# Husqvarna Hedgetrimmers 325HS/ 325HE/ 325HDA

Workshop manual

101 90 73-26

# Workshop Manual Hedge trimmers

## Supplement for models 325HS, 325HE, 325HDA

## Contents

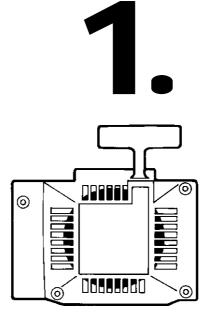
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This supplement only takes up elements specific to the above mentioned models. For complete information when servicing we recommend that the supplement is studied together with the Workshop Manual. (Order no. 101 90 74-26) and the supplement for brushcutters, trimmers, pruners and hedge trimmers. (Order no. 101 90 75-26)



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# Starter



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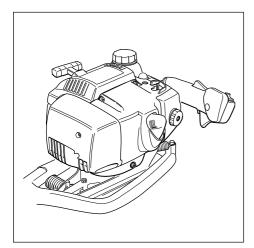
# For Husqvarna Parts Call 606-678-9623 or 606-561-4983

## **Starter**



### \Lambda WARNING!

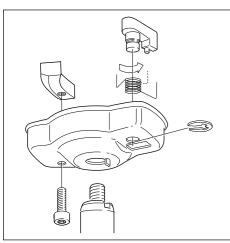
Protective glasses should be worn when working on the starter to avoid injury to the eyes if, for some reason, the return spring should fly out.



#### **General** See Brushcutter 325.

## Starter handle placement. The drive cup is fitted with a balance weight.

Deviations:



# dogs, supplement

**Replacing the drive** 

325HS75, 325HS99

Fit the balance weight in the drive cup, if necessary.

Fit the drive cup on the crankshaft.

### NOTE!

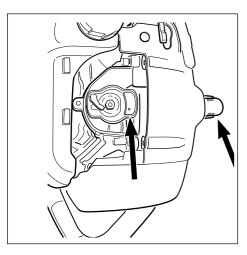
Risk for incorrect assembly. If the weight is fitted on the wrong side of the drive cup the blades will vibrate heavily when the engine is running.

# Replacing the drive dogs, supplement.

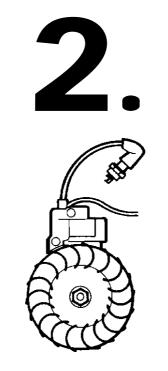
Make sure the ear on the drive cup is fitted in the cut-out on the crankshaft.



The balance weight should be facing the spark plug when the piston is in top dead centre.



# **Ignition system**

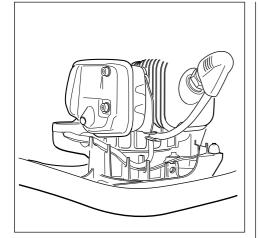


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## **Ignition system**

The engine is equipped with an electronic ignition system completely without moving parts. Consequently, a faulty component cannot be repaired, but must be replaced by a new component. The spark in an electronic ignition system has a very short burn time and can therefore be interpreted as weak and can be difficult to see while trouble shooting.





325HS75, 325HS99, 325HE2, 325HE3, 325HE4: See Brushcutter 325.

# Assembling the cylinder cover

325HS75, 325HS99: Fit the cylinder cover.

#### NOTE!

Risk for incorrect assembly.

The ignition cable can be damaged by the flywheel if incorrectly routed. The protective casing on the ignition cable must be clamped in the securing ear (to get sufficient length of ignition cable to the wedge shaped cut-out).

If the wrong screw is placed in the hole closest to the gearbox the threads in

the clip set will be crossed.

Deviations:

The cylinder cover is located using four screws instead of three. (325HS) 325HS: The speed is limited to 11,600 rpm. 325HDA55/325HE: The speed is limited to 10,000 rpm.

# Assembling the cylinder cover

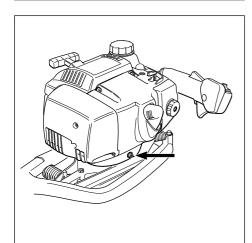
325HS75, 325HS99:

Check that the ignition cable is in position in the cut-out in the gearbox.

Align the cylinder cover with the slot for the screw pin, make sure that when the cover is moved down that the ignition cable is secured by the wedge shaped cut-out in the cylinder cover.



The thick threaded screw (for the clip set) should be placed in the hole closest to the gearbox.



# **Fuel system**



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## **Fuel system**

In addition to the fuel tank and carburettor, the fuel system consists of the air filter, fuel filter and tank venting.

All these components interact so that the engine receives the optimal mixture of fuel and air to make it as efficient as possible. Very small deviations in the carburettor setting or a blocked air

filter have a large effect on the running and efficiency of the engine.

The carburettor can come from several different manufacturers on our models, yet the function and repair methods are essentially the same.

### General

325HS75, 325HS99, 325HDA55 325HE3, 325HE4: See Brushcutter 325.

#### Assembling the fuel tank

325HS75, 325HS99: Connect the fuel hoses.

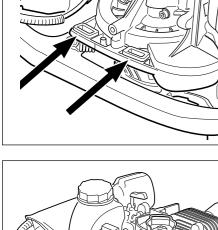
Position two rubber supports for the tank on the engine.

Position the tank and align it on the rubber supports; press down the tank.

Thread on two rubber supports on top

Deviations: Fuel tank and modified design. The cylinder cover is secured by four screws. (325HS) The speed is limited to 11,600 rpm. (325HS) The carburettor's needle H is not adjustable.(325HDA, 325HE) The speed is limited to 10,000rpm. (325HDA, 325HE)

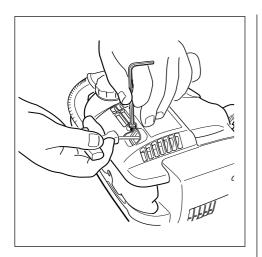
# of the tank.



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## **Fuel system**

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Fit the starter.

Pull the starter handle a little so that the starter falls into place and position the screw by the starter handle to secure.

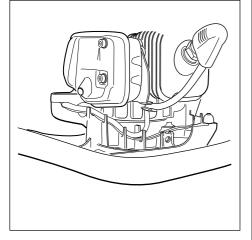
### Max speed, modification

325HS75, 325HS99, 325HE 2, 325HE 3, 325HE 4:

Model 325HS has an ignition system with speed control set at 11,600 rpm. Models 325HDA and 325HE have an ignition system with speed control set at 10,000 rpm.

Use the tachometer 502 71 14-01 to check the speed.

If the speed is too low, check that the cutting equipment does not jam.



### Assembling the cylinder cover

325HS75, 325HS99:

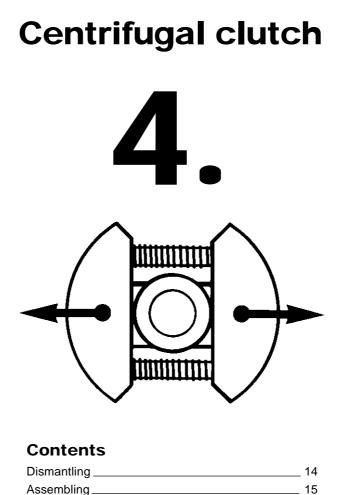
Fit the cylinder cover, see the instructions under chapter 2 Ignition system.

#### NOTE!

Risk for incorrect assembly.

The ignition cable can be damaged by the flywheel if incorrectly routed. The protective casing on the ignition cable must be clamped in the securing ear (to get sufficient length of ignition cable to the wedge shaped cut-out).

If the wrong screw is placed in the hole closest to the gearbox the threads in the clip set will be crossed.

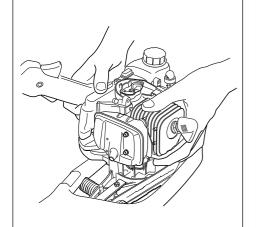


## For Husqvarna Parts Call 606-678-9623 or 606-561-4983 Centrifugal clutch

The centrifugal clutch has the task of transferring the power from the engine to the cutting equipment's drive axle. As the name implies, it works according to a centrifugal principle.

This means the clutch's friction shoes are thrown outwards towards the clutch drum at a certain engine speed. When the friction against the drum is sufficiently great it drives the drive shaft at the same speed as the engine. Some slipping occurs between the clutch and the clutch drum when accelerating as well as in the reversed situation when the cutting equipment jams. Thereby preventing abnormal load changes on the crankshaft.

The engagement speed has been carefully tested so that the engine can idle without the cutting equipment's drive shaft rotating.



### Dismantling

325HS75, 325HS99: Remove the engine, see 9 Cutting equipment \ Dismantling the gearbox on 325HS.



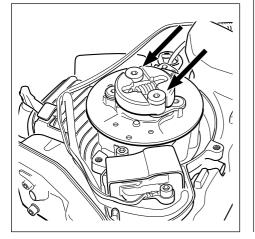


Inset the piston stop 504 91 06-05.

Remove the screws holding the clutch shoes and remove the clutch shoes and springs.

#### NOTE!

Both the clutch shoes and spings should be replaced if damaged. This is to ensure that no imbalance occurs and that the correct clutch speed is obtained.



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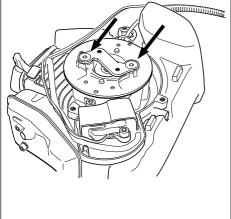
## **Centrifugal clutch**

Remove the clutch bridge from the flywheel.

Remove the clutch drum if it is damaged or worn.

### Assembling

325HS75, 325HS99: Assembling the clutch drum.



Fit the clutch bridge.

5 mm 504 90 00-03 6 mm О 504 90 00-01

Lock the cutting equipment by placing a 6 mm allen key through the hole in the bottom of the gearbox and loosen the clutch drum screw using a 5 mm allen key. Remove the screw, washer and clutch drum.

Δ

Fit the clutch drum and washer. Secure the screws using a weak thread lock fluid.

Lock the cutting equipment by placing a 6 mm allen key through the hole in the bottom of the gearbox and tighten the clutch drum screw to 22 Nm. Secure the clutch bridge screws using a weak thread lock fluid. Tighten the screws with 8-10Nm.

1) In

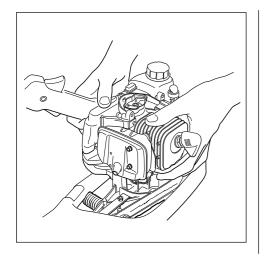
Fit the clutch shoes.

NOTE! Risk for incorrect assembly. Turn the clutch shoes so that the cutout in the free end section faces towards the clutch bridge, so that the screw heads are sunken.

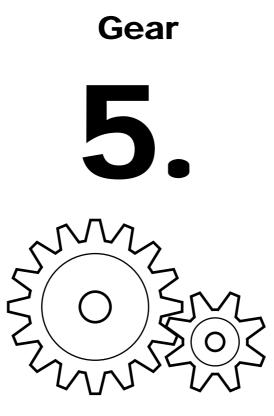
Tighten the screws with 8-10Nm.

# For Husqvarna Parts Call 606-678-9623 or 606-561-4983 Centrifugal clutch

Fit the engine see 9 Cutting equipment \ Fit the gearbox.



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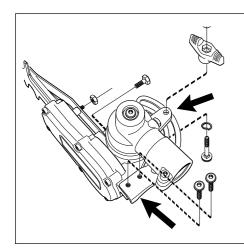
# For Husqvarna Parts Call 606-678-9623 or 606-561-4983 Gear

#### The gear has two purposes:

The first is to gear down the engine's high speed to better suit the lower speed a blade or trimmer requires to work efficiently. Secondly, the gear contributes towards the operator's working stance so that it is comfortable and at the same time efficient. This therefore means that cutting equipment is adjustable in relation to the shaft. The setting limits the angle limiter.

### General

325HDA55, 325HE3, 325HE4 See Brushcutter 325.



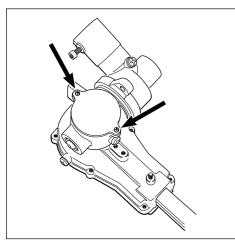
### Dismantling

325 HDA55, 325HE3, 325HE4 Remover the angle limiter.

Remove the support plate for the cutting equipment.

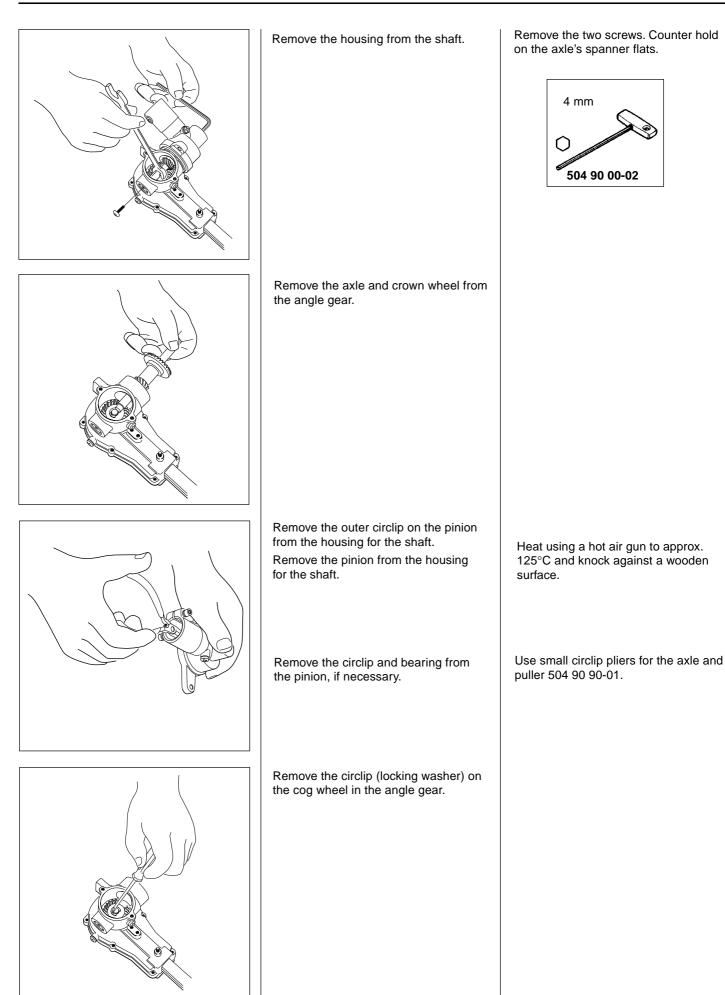
Remove the cover from the angle gear housing.





# For Husqvarna Parts Call 606-678-9623 or 606-561-4983

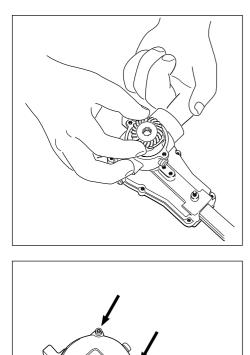
### Gear



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# For Husqvarna Parts Call 606-678-9623 or 606-561-4983 Gear



Remove the cog wheel.

Remove the gearbox cover.

Remove the locking plate. Remove the wear washer. Remove the connecting rod.

Remove the eccentric cams. Remove the felt seals. With bearing replacement: Heat using a hot air gun to about 125°C and knock against a wooden surface.





# For Husqvarna Parts Call 606-678-9623 or 606-561-4983

## Gear

Lift the blades a little using a screwdriver and remove the remaining connecting rod. Remove the wear washer. Remove the cutting unit. Two screws, the outer accessible through the hole in the cutting equipment when the blades are moved. Remove the circlips for the bearings. Remove the bearing. Heat using a hot air gun to approx. 125°C and press out the bearing. The eccentric cam's bearing, 27 mm punch 502 50 30-04, crown wheel axle's bearing, 22 mm punch. Assembling 325DA55, 325HE3, 325HE4 Use weak nut lock fluid when assembling. Lubricate the components with grease 503 98 96-01 when assembling. 503 98 96-01 Fit the bearing and circlips. Fit the cutting equipment. Fit and tighten the outer screws for the Fit the support plate for the cutting support plate with washers as normal. equipment. Fit the lock nut. Loosen the screw a 1/4 turn and check that the washer moves. Tighten the lock nut.

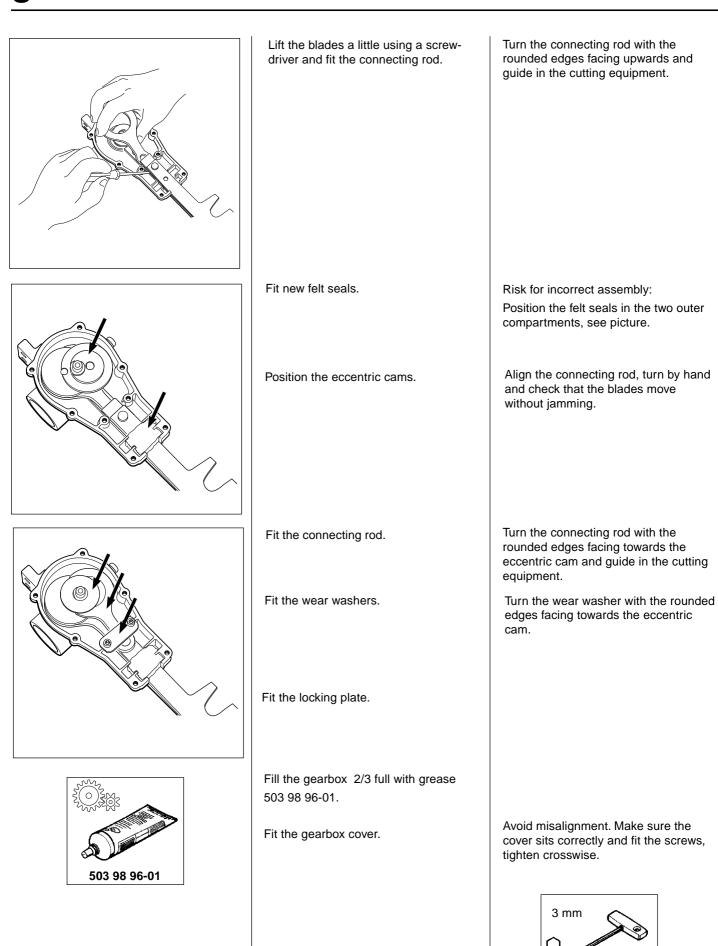
> WARNING! Wear gloves! Make sure the blades move easily.

Place one of the wear washers in position in the gearbox.

Turn the wear washer with rounded edges towards the blades.

# 5

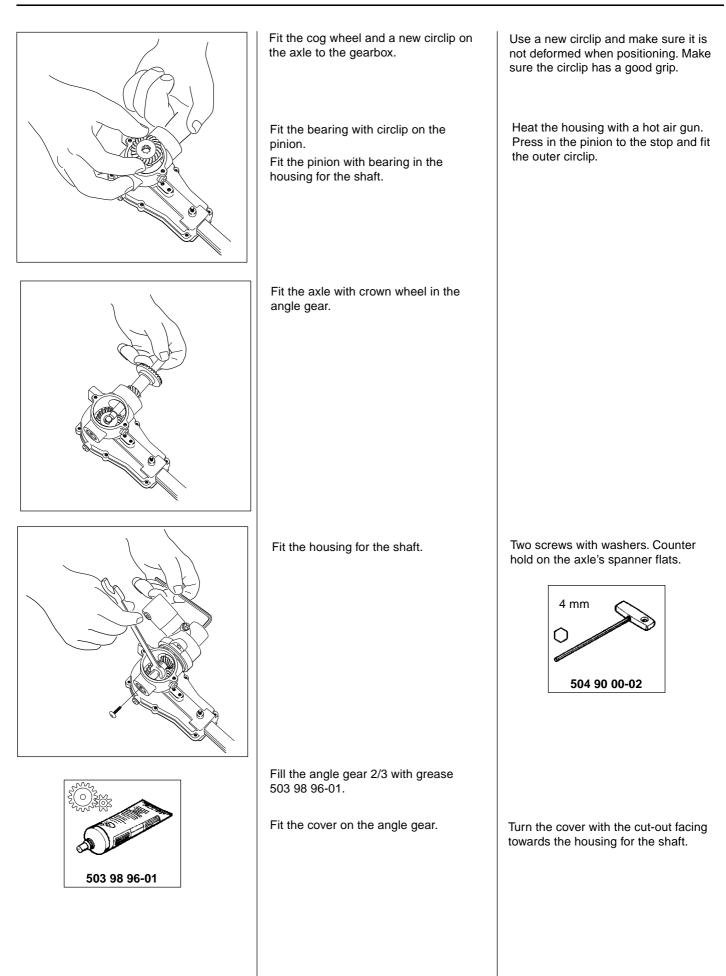
## For Husqvarna Parts Call 606-678-9623 or 606-561-4983 Gear



## www.mymowerparts.com

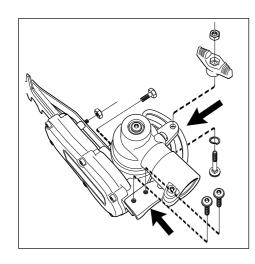
504 90 00-04

## For Husqvarna Parts Call 606-678-9623 or 606-561-4983 Gear



# 5

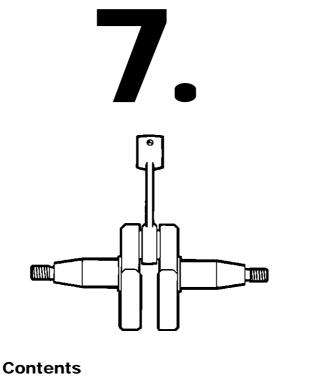
# For Husqvarna Parts Call 606-678-9623 or 606-561-4983 Gear



Fit the angle limiter.

Check that it is possible to turn the input axle with a screwdriver without jamming or jumping and that the blades function normally.

# **Crankshaft and crankcase**



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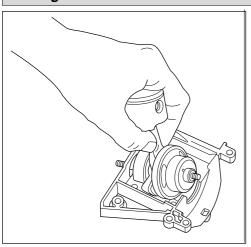
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## Crankshaft and crankcase

The task of the crankshaft is to transfer the reciprocating motion of the piston to rotation. To do this requires a stable design withstanding immense pressure, rotational and bending strain as well as high rotational speed. In addition the connecting rod is exposed to large acceleration and retardation forces as it moves between top and bottom dead centres. This puts special demands on the bearings that must withstand quick changes in load. Besides, the bearing's roller retainer also must cope with high temperatures and friction. Therefore it is extremely important when servicing, to check the roller retainer for cracking, wear and discolouration due to overheating.

The crankshaft is journalled in the crankcase on heavy-duty ball bearings. In addition to the journalling point for the crankshaft, the crankcase acts as scavenging pump for the fuel/air mixture when this is "sucked" from the carburettor and is forced into the cylinder's combustion chamber. The crankcase must be perfectly sealed so as not to affect this pump function. There cannot be any leakage either from the crankshaft or between the crankcase halves or between the crankcase and the cylinder.

Always replace the sealing rings and gaskets when servicing the crankcase.



### Dismantling

325HS75, 325HS99

Dismantle all components so that only the crankcase and crankshaft remain.

Now lift the crankshaft out of the crankcase.

Remove the ball bearing and the balance cup.

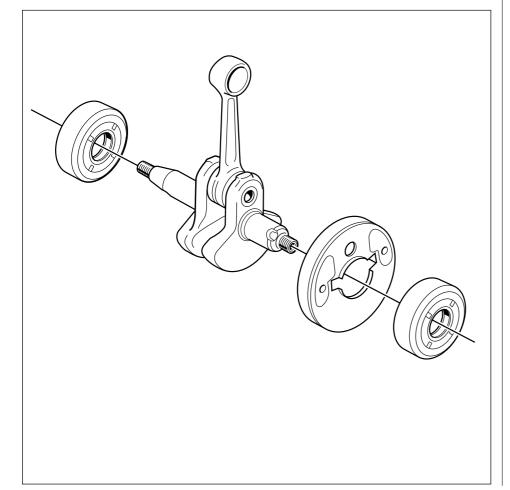
### Dismantling

325HS75, 325HS99

See respective sections for detailed information if necessary.

The bearing has a sliding fit on the short spindle and a press fit on the long spindle.

Puller 531 00 48-67 for the bearing with a press fit.



### Assembly

325HS75, 325HS99

Check the crankshaft as set out in the section "Checking the crankshaft" in the Workshop Manual.

Clean the contact surfaces on the crankcase. Lubricate the sealing lips on the stuffing boxes with a thin layer of grease.

Fit the balance cup and new bearing on the crankcase's short spindle with the bearing's open side facing inwards towards the crank disc.

Punch 502 50 30-13.

Wedge in a shim between the balance weights, press on the ball bearing on the long spindle with the stuffing box turned towards the crank disc. Turn a little on the outer ring while pressing so that the stuffing box enters on its collar. Remove the shim.

Lubricate the big-end bearing with a few drops of engine oil and position the crankshaft in the crankcase.

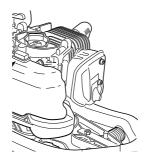
Assemble all the remaining parts in the reverse order as set out for dismantling.

See respective sections in the Workshop Manual.

Leakage test the crankcase according to the instructions in the Workshop Manual.

# **Exhaust system**





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# For Husqvarna Parts Call 606-678-9623 or 606-561-4983 Exhaust system

The exhaust system is an important part of a twostroke engine to maintain the right engine power. It is therefore tuned at the factory to dampen the noise and give the best engine power. When running with a too rich fuel mixture the muffler will be blocked by the residual deposits, which can mean that a sufficiently high speed is not attained, and the engine power drops. Even if the muffler does not have sufficient inner resistance, the engine power can drop at the same time as the engine noise increases. Change the muffler if the exhaust noise is abnormal.

#### General

See Brushcutter 325.

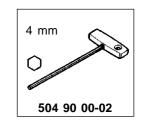
Deviations: 325HS75, 325HS99 Spacer for the muffler is not fitted on the brushcutter.

### Dismantling the muffler

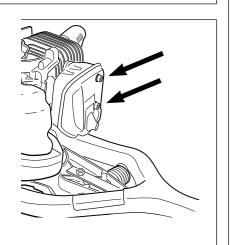
325HS75, 325HS99 Remove the muffler guard.

## Remove the two screws holding the

muffler guard.



Remove the two screws holding the muffler.

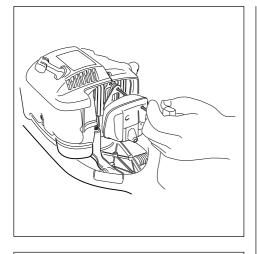


#### NOTE!

Make sure the spacer does not fall down when the muffler is removed.

Remove the muffler.

# For Husqvarna Parts Call 606-678-9623 or 606-561-4983 Exhaust system



Assembling

Fit a 4 mm allen key, as a guide pin, in the upper hole to fix the spacer inside the fin and guide the components towards the cylinder.

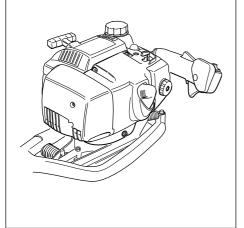
Fit the muffler's lower mounting screw. Remove the allen key and fit the upper mounting screw.

Fit the muffler guard.

#### NOTE!

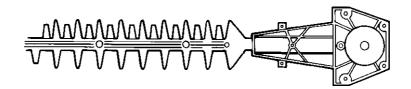
Assembly order: Cylinder - spacer - fin - muffler. Otherwise the ignition cable can come in the wrong position.

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# **Cutting equipment**





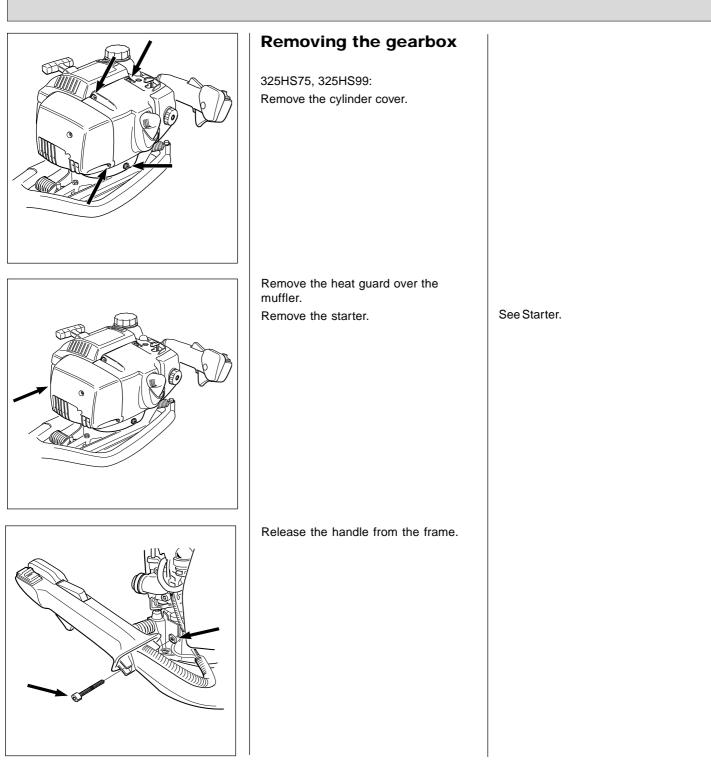
#### Contents

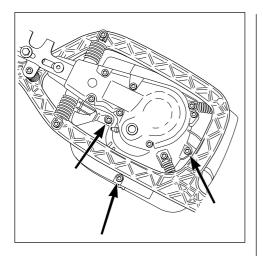
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### A WARNING!

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The transport guard should always be fitted when working on the cutting equipment to avoid cuts to the hands. Wear protective gloves if necessary.





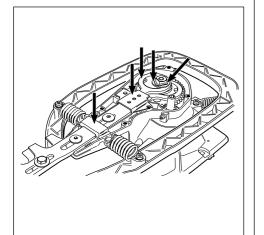
Remove the screws holding the engine on the gearbox, release the electrical cables and remove the engine.

# Dismantling the gearbox

325HS75, 325HS99:

Remove the screws holding the cover. Lift off the cover.

Replace the bearing if necessary:



Remove the guide plate. Remove the felt seal. Remove the thrust washer. Remove the flat washer. Remove the lower connecting rod.

Remove the three lock nuts for the blades and support plates.

#### Replace the bearing:

Heat the cover with a hot air gun to approx. 125°C.

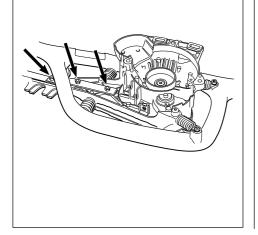
Knock the cover against a wooden surface, open carefully with a screwdriver if necessary.

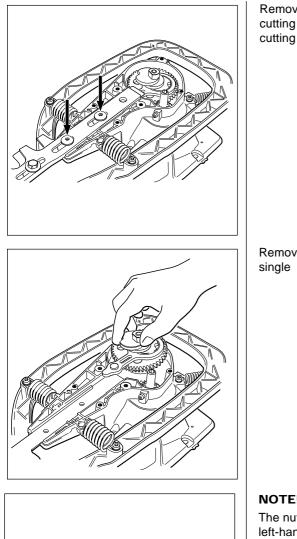
When assembling press the bearing against the stop, check that the bearing race lies under the edge of the housing.

Sealed bearing 26 mm punch 502 52 05-01, Non-sealed bearing 28 mm punch 502 50 30-04.

#### NOTE!

The connecting rod has a needle bearing on the big end, exercise great care so that it does not fall apart. The needles (53) are loose in the holder.





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Remove the screws holding the cutting equipment and lift off the cutting equipment.

Remove the gear assembly as a single unit.

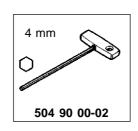
#### NOTE!

The nuts on the eccentric cams have left-hand threads. The connecting rod has a needle bearing on the big end, exercise great care so that it does not fall apart. The needles lie loosely in the holder.

Remove the nuts holding the eccentric cams.

Remove the lower eccentric cam, washer, upper connecting rod, upper eccentric cam, and the gear from the axle.

If the small gear is damaged or the bearing for the clutch drum's gear axle is to be replaced, then the gearbox must be removed from the engine.

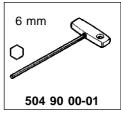


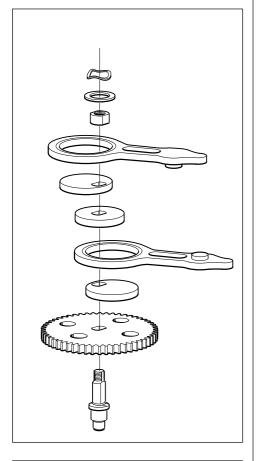
Remove the clutch drum's screw, washer and the clutch drum. Counter hold using the hexagon grip on the end of the axle.

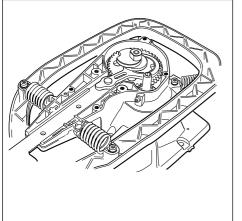
When replacing the bearing, heat the housing using a hot air gun before removing and inserting.

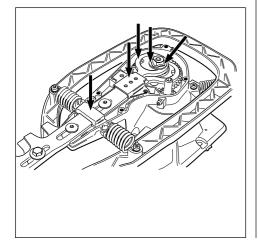
Bearing clutch drum 32 mm, punch 502 71 35-01.

Bearing gear assembly upper 22 mm, punch 502 50 30-13









#### Assembling the gearbox

325HS75, 325HS99: Lubricate the components with grease 503 98 96-01 when assembling.

Thread the axle in the gear. Fit the upper eccentric cam. Fit the upper connecting rod.

Fit the washer. Fit the lower eccentric cam.

Fit the left-hand threaded nut. Tightening torque 30 Nm.

Fit the clutch drum's gear, clutch drum, washer and screw. Secure the screw using weak thread lock fluid. Tightening torque 12 Nm.

Fit the gear assembly. Fit the cutting equipment. Fit the support plate.

Fit the lower connecting rod.

Fit the felt seal.

Fit the flat washer on the gear assembly's axle.

Fit the thrust washer on the gear assembly's axle.

Fit the guide plate.

Fill the angle gear with 1 1/2 tubes of grease 503 98 96-01.

Check that the cover's O-ring seal is in the right position and fit the cover.



#### NOTE!

The connecting rod has a needle bearing on the big end, exercise great care so that it does not fall apart. The needles (53) are loose in the holder.

Turn the upper connecting rod with the pin from the gear towards you.

The lower eccentric cam is displaced a 1/2 turn in relation to the upper eccentric cam.

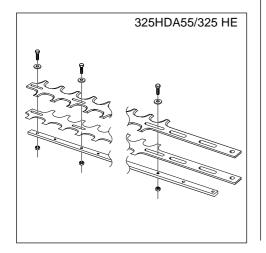
Guide in the connecting rod's pin in the blade and fit the cutting equipment's screws.

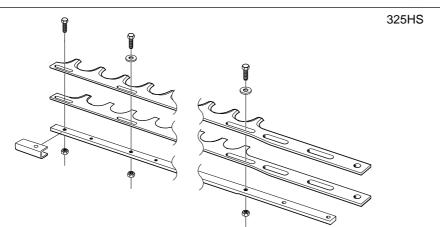
Tighten the lock nuts. Counter hold the screws inside the gearbox. Check that the cutting equipment's washer moves. If the washer does not move loosen the hexagonal screw max. a 1/4 turn.

Turn the lower connecting rod so that the pin fits in the cutting unit.



Secure the O-ring seal with grease. Hold the cover with your thumb. Tighten the screws on the cover crosswise.





Make sure the blades work correctly when the clutch drum is rotated.

# Dismantling the cutting unit

#### WARNING!

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The blades are sharp, risk for injuries to the hands. **Wear protective gloves** 

325HS75, 325HS99:

Remove the lock nuts.

Remove the screws.

Remove the guard plate and two blades from the bar.

### Sharpening the blades

325HDA55, 325HE3, 325HE4 325HS75, 325HS99:

The blades can be carefully ground using a handheld grinding machine. Try to reproduce the edge angles as illustrated.

# Assembling the cutting equipment

325HDA55, 325HE3, 325HE4 325HS75, 325HS99:

Fit the guard plate in the outer securing screw's hole. Turn the long part outwards (only 325 HS).

Fit and tighten the securing screws with washers as normal, no washer by the guard plate on 325 HS.

Fit the lock nuts.

Loosen the screws a 1/4 turn and check that the washers can move. Counter hold the screws and retighten the lock nuts.

Check that the blades move easily.

It should be possible to turn the clutch drum around with one finger.



Wear protective glasses when grinding the blades.

#### 325HDA/325HE:

The blades can be moved using a 4 mm allen key in the axle's key socket. 325HS:

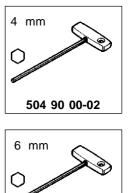
The blades can be moved using a 6 mm allen key through the hole in the underside of the gearbox cover. The angle 40° is excluded on models without top grinding.

#### NOTE!

Turn the blades correctly when assembling.

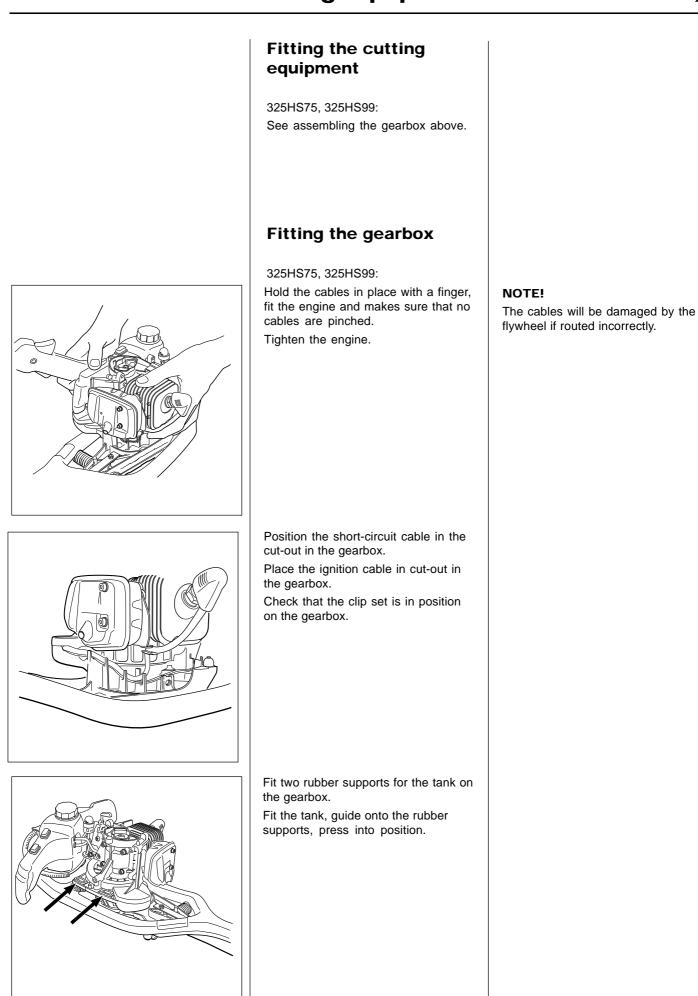
Place the bar flat on the bench with the plain holes to the right.

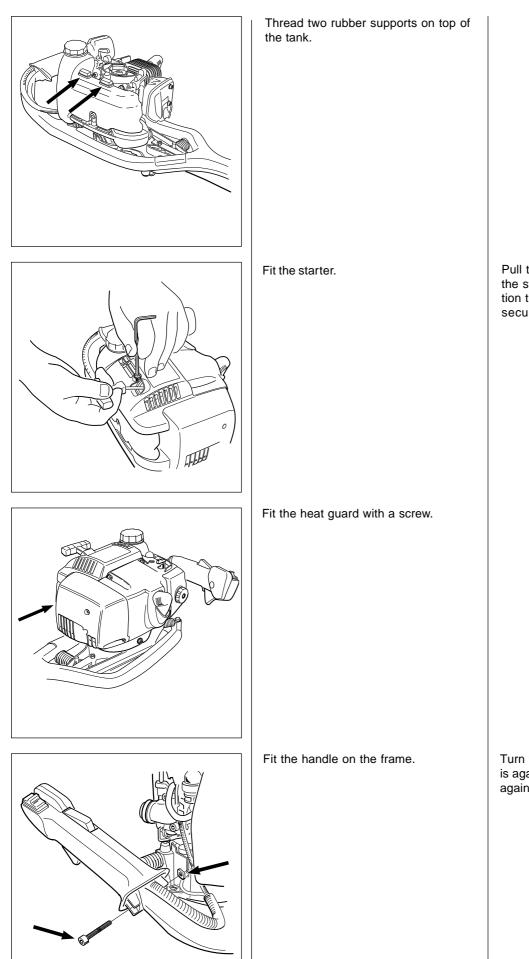
Place the blades edge-to-edge on the bar and (for 325HS) with the teeth facing away from you.



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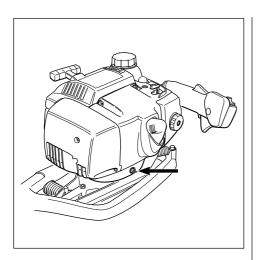




Pull the starter handle a little so that the starter falls into place and position the screw by the starter handle to secure.

Turn the handle's screw so that the nut is against the tank. The nut's flat side against the handle.

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Check that the ignition cable is routed correctly so it cannot be damaged by the flywheel.

#### NOTE!

Risk for incorrect assembly. If the wrong screw is placed in the hole closest to the gearbox the threads in the clip set will be crossed. Fit the cylinder cover.

# Changing the front springs

325HS75, 325HS99:

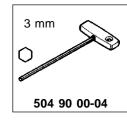
Remove the 3 screws holding the springs in the frame and wear plate. Unscrew the spring from the gearbox.

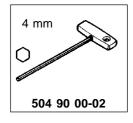
Align the cylinder cover with the slot for the screw head, make sure that when the cover is moved down that the ignition cable is secured by the wedge shaped cut-out in the cylinder cover.

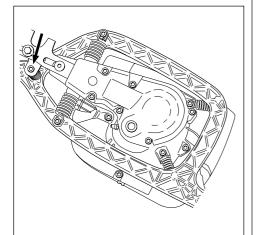
Fit the thick threaded screw (for the clip set) in the hole closest to the gearbox.

Fit the remaining screws for the cylinder cover and tighten the screws on the starter, heat guard and cylinder cover.

Use pipe grips on the first spring turn when removing the spring otherwise the spring will self-lock in the mounting.

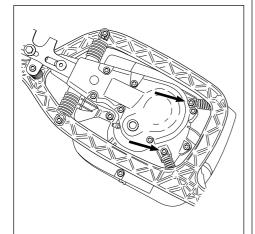






Replace the front support spring. Remove the screw located in the wear plate.

Remove the screw located in the frame.



# Changing the rear springs

325HS75, 325HS99:

Remove the 3 screws holding the springs in the frame and wear plate. Remove the 2 screws holding the rear springs in the gearbox.

Slide the frame backwards so you can gain access to remove the 2 screws holding the springs on the frame.

