



## Operators instruction Manual

### WKB 50

**Weedbrush Attachment**  
With Mechanical PTO drive.



UK 

From Serial Number

Rev.: 0

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**Part Number B00230**

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**1.0 Forward**

Dear Sir, Madam,

Thank you for purchasing a quality product the company Kersten.  
This product is designed and produced using the most modern manufacturing techniques and extensive quality assurance measures.  
It is only when you are satisfied with your product that our goal is achieved.  
Before the first use of this machine or attachment, please read this manual fully and conscientiously. Please ensure all operators of this machine and any attachments also read this information.  
Keep this document handy for future reference. By referring to this manual you can then operate this machine safely and effectively.

We wish you every success with your Kersten Machine.

A handwritten signature in black ink, appearing to read 'Kersten', written in a cursive style.

Georg Kersten

Geschäftsführung

## About this manual

### 2.0 About this manual

#### 2.1 Product Identification

Always quote model number and serial number when ordering spare parts. The identification plate may be found on the main chassis of all machines.

#### 2.2 Before operating

Before you start the engine or attempt to attach or operate any machine, we ask that you urgently to make yourself familiar with the manual and the operation of the machine.

If you are in any doubt over any operation or require further details, you should contact the supplier, importer or manufacturer of this product.

It is mandatory that all users of this product are familiar with this manual and the product.

You should first make yourself familiar with the machine at a slow speed and on a flat, even surface.



- **This symbol indicates important safety information!**
- **Read all safety references on the following pages!**
- **Read the operating instructions before attaching or start-up!**
- **Use this manual in conjunction with the power unit manual if applicable!**
- **Pass all safety instructions onto other users!**

### 2.3 Notes on using this manual

All points to be considered are indicated as follows:

- Text
- Text
- Text

Procedural instructions are indicated as follows:

1. Text
2. Text
3. Text

The machines described in this manual are subject continual to technical proress. All information/pictures and technical data in this manual correspond to the latest specifications at the time of publication. The manufacturers reserve the right to make alterations at any time.

## Health and Safety

### 3.0 Health and safety

It is important to note that not all possibilities can be covered within this manual. The manual assumes that the operator has a general awareness for Health and Safety to have been appointed an operator in the first place.

This machine has been designed, so far as is reasonably practical, so that it will not endanger the safety of the operator or anyone else if the machine is used and maintained according to the instructions stated in this manual which have been compiled following research and experience of the manufacturers.

In order to minimise the risk of accidents please consider the following information.

#### 3.1 Intended use



- The machine is exclusively intended for professional employment in the management of land, forestry, amenity and landscape conservation and for sole use with designated attachments. (Also see individual attachment instructions.)
- Use going beyond that described is not considered as intended. Therefore the manufacturer is not responsible for any resulting damage or harm and the operator alone is responsible for the risk.
- Compliance with and adherence to the operating, maintenance and repair as prescribed by the manufacturer in this manual must be considered essential elements of intended use.
- The machine may only be operated, repaired and serviced by persons familiar with the machine, this manual and all relevant safety features and dangers.
- The relevant rules for the prevention of accidents as well as other safety relevant rules according to the health and safety at work act must be considered as part of the operating procedure.
- The manufacturer is not liable for any accidents or damage resulting from modifications or alterations carried out on the machine without the express written permission of the manufacturer.

#### 3.2 General health and safety and accident prevention advice

##### 3.2.1 General Principles



- Follow general operating instructions and all additional health and safety regulations!
- This machine should not be operated by any person under the age of 16, not even under adult supervision. Minors must not be allowed to play with the machine.
- This machine may be subject to regulations when used on the public highway.

## Health and Safety

- Before starting operating this machine you should be familiar with all controls and their functions. Familiarization should not be carried out during operation. It is too late!
- Beware of rotating parts—keep safe distance.
- Beware of trailing machines and machines with inertia. Ensure they stop completely before making any adjustments.
- Standing in the danger area of the machine is forbidden!
- Operators are advised to wear suitable clothing that is close fitting with stout footwear— safety boots. Loose fitted clothes or casual footwear increase risk of accident.
- Do not leave the engine running in an enclosed area.
- Keep machine clean to reduce the risk of fire
- Be aware that the handling, steering and braking ability of power units machine may be affected by different attachments, when loading/unloading and when using on gradients.
- Do not change manufacturers fast idle speed. Too high speed in creases the risk of accidents.
- Unauthorized alterations, which compromise the reliability of the machine are prohibited!
- Always inspect the machine prior to use.

### 3.2.2 Safe working area and hazard area



- The operator is responsible for operating the unit in the work area.
- The operator is responsible for third parties in the work area.
- Third parties must not be in the working area.
- Look out for any children or animals close to the work area. Ensure you have adequate visibility.
- Prior to starting work survey the area for objects that could cause a hazard and remove them.
- When operating in confined areas always allow sufficient safety margin against border to avoid damage to the machine.
- Avoid crossing public thoroughfares with implement engaged to prevent the possibility of erroneous debris being ejected from the machine.
- When operating machinery in public areas or in the immediate vicinity, use suitable, prominent signage to draw the publics attention to the hazards of the working area.

### 3.2.3 Prior to commencing work



- Before attempting to operate the machine, please familiarise yourself with all the equipment, controls and their function. Ensure all safety devices are properly fitted and in the protective position.
- Learn how to stop and park to machine quickly and safely in the event of an emergency.

## Health and Safety

### 3.2.4 Starting the machine



- When starting the machine all drives must be in the disengaged/off position.
- Do not run engines indoors.
- Be aware of flammable fluids if jump starting cables are used. Avoid explosion!

### 3.2.5 Whilst operating the machine



- Never leave the operator console/position while driving.
- Never adjust the handlebar while engine is running
- Never leave the equipment unsupervised, when the engine is running.
- Never leave the machine whilst engine is running.
- Do not transport goods or passengers on the machine.
- Always switch off machine, let it come to rest and disable a machine before attempting to clear any type of blockage or making any adjustment.
- Only leave the operating position once the machines has come to a complete rest and is safely parked.
- If a fault with the machine is detected, stop immediately and rectify before further use.
- Consider carefully before attempting to operate any machine on any inclined slope.
- Where possible always traverse a slope, not up and down.
- Wet and icy weather can increase the hazard of operating any machine on a slope.
- Always equip the machines fully with any attachments the manufacturer may have designed to allow the machine to be operated in sloping, slippery, unusual or extreme conditions, e.g. dual wheels, cage wheels.
- The machines designed for operation on slopes will to come to a rest if you release the handlebars. In an emergency situation do not attempt to prevent slipping using your physical strength otherwise you may be carried away.

### 3.2.6 Leaving the machine unattended



- Close the fuel valve when machine is not in use (if present)
- Always chock the wheels or apply parking brake (where fitted), when leaving a machine.
- Always disable a machine when not in use but removing the ignition key or removing the spark plug lead.
- Try to minimise the possibility of unauthorised use.
- Never leave a machine before it has been switched off and come to a complete rest.



### 3.2.7 Wheels and tyres



- Before working on the wheels ensure the machine has been fully disabled.
- Always chock the wheels to prevent the machine from rolling.
- Regularly check wheel nuts for tightness and retighten if necessary.
- Repair work on tyres must be carried out by trained personnel using suitable assembly tools.
- Check tyre pressure regularly. With too much air pressure the tyres may explode!

### 3.2.8 Attaching and detaching implements and accessories



- Before attempting to attach or detach any implement, ensure the power unit and any PTO is disabled.
- Always use appropriate tools, gloves and other suitable safety clothing.
- When attaching and detaching implements always ensure that all parts of the equipment are stable and suitably supported at all times.
- Always apply the parking brake (where fitted) or use chocks to prevent machines from rolling away.
- Attachments are often heavy. Always plan in advance how to change the attachments using the easiest and safest method. This will reduce the possibility of injury.
- After attaching implements, ensure all pins are secured and safety devices are enabled and operational.
- After attaching implements, visually inspect the complete unit for any possible fouling areas in and out of work conditions.

## Health and Safety

### 3.2.9 Cleaning, maintenance and repair work



- The machine should be maintained according to the instructions contained within the manual.
- All controls, engine and functions must be cleaned regularly.
- Before attempting to clean or maintain any part of a machine, ensure the machine is stopped and has come to a rest and the power unit and any PTO is disabled.
- Always use appropriate tools, gloves and other suitable safety clothing.
- Damaged and worn parts must be replaced.
- Always use original spare parts from the manufacturer to be certain the technical requirements match the design of the machine thereby minimising the risk of accidents.
- The machines must be kept clean. It is advisable to use a high pressure washer to do so, however be careful to avoid direct water jets on bearings, seals, grease points, hubs, engine air intake, radiator and electrical items.
- After cleaning and maintenance ensure all safety devices are connected, adjusted and working.
- Always keep engine free from dust and debris to prevent a potential fire hazard.
- Regularly check all fixings such as nuts and bolts. Tighten where required.
- Repairs should be carried out by a specialist engineer
- If it is necessary to raise the machine to facilitate cleaning or maintenance, ensure that it is supported and secured.
- Hydraulic transmission systems are often found on these machines. The system can reach very high pressures and temperatures. Before working on the hydraulic system of any machine, ensure the system has been depressurised and left to cool. Pressurised liquids can penetrate the skin and cause serious injury. Wear suitable safety clothing. In case of accident, always seek medical advice.
- Inspect hydraulic hose lines at regular intervals for damage and ageing and replace if necessary.
- When working on electrical systems with a battery always disconnect the earth terminal from the battery.
- If welding on a machine that has a battery, always disconnect the battery first.
- It is not acceptable to carry out welding, drilling or cutting on structural items of the machine, axles or safety devices etc.

### 3.2.10 Engine, fuel and oil



- Before re-fuelling, turn the engine off, allow to cool down and take ignition keys out (if available).
- Always use appropriate tools, gloves and other suitable safety clothing.

## Health and Safety

- Whenever handling fuel there is an increased risk of fire. Never refill near a naked flame or sparks. Do not smoke!
- Oils, fuels and filters should be disposed of separately using a compliant method.
- Do not refuel in confined spaces.
- Always use the appropriate tools to refuel to avoid spillages. If a spillage occurs by accident, clean it up immediately.

### 3.2.11 Electrical system and battery



- When working on an electrical system with a battery, always disconnect the earth terminal from the battery.
- When connecting a battery always connect positive terminal before the negative terminal.
- Beware of battery gasses. They are explosive.
- Never allow sparks or open flames near a battery.
- Caution when handling battery and/or acid. Very Caustic! Wear eye protection and gloves in addition to any other suitable safety clothing.
- The positive terminal must always be protected by a complete battery cover or terminal cover to prevent accidental contact with negative or ground.
- Persons with cardiac pacemakers should be especially cautious whilst touching the electrical or engine ignition system. Serious injury could occur! Do not touch.

## Health and safety

### 3.3 Safety Decals

- This machine is equipped with warning symbols (safety decals).
- These decals indicate types and areas of endangerment and in particular the safety measure which should be taken.
- Always remain alert and conscious of the dangers the decals indicate on the machine, you are operating, presents to you and others.
- The decals must be maintained in good condition, they are important safety devices.

The following decals may be present on this machine:



Attention!

Before starting the operating instructions and read and follow safety instructions.

Attention!

Before repair, maintenance and cleaning work, always stop the engine and remove spark plug and or key.



There is a risk of injury.

Do not open or remove guards if machine is running.

There is a risk of injury.

Ensure all machine parts have been stopped and come to a complete rest before attempting to carry out inspection or maintenance.



There is a risk of injury from flying objects being ejected from the machine.

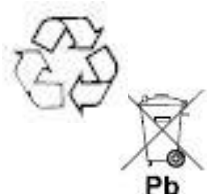
Always keep a safe distance from machine when it is in operation.



Refer to instruction manual for maintenance information.

Lubrication point

### 3.4 Special Instructions for lead-acid filled batteries



- Always wear eye protection.

- Keep the battery out of reach of children.

- Danger of Explosion - Charging batteries gives off explosive fumes.

- Avoid smoking, fire, sparks.
- Avoid short circuit.
- Sparks can occur when handling cables and electronic devices.

#### Burns

- Battery acid is highly corrosive.
- Always wear hand and eye protection.
- Do not tilt the battery as acid can leak out of the vents.

#### First Aid

- In the event of acid being splashed in your eyes, immediately rinse with clean water for several minutes and then immediately seek medical attention.
- In the event of acid being splashed on skin or clothing immediately rinse with clean water for several minutes.
- In the event of acid being swallow seek professional medical attention immediately.

#### Warnings

- Keep unprotected batteries out of direct sun light.
- Keep discharged batteries in a frost free place.

#### Disposal

- Take waste materials to a recycling point .
- During trans port always observe all instructions.
- Never dispose of batteries in the household waste stream.

## **Health and Safety**

### **3.5 Instructions for starter batteries**

#### **3.51 Removal and replacement of the battery**

- Turn off all devices powered by the battery
- Avoid the possibility of short circuit caused by tools
- Always remove the negative terminal (-) first followed by the positive terminal (+).
- Battery terminals and battery terminal clamps should be cleaned and treated with acid-free grease.
- Before re-installing the battery, clean battery compartment and securing device.
- When installing ensure battery is secured in its compartment. Attach battery leads, positive (+) first and then negative (-).
- Check terminals for tightness.

#### **3.52 External charging**

- Read and follow battery charger manufacturers instructions.
- Before charging, check the electrolyte level and compensate if required.
- Disconnect battery as above and remove from vehicle.
- Provide adequate ventilation.
- Use suitable DC charger.
- Connect charger correctly. Positive contact on the charger (+) should be connected to positive terminal on the battery. The negative contact of the charger should be connected to the negative terminal .
- Only switch on the charger when all the above instructions have been completed.
- Charging current should be at 1/10Ah of the battery capacity.
- If, during charging, the temperature of the electrolyte exceeds 55 degrees centigrade interrupt the charging.
- Battery is fully charged when charging voltage does not increase for 2 hours.

#### **3.53 Maintenance**

- Keep the battery clean and dry
- Do not use flammable agents
- Do not open battery
- In the case of insufficient starting power, charge the battery.

### 3.54 Jump Starting

- Only use standard jumper cables and follow their instructions.
- Only use batteries or power supply of the same voltage.
- Ensure everything is switched off.
- Connect both positive terminals (+) of the vehicle and donor battery first with the red jumper cable followed by both negative terminals (-) with the black cable. Cables should be clamped on to the shiny surface of the terminals.
- When jump starting allow engine to turn for 15 seconds maximum.
- Disconnect cables in reverse order.

### 3.55 Storage

- Keep battery in a cool place
- When not in use disconnect the negative (-) battery connection.
- Check the battery regularly and recharge if necessary.

## Disposal and Warranty

### 4 Disposal

This device must be disposed of according to the regulation of the municipality or the country. All possible parts should be recycled and the remainder disposed of in a satisfactory manner.

The company Kersten Maschinenvertriebs GmbH or Kersten (UK) Ltd does not take responsibility of disposal.

### 5 Warranty

The manufacturer guarantees its products for 12 months from the date of delivery.

Parts characterised by faults in materials, mechanical and production processes will be replaced free of charge by the manufacturer through its sales and technical servicing network.

The fault found must be reported to manufacturer and, should the circumstances require, be appropriately documented with a written technical report and/or photographic material.

The faulty part must be returned to the manufacturer who, after inspecting it and verifying that the warranty is applicable, will repair or replace it, taking the necessary time to do so, without charging for either material or labour.

The cost of transport of the parts covered by warranty shall be borne by the customer, who may organise it personally or authorise the manufacturer to take care of transport and charge all expenses to the customer.

The warranty shall be voided in the following cases:

- Obvious absence of maintenance
- Improper use of equipment or interference
- Use of non-original spare parts or unsuitable lubricants
- Operations carried out by unauthorised personnel
- The manufacturer excludes consumable materials and parts subject to normal wear and tear from the warranty.
- Any damages caused during transport must be reported immediately to the transporter; otherwise the warranty shall be voided.
- The warranty does not cover direct or indirect damages caused to persons or objects by failure of equipment or due to enforced prolonged suspension of its use.
- When applying for repairs under warranty, please indicate:
  - 1-serial and model number of the equipment
  - 2-registration number
  - 3-date of purchase
  - 4-dealer name

**IMPORTANT!** Please complete the warranty registration form enclosed and send it to address below within 14 days.

**Kersten (UK) Ltd, The Byre, Goodboys Lane, Mortimer  
Reading RG7 3AH or [info@kersten-machines.com](mailto:info@kersten-machines.com)**



### 6 Recommendations

#### 6.1 Lubricants

For engine and transmission lubricants please see "technical specification section" of this manual and separate engine manufacturers instruction manual.

For "open" or nipple lubrication points, we recommend a bio-degradable manufactured from organic compounds. We recommend the use of bio-lubricants where possible.

By using bio-lubricants you act properly to protect the environment, promote the health of humans, animals and plants.

#### 6.2 Fuels

Engines manufactured by Honda and Briggs and Stratton are able to run on unleaded or premium unleaded petrol. Do not mix oil with the petrol.

Do not store unleaded fuel for more than 30 days. If a machine is going to be unused for more than 30 days, it should be drained of fuel to prevent a build up of resinous residue in the tank, fuel lines, filter and carburetor or a fuel stabilizer may be added to the fuel—see manufacturers instructions.

#### 6.3 Maintenance and repair

Your dealer has trained mechanics who have the necessary training, skills and tools to perform maintenance and repairs on this equipment.

Only personnel with similar appropriate training and equipment should be allowed to carry out repairs and maintenance of this product.

## Operating the machine

### 8 Assembly

#### 8.1 Connecting Attachments

The versatile power unit is designed to operate several different attachments. These may usually be changed quickly without the use of tools.

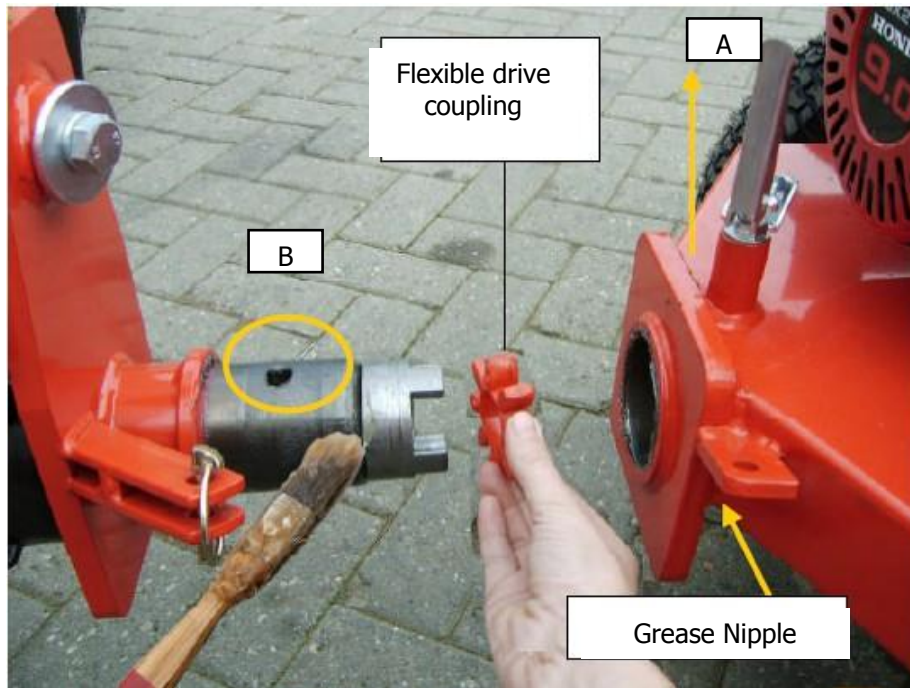


Fig 1

Ensure the steel parts of the connection on the power unit and implement are free from dirt and rust.

Lightly lubricate the connections with grease.

Lift and rotate the locking pin backwards on the power unit (A fig.1) until it locks in the disengaged position.

Ensure the flexible drive coupling (fig.1) is located in the implement coupling jaw.

Slide the attachment in to the power unit. Sometimes the PTO drive teeth are stubborn to engage. Manual rotating adjustment may be required to line up the flexible coupling as the two parts are pushed together.

When the two parts are fully engaged it will be possible to release the locking pin (A fig.1) which will locate in to slot B.

There is a grease lubrication point under the chassis (fig.1)

Some attachments have a secondary locking device to prevent the unit from rotating which is secured by a spring locking pin.

Remove the attachment by reversing the above directions



## Maintenance

### 9 Maintenance

It is now assumed all of the information in the previous section has been read and understood and is used in conjunction with the following information. If this is not the case, do it now.

#### 9.1 General maintenance instructions

- To prevent injuries to people or damage to machines thoroughly check all safety relevant parts before use.
- Change oils and check levels to the respective engine manufacturers instructions
- Ensure all hydraulic coupling are connected and there are no leaks.
- Fluids escaping under high pressure (e.g. hydraulic oil and fuel) can cause serious injury! In the event of an accident, immediately seek medical advice.
- The hydraulic system on this machine has been filled with bio-degradable oil at time of manufacture.
- This machine should be regularly maintained.
- Waste oils, fuels and filters should be disposed of in their separate waste streams for recycling.
- If the machine is transported in any way other than its own power the engine must be switched off.
- Cleaning, repairs and maintenance should only be carried out when the machines is stopped. All guards and safety devices removed for during service should be replaced and checked for correct function.
- If the machines is transported by some other method than its own drive, then ensure the engine is switched off
- After the first 5 hours of operation check all nuts, bolts and other fixings for tightness.
- Regularly check all nuts, bolts and other fixings for tightness.
- Always disconnect the battery and alternator (where applicable) before carrying out any welding to the machine.
- Use only original parts from the manufacturer.
- All moving parts should be regularly lubricated with oil or grease or the appropriate material.
- Check all hydraulic fittings after the first 5 hours of operation and tighten if required. If tightening does not stop the leak then loosen the connection slightly, twist the connection forwards and backwards and re tighten.

### 9.2 Daily maintenance instructions

- Before use, check all safety devices, moving and wearing parts.
- Before use, check hydraulic oil level. Just unscrew the hydraulic oil filler cap and visually check the oil is just over the horizontal steel plate.
- Before use, check engine oil level and check the air filter is clean. (See separate engine manufacturers manual for further details).
- Before use and during use check the engine cooling air input guarding for debris that may prevent air from circulating freely around the engine. During continuous operation a clogged air system may cause the engine to over heat which may result in serious damage. Always stop the engine before cleaning.
- Clean air filter and housing.
- Do not spray water on to the engine. Clean with a brush and compressed air.
- Check the conditions of hydraulic hoses and connections.
- Check tyre pressures.
- Test run the machine before and after each use.

### 9.3 Every 20 hours maintenance instructions

(Or if the machine is not used for a prolonged interval)

- Lubricate all Bowden cables and adjusters.
- Grease the Quick-Attach system via the grease nipple under the tube.
- Clean, check and lubricate all parts.
- After the first 20 hours replace the hydraulic filter and hydraulic oil. Then replace every 100 hours. See technical data for oil specification.
- Check air filter after the first 20 hours and replace if necessary.

### 9.4 Every 100 hours maintenance instructions

- Lubricate all Bowden cables and adjusters.
- Grease the Quick-Attach system via the grease nipple under the tube.
- Clean, check and lubricate all parts.
- Replace the hydraulic filter and hydraulic oil.
- Change engine oil, oil filter and air filter. It may be necessary to do this more often in dusty conditions.
- Replace and gap the spark plug (1mm).
- Clean the fuel system.
- Remove engine cooling guard, clean engine fins and replace guard.
- Tension and lubricate drive chain.

## **Maintenance**

### **9.5 Storage**

If the machine is not to be used for a prolonged period it is recommended to follow these instructions..

- Thoroughly clean and lubricate the machine as above.
- Drain the fuel completely or add a fuel stabiliser to the fuel in the tank and run engine for about 1 minute.
- Remove the spark plug, add a teaspoon full of motor oil to the cylinder and turn the engine a few times slowly to allow the oil to coat the cylinder. Refit the spark plug but do not attach the plug lead. Turn the engine over again until you feel compression, you now know both valves are resting in the closed position.
- Replace the hydraulic filter and hydraulic oil.
- Change engine oil, oil filter and air filter. It may be necessary to do this more often in dusty conditions.
- Replace and gap the spark plug (1mm).
- Clean the fuel system.
- Remove engine cooling guard, clean engine fins and replace guard.
- Tension and lubricate drive chain.

### **9.6 Maintenance of PTO Drive Assembly**

It is important that the PTO clutch cable is sufficiently tensioned to avoid slippage of the PTO drive belts.

The PTO lever on the operator panel pulls a cable which moves a pulley tensioning the drive belts.

The travel of the lever should be greater than the distance required to tension the belts. The difference is taken up by a spring.

When the PTO lever is engaged the spring should expand by an amount of 4mm in length from its rest position.

The cable may be adjusted to achieve the required length.

If the belts are showing signs of wear or burning, the belts should be replaced as they may not be capable of transmitting the required torque.

Only use genuine belts supplied by the manufacturer.

## Technical Data

### 11 Technical Data – Petrol Engine

	9hp	13hp	14hp	16hp
Motor	Honda horizontal crankshaft single cylinder engine	Honda horizontal crankshaft single cylinder engine	Briggs& Stratton Vanguard horizontal crankshaft twin cylinder engine	Briggs& Stratton Vanguard horizontal crankshaft twin cylinder engine
Power	9hp (6.6kw)	13hp (9.6kw)	14hp (10.4kw)	16hp (11.9kw)
Max torque	19.1 Nm/2500rpm	26.5 Nm/2500rpm	32.5 Nm/2400rpm	33 Nm/2400rpm
Cylinder Capacity	270cc	340cc	480cc	480cc
Max RPM	3000rpm	3000rpm	3300rpm	3300rpm
Spark Plug	NGK BPR6ES	NGK BPR6ES	Champion RC12YC	Champion RC12YC
Engine oil	1.1 litreSAE 10w-30 API SJ (or better) is recommended for general use	1.1 litres SAE 10w-30 API SJ (or better) is recommended for general use	1.7 litres SAE 10W-40 API-SE/SF -15°C to +45°C SAE 5W-20 API-SE/SF -25°C to +15°C (or better)	1.7 litres SAE 10W-40 API-SE/SF -15°C to +45°C SAE 5W-20 API-SE/SF -25°C to +15°C (or better)
Fuel	Clean Unleaded Petrol	Clean Unleaded Petrol	Clean Unleaded Petrol	Clean Unleaded Petrol
Fuel Tank Capacity	5.3 Litres	5.3 Litres	8.5 litres	8.5 Litres
Fuel Usage	3.5 ltr/hr@3500 rpm	3.5 ltr/hr@3500 rpm	3.8 ltr/hr@3600 rpm	3.8 ltr/hr@3600 rpm
Air Filter	Dry filter element	Dry filter element	Dry filter element	Dry filter element
Starter system	Hand, recoil starter or optional 12 battery start	Hand, recoil starter or optional 12 battery start	Hand, recoil starter or optional 12 battery start	Hand, recoil starter or optional 12 battery start

### Technical Data-Power Unit

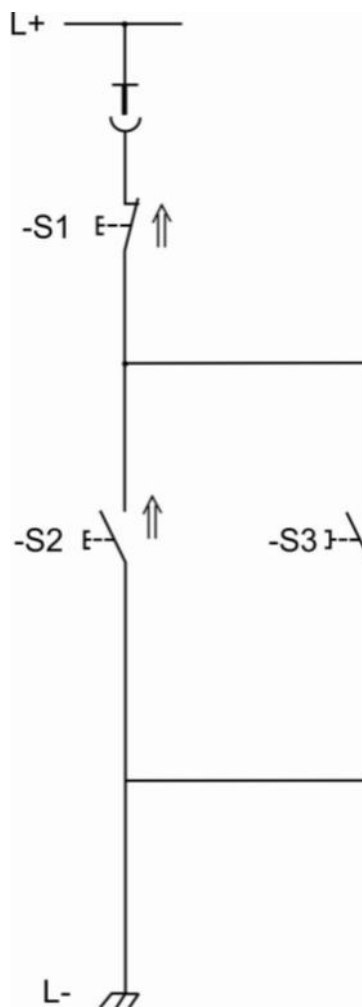
Model Type	UBS Hydro
Oil Tank Capacity	10 Litres
Oil type	Bio-Degradable hydraulic oil VG68
Max operating Pressure	180 bar
Max pump output	18 litres/min
Operating speeds Forwards - Reverse	0-6km/h-0-6km/h
PTO drive speed and direction	1350—3400 rpm Clockwise—seen from the front of the machine
Handlebar type	Adjustable with vibration dampening
Steering	Hydraulic with standard and "Zero Turn" control

## Technical Data

Tyre Pressures	Never exceed maximum 2.5bar– Risk of explosion!
4.00-8 Turf Block Pattern	1.4 bar
4.00-8 Agri Pattern	2.2 bar
5.00-10 Turf Block Pattern	2.2 bar
16x6.5-8 Turf Block Pattern	1.9 bar
16x6.5-8 Agri Pattern	1.9 bar
18x7.00-8 Agri Pattern	2.0 bar
Hand-Arm-Vibration	<2.5m/s <sup>2</sup> (with flail mower attachment)

## Wiring diagram —

### Operator Presence control Circuit



Name	Use	Part Number
-S1	Operator presence control	Pos.19
-S2	Transmission drive lever	Pos. 5
-S3	PTO Lever	
L+	Engine Ignition coil	
L-	Engine earth	

The manufacturer reserves the right to change the specification at any time



## Fault finding

This section describes the main problems which you may encounter when operating this machine. Problems that are outside the scope of this information should be referred to your dealer for repair.

Always observe the safety instructions as your first priority.

Fault	Cause	Remedy
Petrol Engine will not start	<ul style="list-style-type: none"> <li>-Spark plug lead not connected</li> <li>-Spark plug is dirty</li> <li>-Choke not working</li>   <li>-Engine switch is in the 0 position</li> <li>-Safety circuit is not in safe position</li>   <li>-Fuel tank is empty or fuel tap closed</li> <li>-Stale or contaminated fuel</li> <li>-Engine flooded</li>   <li>-Insufficient engine oil</li> <li>-Machine safety system fault</li> </ul>	<ul style="list-style-type: none"> <li>Connect spark plug lead</li> <li>Remove spark plug and clean</li> <li>Ensure choke lever is connected and operating correctly</li> <li>Set the engine switch to the 1 position</li> <li>Set transmission and PTO levers to safe position</li> <li>Check fuel tank is full and fuel tap is in the on position</li> <li>Drain fuel system and refill with fresh fuel</li> <li>Remove spark plug, clean, allow system to dry out, turn starter a few times with ignition in the 0 position, replace plug and retry without choke and engine speed control set to fast.</li> <li>Check engine oil level and add as required</li> <li>Check circuit continuity and repair</li> </ul>
Petrol engine starts and stops soon afterwards or only runs in choke position	<ul style="list-style-type: none"> <li>-Fuel cap vent blocked</li> <li>-Fuel system clogged</li> <li>-Carburettor is blocked</li> </ul>	<ul style="list-style-type: none"> <li>Clean or replace fuel cap</li> <li>Clean fuel system</li> <li>Clean carburettor</li> </ul>
Petrol engine starts but runs "rich" with black smoke	<ul style="list-style-type: none"> <li>-Choke lever is not in the off position</li> <li>-Air filter is dirty or blocked</li> <li>-Carburettor is incorrectly adjusted</li> <li>-Spark plug fault</li> </ul>	<ul style="list-style-type: none"> <li>Ensure choke lever is set fully off when engine is warm</li> <li>Clean or replace air filter</li> <li>Adjust carburettor</li> <li>Clean, adjust or replace spark plug</li> </ul>
Petrol engine runs but stops when working on a slope	<ul style="list-style-type: none"> <li>-Insufficient engine oil</li> </ul>	<ul style="list-style-type: none"> <li>Check engine oil level and add as required</li> </ul>
Engine is over-heating	<ul style="list-style-type: none"> <li>-Engine cooling system blocked up</li> </ul>	<ul style="list-style-type: none"> <li>Clean engine cooling air intake</li> <li>Remove engine cowling and clean out engine cooling fins</li> </ul>
Petrol engine does not stop when safety system requires	<ul style="list-style-type: none"> <li>-Machine safety system fault</li> </ul>	<ul style="list-style-type: none"> <li>Check circuit continuity and repair</li> <li>Check engine earth connection</li> </ul>
Engine speed control is not regulating engine speed correctly	<ul style="list-style-type: none"> <li>-Speed control cable is seized, crimped or needs adjusting</li> </ul>	<ul style="list-style-type: none"> <li>Repair, lubricate or replace speed control cable</li> </ul>

## Fault finding

Electric start system does not work	<ul style="list-style-type: none"> <li>-Battery charge level low</li> <li>-Charging system not working due to blown fuse</li> <li>-Wiring fault</li> <li>Component fault</li> </ul>	<ul style="list-style-type: none"> <li>Charge battery</li> <li>Replace fuse</li> <li>Check continuity and repair</li> <li>Test components and repair/replace</li> </ul>
Transmission speed is slow	<ul style="list-style-type: none"> <li>-Transmission oil viscosity too high because incorrect oil has been used</li> <li>-Transmission oil viscosity is too high because there are low atmospheric temperatures</li> <li>-Transmission oil level is low</li> <li>-Transmission oil filter is blocked</li> <li>-Transmission speed control valve partially closed</li> <li>-Transmission control cable not opening transmission valve fully</li> <li>-Engine is not achieving required RPM</li> <li>-Handbrake is engaged</li> <li>-Transmission belt slipping</li> <li>-Free wheeling bypass valve open</li> <li>-Drive motors worn</li> <li>-Transmission pump worn</li> </ul>	<ul style="list-style-type: none"> <li>Drain hydraulic system and replace with specified oil</li> <li>Allow machine to warm up to operating temperature</li> <li>Check oil level and top up</li> <li>Replace transmission oil filter</li> <li>Open speed control valve to achieve required speed</li> <li>Adjust transmission control cable or replace if damaged</li> <li>Adjust engine RPM</li> <li>Disengage handbrake</li> <li>Clean idler and belt casing of debris</li> <li>Replace belt</li> <li>Close free wheeling bypass valve</li> <li>Replace drive motors</li> <li>Replace transmission pump</li> </ul>
PTO speed is slow	<ul style="list-style-type: none"> <li>-Fault with attachment</li> <li>-PTO Transmission belts worn</li> <li>-PTO Transmission belts slipping</li> <li>-Low engine rpm</li> <li>-Forward transmission speed to great</li> </ul>	<ul style="list-style-type: none"> <li>Check operation of attachment ensuring it is free running when machine is switched off.</li> <li>Replace belts</li> <li>Tension cable to correct spring adjustment</li> <li>Increase engine rpm</li> <li>Reduce forward transmission speed to allow more time for attachment to operate</li> </ul>
Machine is not steering in straight line	<ul style="list-style-type: none"> <li>-Unequal wheel circumference</li> <li>-Steering valves are not closing 100%</li> <li>-Motors wearing at different rates</li> <li>-Wheel hubs turning on wheel motor</li> </ul>	<ul style="list-style-type: none"> <li>Check tyre pressure is equal in each tyre</li> <li>Check steering cable are running free</li> <li>Check steering valve return springs are operating properly</li> <li>Check steering lever and cable adjustment</li> <li>Replace drive motors</li> <li>Replace key on motor shaft re-torque nut fitting with locktite.</li> </ul>
Transmission is noisy	<ul style="list-style-type: none"> <li>-Transmission oil viscosity too high because incorrect oil has been used</li> <li>-Transmission oil viscosity is too high because there are low atmospheric temperatures</li> <li>-Transmission oil level is low</li> <li>-Transmission oil filter is blocked</li> <li>-Chain drive requires attention</li> </ul>	<ul style="list-style-type: none"> <li>Drain hydraulic system and replace with specified oil</li> <li>Allow machine to warm up to operating temperature</li> <li>Check oil level and top up</li> <li>Replace transmission oil filter</li> <li>Lubricate and adjust chain drive</li> </ul>
Oil is coming out of transmission filler cap	<ul style="list-style-type: none"> <li>-Overfilled oil reservoir</li> <li>-Machine working at an angle or has been tipped over</li> <li>-Warm operating conditions</li> <li>-In some conditions oil vapour will naturally vent from filler cap</li> </ul>	<ul style="list-style-type: none"> <li>Fill to correct level</li> <li>Clean up oil residues</li> <li>Oil vapour will naturally vent from filler cap clean off residue with rag regularly</li> <li>Clean off residue with rag regularly</li> </ul>

## EG - Konformitätserklärung

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### 14 EG – Konformitätserklärung

CE Déclaration de conformité  
EC Declaration Conformity  
EG conformiteitsverklaring

(D)

(F)

(GB)

(NL)

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**Kersten Maschinen GmbH**  
Empeler Straße 93 – 95  
D- 46459 Rees

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Produkt

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Einachsschlepper

Porte-Outils

Tool Carrier

Werktuigdrager

### UBS Hydro

**7 GD – 9 G – 9 GE – 13 G – 13 GE – 14 G – 14 GE – 16 G – 16 GE**

mit allen einschlägigen  
Bestimmungen der  
EG-Maschinenricht-  
linie 2006/42/EG in  
Übereinstimmung ist.

satisfait à l'ensemble  
de la directive machines  
2006/42/CE.

fulfies all relevant  
provisions of Directive  
2006/42/EC.

voldoet aan alle  
toepasselijke be-  
paligen van EG-  
Machinerichtlijn  
2006/42/EG.

Die Maschine ist auch  
in Übereinstimmung  
mit allen einschlägigen  
Bestimmungen der fol-  
genden EG-Richtlinien:

Cette machine satisfait  
également à toutes les  
dispositions pertinentes  
des directives CE  
suivantes:

The machinery is also  
in compliance with all  
relevant provisions of  
the following EC  
directives:

De machine is ook  
in overeenstemming  
met alle toepasselijke  
bepaligen van de vol-  
gende EG-richtlijnen:

**2004/108/EG**

Weiterhin wurden fol-  
gende Normen ange-  
wendet:

En outre, les normes et  
spécifications techniques  
suivantes ont été utilisées:

The following  
harmonised standards  
apply:

Volgende geharmoni-  
seerde normen warden  
gehanteerd:

**DIN EN 12733**  
**EN ISO 12100 Teil 1:2004**  
**EN ISO 12100 Teil 2:2004**

Herr

Monsieur

Mr.

De heer

**Dipl. Ing. Georg Kersten**  
Empeler Straße 93 – 95  
D-46459 Rees

ist bevollmächtigt  
die technischen Unter-  
lagen zusammenzu-  
stellen.

est autorisé à constituer  
la documentation  
Technique conformément  
à l'annexe VII A.

is authorised to  
compile the technical  
file according to Annex  
VII A.

is gemachtigd het  
technische dossier  
samen te stellen.

Rees, 02.08.2010



Geschäftsführer

Directeur

Managing Director

Bedrijfsleider



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