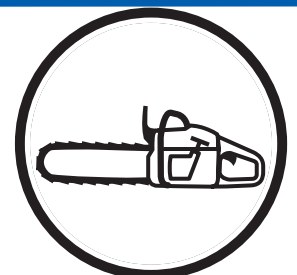


Workshop manual
334T 338XPT
336 339XP



English

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INTRODUCTION

General

This Workshop Manual provides a comprehensive description of how to trouble shoot, repair and test the chain saw. A description of different safety measures that should be taken during repair work is also given.

Safety

NOTE!

The section dealing with safety must be read and understood by all those carrying out repair work or service on the chain saw.

Warning symbols can be found in this Workshop Manual and on the chain saw. See the chapter "Symbol explanation". A new decal must be applied as soon as possible if a warning symbol on the chain saw has been damaged or is missing so that the greatest possible safety can be obtained when using the chain saw.

Target group

When producing this Workshop Manual the assumption has been made that personnel who use it have general knowledge in the repair and service of small engines.

The Workshop Manual must be read and understood by personnel who will carry out repair work and service on the chain saw. The Manual is also suitable for use when training new employees.

Modifications

Modifications will be successively introduced on the chain saw during production. When these modifications affect the service and/or spare parts, separate service information will be sent out on each occasion. This means that in time this Workshop manual will become out of date. In order to prevent this, the Manual should be read together with all service information concerning the chain saw in question.

Tools

Special tools must be used during specific steps. All service tools are listed in the 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:

- For the repair of a particular system on the chain saw.
- For dismantling and assembly of the entire chain saw.

Repair of a particular system

When a particular system on the chain saw is to be repaired, proceed as follows:

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

Dismantling and assembly of the entire chain saw

Proceed as follows when the entire chain saw is to be dismantled and assembled:

1. Look up the chapter "Starter" which deals with the **Starter** and carry out the instructions set out under **Dismantling**.
2. Work forward in the Manual and carry out **Dismantling** in the order set out in the sections.
3. Go back to the chapter "Starter" and carry out the instructions **under Cleaning and Inspection**.
4. Work forward in the Manual and carry out **Cleaning and Inspection** in the order set out in the sections.
5. Order or take out all requisite spare parts from the stores.
6. Look up the chapter "Oil pump" which deals with the **Oil pump** and carry out the instructions set out under **Assembly**.
7. Work back towards the beginning of the Manual and carry out **Assembly** in the order set out in the sections.

Some sections include a **Description** of the actual unit in order to increase the basic understanding.

Numbering

Position references to components inside the figures are designated A, B, etc. The position references restart in each new section.

SAFETY REGULATIONS

General instructions

The workshop where chain saw repairs are to be done must be equipped with safety equipment as set out in local provisions.

No one may repair the chain saw unless they have read and understood the content of this Workshop Manual.

This Workshop Manual contains the following boxes in relevant places. Warning boxes are positioned before the procedures they refer to.



WARNING!
The warning box warns of the risk of personal injury if the instructions are not followed.

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

Special instructions

The fuel used in the chain saw has the following hazardous properties:

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

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

Wear ear-muffs when test running.

Do not use the saw until it has been adjusted so that the chain remains still when idling.

After test running, do not touch the muffler until it has cooled. Risk for burns.

Insufficient chain lubrication can result in chain breakage, which can cause serious, even life-threatening injury.

Ensure that the spring in the starter does not fly out and cause personal injury.
If the spring tension is activated on the starter pulley when it is to be taken up, the spring can fly out and cause personal injury.

Check that the brake is applied when removing the pressure spring on the chain brake. Otherwise the pressure spring can fly out and cause personal injury.

Do not direct the compressed air jet towards the body when using compressed air. Air can penetrate in to the blood circulation, which means mortal danger.

SYMBOL EXPLANATION

Symbols



WARNING! Chain saws can be dangerous! Careless or incorrect usage can result in serious injury even death to operator or others.



Read through the Operator Guide carefully and understand the content before using the chain saw.



Always use:

- An approved safety helmet
- Approved ear-muffs
- Protective glasses or a visor



Always use both hands whenever possible with all chain saw work.



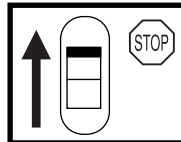
Avoid contact between the tip of the bar and objects.



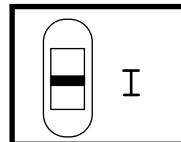
Contact with the tip of the bar can result in the bar being suddenly thrown upwards and backwards, which can result in serious injury.



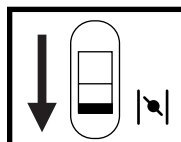
This saw is only intended for persons especially trained in tree conservation. See the Operator Guide!



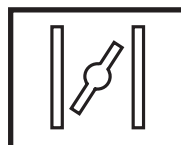
Inspection and/or maintenance should be carried out with the engine switched off, and with the stop switch in the "STOP" position.



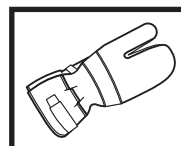
Operating mode



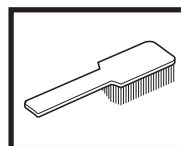
Choke, 334T, 338XPT



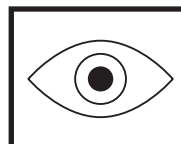
Choke, 336, 339XP



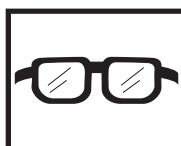
Always wear approved protective gloves.



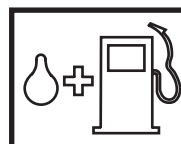
Regular cleaning is required.



Visual inspection.



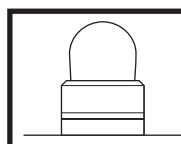
Protective glasses or visor must be worn.



Fuel refilling.

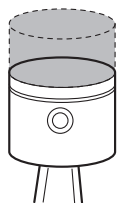


Oil refilling and adjustment of the oil flow.



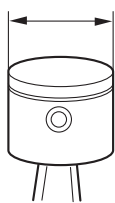
Air purge

TECHNICAL DATA



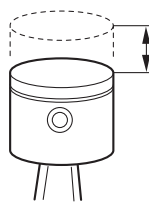
Stroke volume
cm³/cubic inch

336: 35,2/2,1
334T: 35,2/2,1
338XPT: 39,0/2,4
339XP: 39,0/2,4



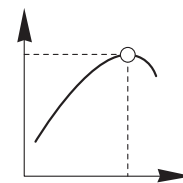
Cylinder diameter
Ø mm/Ø inch

38/1,5
38/1,5
40/1,6
40/1,6



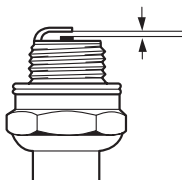
Stroke length
mm/inch

31/1,22
31/1,22
31/1,22
31/1,22



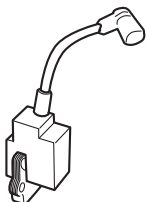
Max. output/speed
kW/hp/r/min

1,5/2,0/9 600
1,5/2,0/9 600
1,7/2,3/9 600
1,7/2,3/9 600



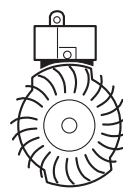
Electrode gap
mm/inch

336: 0,7/0,028
334T: 0,7/0,028
338XPT: 0,7/0,028
339XP: 0,7/0,028



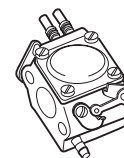
Ignition system

SEM/CD
SEM/CD
SEM/CD
SEM/CD



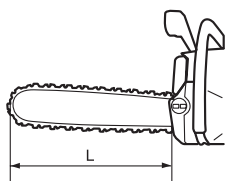
Air gap
mm/inch

0,3/0,01
0,3/0,01
0,3/0,01
0,3/0,01



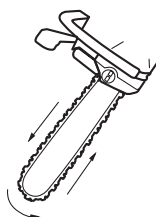
Carburettor type

ZAMA C1Q
ZAMA C1Q
ZAMA C1Q
ZAMA C1Q



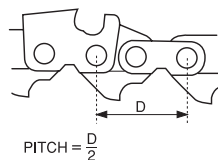
Bar length
cm/inch

336: 33-46/13-18
334T: 29-36/12-14
338XPT: 29-41/12-16
339XP: 33-46/13-18



Chain speed at
max output
m/s

18,3
18,3
18,3
18,3



Chain pitch
inch

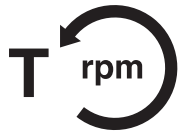
3/8/0,0325
3/8
3/8
0,0325



Drive link
mm/inch

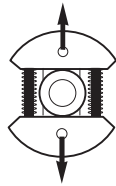
1,3/0,050
1,3/0,050
1,3/0,050
1,3/0,050

TECHNICAL DATA



Idling speed
r/min

336:	2 800
334T:	2 800
338XPT:	2 800
339XP:	2 800



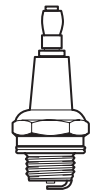
Engage speed
r/min

4 100
4 100
4 100
4 100



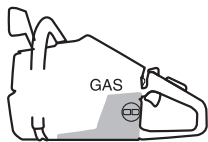
Max. speed
r/min

13 800
13 800
13 800
13 800



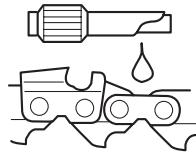
Spark plug

Champion RCJ7Y
NGK BPMR 7A
Champion RCJ7Y
NGK BPMR 7A
Champion RCJ7Y
NGK BPMR 7A
Champion RCJ7Y
NGK BPMR 7A



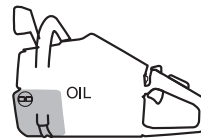
Volume fuel tank
Litre/US pint

336:	0,36/0,76
334T:	0,3/0,63
338XPT:	0,3/0,63
339XP:	0,36/0,76



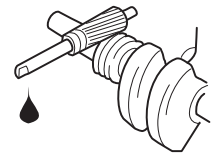
Capacity oil pump
cm³/min

3-7
3-7
3-7
3-7



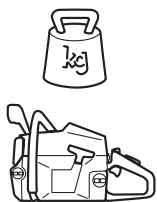
Volume oil tank
Litre/US pint

0,20/0,42
0,16/0,34
0,16/0,34
0,20/0,42



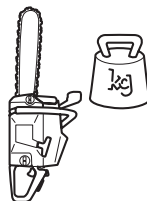
Automatic oil pump

Yes
Yes
Yes
Yes



Weight without chain and bar
kg/lbs

336:	3,8/8,4
334T:	3,4/7,5
338XPT:	3,4/7,5
339XP:	3,8/8,4



Weight with chain and bar
kg/lbs

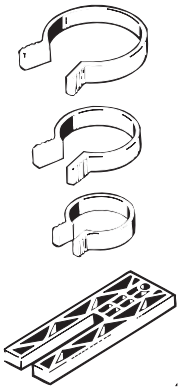
4,5/9,8
4,0/8,8
4,0/8,8
3,8/8,4



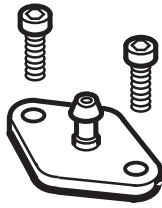
Handle heater
Watt/ r/min

- / -
- / -
- / -
- / -

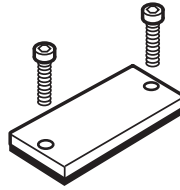
TOOLS



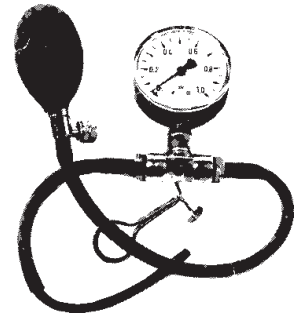
1



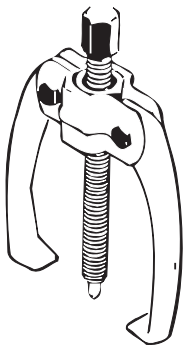
2



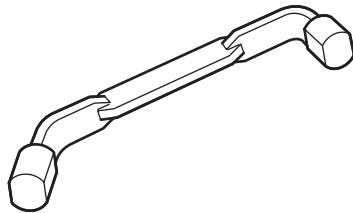
3



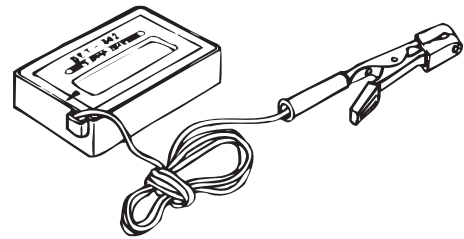
4



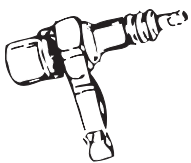
5



6



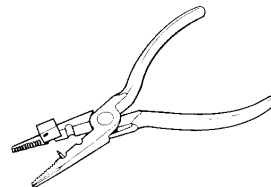
7



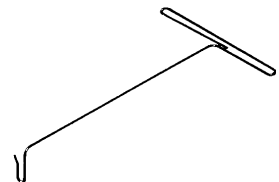
8



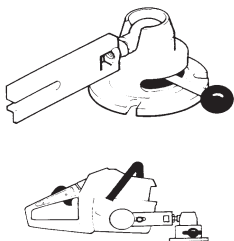
9



10



11



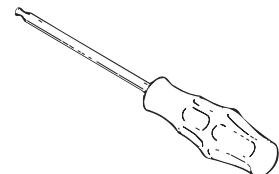
12



13



14



15

TOOLS

The tools listed here are service tools intended for use on the chain saw in question. In addition to these tools, a standard set of hand tools is required.

Pos	Description	Used for	Order No.
1	Piston assembly set	Assembling the piston	502 50 70-01
2	Cover plate, inlet	Sealing the inlet manifold	502 52 01-01
3	Cover plate exhaust	Sealing the exhaust port	502 52 31-01
4	Pressure tester	Produce pressure when leakage testing	502 50 38-01
5	Puller	Removing bearings from the crankshaft	504 90 90-01
6	Piston stop	Locking the crankshaft	502 54 15-01
7	Tachometer	Adjusting the carburettor	502 71 14-01
8	Test spark plug	Checking the ignition module	502 71 13-01
9	Feeler gauges, air gap	Adjustment of the ignition module	502 51 34-02
10	Assembly bar	Assembly of the spark plug guard	502 50 06-01
11	Hook for fuel filter	Lifting out the fuel filter	502 50 83-01
12	Assembly fixture	Assembling the chain saw	502 51 02-01
13	Punch	Dismantling the flywheel	502 51 94-01
14	Allen key, 3 mm	For M4 bolts	502 50 19-01
14	Allen key, 4 mm	For M5 bolts	502 50 18-01
15	Hexagonal screwdriver, 3 mm	For M4 bolts	502 50 86-01
15	Hexagonal screwdriver, 4 mm	For M5 bolts	502 50 87-01

TROUBLE SHOOTING

Trouble shooting chart

The different faults that can occur on the chain saw are divided into four groups as follows. Within each group possible operating faults are listed to the left while the probable fault alternatives are listed to the right. The most likely fault is listed first, etc.

Starting

Difficult to start	Adjust the L-screw Air filter blocked Choke does not work Worn choke axle Worn choke valve Blocked fuel filter Blocked fuel line Piston ring seized Blocked impulse channel
Carburettor leaks fuel	Loose or faulty fuel pipe Hole in diaphragm Worn needle/needle tip Control system sticking Control system set too high Leaking control system (air or fuel) Cover on the carburettor's pump side is loose
Floods when the engine is not running	Worn needle/needle tip Control system set too high Control system sticking

Idling (low speed) (continued)

Idling with closed L screw	Worn needle/needle tip Leaking diaphragm/cover plate Control system sticking Worn lever arm in the control system Faulty diffuser jet
Uneven idling	Blocked fuel filter Blocked fuel line Leaking inlet manifold (rubber) Loose carburettor mounting Worn throttle valve axle Loose throttle valve screw Worn throttle valve Control system sticking Leaking control system (air or fuel) Control system's centre knob is worn Hole in diaphragm Leaking diaphragm/cover plate Leaking crankcase
L-screw needs constant adjustment	Blocked fuel line Control system set too high Control system sticking Leaking control system (air or fuel) Leaking diaphragm/cover plate Faulty diffuser jet Leaking crankcase
Too much fuel while idling	Control system set too high Control system sticking Damaged control system Worn needle/needle tip Leaking diaphragm/cover plate Incorrectly fitted control system

Idling (low speed)

Does not idle	Adjust the L-screw Leaking inlet manifold (rubber) Loose carburettor mounting Loose or faulty fuel pipe Blocked fuel filter Blocked fuel line Tank ventilator blocked Throttle valve axle stiff Throttle sticks Defective throttle return spring Bent valve axle stop Faulty diffuser jet
Too rich idling	Adjust the L screw Worn needle/needle tip Control system set too high Worn lever arm in the control system Leaking diaphragm/cover plate Control system sticking

TROUBLE SHOOTING

High speed

Will not run at full throttle	Adjust H-screw Blocked air filter Tank ventilator blocked Blocked fuel filter Blocked fuel line Loose or faulty fuel pipe Impulse channel leaking Blocked impulse channel Cover on the carburettor's pump side is loose Faulty pump diaphragm Leaking inlet manifold (rubber) Loose carburettor mounting Control system set too low Damaged control system Incorrectly fitted control system Leaking diaphragm/cover plate Control system sticking Blocked muffler
Low power	Adjust H-screw Tank ventilator blocked Blocked fuel filter Impulse channel leaking Blocked impulse channel Cover on the carburettor's pump side is loose Faulty pump diaphragm Blocked air filter Control system sticking Leaking control system (air or fuel) Control system incorrectly assembled Loose diaphragm Hole in diaphragm Leaking diaphragm/cover plate
Will not "four stroke"	Tank ventilator blocked Blocked fuel filter Blocked fuel line Loose or faulty fuel pipe Impulse channel leaking Blocked impulse channel Cover on the carburettor's pump side is loose Faulty pump diaphragm Leaking inlet manifold (rubber) Loose carburettor mounting Control system set too low Leaking control system (air or fuel) Control system incorrectly assembled Loose diaphragm Hole in diaphragm Leaking diaphragm/cover plate

Acceleration and retardation

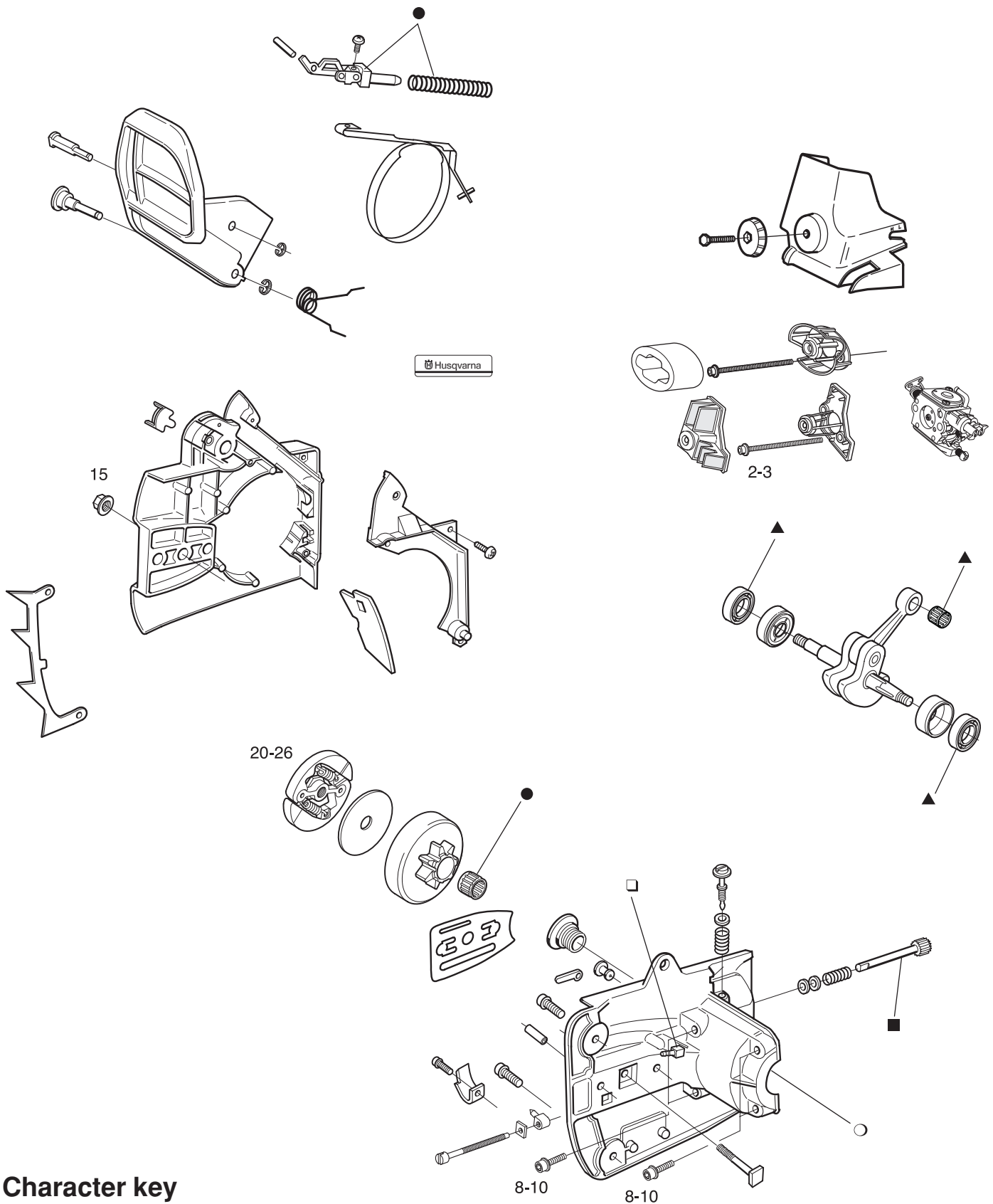
Does not accelerate	Adjust the L-screw Adjust H-screw Blocked air filter Tank ventilator blocked Blocked fuel filter Blocked fuel line Loose or faulty fuel pipe Blocked impulse channel Cover on the carburettor's pump side is loose Faulty pump diaphragm Leaking inlet manifold (rubber) Loose carburettor mounting Control system set too low Incorrectly fitted control system Control system sticking Faulty diffuser jet Blocked muffler
Engine stalls when throttle is released	Adjust the L-screw Adjust H-screw Faulty pump diaphragm Control system set too high Control system sticking Faulty diffuser jet
Too rich acceleration	Adjust the L screw Adjust H-screw Blocked air filter Faulty pump diaphragm Faulty diffuser jet

Trouble shooting methods

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

1. Pressure testing the carburettor. See the chapter "Carburettor".
2. Pressure testing the crankcase and cylinder. See the chapter "Crankshaft, Piston and Cylinder".

SERVICE DATA 334T/338XPT

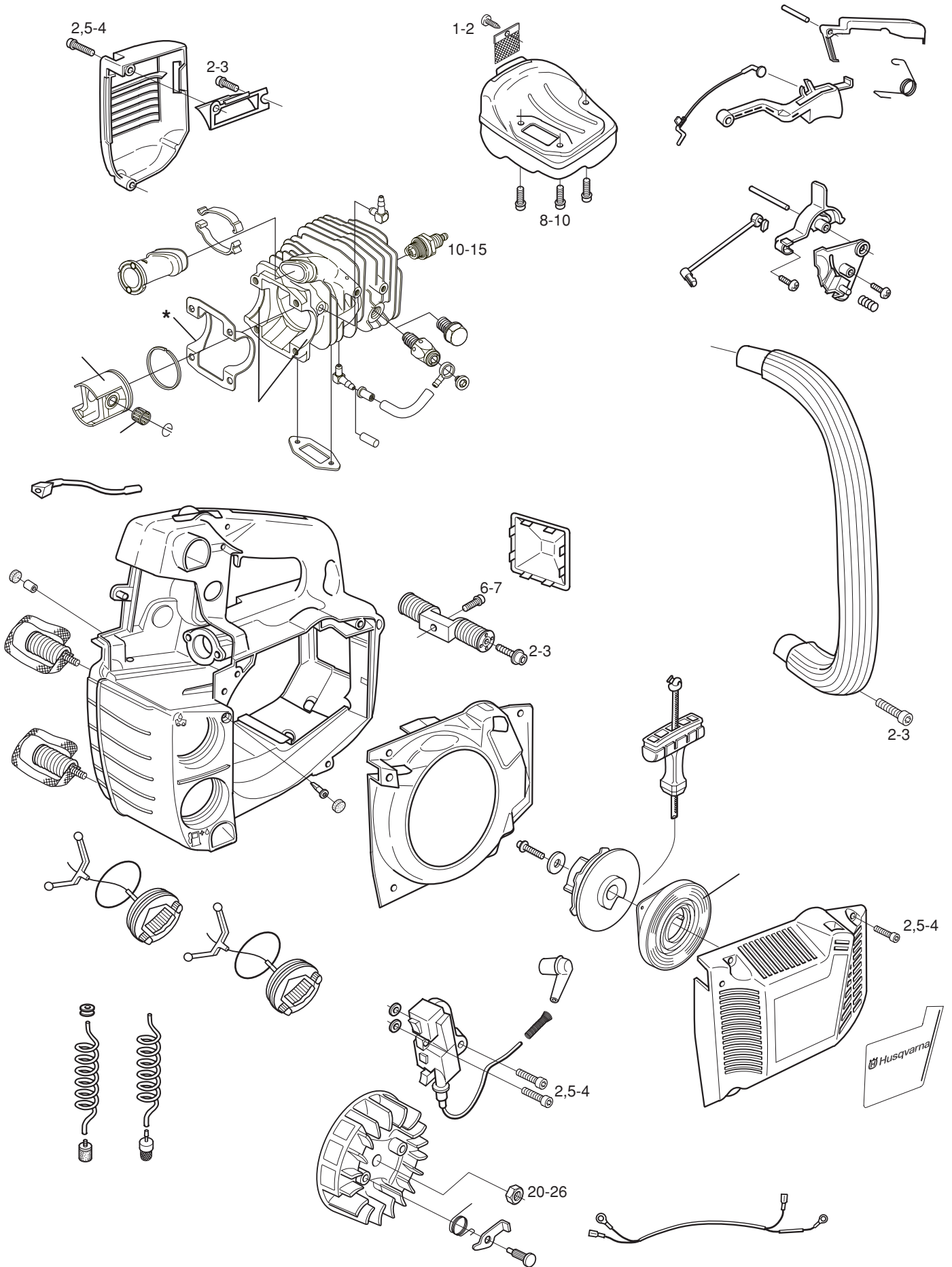


Character key

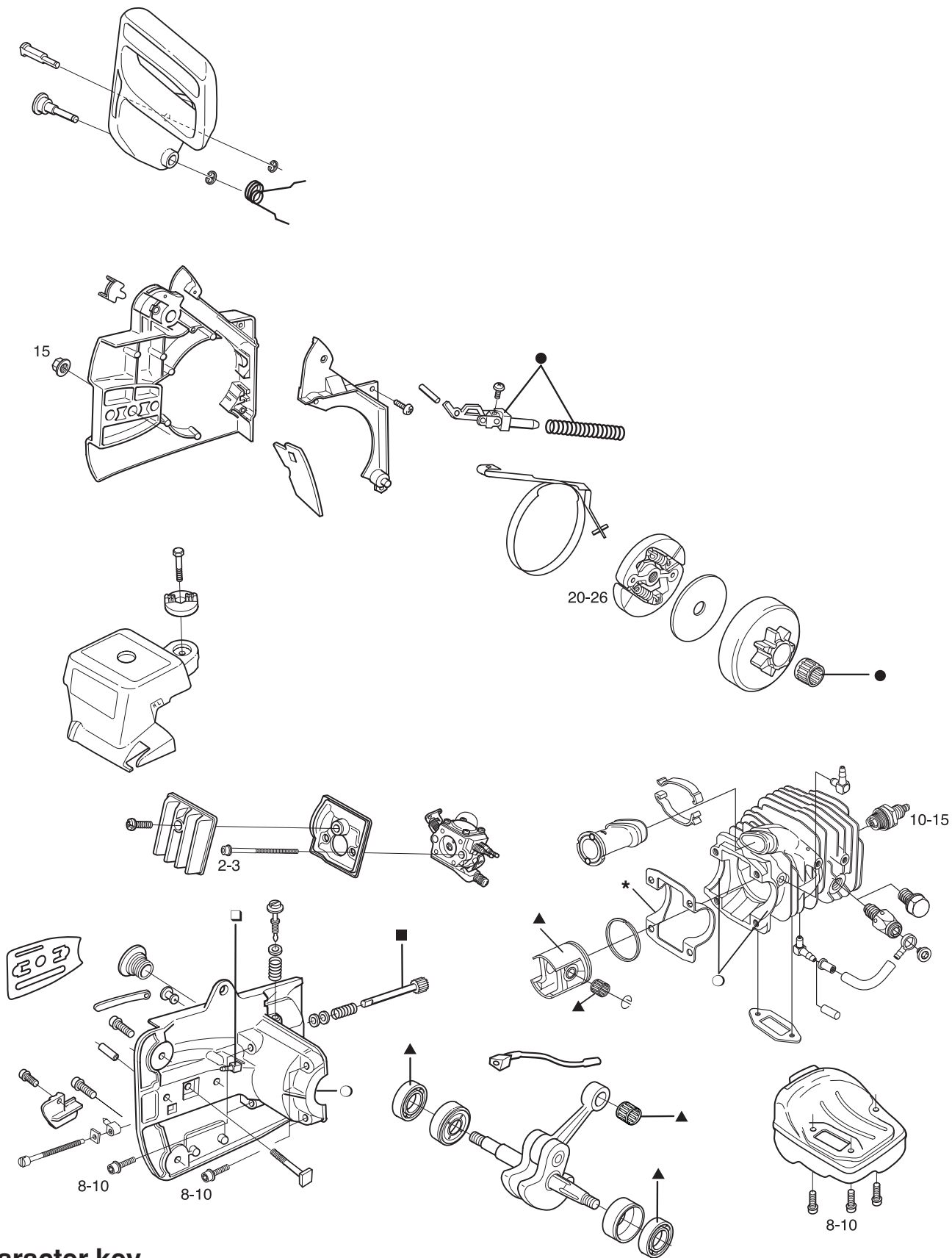
The numbers by bolted components represent the tightening torque in Nm.

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

SERVICE DATA 334T/338XPT



SERVICE DATA 336/339XP

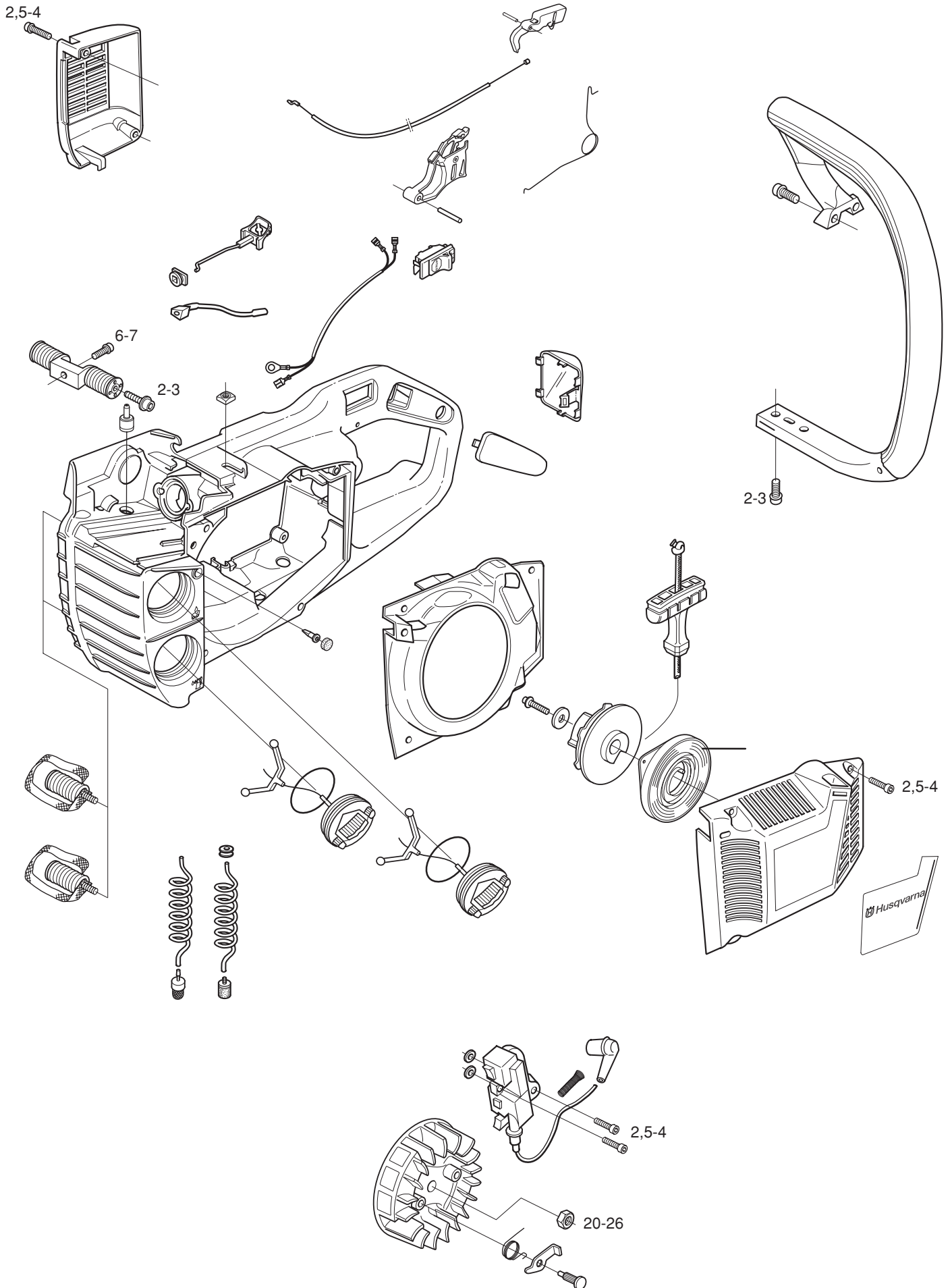


Character key

The numbers by bolted components represent 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.

SERVICE DATA 336/339XP



SAFETY EQUIPMENT

Chain brake

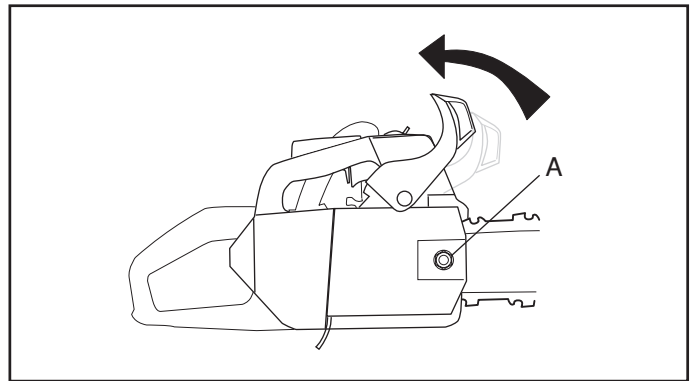
Dismantling

1. Check that the chain brake is off and dismantle the bolt (A) and the clutch cover.

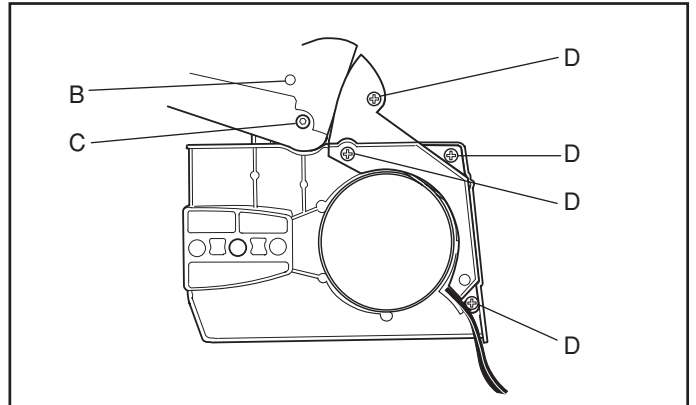


WARNING!
Check that the brake is on. Otherwise the pressure spring can fly out and cause personal injury.

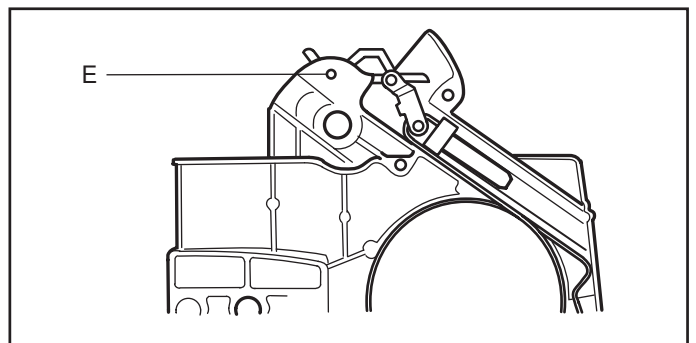
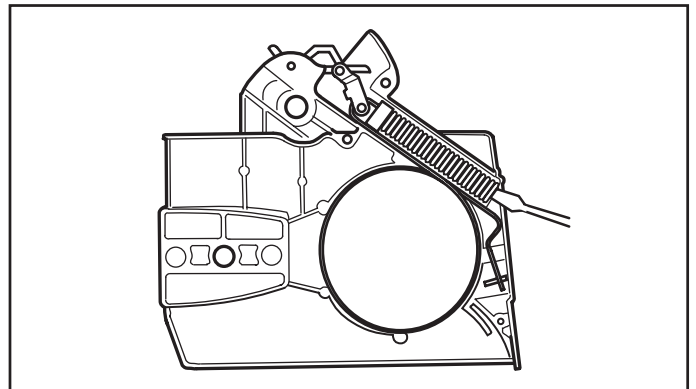
2. Remove the circlips (B) and (C) then push/knock out the pins.
3. Remove the handle.
4. Undo the four bolts (D) and remove the cover.



5. Remove the pressure spring by loosening the rear edge with a screwdriver.

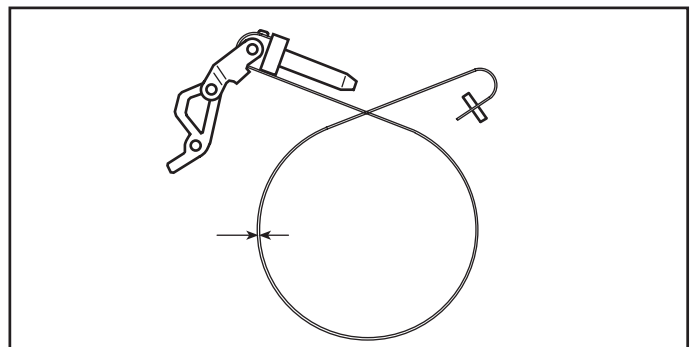


6. Knock out the pin (E) and remove the knee joint with the attached brake band.
7. Unscrew the brake band from the knee joint.



Cleaning and inspection

Clean and inspect all parts. The thickness of the brake band must not be under 0.8 mm at any point.

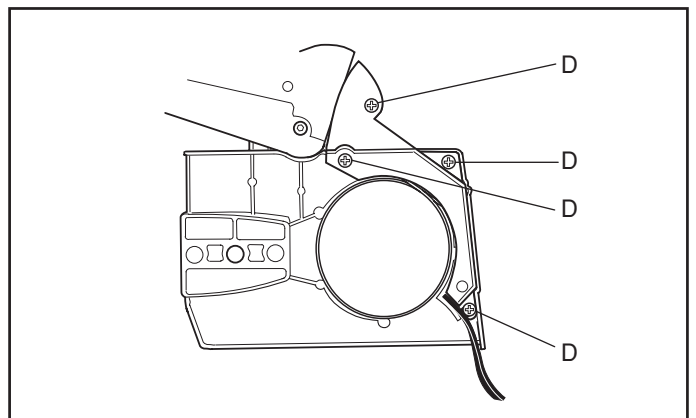
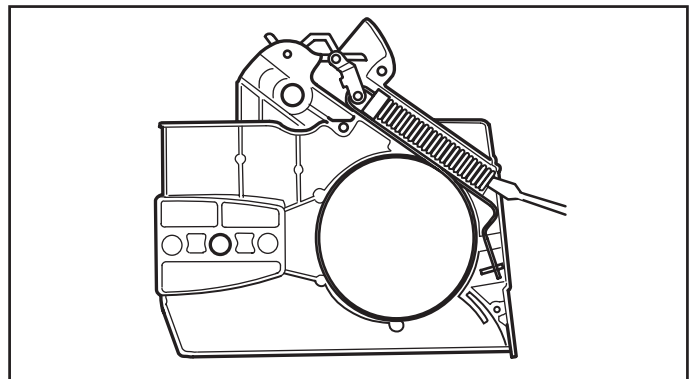
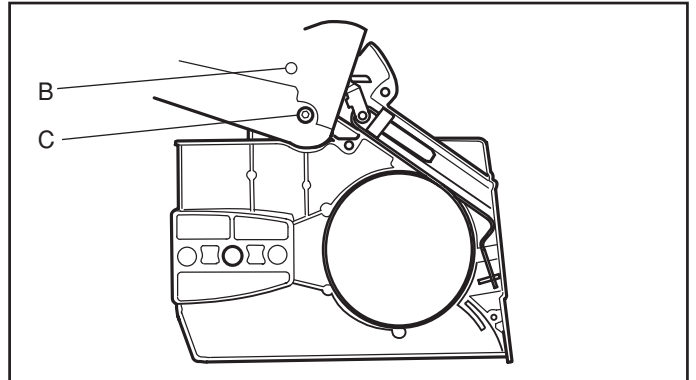
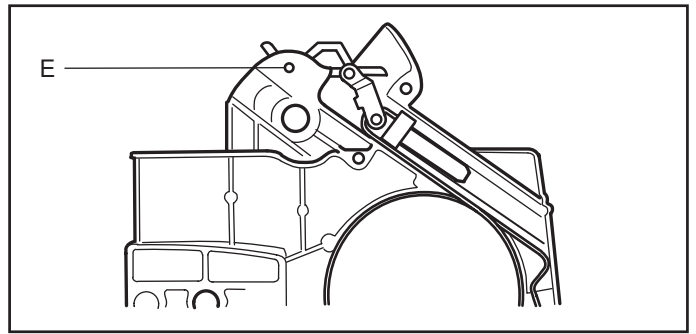


SAFETY EQUIPMENT

Assembly

Assemble the chain brake as follows:

1. Bolt together the knee joint and brake band.
2. Grease the knee joint's moving parts and assemble the unit in the cover and knock in the pin (E).
3. Fit the kickback guard, insert the two pins (B) and (C).
4. Apply the brake and fit the spring. Use a screwdriver to press down the rear edge.
5. Fit the cover and tighten the four bolts (D).
6. Release the brake and fit the clutch cover on the chain saw. Adjust the chain tension, see the Operator Guide. Tighten the nut to 15 Nm.

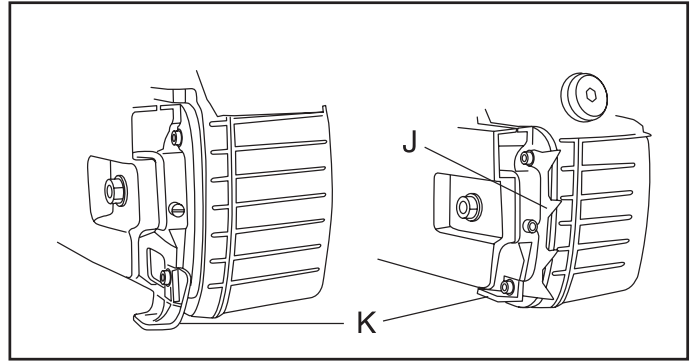


SAFETY EQUIPMENT

Chain catcher

Dismantle the chain and bar. See the Operator Guide. Check the spike (J), does not apply to 333, and the chain catcher (K). Replace any components if damaged. The bolts should be tightened to 4 Nm.

Assemble the chain and bar. See the Operator Guide.



Muffler

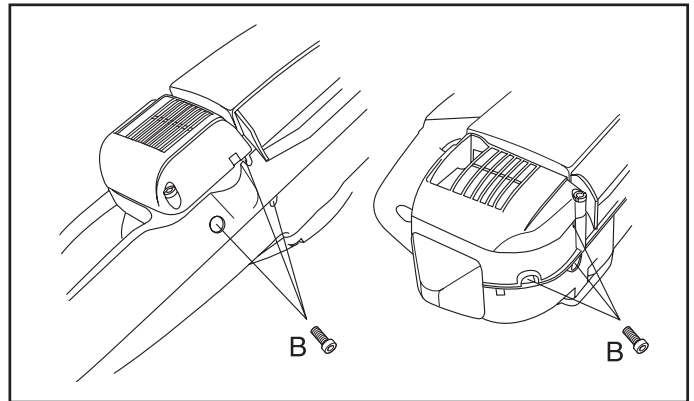
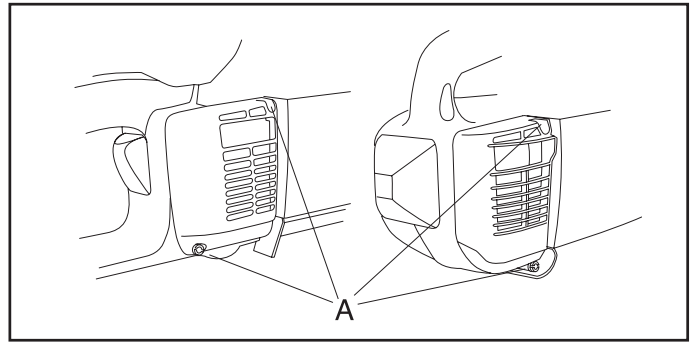


WARNING!
Do not touch the muffler until it has cooled.
Risk for burns.

Dismantling

Dismantle the muffler as follows:

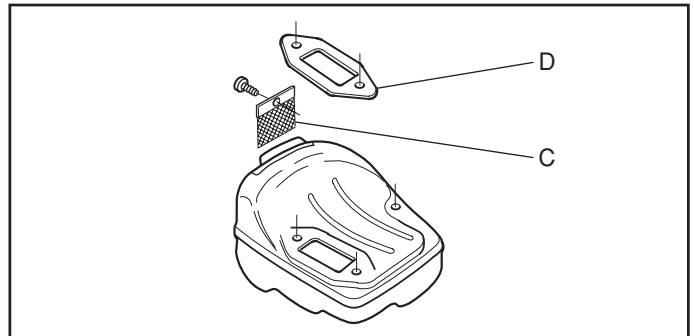
1. Dismantle the muffler guard by removing the two bolts (A).
2. Turn the saw and undo the three bolts (B) holding the muffler.
3. Lift out the muffler to the side.
4. Remove the gasket.



Cleaning and inspection

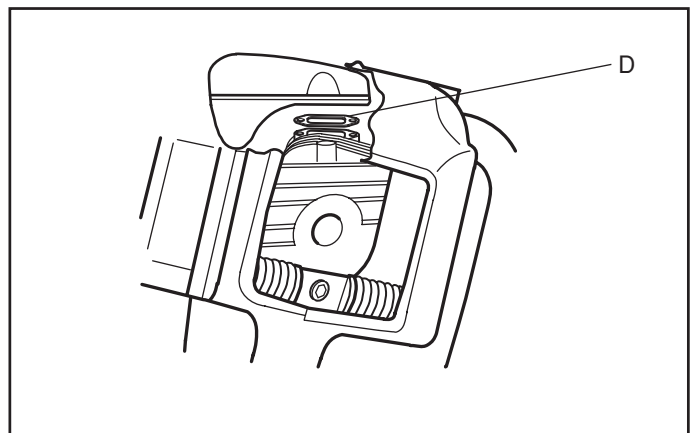
Clean all components and check the following:

1. That the spark-arrester (C) is intact.
2. That the muffler and its mountings are not cracked or having any other defects.
3. That the gasket (D) is undamaged.



Assembly

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



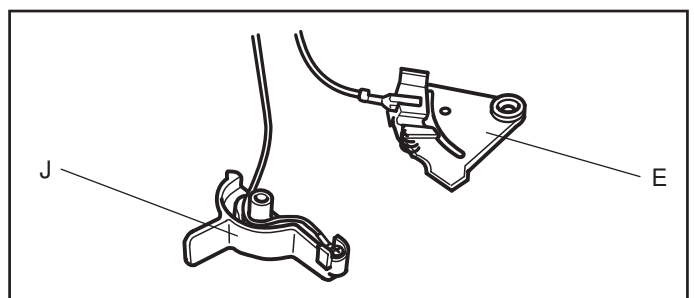
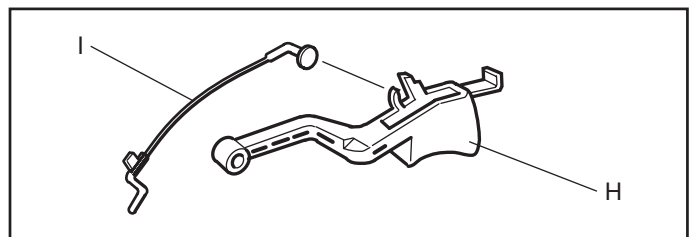
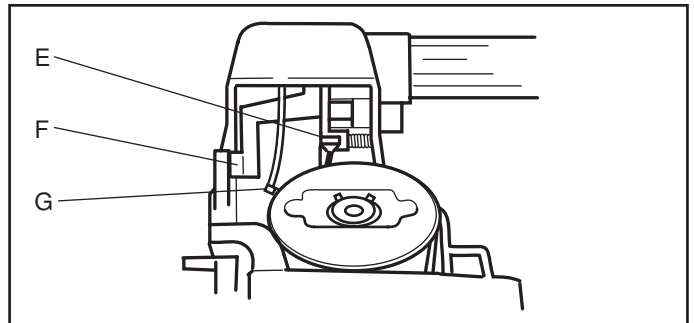
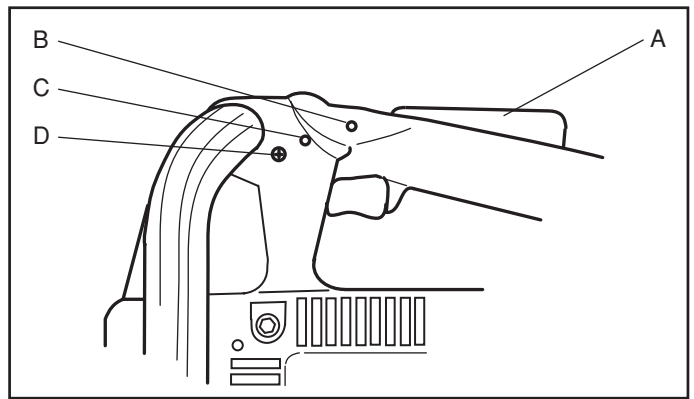
SAFETY EQUIPMENT

Throttle lock and stop function

Dismantling, 334T, 338XPT

Dismantle the throttle lock as follows:

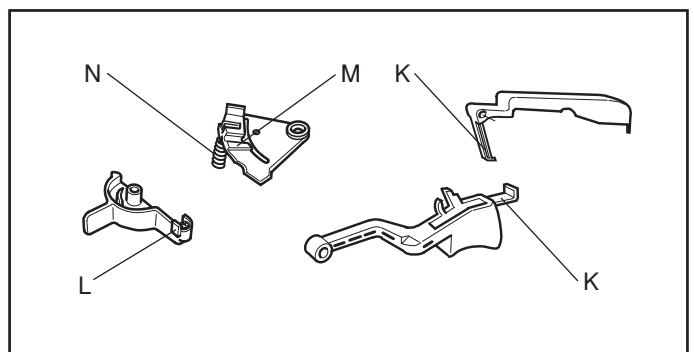
1. Dismantle the clutch cover and carburettor cover.
2. Knock out the pins (B) and (C) from the left and undo the bolt (D), now pull up the throttle lock (A).
3. Disconnect the choke rod (G) from the carburettor using a small screwdriver and dismantle the choke lever/stop button.
4. Using long-nose pliers dismantle the lock plate (E).
5. Disconnect the throttle's bearing (F).
6. Remove the throttle (H). When the throttle is halfway out, slide off the throttle rod (I) from its fastening in the throttle.
7. Dismantle the electrical leads to the lock plate (E) and choke lever/stop button (J).



Cleaning and inspection

Clean all components and check the following:

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

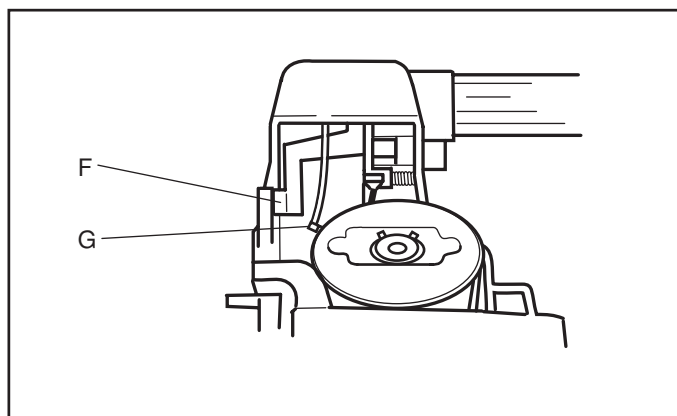
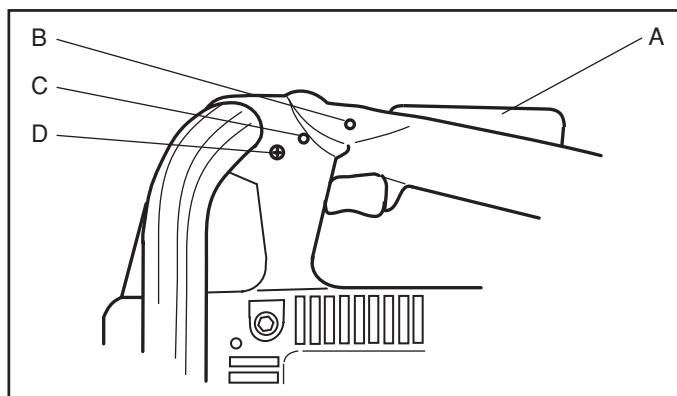
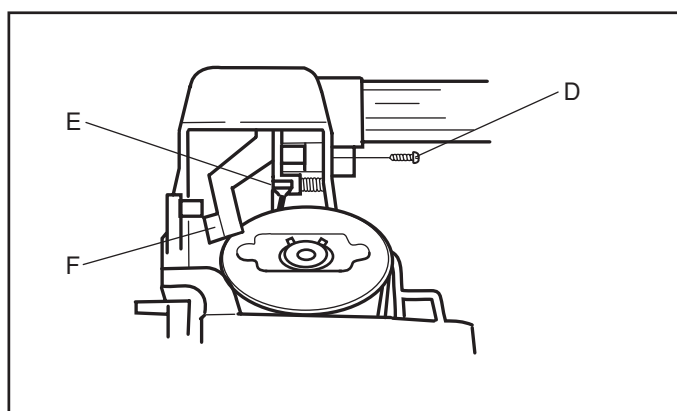
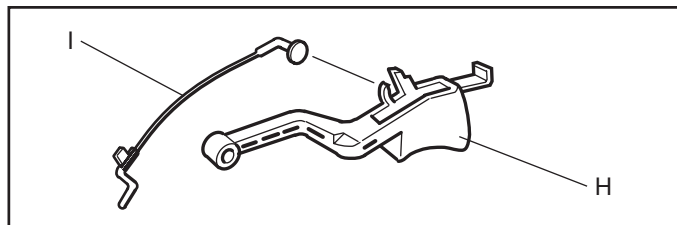
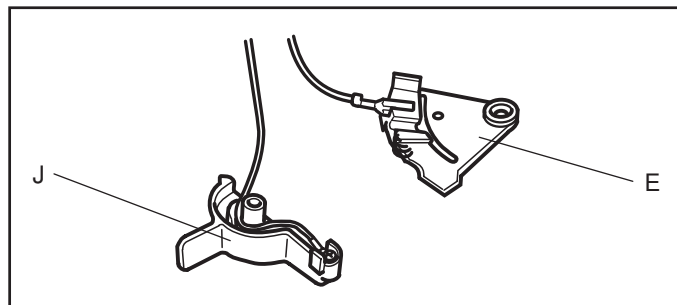


SAFETY EQUIPMENT

Assembly 334T, 338XPT

Assemble the components as follows:

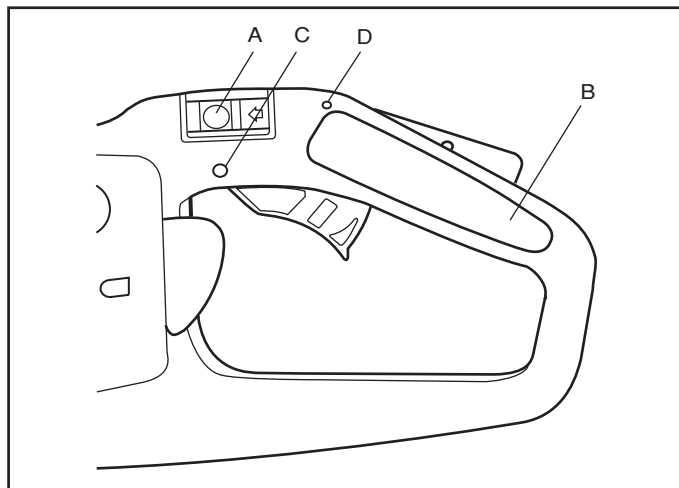
1. Assemble the electrical leads to the lock plate (E) and choke lever/start control (J).
2. Slide in the throttle (H). At the same time, fit the throttle rod (I) on the throttle. Do not hook on the bearing (F) yet.
3. Using long-nose pliers assemble the lock plate (E). Bolt in position using bolt (D).
4. Slide up the choke lever/start control (J).
5. Fit the pin from the right (C). Now press down the throttle lock (A). Check that the lock's locking arm enters the cut-out in the throttle and fit the pin (B).
6. Hook on the throttle's 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 Guide. Tighten the nuts on the clutch cover to 15 Nm.
8. Check the stop function by starting the chain saw and establishing that it stops when the stop button is moved to the stop position. See the Operator Guide.



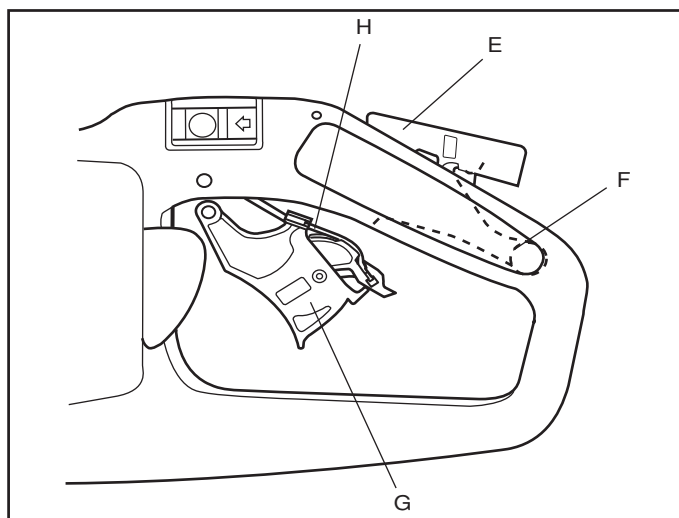
SAFETY EQUIPMENT

Dismantling 336, 339XP

1. Remove the stop button (A) and both side covers (B) using a small screwdriver.
2. Tap out the pins (C) and (D) using a drift.



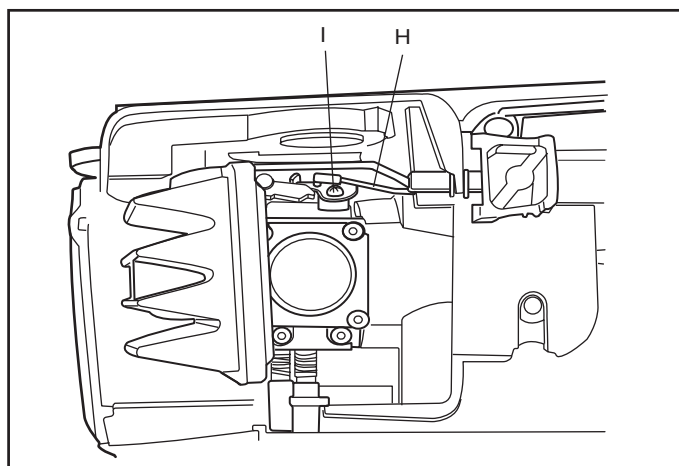
3. Remove the throttle lock (E) together with the spring (F).
4. Remove the throttle trigger (G) by pressing the front edge upwards and the rear edge downwards at the same time.
5. Disconnect the throttle wire (H) from the throttle trigger.



6. Remove the carburettor cover and disconnect the throttle wire (H) from the throttle valve (I).
7. Attach a steel wire or the like to the throttle wire and then pull out the throttle wire so that the steel wire is drawn through the tank unit.

Leave the steel wire in place to facilitate assembly.

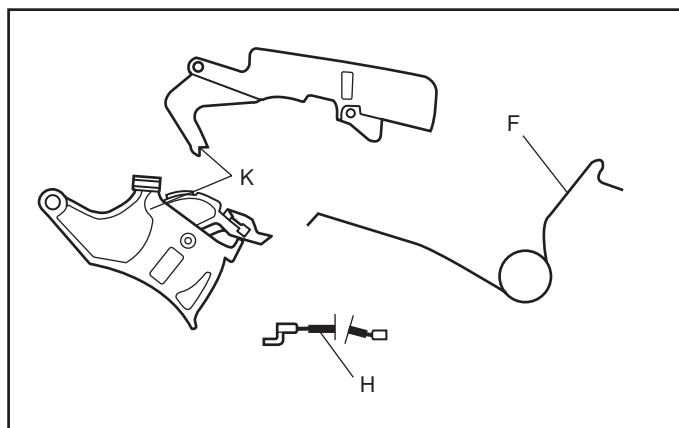
8. Disconnect the leads from the stop button (A).



Cleaning and inspection

Clean the parts and check the following:

1. That the throttle lock engagement mechanism (K) is not worn.
2. That the spring (F) is undamaged.
3. That the throttle wire (H) is not worn

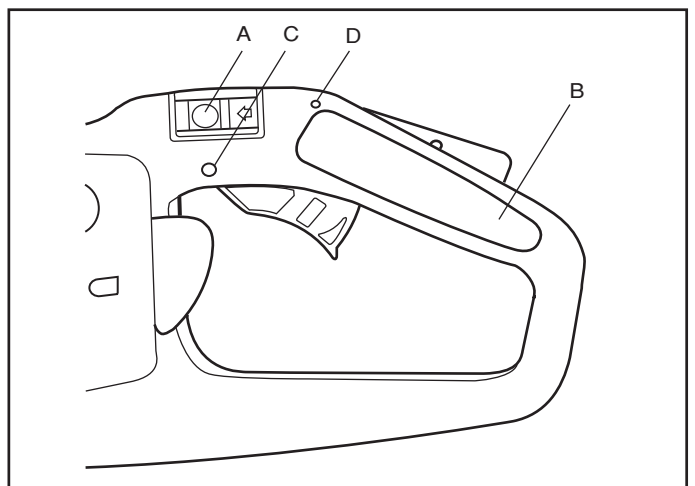
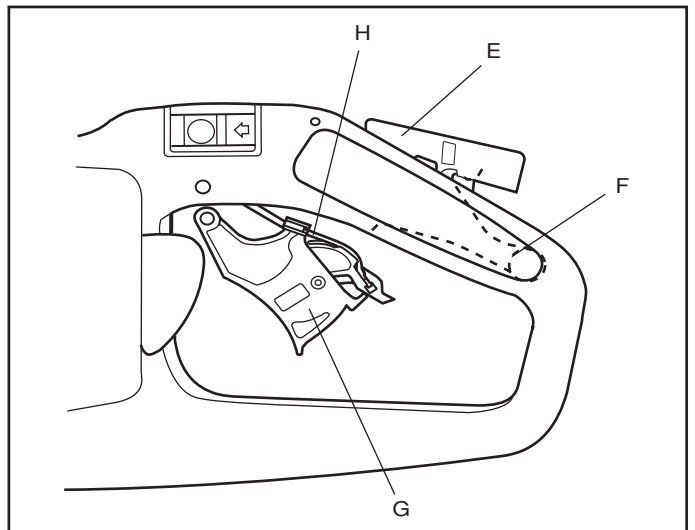
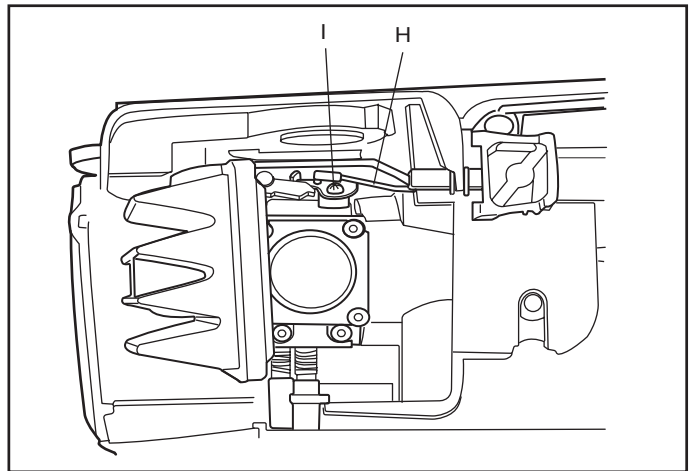


SAFETY EQUIPMENT

Assembly 336, 339XP

Assemble the parts as follows:

1. Attach the throttle wire (H) to the steel wire and pull back the steel wire and throttle wire through the tank unit.
2. Connect the throttle wire (H) to the throttle valve (I) and then fit the carburettor cover.
3. Connect the throttle wire (H) to the throttle trigger (G).
4. Fit the throttle trigger (G) by pushing it upwards and forwards at an angle.
5. Fit the spring (F) and throttle lock (E). Engage the spring in the slot in the throttle trigger (G).
6. Fit the two pins (C and D).
7. Press both side covers into place (B).
8. Connect the leads to the stop button (A) and push it back into the handle.



STARTER

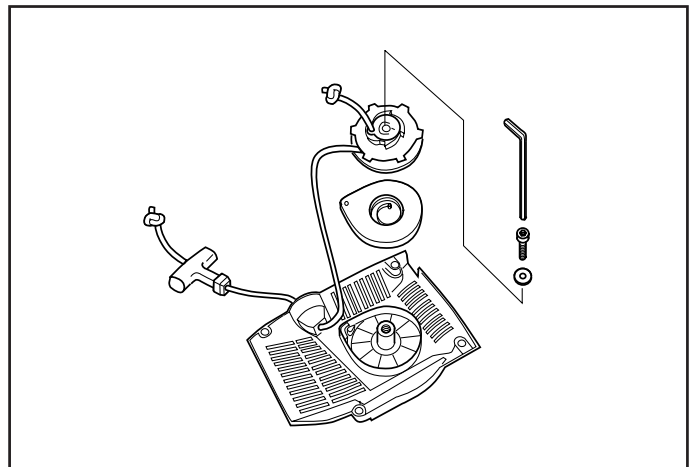
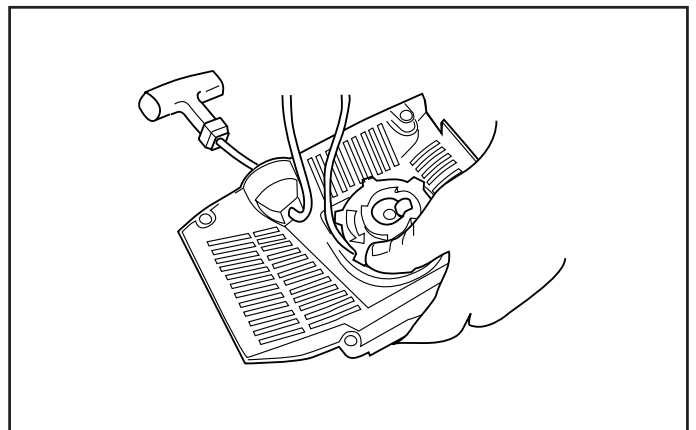
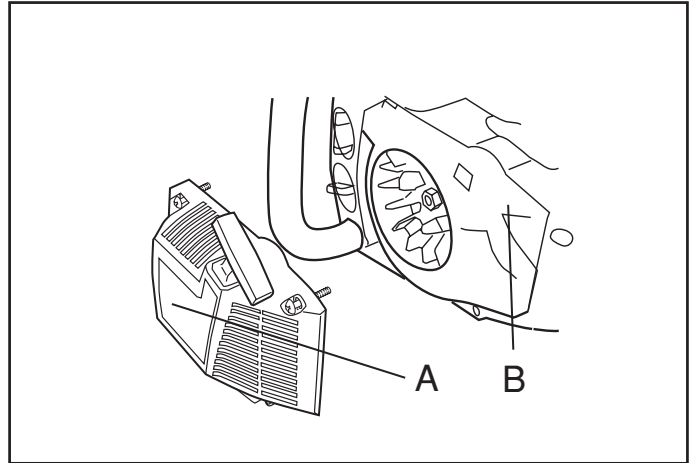


WARNING!

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

Dismantling

1. Undo the four bolts holding the starter (A) and air conductor (B) in position.
2. Pull the cord out 20-30 cm and lift it into the cut-out on the starter pulley's outer edge. Release the tension on the return spring by allowing the starter pulley to rotate slowly backwards.
3. Undo the centre bolt and take out the washer and starter pulley.
4. Carefully lift up the spring cassette 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 pieces from the handle and starter pulley using a pair of long nosed pliers.

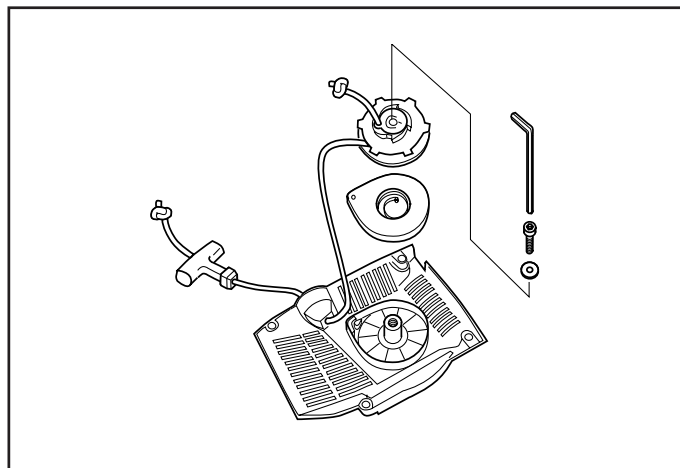


STARTER

Cleaning and inspection

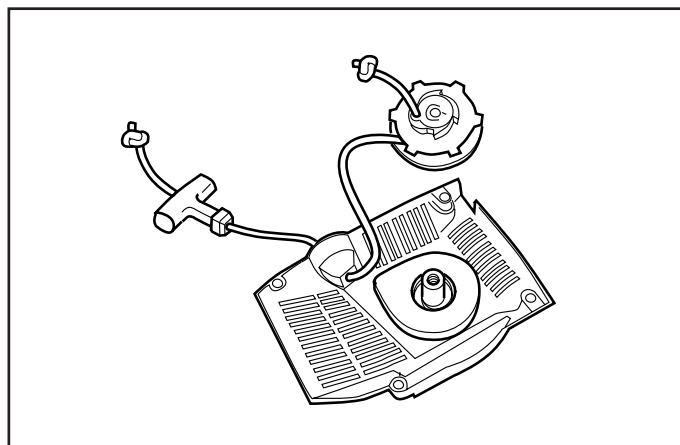
Clean all components and check the following:

1. Starter cord.
2. The dogs on the starter pulley.
3. That the starter dogs on the flywheel are intact, spring back towards the centre and run easily.



Assembly

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

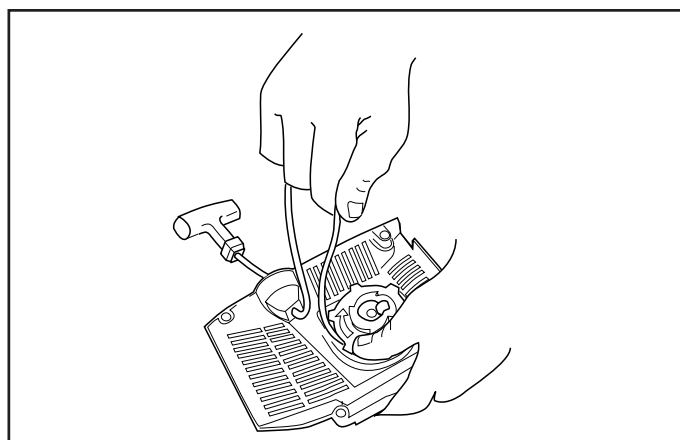


6. Lift the starter cord up into one of the starter pulley's cut-outs and turn the pulley about two turns.

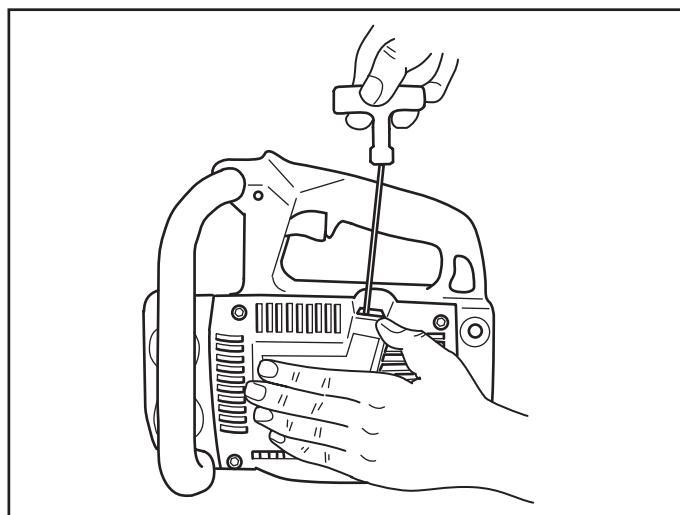
Checking the cord tension:

A. Pull out the cord completely.

B. In this position it should be possible to pull out the cord a further 1/2-3/4 of a turn by hand.



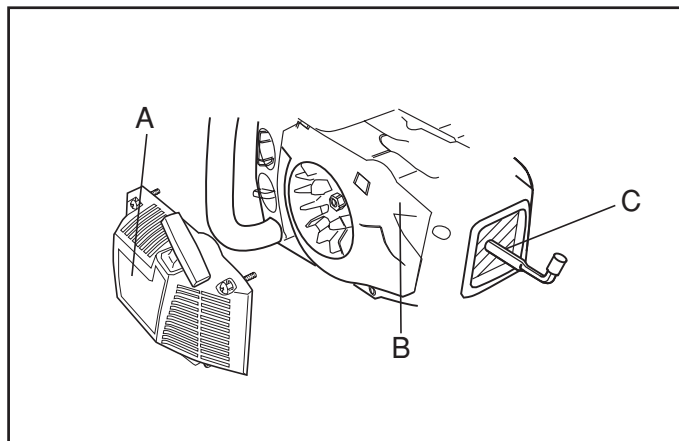
7. Fit the starter in the chain saw. Pull gently on the starter handle so that the starter dogs engage. Now fit the four bolts and tighten to 2.5-4 Nm.



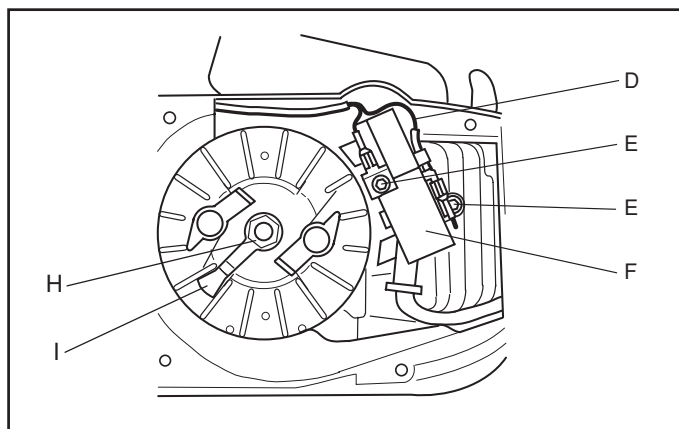
IGNITION SYSTEM

Dismantling

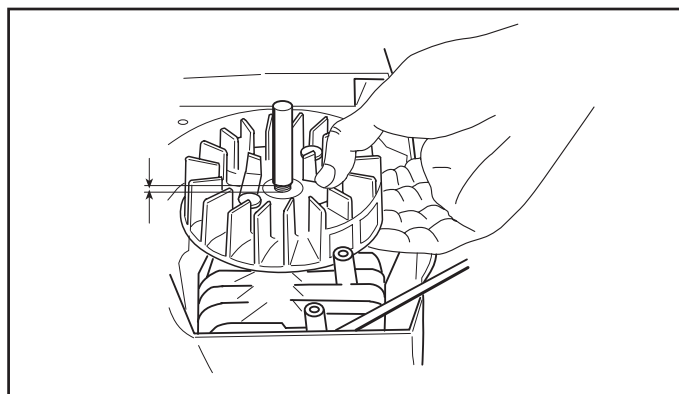
1. Dismantle the starter (A) and air conductor (B).
2. Remove the spark plug and insert the piston stop (C) in the spark plug hole. See service tools.



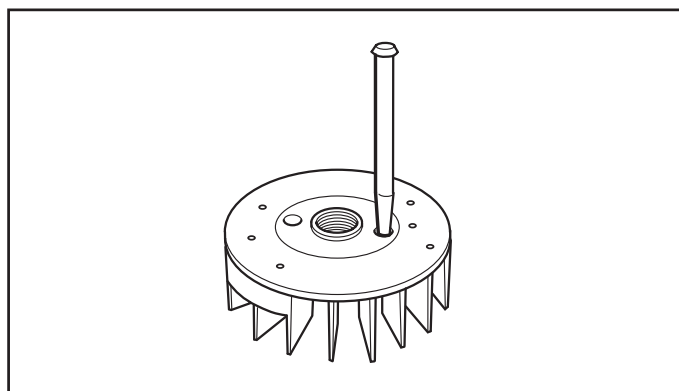
3. Loosen the cable (D) from the ignition module. Undo the two M4 bolts (E) and lift out the ignition module (F).
4. If the ignition module is to be replaced, pull out the contact spring from the spark plug guard and dismantle the parts.
5. Use a 13 mm spanner to undo the nut (H) and counterbalance washer (I) from the flywheel.



6. Fit the mandrel 502 51 94-01 on the shaft. Do not screw it on too far, a space of 2-3 mm must remain.
7. Grip the flywheel and lift the saw. Knock the mandrel using a hammer until the flywheel releases.



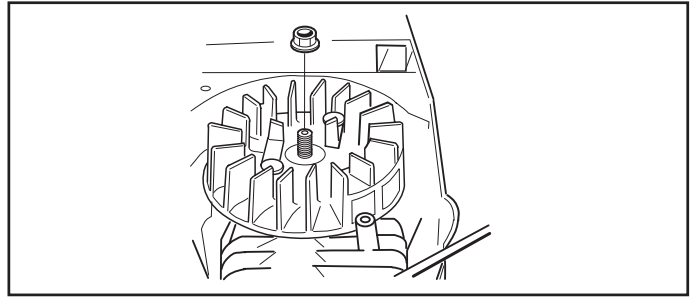
8. Dismantle the starter dogs by pressing out the dogs' bearing pins using a suitable punch (ø 3 mm).



IGNITION SYSTEM

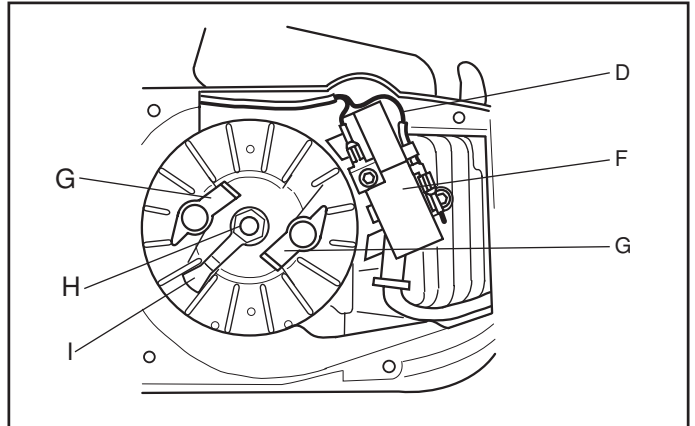
Cleaning and inspection

Clean all parts, especially the tapers on the flywheel and shafts. Check the flywheel for cracks or any other signs of damage.



Assembly

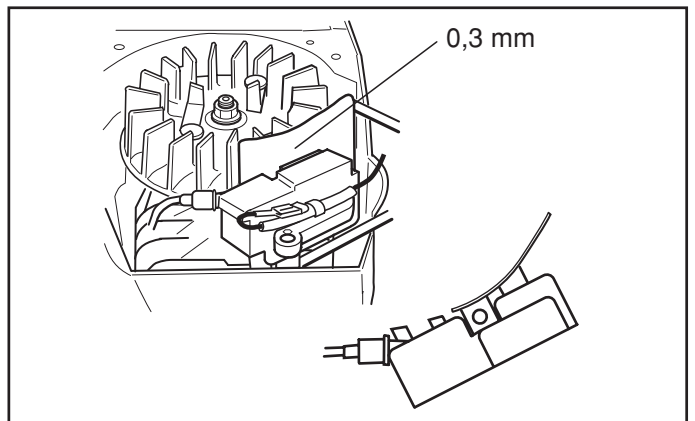
1. Fit the piston stop fully.
2. Fit the starter dogs (G).
3. Fit the flywheel on the crankshaft. Rotate a little so that the flywheel's key fits in the keyway on the shaft.
4. Fit the counterbalance washer (I) in the slot on the flywheel. Use a 13 mm spanner and tighten the nut (H) to 20-26 Nm.
5. Remove the piston stop, fit the spark plug and rotate the flywheel so that its magnet comes opposite one of the ignition module's securing holes.
6. Assemble the ignition module (F). Connect the cable (D) to the ignition module.



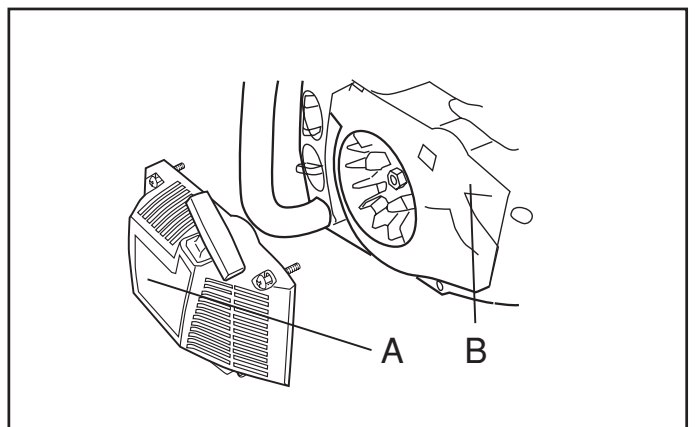
NOTE!

When assembling the ignition module the gap should be set between both upper arms.

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



8. Fit the air conductor (B) and starter (A).

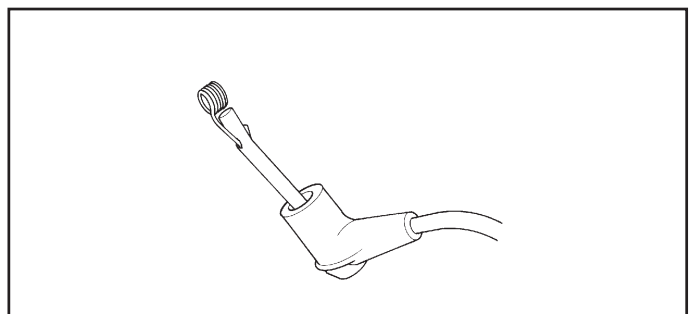


Assembly of the spark plug guard

1. Insert the ignition lead through the spark plug guard.
2. Make a hole in the ignition lead for the contact coil by using the pliers 502 50 06-01.
3. Fit the contact spring using the pliers.

NOTE!

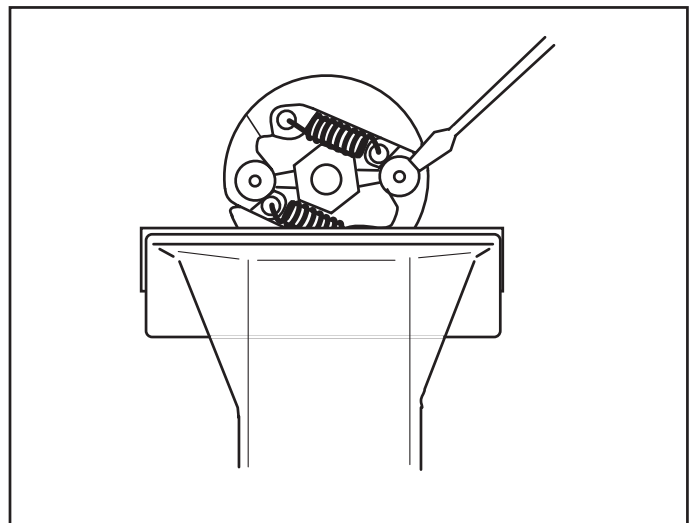
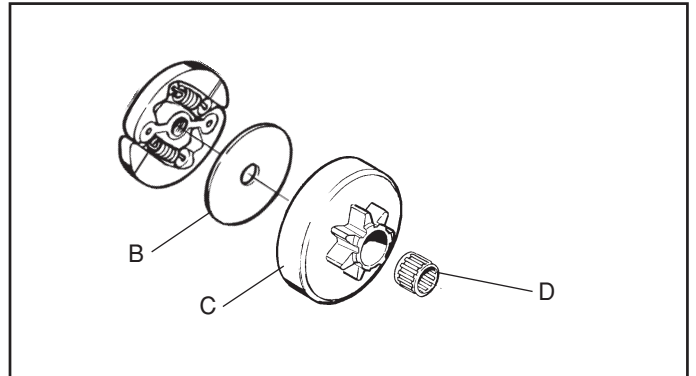
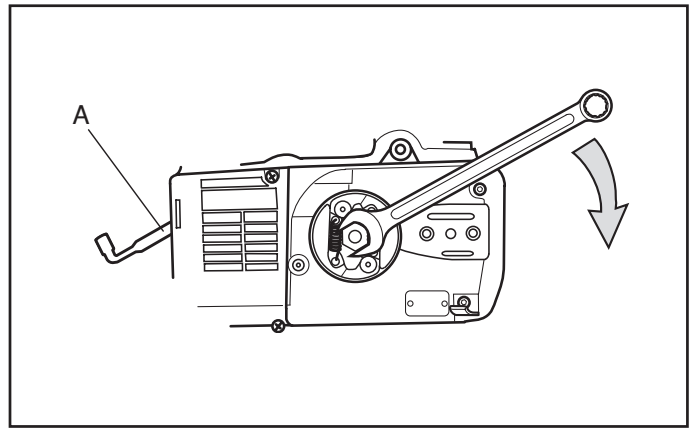
It is important that the tip of the contact coil hits the centre of the ignition lead to prevent sparking.



CENTRIFUGAL CLUTCH

Dismantling

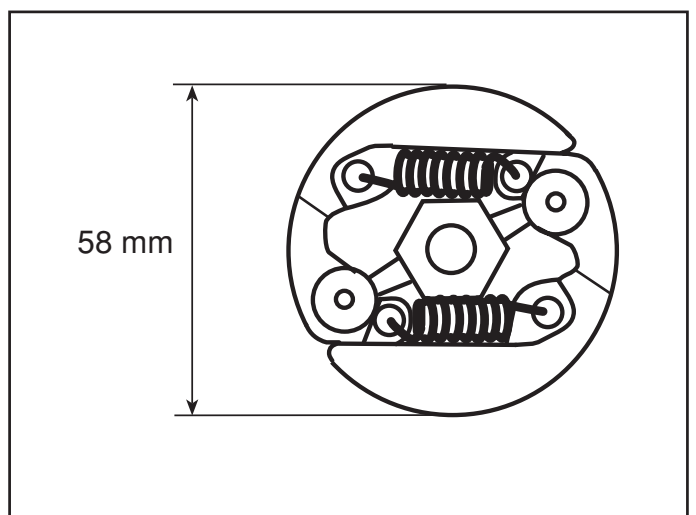
1. Dismantle the clutch cover.
2. Remove the spark plug and insert the piston stop (A) in the spark plug hole. See service tools.
3. Use a 19 mm spanner and dismantle the clutch hub. NOTE! Left-hand thread.
4. Remove the washer (B), clutch drum (C) and needle bearing (D).
5. If necessary, dismantle the clutch shoes as follows:
 - A. Place 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 components and check the following:

1. That the outer measurement of the clutch hub is not less than 58 mm at the most worn position.
2. Check that there is no play between the clutch shoe and clutch holder.
3. Both springs must always be replaced if just one spring is damaged.
4. A complete clutch or springs are available as spare parts.
5. Wear to the chain drive sprocket.
6. That the needle bearing is trouble free and that the journal surface on the crankshaft is not damaged.
7. That the clutch drum's friction surface is intact and that the journal surface is not damaged.



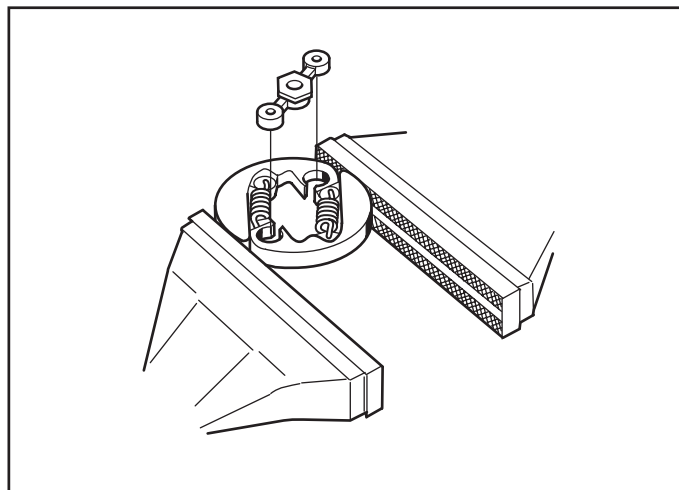
CENTRIFUGAL CLUTCH

Assembly

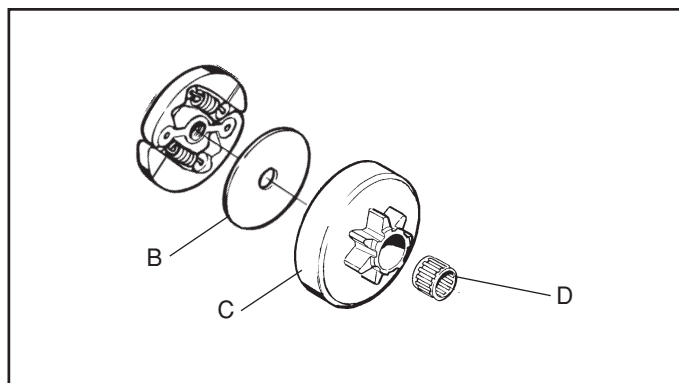
1. When changing the springs assemble as follows:

A. Fit the two clutch shoes and the two springs and set up the unit in a vice.

B. Tighten the vice so that the shoe holder can be pressed down between the clutch shoes.



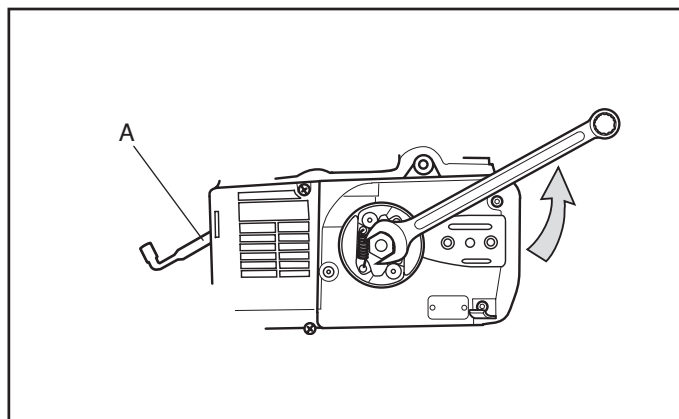
2. Grease and fit the needle bearing (D), clutch drum (C) and washer (B).



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 Guide. Tighten the nuts on the bar cover to 15 Nm.



CARBURETTOR

Description



WARNING!

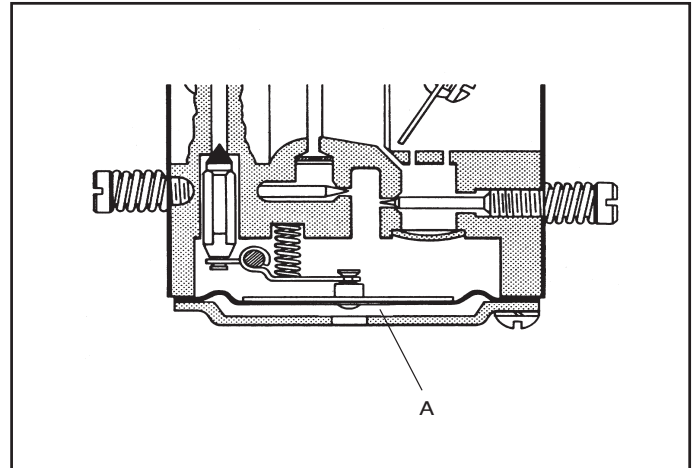
The fuel used in the chain saw has the following hazardous properties:

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

The drawings accompanying this description do not correspond with the carburettor on the chain saw. They show purely the principle for the design and function. The carburettor is based on three sub-systems:

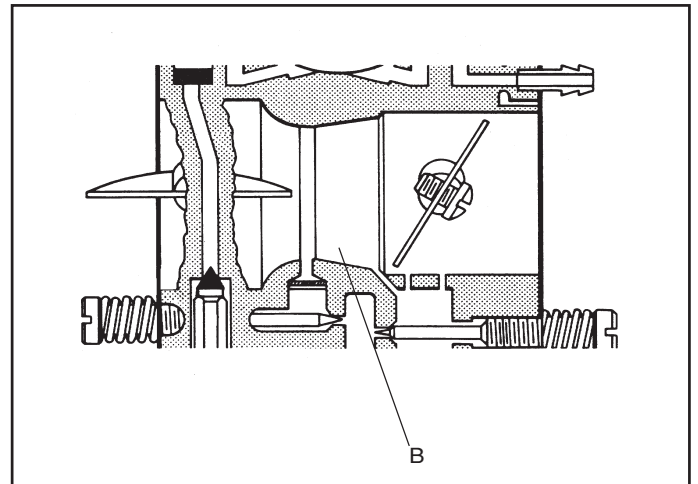
Metering unit

The needles and the fuel's control functions are located in the metering unit (A). Here the correct quantity of fuel is adjusted for the actual speed and power output.



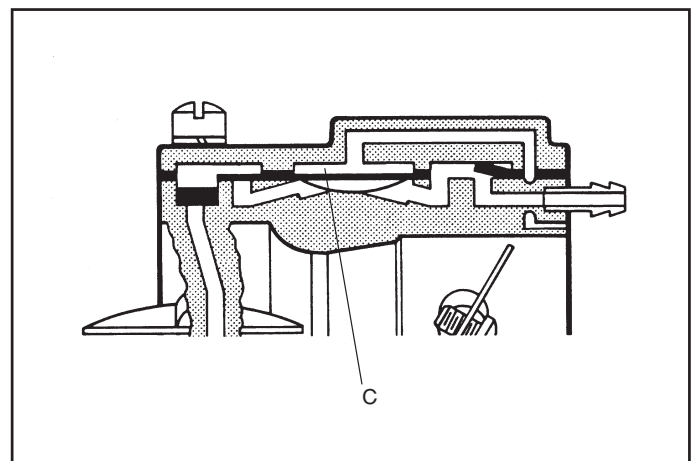
Mixing venturi

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.



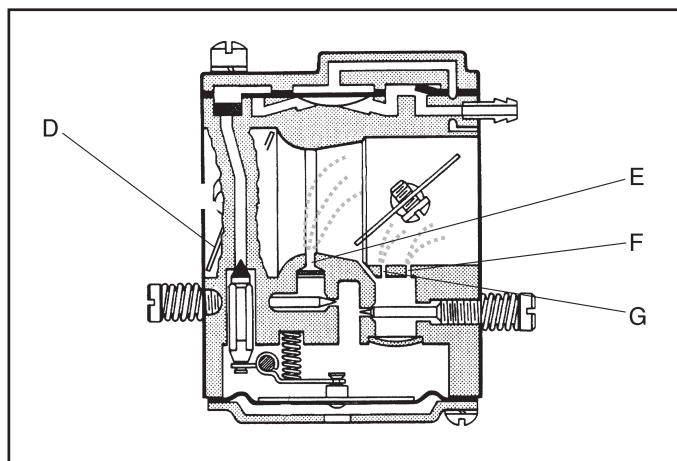
CARBURETTOR

Operation

The carburettor operates differently in the following modes:

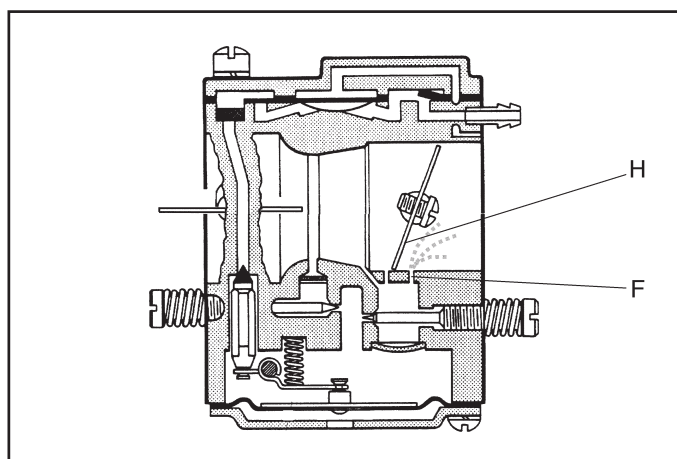
Cold start mode

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.



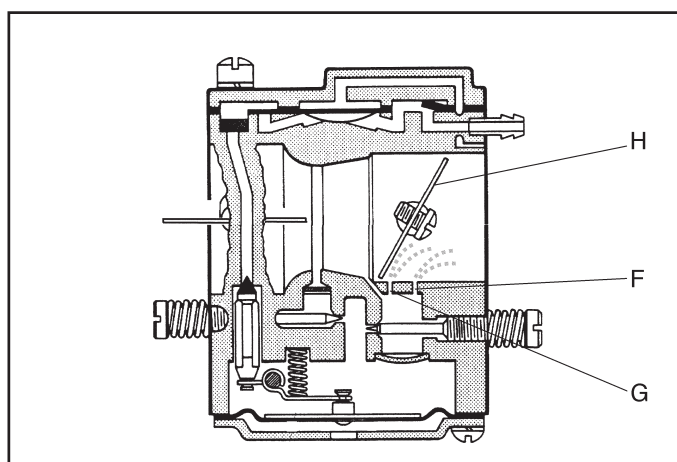
Idling mode

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).



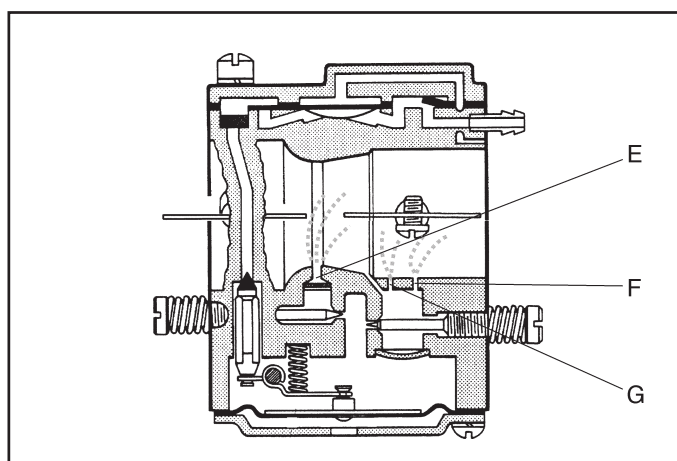
Part throttle mode

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).



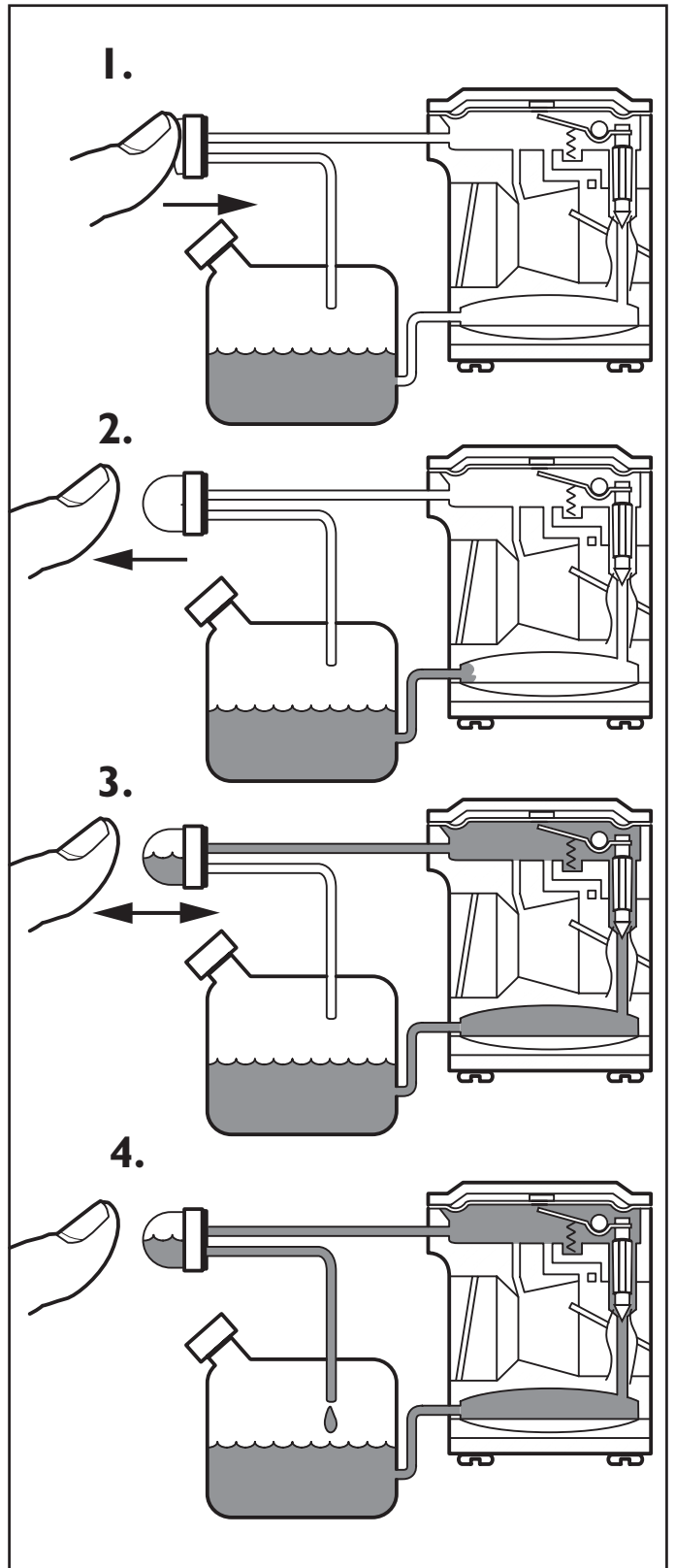
CARBURETTOR

Primer pump

The primer pump is designed to make it easier to start the engine when cold.

The pump fills the carburettor with fuel before an attempt is made to start. This also prevents bubbles of vapour from blocking the narrow fuel channels.

If the pump does not work it must be replaced. Note the way the fuel pipes are connected in order to simplify assembly.



CARBURETTOR

Dismantling, 334T, 338XPT



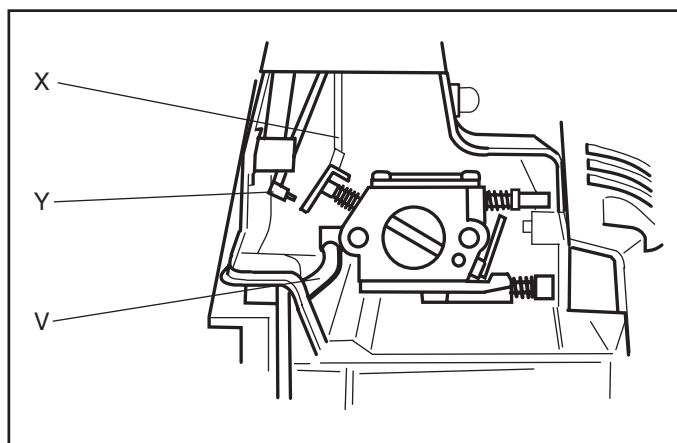
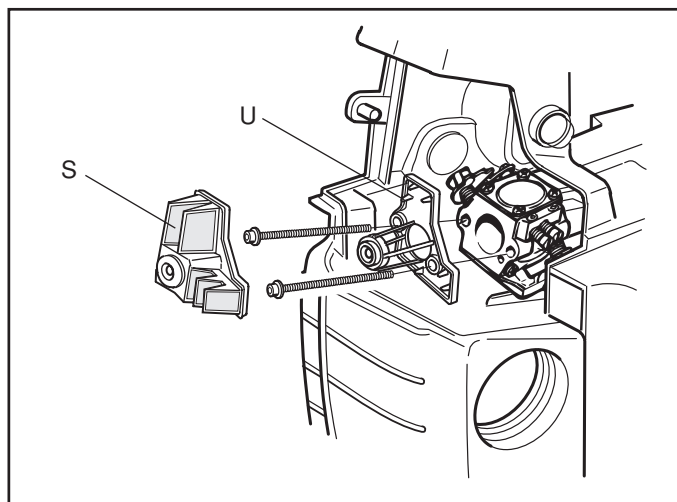
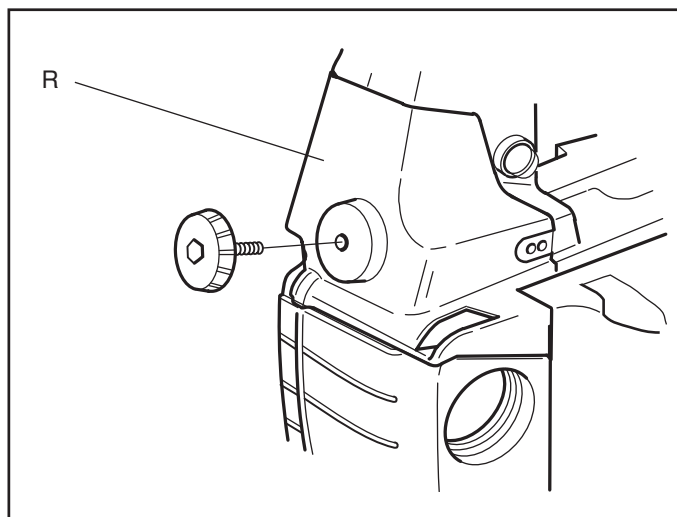
WARNING!

The fuel used in the chain saw has the following hazardous properties:

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

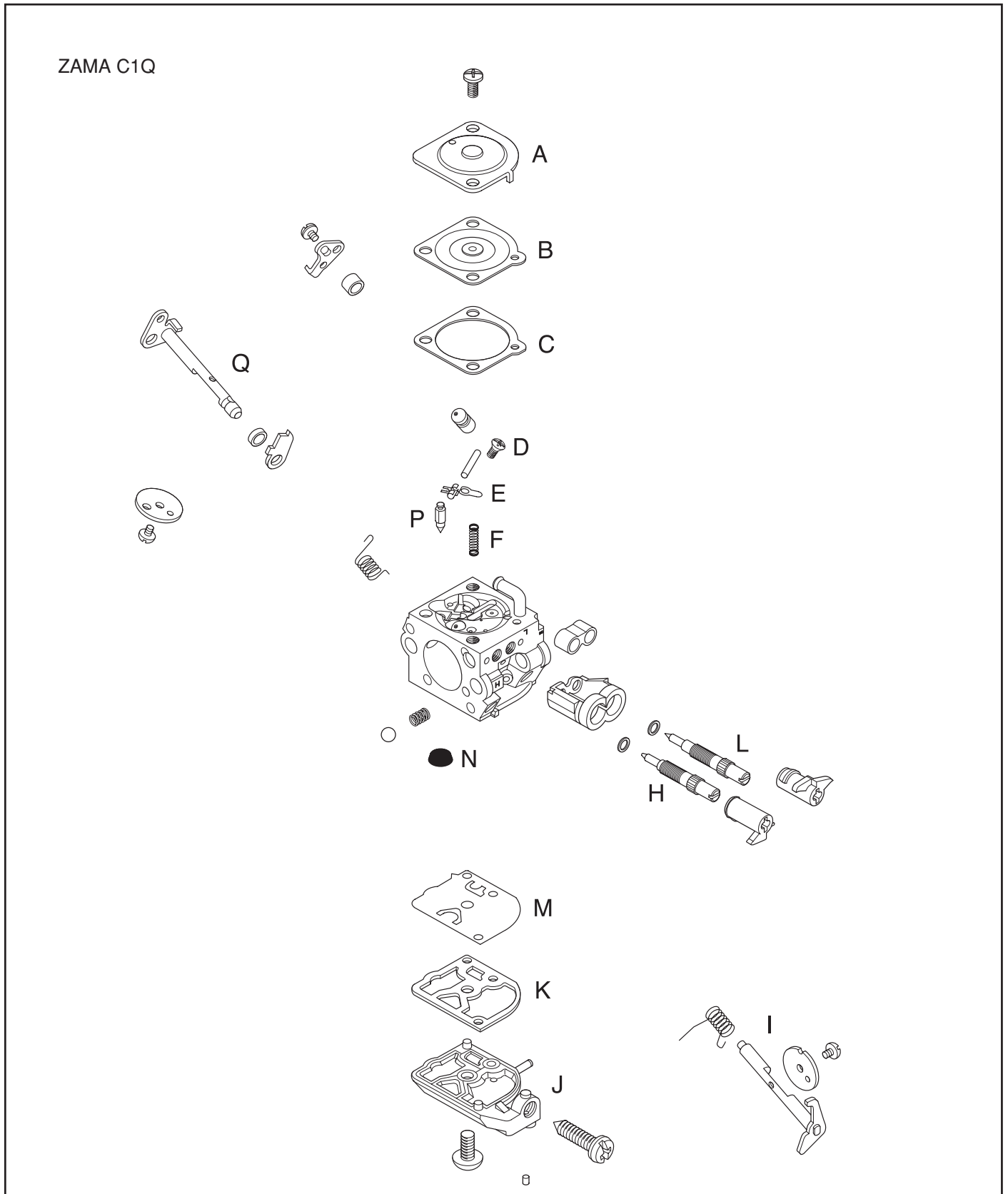
1. Dismantle the chain and bar. See the Operator Guide.
2. Dismantle the carburettor cover (R).
3. Dismantle the air filter (S), the two bolts and the air filter holder (U). These versions of air filter holder and filter (shown in the diagram) apply to saws manufactured from serial number 8500309 onwards.
4. Slide out the choke lever (Y) using a screwdriver.
5. Pull off the fuel hose (V) using long nosed pliers.
6. Pull out the carburettor a little and unhook the throttle (X). Now pull out the carburettor completely.

Continue dismantling from point 7 on the next page.



CARBURETTOR

7. Dismantle the cover (A) on the metering unit and carefully remove the control diaphragm (B) with gasket (C).
8. Dismantle the bolt (D) and lift out the needle valve (P) with lever (E), shaft and spring (F).
9. Dismantle the cover (J) on the pump unit and carefully remove the gasket (K) and pump diaphragm (M).
10. Use a needle or the like and remove the fuel screen (N).
11. Dismantle the high and low needles (H and L). Use side cutters if necessary to remove the locking caps.
12. If necessary remove the throttle and choke valves as well as the shafts (I and Q), lever arms and springs.



CARBURETTOR

Dismantling 336, 339XP

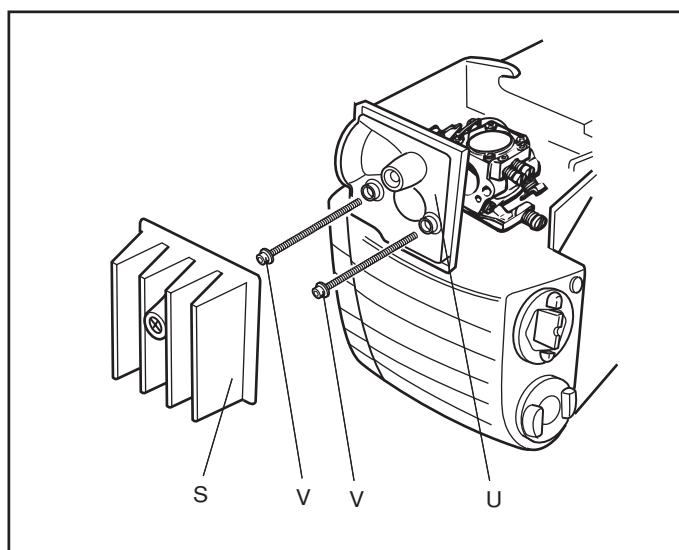
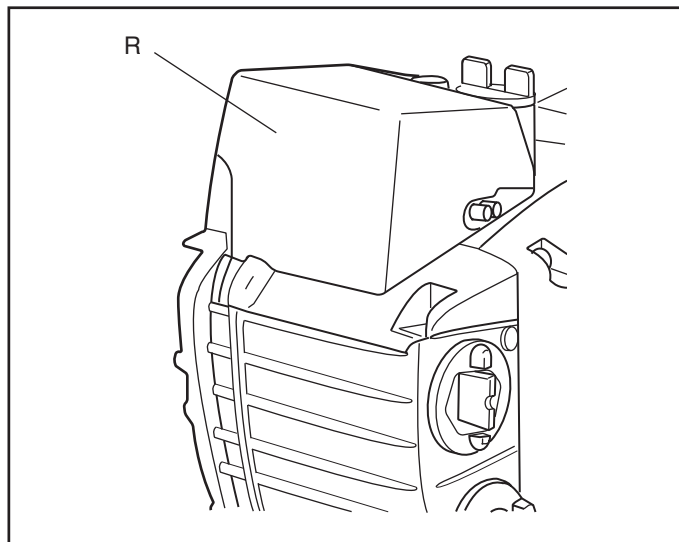


WARNING!

The fuel used in the chain saw has the following hazardous properties:

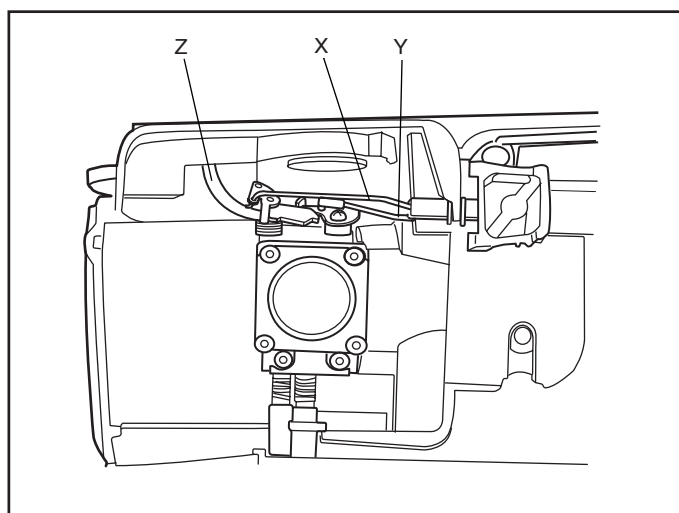
- The fluid and its vapour are poisonous.
- Can cause skin irritation.
- Is highly inflammable.

1. Dismantle the chain and bar. See the Operator Guide.
2. Dismantle the carburettor cover (R).
3. Remove the air filter (S).
4. Undo the two screws (V) that hold the air filter holder (U) and carburettor.



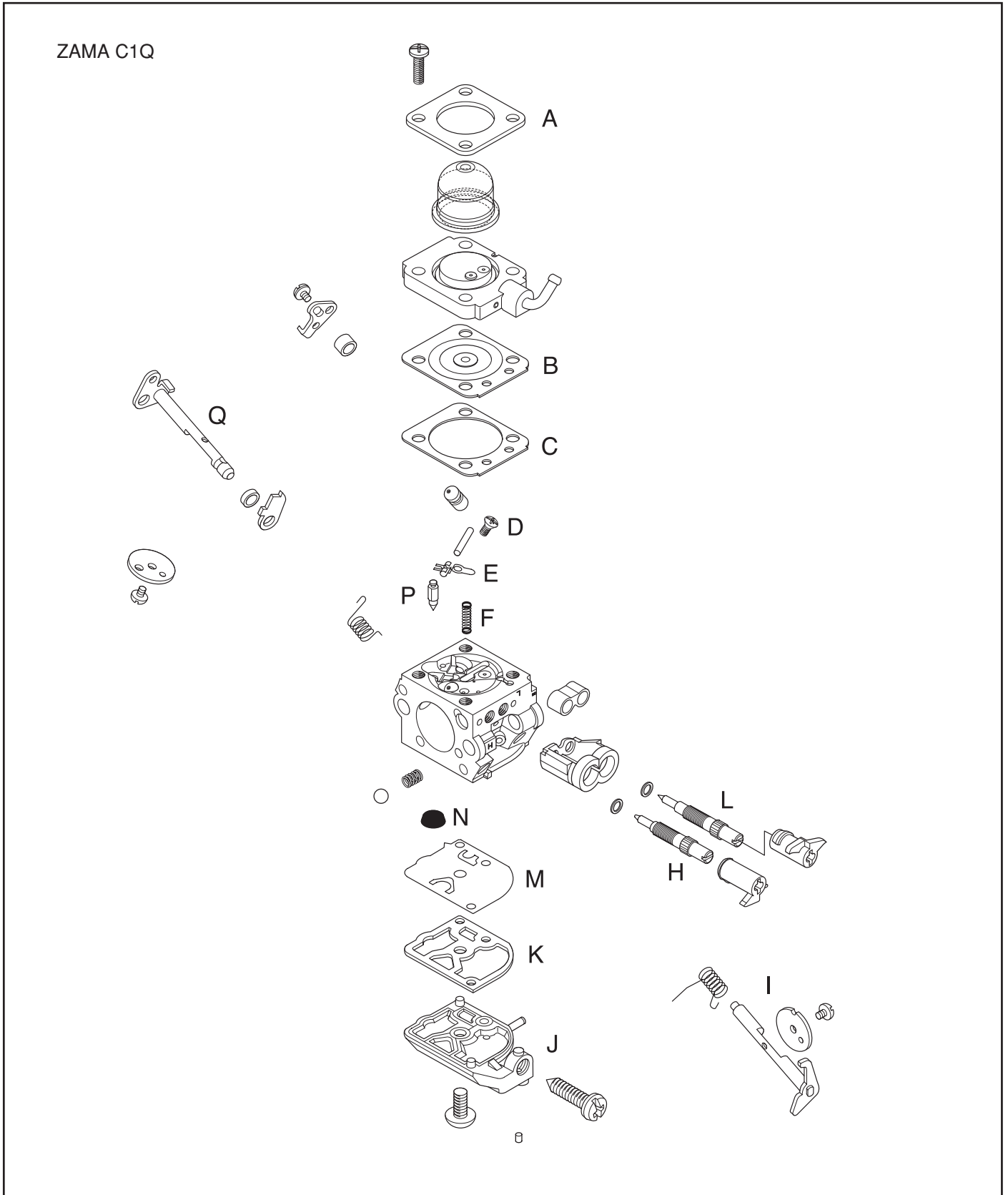
5. Free the choke control (X) from the tank unit and unhook it.
6. Pull out the carburettor a little and unhook the throttle wire (Y). Disconnect the fuel pipe (Z) from the carburettor using a pair of thin-nosed pliers. Now pull out the carburettor fully.

Continue dismantling from point 7 on the next page.



CARBURETTOR

7. Dismantle the cover (A) on the metering unit and carefully remove the control diaphragm (B) with gasket (C).
8. Dismantle the bolt (D) and lift out the needle valve (P) with lever (E), shaft and spring (F).
9. Dismantle the cover (J) on the pump unit and carefully remove the gasket (K) and pump diaphragm (M).
10. Use a needle or the like and remove the fuel screen (N).
11. Dismantle the high and low needles (H and L). Use side cutters if necessary to remove the locking caps.
12. If necessary remove the throttle and choke valves as well as the shafts (I and Q), lever arms and springs.



CARBURETTOR

Cleaning and inspection of the carburettor



WARNING!

Fuel has the following hazardous properties:

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

Clean all units in clean petrol.



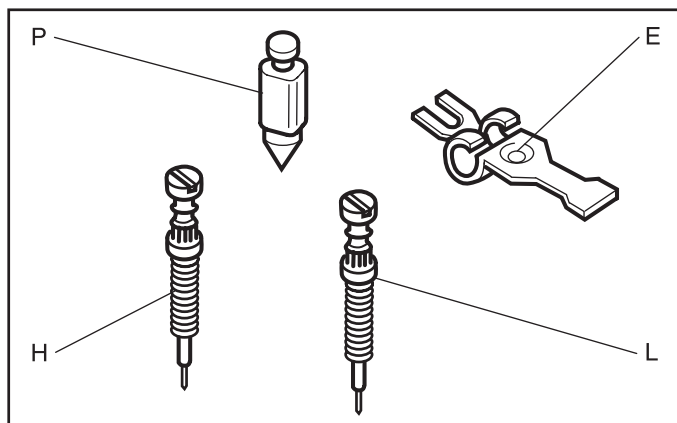
WARNING!

Never direct the compressed air jet towards the body. Air can penetrate into the blood circulation, which means mortal danger.

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

Check the following:

1. That gaskets, 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 (H) and low (L) speed needles are not damaged.
6. That the intake manifold is undamaged.

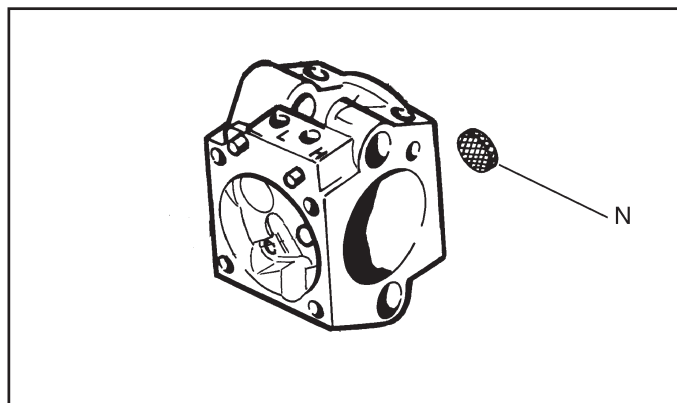


Assembly

Maintain a high level of cleanliness when assembling the carburettor. The slightest contamination can result in downtime.

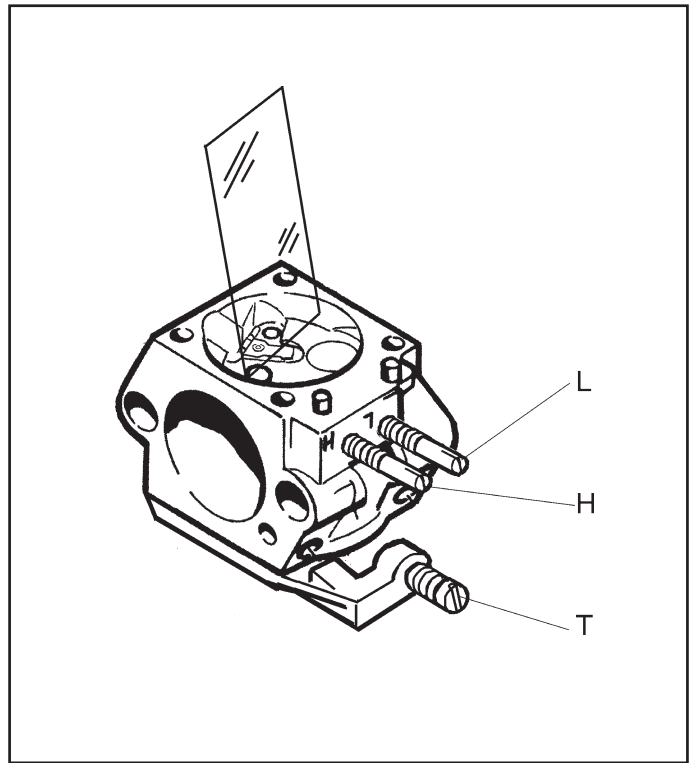
Please refer to the exploded view of the carburettor for letters within brackets that are not shown in the adjacent diagrams.

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 plug (G) as follows:
 - A. Place the plug in the hole with the convex side facing upwards.
 - B. Expand the plug using a mandrel on the top side.
3. Fit the "semi fixed jet" (O) in the carburettor using a mandrel.
4. Fit the fuel screen (N) by using the handle of a small screwdriver.



CARBURETTOR

5. Fit the high speed needle (H) as follows:
 - A. Screw in the new H-needle clockwise until it bottoms. Then anticlockwise 1 1/2 turns.
 - B. Press a new locking cap onto the H-needle to the first stop, i.e. the locking cap should not be fixed.
6. Fit the low speed needle (L) as follows:
 - A. Screw in the new L-needle clockwise until it bottoms. Then anticlockwise 1 1/2 turns.
 - B. Press a new locking cap onto the L-needle to the first stop, i.e. the locking cap should not be fixed.
7. Fit the pump diaphragm (M), gasket (K) and cover (J) on the pump unit.
8. Fit the needle valve (P) with lever arm (E), shaft and spring as well as fitting the bolt (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.



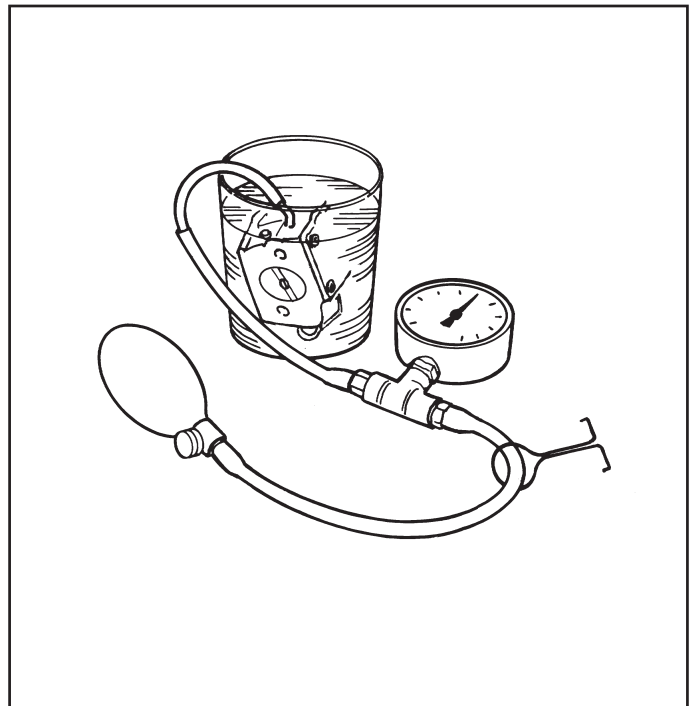
Pressure testing

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.

Test the carburettor as follows:

1. Connect pressure tester 502 50 38-01 to the carburettor's fuel intake.
2. Lower the carburettor into a beaker of water.
3. Pump up the pressure to 50 kPa (0.5 bar) and squeeze together the pump tube.
4. No leakage is permitted. If a leakage occurs refer to the table below.

Leakage on	Fault with
Diffuser jets	Needle valve
Leakage in the impulse pipe	Pump diaphragm
Ventilation hole above the metering unit	Control diaphragm



CARBURETTOR

Assembly 334T, 338XPT (continued)



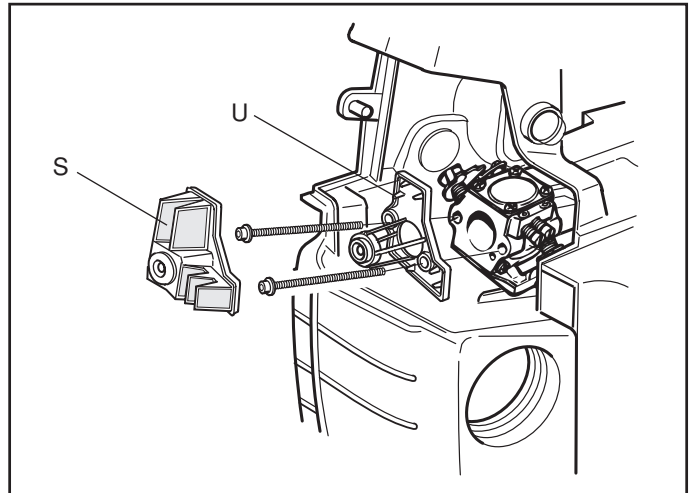
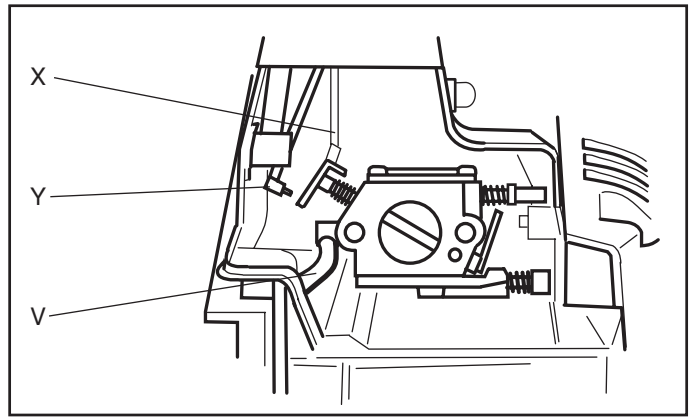
WARNING!

The fuel used in the chain saw has the following hazardous properties:

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

Once the carburettor has been pressure tested assembly continues as follows:

1. Insert the carburettor a little and fit the throttle (X). Now insert the carburettor fully.
2. Fit the fuel pipe (V) using pliers with smooth jaws. Take care not to damage the pipe.
3. Fit the choke lever (Y) using pliers.
4. Fit the air filter holder (U), the two bolts and the air filter (S). Tighten the bolts to 1.5 Nm.
5. Fit the carburettor cover.
6. Assemble the chain and bar. See the Operator Guide.
7. The operation of the carburettor is also affected if the intake manifold and the impulse hose are defective. These parts should also be checked.
8. To change the manifold pipe, see the chapter "AV-system".
9. To change the pulse tube, see the chapter "Tank unit".



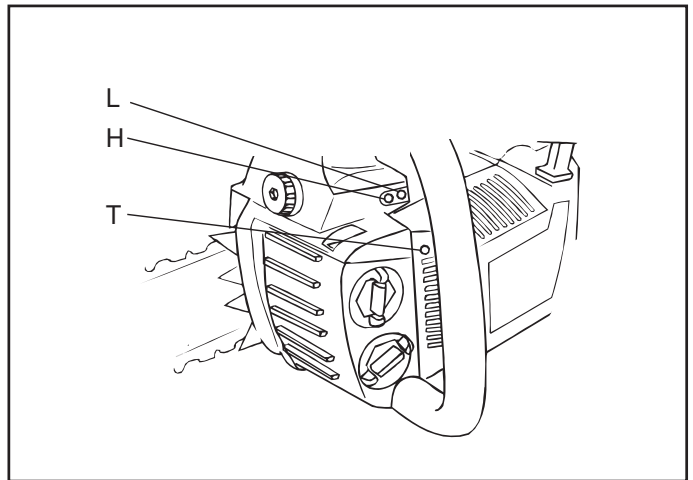
Basic adjustment of the high and low speed needles

Important! The following must be done before any adjustments are made!

- Fit a bar and chain combination approved for this model. "See the technical data in the Operator's Guide".
- Tension the chain so that there is still around 0.2 tum/5 mm to the underside of the bar.
- Fit a new air filter.

Done 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 max. speed is 13,000 ± 200 rpm. Use a screwdriver with a small blade.
3. Let the engine run at 13,000 rpm until it is warm, about 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 anticlockwise until it stops.)
5. Carefully knock the locking cap in position using a suitable punch (5 mm).
6. Adjust the idling speed to 2,800 rpm.
7. Adjust the L-needle until the highest idling speed has been reached, now screw the L-needle anticlockwise a 1/2 turn. Use a screwdriver with a small blade.
8. Adjust the locking cap to its richest position. (Screw anticlockwise until it stops.) Carefully knock the locking cap in position using a suitable punch (5 mm).



CARBURETTOR

Assembly 336, 339XP (continued)



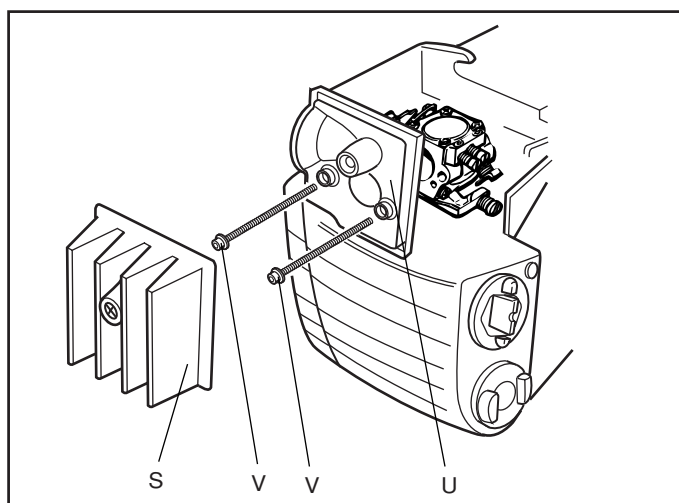
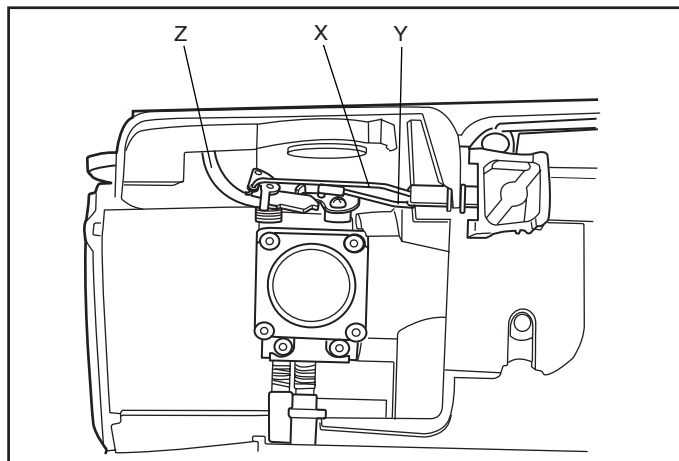
WARNING!

The fuel used in the chain saw has the following hazardous properties:

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

Once the carburettor has been pressure tested assembly continues as follows:

1. Fit the fuel pipe (Z) using pliers with smooth jaws. Take care not to damage the pipe.
2. Insert the carburettor a little and fit the throttle wire (Y). Then insert the carburettor fully.
3. Fit the choke control (X) to the tank unit and carburettor.
4. Fit the air filter holder (U) using the two screws (V) and tighten the screws to 1.5 Nm. Fit the air filter (S).
5. Fit the carburettor cover.
6. Fit the chain and bar. See the Operator's manual.
7. The operation of the carburettor is also affected if the manifold pipe or pulse tube is defective. Inspect these parts too.
8. To change the manifold pipe, see the chapter "AV-system".
9. To change the pulse tube, see the chapter "Tank unit".



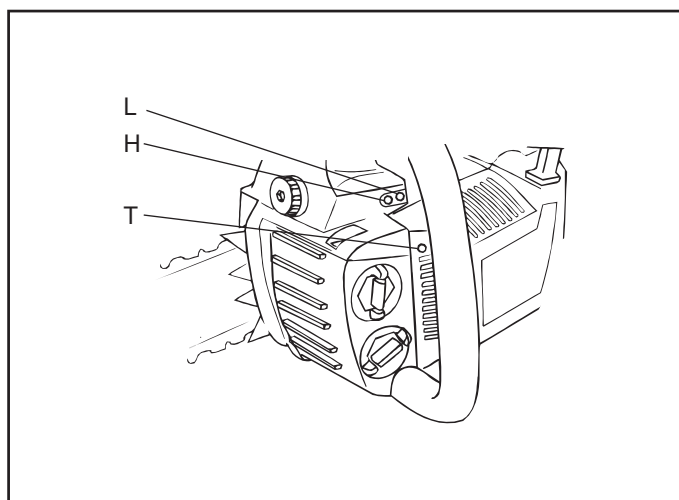
Basic adjustment of the high and low speed needles

Important! The following must be done before any adjustments are made!

- Fit a bar and chain combination approved for this model. "See the technical data in the Operator's Guide".
- Tension the chain so that there is still around 0.2 tum/5 mm to the underside of the bar.
- Fit a new air filter.

Done 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 max. speed is 13,000 ± 200 rpm. Use a screwdriver with a small blade.
3. Let the engine run at 13,000 rpm until it is warm, about 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 anticlockwise until it stops.)
5. Carefully knock the locking cap in position using a suitable punch (5 mm).
6. Adjust the idling speed to 2,800 rpm.
7. Adjust the L-needle until the highest idling speed has been reached, now screw the L-needle anticlockwise a 1/2 turn. Use a screwdriver with a small blade.
8. Adjust the locking cap to its richest position. (Screw anticlockwise until it stops.) Carefully knock the locking cap in position using a suitable punch (5 mm).



CARBURETTOR

Carburettor

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

When your engine has consumed 8-10 tanks of fuel the engine has been "run-in". To ensure that it runs in the best possible way and emits as few harmful gases as possible after the running in period, let your dealer/service workshop that has a tachometer, adjust your carburettor so that it gives optimal performance.

Function, Basic setting, Fine tuning



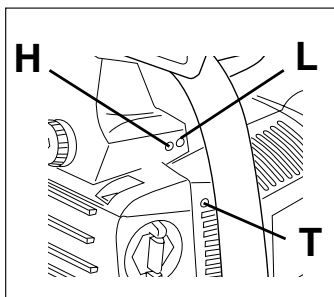
WARNING! The bar, chain and clutch cover (chain brake) must be fitted before the saw is started otherwise the clutch can work loose and cause personal injury.

Function

- The carburettor controls the speed of the engine via the throttle. Air/fuel is mixed in the carburettor. This air/fuel mixture is adjustable. The adjustment must be correct to utilise the saw's maximum power.
- Adjustment of the carburettor means that the engine is adapted to local conditions, e.g. the climate, altitude, petrol and the type of 2-stroke oil.

- The carburettor is fitted with three adjustment possibilities:

L = Low speed needle
H = High speed needle
T = Adjuster screw for idling



- The fuel quantity in relation to the air flow permitted by the throttle opening is adjusted by the L and H-needles. Turning the needles clockwise gives a leaner fuel mixture (less fuel) and turning them anticlockwise gives a richer fuel mixture (more fuel). A lean mixture gives a higher speed while a richer mixture gives a lower speed.
- The T-screw regulates the position of the throttle while the engine is idling. Turning the screw clockwise gives a higher idling speed while turning it anticlockwise gives 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 during the engine's first working hours. Thereafter the carburettor should be fine tuned. Fine tuning should be done by a qualified mechanic.

NOTE! If the chain rotates while idling the T-screw should be turned anticlockwise until it stops.

Recommended idling speed: 2,800 rpm



WARNING! Contact your service workshop if the idling speed cannot be adjusted so that the chain does not rotate. Do not use the saw until it is adjusted correctly or repaired.

Fine adjustment

- Fine adjustment of the carburettor should be carried out once the engine has been "run-in". **Fine tuning should be done by a qualified mechanic.** First adjust the L-needle, then the idling speed's T-screw and finally the H-needle.

Conditions

- The air filter should be clean and the carburettor cover fitted when adjustments are made. Adjusting the carburettor with a dirty air filter will give a too lean fuel mixture the next time the air filter is cleaned. This can result in serious damage to the engine.
- Carefully turn the L and H-needles to the centre position between fully screwed in and fully screwed out.
- **Do not attempt to adjust the needles past the stop, as this can result in damage.**
- Start the saw according to the start instruction and run warm for 10 minutes.
NOTE! If the chain rotates while idling the T-screw should be turned anticlockwise until it stops.
- Place the saw on a flat surface so that the bar points away from you and so that the chain and bar do not make contact with the surface or any other objects.

Low speed needle L

Screw the L-needle clockwise until it stops. If the engine has bad acceleration or uneven idling turn the L-needle anticlockwise until good acceleration and idling are obtained.

NOTE! If the chain rotates while idling the T-screw should be turned anticlockwise until it stops.

Fine tuning idling T

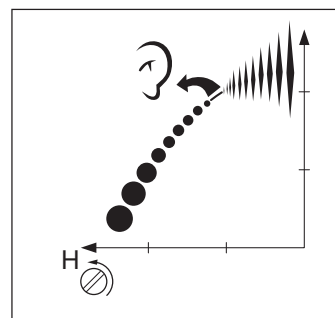
Adjustment of the idling speed is done with the screw marked T. If adjustment is necessary, screw in (clockwise) the idling screw T with the engine running until the chain starts to rotate. Now open (anticlockwise) until the chain is at a standstill. A correctly set idling speed is when the engine runs smoothly in all positions with a good margin to the speed when the chain starts to rotate.



WARNING! Contact your service workshop if the idling speed cannot be adjusted so that the chain does not rotate. Do not use the saw until it is adjusted correctly or repaired.

High speed needle H

The high speed needle H affects the saw's power and speed. A too lean high speed needle setting (H-needle screwed in too far) gives over revving on the saw resulting in damage to the engine. Turn the H-needle anticlockwise until it stops. If the engine runs unevenly turn the H-needle clockwise until the engine runs evenly.



The H-needle is set correctly when the saw "splatters" a little. If the saw "screams" the setting is too lean. If the muffler smokes heavily, at the same time as the saw splatters a great deal the setting is too rich. Turn the H-needle clockwise until you find the setting that sounds right.

NOTE! Use a mechanic with access to a tachometer to make an optimal setting.

Correctly adjusted carburettor

A correctly adjusted carburettor means that the saw accelerates without hesitation and that it 4-strokes a little at full throttle. In addition the chain should not rotate when idling. An L-needle adjusted too lean can cause starting difficulties and bad acceleration. An H-needle adjusted too lean gives the saw lower power = "less strength", bad acceleration and/or damage to the engine. A too rich setting of the L and H-needles gives acceleration problems or a too low working speed.

TANK UNIT



WARNING!

The fuel used in the chain saw has the following hazardous properties:

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

Dismantling

Dismantle the following parts:

1. Bar and chain. See the Operator Guide.
2. Centrifugal clutch. See the chapter "Centrifugal clutch".
3. Muffler. See the chapter "Safety equipment".
4. Carburettor. See the chapter "Carburettor".
5. Starter. See the chapter "Starter".
6. Ignition system and the spark plug. See the chapter "Ignition system".

Continue to dismantle the tank unit according to the following instructions:

1. Drain off the oil and fuel.

Only 334T, 338XPT:

2. Dismantle the bolt (A) and impulse hose (B).
3. Dismantle the bolts (C) and (F) as well as the exhaust duct plate (D).

Only 336, 339XP:

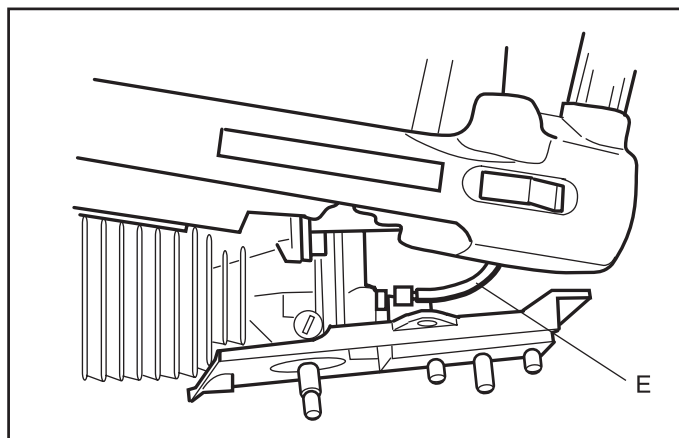
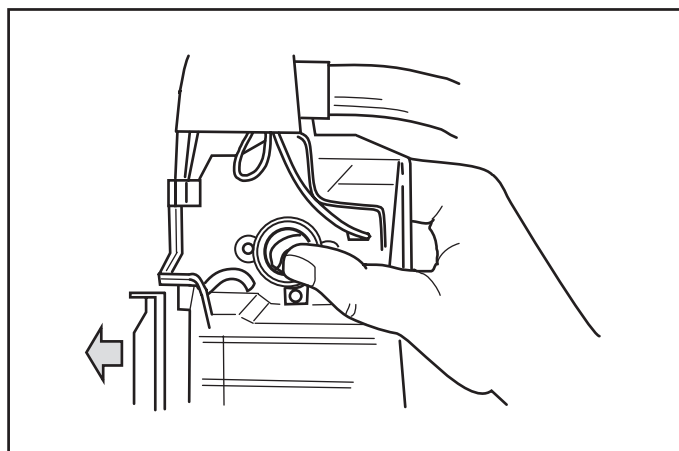
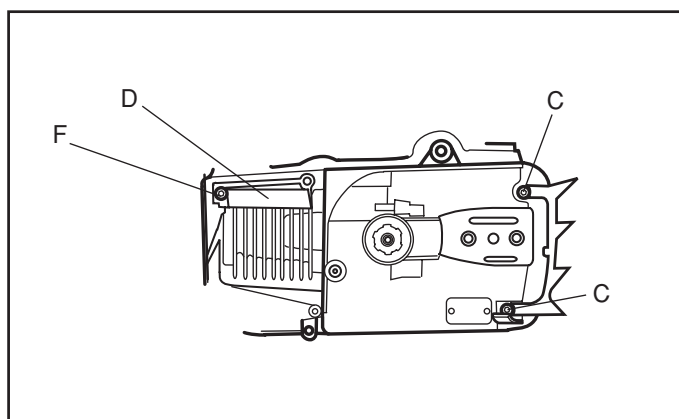
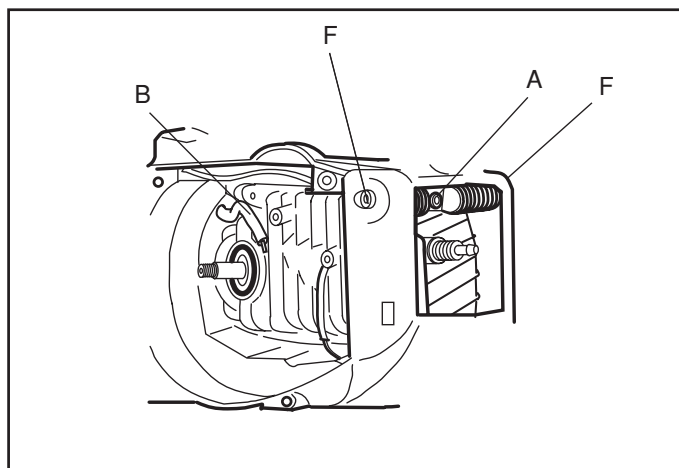
2. Undo screws (F) to release the rear vibration damper and exhaust guide plate from the tank unit. Also remove screws (C).

3. Press the tank unit upwards to remove screw (A).

This applies to both models of chain saw:

4. Press down the intake manifold in the hole in the tank unit at the same time as you move the engine unit out towards the clutch side.

5. Then loosen the oil hose (E).



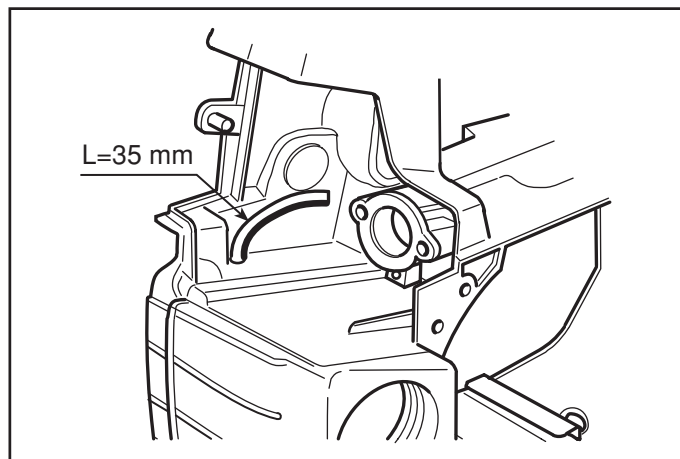
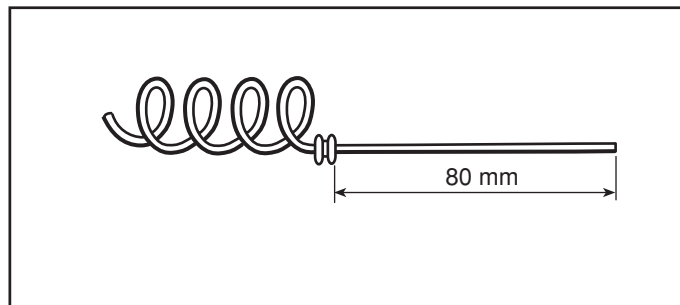
Cleaning and inspection

Clean all parts and check that the fuel and oil hoses are intact.

TANK UNIT

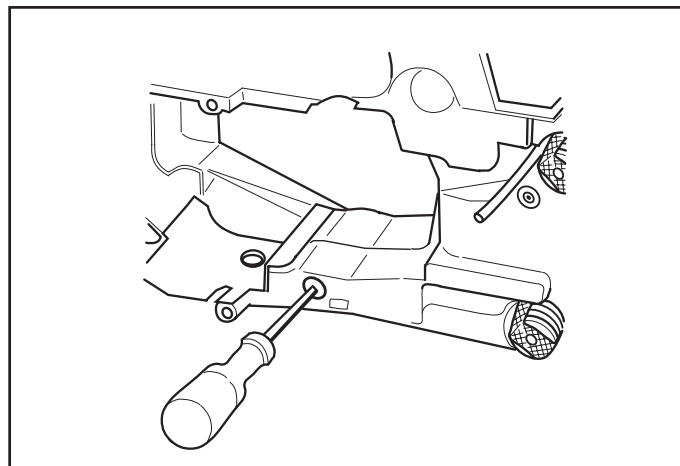
Changing the fuel hose and fuel filter

1. Take out the fuel filter with the attached hose with the help of a hook 502 50 83-01.
2. Pull the hose out through the rubber grommet.
3. Dismantle the rubber grommet.
4. Fit a new rubber grommet on a new hose so that the hose protrudes about 80 mm.
5. Insert the hose from the outside and press in the rubber grommet so that it is fastens in the hole.
6. Pull the hose out of the tank using hook 502 50 83-01, cut off the end 50 mm from the tank cap plane and fit the filter.
7. Insert the other end of the hose through the hole on the tank unit. Adjust so that the hose protrudes about 35 mm. The hose may need to be shifted in the rubber grommet.



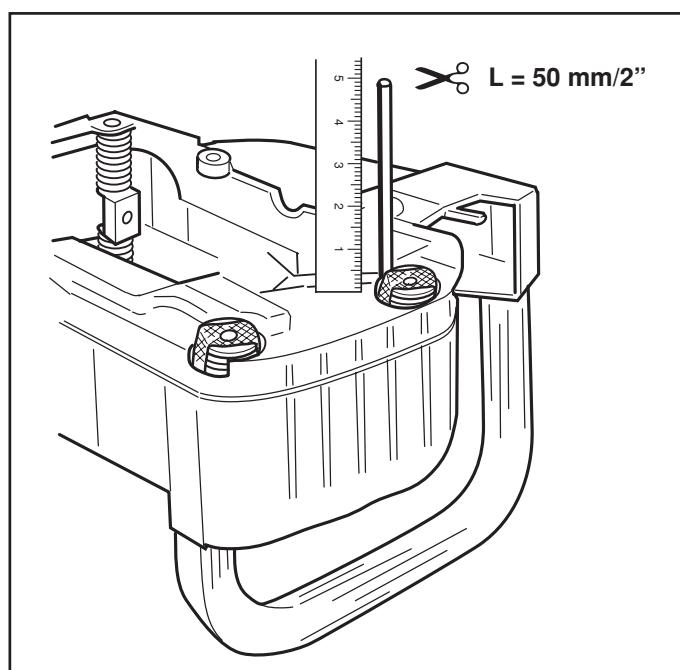
Replacing the tank ventilator valve, fuel tank

1. Inset a screwdriver in the valve, rock and dismantle the valve.
2. Press in a new valve using the handle of a screwdriver.



Replacing the oil hose and screen

1. Take out the oil screen with the attached hose using a hook 502 50 83-01.
2. Pull the hose out through the oil tank.
3. If necessary, dismantle the screen and clean it.
4. Fit a new hose from the clutch side, through the hole in, and inside the oil tank. Let the hose protrude 50 mm above the flat surface.
6. Pull the hose out of the tank using hook 502 50 83-01, cut off the end 50 mm from the tank cap plane and fit the screen.

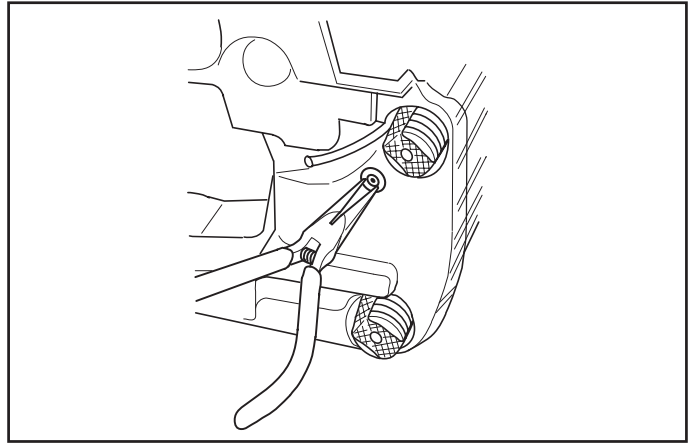


TANK UNIT

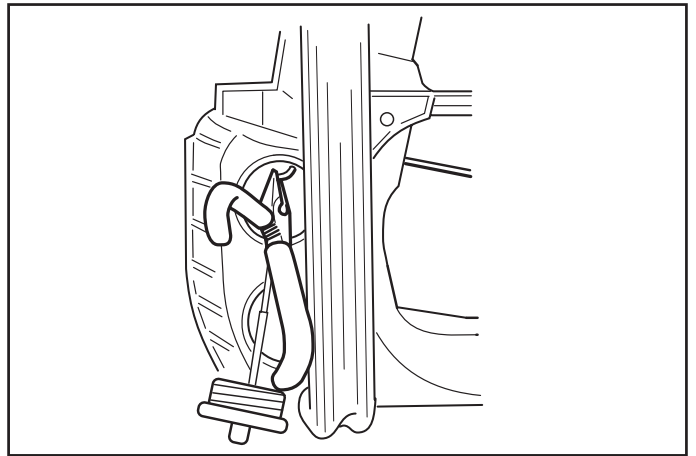
Replacing the tank vent valve, oil tank

334T, 338XPT:

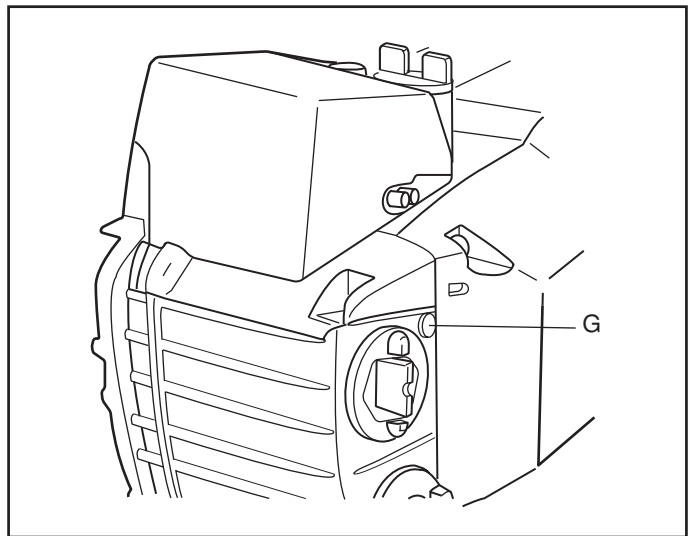
1. Pull out the valve's rubber fastener using a pair of pliers.
2. Fit a new pin, vyon plug and valve in a new rubber fastener, place the unit in the hole in the tank from the outside.



3. Pull in the valve with fitted vyon plug and pin using a pair of long-nosed pliers from inside the tank.



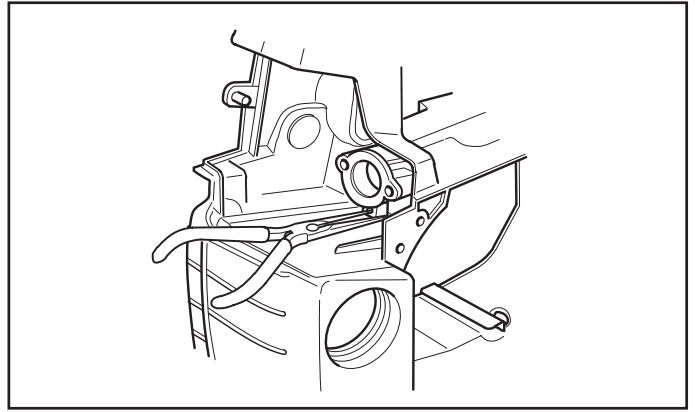
1. Pull out the vyon plug (G) by pushing in a screwdriver and prising it out. Then pull out the plastic valve.
2. Fit the plastic valve and vyon plug, using the shaft of a screwdriver to press the vyon plug in place.



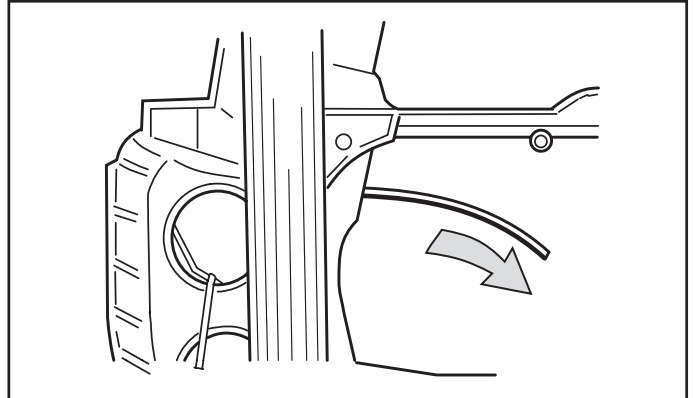
TANK UNIT

Replacing the impulse hose

1. Pull out the old impulse hose using pliers.



2. Insert the new impulse hose from the carburettor side and carefully pull it in from the engine side.



TANK UNIT



WARNING!

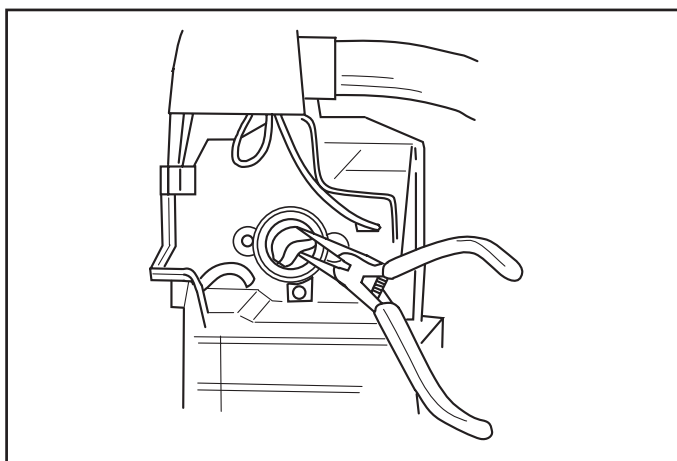
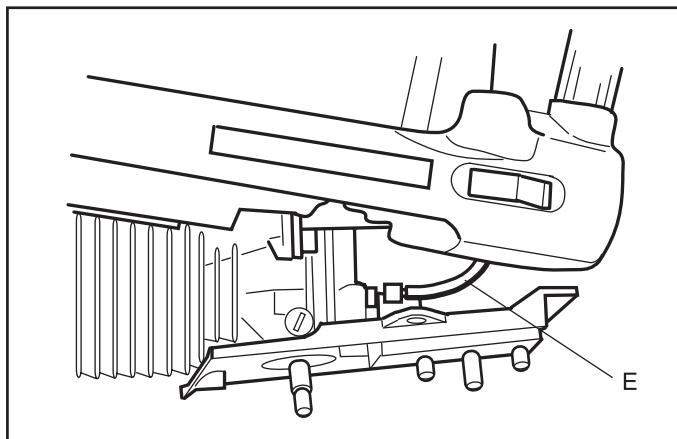
The fuel used in the chain saw has the following hazardous properties:

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

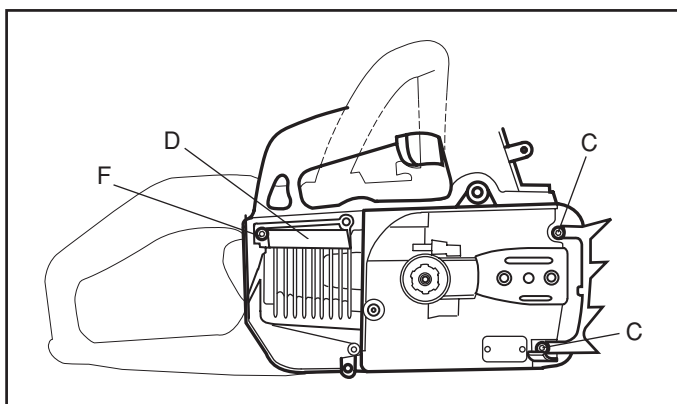
Assembly

Assemble the following parts:

1. Fit the engine unit from the clutch side and at the same time move the oil hose (E).
2. Grab the intake manifold through the hole in the tank unit using flat pliers and carefully pull it up.



3. Fit the chain catcher and the bolts (C).

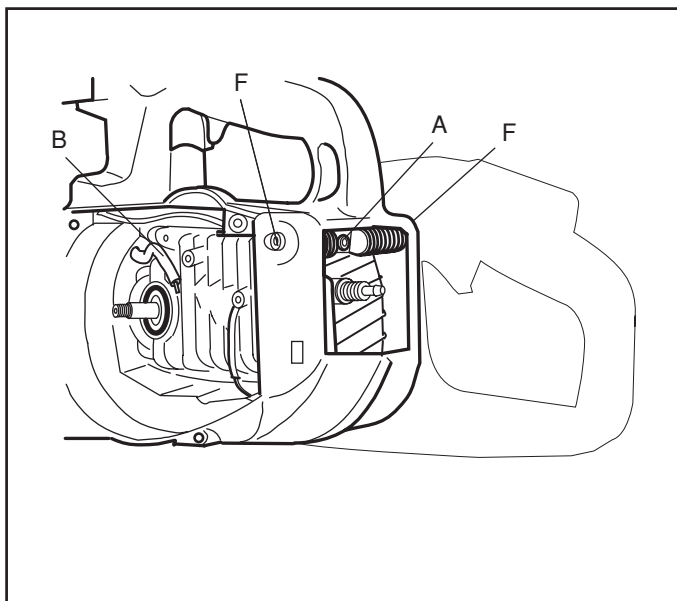


4. Fit the bolt (A), the bolts (F), the guard (D) and the impulse hose (B).

Assemble the following parts:

5. Fit the ignition system and the spark plug. See the chapter "Ignition system".
6. Fit the starter. See the chapter "Starter".
7. Fit the carburettor. See the chapter "Carburettor".
8. Fit the muffler. See the chapter "Safety equipment".
9. Assemble the centrifugal clutch. See the chapter "Centrifugal clutch".
10. Assemble the chain and bar. See the Operator Guide.

After assembly is complete, refuel and test run the chain saw. See the Operator Guide.



Anti vibration system



WARNING!

The fuel used in the chain saw has the following hazardous properties:

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

Dismantling

Dismantle the following parts:

1. Bar and chain. See the Operator Guide.
2. Centrifugal clutch. See the chapter "Centrifugal clutch".
3. Muffler. See the chapter "Safety equipment".
4. Carburettor. See the chapter "Carburettor".
5. Starter. See the chapter "Starter".
6. Ignition system and the spark plug. See the chapter "Ignition system".
7. Tank unit. See the chapter "Tank unit".

Now dismantle the following:

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

Cleaning and inspection

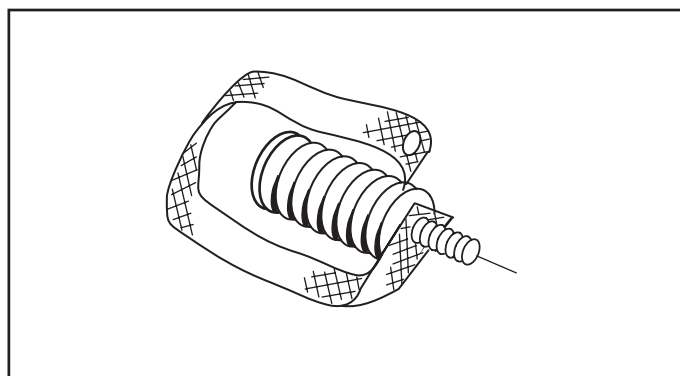
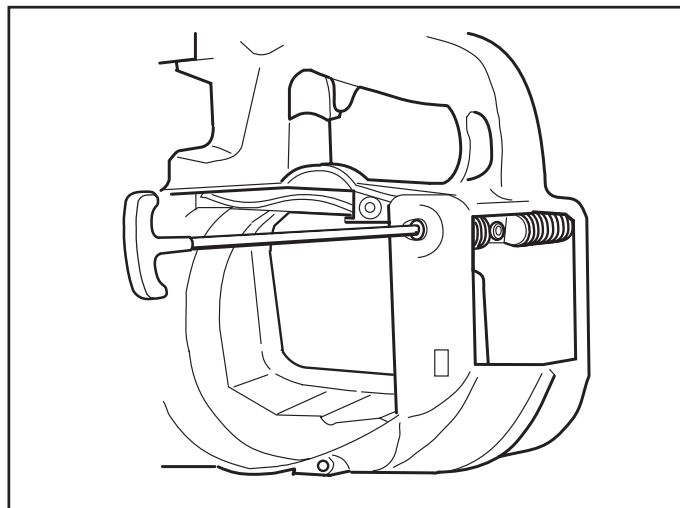
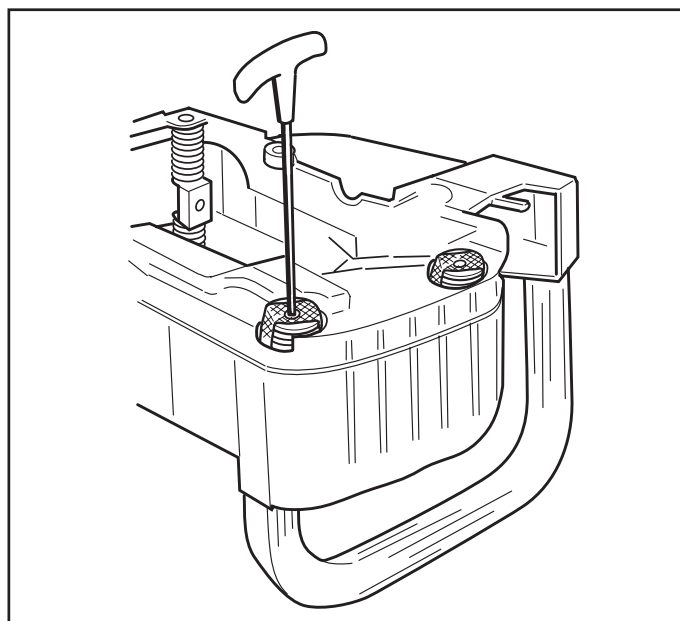
Clean and inspect all parts.

Assembly

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

Assemble the following parts:

1. Tank unit. See the chapter "Tank unit".
2. Ignition system and the spark plug. See the chapter "Ignition system".
3. Starter. See the chapter "Starter".
4. Carburettor. See the chapter "Carburettor".
5. Muffler. See the chapter "Safety equipment".
6. Centrifugal clutch. See the chapter "Centrifugal clutch".
7. Bar and chain. See the Operator Guide.



CRANKSHAFT, PISTON AND CYLINDER

Dismantling

Dismantle the following parts:

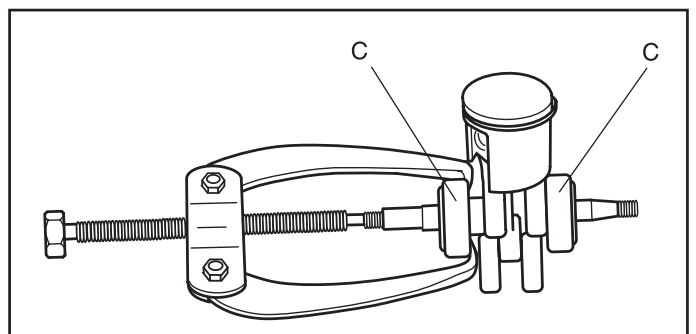
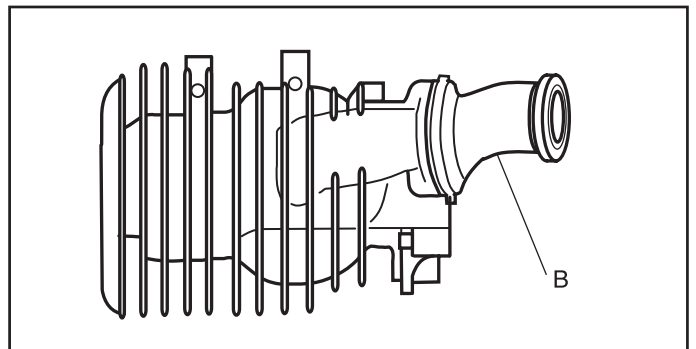
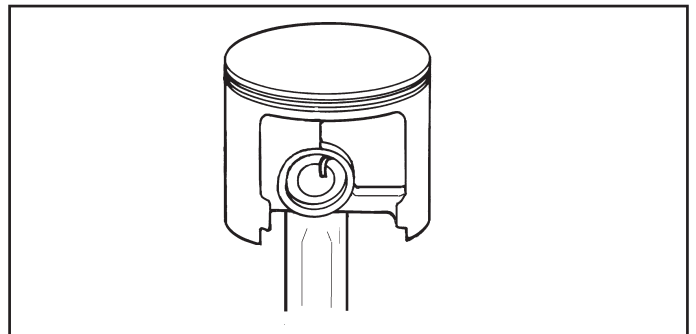
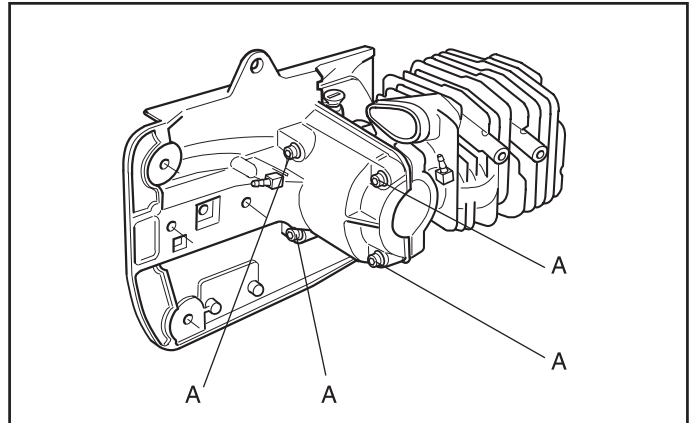
1. Bar and chain. See the Operator Guide.
2. Centrifugal clutch. See the chapter "Centrifugal clutch".
3. Muffler. See the chapter "Safety equipment".
4. Carburettor. See the chapter "Carburettor".
5. Starter. See the chapter "Starter".
6. Ignition system and the spark plug. See the chapter "Ignition system".
7. Tank unit. See the chapter "Tank unit".

NOTE!

Exercise care so that dirt and foreign particles do not enter dismantled parts.

Continue to dismantle the piston and cylinder as follows:

8. Undo the four bolts (A).
9. Remove 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 connecting rod little end.
13. Dismantle the inlet manifold (B) from the cylinder.
14. Dismantle the bearing (C) using the puller 504 90 90-01.



CRANKSHAFT, PISTON AND CYLINDER

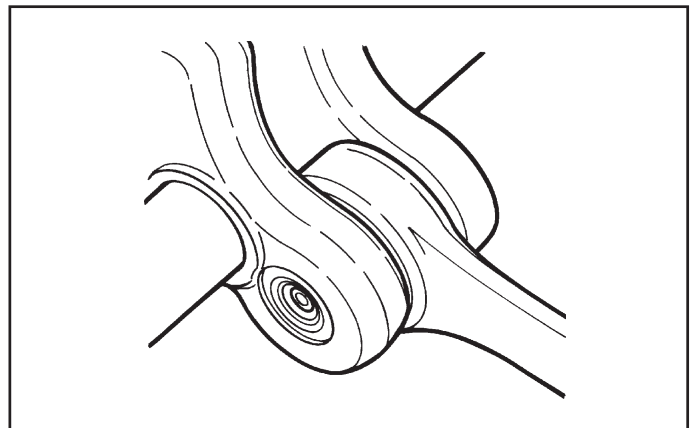
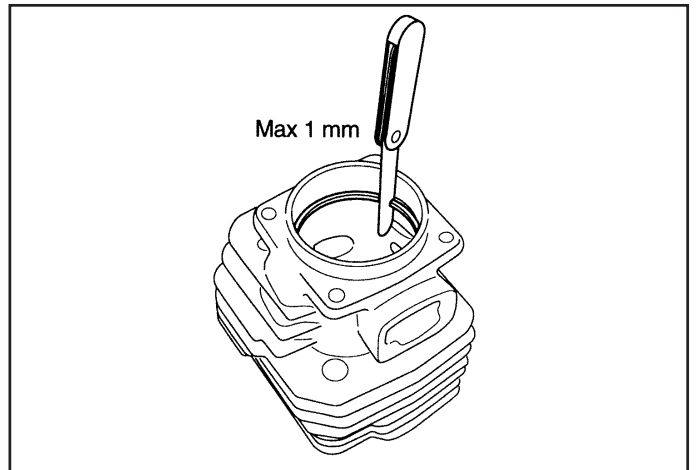
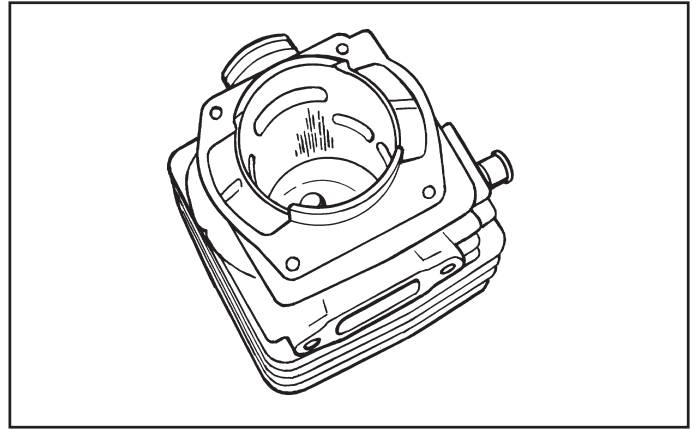
Cleaning and inspection

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

1. The piston crown.
2. Top of the cylinder bore (inside).
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. Minor 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.
6. That the intake manifold is undamaged.
7. That the bearings and their rubber seals are undamaged.
8. That the big-end bearing does not have any radial play. Axial play is permitted.
9. That the big-end bearing does not have any score marks or is discoloured on the sides.
10. That the bearing surfaces for the little-end does not have any score marks or is discoloured.
11. Crankshaft cannot be reconditioned. In the event of damage the crankshaft must be replaced.
12. That the crankcase is not cracked.



Faults and causes

Score marks on the piston

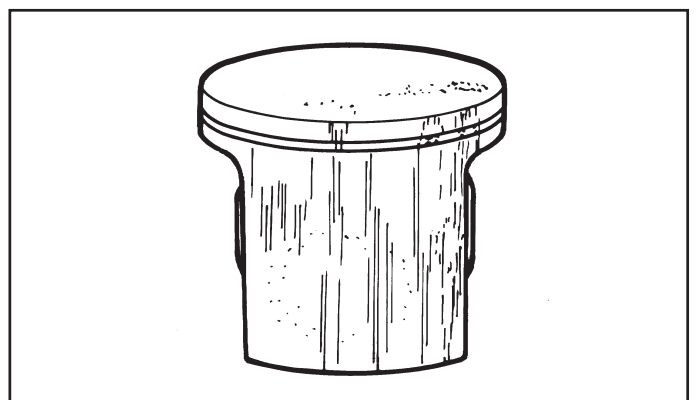
1. Incorrect carburettor setting. Too high overspeed.
2. Too low octane fuel.
3. Too low or incorrect oil in the fuel.

Carbon build-up

1. Incorrect carburettor setting. Too low overspeed.
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

Assembly of the piston and cylinder is carried out as follows:

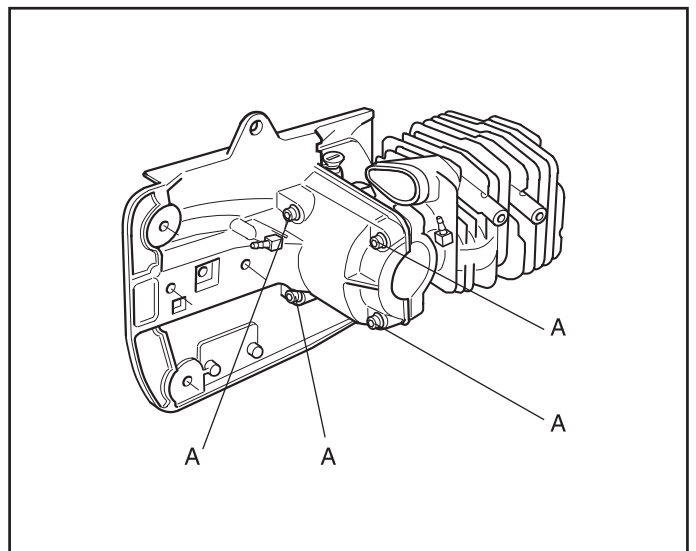
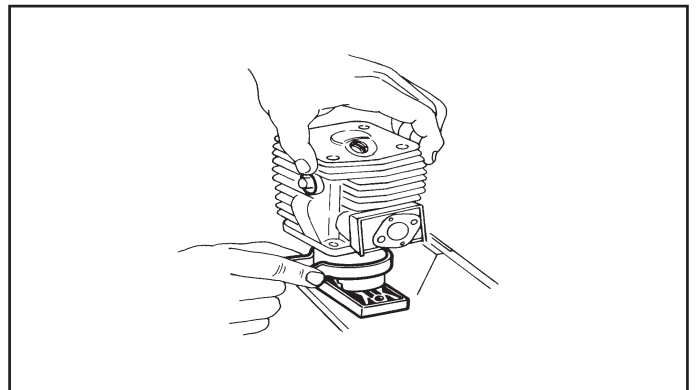
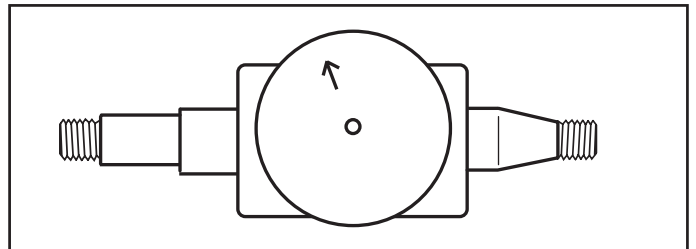
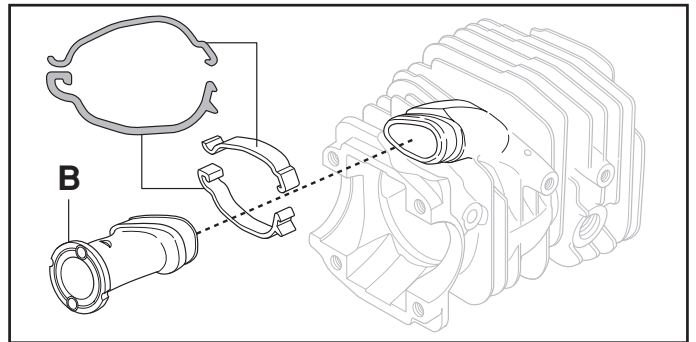
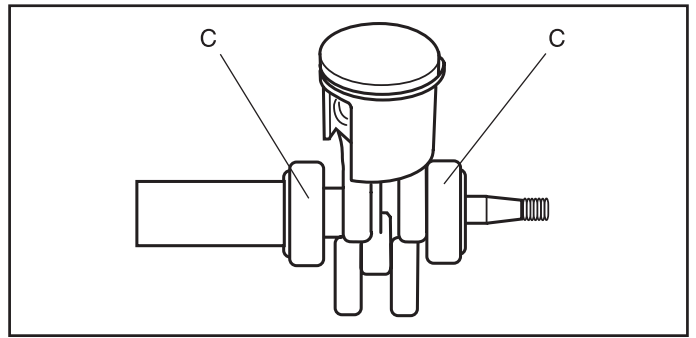
NOTE!

Exercise care so that dirt and foreign particles do not enter dismantled parts.

1. Fit the bearing (C) using the a suitable mandrel.
2. Fit the inlet manifold (B) from the cylinder. Check that the inlet manifold is turned as illustrated.
3. Lubricate the needle bearing and fit in the connecting rod little-end.
4. Replace the piston with the arrow facing the exhaust port. Slide in the gudgeon pin and fit the circlip.
5. Oil the piston and piston ring.
6. Fit the crankshaft with the piston in the crankcase.
7. Apply silicone rubber 504 98 26-01 to the crankcase halves' contact surfaces.
8. Compress the piston ring, either by hand or by using the piston assembly tool 502 50 70-01. Carefully fit the cylinder.
9. Insert the four bolts (A) and tighten crosswise. Finally tighten to 8-10 Nm.
10. Pressure test the crankcase in accordance with the instructions on the next page.

Assemble the following parts:

11. Tank unit. See the chapter "Tank unit".
12. Ignition system and the spark plug. See the chapter "Ignition system".
13. Starter. See the chapter "Starter".
14. Carburettor. See the chapter "Carburettor".
15. Muffler. See the chapter "Safety equipment".
16. Centrifugal clutch. See the chapter "Centrifugal clutch".
17. Bar and chain. See the Operator Guide.



CRANKSHAFT, PISTON AND CYLINDER

Removing the decompression valve

Disconnect the pipe from the nipples (B and C). Use a ring spanner (15 mm) to remove the valve from the cylinder. Check that the valve can be pressed in easily and springs back out again. If the valve is stiff it should be soaked in petrol for a while to loosen the particles of soot. It can then be blown clean with compressed air.

Use a pressure tester to check that the non-return valve is working correctly. Air should only pass through in the direction of the arrow, see diagram. If the non-return valve is defective, replace it.

Fitting the decompression valve

Screw the valve into the cylinder using a ring spanner to a torque of 12–14 Nm. Then use a spanner to turn the brass part of the valve to roughly the position shown in the diagram, so that the pipe can be connected in the correct position. The brass part is not threaded and can therefore be turned in either direction.

Pressure testing

The following parts must be removed to pressure test the crankcase and cylinder:

- Carburettor. See the chapter "Carburettor".
- Muffler. See the chapter "Safety equipment".
- Starter. See the chapter "Starter".
- Flywheel. See the chapter "Ignition system".

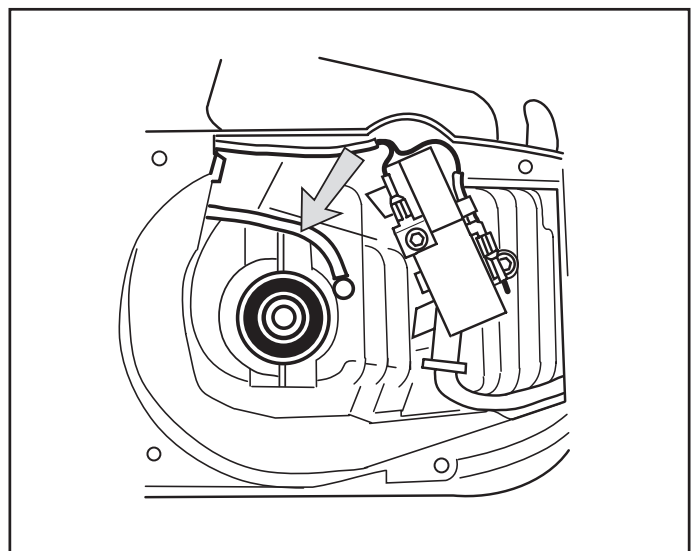
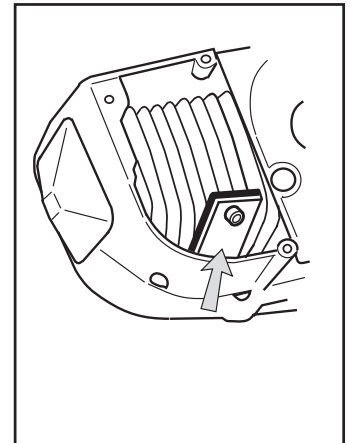
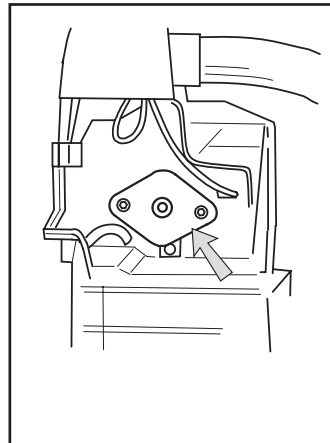
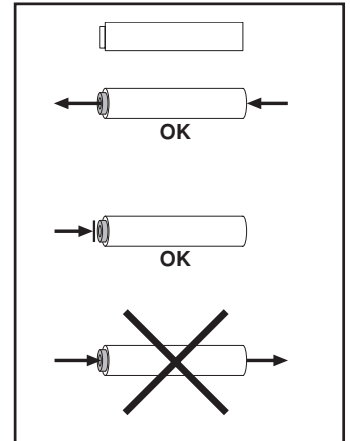
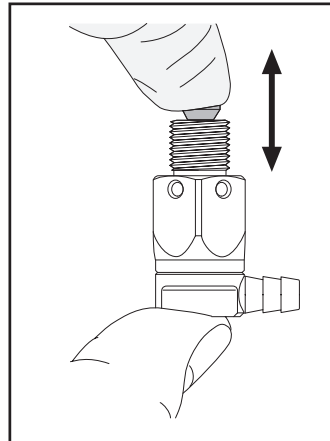
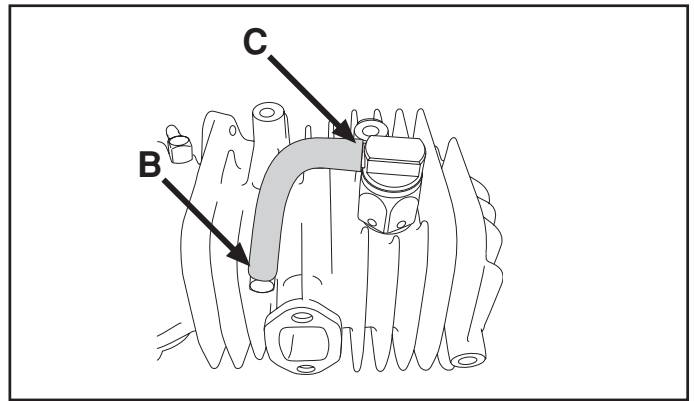
Carry out pressure testing as follows:

1. Fit the cover plate 502 52 01-01 on the inlet manifold. Now 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 impulse channel and seal the nipple.
4. Pump up the pressure to 80 kPa (0.8 bar).
5. Wait 30 seconds.
6. The pressure must not fall below 60 kPa (0.6 bar).
7. Leakage can occur on the crankshaft's sealing rings.
8. Dismantle the cover plates.

Assemble the following parts:

- Flywheel. See the chapter "Ignition system".
- Starter. See the chapter "Starter".
- Carburettor. See the chapter "Carburettor".
- Muffler. See the chapter "Safety equipment".



BAR BOLT

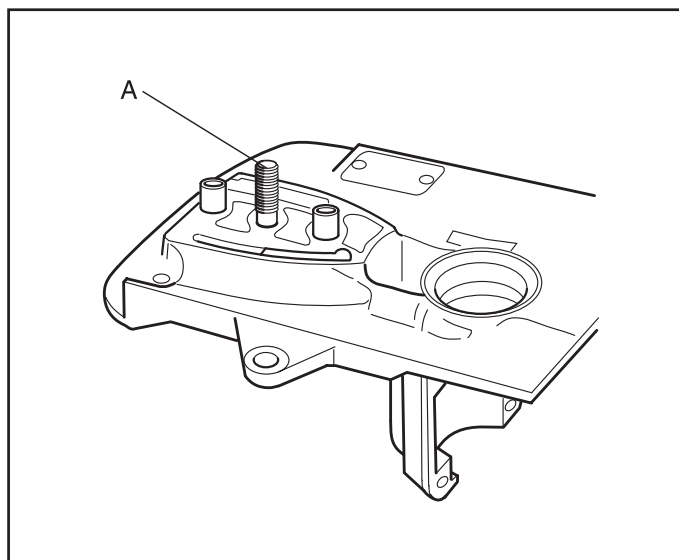
Dismantling

Dismantle the following parts:

1. Bar and chain. See the Operator Guide.
2. Centrifugal clutch. See the chapter "Centrifugal clutch".
3. Muffler. See the chapter "Safety equipment".
4. Carburettor. See the chapter "Carburettor".
5. Starter. See the chapter "Starter".
6. Ignition system and the spark plug. See the chapter "Ignition system".
7. Tank unit. See the chapter "Tank unit".

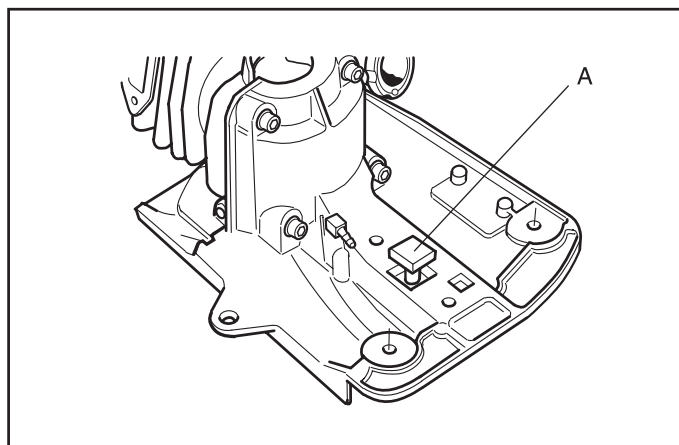
Continue to dismantle as follows:

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



Assembly

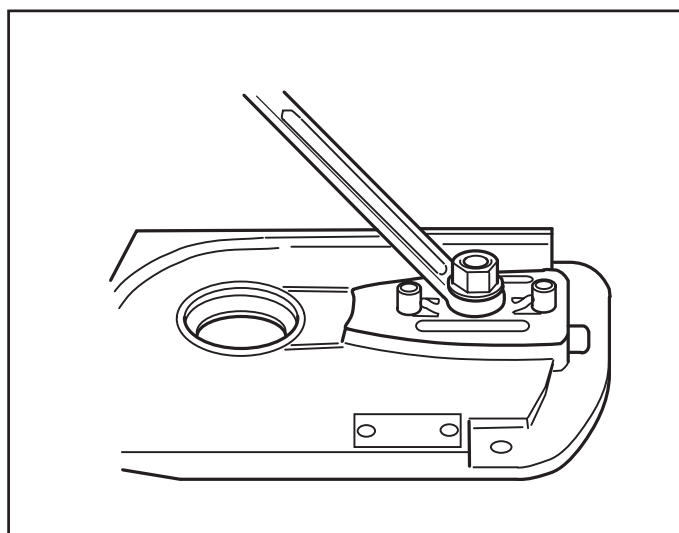
1. Insert the new bar bolt (A) into its hole in the engine unit. Make sure the square head of the bolt fits in the square hole in the engine unit.



2. Turn the bolt into the right position by using a socket and nut.

Now assemble the following parts:

3. Tank unit. See the chapter "Tank unit".
4. Ignition system and the spark plug. See the chapter "Ignition system".
5. Starter. See the chapter "Starter".
6. Carburettor. See the chapter "Carburettor".
7. Muffler. See the chapter "Safety equipment".
8. Centrifugal clutch. See the chapter "Centrifugal clutch".
9. Bar and chain. See the Operator Guide.



OIL PUMP

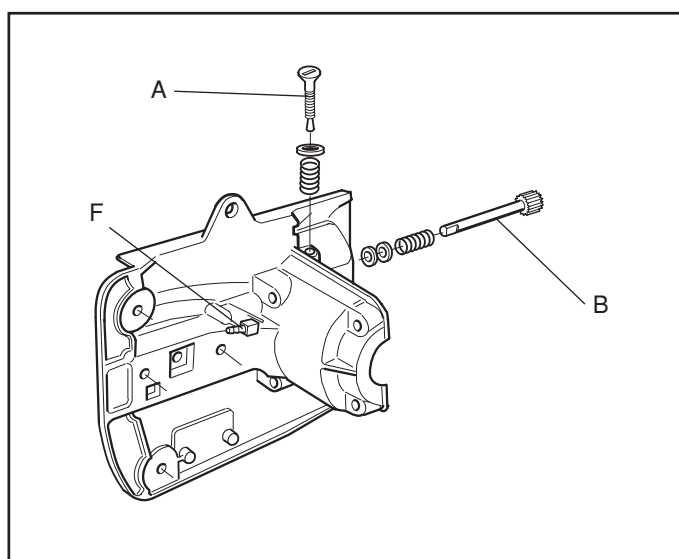
Dismantling

Dismantle the following parts:

1. Bar and chain. See the Operator Guide.
2. Centrifugal clutch. See the chapter "Centrifugal clutch".
3. Muffler. See the chapter "Safety equipment".
4. Carburettor. See the chapter "Carburettor".
5. Starter. See the chapter "Starter".
6. Ignition system and the spark plug. See the chapter "Ignition system".
7. Tank unit. See the chapter "Tank unit".
8. Cylinder and crankshaft. See the chapter "Crankshaft, Piston and Cylinder".

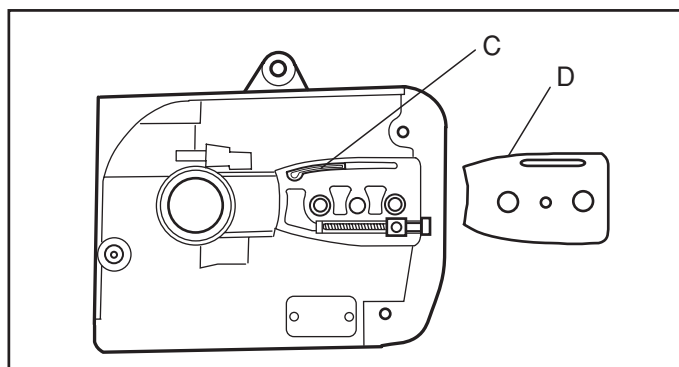
Continue to dismantle the oil pump as follows:

9. Undo the adjust screw (A) with washer and dismantle the pump piston (B), spring and washer.



10. Dismantle the cover plate (D).

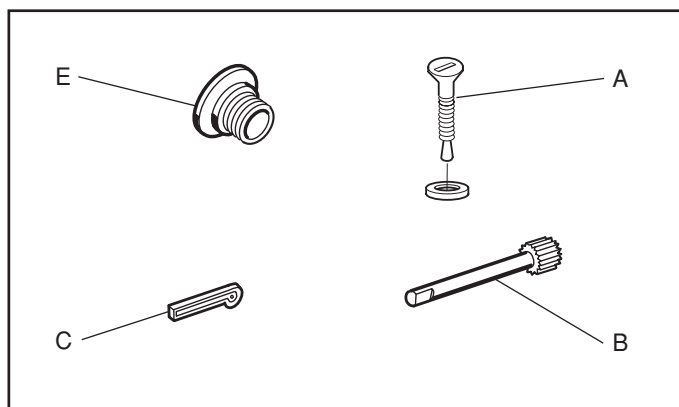
11. Dismantle the guide (C).



Cleaning and inspection

Clean all components and check the following:

1. That the oil pump drive's worm gear (E) is undamaged.
2. That the washer on the adjuster screw (A) does not show signs of wear.
3. That the guide (C) is undamaged.
4. That the pump piston (B) is undamaged
5. That the oil hose and screen are undamaged.
6. Clean all channels.
7. That the nipple (F) is not loose. Replace if this is the case.

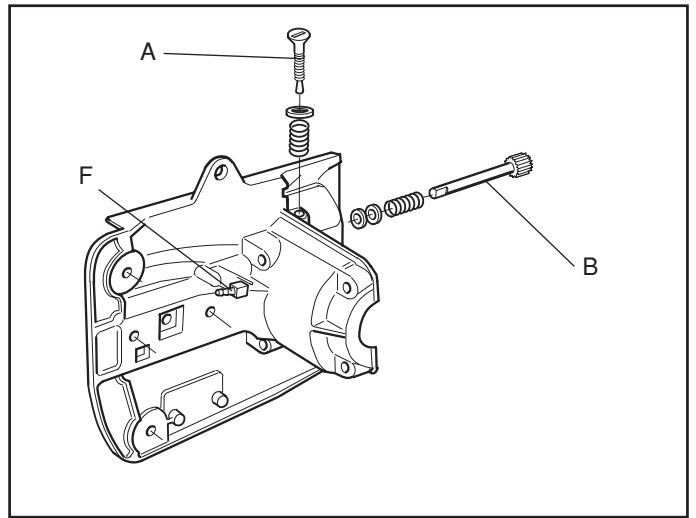


OIL PUMP

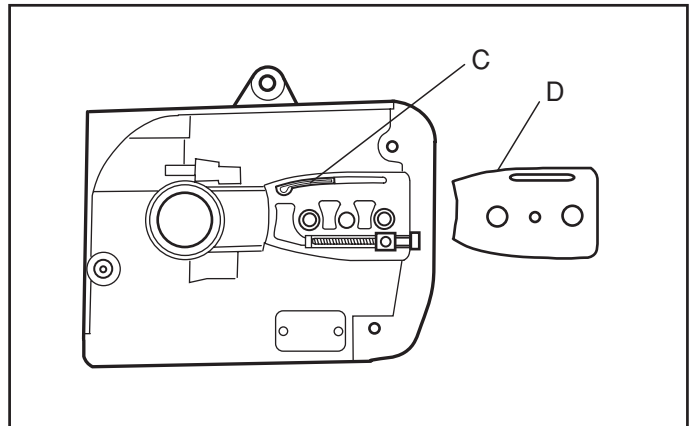
Assembly

Assemble as follows:

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



2. Fit the guide (C) and cover plate (D).



Now assemble the following parts:

3. Cylinder and crankshaft. See the chapter "Crankshaft, Piston and Cylinder".
4. Tank unit. See the chapter "Tank unit".
5. Ignition system and the spark plug. See the chapter "Ignition system".
6. Starter. See the chapter "Starter".
7. Carburettor. See the chapter "Carburettor".
8. Muffler. See the chapter "Safety equipment".
9. Centrifugal clutch. See the chapter "Centrifugal clutch".
10. Bar and chain. See the Operator Guide.
11. Test run the chain saw and check the oil flow. See the Operator Guide.



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