

# ELIET

MANUAL

**GZC 750**  
**GZC 1000**



You will find information about the actual use and maintenance of the machine.  
**Read it carefully and keep it in a safe place.**



Please also keep your **purchasing invoice** or the proof of receipt together with this booklet.



**Register** your purchase online at **[www.eli.eu](http://www.eli.eu)**

© ELIET

Copyright 2009 ELIET. All right reserved. All textual material, drawings, figures, diagrams, graphs, etc., included in this ELIET booklet are protected by copyright and also by other intellectual property rights. Nothing from this information may be copied for commercial goals or distributed and/or changed or reposted for other goals. Content has been included at specific places in this ELIET manual of which the copyright is the exclusive property of their respective owners.

# 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 SEEDER GZC750 - 1000

---

Write the identification data of your machine in the text boxes::

Engine :

Stock no :

Serial no :

Year of manufacture :

# 2. Warranty

---



## 2.1 Warranty card

---

In order to avail of the warranty, please fill out the warranty card and send it to the address below within one month after purchase:

European customers : ELIET EUROPE NV/SA

US customers : ELIET USA Inc. \_\_\_\_\_

Diesveldstraat 2

3361 Stafford street (office B) - USA

8553 Otegem - Belgium

15204 Pittsburgh (PA) - USA

T (+32)(0)56 77 70 88 - F (+32)(0)56 77 52 13

T 412 367 5185 - F 412 774 1970

www.elieta.eu

www.elietausa.com

Read the warranty conditions on the attached warranty card.

Also register your product online on **www.elieta.eu**.

### 3. Welcome

---



#### 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 on how you care for your machine. This manual and the motor manual included will help you on your way. Strict adherence to the instructions and suggestions in these manuals will guarantee optimum performance of your ELIET machine for a very long time.

Read this manual carefully before operating the machine. This will prevent incorrect operation of the machine.

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. For this reason, discrepancies or deviations in the texts and illustrations in this manual cannot give rise to any claims, as you may well understand. Should you have any questions not fully addressed in this manual, please contact your ELIET dealer.

#### ELIET AT YOUR SERVICE

##### ELIET EUROPE NV/SA

GMT + 1 :

opening hours: 8 to 12 and from 13 to 18

T (+32) (0)56 77 70 88 - F (+32) (0)56 77 52 13

service@eliet.eu

www.eliet.eu

##### ELIET USA

GMT - 6

opening hours: 8 AM to 6 PM

T 412 367 5185 - F 412 774 1970

Service@elietmachines.com

www.elietmachines.com

# 4. Table of contents

<b>1. Introduction</b> .....	<b>3</b>
1.1 Read this operating manual carefully .....	3
1.2 Identification data - ELIET SEEDER GZC750 - 1000 .....	3
<b>2. Warranty</b> .....	<b>3</b>
2.1 Warranty card .....	3
<b>3. Welcome</b> .....	<b>4</b>
<b>4. Table of contents</b> .....	<b>5</b>
<b>5. Safety symbols</b> .....	<b>7</b>
5.1 For your information .....	7
5.2 Caution.....	7
5.3 Warning.....	7
<b>6. Most important parts</b> .....	<b>8</b>
6.1 Overall view.....	8
6.2 Steering .....	10
6.3 Engines .....	10
<b>7. Safety instructions</b> .....	<b>12</b>
7.1 Safety messages:.....	12
7.2 Safety features .....	14
7.3 Safety instructions .....	15
7.3.1 General safety instructions.....	15
7.3.2 Careful and proper use.....	15
7.3.3 Operator's responsibilities.....	17
7.3.4 Personal Protective Equipment (PPE) .....	18
7.3.5 Ergonomics.....	18
7.3.6 Danger zone.....	19
7.3.7 Periodic maintenance.....	20
7.3.8 Limits of the machine .....	20
7.3.9 In harmony with nature .....	21
<b>8. Dealer's duties</b> .....	<b>22</b>
<b>9. Operating instructions</b> .....	<b>24</b>
9.1 Preliminary checks .....	24
9.2 Characteristics of the work area.....	24
9.3 Preparation of the work area .....	25
9.4 Preparation of the machine .....	27
9.4.1 Setting the machine.....	27
9.4.2 Refuelling .....	32
9.5 Starting the petrol engine.....	33
9.6 Operating the machine .....	36
9.6.1 Riding the machine .....	36
9.6.2 Planning and determining the track and the work pattern. ....	40
9.6.3 Crumbling and levelling .....	40
9.6.4 Sowing, raking and pressing.....	42

9.7	Placing and removing the seed reservoir .....	44
9.8	Cleaning the machine.....	45
9.9	Fault diagnosis.....	47
9.9.1	The engine fails to start after idle periods: .....	47
9.9.2	Engine shuts off during operation.....	48
9.9.3	Loss of seed during transport .....	49
9.9.4	Irregular sowing pattern.....	50
9.9.5	The worked surface shows a trail of damage. ....	50
9.9.6	Dead man's handle too tight.....	51
<b>10.</b>	<b>Transporting the machine .....</b>	<b>52</b>
<b>11.</b>	<b>Maintenance .....</b>	<b>56</b>
11.1	General.....	56
11.2	Maintenance schedule.....	57
11.3	Engine maintenance .....	58
11.3.1	Cleaning the air filter.....	58
11.3.2	Changing the air filter .....	59
11.3.3	Oil level check .....	60
11.3.4	Changing the oil .....	61
11.3.5	Checking and/or changing the spark plug .....	62
11.4	Machine maintenance .....	63
11.4.1	Visual check.....	63
11.4.2	General lubrication treatment .....	64
11.4.2.1	Hinges and ball joints.....	65
11.4.2.2	Grease nipples .....	68
11.4.2.3	Bearings.....	69
11.4.2.4	Lubricating the chain and chain wheels .....	70
11.4.2.5	Friction surfaces .....	71
11.4.3	Belt tension check and adjustment .....	73
11.4.4	Belt replacement.....	75
11.4.5	Replacing the belt tensioning roller .....	77
11.4.6	Chain tightening.....	78
11.4.7	Replacing the vibrating harrows.....	80
11.4.8	Checking level and refilling hydrostatic oil.....	80
<b>12.</b>	<b>Storing the machine.....</b>	<b>81</b>
<b>13.</b>	<b>Equipment specifications .....</b>	<b>82</b>
<b>14.</b>	<b>Declaration of conformity CE.....</b>	<b>83</b>
<b>15.</b>	<b>Appendices .....</b>	<b>84</b>
15.1	Removing the protective covers .....	84
15.2	Risk analyses.....	85
15.3	Seeding diagram.....	87
15.4	List with torque values .....	88
<b>16.</b>	<b>Warranty conditions .....</b>	<b>89</b>

## 5. Safety symbols

---



In the operating manual, a number of symbols are used to provide additional information and warn of any dangers.

### 5.1 For your information

---



**For your information:**

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

### 5.2 Caution

---



**Caution:**

This symbol suggests **safe practices**. The purpose is to prevent incorrect operation that could result in personal injury or damage to the machine.

### 5.3 Warning

---



**Warning:**

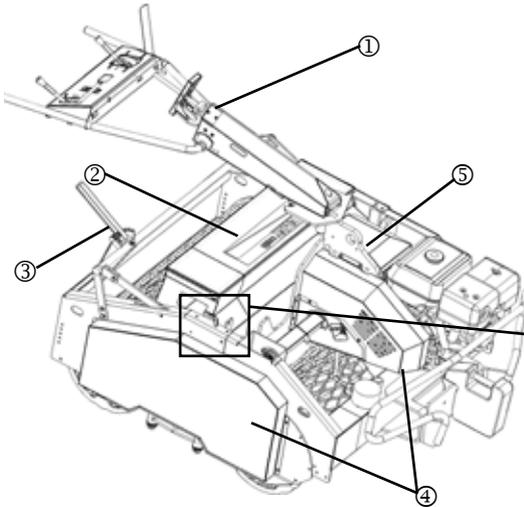
This notice warns you about any **extreme dangers** of which you must be aware in these specific circumstances. So for the sake of your own safety, remain alert at all times.

## 6. Most important parts

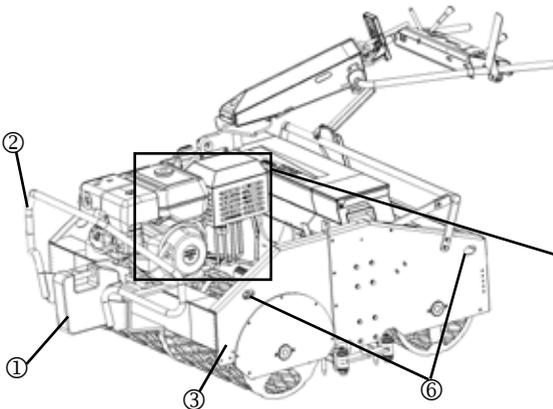
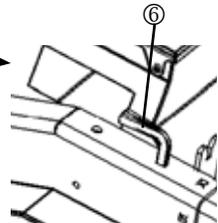
To fully understand the content of this operating manual you need to be fully conversant with the terminology used for the descriptions. This chapter refers to a broad range of machine parts and identifies their names. We recommend that you take the time to study the machine prior to its use for a better understanding of the descriptions provided in this operating manual.

### 6.1 Overall view

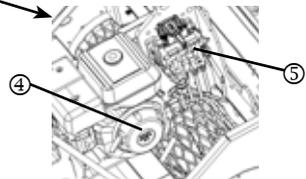
Essential machine parts:

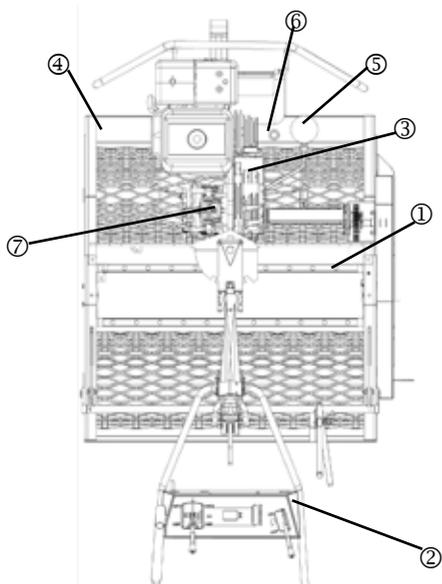


1. Steering
2. Seed reservoir
3. Depth control harrow
4. Protective transmission covers
5. Levering point
6. Lever (un)couple rotary drum seed reservoir



1. Front weights
2. Blast bumper
3. Frame
4. Engine
5. Hydrostatic pump (on the fig. the protective cover has been removed)
6. Anchoring points (4x) during transportation





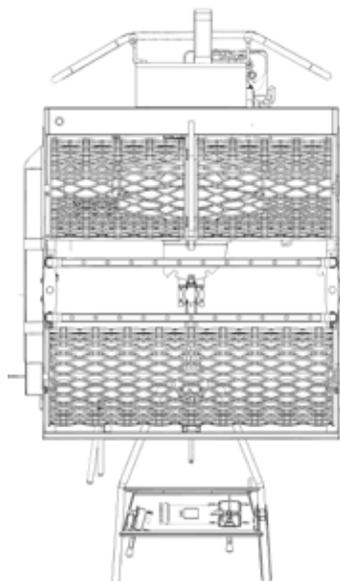
#### Top view:

(without protective covers and frame seed reservoir):

1. Rotary drum seed reservoir
2. Steering
3. Belt transmissions
  - engine - hydrostatic pump
  - engine - aandrijf-as schudeggen
4. Reservoir hydrostatic oil
5. Return filter
6. Oil filler cap (hydrostatic)
7. Hydrostatic pump

#### Bottom view:

1. Crumble rollers front (left and right)
2. Hydrostatic engines (left and right)
3. Harrow
4. Seed reservoir
5. Crumble roller back
6. Drainage cap hydrostatic oil

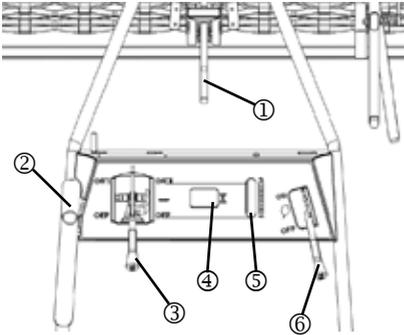
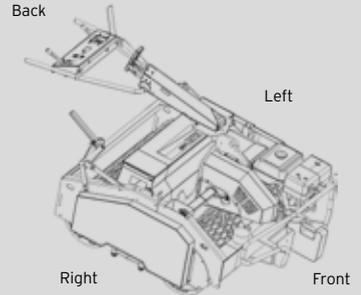


## 6.2 Steering



### For your information:

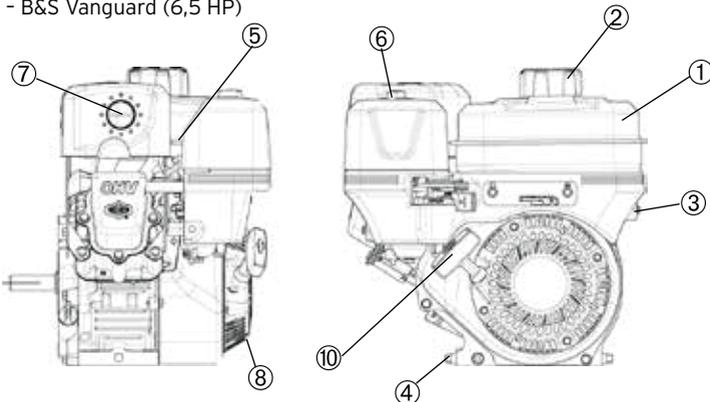
If the terms for back, front, left, and right are used, in the manual, then this is always viewed from the perspective of the operator directing the machine.



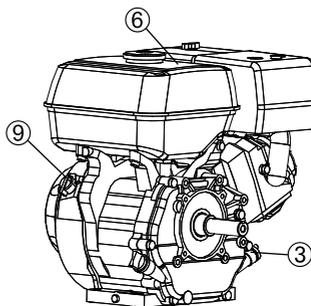
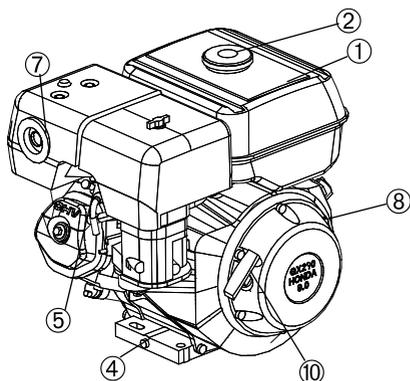
1. Gear shift hydrostatic engine (proportionally controlled)
2. Dead man's handle (start movement)
3. Lever Vibrating harrow
  - Stop
  - Slow speed/mode
  - High speed/mode
4. Hour meter
5. Throttle lever engine
6. Operation of the seed container (open & close)

## 6.3 Engines

- GZC750 - B&S Vanguard (6,5 HP)



- GZC1000 - Honda GX270 (9 HP)



- |                                |                     |
|--------------------------------|---------------------|
| 1. Petrol tank                 | 6. Air filter       |
| 2. Fuel cap                    | 7. Exhaust          |
| 3. Oil filler cap (front side) | 8. Ventilation grid |
| 4. Oil drainage cap (backside) | 9. Contact lock     |
| 5. Spark plug                  | 10. Starter cable   |



#### **For your information:**

Your authorised ELIET dealer is at your service for any maintenance or advice, ensuring that your ELIET machine always remains in perfect condition. You can contact him/her 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.



#### **For your information:**

Chapter 11 contains an overview of the maintenance requirements for this machine and advises you on maintenance requiring the assistance of an authorised dealer.



#### **Caution:**

For your own safety, only original ELIET parts may be mounted onto this ELIET machine.

## 7. Safety instructions

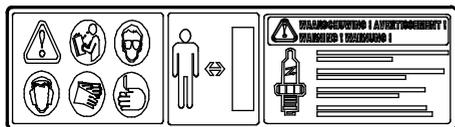


### 7.1 Safety messages:



#### For your information:

The safety stickers are applied to the machine in clearly visible places. Take notice of the warning messages on these stickers prior to using the machine.



This sticker is affixed to the cover of the drive shaft of the vibrating harrows. A central spot on the machine, in remains visible for the operator.

The first part shows icons that summarise the general safety instructions:

1. Before operating the machine the manual should be read and understood.
2. Suitable safety clothing (safety goggles, gloves, ear protection) must be worn whenever and wherever it is required.
3. Working with or performing maintenance on the machine poses the risk of cuts to the hands. Be attentive and cautious.

The second part of the sticker reminds bystanders to observe a 10 m safe distance when approaching the machine.

The third part of the sticker reminds the operator that the motor must be turned off and the spark plug cap removed before starting maintenance on the machine.

This sticker has stock no.: BQ 505 010 171



Some general safety symbols are affixed to the handlebar. Prior to operating the machine, make sure to put on suitable protective clothing (gloves, ear protection and goggles) and read the manual.



A safety sticker applied to the cover of the belt drive warns that no work must be done without the cover in place. Working without the cover poses the immediate risk of clothes or limbs getting caught in the drive and being cut off.

This sticker carries stock code BQ 505 010 130.



The sticker is located to the left of the frame, near the vibrating harrows. The sticker points at the danger of cuts when reaching hands or limbs into the relevant zone. This sticker carries stock code BQ 505 010 070.



Identification sticker

This sticker is attached to the right hand side of the machine body. It contains the machine's identification Model

Model no.

Serial no.

Year of manufacture

Engine

Capacity

Weight



Guaranteed A-weighted sound power Lw(A):

This sticker also contains the manufacturer's data. The CE label confirms that the machine is in compliance with the applicable European machine directive.

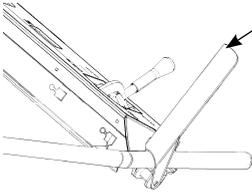
This label is applied to the right hand side of the machine body. The figures on it represent the guaranteed sound power levels (LwA) produced by the machine under normal operating circumstances. (Stock no. BQ 505 112 098)



### Caution:

Safety stickers that as a result of use or cleaning are either damaged, have been removed or become illegible must be replaced immediately. Stickers can be obtained from any authorised ELIET dealer.

## 7.2 Safety features



### The All-in-one™ control lever (AIOC):

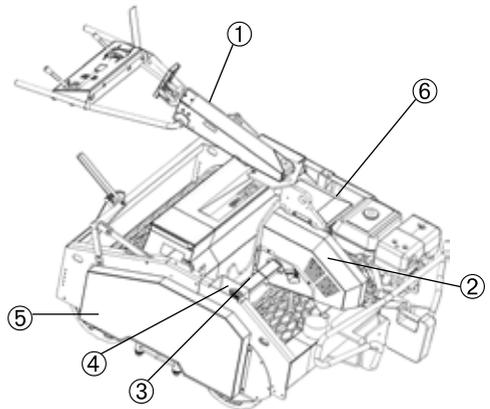
The machine is dangerous for the operator while driving it. This handle serves to operate the belt drive towards the hydrostatic pump. If there is no propulsion on the hydrostatic pump, the oil flow to the wheel engines drops as well.

Letting go of the handle interrupts all drives and the machine will come to a halt.

### Protective covers:

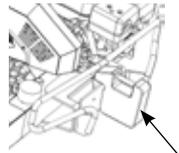
All moving parts are safely shielded by several protective covers.

1. Protective cover of the steering mechanism.
2. Protective cover Motor transmission
3. Protective cover Drive shaft vibrating harrows
4. Cover of the reduction gearbox of the vibrating harrows
5. Protective cover Chain transmission
  - Front roller - rear roller
  - Rotating drum
6. Protective cover Hydrostatic pump

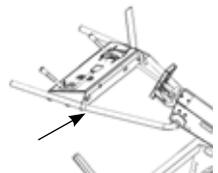


**Sturdy construction:** the robust construction is testimony to the sustainability of the machines and offers a guarantee for the operator's safety under unforeseen circumstances.

**Front weights** provide for a passive safety feature. They protect the operator against too much strain (and avoid back problems) in lifting the handlebar while taking a bend.



The **ergonomic handlebar** is height-adjustable, allowing it to be set in the most ergonomic position for the user. In addition, the machine is equipped with an **Intuitive Steering System™**, making its operation easy and natural



## 7.3 Safety instructions

### 7.3.1 General safety instructions

- 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.
- Always observe the applicable regulations of the Labour Inspectorate to avoid accidents.
- 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. (EU +32 56 77 70 88 - USA 412 367 5185 ). (service@eliet.be)
- Under no conditions whatsoever may the original design of the machine be modified without explicit and written consent of ELIET NV.
- Always observe all safety instructions when using this ELIET machine ! Carefully read all the instructions relating to the operation of the machine. They are important for your own personal safety.
- Be sure to read the chapter which is intended for the dealer (see § 8. Dealer's duties) and verify whether the machine was delivered in accordance with the instructions.
- Get advice from the dealer or another professional when purchasing the machine



#### For your information:

Also read the safety instructions in the HONDA engine manual. It contains useful tips about proper use and maintenance of the engine.

- Read and observe all safety messages stickered onto the machine (read § 7.1 for information about the locations of the stickers)

### 7.3.2 Careful and proper use

- The purpose of the machine is to level the surface and seeding a new lawn. The machine combines four separate operations:

#### **Crumbling:**

- Shattering clods
- Flattening the roughly prepared surface

#### **Levelling:**

- Irregularities are being removed
- The vibrating harrows loosen the structure of the top layer and distribute the soil evenly over the work width. Foreign objects (stones, sticks, metal wire or other debris) that might surface can be removed manually by the operator.

- Levelling the top layer

### Seeding:

- Evenly scattering lawn seed.
- Raking in the seed (slow vibrating mode), principally breaking up the sowing lines and covering the seeds under a thin layer of soil. This protects the seed from the wind and makes them less visible to birds.

### Rolling:

- Pressing down the terrain to make sure that the sown grass seeds are well embedded in the soil.
- Nevertheless, the soil still remains sufficiently loose to quickly absorb moisture after rain. The moisture level in this secure habitat below the top layer is ideal for the seed, which will germinate faster as a result.



#### Caution:

The machine may be used only on terrain that has been cleared of vegetation and that has undergone ground preparation.



#### Caution:

This machine is not a bulldozer or earthworks machine and must be used only for the above-described purpose.

- Seeding is a physical effort that requires the operator to be concentrated. It is therefore advisable to take sufficient breaks as well as adequate food and drink.
- It is unsafe for persons with heart problems and/or balance disturbances to operate the machine.
- Think about what you are doing at every manoeuvre. 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 (read an indicative list of risks in appendix B1).



#### Warning:

Most accidents are the result of carelessness or reckless behaviour.

- Never use the machine on sites that do not comply with the soil characteristics (read § 9.2 Site characteristics).
- Always operate the machine in a forward direction. This provides the best overview of the work area.

- Never work when light intensity is below 500 Lux.
- Never use the machine as a means of transporting people or loads, except to carry the operator on the specially provided foot board (available under number MA 016 001 003).
- Thoroughly inspect the area where the machine is to be used. Remove roots, stones, sticks, textile, steel wires and other debris. Also pay attention to any superficial cabling or conduits (electric cables, water, etc.).
- Be alert! When hitting a stone or hard object - stop the machine immediately and remove the object before continuing.
- Don't forget to switch of the vibrating harrows and place them in the uppermost position when driving the machine to the work area.
- Choose an obstacle-free access route towards the terrain. Selecting the right route will reduce the risk of damage to terraces, pavements, platforms, walkways, etc.
- ELIET cannot be held liable for damage to property.
- Avoid inhaling the machine's exhaust fumes. Exhaust fumes contain toxins, which can lead to poisoning and result in death. Consequently, the engine may never run in a closed environment for more than 30 seconds.

### **7.3.3 Operator's responsibilities**

- The operator of this machine is assumed mature enough and with enough common sense to make decisions by himself.
- 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.
- The machine may not be operated by minors. This does not apply to youths over 16 who are learning to operate the machine under the supervision of an experienced operator.
- Children and animals must be kept outside the machine's danger zone. A minimum distance of 10 meters must be observed.
- 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 make sure that the user is aware of the potential hazards and ensure that he/she reads the manual before using the machine. (Appendix B1 contains a list of indicative dangers.)
- This machine must only be operated by persons who are well-rested and in a good physical condition. Take a rest if you become tired while operating the machine.
- Do not operate the machine after alcohol or hallucinogenic drug use.



#### **Warning:**

One moment of thoughtlessness or carelessness can lead to life long regret.

### 7.3.4 Personal Protective Equipment (PPE)

- Although the risk of personal injury is limited with this ELIET seeder, the operator's feet are most vulnerable. Sturdy closed shoes with a steel top are highly recommended.
- The person operating this machine must wear suitable clothing, i.e. covering the entire body.
- Do not wear loose fitting clothing (a shawl, for instance, is a potential hazard)
- Long hair must be contained using a cap or a headband, or worn in a ponytail.
- For protection of the most sensitive senses, ELIET recommends hearing protection.
- Be extra alert when wearing hearing protection: it can impair the ability to hear warning sounds (such as yelling, signal tones, etc.). With this in mind, ELIET strongly advises against hearing protection with a built-in music player.
- As indicated on the safety sticker on the machine, the operator must wear safety gloves and safety goggles in addition to hearing protection.
- Working the soil can cause a large amount of dust, especially under warm and dry weather circumstances. ELIET recommends using a dust mask if your respiratory airways become agitated as a result (masks should comply with the 89/686/EEC standard).



#### **For your information:**

The operator of the machine can reduce the risk of injury by wearing the proper personal protection equipment.

### 7.3.5 Ergonomics

- For optimum use, the rear end of the machine will have to be lifted regularly when turning. This is necessary because the rear roller is fabricated as one piece and spans the entire width of the machine. The roller is propelled laterally by a chain that is connected to the left front roller and as such, does not have a separate differential.

Therefore, it is important to take into account the following points:

- o Place the handlebar at the correct height (read § 9.4.1.3)
- o Be sure to wear shoes with a sole that provide sufficient grip.
- o Hold the handlebar with both hands.
- o While lifting, keep your back straight, also your lower back, and tighten the muscles of your arms such that the strength comes from your legs, not from your back.
- o Bend your knees to let your upper legs do most of the work.
- o If you need to turn, pivot your feet instead of twisting at the waist.



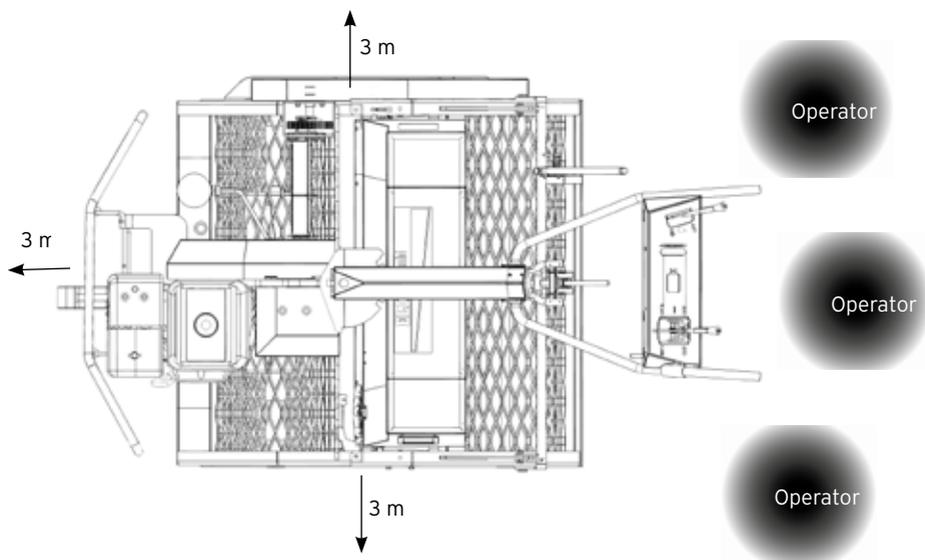
### For your information :

Front weights for the machine are available from your ELIET dealer. ELIET recommends their use: they serve as counterweights and make lifting the rear of the machine easier. A maximum of four weights of 20 kg each can be mounted at the front. Each operator will use the number of weights that matches their desired comfort level.

- The seed reservoir can hold approximately 61 L (GZC 750) or 93 L (GZC 100) of grass seed. Choosing seed bags of equally large volume for filling the seed reservoir will prevent back problems caused by lifting the bags.

### 7.3.6 Danger zone

The image below shows the position of the operator and the machine's danger zone.



- For safety's sake, the operator should never allow bystanders within the danger zone which stretches up to 3 m around the machine during work.
- Do not take risks! If someone enters the machine's danger zone, immediately stop the machine by releasing the dead man's handle and switch off the vibrating harrow via the handle on the handlebar.
- Once the motor is running, the operator must focus his full attention on operating the machine.
- Shut off the engine when leaving the machine unattended. Turn the motor switch to the OFF position.

### 7.3.7 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 in this operating manual (see §11.2).
- The maintenance meter helps you to monitor the number of operating hours .
- Inspect the machine prior to every job. (Read § 9.1 and §11.4.1). Any defects must be repaired immediately.
- Always make sure the motor is switched off before performing repairs or maintenance. Always wait until all moving parts have come to a full stop before performing any action whatsoever.
- If parts must be replaced as a result of wear or failure, you must always turn to your authorised ELIET dealer for original replacement parts. This is of key importance for your own safety.



#### Warning:

Repairs, maintenance and cleaning must only be performed with the engine disengaged and the spark plug cap decoupled.

### 7.3.8 Limits of the machine

- The work depth of the vibrating harrows can be adjusted from +10 mm to -40 mm (the lower part of the rollers being the point of reference). The real work depth will be lower because the machine will sink into the soil somewhat.



#### For your information :

The work depth depends on the surface and on the wear of the teeth.

- The combined lawn seeder should not be used at low temperatures or under frosty circumstances.
- Do not use the machine on dried-out soil.
- The machine weighs (\*) 385 kg (GZC750) / 415 kg (GZC1000). Please take this into account when transporting the machine as well as when loading or unloading.
- The width of any passage should measure at least: 820 mm (GZC750) / 1140 mm (GZC1000).
- The tread width of the hind roller is: 710 mm (GZC750) / 1030 mm (GZC1000).
- The maximum ground clearance in transport mode is 10 mm (with the vibrating harrows in the

highest position).

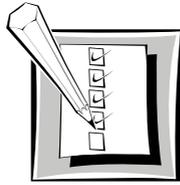
- Minimum turning zone R: 1240 mm.
- Maximum speed forwards: between 0 and 4 km/h or 1.1 m/s.
- Maximum speed in reverse: between 0 and 2 km/h or 0.6 m/s.
- The machine's maximum ground pressure is 0.6 kg/cm<sup>2</sup>. Always verify that the surface has sufficient bearing power.

(\*) = Weight of the machine with an empty seed container and without front weights.

### **7.3.9 In harmony with nature**

- Use the machine in a manner that respects environmental regulations:
  - a) Avoid running the machine without actively using it.
  - b) Avoid spilling petrol while refuelling.
  - c) Oil leaks in the engine or transmission should be repaired immediately.
  - d) Service the engine regularly for optimum combustion.
  - e) Any waste materials resulting from performing maintenance on the machine should always be disposed of properly and in their designated place either for recycling or other environment-friendly processing.

## 8. Dealer's duties

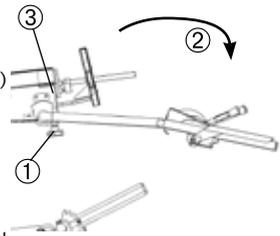


Each ELIET seeder combi that leaves the factory has been subjected to a test run and checked for all functionalities. The machine is then packed for transport.

- The dealer unpacking the machine will check it for any damage occurred during transport.

- The dealer tilts the handlebar backwards:

- o Loosen the star knob at the bottom of the handlebar to disengage the teeth of the lock. (1)
- o The handlebar can now be tilted into the desired position. (2)
- o Re-tighten the star knob so that the teeth engage. (3)



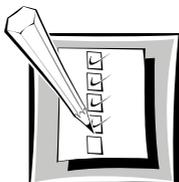
- The fuel tank will be filled (Read § 9.4.2 Refuelling)
- The dealer will again check the oil level of the engine, hydrostat and reduction gearbox of the vibrating harrows before delivering the machine to the client. (Read § 11.3.3 Checking the oil level of the motor; read § 11.4.11 Checking hydrostat levels; and read § 11.4.13 Checking the reduction gearbox oil level).
- The dealer checks that the RPM setting is at the correct level of 3200 RPM
- The dealer will check that the traction on both rollers is identical upon pressing the dead man's handle. The machine must advance in a straight line. (For adjustments, read § 9.8.9)
- The dealer leaves the machine to run for a few minutes and checks that all devices function properly.
- Every Eliet dealer warrants a long life span of Eliet machines. He will lubricate all grease nipples before delivering the machine to the client. (Read § 11.4.2 General Lubrication treatment.)

Important information for the new owner at the time of delivery:

- a) The dealer familiarizes the new owner with the machine's operation.
- b) The dealer informs the new owner of potential dangers.
- c) The dealer insists that the machine be returned for first maintenance after 10 hours of operation.
- d) The dealer indicates the points that require regular lubrication.
- e) The dealer ensures that the warranty card is filled out and signed. This is a precondition

- for any warranty claim. Please read the attached warranty conditions for more details.
- f) To enable the client's right to any liability claims, the dealer will register the purchase on the ELIET website: [www.elieta.eu](http://www.elieta.eu).

## 9. Operating instructions



### 9.1 Preliminary checks



**Caution:**

Before starting the work, it is recommended to get into the habit of checking the following points:

**Checklist**

- A. Perform a visual inspection of the condition of the machine (read § 11.4.1 Visual check).
- B. Check the oil level. Pull out the dipstick and check that the oil level is not below the minimum mark (If necessary, read § 11.3.3 Checking the oil level of the engine).
- C. Check that there is sufficient oil in the reduction gearbox of the vibrating harrows. Remove the cover on the casing to this effect. (If necessary, read § 11.4.13 Checking the oil level in the reduction gearbox).
- D. Check the oil level of the hydrostat. (If necessary, read § 11.4.11 Checking the hydrostat level).
- C. Check that the fuel tank contains enough fuel (tank content 5.3 litres). If not, the machine must be refuelled (Read § Refuelling).
- D. Check that the air filter is not heavily soiled (if necessary, read § 11.3.1 Cleaning the air filter).
- E. Check that all safety provisions on the machine still function (see § 7.2 Safety features).

After verification and approval of all points on the checklist, the work area can be prepared (read § 9.3 Preparing the work area) and the machine wheeled to it.

### 9.2 Characteristics of the work area

To avoid damaging the machine and to guarantee a quality result of your efforts, the terrain operated on must meet a few conditions:

- First, the space for the lawn should be freed of all vegetation, stones and non-degradable material.
- Make sure that tree roots are removed and any pits levelled.
- Next, the upper soil layer (15 to 20 cm) is loosened thoroughly, for instance by aeration or deep dethatching.



**Caution:**

Freshly ploughed soil may contain foreign objects.

- It is then mixed with organic material, if possible, such as compost.
- After fertilising, the soil is finely tilled with a cultivator so that the fertiliser is mixed well into the soil and the coarser clods pulverised.
- The surface is level and does not contain bumps bigger than 150 mm.
- The surface should not be frozen.
- Working a dried out soil is useless and had better be avoided.
- Work on a terrain that is wet and soggy after heavy rainfall must be postponed.
- The work speed must be adjusted to hardness and type of soil.
- The maximum allowed (forward) slope gradient is 25°.



**For your information :**

Each roller has propulsion and contains apertures. This has the advantage that soil cannot stick to it and that irregularities are evened out. Should the rollers soil too quickly nonetheless, this implies that the terrain is too wet and the work will consequently have to be postponed.

If the terrain does not meet the above mentioned requirements, preparatory activities should be carried out first (read § 9.3 Preparation of the work area).

## 9.3 Preparation of the work area

Laying a lawn efficiently requires preliminary study. For strong grass growth a number of factors must be taken into account, such as soil structure, presence of sufficient nutrients, correct pH, ...

### Preparing the terrain

- As indicated in § 9.2, the terrain must be free from foreign objects. If this is not the case, then all objects that might otherwise hinder smooth operation must be removed (stones, branches, rope, steel wire, electrical lines, water hoses, parasol base, pickets, lawn furniture, etc.)
- If certain obstacles cannot be removed, then they should be visibly marked (tree roots, water drain covers, gas lines, sprinkler systems, power outlets, lawn lighting)..

- Large stones in the ground must be removed to avoid damage to the machine. Use a harrow to bring these stones to the surface for subsequent easy removal.
- Preparation of the work terrain depends on the condition it is in:
  - o Any vegetation must be cut and ploughed first to ensure that it is buried deep into the soil.
  - o If the soil consists of impenetrable, hard sub-soil, this must be loosened first through aeration or deep dethatching.
  - o If there are many irregularities, it is recommended to roll them flat several times and to fill up any pits, preferably after wet weather.



#### **For your information :**

The operable terrain must be checked prior to operation to be able to detect any problems in advance. (Read § 9.6.2 Planning and determining the track and the work pattern.)

#### **Choice of seed mix**

The choice of seed mix depends on the soil, the use of the lawn and the climate. Ask your seed specialist for advice.

#### **Determining the treatment after seeding to enhance germination**

##### Spraying:

Regardless of the chosen sowing period, it is recommended to keep an eye on the weather circumstances: ideally, sowing is followed by rainfall. If it doesn't rain, one can water in case of persistent drought.

Water the seedbed with a fine shower, not a hard jet stream - the latter could relocate the seed. Water every day in dry weather.

##### Fertilising:

Each plant needs plenty of nutrients to come to full development. Regular and correctly dosed fertilisation will ensure even growth of your lawn.

##### First mowing:

the grass will come up after 8 to 30 days, depending on circumstances. Once it is about 5 cm high, pass a roller over it to tighten the soil and enhance growth. When it has grown to 10 cm, you can mow it for the first time. Do not leave any clippings on the lawn.

The ideal average height is 5 cm. When it is shorter than 3 cm, the grass risks to get burnt by the sun. Grass longer than 8 cm will exhaust itself growing. Avoid any mowing shortly after rainfall as it could damage the grass.



**For your information :**

Tip: never use weed killers during the first year.

## 9.4 Preparation of the machine

### 9.4.1 Setting the machine

#### 9.4.1.1 Setting the depth of the vibrating harrows

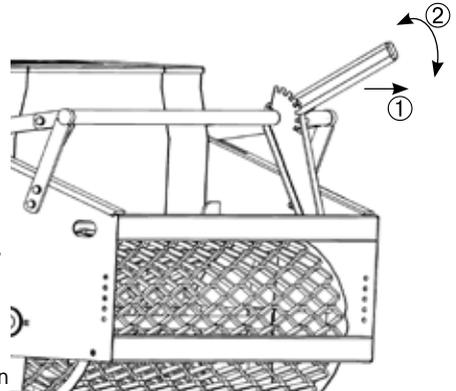
The vibrating harrows are located between the front and rear rollers. A harrow consists of vertical teeth that make transverse horizontal movements. The combination of the teeth and the movement provides the ideal raking mechanism.

A handle on the right hand side of the machine allows to set the teeth at the depth of the roller tread.

**Setting process:**

Unlock the handle by moving it outwards (1) and turn it into the desired position (2)

- handle upwards = harrows up
- handle pointing down = harrows down



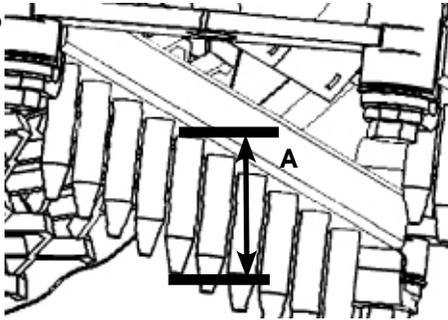
The harrows can be placed in 6 different positions, ranging from +1 to -4 cm relative to the tread of the rollers.

Changing the handle one step changes the position of the vibrating harrow by 1 cm.

**Note:** the depth of the vibrating harrows depends on :

- the hardness of the soil and ,
- the wear on the teeth of the harrows.

To get a more accurate idea of the depth settings, proceed as follows:

- Place the vibrating harrows in their highest position.
  - Measure the length of the tooth (from the top to the bottom of the profile of the harrow) (A). On a new machine, the length will be 7 cm.
  - Attach the desired front weights to the machine (\*).
  - Ride the machine to the work area and drive several meters onto the work space. The weight of the machine will cause it to sink into the soil somewhat.
  - Now lower the harrows (several positions) so that they dig into the soil; measure the distance from the surface to the bottom of the profile of the harrow.
- 
- The depth setting can be determined by deducting the value that was measured in second instance from the firstly measured value (A).
  - If necessary, adjust the handle to the desired position. One step of the handle matches a change of 1 cm of the position of the harrow.

#### Note

(\*) For sowing, one also has to take account of the weight of the seed reservoir and its contents.

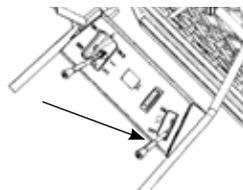
#### Tip:

As no further actual tillage is required during the seeding process, the vibrating harrow does not need to be set deep. The function of the vibrating harrow is now to evenly distribute the scattered seed over the working width so that the sowing lines are broken up. The most important action here is to ensure that the seeds are covered with a thin layer of soil so that they are protected from the wind and are less visible to birds. The ideal sowing depth is between 5 and 10 mm for rapid grass seed emergence. The slow vibration mode is best for this operation.

#### 9.4.1.2 Setting the sowing rate

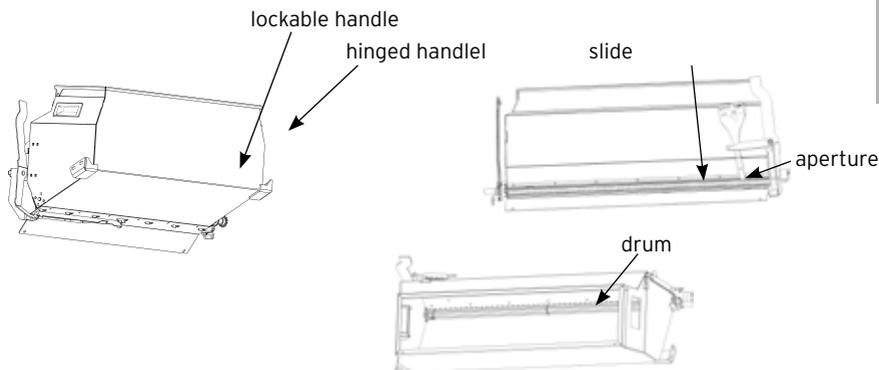
A seed reservoir with an adjustable dosage system is mounted over the vibrating harrows. The dosage system consists of a slide with several apertures that slides over the apertures of the seed reservoir.

A control lever on the right hand side of the handlebar serves to open/close the seed reservoir.



Via a cable it controls a hinged handle on the bottom of the seed reservoir. By lifting the handle, the slide is opened to the desired adjustable stop.

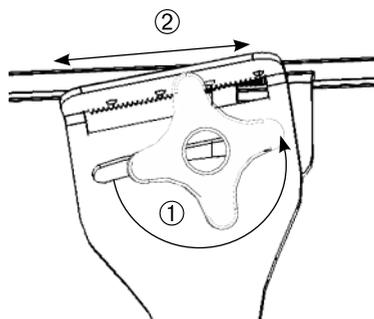
The slide stop can be set by using the lockable handle located on the upper side of the seed reservoir.



#### Setting procedure:

- Loosen the castle nut. (1).
- Place the handle in the desired position. (2),
- Re-tighten the castle nut.

Placing the handle in a particular position determines the setting of the slide stop.



#### Tip:

Holes are provided in the handle as reference points.

1. The motor must be turned off prior to refilling the seed reservoir.
2. Three things must be checked before refilling the seed reservoir:
  - o Verify that the scatter openings under the seed reservoir are not blocked and free of condensation. Moisture would cause the seed to stick, resulting in blockage of the seed openings.
  - o Check that the slide of the seed reservoir closes properly when the operating handle 'opening/closing seed reservoir' is in a closed position. This is to prevent grass from being sown when you do not want it to be whilst the machine is being transported.
  - o Check the sides of the seed reservoir for condensation.
3. The seed must be sieved when refilling the seed reservoir so as to remove any foreign objects (small stones, sticks, grass clippings) that could otherwise prevent proper closing of the seed openings.

Always fill the reservoir to a sufficient level to ensure constant and consistent scattering.

- Before scattering seed, you must set the desired sowing volume on the seed reservoir. Determining the required weight in kilograms of seed per 100m<sup>2</sup> will depend on the instructions of the seed supplier, the type of seed and the sower's experience.
- The appendix contains a diagram showing the seed flow rate of a standard seed mix in function of the seed reservoir openings.
- For most standard seed mixes, the ideal setting will be somewhere between 6 and 7.
- This is a rule of thumb for setting the seed flow rate. Since the flow of seed mixes largely depends on the seed size, deviations from the curve presented in the diagram must always be anticipated.
- To determine the exact weight of the seed, proceed as follows. A seed collector that can be attached under the scatter zone of the seed funnels can be ordered separately..

GZC 750:                    Order n° MA 016 001 016

GZC 1000:                Order n° MA 016 001 017

Make a test ride of 10 metres, then weigh the seed that was caught in the collecting unit and multiply that figure by 13.3 (GZC750) or 10 (GZC1000). The outcome is the flow rate per 100 m<sup>2</sup>.



**Caution:**

If seed was already in the seed reservoir and the machine was transported over a great distance to reach the work zone, the seed flow over the first ten metres will not entirely match the set flow rate. Because the drum in the seed reservoir turns when the machine is moved

(hence when the seed reservoir is closed), the seed composition will be disturbed and this affects the flow of the seed in the first few metres after opening the seed reservoir.

**It is therefore recommended not to base the setting of the seed flow rate on the flow rate results of these first metres.**

- It is recommended to ensure that the seed reservoir is adequately filled when seeding on a slope in the lengthwise direction. This serves to avoid that the seed shifts to one side of the reservoir and consequently is not scattered over the full width of the surface.

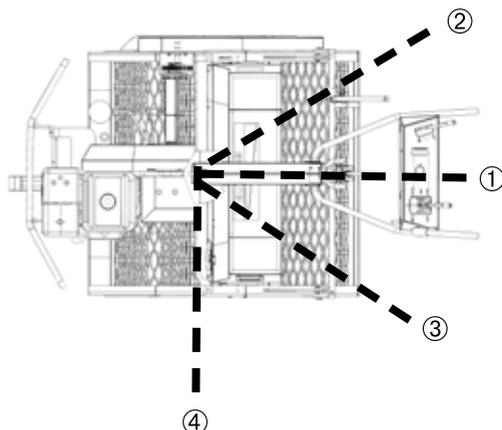
### **9.4.1.3                    Handlebar settings**

#### **A. Setting the position of the handlebar**

Setting the handlebar in any of four different positions is done in a snap!

It enables the user to operate the machine from a position right behind it, or from the left or right side of the machine. Thus, the operator does not leave any marks in the previously worked area.

The last position (4) is used for easy (dis)mounting of the seed reservoir or to fill the seed reservoir.



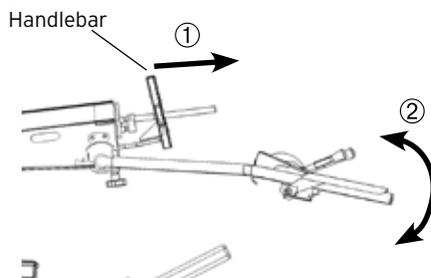
### Tip:

For seamless finishing of a sowing surface without leaving any marks, two optional foot boards can be ordered separately (order no. MA 016 001 003). Since the machine carries the operator, there are no more footprints. In addition, your body weight on the machine provides some extra pressure on the rollers that increases the levelling effect..



### How to set it up::

- Using the grip on the gear shift of the hydrostatic engine, pull the handlebar towards you. (1)
- Turn the handlebar in the desired direction. (2)
- Release the grip and check that the handlebar locks back into position.



## B. Setting the height of the handlebar

Because the front and back of the machine are being lifted regularly during operation, it is of key importance that the handlebar is set at the height that is most ergonomic for the operator.

Failure to set the handlebar at the right height can have the following consequences:

- difficulty turning/reversing the machine;
- the operator may get tired more quickly;
- a risk from incorrectly lifting the machine;
- reduced manoeuvrability and control of the machine.

The key points for setting the handlebar height are:

- it must be adapted to the height of the user;
- in situations where the operator has to make a bigger effort (for instance when lifting the rear roller), it must still be possible to control and operate the machine;

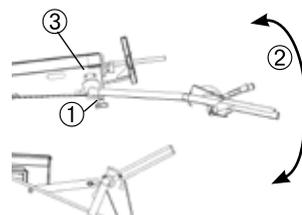
- during lifting, it must be possible to assume the same posture without the risk of cramps;
- the position of the handlebar may not cause the operator any back problems.

What is the ideal height of the handlebar:

- At the ideal height, the handlebar reaches up to the second finger joints of a person who has his arms stretched against his body.
- While holding the handlebar in his palms and slightly bending his knees, a user should be able to lift the back of the machine simply by stretching his legs.
- While lifting the machine, the user's arms, legs and back must be straight for minimum effort.
- When riding a straight line, the user will automatically bend forward and thus slightly lean on the handlebar. In this manner, he operates the dead man's handle without having to exert additional pressure with his fingers, which avoids fatigue as a result of cramps of the muscles of the forearm.
- By leaning on the handlebar during operation, the user exerts additional pressure on the rear roller, thus enhancing the levelling of the soil.

#### How to set it up:

- Undo the star knob at the bottom of the handlebar to disengage the teeth of the lock. (1)
- The handlebar can now be tilted into the desired position. (2)
- Next, re-tighten the star knob to ensure that the teeth of the lock engage. (3)



## 9.4.2 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. Fires and petrol explosions can inflict severe burns and cause damage to personal property. Consequently, the following points should be observed:

- Never refuel with the engine running. Always allow the engine to cool off for several minutes prior to fuelling.
- Use fresh petrol only. ELIET is environmentally conscious and, therefore, recommends using unleaded petrol. To preserve fuel freshness for longer periods of time, additives may be used.
- Store the petrol in an approved tank. Keep out of reach of children.

- Never refuel at the location where the machine is later to be operated. Keep a distance of at least 10 m from the selected work area. Doing so will avoid creating a fire hazard.
- The fuel tank sits on top of the motor and has a total capacity of
- Clean off the area around the cap of the fuel tank and remove it.
- Take note that a fuel filter can be inserted into the opening of the tank. Refrain from pouring too quickly; allow the petrol sufficient time to penetrate the filter without overflowing.
- If the tank does not contain a sieve, use a hopper with a filter to keep unwanted rubbish from getting into the tank.
- Do not fill the tank completely. Fill up to approximately 10 millimetres from the brim. So never fill it up to the brim.
- Considering petrol's flammability, keep in mind that the hot exhaust is right next to the tank.
- Put the cap back on the tank as quickly as possible. If any petrol is spilled whilst refilling, then the motor should be immediately cleaned.
- Also be aware that clothing does not come in contact with the petrol. If this happens, the clothing should be immediately changed.
- It is irresponsible and, thus, strictly forbidden to refill the tank in the vicinity of smokers or near an open fire.
- If fuel is swallowed or comes in contact with the eyes, consult a doctor immediately.

## 9.5 Starting the petrol engine

---



### For your information:

Please also read your engine manual for more information. The 'General' chapter in the manual identifies the key engine functions in § 6.

The paragraph below describes the procedure to start a Honda GX270 (GZC 1000). The procedure for starting the B&S Vanguard 6.5 HP (GZC750) is similar.

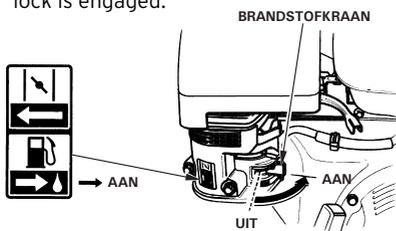


### Caution:

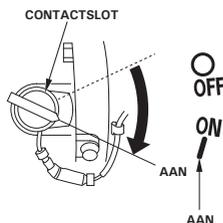
Never start the machine when dust has settled on the engine or between its cooling fins. It reduces proper cooling of the engine and can cause a fire. Furthermore, sand and ground dust can block the motion of any external machine parts.

If this has not been done when going through the checklist, the engine must be checked for adequate oil (read § 11.3.2 Checking the engine's oil level) and fuel levels (read § 9.4 Refuelling) before starting it.

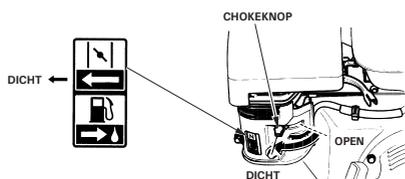
- Also check that the air filter is clean (read § 11.3.1 Cleaning the air filter) and that the grid covering the opening for suctioning in cooling air is unblocked.
- Prior to starting the machine, ensure that it is in transport mode and check that the transport lock is engaged.



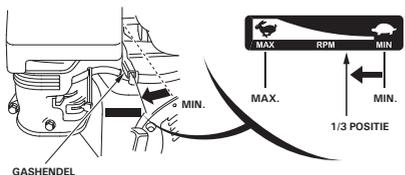
- Open the fuel tap by turning the knob to the ON position. The looking glass under the fuel tap should become filled with petrol.



- Switch the general On/Off switch to ON.



- Close the "CHOKE" by pulling the small lever backwards.



- Put the thrust lever to full thrust (move it to the far left).



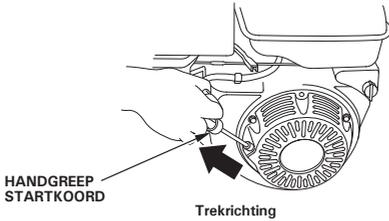
### Warning:

For optimum protection of your hearing it is recommended to put on hearing protection prior to starting the engine.



### Warning:

Under no circumstances should you ever allow the motor to run for an extended period (i.e. more 30 seconds) in a closed environment. The exhaust fumes contain toxins that can cause poisoning or suffocation.



- Operate the starter. Tug a bit on the starter handle until you feel resistance, and then pull briskly and firmly in the direction of the arrow shown here. Allow the starter chord to recoil back. Repeat this until the motor is running on its own.



**Warning :**

Do not let the starter handle slam up against the motor. Allow the starter chord to recoil slowly so as to prevent causing damage to the starter.

- Several idle efforts to start the engine may point to a wet spark plug. In that case the spark plug must be cleaned or replaced (see § 11.3.5 Check or replace spark plugs).
- Once the engine is running, push back the handle; the CHOKE will open again. This prevents the engine from getting too much fuel. If the choke is not reopened, 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.



**Warning:**

The machine becomes a source of danger when the engine is running. A wrong action can put the machine in motion. In a situation that could lead to loss of control over the operation the engine must be switched off immediately.

**Ways to quickly stop the machine:**

- Release the All-in-one™ lever; all drives will be disengaged immediately.
- By turning the general on/off switch to the OFF position, the motor will stop running and, of course, there will be no more driving force.

## 9.6 Operating the machine

### 9.6.1 Riding the machine



#### Warning:

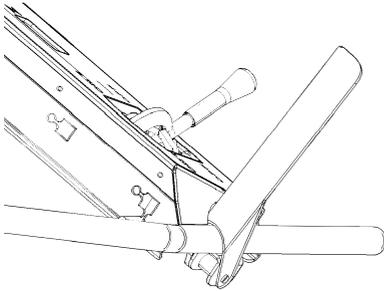
Never run the engine in a closed environment in view of the risk of carbon monoxide poisoning from the exhaust. If the machine is stored inside, doors and windows will be opened for maximum ventilation before starting the engine to move the machine.

#### 9.6.1.1 Riding

The machine is equipped with three rollers with propulsion. The two front rollers are each propelled separately and hydrostatically. The rear roller is propelled through a chain that is connected to the front left roller.

Keeping the handlebar straight and pressing the dead man's handle will move the machine in a straight line.

To stop the machine, one releases the dead man's handle.



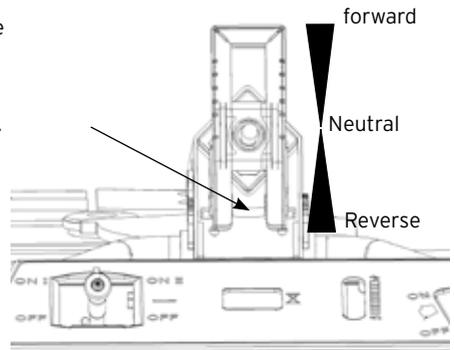
#### Dead man's handle:

The machine is dangerous for the operator while in motion. This handle serves to operate the belt drive to the hydrostatic pump. If there is no propulsion on the hydrostatic pump, the oil flow to the wheel engines will drop also.

Letting go of the handle interrupts all drives and the machine will come to a halt.

#### Driving speed - forward - neutral - reverse

The gear shift is a black lever located at the centre of the steering panel. Using this stick shift, you can operate the machine in both a forwards and backwards direction and change speed seamlessly.



**Caution:**

Driving will only be allowed when:

- the gear shift is in forward (or reverse), AND
- the dead man's handle is activated.

**Caution:**

When starting in forward motion, it is best to slowly press the dead man's handle and slightly lift the handlebar forward. Starting up the machine too quickly can cause the machine to tilt backwards.

### 9.6.1.2 **Bending**

To take a curve with the machine, one has to create different traction between the two front rollers. This is done simply by moving the handlebar into either direction.

For left bends, the speed of the right hand roller must be greater than that of the left roller - one will move the handlebar to the right.

For right bends, the speed of the left hand roller must be greater than that of the right roller - one will move the handlebar to the left.

**Caution:**

In view of the chain transmission connecting the rear roller to the front left roller, the rear of the machine will have to be lifted slightly when taking a curve.

Front weights can be mounted on the front of the machine.

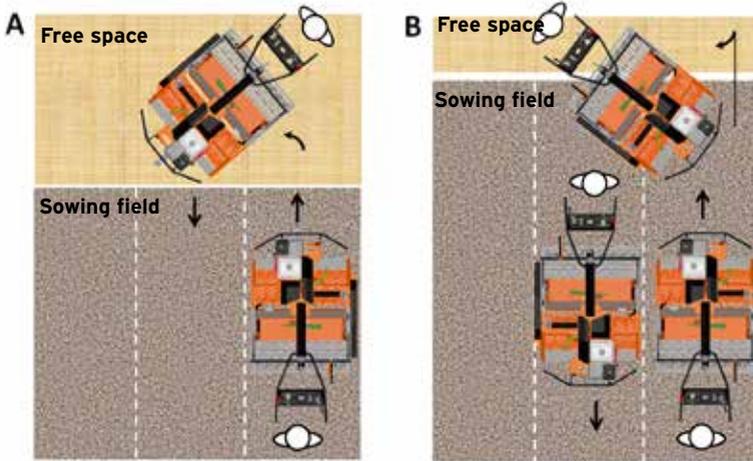
ELIET recommends their use: they serve as counterweights and make it easier to lift the rear of the machine.

### 9.6.1.3 **Turning**

If you reach the end of a strip and want to turn around to work the adjoining strip, you have two options depending on the available (free) space.

#### **Method A - sufficient free turning space**

In this case the operator has sufficient free space to turn. At the end of the strip, he slightly lifts the rear of the machine and moves the handlebar to the right (in this particular example). Once the 180° turn is complete, the handlebar is placed back into its centre position and the machine is lowered to the ground.



### Method B - insufficient free turning space

In this case the operator does not have sufficient free space to turn. At the end of the strip, the operator puts the gear shift in reverse. The rear roller automatically comes up from the surface. He now moves the handlebar to the left (in this particular example) - the machine makes a right turn almost around its axis. Once the 180° turn is complete, the handlebar is placed back into its centre position and the gear shift put into forward gear. The rear of the machine will automatically lower back to the surface.



#### Caution:

The vibrating harrows and sowing mechanism must be shut off before turning.

### 9.6.1.4 Avoiding slippage

Each roller has propulsion and contains apertures. This has the advantage that soil cannot stick to it and that irregularities are evened out. It also provides for a better grip on the surface. If the rollers slip or soil too quickly nonetheless, the terrain is probably too wet, in which case the work will have to be postponed.

How can this be avoided?

#### A. Starting

Both types of machines have a high dead weight (GZC750 = 385 kg / GZC1000 = 415 kg). These figures exclude the front weights, the weight of a filled or unfilled seed reservoir and the weight of the operator. The grip force of the rollers on the surface must overcome this resistance to put the machine into motion from a still position.

Well-dosed activation of the traction on both rollers is of key importance in this process (keeping

the handlebar at its centre position and moving at low speed). Once the mass is in motion, the inertia helps to reduce the roller resistance which in turn decreases the risk of slippage. Before performing any levelling or sowing activities on a humid surface, it is recommended to put the machine into motion before lowering the vibrating harrows to work depth. After all: vibrating harrows tucking into the soil increase roller resistance which at the start inevitably causes the rollers to slip.

## B. Turning

Since traction mainly comes from one roller when the machine turns, this can induce slippage on a humid surface (limited grip force combined with extra resistance from turning and starting). The best method to turn the machine is to briefly continue in a straight line with well-dosed traction on both rollers, and to then gradually slow down the inner roller until it stops whilst simultaneously increasing the traction speed on the outer roller; this procedure will make the machine turn in one smooth movement.

### 9.6.1.5 Riding a sideways slope

Work terrains are very often slanted or sloped. When working on a slope, the machine will be inclined to bear off towards the valley. To compensate for this, one must increase traction on the roller located at the valley-side. This can be achieved easily by counter-steering.



#### Caution:

While riding on a slope, the engine may suddenly stop running. This has to do with the engine's oil safety (Read § 9.8.2 Engine stops running during the work).

### 9.6.1.6 General remarks



#### Caution:

Speed must be reduced while advancing to the work area. The higher the speed, the quicker the reaction required when running into obstacles and the greater the inertia forces that need to be controlled.



#### Warning:

Obstacles in the surface may cause a difference in grip force which may provoke a sudden unintentional turning movement. Be alert.

- Choosing an obstacle-free access route towards the terrain will considerably reduce the risk of damage to the surface.
- Avoid riding the machine across unstable or soggy surfaces. If the rollers slip and the 385kg or 415kg weighing machine digs itself in, it will be hard to release it. Take account of a surface pressure of 0.6 kg/cm<sup>2</sup>.
- If you ever start losing control over the machine, immediately let go of the handlebars so that all operating levers switch back to neutral and all drives are deactivated.
- ELIET cannot be held liable for damage to property.
- If the machine consistently bears off to one direction, then the settings must be adjusted. Consult your dealer for assistance.
- For the correct method to ride the machine in and out of a van, read § 10 Transport of the machine.



**For your information:**

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

## **9.6.2 Planning and determining the track and the work pattern.**

- A work pattern will depend on the state of the terrain and the preparations already made. The following criteria apply.
  - Shape of the terrain. Long strokes with few turns enhance the work speed.
  - The terrain's profile. Slight slopes can best be worked by riding the slope lengthwise. For steeper slopes, the best work method is to drive up and down the slope.
  - Which obstacles must be considered? The angle for approaching obstacles depends on where it is easiest to make a turn.
  - Eliminating turning zones. This can be important for an easy and quick finish of the turning zones after completion of the rest of the terrain.
  - If the work is done under windy conditions, the route will be arranged such that the dust produced during the operation will be blown away from the machine.

## **9.6.3 Crumbling and levelling**

After the ground has been tilled or worked with the crane, it has to be crumbled and levelled out. The lawnmower combi features to be used in this case are the rollers and the vibrating harrows.

The rollers ensure that the soil is pressed tightly and that the largest earth clods are being pulverised. Thanks to their intense movement, the vibrating harrows subsequently till the soil, reducing any clods and evening the surface at the same time. The rear roller finally ensures that the soil is pressed and crumbled.

Depending on the condition of the soil it may be necessary to work the same surface several times.

**Caution:**

The operator must comply with clothing prescriptions and wear the required personal protection (see § 7.3.1 General safety instructions).

- Proper gardening starts with studying the work area, removing any obstacles and determining a work pattern and a route (read § 9.6.2.). It also involves proper preliminary machine inspection and settings (read § 9.1 and 9.4).
- Levelling can start as soon as the machine is on the work area, at the beginning of the defined route.
- Always situate the machine to move in a straight line relative to the intended lane; it avoids having to immediately turn and adjust course whilst the vibrating harrows are at work depth.
- Before starting the work, ensure that:
  - o all handles on the handlebar are in the OFF position;
  - o the gear shift is in neutral;
  - o the vibrating harrows are in their highest position.
- We recommend to perform any levelling activities without the seed reservoir mounted on the machine. This provides the operator with a better overview of the work area and the vibrating harrows. For removal of the seed reservoir, please read § 9.7.
- Check again that the handle of the vibrating harrows is in the neutral position! If not, they will be activated when the engine is started.
- Start the engine and run it full throttle (3200 RPM) (read § 9.5).
- The machine now becomes a dangerous object, and the operator must concentrate on his movements. As long as he is operating the machine, his full attention must be on the job.
- Set the handle of the vibrating harrows to their lowest speed.
- Now lower the harrows to maximum depth (\*).
- Set the handle of the vibrating harrows to their highest speed.
- Now set the appropriate operating speed using the gear shift on the steering rack.
- Start forward movement by pressing the dead man's handle.

(\*) The depth and speed of the vibrating harrows as well as the driving speed must be adjusted according to the type of terrain.

### 1. Humidity/dryness of the surface

Explanation: as described under § 9.6.1 (Riding the machine), slippage of the rollers can be avoided by matching the traction and driving speed to the grip force on the surface. Reduced grip force on a moist surface justifies a lower speed.

### 2. Type of soil

### 3. Degree of vegetation

### 4. Depth of the vibrating harrows

### 5. Degree of wear on the vibrating harrows

Explanation: raking is the toughest job in levelling the soil and while most of the engine

capacity will therefore be sent to the vibrating harrows, that capacity also depends on the force required to level the soil, which in turn depends on the factors mentioned above. The higher the driving speed, the higher the amount of soil that needs to be raked per movement of the harrow, and hence the higher the required capacity. The driving speed must therefore also be adjusted to the conditions of the soil.

## 6. Stones in the soil

Explanation: in rocky soil, it is impossible to remove all of the obstacles in advance. You will simply have to assume that the harrows will come in contact with stone. Stones can damage the harrows on impact. A low driving speed will reduce the amount of energy on impact and increase the time the operator has available to react. From a safety point of view it is therefore recommended to reduce speed in rocky or stone-rich areas.

- Be alert! When hitting a stone or hard object - stop the machine immediately and remove the object before continuing.
- If stones or other objects surface as a result of the raking movement, stop immediately and remove them before continuing.
- Should you notice that the machine seems to dig itself in when the vibrating harrows are too deep into the soil, adjust the height of the vibrating harrows.
- When laying a sloping terrain, beware that when reaching the top, the front rollers will come off from the surface, causing the vibrating harrows to dig deeper into the soil and thus levelling the terrain. This can be avoided by adjusting the depth of the harrows when reaching the top, or by tilting the machine slightly backwards to create a more shallow grip of the vibrating harrows on the soil.
- The speed of the vibrating harrows and the driving speed can be controlled by adjusting the engine's rotational speed (between 3200 and 2700 RPM) with the thrust level on the handlebar.

### 9.6.4 Sowing, raking and pressing

Once the surface has been crumbled and levelled out, it is ready for sowing.

#### **Sowing:**

The seed reservoir is placed in the machine (read § ) and will scatter the seeds according to the set flow rate (read § ).

The guide plate, along which the seeds slide down, comes to about 10 cm above the ground providing a low free fall height to minimise the effect of the wind on the seed distribution. The scatter zone is located between the front roller and the vibrating harrow.

#### **Covering the grass seed:**

As no further actual tillage is required during the seeding process, the vibrating harrow does not need to be set deep. The function of the vibrating harrow is now to evenly distribute the scattered seed over the working width so that the sowing lines are broken up.

The most important action here is to ensure that the seeds are covered with a thin layer of soil so that they are protected from the wind and are less visible to birds. The ideal sowing depth is between 5 and 10 mm for rapid grass seed emergence. The slow vibration mode is best for this operation.

### Finishing:

The rear crumble roller presses the ground just enough so that the sown grass seed is safely buried. Nevertheless, the soil still remains sufficiently loose to quickly absorb moisture after rain. The moisture level in this secure habitat below the top layer is ideal for the seed, which will now germinate faster.



#### Caution:

The operator must comply with clothing prescriptions and wear the required personal protection (see § 7.3.1 General safety instructions).

- Proper gardening starts with studying the work area, removing any obstacles and determining a work pattern and a route (read § 9.6.2.). It also involves proper preliminary machine inspection and settings (read § 9.1 and 9.4).
- Sowing can start as soon as the machine is on the work area, at the beginning of the defined route.
- Always situate the machine to move in a straight line relative to the intended lane; it avoids having to turn and adjust course whilst the vibrating harrows are at work depth.
- Before starting the work, ensure that:
  - o all handles on the handlebar are in the OFF position;
  - o the gear shift is in neutral;
  - o the vibrating harrows are in their highest position.
- Place the seed reservoir (read § 9.7) and fill it with suitable grass seed.
- Set the flow rate (read § 9.4.1.2). The flow rate depends on the driving speed, the width of the scatter apertures and the seed grain size. Please refer to the seed curve (read § 15.3).
- Choose the desired depth setting and speed of the vibrating harrows. The ideal settings are a sowing depth of 5 to 10 mm and slow vibrating mode.
- Start the engine and run it full throttle (3200 RPM) (read § 9.5).



#### Caution:

If the handle of the vibrating harrows is not in 'neutral', starting the engine will activate them.

- The machine now becomes a dangerous object, and the operator must concentrate on his movements. As long as he is operating the machine, his full attention must be on the job.

- Using the gear shift, choose the desired driving speed (depending on the flow rate).
- Press the dead man's handle and simultaneously open the seed reservoir via the handle on the handlebar. The following functions are activated when pressing the dead man's handle:
  - o The machine will start to move at the set speed;
  - o the rotating drum in the seed reservoir will start to rotate.



**For your information :**

Should a situation occur where you seem to be losing control of the machine while the harrows are engaged, immediately release the All-in-one™ control lever.

## 9.7 Placing and removing the seed reservoir



**Warning :**

- Prior to placing/removing the seed reservoir, the engine must be switched off.
- Placement and removal of the seed reservoir must always be performed by two people.

### Removal

- Stop the engine and place all handles in their neutral position.
- Close the seed reservoir by operating the handle on the handlebar.
- Turn the handlebar into its farthest position (read § 9.4.1.3), placing it perpendicular to the machine and thus providing better access to the seed reservoir.
- Disengage the drive of the rotating drum with the handle (1) on the right hand side of the machine.
- With two people, lift the seed reservoir from the machine by the two handgrips (2) provided.



### Tips:

Observe the correct body posture (straight back, bended knees, ...).

Unload some seed from the seed reservoir before removing the reservoir from the machine.

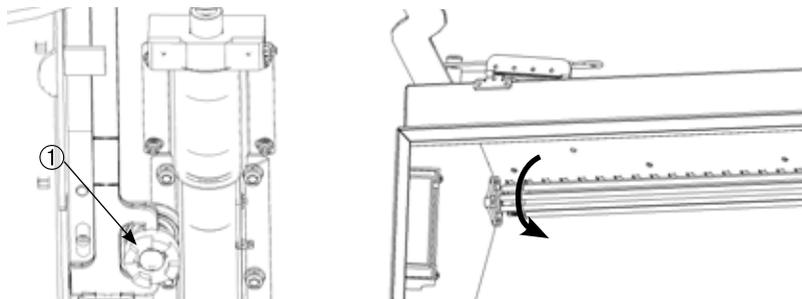
- Position and store the seed reservoir in such a way that the dosage system, the drive of the rotating drum and the guide plate cannot be damaged.
- Bear in mind that the cover may flip open during manipulation of the seed reservoir, resulting in the loss of seed.
- Always store the seed container in a dry place.

## Placement

Reverse the order of actions involved in removal of the seed reservoir to place it on the machine.

Take the following points into consideration:

- Check that the handle for (dis)engaging the drive of the drum is in its far-most, disengaged position (position 0).
- Be very careful when lowering the seed reservoir into the machine to avoid damage to the seed reservoir or the machine.
- Once the seed reservoir is in the machine, check that the openings of both couplings (1) are in the correct position relative to each other before operating the (dis)engaging handle. If they are not positioned correctly, the synthetic couplings may get damaged.



- The position of the couplings can be corrected by manually turning the rotating drum in the seed reservoir.

## 9.8 Cleaning the machine



### Warning:

Repairs, maintenance and cleaning must only be performed with the engine disengaged and the spark plug cap decoupled.



### Warning:

Always wear safety gloves when checking defects or performing maintenance to the machine.

Failure to clean the machine will induce quicker wear. A machine functioning suboptimally can compromise the operator's safety.

Failure to clean the machine can cause:

1. increased wear of the bearings
2. Increased wear of covers
3. Jamming of moving parts
4. Reduced cooling
5. Risk of fire
6. Inability to notice cracks or tears
7. Damage to the paint
8. Illegibility of stickers

- It is therefore recommended to clean the machine after each use. Cleaning the machine can also be regarded as a visual check. It offers an opportunity to timely notice any breakage or need for lubrication.

**Tip :** clean the machine immediately after working with the machine. Mud and soil then won't have a chance to dry up and stick to parts which makes cleaning and rinsing considerably easier.



**Caution:**

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

The following points require special attention:

- Always remove the seed from the seed reservoir after working with the machine (use a vacuum cleaner to remove the seed from the deeper lying areas).
- Also check that the seed funnels are completely free.
- The engine should be clear of dust and dirt. More in particular the cooling fins, the exhaust and the area around the exhaust must be clear. The area around the fuel cap must be kept clean to avoid dirt entering the fuel tank. Blow away any dirt that might block the throttle control.
- Check and clean the air filter on a regular basis.
- Check and lubricate the chain drives.
- The bushings must be cleaned from sand and dirt that sticks to the lubricating grease. After cleaning, apply new lubricant (see § 11.2 Lubricants for a list of lubricants).
- Use a dry cloth or soft brush for cleaning, and penetrating oil with MoS<sub>2</sub> to remove grease and lubricants. The latter is a lubricant and rust solvent at the same time.
- The transmission parts and hinges located under the large cover must be kept dust free as much as possible.
- Clean the vibrating harrows. Use a water sprayer to rinse off any persistent dirt.
- Check that the vibrating harrows are not damaged or bent.
- Clean the traction rollers so any dirt won't cling. Also clean the scraper (if present) of the anti-scalping roller.
- Use a dry cloth to remove dirt from the chassis and more specifically from the stickers with safety instructions.

- Use of a steamer to clean the machine is allowed. Do not spray excessive amounts of water on the bearings, electric contacts 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.
- A number of additional points must be observed in the cleaning procedure before long term storage of the machine (read § 12).

## 9.9 Fault diagnosis

---

### 9.9.1 The engine fails to start after idle periods:

If the machine fails to start up after a period of inactivity, this could be the result of either of the following causes:

- low on petrol
- stale petrol
- bad spark plug
- low on oil



#### **Caution:**

Before examining possible reasons for the fault, make sure the ON/OFF switch for the motor is turned to 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. If this slipped your mind, you may have forgotten to refill the machine. Check that the tank is adequately filled and refuel if necessary (read § 9.4 refuelling). Let the starter engine run for a while after refuelling. Close the throttle (choke) - the petrol will be sucked into the line. The motor will start running as soon as the carburettor has filled.

#### **b) Stale petrol**

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 § 9.4 Refuelling) (Attention: take extreme caution; stale petrol is still highly flammable.)

**d) Bad spark plug**

Without the proper ignition, it will be impossible to get the engine up and running. You must therefore check the spark plug. (Read § 11.3.5 Checking the spark plug)

**e) Low on oil**

The engine's crankcase is filled with motor 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 § 11.3.3 Checking the oil level of the engine).

**9.9.2 Engine shuts off during operation**

If the engine suddenly shuts off during operation, this can be caused by various factors:

- a) no petrol
- b) lack of oil in the engine
- c) the machine is on a slope
- d) technical defect

**Caution:**

Before examining possible reasons for the fault, make sure the ON/OFF switch for the motor is turned to the OFF position.

Take the following steps to restart the machine in any of the cases below:

**a) No petrol**

If you fail to monitor the petrol level and hence don't notice that the tank is running empty, the machine may surprise you by suddenly turning off. Refuel the machine (read § 9.4 Refuelling) and let the starter engine run for some time 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 § 9.9.1 under d.

**c) Machine is on a slope**

While 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 minutes and then restart the engine. The problem will come back if working on the slope is continued. After checking the oil level on an even surface (read § 11.3.3), the oil safety system may be disengaged temporarily. Don't forget to switch it back on after the work is finished.

**Attention:** neither ELIET, nor HONDA 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 solve the problem.

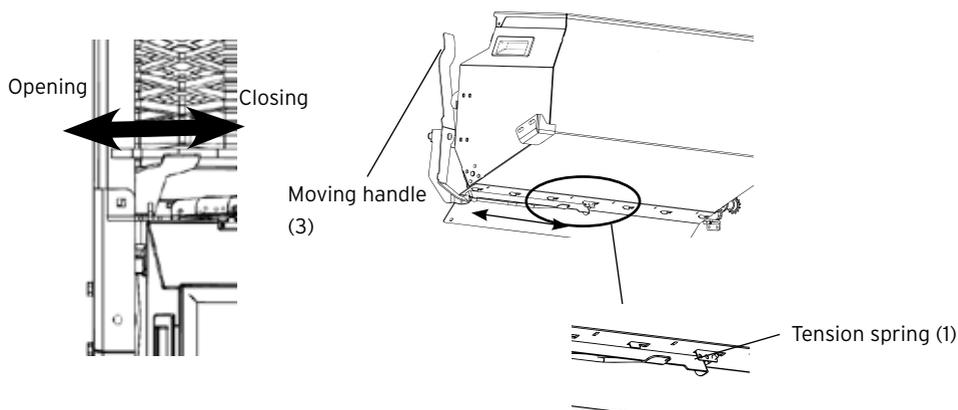
#### d) Technical defect

If neither of the aforementioned inspections identifies the reason, the problem could be of a more technical 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.

### 9.9.3 Loss of seed during transport

During transport, the machine leaves a trail of grass seed. This can result in vegetation between paving stones and must therefore be avoided. Possible causes:

- A foreign object (stone, stick) is blocking the scatter openings. When closing the seed reservoir, openings fail to slide shut completely, which causes seed loss.
- As a result of dirt in the bolt mechanism that opens and closes the seed reservoir, the tension spring may not be strong enough to shut the bolt when the machine is being lifted. To solve this problem, clean the crack in the bolt (with compressed air) when the seed reservoir is empty.
- Check the tension spring located at the bottom of the seed reservoir (1).
- Check the compression spring located at the cable guide (2).
- Check that the black hinging handle to the left of the machine is working properly.
- The slide of the seed reservoir is opened and closed by moving the handle on the left hand side of the machine back and forth a few times. Doing this may also solve any problems.



### **9.9.4 Irregular sowing pattern**

If the seed flow rate has been set correctly, the seed on the surface should be hardly visible. The seed visible in the grooves should have constant density along the entire work width. An irregular seeding pattern, i.e. no seed in some places and lots of seed in other areas, has the following cause:

- The seed emerging from the seed reservoir is scattered via the guide plate. It could be that the seed is being scattered incorrectly as a result of dirt on the guide plate..
- The funnels can get blocked as a result of dirt, moisture or a blocked scatter opening. These blockages will usually disappear automatically, and the seed that was stacked in that particular funnel will be scattered in one go, causing an abundance of seed in places. This will obviously be visible in the lawn once the seed starts to grow. It is therefore important to check the funnel channels as soon as irregularities are detected.

Continual irregularities in the seed flow across the entire work width can be the result of the following:

- A small rotating drum fitted at the bottom of the seed reservoir ensures a constant seed flow. It is driven by a chain and runs synchronously with the machine's operating speed. A defective drive will result in an irregular seed flow. Possible causes of a defect:
  - o Broken chain
  - o Displaced chain
  - o Incorrect setting of the chain tightener
  - o The locking pin on the sprocket of the axis of the rotating drum broke down.
  - o Sprocket on roller came loose
  - o Locking pins of the rotating drum on the driving axis came loose.
  - o Coupling worn or broken

### **9.9.5 The worked surface shows a trail of damage.**

Whilst performing levelling or sowing activities, one may suddenly notice an abnormal trail of damage in a worked lane. This could have the following causes:

- Since the vibrating harrows do the ground work, they must be examined first. Presumably, one or more teeth of the vibrating harrows struck an object in the ground, causing it to become bent or damaged and consequently carving out wide, unsightly grooves. Read § 11.4.8 Checking vibrating harrows for irregularities.
- It is possible that an object has become wrapped around one of the teeth of the vibrating harrows, causing a damage trail apart from the harrows themselves.
- Or a foreign object may be stuck in the apertures of the rollers.

## **9.9.6 Dead man's handle too tight**

Sometimes the dead man's handle is set too tightly. This can be solved as follows

- Cable guide to the belt tensioner roller of the primary belt drive (crankshaft of the engine and hydrostatic pump) too tight. (Read § 11.4.3 Checking the belt tension.)
- Incorrect setting of the belt tensioner roller mechanism of the primary drive belt.

# 10. Transporting the machine



Wear the appropriate clothing for loading and offloading the machine.



**For your information:**

also read § 9.6.1 Riding the machine; this chapter contains useful instructions for safely riding the DZC 750.

- Once at the end of the seed field, release the dead man's handle - this will stop the machine.
- Now switch off the harrows and place them in their highest position.

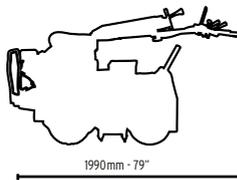


**Warning:**

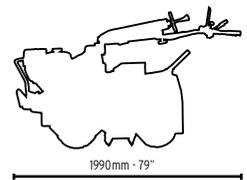
Loading and offloading the seeding machine requires preparation and concentration. You are dealing with a heavy machine that will be hard to control if it should start to slide.

- Lower the engine's RPM and place the gear shift in the lowest position for better control of the wheel drive during loading and unloading. This will also reduce the effect of steering errors or loss of grip.
- Bystanders must remain at a safe distance (10 m) during transport, loading and offloading.

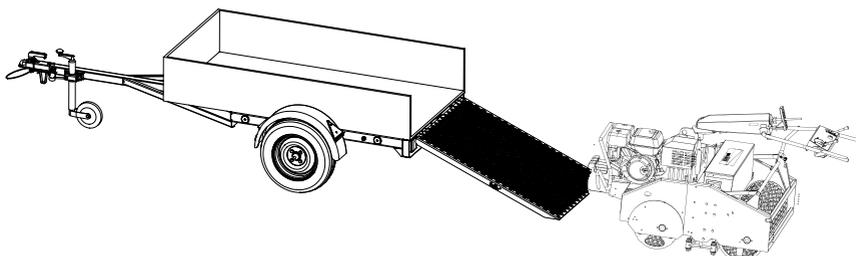
GZC 750



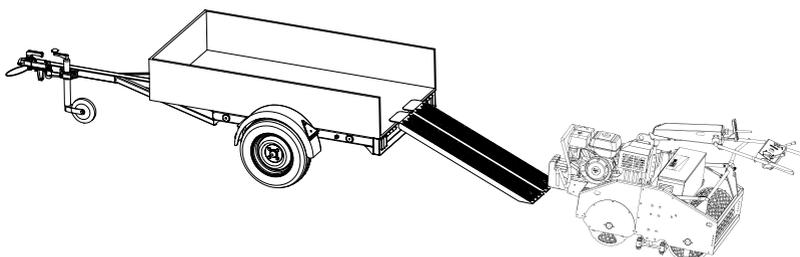
GZC 1000



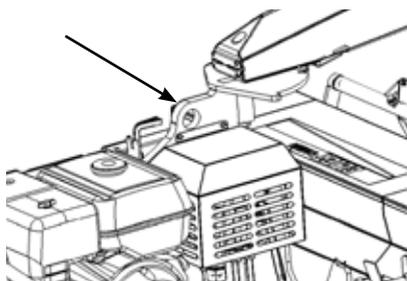
- When driving the machine onto the ramps, keep it in a straight line and avoid steering corrections.
- A ramp the width of a trailer provides the safest loading/offloading method. It provides support for each point, even if a traction difference on the rollers causes a slight deviation from the straight line.



- If only two ramps are used, they must each have a width of at least 30 cm. The ramps put against each other for support of the central swivel caster provides a tread that corresponds to the width of the rollers.

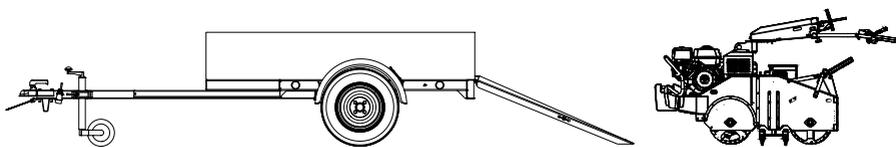


- Use a non-slip ramp for loading the machine into a van or onto a trailer.
- Ensure that the ramps are properly hitched onto the vehicle or trailer. Ensure that the traction cannot detach the ramps.
- The machine weighs over 385kg (GZC750) or 415 kg (GZC1000), make sure that the ramps have the bearing power to carry both the machine and the operator.
- The machine can also be loaded onto a trailer with the use of a crane. A special lifting point was provided for this purpose.

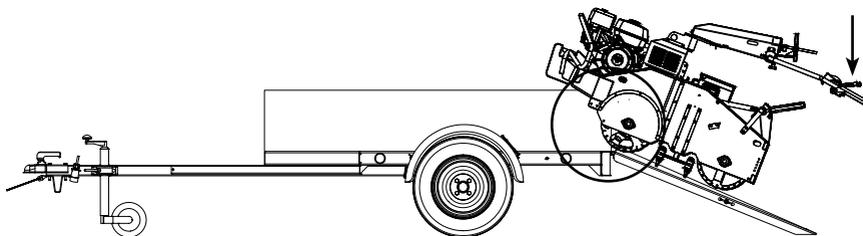


- If loading the machine onto a utility trailer, the trailer itself should be hitched onto a vehicle.
- Under no circumstances should the angle of the incline exceed 25°.

- Inclines must always be ascended in a forward direction and descended in reverse.



- Never try to push the machine up, or let it roll down, a slope in the 'neutral' position. Once rolling, the machine will be hard to control. Always use the engine's traction power to ascend a slope, and its braking power to descend a slope. Always use the lowest gear for this purpose.



- Take good care at the ramp angle at the top. A dangerous situation can occur if the bottom of the machine were to make contact with the ramp angle and the rollers lose contact and grip on the ramps as a result. Be prepared for this and reduce speed. Lean over or push your weight on the handlebar at the moment you pass over the ramp angle. This will relieve the front of the machine, reducing the risk of damage (to the vibrating harrows, ...) on contact; it also puts additional pressure on the rear of the machine, allowing better grip of the rollers and reducing their risk of slipping.
- If you risk losing control over the machine, then immediately release the operating handles.
- if necessary, push the machine away from you and step aside. The hydrostat will slow down the machine or halt it.
- Keep in mind that starting the machine too quickly can cause the machine to tilt backwards.
- Ask someone to assist you if you feel insecure about loading the machine.
- Ensure that the vehicle has sufficient bearing power to transport the machine.



**Warning:**

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.

- Don't run the engine longer than necessary when (off)loading the overseeder into/from a closed van. Open all the doors of the loading area to ensure sufficient ventilation.
- Make sure the machine is properly attached in the vehicle during transport. Attach ropes to the fixed chassis parts to secure the machine.
- In some cases, it might be handy to lower the vibrating harrows to the surface.



**Warning :**

Don't forget to put the vibrating harrows back into their highest position before unloading the machine!

- The ropes, belts or tensioner belts used must be in a perfect state and capable of sustaining a tensile load of 700 kg.



**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.

- The machine's ground clearance is 40 mm.
  - A ramp must be provided if the machine has to drive up a step or curb higher than 60 mm.



**For your information::**

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

# 11. Maintenance

## 11.1 General



### For your information:

The dealer and his staff are readily at your service and can also rely on the ELIET help desk for support. The combination guarantees you the best joint effort to find a solution for any problems you may have. For repairs or maintenance you can turn to your authorised ELIET dealer or a service centre authorised by the engine manufacturer. Please always submit the model and serial numbers of the machine and the engine, as well as a complete description of the problem.



### Caution:

Use only original ELIET or HONDA replacement parts for any repairs. These service parts are manufactured according to the same strict quality requirements and craftsmanship as the original equipment.

- Maintenance or repairs that are not described in this manual must be performed by an authorised ELIET dealer.

Maintenance must always be carried out in a room intended for that purpose.

The area must meet the following criteria:

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

These characteristics are important for proper performance of the maintenance works.



### Caution:

Maintenance performed in an incorrect manner may compromise the operator's safety.

- Maintenance must always be 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. These are supplied standard with the machine.

**TIP:** In principle, the maintenance works described may be carried out by a person with technical skills. However, ELIET recommends that the machine be brought to an authorised ELIET service centre for a major overhaul each year.

Your ELIET dealer is always at your service for maintenance and advice. He stocks 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 impeccable after-sales service.

## 11.2 Maintenance schedule

---

### Special maintenance:

Replacing the engine oil  
 Checking the hydrostatic oil level  
 General check-up

### After each operation

Visual check-up	§11.4.1
Checking the air filter	§11.3.1
Checking the engine oil level	§11.3.3

### After 25h of operation

Changing the oil	§11.3.4
Checking the belt tension	§0
Checking the spark plug	§11.3.5
Lubricating chains	§0
General lubrication	§11.4.2

### After 100h of operation

Replacing the vibrating harrows	§11.4.9
Replacing the air filter	§11.3.2
Replacing the spark plug	§11.3.5
Replacing the tensioning rollers	§11.4.5
Tightening the chain	§0
Replacing the slip coupling	§ xxxx

### After 200h of operation

Replacing the belts	§11.4.4
Replacing the bearings	§11.4.9

### After 500h of operation

Replacing the hydrostatic oil	§11.4.10
Changing chains and sprockets	§11.4.7

## Lubricants

Engine (1.4 L)	SUNOCO DENALUBE SAE 20W50 API SF / CC
Hydrostate	MOBIL DTE 13M ISO VG 32
Bearings	NOVATIO PTFE OIL
Hinge points	NOVATIO CLEARLUBE
Cable guidances	NOVATIO PTFE OIL
Lubricating points	SUNOCO VET MULTI-PURPOSE LR - EP2
Chains	NOVATIO CLEARLUBE & PTFE OIL

## 11.3 Engine maintenance

### 11.3.1 Cleaning the air filter

The purpose of the air filter is to clear the air that is sucked in for combustion from sand and dust particles. There are two important issues in this respect:

- The filter may not become damaged; a damaged filter could expose the engine to unfiltered air.
- The filter must allow sufficient air to pass through it, ensuring an optimum air-fuel ratio for proper combustion. Regular inspection of the air filter is essential.

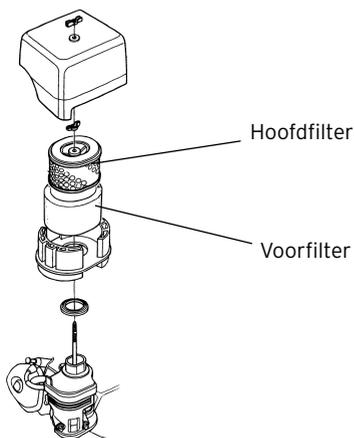


#### For your information :

Before starting maintenance, also always read the manual provided by the motor supplier. If a different procedure is suggested, then you should always follow the procedure in the motor manual.

- The air filter is located under a black hood on the engine. (Read the 'General description' in § Main machine parts.)
- Remove the wing nut to release the filter. .

The filter is built up of two parts:



- The front filter made of spongy material (absorbs coarse dirt).
- The main filter is made of layered paper (absorbs small particles)

Unscrew the wing nut to remove the filter cartridge.

## How to clean the filter :



### For your information:

Also read the manual of the engine manufacturer.

- The front filter may be cleansed with a little petrol.



### Caution:

Petrol is highly flammable; avoid open fire or hot objects in the direct vicinity.

- Using compressed air, thoroughly blow dry the filter to eliminate all petrol and dust.
- With a paint brush dipped into motor oil slightly moisturise the outside of the sponge filter. Course dust particles will now stick to the filter more easily.
- The filter cartridge can simply be tapped clean.
- The filter may be cleaned with compressed air, provided that the jet is kept at some distance from the filter and that the air is blown from the inside out.



### Caution:

Releasing a stream of compressed air too closely to the filter element may cause micro-perforations that will render the filtering properties completely useless.

- Using compressed air, completely clean the plastic hood and the filter socket from dust and dirt.
- After cleaning, remount the filter elements in their original position.

## 11.3.2 Changing the air filter

This action is almost identical to cleaning the air filter (see § cleaning the air filter). The only difference is that in this case, the element is replaced.

New air filters suitable for your machine are available from your Eliet dealer or an authorised service centre of the relevant engine brand.

When mounting the filter element, make sure that it sits snugly against the packing ring to avoid false suction.

### 11.3.3 Oil level check



#### For your information :

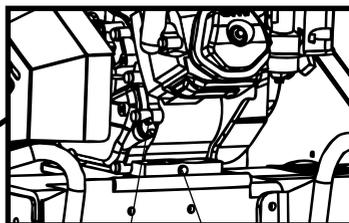
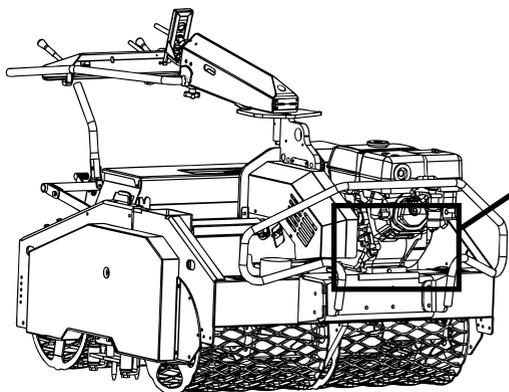
The paragraph below describes the procedure for checking the oil on a Honda GX270 (GZC 1000). The B&S Vanguard 6.5 HP (GZC750) follows a similar procedure.

- Place the machine on a flat surface.
- Disengage the engine and leave it for a while to allow the oil to seep back to the oil sump (approx. 5 minutes).
- Remove the front weights from the machine to provide better access to the oil drainage plug and oil filler cap.
- With a clean cloth, clean the area around the filler cap. Refer to the 'General Description' under § 6.2 Main machine parts (page 7) for possible positions of the oil drainage and drain plugs.

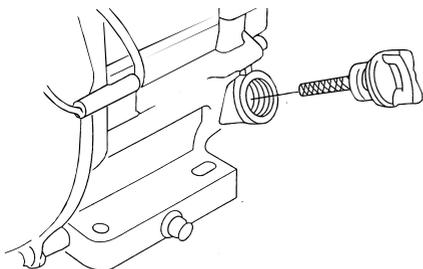


#### For your information :

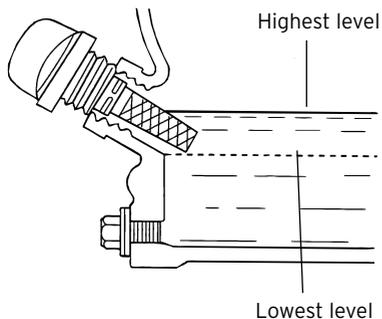
There are 2 oil drainage plugs and 2 oil filler caps on the motor. Only the oil drainage plug and the oil filler cap on the operator side are used on this machine (best access)!



Oil filler cap      oil drainage plug



- Remove the filler cap with the dipstick attached to it from the crankcase.



- Since the oil level should reach the brim of the filler opening, a low oil level is easy to spot. The oil on the dipstick should touch the maximum 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.
- 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. Always clean the funnel before passing any oil through it.
- Only use recommended oil (see the list of recommended oils in § 11.2).
- Immediately remove any spilled oil.

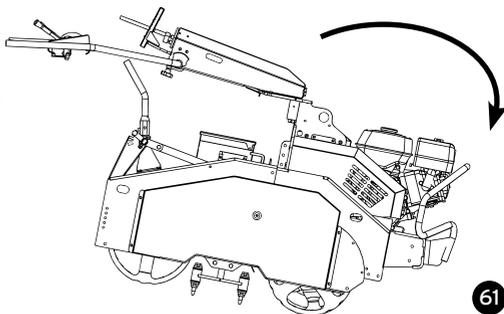


**Caution:**

Avoid any dirt from leaking into the crankcase via the filler cap.

### 11.3.4 Changing the oil

- Make sure that the machine stands on an even surface and that the engine is switched off.
- Move the front weights on the machine to the side or remove one of them to provide better access to the oil drainage plug and oil filler cap. Using front weights makes it easier to tilt the machine forward.
- Have a 2 litre collection reservoir ready before unscrewing the plug.
- Clean the area around the oil filler cap and unscrew the cap, allowing the crankcase to vent while emptying the tank.
- Now unscrew the plug from the drain with a 22 mm spanner
- Now lift the handlebar so that the machine tilts forward over the front rollers. Maintain this position.
- Place the receptacle in front of the machine and twist out the drainage plug completely from the motor base.
- Empty the entire contents (approx. 1.1 L) from the motor. Make sure that all oil is properly collected in the receptacle.
- Tilt the machine backward again.



- Replace the drainage plug and tighten it. (Attention: don't tighten it too much: the motor base might crack.)
- Wipe away any spilled oil with a clean cloth.
- Refill the motor with fresh 4 stroke oil at the foremost filler cap. ELIET recommends a top quality high-detergent oil: SUNOCO DENALUBE SAE 20W50 API SF / CC. (Also see the manual from the motor manufacturer).
- Slowly add the required oil, approx. 1.1 litres, until it reaches the brim of the filler opening.
- Replace and tighten the filler cap after refilling and wipe away any spilled oil.

**Warning:**

Oil shortage causes severe engine damage. (Any such damage falls outside the scope of the warranty.)

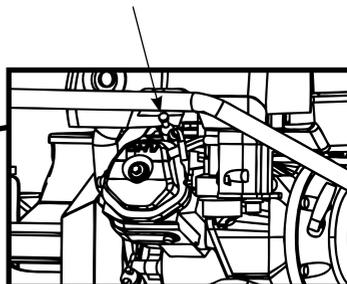
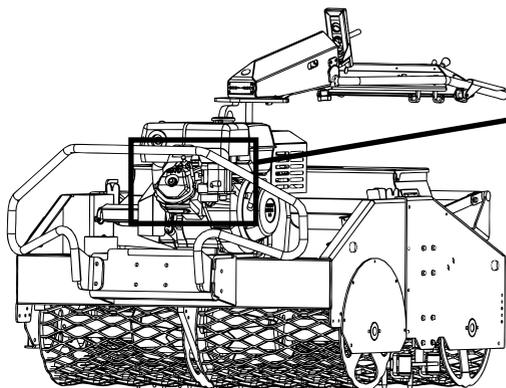
**Warning:**

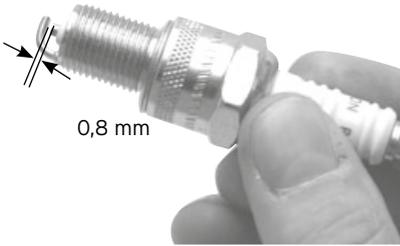
Respect the environment: bring the oil to an authorised collection point for expert processing or recycling. Never pour oil down the drain.

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

Machine	Type motor	Bougie
GZC750	B&S Vanguard 6.5 HP	
GZC1000	HONDA GX270 QXQ4	NGK BPR 6 ES

- Switch off the engine and let it cool down.
- The spark plug is at the front end of the machine.





- Pull off the cap of the spark plug.
- Clean the area around the spark plug and rotate it out of the cylinder head (spanner size: Imperial 13/16 inch).
- Using a feeler gauge, check whether the distance between the electrodes is 0.8 mm.
- The spark plug must be replaced if it shows heavy deposits or is very dirty.

Take the following steps to verify ignition quality:

1. Put the spark plug cap back on.
2. Grab the rubber of the spark plug cap and press the outermost electrode against the mass of the engine.
3. Turn the starter key to the 'START' position.
4. Meanwhile, check for sparks between the two electrodes.
5. The spark plug is in good condition if the spark is a clear and continuous beam and is neatly centred between the electrodes.
6. Weak, irregular and off-centre sparks indicate that the spark plug must be changed.



**Caution:**

Placing a new spark plug or replacing an old 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.

## 11.4 Machine maintenance

### 11.4.1 Visual check

In order to anticipate any breakage and wear, it is of vital importance to check the machine prior to any work. It will also benefit the life of your machine.

- Check that at full throttle, the machine runs the prescribed RPM (3200 RPM).
- Never attempt to change the default engine settings.
- Check the vibrating harrows for any damage. Check for accumulated dirt.
- Check that the seed reservoir closes completely when operating the handle 'opening/closing seed reservoir'.
- Check the scatter openings of the seed reservoir for any blockage.
- Check that the chains are lubricated adequately (read § Lubricating chains and chain wheels).

- Check that the parts are not deformed, that welded seams are not cracked, and that parts do not show excess play.
- 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 spare parts. Find an ELIET service centre near you at [www.eliety.eu](http://www.eliety.eu).

### **11.4.2 General lubrication treatment**

EELIET is committed to using high-quality materials that extend a machine's life cycle despite what can be extreme work circumstances.

For this reason, special lubrication products have already been applied in the factory. Periodical and regular lubrication will extend the machine's life and performance. During periods of drought, the frequency of lubrication treatments should be increased.

#### **LOTS OF DUST => REGULAR CLEANING AND LUBRICATING**

Lubrication of the parts below must be carried out with care.

- Hinges and ball joints (see § 11.4.2.1).
- Lubricating nipples (See § 11.4.2.2)
- Bearings (See §11.4.2.3)
- Chains and gears (See § 0)
- Friction surfaces (See § 11.4.2.5).



#### **Caution:**

As for other maintenance, the engine must be switched off and the spark plug cap removed before performing any lubricating activities. Protective gloves must be worn.



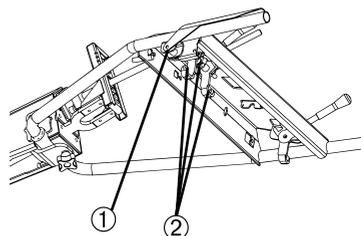
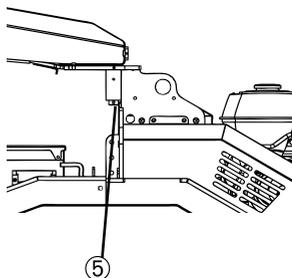
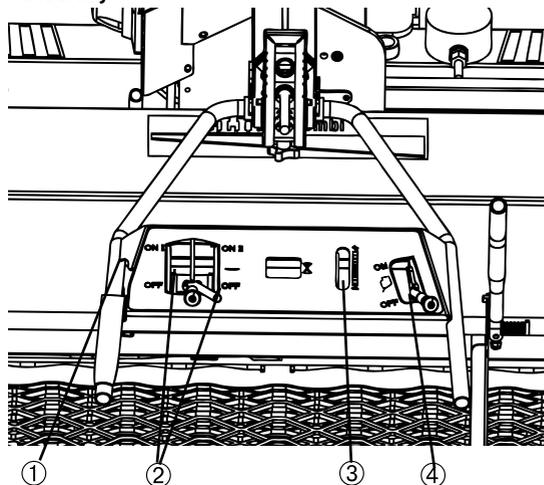
#### **Caution:**

Most lubricants are flammable. Always read the safety messages on the packaging. Keep away from open fire or hot objects when performing lubrication works.

## 11.4.2.1 Hinges and ball joints

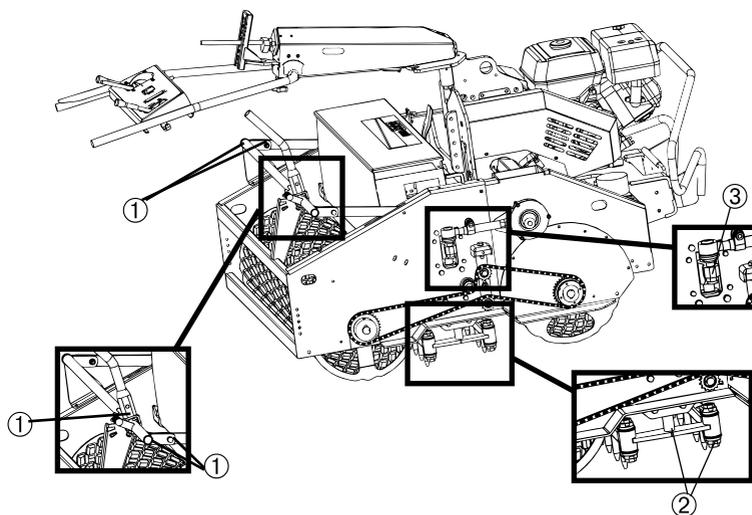
Hinges are places where two moving parts are attached to each other. Because this is a turning point, it involves friction. Friction without lubrication leads to wear, excessive play and finally in breakage. Some of these items require specific attention:

### Steering:



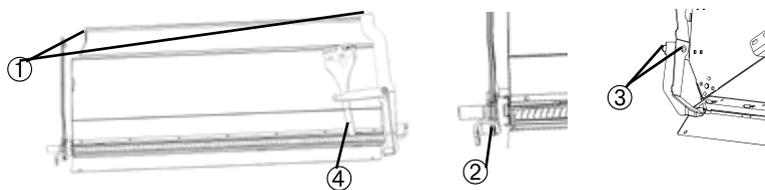
1. Hinges dead man's handle
2. Hinges handle speed control vibrating harrows + ball joint
3. Hinges gas lever engine
4. Hinges handle 'opening/closing' seed reservoir
5. Hinges steering column

## Vibrating harrows::



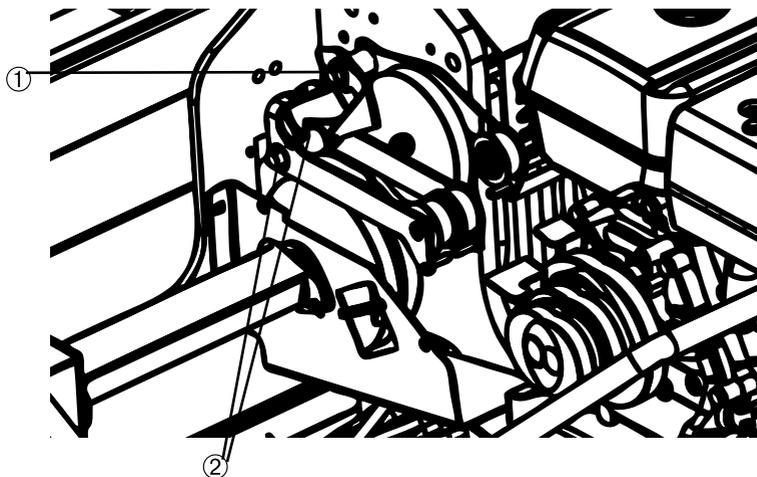
1. Hinges handle height control vibrating harrows
2. Hinges vibrating harrows (4x)
3. Hinges drive rod eccentric

## Seed reservoir:



1. Hinges cover seed reservoir
2. Hinges (dis)engaging handle rotating drum
3. Hinges handle 'opening/closing slide seed reservoir'
4. Hinges lockable handle slide stop

## Drive



1. Hinges belt tensioner hydrostatic drive
2. Hinges belt tensioners drive vibrating harrows

### Lubricating hinges:

- To reach the points indicated, some protective covers and shields will have to be removed. (Read § 15.1 if necessary.)
- 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 the use of 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.



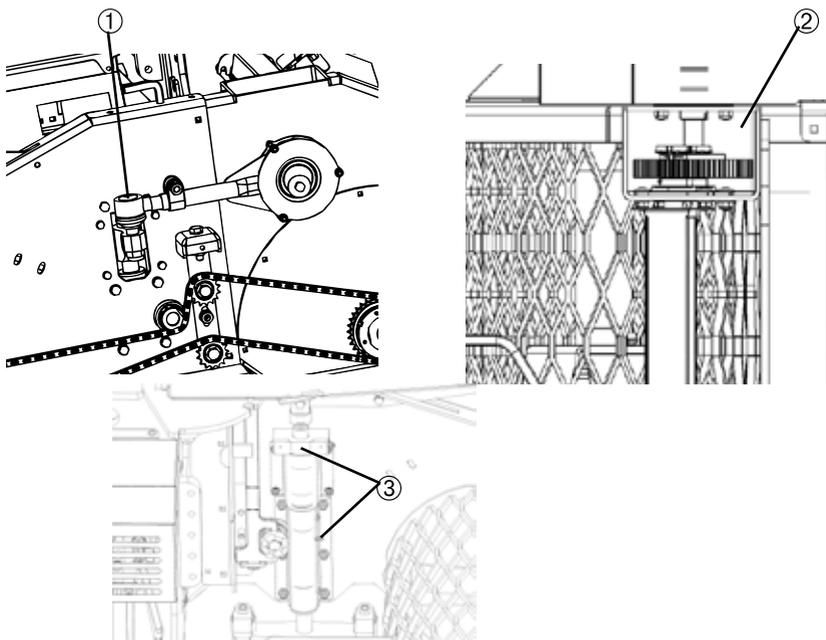
#### Caution:

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.

### 11.4.2.2 Grease nipples

Grease can be injected along the grease nipples. Grease nipples were provided in the following crucial areas:



1. Grease nipple coupling tilting arm eccentric
2. Grease nipple reduction gear box drive vibrating harrows
3. Grease nipples axles vibrating harrows (2x) and nylon casing.

#### **Grease nipple**

- To reach the points indicated, some protective covers and shields as well as the seed reservoir will have to be removed. (If necessary, read § 15.1 Removing the protective covers and § 9.7 (Dis)assembly of the seed reservoir)
- The old grease may have dried up or washed away or leaked from the system. This may create a hollow air chamber around turning parts, preventing the grease to reach the turning

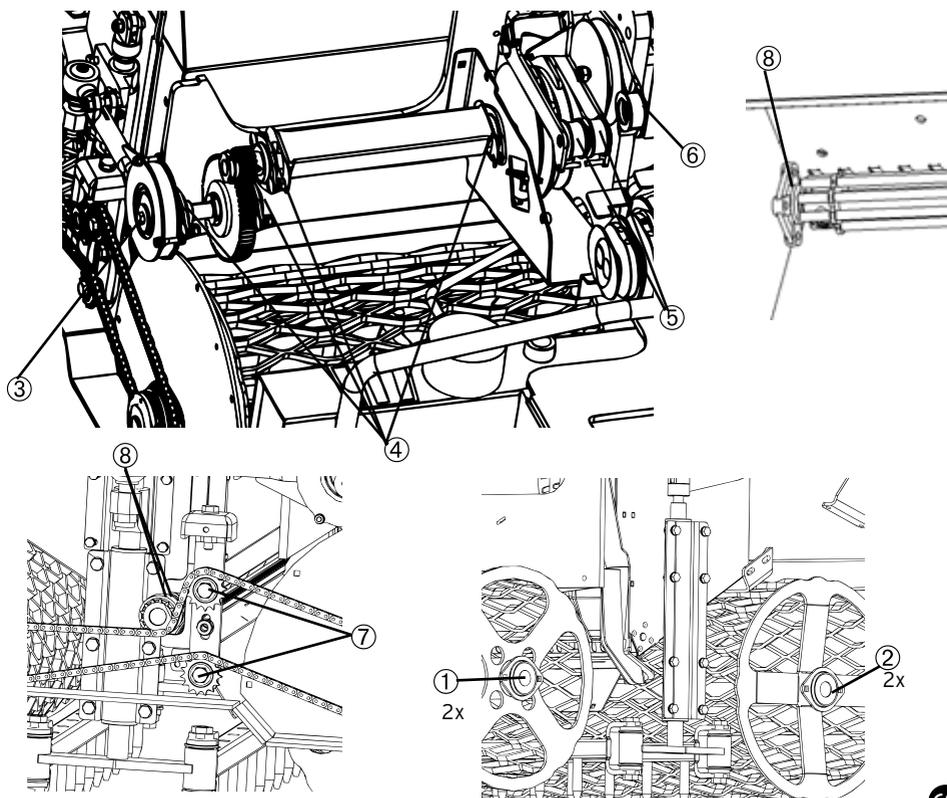
elements and resulting in inadequate greasing.

- An adjusted grease pump can be used to pump grease (MOBIL DELVAC 1330) into the system along the grease nipples.
- Filling up the hollow chambers with new grease will push it against the turning parts.
- By injecting the fresh grease via the grease nipple, the new grease pushes out the old grease, which is usually stuck to the edges. Not only does this procedure provide extra lubrication, it also pushes out dirt and dust.
- Pump the grease into the nipples until a resistance is felt. Old grease will usually come out via the joints.
- Wipe away any excessive grease.

### 11.4.2.3 Bearings

Bearings' biggest enemies are an excessive load, dirt and lack of lubrication. Sewing machines are not the best media to guarantee a long bearing life. Regular maintenance is therefore required.

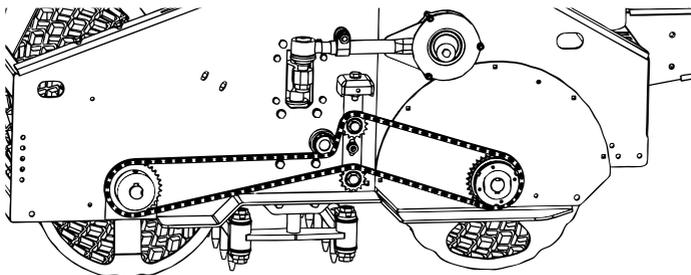
The following bearings are fitted on the machine:



1. Support bearings (2x) front rollers
  2. Bearings in rear roller (2x)
  3. Bearing tilting arm eccentric
  4. Support bearings (4x) axles transmission vibrating harrows
  5. Bearings in tension rollers for belt transmission vibrating harrows (2x)
  6. Bearing in tension roller belt transmission hydrostat
  7. Bearing in the chain tensioners
  8. Support bearings rotating drum (3x) seed reservoir
- To reach the points indicated, some protective covers and shields as well as the seed reservoir will have to be removed. (If necessary, read § 15.1 Removing the protective covers and § 9.7 (Dis)mounting the seed reservoir)
  - 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.

#### **11.4.2.4 Lubricating the chain and chain wheels**

Because chains have a high rotation speed and don't run through an oil reservoir, after some operating hours the applied chain lubricant will have been propelled away or be full of dust and dirt. To avoid wear and tear of chains, they must be lubricated after each operation. The machine has one Simplex chain for the transmission between the left front roller and the rear roller and the rotating drum in the seed container.



- For this type of maintenance, the rearmost side of the two left protective caps must be removed. (Read § 15.1 if necessary)
- We recommend to clean the chain and wipe 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 lubricant before applying new one.
- 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 very thin oil that will easily penetrate the 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 gears.
- When replacing the protective cover, ensure proper closure to keep the inside free from dust.



#### **For your information :**

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

### **11.4.2.5 Friction surfaces**

Friction surfaces are all machine parts subject to wear from lateral friction with other parts. Here, too, the message is to apply a film of lubricant between the rubbing parts that will reduce movement resistance and minimise wear. These surfaces include:

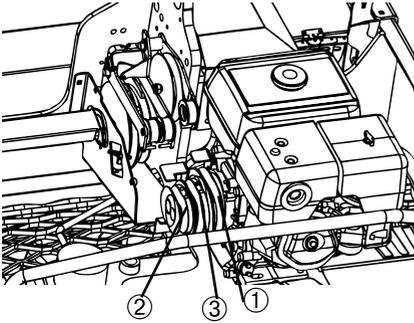
1. Cable wire dead man's handle to thrust lever motor.
  2. Cable wires (2x) handle speed mode vibrating harrows to the belt tensioners
  3. Cable guide handle speed control engine
  4. Cable guide handle 'opening/closing seed reservoir'
  5. Cable guides (2x) handlebar control
- Proper functioning of the control levers is crucial and regular lubrication of the cables is therefore of vital importance.
  - In particular during dryer periods, operating the machine will produce a lot of dust that settles everywhere, including on the cables.
  - Prior to lubricating, the cables must be cleaned. KLEENSPRAY is again an ideal tool.
  - Also spray it into the cable guide and simultaneously move the cable back and forth to ensure that the cleaner penetrates the guide.
  - Use compressed air to clean the cable guide of both cleaner and dirt.
  - Repeat this procedure until the guides are completely clean.
  - New lubricant may now be sprayed into the guide. ELIET recommends NOVATIO PTFE OIL.
  - The procedure is the same for all other friction surfaces mentioned earlier: first loosen old lubricant with KLEENSPRAY and wipe it away.
  - Then spray NOVATIO PTFE OIL on the friction part.

All lubricants indicated are available from your authorised ELIET dealer.

### 11.4.3 Belt tension check and adjustment

The machine contains 3 belt drives:

1. Belt drive from the engine to the hydrostatic pump.
2. Belt drive vibrating harrows low speed
3. Belt drive vibrating harrows high speed



The following describes the procedure for tightening the belts.



**Caution:**

Belt tightening must be done with the engine switched off. Carefully pull off the cap from the spark plug.



**Caution:**

Always wear suitable clothing for performing this type of maintenance.

#### First belt drive (engine - hydrostatic pump)

This is the belt drive between the engine and the hydrostatic pump. This belt is tightened with a flat tensioning roller that is pulled against the back of the belt when pressing down the dead man's handle. It is also a belt transmission that is frequently switched on and off, and it is therefore subject to slippage.

- If the belt starts 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.
- To tighten the belt, the protective cover must be removed first (read § 15.1).
- 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.



A. Near the belt drive:

- o Remove the M8 lock nut (13 mm spanner) and rotate the control guide counter-clockwise (=tension cable guide) or clockwise (=loosen cable guide). Use a spanner (size 11) if necessary.

B. Near the handle:

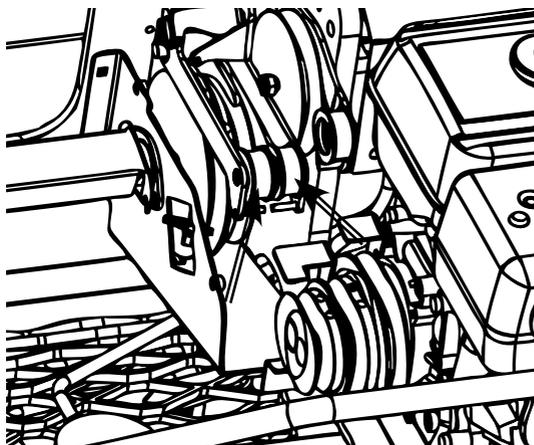
- o The control is similar to the above, the difference being that it is equipped with two M8 lock nuts.
  - o Remove one of the M8 lock nuts (13 mm spanner) and rotate the control guide a few times. Use a spanner (size 11) if necessary.
- Next, test the belt tension and adjust as needed.
  - Afterwards, 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.

### **2nd and 3rd belt tensioner (engine - drive of vibrating harrows)**

The vibrating harrows can move at two speeds. The belt connecting the engine with the largest timing-belt pulley provides the low-speed drive of the vibrating harrows; the other belt provides the high-speed drive.

Both belt transmissions are equipped with a belt tensioning roller. Depending on the position of the handle on the handlebar, either of the tensioning rollers is being activated, or none at all.



Due to belts being stretched during operation for a few hours, the manufacturer's settings can become disarrayed and the belts could begin slipping.

Adjusting the belt tensioning rollers follows the procedure described above.

Do not forget to place back the protective cover after adjustment.

### **11.4.4 Belt replacement**

After many hours of operation, the belts may wear and require replacement. Replacement parts must always be obtained from an authorised ELIET dealer.

Belt 1: (engine crankshaft - hydrostatic pump)	xxx
Belt 2: (engine crankshaft - high-speed drive of the vibrating harrows)	xxx
Belt 3: (engine crankshaft - low-speed drive of the vibrating harrows)	xxx



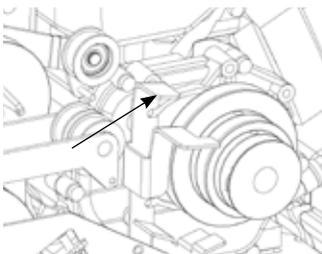
**Caution:**

Replacing belts must always be done with the engine switched off. Put the starter knob of the engine in the OFF position and pull the spark plug cable from the spark plug.

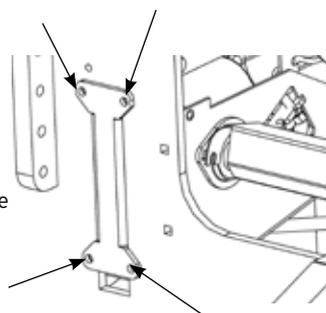
**Belt 1: engine crankshaft - hydrostatic pump**

The hydrostatic pump consumes constant and limited capacity. The belt is permanently engaged and suffers but little dynamic load. Wear and stress on this belt are therefore limited.

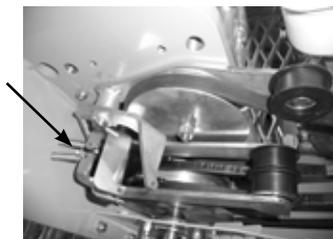
- To replace the belt, the protective cover must be removed first (read § 15.1).



- Next, remove the belt catchers from the belts by undoing the two bolts that hold the belt catchers.



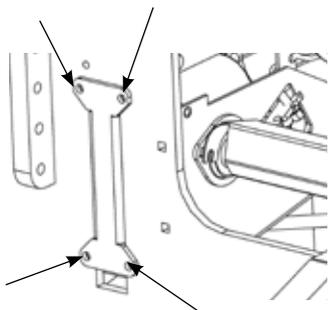
- Demount the plate at the back of the belts after undoing the four M8 bolts.



- Demount the two belt tensioners of belts 2 and 3 by undoing the spring at the back of the belt catcher. Also loosen the clips that hold the belt catchers.

- Undo the two screws in the belt pulley of belt 3 - this will allow you to pull back the pulley somewhat. You can now loosen the belt from the pulley and remove the belt.

## Belts 2 and 3: engine crankshaft - speed drive



- To replace the belt, the protective cover must be removed first (read § 15.1).
- Next, demount the plate at the back of the belts after undoing the four M8 bolts.

- Undo the two screws in the belt pulley of belt 3 - this will allow you to pull back the pulley somewhat. You can now loosen the belts from the pulley and remove the belt..



### Caution:

Do not forget to check the belt tension after placing back the belts.  
Do not forget to place back all the covers before you start operating the machine.

### 11.4.5 Replacing the belt tensioning roller

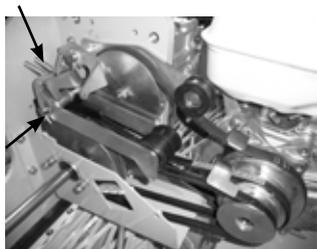
The metal runner that tightens the belt the moment the All-in-one™ control lever is pushed is under extreme pressure:

- the runner runs against the belt at 2300 RPM.
- Due to friction with the belt the latter becomes very hot; lubricants become liquid and will leak from the bearings as a result.
- During periods of drought, dust will inevitably develop when operating the machine. Sand and dust will find their way into the bearings and cause damage.

Due to the combination of these three factors the tensioning roller is sensitive to wear. Regular lubrication can counter accelerated wear. As soon as the bearing starts to make a growling sound, we recommend to replace the tensioning roller as a precaution. Failure to do this will result in blockage of the tensioning roller and consequently, damage or breakage of the belt. The belt may also damage the magnetic sensor when it breaks.

How to proceed:

- Switch off the engine.
- Unfasten the large black cover plate (read § 11.4.12).
- Leave the tensioning roller to cool down before disassembling it.
- Unhook the tension spring that keeps the tension arm in a neutral position.



- Unfasten the starlock locking clip at the back of the bolt. This will now have to be replaced also. Stock code starlock BB 011 000 090

- Unfasten the fixing bolt (M8, size 13 spanner).
- The tensioning roller can be ordered from an authorised ELIET dealer under stock code tensioning roller BA 599 005 300.
- Apply some extra lubricant to the bearing joints to avoid dirt penetrating around the new tensioning roller.
- Remount all elements to their original position and securely tighten the tensioning roller.
- Hook the spring back on and verify that it is properly mounted. A loose spring can disrupt control of the electrical height setting mechanism.
- Remount the black cover plate

### 11.4.6 Chain tightening

The machine has one chain drive: the chain that provides transmission from the first roller to the rear roller as well as the drive of the rotating drum in the seed reservoir.

- Its capacity and RPM are very limited, hence the choice for a single (simplex) chain.
- This chain may turn forwards and backwards, depending on the direction in which the machine is driving. A chain tensioner with a double function has been provided to accommodate this feature.

**Caution:**

Never tighten the chain too tight. 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 the cap seals and bearings.


**For your information:**

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.

**Note :** use this maintenance to lubricate the chain (read § 11.4.2.4).

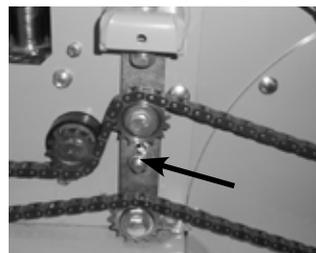

**Caution:**

Chain tightening must be done with the engine switched off. Remove the key from the starter lock as a precaution.


**Caution:**

Always wear suitable clothing for this type of maintenance.

- 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, it must be tightened.
- Remove the protective cover on the right-hand side of the machine.
- The chain can be tensioned easily by lifting the chain up.
- To do so, loosen the (M10) nut that holds the chain tensioner to the frame. Use a 17 mm ring spanner.



- Undo the M10 lock nut at the bottom of the control bolt (size 17 spanner).
- Turn the M10 control bolt anti-clockwise (size 17 spanner) so as to move the chain tensioner upwards and thus tightening the chain.
- Beware: over-tightening the chain can lead to accelerated wear of the bearings and the chain.
- Re-tighten the M10 nut that holds the chain tensioner to the frame.
- Now re-tighten the lock nut on the control bolt.
- Carefully replace the protective cover and fasten it.

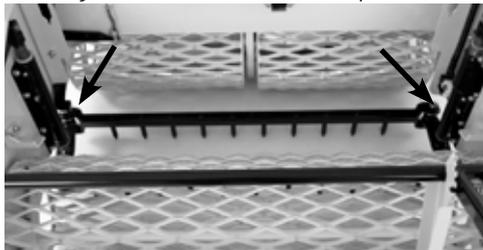
### **11.4.7 Replacing the vibrating harrows**

To replace the vibrating harrows, the cam must be in a straight position.

If it is not straight, first pull the starter cord to ensure that the vibrating harrow is in a straight position.

Only in a straight position can the teeth of the vibrating harrow be installed correctly.

Dismount the teeth by undoing the large bolts that hold them.



### **11.4.8 Checking level and refilling hydrostatic oil**

The dipstick (1) of the hydrostatic oil is located besides the belts.

This is also the place where you can refill the hydrostatic oil.



Hydrostatic oil can be removed by unscrewing the bolt at the bottom of the oil tank (2). Let the oil flow out completely before placing back the bolt. Refill the oil at the opening of the dipstick.

## 12. Storing the machine

---



When storing the machine for an extended period, we recommend that you follow the steps below:

- Clean the entire machine thoroughly. (Read § 9.7 Cleaning the machine.)
- Carry out large maintenance (see § 11.2).
- Check all nuts and bolts and fasten them where necessary. Most bolts require the use of two spanners of 10, 13, 14, 17 or 19 mm and wrenches 4, 5 or 6.
- Empty the fuel tank either by running the engine until the machine runs out of fuel, or by using a siphon to pump the petrol back into the jerrycan (read the safety instructions under § 9.4 Refuelling).
- Remove the spark plug (see § 11.3.5 Checking and/or changing the spark plug). Spray some penetrating oil with MoS<sub>2</sub> into the cylinder. Pull the starter cord until the piston is in its uppermost position.
- 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.
- 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

	GZC 750	GZC 1000
Engine	6,5 HP B&S Vanguard	9 HP Honda GX270
Hydraulic pump	2 x 10cc	2 x 10cc
Hydraulic engine	2 x 400cc	2 x 400cc
Gearbox	4 forwards 4 km/h reverse	2 forwards -2 km/h reverse
Seed reservoir volume	61 L	93 L
Adjustable handlebar	3 x 600mm	3 x 600mm
Oscillation speed	Slow: 407 movements/min. Fast: 590 movements/min.	Slow: 407 movements/min. Fast: 590 movements/min.
Rear roller width	710 mm	1030 mm
Seed reservoir width	600 mm	902 mm
Height control vibrating harrow	6 x 10 mm	6 x 10 mm
Measurements (LxBxH in mm)	1990x820x1140 mm	990x1140x1140 mm
Weight	385 kg	415 kg
Options	Scraper	Scraper
	Smooth roller	Smooth roller
	Front weight	Front weight
	Foot board	Foot board
	Seed-collecting gutter	Seed-collecting gutter

# 14. Declaration of conformity CE



Machine: **LAWN SEEDER**  
Type: **ELIET GZC 1000**  
Model number: **MA 016 011 208**

ELIET mfg. cy. hereby declares that after performing a hazard analysis, it is fully aware of the potential hazards and risks associated with the machine. In this knowledge, the necessary steps have been taken in line with Machine Directive 2006/42/EC in order to ensure absolute operator safety for the operator, when the machine is used correctly.

The value of the measured sound power level and the guaranteed sound power level were obtained according certain procedures set forward in the directive 2000/14/EG annex III.

Measured sound power level LwA : 97 dB(A)  
Guaranteed A-weighted sound power level : 98 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  
Date of birth: 02/01/1975

ELIET EUROPE NV  
Diesveldstraat 2  
BE - 8553 Otegem Belgium  
Ph. +32 56 77 70 88 - Fax +32 56 77 52 13  
info@eliet.eu - www.eliet.eu

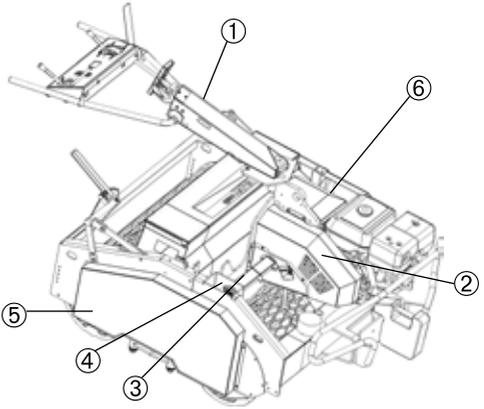
# 15. Appendices

## 15.1 Removing the protective covers

English

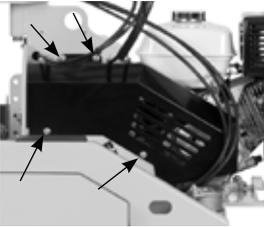
All moving parts are safely shielded by several protective covers.

1. Protective cover of the steering mechanism.
2. Protective cover on the motor transmission
3. Protective cover on the drive shaft of the vibrating harrows
4. Cover on the reduction gearbox of the vibrating harrows
5. Protective cover chain transmission
  - Front roller - rear roller
  - Rotating drum
6. Protective cover hydrostatic pump



Removing the protective covers is done as follows:

### Protective cover on the motor transmission



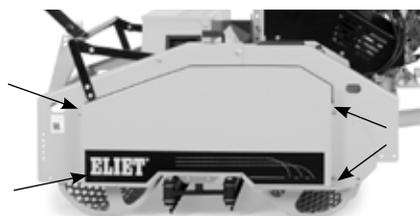
To remove the cover, undo the four bolts holding the cover in place.

### Protective cover on the drive shaft of the vibrating harrows



To remove the cover, undo the four bolts holding the cover in place.

### Protective cover chain transmission



To remove the cover, undo the four bolts holding the cover in place.



#### Caution:

**Don't forget to place back all the covers before you start operating the machine.**

## 15.2 Risk analyses

---

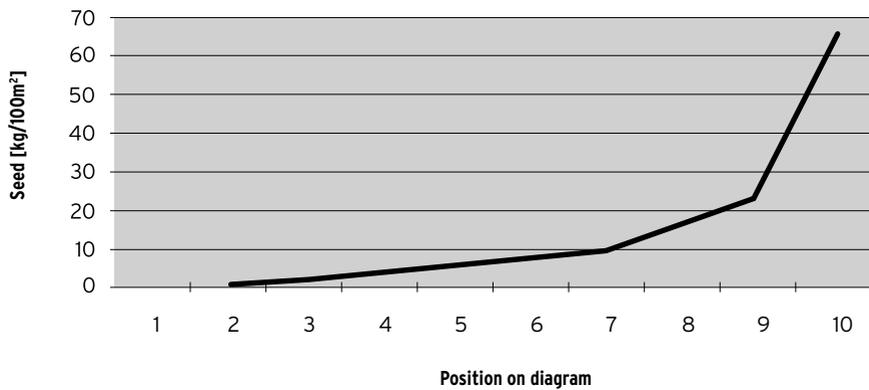
Please find below a list of hazards and risks connected with transportation or operation of this seeder. Take good notice of these dangers and avoid risks by following the instructions in the manual. Beware that risks are not limited to the operator: bystanders can be exposed as well. Ensure that bystanders are always kept at a safe distance.

- Squeezing or jamming when the seed reservoir lid slams shut.
- Reaching into the rotating drum in the seed reservoir introduces the risk of fractured or bruised fingers.
- Reaching into chain drives when removing chain covers introduces the risk of fractured, entangled or severed fingers or limbs.
- Reaching into belt drives when removing belt covers introduces the risk of fractured, entangled or severed fingers or limbs.
- Spraying of feet or knee joints when lower limbs get stuck under the traction rollers.
- Spraying of feet or knee joints when lower limbs get stuck under the swivel caster or anti-scalping roller.
- There is the risk of bruising or becoming wedged between the handlebars and any obstacle whilst moving in reverse or changing direction.
- Injuries caused by the machine toppling over as a result of unsafe transport.
- Physical injury can occur when traversing a terrain that cannot support the weight of the machine.
- Risk of electrocution from creating a short circuit.
- Risk of electrocution from pulling high voltage cables away from the spark plug whilst the engine is running.
- Heat exhaust or heat from the engine can cause scorching.



## 15.3 Seeding diagram

POSITION ON DIAGRAM	SEED/100M <sup>2</sup> [KG/100M <sup>2</sup> ]
1	0
2	0
3	0,39
4	1,55
5	4
6	7
7	10
8	16
9	23
10	65



## 15.4 List with torque values

### BOLT HEAD ACCORDING TO DIN 931, DIN 912, ...

strongness thread		Strenght (Nm)	
		8.8	10.9
<b>Normal thread</b>	M4	3,0	4,4
	M5	5,9	8,7
	M6	10	15
	M8	25	36
	M10	49	72
	M12	85	125
	M14	135	200
	M16	210	310
	M18	300	430
	M20	425	610
	M22	580	820
	M24	730	1050
	M27	1100	1550
M30	1450	2100	
<b>Fine thread</b>	M8 x 1	27	39
	M10 x 1,25	52	76
	M12 x 1,5	89	130
	M14 x 1,5	145	215
	M16 x 1,5	225	330
	M18 x 1,5	340	485
	M20 x 1,5	475	680
	M22 x 1,5	630	900
	M24 x 2	800	1150
	M27 x 2	1150	1650
M30 x 2	1650	2350	

(friction factor  $\mu = 0,14$ )

## 16. Warranty conditions

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 warranty.

### What is a warranty?

At ELIET, the design and production of our products are subject to strict quality rules. 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:

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

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 do not 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.

- Parts that are subject to wear and tear (e.g. blades, bearings, belts, chains, cogs, tyres, bulbs, fuses, etc.) are not covered by the warranty conditions.
- Defects caused by improper use, neglect or consequential damage by an external source (fall, chippings, objects, accident).
- Defects caused by improper maintenance of the machine, i.e. contrary to the prescribed periodic maintenance.
- Defects caused by improper repairs carried out by parties other than authorised ELIET dealers or after using non-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.

- In no event shall Eliet be liable for incidental or consequential damages (including but not limited to liability for loss of profits) arising from the sale or use of this product.

### III. Procedure

- **Step 1:** On the date of purchase, the customer registers his/her purchase online by completing the registration card on **www.eliet.eu**. In addition, the enclosed registration card must be completed 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, the customer must have it verified by the authorised ELIET dealer. If the dealer finds a manufacturing defect, they may invoke the warranty under the terms specified.
- **Step 3:** Every warranty application must be accompanied by a completed official application form. Dealers may request application forms from ELIET or from an ELIET importer/agent.
- **Step 4:** The dealer orders the parts necessary to perform the repairs. Next, the dealer faxes the order form together with the completed warranty form and a copy of the registration card to ELIET.
- **Step 5:** The warranty form must be stapled to the purchase invoice and sent to ELIET or an ELIET importer/agent.
- **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 unilaterally decide whether or not the customer has complied with all the conditions applicable to the one or two-year warranty. Faulty components automatically become the property of ELIET.
- **Step 8:** If a warranty claim is found to be valid, ELIET will credit the parts under warranty. Customers are never entitled to a refund of labour costs.

### IV. In the event of damage caused by transport:

- All goods are supplied ex works. Transport risks shall be borne by the customer. ELIET therefore recommends checking the goods for damage on delivery.
- Any damage found must be detailed on the BOL 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 BOL, the transport insurance company will not accept any liability.
- Claims for damages must be submitted to the carrier and shall include a copy of the BOL and a covering letter detailing 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

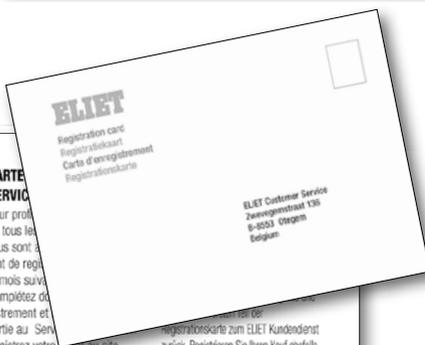
To be able to claim the full rights to which you are entitled, it is important to register within a month after the date of purchase. Therefore fill out this registration form and return the first registrationcard to the ELIET Customer Service. Your purchase should be registered on the ELIET website: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

### CARTE SERVICE

Pour profiter de tous les avantages à vous sont accordés, il est important de vous inscrire dans le mois suivant l'achat. Complétez ce formulaire et renvoyez la première partie au Service Client ELIET. Votre achat doit être enregistré sur le site Internet ELIET: [www.eliel.be](http://www.eliel.be)



ELIET Customer Service  
Zwavelengestreekt 135  
9-3053 Oostrem  
België

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

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

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

Model / Model / Modèle / Modell		Year of manufacture / Boortjaar / 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 gebruiksaanwijzing te hebben gelezen en begrepen.  
Je déclare que tous les données complètes 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 / Hoveniersbedrijf / Usage Professionnel / Gewerbliche Nutzung  
 Forestry / Bosbouw / Forêt / Forstbetrieb  
 Public Greenscape / 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.**

