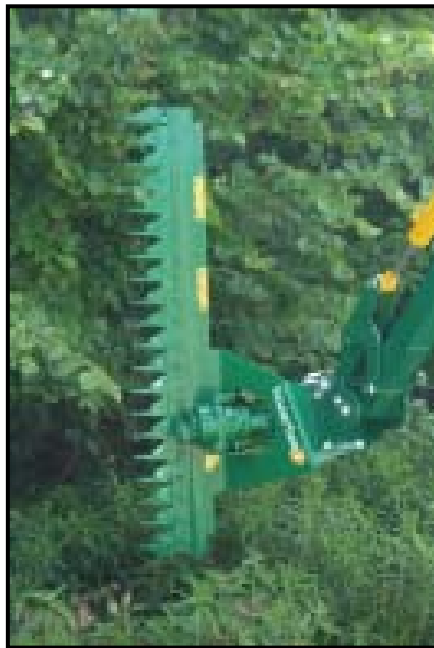


Spearhead

HL 150-180 Cutterbars



Edition 1.0 - October 2016
Part No. 8999105

HANDBOOK & PARTS MANUAL

Spearhead HL Cutterbars

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

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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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EC Declaration of Conformity

EU Declaration of Conformity

According to the Machinery Directive 98/37/EC, Annex II A

We hereby declare that in terms of its design, method of construction and our execution thereof, the item of machinery described below complies with the basic health and safety regulations of the respective EU Directives.

This Declaration will become invalid if changes are made to the product that we have not approved.

Product designation:	<u>Hedge trimmer</u>
Product type:	<u>HL 150; HL 180; HL 210</u>
From product number:	<u>000.460.080.200</u>
Applicable EU Directives	Machinery Directive 98/37/EC, Annex II A
Applied <u>harmonised</u> <u>standards</u> , in particular:	<u>DIN EN ISO 12100-1</u> <u>DIN EN ISO 12100-2</u> <u>DIN EN 294</u> <u>DIN EN 982</u> <u>DIN PR EN 745</u>
Applied national standards <u>and</u> technical specifications, <u>in</u> particular:	<u>Accident Prevention Regulations</u>
Date:	<u>12.01.2005</u>
Manufacturer – signature:	<u>GreenTec A/S</u> 
Position:	<u>Sales Director</u>

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Safety

2 General

2.1 Signs

Products are labelled with type signs.

Information required when making an enquiry or placing an order:

When ordering spare parts, please state product type, product number and year of production of the product for which the spare parts are intended.

NB! You need the prior approval of the manufacturer of your product, if you decide to use spare parts produced by another manufacturer. For safety reasons, you are only permitted to use original spare parts and accessories approved by the manufacturer. If you use other spare parts, the manufacturer of your product shall assume no liability for any consequential damage or injury.

2.2 Load capacity

For the hydraulic engines used, maximum constant pressure is as follows:

OMR 80 >>> 175 bar
OMR 100 >>> 175 bar

2.3 Energy requirement

Drive type: hydraulic engine

Oil requirement:

OMR 80 >>> 15 up to max 30 l/min.
OMR 100 >>> 20 up to max 40 l/min.

The maximum torque of the engine at constant pressure:

OMR 80 >>> 17 daNm
OMR 100 >>> 23 daNm

Oil type: hydraulic oil in accordance with ISO VG 68 or ISO VG 46

Speed:

200–400 rpm
depending on the construction of the jib

Power consumption:

The consumption of power depends on the product type and the connection of the complete equipment.

2.4 Connections

The manufacturer of your product can supply connections.

Please refer to the technical drawing and hydraulics diagram. This information appears in the operating instructions provided by the tool manufacturers in question.

2.5 Intended use

Your HL hedge trimmer is exclusively constructed for ordinary tasks related to agriculture, the preservation of rural amenities and other similar work. Maximum branch thickness: 4 cm.

Any other use is contrary to the intended use of this product. The manufacturer shall assume no liability for any consequential damage or injury; the risk rests with the user alone.

The intended use also includes compliance with the manufacturer's stipulations regarding operational, maintenance and repair-related issues.

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Caution

Liquids under pressure. Please refer to the Technical Manual for information about service procedures.



Caution

Flying objects. Keep a safe distance from the machine when in use.



Caution

Keep a safe distance from the cutter knives when the machine is in use. Never remove safety guards / guarded



Caution

Stay outside the swivel range of the tools.



Caution

Turn off the engine and remove the key before performing any maintenance or repair work on the machine.



Caution

Check that all bolts and nuts are tightened every 8 hours.



Caution

Read the User Manual prior to operating the machine. Follow all instructions and safety provisions when using the machine.

- D** Vor Inbetriebnahme die Betriebsanleitung und Sicherheitshinweise lesen und beachten.
- F** Lire le livret d'entretien et les conseils de sécurité avant la mise en marche et en tenir compte pendant le fonctionnement.
- GB** Carefully read Operator's Manual before handling this machine. Observe instructions and safety rules when operating.
- NL** Voor ingebruikname de bediening handleiding en veiligheidsvoorschriften lezen en in acht nemen.

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2.6 Technical data sheet

Basic vehicle:

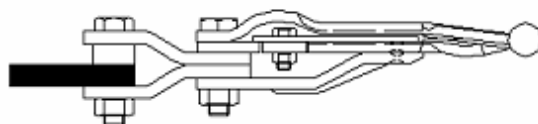
The tractor/vehicle used must be produced in accordance with the provisions and guidelines for CE marking and must have suitable mechanical and hydraulic capacity to accommodate the HL hedge trimmer.

Technical data charts for the tools:

	Hedge trimmer HL 150	Hedge trimmer HL 180
Working width	1.5 m	1.8 m
Branch thickness	Up to 40 mm	Up to 40 mm
Maximum working speed	5 km/h	5 km/h
Maximum speed of the tool	400 double strokes/min.	400 double strokes/min.
Dimensions Width/height/depth	1.5 x 0.2 x 0.6 m	1.8 x 0.2 x 0.6 m
Weight	60 kg	64 kg
Oil engine	OMR 80 or 100	OMR 80 or 100

	Hedge trimmer HL 210	
Working width	2.1 m	
Branch thickness	Up to 40 mm	
Maximum working speed	5 km/h	
Maximum speed of the tool	400 double strokes/min.	
Dimensions Width/height/depth	2.1 x 0.2 x 0.6 m	
Weight	68 kg	
Oil engine	OMR 80 or 100	

Design HL XXX:



Strong design with reinforcement strip

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3 Safety

These operating instructions include basic directions which must be followed during assembly, operation and maintenance. It is therefore essential that these operating instructions are read carefully by the staff before they use the tool for the first time and subsequently remain available to staff if required.

Compliance is required not only in relation to the general directions listed under the main heading of **Safety** but also the special **safety directions** listed under other main headings.

The labelling of directions in the operating instructions:

If disregard of the safety directions in these operating instructions may result in danger, the directions are labelled with the general danger symbols in accordance with DIN 4844-W9:



Warning against the danger of crushing:



Warning against the danger of sharp elements:



If disregard of specific safety directions may result in personal

injury or damage to the machinery and/or its performance, the word

WARNING

is added.

Directions are labelled as follows:

NB!

Directions that are put directly on the trimmer must be followed and kept in fully legible condition.

3.1 Staff qualifications and training

Only competent persons, instructed in the potential hazards of this machinery, should be permitted to use, maintain and repair your hedge trimmer. The person in charge must carefully manage the staff in terms of areas of responsibility, competence and supervision. If staff does not have the sufficient knowledge and know-how, they must be trained and instructed. In addition, it is the responsibility of the person in charge that the contents of these operating instructions are understood and implemented.

Repairs not described in these operating instructions must only be undertaken by staff at authorised specialist workshops.



3.2 The dangers of disregarding safety directions

Disregarding safety directions may result in personal injury and/or damage to the environment and the machinery.

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Disregarding safety directions may mean that all claims for damages will lapse.

To be more specific, disregarding safety directions may lead to dangers, such as:

- Danger to human life and limb in unsafe working environments
- Defects in essential functions of the machinery
- Errors in the prescribed maintenance and repair methods
- Danger to human health as a consequence of mechanical and chemical impacts
- Danger to the environment as a consequence of a leak of hydraulic oil

WARNING

3.3 Being safety-conscious

It is essential to comply with the safety directions listed in these operating instructions, current national accident prevention regulations as well as any internal working, operational and safety directions.

The industrial safety and accident prevention regulations of the Danish Working Environment Service are binding.

In addition, the safety directions of the vehicle manufacturer must be observed.

Furthermore, the Highway Code applies if the hedge trimmer is used on public roads.

3.4 Safety directions for the person in charge/the user

- It is crucial that you familiarise yourself with all equipment, operating elements and their functions before you start using the machinery. It is too late afterwards.

- The user should wear fairly fitted clothing. Avoid wearing loose-fitting clothes.
- Before using the trimmer, the user must check that the mechanical and hydraulic systems as well as the existing fuses are in full working order. It is also necessary to check that the hydraulic hoses are not caught or squeezed, as that can easily lead to damage.
- Place the support legs in the correct position during assembly and disassembly.
- Always position the counterweights provided on the special mounting points in accordance with the instructions.
- Never exceed the maximum values for axle load, overall weight and transport dimensions.
- Check and fit transport equipment, such as lighting, warning signs and devices as well as any protective devices.
- If the lighting on the vehicle fitted as standard is covered in the transport position, extra lighting must be fitted.
- Check your immediate vicinity before you use the trimmer for the first time and generally before every use (children/obstacles). Ensure that nothing obstructs your vision and you have a clear view.
- Nobody is permitted to sit on the trimmer during transport or operation.
- Before transport, the trimmer and the arm system at the front or rear of the vehicle must be folded for transport. Any support wheels must be raised.
- During transport, the operating elements of the trimmer in the vehicle must be secured against accidental activation; any extra drive unit must be disengaged.
- The driver must never leave the driver's seat while driving.

Spearhead HL Cutterbars

- The driver must adjust his or her speed according to road and traffic conditions. While driving in steep terrain and during transverse driving against hillsides, the driver must avoid making sudden turns.
- The driver must take into account the effect that the trimmer and the counterweights have on the roadholding qualities, steering power and braking capacity of the vehicle.
- The trimmer should only be used when all safety features are fitted and switched on.
- The driver must ensure that nobody is in the area in which he or she is working.
- The driver should only activate the arm system when there are no people or animals in its swing radius.
- Take extra care when working under high-voltage power lines. Keep at a safe distance to electrical high-voltage power lines.
- The parts that are hydraulically activated pose a risk of crushing and cutting.
- Before leaving the vehicle, the driver must lower the trimmer to the ground, remove the ignition key and secure the vehicle against accidental start and against rolling.
- After being stopped, the trimmer poses a risk as a consequence of the remaining rotating mass. During that period, nobody should come near the trimmer. Wait until the rotating mass has come to a complete stop.
- The hydraulic system may be pressurised.
- Pressurised liquids (hydraulic oil) may penetrate the skin and cause serious injury. Seek medical help immediately in the event of injury, as there is a danger of infection.
- Only connect the hydraulic hoses to the hydraulic system of the vehicle when it is de-pressurised.
- Check the hydraulic hoses regularly and replace them when damaged and/or old.
- The replacement hoses must fulfil the manufacturer's technical requirements.
- Any leak poses a threat to the environment and remedial action must be immediate.
- On account of the risk of injury, appropriate tools must be used when checking for leaks.
- The HL hedge trimmer must be equipped with pipe rupture protection for the event that, for instance, a hydraulic hose is suddenly torn off or ruptures. **Under no circumstances is pipe rupture protection to be disconnected.**

WARNING

3.5 Safety directions for maintenance, inspection and assembly tasks

The person in charge must ensure that all maintenance, inspection and assembly tasks are undertaken by authorised and well-qualified professionals who have the necessary knowledge after having read the operating instructions carefully.

All work on the trimmer must be carried out when the trimmer is stopped. The procedure for stopping the machinery – as described in the manufacturer's operating instructions – must be observed at all times.

The trimmer must be secured by suitable supports if it becomes necessary to undertake maintenance work on the machinery when raised.

When replacing tools that have blades, it is essential to check the hydraulics for residual pressure. **Any residual pressure must be reduced to zero.**

Use always only suitable tools and wear gloves.

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Dispose of oil and grease according to regulations.

Immediately after the work has been completed, the safety and protection devices must be refitted and reactivated.

Before using the trimmer again, the points in the section "Putting the trimmer into operation" from the manufacturer of the tractor/vehicle must be followed without fail.

WARNING

3.6 Conversion and production of spare parts

Converting or amending the trimmer is only permitted upon prior agreement with the manufacturer.

For safety reasons, you are only permitted to use original spare parts and accessories approved by the manufacturer. If you use other spare parts, the manufacturer of your product shall assume no liability for any consequential damage or injury.

WARNING

3.7 Inadmissible operation methods

The operational reliability of the machinery supplied can only be guaranteed if it is used according to the intended use as described in section 2.5 of the operating instructions entitled "Intended use". The maximum values listed in the data sheets should – under no circumstances – be exceeded.

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3.8 Warning signs on the hedge trimmer



Follow the operating instructions and **safety directions** before using the trimmer for the first time.



Do not ever open protective devices while the machinery is operating. **Be aware of the dangers posed by moving machinery** and/or rotating parts.



Stop the machinery before undertaking any assembly, maintenance and/or repair work and **remove the ignition key**. Wait until all parts have come to a complete stop. **Read the operating instructions**.



Be aware of the danger of getting trapped

Do not ever walk or reach into areas where you risk getting trapped or exposed to other dangers, while the tractor/vehicle is driving or being moved.



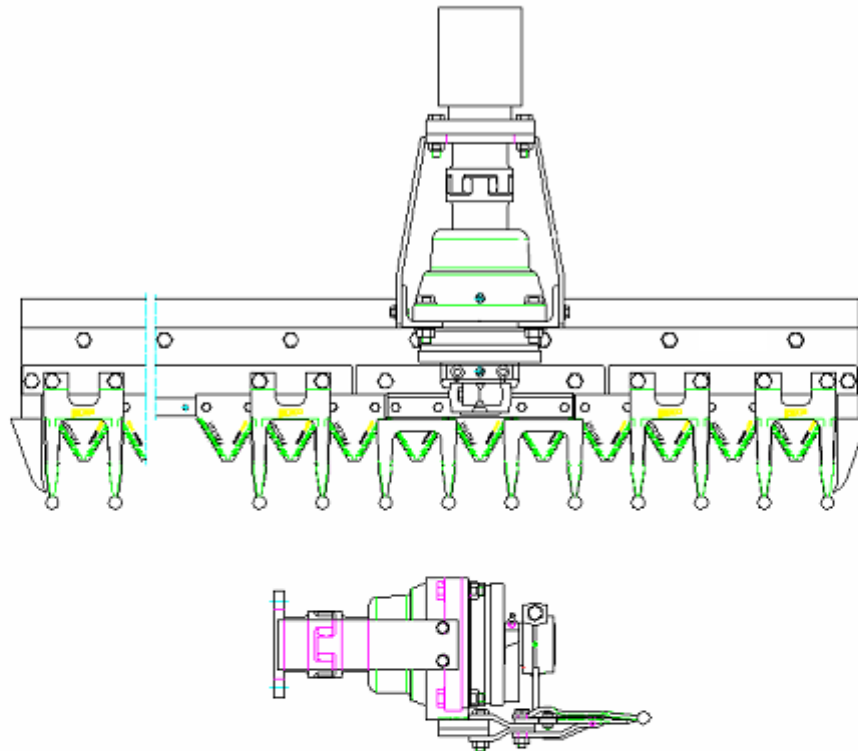
Be aware of the danger of crushing!



Be aware of the danger of sharp elements!

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4 HL hedge trimmer: HL 150 to HL 210



4.1 Signs and labels



Type HL XXX: Cutter bar for hedge trimmer

Type Pro-Drive: Drive, cutting blade

NB!

The type sign has document value and must not be changed or made unrecognisable.



NB!

This label is supplied by the manufacturer of the HL hedge trimmer. You have a duty to put it on the trimmer in an eye-catching position after the assembly and painting have been completed.

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4.2 Storage

It is important that the HL hedge trimmer is stored in a dry and clean place.

Close the connections of the hydraulic hoses with caps.

Danger of injury! When storing the HL hedge trimmer, also without the tractor/vehicle, it is essential to ensure that there is no risk of it overturning or falling down. Ensure that you have either a suitable place for putting down the trimmer or you have suitable supports for keeping it upright.

Never leave the hydraulic hoses on the floor. They pose a **risk of tripping!** Place all hydraulic hoses **over** the trimmer.

You should always clean the trimmer before storing it. Dirt attracts moisture and may therefore lead to increased rust formation.

If the trimmer is stored for a prolonged period, it should be cleaned and the knife drive and main bearing should be lubricated with grease in accordance with the lubrication instructions.

Any damage to the paintwork must be repaired.

4.3 Description of the HL hedge trimmer

In simple terms, the HL hedge trimmer consists of an indented fixed bar mounted with cutters. Within these cutters, you find the cutting blades, which are driven by the knife drive "Pro-Drive" (planet gear for the production of even strokes) and a hydraulic engine.

Mounting the trimmer on to the tractor/vehicle takes place via a technically suitable mechanical and hydraulic connection (screw-on or plug-in

quick disconnects). The manufacturer of the tractor/vehicle must ensure that the connection is constructed in accordance with the provisions for CE marking and that it is technically compatible.

The connection depends on the tractor/vehicle and the manufacturer.

The knife guard is fitted on the trimmer using tension springs.

4.4 Mounting

Establishment of a mechanical connection:

NBI!

The establishment of and/or mounting work on the connection should only be undertaken when the knife guard is on.

When adapting the hedge trimmer to the tractor/vehicle, it is an advantage to use the profile bars and/or the Ripp bolts (please refer to the spare parts list, pos. 1, 26). These fixing devices facilitate a fast and problem-free replacement of defective parts whenever required.

4.5 Mounting on to tractor/vehicle

It is essential that you ensure that there are **no** people between the tractor/vehicle and the trimmer during the mounting process.

Furthermore, you need to ensure that the hydraulic hoses are not positioned between the tractor/vehicle and the trimmer in such a way that they could be squeezed or cut.

Place or hang the hydraulic hoses where directed by the manufacturer or where most suitable.

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Please refer to the operating instructions for the arm system.

Switch off the engine and ensure that the hydraulic system is de-pressurised before you undertake any work on the vehicle or the HL hedge trimmer.

Remove the ignition key and secure the vehicle against accidental start and against rolling.

Do not ever walk or stand under a suspended load. Support and secure first the trimmer and/or the arm system.

The fixing on to the arm system will be described in the manufacturer's operating instructions relating to the arm system in question.

It is necessary to ensure that the hydraulic hoses are not positioned in such a way that they are squeezed or risk snapping, as it will damage the hoses. Check the run of the hoses to avoid the risk of damage.

Connect the two hydraulic hoses (from the hydraulic engine of the HL hedge trimmer to the tractor/vehicle) in accordance with the particular manufacturer's operating instructions.

The angle setting and/or the tilt of the hedge trimmer will be described in the manufacturer's operating instructions for the arm system.

During this operation, ensure that there are **no people within the swing radius or working area of the machinery.**

During mechanical setting: the engine must be switched off and the machinery must be secured (de-pressurised hydraulic system) before it is safe to carry out any work on the machinery.

Setting: Follow the operating instructions for the arm system.

Warning: Be aware of the danger of sharp elements and of crushing

4.6 Putting the trimmer into operation

Read before you use the trimmer for the first time:

Any work on the machinery should only be undertaken when the engine is switched off and the hydraulic system is de-pressurised.

Remove the ignition key. Secure the vehicle against accidental start and against rolling. You may also want to support the trimmer.

Check that all connections are fixed/secured in accordance with the manufacturer's directions. The condition of all components must be as specified by the manufacturer.

Check that all mechanical and hydraulic parts, hydraulic hoses and transport equipment (such as lighting, warning signs and devices as well as protective devices) are fitted correctly.

Be aware that a support leg may need to be removed or fitted.

A functions check should only be conducted when **there are no people within the turning or swing radius of the machinery.**

Check the functions of the basic vehicle and the hedge trimmer.

Any checks carried out on the machinery should only be undertaken when the engine is switched off and the hydraulic system is de-pressurised. Remove the ignition key. Secure the vehicle against

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accidental start and against rolling. You may also want to support the trimmer.

Do not touch any of the moving parts of the machinery. Wait till all parts have come to a complete stop.

Warning! There may be residual pressure in the hydraulics.

Leaks pose a threat to the environment and remedial action must be immediate.

Check for leaks. Any leak must be repaired immediately.

All machinery-specific directions needed when putting the trimmer into operation will appear in the operating instructions from the manufacturers of the arm system/tractor/vehicle.

4.7 Transport

Manual transport of the HL hedge trimmer: only to be undertaken when the knife guard is fitted. Please ensure that the hydraulic connections of the oil engine are fitted with safety plugs and that loose hanging hydraulic hoses are secured and closed so that there is no risk of tripping or slipping in oil.

Transport to the location of assembly must be undertaken with a technically suitable transport vehicle or suitable hooking gear. It is possible to hook the trimmer on the bar or on the gear console.

The trimmer should only be transported when the knife guard is fitted and the hydraulic engine is fitted with safety plugs. To safeguard against accidental damage and to ease the loading and unloading, we recommend transporting the trimmer on Euro or disposable pallets. The trimmer must be carefully secured with a rope so it will pose no danger to other traffic.

4.8 Transporting the trimmer

Check that the knife guard is fitted and if not, have it fitted. Follow the operating instructions from the relevant manufacturer for the correct setting of the arm system/tractor/vehicle for transporting the trimmer.

Warning! Any work on the machinery should only be undertaken when the engine is switched off and the hydraulic system is de-pressurised. Remove the ignition key. Secure the vehicle against accidental start and against rolling. You may also want to support the trimmer.

4.9 Working positions

Remove the knife guard and leave it in the tractor/vehicle. Further steps will appear in the operating instructions from the relevant manufacturer. At breaks, the trimmer must be placed on the ground.

Warning! At breaks, the knife guard must be fitted.

4.10 Disassembly

The location must be safe, firm and even. Further steps will appear in the operating instructions from the relevant manufacturer.

4.11 Maintenance and repair

Warning! Any work on the machinery should only be undertaken when the engine is switched off and the hydraulic system is de-pressurised. Remove the ignition key. Secure the vehicle against accidental start and against rolling. You may also want to support the trimmer.

Check regularly that nuts and bolts are tightened correctly (about every 50th hour of operation) – tighten the nuts and bolts if required.

Spearhead HL Cutterbars

Thread sizes, strength classes and torque levels will appear in section 5.6 "Torque levels" in section 5 "Spare parts list".

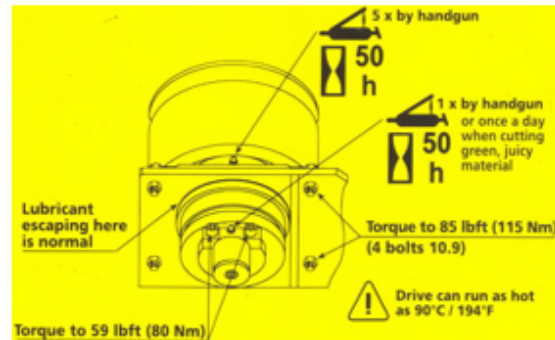
Check cutters, blades, knife spine, guide plates and coupling star regularly for defects and/or wear and tear. Defective or worn parts produce an unclean cut and increase the power requirement of the machinery. Replace immediately damaged or worn parts with original spare parts.

Check the hydraulic hoses regularly. Replace damaged and/or old hoses. The replacement hoses must fulfil the manufacturer's technical requirements (please refer to the operating instructions for the arm system).

4.12 Lubrication

The hedge trimmer has two grease points: one on the cutting blade gear and one on the main bearing.

Lubrication instructions:



NB!

This label is supplied by the manufacturer of the HL hedge trimmer. You have a duty to put it on the trimmer or the arm system in an eye-catching position after the assembly and painting have been completed.

4.13 Defects, causes and corrective tion.

Defect	Cause	Corrective action
1. The cutting blade does not move	<ul style="list-style-type: none"> - Connections are not according to instructions - The pump has not started - Foreign object in the cutting system - Cutters, blades or cutter head defective - Hydraulic engine defective - Cutting blade gear defective 	<ul style="list-style-type: none"> - Check connections – retighten screwed connections - Start the pump - Remove foreign object - Replace defective parts - Contact specialist workshop - Replace defective parts
2. The cut is not clean	<ul style="list-style-type: none"> - Cutters, blades/cutting blade and guide plates worn - The speed of cutting blade drive incorrect 	<ul style="list-style-type: none"> - Replace defective parts - Contact specialist workshop
3. The cutting blade drive does not pull through	<ul style="list-style-type: none"> - Oil quantity/pressure set incorrectly 	<ul style="list-style-type: none"> - Contact specialist workshop
4. Extreme oscillations/vibrations in the trimmer	<ul style="list-style-type: none"> - Coupling star defective - Too high speed of the hydraulic engine/cutting blade drive 	<ul style="list-style-type: none"> - Replace defective part - Contact specialist workshop

Spearhead HL Cutterbars

5. 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.

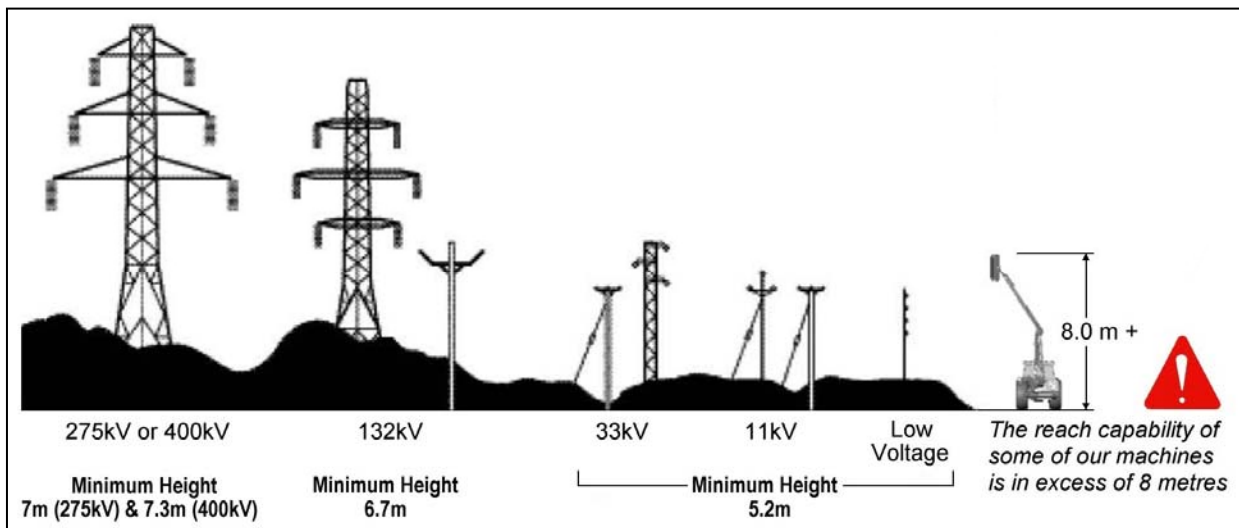


WARNING: All operators must read the following information and be aware of the risks and dangers involved when working in the vicinity of Overhead Power Lines (OHPLs).

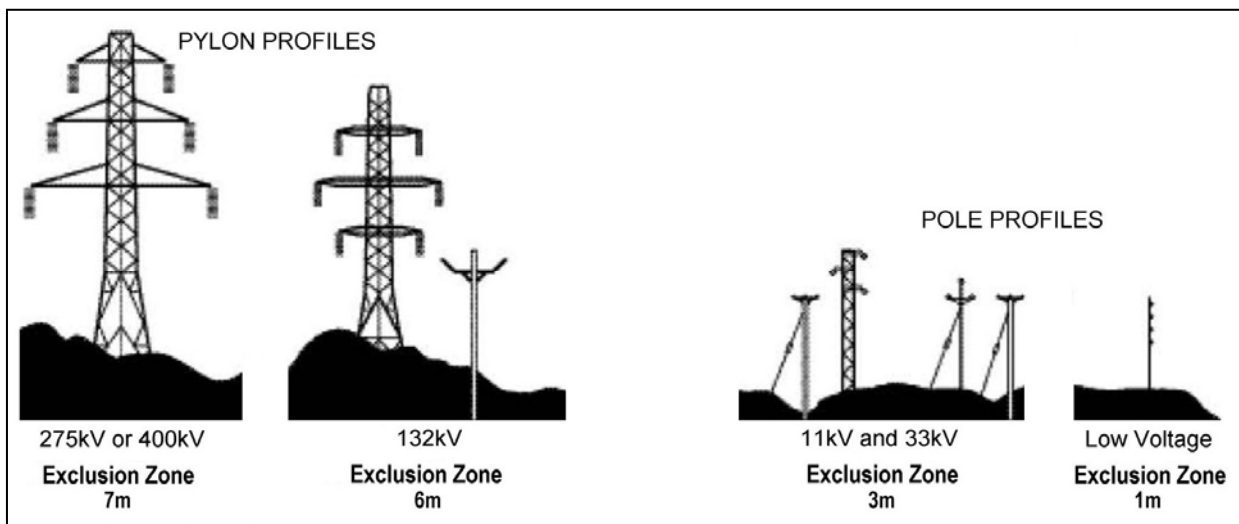
Wherever possible the safest option is always to avoid working in areas close to OHPLs. Where unavoidable, all operators must perform a risk assessment and implement a safe procedure and system of work – see following page for details.

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

Minimum Heights for Overhead Power Lines

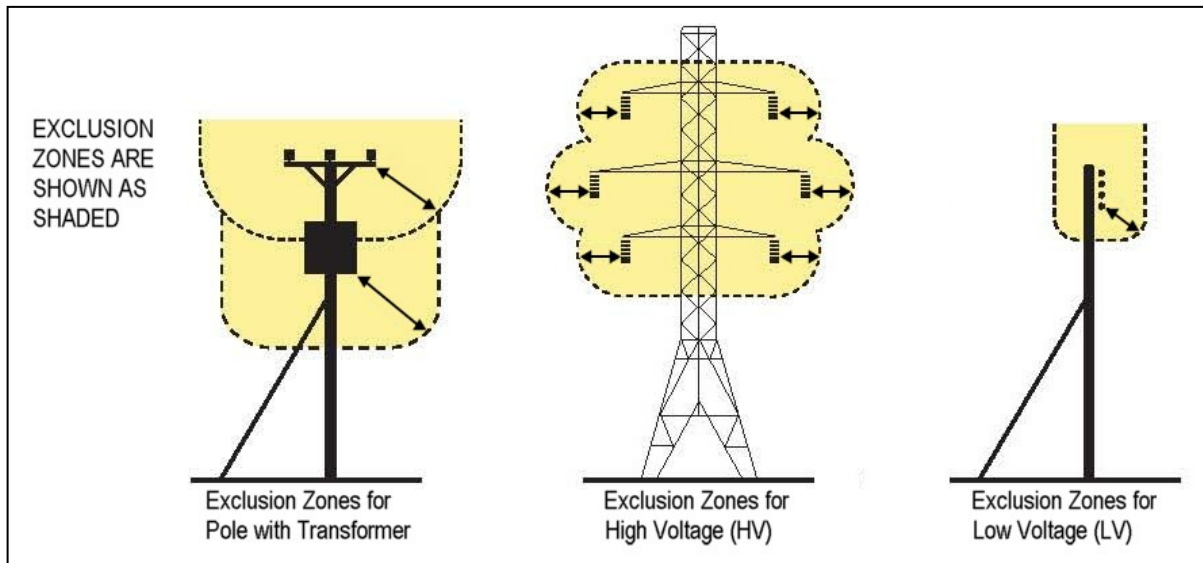


Absolute Minimum Exclusion Zones for Specific Overhead Power Lines



Spearhead HL Cutterbars

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

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6. 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

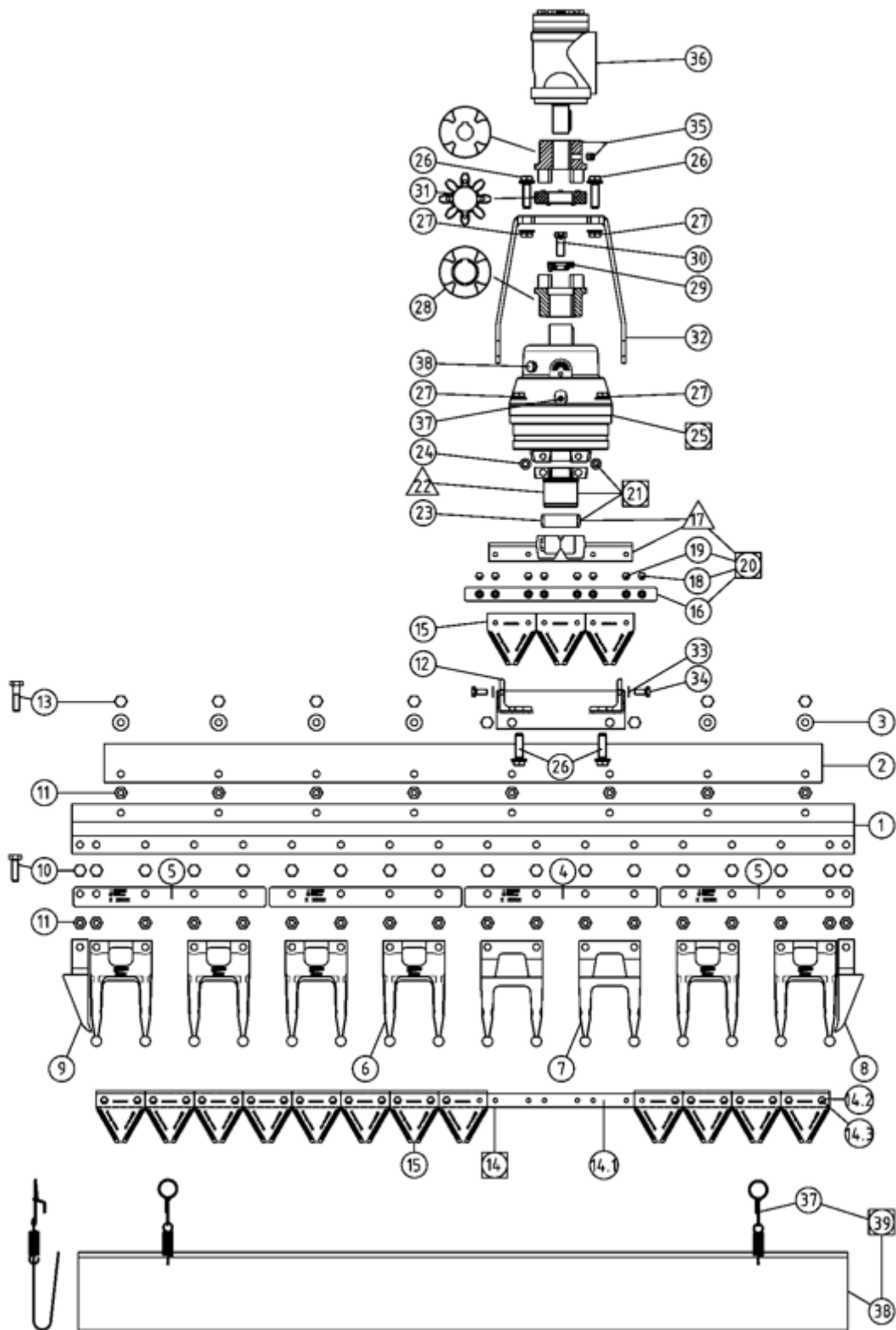
The information contained in this manual is correct at the time of publication. However, in the course of constant development, changes in specification are inevitable. Should you find the information given in this book different to the machine it relates to, please contact the "After Sales Department"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

Key:

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

Spearhead HL Cutterbars

Overview - Main Parts



Spearhead HL Cutterbars

Overview - Main Parts – HL 150

ITEM NO.	PART NO.	DESCRIPTION.	QTY.
1	01829	PROFILE BAR	2
2	01835	REINFORCEMENT STRIP	1
3	01064	SPACER TUBE	10
4	10726	SPACER BAR (4 HOLES)	4
5	01060	OUTER SPACERBAR (5 HOLES)	2
6	7770788	GUARD	10
7	7770789	LEADER GUARD	2
8	01048	GUARD	1
9	01049	GUARD	1
10	13014	BOLT	26
11	10047	NUT	38
12	12588	GEARBOX CONSOL	1
13	10076	BOLT	12
14	15078	KNIFE	1
14.1	12088	KNIFE BACK	1
14.2	2770691	BOLT	38
14.3	2770692	NUT	38
15	7770790	KNIFE SECTION	23
16	10926	KNIFE CONNECTOR	1
17	N/A	KNIFE HEAD PRODRIVE	1
18	10067	BOLT	2
19	01086	BOLT	6
20	11371	KNIFE HEAD PRODRIVE COMPLETE	1
21	12766	HEAD CONNECTOR	1
22	14739	HEAD CONNECTOR-MAINTENANCE FREE	1
23	12543	ADAPTOR	1
24	10099	BOLT	2
25	12480	PRODRIVE	1
26	01087	BOLT	6
27	01088	NUT	6
28	14671	CLAW COUPLING	1
29	12601	SPRING WASHER	1
30	10230	BOLT	1
31	12603	COUPLING STAR	1
32	12586	MOTOR HOLDER	1
33	01066	WASHER SPECIAL	4
34	01089	BOLT	4
35	12610	CLAW COUPLING	1
36	12442	MOTOR – 50CC	1
36	12443	MOTOR – 80CC	1
36	12444	MOTOR – 100CC	1
37	01923	CLIP	2
38	01926	GUARD	1
39	01931	GUARD C/W CLIPS	1

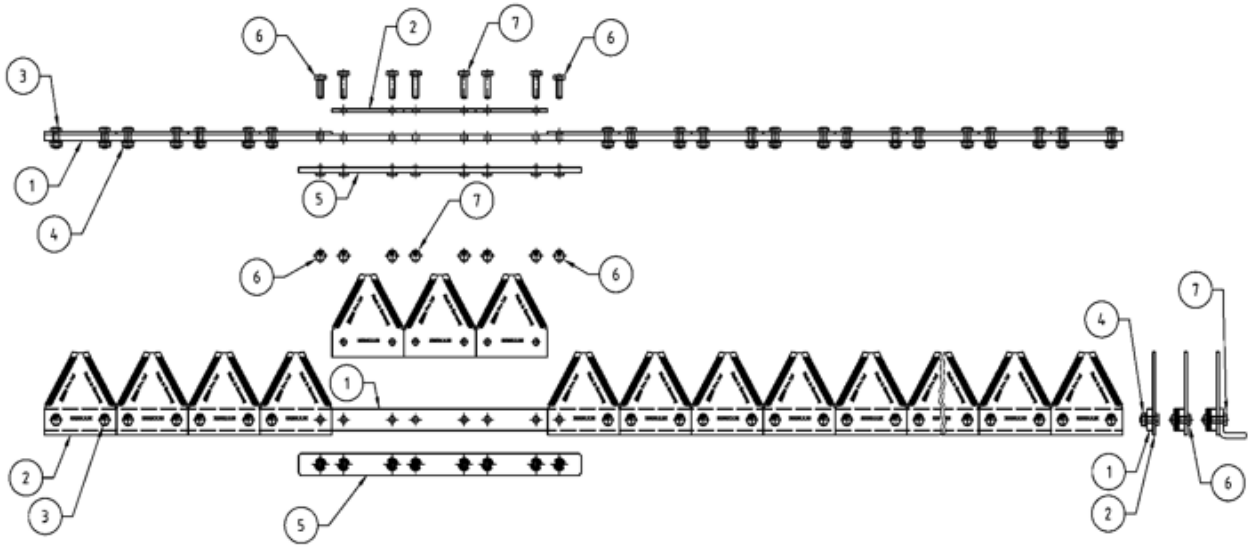
Spearhead HL Cutterbars

Overview - Main Parts – HL 180

ITEM NO.	PART NO.	DESCRIPTION.	QTY.
1	01830	PROFILE BAR	2
2	01836	REINFORCEMENT STRIP	1
3	01064	SPACER TUBE	12
4	10726	SPACER BAR (4 HOLES)	5
5	01060	OUTER SPACERBAR (5 HOLES)	2
6	7770788	GUARD	12
7	7770789	LEADER GUARD	2
8	01048	GUARD	1
9	01049	GUARD	1
10	13014	BOLT	30
11	10047	NUT	44
12	12588	GEARBOX CONSOL	1
13	10076	BOLT	14
14	15079	KNIFE	1
14.1	12089	KNIFE BACK	1
14.2	2770691	BOLT	46
14.3	2770692	NUT	46
15	7770790	KNIFE SECTION	27
16	10926	KNIFE CONNECTOR	1
17	N/A	KNIFE HEAD PRODRIVE	1
18	10067	BOLT	2
19	01086	BOLT	6
20	11371	KNIFE HEAD PRODRIVE COMPLETE	1
21	12766	HEAD CONNECTOR	1
22	14739	HEAD CONNECTOR-MAINTENANCE FREE	1
23	12543	ADAPTOR	1
24	10099	BOLT	2
25	12480	PRODRIVE	1
26	01087	BOLT	6
27	01088	NUT	6
28	14671	CLAW COUPLING	1
29	12601	SPRING WASHER	1
30	10230	BOLT	1
31	12603	COUPLING STAR	1
32	12586	MOTOR HOLDER	1
33	01066	WASHER SPECIAL	4
34	01089	BOLT	4
35	12610	CLAW COUPLING	1
36	12442	MOTOR – 50CC	1
36	12443	MOTOR – 80CC	1
36	12444	MOTOR – 100CC	1
37	01923	CLIP	2
38	01926	GUARD	1
39	01931	GUARD C/W CLIPS	1

Spearhead HL Cutterbars

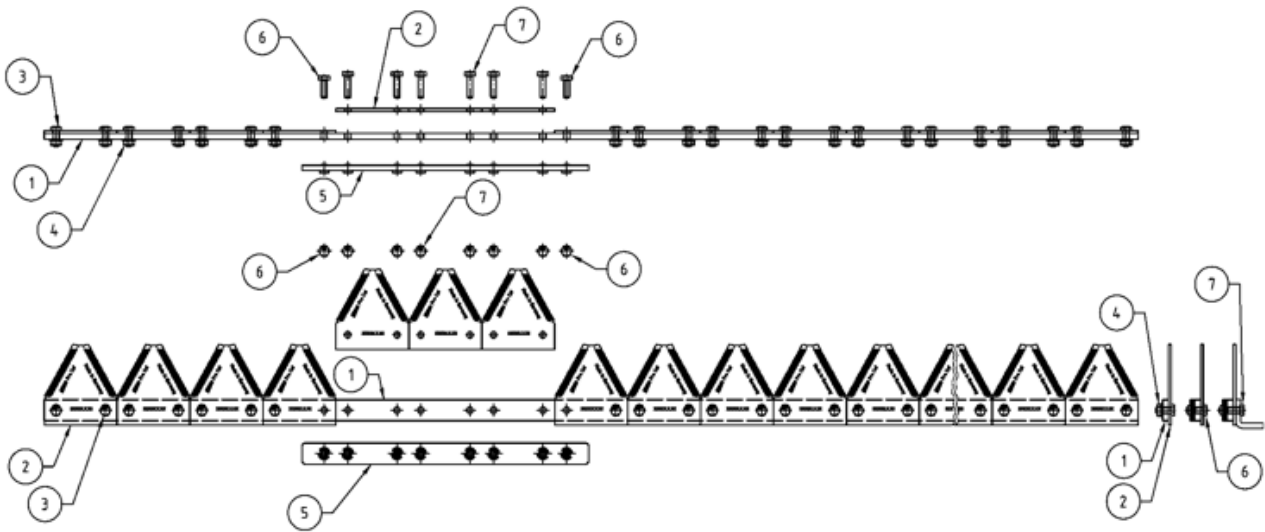
Knife information – HL 150



ITEM NO.	PART NO.	DESCRIPTION.	QTY.
1	12087	KNIFE BACK	1
2	7770790	KNIFE SECTION	19
3	2770691	BOLT	30
4	2770692	NUT	30
5	10926	KNIFE CONNECTOR	1
6	10067	BOLT	2
7	01086	BOLT	6

Spearhead HL Cutterbars

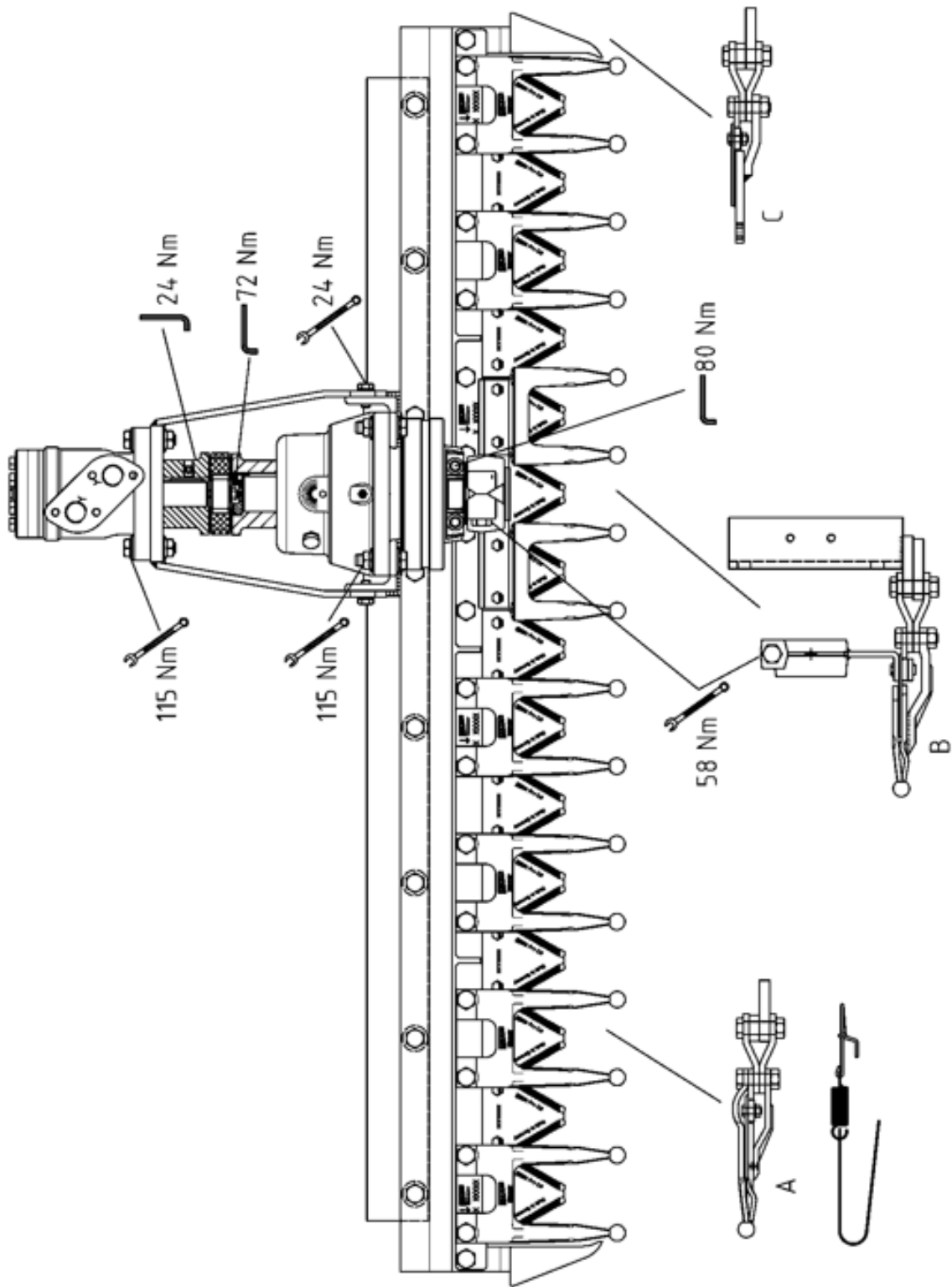
Knife information – HL 180



ITEM NO.	PART NO.	DESCRIPTION.	QTY.
1	12088	KNIFE BACK	1
2	7770790	KNIFE SECTION	23
3	2770691	BOLT	38
4	2770692	NUT	38
5	10926	KNIFE CONNECTOR	1
6	10067	BOLT	2
7	01086	BOLT	6

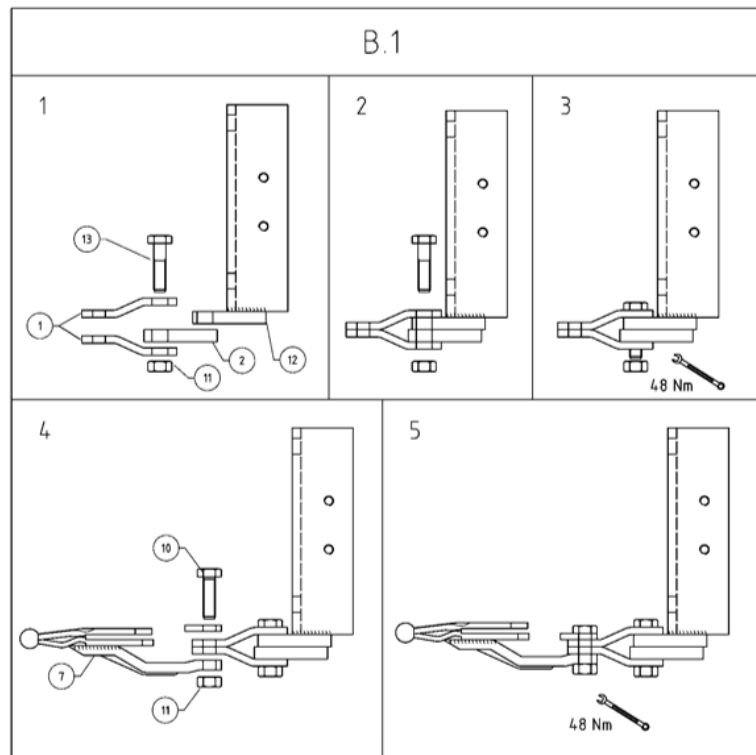
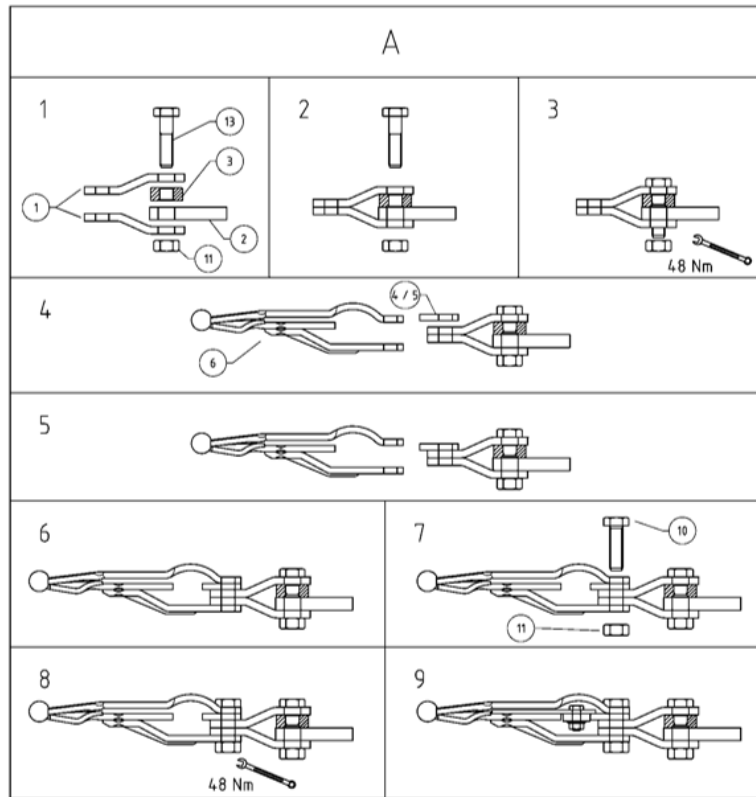
Spearhead HL Cutterbars

Knife information



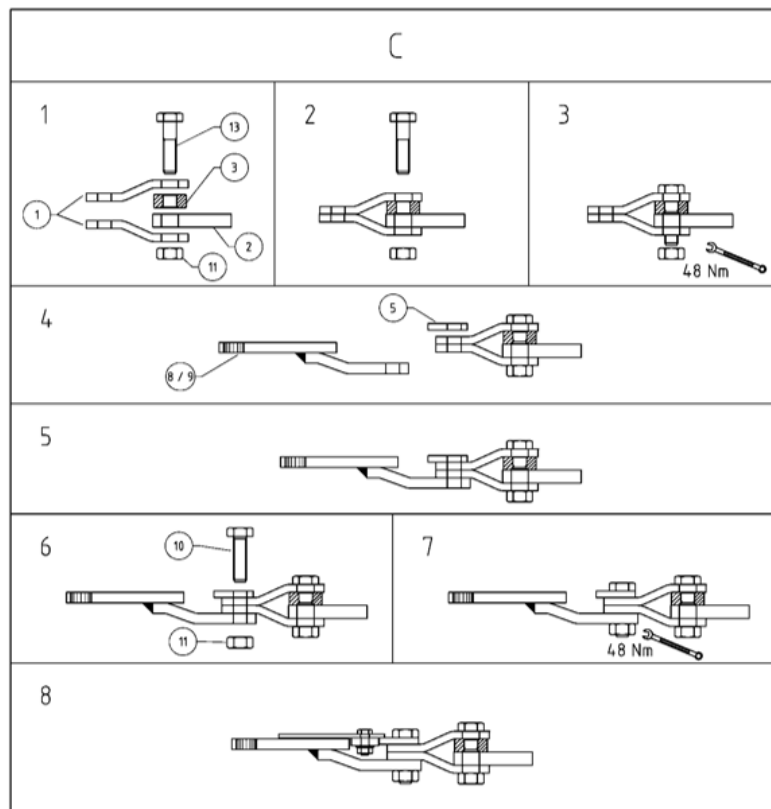
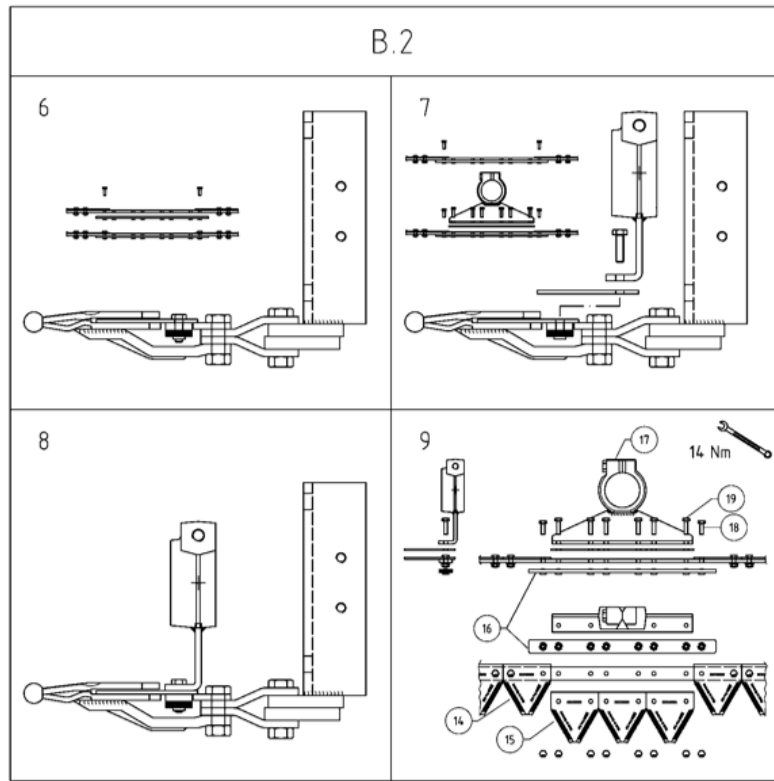
Spearhead HL Cutterbars

Knife information



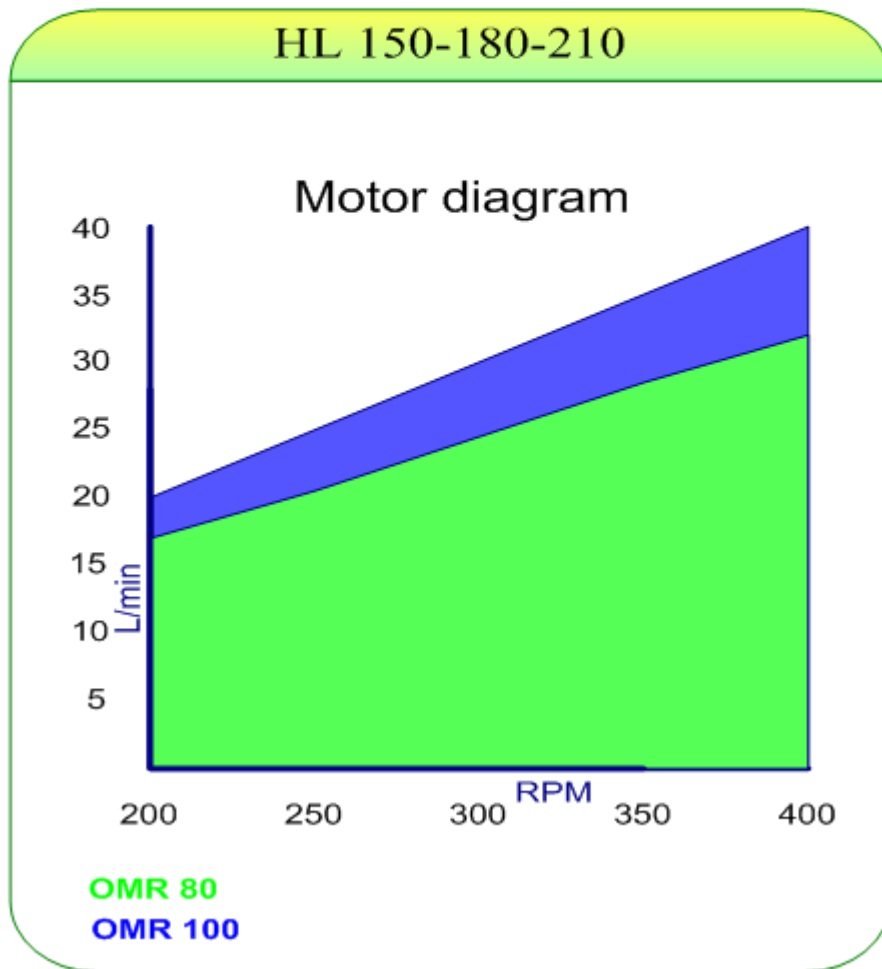
Spearhead HL Cutterbars

Knife information



Spearhead HL Cutterbars

7 Flow and Speed diagram



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

Tel: 01789 491860

Fax: 01789 778683

www.spearheadmachinery.com
parts@spearheadmachinery.com