

1 SERVICE-INFORMATION

2 GENERAL INFORMATION

3 REMOVING AND REFITTING ENGINE

4 DISASSEMBLING THE ENGINE

5 SERVICING INDIVIDUAL COMPONENTS

6 ASSEMBLING THE ENGINE

7 ELECTRICAL

8 FUEL SYSTEM

9 TROUBLE SHOOTING

10 TECHNICAL SPECIFICATIONS

11 PERIODIC MAINTENANCE SCHEDULE

12 WIRING DIAGRAM

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:

1,3,7,9,13,18,67,73,109, 111,138-163,165,180-185,187,224-233

Remove page (s)	Replace by page (s)	Insert page (s)	after page
2-3	2-3		
6-8	6-8		
7-1	7-1		
10-1B	10-1B		
10-27 to 10-46	10-27 to 10-52		
11-1	10-1		
		11-15 to 11-19	11-14
12-1	12-1		
		12-1B	12-1
12-37 to 12-39	12-37 to 12-46		

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 at 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
For example: All pages with a page number that begins with the digit 3, must be put under the index heading "Chapter 3".
- Index sheets that have not been marked with a certain chapter are for your personal convenience. The respective headings can be entered in the list of contents.

EXPLANATION - UPDATING

3.206.011-E	Repair Manual 250/300 SX, MXC, EXC Basic version Model year 2004 (Engine number with first digit "4")	7/2003
3.206.022-E	Update of Rep.Manual 3.206.011-E Model year 2005 (Engine number with first digit "5")	5/2004
3.206.032-E	Update of Rep.Manual 3.206.011-E Model year 2006 (Engine number with first digit "6")	11/2005
3.206.051-E	Update of Rep.Manual 3.206.011-E Model year 2007/08/09 (Engine number with first digit "7/8/9")	05/2008
3.206.088-E	Update of Rep.Manual 3.206.011-E Model year 2010 (Engine number with first digit "0")	02/2010

Modification / Updating:

Technical Details, Technical Specifications, Periodic Maintenance Schedule

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 procedures common in workshops 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 any 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 THE DAMAGE OF MOTORCYCLE COMPONENTS OR RENDER MOTORCYCLES UNFIT FOR RIDING !		

“NOTE“ POINTS OUT USEFUL TIPS.

Use only ORIGINAL KTM SPARE 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

In accordance with the international quality management ISO 9001 standard, KTM uses quality assurance processes that lead to the highest possible product quality.

© 2004 by KTM-SPORTMOTORCYCLE AG, Mattighofen AUSTRIA; All rights reserved; Reprint, also in extracts, with written allowance of KTM-SPORTMOTORCYCLE AG, Mattighofen only.

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 manuals - 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:

- Enter the complete item no. for the repair manual in column 1 (e.g.: **3.206.088-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.: **5-7**) 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

SPECIAL TOOLS - ENGINE	.2-2
CHECKING THE SETTING OF THE TVC SYSTEM	.2-3
ENGINE CHARACTERISTIC	.2-3
BLEEDING THE HYDRAULIC CLUTCH (UP TO MODEL 2005)	.2-4
BLEEDING THE HYDRAULIC CLUTCH (AS OF MODEL 2006)	.2-5
CHANGING THE FRONT BRAKE FLUID	.2-6
CHANGING THE REAR BRAKE FLUID	.2-7
CHECKING BRAKE PADS AND BRAKE DISCS	.2-7

SPECIAL TOOLS - ENGINE 250 / 300

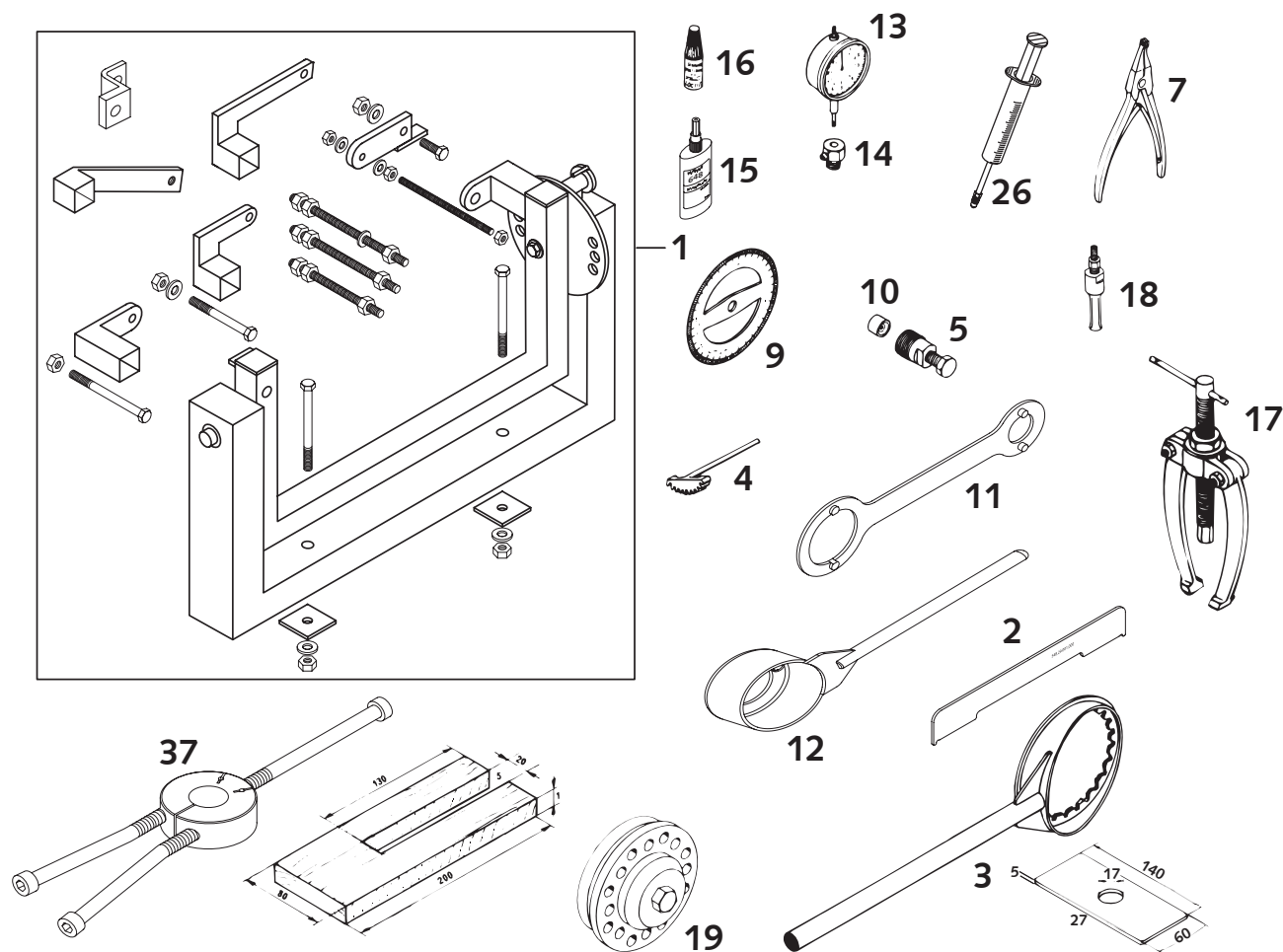
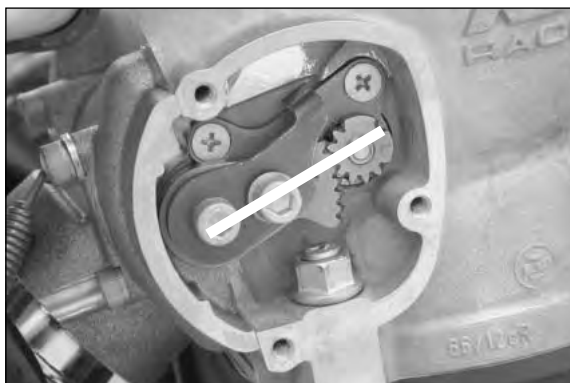


Fig.	Part no.	Description
1	560.12.001.000	Universal engine work stand
2	548.29.001.000	Adjusting plate "dimension X"
3	546.29.003.000	Clutch holder
4	560.12.004.000	Gear wheel segment
5	546.29.009.044	Magneto extractor M 27x1
5	580.12.009.000	Magneto extractor (electric starter)
7	510.12.011.000	Circlip pliers
10	510.12.016.000	Protection cap
11	546.29.012.100	Holding spanner for flywheel
12	551.29.001.000	Holding spanner for flywheel (electric starter)
13	501.12.013.000	Dial gauge 0-10 mm
14	501.12.030.000	Dial gauge support
15	584.29.059.000	Loctite 648 green 24 ccm
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
26	503.29.050.000	Vent syringe for hydraulic clutch
37	584.29.037.043	Mounting tool inner ring NJ 207



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.

- To do this, remove the left control cover.
- Connect a rev counter (either to the ignition cable or to the 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).



- If necessary, turn the adjusting screw **A**. Always note the original position (factory setting) of the adjusting screw to be able to turn it back if necessary.

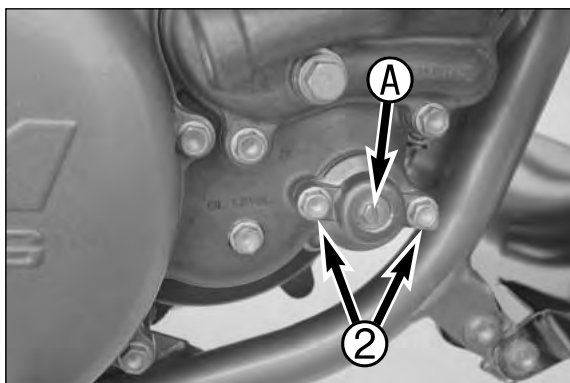
NOTE: Twisting the adjusting screw in delays the commencement of adjustment by the TVC system, twisting the adjusting screw out means that the TVC system will perform the adjustment earlier.

!

CAUTION

!

SINCE EACH ENGINE IS ADJUSTED FOR MAXIMUM PERFORMANCE ON THE TEST STAND, THE ADJUSTING SCREW SHOULD ONLY BE TURNED OR ADJUSTED IF ITS POSITION IS ACCIDENTALLY CHANGED.



Engine characteristic

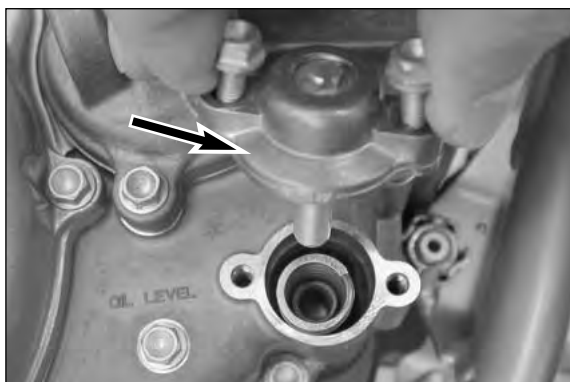
NOTE: The engine characteristic can be modified through various thicknesses of the auxiliary spring **1**. An auxiliary spring designed for "good driveability" (smooth power application) is mounted in the condition at delivery.

One of the auxiliary springs can be mounted if you prefer an "even smoother power application" or an "aggressive engine characteristic".

Auxiliary spring for good driveability (mounted in condition at delivery)
Spare part number 546.37.072.300, YELLOW color mark

Auxiliary spring for an even smoother power application (included in scope of supply) Spare part number 548.37.072.100, GREEN color mark

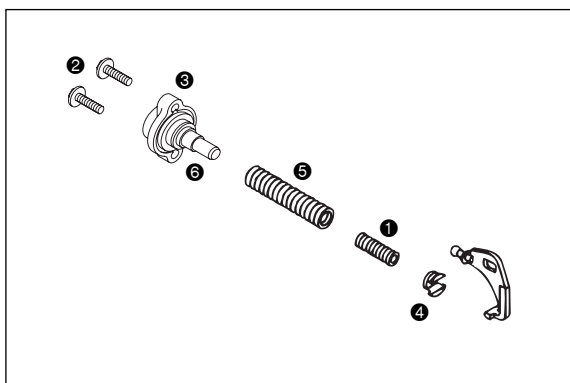
Auxiliary spring for aggressive engine characteristic (included in scope of supply). Spare part number 548.37.072.000, RED color mark

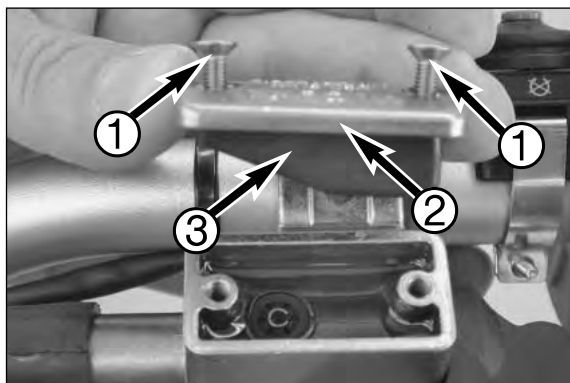


- To mount, tilt the motorcycle approx. 45° to the left, remove both screws **2** lift off the closing cover **3** lift off the closing cover **4** from the clutch cover.
- Pull both springs off the spring insert, mount the desired auxiliary spring **1** and adjusting spring **5** and slide into the clutch cover together until the recess in the spring insert **4** engages in the clutch cover.
- Check the O-ring in the closing cover, mount the closing cover ensuring that the dolly screw **6** engages in the auxiliary spring.

Make sure you do not turn the dolly screw since as will impair the engine characteristic.

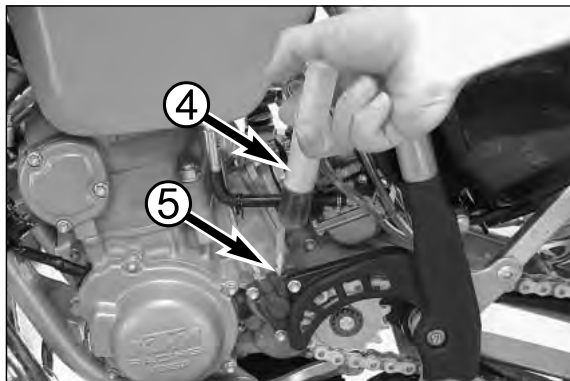
NOTE: If you prefer a smoother engine power application, you can mount a different ignition rotor and a different exhaust. Ask your KTM dealer for more information.



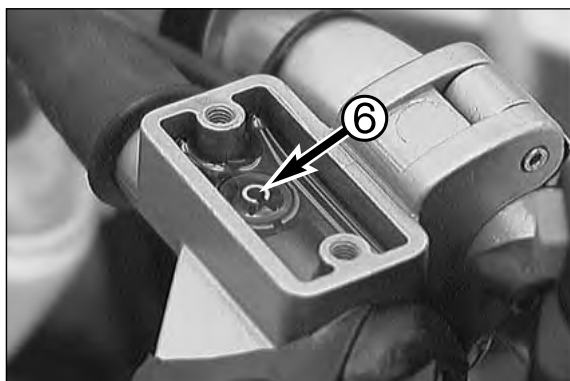


Bleeding the hydraulic clutch (up to model 2005)

- Turn the handlebar until the master cylinder is in a horizontal position.
- Remove the screws ①, the cover ② and the rubber boot ③.



- Fill the bleeder syringe ④ 503.29.050.000 with a **suitable** fluid (up to model 2005 - Motorex Kupplungs-Fluid 75).
- Remove the bleeder screw ⑤ from the slave cylinder and mount the bleeder syringe ④.



- Press oil into the system until the fluid runs out of the hole ⑥ in the master cylinder without bubbles. Occasionally extract the fluid from the master cylinder reservoir to keep it from overflowing.
- After bleeding, remove the bleeder syringe ④ and mount the bleeder screw ⑤.
- Correct the oil level with the master cylinder in a horizontal position to 4 mm under the upper edge.
- Mount the rubber boot ③ and cover ② with the screws ①.

!

CAUTION

!

- KTM USES BIODEGRADABLE, HYDRAULIC MINERAL OIL TO ACTUATE THE HYDRAULIC CLUTCH **UP TO THE 2005 MODEL**. Do NOT MIX THIS OIL WITH ANY OTHER HYDRAULIC OIL. ALWAYS USE ORIGINAL KTM HYDRAULIC OIL TO MAKE SURE YOUR CLUTCH OPERATES SMOOTHLY. NEVER REFILL WITH BRAKE FLUID.