

11/99



PS-34

DOLMAR





Table of contents

Index	Technical Data	page	3
	Special tools		4
	Repair instructions, general		5
01	Chain brake		6
02	Centrifugal clutch		8
03	Oil pump		9 -11
04	Ignition system		11-13
05	Starting system		14-15
06	Carburetor / intake system		16-19
08	Rubber buffer, handles		20
09	Fuel tank, exhaust		21
10	Pistons and cylinders		22-23
11	Crankcase, crankshaft		24-25
	Torques		26



Technical Data

Technical data

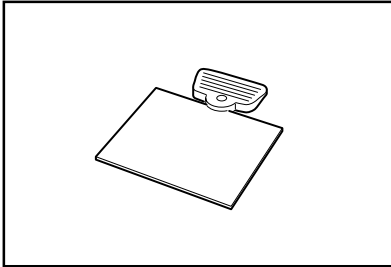
		PS-34
Stroke volume	cm ³	33
Bore	mm	37
Stroke	mm	31
Max. power at speed	kW / rpm	1.3 / 9,000
Max. torque at speed	Nm / rpm	1.7 / 6,500
Idling speed / Max. engine speed with guide bar and chain	rpm	2,800 / 12,200
Coupling speed	rpm	4,500
Sound pressure level $L_{pA,av}$ at the workplace per ISO 7182 ¹⁾	dB (A)	99
Sound power level $L_{wA,av}$ per ISO 9207 ¹⁾	dB (A)	105
Vibration acceleration $a_{h,av}$ per ISO 7505 ¹⁾		
- Tubular handle	m/s ²	4
- Rear handle	m/s ²	6
Carburetor (diaphragm carburetor)	Type	ZAMA
Ignition system	Type	PHELON
Spark plug	Type	NGK BPMR 7A
Electrode gap	mm	0.5
or spark plug	Type	BOSCH WSR 6F
Fuel consumption at max. load per ISO 7293	kg/h	0.71
Specific consumption at max. load per ISO 7293	g/kWh	550
Fuel tank capacity	l	0.37
Chain oil tank capacity	l	0.25
Mixture ratio (fuel/two-stroke oil)		
- when using DOLMAR oil		50 : 1
- when using other oils		40 : 1
Chain brake		engages manually or in case of kickback
Chain speed ²⁾	m/s	17,1
Sprocket pitch	inch	3/8
Number of teeth	Z	6
Chain type - see the Extract from the spare-parts list		
Pitch / Driving element strength	inch	3/8 / .043
Guide bar, length of a cut	cm	30
Guide-bar type - see the Extract from the spare-parts list		
Weight (fuel tank empty, without chain and guide bar)	kg	4.7

¹⁾ Figures derived in equal part from idle, full-load, and top-speed operation.

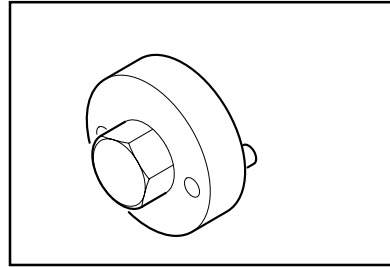
²⁾ At max. power



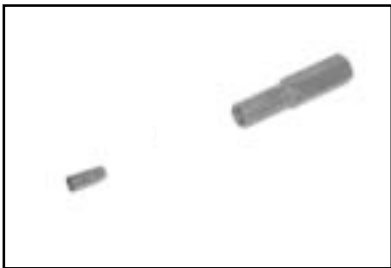
Special tools



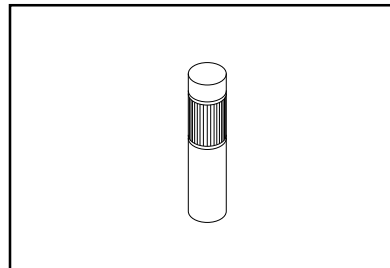
Setting gauge for split size
Flywheel / ignition armature
944 500 890



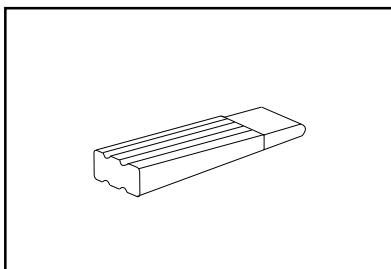
Assembly wrench for
clutch blades
944 500 695



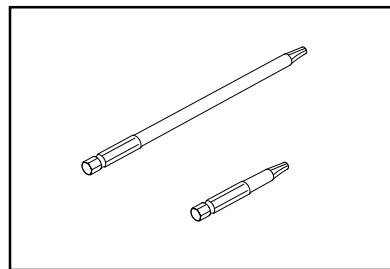
Assembly and disassembly tool for
oil pump worm
950 500 060
Assembly sleeve 944 500 580



Flywheel remover
944 500 880



Piston stop wedge
944 602 001



Torx bits unit T27 150 mm
944 500 865

Torx bits unit T27 50 mm
944 500 866

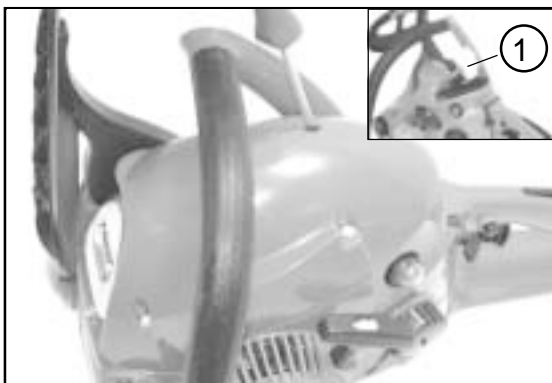


General information on repairing the PS-34

The PS-34 chain saw is a small reasonably chain saw.

The objective in developing this saw was to provide a low-priced appliance that could be assembled as easily as possible. Many of the design features are therefore based on the concept of easy assembly.

The following tips summarise our experience in terms of carrying out repairs rapidly. In general, we recommend that you use an electric screwdriver.

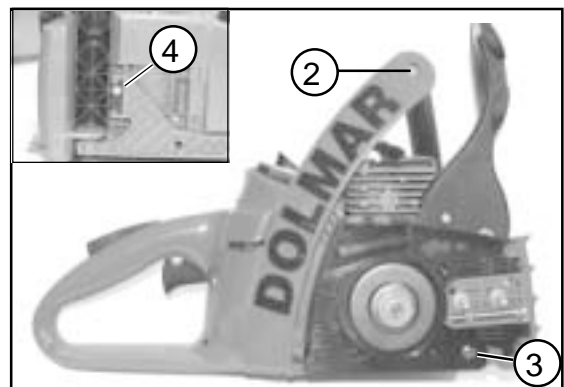


The air filter hood is fixed with 3 screws and must be removed for all work on the motor. In order to keep out dirt and foreign bodies, always close the suction duct which is open to the top.



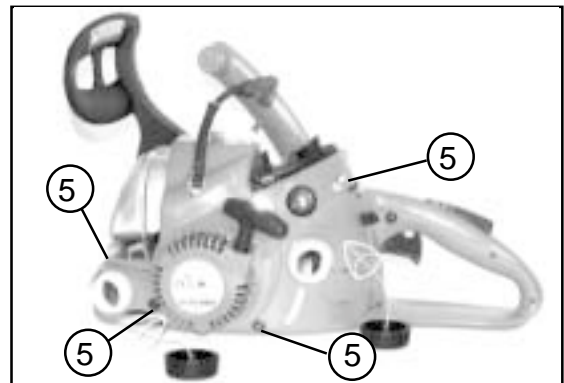
Oil and fuel tank

To remove the starter, the oil and fuel tank cover must be removed. If a residue is to be left in the tanks, screw tank cover back on after removing the starter.



Remove tubular handle.

The tubular handle is removed if work is carried out on the carburetor, ignition or motor. For this, remove 2 screws on the clutch side (2) + (3), plus (4) on the underside out of the motor housing.



Starter

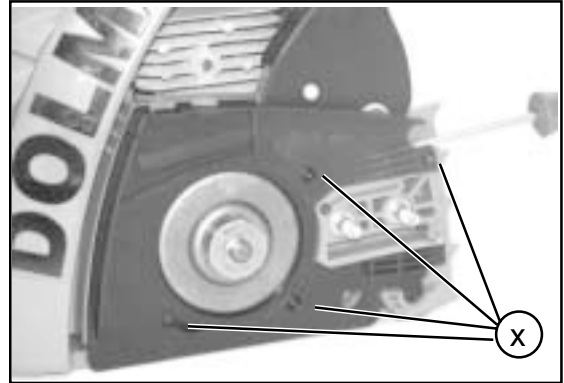
For all work on the motor, ignition and carburetor, oil pump and starter, the starter must be removed after 4 screws (5) have been removed.



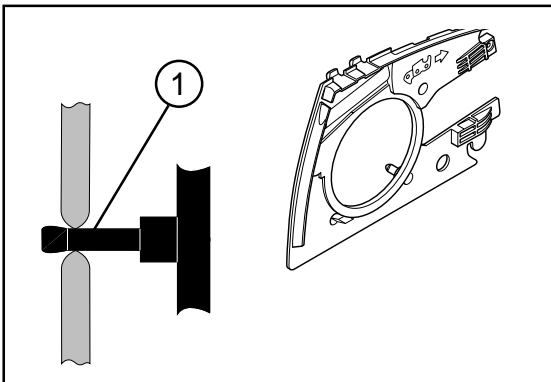
01 Chain brake



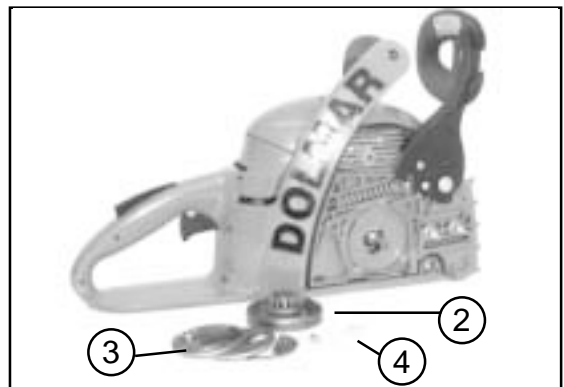
01-01 Removing the chain brake
Remove sprocket guard, nose bar and chain, clear the chain intake area.



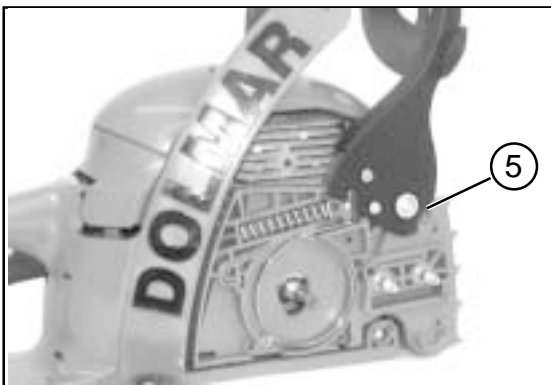
01-01 Removing the chain brake
Carefully lever out 4 pivots (x) on the cover plate from the housing sleeves using a long screw driver.



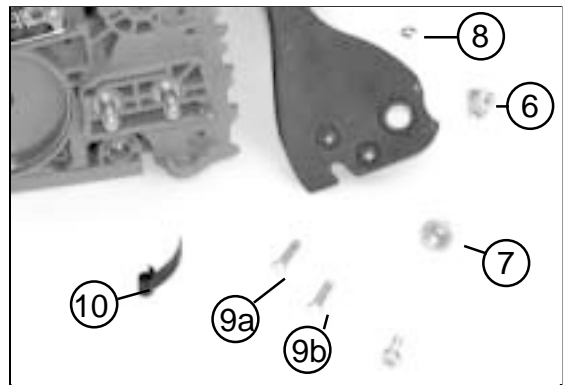
01-01 Removing the chain brake
The pivots (1) are fixed by a thicker section in holes in the housing and hold the cover plate. If pivots break off during dismantling, replace the cover plate.



01-01 Removing the chain brake
Remove clutch drum (2) and centrifugal clutch (3, see 02-01), take straining screw (4) from housing pocket.



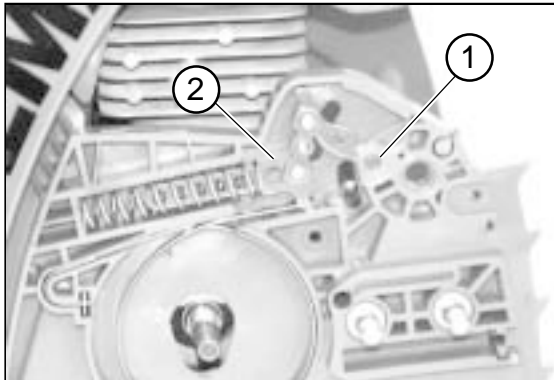
01-01 Removing the chain brake
Loosen chain brake to relax packing spring, loosen screw for hand guard (5) and unscrew 2-3 rounds.



01-01 Removing the chain brake
Push out rear sleeve (6) with screw (5), remove front sleeve (7), remove Seeger ring (8) of upper bolt (9a), pull out both bolts (9a + 9b), remove spring (10) from brake lever from housing.



01 Chain brake / clutch drum



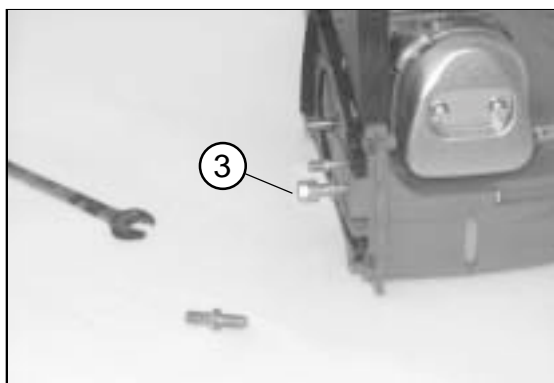
01-01 Removing the chain brake

Push cylindrical pin (1) from housing and remove brake spring holder (2) with joint piece.



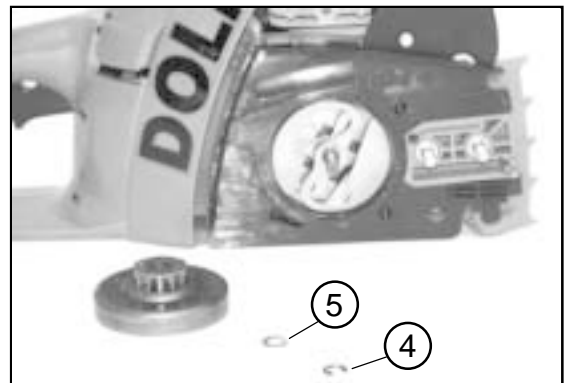
01-01 Checking the brake spring

Check brake spring for wear and damage. Note: the chain brake is a safety component, so worn or damaged brake springs must be replaced.



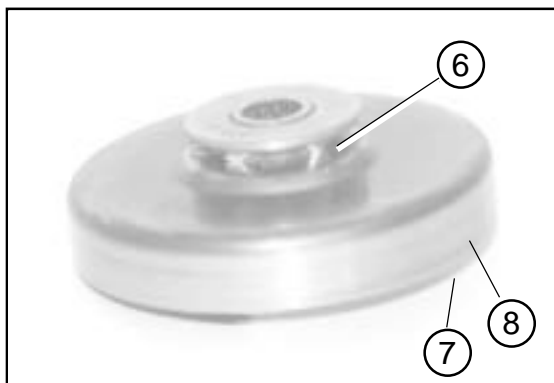
01-07 Replacing the bolt

Tighten the 2 M8 nuts (3) on the bolt against each other and unscrew bolt



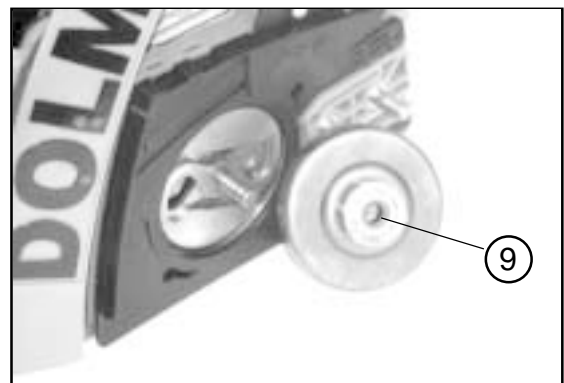
02-01 Removing the centrifugal clutch

Remove guard ring (4) and washer (5) and pull clutch drum with bearing off the crankshaft.



02-01 Checking the clutch drum

Check drive pinion (6), running surface (7) and external contour (8) (-> brake spring) for wear and damage. Replace worn or damaged clutch drums.

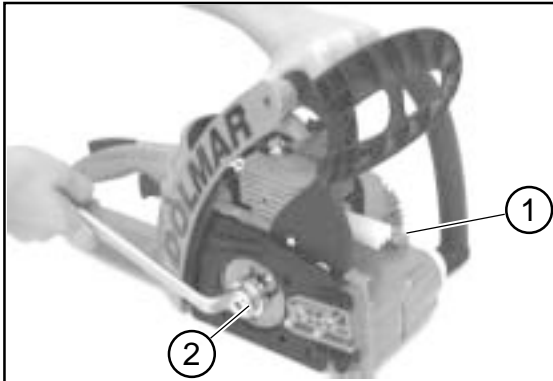


02-01 Replacing the clutch drum

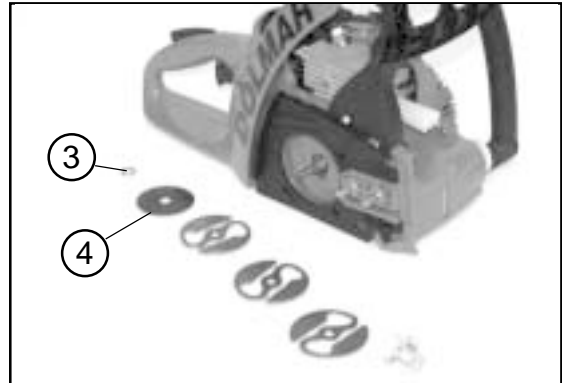
Before assembly, lightly grease the bearings of the clutch drum (9) with grease no. 944.360.000.



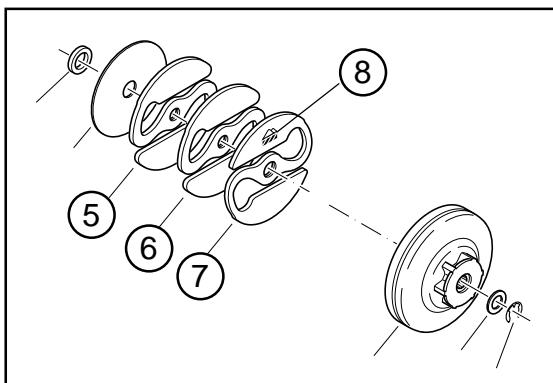
02 Centrifugal clutch



02-01 Removing the centrifugal clutch
Remove exhaust, block motor with piston stop wedge (1). Loosen blades (2) individually with special nut 944.500.695.



02-01 Mounting the centrifugal clutch
The thrust washer (3) must be inserted before the cover washer (4). Make sure that the assembly sequence is followed and the blades properly installed.



02-01 Mounting the centrifugal clutch
Blade (5) + (6) w. DOLMAR marking pointing towards the motor, blade (7) with marking (8) outwards.



02-01 Mounting the centrifugal clutch
Tighten blades individually with the assembly tool 944.500.695 to 20 +5 Nm.

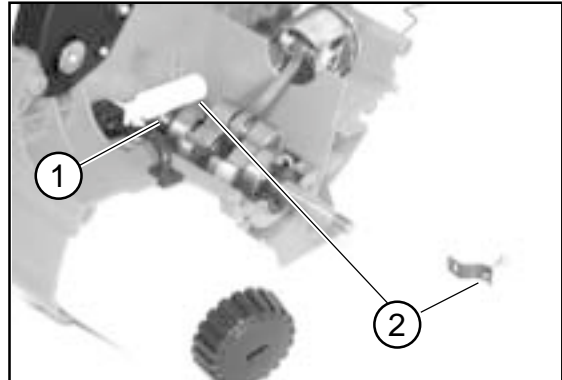


03 Oil pump



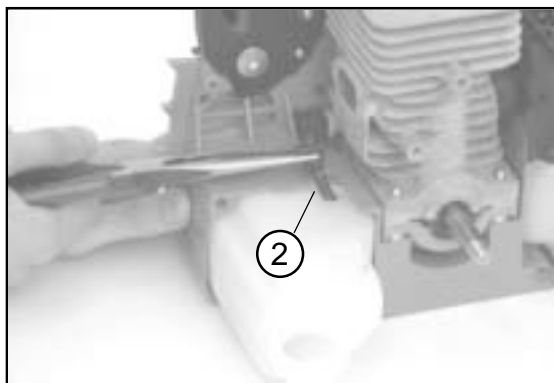
03-02 Removing the oil pump

To remove the oil pump, remove the suction hose and cylinder, see 10-01.



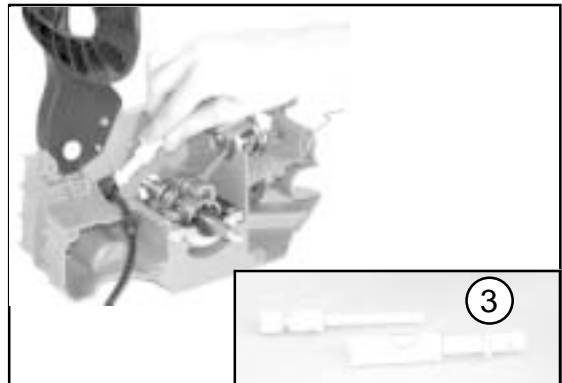
03-02 Removing the oil pump

The oil pump piston is driven by the worm (1) on the crankshaft. The pivot in the holder (2) fixes the oil pump in the right position and controls the lifting movement of the piston.



03-02 Removing the oil pump

Empty oil tank if necessary, pull suction hose out of tank.



03-02 Removing the oil pump

Pull oil pump out of oil suction pipe. Check oil pump piston (3) for damage.



03-03 Assembling the oil pump

Before assembly, grease the oil pump piston (3) and the housing well with silicon past 980 007 100.



03-04 Air supply to and removal from oil tank

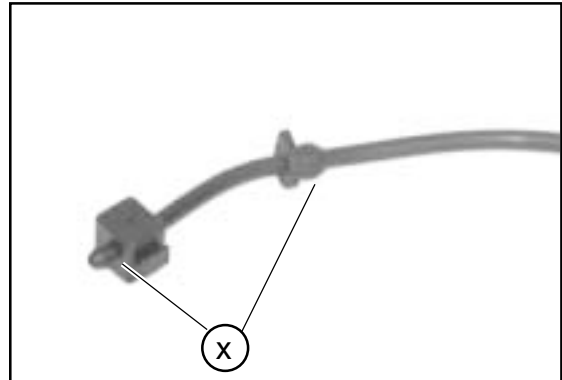
Clean splint and hole.



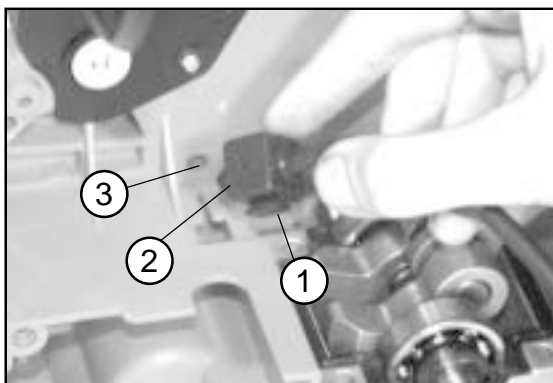
03 Oil pump



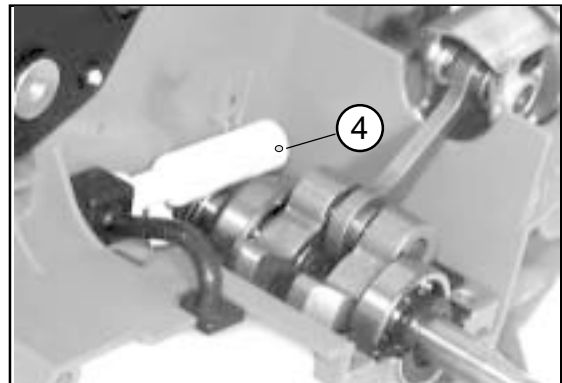
03-04 Removing the oil suction pipe
Remove the oil suction pipe from the housing.



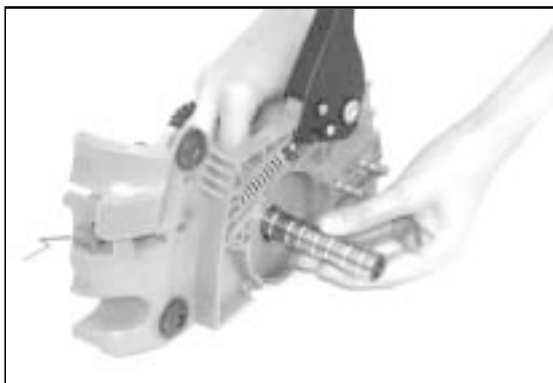
03-04 Replacing the oil suction pipe
Grease the flange areas (x) for better sealing and easier assembly with silicone paste 980.001.100.



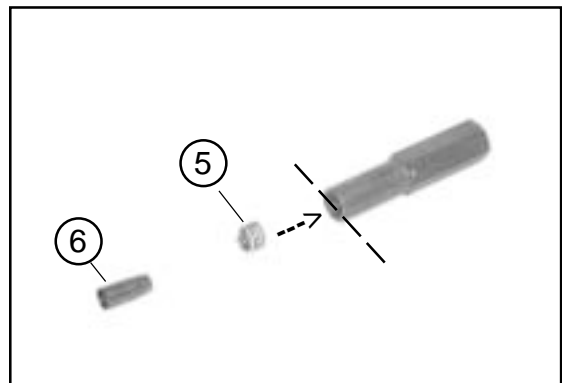
03-04 Replacing the oil suction pipe
Insert guide tie (1) into the housing pocket, push connection nipple (2) firmly into the hole (3).



03-04 Installing the oil pump
Position oil pump on worm, insert holder pivot into the hold (4) of the oil pump and screw up.



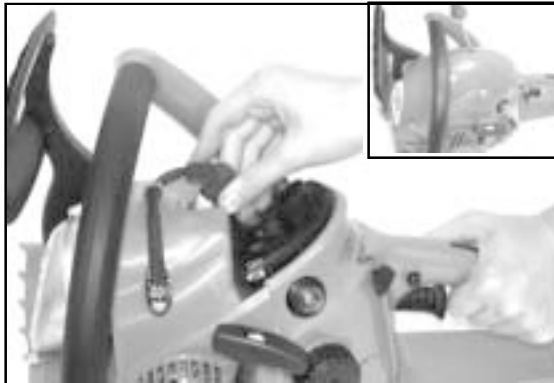
03-04 Removing the worm
Twist the removal and assembly tool 950.500.060 onto the worm (left-handed thread) and remove from the crankshaft.



03-05 Replacing the worm
Twist the worm (5) into the removal and assembly tool until it is flush (left-handed thread). Position assembly sleeve 944.500.580 (6) onto the crankshaft. Push the worm onto the crankshaft as far as it will go.



04 Ignition system



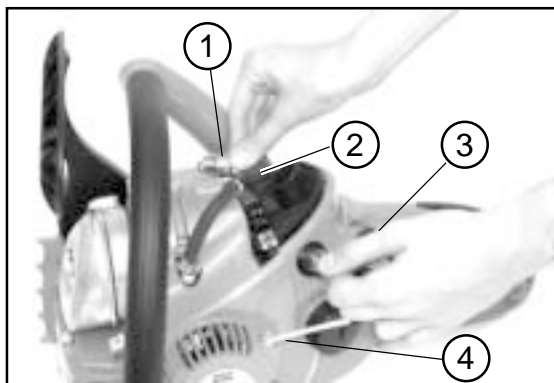
04-04 Removing the spark plug

Remove motor hood. Remove spark plug cap. Loosen and unscrew the spark plug with a universal wrench 941 719 131 or similar tool w. 19 mm opening.



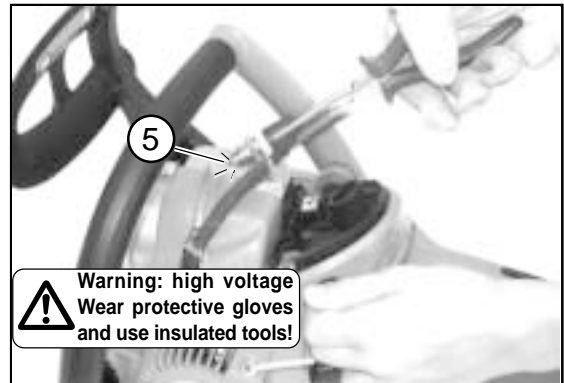
04-04 Replacing the spark plug

Tighten the spark plug using universal wrench 941.719.131 only or max. 20 Nm if other tools are used.



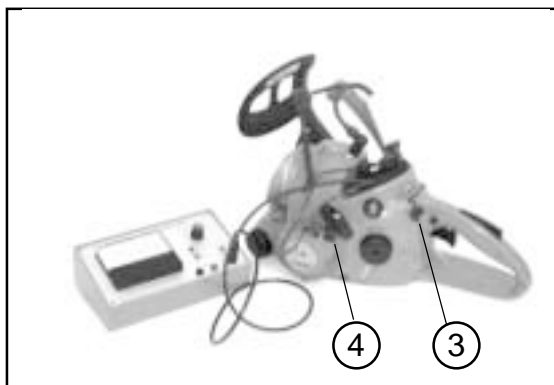
04-04 Check spark plug

Connect spark plug (1) with spark plug cap (2) and connect to earth Operating lever (3) must be in position 'I'. Pull starter rope (4) quickly.



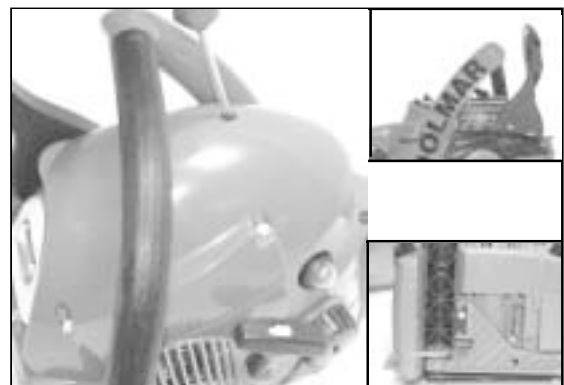
04-04 Check spark plug

Check whether a spark (5) jumps across at the electrode. If no spark, repeat test with new spark plug. Clean or replace dirty or damaged spark plugs.



04-04 Testing the ignition system with test device

Connect test device. Operating lever (3) must be in position 'I'. Pull starter rope (4) out quickly. If no power registered, check wiring, repeat test with new ignition coil.

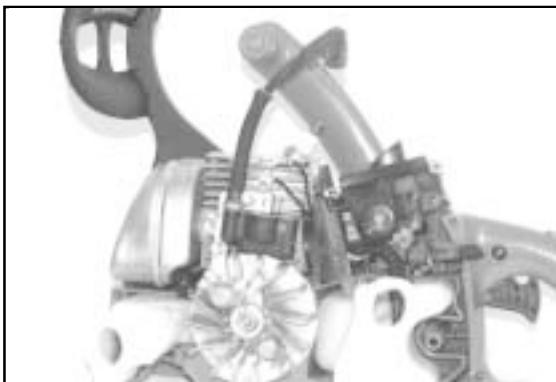


04-04 Removing the ignition system

Remove motor cover and tubular handle and starter cover as described in introduction.

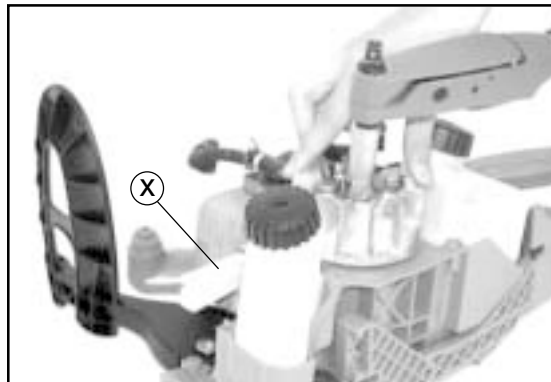


04 Ignition system, flywheel



04-04 Removing the ignition system

Pull off the short-circuit cable flat plug and unscrew the 2 screws of the ignition system.



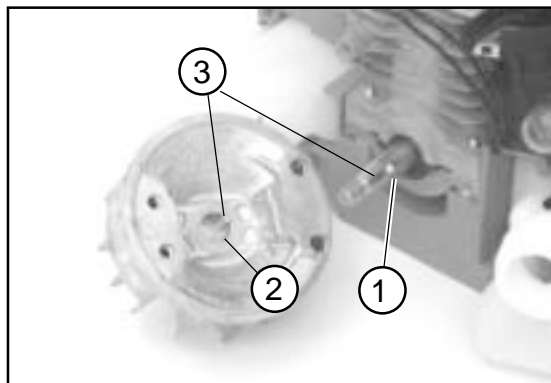
04-04 Removing the flywheel

Block motor with piston stop wedge (x) 944.602.001 and loosen flywheel nut.



04-04 Removing the flywheel

Screw flywheel remover 944.500.880 onto the crankshaft, pull flywheel upwards and remove the flywheel from the cone by tapping on the remover.



04-04 Mounting the flywheel

Before assembly, clean crankshaft pivot (1) and flywheel cone (2). The flywheel contains a device to prevent torsion. When positioning, insert the torsion guard into the groove of the crankshaft (3).



04-04 Mounting the flywheel

Tighten the flywheel nut with $20 + 2.5$ Nm.

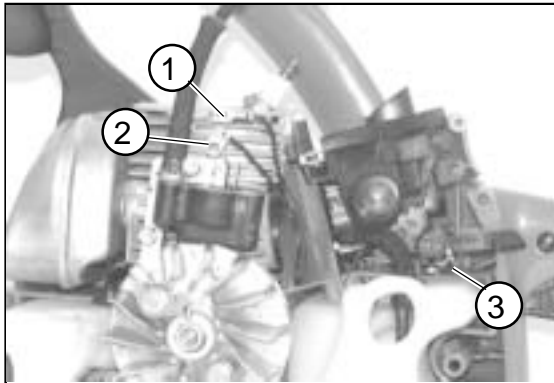


04-04 Mounting the flywheel

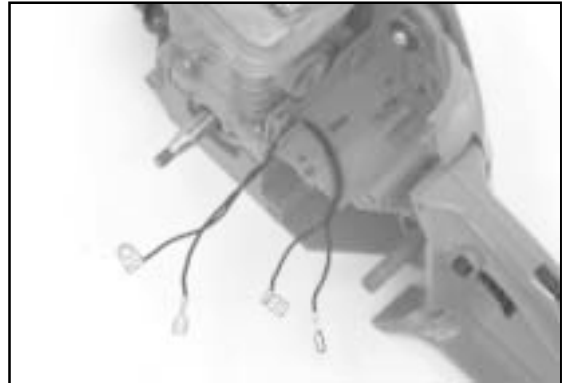
Set the crack between the flywheel magnet and the poles of the ignition coil at 0.2 mm using the setting gauge 944.500.890 (4).



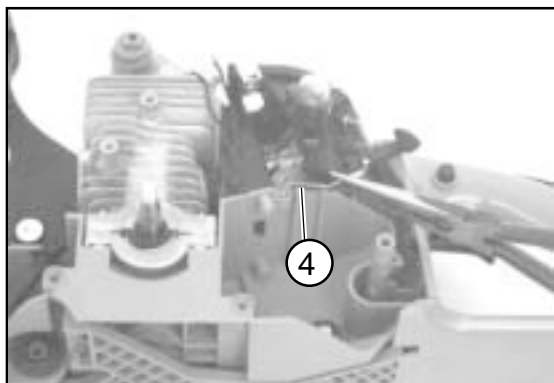
04 Ignition system, short-circuit cable



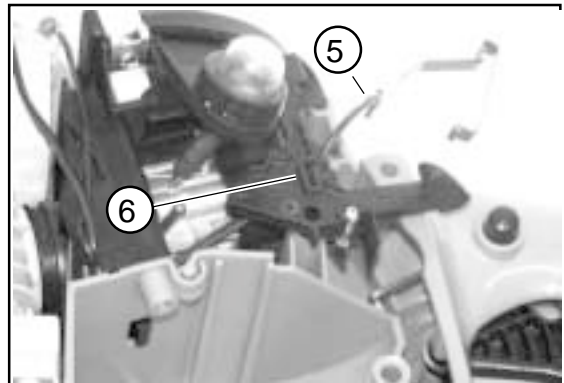
04-04 Replacing the short-circuit cable
The 2 core short-circuit cable connects the contacts of the ignition coil (1) and earth (2) with the stop switch (3).



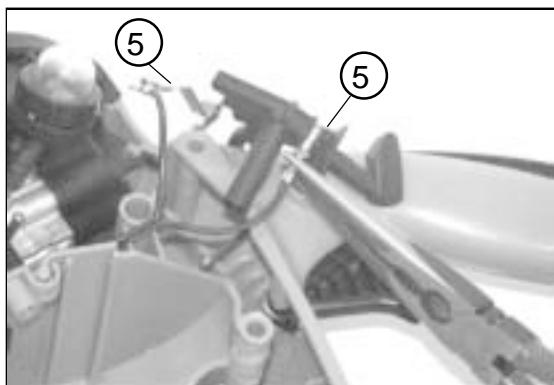
04-04 Replacing the short-circuit cable
The short-circuit cable is taken under the carburetor sleeve in a clamping strip to the choke and operating lever.



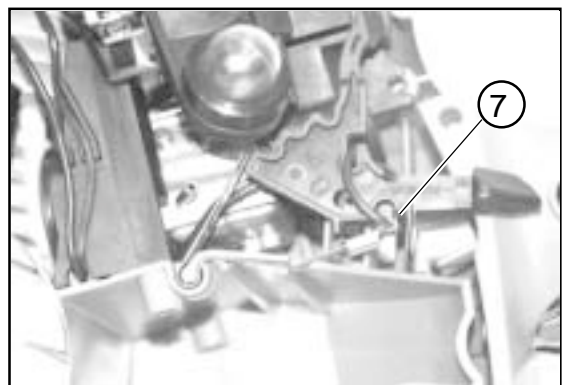
04-04 Removing the short-circuit cable
Remove the contact spring (4) from the housing pocket.



04-04 Removing the choke lever
Remove the cable with the flat plug (5) from the guide pocket (6). Push the choke lever in the direction of 'stop' in order to swing the arm from the housing pocket.



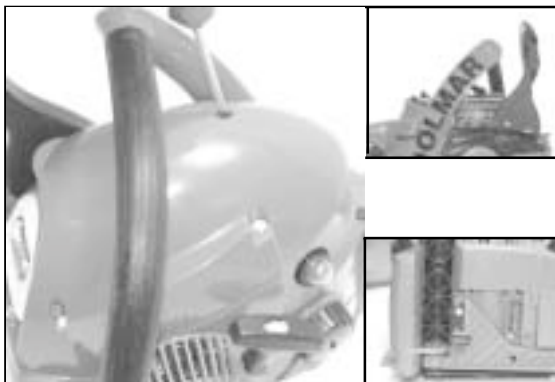
04-04 Removing the short-circuit cable
The flat plug contact (5) is connected with the contact spring. The round contact (6) is inserted from the clutch side into the opening in the choke lever.



04-04 Mounting the short-circuit cable
Check whether, in the STOP position, the round contact in the choke lever is positioned on the metal tongue of the contact spring.



05 Starting system



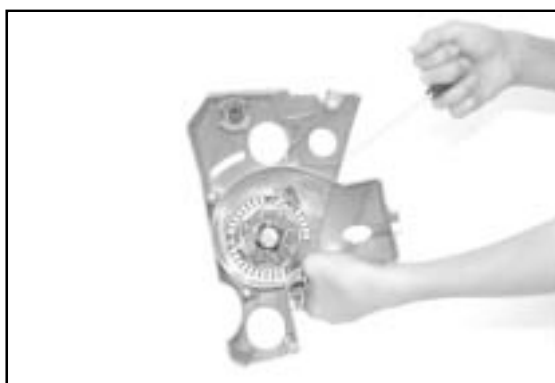
05-02 Removing the starting system

Remove the motor hood and tubular handle as described in introduction.



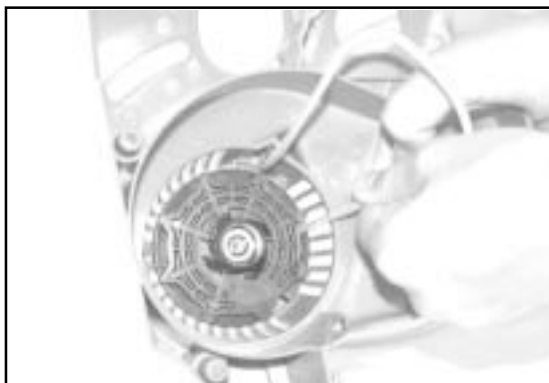
05-02 Removing the starting system

Loosen 4 screws and remove starter cover.



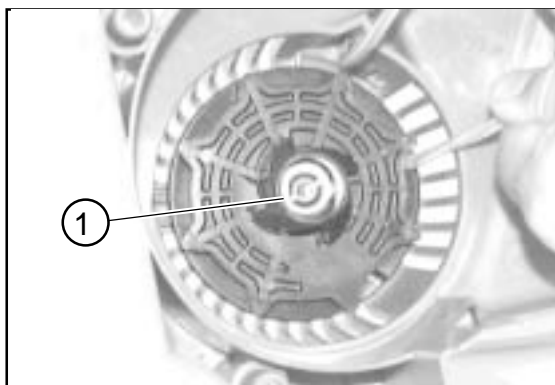
05-02 Removing the starting system

Pull out the starter rope as far as it will go and hold the drum tight.



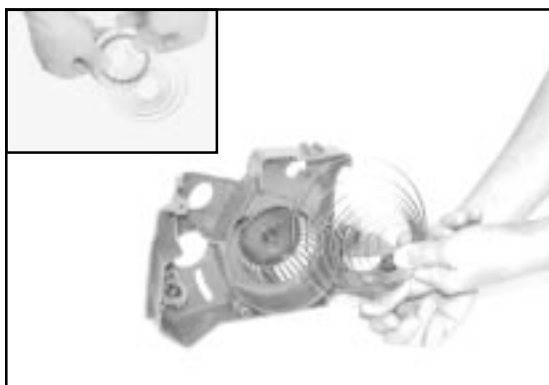
05-02 Removing the cable drum

Pull out starter rope between cable drum and starter housing. Relax rewind spring by slowly letting the cable drum run back.



05-02 Removing the cable drum

Loosen screw (1) and remove cable drum. Take spring unit out of pocket with pincers.

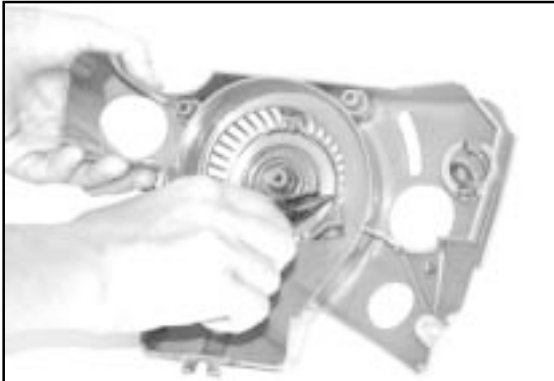


05-02 Insert rewind spring

a) Wind up rewind spring by hand. Wind up spring in anti-clockwise direction. Insert spring eye in housing. Grease spring with grease no. 944.360.000.

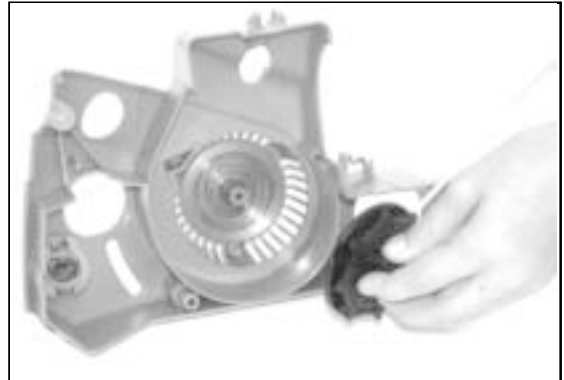


05 Starting system



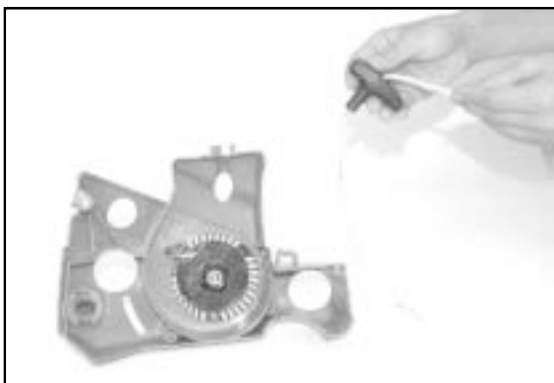
05-02 Inserting the rewind spring

b) as spare part. Insert the spring unit secured with wire, insert spring eye in housing and push spring into housing pocket. Grease with grease no. 944.360.000.



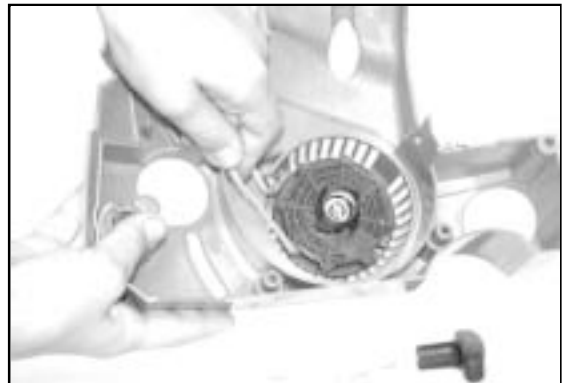
05-02 Mounting the starter

Insert cable drum with knotted starter rope, let the spring click into the carrier and tighten screw.



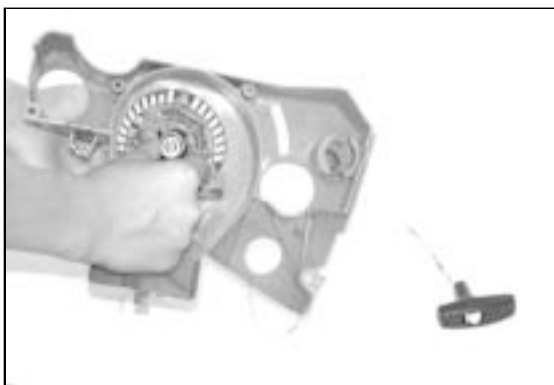
05-02 Mounting the starter

Take starter rope through the eyelet, pull starter handle over the rope and secure with knot.



05-02 Mounting the starter

Tension rewind spring by turning several times, allow starter rope to slide onto cable drum.



05-02 Mounting the starter

To check the pretensioning of the rewind spring, pull the starter rope out completely. Cable roller must be able to turn at least another 1/2 turn further.



05-02 Mounting the starter

If the cable drum cannot turn any further, reduce the pretensioning by letting out a section of starter rope.

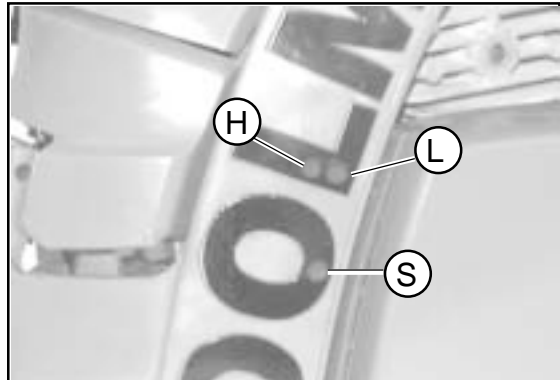


06 Carburetor / intake system



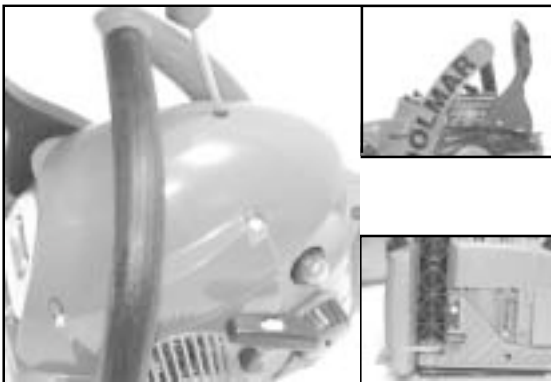
06-01 Setting the carburetor

The injector needles L + H and the stop screw S can be reached via holes in the tubular handle strut.



06-01 Setting the carburetor

For the basic setting, screw in both screws as far as they will go. Then unscrew both screws 1 turn. If the motor turns too quickly (taking the chain with it) or too slowly (the motor dies off), adjust the screw S.



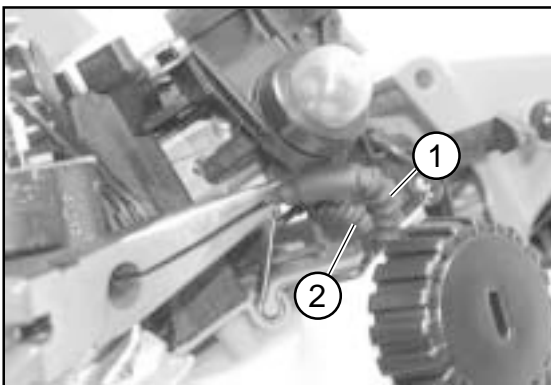
06-02 Removing the carburetor

Remove the motor hood and tubular handle as described in introduction.



06-02 Removing the carburetor

Empty tanks if necessary. Remove side cover after loosening the 4 screws. If oil or fuel is left in the tank, replace tank cover.



06-02 Removing the carburetor

Pull the fuel line to the carburetor (1) and the hose to the primer (2) off the outlet using pliers.

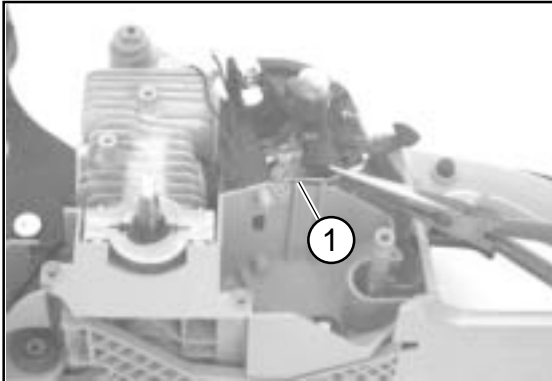


06-02 Removing the carburetor

Pull fuel tank out of the housing opening and place so that no fuel can leak out.

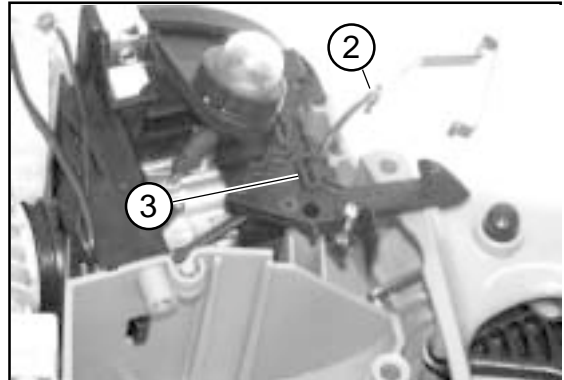


06 Carburetor / intake system



06-02 Removing the carburetor

Pull the contact spring (1) of the choke lever from the eye in the motor housing using pliers.



06-02 Removing the carburetor

Push the choke lever in the direction of 'Stop' in order to swing the arm out of the housing pocket. Remove cable with flat plug (2) from guide pocket (3).



06-02 Removing the carburetor

Pull choke lever from housing with slight turning movements.



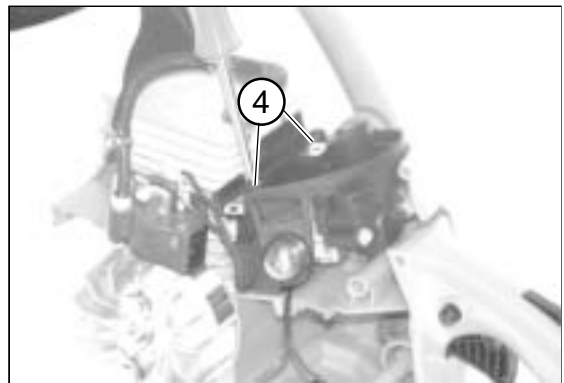
06-02 Removing the carburetor

If necessary, pull the round plug contact inserted from the back out of the pocket using pliers.



06-02 Removing the carburetor

The cable is taken under the carburetor clip. To stop it getting in the way during subsequent work, fix with adhesive tape position underneath, if nec. remove contact spring and choke lever.

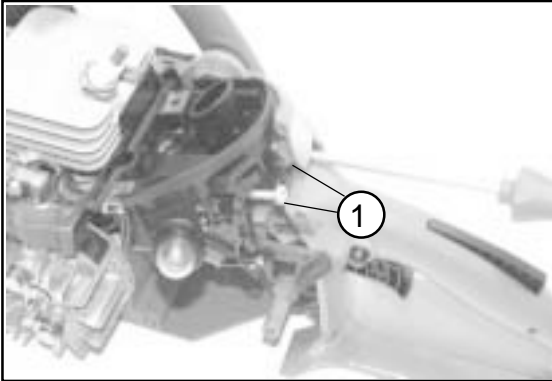


06-02 Removing the carburetor

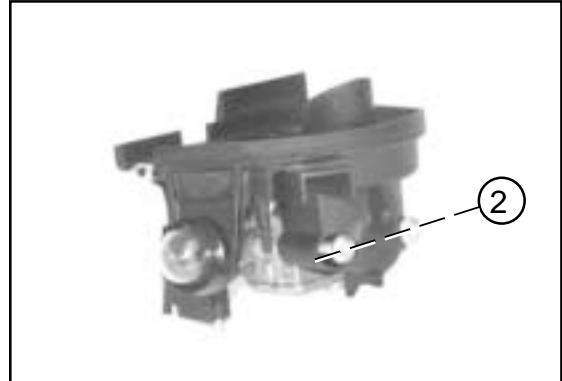
Completely loosen 2 vertical fixing screws for the connecting muff (4).



06 Carburetor / intake system



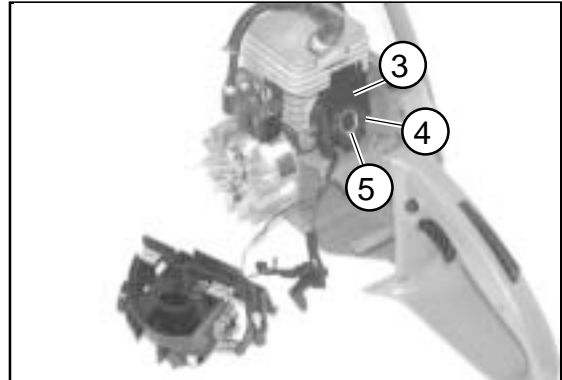
06-02 Removing the carburetor
Loosen 2 horizontal screws (1). The right screw is reached through the slit between the tank and the motor housing.



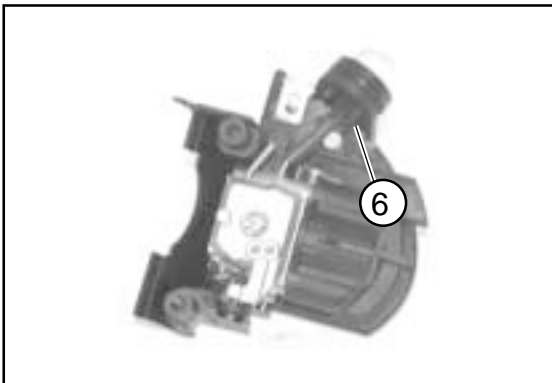
06-02 Removing the carburetor
Loosen the two horizontal screws until the heads are exactly on a level with the external contour of the connecting muff (2). Only in this way can the connecting muff be removed.



06-02 Removing the carburetor
Remove connecting muff upwards with a slight movement to the left.



06-02 Removing the carburetor
The carburetor clip (3) with the suction hose (4) remains on the cylinder. Make sure that the loose insert (5) does not get lost.



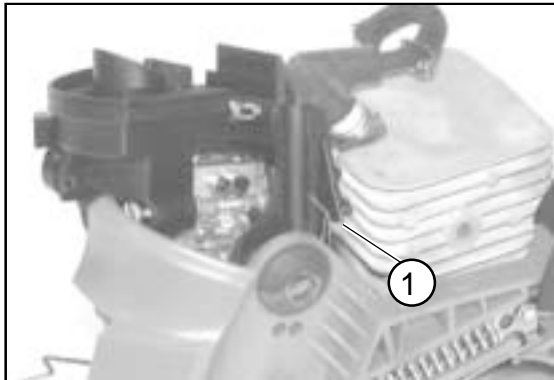
06-02 Removing the carburetor
Loosen the clip fixing of the primer (6) and remove with hose.



06-02 Removing the carburetor
Remove carburetor screw and remove the carburetor from the carburetor carrier, twisting slightly.



06 Carburetor / intake system



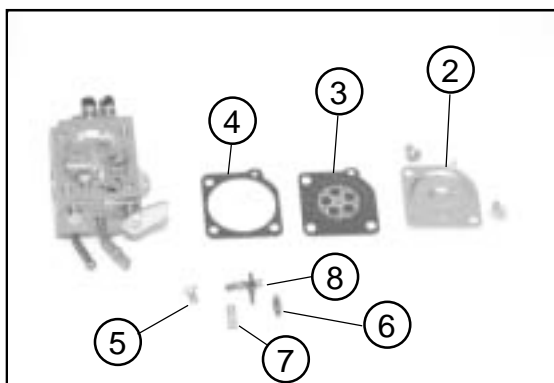
06-02 Installing the carburetor

Position the connecting muff so that it is slightly tilted to the left so that the back right-hand double strut of the connecting muff (1) is positioned behind the plate of the carburetor clip.



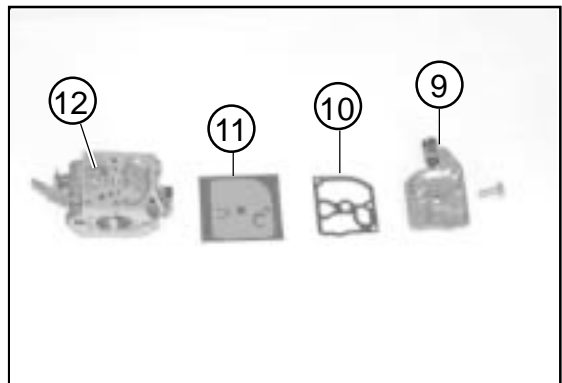
06-02 Installing the carburetor

Insert the connecting muff with a slight twist to the right.



06-03 Control side of the carburetor

Unscrew cover (2), remove diaphragm (3) and gasket (4). Remove screw (5). Remove the admission needle (6) with spring (7), arm and axle (8).



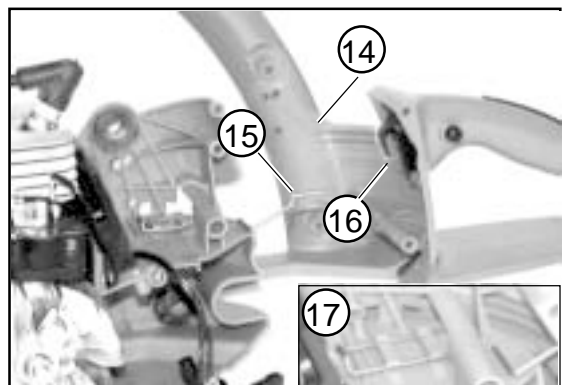
06-03 Pump side of the carburetor

Unscrew cover (9), remove gasket (10) and diaphragm (11). Clean filter in bottom of carburetor (12).



06-03 Checking the admission needles for leaks

Pull fuel line off carburetor nipple and put on hose of test appliance 944.603.020. Check that 0.5 bar is maintained over a minute.

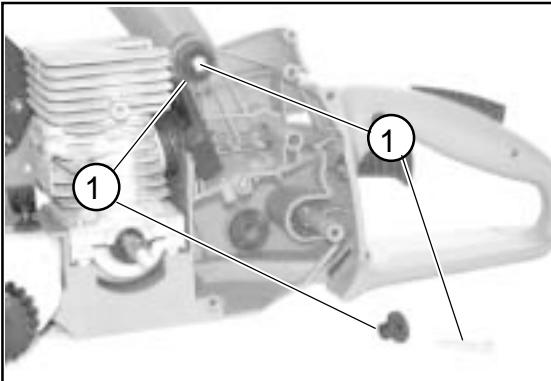


06-08 Removing the throttle linkage

Remove the handle to the side (14). With assembly, position the angle of the throttle linkage (15) behind the plate of the throttle grip (16). The throttle linkage is inserted in pockets on the housing floor (17).

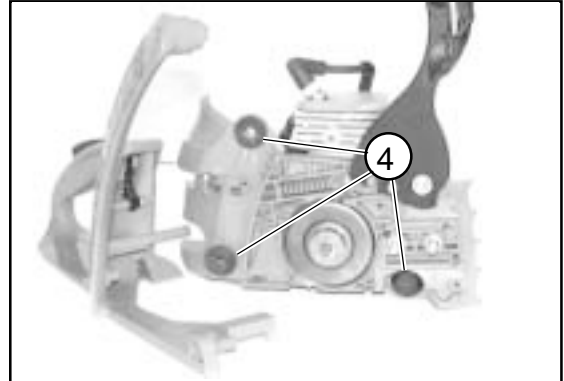


08 Rubber buffer /handles



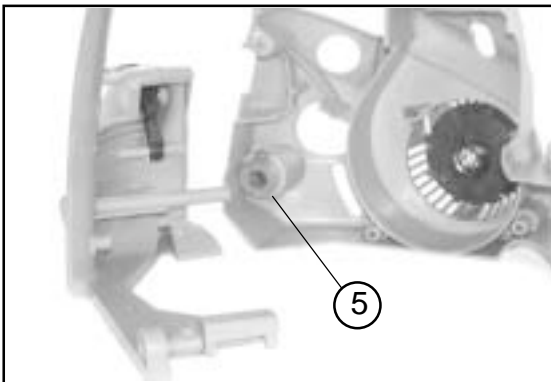
08-02 Removing the rubber buffer

Remove 2 screws (1) and sleeves (2). Fold back handle to the side so that the throttle linkage slides out of the throttle guide.



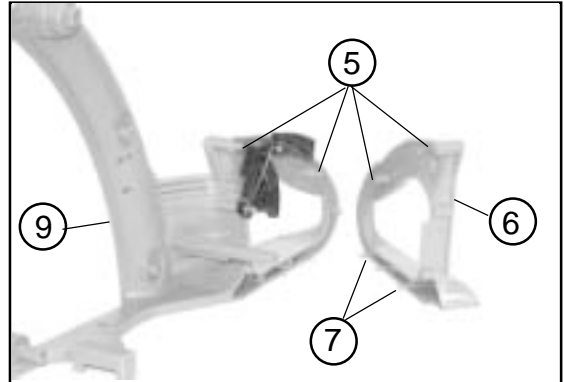
08-02 Rubber buffers

3 hollow rubber buffers (4) on the clutch side are inserted in the housing.



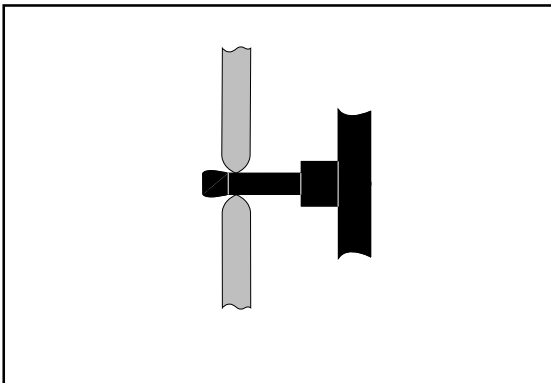
08-02 Rubber buffers

On the magnet side, 1 hollow rubber buffer (5) is inserted in the starter housing.



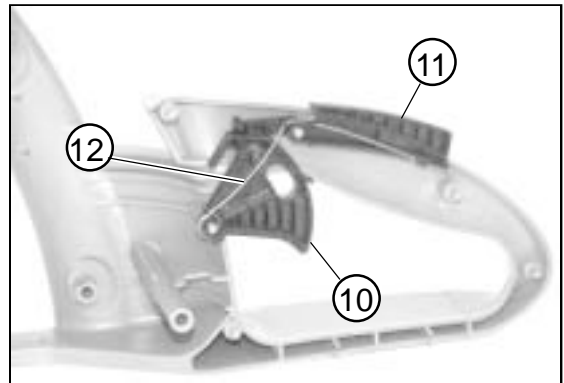
08-08 Dismantling the handle

The grip shell (6) is built together with the handle (9) with 2 brackets (7) and pins (8). Lever the housing apart from the inside.



08-08 Dismantling the handle

The pivots of the grip are held tightly in the sleeves. Increase leverage force gradually until pivot clicks out. If brackets or pivots break, replace housing.



08-08 Dismantling the handle

The throttle grip (10) and catch lever (11) are inserted in handle guides with a spring (12).



09 Fuel tank / exhaust



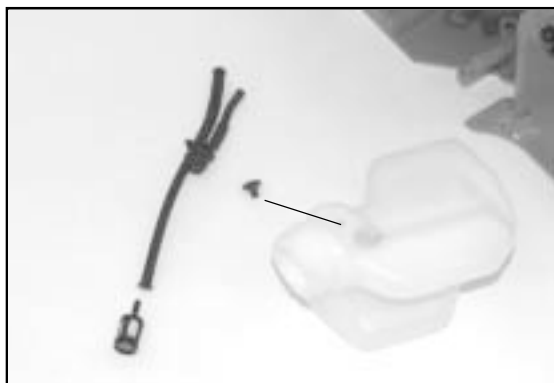
09-01 Removing the fuel tank

Remove the tubular handle, motor hood and starter cover as described elsewhere.



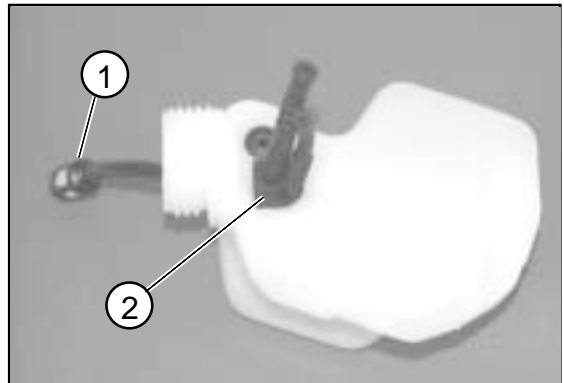
09-01 Removing the fuel tank

Pull the fuel line and primer line off the connector on the carburetor and primer using pliers. Pull slot-in tank out of housing.



09-02 Ventilation and air supply to tank

The air valve is pressed into a hole in the tank wall.



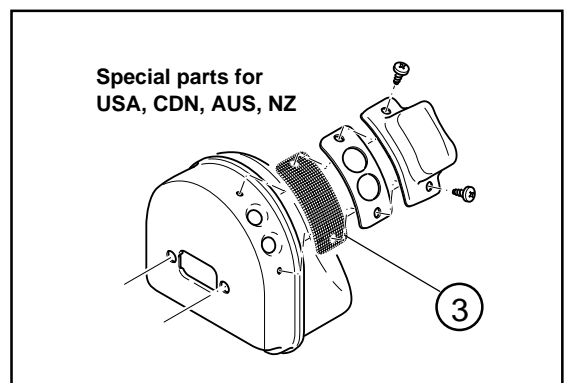
09-05 Fuel filter

The suction head (1) at the end of the suction pipe (2) is inserted into the rubber shaped hose. replace suction head periodically.



09-08 Removing and mounting the exhaust

The sound absorber is fixed to the cylinder with 2 screws which also fix the inside parts. After test run, tighten the screws at 12 Nm.



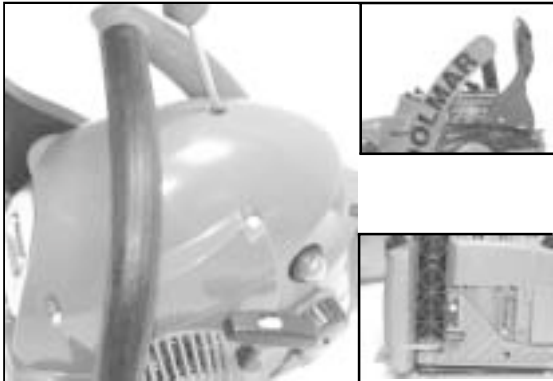
09-08 Cleaning the spark arrester screen

(if provided)

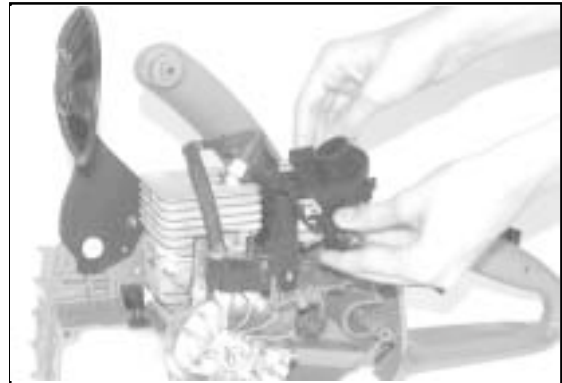
Remove and clean the spark arrester screen (3) regularly, or if power is reduced at the latest.



10 Piston and cylinder



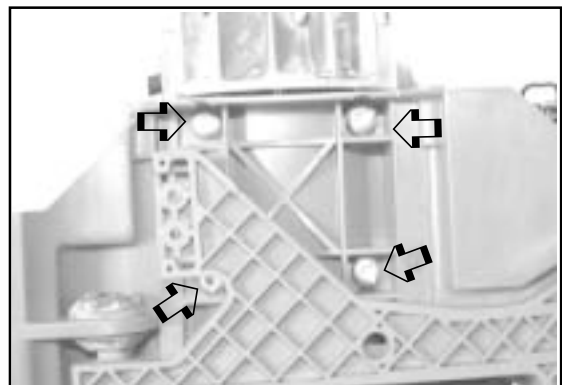
10-01 Removing the driving mechanism
Remove the motor hood and tubular handle as described in introduction.



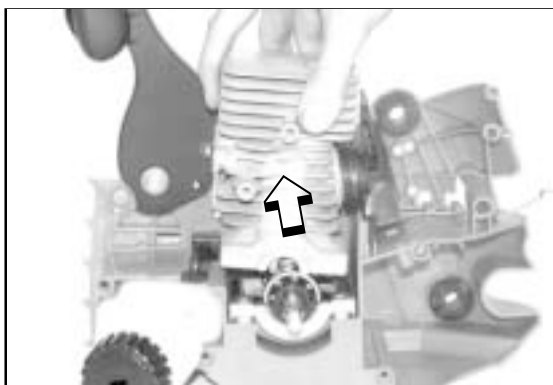
10-01 Removing the driving mechanism
Remove the connecting muff as described in 06-02.



10-01 Removing the driving mechanism
Only remove ignition and flywheel if cylinder is to be replaced.



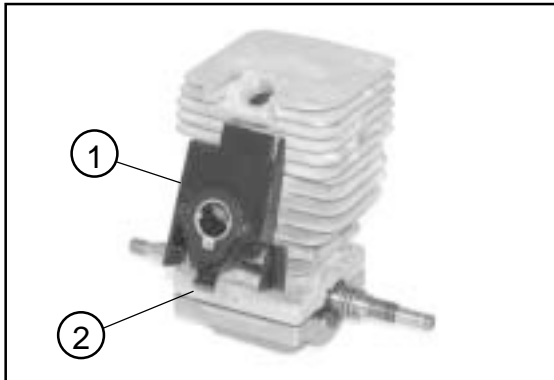
10-01 Removing the driving mechanism
Loosen and unscrew the 4 cylinder screws.



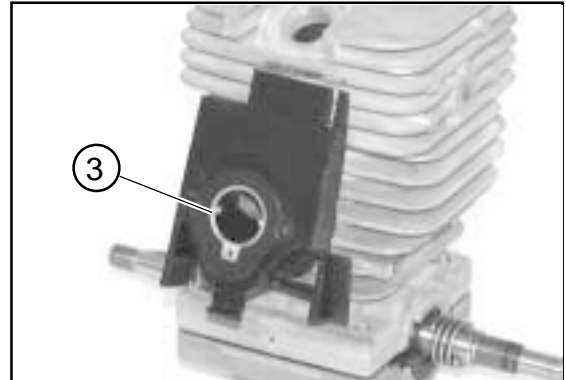
10-01 Removing the driving mechanism
Lift out motor unit upwards in direction of arrow.



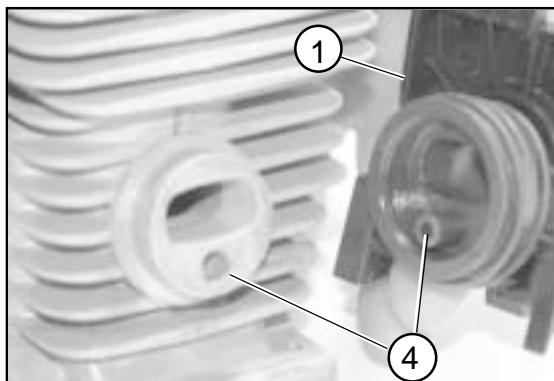
10 Piston / cylinder



10-01 Dismantling the driving mechanism
Remove carburetor clip (1) and check pulse wire. for assembly, click the holding clip (2) into place in the motor housing.



10-01 Dismantling the driving mechanism
The white insert ring (3) is positioned loose in the carburetor clip. Make sure that it does not get lost.

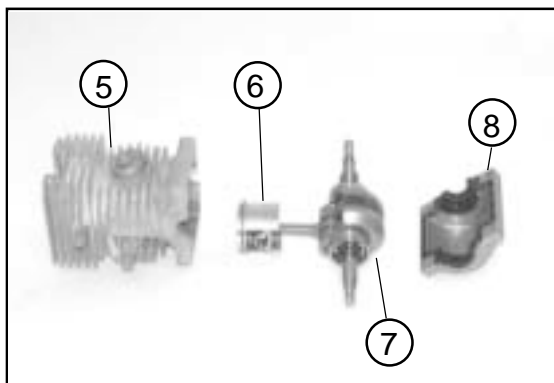


10-01 Dismantling the driving mechanism
Remove carburetor clip (1) and check pulse wire (4).

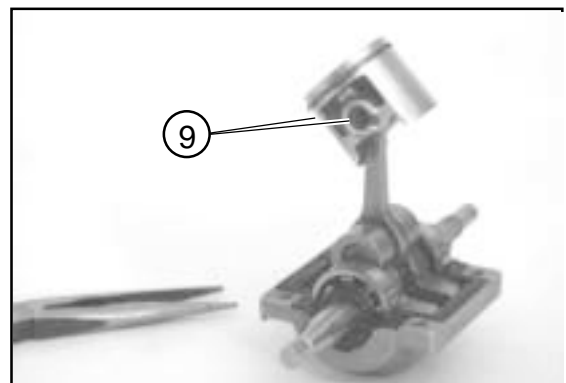
To prevent damage during mounting, the pulse wire (4) in the connecting muff should be lightly greased before assembly.

For greasing, please use oil or DOLMAR silicone paste, order no. 980.007.100.

Note: If you use silicone paste, make sure that the pulse opening (3) is not blocked.



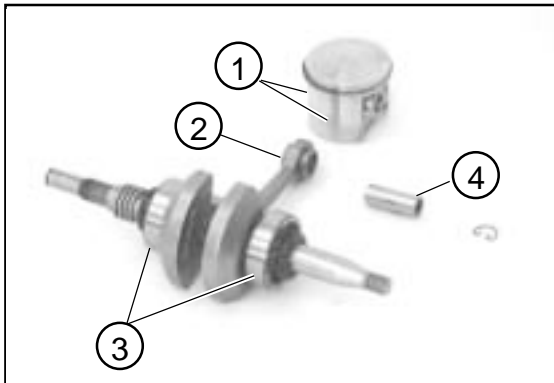
10-01 Dismantling the driving mechanism
The driving mechanism consists of the cylinder (5), piston (6), crankshaft (7) and the crank case lower part (8).



10-01 Dismantling the driving mechanism
The piston bolt is fixed by 2 snap rings (9). To dismantle, remove one snap ring and push out piston bolt.

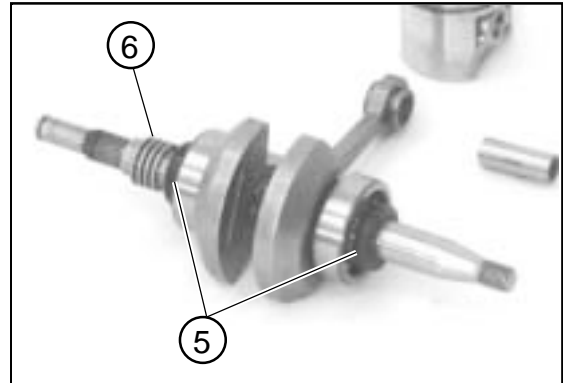


11 Crankshaft



10-01 Replacing the piston /crankshaft

Check running surfaces of the piston (1), connecting rod bearing (2), crankshaft bearing (3) and piston bolt (4) for wear or damage. Replace faulty parts.



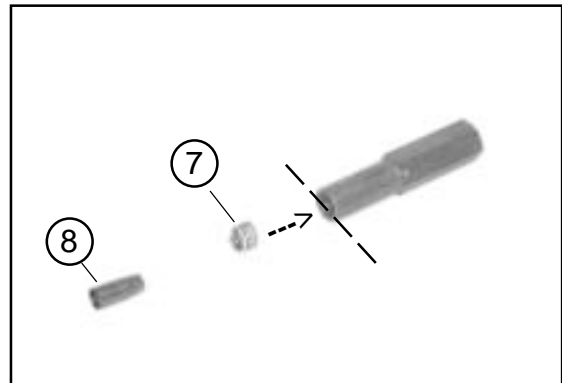
10-01 Replacing the piston/crankshaft

Check radial sealing rings and crankshaft bearings; if necessary pull off crankshaft bearings and replace radial sealing rings (5) by new ones.



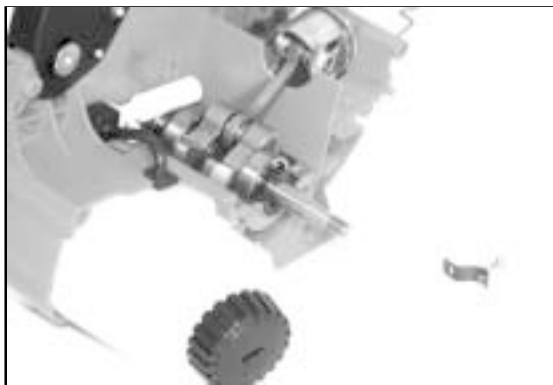
10-01 Replacing the radial sealing rings/ bearings

For the removal and mounting of the crankshaft bearing and sealing ring on the clutch side, pull off the worm of the oil pump using the removal and mounting tool 950.500.060.



10-01 Mounting the worm

Twist the worm (7) into the removal and assembly tool until it is flush (left-handed thread). Position assembly sleeve 944.500.580 (8) onto the crankshaft. Push the worm onto the crankshaft as far as it will go.

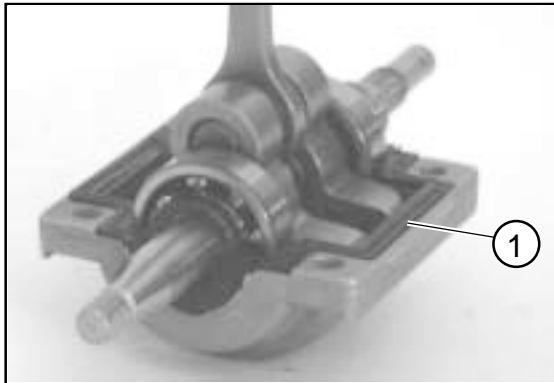


10-01 Mounting the driving mechanism

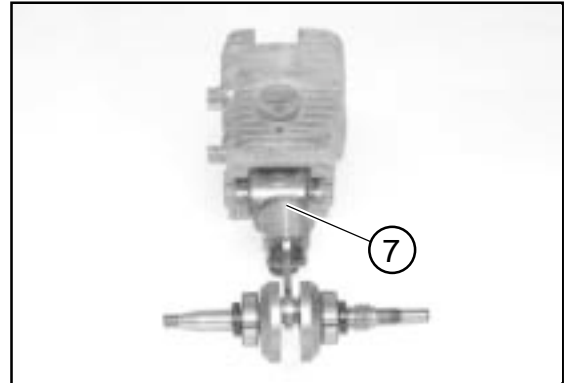
Insert the crank case lower part into the motor housing, and insert the oil pump drive worm into the gearing of the oil pump.



11 Crankshaft



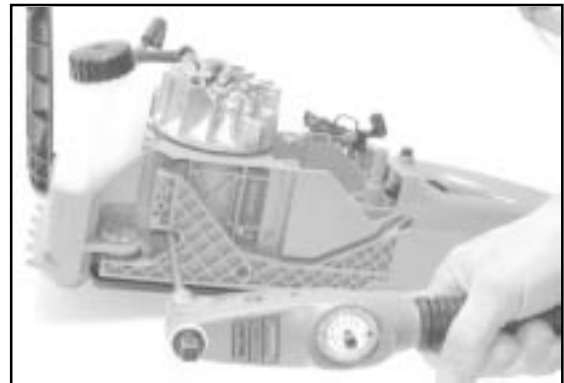
10-01 Mounting the driving mechanism
Replace the crank case seal (1) and insert dry without sealant.



10-01 Mounting the driving mechanism
Position piston ring joint (2) in the direction of the intake/carburetor side, the arrow on the piston then points towards the exhaust, the oil pump worm points towards the right if the carburetor side is upwards.



10-01 Mounting the driving mechanism
The cylinder has a cone so that the piston can be inserted into the cylinder guide without tools.



10-01 Mounting the driving mechanism
Tighten the 4 driving mechanism screws firmly with a force of 12 Nm.



Type	torque Nm
Exhaust at cylinder	12,0 -0,5
Cylinder	12,0 -1,0
Ignition	4,8 -0,5
Tubular handle	3,5 -0,5
Carburetor, vertical	3,0 -0,5
Carburetor, horizontal	3,0 -0,5
Flywheel	20,0 +2,5
Clutch blades	20,0 +5,0
Spark plug	20,0 ± 3,0
Starter cover	4,5 +0,5
Tubular handle	3,5 ± 0,5

DOLMAR



DOLMAR GmbH • Postfach 70 04 20 • 22004 Hamburg

Form-Nr. 995 725 020