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MITOX®

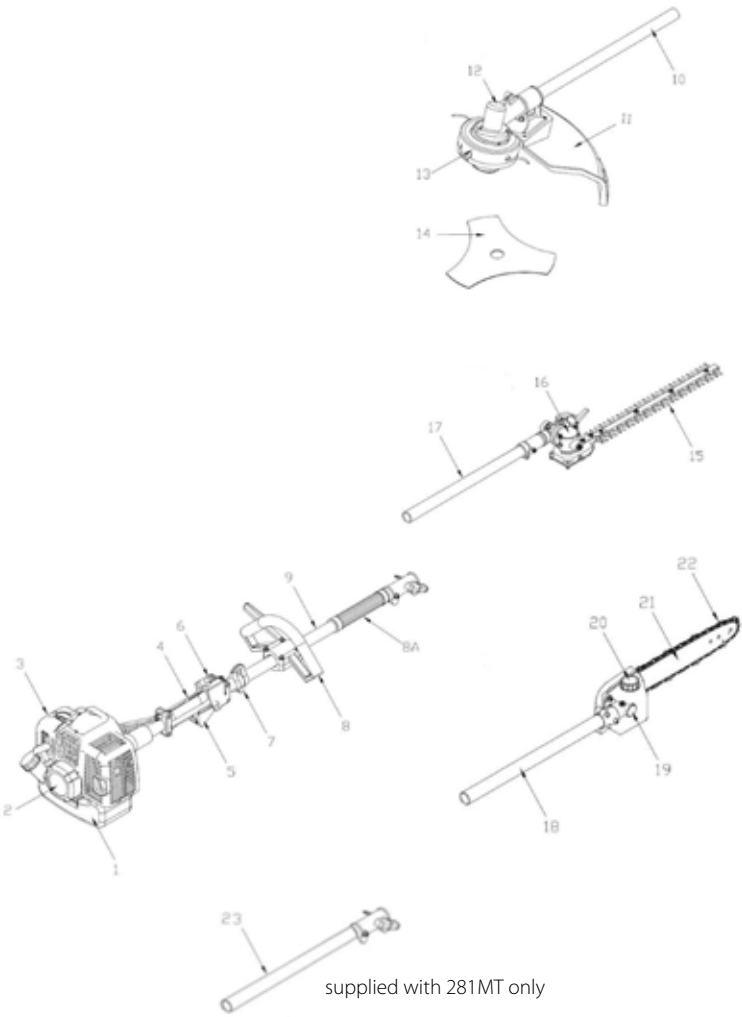
Operator's Manual

user manual, maintenance instructions and spare parts

271MT / 281MT Multi-Tool

Read this manual carefully before operating the machine

Original Instructions Version June13



supplied with 281MT only

PRODUCT DESCRIPTION

This Multi-Tool unit is a 2 stroke fast running power tool and is designed to be used in a domestic application with the attachments supplied. The Brushcutter attachment is designed for cutting grass and light brush, the hedge trimmer attachment for trimming new growth on hedges and the Pole Pruner for cutting up to 4" branches.

Component Location

1. Fuel tank – 2 stroke mixture
2. Engine starter.
3. Carburettor / air filter.
4. Safety lever.
5. Throttle control lever.
6. Ignition switch.
7. Harness hanger.
8. Loop handle

8A Rubber hand grip

9. Transmission shaft.
10. Attachment shaft.
11. Safety guard.
12. Gear box.
13. Nylon head.
14. Optional cutting blade.
15. Cutting blade.
16. Gear box.
17. Attachment shaft.
18. Attachment shaft.
19. Gear box.
20. Oil tank for lubrication.
21. Guide Bar.
22. Saw chain.
23. Extension Shaft

Warnings in the Manual

⚠ WARNING

This mark indicates instructions which must be followed in order to prevent accidents which could lead to serious bodily injury or death.

IMPORTANT

This mark indicates instructions which must be followed or it leads to mechanical failure, breakdown, or damage.

NOTE

This mark indicates hints or useful directions in the use of the product.

Safety Symbols

Warning: Danger, Caution	
Read the documentation and safety instructions which are provided in this user manual.	
When operating this machine, use protective equipment such as goggles, helmet and ear defenders.	
Wear security shoes and gloves.	
Beware: Keep hands and feet away from moving parts. Always keep a safe distance from the cutting parts.	
Hot surface: Risk of burn.	
Danger: Risk of intoxication.	
Danger: Risk of fire or explosion	
Directive 2000-14/CE. Guaranteed noise levels	
Beware of objects being thrown from the operating zone	
Warning: Keep all people, animals and vulnerable objects at least 15 metres from the working area.	

Taking Care of Warning Labels

Always keep warning labels clean and free of scratches, which might make them illegible or difficult to read. If the warning labels provided with your Multi-Tool become damaged, peel off, or otherwise become illegible or difficult to read, order new labels from the authorised servicing dealer and replace the damaged labels. When applying new labels, first wipe away any dirt and dry the surface before applying the new label in the same place as the original label.

Explanation of Symbols on the Machine

For safe operation and maintenance, symbols are carved in relief on the machine:·

FUEL TANK

Fuel tank 2 stroke mix
Position: Fuel cap

CHOKE OPERATION

Starting mode when the engine is hot (choke off).
Position: Air cleaner cover.

Starting mode when the engine is cold (choke on).
Position: Air cleaner cover.

Safety Precautions

Introduction

Read this Owner/Operator Manual carefully. Be sure you understand how to operate this Multi Tool properly before you use it. Failure to do so could result in serious injury.

Keep this manual handy so that you may refer to it later whenever any questions arise. Also note that you are able to contact the dealer from whom you purchased the product for assistance.

Always include this manual when selling, lending, or otherwise transferring the ownership of this product.

This product has been designed to be used as a Multi-Tool power tool as described previously and it should never be used for any other purpose; doing so could result in unforeseen accidents and injuries occurring. Only approved Mitox accessories should be used with this product.

This Multi-Tool is equipped with extremely sharp blades, always wear sturdy gloves when handling the blades and fit the safety guards when not in use.

When using this Multi-Tool for the first time, take it to a wide, clear, open space, start the engine, and practice handling the Multi-Tool until you are sure that you will be able to handle it properly in actual operation.

You should never use this Multi-Tool when under the influence of alcohol, suffering from exhaustion or lack of sleep, suffering from drowsiness as a result of having taken medicine, or at any other time when your judgement might be impaired or that you might not be able to operate the Multi-Tool properly and in a safe manner.

Never allow children or anyone unable to fully understand the directions given in this manual to use this Multi-Tool.

When planning your work schedule, allow plenty of time to perform the work and allow plenty of time for rest. Limit the amount of time you continuously use the Multi-Tool to 30~40 minutes per session and take 10~20 minutes of rest between work sessions. Also, try to keep the total amount of work performed in a single day to 2 hours.

Never run the engine indoors as the exhaust gases contain harmful carbon monoxide.

Never use the Multi-Tool in conditions as described below:

When the ground is slippery or when other conditions exist which might make it difficult to maintain a steady posture while using the Multi-Tool.

At night, at times of heavy fog, or at any other times when your field of vision is limited and it would be difficult to gain a clear view of the area where the Multi-Tool is to be used. In heavy rain, during lightning storms, at times of strong or gale-force winds, or at any other times when weather conditions might make it unsafe to use this product.

Lack of sleep, tiredness, or physical exhaustion results in lower attention spans, and this in turn can lead to accidents and injury.

Work Clothing and Safety Equipment

When using the product, you should wear proper clothing and protective equipment.

- Helmet
- Protection goggles or face protector
- Ear protectors
- Thick work gloves
- Non-slip sole work boots
- When using your Multi-Tool, always wear strong, durable, work clothing; shirts should be long-sleeved and trousers should be full-length.

Safety and Operation

⚠WARNING

This Multi-Tool is equipped with a very sharp blade, and when used incorrectly the blades can be extremely dangerous.

Improper handling can cause accidents which may in turn lead to serious injury or death. For this reason, you should always be careful to adhere to the following instructions when using your Multi-Tool.

Never hold the Multi-Tool in a way in which the cutting head is pointing towards someone else.

Never allow the blades to come into contact with your body.

Always turn off the engine before adjusting the Multi-Tool, or at any time when coming into close proximity with the cutting head.

Always wear thick work gloves when adjusting the Multi-Tool.

Safe Handling of Fuel

⚠WARNING

The engine of the Multi-Tool is designed to run on a two stroke oil/fuel mixture.

This fuel is highly flammable; never store cans of fuel or refill the fuel tank in any place where there is a source of heat or fire, which might ignite the fuel.

Do not smoke whilst operating the Multi-Tool or refilling, keep lit cigarettes away from the Multi-Tool at all times.

When refilling the fuel tank always stop the engine first and carefully make sure that there are no sparks or naked flames anywhere nearby before refuelling.

If any fuel spillage occurs during refuelling, use a dry rag to wipe any fuel which has been spilled onto the Multi-Tool before starting the engine.

After refuelling, screw the fuel cap back tightly onto the fuel tank and carry the Multi-Tool to a spot 5 metres or more away from where it was refuelled before starting the engine.

Before Operating the Multi-Tool

Before beginning work, carefully check the work area and remove any obstacles. Within a perimeter of 15 metres of the work area should be considered a hazardous area into which no-one should enter while the Multi-Tool is being used, and when necessary this area should be marked with a warning rope, warning signs, or other forms of warning.

When work is to be performed simultaneously by two or more operators, care should also be taken to constantly look around to check the presence and locations of other operators within the work area to maintain a safe distance between each operator.

Before beginning work, each component of the Multi-Tool should be checked to make sure that it is in proper working order, make sure that there are no loose screws or bolts, fuel leaks, ruptures, dents, broken guards or any other problems which might interfere with safe operation.

Keep all parts of your body away from the cutting head when the engine is running.

Before Starting the Engine

Carefully check the work area to make sure that no obstacles exist within a perimeter of 15metres around the Multi-Tool before starting the engine.

To start the engine, place the Multi-Tool onto the ground in a flat clear area and hold it firmly in place to ensure that neither the cutting head nor the throttle come into contact with any obstacles when the engine starts.

After starting the engine, make sure that the cutting head stops moving when the throttle trigger is released (idle). If the cutting head continues to move when the engine is at idle, adjust the idle screw on the carburettor to a point where the cutting head stops moving, if this cannot be achieved, take the Multi-Tool to your authorised service dealer for adjustment.

Avoid Noise Problems

Check and follow the local regulations for sound levels and hours of operation for garden machinery.

In general, operate Multi-Tools between 8 am and 5 pm on week days and 9 am to 5 pm at weekends.

Avoid using the Multi-Tool late at night and/or early in the morning.

Safety when using the Multi-Tool

When using the Multi-Tool, grip the handles firmly with both hands, place your feet slightly apart so your weight is distributed evenly across both legs, and always maintain a steady even posture while working. Do not use on ladders or if the ground surface is slippery or uneven. Never attempt to cut directly overhead or with one hand.

- Maintain full engine speed when cutting.
- Never allow other persons to come within the work area as doing so might expose them to danger.
- Keep work area clear of all persons, particularly small children and pets. Injury may result from flying debris.
- If grass or other objects get caught in the Multi-Tool during operation, always stop the engine before removing the object.
- Never touch the spark plug or plug HT cable while the engine is in operation, doing so may result in an electrical shock.
- Never touch the exhaust, spark plug, or any metallic parts while the engine is in operation or immediately after shutting down the engine. These parts reach high temperatures during operation and doing so could result in serious burns.
- When you finish cutting in one location and wish to continue work in another area, stop the engine and fit the blade safety guards.
- Always remove fuel from the fuel tank before transportation to prevent fuel spillage.
- Never leave the Multi-Tool exposed to direct sunlight as this can heat the fuel tank and may cause a discharge of fuel, and flood the engine.
- Be careful not to hit the nylon cutting head against stones or the ground.

Two-Stroke Fuel

⚠WARNING

Fuel is very flammable. Do not smoke or bring any flame or sparks near fuel.

Always stop the engine and allow it to cool before refuelling.

Refuel outdoors on bare ground, restart engine at least 5m away from the refuelling area.

The engine is lubricated by oil mixed into petrol. Prepare a mixture of unleaded petrol and semi-synthetic two-stroke oil that meets the specifications of: API TC, ISO-L-EGC, JASO FC (Low Smoke) oil.

Recommended mixing ratio is 40:1.

FUEL WITH NO OIL (RAW PETROL) will cause severe damage to the engine which is not covered by manufacturer's warranty.

Use fresh, unleaded petrol (95 RON) and semi-synthetic oil specially made for high performance two-stroke engines. Mix in a ratio of 40 parts petrol to 1 part of oil.

By using two-stroke oil specially made for two-stroke engines you will reduce the formation of ash and carbon deposits on the spark plug, piston, exhaust muffler and cylinder as well as reducing emissions of harmful exhaust gases.

Oil FOR 4-CYCLE ENGINES should not be used as two-stroke lubrication oil as it can cause fouling of the spark plug, exhaust port blocking, piston ring sticking and other internal engine damage.

Fuel Storage

Mixed two-stroke fuel which has been left unused for a period of one month or more may damage the carburettor and result in the engine failing to start or operate correctly.

When storing the Multi-Tool for a period of more than one month, empty the fuel tank, and run the engine to empty the carburettor of fuel.

Two stroke fuel can cause deterioration of rubber and/or plastic components during prolonged storage.

It is important to only use good quality, fresh fuel mix.

Fuelling

Shake the fuel container to thoroughly mix the two-stroke oil and petrol.

Clean dirt from around the fuel cap before removing.

Pour two-stroke fuel into the fuel tank with a filtered funnel, up to 80% of the fuel tank's capacity.

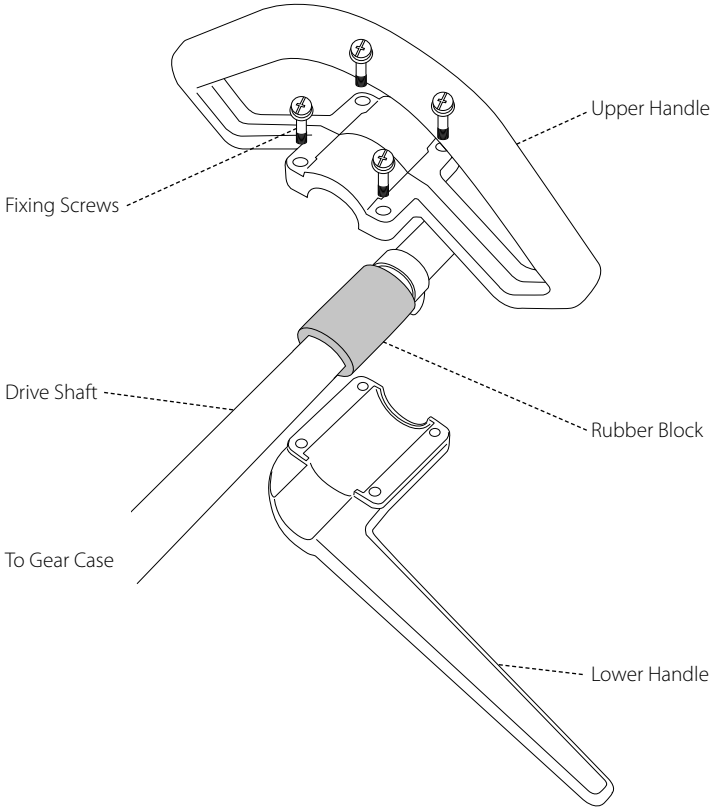
Replace the fuel cap and tighten securely. Spilled fuel must be wiped away from the Multi-Tool before starting the engine.

Move at least 5m away from the refuelling area before restarting the engine.

⚠WARNING

When refilling the tank, always turn off the engine and allow it to cool down. Take a careful look around to make sure that there are no sparks or open flames anywhere nearby before refuelling.

Installing the Loop Handle Assembly



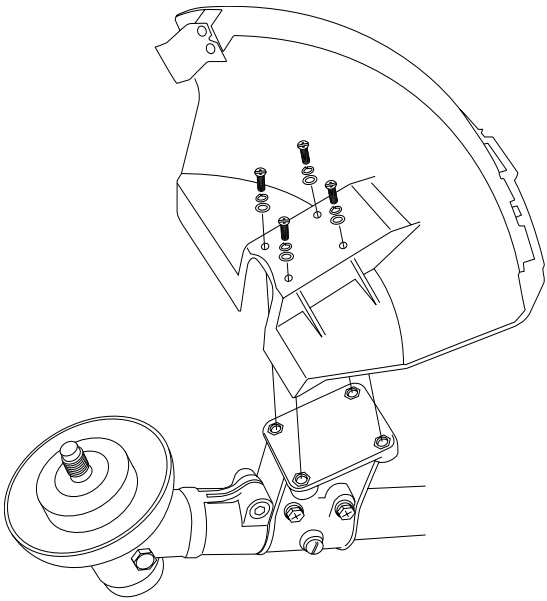
- Fix the loop-handle to the shaft over the rubber block provided. Adjust to a comfortable working position then tighten the fixing screws securely.

Assembly of the Brushcutter

⚠WARNING

The blade fitted to the guard is sharp and can cause injury, always wear gloves.

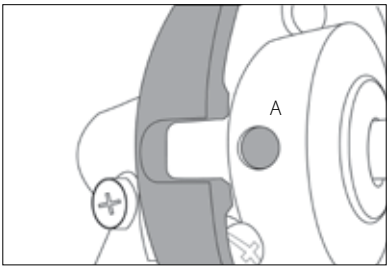
Installing the Guard



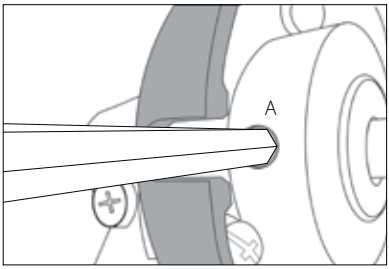
- Lay the brushcutter on its back with the gearbox shaft facing up.
- Line up the 4 screw holes in the guard with the bracket on the shaft.
- Insert 4 screws through the guard into the captive nuts in the bracket and tighten.

Installing the Nylon Head

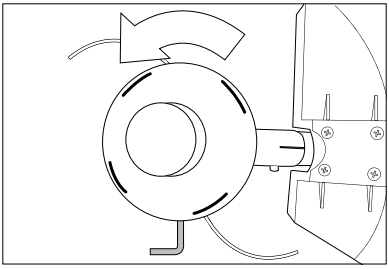
- Lay the brushcutter on its back with the gearbox shaft facing up.



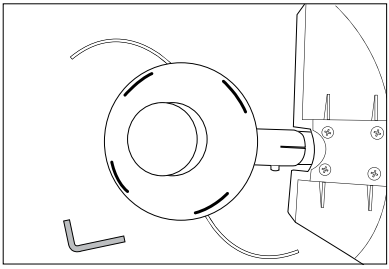
Rotate the gear box shaft until the hole in the holder A lines up with the slot in the plastic guard.



Insert the Allen key into the hole in the plastic guard and into the holder A.



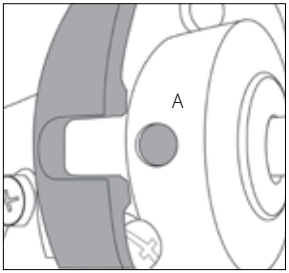
Screw the nylon head anti-clockwise (turn left) onto the threaded shaft on the end of the gearbox.



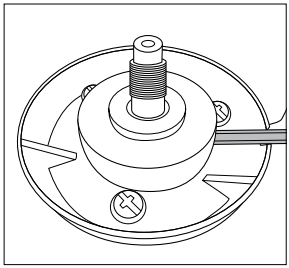
Make sure that the nylon head is securely locked in position and remove the Allen key.

Installing the 3 Tooth Blade

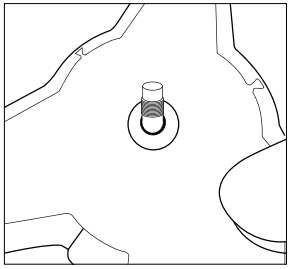
- Lay the brushcutter on its back with the gearbox shaft facing up.



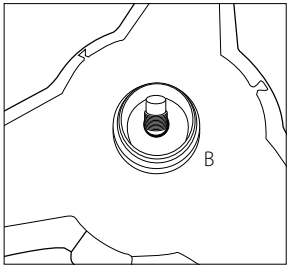
Rotate the gear box shaft until the hole in the holder A lines up with the slot in the plastic guard.



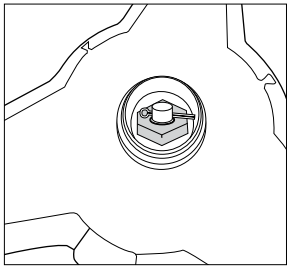
Insert the Allen key into the hole in the plastic guard and into holder A.



Place the 3 tooth blade on the holder A, centring the blade on the raised centre.



Fit the holder B and then the washer.

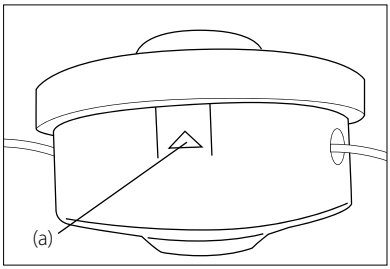


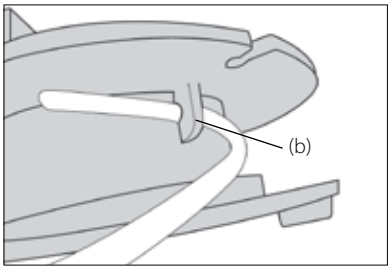
Screw the nut anti-clockwise (turn left) and tighten using the spanner provided. Fit split pin. Remove the Allen key.

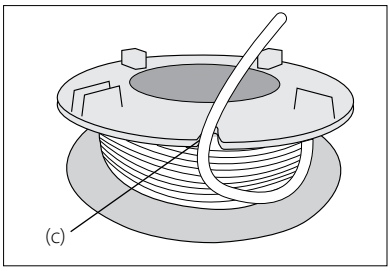
THE BLADE MUST BE CORRECTLY POSITIONED ON THE UPPER BLADE CLAMP OTHERWISE SERIOUS DAMAGE AND INJURY TO PERSONS AND PROPERTY COULD RESULT.

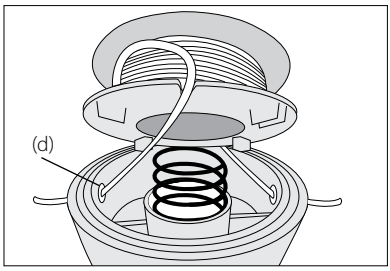
Replacing the Nylon Cord

Check to see if the nylon head is damaged before replacing the cord. If you can see serious traces of wear or damage, you must replace the complete nylon head.









1. Stop the engine
2. Open the nylon head by pushing on the catch, (a), and twisting the cover anti-clock wise.
3. Pull the bobbin out of the nylon head and take out the rest of the nylon cords.
4. Cut the cord, 2.4mm Ø and 5 meters long into two equal lengths.
5. Make a loop folded at one end of each of the two nylon cords and insert these into the two holes provided on the bobbin, (b). Wind the lines clockwise maintaining an even and firm tension onto the bobbin, being careful not to twist the line.
6. After winding the cord, insert both ends into the notches on the bobbin, (c).
7. Introduce each end of the cords into the holes provided (d). The cords should stick out appx 15 cm either side.
8. Pull the cords to free them from the notches and refit the spool cover.

Never use a cutting device other than those supplied by the manufacturer. (Steel cord is never allowed)
Always use original spare parts in order to benefit from continuous warranty.

Using the Brushcutter

Choosing the cutting device

Choose the most suitable cutting device for the job to be done, according to these general indications:

- The cutting line head can eliminate tall grass and non-woody vegetation
- The 3-point blade is suitable for cutting brushwood and small shrubs up to 2 cm in diameter.

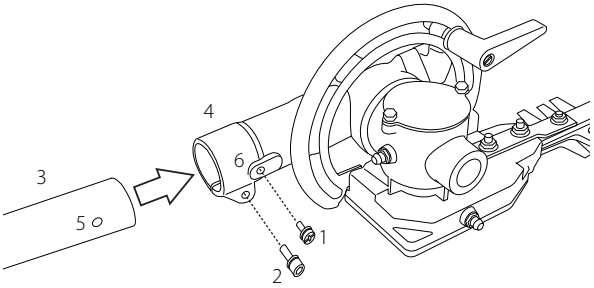
Nylon Head

- Cut the grass in 1.5 metre widths, keeping the machine well balanced.
- Avoid engaging stones, piles of earth, small pieces of wood or anything that could be hidden or difficult to see in the grass. If a large object is accidentally struck, if the cutting head gets blocked, overloaded or stringy material gets wrapped in the cutting head, reduce the engine speed so the engine idles. Make sure that the cutting head has stopped rotating switch off the engine and remove the material.
- Put the brushcutter on the ground and check that the cutting head has not been damaged. If necessary, change the cutting head. If the head is only wrapped by vegetation, remove by hand and clean the cutting head.
- Always wear safety gloves for this operation and ensure the engine is switched off and the head is stationary.
- When the 2 nylon cords become too short, accelerate the engine and bump the nylon head on the ground. Automatically the 2 nylon cords will feed out and be cut to the correct length. Repeat the operation if necessary.

3-Point Blade

- Start cutting above the undergrowth and then move down with the blade so as to cut the brush into small pieces.
- Avoid hitting stones, piles of earth, small pieces of wood or anything that could be hidden or difficult to see in the grass.

Assembly of the Hedge Trimmer



1. Remove the locating screw (1).
2. Using a 4mm Allen key, loosen the clamping bolt (2).
3. Slide the drive shaft (3) into the hedge trimmer gearbox (4) until the locating hole (5) in the drive shaft is visible though the locating hole (6) in the gearbox.
4. Insert the locating screw (1) into the gear box (6) and tighten.
5. Using a 4mm Allen key, tighten the clamping bolt (2).

NOTE

The thickness of fresh growth (green branches), which may be cut using this hedge trimmer, is limited to up to approximately 10mm. Never try to cut branches thicker than this, as doing so may result in damage to the hedge trimmer.

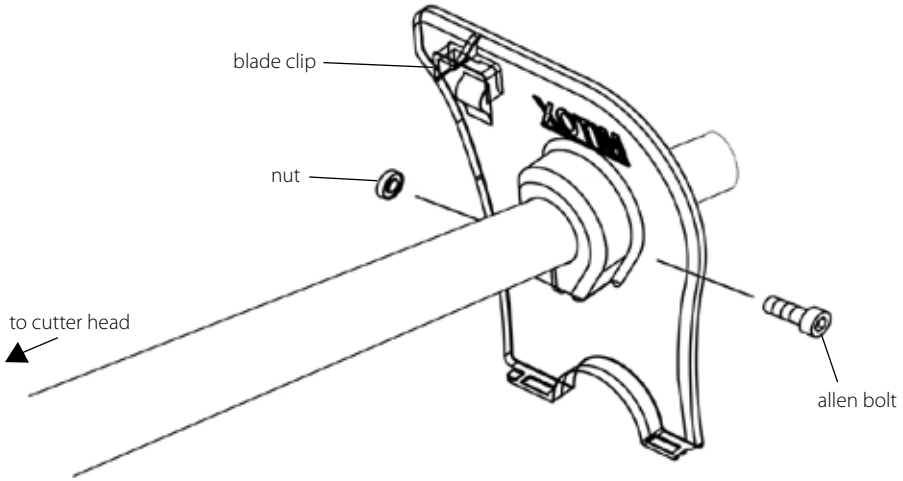
Operation

Adjusting the angle of the cutting blades

1. Stop the engine.
2. Turn the clamp bolt located on the top of the trimming mechanism counter-clockwise to loosen it.
3. Adjust the angle of the blades to the desired angle, and then tighten the bolt firmly back into place.
4. Always wear gloves when adjusting the blades.

Fitting the Handguard

Hedgetrimmer attachments are supplied with a hand guard, which prevents the operator from acidentally touching the hedgetrimer blades. On 281-MT models this guard also acts as a clip where the tip of the blades can be secured when the hedgetrimmer is folded for storage.



To fit the hand guard, slide it over the driveshaft and secure in place using the allen key bolt and nut supplied. Ensure that on 281-MT models the clip side is facing towards the cutter head and is fitted at the point where it can be used to secure the tip of the blades when the hedgetrimmer is folded for storage.

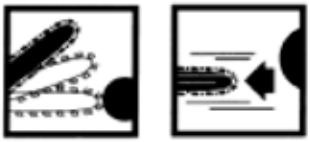
Ensure that the two flat feet are facing the ground to support the hedgetrimmer when it is placed flat on the floor.

Blade information

- Never cut hedges thicker than 10mm and only fresh growth.
- If wire is caught by the blades, damage can occur which is not covered by the warranty.
- When sharpening, removing, or reattaching the blades, be sure to wear thick, sturdy gloves and use only appropriate tools and equipment to prevent injury.
- After you have finished using the hedge trimmer, clean the blades and apply clean light grade lubricating oil to the entire length of the blades, including the blade bolts.

Pole Pruner Attachment

KICKBACK AND PINCHING SAFETY PRECAUTIONS



Beware of kickback!

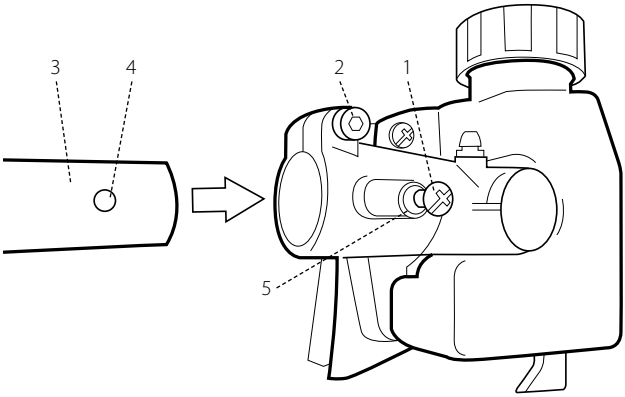
- Kickback can occur whenever the tip of the guide bar touches an object while the saw is operating. Kickback may force the bar up and back towards the operator with speed!

Beware of pinching.

- Pinching the saw along the tip of the guide bar may force the bar back rapidly toward the operator. Pinching can occur whenever wood closes in around the moving chain.
- Both kickback and pinching may cause you to lose control of the pole pruner which could result in serious personal injury.
- Understand kickback and pinching!
- Keep a firm grip on the pole pruner with both hands whenever the engine is running. A firm grip will help you reduce the effects of kickback and pinching as well as maintain control of the machine.
- Cut at high engine speeds.
- Follow the manufacturer's instructions for sharpening and maintaining the chain.
- Use only genuine spare parts.

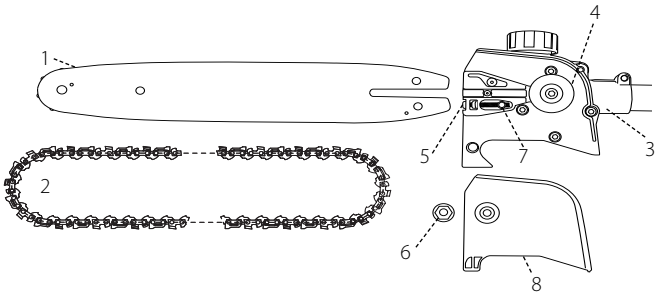
Assembling the Pole Pruner

Attaching the Pruning Mechanism



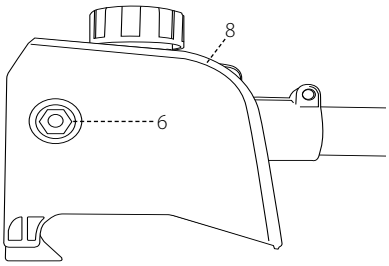
- Remove the locating screw (1).
- Using a 4mm Allen key, loosen the clamping bolt (2).
- Slide the drive shaft (3) into the gearbox until the locating hole (4) in the drive shaft is visible through the locating hole in the gearbox (5).
- Insert the locating screw (1) into the gearbox and tighten.
- Using a 4mm Allen key, tighten the clamping bolt (2).

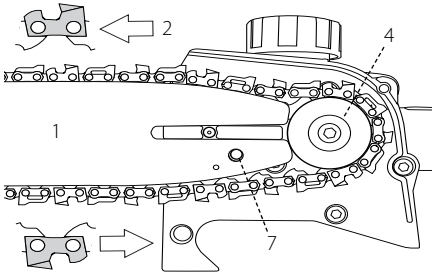
Install the guide bar and the saw chain on the gearbox as follows:



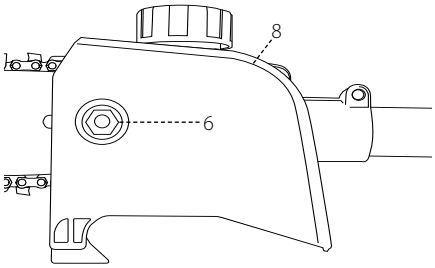
(1)	Guide bar
(2)	Saw chain
(3)	Gearbox
(4)	Sprocket
(5)	Chain tension adjust screw
(6)	Nut
(7)	Chain tensioner
(8)	Chain cover

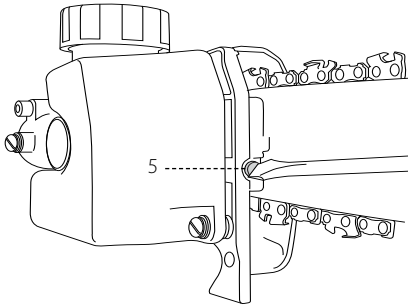
The saw chain has very sharp edges. Use protective gloves for safety.





- Loosen the nut (6), and remove the chain cover (8).
- Mount the guide bar (1), then fit the saw chain around the bar and sprocket (4).
- **Pay attention to the correct direction of the saw chain** (2).
- Fit the chain tensioner (7) into the lower hole of the guide bar.



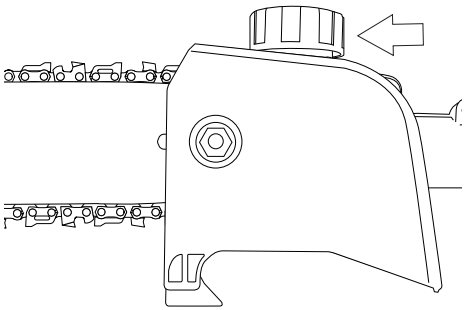


- Install the chain cover (8), and fasten the mounting nut (6) to finger tightness.
- Turn the adjuster screw (5) clockwise until the chain does not sag from the underside of the guide bar.
- Fully tighten the chain cover nut (6).
- Wearing protective gloves, pull the chain around the guide bar by hand to check that the chain has the correct tension, without any tight spots.

It is important to maintain the proper chain tension. Rapid wear of the guide bar or the chain coming off can be caused by improper tension, especially when using a new chain.

Chain Oil

Filling the Oil Reservoir



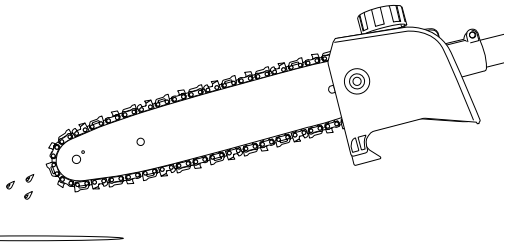
- Fill the chain oil tank with low viscosity chain oil or SAE30 oil.

NOTE

- Do not use waste or regenerated oil that can cause damage to the oil pump.
- The oil reservoir has a capacity sufficient to provide about 20 minutes of cutting time (when set to deliver the minimum flow rate). Be sure to refill the oil tank every time when refuelling the saw.

Checking the Oil Supply

- After starting the engine, run the chain at medium speed and see if chain oil is thrown off as shown.



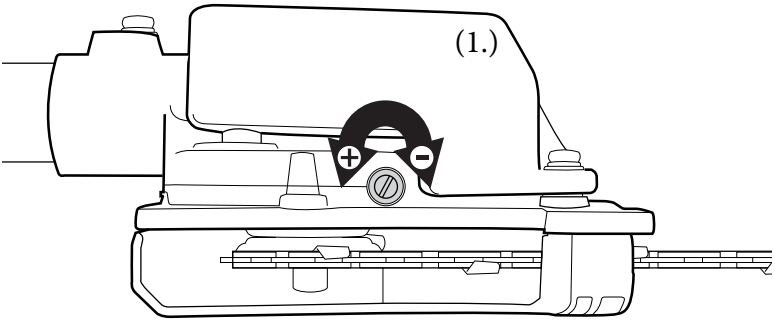
Adjusting the Oil Flow Rate

WARNING

Never fill the oil reservoir or adjust the oiler with the engine running.

- An increase in bar oil flow rate will speed oil consumption, requiring more frequent checks on the oil reservoir.
- The guide bar and chain are lubricated automatically by a pump that operates whenever the chain rotates. The pump is set at the factory to deliver a minimum flow rate, but it can be adjusted in the field. A temporary increase in oil flow is often desirable when cutting hardwood.

Adjust the Pump as follows:



- Stop the engine and make sure the stop switch is in the OFF position.
- Place the unit on its side with the oil reservoir (1) up.
- The oil flow adjusting screw must be pressed in slightly in order to turn. Failure to do so could damage the pump and screw.
- With a screwdriver, push in on the oil flow rate adjusting screw and turn in the desired direction
- There are 3 incremental settings: Clockwise-decrease lubrication, Counter clockwise-increase lubrication.

⚠ WARNING

- When storing the pole pruner attachment, to prevent oil from seeping through the pump, either

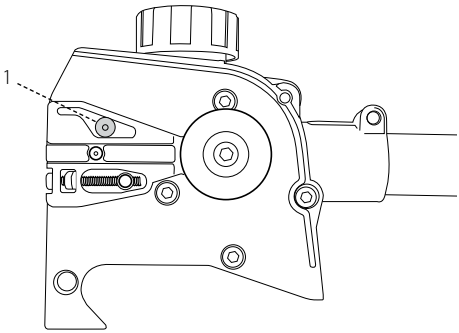
1 Empty the oil tank.

2 Lay the pole pruner attachment with the tank facing down.

Maintenance of the Pruner Attachment

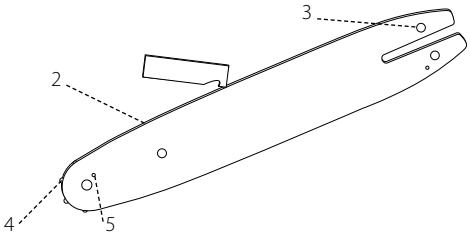
Oiling Port

- Dismount the guide bar and check the oiling port (1) for blockage.



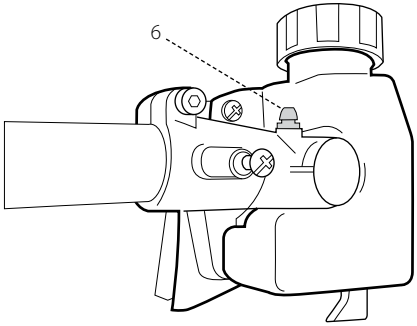
Guide Bar

- Remove sawdust in the bar groove (2) and the bar oiling port (3).
- Grease the nose sprocket (4) from the feeding port on the tip of the bar (5) with a sprocket grease gun (Oregon Part Number 21939).



Gearbox

- Apply 2 or 3 pumps of grease every 15 hours of operation via the grease port (6).
- DO NOT force grease into the gear box.
- Always use lithium based grease.



Saw Chain Sharpening

⚠WARNING

It is very important for smooth and safe operation to always keep the chain sharp.

The chain needs to be sharpened when:

- Sawdust becomes powder-like.
- You need extra force to saw.
- The cut does not go straight.

⚠WARNING

Be sure to wear safety gloves.

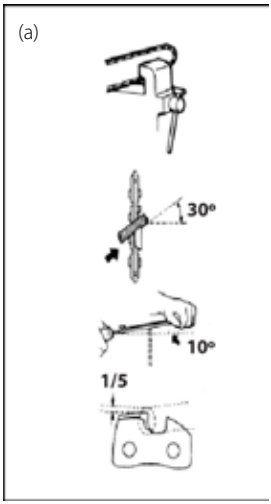
- Remove pruner attachment from the power unit.
- Clamp the guide bar in a vice to secure.
- Sharpen chain with a 5/32 file and holder (Oregon part number 16265)

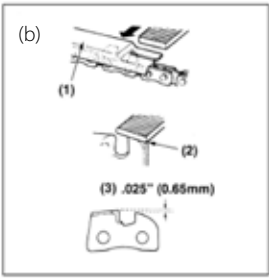
- Place your file on the cutter and push straight forward. Keep the file position as illustrated (a).

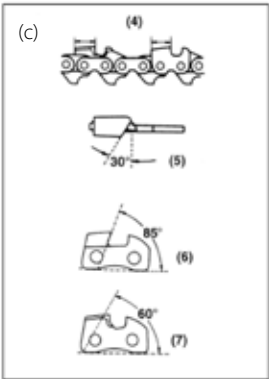
- After every cutter has been set, check the depth gauge and file it to the proper level as illustrated (b).

- Make sure every cutter has the same length and edge angles as illustrated (c).

(1) Depth gauge set tool (Oregon part no 27530)
(2) File shoulder round
(3) Depth gauge standard
(4) Cutter length
(5) Filing angle
(6) Side plate angle
(7) Top plate cutting angle

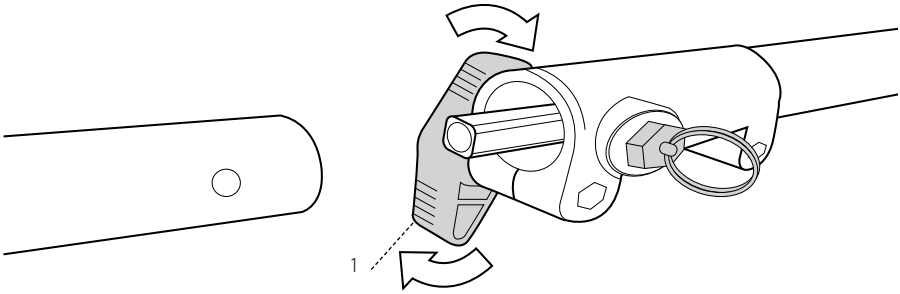




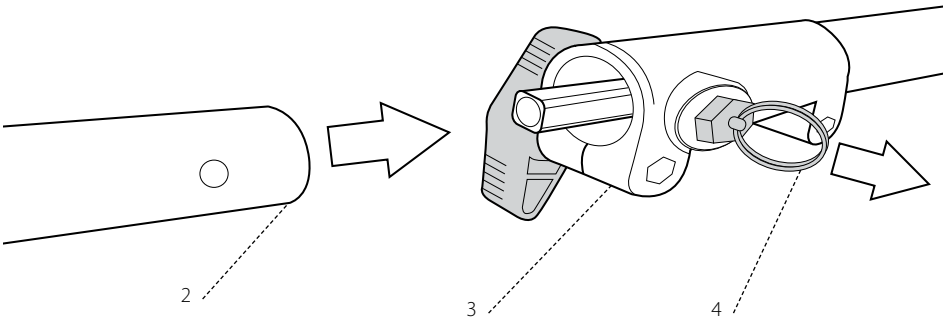


Attaching the Tools / Extension Shafts to the Power Unit

- Rest the power unit/shaft assembly on a flat firm surface.



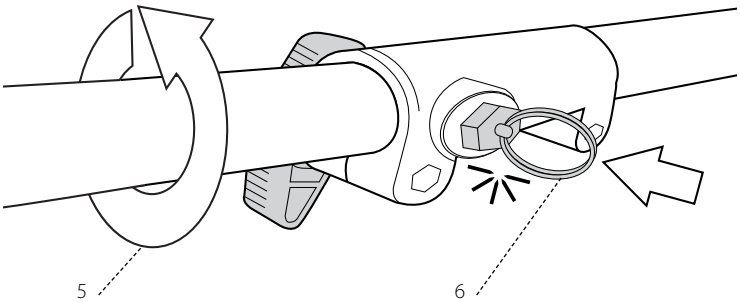
- Ensure that the clamping wing nut (1) is loose



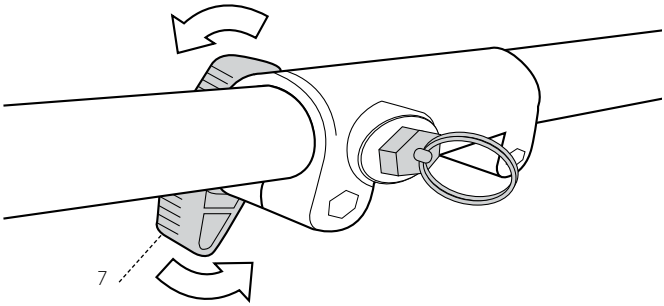
- Carefully fit attachment drive shaft assembly (2) into coupler (3), whilst pulling out locator pin (4).

Attaching the Tools / Extension Shafts to the Power Unit

- After the attachment drive shaft is in the coupler, release the locator pin.



- Turn the attachment drive shaft (5) until the locator pin engages with the locating hole (6) in the drive shaft, when this has happened it will not be possible to twist the drive shaft.



- Secure the drive shaft by tightening the clamping wing nut (7).

Operation

⚠WARNING **Keep clear of the blades as they may start moving when engine starts.**

Starting the Engine

CAUTION do not pull the starter cord all the way out and do not let go of the starter handle when the cord is extended, this can damage the starter mechanism.

Cold Engine Starting

Rest the unit on a flat, firm surface. Keep the cutter head off the ground and clear of surrounding objects as they may start moving upon starting of the engine.

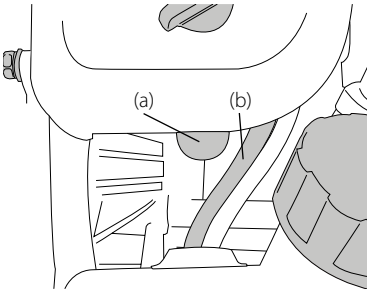


Fig 1 - Push the air purge bulb (a) until fuel is visible in the clear return fuel line (b).

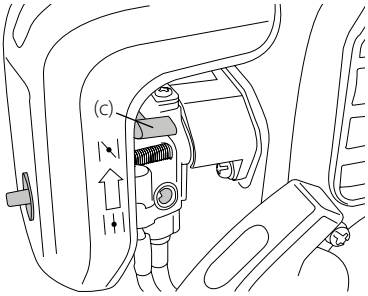
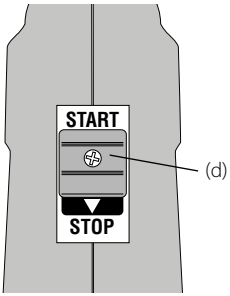
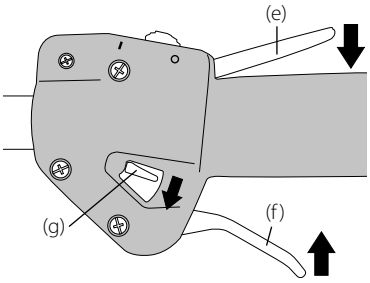


Fig 2 - Move the choke lever (c) to the closed position.



Set the ignition switch (d) to the START (I) position.



281MT only, hold the safety lever (e) down and squeeze the throttle control lever (f), push down the fast idle control (g).

- Release the throttle control lever first and then release your hand.
- Slowly pull the recoil starter handle until engagement of the pawls with the flywheel is felt.
- While holding the unit, pull out the starter rope firmly until engine fires (indicated by a 'cough' from the engine).
- Move the choke lever to the open position. 
- Pull the starter rope until the engine starts.
- Pull and release the throttle control lever to return the engine to idle (281MT).
- Allow the engine to warm up before use. When cutting, always use the machine on full throttle.

Hot Engine Starting

Set the ignition switch (d) to the start position "I".
Pull the starter rope until the engine starts.
If the engine does not start after 5 pulls, use the cold start procedure.

NOTE

Overchoking

Should the engine become flooded due to overchoking, turn the ignition switch off, unscrew the spark plug, wipe it dry or replace.

Stopping the Engine

Set the engine to idling by releasing the throttle lever.

Set the ignition switch to the off position "O" (STOP).

If the engine fails to stop, set the choke lever to the closed position to stall the engine; do not use the machine until the ignition switch is repaired.

Running In

During the first ten hours of work, avoid running the engine at maximum speed for a prolonged period until all the components have bedded in, after the engine has been run in, it will reach its maximum power.

Transportation

Never transport the Multi-Tool with the engine running. An engine that is running could be accidently accelerated causing the cutter head to engage.

Make sure the blade safety guards are in place when transporting the Multi-Tool.

When carrying by hand, the cutting head should be pointing backwards.

Ensure the Multi-Tool is secure when transporting in a vehicle and the tank is drained of fuel.

Maintenance

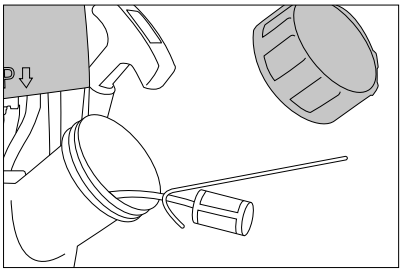
IMPORTANT

After every use, check that all nuts, bolts and screws are securely fastened and tighten if necessary.

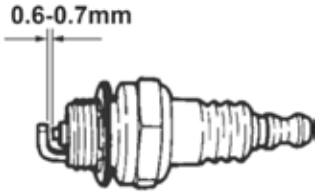
In the event of an accident, breakdown or blockage, ensure the engine is turned off before any work is carried out to rectify this.
Make sure the engine has stopped and is cool before performing any service to the machine. Contact with a moving cutting head or hot muffler may result in a personal injury.

Fuel Filter

Every 15 hours of operation, using a wire hook, take the fuel filter from the fuel tank and clean or replace with a new fuel filter.

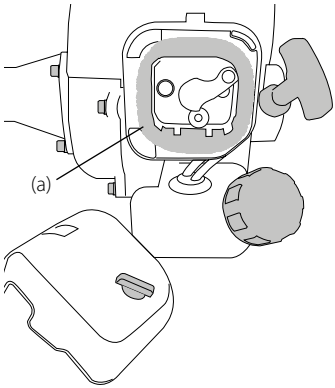


Spark Plug



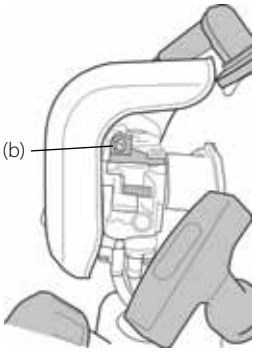
Poor starting or misfiring is often caused by a fouled or defective spark plug, clean and reset the gap to 0.65 mm, or replace the spark plug with NGK: BPMR7A as necessary.

Air Filter



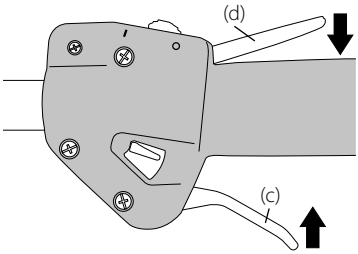
Before using the Multi-Tool, check the air filter (a).
A clogged air filter will reduce the engine performance.
Remove the air filter cover by undoing the cover screw clean the filter element in warm, soapy water and dry completely before installing. If the element is broken or shrunk, replace with a new one.

Carburettor



The carburettor mixture setting has been set at the factory and will not need adjusting.
Adjusting the idle speed. If adjustment is necessary turn the T screw (b) clock wise until the cutter head starts to move, then turn the screw T anticlockwise until the cutter head stops.
If the idle speed cannot be adjusted to stop the cutting head moving at idle, contact your dealer for repair before use.

Safety Lock



The safety lock is to prevent the throttle lever from accidentally being engaged. The throttle lever (c) can only be pressed in if the safety lock (d) is held down. Check if the safety lock and throttle lever returns to its original position and the engine returns to idling when you release your hand from the handle.
Any defects contact your nearest service agent for repairs before using the machine.

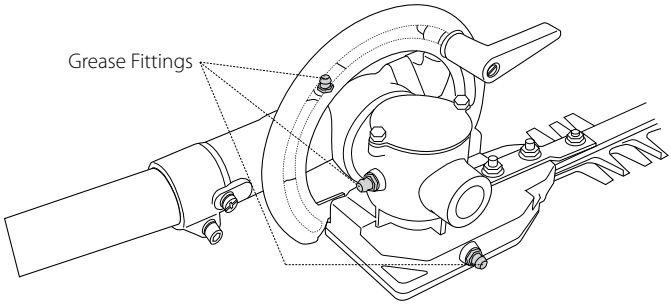
Storage

- Remove the spark plug, pour a small amount of oil into the cylinder. Rotate the crankshaft several times using the starting rope in order to distribute the oil. Put the spark plug back in.
- Remove the fuel from the machine.
- Check the Multi-Tool for damage or problems at the intervals shown in the service schedule.

Hedge Trimmer Blades

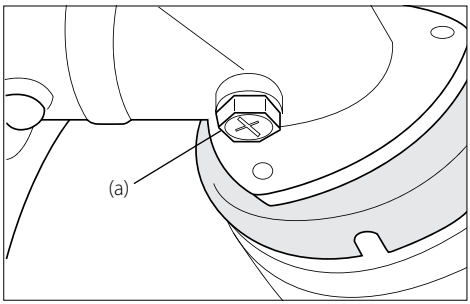
- After each session of operation, oil the cutting blades with light oil.

Hedge Trimmer Gearbox Lubricant



- Always be sure to use lithium based grease.
- DO NOT force grease into the gear box, apply 2 or 3 pumps of grease every 15 hours of operation.

Brushcutter Gear Case



- Remove the bolt (a) on the gear case, top up the gearbox using Lithium grease and refit the bolt.

Troubleshooting

Engine will not start, power loss:

- Check that the fuel tank is not empty. Fill with mixed fuel.
- The fuel does not reach the carburettor. Change the fuel filter in the fuel tank.
- There is water in the fuel. Drain and clean the fuel system.
- The air filter is dirty. Clean or replace the air filter.
- There are carbon deposits in the exhaust muffler restricting the engine. Clean or change the muffler.
- Spark plug is worn. Replace spark plug.

Service Schedule

	Component	Procedure	Before use	Every 15 Hours	Every 25 Hours	Every 50 Hours	Note
Engine	Fuel leaks / spillage	Wipe up					
	Fuel tank, filter	Inspect / clean		X			Replace if necessary
	Idle adjust screw	See above	X		X		Adjust carburettor if necessary
	Spark plug BPMR7A	Clean and readjust plug gap		X			GAP .025" (0.6-0.7mm) Replace, if necessary
	Cylinder fins, Intake air cooling vent	Clean		X			
	Air filter	Clean	X				
	Muffler, Spark arrestor, cylinder exhaust port	Clean				X	
Shaft	Throttle lever, ignition switch	Check operation	X				
	Screws, nuts, bolts	Tighten / replace	X				Not adjustment screws
	Gear Case	Check		X			
Pole Pruner	Oiling Port	Clean	X				
	Guide Bar	Clean	X				
	Sprocket	Inspect/ Replace			X		
	Saw Chain	Inspect/ Replace	X				
LRH	Blade	Grease		X			
	Blade	Lubricate	X				

Specifications

MODEL MITOX 271MT / 281MT			
Engine	Type		Air cooled 2-stroke gasoline engine
	Model		IE34F-2E
	Displacement : (cm3)		25.4 cc
	Max. output		0.7 (kw) in accordance with ISO 8893
	Idle speed: rpm (min –1)		2800±150
	Max. rpm (min –1)		8700
	Fuel tank capacity		0.65L
	Fuel		Mixture (petrol 40 : Oil 1)
	Carburettor		Diaphragm type
	Spark Plug		Torch L8RTC or NGK-R BPMR7A
Transmission			Centrifugal clutch, spur gear, cam-crank
Fixation hole diameter: (mm)			25.4

EX-BC (When used with extention shaft as brushcutter)			
Dry Weight w/o harness & gasoline			6.4 kg / 6.7kg
Overall size (LxWxH)			1800mmx380mmx250mm
Reduction ratio			22 :17
Cutting head	Cutting width	3 teeth blade	255mm
		Nylon head	415mm
	3 teeth blade thickness		1.4mm
	Cutting line diameter		2.4mm
	Max. blade rotation speed:		7500 rpm (min –1)
	Rotation direction		Counter Clockwise(as seen from above)

Specifications

EX-LRH (When as long reach hedge trimmer)		
Dry Weight w/o shoulder strap & petrol		7.1kg / 7.7kg
Overall size (LxWxH)		2290x230x250mm / 2410x230x250mm
Reduction ratio		4 : 1
Cutting head	Type	Reciprocating Double blade
	Pitch	30mm
	Effective cut Length	400mm / 550mm
	Angle adjust range	90° / 220°

EX-PS (When used as pruner saw)		
Dry Weight w/o shoulder strap & gasoline		6.4kg / 6.6kg
Overall size (LxWxH)		2100mmx230mmx250mm
Reduction ratio		0.94
Cutting head	Guide bar size	10inches (250mm)
	Saw chain Pitch x Gauge	3/8x0.042 in'/(9.53x1.07mm)
	Oil pump	Plunger type
	Sprocket	7T

CONDITIONS OF WARRANTY

The manufacturer warrants the product against faulty materials and workmanship for a period of 2 years from the date of first purchase. The warranty is applicable when the product is used in a "home owner" application. If products are used for commercial or professional purposes, the warranty period is for 3 months from the date of first purchase. Warranty does not extend to failure due to fair wear and tear.

The manufacturer undertakes to replace, any spare parts that are classified as defective by an appointed Mitox service dealer. The manufacturer will not accept liability for the replacement of the machine, either partially or wholly, and /or consequential damages and /or interest charges either directly or indirectly.

Warranty does not cover failure due to:

Insufficient maintenance.
Incorrect fuel mixture and stale fuel.
Abnormal use or accidental damage.
Incorrect assembly, adjustment or operation of the product.
Spare parts that are subject to wear e.g. safety parts, blades, blade supports, bearings, cables, guards, deflectors, spark plugs, air filters etc.

Neither does warranty extend to:
Freight and packing costs.
Use of non-genuine spare parts i.e. those from another manufacturer.
Use of the machine for any other purpose than that for which it was designed.
Use and maintenance of the machine in a manner not described in the owner's manual.

As part of our policy of continuous product improvement, we reserve the right to alter or amend this specification without notice. As a result, the product may differ from the information contained herein but any alteration will only be implemented without notice if it is classified as an improvement to the above specification.

READ THE MANUAL CAREFULLY BEFORE OPERATING THE MACHINE

When ordering spare parts, please quote the part number, this can be found in the parts list included in this manual.

Retain the receipt of purchase without which no warranty can be offered.

Distributed by Mitox Garden Machinery
Wincanton Business Park
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Somerset
BA9 9RS