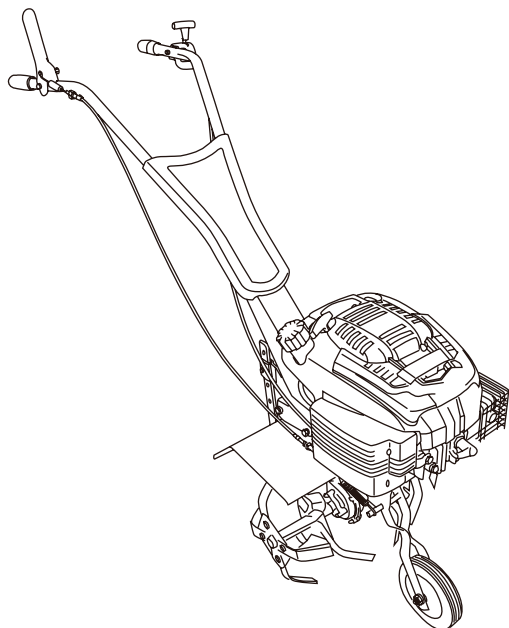


# 149.3CC PETROL TILLER HST-1003A



**Warning:** Read this instruction manual carefully before using the product.

## CAUTION

IMPORTANT! These instructions contain important information that will help you get the best from your petrol tiller, ensuring it is assembled correctly and safely.

If you need help or have damaged or missing parts, call the Customer

Helpline: 0844 856 0793  
Email: [support@coreservice.co.uk](mailto:support@coreservice.co.uk)  
Website: [www.coreservice.co.uk](http://www.coreservice.co.uk)



# 149.3CC PETROL TILLER

General Safety Instructions

Intended Use

Assembly and Parts List

Operation

Technical Data

Maintenance

Troubleshooting

Guarantee

CE-Description

# General Safety Instructions

## General Safety

Keep this assembly manual in a safe place for future reference.

Always ensure anyone intending to operate this petrol tiller is fully conversant with the content of this assembly manual prior to assembling, maintaining or operating the petrol tiller.

Perform assembly operations described in this manual .Failure to observe this warning may lead to serious injury, death, or damage to the petrol tiller.

Always take care when removing the packaging to prevent damage to you or to the petrol tiller.

Before assembling the petrol tiller, check all the parts indicated in the manual are in the box. Inspect all the parts for signs of damage. Do not assemble the petrol tiller if you observe any damaged components.

## Personal Safety

Only operate the petrol tiller if you are wearing the correct Personal Protective Equipment (PPE)as described in the following warnings.

Always wear suitable gloves when operating petrol tiller to protect your hands from flying debris and/or sharp objects.

## Training

Read the instruction carefully. Be familiar with the controls and proper use of the equipment. Never allow children or people unfamiliar with these instructions to use the machine. Local regulations can restrict the age of the operator.

Never work while people, especially children, or pets are nearby.

keep in mind that the operator or user is responsible for accidents or hazards occurring to other people or their property.

## Preparation

While working, always wear substantial footwear and long trousers. Do not operate the equipment when barefoot or wearing open sandals.

Wear suitable eye and ear protection, thoroughly inspect the area where the equipment is to be used and removed all objects which can be thrown by the machine.

WARNING-Petrol is highly flammable:

- store fuel in containers specifically designed for this purpose;
- refuel outdoors only and do not smoke while refueling;
- add fuel before starting the engine. Never remove the cap of fuel tank or add petrol while the

- engine is running or when the engine is hot;
- if petrol is spilled, do not attempt to start the engine but move the machine away from the area of spillage and avoid creating any source of ignition until petrol vapours have dissipated;
- replace all fuel tank and container caps securely.

Replace faulty silencers;

Before using, always visually inspect to see that the tools are not worn or damaged. Replace worn or damaged elements and bolts in sets to preserve balance.

### **Operation**

Do not operate the engine in a confined space where dangerous carbon monoxide fumes can collect. Work only in daylight or in good artificial light.

Always be sure of your footing in slopes.

Walk, never run with the machine.

For wheeled rotary machines, work across the slope, never up and down.

Exercise extreme caution when changing direction on slopes.

Do not work on excessively steep slopes.

Use extreme caution when reversing or pulling the machine towards you.

Do not change the engine governor setting or over speed the engine.

Start the engine carefully according to manufacturer's instructions and with feet well away from the tool(s).

Do not put hands or feet near or under rotating parts.

Never pick up or carry a machine while the engine is running

Stop the engine:

- whenever you leave the machine
- before refueling

Reduce the throttle setting during engine shut down and, if the engine is provided with a shut-off valve, turn the fuel off at the conclusion of working.

### **Maintenance and storage**

Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.

Never store the equipment with petrol in the tank inside a building where fumes can reach an open flame or spark.

Allow the engine to cool before storing in any enclosure.

To reduce the fire hazard, keep the engine, silencer, battery compartment and petrol storage area free of vegetative material and excessive grease.

Replace worn or damaged parts for safety.

If the fuel tank has to be drained, this should be done outdoors.

## SPECIAL SAFETY INSTRUCTIONS

While working, always wear substantial footwear and long trousers. Don't operate the equipment when barefoot or wearing open sandals.

Thoroughly inspect the area where the equipment is to be used and remove all objects which can be thrown by machine.

Before using, always visually inspect to see that the tools are not worn or damaged. Replace worn or damaged tines and bolts in sets to preserve balance.

The engine shall be stopped when carrying out maintenance and cleaning operations, when changing tools and when being transported by means other than under its own power.

The hazards may arise when working on slopes.

Some special hazards may arise when working on difficult soil (stony, hard, etc.)

The machine should only be operated by suitably trained persons.

During the operation of the machine, safety shoes should be worn.

In order to reduce hazards due to vibration limit the time of operation and wear personal protection equipment

### Warning Symbols

Symbols are used in this manual to attract your attention to possible risks. The safety symbols and the explanations which accompany them must be perfectly understood. The warning themselves do not prevent the risks and can not be a substitute for proper methods of avoiding accidents.



Before any use, refer to the corresponding paragraph in the present manual.



This symbol, before a safety comment, indicates a precaution, a warning or a danger. Ignoring this warning can lead to an accident for yourself or for others. To limit the risk of injury, fire, or electrocution always apply the recommendations indicated.



Conforms to European standards.



Danger of injury from flying parts!



Always maintain a sufficiently safe distance.



Danger of injury from rotating parts!



Remove the ignition cable before all maintenance work, and read the instructions for use.



Take care when handling fuel and lubricants!



Wear hearing protection and eye protection when using the device.



Wear robust footwear when using the device.



Wear protective gloves when using the device.



Wear eye and ear protection.

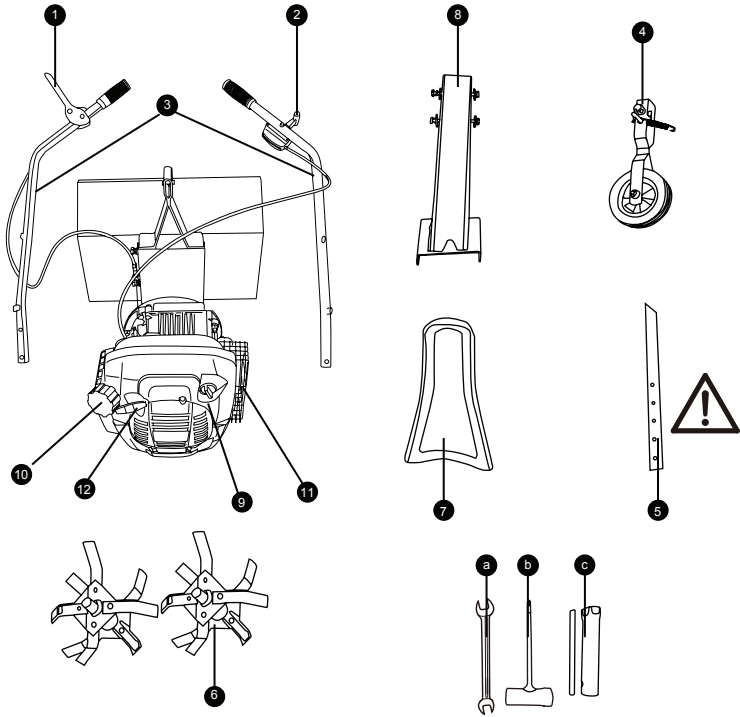
## Intended Use

1. The product must not be used in areas where there is health damaging dust or as a wet suction/blowing device.
2. This product is intended for use by adults. Young people over the age of 16 may only use the device when supervised. The use of the product in the rain or in a humid environment is not permitted.
3. For safety reasons it is essential to read the entire instruction manual before first operation and to observe all the instructions therein.
4. This product is intended for private use only, not for any commercial applications. It may not be used for any purposes other than those described.

# Assembly and Parts List

## In the box

- |                        |                       |
|------------------------|-----------------------|
| 1. Clutch lever        | 7. Faceplate          |
| 2. Throttle lever      | 8. Handle bar support |
| 3. Handle              | 9. Engine             |
| 4. Front support wheel | 10. Tank cap          |
| 5. Draw bar            | 11. Muffler           |
| 6. Tiller assembly     | 12. Pull starter      |



## Tools

- a. Hexagonal spanner
- b. Spark plug spanner
- c. Spanner & screwdriver

## Assembly



**WARNING!** Always take care when removing the packaging to prevent damage to you or to the petrol tiller.



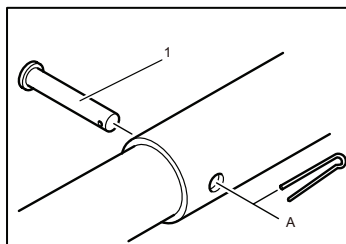
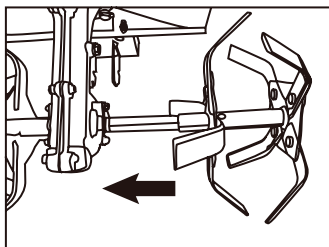
**IMPORTANT!** Before assembling the petrol tiller, check all the parts indicated in the manual are in the box. Inspect all the parts for signs of damage. Do not assemble the petrol tiller if you observe any damaged components.

1. Remove all parts of the petrol tiller from the box and carefully remove all packaging. Take care not to lose any instructions which may be affixed to the parts. These provide important information which will be required while assembling the petrol tiller.
2. Keep all packaging until the petrol tiller is fully assembled and has been operated successfully.



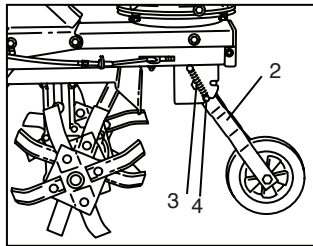
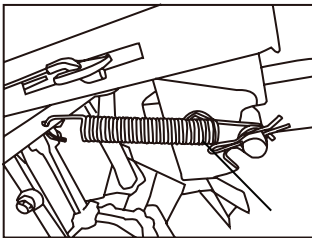
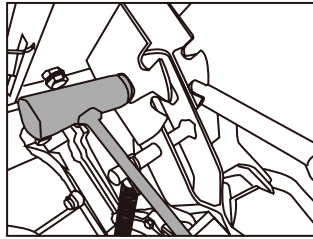
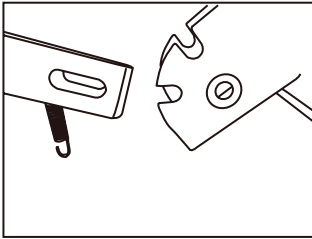
**NOTE!** Always recycle the packaging in accordance with local recycling schemes.

## Assemble instruction



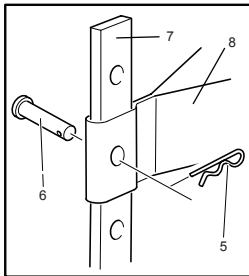
### Step 1 Fitting the tiller assembly

- Put the device on the ground. Fit the tiller assembly over the axle.
- Tighten the split pin (A).



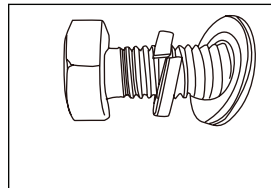
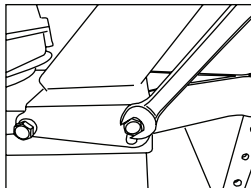
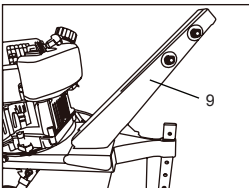
### Step 2 Fitting the front wheel

- Screw the front wheel unit (2) to the machine with the hexagonal bolt and nut (3) as shown.
- Pull the front wheel from its rest position. Attach the tension spring (4).



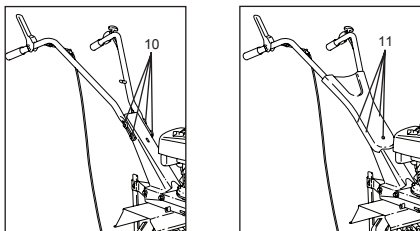
### Step 3 Fitting the draw bar

- Pull out the securing splint (5) and the pin (6).
- Insert the draw bar (7) into the main plate (8).
- Insert the pin and secure it with the securing splint (5).



#### Step 4 Fitting the handle bar support

- Hold the handle bar support on the frame.
- Tighten four hexagonal bolts with washers.



#### Step 5 Fitting the steering handles

- Hold both steering shafts at the side of the device, and insert two hexagonal bolts with washers (10) into each.
- Tighten the hexagonal bolts.
- Fit the steering cover on and screw it on tightly with four tapping screws (11).

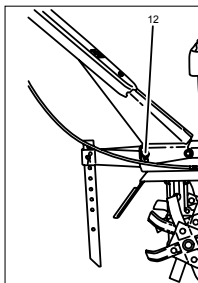
### Operation

#### Prepare to Operate





##### Step 1. Steering handles

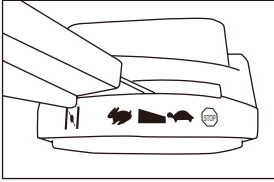
Adjust steering handle height

- Loosen bolts (12).
- Set the desired steering handle height.
- Tighten the bolts again.





#### Throttle handle

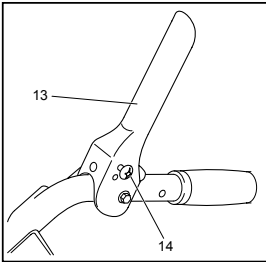
- Throttle handle in position  = motor stopped;
- Throttle handle in position  = minimum rotational speed;
- Throttle handle in position  = maximum rotational speed;
- Throttle handle in position  = choke (setting for cold start).



**Clutch handle**

- Clutch handle is pulled out (position  ) = tiller assembly turns;
- Clutch handle is released ( position  ) = device is running in neutral.

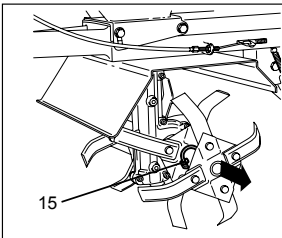
The handlebar (13) is secured with a lock trigger (14). Before the operation the handlebar must be released.



**Tiller assembly**

Removing tiller assembly:

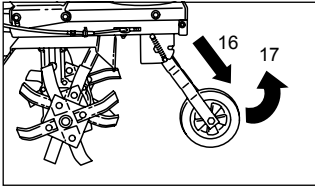
- Loosen and remove the spring pin (15).
- Remove the implement from the axle.



**Front support wheel**

The front support wheel makes it easier to move the device. When rotating , it must be folded upwards.

- Pull the front support wheel from its rest position (16).
- Fold the front support wheel upwards and let it engage (17).

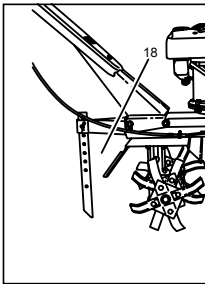


### Draw bar

The device's forward motion is braked by means of the draw bar. The desired rotovating depth is achieved by pushing the draw bar into the soil at different levels. Setting the draw bar:

- Pull out the spring pin (18) and pin.
- Set the draw bar to the desired height.
- Insert the pin again and secure it with the spring pin.

### Step 2 Filling with fuel



#### **Danger of injury!**

Fuel is explosive!

- Turn off and cool the motor down before filling the tank with fuel.
- You must observe all safety instructions relating to handling fuel.

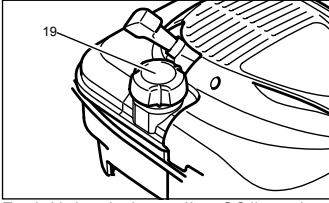


#### **Risk of device damage!**

The device is supplied without motor oil.

Before operating, you must fill it with motor oil.

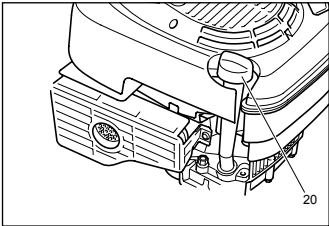
- Unscrew the tank cap (19) and remove it.
- Pour in the fuel carefully. Avoid spilling!
- Check the seal inside the tank cap for damage and replace it if necessary. Replace a damaged seal immediately!
- Screw the tank cap on firmly by hand.



Fuel: Unleaded gasoline 90# or above

### Step 3 Filling with engine oil

- Unscrew the motor oil filling bolt (20) and remove it.
- Carefully pour in motor oil (approx.600 ml). Avoid spilling!
- Tighten the motor oil filling bolt again by hand.



Engine oil: SAE 10W-30 grade

Note The appliance is supplied without engine oil. Fill engine oil before commissioning without fail.

## Operating the petrol tiller

### Step 1 Check before use



#### **Danger of injury!**

Do not operate the device unless you did not find any faults. If a part has become defective, make sure to replace it before you use the device again.

Check the safe condition of the device:

- Check the device for leaks.
- Check the device for visual defects.
- Check that all parts of the device have been securely fitted.
- Check that all safety devices are in proper condition.

### Step 2 Starting the engine





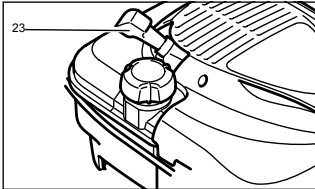
#### **Risk of device damage!**

The lifetime and operating safety of the motor is highly dependant on the running-in time. Always allow a cold motor to idle for a few minutes to warm up, and do not use it at full power straight away.

For the first 20 hours of operation (running-in period), do not push the motor to the

limit of its capabilities.

- If the engine is cold, set the throttle to .
- If the engine is warm, set the throttle to .
- Slowly pull out the pull starter (23) until the starter engages, and then pull firmly.
- Once the motor has started, set the desired motor speed using the throttle.



**Note:**

Pull the pull starter out no more than 50 cm, and slowly guide it back using your hand.

**Stopping the engine**

- Set the throttle to .



**Danger of injury!**

Always switch the device off, even when taking a short break.

**Step 3 Rotovating**



**Danger of injury!**

Before starting work, always check the ground and remove all objects which could be thrown by the device.



**Danger of injury!**

Never release the steering handles while working.



**Danger of injury!**

On downhill slopes, there is a danger of slipping away, so the device should be held back by an assistant using a rod or a rope. The assistant must be uphill of the device at a sufficient distance from the rotovator. Wherever possible, work across the slope!

- Fold the front support wheel upwards.
- Set the desired rotovating depth by adjusting the draw bar.

**Note:**

That the adjustable part of the protective device shall be adjusted to the working depth of the tool so that only that part of the working tool that cuts into the soil remains uncovered.

- Start the motor.
- Pull up the clutch handle, and keep it pulled up.
- Use the throttle to set the desired rotational speed for the rotovator.

**Danger of injury!**

Do not clean the rotovator implement when the motor is running. Stop the motor and detach the ignition cable. Remove jammed objects only by means of an implement, e. g. with a wooden stick.

**Risk of device damage!**

Do not move the device over concrete, asphalt floors etc while the rotovating implement is turning. Stop the motor and use the front support wheel.

## Technical data

Model	HST-1003A
Maximum motor output	2.1 kW
Engine	4-stroke petrol motor
Displacement	149.3 cm <sup>3</sup>
Max. Engine rotation speed	3100 min <sup>-1</sup>
Engine oil capacity	600ml
Tank capacity	800ml
Transmission ratio	1:37.5
Working width	400mm
Tine rotating diameter	270mm
Net weight (including engine)	29.5 kg
Fuel	Unleaded gasoline 90# or above
Engine oil	SAE 10W-30
Gear box oil	SAE 85W-90
Sound level	LWA=89.8 dB(A), LPA=76.1dB(A),K=1.5 dB(A)
Vibration	5.83 m/s <sup>2</sup> K=1.5 m/s <sup>2</sup>
Spark plug	RJ19LM

## Maintenance and repair

### Cleaning and maintenance overview

Prior to every start

Clean the air filter

Check the pull starter for damage to the cord. ( Visual inspection )

Check the motor oil level

Check threaded connections for tightness

Every 40 operating hours or every 4 months

Clean/replace the spark plug

Change gear/motor oil

### Cleaning the device

Wipe the device with a soft damp cloth.

### Cleaning the air filter



#### **Risk of device damage!**

Never operate the device without the air filter. otherwise damage to the motor may occur.

- Remove the air filter housing.
- Saturate the air filter with a few drops of oil.
- Install the air filter and replace the air filter housing.

### Cleaning/replacing the spark plug

- Pull off the ignition cable plug.
- Unscrew the spark plug.
- Check the electrode for discoloration. Standard color: light brown
- Check the electrode separation.

Correct separation: 0.7mm to 0.8mm

### Cleaning the spark plug

- Remove soot deposits from the electrode with a wire brush.

### Replacing the spark plug

- Insert the cleaned or new spark plug and screw it in hand-tight.
- After screwing it in hand-tight, use the spark plug spanner to tighten the spark plug (no more than a quarter turn, as you may otherwise damage the thread).
- Replace the ignition cable plug firmly back onto the spark plug.

**Risk of device damage!**

Screw in the spark plug only when the motor is cold.

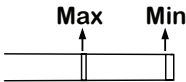
**Risk of device damage!**

When cleaning the spark plug, use only a wire brush with brass bristles. Bristles made from other materials damage the electrode!

## Replace worn or damaged parts for safety

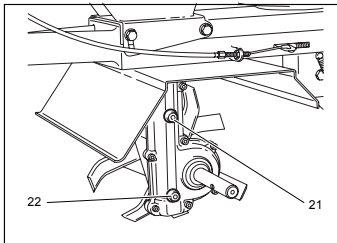
### Checking the engine oil level

- Unscrew the engine oil filling bolt and remove it.
- Read off the oil level on the dipstick which forms the lower part of the motor oil filling bolt. The oil level must be between MIN and MAX.



### Adding gearbox oil

- Removing tiller assembly.
- Unscrew the gearbox oil filling bolt (21) with the Allen key provided, and remove it.
- Carefully pour in gearbox oil (approx. 200 ml). Avoid spilling!
- Retighten the gearbox oil filling bolt.



**Note:** The gearbox is delivered correctly filled. Please fill gear oil after repaired.

### Draining gearbox oil

- Hold a collection container beneath the gearbox oil drain bolt (22).
- Unscrew the gearbox oil filling bolt (21) and the gearbox oil drain bolt with the Allen key provided, and remove them.
- Allow the gearbox oil to run out completely.

## **Store**

- Never store the equipment with gas in the tank, inside a building where fumes can reach an open flame or spark.
- Allow the engine to cool before storing in any enclosure.
- To reduce the fire hazard, keep the storage area clean.
- If the fuel tank has to be drained, this should be done outdoors.

## Troubleshooting





### In the event of a malfunction.



#### Danger of injury!

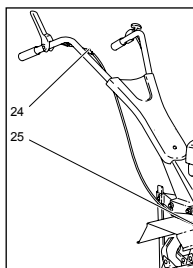
Improperly conducted repairs may prevent your device from working safely. Such repairs will endanger you and your surroundings.

Minor faults are often sufficient to cause a malfunction. In most cases, you will be able to correct these faults easily. Please start by referring to the following table before contacting our technical support. This will help you save much effort and possibly expense.

Fault/malfunction	Cause	Remedy
Engine will not start	Is the tank empty?	Filling with fuel
	If the engine is cold, is the throttle set to  ?	If the engine is cold, set the throttle to 
	If the engine is warm, is the throttle set to  ?	If the engine is warm, set the throttle to  ?
	Ignition cable plug not firmly attached?	Push the plug on tightly.
	Is the ignition cable plug dirty?	Clean the plug.
	Is there excess fuel inside the combustion chamber?	Remove the spark plug, dry off the electrode, and start at full throttle.
	Spark plug dirty?	Clean the spark plug
	The distance between the electrodes of the spark plug is too large	Set the gap to 0.7 to 0.8 mm.
	Wrong fuel?	Drain the tank and fill it with the correct fuel.
Engine will not reach its maximum speed	Spark plug defective?	Replace the spark plug
	Air filter dirty?	Cleaning the air filter
	Spark plug dirty?	Clean the spark plug
	Is the electrode separation of the spark plug too large?	Set the gap to 0.7 to 0.8 mm.
Clutch does not release	Wrong fuel?	Drain the tank and fill with the correct fuel
	Incorrect clutch setting?	Adjusting the clutch

## Adjusting the clutch

- Set the adjustment screws on the clutch handle (24) and on the device (25).



When the clutch handle is released, the cable must be fully loose; when the clutch handle is pulled right out, the cable must be drawn far enough that the spring on the clutch handle begins to be extended.

If you are unable to correct a fault yourself, please contact our technical support directly. Please note that improperly conducted repairs will void your rights under warranty and may cause you additional expenses.

## Guarantee

Thank you for purchasing a RYNO garden tool. In the unlikely event that your product develops a fault, please contact our team of technical experts at Core Service, the after-sales department, on 0844 856 0793 who will aim to resolve any faults over the phone for you.

This product is guaranteed for 1 year from the original date of purchase; the guarantee applies to material and manufacturing defects. These guarantee terms cover additional guarantee rights and do not affect your statutory rights. If the defect is covered by our guarantee your product will either be refunded in full, or replaced.

Guarantee claims should be submitted within the 12 month guarantee period after which no claims will be accepted.

Please note that our products are for DIY use only and are not designed for use in commercial, trade or industrial applications. Consequently, the guarantee is invalidated if the equipment is used in commercial, trade or industrial applications or for other equivalent activities. This product must be used in accordance with the instructions contained in this manual. The guarantee will be rendered invalid if the product has been damaged by unauthorised repairs or resold.

The following are also excluded from the guarantee:

- A) Faults due to accidents, customer misuse, or unauthorized repairs
- B) Consumable parts and accessories such as harness and debris collection bag
- C) Failure due to lack of routine maintenance
- D) Failure as a result of not using the equipment in accordance with the manual and safety instructions
- E) The adjustment of cables, drive belts or recoil starters

Please keep your proof of purchase in a safe place; this warranty is not valid without the original dated proof of purchase.

Core Service

Technical helpline: 0844 856 0793

Email: [support@coreservice.co.uk](mailto:support@coreservice.co.uk)

Website: [www.coreservice.co.uk](http://www.coreservice.co.uk)

## EC Declaration of Conformity

**Company** CDS (Superstores International) Limited  
**Address** Tamar House,  
Thornbury Road,  
Estover,  
Plymouth  
PL6 7PT  
**Product** Gasoline powered motor tiller  
**Model Number** Ryno 762252 H ST -1003A

We hereby declare the above product complies with the essential health and safety requirements of the following directives:

**2004/108/EC ---- Electromagnetic Compatibility Directive**

**2006/42/EC ---- Machinery Directive**

**2000/14/EC and 2005/88/EC -- Noise Emission in the Environment by Equipment for use Outdoors Directive**

**97/68/EC AS AMENDED BY 2004/26 /EC ---- Emission Directive**

Engine: 4 Stroke, air cooled 149.3cc  
Motor Power: Max Power 2.10kW/3600rpm  
Fuel Tank: 800ml  
Tilling Width: 400mm  
Mass in KG – 29.5kg, 3100/min  
Vibration: 5.83m/s<sup>2</sup>

The motorised soil tiller meets the provisions and complies with the standards and technical specifications of:

EN 709:1997+A4:09  
EN ISO 14982:2009

Measured sound power level 90.6 dB (A)

Guaranteed sound power level 93 dB (A)

Conformity assessment method to Annex VI of 2000/14/EC

The technical documentation for the machinery is available from:

**Name:** Tim Davies  
**Address:** Tamar House, Thornbury Road, Estover, Plymouth PL6 7PT

Authorized Signatory;  
**Name:** Tim D Davies



**Position:** Technical Manager

**Date:** 2013-01-06

**Location:** Plymouth

**CDS (Superstores International) Limited**

