

**ELLIETT®**

MANUAL

English

**E600**



This manual contains practical information about the use and maintenance of your machine. Read it carefully and keep it safely for future reference.



Please also keep your purchasing invoice or receipt together with this booklet.



Register your product online on [www.eli.eu](http://www.eli.eu)

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# 1. Introduction



## 1.1 Read this operating manual carefully

ELIET machines are designed for safe and reliable use if they are operated in accordance with the instructions provided. Carefully read these operating instructions before using the machine. Failure to do so may result in personal injury or damage to the equipment.

## 1.2 Identification data - ELIET Compactor E600

Note the identification data relating to your machine in the text boxes:

Type number:	<input type="text" value="MA"/>
Engine :	<input type="text"/>
Serial number :	<input type="text"/>
Year of manufacture:	<input type="text" value="20"/>

# 2. Warranty



## 2.1 Warrantycard

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

European customers:

ELIET EUROPE NV

Diesveldstraat 2

B-8553 Otegem

Ph (+32)(0)56 77 70 88 - Fax (+32)(0)56 77 52 13

E-mail: [service@eliet.eu](mailto:service@eliet.eu), [www.eliet.eu](http://www.eliet.eu)

US customers :

ELIET USA Inc.

3361 Stafford street (office B)

15204 Pittsburgh (PA)

Ph (+001) 412 367 5185 - Fax (+001)412 774 1970

e-mail: [usinfo@elietusa.com](mailto:usinfo@elietusa.com), [www.elietusa.com](http://www.elietusa.com)

Read the warranty conditions on the attached warranty card.

## 3. Welcome

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### Welcome to the family of ELIET users.

We thank you for the trust that you have placed in ELIET and we are convinced 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 manual and the engine manual included will help you on your way. 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 manual carefully before operating the machine. This will prevent you from operating the device incorrectly. For your own safety, please observe the safety instructions specified in the relevant chapter.

Even if you are thoroughly familiar with operating such equipment, it is still advisable to read these pages carefully. All ELIET equipment and machines are continually being updated and improved and therefore the specification of your machine may differ slightly in terms of shape, technology and accessories. 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 give rise to any claims. If you still have questions after you have read this manual, please contact your ELIET dealer. Find an authorised ELIET dealer near you on **[www.elieta.eu](http://www.elieta.eu)**

### ELIET AT YOUR SERVICE

During office hours ELIET's help desk will make every effort to answer all of your questions:

European customers :

GMT +1: van 8.00 u tot 18.00 u

Tel: +32 56 77 70 88

Fax: +32 56 77 52 13

[service@eliet.be](mailto:service@eliet.be)

US customers :

Ph (+001) 412 367 5185

Fax (+001) 412 774 1970

[usinfo@elietusa.com](mailto:usinfo@elietusa.com)

[www.elietausa.com](http://www.elietausa.com)

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## 5. Operator safety warnings

ELIET cannot anticipate every situation in which a risk or danger can occur. The warnings in this operating manual and the labels on the machine are therefore not comprehensive. Even though this will be minimal, a residual risk will always be present. If you apply a working method, operation or technique as the operator of the machine that is not explicitly recommended by ELIET, ensure in any case that this will not present a danger for bystanders.



A number of symbols ("For your information", "Caution", "Warning") are used in this operating manual to provide additional information and to highlight dangers..

### 5.1 For your information



#### **For your information**

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

### 5.2 Caution



#### **Caution:**

This notice identifies safe practices in order to prevent incorrect operation that may result in personal injury or damage to the machine.

### 5.3 Warning



#### **Warning:**

This notice warns you about extreme danger that you must be aware of in these specific circumstances.

So remain alert, in order to ensure your own safety.

These safety messages can only warn and not remove the danger.

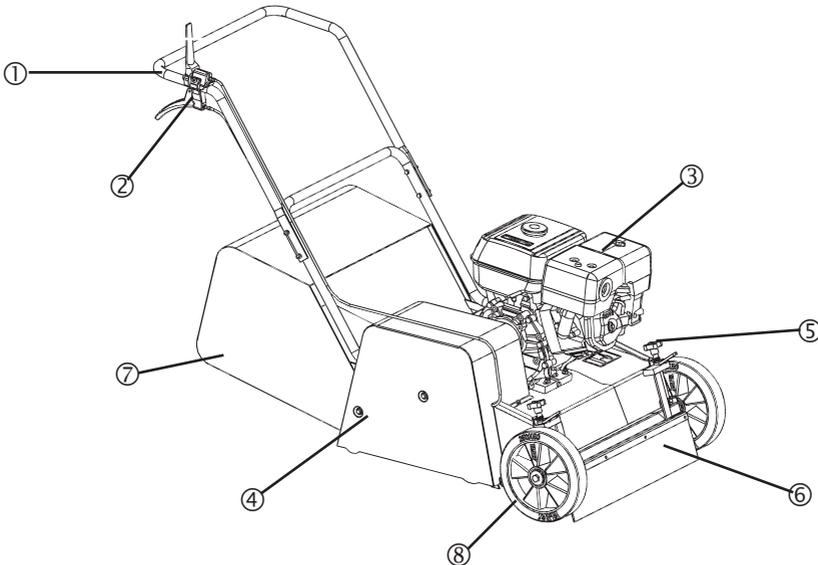
Using common sense and observing the guidelines contained in this manual are essential to prevent accidents.

## 6. Main parts

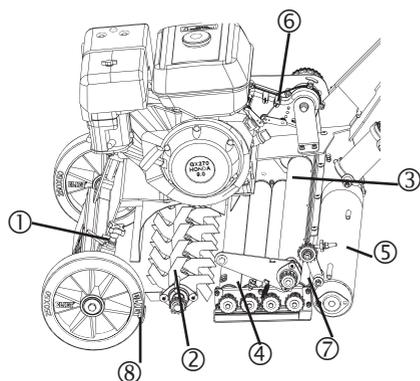


To fully understand the content of this operating manual you need to be fully conversant with the terminology used for the descriptions. In this chapter you can find a set of parts identified by name. It is a good idea to take time to study the machine beforehand for a better understanding of the descriptions provided in this operating manual.

### 6.1 Overall view

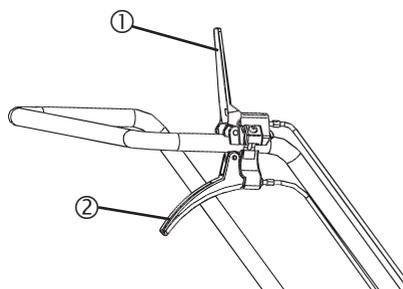


- |  |   |
|--|---|
| 1. Handlebar   | 5. Continuous - stepless - height control |
| 2. Operation handle  | 6. Mud flap                               |
| 3. Engine  | 7. Collection unit                        |
| 4. Protective cover for the drive, traction roller and blade drive | 8. Wheels                                 |



1. Continuous - stepless - height control
2. Knives
3. Hinging pressure roller
4. Transport rollers or input rollers (3x)
5. Traction roller
6. Traction gearbox
7. Pinch roller

## 6.2 Operation



1. Dead man's handle: blade drive + input and pressure rollers
2. Traction handle (traction roller)



### For your information:

All references to front, rear/back, left and right in this manual are from the viewpoint of the operator standing behind the machine and facing the direction the machine is travelling.



### For your information:

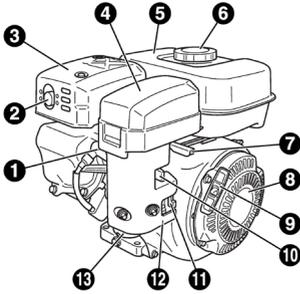
Your ELIET dealer remains at your service for any maintenance or advice, ensuring your ELIET machine is always in perfect condition. You can contact him for original ELIET parts and lubricants at any time. These service parts are manufactured according to the same strict rules and craftsmanship as the original equipment.



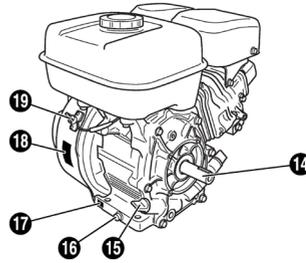
### Caution:

For your own safety, only original parts may be mounted on ELIET machines.

## 6.3 Engine



1. Spark plug
2. Exhaust
3. Silencer
4. Air filter
5. Fuel Tank
6. Fuel filler cap
7. Speed control
8. Kickback starter
9. Starter handle
10. Choke



11. Fuel tap
12. Fuel supply
13. Carburettor
14. Engine axis
15. Oil filler cap / dipstick
16. Oil drain plug
17. Serial number engine
18. Name label engine
19. ON/OFF switch

## 7. Safety instructions



### 7.1 Safety messages

Safety messages are provided via stickers that are applied to the machine. Take good notice of the symbols and warning messages displayed.

Some safety instructions are symbolised by icons:



This sticker is affixed on the belt protection cover and warns about the danger of hand injuries. Keep your hands and feet away from underneath the machine as long as the blades are rotating. The engine must be turned off in case of faulty operation or before starting maintenance.

Art nr : BQ 505 010 070

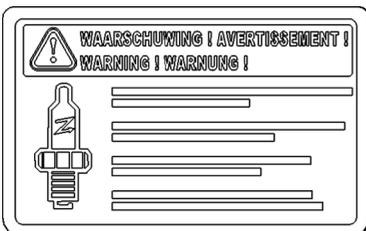


This sticker is affixed on the machine near the engine.

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 goggles, ear defenders) should be worn when operating the machine.
3. Working with or performing maintenance on the machine poses the risk of slicing wounds to the hands. Be attentive and cautious.

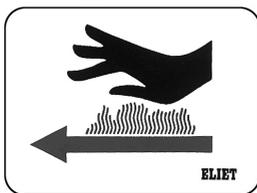
Art nr : BQ 505 010 050



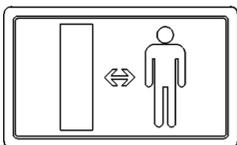
This sticker is affixed on the machine near the engine.

The sticker reminds the user to switch off the engine and remove the spark plug cover before carrying out maintenance work on the machine.

Art nr : BQ 505 010 040



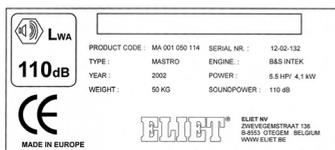
This sticker is affixed near the exhaust and warns the operator about hot surfaces with a high risk of burns.  
Art nr : BQ 505 010 060



This sticker is affixed next to the engine. It reminds the operator to keep bystanders at a distance while operating the machine.  
Art nr : BQ 505 010 150



This sticker is affixed on the cover of the driving belt. It indicates the potential danger arising when the cover is removed while the engine is running. The machine may never be operated without the cover. The engine must be switched off before removing the cover at all times.  
Art nr : BQ 505 010 130



This unique sticker contains all machine identification data:

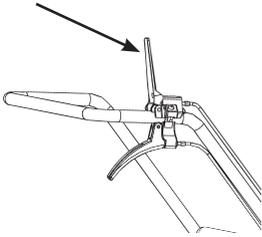
- Year of manufacture
  - Model
  - Type number
  - Serial number
  - Capacity
  - Weight
  - Guaranteed A-weighted noise level
- In addition, the sticker bears the manufacturer's company information. The sticker bears the seal of conformity with European standards in the form of a CE label.



### Caution:

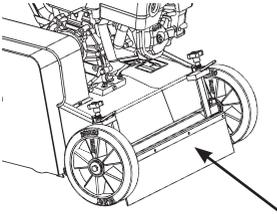
If due to cleaning or use, safety stickers or parts displaying safety information have been damaged, removed or become illegible, they must be replaced immediately. Stickers and parts can be obtained from any authorised ELIET dealer.

## 7.2 Safety features

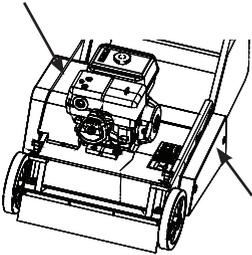


### **Dead man's handle:**

Releasing the dead man's handle disengages the blade drive from the engine, causing the blade axle to come to a stop.



**Steel compartment and mud flap:** The blades are encapsulated in a firm steel compartment; together with the mud flap it stops moss, grass and pebbles from flying up.



**Belt protection cover:** The cover ensures that all rotating parts of the driver that might cause injuries are adequately screened off.



### **Warning:**

Never attempt to circumvent or disengage safety devices.

Safety measures were designed for your safety.

Before using the machine, the operator should check that the safety device works properly. Any defects must be repaired prior to using the machine.

## 7.3 Safety instructions

---

### 7.3.1 General safety regulations

- The owner of the machine will keep this manual during its complete service life. A reference guide for the user, it also ensures that the machine is used and maintained correctly at all times. Always refer to this instruction manual if you have any doubts about an operation 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. The help desk at NV ELIET is at your service to answer all of your questions on +32 56 77 70 88.
- Read the chapter meant for the dealer and verify whether the machine has been delivered in accordance with the instructions.
- Get advice from the dealer or another professional when purchasing the machine.
- Carefully observe all safety instructions when using this ELIET machine. Make sure to read all the instructions about how to operate the machine. All these instructions are for your own safety.
- Read and observe all safety messages stickered on the machine.
- Always observe the applicable regulations of the Labour Inspectorate to avoid accidents.
- Under no conditions whatsoever may the original design of the machine be modified without explicit and written consent of ELIET EUROPE NV (Belgium).



#### **For your information**

Also read the engine manual supplied with your machine. It contains useful tips about proper use and maintenance of the engine.

### 7.3.2 Careful and proper use

- 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 on reflex.
  - Despite the extensive safety features, do not seek out dangerous situations.
  - This machine serves to loosen and remove the moss and felt growing on the bottom layer of your lawn and must be used for this purpose only.
  - Dethatching is a surface operation. The blades should only touch the upper surface. The maximum blade depth is 2 millimetres. Too deep a blade setting increases the risk of broken blades and increased wear.
- ELIET accepts no liability for damage resulting from improper blade settings.

- Dethatching must only be done in a forward travelling direction. In view of general safety, ELIET advises against dethatching in a backward direction.
- Never dethatch when the ground is frozen.
- It is recommended to work a dry lawn. Wet lawns increase the risk of accidents; extra care is necessary under these circumstances.
- If the lawn is too dehydrated after a period of drought, dethatching is not recommended. The dust generated from the lawn would increase wear of the machine. In addition, dethatching would have a negative effect on the lawn.
- Never work when light intensity is below 500 Lux.
- The machine may never be used as a means of transport for people or loads.
- Make a thorough inspection of the area where the machine is to be used. Remove sticks, stones, wires and debris, but also take account of electric cables, water pipes, sprinkler heads, drain covers, etc.
- The blades must be disengaged as soon as the machine is taken off the lawn and pushed across a hard surface. When crossing larger distances on a hard surface, the engine must be turned off as well.
- Use the machine in an environmentally safe manner:
  - Avoid running the machine without actively using it.
  - Avoid spilling petrol while refuelling.
  - Service the engine regularly in order to maintain optimum combustion.

### 7.3.3 Operator's responsibilities

- All persons using the machine are assumed to be fully conversant with the safety instructions. **The operator has full liability for the use of the machine with regard to himself and third parties.**
- The operator of this machine is assumed mature enough and with enough common sense to make decisions by himself.
- The machine may not be operated by underage persons. This does not apply to youths over 16 who are learning to operate the machine under the supervision of an experienced operator. This manual must be read before use.
- Children (under 16 years of age) and animals should be kept at a safe distance (10 m) from the machine.
- ELIET advises against lending the machine to others, but if this should occur, it should only be lent to persons who are familiar it. **Always point out the potential hazards to the user and ensure that they have read the manual before using machine.**
- This machine must only be operated by persons who have a good physical condition. Take a rest if you become tired while operating the machine. Do not operate the machine after alcohol consumption.



#### **Warning:**

A moment of inattentiveness or carelessness can lead to live long regret.

## 7.3.4 Personal Protective Equipment (PPE)



### For your information

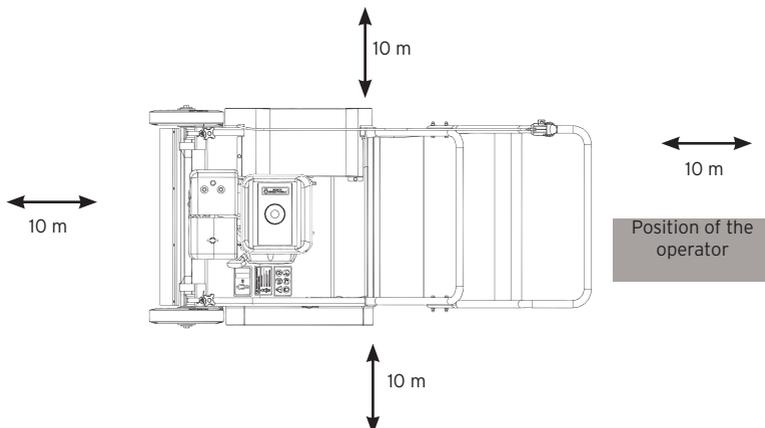
Personal protection equipment reduces the risk run by the operator.

- Suitable clothing must be worn when operating this machine, i.e. clothing covering the entire body, protective gloves and closed footwear.
- Since your feet run a high risk when operating the machine, sturdy, closed non-slip shoes are a must. Shoes with a steel top are highly recommended.
- For protection of the most sensitive senses, ELIET recommends hearing protection and safety goggles.
- Dethatching can produce a considerable amount of dust. If it irritates your respiratory airways, ELIET recommends you wear a dust mask (in compliance with the 89/686/EEC standard).

### 7.3.5 Danger zone

The safe position for the operator is behind the machine, with both hands on the handlebar.

- Never allow bystanders within the danger zone stretching up to 10 m around the machine during work.
- Do not take risks! Stop the blade drive as soon as someone enters the danger zone.
- Shut off the engine when leaving the machine unattended.
- Once the motor is running, focus all your attention on operating the machine.
- Protective covers are intended to shield off dangerous areas to avoid accidents. It is therefore strictly prohibited to operate the machine or to activate the engine or any drive when protective covers are removed.



### 7.3.6 Periodic maintenance

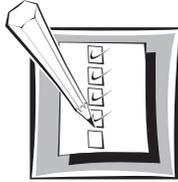


#### **For your information**

For your own safety, and in the interest of preserving the life of the machine, this machine should undergo regular maintenance.

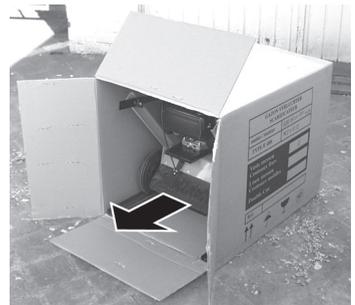
- Periodic maintenance is essential. Strictly follow the maintenance schedule included in this operating manual (see § 11.2; page 27). A maintenance meter helps you keep track of the machine's hours of operation.
- When parts require replacement as a result of wear or defect, always request original ELIET replacement parts from your ELIET dealer. This is of key importance for your own safety. (find an authorised ELIET dealer near you on **[www.eliyet.eu](http://www.eliyet.eu)**)
- Since wearing hearing protection can impair the ability to hear warning sounds (such as yelling, signal tones, etc.), increased alertness is required under those circumstances.
- ELIET advises against the use of a Walkman or a portable MP3 player while operating the machine.
- Repairs, maintenance and cleaning must only be performed with the engine disengaged and the spark plug cap decoupled.

## 8. Dealer's duties



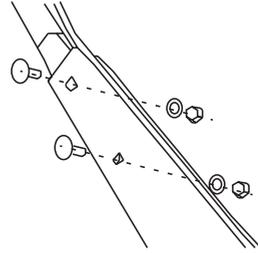
### 8.1 Unpacking the machine

- ELIET machines are packaged in accordance with common rules for proper transportation. Deliveries are always ex factory. ELIET cannot, therefore, be held liable for any damage occurred during transport.
  - If the packaging is damaged upon receipt of the goods, check the state of the machine to ensure it is not damaged. Report any irregularity on the delivery order before signing for receipt.
  - In case of damage to the machine a complaint to the shipping company must be submitted immediately after delivery.
- 
- Set the box on an even surface. Pay attention to the arrows indicating the upper side of the box.
  - Cut open the side of the box and pull out the flaps.
- 
- Pull the machine out of the box. Watch out for the handlebar on top of the machine.



## 8.2 Positioning the handlebar

- Remove the handlebar from the box and place it on top of the frame.
- Attach the handlebar to the frame with the following fasteners:
  - Carriage bolts M8x20 (4x)
  - Lock nuts M8 (4x) (spanner size 13 mm)
  - Washers M8 (4x)



## 8.3 Other duties



### Warning:

As an ELIET dealer you **must** familiarize your customers with the **operation 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.



### Warning:

In its position as a manufacturer, ELIET wishes to re-emphasise that the dealer must expressly point out to the customers that they must re-tighten all bolts of the machine **within the first 5 operating hours**.

- The dealer checks that the RPM setting is at 3200 RPM.
- The dealer makes a final test drive and checks that all devices operate properly.
- The dealer checks that all safety features work perfectly.
- Every Eliet dealer warrants a long life span of Eliet machines. He will lubricate the hinges before delivering the machine to the client.
- Important information for the new owner at the time of delivery:
  - The dealer familiarizes the new owner with the machine's operation.
  - The dealer informs the new owner of potential dangers.
  - The dealer insists that the machine be returned for first maintenance after 10 hours of service (belt tightening and first oil change are required).

**Caution:**

The dealer ensures that the warranty card is filled out and signed for reasons of avoiding warranty disputes. Please read the warranty conditions for more details.

## 9. Operating instructions

### 9.1 Preliminary checks



**Caution:**

Try making a habit of checking the following points before getting to work with the machine:

**Checklist**

- Check the machine's hours of operation and compare this number with the maintenance table
- Check the oil level. Pull out the dipstick and check whether the oil level is below minimum.
- Check that the fuel tank is full. If not, fill it up.
- Check the air filter for excessive dirt
- Check whether the chains are adequately lubricated.
- Check the blades for wear.
- Check that the belt tension is adequate. If not, adjust it.
- Check that the depth setting is correct.
- Check that all protection covers are present and properly in place.
- Check that all safety provisions on the machine are still operating properly.
- If the machine is equipped with a maintenance meter, check that it operates at the indicated speed (3200 RPM). Never attempt to change the default engine settings.

After verification and approval of all points on the checklist, the work area can be prepared and the machine wheeled to it.

### 9.2 Preparing the machine

#### 9.2.1 Machine set-up

CORRECT DEPTH SETTING = MAXIMUM EFFICIENCY



**Caution:**

This maintenance may only be carried out with the engine off and the blades at full stop.

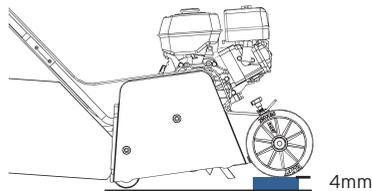


**Warning:**

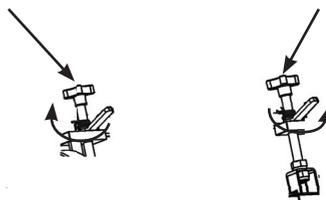
Wear gloves to perform this procedure.

Depth adjustment is carried out by positioning the front wheels (continuous - stepless -) of the scarifier.

- Carefully place the scarifier on an even and hard surface. Make sure that the blades don't get damaged.
- Place a level object of approx. 4 mm thick under both front wheels.



- Turn the blocking handles towards the inside of the machine to release the depth control.
- Turn the blades manually until the tips are as close to the surface as possible.
- If the blades touch the surface they must be lifted by turning the 2 depth adjustment knobs (to the left and right) anti-clockwise until they are just above the surface level.
- Turn both depth adjustment knobs clockwise evenly.
- The depth setting is correct when the blades are only just above the surface.
- Check that the front side of the scarifier is horizontal; if not, depth adjustment must be carried out again.
- Carefully remove the objects from underneath both front wheels.
- Secure the depth adjustment knobs in order to lock the depth.



## 9.3 Refuelling

When petrol in the machine is running low, it must be refuelled. The use of fresh petrol is recommended at all times. Use unleaded petrol, preferably with an octane index of 98 or 99.



### Warning:

Under certain conditions, petrol is extremely flammable and highly explosive. Fire breakouts and petrol explosion can inflict severe burns and cause damage to personal property. As a result, please observe the following points:

- Never refuel with the engine running. Always allow the engine to cool down for several minutes prior to refuelling.
- Use fresh petrol only. ELIET is environmentally conscious and therefore recommends using unleaded petrol. Additives may be used for extended fuel freshness.
- Store petrol in an approved tank. Keep out of reach of children.
- Never refuel at the location where the machine will be operated. Keep a distance of at least 10 m from the selected work area in view of fire hazard.
- Never refuel in a closed area.
- Clean the area around the fuel cap and remove it. Don't fill the tank completely. Fill up to approximately 10 millimetres from the brim. So don't fill it up to the brim.
- Always use a funnel or a spout for refuelling. Special funnels are available from your ELIET dealer.
- Put the cap back on the fuel tank as quickly as possible. Immediately clean up any petrol spilled whilst refuelling.
- Also make sure that clothing does not come in contact with the petrol. Should this occur, the clothing must be changed immediately.
- It is irresponsible and therefore strictly forbidden to refill the tank around people who are smoking or near open fire.
- If fuel is swallowed or comes in contact with the eyes, consult a doctor immediately.

## 9.4 Preparing the work site

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- Never work when light intensity is below 500 Lux.
- Besides the machine, the work area must comply with certain conditions also; they must be verified prior to starting the work.
- Examine the work area and remove any foreign objects from the lawn.
  - Foreign objects include: metal, stone, plastic, pvc, bones, rope; but also molehills, branches, water hoses, etc. Some of these can cause severe damage to your machine or lead to blade breakage.
- Foreign objects that cannot be removed (such as drain covers, built-in power outlets, water sprinklers, tree roots) must be visibly marked.
- Always cut the grass before dethatching. Ensure that the grass is shorter than 30 millimetres.
- A mowed lawn also displays any foreign objects.
- Dethatching a wet lawn is not recommended.
- Plan your course thus that the wind blows the dust produced by dethatching away from the

engine.

- Use of the machine on severely dry soil is not recommended for the following reasons:
  - The grass will recover much slower than usual.
  - The lawn will be badly damaged.
  - The blades wear faster and require replacement sooner.
  - More dust will be produced, soiling the engine more quickly.
  - Greater dehydration of the soil than was the case already.
- We strongly recommend to treat the grass with an anti-moss herbicide or a weed killer approximately 1 week prior to dethatching so as to ensure that the moss is dead and dry. It will help the grass to thicken more easily after dethatching.

## 9.5 Starting the engine



### Caution:

Never start the machine when dust has settled on the engine or between its cooling fins. It reduces proper cooling of the engine and can cause a fire.



### Warning:

The blade axle spins as soon as the engine engages and the operation handle is pulled towards the handlebar. Make sure that the operation handle is not pressed when starting the engine. If ever control over the machine's operation is lost, the quickest way to stop the blade axle is by releasing the operation handle.

If this has not been done when going through the checklist, always check the engine for adequate oil and fuel levels before starting it.

- Please see § 11.4.2 for details about how to check and refill the oil.
- For petrol refuelling please refer to § 9.2.2..
- If the fuel tank is equipped with a fuel tap, open it.
- Depending on the type of engine, put the handle or turn the switch into the ON position.
- Set the choke handle to "Close".
- Open full throttle, represented by the image of a hare.

**Warning:**

For optimum protection of your hearing, please put on the supplied hearing protection prior to starting the engine.

Engage the engine by firmly pulling the starter cord.

- The engine running, set the choke handle to “Open”. This prevents the engine from getting too much fuel. Should this be forgotten, the engine will slow down and start to smoke heavily, and eventually come to a stop. Restart the engine without opening the choke if this happens.
- Failure to restart the engine points to a greased spark plug which consequently requires cleaning or replacing (see 11.5.2 Checking/replacing spark plug).

## 9.6 Operating the machine

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**Caution:**

As long as the operation handle is engaged and the engine has not come to a full stop after turning it off, the blades will continue to spin. Don't perform any maintenance activities before they have come to a halt.

**Warning:**

The mud flap and the belt protection cover offer protection against rotating parts. It is therefore prohibited to reach behind these covers with any body parts while the engine is running.

### 9.6.1 Prior to starting the work

Pay attention to the following safety instructions before starting to operate the machine.

- Never run a petrol engine in a closed environment in view of the risk of carbon monoxide poisoning from the exhaust.
- The operator must wear clothing, protective gloves and other protective attributes as prescribed in this manual (see § 7.3).
- The operator must be alert while he's working. As long as he is operating the machine, his full attention must be on the job.
- Never work when light intensity is below 500 Lux.
- A good gardener works efficiently and according to a well defined plan. It allows him to keep an overview of his work and prevents accidents or wrong manoeuvres with the machine.
- Once the engine is running, it is recommended to allow it to warm up for best performance.

**Warning:**

Never tilt the machine forward over the front wheels as this may inadvertently engage the blades.

### 9.6.2 During work

For dethatching, the following procedure must be followed:

- Always place the machine on the lawn before engaging the blades.
- Push the handlebar down slightly to lift the blades. The blades should be lifted approximately 3 to 4 centimetres from the surface
- Pull the dead man's handle against the handlebar to engage the blades.
- Allow the engine to acquire the proper speed.
- Lower the blades.
- Start forward movement by pressing the traction handle.
- Steer the machine by pushing the handlebar left or right. Avoid changing course abruptly!

**Note:**

Tilting the machine backwards to slightly lift the blades while steering is recommended to avoid damaging the lawn.

- When you reach the end of a strip and want to turn around to work the adjoining strip, you push the handlebar down slightly to lift the blades from the surface. The blades should be lifted approximately 3 to 4 centimetres from the surface. Push the handlebar in the desired direction. Once the machine has rotated 180° it can be fully lowered to the surface again.

Follow the procedure below to change direction or to cross small distances (paths or terraces):

- Release the dead man's handle.
- Push the handlebar down slightly to lift the blades approximately 3 to 4 centimetres from the surface. When the blades are still, the machine can be lifted a little higher if necessary.
- Roll the machine to where dethatching must take place.
- Pull the operation handle against the handlebar to engage the blades.
- Allow the engine to acquire the proper speed.
- Lower the blades.
- Start forward movement by pressing the traction handle

**Caution:**

The blades must be switched off before crossing a paved surface. Lift the front wheels approx. 4 cm by pushing the handlebar down. To cross relatively large distances (> 10 m) over a paved surface the engine must be turned off.

Key issues with regard to dethatching are:

- Avoid standing still with the machine as this can cause deep marks in the lawn.
- Efficient dethatching involves two runs of the entire surface, the second one perpendicular to the first.
- Be advised that dethatching is not the same as cultivating. Both processes have their own specific purpose and are carried out with a specific machine.
- Cease the operation immediately when you hear unfamiliar noises. Stop the engine and examine the cause of the noise. Perform any necessary repairs before continuing.
- Should any foreign objects have landed under the machine despite proper preparations, immediately switch off the machine. Remove the foreign object and check for damage. Any defects must be repaired before reassuming operation.

## 9.7 Stopping the engine

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To stop the engine, push the throttle to its lowest position and turn the knob to the "OFF" position. Now close the fuel supply tap.

## 9.8 After finishing the work

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### 9.8.1 Cleaning the machine

ELIET recommends cleaning the machine after each use. We recommend performing an inspection each time you clean the machine to check component and machine integrity. It allows timely intervention and prevention of any defects, ensuring a longer service life of your machine.

Failure to clean the machine can cause:

- increased wear of the bearings.
- Increased wear of covers.
- Reduced motor cooling.
- Increased risk of fire.
- Inability to notice cracks or tears.
- Damage to the paint.
- Illegibility of safety stickers.

**Note:** Failure to perform the daily [sic] cleanup will result in loss of warranty.

The following points require special attention:

- The engine should be clear of dust and dirt. More in particular the cooling fins and the area around the exhaust must be clean. The area around the fuel cap must be kept clean to avoid dirt entering the fuel tank.
- The bushings must be cleaned from sand and dirt that got stuck in the lubricating grease. Reapply lubricating grease after wiping the bushings (see the list of lubricants in § 11.3).
- Use a dry cloth to remove dirt from the chassis and more specifically from the stickers with safety instructions.



**Caution:**

Wear suitable clothing for cleaning activities. Utility gloves are essential.

- Use a dry cloth or soft brush for any cleaning. Use penetrating oil with MoS<sub>2</sub> to remove grease and lubricants. It is a lubricant and rust solvent at the same time.
- A steamer may be used for cleaning, but the water should not be overly pointed at bearings, protection covers and filler caps. Water is the number one cause of rust and this must be avoided at all times. Allow the engine to cool down properly before treating it with water.

Any necessary replacement and/or repair works must be undertaken immediately. Visit your authorised ELIET dealer to have them carried out (find an authorised ELIET dealer near you on [www.elieta.eu](http://www.elieta.eu)).

## 9.9 Lawn treatment after dethatching

After dethatching it is essential to thoroughly remove the raked moss to avoid it from reattaching to the soil.

- **Sowing:** To thicken up the lawn after dethatching, new grass must be sown in the open spaces. Working the seed into the soil has preference over sowing on top of the existing grass. It allows faster germination of the seed and quicker thickening of the lawn. Watering the lawn at regular intervals is required. The sowing machine from ELIET's product range is highly suitable for renovating your lawn.
- **Fertilising:** A balanced fertilising treatment is recommended to help recovery of the existing lawn. It also stimulates growth of the sown grass. The choice of fertiliser depends on the soil, acidity and type of grass. Ask advice from a supplier of fertilising products.
- **Aeration:** Very often the soil under the lawn has been pressed together from walking or driving on it. The grass doesn't get enough air as a result. It also prevents easy drainage of rain water and fertilisers. These are causes for slow growth of the grass and increased growth of

surface parasites such as moss. Opening up the soil requires aeration at a deeper level.

- **Sanding:** Sanding the lawn can help to provide air to the top layer. Sanding can best be done after dethatching or aeration. Sharp sand is the best choice.
- **Irrigation:** Protecting itself from drought, grass will slow down its own growth during continuous sunny weather and high temperatures. Regular watering is recommended if a period of drought starts after dethatching. A humid soil below the grass is of key importance for absorption of fertilisers, continued growth and recovery of the lawn.

## 9.10 Fault diagnosis

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### 9.10.1 The engine fails to start after idle periods.

If the machine fails to start up after periods of inactivity, then this could be the result of any of the following causes:

- Low on petrol
- Petrol is stale
- Bad sparkplug
- Low on oil



#### Caution:

Before examining possible reasons for the fault, the starter key must always be in the OFF position.

#### a. Low on petrol

In § 12 - Storing the machine - you are advised to remove any residual petrol before long term storage of the machine. You may, therefore, have forgotten to refill the machine. Check that the tank is adequately filled and refuel if necessary (read § 9.3.1)

Let the starter engine run for a while after refuelling. Close the throttle (choke) - the petrol will now be sucked into the line. The engine will start running as soon as the carburettor has filled.

#### b. Petrol is stale

Petrol has a limited shelf life. Petrol that has been sitting in petrol tank for more than a few months can cause starter problems. It also smells totally different than fresh petrol. Pump out the contents of the fuel tank and refuel with fresh petrol. (Read §9.3.1) (CAUTION: even stale

petrol can still be incredibly flammable.

### c. Bad sparkplug

Without the proper ignition, it will be impossible to get the engine up and running. For this reason, check the sparkplug. (Read § 11.4.1.7 Switching off the engine)

### d. Low on oil

The engine's crankcase is filled with engine oil to lubricate and cool the pistons. Lack of oil can lead to increased wear of the engine. To protect the engine, the machine has been equipped with a control switch that will disengage the engine if the machine is low on oil. Check the oil level and refill if necessary. (Read § 11.4.1.1.1 and § 11.4.1.1.2)

## 9.10.2 Engine switches off during operation

If the engine suddenly shuts off during operation, this could be the result of a number of factors:

- a. Low on petrol
- b. Lack of oil in the engine
- c. Machine is on a slope
- d. Technical defect



### **Caution:**

Before examining possible reasons for the fault, the starter key must always be in the OFF position.

Take the following steps to restart the machine in case of one of the following:

### a. Low on petrol

If the operator is so absorbed in his work that he fails to notice that the indicator is showing that the petrol level is low, the machine could suddenly turn off. If this occurs, simply fill it back up with petrol (read §9.4.3).

Let the starter engine run for a while after refuelling. Close the throttle (choke) - the petrol will now be sucked into the line. The engine will start running as soon as the carburettor has filled.

### b. Lack of oil in the engine

Also read § 9.7.1 under point d.

### c. Machine is on a slope

Whilst working on a slope in the lengthwise direction, the engine may suddenly stop. This is caused by the oil alarm which works on the basis of level measurement; it detects a false oil level when the machine is in a slanted position. This is enough reason for the system to switch

off the engine.

The solution is to wait a few moments before restarting the engine. The problem will return if you continue to do work on an incline. After checking the oil level on an even surface (read § 11.4.1.1.1), the oil safety system may be disengaged temporarily. Do not forget to switch it back on after the work is finished.

Note: Neither ELIET, nor Subaru shall accept warranty claims based on a lack of oil in the machine.

If slopes are a recurring factor in a particular area, adding 0.2 litres of extra oil to the tank will resolve the problem.

#### **d. Technical defect**

If neither of the aforementioned checks identifies the cause, the problem could be more technical in nature. A defect in the engine or a problem with the carburettor could be the issue. For assistance with these problems, please visit your authorised ELIET dealer or an authorised service centre for the engine brand.

### **9.10.3 A trail of damage to the lawn**

An abnormal trail of damage established while dethatching could have the following causes:

- Since the blades do the ground work, they will be the first to be examined. An obstacle under the surface may have caused a deformation of one or more blades, resulting in broad unaesthetic cuts. Read § 11.4.8 Checking blades for defects.
- It is possible that an object has become wrapped around the blade axle and causes a damage trail apart from the blades themselves.

## 10. Transporting the machine



- To move the machine, push the handlebar down slightly to lift the blades from the surface.
- The engine must be turned off if the machine is moved for transport.
- It is also recommended to remove the collector unit before loading and unloading the machine.
- Only adults are permitted to move or transport the machine.
- During transport children, unauthorised people or animals must not be allowed within a 10 m radius of the machine.
- Carefully choose a clear and free transport path, preferably one with as few obstructions as possible. The transport path should preferably be flat, with an even surface.
- If the machine topples over for some reason, set it upright as quickly as possible. It prevents oil from the crankcase entering the air filter.
- Use non-slip planks for loading the machine into a van or onto a trailer. Ensure that the planks are properly fastened to the vehicle or trailer. Under no circumstances should the upwards slope exceed 25°.
- The machine weighs around 135 kg (with an empty collector unit); make sure that the ramps have the bearing power to carry both the machine and the operator.
- Attention and care while loading and off-loading the machine can prevent it from tipping over and causing an accident.



### Caution:

Never run the machine for more than 30 seconds in a closed environment where animals or people are present. Exhaust fumes from petrol engines contain toxins that can cause poisoning or suffocation.

Mount the planks in a forward direction.



Descend the planks in a forward direction.



- The machine's ground clearance is 40 mm (blades in highest position).
- It is recommended to cross 40-60 mm stoops in reverse.
- A ramp must be provided to cross steps or curbs higher than 60 mm.

**For your information**

Machine breakage or defects resulting from incompetent operation are excluded from the warranty conditions.

- Make sure the machine is properly attached in the vehicle during transport. Use the fixed chassis parts for attaching the ropes.

**For your information**

Always close the petrol tap on the machine before transport. Failure to do so may result in excessive amounts of petrol being fed into the engine, causing starter problems and the risk of having to change the spark plug.

# 11. Maintenance



## 11.1 General

ELIET recommends that the machine be brought to an official ELIET dealer for a major overhaul each year (find an authorised ELIET dealer near you on [www.elieta.eu](http://www.elieta.eu)). Your ELIET dealer is at your service for maintenance and advice at all times. Your dealer will stock original ELIET replacement parts and lubricants. His staff can always obtain advice and service from ELIET's help desk in order to provide you with an impeccable after-sales service.



### Caution:

Only use original ELIET replacement parts. These service parts are manufactured according to the same strict quality requirements and craftsmanship as the original equipment. For a list of original replacement parts and their ordering codes please visit [www.elieta.eu](http://www.elieta.eu).

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

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

These characteristics are important to properly carry out maintenance works.



### Caution:

Maintenance performed in an incorrect manner may compromise the operator's safety. Maintenance should be always carried out with the engine turned off. As a precaution, the spark plug should also be removed or the lead detached. Always wear safety gloves when performing maintenance. Safety goggles may be required for certain operations.

## 11.2 Periodic maintenance schedule

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### A. Routine check before each operation

- Visual check of the state of the machine
- Oil level check
- Cleaning the air filter
- Checking and setting the depth control
- Belt tension check
- Lubricating chains and chain wheels.
- Cleaning the machine.

### B. Maintenance after every 20 hours of operation

- Daily maintenance
- Changing the oil
- Checking and/or changing the spark plug
- Changing the air filter
- General lubrication treatment
- Belt tension adjustment
- Tightening the chains
- Changing the blades

## 11.3 Lubricants

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Engine (0,75 l)	SUNOCO SUPER DENALUBE SAE 20 W 50 API SF / CC
Hinges	NOVATIO PTFE OIL
Wheel axes	SUNOCO VET MULTI-PURPOSE LR - EP2

## 11.4 Routine check before each operation

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### 11.4.1 Visual check

It is essential before commencing the work that the machine undergoes an inspection. This will allow you to anticipate breakage or wear and tear that affects the life span of the machines.

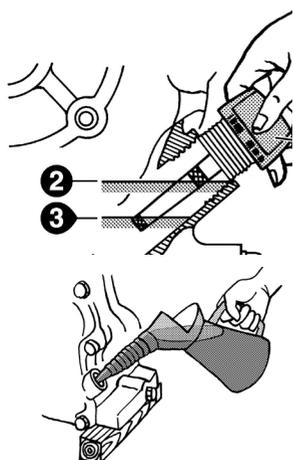
- Check whether the machine operates at the proper rotational speed at full throttle (3,200 RPM)
- Try not to change the standard settings for the engine.
- Check the chains for sufficient lubrication (read § Lubricating chains).
- Check that no parts have been deformed, that welded seams are not cracked and that parts are not excessively loose.
- If problems are found, carry out the necessary repairs or maintenance first.

Consult your authorised ELIET service centre for assistance if necessary or to obtain replacement parts. Find an ELIET service centre nearest you at [www.eliyet.eu](http://www.eliyet.eu).

### 11.4.2 Oil level check and filling up oil

If the oil level in the engine drops below a certain level, the electronics in the machine will go into safe-mode and the engine will switch off. By then, the machine will have been working with a lack of lubrication for some time. In order to avoid this scenario, regular checks on the oil level are vital.

- Place the machine on flat ground so that the engine plate is horizontal.
- Switch off the engine and remove the cover from the spark plug.
- Leave the engine to cool down for about 15 minutes.



- Remove the filler cap (1) with the dipstick attached to it from the crankcase.
- You will then be able to see if there is enough oil in the crankcase. The oil level should come up to the brim of the filler opening. The oil on the dipstick should touch the maximum (2) mark.
- If the oil tank is not filled to the brim, this indicates a lack of oil.
- It suffices to add some oil via the filler opening until the proper level has been reached. Continue to add oil until the desired level is reached.
- Always use recommended oil (see the list of recommended oils in the engine manual).
- Since the location of the filler opening is in a somewhat awkward position, we recommend the use of a tube or special funnel to avoid oil spills.



#### **Caution :**

- Be aware that it will take a while for the oil to fully descend into the sump. Make sure you leave small intervals when filling the oil so that the dipstick gives the correct oil level reading.
- Oil shortages cause severe, irreparable engine damage. (This type of defect is not covered under warranty).

### 11.4.3 Cleaning the air filter

- The type of air filter depends on the engine brand and type.
- The air filter is located under the black protection cover next to the fuel reservoir on the engine.
- Loosen the black protection cover.
- There are two types of filters: the common sponge filter and a paper filter, similar to that of an

automobile.

- Sponge filters can be cleaned by rinsing them with some petrol and blowing them with compressed air.
- Paper filters are cleaned by dusting them down or treating them with compressed air.
- After cleaning, replace all parts in their original positions.



**Caution:**

In the event the machine has toppled over for some reason, check the air filter immediately. The unusual position of the engine may have caused oil to seep from the crankcase via the carburettor onto the air filter. Oil on the filter paper obstructs the air passage. Soiled filters must be replaced immediately.

### 11.4.4 Belt tension check

The machine has two belts for the cutter drive and one for the traction roller drive.

After a few work hours, these belts become elastic and lose tension. Insufficient tension on these belts means that the belts will slip under loading, increasing wear and tear and reducing the belt's life span. A belt that is insufficiently tensioned will flap around, increasing the chance that it will come off the belt pulley. Belt tension must, therefore, be checked regularly.



**Warning:**

- Only check the belt tension with the engine off. Remove the spark plug cap.
- Wearing gloves is mandatory.

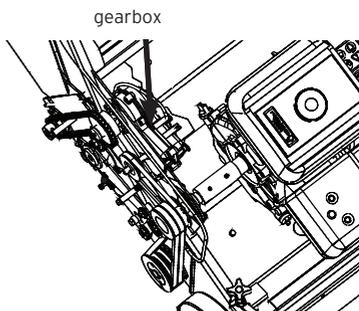
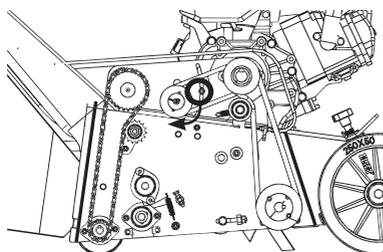
- Remove the blade drive protection cover.

**Belt tension traction roller drive.**

This is the belt between the engine shaft and the gearbox for the traction roller chain drive. The belt is under constant tension and hence suffers but little dynamic load. Wear and stress on this belt are therefore limited.

- If the belt starts to make a squeaking sound or if the resistance on the operation lever is too low, then this is a sign that the belt tensioning roller needs to be adjusted.
- The ideal tension of the belt can be tested as follows: when the back of the belt is pressed halfway the belt centre distance between the two pulleys with a force of 8 kg, the inward move should not exceed 10 mm.
  - If it exceeds 10 mm, the belt must be tightened. Resolve this as follows:
    - o Loosen the two tightening bolts of the gearbox (spanner size 10)
    - o Tilt the gearbox down to increase the tension on the belt.

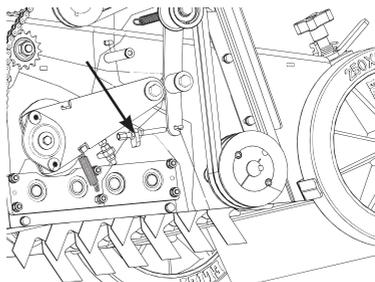
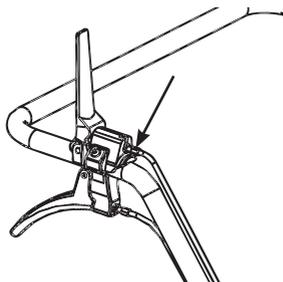
- o Re-attach the gear box with the two tightening bolts (spanner size 10).
- o Check the belt tension again as well as the alignment of the two pulleys. Adjust as needed.



### Blade shaft drive belt tension.

These two belts are tightened with a flat tensioning roller that is pulled against the back of the belt when pressing down the dead man's handle. This belt drive transmits power to the blades and, thus, also carries the heaviest load. It is also a belt transmission that is frequently switched on and off, and it is therefore subject to slippage.

- If the belts start to make a squeaking sound or if the dead man's handle resistance is too low, this is a sign that the belt tensioning roller needs to be adjusted.
- You will know that you have reached the proper amount of tension if, just before fully pressing the dead man's handle (20 mm of play up to the handle), the belt tensioning roller is already pressing against the belts and begins to tug onto the spring.
- If this is less than 20 mm, then the force of pressure from the tensioning roller will need to increase by adjusting the length of the starter cord.
- The cable guide provides two control options. One close to the dead man's handle and one near the belt drive.



- Remove the M6 lock nut (10 mm spanner) and rotate the control guide counter-clockwise a few times. Use a spanner (size 8) if necessary.
- Next, test the belt tension, and adjust as needed.
- Afterwards, secure the lock nuts tightly so that vibrations cannot cause the part to come loose again.

After performing this maintenance, the belt protection guards can be remounted to their original position.

### 11.4.5 Lubricating the chains and sprockets

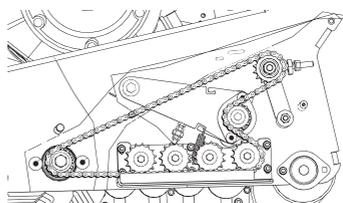
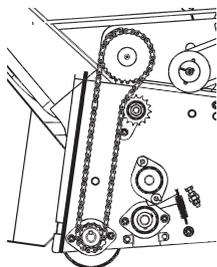
The chain grease applied will have worn away after a few hours, or will be cluttered with dirt and debris. Lubricant must be applied regularly to prevent wear and tear on the chain transmission.



#### **Warning:**

- Switch off the engine and loosen the spark plug cover before carrying out this operation.
- Wearing gloves is mandatory.

- Remove the protective covers.



- We recommend cleaning the chain and wiping away the old lubricant that will inevitably contain dust, before applying new lubricant. The use of KLEENSPRAY may help to soak off and dissolve any old grease.
- Wipe away any old grease before applying new lubricant.
- So as to prevent the lubricant from wearing away too quickly due to the rotation of the line shaft or the gravitational pull of the line, we opt for a less viscous and more adhesive oil.
- Since both the chain inside and the contact surface with the gears need to be lubricated, ELIET recommends using a combination of two lubricants.
- NOVATIO PTFE OIL is a thin liquid lubricant and will easily penetrate the chain links.
- NOVATIO CLEARLUBE, a more viscous oil, will cling to the outside of the chain. This lubricant diminishes the friction between the chain and the sprockets.
- When replacing the protective cover, ensure proper closure to keep the inside free from dust.



### For your information

Particularly during dry periods, where dust production while working is important, you will need to run an inspection and lubricate the chain after each session.

## 11.5 Maintenance after 20 hours of operation

### 11.5.1 Changing the oil

- Ensure that the engine is on an even surface and turned off.
- At the rear of the engine, below the engine foot, a plug is screwed into the crankcase. (See the engine manual.)
- Get a one litre collection reservoir before unscrewing the plug.
- Empty the full contents (approx. 0.75 l) from the engine.
- Replace the plug. Wipe away any spilled oil with a clean cloth.
- Refill the engine with fresh 4 stroke oil. ELIET recommends a top quality high-detergent oil: SUNOCO DENALUBE SAE 20W50 API SF / CC.
- Fill approx. 0.75 litres of oil into the oil filler opening. Remove any spilled oil after filling. For an accurate dipstick reading of the oil level, allow sufficient time for the oil to settle in the crankcase.
- Place the dipstick in the filler opening without fastening it. After pulling it out again, the oil attached to the dipstick should reach the maximum mark. If not, more oil must be added.



### Warning:

Oil shortage causes severe engine damage.



### Warning:

Respect the environment: bring the oil to an authorised collection point for expert processing or recycling. Never pour oil down the drain.

**Caution:**

The action described here may slightly differ from what applies to your model. Read the engine manual to be sure.

### 11.5.2 Checking and/or changing the spark plug

The type of machine is equipped with a two-cylinder engine. This means that it has two spark plugs. These are screwed into the cylinder head.

The spark plug is a crucial component which plays a significant role in determining combustion efficiency. You must therefore check the spark plugs after every 50 hours of use.

**Caution:**

Read the engine manual thoroughly.

The spark plugs recommended by the engine manufacturer are:

Subaru: NGK BR-6HS (CHAMPION RL86C)

- Turn the engine off and leave to cool down. Remove the key from the ignition.
- Remove both spark plug caps from the spark plugs.
- Clean the area around the spark plug and remove the spark plug from the cylinder head. (SW 13/16")
- Using a feeler gauge, check whether the distance between electrodes is 0.8 mm.
- If necessary, bend the side electrode carefully until the correct distance has been reached.
- The spark plug must be replaced if it shows heavy deposits or is very dirty.
- Spark plugs must be replaced after 200 working hours.

**Caution :**

Replacing an old spark plug or putting in a new one must be done with utmost caution, avoiding any possible damage to the screw thread in the cylinder.

- Secure the spark plug with a torque of 20 Nm.

### 11.5.3 Changing the air filter

- This procedure is exactly the same as for cleaning the air filter (see § 11.4.3, ).
- New, suitable air filters are available from your Eliet dealer or an authorised service centre of the relevant engine brand.

### 11.5.4 General lubrication treatment

ELIET is committed to using high-quality materials that extend the machine's life cycle despite sometimes dusty work circumstances.

For this reason, special lubrication products have already been applied in the factory. ELIET also recommends lubricating all parts on a regular basis:

- Bearings
- Hinges

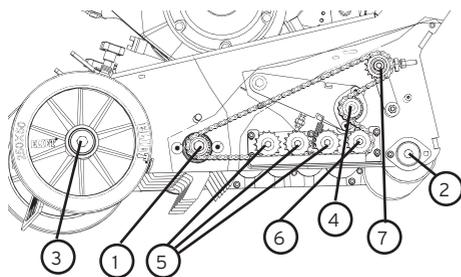
#### A. Lubricating bearings



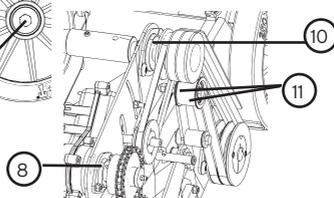
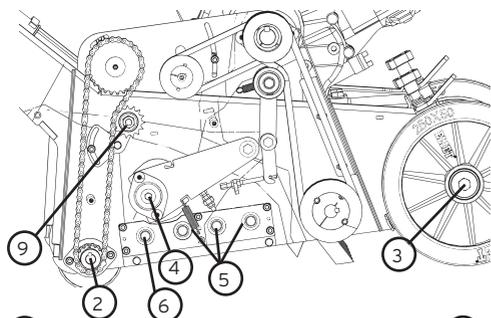
#### Caution:

Just like for all maintenance works, the engine must be turned off.  
Detach the spark plug cap or lead.  
Wearing utility gloves is essential.

Bearings that are used under dusty circumstances benefit from regular cleaning and lubrication.



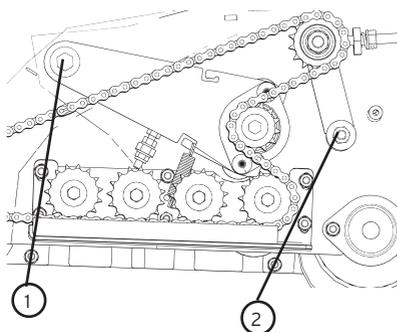
1. Blade shaft bearings (2x)
2. Traction roller bearings (2x)
3. Wheel bearings (2x)
4. Hinging pressure roller bearings (2x)
5. Input roller bearings (6x)
6. Pulley bearings (2x)
7. Bearing in the chain tensioner of the input rollers (1x)
8. Reduction gearbox bearing (1x)
9. Bearing in the chain tensioners of the traction roller (1x)
10. Bearing in the engine drive shaft (1x)
11. Bearings for the belt tensioners of the blade shaft drive (2x)



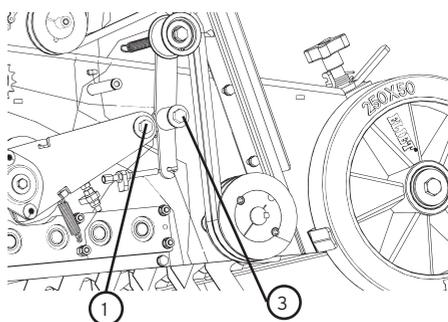
- To reach the points indicated, some protective covers will have to be removed. (Read § 15.1 if necessary)
- The bearings have dust seals to keep the dirt out. However, the lubricant applied on the bearing at the factory will also become old and dry. To compensate this lack of lubricant, new lubricant must be added from outside.
- To prevent any dirt from penetrating the bearing together with the lubricant, the bearing must be cleaned first.
- Spray NOVATIO KLEENSPRAY onto the bearing seals and joints. The liquid will soak off any dust attached to the bearing.
- Leave the cleaning liquid to work for a few minutes.
- Remove all the dirt clinging to the bearing with a soft cloth.
- Apply a second round of spray to the bearings, particularly on the joints. The cleaner will dissolve the grease that has dried up in the joint. This is necessary to ensure that new grease can penetrate the joint.
- Blow compressed air into the bearing joints to enable the KLEENSPRAY to expel all the dirt.
- Wipe away all the spray and wait 10 minutes to allow any residue to evaporate.
- Now apply a new layer of lubricant. Spray good amounts of NOVATIO PTFE OIL into the joints of the bearing seals and the bearing bushing.
- This is a thin lubricant with great penetrating properties. It is corrosion resistant and moisture and dust repellent and also has great lubricating properties, even at high temperatures.

## B. Lubricating hinges

Hinges are places where two moving parts are attached to each other. Because this is a turning point, it involves friction. Friction without lubrication leads to wear, excessive play and finally to breakage. Some of these items require specific attention:



1. Hinges of the pressure roller (2x)
2. Hinge of the chain tensioner of the input rollers (1x)
3. Hinge of the belt tensioner of the blade shaft drive (1x)



Lubricating hinges:

- To reach the points indicated, some protective covers and shields will have to be removed.
- To avoid wear and subsequent play on hinges, lubricant must be applied to the contact surfaces that undergo friction.
- It is essential to remove all old dirty lubricant and sticking dust before applying fresh lubricant.
- Where possible, the hinging parts must be disassembled for proper cleaning of all elements within.
- To dissolve lubricant, ELIET recommends using ELIET NOVATIO KLEENSPRAY-S. Spray the product onto the hinging parts. Leave the product for a few minutes to enable it to perform its degreasing action.
- Wipe the parts clean. Repeat the procedure if necessary to ensure that the parts are completely clean.
- Make sure that all of the cleaning agent is either evaporated or wiped away.



**Caution:**

NOVATIO KLEENSPRAY-S is flammable. Avoid open fire or heat when applying it.

- Apply new lubricant to the friction areas. Ensure that it covers the entire contact surface.
- ELIET recommends NOVATIO CLEARLUBE, a lubricant with an extremely long operating time, great adhesion and resistant to high pressure. It is available in spray cans for easy application.
- Reassemble the hinge and fasten all parts.

### 11.5.5 Belt tension adjustment

Please refer to paragraph 11.4.4 Checking the belt tension on page 36.

### 11.5.6 Tightening the chains

The machine has two chain drives:

1. a simplex chain for the traction roller transmission
2. a duplex chain for the transmission of the blade shaft, input rollers, pinch roller and pressure roller.



**Caution:**

Never tighten the chain too tightly. Too much driving capacity would be required as a result, leading to extra wear of the chain and sprockets. Furthermore, a high radial tension can harm cap seals and bearings.

**Caution:**

When checking the chain tension, also check the chain and the sprocket for extensive wear. If the teeth are worn the sprockets and chain must be replaced. Visit your authorised ELIET dealer for assistance.

**Caution:**

Use this maintenance to lubricate the chain (read § 11.4.5).

**Caution:**

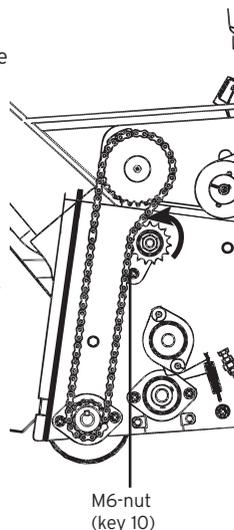
Chain tightening must be done with the engine switched off. Remove the spark plug cover as a precaution.

**Caution:**

Always wear suitable clothing for performing this type of maintenance.

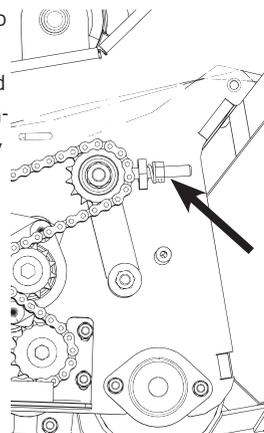
### Adjustment of the chain for transmission of the traction roller.

- To reach the chain transmission, some protective covers will have to be removed. (Read § 15.1 if necessary)
- The chain is subject to loss of elasticity after time and it will start to hang loose, with a risk of jumping off the gear under heavy strain. If you notice that the chain is loose when performing maintenance then it must be tightened.
- The easiest way to do this is to tighten the sprocket against the chain.
- Unfasten the nut (M6) holding the sprocket. Use a 10 mm ring spanner.
- Fasten the sprocket against the chain and tighten it.
- Beware: over-tightening the chain can lead to accelerated wear of the bearings and the chain.
- Carefully replace the protective cover and fasten it.



### Chain for the transmission of the blade shaft, input rollers, pinch roller and pressure roller.

- To reach the chain transmission, some protective covers will have to be removed. (Read § 15.1 if necessary)
- Because this chain drive runs in one direction only it has been fitted with a single operating chain tensioner with permanent tension control. A spring pulls the sprocket against the chain and automatically adjusts to the chain's elasticity. It does not require any adjustment.
- The spring can be replaced if it shows signs of wear; item code: ????
- Please note: over stretched chains must be either shortened or replaced.
- Beware: over-tightening the chain can lead to accelerated wear of the bearings and the chain.
- Carefully replace the protective cover and fasten it.



### 11.5.7 Changing the blades

The blades are self-sharpening; they don't require sharpening.

- Blade replacement is required when the blades are fully worn.
- We strongly recommend NOT to replace only one or just a few blades since this interferes with a uniform operation of the machine across the entire width.



#### **Warning:**

Wearing gloves and safety glasses is mandatory.

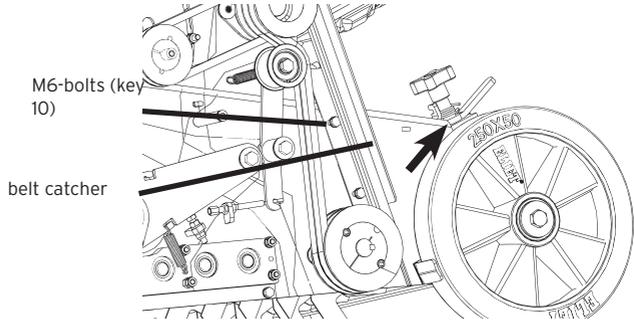
Replacing blades must always be done with the engine switched off. Carefully pull off the cap of the spark plug.

The following steps must be taken for changing the blades.

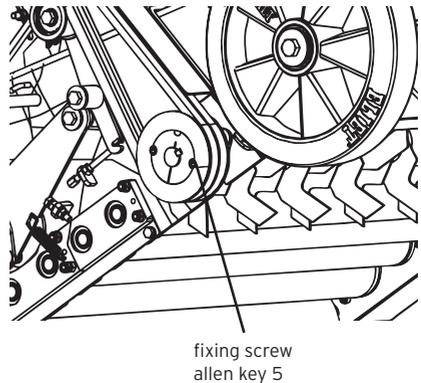
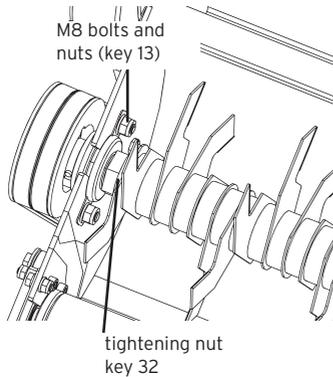
- Removal of the blade axle.
- Removal of old and placement of new blades
- Placement of the blade axle.
- Performing checks and finishing

**a. Removal of the blade axle**

- Remove both protective covers. (Read § 15.1 if necessary)
- Remove the collector unit.
- Tilt the scarifier by pushing the handlebar to the ground. This provides easy access of the blade shaft.
- Remove the belts from the pulley. Before the belts can be removed, the belt catchers must be moved to the front or fully disassembled by loosening all M6 bolts (spanner size 10).
- Now remove the chain from the blade shaft at the other side of the machine.



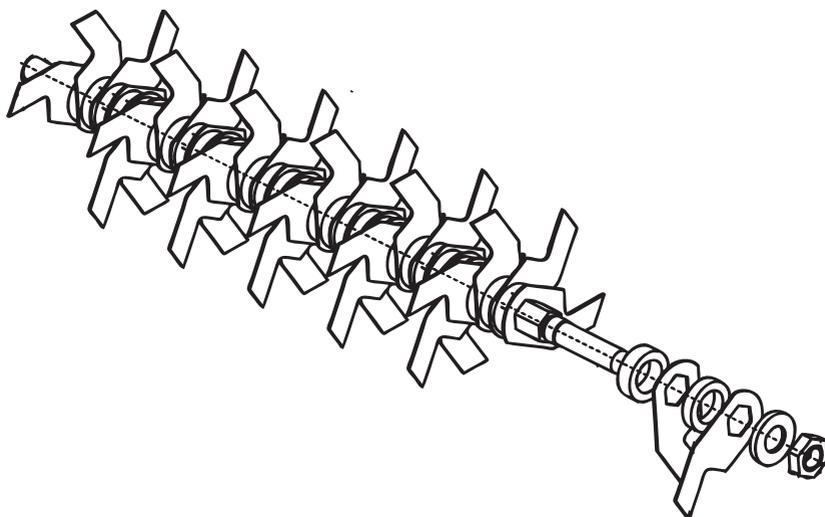
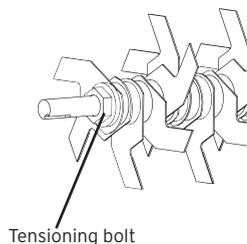
- Remove the two M6 bolts, nuts and washers and then lift the plate. Use a 10 mm ring spanner.



- Remove the two pulleys from the shaft by fully loosening the fixing screws (Allen key 5). Remove the wedge.
- Loosen the two fixing screws from the bearing.
- Remove the bolts (M8) that secure the bearing holder. Use a size 13 ring spanner. Now remove the bearing.
- Remove the bolts (M8) that secure the bearing holder to the other side of the blade shaft. Again, use a size 13 ring spanner.
- Now remove the blade shaft: tilt it and subsequently slide it out. The sprocket fits neatly through the bearing hole in the compartment.

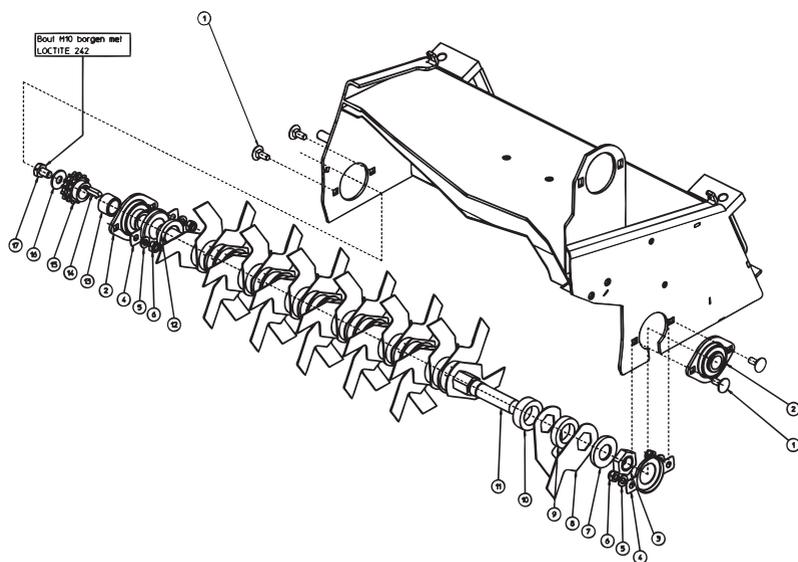
## b. Removing old blades and installing new blades

- The blade shaft itself is constructed as a pike with a string of blades and intermediate rings on it.
- Remove the clamping nut (M22) (spanner size 32 mm).
- Now all the blades and intermediate bushings can be slid from the shaft.
- Check that the hexagonal shaft does not show signs of wear (worn down by the blades).
- Sand down the blade shaft somewhat (fine sanding paper P100) to remove rust, dirt etc. and to ensure that new elements can slide on smoothly.
- A new blade set can be ordered from ELIET under item code BU 402 300 105.
- Follow the assembly diagram below.



### c. Placement of the blade shaft:

- in the reverse order of removal.



### d. Performing checks and finishing

- Check the correct placement of the blade shaft.
- Check belt tension and chain tension (see above)
- Replace the protective covers.
- Place the machine back on all wheels.

## 12. Storing the machine

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Clean the machine (see § 9.7.1).

When storing the machine for an extended period, it is recommended to follow the steps below:

- Carry out a major overhaul (see § 11.5).
- Check all nuts and bolts and fasten them where necessary. Most bolts require the use of two spanners of 10, 13 or 17 mm.
- Empty the fuel tank by running the engine until the machine runs out of fuel, or by using a siphon to pump the petrol into a jerry can (see § 9.2).
- Detach the spark plug (see § 11.5.2). Spray a little amount of penetrating oil with MoS<sub>2</sub> into the cylinder. Pull the starter cord until the piston is in its uppermost position. Replace the spark plug.
- To avoid rust on the machine touch up all chipped areas or treat them with anti-rust grease. Original paints/enamels in the appropriate colours are available from your ELIET dealer.
- Store the machine in a cool, dry storage area, away from possible rain. If necessary, cover it with canvas.
- Always allow the machine to cool down before storage.
- If the machine is stored outdoors, it must be properly covered with canvas. Avoid direct precipitation on the machine. ELIET highly recommends a sheltered storage place.

## 13. Equipment specifications

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Engine .....	9 PK Subaru EX27
Working width:.....	592 mm
Number of blades:.....	36 Double cut blades
Blade type .....	Permanently Sharp Blades™
Working depth: .....	continuous (stepless)
Self-propelling: .....	Rear roller ø 100 mm
Collection Unit: .....	.95 L
Measurements (LxWxH): .....	1250 x 750 x 900 mm
Weight: .....	135 Kg

## 14. EC Declaration of Conformity



Machine: ELIET E600 COMPACTOR  
Modelnumber: MA 017 010 438

This machine has been designed and manufactured in accordance with the following European standards:

- PrEN 13684 Garden equipment - Pedestrian controlled lawn aerators and scarifiers - Safety
- DIN 33402 : Body measures

The ELIET machine factory hereby declares that after performing a hazard analysis, it is fully aware of the potential hazards and risks associated with the machine. Based upon this knowledge, the necessary steps have been taken in line with Machine Directive 89/392/EEC in order to ensure full operator safety at correct use of the machine.

Measured sound power levels Lw(A): 94dB(A)  
Guaranteed sound power level Lw(A): 95 dB(A)

Date : 01/01/2011

Signature :

A handwritten signature in black ink, appearing to read 'Frederic LIETAER', written over a horizontal line.

Frederic LIETAER  
Managing Director ELIET EUROPE NV  
born 02/01/1975

ELIET EUROPE NV  
Diesveldstraat 2  
B - 8553 Otegem  
Belgium  
Ph : +32 56 77 70 88  
Fax :+32 56 77 52 13  
Mail : info@eliet.be

# 15. Annexes

## 15.1 Removing the protective covers



**Caution:**

Removing protective covers is considered to be a maintenance operation. Always turn off the engine, remove the spark plug cover and wear appropriate clothing.



**Caution:**

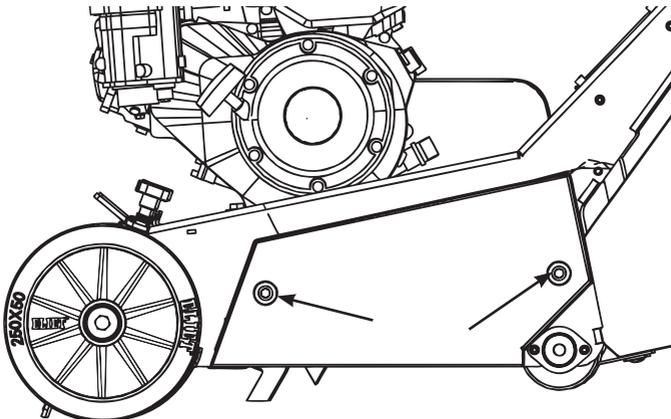
Protective covers are intended to shield off dangerous areas to avoid accidents. It is therefore strictly prohibited to operate the machine or to switch on the engine or any drive with any protective cover removed.



**Caution:**

The person who removes a protective cover should be aware of the fact that he is creating a dangerous situation and is therefore responsible for establishing safe circumstances by removing the starter key from the lock to avoid that others could start the machine against his will.

- Two bolts (M6) secure the protective covers at either side of the machine. Because they slightly sink into the cover, it is best to use a 10 mm ring spanner.
- Make sure to replace the cover neatly against the compartment to avoid dust from penetrating the chain drives.



## 16. Warranty conditions

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Dear Customer,

We thank you for purchasing an ELIET product. Congratulations on your purchase of this machine which is sure to exceed your expectations and needs over the coming years. At ELIET, we do everything to ensure that our products function properly. That is why your product comes with a two-year warranty.

### What is warranty?

---

At ELIET, we have strict quality rules on designing and manufacturing products. The purpose of these rules is to guarantee a long service life and permanent safety. That is why ELIET is happy to repair any hidden defects or faults during the whole run-in period (i.e. the warranty period) free of charge, provided the prescribed procedure is followed.

### Warranty conditions

---

ELIET's warranty obligations for new machines are governed by the following conditions.

#### I. Warranty period

The warranty period starts the day the dealer delivers the machine to the customer (maximum one week after the purchase) and expires:

- for private use: after two years.
- for rental use: after twelve months or 100 hours of operation.
- for semi-professional and/or professional use: after twelve months or 100 hours of operation.

To apply for this warranty the customer must register the purchased product with ELIET and complete the registration details on the website

**www.elieta.eu**. If you don't have access to the Internet, please complete the attached registration card and return it to ELIET.

#### II. The Warranty does not apply in the following cases.

- Worn items (such as blades, bearings, belts, chains, gearwheels, tyres, bulbs, fuses, etc).
- Defects caused by improper use, neglect or consequential damage by an external source (fall, chippings, foreign objects, accident).
- Defects caused by improper maintenance of the machine, hence contrary to the prescribed periodic maintenance.
- Defects caused by improper repairs carried out by others than authorised ELIET dealers or after using other than original ELIET replacement parts.
- Defects caused by making improper changes to the original design of the machine.
- Faults occurring as a result of machine use contrary to the instructions contained in this manual.
- Failure to observe the prescribed warranty procedure or expiry of the warranty period.

For all problems relating to the engine, please contact an authorised service centre of the engine

manufacturer.

### III. Procedure

- **Step 1 :** On the date of purchase, the customer registers his/her purchase online by completing the registration card on [www.elieta.eu](http://www.elieta.eu). In addition, the enclosed registration card is completed in its entirety on the day of purchase. The first part of the card has to be returned to ELIET within one month. The customer is required to keep all remaining parts of the card along with the purchase invoice for the duration of the warranty period.
- **Step 2 :** In the event of a defect becoming apparent, the customer shall have it verified by the authorised ELIET dealer. If the dealer finds a manufacturing defect, he may invoke the warranty under the terms specified.
- **Step 3 :** Every warranty application must be accompanied by a fully completed official application form. These are available to dealers from ELIET or from an ELIET importer/agent.
- **Step 4 :** The dealer orders the parts needed to perform the repairs. Next, the dealer faxes the order form together with the completed warranty form and a copy of the registration card.
- **Step 5 :** The warranty form must be stapled to the purchase invoice and sent to ELIET or an importer/agent of ELIET.
- **Step 6 :** ELIET sends the parts ordered to the dealer under the regular delivery and payment conditions.
- **Step 7 :** The defective part will be examined by ELIET's technical department prior to approving or rejecting the warranty. ELIET reserves the right to solely decide whether or not the customer has complied with the conditions applicable to the validity of this warranty, i.e. 1 year or 2 years. Faulty components automatically become the property of ELIET.
- **Step 8 :** When a warranty claim is found to be valid, ELIET will credit the warranted parts. Customers shall never be entitled to a refund of labour costs.

### IV. In case of damage caused by transport

- All goods are supplied ex factory. Transport risks are borne by the customer. ELIET therefore recommends checking the goods for damage on arrival.
- Any damage found must be detailed on the delivery form before signing. Make sure the driver of the transport company puts his signature next to the details about the damage on your copy.
- In the absence of a written and signed statement on the delivery form, the transport insurance company will not accept any liability.
- Damages can be claimed from the carrier using a copy of the delivery form and a covering letter stating your complaint.
- The damaged machine should be kept in its original condition until the carrier's insurer has performed an examination.

**REGISTRATIONCARD  
ELIET CUSTOMER SERVICE**

To be able to claim the full rights to which you are entitled, it is important to register within a month after the date of purchase. Therefore fill out this registration form and return the first registration card to the ELIET Customer Service. Your purchase should be registered on the ELIET website: [www.eliet.be](http://www.eliet.be)

**REGISTRATIEKAART  
ELIET KLANTDIENST**

Om als klant, aanspraak te kunnen maken op waarborg dient men zich binnen de maand na aankoop bij ELIET te registreren. Hiervoor vult u onderstaand document volledig in en stuurt het eerste deel van deze registratiekaart naar de ELIET klantendienst terug. Registreer uw aankoop op de ELIET website: [www.eliet.be](http://www.eliet.be)

**CARTE  
SERVICIO**

Pour profiter de tous les avantages auxquels vous êtes éligible, il est important de vous inscrire dans le mois suivant l'achat. Complétez ce formulaire de première inscription et renvoyez la carte ELIET Client Service à l'adresse indiquée. Enregistrez votre achat sur le site Internet ELIET: [www.eliet.be](http://www.eliet.be)

**ELIET**  
Registration card  
Registratiekaart  
Carte d'enregistrement  
Registrationskarte

ELIET Customer Service  
Zwevegemstraat 136  
B-8553 Ovegem  
Belgium

**Customer Identity / Klantgegevens / Données du Client / Kundendaten**

Name / Naam / Nom / Name		First Name / Voornaam / Prénom / Vorname	
Street / Straat / Rue / Strasse		Nr / Nr° / Nr	
City code / Postal / Code Postal / Postleitzahl		City / Plaats / Ville / Stadt	
Telephone / Telefoon / Téléphone / Telefon-Nr.		Fax / Fax / Télécopieur / Fax	
Country / Land / Pays / Land		Box / Bus / Boite / App.	
E-mail			

**Machine identity / Machinegegevens / Données de machine / Daten Maschine**

Model / Model / Modèle / Modell		Year of manufacture / Bouwjaar / L'année de construction / Baujahr	
Article Code / Artikel code / Code d'article / Artikel-Nr.		Serialnumber / Seriennummer / Numéro de série / Serien-Nr	
Date / Datum / Date / Datum			
Signature Handtekening Signature Unterschrift		Stamp of dealer Stempel van handelaar Cachet de revendeur Stempel Fachhändler	

I declare that all information that was filled in is correct and truthful. I also declare to have read and understood the operation manual and the warranty conditions. Ik verklaar dat al deze gegevens waarheidsgetrouw werden ingevuld. Hierdoor geef ik te kennen de garantievorwaarden en handleiding te hebben gelezen en begrepen. Je déclare que tous les données complétées sont correctes et véridiques. Je déclare également d'avoir lu et compris les notices du mode d'emploi et les conditions de garantie. Ich erkläre hiermit, dass alle angegebenen Daten korrekt und wahrheitsgemäss gemacht wurden. Ich erkläre ebenso, dass ich die Garantiebedingungen gelesen und verstanden habe.

Put a crossmark to which application this machine was used  
Zet een kruis bij de toepassing waarbij deze machine wordt ingezet  
Indiquez avec une croix l'environnement dans lequel la machine a été utilisée.  
Kreuzen Sie an, für welche Art von Gebrauch die Maschine bestimmt ist.

- Home use / Particulier gebruik / Usage particulier / Private Nutzung  
 Professional Landscaping / Hoofvermiersbedrijf / Usage Professionnel / Gewerbliche Nutzung  
 Forestry / Bosbouw / Forêt / Forstbetrieb  
 Public Groundscare / Openbare groenvoorziening / Espaces Verts Public / Öffentliche Grünflächenversorgung  
 Rental / Verhuur / Location / Vermietung

**Dit document dient binnen de maand na aankoop teruggestuurd te worden naar de ELIET Klantendienst.  
 This document has to be returned to ELIET Customer Service within a month after purchase.  
 Renvoyez ce document au Service après-vente ELIET dans le mois suivant à la date d'achat.  
 Dieses Dokument muss innerhalb eines Monats nach Kaufdatum an den ELIET Kundendienst zurückgeschickt werden.**

