

# Spearhead

## XRHD 250/270/300 Flail Mowers



Edition 1.1 - August 2016

Part No. 8999081

## HANDBOOK & PARTS MANUAL

## 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](http://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

## 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.

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## 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*

.....

# Spearhead XRHD 250/270/300

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## General information

This operation and maintenance manual is intended to the operator. It consists of operating instructions, maintenance part and spare parts list for the machine.

It is mandatory to follow these instructions in order to prevent events which could endanger the operator's, other people's and animal's safety, apart from the correct functioning of the machine. In case of doubt do not experiment, call Spearhead after-sales service instead, or a specialized Spearhead dealer.



**It is mandatory to read these instructions to understand the operating of the machine!**



**In the case of re-sale of the machine it is necessary to give these instructions to the new owner!**

### A meaning of decals in this book



**Very important information!**



**Technical warning!**



**Safety warning!**


## 1.1 Purpose of use


Flail mower XRHD is a heavy duty professional machine, purposed for use on large agriculture and green areas, for mulching maize and other crop residues, grass and bushes on green and abandoned areas. This machine is very rigid and made for use in hard working conditions.

# Spearhead XRHD 250/270/300

## 1.2 Warranty

 **A producer can ensure normal operating of the machine only with use of original spare parts!**

 **Spearhead is not responsible for any damage or injuries, if the user doesn't consider the rules in this book!**

 **Spearhead is not responsible for any damage or injuries due to improper use of the machine!**



After receiving the machine it is necessary to check that the machine was not injured during transport and that it is equipped with all basic and additional equipment (if ordered). A customer can claim any missing or damaged part in the period of 8 days after receiving the machine.

Spearhead does not accept any responsibility in the case of:

- Improper maneuvering the machine,
- Improper maintenance,
- Unauthorized repairing or modifications on the machine or use of non-genuine spare parts,
- Non-respecting these rules,
- Overloading of the machine (see Table 1 – limited values)

## 1.3 Identification of the machine

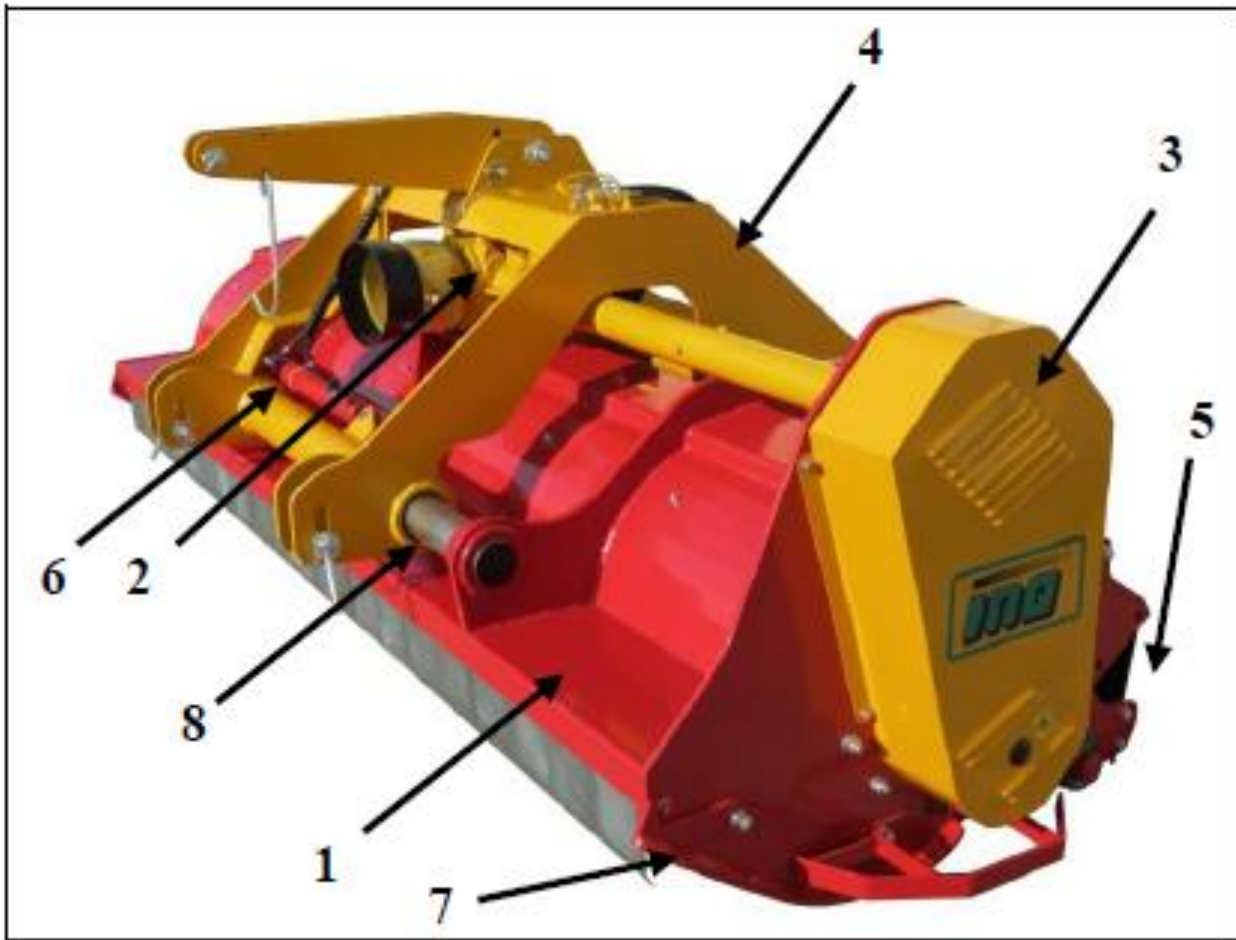
Each machine is fitted with an identification plate with the following data: producer and address, CE sign, name of the machine, type, weight, identification number and year of production.

	
Evesham, WR11 8SW, GB www.spearheadmachinery.com Tel: +44 (0)1789 491 860	
	
MACHINE	<input type="text"/>
SERIAL No.	<input type="text"/>
MASS (Kg)	<input type="text"/>
MODEL TYPE <input type="text"/>	
PROD. YEAR <input type="text"/>	
MODEL YEAR <input type="text"/>	
8770547	
MADE IN SLOVENIJA	



# Spearhead XRHD 250/270/300

## Technical Data



- |               |                       |
|---------------|-----------------------|
| 1. frame      | 5. rear roller        |
| 2. gearbox    | 6. hydraulic cylinder |
| 3. belt drive | 7. skids              |
| 4. linkage    | 8. sliding tubes      |

# Spearhead XRHD 250/270/300

## Technical Specification

### 2.1 Noise

The sound level of this machine, as measured at the operator's ear, ranges from 70 to 90 dB when the rear window of tractor is open. We recommend the use of ear protectors

### 2.2 Optional equipment

According to the working requirements we offer different optional equipment:

- Y-blades
- Double skin
- Wheels instead of rear roller
- Gearbox 540 rpm

### 2.3 Technical specification

**Table. 1:** *Technical data*

Type	Unit	XRHD 250	XRHD 270	XRHD 300
Working width	cm	245	270	300
Min.tract.power	kW	50-60	60-90	70-100
RPM	min <sup>-1</sup>	1000	1000	1000
Hammer	nr.	20	24	28
Weight	kg	1017	1265	1390
Offsetting	cm	53	53	53
Linkage	cat.	II	II	II
Total width	cm	273	298	327

## Safety



### 3.1 General safety rules

1. Before starting, checks on the tractor and the machine must be carried out as regards: functionality, road safety, accident prevention rules.
2. Together with the operating and maintenance rules for the machine it is necessary to consider general health and security rules and warnings.
3. Before starting it is mandatory to know everything regarding the equipment and operating of the machine. Reading instructions among operating is too late.
4. Security and warning decals on the machine are very important. Respect them always.
5. Even when using the machine correctly, stones or other objects may be thrown on a long distance. Therefore nobody must stand within the danger area. Special attention must be paid when working near roads or buildings.
6. Use tractor with the cabin.
7. Whenever using public roads, respect traffic rules.
8. Never wear loose or fluttering clothes.
9. Keep the machine clean to avoid fire danger.
10. Before starting check the surrounding area for the likely presence of children and/or animals.
11. Never carry passengers on the machine.

# Spearhead XRHD 250/270/300

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12. Never overload the machine and the tractor. Use the ballast if necessary.
13. Start the machine only if all guards of the machine are fit on proper places .
14. It is forbidden to stand in the range of operating of the machine.
15. Do not enter the working zone of the PTO shaft. It is dangerous to approach the rotating parts of the machine.
16. Keep a safety distance from drive parts outside of the machine (PTO shaft, hydraulic pipes).
17. Before leaving the tractor with the machine attached disconnect the tractor, put the machine steadily on the ground (with the hydraulic lift), apply the hand brake and if the ground is steeply sloping, wedge the tractor. Take out the starting key.
18. Do not enter the zone between the tractor and the machine. It is strongly forbidden to be in this zone if the tractor is not properly disconnected, hand brake applied and starting key taken out.



## **3.2 Attachment on the tractor and transport**

1. Before attaching the machine on or detaching it of the tractor be sure that hydraulic lift system is in a neutral position.
2. check that a category of 3-point linkage on the tractor corresponds to that one on the machine.
3. Be careful! There is a danger of injuries when working near or with 3-point linkage.
4. It is forbidden to be in the zone between the tractor and the machine while working with the hydraulics.

5. Put the 3-point linkage into the position that moving of the machine during transport is not possible.
6. During transport secure the lever of hydraulic lift to avoid any unplanned moving the machine.
7. Never leave the tractor cab when the tractor is working.
8. Adjust driving speed to the road conditions.



### 3.3 PTO drive

1. Use only PTO shafts with all guards, as directed by the producer.
2. All guards on PTO shaft must be in good order .
3. Take care that all guards on the PTO shaft are in proper position during transport or operating. Respect the producer's instructions.
4. The PTO shaft must be assembled or diassambled only with the engine stopped and the starting key removed.
5. The guards of the PTO shaft must be fixed to the machine and to the tractor with chains, to prevent rotation.
6. Before starting always check that the speed and the rotational direction correspond to those on the machine.
7. At some tractors a number of rotations depends on the speed and a direction of rotating depends on the direction of driving. Take care about that.
8. Before starting the PTO shaft be sure, that noone is in the danger area.

9. Never try to start the PTO shaft when the tractor engine is disconnected.
10. It is forbidden to be in the zone of drive axle exit, when it is engaged.
11. After the drive is disconnected wait that the drive axle stops to rotate completely. Never approach before it stops.
12. Never carry out maintenance of a machine or tractor whilst the engine is running. The engine should be switched off and the key removed.
13. If the PTO shaft is damaged, immediately stop with any operating.



## **3.4 Hydraulic system**

1. Take care! Hydraulics is under very high pressure.
2. At connecting the pipes on the tractor check that the pressure is not too low.
3. We recommend that an official service tests the pipes before operating and than at least ones per year. Damaged or worn pipes should be replaced immediately with others of the same specification.
4. at checking pipes it is necessary to wear protection clothes and gloves to avoid injuries.
5. The oil under high pressure may sweep into the skin causing serious infections. In this case contact a doctor immediately.
6. Before working on the hydraulic system lower the machine, take pressure out and stop the tractor.

7. Approximate using period of the pipes is 6 years. After that the pipes should be replaced to avoid any damage.
8. Used oils and greases must be stored and disposed of according to antipollution rules.



## **3.5 Safety rules during use, maintenance and servicing**

1. Never start or continue to work with the machine if the tractor or the drive axle are engaged
2. Always remove the starting key after you stopped the tractor.
3. Periodically check that bolts and nuts are tighten properly.
4. At maintaining it is sometimes necessary to lift the machine. It is mandatory to put under the machine an appropriate support to avoid falling the machine at eventual damage on hydraulics.
5. Use the gloves and appropriate tools at changing sharp parts of the machine to avoid injuries.
6. Used oils and greases should be removed according to the rules.
7. Always disconnect electric cables on the tractor before any welding or other operation when using electricity is necessary.
8. Only original spare parts should be installed

## 3.6 Warning decals



1. Always take off previously the machine of the tractor and read the instructions carefully before starting servicing and or lubrication operations.



2. Keep at a safety distance from the machine to avoid the risk of projection of objects.



3. Never remove the guards while the parts of the machine are moving. It is dangerous to injure the hands.



4. Keep at a safety distance from the machine to avoid the risk of cutting the feet.

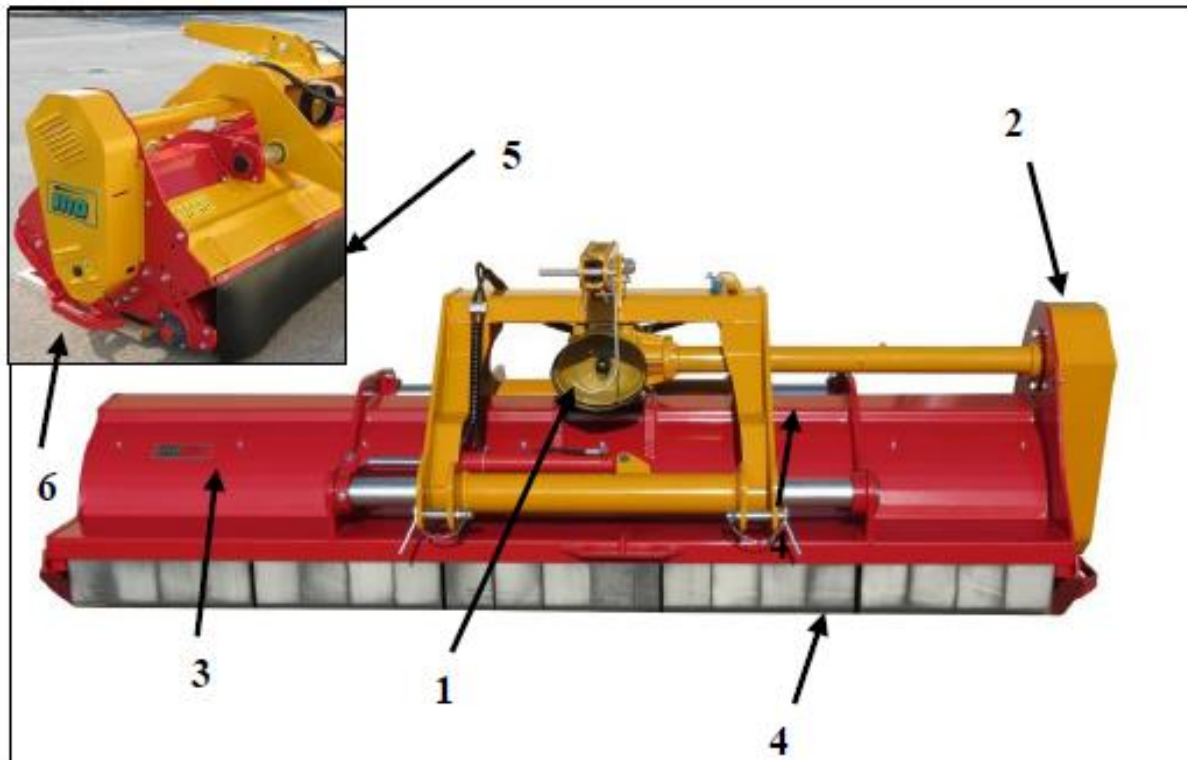


5. It is forbidden to mount on the machine because of the risk of fall!



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## 3.7 List of Guards



- |                         |                 |
|-------------------------|-----------------|
| 1. PTO shaft shield PVC | 4. flap guard   |
| 2. belt shield          | 5. rubber guard |
| 3. warning decals       | 6. side guard   |

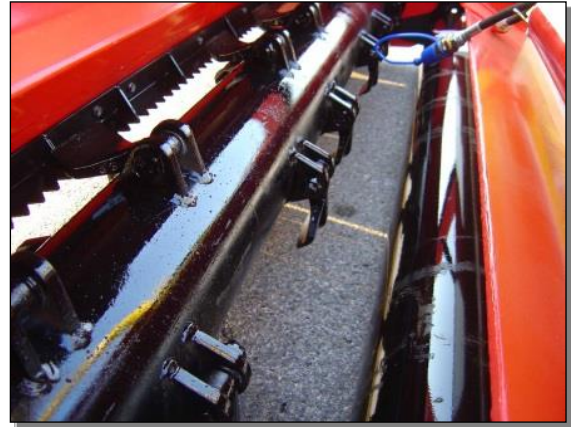
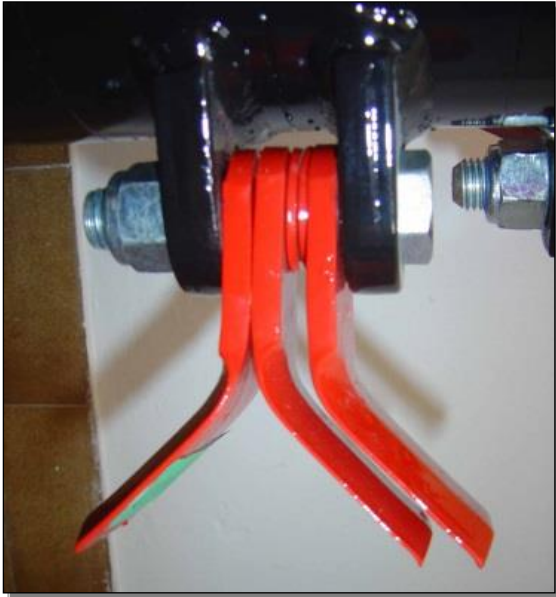
## 4.1 Description and operating of the machine

The machine is equipped with hammers on the rotor shaft. Hammers are appropriate for material with diameter till 8 cm. Optional working tools Y-blades are used for cutting material till fi 3 cm. While rotating working tools cut the material and lift it under the top of the frame. Falling material is again cut several times by rotating hammers.

 **Maximal thickness of the material depends on the sort and hardness of the wood. Up-mentioned diameters are valid for the fresh wood only.**

# Spearhead XRHD 250/270/300

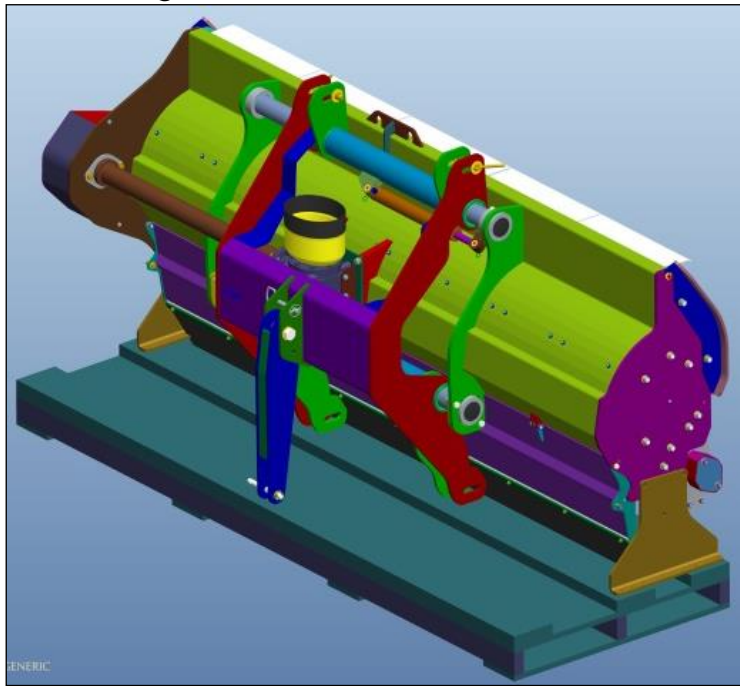
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## 5. Transport and attachment of the machine

### 5.1 Transport to the customer

Unload the machine with special care to avoid any damage. Check that all nuts and bolts are fixed and tightened. Specially check the bolts and nuts for the working blades.



Flail mower prepared for transport (optional packaging)

### 5.2 Attachment and detachment from the tractor

Before any operation check:


- That the machine is in good condition,
- That all guards are on proper places and in good condition,
- That working blades are complete and undamaged,
- That all greasing points are greased well and that in gearbox is oil enough,
- Appropriate tensioned belts,
- That rpm and direction of rotation on the drive axle correspond to those on the machine.



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To attach the machine to the tractor, bring the tractor lower lines near the machine, to the points corresponding to the pins. Insert the pins and secure them with the spring clips. Fit the top link, raise the machine to a perpendicular position with the ground. Adjust the two tractor lower linkage stabilizers thus fixing the machine to the tractor in a central position. Connect the hydraulic cylinders and check if it works.

 3-point hitch of the machine must be in a symmetrical position with the tractor.

Top linkage point has two working modes: floating and fixed linkage. Use floating position whenever working on hilly, uneven terrain to avoid damaging the machine or linkage. To get floating position just remove the pin, fixing the top linkage bracket, on the opposite site of the linkage bracket



 **It is mandatory to use floating linkage on hilly or sloping terrain!**

 **Before any change of attachment (front, rear) it is mandatory to check that rpm and direction of rotation on the drive axle correspond to those on the machine.**

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## 5.3 Fitting the PTO shaft

Attach the machine on the tractor. Split the tubes into both parts and put one part on the tractor and another on the machine. At the machine laying on the ground, minimum overlapping of the tubes mustn't be less than 1/3 of total length. Cut too long part of the tube and clean the edges. Cut on the proper length also the guard. Measure the length when the PTO shaft is in horizontal position. Grease before putting them together.

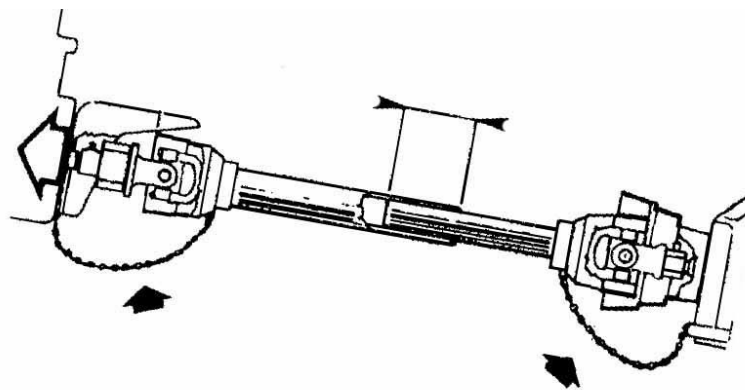


**Too long PTO shaft can seriously damage tractor or flail mower.**

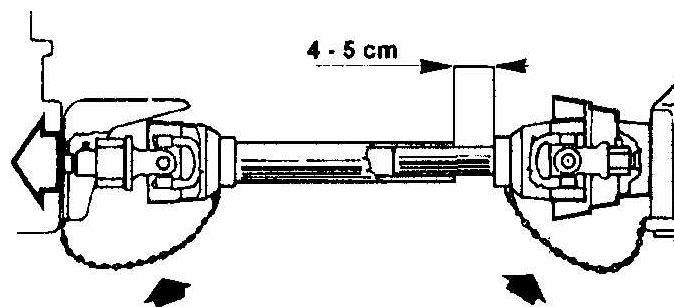


**Never put PTO shaft on the tractor without all guards and chains fitted properly.**

**Appropriate length of PTO shaft at the machine on the ground:**



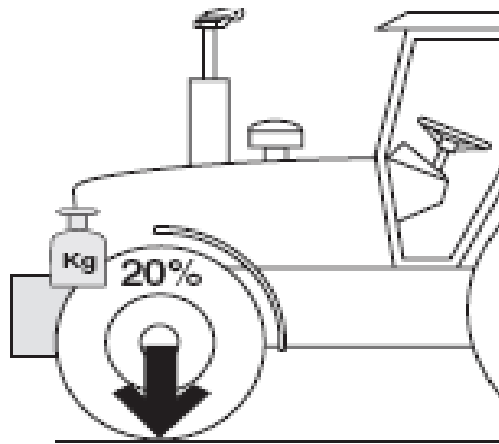
**Appropriate length of the guard at machine lifted:**



## 5.4 Stability of the tractor



**At attachment of the machine on the tractor always take care about allowed weight of the attachment and axle load. First axle of the tractor should always be loaded with min.20% of the weight of the tractor itself. This is very important specially on this machine because of its distance between the tractor and working part of the machine!**



## 6 Adjusting and Setting Up

### 6.1 Working height adjustment

Height of cut depends on working conditions and volume of the material. The height of cut can be regulated with the hydraulic system on the tractor or/and with adjusted rear roller of the machine (Fig. 13). The min. height of cut should be between 1-3 cm. The machine always run on the rear roller and not on the skids.

*Fig. 12*



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Working tools never touch the ground. The skids are only the protection against injures. Normally, they do not touch the ground during work.

## 6.2 Offsetting

The machine has a hydraulic offsetting in standard equipment. Maximum offsetting is 53 cm.



## 6.3 Belt tension adjustment

Appropriate belt tension is one of conditions for optimal operating of the machine and for long lasting of the belts them selves. This flail mower is equipped with automatic belt tensioner for this reason.



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**Tension the belts only when tractor is disconnected and starting key taken out.**



**Appropriate belt tension is achieved when at pressing on the belts with the force of 100 N (i.e. 10 kg), we reach a deviation of the belt 1,5 cm!**

## 7 Operating



**Before starting check the terrain first for some stones, wood and other.**



**Start PTO shaft at low rpm and slowly increase rpm on working rotations.**



**In the case of injury on the rotor shaft serious vibrations can appear and consequently a damage or cracking of the welding parts on the frame can be caused. In this case it is necessary to stop the machine immediately, stop PTO shaft, check the rotor shaft and change missing or damaged parts. If the machine is still vibrating it is necessary to balance it. Contact service dep.immediately.**



**At working with flail mower at lower rpm as defined working rotations, working tools can damage the rotor shaft.**



**If there is no other sign, max rpm of PTO shaft is 1000 rpm.**



Working speed depends on working conditions and on the material cut. Optimal speed is between 3-8 km/h. In the case of much more dense grass or other material, it is obligatory to reduce the speed to avoid slipping of the belts.



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👉 During reverse movement lift the machine off the ground to avoid damaging it.


👉 During turning lift the machine.

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## 8 After the job done

After the job done disconnect the PTO shaft, lift the machine and transport it onto the appropriate place.

 **During transport reduce the speed, especially on bumpy roads. The weight of the machine may render driving difficult and damage the machine itself. During transport the machine must be always in the central position.**

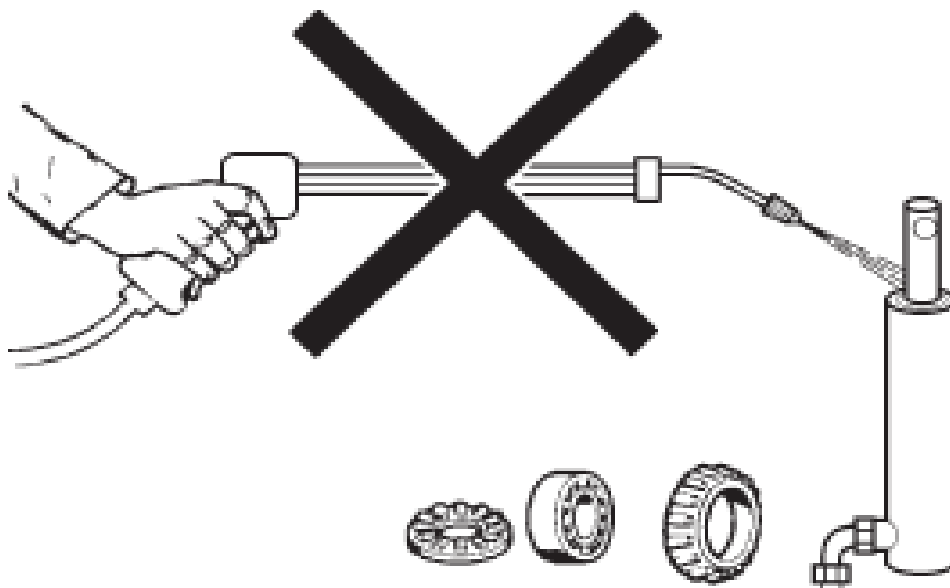
 **PTO shaft must be disconnected during transport.**

 **At disconnecting the machine respect the warning rules for attaching the machine.**

Store the machine on a dry and flat ground to avoid any damage or corrosion.

### 8.1 Cleaning

To avoid any corrosion clean the machine after each working day, especially working tools, bearings etc. Be careful to avoid damaging hydraulic pipes, hydraulic cylinder, bearings and paint.



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## 9 Maintenance



All maintenance, cleaning and repair operations must be carried out with the machine firmly lowered to the ground and detached from the tractor, or with disconnected PTO, engine off and starting key out.



A time of maintenance is defined according to the normal use of the machine. If the machine is used in very hard conditions, the time between maintenance operations must be shorter.



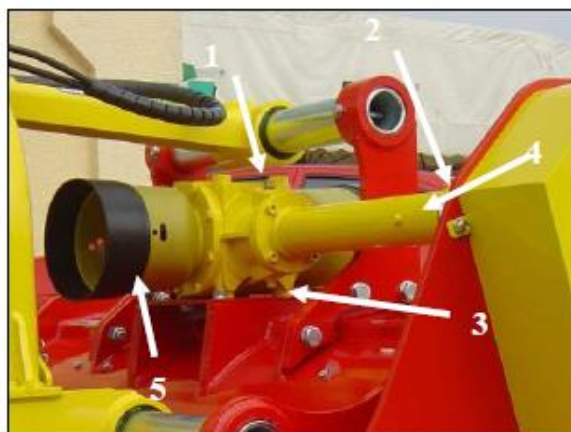
Take care that grease nipples on the machine are always clean.



After each maintenance operation check that all guards are fitted on the proper place.

### 9.1 Oil control in gearbox

Use always the same type of oil, SAE 90. To change the oil first unscrew the plug under the gearbox and let the oil off. Use the hole on the top of gearbox for filling in and on the top of the half axle. For pouring in use a funnel. Pour in the oil till the level of the control plug on the half axle and on the head of the gearbox. The control plug on the head of the gearbox is placed under the PVC shield. For XRHD 250 we need 4,2l of oil and 4,5l of oil for XRHD 270 and 300 (longer half-axle).



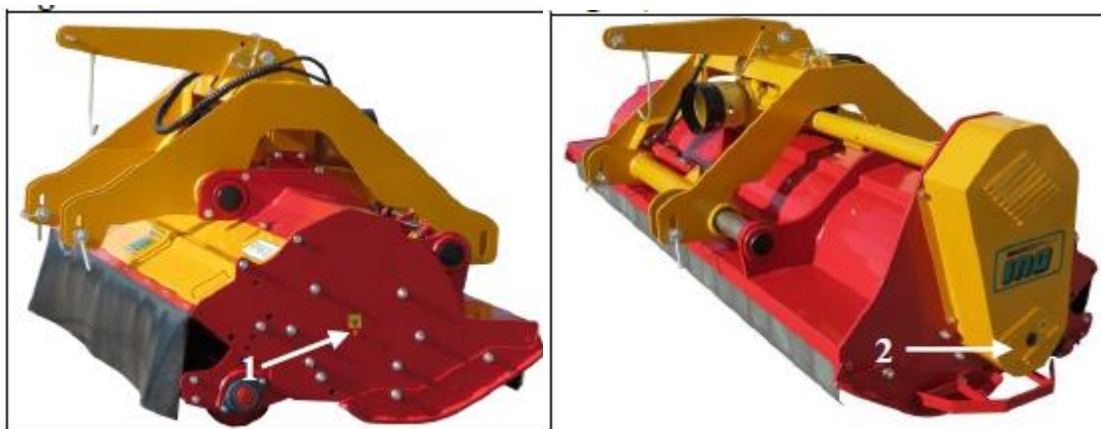
# Spearhead XRHD 250/270/300

## 9.2 Greasing

 **Before any greasing operation read these instructions first.**

The machine has the following 3 greasing points:

- Right bearing on the rotor shaft
- Left bearing on the rotor shaft
- Bearing on the strain pulley



 **During greasing use gloves. After greasing always wash your hands.**

 **Use type LIS 3 for greasing.**

# Spearhead XRHD 250/270/300

## 9.3 Change of belts

The belts are tensioned by automatic belt tensioner (Fig.22).

To change the belts proceed as follows:

Remove the belt shield.

Release the belt tensioner (Fig.23) with the lever, metal bar cca 1m (not enclosed), with the hole on it, min. fi 10 mm. Put the lever between the axle of the belt tensioner and the axle of the strain pulley (Fig.24).

Push the lever down (Fig.24) and fix the lever on the side frame of the flail mower with the appropriate bolt (Fig.25).



Change the belts.

Remove the lever and put the belt tensioner back into the working position.

Install the belt shield back.



## 9.4 Plan of maintenance jobs

### 1. After first two hours of work always:

- Check the belt tension,
- Check that all bolts and taper locks are tightened enough

Do the same also after each belt changing.

### 2. After every 8 hours always check:

- That the nuts are tightened enough,
- A wear and condition of working tools,
- Belts and taper locks,
- A condition of safe guards,
- Oil level in the gearbox,
- That any foreign parts are not stuck on the rotor shaft,
- That the frame and the 3-point hitch are in good condition,
- That all parts are greased well.

### 3. On every 100 hours we recommend to:

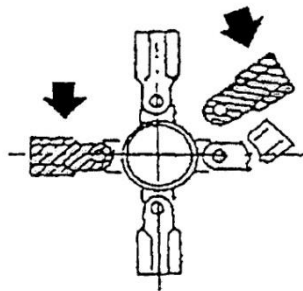
- Check and grease the PTO shaft

### 4. On every 12 months we recommend to:

- Change the oil in the gearbox and check the belts tension.

## 9.5 Replacement of working tools

Immediately after you notice that working tools are damaged, change them. If it is necessary to change only few blades, always change the broken or worn one and the one diametrically opposite in order to maintain the balance. If the rotor shaft is vibrating after changing the blades, immediately stop the machine. The machine must be balanced before any work.



## **9.6 At the end of the season**

At the end of the season we recommend to clean the complete machine, change eventual broken or worn parts, tighten the bolts, the belts, grease the parts and oil the parts with damaged colour. Put the machine on a dry and flat ground.

## **9.7 Demolition when out of order**

If the machine is out of order, all its parts that might cause dangers have to be made inoffensive. Materials, forming the machine that have to undergo a differentiated division, are:

- a. steel
- b. mineral oil
- c. rubber
- d. plastic

All the above mentioned operations and the disposal have to be carried out in total respect of the present provisions of law on the subject.

# Spearhead XRHD 250/270/300

## 10 Trouble shooting

Trouble	Causes	Remedies
Irregular cut	Worn, bent or broken flails	Replace the flails
	Too low RPM	Increase RPM
	Machine is not in the level with the ground	Correct mounting on the tractor
	Clogged material due to excessive working speed	Reduce the working speed
Noise	Loosen bolts	Tighten the bolts
	Damaged parts of the machine	Find damages and repair the machine
Noise in the gearbox	Lack of oil	Fill till level
	Worn gears	Replace
	Worn bearings	Replace
Vibrations	Broken or worn flails	Replace
	Unbalanced rotor	Balance or replace
	Worn rotor bearings	Replace
Excessive backlash in joints	Worn pins	Replace
Damaged bearings	Dirty or ungreased bearings	Clean and grease
	Violant impact on the ground when the machine is lowered	Lower it gently
Belts overheating	Belts slipping	Tension the belts
	Working flails are touching the ground	Adjust the height of cut
	Too fast working speed	Reduce the speed



# Spearhead XRHD 250/270/300

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## Ordering Parts

When ordering parts, please refer to your parts list to help your dealer with your order. Please provide the following information:

Model Number

Part Number and quantity

Description

Serial number of machine

Delivery instructions (e.g. next day)

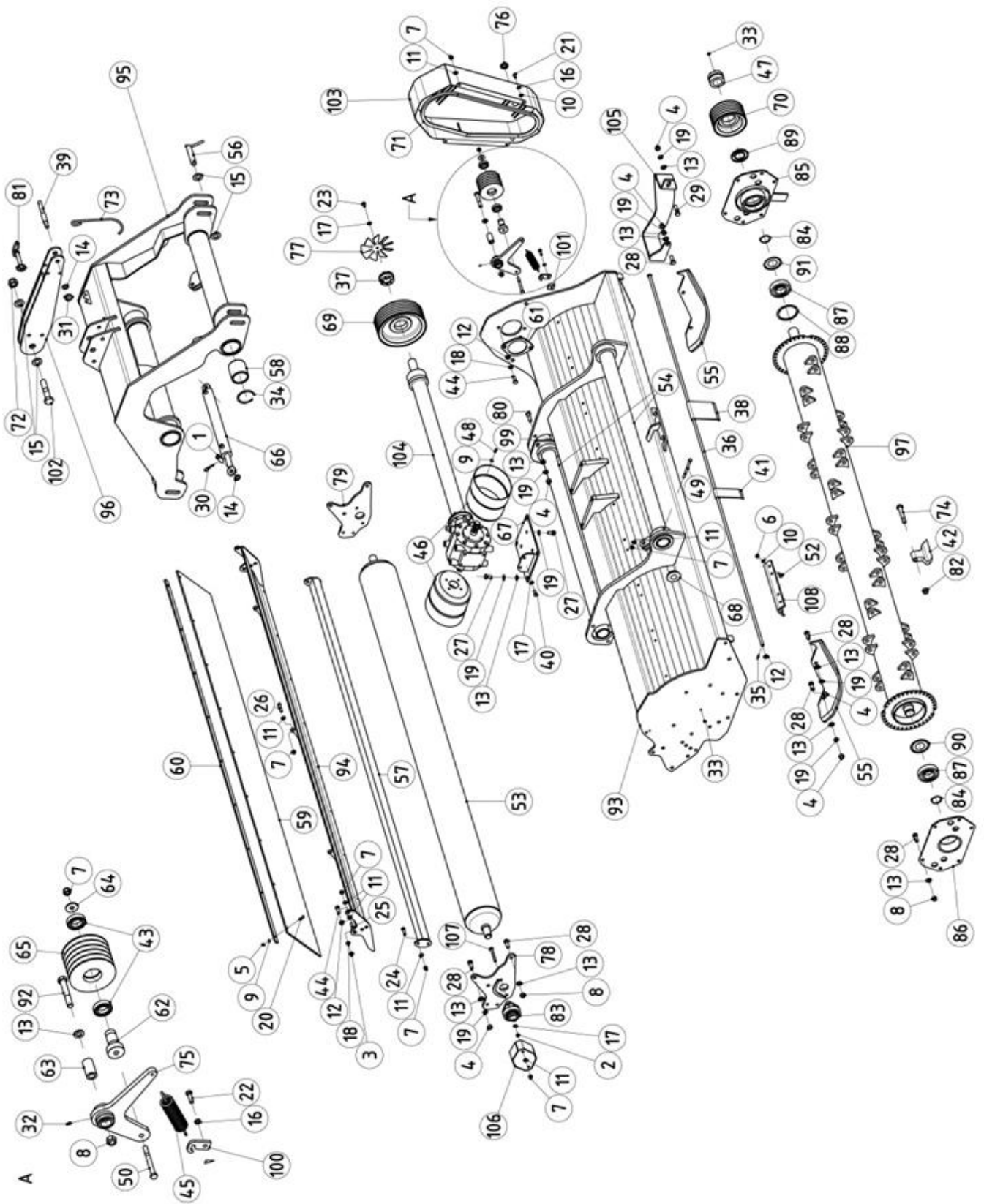
Delivery is normally via carrier direct to your dealer.

Services that are currently available are Next Day, with the additional option of before 9.00 am, 10.30 am or Noon.

Carriers also offer a 2-3 day service for heavier items. For light and small parts, these can be posted first or second-class mail.

# Spearhead XRHD 250/270/300

## Flail Body and Headstock



# Spearhead XRHD 250/270/300

ITEM NO.	PART NO.	DESCRIPTION.	QUANTITY.		
			250	270	300
1	1061532	PIN	2	2	2
2	9113006	NUT	4	4	4
3	1061042	NUT	2	2	2
4	9113007	NUT	11	11	11
5	9163004	SELF-LOCKING NUT	9	9	9
6	9163005	SELF-LOCKING NUT	24	28	32
7	9163006	SELF-LOCKING NUT	18	18	18
8	9163007	SELF-LOCKING NUT	15	15	15
9	9100104	WASHER	17	17	17
10	9100105	WASHER	26	30	34
11	9100106	WASHER	19	19	19
12	05.281.14	WASHER	6	6	6
13	0100106	WASHER	30	30	30
14	9100108	WASHER	3	3	3
15	1062006	WASHER	6	6	6
16	9100205	SPRING WASHER	3	3	3
17	9100206	SPRING WASHER	7	7	7
18	05.282.08	SPRING WASHER	4	4	4
19	9100207	SPRING WASHER	19	19	19
20	9213064	BOLT	9	9	9
21	9313045	BOLT	2	2	2
22	9213075	BOLT	1	1	1
23	9313046	BOLT	1	1	1
24	9213086	BOLT	4	4	4
25	9213096	BOLT	2	2	2
26	9213116	BOLT	3	3	3
27	9313067	BOLT	6	6	6
28	9313097	BOLT	20	20	20
29	9213127	BOLT	1	1	1
30	1062197	PIN	2	2	2
31	1061097	PIN	1	1	1
32	1061554	GREASE NIPPLE	1	1	1
33	1061079	GREASE NIPPLE	2	2	2
34	1061175	CIRCLIP	4	4	4
35	1061077	SPLIT PIN	1	1	1
36	1061148	FLAP BAR (XRHD 250)	1	-	-
	1061272	FLAP BAR (XRHD 270)	-	1	-
	1061273	FLAP BAR (XRHD 300)	-	-	1
37	1061163	TAPERLOCK	1	1	1
38	1061171	FLAP	16	18	20
39	1061168	CONNECTION PIN	1	1	1
40	9213066	BOLT	-	2	2
41	1061369	FLAP 95	1	-	-

# Spearhead XRHD 250/270/300

ITEM NO.	PART NO.	DESCRIPTION.	QUANTITY		
			250	270	300
41	1061275	FLAP 55	-	1	-
	1061170	FLAP 70	-	-	1
42	1062198	HAMMER	20	24	26
43	1061336	BEARING	2	2	2
44	1061687	BOLT	4	4	4
45	1061377	SPRING PIN	1	1	1
46	1061046	PTO SHIELD	2	2	2
47	1061373	TAPERLOCK	1	1	1
48	9313034	BOLT	8	8	8
49	9213286	BOLT	2	2	2
50	1062226	BOLT	1	1	1
51	9313077	BOLT	2	2	2
52	9213065	BOLT	24	28	32
53	1061680	REAR ROLLER (XRHD 250)	1	-	-
	1061681	REAR ROLLER (XRHD 270)	-	1	-
	1061682	REAR ROLLER (XRHD 300)	-	-	1
54	1061259	SLIDING TUBE	2	2	2
55	1061266	SKID	2	2	2
56	1061268	PIN	2	2	2
57	1062199	SCRAPER (XRHD 250)	1	-	-
	1061278	SCRAPER (XRHD 270)	-	1	-
	1061279	SCRAPER (XRHD 300)	-	-	1
58	1061277	BUSHING	4	4	4
59	1062228	RUBBER GUARD (XRHD 250)	1	-	-
	1061291	RUBBER GUARD (XRHD 270)	-	1	-
	1061292	RUBBER GUARD (XRHD 300)	-	-	1
60	1062229	CLAMP BAR (XRHD 250)	1	-	-
	1061288	CLAMP BAR (XRHD 270)	-	1	-
	1061289	CLAMP BAR (XRHD 300)	-	-	1
61	1061400	FLANGE	1	1	1
62	1061333	PIN	1	1	1
63	1061331	BUSHING	1	1	1
64	1061337	WASHER	1	1	1
65	1061335	STRAIN PULLEY	1	1	1
66	1061294	HYDRAULIC RAM	1	1	1
67	1061688	PLATE	1	1	1
68	1061668	CAP	1	1	1
69	1061385	PULLEY 280/80-5	1	1	1
70	1061363	PULLEY 190/85-5	1	1	1
71	4770956	BELT	5	5	5
72	1062036	NUT	1	1	1
73	1061551	PTO HOOK	1	1	1
74	1061530	BOLT	20	24	26
75	1062200	STRAIN LEVER	1	1	1
76	1062046	CAP	1	1	1

# Spearhead XRHD 250/270/300

ITEM NO.	PART NO.	DESCRIPTION.	QUANTITY.		
			250	270	300
77	1061566	VENTILATOR	1	1	1
78	1062201	ROLLER BRACKET (RIGHT)	1	1	1
79	1062202	ROLLER BRACKET (LEFT)	1	1	1
80	9213117	BOLT	4	4	4
81	1062172	PIN	1	1	1
82	1062173	NUT	20	24	26
83	1062203	BEARING WITH CASING	2	2	2
84	1062175	CIRCLIP	2	2	2
85	1062176	BEARING CASING (LEFT)	1	1	1
86	1062177	BEARING CASING (RIGHT)	1	1	1
87	1062181	BEARING	2	2	2
88	1062182	CIRCLIP	1	1	1
89	1062183	OIL WASHER	1	1	1
90	1062184	WASHER	1	1	1
91	1062185	WASHER	1	1	1
92	9213207	BOLT	1	1	1
93	1062204	FRAME (XRHD 250)	1	-	-
	1062205	FRAME (XRHD 270)	-	1	-
	1062206	FRAME (XRHD 300)	-	-	1
94	1062207	REAR GATE (XRHD 250)	1	-	-
	1062208	REAR GATE (XRHD 270)	-	1	-
	1062209	REAR GATE (XRHD 300)	-	-	1
95	1062210	LINKAGE	1	1	1
96	1062211	UPPER LINKAGE	-	1	1
97	1062212	ROTOR ASSEMBLY c/w HAMMERS (250)	1	-	-
	1062213	ROTOR ASSEMBLY c/w HAMMERS (270)	-	1	-
	1062214	ROTOR ASSEMBLY c/w HAMMERS (300)	-	-	1
98	1062215	BUSHING (RIGHT)	1	1	1
99	1062216	BUSHING (LEFT)	1	1	1
100	1062217	SPRING HOOK	1	1	1
101	1062218	SPACER	1	1	1
102	1062219	BOLT	1	1	1
103	1061271	BELT GUARD- OLD STYLE	1	1	1
	1062220	BELT GUARD – NEW STYLE			
104	1062221	GEARBOX	1	-	-
	1062222	GEARBOX	-	1	1
105	1062223	SHIELD/GUARD	1	1	1
106	1062224	BEARING GUARD	2	2	2
107	9213206	BOLT	4	4	4
108	1062225	COUNTER BLADE	12	14	16

# Spearhead XRHD 250/270/300

Spearhead Machinery

Green View,  
Salford Priors,  
Evesham,  
Worcestershire,

WR11 8SW

Tel: 01789 491860

Fax: 01789 778683

[www.spearheadmachinery.com](http://www.spearheadmachinery.com)

[enquiries@spearheadmachinery.com](mailto:enquiries@spearheadmachinery.com)