

1. Introduction



1.1 Read the operating instructions

Eliet machines have been designed for safe and reliable use as long as they are operated in accordance with the instructions described. Carefully read the operating instructions before using the machine. Failure to do so can result in personal injury or damage to the equipment.

1.2 Identification details - Major

Note the identification details of your machine in the space provided:

Engine

Capacity

Serial number :

2. Guarantee



2.1 Guarantee card

In order to lay claim on the guarantee, the completed guarantee card should be sent to the address below within one month of purchase:

ELIET

Zwevegemstraat 136

B-8553 Otegem Belgium

Tel : (+32) (0)56 77 70 88

Fax : (+32) (0)56 77 52 13

3. Welcome



Welcome to the family of ELIET customers.

We would like to thank you for the trust you have shown in ELIET and we are convinced that you have purchased the very best machine. The operating life of your ELIET machine is determined by the way in which you look after your machine. This manual and the accompanying engine manual are there to help you. If you follow the instructions and suggestions in these manuals, your ELIET machine will be able to operate at its best for a very long time.

We would ask you to read this manual carefully before putting the machine into operation. This will prevent incorrect operation of the equipment.

It is in your own interest to pay special attention to the chapter covering the safety regulations. We would still ask you to read these pages carefully even if you are already familiar with operating similar types of machine.

ELIET is constantly working to further develop all machines and equipment. Bearing this in mind, we therefore reserve the right to supply equipment that may differ slightly in terms of shape and technology. The descriptions and technical data in this manual are applicable at the time of publication. It is possible that certain illustrations and descriptions are not applicable to your particular machine. They may relate to another version of the machine instead. We would therefore ask you to understand that the wording and illustrations in this manual cannot result in any claims.

If you still have further questions after reading this manual, we would ask you to contact your ELIET dealer.

ELIET IS AT YOUR SERVICE



Zwevegemstraat 136
B-8553 Otegem
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5. Safety signs



A number of symbols are included in the manual to provide additional information and point out any hazards.

5.1 For information



For information:

This symbol is used to draw your attention to special information and/or actions or it indicates further information on the subject in question can be found elsewhere.

5.2 Caution



Caution:

These are suggestions for safe use. This to avoid incorrect operation which may lead to personal injury or damage to the machine.

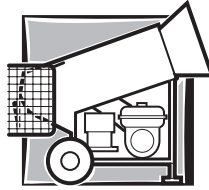
5.3 Warning



Warning:

WARNING: This heading informs you of a hazard which must be taken into account in certain circumstances. In order to guarantee your own safety, you must be alert at all times.

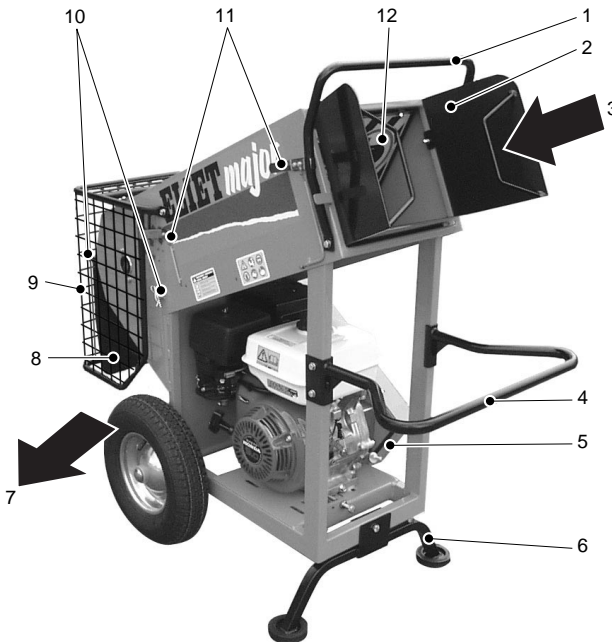
6. Main parts



In order to fully understand the content of this manual it is important to familiarise yourself with the terminology used in the descriptions. This chapter refers to a series of parts and lists them by name.

It is advisable to thoroughly examine the machine beforehand in order to obtain a better insight into the descriptions which have been included in this manual.

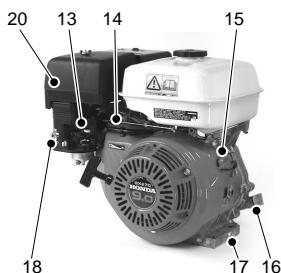
6.1 General view



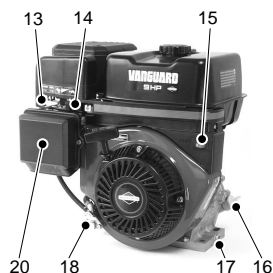
1. Emergency lever
2. Input hopper
3. Input
4. Steering handle
5. Drive guard
6. Balance base

7. Output
8. Splash guard on output
9. Safety net
10. Sliding spindles for removal of screen
11. Safety switch
12. Safety shield

6.2 Engines



HONDA
GX270 (9 HP)



BRIGGS & STRATTON
VANGUARD (9 HP)



- 13 Choke
- 14 Speed adjustment
- 15 ON/OFF switch
- 16 Oil filler cap/dip stick

- 17 Oil drain plug
- 18 Petrol tap
- 19 Electric motor
- 20 Air filter



For information:

If the manual refers to the terms in front, behind, left and right, then this is always as viewed by the operator standing at the machine input.



For information:

Your ELIET dealer is at your disposal, ready to provide you with maintenance or advice so that your ELIET machine always remains in the best possible condition. You can contact him for genuine ELIET service parts and lubricants. These service parts are manufactured by craftsmen to the same stringent accuracy as the original equipment.



Caution:

For your own safety, only genuine service parts should be installed on ELIET machines.

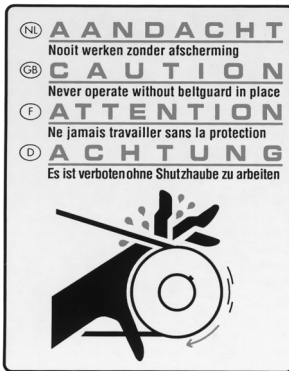
7. Safety regulations



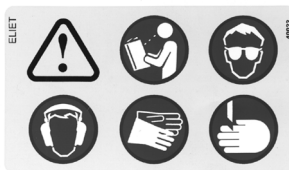
7.1 Safety announcements



This sticker is attached to the safety net and warns against the danger of injury to hands. The screen on the shredding chamber should only be opened once the knives have come to a complete standstill. The motor should always be switched off before lifting the safety net.



This sticker is attached to the drive belt guard. The sticker points out the danger which can occur if the guard is removed while the motor is rotating. Never operate the machine if the guard is not in place.



This sticker is attached to the side of the machine. This sticker provides a summary of the general safety regulations by using icons :

1. Before operating the machine the manual should be read and understood.
2. Suitable safety clothing (gloves, safety glasses, ear defenders) should be worn when operating the machine.
3. Operating or carrying out maintenance on the machine presents the risk of injury to hands. Be alert and careful.



This sticker is attached to the machine at engine height. This sticker reminds the operator to switch off the engine and release the spark plug cap before carrying out maintenance on the machine.



This sticker is attached in the input opening. The sticker emphatically points out the risk of injury to hands which is inherent in wood shredding. The sticker reminds the operator how to operate the shredder in the safest possible way. It is prohibited to insert your hands beyond the safety shield!



This sticker is attached to the safety shield. Once the safety shield is lifted the risk of cuts and injury due to flying wood chips becomes very real. This very visual sticker aims to draw your attention to these hazards.

7.2 Safety precautions

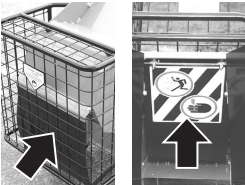


Emergency lever : This lever is located around the input opening. By pushing this lever backwards, the engine is switched OFF.

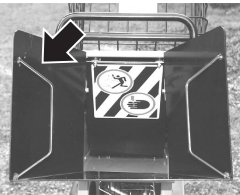


Safety net : Safety net – This net encloses the rear of the machine. When the net is raised, the engine is switched OFF. This net prevents you from inserting your hands into the rotating blades.

Warning:The blades may continue to rotate for a short time after the motor has stopped.



Safety shields : First of all the machine is equipped with a steel plate located in the input opening. Its function is to protect the operator against flying wood chips. It is strictly forbidden for the operator to insert his hands beyond this steel plate. Secondly, the machine features a rubber protective flap at the rear of the machine. This serves to slow down flying chips.



Input hopper : This hopper is fitted on the input opening in the direction of the operator. If the operator was to ignore the warning and insert his hands beyond the protective plate, then this hopper would restrict the access to the shredding chamber to the extent that injury caused by the blades along the input opening is virtually impossible.



Belt guard : The guard ensures that the rotating parts which could cause injury are sufficiently guarded.



Safety kit : With regard to your safety ELIET strongly recommends the use of the supplied safety kit. This kit consists of safety glasses, ear defenders and a pair of working gloves.

7.3 General safety regulations

- The owner must retain the manual during the complete operating life of the machine. It serves as a reference for the user, and enables the machine to be used and maintained in accordance with the correct instructions.
- This machine is used to shred branches, pruning wood, leaves and all kinds of organic garden waste. The machine must therefore be used for these applications only.
- The maximum branch diameter as prescribed by ELIET for this model is 55 mm. In the interest of your own safety, this diameter should not be exceeded.
- Frozen branches must never be shredded.
- The original design of the machine should not be modified under any circumstances.
- When using the ELIET machine, all safety regulations must be observed! Carefully read all instructions regarding the use of the machine. All these instructions are of great importance for your personal safety.



For information:

Also read the engine manual supplied with the machine. This contains the necessary information for the correct use and maintenance of the engine.

- Briefly refer to the chapter for the dealer and check whether the machine has been supplied in accordance with the regulations. (see § 8. Dealer tasks)
- When you purchase the machine, first allow the salesman or a competent person to give you some instructions.
- Take note of all safety announcements which are attached to the machine in the shape of stickers.
- It is assumed that the operator of this machine is mature enough to be able to take decisions based on common sense.
- It is assumed that the person who uses the machine is fully conversant with the safety regulations.
He bears full responsibility for the machine in relation to himself and third parties.
- Underage persons must not operate the machine. However, this does not apply to youths above the age of 16, who are learning to operate the machine under the supervision of an experienced operator. Children and animals must be kept well away from the machine.
- ELIET recommends that the machine should not be lent to others. However, if this does happen, it should only be lent to persons who are familiar with the machine. Always ensure the user is aware of the possible hazards, and ensure he has read the manual before he uses the machine.

- This machine may only be operated by persons who are in a good physical condition. If the operator becomes tired whilst working with the machine, he should take a break in good time. The machine should not be used by persons who have consumed alcohol.
- Suitable clothing must be worn whilst working with this machine. This means clothing which covers the whole of the body, strong gloves and closed shoes with anti-slip soles and preferably steel toe caps.
- Clothing must never be worn loose (a scarf, for instance, is definitely not allowed). If the operator has long hair, he must tie it back in a ponytail and wear a cap or headband to hold it together.

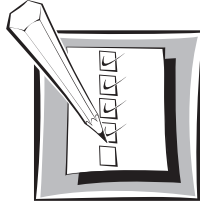


Caution:

For protection of eyes and ears, ELIET recommends ear defenders and safety glasses. These are supplied as standard with the machine.

- Never work in conditions where the light intensity is less than 500 Lux.
- Do not allow third parties to enter the danger zone which extends up to 5 m around the machine while the machine is working.
- When leaving the machine, the engine must be switched off.
- When parts are to be replaced as a result of wear or failure, always contact your ELIET dealer for original ELIET spare parts. This is important in the interest of your own safety.
- For a machine equipped with an electric motor, the following guidelines must be observed.
 - The machine may only be connected to an earthed circuit.
 - The circuit must be protected by a RCD (Residual Current Device) with a minimum sensitivity of 30 mA.
 - If connection is to be made to a socket which is located outside, this socket must conform to IP65.
 - The machine must not be operated during rainy weather.
- Use the machine in an environmentally friendly way:
 - Do not leave the machine on when it is not being used.
 - Do not waste petrol during refuelling.
 - Service the motor on a regular basis in order to maintain constant combustion.

8. Dealer tasks



Warning:

The ELIET dealer is obliged to instruct his customers on the operation of the machine and, at the same time, make them aware of possible hazards which may occur while working with the machine. He will carefully go through the maintenance issues together with the new owner. He will repeat these instructions till the new owner has fully understood everything.

As the manufacturer, ELIET wishes to re-emphasise that the dealer must expressly point out to customers that they are to retighten the bolts for the blades after the first 5 operating hours.

When the machine has been removed from its packaging, it is not yet fully assembled. It is the dealer's task to finish this assembly. A number of guidelines are listed below :

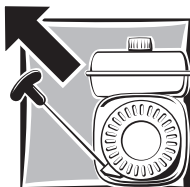
- Firstly, the steering handle is installed. This is secured in the holes provided by two M6 bolts. (use a 10 mm ring spanner)
- The hopper at the front of the input opening is unfolded and secured with the 2 (M6) bolts, pinions and nuts respectively.
- The wheels are slid onto the wheel shafts. Some lubricating grease (Sunoco Multipurpose LR-EP2, for instance) may be applied to the roller bearings beforehand. Finally, the wheels on the shafts are locked using the Starlock caps supplied.
- The dealer adjusts the belt tension in accordance with the description in the maintenance section of this instruction manual. Each ELIET dealer is responsible for the long operating life of the ELIET machine. He will lubricate all hinge points of the machine again before delivering the machine to the customer.
- The machine is packed without oil or petrol. The dealer will apply these in accordance with the instructions in this manual (or the instructions in the engine manuals).
- For petrol engines, the engine speed is set at 3200 rpm.
- The dealer performs a test run on the machine and checks that everything works correctly. (e.g.: safety net, emergency stop...)
- Finally the dealer ensures the guarantee card is completed and signed in order to avoid disputes in any warranty cases. Please refer to the guarantee conditions for further information.



Caution:

In the case of a petrol engine, the dealer will pay particular attention to the correct adjustment of the speed of the machine. If the speed has been set too high, this will cause additional vibration which in turn will cause increased wear in due course. If the speed has been set too low, the machine will lose power.

9. Operating instructions



9.1 Preliminary checks



Caution:

Before using the machine, it is recommended to make a habit of checking the following points.

9.1.1 Checklist

1. Check whether there is sufficient oil in the machine. To this end, remove the dipstick and check the oil level has not dropped below the minimum level. (See if necessary [§ 11.4.2 Checking the oil level in the engine](#))
2. Check beforehand whether the fuel tank is completely full. If this is not the case, it should be topped up with fuel (see [§ 9.2 Refuelling](#)).
3. Check the level of contamination in the air filter (see if necessary [§ 11.4.3 Cleaning the air filter](#)).
4. Check whether the blades are still in good condition and are well secured. If they require sharpening, then this must always be done first. A blade must be replaced immediately if cracks or fractures are detected (see [§ 11.5.6 Reversing and replacing the blades](#)).
5. Check whether the screen at the rear of the machine is secure, and has been fastened correctly.
6. Check whether the belt is still sufficiently tensioned (see [§ 11.4.5 Checking the belt tension](#)). If not, this can be adjusted (see [§ 11.5.5 Adjusting the belt tension](#)).
7. Before using the machine, check whether all guards are in position and whether they have been correctly secured.
8. Check whether all safety precautions on the machine are still functioning (see [§ 7.2 Safety precautions](#)).

Once these items have been checked and approved, the working area can be set up (see [§ 9.3 Preparation of the working area](#)) and the machine can be installed on site.

9.2 Refuelling

When there is insufficient petrol in the machine it must be filled up. It is advisable to always use fresh petrol. Preferably unleaded petrol with 98 or 99 octane should be used.



Warning:

Under certain conditions, petrol is extremely flammable and explosive. Fire and explosions caused by petrol can result in serious burns or damage to property. The following points should therefore be taken into consideration:

- Topping up with petrol should never take place while the engine is rotating. Always allow the engine to cool off for a few minutes before topping up with fuel.
- Only use fresh petrol. For environmental reasons, ELIET recommends the use of unleaded petrol. Additives may be added in order to extend the freshness life.
- Store petrol in an approved tank. Keep this tank out of reach of children.
- Never top up with petrol in a place where work will be carried out later. Keep a distance of at least 10 metres away from a chosen working area This to prevent any fire risk.
- Clean the area around the fuel tank cap and remove it. Do not fill the tank up completely. Fill it up till the fuel is about 10 mm away from the top edge. In other words, do not fill the tank right up to the opening.
- Always use a funnel or spout to pour the petrol into the tank. Suitable funnels can be obtained from your ELIET dealer.
- Replace the cap on the tank as soon as possible. If petrol is spilt during filling, the engine must be cleaned immediately.
- Also, ensure clothing does not come into contact with petrol. If this does happen, clothing should be changed immediately.
- It is unsafe and therefore expressly forbidden to fill the tank in the vicinity of smokers or a naked flame.
- A doctor should be consulted immediately if fuel is swallowed or comes into contact with eyes.

9.3 Preparation of the working area

- The location where the machine is to be used must first be tidied up. The sources of supply for pruning materials should also be cleared to prevent the operator from tripping. The operator must also ensure that his safety is not compromised.
- The machine should not be used if it is on a slope (forward or side slope).
- TIP: As the chips fall on the floor behind the machine, it may be useful to lay a plastic sheet underneath the machine. This makes it much easier to clear up the chips afterwards.
- The material to be shredded is sorted beforehand. In this way, the operator can be sure that no foreign objects will end up in the machine with the material to be shredded.
- The heading foreign objects means: anything which is not organic or which exceeds the prescribed maximum diameter (e.g. metal, stone, plastic, pvc, rope...). Some of these objects can cause serious damage to your machine or can be ejected out of the machine, like projectiles, towards the operator.
- The machine should always be positioned such that the wind will blow the dust which has been produced away from the engine.

9.4 Starting the engine



Caution:

Never start the machine if there is dust or dirt on the engine or between the cooling fins of the engine. This prevents optimal cooling of the engine and more importantly can cause fire.



Warning:

The drive shaft for the blades is directly driven by the engine. The blades cannot be disengaged. The machine is therefore dangerous as soon as the engine is running. Consequently, the engine must be switched OFF immediately if a situation occurs where a person loses control of the work. How to switch the machine off quickly:

1. By pushing the emergency stop lever backwards, the engine is switched OFF.
2. The engine can be switched off using the stop switch or the rotary knob.
3. By raising the safety net, the engine is also switched OFF.

It should be noted that the engine can only be started if the emergency stop lever and the safety net are in the correct position.

9.4.1 Petrol engine



For information:

The starting procedure for the engine can vary slightly from one engine make to another. Please also refer to the engine manual. The 'General' chapter in [§ 6. Main parts](#) shows various types.

Before starting the engine, check whether there is sufficient oil and fuel in the engine, if this has not already been checked previously.

For the inspection and replenishment of the oil level please refer to [§ 11.4.2 Checking the oil level in the engine](#).

For filling up with petrol please refer to [§ 9.2 Refuelling](#).

- If the petrol tank is equipped with a fuel shut-off valve, ensure that this is in the OPEN position.
- Depending on the type of engine, move the lever, or turn the knob to the ON position.
- Move the choke lever to CLOSE.
- Move the throttle (control lever) to full throttle, which is represented by the illustration of a hare.



Warning:

Before starting up the machine, be sure to wear the supplied ear defenders.

- Start the engine by pulling strongly on the starter cord.
- Once the engine is running, quickly move the choke lever to OPEN. This to prevent the engine being flooded with petrol. If this action is omitted, the motor will slow down and will start to smoke fiercely. Eventually, it will stop. Simply restart the engine without using the choke.
- If the engine cannot be restarted, it will be because the spark plug is covered in grease and it should be cleaned or replaced (see § 11.5.2 [Checking or changing the spark plug](#)).

9.4.2 Electric motor

- It is forbidden to use the machine during rainy weather.
- The extension cable to be used should be earthed.
- Ensure the machine is not too far away from the wall socket. If the extension cable is too long, this will result in considerable resistance with a corresponding loss in power.
- Ensure the extension cable and the sources of supply for the wood to be shredded do not cross each other. This could cause accidents.
- Check whether the red knob on the machine is depressed so that the engine will not start automatically once the power has been switched on. To be on the safe side, first connect the extension cable to the machine before connecting the extension cable to mains supply. Ensure people are well away from the machine when the cable is connected to the mains supply.
- Before connecting the cable to the motor, make a loop with the cable around a tube on the machine frame. This to prevent the machine plug from being pulled out when the machine is moved.
- Start the motor by pressing the black button.
- Always allow the engine to run up to speed before inserting the wood to be shredded.

9.5 Working with the machine



Caution:

CAUTION As long as the engine has not completely stopped after it has been switched OFF, the blades continue to rotate. Consequently, do not perform any maintenance work whilst the blades are still rotating.



Warning:

Guards offer protection against rotating parts. When the engine is running, never place hands or other limbs behind these guards.

9.5.1 Prior to starting the work

Please note the following safety regulations before using the machine.

- Never use a machine with a petrol engine in an enclosed area. This can cause poisoning as a result of engine fumes.
- The operator should wear the clothing, gloves and means of protection as stipulated in this manual (see § 7.3 General safety regulations).
- The operator must be careful when performing work. While he is operating the machine, he must focus his concentration completely on the work.
- The machine should only be used when there is adequate visibility. Adequate lighting must be provided.
- If the machine is equipped with an electric motor, the power supply cable will be routed so that it does not restrict the supply of wood to be shredded.



Warning:


Gloves should always be worn when checking for faults or performing repair work. Repair, maintenance and cleaning work may only be performed when the engine is at a standstill and the spark plug cap has been disconnected (or in the case of an electric motor, after the plug has been removed from the wall socket).

Please also note the following recommendations:



- A good gardener is well organised and plans his work. This will enable him to have an overview of the work and to avoid accidents and incorrect actions on the machine.
- The wood is systematically stacked before commencing the work: thick branches, thin branches, leaves and damp products. Ensure the material does not contain any foreign objects.
- Once the engine is running it is best to let it warm up first. This ensures that the motor attains its full power. This should always be done before branches which are close to the maximum diameter are fed into the machine.

9.5.2 During the work

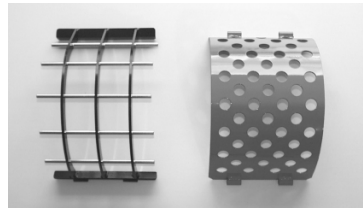
- When inserting the material, always hold it firmly. The wood is pulled into the machine by the rotation of the drive shaft for the blades and the teeth on the blades. If the operator does not continue to hold the wood firmly, it will automatically be pulled into the machine much too quickly which will inevitably lead to the machine jamming. The operator himself will therefore control the feed rate by feeding the wood in slower or faster. This feed rate will vary according to the thickness of the branch.
- The operator will listen attentively to the engine speed when feeding in the wood. If he notices that the speed of the engine drops significantly, he will immediately pull the wood back in order to allow the engine to speed up again.



Caution:
When feeding in wood, the operator must never insert his hands beyond the steel shield.
By raising the plate, the operator removes his own protection against wood chips flying out of the machine.

- If mainly leaves or damp products are to be shredded using the standard screen, the openings can become blocked. As a solution to this problem ELIET offers a "screen for damp products". This screen can also be obtained from your ELIET dealer.



- As the chips fall onto the floor behind the machine, regularly check the pile of chips behind the machine is not obstructing the motor output or exhaust. Therefore either move the machine backwards in good time or tidy up the chips while the machine is working.
- If only a small volume of leaves is to be processed, they can easily be shredded using the standard screen. However, in this case, ELIET recommends that leaves and branches should be shredded alternately. The wood chips will prevent the screen openings from becoming blocked.
- The work should be halted immediately if strange noises are heard during the work. Stop the engine (using the emergency stop lever) and investigate the cause of the defect. Before proceeding, perform the necessary repairs.
- If the operator notices that, despite all preparations, a foreign object has still found its way into the machine, he immediately switches off the engine. He removes the foreign object and checks for any damage. In the event of damage, this is first repaired.
- In principle, the engine should switch itself OFF when the safety net is raised. If this is not the case because of a defect in the electrical circuit, the operator should switch the machine off immediately and not use it again until the defect has been corrected.

9.5.3 After switching off the engine

The engine may cut out due to overloading, wood being fed in too quickly or lack of petrol. It is not possible to keep on restarting it. The following operations should be carried out:

1. Check the petrol level in the petrol tank. ([§ 9.2 Refuelling](#))
2. Remove all branches from the input opening.
3. Pull the starter cord briefly. This will determine whether the drive shaft for the blades is still obstructed. Stop pulling as soon as you encounter resistance, and the cord cannot be pulled any further. There is no point in pulling hard on the cord, as this can only cause the cord to break or overload the starting mechanism.
4. If the drive shaft for the blades is stuck, the shredder housing should be emptied. To this end, open the screen. The screen is secured by two sliding pins. Remove the top sliding pin after removing the circlips. The screen can now be folded down.



Warning:

If the machine topples over, petrol can leak out. In certain conditions petrol can be highly flammable and very explosive. Petrol fire and explosion can cause severe burns or damage to properties.



Warning:

The blades are razor-sharp, avoid injuring your hands. Wear gloves!

5. Remove all wood chips and debris from the shredding chamber. Carefully refit the screen and check whether this has been done correctly.
6. Lower the safety net and start up the shredder (as per the start up procedure described in [§ 9.4 Starting the engine](#)).
7. Perform the work more carefully in future in order to avoid jamming the machine.

9.6 Stopping the engine

RAISING SAFETY NET = ENGINE SWITCHED OFF

9.6.1 Petrol engine

- To stop the engine, move the throttle (control lever) or turn the knob to the OFF position.
- The machine can also be switched OFF by moving the emergency stop lever backwards.
- If fitted, close the fuel shut-off valve.

9.6.2 Electric motor

- The motor is switched off again using the red button.
- When the motor has cut out due to overloading, simply repeat the start up procedure. However, clear the shredding chamber first (read Chapter 6.3).

9.7 After the work has finished



9.7.1 Cleaning the machine

- Not cleaning the machine will speed up the wearing process. If the machine no longer operates at its best, the safety of the user is compromised.
Adverse effects of not cleaning:
 1. Increased wear on bearings
 2. Increased wear on seals,
 3. Reduced cooling efficiency
 4. Fire hazard,
 5. Inability to detect fractures or cracks
 6. Damage to the layer of paint,
 7. Stickers becoming illegible.
- It is recommended to spend some time cleaning the machine every time it is used. Cleaning the machine can also be regarded as a visual inspection. It enables you to detect any cracks, fractures, or lack of lubricant in good time.
Special attention should be paid to the following:
 - The engine must remain free of dust and dirt. In particular, the cooling fins must be clean and the area around the exhaust pipe must be unobstructed. The area around the filler plug must also be kept clean so that dirt cannot get into the fuel tank.
 - Ingrained sand, grease and dirt must be removed from the bearing bushes. Reapply lubricant after cleaning (refer to list of lubricants in [§ 11.3 Lubricants](#)).
 - Using a dry dust cloth, remove any dirt from the chassis. Pay special attention to places where stickers with safety messages are displayed.

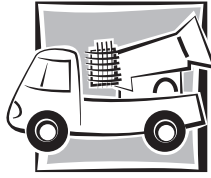


Caution:

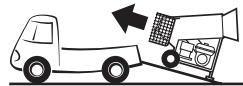
Wear suitable clothing when cleaning. Gloves are essential.

- Use a dry dust cloth and a soft brush for cleaning the machine... Penetrating oil containing molybdenum disulphide is used to remove grease and lubricants. This spray lubricates and also dissolves rust.
- Steam cleaning the machine is permitted. However, the water jet should not be aimed abundantly at the bearings, covers or filler caps. Water is cause number one of rust and this should be avoided at all times. Allow the engine to cool sufficiently before directing a cold water jet on to it.

10. Transporting the machine



- The shredding chamber must be empty before the machine can be moved. The input opening should not contain any branches.
- If the machine is moved (more than 5 m), the engine should always be switched OFF.
- Only adults may move or transport the machine.
- During transport do not allow children, unauthorised persons or animals within a radius of 3 m around the machine.
- Select the transport route so that there are not too many obstacles in the way. The transport route should preferably be flat with an even surface.
- If the machine is tipped over for whatever reason, turn it upright it as soon as possible. This prevents the oil in the crankcase from getting onto the air filter. As these filters are expensive, it is best to prevent this.
- Use anti-slip ramps when loading the machine in a van or on a trailer. Ensure that these are well secured to the vehicle or trailer. Under no circumstances should the ramp slope exceed 25°.
- One must be careful and composed when loading and unloading the shredder so that the machine does not tip over and causes an accident.
- The drive shaft for the blades should be positioned in front when ascending a slope.

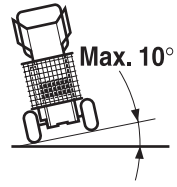


- The drive shaft for the blades should be positioned last when descending a slope.

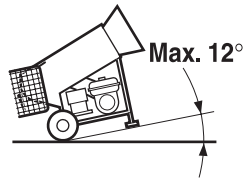


- During transport, the machine should be firmly secured in the vehicle. Use fixed chassis parts to secure the ropes to.
- Ensure the transport vehicle is not overloaded. See [§ 13. Technical information](#) for the exact weight of the shredder.

- The maximum allowable sideways gradient for the shredder is 10°.



- During transport never tilt the shredder by more than 12° because this could cause the machine to topple over.



11. Maintenance



11.1 General



For information:

The dealer's personnel are always at your disposal. The ELIET dealer can always rely on comprehensive support from NV ELIET as they can work together to find a solution for any problem you may have. For repair or maintenance on the engine you can always contact your ELIET dealer or a maintenance service approved by the engine manufacturer. If you need to contact these services, always state the model and serial number of the machine and the engine as well as a full description of the problem. Only use ELIET spare parts to carry out repairs. These parts have been manufactured by craftsmen to the same stringent accuracy as the original equipment. For your own safety, only genuine service parts may be installed on ELIET machines.

- Maintenance work should always be performed in an area intended for this purpose. This area should comply with the following criteria:
 - Spacious
 - Accessible
 - Well lit
 - Dust-free
 - Clean and tidy
 - Quiet

These characteristics are important for proper maintenance conduct.














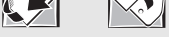


Caution:

Maintenance performed in an incorrect manner can subsequently compromise the safety of the operator. Maintenance work is always performed with the engine switched OFF. For safety reasons, pull the spark plug cap off the spark plug or disconnect the plug. When performing maintenance work, gloves, and also safety glasses for some operations, should be worn. These are supplied as standard with the machine.

- The maintenance work described can basically be performed by any person who possesses the requisite technical knowledge. However, ELIET recommends that the machine should be maintained once a year by an ELIET dealer for a complete inspection.
- Your ELIET dealer is always at your disposal for maintenance and advice. He has genuine ELIET service parts and lubricants in stock. His personnel can always obtain advice and service from ELIET, so that they can provide you with an impeccable after-sales service.

11.2 Maintenance schedule

11.2 Maintenance schedule			
Detailed maintenance after 20 working hours			
Routine check before every job.			
Description			
	Visual inspection of machine condition	§ 11.4.1	
	Checking oil level in engine	§ 11.4.2	
	Cleaning the air filter	§ 11.4.3	
	Sharpening the blades	§ 11.4.4	
	Checking the belt tension	§ 11.4.5	
	Machine cleaning (after every job)	§ 9.7.1	§ 9.7.1
	Changing the engine oil		§ 11.5.1
	Checking or changing the spark plug		§ 11.5.2
	Changing the air filter		§ 11.5.3
	General lubrication		§ 11.5.4
	Adjusting the belt tension		§ 11.5.5
	Turning and replacing the blades		§ 11.5.6

11.3 Lubricants

Engine (0,75 l)	SUNOCO SUPER DENALUBE SAE 20 W 50 API SF / CC
Hinge points (pivots)	NOVATIO WHITE SUPREME GREASE
Wheel shafts	SUNOCO VET MULTI-PURPOSE LR - EP2

11.4 Routine checks before each job.



11.4.1 Visual inspection

Check for deformation of parts, cracking of joints or too much play in parts. If abnormalities can be established, the necessary repair work should be carried out. Check whether the machine is running at the prescribed speed (3200 rpm) (a revolution counter can be obtained from your ELIET dealer). Never attempt to change the standard setting of the engine.



11.4.2 Checking the oil level in the engine

Refer to the 'General description' section in [§ 6. Main parts](#) for possible locations of the oil dipstick and oil drainage and filler plugs.

- Take a clean cloth.
- Pull the oil level dipstick out of the oil filler opening.
- Usually, the oil level cannot be correctly read immediately. Wipe the dipstick clean, place it back in the oil filler opening, but do not tighten it.
- Pull the dipstick out again, and read the correct oil level.
- If the oil on the dipstick is between the minimum and maximum level, then there is sufficient oil.

If the oil level is too low it can be filled up via the oil filler plug. Only use the recommended oil. Do not add too much at a time and regularly check the oil level.



11.4.3 Cleaning the air filter

- The type of air filter can vary slightly depending on the make and type of engine.
- Locate the air filter underneath the black protective cap beside the petrol tank on the machine.
- Release the black protective cap.
- There are two types of filter. As well as the common sponge filter, there is a filter which consists of laminated paper like the air filter in a car.
- The sponge filter can be cleaned by rinsing it out with some petrol and blowing compressed air through it.

- The paper filter type can only be cleaned by dusting it off or by blowing compressed air through it.
- Once cleaned, all items should be reassembled in their original position.



Caution:

If the machine accidentally falls over, it should be placed upright again as soon as possible. When the engine ends up in an unusual position it is possible for oil from the crankcase to flow onto the air filter via the carburettor. As oil on the paper of the filter prevents air from passing through, the filter has to be replaced. Considering the price of these filters it is best to avoid this.



11.4.4 Sharpening the blades

- The machine offers the highest efficiency and has the highest operating speed when the blades are sharp. Enhance your own working comfort by taking some time to check the blades, and if necessary, sharpen them for every job.

SHARP BLADES = MAXIMUM EFFICIENCY



For information:

The blades do not have to be removed in order to be sharpened.



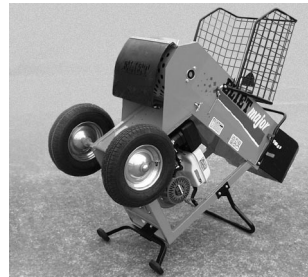
Warning:

If the machine topples over, petrol can leak out of the filler plug of the reservoir. Use a siphon to pump excess petrol from the reservoir because sparks from grinding can cause fire.

- Tip the machine forwards so it is resting on the front support and the steering handle (see illustration).
- Move the safety net forwards and dismantle the screen located at the rear of the machine by pulling the two sliding pins.

Tip: Use circlips to hold up the rubber flap which hangs at the rear of the machine as protection against flying chips.


- The cutting edge of the blades can now easily be sharpened using an angle grinder.



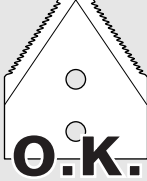
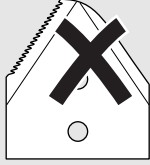
Warning:

Always wear safety glasses and ear defenders when sharpening the blades. Gloves are also compulsory when commencing maintenance work.

- When sharpening, rub the grindstone or the angle grinder along the bevelled cutting edge. Ensure the cutting edge keeps the same angle. The top of the blade endures the heaviest load during shredding. This should therefore be sharpened as little as possible so that it is not weakened. Correct and timely sharpening of the blades will extend their operating life




For information:
As soon as the top of the cutting edge becomes blunt, the blades have reached the end of their working life and they should be replaced or turned.

- Once sharpened all items should be reassembled in their original position. Mounting the screen can be facilitated by applying some grease on the sliding pins.



11.4.5 Checking the belt tension



Warning:
Only check the belt tension once the engine has been switched off. Disconnect the spark plug cap. Pull the plug from the wall socket.

- The drive guard contains a black round cap. This should be pulled out of the hole.



- Through the opening the V-belt can clearly be seen. If the belt is pressed down using your thumb (applied pressure is $\pm 7,5$ kg) it should only move by 1 cm. If this is the case, the belt is sufficiently tensioned.
- Replace the rubber cap in the opening once the belt tension has been checked.
- If the belt tension appears to be too slack or too tight, it should be adjusted. If the belt tension is too slack, it will bang against the protective cap.
- During the running-in period, a new belt will expand slightly. It is therefore advisable to adjust the belt after it has been operating for 10 hours.

11.5 Maintenance after 20 operating hours



11.5.1 Changing the engine oil

- Ensure the engine is resting on a level surface and is switched OFF.
- Locate the plug screwed into the crankcase at the rear of the engine at the bottom of the engine base. (See the engine manual).
- Keep a 1 litre recepticle nearby before unscrewing the plug.
- Allow all of the oil (approx. 0.75 litres) to drain from the engine.
- Refit and tighten the plug into the drain. Use a clean cloth to wipe away any spilt oil.
- Refill the engine with new four-stroke oil. For this purpose ELIET recommends a top quality oil with a high detergent content : SUNOCO DENALUBE SAE 20W50 API SF / CC.
- Add approx. 0.75 litres of oil via the oil filler opening. Remove any spilt oil once filling has finished. Allow some time for the oil to fill the crankcase before measuring the oil level with the dipstick.
- Place the dipstick in the filler opening without screwing it tight. Remove it and check the oil on the dipstick reaches the upper level mark. If not, add more oil.



Warning:

Too little oil in the engine leads to irrevocable serious engine damage.

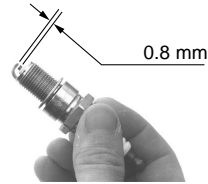


11.5.2 Checking or changing the spark plug

ELIET recommends the following makes of spark plug.

B&S Vanguard - 9 pk	
Honda GX 270 - 9 pk	

- Switch OFF the engine and pull the cable off the spark plug.
- Clean the area around the spark plug and remove it from the cylinder head.
- Using feeler gauges, check whether the distance between the electrodes is 0.8 mm.
- If the spark plug has suffered too much corrosion or contamination, it should be replaced.
- To check the quality of the ignition, proceed as follows :
 1. Refit spark plug cap onto spark plug.
 2. Hold the rubber part of the spark plug cap and press the outer electrode against the frame of the engine.
 3. Pull the starter cord.
 4. Check the sparks between the electrodes.
 5. If the sparks are bright and located exactly between the centres of the electrodes, then the spark plug is still OK.
 6. If the sparks are weak, irregular and not located exactly between the centres of the electrodes, then the spark plug must be renewed.



Caution:

Refitting an old or replacing a new spark plug should be performed with the greatest care in order to avoid damaging the screw thread in the motor. Torque the spark plug to 20 Nm.



11.5.3 Changing the air filter

- This action is completely identical to cleaning the air filter (see § 11.4.3 [Cleaning the air filter](#)).
- A new air filter of the correct type is available from your ELIETdealer or from a service centre approved for this type of engine.



11.5.4 General lubrication

ELIET feels it is important to use high-quality materials because these will prolong the life of the machines which are sometimes used in rather extreme working conditions. Special lubricants have therefore already been used in the factory. ELIET also recommends lubrication of the following parts on a regular basis:

- bearings,
- hinge points.

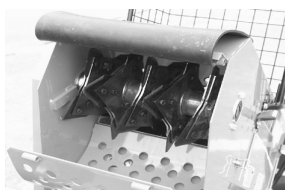
a. Bearing lubrication



Caution:

As is the case for all maintenance work, the engine/motor is switched OFF. Disconnect spark plug cap or plug from wall socket (as appropriate). Gloves are essential as blades are razor-sharp and can cause deep cuts.

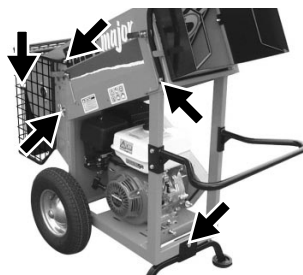
- Put the safety net up right and fold down the screen.
- Spray some penetrating oil containing molybdenum disulphide onto the bearing bushes of the drive shaft for the blades, and allow the oil to penetrate.
- Using a cloth, remove all dirt lodged around the joints of these bearings. Spray some more penetrating oil in the joints of the bearing seal so the oil can get into the bearings.
- Wipe away all excess spray.
- Spray Novatio White Supreme Grease in the joints of the bearing seals.
- If required, spray the complete drive shaft for the blades with penetrating oil. As penetrating oil containing molybdenum disulphide dissolves rust, this treatment can only be beneficial.



b. Hinge point lubrication

The hinge points include: the two hinge points on the screen, base hinge point and the hinge points on the safety net at the output.

- First spray hinge points with penetrating oil. Allow the oil to penetrate for a few minutes.
- Use a cloth or a wad of paper to wipe away any old grease or dirt. Once hinge points have been cleaned, spray Novatio White Supreme grease into the hinge joints.



All greases listed in this manual are available from your ELIET dealer.



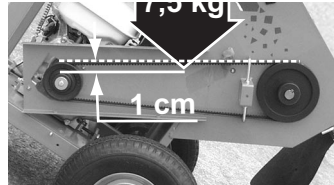
11.5.5 Adjusting the belt tension



Caution:

The engine should always be switched off and the spark plug cap should be disconnected when adjusting the belt tension.

- To adjust the belt tension, remove the guard. To this end, remove the four M6 bolts (without nuts). The guard is also secured to the chassis by means of an M6 bolt equipped with a dome nut, and an M8 bolt at the front of the guard. Two ring spanners should be used here (10 mm and 13 mm).
- To check the exact belt tension, a 7.5 kg weight is suspended from the V-belt. If the belt sags by 1 cm, the belt tension is correct (see figure).



- Adjust the belt tension by sliding the engine block forwards. To this end, four M8 bolts on the engine block should be unscrewed (2 x 13 mm ring spanners). Slightly turn the M10 bolt at the front of the engine backwards after releasing the lock nuts. The engine block can now be pushed forwards using the nut at the rear of the engine.
- Prior to releasing the engine, use a felt tip to mark the chassis plate at the side of the engine block. This will save time later when aligning the pulleys.
- Tighten the (M10) bolt at the rear until the correct tension is obtained. The bolt is secured with a lock nut.
- Align the two pulleys by retightening the bolt at front of the engine. The pulleys are correctly aligned if they touch a straight piece of wood held against them in four places (see figure).



CORRECT TENSION + CORRECT ALIGNMENT = LONG BELT OPERATING LIFE

- After the correct tension and alignment have been obtained, the position of the engine may be locked by firmly retightening the four engine (M8) bolts (using 2 x 13 mm ring spanners).
- The guard should only be refitted in its original position once everything has been carefully rechecked.



11.5.6 Reversing and replacing the blades



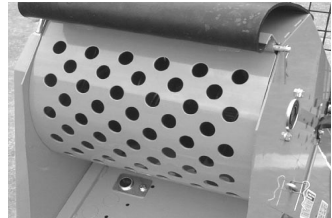
Warning:

Wear gloves because the blades are razor-sharp!

- If the blades are sharpened regularly, a tool life in excess of 50 hours per cutting edge is guaranteed.
- When one cutting edge has been used-up, the blade may be turned so it can be used for another 50 operating hours. If both cutting edges have become blunt, the blade must be replaced.

To turn the blades, proceed as follows.

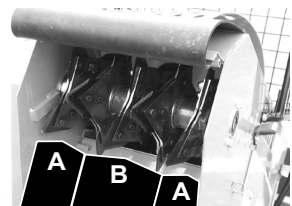
- Disconnect spark plug cable by way of precaution.
- Place the machine on the front base and the steering handle in the same way as when the blades are sharpened. Be careful not to spill petrol from the reservoir.
- Remove the screen by pulling out the two sliding pins. This will increase the accessibility to the shredding chamber. Secure the rubber flap using circlips.



For information:

When turning the blades, dismantle and reinstall one blade at a time. This ensures the work is performed in an orderly manner.

- Before removing the blades, release and remove the two M8 bolts. If the bolts are damaged, they should be replaced. The blades are pulled out with gripping tongs.
- Zone A : For the blades on the outermost blade disks, proceed as follows. Remove a blade from the left-hand side, rotate it through 180° and fit it in the same position, but in the right-hand blade disk. The blade from the right-hand blade disk is rotated through 180 degrees and fitted in the vacant hole in the left-hand disk. Repeat this procedure for all blades of zone A (see figure).



- Once all blades in zone A have been turned, recheck whether the chamfered cutting edges point towards the centre of the shredding chamber and not towards the wall plate. If this is not the case, two blades have not been turned correctly.

- Zone B : For the blade disks enclosed between the blade disks in zone A, proceed as follows.
The blades in zone B are disassembled, rotated through 180° and refitted on the opposite side of the blade disk. The blade which must be removed is turned 180° and placed into the vacant position in the blade disk. This action is repeated until all blades have been turned (zone B as per figure) Once all blades in zone B have been turned, the chamfered cutting edges of each blade must point towards the shaft itself. If this is not the case, the procedure has not been performed correctly, and the fault must be rectified.
- When replacing blades, simply remove the old blades and replace them with new ones. When fitting new blades in the outermost blade disks (zone A), ensure that the chamfered side of the cutting edge always points towards the centre of the shredding chamber. The blades in zone B are inserted between the disk plates whilst ensuring the chamfered side of the cutting edge always points towards the shaft, via the angle formed by the blade disk.
- When replacing the blades, the nuts and bolts should be replaced at the same time. Your ELIET dealer always has new blades in stock.
- Once the blades have been disassembled, remove the dirt which is stuck between the two plate halves before reassembling the blade. To this end, a filling-knife may be used.
- When refitting the blades, the bolts should be tightened securely. If the bolts are damaged they should be replaced. It is advisable to check whether all bolts have been tightened before the screen is reassembled.
- Ensure the nut is always on the left-hand side of the disk when replacing the bolts in the disk. This to ensure the rotation of the drive shaft for the blades locks the nuts.
- During the next operation after fitting new blades, it should be taken into account that new blades still have to settle. This means that they become slightly loose between the plates. The blade bolts should therefore be retightened after five operating hours.

12. Storing the machine



Clean the machine (see [§ 9.7.1 Cleaning the machine](#)).

When storing the machine for longer periods, it is recommended to carry out the following steps.

- Carry out detailed maintenance (see [§ 11.5 Maintenance after 20 operating hours](#)).
- Check all nuts and bolts and retighten if necessary. For checking the majority of bolts two 10, 13 and 17 mm open-ended spanners and 4, 5 and 6 mm Allen keys may be used.
- Remove all fuel from the tank. This can be achieved by simply allowing the machine to run until all fuel has been used up. If necessary, use a siphon to transfer the petrol into a Jerry can (see safety regulations at [§ 9.2 Refuelling](#)).
- Disassemble the spark plug (see [§ 11.5.2 Checking or changing the spark plug](#)). Spray some penetrating oil containing molybdenum disulphide into the cylinder via the spark plug hole. Pull the starter cord until the piston reaches its highest position. Refit the spark plug.
- Touch up areas where the paint has been damaged or treat with a lubricant in order to prevent corrosion. Original paint in the same colour can be obtained from the ELIET dealer.
- Store the machine in a dry place, protected from rain, and, if necessary, cover with tarpaulin.
- Always allow the engine to cool down before storage.
- If the machine is to be stored outside, it must be well protected with tarpaulin. Ensure water does not directly fall onto the machine. ELIET strongly recommends the machine is stored in a sheltered location.

13. Technical information



Max. branch diameter	55 mm
Capacity	24 wheelbarrows of chips per hour
Dimensions.....	1290 x 630 x 1280 mm
Input opening	350 x 300 mm
Input height	900 mm
Transport wheels.....	Pneumatic tyres 400 x 8
Total Weight.....	90 kg
Drive shaft for blades.....	Steel shaft 25 mm diameter 4 double steel blade disks 20 HS steel blades
Working width	350 mm
Transmission	V-belt Guard Power XPA 1600
Drive.....	Petrol engine 9 hp
.....	Electric motor 5.5 hp drive power
Available options	Screen for leaves and damp products

English

14. CE-Conformity declaration



Machine : ELIET MAJOR

This particular machine has been designed and manufactured as per the following standards:

- PrEN 13684 : Forestry machinery : wood chippers - safety
- DIN 33402 : Body measures
- EN 292-1 : Safety of machinery : Basic terminology
- EN 292-2 : Safety of machinery : Technical principles
- EN 294 : Safety of machinery : safety distances
- EN 563 : Safety of machinery : Temperatures of touchable surfaces
- EN999 : Safety of Machinery : The position of protective equipment in respect of approach speeds of parts of the human body
- PrEN 1070 : Safety of machinery : Terminology
- EN 1088 : Safety of machinery : Interlocking devices associated with guards
- ISO 3767-1 : Symbols for operator controls and other displays
- ISO 3767-3 : Symbols for powered lawn and garden equipment
- ISO 3767-5 : Symbols for manual portable forestry machinery
- ISO 3864 : Safety colours and signs
- ISO 11094 : acoustics : Test code for measuring airborne noise
- ISO 11684 : Safety signs and hazard pictorials

The ELIET factory herewith declares they have carried out a risk analysis in order to find out the risks and hazards of the machine. In the light of this, the necessary precautions have been taken in accordance with machine guideline 89/392/EEG to guarantee the complete safety of the operator when the machine is used correctly.

Date :

Signature

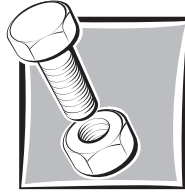
Emiel LIETAER

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15. Parts list



To order parts, the following numbers must be stated.

40.040 + number as stated in list below.

1	Rubber shoe	37	Plastic pinion
2	Balance base	38	Safety net
3	Bolt	39	Rubber buffer block
4	Pinion	40	Nut
5	Nut	41	V-Belt XPA 1600
6	Bolt	42	tightening screw
7	Nut	43	Blade shaft pulley
8	Steering handle	44	Pop rivet
9	Bolt	45	Bearing + shells
10	Pinion	46	Bearing protective shell
11	Engine	47	Rubber protective flap
12	Pinion	48	Clamping plate for protective flap
13	Nut	49	Pin for pulley
14	Spacer bracket	50	Standard screen
15	Bolt	51	Bolt
16	Nut	52	Guard seal
17	Bolt	53	Guard for belt section 1
18	Pinion	54	Bolt
19	Plastic collar pinion	55	Cap
20	Safety switch section 1	56	Bolt
21	Plastic pinion	57	Guard for belt section 2
22	Safety switch section 2	58	circlips
23		59	Shaft
24	Bolt	60	Crankshaft guard
25	Nut	61	Starlock cap
26	Pinion	62	Wheel
27	Emergency stop	63	Bolt
28	vibration isolator	64	Exhaust supporting plate
29	Bolt	65	Bolt
30	Safety switch section 1	66	Motor pulley
31	Safety switch section 2	67	Crankshaft pin
32	Safety shield	68	Safety sticker
33	Trade name sticker	69	Safety sticker
34	Nut	70	Safety sticker
35	Pinion	71	Safety sticker
36	Bolt		

To order parts for the drive shaft for the blades, the following numbers should be stated:

40.041 + number as stated in list below.

1	Drive shaft for blades	3	Nut
2	Bolt	4	Blade