



Power Harrow Attachment

Manufactured by R2 RINALDI S.r.l.

to fit

BCS Power Units



Operating Instructions

Before commissioning the machine, read operating instructions and observe warning and safety instructions.

**PLEASE ALSO READ ORIGINAL
BCS INSTRUCTION MANUAL**

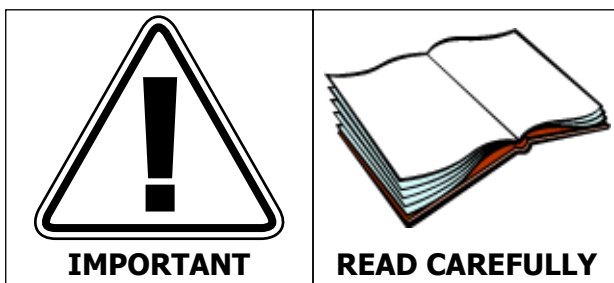


TRACMASTER

The landscape machinery specialists

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No liability will be accepted for any damage caused to persons or property through failure to observe the operating and safety instructions.



IMPORTANT

**PLEASE READ THE OWNER'S MANUAL
FOR THE POWER UNIT FIRST.**

**For any further information
or assistance please contact
Tracmaster on 01444 247689 or
visit www.tracmaster.co.uk**

Power Harrow and Its Proper Use

The power harrow is designed to level, mill, and compress the soil in a single operation.

The power harrow is equipped with an adjustable scraper blade at the front (Fig.1 E) which shifts the earth, while central rotating tines (Fig.1 D) dig the ground and a roller at the rear (Fig.1 B), which can be adjusted to control the digging depth, compresses the soil.

The power harrow is intended only for the purpose described above and any other use is considered improper and therefore dangerous.

The manufacturer will not be liable for injury or damage to persons or property as a result or improper use of the equipment.

Always read all instruction manuals fully and ensure you understand them.

Only use the machine as described in the instruction manuals.

Do not use any other spare parts other than the original manufacturer's parts.

Ensure the machine is operated and maintained by competent persons.

Any persons using the machine must be properly trained and informed of the correct use of the equipment and any risks involved in its operation.

The user is required to comply with any rules and legislation pertaining to safety at work.

- Ⓐ Main body of machine
- Ⓑ Roller assembly
- Ⓒ Roller adjustment
- Ⓓ Digging knives/tines
- Ⓔ Scraper blade
- Ⓕ Scraper adjustment screws
- Ⓖ PTO coupling
- Ⓗ Side plate and extension
- Ⓘ Protection

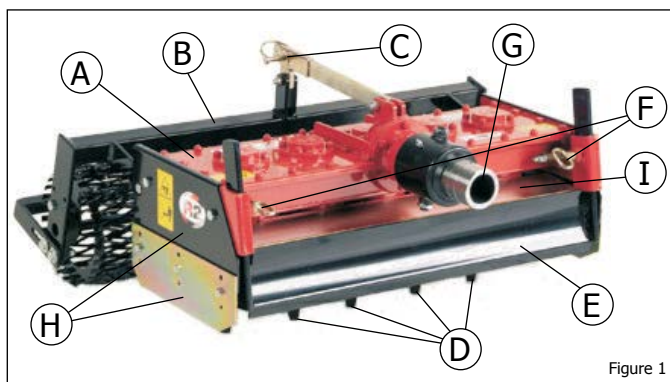
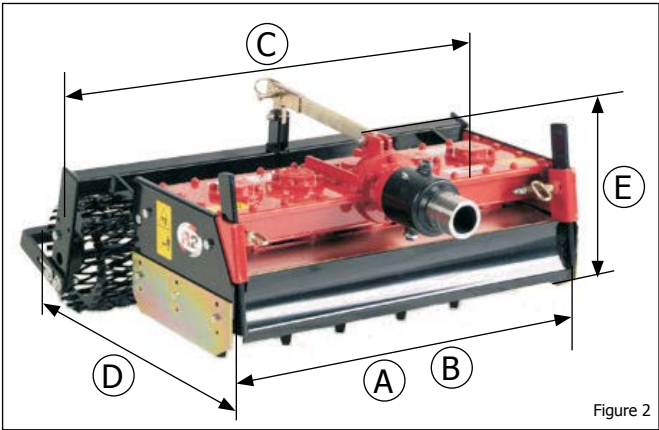


Figure 1

Technical Specifications

		Model		
		MTL 50	MT 60	MTL 75
Digging width	Fig. 2 (A)	50cm	60cm	75cm
Levelling width	Fig. 2 (B)	50cm	60cm	75cm
Compacting width	Fig. 2 (C)	60cm	70cm	85cm
Length	Fig. 2 (D)	75cm	75cm	75cm
Max. height from ground	Fig. 2 (E)	42cm	42cm	42cm
Power unit hp required		8-10hp	12-14hp	12-14hp
Max. working depth		14cm	14cm	14cm
Number of tines		6	6	10
Weight of power harrow		70kg	90kg	95kg



Handling and Transportation

The power harrow should only be handled with appropriate lifting equipment. Ensure that such equipment has the correct carrying capacity for the specific model you are lifting and is in good condition.

The power harrow can be anchored at the coupling point (Fig.3). Because of the position of this anchor point the power harrow will tilt by approximately 25° when lifted.



In order to ensure safety when moving or lifting the power harrow always wear safety footwear and make sure that the area in which you are working is clear of other people and animals.

Transportation of the power harrow should be undertaken in a suitable vehicle, ideally a van or other commercial vehicle.

If transportation has to be done in a car then ensure that there is some form of barrier between the driver and the power harrow.

The power harrow should always be well anchored with suitable straps before transportation, anchor points can be the roller assembly support (Fig.1 B) and the front scraper blade (Fig.1 E). Always make sure that the scraper blade adjustment screws (Fig.1 F) are properly tightened.

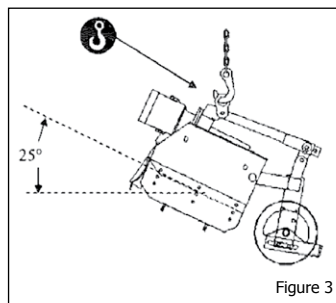


Figure 3

Components and Coupling

IMPORTANT: Ensure that all the power harrow components are correctly assembled before use. These parts should be assembled using hand tools only.



Any assembly must take place on a level and steady surface, such as a floor.

During assembly always wear protective footwear and safety gloves.

Roller group and roller adjustment rod assembly

Attach the roller assembly to the main body by screwing the arms at either side (Fig. 6 A) to the back of the main body (Fig.4 B).

Fix the roller adjustment rod (Fig.4 C) into the holder on the roller support (Fig.4 D) and on the power harrow (Fig.4 E).

NOTE: The screws used to fix the roller assembly and the roller adjustment rod must be well tightened in order for all the components to turn during the adjustment.

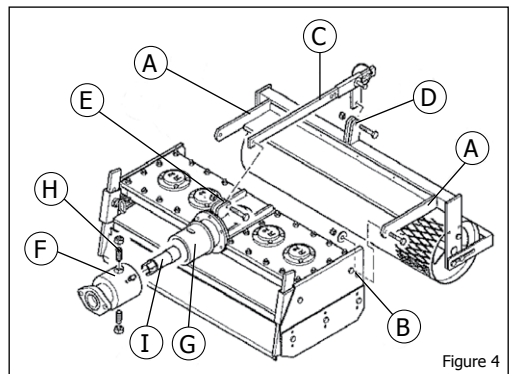
Flange assembly and coupling the machine to the power unit

NOTE: The following only applies if the flange is not already fitted to the Power Harrow.

Before fitting the power harrow flange (Fig.4 F) apply some grease to the outside of the PTO (Fig.4 G) to allow it to oscillate. Attach the flange with the two grub screws (Fig.4 H) and two nuts.

Screw the grub screws completely and then turn them back one turn, close the nuts and tighten. Once you have finished, check that the flange oscillates freely without tightening or seizing, if not then repeat the process again.

Put the transmission sleeve (Fig.4 I) onto the previously greased power harrow shaft. Then bring the power unit to the power harrow, checking that the sleeve engages with the connecting shaft of the power unit and that the two flanges (power unit and power harrow) fit together and that all nuts and bolts are securely fixed.



Preparation for Use



Before using the Power Harrow perform the following checks, making sure the power unit is off.

Check that the oil is at the correct level.

Check that all bolts are tight and that all components are in good working order.

Always wear **HEAVY GLOVES** to protect your hands whilst working on the equipment.

READ and observe all warning labels on the machine and implements (Fig.5) and ensure all safety stickers are present and legible.

Always wear appropriate work clothes whilst operating the machine, always wear safety footwear.

DO NOT USE the machine near children or animals (Fig.6).

The machine operator is responsible for any damage to persons or property.

Always walk with the machine - **DO NOT RUN**.

NEVER work on slopes of more than 20° and always work across the face of a slope (side to side), **NEVER** up and down. **NEVER** use the machine on a bank where there is a possibility of the machine sliding down the slope.

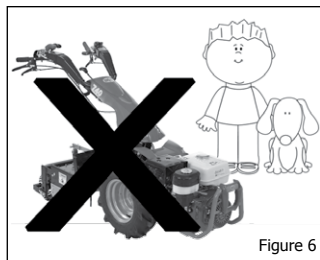
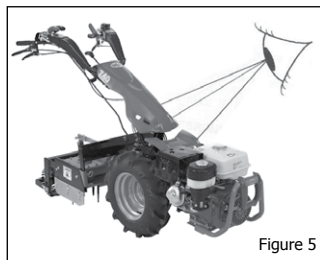
Always disengage the power take-off (PTO) when changing direction or location of operation.

DO NOT replace the blades or attempt to undertake any maintenance of the power harrow while the machine is running.

ONLY qualified persons should operate the machine.

If any abnormal vibrations occur **STOP** the engine immediately and visually inspect the machine and implement for any signs of damage.

IMPORTANT: Read all machine and implement manuals thoroughly before using the power harrow.



Depth and Levelling Adjustment

Working depth adjustment

The working depth is adjusted by the roller support pin (Fig.7 A).

Simply remove the clip and then insert it into the desired hole on the rod.

The working depth can be adjusted from 0cm to 14cm and it is important that the power harrow is supported by the roller whilst in operation.

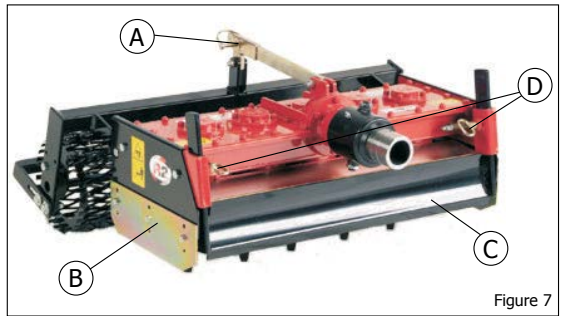


Figure 7

To transport the power harrow whilst it is connected to the power unit use the first hole of the adjustment rod to raise the tines away from the ground and effectively use the roller as a wheel.



In order to prevent the tines from being exposed, and to avoid any hazards whilst digging, it is important that the extension sides (Fig.7 B) are adjusted so that they lightly touch the soil surface.

Always ensure that the engine is off before making any adjustments to the extension sides.

Levelling adjustment

The levelling is controlled by adjusting the front scraper blade (Fig.7 C).

This is adjusted manually via the two scraper adjustment screws located at either side (Fig.7 D). For the best levelling results ensure that there is always earth in front of the scraper blade.



In order to prevent the tines from being exposed, and to avoid hazards whilst digging, it is important that the scraper is adjusted so that it lightly touches the soil surface.

Always ensure that the engine is off before making any adjustments to the scraper blade and wear protective gloves to prevent hand injury.

Using the Power harrow

Soil working

Once the adjustments described on the previous page have been made the power harrow is ready to be used.

It is important that while the power harrow is operating (digging) only minor manouevres should be made, ie correcting the path. DO NOT attempt to change direction or turn the power unit while the power harrow is digging, follow the instructions below.

To change direction:

- Stop the machine driving by disengaging the wheel speed lever.
- Disengage the PTO.
- Using the handlebars lift the power harrow off the ground and change direction.
- Lower the power harrow and engage the PTO and wheel speed levers.



Always keep in mind the safety procedures relating to operation of the power harrow outlined on page 8.

Power harrow locking

The power harrow has been designed to minimise the possibility of it locking whilst working.

However, it is not guaranteed that this will not happen, and it is more likely if there are stones, rocks, wire or other items that could get stuck in the tines.

In order to avoid this situation, it is advisable to check the area before working and remove any items that could cause the power harrow to lock. Also, adjust the working depth as required and replace any tines that may be worn down.



IMPORTANT: If the power harrow locks whilst in operation, TURN OFF THE ENGINE and, if applicable, REMOVE THE KEY before attempting to remove any items from the tines.

To unlock the power harrow, use a suitable tool - **DO NOT USE YOUR HANDS**. Occasionally, the objects will dislodge themselves once the machine has been turned off as there is no pressure on the tines.

Maintenance

For engine maintenance please refer to engine manufacturers manual.

After every hour of operation stop the engine and remove the spark plug cap. Check engine oil level (recommended oil SAE 10w/40).

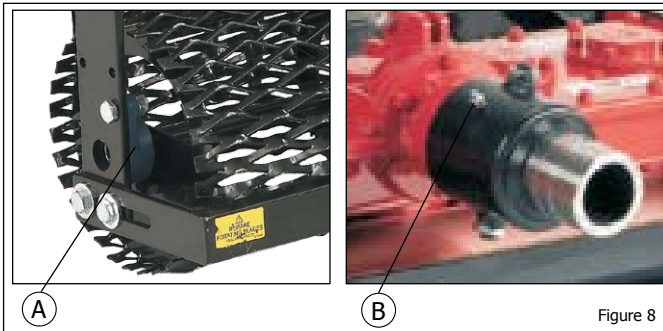
Replace the spark plug cap.

Detach the power harrow from the power unit and clean the chassis. Remove all foreign matter from the digging tines e.g. wire, string, grass etc.

At the beginning of every working season

- Grease the roller supports (Fig.8 A)
- Grease the flange using an appropriate lubricant (Fig.8 B)

After lubrication/greasing operations, always clean any residue that may be on the floor.



Always ensure that the engine is off before undertaking any maintenance procedures.

When lubricating or greasing, wear suitable gloves and eye protection.

If the machine is on a raised platform, ie a workbench, wear protective footwear.

DO NOT turn the machine on its side for cleaning.

Maintenance Guide

OPERATION	EVERY USE	EVERY WEEK	EVERY MONTH
Check condition of digging tines	X		
Check PTO coupling	X		
Check all nuts and bolts especially on the tines	X		
Grease roller supports		X	X
Grease outer flange		X	

Please note that this maintenance programme relates to the attachment only. For maintenance of the gearbox and controls please see the Power Unit Owner's Manual.

NOTES:

- * Pressure washing machines removes lubricating grease as well as dirt. It is imperative all linkages are kept well greased otherwise they will become difficult to operate and cause damage.
- * DO NOT allow maximum engine speed to exceed 3600rpm.

Tine Replacement

In order to replace the tines, the roller assembly must be disassembled and positioned on its side, so that the tines are parallel with the ground.

Ensure the power harrow is on a stable, safe surface.

When fixing the new tines ensure that the clamping nut (Fig.9 A) fits snugly into the nut seat (Fig.9 B). To get maximum performance from the new tines, it is recommended that new nuts, bolts and washers should be used each time the tines are replaced.

In order for the power harrow to continue operating when the tines begin to wear down, the side plates are sprung allowing for a certain amount of flexibility, however, the power harrow must not be used if the tines are more less than two-thirds of their original length.

With the power harrow attached to the power unit, the height of the PTO from the ground should be at least 28-30cm. If the height is lower than this then the tines need to be replaced with shorter ones.



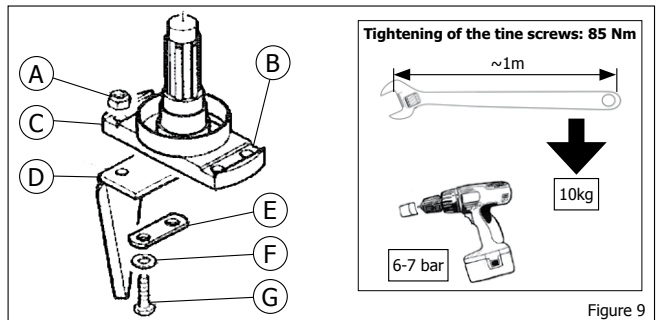
Always ensure that the engine is off before attempting to replace the tines.

Wear protective gloves to prevent hand injury.

If the machine is on a raised platform, ie a workbench, wear protective footwear.

If using pneumatic screwdrivers to tighten the tine screws wear ear and eye defenders.

- (A) Steel self-locking nut
- (B) Nut seat
- (C) Tine fork
- (D) Tine
- (E) Plate
- (F) Spring strengthened washer
- (G) Steel screw



Storage of the Power Harrow

If the power harrow is not going to be used for a long period, then prior to storage, follow the instructions below:

1. Wash and dry the power harrow thoroughly.
2. Check all the moving parts and replace any that are worn or damaged.
3. Check all the nuts and bolts are tight.
4. Check the lubricant level.
5. Protect and lubricate all the unpainted metal parts.
6. Cover the machine and keep it in a dry place.



IMPORTANT: Before using the machine after a period of storage, refer to the MAINTENANCE section on page 11.

Always ensure the machine is stored safely and that any prominent parts are protected so as not to cause injury.

Ensure that the storage location does not block emergency exits, fire extinguishers/hydrants, first aid boxes, or any other escape routes or emergency areas.

If pressure washing the machine (water or air) prior to storage, ensure that there are no people or animals in the working area and wear protective goggles and if necessary a dust mask.

Manufacturer Information

This machine is manufactured in Italy by R2 RINALDI S.r.l.

Tracmaster Ltd is the UK distributor for these models, the MTL50, MT60 & MTL75.

Please ensure you read the original manufacturer's manual before operating this machine.



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