MANUAL

Superprof

1. Introduction

1.1 Carefully read this user manual

Elite machines are designed for safe and reliable use if they are operated in accordance with the instructions given. Carefully read this user manual before using the machine. Failure to observe this may result in personal injury or damage to the equipment.

1.2 Identification data – ELIET 2000

Note the identification data relating to your machine in the boxed areas.

Product code :

Serial Number :

Year of Manufacture :

Date of purchase :

2. Warranty

2.1 Warranty card

To be eligible to obtain warranty you must mail the completed warranty card within one month of the date of purchase to the address stated below.

European customers :
USA Inc. Zwevegemstraat 136
– 8553 Otegem (Belgium)
T (+32)(0)5677 70 88 – F (+32)(0)5677 52 13
1970 www.eliet.be e-mail:service@eliet.be

US customers : ELIET NV ELIET
3361 Stafford street (office B) B
15204 Pittsburgh (PA)
T 412 367 5185 – F 412 774
www.elietmachines.com

Read the warranty conditions on the attached warranty card.

3. Welcome

Welcome to the family of ELIET customers.

We would like to thank you for the confidence that you have placed in ELIET and we are con- vinced that you have purchased the very best machine. The operating life of your ELIET machine depends to a great extent on how you care for your machine. This user manual and the engine manual provided will assist you in this respect. If you follow the instructions and suggestions in these manuals, your ELIET machine will operate for a very long time in optimal condition.

Read this instruction manual carefully before operating this machine. This will prevent you from operating the device incorrectly.
For your own safety, take into account the safety instructions stated in the relevant chapter. Even if you are thoroughly familiar with operating such equipment, it is still advisable to read these pages carefully.

At ELIET all our machines and devices are subjected to a policy of continuous change and there- fore, the specification of your machine may differ slightly in terms of shape, technology and ac- cessories. The descriptions and technical data in this manual are accurate at the time of printing. Certain illustrations and descriptions may not be applicable to your specific machine, but instead relate to a different version of the machine. In turn, we trust that you will understand that the texts and illustrations in this manual cannot lead to any claims.
If you still have any questions after you have read this manual, we request you to contact your ELIET dealer.

ELIET AT yOuR SERVICE

European customers GMT +1 : from 08:00 to 18:00 HRS

Zwevegemstraat 136 Phone : (+32) (0)5677 70 88
B-8553 Otegem Fax : (+32) (0)5677 52 13
Belgium Email:service@eliet.be

Warning

OPERATING OUTDOOR POWER EQUIPMENT

Under the laws of several countries or states you are not permitted to operate an internal combustion engine using hydrocarbon fuels on any forest covered, brush covered or grass covered land or on land covered with grain hay or other flammable agricultural crop, without an engine spark arrester in continuous effective working order.

The engine on your power equipment, like most outdoor power equipment, is an internal combus- tion engine that burns gasoline, a hydrocarbon fuel.
Therefore, your power equipment must be equipped with a spark arrester muffler in continuous effective working order. The spark arrester must be attached to the engine exhaust system in such a manner that flames or heat from the system will not ignite flammable material.

Failure of the owner/operator of the equipment to comply with this regulation is a misdemeanour under certain law (e.g. Californian Law), and may also be a violation of other state and or federal regulations, laws, ordinances, or codes. Contact your local fire marshal or forest service for spe- cific information about what regulations apply in your area.

The standard muffler installed on the ELIET engines is not equipped with a spark arrester. One must be added before use if this machine is intended to be used in an area where a spark ar- rester is required by law. Contact the local authorities if these laws apply to you. See your author- ized engine dealer for spark arrester options.

ELIET AT yOuR SERVICE

US Customers GMT +6 : 8 AM till 6 PM

Phone : 412 367 5185
Fax : 412 774 1970
service@elietmachines.com

4. Table of Contents

5. Safety symbols

Certain symbols in this manual are used to provide additional information and to draw your attention to potential risks.

5.1 For your information

For your information
This symbol is used to draw your attention to specific information and/or actions, or to denote where you can find additional information relating to the subject.

5.2 Caution

Caution:
This notice identifies safe usage habits. This is done to prevent incorrect actions that can result in personal injury or damage to the machine.

5.3 Warning

Warning:
This notice is used to warn you about extreme danger that you must be aware of in these specific circumstances. Thus remain alert, in order to ensure your own safety.

6. Main parts

To fully understand the content of this operator's manual, you need to be fully conversant with the terminology used for [www] the descriptions. In this chapter you can find a set of parts identified by name. It is a good idea to take time to study the machine beforehand for an improved understanding of the descriptions provided in this user manual.

1) Safety handle
2) Wheel drive control / steering wheel
3) Petrol tank
4) Hydraulic oil tank
5) Protection guard
6) Loading hopper

1) Ignition key
2) Hours run counter
3) Throttle
4) Warning light engine oil low (red)
5) Warning light ABM (green)
6) Choke

1) Safety screen
2) Instrument panel
3) Foot brake
4) Feed roller
5) Sieve screen
6) Knife drum

For your information :

Reference in this manual to right or left hand side, back or front of the unit is observed from the machine operator facing the branch feed of the machine.

Your ELIET dealer is at your service, ready to provide you with maintenance or advice so that your ELIET machine always remains in optimal condition. You can contact him for genuine ELIET service parts and lubricants. These service parts are manufactured to the same stringent accu- racy requirements and standard of craftsmanship as the original equipment.

Caution :

For your safety, use only genuine ELIET parts on ELIET machines.

7. Safety regulations

7.1 Safety messages

BQ 505 010 050

Decal location (1 and 2) : filling of the oil tank. Sticker (1) uses icons to denote all the general safety regulations.
Read this user manual carefully in its entirety before attempting to operate this machine.
Always wear the appropriate protective garment when operating the machine (protective gloves, safety goggles, hearing protectors).

BQ 505 010 150

Performing maintenance or operating the machine can be source of hand injuries. Be attentive and careful.
Sticker (2) reminds the user to keep by-standers a safe distance away (10m).

BQ 505 010 100

Sticker (1) affixed to the feed opening warns that no attempt should be made to put your hands past the safety screen. While sticker (2) located on the safety screen warns the user of the danger of hand injuries and of flying debris. These are two risks – inher-ent in chipping branchy material- which are catered for by the safety screen.

BQ 505 010 120

BQ 505 010 130

BQ 505
010 160

BQ 505 010 070

BQ 505
112 116

These stickers on the safety covers of both the V-belt and the chain warn the user that a V-belt or chain is fitted behind the shielding panel. It is strictly forbidden to operate the machine with the safety guards removed.

Sticker affixed to the top of the safety screen. Warns the user of the danger of hand injuries once the screen has been eased away.

This decal is affixed to the back of the machine at the safety screen. This sticker reminds the user of the machine to examine the bolts retaining the blades for security of fixings within the 5-hour bedding-in period of fitting new blades or reversing existing blades.

This decal is displayed on the side of the loading hopper. The legend specifies the guaranteed A-weighted sound power level Lw(A) emission from the machine under calibrated conditions.

This decal is located on the side of the loading hopper. It lists all the identification data relating to the machine : Model, model number, serial number, year of manufacture, engine, power rating, weight, guaranteed A-weighted sound power level Lw(A).

This sticker also lists the manufacturer's details. The CE label means that the machine complies with the governing European machinery directive.

Caution :

Safety stickers becoming damaged, illegible or removed through use or cleaning, must be immediately renewed. Stickers are available at your approved ELIET Dealer.

The following stickers apply exclusively to our American Customers :

< This sticker summarizes in 18 items a number of important safety messages taken from the user manual. Caution : However, this does not imply that there's no need to read the manual. (Order number : BQ 505 010 200)

BQ 505 010 180

^ This sticker is located on the battery support tray. It warns the user of the potential hazards of battery acid.
(Order number : BQ 505 010 180)

BQ 505 010 190

^ This sticker is located on the loading hopper at the infeed opening. It reminds the user to operate the unit observing the stated capacity. (Order number : BQ 505 010 190)

This sticker is located near the motor starter mechanism. Each time the machine is started, the operator is reminded to inspect and service the blades before turning on the machine. (Order number : BQ 505 010 250)

BQ 505 010 250

This sticker is found near the identification sticker. Here, our American customers will find the phone number for technical support in case of problems. (Order Number BQ 505 010 240)

BQ 505 010 240

7.2 Safety provisions

Safety screen

The safety screen (1) avoids access to the blades. No tools are required to open the screen, but the motor is shut off on opening the screen. The motor can be turned on again once the screen is closed, that is, when the safety limit switch (2) is actuated.

Chain and belt guards

These guards provide protection from the moving belt and chain. These guards can only be removed using tools. The machine must not be started if these guards are not correctly fitted.

Sound absorption:

The acoustic housing accommodating the knife drum gives excellent noise reduction whilst shredding, there- fore, minimising noise nuisance for both the operator and the surroundings.

Rugged construction :

The robust construction not only adds to the long operating life of the machine, but also provides additional user safety whenever there is an unforeseen emergency.

Safety handle (1) :

If you press the bottom of the safety handle, the feed roller stops as soon as this handle reaches position 3. If you move the handle to position 2, the feed roller pulls the material into the machine. If you move the handle to position 1, the feed roller rotates in the opposite direction so that any material that has been fed in is ejected.

Operating positions of the safety handle

Caution :

The description above is applicable to the operator moving the bot- tom of the safety handle. If the operator moves the top of the safety handle, then the numbers of the control positions are reversed.

Safety screen (legend 2 above) :

The safety screen is specially designed to protect the operating personnel against flying wood chips Any attempt by the operator to insert his hands beyond this steel sheet is strictly forbidden.

Safety wear :

For your safety, we strongly recommend to use the safety kit supplied as standard. It contains your Personal Protective Equipment (PPE). This safety set consists of safety glasses, ear defenders and a pair of riggers gloves.

7.3 Safety regulations

7.3.1 General safety precautions

- The Owner Manual must stay with the unit during its complete service life. It serves as a reference for the user, and enables the machine to be used and maintained in accordance with the correct instructions. Always refer to this instruction manual if you have any doubts about an action that you are about to perform.
- If the instructions stated in this manual are not clear to you, do not hesitate to contact your Eliet dealer for further explanation. ELIET's helpdesk (+32 (0)56777088) is also at your disposal during office hours to provide answers for your questions.
- Read the chapter that is meant for the dealer (see Chapter 8) and immediately check whether or not the machine has been delivered in accordance with the instructions.
- Carefully observe all safety instructions when using the ELIET machine ! Carefully read all the instructions relating to the use of the machine. All these instructions relate to your personal safety.
- When you purchase the machine, first allow the dealer or a professional to give you some instruction.
- Read and observe all safety messages posted on the machine in the form of stickers.
- Read and observe all safety messages posted on the motor.
- Under no conditions whatsoever may the original design of the machine be modified without written consent of ELIET.
- Under no circumstances must a safety item be shunted, disassembled or switched off.
- As shredding involves ongoing considerable physical effort, take regular breaks for food intake, rest and drinking.
- It is unsafe for persons suffering heart problems and/or having balance disturbances to operate the machine.
- Avoid inhaling the exhaust fumes from the machine. Exhaust gases contain toxic particles which could prove fatal. Never start the engine in an enclosed area.

7.3.2 Careful and security-conscious use

- This machine is designed solely for shredding branchy material, prunings, leaves and all kinds of organic garden debris. Any use other than the designated operation is at the risk and responsibil-

ity of the operator.

- Never attempt to shred branches that are frozen.
- Think about what you are doing whenever you operate the machine. Do not be tempted to let routine dull your attention. Never act impulsively or in reflex.
- Despite the extensive safety features, do not seek out dangerous situations.
- Take care to preclude any tools falling into the in-feed funnel.
- Do not feed foreign materials. (string, stones, metal, plastic, textile, etc.)
- According to the manufacturer, this model will take branches up to 120 mm diameter. For your own safety on no account should any attempt be made to introduce stems thicker than the stated capacity.
- The machine is not designed to be subjected to the stated maximum capacity for longer periods. As a guideline: no more than 10 % of the garden waste that is to be fed into the machine may have a diameter in excess of 90 mm.
- Never stand on a step when feeding garden waste into the loading hopper.
- Do not use a fork or a shovel to or a fork to feed the machine with garden waste.
- Do not use your feet to feed garden waste in the loading hopper.
- Never work in conditions where light intensity is less than 500 Lux.
- Always remember to lock the wheels under shredding, so as to prevent the machine form moving.
- For deontological reasons, ELIET accept no responsibility whatsoever for any accidental injury to pets or persons caused by its machines.

7.3.3 Responsibilities of the Operator

- All persons using the machine are assumed to be fully conversant with the safety instructions.
- The operator is fully liable for the use of the machine in regard to himself and to third parties.
- Operators are presumed to possess a certain level of maturity that permits them to make decisions based on common sense.
- Underage persons must not operate the machine. However, this does not apply to youths above the age of 16 years, who are learning to operate the machine under the supervision of an experienced operator.
- A disabled person may only operate the machine when under the supervision of an experienced operator.
- Children and animals must be kept well away from the machine.
- ELIET recommend that the machine should not be lent to others. However, if this is done, only lend it to persons who are conversant with the machine.

Always ensure that the user is aware of the potential hazards and ensure that he reads the manual before he uses the machine.

(an indicative list of potential hazards can be found at Appendix)

- This machine must only be operated by persons who are in good physical condition. If you become tired during the work, take a rest in due time. Persons consuming alcohol or drugs must not operate this machine.

7.3.4 Personal Protective Equipment (PPE)

- You must wear suitable clothing to operate this machine. That is, clothing covering the whole body, heavy protective gloves and closed non slip footwear.
- Do not wear loose fitting clothing (a shawl, for instance, should be avoided by all means). Long hair should be contained using a cap or a headband, or worn in a ponytail.
- For the protection of the most sensitive senses, ELIET recommends ear defenders and safety goggles.
- Shredding may result in dust production. If this dust irritates your lungs, we recommend that you wear a dust mask conform to directive 89/686/EC.

7.3.5 Zone of danger

Graphical representation of the zone of danger

- During the work, do not allow bystanders to enter the zone of danger that stretches up to 10m around the machine. Do not take any risks and immediately stop the machine as soon as anyone enters the danger area.
- When leaving the machine, the engine must be switched off. Always wait until the blades come to a complete standstill before carrying out any operation. Once the engine is running, focus all your attention on operating the machine.

7.3.6 Periodic maintenance

- Periodic maintenance is essential. For this reason, strictly follow the maintenance schedule in this user manual (see Chapter 11).
- A maintenance counter will help you keep track of the hours run (contact Eliet for additional information).
- When replacing parts as a result of wear or failure, always request genuine ELIET service parts from your ELIET dealer. This is important in the interests of your own safety.
- Always make sure the engine is switched off and the battery cables disconnected before performing repairs or maintenance.

For your information

Also, read the engine manual that comes supplied with the machine. This contains the information required for the correct use and maintenance of the engine.

- Also read the engine manual, in order to carry out all maintenance according to the safety rules

given by the enginemake.

7.3.7 Preserving Nature

Use the machine in a manner that respects environmental regulations.
- Avoid unnecessary machine running while not at work.
- Avoid spilling petrol while refuelling.
- Service the engine regularly in order to achieve optimum combustion.
- Prevent battery acid from overflowing.

8. Dealer preparation

- As an ELIET dealer you should familiarise your customers with the functioning of the machine and also point out the possible dangers while using it.

- You are expected to carefully go over the maintenance points of the machine together with the new owner. Repeat these instructions until the new owner has fully understood everything.

- The need for pointing out the following issue to the customer is something cannot be over-emphasized :

•All the bolts retaining the blades must be examined for security of fixings after the first 5 operating hours. (Torque loading 40Nm)

- Likewise, make sure to check the belt for correct belt tension after a run-in period of 10 hours.

- Each machine that leaves the factory contains a limited amount of oil and fuel. The dealer must check the levels of the oil and fuel and top them up in accordance with the instructions in this manual (or in the engine manual).

- The Dealer performs a test run on the machine and confirms that everything is functioning properly (such as the safety contact at the collection bag).

- He also checks that the bolts securing the blades are fully tight.

- Lastly, the dealer makes sure that the warranty card is filled in completely and signed. This, in order to avoid any warranty disputes. For more information, please read the warranty conditions on

the warranty card.

9. Operating instructions

9.1 Preliminary checks

Caution :
Before starting to shred, always run through the checklist below.

Checklist

1. Check the oil level of the machine. (see § 11.3.1 Checking the oil level of the engine).
2. Ensure there is enough petrol in the tank. If necessary, fill up the tank with petrol.
   (see Chapter 9.2 Filling up with petrol)

Check whether the air filter is not too dirty. (if considered necessary, see Chapter 11.3.3 Cleaning the air filter)

4. Satisfy yourself that the shredding knives are firmly in place and in good condition. If they need to be sharpened, this must be done first (Chapter 11.4.1).
   If one detects cracks or fractures in a blade, this blade must be immediately renewed.
   (see Chapter 11.4.2 Reversing and renewing the shredding knives).
   For safety's sake, tighten the bald de bolts. (see the list in annex for bolt torque loading)
5. Check whether all safety provisions on the machine still operate.
   (see Chapter 7.2 Safety features).

Once these items have been checked and approved, you can prepare the area of operation (see Chapter 9.3) and move the machine to the work site.

9.2 Filling up with petrol

Top up if the machine runs short of petrol. It's a good idea to only use fresh petrol (see Appendix A). Use lead-free petrol, preferably 98 or 99 octane. Any other fuels are prohibited. (read the engine manual).

Warning :
Under certain conditions, petrol is highly flammable and extremely explosive. Fire and explosion caused by petrol can result in serious burns or damage to

property.

- Do not add fuel while engine is running. Always allow a few minutes for the engine to cool off before topping up with fuel.
- Only use fresh petrol.
- Never add oil to fuel.
- Because of the short shelf life of fuel, it is good practice to buy fuel in small quantities.
- Store petrol in an approved container. Keep this container out of the reach of children.
- Store fuel in a well-ventilated area away from open flames, sparks and heat sources.
- Never top up fuel at a location where work is to be performed later. Always keep all persons at least 10 m away from the work area. This is done to prevent any fires from occurring.
- Clean the area around the fuel tank cap (1) and then remove this cap. Never fill a tank to over 85% of the tank's capacity. Top up with fuel until the level is approximately 20 mm from the top of the tank. In short, do not fill the tank completely to the tank fille opening.
- Always use a funnel or spout to pour the petrol into the tank. Suitable funnels can be obtained from your ELIET dealer.
- Refit the cap onto the tank as soon as possible.
- Be careful not to spill petrol onto clothing.

If petrol does come into contact with your clothing, change this clothing at once.

- It is unsafe and thus expressly forbidden to fill the fuel tank in the vicinity of smokers or naked flames.
- If fuel comes into contact with the eyes or is taken internally, obtain medical attention immediately.

9.3 Preparing the work area

- Clear the area first where the machine is to be used. In addition, the paths along which the plant trimmings are removed, must be kept clear, thus releasing the operator from the worries of tripping up over them. The operator must also ensure that this safety is not compromised.
- Make sure to locate the machine such that flying chippings expelled from the discharge output do not cause damage to persons or properties.
- On slopes, never operate the machine (no forward, backward or lateral slope).
- Make sure to sort the material beforehand. In this way, the operator is sure that no foreign objects will enter the machine with the material.
- Foreign objects are defined as: any non-organic object or branchy material in excess of the stated capacity (such as metal, stone, plastic, pvc, cords,...). Some of these can cause serious damage to your machine or can be ejected, virtually as projectials towards the user.
- Aways position the machine so that the wind will blow the dust produced away from the engine.

9.4 Starting the Petrol Engine

Caution :

Never start the machine if the engine cooling fins are not clean and free of

debris to protect it form overheating.

For your information :

Also, read the engine manual.

Warning :

Never run the engine indoors. Exhaust gases contain toxic substances and may lead to intoxication or suffocation.

Before starting the engine, check whether adequate oil and fuel is present in the engine. If necessary, read the following sections:

Chapter 11.3.1 Checking the oil level of the engine.

Chapter 9.2 Filling up with petrol

Warning :

Before starting up the machine, make sure to wear the ear defenders supplied as standard.

- Ensure the shredding chamber is empty. This is to avoid starter mechanism overloading.
- Be sure the shredder hopper is empty (no tools...).
- Make sure the safety grid is closed and the safety switch is actuated. If not, the machine cannot be started.
- Move the throttle control lever (1) to the mid-position.
- Close the choke lever (2) by pulling the knob.
- Turn the ignition key (3) to the 1 position and make sure the red oil level pilot light (4) comes on. This lets you check the pilot light for proper operation.
- Move the key to the 2 position; the start motor cranks the engine and the green pilot light (5) of the ABM system will come on for a few seconds.
- Release the key when the engine starts.
- Push the choke (2) fully home.
- At ELIET, we recommend to keep maximum engine speed at 3,200 rpm. Never make any alterations to this factory-set maximum speed setting.

Warning :

The drive shaft for the blades is directly driven by the engine. These blades are permanently connected to and driven by the engine. This means that the machine becomes dangerous as soon as the engine starts running.
The engine must therefore be switched off immediately if you encounter a

situationwhere you no longerhave controlover thework.

Switching off the engine :

- Move the throttle control lever (1) to low speed (= tortoise).
- The ABM pilot light (if fitted) will come on.
- Turn the ignition key (3) to the 0 position and remove from the ignition switch.
- Store the key in a safe place away from children and unauthorised persons.

9.5 Moving the machine

A. If you either have a standard machine or a version with ABM.

As the machine is not self-propelled, it is pushed or pulled to the work site with the engine turned off.

> **Warning :**
> the machine is a heavy piece of equipment. Know your own capability. Overuse of your back may cause prolonged pains, rheumatics and paralysis. Always seek assistance when lifting things that are too heavy for you.

B. If you have a self-propelled machine (ZR type)

- Start the engine (Chapter 9.4).
- Move the throttle control lever so that the engine runs at low speed (= tortoise).
- Make sure that the safety handle is in the neutral position.
- Moving the machine:

Move the control handle forwards, then the machine will move forwards. The more you move the control handle forwards, the faster the speed. The opposite also works: Turning the control handle backwards will cause the machine to move backwards at a speed proportional to the amount that you move the control handle.

C. Lastly : If you have the Cross Country version (version with caterpillar tracks)

- Start the engine (Chapter 9.4).
- Move the throttle control lever so that the engine runs at low speed (= tortoise).
- Move the safety handle to the neutral position.
- To move the machine, perform the following steps:

NOTE: The control handle consists of two separate handles, where the left-hand handle controls the left-hand track, and the right-hand handle controls the right-hand track.

- To move the machine straight ahead (forwards or backwards) : Move both control handles at the

same time. Moving both control handles will cause the machine to move forwards, moving them backwards will cause the machine to move backwards.

Caution :

If you do not move both control handles by the same amount, the machine will not move in a straight line.

- To turn to the right: By moving the left-hand control handle (1) through a larger angle than the right-hand control handle, the machine turns to the right. The greater the difference between the control handles, the faster the machine will turn.
- To turn to the left: Move right-hand control handle (2) through a larger angle than the left-hand handle (1) will cause the machine to turn to the left.
- To turn the machine on the spot: Move each handle in opposite directions.

The machine may quickly change direction during a turn.

WARNING

KEEP yOuR FEET SAFE !

The operator must be on his guard and move the control handles carefully.

TIP :

It is a good idea to become acquainted with the characteristics of a self-propelled machine and do so in a quiet spacious location without bystanders.

Note :

You can move the throttle control lever to increase the speed of the machine. This will increase the speed of the engine. (Read the previous tip before operating the machine at working speed.)

9.6 Operating the machine

9.6.1 Before starting work

- Wear proper apparel, protective gloves and safety equipment as instructed in this manual (see Chapter 7.3).
- A good gardener is well organized and plans his work. This will enable you to have perfect control to avoid accidents.
- The wood should be systematically stacked before commencing the work : thick branches, thin branches, leaves and damp products. Ensure that the material does not contain any foreign objects.
- Never run the machine in an enclosed area. If this is done, there is a danger of being poisoned by the exhaust fumes from the engine.
- Always shred with the engine at full throttle.

Caution :

Once the engine is running, the shredding knives are rotating, therefore, irrevocably shredding anything that is introduced into the loading hopper.

9.6.2 Shredding proper

- Be careful when performing work.

While operating the machine, focus your concentration completely on the work.

- Drive the machine to the work site.
- Open the back cover (1). This enables you to make a larger pile of chippings.
- Start the engine (if you didn't already do this, Chapter 9.4).
- Allow the machine to run idle for about 5 minutes.
- Move the throttle control lever to full throttle.

Warning :

Remember : when shredding at temperatures around freezing, maximum branch size of branchy material is limited to 70 mm.

For your information :

Always shred at full throttle for the engine to produce its full power output.

- Move the control lever to the centred position (position 2). The feed roller starts to turn and pulls the garden waste into the loading hopper at a constant speed. The maximum lift of the feed roller is 120 mm.
- Preferably, the operator's position is next to the black loading hopper to introduce the garden waste. In this way, flying chippings finding their way from below the safety screen that are expelled from the in-feed do not cause personal injury.
- Feed the garden waste into the loading hopper and guide it towards the feed roller. In the case of loose garden waste (leaves, etc.), use a branch to push the material up to the feed roller. (DO NOT USE a shovel or a fork to do this).
- Never use a step for feeding the loading hopper with garden waste.
- No attempt should be made to use your feet to push garden waste in the loading hopper.

Warning :
Do not lean forwards to push material further into the loading hopper so that your hands NEVER go past the safety screen.

- By reducing the amount of material that you feed into the machine, it will operate more optimally.
- In the case of branches, it is recommended to feed in the thickest part of the branch first.
- It is preferable to feed thick branches into the left-hand side of the loading hopper.

- **You can determine the feeding-in speed as follows:**

- Without ABM: You listen to the sound of the engine: if you hear that the engine speed decreases substantially, this indicates that the engine is encountering problems (speed decreases below 2500 rev./min.). If this happens, stop the material from being fed in by moving the control handle away from you (position 3). When the engine returns to its normal speed, you can restart the feed roller by moving the control handle to the centre position (position 2).

- With ABM: The feed roller stops when engine speed is too low (< 2750 rpm); the green warning light (1) lights up. When the engine returns to its normal speed, restart the feed roller.

- With speed governing: If you selected this option (rotary knob underneath the loading hopper), you can control the speed of the feed roller according to the material to be fed in. By adjusting the knob (in the range of 1 to 10), you can obtain maximum efficiency.

- By pulling the control handle to position 1, the feed roller changes direction. This is useful if a piece of wood becomes wedged underneath the feed roller.
- To stop the material from being fed in, push the control handle to position 3.

- If the amount of chippings block off the output opening, move the machine backwards. The pile may not be higher than the bottom of the

rear flap.

With moist materials, it is best to use a sieve for damp products.
(Order number : MA 002 001 001)

- Read the fitting instructions in Chapter 13.1 on pag. 52
- If the shredding chamber gets clogged up, switch off the machine to remove the blockage. Make sure to wait for the blades to come to a complete standstill, before carrying out any operation on the machine. For safety's sake, disconnect the spark plug wire.

Warning :
In order to avoid personal serious injury or damage to properties, never operate the machine without a sieve screen fitted.

- If you notice a foreign object in the garden waste in the loading hopper, perform the following steps:
  - Stop the feed roller by pushing the control handle to position 3.
  - Move the throttle control lever to the minimum position.
  - Stop the engine using the ignition key.
  - Remove any foreign objects.
- If you notice a strange noise during the work, immediately stop shredding. Stop the engine and investigate the cause of the defect. Before proceeding, perform the necessary repairs.

9.7 Troubleshooting

9.7.1 Rotor stalls

- Turn the key to the OFF position and remove it from the ignition switch. (see Chapter 9.4).
- Open the shredding chamber (see Chapter 11.2.4).
- Completely empty the shredding chamber and make sure that no pieces of wood are wedged in the knife drum (1). If, despite this, the knife drum is still jammed, this indicates a mechanical problem (e.g. a bearing that has seized, etc.).

Caution :
Wear protective gloves as the blades are razor sharp !

9.7.2 Engine cuts out and the oil level pilot light comes on

- Stop the engine and remove the ignition key.
- Check the engine oil (see Chapter 11.3.1); if necessary, top it off.
- If the oil level is OK, this problem could also be caused by an electrical defect.

9.7.3 Engine stalls while running

- Safety cap open.
- Oil low-level fault.
- Out of petrol.
- Electrical defect

9.7.4 Starter motor does not operate during starting

- Safety guard is open.
- Battery is in a low state of charge.
- Defect in electric circuits
- Engine oil low-level fault.

9.7.5 Capacity decreases

- Dirty air filter.
- Fuel filter in need of cleaning.
- Dirty or fouled spark plug.
- Blades are blunt.
- Incorrect tension of V-belt.

9.7.6 Wheel drive does not operate when petrol engine is running.

- Safety handle is not in neutral position.
- Defect in the hydraulic circuit.

9.7.7 Feed roller no longer operates

- Engine speed too low.
- ABM in disorder (Contact your ELIET dealer).
- Problem in the hydraulic circuit (valve).
- Chain broken.

9.7.8 Engine no longer runs and the machine must be moved.

If the engine is not running, the rear wheels are no longer driven.

- If you turn the control handle on the steering, you are still able to slowly move the machine (using the force of the operator).
- If the latter is not possible, and the engine no longer runs due to a blocked rotor, you may wish to take off the drive belts. This ensures that the rotor is no longer driven and that the engine can be restarted.

9.8 Cleaning the machine

It is strongly recommended that you clean the machine as per Chapter 11.5.1 after each use. Failure to do so will:

- Lead to premature wear of the bearings, gaskets and drive belts.
- Increase the risk of fire.
- Decrease the cooling efficiency of the engine.
- Inability to detect fractures or cracks.
- Have a detrimental effect on the paint coating and the safety stickers.

Warning :
A machine that is no longer in good working condition may compromise the security of the user.

Caution :
Wear suitable clothing when cleaning.
Gloves are required.

- Use a dry cloth, a soft brush, etc. for cleaning. To remove grease and lubricants, use penetrating oil containing molybdenum disulphide. This spray lubricates and also dissolves rust.
- It is useful to have compressed air in the vicinity so that you can use it to clean various components.
- Pay special attention to cleaning the engine. in particular, the cooling fins and air inlet must be thoroughly cleaned in order to guarantee optimal cooling of the engine.
- Pressure-washing of the machine is permitted. However, never point the water jet for long periods in the direction of bearings, electrical contacts or filler caps. Water is known to be the main cause of corrosion and must, therefore, be avoided at all times.
- A washing out of the lubricant is possible; for this reason, plan a lubrication task after thorough cleaning.
- The engine manufacturer does not recommend water cleaning.

10. Transporting the machine

• Make sure to clear the shredding chamber before moving the machine. Make sure the infeed opening is free of branchy material.

• The maximum allowable lateral slope angle amounts to 10%.

• Use slip-resistant ramps to load the machine into a van or a trailer. Make sure that they are securely attached to the vehicle or trailer.

• Under no circumstances must the angle of the up and/or down ramp be greater than 20%.

• Be careful and composed when loading and unloading the shredder so that the machine does not tip over and give rise to an accident.

• When coming down the ramp, move down backwards facing the machine.

• If gravity causes the machine to descend more quickly down the slope than is desired, quickly move the control handle to the other drive direction. This enables you to hydraulically brake the machine.

• Make sure to properly secure the machine to the vehicle during transportation. Use the fixed parts of the vehicle frame to attach ropes. Two attachment points (1) are provided for securing ropes. Always be sure to use the parking brake (2).

• Do not forget that the machine has a high centre-of-gravity. Therefore use ropes to secure both sides of the machine to the vehicle. This ensures that the machine is not toppled over when the vehicle goes around a bend.

• Do not overload the vehicle. Refer to Chapter 14 (specifications sheet) to find out the exact weight of the shredder.

11. Maintenance tasks described in detail

11.1 General

For your information :

The dealer's personnel are always at your service. The ELIET dealer can always rely on comprehensive support from ELIET NV, so that we can work together to find a solution for any problem that you may have. For a repair or for the maintenance of the engine, you can always contact your ELIET dealer or a maintenance service that is recognized by the engine manufacturer. If you need to contact these services, please provide us with the Model Number and Serial Number of both the machine and the engine, and also describe the problem in detail.

Caution :

Only use genuine ELIET replacement parts. These service parts are manufactured to the same strict quality control requirements and degree of craftsmanship as the original equipment.

For your safety, use only genuine ELIET parts on ELIET machines.

Perform maintenance in a room intended for this purpose. This room must be

- Spacious
- Easily accessible
- Well lit
- Dust-free
- Clean and tidy
- Quiet

These characteristics are important to enable maintenance to be performed in an optimal manner.

Caution :

Improper maintenance may subsequently compromise the safety of the operator.

Prior to doing service operations, first make sure to disconnect the battery cables. (Disconnect the + terminal)
When performing maintenance, always wear gloves, and also safety glasses for some operations. These are included with the machine.

TIP :

The maintenance work described can essentially be performed by any person who possesses the requisite technical knowledge. However, ELIET recommend that the machine should be handed in to an ELIET dealer for a major overhaul each year.

Your ELIET dealer is always at your service for maintenance and advice. He stocks genuine ELIET service parts and lubricants. His staff can always obtain advice and service from ELIET, so that they can provide you with an impeccable after-sales service.

11.2 General interventions

Warning :

For your own safety: After performing the maintenance, refit ALL guards.

NEVER OPERATE ThE MAChINE WIThOuT SAFETy GuARDS !

11.2.1 Removing the belt guard

- Ease the safety guard (1) sideways.
- Remove bolt (2) (M8 SW 13).
- Remove bolt (3) (M10 SW 17).
- Remove the guard.

11.2.2 Removing the chain guard

- Ease the safety guard (1) sideways.
- Remove the bolts (2) and (3) (M10 SW 17).
- The safety guard can now be removed.

11.2.3 Disconnecting the battery

- Remove the beltguard (Chapter 11.21).
- Disconnect the negative terminal (1) (black M6, SW 10).
- Disconnect the positive terminal (2) (red M6, SW 10)

Caution :
First connect the positive terminal (2) (red M6, SW 10).
And then the negative terminal (1) (black M6, SW 10).

11.2.4 Opening the shredding chamber

- Ease the safety guard (1) upwards.
- Pull the lock (2) downwards.
- Make sure that both clamps (3) are released.
- Topple the shredding screen (4) downward.

To completely remove the sieve, perform the following steps.
- Remove the hairpinclip. (1)
- Remove the rod. (2)

11.3 Engine maintenance

Warning :
When running, engines emit carbon dioxide: an odourless and colourless poisonous gas.
Inhaling carbon dioxide can cause nausea, fainting or death.

Start the engine outside.
NEVER run the petrol engine powered machine in an enclosed area, even with the windows and doors open.

11.3.1 Checking the oil level in the engine crankcase + refilling

Inadequate oil in the engine will cause irrevocable damage to the engine. Therefore, regularly check the oil level as follows.

- Park the machine on a level surface so that the engine is perfectly horizontal.
- Switch off the engine and remove the ignition key from the ignition switch.
- Take a clean cloth.
- Remove the dipstick (1) and use a cloth to wipe it clean (the oil level shown on the dipstick is not always correct the first time that the dipstick is removed). Therefore reinsert the dipstick and then remove it again. The oil level must reach the "F" (full) mark on the dipstick.

- If not, top off (Note : do not overfill).
- First clean the area around the filler cap (2) before topping up the oil.
- Remove the filler cap and remove the dipstick so that the crankcase is ventilated.

Caution :
Topping off the oil level is a meticulous job :
do not overfill the reservoir
to extend engine life and maximize engine performance.

- Gently replenish the oil reservoir. Regularly check the oil level on the dipstick (to see when the desired level has been reached).
- Only use the recommended oil (see Appendix A).
- Once the crankcase is replenished with the correct oil, place the check plug back in position and securely retighten the oil filler cap.
- Immediately clean away any spilled oil.

Caution :
Make sure that no dirt enters the crankcase via the filler cap.

11.3.2 Engine oil change

Warning :
Filling the engine with oil is performed in TWO steps:
Read all of the text carefully!

- Make sure that the engine is horizontal.
- Allow the engine to run until it reaches normal operating temperature, then switch off the

engine (and remove the ignition key).

- Hold a receptacle (capacity 2 l) underneath the oil drain plug (1).
- Open the fill cap (SW 22) (see photo in Chapter 11.3.1).
- Open the sump plug (1) and allow the contents to drain into the receptacle.
- Refit the oil drain plug (SW 22).
- Partially fill the engine with 1L of fresh oil and refit the filler cap.
- Start the engine and allow it to idle for 20 seconds.
- Stop the engine and wait for 30 seconds.
- Then gradually fill the engine with the rest of the oil until it reaches the "F" (full) mark on the dipstick.
- Immediately clean away any spilt oil.

Insufficient oil in the engine can cause irrevocable serious damage to the engine.

11.3.3 Changing the oil filter

- This is performed during an oil change (see Chapter 11.3.2)

- Swing the safety screen upwards.
- Remove the belt guard (Chapter 11.21).
- Hold a receptacle underneath the filter.
- Remove the used filter (1) after allowing the oil to drain (if stubborn, use an oil filter wrench).
- Apply a film of new oil to the sealing gasket of the new filter.
- Screw the new filter onto the mounting base until the gasket just touches.
- Tighten the filter ½ to ¾ of a turn.
- Add the recommended amount of oil in the manner described above.

11.3.4 Cleaning the air filter

- Undo the hold-down clamps retaining the cover of the air filter (1) and remove the cover.

Caution :

If the engine has just been stopped, the exhaust will still be hot.

- Before removing the the filter, use compressed air to remove dirt and dust building inside the filter housing.
- Gently remove the pre-cleaner from the cartridge.
- Remove the nut and the sheet of the filter medium first and then remove the cartridge. (Prevent the carburettor from becoming dirty).
- Clean the pre-cleaner using liquid detergent and water. Dry the filter in a clean cloth, soak it in oil then dry the filter again in an absorbent cloth in order to

remove the excess oil.

- Clean the cartridge by tapping it gently against a flat surface.
- Refit the cartridge (with the UP mark showing upwards) and screw down.
- Refit the pre-cleaner to the cartridge.
- Refit the cover and secure the cover using the hold-down clamps.

11.3.5 Changing the air filter

These actions are almost identical to cleaning the air cleaner (see Chapter 11.3.4). The only difference here is that the cartridge is replaced.
New air cleaners of the correct type are available from your ELIET Dealer or from an authorized Briggs & Stratton service centre. (B&S order number 394018S)

11.3.6 Changing the engine fuel filter

- Switch off the engine and remove the ignition key from the ignition switch.

Warning :
Always allow the machine to cool down this is to avoid fire hazard or danger of explosion.

- Loosen the retaining straps (2) and (3) (using a universal wrench).
- Remove the filter from between the straps.
- Insert the new filter (whilst taking note of the direction of the arrow marked on the filter). New filters are available from your local Eliet dealer or from a B&S service center. (B&S order Number 496629)
- Retighten the straps.
- Clean up any spilt fuel.
- Start the engine and inspect for signs of leakage.

11.3.7 Adding additional battery acid

Warning :
Battery acid is corrosive and therefore dangerous. Wear safety glasses and protective garment and work in a well-ventilated area.

- Switch off the engine and remove the ignition key from the ignition switch.

- Check to be sure electrolyte level is between the minimum and maximum marks. Inspect the six compartments for correct level by looking through the transparent battery case.
- If the level is not correct, unscrew the caps from the battery.
- Use only distilled water to top up to the correct electrolyte level.
- Refit the caps to the battery.

Caution :
Do not inhale vapours from the battery acid.
During this maintenance, do not rub your eyes with your hands.
Should battery acid splatter into the eyes or onto the face, rinse the affected area immediately with clean cold water.
If there is any further discomfort, seek prompt medical attention.
Wash your hands immediately after performing this maintenance.

Note :
NEVER add additional acid, add only distilled water.

11.4 Machine maintenance

11.4.1 Checking and sharpening the blades

Caution :
As a precaution, remove the ignition key from the machine and disconnect the battery (see Chapter 11.23) before performing maintenance on the machine in order to prevent accidents.

Sharp shred knives will give the machine optimum performance and provide maximum operating speed. Enhance your own work comfort by taking some time to check the blades, and if neces- sary, sharpen them.

SHARP BLADES = OPTIMUM PERFORMANCE

For your information :
The blades can be sharpened without having to disassemble them. Use a small

angle grinder with a grinding disc suitable for steel.

Caution :

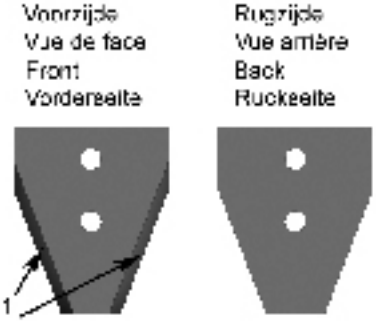
Always wear safety glasses and hearing protection when grinding knives.
Gloves are also mandatory for performing the maintenance work.

Warning :

The blade has two cutting edges (reversible blade). Even though one side of the blade can be blunt, the other side can still be razor sharp.

Caution :

Make sure that all chippings in the immediate vicinity have been removed.
This minimises the risk of fire.



- Open the shredding chamber (see Chapter 11.24).
- Always grind the blade along the angled cutting edge (1).
- Never grind the rear side of a blade. In the case of RESIST™ blades, the profile is on the rear side. If you grind away the teeth, the blade will lose a great deal of its cutting force.
- The grinding is performed by moving the grinding disc along the angled cutting-edge.
- Avoid excessive grinding in the same location (prevent local discoloration of blades; this denotes heating that causes the material structure to change locally and the hardness to decrease).
- Retain the existing cutting angle.
- The top of the knife is subjected to the heaviest loads during shredding. Sharpen this as little as possible so that it is not weakened.

Caution :

Minimise the duration of the grinding as much as possible in order to prevent heating up. If a blade becomes discoloured, this denotes heating, and significantly decreases the operating life of the blade.

Correct and timely sharpening of the shredding knives will extend their operating life. If the top of the blade is rounded-off, the shredding efficiency will be reduced. In this event, further grinding of the blade serves

no purpose. This is the time to reverse or renew the blades.

11.4.2 Reversing and renewing the shredding knives

Warning :
Wear protective gloves as the knives are razor sharp !

Knives sharpened at regular intervals ensure a knife life in excess of 50 hours for each blade edge (100 hours with RESIST™ blades). When one cutting edge becomes worn, you can reverse the blade. If both blade edges are worn, renew the knife as a set.

A. To reverse a shredding knife, proceed as follows.

- Open the shredding chamber (see Chapter 11.24).

For your information :
Reverse the blades as a pair (as shown in the photos) in order to work in an organised manner.

- Disassemble the blades by removing the two M8 bolts from each blade. In this situation always use two ring spanners fitted with long steels. (M8 SW 13)
- If the bolts or nuts are damaged, they must be renewed.
- Release the shred knives using a self-grip wrench.

Changing the blades of group 1. (Blade pairs 1, 2, 3 and 4)

- Remove a knife from the left-hand side, rotate it through 180° and fit it in the same position, but to the right-hand disk. Rotate the blade previously removed from the right-hand blade disk, and fit it in the empty hole drilled in the left-hand blade disk. Repeat this procedure for each blade (8) of group 1.

group

group

Check :

Check that the rear of each blade is towards the wall of the shredding chamber. If this is not the case, correct the blades that are incorrect.

Changing the blades of group 2. (4 knife discs)

• Disassemble two blades that are diametrically opposite each other. Rotate them through 180° and change them over. Do the same with the two remaining blades. Repeat this operation for the three remaining blade disks of group 2.

Check :

The front side (bevelled edge) of each blade of group 2 mounted on a fluted part of a blade disc must point towards the centre axis. When this is not the case, adjust.

B. To renew a shredding knife, proceed as follows.

• New sets of knives are available form your ELIET Dealer under the following part number :
  STD blades: BU 401 300 201
  Resist™ blades : BU 401 300 302
• When renewing the blades, simply remove the old blades and replace them with new blades.
• First remove any dirt between the blade plates before you insert a new blade. To do so, use a stripping knife.
• Use the same procedure as for reversing the blades. See checks for both groups.
• On renewing shredding knives, always fit new bolts and nuts.

- When refitting the shredding knives check that all bolts are tight (torque loading : 40Nm). (Torque loading 35Nm).
- When fitting the blades, always position the nuts on the (1) left-hand side of the blade plate. This order of assembly ensures that the nuts are tightened by the direction of rotation of the engine. As a reminder: "Always position the nuts on the belt pulley (2) side."

• The bolts must be rechecked and, if necessary, tightened after 5 operating hours.

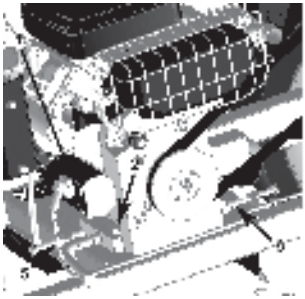
CAuTION ! :
Incorrectly installed or badly installed blades can pose a danger to the operator and the machine. If this happens, you are no longer covered by the warranty.

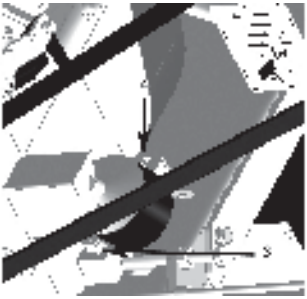
11.4.3 Checking the drive belt for correct tension

- Remove the belt guard (Chapter 11.21).
- Place an 8 kg load on the V-belt midway between the two pulleys.
- If this produces a 1 cm deflection, then belt tension is correct.

11.4.4 Tightening the V-belt

- Loosen the guide bolts (5 & 6) and unscrew them 1.5 cm. (M10 SW 17)
- Position a metal plate between the base of the engine and the bolt (6) and retighten this bolt. (M10 SW 17)
- Partially unscrew the 4 bolts retaining the engine (1, 2, 3, 4) (M10, SW 17).
- Push the engine forwards via the tensioning bolt (6). Ensure correct belt tension.





- Align the belt pulleys. To do so, use a straight slat (length: +/- 1200 mm) and hold it against both belt pulleys. When the alignment is correct, the slat will touch the belt pulleys at 4 locations.
- Position a metal plate between the base of the engine and the guide bolt (5).
- Then screw the guide bolt (5) further in to adjust the belt alignment.
- When the belt is perfectly aligned, retighten the 4 tensioning nuts.
- When the engine is tensioned, remove the metal plates between the engine block and the guide bolts (5 & 6) and screw the guide bolts until they just touch the engine block. Lock the guide bolts using the lock nuts (M10 SW 17).

11.4.5 Checking the tension of the drive chain for the feed roller.

- Remove the chain guard (see Chapter 11.2.2).
- Check the tension of the chain.
- If the chain is too slack, slacken the bolts (3 & 5) (M8, SW13).
- Tension the chain by tightening the nut on the threaded rod (4). (M6 SW10)

Caution :
The tension on the chain must not be excessive.

- When the chain tension has been adjusted to the correct value, tighten bolts (3 & 5) (M8, SW13).
- Refit the chain guard. For this, use the two bolts (1) and (2). (M10 SW17)

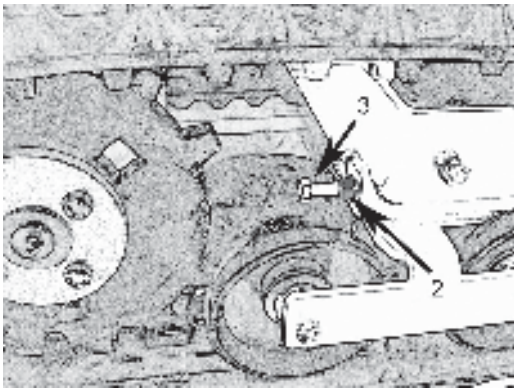
11.4.6 Checking and adjusting the tracks for correct tension (Cross Country model)

A. Checking for correct tension :

- Lift the track somewhere in the middle between the drive sprocket and the tensioner.
- If you can lift it for about 1 cm from the tensioner, track tension is OK.
- If not, the track needs retensioning.

B. Adjusting the tension :

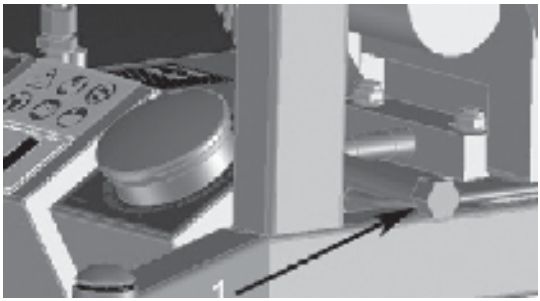
- Loosen the 2 bolts (M10, SW17) first and then remove the guard protecting the track guides.



- Unscrew the locknut (2) (M12 SW19).
- Screw in the central clamping bolt (3) (M12 SW19) until all the slack is taken up.
- Check the tracks for correct tension and turn the clamping bolt (3) further inwards (or outwards if track tension is too high).
- Remember to tighten the locknut (2) to secure the clamping bolt (3).
- As you go along, thoroughly clean and lubricate the track holder.
- Refit the guard using the 2 bolts using a reverse sequence to that given for removal.

11.4.7 Changing the hydraulic oil and oil filter

- Switch off the engine and remove the ignition key from the ignition switch.
- Clean the area around the filler opening and suction pipe.
- Open the filler opening (4) of the hydraulic tank.
- Obtain a container that has a capacity of at least 15 l.
- Remove bolt (1) and allow the oil to drain (M12, SW 19).
- After the oil has been drained, remove the nuts (2) (M5, SW 8).
- Cut away the jointing compound and remove the filter.



- Carefully remove any jointing compound residues so that no residues enter the oil tank.
- Replace the filter.
- Be over generous in the application of new jointing compound for a good seal.
- Refit the filter and the drain plug.
- Fill the oil tank with fresh oil (see Appendix A for recommended oil).
- Clean off any spilled oil and inspect for signs of leakage.

Caution :
Do not allow the suction hose, oil plug and filler cap to become dirty. This minimises the chance of a hydraulic defect and premature wear.

11.4.8 General lubrication

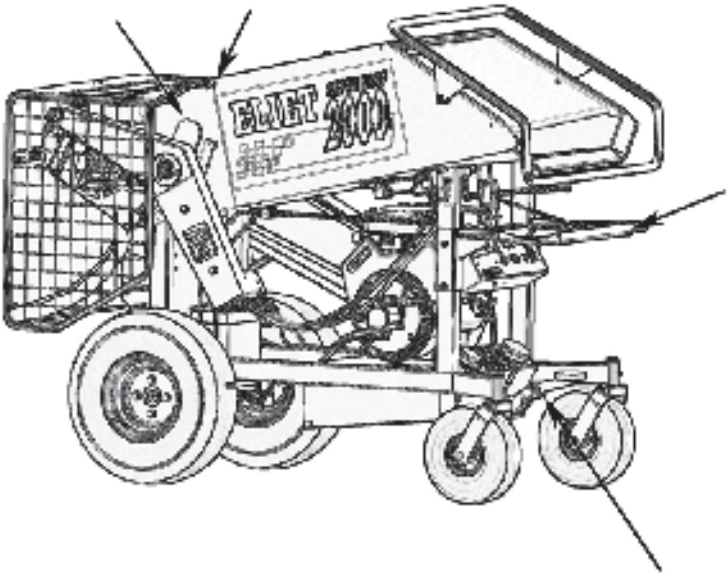
In view of the fact that the shredders often operate in extreme conditions, ELIET considers it important to use high-quality materials. ELIET therefore recommends the use of special lubricants (from the assembly stage onwards).

The following parts require regular lubrication:

- Pivot points and friction surfaces (see A on page 42).
- Grease zerks (see B on page 42).
- Bearing (see B on page 43).
- Chains and gears (see D on page 43).

Caution :
Before performing lubrication, make sure to switch off the engine and to remove the key from the ignition switch. Gloves must also be worn during this maintenance.

A. Lubrication of pivot points and friction surfaces



This group includes the following locations on the machine:

- Ground drive control pivot points
- Ball joints of the hydraulic valves
- Nylon sealing plates for the feed roller guides
- Throttle control lever pivot point
- Choke lever
- Quick-closing sieve screening system
- Screen locking pin
- Pivot points of the safety guard
- Wheel drive brake guide
- Parking brake foot pedal

Use the following procedure :

- Whenever possible, disassemble the hinge or the joint.
- Spray some penetrating oil containing molybdenum disulphide onto the frictions surfaces and allow the oil to penetrate.
- Wipe away all traces of old lubricant and dirt.
- In the event of some parts not being accessible, use compressed air to remove all traces of old lubricant and dirt (e.g. in the joints of pivot points).
- When the pivot points are clean, apply new lubricant.
- ELIET recommends Novatio Clear lube as a lubricant for pivot points and ball joints. ELIET would recommend Novatio PFT grease for friction surfaces.
- Wipe away any excess lubricant.

B. Greasing via the grease zerks fitted

This group includes the following locations on the machine:
Grease zerk on the pivot point of feed roller (1)
Grease zerks on pivot point of castors (2) Grease zerks on the bearings of the castors (3)
Grease zerks on the track guide bearings (Cross Country model)

Use the following procedure :
- Clean the grease zerk.
- Using a suitable grease pump, apply new grease.
- ELIET recommends Sunoco MultiPurpose Grease.
- Pumping the grease gun one or two times is sufficient to distribute the grease.
- Wipe away any grease that comes out of the joints.

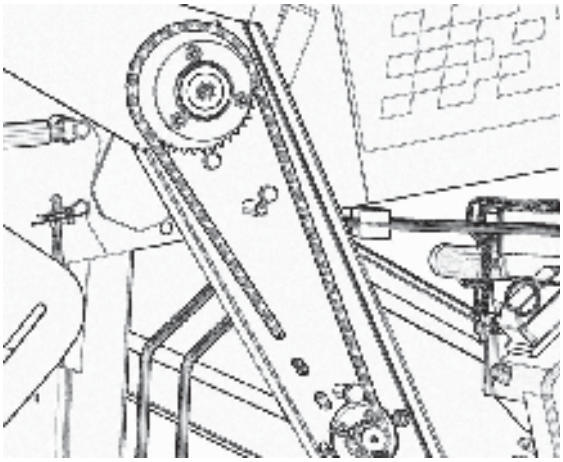
C. Lubricating the bearings

This group includes the following locations on the machine:
Bearing of the feed roller
Bearing of the knife drum

Use the following procedure :
- Spray some penetrating oil containing molybdenum disulphide into the bearing and the area around and allow the oil to penetrate.
- Wipe away any external dirt.
- Spray more penetrating oil into the bearing joints.
- Allow the bearing to rotate (possibly by starting the drive that moves the bearing). (CAUTION: make sure that all dangerous zones are adequately shielded).
- Once again, wiped away any dirt that is forced out by the penetrating oil.

• Use compressed air to remove all traces of penetrating oil from the bearing and from the bearing joints.
• Apply new lubricating oil. ELIET recommends Novatio Clear Lube as a lubricant.
• Wipe away any excess lubricant.

D. Lubricating the chains and the gearwheels



This group includes the following locations on the machine:
Chain drive of the feed roller.

Use the following procedure :
• Remove the guards to expose the drive (see Chapter 11.2.2).
• Wipe away all grease in and around the drive.
• Use penetrating oil containing molybdenum disulphide to dissolve the lubricant.
• When the drive is clean and all traces of grease and dirt have been removed, you can apply new lubricant.
• Use a small brush to apply the lubricant to the teeth of the gearwheels. Use Sunoco MultiPurpose Grease or a product of the same quality.
• It is better to use a thin liquid lubricant that can penetrate into the chains. For this, ELIET recommends Clear Lube lubricant spray from Novatio.
• After applying the lubricant, the guards are carefully refitted in order to keep out dust and dirt as much as possible.

All these greases are available from your ELIET Dealer.

11.5 Maintenance schedule

11.5.1 Normal maintenance schedule

Daily (after each use) :	Daily maintenance	§ 11.5.3
Every 50 hours :	Maintenance after 50 hours	§ 11.5.4
Every 100 hours (six-monthly) :	Maintenance after 100 hours	§ 11.5.5
Every 200 hours (or annually) :	Maintenance after 200 hours	§ 11.5.6

11.5.2 Special maintenance

A. Special maintenance of the blades

After inserting the blades into the rotor, the blades will bed-in after a brief period. This can cause the tension on the bolts to decrease, with the risk that the blades may become dislodged between the blade plates. This can cause irrevocable fatigue failure of the blade shaft. This must be prevented by scheduling extra maintenance after the brief bedding-in period.

When: Within the first five operating hours after starting up the new machine
Within the first 5 hours after rotating the blades
Within the first 5 hours after changing the blades

What: Check all blade bolts for correct torque loading and retighten if considered necessary. (torque loading : 40 Nm)

> **Warning :**
> Failure to perform this special maintenance will compromise the safety of the operators and bystanders and can cause serious damage to the machine.

B. Special maintenance of the drive belt

The belt that transfers the power from the engine to the blade shaft is long. During the bedding-in period, the belt will stretch naturally to a certain extent. This stretching will reduce the belt tension. Using the machine when the belt tension is too low will cause the belt to slip, twist or wear down. These three possibilities have a detrimental effect on a new belt.

When: Within the first 10 operating hours after starting up the new machine
Within the first 10 hours after changing a belt

What: Check the belt tension (see Chapter 11.4.4)

11.5.3 Daily maintenance

Caution :
Before performing any maintenance, stop the engine and remove the key from the ignition switch.
Wear suitable clothing.

- Check for signs of leakage.
- Open the shredding chamber (see Chapter 11.2.4).
- Clean the machine (see Chapter 9.8)
- Inspect the blades, and if necessary, sharpen them (see Chapter 11.4.1)
- Check the machine for signs of abnormal wear or fractures.
- Check the bolts for correct tightness. (Blades, wheels, bearings, engine,...).
- Check the oil level in the engine crankcase (see Chapter 11.3.1).

11.5.4 Maintenance after 50 hours

Caution :
Before performing any maintenance, stop the engine and remove the key from the ignition switch.
Wear suitable clothing.

- Daily maintenance (see Chapter 11.5.3).
- Change the engine oil (see Chapter 11.3.2)
- Clean the air cleaner. (see Chapter 11.3.4).
- Check the belt tension (see Chapter 11.4.3).
- Reverse STD blades (see Chapter 11.4.2)
- Check the chain tension and, if necessary, adjust the tension. (see Chapter 11.4.5).
- Check the level of hydraulic oil (see Chapter 11.4.7).
- General lubrication (see Chapter 11.4.8).

11.5.5 Maintenance after 100 hours (or six-monthly)

Caution :
Before performing any maintenance, stop the engine and remove the key from the ignition switch.
Wear suitable clothing.

- Maintenance after 50 hours (see Chapter 11.5.4).
- Change STD blades or reverse RESIST™ blades (see Chapter 11.4.2)

- Replace the oil filter (see Chapter 11.3.3)
- Check the level of battery acid (see Chapter 11.3.7)

11.5.6 Maintenance after 200 hours (or annually)

Caution :

Before performing any maintenance, stop the engine and remove the key from the ignition switch.
Wear suitable clothing.

- Maintenance after 100 hours (see Chapter 11.5.5).
- Change RESIST™ blades (if fitted) (see Chapter 11.4.2)
- Changing the hydraulic oil and oil filter (see Chapter 11.4.7).
- Air cleaner change (see Chapter 11.3.5).
- Changing the engine fuel filter (see Chapter 11.3.6).
- Changing spark plugs (read the engine manual).
- Checking the tracks (see Chapter 11.4.6 – Cross Country models only).

After performing maintenance or a repair, make sure that you correctly refit ALL guards.

12. Winterizing the machine

- Clean the machine (see Chapter 11.5.1).
- Store the machine in a dry place that is protected from rain, and if necessary, cover it with a tarpaulin.
- Always allow the machine to cool down before storage.
- If the machine is to be stored outside, it must be well protected with a tarpaulin. Ensure that water does not directly fall onto the machine. At ELIET, we strongly recommend that the machine is stored at a location that is well protected from the weather, etc.
- When winterizing the machine for long periods, it is recommended to perform the following steps.
- Perform a 50-hour overhaul (see Chapter 11.5.4).
- Check all nuts and bolts for correct tightness, and where necessary, retighten them.
- Places where the paint coating is damaged are repainted or covered with grease in order to prevent rust. Original ELIET paints in the same colour are available from your ELIET Dealer (article no.: BX 043.200.400).

13. Options

13.1 Sieve screening

You can choose from three types of sieves that can be easily interchanged. The three types are:

- Sieve with 30 mm diameter holes : order number MA-006.001.008
- Sieve with 35mm diameter holes : order number MA-006.001.009
- Shredding screen for leaves and damp material: order number MA-006.001.006

Sieve for leaves and damp material

Fitting the sieve

- Open the safety guard.
- Open the sieve by pulling the clamp backwards (1).
- Make sure that the hooks are completely released.
- Remove the hairpin clip (2).
- Pull the rod (3) out and remove the sieve from the machine.
- Change the sieve.
- Refit the rod (3).
- Check that the shaft correctly retains the sieve.
- Refit the hairpin clip (2).
- Place the hooks against the sieve.
- Snap the clamp (1) shut. When the hooks are correctly adjusted, slight tension exists. If this is not the case, loosen the lock nut (1) (M8 SW13), screw the hook (2) one turn inwards or outwards (according to whether too little or too much tension exists) and then retighten the lock nut.

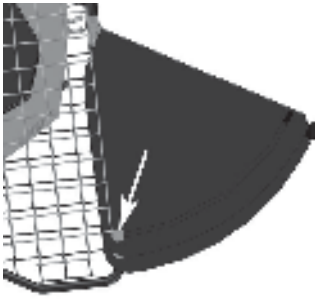
13.2 Belt conveyor

The belt conveyor is installed at the rear of the machine and transports the shredded material upwards. The length of the belt conveyor is 2.5m. The height of the belt conveyor can be adjusted from 1.65m to 1.90m. It is driven by a hydraulic motor that is independently activated. Care must be taken to ensure that the belt conveyor is switched on when you start feeding material.

Attaching the belt conveyor

Caution :
Prior to fitting the belt conveyor to the machine, always be sure to switch off the engine.

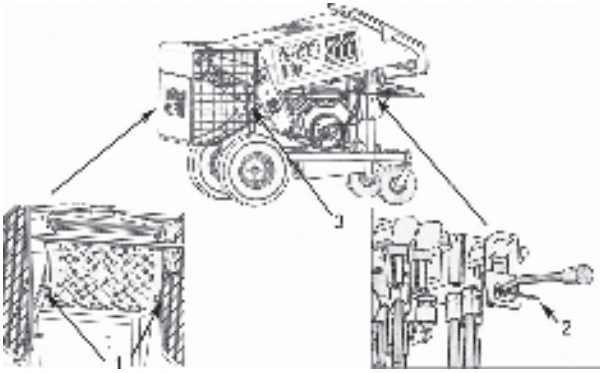
- Remove the safety guard cover (M8, SW13)



Warning :
The cover is part of the safety guard and prevents you from coming into contact with the blades. Removing this cover results in an inferior degree of protection. Be extremely careful and never insert your hands underneath the safety guard.

- Refit the spring, flat washer and bolt into their locations place, so as not to loose them.
- Using 2 persons, hold the belt conveyor at both sides.

Caution :
The belt conveyor weighs approximately 45 kg; do not underestimate this weight.
Prevent back injuries by bending your knees when lifting the weight.



- Hook the belt conveyor onto the attachment points (1) provided on the shredder.
- Make sure that the hydraulic pipes do not become damaged during this operation.
- Connect the quick fit connectors (prevent the connector ends from becoming dirty; if neces-sary, clean them first).
- Close the safety guard and allow it to rest on the belt conveyor.
- An additional switch valve, situated at the underside of the feed hopper, enables you to start the belt conveyor.
- Remove the locking pin (2) first and then press the control handle down.

Note : After machine start-up, first switch on the discharge belt conveyor before feeding branch- es into the feeding hopper.

Detaching the belt conveyor

Caution :

Always switch off the engine before removing the conveyor belt.

- Open the safety guard.
- Disconnect the hydraulic quick fit connectors.
- Connect the two hydraulic pipes to each other in order to prevent damage or contamination.
- Refit the blanking caps to the hydraulic quick fit connectors of the machine.
- Using two persons, support the belt conveyor and unhook it.

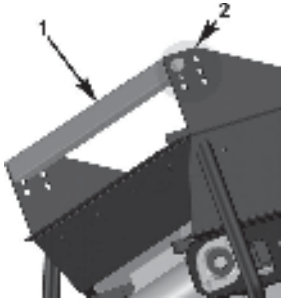
Caution :

Do not underestimate the weight of this discharge belt conveyor.

- Set the control to the OFF position and lock it using a hairpin clip.
- Refit the cover in the guides of the safety guard.

Adjusting the height of the belt conveyor

You can set the belt conveyor to an angle thus allowing you to change the loading height.
For this, you must move the transverse beam (1) on which the belt conveyor rests at the rear of the machine.



Several attachment holes (2) are provided.

First detach the belt conveyor from the machine before unscrewing this transverse beam. Loosen the M8 bolts on either side (SW13). Move the transverse beam to another attachment hole and then refit the bolts.
Tighten the bolts so that the belt conveyor remains secure when it is operating.
Hook the belt conveyor back onto the machine and check that the loading height is adequate.

Checking the belt conveyor for correct belt tracking

In the event of inaccurate belt tracking, it must be aligned for true running.

- Always check the belt conveyor for correct tracking when fitted to the machine.
- Start the engine and switch on the belt conveyor. Allow the machine to run for two minutes until the shredding chamber is completely empty.

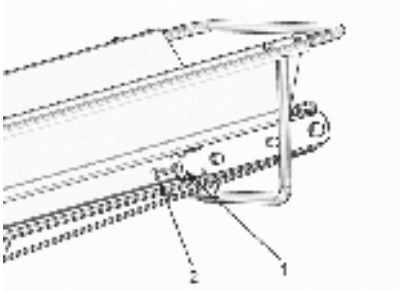
Caution :

Do not perform this maintenance in a confined area that does not have an extraction system for exhaust gases.

- Run the engine at low rpm (± 1,800 rpm).

Warning :

Always wear safety glasses to protect you from material kickback.



- The guides at the top return roll enable you to set the conveyor for correct belt tracking.
- When the conveyor tracks to the right, tighten the left-hand side by screwing the threaded rod on this left-hand guide down. If a substantial amount of tension already exists on the conveyor, you can try to move the conveyor to the left by loosening the guide on the right-hand side.
- Never try to make too much adjustment at once; first allow the conveyor to stabilise so that you can evaluate the result of your action.
- If the conveyor tracks to the left, then perform the above procedure (but replace left with right).

Checking the conveyor belt for correct tracking

- Perform this maintenance with the engine switched off.
- Support the conveyor halfway along its length on the underside of the frame.
- Remove the conveyor from the frame.
- The maximum conveyor misalignment is 50 mm.
- If this misalignment exceeds 50 mm, the conveyor will run too loosely on the rollers with this causing increased wear.
- Remove the bolts on the side of the tension guide. Screw the threaded rod in so that the guide retensions the conveyor.
- If it is found that belt tension is correct, allow the machine to run for a brief period in order to check the alignment.
- If necessary, readjust the tension. (see Chapter 13.23).
- Once the conveyor belt runs true and tracking is OK, securely tighten the guide bolts.

14 Equipment specifications

	Super Prof 2000 STD ZR	ZR-ABM CROSS COUNTRY
	48000	
	48	
Number of chopping motions per minute	48	
	60	
Branch shredding capacity (wheel barrows/hour)	60	
Branch capacity	120 mm	
	1830 x 835 x 1,380 mm	
Dimensions (L x W x H)		1830 x 900 x 1,330 mm
	332 kg	
Weight	352 kg	
	355 kg	
	420 kg	
Number of blades	24 HS steel reversible shred knives	
Shreddingwidth	480 mm	
Drive	Petrol engine	
	18 HP	
Power	V-belt Gates Quad Power II XPB 2410	
Transmission	-	
	-	
AntiMotor Block system	ABM-system	
Feed roller	toothed roller 18 m/min	
	toothed roller 23 m/min	
Infeed opening (W/H)	660 x 510 mm	
	1,005 mm	
Feed-in height		1,000 mm
Frame	3 mm and 4 mm steel plate	
Finish	Epoxy polyester	
Wheels	Rear wheels : pneumatic tyres 600 x 9 / 6 ply	
	Front wheels : pneumatic tyres 400-4 / 4 ply	
		Tracks 180 x 37 x 72
	-	
Wheeldrive	Hydraulic motors : Danfoss	
Hydraulicpump	Sauer Sundstrand 3.2 cc - 210 bar	
Sound power level	Lp(A) : 105 dB(A)	
	Lw(A) : 115 dB(A)	
	Lw(A) : 116 dB(A)	
Airbornesound power level	B&S Vanguard	
Guaranteed sound power level	RESIST blades	
	Sieve for damp products	
Enginemake	Sieve with 30 mm openings	
Accessories	Sieve with 35 mm openings	

15. EC Declaration of Conformity

Machine: WOOD CHIPPER
Type: ELIET SUPER PROF 2000
Modelnumber: MA 006 010 113
MA 006 020 113
MA 006 030 113
MA 006 040 113
MA 006 050 113

The previouslymentionedmachinehas been designedand manufactured to comply with the following European CE regulations:

EN 13525: Forestry machinery : wood chippers - safety

ELIETmfg. cy. hereby declares thatafter performing a hazard analysis, itis fullyaware of the potentialhazards and risks associated with the machine. In thisknowledge, the necessary steps have been taken in linewithMachineDirective 2006/42/EC in order to ensure absolute operator safety for the operator, when the machine isused correctly.
The value of the measured sound power level and the guaranteed sound power level were obtained according the procedures set forward in the directive 2000/14/EG annex III/Bclause 50 and directive EN 13525..
Measured sound power level LWA : 115 dB(A) Guaranteed
A-weighted sound power level : 116 dB(A)

Date: 01/01/2011
Signature:

FredericLIETAER
ManagingDirector ELIETEUROPE NV Date
of birth: 02/01/1975

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Appendix A

Technical specifications of the lubricants and fuel

Engine oil	Synthetic oil SF, SG, SH, SJ
Viscosity	SAE 5 W 30 / SAE 10 W-30
Capacity of engine crankcase	1.6 L
Fuel	Unleaded petrol (gasoline)
Minimum RON	85
Capacity of fuel tank	7 L
Hydraulic oil	Conforms to DIN 51524 Part 3 HVLP
Viscosity	ISO VG 46 cSt
Capacity of hydraulic system	15 L
Brands	
SUNOCO	Sunvis 846 WR HV
ELF	Hydrelf DS 46
SHELL	Tellus TD 46
TOTAL	Equivis ZS 46
CASTROL	Anvol WG 46
TEXACO	Rando HDZ 46
MOBIL	DTE 15 M
ESSO	Univis N 46
Lubricant for bearings	NOVATIO CLEAR LUBE
Lubricant for pivot points	NOVATIO CLEAR LUBE
Lubricant for friction surfaces	NOVATIO PTFE OIL
Lubricant for chain transmission	NOVATIO CLEAR LUBE
Lubricant for grease zerks	SUNOCO MULTI PURPOSE LR EP2