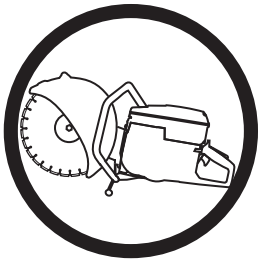
Husqvarna®

Workshop manual

K 760 & K 760 Cut-n-Break



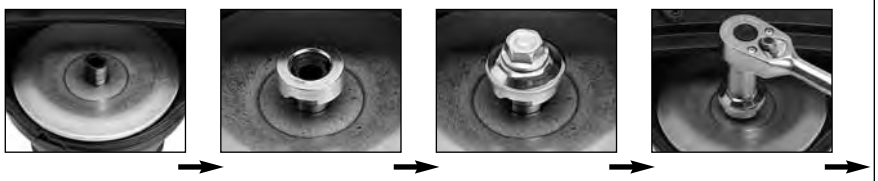
HUSQVARNA CONSTRUCTION PRODUCTS

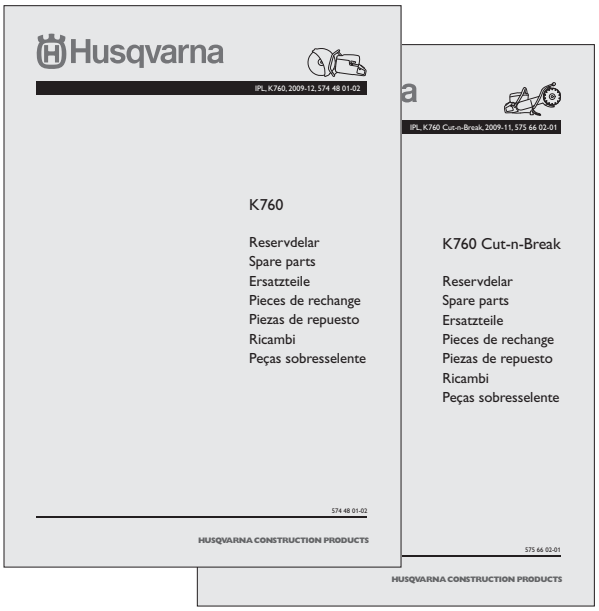
HUSQVARNA
K 760
K 760 Cut-n-Break

CONTENTS

"Dismantling into Basic Modules"

"Cutting head" (Example)





Workshop Manual

The workshop manual covers virtually all work in the workshop that involves the K760 and K760 Cut-n-Break. Some very simple and rather obvious repair work has 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.

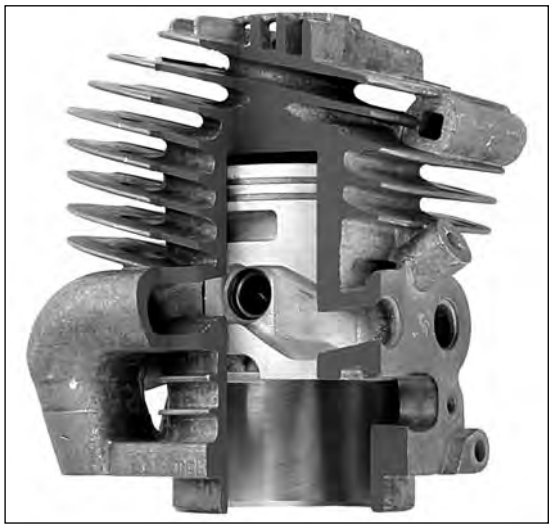
The list of contents also has page references to the start of each chapter.

Spare parts

K760 and K760 Cut-n-Break

The folders include all spares for Husqvarna K760 and K760 Cut-n-Break.

The folders contain complete exploded drawings for the whole machine where the location, spares number and appearance of each component is easy to identify.



X-Torq®

This engine technology was introduced with its predecessor K750 under the name Dual Charge, now renamed to X-Torq.

In addition to the intake from the carburettor with fuel/air mix there are two channels for intake of fresh air; the upper channels as shown in the illustration. By directing the fuel/air mix and the clean air in separate flushing ducts in the cylinder, the ratios of fuel mixed air and clean air can be controlled to ensure that they vary in different phases of the engine's work cycle.

Cleaner exhaust and better performance

The amount of unburned hydrocarbons (HC) is reduced by approximately 75 % compared with a traditional design. The emission values are now clearly under the provisions of EPAII.

The effect is higher across the whole rev range, and the torque in the lower rev range is now considerably higher.

Carburettor

The carburettor has undergone many detail improvements and a connection to the fuel chamber has been added for air purge.

Air purge

The pump has a suction function and is connected to the carburettor's fuel chamber. Air purge empties the fuel chamber of any air and tops up the fuel chamber with fuel. With continued pumping any excess fuel is returned to the tank.

Lower vibration levels

The air filter system and the carburettor are mounted in the anti-vibration handle device, which means lower handle vibrations due to the larger mass (weight) in the handle device.

The carburettor's position in the anti-vibration section means the carburettor function is more stable and there is less wear on the carburettor's moving parts.

New filter system

The centrifugal cleaning has been significantly improved with a new flywheel and modified design of the air intake. The plastic foam filter from the previous generation is now discontinued.

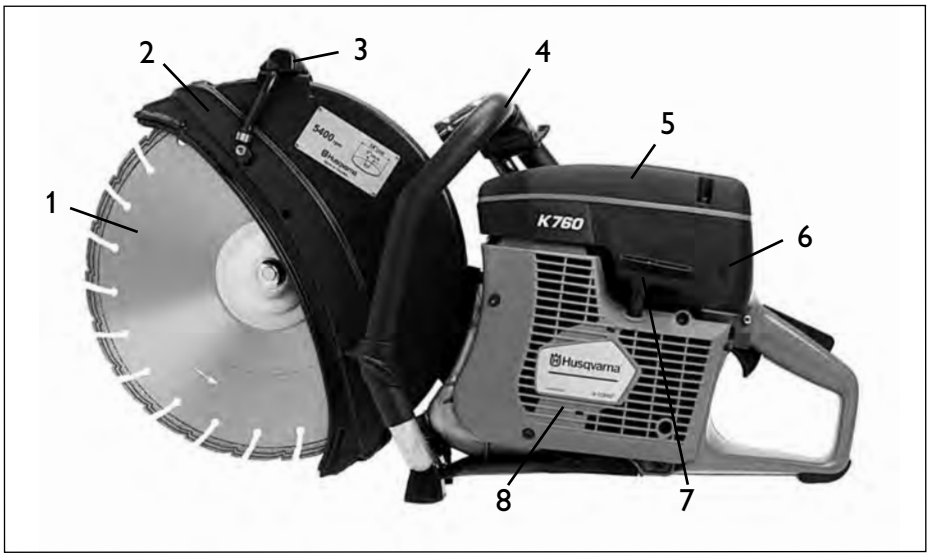
Friction Retarder

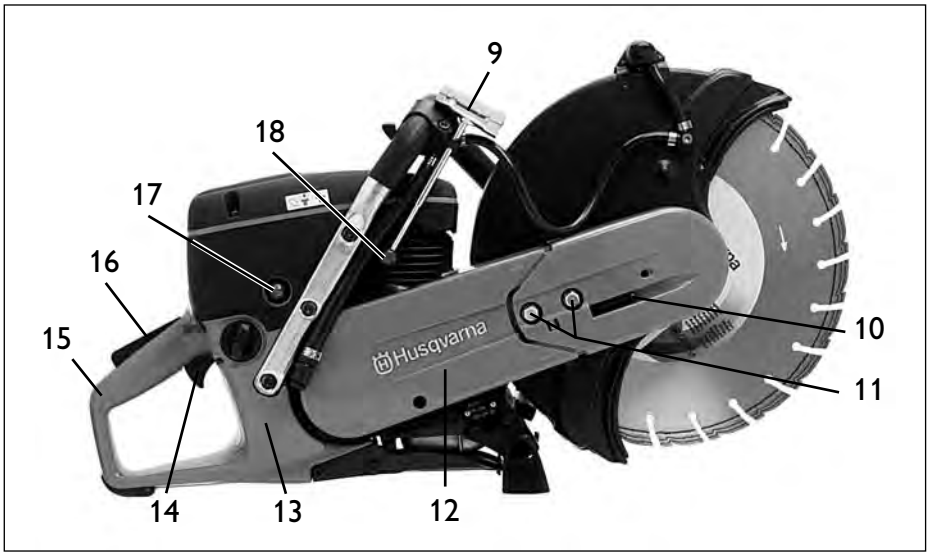
The front belt pulley has an inhibiting mechanism which comes into effect at low speeds on the cutting blade.

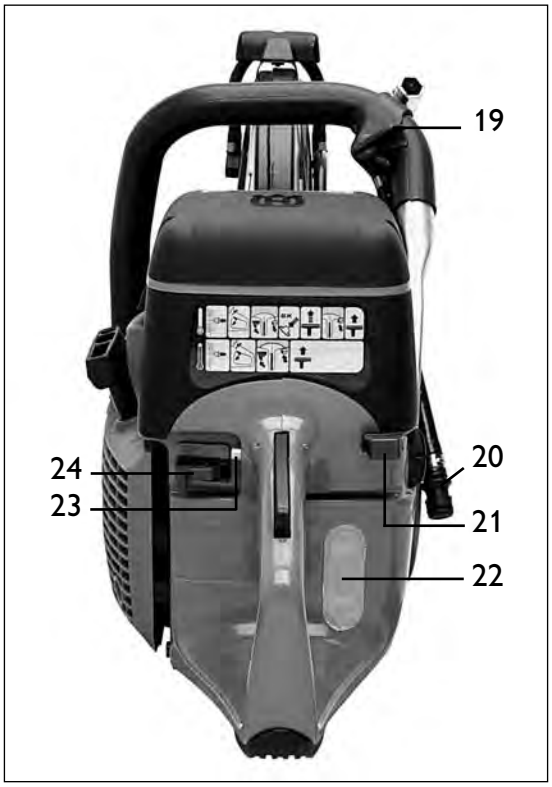
Torx – T27

Torx screw, with the dimension T27, is used virtually throughout to simplify the service process.

Note that the screws may have a smooth or grooved underside.







Components

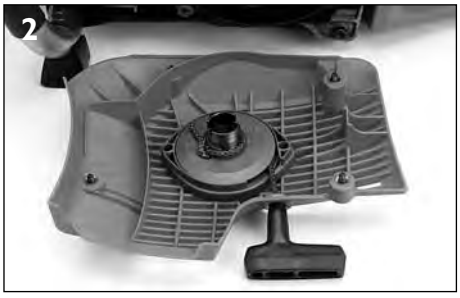
1. Cutting blade
2. Blade guard
3. Handle for the blade guard
4. Front handle
5. Air filter cover
6. Cylinder cover
7. Starter handle
8. Starter
9. Combination spanner
10. Belt adjustment screw
11. Lock screws for belt adjustment
12. Rear belt guard
13. Fuel tank
14. Throttle control
15. Rear handle
16. Throttle trigger lock
17. Air purge
18. Decompression valve
19. Water valve with tool attachment
20. Water connector
21. Choke lever
22. Sight glass for fuel
23. Start throttle lock
24. 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.

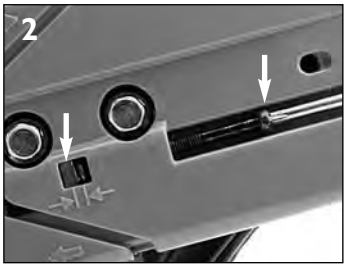
Service work on a component level, for example, replacing the starter cord, is described in detail in respective chapters.



Starter

1. Loosen the starter's 4 screws.

2. Remove the starter.



Cutting head

1. Loosen the screws to the cutting head. (Tightening torque when mounting 18–22 lbf·ft/25–30 Nm.)

2. Loosen the tension of the belt with the adjuster screw.

3. Detach the hose clip.

4. Remove the screws to the cutting head. Remove the front belt guard by pushing it forward.

5. Detach the hose at the water valve. Lift off the belt from the belt pulley and remove the cutting head.

6. Loosen the rear belt guard's two screws. (Tightening torque when mounting 6.6–8.1 lbf·ft/9–11 Nm.)

7. Remove the guard.

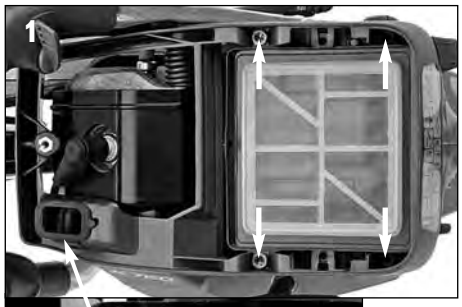
Air filter

1. Loosen the guard's three screws and remove the guard.

2. Loosen the two screws that hold the filter bottom.

3. Lift up the filter bottom together with the filter.

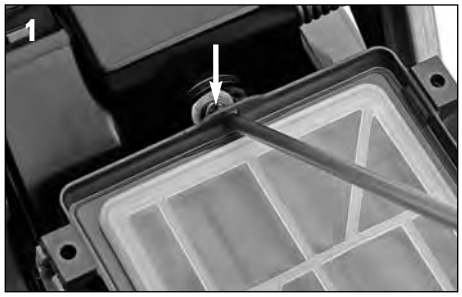
4. Press the filter out of the filter bottom.

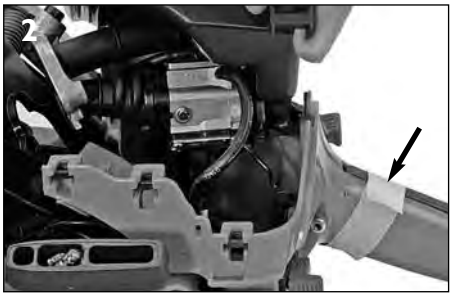


Cylinder cover

1. Loosen the four screws on the cylinder cover.
Press together the rubber seal's collar so that the cylinder cover can be lifted off.

2. NOTE! When reassembling the rubber seal must be drawn up through the cover and the collar then adjusted to fit correctly against the cover.





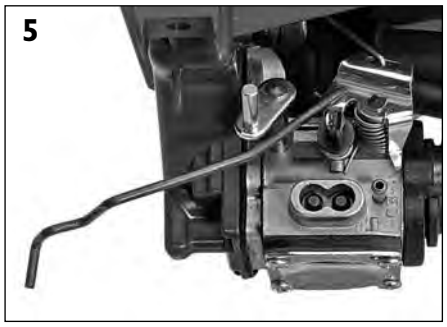
Carburettor

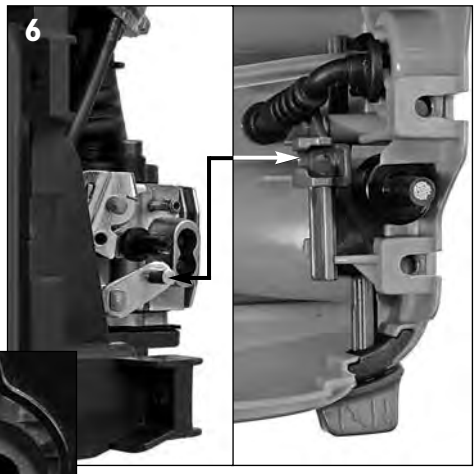
1. The carburettor unit is attached to the cylinder by a single screw. Loosen the screw.

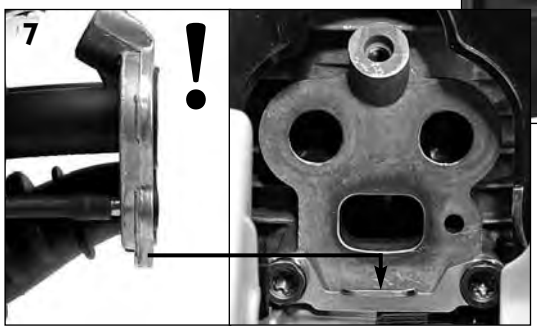
2. Lift out the carburettor unit. Detach the petrol hose and the hose to the “air purge” from the carburettor.
Tip: Tape the throttle control in the full throttle position to improve access to the throttle rod's attachment on the throttle control.

3. Pull the throttle rod out of the control.

4. The entire carburettor unit can now be lifted out.



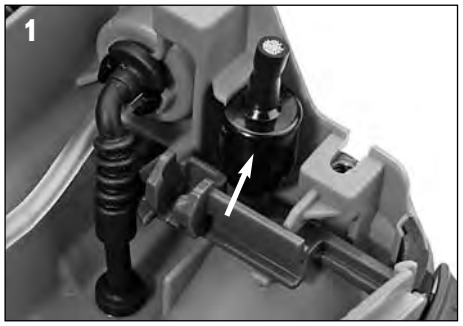




Assembly
5. Hook the throttle rod into the valve arm as illustrated. Lift the carburettor unit into position and fit the fuel hose. Press down the throttle rod into throttle control with the help of a pair of pliers.

6. Align the carburettor's choke arm in the blue choke control.

7. Fit the carburettor unit. Align the lug on the flange with the cut-out on the cylinder. Tighten the screw at the top.

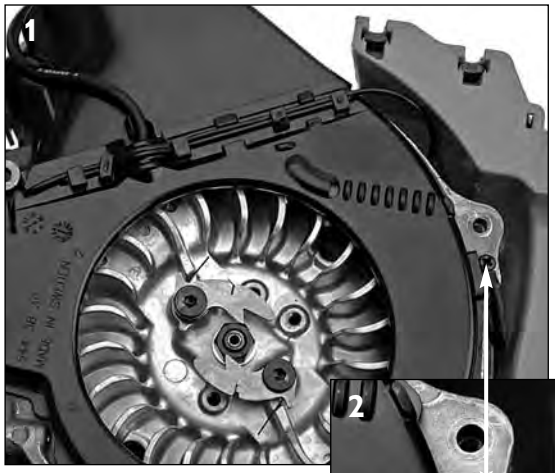


Carburettor compartment

1. Tank venting
This is dismantled by angling the unit backwards and then pulling it out the tank.

2. Stop switch
This is secured by a screw in the carburettor compartment.

3. Controls
The controls in the rear handle become accessible for service once the carburettor unit has been dismantled.



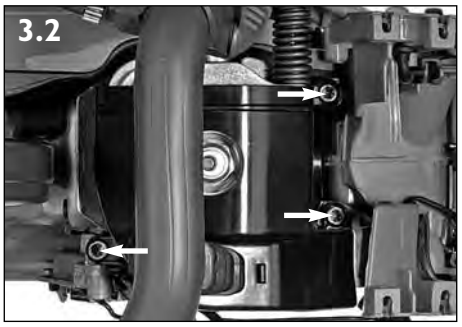
Air duct

Start by removing the starter, air filter cover and cylinder cover.

1. Lower air duct
In order for reassembly to be correct, note how the cable to the stop switch is mounted in the air duct. Lift the cable out of its attachment.

2. Engine's earth point
The engine's earth point to the stop button is placed here.

3. Upper air duct
3.1 Detach the ignition cable at the spark plug and lift the cable out of its attachment in the cover.

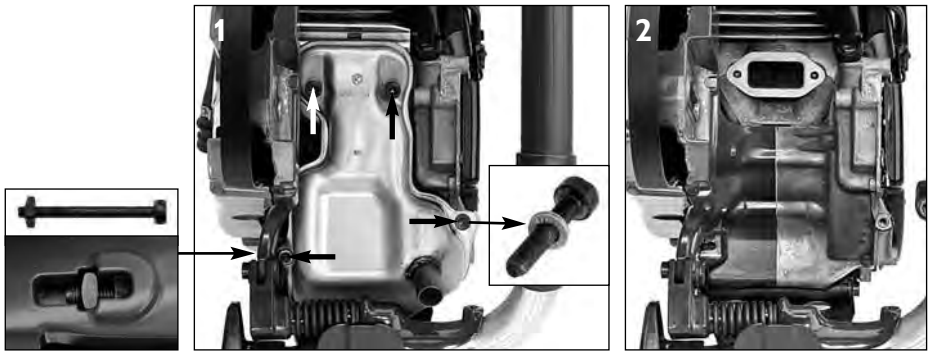


3.2. Dismantle the three screws on the air duct cover.

3.3. Lift off the air duct cover.

Muffler

Dismantle the cutting head and the starter.



1. Dismantle the four screws on the muffler.

2. Dismantle the muffler.

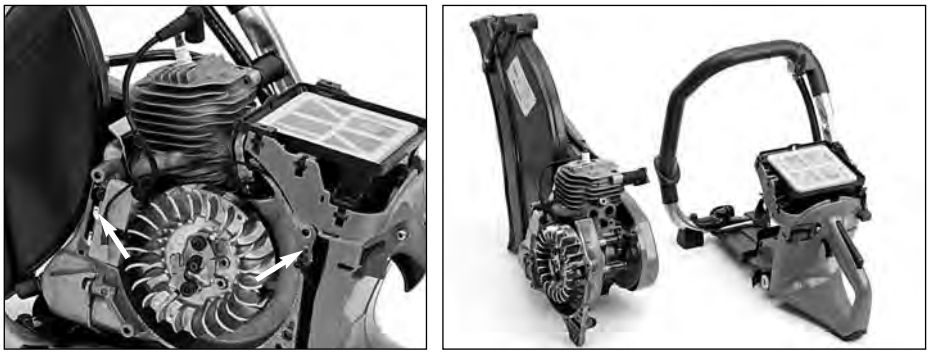
Fit the gaskets correctly!
3. The insulated fibre gasket should lie closest to the muffler.

4. Fit the heat shield.

5. The aluminium gasket should lie against the cylinder.

The screws should be tightened to a torque of 8.0–9.5 lbf·ft/11–13 Nm.

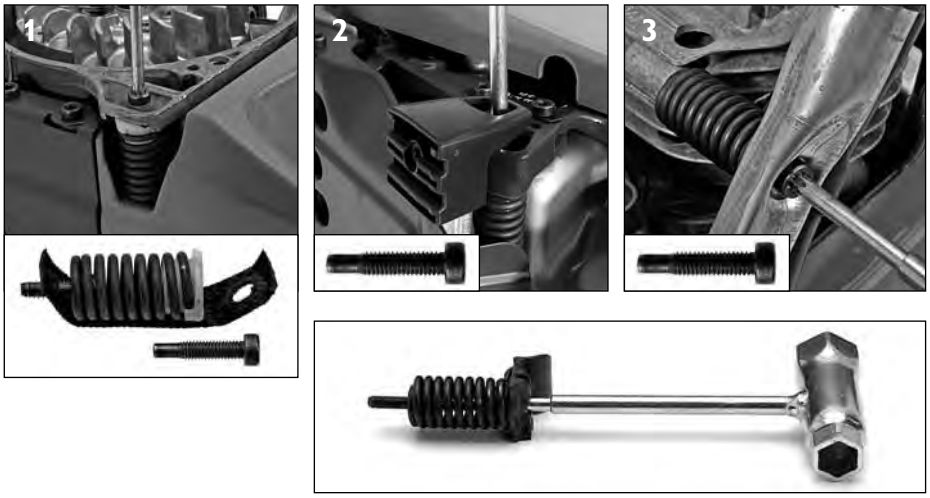
Vibration dampening



Some service work can be aided by splitting the machine by the vibration dampening element.

Dismantle the air filter unit, cylinder cover and upper the air duct cover. Dismantle the screw holding the carburettor. Dismantle the starter and the air duct cover. Loosen the cable lug by the ignition module and unscrew the cable to the earth point. Pull off the water hose by the valve.

The engine unit is attached to the handle unit at three points with the vibration dampening element in the form of springs. Dismantle the screws located by:



1. The lower section on the flywheel side.

2. The base on the clutch side.

3. The handle loop next to the water valve.

To gain access to the spring's inner screw, Torx T27, the tool diameter must be max. 5 mm. The combination spanner fits.

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.

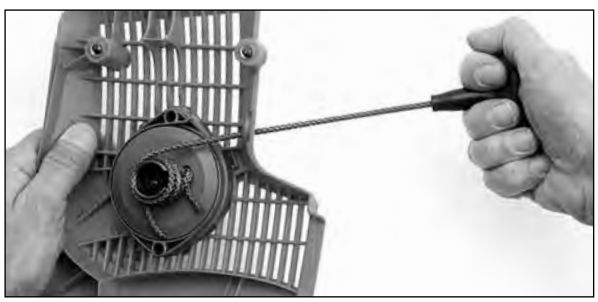
3. Lift off the cord from the starter pulley.

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.



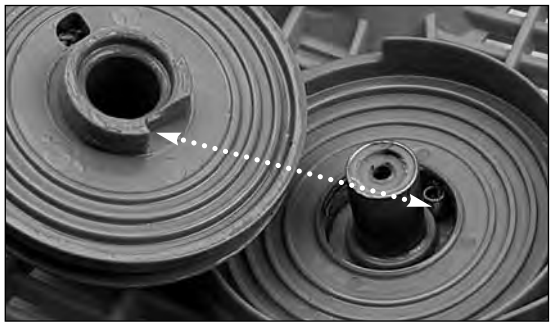
Loading the return spring

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

2. Wind the start cord 4 turns around the hub and pull out the starter handle and release so that the cord is wound into 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

First eliminate the spring force as per the previous page. Remove the centre screw and lift off the starter pulley.

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

Assembly

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.

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

Dismantle both screws on the spring cassette.

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.

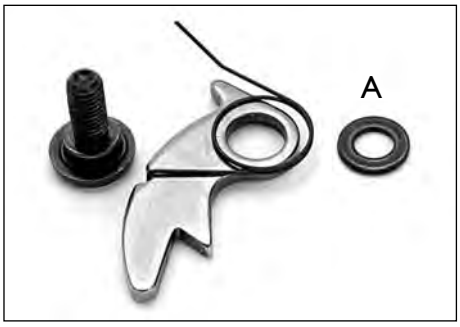
Starter pawls

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.

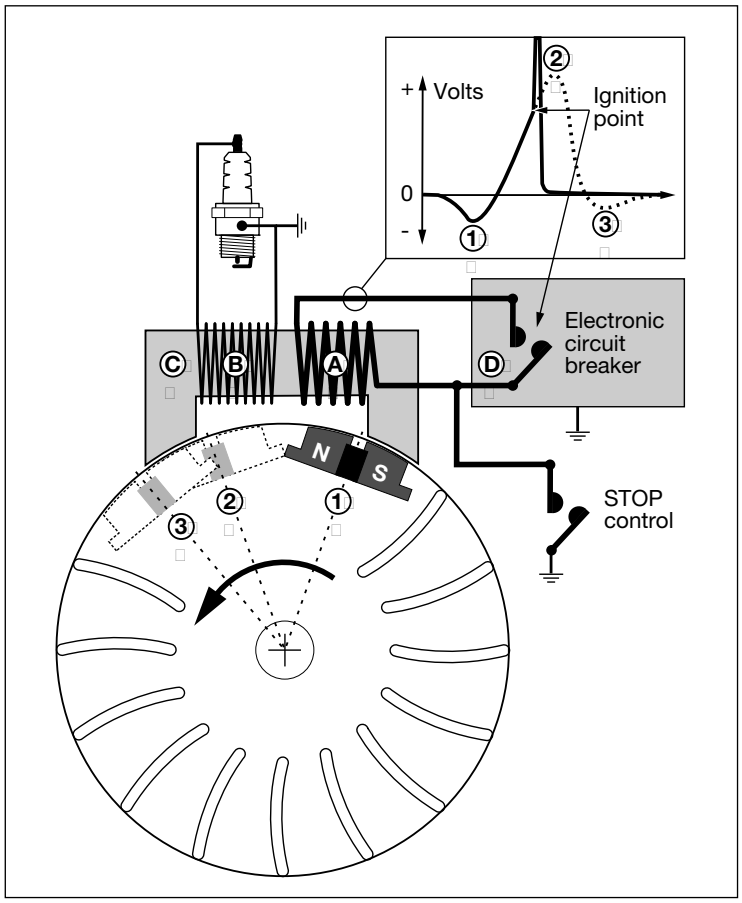
3. Screw on the starter pawls.

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 5–6.5 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 K760 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 below. (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.

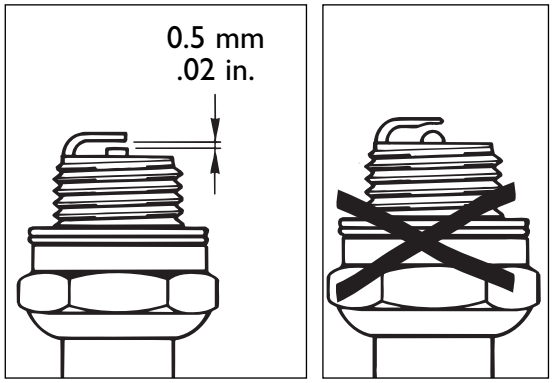
Ignition module

The ignition module components are fully enclosed to withstand external effects. Individual components cannot be replaced.

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

The ignition module requires no routine service measures. (However, the distance to the flywheel magnet can be adjusted where necessary.)

Besides the connection to the spark plug there are two connections on the ignition module. The arrow-marked flat pin connector connects to the stop switch. The other is the power outlet for machines with OilGuard.



Spark plug

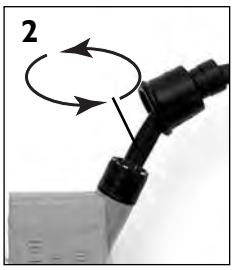
The electrode gap scale should be .02 in./0.5 mm.

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 by using the spark plug socket to extend the earth cable as the air duct prevents direct earthing.

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.

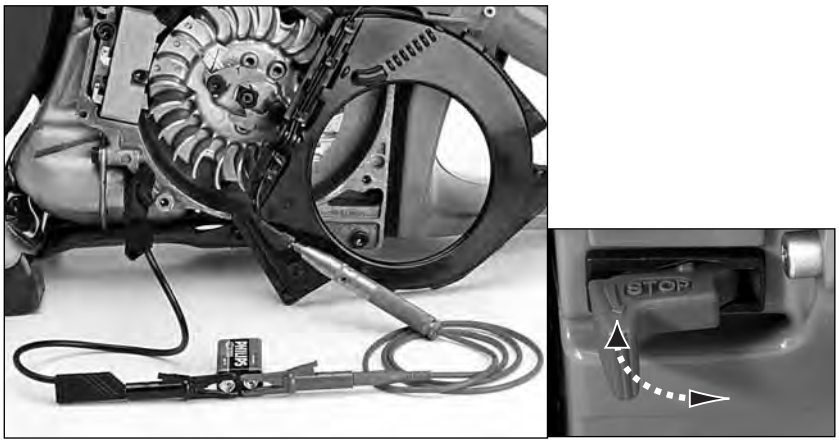
5. The adjoining simple connection can be used to check that the ignition lead is not broken. The battery is connected in series with a test lamp.

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

Damaged short-circuit cable

Check that the short-circuit cable is in position. Examine the cable for signs of wear or damage where it may have reached the engine body and in doing so create a short circuit.

Test the stop switch and the cable to this from the ignition module with one of the following methods.

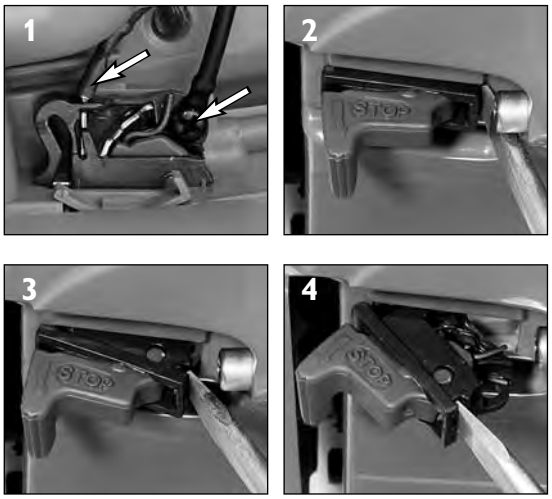


Test of short circuit cable and stop switch

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

Observe the test lamp while testing the function of the stop switch. With the stop switch in operating position the lamp must be out.

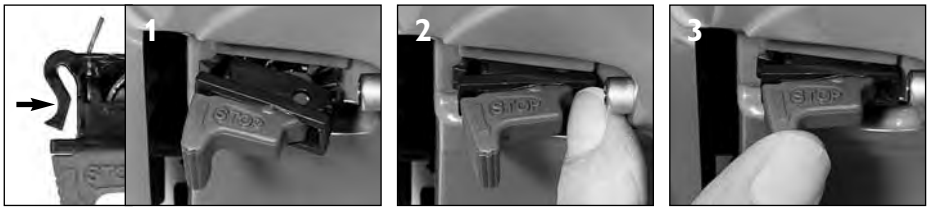
If the lamp is on – check first that the short circuit cable insulation is not damaged and is providing contact to the engine body. Now check the stop switch.



Removing the stop switch

1. Remove the cable lug and the screw.

2-4. Bend the control to the left with a large screwdriver and pull the switch to the right side first.

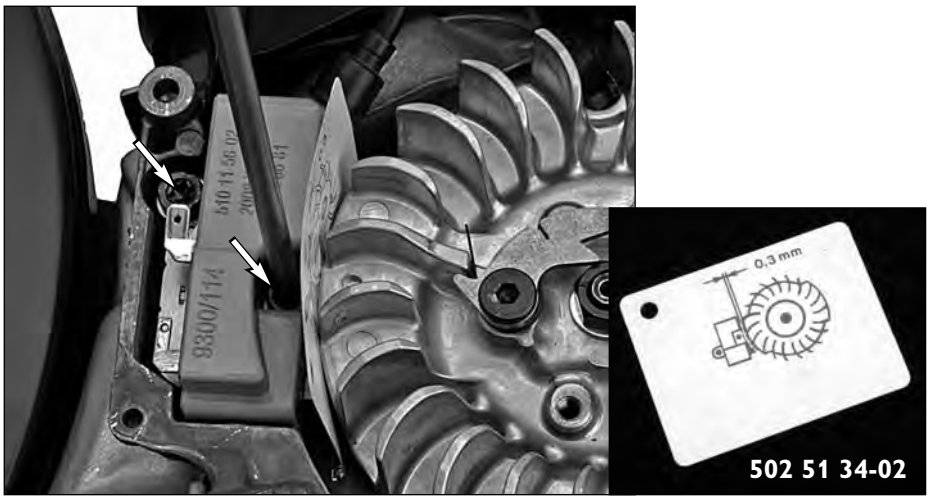


Mounting the stop switch

1. Press the switch to the snap lock.

2. Press in the right side.

3. Press in the left side to ensure the snap fastener locks the switch. Fit the screw and cable lug.



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.

Removal

Unhook the springs and place the start hooks in their outer positions.

The arrows mark the place for the tool below.

Removal

Remove the starter and lower air duct. The start hooks must be in “running mode” to be able to mount the screws to the tool below, marked by arrows. Unhook the springs and place the start hooks in their outer positions.

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

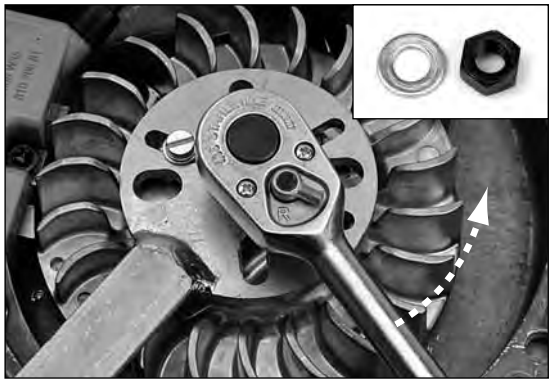
Tool 502 51 49-02
A special tool from Husqvarna is required to dismantle and assemble the flywheel. The tool fits virtual all flywheels on Husqvarna power cutters.

Centre with socket
Place a 13 mm socket on the centre screw. Make sure the springs do not get caught up.

Centre with socket
Place a 13 mm socket on the flywheel's centre screw. Push aside the start hook's springs so that they are not squeezed between the socket and flywheel.

Centre the tool
Fit the plate.

Centre the tool
Choose a suitable screw, supplied with the tool, and mount the plate.



Remove the nut

Remove the centre nut
Use the special tool's handle to lock the flywheel rotation and remove the nut and washer.

Mount the screw press

Mount the screw press
Mount the screw press in the centre and screw it down far enough to ensure it is secure in the plate.

Press off the flywheel
Lock the socket and screw in the centre screw.

Press off the flywheel
Lock the outer socket with a wrench and screw in the centre screw until the flywheel releases.

Hint: If the flywheel is sitting very firmly, you can knock lightly with a hammer on the screw to the flywheel to release. At the same time lift the machine slightly from the base by 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.

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.

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.

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

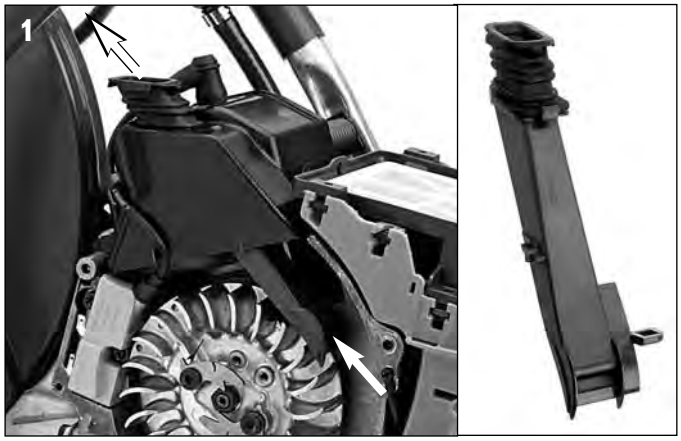
Tightening torque
18–22 lbf·ft/25–30 Nm
Use a torque wrench to tighten the nut.

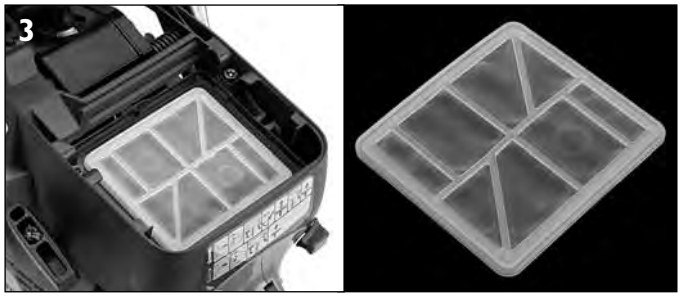
Fit the flywheel
The crankshaft and the centre of the flywheel must be free from grease when assembling.

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

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

Remove the tool and hook up the springs on the start hooks.





Function

Husqvarna Active Air Filtration is a filter system that significantly improves the K760 model. The improved centrifugal cleaning has now made the previous plastic foam filter obsolete.

1. The centrifugal cleaning is the first step in the air cleaning of the inlet air. The fins and inlet nozzle are newly designed and the amount of dust per volume of air has been halved compared to previous models.

The fins on the flywheel supply the cylinder with cooling air while they are also the active part in the centrifugal cleaning of the engine's inlet air. An inlet nozzle is fitted next 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 curve with the air currents to the inlet.

2. The paper filter now has a more dust absorbing surface area compared to its predecessor K750. The distribution chamber in front of the paper filter spreads the air flow evenly over the filter surface.

3. Service filter's sole task is to prevent foreign objects from entering the engine during service work. The service filter should only be replaced if it is damaged.

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 blown clean using compressed air. Material from wet cutting normally needs to be scraped off mechanically.

Make sure the rubber seal on the upper air duct cover is intact and that it is correctly fitted in the cylinder cover!

2. Paper filter

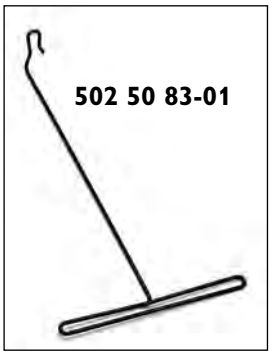
The paper filter must not be cleaned but replaced, whenever necessary, with a new filter. The replacement frequency is highly dependent on the material to be cut and if the cutting is to be wet or dry. Change the filter when the machine starts to lose power.

Observe extreme caution when the filter is removed to ensure that no dust particles fall down through the service filter. Removal of waste and cleaning of the gasket around the service filter is best done using a vacuum cleaner.

Also blow out the dust collected in the distribution chamber.

3. Service filter

The service filter only needs replacing if damaged.



Fuel filter

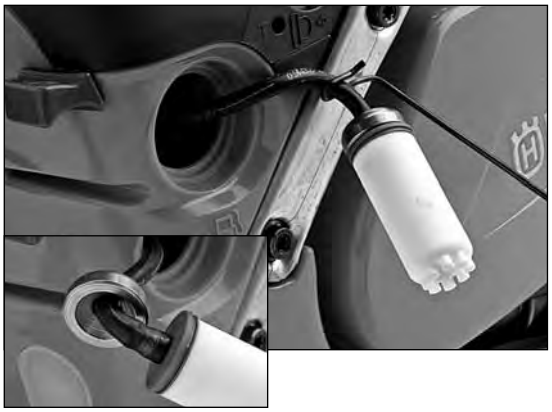
Dismantle the filler cap.

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.

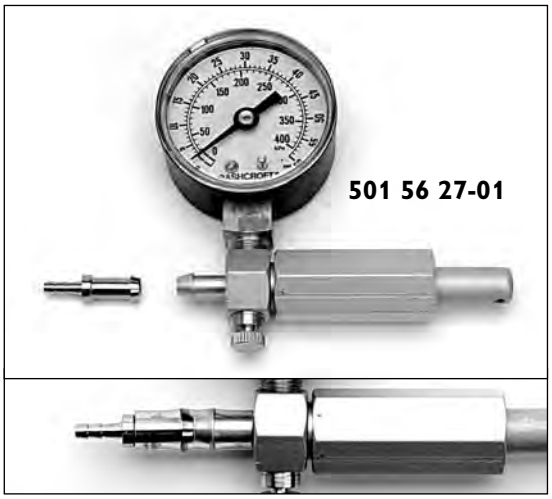


Pull out the fuel filter. Check that the filter is not cracked or in any other way defective. Fouled filters are replaced with new ones.

Heavily fouled filters can be due to fuelling with contaminated fuel. Check and filter the fuel if necessary.

Pull out the hose a little through the tank fill hole and pull out the fuel filter. Check that the filter is not cracked or in any other way defective. Fouled filters must not be cleaned but replaced with new ones. First lift up the metal ring whereupon the hose can be pulled off the filter.

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.



Fuel hose

Pressure tester
Use the pressure tester to test the tightness of the fuel hose.
Connect the adapter to the pressure tester with a short hose.

Fuel hose

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

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

Pressure test the fuel hose
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.

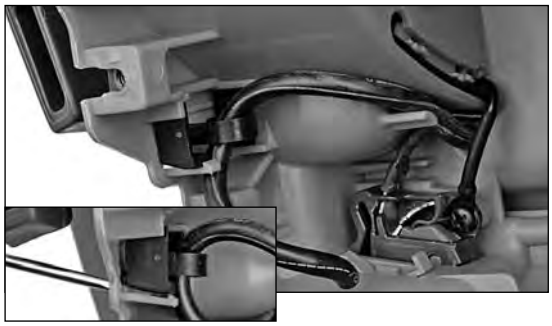
Exclude the fuel hose as the cause of leakage
Remove the carburettor unit. Plug the hose by the carburettor and redo the pressure test.

Exclude the fuel hose as the cause of leakage
Remove the carburettor unit. Plug the hose by the carburettor and redo the pressure test. If the hose is in tact, the carburettor must be checked.

Changing the fuel hose
Loosen the cable lug to the stop switch to gain better access to the fuel hose.

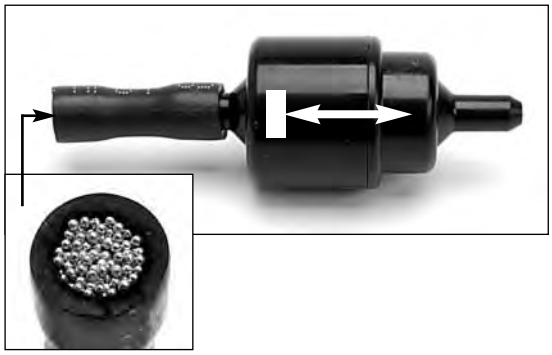
Remove the hose from the tank at the same time as it is fed down through the hole in the carburettor compartment
little by little.

The new hoses is fed down into the tank from the carburettor compartment. Feed down the hose by hand or with the help of a pair of pliers. Greasing the hoses facilitates assembly.



Note how the fuel hose is suspended on the tank unit when assembling. The snap lock for the hose holder can be opened with a small screwdriver from the outside of the tank unit.

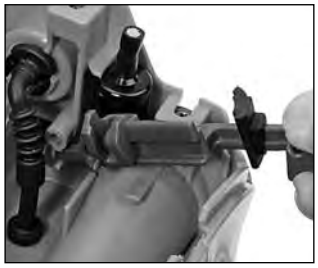
Do not forget to refit the cable lug on the stop switch!



Tank venting

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

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 filler cap is opened air suction is audible.



Dismantling
Dismantle the carburettor unit and choke control.

Press up the air vent unit with a pair of pliers.

Dismantling
The carburettor unit must be dismantled to gain access to the tank vent.
Remove the choke control.

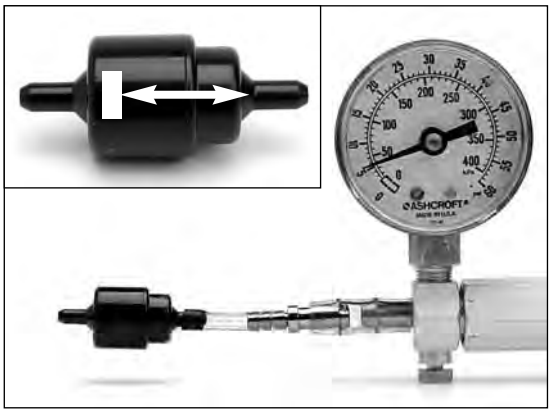
Press the air vent unit backwards and push it up with some pliers.

Filter - functional test
Observe whether the air can slowly pass through the filter.

Filter replacement
Clogged filters should not be blown clean but replaced.

Filter – functional test
Pull off the rubber hose with the sintered filter. Blow through the hose and note whether the air can pass through slowly.

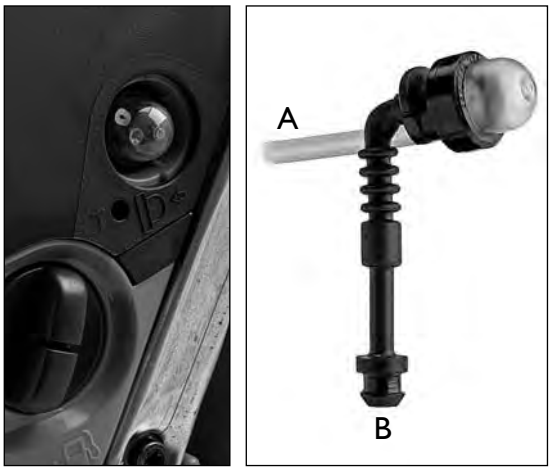
Filter replacement
A clogged filter should not be blown clean but replaced. Use a pin punch to push out the filter out of the hose.
Push in a new filter.



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.

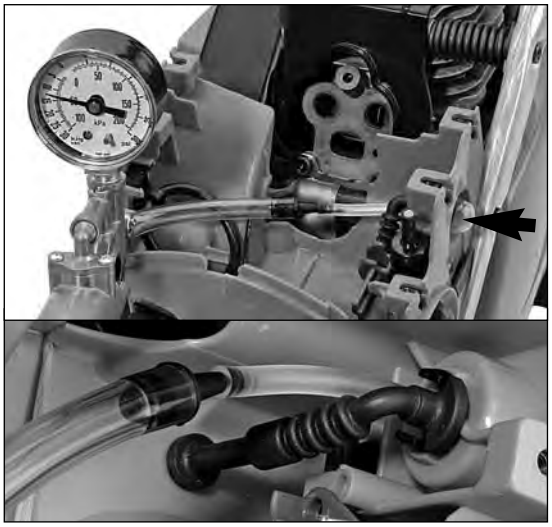
Blow in the direction towards the filter. The non return valve should stop a pressure of approximately 3–6 psi/20–40 kPa. At a higher pressure the non return valve opens.



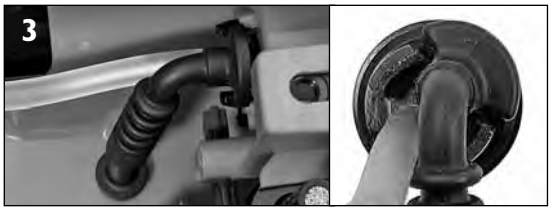
Air purge

The pump has a suction function and is connected to the carburettor's fuel chamber. The air purge empties the fuel chamber of any air and tops up the fuel chamber with fuel. With continued pumping, any excess fuel is returned to the tank.

Function
Hose A is connected to the carburettor. The pump creates a vacuum in the fuel chamber and fuel is drawn into it. When the fuel chamber has been fully filled excess fuel is pumped to the tank via return hose B.
The design entails that the amount of fuel in the carburettor can never be too much regardless of the number of pushes on the air purge bulb.



Functional test
Test the pump by depressing the air purge bulb several times. This should then fill with fuel that is visible through the air purge bulb.
If the air purge bulb does not fill with fuel, the pump itself must be examined in order to determine if the fault lies there.
Dismantle the carburettor and connect the test instrument 501 56 27-01 to the pump's carburettor hose (A as depicted at the top). Set the test instrument for vacuum measurement. Pump to a vacuum of around 30–50 kPa using air purge – not the test instrument. The pump is intact if this can be achieved and the fault must then be sought in the other components of the fuel system.



Dismantling/assembly
1. Detach return hose (B) from the pump.

2. Press the snap locks together and push the pump out.

Exercise care when assembling. Push the hoses fully on to their connectors to avoid fuel leakage.

3. Note that the transparent carburettor hose must be positioned in front of the return hose. Behind the black return hose in the illustration.

Carburettor unit

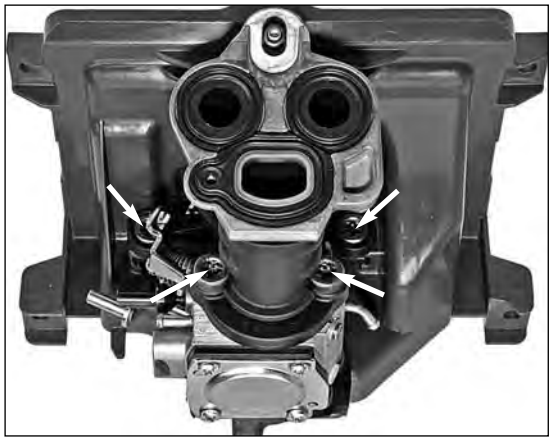
Dismantling

Pull up the service filter and put it to one side so that it is not damaged.

Carburettor unit

Dismantling

Pull up the service filter and put it to one side so that it is not damaged.



Clean the carburettor unit

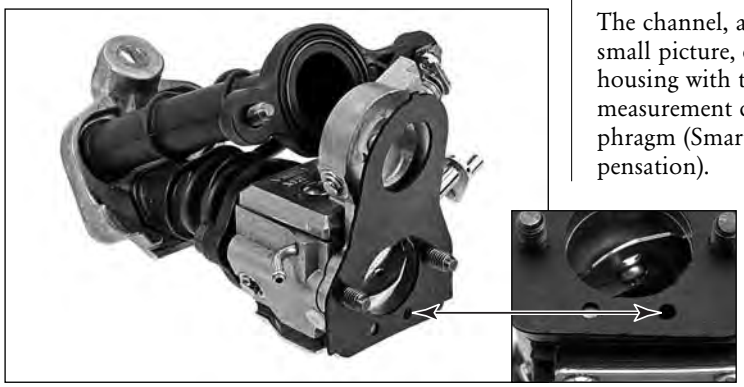
Carefully clean the outside first.

Dismantle the carburettor from the bracket.

Clean the carburettor unit

Work on the carburettor requires extreme cleanliness. Start work with by carefully cleaning the outside (with compressed air).

The carburettor is secured on the inlet bracket by four screws. Remove the screws.



The channel, as shown in the small picture, connects the filter housing with the carburettor's measurement chamber diaphragm (SmartCarb filter compensation).

Note the gasket between the carburettor and the inlet bracket.

The channel, as shown in the small picture, connects the filter housing with the carburettor's measurement chamber diaphragm. The air passage keeps the fuel/air mixture constant irrespective of how much the air filter is clogged (SmartCarb filter compensation).

Pull off the pulse hose from the carburettor and split the units.

Pull off the thin pulse hose from the carburettor Separate the carburettor from the inlet unit.

Examine carefully!

Check that the rubber guides are intact and that the connections to the cylinder and the carburettor do not leak.

Examine carefully!

Check that the rubber guides are not cracked or in any other way defective. Check especially carefully that the connections to the cylinder and the carburettor do not leak. The concerned part must be replaced if there are any signs at all that contamination has leaked in (contamination inside the gaskets).

Inlet system

Check for leaks

For maintenance work on the inlet system, you should look carefully for any leaks, which would cause dust to be sucked in and shorten the engine's life. Dust inside the seals indicates defective or incorrectly fitted components.

Note that the inlet line for the fuel/air has a support insert.

Replacing the guides

First remove the support insert.

The guides are dismantled from their mountings by pulling them out by hand. Push out one edge first.

Replacing the guides

First remove the support insert.

The guides are dismantled from their mountings by pulling them out by hand. First press out one edge of the rubber guide, after which the whole guide can be easily extracted.

Assembly

Push in the rubber guides past their seatings on the plate.

Now pull out the guides, one at a time, into their correct position.

Fit the support insert.

Assembly

It is easier to assemble by first pushing the guide past its seating in the plate.

Now pull out the guides, one at a time, into their correct position.

Fit the support insert.

Carefulness!

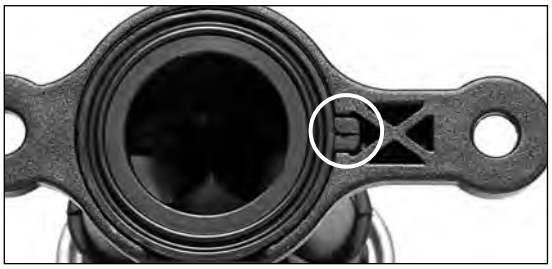
Perform assembly with the greatest possible care. Air leakage can result in engine failure, and dust that is drawn in will significantly shorten the life of the engine.

Parts must face the right way!

Note that the guide to the inlet is slightly bevelled on one edge.

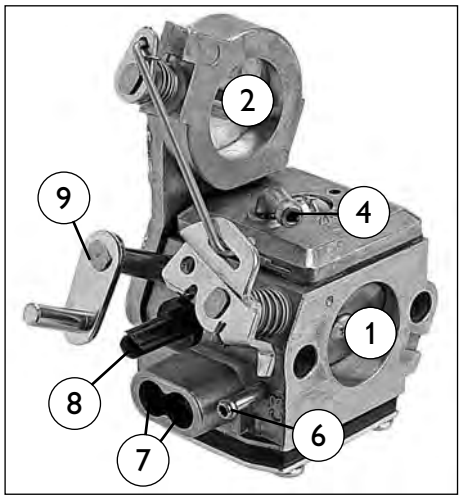
Parts must face the right way!

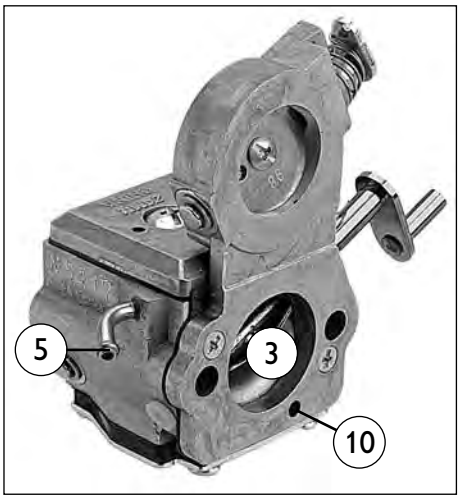
Note that the guide to the inlet is slightly bevelled on one edge. Turn the bevel towards the fuel/air inlet.

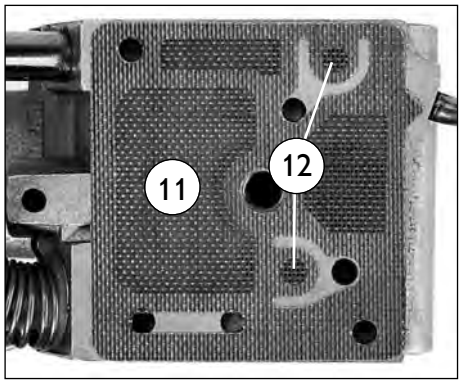


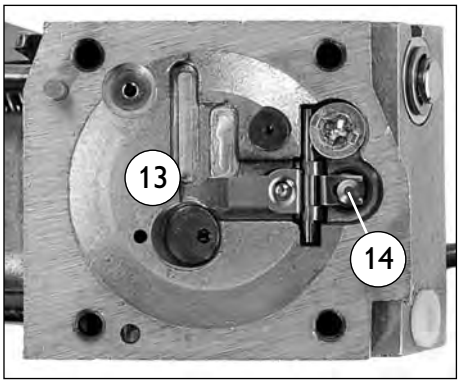
Note the tongue that should aligned with the holder.

The inlet guide for the fuel/air has a tongue that must be aligned in the holder by the connection with the bracket.



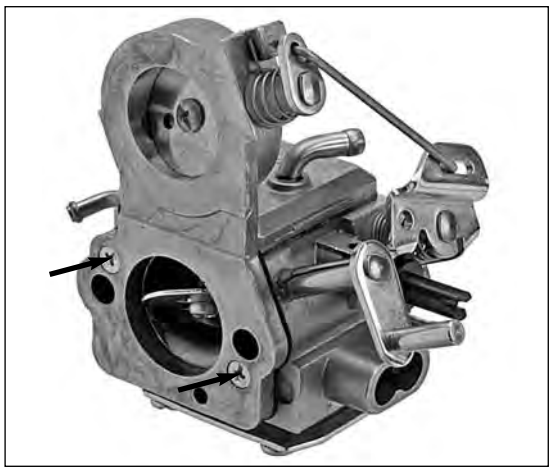






Components

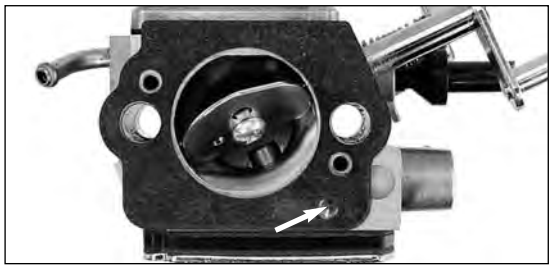
1. Throttle valve
2. Air valve
3. Choke valve
4. Pulse line, to the carburettor's pump diaphragm
5. Fuel line
6. Connection to air purge
7. High and low speed jet (set at the factory)
8. Idle screw, speed adjustment
9. Throttle rod for the choke
10. SmartCarb filter compensation
11. Pump diaphragm
- on top in relation to the crankcase via the pulse line
- fuel under the diaphragm
12. Fuel pump's valve flaps
13. Fuel chamber, measurement chamber diaphragm above
14. Needle valve for pressure regulator



Dismantling/ assembling

Dismantling the air valve
Dismantle the air valve if the work demands this.

Link rod
Note the attachment of the link rod when reassembling.



Turn the gasket correctly!
Make sure that the gasket faces the right way so the channel is not covered.

Dismantling/assembling

Dismantling the air valve
The air valve is secured on the carburettor by two screws.

The air valve does not need to be dismantled to check the function of the carburettor or for most service work. However, dismantling the air valve facilitates accessibility.

Link rod
Note the attachment of the link rod when reassembling.

Turn the gasket correctly!
Make sure that the gasket faces the right way so the channel at the arrow is not covered.

The channel connects the filter chamber with the carburettor's measuring chamber on the dry side, to the cover. (SmartCarb filter compensation.)

Functional test

Pressure tester 501 56 27-01

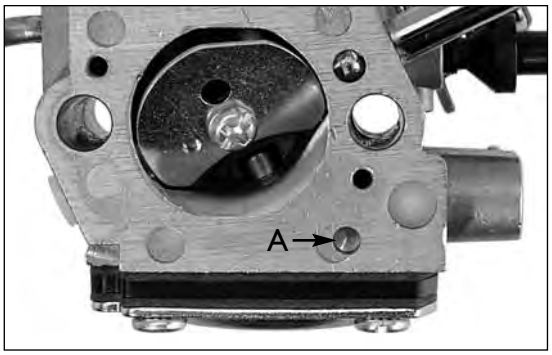
The pressure tester has a pump piston that is operated with one hand.

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.

Needle valve

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 give a measurement result that is difficult to interpret.

Tip when the carburettor is full with fuel: Turn the carburettor with the pulse line upwards, as shown in the picture. Pump up the pressure to approximately 30 psi/200 kPa and let the fuel run out through the venturi under water. Not until air bubbles emerge from the venturi, can the function of the needle valve be tested as set out below.



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. Connect a piece of hose to the pulse line, this should come out above the water line.

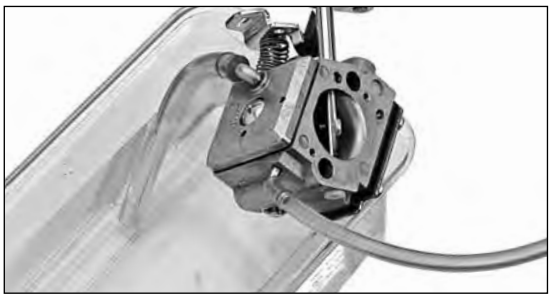
Connect a thin, short hose to the carburettor's fuel pipe. Pump a pressure to 15–36 psi/100–250 kPa, the needle valve should then lift. Air bubbles then come out of the jets in the venturi. The pressure should then drop to approximately 15–7 psi/100–50 kPa and then drop significantly slower or stop completely. Pressure drop after 7 psi/50 kPa indicates a leaking needle valve.

If the needle valve does not open at 36 psi/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).

If no pressure can be pumped up, this may be due to a punctured pump diaphragm.

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.



Pump diaphragm

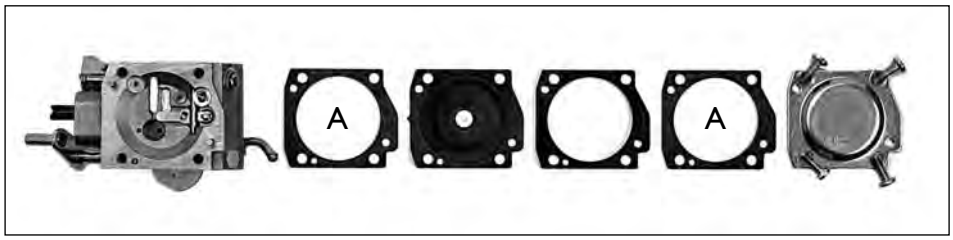
Connect the pressure tester to the fuel pipe. Insert a hose from the impulse line and pump from the fuel connection. If air comes out of the impulse channel the pump diaphragm is leaking.

Measurement chamber diaphragm

The condition of the diaphragm cannot be checked by pressure measurement. A punctured diaphragm stops the fuel supply.

Air purge – non-return valve

A valve in the carburettor prevents fuel from leaking out of the carburettor if leaks should occur in the air purge or connections. Place a hose on the carburettor's air purge connection, suck and blow. The valve must open at low underpressure and close at overpressure.



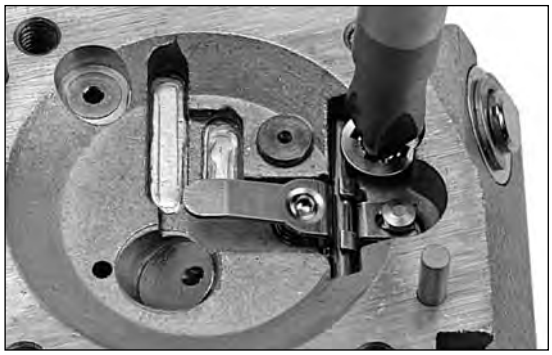
Metering unit

Measurement chamber
Note the internal order of the parts when dismantling to avoid reassembling in the wrong order. Gaskets A are identical.

Measurement chamber – function
The measurement chamber has two chambers: Air chamber (to the cover) and a fuel chamber (to the carburettor body). These are separated by the measurement chamber diaphragm. The diaphragm regulates and maintains a constant level of fuel in the fuel chamber through the mechanically linked needle valve.

The air chamber is positioned in connection to the inlet, after the air filters, and provides the air chamber with the same pressure (SmartCarb ™ filter compensation).

Measurement chamber diaphragm - inspection
Examine the diaphragm visually with respect to cracks and leaks. Fuel on the top side, to the cover, indicates leaks. Replace diaphragm.



Needle valve
Conduct a pressure test as described earlier. If the test indicates a leaky needle valve this must be removed.

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.

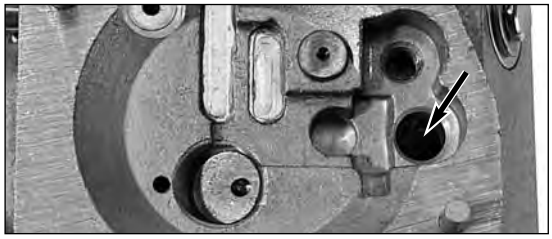
Check that the spring is intact and that the lever runs easily on the axle.

Check that the spring is intact and that the lever runs easily on the axle.

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

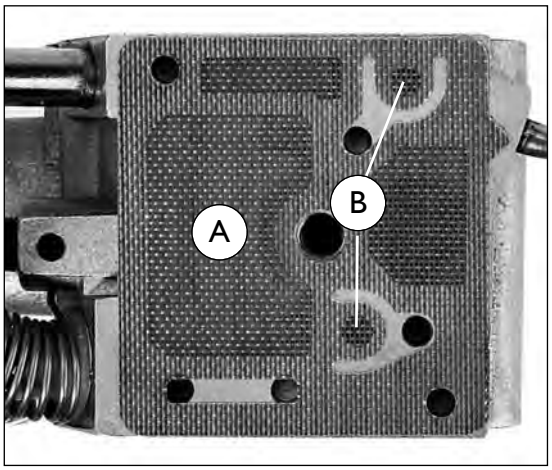
Inspect the needle tip with a magnifying glass.
If there are signs of deposits that cannot be removed easily or the tip of the needle is deformed (waistline) after the seating that it seals against, the needle valve should be replaced. Always replace in uncertain cases.

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 for dirt in the needle valve's seating. If compressed air is used for cleaning, the pump diaphragm must also be dismantled in order to avoid damage from overpressure.

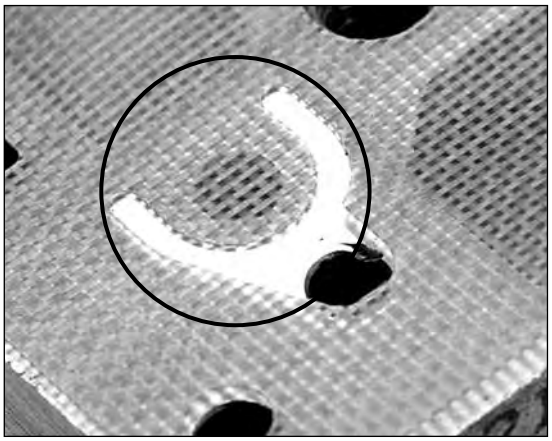


Pump unit

Function

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

The fuel underneath the diaphragm is pumped to the valves (B). Back pressure from the measurement chamber diaphragm to the needle valve in the measurement chamber regulates the valves' degree of opening and the amount of fuel pumped to the measurement chamber's fuel side.



Inspection

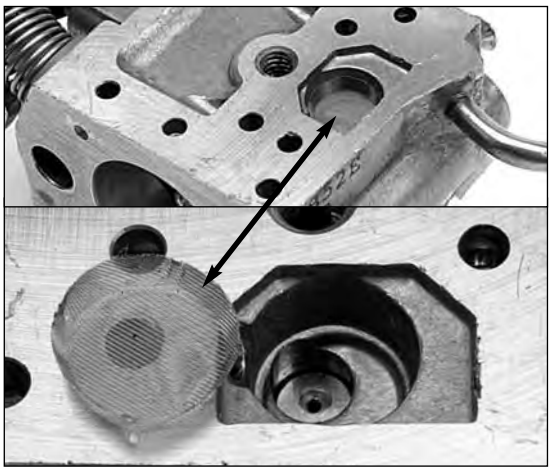
Conduct a test of the tightness of the pump diaphragm as described earlier.

Make sure the valve flaps close tightly against the carburettor body.

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

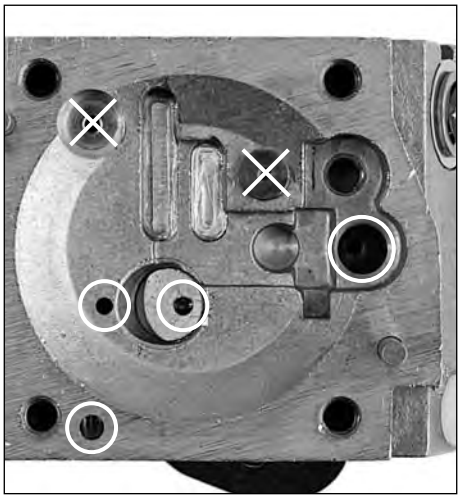
Inspect the strainer with a magnifying glass. Loose dirt particles can be blown away from the needle valve's seating.

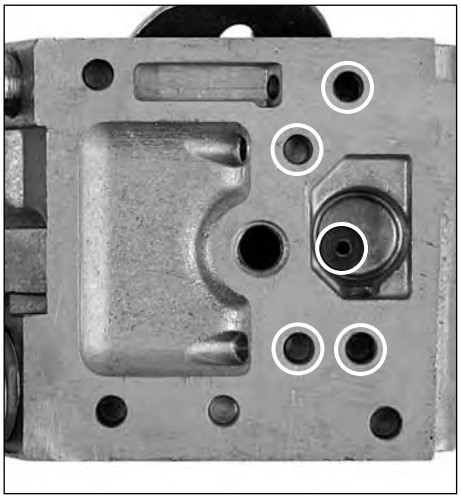
Replace the strainer if it is defective. Remove with a needle and mount with a 7 mm pin punch.

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 pin 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.

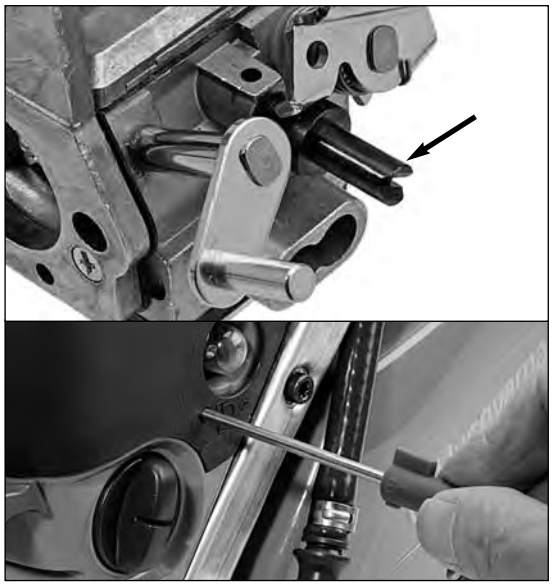
Valve axles

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

Adjustments must not be made to the nozzles.

Idle speed

The idle speed must be checked during 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).

502 71 14-01

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

Adjusting outdoors

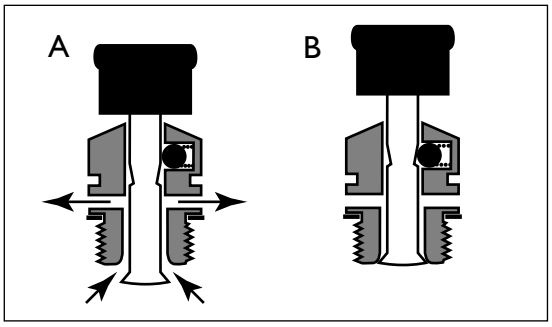
Naturally the idle speed must be adjusted outdoors because of exhaust fumes. The cutting blade must be fitted.

– 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 2,700 rpm. The cutting blade must not rotate at this speed.

If the cutting blade rotates the friction retarder in the front belt pulley is defective and must be fixed.



Decompression valve

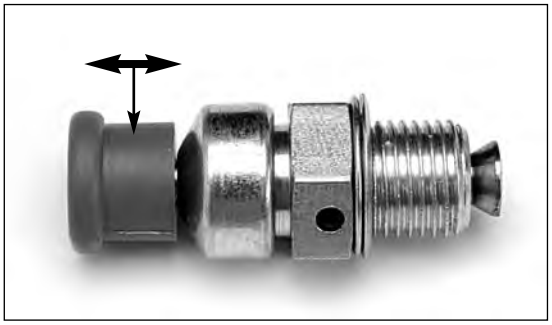
Function
The decompression valve reduces the compression in the cylinder when starting.

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.

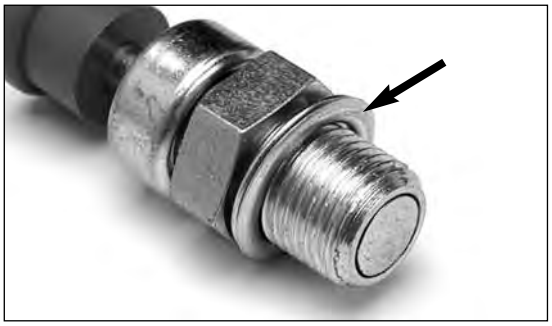
Dismantling
Use a long socket or the combination spanner to dismantle the decompression valve.

Dismantling
Use a long socket or the combination spanner, 506 38 26-01, to dismantle the decompression valve.



Service
Check that the valve moves. Clean the valve of soot and deposits.

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.



Fitting
Clean and check the sealing washer.

Leakage test
Use a leakage spray or soapy water. Move the stop switch to stop position and slowly pull the starter handle.

Fitting
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

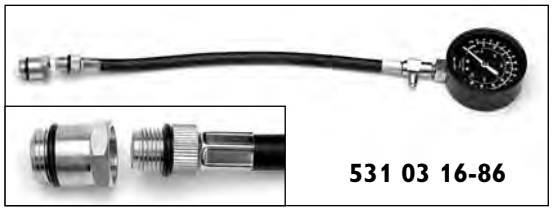
The test indicates leakage from the combustion chamber.

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

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.



531 03 16-86

Compression tester
Connect the compression tester in the spark plug hole

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.

New, run-in engine approximately 10 bar
Rectify below 8 bar

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 10 bar (150 psi). Values less than 8 bar (120 psi) indicate faults with on the cylinder, piston or piston rings.18–22 lbf·ft/25–30 Nm.

Cylinder

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

Cylinder

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

Dismantle the cylinder.

Dismantle the 4 screws at the base of the cylinder and lift off 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 K760.

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 K760.

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 on both sides of the gudgeon pin.

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 and replaced if necessary.

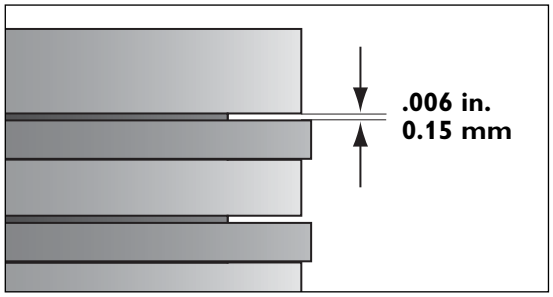
Machines with a few hours of use should be examined carefully to identify the cause of the abnormal wear, which is described later in this chapter.

Wear tolerances

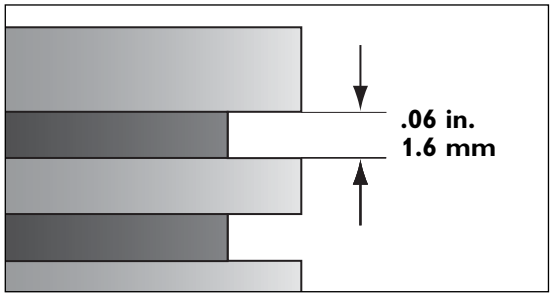
Cylinder
Inspect the cylinder bore against the light. As long as the surface layer has not been broken through, the cylinder is in working order.

Aluminium from the piston can be removed using emery cloth.

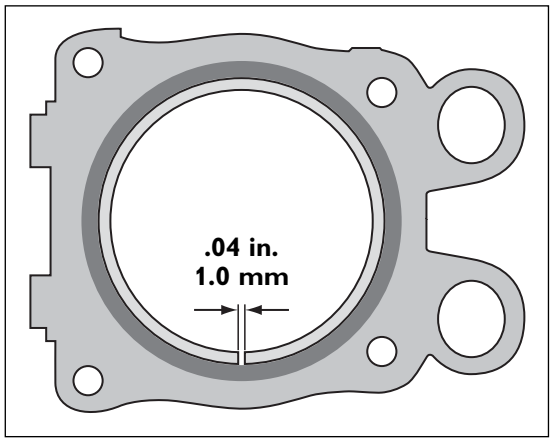
Piston
Wear is at its greatest at the bottom of the piston by the inlet and exhaust ports. A study of the machining lines after manufacture give a picture of wear. If the piston has been worn completely smooth by the ports you should consider replacement.



Piston 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 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 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.

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.

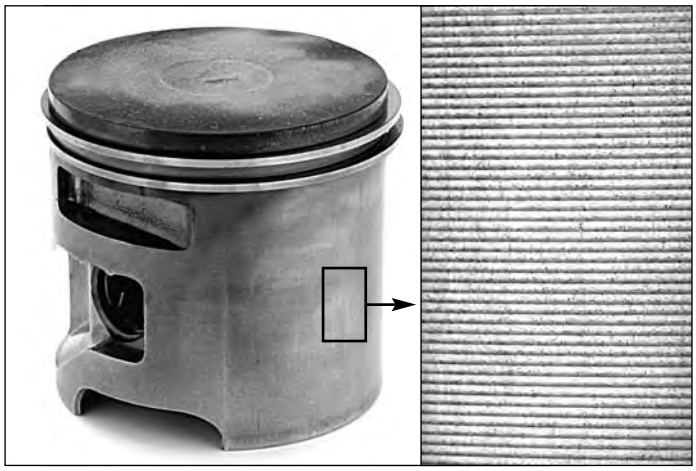
Characteristic for a worn piston is that the machine is difficult to start due to the piston's reduced valve function.

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
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
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.

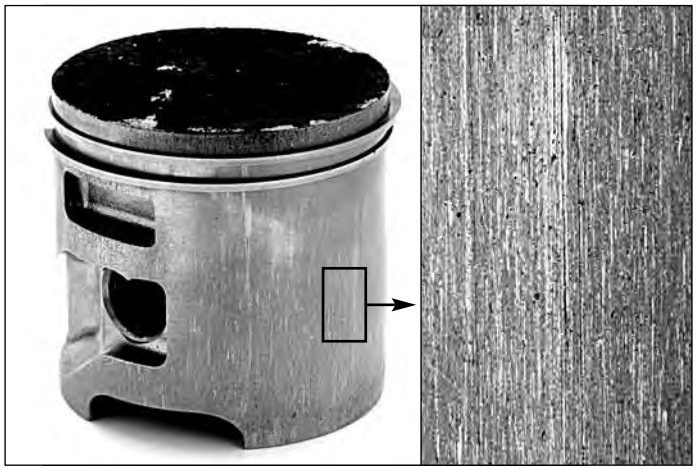


Piston damage

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.

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.

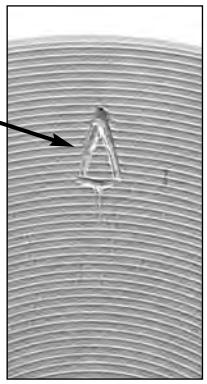
Assembly

Oil in

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

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.

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 off any old gasket residue from the surfaces that connect with the gasket.

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.

Assemble the cylinder

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

Press the piston rings together using the piston ring compressor.

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 along the piston.

Fit the screws on the base of the cylinder and tighten these crosswise to a torque of 10–11 lbf·ft/14–15 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 10–11 lbf·ft/14–15 Nm.

Leakage test

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

Tools

The tool kit 544 10 33-01 consists of parts for sealing the cylinder's exhaust and inlet ports as well as a sealing plug that replaces the decompression valve.

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

Important

Turn the crankshaft so the exhaust port is fully open, i.e. the piston is at its lower turning point.

Exhaust port

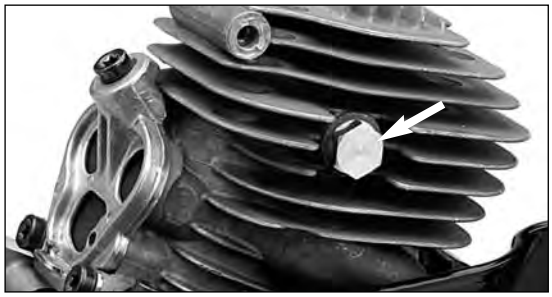
1. Fit the exhaust port seal on the cylinder by the muffler's position.

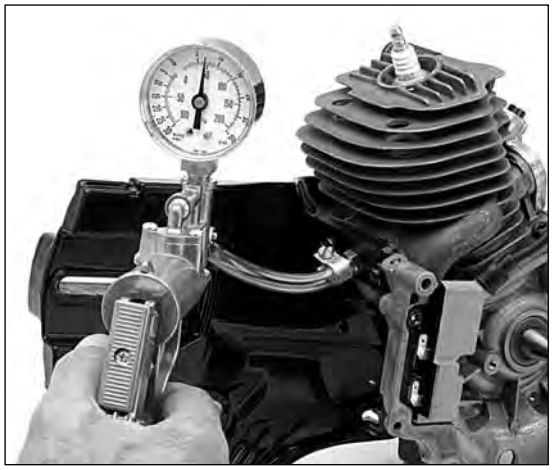
Inlet port

2. Loosen the screws at the carburettor's lower attachment a couple of turns.

3. Put the inlet seal in place and fit the screw. Pull the lower attachment carefully so as not to deform the strap.

Fit the sealing plug in the cylinder space for the decompression valve.





Test for leakage

Connect the pressure tester on the nipple at the axhaust port seal.

Pump a pressure to 7 psi/50 kPa. After 30 seconds the pressure may drop at the most to 3 psi/20 kPa.

If a leakage is indicated

Find the leakage by brushing with soapy water or use a leakage spray. Check the seals on the crankshaft first. Next check by the gaskets (crankcase halves, base of the cylinder). Finally the possibility of cracks in the cast material of the crankcase.

Crankcase seal

Tools
To replace the crankcase seal rings you need puller 504 91 40-01 and assembly punch 502 50 82-01.

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.

Fitting
CLUTCH SIDE

1. Lubricate the axle at the taper for the clutch drum.

2. Carefully 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.

Fitting
FLYWHEEL SIDE

1. Lubricate the axle.

2. Press the sealing ring towards the seating.

3. Knock down the sealing ring into its seating with the assembly punch.
Wipe the grease from the axle before fitting the flywheel.

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

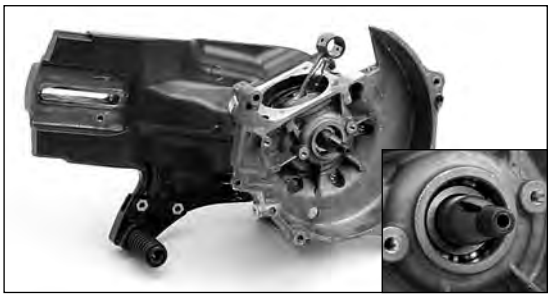
504 90 90-02 544 06 00-02

Crankcase

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

Crankcase

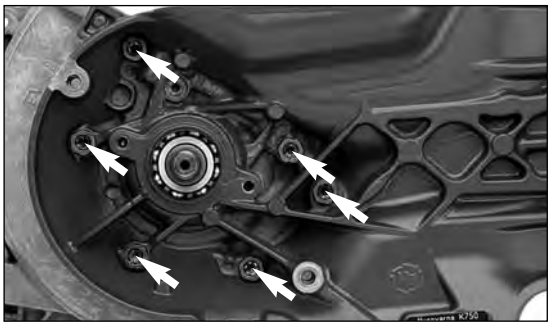
Tools
A universal puller (504 90 90-02) and a special tool (grip plate) from Husqvarna (544 06 00-02) are needed to spilt the crankcase.



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

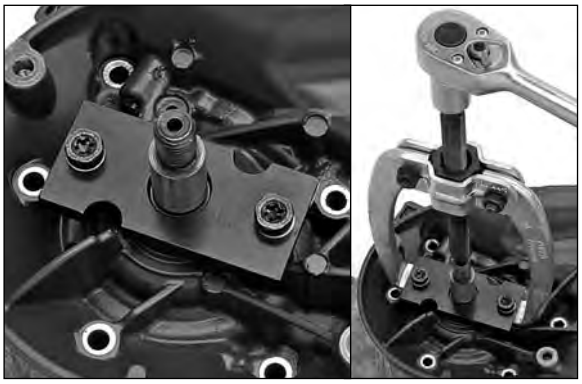
Starting position
Dismantle the basic modules from the crankcase.

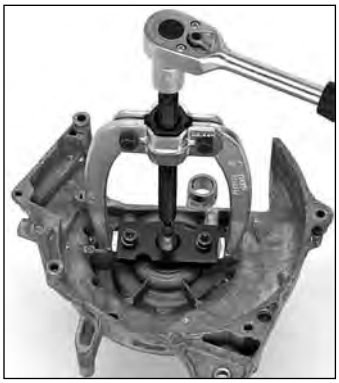
Note that the crankshaft's stuffing boxes are to be dismantled.



Split the crankcase
Remove the screws.

Split the crankcase
Remove the six screws that join 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.

Clean the gasket surfaces
Carefully clean the gasket surfaces.

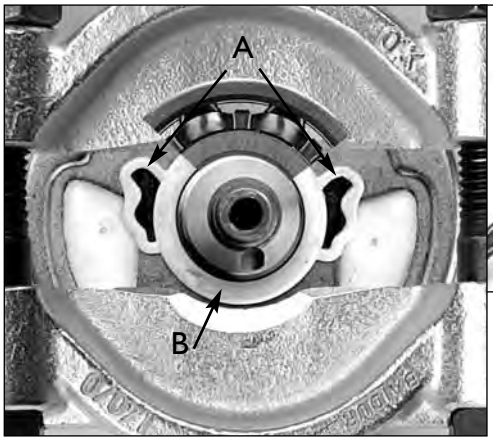
Connecting rod
Check that there is no radial play on the connecting rod by the crankshaft journal. If this is the case the whole unit must be replaced.

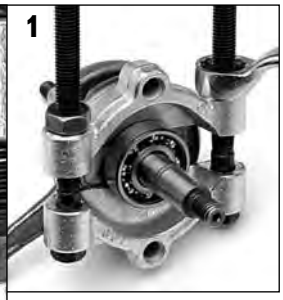
Clean the gasket surfaces
Carefully clean the gasket surfaces. No gasket residue must remain.

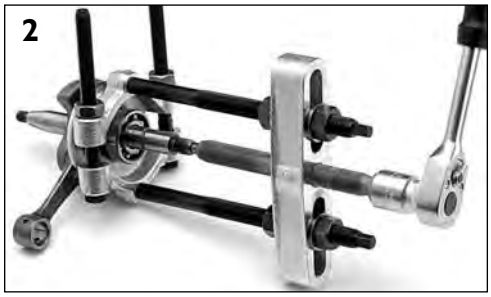
Filled balance weights
The balance weights on both sides of the crank can be removed and replaced.

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. Exercise care so that the plastic components on the balance weights are not damaged, see "IMPORTANT!"
2. Fit the puller unit and press the bearing off of the crankshaft.







IMPORTANT!
Turn the puller plate so that the "ears" (A) are free. The jaws must not be screwed together further than to the centre ring (B), otherwise the plastic ring will be damaged.

Main bearing

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

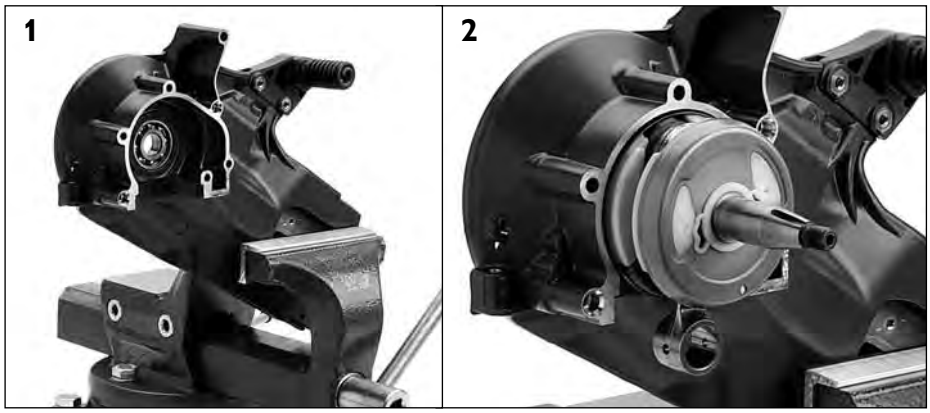
Dismantling
Note The tubular guides for the crankcase halves must be removed!

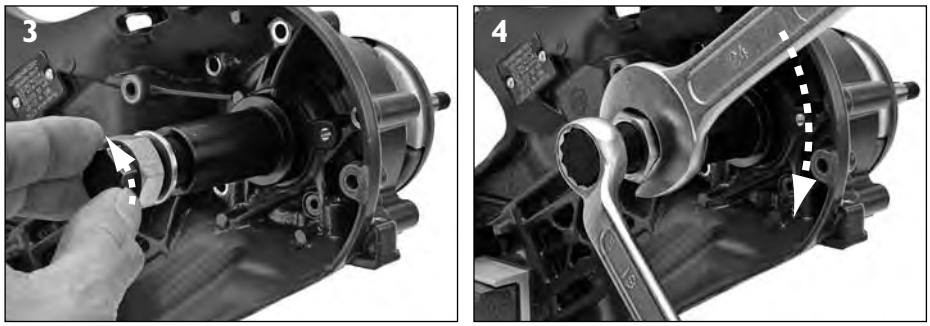
Place the crankcase halves against a flat piece of wood or the like. Heat around the bearing with a hot air gun, max. 300 °F/150 °C. Place the sleeve in the tool kit against the bearing and knock this out with a large plastic mallet.

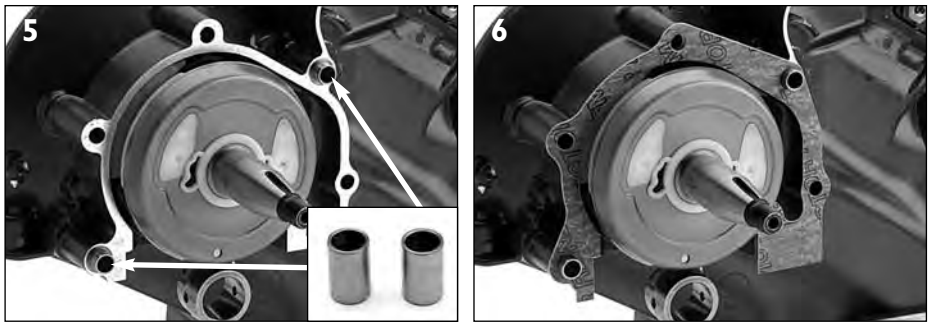
Assembly
Use the tool kit 506 37 61-02 for bearing assembly in both crankcase halves.

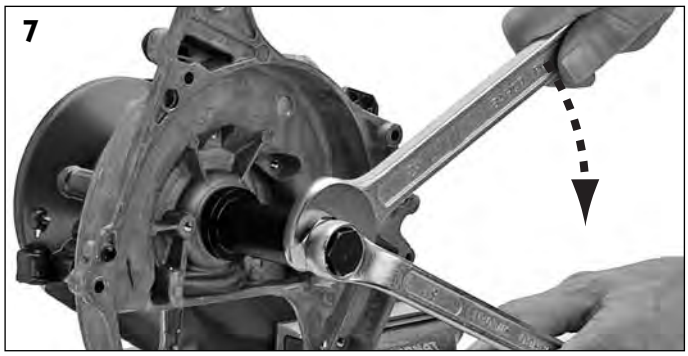
Place the bearing on the support plate and hold it under the crankcase half. Insert the screw through the washer and fit the screw in the support plate.

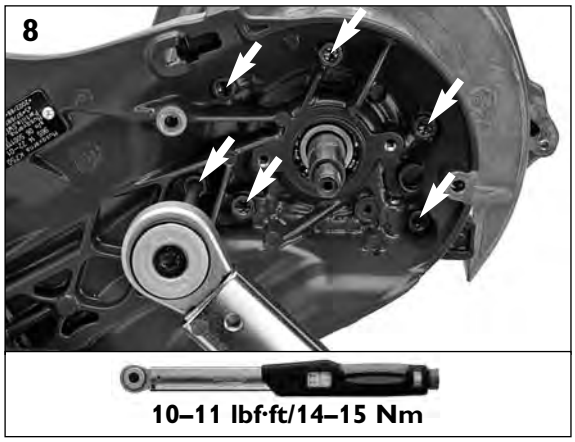
Lock the screw and turn the nut until the bearing reaches the stop in the crankcase half.











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 M10V 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 10–11 lbf·ft/14–15 Nm.

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

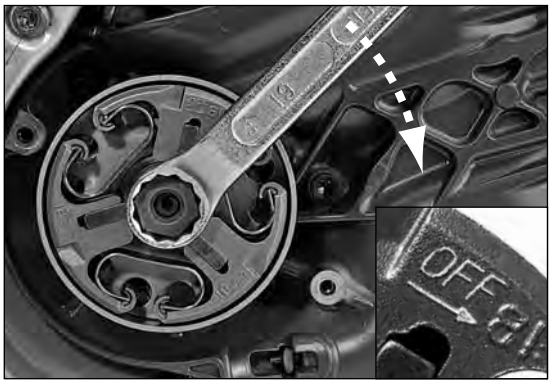
Picture 9.
Cut the gasket at the cylinder face.

Picture 10.
Fit new stuffing boxes (page 37).

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

Dismantling

Fit the piston stop
Lock the crankshaft's travel with the piston stop 504 91 06-05.



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

Dismantling

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

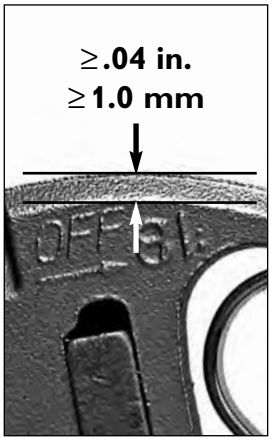
Fit the piston stop
Lock the crankshaft's travel by fitting the piston stop 504 91 06-05 instead of the spark plug.

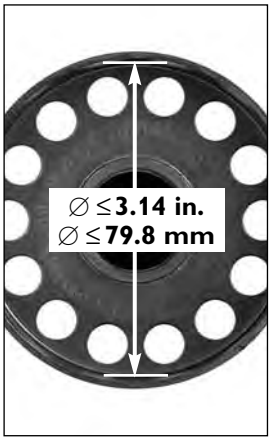
Unscrew the clutch – clockwise
Note that the clutch has a left-hand thread, thus screw clockwise to dismantle the clutch. The clutch is marked with the dismantling direction “Off”.

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).

Removing the clutch
When the clutch has been removed the clutch drum can be pulled off the axle.

Note the washer located between the clutch and the drum and the washer against the bearing closest to the crankcase.



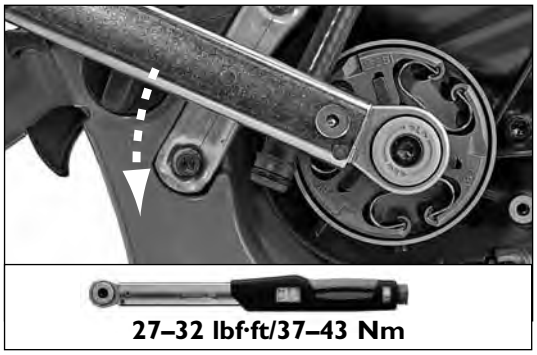


Wear tolerances

Engagement speed - min. 3,100 rpm
The clutch must be corrected if the cutting blade rotates at engine speeds below 3,100 rpm.

Clutch shoes
The height of the clutch shoes' bevelled section should not be less than 1 mm. Replace if necessary with a complete clutch assembly. Never replace individual shoes from another clutch as this will create imbalance.

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



Reassembly
Note that the clutch should be turned with the low spanner grip towards the clutch drum.

The clutch should be tightened to a torque of 27–32 lbf·ft/37–43 Nm.

Clutch springs

Dismantling/assembling
Place a large Phillips screwdriver in each spring end. Expand the spring using circlip pliers and lift out the spring.

Clutch springs

Dismantling/assembling
The clutch springs can be dismantled and assembled with the following tool arrangement: Position a large Phillips screwdriver in each spring eye and hold the screwdrivers.

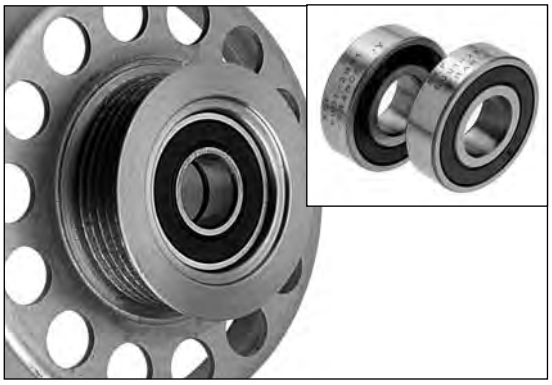
Using circlip pliers between screwdrivers, the spring can be expanded and lifted out of the clutch.

Clean the clutch
Check that the shoes can move easily in their races. Clean if necessary.

Clean the clutch
When the springs have been removed the clutch can be dismantled. Check that the shoes can move easily in their races. Clean if necessary.

Do not lubricate the clutch

Do not lubricate the clutch
Note that the clutch must not be lubricated.



Belt pulley – bearing replacement

The clutch drum and belt pulley are joined units. The belt pulley has dual, permanently lubricated ball bearings that face each other without spacers.

The outer rings of the ball bearings are fitted with a light force against the belt pulley and a sliding fit against the crankshaft, which means that the belt pulley can easily be pulled from the crankshaft when dismantling the clutch.

The special tool 504 56 79-01 must be used to replace the bearings.

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.

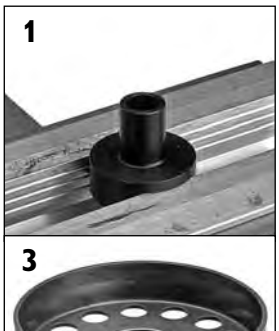
Grease the threads of the screw and the washers.

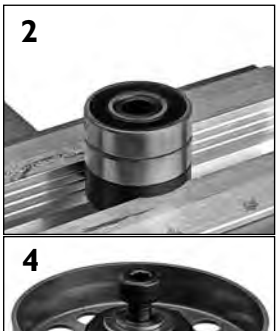
Dismantling

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

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

3. It is a good idea to secure the Allen key in a vice. Align the screw in relation to the Allen key. Press out the bearing by screwing it up in the socket.





Assembly

1. Secure the bearings' support plate in a vice.

2. Insert both ball bearings.

3. Add the belt pulley.

4. Put the cover on and fit washers and screw.

5. Press the bearing in by tightening the screw until the bearing reaches the stop in the belt pulley.

6. For refitting – note that you must first fit the washer on the crankshaft.

Dismantling – blade guard/bearing housing

Dismantle the cutting head from the machine.

Dismantling – blade guard /bearing housing

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.

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 screws that hold the blade guard against the bearing housing. Remove the washer.

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

Lift off the disk protection from the bearing housing.

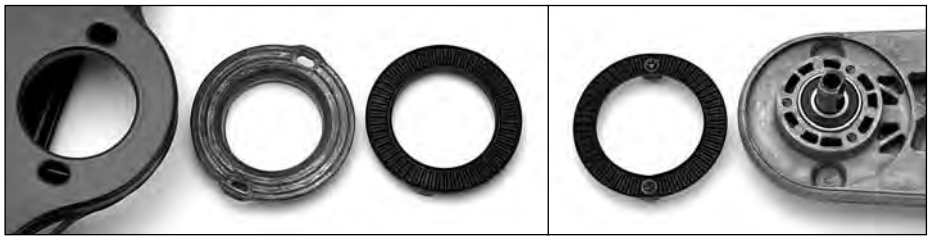
Check that the screen rings are intact.

Also check that the rubber ring is in good condition.

Lift off the disk protection from the bearing housing.

Check that the screen rings for locking the disk protection are intact.

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



Assembly – blade guard/bearing housing

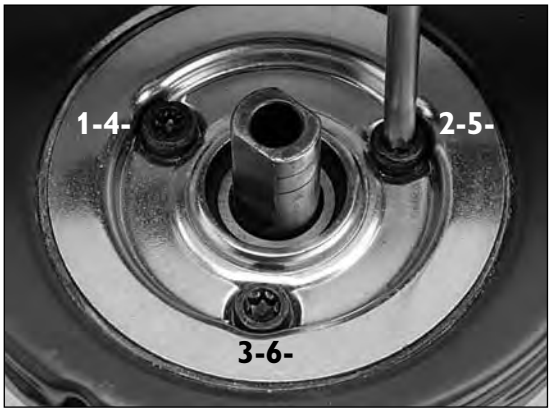
Make sure the rubber seal has the right fit.

Turn the bearing housing so that the screw holes are accessible.

Assembly – blade guard /bearing housing

Make sure the rubber seal has the right fit in relation to the bearing housing and blade guard.

Turn the bearing housing so that the screw holes are accessible from above with the tool.

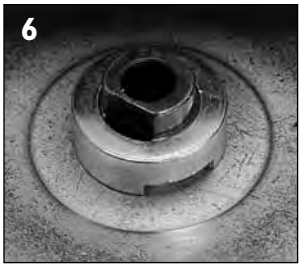


Fit the blade guard – tighten the screws alternately

Fit the blade guard – tighten the screws alternately
The soft rubber ring under the washer is pressed together when the plate washer is fitted. The three screws must then be tightened alternately to avoid deforming the plate washer.

Fit the seal ring

Fit the seal ring
Press the seal ring fully down onto the plate washer. The axle bushing has slots for the seal ring that ensures secure engagement when the seal is in the right position.



Centre bush
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.

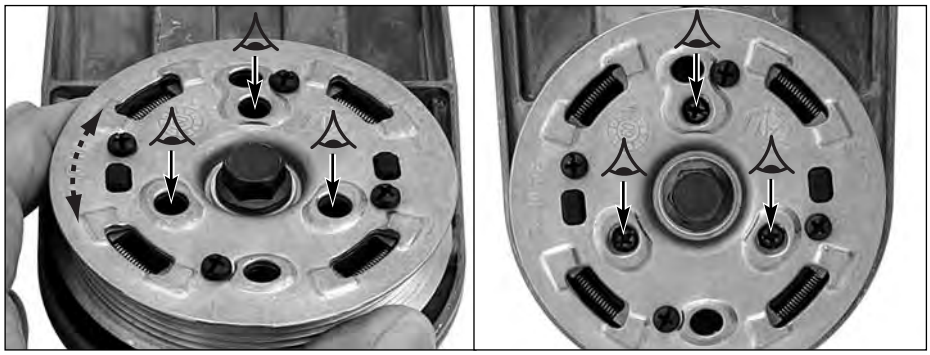
Belt pulley

Work procedure

In order to handle the belt pulley with the retarder as a completely joined unit, it is important that dismantling, as well as fitting, is made in the right order.

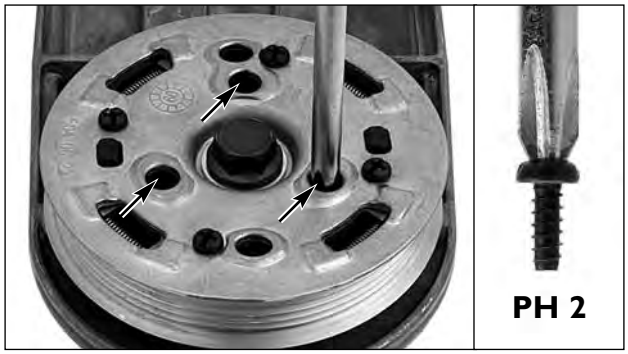
Warning

Do not make the mistake of removing the screws that are marked in the illustration. If the belt pulley is dismantled in this way, the retarder will break apart into its component parts.



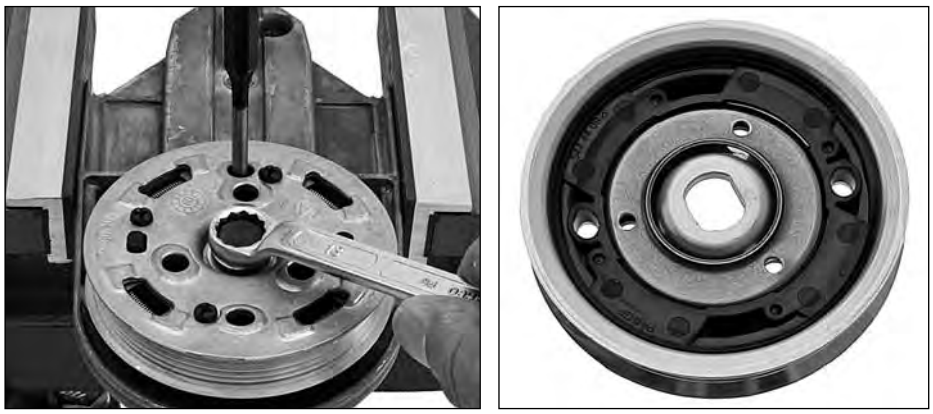
Remove the belt pulley

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



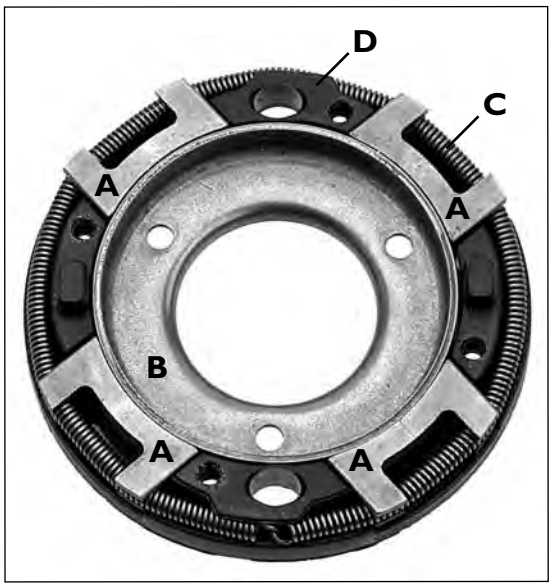
Remove the brake drum screws with a screwdriver, Phillips PH 2.

Hint: A magnetic screwdriver makes work easier.



Lock the belt pulley with a mandrel or a screwdriver. Remove the belt pulley's centre screw. You can now lift off the belt pulley with retarder.

The illustration on the right shows the retarder in the belt pulley.



Friction retarder

Function

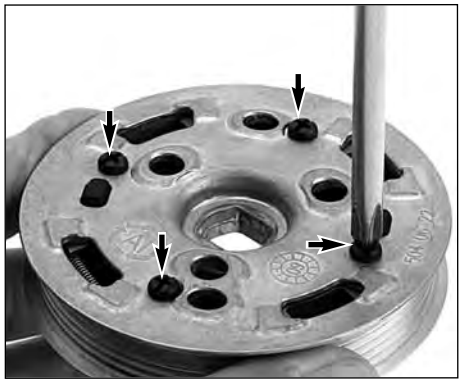
The "Friction retarder" is a centrifugal brake where the brake shoes (A) are pressed against the brake drum (B) by the spring (C) which provides a braking effect to the brake shoes. The units are held in place by the guide plate (D).

The "Friction Retarder" slowly brakes the cutting blade to a halt 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. When replacing, replace the entire unit, as shown in the illustration.

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



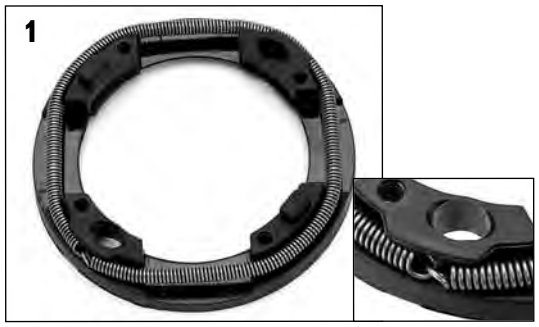
Remove the retarder

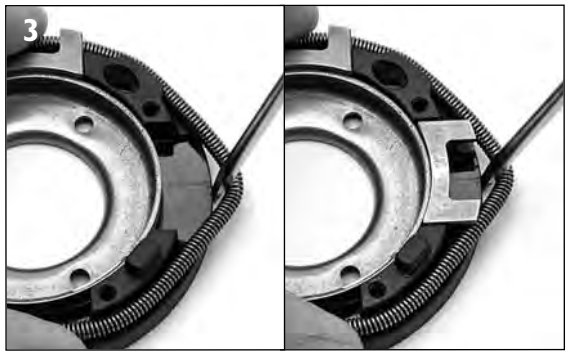
Remove the belt pulley with retarder as described on the previous page.

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

Release the centrifugal unit from the belt pulley by pressing the guides down.

Clean off any dust if necessary using compressed air. Note that the retarder does not need to be lubricated.





Assembly of the centrifugal unit

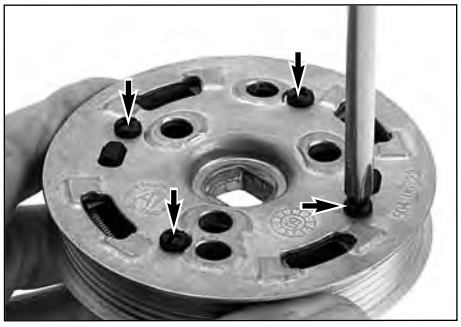
Normally the unit is handled without dismantling it. If needed, carry out assembly of the parts in the following manner:

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.

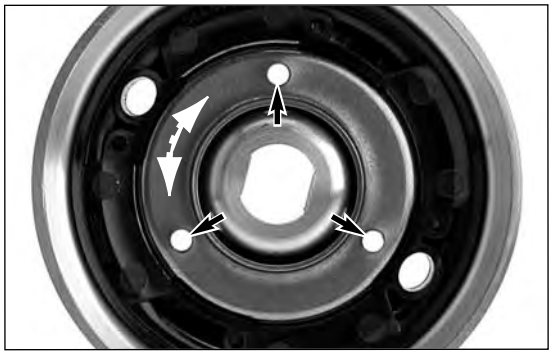
3. Assemble the brake shoes by stretching the spring with a screwdriver and then locating the brake shoe in position.

4. The complete centrifugal unit.



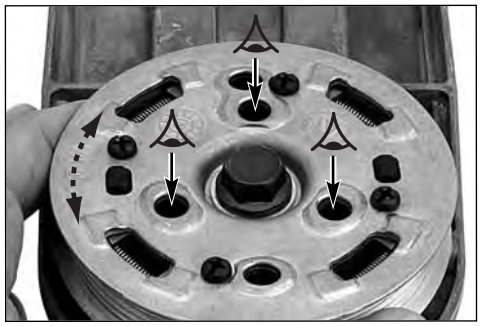
Assembly of retarder
Align the centrifugal unit's guides in relation to the belt pulley.

Fit the four screws.

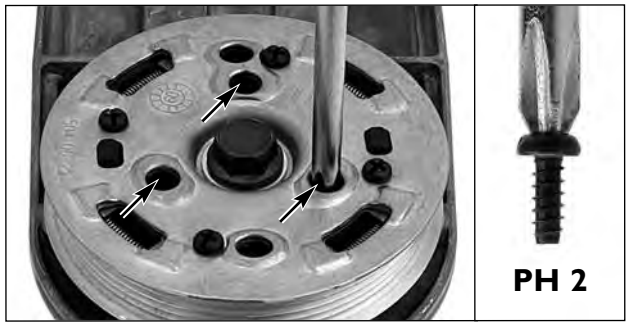


Turn the brake drum so that the holes in this are aligned with the holes in the belt pulley.

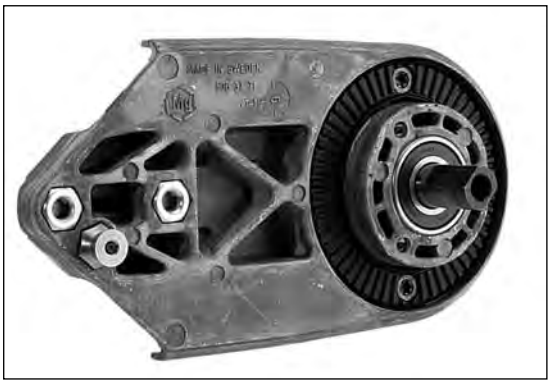
Lock the belt pulley with a mandrel and fit the washer and centre screw.
Tightening torque: 28–31 lbf·ft/38–42 Nm.



Turn the belt pulley so that the brake drum mounting holes are aligned with the bearing housing.



Fit the brake drum's three screws to the bearing housing.



Blade shaft housing
The bearing housing carries dual ball bearings for the blade's drive shaft. The belt pulley with retarder is located on the opposite side.

The bearing housing is unchanged, and the design of the bearing and axle has been significantly improved in order to provide a distinct position for the shaft in axial direction. The risk of incorrect fitting is now minimal.

However, the new design needs a new special tool, 575 96 20-01, to ensure there is no risk of the belt pulley or bearings being damaged when replacing.

The assembly principle is to first install a bearing in the bearing housing. The next bearing is then fitted along with the axle.

Blade shaft, bearings
The blade shaft has a fixed machined spacer which the bearings' inner rings must be in contact with after assembly in the bearing housing. The bearing's inner rings are press-fitted against the shaft and the outer rings are press-fitted against the bearing housing.

It is very important not to expose the bearing to clamping forces between the inner and outer rings during assembly. With the help of special tools and assembly methods described here, the bearings are fitted without any risk of the forces damaging the ball bearings.

575 96 20-01

506 37 61-02

Bearing replacement

Tools
To replace the blade shaft bearings you need tool kit 575 96 20-01 if the bearing replacement is made by hydraulic press. The tools are used for both dismantling and assembly.

If the hydraulic press is missing, the bearings can be replaced in the manner described below, in which case tool kit 506 37 61-02 is required.

Dismantling
Push or knock out the bearing unit.

Dismantling
Turn the dismantling support A with shoulder up and put the bearing housing on the device.

Put the triangle in the tool kit 506 37 61-02 or assembly support B in kit 575 96 20-01 on top of the bearing.

Press or knock out the bearing unit as far as possible. Then extend with a suitable tool socket to push out the complete bearing unit fully from the housing.

Remove the bearings from the axle

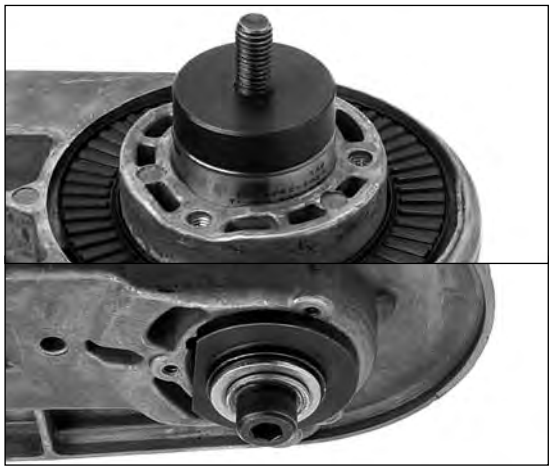
Remove the bearings from the axle
Remove the bearings using a universal puller.

Fitting with press
Push down the first bearing fully to the stop in the bearing housing.

Fitting with press
Support the bearing housing under the area for the bearing with, for example, a piece of wood so that the bearing housing is horizontal.

Put the bearing in place and position the pressing device C on top of the bearing. Push down the bearing fully to the stop in the bearing housing.

If the bearing is knocked into place, there is a great risk that the bearing will enter at an angle into the bearing housing causing damage. Use screw press 506 37 61-02 instead



Fitting with screw press
Fit the tools as per the illustrations. Push in the first bearing fully to the stop in the bearing housing.

Fitting with screw press
The bearing press 506 37 61-02 is the best assembly tool for fitting the first bearing if the hydraulic press is not available.

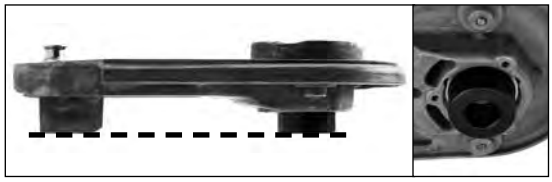
Fit the tool as per the illustrations. Note that the support washer, shown in the bottom illustration, have different guides. The larger diameter provides firm support to the bearing housing.

Screw in the bearing fully to the stop in the bearing housing.

Fit bearing on the axle
Knock or press the axle in the bearing using pressing device C.

Fit bearing on the axle
Place the bearing on the axle and place the axle in pressing device C. This bearing provides support to the inner ring, which is important here.

Use a plastic hammer to push or knock the axle down until the spacer meets the bearing's inner ring.



Fit axle with bearing
Make the bearing housing horizontal using assembly support B.

Fit axle with bearing
Use the assembly support B to make the bearing housing horizontal. Place the support on the first fitted bearing.

Turn the axle correctly!
The spacer on the axle must be turned downwards.

Press or knock down the bearing together with the axle.

Turn the axle correctly!
Put the axle with the fitted bearing in place in the bearing housing with the spacer downwards.

Put pressing device C above the axle. The device provides support to both bearing rings during assembly.

Press or knock down the bearing together with the axle. When the spacer on the axle reaches the first fitted bearing, you can clearly feel the stop and the units are in their proper position in the bearing housing.

Wet system

Design

A spray nozzle is located on each side of the blade guard. The water strikes a section of the cutting blade and the centrifugal force carries it out towards the blade's diamond segment.

The spray nozzles are available with several different hole diameters depending on the type of machine and application. Find the right nozzle in the spare parts list.

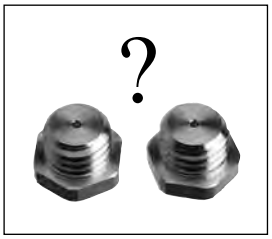
Replacing the spray nozzles

Remove the screw.

Replacing the spray nozzles

The intake is located with special screws that direct the water to the spray nozzles underneath.

Remove the screw.



Remove the spray nozzle.

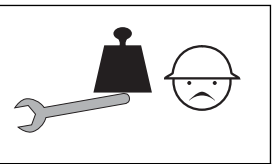
Fit the right dimension

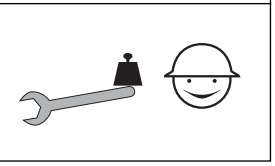
Check in the spares list that the spray nozzle with the correct dimension is fitted.

Remove the spray nozzle.

Fit the right dimension

Check in the spares list that the spray nozzle with the correct dimension is fitted.





Light tightening

Tighten the spray nozzles with a light force.

Light tightening

The spray nozzles have a thin material between the outer and inner thread. Tighten the spray nozzles with a light force.

Filter replacement

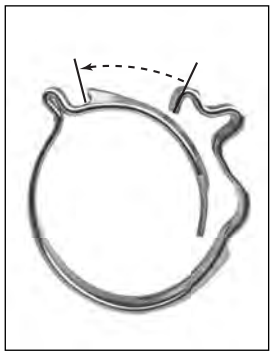
Remove with a wood screw.

Fit on an even surface.

Filter replacement

A normal wood screw works excellently as a removal tool for the filter. Screw the screw into the filter and pull this out.

Fit the filter by pressing it in on a flat surface.



Hose clips

The hose clips can be reused.

Open the hose clip using a screwdriver.

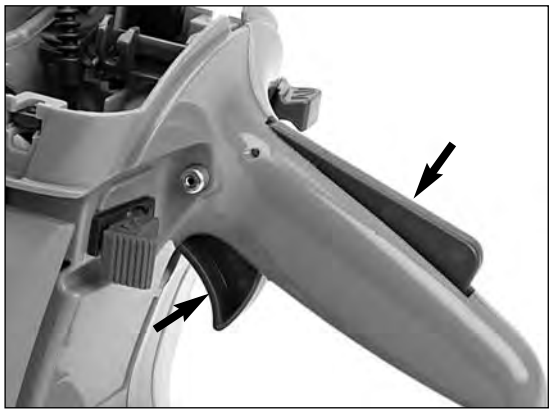
Close the hose clip using pliers.

Hose clips

The hose clips in the wet cutting system are of the type that can be reused.

Open the hose clip by pushing up the lock catch with a screwdriver.

Close the hose clip by pressing it together with some pliers.



Rear handle

Throttle trigger lock

Check the function of the lock. Faulty function must be rectified.

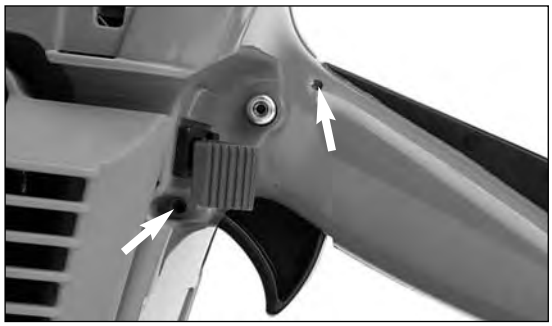
The carburettor unit must be dismantled to carry out a service on the controls.

Rear handle

Throttle trigger lock

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 carburettor unit must be dismantled to carry out a service on the controls.



Dismantling

The throttle and throttle lock are both located in the handle by a 3 mm spindle. The spindles must be pressed out to the right-hand side and pressed in from the same side when assembling.

Dismantling

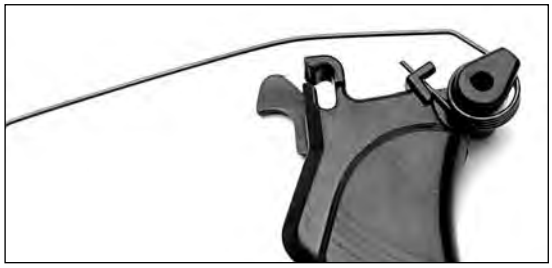
The throttle and throttle lock are both located in the handle by a 3 mm spindle. The axles sits with the press fit towards the left-hand side and must therefore be pressed out to the right-hand side and pressed in from the same side when assembling.

Dismantle the starter.

Use a round rod with a diameter of .08–.01 in./2–2.5 mm and approximately 4 in./ 10 cm in length to drive out the spindles.

Dismantle the starter.

Pin punsh with dimensions under 3 mm are usually too short for dismantling the throttle spindle. Use a round rod instead with a diameter of .08–.01 in./ 2–2.5 mm and approximately 4 in./10 cm in length.

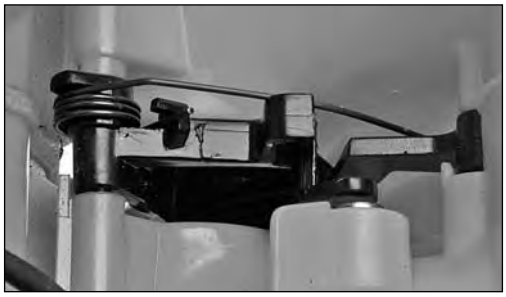


Note how the controls' springs are fitted.

Note how the controls' springs are fitted if these are to be replaced.

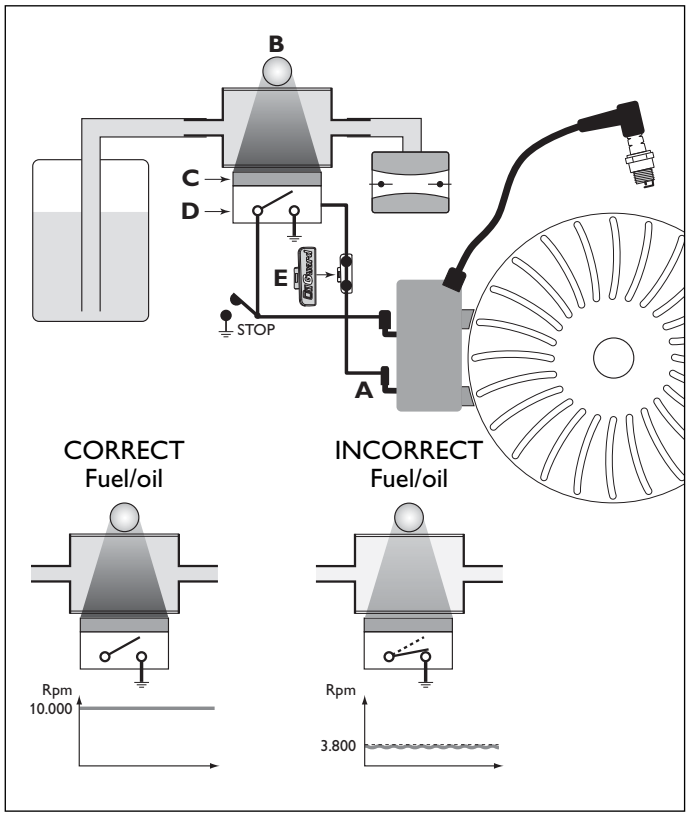
Assembly

Fit the throttle first. Insert the control from the carburettor compartment and make sure that the spring comes out through the handle. Assemble the axle from the right-hand side.



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 axle from the right-hand side

The picture to the right shows the assembly from the carburettor compartment.



OilGuard prevents the machine from running with the wrong fuel. To operate the function, an oil containing dye, "Husqvarna OilGuard oil", must be added.

Fuel analysis commences 10 seconds after start-up and continues for 50 seconds. If OilGuard indicates the wrong fuel, the engine speed is restricted to 3,800 revolutions per minute.

Function

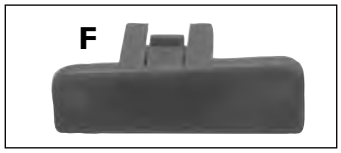
A winding in the ignition module (A) generates electric current to OilGuard. The analysis unit has a light emitting diode (B) which emits a blue light and lights up a light sensitive photo-transistor (C). The fuel passes between these two units.

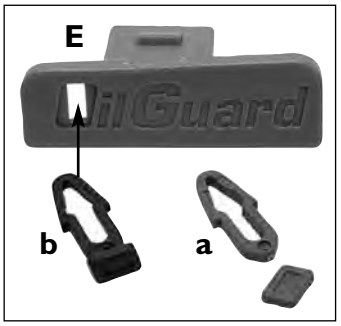
The OilGuard oil contains a yellow dye which absorbs the light from the light-emitting diode. In this mode, the machine is operating normally.

If the machine is filled with clean petrol or oil of another manufacture, the light will pass through the fuel and light up the photo-transistor. An electronic contact breaker function (D) then prevents the engine from reaching working speed.

Functional test

An acceleration test indicates whether OilGuard is functioning correctly. It is best to run the test with the blade dismantled. Warm up the machine. Restart the machine and quickly put into full throttle mode. If OilGuard is working correctly, for 1.7 seconds after start-up the engine speed should stop at 4,300 rpm to then rise to maximum revs. If the engine rises straight to maximum revs without delay, the OilGuard unit is not working.

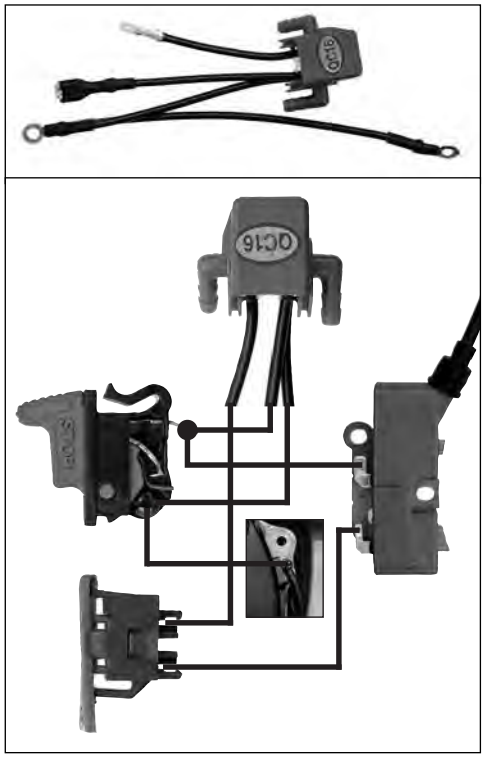




OilGuard plug with seal

The blue plug (E) above the stop button closes the circuit to OilGuard. The plug can be removed with a screwdriver and replaced with a non-conducting orange plug (F). OilGuard will then be put out of operation.

The factory-assembled OilGuard plug (E) contains a blue seal (a) which breaks if the plug is removed. On reassembly, the seal is replaced with the grey-coloured spare part (b) which indicates that the original construction has been changed.



Assembly/cabling

Assembly and routing of cables in the machine are shown in the illustrations.

In the flywheel air duct, the short-circuit cable is fitted in the upper channel and the power supply cable in the lower channel.

The OilGuard unit is held in position by a snap-on lock, enclosed. The holder for the plug is dismantled inwards.

Note: If the OilGuard is to be replaced, the plug must be removed in order to loosen the cables.

The fuel hoses are connected as follows:
1. From the fuel tank (the hose is fixed in the holder).
2. To carburettor.

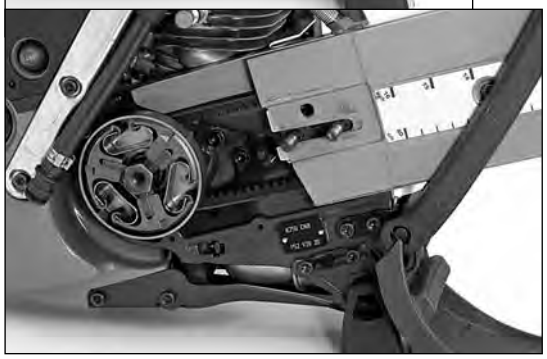
Power supply – test

Dismantle the filter and cylinder cover. Connect a meter to an earth point and the point of measuring (arrow) which is accessible with a probe. Reading at idling rpm, 20–40 V alternating current.

K760 Cut-n-Break

The special version of the K760, Cut-n-Break, can handle cutting depths up to 16 in./400 mm by cutting and breaking in steps. Dual cutting blades with belt drive between the
blades makes it possible to develop this handheld machine with an extremely deep cutting depth.

The machine body is identical to the all-round cutter K760, with a few exceptions.



Crankcase

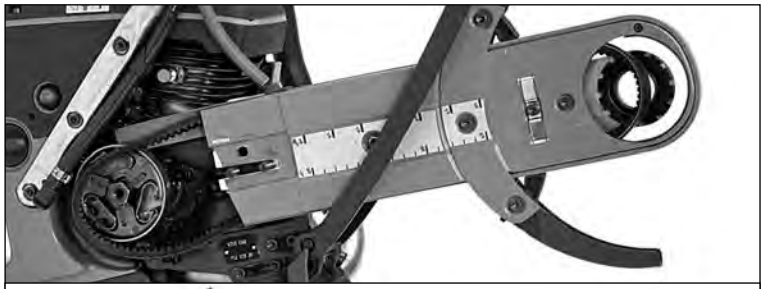
The crankcase half on the clutch side has been specially manufactured for this machine, while the crankcase half on the flywheel side is identical for both machines.

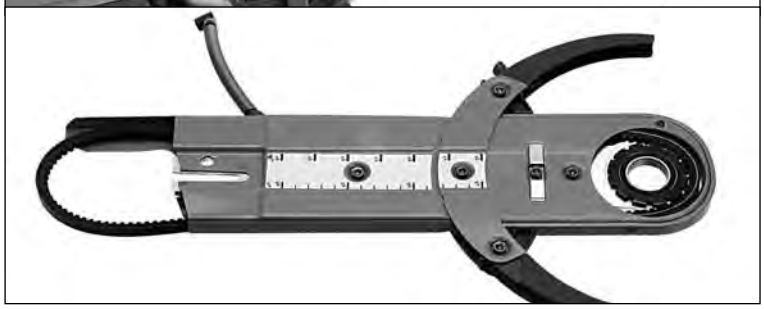
The special crankcase half has two studs for attaching the cutting arm.

The splash guards have two mounting points on the crankcase half.

Clutch drum

To ensure the smallest possible distance between the blades, the machine has a narrow V-belt and a customised drive wheel for this.



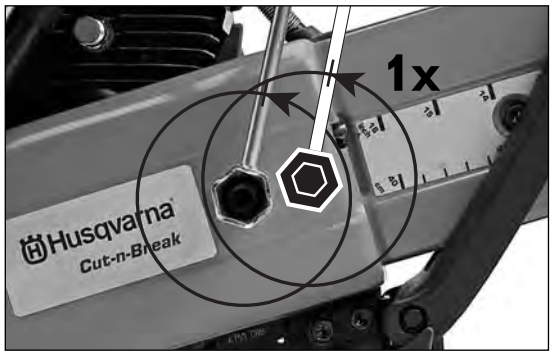


Service work

The service work that is relevant for the cutting head is very limited and simple to perform. In addition to replacing the blade, the service needs are limited to simply replacing the belt and the bearing for the blade.

Removing the cutting head

For all the work on the cutting head, except changing the blade and bearing it is easiest to first dismantle the complete cutting head, and then dismantling it into its component parts.

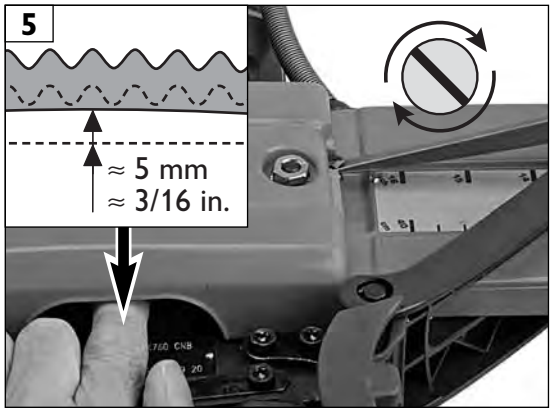


Belt tensioning

Loosen one turn

Belt tensioning

Loosen one turn
Loosen the two nuts that hold the cutting arm by one turn.



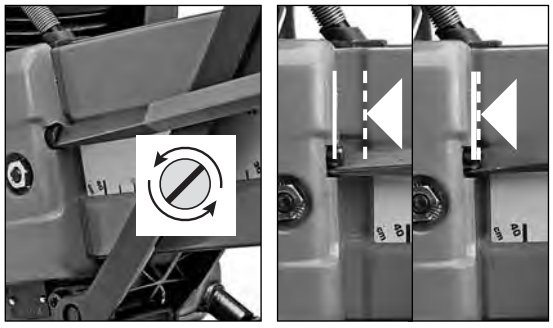
Tighten the belt
Adjust to a position where the belt can be pressed up around 3/16 in./5 mm with moderate hand force.

Tighten both cutting arm nuts, 18–22 lbf·ft/25–30 Nm.

Tighten the belt
Tighten the belt tensioning screw with the breaking tool that comes with the machine or with a large screwdriver.

Adjust to a position where the belt can be pressed up around 3/16 in./5 mm with moderate hand force.

Tighten both cutting arm nuts, 18–22 lbf·ft/25–30 Nm.



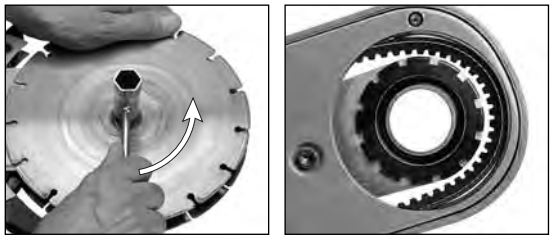
Blade replacement

Loosen the belt

Blade replacement

Loosen the belt
Loosen the nuts one turn as per the illustration above.

Screw in the belt tensioning screw far enough to ensure the cutting arm reaches its innermost position.

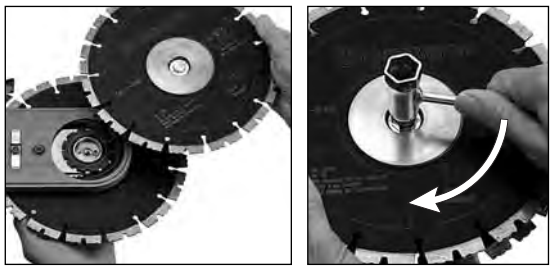


Remove the blades
Remove the centre screw.

Press the belt out as far as possible from the centre of the blade.

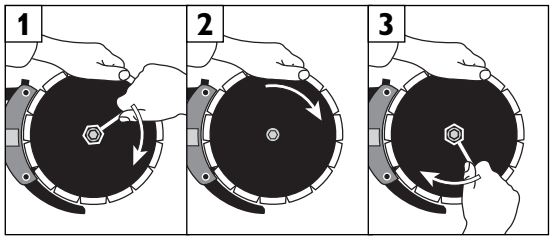
Remove the blades
Remove the centre screw.

Press the belt out as far as possible from the centre of the blade. This is to be done to avoid risking the belt getting jammed between the blades when fitting.



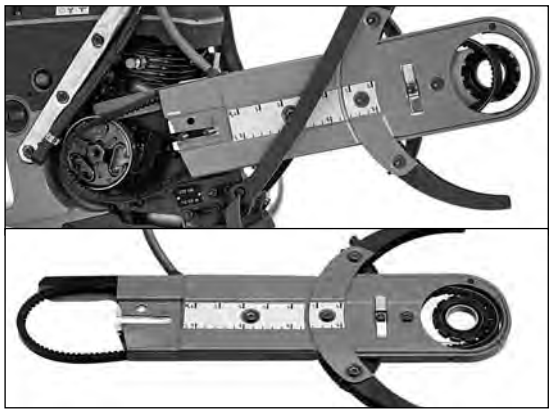
Fit the blades
Hold one blade with the nut underneath. Fit the other with the screw on the top.

Fit the blades
Fit with the machine in a horizontal position. Keep one blade with the nut underneath. Fit the other blade with the screw on the top.



Screw and turn the blades alternately

Screw and turn the blades alternately
To avoid risking the belt jamming between the blades when tightening the blade's centre screw, they are to be tightened at short intervals while you rotate the blade alternately.



Belt replacement

Dismantle the cutting arm

Loosen the belt and remove both nuts holding the cutting arm.

Remove the rear blade guard.

Press the belt to one side at the blade mount and pull the belt backwards. Lift the belt over the clutch drum.

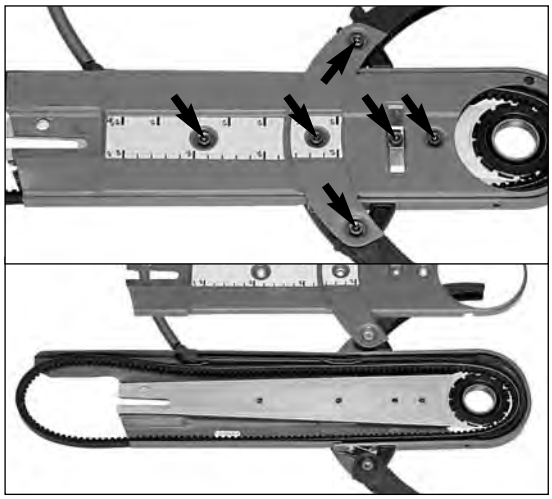
Belt replacement

Dismantle the cutting arm

Loosen the belt and remove both nuts holding the cutting arm.

Remove the rear belt guard that sits with a screw in the rear end.

Press the belt to one side at the blade mount and pull the belt backwards. Now you can lift the belt over the clutch drum. Pull the cutting arm out through the splash guard.



Separate the belt guard

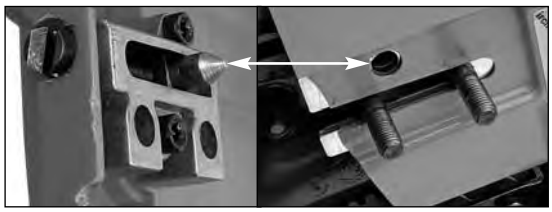
Remove the screws.

Lift off the blade guard and replace the belt.

Separate the belt guard

Remove the six screws that hold the belt guard together.

Lift off the blade guard and replace the belt.



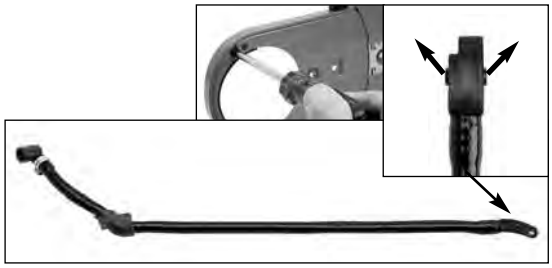
Fitting

Please note the belt tensioner stud that is to fit into the cutting arm.

Fitting

Assemble in reverse order as above and tension the belt.

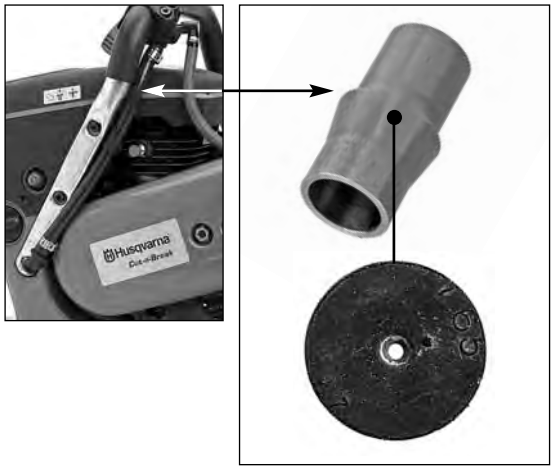
Please note the belt tensioner stud that is to fit into the cutting arm hole.



Wet system

The wet system is accessible when the belt guard has been removed.

A plastic hose directs the water up to the nozzle which distributes the water towards both cutting blades. Also note the water filter at the hose coupling that is common to all K760 machines, see page 51.



Flow control

The flow control limits the amount of water to the cutting blades. Too much water will cause the drive belt to slip. The flow control is pressed into the hose just below the water valve.

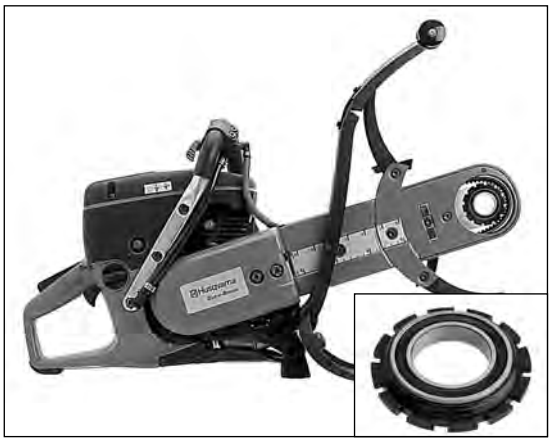
The flow control consists of a rubber cylinder with a hole for water passage. The hole varies in size according to how much pressure the flat surface on the pressure side is exposed to, and restricts the flow to around 1–1.5 litre/min.

Service

If no water passes through the hose, this may be due to the filter being defective at the water connection and that dirt has blocked the flow control.

This is checked and corrected by detaching the hose at the water valve. Pull out the filter at the hose connection and check it. Gently blow compressed air through the hose in the direction from the water valve towards the hose coupling.

The flow control cannot be detached from the hose and must be replaced with a complete hose unit.



Bearing replacement

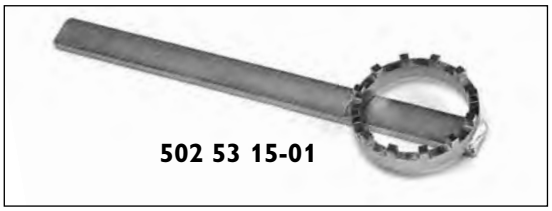
The following chapter describes in detail how the blades' bearings and bearing holders are dismantled and assembled.

You do not need to remove the cutting arm

You do not need to remove the cutting arm. to replace the bearing. Loosen the belt and remove the blades. Now you can unscrew the bearing holder with bearing.

Note that bearing holder with the bearing fitted is available as a spare, part no. 544 10 57-03. This spare part is primarily intended for users of the machine who are capable of replacing the bearing unit with the help of the simple bearing tool that comes with the machine.

Improve access by folding away the splash guard and locking the blade guard.



Tool

The tool 502 53 15-01 is needed for removing the bearing.

Tool

The bearing tool 502 53 15-01 is needed for replacing the bearing which is used to remove and fit the threaded bearing holder.

Remove the bearing holder

Loosen the bearing holder with a hammer blow to the tool.

Remove the bearing holder

Remove the bearing holder using tool 502 53 15-01. The bearing holder has a fine thread.

The bearing holder can be very firmly attached. Loosen the bearing holder with a hammer blow to the tool.

The bearing is force fitted in the bearing holder.

The bearing is force fitted in the bearing holder. A bearing assembly with bearing holder is available as a spare, part no. 544 10 57-03.

Alternatively, remove the bearing from the bearing holder and press a new bearing into the bearing holder as described below.

Remove the bearing

Support the tool ring as shown in the illustration. Press or knock out the bearing using a suitable socket.

Remove the bearing

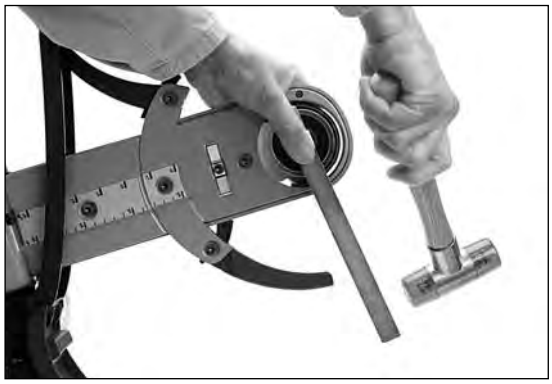
Also use the special tool to press the bearing out of the holder. Support the tool ring with a pair of wood blocks as shown in the illustration. Press or knock out the bearing using a suitable socket.

Fit the bearing
The bearing is best fitted with a press.

Alternatively you can fit the bearing using a vice. Place the bearing holder in the special tool.

Fit the bearing
The bearing is best fitted with a press. Apply press force to the bearing's outer ring.

Alternatively you can fit the bearing using a vice as shown in the illustration. Place the bearing holder in the special tool to give the bearing holder good support all around.



Fit the bearing holder
Clean the threads and fit the bearing holder.

Tighten the bearing holder with a few hammer blows to the bearing tool.

Fit the bearing holder
Clean the threads of the bearing holder with a wire brush. Screw the bearing holder completely into the cutting arm by hand. If this is not possible it is likely the bearing holder is at an angle to the threads.

Tighten the bearing holder with a few hammer blows to the bearing tool.

Cutting arm bearing holder

The bearing holder in the cutting arm is positioned with a force fit. It is difficult to remove as there is no chance of achieving a good counter hold.

The following method works:

Removal
Add a wooden block under the cutting arm. Place the ball bearing on the bearing holder and knock so that a gap appears between the bearing holder and cutting arm.

Turn the cutting arm and break up the bearing holder.

Removal
Add a wooden block under the cutting arm right next to the bearing holder.

Place the ball bearing on the bearing holder and knock the outer ring so that a gap appears between the bearing holder and cutting arm.

Turn the cutting arm and break up the bearing holder gradually with a screwdriver all around.

Fit the bearing holder
The bearing is best fitted using a press.

Alternatively the bearing holder can be knocked into place with a small plastic hammer.

Fit the bearing holder
The bearing is best fitted using a press.

Alternatively the bearing holder can be knocked into place with a small plastic hammer. Knock a few light strokes around the ring so that it drops down parallel to the cutting arm.

● = Service action

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

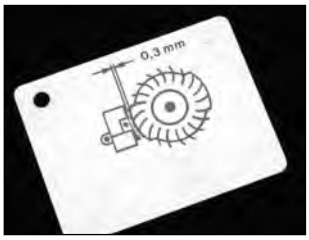
● The vibration dampers' inner screw, Torx T27. Blade diameter 5 mm.

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.

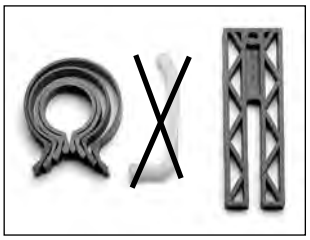
● Idle setting.
● Checking the maximum speed.

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 K760.

● 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.

544 10 33-01
Cylinder seal
Seals for the cylinder's inlet ports, exhaust ports and plug for the decompression valve.

● Leakage testing the crankcase.

503 55 22-01
Sealing plug
Replaces the decompression valve. (Included in 544 10 33-01).

● Leakage testing the crankcase.

● = Service action

504 91 40-01
Puller

● Dismantling the crankshaft's sealing rings in the crankcase.

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.

506 37 61-02
Bearing press

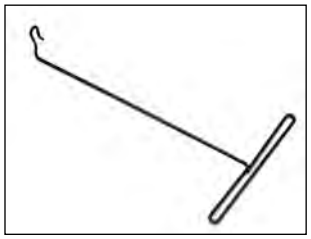
● Main bearing assembly.
● Dismantling and assembly of blade shaft bearing and axle.

575 96 20-01
Pressing device

● Dismantling and assembling of blade shaft bearings 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.

502 53 15-01
Hook spanner, Cut-n-Break

● Replacement of blades' bearings.

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