

# solo<sup>®</sup>

## 635 / 636 / 642 / 643IP

*Instruction manual*

*Chain saw*

***Important!***

Read this instruction manual carefully before first operation and strictly observe the safety regulations!





For **USA** only

### **Emissions Control Warranty Statement**

The Environmental Protection Agency and Solo are pleased to explain the emission control system on your small non-road power equipment engine. In the US new small non- road engines must be designed, built, and equipped to meet the Environmental Protection Agency's standards. Solo must warrant the emission control system on your small non- road engine for the period of time listed below provided there has been no abuse, neglect, or improper maintenance of your small non-road engine.

Your emission control system includes parts such as the carburetor, the ignition system, and the exhaust system.

Where a warrantable condition exists, Solo will repair your small non-road power equipment engine at no cost to you including diagnosis, parts, and labor.

### **Manufacturers Warranty Coverage**

Solo's small non-road power equipment engines are warranted for a period of two years. If any emission control related part on your engine is defective, the part will be repaired or replaced by Solo.

Contact Information for Authorized Service Center Locations, Replacement Parts, Warranty and Technical Information

Warranty repairs **must** be completed by a SOLO Authorized Service Center.

SOLO USA, Inc. 1-800-765-6462  
5100 Chestnut Avenue techserv@solousa.com  
Newport News, VA 23605



## **Preface**

Dear Customer,  
Congratulations for choosing this SOLO quality product.

The models in this series are particularly high-grade chainsaws, made in Germany, that are specifically designed for the multi-faceted demands of the hobby and leisure market. A high-grade single cylinder two-stroke engine with nickel-aluminium-silicon coated cylinder, designed according to the proven four channel technology for high performance and low fuel consumption, guarantees you a high level of serviceability from your machine.

The automatic chain lubrication system (Ecomatic), the maintenance-free electronic ignition, the Anti-Vibration-System for protection at work, the excellent starting characteristics and the ergonomic design of the entire machine ensure excellent user comfort and it makes light of your work. The safety equipment is state-of-the-art and complies with all German and international safety regulations.

Prior to operating the unit, please read the owner's manual carefully, and most importantly, observe all safety rules.

Observe the maintenance guidelines closely to ensure the long service life of your equipment.

Your dealer will be glad to assist you with any questions.

## **Symbols**

The following symbols are used in this manual and on the product:



Thoroughly read these operating instructions before undertaking any maintenance, installation and cleaning steps



Before starting the engine, make sure that you are wearing a helmet, ear defenders and face protection.



Switching off the engine



Choke flap:  
Cold start position → pull the lever out  
Operation and warm start → press the lever in



Chain lubrication: symbol above the chain lubrication tank cap



Fuel mixture: symbol above the fuel mixture tank cap



**Danger!** Failure to comply with the instructions could cause accidents with potentially **life-threatening injuries**.



Always wear protective gloves when working with or on the device.



Always wear safety shoes with non-slip soles.



**Chain brake:** To block the chain, press the lever forwards towards the guide bar.



To release the chain again, pull the lever back towards the front handle.



Caution: Risk of kickback.  
Please refer to the notes in chapter 9. "Hazards caused by kickback"



Never smoke near the power tool or where the equipment is refuelled!



Keep open flames away from the power tool and the fuel can



- This equipment produces exhaust fumes and  
- fuel vapours are poisonous;  
never start or refuel in enclosed spaces

### **Packaging and disposal**

Please keep the original packaging in order to protect the equipment against transport damage in case you ever need to ship it or transport it. If the packaging materials are no longer required then they must be disposed of properly in accordance with applicable local regulations. Cardboard packaging materials are raw materials which can be recycled or reused.

At the end of the equipment's service life, please make sure that you dispose of it properly, in accordance with the official directives and regulations that apply in your area.

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**Information regarding these operating instructions:**

Some of the graphic depictions in these operating instructions are schematic illustrations which are not designed to accurately reflect your specific chainsaw. However, the content is binding in every case.

## 1. Safety regulations

### 1.1 Correct use / General safety instructions

The chainsaw must only be used to cut wood and objects made of wood. The chainsaw must not be used for any other purposes (chapter 10.1 "Application areas").

 Before you start using the saw for the first time, please take the time to carefully read through these operating instructions, and make sure you keep them in a safe place. At all times the instructions must be kept available at the place where the saw is being used. The instructions must be read by anybody who works with or on the device (including for maintenance, care and repairs).

Take special care when using this power tool. By handling the power tool recklessly or without the necessary care and attention you can put yourself in grave danger. Always work with the utmost care and constantly remind yourself of the potential dangers and hazards that could occur. Never undertake any work you are not fully comfortable with or if you are not in a position to fully assess the risks involved. If you are still unsure after reading these operating instructions, please consult a specialist or enrol in a training course for safe handling and use of the power tool (e.g. at a specialist forestry training centre).

If you ignore these safety instructions you could be putting your life at risk. Please also make sure that you comply with all of the health and safety requirements of the professional trade associations.

- When operating in highly flammable vegetation and in areas affected by drought, keep a fire extinguisher handy (risk of fire).
- You should request and receive instructions from the vendor on the safe operation if you are using this type of product for the first time.
- Children and young people under 18 years may not work with this power tool, with the exception of young people over 16 years of age who are being trained under supervision.
- The power tool can be operated easily - even on start-up - by one person. Keep bystanders and animals away from the working area. When working near thickets, be aware that children and animals may be hidden there. Immediately stop the machine and the cutter if any person or animal comes close to the working area. The operator is responsible for any accidents or damage caused to parties or property.
- This machine may only be passed on or lent to third parties if they are familiar with the safe use of this product and with these instructions. Always supply the manual with the machine.
- Ensure you are rested and in good health when using this machine.
- Persons under the influence of alcohol or drugs, including prescription drugs, are not allowed to use this machine, as their ability to quickly react to potential danger may be impaired.
- Never alter, change or modify any safety equipment or functional assemblies on this machine.
- Only use this machine if it is in good, safe condition. Always check the machine prior to use. **Risk of accident!**
- Only use those accessories and attachments that have been supplied by the manufacturer and that are expressly approved for attachment.
- The reliability and safe operation of your machine depend on the quality of parts used with the machine. Only use original spare parts. Original spare parts are identical with genuine production parts and guarantee best quality in material, dimensions, function and safety. Original parts and accessories are available from your specialist dealer. Your dealer has been supplied with appropriate documentation to determine the correct parts. Your dealer is frequently supplied with updates about improvements to the equipment. Please note that the use of non-original parts will void your warranty.
- Always store the machine in a safe place and in such a way that it will not pose any danger. Stop the engine when the machine is not used.

Persons who disregard safety instructions, operating or maintenance instructions may be liable for any damage or consequential losses.

### 1.2 Working clothes

To prevent injuries, always wear suitable clothing and safety equipment when working with this power tool. This clothing should be practically oriented to the application (for example a tight fitting work suit), but should not be confining.

We recommend: *SOLO forest and countryside work jacket EN 340* Part no: 99 303 000 + size (2[s] - 6[xxl])  
*SOLO Outdoor Knee-breeches* Part no: 99 020 95 + size  
 or *SOLO Outdoor dungarees* Part no: 99 020 94 + size

Never wear scarves, ties, jewellery or other items of clothing, which might get caught in the equipment, in brush or on branches. Safely tie back long hair (use a cap, helmet or similar).

 Wear safety shoes with a good tread.  
 We recommend: *SOLO leather forest boots* Part no: 99 305 10 + size (36 - 48)

 Wear protective gloves with non-slip palms.  
 We recommend: *SOLO Forst* Part no: 99 390 13 + size (09 / 10 / 12)

 Use personal hearing protection and a face protector (e.g. a visor on a safety helmet). Always wear a safety helmet when working in woods or forests. Falling branches pose a serious risk.  
 We recommend the *SOLO safety helmet with face and hearing protection*, order no.: 99 390 1101 (one size)

### 1.3 Fuelling



Petrol is very light and highly flammable. Keep away from open flames and never spill fuel. Do not smoke at the operating site or at and near the refuelling site!

- Stop the engine prior to refuelling.
- Let the engine cool down before refuelling - fire risk!
- Open the tank lid slowly to allow any excess pressure in the tank to be reduced without the risk of petrol spraying out.
- Fuel may contain substances similar to solvents. Prevent products made from mineral oil coming into contact with skin and eyes. Wear protective gloves during filling with fuel. Frequently change and clean protective clothing.
- Avoid breathing in fuel vapour.
- The refuelling site should be well ventilated.
- Avoid any soil spillage of fuel or oil (protection of the environment). Use a suitable mat.
- Immediately clean any spilled fuel on the machine. Change contaminated clothing without delay.
- Always tighten the fuel tank cap firmly by hand without using any tools. The fuel tank cap must not be able to work itself loose as a result of the vibrations of the engine.
- Check for petrol leaks. Do not start the machine or work with the machine if there is a petrol leak. Life threatening risk from burns!
- Store fuel and oil in approved and correctly labelled containers.

### 1.4 When transporting the equipment

- When carrying the chainsaw for short distances (from one working area to the next), always apply the chain brake so that the chainsaw is blocked (preferably switch the engine off as well).
- Never carry or transport the power tool while the cutting tool is running.
- When transporting the device over longer distances, always switch the engine off and attach the chain guard.
- To prevent leakage of fuel or oil and damage in general, make sure that the device is secured so that it cannot fall over when it is transported in vehicles. Check the fuel and chain lubrication tanks for leaks. Ideally you should drain the tanks prior to transport.
- Always empty the tanks before dispatching the unit.

### 1.5 Notes on assembly, cleaning, adjustment, maintenance and repairs

- The power tool must not be assembled, maintained, repaired or stored in the vicinity of naked flames.
- The engine must be switched off and the stop switch set to "0" for the duration of all work performed on the guide bar and saw chain (for assembly, cleaning, maintenance and repairs) (ideally the spark plug connector should be unplugged as well). Always use protective gloves.
- The power tool requires regular maintenance. Only perform maintenance or repairs yourself if the relevant operations are covered in the operating instructions. All other work should be performed by an authorised specialist workshop.
- During maintenance of the silencer or when checking that the silencer is firmly positioned, never touch the silencer if it is still hot – risk of burns! The silencer gives off extremely large amounts of heat.
- Only genuine replacement parts supplied by the manufacturer must be used for any repairs.
- No changes must be made to the power tool, as this could affect the safety of the device and increase the risk of accident or injury.

### 1.6 Before starting the tool

Check the tool every time before starting it to make sure that the complete power tool is operationally safe. The following points should be checked **in addition** to the points listed in the operating and maintenance instructions (chapter 11):

- The stop switch must be easy to switch.
- The throttle control must move freely and return automatically to the idle position. If the throttle control is operated while the choke lever is pressed in then this must cancel any part throttle stop that is set.
- The guide bar must be firmly secured. Always check that the chain has the correct tension and adjust the tension if required before starting the tool.
- Also check that the ignition cable and spark plug connector are firmly in place. If there is a loose connection this can result in sparks which could ignite any escaping fuel/air mixture – fire hazard!

If anything is not as it should be, signs of damage are evident, settings are incorrect or the functional integrity of the unit is compromised, do not start up the power tool. Instead, have it checked by a specialist workshop.

### 1.7 Starting the tool

- When starting the tool, keep a minimum distance of 3 metres to where the tool was refuelled. Never start the device in an enclosed room.
- Make sure that you have a secure footing on firm ground when starting the tool. Always check that the ground is level and keep a safe hold of the power tool.
- Perform the start-up routine as described in chapter 8. "Starting the engine / stopping the engine".
- Once the unit has been started, check the idle setting. The cutting blade must be stationary during idling.
- Once it has warmed up, switch the engine off and recheck the chain tension and adjust as required.

### 1.8 When working with the saw

- The power tool must only be started up if it is fully assembled.
- Work on windfall must only be performed by trained persons.
-  As soon as the engine is running, it produces toxic exhaust gases which may be colourless and odourless. Never start up the tool in enclosed spaces. Always make sure that there is sufficient air exchange if you are working under restricted conditions, such as in a dip or a ditch.
-  Do not smoke at the place of work or in the close vicinity of the power tool, as this would be an increased fire hazard.
- Work carefully, deliberately and calmly and do not endanger the safety of others.
  - Make sure that visibility and lighting conditions are good.
  - Stay within calling distance of others who could help in the event of an emergency.
  - Take breaks in good time.
  - Be aware of potential sources of danger and take appropriate precautionary measures. Remember that the use of ear defenders makes it more difficult to hear other sounds. This may also mask sounds warning of imminent danger or shouts of warning etc.
  - Remember that freshly debarked wood is very slippery (bark). Also take care in the wet, when the ground is slippery, on slopes on uneven terrain.
  - Look out for obstacles and hazards that could trip you up, e.g. tree roots, tree stumps and edges. Take special care when working on slopes. Never work while standing on unstable ground.
  - Always hold the power tool firmly with both hands and make sure you have a secure footing on stable ground at all times.
  - Never use the saw above shoulder height and avoid leaning too far forward. Never use the saw while standing on a ladder, and never climb the tree holding the saw. The only safe way to reach greater heights is to use a hydraulic lifting cabin.
  - Move the chainsaw in such a way that no part of your body would be in the way if the arc of movement of the saw chain was extended.
  - Never touch the ground with the chainsaw while it is running.
  - Do not use the saw to prise off or scoop away pieces of wood or other objects.
  - Longitudinal cuts should be made at as flat an angle as possible. Special care is required here, as the bumper spikes cannot engage.
  - Be careful when cutting wood which has splintered, as sawn off pieces of wood can be torn off and fly off at high speeds (risk of injury).
- Switch the engine off if you notice any significant changes in the behaviour of the power tool.
- **Never touch the silencer while it is hot – risk of burns.** Never set down the hot power tool in dried grass or on other flammable objects. The silencer gives off extremely large amounts of heat (fire hazard).
- Never work with a defective silencer or without a silencer. You risk damaging your hearing and burning yourself on the device.

#### First Aid

A first aid box should always be available on-site. Immediately replace any materials you have used:

Note:

Over exposing persons with circulatory problems to vibrations can lead to damage to their nervous system or blood vessels. The following systems may occur from vibrations to fingers, hands or the wrists: Numbness, itching, pain, twinges, changes to the colour of the skin or the skin itself. Seek medical advice if you experience any of these symptoms.

## 2. Specification

Chain saw		635	636	642	643IP
Engine type		SOLO single cylinder two-stroke engine			
Engine capacity	cm <sup>3</sup>	36,3		40,2	
Bore / stroke	mm	38 / 32		40 / 32	
Max. power at rpm	kW 1/min	1,4 8.500	1,5 8.500	1,8 8.500	2,0 9.000
Max. torque at rpm	Nm / 1/min	1,8 7.000	1,8 7.000	2,1 6.500	2,5 6.200
Max. permissible speed no load with cutter	1/min	11.500 ± 200	11.500 ± 200	12.000 ± 200	13.000 ± 200
Medium idling speed	1/min	2.800± 150			
Clutch engagement speed	1/min	4200± 150			
Fuel tank capacity	l	0,37			
Fuel mix ratio:	with <b>SOLO 2T engine oil</b> with other two-stroke oils	1 : 50 1 : 25			
Fuel consumption at max. power ISO 7293	kg/h	0,7	0,7	0,8	0,8
Specific consumption at max. power ISO 7293	g/kWh	500	490	470	410
Capacity of the chain lubrication oil tank	l	0,19			
Carburettor		All-position diaphragm carburettor with primer and integrated fuel pump			
Air filter,	two part	Flow filter insert and large volume foam filter			
Ignition		Electronically controlled magneto ignition, maintenance free			
Sprocket teeth		6			7
In determining the following values regarding the acceleration of vibrations and sound, the different operating conditions were weighted in accordance with the current standards					
Sound pressure level L <sub>Peq</sub> EN ISO 22868	dB(A)	100	100	101	101
Sound power level L <sub>Weq</sub> EN ISO 22868	dB(A)	105	105	107	107
Weighted effective acceleration a <sub>h<sub>nv,eq</sub></sub> DIN ISO 22867 Handle r.h. side / handle l.h. side	m/s <sup>2</sup>	9,1 / 7,4	9,1 / 7,4	7,9 / 4,8	7,5 / 4,5
Dimensions Height/ Width/ Length					
cutting length of the guide bar 35 cm (14")	mm	250/ 220/ 720			---
cutting length of the guide bar 38 cm (15") (643IP)	mm	---			250/ 220/ 750
Weight without tank contents, guide bar and chain	kg	4,2	4,2	4,1	4,1

Build year of the power tool → refer to the type plate on the power tool (Chapter 4, " Designation of important controls and functional parts ").

Permissible cutting gear and the corresponding cutting lengths → refer to the last two inside pages of this operating manual (after the Dutch section)

### 3. Standard delivery

- Chainsaw – basic unit (without guide bar and saw chain)
- Guide bar
- Saw chain
- Chain guard
- Tool: Combination tool (spark plug spanner with screwdriver), plus additional screwdriver
- These **Operating Instructions**

### 4. Designation of important controls and functional parts

Fig. 1a

(Depending on the version)

View: profile from the right

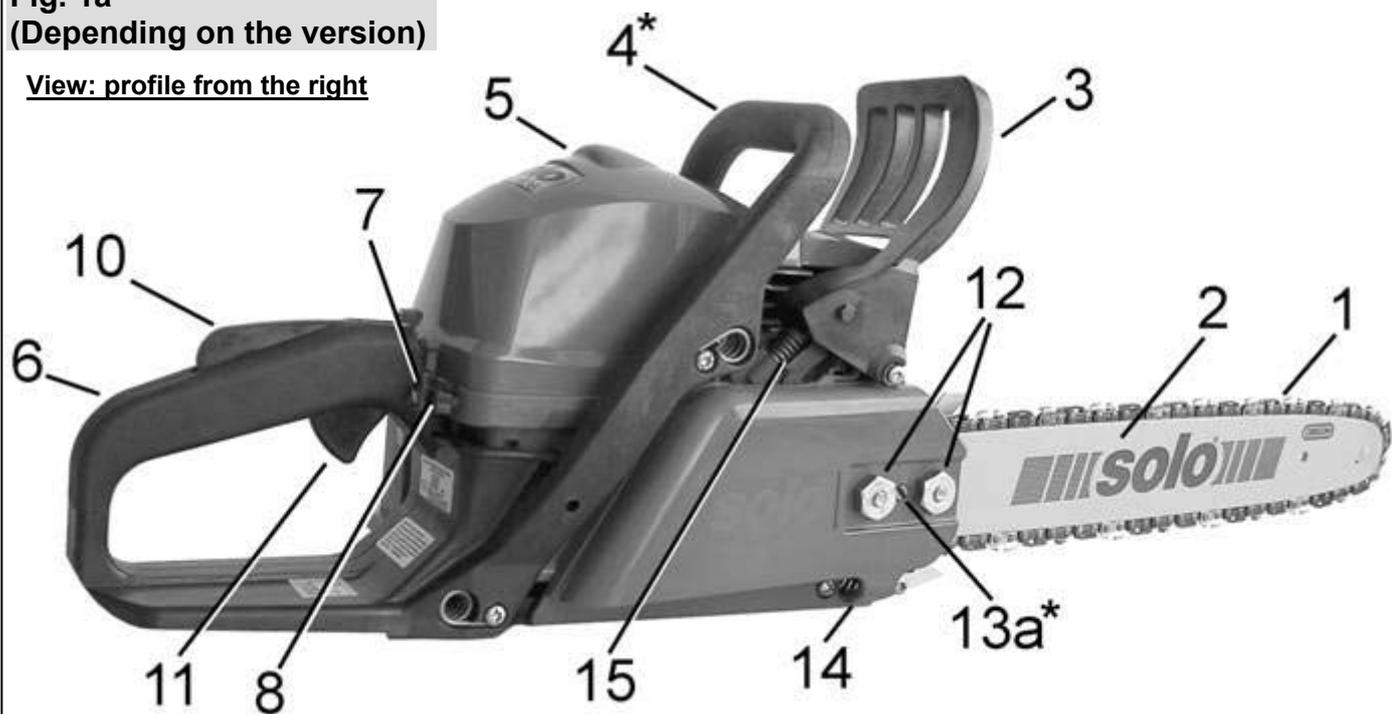
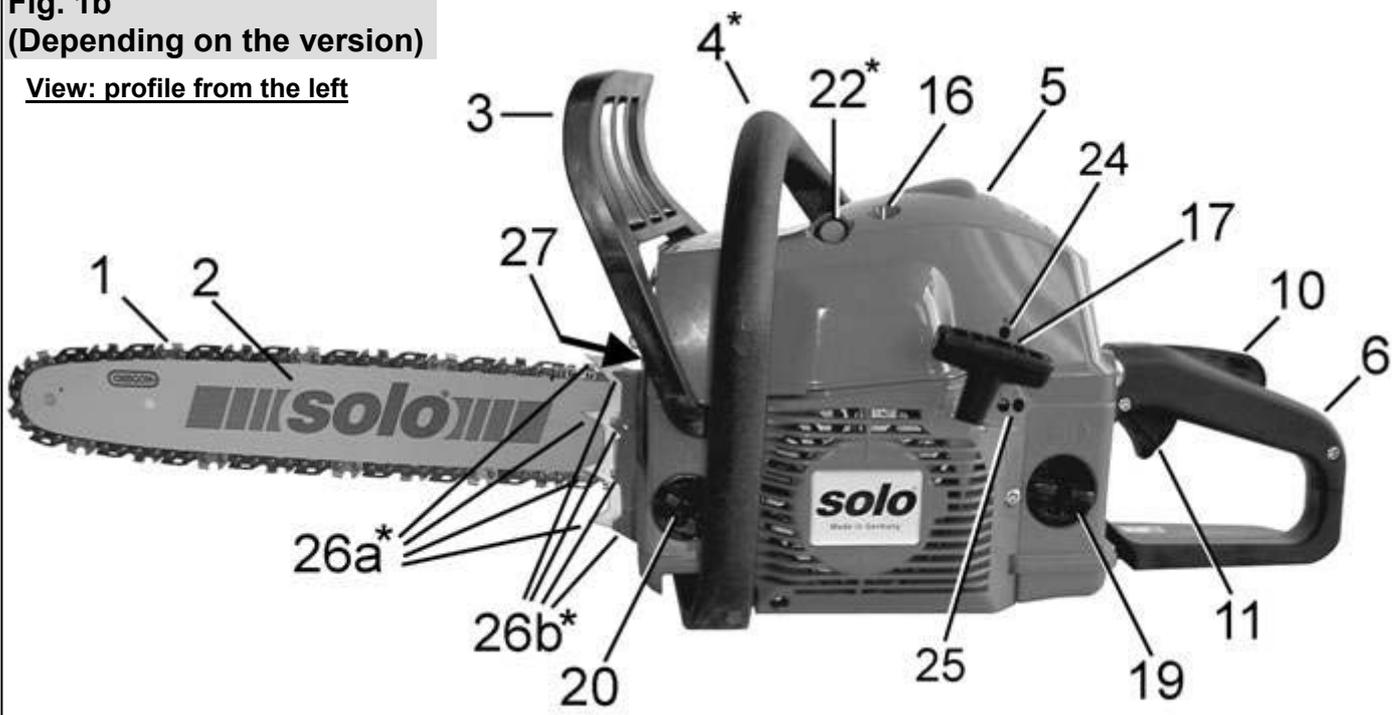
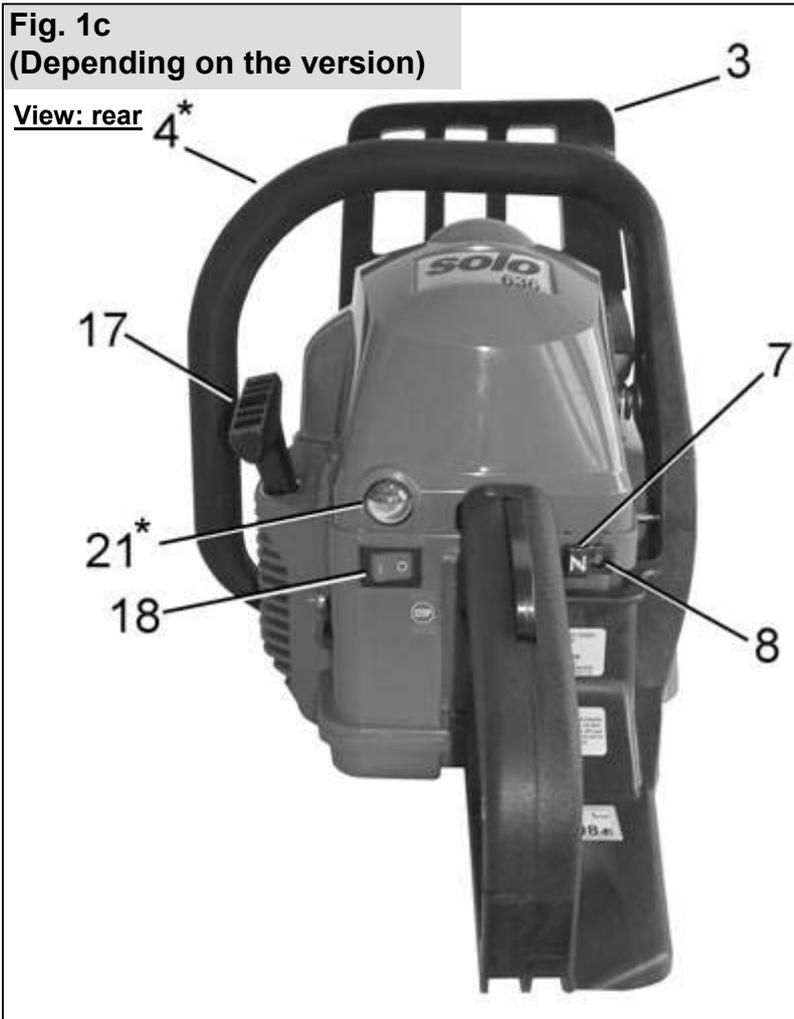


Fig. 1b

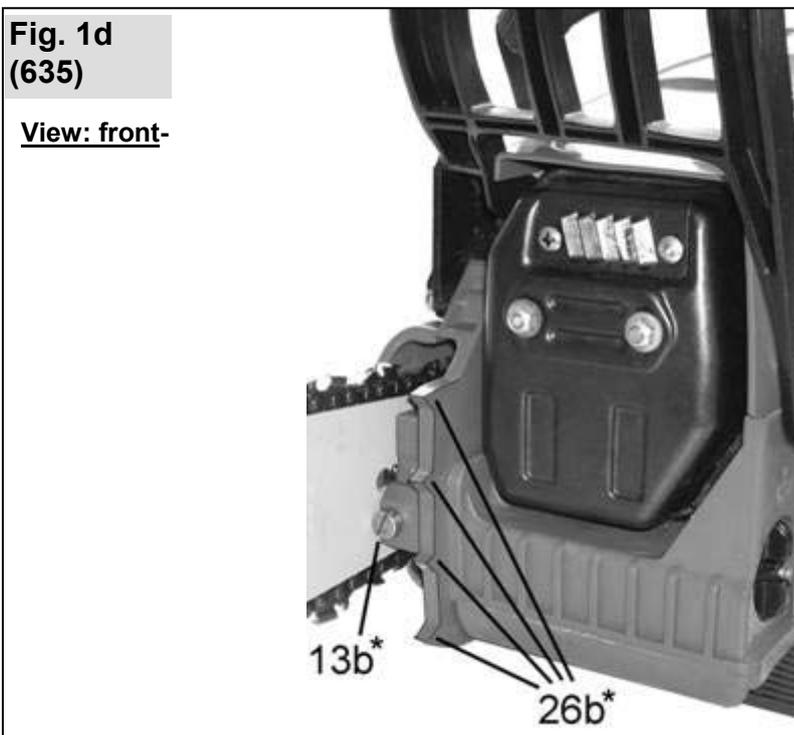
(Depending on the version)

View: profile from the left





- 1. Chain
- 2. Guide bar
- 3. Hand protection
- 4\*. Front handle
- 5. Cowl
- 6. Rear handle
- 7. Choke
- 8. Part throttle control pin
- 10. Throttle control lock
- 11. Throttle control
- 12. Retaining nuts for the rail cover
- 13a\*. Chain tensioning bolt on the side (636, 642, 643IP)
- 13b\*. Chain tensioning bolt in front (635)
- 14. Chain guard
- 15. Chain brake release spring
- 16. Hood fixing screw
- 17. Starter handle
- 18. Stop switch



- 19. Fuel tank cap
- 20. Chain lubrication oil tank cap
- 21\*. Primer (636, 642, 643IP only)
- 22\*. Decompression valve (636, 642 only)
- 24. Idling stop screw T
- 25. Carburettor adjusting screws (H / L) (for use by a specialist workshop only)
- 26a\*. Bumper spikes metal (643IP)
- 26b\*. Bumper spikes (635, 636, 642)
- 27. Exhaust

\* Depending on the version

Type plate:



**Serial number**

**Type designation**

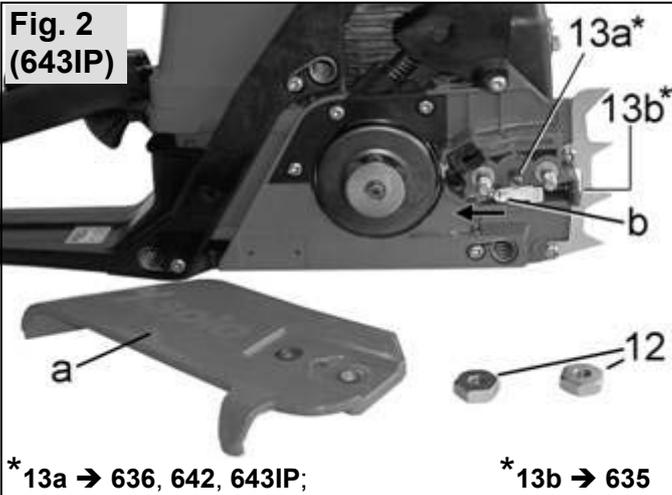
**Build year (06 → 2006).**

## 5. Preparing the equipment for use

### 5.1 Assembly of the guide bar and chain

  The chain brake must be released when assembling the chain and adjusting the chain tension [pull back the hand protection (3) to the front handle (4)].

**Fig. 2**  
(643IP)



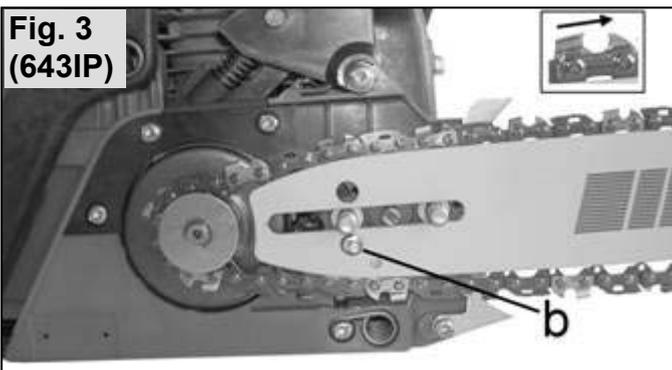
\*13a → 636, 642, 643IP;

\*13b → 635

- Undo the retaining nuts on the rail cover (12).
- Take off the rail cover (a).
- When setting up the tool for the first time, remove the cardboard disc inserted at the factory as transport protection underneath the rail cover before installing the guide bar.
- On used saws, clean the rail contact surface and the oil outlet.
- Use the chain tensioning bolt (13a / 13b) to move the chain tensioning cam (b) to the left-hand end stop.

**Note:** Each time the guide bar is removed and installed, adjust the chain tension cam (b) up to the **l.h. end stop**.

**Fig. 3**  
(643IP)



- Position the guide bar; in the process, the chain tensioning cam (b) must fully engage in the designated hole in the guide bar.

**Notes for new saw chains:** Before installing a new chain we recommend soaking it in a container (bowl) with chain oil with anti-fling additives that help the oil adhere to the chain.

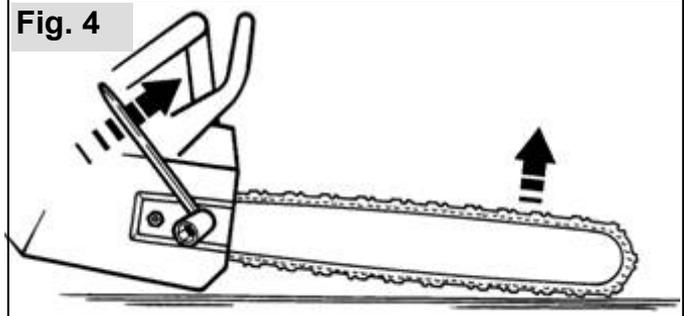
- Fit the chain over the sprocket and into the guide groove of the guide bar. The cutting elements of the saw teeth must be on the upper side of the rail facing towards the tip of the rail.

- Ensure that the drive links grip correctly between the teeth of the chain wheel and reversing wheel at the tip of the guide bar.
- Fit the rail cover, but initially only tighten the retaining nuts finger tight.
- After correctly adjusting the chain tension (refer to the next section), tighten the retaining nuts as described below.

### 5.2 Adjusting the chain tension

- Loosen the retaining nuts on the rail cover (12), or if you are assembling the chain, only tighten it finger-tight.
- Place the rail tip on a suitable wooden support (e.g. a tree stump) and press the guide bar upwards slightly as a result.
- Use the chain tensioning bolt (13) to set the correct chain tension. Turn the chain tensioning bolt clockwise to increase the chain tension or anti-clockwise to slacken the chain tension. The chain has the correct tension if it makes full contact with the guide bar but can still be lifted off the guide bar by hand by around 2 - 4 mm.

**Fig. 4**



(schematic diagram)

- With the rail tip placed on a suitable surface and the guide bar pressed up slightly, tighten the retaining nuts with the enclosed combination tool. Then check the chain tension again.

Always check the chain tension before starting the device and adjust it as required. You should also check the chain tension again and adjust it as required once the power tool has warmed up and again intermittently while working with the tool – but make sure the engine is switched off first!

**Important hint:**

As the chain tightens again slightly when the device cools off, slacken the chain tension a little once you have finished work before putting the chainsaw into storage.

## 6. Refuelling and adding oil to the chain lubrication system



The tank caps for the fuel tank and the chain lubrication oil tank are sealed by means of an O-ring. Both tank closures should only be tightened finger-tight, without the use of tools.



### 6.1 Fuel information

 A high performance two-stroke engine operated with a petrol:oil mixture (petrol + oil = fuel mixture) or with a special fuel mixture for two-stroke engines available from specialists powers this machine. The fuel mixture can be made up with standard lead-free petrol or with lead-free premium grade petrol. The minimum octane rating for petrol is 92 ROZ.

Unsuitable petrol or deviations in the mixing ratio may lead to serious engine damage!

 Avoid direct skin contact with petrol and avoid inhaling petrol fumes - health hazard!

### 6.2 Mixing ratio

Always use a fuel:oil ratio of 25:1 (4%) for the first five tank fillings.

After that we recommend a ratio of 50:1 (2%) with the use of special two-stroke oil "SOLO 2T engine oil" which we can supply.

With the use of other brand two-stroke oils we recommend a ratio of 25:1 (4%).

Never store fuel mixture longer than 3 - 4 weeks.

#### Fuel mixture table

Petrol in litres	Oil in litres	
	SOLO 2T engine oil 2% (50 : 1)	Other two-stroke oils 4% (25 : 1)
1	0,020	0,040
5	0,100	0,200
10	0,200	0,400

### 6.3 Fuelling

While fuelling always follow all safety instructions and take all safety precautions.

 Handle fuel only with the engine turned off. Carefully clean the area around the filler inlet.

Place the machine with the fuel inlet pointing upwards. Unscrew the tank lid and fill the fuel mixture up to the lower edge of the filler neck. Use a funnel with filter to prevent tank contamination. After filling the tank replace the tank lid and tighten firmly.

### 6.4 Chain lubrication



Chainsaw oil with an anti-fling additive that helps the oil adhere to the chain should be used for lubrication of the saw chain and guide bar.

**Note:** You should generally always add the chain oil whenever topping up with fuel.

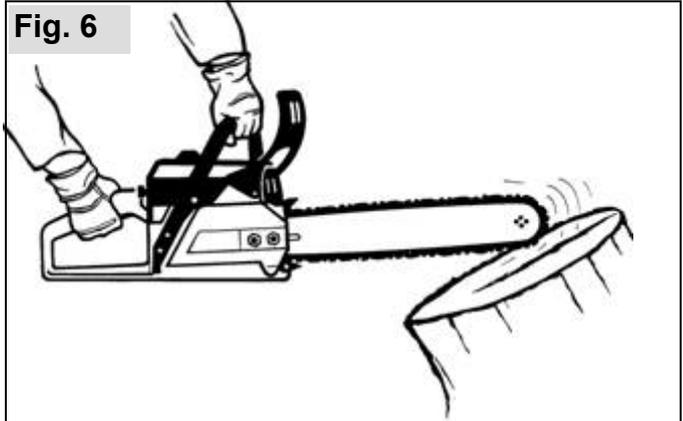
**If the saw is used regularly** we recommend the use of biodegradable chainsaw oil.

The bio-chainsaw oil available from SOLO (order no. 00 83 107, 1 litre) has been awarded the German blue angel symbol for eco friendliness (RAL UZ 48).



Biodegradable chainsaw oil only has a limited lifespan and should be used within a period of 2 years from the printed date of manufacture.

**Important:** If you are planning to not use the saw for more than 2 months and are using bio-chainsaw oil then you will need to drain the oil tank and then add a small quantity of engine oil (SAE 30). Then run the chainsaw for a while to ensure that all bio-oil residue has been flushed out from the tank, oil pickup hose and cutting device. Fill up with bio-chainsaw oil again when you are ready to take the saw back into operation again.



(schematic diagram)

To check the chain lubrication, hold the guide bar above a lightly coloured object (e.g. a tree stump) and allow the chainsaw to run in part throttle mode. A light oil trail should form on the lightly coloured object.

**Important:** Never work without chain lubrication. Check the operation of the chain lubrication system and the level of the oil in the oil tank every time before you start work. Never re-use old oil.

**Notes for new saw chains:** Before installing a new chain we recommend soaking it in a container (bowl) with chain oil with anti-fling additives that help the oil adhere to the chain. Once the chain has been installed, do not start to cut wood straight away, but allow the machine to run at part throttle for a while until a slight oil trail forms on a lightly coloured background.

## 7. Chain brake

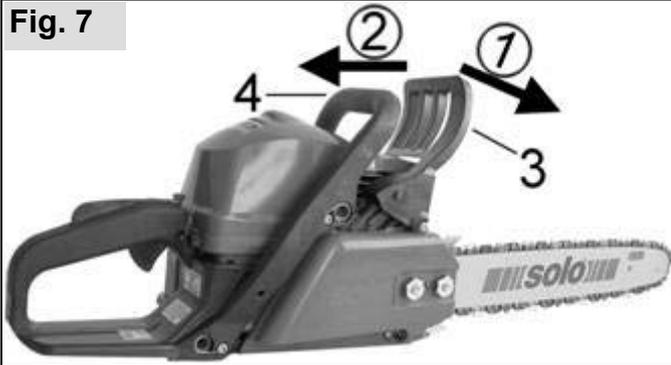
When the chain brake is activated, it stops the saw chain in a fraction of a second.

### Automatic engagement:

In an emergency, the chain brake engages instantly in response to the inertia caused by kickback.

**Please note that even the highly effective automatic chain brake cannot offer complete protection against injury.** Always work with great care and always avoid working situations which would put you at risk of kickback.

### Manual activation:



① To manually activate the chain brake, press the hand protection (3) forwards towards the guide bar.

As well as providing a quick response in an emergency situation, manual activation of the saw chain brake is intended as a means for immobilising the tool in all situations in which the operator cannot knowingly control the position of the guide bar or in which the risk of unintentional contact between the saw chain and a foreign body or the user himself cannot be entirely excluded. This particularly applies to starting the engine and carrying the tool, e.g. when assessing an object or the surroundings before starting cutting work or when walking from one working area to the next.

In order to avoid excessive wear, the chain brake should not be applied until the chainsaw has come to a standstill – except of course in an emergency. During start-up, once the engine has started the part throttle setting should be cancelled as soon as possible by briefly pulling the throttle control. This ensures that the engine does not have to work against the blocked chain for too long under part throttle.

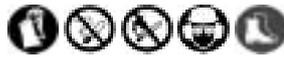
② To release the chain drive (i.e. cancel the chain brake), pull the hand protection (3) back to the front handle (4) again

**Each time, before commencing your work, check the function of the chain brake as follows:**

- Start the engine (see chapter 8)
- trigger the chain brake at idle speed
- then **briefly** accelerate to full throttle
- the chain should then not move.

Never operate the chainsaw if it is faulty; instead let a service workshop check your power tool immediately

## 8. Starting / Stopping the engine



Every time you pull the starter cord, observe the correct position and the safe position of the chainsaw in accordance with the following chapter 8.2 "Starting".

### 8.1 Start-up settings



Before starting the engine, apply the chain brake to immobilise the device.

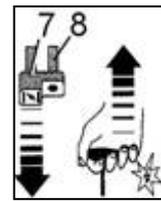
- Set the stop switch (18) to "I".

#### Type 636, 642 and 643IP:

- When starting the device for the first time, or after having completely run down the fuel tank and refuelled, press the primer (21) several times (at least 5 x) until fuel can be seen in the plastic bubble.

#### Type 636 and 642:

- Before pulling the starter handle, press the decompression valve (22) to make the starting process easier. (Once the engine has started, the decompression valve automatically jumps back to the normal position.)

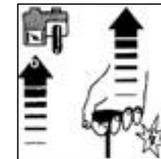


#### Cold start:

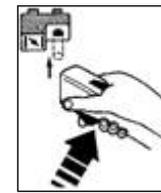
Pull out the choke (7) [this also activates the part throttle setting, which can be seen from the pulled-out part throttle control pin (8)]

Slowly pull the starter handle until a first resistance is felt, then pull it through in a fast and strong motion.

Repeat the starting process until the engine audibly and briefly starts up (ignites).



Then immediately press the choke back in again. When the engine is restarted again it then keeps running at part throttle (visible from the part throttle control pin).

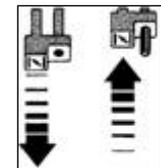


With the engine running, briefly operate the throttle control to cancel the part throttle setting (the part throttle control pin jumps back in again). The engine will

then continue to run at idle speed.

#### Warm start:

Start the engine in idle setting with the choke not pulled out, or start it in



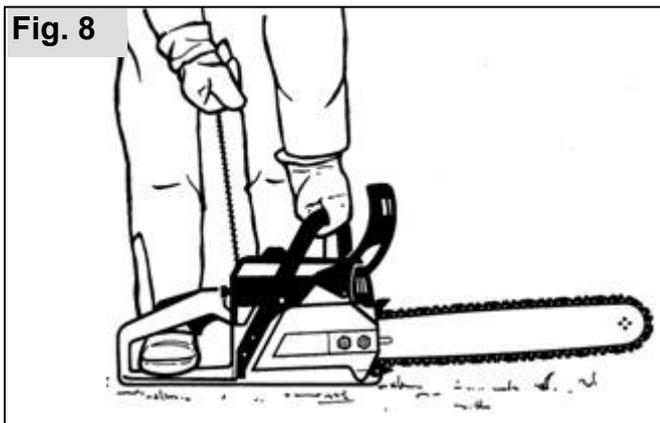
#### part throttle setting:

by pulling the choke out and pressing it back in again [the part throttle setting is activated as a result, which is visible from the pulled-out part throttle control pin (8)]

Start the engine until it runs, then briefly operate the throttle control to cancel the part throttle setting (the part throttle control pin jumps back in again). The engine then runs on at idle speed.

## 8.2 Starting up

Please read the safety instructions before starting up the device.



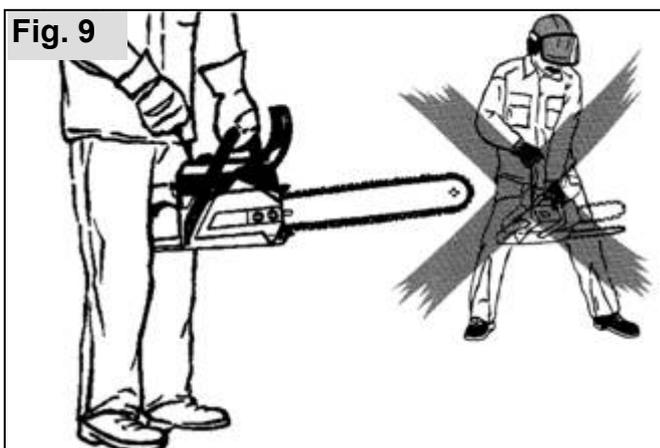
(schematic diagram)

Take off the chain guard.

Place the power tool on level ground which is free of obstructions and make sure that the cutting tool is not touching anything.

Place one foot in the rear handle to secure the saw on the ground. Use one hand to firmly hold the saw by the front handle.

Alternative way to hold the saw while starting it up (for experienced users only):



(schematic diagram)

Firmly grasp the rear handle between your thighs. Use one hand to firmly hold the saw by the front handle.

 You must make absolutely sure that there is no risk of contact between the guide bar and any part of your body.

The following instructions are intended to extend the service life of the starter cable and the starter mechanism:

- To start with, pull the cable carefully until a first resistance is felt, then pull it through in a fast and strong motion.
- Always pull the cable in a straight direction.
- Do not allow the cable to chafe on the edge of the cable eyelet.
- Avoid pulling the cable all the way out – risk of breaking the cable.

- Always guide the starter handle back to its starting position – do not just let go and allow it to speed back by itself.

A damaged starter cable can be replaced by a specialist.

**When the engine is running**, lift up the power tool and hold it safely with both hands, then briefly operate the throttle control to cancel the part throttle setting.

## 8.3 Engine will not start:

If the engine fails to start after several attempts, check whether all adjustments described above have been correctly carried out, particularly that the stop switch is **not** in the "0" position. Try starting once again. The combustion chamber will be flooded, if the engine still fails to start.

In that case we recommend you proceed as follows:

- Remove the cowl.
- Pull the spark plug cap off the spark plug.
- Remove the spark plug and dry fuel mixture from the electrodes.
- Move the throttle lever up to full throttle. Pull the starter handle several times (with removed spark plug) to clear the combustion chamber.
- Move the throttle lever down to idling position, refit the spark plug, the plug cap and the cowl.
- Repeat the starting process according to the starting settings for a warm start.

## 8.4 Switching the engine off::

Release the throttle control and move the stop switch to the "0" position.

 Always make sure that the cutting tool has come to a complete standstill before placing the machine down.

**Tip:** As it can sometimes happen that, after a brief/intermediate stop, the starting settings are not set up correctly before the machine is restarted (in particular, the stop switch may still be set to "0" and the chain brake may not have been applied), we recommend that users should get in the habit of immediately applying the chain brake whenever the machine is temporarily switched off and the engine comes to a complete standstill and of setting the stop switch back to the "Operating" position. As a general rule, you should always check the starting settings before every start.

### Switching the engine off in the event of a malfunction:

If – due to a malfunction of the stop switch – it is not possible to switch the engine off, you can also close the choke flap  (choke pulled out) to bring the engine to a standstill. In this case do not restart the tool – have it checked out immediately by a specialist workshop instead!

## 9. Hazards caused by kickback

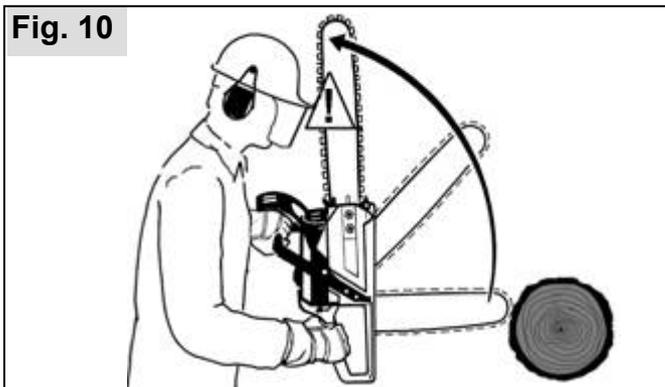


When working with the chainsaw, careless or incorrect working methods can cause a dangerous situation which is referred to as "kickback". Kickback forces can occur when the running saw chain comes into contact with solid objects or if the saw chain suddenly gets stuck in the cut. In the process, the chainsaw is accelerated violently and uncontrollably.

Depending on the contact point of the running saw chain, the forces acting on the chainsaw are directed as follows, resulting in the corresponding acceleration of the tool:

### 1. Contact point at the tip of the guide bar:

Fig. 10



(schematic diagram)

**Danger:** The guide bar is kicked up suddenly and quickly. As the user is holding the chainsaw by the handles, this results in a rotational acceleration of the chainsaw, during which the guide bar is accelerated towards the head of the operator. Although this rotational acceleration instantly activates the chain brake, the magnitude of the acceleration and the uncontrolled response of the operator can result in serious accidents.

### 2. Contact point in the upper part of the guide bar:

Fig. 11



**Danger:** The chainsaw is kicked suddenly in the direction of the operator. The magnitude of the acceleration and the uncontrolled response of the operator can result in serious accidents.

Experienced users can perform a so-called "backhand cut". This can only be done by anticipating the sudden acceleration of the tool and supporting the chainsaw in a rearward direction with your thigh before positioning the tool for the cut and while performing the cut.

**Inexperienced users must not use the "backhand cut"!**

### 3. Contact point in the lower part of the guide bar (bumper spikes (26a / 26b) as the point at which the chainsaw is positioned on the cutting object):

Fig. 12



**Safe application:** The chainsaw is pulled towards the object being sawn. As the bumper spikes (26a / 26b) on the engine housing are positioned on the object being sawn, the chainsaw cannot be accelerated away. The operator is able to control the tool safely.

The following general guidelines should be followed in order to avoid kickback:

- Always hold the chainsaw firmly with both hands. **Position your right hand on the rear handle and your left handle on the front handle.**
- Before positioning the saw for the cut, apply the throttle and, with the saw chain running, start the cut on the underside of the guide bar as close as possible to the engine housing.
- Never cut more than one branch at a time. When removing branches, bear in mind that other branches may inadvertently come into contact with the saw chain. When cutting to length, look out for other trunks which may be close nearby.
- Special care is required when continuing cuts which have already been started.
- Carefully watch the guide bar during the cut.
- Look out for forces which could compress the cut gap and cause the saw chain to become trapped, particularly on objects which are under tension.
- Always follow the correct procedure for sharpening the saw chain. In the process, pay particular attention to the correct height of the depth limiter.

Professional users can use special working techniques which must only be carried out by experienced users. We recommend that anyone who wishes to safely learn about the more difficult techniques which are not described here should attend a special course (e.g. at specialist forestry training centre).

## 10. Using the chainsaw



### 10.1 Application areas

The chainsaw must only be used to cut wood and objects made of wood.

Any loose wooden objects must be safely secured (e.g. on a sawhorse). When cutting down overgrown trees and branches please refer also to the notes on cutting down trees and removing branches.

The chainsaw must not be used for any other purpose, for example to cut plastics or metals.

### 10.2 Sawing

Always follow the safety instructions when performing any kind of work with the saw. Always hold the chainsaw firmly with both hands. **Position your right hand on the rear handle and your left handle on the front handle.**

#### Cutting to length:

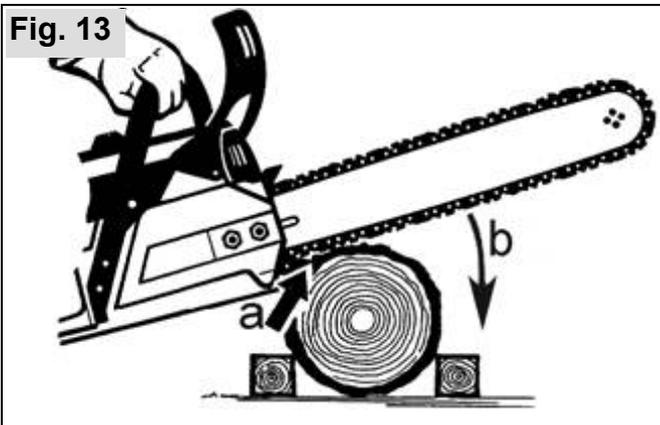
Make sure that you have a secure footing.

Clean the area which is to be cut of any foreign bodies like sand, stones, nails etc. Foreign bodies can cause dangerous kickback.



Loose wooden objects must be firmly secured, ideally with a sawhorse. The wood must not be held in place with a foot or by another person. Round timber must be secured so that they cannot rotate.

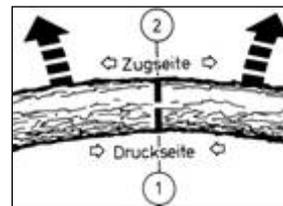
Fig. 13



Apply full throttle and move the chainsaw close to the cutting point, position and press the bumper spikes onto the object you wish to saw (a), then – and not before – use a pivoting movement (around the point at which the bumper spikes have been positioned) to move the guide bar downwards (b) and start the cut.

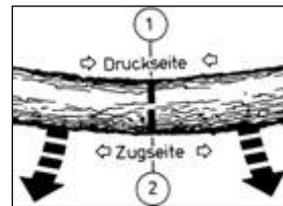
Important note on cutting branches which are under tension (e.g. in the forest):

- Always make the first cut on the compression side ①, but be careful as there is a risk of pinching.
- Then proceed carefully and make a cut at the tension side. ②
- On thick trunks which are under a lot of tension offset the cut to one side.



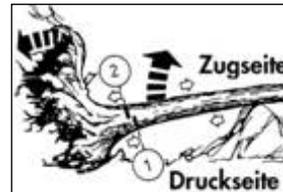
Trunk under tension on the upper side.

**Danger:** The tree will spring back in an upward direction.



Trunk under tension on the underside:

**Danger:** The tree will spring back in a downward direction



Thick trunks and high tension: **Danger:** The tree will spring back suddenly and with considerable force. Also watch out for the root clump tipping back.



Trunk under lateral tension: **Danger:** The tree will spring back to one side

**Note:** Always stand on the compression side if the tree is under lateral tension.

If the saw becomes pinched in the cut, stop the engine and lift the trunk with a bar or other lever, or change its position to open up the cutting gap.

#### Removing branches:

Do not cut through free-hanging branches from underneath.

Do not remove branches while standing on the trunk.

Remove any obstructing branches before you start sawing.

If you change your standing point, remember that the guide bar must always be on the side of the trunk facing away from your body.

Always keep an eye on tree and branch movement – plan ahead and proceed with care!

When removing branches on thick hardwood trees, follow the correct procedure described below to prevent the chainsaw from becoming pinched:

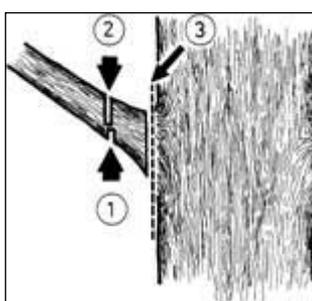


1. Remove any obstructing branches.

2. Cut off any branches which are creating tension.

3. Cut off the main branch (note which side is the compression side and which the tension side).

If it is important that the wood does not tear, make a relieving cut.



Start this cut on the compression side ①, then finish the cut from the tension side ②.

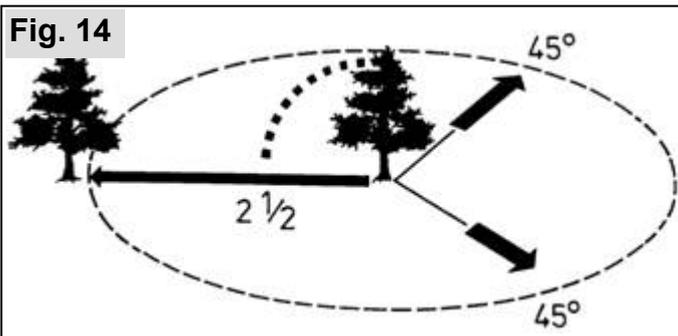
The remainder of the branch which is left standing is now no longer under tension and can be cut off close to the trunk ③.

**Felling:**

 Felling trees is dangerous and requires training. If you are a novice then you must not fell any trees. You can attend a training course to learn how to fell trees.

Before felling a tree, make sure that:

- No persons other than those involved in the felling of the tree are in the felling area.
- Everybody involved in the felling has an unobstructed path of escape. The path of escape should be opposite to the planned direction of the fall of the tree at an angle of around 45°.
- The nearest working area should be at least 2½ tree lengths away.



Before felling a tree you need to carefully check the direction of fall and make sure that no persons, animals or objects are within 2½ tree lengths.

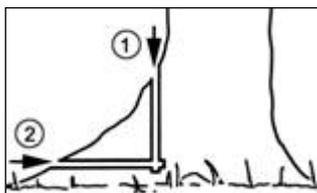
Then consider the general condition of the tree: Hanging direction – loose or dry branches – height of the tree – natural overhang – is the tree diseased?

You also need to take into account the wind speed and wind direction. Do not fell a tree under heavy, gusting winds.

The foot of the trunk must be free of all foreign objects, roots, undergrowth and branches.

Ensure that you have a secure footing and remove any objects which could cause you to trip.

Cutting into the buttress roots:



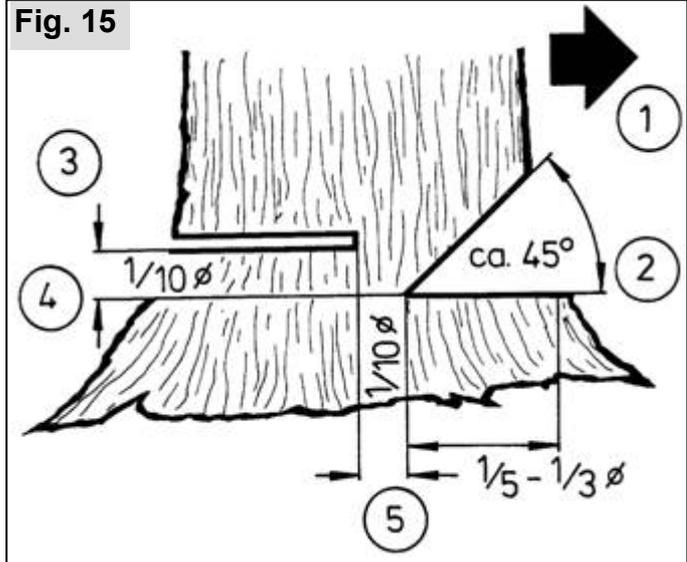
Start with the largest buttress root first. Make a vertical cut into the root ①, followed by a horizontal cut ②.

Never cut into diseased trunks before felling them.

**Note:** Leave the buttress root intact as a wedge on the side opposite the direction of fall.

Making the felling notch:

The felling notch determines the direction in which the tree falls and helps to control the fall. It is made perpendicular to the fall direction with a cut through 1/5 - 1/3 of the trunk diameter. The cut should preferably be made close to the ground.



- ① Start with the upper cut (roof of the felling notch).
- ② Then make the lower cut (bottom of the felling notch). The lower cut should meet the upper cut precisely. Check the direction of fall. If the felling notch needs to be corrected, always re-cut it across the full width. In exceptional cases it is also possible to slope the lower cut upwards to obtain a more open felling notch. If the tree is situated on a slope this gives longer control over the fall.
- ③ The felling cut is made higher ④ than the bottom of the felling notch ②. This cut must be exactly horizontal. In front of the felling notch around 1/10 of the trunk diameter needs to be left as a hinge ⑤.
- ⑤ The hinge must not be cut through, as this could result in loss of control over the fall of the tree.

Wedges need to be positioned in good time. The felling cut must only be secured with plastic or aluminium wedges, and steel wedges must never be used.

During felling, always keep to the side of the tree.

When walking back after the felling cut has been made, watch out for falling branches.

When working on a slope, the operator of the saw should stand above or to the side of the trunk or tree being worked on.

Stand back when the tree falls. Observe the crown of the tree.

Wait for the crown to swing out.

Do not continue work under branches or trees which have become caught.

After work → **slacken the chain tension**

## 11. Operating and maintenance information

With modern equipment and safety-relevant components, maintenance and repairs must only be carried out by persons with suitable specialist qualifications in a workshop equipped with the necessary special tool and testing equipment. As a result, the manufacturer recommends that all work which is not described in these operating instructions should be performed by a specialist workshop. The experts have access to the training, experience and equipment which is required in order to provide you with the most cost-effective solution. An expert can also offer invaluable advice.

Always follow all of the safety instructions when performing maintenance work.

After the device has been run in for around 5 operating hours, all accessible nuts, bolts and screws (except the carburettor adjusting screws) should be checked for tightness and retightened as required.

It is best to store the device in a dry and safe location with a full fuel tank. There must not be any naked flames or similar nearby. If you plan to not use the chainsaw for a longer period (i.e. more than four weeks), please refer to the information in chapter 11.7 "Taking the chainsaw out of operation and putting it into storage."

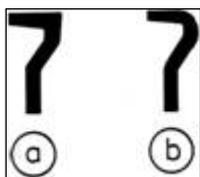
### 11.1 Maintenance and care of the cutting gear



#### Saw chain:

Just like any other cutting tool, the saw chain is subject to natural wear. Your chainsaw will only be able to deliver its full potential if the saw chain is correctly sharpened. Every saw chain is matched to the relevant chainsaw type in terms of its form, cutting performance and design. Only use the genuine SOLO saw chain which is approved for your chainsaw / guide bar type.

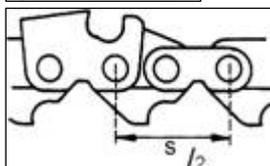
The key distinguishing factors for the saw chain are:



The **form of the cutting elements**,

a) Solid bit (rectangular cutting tooth, professional chainsaws)

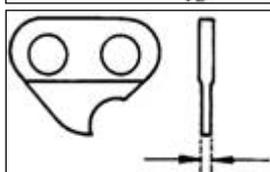
b) Half bit (half-round cutting tooth, semi-professional / hobby chainsaws)



#### The pitch

This is the distance  $s$  (from one rivet to the next but one) divided by 2.

The pitch is quoted in inches



#### The driving link thickness

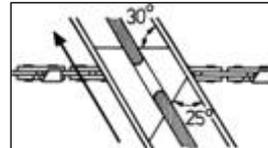
This is the thickness of the part of the driving link which protrudes in the guide groove of the rail.

Pitch in inches	in mm	Driving link thickness in mm	in inches
3/8" Spez.	9,32 mm	1,3 mm	.050"
.325"	8,25 mm	1,5 mm	.058"

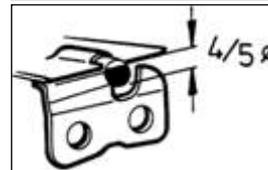
#### Sharpening the saw chain:

A special round chain file with the correct diameter should be used for sharpening. Normal round files are not suitable.

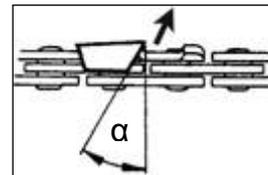
Pitch in inches	Files $\varnothing$ mm/zoll	Filing angle $\alpha$	Depth limiter spacing $b$ mm/zoll	Filing direction
3/8" Spez.	4,0/ <sup>5</sup> / <sub>32</sub>	30°	0,64 / .025	0° horizon
.325"(21BP)	4,8/ <sup>3</sup> / <sub>16</sub>	30°	0,64 / .025	10° upw.



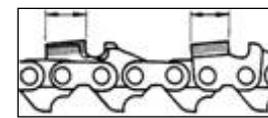
A file holder makes guidance of the file easier, as it has markings for the correct sharpening angle (align the markings parallel to the saw chain) and limits the penetration depth (4/5 of the file diameter)



Position the file holder on the roof of the tooth. The file should only engage during the forward stroke. Lift the file off when moving it back.



The shortest cutting tooth is sharpened first. The length of this tooth is then the target size for all the other teeth on the



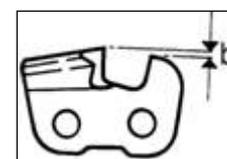
saw chain. All of the cutting elements must have the same length.

To start with, file all of the cutting elements on one side from the inside outwards, then file all of the cutting elements on the other side.

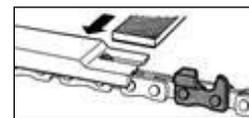
Always fully file out any damage from the side plate or the roof of the tooth.

Correction of the depth limiter:

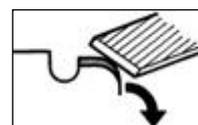
The distance  $b$  between the depth limiter (round nose)



and the cutting edge defines the thickness of the chips. The best cutting results are obtained with the prescribed depth limiter spacing, which should be checked every time the saw chain is sharpened.



Lay the depth limiter gauge on the cutting element. If the depth limiter protrudes, file off the protruding part with a flat file.



Round off the front edge of the depth limiter. The original shape must be restored. CAUTION: If the spacing is too large then there is a greater risk of kickback.

**For your safety:** If you would like to pull the chain through while filing, pull the chain forwards with a screwdriver towards the tip of the rail. This will reduce the risk of slipping.

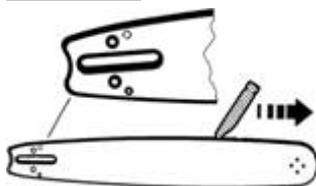
Before you can fit a new saw chain you must check the condition of the sprocket. Worn sprockets will damage your new saw chain. If necessary, replace the sprocket with the new chain. Grease the bearing with lithium-based grease whenever the sprocket is replaced.

**Tip:** We recommend the use of two saw chains per sprocket, and that both chains should be replaced as frequently as possible so that all of the components wear evenly. Once a certain wear limit is reached, replace all of the parts together again.



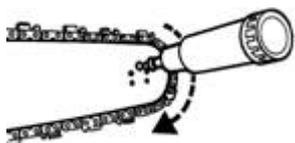
To replace the chain wheel (after dismantling the guide bar cover and the guide bar with chain), push the chain wheel with its washer down slightly and lift off the locking ring with a small screwdriver. To refit the locking ring after fitting the new chain wheel push the chain wheel, with its washer, down again slightly.

**Guide bar:**



The guide bar of your chainsaw requires just as much care as the saw chain. The running surfaces must be flat and level, and the groove must not be widened.

In order to prevent one-sided wearing of the guide bar, we recommend that the guide bar be reversed whenever the chain is sharpened.



On guide bars with a guide sprocket, the bearing of the guide sprocket should preferably be lubricated with ball bearing grease (through the lubricating hole on the side with a grease gun) every time the chainsaw is refuelled. Rotate the guide sprocket while doing this.

**Important:** The guide bars are only designed to guide the saw chain and must not be used as a levering tool. Any twisting or turning or use of the guide bar to gain leverage in the wood shortens the service life of the guide bars.

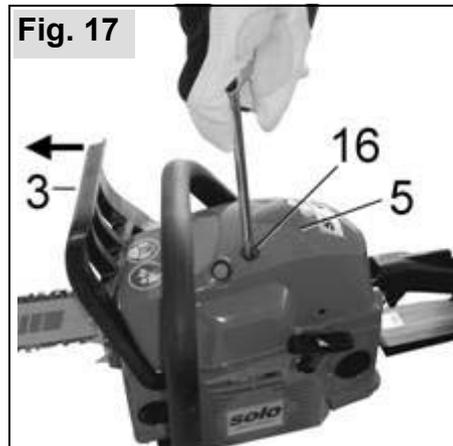
11.2 Air Filter Maintenance



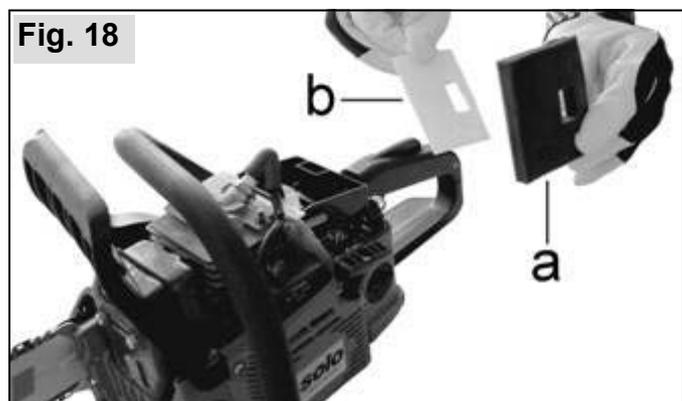
Contaminated air filters cause a reduction in engine performance and increase fuel consumption with more pollutants in the exhaust gas. Engines are less likely to start readily with a contaminated air filter.

When using the power tool all day, clean the air filter daily; under very dusty conditions, even several times a day.

Carry out the following maintenance jobs regularly.



To prevent dirt from entering the carburettor inlet, always pull out the choke lever (7) prior to removing the hood (5). To make the hood removal easier (and the subsequent replacement), it is recommended to push the hand guard (3) forward (chain brake activated). Undo the fixing screw (16) completely (screw is retained inside the hood) and remove the hood (5).



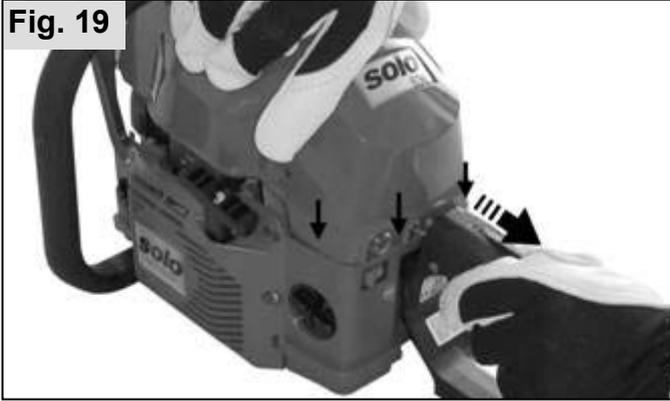
Remove the foam filter (5) and the flow filter insert (b). The best way to clean the filter is to simply tap out any dirt or blow it out with a blast of air.

If they are more heavily contaminated, both filters can be cleaned with non-flammable cleaning fluid (warm soapy water). Both filters must be absolutely dry before they are refitted to the device.

The corresponding parts should be replaced immediately if the filter material is damaged. No warranty claims can be accepted for engine damage arising as a result of inadequate care.

Dry out the area surrounding the filter and remove all dust residues. First introduce the flow filter insert, then the foam filter.

When positioning the hood, ensure that it fully locks all-round into the groove of the main casing.



Initially, it is best to set the hood down at the back recess for the primer and the choke lever. For this, it may prove beneficial to push the rear handle back slightly - but never use force!



Push the hood together gently to fit it accurately into the front groove at the hand guard on the starter side of the casing. If necessary, hold the hand guard with activated chain brake in its play position. Before tightening the fixing screw (16), check that the hood fully engages in the groove of the main casing.

### 11.3 Carburettor settings



The carburettor is preset to the optimum settings for the device at the factory. Depending on the particular location where the chainsaw is used (mountains, flat country) it may be necessary to adjust the idling settings via the idle stop screw "T" (24).

The adjusting screws for the idling mixture "L" and the full-load mixture "H" (25) must only be adjusted by an authorised workshop.

When the idling settings are correct the engine should run smoothly at idle without the saw chain being driven. Corrective adjustments to the average idle speed indicated in the technical data can be made as follows via the idle stop screw "T" – ideally with the aid of a tachometer:

- If the idle speed is too high (particularly if the saw chain is already driven without the throttle being operated), slightly open up the idle stop screw "T" by turning it anti-clockwise.
- If the idle speed is too low (i.e. the engine keeps stopping at idle), slightly close the idle stop screw "T" by turning it clockwise until the engine runs evenly.
- 



The saw chain must never be driven while the engine is idling.

If the idling speed cannot be set correctly with the idling end-stop screw "T", request an authorised service centre to tune the carburettor.

### The following instructions are for authorised service shops

#### D-CUT carburettors:

Use the D-CUT carburettor key to adjust the idle mixture screw "L" and the full load mixture screw "H".

#### Carburettors with limiter caps:

The regulating screws for idle mixture and full load mixture can only be adjusted in a limited range.

Clean the air filter before adjusting the low speed screw! Let the engine run warm before adjusting the engine speed.

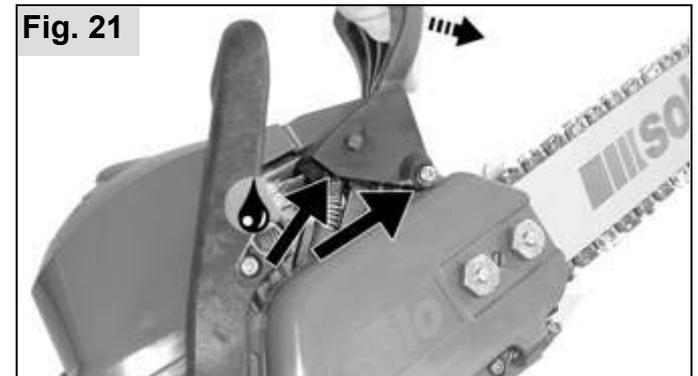
The carburettor is tuned for optimum engine performance. Use a rev counter to tune the carburettor correctly!

Do not adjust the engine to a higher speed. Excessive engine speed can lead to major engine damage!

### 11.4 Maintenance of the chain brake



Check for ease of movement and correct operation on a daily basis. Remove any resin, sawdust and dirt.



Visible joints and bearings should be lubricated with grease or temperature-resistant engine oil.

- Chain brake function test (chapter 7.).

### 11.5 Vibration damping

If you find that vibrations on the handles worsen significantly with time in comparison to when the chainsaw was new, check the damping elements (rubber-bonded metal mountings) for damage and replace them as required.



**Working with the chainsaw while the vibration damping system is not working properly can cause health problems.**

## 11.6 Spark plug information



The spark plug should be regularly checked every 50 operating hours.

- Take off the cowl from the chainsaw.
- Disconnect the spark plug connector which is located underneath.

Unscrew the spark plug and dry it thoroughly. In the event of severe burn-off of the electrodes the spark plug should be replaced immediately, otherwise every 100 hours.

The engine must not be moved if the spark plug is removed or the ignition cable is disconnected. Otherwise there is a risk that sparks could form which might cause a fire.

Interference-suppressed replacement spark plugs (calorific value: 200) are available for example under the following trade names:

BOSCH WSR6F  
CHAMPION RCJ-6Y or equivalent.

The prescribed electrode gap is 0.5 mm.

Before starting work, check the ignition cable to make sure the connections are in good working order and the insulation is intact.

- Screw the spark plug back in again.
- Always press the spark plug connector firmly onto the spark plug.
- Refit the cowl to the chainsaw.

## 11.7 Shutdown and storage

The chainsaw should be thoroughly cleaned and checked for damage after every use. The most important areas are the chain brake, the cooling air intake area, the cylinder cooling fins and the air filter. Only use the eco-friendly cleaning agents available from a specialist retailer. Do not use fuel to clean the chainsaw.

The chainsaw should be stored in a dry room and fitted with a chain guard. There must be no naked flames or similar in the vicinity. Measures must be taken to prevent unauthorised use of the chainsaw, particularly by children.

If you plan to stop using the saw for more than four weeks then you should also drain the fuel tank and the chain lubrication oil tank in a well vented area and clean them. Start the engine with the fuel tank empty and run it until the carburettor is empty and the engine goes out. Otherwise oil residue from the fuel mixture could block the carburettor nozzles and make subsequent starts more difficult.

**Important:** If you are using bio-chainsaw oil and planning to stop using the chainsaw for at least 2 months then you should run the chainsaw for a while with the oil tank filled with engine oil (SAE 30), so that all residue of the bio-oil is flushed from the tank, oil pickup hose and cutting device.

## 11.8 Replacing the fuel filter



We recommend having the fuel filter changed annually by a specialised service centre.

A trained mechanic can carefully remove the fuel filter via a wire loop through the fuel tank filler. Ensure that the thicker part of the fuel hose on the tank wall is not drawn into the fuel tank.

## 11.9 Self-help tips

### Possible malfunctions:

- The engine will not start.
  - Correct starting settings? (E.g. the **stop switch**)
  - Spark plug?
    - Clean or replace
  - Combustion chamber oversaturated
    - Unscrew the spark plug, dry, vent the combustion chamber
  - Old fuel?
    - Drain and clean the tank, refuel with fresh fuel
- The chain will not run
  - Chain brake?
- The chain is driven at idle
  - Idle speed set too high
  - Defective clutch
    - Service workshop
- Poor engine performance
  - Air filter clogged
    - Clean both filters
  - Choke not fully open
    - Press the choke lever right in.
  - Carburettor settings ("L" / "H" settings)
    - Service workshop
- The saw chain is not cutting well
  - Chain is blunt / incorrectly sharpened.
    - Sharpen the chain correctly

### Important operating instructions (summary):

- Before starting:
  - Have you filled up with fuel and oil?
  - Is the chain tension set correctly?
  - Are the starting settings and the chain brake OK?
    - Primer (636, 642, 643IP)
    - Choke - part throttle
    - Decompression valve (636, 642)
    - **Stop switch**
- While working:
  - Is the chain tension set correctly?
  - Is the chain lubrication OK?
  - Are the idle settings OK?
  - Chain brake function test
- After work → slacken the chain tension

### 11.10 Scheduled maintenance



The following information is based on standard operating conditions.  
For special conditions, such as prolonged daily use, the recommended maintenance intervals should be reduced accordingly.

Implement all maintenance jobs regularly. If required, authorise a specialist service centre to maintain the machine for you. The owner of the machine is responsible for:

- Any damage caused by a lack of maintenance, incorrect or late maintenance and repairs
- Consequential losses - including corrosion - from incorrect storage

		after the first 5 hours	Daily, before and/or after work and also in between	weekly	after every 50 hours	after every 100 hours	as required	Yearly before or after the season
<b>Complete machine</b>	Visual inspection		X					
	Clean (incl. air inlet, cylinder cooling fins)		X				X	X
<b>Guide bar</b>	Visual inspection		X					
	Reverse the blade			X				
	Lubricate the guide sprocket		X					
	Clean the chain groove / oil bore		X					
	Clean the blade cover on the inside		X					
<b>Saw chain</b>	Visually inspect condition, check sharpness		X					
	Re-sharpen						X	X
	Renew, possibly renew the sprocket as well and lubricate the sprocket bearing						X	
<b>Chain brake</b>	Functional test, check for ease of operation		X					
	Clean, lubricate joints			X			X	
<b>Chain lubrication</b>	Check		X					
<b>Silencer</b>	Visual inspection of condition – check tightness of screws/bolts		X					
<b>Carburettor</b>	Check idling speed		X					
	Adjust idling speed						X	
<b>Air filter</b> (pre-filter and main air filter)	Clean		X					
	Replace						X	
<b>Spark plug</b>	Check the electrode gap and adjust, if required				X			X
	Replace					X	X	
<b>Fuel tank, oil tank</b>	Clean				X			X
<b>Fuel filter</b>	Replace							X
<b>All accessible screws</b> (except for adjusting screws)	Retighten	X					X	X
<b>Other control elements</b> [stop switch, throttle control, throttle control lock, choke part throttle stop, starter]	Check function		X					

## 12. Accessories

The next three pages are abbreviated extracts from our general 2007 catalogue. If you require a copy of the full catalogue, please contact your specialist SOLO dealer or visit our website at [www.solo-germany.com](http://www.solo-germany.com).







### 13. Parts subject to wear and tear

Various parts are subject to application-specific or normal wear and must be replaced in good time, when required. The following parts are subject to normal wear and are not covered by the manufacturer's guarantee:

- Air filter
- Fuel filter
- All rubber parts which come into contact with fuel
- Clutch
- Spark plug
- Starter
- Cutting tools
- Operating materials
- Cutting tools: guide bar / saw chain
- Vibration damping elements made of rubber

### 14. Guarantee

The manufacturer guarantees trouble-free quality and will cover the cost of replacing parts which are found to be faulty in material or workmanship within the prescribed guarantee period after the date of purchase. Please note that specific guarantee conditions may vary from country to country. If in doubt, ask your equipment vendor. He is responsible for guarantee matters.

We hope you will understand that we cannot be liable for damage resulting from the following causes:

- Non-compliance with the operating instructions.
- Neglecting essential maintenance and repair work.
- Damage caused by incorrect carburettor adjustment.
- Wear in normal use.
- Obvious overload by continuously exceeding the maximum performance limit of the product.
- Using non-authorized tools.
- Use of force, incorrect treatment, misuse and accidents.
- Damage from excessive heat due to dirt build-up around the cooling fan housing.
- Attempted adjustments and repairs by unqualified persons.
- Use of unsuitable spare parts or third party parts, if these are the cause of the defect.
- Use of unsuitable or stale fuel.
- Damage caused by using the product in the hire or rental industry.

Normal cleaning, adjustments or maintenance work fall outside the guarantee provisions.

A service centre authorised by the manufacturer must carry out all guarantee work.

### 15. CE Declaration of conformity

In accordance with EG Directives 98/37/EC, 2000/14/EC and RL - 2004 - 108 EG, SOLO Kleinmotoren GmbH, Stuttgarter Strasse 41, D-71069 Sindelfingen, being solely responsible, states that the product referred to in this declaration complies with the requirements of the Machinery Directive.

Description of product: chain saw

Model/type description / Sound power level:

	635ECO	636	642	643IP	
Guaranteed sound	109	109	110	110	dB(A)
Actual sound	108	108	109	109	dB(A)

(EN ISO 3744, EN ISO 22868)

Applied standards: DIN EN ISO 11681,  
DIN EN ISO 14982

Conformity assessment procedures

(98/37/EG) → Appendix IV, (2000/14/EG) → Appendix V

Nominated location acc. to 98/37/EC:

Intertek Deutschland GmbH  
Nikolaus-Otto-Str. 13  
D 70771 Leinfelden-Echterdingen  
Registration number: 0905

Storage location for the technical documentation according to 2000/14/EC and 89/336/EC:

Solo Kleinmotoren GmbH  
Stuttgarterstr. 41  
D-71069 Sindelfingen

This declaration of conformity loses its validity, if the equipment is converted or modified without the manufacturer's consent.

Sindelfingen,  
1<sup>st</sup> August 2007  
SOLO Kleinmotoren GmbH

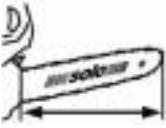
  
Wolfgang Emmerich  
Executive Director

In the best interest of continued technological progress we reserve the right to change the design and configuration of any product without prior notice.

For that reason, no claims can be accepted with reference to text and illustrations in this manual.

- D** Zulässige Schneidgarnturen
- GB** Permissible cutting gear
- F** Jeux de coupe autorisés
- E** Conjuntos de corte autorizados
- I** Accessori da tagli permessi
- NL** Toegelaten snijgarnturen

Symbole / Symbols / Symboles / Símbolos / Simboli / Symbolen

	<ul style="list-style-type: none"> <li><b>D</b> Kettenrad</li> <li><b>GB</b> Sprocket</li> <li><b>F</b> Pignon de chaîne</li> <li><b>E</b> Rueda de cadena</li> <li><b>I</b> Rocchetto della catena</li> <li><b>NL</b> Kettingwiel</li> </ul>
	<ul style="list-style-type: none"> <li><b>D</b> Teilung</li> <li><b>GB</b> Pitch</li> <li><b>F</b> Pas</li> <li><b>E</b> División</li> <li><b>I</b> Passo</li> <li><b>NL</b> Steek</li> </ul>
	<ul style="list-style-type: none"> <li><b>D</b> Schnittlänge</li> <li><b>GB</b> Cutting length</li> <li><b>F</b> Longueur de coupe</li> <li><b>E</b> Longitud de corte</li> <li><b>I</b> Lunghezza di taglio</li> <li><b>NL</b> Snijlengte</li> </ul>
	<ul style="list-style-type: none"> <li><b>D</b> Anzahl Treibglieder</li> <li><b>GB</b> Number of driving links</li> <li><b>F</b> Nombre d'éléments d'entraînement</li> <li><b>E</b> Cantidad de elementos de accionamiento</li> <li><b>I</b> Numero elementi di trasmissione</li> <li><b>NL</b> Aantal aandrijfschakels</li> </ul>
	<ul style="list-style-type: none"> <li><b>D</b> Treibgliedstärke</li> <li><b>GB</b> Driving link thickness</li> <li><b>F</b> Epaisseur d'élément d'entraînement</li> <li><b>E</b> Grosor del elemento de accionamiento</li> <li><b>I</b> Spessore elementi di trasmissione</li> <li><b>NL</b> Dikte van aandrijfschakels</li> </ul>
	<ul style="list-style-type: none"> <li><b>D</b> Sägenkette Bestell.-Nr.</li> <li><b>GB</b> Saw chain order no.</li> <li><b>F</b> Chaîne de tronçonneuse, réf.</li> <li><b>E</b> Cadena de sierra, no. pedido</li> <li><b>I</b> Catena di taglio numero di ordine</li> <li><b>NL</b> Zaagketting bestelnr.</li> </ul>
	<ul style="list-style-type: none"> <li><b>D</b> Führungsschiene Bestell.-Nr.</li> <li><b>GB</b> Guide rail order no.</li> <li><b>F</b> Guide-chaîne, réf.</li> <li><b>E</b> Riel de guía, no. pedido</li> <li><b>I</b> Barra di taglio numero di ordine</li> <li><b>NL</b> Geleidingsrail bestelnr.</li> </ul>



**635, 636, 642** - Code: 91VG... - 3/8" spez.

.3/8" - 6 No.: 35 00 433 25	3/8"	30 cm / 12"	45	.050" / 1,3 mm	69 00 132	69 00 133
	3/8"	35 cm / 14"	52	.050" / 1,3 mm	69 00 136	69 00 744
	3/8"	40 cm / 16"	57	.050" / 1,3 mm	69 00 600	69 00 900

**643IP** - Code: 21BP... - .325"

.325" - 7 No.: 35 00 414	.325"	33 cm / 13"	56	.058" / 1,5 mm	69 00 704	69 00 342
	.325"	38 cm / 15"	64	.058" / 1,5 mm	69 00 875	69 00 343

- D** Wichtig: **Kettenrad, Sägekette** und **Führungsschiene ausschließlich** in der **angegebenen Kombination verwenden**. Niemals Bauteile zu unterschiedlicher Teilung zusammen verwenden!
- GB** **Important:** Only use the specified combination of **sprocket, saw chain** and **guide rail**. Never combine components with a different pitch!
- F** Important : **Utiliser le pignon de chaîne, la chaîne et le guide-chaîne uniquement avec la combinaison indiquée**. Ne jamais utiliser de composants avec des pas différents !
- E** Importante: **Utilizar la rueda de cadena, el riel de guía y la cadena de sierra exclusivamente** en la **combinación indicada**. ¡Nunca utilizar conjuntamente componentes con diferente división!
- I** Importante: **Rocchetto della catena, Catena di taglio e Barra di taglio** usare esclusivamente nella **combinazione fornita**. Non usare mai insieme pezzi di componentistica diversa!
- NL** Belangrijk: Gebruik het **kettingwiel, de zaagketting** en de **geleidingsrail uitsluitend** in de **opgegeven combinatie**. Combineer nooit componenten met een verschillende steek!

# **solo**<sup>®</sup>

Made in Germany



SOLO  
Postfach 60 01 52  
D 71050 Sindelfingen  
  
Tel. 07031-301-0  
Fax 07031-301-130  
info@solo-germany.com

SOLO  
P.O.Box 60 01 52  
D 71050 Sindelfingen  
Germany  
Phone+49-7031-301-0  
Fax +49-7031-301-149  
export@solo-germany.com