

Spearhead

RI-80 Barrier Mower



Edition 1.1 - August 2017
Part No. 8999107

HANDBOOK & PARTS MANUAL

Spearhead RI Barrier Mower

IMPORTANT

VERIFICATION OF WARRANTY REGISTRATION



DEALER WARRANTY INFORMATION & REGISTRATION VERIFICATION

It is imperative that the selling dealer registers this machine with Spearhead Machinery Limited before delivery to the end user – failure to do so may affect the validity of the machine warranty.

To register machines go to the Spearhead Machinery Limited web site at www.spearheadmachinery.com, log onto 'Dealer Inside' and select the 'Machine Registration button' which can be found in the Service Section of the site. Confirm to the customer that the machine has been registered in the section below.

Should you experience any problems registering a machine in this manner please contact the Spearhead Service Department on 01789 491867.

Registration Verification

Dealer Name:		
Dealer Address:		
Customer Name:		
Date of Warranty Registration:/...../.....	Dealer Signature:

NOTE TO CUSTOMER / OWNER

Please ensure that the above section has been completed and signed by the selling dealer to verify that your machine has been registered with Spearhead Machinery Limited.

IMPORTANT: During the initial 'bedding in' period of a new machine it is the customer's responsibility to regularly inspect all nuts, bolts and hose connections for tightness and re-tighten if required. New hydraulic connections occasionally weep small amounts of oil as the seals and joints settle in – where this occurs it can be cured by re-tightening the connection – refer to torque settings chart below. The tasks stated above should be performed on an hourly basis during the first day of work and at least daily thereafter as part of the machines general maintenance procedure.

CAUTION: DO NOT OVER TORQUE HYDRAULIC FITTINGS AND HOSES

TORQUE SETTINGS FOR HYDRAULIC FITTINGS

HYDRAULIC HOSE ENDS		
BSP	Setting	Metric
1/4"	18 Nm	19 mm
3/8"	31 Nm	22 mm
1/2"	49 Nm	27 mm
5/8"	60 Nm	30 mm
3/4"	80 Nm	32 mm
1"	125 Nm	41 mm
1.1/4"	190 Nm	50 mm
1.1/2"	250 Nm	55 mm
2"	420 Nm	70 mm

PORT ADAPTORS WITH BONDED SEALS		
BSP	Setting	Metric
1/4"	34 Nm	19 mm
3/8"	47 Nm	22 mm
1/2"	102 Nm	27 mm
5/8"	122 Nm	30 mm
3/4"	149 Nm	32 mm
1"	203 Nm	41 mm
1.1/4"	305 Nm	50 mm
1.1/2"	305 Nm	55 mm
2"	400 Nm	70 mm

Spearhead RI Barrier Mower

WARRANTY POLICY

WARRANTY REGISTRATION

All machines must be registered, by the selling dealer with Spearhead Machinery Ltd, before delivery to the end user. On receipt of the goods it is the buyer's responsibility to check that the Verification of Warranty Registration in the Operator's Manual has been completed by the selling dealer.

1. LIMITED WARRANTIES

- 1.01. All machines supplied by Spearhead Machinery Limited are warranted to be free from defects in material and workmanship from the date of sale to the original purchaser for a period of 12 months, unless a different period is specified.
- 1.02. All spare parts supplied by Spearhead Machinery Limited are warranted to be free from defects in material and workmanship from the date of sale to the original purchaser for a period of 6 months.
- 1.03. The manufacturer will replace or repair for the purchaser any part or parts found, upon examination at its factory, to be defective under normal use and service due to defects in material or workmanship. Returned parts must be complete and unexamined.
- 1.04. This warranty does not apply to any part of the goods, which has been subjected to improper or abnormal use, negligence, alteration, modification, fitment of non-genuine parts, accident damage, or damage resulting from contact with overhead power lines, damage caused by foreign objects (e.g. stones, iron, material other than vegetation), failure due to lack of maintenance, use of incorrect oil or lubricants, contamination of the oil, or which has served its normal life. This warranty does not apply to any expendable items such as blades, flails, bushes, belts, flap kits, skids, shields, guards, wear pads or pneumatic tyres.
- 1.05. Temporary repairs and consequential loss - i.e. oil, downtime and associated parts are specifically excluded from the warranty.
- 1.06. Warranty on hoses is limited to 12 months and does not include hoses which have suffered external damage. Only complete hoses may be returned under warranty, any which have been cut or repaired will be rejected.
- 1.07. Machines must be repaired immediately a problem arises. Continued use of the machine after a problem has occurred can result in further component failures, for which Spearhead Machinery Ltd cannot be held liable, and may have safety implications.
- 1.08. Except as provided herein, no employee, agent, dealer or other person is authorised to give any warranties of any nature on behalf of Spearhead Machinery Ltd.
- 1.09. For machine warranty periods in excess of 12 months the following additional exclusions shall apply:
 - 1.09.1. Hoses, external seals, exposed pipes and hydraulic tank breathers.
 - 1.09.2. Filters
 - 1.09.3. Rubber mountings
 - 1.09.4. External electric wiring.
 - 1.09.5. Labour and mileage costs.
- 1.10. All service work, particularly filter changes, must be carried out in accordance with the manufacturer's service schedule. Failure to comply will invalidate the warranty. In the event of a claim, proof of the service work being carried out may be required.

NB Warranty cover will be invalid if any non-genuine parts have been fitted or used. Use of non-genuine parts may seriously affect the machine's performance and safety. Spearhead Machinery Ltd cannot be held responsible for any failures or safety implications that arise due to the use of non-genuine parts.

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2. REMEDIES AND PROCEDURES

- 2.01. The warranty is not effective unless the Selling Dealer registers the machine, via the Spearhead Machinery web site and confirms the registration to the purchaser by completing the confirmation form in the operator's manual.
- 2.02. Any fault must be reported to an authorised Spearhead Machinery dealer as soon as it occurs. Continued use of a machine, after a fault has occurred, can result in further component failure for which Spearhead Machinery Ltd cannot be held liable.
- 2.03. Repairs should be undertaken within two days of the failure. Claims submitted for repairs undertaken more than 2 weeks after a failure has occurred, or 2 days after the parts were supplied will be rejected, unless the delay has been authorised by Spearhead Machinery Ltd.
- 2.04. All claims must be submitted, by an authorised Spearhead Machinery Service Dealer, within 30 days of the date of repair.
- 2.05. Following examination of the claim and parts the manufacturer will pay, at their discretion, for any valid claim the cost of any parts and an appropriate labour allowance if applicable.
- 2.06. The submission of a claim is not a guarantee of payment.
- 2.07. Any decision reached by Spearhead Machinery Ltd is final.

3. LIMITATION OF LIABILITY

- 3.01. The manufacturer disclaims any express (except as set forth herein) and implied warranties with respect to the goods including, but not limited to, merchantability and fitness for a particular purpose.
- 3.02. The manufacturer makes no warranty as to the design, capability, capacity or suitability for use of the goods.
- 3.03. Except as provided herein, the manufacturer shall have no liability or responsibility to the purchaser or any other person or entity with respect to any liability, loss, or damage caused or alleged to be caused directly or indirectly by the goods including, but not limited to, any indirect, special, consequential, or incidental damages resulting from the use or operation of the goods or any breach of this warranty. Notwithstanding the above limitations and warranties, the manufacturer's liability hereunder for damages incurred by the purchaser or others shall not exceed the price of the goods.
- 3.04. No action arising out of any claimed breach of this warranty or transactions under this warranty may be brought more than one (1) year after the cause of the action has occurred.

4. MISCELLANEOUS

- 4.01. The manufacturer may waive compliance with any of the terms of this limited warranty, but no waiver of any terms shall be deemed to be a waiver of any other term.
- 4.02. If any provision of this limited warranty shall violate any applicable law and is held to be unenforceable, then the invalidity of such provision shall not invalidate any other provisions herein.
- 4.03. Applicable law may provide rights and benefits to the purchaser in addition to those provided herein.

Spearhead RI Barrier Mower

CE Declaration of Conformity, Conforming to EU Machinery Directive 2006/42/EC

We, Spearhead Machinery Ltd, Green View, Salford Priors,
Evesham, Worcestershire, WR11 8SW hereby declare that:

Product

Product Code

Serial No

Type

Manufactured by: Alamo Manufacturing Services (UK) Limited, Station
Road, Salford Priors, Evesham, Worcestershire, WR11 8SW

Complies with the required provisions of the Machinery Directive
2006/42/EC. The Machinery Directive is supported by the following
harmonized standards:

- BS EN ISO 14121-1 (2007) Safety of Machinery – Risk Assessment,
Part 1: Principles Part 2: Practical Guide and Examples of Methods.
- BS EN ISO 12100-1 (2010) Safety of Machinery – Part 1: Basic
Terminology and Methodology Part 2: Technical Principles.
- BS EN 349 (1993) + A1 (2008) Safety of Machinery – Minimum
Distances to avoid the Entrapment of Human Body Parts.
- BS EN 953 (1998) Safety of Machinery – Guards General
Requirements for the Design and Construction of Fixed and Movable
Guards.
- BS EN 982 (1996) + A1 (2008) Safety Requirements for Fluid Power
Systems and their Components. Hydraulics.

The EC Declaration only applies if the machine stated above is used in
accordance with the operating instructions.

Signed



(On behalf of Spearhead Machinery Ltd)

Status

General Manager

Date

.....

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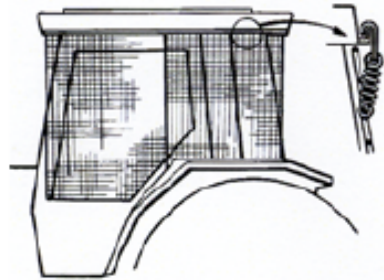
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VEHICLE / TRACTOR PREPARATION

We recommend vehicles are fitted with cabs using 'safety glass' windows and protective guarding when used with our machines. Fit Operator Guard (See drawing) using the hooks provided. Shape the mesh to cover all vulnerable areas. The driver must be looking through mesh and/or polycarbonate glazing when viewing the working tool in any working position - unless the vehicle/ cab manufacturer can demonstrate that the penetration resistance is equivalent to, or higher than, that provided by mesh/polycarbonate glazing. If the tractor has a roll bar only, a frame must be made to carry both mesh and polycarbonate glazing. The operator should also use personal protective equipment to reduce the risk of serious injury such as; eye protection (mesh visor to EN1731 or safety glasses to EN166), hearing protection to EN352, safety helmet to EN297, gloves and high visibility clothing.



Vehicle Ballast

It is imperative when attaching 'third-party' equipment to a vehicle that the maximum possible stability of the machine and vehicle combination is achieved – this can be accomplished by the utilisation of 'ballast' in order to counter-balance the additional equipment added.

Front weights

May be required for rear mounted machines to place 15% of total outfit weight on the front axle for stable transport on the road and to reduce 'crabbing' due to the drag of the cutting unit when working on the ground.

Rear weights

May be required to maintain a reasonable amount of rear axle load on the opposite wheel from the arms when in work; for normal off-ground work i.e. hedge cutting this should be 20% of rear axle weight or more for adequate control, and for ground work i.e. verge mowing with experienced operators, this can be reduced to 10%.

All factors must be addressed in order to match the type and nature of the equipment added to the circumstances under which it will be used – in the instance of Power Arm hedge cutters it must be remembered that the machines centre of gravity during work will be constantly moving and will differ from that during transport mode, therefore balance becomes critical.

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Factors that affect stability

- Centre of gravity of the tractor/machine combination.
- Geometric conditions, e.g. position of the cutting head and ballast.
- Weight, track width and wheelbase of the tractor.
- Acceleration, braking, turning and the relative position of the cutting head during these operations.
- Ground conditions, e.g. slope, grip, load capability of the soil/surface.
- Rigidity of implement mounting.

Suggestions to increase stability

- Increasing rear wheel track; a vehicle with a wider wheel track is more stable.
- Ballasting the wheel; it is preferable to use external weights but liquid can be added to around 75% of the tyre volume – water with anti-freeze or the heavier Calcium Chloride alternative can be used.
- Addition of weights – care should be taken in selecting the location of the weights to ensure they are added to a position that offers the greatest advantage.
- Front axle locking (check with tractor manufacturer).

Note

The advice above is offered as a guide for stability only and is not a guide to vehicle strength. It is recommended that you consult your vehicle manufacturer or local dealer to obtain specific advice on this subject, additionally advice should be sought from a tyre specialist with regard to tyre pressures and ratings suitable for the type and nature of the machine you intend to fit.

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SAFETY STICKERS



WARNING
Avoid fluid escaping under pressure. Consult technical manual for service procedures.



WARNING
Stop engine and remove key before performing maintenance or repair work.



WARNING
Danger – flying objects. Keep safe distance from the machine as long as the engine is running.



WARNING
Check all nuts and bolts are tight every 8 hours - retighten if required.



WARNING
Stay clear of rotating saw blades / knives.



WARNING
Carefully read operator's manual before handling this machine. Observe instructions and safety rules when operating.



WARNING
Do not remove / open guard when parts are rotating



WARNING
The recommended oil flow has been adjusted by the manufacturer. Never exceed this.

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SAFETY

This machine has the potential to be extremely dangerous - in the wrong hands it can kill or maim; it is therefore imperative that both owner and operator of the machine reads and understands the following section to ensure they are fully aware of the dangers that do, or may exist, and their responsibilities surrounding the use and operation of the machine. The operator of this machine is responsible not only for their own safety but equally for the safety of others who may come into the close proximity of the machine, as the owner you are responsible for both.

All operators must be fully competent in the use of this machine and also the machine to which it is attached and must read and understand the operation manuals for both machines before attempting to attach or operate this equipment.

When the machine is not in use it should be lowered to rest on the ground. In the event of any fault being detected with the machine's operation it must be stopped immediately and not used again until the fault has been corrected by a qualified technician.

Potential Dangers associated with the use of this machine

- Being hit by debris thrown by rotating components.
- Being hit by machine parts ejected through damage during use.
- Being caught in other moving parts i.e.: belts, pulleys and cutting heads.
- Being hit by cutting heads or machine arms as they move.
- Becoming trapped between tractor and machine when hitching or unhitching.
- Tractor overbalancing when machine arm is extended.
- Injection of high-pressure oil from hydraulic hoses or couplings.
- Machine overbalancing when freestanding (out of use).
- Road traffic accidents due to collision or debris on the road.

Additional Safety Advice

Training

Operators need to be competent and fully capable of operating this machine in a safe and efficient way prior to attempting to use it in any public place. We advise therefore that the prospective operator make use of relevant training courses available such as those run by the Agricultural Training Board, Agricultural Colleges, Dealers and GreenTec.

Working in Public Places

When working in public places such as roadsides, consideration should be paid to others in the vicinity. Stop the machine immediately when pedestrians, cyclists and horse riders etc. pass. Restart only when they are at a distance that causes no risk to their safety.

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Warning Signs

It is advisable that any working area be covered by suitable warning signs and statutory in public places. Signs should be highly visible and well placed in order to give clear advanced warning of the hazard. Contact the Department of Transport or your Local Highways Authority to obtain detailed information on this subject. The latter should be contacted prior to working on the public highway advising them of the time and location of the intended work asking what is required by way of signs and procedure. – *'Non-authorized placement of road signs may create offences under the Highways Act'*.

Suggested Warning Signs Required

'Road works ahead' warning sign with a supplementary 'Grass cutting' plate. 'For 1 km' or appropriate shorter distance may be added to the plate. 'Road narrows' warning signs with supplementary 'Single file traffic' plate. White on blue 'Keep left' (*) arrow sign on rear of machine.

* Note

This applies to EU Market machines where traffic passes to the left of a machine working in the same direction as the traffic flow. The direction, use and colour of the arrow sign will depend on the country of use and the Local Highway Authorities regulations in the locality.

Use of Warning Signs

- On two-way roads one set of signs is needed facing traffic in each direction.
- Work should be within 1 km of the signs.
- Work only when visibility is good and at times of low risk e.g.: NOT during 'rush-hour'.
- Vehicles should have an amber-flashing beacon.
- Ideally, vehicles should be conspicuously coloured.
- Debris should be removed from the road and path as soon as practicable, and at regular intervals, wearing high visibility clothing and before removing the hazard warning signs.
- Collect all road signs promptly when the job is completed.

Safety Gear

It is recommended that the following personal protective equipment is worn when operating and/or maintaining this machine; Coveralls, safety boots, safety glasses, hearing protection, safety helmet, protective gloves.



Although the information stated here covers a wide range of safety subjects it is impossible to predict every eventuality that can occur under differing circumstances whilst operating this machine. No advice given here can replace 'good common sense' and 'total awareness' at all times, but will go a long way towards the safe use of your GreenTec machine

Spearhead RI Barrier Mower

BEFORE USING THIS MACHINE

Always:

- Ensure the operator has read this handbook and has been trained to use the machine.
- Ensure that the tractor meets the minimum weight recommendations of the machine manufacturer and that ballast is used if necessary.
- Ensure all cab safety guards are in place and all tractor windows are closed. Never allow an inexperienced person to operate the machine without supervision. If tractor is without cabin then mount metal mesh or polycarbonate guards of suitable size and strength to protect the operator against thrown debris or parts
- Wear ear defenders if operating without a quiet cab or with the cab windows open.
- Inspect work area for wire, steel posts, large stones and other dangerous materials. If such items are found, remove them.
- Work at a safe speed, taking into account terrain, passing vehicles and obstacles.
- Never start or continue to work a machine if people are nearby or approaching - Stop and wait until they are at a safe distance before continuing. **WARNING:** Some cutting heads may continue to 'freewheel' for up to 20 seconds or more after being stopped.
- Remove the ignition key, before leaving the cab.
- Ensure that the mower is firmly on the ground, no weight is on the tractors hydraulics and blades / knives have stopped spinning, before leaving the tractor cab
- Check that all safety guards are properly fitted, check there are no damaged or loose parts.
- Beware of the danger of overhead power cables. The operator must be aware of the maximum height and reach of the machine when working under power cables. The minimum legal height for 11,000 and 22,000-volt cables is 5.2 metres from the ground. When fully extended, the machine may well exceed this height so extreme caution should be practised. For more information contact the Health and Safety Executive or your local power company.
- Ensure that all warning labels are always visible and that they are not damaged, defaced or missing.
- Follow the manufacturer's instructions for attachment and removal of machine from the tractor.

Spearhead RI Barrier Mower

Never:

- Operate the machine until you have read and understood the relevant Handbook and are familiar with the controls.
- Operate the machine with other people present, as it is possible for debris to be thrown from the mower in all directions.
- Use a machine that is poorly maintained or has guards that are damaged or missing.
- Allow an inexperienced person to operate the machine without supervision.
- Use or fit a machine onto a tractor if it doesn't meet the manufacturer's specification.
- Allow children to play on or around the machine at any time.
- Attempt any maintenance or adjustment without first disengaging the hydraulic pump, lowering the head to the ground, stopping the tractor engine and applying the tractor parking brake.
- Exceed maximum oil pressure of 200 bar in the hydraulic hoses.
- Use a machine if the hydraulic system shows signs of damage.
- Attempt to detect a hydraulic leak with your hand, use a piece of card.
- Operate the tractor or any controls from any position other than from the driving seat.
- Operate with knives missing.
- Operate with wire around the knives. Stop immediately.
- Use the head at an angle, which may throw debris towards the cab.
- Leave the cab without removing the ignition key.
- Attempt to use the machine for any purpose other than that it was designed for.
- Attempt any maintenance or adjustment without first disengaging the hydraulic pump, lowering the head to the ground, stopping the tractor engine and applying the tractor parking brake.
- Enter the working area of the machine (risk of injury!).

Spearhead RI Barrier Mower

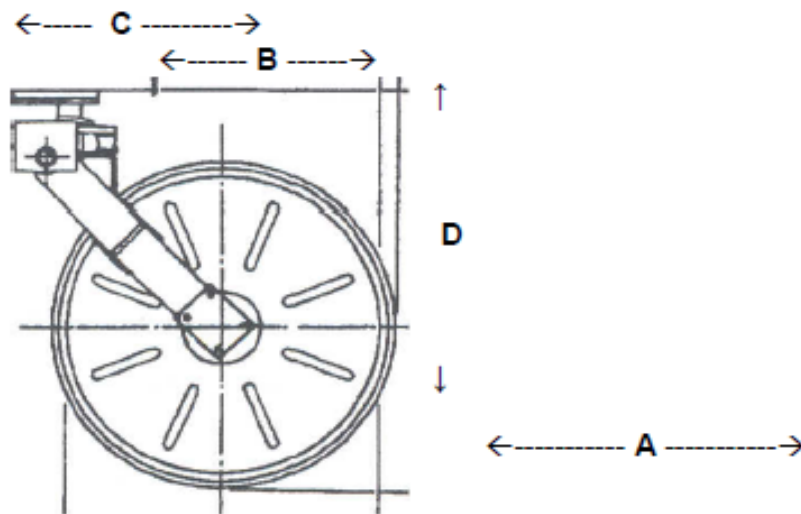
GENERAL DESCRIPTION

The inter-row mower is available as a separate accessory to same shredder models. It is ideal for cleaning the areas between the row trees; it can also be used for cutting grass on the ditch edges.

It consists of an iron disk protected by a rubber guard, which prevents trees from being damaged during contact. The disk rotates freely irrespective of the blades rotation.

The mowing unit is fitted with jointed blades and is installed underneath the disk. The mowing head is driven by a hydraulic gear angina.

Moreover they can either be supplied with snap-on joints for an easy connection to the tractor hydraulic system or complete with separate hydraulic system to be connected to the shredder gearbox.



Inter-row mower $\varnothing 60$ - $\varnothing 80$

Model	A			B	C	D	E	E
	Cutting width cm	Weight kg	Knives	Cutting reach	Disk reach	Length	Height min	Height max
$\varnothing 60$	60	60	2	46	52	81	34	44
$\varnothing 80$	74	75	2	56	61	90	34	44

Spearhead RI Barrier Mower

MOVING THE INTER-ROW MOWER

This chapter provides useful information for moving the inter-row mower properly. The following is directed to the **TRAINED TECHNICAL STAFF** with adequate knowledge to properly and safely operate the fork lift, the lifting bridge and whatever else may be needed.

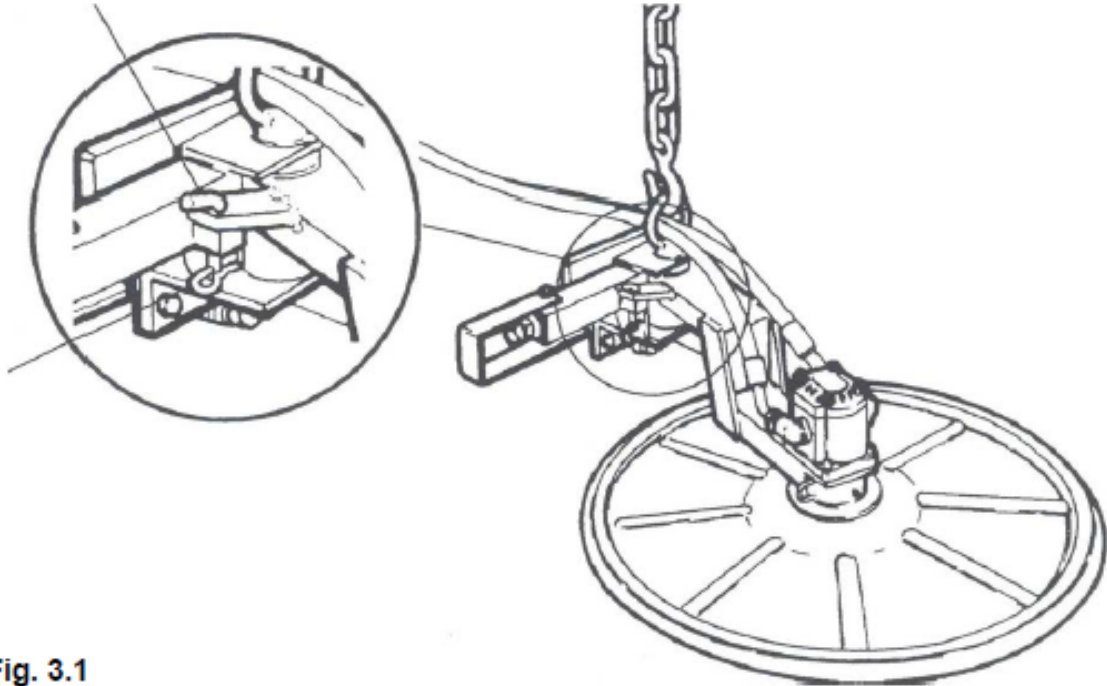


Fig. 3.1

Lift as shown in Fig. 3-1.

⚠ DANGER

Before any lift make sure the chains or the belt can withstand a load adequate to the inter-row mower weight.

⚠ CAUTION

Move only when the inter-row mower is closed and locked with the blocking plug 1 and the safety pin 2 (Fig. 3-1).

Spearhead RI Barrier Mower

INSTALLING AND CONNECTING THE INTER-ROW MOWER

This Chapter will provide you with useful information for installing and connecting the inter-row mower.

The following is directed to the **trained technical staff** as far as the first connection is concerned, and to the **operator** as far as the normal inter-row mower use is concerned.

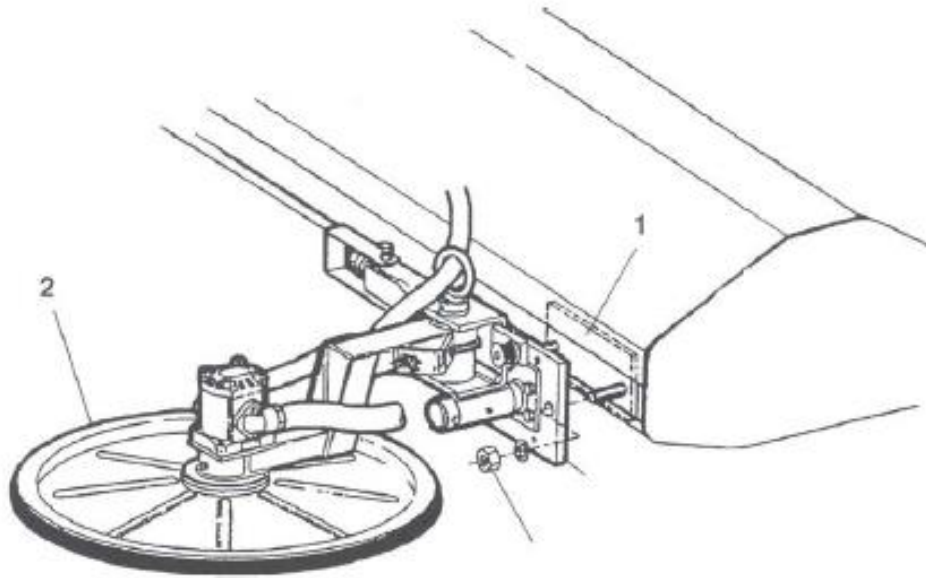


Fig. 4-1 Assembly of the inter-row mower $\varnothing 60 - \varnothing 80$

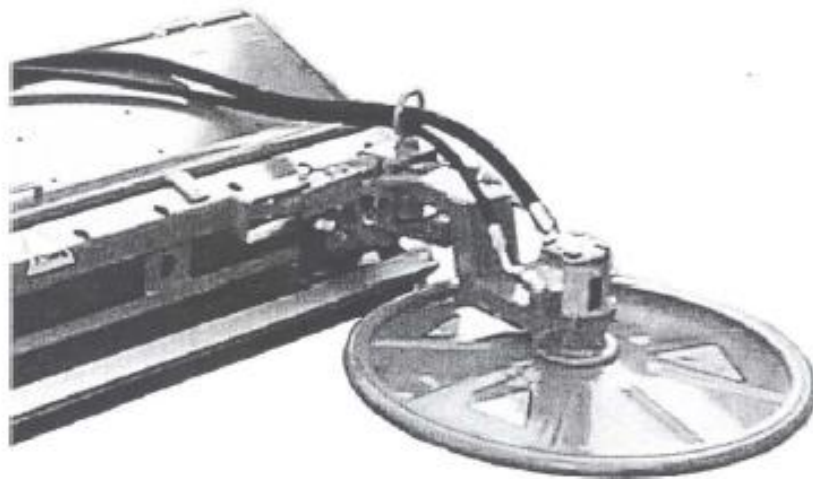


Fig. 4-2 Inter-row mower $\varnothing 60 - \varnothing 80$ after assembly

Spearhead RI Barrier Mower

Mecanical connection of Inter-row mower 60-80 for shredders

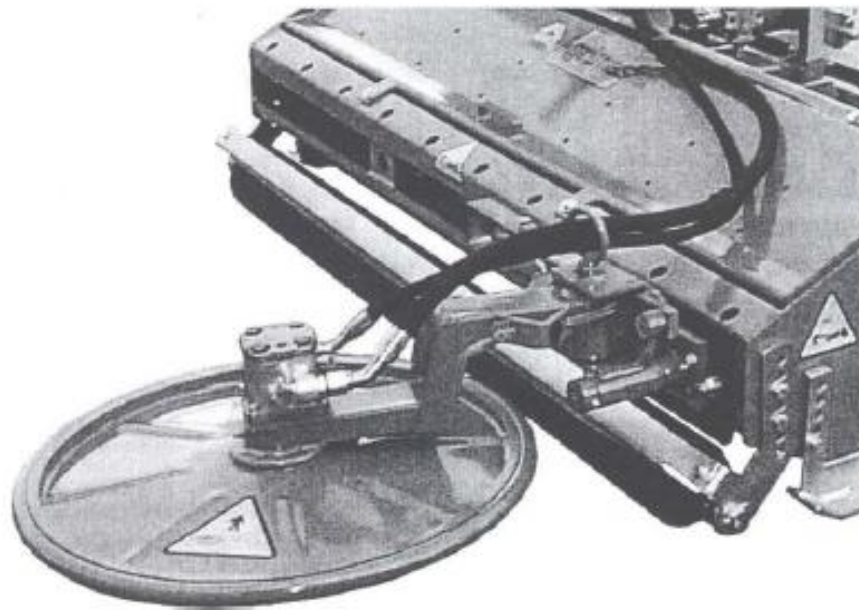
Head assembly required staff: 2 OPERATORS

Insert the counter plate in the provided seat on the shredder chassis (Fig. 4-1) making sure the bolts face outwards.

Approach the head to the shredder chassis as to insert the bolts of the counter plate in the holes of the adjustment bracket. Block with the nuts.

⚠ WARNING

Before tightening the nuts, make sure the disk welded behind the adjustment plate is in guide in the opening of the shredder chassis.



Hydraulic connection to the tractor

The inter-row mowers $\varnothing 60$ - $\varnothing 80$ can be supplied without separate hydraulic system, to be attached directly to the tractor hydraulic system.

Required staff

First connection - 1 trained technician

Following connections - 1 operator

Connect the quick joints of the hydraulic motor pipes of the inter-row mower to the tractor hydraulic system.

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Hose connection:

- The smallest hose is the DRAIN. It is connected to a depressurized (0bar) tank connection.
Marked in BLUE.
This must never be connected to RETURN.
(variates depending of attachment tool)
- The middle hose is PRESSURE. It is connected to Pressure (P) with a maximum of 200 bar.
Marked in RED.
- The largest hose is RETURN. It is connected to Tank (T) Maximum back pressure 15 bar.
Marked in GREEN.



OBS: Case drain pressure may never exceed return pressure

All machines supplied by GreenTec have hose connections marked with the following stickers:

DK: DRÆN	DK: DRÆN	DK: DRÆN	DK: DRÆN
UK: DRAIN	UK: DRAIN	UK: DRAIN	UK: DRAIN
D: LECK	D: LECK	D: LECK	D: LECK

DK: TRYK	DK: TRYK	DK: TRYK	DK: TRYK
UK: DRESSURE	UK: DRESSURE	UK: DRESSURE	UK: DRESSURE
D: DRÜCK	D: DRÜCK	D: DRÜCK	D: DRÜCK

DK: RETUR	DK: RETUR	DK: RETUR	DK: RETUR
UK: RETURN	UK: RETURN	UK: RETURN	UK: RETURN
D: RÜCKLAUF	D: RÜCKLAUF	D: RÜCKLAUF	D: RÜCKLAUF

NOTICE

The distributor operating the inter-row mower should be equipped with a lever control device.

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SAFETY

This Chapter will provide you with useful information regarding the safety systems and devices adopted in order to make the use of the inter-row mower safer.

Removing or tampering with any safety device is strictly prohibited.

The following is directed to the *operator* and to *the trained technician*.

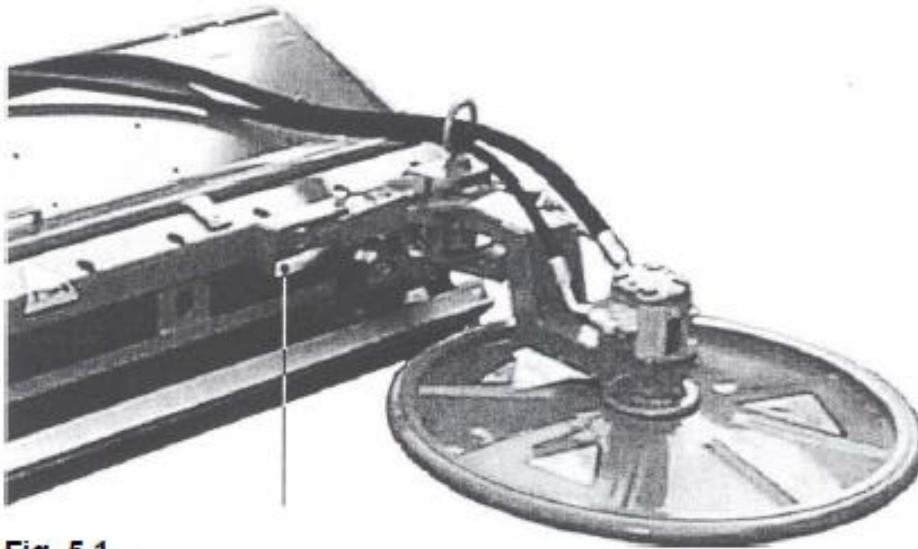


Fig. 5.1

Safety devices

Spring protection (Fig. 5-1):

The break back spring is protected by the bolt-on part. In case of failure in the steel cable it prevents the break back spring from being projected in the distance.

CAUTION

During the inter-row mower operation no living thing should stand within a 50 m distance from the working area.

DANGER

When the inter-row mower is in function do not attempt to insert or remove material underneath the head disk with any tool or with your hands or feet.

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SET-UP PROCEDURE

This Chapter will provide you with good understanding of the inter-row mower set-up procedure before starting to work. The following steps may be performed by the **operator** and more generally by all **trained technical staff**.

CAUTION

Make sure to perform all adjustments while the inter-row mower is not moving.

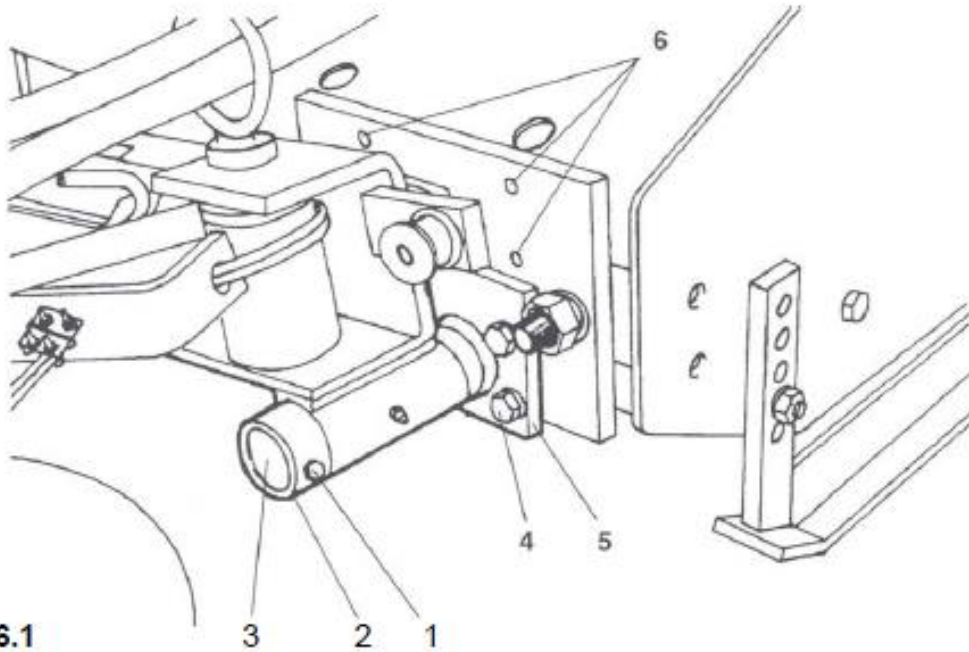


Fig. 6.1

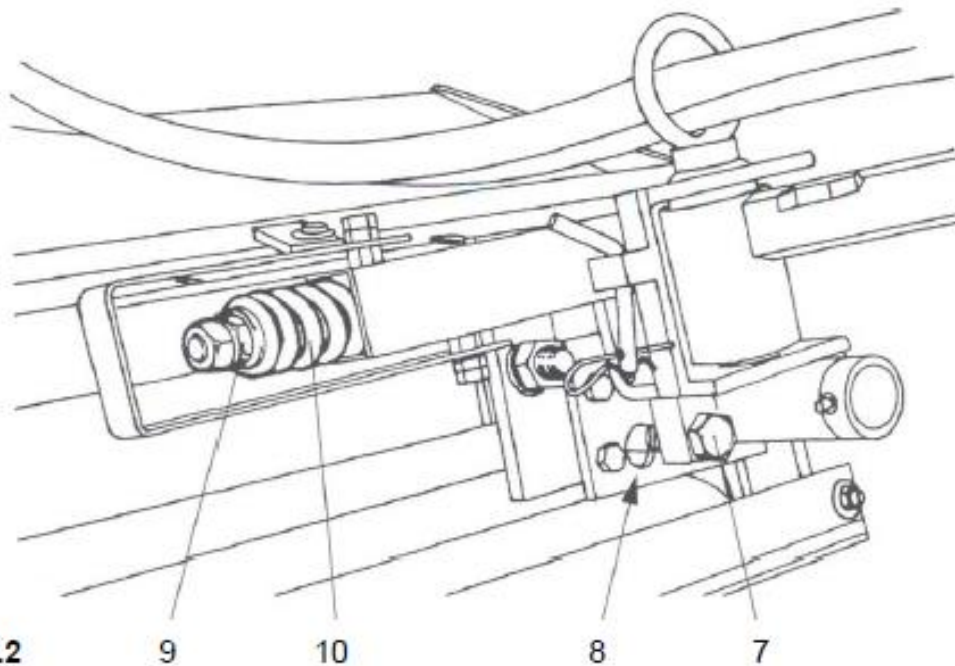


Fig. 6.2

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GETTING STARTED

⚠ WARNING

Operate the starting device of the inter-row mower only when the PTO is stationary. If the inter-row mower is started while the tractor PTO is turning the hydraulic system may be dangerously overloaded and failures may occur.

Adjustment of the working height

Required staff - 1 operator

To do

- Remove the bolt 1 and the bushing 2.
- Take the mower out of the pin 3.
- Remove the bolts 4
- Install the plate 5 using of the series 6 the four most suitable holes for the desired working height.
- Put the inter-row mower back into the pin 3 and make sure that the bolt 7 is placed in the hole 8 (Fig. 6-2).
- Put the bushing 2 and the bolt 1 back in place.

⚠ WARNING

Before starting the inter-row mower make sure that the disk of the mowing unit does not touch the ground.

Break back adjustment

Required staff - 1 operator

If the inter-row mower falls back to its working position adjust the nut 9, (Fig. 6-2) in order to further load the break back spring 10.

Start for work beginning

- Operate the inter-row mower starter.
- Insert the PTO and release the clutch slowly, in order to avoid overloading the transmission.
- Make the tractor PTO reach the correct speed.
- Decide the ground speed depending on the Grass height.

⚠ WARNING

Make sure not operate with the tractor proceeding in reverse. In this case the arm break back of the interrow mower does not work and in case of obstacles the mechanical parts might be seriously damaged.

Spearhead RI Barrier Mower

Start

RI 60-80 It is recommended that forward speed is kept to a minimum when starting work in order to retain the correct working speed of the blades. Set the angle of the cutter so it is positioned at right angles to the work and adjust the machine position so the knives meet the grass 'straight on'.

Wherever possible try to keep the knives running horizontal in relation to the direction of travel, this will help prevent them from 'distorting' during operations.

Should small branches, debris or unwanted material get stuck in the knives the **machine and tractor must be switched off** and the ignition key removed before attempting to clear the blockage. Use safety glasses and work gloves during work. If the tool is raised for any reasons it **must** be supported in a secure way.

WARNING

RI 60-80: Never use the tool with broken knives.

WARNING

RI 60-80: Great care must taken when attempting to clear debris from the blade and/or belt area of the machine; sharp components and numerous pinch risk points exist in these locations. Safety gloves and safety eyewear should be worn and wherever possible a suitable tool should be used to remove any debris to ensure hands and fingers are kept clear of any risk areas.

DANGER

RI 60-80: Never use the tool for any other purposes than described in this manual.

When in charge of the machine always obey the following rules:

- Always inspect the work area prior to operation and remove any dangerous materials.
- Never operate the machine with persons or animals in close proximity.
- Ensure all cab guarding is in place and the tractor windows are kept shut.
- Only operate the machine at the correct knife speed.
- Never approach the machine when it is running, always switch it off and stop the tractor.
- Always remove the vehicle ignition key before leaving the cab.
- Never use the machine to perform tasks it was not designed for.
- Always lower the machine to rest on the ground when the unit is parked up or not in use.

Spearhead RI Barrier Mower

PROBLEM SOLVING

Finding the cause of the problem

When encountering a problem, stop the inter-row mower immediately and after the blades have come to a standstill look for the cause of the trouble.

TROUBLE	POSSIBLE CAUSE	REMEDY	Required STAFF
Noise during operation.	Poor lubrication of mowing unit ball bearings.	Lubricate as to the manual.	OPERATOR
	Foreign bodies wrapped around the mowing unit.	Remove the foreign bodies	OPERATOR
Excessive vibrations	Broken blades.	Replace the blades.	OPERATOR
Irregular cut	Broken blades. Wrong speed of tractor PTO.	Replace the blades. Check the PTO speed.	OPERATOR OPERATOR
Won't cut.	Mowing unit disk touches the ground. Wrong speed of tractor PTO.	Adjust height. The working	OPERATOR
		Check the PTO speed.	OPERATOR
The mowing stops.	Oil overheating.	Adjust the working height or reduce ground speed.	OPERATOR
Oil! Overheating.	Mowing unit disk touches the ground High ground speed with respect to the material! to cut.	Adjust height.	OPERATOR
		Reduce tractor ground speed.	OPERATOR
Fast wear-out of the blades.	The blades touch the ground.	Adjust the cutting height	OPERATOR

Spearhead RI Barrier Mower

MAINTENANCE

Lubrication

After machine wash

Lubricate all machine parts and extra equipment after each wash.

Hydraulic hoses

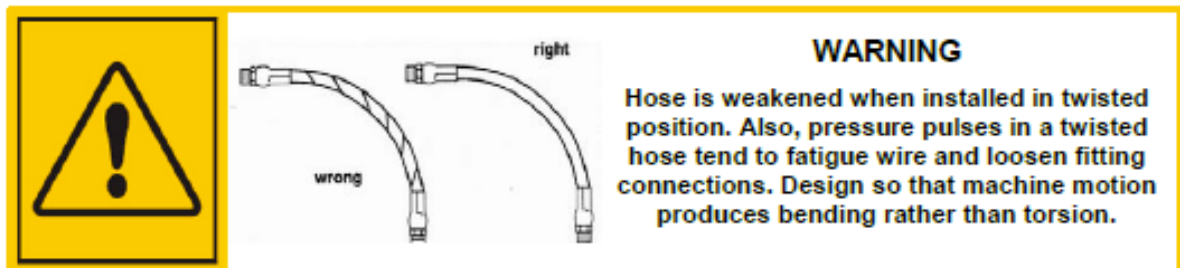
Carefully check condition of all hoses during routine service paying particular attention to chafed outer casing. Secure wrap with waterproof adhesive tape to stop the metal braid from rusting.

Daily inspect all hydraulic hoses and fittings to be in good order. Any damages or leaks must be rectified immediately; this is part of the daily maintenance and is your responsibility, to ensure a long reliable working life.

Hoses with damaged metal braid should be replaced.

When replacing hoses quote number stamped on fitting at one end. The Spearhead hydraulic system works at very high pressure, when replacing hoses use only genuine hoses, a burst hose could be very dangerous.

When replacing hoses to avoid twisting fitting, use two spanners to slacken and tighten.



Always check the black protective sleeve is in good order, to replace sleeve is far cheaper than replacing expensive hoses.

Hose warranty is limited to replacement of hoses due to faulty materials or manufacture Warranty will not be considered on hoses damaged by chafing, abrasion, cuts or pinching while in work, or to damaged threads due to over tightening.

Spearhead RI Barrier Mower

Oil supply

- Daily before starting up check oil level in tank reservoir.
- It is a good practice to constantly keep an eye on the tank level gauge as a pipe burst could empty the tank within minutes.
- A pump or motor starved of oil will be damaged beyond repair.
- Replace oil if signs of contamination occur (discolored)

Contamination can be reduced by:

- Thoroughly cleaning around reservoir cap before removing.
- Using a clean container when replenishing the system.
- Regularly servicing the filtration system.
- Never allowing oil level to fall below the sight gauge.

Daily inspect all hydraulic connections and fittings to be in good order. Any damage or leaks must be rectified immediately; this is part of the daily maintenance and is your responsibility, to maintain a long reliable working life.

When tightening fittings always use two spanners when necessary and do not over tighten. If a fitting leaks it will need to be replaced.

MODEL	OIL QUANTITY IN L/MIN.
RI 60 & 80	25 / 40 Liter/ 150 bar

MAINTENANCE DIAGRAM	
Maintenance intervals	Operation
Before a working session	Blades inspection
	Inspection of oil level in hydraulic system tank
Every 8 working hours	Inter-row mower cleaning
	Lubrication

Spearhead RI Barrier Mower

Pins and bushes

All main pivot points are furnished with replaceable bushes. If there are any signs of wear, these must be replaced. All bushes are available from GreenTec's Parts Department.



WARNING

Do not use grease containing Molybdenum disulphide on nylon bushes and wear pads.

Storage

Before storing away, thoroughly wash the machine removing all traces of grass and dirt. Great care must be taken when washing with high-pressure hoses, do not hold the water jet close to the paintwork. Use steam cleaners with caution; be sure to remove all detergents to avoid any discolouring or damage to paint. Grease all grease points until fresh grease shows. It is important where possible to store undercover to protect against rain and sunlight. Always ensure a firm level surface. Control levers must be wrapped in plastic sheeting and taped over to keep dry.

Option

Joy stick and electrical equipment, which are NOT water tight, must be wrapped in plastic to keep them dry. Or dismantled.



WARNING

Before you attempt to do any repairs, service, maintenance or adjustment on your machine, ensure that the engine has stopped and the key is removed. PTO is disengaged, hand brake secure and the tool is firmly on the ground.

Remember regular maintenance will greatly increase the life of the machine.

Spearhead RI Barrier Mower

Overhead Power Lines

It cannot be stressed enough the dangers involved when working in the vicinity of Overhead Power Lines (OHPLs). Some of our machines are capable of reach in excess of 8 metres (26'); they have the potential to well exceed, by possibly 3 metres (9' 9"), the lowest legal minimum height of 5.2 metres from the ground for 11,000 and 33,000 volt power lines.

Remember electrocution can occur without actually coming into contact with a power line as electricity can 'flashover' when machinery gets close to it.

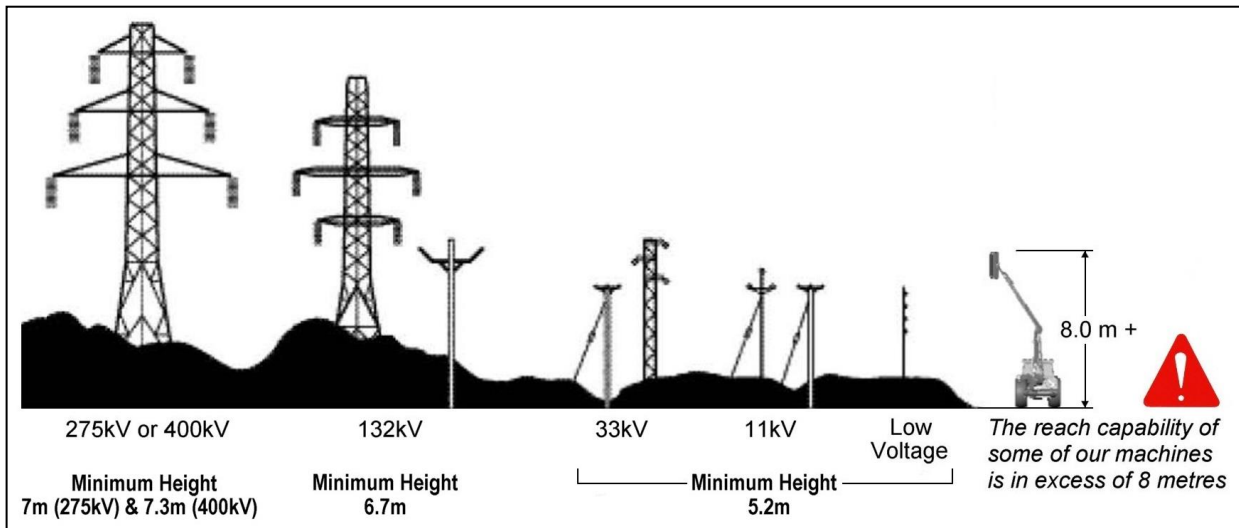


WARNING: All operators must read the following information and be aware of the risks and dangers involved when working in the vicinity of Overhead Power Lines (OHPLs).

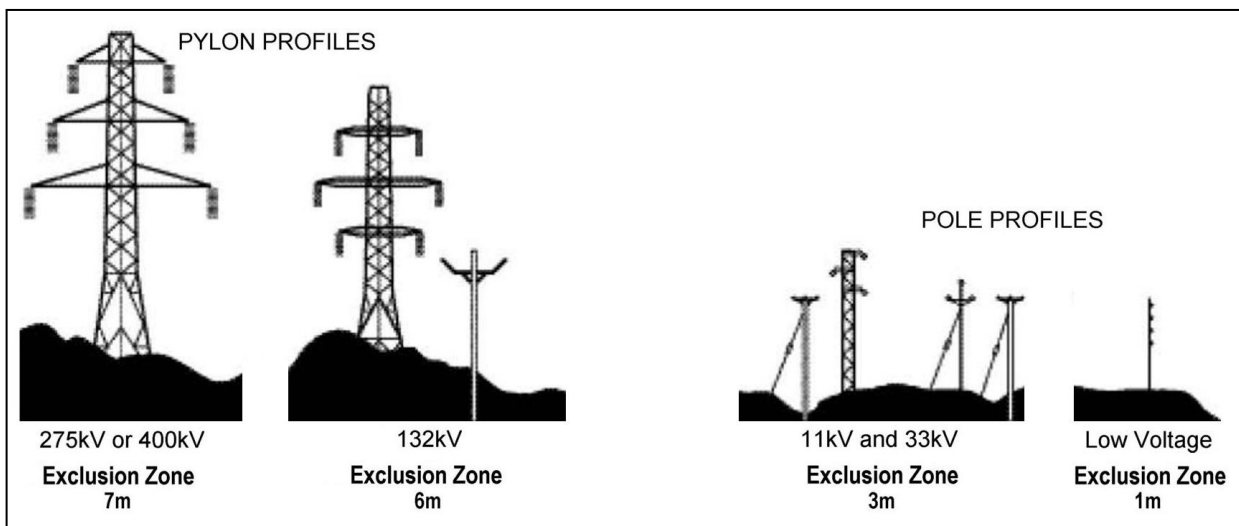
Wherever possible the safest option is always to avoid working in areas close to OHPLs. Where unavoidable, all operators must perform a risk assessment and implement a safe procedure and system of work – see *following page for details*.

All operators should perform a risk assessment before operating the machine within 10m horizontal distance of any OHPLs.

Minimum Heights for Overhead Power Lines

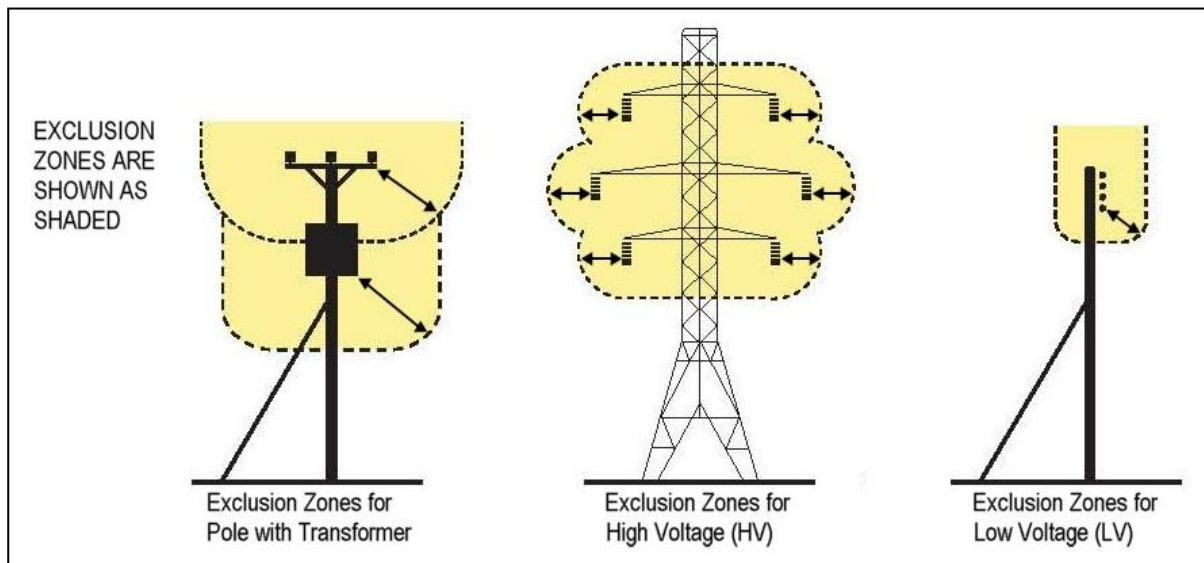


Absolute Minimum Exclusion Zones for Specific Overhead Power Lines



Spearhead RI Barrier Mower

Definitions of Exclusion Zones



Risk Assessment

Before starting to work near OHPLs you should always assess the risks. The following points should be observed;

Know the risks of contacting OHPLs and the risk of flashover.

Find out the maximum height and maximum vertical reach of your machine.

Find out the location and route of all Power Lines within the work area.

Find out the operating voltage of all Power Lines within the work area.

Contact the local Distribution Network Operator (DNO) who will be able to advise you on the operating voltage, safe minimum clearance distance for working and additional precautions required.

Never attempt operate the machine in an exclusion zones.

Always work with extreme caution and plan your work ahead to avoid high risk areas.

If doubt exists do not work in the area – never risk the safety of yourself or others.

Emergency Action for Accidents Involving Electricity

- Never touch an overhead line - even if it has been brought down by machinery, or has fallen. Never assume lines are dead.
- When a machine is in contact with an overhead line, electrocution is possible if anyone touches both the machine and the ground. Stay in the machine and lower any raised parts in contact or drive the machine out of the lines if you can.
- If you need to get out to summon help or because of fire, jump out as far as you can without touching any wires or the machine - keep upright and away.
- Get the electricity company to disconnect the supply. Even if the line appears dead, do not touch it - automatic switching may reconnect the power.

Further information and leaflets on this and other agricultural safety subjects are available on the 'Health & Safety Executive' website at the following address:

www.hse.gov.uk/pubns/agindex.htm

Spearhead RI Barrier Mower

Ordering Your Part's

When ordering parts please refer to your parts list to help your dealer with your order.

Part number and quantity
Description
Machine model number
Serial number of the machine
Delivery instructions (e.g. next day).

Delivery is normally via carrier direct to your dealer. Please check with your dealer for stock availability and arrangement of dispatch. Ensure you or your dealer has sufficient cover for parts requirement outside factory hours.

When ordering your seal kits please quote both codes stamped on the base of the cylinder.

Important Note

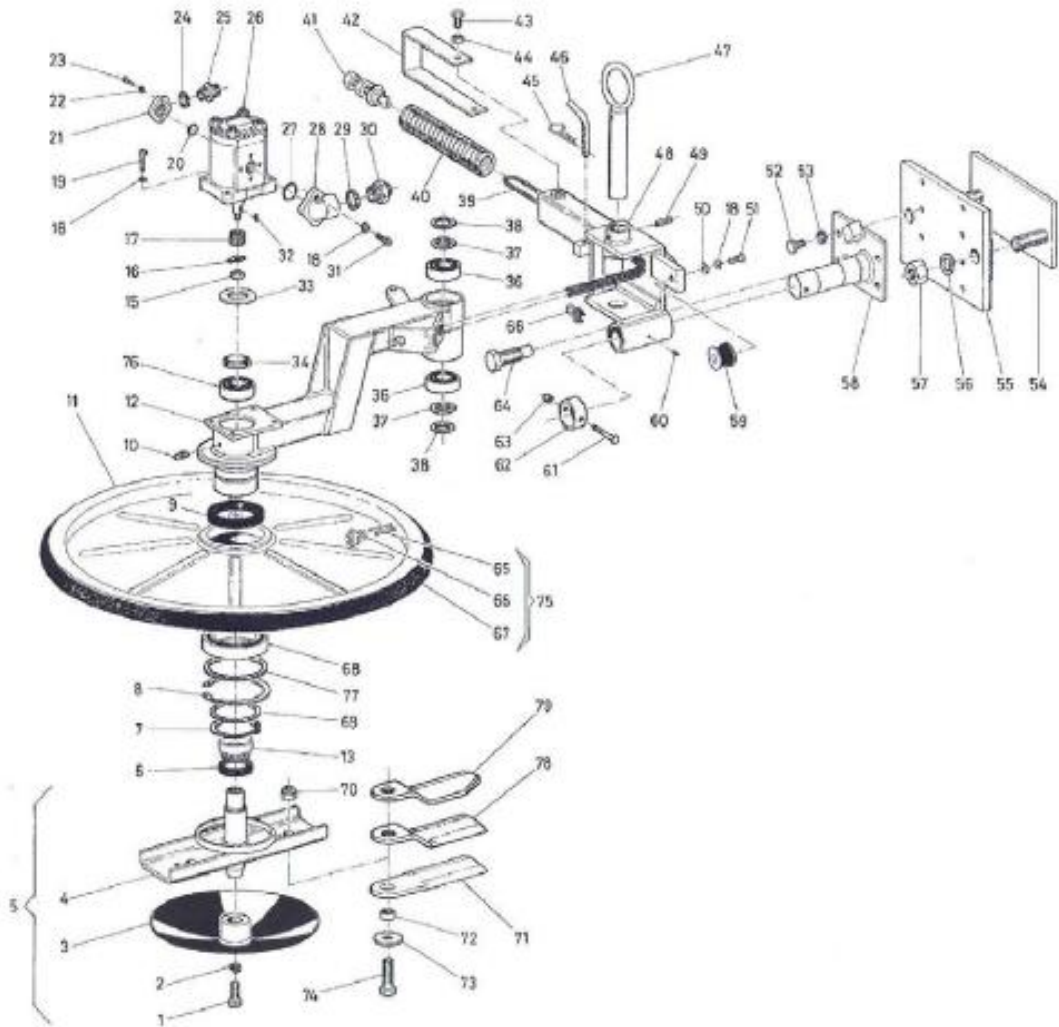
The information contained in this manual is correct at the time of publication. However, in the course of constant development, changes in specification are inevitable. Should you find the information given in this book different to the machine it relates to, please contact the "After Sales Department" for advice.

Key:

(LH) = Left hand
(RH) = Right hand

Spearhead RI Barrier Mower

SPARE PARTS



Spearhead RI Barrier Mower

No.	Part number	Description	Qty
1	1521410	M14x30 SX UNI5931	1
2	1214000	Ø14 UNI1751	1
3	3001890		1
4	3004466	Ø50	1
	3001895	Ø60	1
	3001928	Ø80	1
5	3004467	Ø50 (1+2+3+4)	1
	3000557	Ø60 (1+2+3+4)	1
	3001510	Ø80 (1+2+3+4)	1
6	0001810	42x62x10	1
7	1010075	Seeger E75 UNI7435	1
8	1020115	Seeger 1115 UNI7437	1
9	0001858	85x102x10	1
10	0002654	M10x1	1
11	3001280	Ø50	1
	3000559	Ø60	1
	3001509	Ø80	1
12	3000556	Ø50 - Ø60	1
	3002179	Ø80	1
13	0001424	32007	1
15	1021512	M12x1,5 UNI5589	1
16	0002900		1
17	0002901		1
18	1208000	Ø8 UNI1751	7
19	1120810	M8x30 UNI5931	4
20	3151142 (200160.0)	aR 3062	1
21	0002308	½"	1
22	1206000	Ø6 UNI1751	2
23	1120608	M6x25 UNI5931	2
24	0002006	½"	1
25	0002305	½"	1
26	3151141 (200130.0)		1

Spearhead RI Barrier Mower

No.	Part number	Description	Qty
27	3151143 (200132.0)	aR 132	1
28	0002309	3/4" x 40	1
29	0002007	3/4"	1
30	0002310	3/4" - 1/2"	1
31	1120808	M8x25 UNI5931	2
32	1551004	3x6,5x16 UNI6606	1
33	3000572		1
34	1035635	M35x1,5	1
36	0001422	6206-2RS	2
37	3000571		2
38	3000527		2
39	0001307		1
40	3000577		1
41	7770808 (3000565)		1
42	3001138		1
43	1111006	M10x20 UNI5739	2
44	1012510	M10 UNI1588	2
45	0002115	Ø4	1
46	3000579		1
47	3000574		1
48	30004693		1
49	1608040	8x40 UNI6873	1
50	1309242	8x24x2 UNI6593	1
51	1110810	M8x30 UNI5739	1
52	1111212	M12x35 UNI5739	4
53	1212000	Ø12 UNI1751	4
54	3000564		1
55	3000562		1
56	1222000	Ø22 UNI1751	2
57	1012522	M22 UNI5588	2
58	3004692		1
59	0002104		1

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No.	Part number	Description	Qty
60	0002659	M6	1
61	1100824	M8x65 UNI6737	1
62	3000570		1
63	1012408	M8 UNI7474	1
64	3000578		1
65	0001324	Ø50	1
	0001308	Ø60	1
	0001320	Ø80	1
66	0001309		3
67	0002763	Ø50	1
	0002631	Ø60	1
	0002642	Ø80	1
68	0001423	6015-2RS	1
69	3000569		1
70	7770804 (1012416)	M16 UNI7474	2
71	3000107	Ø50	2
	7770803 (300580)	Ø60-Ø80 FLAT DOUBLE SIDED BLADE	2
72	3000500		2
73	7770806 (3000582)		2
74	7770807 (1111618)	M16x50 UNI5739	2
75	0002756	Ø50	1
	0002602	Ø60	1
	0002643	Ø80	1
76	0001450	6007	1
77	3004305	100x114x0,25	1
78	7770802	STEPPED DOUBLE SIDED BLADE	2
79	7770801	RIGHT-HAND DK SPEC FINNED BLADE	2

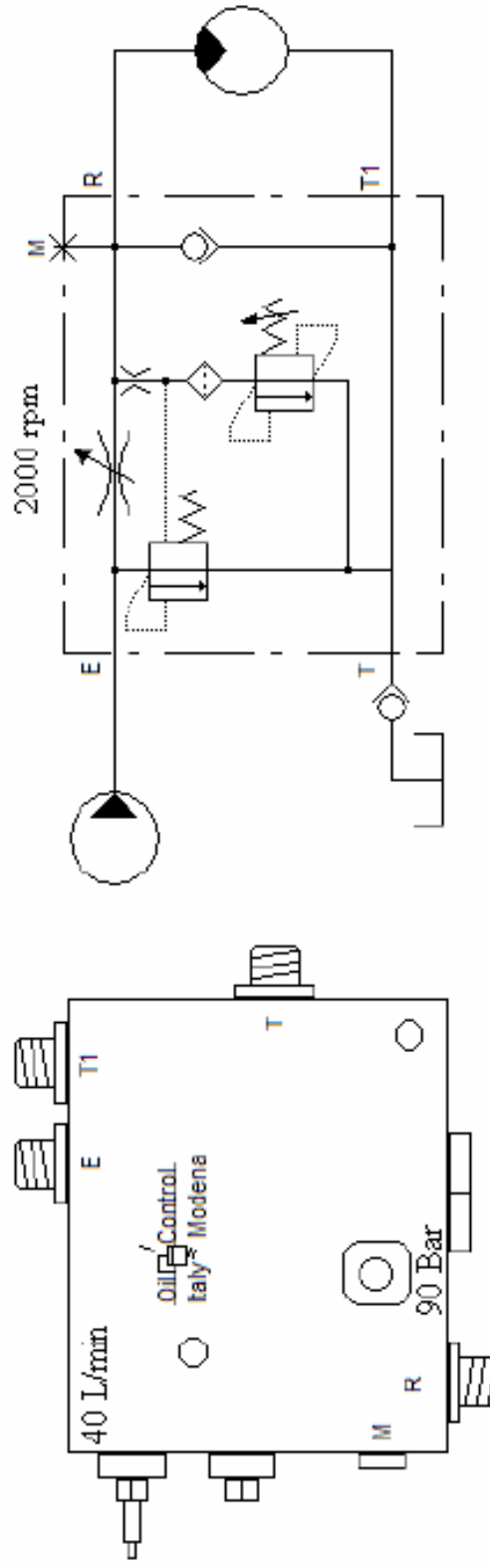
NOT SHOWN	3151142	COMPLETE MOTOR SEAL KIT	1
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Spearhead RI Barrier Mower

E	P fra pumpe	P von Pumpe	P from pump	Max. 150 L/min.
R	Reguleret flow	Regulerte Ölmenge	Regulated oil flow	Max. 90 L/min.
T1	Retur fra motor	Zurück von Motor	Return from Motor	
T	Tankforbindelse	Tankverbindung	Tank connection	
M	Manometertilslutning	Manometer anchluss	Manometer test plug	

E-R-T1-T = 3/4" Gewind / Thread
M = 1/4" Gewind / Thread

RI 60-80
40 L/min
90 Bar
2000 rpm



Spearhead RI Barrier Mower

Spearhead Machinery Ltd
Green View
Salford Priors
Evesham
Worcestershire
WR11 8SW

Tel: 01789 491860

Fax: 01789 778683

www.spearheadmachinery.com
parts@spearheadmachinery.com