

Product: 2005 Husaberg Motorcycle Service Repair Workshop Manual

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05

REPARATURANLEITUNG

REPAIR MANUAL

2004 - 2005

MANUEL DE REPARATION



HUSABERG
4StrokeForce

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PREFACE

This manual contains detailed instructions on repairing the engine. It was prepared according to the state of the art for this model series. We reserve the right to make modifications based on technical progress without making the respective corrections in this repair manual.

This manual does not contain a description of general shop or working methods. It does not include safety rules generally observed in workshops and is based on the assumption that the work is performed by a mechanic who has completed his vocational training.

Please read the entire manual before starting to work.



WARNING: failing to observe these instructions can be dangerous to life and limb.



CAUTION: failing to observe these instructions may damage the motorcycle/engine components or impair the motorcycle's traffic safety.



NOTE: provides useful information.

Only use **ORIGINAL HUSABERG SPARE PARTS** if parts need to be replaced.

The engine will only continue to operate safely if the prescribed service work is performed regularly and professionally.



Subject to changes in construction and design.

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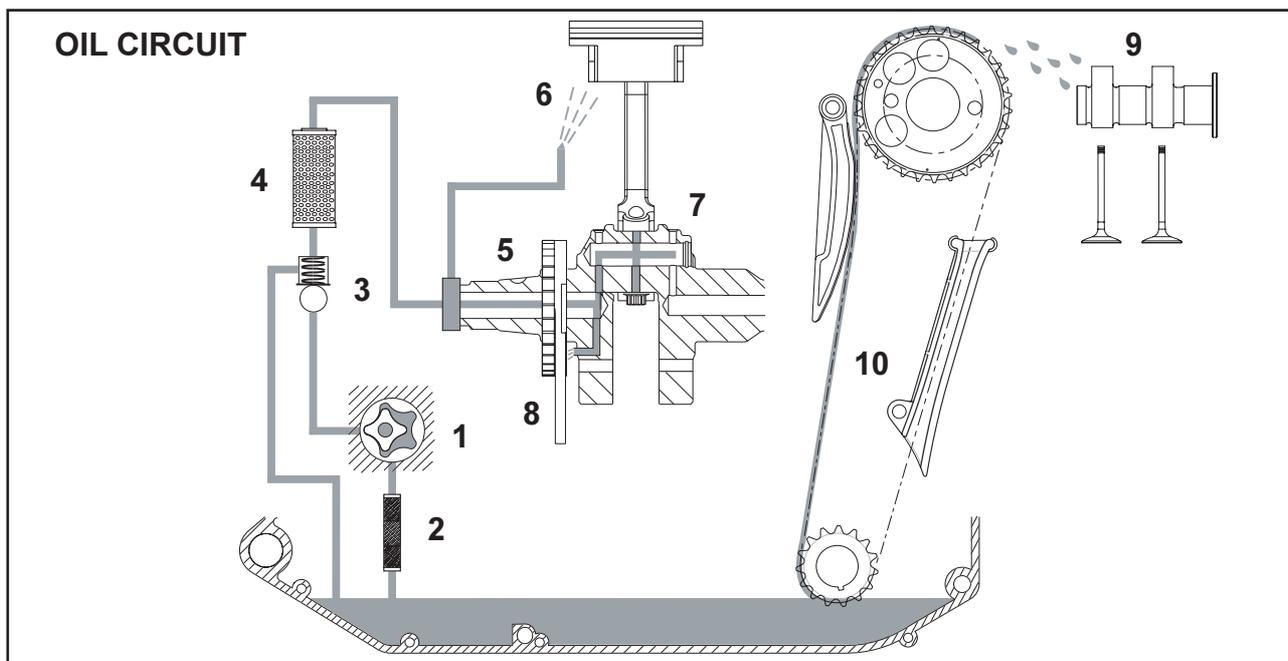
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GENERAL INFORMATION



DESCRIPTION:

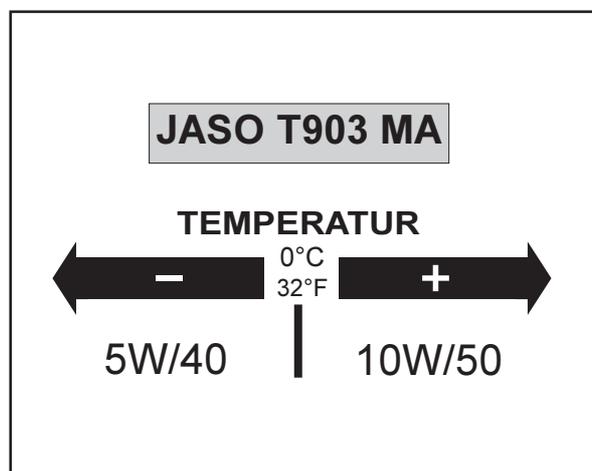
The oil pump (1) draws the engine oil from the oil sump through the oil screen (2) and pumps it past the pressure relief valve (3) to the oil filter (4). It continues to the crankshaft (5), partly branching off through a hole to lubricate and cool the piston (6) and the piston pin bearing. Once through the crankshaft, the engine oil is pumped to the conrod bearing (7) and branches off again to the bearings in the balance weight (8).

The camshaft (9) is lubricated by the engine oil which is transported to the cylinder head by the timing chain (10). On the downward movement of the piston, engine oil is pressed from the crankcase through the diaphragm valve (not depicted) to the transmission and shift mechanism.

ENGINE OIL

Only use fully synthetic brand-name engine oils (e.g.: Motorex Power Synt. 4T) that meet or exceed the Jaso T903 MA quality requirements (information on the can).

 **CAUTION: not enough engine oil or low-quality oil will lead to premature engine wear.**



CHECKING THE ENGINE OIL LEVEL

 **NOTE: the engine oil level can be checked when the engine is cold or warm.**

– Place the motorcycle on a level surface (not on the side stand).

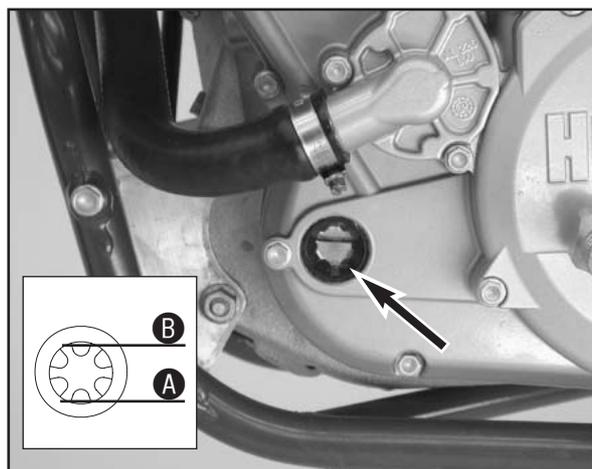
If the engine is cold, the engine oil should be visible at the lower edge (A) of the inspection glass.

If the engine is warm, the engine oil should reach the upper edge (B) of the inspection glass.

Add engine oil if necessary.

 **CAUTION: not enough engine oil or low-quality oil will lead to premature engine wear.**

– Check the engine for leakage.



GENERAL INFORMATION

CHANGING THE ENGINE OIL



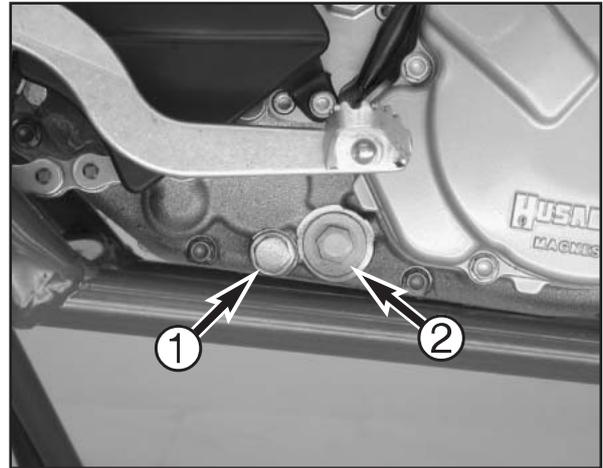
NOTE: Replace the oil screen and the oil filter when you change the engine oil.

Change the engine oil when the engine is at operating temperature.



WARNING: the engine oil will be very hot when the engine is at operating temperature – be careful not to burn yourself.

- Place the motorcycle on a level surface, remove the plug (1) and allow the oil to drain into a suitable vessel.
- Thoroughly clean the plug (with the magnet).
- After the oil is completely drained, clean the sealing area, mount the plug with a new seal ring and tighten to 20 Nm.

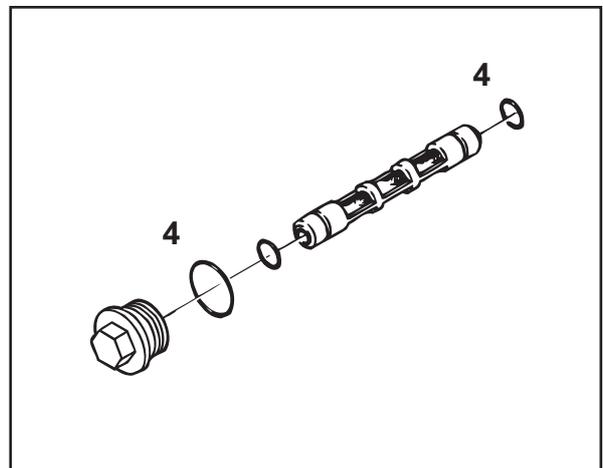
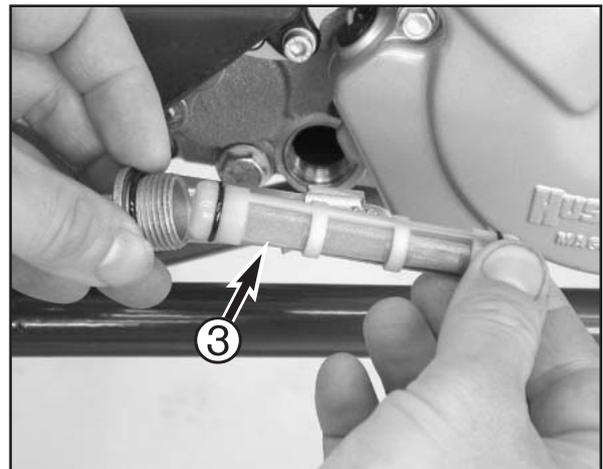


CLEANING THE OIL SCREEN



NOTE: the oil screen (3) is located in the plug with the hexagon drive (2) next to the oil drain plug on the right side of the engine.

- Dismount the plug with the oil screen, thoroughly clean the parts and blow clean with compressed air.
- Check the O-rings (4) for damage and replace if necessary.
- Insert the oil screen in the plug, mount and tighten the plug to 15 Nm.



GENERAL INFORMATION

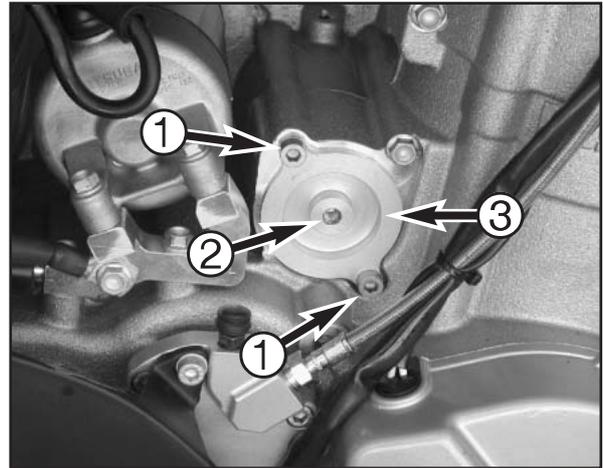
CHANGING THE OIL FILTER

- Place a suitable vessel under the engine to allow the oil to drain.
- Remove both bolts (1) and screw an M6 bolt in the center hole (2) of the oil filter cover.

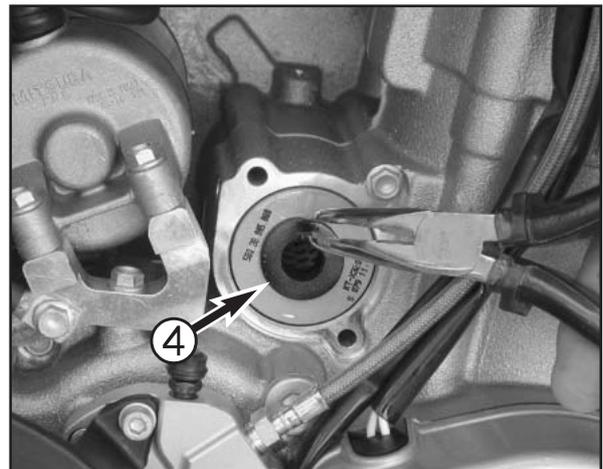


NOTE: only tighten the bolt by hand, otherwise you will damage the oil filter cover.

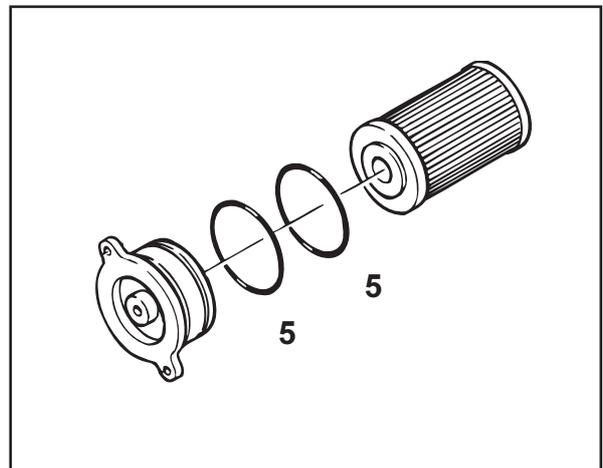
- Pull the oil filter cover (3) out of the hole with the bolt M6 and remove the bolt.



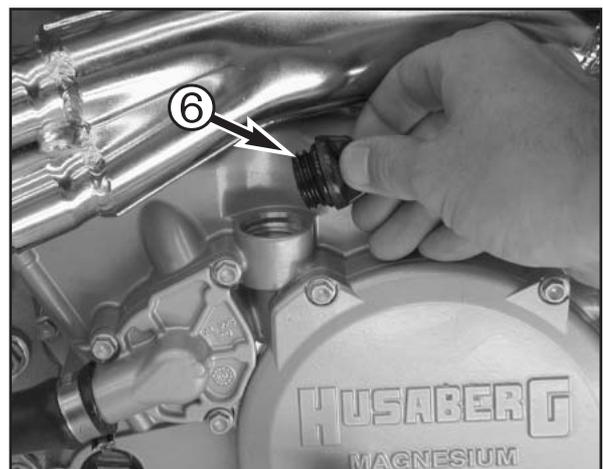
- Use pliers to pull the oil filter element (4) from the housing.
- Clean the oil filter cover, the sealing areas on the O-rings and the engine case. Check the O-rings (5) in the oil filter cover for damage and replace if necessary.



- Lay the motorcycle down and fill the oil filter housing approx. half-full with engine oil. Insert the oil filter in the housing.
- Grease the O-rings in the oil filter cover and mount the cover. Mount the bolts and tighten to 6 Nm.
- Place the motorcycle in an upright position again.



- Unscrew the oil filler plug (6) and add 1 liter of fully synthetic engine oil (e.g.: Motorex Power Synt. 4T).
- Start the engine and check all of the plugs and the oil filter cover for leakage.
- Finally, check the engine oil level and correct if necessary.



GENERAL INFORMATION

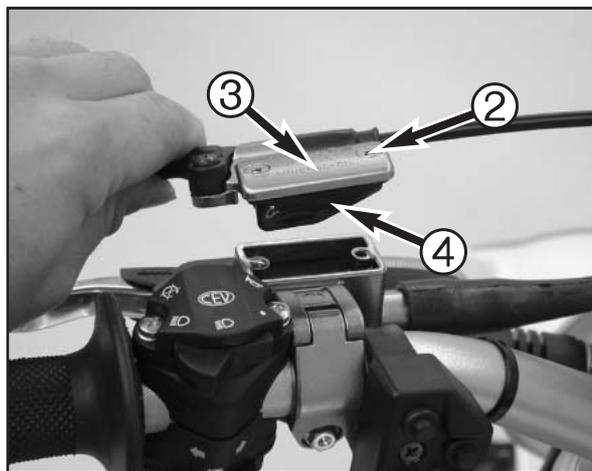
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CHECKING THE OIL LEVEL OF THE HYDRAULIC CLUTCH

To check the oil level in the master cylinder of the clutch remove the cover. For this purpose, remove screws (2) and cover (3) together with the rubber boot (4). The oil level in the horizontal-standing master cylinder should be 4 mm below the upper edge. If necessary, fill up with biodegradable hydraulic oil SAE 10 (e.g. Motorex Kupplungs-Fluid 75). Biodegradable hydraulic oil is available from your Husaberg dealer (50ml).



CAUTION: Husaberg uses biodegradable hydraulic oil for the hydraulic clutch control. Never mix biodegradable hydraulic oils with mineral oils. Never refill with mineral hydraulic oil or brake fluid.

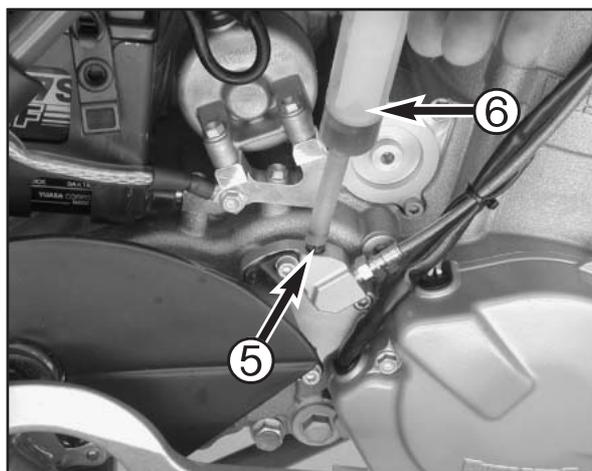


BLEEDING OF THE HYDRAULIC CLUTCH

To bleed, the cover of the master cylinder of the clutch needs to be removed. For this purpose, remove screws (2) and take off cover (3) together with rubber bellows (4). At the slave cylinder of the clutch, remove the bleeder nipple (5). In its place, mount the bleeder syringe (6) which is filled with SAE 10 hydraulic oil. Refill oil until oil is discharged from the bore (7) of the master cylinder in a bubble-free state. Make sure that the oil does not overflow. The bleeder syringe can be purchased from your Husaberg dealer. Having completed the bleeding procedure, you have to verify that the oil level in the master cylinder is correct. If necessary, fill up with biodegradable hydraulic oil SAE 10 (e.g. Motorex Kupplungs-Fluid 75). Biodegradable hydraulic oil is available from your Husaberg dealer (50ml).



CAUTION: Husaberg uses biodegradable hydraulic oil for the hydraulic clutch control. Never mix biodegradable hydraulic oils with mineral oils. Never refill with mineral hydraulic oil or brake fluid.



GENERAL INFORMATION

CLEANING

Clean the motorcycle regularly to retain the beauty of the plastic parts.

Use warm water with a commercial detergent and a sponge. Coarse dirt can be removed with a soft water jet.



CAUTION: never clean the motorcycle with a power washer or a high pressure jet. This will cause the water to reach the electric components, socket connectors, cables, bearings, carburetor, etc. and will cause these parts to malfunction or break.

- Only use commercial detergents to clean the engine. Use a brush to clean any heavily soiled areas.
- Before you start cleaning, close the exhaust pipe to prevent water from penetrating.
- After cleaning the motorcycle thoroughly with a soft water jet, dry with compressed air and a soft cloth. Drain the float chamber in the carburetor. Take a short ride until the engine reaches the operating temperature, applying the brakes while driving. The heat will cause the water to evaporate from the inaccessible engine and brake areas.
- Slide back the protection covers on the handlebar instruments to allow water that has penetrated to evaporate.
- After the motorcycle has cooled down, oil or grease all of the sliding and bearing points. Treat the chain with chain spray. Oil the fuel tap.
- To prevent defects in the electric system, apply contact spray to the emergency stop switch, the short-circuit button, the light switch and the socket connector.

PRESERVATION FOR WINTER OPERATION

If the motorcycle is used during the winter where roads will be spread with salt, precautions must be taken to protect the motorcycle against the aggressive road salt.

- Clean the motorcycle thoroughly and allow to dry after each ride.
- Treat the engine, carburetor, swing arm and all other bare or galvanized parts (except the brake disks) with a wax-based anti-corrosion agent.



WARNING: do not allow any anti-corrosion agent to get on the brake disks since this will significantly reduce the braking effect.



CAUTION: clean the motorcycle with cold water and dry thoroughly after driving on salted roads.

STORAGE

If your motorcycle is to be immobilized for a longer period of time, proceed as follows:

- Clean the motorcycle thoroughly.
- Change the engine oil, the short and the long oil filter (old engine oil contains aggressive impurities).
- Check the quantity of antifreeze and coolant.
- Allow the engine to warm up, close the fuel tap and wait until the engine stalls. Open the drain plug on the float chamber to allow any remaining fuel to drain.
- Remove the spark plug and fill approx. 5 cm³ of engine oil into the cylinder through the spark plug hole. Actuate the kickstarter 10 times to distribute the engine oil over the cylinder wall and mount the spark plug again.
- Set the piston in the compression position to close the valves.
- Drain the fuel from the tank into a suitable vessel.
- Check the tire air pressure.
- Oil the bearing points on the control levers, footrests, chain, etc.
- Dismount and charge the battery.
- The storage site should be dry and not have any extreme fluctuations in the temperature.
- Cover the motorcycle with a permeable cover or blanket. Do not use impermeable material since it will not allow any moisture to escape and cause corrosion.



CAUTION: Do not briefly run the engine of an immobilized motorcycle since the engine will not become warm enough and any vapor produced during the combustion process will condense and cause corrosion.

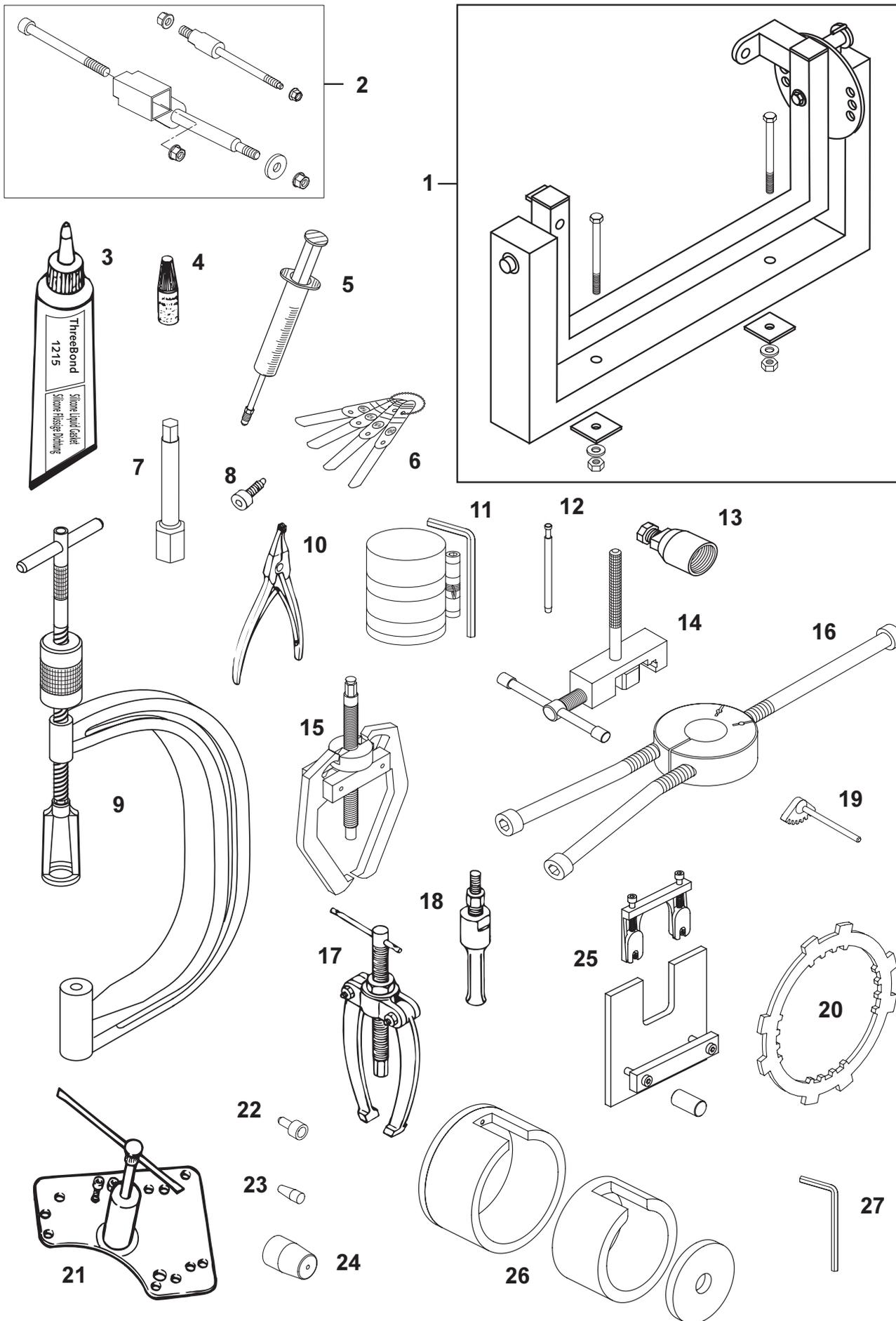
STARTING UP AFTER IMMOBILIZATION

- Connect the charged battery (check for correct polarity).
- Fill fresh fuel into the tank.
- Inspect the motorcycle as you would before each start-up (see Driving Instructions)
- Go on a short, cautious test ride

GENERAL INFORMATION

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SPECIAL TOOLS - ENGINE



GENERAL INFORMATION

SPECIAL TOOLS - ENGINE

**A
7**

FIG	PART NUMBER	DESCRIPTION
1	560.12.001.000	Universal engine work stand
2	800.29.002.000	Engine holder for universal engine work stand
3	309098	Silicone three bond sealing compound
5	503.29.050.000	Bleeder syringe for hydraulic clutch
6	590.29.041.000	Feeler gauge for valve clearance
7	590.29.072.000	16 mm spark plug wrench
8	580.30.080.000	Locking bolt
9	590.29.019.000	Valve lifter
10	510.12.011.000	Circlip pliers inverted
11	600.29.015.000	Piston ring clamp
12	590.29.026.006	6 mm limit plug gauge for valve guide
13	580.12.009.000	Rotor extractor
14	800.29.030.000	Timing chain riveting tool
15	590.29.033.000	Extractor for timing gear and camshaft bearing
16	584.29.037.037	Mounting tool for bearing inner rings on crankshaft
17	151.12.017.000	Bearing extractor
18	151.12.018.000	12-16 mm insert for bearing extractor
19	800.29.004.000	Gear segment
20	800.29.003.000	Clutch holder
21	800.29.020.000	Housing separating tool
22	800.29.031.000	Protection cover for crankshaft
23	590.29.005.010	Mounting sleeve for the shaft seal ring on the water pump
24	800.29.005.000	Mounting sleeve for the left shaft seal ring on the the crankshaft
	800.29.105.000	Mounting sleeve for the right shaft seal ring on the crankshaft
	800.29.205.000	Mounting sleeve for the shaft seal ring on the kickstarter shaft
25	800.29.035.000	Pressing tool for conrod bearing (out)
26	800.29.036.000	Pressing tool for conrod bearing (in)
27	800.29.052.000	Safety TORX TX20 for the carburetor potentiometer
	584.29.042.000	Peak voltage adapter

DISMOUNTING AND MOUNTING THE ENGINE

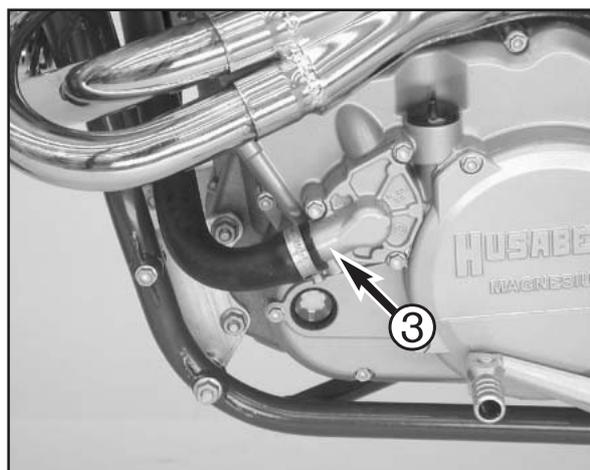
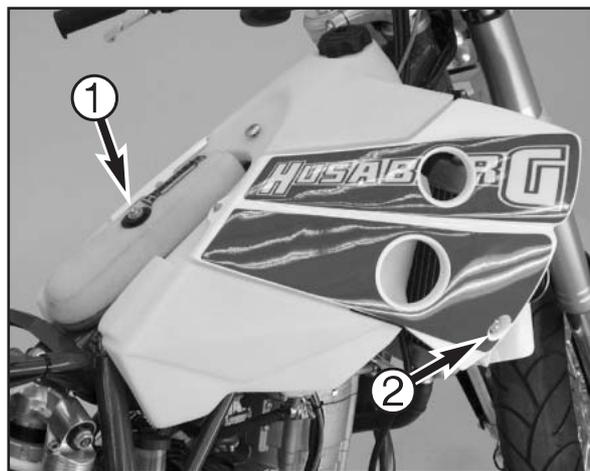
DISMOUNTING THE ENGINE

- Thoroughly clean the motorcycle and jack up on a sturdy work stand.
- Remove the seat.
- Unscrew the air filter (1).
- Close both fuel taps and disconnect the fuel hoses
- Unscrew both lateral bolts (2) on the spoiler.



NOTE: Hold the retaining sleeve on the radiator shield with pliers if it turns at the same time.

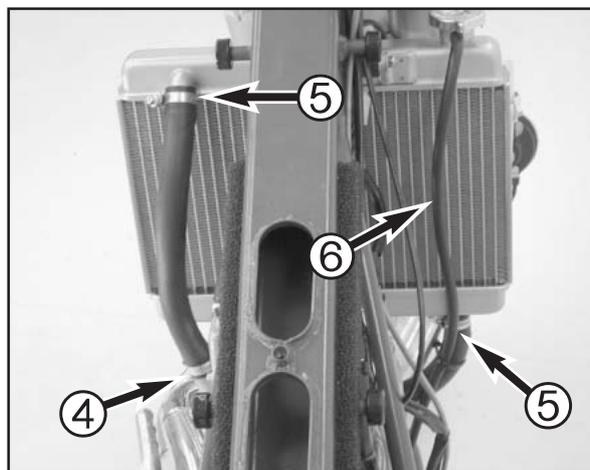
- Remove the tank with the spoilers.
 - Disconnect the ground and positive cable.
-
- Loosen the hose clamp connecting the water pump (3), remove the hose and drain the cooling liquid in a suitable vessel.



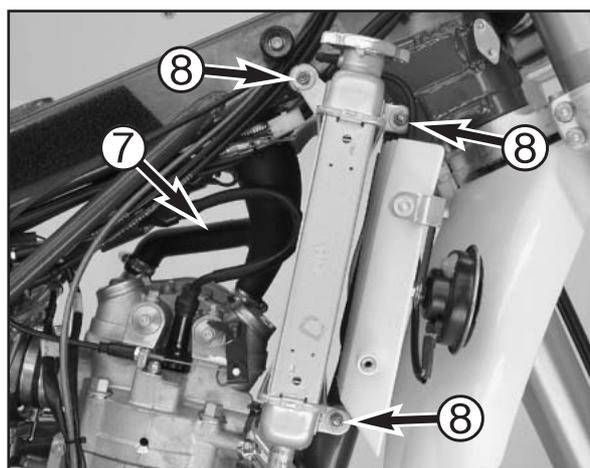
- Loosen the hose clamps on the cylinder head (4) and the radiator (5) and dismount both radiator hoses together with the overflow hose (6).



NOTE: A thermostat is installed in the FE and FS-E models starting in 2005 (see "Mounting the Engine"). The thermostat and the T-fitting do not need to be disconnected from the hoses.



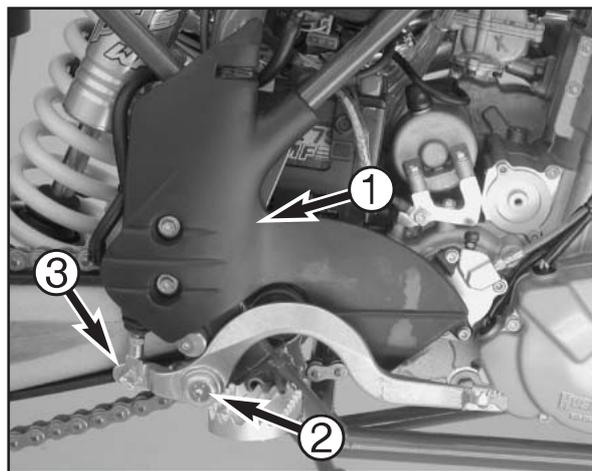
- Dismount the engine vent hose (7).
- Remove the three nuts (8) from the radiator mounting and pull the radiator out of the right side of the frame.



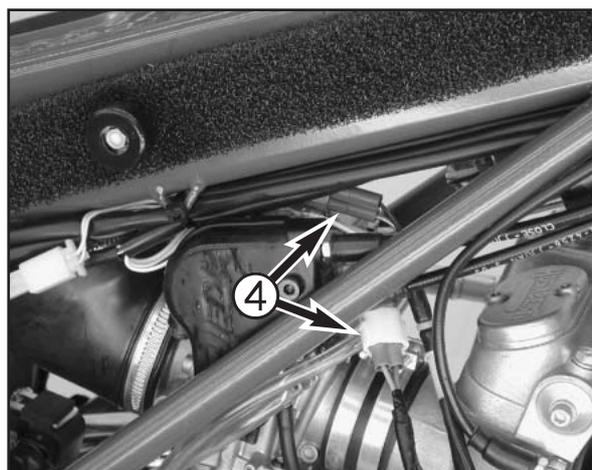
DISMOUNTING AND MOUNTING THE ENGINE

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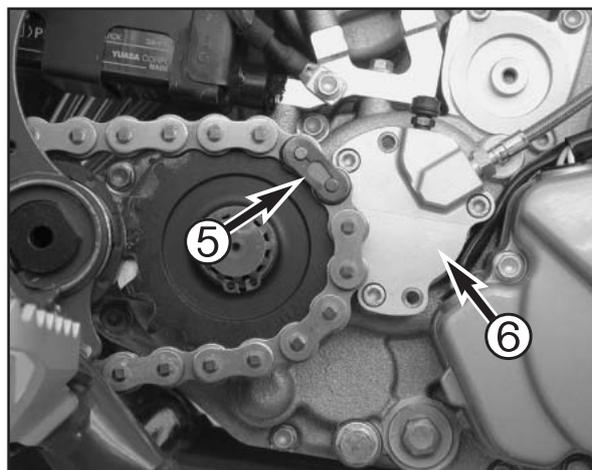
- Dismount the right frame protector (1).
- Unscrew the bearing bolt (2) on the foot brake lever and tilt the foot brake lever aside.
- Remove the retaining clip from the push rod holder (3), pull out the bolt and the foot brake lever



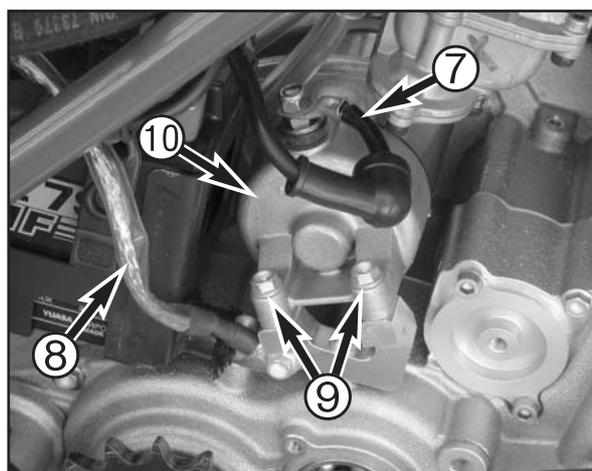
- Disconnect the generator and pickup connector (4) and remove the cable clips from the clutch line.



- Open the chain joint (5), separate the chain and remove.
- Unscrew the clutch slave cylinder (6) and let it hang to the side.

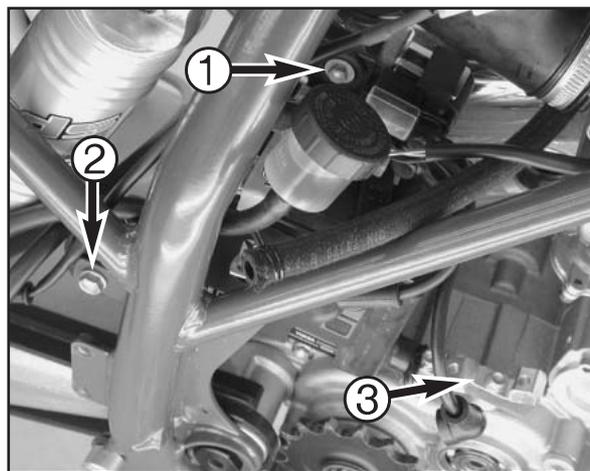


- Dismount the positive starter cable (7) from the starter engine.
- Unscrew the engine ground connection (8).
- Remove both bolts (9) and pull the starter engine (10) out of the engine case.



DISMOUNTING AND MOUNTING THE ENGINE

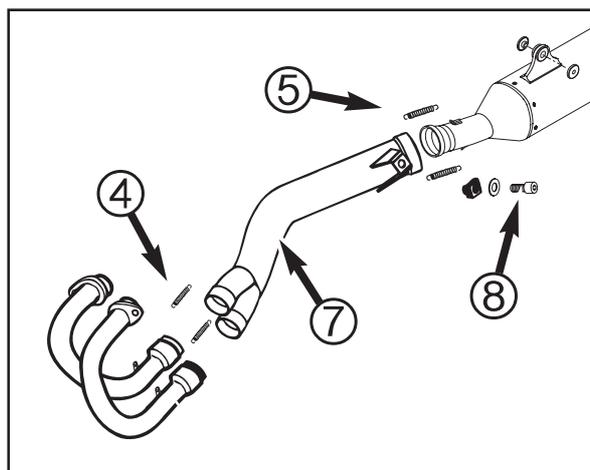
- Remove the retaining bolt from the starter relay (1), disconnect the connectors from the starter relay and lift out the starter relay.
- Unscrew the nut on the chain roller bolt (2).
- Dismount the starter holding bridge (3) and lift the battery out of the frame together with the battery case.



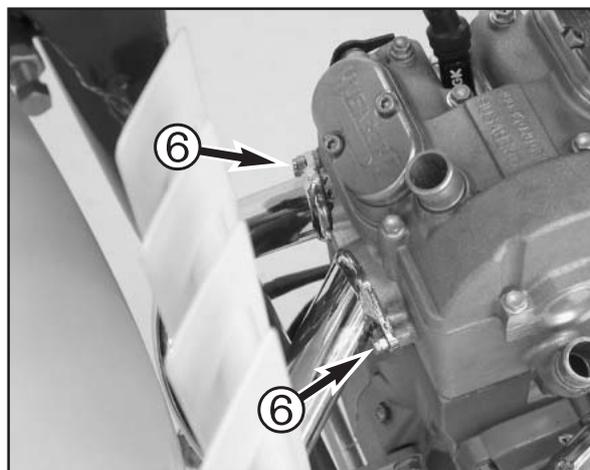
- Use a suitable tool (hooked handle) to detach the front (4) and rear (5) exhaust springs.



NOTE: Only 1 rear exhaust spring (5) is installed starting with the 2005 model year.



- Remove the exhaust nuts (6) from the cylinder head and pull both exhaust pipes out of the intermediate exhaust pipe (7) one at a time.
- Unscrew the bolt (8) and remove the intermediate exhaust pipe.



- Loosen the clamps on the carburetor connection boots and remove the rear carburetor connection boot (9).
- Pull the carburetor out of the front connection boot and attach to the frame.



NOTE: leave the carburetor in the frame if it does not need to be serviced.

Move the carburetor vent hoses towards the rear.

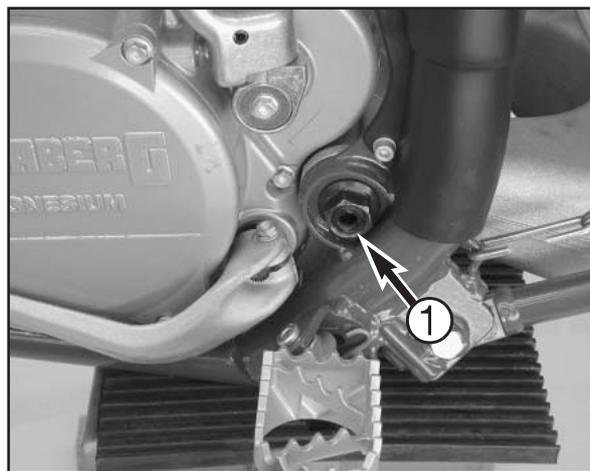
- Disconnect the spark plug connector and separate the decompression cable from the cylinder head.



DISMOUNTING AND MOUNTING THE ENGINE

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- Remove the nut from the swing arm pivot (1) and knock out the swing arm pivot with a suitable pipe.
- Pull the swing arm towards the back and let it rest against the frame.

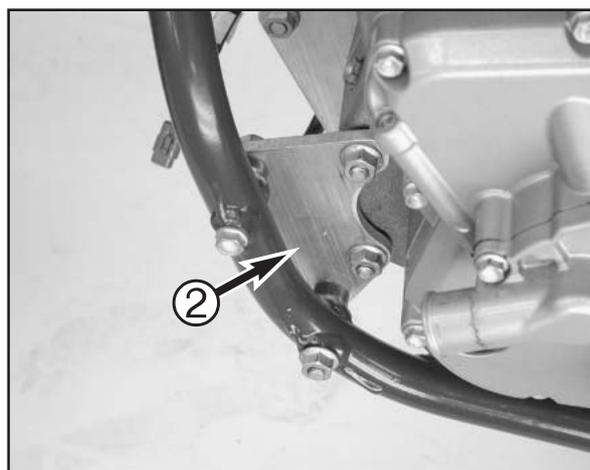


- Unscrew the engine mounting plates (2) and remove the bolts.



NOTE: hold the engine to prevent it from tilting out of the frame.

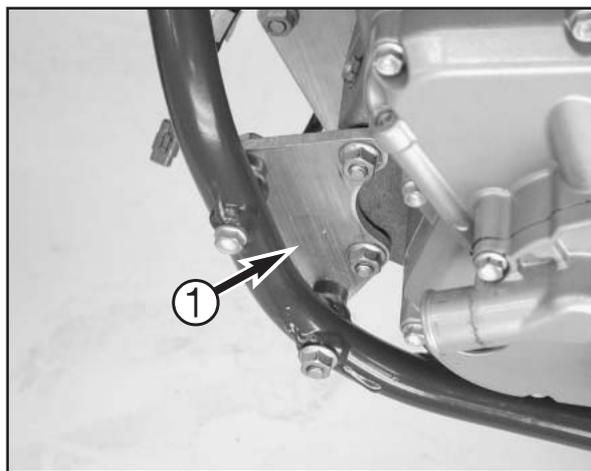
- Lift the engine and lift out of the frame towards the left.



DISMOUNTING AND MOUNTING THE ENGINE

MOUNTING THE ENGINE

- Lift the engine into the frame, position the engine mounting plates (1), insert the bolts and screw on the nuts but do not tighten yet.



- Position the swing arm and push in the swing arm pivot (2) from the right until it touches the engine.
- Lift the engine until the swing arm pivot can be pushed through the engine case, gently tapping with a plastic hammer if necessary.
- Screw the nut on the swing arm pivot and tighten to 100 Nm.
- Tighten the nuts on the engine mounting plates to 25 Nm.



- Insert the carburetor in the front carburetor connection boot and tighten the clamps.
- Mount the rear carburetor connection boot (3) and tighten the clamps

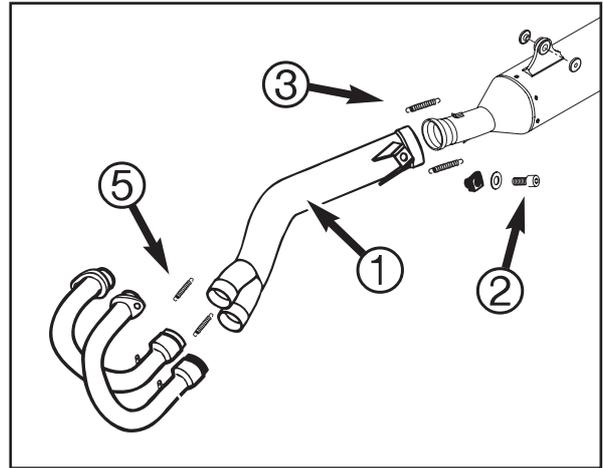


DISMOUNTING AND MOUNTING THE ENGINE

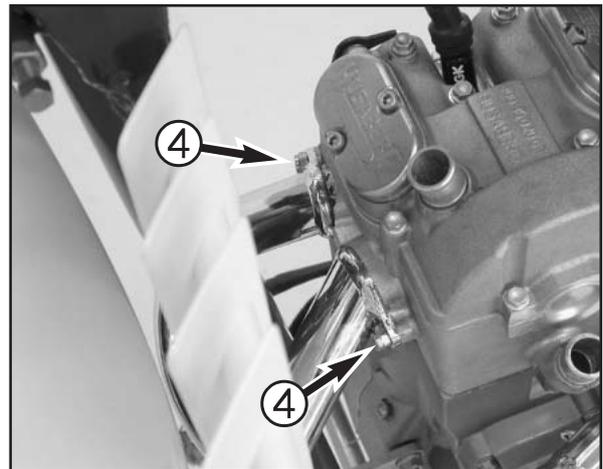
- Mount the intermediate exhaust pipe (1) and tighten the bolt (2).
- Use a suitable tool (hooked handle) to mount the rear exhaust springs (3).



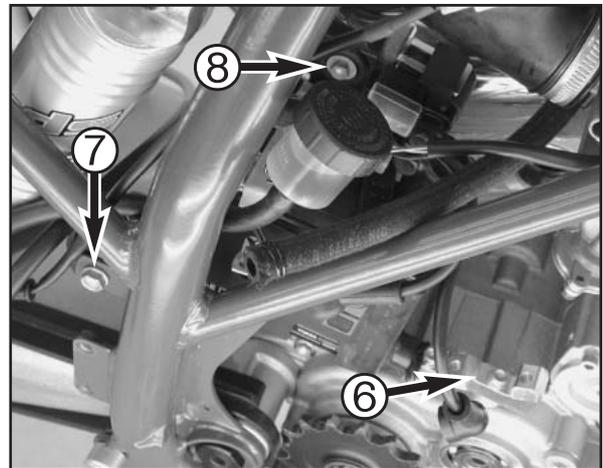
NOTE: Only 1 rear exhaust spring (3) is installed starting with the 2005 model year.



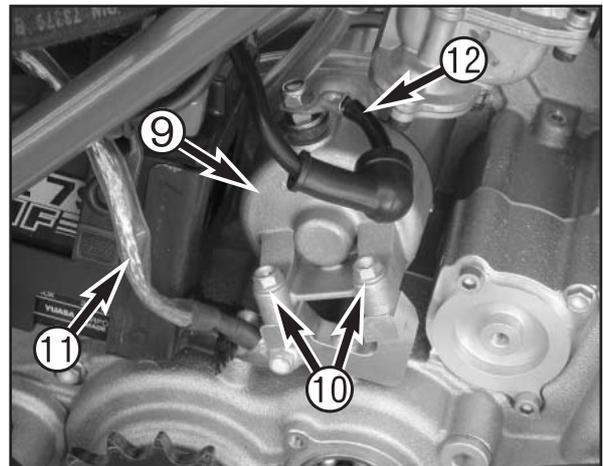
- Apply copper paste to the front exhaust pipe at the connections to the cylinder head and mount.
- Screw on the exhaust nuts (4).
- Mount the front exhaust springs (5).



- Place the battery and battery case in the frame.
- Screw on the starter holding bridge (6).
- Mount the battery case and tighten the nut on the chain roller bolt (7).
- Mount the starter relay and fix with the bolt (8), attach the connector.

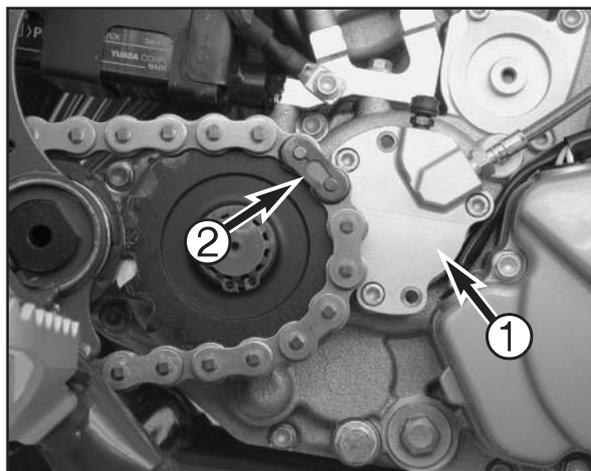


- Grease the O-ring on the starter engine and mount the starter engine (9), tighten the bolts (10) to 10 Nm.
- Screw on the engine ground connection (11) and the positive starter cable (12).

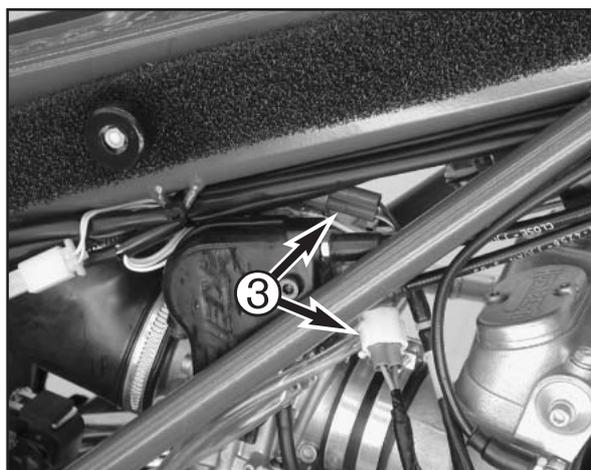


DISMOUNTING AND MOUNTING THE ENGINE

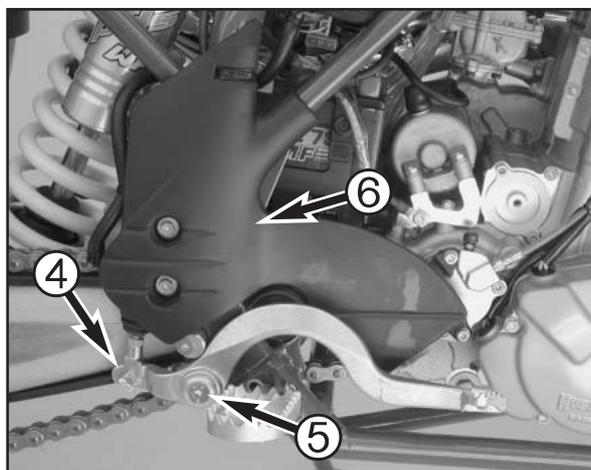
- Mount the clutch slave cylinder (1) and tighten the bolts to 6 Nm.
- Position the chain and mount the chain joint (2).



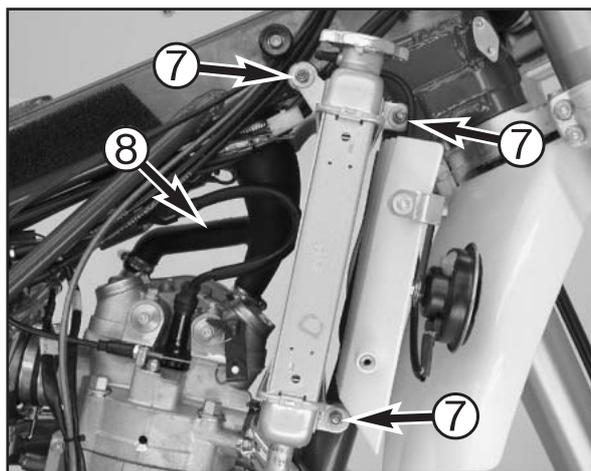
- Connect the generator and pickup connector (3) and fasten the wiring harness to the clutch line with cable clips.



- Mount the bolt for the push rod holder (4) and secure with the retaining clip.
- Position the foot brake lever, secure the bearing bolt (5) with Loctite 243 and tighten the bearing bolt to 10 Nm.
- Screw on the frame protector (6) and secure with cable clips.



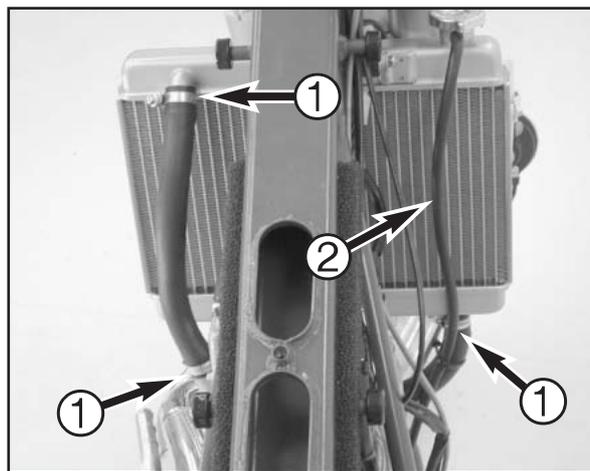
- Slide the radiator into the frame from the right and screw on with the 3 nuts (7).
- Mount the engine vent hose (8) and tighten the hose clamps.



DISMOUNTING AND MOUNTING THE ENGINE

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- Mount both radiator hoses and tighten the hose clamps (1).
- Connect the overflow hose (2) and attach to the frame with cable clips.



FE/FS MODELS FROM 2005

- Mount the radiator hoses with the thermostat and T-fitting as illustrated. Tighten the 10 hose clamps or press together with the pliers 600.29.057.000.

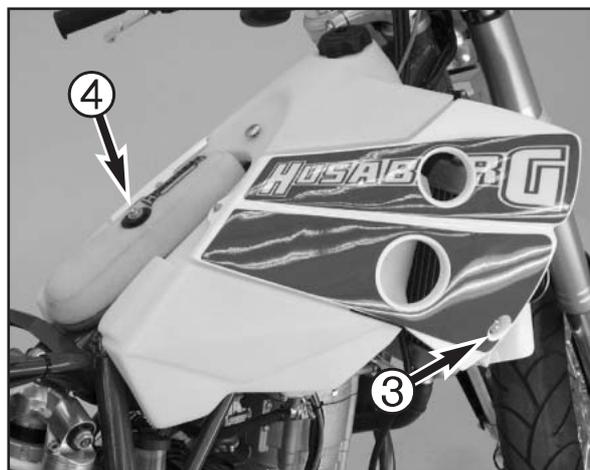


CAUTION: make sure you mount the thermostat in the right direction (screw heads facing up).

- Mount the overflow hose (2) and attach to the frame with cable clips.



- Connect the battery cables.
- Mount the tank and tighten the two bolts (3) on the side of the spoiler.
- Connect both fuel hoses and open the fuel taps.
- Mount the air filter (4) and screw tight.
- Mount the seat.
- Lift the motorcycle off the engine work stand.
- Bleed the cooling system.
- Check the engine oil level.
- Check the oil level and cooling liquid level again after a short, cautious test ride.

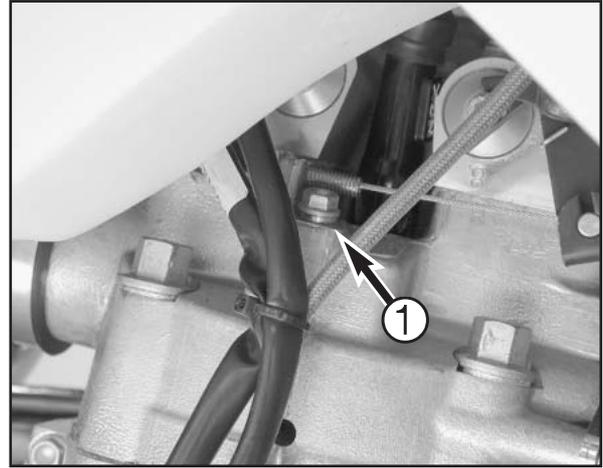


DISMOUNTING AND MOUNTING THE ENGINE

BLEEDING THE COOLING SYSTEM

- Add cooling liquid until it reaches approx. 10 mm over the radiator fins.
- Open the bleeder bolt (1) on the cylinder head until cooling liquid escapes without bubbles, tighten the bleeder bolt again to 6 Nm.

Check the cooling liquid level again after another short ride and correct if necessary.



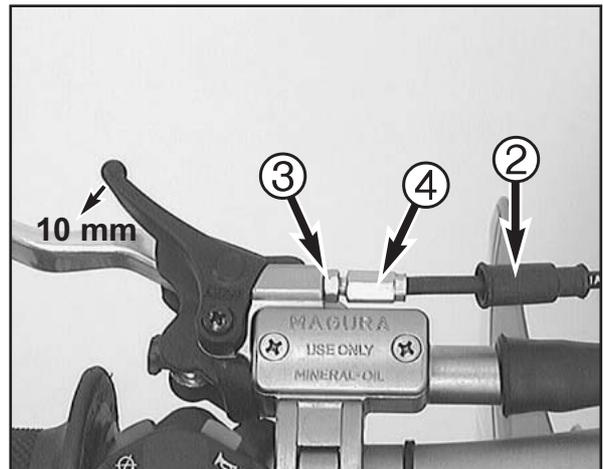
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CHECKING THE ADJUSTMENT OF THE HAND DECOMPRESSION CABLE

- Start the engine and slowly pull the hand decompression lever at idling speed until you feel the thumping of the rocker arm on the lever. The free travel until you feel the thumping should be approx. 10 mm measured at the outer end of the lever. Correct the free travel if necessary.
- To adjust, push back the protection cover (2), loosen the counternut (3) and adjust the adjustment screw (4) as required. Tighten the counternut and slide the protection cover into place.



CAUTION: no free travel in the decompression lever will lead to engine damage.

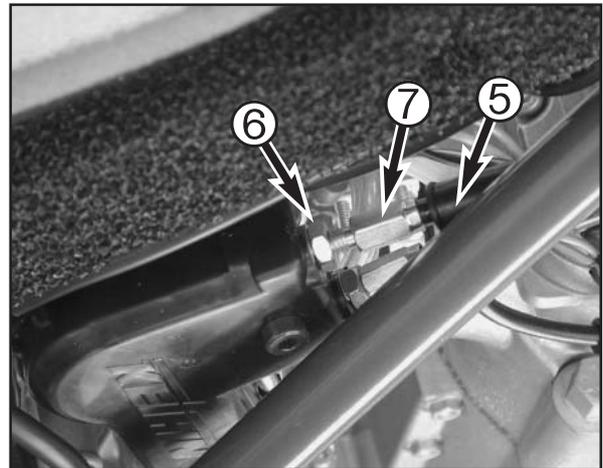


ADJUSTING THE THROTTLE CABLES



NOTE: The throttle grip should always have 3-5 mm free travel. In addition, the idling speed should not change with the engine running if the handlebar is turned all the way to the left or right.

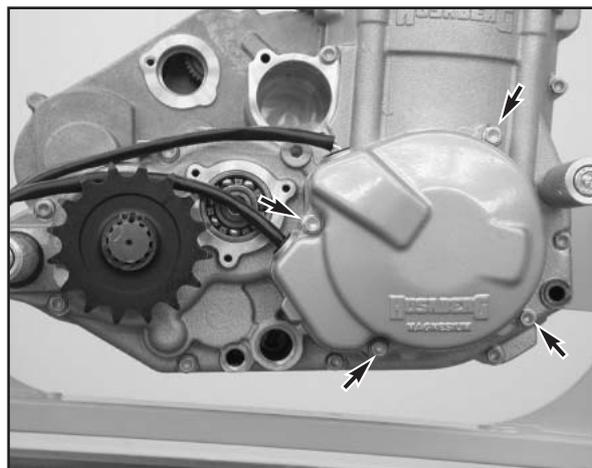
- To adjust the throttle cables, remove the seat and tank with the spoilers. Push back the protection cover (5), loosen the counternut (6) and adjust the adjusting screw (7) as required. Turning the adjusting crew in a counterclockwise direction will reduce the free travel, turning it in a clockwise direction will increase the free travel.
- Tighten the counternut and check the throttle grip for smooth operation.
- Mount the tank and the seat.



DISASSEMBLING THE ENGINE

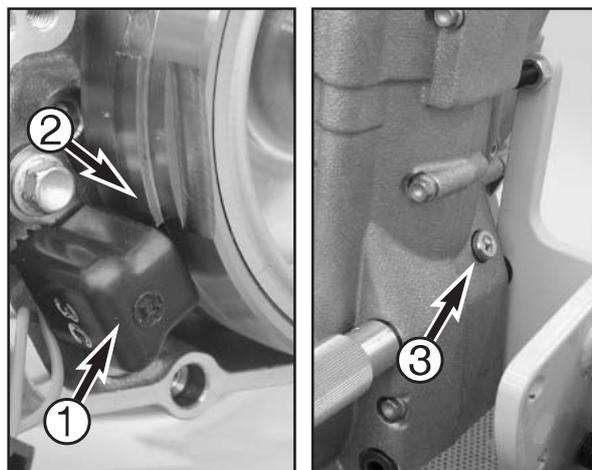
- Thoroughly clean the outside of the engine and clamp on a universal engine work stand.
- Drain the engine oil, remove the oil filter and the oil screen (see Chapter A).
- Remove the kickstarter and the shift lever.

- Remove the circlip from the engine sprocket with suitable pliers, pull the engine sprocket off the shaft.
- Remove the 4 bolts from the generator cover and remove the generator cover.
- Pull both dowels from the housing and discard the gasket.
- Unscrew the spark plug with the spark plug wrench 590.29.072.000.



LOCKING THE ENGINE

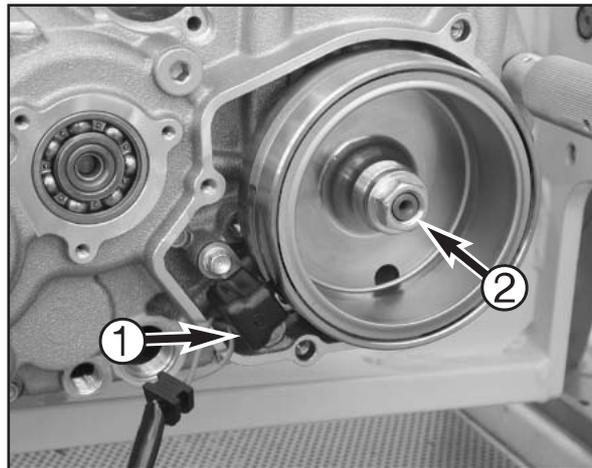
- Turn the crankshaft in a counterclockwise direction until the pickup sensor (1) is aligned with the edge of the shim (2) welded onto the rotor.
- Remove the plug and the copper gasket and screw in the locking bolt (3) 580.30.080.000 by hand, turning the crankshaft back and forth to allow the locking bolt to engage in the recess in the crankshaft.



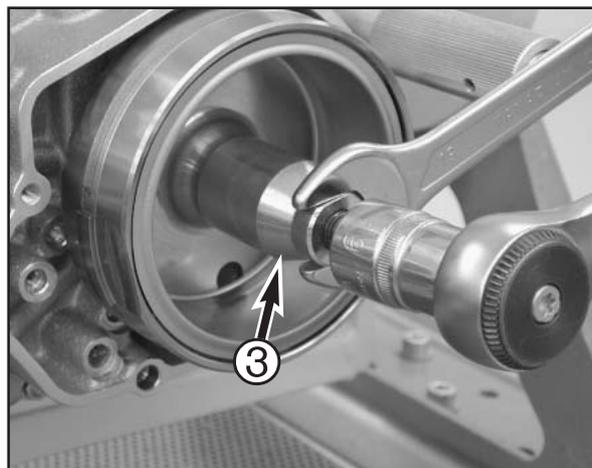
DISASSEMBLING THE ENGINE

REMOVING THE ROTOR

- Remove the pickup sensor (1).
- Loosen the rotor nut (2) (17 mm – LH thread!) and remove together with the corrugated washer.

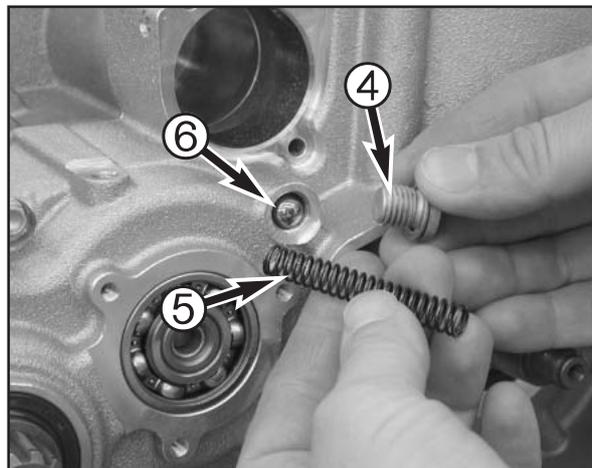


- Screw the extractor 580.12.009.000 (3) to the rotor, hold the extractor while you screw in the extractor bolt until the rotor is released from the crankshaft. Remove the rotor, unscrew the extractor from the rotor.

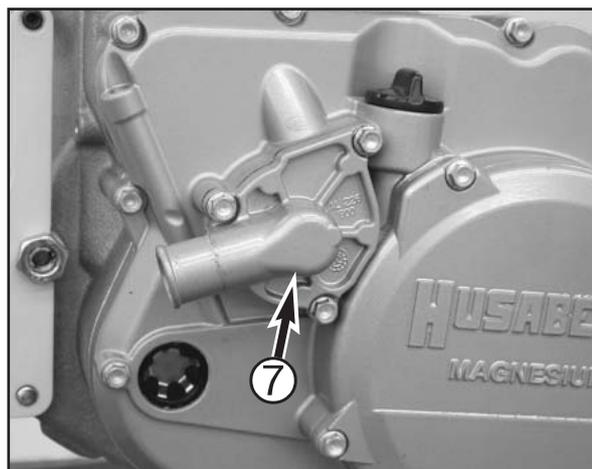


DISMOUNTING THE PRESSURE RELIEF VALVE

- Unscrew the plug (4) on the pressure relief valve together with the copper washer, pull the spring (5) out of the hole and remove the ball (6) from the engine case with a magnet or by tilting the engine.

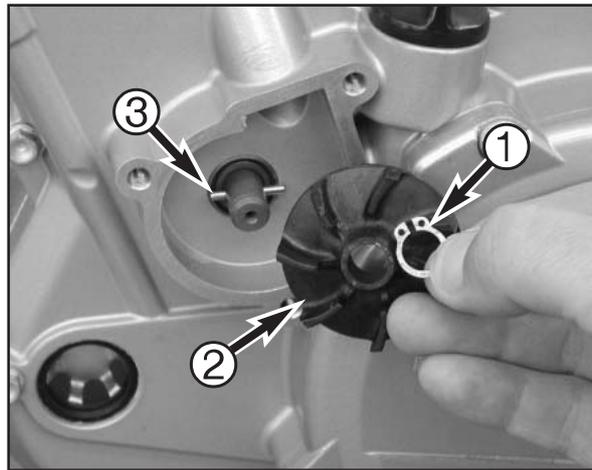


- Remove the water pump cover (7), discard the gasket.



DISASSEMBLING THE ENGINE

- Remove the circlip (1) from the water pump shaft.
- Carefully pull out the water pump wheel (2) with pliers and remove the pin (3) from the shaft.

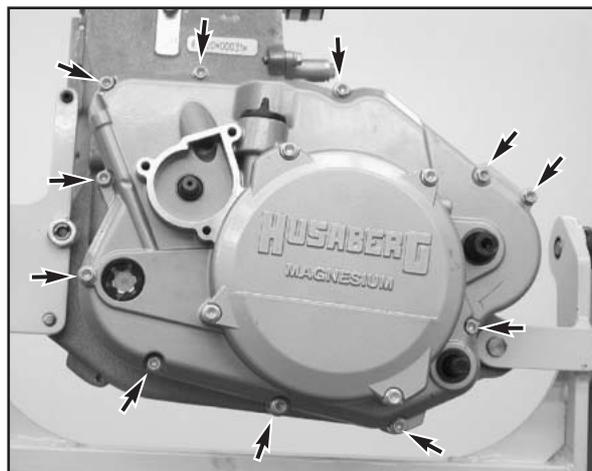


- Remove all of the bolts in the clutch cover and remove the clutch cover.



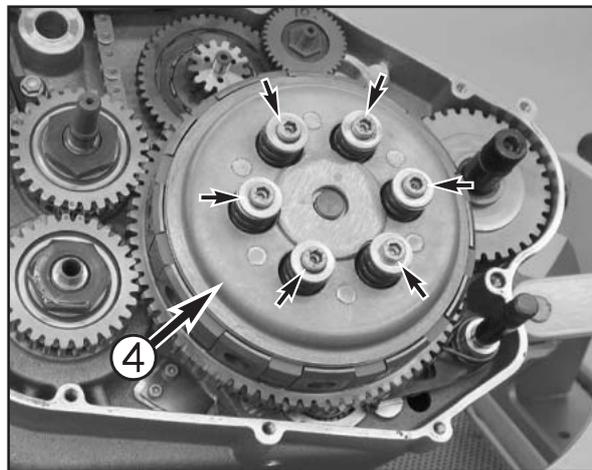
NOTE: the outer cover does not need to be removed separately.

- Discard the gasket and the O-ring in the water duct, pull the dowels out of the housing.

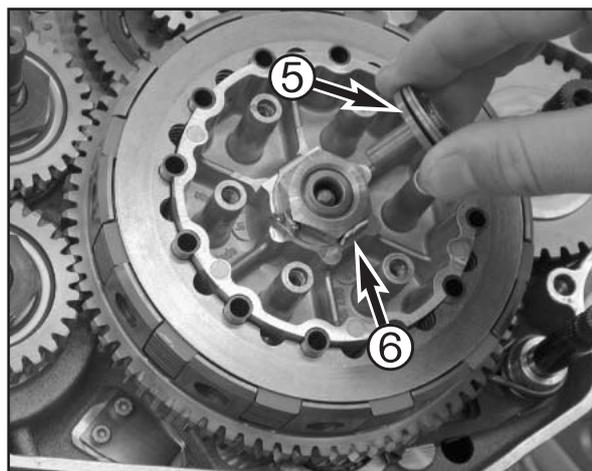


REMOVING THE CLUTCH

- Loosen the clutch bolts crosswise to prevent the clutch disks from jamming. Remove the pressure cap (4) together with the bolts, spring retainer and clutch springs.



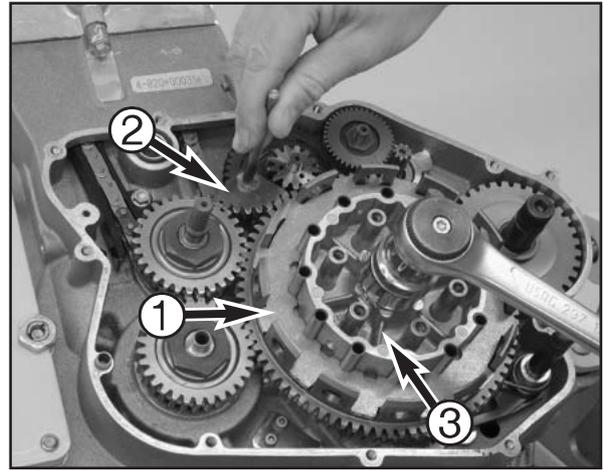
- Remove the pressure piece (5) and the push rod.
- Remove all of the clutch disks from the outer clutch hub together.
- Remove the clutch sleeves from the inner clutch hub.
- Bend up the lock washer (6) for the clutch nut.



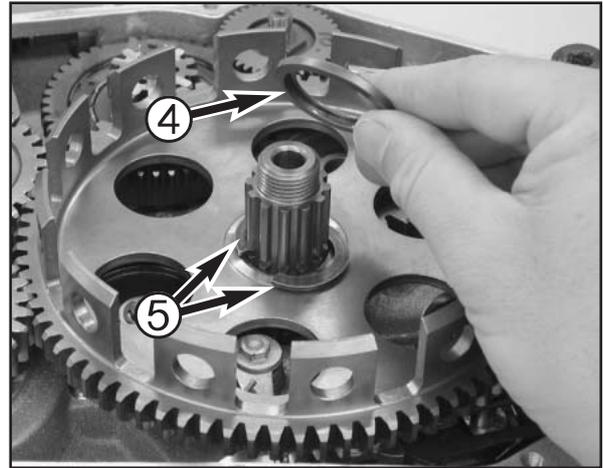
DISASSEMBLING THE ENGINE

REMOVING THE INNER CLUTCH HUB

- Unscrew the locking bolt.
- Insert the clutch holder (1) 800.29.003.000 in the outer clutch hub with at least 6 clutch sleeves, lock the outer clutch hub with the gear wheel segment (2) (800.29.004.000) as shown in the photo and loosen the nut (27 mm).
- Remove the clutch holder, the nut and lock washer and the inner clutch hub (3).

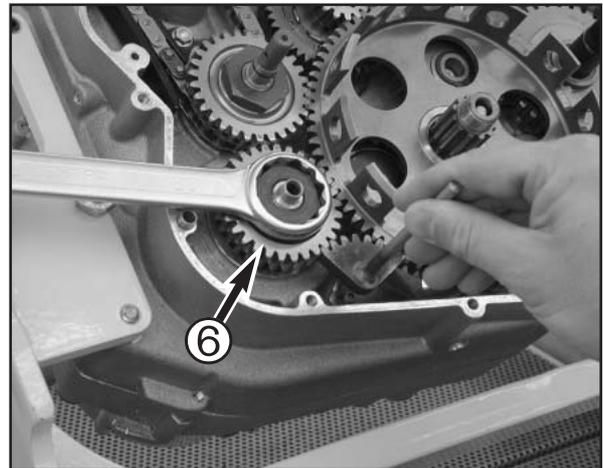


- Remove the stepped disk (4) and both half disks (5).

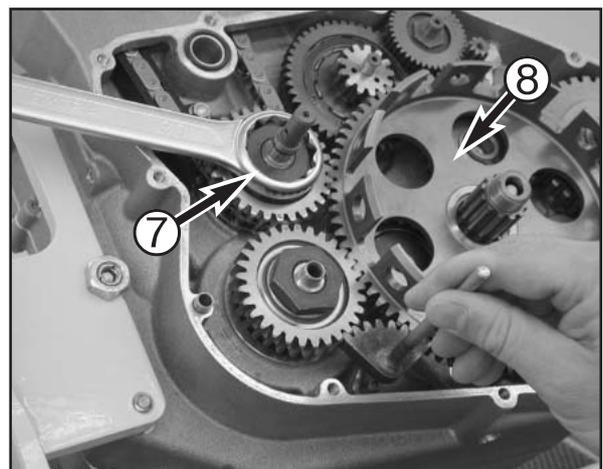


REMOVING THE PRIMARY PINION AND IDLER SHAFT GEAR

- Lock the primary pinion (6) with the special tool 800.29.004.000 (gear segment) as shown in the photo and unscrew the nut (30 mm) on the primary pinion.

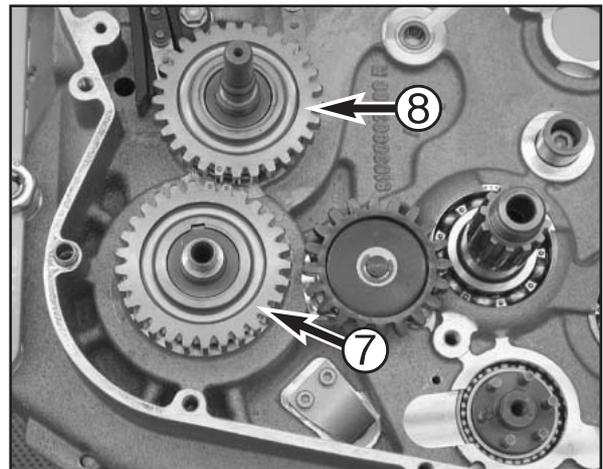
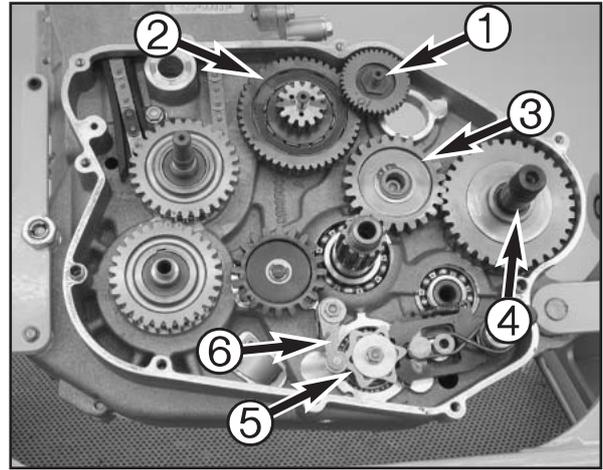


- Lock the idler shaft (7) with the special tool 800.29.004.000 (gear segment) as shown in the photo and unscrew the nut (30 mm) on the idler shaft.
- Remove the outer clutch hub (8) with the two needle bearings and the washer located below.



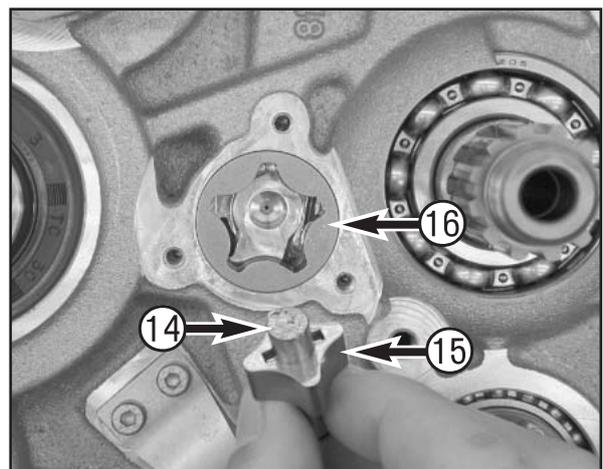
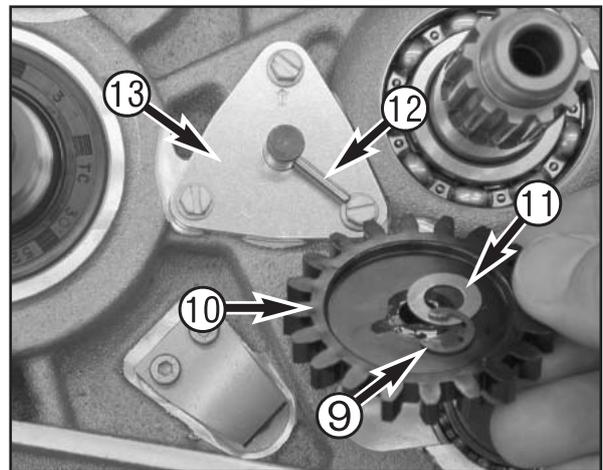
DISASSEMBLING THE ENGINE

- Pull the idler (1) and the freewheel (2) from the engine case (only applies to starter models).
- Remove the circlip on the kickstarter idler gear (3) and pull the kickstarter idler gear with the upper and lower disk and the needle bearing off of the bearing bolt.
- Forcefully pull the kickstarter shaft (4) out of the housing and dismount together with the gear wheel, the bearing and the spring.
- Loosen the bolts on the shift locating drum (5) and on the shift lock (6).
- Dismount the shift locating drum with the upper and lower disk as well as the bolt.
- Relieve the shift lock spring and dismount the shift locking lever together with the bolt, sleeve and spring.
- Dismount the shift shaft.
- Remove the primary pinion (7) and the gear on the idler shaft (8), pry both woodruff keys out of the shaft grooves.



REMOVING THE OIL PUMP

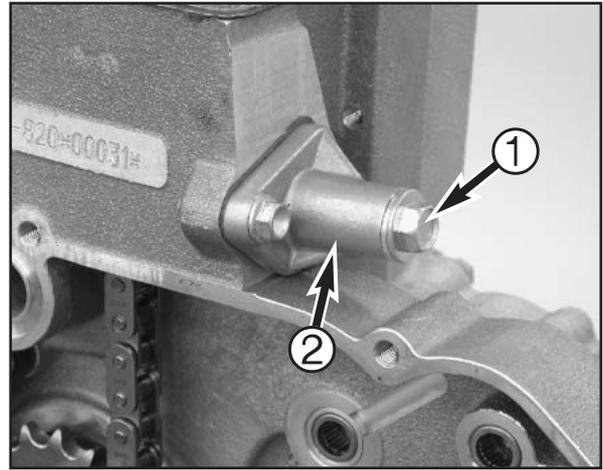
- Pry the circlip (9) on the oil pump gear (10) from the shaft, removing the washer (11), oil pump gear and pin (12).
 - Loosen the three screws and remove the oil pump cover (13).
-
- Dismount the oil pump shaft (14) together with the inner rotor (15), pin and outer rotor (16).



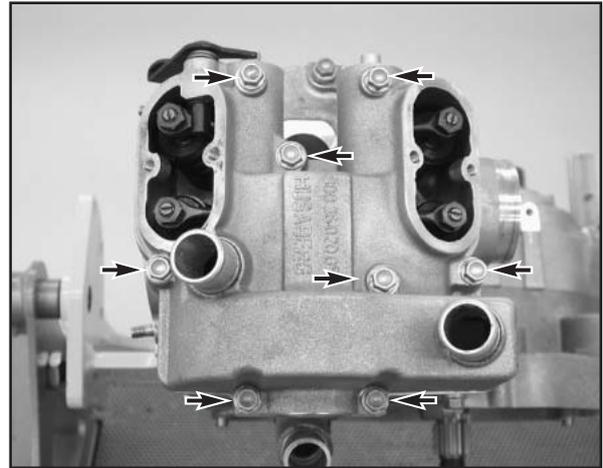
DISASSEMBLING THE ENGINE

REMOVING THE CHAIN TENSIONER

- Remove the bolt (1) together with the seal ring and chain tensioning spring.
- Unscrew the chain tensioner (2).



- Remove both valve covers, discarding the gaskets.
- Loosen the bolts on the cylinder head top section, carefully tap on the side with a plastic hammer and remove the cylinder head top section.



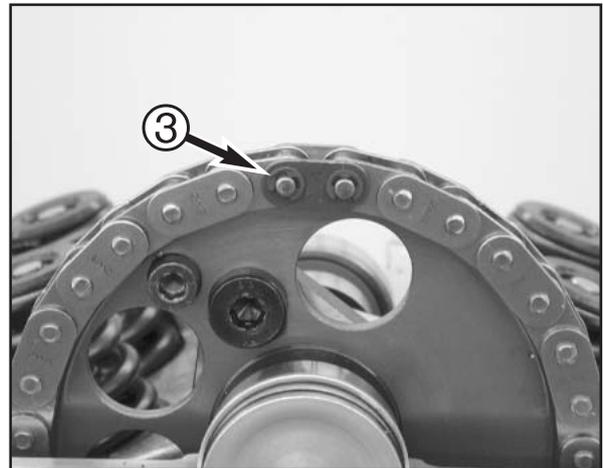
SEPARATING THE TIMING CHAIN

- Turn the camshaft until the chain joint (3) is on top and can be easily opened.
- Remove the chain joint retainer, pull off the chain shims and remove the chain joint.
- Pull the chain out of the chain tunnel.



NOTE: there are 2 types of chain joint retainers, each has a different shape.

If the timing chain does not have a chain joint, use timing chain separating tool 800.29.030.000 to open the chain.

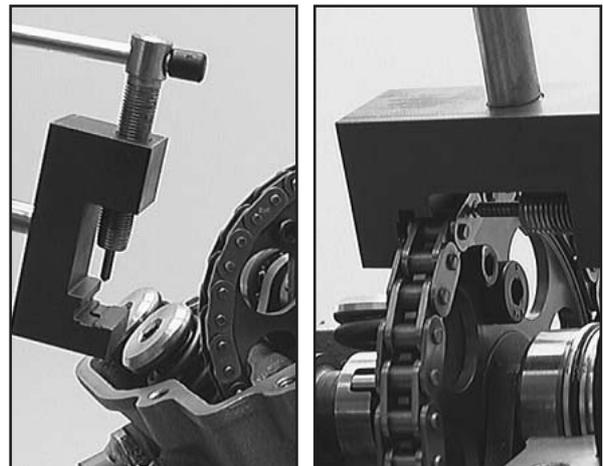


- Apply the timing chain separating tool and turn the spindle to open the timing chain.



NOTE: the timing chain can be separated at any point. The pressed open chain link must be replaced and can be replaced by a chain link with a chain joint.

- Remove the camshaft and cap from the cylinder head.



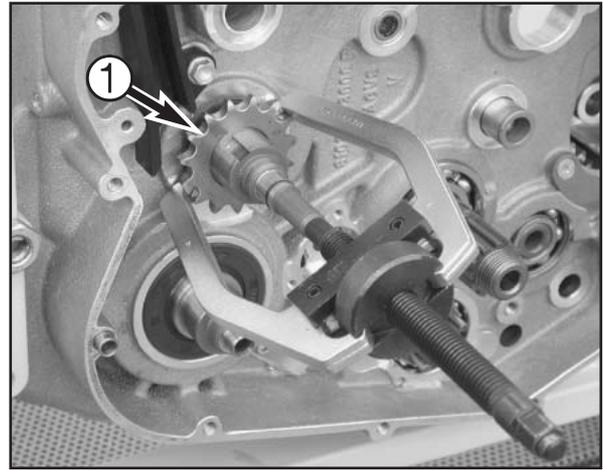
DISASSEMBLING THE ENGINE

- Pull the rear sprocket (1) off of the idler shaft with the extractor 590.29.033.000.



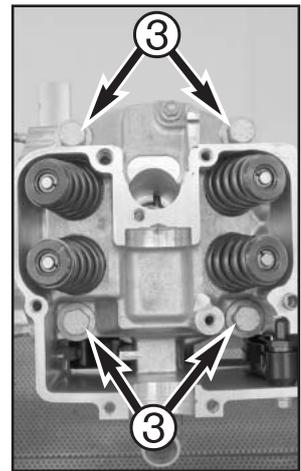
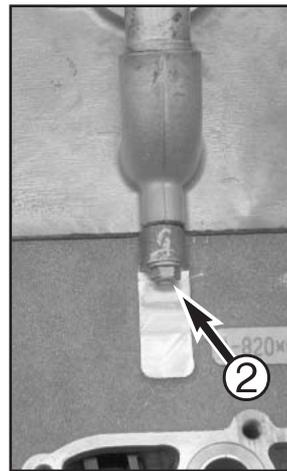
CAUTION: Hold the extractor and do not let it touch the chain guide.

- Pry the woodruff key from the shaft.



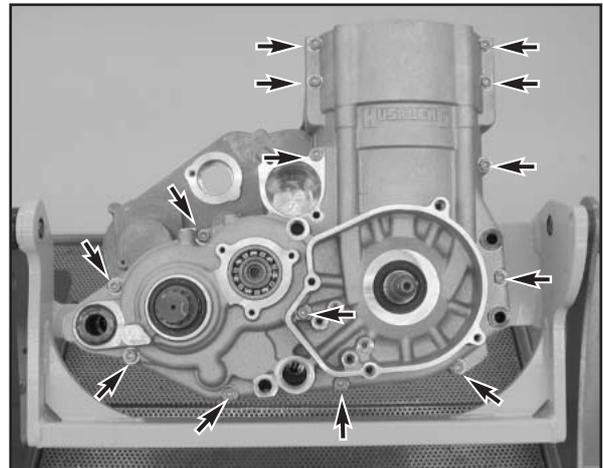
REMOVING THE CYLINDER HEAD

- Remove the bolt on the left side (2).
- Loosen the 4 cylinder head bolts (3) crosswise and remove together with the washers.
- Lift off the cylinder head with the sleeves and gasket, discarding the gasket.



SEPARATING THE HOUSING HALVES

- Remove all of the housing bolts from the right housing half.

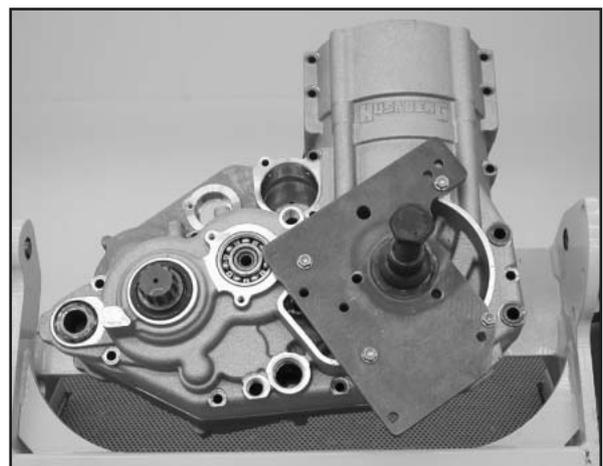


- Screw the special tool 800.29.020.000 onto the right housing half and separate the two housing halves by turning in the spindle. Gently tap on the side of the housing with a plastic hammer to prevent the housing halves from being distorted.



NOTE: do not use a screwdriver or similar tool to pry the housing halves apart since this will damage the sealing areas.

- Remove the dowels.



DISASSEMBLING THE ENGINE

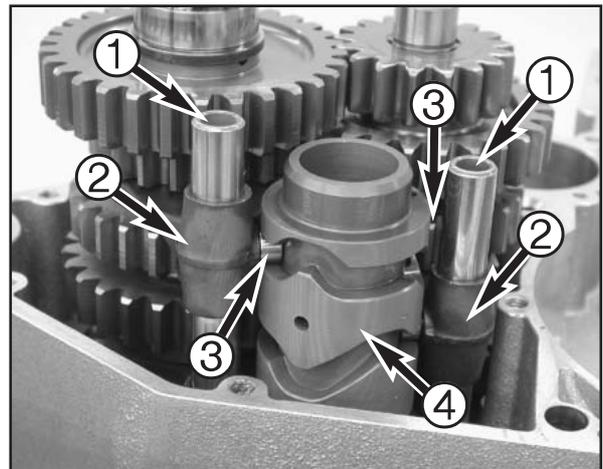
REMOVING THE CRANKSHAFT

- Lift the crankshaft out of the housing together with the conrod, piston and cylinder liner, tapping gently on the rear crankshaft with a plastic hammer if necessary.



REMOVING THE TRANSMISSION

- Pull both shift rails (1) out of the housing.
- Tilt the shift forks (2) aside, the shift rolls (3) usually remain in the shift drum (4) and should be removed with a magnet.



- Press the shift drum up from below while turning it until it can be removed from the housing.

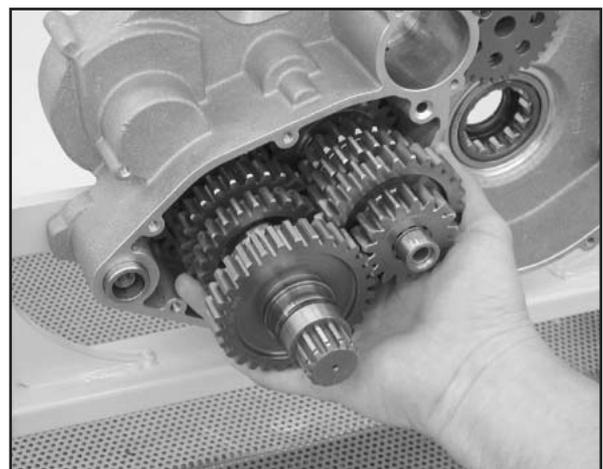


NOTE: if you do not turn the shift drum, the circlip will get caught on the first gear idler.

- Remove the shift forks from the shift grooves.



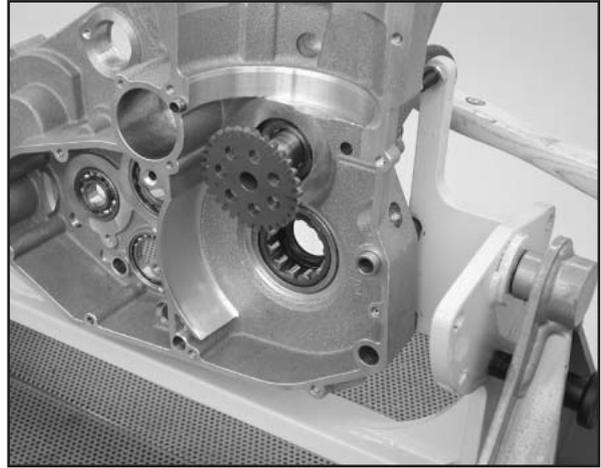
- Set the engine case in an upright position (installation position) and simultaneously pull out both transmission shafts, gently tapping on the back of the main shaft with a plastic hammer if necessary.



DISASSEMBLING THE ENGINE

REMOVING THE IDLER SHAFT

- Knock the idler shaft out of the bearing seat from behind with a plastic hammer.



SERVICING THE INDIVIDUAL PARTS

Product: 2005 Husaberg Motorcycle Service Repair Workshop Manual

Full Download: <https://www.arepairmanual.com/downloads/2005-husaberg-motorcycle-service-repair-workshop-manual/>

IMPORTANT INFORMATION ON WORKING WITH THE ENGINE CASE

Generally, all gaskets, O-rings, crankshaft bearings and the transmission shaft bearings should be replaced when repairing the engine. In addition, all of the parts need to be cleaned thoroughly, removing any residual sealant from the sealing areas.

Any bearings removed with an extractor need to be replaced.

Read the following section before you start to work. Establish the assembly order to allow you to insert the bearings after heating the engine case halves only once.

To press or knock out the bearings, place the respective housing half on a flat surface (first remove the dowels), placing the housing half on the sealing area to prevent it from being damaged. A wooden panel makes a good base.

If possible, do not drive in any bearings or shaft seal rings; if you do not have a pressing tool, only drive them in with a suitable mandrel, using the utmost care. The cold bearings will automatically drop into the bearing seats at an engine housing temperature of approx. 150° C. If necessary, tap the housing half on an even wooden surface, if any bearings stay in their seats, press out with a suitable mandrel.

Always press or drive in new bearings at the outer ring of the bearing, otherwise the bearings or their running surfaces will be damaged.

After the housing half has cooled down, check the bearings for a tight fit; if they are not firmly seated after cooling down they may turn in the engine case when they warm up. If this happens, the engine case must be replaced.

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LEFT HOUSING HALF

- Remove the shaft seal ring (1) from the crankshaft.
- Dismount the chain guide (2).
- Dismount the diaphragm valve (3)
- Remove the circlip (4) from the idler shaft bearing.
- Remove the retaining bolt (5) on the shift drum bearing.
- Heat the housing half in the oven to approx. 150° C; the bearings will fall out of the bearing seats automatically at a housing temperature of approx. 150° C.

Roller bearing for the crankshaft (6)

Press in a new roller bearing from the inside up to the stop with a suitable mandrel.

Grooved ball bearing for the main shaft (7)

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

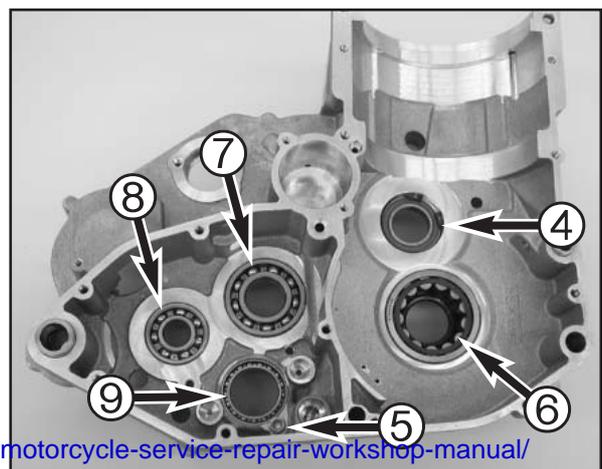
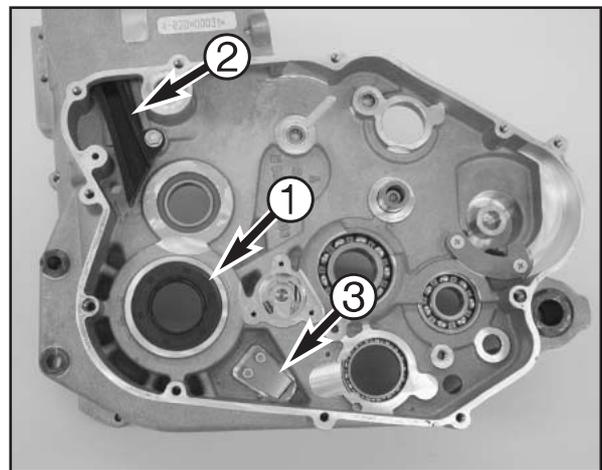
Grooved ball bearing for the countershaft (8)

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

Grooved ball bearing for the shift drum (9)

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

The needle bearings in the starter idler and freewheel usually do not need to be replaced since they do not wear easily.



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