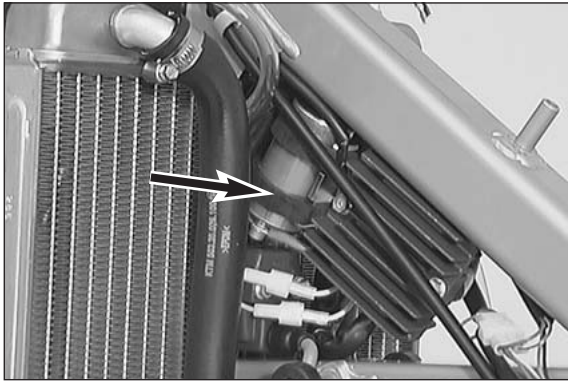
NOTE: The voltage regulators are connected downstream of the switches. One of the voltage regulators regulates only the brake light circuit, the other regulates the circuit for the head light, the tail light, the speedometer illumination and the horn.

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.

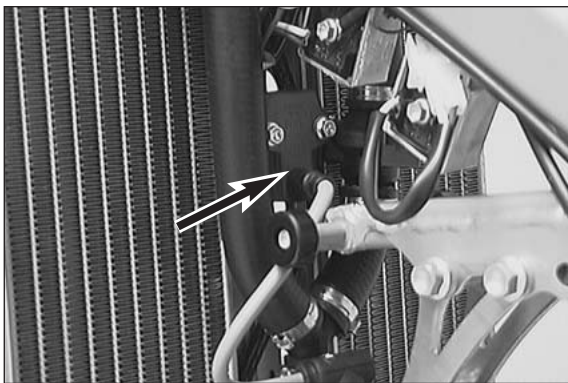
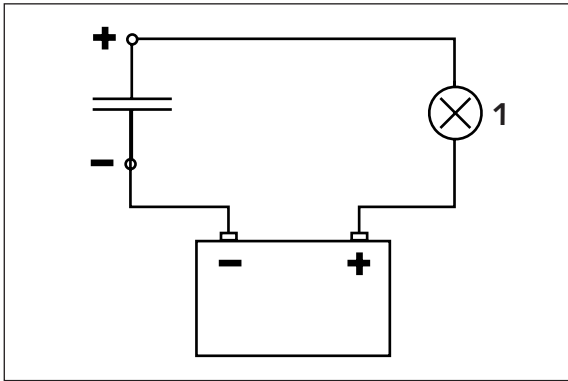
At an engine speed of 3000 r.p.m, the voltage regulator must supply a voltage of 12.0 - 14.0 V A.C. At higher engine speeds, the limit of 14.0 V should not be exceeded either.

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



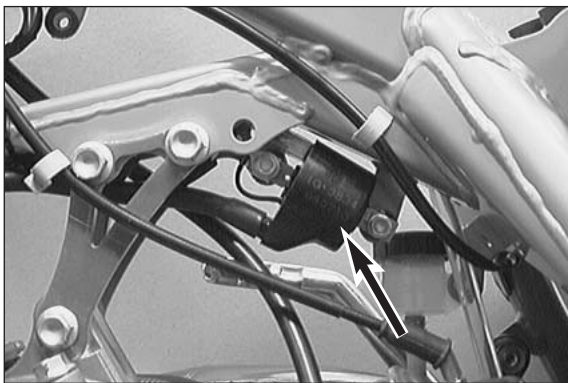
### Checking the capacitor

- Discharge the capacitor 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 ❶.
- 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.



### Ignition coil (SEM)

As this ignition coil uses electronic components, you are advised not to use conventional measuring instruments. An accurate function test can only be carried out on an ignition test bench.



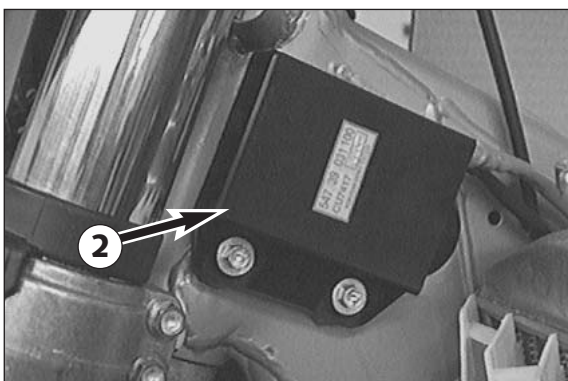
### Ignition coil (Kokusan)

- 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.

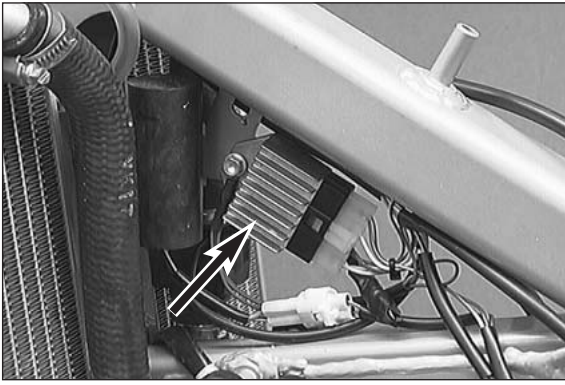
Measurement	Cable colours	Resistance
Primary coil	blue/white – ground	0,425 - 0,575 Ω
Secondary coil	blue/white – ignition wire	10,8 - 16,2 kΩ



### CDI unit

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

**! CAUTION !**  
NEVER USE A COMMERCIAL MEASURING DEVICE TO CHECK THE CDI UNIT. COMMERCIAL MEASURING DEVICES CAN DESTROY HIGHLY SENSITIVE ELECTRONIC COMPONENTS.



### Checking the voltage regulator

- Start the engine and switch on the low beam.
- Connect a voltmeter to the two terminals of the capacitor.
- Accelerate the engine to a speed of 5000 r.p.m. 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 capacitor
- Check the connector between the stator and the voltage regulator-rectifier and between the voltage regulator and the cable tree.
- Check the stator.
- Replace the voltage regulator-rectifier.



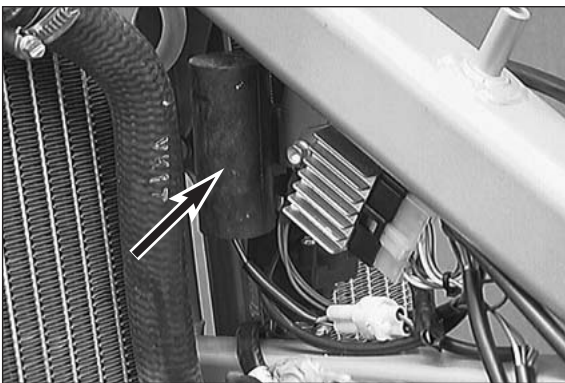
### Checking the voltage regulator

- Start the engine.
- Connect a voltmeter to the two terminals of the capacitor.
- Accelerate the engine to a speed of 5000 r.p.m. and read off the voltage.

Nominal value: 14.0 - 15.0 V

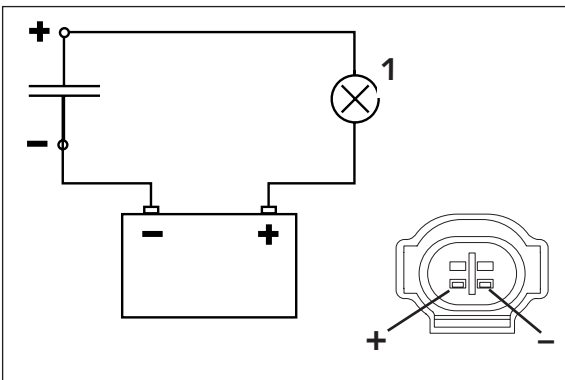
In the case of a significant deviation from the nominal value:

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



### Checking the capacitor

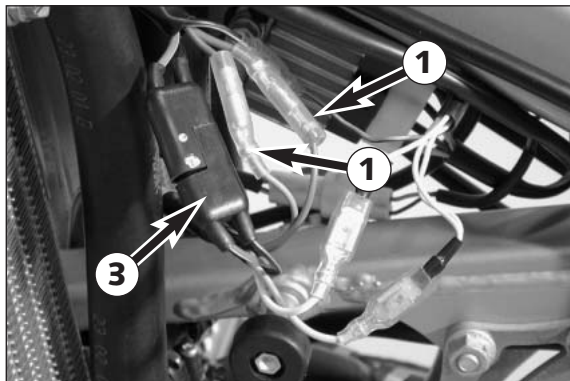
- Discharge the capacitor by bridging the two connections with a cable bridge and dismount it.
- Connect the negative pole of a 12V battery with the negative terminal of the capacitor. The connection between the positive pole of the battery and the positive terminal of the capacitor is made with a test lamp 1.
- When the power circuit is closed, the test lamp must light up briefly and return to its dark state after 1 second at the latest.
- If the test lamp does not go out or does not light up at all, the capacitor is faulty.



## STATIC IGNITION VALUES 250-380 SX, EXC (KOKUSAN 2K-1, 2K-3, 2K-4)

### Measuring conditions:

- cold engine
- seat and tank removed
- all connectors and the ground connection in a non-corroding condition, connectors tightly connected
- spark plug screwed out and spark plug connector attached to ground
- light switch turned off
- the gap between the rotor and pulse generator must be set to 0.75 mm
- kick the kick starter forcefully at least 5 times for each measurement



### Static ignition values 250-380 SX, EXC (except 250 USA)

Check the **pulse generator** for an output signal – two-pin connector ① 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 ① to disconnect the CDI unit ②

Multimeter display: 6 volts +/- 1 volt  
(250 SX model 2000/2001: 5 volts +/- 1 volt)

- Same measurement with CDI unit connected

Multimeter display: 3 volts +/- 1 volt  
(250 SX model 2000/2001: 9 volts +/- 1 volt)

Check the **generator charging coil** for ignition capacitor charge for output voltage – two-pin connector ③ with black/red and red/white cable colors (also see circuit diagram on opposite page):

- Apply the red measuring lead of the peak voltage adapter to the black/red cable and the black measuring lead to the red/white cable, disconnect connector ③ to disconnect the CDI unit ②

Multimeter display: 35 volts +/- 5 volts

- Same measurement with connectors CDI unit connected

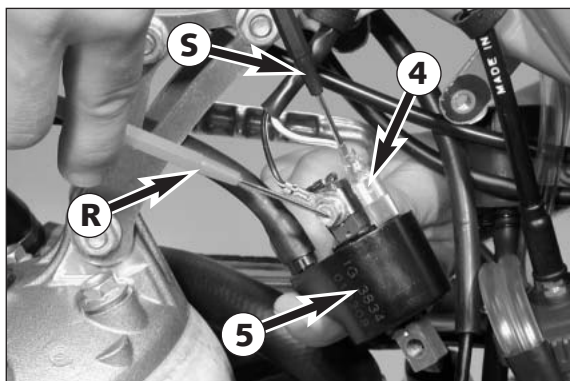
Multimeter display: 200 volts +/- 10 volts

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 ⑥ of the peak voltage adapter to the black/white cable (ground) and the black measuring lead ⑤ to the blue/white cable, CDI unit ② and ignition coil ⑤ connected

Multimeter display: 200 volts +/- 10 volts

NOTE: the ignition coil does not need to be removed to measure.







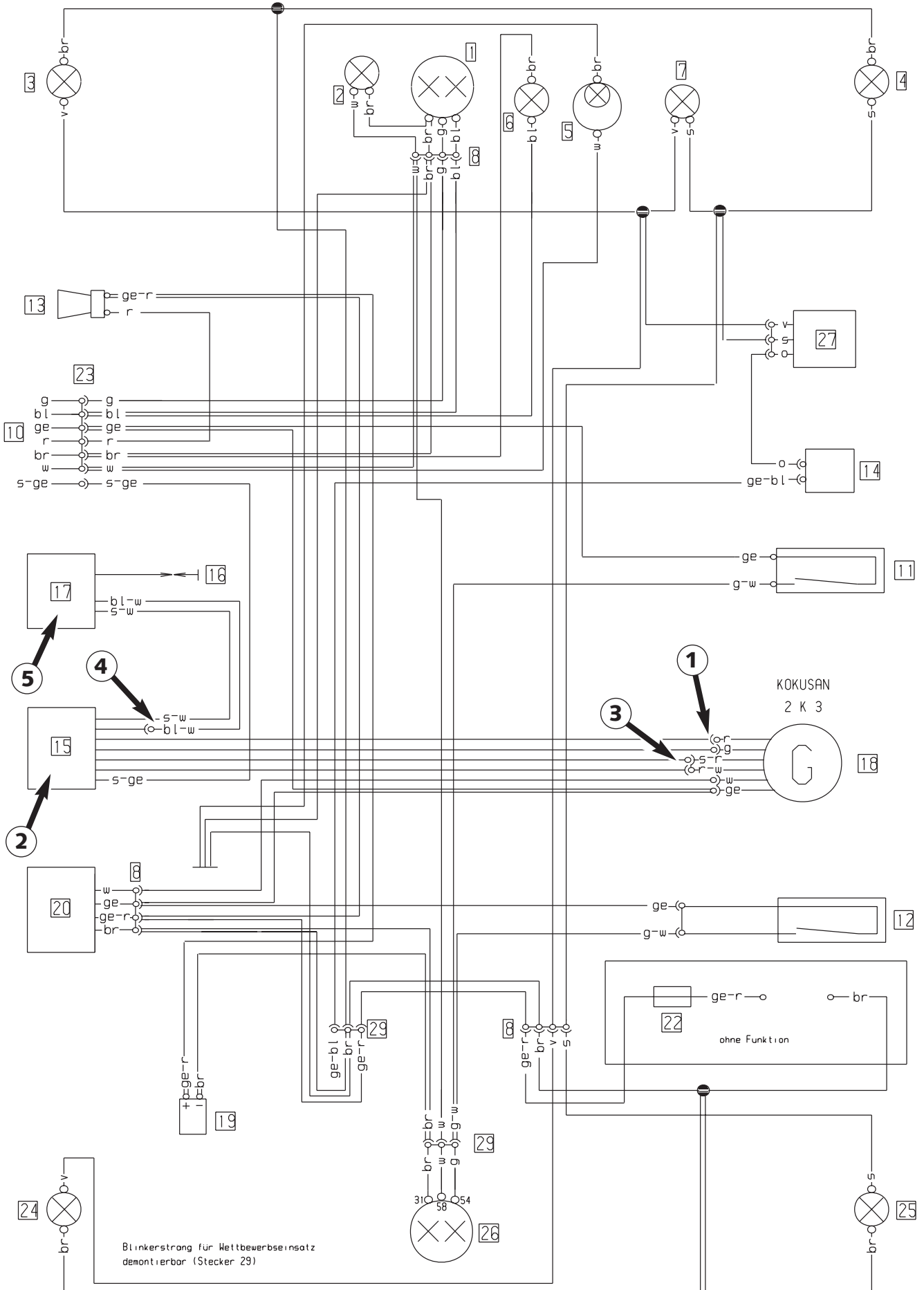
SERVICE

Modell 250-380 EXC 2000

Kabelstrangnummer	vorne 503 11 075 600
	hinten 503 14 040 100
	Blinker vorne 503 11 080 100
	Blinker hinten 503 11 081 000

Land Europa

Datum, Name 07 04 99 Her



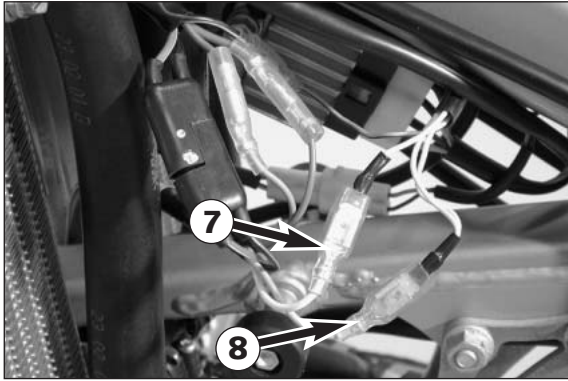
Art No 3206004 - E

Repair manual KTM 250 / 300 / 380

## STATIC GENERATOR VALUES 250-380 EXC (KOKUSAN 2K-3)

### Measuring conditions:

- cold engine
- seat and tank removed
- all connectors and the ground connection in a non-corroding condition, connectors tightly connected
- light switch turned off
- kick the kick starter forcefully at least 5 times for each measurement



### Static generator values 250-380 EXC (except 250 USA)

Check the generator output **6** (also see circuit diagram on opposite page) for voltage between the following cable colors:

- between yellow and brown (ground), connector **7** disconnected

Multimeter display (250): 19 volts +/- 2 volts  
(300-380): 15 volts +/- 1 volt

- between white and brown (ground), connector **8** disconnected

Multimeter display (250): 24 volts +/- 2 volts  
(300-380): 19 volts +/- 1 volt

- Repeat both measurements with connector **7** and **8** connected. The measured values should be the same.

NOTE: the black measuring lead of the peak voltage adapter must be applied to the ground.

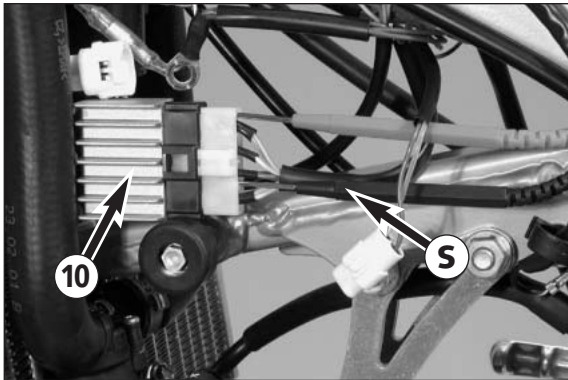
Check **regulator rectifier output voltage 9** (also see circuit diagram on opposite page) cable colors yellow/red, regulator rectifier **10** connected, capacitor **11** disconnected:

- between yellow/red and brown (ground)

Multimeter display: 14 volts +/- 1 volt

### NOTE:

- the black measuring lead **5** of the peak voltage adapter must be applied to the ground.
- 300/380 USA corresponds to 300/380 EXC Europe but with less accessories (blinkers, horn, no capacitor installed). Features no rectification, only an over-voltage regulation.





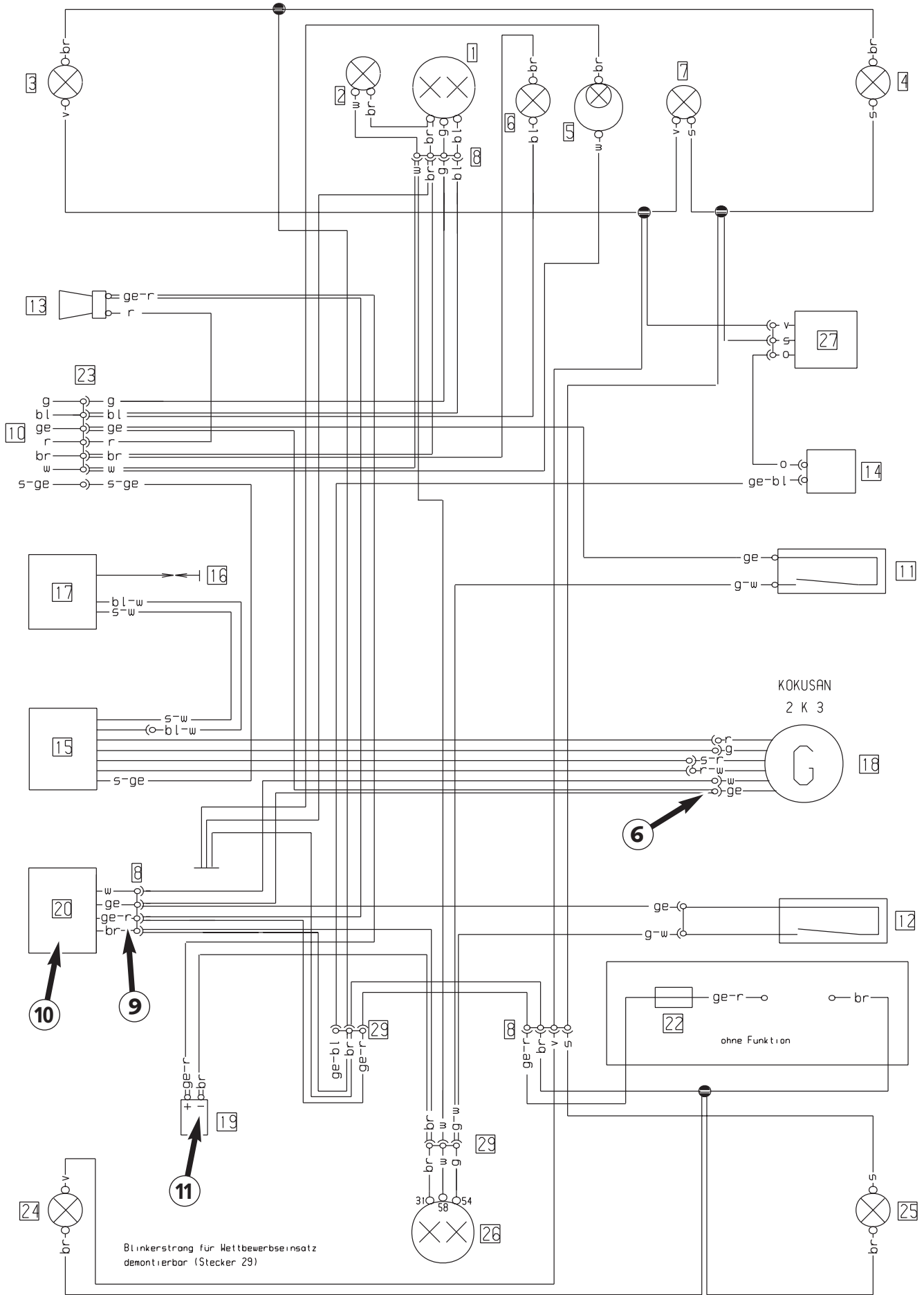
SERVICE

Modell 250-380 EXC 2000

Kabelstrangnummer vorne 503 11 075 600  
hinten 503 14 040 100  
Blinker vorne 503 11 080 100  
Blinker hinten 503 11 081 000

Land Europa

Datum, Name 07 04 99 He



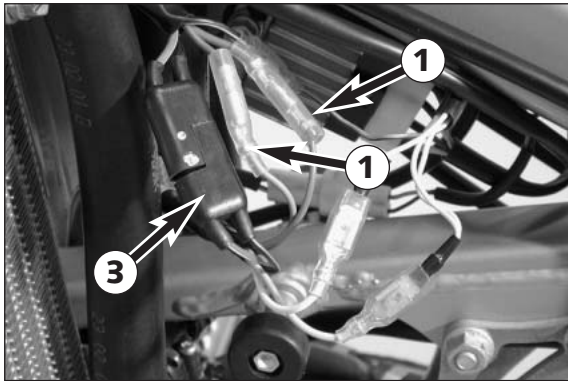
Art No 3206004 - E

Repair manual KTM 250 / 300 / 380

## STATIC IGNITION AND GENERATOR VALUES 250 MXC, EXC USA (KOKUSAN 2K-2)

### Measuring conditions:

- cold engine
- seat and tank removed
- all connectors and the ground connection in a non-corroding condition, connectors tightly connected
- spark plug screwed out and spark plug connector attached to ground
- light switch turned off
- the gap between the rotor and pulse generator must be set to 0.75 mm
- kick the kick starter forcefully at least 5 times for each measurement



### Static ignition values 250 MXC, EXC USA

Check the **pulse generator** for an output signal – two one-pin connectors **1** 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 **1** to disconnect the CDI unit **2**

Multimeter display: 3.5 volts +/- 1 volt

- Same measurement with CDI unit connected

Multimeter display: 2 volts +/- 0.5 volt

Check the **generator charging coil** for ignition capacitor charge for output voltage – two-pin connector **3** with black/red and red/white cable colors (also see circuit diagram on opposite page)

- apply the red measuring lead of the peak voltage adapter to the black/red cable and the black measuring lead to the red/white cable, disconnect connector **3** to disconnect the CDI unit **2**

Multimeter display: 45 volts +/- 5 volts

- Same measurement with connectors CDI unit connected

Multimeter display: 220 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 **6** of the peak voltage adapter to the black/white cable (ground) and the black measuring lead **5** to the blue/white cable, CDI unit **2** and ignition coil **5** connected

Multimeter display: 210 volts +/- 10 volts

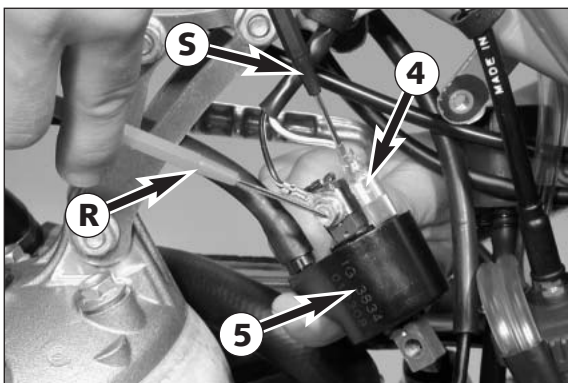
NOTE: the ignition coil does not need to be removed to measure.

### Static generator values 250 MXC, EXC USA

Check the **generator output** **6** for the lighting system (also see circuit diagram on opposite page) for voltage:

- between yellow and brown (ground), connector disconnected

Multimeter display: 10.5 volts +/- 1 volt





SERVICE

Modell  
250 EXC 2001

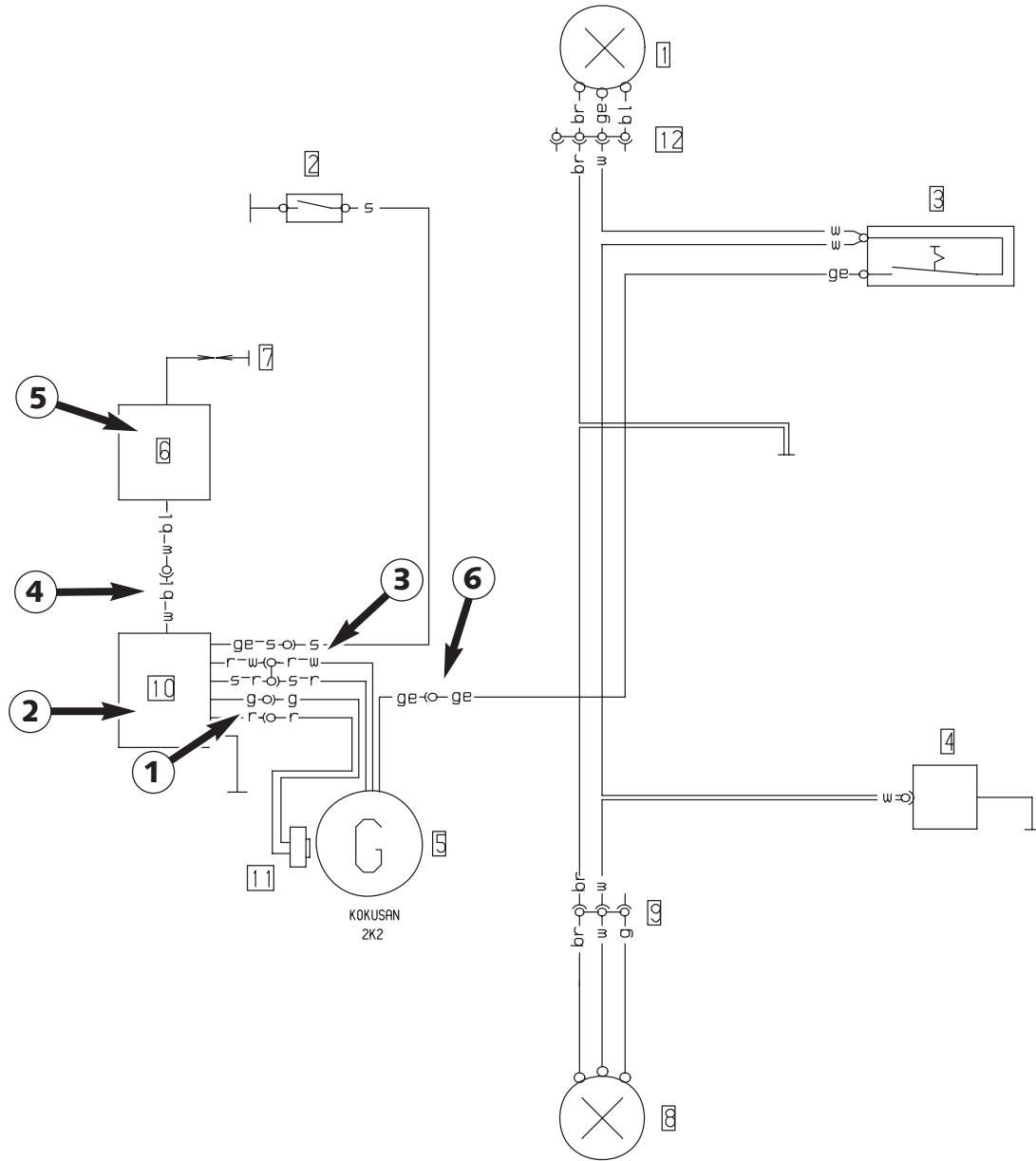
Kabelstrangnummer  
vorne 503 11 075 000  
hinten 503 11 076 000

Land  
USA

Datum, Name  
22 06 98 KE

Art No 3206004 - E

Repair manual KTM 250 / 300 / 380





# TROUBLE SHOOTING

# 8

INDEX

TROUBLE SHOOTING 250 - 380 .....	.8-2
----------------------------------	------





## TROUBLE SHOOTING

If you let the specified maintenance work on your motorcycle be carried out, disturbances can hardly be expected. Should an error occur nevertheless, we advise you to use the trouble shooting chart in order to find the cause of error.

TROUBLE	CAUSE	REMEDY
Engine fails to start	Operating error	Open fuel tap, switch o ignition, replenish fuel, do not use choke
	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
	Electrode distance too great	Reduce electrode distance (0.60 mm)
	Plug fouled by oil, wet or bridged	Clean spark plug or renew
	Ignition wire or spark plug connector damaged	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 – If no spark is produced, loosen spark plug cap from ignition cable, hold about 5 mm from ground and actuate kickstarter – If a spark now occurs, replace spark plug cap – If no spark is produced, check ignition system
	Kill button wire or short-circuit switch faulty	Disconnect yellow-black coloured cable from CDI and check ignition spark. If the spark is O.K. repair defective part of cable, ignition lock or ignition switch
	Loose ignition cable connectors	Inspect cable connectors
	Spark too weak	Examine ignition system
Water in the carburetor and jets blocked	Dismantle and clean carburetor	
Engine without idle running	Idle adjusting screw out of adjustment	Readjust idle running or replace idle adjusting screw
	Ignition system damaged	Examine ignition system
	Wear	Overhaul engine
Engine has not enough power	Charred glass fiber yarn in silencer	Renew filling
	Air filter obstructed	Clean or renew airfilter
	Control flap does not work	Check control flap, joint rod and centrifugal timer
	Fuel supply partly interrupted or blocked	Blow through fuel pipe and clean carburetor
	Loss of compression through loose spark plug	Tighten spark plug
	Exhaust system damaged	Check exhaust system for damage
	Engine has not enough preignition	Check and adjust ignition

TROUBLE	CAUSE	REMEDY
Engine has not enough power	Reed paddles tensionless or damaged, surface of reed valve housing damaged Wear Electronical ignition timing faulty	Replace reed paddles or reed valve housing Overhaul engine Check ignition system
Engine revs not high and running with four stroke cycle	Carburetor overflows if level adjust too high, float needle seating is dirty or enlarged Loose carburetor jets	Clean carburetor, if necessary replace float needle and adjust level Tighten jets
High rpm misfiring	Incorrect heat range spark plug or low quality spark plug Incorrect or faulty spark plug connector Loose, corroded or non conductive ignition socket connector	Refer to technical data section Test and/or replace spark plug connectors correct type Check and seal with silicon
Engine splutters into the carburetor	Lack of fuel Spark plug with incorrect heat value (Ignition by incandescence) Engine takes air out of control	Clean fuel pipes, examine tank aeration and clean Fit correct spark plug Check intake flange and carburettor if firmly setted
Engine overheating	Insufficient liquid in cooling system Cooling system not or insufficiently bled Radiator fins clogged Frothing in cooling system Pinched or kinked water hoses Incorrect ignition timing because of loose stator bolts Incorrect dimension „X“	Top up coolant and bleed cooling system check cooling system for leaks Bleed cooling system (see operating instructions) Clean radiator fins with water jet Renew coolant using branded anti-freeze/anti-corrosive Replace with correct routed hoses Readjust to correct ignition timing specifications, secure screws properly with Loctite 243 Measure and adjust to correct specification
Emission of white smoke (steam)	Cylinder head or O-ring of cylinder head gasket leaks	Check cylinder head, replace O-ring
Excessive oil escapes from transmission breather tube	Excessive oil quantity in transmission Water pump shaft seal ring or right-hand crankshaft seal ring defect Silicon O-rings of control roller or of control flap leaks	Correct transmission oil level Replace shaft seal ring and change gear oil, check coolant Replace O-rings
All switched on lamps blown out	Voltage regulator faulty	Control connections of voltage regulator. Check voltage regulator

# TECHNICAL SPECIFICATIONS

## INDEX

### MODEL 1999

ENGINE 250 - 380 USA .....9-2  
ENGINE 250 - 380 .....9-4  
CHASSIS 250 - 380 .....9-6  
CARBURETOR SETTINGS .....9-7

### MODEL 2000

ENGINE 250 - 380 USA .....9-10  
ENGINE 250 - 380 .....9-12  
CHASSIS 250 - 380 .....9-14  
CARBURETOR SETTINGS .....9-15

### MODEL 2001

ENGINE 250 - 380 USA .....9-19  
ENGINE 250 - 380 .....9-21  
CHASSIS 250 - 380 .....9-23  
CARBURETOR SETTINGS .....9-24

### MODEL 2002

ENGINE 250 - 380 USA .....9-28  
ENGINE 250 - 380 .....9-30  
CHASSIS 250 - 380 .....9-32  
CARBURETOR SETTINGS .....9-33

### MODEL 2003

ENGINE 250 - 300 .....9-37  
CHASSIS 250 - 300 .....9-39  
CARBURETOR SETTINGS .....9-41



## TECHNICAL SPECIFICATIONS - ENGINE 250/300/380 SX/MXC/EXC '99 (only for USA)

Engine	250 SX	250 EXC, MXC	300 EXC, MXC	380 SX	380 EXC, MXC
Design	Liquid-cooled single-cylinder two-stroke engine with KTM Twin Valve Control exhaust system and KTM Torque Chamber				
Piston displacement	249 ccm		297 ccm	368 ccm	
Bore / stroke	67.5 / 69.5 mm (2.66 / 2.74 in)		72 / 73 mm (2.84 / 2.88 in)	78 / 77 mm (3 / 2.98 in)	
Fuel	SUPER fuel, research octane no 95, mixed with high-grade two stroke oil (Shell Advance Racing X)				
Oil / gasolin ratio	1:50 - 1:60 when using high grade two stroke oil. When in doubt, please contact your importer or use 1:40 mix ratio to be on the safe side				
Crankshaft bearing	1 deep-groove ball bearing / 1 cylinder roller bearing				
Connecting rod bearing	needle bearing				
Piston pin bearing	needle bearing				
Piston	cast piston		forged piston	cast piston	
Piston ring	two plain compression rings				
Dimension "X" <small>(upper edge piston - upper edge cylinder)</small>	0 mm <sup>+0.1 mm</sup> (0 in <sup>+ 0.004 in</sup> )				
Ignition timing	1.8 mm (0.07 in) (17 °) BTDC		2.0 mm (0.08 in) (17°) BTDC	2.2 mm (0.09 in) (17 °) BTDC	
Spark plug	NGK BR 8 ECM				
Electrode gap	0.6 mm (0.024 in)				
Dimension "Z" <small>(height of the control flap)</small>	48 mm (1.9 in)		46 mm (1.7 in)	50.5 mm (1.99 in)	
TVC start open	5400/min		5300/min	5200/min	
TVC fully open	7550/min		7750/min	7200/min	
Primary drive	straight cut spur gears, primary ratio 25:72		straight cut spur gears, primary ratio 26:72		
Clutch	multiple disc clutch in oil bath, hydraulic operated (Shell HF-E15)				
Transmission	5 speed, claw actuated				
Gear ratio			EXC	M+XC	EXC
1 <sup>st</sup> Gear	15:29	15:29	15:29	15:29	15:29
2 <sup>nd</sup> Gear	17:27	18:26	18:26	18:26	18:26
3 <sup>rd</sup> Gear	19:25	19:22	19:22	19:24	19:24
4 <sup>th</sup> Gear	21:23	21:20	21:20	21:23	21:23
5 <sup>th</sup> Gear	23:21	23:18	23:18	23:21	23:18
Gear lubrication	0.8 l engine oil 20W-40 (Shell Advance VSX4)				
Available chain sprockets	13t / 14t / 15t for chain <sup>5</sup> / <sub>8</sub> x <sup>1</sup> / <sub>4</sub> "				
Coolant	1.3 litres, 40% anti freeze, 60% water, at least -25 °C (-13 °F)				
Ignition system	KOKUSAN 2K-1		KOKUSAN 2K-2	KOKUSAN 2K-1	KOKUSAN 2K-2
Generator output	no generator		12V 40W	no generator	
Carburetor	flat-slide carburetor, carburetor setting see table 3				
Air-filter	wet foam type air filter insert				

<b>TIGHTENING TORQUES</b>		
Flange bolts - cylinder-head	M 8	35 Nm (25 ft.lb)
Nuts-cylinder base	M 10	35 Nm (25 ft.lb)
Flywheel collar nut	M 12x1	60 Nm (44 ft.lb)
Nut for primary sprocket (LH thread)	M 18x1.5	Loctite 243 150 Nm (110 ft.lb)
Nut for inner clutch hub	M 18x1.5	Loctite 243 100 Nm (74 ft.lb)
Crankcase and cover bolts	M 6	8 Nm (6 ft.lb)
Swingarm pivot	M 14	100 Nm (74 ft.lb)
Flat head bolt release plate kickstarter	M 6x16	Loctite 648 19 Nm (14 ft.lb)
Other bolts	M 6	10 Nm (7 ft.lb)
	M 8	25 Nm (19 ft.lb)
	M 10	45 Nm (33 ft.lb)

<b>TOLERANCES AND FITTING CLEARANCES</b>			
Piston fitting clearance	0.05 mm (250)	0.06 mm (300)	0.08 mm (380)
Piston ring end gap	0.3–0.4 mm		
Connecting rod bearing - radial clearance	0.021–0.032 mm		
Transmission shafts end float	0.1–0.2 mm		
Clutch springs - length	Ø 2.5 new = 43 mm, minimum length = 42 mm		

<b>GASKET THICKNESSES</b>	
Crankcase	0.5 mm
Clutch cover	0.5 mm
Cylinder bottom gasket	as required
Available cylinder bottom gaskets	0.2/0.4/0.5/0.7 mm
Cylinder-head gasket	O-rings

<b>BASIC CARBURETOR SETTING</b>				
		<b>250 SX</b>	<b>250 MXC, EXC 300 MXC, EXC</b>	<b>380 SX, MXC, EXC</b>
<b>TABLE 3</b>	Carburetor	Keihin PWK 38	Keihin PWK 38	Keihin PWK 38
	Carburetor setting number	090598	100598	070598
	Main jet	172(168,170,175)	175(170,172,178)	170(168,172,175)
	Idling jet	45(48,50)	45(42,48)	48(45,50)
	Starting jet	85	85	85
	Jet needle	NOZ G(NOZ H,NOZ I)	N85 C(N85 D)	NOZ H(NOZ G,NOZ I)
	Needle position from top	II	III	II
	Throttle valve	6	6	6
	Air adjustment screw open	1,5	1,5 Umdr.	1,5 Umdr.

## TECHNICAL SPECIFICATIONS - ENGINE 250/300/380 SX/EXC/EGS '99 (all models out of USA)

Engine	250 SX	250 EXC, EGS	300 EXC, EGS	380 SX	380 EXC, EGS
Design	Liquid-cooled single-cylinder two-stroke engine with KTM Twin Valve Control exhaust system and KTM Torque Chamber				
Piston displacement	249 ccm	297 ccm	368 ccm		
Bore / stroke	67.5 / 69.5 mm (2.66 / 2.74 in)	72 / 73 mm (2.84 / 2.88 in)	78 / 77 mm (3 / 2.98 in)		
Fuel	SUPER fuel, research octane no 95, mixed with high-grade two stroke oil (Shell Advance Racing X)				
Oil / gasoline ratio	1:50 - 1:60 when using high grade two stroke oil. When in doubt, please contact your importer or use 1:40 mix ratio to be on the safe side				
Crankshaft bearing	1 deep-groove ball bearing / 1 cylinder roller bearing				
Connecting rod bearing	needle bearing				
Piston pin bearing	needle bearing				
Piston	cast piston	cast piston	cast piston	cast piston	cast piston
Piston ring	two plain compression rings				
Dimension "X" (upper edge piston - upper edge cylinder)	0 + 0.1 mm (0 + 0.004 in)				
Ignition timing	1,9 mm (0.07 in) (17 °) BTDC	1.2 mm (0.05 in) (13.5 °) BTDC	1.2 mm (0.05 in) (13.5 °) BTDC	2.1 mm (0.08 in) (17 °) BTDC	1.4 mm (0.06 in) (14,5°) BTDC
Spark plug	NGK BR 8 ECM				
Electrode gap	0.6 mm (0.024 in)				
Dimension "Z" (height of the control flap)	48 mm (1.9 in)	46 mm (1.7 in)	50.5 mm (1.99 in)		
TVC start open	5400/min	5300/min	5200/min		
TVC fully open	7550/min	7750/min	7200/min		
Primary drive	straight cut spur gears, primary ratio 25:72				
Clutch	multiple disc clutch in oil bath, hydraulic operated (Shell HF-E15)				
Transmission	5 speed, claw actuated				
Gear ratio					
1 <sup>st</sup> Gear	15:29	15:29	15:29	15:29	15:29
2 <sup>nd</sup> Gear	17:27	18:26	18:26	18:26	18:26
3 <sup>rd</sup> Gear	19:25	19:22	19:24	19:22	19:22
4 <sup>th</sup> Gear	21:23	21:20	21:23	21:20	21:20
5 <sup>th</sup> Gear	23:21	23:18	23:21	23:21	23:18
Gear lubrication	0,8 l engine oil 20W-40 (Shell Advance VSX4)				
ailable chain sprockets	13t / 14t / 15t for chain $\frac{5}{8} \times \frac{1}{4}$ "				
Coolant	1.3 litres, 40% anti freeze, 60% water, at least -25 °C (-13 °F)				
Ignition system	KOKUSAN 2K-1	SEM K11	KOKUSAN 2K-1	SEM K11	SEM K11
Generator output	no generator	12V 130W	no generator	no generator	12V 130W
Carburetor	flat-slide carburetor, carburetor setting see table 4				
Air-filter	wet foam type air filter insert				

TIGHTENING TORQUES		
Flange bolts - cylinder-head	M 8	35 Nm (25 ft.lb)
Nuts-cylinder base	M 10	35 Nm (25 ft.lb)
Flywheel collar nut	M 12x1	60 Nm (44 ft.lb)
Nut for primary sprocket (LH thread)	M 18x1.5	Loctite 243 150 Nm (110 ft.lb)
Nut for inner clutch hub	M 18x1.5	Loctite 243 100 Nm (74 ft.lb)
Crankcase and cover bolts	M 6	8 Nm (6 ft.lb)
Swingarm pivot	M 14	100 Nm (74 ft.lb)
Flat head bolt release plate kickstarter	M 6x16	Loctite 648 19 Nm (14 ft.lb)
Other bolts	M 6	10 Nm (7 ft.lb)
	M 8	25 Nm (19 ft.lb)
	M 10	45 Nm (33 ft.lb)

TOLERANCES AND FITTING CLEARANCES	
Piston fitting clearance	0.05 mm (250) 0.06 mm (300) 0.08 mm (380)
Piston ring end gap	0.3–0.4 mm
Connecting rod bearing - radial clearance	0.021–0.032 mm
Transmission shafts end float	0.1–0.2 mm
Clutch springs - length	Ø 2.5 new = 43 mm, minimum length = 42 mm

GASKET THICKNESSES	
Crankcase	0.5 mm
Clutch cover	0.5 mm
Cylinder bottom gasket	as required
Available cylinder bottom gaskets	0.2/0.4/0.5/0.7 mm
Cylinder-head gasket	O-rings

### BASIC CARBURETOR SETTING

	250 SX	250 MXC, EXC 300 MXC, EXC	250/300 EGS AUSTRALIA	380 SX, MXC, EXC	380 EGS AUSTRALIA
Carburetor	Keihin PWK 38	Keihin PWK 38	Keihin PWK 38	Keihin PWK 38	Keihin PWK 38
Carburetor setting number	090598	100598	100598	070598	060598
Main jet	172(168,170,175)	175(170,172,178)	175(170,172,178)	170(168,172,175)	175(168,170,172)
Idling jet	45(48,50)	45(42,48)	45(42,48)	48(45,50)	45(48,50)
Starting jet	85	85	85	85	85
Jet needle	NOZ G(NOZ H,NOZ I)	N85 C(N85 D)	N85 C(N85 D)	NOZ H(NOZ G,NOZ I)	NOZ G(NOZ H,NOZ I)
Needle position from top	II	III	III	II	II
Throttle valve	6	6	6	6	6
Air adjustment screw open	1,5	1,5 Umdr.	1,5 Umdr.	1,5 Umdr.	1,5 Umdr.
Performance restrictor	–	–	slide stop 31mm	–	slide stop 36mm



**TECHNICAL SPECIFICATIONS CHASSIS 250 / 300 / 380 SX / MXC / EXC / EGS '99**

	250/380SX	250/300/380 MXC	250/300/380 EXC	250/300/380 EGS
Frame	Central chrome-moly-steel frame			
Fork	WP Extreme Ø 50 mm			
Wheel travel front/rear	280 / 320 mm (11.0 / 12.6 in)			
Rear suspension	WP Progressive Damping System shock absorber, aluminium swingarm			
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			
Front tires	80/100 - 21" 51M -	80/100 - 21" 51M -	90/90 - 21" 54R 80/100 - 21" 51M	90/90 - 21" 54R -
Air pressure offroad	1.0 bar (14 psi)	1.0 bar (14 psi)	1.0 bar (14 psi)	1.0 bar (14 psi)
Air press. road driver only	-	-	1.5 bar (21 psi)	1.5 bar (21 psi)
Rear tires	110/90 - 19" 62M -	110/100 - 18" 64M -	140/80 - 18" 70R 110/100 - 18" 64M	140/80 - 18" 70R -
Air pressure offroad	1.0 bar (14 psi)	1.0 bar (14 psi)	1.0 bar (14 psi)	1.0 bar (14 psi)
Air press. road driver only	-	-	2.0 bar (28 psi)	2.0 bar (28 psi)
Fuel tank capacity	7.5 liter (2 US gallons)	12 liter (3.2 US gallons)	9.5 or 12 liter (2.5 or 3.2 US gallons)	9.5 or 12 liter (2.5 or 3.2 US gallons)
Final drive ratio	14:50	14:52	14:50 / 14:52	14:50 / 15:48
Chain	5/8 x 1/4"			
Available final sprockets	38, 40, 42, 45, 48, 50, 52			
Steering head angle	63.5°			
Wheel base	1481 ± 10 mm (58.3 ± 0.4 in)			
Seat height, unloaded	925 mm (36.4 in)			
Ground clearance, unloaded	385 mm (15 in)			
Dead-weight without fuel	101 kg (223 lbs)	102.5 kg (226.3 lbs)	103.7 kg (229 lbs)	109 kg (240.6 lbs)

**STANDARD ADJUSTMENT - FORK**

	WP 918T768	WP 918T769
Compression adjuster	12	12
Rebound adjuster	12	12
Spring	4.2 N/mm	4.0 N/mm
Spring preload	5 mm (0.2 in)	5 mm (0.2 in)
Air chamber length	150 mm (5.9 in)	155 mm (6.1 in)
Capacity per fork leg	approx. 750 ccm	approx. 750 ccm
Fork oil	SAE 5	SAE 5

**NOTE:**

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 jobs.

**STANDARD-ADJUSTMENT - SHOCK ABSORBER**

	WP 1218T712	WP 1218T714
Compression adjuster	5	6
Rebound adjuster	14	12
Spring	PDS3-250	PDS2-250
Spring preload	5 mm (0.20 in)	6 mm (0.23 in)

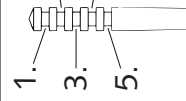
**TORQUES**

Collar bolt front wheel spindle	M 10	40 Nm (30 ft.lb)
Brake caliper front	M 8	25 Nm (19 ft.lb) + Loctite 243
Clamping bolts upper fork bridge	M 8	15 Nm (11 ft.lb)
Clamping bolts lower fork bridge	M 8	20 Nm (15 ft.lb)
Clamping bolts fork stubs	M 8	15 Nm (11 ft.lb)
Collar nut rear wheel spindle	M 20x1,5	80 Nm (59 ft.lb)
Hexagon nut swing arm bolt	M 14x1,5	100 Nm (74 ft.lb)
Shock absorber top	M 12	60 Nm (44 ft.lb)
Shock absorber bottom	M 12	40 Nm (30 ft.lb)
Other bolts on chassis	M 6 M 8 M 10	10 Nm (7 ft.lb) 25 Nm (19 ft.lb) 45 Nm (33 ft.lb)

The clamping bolts of the fork plates must be tightened in several (3) steps. Otherwise, the bolts might come loose.

# VERGASERREGULIERUNG KTM 250/300 MXC/EXC EU, USA'99 KEIHIN PWK 38

MEERESHÖHE ALTITUDE	TEMPERATUR →	-20°C bis -7°C -2°F to 20°F	-6°C bis 5°C 19°F to 41°F	6°C bis 15°C 42°F to 60°F	16°C bis 24°C 61°F to 78°F	25°C bis 38°C 79°F to 98°F	37°C bis 49°C 99°F to 120°F
3000 m 10000 ft ↑ 2301 m 7501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/2 45 N85C 3 175	1 3/4 42 N85C 2 172	2 40 N85C 1 170	2 1/4 40 N85D 1 168	2 1/2 40 N85D 1 165	2 3/4 38 N85D 1 165
2300 m 7500 ft ↑ 1501 m 5001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/4 48 N85B 3 178	1 1/2 45 N85C 2 175	1 3/4 42 N85C 2 172	2 42 N85C 2 170	2 1/4 42 N85D 1 168	2 1/2 40 N85D 1 165
1500 m 5000 ft ↑ 751 m 2501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	7 48 N85B 3 180	1 1/4 45 N85B 3 178	1 1/2 45 N85C 3 175	1 3/4 45 N85C 2 172	2 45 N85C 2 170	2 1/4 42 N85D 1 168
750 m 2500 ft ↑ 301 m 1001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	3/4 50 N85B 3 182	1 48 N85B 2 180	1 1/4 45 N85C 2 178	1 1/2 45 N85C 2 175	1 3/4 45 N85C 2 172	2 42 N85D 2 170
300 m 1000 ft ↑ Meersniveau Sea level	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1/2 50 N85A 4 185	3/4 48 N85B 3 182	1 45 N85B 3 180	1 1/4 45 N85C 2 178	1 1/2 42 N85C 1 175	1 3/4 42 N85D 1 172



LSCHR = Luftregulierschraube offen  
LD = Leerlaufdüse  
POS = Clip Position von oben  
HD = Hauptdüse

AS = Air screw open from fully-seated  
IJ = Idling jet  
POS = Clip position from top  
MJ = Main jet

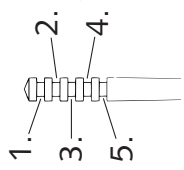
*NICHT FÜR STRASSENBETRIEB*

**NICHT FÜR STRASSENBETRIEB**  
Kraftstoff: Super bleifrei ROZ 95  
NOT FOR HIGHWAY USE  
Fuel: Super unleaded ROZ 95

# KTM 250 SX EUROPA, USA '99 KEIHIN PWK 38

## VERGASERREGULIERUNG CARBURETOR SETTING

MEERESHÖHE ALTITUDE	TEMPERATUR →	-20°C bis -7°C -2°F to 20°F	-6°C bis 5°C 19°F to 41°F	6°C bis 15°C 42°F to 60°F	16°C bis 24°C 61°F to 78°F	25°C bis 38°C 79°F to 98°F	37°C bis 49°C 99°F to 120°F
3000 m 10000 ft ↑ 2301 m 7501 ft	LSCHR AS	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4
	LD IJ	45	42	40	40	40	38
	NADEL NEEDLE	NOZH	NOZH	NOZH	NOZI	NOZI	NOZI
	POS POS	3	2	1	1	1	1
	HD MJ	170	168	165	162	160	160
2300 m 7500 ft ↑ 1501 m 5001 ft	LSCHR AS	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2
	LD IJ	48	45	42	42	42	40
	NADEL NEEDLE	NOZG	NOZH	NOZH	NOZI	NOZI	NOZI
	POS POS	3	2	1	1	1	1
	HD MJ	172	170	168	165	162	160
1500 m 5000 ft ↑ 751 m 2501 ft	LSCHR AS	1	1 1/4	1 1/2	1 3/4	2	2 1/4
	LD IJ	48	45	45	45	45	42
	NADEL NEEDLE	NOZG	NOZG	NOZH	NOZH	NOZH	NOZI
	POS POS	3	3	2	2	2	2
	HD MJ	175	172	170	168	165	162
750 m 2500 ft ↑ 301 m 1001 ft	LSCHR AS	3/4	1	1 1/4	1 1/2	1 3/4	2
	LD IJ	50	48	45	45	45	42
	NADEL NEEDLE	NOZG	NOZG	NOZH	NOZH	NOZI	NOZI
	POS POS	3	2	2	2	2	2
	HD MJ	178	175	172	170	168	165
300 m 1000 ft ↑ Meeresniveau Sea level/	LSCHR AS	1/2	3/4	1	1 1/4	1 1/2	1 3/4
	LD IJ	50	48	45	45	42	42
	NADEL NEEDLE	NOZF	NOZG	NOZG	NOZH	NOZH	NOZI
	POS POS	4	3	3	2	2	2
	HD MJ	180	178	175	172	170	168



LSCHR = Luftregulierschraube offen  
 LD = Leerlaufdüse  
 POS = Clip Position von oben  
 HD = Hauptdüse

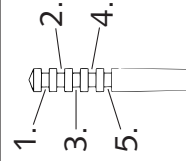
AS = Air screw open from fully-seated  
 IJ = Idling jet  
 POS = Clip position from top  
 MJ = Main jet

**NICHT FÜR STRASSENBETRIEB**  
 Kraftstoff: Super bleifrei ROZ 95  
 NOT FOR HIGHWAY USE  
 Fuel: Super unleaded ROZ 95

# VERGASERREGULIERUNG KTM 380 SX/MXC/EXC EU, USA '99 KEIHIN PWK 38

## CARBURETOR SETTING

MEERESHÖHE ALTITUDE	TEMPERATUR →	-20°C bis -7°C -2°F to 20°F	-6°C bis 5°C 19°F to 41°F	6°C bis 15°C 42°F to 60°F	16°C bis 24°C 61°F to 78°F	25°C bis 38°C 79°F to 98°F	37°C bis 49°C 99°F to 120°F
3000 m 10000 ft ↑ 2301 m 7501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/2 48 H 3 172	1 3/4 45 H 2 170	2 45 H 1 168	2 1/4 42 I 1 165	2 1/2 42 I 1 162	2 3/4 40 I 1 162
2300 m 7500 ft ↑ 1501 m 5001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/4 50 G 3 175	1 1/2 48 H 2 172	1 3/4 45 H 1 170	2 45 I 1 168	2 1/4 45 I 1 165	2 1/2 42 I 1 162
1500 m 5000 ft ↑ 751 m 2501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 50 G 3 178	1 1/4 48 G 3 175	1 1/2 48 H 2 172	1 3/4 48 H 2 170	2 48 H 2 168	2 1/4 45 I 2 165
750 m 2500 ft ↑ 301 m 1001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	3/4 52 G 3 180	1 50 G 2 178	1 1/4 48 H 2 175	1 1/2 48 NOZH 2 172	1 3/4 48 NOZI 2 170	2 45 NOZI 2 168
300 m 1000 ft ↑ Meersniveau Sea level	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1/2 52 F 4 182	3/4 50 G 3 180	1 48 G 3 178	1 1/4 48 H 2 175	1 1/2 48 H 1 172	1 3/4 45 I 1 170



LSCHR = Luftregulierschraube offen  
LD = Leerlaufdüse  
POS = Clip Position von oben  
HD = Hauptdüse

AS = Air screw open from fully-seated  
IJ = Idling jet  
POS = Clip position from top  
MJ = Main jet

**NICHT FÜR STRASSENBETRIEB**  
Kraftstoff: Super bleifrei ROZ 95  
**NOT FOR HIGHWAY USE**  
Fuel: Super unleaded ROZ 95

## TECHNICAL DATA - ENGINE 250/300/380 SX / MXC / EXC 2000 (only USA)

Engine	<b>250 SX</b>	<b>250 EXC, MXC</b>	<b>300 EXC, MXC</b>	<b>380 SX</b>	<b>380 EXC, MXC</b>
Design	Liquid-cooled single-cylinder two-stroke engine with <b>KTM Twin Valve Control</b> exhaust system and <b>KTM Torque Chamber</b>				
Piston displacement	249 ccm				
Bore / stroke	66.4 / 72 mm (2.62 / 2.84 in)				
Fuel	unleaded SUPER fuel, research octane no 95, mixed with high-grade two stroke oil (Shell Advance Racing X)				
Oil / gasolin ratio	1:40 – 1:60 when using high grade two stroke oil. When in doubt, please contact your importer or use 1:40 mix ratio to be on the safe side				
Crankshaft bearing	1 deep-groove ball bearing / 1 cylinder roller bearing				
Connecting rod bearing	needle bearing				
Piston pin bearing	needle bearing				
Piston	cast piston	cast piston	forged piston	cast piston	
Piston ring	one plain compression rings				
Dimension "X" <small>(upper edge piston - upper edge cylinder)</small>	0 +0.1 mm (0 + 0.004 in)				
Ignition timing	2.0 mm (0.07 in) (17 °) BTDC				
Spark plug	NGK BR 8 ECM				
Electrode gap	0.6 mm (0.024 in)				
Dimension "Z" <small>(height of the control flap)</small>	50,5 mm (1.99 in)				
TVC start open	5000/min				
TVC fully open	7500/min				
Primary drive	straight cut spur gears, primary ratio 25:72				
Clutch	multiple disc clutch in oil bath, hydraulic operated (Shell HF-E15)				
Transmission	5 speed, claw actuated				
Gear ratio					
1 <sup>st</sup> Gear	15:29	EXC 15:29	MXC 15:29	EXC 15:29	MXC 15:29
2 <sup>nd</sup> Gear	17:27	EXC 18:26	MXC 17:27	EXC 18:26	MXC 18:26
3 <sup>rd</sup> Gear	19:25	EXC 19:22	MXC 19:25	EXC 19:22	MXC 19:24
4 <sup>th</sup> Gear	21:23	EXC 21:20	MXC 21:23	EXC 21:20	MXC 21:23
5 <sup>th</sup> Gear	23:21	EXC 23:18	MXC 23:21	EXC 23:18	MXC 23:21
Gear lubrication	0.8 l engine oil 20W-40 (Shell Advance VSX4)				
Available chain sprockets	13t / 14t / 15t for chain $\frac{5}{8}$ x $\frac{1}{4}$ "				
Coolant	1.3 litres, 40% anti freeze, 60% water, at least -25 °C (-13 °F)				
Ignition system	KOKUSAN 2K-4	KOKUSAN 2K-2	KOKUSAN 2K-1	KOKUSAN 2K-3	KOKUSAN 2K-3
Generator output	no generator	12V 40W	no generator	12V 110W	12V 110W
Carburetor	flat-slide carburetor, carburetor setting see table				
Air-filter	wet foam type air filter insert				

TIGHTENING TORQUES - ENGINE		
Flange bolts - cylinder-head	M 8	35 Nm (25 ft.lb)
Nuts-cylinder base	M 10	35 Nm (25 ft.lb)
Flywheel collar nut	M 12x1	60 Nm (44 ft.lb)
Nut for primary sprocket (LH thread)	M 18x1.5	Loctite 243 150 Nm (110 ft.lb)
Nut for inner clutch hub	M 18x1.5	Loctite 243 100 Nm (74 ft.lb)
Crankcase and cover bolts	M 6	8 Nm (6 ft.lb)
Swingarm pivot	M 14	100 Nm (74 ft.lb)
Flat head bolt release plate kickstarter	M 6x16	Loctite 648 19 Nm (14 ft.lb)
Other bolts	M 6	10 Nm (7 ft.lb)
	M 8	25 Nm (19 ft.lb)
	M 10	45 Nm (33 ft.lb)

TOLERANCES AND FITTING CLEARANCES			
Piston fitting clearance	0.05 mm (250)	0.06 mm (300)	0.08 mm (380)
Piston ring end gap	0.3–0.4 mm		
Connecting rod bearing - radial clearance	0.021–0.032 mm		
Transmission shafts end float	0.1–0.2 mm		
Clutch springs - length	Ø 2.5 new = 43 mm, minimum length = 42 mm		

GASKET THICKNESSES	
Crankcase	0.5 mm
Clutch cover	0.5 mm
Cylinder bottom gasket	as required
Available cylinder bottom gaskets	0.2/0.4/0.5/0.75 mm
Cylinder-head gasket	O-rings

BASIC CARBURETOR SETTING				
	250 SX	250 MXC, EXC	300 MXC, EXC	380 SX, MXC, EXC
Carburetor	Keihin PWK 38 AG PJ	Keihin PWK 38 AG	Keihin PWK 38 AG	Keihin PWK 38 AG
Carburetor setting number	110499	130499	140499	150499
Main jet	172 (170,175)	180 (178,182)	175 (172,178)	170 (168,172)
Idling jet	48 (45,50)	45 (48)	45 (48)	45 (48)
Starting jet	85	85	85	85
Jet needle	NOZ E (NOZ F)	NOZ G (NOZ H)	NOZ H (NOZ I)	NOZ H (NOZ I)
Needle position from top	III	III	III	III
Slide	7	6	6	6
Air adjustment screw open	1,5	1,5	1,5	1,5
Performance restrictor	–	–	–	–
Power jet jet	55	–	–	–

## TECHNICAL DATA - ENGINE 250/300/380 SX / EXC 2000 (all models out of USA)

Engine	250 SX	250 EXC	300 EXC	380 SX	380 EXC
Design	Liquid-cooled single-cylinder two-stroke engine with KTM Twin Valve Control exhaust system and KTM Torque Chamber				
Piston displacement	249 ccm		297 ccm	368 ccm	
Bore / stroke	66.4 / 72 mm (2.62 / 2.84 in)		72 / 73 mm (2.84 / 2.88 in)	78 / 77 mm (3 / 2.98 in)	
Fuel	unleaded SUPER fuel, research octane no 95, mixed with high-grade two stroke oil (Shell Advance Racing X)				
Oil / gasoline ratio	1:40 – 1:60 when using high grade two stroke oil. When in doubt, please contact your importer or use 1:40 mix ratio to be on the safe side				
Crankshaft bearing	1 deep-groove ball bearing / 1 cylinder roller bearing				
Connecting rod bearing	needle bearing				
Piston pin bearing	needle bearing				
Piston	cast piston	cast piston	forged piston	cast piston	
Piston ring	one plain compression ring	two plain compression rings			
Dimension "X" (upper edge piston - upper edge cylinder)	0 + 0.1 mm (0 + 0.004 in)				
Ignition timing	2.0 mm (0.07 in) (17 °) BTDC				
Spark plug	NGK BR 8 ECM				
Electrode gap	0.6 mm (0.024 in)				
Dimension "Z" (height of the control flap)	50,5 mm (1.99 in)		46 mm (1.7 in)	50.5 mm (1.99 in)	
TVC start open	5000/min		5300/min	5200/min	
TVC fully open	7500/min		7750/min	7200/min	
Primary drive	straight cut spur gears, primary ratio 25:72		straight cut spur gears, primary ratio 26:72		
Clutch	multiple disc clutch in oil bath, hydraulic operated (Shell HF-E15)				
Transmission	5 speed, claw actuated				
Gear ratio	15:29 17:27 19:25 21:23 23:21		15:29 18:26 19:24 21:23 23:21		15:29 18:26 19:22 21:20 23:18
Gear lubrication	0,8 l engine oil 20W-40 (Shell Advance VSX4)				
available chain sprockets	13t / 14t / 15t for chain $\frac{5}{8}$ x $\frac{1}{4}$ "				
Coolant	1.3 litres, 40% anti freeze, 60% water, at least -25 °C (-13 °F)				
Ignition system	KOKUSAN 2K-4		KOKUSAN 2K-3	KOKUSAN 2K-1	KOKUSAN 2K-3
Generator output	no generator		12V 110W	no generator 12V 110W	
Carburetor	flat-slide carburetor, carburetor setting see table				
Air-filter	wet foam type air filter insert				

TIGHTENING TORQUES		
Flange bolts - cylinder-head	M 8	35 Nm (25 ft.lb)
Nuts-cylinder base	M 10	35 Nm (25 ft.lb)
Flywheel collar nut	M 12x1	60 Nm (44 ft.lb)
Nut for primary sprocket (LH thread)	M 18x1.5	Loctite 243 150 Nm (110 ft.lb)
Nut for inner clutch hub	M 18x1.5	Loctite 243 100 Nm (74 ft.lb)
Crankcase and cover bolts	M 6	8 Nm (6 ft.lb)
Swingarm pivot	M 14	100 Nm (74 ft.lb)
Flat head bolt release plate kickstarter	M 6x16	Loctite 648 19 Nm (14 ft.lb)
Other bolts	M 6	10 Nm (7 ft.lb)
	M 8	25 Nm (19 ft.lb)
	M 10	45 Nm (33 ft.lb)

TOLERANCES AND FITTING CLEARANCES			
Piston fitting clearance	0.05 mm (250)	0.06 mm (300)	0.08 mm (380)
Piston ring end gap	0.3–0.4 mm		
Connecting rod bearing - radial clearance	0.021–0.032 mm		
Transmission shafts end float	0.1–0.2 mm		
Clutch springs - length	Ø 2.5 new = 43 mm, minimum length = 42 mm		

GASKET THICKNESSES	
Crankcase	0.5 mm
Clutch cover	0.5 mm
Cylinder bottom gasket	as required
Available cylinder bottom gaskets	0.2/0.4/0.5/0.75 mm
Cylinder-head gasket	O-rings

BASIC CARBURETOR SETTING					
	250 SX	250 MXC, EXC	300 MXC, EXC	380 SX, MXC, EXC	250/300 EXC throttled
Carburetor	Keihin PWK 38 AG PJ	Keihin PWK 38 AG	Keihin PWK 38 AG	Keihin PWK 38 AG	Keihin PWK 38 AG
Carburetor setting number	110499	130499	140499	150499	050799
Main jet	172 (170,175)	180 (178,182)	175 (172,178)	170 (168,172)	175
Idling jet	48 (45,50)	45 (48)	45 (48)	45 (48)	35
Starting jet	85	85	85	85	85
Jet needle	NOZ E (NOZ F)	NOZ G (NOZ H)	NOZ H (NOZ I)	NOZ H (NOZ I)	R 1475 J
Needle position from top	III	III	III	III	III
Throttle valve	7	6	6	6	6
Air adjustment screw open	1,5	1,5	1,5	1,5	1,5
Performance restrictor	–	–	–	–	slide stop 34mm
Power jet jet	55	–	–	–	–



## TECHNICAL SPECIFICATIONS CHASSIS 250/300/380 SX, MXC, EXC 2000

	250/380 SX	250/300/380 MXC	250/300/380 EXC
Frame	Central chrome-moly-steel frame		
Fork	White Power – Up Side Down 43 MA		
Wheel travel front/rear	295/320 mm (11,3/12,6 in)		
Rear suspension	WP Progressive Damping System shock absorber, aluminium swingarm		
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		
Brake discs	Wear limit max. 0,4 mm (0,016 in)		
Front tires	80/100 - 21" 51M	–	90/90 - 21" 54R
Front tires USA	80/100 - 21" 51M	80/100 - 21" 51M	80/100 - 21" 51M
Air pressure offroad	1,0 bar (14psi)	1,0 bar (14psi)	1,0 bar (14psi)
Air pressure road driver only	–	1,5 bar (21psi)	1,5 bar (21psi)
Rear tires	100/90 - 19" 62M	–	140/80 - 18" 70R
Rear tires USA	100/90 - 19" 62M	100/100 - 18" 64M	100/100 - 18" 64M
Air pressure offroad	1,0 bar (14psi)	1,0 bar (14psi)	1,0 bar (14psi)
Air pressure road driver only	–	2,0 bar (28psi)	2,0 bar (28psi)
Fuel tank capacity	7,5 liter (2 US Gallons)	12 liter (3,2 US Gallons)	9,5/12 liter (2,5/3,2 US Gallons)
Final drive ratio	14:50t	–	15:48t / 14:50t
Final drive ratio USA	14:50t	14:52t	14:52t
Chain	5/8 x 1/4 "		
Available final sprockets	38t, 40t, 42t, 45t, 48t, 50t, 52t		
Steering head angle	63,5°		
Wheel base	1481 ± 10 mm (58,3 ± 0,4 in)		
Seat height, unloaded	925 mm (36,5 in)		
Ground clearance, unloaded	385 mm (15,2 in)		
Dead-weight *	101 kg (223 lbs)	–	109 kg (240,6 lbs)
Dead-weight USA *	101 kg (223 lbs)	102,5 kg (226,3 lbs)	103,7 kg (229 lbs)

\* Dead-weight without fuel

### STANDARD ADJUSTMENT-FORK

	WP 0518U785	WP 0518U787
Compression adjuster	14	14
Rebound adjuster	12	12
Spring	4,0 N/mm	4,0 N/mm
Spring preload	6 mm (0.24in)	6,5 mm (0.26in)
Air chamber length	140 mm (5.5in)	150 mm (5.9in)
Capacity per fork leg	approx. 840 ccm	approx. 830 ccm
Fork oil	SAE 5	SAE 5

### STANDARD ADJUSTMENT - SHOCK ABSORBER

	WP 1218U718	WP 1218U720
Compression adjuster	4	5
Rebound adjuster	18	20
Spring	PDS3–250	PDS2-250
Spring preload	5 mm (0.2 in)	5 mm (0.2 in)

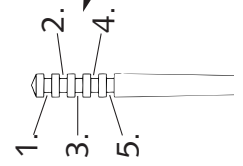
### TIGHTENING TORQUES - CHASSIS

Collar nut front wheel spindle	M 16x1,5	40 Nm (30 ft.lb)
Brake caliper front	M 8	25 Nm (19 ft.lb) + Loctite 243
Clamping bolts upper fork bridge	M 8	20 Nm (15 ft.lb)
Clamping bolts lower fork bridge	M 8	15 Nm (11 ft.lb)
Clamping bolts fork stubs	M8	10 Nm (7 ft.lb)
Collar nut rear wheel spindle	M 20x1.5	80 Nm (59 ft.lb)
Hexagon nut swing arm bolt	M 14x1.5	100 Nm (74 ft.lb)
Collar bolt handlebar clamp	M 8	20 Nm (15 ft.lb)
Allen head bolt handlebar support	M 10	40 Nm (30 ft.lb)
Shock absorber top	M 12	60 Nm (44 ft.lb)
Shock absorber bottom	M 12	60 Nm (44 ft.lb)
Screw adjusting ring spring preload	M 6	8 Nm (6 ft.lb)
Other bolts on chassis	M 6	10 Nm (7 ft.lb)
	M 8	25 Nm (19 ft.lb)
	M 10	45 Nm (33 ft.lb)

**VERGASERREGULIERUNG KTM 250 SX EUR/USA 2000 KEIHIN PWK 38AG PJ**  
**CARBURETOR SETTING**

MEERESHÖHE ALTITUDE	TEMPERATUR →	-20°C bis -7°C -2°F to 20°F	-6°C bis 5°C 19°F to 41°F	6°C bis 15°C 42°F to 60°F	16°C bis 24°C 61°F to 78°F	25°C bis 38°C 79°F to 98°F	37°C bis 49°C 99°F to 120°F
3000 m 10000 ft ↑ 2301 m 7501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/2 48 NOZD 3 170	1 3/4 45 NOZE 3 168	2 45 NOZE 2 165	2 1/4 42 NOZF 2 161628	2 1/2 42 NOZG 1 160	2 3/4 40 NOZH 1 160
2300 m 7500 ft ↑ 1501 m 5001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/4 50 NOZD 3 172	1 1/2 48 NOZD 3 170	1 3/4 45 NOZE 2 168	2 45 NOZE 2 165	2 1/4 45 NOZF 2 162	2 1/2 42 NOZG 2 160
1500 m 5000 ft ↑ 751 m 2501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 50 NOZD 4 175	1 1/4 48 NOZD 3 172	1 1/2 48 NOZE 3 170	1 3/4 48 NOZE 2 168	2 48 NOZF 2 165	2 1/4 45 NOZF 2 162
750 m 2500 ft ↑ 301 m 1001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	3/4 52 NOZC 4 178	1 50 NOZD 4 175	1 1/4 48 NOZE 3 172	1 1/2 48 NOZE 3 170	1 3/4 48 NOZE 3 168	2 45 NOZF 2 165
300 m 1000 ft ↑ Meersniveau Sea level/	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1/2 52 NOZC 4 180	3/4 50 NOZC 4 178	1 48 NOZD 3 180	1 1/4 48 NOZD 3 172	1 1/2 48 NOZE 3 170	1 3/4 45 NOZE 2 168

LSCHR = Luftregulierschraube offen  
 LD = Leerlaufdüse  
 POS = Clip Position von oben  
 HD = Hauptdüse



AS = Air screw open from fully-seated  
 IJ = Idling jet  
 POS = Clip position from top  
 MJ = Main jet

NICHT FÜR STRASSENBETRIEB

Kraftstoff: Euro-Super bleifrei ROZ 95

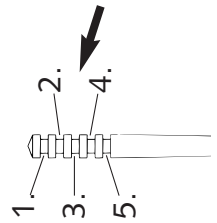
NOT FOR HIGHWAY USE

Fuel: Euro-Super unleaded ROZ 95

# VERGASERREGULIERUNG KTM 250 MXC/EXC EUR/USA 2000 KEIHIN PWK 38 AC

MEERESHÖHE ALTITUDE	TEMPERATUR →	-20°C bis -7°C -2°F to 20°F	-6°C bis 5°C 19°F to 41°F	6°C bis 15°C 42°F to 60°F	16°C bis 24°C 61°F to 78°F	25°C bis 38°C 79°F to 98°F	37°C bis 49°C 99°F to 120°F
3000 m 10000 ft ↑	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 3/4 40 NOZH 3 178	1 3/4 40 NOZH 3 175	1 3/4 40 NOZH 2 172	2 38 NOZI 2 170	2 1/2 38 NOZI 2 170	1 3/4 38 NOZI 2 168
2300 m 7500 ft ↑	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/4 42 NOZG 3 180	1 1/2 42 NOZG 3 178	1 3/4 40 NOZH 2 175	1 3/4 40 NOZH 2 172	2 40 NOZI 2 170	2 40 NOZI 2 168
1501 m 5001 ft ↑	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/4 45 NOZG 4 182	1 1/2 45 NOZG 3 180	1 1/2 42 NOZH 2 178	1 3/4 42 NOZH 2 175	1 3/4 42 NOZI 2 172	2 40 NOZI 2 170
751 m 2501 ft ↑	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/4 45 NOZG 4 182	1 1/2 45 NOZG 3 180	1 1/2 42 NOZH 2 178	1 3/4 42 NOZH 2 175	1 3/4 42 NOZI 2 172	2 40 NOZI 2 170
750 m 2500 ft ↑	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/4 45 NOZF 4 185	1 1/4 45 NOZG 4 182	1 1/4 45 NOZH 3 180	1 1/2 42 NOZG 3 178	1 3/4 42 NOZH 3 175	1 3/4 42 NOZH 2 172
300 m 1000 ft ↑	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 50 NOZE 5 188	1 1/4 48 NOZF 4 185	1 1/2 45 NOZG 3 182	1 1/4 45 NOZG 3 180	1 1/2 42 NOZH 3 178	1 3/4 42 NOZH 2 175

LSCHR = Luftregulierschraube offen  
LD = Leerlaufdüse  
POS = Clip Position von oben  
HD = Hauptdüse



AS = Air screw open from fully-seated  
IJ = Idling jet  
POS = Clip position from top  
MJ = Main jet

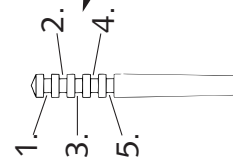
### NICHT FÜR STRASSENBETRIEB

Kraftstoff: Euro-Super bleifrei ROZ 95  
NOT FOR HIGHWAY USE  
Fuel: Euro-Super unleaded ROZ 95

# VERGASERREGULIERUNG **KTM 300 MXC/EXC EUR/USA 2000 KEIHIN PWK 38 AG** CARBURETOR SETTING

MEERESHÖHE ALTITUDE	TEMPERATUR →	-20°C bis -7°C -2°F to 20°F	-6°C bis 5°C 19°F to 41°F	6°C bis 15°C 42°F to 60°F	16°C bis 24°C 61°F to 78°F	25°C bis 38°C 79°F to 98°F	37°C bis 49°C 99°F to 120°F
3000 m 10000 ft ↑ 2301 m 7501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/2 45 NOZH 3 172	1 3/4 42 NOZH 2 170	2 40 NOZH 1 168	2 1/4 40 NOZI 1 165	2 1/2 40 NOZI 1 162	2 3/4 38 NOZI 1 162
2300 m 7500 ft ↑ 1501 m 5001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/4 48 NOZG 3 175	1 1/2 45 NOZH 2 172	1 3/4 42 NOZH 1 170	2 42 NOZI 1 168	2 1/4 42 NOZI 1 165	2 1/2 40 NOZI 1 162
1500 m 5000 ft ↑ 751 m 2501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 48 NOZG 3 178	1 1/4 45 NOZG 3 175	1 1/2 45 NOZH 2 172	1 3/4 45 NOZH 22 170	2 45 NOZH 2 168	2 1/4 42 NOZI 2 165
750 m 2500 ft ↑ 301 m 1001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	3/4 50 NOZG 3 180	1 48 NOZG 2 178	1 1/4 45 NOZH 2 175	1 1/2 45 NOZH 2 172	1 3/4 45 NOZI 2 170	2 42 NOZI 2 168
300 m 1000 ft ↑ Meersniveau Sea level	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1/2 50 NOZF 4 182	3/4 48 NOZG 3 180	1 45 NOZG 3 178	1 1/4 45 NOZH 2 175	1 1/2 42 NOZH 1 172	1 3/4 42 NOZI 1 170

LSCHR = Luftregulierschraube offen  
LD = Leerlaufdüse  
POS = Clip Position von oben  
HD = Hauptdüse



AS = Air screw open from fully-seated  
IJ = Idling jet  
POS = Clip position from top  
MJ = Main jet

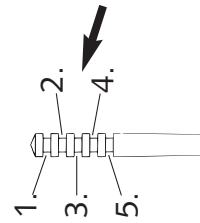
← NICHT FÜR STRASSENBETRIEB

Kraftstoff: Euro-Super bleifrei ROZ 95  
NOT FOR HIGHWAY USE  
Fuel: Euro-Super unleaded ROZ 95

# VERGASERREGULIERUNG KTM 380 SX/MXC/EXC EUR/USA 2000 KEIHIN PWK 38 AG CARBURETOR SETTING

MEERESHÖHE ALTITUDE	TEMPERATUR →	-20°C bis -7°C -2°F to 20°F	-6°C bis 5°C 19°F to 41°F	6°C bis 15°C 42°F to 60°F	16°C bis 24°C 61°F to 78°F	25°C bis 38°C 79°F to 98°F	37°C bis 49°C 99°F to 120°F
3000 m 10000 ft ↑ 2301 m 7501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/2 45 NOZH 3 172	1 3/4 45 NOZH 2 170	2 40 NOZH 1 168	2 1/4 40 NOZI 1 165	2 1/2 40 NOZI 1 162	2 3/4 38 NOZI 1 162
2300 m 7500 ft ↑ 1501 m 5001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/4 48 NOZG 3 175	1 1/2 45 NOZH 2 172	1 3/4 42 NOZH 1 170	2 42 NOZI 1 168	2 1/4 42 NOZI 1 165	2 1/2 40 NOZI 1 162
1500 m 5000 ft ↑ 751 m 2501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 48 NOZG 3 178	1 1/4 45 NOZG 3 175	1 1/2 45 NOZH 2 172	1 3/4 45 NOZH 22 170	2 45 NOZH 2 168	2 1/4 42 NOZI 2 165
750 m 2500 ft ↑ 301 m 1001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	3/4 50 NOZG 3 180	1 48 NOZG 2 178	1 1/4 45 NOZH 2 175	1 1/2 45 NOZH 2 172	1 3/4 45 NOZI 2 170	2 42 NOZI 2 168
300 m 1000 ft ↑ Meeresniveau Sea level/	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1/2 50 NOZF 4 182	3/4 48 NOZG 3 180	1 45 NOZH 2 175	1 1/4 45 NOZH 2 172	1 1/2 42 NOZH 1 172	1 3/4 42 NOZI 1 170

LSCHR = Luftregulierschraube offen  
LD = Leerlaufdüse  
POS = Clip Position von oben  
HD = Hauptdüse



AS = Air screw open from fully-seated  
IJ = Idling jet  
POS = Clip position from top  
MJ = Main jet

NICHT FÜR STRASSENBETRIEB

Kraftstoff: Euro-Super bleifrei ROZ 95  
NOT FOR HIGHWAY USE  
Fuel: Euro-Super unleaded ROZ 95



## TECHNICAL DATA - ENGINE 250/300/380 SX / MXC / EXC 2001 (only USA)

Engine	250 SX	250 EXC, MXC	300 EXC, MXC	380 SX	380 EXC, MXC
Design	Liquid-cooled single-cylinder two-stroke engine with KTM Twin Valve Control exhaust system and KTM Torque Chamber				
Piston displacement	249 ccm	297 ccm	297 ccm	368 ccm	368 ccm
Bore / stroke	66.4 / 72 mm (2.62 / 2.84 in)	72 / 73 mm (2.84 / 2.88 in)	72 / 73 mm (2.84 / 2.88 in)	78 / 77 mm (3 / 2.98 in)	78 / 77 mm (3 / 2.98 in)
Fuel	unleaded SUPER fuel, research octane no 95, mixed with high-grade two stroke oil (Shell Advance Racing X)				
Oil / gasoline ratio	1:40 – 1:60 when using high grade two stroke oil. When in doubt, please contact your importer or use 1:40 mix ratio to be on the safe side				
Crankshaft bearing	1 deep-groove ball bearing / 1 cylinder roller bearing				
Connecting rod bearing	needle bearing				
Piston pin bearing	needle bearing				
Piston	cast piston	cast piston	forged piston	cast piston	cast piston
Piston ring	one plain compression rings				
Dimension "X" <small>(upper edge piston - upper edge cylinder)</small>	two plain compression rings				
Ignition timing	1,9 mm (0,07 in) BTDC	2.4 mm (0.095 in) BTDC	2.43 mm (0.096 in) BTDC	2.43 mm (0.096 in) BTDC	2.6 mm (0.1 in) BTDC
Spark plug	NGK BR 8 ECM				
Electrode gap	0.6 mm (0.024 in)				
Dimension "Z" <small>(height of the control flap)</small>	49,5 mm (1.95 in)	46 mm (1.7 in)	46 mm (1.7 in)	50.5 mm (1.99 in)	50.5 mm (1.99 in)
TVC start open	5000/min	5900/min	5900/min	5200/min	5200/min
TVC fully open	7000/min	7000/min	7750/min	7200/min	7200/min
Primary drive	straight cut spur gears, primary ratio 25:72				
Clutch	multiple disc clutch in oil bath, hydraulic operated (Shell HF-E15)				
Transmission	5 speed, claw actuated				
Gear ratio					
1 <sup>st</sup> Gear	15:29	EXC 15:29	EXC 15:29	EXC 15:29	EXC 15:29
2 <sup>nd</sup> Gear	17:27	18:26	18:26	18:26	18:26
3 <sup>rd</sup> Gear	19:25	19:22	19:24	19:24	19:24
4 <sup>th</sup> Gear	21:23	21:20	21:23	21:23	21:23
5 <sup>th</sup> Gear	23:21	23:18	23:21	23:21	23:18
Gear lubrication	SX 0.8 l engine oil 20W-40 (Shell Advance VSX4) MXC/EXC 0.8 l gear oil 80W (Shell Gear EP 80)				
Available chain sprockets	13t / 14t / 15t for chain $\frac{5}{8} \times \frac{1}{4}$ "				
Coolant	1.3 litres, 40% anti freeze, 60% water, at least -25 °C (-13 °F)				
Ignition system	KOKUSAN 2K-4	KOKUSAN 2K-2	KOKUSAN 2K-3	KOKUSAN 2K-3	KOKUSAN 2K-3
Generator output	no generator	12V 40W	no generator	no generator	12V 110W
Carburetor	flat-slide carburetor, carburetor setting see table				
Air-filter	wet foam type air filter insert				

TIGHTENING TORQUES - ENGINE			
Flange bolts - cylinder-head	M 8	35 Nm	(25 ft.lb)
Nuts-cylinder base	M 10	35 Nm	(25 ft.lb)
Flywheel collar nut	M 12x1	60 Nm	(44 ft.lb)
Nut for primary sprocket (LH thread)	M 18x1.5	Loctite 243 150 Nm	(110 ft.lb)
Nut for inner clutch hub	M 18x1.5	Loctite 243 100 Nm	(74 ft.lb)
Crankcase and cover bolts	M 6	8 Nm	(6 ft.lb)
Swingarm pivot	M 14	100 Nm	(74 ft.lb)
Flat head bolt release plate kickstarter	M 6x16	Loctite 648 19 Nm	(14 ft.lb)
Other bolts	M 6	10 Nm	(7 ft.lb)
	M 8	25 Nm	(19 ft.lb)
	M 10	45 Nm	(33 ft.lb)

TOLERANCES AND FITTING CLEARANCES	
Piston fitting clearance	0.06 mm (250) 0.06 mm (300) 0.08 mm (380)
Piston ring end gap	0.3–0.4 mm
Connecting rod bearing - radial clearance	0.021–0.032 mm
Transmission shafts end float	0.1–0.2 mm
Clutch springs - length	Ø 2.5 new = 43 mm, minimum length = 42 mm

GASKET THICKNESSES	
Crankcase	0.5 mm
Clutch cover	0.5 mm
Cylinder bottom gasket	as required
Available cylinder bottom gaskets	0.2/0.4/0.5/0.75 mm
Cylinder-head gasket	O-rings

BASIC CARBURETOR SETTING				
	250 SX	250 MXC, EXC	300 MXC, EXC	380 SX, MXC, EXC
Carburetor	Keihin PWK 38 AG PJ	Keihin PWK 38 AG	Keihin PWK 38 AG	Keihin PWK 38 AG
Carburetor setting number	010300	030300	050300	070300
Main jet	172 (170,175)	178 (175,180)	175 (172,178)	170 (168,172)
Idling jet	48 (45,50)	45 (48)	45 (48)	45 (48)
Starting jet	85	85	85	85
Jet needle	NOZ E (NOZ F)	NOZ G (NOZ H)	NOZ H (NOZ I)	NOZ G (NOZ I/NOZ H)
Needle position from top	III	IV	III	III
Slide	7	6,5	6,5	6,5
Air adjustment screw open	1,5	1,5	1,5	1,5
Performance restrictor	–	–	–	–
Power jet jet	55	–	–	–



## TECHNICAL DATA - ENGINE 250/300/380 SX / EXC 2001 (all models out of USA)

Engine	250 SX	250 EXC	300 EXC	380 SX	380 EXC
Design	Liquid-cooled single-cylinder two-stroke engine with KTM Twin Valve Control exhaust system and KTM Torque Chamber				
Piston displacement	249 ccm		297 ccm	368 ccm	
Bore / stroke	66.4 / 72 mm (2.62 / 2.84 in)		72 / 73 mm (2.84 / 2.88 in)	78 / 77 mm (3 / 2.98 in)	
Fuel	unleaded SUPER fuel, research octane no 95, mixed with high-grade two stroke oil (Shell Advance Racing X)				
Oil / gasoline ratio	1:40 – 1:60 when using high grade two stroke oil. When in doubt, please contact your importer or use 1:40 mix ratio to be on the safe side				
Crankshaft bearing	1 deep-groove ball bearing / 1 cylinder roller bearing				
Connecting rod bearing	needle bearing				
Piston pin bearing	needle bearing				
Piston	cast piston		forged piston	cast piston	
Piston ring	one plain compression ring				
Dimension "X" (upper edge piston - upper edge cylinder)	two plain compression rings				
Ignition timing	1,9 mm (0,07 in) BTDC		2,43 mm (0.096 in) BTDC	2,6 mm (0.1 in) 17 ° BTDC	
Spark plug	NGK BR 8 ECM				
Electrode gap	0,6 mm (0.024 in)				
Dimension "Z" (height of the control flap)	49,5 mm (1.94 in)		46 mm (1.7 in)	50.5 mm (1.99 in)	
TVC start open	5000/min		5900/min	5200/min	
TVC fully open	7000/min		7750/min	7200/min	
Primary drive	straight cut spur gears, primary ratio 25:72		multiple disc clutch in oil bath, hydraulic operated (Shell HF-E15)		
Clutch	5 speed, claw actuated				
Transmission	5 speed, claw actuated				
Gear ratio	15:29 17:27 19:25 21:23 23:21		15:29 18:26 19:24 21:23 23:21		15:29 18:26 19:22 21:20 23:18
Gear lubrication	0,8 l engine oil 20W-40 (Shell Advance VSX4)		0,8 l gear oil 80W (Shell Gear EP 80)	0,8 l engine oil 20W-40 (Shell Advance VSX4)	
available chain sprockets	13t / 14t / 15t for chain $\frac{5}{8}$ x $\frac{1}{4}$ "				
Coolant	1.3 litres, 40% anti freeze, 60% water, at least -25 °C (-13 °F)				
Ignition system	KOKUSAN 2K-4		KOKUSAN 2K-3		KOKUSAN 2K-3
Generator output	no generator		12V 110W		no generator 12V 110W
Carburetor	flat-slide carburetor, carburetor setting see table				
Air-filter	wet foam type air filter insert				

TIGHTENING TORQUES		
Flange bolts - cylinder-head	M 8	35 Nm (25 ft.lb)
Nuts-cylinder base	M 10	35 Nm (25 ft.lb)
Flywheel collar nut	M 12x1	60 Nm (44 ft.lb)
Nut for primary sprocket (LH thread)	M 18x1.5	Loctite 243 150 Nm (110 ft.lb)
Nut for inner clutch hub	M 18x1.5	Loctite 243 100 Nm (74 ft.lb)
Crankcase and cover bolts	M 6	8 Nm (6 ft.lb)
Swingarm pivot	M 14	100 Nm (74 ft.lb)
Flat head bolt release plate kickstarter	M 6x16	Loctite 648 19 Nm (14 ft.lb)
Other bolts	M 6	10 Nm (7 ft.lb)
	M 8	25 Nm (19 ft.lb)
	M 10	45 Nm (33 ft.lb)

TOLERANCES AND FITTING CLEARANCES			
Piston fitting clearance	0.06 mm (250)	0.06 mm (300)	0.08 mm (380)
Piston ring end gap	0.3–0.4 mm		
Connecting rod bearing - radial clearance	0.021–0.032 mm		
Transmission shafts end float	0.1–0.2 mm		
Clutch springs - length	Ø 2.5 new = 43 mm, minimum length = 42 mm		

GASKET THICKNESSES	
Crankcase	0.5 mm
Clutch cover	0.5 mm
Cylinder bottom gasket	as required
Available cylinder bottom gaskets	0.2/0.4/0.5/0.75 mm
Cylinder-head gasket	O-rings

BASIC CARBURETOR SETTING			
	250 EXC AUS throttled	300 EXC AUS throttled	380 EXC throttled
Carburetor	Keihin PWK 38 AG	Keihin PWK 38 AG	Keihin PWK 38 AG
Carburetor setting number	040300	060300	080300
Main jet	178 (175,180)	175 (172,178)	170 (168,172)
Idling jet	45 (48)	45 (48)	45 (48)
Starting jet	85	85	85
Jet needle	NOZ G (NOZ H)	NOZ H (NOZ I)	NOZ G (NOZ I/NOZ H)
Needle position from top	IV	III	III
Slide	6,5	6,5	6,5
Air adjustment screw open	1,5	1,5	1,5
Performance restrictor	slide stop 34mm	slide stop 34mm	slide stop 36mm
Power jet jet	–	–	–

BASIC CARBURETOR SETTING			
	250 SX	380 SX	250/300 EXC throttled
Carburetor	Keihin PWK 38 AG PJ	Keihin PWK 38 AG	Keihin PWK 38 AG
Carburetor setting number	010300	070300	020300
Main jet	172 (170,175)	170 (168,172)	175 (172,178,180)
Idling jet	48 (45,50)	45 (48)	35
Starting jet	85	85	85
Jet needle	NOZ E (NOZ F)	NOZ G (NOZ I/NOZ H)	R 1475 J
Needle position from top	III	III	III
Throttle valve	7	6,5	6,5
Air adjustment screw open	1,5	1,5	1,5
Performance restrictor	–	–	slide stop 34mm
Power jet jet	55	–	–

# TECHNICAL SPECIFICATIONS CHASSIS 250/300/380 SX, MXC, EXC 2001

	250/380 SX	250/300/380 MXC	250/300/380 EXC
Frame	Central chrome-moly-steel frame		
Fork	White Power – Up Side Down 43 MA		
Wheel travel front/rear	295/320 mm (11,3/12,6 in)		
Rear suspension	WP Progressive Damping System shock absorber, aluminium swingarm		
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		
Brake discs	Wear limit max. 0,4 mm (0,016 in)		
Front tires	80/100 - 21" 51M	–	90/90 - 21" 54R
Front tires USA	80/100 - 21" 51M	80/100 - 21" 51M	80/100 - 21" 51M
Air pressure offroad	1,0 bar (14psi)	1,0 bar (14psi)	1,0 bar (14psi)
Air pressure road driver only	–	1,5 bar (21psi)	1,5 bar (21psi)
Rear tires	100/90 - 19" 62M	–	140/80 - 18" 70R
Rear tires USA	100/90 - 19" 62M	100/100 - 18" 64M	100/100 - 18" 64M
Air pressure offroad	1,0 bar (14psi)	1,0 bar (14psi)	1,0 bar (14psi)
Air pressure road driver only	–	2,0 bar (28psi)	2,0 bar (28psi)
Fuel tank capacity	7,5 liter (2 US Gallons)	11 liter (2,9 US Gallons)	8,5/11 liter (2,2/2,9 US Gallons)
Final drive ratio	14:50t	–	15:48t / 14:50t
Final drive ratio USA	14:50t	14:52t	14:52t
Chain	5/8 x 1/4 "		
Available final sprockets	38t, 40t, 42t, 45t, 48t, 50t, 52t		
Steering head angle	63,5°		
Wheel base	1481 ± 10 mm (58,3 ± 0,4 in)		
Seat height, unloaded	925 mm (36,5 in)		
Ground clearance, unloaded	385 mm (15,2 in)		
Dead-weight *	101 kg (223 lbs)	–	109 kg (240,6 lbs)
Dead-weight USA *	101 kg (223 lbs)	102,5 kg (226,3 lbs)	103,7 kg (229 lbs)

\* Dead-weight without fuel

### STANDARD ADJUSTMENT-FORK

	WP 0518V703	WP 0518V704
Compression adjuster	14	14
Rebound adjuster	12	12
Spring	4,0 N/mm	4,0 N/mm
Spring preload	5 mm (0.20in)	5 mm (0.20in)
Air chamber length	130 mm (5.1in)	150 mm (5.9in)
Fork oil	SAE 5	SAE 5

### STANDARD ADJUSTMENT - SHOCK ABSORBER

	WP 1218V730	WP 1218V731
Compression adjuster	5	5
Rebound adjuster	25	25
Spring	PDS7-265	PDS2-250
Spring preload	5 mm (0.2 in)	6 mm (0.24 in)

### TIGHTENING TORQUES - CHASSIS

Collar nut front wheel spindle	M 16x1,5	40 Nm (30 ft.lb)
Brake caliper front	M 8	25 Nm (19 ft.lb) + Loctite 243
Clamping screws upper fork bridge	M 8	20 Nm (15 ft.lb)
Clamping bolts lower fork bridge	M 8	15 Nm (11 ft.lb)
Clamping bolts fork stubs	M8	10 Nm (7 ft.lb)
Collar nut rear wheel spindle	M 20x1.5	80 Nm (59 ft.lb)
Hexagon nut swing arm bolt	M 14x1.5	100 Nm (74 ft.lb)
Collar bolt handlebar clamp	M 8	20 Nm (15 ft.lb)
Allen head bolt handlebar support	M 10	40 Nm (30 ft.lb) + Loctite 243
Shock absorber top	M 12	60 Nm (44 ft.lb)
Shock absorber bottom	M 12	60 Nm (44 ft.lb)
Screw adjusting ring spring preload	M 6	8 Nm (6 ft.lb)
Other bolts on chassis	M 6 M 8 M 10	10 Nm (7 ft.lb) 25 Nm (19 ft.lb) 45 Nm (33 ft.lb)

# VERGASERREGULIERUNG **KTM** 250 SX **EUR/USA** 2001 **KEIHIN PWK 38AG PJ** CARBURETOR SETTING

MEERESHÖHE ALTITUDE	TEMPERATUR →	-20°C bis -7°C -2°F to 20°F	-6°C bis 5°C 19°F to 41°F	6°C bis 15°C 42°F to 60°F	16°C bis 24°C 61°F to 78°F	25°C bis 38°C 79°F to 98°F	37°C bis 49°C 99°F to 120°F
3000 m 10000 ft ↑ 2301 m 7501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/2 48 NOZD 3 170	1 3/4 45 NOZE 3 168	2 45 NOZE 2 165	2 1/4 42 NOZF 2 162	2 1/2 42 NOZG 1 160	2 3/4 40 NOZH 1 160
2300 m 7500 ft ↑ 1501 m 5001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/4 50 NOZD 3 172	1 1/2 48 NOZD 3 170	1 3/4 45 NOZE 2 168	2 45 NOZE 2 165	2 1/4 45 NOZF 2 162	2 1/2 42 NOZG 2 160
1500 m 5000 ft ↑ 751 m 2501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 50 NOZD 4 175	1 1/4 48 NOZD 3 172	1 1/2 48 NOZE 3 170	1 3/4 48 NOZE 2 168	2 48 NOZF 2 165	2 1/4 45 NOZF 2 162
750 m 2500 ft ↑ 301 m 1001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	3/4 52 NOZC 4 178	1 50 NOZD 4 175	1 1/4 48 NOZE 3 172	1 1/2 48 NOZE 3 170	1 3/4 48 NOZE 3 168	2 45 NOZF 2 165
300 m 1000 ft ↑ Meersniveau Sea level	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1/2 52 NOZC 5 180	3/4 50 NOZC 4 178	1 48 NOZD 3 175	1 1/4 48 NOZD 3 172	1 1/2 48 NOZE 3 170	1 3/4 45 NOZE 2 168

LSCHR = Luftregulierschraube offen

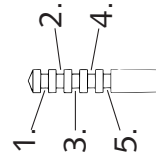
LD = Leerlaufdüse

POS = Clip Position von oben

HD = Hauptdüse

Schieber= 7

Zerstäuber= 6 mm



AS = Air screw open from fully-seated

IJ = Idling jet

POS = Clip position from top

MJ = Main jet

Slide = 7

Atomizer= 6 mm

**NICHT FÜR STRASSENBETRIEB**

Kraftstoff: Euro-Super bleifrei ROZ 95

NOT FOR HIGHWAY USE

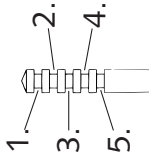
Fuel: Euro-Super unleaded ROZ 95

# VERGASERREGULIERUNG KTM 250 MXC/EXC EUR/USA 2001 KEIHIN PWK 38 AG CARBURETOR SETTING

MEERESHÖHE ALTITUDE	TEMPERATUR →	-20°C bis -7°C -2°F to 20°F	-6°C bis 5°C 19°F to 41°F	6°C bis 15°C 42°F to 60°F	16°C bis 24°C 61°F to 78°F	25°C bis 38°C 79°F to 98°F	37°C bis 49°C 99°F to 120°F
3000 m 10000 ft ↑ 2301 m 7501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 3/4 42 NOZH 3 178	1 3/4 42 NOZH 3 175	1 3/4 42 NOZH 2 172	2 40 NOZI 2 170	2 1/2 40 NOZI 2 170	1 3/4 40 NOZI 1 168
2300 m 7500 ft ↑ 1501 m 5001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/4 45 NOZG 3 180	1 1/2 45 NOZG 3 178	1 3/4 42 NOZH 2 175	1 3/4 42 NOZH 2 172	2 42 NOZI 2 170	2 42 NOZI 2 168
1500 m 5000 ft ↑ 751 m 2501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/4 48 NOZG 4 182	1 1/2 48 NOZG 3 180	1 1/2 45 NOZG 3 178	1 3/4 45 NOZH 3 175	1 3/4 45 NOZI 2 172	2 42 NOZI 2 170
750 m 2500 ft ↑ 301 m 1001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/4 48 NOZF 5 185	1 1/4 48 NOZF 4 182	1 1/4 48 NOZG 4 180	1 1/2 45 NOZG 3 178	1 3/4 45 NOZH 3 175	1 3/4 45 NOZH 2 172
300 m 1000 ft ↑ Meeresniveau Sea level/	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 52 NOZE 5 188	1 1/4 50 NOZF 5 185	1 1/2 48 NOZG 4 180	1 1/4 48 NOZG 3 178	1 1/2 45 NOZH 3 175	1 3/4 45 NOZH 2 172

LSCHR = Luftregulierschraube offen  
LD = Leerlaufdüse  
POS = Clip Position von oben  
HD = Hauptdüse  
Schieber= 6,5  
Zerstäuber= 6 mm

AS = Air screw open from fully-seated  
IJ = Idling jet  
POS = Clip position from top  
MJ = Main jet  
Slide = 6,5  
Atomizer= 6 mm



**NICHT FÜR STRASSENBETRIEB**  
Kraftstoff: Euro-Super bleifrei ROZ 95  
NOT FOR HIGHWAY USE  
Fuel: Euro-Super unleaded ROZ 95

# VERGASERREGULIERUNG **KTM 300 MXC/EXC EUR/USA 2001 KEIHIN PWK 38 AG** CARBURETOR SETTING

MEERESHÖHE ALTITUDE	TEMPERATUR →	-20°C bis -7°C -2°F to 20°F	-6°C bis 5°C 19°F to 41°F	6°C bis 15°C 42°F to 60°F	16°C bis 24°C 61°F to 78°F	25°C bis 38°C 79°F to 98°F	37°C bis 49°C 99°F to 120°F
3000 m 10000 ft ↑ 2301 m 7501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/2 45 NOZH 3 175	1 3/4 42 NOZH 3 172	2 40 NOZH 2 170	2 1/4 40 NOZI 2 168	2 1/2 40 NOZI 2 165	2 3/4 38 NOZI 1 162
2300 m 7500 ft ↑ 1501 m 5001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/4 48 NOZG 3 178	1 1/2 45 NOZH 3 175	1 3/4 42 NOZH 2 172	2 42 NOZI 2 170	2 1/4 42 NOZI 2 168	2 1/2 40 NOZI 2 165
1500 m 5000 ft ↑ 751 m 2501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 48 NOZG 4 180	1 1/4 45 NOZG 3 178	1 1/2 45 NOZH 3 175	1 3/4 45 NOZH 3 172	2 45 NOZH 2 170	2 1/4 42 NOZI 2 168
750 m 2500 ft ↑ 301 m 1001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	3/4 50 NOZG 5 182	1 48 NOZG 4 180	1 1/4 45 NOZH 4 178	1 1/2 45 NOZH 3 175	1 3/4 45 NOZI 3 172	2 42 NOZI 2 170
300 m 1000 ft ↑ Meersniveau Sea level	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1/2 50 NOZF 5 185	3/4 48 NOZG 5 182	1 45 NOZG 4 180	1 1/4 45 NOZH 3 172	1 1/2 42 NOZH 3 170	1 3/4 42 NOZI 2 168

LSCHR = Luftregulierschraube offen

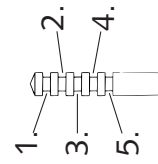
LD = Leerlaufdüse

POS = Clip Position von oben

HD = Hauptdüse

Schieber= 6,5

Zerstäuber= 6 mm



AS = Air screw open from fully-seated

IJ = Idling jet

POS = Clip position from top

MJ = Main jet

Slide = 6,5

Atomizer= 6 mm

**NICHT FÜR STRASSEN BETRIEB**

Kraftstoff: Euro-Super bleifrei ROZ 95

NOT FOR HIGHWAY USE

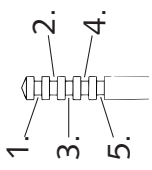
Fuel: Euro-Super unleaded ROZ 95

**VERGASERREGULIERUNG KTM 380 SX / MXC / EXC EUR / USA 2001 KEIHIN PWK 38 AG**  
**CARBURETOR SETTING**

MEERESHÖHE ALTITUDE	TEMPERATUR →	-20°C bis -7°C -2°F to 20°F	-6°C bis 5°C 19°F to 41°F	6°C bis 15°C 42°F to 60°F	16°C bis 24°C 61°F to 78°F	25°C bis 38°C 79°F to 98°F	37°C bis 49°C 99°F to 120°F
3000 m 10000 ft ↑ 2301 m 7501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/2 45 NOZH 3 170	1 3/4 45 NOZH 3 168	2 40 NOZH 2 165	2 1/4 40 NOZI 2 162	2 1/2 40 NOZI 2 160	2 3/4 38 NOZI 1 158
2300 m 7500 ft ↑ 1501 m 5001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/4 48 NOZG 3 172	1 1/2 45 NOZG 3 170	1 3/4 42 NOZH 2 168	2 42 NOZH 2 165	2 1/4 42 NOZI 2 162	2 1/2 40 NOZI 2 160
1500 m 5000 ft ↑ 751 m 2501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 48 NOZG 4 175	1 1/4 45 NOZG 3 172	1 1/2 45 NOZG 3 170	1 3/4 45 NOZH 3 168	2 45 NOZI 2 165	2 1/4 42 NOZI 2 162
750 m 2500 ft ↑ 301 m 1001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	3/4 50 NOZF 5 178	1 48 NOZF 4 175	1 1/4 45 NOZG 4 172	1 1/2 45 NOZG 3 170	1 3/4 45 NOZH 2 165	2 42 NOZH 2 165
300 m 1000 ft ↑ Meeresniveau Sea level/	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1/2 50 NOZE 5 180	3/4 48 NOZF 4 175	1 45 NOZG 4 172	1 1/4 45 NOZG 3 170	1 1/2 42 NOZH 2 168	1 3/4 42 NOZH 2 165

LSCHR = Luftregulierschraube offen  
 LD = Leerlaufdüse  
 POS = Clip Position von oben  
 HD = Hauptdüse  
 Schieber= 6,5  
 Zerstäuber= 6 mm

AS = Air screw open from fully-seated  
 IJ = Idling jet  
 POS = Clip position from top  
 MJ = Main jet  
 Slide = 6,5  
 Atomizer= 6 mm



**NICHT FÜR STRASSENBETRIEB**  
 Kraftstoff: Euro-Super bleifrei ROZ 95  
 NOT FOR HIGHWAY USE  
 Fuel: Euro-Super unleaded ROZ 95

# TECHNICAL DATA - ENGINE 250/300/380 SX / MXC / EXC 2002 (only USA)

	250 SX	250 MXC/EXC	300 MXC/EXC	380 SX	380 MXC/EXC
Engine					
Design	Liquid-cooled single-cylinder two-stroke engine with KTM Twin Valve Control exhaust system and KTM Torque Chamber				
Piston displacement	249 ccm		297 ccm		368 ccm
Bore / stroke	66.4 / 72 mm (2.62 / 2.84 in)	72 / 73 mm (2.84 / 2.88 in)		78 / 77 mm (3 / 2.98 in)	
Fuel	unleaded SUPER fuel, research octane no 95, mixed with high-grade two stroke oil (Shell Advance Racing X)				
Oil / gasolin ratio	1:40 – 1:60 when using high grade two stroke oil. When in doubt, please contact your importer or use 1:40 mix ratio to be on the safe side				
Crankshaft bearing	1 deep-groove ball bearing / 1 cylinder roller bearing				
Connecting rod bearing	needle bearing				
Piston pin bearing	needle bearing				
Piston	cast piston		forged piston		cast piston
Piston ring	one plain compression rings				
Dimension "X" <small>(upper edge piston - upper edge cylinder)</small>	0 +0.1 mm (0 + 0.004 in)				
Ignition timing	1,9 mm (0,07 in) BTDC		1,94 mm (0,08 in) BTDC		2.1 mm (0,09 in) BTDC
Spark plug	NGK BR 8 ECM				
Electrode gap	0.6 mm (0.024 in)				
Dimension "Z" <small>(height of the control flap)</small>	49,5 mm (1.95 in)		46 mm (1.7 in)		50.5 mm (1.99 in)
TVC start open	5000/min		5900/min		5200/min
TVC fully open	7000/min		7750/min		7200/min
Primary drive	straight cut spur gears, primary ratio 25:72				
Clutch	multiple disc clutch in oil bath, hydraulic operated (Shell HF-E15)				
Transmission	5 speed, claw actuated				
Gear ratio					
1 <sup>st</sup> Gear	15:29	EXC 15:29	MXC 15:29	EXC 15:29	MXC 15:29
2 <sup>nd</sup> Gear	17:27	EXC 18:26	MXC 17:27	EXC 18:26	EXC 18:26
3 <sup>rd</sup> Gear	19:25	EXC 19:22	MXC 19:25	EXC 19:24	EXC 19:24
4 <sup>th</sup> Gear	21:23	EXC 21:20	MXC 21:23	EXC 21:23	EXC 21:23
5 <sup>th</sup> Gear	23:21	EXC 23:18	MXC 23:21	EXC 23:21	EXC 23:18
Gear lubrication	SX 0.8 l engine oil 20W-40 (Shell Advance VSX4) MXC/EXC 0,8 l engine oil 10W-40 (Shell Advance Ultra 4)				
Available chain sprockets	13t / 14t / 15t for chain $\frac{5}{8} \times \frac{1}{4}$ "				
Coolant	1.3 litres, 40% anti freeze, 60% water, at least -25 °C (-13 °F)				
Ignition system	KOKUSAN 2K-1		KOKUSAN 2K-2		KOKUSAN 2K-3
Generator output	no generator		12V 40W		no generator
Carburetor	flat-slide carburetor, carburetor setting see table				
Air-filter	wet foam type air filter insert				



TIGHTENING TORQUES - ENGINE		
Flange bolts - cylinder-head	M 8	35 Nm (25 ft.lb)
Nuts-cylinder base	M 10	35 Nm (25 ft.lb)
Flywheel collar nut	M 12x1	60 Nm (44 ft.lb)
Nut for primary sprocket (LH thread)	M 18x1.5	Loctite 243 150 Nm (110 ft.lb)
Nut for inner clutch hub	M 18x1.5	Loctite 243 100 Nm (74 ft.lb)
Crankcase and cover bolts	M 6	8 Nm (6 ft.lb)
Swingarm pivot	M 14	100 Nm (74 ft.lb)
Flat head bolt release plate kickstarter	M 6x16	Loctite 648 19 Nm (14 ft.lb)
Other bolts	M 6	10 Nm (7 ft.lb)
	M 8	25 Nm (19 ft.lb)
	M 10	45 Nm (33 ft.lb)

TOLERANCES AND FITTING CLEARANCES			
Piston fitting clearance	0.06 mm (250)	0.06 mm (300)	0.08 mm (380)
Piston ring end gap	0.3–0.4 mm		
Connecting rod bearing - radial clearance	0.021–0.032 mm		
Transmission shafts end float	0.1–0.2 mm		
Clutch springs - length	Ø 2.5 new = 43 mm, minimum length = 42 mm		

GASKET THICKNESSES	
Crankcase	0.5 mm
Clutch cover	0.5 mm
Cylinder bottom gasket	as required
Available cylinder bottom gaskets	0.2/0.4/0.5/0.75 mm
Cylinder-head gasket	O-rings

BASIC CARBURETOR SETTING				
	250 SX	250 MXC, EXC	300 MXC, EXC	380 SX, MXC, EXC
Carburetor	Keihin PWK 38 AG	Keihin PWK 38 AG	Keihin PWK 38 AG	Keihin PWK 38 AG
Carburetor setting number	061200	030201	040201	050201
Main jet	170 (168,172)	178 (175,180)	175 (172,178)	170 (168,172)
Idling jet	48 (45,50)	45 (48)	45 (48)	45 (48)
Starting jet	85	85	85	85
Jet needle	NOZ E (NOZ F/D)	NOZ E (NOZ F)	NOZ H (NOZ I)	NOZ G (NOZ H)
Needle position from top	III	IV	III	III
Slide	6,5	6,5	6,5	6,5
Air adjustment screw open	1,5	1,5	1,5	1,5
Performance restrictor	–	–	–	–
Power jet jet	–	–	–	–

# TECHNICAL DATA - ENGINE 250/300/380 SX / EXC 2002 (all models out of USA)

Engine	250 SX	250 EXC	300 EXC	380 SX	380 EXC
Design	Liquid-cooled single-cylinder two-stroke engine with KTM Twin Valve Control exhaust system and KTM Torque Chamber				
Piston displacement	249 ccm				
Bore / stroke	66.4 / 72 mm (2.62 / 2.84 in)				
Fuel	unleaded SUPER fuel, research octane no 95, mixed with high-grade two stroke oil (Shell Advance Racing X)				
Oil / gasoline ratio	1:40 – 1:60 when using high grade two stroke oil. When in doubt, please contact your importer or use 1:40 mix ratio to be on the safe side				
Crankshaft bearing	1 deep-groove ball bearing / 1 cylinder roller bearing				
Connecting rod bearing	needle bearing				
Piston pin bearing	needle bearing				
Piston	cast piston		forged piston		
Piston ring	one plain compression ring				
Dimension "X" <sup>1)</sup> (upper edge piston - upper edge cylinder)	0 + 0.1 mm (0 + 0.004 in)				
Ignition timing	1,94 mm (0,07 in) BTDC				
Spark plug	NGK BR 8 ECM				
Electrode gap	0.6 mm (0.024 in)				
Dimension "Z"	49,5 mm (1.94 in)				
TVC start open (height of the control flap)	5000/min 7000/min				
Primary drive	straight cut spur gears, primary ratio 25:72				
Clutch	multiple disc clutch in oil bath, hydraulic operated (Shell HF-E15)				
Transmission	5 speed, claw actuated				
Gear ratio	15:29 17:27 19:25 21:23 23:21		15:29 18:26 19:24 21:23 23:21		
Gear lubrication	0,8 l engine oil 20W-40 (Shell Advance VSX4)		0,8 l engine oil 10W-40 (Shell Advance VSX4)		
available chain sprockets	13t / 14t / 15t for chain <sup>5</sup> / <sub>8</sub> x <sup>1</sup> / <sub>4</sub> "				
Coolant	1.3 litres, 40% anti freeze, 60% water, at least -25 °C (-13 °F)				
Ignition system	KOKUSAN 2K-3				
Generator output	KOKUSAN 2K-1 no generator		KOKUSAN 2K-3 no generator		
Carburetor	flat-slide carburetor, carburetor setting see table				
Air-filter	wet foam type air filter insert				

TIGHTENING TORQUES		
Flange bolts - cylinder-head	M 8	35 Nm (25 ft.lb)
Nuts-cylinder base	M 10	35 Nm (25 ft.lb)
Flywheel collar nut	M 12x1	60 Nm (44 ft.lb)
Nut for primary sprocket (LH thread)	M 18x1.5	Loctite 243 150 Nm (110 ft.lb)
Nut for inner clutch hub	M 18x1.5	Loctite 243 100 Nm (74 ft.lb)
Crankcase and cover bolts	M 6	8 Nm (6 ft.lb)
Swingarm pivot	M 14	100 Nm (74 ft.lb)
Flat head bolt release plate kickstarter	M 6x16	Loctite 648 19 Nm (14 ft.lb)
Other bolts	M 6 M 8 M 10	10 Nm (7 ft.lb) 25 Nm (19 ft.lb) 45 Nm (33 ft.lb)

TOLERANCES AND FITTING CLEARANCES	
Piston fitting clearance	0.06 mm (250) 0.06 mm (300) 0.08 mm (380)
Piston ring end gap	0.3–0.4 mm
Connecting rod bearing - radial clearance	0.021–0.032 mm
Transmission shafts end float	0.1–0.2 mm
Clutch springs - length	∅ 2.5 new = 43 mm, minimum length = 42 mm

GASKET THICKNESSES	
Crankcase	0.5 mm
Clutch cover	0.5 mm
Cylinder bottom gasket	as required
Available cylinder bottom gaskets	0.2/0.4/0.5/0.75 mm
Cylinder-head gasket	O-rings

BASIC CARBURETOR SETTING			
	250 SX	380 SX 380 SX USA	250/300 EXC throttled
Carburetor	Keihin PWK 38 AG	Keihin PWK 38 AG	Keihin PWK 38 AG
Carburetor setting number	061200	050201	061200
Main jet	170 (168,172)	170 (168,172)	175 (172,178,180)
Idling jet	48 (45,50)	45 (48)	35 (45/48)
Starting jet	85	85	85
Jet needle	NOZ E (NOZ F/D)	NOZ G (NOZ H)	R 1475 J (NOZ E/H)
Needle position from top	III	II	III
Slide	6,5	6,5	6,5
Air adjustment screw open	1,5	1,5	1,5
Performance restrictor	–	–	slide stop 34mm
Power jet jet	–	–	–

BASIC CARBURETOR SETTING			
	250 EXC USA	300 EXC AUS throttled	300 MXC/EXC USA
Carburetor	Keihin PWK 38 AG	Keihin PWK 38 AG	Keihin PWK 38 AG
Carburetor setting number	030201	070201	040201
Main jet	178 (175,180)	170 (172,168)	175 (178,172)
Idling jet	45 (48)	45 (48)	45 (48)
Starting jet	85	85	85
Jet needle	NOZ E (NOZ F)	NOZ G (NOZ H)	NOZ H (NOZ I)
Needle position from top	IV	II	III
Slide	6,5	6,5	6,5
Air adjustment screw open	1,5	1,5	1,5
Performance restrictor	–	slide stop 36mm	–
Power jet jet	–	–	–

## TECHNICAL SPECIFICATIONS CHASSIS 250/300/380 SX, MXC, EXC 2002

	250/380 SX	250/300/380 MXC	250/300/380 EXC
Frame	Central chrome-moly-steel frame		
Fork	White Power – Up Side Down 48 MA	White Power – Up Side Down 43 MA	
Wheel travel front/rear	295/320 mm (11,3/12,6 in)		
Rear suspension	WP Progressive Damping System shock absorber, aluminium swingarm		
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		
Brake discs	Wear limit max. 0,4 mm (0,016 in)		
Front tires	80/100 - 21" 51M	–	90/90 - 21" 54R
Front tires USA	80/100 - 21" 51M	80/100 - 21" 51M	80/100 - 21" 51M
Air pressure offroad	1,0 bar (14psi)	1,0 bar (14psi)	1,0 bar (14psi)
Air pressure road driver only	–	1,5 bar (21psi)	1,5 bar (21psi)
Rear tires	100/90 - 19" 62M	–	140/80 - 18" 70R
Rear tires USA	100/90 - 19" 62M	100/100 - 18" 64M	100/100 - 18" 64M
Air pressure offroad	1,0 bar (14psi)	1,0 bar (14psi)	1,0 bar (14psi)
Air pressure road driver only	–	2,0 bar (28psi)	2,0 bar (28psi)
Fuel tank capacity	7,5 liter (2 US Gallons)	11 liter (2,9 US Gallons)	8,5/11 liter (2,2/2,9 US Gallons)
Final drive ratio	14:50t	–	15:48t / 14:50t
Final drive ratio USA	14:50t	14:52t	14:52t
Chain	5/8 x 1/4 "		
Available final sprockets	38t, 40t, 42t, 45t, 48t, 50t, 52t		
Steering head angle	63,5°		
Wheel base	1481 ± 10 mm (58,3 ± 0,4 in)		
Seat height, unloaded	925 mm (36,5 in)		
Ground clearance, unloaded	385 mm (15,2 in)		
Dead-weight *	101 kg (223 lbs)	–	109 kg (240,6 lbs)
Dead-weight USA *	101 kg (223 lbs)	102,5 kg (226,3 lbs)	103,7 kg (229 lbs)

\* Dead-weight without fuel

### STANDARD ADJUSTMENT-FORK

	WP 1418W709	WP 0518W711
Compression adjuster	20	20
Rebound adjuster	16	12
Spring	4,2 N/mm	4,0 N/mm
Spring preload	5 mm (0.20in)	5 mm (0.20in)
Air chamber length	100 mm (4,0 in)	140 mm (5.9in)
Fork oil	SAE 5	SAE 5

### STANDARD ADJUSTMENT - SHOCK ABSORBER

	WP 1218V736	WP 1218V737
Compression adjuster	15 LS (low speed) 2 HS (high speed)	15
Rebound adjuster	25	25
Spring	PDS7–260	PDS6–260
Spring preload	4 mm (0.16 in)	5 mm (0.19 in)

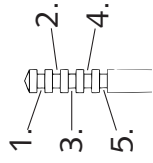
### TIGHTENING TORQUES - CHASSIS

Collar nut front wheel spindle	M 16/20x1,5	40 Nm (30 ft.lb)
Brake caliper front	M 8	25 Nm (19 ft.lb) + Loctite 243
Clamping bolts upper fork bridge	M 8	20 Nm (15 ft.lb)
Clamping bolts lower fork bridge	M 8	15 Nm (11 ft.lb)
Clamping bolts fork stubs	M8	10 Nm (7 ft.lb)
Collar nut rear wheel spindle	M 20x1.5	80 Nm (59 ft.lb)
Hexagon nut swing arm bolt	M 14x1.5	100 Nm (74 ft.lb)
Collar bolt handlebar clamp	M 8	20 Nm (15 ft.lb)
Allen head bolt handlebar support	M 10	40 Nm (30 ft.lb) + Loctite 243
Shock absorber top	M 12	60 Nm (44 ft.lb)
Shock absorber bottom	M 12	60 Nm (44 ft.lb)
Screw adjusting ring spring preload	M 6	8 Nm (6 ft.lb)
Other bolts on chassis	M 6 M 8 M 10	10 Nm (7 ft.lb) 25 Nm (19 ft.lb) 45 Nm (33 ft.lb)

# VERGASERREGULIERUNG KTM 250 SX EUR/USA 2002 KEIHIN PWK 38AG CARBURETOR SETTING

MEERESHÖHE ALTITUDE	TEMPERATUR →	-20°C bis -7°C -2°F to 20°F	-6°C bis 5°C 19°F to 41°F	6°C bis 15°C 42°F to 60°F	16°C bis 24°C 61°F to 78°F	25°C bis 38°C 79°F to 98°F	37°C bis 49°C 99°F to 120°F
3000 m 10000 ft ↑ 2301 m 7501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/2 48 NOZE 3 170	1 3/4 45 NOZE 3 168	2 45 NOZF 2 165	2 1/4 42 NOZG 2 162	2 1/2 42 NOZH 1 160	2 3/4 40 NOZI 1 158
2300 m 7500 ft ↑ 1501 m 5001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/4 48 NOZD 3 172	1 1/2 48 NOZE 3 170	1 3/4 45 NOZE 2 168	2 45 NOZF 2 165	2 1/4 42 NOZG 2 162	2 1/2 42 NOZH 1 160
1500 m 5000 ft ↑ 751 m 2501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 50 NOZD 4 175	1 1/4 48 NOZD 3 172	1 1/2 48 NOZE 3 170	1 3/4 45 NOZE 2 168	2 45 NOZF 2 165	2 1/4 42 NOZG 2 162
750 m 2500 ft ↑ 301 m 1001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	3/4 50 NOZC 4 178	1 50 NOZD 4 175	1 1/4 48 NOZD 3 172	1 1/2 48 NOZE 3 170	1 3/4 45 NOZE 3 168	2 45 NOZF 2 165
300 m 1000 ft ↑ Meeresniveau Sea level	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1/2 52 NOZC 5 180	3/4 50 NOZD 4 175	1 50 NOZD 3 172	1 1/4 48 NOZE 3 170	1 1/2 48 NOZE 3 168	1 3/4 45 NOZF 2 165

LSCHR = Luftregulierschraube offen  
LD = Leerlaufdüse  
POS = Clip Position von oben  
HD = Hauptdüse  
**Schieber= 6,5**  
**Zerstäuber= 5 mm**



AS = Air screw open from fully-seated  
IJ = Idling jet  
POS = Clip position from top  
MJ = Main jet  
**Slide = 6,5**  
**Atomizer= 5 mm**

**NICHT FÜR STRASSEN BETRIEB**  
Kraftstoff: Euro-Super bleifrei ROZ 95  
NOT FOR HIGHWAY USE  
Fuel: Euro-Super unleaded ROZ 95

# VERGASERREGULIERUNG **KTM 250 MXC/EXC EUR/USA 2002 KEIHIN PWK 38 AG** CARBURETOR SETTING

MEERESHÖHE ALTITUDE	TEMPERATUR →	-20°C bis -7°C -2°F to 20°F	-6°C bis 5°C 19°F to 41°F	6°C bis 15°C 42°F to 60°F	16°C bis 24°C 61°F to 78°F	25°C bis 38°C 79°F to 98°F	37°C bis 49°C 99°F to 120°F
3000 m 10000 ft ↑ 2301 m 7501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 3/4 45 NOZE 3 178	1 3/4 45 NOZF 3 175	1 3/4 42 NOZG 2 172	2 42 NOZH 2 170	2 1/2 40 NOZI 2 168	1 3/4 40 NOZI 1 165
2300 m 7500 ft ↑ 1501 m 5001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/4 45 NOZD 3 180	1 1/2 45 NOZE 3 178	1 3/4 45 NOZF 2 175	1 3/4 42 NOZG 2 172	2 42 NOZH 2 170	2 40 NOZI 2 168
1500 m 5000 ft ↑ 751 m 2501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/4 48 NOZD 4 182	1 1/2 45 NOZD 3 180	1 1/2 45 NOZE 3 178	1 3/4 45 NOZF 3 175	1 3/4 42 NOZG 2 172	2 42 NOZH 2 170
750 m 2500 ft ↑ 301 m 1001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/4 48 NOZC 5 185	1 1/4 48 NOZD 4 182	1 1/4 45 NOZD 4 180	1 1/2 45 NOZE 3 178	1 3/4 45 NOZF 3 175	1 3/4 42 NOZG 2 172
300 m 1000 ft ↑ Meersniveau Sea level	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 50 NOZC 5 188	1 1/4 48 NOZC 5 185	1 1/2 48 NOZD 4 182	1 1/4 45 NOZE 3 178	1 1/2 45 NOZF 3 175	1 3/4 45 NOZG 2 172

LSCHR = Luftregulierschraube offen

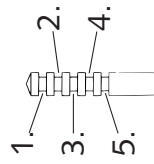
LD = Leerlaufdüse

POS = Clip Position von oben

HD = Hauptdüse

Schieber= 6,5

Zerstäuber= 5 mm



AS = Air screw open from fully-seated

IJ = Idling jet

POS = Clip position from top

MJ = Main jet

Slide = 6,5

Atomizer= 5 mm

**NICHT FÜR STRASSENBETRIEB**

Kraftstoff: Euro-Super bleifrei ROZ 95

NOT FOR HIGHWAY USE

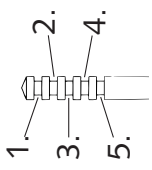
Fuel: Euro-Super unleaded ROZ 95

# VERGASERREGULIERUNG KTM 300 MXC/EXC EUR/USA 2002 KEIHIN PWK 38 AG CARBURETOR SETTING

MEERESHÖHE ALTITUDE	TEMPERATUR →	-20°C bis -7°C -2°F to 20°F	-6°C bis 5°C 19°F to 41°F	6°C bis 15°C 42°F to 60°F	16°C bis 24°C 61°F to 78°F	25°C bis 38°C 79°F to 98°F	37°C bis 49°C 99°F to 120°F
3000 m 10000 ft ↑ 2301 m 7501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/2 45 NOZH 3 175 1 1/2 45 NOZH 3 175	1 3/4 45 NOZH 3 172 1 3/4 45 NOZH 3 172	2 42 NOZI 2 170 2 42 NOZI 2 170	2 1/4 42 NOZI 2 168 2 1/4 42 NOZI 2 168	2 1/2 40 NOZI 2 165 2 1/2 40 NOZI 2 165	2 3/4 40 NOZI 1 162 2 3/4 40 NOZI 1 162
2300 m 7500 ft ↑ 1501 m 5001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/4 45 NOZH 3 178 1 1/4 45 NOZH 3 178	1 1/2 45 NOZH 3 175 1 1/2 45 NOZH 3 175	1 3/4 45 NOZH 2 172 1 3/4 45 NOZH 2 172	2 42 NOZI 2 170 2 42 NOZI 2 170	2 1/4 42 NOZI 2 168 2 1/4 42 NOZI 2 168	2 1/2 40 NOZI 1 165 2 1/2 40 NOZI 1 165
1500 m 5000 ft ↑ 751 m 2501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 48 NOZG 4 180 1 48 NOZG 4 180	1 1/4 45 NOZH 3 178 1 1/4 45 NOZH 3 178	1 1/2 45 NOZH 3 175 1 1/2 45 NOZH 3 175	1 3/4 45 NOZH 3 172 1 3/4 45 NOZH 3 172	2 42 NOZI 2 170 2 42 NOZI 2 170	2 1/4 42 NOZI 2 168 2 1/4 42 NOZI 2 168
750 m 2500 ft ↑ 301 m 1001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	3/4 48 NOZG 5 182 3/4 48 NOZG 5 182	1 48 NOZG 4 180 1 48 NOZG 4 180	1 1/4 45 NOZH 4 178 1 1/4 45 NOZH 4 178	1 1/2 45 NOZH 3 175 1 1/2 45 NOZH 3 175	1 3/4 45 NOZH 3 172 1 3/4 45 NOZH 3 172	2 42 NOZI 2 170 2 42 NOZI 2 170
300 m 1000 ft ↑ Meeresniveau Sea level/	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1/2 50 NOZF 5 185 1/2 50 NOZF 5 185	3/4 48 NOZG 5 180 3/4 48 NOZG 5 180	1 48 NOZH 4 178 1 48 NOZH 4 178	1 1/2 45 NOZH 3 175 1 1/2 45 NOZH 3 175	1 3/4 45 NOZH 3 172 1 3/4 45 NOZH 3 172	2 42 NOZI 2 170 2 42 NOZI 2 170

LSCHR = Luftregulierschraube offen  
LD = Leerlaufdüse  
POS = Clip Position von oben  
HD = Hauptdüse  
Schieber= 6,5  
Zerstäuber= 5 mm

AS = Air screw open from fully-seated  
IJ = Idling jet  
POS = Clip position from top  
MJ = Main jet  
Slide = 6,5  
Atomizer= 5 mm



**NICHT FÜR STRASSENBETRIEB**  
Kraftstoff: Euro-Super bleifrei ROZ 95  
NOT FOR HIGHWAY USE  
Fuel: Euro-Super unleaded ROZ 95

VERGASERREGULIERUNG **KTM 380 SX / MXC / EXC** **EUR / USA 2002** **KEIHIN PWK 38 AG**  
 CARBURETOR SETTING

MEERESHÖHE ALTITUDE	TEMPERATUR →	-20°C bis -7°C -2°F to 20°F	-6°C bis 5°C 19°F to 41°F	6°C bis 15°C 42°F to 60°F	16°C bis 24°C 61°F to 78°F	25°C bis 38°C 79°F to 98°F	37°C bis 49°C 99°F to 120°F
3000 m 10000 ft ↑ 2301 m 7501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/2 45 NOZG 3 170	1 3/4 45 NOZH 3 168	2 42 NOZH 2 165	2 1/4 42 NOZI 2 162	2 1/2 40 NOZI 2 160	2 3/4 40 NOZI 1 158
2300 m 7500 ft ↑ 1501 m 5001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/4 45 NOZG 3 172	1 1/2 45 NOZG 3 170	1 3/4 45 NOZH 2 168	2 42 NOZH 2 165	2 1/4 42 NOZI 2 162	2 1/2 40 NOZI 2 160
1500 m 5000 ft ↑ 751 m 2501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 48 NOZF 4 175	1 1/4 45 NOZG 3 172	1 1/2 45 NOZG 3 170	1 3/4 45 NOZH 3 168	2 42 NOZH 2 165	2 1/4 42 NOZI 2 162
750 m 2500 ft ↑ 301 m 1001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	3/4 48 NOZF 5 178	1 48 NOZF 4 175	1 1/4 45 NOZG 4 172	1 1/2 45 NOZG 3 170	1 3/4 45 NOZH 2 168	2 42 NOZH 2 165
300 m 1000 ft ↑ Meeresniveau Sea level	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1/2 50 NOZE 5 180	3/4 48 NOZF 5 178	1 48 NOZF 4 175	1 1/4 45 NOZG 3 172	1 1/2 45 NOGH 3 170	1 3/4 45 NOZH 2 168

LSCHR = Luftregulierschraube offen

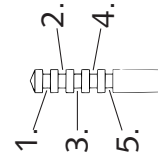
LD = Leerlaufdüse

POS = Clip Position von oben

HD = Hauptdüse

Schieber= 6,5

Zerstäuber =5 mm



AS = Air screw open from fully-seated

IJ = Idling jet

POS = Clip position from top

MJ = Main jet

Slide = 6,5

Atomizer= 5 mm

**NICHT FÜR STRASSENBETRIEB**

Kraftstoff: Euro-Super bleifrei ROZ 95

NOT FOR HIGHWAY USE

Fuel: Euro-Super unleaded ROZ 95



## TECHNICAL DATA - ENGINE 250/300 MXC / EXC 2003

	250 MXC/EXC	300 MXC/EXC
Engine	Liquid-cooled single-cylinder two-stroke engine with KTM Twin Valve Control exhaust system and KTM Torque Chamber	
Piston displacement	249 ccm	
Bore / stroke	66,4 / 72 mm (2.62 / 2.84 in)	
Fuel	unleaded SUPER fuel, research octane no 95, mixed with high-grade, two-stroke oil	
Oil / gasolino ratio	1:40 – 1:60 when using high grade, two-stroke oil. When in doubt, please contact your importer or use 1:40 mix ratio to be on the safe side	
Crankshaft bearing	1 deep-groove ball bearing / 1 cylinder roller bearing	
Connecting rod bearing	needle bearing	
Piston pin bearing	needle bearing	
Piston	cast piston	forged piston
Piston ring	two plain compression rings	
Dimension "X" <sup>1)</sup> (upper edge piston, upper edge cylinder)	0 + 0,1 mm (0 + 0.004 in)	
Ignition timing	1,9 mm vor OT	
Spark plug	NGK BR 7 ES	
Electrode gap	0,60 mm	
Dimension "Z" <sup>2)</sup> (height of the control flap)	49,5 mm (0.024 in)	
TVC start open	5000/min	
TVC fully open	7000/min	
Primary drive	straight cut spur gears, primary ratio 25:72	
Clutch	multiple disc clutch in oil bath, hydraulically operated (Shell HF-E15)	
Transmission	5 speed, claw actuated	
Gear ratio	EXC 15:29 18:26 19:22 21:20 23:18	MXC 15:29 18:26 19:22 21:20 23:18
1 <sup>st</sup> gear		
2 <sup>nd</sup> gear		
3 <sup>rd</sup> gear		
4 <sup>th</sup> gear		
5 <sup>th</sup> gear		
Gear lubrication	0,8 l engine oil 10W-40	
available chain sprockets	13Z / 14Z / 15Z for chain $\frac{5}{8} \times \frac{1}{4}$ "	
Coolant	1.3 liters, 40% antifreeze, 60% water, at least -25 °C (-13 °F)	
Ignition system	KOKUSAN 2K-3	
Generator output	12V 110W	
Ignition system USA (MXC)	KOKUSAN 2K-2	
Generator output	12V 40W	
Carburetor	flat-slide carburetor, carburetor setting see table	
Air-filter	wet foam type air filter insert	

TIGHTENING TORQUES		
Flange bolts - cylinder-head	M 8	35 Nm (25 ft.lb)
Nuts-cylinder base	M 10	35 Nm (25 ft.lb)
Flywheel collar nut	M 12x1	60 Nm (44 ft.lb)
Flat head screw release plate kickstarter	M 6x16	Loctite 648 19 Nm (14 ft.lb)
Nut for primary sprocket (LH thread)	M 18x1.5	Loctite 243 150 Nm (110 ft.lb)
Nut for inner clutch hub	M 18x1.5	Loctite 243 100 Nm (74 ft.lb)
Crankcase and cover bolts	M 6	8 Nm (6 ft.lb)
Swingarm pivot	M 14	100 Nm (74 ft.lb)
Other screws	M 6	10 Nm (7 ft.lb)
	M 8	25 Nm (19 ft.lb)
	M 10	45 Nm (33 ft.lb)

TOLERANCES AND FITTING CLEARANCES	
Piston fitting clearance	0.06 mm (250 / 300)
Piston ring end gap	0.3–0.4 mm
Connecting rod bearing - radial clearance	0.021–0.032 mm
Transmission shafts end float	0.1–0.2 mm
Clutch springs - length	Ø 2.5 minimum length = 42 mm, new = 43 mm
Crankshaft webs – outer dimension	60 mm ± 0,05 mm
Runout Crankshaft journal Crankshaft	max 0,06 (neu 0,03)

GASKET THICKNESSES	
Crankcase	0.5 mm
Clutch cover	0.5 mm
Cylinder bottom gasket	as required
Available cylinder bottom gaskets	0.2/0.4/0.5/0.75 mm
Cylinder-head gasket	O-rings

BASIC CARBURETOR SETTING				
	250/300 EXC throttled	250 EXC USA	300 EXC AUS throttled	300 MXC / EXC USA
Carburetor	Keihin PWK 38 AG	Keihin PWK 38 AG	Keihin PWK 38 AG	Keihin PWK 38 AG
Carburetor setting number	120202	140202	130202	150202
Main jet	175 (182,185)	182 (185)	175 (172,178)	175 (172,178)
Idling jet	35 (48)	48	35 (45,48)	45 (48)
Starting jet	85	85	85	85
Jet needle	R 1475 J	N3CH (N3CW)	R1475J (NOZ H/NOZ	NOZ H (NOZ I)
Needle position from top	(N3CH/N3CW)	IV	I)	III
Slide	III	6.5	II	6.5
Air adjustment screw open	6.5	1.5	6.5	1.5
Performance restrictor	1.5	–	1.5	–
Power jet nozzle	slide stop 34mm	–	slide stop 34mm	–

## TECHNICAL SPECIFICATIONS CHASSIS 250/300 MXC, EXC 2003

	250/300 MXC	250/300 EXC
Frame	Central chrome-moly-steel frame	
Fork	White Power – Up Side Down 48 MA	
Wheel travel front/rear	300/335 mm (11.8/13.2 in)	
Rear suspension	WP PDS 5018 (Progressive Damping System) shock absorber, aluminium swingarm	
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	
Brake discs	Wear limit max. 0,4 mm (0,016 in)	
Front tires	–	90/90 - 21" 54R
Front tires USA	80/100 - 21" 51M	80/100 - 21" 51M
Air pressure offroad	1,0 bar (14psi)	1,0 bar (14psi)
Air pressure road driver only	1,5 bar (21psi)	1,5 bar (21psi)
Rear tires	–	140/80 - 18" 70R
Rear tires USA	100/100 - 18" 64M	100/100 - 18" 64M
Air pressure offroad	1,0 bar (14psi)	1,0 bar (14psi)
Air pressure road driver only	2,0 bar (28psi)	2,0 bar (28psi)
Fuel tank capacity	11 liter (2,9 US Gallons)	9/11 liter (2,3/2,9 US Gallons)
Final drive ratio	–	15:48t / 14:50t
Final drive ratio USA	14:52t	14:52t
Chain	5/8 x 1/4 "	
Available final sprockets	38t, 40t, 42t, 45t, 48t, 50t, 52t	
Bulbs	headlight	HS1 12V 35/35W
	parking light	12V 5W (base W2, 1x9,5d)
	instrument light	12V 1,2W (base W2, 1x4,6d)
	brake- rear light	12V 21/5W (base BaY15d)
	flasher light	12V 10W (base Ba15s)
	license plate illumination	12V 1,2W (base 1x4,6d)
Steering head angle	63,5°	
Wheel base	1481 ± 10 mm (58,3 ± 0,4 in)	
Seat height, unloaded	925 mm (36,5 in)	
Ground clearance, unloaded	385 mm (15,2 in)	

Art No 3206004 - E

### STANDARD ADJUSTMENT-FORK

	WP 4860 MXMA 1418X736
Compression adjuster	20
Rebound adjuster	20
Spring	4,0 N/mm
Spring preload	5 mm (0.20in)
Air chamber length	110 mm (4,3 in)
Fork oil	SAE 5

### STANDARD ADJUSTMENT - SHOCK ABSORBER

	WP 5018-MCC 1218X759
Compression adjuster	17
Rebound adjuster	26
Spring	71-90/260
Spring preload	7 mm (0.27 in)

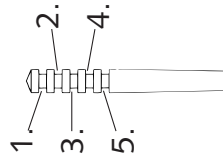
Repair manual KTM 250 / 300 / 380

TIGHTENING TORQUES - CHASSIS		
Collar screw, front wheel spindle	M 24x1,5	40 Nm
Brake caliper, front	M 8	Loctite 243 + 25 Nm
Brake disk, front	M 6 10.9	Loctite 243 + 15 Nm
Brake disk, rear	M 6	Loctite 243 + 15 Nm
Clamping screws, upper fork bridge	M 8	20 Nm
Clamping screws, lower fork bridge	M 8	15 Nm
Clamping screws, fork stubs	M 8	10 Nm
Collar nut, rear wheel spindle	M 20x1,5	80 Nm
Hexagon nut, swing arm bolt	M 14x1,5	100 Nm
Hexagon collar screw, handlebar clamp	M 8	20 Nm
Allan head screw, handlebar support	M 10	Loctite 243 + 40 Nm
Shock absorber, top	M 12	60 Nm
Shock absorber, bottom	M 12	60 Nm
Sprocket screws	M 8	Loctite 243 + 35 Nm
Ball joint for push rod	M 6	Loctite 243 + 10 Nm
Engine mounting bolt	M 10	45 Nm
Engine brace	M 8	33 Nm
Screw adjusting ring spring preload shock abs.	M6	8 Nm
Spoke nipple	M4,5 / M5	5 Nm
Other screws on chassis	M 6	10 Nm
	M 8	25 Nm
	M 10	45 Nm
Other collar nuts on chassis	M 6	15 Nm
	M 8	30 Nm
	M 10	50 Nm

# VERGASERREGULIERUNG KTM 250 MXC/EXC EUR/USA 2003 KEIHIN PWK 38 AG CARBURETOR SETTING

MEERESHÖHE ALTITUDE	TEMPERATUR →	-20°C bis -7°C -2°F to 20°F	-6°C bis 5°C 19°F to 41°F	6°C bis 15°C 42°F to 60°F	16°C bis 24°C 61°F to 78°F	25°C bis 38°C 79°F to 98°F	37°C bis 49°C 99°F to 120°F
3000 m 10000 ft ↑ 2301 m 7501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 48 N3CH 4 182	1 48 N3CH 3 182	1,5 48 N3CH 3 180	1,5 45 N3CW 3 178	1,5 45 N3CW 3 175	2 45 N3CW 2 172
2300 m 7500 ft ↑ 1501 m 5001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 48 N2CH 4 185	1 48 N3CH 4 182	1 48 N3CH 3 182	1,5 48 N3CH 3 180	1,5 45 N3CW 3 178	1,5 45 N3CW 3 175
1500 m 5000 ft ↑ 751 m 2501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 48 N3CG 4 188	1 48 N3CH 4 185	1 48 N3CH 4 182	1 48 N3CH 3 182	1,5 48 N3CH 3 180	1,5 45 N3CW 3 178
750 m 2500 ft ↑ 301 m 1001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 50 N3CG 5 188	1 48 N3CG 4 185	1 48 N3CH 4 185	1 48 N3CH 4 182	1 48 N3CH 3 182	1,5 48 N3CH 3 180
300 m 1000 ft ↑ Meeresniveau Sea level/	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	3/4 52 N3CG 5 190	1 50 N3CG 4 188	1 48 N3CG 4 185	1 48 N3CH 4 182	1 48 N3CH 3 182	1 48 N3CH 3 180

LSCHR = Luftregulierschraube offen  
LD = Leerlaufdüse  
POS = Clip Position von oben  
HD = Hauptdüse  
**Schieber= 6,5**  
**Zerstäuber= 5 mm**



AS = Air screw open from fully-seated  
IJ = Idling jet  
POS = Clip position from top  
MJ = Main jet  
**Slide = 6,5**  
**Atomizer= 5 mm**

**NICHT FÜR STRASSENBETRIEB**  
Kraftstoff: Euro-Super bleifrei ROZ 95  
**NOT FOR HIGHWAY USE**  
Fuel: Euro-Super unleaded ROZ 95

# VERGASERREGULIERUNG KTM 300 MXC/EXC EUR/USA 2003 KEIHIN PWK 38 AG

## CARBURETOR SETTING

MEERESHÖHE ALTITUDE	TEMPERATUR →	-20°C bis -7°C -2°F to 20°F	-6°C bis 5°C 19°F to 41°F	6°C bis 15°C 42°F to 60°F	16°C bis 24°C 61°F to 78°F	25°C bis 38°C 79°F to 98°F	37°C bis 49°C 99°F to 120°F
3000 m 10000 ft ↑ 2301 m 7501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/2 45 NOZH 3 175	1 3/4 45 NOZH 3 172	2 42 NOZI 2 170	2 1/4 42 NOZI 2 168	2 1/2 40 NOZI 2 165	2 3/4 40 NOZI 1 162
2300 m 7500 ft ↑ 1501 m 5001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 1/4 45 NOZH 3 178	1 1/2 45 NOZH 3 175	1 3/4 45 NOZH 2 172	2 42 NOZI 2 170	2 1/4 42 NOZI 2 168	2 1/2 40 NOZI 1 165
1500 m 5000 ft ↑ 751 m 2501 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1 48 NOZG 4 180	1 1/4 45 NOZH 3 178	1 1/2 45 NOZH 3 175	1 3/4 45 NOZH 3 172	2 42 NOZI 2 170	2 1/4 42 NOZI 2 168
750 m 2500 ft ↑ 301 m 1001 ft	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	3/4 48 NOZG 5 182	1 48 NOZG 4 180	1 1/4 45 NOZH 4 178	1 1/2 45 NOZH 3 175	1 3/4 45 NOZH 3 172	2 42 NOZI 2 170
300 m 1000 ft ↑ Meeresniveau Sea level	LSCHR AS LD IJ NADEL NEEDLE POS POS HD MJ	1/2 50 NOZF 5 185	3/4 48 NOZG 5 182	1 48 NOZH 4 180	1 1/4 45 NOZH 3 178	1 1/2 45 NOZH 3 175	1 3/4 45 NOZH 2 172

AS = Air screw open from fully-seated

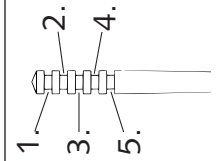
IJ = Idling jet

POS = Clip position from top

MJ = Main jet

Slide = 6,5

Atomizer= 5 mm



LSCHR = Luftregulierschraube offen

LD = Leerlaufdüse

POS = Clip Position von oben

HD = Hauptdüse

Schieber= 6,5

Zerstäuber= 5 mm

**NICHT FÜR STRASSEN BETRIEB**

Kraftstoff: Euro-Super bleifrei ROZ 95

NOT FOR HIGHWAY USE

Fuel: Euro-Super unleaded ROZ 95

# LUBRICATION AND MAINTENANCE SCHEDULE 10

## INDEX

### **MODEL 1999**

LUBRICATION AND MAINTENANCE SCHEDULE 250 - 380 . . . . .10-2

### **MODEL 2000**

LUBRICATION AND MAINTENANCE SCHEDULE 250 - 380 . . . . .10-3

### **MODEL 2001/2002**

LUBRICATION AND MAINTENANCE SCHEDULE 250 - 380 . . . . .10-4

### **MODEL 2003**

LUBRICATION AND MAINTENANCE SCHEDULE 250 - 300 . . . . .10-6





## PERIODIC LUBRICATION AND MAINTENANCE SCHEDULE

125-380 6.98



**AT A REGULAR COMPETITION USE OF THE BIKE, THE 4000 KM (2500 MILES)  
SERVICE IS TO BE DONE AFTER EVERY RACE**

	KTM rider		KTM dealer			
	before each start	after washing	1st service after 1000 km (600 miles) or 10 hours	after 2000 km (1250 miles) or 20 hours	after 4000 km (2500 miles) or once a year	at least once a year
Check transmission oil level	•					
Change transmission oil			•		•	•
Check spark plug and electrode gap				•	•	•
Change spark plug					•	
Functional testing of the exhaust control system						•
Check intake manifold for leaks and cracks	•				•	
Drain and clean carburetor float chamber		•			•	
Adjust idling			•		•	
Check breather hoses of engine case and gas tank for correct position without buckles			•			
Clean and check airfilter element, box and carburetor connection boot		•			•	•
Check chain, sprockets, guides and chain wear	•		•		•	
Clean and oil chain	•				•	
Check chain tension	•		•		•	
Check coolant level	•		•		•	
Check quality of antifreeze						•
Check cooling system for leaks - visual inspection	•		•		•	
Check exhaust system for cracks and leaks					•	
Replace glass fiber yarn of silencer					•	
Check of the exhaust suspension system					•	
Check brake fluid level front and rear	•		•		•	
Change brake fluid						•
Check thickness of disc brake pads	•				•	
Check brake discs					•	
Inspect condition and installation of front and rear brake hoses	•		•		•	
Check free travel and free movability of hand brake lever and foot brake lever	•		•		•	
Check the oil level in the master cylinder of the hydraulic clutch				•	•	
Change the oil of the hydraulic clutch						•
Check telescopic fork action	•				•	
Check telescopic fork for leaks					•	
Push up the protective bellows and remove the dirt; the drain holes must be free of obstructions		•	•	•	•	
Clean the dust scrubbers of the telescopic force		•		•	•	
Undo the bleeder screws at the fork legs					•	
Change oil of telescopic fork						•
Service telescopic fork completely						•
Check steering head bearing free play			•		•	
Clean and regrease steering head bearing					•	•
Check setting and damping of shock absorber	•				•	
Service shock absorber completely						•
Grease swingarm needle bearings (don't grease the pivot bearing for the shock absorber)						•
Check for even spoke tension and rim alignment	•		•		•	
Check wheel bearings	•				•	
Check tires for cuts and air pressure	•				•	
Check cables for damage and free movement	•				•	
Adjust and oil control cables		•	•		•	
Check electrical system	•		•		•	
Check battery holder and connections (CH, Singapore)					•	
Check adjustment of headlight					•	
Apply contact spray to light switches, flasher switches and ignition lock		•			•	
Check all bolts, nuts, screws and clamps for proper tightness	•		•		•	
Clean and lubricate control lever pivot points		•	•	•	•	



# PERIODIC LUBRICATION AND MAINTENANCE SCHEDULE

125-380 6.99



AT A REGULAR COMPETITION USE OF THE BIKE, THE 4000 KM (2500 MILES)  
SERVICE IS TO BE DONE AFTER EVERY RACE

KTM  
riderKTM  
dealer

	KTM rider		KTM dealer			
	before each start	after washing	1st service after 1000 km (600 miles) or 10 hours	after 2000 km (1250 miles) or 20 hours	after 4000 km (2500 miles) or once a year	at least once a year
Check transmission oil level	•					
Change transmission oil			•		•	•
Check spark plug and electrode gap				•	•	•
Change spark plug					•	
Functional testing of the exhaust control system						•
Check intake manifold for leaks and cracks	•				•	
Drain and clean carburetor float chamber		•			•	
Adjust idling			•		•	
Check breather hoses of engine case and gas tank for correct position without buckles			•			
Clean and check airfilter element, box and carburetor connection boot		•			•	•
Check chain, sprockets, guides and chain wear	•		•		•	
Clean and oil chain	•				•	
Check chain tension	•		•		•	
Check coolant level	•		•		•	
Check quality of antifreeze						•
Check cooling system for leaks - visual inspection	•		•		•	
Check exhaust system for cracks and leaks					•	
Replace glass fiber yarn of silencer					•	•
Check of the exhaust suspension system	•				•	
Check brake fluid level front and rear	•		•		•	
Change brake fluid						•
Check thickness of disc brake pads	•				•	
Check brake disks for wear and wobbling					•	
Inspect condition and installation of front and rear brake hoses	•		•		•	
Check free travel and free movability of hand brake lever and foot brake lever	•		•		•	
Check the oil level in the master cylinder of the hydraulic clutch				•	•	
Change the oil of the hydraulic clutch						•
Check telescopic fork action	•				•	
Check telescopic fork for leaks					•	
Clean the dust scrabbers of the telescopic force		•		•	•	
Undo the bleeder screws at the fork legs					•	
Change oil of telescopic fork						•
Service telescopic fork completely						•
Check steering head bearing free play			•		•	
Clean and regrease steering head bearing					•	•
Check setting and damping of shock absorber	•				•	
Service shock absorber completely						•
Grease swingarm needle bearings (dont grease the pivot bearing for the shock absorber)						•
Check for even spoke tension and rim alignment	•		•		•	
Check wheel bearings	•				•	
Check tires for cuts and air pressure	•				•	
Check cables for damage and free movement	•				•	
Adjust and oil control cables		•	•		•	
Check electrical system	•		•		•	
Check adjustment of headlight					•	
Apply contact spray to light switches, flasher switches and emergency off switch		•			•	
Check all bolts, nuts, screws and clamps for proper tightness	•		•		•	
Clean and lubricate control lever pivot points		•	•	•	•	



# PERIODIC MAINTENANCE SCHEDULE 2001/02

250/300/380 SX/MXC/EXC

A washed motorcycle can be checked more quickly which saves money!		1. service after 10 hours or 1000 kilometer	after 20 hours or 2000 kilometer	after 4000 kilometer or once a year	
ENGINE	Check gear box oil level		●		
	Change gear box oil	●		●	
	Check spark plugs, adjust distance between electrodes	●	●		
	Renew spark plugs			●	
CARBURETOR	Check the carburettor connection boot for cracks and leaks			●	
	Check idle speed setting	●		●	
	Check that vent hoses are not damaged or bent	●		●	
ADD-ON-PARTS	Check cooling system for leaks, check quantity of anti freeze	●		●	
	Check exhaust system for leaks and fitment			●	
	Check cables for damage, smooth operation, bends; adjust and lubricate	●		●	
	Check oil level of the clutch master cylinder	●	●	●	
	Clean air filter and filter box			●	
	Check electric wires for damage and bends			●	
	Check headlamp setting			●	
	Check function of electric systems (low-, high beam, break light, indicator, indicator lamps, speedometer illumination, horn, emergency OFF switch or button)	●		●	
	BRAKES	Check brake fluid level, lining thickness, break lining	●		●
		Check brake lines for damage and leaks	●		●
Check/adjust smooth operation and free travel of handbrake/foot brake lever		●		●	
Check tightness of brake system screws		●		●	
CHASSIS	Check shock absorber and fork for leaks and function	●		●	
	Clean fork dust bellows			●	
	Bleed fork legs			●	
	Check swing arm bearings			●	
	Check/adjust steering head bearings	●		●	
	Check tightness of all chassis screws (triple clamps, fork leg axle passage axle nuts and screws, swing arm bearings, shock absorber)	●		●	
WHEELS	Check spoke tension and rim joint			●	
	Check tyres and air pressure	●		●	
	Check chain, rear sprockets and chain guides for wear, fitment and tension	●		●	
	Lubricate chain	●		●	
	Check clearance of wheel bearings	●		●	

## IMPORTANT RECOMMENDED MAINTENANCE WORK THAT CAN BE CARRIED OUT BY EXTRA ORDER

	at least once a year	every 2 years or 20000 km
Check function of exhaust control	●	
Complete maintenance of shock absorber	●	
Complete maintenance of fork		●
Clean and grease steering head bearings and gasket elements	●	
Clean and adjust carburetor	●	
Replace glass fibre yarn filling of the exhaust main silencer	●	
Treat electric contacts and switches with contact grease	●	
Change hydraulic clutch fluid	●	
Change break fluid	●	

**IF MOTORCYCLE IS USED FOR COMPETITION 4000KM SERVICE SHOULD BE CARRIED OUT AFTER EVERY RACE!  
SERVICE INTERVALLS SHOULD NEVER BE EXCEED BY MORE 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!**

**IMPORTANT CHECKS AND MAINTENANCE TO BE CARRIED OUT BY THE RIDER**

	Before each start	After every cleaning	For cross-country use	Once a year
Check gear box oil level	●			
Check brake fluid level	●			
Check brake pads for wear	●			
Check lights for function	●			
Check horn for function	●			
Lubricate and adjust cables and nipples		●		
Bleed fork legs regulary			●	
Remove and clean fork dust bellows regulary			●	
Clean and lubricate chain, check tension and adjust if necessary		●	●	
Clean air filter and filter box			●	
Check tires for pressure and wear	●			
Check cooling liquid level	●			
Check fuel lines for leaks	●			
Drain and clean float chamber		●		
Check all control elements for smooth operation	●			
Check brake performance	●	●		
Treat blank metal parts (with the exception of brake and exhaust systems) with wax-based anti corrosion agent		●		
Treat ignition and steering locks and light switches with contact spray		●		
Check tightness of screws, nuts and hose clamps regular				●



## PERIODIC MAINTENANCE SCHEDULE 2003

250/300 MXC/EXC

A clean motorcycle can be checked more quickly which saves money!		1st service after 10 hours or 1000 kilometers	after 20 hours or 2000 kilometers	after 4000 kilometer or once a year	
ENGINE	Check gear box oil level		●		
	Change gear box oil	●		●	
	Check spark plugs, adjust distance between electrodes	●	●		
	Renew spark plugs			●	
CARBURETOR	Check the carburetor connection boot for cracks and leaks			●	
	Check idle speed setting	●		●	
	Check that vent hoses are not damaged or bent	●		●	
ADD-ON-PARTS	Check cooling system for leaks, check quantity of antifreeze	●		●	
	Check exhaust system for leaks and fitment			●	
	Check cables for damage, smooth operation, bends; adjust and lubricate	●		●	
	Check oil level of the clutch master cylinder	●	●	●	
	Clean air filter and filter box			●	
	Check electric wires for damage and bends			●	
	Check headlamp setting			●	
	Check function of electric systems (low beam, high beam, break light, indicator, indicator lamps, speedometer illumination, horn, emergency OFF switch or button)	●		●	
	BRAKES	Check brake fluid level, lining thickness, brake lining	●		●
		Check brake lines for damage and leaks	●		●
Check/adjust smooth operation and free travel of handbrake/foot brake lever		●		●	
Check tightness of brake system screws		●		●	
CHASSIS	Check shock absorber and fork for leaks and function	●		●	
	Clean dust bellows			●	
	Bleed fork legs			●	
	Check swing arm bearings			●	
	Check/adjust steering head bearings	●		●	
	Check tightness of all chassis screws (triple clamps, fork leg axle passage axle nuts and screws, swing arm bearings, shock absorber)	●		●	
WHEELS	Check spoke tension and rim joint			●	
	Check tires and air pressure	●		●	
	Check chain, rear sprockets and chain guides for wear, fitment and tension	●		●	
	Lubricate chain	●		●	
	Check clearance of wheel bearings	●		●	

### IMPORTANT RECOMMENDED MAINTENANCE WORK THAT CAN BE CARRIED OUT BY EXTRA ORDER

	at least once a year	every 2 years or 20000 km
Check function of exhaust control	●	
Complete maintenance of shock absorber	●	
Complete maintenance of fork		●
Clean and grease steering head bearings and gasket elements	●	
Clean and adjust carburetor	●	
Replace glass fibre- yarn filling of the exhaust main silencer	●	
Treat electric contacts and switches with contact grease	●	
Change hydraulic clutch fluid	●	
Change break fluid	●	

**IF MOTORCYCLE IS USED FOR COMPETITION 4000KM SERVICE SHOULD BE CARRIED OUT AFTER EVERY RACE!  
SERVICE INTERVALS SHOULD NEVER BE EXCEEDED BY MORE THAN 5 HOURS OR 500 KM!  
MAINTENANCE WORK DONE BY KTM AUTHORISED WORKSHOPS IS NOT A SUBSTITUTE FOR CARE AND CHECKS DONE BY THE RIDER!**

**IMPORTANT CHECKS AND MAINTENANCE TO BE CARRIED OUT BY THE RIDER**

	Before each start	After every cleaning	For cross-country use	Once a year
Check gear box oil level	●			
Check brake fluid level	●			
Check brake pads for wear	●			
Check lights for function	●			
Check horn for function	●			
Lubricate and adjust cables and nipples		●		
Bleed fork legs regularly			●	
Remove and clean dust bellows regularly			●	
Clean and lubricate chain, check tension and adjust if necessary		●	●	
Clean air filter and filter box			●	
Check tires for pressure and wear	●			
Check cooling liquid level	●			
Check fuel lines for leaks	●			
Empty and clean float chamber		●		
Check all control elements for smooth operation	●			
Check brake performance	●	●		
Treat blank metal parts (with the exception of brake and exhaust systems) with wax-based anti corrosion agent		●		
Treat ignition and steering locks and light switches with contact spray		●		
Check tightness of screws, nuts and hose clamps regularly				●

**RECOMMENDED INSPECTION OF THE 250/300 EXC AND MXC ENGINE  
USED FOR ENDURO COMPETITIONS BY YOUR KTM WORKSHOP  
(ADDITIONAL ORDER FOR THE KTM WORKSHOP)**

	30 hours	45 hours	60 hours	90 hours	120 hours	135 hours
Check the reed-type intake valve for wear	●	●	●	●	●	●
Check the clutch shoes for wear	●	●	●	●	●	●
Check the length of the clutch springs	●	●	●	●	●	●
Check the cylinder and piston for wear	●	●	●	●	●	●
Check the exhaust control for proper functioning and smooth running	●	●	●	●	●	●
Check the eccentricity of the crankshaft journal	●	●	●	●	●	●
Check the radial clearance of the conrod bearings	●		●		●	
Check the radial clearance of the piston pin main bearing	●		●		●	
Check the crankshaft main bearing for wear	●		●		●	
Replace the crankshaft bearings and conrod bearings		●		●		●
Check the entire transmission including roller and bearings for wear		●		●		●

**RECOMMENDED INSPECTION OF THE 250/300 EXC AND MXC ENGINE  
USED FOR HOBBY- ENDURO BY YOUR KTM WORKSHOP  
(ADDITIONAL ORDER FOR THE KTM WORKSHOP)**

	60 hours	90 hours	120 hours	180 hours	240 hours	270 hours
Check the reed-type intake valve for wear	●	●	●	●	●	●
Check the clutch shoes for wear	●	●	●	●	●	●
Check the length of the clutch springs	●	●	●	●	●	●
Check the cylinder and piston for wear	●	●	●	●	●	●
Check the exhaust control for proper functioning and smooth running	●	●	●	●	●	●
Check the eccentricity of the crankshaft journal	●	●	●	●	●	●
Check the radial clearance of the conrod bearings	●		●		●	
Check the radial clearance of the piston pin main bearing	●		●		●	
Check the crankshaft main bearing for wear	●		●		●	
Replace the crankshaft bearings and conrod bearings		●		●		●
Check the entire transmission including roller and bearings for wear		●		●		●

NOTE: IF THE INSPECTION ESTABLISHES THAT PERMISSIBLE TOLERANCES ARE EXCEEDED, THE RESPECTIVE COMPONENTS MUST BE REPLACED.



# WIRING DIAGRAMS

# 11

## INDEX

### MODEL 1999

WIRING DIAGRAM 250 - 380 EXC .....	.11-2
WIRING DIAGRAM 250 - 380 EGS .....	11-3
WIRING DIAGRAM 250 - 380 EXC (USA) .....	.11-5

### MODEL 2000

WIRING DIAGRAM 250 - 300 EXC USA .....	.11-6
WIRING DIAGRAM 250 - 380 EXC .....	.11-7
WIRING DIAGRAM 380 EXC USA .....	.11-9


### MODEL 2001/2002

WIRING DIAGRAM 250 EXC (USA) .....	.11-10
WIRING DIAGRAM 250 - 380 EXC .....	.11-11
WIRING DIAGRAM 300 - 380 EXC (USA) .....	.11-13

### MODEL 2003

WIRING DIAGRAM 250 - 300 EXC (EU/AUS) .....	.11-14
WIRING DIAGRAM 250 - 300 EXC (USA) .....	.11-16





**SERVICE**

Model I I

**250/300/380 EXC '98**

Kabelstrangnummer  
vorne 547 11 075 200  
hinten 583 11 076 000

Land  
**Europa**

Datum, Name  
07 07 98 KE

Zeichnungen  
22C8-DIV

Handlungsstand

Kabelstrangbez  
vo 250-380 EXC EU '98  
hi 125-380 EXC '98

**Deutsch**

- 1 Scheinwerfer
- 2 Fernlichtkontrolle
- 3 Tachobeleuchtung
- 4 zum Kombischalter
- 5 Bremslichtsch vo
- 6 Bremslichtsch hi
- 7 Spannungsbegrenzer
- 8 Schmarre
- 9 Brems-Schlußlicht
- 10 Zündspule
- 11 Zündkerze
- 12 Generator
- 13 2-pol Stecker
- 14 3-pol Stecker
- 15 4-pol Stecker
- 16 9-pol Stecker
- Parallelverbinder

**Englisch**

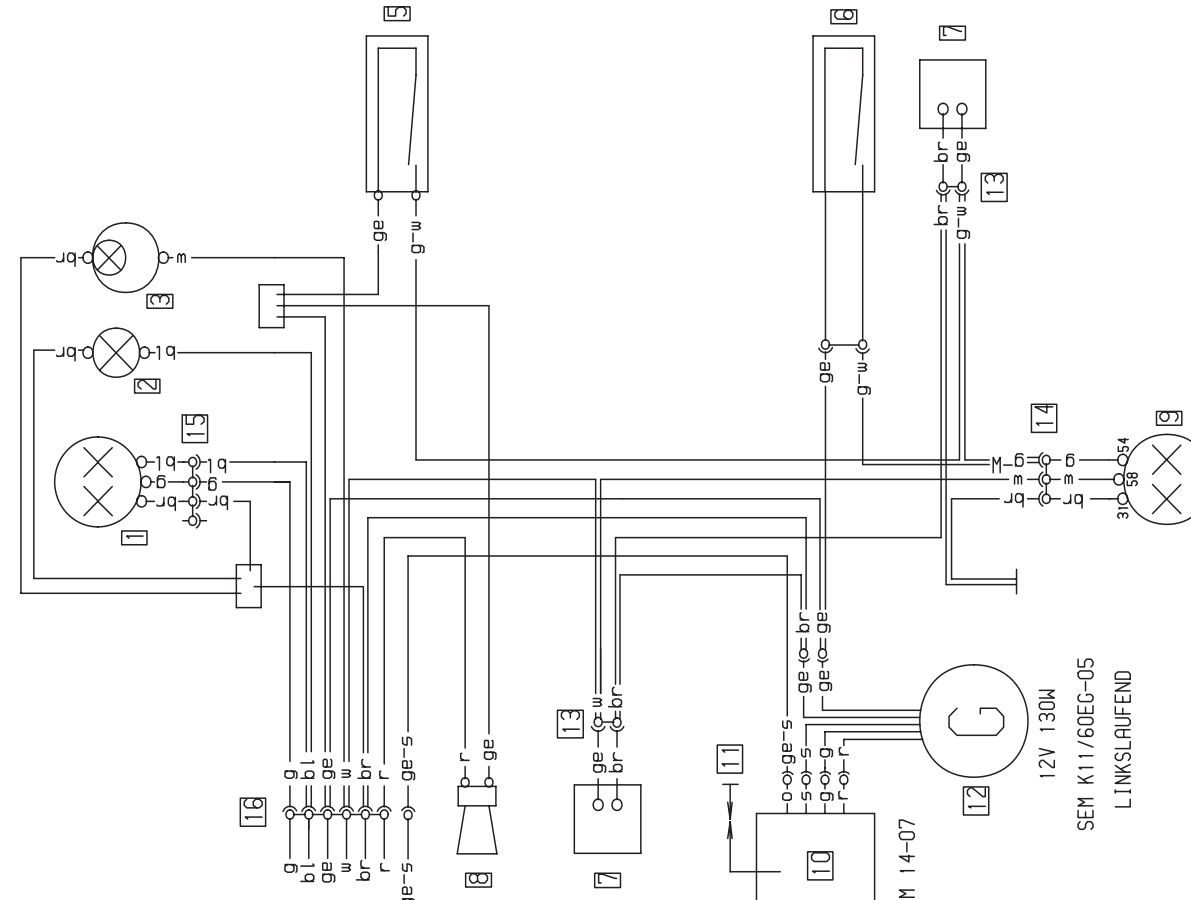
- 1 headlight
- 2 high beam indicator
- 3 speedometer light
- 4 to combinat switch
- 5 stoplight switch f
- 6 stoplight switch r
- 7 voltage limiter
- 8 horn
- 9 rear-stoplight
- 10 ignition coil
- 11 spark plug
- 12 generator
- 13 2-pole cont plug (2)
- 14 3-pole cont plug (3)
- 15 4-pole cont plug (4)
- 16 9-pole cont plug (9)
- parallel connector

**Italienisch**

- 1 fero
- 2 spia abbagliante
- 3 luce tachimetro
- 4 multicomando
- 5 int luce arresto ant
- 6 int luce arresto post
- 7 regol di tens
- 8 clacson
- 9 fanal post di freno
- 10 bobina d'accens
- 11 candela
- 12 dinamo
- 13 connettore a 2 poli
- 14 connettore a 3 poli
- 15 connettore a 4 poli
- 16 connettore a 9 poli
- parallelo connettore

**Französisch**

- 1 phare
- 2 témoin feu route
- 3 éclair comp vitesse
- 4 commodo
- 5 contact de stop av
- 6 contact de stop arr
- 7 regulateur
- 8 klaxon
- 9 feu arr et de stop
- 10 bobine d'allumage
- 11 bougie
- 12 generateur
- 13 connect multiple (2)
- 14 connect multiple (3)
- 15 connect multiple (4)
- 16 connect multiple (9)
- parallele connecteur

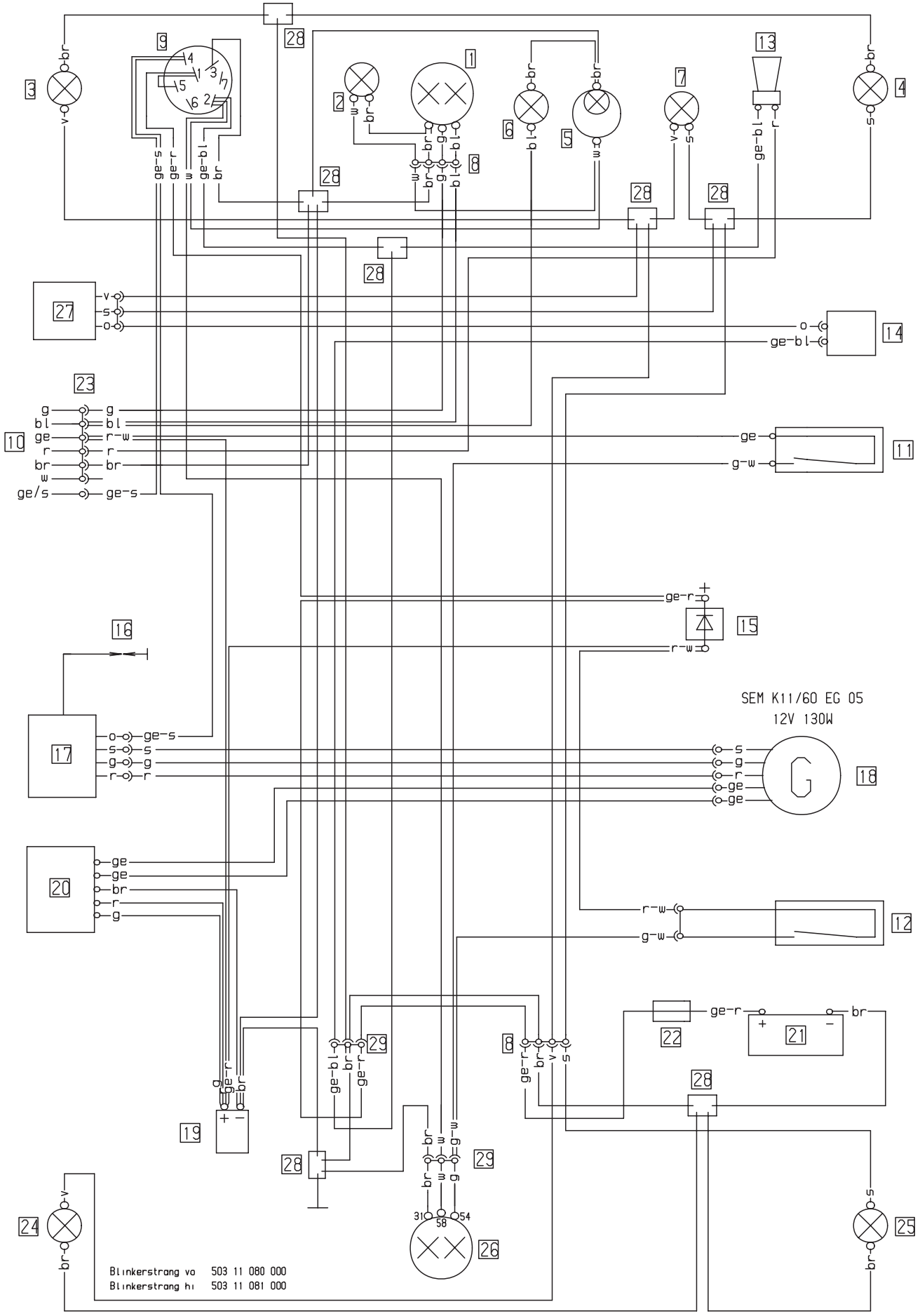


**Kontaktbelegung - (Typ CEV 9610)**

	g	bl	ge	w	ge	r	br
	bl	ge	w	ge	r	br	
LIHT	o						
Abblenkl	o	•	•	•	•	•	•
Fernlicht	o	•	•	•	•	•	•
HUPE	o	•	•	•	•	•	•
ZÜNDUNG AUS	o	•	•	•	•	•	•
	5	2	1	3	6	4	

**Spanisch**

- 1 fero
- 2 control luces largas
- 3 luz tacometro
- 4 liave combinada
- 5 interr luces de freno del
- 6 interr luces de freno tras
- 7 regulador de tension
- 8 claxon
- 9 luz freno tras
- 10 bobina de encendido
- 11 bujia
- 12 generador
- 13 conector multiple (2)
- 14 conector multiple (3)
- 15 conector multiple (4)
- 16 conector multiple (9)
- conector paralelo



Blinkerstrang vo 503 11 080 000  
Blinkerstrang hi 503 11 081 000

KTM 250/380 EGS 1998

Deutsch	Englisch	Italienisch	Französisch
1 Scheinwerfer	1 headlight	1 fano	1 phare
2 Standlicht	2 parking 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 Tachobeleuchtung	5 speedometer light	5 luce di tachimetro	5 éclair comp vitesse
6 Fernlichtkontrolle	6 high beam indicator	6 spia abbagliante	6 témoin feu route
7 Blinkerkontrolle	7 turn indicator	7 spia lampeggiatori	7 témoin de clignoteur
8 4-pol Stecker	8 multip cont plug (4)	8 connettore a 4 poli	8 connect multiple (4)
9 Zündschloß	9 ignition lock	9 accensione	9 contact d'allum
10 zum Kombischalter	10 to combinat switch	10 multicomando	10 commado
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	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 Diode	15 diode	15 diodo	15 diode
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 Batterie 1 2Ah	21 battery 1 2Ah	21 batteria 1 2Ah	21 batterie 1 2Ah
22 Stecksicherung 10A	22 fuse 10A	22 fusibile 10A	22 fusible 10A
23 6-pol Stecker	23 multip cont plug (9)	23 connettore a 9 poli	23 connect multiple (9)
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 Blinkerschalter	27 blink switch	27 int lampeggiatori	27 contact d clignoteur
28 Parallelverbinder	28 parallel connector	28 parallelo composto	28 parallele connecteur
29 3-pol Stecker	29 multip cont plug (3)	29 connettore a 3 poli	29 connect multiple (9)

Art No 3206004 - E

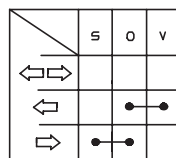
Deutsch	Englisch	Italienisch	Französisch	Spanisch
bl blau	bl blue	bl blu	bl bleu	bl azul
br braun	br brown	br marrone	br brun	br marron
ge gelb	ge yellow	ge giallo	ge jaune	ge amarillo
gr grau	gr grey	gr grigio	gr gris	gr gris
g grün	g green	g verde	g vert	g verde
o orange	o orange	o arancione	o orange	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

Spanisch
1 fano
2 luz de posicion
3 interm izquierdo delantero
4 intermitente derecho delantero
5 luz tacometro
6 lampara aviso luces largas
7 lampara aviso intermitentes
8 conector multiple (4)
9 llave de contacto
10 interruptor combinado
11 interr luz de freno del
12 interr luz de fren tras
13 claxon
14 conjunto del intermintente
15 diodo
16 bujia
17 bobina de encendido
18 generador
19 condensador
20 regulador de tension
21 bateria 12V 1 2Ah
22 fusible principal 10A
23 conector multiple (4)
24 intermitente izquierdo trasero
25 intermitente derecho trasero
26 luz de freno trasero
27 interuptor clignoteur
28 parallele connecteur
29 conector multiple (3)

Kontaktbelegung  
Zündschloß (Typ CEV 7-pol )

	1	2	3	4	5	6	7
PARK	○		○	○		○	
AUS			○	○			
EIN	○	○			○	○	
EIN	○	○	○	○	○	○	○

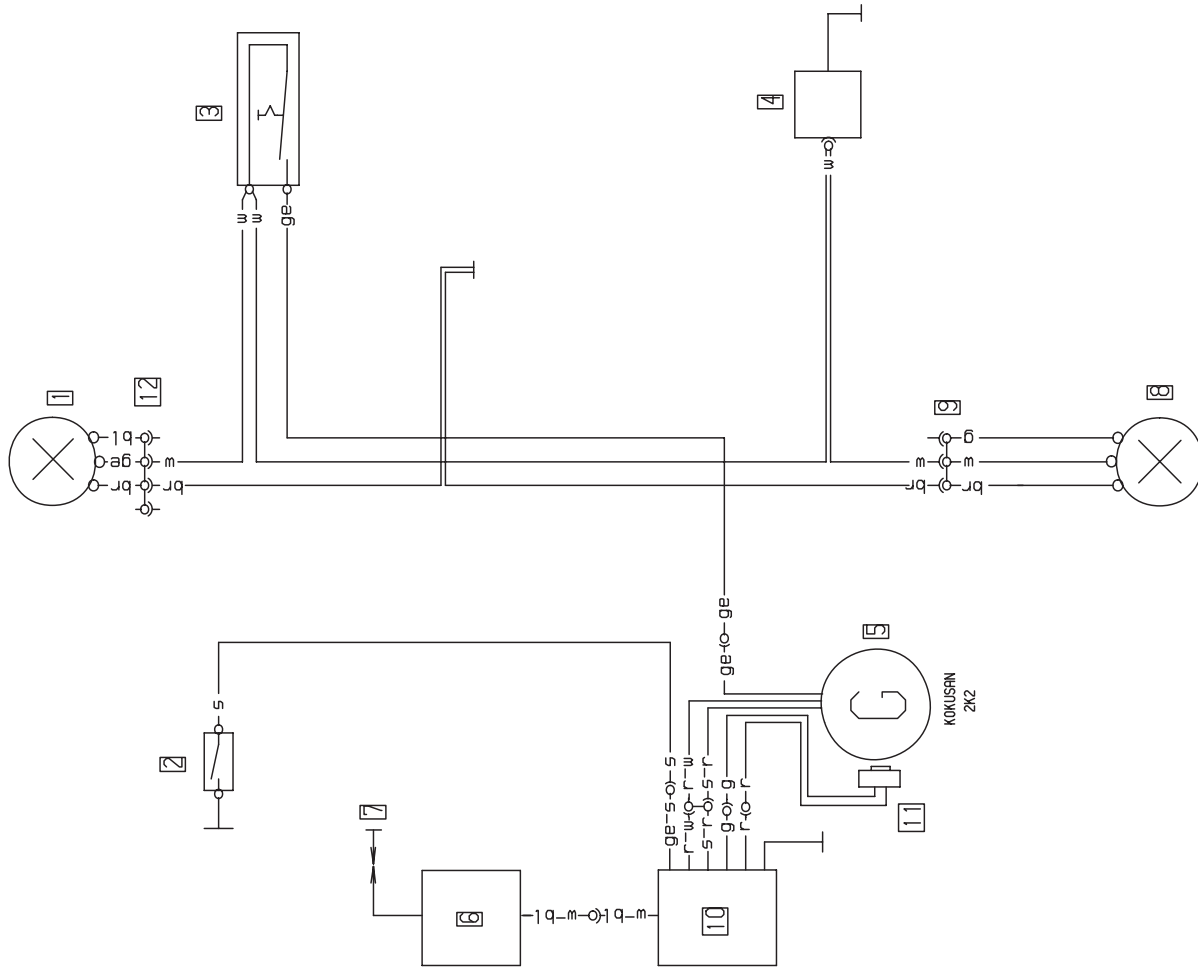
Blinkerschalter



Kontaktbelegung -  
Lichtschalter (Typ CEV 9610)


	g	bl	ge	w	ge/s	r	br
LICHT	○						
Abblendl	○	○	○	○			
Fernlicht		○	○	○			
HUPE						○	○
ZÜNDUNG AUS					○	○	○
	5	2	1	3	6	4	

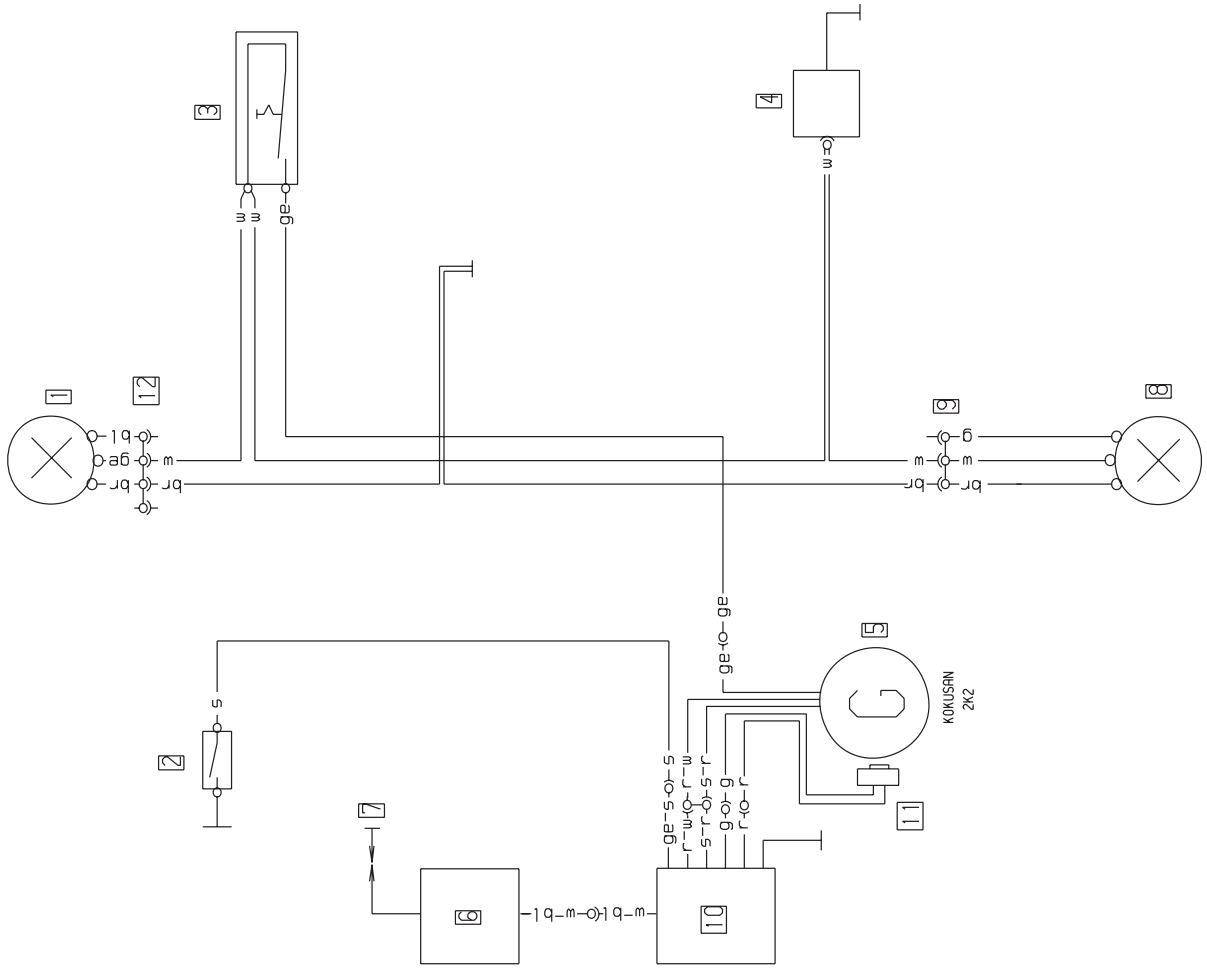
Repair manual KTM 250 / 300 / 380



Deutsch	Englisch	Italienisch	Französisch
1 Scheinwerfer	1 headlight	1 fano	1 phare
2 Kurzschlüßtaster	2 short-circuit button	2 interr cortocircuito	2 bouton d'arret
3 Lichtschalter	3 light switch	3 interr della luce	3 interr d'eclairage
4 Spannungsbegrenzer	4 voltage limiter	4 regol di tens	4 regulateur
5 Generator	5 generator	5 dinamo	5 generateur
6 Zündspule	6 ignition coil	6 bobina d'accens	6 bobine d'allumage
7 Zündkerze	7 spark plug	7 candela	7 bougie
8 Schlußlicht	8 rear light	8 fanale posteriore	8 feu arriere
9 3-pol Stecker	9 multip cont plug (3)	9 connettore a 3 poli	9 connect multiple (3)
10 CDI-Einheit	10 CDI-unit	10 CDI-seatola	10 CDI-unite
11 Impulsgeber	11 pulser coil	11 distributore	11 generateur d'impuls
12 4-pol Stecker	12 multip cont plug (4)	12 connettore a 4 poli	12 connect multiple (4)
bl blau	bl blue	bl blu	bl bleu
br braun	br brown	br marrone	br brun
ge gelb	ge yellow	ge giallo	ge jaune
gr grün	gr grey	gr grigio	gr gris
o orange	o orange	o verde	o vert
r rot	r red	o arancione	o orange
s schwarz	s black	r rosso	r rouge
v violett	v violet	s nero	s noir
w weiß	w white	v violetto	v violet
		w bianco	w blanc

Spanisch	
1	faro
2	interruptor a masa
3	interruptor d'luz
4	regulador de tension
5	generador
6	bobina de encendido
7	buja
8	luz de trasera
9	conect multiple (3)
10	unidad cdi
11	generador de impuls
12	conect multiple (4)
bl	azul
br	marron
ge	amarillo
gr	gris
g	verde
o	naranja
r	rojo
s	negro
v	violeta
w	blanco


**SERVICE**  
 Model I  
**125/200/250/300 EXC 2000**  
 Kabelstrangnummer vorne 503 11 075 000 hinten 503 11 076 000  
 Land **USA**  
 Datum, Name 22.06.99 KE  
 Zeichnungsnr 1-3XCUSA  
 Änderungsstand  
 Kabelstrangbezeichnung vo 125 EXC USA '98 hi 125-380 EXC '98



Deutsch	Englisch	Italienisch	Französisch
1 Scheinwerfer	1 headlight	1 foro	1 phare
2 Kurzschlußtester	2 short-circuit button	2 interr cortocircuito	2 bouton d'arret
3 Lichtschalter	3 light switch	3 interr della luce	3 interr d'eclairage
4 Spannungsbegrenzer	4 voltage limiter	4 regol di tens	4 regulateur
5 Generator	5 generator	5 dinamo	5 generateur
6 Zündspule	6 ignition coil	6 bobina d'accens	6 bobine d'allumage
7 Zündkerze	7 spark plug	7 candela	7 bougie
8 Schlußlicht	8 rearlight	8 fanale posteriore	8 feu arriere
9 3-pol Stecker	9 multip cont plug (3)	9 connettore a 3 poli	9 connect multiple (3)
10 CDI-Einheit	10 CDI-unit	10 CDI-seatola	10 CDI-unite
11 Impulsgeber	11 pulser coil	11 distributore	11 generateur d'impuls
12 4-pol Stecker	12 multip cont plug (4)	12 connettore a 4 poli	12 connect multiple (4)
bl blau	bl blue	bl blu	bl bleu
br braun	br brown	br marrone	br brun
ge gelb	ge yellow	ge giallo	ge jaune
gr grün	gr grey	gr grigio	gr gris
g grün	g green	g verde	g vert
o orange	o orange	o arancione	o orange
r rot	r red	r rosso	r rouge
s schwarz	s black	s nero	s noir
v violett	v violet	v violetto	v violet
w weiß	w white	w bianco	w blanc

Spanisch	
1	faro
2	interruptor a masa
3	interruptor d' luz
4	regulador de tension
5	generador
6	bobina de encendido
7	bujia
8	luz de trasera
9	conect multiple (3)
10	unidad cd
11	generador de impuls
12	conect multiple (4)
bl	azul
br	marron
ge	amarillo
gr	gris
g	verde
o	naranja
r	rojo
s	negro
v	violeta
w	blanco



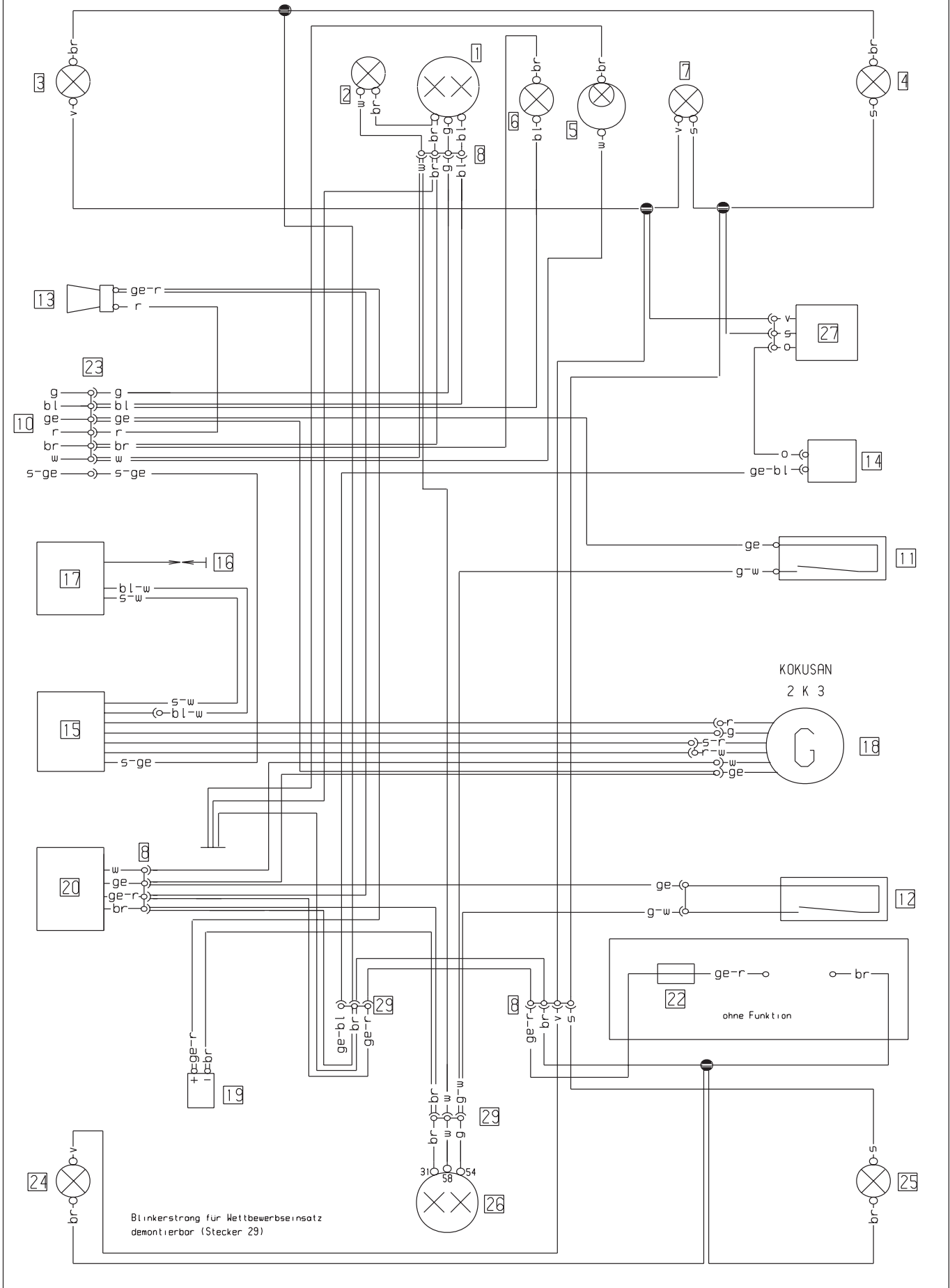
SERVICE

Modell 125-380 EXC 2000

Kabelstrangnummer  
 vorne 503 11 075 600  
 hinten 503 14 040 100  
 Blinker vorne 503 11 080 100  
 Blinker hinten 503 11 081 000

Land  
 Europa

Datum, Name  
 07 04 99 Hei





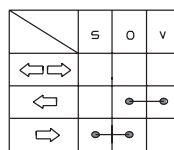
KTM 125-380 EXC 2000

Deutsch	Englisch	Italienisch	Französisch
1 Scheinwerfer	1 headlight	1 fano	1 phare
2 Standlicht	2 parking 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 Tachobeleuchtung	5 speedometer light	5 luce di tachimetro	5 éclair comp vitesse
6 Fernlichtkontrolle	6 high beam indicator	6 spia abbagliante	6 témoin feu route
7 Blinkerkontrolle	7 turn indicator	7 spia lampeggiatori	7 témoin de clignoteur
8 4-pol Stecker	8 multip cont plug (4)	8 connettore a 4 poli	8 connect multiple (4)
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-Einheit	15 CDI-unit	15 CDI-seatola	15 boitier 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
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 Blinkerschalter	27 blink switch	27 int lampeggiatori	27 contact d clignoteur
29 3-pol Stecker	29 multip cont plug (3)	29 connettore a 3 poli	29 connect multiple (9)

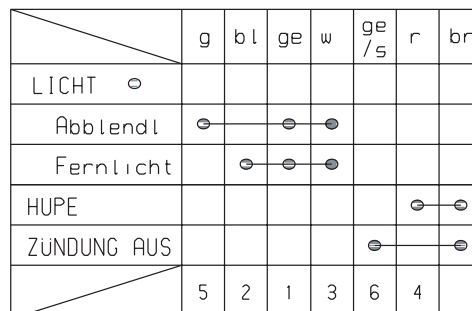
Deutsch	Englisch	Italienisch	Französisch	Spanisch
bl blau	bl blue	bl blu	bl bleu	bl azul
br braun	br brown	br marrone	br brun	br marron
ge gelb	ge yellow	ge giallo	ge jaune	ge amarillo
gr grau	gr grey	gr grigio	gr gris	gr gris
g grün	g green	g verde	g vert	g verde
o orange	o orange	o arancione	o orange	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

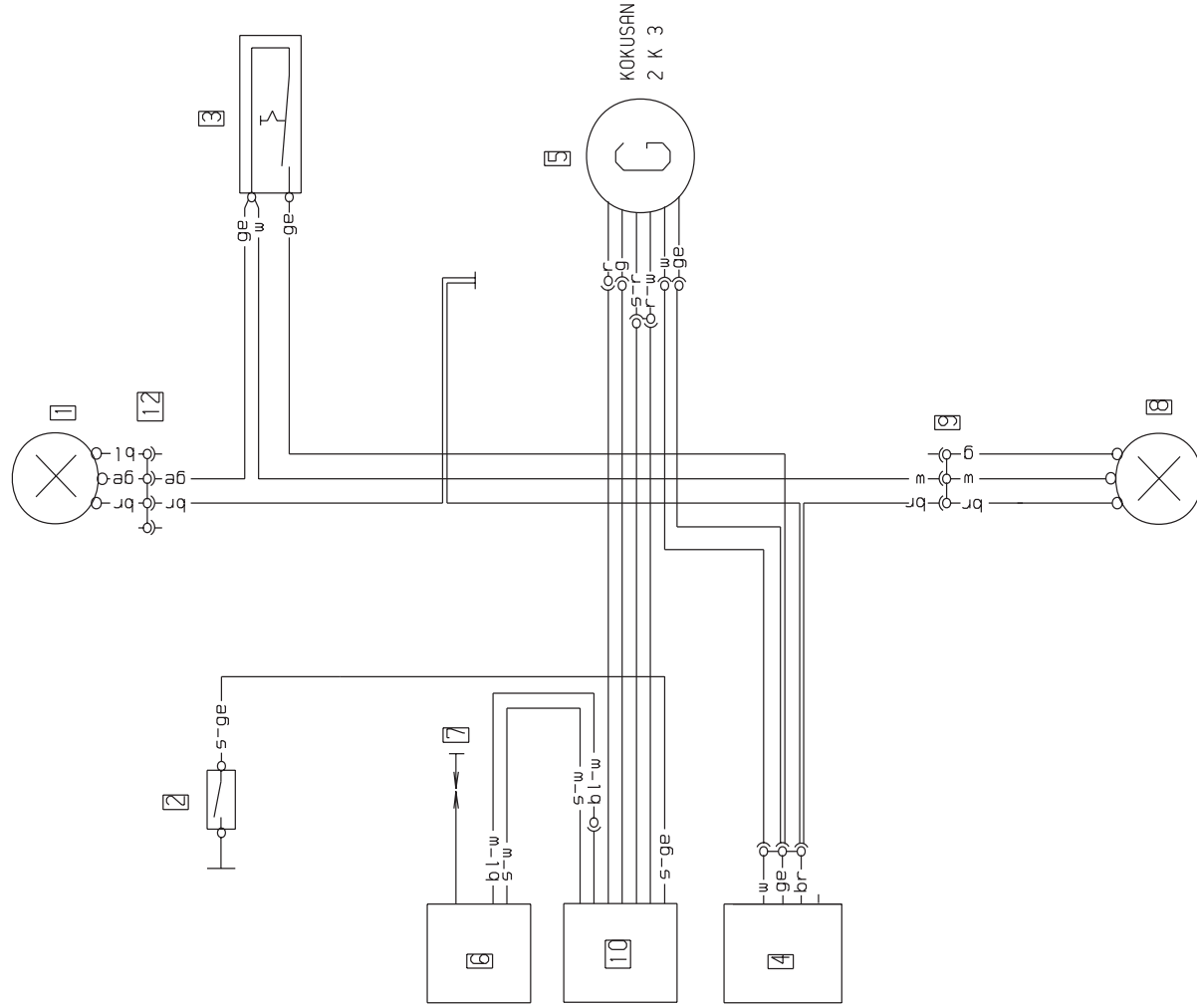
Spanisch
1 fano
2 luz de posicion
3 interm izquierdo delantero
4 intermitente derecho delantero
5 luz tacometro
6 lampara aviso luces largas
7 lampara aviso intermitentes
8 conector multiple (4)
10 interruptor combinado
11 interr luz de freno del
12 interr luz de fren tras
13 claxon
14 conjunto del intermitente
15 unidad cdi
16 bujia
17 bobina de encendido
18 generador
19 condensador
20 regulador de tension
22 fusible principal 10A
23 conector multiple (6)
24 intermitente izquierdo trasero
25 intermitente derecho trasero
26 luz de freno trasero
27 interuptor clignoteur
29 conector multiple (3)

Blinkerschalter




Kontaktbelegung -  
Lichtschalter (Typ CEV 9610)



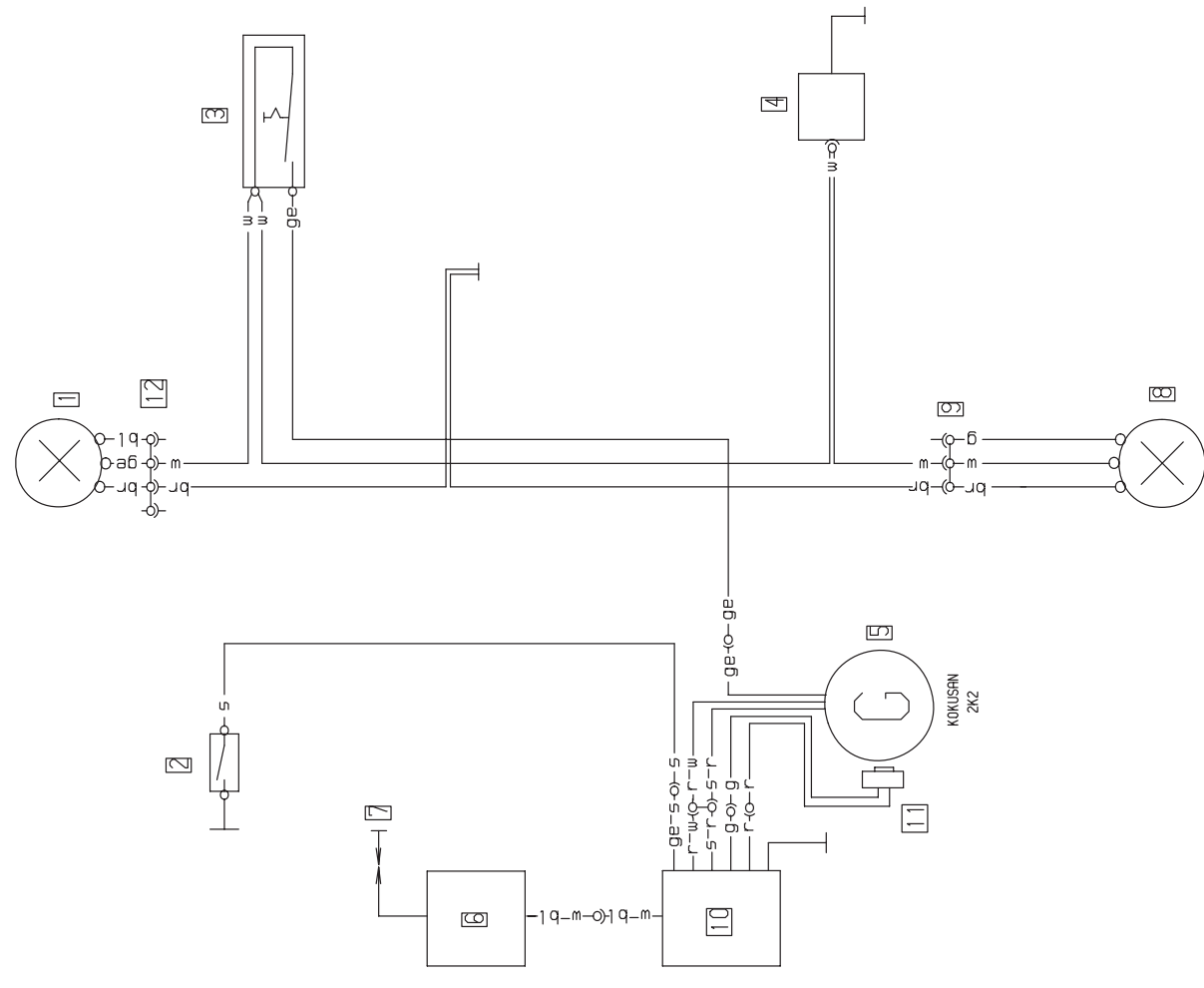


Deutsch	Englisch	Italienisch	Französisch
1 Scheinwerfer	1 headlight	1 foro	1 phare
2 Kurzschlußtaster	2 short-circuit button	2 interr cortocircuito	2 bouton d'arret
3 Lichtschalter	3 light switch	3 interr della luce	3 interr d'eclairage
4 Spannungsbegrenzer	4 voltage limiter	4 regol di tens	4 regulateur
5 Generator	5 generator	5 dinamo	5 generateur
6 Zündspule	6 ignition coil	6 bobina d'accens	6 bobine d'allumage
7 Zündkerze	7 spark plug	7 candela	7 bougie
8 Schlußlicht	8 rearlight	8 fanale posteriore	8 feu arriere
9 3-pol Stecker	9 multip cont plug (3)	9 connettore a 3 poli	9 connect multiple (3)
10 CDI-Einheit	10 CDI-unit	10 CDI-seatola	10 CDI-unite
11 Impulsgeber	11 pulser coil	11 distributore	11 generateur d'impuls
12 4-pol Stecker	12 multip cont plug (4)	12 connettore a 4 poli	12 connect multiple (4)
bl blau	bl blue	bl blu	bl bleu
br braun	br brown	br marrone	br brun
ge gelb	ge yellow	ge giallo	ge jaune
gr grau	gr grey	gr grigio	gr gris
g grün	g green	g verde	g vert
o orange	o orange	o arancione	o orange
r rot	r red	r rosso	r rouge
s schwarz	s black	s nero	s noir
v violett	v violet	v violetto	v violet
w weiß	w white	w bianco	w blanc

Spanisch
1 foro
2 interruptor o masa
3 interruptor d'luz
4 regulador de tension
5 generador
6 bobina de encendido
7 bujia
8 luz de trasera
9 conect multiple (3)
10 unidad cdi
11 generador de impuls
12 conect multiple (4)
bl azul
br marron
ge amarillo
gr gris
g verde
o naranja
r rojo
s negro
v violeta
w blanco

 <p><b>SERVICE</b></p>	<p>Model l 1</p> <p><b>125/200/250 EXC 2001</b></p>	<p>Land</p> <p><b>USA</b></p>	<p>Datum, Name</p> <p>22 06 98 KE</p>	<p>Zeichnungsnr</p> <p>1-3XCUSA</p>	<p>Datename</p> <p>1-3XCUS1</p> <p>Andstand 100-000</p>	<p>Kabelstrangbez</p> <p>vo 125 EXC USA '98</p> <p>hi 125-250 EXC '98</p>
<p>Kabelstrangnummer</p> <p>vorne 503 11 075 000</p> <p>hinten 503 11 076 000</p>						

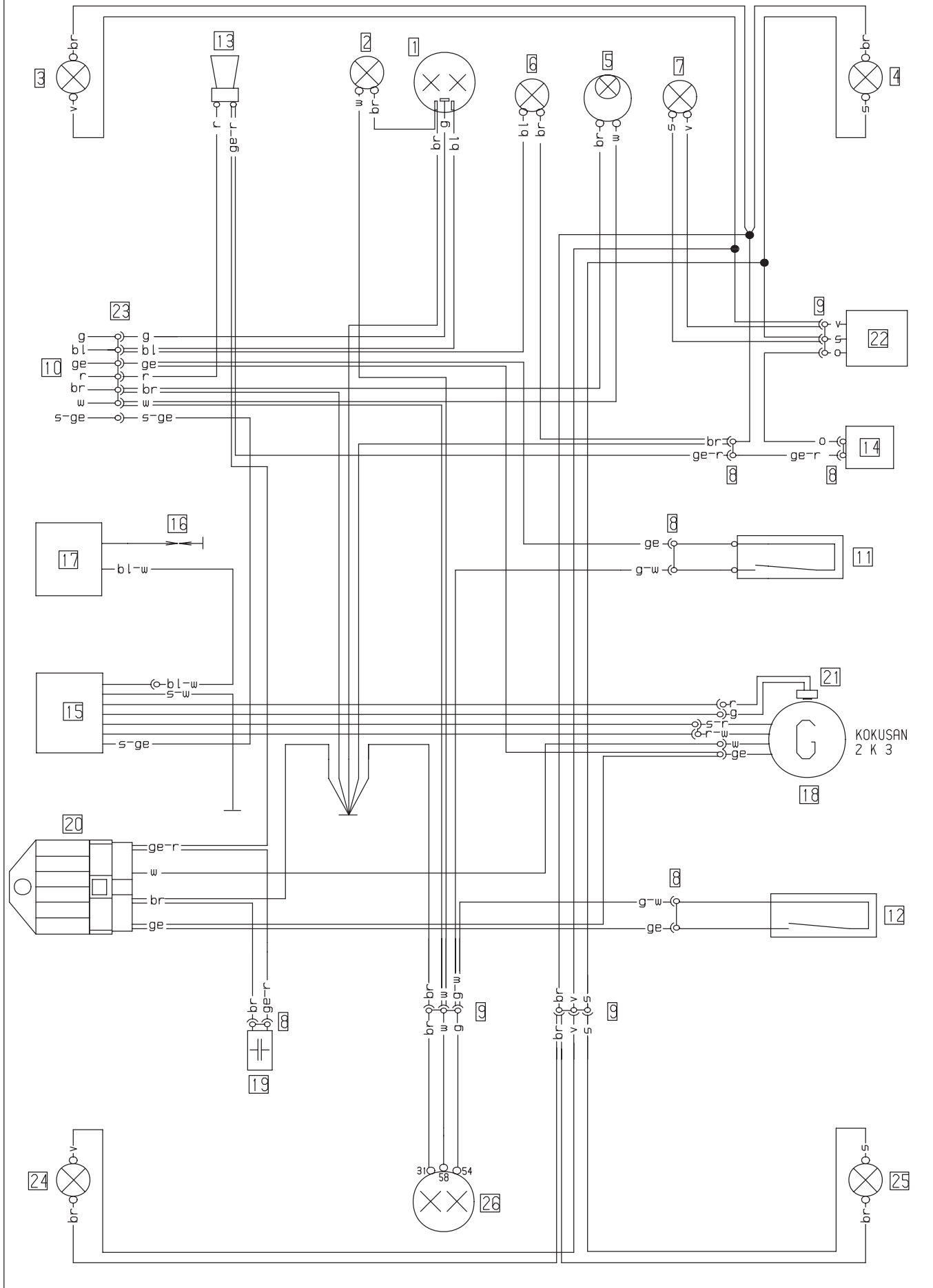
  



Deutsch	Englisch	Italienisch	Französisch
1 Scheinwerfer	1 headlight	1 fero	1 phare
2 Kurzschlußtaster	2 short-circuit button	2 interr cortocircuito	2 bouton d'arret
3 Lichtschalter	3 light switch	3 interr della luce	3 interr d'eclairage
4 Spannungsbegrenzer	4 voltage limiter	4 regol di tens	4 regulateur
5 Generator	5 generator	5 dinamo	5 generateur
6 Zündspule	6 ignition coil	6 bobina d'accens	6 bobine d'allumage
7 Zündkerze	7 spark plug	7 candela	7 bougie
8 Schlußlicht	8 rearlight	8 fanale posteriore	8 feu arriere
9 3-pol Stecker	9 multip cont plug (3)	9 connettore a 3 poli	9 connect multiple (3)
10 CDI-Einheit	10 CDI-unit	10 CDI-seatola	10 CDI-unite
11 Impulsgeber	11 puiser coil	11 distributore	11 generateur d'impuls
12 4-pol Stecker	12 multip cont plug (4)	12 connettore a 4 poli	12 connect multiple (4)
bl blau	bl blue	bl blu	bl bleu
br braun	br brown	br marrone	br brun
ge gelb	ge yellow	ge giallo	ge jaune
gr grau	gr grey	gr grigio	gr gris
g grün	g green	g verde	g vert
o orange	o orange	o arancione	o orange
r rot	r red	r rosso	r rouge
s schwarz	s black	s nero	s noir
v violett	v violet	v violetto	v violet
w weiß	w white	w bianco	w blanc

Spanisch
1 fero
2 interruptor a masa
3 interruptor d' luz
4 regulador de tension
5 generador
6 bobina de encendido
7 bujia
8 luz de trasera
9 conect multiple (3)
10 unidad cdi
11 generador de impuls
12 conect multiple (4)
bl azul
br marron
ge amarillo
gr gris
g verde
o naranja
r rojo
s negro
v violeta
w blanco



# KTM 125-380 EXC 2001

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 Tachobeleuchtung	5 speedometer light	5 luce di tachimetro	5 éclair comp vitesse
6 Fernlichtkontrolle	6 high beam indicator	6 spia abbagliante	6 témoin feu route
7 Blinkerkontrolle	7 turn indicator	7 spia lampeggiatori	7 témoin 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

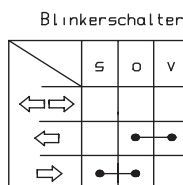
Art No 3206004 - E

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 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


Spanisch
1 faro
2 luz de posicion
3 interm izquierdo delantero
4 intermitente derecho delantero
5 luz tacometro
6 lampara aviso luces largas
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 intermitente
15 CDI
16 bujia
17 bobina de encendido
18 generador
19 condensador
20 regulador de tension
21 generado de impulsos
22 interruptor clignoteur
23 conector multiple (6)
24 intermitente izquierdo trasero
25 intermitente derecho trasero
26 luz de freno trasero

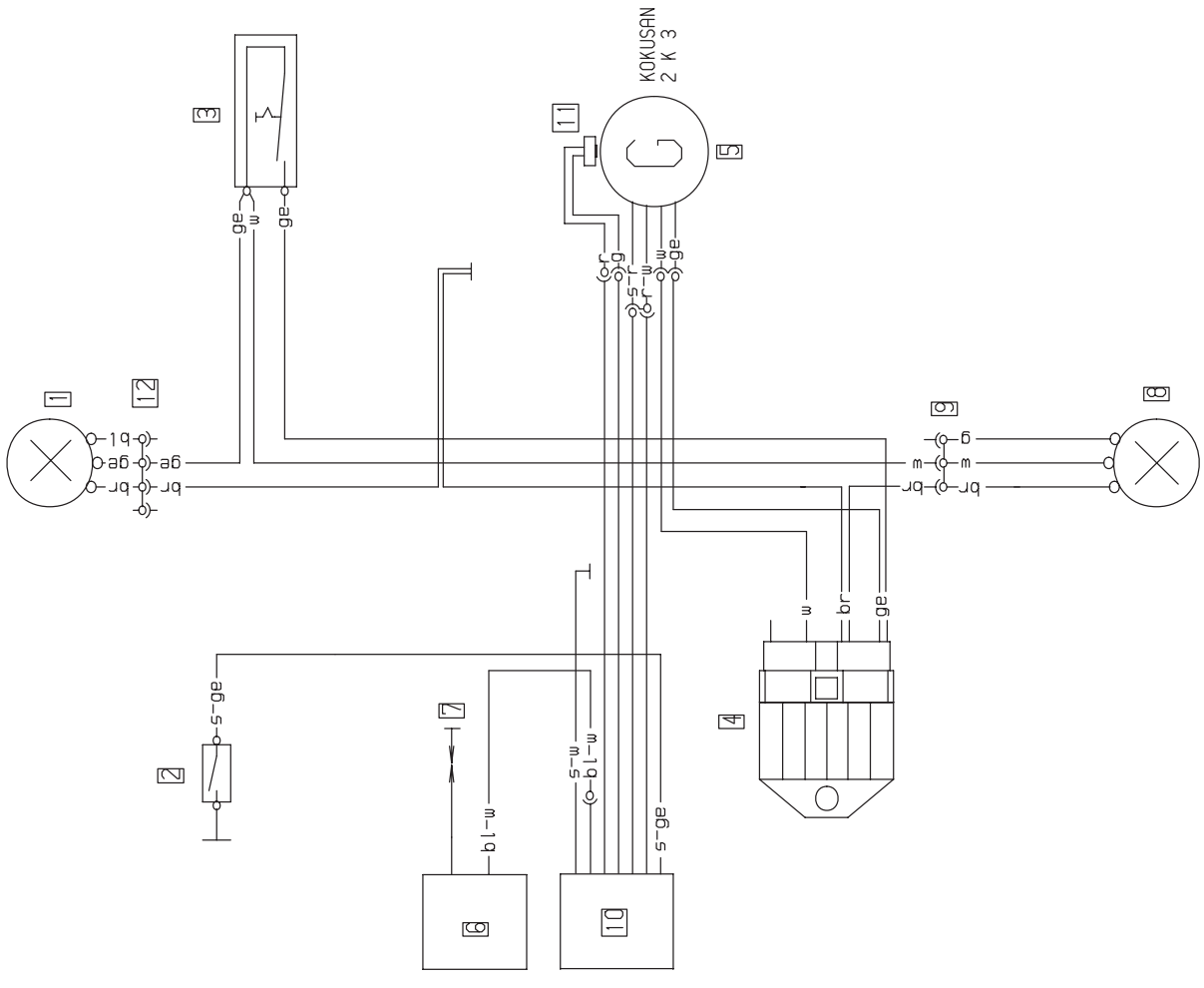
Kontaktbelegung -  
Lichtschalter (Typ CEV 9610)

	g	bl	ge	w	ge /s	r	br
Lights							
LO beam	●	●	●				
Hi beam		●	●	●			
Horn						●	●
Engine off					●	●	
	5	2	1	3	6	4	



Repair manual KTM 250 / 300 / 380

 <b>SERVICE</b> <small>SPORTMOTORCYCLES</small>	Modell <b>300/380 EXC 2001</b>	Kabelstrangnummer vorne 523 11 075 000 hinten 503 11 076 000	Land USA	Datum, Name 10 04 00 KE	Zeichnungsnr 380XCUSA	Dateiname 30380USA Ändernd 100400	Kabelstrangbezeichnung vo 200 EXC USA '98 hi 300-380 EXC '98
---	-----------------------------------	--	-------------	----------------------------	--------------------------	--	--



Deutsch	Englisch	Italienisch	Französisch
1 Scheinwerfer	1 headlight	1 faro	1 phare
2 Kurzschlußtaster	2 short-circuit button	2 interr cortocircuito	2 bouton d'arrêt
3 Lichtschalter	3 light switch	3 interr della luce	3 interr d'eclairage
4 Spannungsbegrenzer	4 voltage limiter	4 regol di tens	4 regulateur
5 Generator	5 generator	5 dinamo	5 générateur
6 Zündspule	6 ignition coil	6 bobina d'accens	6 bobine d'allumage
7 Zündkerze	7 spark plug	7 candela	7 bougie
8 Schlußlicht	8 rearlight	8 fanale posteriore	8 feu arrière
9 3-pol Stecker	9 multip cont plug (3)	9 connettore a 3 poli	9 connect multiple (3)
10 CDI-Einheit	10 CDI-unit	10 CDI-seatola	10 CDI-unite
11 Impulsgeber	11 pulser coil	11 distributore	11 générateur d'impuls
12 4-pol Stecker	12 multip cont plug (4)	12 connettore a 4 poli	12 connect multiple (4)
bl blau	bl blue	bl blu	bl bleu
br braun	br brown	br marrone	br brun
ge gelb	ge yellow	ge giallo	ge jaune
gr grau	gr grey	gr grigio	gr gris
g grün	g green	g verde	g vert
o orange	o orange	o arancione	o orange
r rot	r red	r rosso	r rouge
s schwarz	s black	s nero	s noir
v violett	v violet	v violetto	v violet
w weiß	w white	w bianco	w blanc

Spanisch
1 faro
2 interruptor a masa
3 interruptor d' luz
4 regulador de tension
5 generador
6 bobina de encendido
7 bujia
8 luz de trasera
9 conect multiple (3)
10 unidad cdi
11 generador de impuls
12 conect multiple (4)
bl azul
br marron
ge amarillo
gr gris
g verde
o naranja
r rojo
s negro
v violeta
w blanco

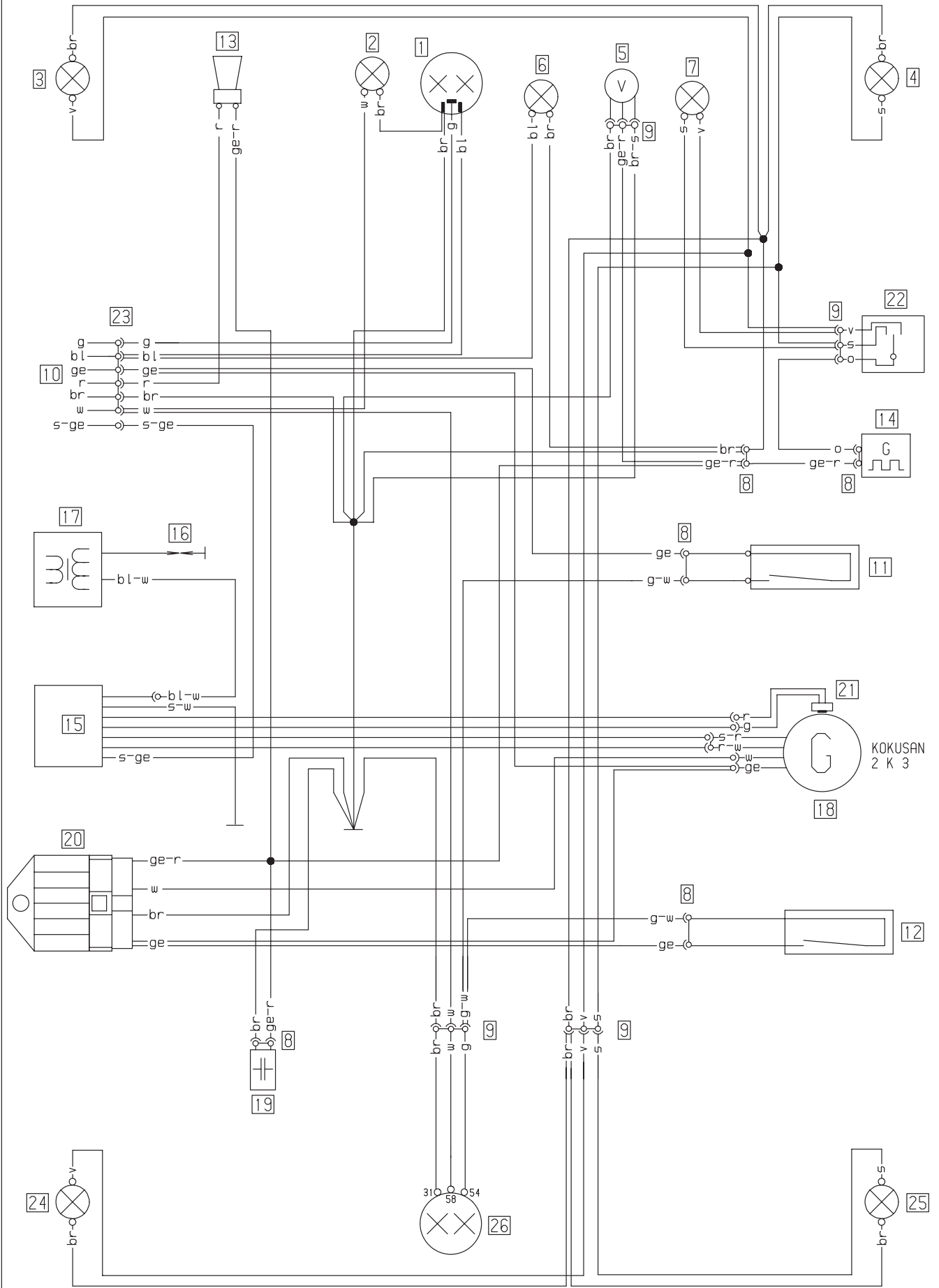
SERVICE Modell 250-300 EXC 2003

Kabelstrangnummer: vorne: 503.11.075.800  
hinten: 503.14.040.100  
Blinkerstrang vorne: 590.11.080.000  
Blinkerstrang hinten: 590.11.081.000

Land: EU/AUS

Datum, Name: 18.03.02 KE

Dateiname: EXC2003



# KTM 250-300 EXC 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
6 Fernlichtkontrolle	6 high beam indicator	6 spia abbagliante	6 témoin feu route
7 Blinkerkontrolle	7 turn indicator	7 spia lampeggiatori	7 témoin 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

Art No 3206004 - E

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 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

Spanisch
1 faro
2 luz de posicion
3 interm. izquierdo delantero
4 intermitente derecho delantero
5 tacometro
6 lampara aviso luces largas
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
15 CDI
16 bujia
17 bobina de encendido
18 generador
19 condensador
20 regulador de tension
21 generador de impulsos
22 interruptor clignoteur
23 conector multiple (6)
24 intermitente izquierdo trasero
25 intermitente derecho trasero
26 luz de freno trasero

Kontaktbelegung - Lichtschalter

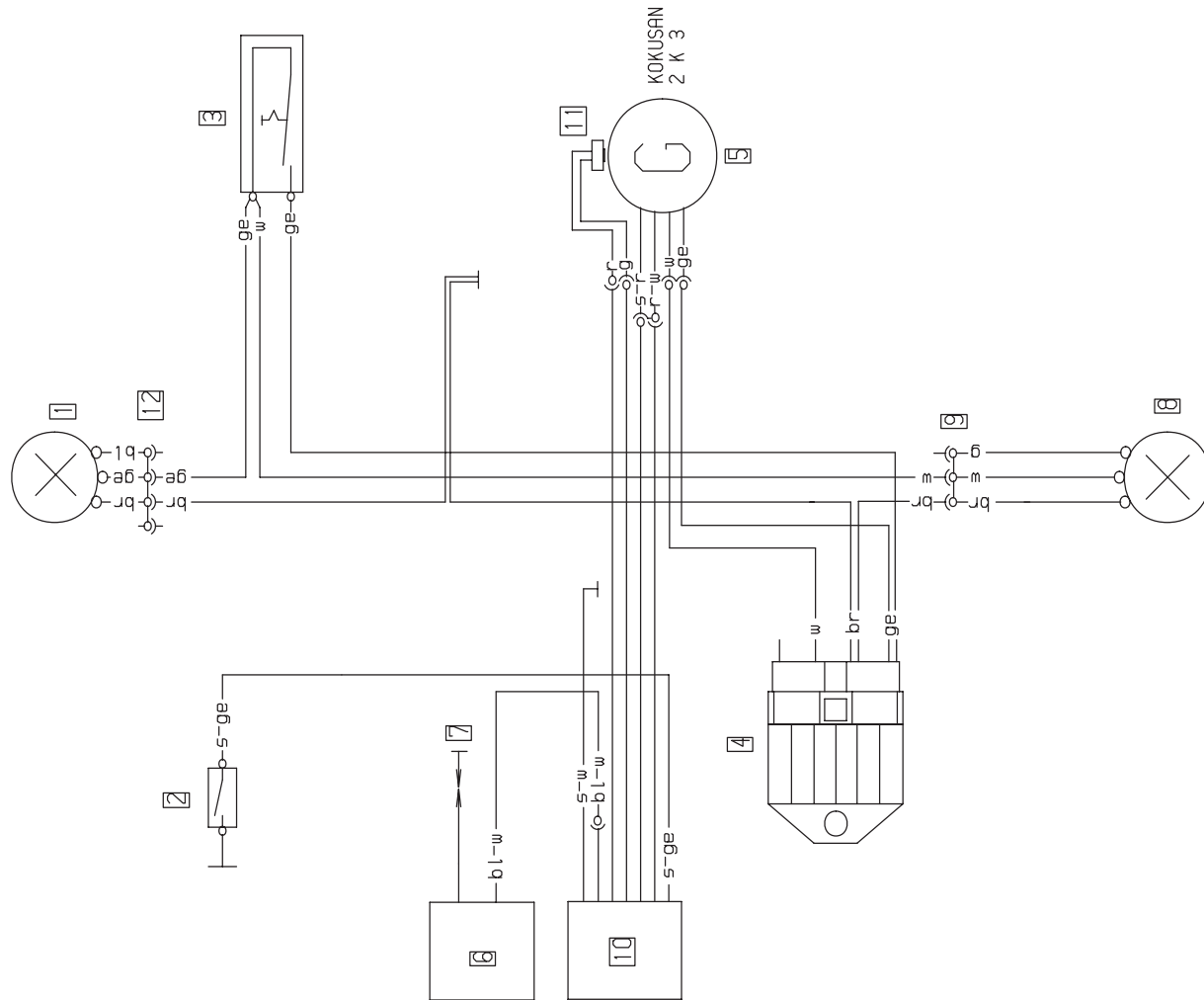
	g	bl	ge	w	s/ ge	r	br
Lights ●							
LO beam 	●	●	●				
Hi beam 		●	●	●			
Horn 						●	●
Engine off 					●	●	
	5	2	1	3	6	4	

Blinkerschalter

	s	o	v
←			
→		●	●
↔	●	●	

Repair manual KTM 250 / 300 / 380





Deutsch	Englisch	Italienisch	Französisch
1 Scheinwerfer	1 headlight	1 fano	1 phare
2 Kurzschlußtaster	2 short-circuit button	2 interr cortocircuito	2 bouton d'arrêt
3 Lichtschalter	3 light switch	3 interr della luce	3 bouton d'éclairage
4 Spannungsbegrenzer	4 voltage limiter	4 regol di tens	4 regulateur
5 Generator	5 generator	5 dinamo	5 générateur
6 Zündspule	6 ignition coil	6 bobina d'accens	6 bobine d'allumage
7 Zündkerze	7 spark plug	7 candela	7 bougie
8 Schlußlicht	8 rear light	8 fanale posteriore	8 feu arrière
9 3-pol. Stecker	9 multip cont plug (3)	9 connettore a 3 poli	9 connect multiple (3)
10 CDI-Einheit	10 CDI-unit	10 CDI-seatola	10 CDI-unité
11 Impulsgeber	11 pulse coil	11 distributore	11 générateur d'impuls
12 4-pol. Stecker	12 multip cont plug (4)	12 connettore a 4 poli	12 connect multiple (4)
bl blau	bl blue	bl blu	bl bleu
br braun	br brown	br marrone	br brun
ge gelb	ge yellow	ge giallo	ge jaune
gr grau	gr grey	gr grigio	gr gris
g grün	g green	g verde	g vert
o orange	o orange	o arancione	o orange
r rot	r red	r rosso	r rouge
s schwarz	s black	s nero	s noir
v violett	v violet	v violetto	v violet
w weiß	w white	w bianco	w blanc

Spanisch	
1 fano	bl azul
2 interruptor a masa	br marron
3 interruptor d'luz	ge amarillo
4 regulador de tension	gr gris
5 generador	g verde
6 bobina de encendido	o naranja
7 bujia	r rojo
8 luz de trasera	s negro
9 conect multiple (3)	v violeta
10 unidad cdi	w blanco
11 generador de impuls	
12 conect multiple (4)	

## Free Manuals Download Website

<http://myh66.com>

<http://usermanuals.us>

<http://www.somanuals.com>

<http://www.4manuals.cc>

<http://www.manual-lib.com>

<http://www.404manual.com>

<http://www.luxmanual.com>

<http://aubethermostatmanual.com>

Golf course search by state

<http://golfingnear.com>

Email search by domain

<http://emailbydomain.com>

Auto manuals search

<http://auto.somanuals.com>

TV manuals search

<http://tv.somanuals.com>