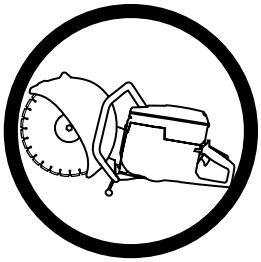
Husqvarna

Workshop manual

K 960



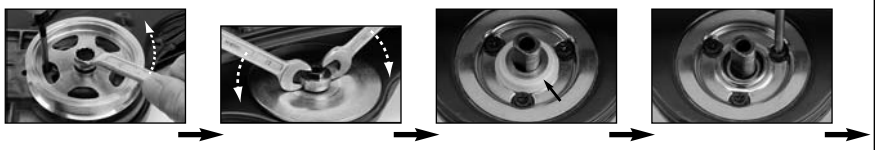
HUSQVARNA CONSTRUCTION PRODUCTS

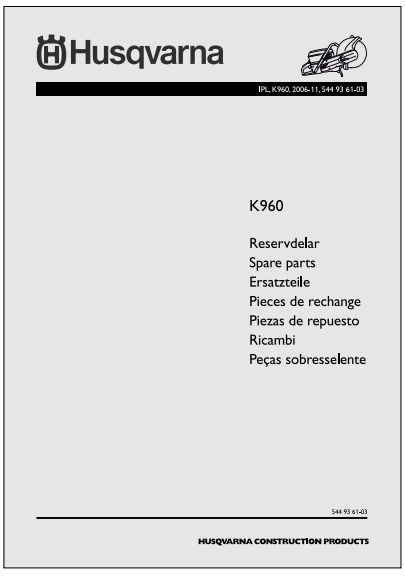
HUSQVARNA
K 960

CONTENTS

"Dismantling into Basic Modules"

"Cutting head" (Example)





Workshop Manual

The Workshop Manual includes virtually all workshop procedures that can come into question on the K960. Some very simple and self-evident repairs have been omitted.

Outline

An introductory section with the title "Dismantling into Basic Modules" shows how the machine is dismantled into large component units, for example, the starter, cutting arm, air filter, etc.

The manual goes on to describes in detail through the different chapter how work on the basic modules should be carried out.

This arrangement means that as a mechanic, at least until you have learnt the basic composition of the machine, you need to start with the chapter "Dismantling into Basic Modules" to then move on to the chapter covering the specific service work.

Layout – pictures and text

Besides the pictures and illustrations there is generally two columns of text. The left-hand text column is a concise and is suitable for experienced mechanics, the right-hand column gives a more detailed description and is targeted at mechanics with less experience of repair work on the power cutter.

Contents

The manual is divided into numbered chapters together with chapter headings that are stated in bold at the top of each page.

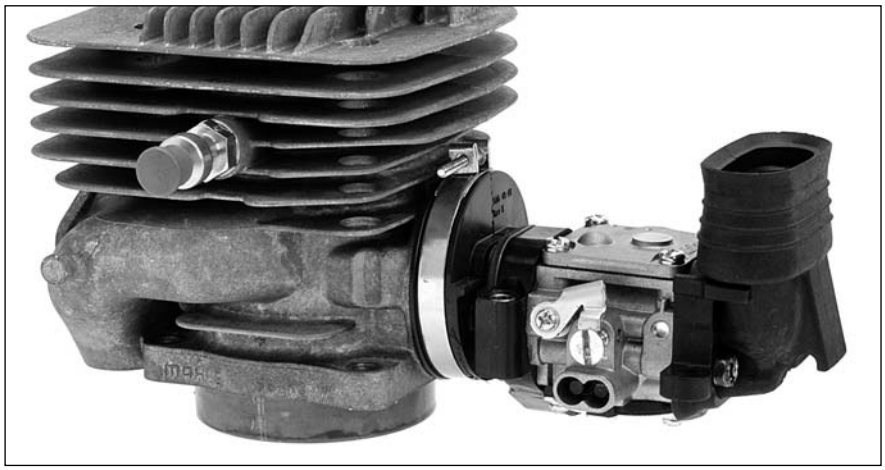
The list of contents also has page references to the start of each chapter.

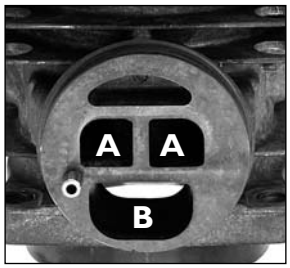
Spare parts

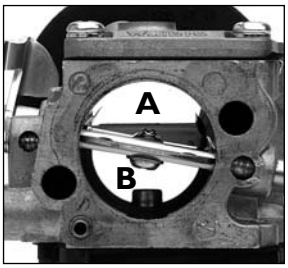
Spare parts K960

The folder includes all the spare parts for Husqvarna K960.

The folder contains complete exploded views of the entire machine where each component's placement, spare part number and appearance can be easily identified.







New technical solutions

Husqvarna K960 is the first model in a new generation of power cutters with a number of new technical solutions:

New engine technology – Dual Charge

The cylinder, piston and carburettor are radically changed.

The carburettor's inlet duct (venturi) is split in two halves. The upper venturi half (A) supplies the cylinder with clean air while the lower half (B) gives an over-rich fuel/air mixture. By leading the fuel-air mixture and the clean air in separate flushing channels into the cylinder, the proportions of the air-fuel mixture and clean air can be controlled so that these vary in different phases of the engine's work cycle.

Cleaner exhaust fumes and improved performance

The amount of uncombusted hydrocarbons (HC) is reduced by the Dual Charge technology to about half compared with a traditional design. The emission values are now well below levels in the regulations from EPAII.

The output is higher over the entire speed range and the torque in the lower speed range is now significantly higher.

Lower vibration levels

The fuel tank is integrated in the handle unit, which means lower handle vibrations through the greater weight. A redesigned vibration dampening element gives lower vibration levels, compared to the forerunner K950.

Poly-V belt

This type of belt has improved strength and is more resilient against stretching than previous V-belts, which results in longer intervals between adjustments. Friction losses are also less.

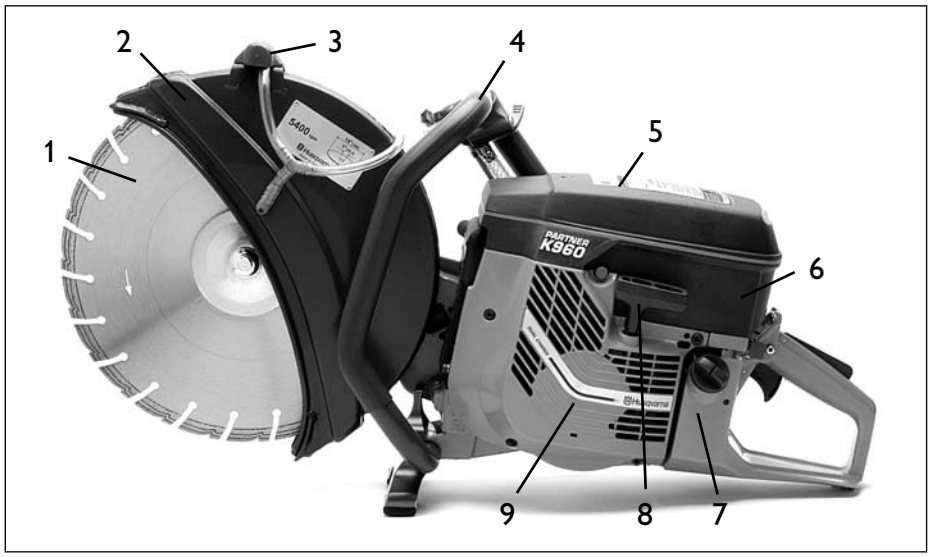
Friction Retarder

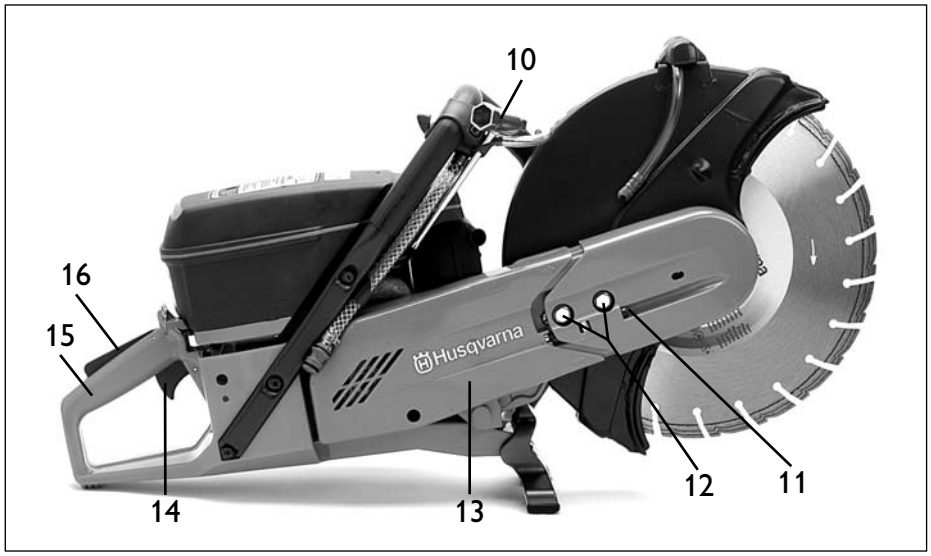
A new front belt pulley is being introduced in 2007 with a braking mechanism that takes effect at low speeds.

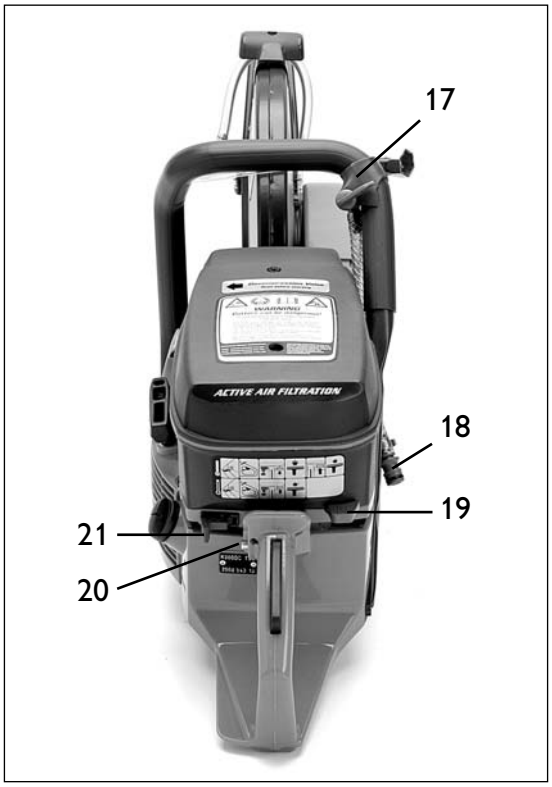
Torx – T27

Torx screws, with the dimensions T27, are used virtually throughout to simplify the service work.

Note that screws with both a flat and fluted undersides are used.

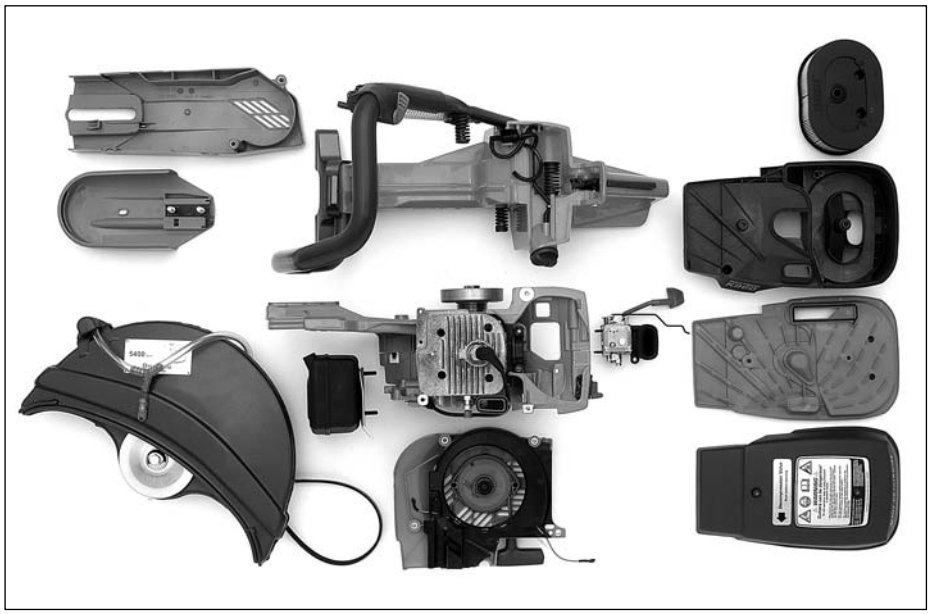






Components

1. Cutting blade
2. Blade guard
3. Adjustable handle for the blade guard
4. Front handle
5. Air filter cover
6. Cylinder cover
7. Fuel tank
8. Starter handle
9. Starter
10. Combination spanner
11. Belt adjustment screw
12. Lock screws for belt adjustment
13. Cutting arm/rear belt guard
14. Throttle control
15. Rear handle
16. Throttle trigger lock
17. Water valve with tool attachment
18. Water connector
19. Choke Lever
20. Start throttle lock
21. Stop switch

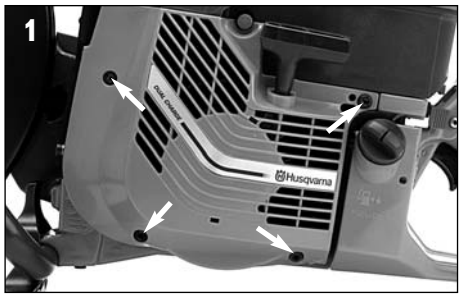


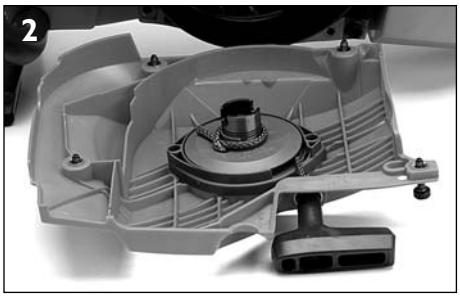
Basic modules

This chapter shows how the machine is built up of basic modules, for example, the starter, carburettor, air filter system, etc.

The purpose is to illustrate how you can easily and effectively dismantle and assemble the machine in its basic modules.

Service work on a component level, for example, replacing the starter cord, is described in detail in respective chapters.

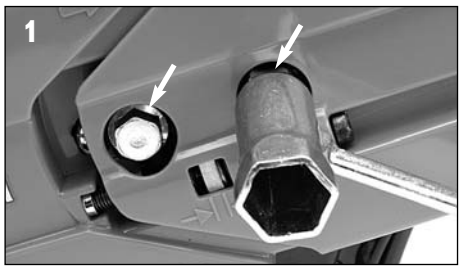


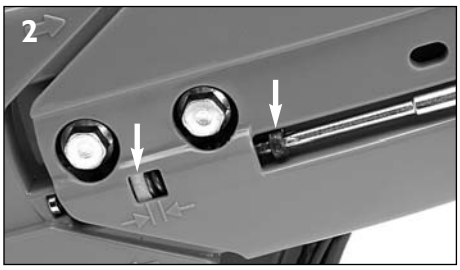


Starter

1. Loosen the 4 screws on the guard.

2. Dismantle the starter.





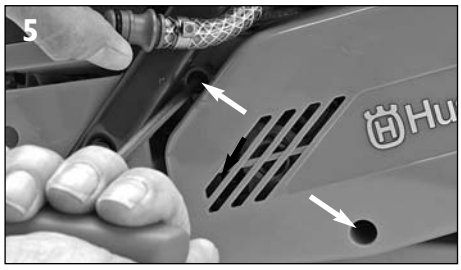
Cutting head

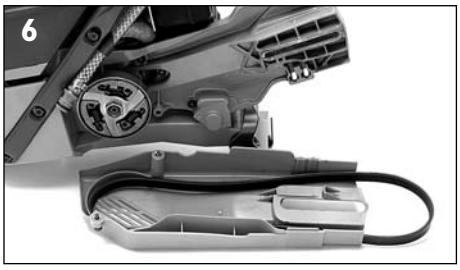
1. Loosen the screws on the cutting head.

2. Slacken off the belt tension using the adjuster screw. Dismantle the screws on the cutting head.

3. Dismantle the front belt cover by sliding it forwards.

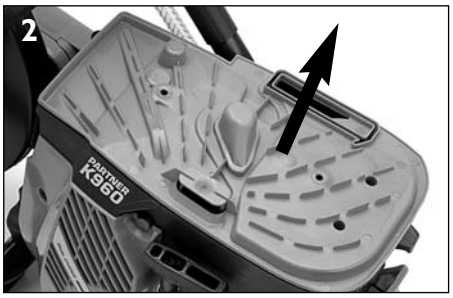
4. Loosen the hoses by the water valve. Lift off the belt from the pulley and remove the cutting head.





5. Loosen the two screws on the rear belt guard.
(Tightening torque when assembling 6.6–8.1 lbf·ft/9–11 Nm.)

6. Remove the guard.

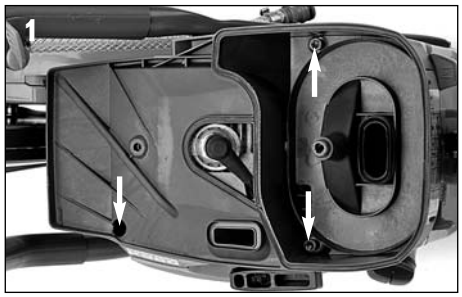


Air filter

1. Loosen both screws on the guard and remove the guard.

2. Lift off the filter base.

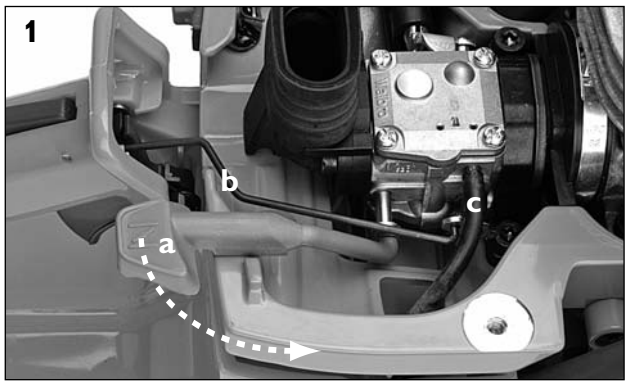
3. Carefully lift up the paper filter so that dust does not fall down into the inlet bend.

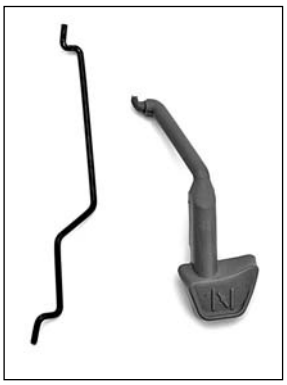


Cylinder cover

1. Loosen the three screws on the cylinder cover.

2. Lift off the cylinder cover.



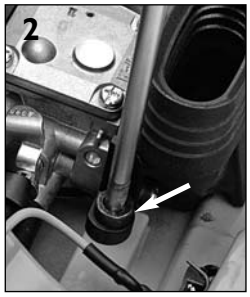


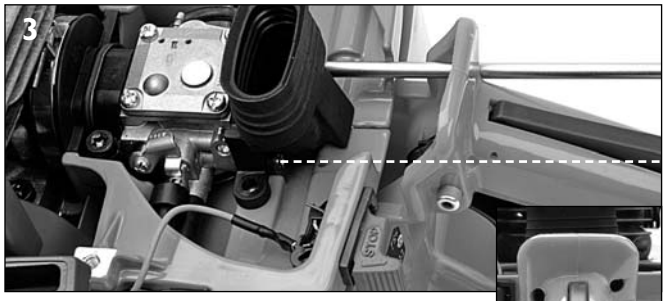
Carburettor

1a. Dismantle the choke control by turning it to the side and removing it from its bracket.

1b. Removed the throttle rod from the throttle and dismantle from the carburettor.

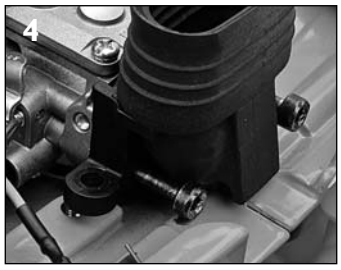
1c. Pull off the fuel hose from the carburettor.

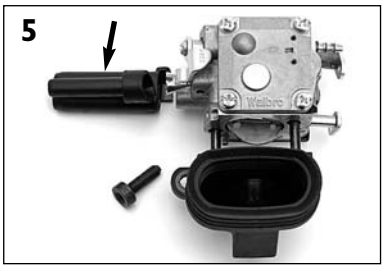




2. Remove the first screw holding the carburettor on the crankcase.

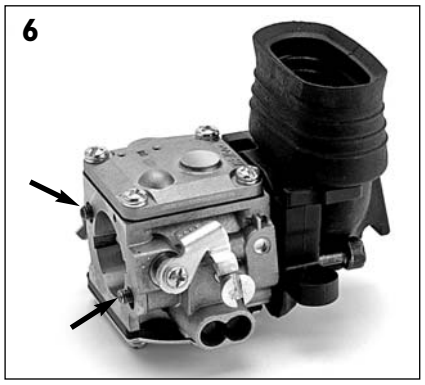
3. Now insert the Torx key through the hole in the handle and loosen both screws holding the carburettor on the inlet manifold.

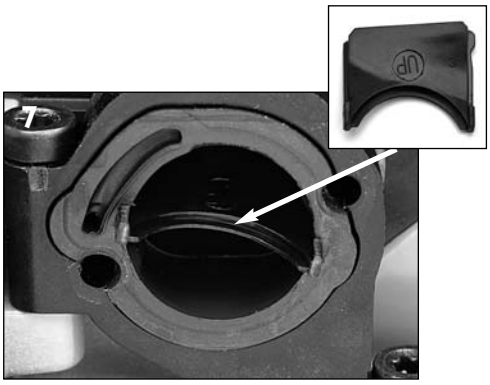




4. Remove the screws at least 10 mm. Pull the carburettor slightly backwards, it can now be lifted upwards.

5. Remove the guide for the carburettor setting from the machine.





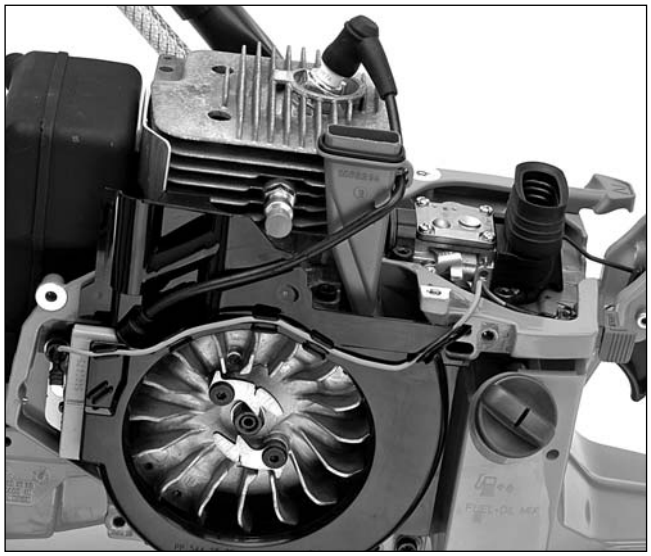
Assembly
6. Pre-assemble the components as illustrated. Slide the screws slightly past the contact face.

7. Note the partition wall in the inlet manifold. Note that the marking "UP" must face upwards, if the partition wall was loosened when dismantling the carburettor.

Inlet manifold

Dismantle the entire air filter unit, cylinder cover, starter, air duct and carburettor.

The cylinder must be lifted slightly to replace the inlet manifold between the carburettor and cylinder. See the detailed description on page 21.



Air duct

Dismantle the entire air filter unit, cylinder cover and starter.

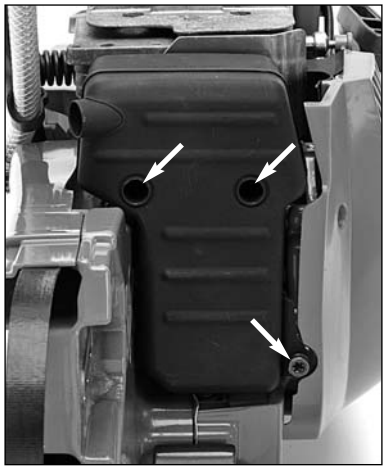
Note how the cable to the stop switch and the ignition lead are fitted in the air duct.

Loosen the ignition lead from the spark plug and release the cable from the air duct.

Loosen the cable lug on the ignition module and the stop switch. Remove the air duct.

Inlet nozzle

There are two flywheel positions where the screws become accessible. Dismantle the screw and pull out the nozzle.



Muffler

Dismantle the cutting head, air filter and cylinder cover.

The muffler is secured by three screws. Dismantle these and remove the muffler.

Assembly
The insulated fibre gasket should lie against the muffler.

The heat shield should lie closest to the cylinder.

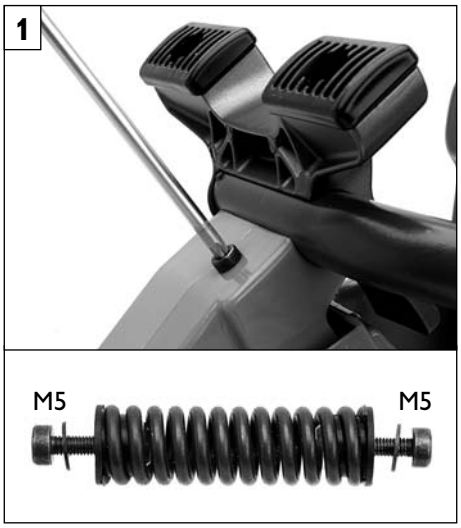
Vibration dampening

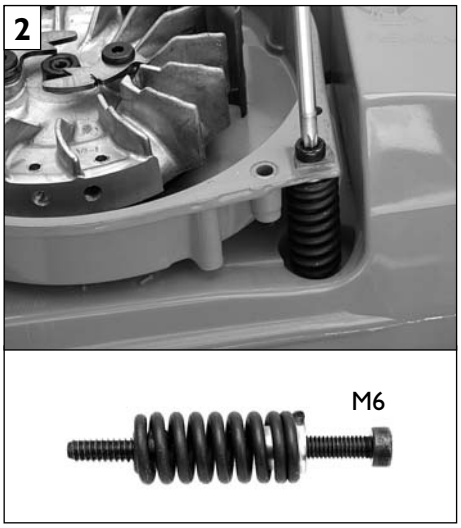
Several service procedures can be facilitated by splitting the machine at the vibration dampening element. Perform the following before splitting:
- dismantle the air filter unit and cylinder cover
- dismantle the starter
- loosen the cable lug on the ignition module and the stop button and remove the air duct
- pull off the water hose by the valve
- pull off the fuel hose from the carburettor
- dismantle the throttle rod and choke control.

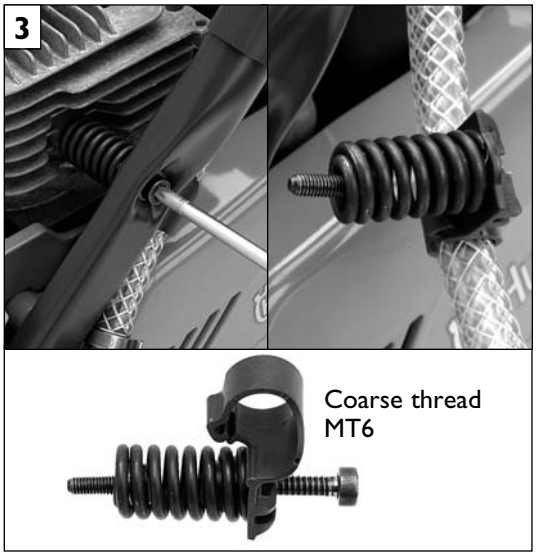
The engine unit is attached to the handle unit at four points with the vibration dampening element in the form of springs.

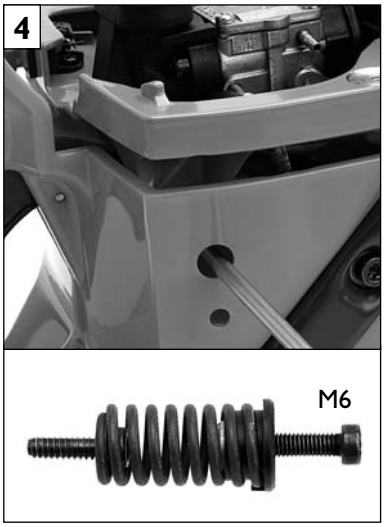
To gain access to the spring's inner screw, the diameter of the Torx key must be max. 5 mm. The combination spanner fits.

Individual vibration dampers can be replaced on a complete machine as described below in the section “Actions for replacing”.









Splitting the machine

Dismantle the outer screws on the vibration dampers:

1. Behind the machine's ground support

Actions for replacing: The machine must be split as described above. Dismantle the muffler too.

2. Below the flywheel

Actions for replacing: Dismantle the starter.

3. The handle loop by the cylinder
Dismantle the inner screw in the cylinder.

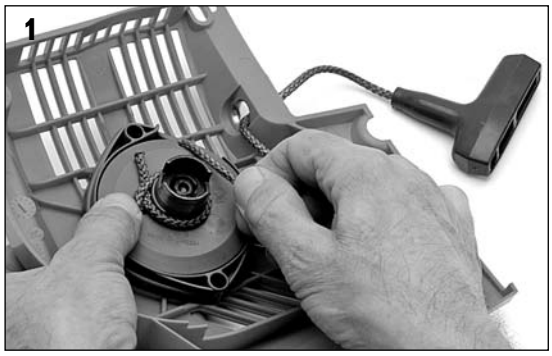
Actions for replacing: Dismantle the vibration damper first.

Open the snap lock on the hose holder and push out the hose (the lowermost picture). Assemble in the reverse order.

4. Below the carburettor space

Actions for replacing: Dismantle the starter, filter and cylinder cover. Dismantle the throttle rod and pull the fuel hose from the carburettor. Dismantle the outer screws for the vibration dampers according to 2 and 3.

Lift up the engine body at the rear and dismantle the vibration damper.



Replacing the starter cord

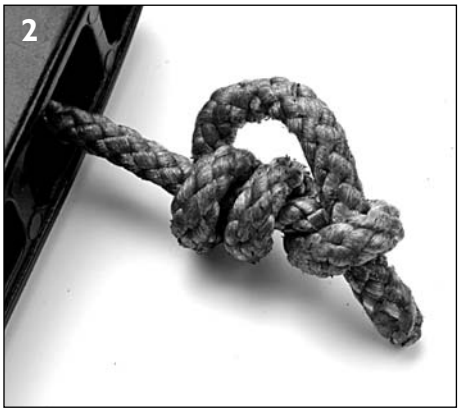
Dismantle the starter.

Eliminate the spring force from the return spring

1. Pull out the starter cord approximately 12 in./30 cm. Hold the starter pulley with your thumb and place the cord in the cut-out on the starter pulley.

2. Let the starter pulley rotate slowly and wind up the cord on the metal sleeve.

3. Lift off the cord from the starter pulley.

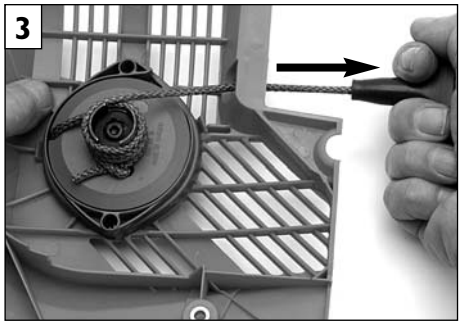


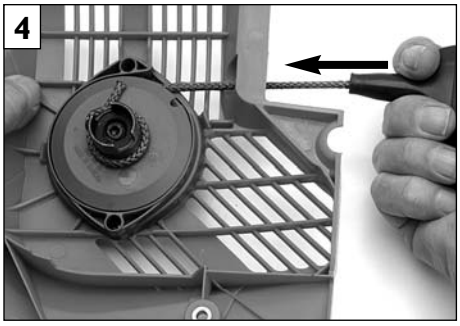
Attach the new starter cord

The starter cord should be 45 in./ 115 cm long and have a diameter of .16 in./4 mm.

1. Insert one end of the cord from the top through the hole in the starter pulley and then out through the notch for the cord. Pull out virtually the whole cord length until sufficient cord remains to tie a knot as illustrated.

2. Insert the other end through the cover and on through the handle. Tie a double knot as illustrated.





Loading the return spring

1. Fit the starter cord in the cut-out.

2. Wind the starter cord 4 turns around the hub.

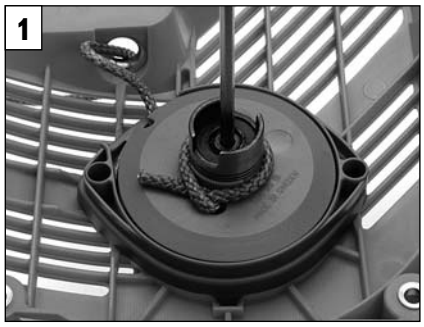
3. Pull out the starter handle so the cord rolls off the hub.

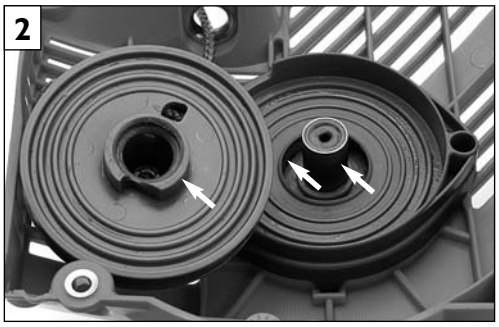
4. Release so the cord is wound on the starter pulley.

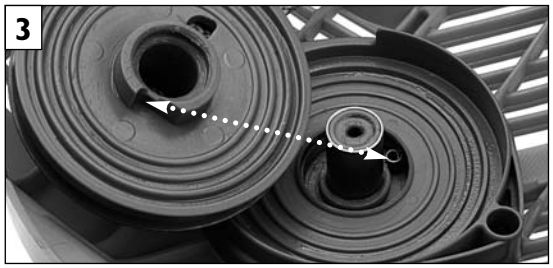
Repeat the procedure with 3 turns of cord around the hub.

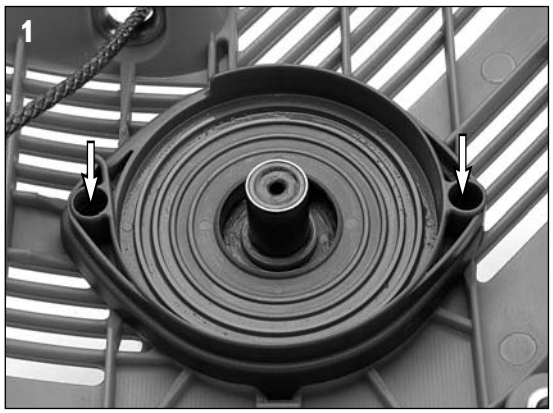
Important check!

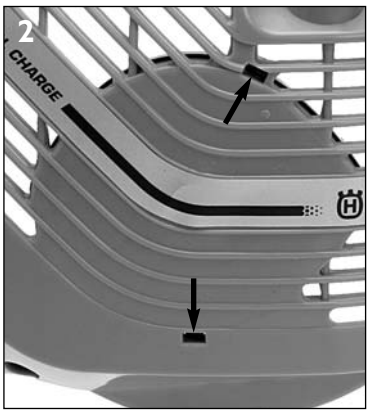
Check that the return spring does not act as an end stop by extending the cord fully. In this position it should be possible to turn the starter pulley a least a further half turn before the spring stops the movement.











Starter pulley

1. Dismantle the centre bolt and lift off the starter pulley.

Clean the surfaces between the starter pulley and the spring cassette.

Assembly

2. Lubricate the hub with grease (arrows). Preferably also apply some grease around the starter pulley hub so that the grease seals against the spring cassette.

3. Align the starter pulley cut-out with the end of the spring when assembling. Fit the centre bolt.

The centre of the starter pulley

The spring in the starter pulley dampens vibrations. The dust seal above has an O-ring. The spacer sleeve around the centre screw is the upper bearing point for the starter pulley. Check that the spacer sleeve has not fallen off during reassembly.

Spring cassette

WARNING!

Handling springs of this type constitutes a major risk for eye injuries, especially when you dismantle a cassette with a broken spring!

Always wear protective glasses when handling the spring cassette!

Dismantling

1. Dismantle both screws on the spring cassette.

2. Press out both catches on the spring cassette with a screwdriver.

Cleaning

Never take out the spring from the cassette. If the spring is dirty it can be blown sufficiently clean with compressed air. Now apply a light oil on the spring.

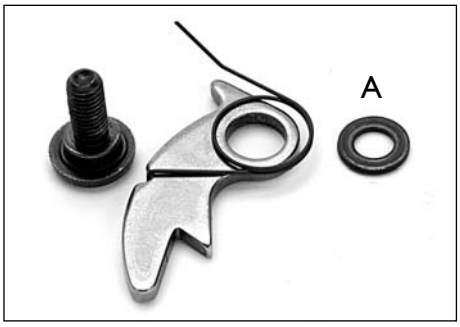
Starter pawls

Function

In principle the starter pawls have two positions that are determined by the centrifugal force generated by the rotation of the flywheel.

When the engine is at a standstill the springs push the starter pawls towards the centre, which when starting then grip the starter pulley's metal sleeve. As soon as the engine starts, the starter pawls are thrown out of the starter pulley's centre to their outer positions.

Consequently it is important for the function that the springs are in full working order and that the starter pawls do not jam. The starter pawls must not be lubricated!

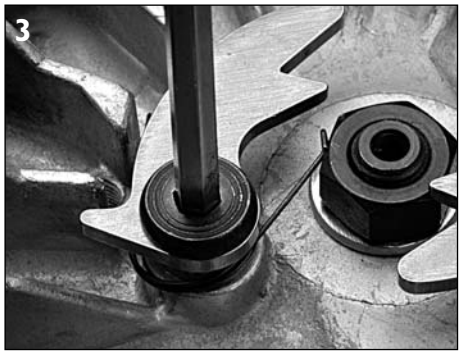


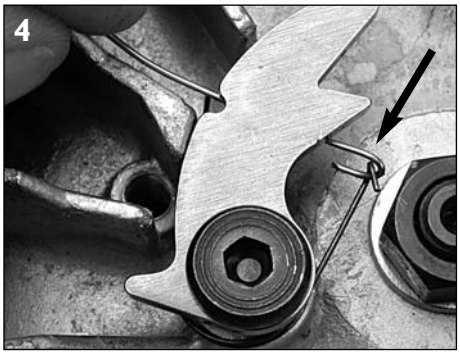
Inspection

Check that the springs are in full working order and that the starter pawls do not jam. Dismantle and clean if necessary.

Dismantling/assembling

The starter pawls are fitted using a shoulder screw. Note the position of the springs in relation to the flanges on the flywheel so that they are fitted correctly. NOTE! Do not forget the washer (A) that should lie under the starter pawls against the flywheel.





Assembly

It is important that the spring does not get caught between the starter pawls and the flywheel. The following method is recommended when assembling:

1. Press the spring into position in the flywheel.

2. Fit the washer.

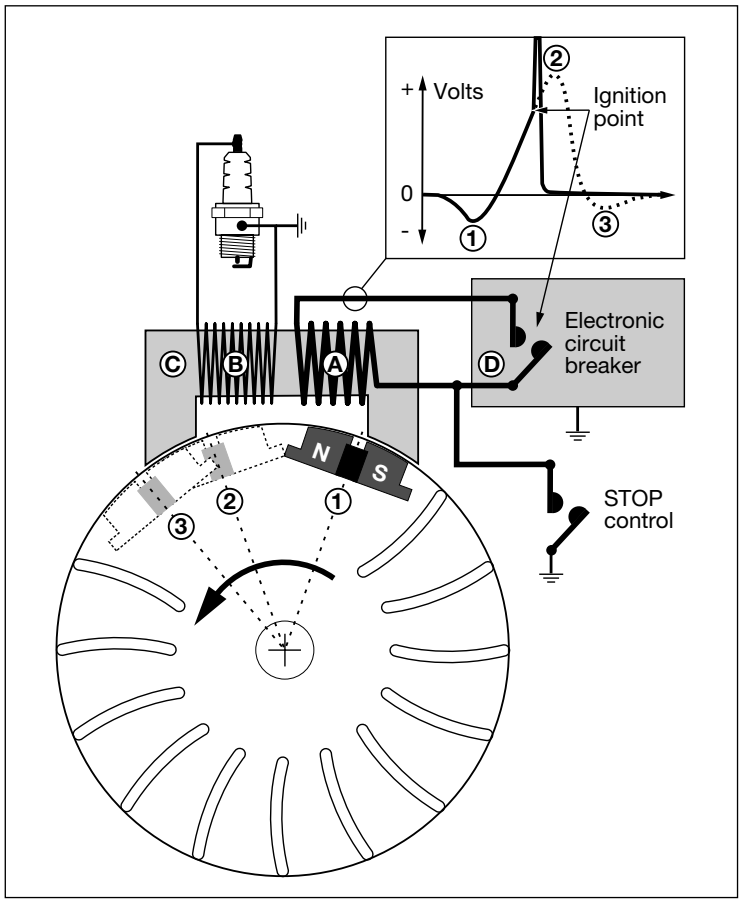
3. Screw on the starter pawls.

4. Make the simplest of "special tools": Bend the end of a thin steel wire and use this to pull the spring under the starter pawls to the mounting on the opposite side.

Fitting the starter

Do as follows so that the starter pawls come into the right position against the starter pulley sleeve: First pull out the cord about a half meter. Keep this position when the starter is set against the machine and slowly release and the starter pawls will take on the correct position.

Tighten the four screws on the starter to a torque of 5–6.6 lbf·ft/7–9 Nm.



Function

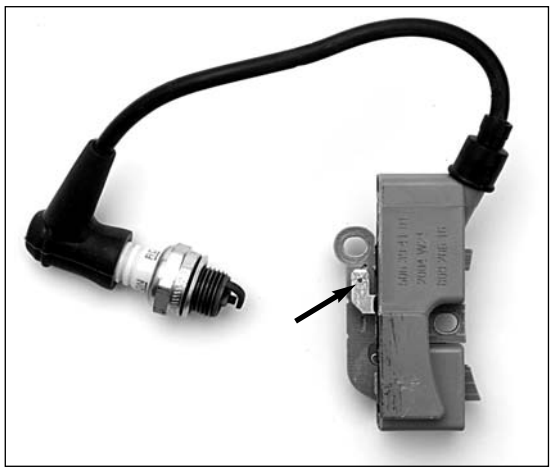
The ignition system is fully enclosed and has no moving parts. It is insensitive to moisture and dirt. The design is such that the ignition point does not need to readjustment.

Husqvarna K960 has integrated overspeed protection in the electronic unit that limits the engine's speed to 9,300 rpm.

The ignition system consists of the primary coil (A) and secondary coil (B) which are both surrounded by the iron core (C). An electronic digital unit (D) manages the switch function.

Current is generated in the primary coil when the flywheel's permanent magnet passes the coil and has the voltage sequence illustrated in the diagram. (The dashed line indicates the voltage that should be generated if the current is not broken.)

The ignition point is determined by the electronic unit, which sense the voltage variation in the primary coil and breaks the current at the right level, at the same time the engine piston is just below the upper turning point. At the breaking instant the voltage in the primary coil rises from 5 V (volt) to approximately 200 V through induction. At the same time a high voltage, approximately 20,000 volt, is transformed in the secondary coil to the spark plug.



Ignition module

Individual components can not be replaced.

The ignition lead, contact unit to the spark plug and seals on the ignition module can be replaced.

The short-circuit contact (arrow) is connected to the stop switch.

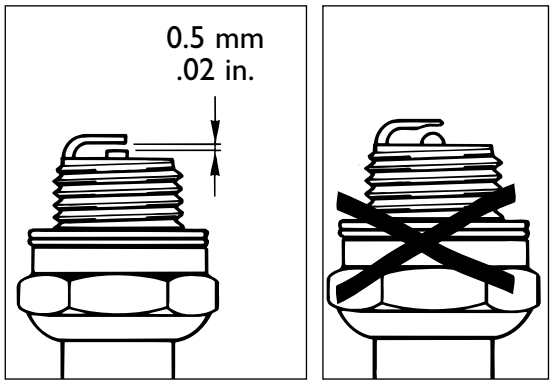
Ignition module

The ignition module's components are fully enclosed to withstand external manipulation. Individual components can not be replaced.

The ignition lead, contact unit to the spark plug and seals on the ignition module can be replaced.

The ignition module requires no periodic servicing. (Nevertheless, the distance to the flywheel's magnet may need adjusting.)

The ignition module has two connections. One to the spark plug and the other is the short-circuit contact (arrow) to the stop switch.



Spark plug

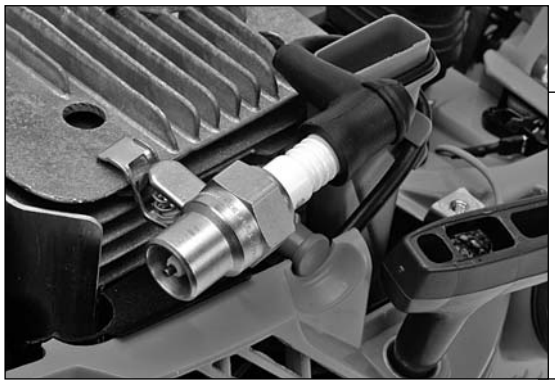
The spark plug's electrode gap should be .02 in./0.5 mm.

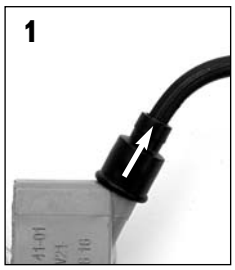
Spark plug

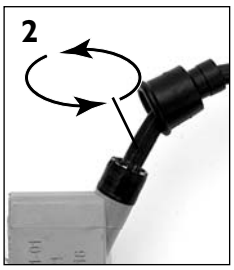
The spark plug's electrode gap should be .02 in./0.5 mm.

The electrodes should be free of soot deposits and oil. Brush clean with a wire brush.

A convex centre electrode and a worn side electrode impair the ignition characteristics. Replace the spark plug.







Trouble shooting

Examine the ignition system first when the engine does not start.

Check the ignition spark

Earth the spark plug against the cylinder.

Move the stop button to the operating position. Pull the starter handle as with starting.

Do the following if no spark occurs.

Faulty spark plug

Replace the spark plug with the test spark plug 502 71 13-01. If there is spark now the spark plug is defective. Replace the spark plug.

If there is no spark the next step is to check the ignition lead.

Faulty ignition lead

1, 2. Pull up the rubber seal by the ignition module and unscrew the ignition lead from this.

3. Insert a pair of pointed pliers in spark plug connection and pull out the spring and cable end.

4. If the connection is defective, the ignition lead can be shortened slightly. Make a new hole in the cable with a awl and fit the connection spring.

5. The adjoining simple connection can be used to check that the ignition lead is not broken. The battery is connected in series with a test lamp.

Alternatively, a resistance measurement can be made using a Ohm meter.

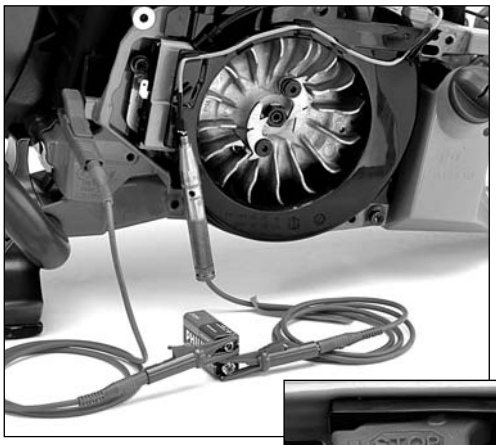
Damaged short-circuit cable

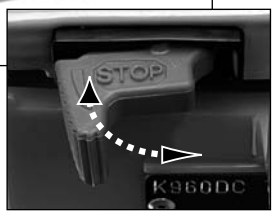
Dismantle the starter and loosen the short-circuit cable on the ignition module.

Reassemble the starter and check whether the spark plug produces a spark.

Check the short-circuit cable and the stop switch if the spark plug produces a spark.

Replace the ignition module if the spark plug does not produce a spark.



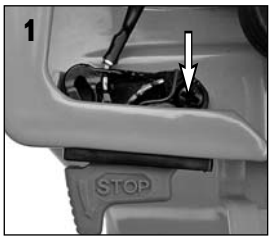


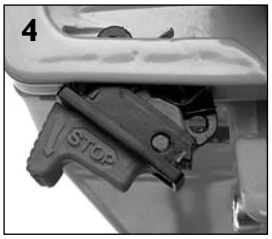
Test the short-circuit cable and stop switch

Test using a measurement instrument or the following simple solution: Connect a battery in series with a test lamp to the short-circuit cable and engine body.

Watch the test lamp while testing the function of the stop switch. The lamp should not be lit when the stop switch is in the operating mode.

If the lamp is lit – first check the condition of the insulation on the short-circuit cable and that it makes contact with the engine body. Now check the stop switch.

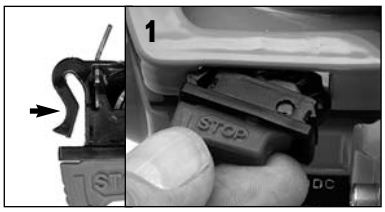


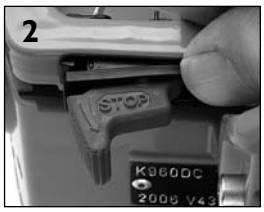


Dismantling the stop switch

1. Remove the screw.

2–4. Pry the switch to the left using a large screwdriver and pull out the right-hand side of the switch first.



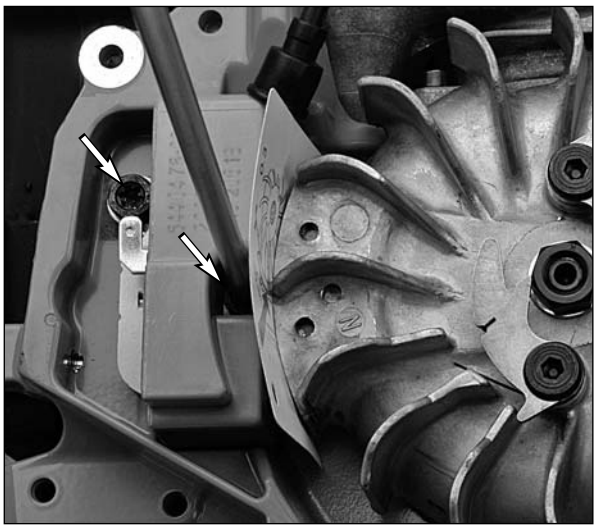


Assembling the stop switch

1. Push the switch towards the snap-in lock.

2. Push in the right hand side.

3. Push in the left-hand side to secure the switch in the snap-in lock. Fit the screw.



Replacing the ignition module

The ignition module is secured by two screws to the engine body.

When assembling the new module, the flywheel with magnets is turned towards the ignition module.

Place air gap gauge (.01 in./0.3 mm) 502 51 34-02 against the magnets and fit the new module in position.

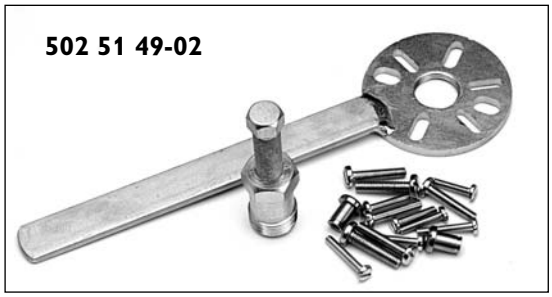
The screws should be tightened to a torque of 6.6–8.1 lbf·ft/9–11 Nm.

Dismantling

Dismantle the starter pawls.

Dismantling

Dismantle the starter. Dismantle the starter pawls as set out in the chapter “Starter”.



Tool 502 51 49-02
The special tool is used to dismantle and assemble the flywheel.

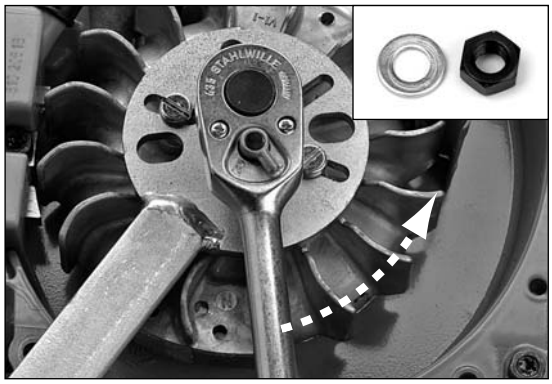
Tool 502 51 49-02
A special tool from Husqvarna is required to dismantle and assemble the flywheel. The tool fits virtual all flywheels on Husqvarna power cutters.

Centre the tool.
Centre the tool with a 13 mm socket.

Fit the plate in the holes for starter pawls.

Centre the tool.
Put the 13 mm socket on the centre bolt to help centre the tool.

Select a suitable screw, which is supplied with the tool, and fit the plate in the holes for starter pawls.



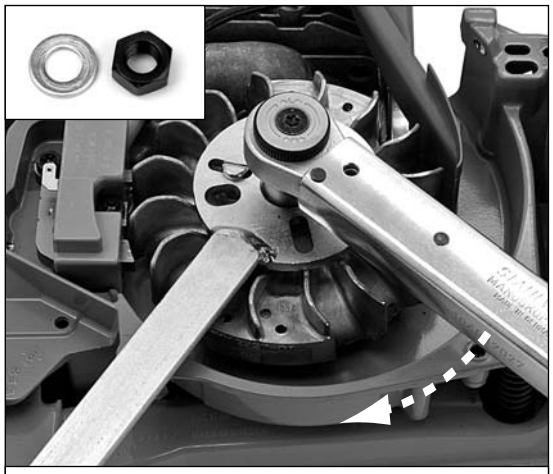
Dismantle the nut

Dismantle the centre nut
Use the handle on the special tool to lock the rotation of the flywheel and dismantle the nut and washer.

Press off the flywheel
Assembling screw puller.
Screw in the centre bolt until the flywheel releases.

Press off the flywheel
Fit the screw puller in the centre and screw it down as far as necessary to get a secure fitting in the plate.
Hold the large nut and screw in the centre bolt until the flywheel releases.
Tip: If the flywheel is very tight, knocking the bolt lightly with a hammer to help the flywheel to release. At the same time lift the machine slightly from the bench using the tool handle.

Check the keyway and key
Note that the key in the flywheel is cast and can not be replaced. If the key is damaged the flywheel must be replaced.



18–22 lbf·ft/25–30 Nm

Fit the flywheel
The crankshaft and the centre of the flywheel must be free from grease when assembling.

Tightening torque
18–22 lbf·ft/25–30 Nm
Use a torque wrench to tighten the nut.

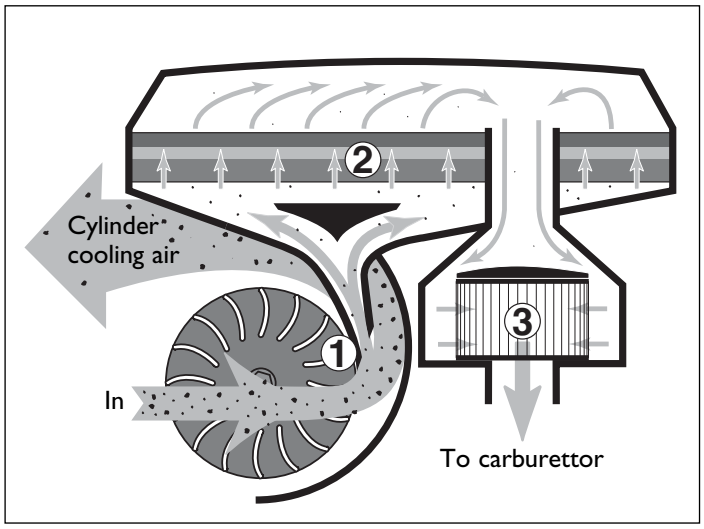
Check the keyway and key
Note that the key in the flywheel is cast and can not be replaced. If the key is damaged the flywheel must be replaced.

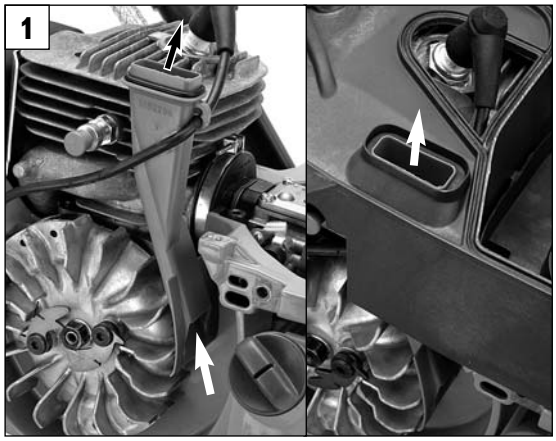
As the ignition point is determined by the position of the flywheel on the crankshaft, components must have exactly the right placement in relation to each other. Only the force of the centre nut is not sufficient to hold the flywheel in the right position.

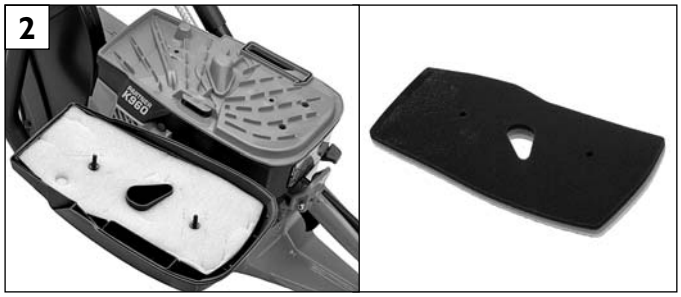
Fit the flywheel
The crankshaft and the centre of the flywheel must be free from grease when assembling.

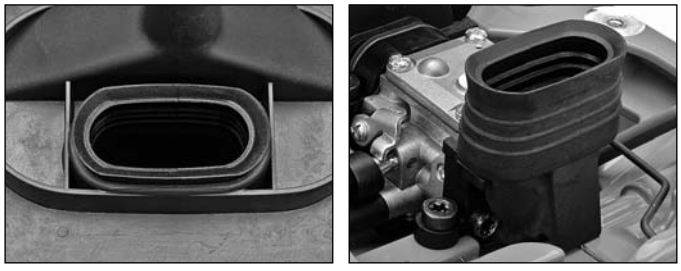
Align the key in the flywheel with the keyway on the crankshaft. Fit the washer and centre nut.

Tightening torque
18–22 lbf·ft/25–30 Nm
Use a torque wrench to tighten the centre nut.









Function

Husqvarna Active Air Filtration is a filter system that effectively purifies the air to the engine in **three separate steps and according to three different purification principles:**

1. Centrifugal cleaning is the first step in the purification of the inlet air.

The fins on the flywheel supply the cylinder with cooling air at the same time as they act as the active part in the centrifugal cleaning of the engine's inlet air. An inlet nozzle is fitted close to the fins on the flywheel. The centrifugal force means that large particles do not follow the curved air currents to the nozzle, but are thrown to the outside of the nozzle. Only very small dust particles manage to swing with the air currents to the inlet.

2. Foam plastic filter is the next level of separation in the purification process. An air deflector guides and distributes the air across the whole filter surface, which means that the whole of the filter is better utilised and is fouled evenly across the surface. The filter is steeped in oil and is made up of three layers with different pore sizes.

3. The paper filter primarily provides effective protection should the foam plastic filter, on account of inadequate care, lets dust through.

Filter service

1. Centrifugal cleaning

The inlet duct should be inspected and any deposits removed in connection with filter replacement. Dust from dry cutting is cleaned off using compressed air Material from wet cutting normally needs to be scraped off mechanically.

2. Foam plastic filter

New filters are supplied steeped in the correct amount of filter oil. The replacement frequency is dependent on a number of factors and therefore cannot be generally stated. Unfortunately there is no easy method to assess a used filter's remaining capacity, and it is even harder when the machine's history is not known. However, in all safety it can be said that if dust particles can be discerned on top of the filter (clean side) it is spent.

3. Paper filter

The paper filter should not be cleaned, but is replaced with a new one. The replacement frequency depends very much on the care of the foam plastic filter.

Exercise extreme care when the filter is dismantled so that dust particles do not fall down in the carburettor inlet. Vacuum cleaning is the best method to remove spillage and to clean the filter compartment.

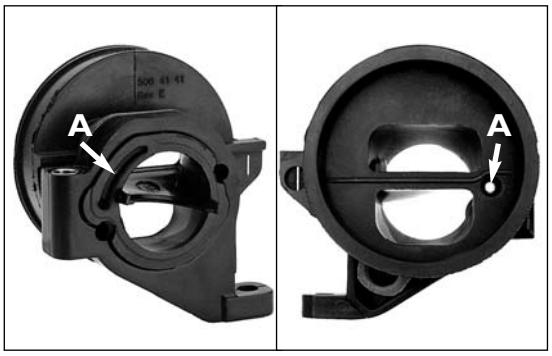
A useful rule for filter replacement is: Replace the paper filter when the yellow paper colour is no longer visible.

IMPORTANT!

Stone and concrete dust are the engine's greatest enemy!

Check the condition of the inlet bend and that it seals perfectly against the carburettor and cylinder cover.

Dust in the inlet bend indicates a serious fault in the filter system, which must be rectified before the machine is used.

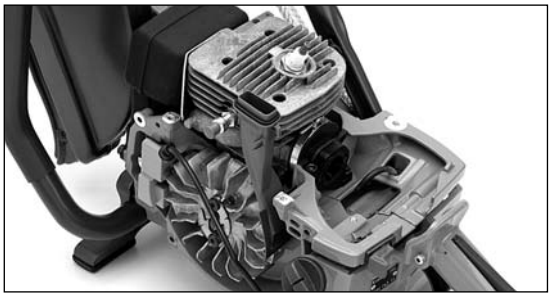


Inlet manifold

The inlet manifold joins the carburettor and cylinder. The inlet manifold insulates the carburettor from cylinder heat and also provides the carburettor with vibration damping.

The inlet manifold has separate ducts for the fuel-air mixture and clean air. The impulse channel (A) leads pressure variations from the crankcase to the carburettor's pump diaphragm.

It is extremely important that the inlet manifold seals perfectly against the cylinder and carburettor and that the partition wall in the inlet duct is fitted correctly in order for the engine to work correctly.

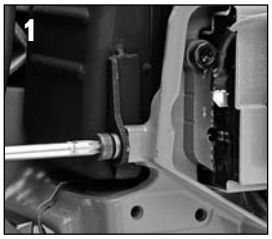


Dismantling

Dismantle the entire air filter unit, cylinder cover, starter and air duct by the flywheel.

Carefully clean the cylinder fins and the area around the carburettor with compressed air first. Dismantle the carburettor, see page 6.

The cylinder must be lifted slightly to replace the inlet manifold between the carburettor and cylinder.

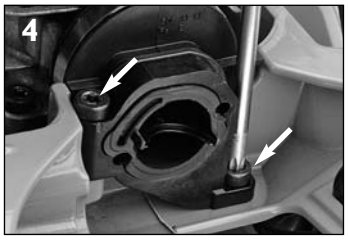


1. Dismantle the muffler's screw on the crankcase.

2. Dismantle the vibration dampening on the cylinder.

1. Dismantle the muffler's screw on the crankcase.

2. Dismantle the vibration dampening on the cylinder.



3. Lift off the ignition lead.

4. Dismantle the screws on the crankcase.

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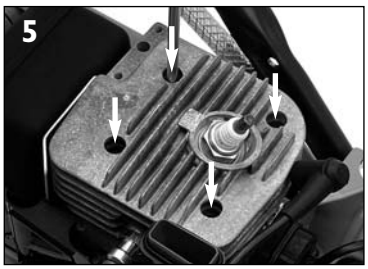
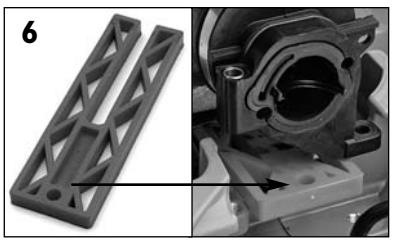
4. Dismantle the screws on the crankcase.



5. Dismantle the four screws on the base of the cylinder and lift up the cylinder slightly.

5. Dismantle the four screws on the base of the cylinder and lift up the cylinder slightly. At the same time turn the flywheel to the piston's upper turning point to keep the piston rings in the cylinder.

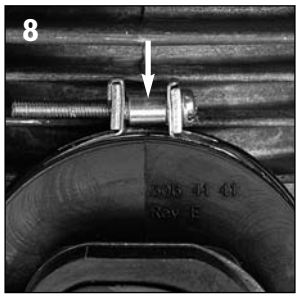


6. Place the support plate under the cylinder.

6. Use the support plate in the tool kit 502 50 70-01 to facilitate the work. Place this between the cylinder and crankcase to provide support for the cylinder.

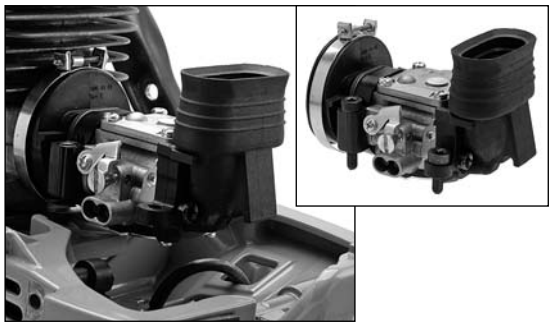
7. Expand the clamp. Pry the rubber collar off of the cylinder.

7. Unscrew the clamp to the outer part of the screw. Now pry the rubber collar off of the cylinder.



Assembly
8. Important when reassembly: Screw the clamp together completely in against the spacer tube.

Assembly
8. It is important that the clamp is screwed together completely in against the spacer tube in order for the inlet manifold to seal fully against the cylinder.



Alternative dismantling procedure
Instead of dismantling the inlet bend together with the carburettor first and then the inlet manifold, it is often practical to dismantle the entire unit from the cylinder. The actions to be performed on the machine determine the procedure to follow.

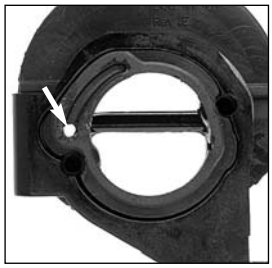
The entire unit is dismantled as follows: Dismantle the two screws for the inlet manifold's holder and the screw for the inlet bend's holder. Now lift the cylinder slightly and place the support plate under it. Loosen the clamp around the inlet manifold and pull this off of the cylinder.

Replacing the rubber bellows
9. Dismantle the partition wall.

10. Press the rubber bellows out of the holder and dismantle the metal plate.

Replacing the rubber bellows
9. Dismantle the partition wall in the inlet manifold first.

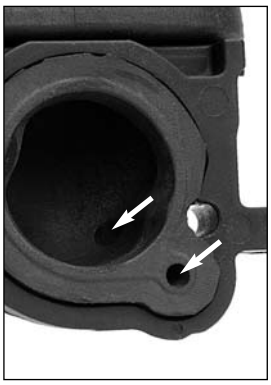
10. Press the rubber bellows out of the holder and dismantle the metal plate.



Parts must face the right way!
Correct assembly is evident from the pictures.

Parts must face the right way!
Correct assembly of the components is evident from the pictures.

Make a special check to ensure the impulse channel is open.

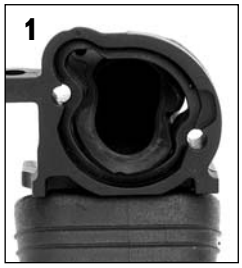


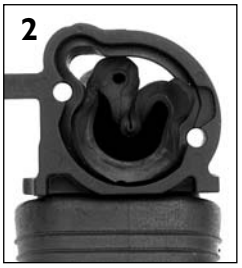
Inlet bend

The inlet bend leads air from the filter unit to the carburettor.

The duct, marked with arrows, connects the carburettor's measurement chamber with the intake air. The pressure equalisation between these results in the carburettor giving the correct fuel/air mixture irrespective of how much the filter is clogged. This is the operating principle of the SmartCarb™.

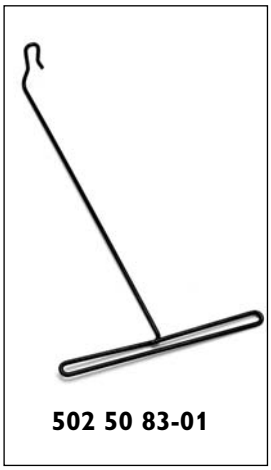
IMPORTANT
It is extremely important that the inlet bend seals perfectly against the carburettor and cylinder cover.





Replacing the inlet bend
Press the inlet bend out of the holder.

Exercise extreme care when assembling the new rubber bend in the holder.
The assembly method is evident from the order of pictures 1, 2 and 3.



Fuel filter

Dismantle the filler cap.

Catch the fuel hose with the help of tool 502 50 83-01.

Fuel filter

Dismantle the filler cap and pull out the section holding the filler cap in position when fuelling.

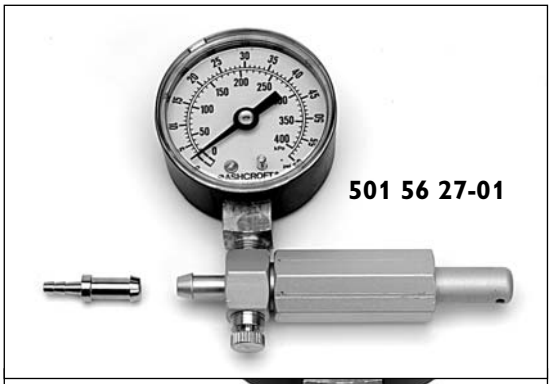
Catch the fuel hose with the help of tool 502 50 83-01.

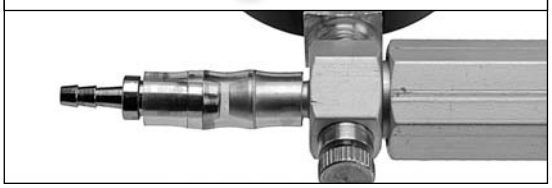
Pull out the fuel filter. Check that the filter is not cracked or in any other way defective. Fouled filters are replaced with new ones.

Pull out the fuel filter. Slide back the metal weight and pull off the hose.

Check that the filter is not cracked or in any other way defective. Fouled filters must not be cleaned but replaced with a new one.

If the filter is heavily fouled, this may be due to the machine being filled with a contaminated fuel. Drain the fuel and filter when refilling.





Leakage testing

Pressure tester

Use the pressure tester 501 56 27-01 to test the tightness of the fuel system.

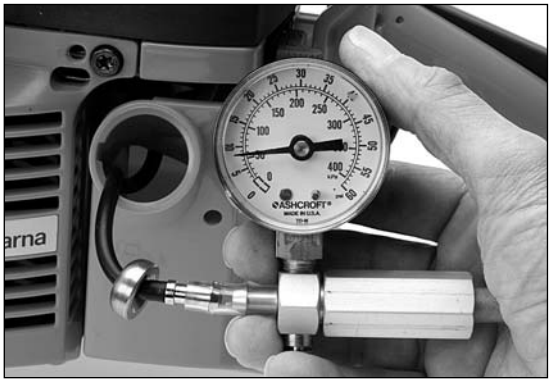
Connect the adapter to the pressure tester with a short hose.

Leakage testing

Pressure tester 501 56 27-01

Use the pressure tester 501 56 27-01 to test the tightness of the fuel system.

The pressure tester is supplied with an adapter for small hose sizes, this should be used on the fuel hose. Make the hose between the adapter and the pressure tester as short as possible.

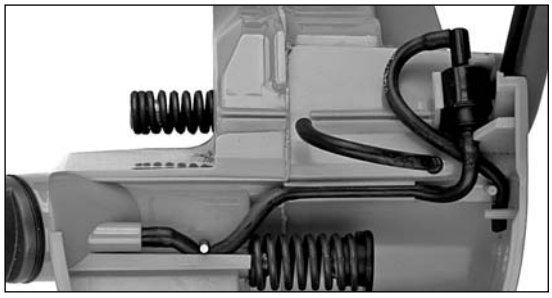


Pump up the pressure to approximately 7 psi/50 kPa. Move to the next test if the pressure drops.

Pump up the pressure to approximately 7 psi/50 kPa. A falling pressure indicates that the fuel hose leaks, the connection to the carburettor leaks or the carburettor is defective.

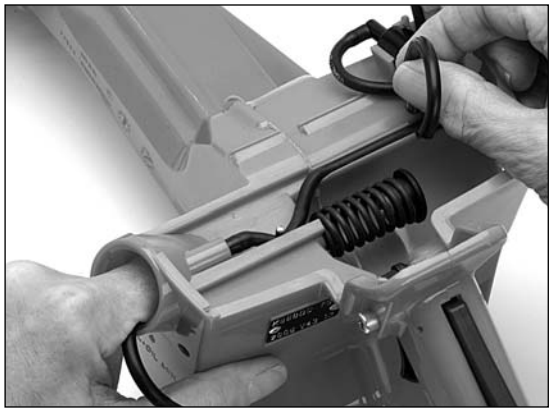
Exclude the carburettor as the cause of the leakage
Plug the hose by the carburettor and redo the pressure test.

Exclude the carburettor as the cause of the leakage
Plug the hose by the carburettor and redo the pressure test. If the hose is intact, the carburettor must be checked.



The fuel system's hoses
Split the machine at the vibration dampening element.
Note the fuel system hoses' assembly order.

The fuel system's hoses
The machine must be split at the vibration dampening element, see page 8, to work on the fuel system's hoses.
Note how the fuel hose and the tank venting hoses are assembled.



Changing the fuel hose
Dismantle and assemble the fuel hose in the same direction – from above towards the tank cap.

Changing the fuel hose
Press the hose down in the tank and at the same time feed down through the hole from above, little by little.

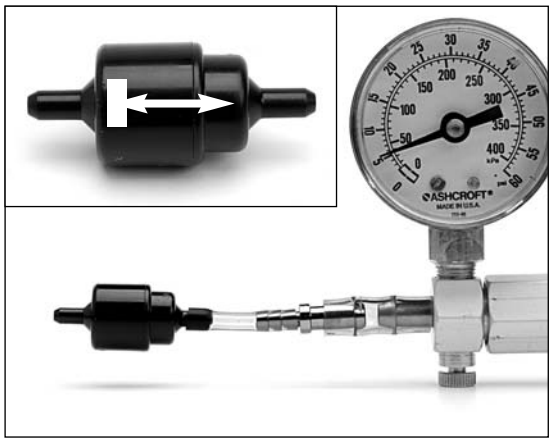
The new hose is feed down in the tank from above by hand. Greasing the hoses facilitates assembly.

Tank venting

The tank vent has a non-return valve that permits air to enter the tank, but prevents fuel from running out.

Fault indication
Blocked tank vent is shown as follows: As the fuel tank is emptied during use an underpressure is created in the tank, which reduces the fuel supply – the machine lacks power. When the filler cap is opened air suction is audible.

Dismantling
Lift the non return valve out of the holder and remove the connections.



Non-return valve – functional test
Connect the non return valve to pressure tester 501 56 27-01.

Blow in the direction towards the tank. The air should pass without a build up of pressure.

Blow in the direction towards the filter. Non return valve should stop a pressure of approximately 3–6 psi/20–40 kPa and open at a higher pressure.

Non-return valve – functional test
Connect the non return valve to pressure tester 501 56 27-01.
Note: Never expose the non return valve to a high pressure (compressed air)!

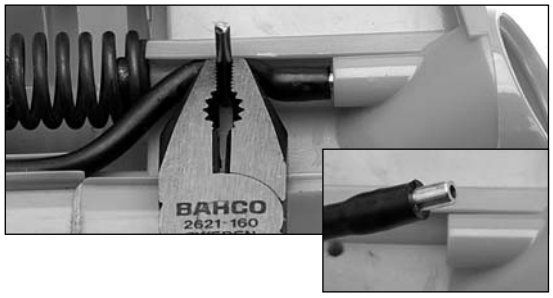
Test the non return valve by first blowing in the direction towards the tank. The air should pass without a build up of pressure.

Blow in the direction towards the filter. The non return valve should stop a pressure of approximately 3–6 psi/20–40 kPa. At a higher pressure the non return valve opens.

Tank venting hole
Check by blowing through the hose.

Tank venting hole
If the non return hose is not malfunctioning, blocked tank venting may be due to a clogged venting hole in the tank.

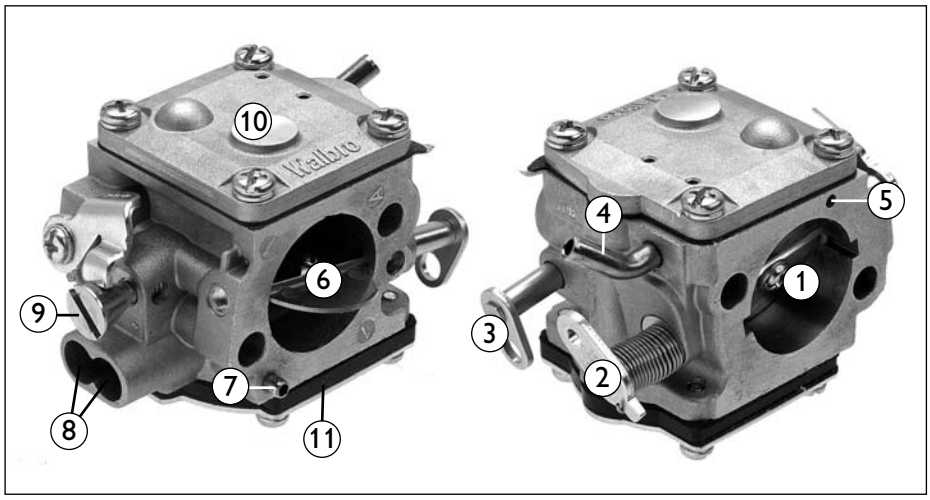
This is simply checked by blowing though the hose.

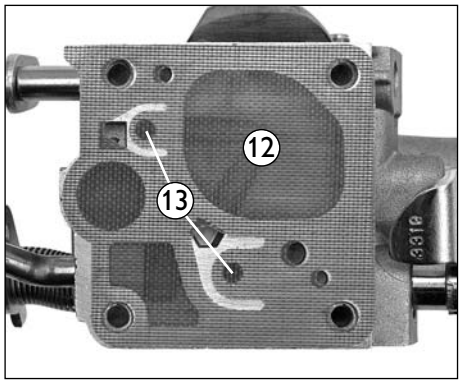


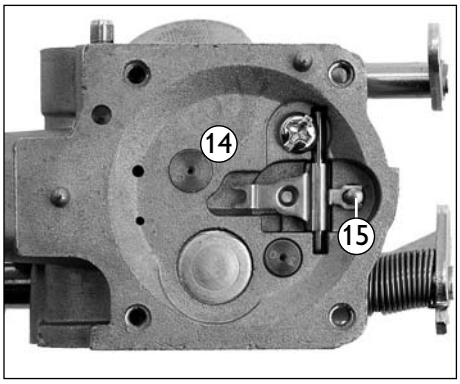
Tank venting hoses
Pull up the locking pin. Pull the hose out of the tank.

Tank venting hoses
The locking pin must be dismantled to remove the hose to the tank. Pull it up using a pair of pliers.

Now pull out the hose together with the nipple from the tank.

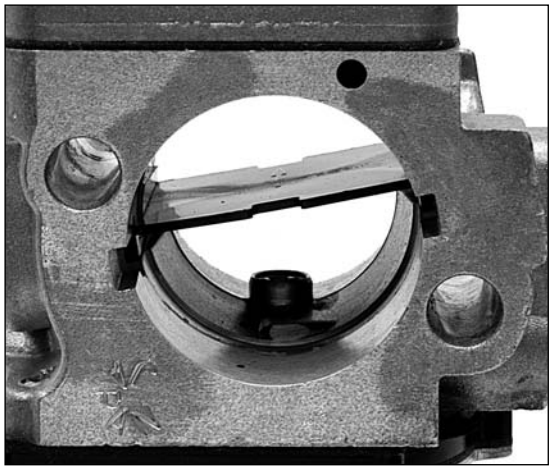






Components

1. Throttle valve
2. Throttle rod for the throttle
3. Throttle rod for the choke
4. Fuel line
5. Impulse channel, from the crankcase to the carburettor's pump diaphragm
6. Choke valve
7. Duct for pressure equalisation against the filter chamber (SmartCarb).
8. High and low speed jets (set at factory)
9. Idle screw, speed adjustment
10. Pump unit cover
11. Measurement chamber cover
12. Pump diaphragm
    - top in connection with the crankcase via the impulse duct
    - fuel under the diaphragm
13. Fuel pump's valve flaps
14. Measurement chamber, measurement chamber diaphragm above
15. Needle valve for pressure regulator



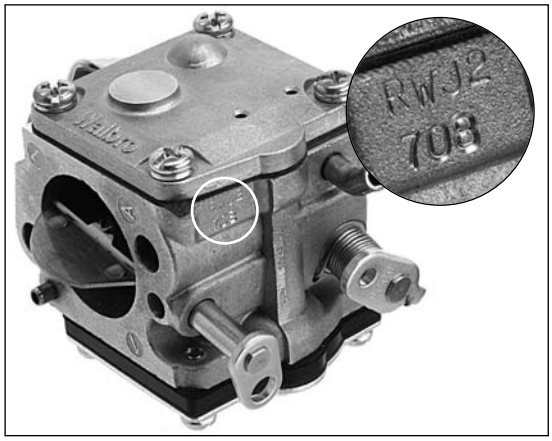
Dual Charge™

Split venturi

K960 is the first power cutter from Husqvarna with a split venturi. An over-rich fuel/air mixture is produced in the lower half while clean air passes through the carburettor in the upper half.

The fuel/air mixture and the clean air are led different ways to the cylinder. The clean air is first sucked into the cylinder and presses out the exhaust gases. In the final phase the cylinder is filled with the over-rich fuel/air mixture. The Dual Charge technology reduces the discharge of uncombusted hydrocarbons by approximately 60 % compared with a traditional engine.

The throttle and choke valves have been dismantled in the picture to show the division in the venturi.

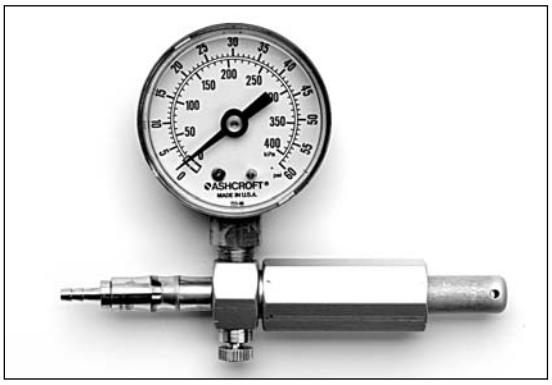


Carburettor variants

Carburettor technology is subject to continuous development and refinement.

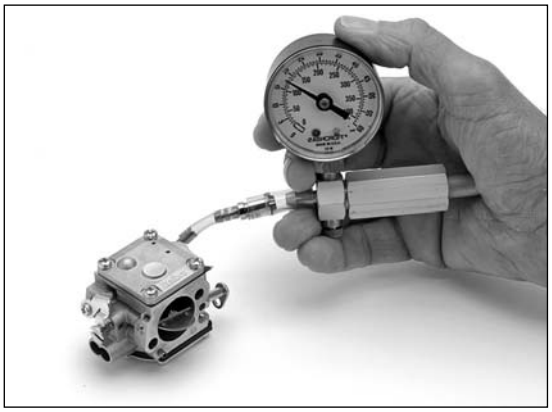
K960 is available with a number of carburettor variants. The carburettor version can be read on the marking as shown in the picture, e.g. RWJ2.

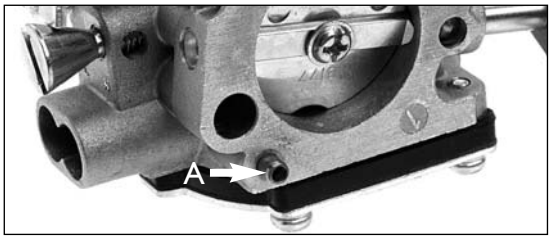
Components that usually require service have up until now been identical between versions, for example, needle valve, pump diaphragm, measurement chamber diaphragm, etc.

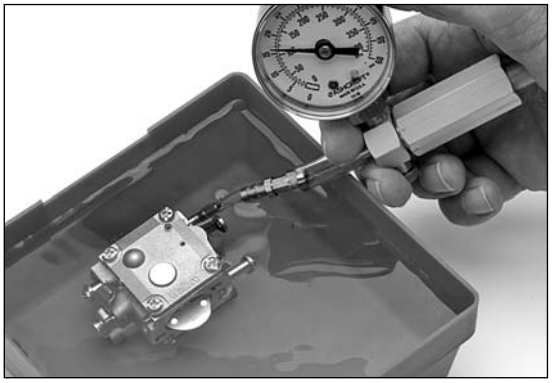


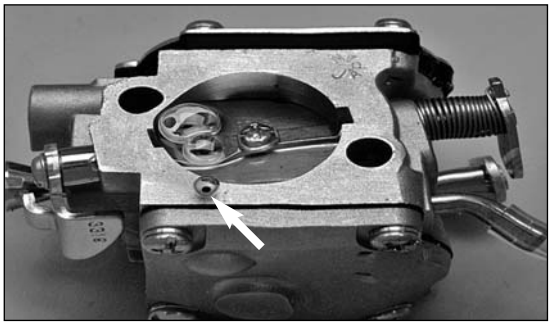
Functional test

Pressure tester 501 56 27-01
The pressure tester is supplied with an adapter nipple for small sizes. Make the hose connection as short as possible.









Functional test

Pressure tester 501 56 27-01
The pressure tester has a pump piston that is operated with one hand.

The pressure tester is supplied with an adapter nipple for small sizes. Make the hose connection to the nipple as short as possible, this gives a clearer test result.

Leaking needle valve – indications

A leaking needle valve can be seen in numerous ways. A machine that is run for short periods is often difficult to start when it is warm, fuel leaks into the venturi and gives too much fuel for the next warm start. With a cold start, especially when the machine has not been used for a long period, the fuel chamber above the needle has been slowly emptied and fuel has evaporated. First after several attempts to start, has new fuel been pumped forwards and the machine starts.

Needle valve – testing

Reliable inspection of the needle valve's function demands certain conditions. The clearest result is obtained from a carburettor that is drained of fuel, yet still has some fuel residue. A completely “dry” carburettor, or a carburettor that has not been used for a long time gives a measurement result that is difficult to interpret.

Connect a thin, short hose to the carburettor's fuel pipe. Pump up the pressure to approximately 200 kPa and let the fuel run out through the venturi. Not until air emerges from the venturi, can the function of the needle valve be tested as set out below. If the needle valve does not open at 250 kPa (max. permitted pressure test) the needle valve has jammed. This can usually be forced open by blowing gently through the hole for filter compensation (A).

Test the needle valve's function as follows: Pump a pressure to 100–250 kPa, the needle valve should then lift. The pressure should then drop to 100–50 kPa and then drop significantly slower or stop completely. Pressure drop after 50 kPa indicates a leaking needle valve, or a leaking carburettor. Check that the screws on the pump and measurement chamber covers are tightened.

Testing can also be performed with the carburettor assembled on the machine. Drain the fuel from the carburettor by pressurising this repeatedly before the measurement values are read.

Water bath

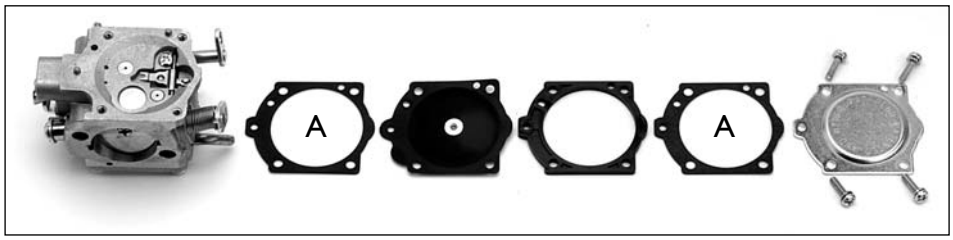
By lowering the carburettor into the water any external leakage can be examined at the same time as the function of the needle valve. Let the carburettor remain in the water for as shorter time as possible.

Pump diaphragm

Connect the pressure tester to the fuel pipe. Place the carburettor in the water bath and pump up the pressure. The pump diaphragm leaks if air comes out of the impulse duct.

Measurement chamber diaphragm

The condition of the diaphragm cannot be checked by pressure measurement. A punctured diaphragm results in air being sucked into the nozzle in the venturi instead of fuel.



Measurement chamber

Note the interrelated positions of the components when dismantling, as they can be reassembled in the wrong order. The gaskets A are identical.

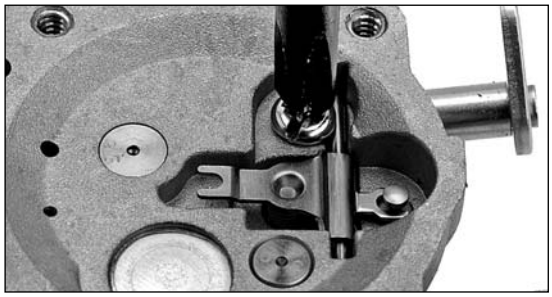
Measurement chamber – function

The measurement chamber has two chambers: The air chamber (towards the cover) and the fuel chamber (towards the carburettor body). These are separated by the measuring chamber diaphragm. The diaphragm controls and maintains a constant fuel level in the fuel chamber through the mechanically connected needle valve.

The air chamber is connected with the inlet, after the air filter, and gives the air chamber the same pressure (SmartCarb™ filter compensation).

Measurement chamber diaphragm – inspection

Make a visual inspection of the diaphragm with regard to cracks and leakage. Fuel on the top, towards the cover, indicate leakage. Change the diaphragm.



Needle valve

Perform a pressure test as previously described. If the test indicates a leaking needle valve, it must be dismantled.

Needle valve

A faulty needle valve is the most common cause of malfunction caused by the carburettor. Perform a pressure test as previously described. If the test indicates a leaking needle valve, proceed as follows: Dismantle the screw holding the axle and remove the components.

Check that the spring is not deformed and that the lever runs easily on the axle.

Check that the spring is not deformed and that the lever runs easily on the axle.

When reassembling: Note that the lever has two forks where the needle valve and measurement chamber diaphragm fit.

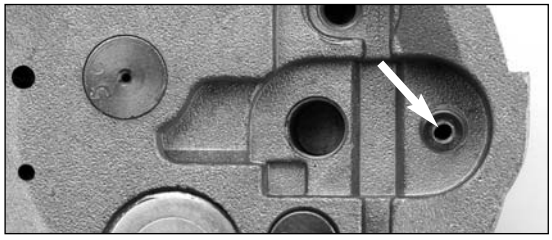
Inspect the tip of the needle with a magnifying glass

If there are signs of deposits or the tip of the needle is deformed it must be replaced. (The picture shows a new needle tip.)

Inspect the tip of the needle with a magnifying glass

If there are signs of deposits that cannot be removed easily or the tip of the needle is deformed (waistline) after the seating that it seals against, the needle valve should be replaced. Always replace in uncertain cases.

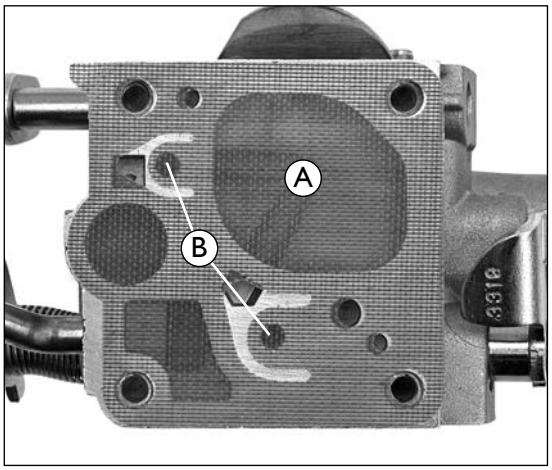
See the needle valve as a wear part that needs to be replaced during the life of the machine. (The picture shows a new needle tip.)



Clean the seating

Clean the seating

Check whether there is dirt on the needle valve's seating. If compressed air is used for cleaning, the pump diaphragm must be dismantled to prevent damage from over pressure.

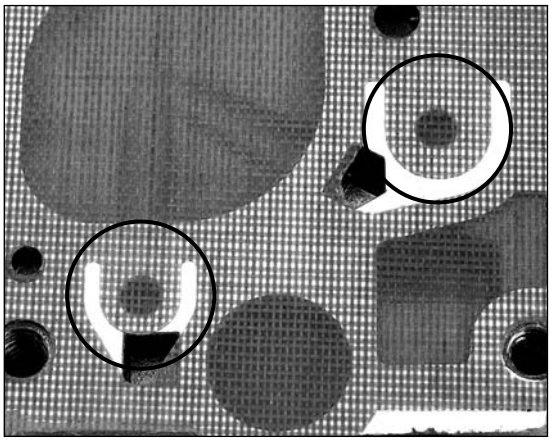


Pump unit

Function

The pump diaphragm (A) is driven by the pressure variations in the crankcase, which are led to the top of the pump diaphragm.

The fuel on the underside of the diaphragm is pumped to the valves (B). The counter pressure of the measurement chamber diaphragm against the needle valve in the measurement chamber controls the valves' degree of opening and the quantity of fuel pumped into the measurement chamber's fuel side.



Inspection

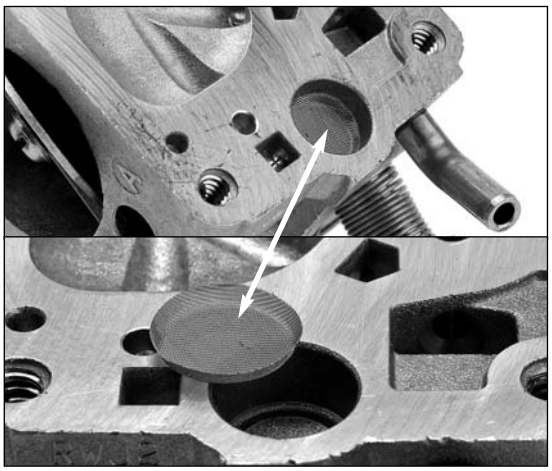
Pump diaphragm leakage is checked as previously described.

Check that the valve flaps closed tightly against the carburettor housing.

Inspection

Pump diaphragm leakage is checked as previously described.

The function of the valve flaps cannot be pressure tested and must be visually inspected. The valve flaps must be absolutely flat and close tight against the carburettor housing in order for the pump function to work. If the flaps show signs of buckling, fatigue or cracking, the diaphragm must be replaced.



Fuel strainer

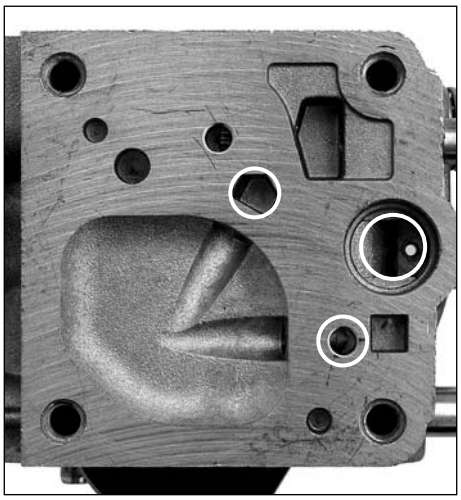
Inspect the strainer with a magnifying glass. Loose dirt particles can be blown away from the needle valve's seating.

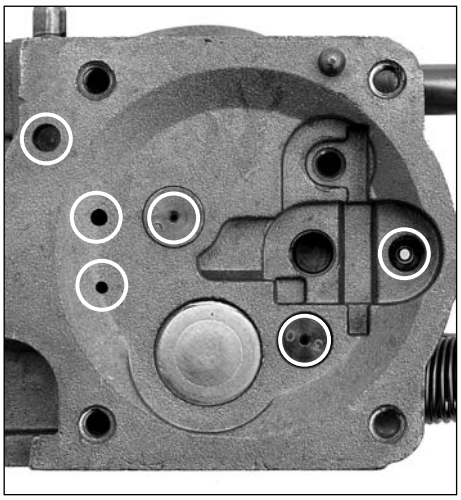
Replace the strainer if it is defective. Dismantle with a needle and assemble with a 7 mm punch.

Fuel strainer

There is a fine-meshed strainer located on the fuel inlet to the carburettor. Inspect this with a magnifying glass. Loose dirt particles can be blown away from the needle valve's seating. If there are deposits that are hard to remove or the mesh is damaged the strainer must be replaced.

The strainer is dismantled using a needle or awl. Fit the new strainer with a .3 in./7 mm punch.





Channels

Blowing clean the carburettor

In connection with a service on the carburettor it is appropriate to blow out any particles from the channels using compressed air. The measurement chamber diaphragm and the pump diaphragm as well as the needle valve must be dismantled before starting to blow clean. Open the choke valve to give free air passage through the venturi.

The rings indicate where blowing clean should be done.

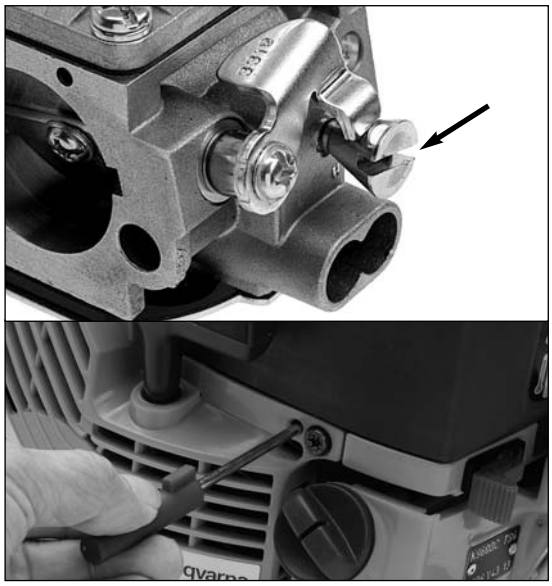
Valve axles

Check that there is no radial play on the valve axles. Replace parts if necessary.

Valve axles

Leakage from the valve axles results in incorrect fuel/air mixture and to dust penetration in the engine.

Check that there is no radial play on the valve axles. Replace parts if necessary. See the spare parts list.



Adjustment

The jets are not adjusted.

Idle speed
The idle speed should be checked during a service.

Adjustment

The high and low jets on the carburettor have been set at the factory. These should not be readjusted.

Idle speed
The idle speed adjustment is the only carburettor adjustment that can and should be made during a service. The idle screw mechanically affects the opening of the throttle valve.

The hole for the adjuster screw is next to the cover for the fuel. Use the special screwdriver (501 60 02-03).

Tachometer
502 71 14-01
The instrument is induction sensing.

Tachometer 502 71 14-01
The instrument is induction sensing and does not need to be connected directly to the ignition lead. The air filter cover can be fitted when testing.

The supplied antenna cable does not normally need to be used.

Idle speed 2.700 rpm

Adjust outdoors
The blade should be fitted.

- Run the machine warm for approximately 5 minutes.
- Align the arrow towards the spark plug
- Adjust to an idle speed of approximately 2700 rpm.
- If the blade rotates, lower the speed a little. If this does not help the clutch should be rectified.

Adjust outdoors
Naturally the idle speed must be adjusted outdoors on account of the exhaust fumes. The blade should be fitted.
- Run the machine warm for approximately 5 minutes.
- Keep the instrument with the arrow directed downwards towards the position of the spark plug.
- Adjust the idle screw to an idle speed of approximately 2700 rpm. The blade should not rotate at this speed.
- If the blade rotates, lower the speed a little. If this does not help the clutch should be rectified.

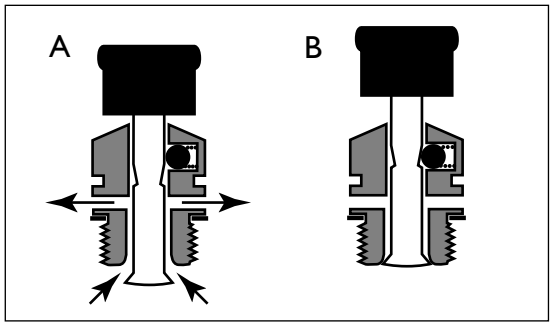
Decompression valve

Function

The decompression valve reduces the compression in the cylinder when starting.

A limited quantity of fuel/air mixture leaks out through the decompression valve, as shown in fig. A.

As soon as the engine fires the valve will close due to the combustion pressure, as in fig. B.



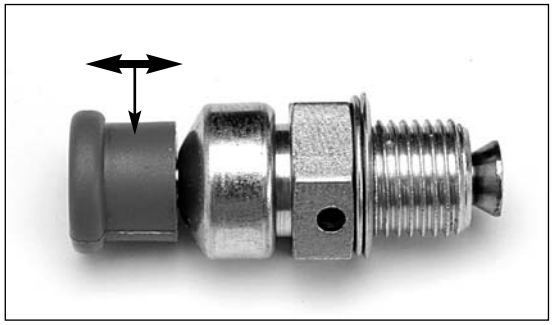
Dismantling

Dismantle the cylinder cover and the starter to gain access to the decompression valve.

Dismantling

The cylinder cover and the starter must be dismantled to gain access to the decompression valve.

Dismantle the decompression valve using an open-ended spanner or combination spanner.

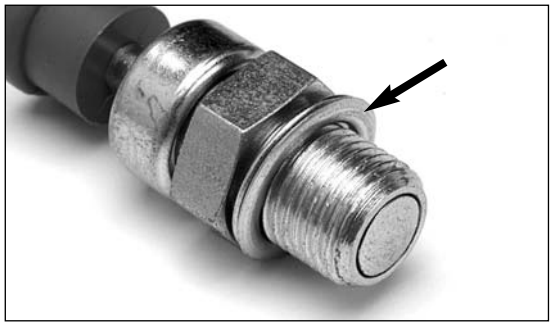


Service

Check that the valve moves. Clean any soot or deposits from the valve..

Service

Check that the valve moves. Carbon removing chemicals or a light oil (diesel oil) can help a jammed valve to work again. Blown clean the valve with compressed air. Carbon deposits on the valve and the seating can be removed using fine emery cloth.



Assembly

Clean and check the sealing washer.

Leakage test

Use a leakage spray or soapy water. Place the stop switch in the stop position and pull the starter handle slowly.

Assembly

Clean the sealing washer and check that this is not damaged before assembling the the decompression valve.

Leakage test

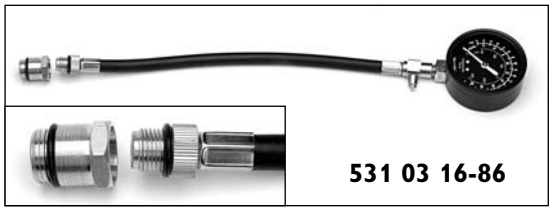
The decompression valve can easily be checked for leakage without starting the machine. Use a leakage spray or soapy water. Move the stop button to the stop position and slowly pull the starter handle while observing the decompression valve.

503 55 22-01

Compression test

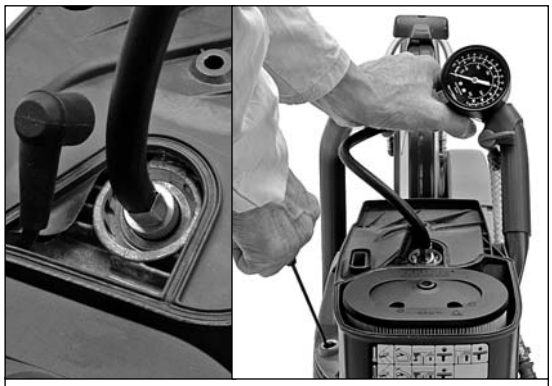
The test indicates leakage from the combustion chamber.

Close the decompression valve or fit the sealing plug 503 55 22-01.



531 03 16-86

Compression tester
Connect the compression tester in the spark plug hole.



New, run-in engine approximately 9 bar
Rectify below 7 bar

Compression test
- Run the engine warm.
- Connect the instrument.
- Make 5–6 attempts to start and read the pressure. Evacuate the pressure and repeat the procedure a few times. Note the average value for the tests.

Values less than 7 bar (100 psi) indicate faults with on the cylinder, piston or piston rings.

Compression test

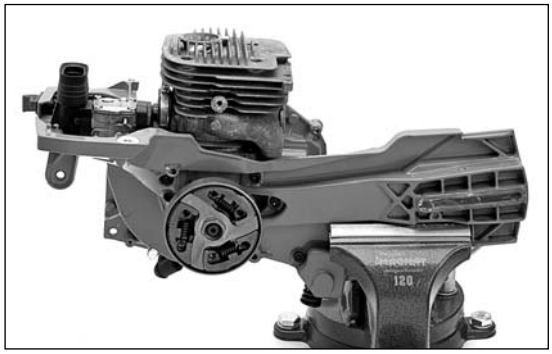
The compression test indicates leakage from the combustion chamber. If the machine lacks engine power and is difficult to start this may be due to poor compression.

Close the decompression valve or fit the sealing plug 503 55 22-01 to eliminate the decompression valve as the source of the fault.

Compression tester
The compression test is performed using the measurement instrument 531 03 16-86, which is connected to the spark plug hole. The valve below the gauge evacuates the pressure.

Compression test
- Run the engine warm for a few minutes.
- Unscrew the spark plug and connect the instrument.
- Make 5–6 attempts to start and read the pressure on the gauge. Evacuate the pressure and repeat the procedure a few times. Note the average value for the tests.

The average value for a new and run-in engine is approximately 9 bar (130 psi). Values less than 7 bar (100 psi) indicate faults with on the cylinder, piston or piston rings.

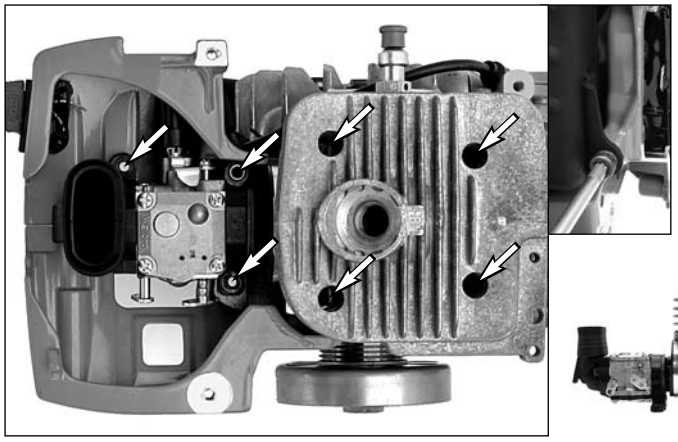


Cylinder

Dismantling

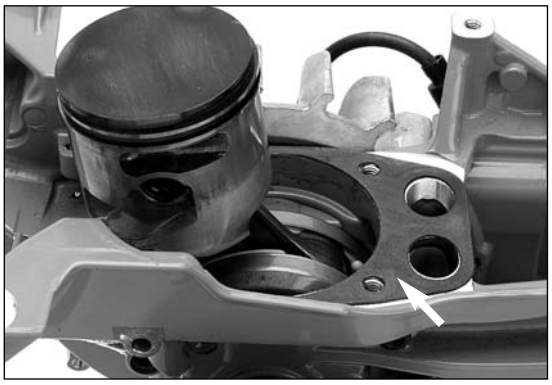
The service actions necessary determine the most appropriate method. Splitting the machine at the vibration dampening element provides the best view and accessibility. However, the cylinder can be lifted without this splitting procedure.

It may be appropriate to secure the engine body in a vice to facilitate work. Use soft jaw guards!



The simplest method to lift the cylinder is to allow the carburettor with the inlet units and muffler to remain in place on the cylinder.

Dismantle according to this method as follows:
- Dismantle the three screws on the inlet units.
- Dismantle the lower screw on the muffler.
- Dismantle the four screws at the base of the cylinder.



Remove the cylinder base gasket.

Remove the cylinder base gasket.

Tool kit 502 50 70-01
The tool kit contains piston ring compressors, a piston stop, and a support plate for the piston.

The piston stop must not be used on K960.

Tool kit 502 50 70-01
The tool kit contains, to the left, piston ring compressors to press together the piston rings when assembling.

The middle tool is a piston rod which must not be used on K960.

The support plate to the right is placed between the piston and the crankcase to facilitate the work.

Piston

Dismantling

Place the support plate under the piston.

Piston

Dismantling

Place the support plate under the piston.

Seal with a cloth or paper so as not to risk anything falling down into the crankcase.

Seal with a cloth or paper so as not to risk anything falling down into the crankcase.

Dismantle the circlips.

Dismantle the circlips on both sides of the gudgeon pin using a pair of pliers. Turn and press together the circlip at the same time as it is pulled outwards.

505 38 17-05

Gudgeon pin punch
Used to dismantle and assemble the gudgeon pin.

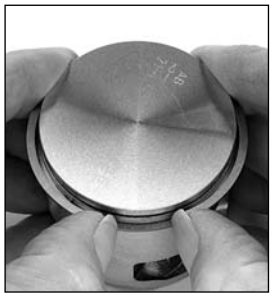
Gudgeon pin punch 505 38 17-05
The gudgeon pin punch is used to press out the gudgeon pin. It is also used for assembly.

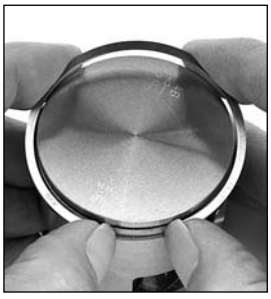
Dismantle the gudgeon pin
Push out the gudgeon pin by hand. If it is tight, it can be knocked out with a small hammer and gentle force. Use a counterhold.

Dismantle the gudgeon pin
Push out the gudgeon pin in any direction. Can usually be done by hand. If it is tight, it can be knocked out with a small hammer and gentle force. Use a wooden block or a large plastic hammer as a counterhold on the opposite side.

Dismantle the needle bearing

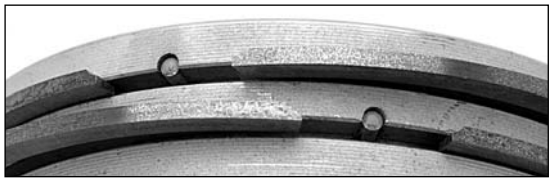
Dismantle the needle bearing
Press the needle bearing out of connecting rod.





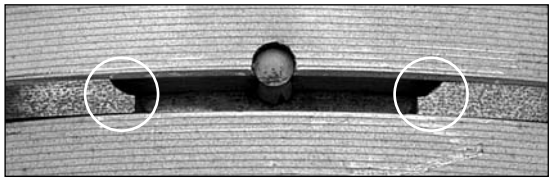
Piston rings
Dismantle the piston rings.

Piston rings
The piston rings are dismantled without tools using the following method. Slide the piston ring towards you, so you can grip the ends. Carefully expand the ring and move it away from you, so it can be lifted out of the groove at the rear edge. Assemble the parts in the reverse order.



Important when assembling
Fit the open part of the piston ring so it aligns with the guide pin.

Important when assembling
The piston ring groove has a guide pin that prevents the piston rings from rotating. Fit so that the open part of the piston ring aligns with the guide pin.



Turn the piston ring with the bevelled edge towards the guide pin.

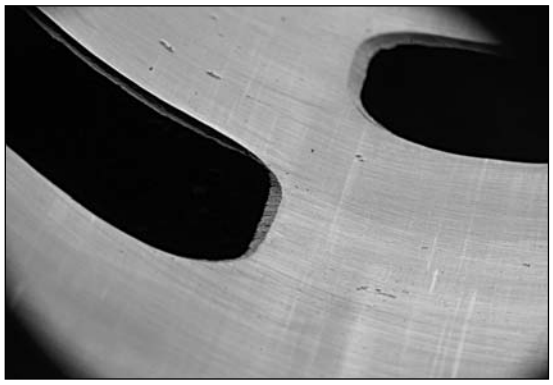
Turn the piston ring with the bevelled edge towards the guide pin.

Examine the components
Investigate the cause of the impaired compression or failure.

Machines with a few hours of use should be examined carefully to identify the cause of the abnormal wear.

Examine the components
Investigate the cause of the impaired compression or failure. With normal wear, due to many hours of use, components are measured (page 32) and replaced if necessary.

Machines with a few hours of use should be examined carefully to identify the cause of the abnormal wear, which is described later in this chapter.



Wear tolerances

Cylinder

Inspect the cylinder bore against the light. As long as the surface layer has not been broken through, the cylinder is in working order.

Aluminium from the piston can be removed using emery cloth.

Wear tolerances

Cylinder

Inspect the cylinder bore against the light. As long as the surface layer has not been broken through, the cylinder is in working order.

Aluminium from the piston can be removed using emery cloth, particle size approximately 120 grit. Carefully clean after sanding.

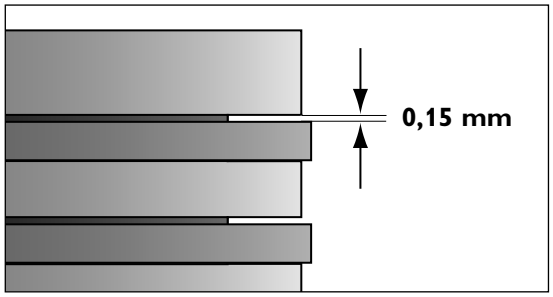
Piston

Wear is at its greatest at the bottom of the piston by the inlet and exhaust ports. A study of the machining lines after manufacture give a picture of wear. If the piston has been worn completely smooth by the ports you should consider replacement.

Piston

Wear is at its greatest at the bottom of the piston by the inlet and exhaust ports. A study of the machining lines after manufacture give a picture of wear. If the piston has been worn completely smooth by the ports you should consider replacement.

Characteristic for a worn piston is that the machine is difficult to start due to the piston's reduced valve function.

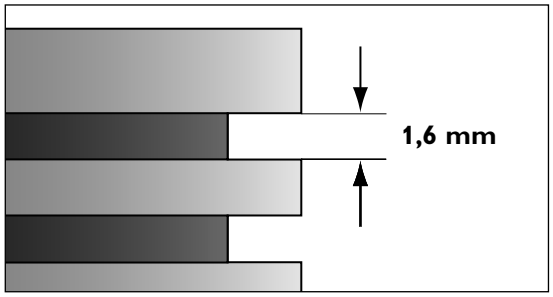


Piston ring play

If the piston ring play exceeds .006 in./0.15 mm the piston ring groove should be measured as set out below.

Piston ring play

Measure the piston ring play using feeler gauges. If play exceeds .006 in./ 0.15 mm the piston ring groove should be measured as set out below.

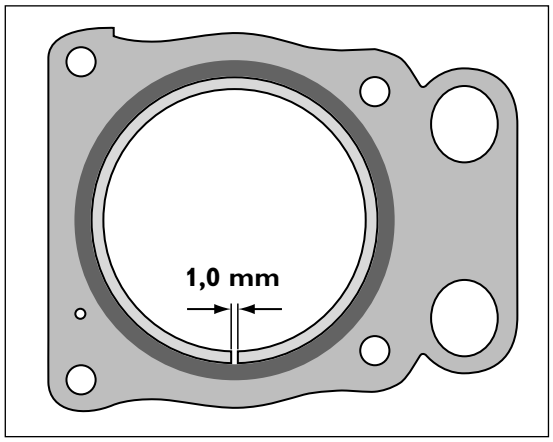


Piston ring groove

If the piston ring groove is greater than .06 in./1.6 mm the piston must be replaced. Fit a complete piston kit with piston rings, needle bearing and gudgeon pin.

Piston ring groove

Measure the piston ring groove using feeler gauges. If the piston ring groove is greater than .06 in./1.6 mm the piston must be replaced. Fit a complete piston kit with piston rings, needle bearing and gudgeon pin.



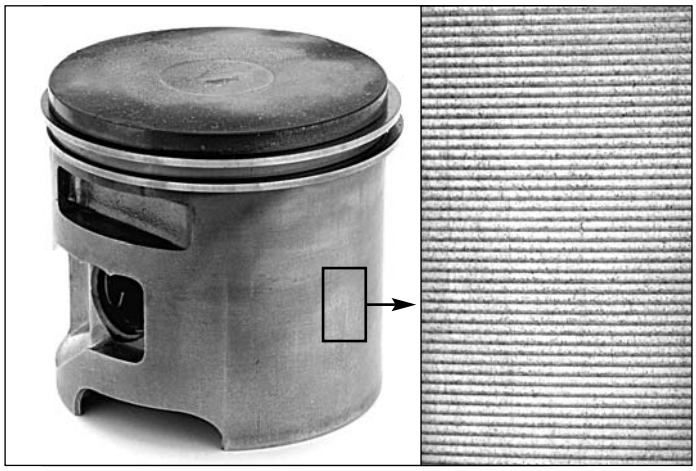
Piston rings

Insert the piston ring in the cylinder with the help of the piston, about one inch/a few centimetres from the base of the cylinder. The piston ring gap may be max. .04 in./1.0 mm.

Piston rings

Piston ring wear can be measured by inserting the piston ring into the cylinder and measuring the piston ring gap using feeler gauges. The piston ring gap may be max. .04 in./ 1.0 mm.

Use the piston to press in the piston ring exactly flat, about one inch/a few centimetres from the base of the cylinder.

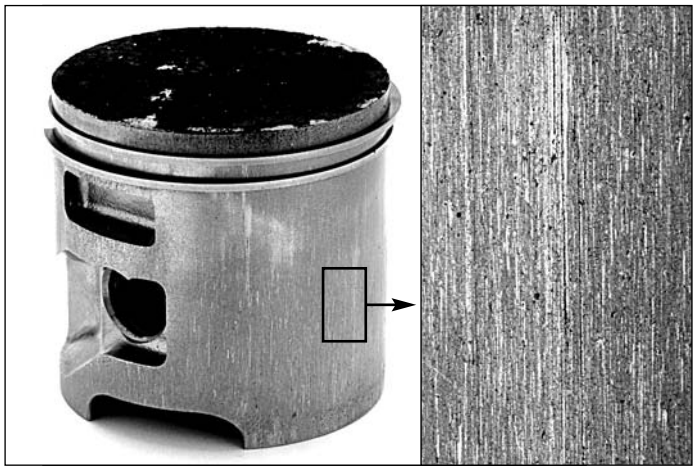


Piston damage

The cause of engine failure is often difficult to establish, primarily when the machine's history is not known. The typical cases below can provide some guidance. (Pistons from Husqvarna K750.)

Normal wear

Typical normal wear is easiest to see on the piston sections that face the exhaust and inlet sides. From the detailed image it is evident that the piston has been "polished" to give a bright surface, yet the machining lines after manufacture are still visible. Oiled piston rings indicate correct lubrication. The piston rings have full moveability in the piston ring groove.

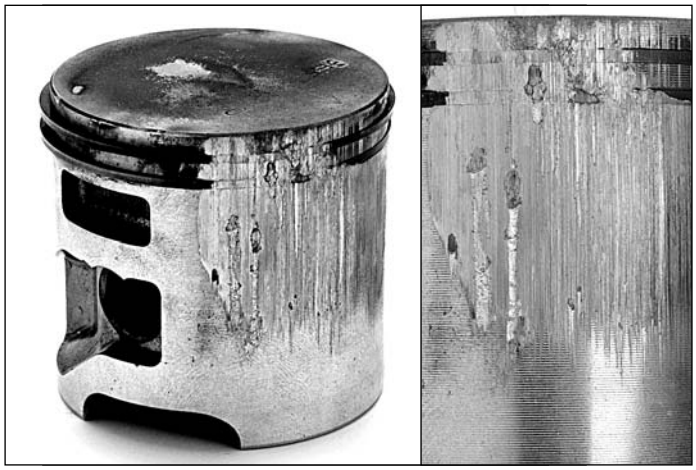


Dust

Dust entering the engine will dramatically shorten its life. The effect of dust can be clearly seen if the piston is studied under a magnifying glass. Spiral lines in line with the piston's travel are a clear sign. The machining lines after manufacture cannot be seen. The surface is matt.

Usual cause is inadequate filter service and/or leakage. Check the condition of the filters and gaskets. Also check the rubber guides between the cylinder and the carburettor as well as the connections. Methodical searching for dust, from the filter units to the inlet by the cylinder, should give a result.

(The sooty piston top indicates that the machine works at short intervals and has not been run completely warm.)



Scoring

Damage of this type is always the result of overheating. The cores are usually on the exhaust side, which is the hottest. Inlet side can show similar damage.

Check whether the machine has broken down due to an incorrect oil mixture, or no oil at all. The oil on the overheated piston has probably carbonized. Check instead whether the connecting rod or the crankcase has a film of oil.

If a lack of oil can be excluded, inlet leakage should be looked at. When the engine has air leakage on the inlet side, this results in a lean fuel/air mixture which first and foremost give scoring on the exhaust side. Look for combination effect as in the example below.

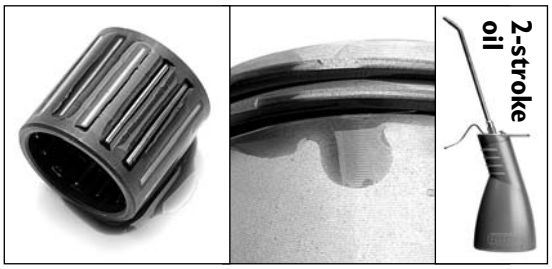
Overheated piston top

Clear signs of overheating are aluminium deposits on the top of the piston, which in extreme cases can result in melting.

Excess air in relation to the fuel volume increases the temperature in the combustion chamber. Therefore check whether the inlet system is blocked. Check that the fuel supply has not been obstructed due to a defective fuel hose, tank vent or the pulse hose.

Fuel with a too low octane grade cause ignition at the wrong point like spark plugs with the wrong thermal rating, which both increase the temperature in the combustion chamber.

Check that the flywheel's key on the crankshaft is intact, as the flywheel position on the crankshaft controls the ignition time point.

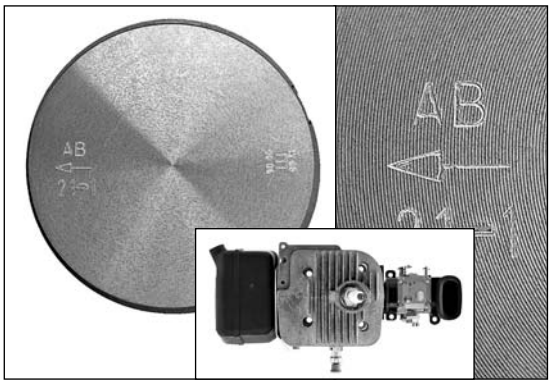


Assembly

Oil in
Oil in bearings and piston rings with 2-stroke oil.

Assembly

Oil in
New or cleaned bearings and piston rings should be oiled in with 2-stroke oil before assembly to initially ensure satisfactory lubrication.

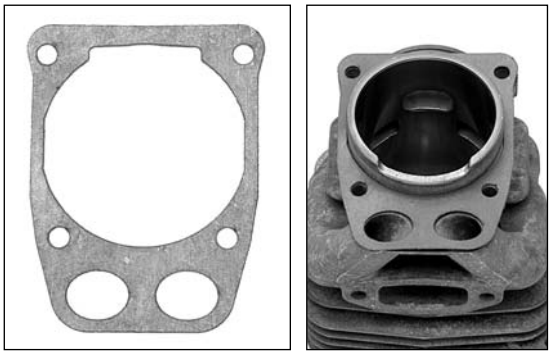


The arrow pointing towards the exhaust port
Important to turn the arrow towards the muffler when assembling.

Fit the needle bearing in the connecting rod. Fit a circlip on the piston. Hold the piston in position, insert the gudgeon pin and fit the other circlip.

The arrow pointing towards the exhaust port
The piston is not symmetrical. It is important that the arrow is turned towards the muffler when assembling the piston on the connecting rod.

Fit the needle bearing in the connecting rod. Fit a circlip in the piston, hold the piston in position, press in the gudgeon pin and fit the other circlip. Check that the circlips are seated correctly in their grooves.

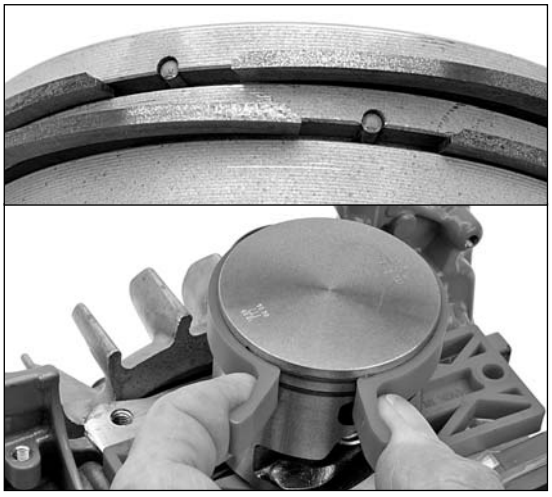


Cylinder base gasket
Carefully clean any old gasket residue from the surfaces.

Fit the gasket on the cylinder.

Cylinder base gasket
It is extremely important that the base of the cylinder seals tight against the crankcase. Carefully clean off any old gasket residue from the surfaces that connect with the gasket.

Fit the gasket on the cylinder.

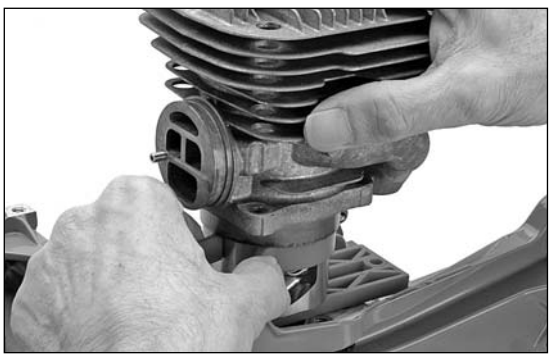


Assemble the cylinder
Check that the opening on the piston rings align with the guide pin.

Press together the piston rings using the piston ring compressor. Place this a few millimetres below the top of the piston to facilitate next phase.

Assemble the cylinder
Check that the opening on the piston rings align with the guide pin.

Press together the piston rings using a suitable piston ring compressor included in the tool kit 502 50 70-01. Place the piston ring compressor a few millimetres below the top of the piston to facilitate the next phase.



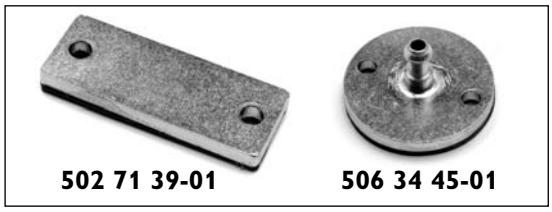
Press down the cylinder over the piston and let the piston ring compressor slide over the piston.

Fit the screws on the base of the cylinder and tighten these crosswise to a torque of 11–13 lbf·ft/15–18 Nm.

Press down the cylinder over the piston and let the piston ring compressor slide over the piston until the cylinder has past the piston rings.

Remove the piston ring compressor and the support plate align the cylinder on the crankcase.

Fit the screws on the base of the cylinder and tighten these crosswise to a torque of 11–13 lbf·ft/15–18 Nm.



Leakage test

A leaking crankcase results in reduced crankcase compression. A typical sign is that the machine is difficult to start.

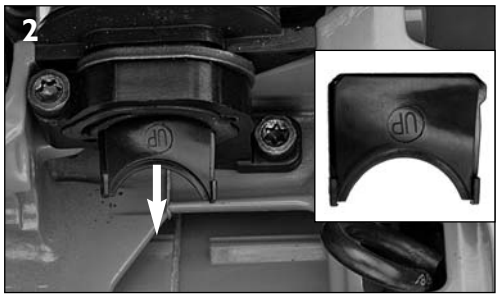
Tools

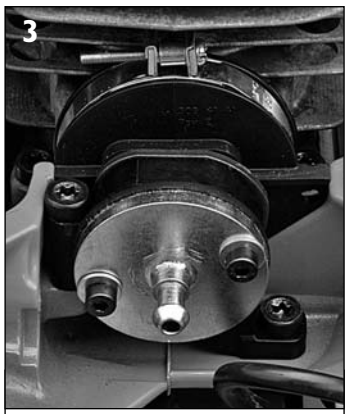
Tools 502 71 39-01 and 506 34 45-01 are required during the leakage test to seal the exhaust port and inlet port. Replace the decompression valve with sealing plug 503 55 22-01.

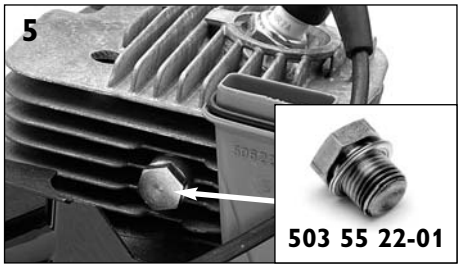
Pressure tester 531 03 06-23, or the like, is needed for the test.

Important

Turn the crankshaft so that the inlet port is fully open, i.e. that the piston is at its upper turning point.







The clutch lubrication channel

1. Tape over the clutch lubrication channel on the crankshaft. Does not apply to machines with ball bearing-mounted clutch drum.

Inlet duct

Dismantle the carburettor, see page 6.

2. Dismantle the partition wall in the inlet duct.

Inlet port

3. Assemble the sealing disc with screws, size M4 x 20 mm with washers.

Exhaust port

4. Dismantle the cutting head and the muffler as set out on page 5 and 7.

Assemble the sealing disc with the screws used for the muffler.

Sealing plug

5. Fit the sealing plug 503 55 22-01 in the hole in the cylinder for the decompression valve.

Test for leakage

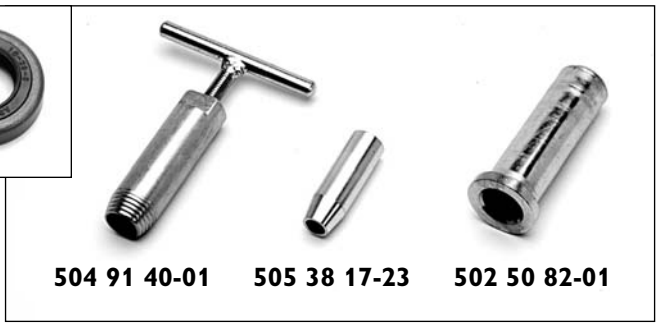
Connect the pressure tester to the nipple on the inlet seal.

Pump a pressure to 50 kPa. After 30 seconds the pressure must not drop below 20 kPa.

If a leakage is indicated

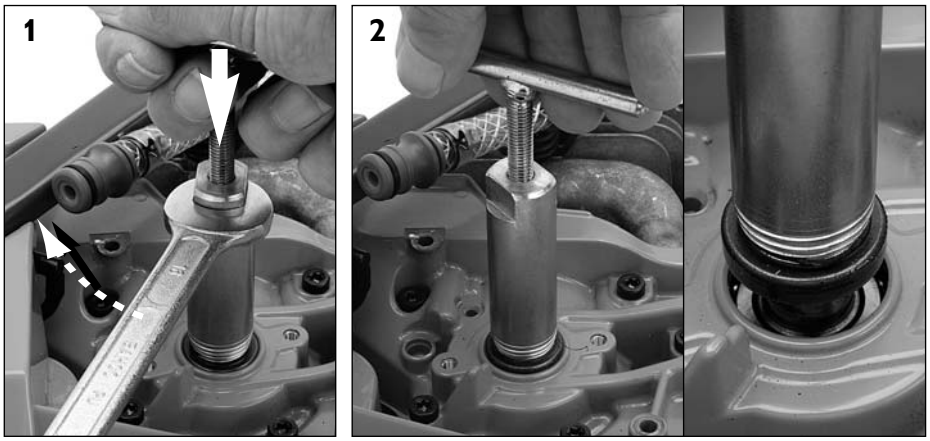
Note that the testing method also involves testing the inlet manifold and its connections. First check that there is no leakage from here (leaking inlet manifold or poorly tightened clamp around this).

Find the leakage by brushing with soapy water or use a leakage spray. First check the sealing rings on the crankshaft. Next check by the gaskets (crankcase halves, base of the cylinder). The third possibility is crack formation on the crankcase.



Crankcase seals

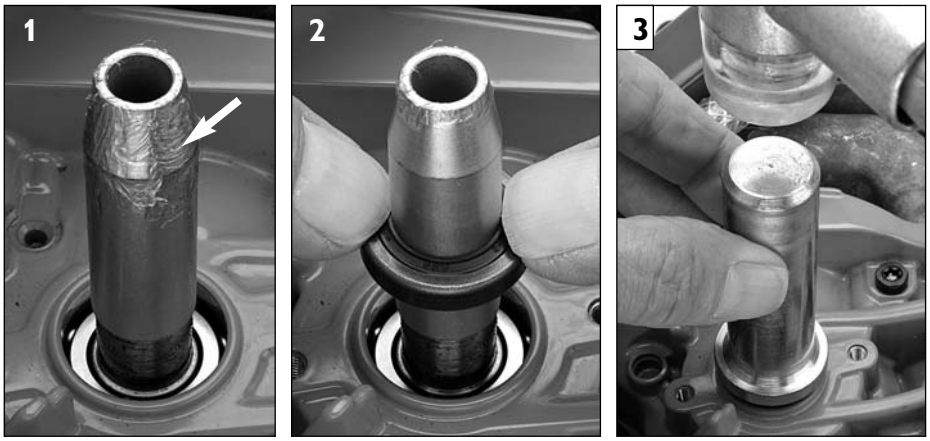
Tools
The puller 504 91 40-01, assembly taper 505 38 17-23 and the assembly punch 502 50 82-01 are needed to change the crankcase sealing rings.



Dismantling
1. Press down the puller and tighten the puller's conical thread in the sealing ring.

2. Pull up the sealing ring by screwing in the tool's centre bolt (T- handle).

Repeat the procedure on the flywheel side.

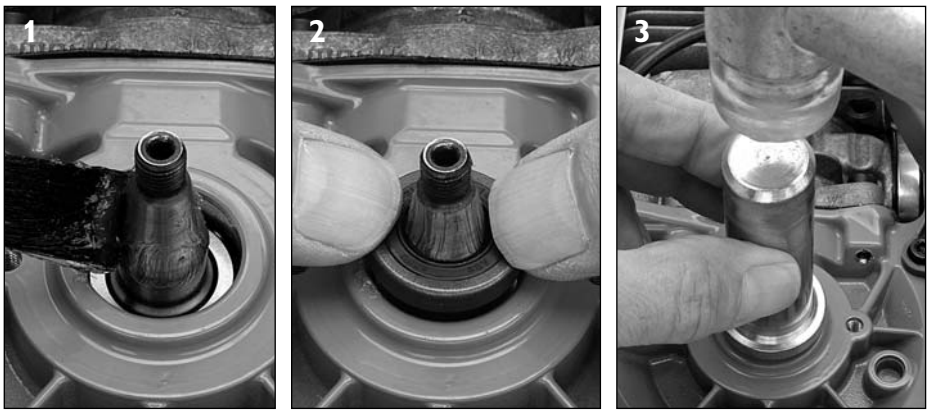


Assembly
CLUTCH SIDE

1. Lubricate the assembly taper and place on the axle.

2. Press down the sealing ring over the taper and down towards the seating.

3. Knock down the sealing ring into its seating with the assembly punch.



Assembly
FLYWHEEL SIDE

1. Lubricate the axle. (The assembly taper is not used.)

2. Press the sealing ring against the seating.

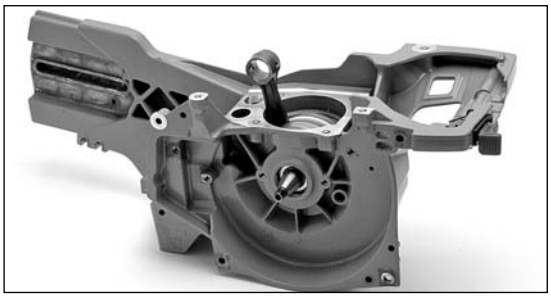
3. Knock down the sealing ring into its seating with the assembly punch.
Wipe off the grease on the axle before the flywheel is fitted.

Pressure test
Pressure test the crankcase. Check the seals crankshaft/sealing ring and sealing ring/crankcase with leakage spray or soapy water.

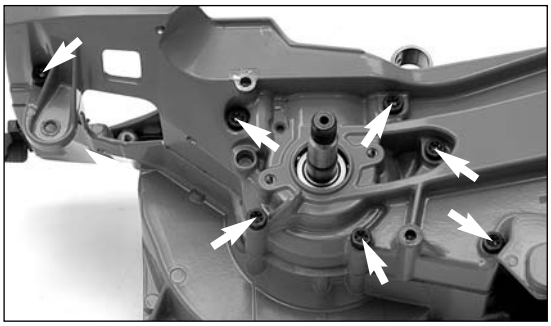
504 90 90-02 544 06 00-02

Separating the crankcase

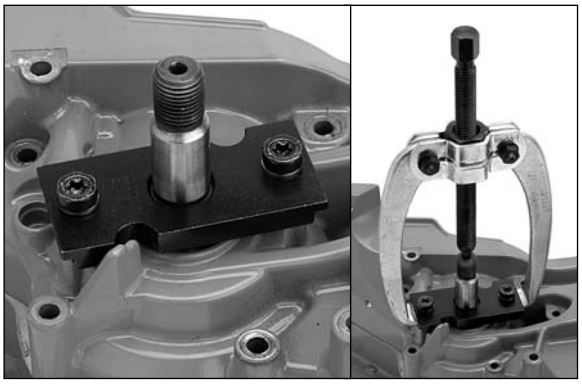
Tools
A universal puller and a special tool are needed to split the crankcase.

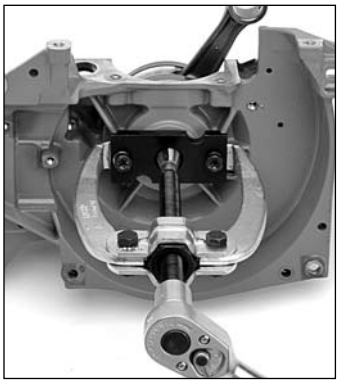


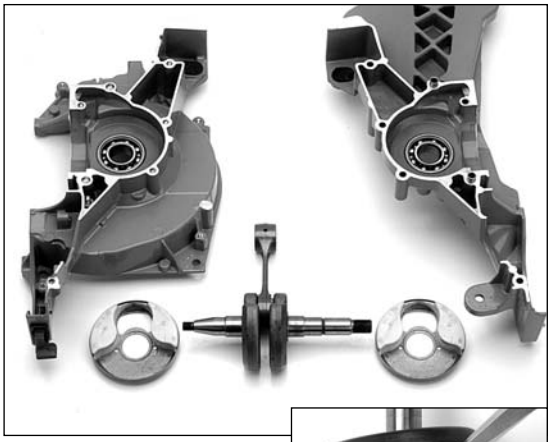
Starting position
Note that the crankshaft's stuffing boxes are to be dismantled.



Split the crankcase
Remove the screws.







Connecting rod
Check that there is no radial play on the connecting rod by the crankshaft journal.

Clean the gasket surfaces
Carefully clean the gasket surfaces.

Filled balance weights
The balance weights on both sides of the crank can be removed and replaced.

Separating the crankcase

Tools
A universal puller (504 90 90-02) and a special tool (grip plate) from Husqvarna (544 06 00-02) are needed to spilt the crankcase.

Starting position
Dismantle the basic modules from the crankcase.

Note that the crankshaft's stuffing boxes are to be dismantled.

Separate the crankcase
Remove the seven screws that hold together the crankcase halves.

Fit the grip plate (544 06 00-02) and press out the crankshaft with the puller.

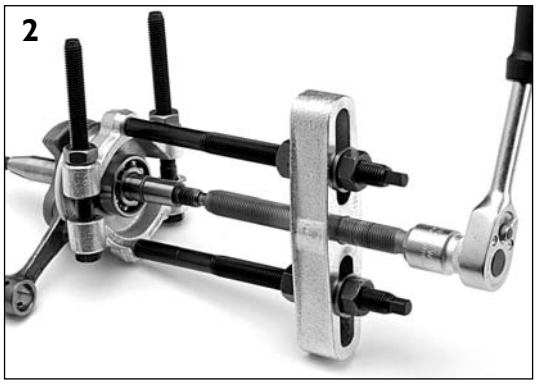
Press out the crankshaft from the other crankcase half in the equivalent manner.

Connecting rod
Check that there is no radial play on the connecting rod by the crankshaft journal. If this is the case the whole unit must be replaced.

Clean the gasket surfaces
Carefully clean the gasket surfaces. No gasket residue must remain.

Filled balance weights
The balance weights on both sides of the crank can be removed and replaced. These are important for the function of the engine and must not be forgotten when reassembling.

If the bearing releases from the crankcase
Normally the bearing should release from the crankshaft during dismantling. The bearing is dismantled from the crankshaft using the puller 531 00 48-67.



1. First fit the puller plate behind the bearing.

2. Fit the puller unit and press the bearing off of the crankshaft.

Main bearing

Tools
Use the tool kits opposite to change the main bearing.

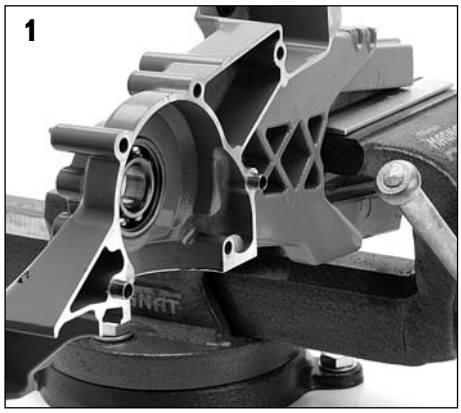
Dismantling
Note The tubular guides for the crankcase halves must be removed!

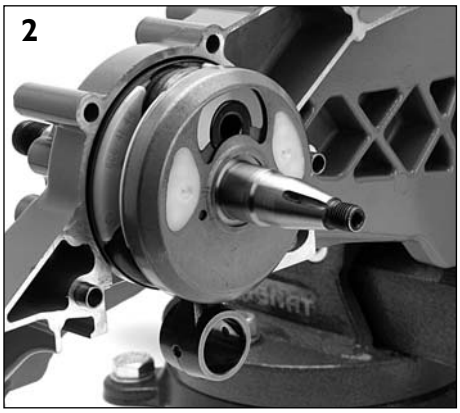
Place the crankcase halves against a flat piece of wood or the like. Heat around the bearing with a hot air gun, max. 300 °F/150 °C. Place the sleeve in the tool kit against the bearing and knock this out with a large plastic mallet.

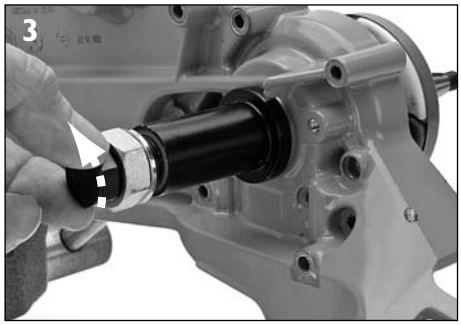
Assembly
Use the tool kit 506 37 61-02 for bearing assembly in both crankcase halves.

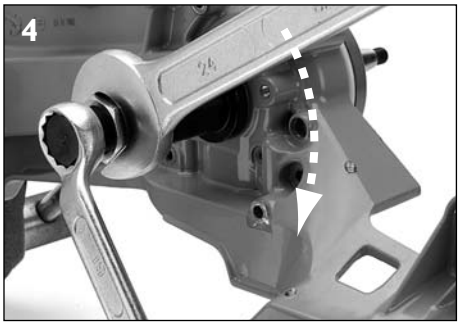
Place the bearing on the support plate and hold it under the crankcase half. Insert the screw through the washer and fit the screw in the support plate.

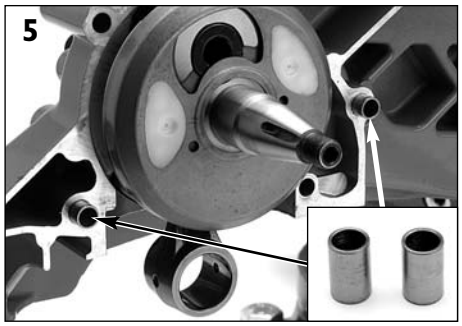
Lock the screw and turn the nut until the bearing reaches the stop in the crankcase half.

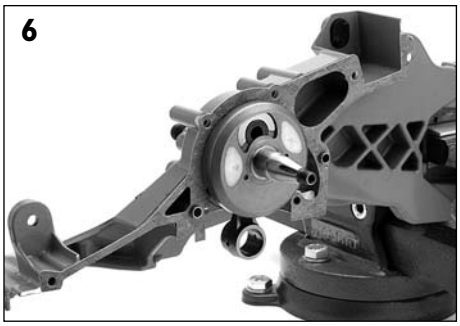


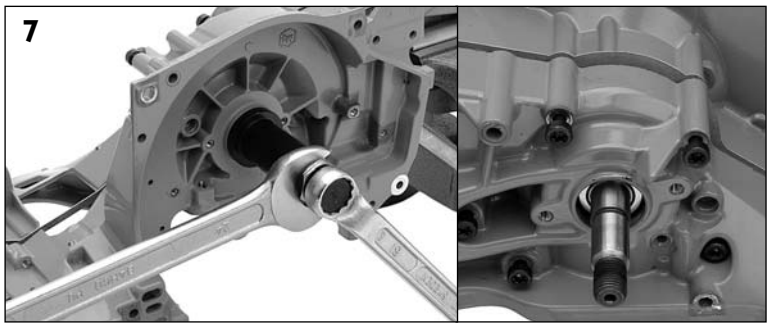


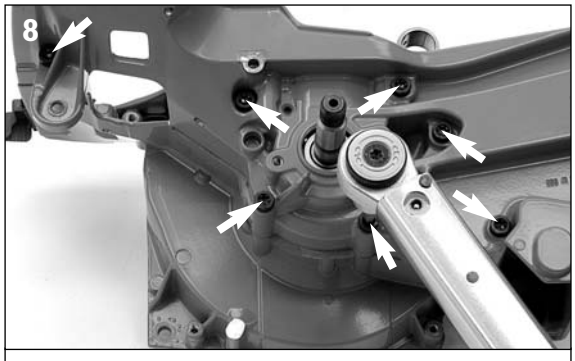


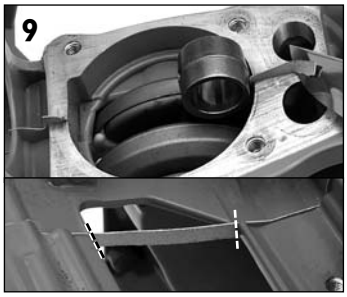












Crankshaft

Tools

Use the tool kit 544 10 36-02 to press the crankshaft into the bearing, after first fitting this in the relevant crankcase half. The threaded mandrel for the clutch and flywheel side is M12V and M8x1, respectively.

Assembly

Pictures 1 and 2.
Secure the crankcase half with the cylinder base plane facing downwards so that the connecting rod is not forced against the crankcase while working. Slide the crankshaft in the bearing.

Picture 3.
Position the sleeve from the tool kit against the crankcase half. Screw the threaded mandrel on the crankshaft by hand until it bottoms. Note that the crankshaft has a left-hand thread on the clutch side.

Picture 4.
Lock the threaded mandrel's movement and press in the crankshaft by turning the nut until the bearing reaches the stop in the crankcase half. Make sure that the connecting rod is not held against the crankcase half.

Picture 5.
Fit the guides.

Picture 6.
Fit the new crankcase gasket.

Picture 7.
Assemble the other crankcase half using the same method as the first. Change to the other threaded mandrel.

IMPORTANT! Pay attention to the position of the connecting rod while tightening so that this does not get jammed in position. Also align the guides in time so that the crankcase gasket is not damaged. Prefit the screws before the crankcase halves are brought together to guide the gasket into place.

Picture 8.
Fit the screws and tighten these crosswise to a torque of 8–9.5 lbf·ft/ 11–13 Nm.

Check that the crankshaft runs free after assembly. Knock the ends of the shaft using a small plastic hammer usually releases any tension.

Picture 9.
Cut the gasket on the cylinder plane and the carburettor seating.

Bild 10.
Fit new stuffing boxes (page 36).

Once the cylinder has been assembled the crankcase should be leakage tested.

Dismantling

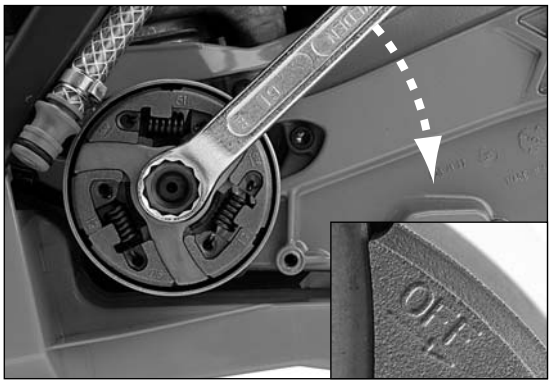
Dismantle the cutting head, the rear belt guard, the air filter cover, and the filter base.

Fit the piston stop

Dismantling

Dismantle the cutting head, the rear belt guard, the air filter cover, and the filter base.

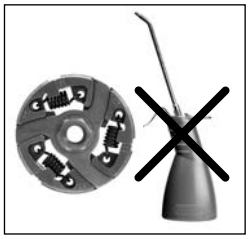
Fit the piston stop
Lock the crankshaft's travel by fitting the piston stop 504 91 06-05 instead of the spark plug.



Unscrew the clutch – clockwise
The clutch has a left-hand thread. It is marked with the dismantling direction "Off".

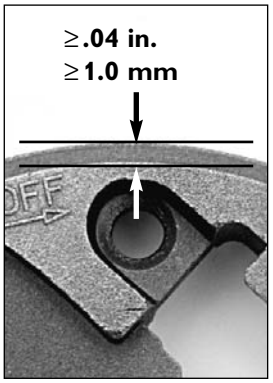
Unscrew the clutch – clockwise
Note that the clutch has a left-hand thread, thus screw clockwise to dismantle the clutch. The clutch is marked with the dismantling direction "Off".

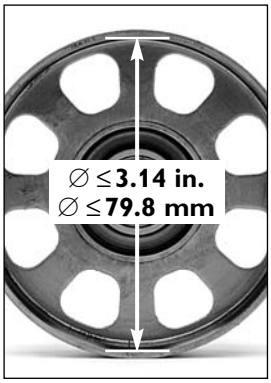
Warning!
Never use impact on the puller – this will damage the piston. Even dismantling without the piston stop using a striking tool results in a risk of damage to the flywheel's locking mechanism (keyway/key).



Dismantle the clutch
Once the clutch has been dismantled the clutch drum can be pulled from the axle.

Do not lubricate the clutch
Dismantle the clutch and clean if necessary. Note that the clutch must not be lubricated.



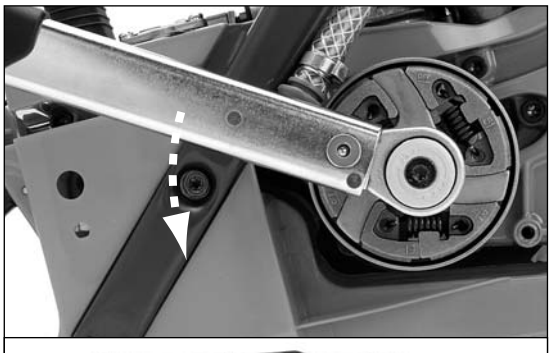


Wear tolerances

Engagement speed – min. 3100 rpm
The clutch must be rectified if the blade starts to rotate at an engine speed below 3100 rpm.

Clutch shoes
The height of the clutch shoe's bevelled section should not be less than .04 in. /1 mm. Replace if necessary for the complete clutch. Never replace individual shoes from another clutch – this creates imbalance.

Clutch drum
The inside diameter of the clutch drum must not exceed 3.14 in./79.8 mm. Replace if necessary with a new clutch drum.



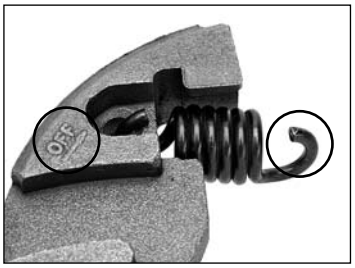
Assembly

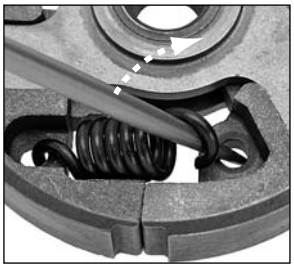
Tightening torque 35–40 Nm
For reasons of safety it is important that the clutch is assembled with the right tightening torque. Use a torque wrench.

Assembly

Piston stop
Lock the crankshaft's travel using the piston stop 504 91 06-05 instead of the spark plug.

Tightening torque 35–40 Nm
For reasons of safety it is important that the clutch is assembled with the right tightening torque. Use a torque wrench.





Clutch springs

Dismantling

Secure the clutch in a vice.

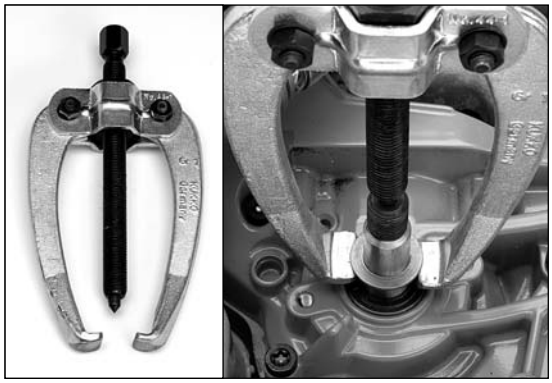
Position a heavy screwdriver against the spring hook. A hand movement against the screwdriver will get the spring hook to move without unhooking. Press out the spring hook using a punch.

Assembly

Preassemble the springs in the part of the shoes with less space.

Turn the springs with the hook towards the side marked “OFF”.

Turn the clutch and twist the springs in position with an awl.



Support ring

Dismantling

Use a universal puller.

Support ring

Dismantling

Dismantle the clutch's support ring on the crankshaft with a universal puller, 504 90 90-02.

Assembly

Fit the piston stop.

Place the support ring on the shaft and assemble the tool.

Screw down the centre screw so that it grips fully on the threads of the clutch.

Assembly

The support ring is assembled using the tool intended for assembling the crankshaft in the crankcase, 544 10 36-02.

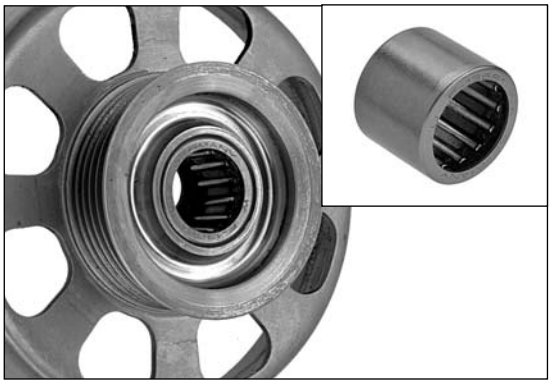
Fit the piston stop.

Position the support ring on the shaft and position the tool as illustrated.

First screw down the tool's centre screw (left-hand thread) so that it grips fully on the threads of the clutch.

Press in the support ring against the stop on the crankshaft.

Note that the clutch has a left-hand thread! Hold the centre screw in position and turn the tool's nut. Press in the support ring against the stop on the crankshaft.



Bearing replacement – needle bearing

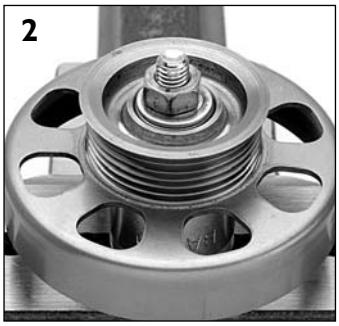
For a long time, a clutch drum with needle bearing has been the standard design on Husqvarna petrol-driven power cutters. The needle bearing is lubricated via a channel in the crankshaft from the crankcase.

In 2008 the needle bearing is being replaced with a ball bearing. Please note that machines with a needle bearing cannot be fitted with a ball bearing as the crankshaft and clutch drum are of different dimensions.

.

Tools

Replace the clutch bearing with the help of:
- socket 29/32 in., 23 or 24 mm
- M8-screw, approximately 3-4 in./80 mm and nut
- washer, outside diameter slightly smaller than 3/4 in. / 19 mm
- washer, diameter approximately 1-1-4/16 in. / 25-30 mm.

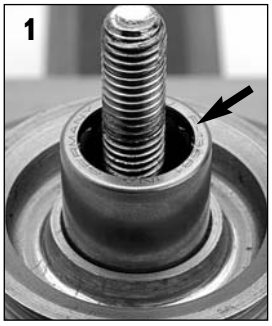


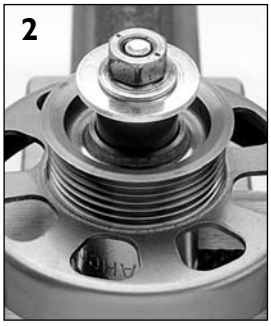
Dismantling

1. Secure the screw in a vice and position the socket.

2. Fit the clutch drum. Fit the small washer and fit the nut.

3. Press out the clutch bearing by screwing down the socket.



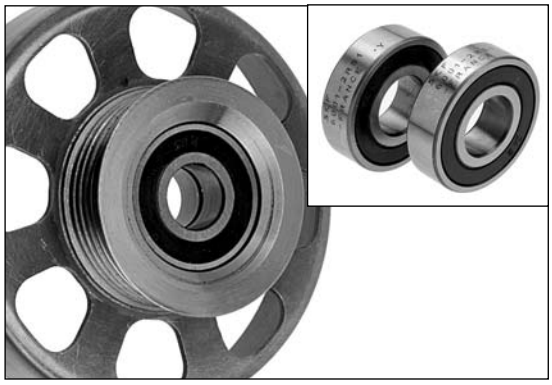


Assembly

1. Place the new bearing in position with flat, side with text, facing upwards.

2. Fit the large washer and the small washer on top. Fit the nut.

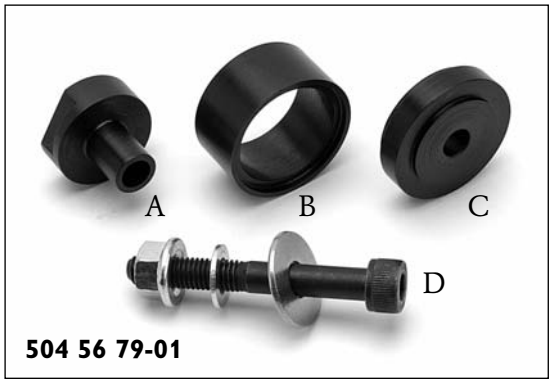
3. Press in the bearing by tightening the nut until the large washer bottoms on the clutch hub.



Bearing replacement – ball bearing

A clutch drum with permanently lubricated ball bearing is being introduced on the K960 in 2008.

The drilled channel in the crankshaft that provided the earlier needle bearing design with lubrication is being discontinued.



Tools

The tool kit 504 56 79-01 is needed to replace the ball bearing of the clutch drum. Use the tool to dismantle and fit the bearing as described below.

The tool kit consists of a support plate for the bearing (A), the sleeve (B) and the cover (C). Note that the cover has different profiles, one side to match the sleeve on dismantling and the other to match the clutch drum on fitting. The kit also contains the screw (D) with washers and nut.

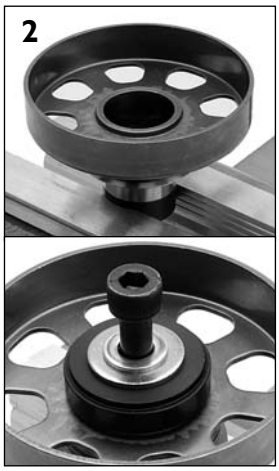
Grease the threads of the screw and the washers.

Dismantling

1. Fit the screw with the large washer against the bearing.

2. Fit the sleeve and cover in position. Fit a washer and nut.

3. It is a good idea to secure the allen key in a vice. Press out the clutch bearing by turning it clockwise in the sleeve.



Assembly

1. Secure the bearing support plate in a vice and put both ball bearings on.

2. Put the clutch drum on. Put the cover on and fit washers and the screw.

3. Press the bearing in by tightening the screw until the bearing reaches the stop in the clutch drum.

4. When refitting, first fit the washer on the crankshaft.

Note that the ball bearing-mounted clutch must also have a washer between the clutch drum and clutch.

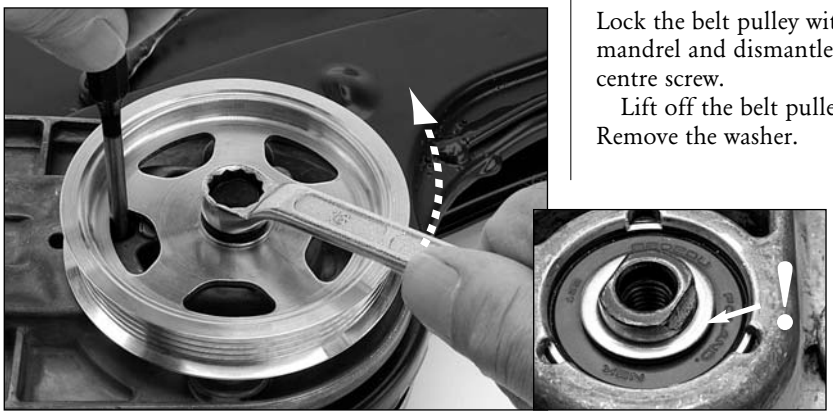
Dismantling

Dismantle the cutting head from the machine.

Dismantling

Dismantle the cutting head from the machine.

This chapter describes dismantling of the cutting head components and has instructions for replacing the blade shaft bearing at the end.



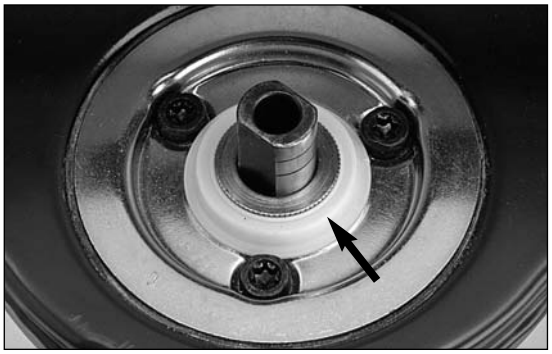
Lock the belt pulley with a mandrel and dismantle the centre screw.
Lift off the belt pulley. Remove the washer.

Lock the belt pulley with a mandrel and dismantle the centre screw.
Lift off the belt pulley. Remove the washer between the belt pulley and the bearing.
Tip: Tie on the belt pulley so that it is not lost or forgotten when reassembling.

Press up bushing with two open ended spanners. Now remove the inner flange washer.

The centre bush for the blade can be replaced and is available in different diameters.

Press up the centre bush with two open ended spanners. Now remove the inner flange washer.



Remove the spacer together with the bearing seal.
Check that the seal is intact.

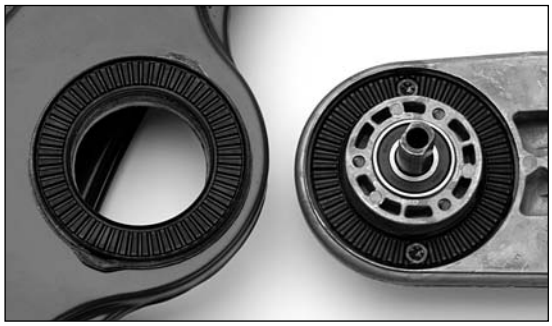
Remove the spacer together with the bearing seal.
Check that the seal is intact. Dirt under this indicates defective seals and these should be replaced.

Remove the washer.

The washer and the three screws hold the blade guard against the bearing housing. Remove the screws and the washer.

Lift the blade guard off the bearing housing.

Lift the blade guard off the bearing housing.



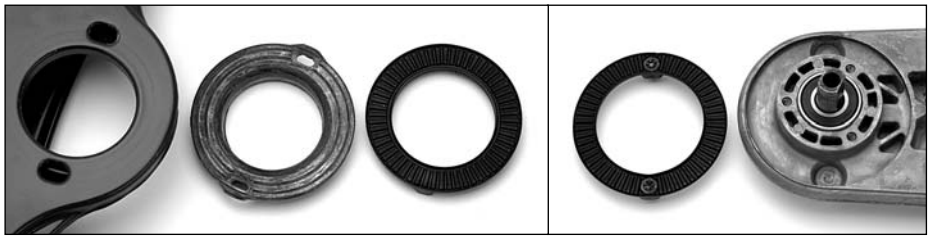
Check that the grooved rings are intact.

Also check that the rubber ring is in good condition.

Check that the grooved rings for the blade guard's locking mechanism are intact.

Also check that the rubber ring under the grooved ring is in good condition. The rubber ring acts as a spring to keep the gears engaged.

The grooved ring of the bearing housing is secured with two screws.



506 37 61-02

Bearing replacement

Tools

To replace the blade shaft bearing a special tool is needed, 506 37 61-02. Use the tool both for dismantling and assembly.

The tool's round threaded plate is the support plate for the bearing that is to be fitted. Use the plate with the smaller diameter for the K960.

Use the round chamfered washer when assembling the inner bearing. Use the triangle when assembling the outer bearing. Here, the triangle is applied directly against the two bearing races of the previously assembled bearing.

Dismantle the bearing unit

Use a vice as a counterhold.

Dismantle the bearing unit

Use a vice as a counterhold when dismantling the bearing unit. Make sure that the bearing runs free of the jaws.

Place the triangle of the special tool in the cut-out of the bearing housing intended for it.

Knock out the entire bearing unit with a plastic hammer, upplement with a suitable extension bar.

Place the triangle of the special tool in the cut-out of the bearing housing intended for it.

Knock out the entire bearing unit with a plastic hammer. Supplement with, e.g. a round piece of wood to reach the last bit with the hammer.

Bearing unit
The complete bearing unit consists of the axle, two ball bearings with spacer ring for the inner bearing races and a spacer washer against the belt pulley.

Bearing unit
The complete bearing unit consists of the axle, two ball bearings with spacer ring for the inner bearing races and a spacer washer against the belt pulley.

Split the bearing unit
Use the vice as a counterhold.

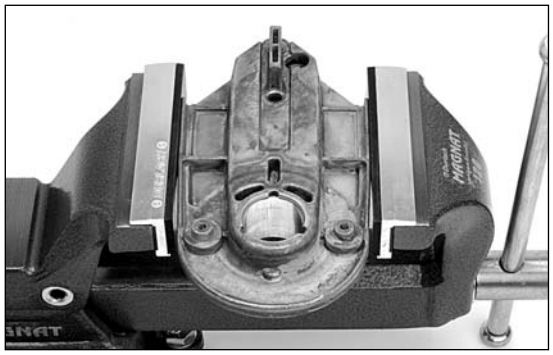
Fit the screw on the special tool in the axle and knock the axle out of both bearings.
Alternatively a brass punch can be used.

Split the bearing unit
Use the vice as a counterhold.

Fit the screw on the special tool in the axle and knock the axle out of both bearings.
Alternatively a brass punch can be used to drive out the axle.

Check
Check that the axle and the bearing seating in the cutting arm are not damaged.

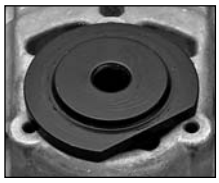
Check
Check that the axle and the bearing seating in the cutting arm are not damaged. If the bearing is seriously damaged so that it has been scored, in all probability the axle or cutting arm must be replaced due to the damage a seized bearing causes to the bearing seating or the axle.



Prepare bearing replacement
The bearing is fitted vertically. The bearing housing must be accessible both from the upper and the underside.

Prepare bearing replacement
The bearing housing must be secured so that the bearing can be fitted vertically. The bearing housing must be accessible both from the upper and the underside.
Using a vice to hold it works well. Use soft jaws to prevent damage to the bearing housing.





Assembling the inner bearing
Place the bearing on the support plate and hold it under the bearing housing. Insert the screw through the washer on the upper side and assemble the screw in the support plate on the underside.

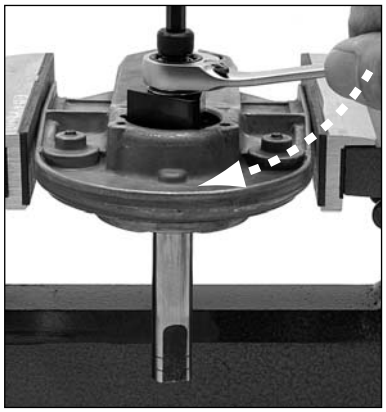
Lock the screw and turn the nut until the bearing reaches the stop in the bearing housing.



Assembling the outer bearing
Position the bearing **and spacer** on the support plate and hold it under the bearing housing.

Note the position of the triangle! The triangle should be directly butted up to the bearing fitted first.

Pull in the outer bearing until the spacer ring touches.



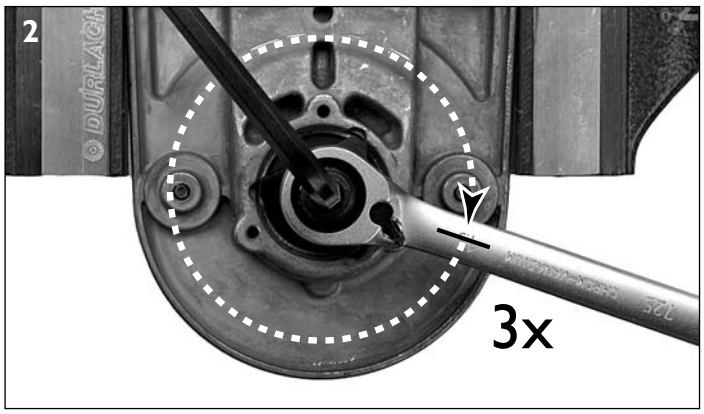

1. Assembling the axle
First check that the spacer ring between the bearings is centred.

The following procedure gives good results:

Turn the triangle with the smooth side facing downwards. Hold the axle on its underside and screw in the screw of the tool along with the large washer.

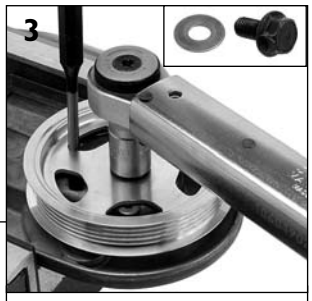
Note that the triangle lies directly against the bearing fitted first.

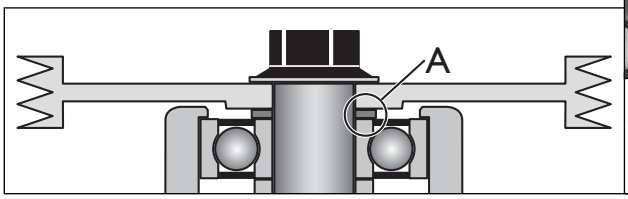
Pull the axle in until it bottoms against the flat underside of the triangle.

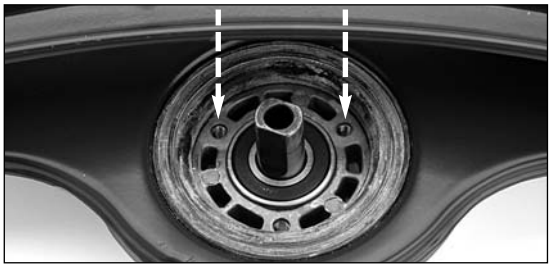


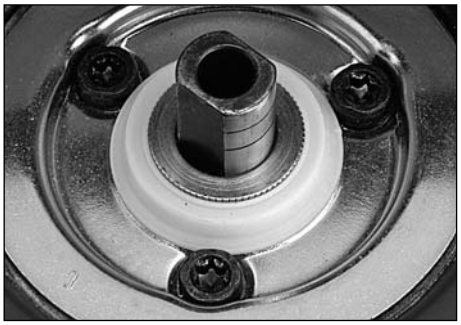
2. Adjusting the axle level
The axle must be adjusted upwards to just under 3 mm from the level of the bearing, in other words from the level resulting from stage 1.

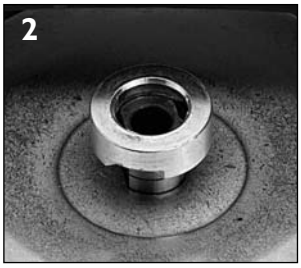
Fit the triangle with the convex side facing downwards. Tighten the nut by three turns.

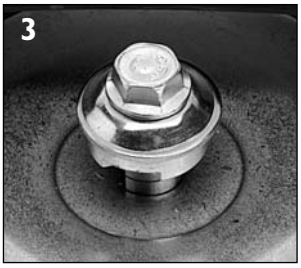


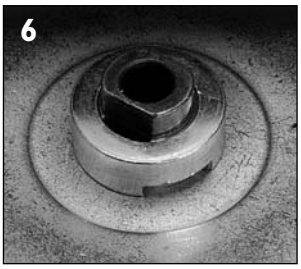












Fit the belt pulley
Note that the axle and the belt pulley have a profile that means that the belt pulley must be turned correctly when assembling.

Do not forget the washer between the bearing and the belt pulley!

1. Fit the washer.

2. Fit the belt pulley on the axle.

3. Tighten the centre screw so that the axle slides up towards the belt pulley and the washer (A) is pressed between the bearing and the belt pulley.
Tightening torque 28–31 lbf·ft/38–42 Nm.

Note: If the belt pulley is dismantled and reassembled, before assembly the axle must be driven down approx. 1 mm to obtain the position as per paragraph 3 above.

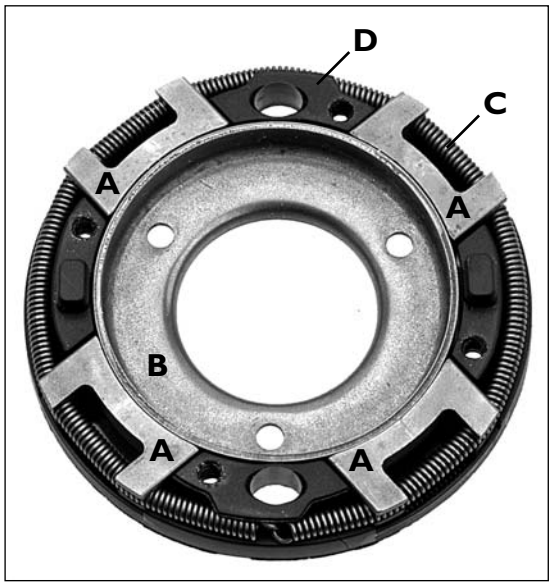
Bearing housing/blade guard
Check that the rubber seal is fitted properly against the bearing housing and blade guard.

Turn the bearing housing so that the screw hole becomes accessible from the top with the tool.

Tighten the three screws crosswise so that the washer is not unevenly loaded and risks being deformed. Tighten the screws fully.

Fit the seal with spacer ring.

Centre bush
Never hit the centre bush into position, the axle will then be offset!
Fit as follows:
1. Position the inner flange washer.
2. Position the centre bush.
3. Fit the screw for the blade's attachment.
4. Press down the bush until the screw bottoms.
5. Dismantle the screw and place it on the other flange washer “turned the wrong way”. Refit the screw and press down the bush against the inner flange washer.
6. The bush is fitted.



The friction retarder is being introduced as standard equipment on the K960 in 2007.

Function

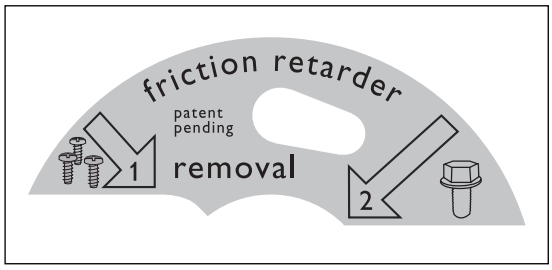
The design is a centrifugal brake where the brake shoes (A) are pressed against the brake drum (B). The spring (C) transmits a braking effect to the brake shoes. The units are held in place by the guide plate (D).

The friction retarder slowly brakes the blade until it comes to a standstill after cutting. The retarder is activated when the disc speed is lower than the working speed. When the throttle is pushed in and the speed increases, the brake shoes are pressed out from the brake drum by the centrifugal force, and the braking effect ceases.

Replacement

The friction retarder consists of a number of loosely assembled parts that are held together by the spring. In the event of replacement, replace the entire unit, as in the picture.

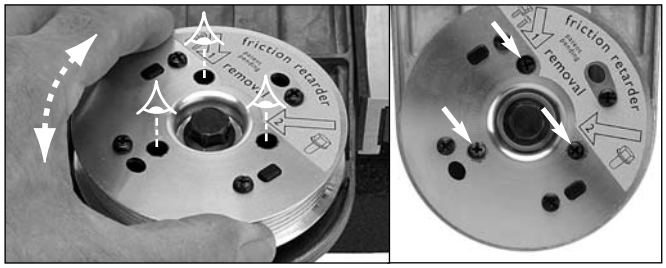
The brake drum is fitted against the bearing housing with three screws. The centrifugal unit is secured against the belt pulley with four screws.



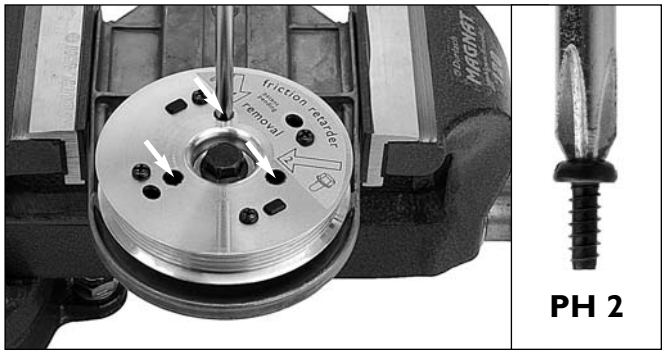
Dismantling

Procedure

To be able to handle the friction retarder as a single coherent unit, it is important that dismantling and assembly are carried out in the correct order.

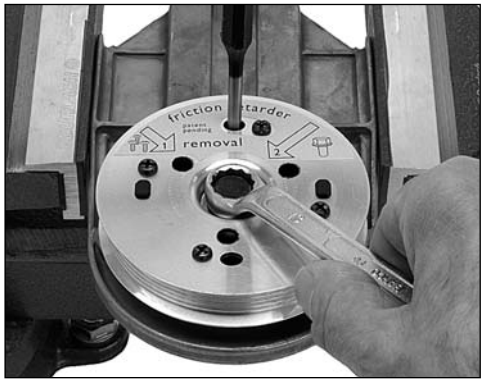


Turn the belt pulley so that the three screws that hold the brake drum against the bearing housing become accessible.



Remove the brake drum screws with a Phillips PH 2 screwdriver or a slotted screwdriver.

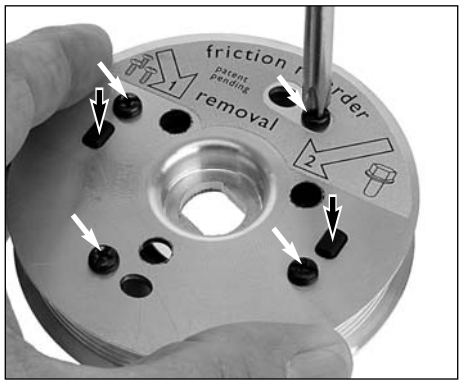
Tip: A magnetic screwdriver will make the job easier.



Dismantling the belt pulley

Lock the belt pulley with a mandrel or a screwdriver. Remove the central belt pulley screw. The belt pulley can now be lifted off together with the brake unit.

The picture on the right shows the assembly in the belt pulley.

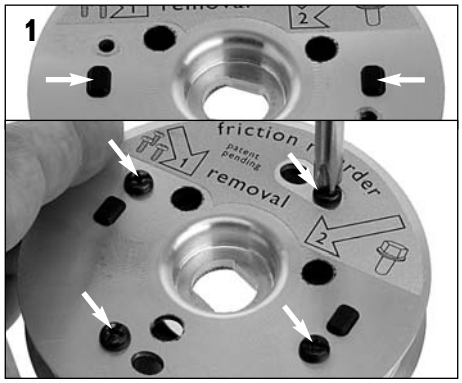


Dismantling the retarder

Remove the four screws that hold the centrifugal unit against the belt pulley.

Release the centrifugal unit from the belt pulley by pressing the guides down (black and white arrows).

Use compressed air to clean off dust, as required. Note that the retarder must not be lubricated.



Assembly

1. Align the guides of the centrifugal unit against the belt pulley. Fit the four screws.

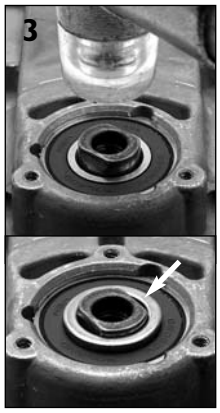
2. Turn the brake drum so that its holes line up with the holes in the belt pulley.

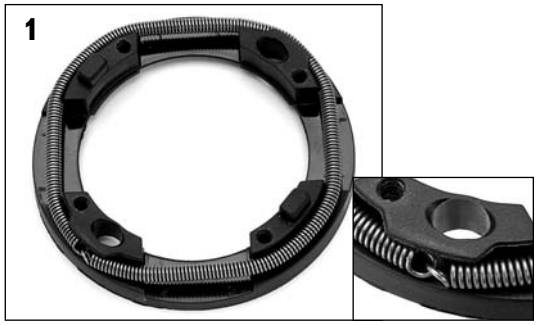
3. Drive the axle down about 1 mm to get a tight fit between the ball bearing, washer and belt pulley. See page 48 “Fit the belt pulley”.

Fit the washer.

4. Lock the belt pulley with a mandrel and fit the washer and centre screw. Tightening torque: 28–31 lbf·ft/38–42 Nm.

5. Turn the belt pulley so that the brake drum mounting hole lines up correctly against the bearing housing. Fit the three screws.





Assembly of the centrifugal unit

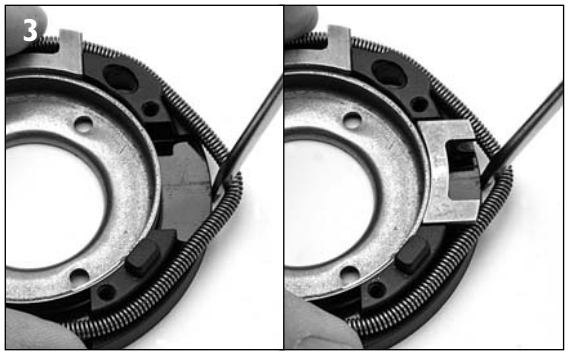
Normally the unit is handled without dismantling it. If needed, carry out assembly of the parts in the following manner:

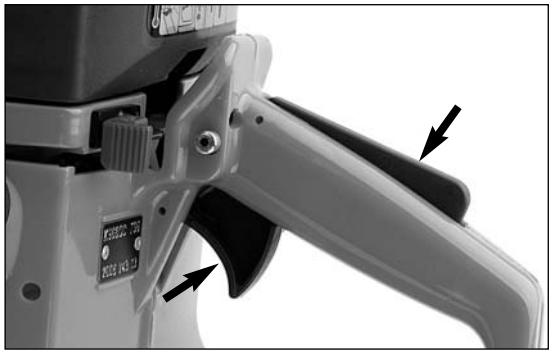
1. Place the spring in position in the guide plate. Note where the spring ends should be located.

2. Locate the brake drum in its position.

3. Assemble the brake shoes by stretching the spring with a screwdriver and then locating the brake shoe in position.

4. The complete centrifugal unit.



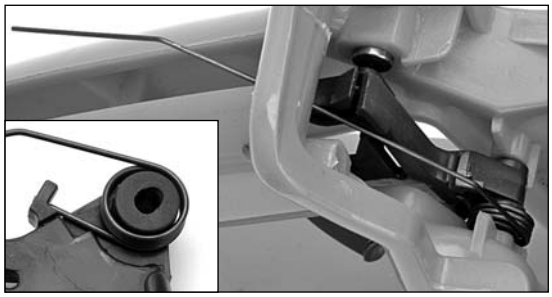


Rear handle

Lock the throttle against unintentional activation
Faulty function must be rectified.

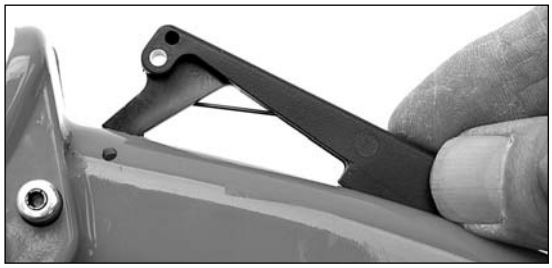
The machine must be split at the vibration dampening element to perform service work on the control.

Dismantling
The throttle and throttle lock are both located in the handle by a 3 mm spindle. Press out the spindles to the right.



Assembly
Fit the throttle first. Make sure that the spring comes out by the throttle lock.

Assemble the spindle from the right-hand side.



The spring should lie on the right-hand side (clutch side) of the throttle lock pin. Lower the control parallel with the handle.

Assemble the spindle from the right-hand side.

Rear handle

Lock the throttle against unintentional activation
Check the function of the lock. The throttle should be locked in idling mode. Not until the lock on top of the handle is pressed in should the throttle be released. Faulty function must be rectified.

The machine must be split at the vibration dampening element to perform service work on the control.

Dismantling
The throttle and throttle lock are both located in the handle by a 3 mm spindle. The spindles sit with a press fit towards the left-hand side and must therefore be pressed out to the right-hand side and pressed in from the same side when assembling.

Assembly
Fit the throttle first. Insert the control in the handle and make sure that the spring comes out by the throttle lock.

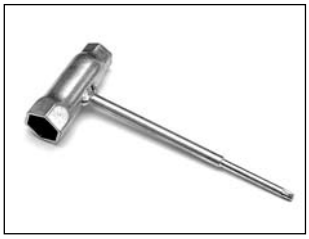
Assemble the spindle from the right-hand side.

Note the position of the spring in the throttle.

The spring should lie on the right-hand side (clutch side) of the throttle lock pin. Place the spring in the throttle lock and lower it parallel with the handle.

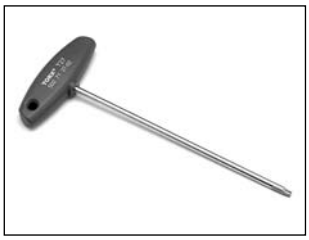
Assemble the spindle from the right-hand side.

● = Service action



506 38 26-01
Combination spanner
(Supplied with the machine)

● The vibration dampers' inner screw, Torx T27. Blade diameter 5 mm.

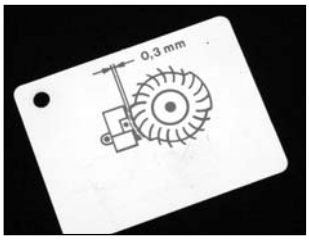


502 71 27-02
Workshop key Torx T27

● Universal use for all Torx T27, except the vibration dampers' inner screw. See the tool above.

502 71 13-01
Test spark plug

● Test of the ignition system and the spark plug's function.



502 51 34-02
Air gap gauge
Gauge for the air gap between the ignition module and the flywheel.

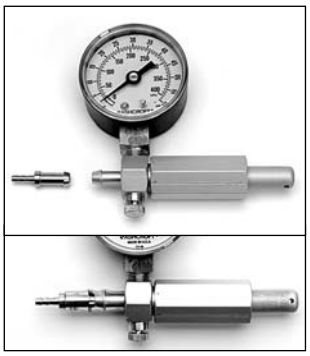
● Assembly of the ignition module.

502 51 49-02
Flywheel puller
Puller for the flywheel. Fits all petrol-driven Husqvarna cutters.

● Dismantling the flywheel.

502 71 14-01
Tachometer
Instrument for measuring the engine's speed.

● Idle setting.
● Checking the maximum speed.

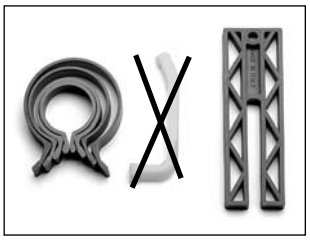


501 56 27-01
Pressure tester

● Test of carburettor functionality.
● Test of fuel lines.
● Test of non return valve in the tank ventilation.

531 03 16-86
Compression tester

● Compression test, cylinder.



502 50 70-01
Kit for piston service
Consisting of piston ring compressor, piston stop and support plate. Use piston stop 504 91 06-05 for K950.

● Piston service.

504 91 06-05
Piston stop
Locks the crankshaft's rotation.

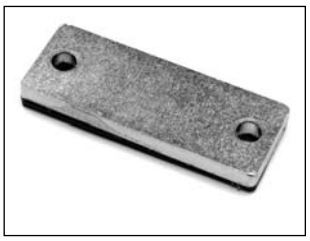
● Dismantling the clutch.

505 38 17-05
Gudgeon pin punch

● Dismantling and assembling the gudgeon pin.

531 03 06-23
Pressure tester
Kit consisting of pump with pressure gauge and nozzles, hose and sealing plug for universal use.

● Leakage testing the crankcase.



502 71 39-01
Cylinder seal
Seal for the cylinder's exhaust port.

● Leakage testing the crankcase.

506 34 45-01
Cylinder seal
Seal for the cylinder's inlet port.

● Leakage testing the crankcase.

● = Service action

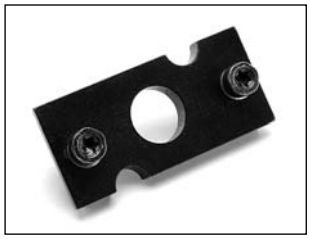
503 55 22-01
Sealing plug
Replaces the decompression valve.
● Leakage testing the crankcase.

504 91 40-01
Puller
● Dismantling the crankshaft's sealing rings in the crankcase.

505 38 17-23
Assembly taper
● Assembly of the crankshaft's sealing ring on the clutch side.

502 50 82-01
Assembly punch
● Assembly of the crankshaft's sealing rings in the crankcase.

504 90 90-02
Universal puller
● Dismantling the clutch's support washer on the crankshaft.
● Splitting the crankcase, in combination with 544 06 00-02.



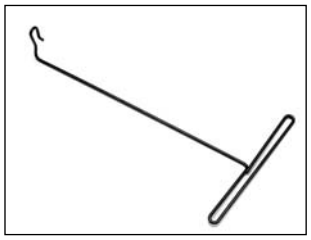
544 06 00-02
Grip plate
● Splitting the crankcase, in combination with 504 90 90-02.

531 00 48-67
Bearing puller
● Dismantling the main bearing from the crankshaft.

544 10 36-02
Bearing press
● Dismantling the main bearing.
● Assembly of the crankshaft.
● Assembly of the clutch's support washer on the crankshaft.

506 37 61-02
Bearing press
● Main bearing assembly.
● Dismantling and assembly of blade shaft bearing and axle.

504 56 79-01
Bearing press
● Dismantling and assembly of the clutch drum ball bearing.



502 50 83-01
"Hose catcher"
Tool for catching the fuel hose in the tank and drawing out the fuel filter for servicing.
● Fuel filter and hose.

501 60 02-03
Special screwdriver for the idle screw
● Adjustment of the idle speed.

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English
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