

335 XPT

BB's Small Engine Service - Edwards, Missouri

Workshop Manual

101 89 44-26

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INTRODUCTION

General

This workshop manual describes in detail how trouble shooting, repairs and testing of the chain saw should be carried out. The different safety precautions that must be taken when carrying out repairs are also described.

Safety

Note!

The section dealing with safety should be read and understood by all persons repairing or servicing the chain saw.

Warning signs are displayed in the workshop manual and on the chain saw. See page 5. If any of the warning symbols on the chain saw have been damaged or are missing a new symbol should be fitted as soon as possible so that the greatest level of safety is attained when the chain saw is used.

Target group

The workshop manual has been written for persons assumed to have a general knowledge of the repair and service to small engines.

The workshop manual should be read and understood by those persons who carry out repairs and service to the chain saw. The manual is also suitable for use during the training of new employees.

Modifications

Modifications to the chain saw will be successively introduced during production. When these modifications affect servicing and/or spare parts special service bulletins will be sent out on each occasion. This means that this workshop manual in time will be out-of-date. To prevent this the manual should be read with all service bulletins regarding the chain saw in question.

Tools

Special tools must be used during certain procedures. All service tools are listed in this workshop manual. Usage is evident from respective sections.

Always use Husqvarna's original:

- Spare parts
- Service tools
- Accessories

Layout

This workshop manual can be used in two different ways:

- Reparation of a particular system on the chain saw.
- Dismantling and Assembling the entire chain saw.

Reparation of a particular system

When a particular system on the chain saw must be repaired proceed as follows:

1. Look up the page for the system.
2. Carry out the sections:
 - Dismantling
 - Cleaning and inspection
 - Assembly

Dismantling and assembling the entire chain saw

When the entire chain saw shall be stripped and rebuilt proceed as follows:

1. Turn to page 19, which deals with the **Starter** and carry out the instructions under the heading **Dismantling**.
2. Go forward in the manual and carry out **Dismantling** in the order the sections appear.
3. Return to the **Starter** on page 19 and carry out the instructions under **Cleaning and inspection**.
4. Work forward in the manual and carry out **Cleaning and inspection** in the order the sections appear.
5. Order or collect all requisite spare parts from the spare parts store.
6. Turn to page 44 that deals with the **Oil pump** and carry out the instructions under **Assembly**.
7. Work towards the beginning of the manual and carry out **Assembly** in the order the sections appear.

To broaden understanding some sections are introduced by a **Description** of the unit in question.

Numbering

Positioning indicators to components within the figures are denoted by A, B etc.

Positioning indicators start again from A in each new section.


SAFETY INSTRUCTIONS

General instructions

Workshops where chain saws are to be repaired must be equipped with safety equipment as set out in local directives.

No one may repair the chain saw without first reading and understanding the contents of this workshop manual.

The boxes shown below can be found in appropriate places in this workshop manual. Warning boxes are positioned before the procedures they refer to.



WARNING! Warning boxes warn for the risk of personal injuries if the instructions are not followed.

NOTE!
This box warns of damage to material if the instructions are not followed.

Special instructions

The fuel used in the chain saw has the following dangerous characteristics:

- The liquid and its vapours are poisonous.
- Can cause skin irritation.
- Is extremely inflammable.

The bar, chain and clutch cover (chain brake) must be fitted before the saw is started otherwise the clutch can come loose and cause personal injury.

Use ear protection when test running.

Do not use the saw before it is adjusted so that the chain does not rotate when idling.

Do not touch the muffler after test running until it has cooled. Risk of burn injuries.

Inadequate chain lubrication can result in the chain breaking, which can cause serious, even fatal injury.

Make sure the starter recoil spring does not fly out and cause personal injury.

The spring can fly out and cause personal injury, if the spring tension is activated on the cord pulley when removed.

Check that the brake is in the braking position when the pressure springs on the chain brake shall be removed. Otherwise the pressure spring can fly out and cause personal injury.

When using compressed air, the air jet should never be pointed towards the body. Air can be forced into the blood stream, which can cause fatality.

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KEY TO SYMBOLS

Symbols



CAUTION! Chain saws can be dangerous! Careless or incorrect use can result in serious or fatal injury to the operator or others.



Please read the instructions carefully and make sure you understand them before using the saw.



Always wear:

- Approved protective helmet
- Approved hearing protection
- Protective glasses or visor



Where possible, always use both hands when operating the chain saw.



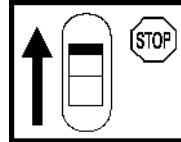
Avoid contact between the guide bar tip and any object.



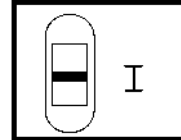
Contact with the guide bar tip can cause the saw to be thrown violently upwards and backwards (kickback), which can result in serious injury.



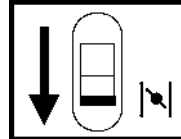
This saw should only be used by persons who are specially trained in tree maintenance work. See the Operator's manual!



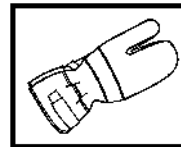
Switch off the engine by moving the stop switch to the STOP position before carrying out any checks or maintenance.



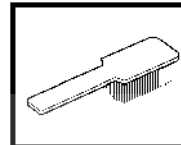
Operating position.



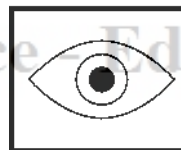
Choke.



Always wear approved protective gloves.



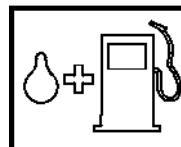
Regular cleaning is required.



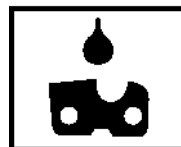
Visual check.



Protective glasses or a visor must be worn.



Refuelling.



Chain oil and chain oil flow adjustment.

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TECHNICAL DATA



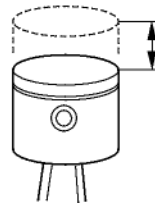
Displacement
cm³/ cubic inches

35.2/2.1



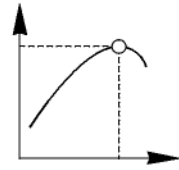
Bore
Ø mm/Ø inches

38/1.5



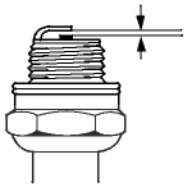
Stroke
mm/inches

31/1.22



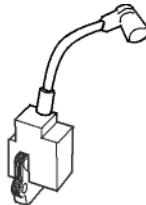
Max. power/ speed
kW/hp/ rpm

1.6/2.1/ 9 600



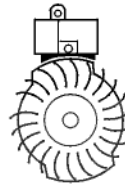
Spark plug gap
mm/inches

0.7/0.028



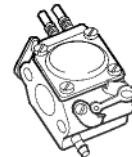
Ignition system

FHP/CD



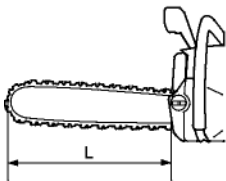
Air gap
mm/inches

0.3/0.01



Carburettor

Walbro WT



Bar length

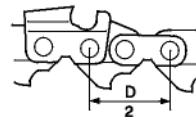
cm/inches

29-39/12"-16"



Chain speed at
max power
m/s

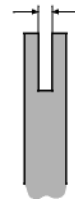
18.3



Chain pitch

inches

3/8"



Drive link gauge

mm/inches

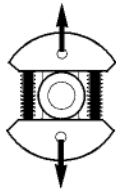
1.3/0.050

TECHNICAL DATA



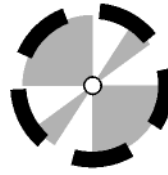
Idling speed
rpm

2 800



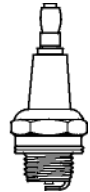
Engagement speed
rpm

4 100



Max. speed
rpm

13 800



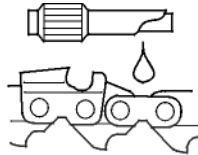
Spark plug

Champion
NGK BPMR 7A



Fuel tank volume
Litres/US. pint

0.3/0.63



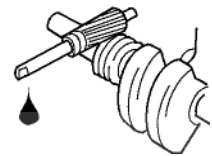
Oil pump capacity
cm³/min

3-7



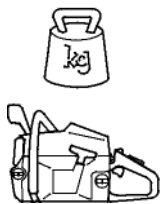
Oil tank volume
Litres/US. pint

0.16/0.34



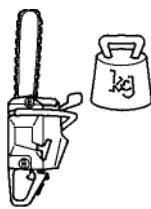
Automatic oil pump

Yes



Weight without bar and chain
kg/lbs

3.4/7.5



Weight with bar and chain
kg/lbs

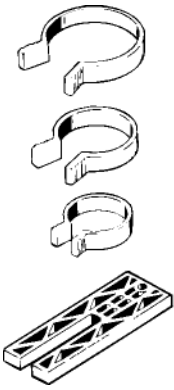
4.0/8.8



Handle heater
Watt/ rpm

- / -

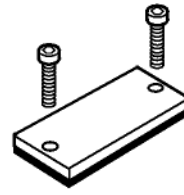
TOOLS



1



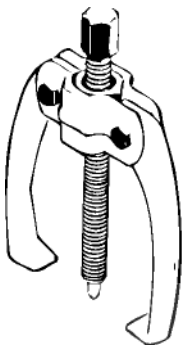
2



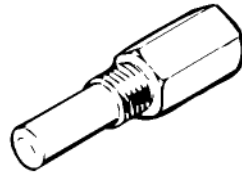
3



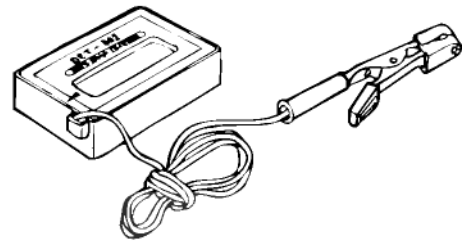
4



5

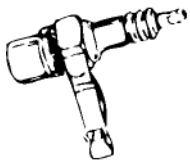


6



7

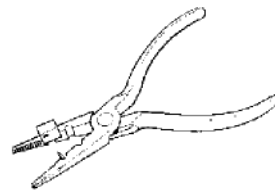
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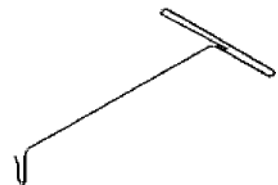
8



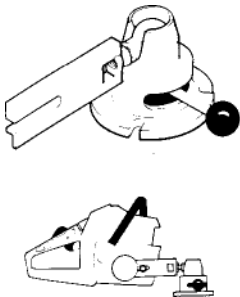
9



10



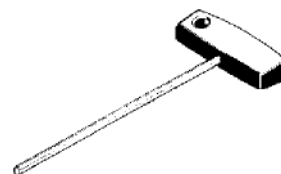
11



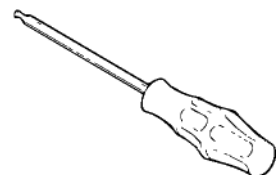
12



13



14



15

TOOLS

The tools listed here are service tools used for the chain saw in question. In addition to these tools a standard set of tools is also required.

| Pos | Description | Used to | Order no. |
|-----|------------------------|----------------------------------|--------------|
| 1 | Piston assembly tool | Assembling the piston | 502 50 70-01 |
| 2 | Cover plate, manifold | Seal the manifold | 502 52 01-01 |
| 3 | Cover plate, exhaust | Seal the exhaust port | 502 52 31-01 |
| 4 | Pressure tester | Produce pressure for testing | 502 50 38-01 |
| 5 | Puller | Removing bearing from crankshaft | 504 90 90-01 |
| 6 | Piston stop | Lock the crankshaft | 502 50 33-01 |
| 7 | Tachometer | Carburettor adjustment | 502 71 14-01 |
| 8 | Test spark plug | Check the ignition module | 502 71 13-01 |
| 9 | Feeler gauges, air gap | Ignition module adjustment | 502 51 34-02 |
| 10 | Assembly mandrel | Assembly of spark plug guard | 502 50 06-01 |
| 11 | Hook for fuel filter | Remove the fuel filter | 502 50 83-01 |
| 12 | Assembly fixture | Fixture of the chain saw | 502 51 02-01 |
| 13 | Sleeve | Dismantling the flywheel | 502 51 94-01 |
| 14 | Allen key, 3 mm | For M-4-screws | 502 50 19-01 |
| 14 | Allen key, 4 mm | For M-5-screws | 502 50 18-01 |
| 15 | Allen key, 3 mm | For M-4-screws | 502 50 86-01 |
| 15 | Allen key, 4 mm | For M-5-screws | 502 50 87-01 |

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TROUBLE SHOOTING

Trouble shooting schematic

Faults that can develop on the chain saw are divided into four groups as follows. In each category, possible malfunctions are shown on the left, with a list of possible faults on the right. The most probable fault is given first and so on.

Starting

| | |
|---|--|
| Difficult starting | Adjust L-screw Air filter blocked Choke not working Worn choke shaft Worn choke valve Fuel filter blocked Fuel line blocked Piston ring seized Blocked impulse channel |
| Carburettor leaking fuel | Loose or faulty fuel pipe Hole in diaphragm Worn needle valve/needle Control system sticking Control system set too high Leak in control system (air or fuel) Loose cover on carburettor pump side |
| Flooding when the engine is not running | Worn needle valve Control system set too high Control system sticking |

Idling (low rpm)

| | |
|-----------------|---|
| Will not idle | Adjust L-screw Leaking manifold (rubber) Loose carburettor mounting bolts Loose or faulty fuel pipe Fuel filter blocked Fuel line blocked Fuel tank ventilator blocked Throttle lever shaft stiff Throttle cable sticking Defective throttle return spring Bent throttle lever shaft stop Faulty diffuser jets |
| Idling too rich | Adjust L-screw Worn needle valve/needle Control system set too high Worn throttle lever in control system Leaking control diaphragm/cover plate Control system sticking |

Idling (low rpm) (cont.)

| | |
|--------------------------------------|---|
| Idles when L-screw is closed | Worn needle valve/needle Leaking control diaphragm/cover plate Control system sticking Worn throttle lever in control system Faulty diffuser jets |
| Idling uneven | Fuel filter blocked Fuel line blocked Leaking manifold (rubber) Loose carburettor mounting bolts Worn throttle valve shaft Loose throttle valve screw Worn throttle valve Control system sticking Leak in throttle system (air or fuel) Control diaphragm centre knob is worn Hole in diaphragm Leaking control diaphragm/cover plate Crankcase leaking |
| L-screw requires constant adjustment | Fuel line blocked Control system set too high Control system sticking Control system (air or fuel) Leaking control diaphragm/cover plate Faulty diffuser jets Crankcase leaking |
| Too much fuel when idling | Control system set too high Control system sticking Control system damaged Worn needle valve Leaking control diaphragm/cover plate Control system incorrectly assembled |

TROUBLE SHOOTING

High rpm

| | |
|-------------------------------|---|
| Will not run at full throttle | Adjust H-screw Blocked air filter Blocked fuel tank ventilator Blocked fuel filter Fuel line blocked Loose or damaged fuel line Impulse channel leaking Impulse channel blocked Loose cover on carburettor pump side Faulty pump diaphragm Leaking manifold (rubber) Loose carburettor mounting bolts Control system set too low Control system damaged Control system incorrectly assembled Leaking control diaphragm/cover Control system sticking Blocked muffler |
| Low power | Adjust H-screw Blocked fuel tank ventilator Blocked fuel filter Impulse channel leaking Impulse channel blocked Loose cover on carburettor pump side Faulty pump diaphragm Blocked air filter Control system sticking Leak in throttle system (air or fuel) Control system incorrectly assembled Loose diaphragm Hole in diaphragm Leaking control diaphragm/cover |
| Will not "four-stroke" | Blocked fuel tank ventilator Blocked fuel filter Fuel line blocked Loose or damaged fuel line Impulse channel leaking Impulse channel blocked Loose cover on carburettor pump side Faulty pump diaphragm Leaking manifold (rubber) Loose carburettor mounting bolts Control system set too low Leak in throttle system (air or fuel) Control system incorrectly assembled Loose diaphragm Hole in diaphragm Leaking control diaphragm/cover plate |

Acceleration and retardation

| | |
|---|---|
| Does not accelerate | Adjust L-screw Adjust H-screw Blocked air filter Blocked fuel tank ventilator Blocked fuel filter Fuel line blocked Loose or damaged fuel line Impulse channel blocked Loose cover on carburettor pump side Faulty pump diaphragm Leaking manifold (rubber) Loose carburettor mounting bolts Control system set too low Control system incorrectly assembled Control system sticking Faulty diffuser jets Blocked muffler |
| Engine stalls when throttle is released | Adjust L-screw Adjust H-screw Faulty pump diaphragm Control system set too high Control system sticking Faulty diffuser jets |
| Too rich acceleration | Adjust L-screw Adjust H-screw Blocked air filter Faulty pump diaphragm Faulty diffuser jets |

Trouble shooting methods

In addition to faults given in the above schematic, trouble shooting can be carried out on a specific component or sub-system of the chain saw. The different testing procedures are described in respective sections and are as follows:

1. Pressure testing the carburettor.
See page 30.
2. Pressure testing the crankcase and cylinder. See page 41.



Character key

Numbers by components that are bolted refer to the tightening torque in Nm.

- ▲ = Lubricate using two-stroke oil.
 ■ = Lubricate using engine oil.
 ● = Lubricate using grease.
 □ = Glued using 2-component adhesive.
 ○ = Sealed using silicone.

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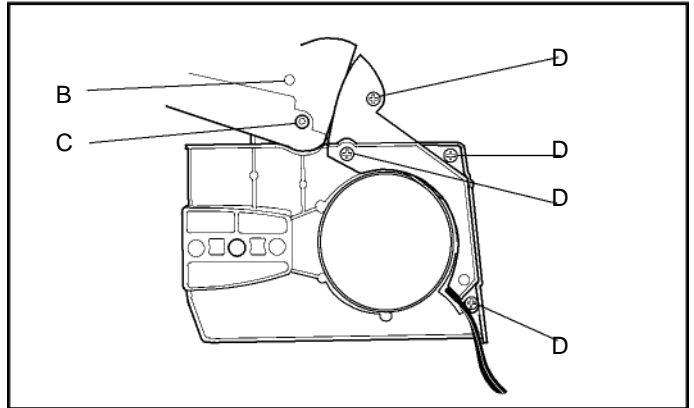
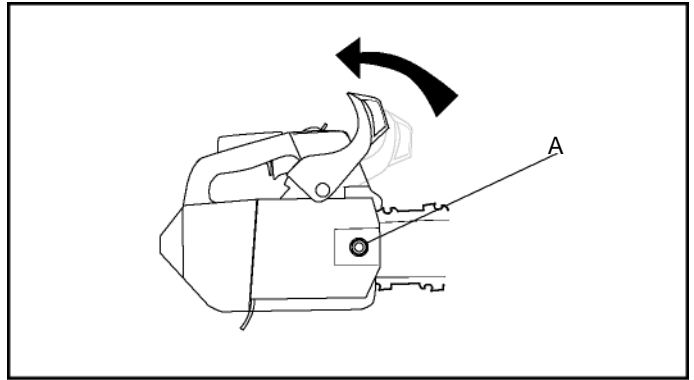


SAFETY EQUIPMENT

Chain brake

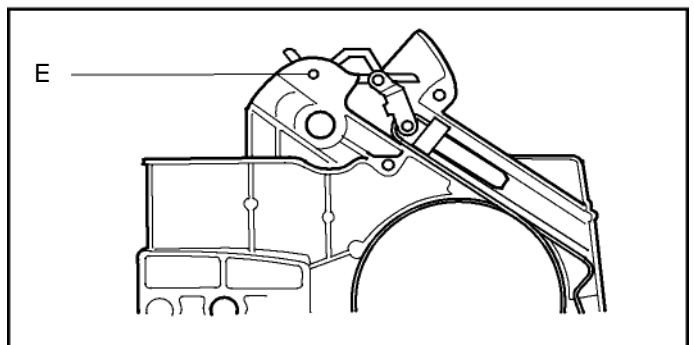
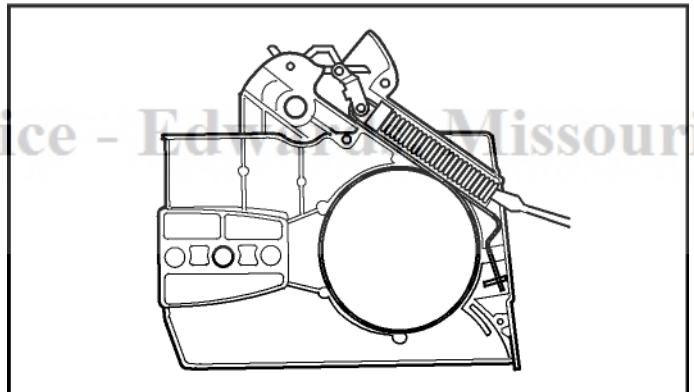
Dismantling

1. Check that the chain brake is in the off position and dismantle the clutch cover and bolt (A).
2. Remove the circlips (B) and (C) and press/knock out the pins.
3. Remove the handle.
4. Remove the four bolts (D) and remove the cover.



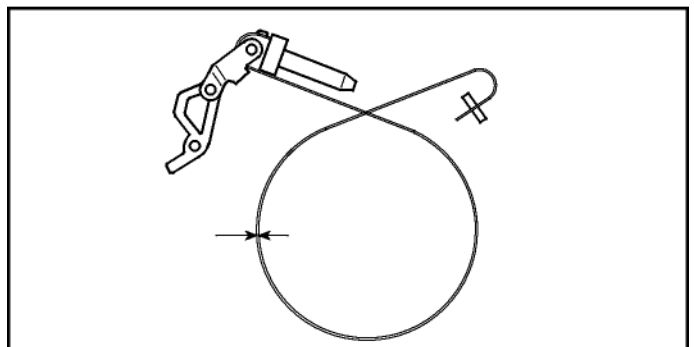
WARNING! Check that the brake is in the on position. Otherwise the pressure spring can fly out and cause personal injury.

5. Lift out the pressure spring by loosening the back edge using a screwdriver.
6. Knock out the pin (E) and remove the knee link with the attached brake band.
7. Unscrew the brake band from the knee link.



Inspection

Clean and inspect all parts.
The thickness of any part of the brake band must not be below 0.8 mm (0.031").

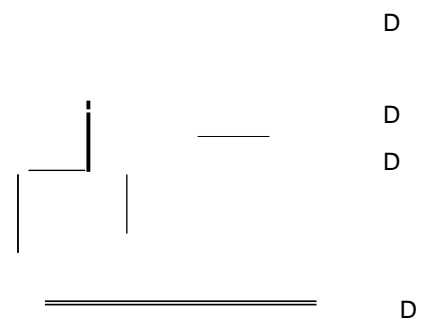
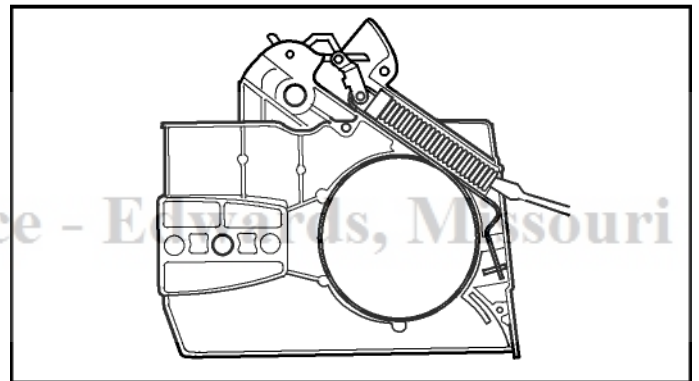
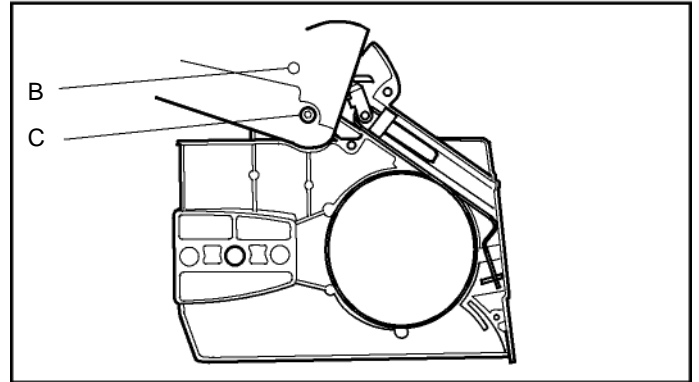
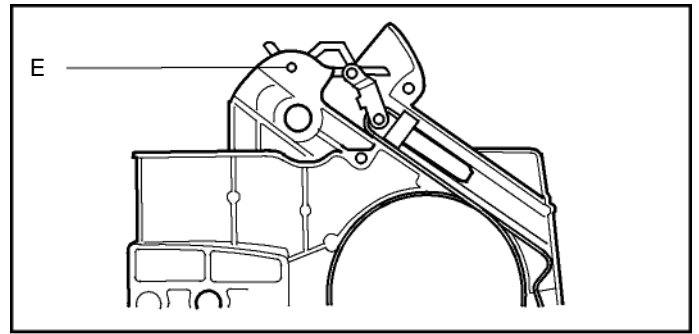


SAFETY EQUIPMENT

Assembly

Assemble the chain brake as follows:

1. Screw together the brake band and knee link.
2. Grease the moving parts on the knee link and assemble the unit in the cover and knock in pin (E).
3. Fit the kickback guard, insert the two pins and fit the circlips (B) and (C).
4. Put the brake in the on position and fit the spring. Press it down by using a screwdriver on the back edge.
5. Fit the cover and tighten the four bolts (D).
6. Move the brake to the off position and fit the clutch cover on the chain saw. Adjust the chain tension, see the Operator's manual. Tighten the nut to 15 Nm.

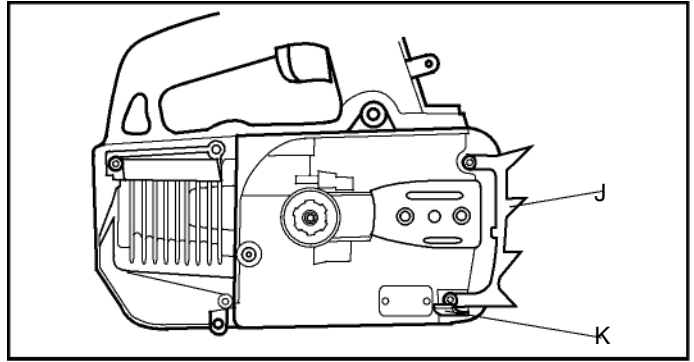


SAFETY EQUIPMENT

Chain catcher

Remove the chain and bar. See Operator's manual.
Check the spike (J) and chain catcher (K). Replace if the parts are damaged. Bolts shall be tightened to 6 Nm.

Fit the chain and bar. See Operator's manual.



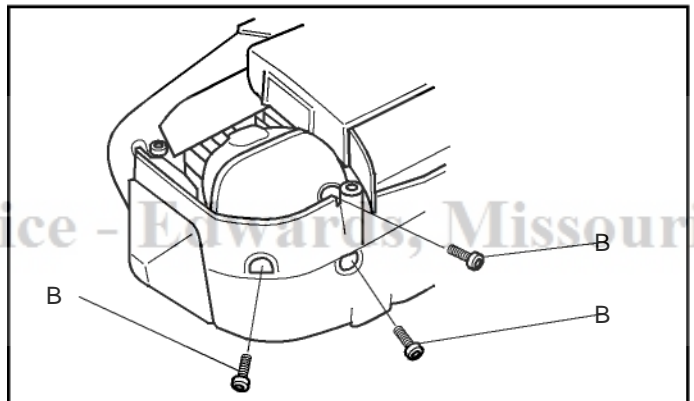
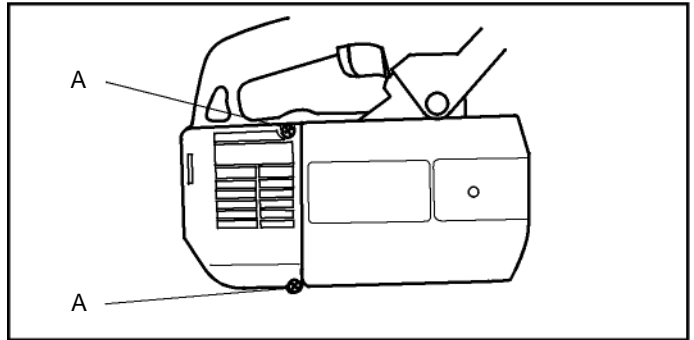
Muffler

**WARNING! Do not touch the muffler until it has cooled.
Risk of burns.**

Dismantling

Dismantle the muffler as follows:

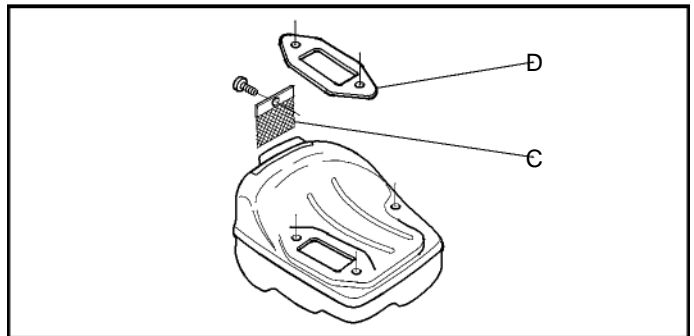
1. Dismantle the muffler guard by unscrewing the two bolts (A).
2. Turn the saw and unscrew the three bolts (B) that hold the muffler in position.
3. Lift out the muffler to the side.
4. Remove the gasket.



Inspection

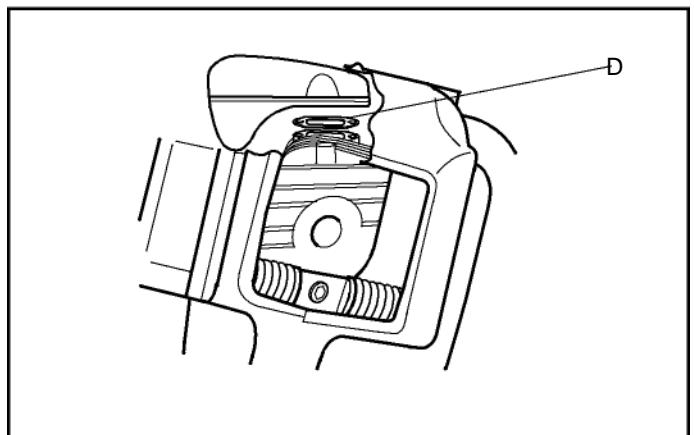
Clean all parts and check the following:

1. That the spark arrester (C) is OK.
2. That the muffler and muffler mountings are not cracked or show signs of other defects.
3. That the gasket (D) is OK.



Assembly

1. Place the chain saw in the fixture (see service tools) or in a vice so that the muffler's contact surface on the cylinder is positioned horizontally.
2. Place gasket (D) in position on the cylinder.
3. Carefully slide in the muffler without dislodging the gasket.
4. Press the muffler down onto the cylinder when the holes in the muffler, gasket and cylinder are aligned. The gasket can be adjusted using a small screwdriver.
5. Tighten the muffler's bolts to 8-10 Nm.
6. Fit the muffler guard.



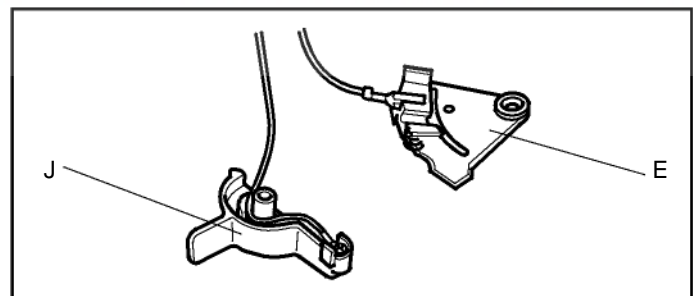
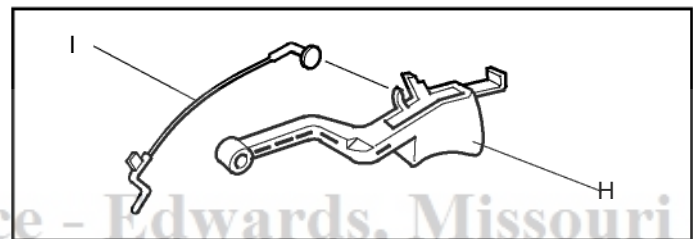
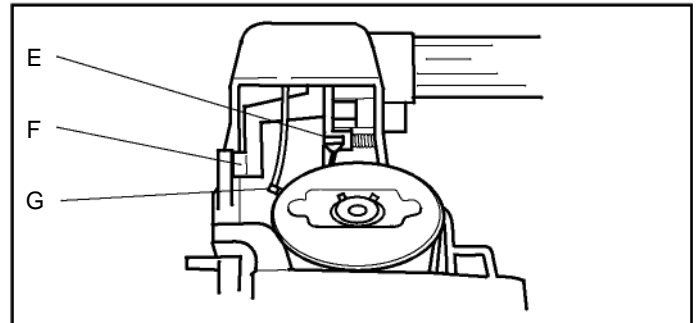
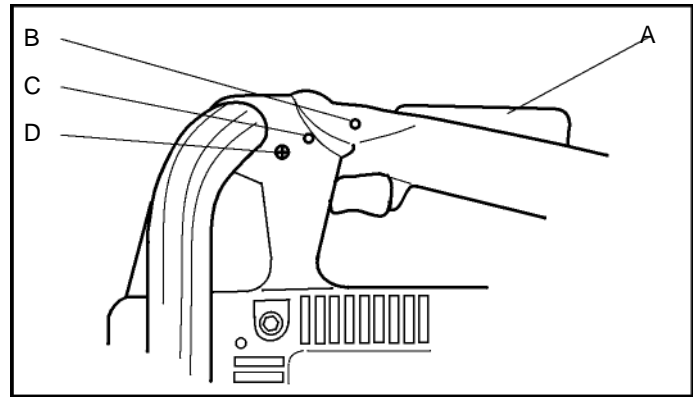
SAFETY EQUIPMENT

Throttle lock and stop function

Dismantling

Dismantle the throttle lock as follows:

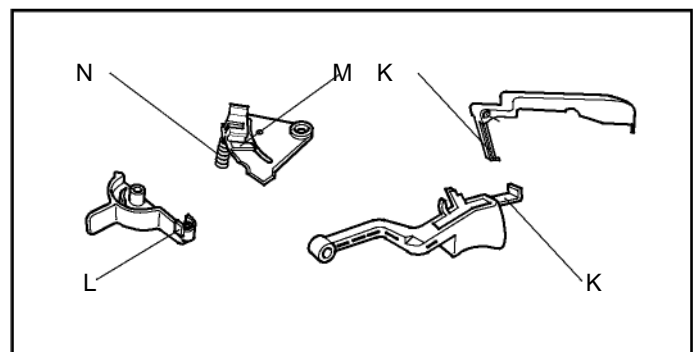
1. Dismantle the clutch cover and carburettor cover.
2. Knock out the pins (B) and (C) from the left-hand side and unscrew the bolt (D) and pull up the throttle lock (A).
3. Disconnect the choke rod (G) from the carburettor using a screwdriver and dismantle the choke lever/stop button.
4. Use a pair of thin-nosed pliers and dismantle the lock plate (E).
5. Disconnect the throttle's bearing (F).
6. Lift out the throttle (H). When the throttle is halfway out push away the throttle rod (I) from the fastening in the throttle.
6. Disconnect the electrical connection on the lock plate (E) and choke lever/stop button (J).



Inspection

Clean all parts and check the following:

1. That the throttle lock's activation mechanism (K) is not worn.
2. That the heel (L) on the choke lever/stop button is not worn.
3. Check that the groove (M) and spring (N) on the lock plate are OK.



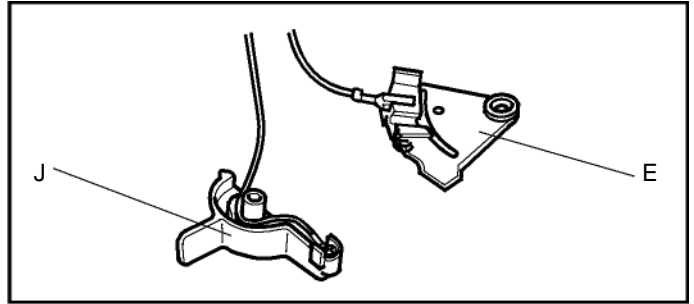
BB's Small Engine Service - Edwards, Missouri

SAFETY EQUIPMENT

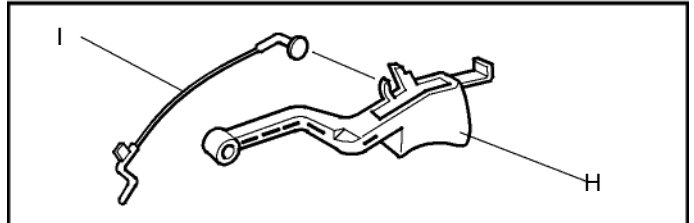
Assembly

Assemble the parts as follows:

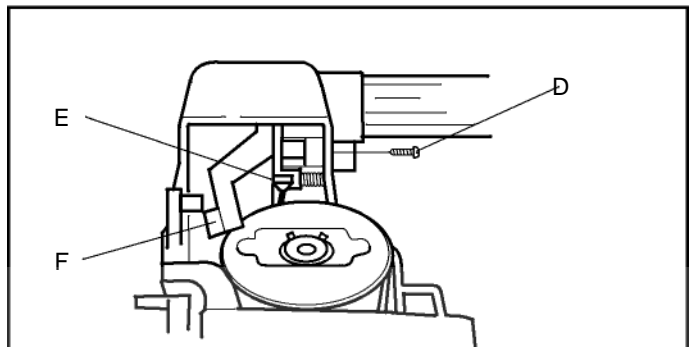
1. Connect the electrical connection to the lock plate (E) and choke lever/throttle (J).



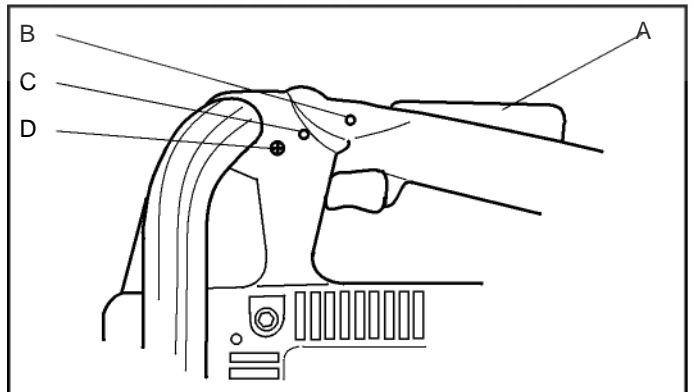
2. Slide in the throttle (H). At the same time fit the throttle rod (I) on the throttle. Do not hook it onto the bearing (F) yet.



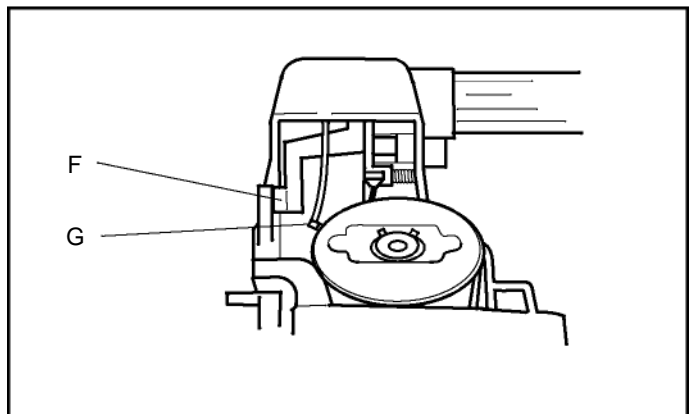
3. Using thin-nosed pliers fit the lock plate (E). Secure using screw (D).



5. Fit the pin from the right-hand side (C). The press down the throttle lock (A). Check that the lock's locking arm goes down into the cut-out in the throttle and fit the pin (B).



6. Hook on the throttle bearing (F). Use a screwdriver to fit the choke rod (G) on the carburettor.



7. Fit the clutch cover and carburettor cover. Adjust the chain tension, see the Operator's manual. Tighten the clutch cover nut to 15 Nm.
8. Check the stop function by starting the chain saw and make sure the saw stops when the stop button is moved to the stop position. See the Operator's manual.

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STARTER

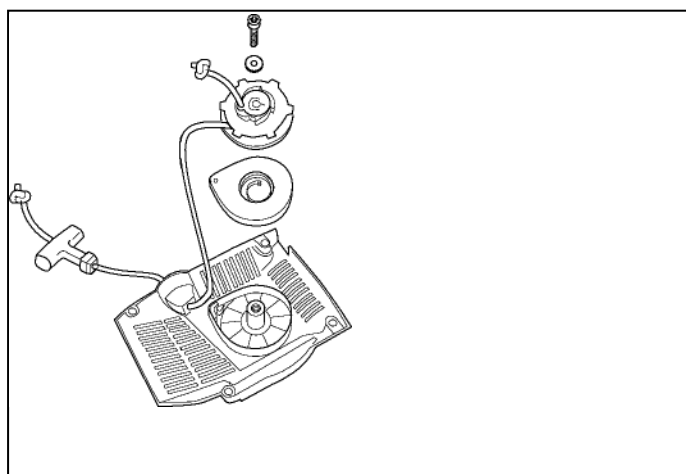
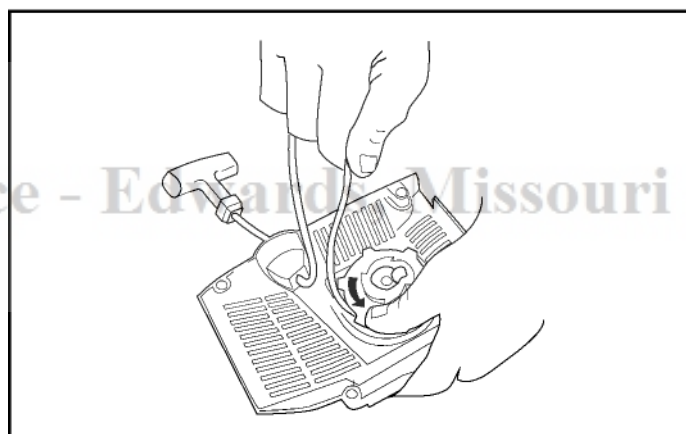
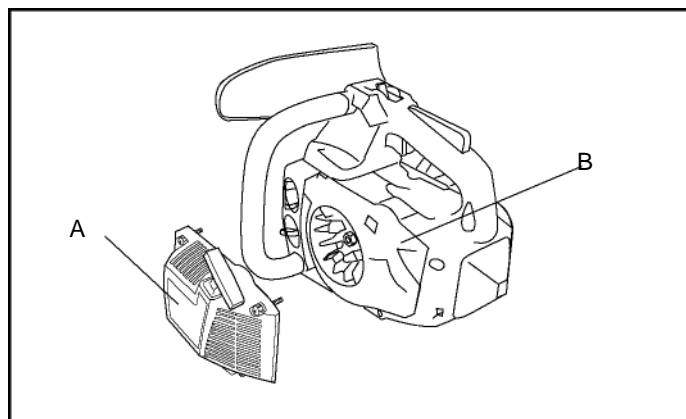


WARNING!

- The recoil spring is under tension when in its housing in the starter and can, with careless handling, fly out and cause personal injury.
- Care should be exercised when replacing the recoil spring or starter cord. Wear protective glasses.

Dismantling

1. Unscrew the four bolts that hold the starter (A) and cooling air guide (B) in position.
2. Pull out the handle 20-30 cm (8-12") and lift up the cord from the cut-out in the starter pulley.
3. Unscrew the centre bolt and lift out the washer and starter pulley.
4. Carefully lift up the spring housing so that the spring does not fly out and cause personal injury.
5. If the starter cord is to be replaced, cut it off and pull out the ends, using a pair of thin-nosed pliers, from the handle and starter pulley.

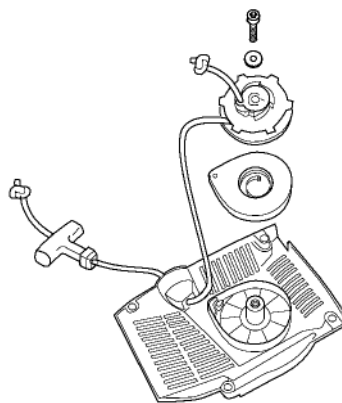


STARTER

Cleaning and inspection

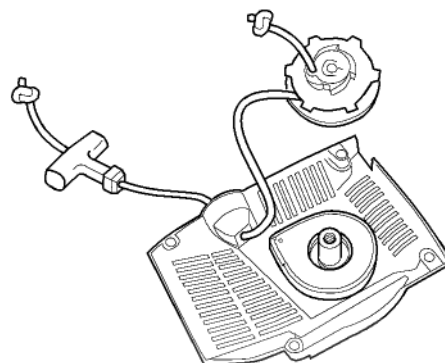
Clean the parts and check as follows:

1. Starter cord.
2. The dogs in the starter pulley.
3. That the pawls on the flywheel are OK, and spring back towards the centre and move freely.



Assembly

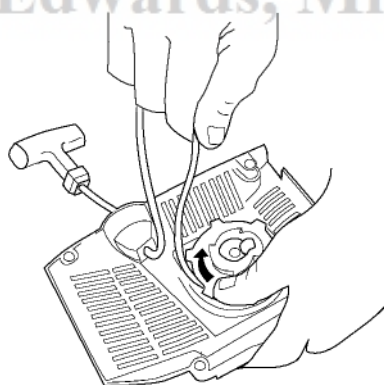
1. Lubricate the new recoil spring using thin oil without taking it out of its housing.
2. Carefully fit the spring housing in the starter housing so that the spring does not fly out and cause personal injury.
3. Insert and attach the new starter cord in the starter pulley. Wind on approx. 3 turns on the starter pulley.
4. Fit the starter pulley against the recoil spring so that the end of the recoil spring hooks in the starter pulley. Fit the bolt in the centre of the starter pulley.
5. Pull out the starter cord through its hole in the cover and fit the handle, secure with a double knot.



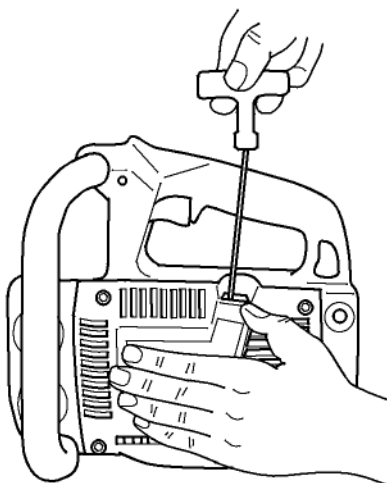
6. Lift up the starter cord from one of the cut-outs in the starter pulley and turn the starter pulley approx. 2 turns clockwise.

Check the cord tension:

- A. Pull out the cord completely.
- B. In this position it should be possible to turn the starter pulley by hand a further 1/2 - 3/4 turn.



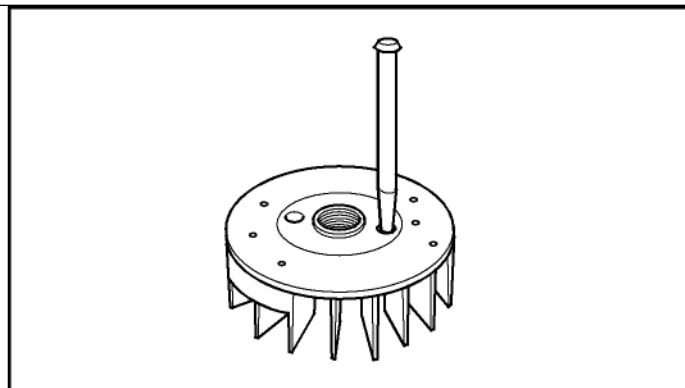
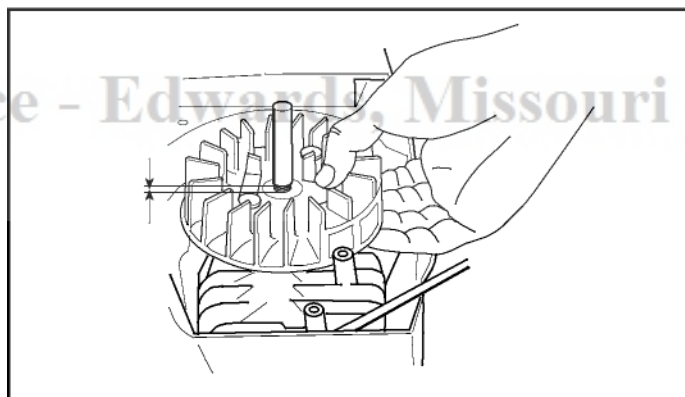
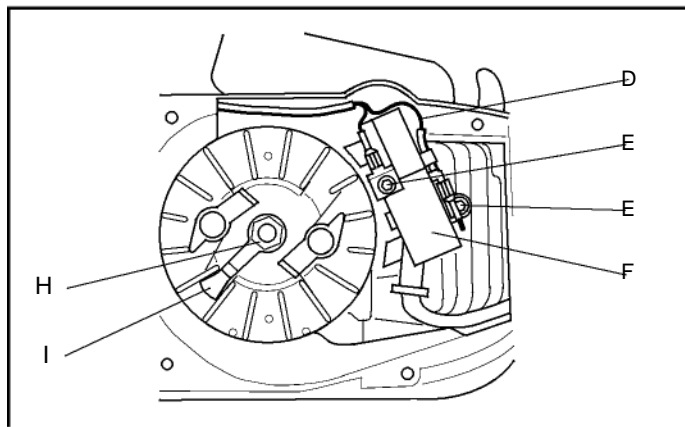
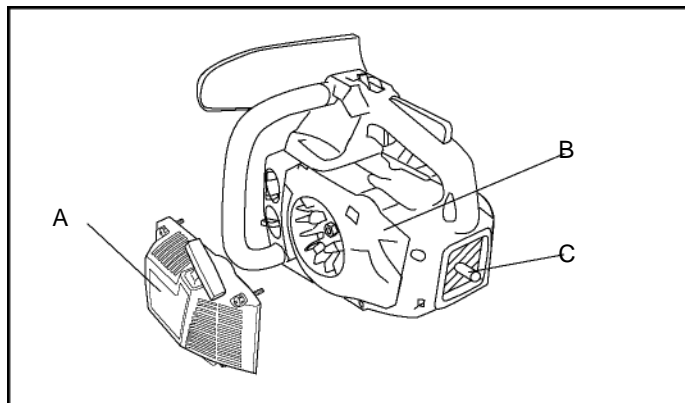
7. Fit the starter on the chain saw. Pull the starter handle slightly until you feel the starter dogs grip. Now fit the four bolts and tighten to 2.5-4 Nm.



IGNITION SYSTEM

Dismantling

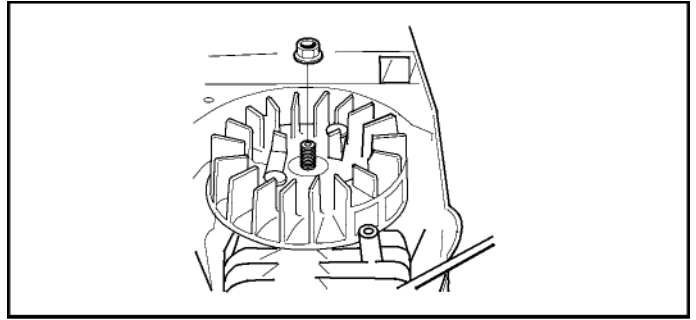
1. Dismantle the starter (A) and cooling air guide (B).
2. Remove the spark plug and fit the piston stop (C) in the spark plug hole. See service tools. It is important that the piston stop is screwed in completely.
3. Loosen the cable (D) from the ignition module. Unscrew the two M4 bolts (E) and lift out the ignition module (F).
4. If the ignition module shall be replaced, pull up the contact spring from spark plug cover and dismantle the parts.
5. Use a 13 mm spanner and dismantle the nut (H) and counterbalance washer (I) from the flywheel.
6. Fit the sleeve 502 51 94-01 on the shaft. Do not screw it on too far, a gap of 2-3 mm (0.08-0.12") must remain.
7. Grip the flywheel and lift the saw. Hit the sleeve with a hammer until the flywheel becomes loose.
8. Dismantle the starter pawls by pressing out the pawls' bearing studs with a suitable punch (\varnothing 3 mm/ 0.12").



IGNITION SYSTEM

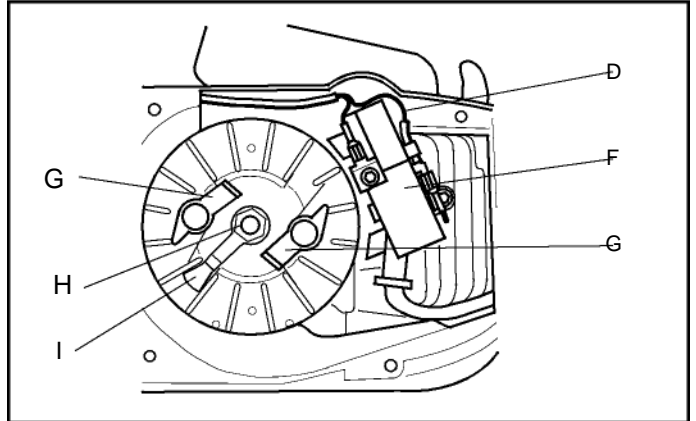
Cleaning and inspection

Clean all the parts, especially the flywheel and the shaft taper. Check that the flywheel is not cracked or damaged in any other way.



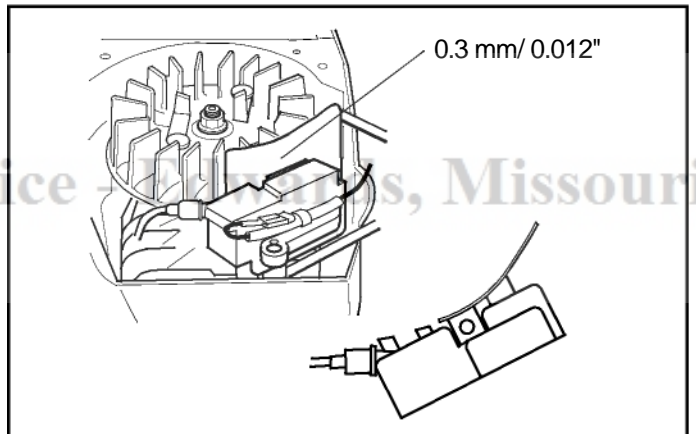
Assembly

1. Fit the starter pawls (G).
2. Fit the flywheel on crankshaft. Rotate lightly so that the flywheel's key aligns with keyway on the crankshaft.
3. Fit counterbalance washer (I) in the groove located on flywheel. Use a 13 mm spanner and tighten the nut (H) to 20-26 N.
4. Remove the piston stop, fit the spark plug and rotate the flywheel so that its magnet is beside one of the ignition module's bolt holes.
5. Fit ignition module (F). Connect the cable (D) to the ignition module.

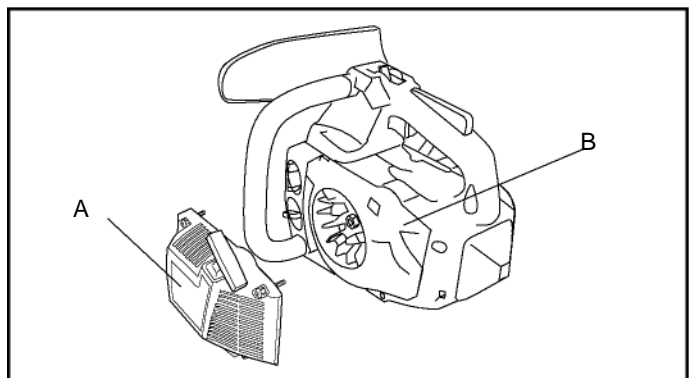


6. Insert a feeler gauge (0.3 mm/ 0.012") between flywheel magnet and the ignition module. See service tools. Tighten the ignition module's bolts to 2.5-4 Nm.

NOTE! When fitting the ignition module the gap shall be set between both upper arms.

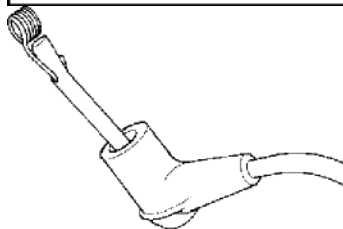


7. Fit the cooling air guide (B) and starter (A).



Fitting the spark plug cover

1. Push the HT cable through the spark plug cover.
2. Make a hole in the HT cable for the contact spring using the pliers 502 50 06-01.
3. Fit the contact spring using the pliers.



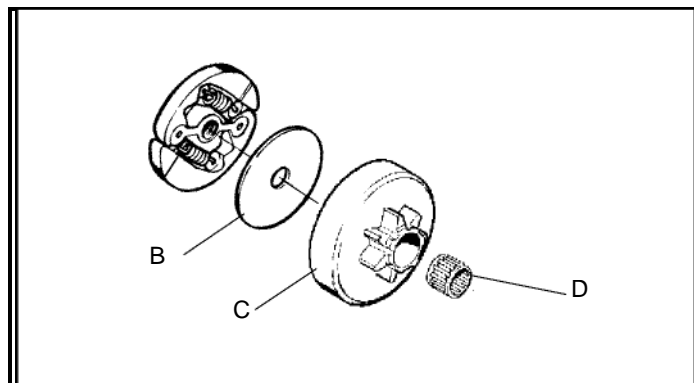
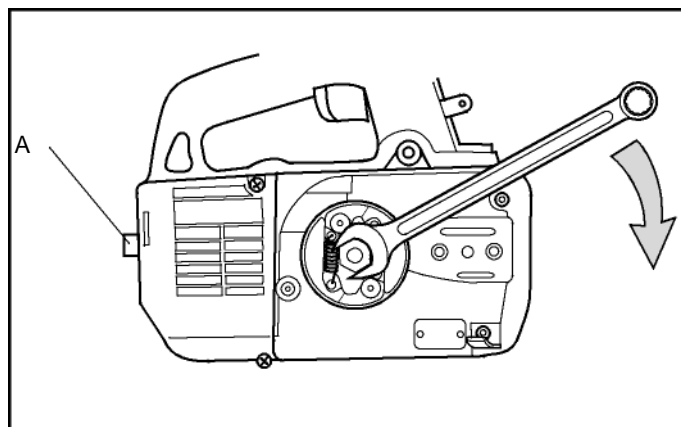
NOTE!

It is important that the tip of the contact spring comes in the centre of the HT cable to prevent sparking.

CENTRIFUGAL CLUTCH

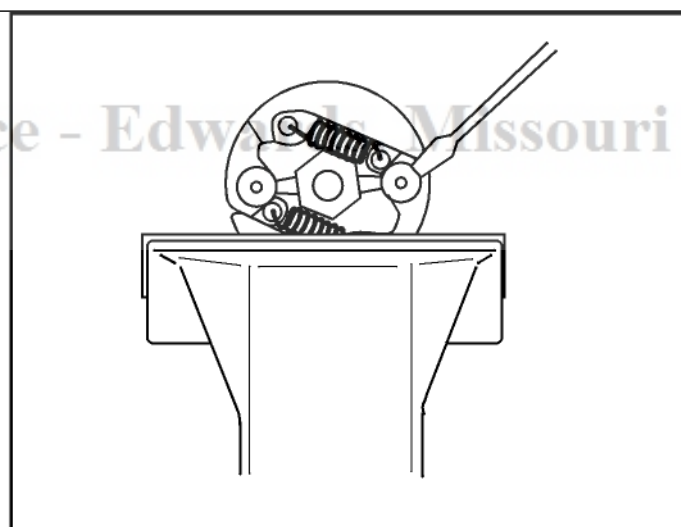
Dismantling

1. Dismantle the clutch cover.
2. Dismantle the spark plug and fit the piston stop (A). It is important that the piston stop is screwed in completely.
3. Use a 19 mm spanner and dismantle the clutch hub. NOTE! Left-hand thread.
4. Remove the washer (B), clutch drum (C) and needle bearing (D).



5. If necessary, dismantle the clutch shoes as follows:

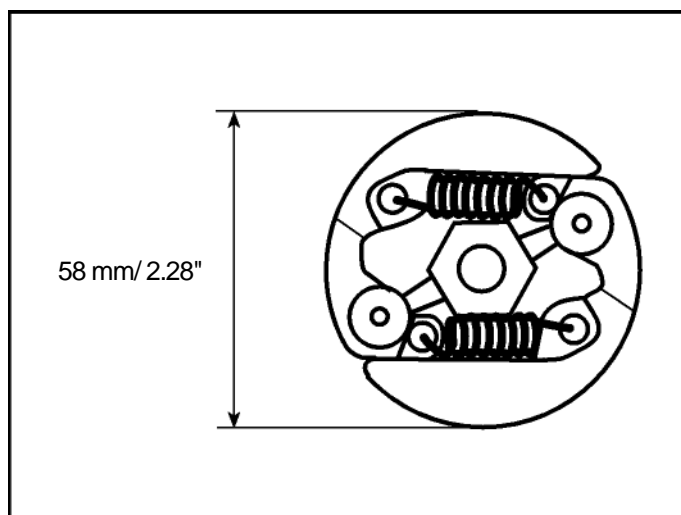
- A. Put the clutch hub in a vice.
- B. Using a screwdriver, press out the shoe holder.
- C. Dismantle the shoes and springs.



Cleaning and inspection

Clean all parts and check the following:

1. That the outside diameter of the clutch hub is no less than 58 mm/ 2.28" at the most worn point.
2. That there is no play between the clutch shoes and their bearings in the shoe holder.
3. When a spring breaks both springs must be replaced.
4. A complete clutch or springs are available as spare parts.
5. Wear on the chain sprocket.
6. That the needle bearing is OK and that the bearing surface on the crankshaft is not damaged.
7. That the clutch drum friction surface is OK and that the bearing surface is not damaged.

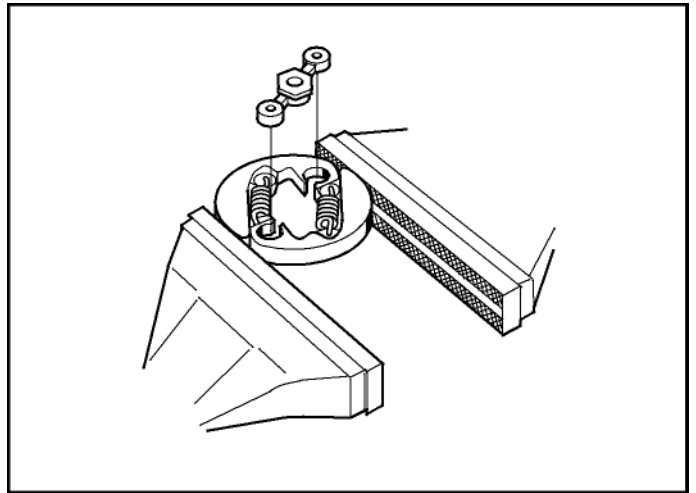


CENTRIFUGAL CLUTCH

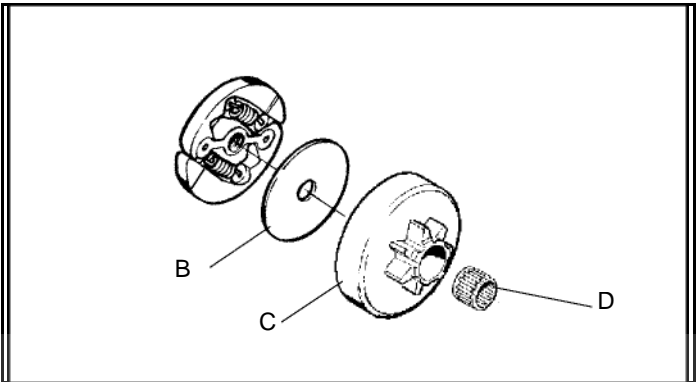
Assembly

1. When the springs have been replaced assemble as follows:

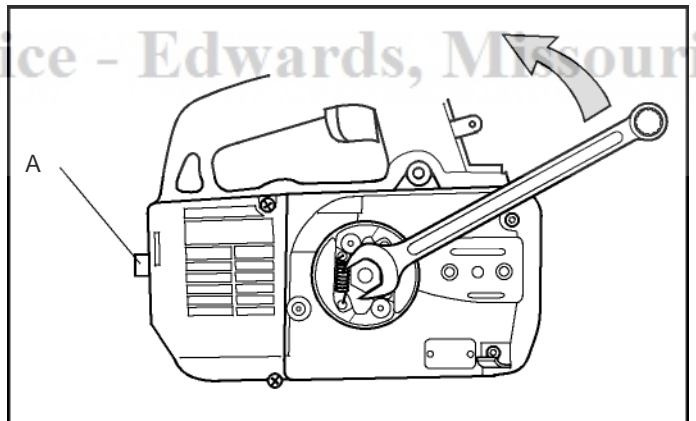
- A. Fit the two clutch shoes and the two springs and put the unit in a vice.
- B. Tighten the vice so that the shoe holder can be pushed down between the clutch shoes.



- 2. Lubricate and fit the needle bearing (D), clutch drum (C) and washer (B).



- 3. Use a 19 mm spanner and fit the clutch hub.
NOTE! left-hand thread.
- 4. Remove the piston stop (A) and fit the spark plug. Tightening torque: 15 Nm.
- 5. Fit the clutch cover. Adjust the chain tension, see the Operator's manual. Tighten the bar cover nut to 15 Nm.



CARBURETTOR

Description

!WARNING! The fuel used in the chain saw poses the

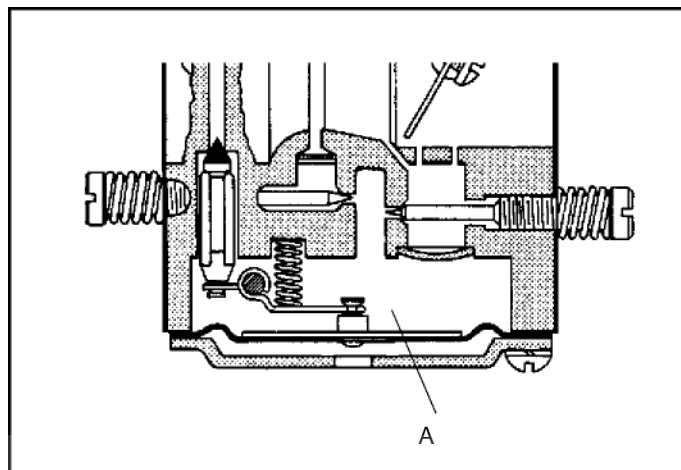
following hazards:

- The fluid and its vapours are poisonous.
- Can cause skin irritation.
- Is highly inflammable.

The diagrams in this description do not correspond with the carburettor fitted on the chain saw. They serve only to show the principles of design and operation. The carburettor consists of three sub-systems:

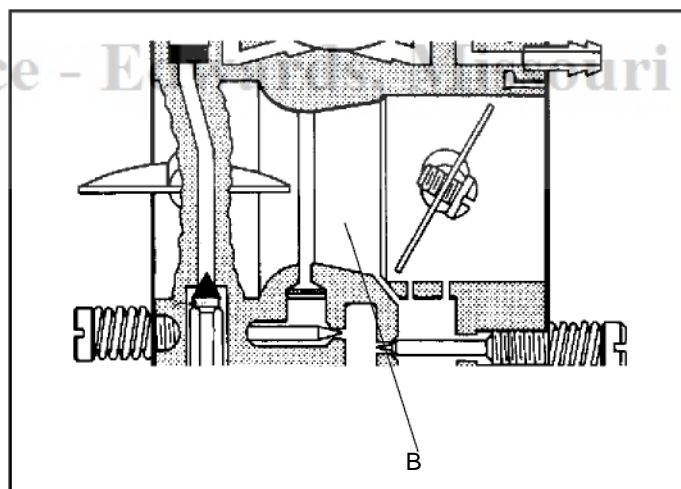
Metering unit

The metering unit (A) contains the jets and fuel control functions. It is here the correct amount of fuel for the given engine speed and power is metered.



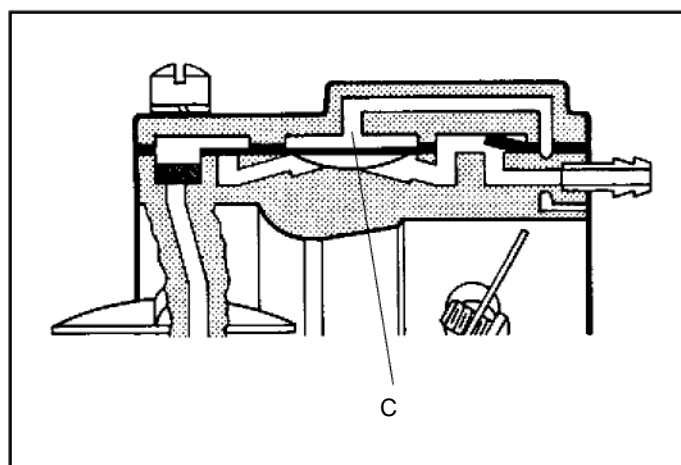
Mixing venturi

The mixing venturi (B) houses the choke, throttle valve and diffuser jets. Here air is mixed with the fuel to give a fuel/air mixture that can be ignited by the ignition spark.



Pump unit

In the pump unit (C), fuel is pumped from the fuel tank to the metering unit. One side of the pump diaphragm is connected to the crankcase and pulses in time with the pressure changes in the crankcase. The other side of the diaphragm pumps the fuel.



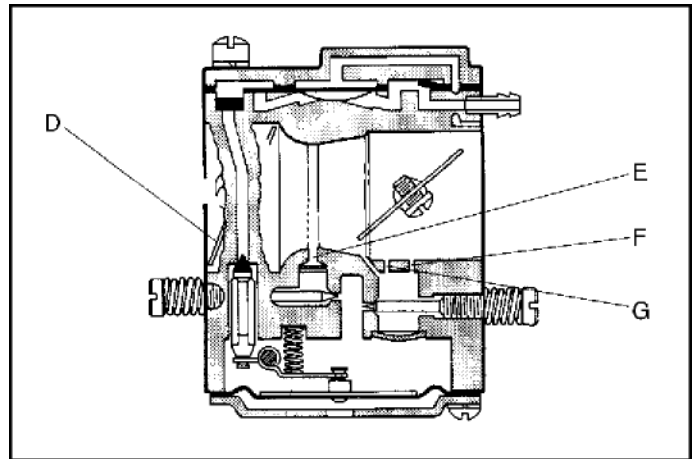
CARBURETTOR

Operation

The carburettor operates differently in the following modes:

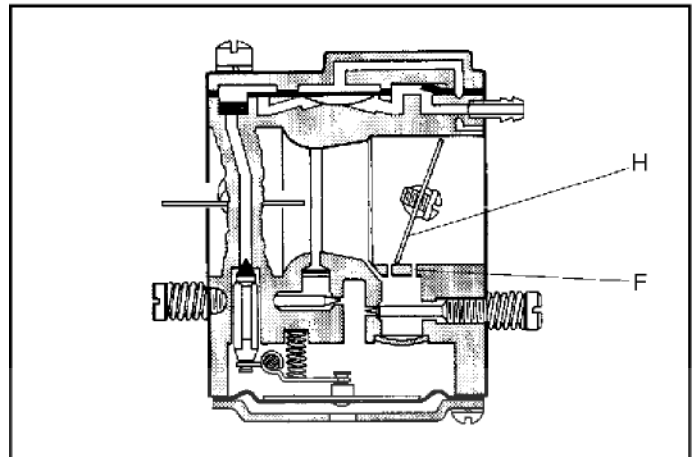
Cold start mode

In the cold start mode the choke valve (D) is fully closed. This increases the vacuum in the carburettor and fuel is easier to suck from all the diffuser jets (E, F and G). The throttle valve (H) is partly open.



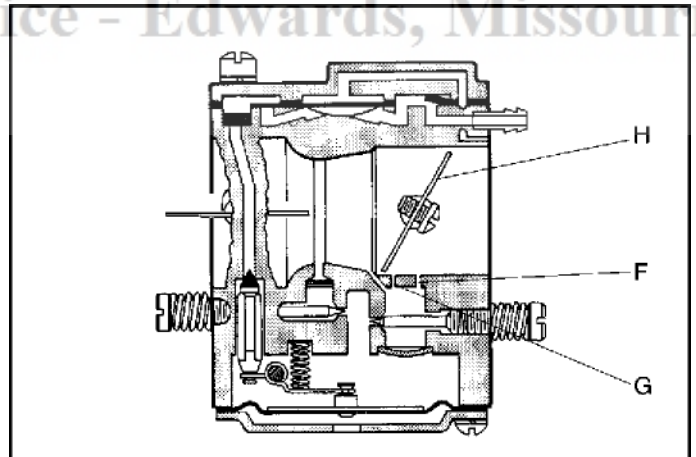
Idling mode

In the idling mode (H) the throttle valve is closed. Air is sucked in through an aperture in the throttle valve and a small amount of fuel is supplied through the diffuser jet (F).



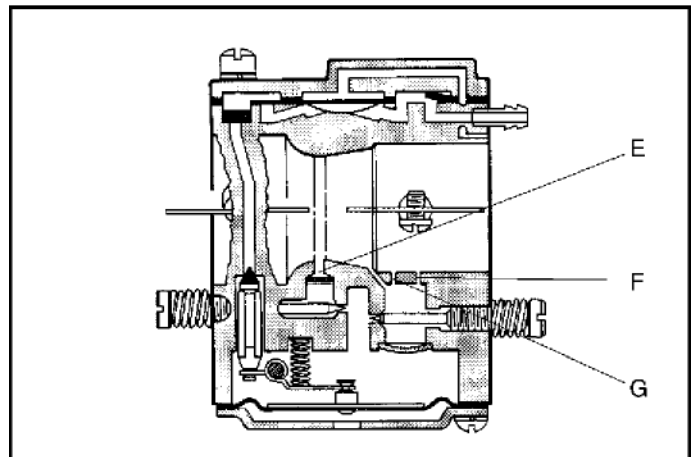
Part throttle mode

In the part throttle mode the throttle valve (H) is partially open. Fuel is supplied through the diffuser jets (F and G).



Full throttle mode

In the full throttle mode both valves are open and fuel is supplied through all three diffuser jets (E, F and G).

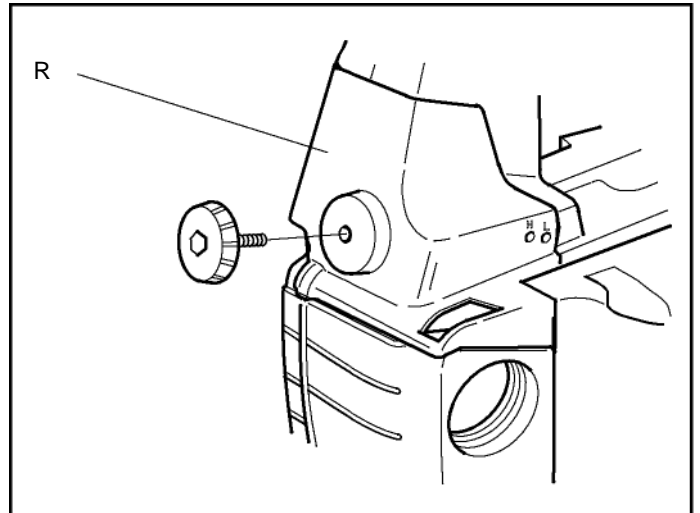


CARBURETTOR

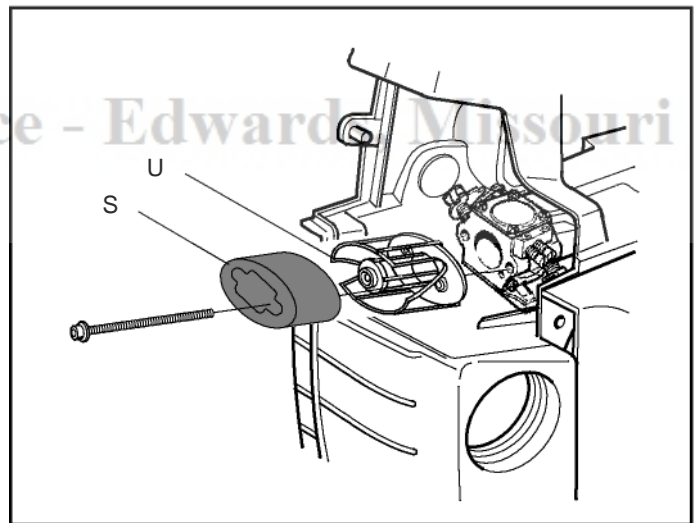
Dismantling

- WARNING!** The fuel used in the chain saw poses the following hazards:
- The fluid and its vapours are poisonous.
 - Can cause skin irritation.
 - Is highly inflammable.

1. Dismantle the chain and bar. See the Operator's manual.
2. Dismantle the carburettor cover (R).

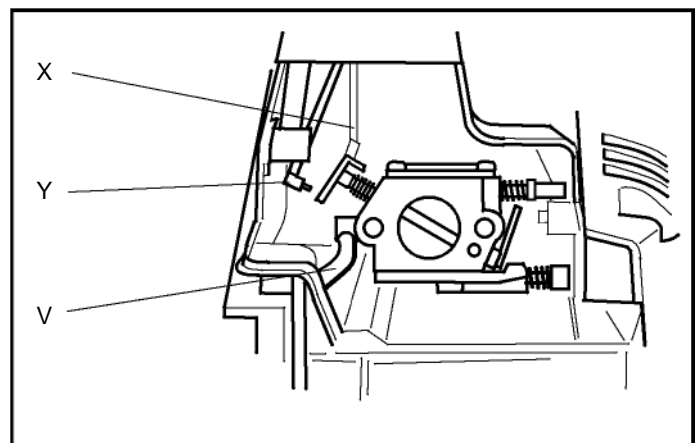


3. Dismantle the air filter (S), the two bolts and the air filter holder (U).



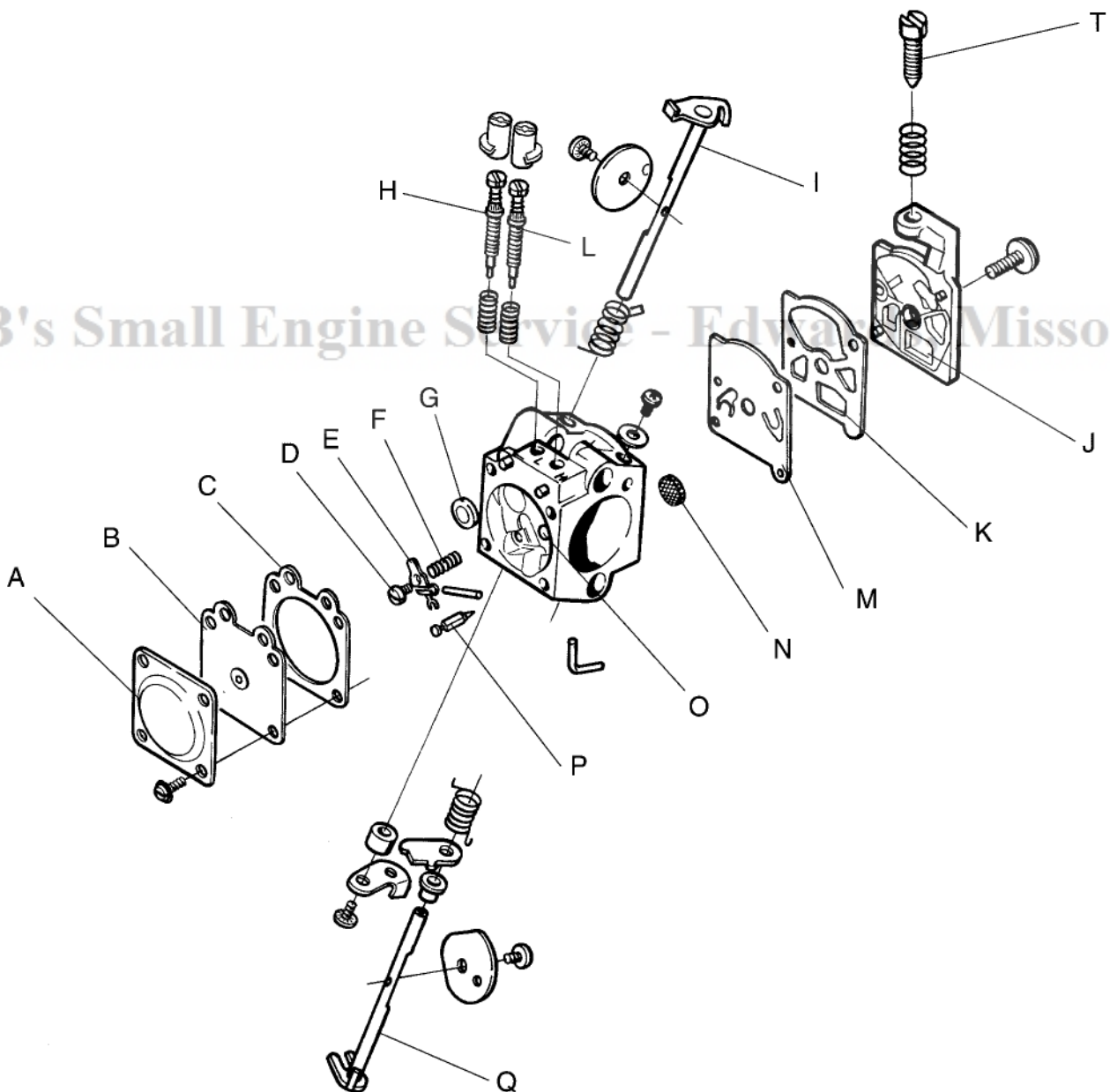
4. Slide out the choke control (Y) by using a screwdriver.
5. Pull off the fuel pipe (V) by using a pair of thin-nosed pliers.
6. Pull out the carburettor a little and unhook the throttle control (X). Now pull out the carburettor fully.

Continue dismantling from point 7 on the next page.



CARBURETTOR

7. Remove the cover (A) over the metering unit and carefully remove the control diaphragm (B) with the gasket (C).
8. Undo the screw (D) and take out the needle valve (P) with lever arm (E), shaft and spring (F).
9. Remove the cover (J) over the pump unit and carefully remove the packing (K) and the pump diaphragm (M).
10. Using a needle or the like carefully remove the fuel screen (N).
11. Unscrew the high and low speed needles (H and L). Use a pair of side cutters to remove the locking caps.
12. Remove the plugs (G) as follows.
 - A. Drill a hole in the plug.
 - B. Insert a screwdriver or punch in the hole and prise out the plug.
13. If necessary remove the throttle and choke valves as well as the shafts (I and Q) with lever arms and springs.
14. Remove the "semi fixed jet" with diffuser (O) as follows:
 - A. Place the carburettor housing on a firm surface.
 - B. Drive the jet into the venturi using a hammer and punch.



CARBURETTOR

Cleaning and inspection

- **WARNING! Petrol has the following hazardous properties:**
- The fluid and its vapours are poisonous.
 - Can cause skin irritation.
 - Is highly inflammable.

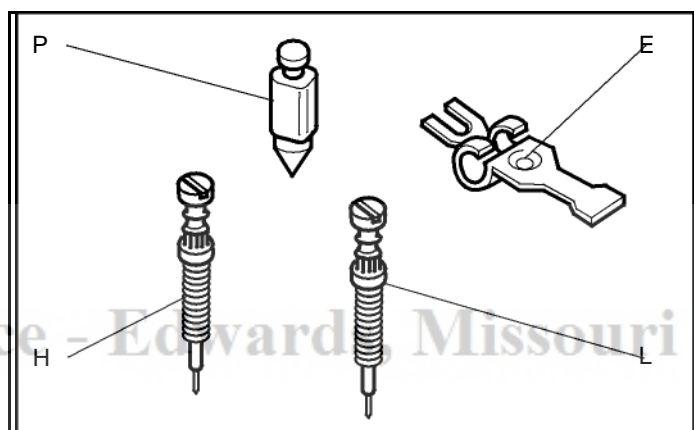
Clean all components in pure petrol.

- **WARNING! Never direct the compressed air jet towards the body. Air can be forced into the blood stream and can cause fatality.**

Use compressed air to dry the petrol on all components. Direct the air through all channels in the carburettor housing and ensure that they are not blocked.

Check the following:

1. That the packing and pump and control diaphragms are undamaged.
2. That there is no play on the throttle and choke valve shafts.
3. That the needle valve (P) and its lever (E) are not worn.
4. That the fuel screen is undamaged
5. That the tips of the high and low speed needles (H and L) are not damaged.
6. That the air intake manifold is not cracked.

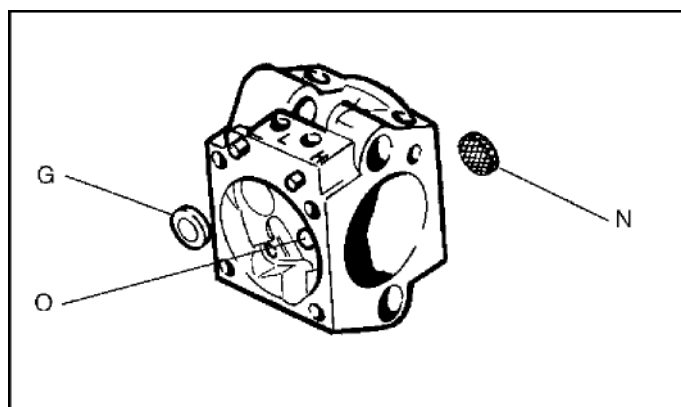


Assembly

Maintain a high level of cleanliness when reassembling the carburettor. Even small particles of dirt can cause operating problems.

Please refer to the exploded diagram on page 28 for the letters within brackets that are not shown in the adjacent diagrams.

1. If the throttle and choke valves, shafts, lever arms and springs have been dismantled these must be reassembled. Lubricate the shaft bearings using a light oil.
2. Fit the plugs (G) as follows:
 - A. Place the plug in the hole with the convex side facing upwards.
 - B. Expand the plug using a punch on the top side.
3. Fit the "semi fixed jet" (O) in the carburettor using a punch.
4. Fit the fuel screen (N) by using the handle of a small screwdriver.



CARBURETTOR

5. Fit the high speed needle (H) as follows:

- Screw in the new H-needle clockwise until it bottoms. Thereafter counter-clockwise 3 1/2 turns.
- Press on a new locking cap on the H-needle until the first stop, i.e. the locking cap should not be fixed.

6. Fit the low speed needle (L) as follows:

- Screw in the new L-needle clockwise until it bottoms. Thereafter counter-clockwise 1 3/4 turns.
- Press on a new locking cap on the L-needle until the first stop, i.e. the locking cap should not be fixed.

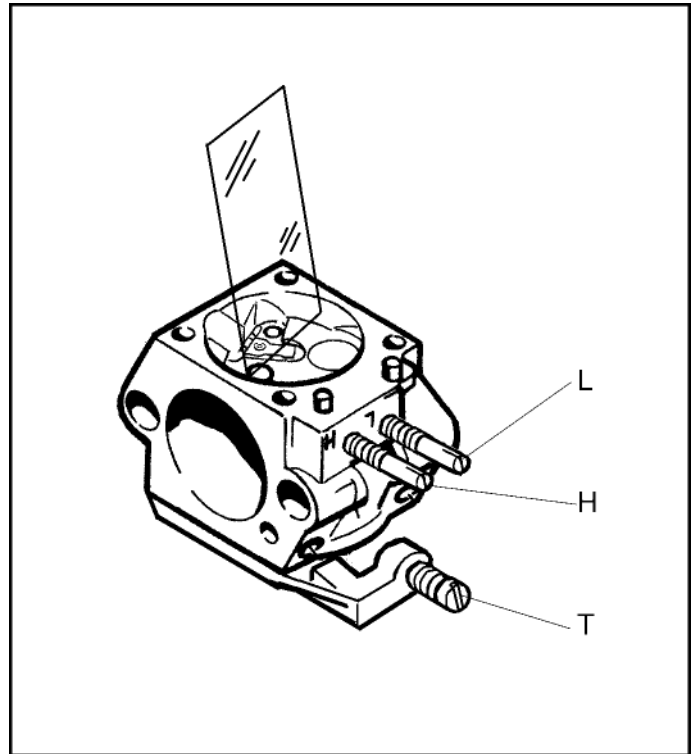
7. Fit the pump diaphragm (M), packing (K) and cover (J) on the pump unit.

8. Fit the needle valve (P) with lever arm (E), shaft and spring and tighten screw (D).

9. Check using a ruler or the like that the lever arm (E) is level with the heels next to the lever arm. The lever arm can be bent if necessary.

10. Fit the control diaphragm (B) with packing and cover (A) on the metering unit.

11. Carry out a pressure test.



Pressure testing

Pressure testing should be carried out with the carburettor fully assembled. Testing should always be carried out after the carburettor has been repaired, but a test can also be made for trouble shooting before dismantling. Check the carburettor as follows:

- Connect pressure tester 502 50 38-01 to the carburettor's fuel intake.
- Lower the carburettor into a beaker of water.
- Pump up the pressure to 50 kPa (0.5 bar) and clamp the pump tube.
- No leakage is permitted. With leakage refer to the table below.

| Leakage from | Fault with |
|--|-------------------|
| Diffuser jets | Needle valve |
| Leakage on the pulse tube | Pump diaphragm |
| Ventilation hole above the metering unit | Control diaphragm |



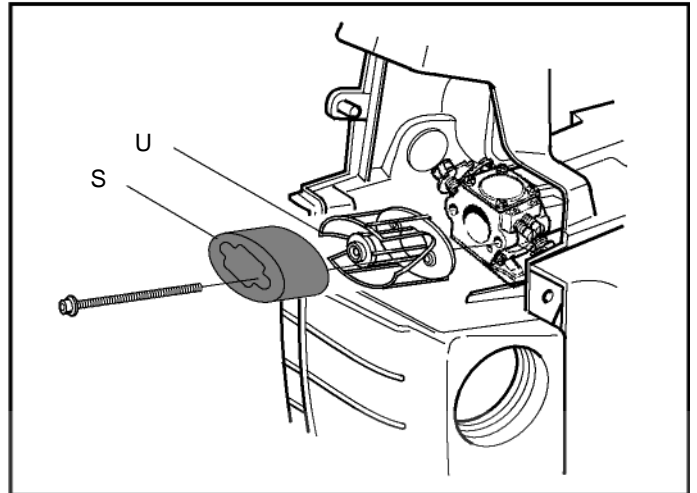
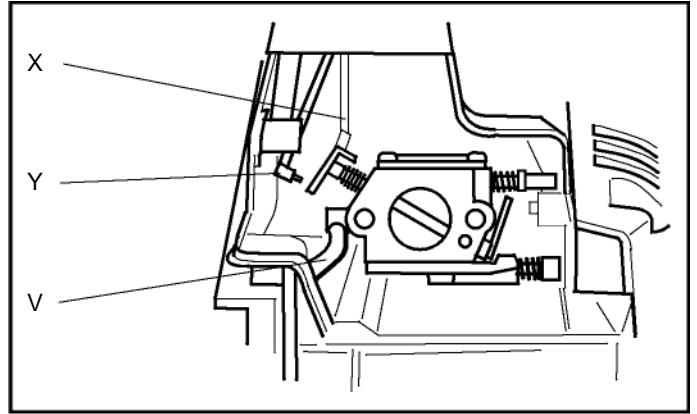
CARBURETTOR

Assembly (continued)

- **WARNING!** The fuel used in the chain saw poses the following hazards:
- The fluid and its vapours are poisonous.
 - Can cause skin irritation.
 - Is highly inflammable.

After the carburettor has been pressure tested, continue assembly as follows:

1. Insert the carburettor a little and fit the throttle control (X). Then insert the carburettor fully.
2. Fit the fuel pipe (V) using pliers.
3. Fit the choke control (Y) using pliers.
4. Fit the air filter holder (U), the two screws and the air filter (S). Tighten the screws to 1.5 Nm.
5. Fit the carburettor cover.
6. Fit the chain and bar. See the Operator's manual.
7. The function of the carburettor is also affected if the manifold pipe or pulse tube are defective. Inspect these parts too.
8. To change the manifold pipe, see page 38.
9. To change the pulse tube, see page 35.



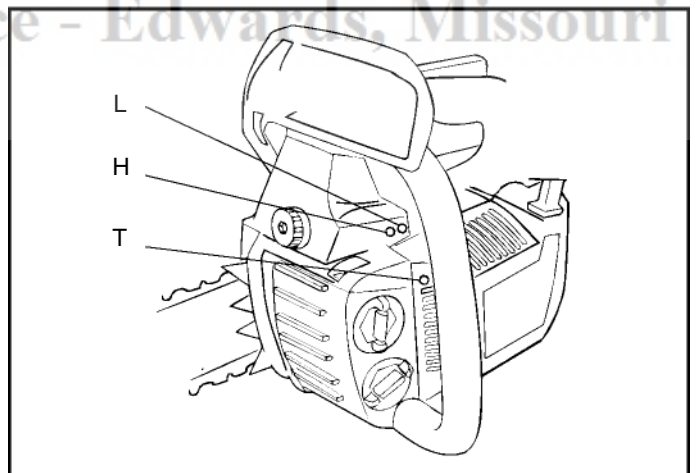
Basic setting of the high and low speed needles

Important! Before any adjustments are made the following must be completed.

- Fit a bar and chain combination approved for this model. "See Technical data in the Operator's manual."
- The chain should not be adjusted too much, approx. 0.2 inches/ 5 mm should remain to the underside of the bar.
- Fit a new air filter.

Carried out when the chain saw is assembled.

1. Start the engine and adjust the idling speed using the T screw until the chain stops.
2. Adjust the H-needle until the engine's top speed is 13 000 \pm 200 rpm. Use a screwdriver with a narrow blade.
3. Let the engine run at 13 000 rpm until it is warm, approx. 1 minute.
4. Adjust the H-needle until the engine's speed is 13 400 rpm. Turn the locking cap to its richest position. (Screw counterclockwise until it stops.)
5. Now carefully knock the locking cap in position using a suitable punch (5 mm).
6. Adjust the idling speed to 2800 rpm.
7. Adjust the L-needle until the highest idling speed has been reached, now screw the L-needle counter-clockwise a 1/2 turn. Use a screwdriver with a narrow blade.
8. Adjust the locking cap to its richest position. (Screw counterclockwise until it stops.) Carefully knock the locking cap in position using a suitable punch (5 mm).



CARBURETTOR

Carburettor

the H-jet.

32 – English

Your Husqvarna product has been designed and manufactured to specifications that reduce harmful emissions.

After your unit has been run 8-10 tanks of fuel the engine has broken in. To ensure that your unit is at peak performance and producing the least amount of harmful emissions after break in, have your authorized servicing dealer, who has a revolution counter at his disposal, to adjust your carburetor for optimum operating conditions.

Operation, Basic setting, Final setting

WARNING! Do not start the saw without the bar, chain and clutch cover (chain brake) assembled. If you do, the clutch might come loose and cause severe injuries.

Operation

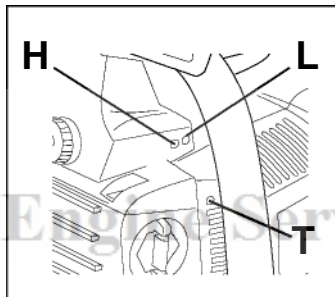
- The carburettor governs the engine speed via the throttle. Air/fuel are mixed in the carburettor. The air/fuel mixture is adjustable. To take advantage of the saw's maximum output the setting must be correct.
- Adjusting the carburettor means the engine is adapted to local operating conditions, e.g. climate, altitude, petrol and the type of 2-stroke oil used.

- The carburettor has three adjustment possibilities:

L = Low speed jet. H =

High speed jet.

T = Adjusting screw for idling.



- The fuel quantity required in relation to the air flow, provided by opening the throttle, is adjusted by the L and H-jets. If they are screwed clockwise the air/fuel ratio becomes leaner (less fuel) and if they are turned counter-clockwise the ratio becomes richer (more fuel). A leaner mixture gives a higher engine speed and a richer mixture give a lower engine speed.
- The T screw regulates the idling speed. If the screw T is turned clockwise this gives a higher idling speed; counterclockwise a lower idling speed.

Basic setting and running in

The carburettor is set to its basic setting when test run at the factory. The basic setting is richer than the optimal setting and should be kept so during the machine's first working hours. Thereafter the carburettor should be finely adjusted. Fine adjustment should be carried out by a skilled technician.

NOTE! If the chain rotates while idling the T screw should be adjusted counter-clockwise until it stops.

Recommended idling speed: 2 800 rpm.

WARNING! Contact your servicing dealer, if the idle speed setting cannot be adjusted so that the chain stops. Do not use the saw until it has been properly adjusted or repaired.

Fine adjustment

- When the saw has been "run-in" the carburettor should be finely adjusted. **The fine adjustment should be carried out by qualified person.** First adjust the L-jet, then the idling screw T and then

Conditions

- Before any adjustments are made the air filter should be clean and the cylinder cowling fitted. Adjusting the carburettor while a dirty air filter is in use will result in a leaner mixture when the filter is finally cleaned. This can give rise to serious engine damage.
- Carefully turn the L and H needles to the mid-point between fully in and fully out.
- **Do not attempt to adjust the needles past their stops as this can cause damage.**
- Now start the saw according to the starting instructions and run it warm for 10 minutes. **NOTE! If the chain rotates the T screw should be turned counter-clockwise until the chain stops.**
- Place the saw on a flat surface so that the bar points away from you and so that the bar and chain do not come into contact with the surface or other objects.

Low speed needle L

Turn the L needle clockwise to the stop. If the engine accelerates poorly or idles unevenly turn the L needle counter-clockwise until good acceleration and idling are achieved. **NOTE! If the chain rotates in the idling position, turn the idling speed screw counter-clockwise until the chain stops.**

Final setting of the idling speed T

Adjust the idling speed with the screw T. If it is necessary to re-adjust, first turn the idle speed adjusting screw T clockwise, until the chain starts to rotate. Then turn, counter-clockwise until the chain stops. A correctly adjusted idle speed setting occurs when the engine runs smoothly in every position. It should also be good margin to the rpm when the chain starts to rotate.

WARNING! Contact your servicing dealer, if the idle speed setting cannot be adjusted so that the chain stops. Do not use the saw until it has been properly adjusted or repaired.

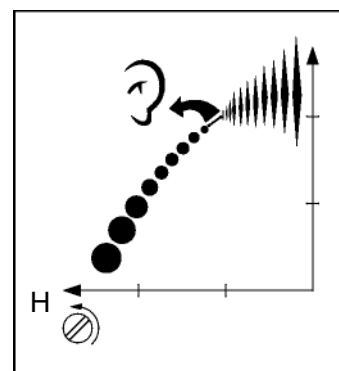
High speed needle H

The high speed needle H affects the power and engine speed of the saw. Too lean a setting of the high speed needle (H-needle is screwed in too far) causes over-revving with subsequent damage to the saw. Turn the high speed needle counter-clockwise to its stop. If the engine runs unevenly, turn the high speed needle clockwise until the engine runs evenly.

The H-needle is correctly adjusted when the saw "4-strokes" slightly. If the saw "screams", it is set too lean. If smoke comes from the muffler while the saw is "4-stroking", it is set too rich. Turn the H-needle clockwise to achieve a setting which sounds right. **NOTE! For optimal adjustment, contact a qualified service agent with access to a tachometer.**

Correctly adjusted carburettor

A correctly adjusted carburettor means that the saw accelerates without hesitation and the saw four strokes a little at max speed. Furthermore, the chain must not rotate while idling. A too lean adjusted low speed needle L may cause starting difficulties and bad acceleration. A too lean adjusted high speed needle H gives lower power = less capacity, bad acceleration and/or damage to the engine. A too rich adjustment of the two speed needles L and H gives acceleration problems or too low working speed.



TANK UNIT

•WARNING! The fuel used in the chain saw poses the following hazards:

- The fluid and its vapours are poisonous.
- Can cause skin irritation.
- Is highly inflammable.

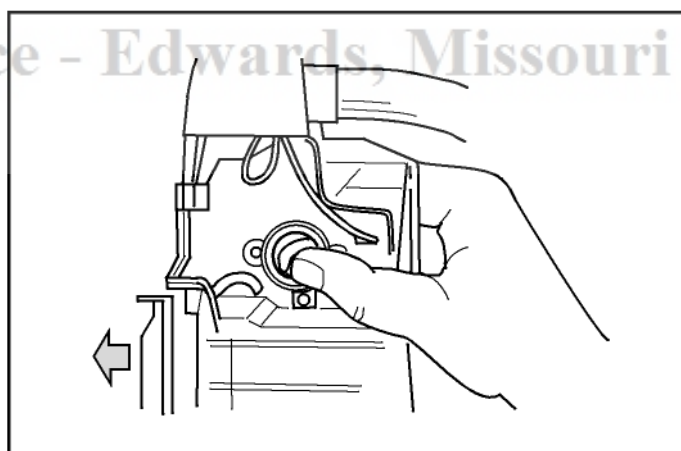
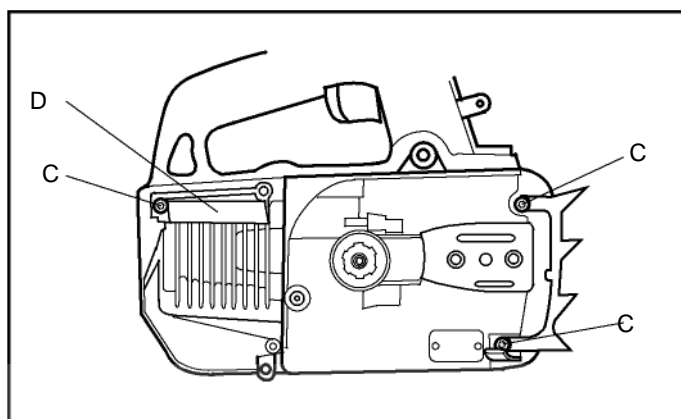
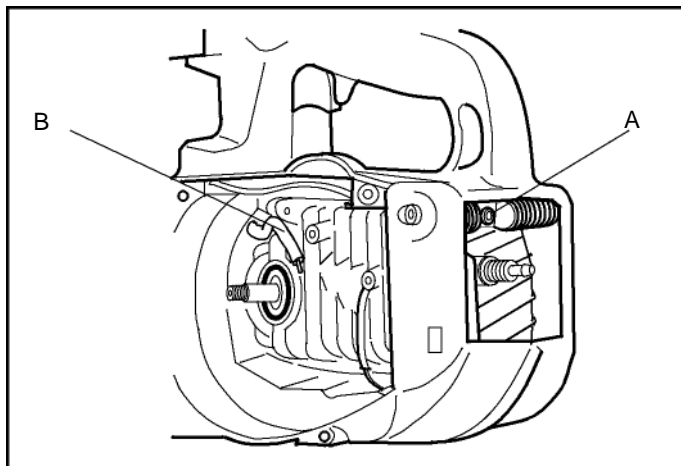
Dismantling

Dismantle the following parts:

1. Chain and bar. See the Operator's manual.
2. Centrifugal clutch. See page 23.
3. Muffler. See page 16.
4. Carburettor. See page 27.
5. Starter. See page 19.
6. Ignition system and spark plug. See page 21.

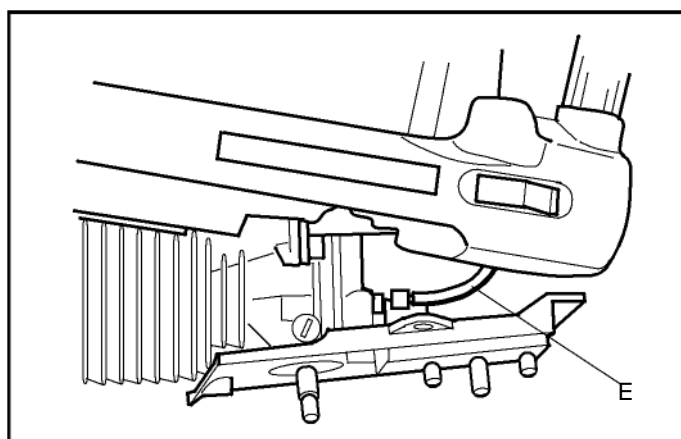
Now continue to dismantle the tank unit according to the following instructions:

1. Drain out all oil and fuel.
2. Remove bolt (A) and the pulse tube (B).
3. Remove the bolts (C) and the exhaust guide plate (D).
4. Press the manifold pipe into the hole on the tank unit at the same time as you push the engine unit towards the clutch side.
5. Now loosen the oil pipe (E).



Cleaning and inspection

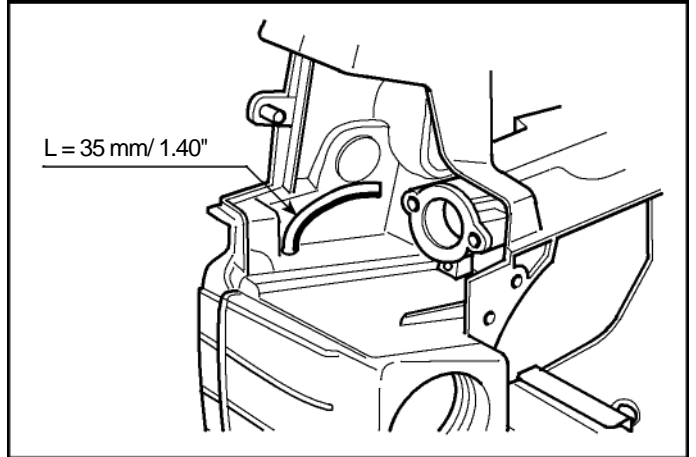
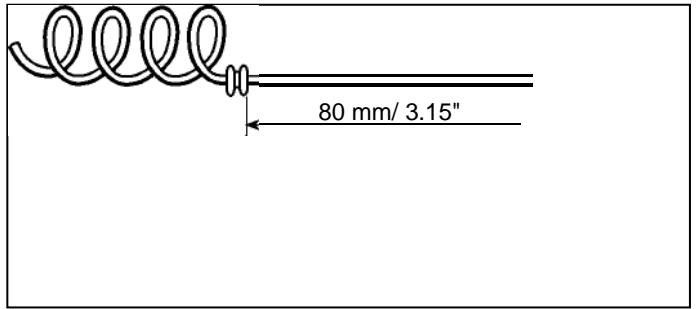
Clean all parts and check that the fuel pipe and oil pipe are OK.



TANK UNIT

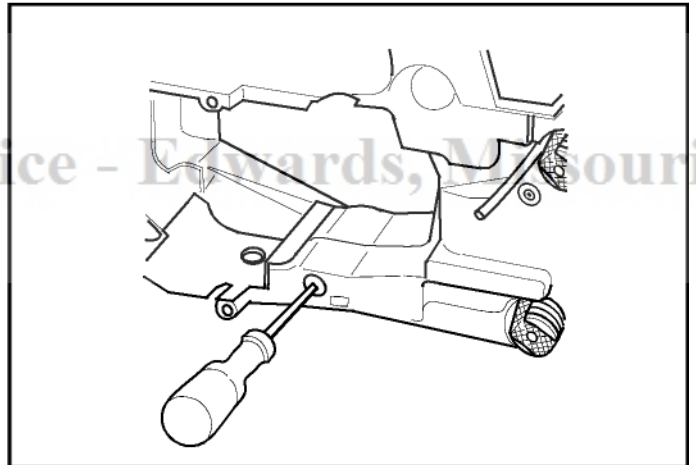
Replacing the fuel pipe and fuel filter

1. Remove the fuel filter and attached pipe using hook 502 50 83-01.
2. Pull the pipe out through the rubber grommet.
3. Remove the rubber grommet.
4. Fit a new rubber grommet on the pipe so that the pipe protrudes approx. 80 mm/ 3.15".
5. Insert the pipe from the outside and push the rubber grommet in so it is secured in the hole.
6. Pull out the pipe from the tank using hook 502 50 83-01, cut off the end and fit the filter.
7. Push the other pipe end up through the hole in the tank unit. Adjust so that the pipe sticks out approx. 35 mm/ 1.40". The pipe may need to be shifted in the rubber grommet.



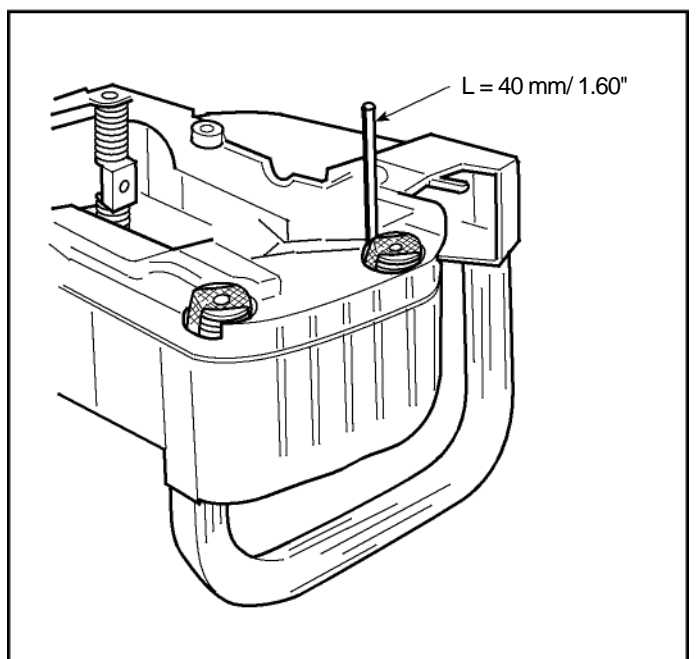
Replacing the tank ventilator, fuel tank

1. Push a screwdriver into the ventilator, turn and dismantle the ventilator.
2. Push in a new ventilator by using the handle of the screwdriver.



Replacing the oil pipe and screen

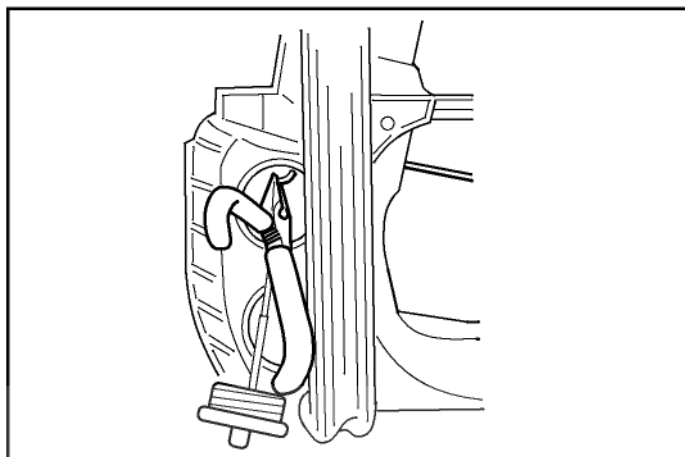
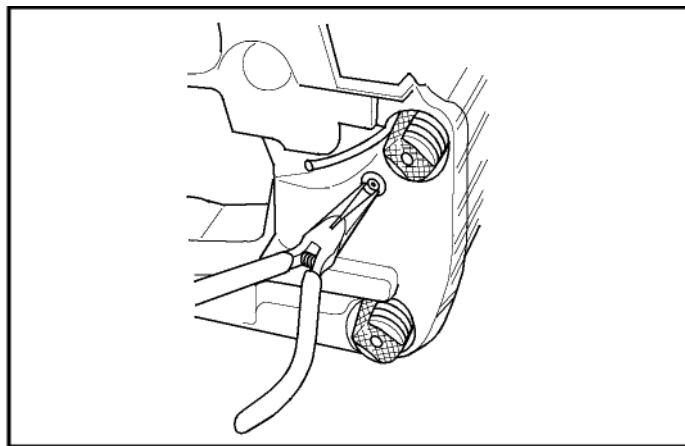
1. Remove the screen and attached pipe using hook 502 50 83-01.
2. Pull out the pipe through the oil tank.
3. If necessary dismantle the screen and clean.
4. Fit a new pipe from the outside through the hole in the oil tank. Let the pipe protrude 40 mm/1.60" above the flat surface. The total length of the pipe should be 165 mm/6.50".
6. Pull the pipe out through the tank using hook 502 50 83-01, cut off the end and fit the screen.



TANK UNIT

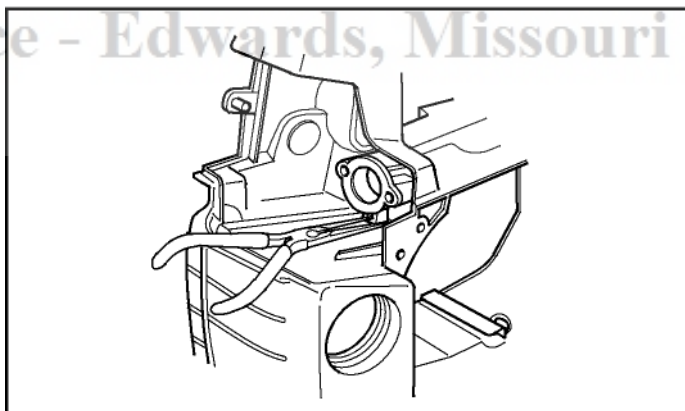
Replacing the tank ventilator, oil tank

1. Pull out the ventilator's rubber fastener using a pair of pliers.
2. Fit a new pin, vyon-plug and valve in a new rubber fastener, place the unit in the hole in the tank from the outside.
3. Pull in the ventilator with fitted vyon-plug and pin using a pair of long-nosed pliers from inside the tank.

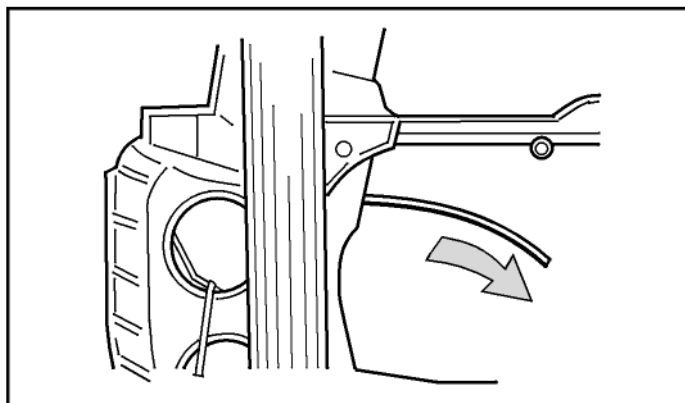


Replacing the pulse tube

1. Pull out the old pulse tube using a pair of pliers.



2. Insert a new pulse tube from the carburettor side and carefully pull it in from the engine side.



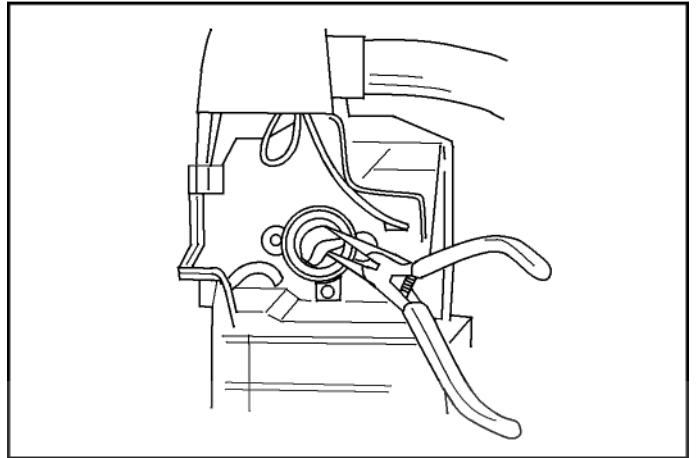
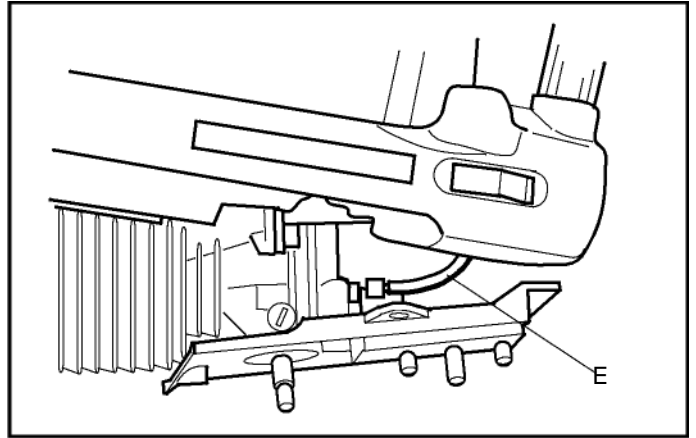
TANK UNIT

- WARNING!** The fuel used in the chain saw poses the following hazards:
- The fluid and its vapours are poisonous.
 - Can cause skin irritation.
 - Is highly inflammable.

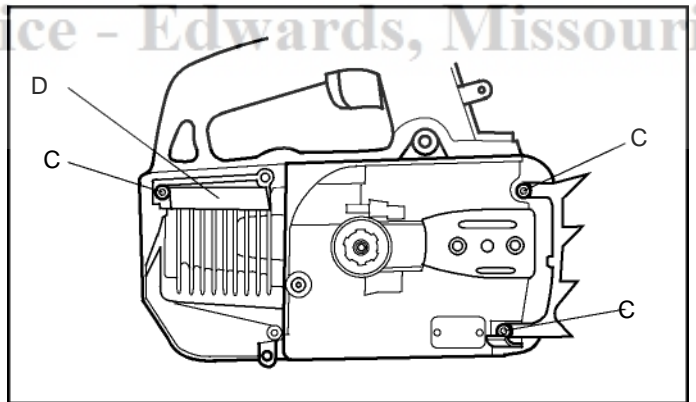
Assembly

Assemble the following parts:

1. Fit the engine unit from the clutch side and at the same time slide on the oil pipe (E).
2. Grip the manifold rubber, using flat pliers, through the hole in the tank unit and carefully pull it up.



3. Fit the chain catcher, bolts (C) and guard (D).

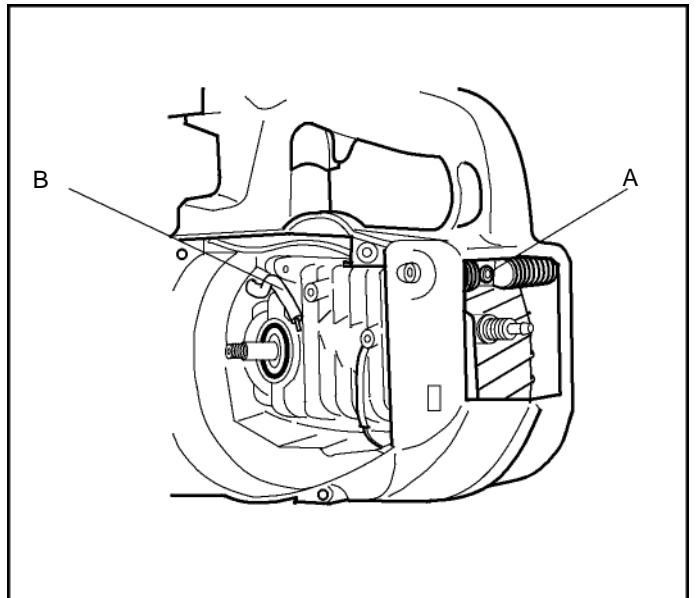


4. Fit bolt (A) and the pulse hose (B).

Assemble the following parts:

5. Fit the ignition system and spark plug. See page 22.
6. Fit the starter. See page 20.
7. Fit the carburettor. See page 31.
8. Fit the muffler. See page 16.
9. Fit the centrifugal clutch. See page 24.
10. Fit the chain and bar. See the Operator's manual.

After assembly has been completed, refuel and test run the chain saw. See the Operator's manual.



ANTI-VIBRATION SYSTEM

Anti-Vibration System

- WARNING!** The fuel used in the chain saw poses the following hazards:
- The fluid and its vapours are poisonous.
 - Can cause skin irritation.
 - Is highly inflammable.

Dismantling

Dismantle the following parts:

1. Chain and bar. See the Operator's manual.
2. Centrifugal clutch. See page 23.
3. Muffler. See page 16.
4. Carburettor. See page 27.
5. Starter. See page 19.
6. Ignition system and spark plug. See page 21.
7. Tank unit. See page 33.

Then dismantle the following:

8. Dismantle the damper elements using a 4 mm allen key.

Cleaning and inspection

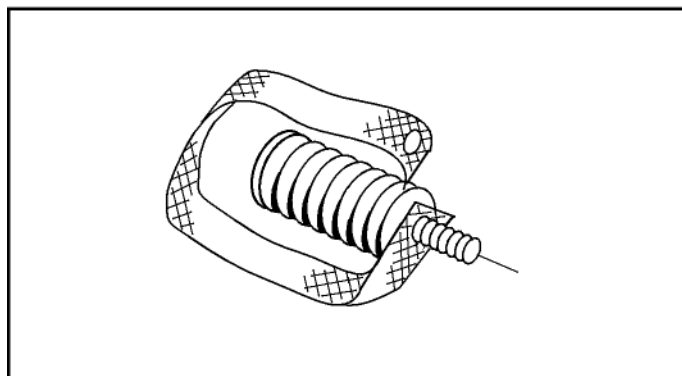
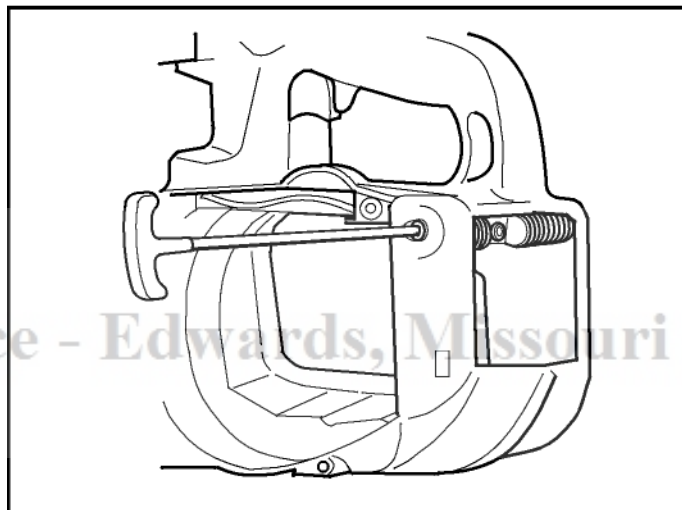
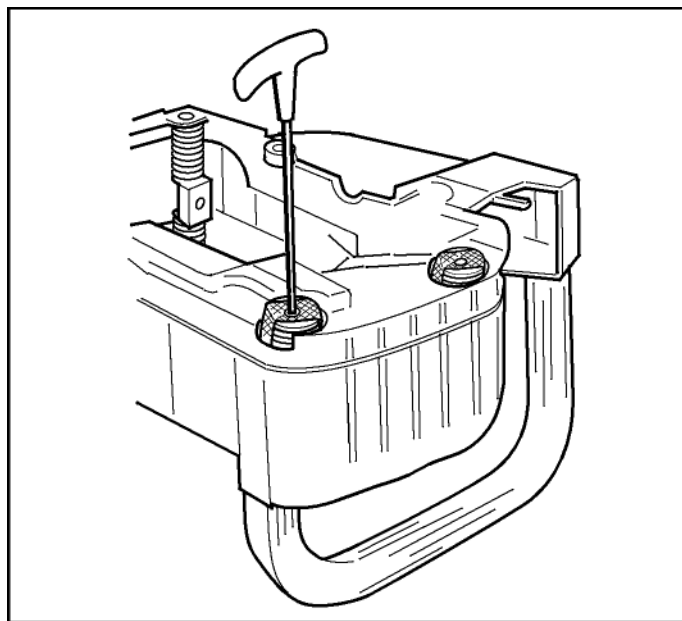
Clean and check all parts.

Assembly

1. Fit the movement limiters on the front two damper elements.
2. Fit the damper elements on the tank unit using a 4 mm allen key.

Assemble the following parts:

1. Tank unit. See page 36.
2. Ignition system and spark plug. See page 22.
3. Starter. See page 20.
4. Carburettor. See page 31.
5. Muffler. See page 16.
6. Centrifugal clutch. See page 24.
7. Chain and bar. See the Operator's manual.

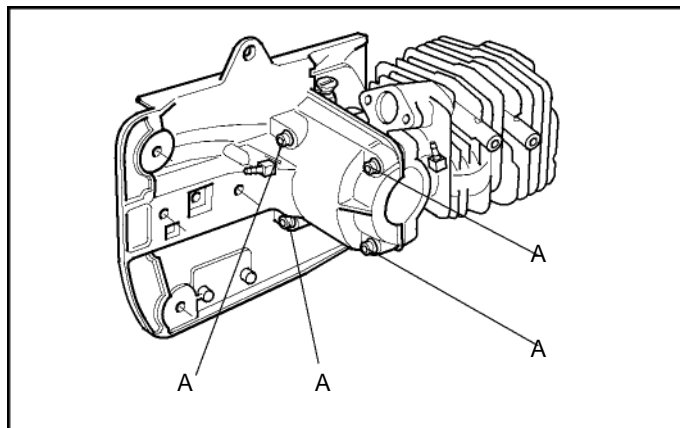


CRANKSHAFT, PISTON AND CYLINDER

Dismantling

Dismantle the following parts:

1. Chain and bar. See the Operator's manual.
2. Centrifugal clutch. See page 23.
3. Muffler. See page 16.
4. Carburettor. See page 27.
5. Starter. See page 19.
6. Ignition system and spark plug. See page 21.
7. Tank unit. See page 33.

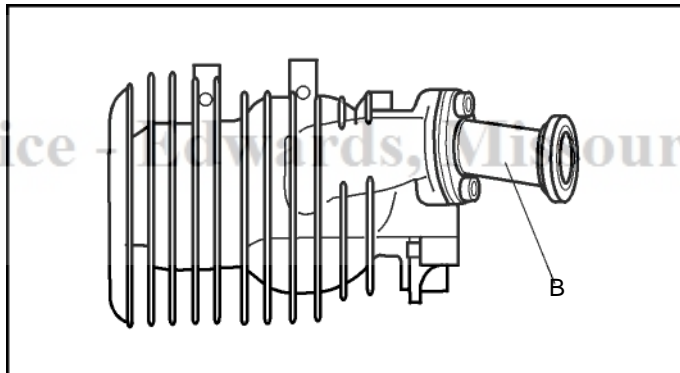
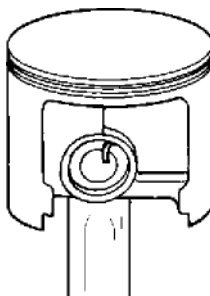


NOTE!

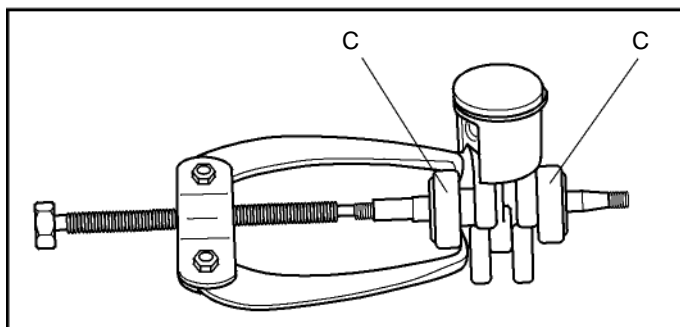
Ensure that no dirt or other foreign particles fall into the dismantled components.

Continue to dismantle the piston and cylinder as follows:

8. Dismantle the four bolts (A)
9. Dismantle the cylinder.
10. Dismantle the crankshaft from the crankcase.
11. Remove one of the piston's circlips, press out the gudgeon pin and remove the piston.
12. Remove the needle bearing from the little end on the connecting rod.
13. Dismantle the manifold pipe (B) from the cylinder.



14. Dismantle the bearing (C) using the puller 504 90 90-01.



CRANKSHAFT, PISTON AND CYLINDER

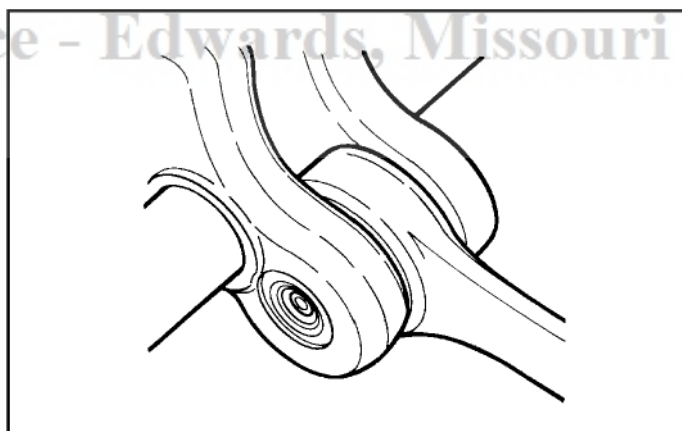
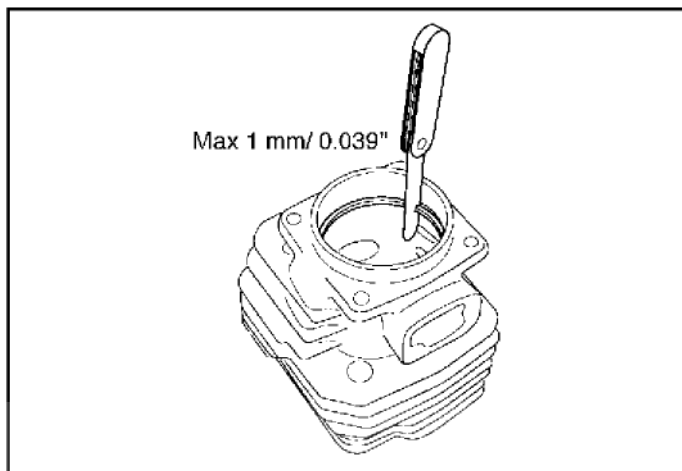
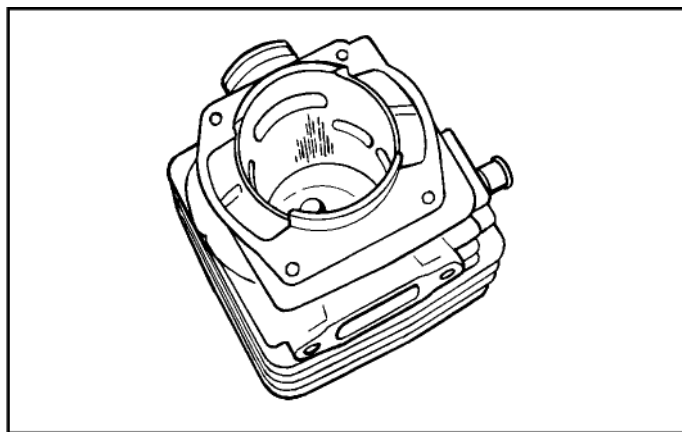
Cleaning and inspection

Clean all parts, scrape off any gasket residue from the crankcase and cylinder contact surfaces. Remove carbon deposits from the following areas:

1. The top of the piston.
2. The top of the cylinder (bore).
3. The cylinder exhaust port.

Check the following:

1. That the cylinder's surface coating is not worn, especially the upper part of the cylinder.
2. That the cylinder is free of score marks.
3. That the piston is free of score marks. Small scratches can be polished off using fine emery paper.
4. That the piston ring is not burnt into its groove.
5. Measure the piston ring wear by placing it in the bottom of the cylinder bore and measuring the play. Play should not exceed 1 mm/ 0.039".
6. That the intake manifold is undamaged.
7. That the needle bearing and its rubber seals are not damaged.
8. That the big end bearing does not have any radial play. Axial play is acceptable.
9. That the big end bearing does not have any score marks or discoloration on the sides.
10. That the little end bearing surfaces are not scored or discoloured.
11. The crankshaft cannot be renovated. In the event of damage the entire crankshaft should be replaced.
12. That the crankcase is not cracked.



Faults and causes

Score marks on the piston

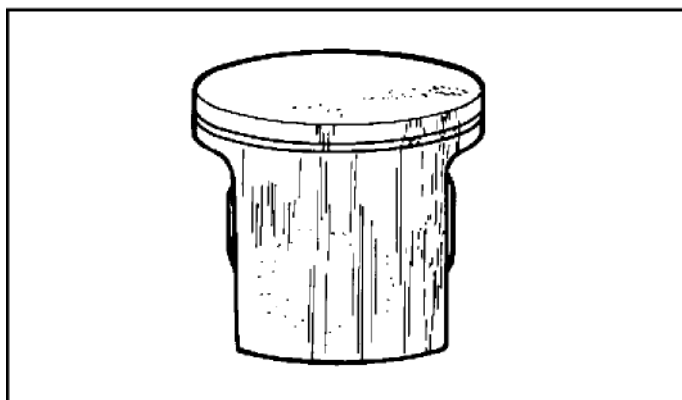
1. Incorrect carburettor setting. Max. speed too high.
2. Too low octane fuel.
3. Too little or incorrect oil in the fuel.

Carbon build-up

1. Incorrect carburettor setting. Max. speed too low.
2. Too much or incorrect oil in the fuel.

Piston ring breakage

1. Excessive engine speed.
2. Piston ring worn out.
3. Oversized piston ring groove.



CRANKSHAFT, PISTON AND CYLINDER

Assembly

Assemble the piston and cylinder as follows:

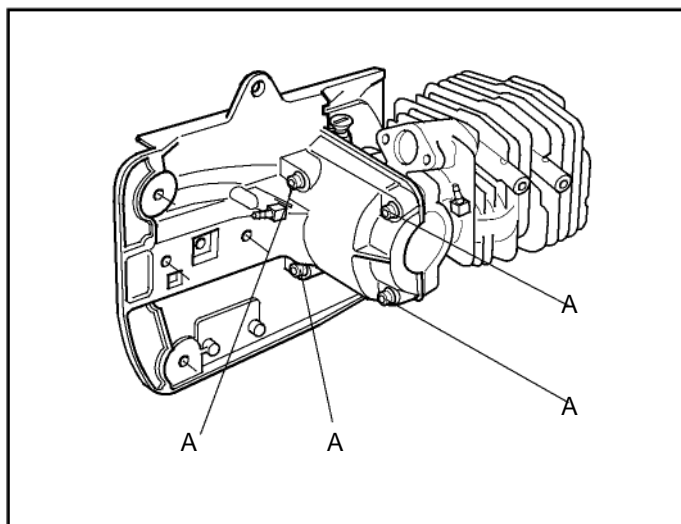
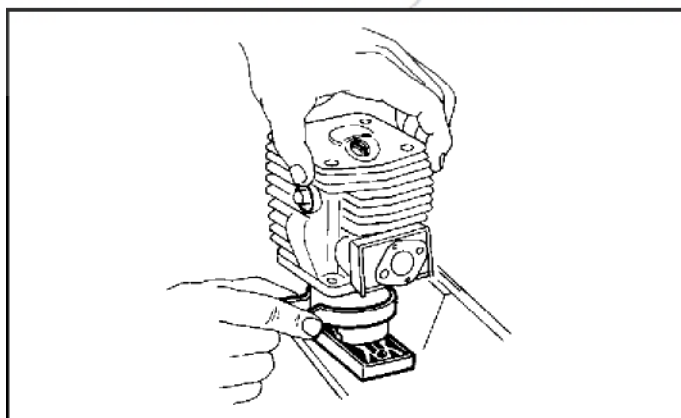
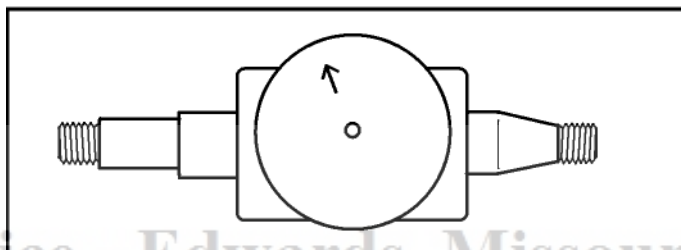
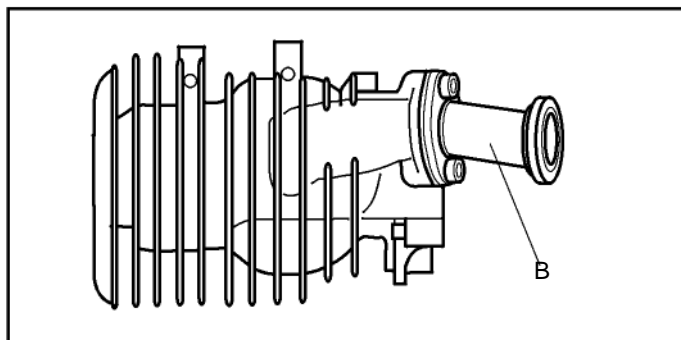
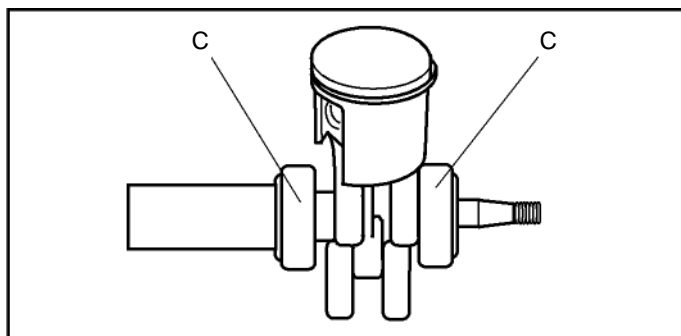
NOTE!

Ensure that no dirt or other foreign particles fall into the dismantled components.

1. Fit the bearing (C) using a suitable punch.
2. Fit the intake manifold (B) on the cylinder. Make sure the intake manifold is turned as shown in the figure.
3. Oil the needle bearing and fit into the connecting rod little end.
4. Fit the piston with the arrow facing towards the exhaust port. Slide in the gudgeon pin and fit the circlip.
5. Oil the piston ring and sides of the piston.
6. Fit the crankshaft with piston in the crankcase.
7. Apply silicone rubber 504 98 26-01 to the contact surfaces of the crankcase halves.
8. Press together the piston rings, either by hand or by using the piston assembly set 502 50 70-01. Carefully slide on the cylinder.
9. Insert the four bolts (A) and tighten crosswise. Finally tighten to a torque of 8-10 Nm.
10. Pressure test the crankcase as described on the next page.

Assemble the following parts:

11. Tank unit. See page 36.
12. Ignition system and spark plug. See page 22.
13. Starter. See page 20.
14. Carburettor. See page 31.
15. Muffler. See page 16.
16. Centrifugal clutch. See page 24.
17. Chain and bar.



BB's Small Engine Service - Edwards, Missouri

CRANKSHAFT, PISTON AND CYLINDER

Pressure testing

The following parts must be dismantled when the crankcase and cylinder are pressure tested:

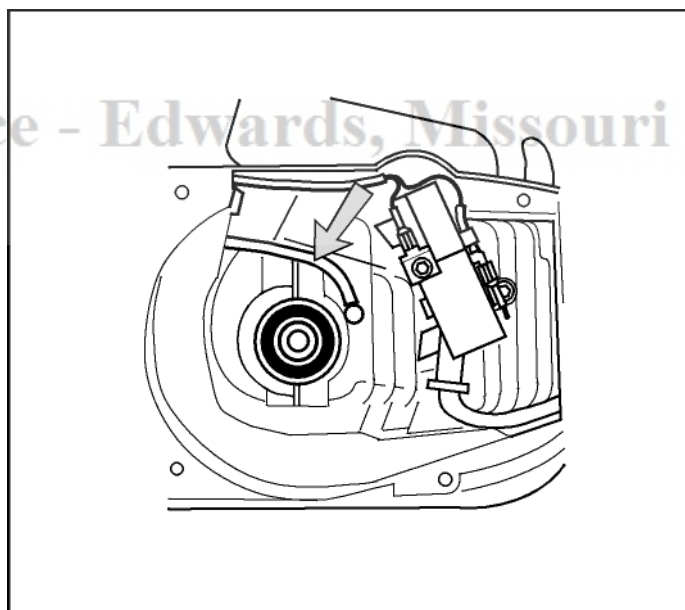
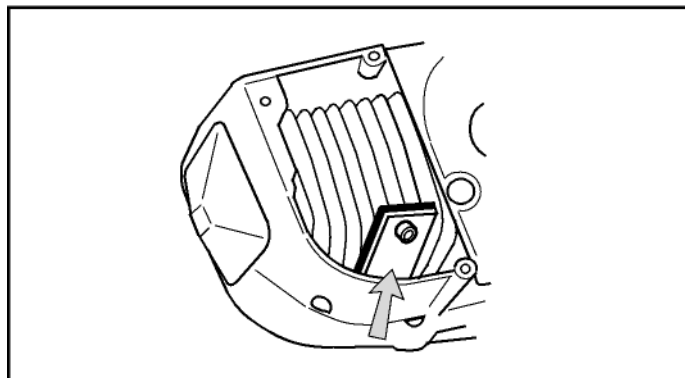
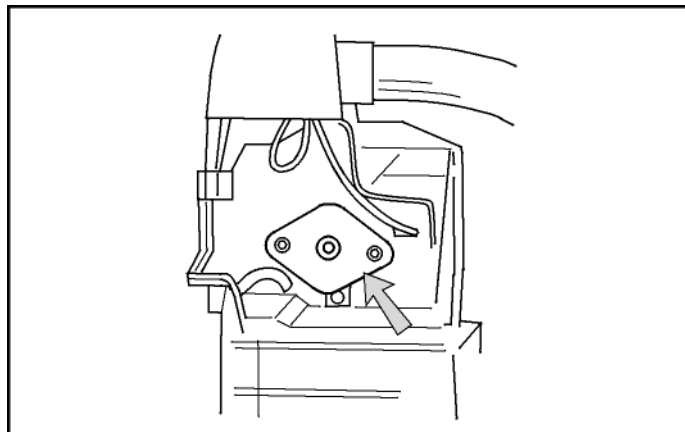
- Carburettor. See page 27.
- Muffler. See page 16.
- Starter. See page 19.
- Flywheel. See page 21.

Perform pressure testing as follows:

1. Fit the cover plate 502 52 01-01 on the intake manifold. Then connect tool 502 50 38-01 to the cover plate.
2. Fit the cover plate 502 71 39-01 on the exhaust port.
3. Pull off the hose to the pulse channel and seal the nipple.
4. Pump up the pressure to 80 kPa (0.8 bar).
5. Wait 30 seconds.
6. The pressure should not drop below 60 kPa (0.6 bar).
7. A leakage can occur on the crankshaft seals.
8. Dismantle the sealing washers.

Fit the following parts:

- Flywheel. See page 22.
- Starter. See page 20.
- Carburettor. See page 31.
- Muffler. See page 16.



BAR BOLT

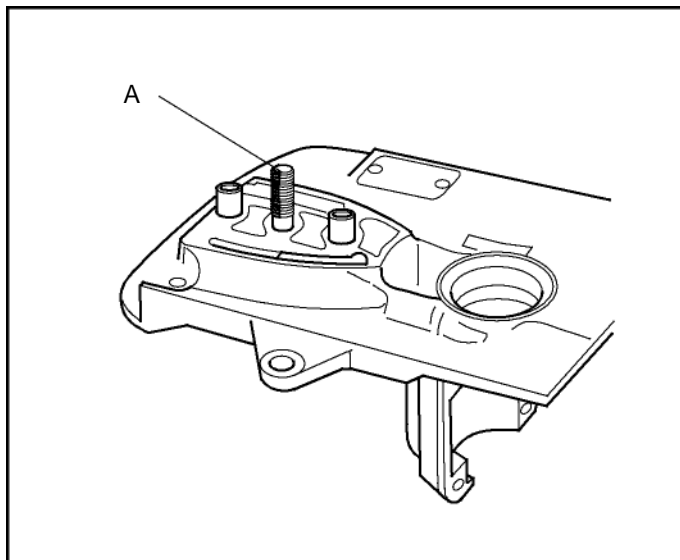
Dismantling

Dismantle the following parts:

1. Chain and bar. See the Operator's manual.
2. Centrifugal clutch. See page 23.
3. Muffler. See page 16.
4. Carburettor. See page 27.
5. Starter. See page 19.
6. Ignition system and spark plug. See page 21.
7. Tank unit. See page 33.

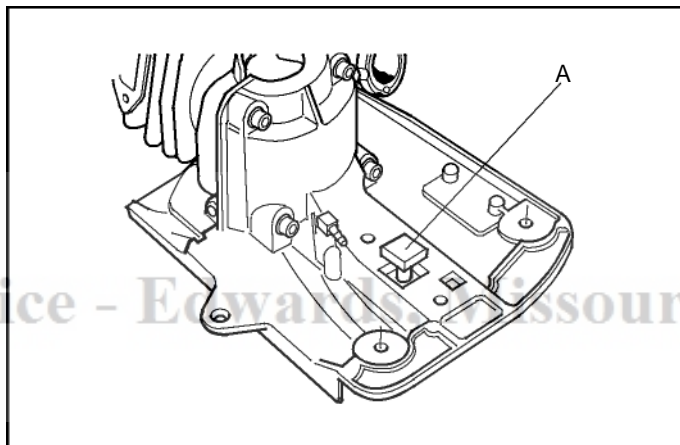
Continue dismantling as follows:

8. Put the engine unit in a vice and knock out the bar bolt (A) using a hammer.



Assembly

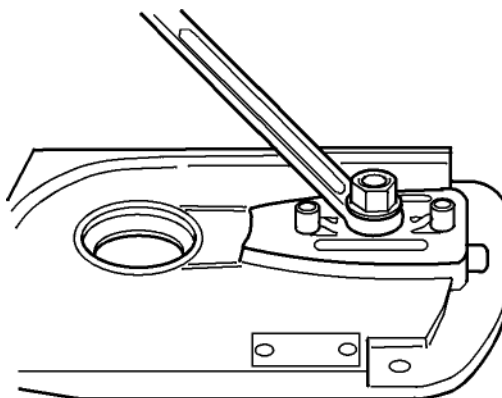
1. Insert the new bar bolt (A) in its hole in the engine unit. Make sure the bolt's square head fits in the square hole in the engine unit.



2. Pull the bolt in the right position by using the sleeve and nut.

Now assemble the following parts:

3. Tank unit. See page 36.
4. Ignition system and spark plug. See page 22.
5. Starter. See page 20.
6. Carburettor. See page 29.
7. Muffler. See page 16.
8. Centrifugal clutch. See page 24.
9. Chain and bar. See the Operator's manual.



OIL PUMP

Dismantling

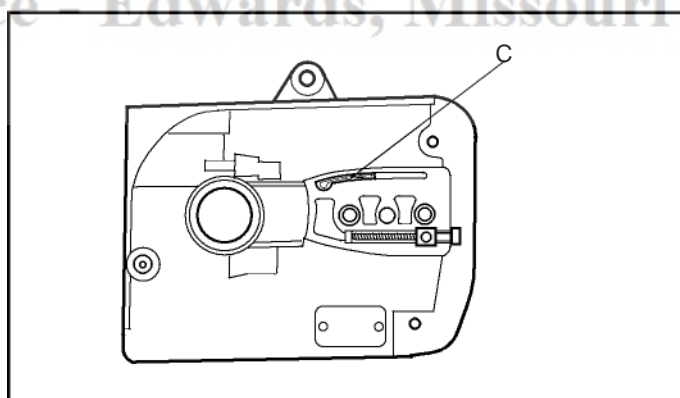
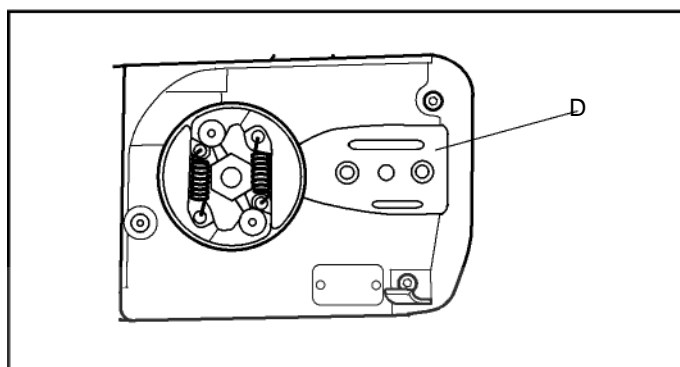
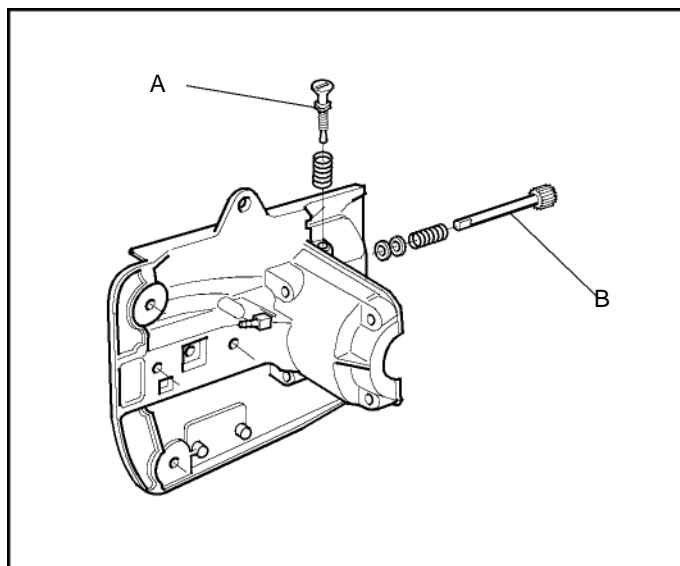
Dismantle the following parts:

1. Chain and bar. See the Operator's manual.
2. Centrifugal clutch. See page 23.
3. Muffler. See page 16.
4. Carburettor. See page 27.
5. Starter. See page 19.
6. Ignition system and spark plug. See page 21.
7. Tank unit. See page 33.
8. Cylinder and crankshaft. See page 38.

Continue dismantling the oil pump as follows:

9. Unscrew the adjuster screw (A) and dismantle the pump piston (B), spring and washer.
10. Dismantle the cover plate (D).

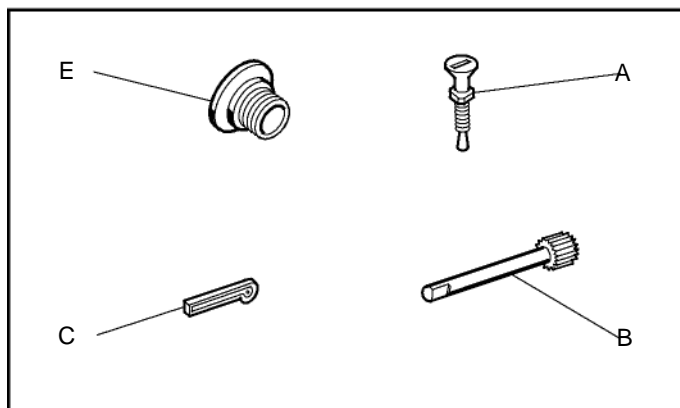
11. Dismantle the guide (C).



Cleaning and inspection

Clean all parts and check the following:

1. That the oil pump drive's worm gear (E) is undamaged.
2. That the taper on the adjuster screw (A) shows no signs of wear.
3. That the guide (C) is undamaged.
4. That the pump piston (B) is undamaged.
5. That the oil pipe and screen are undamaged.
6. Clean all channels.

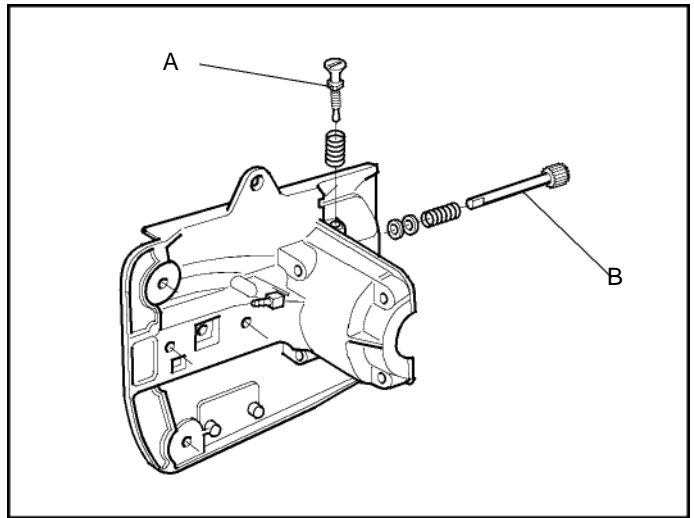


OIL PUMP

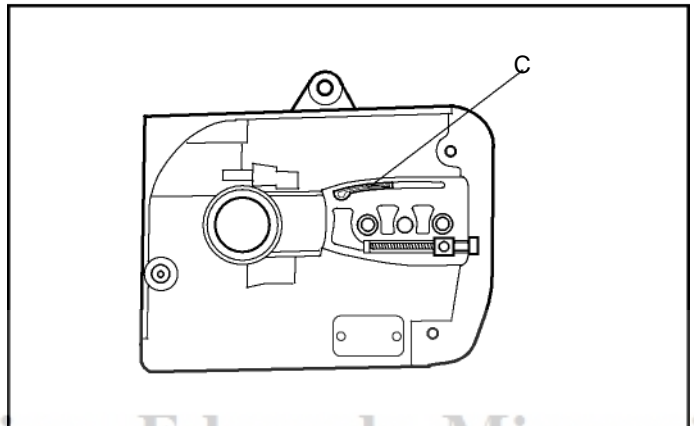
Assembly

Assemble as follows:

1. Oil and fit the pump piston (B), spring and washer. Press in the unit and screw in the adjuster screw (A) and spring at the same time.



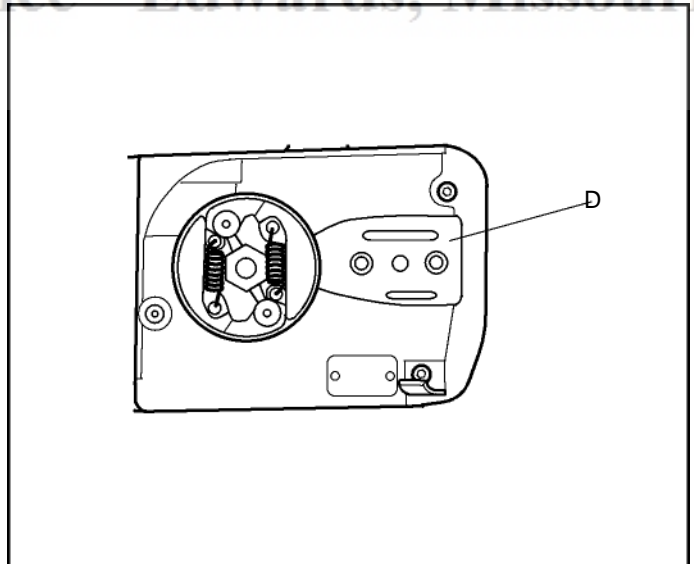
2. Fit the guide (C).



3. Fit the cover plate (D). Now

assemble the following parts:

4. Cylinder and crankshaft. See page 40.
5. Tank unit. See page 36.
6. Ignition system and spark plug. See page 22.
7. Starter. See page 20.
8. Carburettor. See page 31.
9. Muffler. See page 16.
10. Centrifugal clutch. See page 24.
11. Chain and bar. See the Operator's manual.
12. Test run the saw and check the oil flow. See the Operator's manual.



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