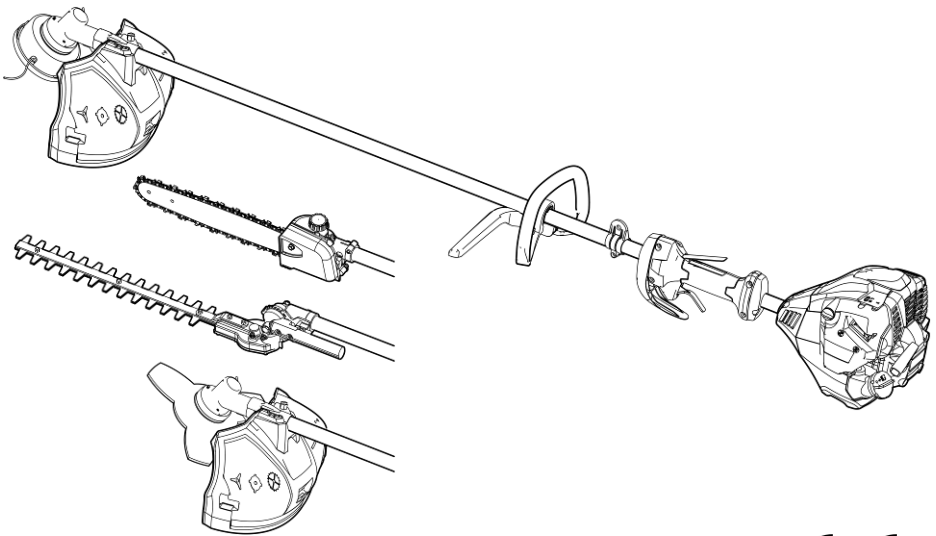


# D226

Owner's Manual (4 in 1): Petrol Brush cutter / Petrol grass trimmer / Petrol Pole Pruner  
Long-reach petrol combustion engine hedge trimmer



CE

**ALNOVA®**

# INFORMATION TO SYMBOLS

## Symbols



WARNING! A brush cutter or trimmer can be dangerous if used incorrectly or carelessly, and can cause serious or fatal injury to the operator or others. It is extremely important that you read and understand the contents of this owner's manual.



Please read the operator's manual carefully and make sure you understand the instructions before using the machine.



Always wear:

- A protective helmet where there is a risk of falling objects
- Approved hearing protection
- Approved eye protection



≤ 7500 n/min

Max. speed of output shaft (if applicable), rpm



Watch out for thrown objects and ricochets.



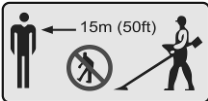
Wear sturdy, non-slip boots.



Always wear approved protective gloves.



Do not use saw blades



The operator of the machine must ensure, while working, that no persons or animals come closer than 15 metres.



Machines fitted with saw blades or grass blades can be thrown violently to the side when the blade comes into contact with a fixed object. This is called blade thrust. The blade is capable of amputating an arm or leg. Always keep people and animals at least 15 metres from the machine.



Keep the machine a sufficient distance away from electrical power lines.



Noise emission to the environment according to the European Community's Directive. The machine's emission is specified in chapter Technical data and on label.

## INFORMATION TO SYMBOLS



Close the choke.



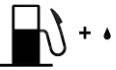
Open the choke.



The screw beside the "T" stamp is The Idle-speed adjustment screw.

The screw beside the "H" stamp is The High-speed adjustment screw.

The screw beside the "L" stamp is The Low-speed adjustment screw.



This machine shall always use a mixture of petrol and two-stroke oil.



The chain oil tank



Adjust the oil pump

If you turn the rod by screwdriver follow the arrow to the "MAX" position, the chain oil flow increase, and if you turn to the "MIN" position, decrease.



Shows the direction of the saw chain installation.



Machine can equip a typical metal blade – three teeth blade.



Machine can equip a typical metal blade – four teeth blade.



Do not use saw blades.



An arrow indicating rotation direction of cutting attachment.

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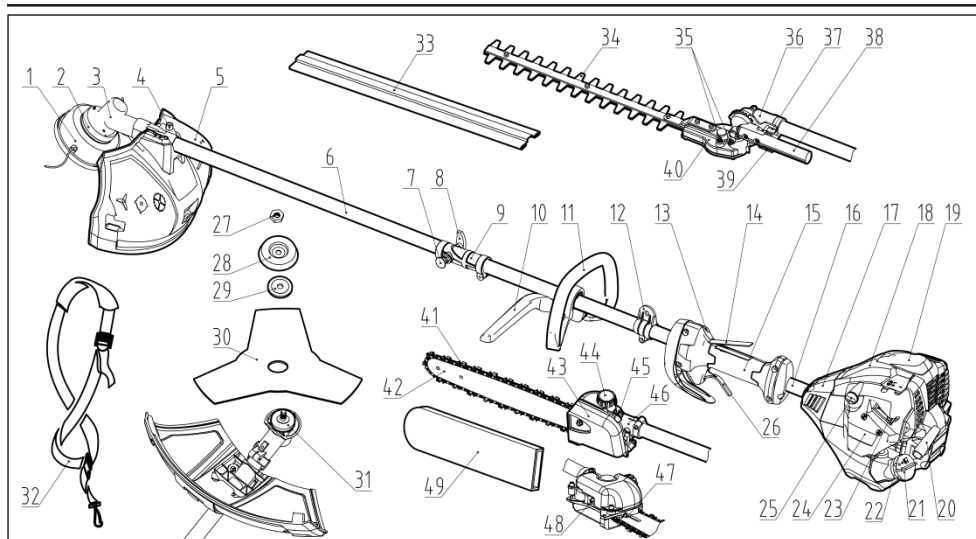
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## Note the following before starting:

Please read the operator's manual carefully. Become familiar with the owner's manual before attempting to operate the equipment.

- Long-term exposure to noise can result in permanent hearing impairment. So always use approved hearing protection.
  - Under no circumstances may the design of the machine be modified without the permission of the manufacturer.
- Always use genuine accessories. Non-authorized modifications and/or accessories can result in serious personal injury or the death of the operator or others.
- This machine can cause serious injuries if used incorrectly or carelessly, and can cause serious or fatal injury to the operator or others. It is extremely important that you read and understand the contents of this operator's manual.
- Become familiar with all controls and proper use of the machine, including the correct handling, preparation, maintenance, starting and stopping of the machine.
- It is believed that a condition called Raynaud' s phenomenon loss of color and numbness in the fingers, which affects the fingers of certain individuals may be brought about by exposure to vibration and cold. Maintain good blood circulation by performing vigorous arm exercises during frequent work breaks and also by not smoking. Continual and regular users should monitor closely the condition of their hands fingers. If any of the above symptoms appear, seek medical advice immediately.
  - Never allow children to use this machine.
  - Warning! Do not use the machine when the operator is tired, ill or under the influence of alcohol or other drugs;
  - Alert! National regulation can restrict the use of the machine;
  - Daily inspect the machine before use and after dropping or other impacts to identify any significant defects;
  - Beware of overhead power lines.
  - Avoid operating while people, animals, especially children, are nearby. The machine operator must ensure that no people or animals come closer than 15 metres while working.
  - Beware of the risk of being struck by falling branches or branches that, having hit the ground, rebound.
  - Keep firm footing and balance during operation, use the harness provided.
  - Do not operate the brush cutter or hedge trimmer or pole pruner with a damaged or excessively worn cutting device.
  - Always ensure that all handles and guards are fitted when using the machine. Never attempt to use an incomplete machine or one fitted with an unauthorized modification.
  - Always use two hands to operate this machine.
  - While operating this machine, always ensure that the operating position is safe and secure, especially when using steps or a ladder.
  - Always be aware of your surroundings and stay alert for possible hazards of which you may not be aware due to the noise of the machine.
  - Stop the engine before
    - cleaning or when clearing a blockage;
    - checking, carrying out maintenance or working on the machine;
    - adjusting the working position of the cutting device;
    - leaving the machine unattended.
  - Always ensure a correct working posture, operator need for sufficient rest periods and changing working positions.
  - Never use a machine with faulty safety equipment. The machine's safety equipment must be checked and maintained as described in this section. If your machine fails any of these checks contact your service agent to get it repaired.

# IDENTIFICATION



## What is what on this machine?

For brush cutter or grass trimmer:

- |                            |                             |                          |
|----------------------------|-----------------------------|--------------------------|
| 1 Trimmer head             | 12 Rear drive shaft tube    | 23 Choke knob            |
| 2 Top protecting cap       | 13 Suspension ring          | 24 Air filter cover      |
| 3 Gear box                 | 14 Engine switch            | 25 Handle screw          |
| 4 Locking screw            | 15 Throttle trigger lockout | 26 Throttle trigger      |
| 5 Cutting attachment guard | 16 Rear handle              | 27 Locking nut           |
| 6 Front drive shaft tube   | 17 Output flange            | 28 Bottom Protecting cap |
| 7 Lock pin                 | 18 Engine unit              | 29 Bottom clamping plate |
| 8 Lock knob                | 19 Spark plug cover         | 30 Metal blade           |
| 9 Connector                | 20 Starter handle           | 31 Top clamping plate    |
| 10 Barrier                 | 21 Fuel tank                | 32 Harness               |
| 11 Front handle            | 22 Primer bulb              |                          |

For Long-reach petrol combustion engine hedge trimmer:

- |                               |                  |                 |
|-------------------------------|------------------|-----------------|
| 33 Blade transportation guard | 36 Transmission  | 39 Safety lever |
| 34 Cutting blade              | 37 Locking lever | 40 Gear box     |
| 35 Grease nozzle              | 38 Grip          |                 |

For Pole pruner:

- |                |                       |                            |
|----------------|-----------------------|----------------------------|
| 41 Saw chain   | 44 Chain oil tank cap | 47 Chain tension adjuster  |
| 42 Guide bar   | 45 Grease nozzle      | 48 Chain oil flow adjuster |
| 43 Chain cover | 46 Transmission       | 49 Guide bar cover         |

**ALPHA**

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## PREPARATION

### ! IMPORTANT

The machine is only designed for trimming grass, cutting bushes, trimming branch or leaves, delimiting (removal of branches from trees or parts of trees), pruning (removal of live or dead branches, or of multiple leaders of shoots, from standing trees).

The only accessories you can operate with this engine unit are the cutting attachments we recommend in the chapter on Technical data.

Never use the machine if you are tired, if you are ill, if you have drunk alcohol, or if you are taking medication that could affect your vision, your judgement or your co-ordination.

Wear personal protective equipment. See instructions under the heading "Personal protective equipment".

Never use a machine that has been modified in any way from its original specification.

Never use a machine that is faulty. Carry out the checks, maintenance and service instructions described in this manual. Some maintenance and service measures must be carried out by trained and qualified specialists. See instructions under the heading "Maintenance".

If the cutting attachment strikes any foreign object or the machine starts making any unusual noise or vibration, shut off the power source and allow the machine to stop. Disconnect the spark plug wire from the spark plug and take the following steps:

- Inspect for damage;
- Check for, and tighten, any loose parts;
- Have any damaged parts replaced or repaired with parts.

All covers, guards and handles must be fitted before starting. Ensure that the spark plug cap and ignition lead are undamaged to avoid the risk of electric shock.

### ! WARNING

This machine produces an electromagnetic field during operation. This field may under some circumstances interfere with active or passive medical implants. To reduce the risk of serious or fatal injury, we recommend persons with medical implants to consult their physician and the medical implant manufacturer before operating this machine.

### ! WARNING

The exhaust gases emitted from engine contain dangerous carbon monoxide.

Running an engine in a confined or badly ventilated area can result in death due to asphyxiation or carbon monoxide poisoning.

## Personal protective equipment

### IMPORTANT!

You must use approved personal protective equipment whenever you use the machine. Personal protective equipment cannot eliminate the risk of injury but it will reduce the degree of injury if an accident does happen. Ask your dealer for help in choosing the right equipment.

**WARNING! Listen out for warning signals or shouts when you are wearing hearing protection. Always remove your hearing protection as soon as the engine stops.**



#### HELMET

A protective helmet where there is a risk of falling objects



#### HEARING PROTECTION

Wear hearing protection that provides adequate noise reduction.



#### EYE PROTECTION

Always wear approved eye protection. If you use a visor then you must also wear approved protective goggles. Approved protective goggles must comply with standard ANSI Z87.1 in the USA or EN 166 in EU countries.



#### GLOVES

Wear sturdy anti-vibration gloves. Gloves should be worn when necessary, e.g., when fitting cutting attachments.



#### BOOTS

Wear boots with steel toe-caps and non-slip sole.

#### CLOTHING

Wear close-fitting clothes made of a strong fabric and avoid loose clothing that can catch on twigs and branches. Always wear heavy, long pants. Do not wear jewellery, shorts sandals or go barefoot. Secure hair so it is above shoulder level.



#### FIRST AID KIT

Always have a first aid kit nearby.

## Machine's safety equipment

This section describes the machine's safety equipment, its purpose, and how checks and maintenance should be carried out to ensure that it operates correctly. See the "What is what?" section to locate where this equipment is positioned on your machine.

The life span of the machine can be reduced and the risk of accidents can increase if machine maintenance is not carried out correctly and if service and/or repairs are not carried out professionally. If you need further information please contact your nearest service workshop.

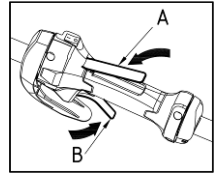
**IMPORTANT!** All servicing and repair work on the machine requires special training. This is especially true of the machine's safety equipment. If your machine fails any of the checks described below you must contact your service agent. When you buy any of our products we guarantee the availability of professional repairs and service. If the retailer who sells your machine is not a servicing dealer, ask him for the address of your nearest service agent.

**WARNING! Never use a machine with faulty safety equipment. The machine's safety equipment must be checked and maintained as described in this section. If your machine fails any of these checks contact your service agent to get it repaired.**

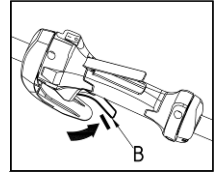


## Throttle lockout

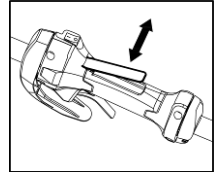
The throttle lockout is designed to prevent accidental operation of the throttle control. When you press the lock (A) (i.e. when you grasp the handle) it releases the throttle control (B). When you release the handle the throttle control and the throttle lockout both move back to their original positions. This movement is controlled by two independent return springs. This arrangement means that the throttle control is automatically locked at the idle setting.



Make sure the throttle control is locked at the idle setting when the throttle lockout is released.

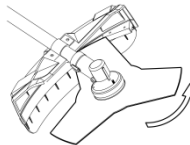
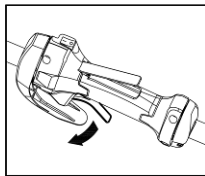
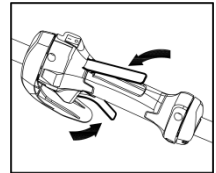


Press the throttle lockout and make sure it returns to its original position when you release it.



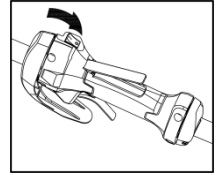
Check that the throttle control and throttle lockout move freely and that the return springs work properly.

Daily check that the cutting attachment stops turning when the engine idles. See instructions under the heading Start. Start the machine and apply full throttle. Release the throttle and check that the cutting attachment stops and remains at a standstill. If the cutting attachment rotates with the throttle in the idle position then the carburettor idle setting must be checked. See instructions under the heading Maintenance.



## Engine switch

Press down the “O” side of the engine switch to stop the engine.  
Start the engine and make sure the engine stops when you move the engine switch to the stop setting.



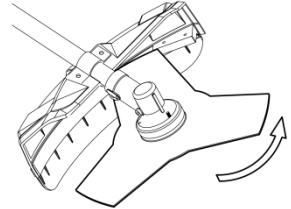
## Cutting attachment guard

This guard is intended to prevent loose objects from being thrown towards the operator. The guard also protects the operator from accidental contact with the cutting attachment.

Check that the guard is undamaged and not cracked. Replace the guard if it has been exposed to impact or is cracked.

Always use the recommended guard for the cutting attachment you are using. See chapter on Technical data.

**WARNING! Never use a cutting attachment without an approved guard. See the chapter on Technical data. If an incorrect or faulty guard is fitted this can cause serious personal injury.**



## Vibration damping system

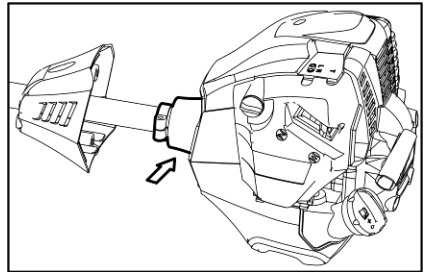
Your machine is equipped with a vibration damping system that is designed to minimize vibration and make operation easier.

Using incorrectly wound cord or a blunt or incorrect cutting attachment (wrong type or incorrectly filed, see instructions under the heading Filing the blade) increases the level of vibration.

The machine's vibration damping system reduces the transfer of vibration between the engine unit/cutting equipment and the machine's handle unit.

Regularly check the vibration damping units for cracks or deformation.

Check that the vibration damping element is undamaged and securely attached.

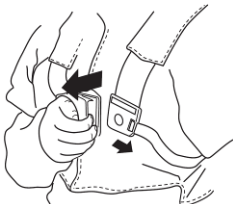


**WARNING! Overexposure to vibration can lead to circulatory damage or nerve damage in people who have impaired circulation. Contact your doctor if you experience symptoms of overexposure to vibration. Such symptoms include numbness, loss of feeling, tingling, pricking, pain, loss of strength, changes in skin colour or condition. These symptoms normally appear in the fingers, hands or wrists. The risk increases at low temperatures.**

## Quick release (if equipped)

There is an easily accessible, quick release fitted at the front as a safety precaution in case the engine catches fire, or in any other emergency that requires you to free yourself from the machine and harness. See instructions under the heading adjusting the harness and brush cutter.

Check that the harness straps are correctly positioned. Once the harness and machine have been adjusted, check that the harness quick release works correctly.

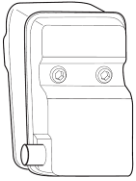


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## Muffler

The muffler is designed to keep noise levels to a minimum and to direct exhaust fumes away from the user.

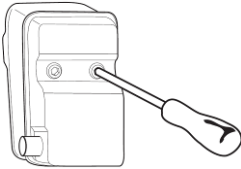
To reduce fire hazards, keep the engine and silencer free of debris, leaves and excessive lubricant.



Never use a machine that has a faulty muffler.



Regularly check that the muffler is securely attached to the machine.

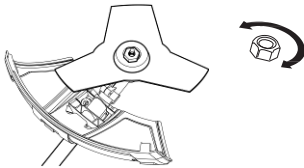


**WARNING! The inside of the muffler contain chemicals that may be carcinogenic. Avoid contact with these elements in the event of a damaged muffler.**

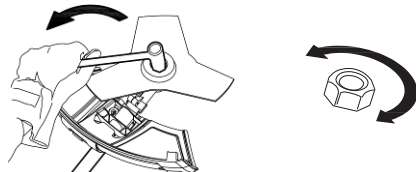
**WARNING! Bear in mind that: The exhaust fumes from the engine are hot and may contain sparks which can start a fire. Never start the machine indoors or near combustible material!**

## Locking nut

A locking nut is used to secure some types of cutting attachment.



When fitting, tighten the nut in the opposite direction to the direction of rotation of the cutting attachment. To remove it, undo the nut in the same direction as the cutting attachment rotates. (CAUTION! The nut has a left-hand thread.) Tighten the nut using the socket spanner.



The nylon lining inside the locking nut must not be so worn that you can turn it by hand. The lining should offer a resistance of at least 1.5 Nm. The nut should be replaced after it has been put on approx. 10 times.

---

## Cutting equipment (Brush cutter & Grass trimmer)

This section describes how to choose and maintain your cutting equipment in order to:

- Reduce the risk of blade thrust.
- Obtain maximum cutting performance.
- Extend the life of cutting equipment.

**IMPORTANT!**

Only use cutting attachments with the guards we recommend! See the chapter on Technical data.

Refer to the instructions for the cutting attachment to check the correct way to load the cord and the correct cord diameter.

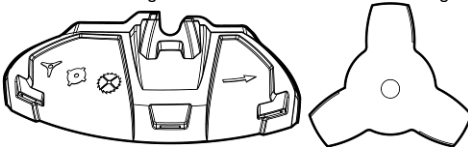
Keep the teeth of the blade correctly sharpened! Follow our recommendations. Also refer to the instructions on the blade packaging.

**WARNING! Always stop the engine before doing any work on the cutting attachment. This continues to rotate even after the throttle has been released. Ensure that the cutting attachment has stopped completely and disconnect the HT lead from the spark plug before you start to work on it.**

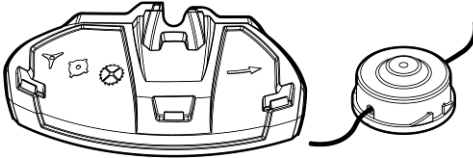
**WARNING! Using an incorrect cutting attachment or an incorrectly sharpened blade increases the risk of blade thrust.**

### Cutting equipment

Grass blades and grass cutters are intended for cutting coarse grass.

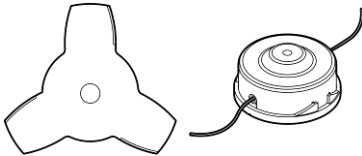


A trimmer head is intended for trimming grass.



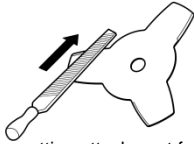
### General rules

Only use cutting attachments with the guards we recommend! See the chapter on Technical data.

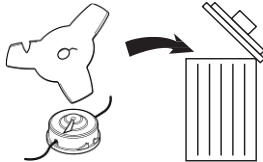


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Keep the teeth of the blade correctly sharpened! Follow our instructions and use the recommended file gauge. An incorrectly sharpened or damaged blade increases the risk of accidents.

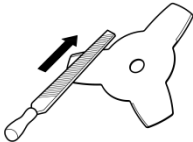


Check the cutting attachment for damage or cracks. A damaged cutting attachment should always be replaced.



## Sharpening grass cutters and grass blades

- See the cutting attachment packaging for correct sharpening instructions. Sharpen blades and cutters using a single-cut flat file.
- Sharpen all edges equally to maintain the balance of the blade.



**WARNING!** Always discard a blade that is bent, twisted, cracked, broken or damaged in any other way. Never attempt to straighten a twisted blade so that it can be reused. Only use original blades of the specified type.

## Trimmer head

### IMPORTANT!

Always ensure the trimmer cord is wound tightly and evenly around the drum, otherwise the machine will generate harmful vibration.

Only use the recommended trimmer heads and trimmer cords. These have been tested by the manufacturer to suit a particular engine size. This is especially important when a fully automatic trimmer head is used. Only use the recommended cutting attachment. See the chapter on Technical data.



Smaller machines generally require small trimmer heads and vice versa. This is because when clearing using a cord the engine must throw out the cord radially from the trimmer head and overcome the resistance of the grass being cleared.

The length of the cord is also important. A longer cord requires greater engine power than a shorter cord of the same diameter.

Make sure that the cutter on the trimmer guard is intact. This is used to cut the cord to the correct length.

To increase the life of the cord it can be soaked in water for a couple of days. This will make the line tougher so that it lasts longer.

## Cutting equipment (Pole pruner - D226ML-1)

This section describes how you can achieve maximum clearing capacity and extend the life of the cutting attachment through correct maintenance and using the right type of cutting attachment.



Only use recommended cutting attachments, using non-approved cutting attachments can cause serious or fatal injury to the operator and damage to the machine.



Maintain the correct raker clearance! Follow our instructions and use the recommended raker gauge. Too large a clearance increases the risk of kickback.

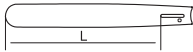


Keep the chain properly tensioned! If the chain is slack it is more likely to jump off and lead to increased wear on the bar, chain and drive sprocket.



Keep cutting equipment well lubricated and properly maintained! A poorly lubricated chain is more likely to break and lead to increased wear on the bar, chain and drive sprocket.

### Specification of bar and sw chain



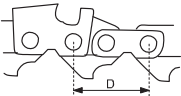
Bar length (inches/cm)



Number of teeth on bar tip sprocket (T). Small number = small tip radius = low risk of kickback.



GUAGE: Bar groove width or Drive link width (inches/mm). The groove in the bar must match the width of the chain drive links.



Chain pitch (inches). The spacing between the drive links of the chain must match the spacing of the teeth on the bar tip sprocket and drive sprocket.

Pitch= D/2



Number of drive links. The number of drive links is determined by the length of the bar, the chain pitch and the number of teeth on the bar tip sprocket.

The table contains a list of all possible combinations between bar and chain, indicating those which may be used on each machine, marked with the symbol “\*”.

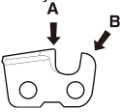
Pitch	Guide bar			Chain		Pole pruner model		
Zoll	Length Inches/cm	Groove width Inches/mm	Number of teeth	Code	Code	Number of drive links	D226	
3/8"	10"/25cm	0.050"/1.3mm	7	D226ML-1-02	Oregon 91P040X	40	*	*

For replacement use only above bars and chains. If you use non-approved combinations it may cause serious personal injury and damage to the machine.

### General information on sharpening cutting teeth

**WARNING!** Always stop the engine before doing any work on the cutting attachment. This continues to rotate even after the throttle has been released. Ensure that the cutting attachment has stopped completely and disconnect the HT lead from the spark plug before you start to work on it.

Never use a blunt chain. When the chain is blunt you have to exert more pressure to force the bar through the wood and the cuttings will be very small. If the chain is very blunt it will not produce any cuttings at all. Wood powder would be the only result.



The cutting part of the chain is called the cutting link and this consists of a cutting tooth (A) and the raker lip (B). The cutting depth is determined by the difference in height between the two.

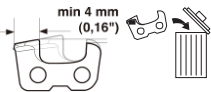
Maintenance the saw chain as below sheet:

Type of chain	File diameter	Top plate angle	Down angle	Head tilt angle (55°)	Depth gauge standard
91P	5/32"	30°	0°	80°	0.025"

Depth gauge

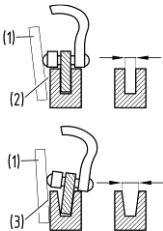
File

Make sure every cutter has the same length and edge angles as illustrated.



File all the teeth to the same length. When the length of the cutting teeth is reduced to 4 mm (0.16") the chain is worn out and should be replaced.

Maintenance guide bar



- Reverse the bar occasionally to prevent partial wear.
- The bar rail should always be a square. Check for wear of the bar rail. Apply a ruler to the bar and the outside of a cutter. If a gap is observed between them, the rail is normal. Otherwise, the bar rail is worn. Such a bar needs to be corrected or replaced.

Whether there are burrs on the edges of the bar. Remove these with a file if necessary. Whether the tip of the bar is uneven or badly worn. If a hollow forms on the underside of the bar tip this is due to running with a slack chain.

To prolong the life of the bar you should turn it over daily.

- (1) Ruler (2) Gap (3) No gap

---

## Cutting equipment (Long reach hedge trimmer - D226ML-2)

To ensure good cutting results it is important that the contact pressure between the blades is correct. The contact pressure is adjusted by turning the screws on the underside of the bar clockwise as far as they will go. Then turn the screws anticlockwise a 1/4 turn. Lock the screws using the locking nut on the top of the bar. Check that the screws are loose enough to allow the washers under the screw heads to slide sideways.



When the blades are correctly adjusted the play between the blades should be 0,2–0,4 mm, measured at the screws.

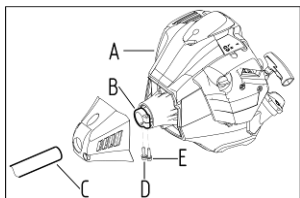
The edges of the blades are too hard to be filed. Dull blades should be sharpened using a grinder.

Replace the blades if they are bent or damaged.



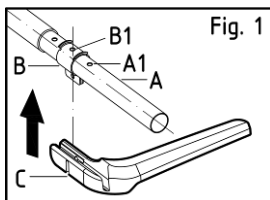
## Fitting the main body

Insert the output shaft tube (C) into the clamp collar (B) of engine (A), align the hole on tube and the hole on clamp collar, and then connect them use a screw (D). Use a screw (E) tension the clamp collar.

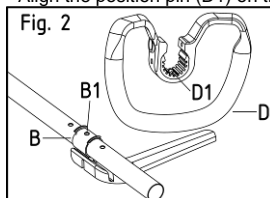


## Assembling the front handle

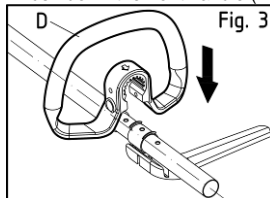
• Align the position hole (B1) on the clamp ring (B) with one position hole (A1) of three on the tube (A), and then fit the barrier (C) on the clamp ring, and while aligning hole on clamp ring and the groove on spacer block. (Fig. 1)



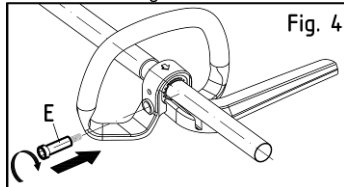
• Align the position pin (D1) on the front handle (D) with the position hole (B1) on the clamp ring (B). (Fig. 2)



• Push down the front handle (D) until the hole on the front handle aligned to the groove on the spacer block. (Fig. 3)

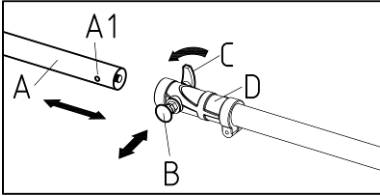


• Insert the locking screw into the front handle, and then turn it clockwise to tighten the front handle. (Fig. 4)

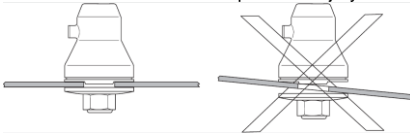


**Connecting the tube**

- Align the hole (A1) on the front tube (A) and the lock pin (B). Then, Pull out the Lock pin, and while inserting the front tube in the connector (D) to the end. After loosened the lock pin, it will return to its original position automatically, and insert into the hole on the front tube. Make sure the front tube can't be rotated after the lock pin came back to its original position. Turn the lock knob (C) counter-clockwise to tighten the front tube securely.

**Fitting blades and trimmer heads****⚠ WARNING**

When fitting the cutting attachment it is extremely important that the raised section on the top clamping plate/support flange engages correctly in the centre hole of the cutting attachment. If the cutting attachment is fitted incorrectly it can result in serious and/or fatal personal injury.



Never use a cutting attachment without an approved guard. See the chapter on Technical data. If an incorrect or faulty guard is fitted this can cause serious personal injury.

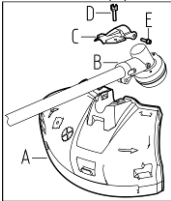
**! IMPORTANT**

If a saw blade or grass blade are to be used the machine must be equipped with the correct handlebar, blade guard and harness.

**Fitting the guard extension**

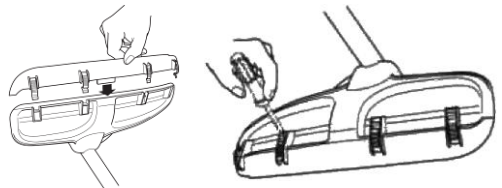
**CAUTION!** The guard extension shall always be fitted when using the trimmer head and combination guard. The guard extension shall always be removed when using the grass blade and combination guard.

Use a screw (E) fix the fitting (C) on the gear box (B). Hook the guard (A) onto the fitting, and then secure with a bolt (D).



Enter the guard extension guide in the slot of the combination guard. Then click the guard extension into position on the guard with some claws.

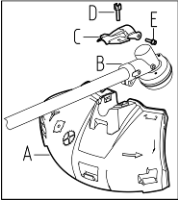
The guard extension is removed easily using a screwdriver, see illustration.



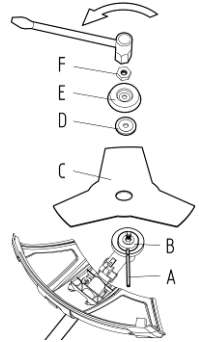
# ASSEMBLY

## Fitting a blade guard, grass blade and grass cutter

• Use a screw (E) fix the fitting (C) on the gear box (B). Hook the guard (A) onto the fitting, and then secure with a bolt (D). Use the recommended blade guard. See the Technical data section. CAUTION! Ensure that the guard extension is removed.

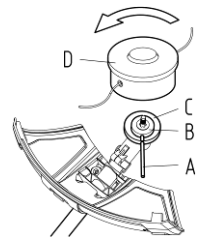
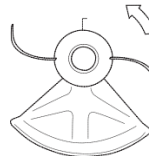


- Fit the top clamping plate (B) on the output shaft.
- Turn the blade shaft until one of the holes in the top clamping plate aligns with the corresponding hole in the top protecting cap.
- Insert the locking pin (A) in the hole to lock the shaft.
- Place the blade (C), bottom clamping plate (D) and bottom protecting cap (E) on the output shaft.
- Fit the nut (F). The nut must be tightened to a torque of 35-50 Nm (3.5-5 kpm). Use the socket spanner in the tool kit. Hold the shaft of the spanner as close to the blade guard as possible. To tighten the nut, turn the spanner in the opposite direction to the direction of rotation (Caution! left-hand thread).
- Pull out the locking pin after all installation process has been finished.

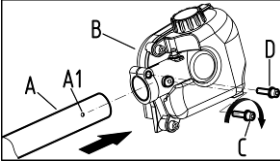


## Fitting the trimmer guard and trimmer head

- Fit the correct trimmer guard for use with the trimmer head. CAUTION! Ensure that the guard extension is fitted.
- Hook the trimmer guard/combination guard onto the fitting on the shaft and secure with three bolts.
- Fit the top clamping plate (B) on the output shaft.
- Turn the blade shaft until one of the holes in the top clamping plate aligns with the corresponding hole in the top protecting cap (C).
- Insert the locking pin (A) in the hole to lock the shaft.
- Screw on the trimmer head (D) in the opposite direction to the direction of rotation.

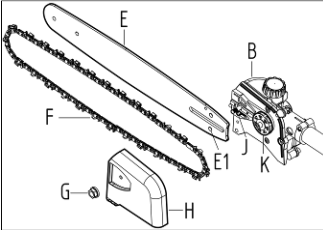


To dismantle, follow the instructions in the reverse order.

**Fitting guide bar and saw chain (for Pole Pruner - D226ML-2)**

1. Fit the cutting head (B) on the shaft tube (A) so that the screw hole on the cutting head is aligned with the position hole (A1) on the shaft tube as shown. Then, tighten the lock screw (D) and the position screw (C) securely.

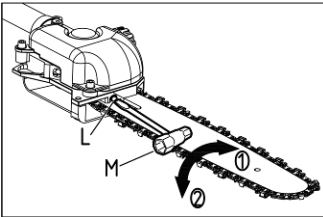
Make sure that the drive shaft inside the shaft engages with the cut-out in the cutting head.



2. Unscrew the nut (G) and remove the chain cover (H). Fit the saw chain around the guide bar. Fit the guide bar (E) over the bar bolt. Place the guide bar in its rearmost position. Place the saw chain over the drive sprocket (K) and in the groove on the guide bar. Begin on the top side of the guide bar.

Make sure that the edges of the cutting links are facing forward on the top edge of the guide bar.

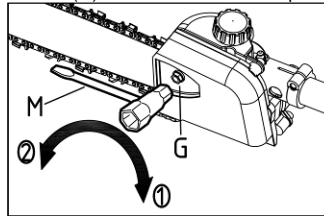
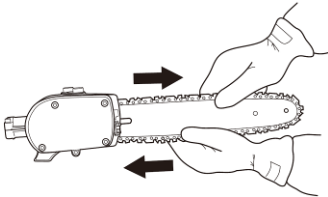
Locate the chain adjuster pin (J) in the hole (E1) in the guide bar. Check that the drive links of the saw chain fit correctly onto the drive sprocket and that the saw chain is in the groove in the guide bar. Fit the chain cover and tighten the nut finger-tight.



3. Tension the saw chain by turning the Chain tension adjuster (L) clockwise using the combination spanner (M). The saw chain should be tensioned until it does not sag from the underside of the bar.

- ① Chain tension      ② Chain loosen

4. The saw chain is correctly tensioned when it does not sag from the underside of the guide bar, but can still be turned easily by hand. Hold up the guide bar tip and tighten the nut (G) with the combination spanner (M).



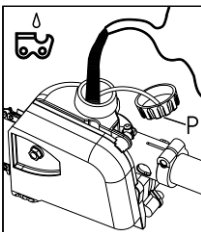
- ① Tighten      ② Loosen

If necessary, readjust with the nut loose.

When fitting a new chain, the chain tension has to be checked frequently until the chain is run-in. Check the chain tension regularly. A correctly tensioned chain ensures good cutting performance and long life.

**Chain oil**

**WARNING!** Poor lubrication of cutting equipment may cause the chain to snap, which could lead to serious, even fatal injuries.



The special oil for lubricating the chain is biodegradable. Use of a mineral oil or engine oil causes serious damage to the environment. So only use special oil for this machine.

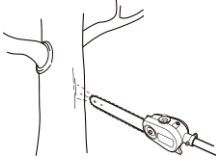
Never use waste oil!! This is dangerous for yourself, the machine and the environment.

Chain oil must demonstrate good adhesion to the chain and also maintain its flow characteristics regardless of whether it is warm summer or cold winter weather.

The oil pump is preset at the factory to meet most lubrication requirements. A full oil tank will run out as long as exhaust of a full tank of fuel, so fill oil tank completely every time you refuel fuel tank.

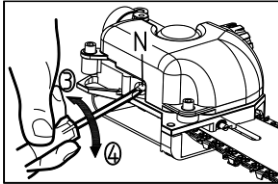
Tighten the oil tank cap (P) securely after every filling.

# ASSEMBLY



### Checking chain lubrication

Aim the tip of the bar at a light coloured surface about 20 cm (8 inches) away. After 1 minute running at 3/4 throttle you should see a distinct line of oil on the light surface.



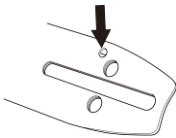
### Adjusting chain lubrication

When cutting dry or hard species of wood it may be necessary to increase lubrication. Turn the Chain tension adjuster (N) anticlockwise to increase the oil flow. Remember that this will increase oil consumption. Turn the adjuster screw clockwise to decrease the oil flow.

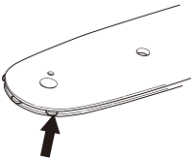
- ③ Oil flow increase      ④ Oil flow decrease

### If lubrication does not work

Check that the oil channel in the bar is not obstructed. Clean if necessary.



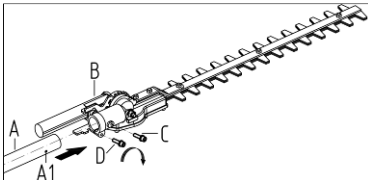
Check that the oil channel in the gear housing is clean. Clean if necessary.



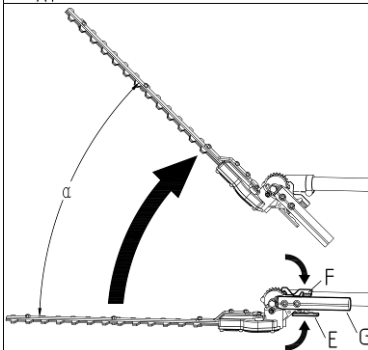
Check that the bar tip sprocket turns freely. If the chain lubrication system is still not working after carrying out the above checks you should contact your service workshop.

Regularly check the degree of wear on the drive sprocket. Replace if wear is excessive.

## Fitting cutting head (for Hedge trimmer - D226ML-2)



Fit the cutting head (B) on the shaft tube (A) so that the screw hole on the cutting head is aligned with the position hole (A1) on the shaft tube as shown. Then, tighten the lock screw (D) and the position screw (C) securely.



### Changing the hedge trimmer angle

Press the safety lever (E). Then press the lock lever (F), at the same time hold the grip (G) and turn the cutting head to a desired angle ( $\alpha$ ).

**Adjusting the harness and brush cutter**

**WARNING!** When using the machine it must always be hooked securely to the harness. Otherwise you will be unable to control the brush cutter safely and this can result in injury to yourself or others. Never use a harness with a defective quick release.

**Single shoulder harness**

Put on the harness.

Hook the machine onto the harness support hook.

Adjust the length of the harness so that the support hook is roughly level with your right hip.

**Double shoulder harness****Quick release**

At the front is an easily accessible, quick release. Use this if the engine catches fire or in any other emergency situation that requires you to free yourself from the machine and harness.

**Spreading the load on your shoulders**

A well-adjusted harness and machine makes work much easier. Adjust the harness for the best working position. Tension the side straps so that the weight is evenly distributed across both shoulders.

**Correct height**

Adjust the shoulder strap so that the cutting attachment is parallel to the ground.

**Correct balance**

Let the cutting attachment rest lightly on the ground. Adjust the position of the suspension ring to balance the brush cutter correctly.

# FUEL HANDLING

## Fuel safety

Never start the machine:

- 1 If you have spilt fuel on it. Wipe off the spillage and allow remaining fuel to evaporate.
- 2 If you have spilt fuel on yourself or your clothes, change your clothes. Wash any part of your body that has come in contact with fuel. Use soap and water.
- 3 If the machine is leaking fuel. Check regularly for leaks from the fuel cap and fuel lines.

## Transport and storage

- Store and transport the machine and fuel so that there is no risk of any leakage or fumes coming into contact with sparks or naked flames, for example, from electrical machinery, electric motors, electrical relays/ switches or boilers.
- When storing and transporting fuel always use approved containers intended for this purpose.
- When storing the machine for long periods the fuel tank must be emptied. Contact your local petrol station to find out where to dispose of excess fuel.
- Ensure the machine is cleaned and that a complete service is carried out before long-term storage.
- The transport guard must always be fitted to the cutting attachment when the machine is being transported or in storage.
- Secure the machine during transport.
- In order to prevent unintentional starting of the engine, the spark plug cap must always be removed during long-term storage, if the machine is not under close supervision and when performing all service measures.

**WARNING! Take care when handling fuel. Bear in mind the risk of fire, explosion and inhaling fumes.**

## Fuel

**CAUTION!** The machine is equipped with a two-stroke engine and must always be run using a mixture of petrol and two-stroke oil. It is important to accurately measure the amount of oil to be mixed to ensure that the correct mixture is obtained. When mixing small amounts of fuel, even small inaccuracies can drastically affect the ratio of the mixture.

**WARNING! Fuel and fuel fumes are highly inflammable and can cause serious injury when inhaled or allowed to come in contact with the skin. For this reason observe caution when handling fuel and make sure there is adequate ventilation.**

## Petrol

**CAUTION!** Always use a quality petrol/oil mixture at least 90 octane (RON). If your machine is equipped with a catalytic converter (see chapter on Technical data) always use a good quality unleaded petrol/oil mixture. Leaded petrol will destroy the catalytic converter.

Use low-emission petrol, also known as alkylate petrol, if it is available.

- The lowest octane recommended is 90 (RON). If you run the engine on a lower octane grade than 90 so-called knocking can occur. This gives rise to a high engine temperature, which can result in serious engine damage.
- When working at continuous high revs a higher octane rating is recommended.



## Two-stroke oil

- For best results and performance use two-stroke engine oil, which is specially formulated for our air-cooled two-stroke engines.
- Never use two-stroke oil intended for water-cooled engines, sometimes referred to as outboard oil (rated TCW).
- Never use oil intended for four-stroke engines.
- A poor oil quality and/or too high oil/fuel ratio may jeopardise function and decrease the life time of catalytic converters.
- Mixing ratio

1:40 (2.5%) with JASO FC or ISO EGC grade formulated for air-cooled, two-stroke engines.

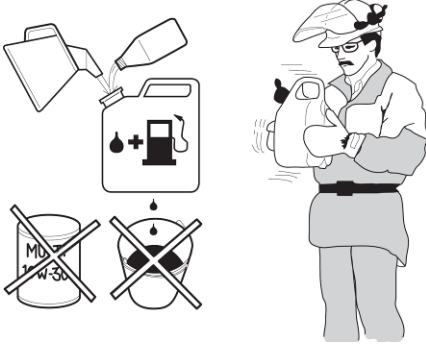
1:25 (4%) with oils class JASO FB or ISO EGB.

Petrol, litre	Two-stroke oil, milliliter
	2.5% (1:40)
1	25
5	125
10	250
20	500

## FUEL HANDLING

### Mixing

- Always mix the petrol and oil in a clean container intended for fuel.
- Always start by filling half the amount of the petrol to be used. Then add the entire amount of oil. Mix (shake) the fuel mixture. Add the remaining amount of petrol.
- Mix (shake) the fuel mixture thoroughly before filling the machine's fuel tank.



- Do not mix more than one month's supply of fuel at a time.
- If the machine is not used for some time the fuel tank should be emptied and cleaned.

### Fuelling

**WARNING!** Taking the following precautions, will lessen the risk of fire:

Do not smoke or place hot objects near fuel.

Always shut off the engine before refuelling.

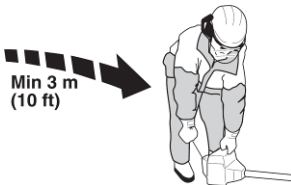
Always stop the engine and let it cool for a few minutes before refuelling.

When refuelling, open the fuel cap slowly so that any excess pressure is released gently.

Tighten the fuel cap carefully after refuelling.

Always move the machine away from the refuelling area before starting.

- Always use a fuel container with an anti-spill valve.
- Clean the area around the fuel cap. Contamination in the tank can cause operating problems.
- Ensure that the fuel is well mixed by shaking the container before filling the tank.

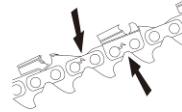
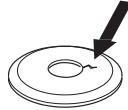
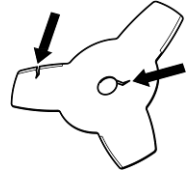




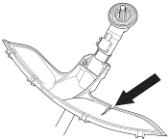
# STARTING AND STOPPING

## Check before starting

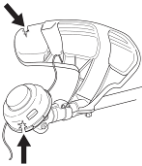
- Inspect the working area. Remove any objects that could be thrown out.
- Never use the machine without a guard nor with a defective guard.
- All covers must be correctly fitted and undamaged before you start the machine.
- Check the cutting attachment. Never use blunt, cracked or damaged equipment. The most common reason why cracks are formed is that sharp corners have been formed at the bottom of the teeth while sharpening or that the blade has been used with dull teeth. Discard a blade if cracks are found.
- Check that the support flange is not cracked due to fatigue or due to being tightened too much. Discard the support flange if it is cracked.
- Check that the machine is in perfect working order. Check that all nuts and screws are tight. The tightening torque of the locking nut of blade should be 35-50 Nm.



- Check that the blade guard is not damaged or cracked. Replace the blade guard if it is exposed to impact or is cracked.



- Check that the trimmer head and trimmer guard are not damaged or cracked. Replace the trimmer head or trimmer guard if they have been exposed to impact or are cracked.



- Ensure that the machine is correctly located in a designated working position before starting the engine.
- Make sure the gear box and transmission is lubricated correctly. See instructions under the heading Gear housing.
- Only use the machine for the purpose it was intended for.

## Starting and stopping

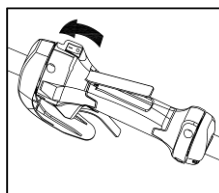
**WARNING!** The complete clutch cover and shaft must be fitted before the machine is started, otherwise the clutch can come loose and cause personal injury.

Always move the machine away from the refuelling area before starting. Place the machine on a flat surface. Ensure the cutting attachment cannot come into contact with any object.

Make sure no unauthorised persons are in the working area, otherwise there is a risk of serious personal injury. The safety distance is 15 metres.

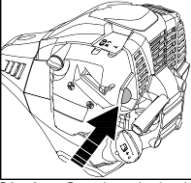
### Starting

**Ignition:** Press down the "I" side of the engine switch.

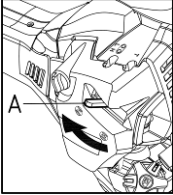


# STARTING AND STOPPING

**Primer bulb:** Press the air purge repeatedly until fuel begins to fill the bulb. The bulb need not be completely filled.



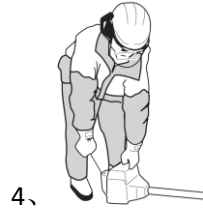
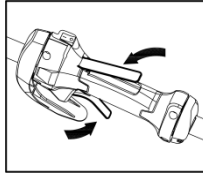
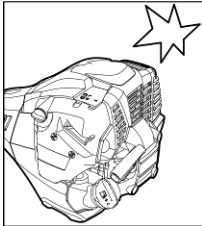
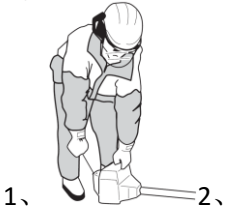
**Choke:** Set the choke knob(A) in the choke position.



**WARNING!** The choke will automatically return to the run position by operating the throttle trigger. If you manually turn the choke knob from choke position to run position, the cutting attachment will start to rotate immediately when the engine is started.

Hold the body of the machine on the ground using your left hand (CAUTION! Not with your foot!). Grip the starter handle, slowly pull out the cord with your right hand until you feel some resistance (the starter pawls grip), now quickly and powerfully pull the cord. **Never twist the starter cord around your hand.**

Repeat pulling the cord until engine firing occur, then operate the throttle to allow the choke return to the run position. Repeat pulling the cord until engine start. When the engine starts, allow the engine to warm up with the throttle pulled slightly.

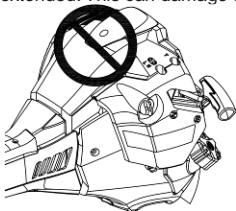


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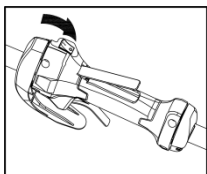
**CAUTION!** Do not pull the starter cord all the way out and do not let go of the starter handle when the cord is fully extended. This can damage the machine. Do not hold trigger while starting!



**CAUTION!** Do not put any part of your body in marked area. Contact can result in burns to the skin, or electrical shock if the spark plug cap has been damaged. Always use gloves. Do not use a machine with damaged spark plug cap.

## Stopping

Stop the engine by switching off the ignition.



## WORKING TECHNIQUES

### General working instructions

#### IMPORTANT!

This section describes the basic safety precautions for working with brush cutters and trimmers.

If you encounter a situation where you are uncertain how to proceed you should ask an expert. Contact your dealer or your service workshop.

Avoid all usage which you consider to be beyond your capability.

You must understand the difference between forestry clearing, grass clearing and grass trimming before use.

#### Basic safety rules

1 Look around you:

- To ensure that people, animals or other things cannot affect your control of the machine.
  - To ensure that people, animals, etc., do not come into contact with the cutting attachment or loose objects that are thrown out by the cutting attachment.
  - **CAUTION!** Do not use the machine unless you are able to call for help in the event of an accident.
- 2 Inspect the working area. Remove all loose objects, such as stones, broken glass, nails, steel wire, string, etc. that could be thrown out or become wrapped around the cutting attachment.
  - 3 Do not use the machine in bad weather, such as dense fog, heavy rain, strong wind, intense cold, etc. Working in bad weather is tiring and often brings added risks, such as icy ground, unpredictable felling direction, etc.
  - 4 Make sure you can move and stand safely. Check the area around you for possible obstacles (roots, rocks, branches, ditches, etc.) in case you have to move suddenly. Take great care when working on sloping ground.
  - 5 Always ensure you have a safe and stable working position. Ensure that no-one comes closer than 15 m while you are working.
  - 6 Make sure that your hands and feet do not come near the cutting attachment when the engine is running. When the engine is switched off, keep your hands and feet away from the cutting attachment until it has stopped completely.
  - 7 Check the working area for foreign objects such as electricity cables, insects and animals, etc, or other objects that could damage the cutting attachment, such as metal items.
  - 8 If any foreign object is hit or if vibrations occur stop the machine immediately. Check that the machine is not damaged. Repair any damage. Always wear heavy-duty gloves when repairing the cutting attachment. This is extremely sharp and can easily cause cuts.
  - 9 If anything gets caught up in the cutting attachment while you are working, switch off the engine and let it stop completely before cleaning the cutting attachment.



10 Keep a good balance and a firm foothold.

11 Always hold the machine with both hands. Hold the machine on the right side of your body. Use your right hand to control the throttle setting.



## WORKING TECHNIQUES

- 12 Keep the cutting attachment below waist level.
- 13 Switch off the engine before moving to another area. Fit the transport guard before carrying or transporting the equipment any distance.
- 14 Never put the machine down with the engine running unless you have it in clear sight.
- 15 Always stop the engine before doing any work on the cutting attachment. Check that the cutting attachment always stops when the engine is idling.

**WARNING!** Neither the operator of the machine nor anyone else may attempt to remove the cut material while the engine is running or the cutting equipment is rotating, as this can result in serious injury.

Stop the engine and cutting equipment before you remove material that has wound around the blade shaft as otherwise there is a risk of injury. The bevel gear can get hot during use and may remain so for a while afterwards. You could get burnt if you touch it.

**WARNING!** Watch out for thrown objects. Always wear approved eye protection. Never lean over the cutting attachment guard. Stones, rubbish, etc. can be thrown up into the eyes causing blindness or serious injury. Keep unauthorised persons at a distance. Children, animals, onlookers and helpers should be kept outside the safety zone of 15 m. Stop the machine immediately if anyone approaches. Never swing the machine around without first checking behind you to make sure no-one is within the safety zone.

### Basic working techniques

Always slow the engine to idle speed after each working operation. Long periods at full throttle without any load on the engine can lead to serious engine damage.

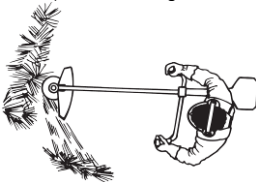
**WARNING!** Sometimes branches or grass get caught between the guard and cutting attachment. Always stop the engine before cleaning.

**WARNING!** Machines fitted with grass blades can be thrown violently to the side when the blade comes into contact with a fixed object. This is called blade thrust. A blade thrust can be violent enough to cause the machine and/or operator to be propelled in any direction, and possibly lose control of the machine. Blade thrust can occur without warning if the machine snags, stalls or binds. Blade thrust is more likely to occur in areas where it is difficult to see the material being cut.

Avoid cutting with the area of the blade between the 12 o'clock and 3 o'clock positions. Because of the speed of rotation of the blade, blade thrust can occur if you attempt to cut thick stems with this area of the blade.

### Grass clearing using a grass blade

- Grass blades and grass cutters must not be used on woody stems.
- A grass blade is used for all types of tall or coarse grass.
- The grass is cut down with a sideways, swinging movement, where the movement from right-to-left is the clearing stroke and the movement from left-to- right is the return stroke. Let the left-hand side of the blade (between 8 and 12 o'clock) do the cutting.



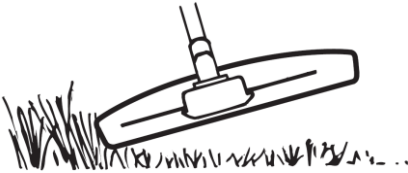
- If the blade is angled to the left when clearing grass, the grass will collect in a line, which makes it easier to collect, e.g. by raking.
- Try to work rhythmically. Stand firmly with your feet apart. Move forward after the return stroke and stand firmly again.
- Let the support cup rest lightly against the ground. It is used to protect the blade from hitting the ground.
- Reduce the risk of material wrapping around the blade by following these instructions:
  - 1 Always work at full throttle.
  - 2 Avoid the previously cut material during the return stroke.
- Stop the engine, unclip the harness and place the machine on the ground before you start to collect the cut material.

## WORKING TECHNIQUES

### Grass trimming with a trimmer head

#### Trimming

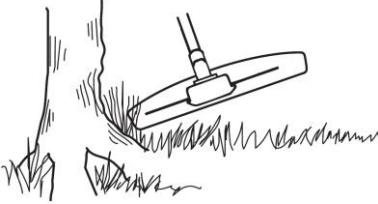
- Hold the trimmer head just above the ground at an angle. It is the end of the cord that does the work. Let the cord work at its own pace. Never press the cord into the area to be cut.



- The cord can easily remove grass and weeds up against walls, fences, trees and borders, however it can also damage sensitive bark on trees and bushes, and damage fence posts.
- Reduce the risk of damaging plants by shortening the cord to 10-12 cm and reducing the engine speed.

#### Clearing

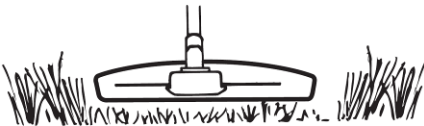
- The clearing technique removes all unwanted vegetation. Keep the trimmer head just above the ground and tilt it. Let the end of the cord strike the ground around trees, posts, statues and the like. CAUTION! This technique increases the wear on the cord.



- The cord wears quicker and must be fed forward more often when working against stones, brick, concrete, metal fences, etc., than when coming into contact with trees and wooden fences.
- When trimming and clearing you should use less than full throttle so that the cord lasts longer and to reduce the wear on the trimmer head.

#### Cutting

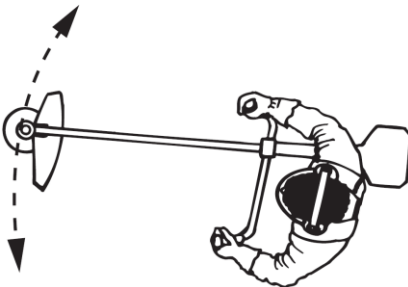
- The trimmer is ideal for cutting grass that is difficult to reach using a normal lawn mower. Keep the cord parallel to the ground when cutting. Avoid pressing the trimmer head against the ground as this can ruin the lawn and damage the tool.



- Do not allow the trimmer head to constantly come into contact with the ground during normal cutting. Constant contact of this type can cause damage and wear to the trimmer head.

#### Sweeping

- The fan effect of the rotating cord can be used for quick and easy clearing up. Hold the cord parallel to and above the area to be swept and move the tool to and fro.



- When cutting and sweeping you should use full throttle to obtain the best results.

## Pruning with a pole pruner

Hold the machine as close to your body as possible to get the best balance.

Make sure that the tip does not touch the ground.

Do not rush the work, but work steadily until all the branches have been cut back cleanly.

Always slow the engine to idle speed after each working operation. Long periods at full throttle without any load on the engine can lead to serious engine damage.

Always work at full throttle.

Let the engine drop back to idle speed between each cut. Long periods at full throttle can cause serious damage to the centrifugal clutch.

### **WARNING**

Never stand directly underneath a branch that is being cut. This could lead to serious or even fatal personal injury.

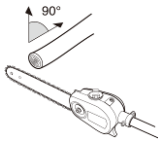
Observe great care when working close to overhead power lines. Falling branches can result in short-circuiting.

### **WARNING**

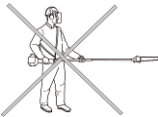
Observe the applicable safety regulations for work in the vicinity of overhead power lines.

### **WARNING**

This machine is not electrically insulated. If the machine touches or comes close to high-voltage power lines it could lead to death or serious bodily injury. Electricity can jump from one point to another by arcing. The higher the voltage, the greater the distance electricity can jump. Electricity can also travel through branches and other objects, especially if they are wet. Always keep a distance of at least 10 m between the machine and high-voltage power lines and/or any objects that are touching them. If have to work within this safe distance you should always contact the relevant power company to make sure the power is switched off before you start work.



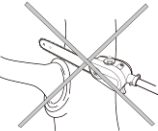
Whenever possible position yourself so that you can make the cut at right angles to the branch.



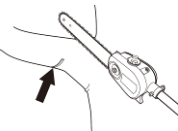
Do not work with the shaft held straight out in front of you (like a fishing rod) as this increases the apparent eight of the cutting attachment.



Cut large branches in sections so that you have better control over where they fall.



Never cut through the swelling at the root of the branch as this will slow down healing and increase the risk of fungal attack!



Make an initial cut on the underside of the branch before cutting through the branch. This will prevent tearing of the bark, which could lead to slow healing and cause permanent damage to the tree. The cut should not be deeper than 1/3 of the branch thickness to prevent jamming. Keep the chain running while you withdraw the cutting attachment from the branch to prevent it jamming.

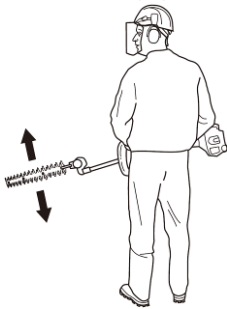


Use the harness to support the weight of the machine and make it easier to handle.

Make sure you have a firm footing and that you can work without being hampered by branches, stones and trees.

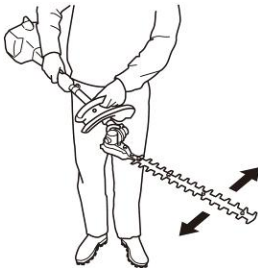
## Trimming branch or leaves with Long-reach hedge trimmer

Work with a swinging action from the bottom upwards when trimming sides.



Always work at full throttle.

When trimming a hedge the engine should always face away from the hedge.



Hold the machine as close to your body as possible to get the best balance.

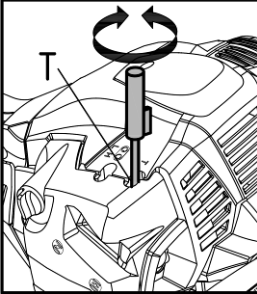
Make sure that the tip does not touch the ground.

Do not rush the work, but work steadily until all the branches have been cut back cleanly.

## Carburettor

### Adjusting the idle speed (T)

Check that the air filter is clean. When the idle speed is correct, the cutting attachment should not rotate. If adjustment is required, close (turn clockwise) the idle adjustment screw T, with the engine running, until the cutting attachment starts to rotate. Open (turn anticlockwise) the screw until the cutting attachment stops. The idle speed is correctly set when the engine runs smoothly in all positions, and there is a clear margin to the speed at which the cutting attachment starts to rotate.

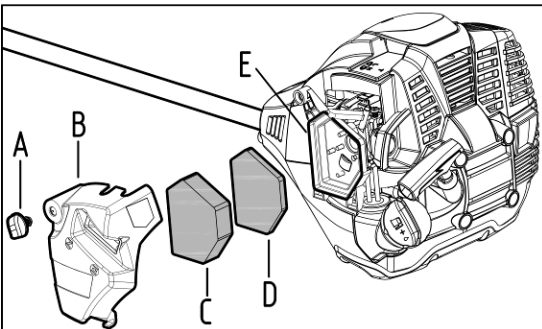


**WARNING!** If the idle speed cannot be adjusted so that the cutting attachment stops, contact your dealer/service workshop. Do not use the machine until it has been correctly adjusted or repaired. If you need to adjust the "L" and/or "H" mixture screw contact with you dealer/service centre for some help.

## Air filter

The air filter must be regularly cleaned to remove dust and dirt in order to avoid:

- Carburettor malfunctions
- Starting problems
- Loss of engine power
- Unnecessary wear to engine parts.
- Excessive fuel consumption.



Clean the filter every 25 hours, or more regularly if conditions are exceptionally dusty.

### Cleaning the air filter

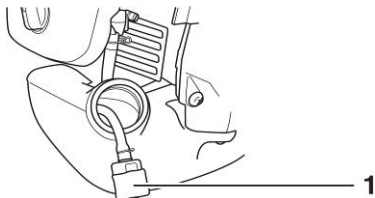
Turn the handle screw (A) counter-clockwise to loosen it (Don't remove it from the air filter cover). Remove the air filter cover (B), and then take out two filters (C) & (D) from the air filter base (E). Clean the filter and air filter cover with compressed air. Ensure that the compressed air is dry.

An air filter that has been in use for a long time cannot be cleaned completely. The filter must therefore be replaced with a new one at regular intervals. **A damaged air filter must always be replaced.**



# MAINTENANCE

## Fuel filter



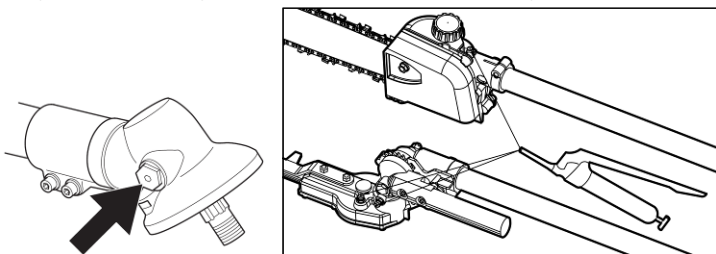
1 Fuel filter

When the engine runs short of fuel supply, check the fuel cap and the fuel filter for blockage.

## Bevel gear, Transmission and Gear box

The bevel gear, transmission and gear box is filled with the right quantity of grease at the factory. However, before using the machine you should check that the aforesaid components are filled half full with grease.

The grease in the bevel gear does not normally need to be changed except if repairs are carried out.



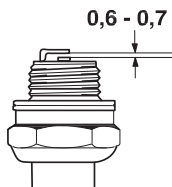
## Spark plug

The spark plug condition is influenced by:

- Incorrect carburettor adjustment.
- An incorrect fuel mixture (too much or incorrect type of oil).
- A dirty air filter.

These factors cause deposits on the spark plug electrodes, which may result in operating problems and starting difficulties.

If the machine is low on power, difficult to start or runs poorly at idle speed: always check the spark plug first before taking any further action. If the spark plug is dirty, clean it and check that the electrode gap is 0,6-0,7 mm. The spark plug should be replaced after about a month in operation or earlier if necessary.



Recommended Spark plug type:

NHSP LD L8RTF  
CHAMPION RCJ7Y  
NGK BPMR7A

**CAUTION!** Always use the recommended spark plug type! Use of the wrong spark plug can damage the piston/cylinder. Check that the spark plug is fitted with a suppressor.

# MAINTENANCE

## Maintenance schedule

The following is a list of the maintenance that must be performed on the machine. Most of the items are described in the Maintenance section. The user must only carry out the maintenance and service work described in this Operator's Manual. More extensive work must be carried out by an authorized service workshop.

Maintenance	Daily maintenance	Weekly maintenance	Monthly maintenance
Clean the outside of the machine.	X		
Check that the harness is not damaged.	X		
Make sure the throttle trigger lock and the throttle function correctly from a safety point of view.	X		
Check that the handle and barrier are undamaged and secured correctly.	X		
Check that the engine switch works correctly.	X		
Check that the cutting attachment does not rotate at idle speed.	X		
Clean the air filter. Replace if necessary.	X		
Check that the guard is undamaged and not cracked. Replace the guard if it has been exposed to impact or is cracked.	X		
Check that the blade is correctly centred, is sharp, and is not cracked. An off-centre blade will cause vibration that could result in damage to the machine.	X		
Check that the trimmer head is undamaged and not cracked. Replace the trimmer head if necessary.	X		
Check that the locking nut of the cutting equipment is tighten correctly.	X		
Check that the transport guard for the blade is intact and that it can be secured correctly.	X		
Check that nuts and screws are tight.	X		
Check that there are no fuel or oil leaks from the engine, tank or fuel lines.	X		
Check that the cutting attachment is well lubricated and sharp.	X		
Check the starter and starter cord.		X	
Check that the vibration damping elements are not damaged.		X	
Clean the outside of the spark plug. Remove it and check the electrode gap. Adjust the gap to 0,6-0,7 mm or replace the spark plug.		X	
Clean the outside of the carburettor and the space around it.		X	
Check that the bevel gear , transmission and gear box is filled half full with lubricant. Fill if necessary using special grease.		X	
Check the fuel filter from contamination and the fuel hose from cracks or other defects. Replace if necessary.			X
Check all cables and connections.			X
Check the clutch, clutch springs and the clutch drum for wear. Replace if necessary by an authorized service workshop.			X

## Transporting and storage

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When the machine is stopped for servicing, empty the fuel tank and oil tank, inspection or storage, shut off the power source, disconnect the spark plug wire from the spark plug and make sure all moving parts have come to a stop. Allow the machine to cool before making any inspections, adjustments, etc.

Store the machine where the fuel vapour will not reach an open flame or spark. Always allow the hedge trimmer to cool down before storing.

Cleaning and maintenance before storage.

Secure the machine during transport to prevent loss of fuel, damage or injury.

When transporting or storing the machine, always fit the cutting device transport guard.

## Technical data

### TECHNICAL DATA

Technical data	D226	D226 extensions	D233	D233 extensions
<b>Engine</b>	1E34F-B		1E36F-B	
Cylinder displacement, cm <sup>3</sup>	25.4		32.6	
Cylinder bore, mm	34		36	
Stroke, mm	28		32	
Idle speed, rpm	3100±400			
Recommended max. speed, rpm	10000			
Speed of output shaft, rpm	7500 for brush cutter, 6800 for grass trimmer			
Speed of cutting device for long reach hedge trimmer, rpm	1600			
Max. chain speed for pole pruner, m/s	22.2			
Max. engine output, acc. to ISO 8893, kW/ rpm	0.75/8000		1.0/7000	
<b>Ignition system</b>				
Type of ignition system	TCI (touch pointless)			
Spark plug	99-111 / Anova 99-110			
Electrode gap, mm	0.6-0.7			
<b>Fuel and lubrication system</b>				
Type of carburettor	Walbro			
Fuel tank capacity, litre	0.45		0.54	
Oil tank capacity (for pole pruner), litre	0.135			
<b>Cutting device of long reach hedge trimmer</b>				
Blade length, mm	460			
Cutting length, mm	390			

## Original instructions

<b>Cutting device of pole pruner</b>				
Drive sprocket	7T×3/8"			
Pitch	3/8"			
Gauge	0.050"			
Cutting length	260 (10')			
<b>Weight</b>				
Weight without fuel, harness, cutting attachment and guard, kg	65	66	73	75
<b>Noise emissions</b> (see note 1)				
Sound power level, measured dB(A)				
Equipped with trimmer head	110.3, K=3		110.0, K=3	
Equipped with blade	109.1, K=3		108.7, K=3	
Sound power level, guaranteed LWA dB(A)	113			
<b>Noise levels</b> Equivalent sound pressure level at the operator's ear, measured according to EN ISO 11806 and ISO 22868, dB(A):				
Equipped with trimmer head	94.3, K=3		94.1, K=3	
Equipped with blade	93.3, K=3		92.7, K=3	
<b>Vibration levels</b> Equivalent vibration levels (ahv,eq) at handles, measured according to EN ISO 11806 and ISO 22867, m/s <sup>2</sup>				
Front/ Left handle	4.0, K=1.5		4.0, K=1.5	
Rear/ Right handle	3.5, K=1.5		3.9, K=1.5	

Note 1: Noise emissions in the environment measured as sound power ( $L_{WA}$ ) in conformity with EC directive 2000/14/ EC. Reported sound power level for the machine has been measured with the original cutting attachment that gives the

## TECHNICAL DATA

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highest level. The difference between guaranteed and measured sound power is that the guaranteed sound power also includes dispersion in the measurement result and the variations between different machines of the same model according to Directive 2000/14/EC.

Combinations of guide bar/ saw chain

For pole pruner:

- 1) Oregon 100SDEA318/ Oregon 91P040X

Recommended cutting attachment	Type	Cutting width (mm)	Thickness of blade/ diameter of cutting line	Blade centre hole diameter (mm)
Blade	3 teeth, single piece, metal	255	1.6	25.4
Trimmer head	Non-metallic Flexible cutting	430	2.4	

Specifications are subject to change without notice.

ANOVA

FOREST AND GARDEN PRODUCTS