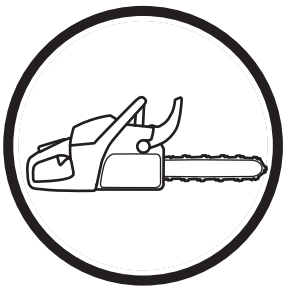
Husqvarna®

Workshop manual

H130, H135 Mark II



English

Workshop Manual

H130, H135 Mark II

Contents

1 Introduction and safety regulations

1.1 General

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

1.2 Safety

Note! The section dealing with safety should be read and understood by all who carry out repair and service work on the chainsaw.

Warning symbols can be found in this Workshop Manual and on the chainsaw. See page 5. A new warning symbol must be applied as soon as possible if a warning symbol on the chainsaw has been damaged or is missing to ensure the greatest possible safety when using the chainsaw.

1.3 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 are to carry out repair work and service on the chainsaw. The Manual is also suitable for use when training new employees.

1.4 Modifications

Modifications will be successively introduced on the chainsaw during production. When these modifications affect servicing 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 This means that in time this Workshop manual will become out of date.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 issued concerning the chainsaw in question.

1.5 Layout

This Workshop Manual can be used in two different ways:

- For the repair of a particular system on the chainsaw.
- Dismantling and Assembly of the entire chainsaw.

Repair of a particular system

When a particular system on the chainsaw 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 chainsaw

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

1. Look up the starter chapter and carry out the instructions under the heading **Dismantling**.

2. Browse forward in the book and carry out **Dismantling** in the order given in the sections.

3. Go back to the **Starter chapter** and carry out the instructions under **Cleaning and inspection**.

4. Browse forward in the book and carry out **Cleaning and inspection** in the order given in the sections.

5. Order or take out all requisite spare parts from the stores.

6. Look up the **Crankcase chapter** and carry out the instructions under **Assembly**.

7. Browse forward in the book and carry out **Assembly** in the order given in the sections.

To improve understanding, some sections provide a **Description** first of the actual unit. Some chapters also conclude specific instructions that explain how to repair or replace a certain component.

1.6 Numbering

Position references to components inside the figures are designated A, and B, etc.
The figures are number 1, 2 etc.
The position references figure numbers restart in each new section.

1.1 General instructions

The workshop where chainsaw repairs are to be done must be equipped with safety equipment as set out in local regulations.

No one may repair the chainsaw unless they have read and understood the contents of this Workshop Manual.

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

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

CAUTION! The caution text warns of the risk of machine damage if the instructions are not followed.

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

1.2 Special instructions

The fuel used in the chainsaw has the following hazardous properties:
1. The fluid and its fumes are poisonous.
2. Can cause skin irritation.
3. 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 of burn injuries.

Insufficient lubrication of the chain can result in the chain breaking, which can cause serious or 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.

After repair, the chain brake must be checked in accordance with the instructions in the chain brake chapter.

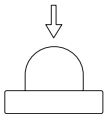
When replacing the crankshaft bearings note that the crankcase halves are hot. Wear protective gloves

Do not direct the compressed air jet towards the body when using compressed air. Air can penetrate into the blood circulation, which means life-threatening danger.

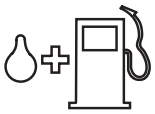
1.3 Symbols on the chainsaw

The following symbols are moulded into the chainsaw casing.

Choke



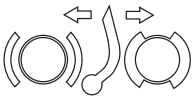
Fuel pump



Fuel filler

Stop switch

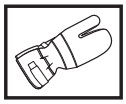
Saw chain oil filler



Chain brake

1.4 Symbols in this Workshop Manual

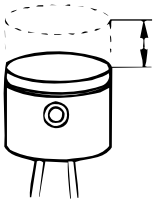
This symbol indicates a risk of personal injury if instructions are not followed.

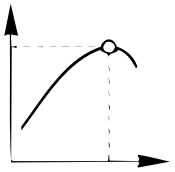


Use protective gloves.

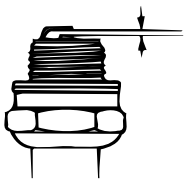
Use protective goggles.

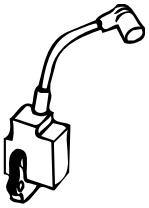
2 Technical data

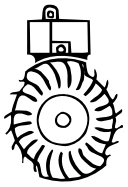


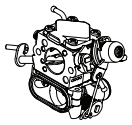


	Displacement cm³/ cubic inch	Bore Ømm/Øinch	Stroke mm/inch	Max. power/rpm kW/hp / rpm
130	38.2/2.33	39/1.535	32/1.260	1.5/9000
135	38.2/2.33	39/1.535	32/1.260	1.6/9000

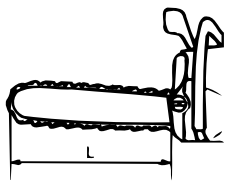


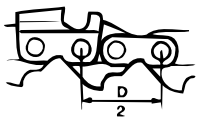


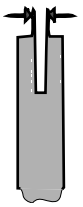




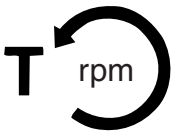
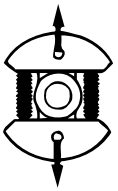
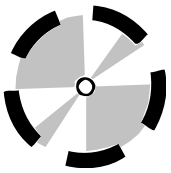
	Spark plug gap mm/inch	Ignition system	Air gap mm/inch	Carburettor type
130	0.5/0.02	Digital MBU-84	0.3/0.01	Walbro WTA 36
135	0.5/0.02	Digital MBU-84	0.3/0.01	Walbro WTA 36

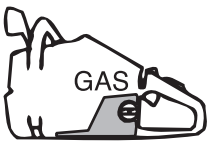
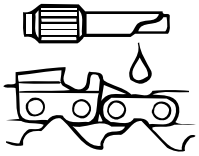
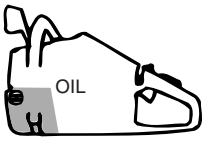
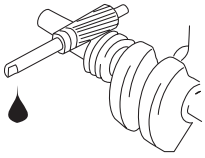


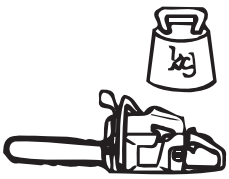




	Guide bar length cm/inch	Maximum chain speed at maximum power, m/s	Chain pitch mm/inch	Drive link mm/inch
130	35.5 - 40.6/14” - 16”	22.3 m/s at 9000 rpm	9.5/0.375	1.3/0.05
135	35.5 - 40.6/14” - 16”	22.3 m/s at 9000 rpm	9.5/0.375	1.3/0.05

				
	Idling speed rpm	Engage speed rpm	Max. speed rpm	Spark plug
130	3000 +/- 200	4200	12500	NGK BPMR7A
135	3000 +/- 200	4200	12500	NGK BPMR7A

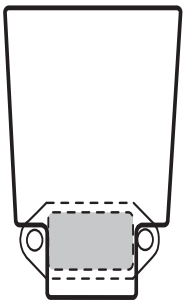
				
	Fuel tank volume Litres/US pint	Oil pump capacity cm^3/min	Oil tank volume Litres/US pint	Automatic oil pump
130	0.35/0.74	9 cm^3/min at 9000 rpm	0.26/0.55	YES
135	0.35/0.74	9 cm^3/min at 9000 rpm	0.26/0.55	YES

		
	Weight without bar and chain kg/lbs	Weight with bar and chain kg/lbs
130	4.7/10.3	5.3/11.6
135	4.7/10.3	5.3/11.6

3 Service tools

1

2a



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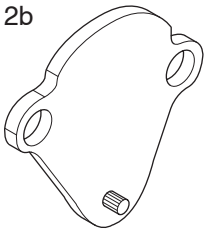

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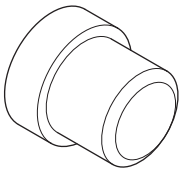

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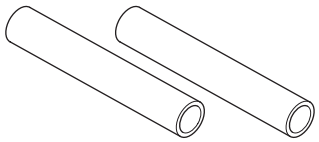

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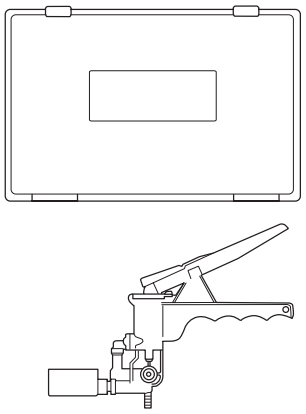

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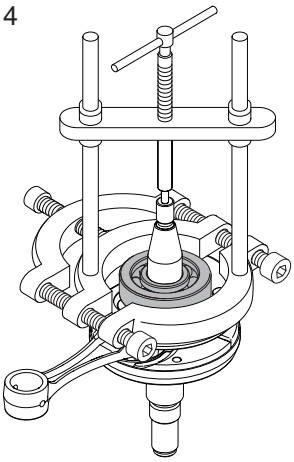

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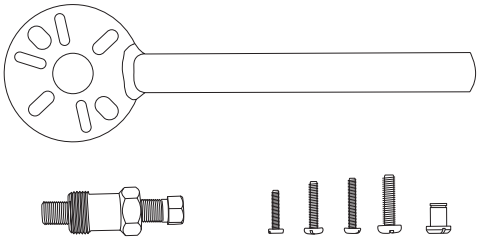

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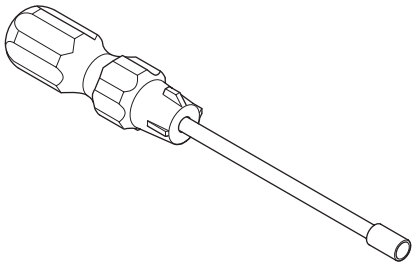

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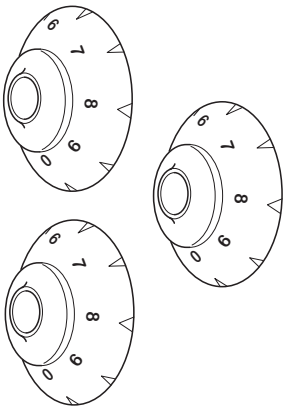

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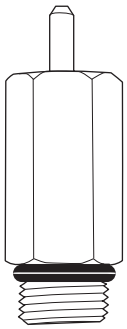

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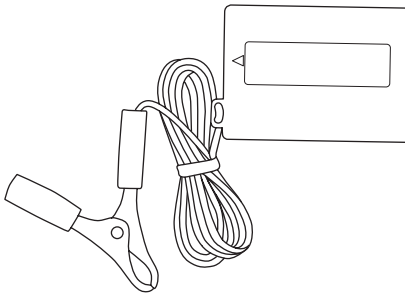

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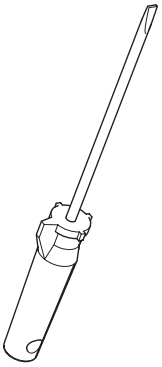

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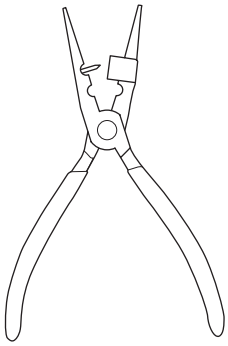

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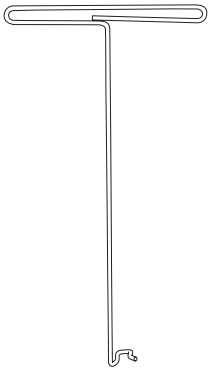

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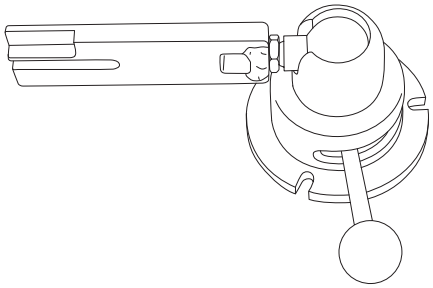

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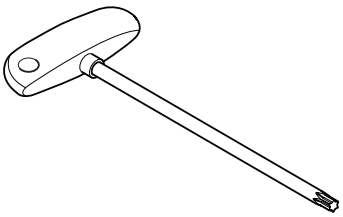

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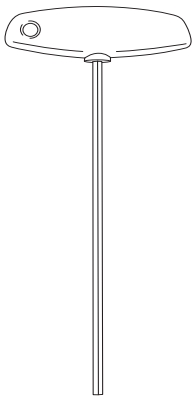

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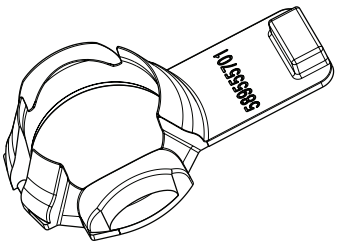

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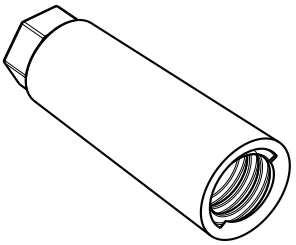

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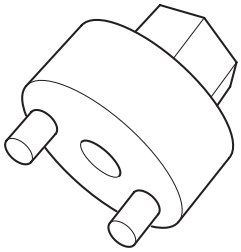

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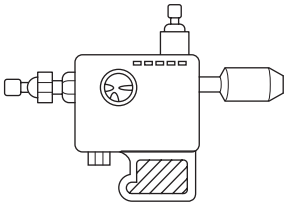

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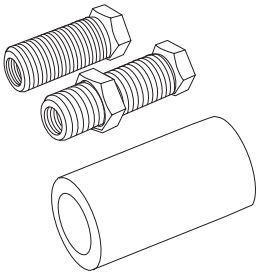
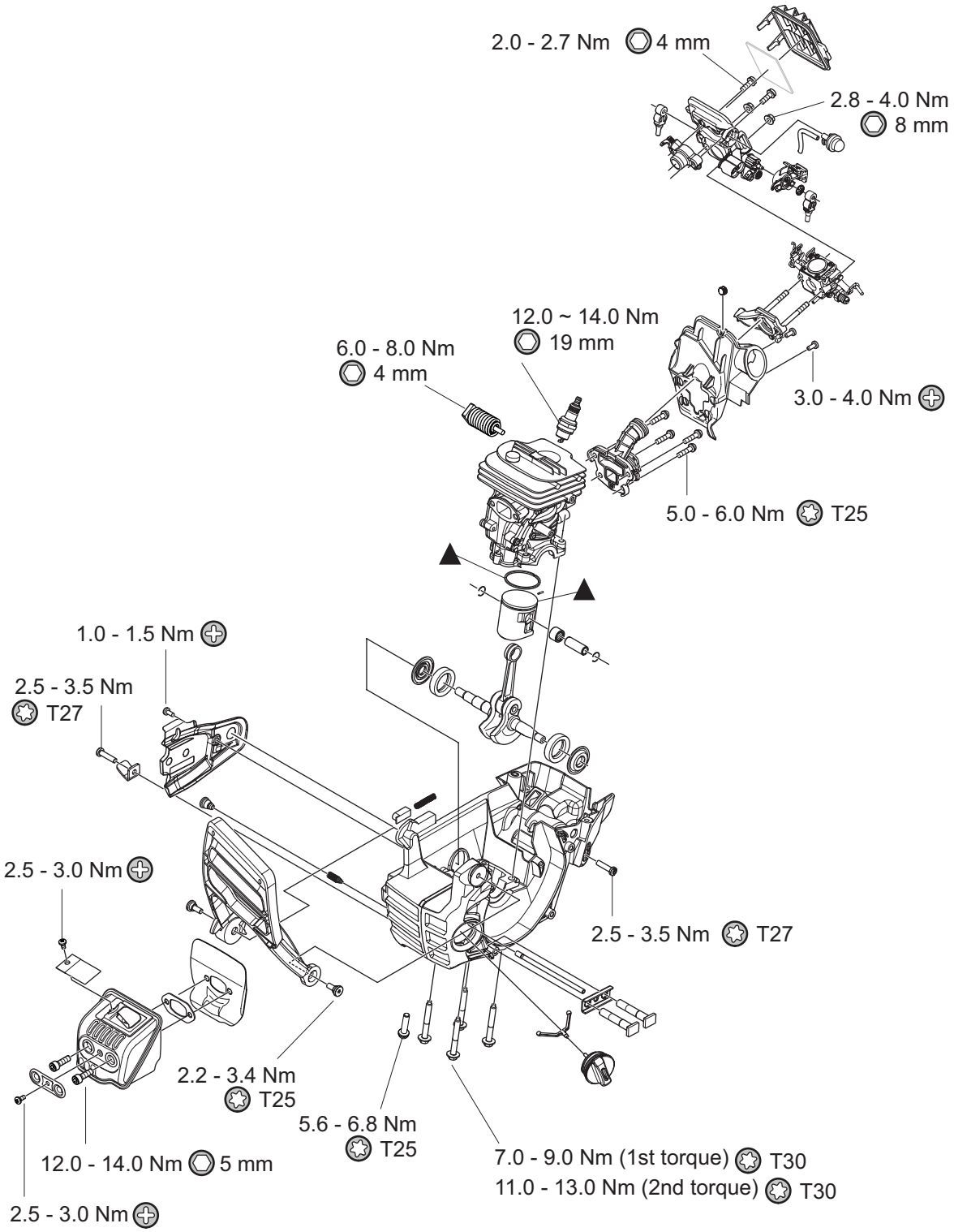


The tools listed here are service tools intended for use on the chainsaw in question. In addition to these tools, a standard set of hand tools is required.

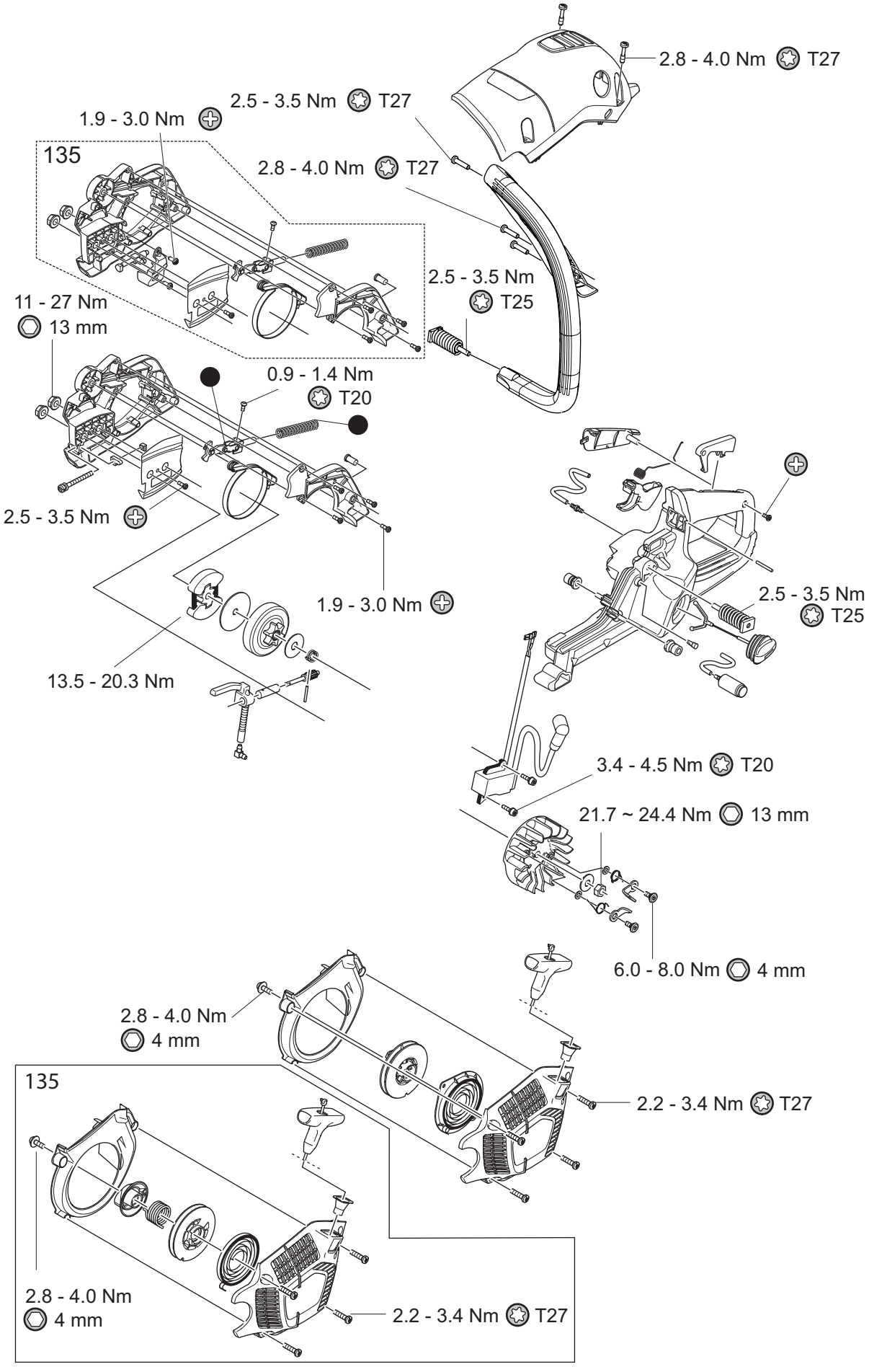
Item	Description	Used for	Article number
1	Piston stop	Locking the crankshaft	575 29 36-01
2a	Cover plate, exhaust	Sealing the exhaust port	502 54 11-02
2b	Cover plate, inlet	Sealing the intake system	502 52 48-01
2c	Cover plug, inlet	Compression test/cylinder	578 02 13-01
2d	Spacing sleeve (2 needed for test)	To fill the distance	502 50 45-01
3	Pressure testing device	Produce pressure when leakage testing	531 03 06-23
4	Puller	Pulling bearing of crankshaft	531 00 48-67
5	Flywheel puller kit	Dismantling of the flywheel	502 51 49-02
6	Adjustment screwdriver	Adjustment of the carburettor	530 03 55-60
7	Adjuster kit 3 pcs	Adjustment of the carburettor	585 07 17-01
8	Pressure test adapter	Pressure testing cylinder	503 84 40-02
9	Feeler gauges ignition gap	Air gap tool	502 51 34-02
10	Tachometer	Checking engine rpm	502 71 14-01
11	Adjustment screwdriver	Adjustment of the carburettor	501 60 02-03
12	Assembly pliers	Assembly of spark plug cap	502 50 06-01
13	Hook for fuel filter	Removing fuel filter	502 50 83-01
14	Assembly fixture	Dismantling/assembling of the chainsaw	502 51 02-01
15	T-handle Torx T10	Dismantling/assembling of the chainsaw	588 52 41-01
15	T-handle Torx T20	Dismantling/assembling of the chainsaw	588 59 27-01
15	T-handle Torx T25	Dismantling/assembling of the chainsaw	502 71 27-01
15	T-handle Torx T27	Dismantling/assembling of the chainsaw	502 71 27-03
15	T-handle Torx T30	Dismantling/assembling of the chainsaw	502 71 31-01
16	T-handle Allen key	For M5 bolts	502 50 18-01
17	Ring squeezer	Piston ring squeeze tool	589 55 57-01
18	Worm spring tool	Worm spring install/removal tool	589 86 13-01
19	Special tool clutch	Clutch removal tool	530 03 11-12
20	Ignition checker	Spark strengh check	501 97 64-01
21	Crankshaft installation tool	Mounting bearing on crankshaft	502 50 30-18

4 Service data



Key to diagrams
The figures next to parts screwed on indicate the tightening torque Nm.

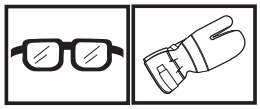
▲ = Lubricate with two-stroke oil.
■ = Lubricate with chain oil.
● = Lubricate with grease.


2.8 - 4.0 Nm T27
2.5 - 3.5 Nm T27
1.9 - 3.0 Nm
135
2.8 - 4.0 Nm T27
2.5 - 3.5 Nm T25
11 - 27 Nm
13 mm
0.9 - 1.4 Nm T20
2.5 - 3.5 Nm
1.9 - 3.0 Nm
13.5 - 20.3 Nm
2.5 - 3.5 Nm T25
3.4 - 4.5 Nm T20
21.7 ~ 24.4 Nm 13 mm
6.0 - 8.0 Nm 4 mm
2.8 - 4.0 Nm
4 mm
135
2.2 - 3.4 Nm T27
2.8 - 4.0 Nm
4 mm
2.2 - 3.4 Nm T27

5 Chain brake

5.1 Dismantling

WARNING!
Exercise care to ensure the spring does not fly out and cause personal injury. Wear protective goggles.



1. Loosen the bar nuts and remove the clutch cover, guide bar and saw chain. See figure 1.
2. Remove the kickback guard by loosening the two screws. Make sure you do not loose the cap and spring. See Figure 1.

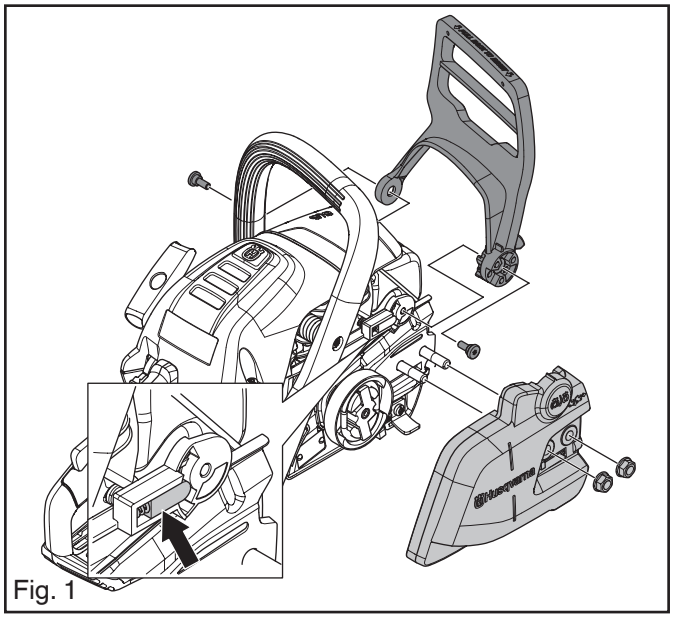


Fig. 1

3. Carefully tighten the clutch housing in a vice. Release the brake by using the kickback guard as a tool. See Figure 2.

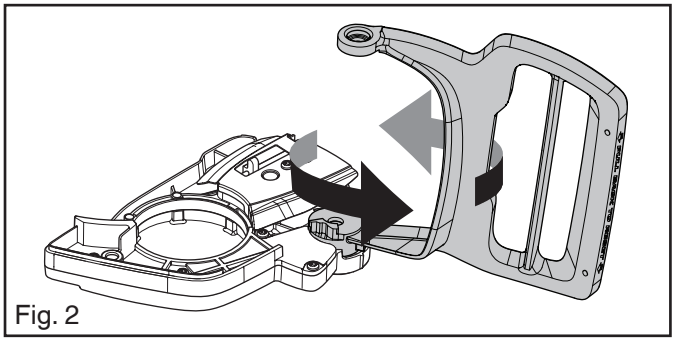


Fig. 2

4. Loosen the screws and carefully remove the cover over the brake spring. Make sure the spring does not fly out. See Figure 3.

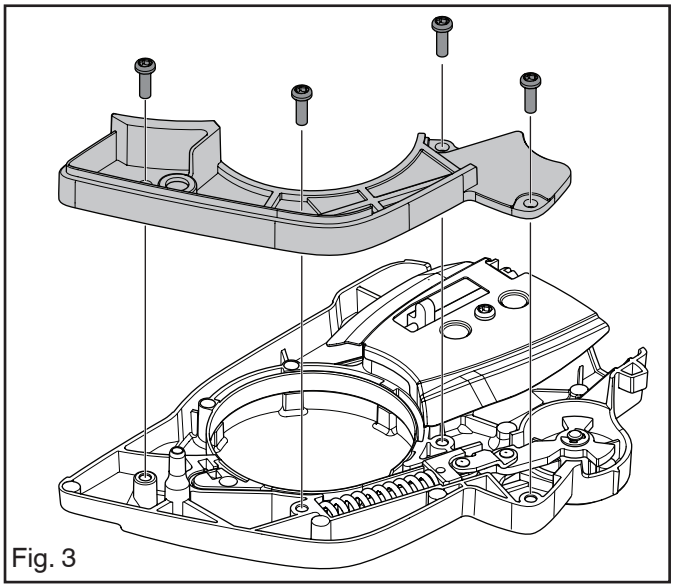


Fig. 3

5. Hold one hand over the brake spring; press a narrow screwdriver in between the rear section of the spring and the clutch cover. Carefully pry upward until the spring releases and runs onto the screwdriver shaft. See Figure 4.

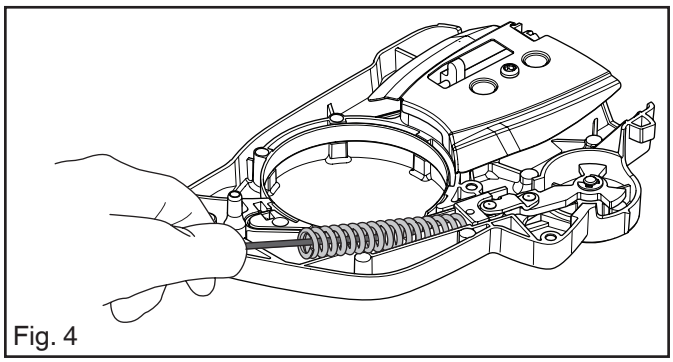


Fig. 4

5.2 Cleaning and inspection

- Carefully clean and check all parts. Parts must be replaced if cracked or show signs of other defects. Always use original spare parts.
- Measure the thickness of the chain brake band. It must not be less than 0.6 mm at any point. See Figure 5.
- Lubricate the knee joint with grease.

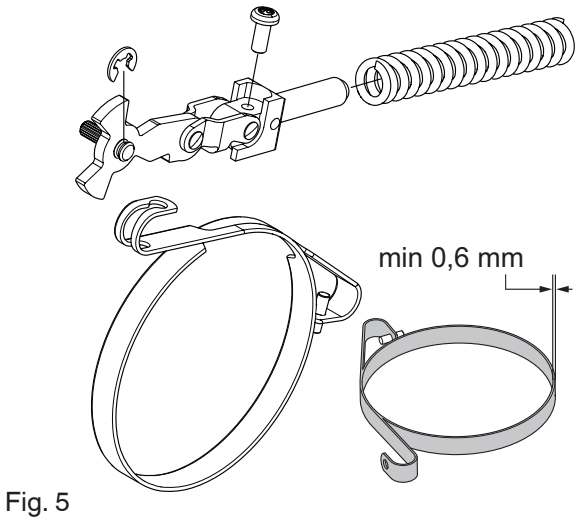


Fig. 5

5.3 Assembly

1. Bolt the elbow joint to the brake band (see Figure 5) and tighten.
   Locate the elbow joint and connected brake band in their recesses in the clutch cover. Lubricate the recess for the spring with grease. See Figure 6.

   Secure the circlip (A). See Figure 6.

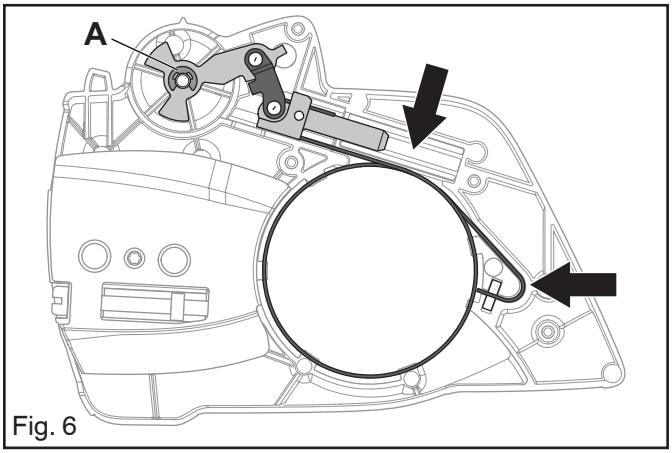


Fig. 6

2. Grip the clutch cover in a vice. Compress the spring with a wide screwdriver and press it down with your thumb. See Figure 7.

WARNING!
Make sure the spring does not fly out and cause injury. Wear eye protection.

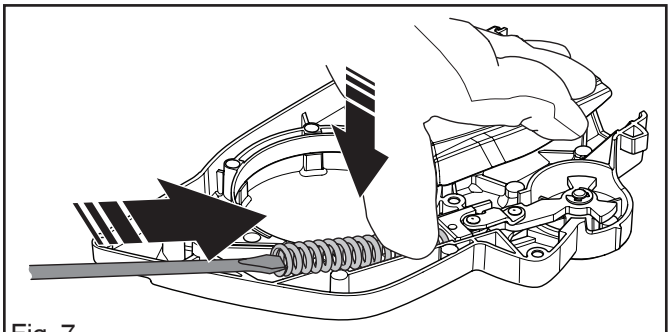


Fig. 7

3. Fit the cover over the chain brake spring and tighten the screws. See Figure 3.

4. Tension the brake spring by using the kickback guard from the saw as a tool. Engage it with the brake mechanism and turn clockwise to release the brake. See Figure 8.
5. Turn the chain tensioner anticlockwise as far as it will go.
6. Refit the:
   - Guide bar
   - Chain
   - Clutch cover

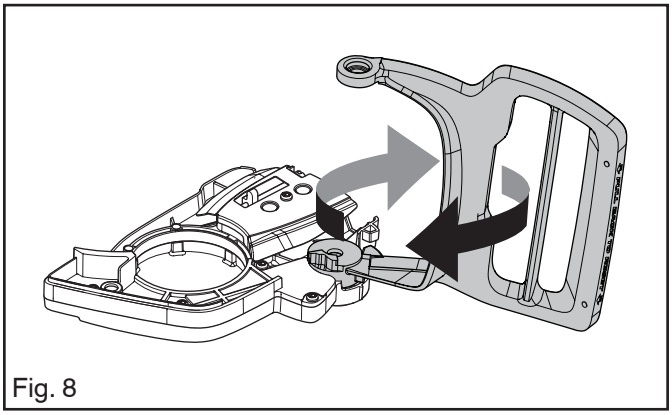


Fig. 8

NOTE!
After completing the repair the chain brake must be tested as described below.

5.4 Function check

For this test, the engine must not be running. Check that the chain brake engages as follows:

1. Hold the chainsaw over a stable surface as shown in Figure 9. The distance between the bar and surface is given in the table below.

Bar length, L	Height, H
15-28 inch	30-40 cm

2. Let go of the front handle and let the chainsaw pivot round on the rear handle.
3. When the bar hits the surface the chain brake should cut in.

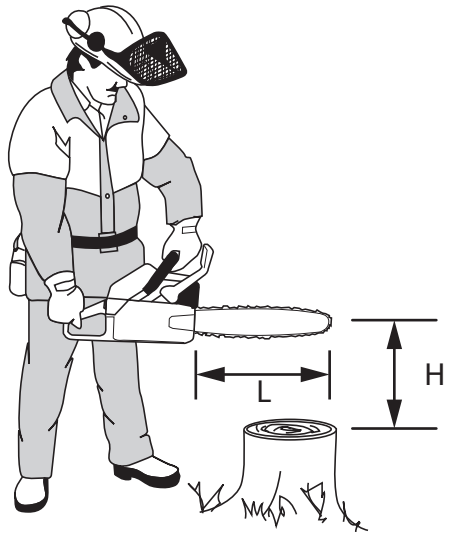


Fig. 9

6 Chain catcher

6.1 Dismantling the chain catcher

1. Remove the clutch cover.
2. Dismantle the bar and chain.

6.2 Cleaning and inspection

Inspect the chain catcher and replace it if it is damaged. See figure 1.

6.3 Assembly

1. Fit the bar and chain.
2. Adjust the tension of the chain.
3. Fit the clutch cover. Tighten the nuts to the correct torque. See Service data.

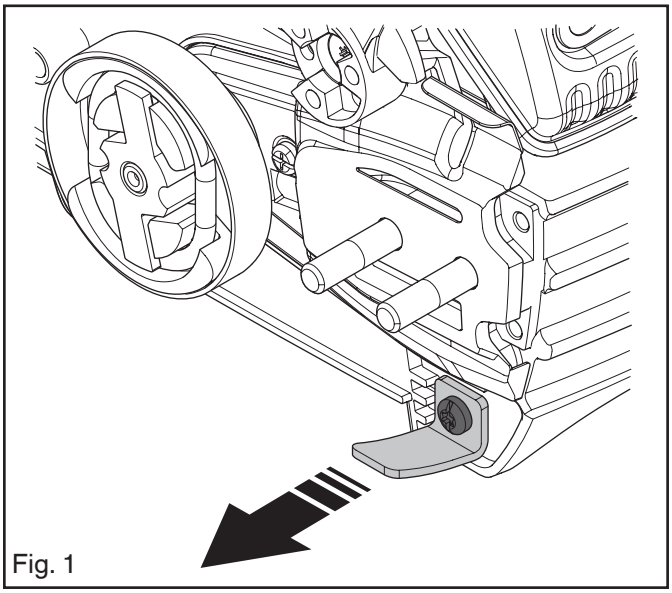


Fig. 1

7 Muffler

7.1 Dismantling

WARNING!
Do not touch the muffler until it has cooled. Risk of burn injuries.

1. Remove the cylinder cover.
2. Remove the screw (A) and the muffler cover (B).
3. Remove the bolts (C) and pull out the:
   - muffler (D),
   - gasket (E),
   - cooling plate (F).
4. Remove the screw (G) and pull out the spark arrester (H).

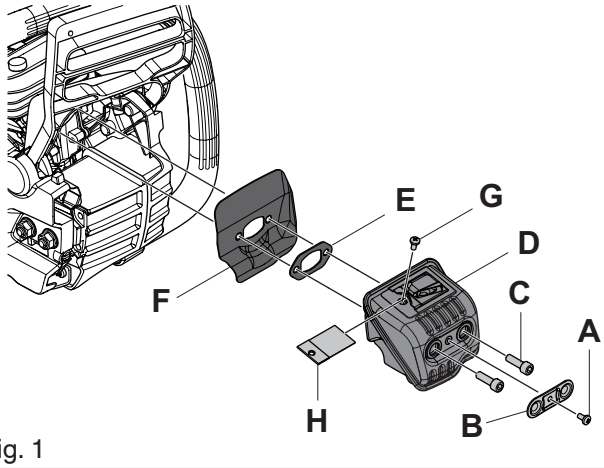


Fig. 1

7.2 Cleaning and inspection

Clean all components and check the following:
1. That the spark-arrester is intact.
2. That the muffler and muffler mounting are not cracked or in any way defect.
3. That the gasket is undamaged.

CAUTION!
Replace the gasket if it is damaged. The gasket has to be fitted correctly against the muffler.

7.3 Assembly

1. Clean the contact surfaces to the gasket, cooling plate and cylinder.
2. If the chainsaw is fitted with a spark-arrester, refit it. See Figure 1.
3. Fit the cooling plate, gasket and muffler to the cylinder. See Figure 1.
4. Finger-tighten the two screws and then screw the screws fully. See Figure 1.

8 Start/stop switch

8.1 Dismantling

1. Remove the cylinder cover.
2. Remove the air filter.
3. Use a screwdriver to eject the primer bulb (A) from the air filter holder (B). See Figure 1.

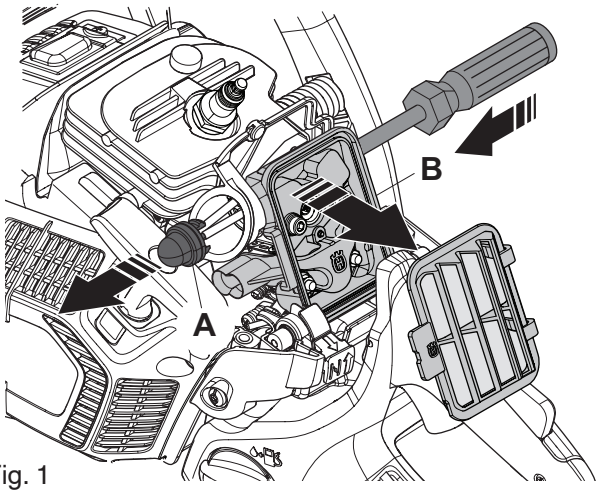


Fig. 1

4. Remove the screws (C). See Figure 2.
5. Remove the nuts (D). See Figure 2.
6. Carefully pull out the air filter holder (B). See Figure 2.
7. Detach the cable (E). See Figure 2.

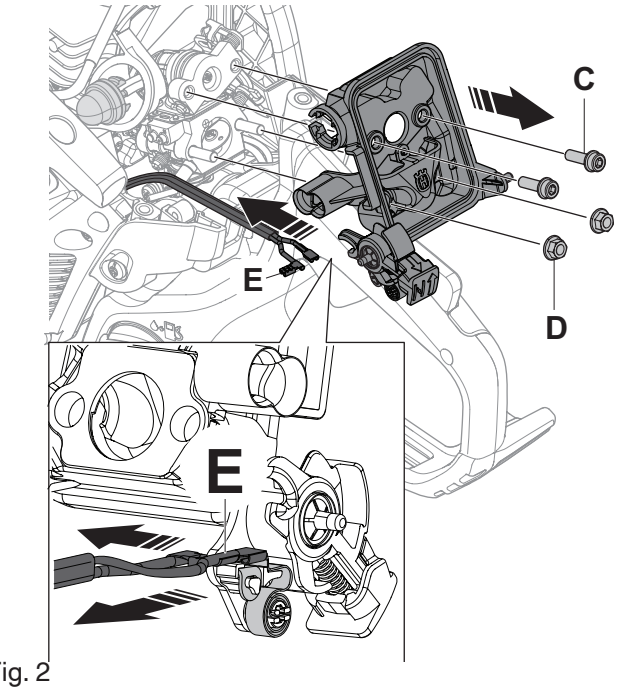


Fig. 2

8.2 Cleaning and inspection

Carefully clean and check all components. See Figure 3. Parts must be replaced if cracked or if they show signs of other defects. Always use original spare parts.

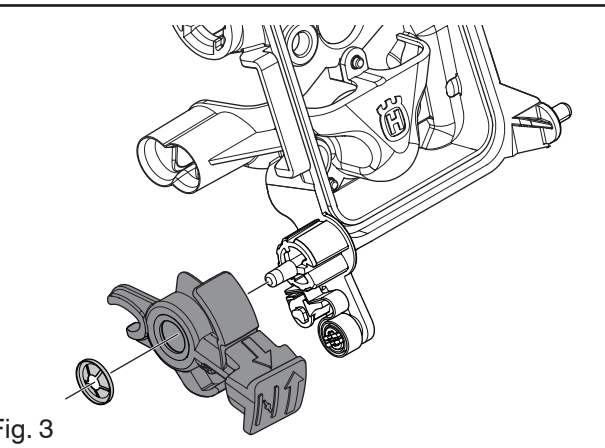


Fig. 3

8.3 Assembly

1. If the start/stop switch has been replaced, fit the new start/stop switch to the air filter holder. See Figure 3.
2. Fit the cable (E). See call-out in Figure 2.
3. Carefully attach the air filter holder (B) to the carburettor. Make sure the hoses that attaches to the primer bulb are not pinched. See Figure 2.
4. Tighten the nuts (D) and the screws (C). See Figure 2.

8.4 Function check

Clean the mating surfaces and check the resistance as follows:

Measure the resistance by connecting a multimeter to the blue cable and the cylinder (earth). See Figure 4. NOTE! The switch must be in the “on” position to give the correct reading.

The resistance must not be higher than 0.5 Ω when the switch is in the on position.

The stop switch is in the ON-position when the button is held down and in the OFF-position the button is neutral.

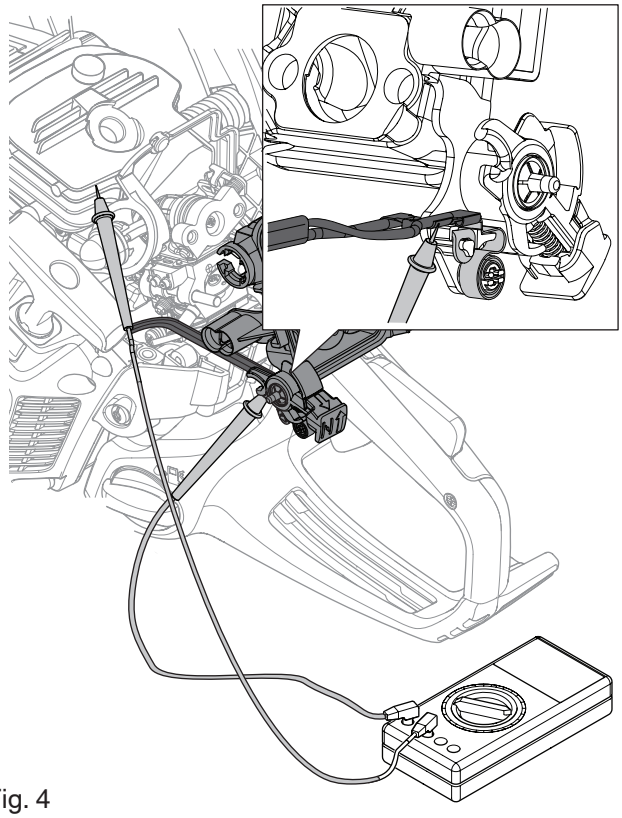


Fig. 4

9 Throttle trigger lockout, throttle trigger and spring

9.1 Dismantling

1. Remove the cylinder cover, air filter, air filter holder and clutch cover.
2. Remove the screw (A) holding the antivibration element (B). See Figure 1.
3. Remove the antivibration element (B). See Figure 1.
4. Remove the chain catcher (C). See Figure 1.
5. Remove the antivibration element (D). See Figure 1.

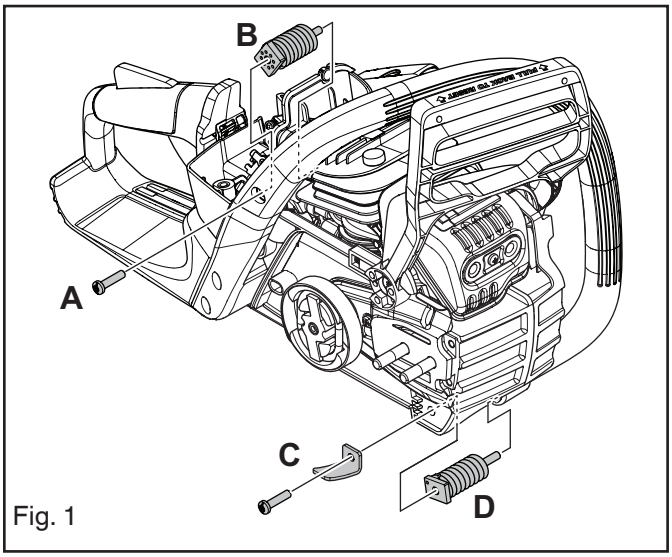


Fig. 1

6. Remove the screw (E) holding the antivibration element (F). See Figure 2.

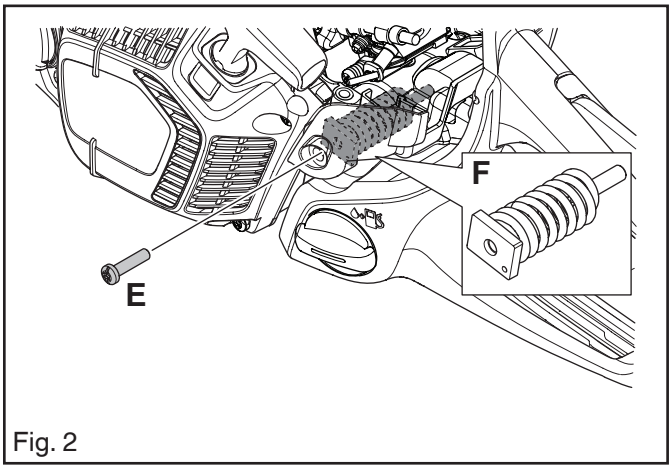


Fig. 2

7. Remove the throttle wire (G). See Figure 3.
8. Remove the fuel hose (H) and the suction hose (I) from the carburettor. See Figure 3.

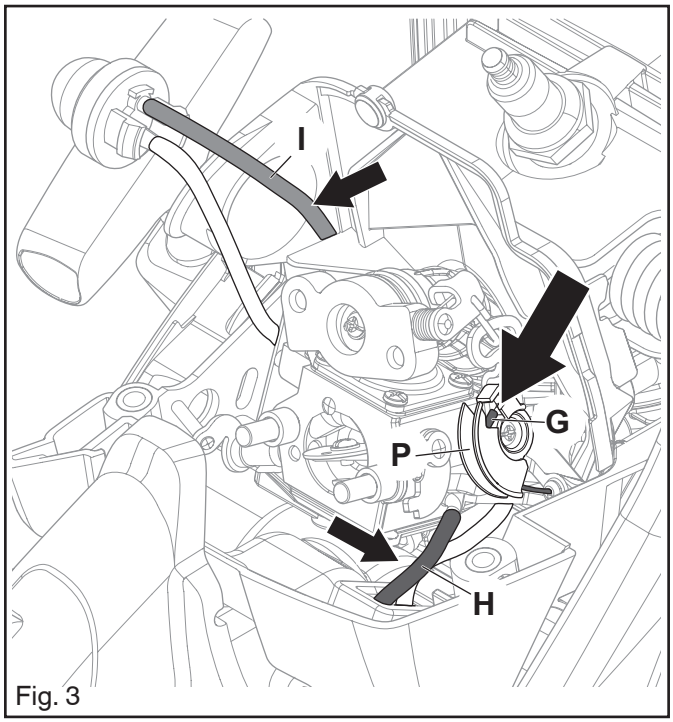


Fig. 3

9. Remove the tank unit and front handle. See Figure 4.

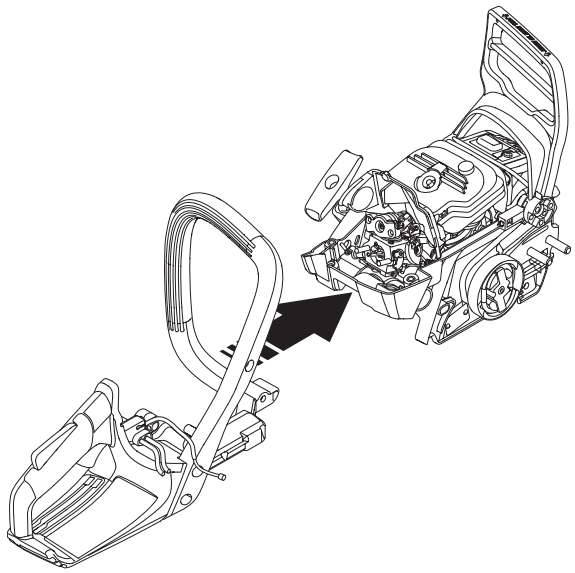


Fig. 4

10. Remove the screw (J) and the handle cover (K). See Figure 5.
11. Knock out the pin (L) and remove the throttle trigger (M) See Figure 5.
12. Remove the throttle wire (N). See Figure 5.
13. Use a flat screwdriver to pry out the throttle control (O) See Figure 5.
14. Remove the throttle control (O). See Figure 5.

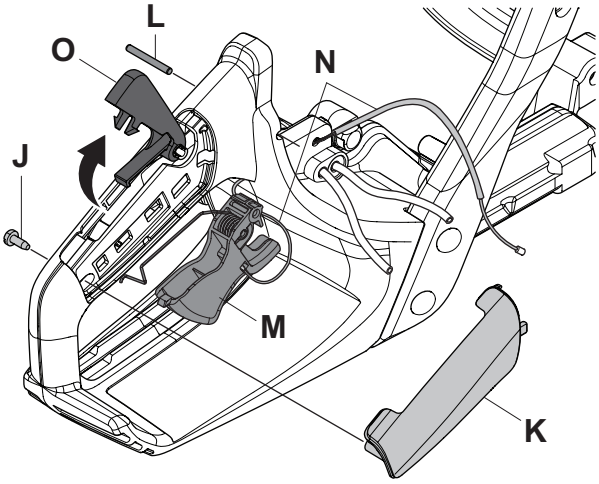


Fig. 5

9.2 Cleaning and inspection

- Carefully clean and inspect all parts.
- Parts must be replaced if cracked or if they show signs of other defects. Always use original spare parts.
- Check that the spring is intact and retains all its tension.

9.3 Replace a defect throttle cable

1. Attach the wire to the throttle trigger. Pull the wire through the handle. See Figure 6.

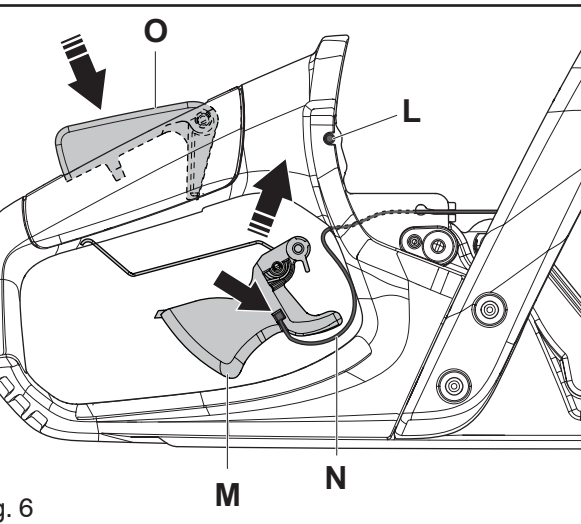


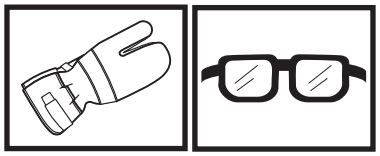
Fig. 6

9.4 Assembly

1. Insert the throttle control (O) into the handle. See Figure 6.
2. Insert the throttle trigger into the handle. Attach the throttle trigger to the handle by knocking the pin (L) into the handle.
3. Put together the tank unit and cylinder assembly. See Figure 4.
4. Attach the throttle cable to the throttle lever (P). See Figure 3.
5. Attach the fuel hose (H) to the carburettor and attach the suction hose (I) to the primer bulb. See Figure 3.
6. Attach the antivibration element. See Figure 2 and 1.
7. Attach the air filter holder, air filter, clutch cover and cylinder cover.

10 Starter

10.1 Dismantling



1. Loosen the four screws holding the starter to the crankcase. Lift the starter off the chainsaw. See Figure 1.
2. Pull out the handle 20-30 cm (A) and take out the cord from the slot in the starter pulley (B). See Figure 2.
3. Rotate the starter pulley anticlockwise until the tension on the pulley is released. See Figure 2.
4. 130: Unscrew the central bolt (C) with integrated washer. Lift up the starter pulley (D). See Figure 3.
   135: Unscrew the central bolt (C) with integrated washer. Lift up the starter pulley (F), spring (G) and pulley (H).
5. If the starter cord is to be replaced, cut it off and pull out the ends from the handle and starter pulley using pointed pliers.
6. If the spring is to be replaced, remove the spring (E).

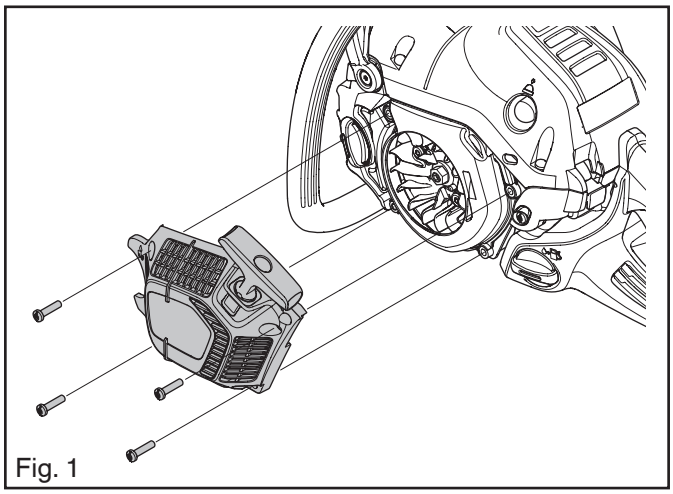


Fig. 1

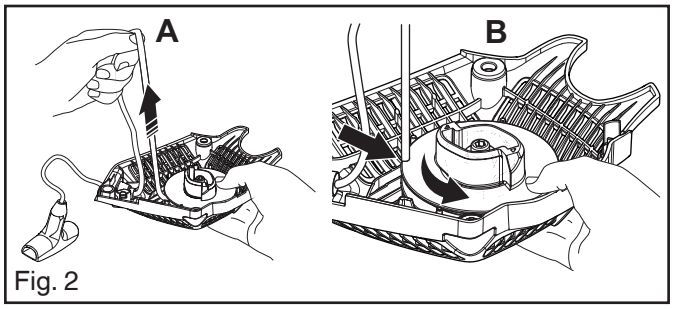


Fig. 2

10.2 Cleaning and inspection

1. Clean all components.
2. Check the following for nicks and cracks:
   - Starter cord.
   - The dogs on the starter pulley.
   - That the pawls on the flywheel are intact and that the spring is back towards the centre and moves freely.
   - The easy starter spring (only 135).
3. Grease the spring in the starter pulley

10.3 Assembly

WARNING!
If the spring is tensioned on the starter pulley it can fly up and cause personal injury.

1. If a new spring is to fitted, make sure that the spring is placed against the bottom of the starter chassis.
   130: Place the starter pulley against the spring (E) and attach the screw (C). See Figure 3.
   135: Place the pulley (H) against the spring (E). Put the spring (G) in the pulley. Put the pulley (F) over the spring and attach the screw (C). See Figure 3.
2. If a new rope is to be fitted, push the free end in the hole in the starter pulley. Take hold of the end with pointed pliers inside the pulley and pull out the rope. Tie a double knot. Pull the rope through the starter handle and tie a double knot. See Figure 4.
3. Grease the starter pulley bearing and spring.

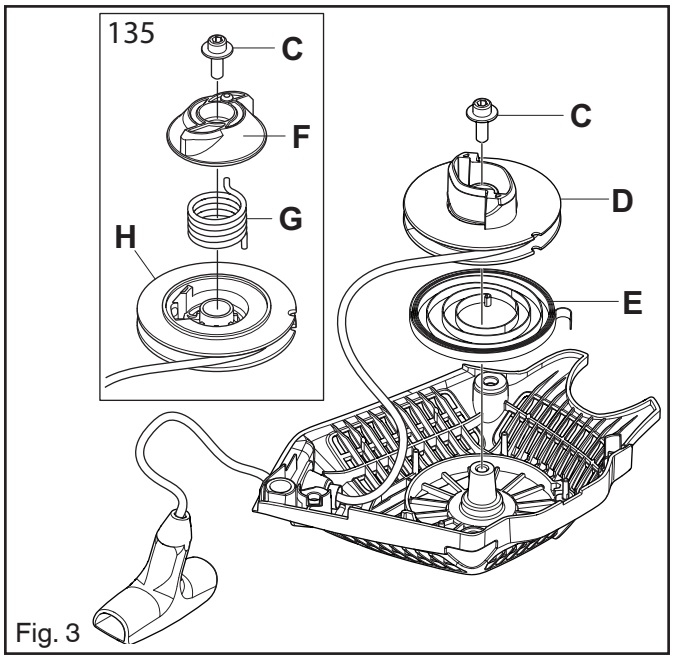


Fig. 3

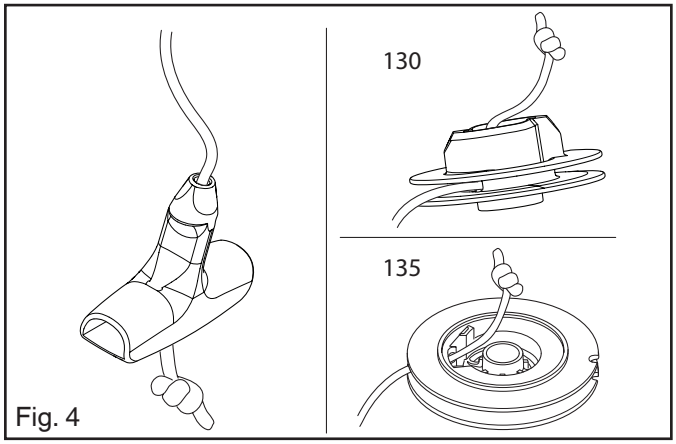


Fig. 4

10.4 Cord tension check

1. Wind the cord onto the starter pulley and rotate the pulley clockwise until the cord is correctly tensioned. See Figure 5.
2. Pull out the cord completely.
3. In this position it should be possible to turn the pulley by hand an additional 1/2 - 3/4 turn.
4. Fit the starter on the crankcase. Check that the starter pulley is fitted correctly against the crankcase by lightly pull the starter cord. Tighten the screws. See Figure 1.

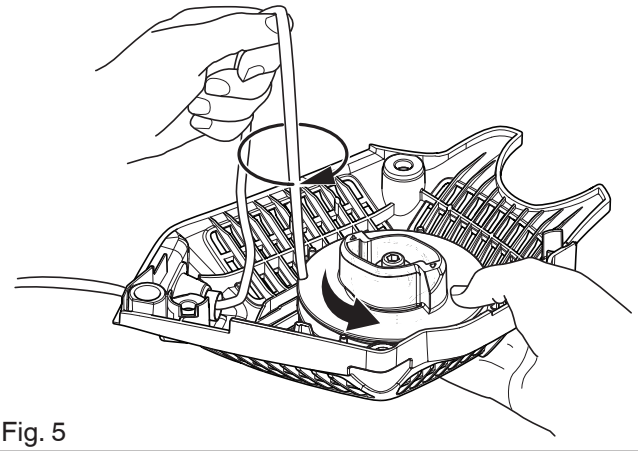


Fig. 5

11 Ignition system

11.1 Test the ignition system

If there is a fault in the ignition system the ignition module must be tested before the ignition system is removed. See chapter 20.

11.2 Dismantling

1. Remove the cylinder cover and the starter unit.
2. Remove the spark plug cable from the spark plug. Remove the spark plug.
3. Remove the air filter and the air filter holder. See chapter 8 Start/stop switch.
4. Remove the ignition cable from the start/stop switch.
5. Loosen the two screws and remove the ignition module. See Figure 1.

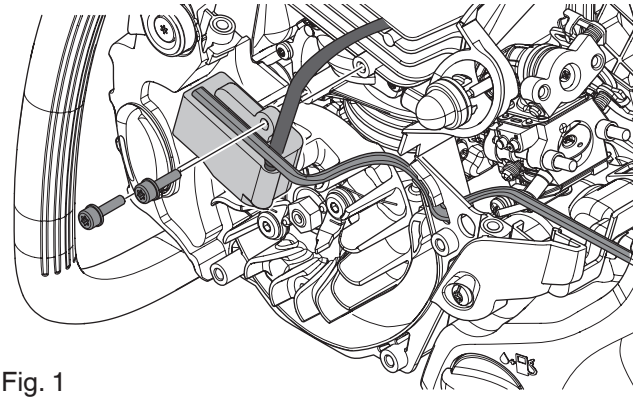


Fig. 1

11.3 Cleaning and inspection

Clean and inspect all parts carefully. If there are any cracks or other defects replace the damaged parts with new ones. Always use original parts.

11.4 Assembly

1. Attach the ignition module to the cylinder without tightening the screws. See Figure 1.
2. Turn the flywheel so that the magnets are in line with the ignition module. Fit the the plastic feeler gauge (502 51 34- 02). Set a distance of 0.3 +/- 0.1 mm, between the ignition module and magnet. The measurement applies to the two lowest lugs on the ignition module. Tighten the screws. See Figure 2.

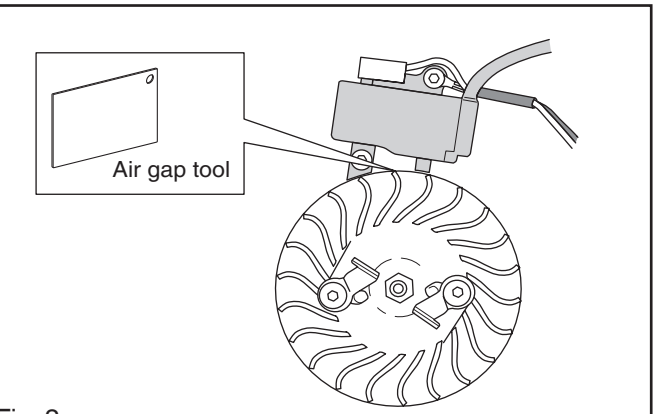


Fig. 2

3. Pull the ignition cable through the hole as outlined in Figure 3.
4. Attach the ignition cable to the start/stop switch. See Figure 3.
5. Attach the air filter holder to the carburettor. Attach the air filter.
6. Attach the starter unit.
7. Attach the spark plug cable to the spark plug.
8. Attach the cylinder cover.

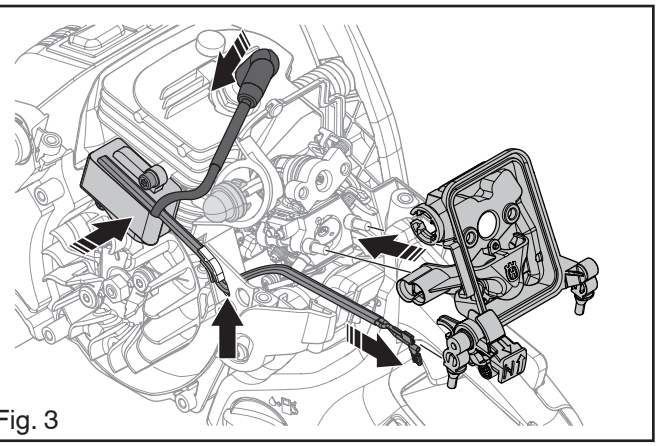


Fig. 3

12 Flywheel

12.1 Dismantling

The ignition module can be left in place if you are simply removing the flywheel.

1. Remove the cylinder cover.
2. Remove the starter unit and the air guide plate.
3. Clean and remove any dirt around the spark plug. Unscrew the spark plug and fit the piston stop 575 29 36-01 in spark plug hole. See figure 1.
4. Loosen the screws holding the ignition module but do not remove them.

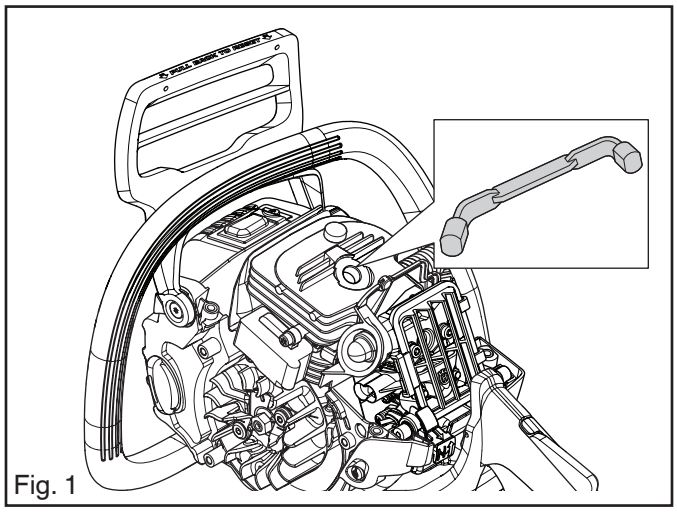


Fig. 1

5. Remove the flywheel nut.
6. Remove the screws (A), pawls (B), springs (C) and washers (D). See Figure 2.

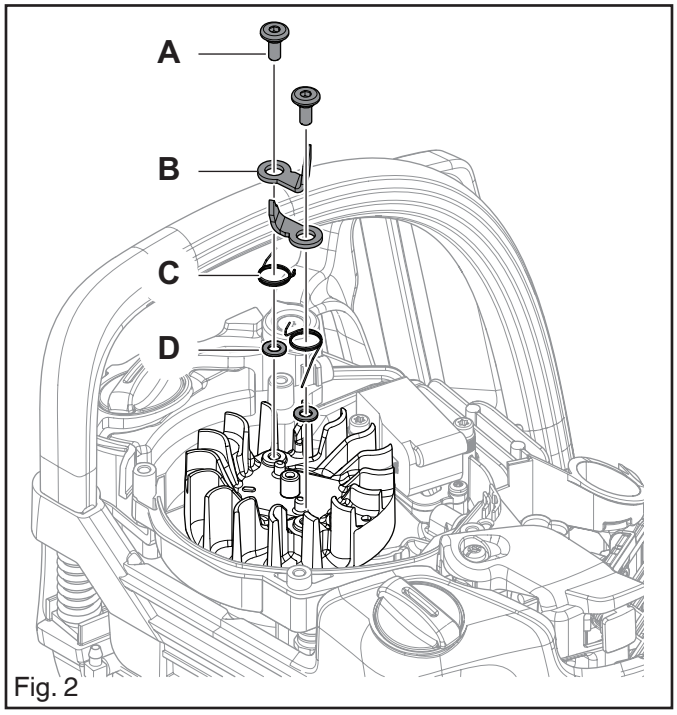


Fig. 2

7. A special tool (502 51 49-02)from Husqvarna is required to dismantle and assemble the flywheel. Center the tool on the crankshaft. Select the appropriate screw, supplied with the tool, and fit the screws in the holes for the start hooks. See Figure 3.

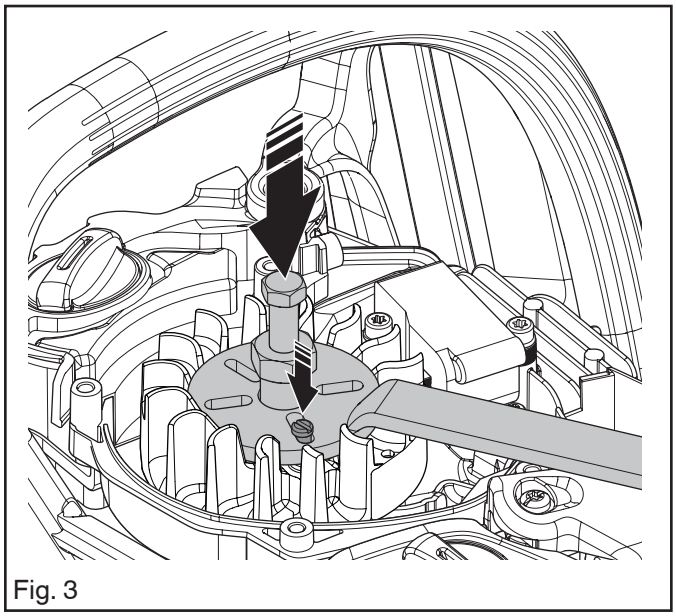


Fig. 3

8. Mount the screw press in the center and screw it down far enough to ensure it is secure in the plate. Lock the outer socket with a wrench and screw in the centre screw until the flywheel releases. See Figure 4.

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

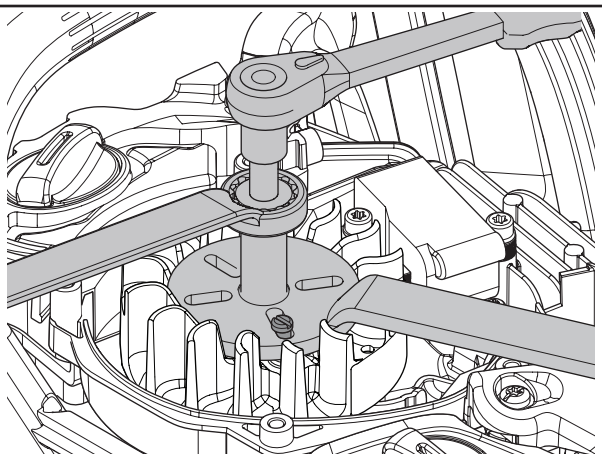


Fig. 4

12.2 Cleaning and inspection

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

12.3 Assembly

1. Fit the washers (D), springs (C), pawls (B) and screws (A). See Figure 5.
2. Clean crankshaft to remove grease or oil.

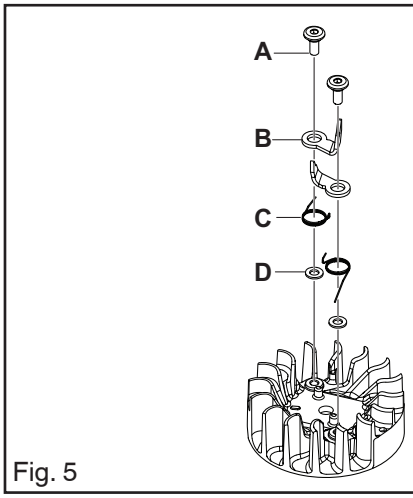


Fig. 5

3. Fit the flywheel onto the crankshaft pin. Turn the flywheel until the key fits into the key slot on the shaft. See figure 6.
4. Tighten the nut for the flywheel.
5. Remove the piston stop. See figure 1.

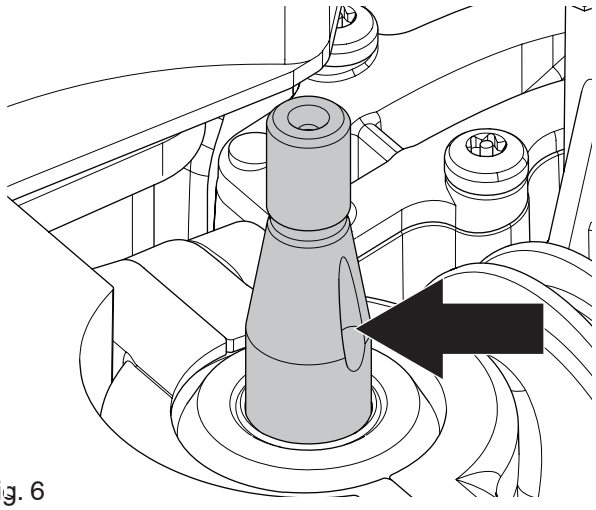


Fig. 6

6. Turn the flywheel so that the magnets are in line with the ignition module. Fit the the plastic feeler gauge (502 51 34- 02). Loosen the screws that hold the ignition module. Set a distance of 0.3 +/- 0.1 mm, between the ignition module and magnet. Tighten the screws. See figure 7.
7. Fit the baffle and attach the starter unit.
8. Fit the spark plug and fit the spark plug cable on the spark plug.
9. Attach the cylinder cover.

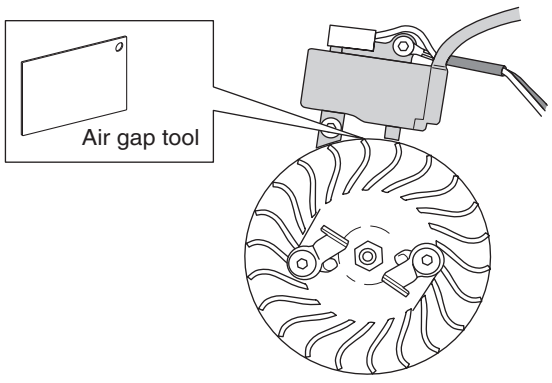


Fig. 7

13 Centrifugal clutch

13.1 Dismantling

1. Make sure that the chain brake is disengaged.
2. Remove the cylinder cover.
3. Remove the clutch cover, bar and chain.
4. Disconnect the spark plug cable. Remove the spark plug and fit piston stop 502 54 15-01 in its place.
5. Fit the special tool 530 03 11-12 on the centrifugal clutch. Use a socket wrench to loosen the centrifugal clutch. See Figure 1.

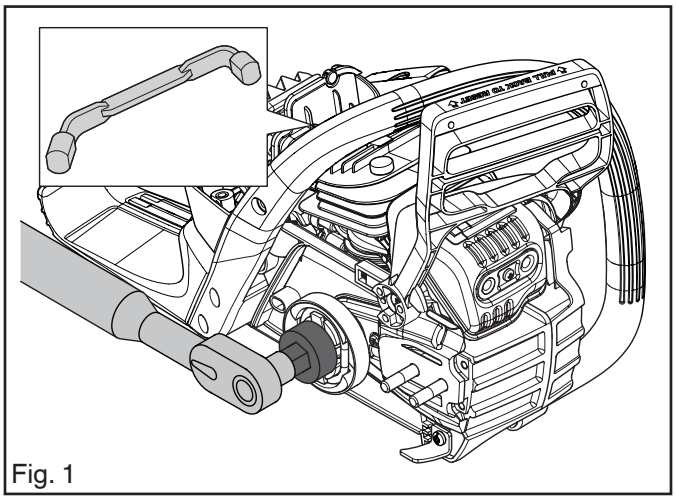


Fig. 1

6. Remove the clutch, washer, the clutch drum, washer and bearing. See Figure 2.

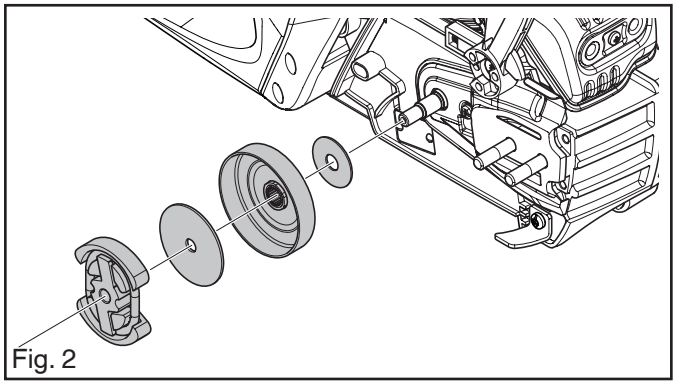


Fig. 2

13.2 Cleaning and inspection

Clean all components and check the following:

- That there is no play between the clutch shoes and the clutch hub.
- That there is no wear on the chain drive sprocket.
- That the needle bearing is in good condition and that there is no damage on the journal surface on the crankshaft.
- That the friction surface on the clutch drum is intact and that the bearing surface is undamaged.
- That the thickness on the clutch shoes is no less than 1 mm at the most worn point. See Figure 3. If the thickness is less, change the entire clutch.

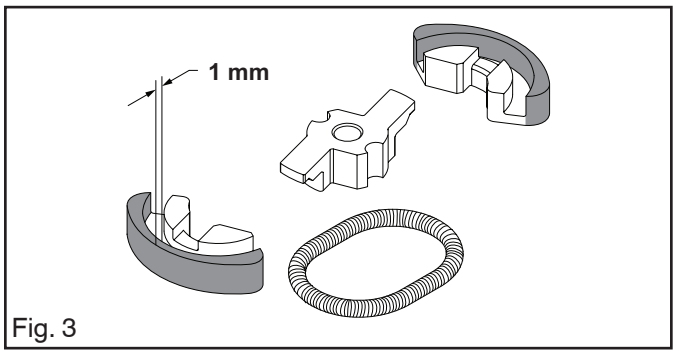


Fig. 3

13.3 Assembly

1. Assemble the clutch as outlined in Figure 4.
2. Grease the bearing.
3. Fit the the clutch, washer, clutch drum, washer and bearing on the crankshaft as outlined in Figure 2.
4. Screw the clutch (anti-clockwise) until it stops. Tighten using tool 530 03 11-12.
5. Remove the piston stop and fit the spark plug and spark plug cable. Fit the bar, chain, clutch cover and cylinder cover.

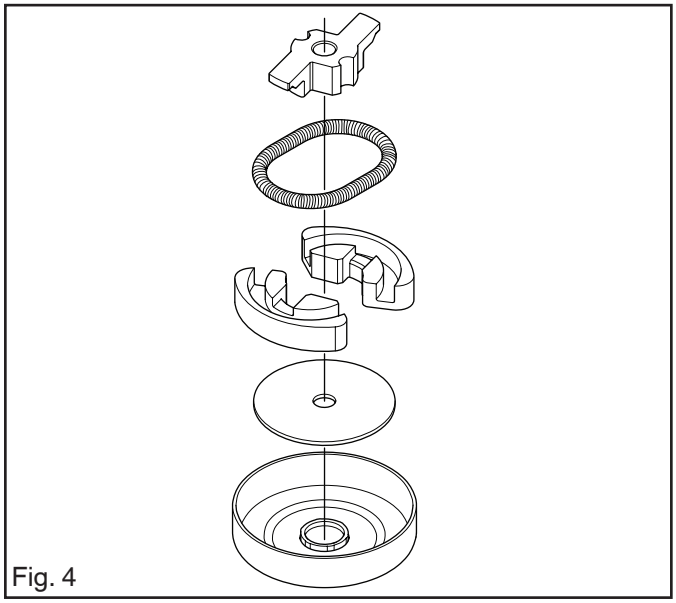


Fig. 4

14 Lubrication system

WARNING!
Insufficient lubrication of the chain can result in the chain breaking, which can cause serious or even life-threatening injury.

The lubrication system consists of the following parts:
- Oil pump
- Suction hose with filter
- Oil hose with integrated filter.

14.1 Dismantling the oil pump and sceen

1. Empty and clean the oil tank.
2. Remove the cylinder cover and the clutch cover. Remove the clutch. See chapter 13 Centrifugal clutch.
3. Loosen the screw and remove the chain guide plate. See Figure 1.
4. Remove the oil pump system. See Figure 1.

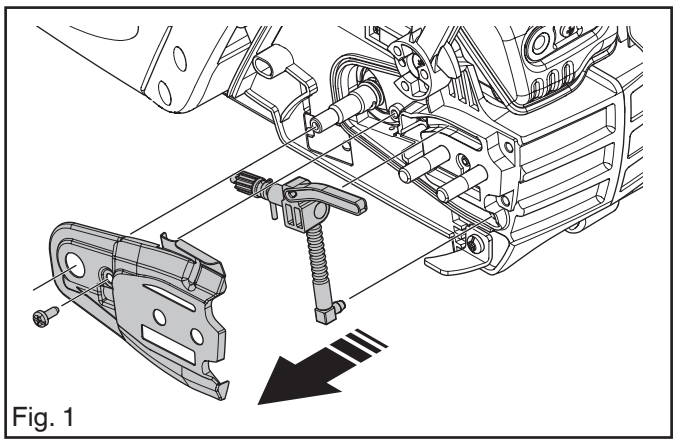


Fig. 1

14.2 Remove the worm spring

1. Thread the worm spring tool 589 86 13-01 onto the spring. See Figure 2.
2. Remove the tool and spring. If necessary use a wrench hex driver to remove the tool.

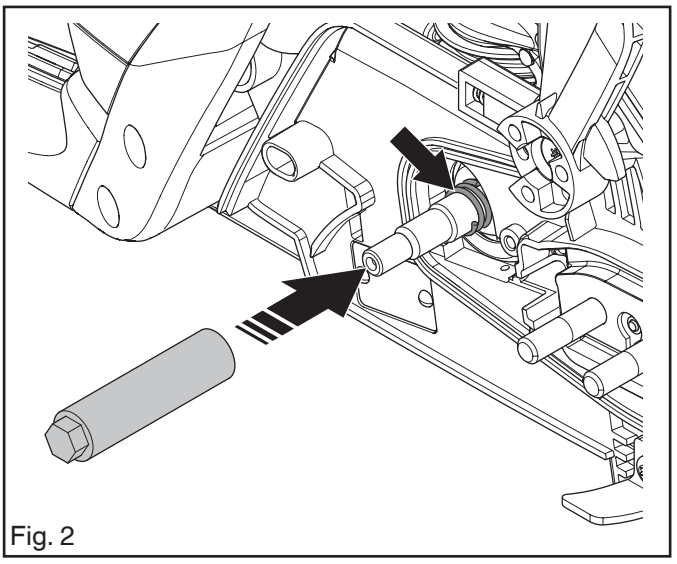


Fig. 2

14.3 Cleaning and inspection

- Clean and inspect all parts carefully. If there are any cracks or other defects replace the damaged parts with new ones. Always use original parts.
- Lubricate all moving parts with chain oil.

14.4 Assembly

1. Thread new worm spring into tool. Make sure that it is fully seated in tool thread. See Figure 3.
2. Place the tool with the spring assembly onto crankshaft.
3. Lightly tap end of tool until spring is aligned into the retention groove on crankshaft. The tool makes sure the spring is installed at the correct depth.
4. Unthread tool off of installed spring. Use a scrench hex driver if required to remove the tool.
5. Fit the oil pump system as outlined in Figure 1.
6. Attach the chain guide plate.
7. Attach the clutch as described in chapter 13 Centrifugal clutch.
8. Remove the piston stop and insert the spark plug and fit the spark plug cable.
9. Attach the cylinder cover.

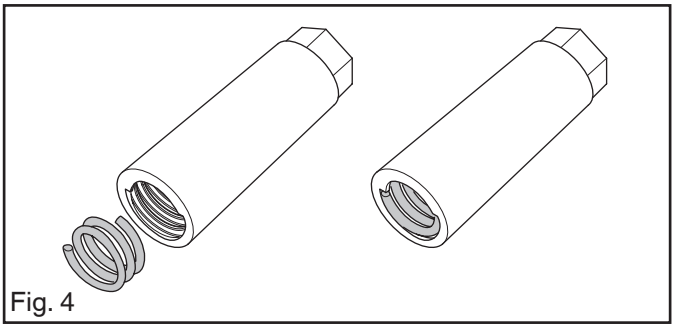


Fig. 4

15 Carburettor

WARNING!
The fuel used in the chainsaw has the following hazardous properties:
1. The fluid and its vapour are poisonous.
2. Can cause skin irritation.
3. Is highly inflammable.

15.1 Description

The drawings accompanying this description do not correspond with the carburettor on the chainsaw. They only show the principle for the design and function.

15.2 Design

The carburettor is based on three sub-systems:
- The metering unit, A.
- The mixing venturi, B.
- The pump unit, C.

The jets 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. See Figure 1.

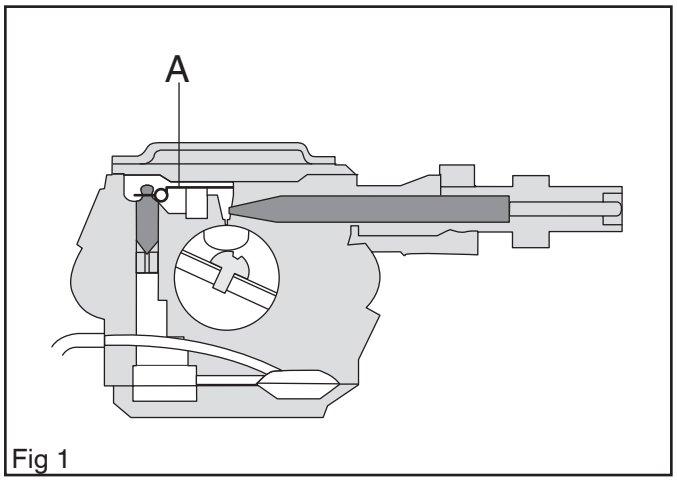


Fig 1

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. See Figure 2.

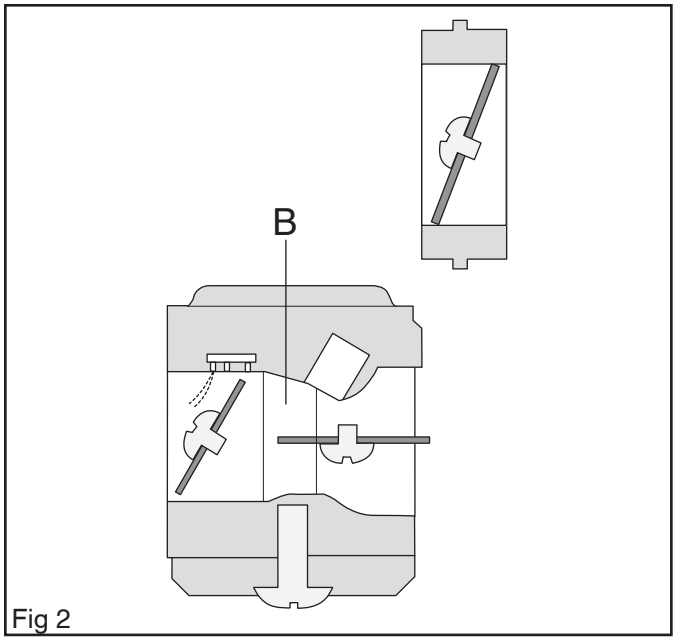


Fig 2

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. See Figure 3.

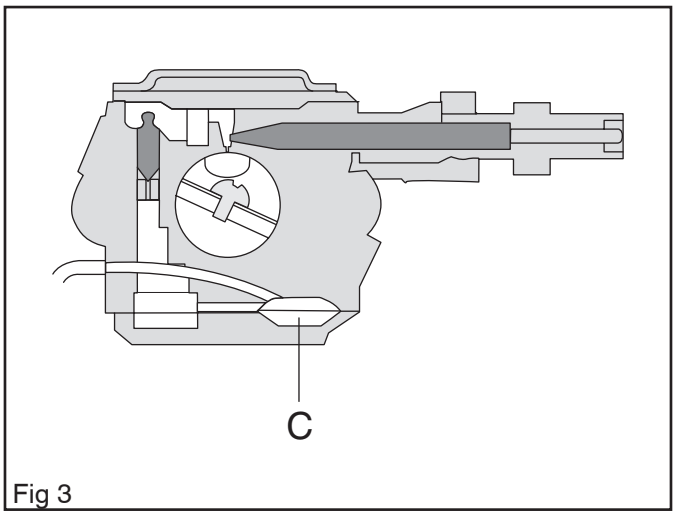


Fig 3

15.3 Function

The carburettor operates differently in the following modes:

- Cold start mode
- Idling mode
- Part throttle mode
- Full throttle mode

In the cold start mode (see Figure 4) the choke valve (H) is fully closed. This increases the vacuum in the carburettor so that fuel is sucked more easily from all the diffuser jets (D, E and F). The throttle valve (I) is partly open. Extra air inlet (J) is closed.(see Figure 4)

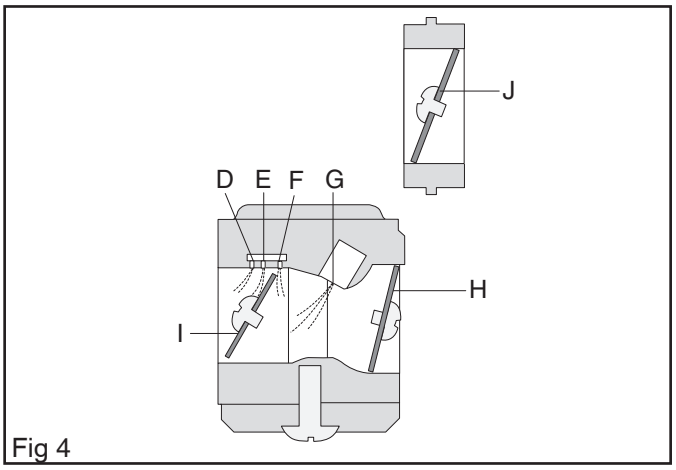


Fig 4

In the idling mode (see Figure 5) the throttle valve (I and J) is closed and the choke valve (H) is open.

Air is sucked in through an aperture in the throttle valve and a small amount of fuel is supplied through the diffuser jet (D). (see Figure 5)

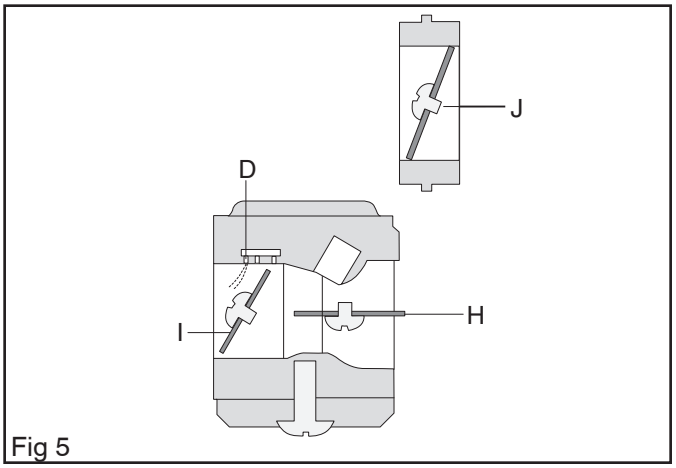


Fig 5

In the part throttle mode (see Figure 6) the throttle valve (I) is partially open and the choke valve (H) is open. Fuel is supplied through the diffuser jets (D and E). The throttle valve (J) starts to open. See Figure 6.

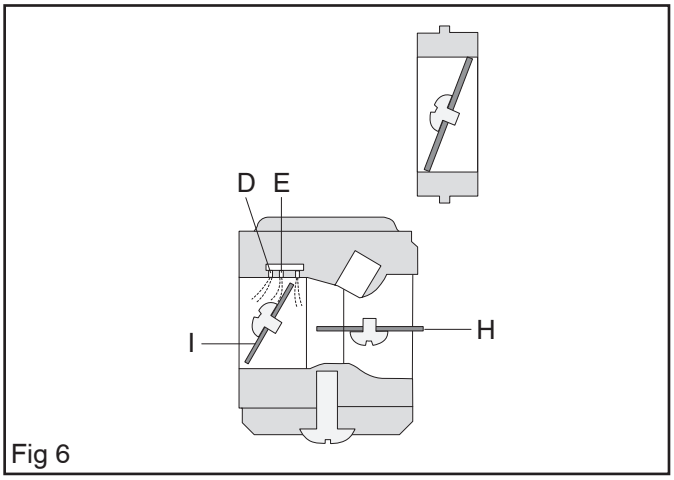


Fig 6

In full throttle mode (See Figure 7) all valves are open and fuel is supplied through all diffuser jets (D, E, F and G). Extra air inlet (J) is also fully opened. See Figure 7.

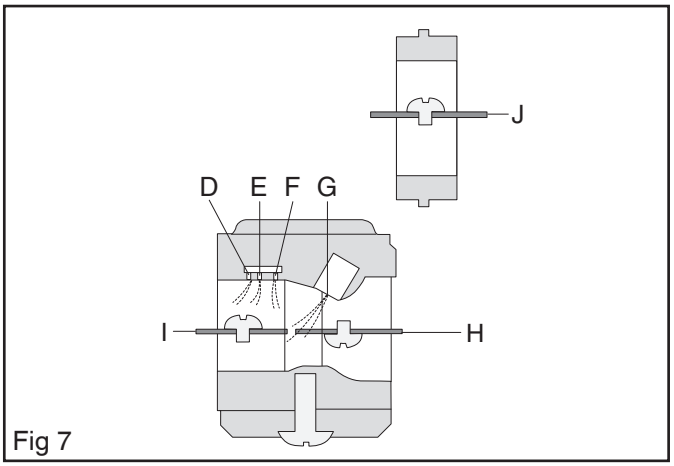


Fig 7

15.4 Dismantling the carburettor

1. Remove the cylinder cover.
2. Remove the air filter.
3. Use a screwdriver to eject the primer bulb (A) from the air filter holder (B). See Figure 8.

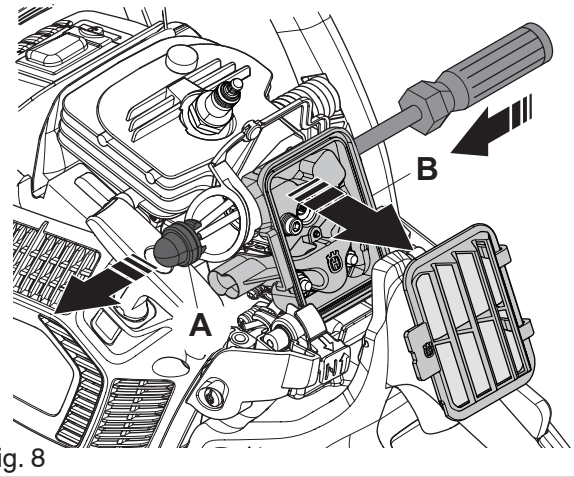


Fig. 8

4. Remove the screws (C). See Figure 9.
5. Remove the nuts (D). See Figure 9.
6. Carefully pull out the air filter holder (B). See Figure 9.
7. Detach the cable (E). See Figure 9.

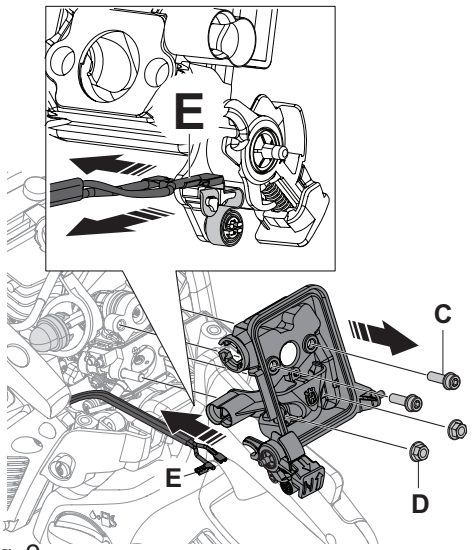


Fig. 9

8. Remove the throttle wire (F). See Figure 10.
9. Remove the fuel hose (G) and suction hose (H) from carburettor. See Figure 10.

NOTE! Do not use any sharp tools to loosen the hoses.

10. Pull out the air valve (I) from the inlet pipe (J). See Figure 10.

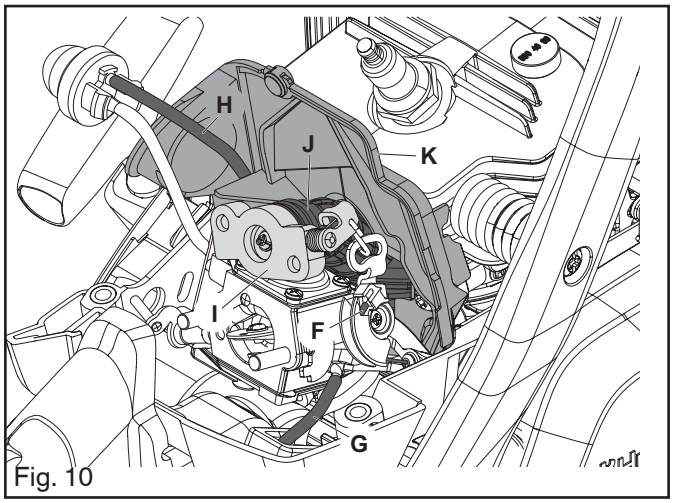


Fig. 10

11. Pull out the carburettor and the air valve (I) from the flange (L). See Figure 11.
12. Remove the air valve (I) from the carburettor. See Figure 11.

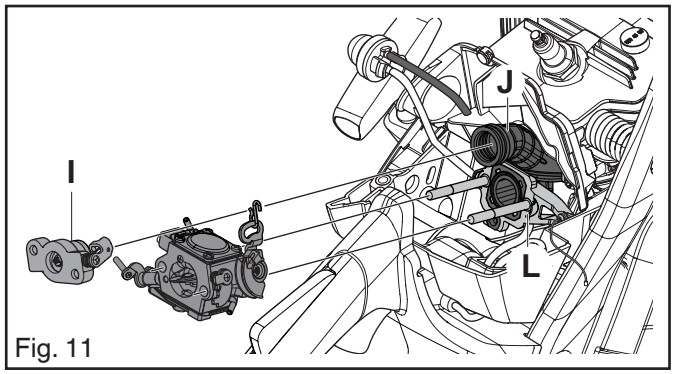


Fig. 11

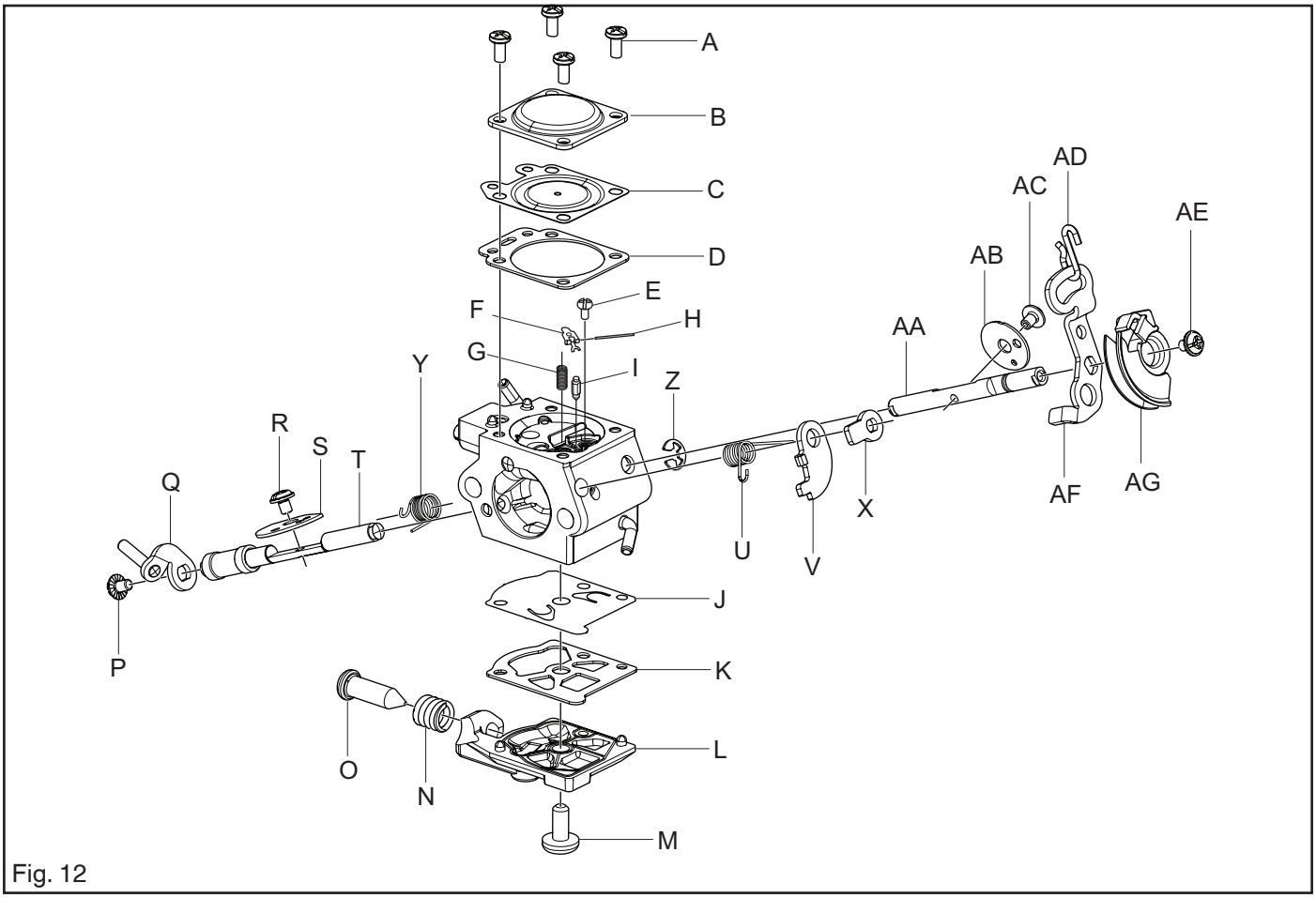


Fig. 12

13. Loosen the screws (A) and remove top cover (B). Remove control diaphragm (C) and gasket (D). See Figure 12.
14. Loosen the screw (E) and lift out the needle valve (I) with the lever arm (F), the axle (H) and the spring (G). See Figure 12.
15. Loosen the screw (M) and dismantle the cover (L). Carfully remove the gasket (K) and the diaphragm (J). See Figure 12.

15.5 Cleaning and inspection

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:

- That the gasket, pump and control diaphragms are undamaged, as well as the gasket between the carburettor body and the autotuner.
- That there is no play on the throttle valve and choke valve shafts.
- That the needle valve (I) and its lever arm (F) are not worn. See Figure 12.
- That the fuel screen is intact and clean.
- That the inlet manifold is undamaged.

15.6 Assembly

Observe cleanliness when assembling the carburettor. The slightest contamination can cause malfunctions.

1. If throttle and choke valves with shafts, lever arms and springs have been removed, these must be assembled. The springs are tightened 1-2 turns. Lubricate the shaft bearings using a light oil.
2. Fit the fuel screen by using the handle of a small screwdriver.
3. Assemble membrane (J) with gasket and screw tight the pump cover (L). See Figure 12.
4. Fit the needle valve (I) with lever arm (F), axle and spring. Screw in the screw (E). See Figure 12.
5. Check using a ruler or the like that the lever arm is level with the cover. The lever arm can be bent if necessary. See Figure 13.

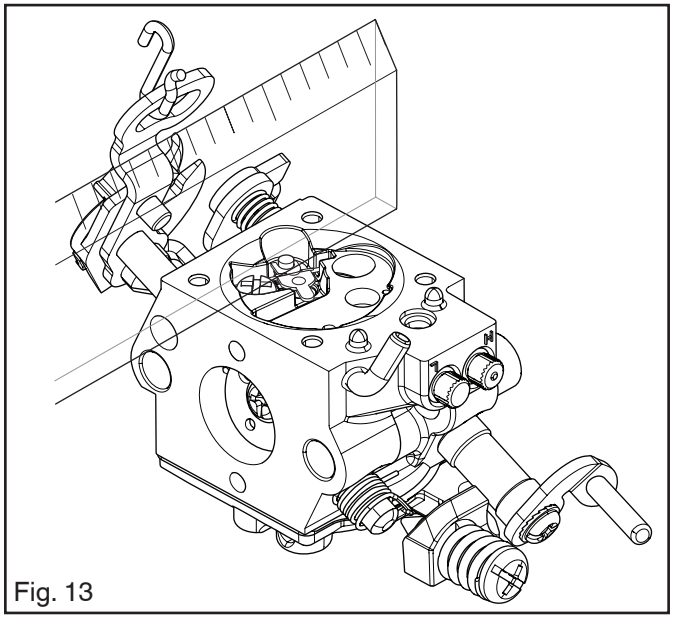


Fig. 13

15.7 Pressure testing the carburettor

Pressure testing should be carried out with the carburettor fully assembled. The test must always be done after the carburettor has been repaired, but can also be carried out when troubleshooting before the carburettor is taken apart.

Test 1

See Figure 14 and carry out the following check:

1. Connect pressure tester to the carburettor fuel inlet.
2. Lower the carburettor into a beaker of water.
3. Pump up the pressure to 20 kPa.
4. No leakage is permitted. If a leakage occurs refer to the table below.

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

Test 2

1. Plug the connections to the fuel inlet.
2. Create a vacuum to the purge nipple on the carburettor. No leakage is permitted. In the case of leakage, leakage spray can be used even if it is difficult. Try and identify where the spray is sucked in.

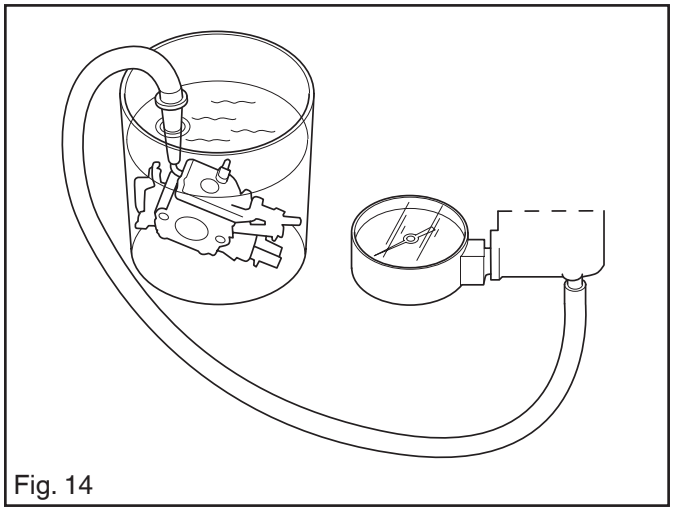


Fig. 14

15.8 Manifold

1. Pull the flange (L) off the inlet pipe (J). See Figure 15.

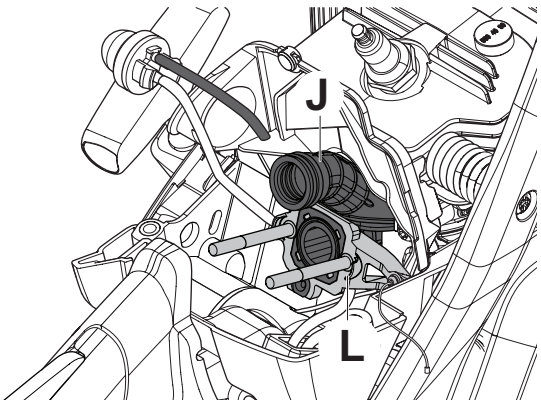


Fig. 15

2. Remove the 4 screws. See Figure 16.

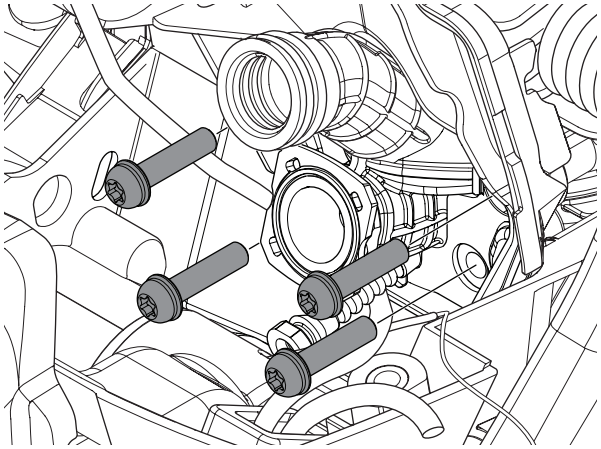


Fig. 16

3. Remove the insulation wall (K) and inlet pipe (J) from the cylinder. See Figure 17.

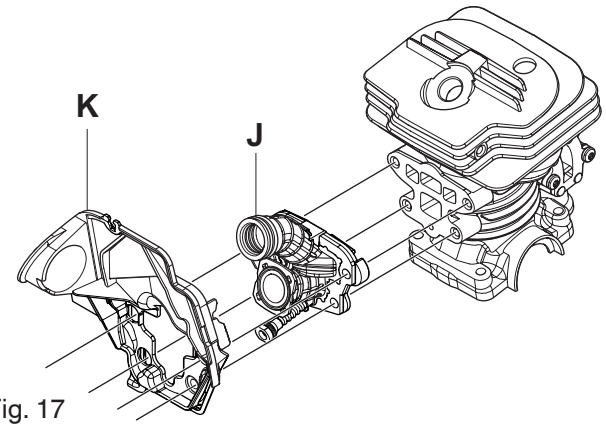


Fig. 17

15.9 Assemble on the saw

1. Attach the manifold on the cylinder. See Figure 15 - 17 in the chapter 15.8 Manifold. Make sure to use the correct torque. See chapter 4 Service data.
2. Hook the air valve (I) to the carburettor as outlined in Figure 11.
3. Attach the air valve (I) to the inlet pipe (J). See Figure 11.
4. Fit the carburettor on the flange (L) Figure 11.
5. Attach the throttle wire (F) to the carburettor as outlined in Figure 10.
6. Attach the fuel hose (G) to the carburettor as outlined in Figure 10.
7. Attach the suction hose (H) to the carburettor as outlined in Figure 10.
8. Attach the ignition cable (E) to the start/stop switch and fit the air filter holder (B) to the carburettor. Make sure the hoses coming to the primer bulb don't gets pinched. See Figure 9.
9. Attach the primer bulb to the air filter holder.
10. Fit the air filter to the air filter holder.
11. Attach the cylinder cover.

15.10 Carburettor adjustment

WARNING!
The guide bar, saw chain and clutch cover must be fitted before the chain saw is started, other-wise the clutch may come loose causing personal injury.

WARNING!
Wear ear protection when making adjustments with the engine running.

WARNING!
Do not use the chainsaw until it has been adjusted so that the saw chain is still during idling.

NOTE! For optimal setting, a tachometer should be used. The recommended maximum over-speed should not be exceeded.

NOTE! If the saw chain turns when idling, the T-screw should be turned anti-clockwise until the saw chain stops.

Adjusting the carburettor involves adjusting the engine to the local conditions e.g. climate, altitude, fuel and type of 2-stroke oil.

The carburettor is equipped with three adjustment options:

- L = Low speed jet
- H = High speed jet
- T = Idling adjustment

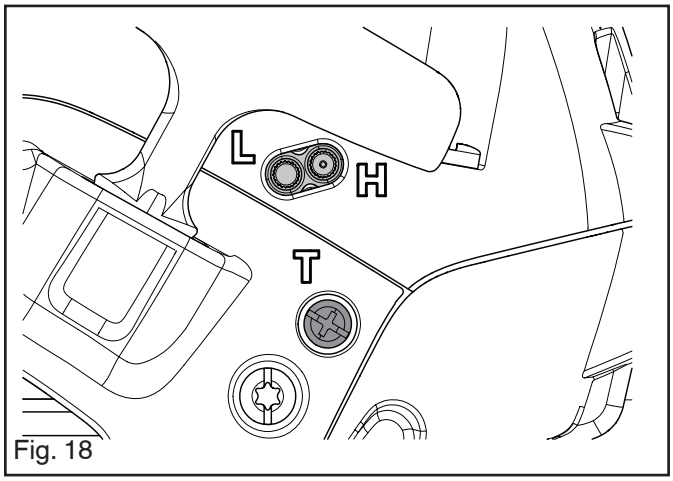


Fig. 18

The L- and H-jets adjust the fuel flow to match the airflow that the throttle valve opening allows. Turning them clockwise makes the fuel/air mixture weaker (less fuel) and turning them counter-clockwise makes the fuel/air mixture richer (more fuel). A weaker mixture increases the engine speed and a rich mixture decreases the engine speed.

The T- screw controls the throttle position when idling. Turning the T-screw clockwise gives faster idling, turning it counterclockwise gives lower idling speed.

Run the chain saw for approx. 10 minutes before adjusting the carburettor.

Basic factory settings	
130: 588 24 79-01	
H needle	2 + 7/8 H
L neddle	1 + 3/8 L

135: 588 24 79-01	
H needle	2 + 7/8 H
L neddle	1 + 3/8 L

16 Tank unit

WARNING!
The fuel used in the chainsaw has the following hazardous properties:
1. The fluid and its fumes are poisonous.
2. Can cause skin irritation.
3. Is highly inflammable.

16.1 Dismantling

Fuel hoses positions. See Figure 1.

NOTE! Fluted pliers may not be used with the fuel hose. They can cause material damage resulting in damage to the fuel hose.

1. Drain the fuel from the tank.
2. Follow the instructions in chapter 8.1, Step 1 to 7 to dismantle the air filter, air filter holder and start/stop switch. See Figure 1.

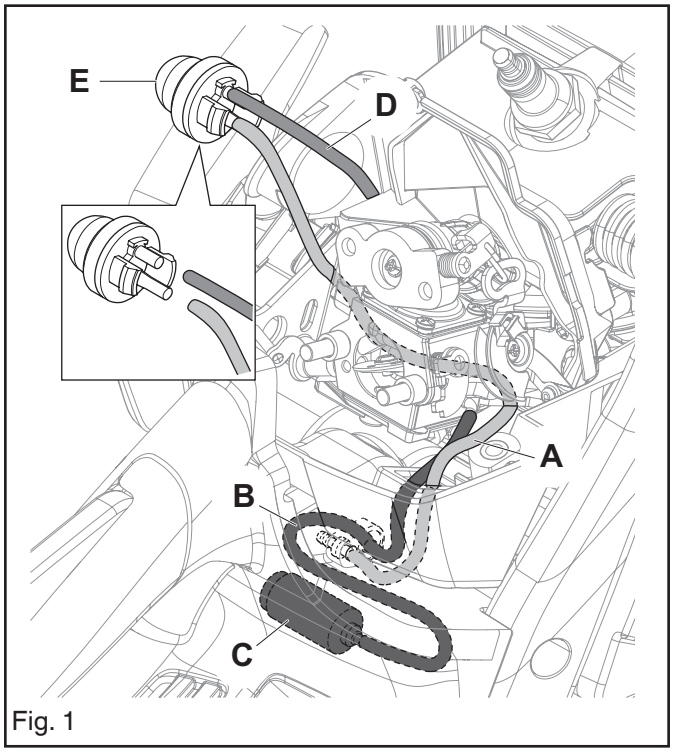


Fig. 1

3. Remove the fuel cap. Use a pair of pliers with smooth jaws and pull out the fuel hose (B) and the fuel filter (C). See Figure 2.

CAUTION! Take care not to damage the fuel hose, return hose, tank vent hose or throttle cable.

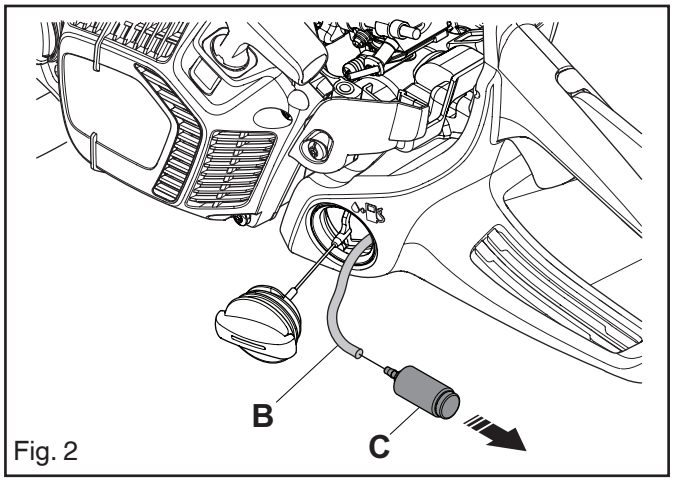


Fig. 2

16.2 Replacing the fuel hose and fuel filter

When replacing the fuel filter use the special 502 50 83-01 tool. Change the fuel hose and pull it through the hole in the tank unit. See Figure 1.

CAUTION! Compressed air must not be used for cleaning or pressure testing as this will damage the valve components.

16.3 Replacing the primer bulb

Unsnap the suction hose (B) and return hose (A) from the primer bulb (E). See Figure 1.

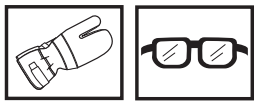
16.4 Cleaning and inspection

Clean all parts and check that the fuel hose is intact.

16.5 Assembly

1. Make sure the fuel filter is attached to the fuel hose.
2. Follow the instructions in chapter 8.1, Step 1 to 9, in the reverse order.

17 Anti-vibration system



WARNING! The fuel used in the chainsaw has the following hazardous properties:
1. The fluid and its fumes are poisonous.
2. Can cause skin irritation.
3. Is highly inflammable.

17.1 Dismantling

1. Remove the cylinder cover, air filter, air filter holder and clutch cover.
2. Remove the screw (A) holding the antivibration element (B). See Figure 1.
3. Remove the antivibration element (B). See Figure 1.
4. Remove the chain catcher (C). See Figure 1.
5. Remove the antivibration element (D). See Figure 1.

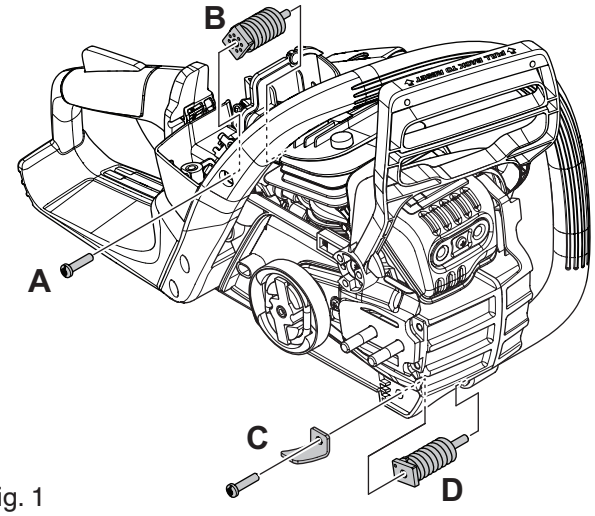


Fig. 1

6. Remove the screw (E) holding the antivibration element (F) and. See Figure 2.
7. Remove the anti-vibration element. See Figure 2.

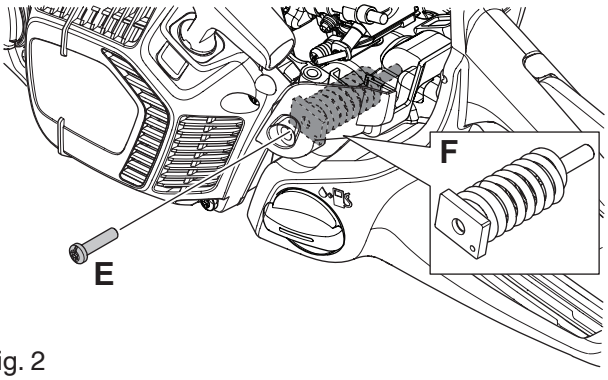


Fig. 2

17.2 Cleaning and inspection

Clean and inspect all parts.

17.3 Assembly

Follow the dismantling instruction in the reverse order. Make sure to use the correct torque. See chapter 4 Service data.

18 Piston and cylinder

18.1 Dismantling

1. Remove:
   - Cylinder cover
   - Spark plug
   - Air filter and air filter holder
   - Starter unit and air guide plate
   - Ignition module
   - Flywheel
   - Clutch cover
   - Clutch
   - Muffler
   - Anti-vibration element
   - Oil system
2. Detach the fuel hose and return hose.
3. Detach the throttle wire.
4. Remove the tank unit and front handle
5. Remove the carburettor and the manifold
6. Remove the five screws holding the crankcase to the cylinder. See Figure 1.

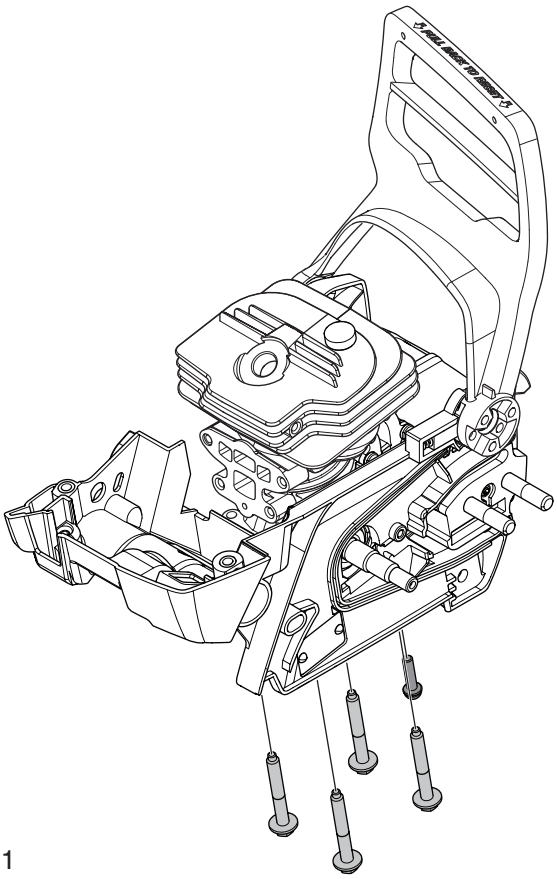


Fig. 1

7. Remove the cylinder. See Figure 2.

CAUTION! Exercise care so that dirt and foreign particles do not get into the crankcase.

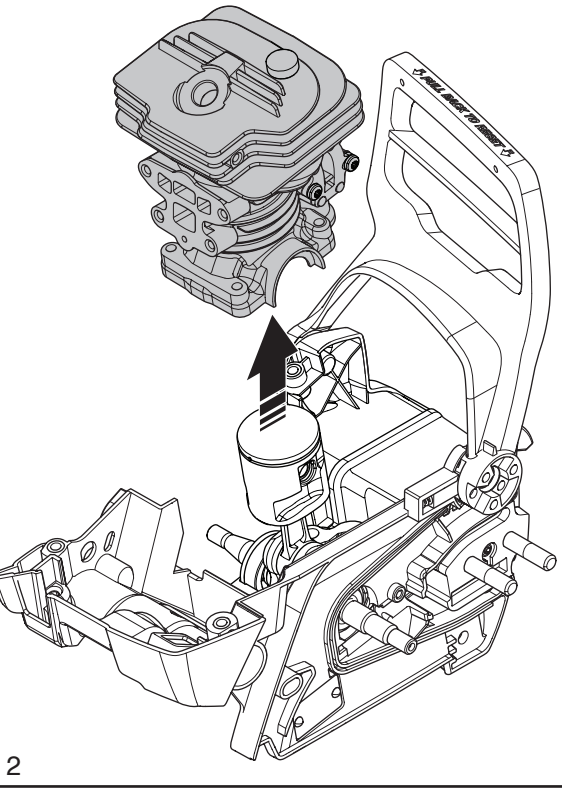


Fig. 2

8. Remove the circlips (A) and press out the gudgeon pin (B). Remove the piston. See Figure 3.
9. Remove the piston ring (C).

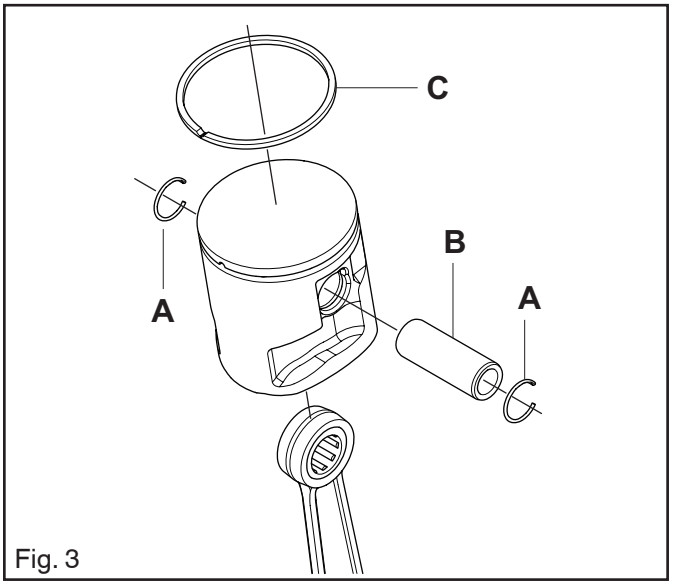


Fig. 3

18.2 Cleaning and inspection

Clean all parts, scrape off all the remains of any gasket material and scrape off carbon deposits from the following surfaces:

1. The piston crown.
2. Top of the cylinder bore (inside).
3. The cylinder exhaust port.
4. The decompression valve.
5. Base of the cylinder and/or crankcase

Check the following:

1. That the cylinder's surface coating is not worn. Especially in the upper end of the cylinder.
2. That the cylinder is free of score marks. See figure 4.
3. That the piston is free of score marks. Minor scratches can be polished off with fine emery paper.
4. That the piston ring is not burnt into its groove.

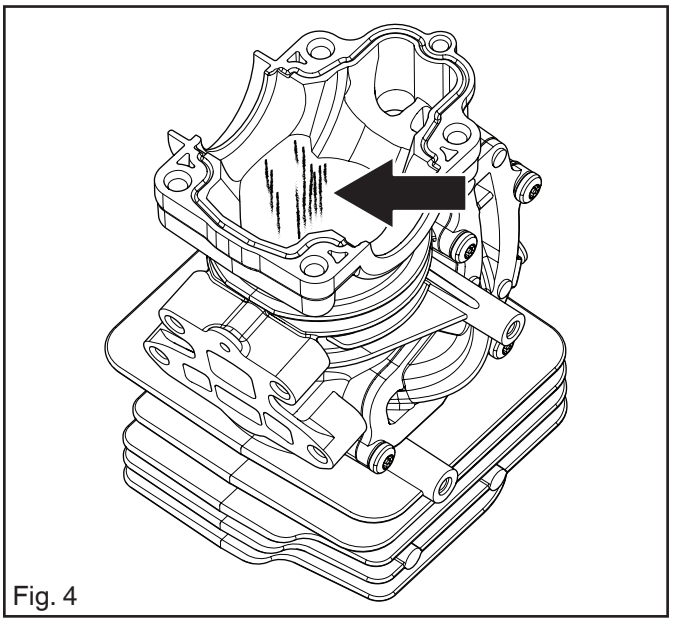


Fig. 4

5. Measure the wear on the piston ring by placing it the cylinder and measuring the gap. See figure 5. The clearance must not exceed 1 mm.
6. That the needle bearing is undamaged.

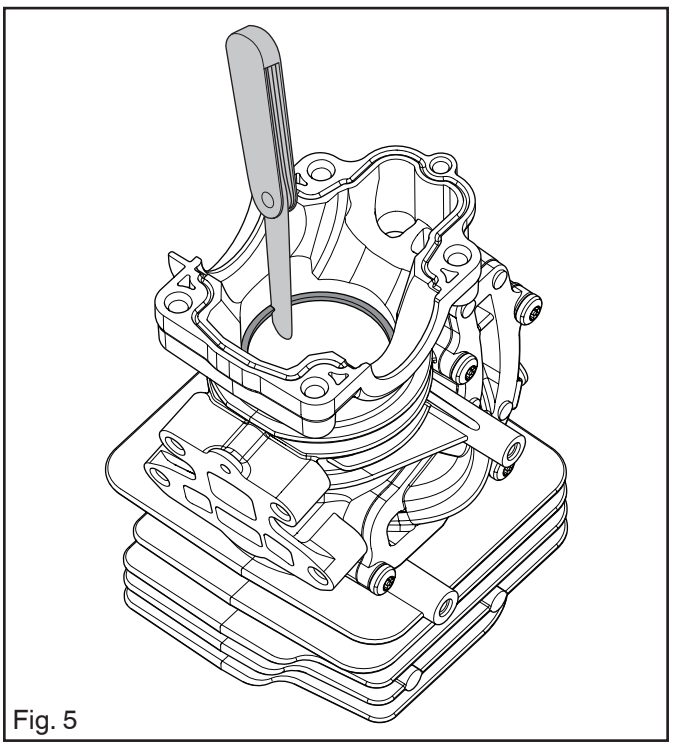


Fig. 5

7. That the intake manifold and it's rubber seals are undamaged. See figure 6.

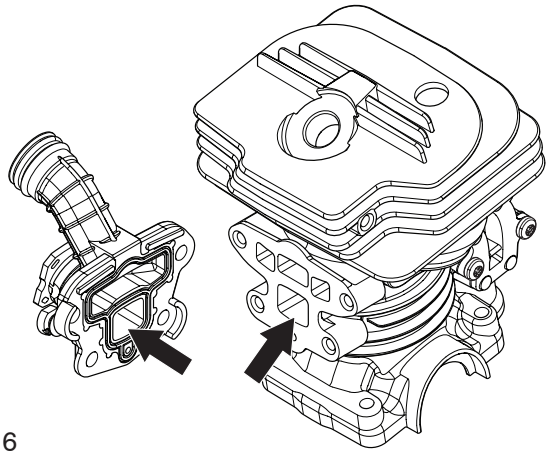


Fig. 6

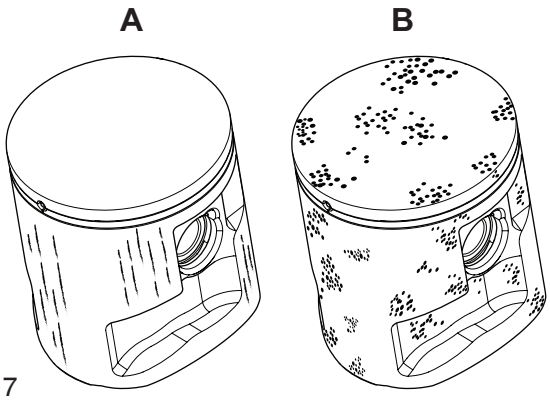


Fig. 7

Faults and causes

Score marks on the piston (A). See Figure 7.
1. Incorrect carburettor setting. Too high over-speed.
2. Too low octane fuel.
3. Too low or incorrect oil in the fuel.

Carbon build-up (B). See Figure 7.
1. Incorrect carburettor setting. Too low over-speed.
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.

18.3 Crankshaft bearing replacement

1. If the crankshaft bearing remains on the crankshaft, remove it with the Puller tool. See figure 8a.
2. Place a new brearing on the shaft and push into position using the tool 502 50 30-18. See figure 8b.

CAUTION! If the bearings are mounted in the crankcase, exercise care to avoid dirt and foreign particles getting in.

Clean all components and scrape of the remains of gasket material from the mating surfaces of the crankcase halves.

1. Check that the big-end bearing does not have any radial play. Axial play is acceptable. Also make sure that the big-end bearing does not have any score marks or is discoloured on the sides.
2. Check that the bearing surfaces for the small-end do not have any score marks or are discoloured.
3. Check that the crankshaft main bearings do not have any play or dissonance.
4. Check that the crankcase has no cracks.

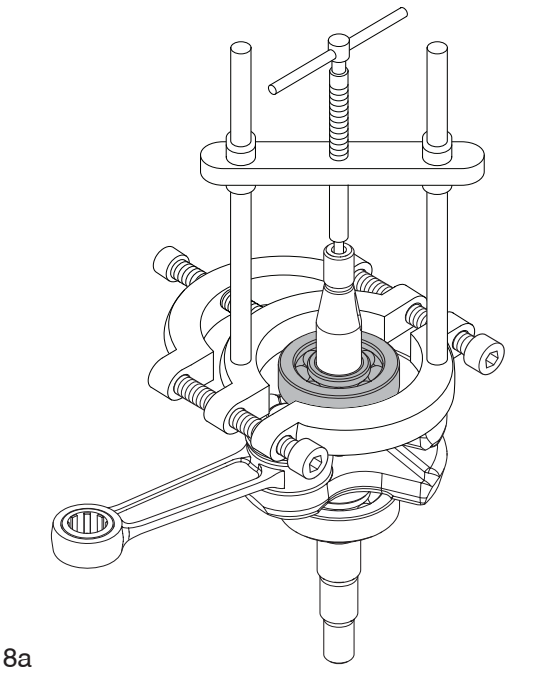


Fig. 8a

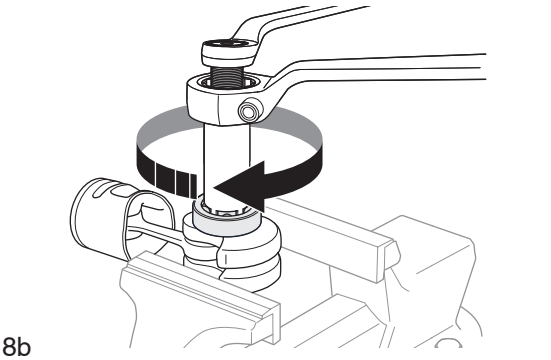


Fig. 8b

18.4 Assembly

1. Lubricate the needle bearing (A) and fit it in the connecting rod. See figure 3.

2. Place the piston with the arrow facing the exhaust port. Slide the gudgeon pin bearing (D) in and fit the circlips (C). See figure 3.
3. Compress the piston ring with a piston ring squeeze tool (589 55 57-01). Insert the tool into the cylinder and carefully fit the cylinder on the piston. See Figure 9a. Remove the tool by pulling down and back. See Figure 9b.
4. Attach the cylinder to the crankcase. See Figure 1. Tighten the screws.
5. Attach the carburettor and the manifold. Make sure to use the correct torque. See chapter 4 Service data.
6. Attach the tank unit and front handle. Make sure to use the correct torque. See chapter 4 Service data.
7. Attach the throttle wire to the carburettor.
8. Attach the fuel hose and return hose.
9. Attach the:
   - Oil system
   - Anti-vibration element
   - Muffler
   - Clutch
   - Clutch cover
   - Flywheel
   - Ignition module
   - Starter unit and air guide plate
   - Air filter and air filter holder
   - Spark plug
   - Cylinder cover

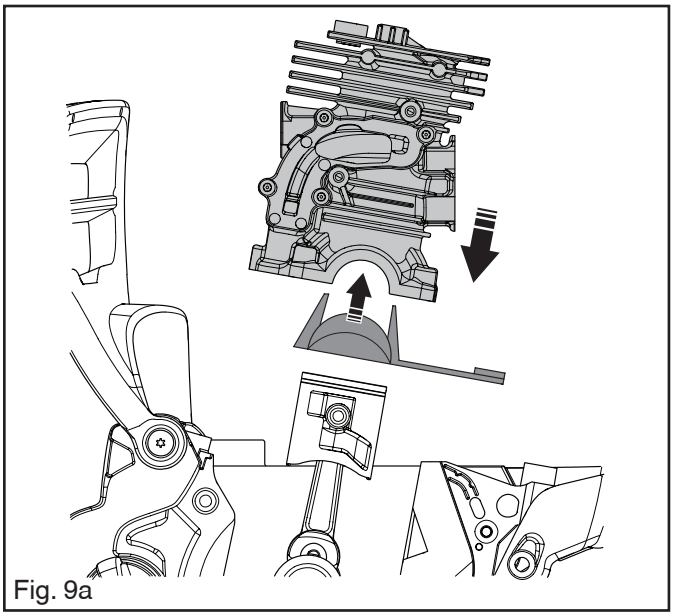


Fig. 9a

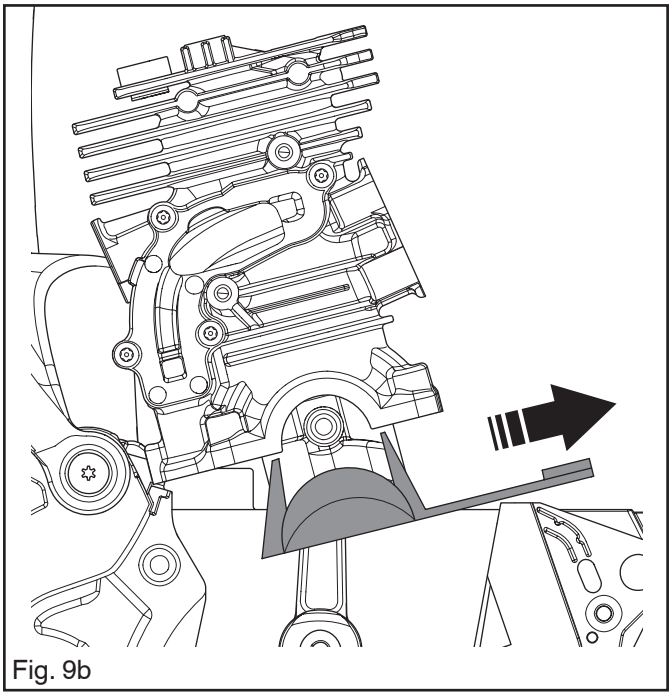


Fig. 9b

18.5 Leakage testing

1. Remove the cylinder cover.
2. Remove the air filter, the air filter holder and the carburettor. See chapter 15.4 Dismantling the carburettor.
3. Attach the pressure testing covers (A, B) and spacing sleeves (D). Tighten the pressure testing cover (B) with the nuts. See Figure 10.
4. Loosen the screws on the muffler and press the rubber sheet 502 54 11-02 (C) between the muffler and cylinder. Tighten the two muffler screws. See Figure.
5. Remove the spark plug and screw the pressure test connection 503 84 40-02 in its place. Connect the tool 531 03 06-23 to the nipple. See Figure 10.
6. Pump the pressure up to 80 kPa (0.8 bar). Wait 30 seconds. The pressure should not be less than 60 kPa (0.6 bar).
7. Remove the cover plates from the muffler and manifold, tighten the bolts to the specified torque. Remove the pressure test connection 503 84 40-02 and refit the spark plug.

WARNING!
After pressure testing the cylinder, check that the inlet manifold is seated correctly, otherwise the saw may be damaged.

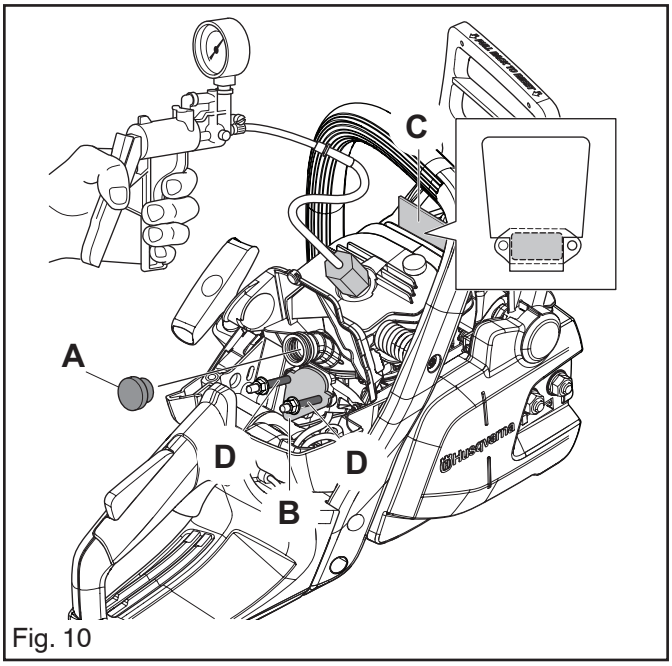


Fig. 10

19 Bar bolt

19.1 Dismantling

1. Drain the oil tank.
2. Knock through the old guide bar bolts so that they fall into the oil tank. See Figure 1.

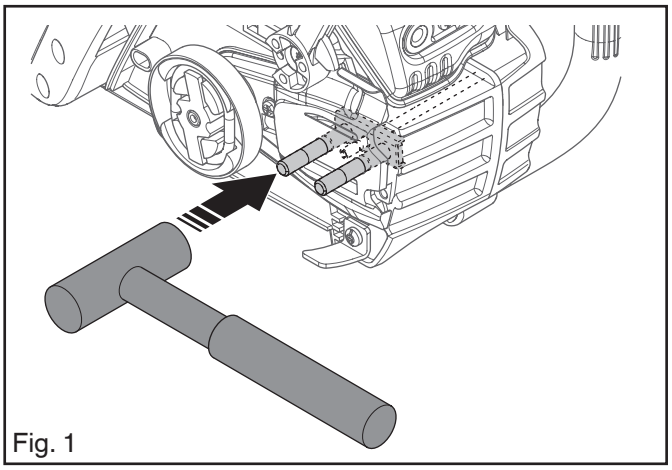


Fig. 1

3. Remove the bolts from the oil tank. See Figure 2.

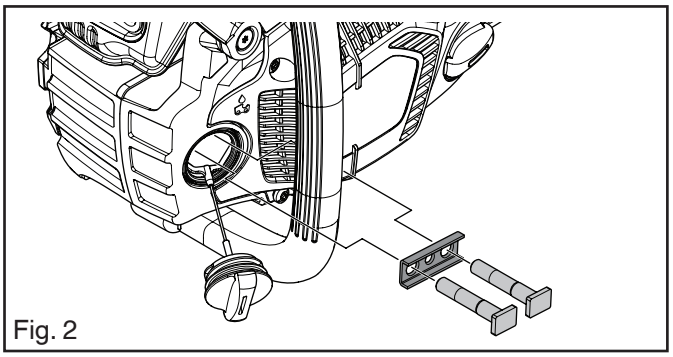


Fig. 2

19.2 Cleaning and inspection

Clean and inspect all parts.

19.3 Assembly

1. Secure steel wire to the outer part of the new bar bolt, thread the steel wire through the oil tank and out through the bolt hole. See Figure 3.
2. Pull the steel wire so the bolt comes out of its hole. See Figure 3.
3. Check that the bolt's square head fits in the washer which is positioned inside the oil tank.

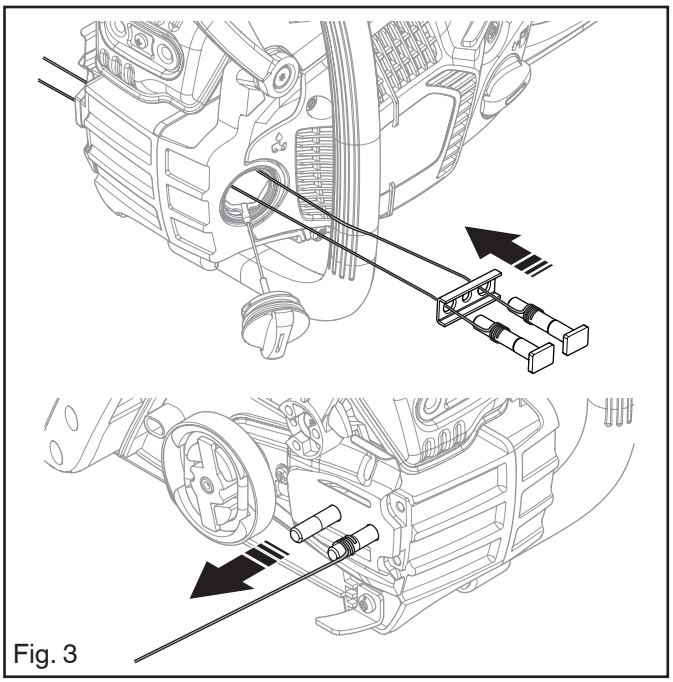


Fig. 3

4. Pull out the bar bolt using its nut. Place two spacer between the nut and chain guard plate. See Figure 4.
5. Refill with chain oil.

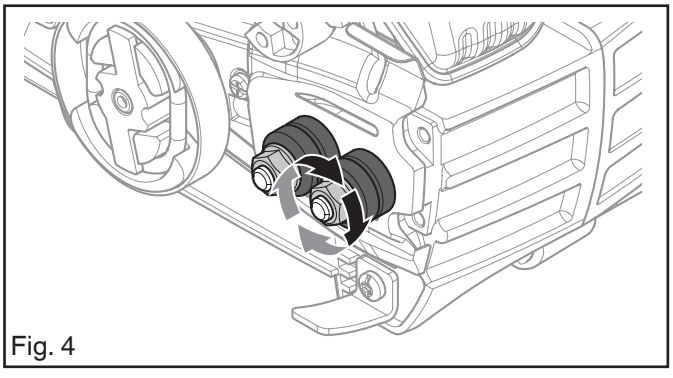


Fig. 4

20 Test the ignition

20.1 Spark test

1. Disconnect the spark plug from the cylinder.
2. Connect Ignition Tester to spark plug cap and ground the clip to the cylinder fins. See Figure 1.
3. Adjust the knob to 6 mm gap between the two electrodes, read 6 marks on the corresponding scale.
4. Pull firmly in the starter handle.
5. A clear blue spark will be visible between the electrodes if the ignition works properly.

The ignition system must be capable of producing a strong spark or the engine will have performance problems particularly under load.

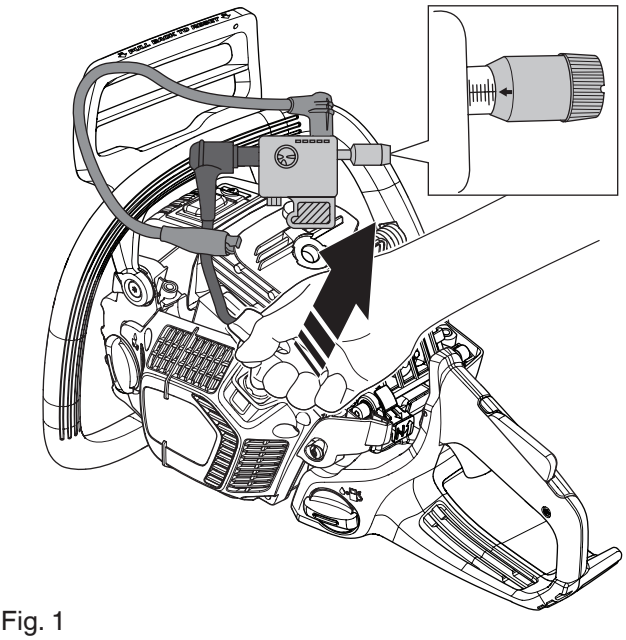


Fig. 1

21 Troubleshooting

21.1 General troubleshooting

The different faults which may occur on the chainsaw are divided into four groups. 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, etcetera.

Starting

Difficult to start	Air filter blocked Choke does not work Worn choke axle Worn choke valve Blocked fuel filter Blocked fuel line Piston ring is stuck Blocked impulse channel
The carburettor leaks fuel	Loose or faulty fuel hose Hole in diaphragm Worn needle/needle tip Control system sticking Control system set too high Leaking control system (air or fuel) The cover on the carburettor 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)

Does not idle	Leaking inlet hose (rubber) Loose carburettor mounting Loose or faulty fuel hose Blocked fuel filter Blocked fuel line Tank ventilator blocked The throttle valve shaft is inert Throttle stay is binding Defective throttle return spring Bent valve axle stop Faulty diffuser jet
Too rich idling	Worn needle/needle tip Worn lever arm in the control system Leaking diaphragm/cover plate Worn needle/needle tip Leaking diaphragm/cover plate Worn lever arm in the control system Faulty diffuser jet
Uneven idling	Blocked fuel filter Blocked fuel line Leaking inlet hose (rubber) Loose carburettor mounting Worn throttle valve axle Loose throttle valve screw Worn throttle valve Leaking control system (air or fuel) The control system's centre knob is worn Hole in diaphragm Leaking diaphragm/ cover plate Leaking crankcase
L screw requires constant adjustment	Blocked fuel line Leaking control system (air or fuel) Leaking diaphragm/cover plate Faulty diffuser jet Leaking crankcase
Too much fuel at idle speed	Worn needle/needle tip Leaking diaphragm/ cover plate

High speed

Will not run at full throttle	Blocked air filter Tank venting clogged Blocked fuel filter Blocked fuel line Loose or faulty fuel hose Impulse channel leaking Blocked impulse channel The cover on the carburettor pump side is loose Faulty pump diaphragm Leaking inlet hose (rubber) Loose carburettor mounting Control system set too low Damaged control system Control system incorrectly assembled Leaking diaphragm/cover plate Control system sticking Blocked muffler

Low power	Tank venting clogged Blocked fuel filter Impulse channel leaking Blocked impulse channel The cover on the carburettor 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 venting clogged Blocked fuel filter Blocked fuel line Loose or faulty fuel hose Impulse channel leaking Blocked impulse channel The cover on the carburettor pump side is loose Faulty pump diaphragm Leaking inlet hose (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	Blocked air filter Tank venting clogged Blocked fuel filter Blocked fuel line Loose or faulty fuel hose Blocked impulse channel The cover on the carburettor pump side is loose Faulty pump diaphragm Leaking inlet hose (rubber) Loose carburettor mounting Control system set too low Control system incorrectly assembled Control system sticking Faulty diffuser jet Blocked muffler
The engine stops when releasing the throttle	Faulty pump diaphragm Control system set too high Control system sticking Faulty diffuser jet Blocked air filter Faulty pump diaphragm Faulty diffuser jet

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