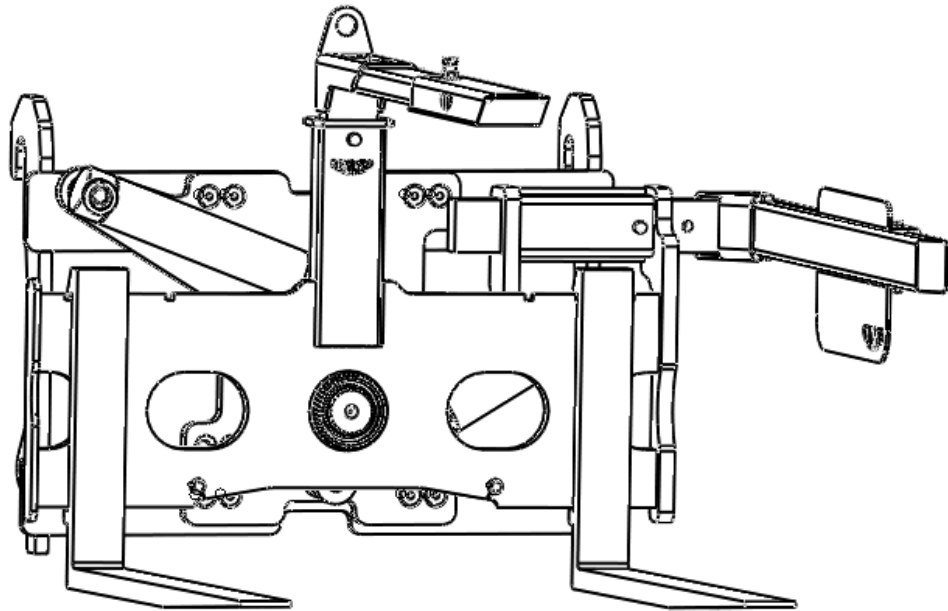


AGRI WELD

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Operator Manual 180C Box Rotator



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User information

Before using your 180C Box Rotator for the first time it is IMPORTANT that all operators make themselves familiar with the unit and must read this OPERATORS MANUAL and SAFETY INSTRUCTIONS attentively.

Getting started

The 180C Box Rotator will be fitted and delivered with the correct Bolt-On brackets/carriage blocks to suit the fork-lift/loader it is intended to fit. SEE BOLT ON BRACKETING INSTRUCTIONS AND BOLT SPECIFICATIONS SECTION FOR FULL INFORMATION. If for any reason the fittings are lost or damaged, or if the bracketing is removed for any reason, please refer back to this information in order to refit the brackets and/or replace any lost fittings with the correct specification.

The 180C Box Rotator will also be fitted with the correctly swaged hydraulic pipes and fittings applicable to your forklift/loader and as per your request. If these pipes are damaged they must be replaced immediately with NEW pipes and fittings. **DO NOT ATTEMPT TO REPAIR HYDRAULIC PIPES OR ALLOW ANY ONE ELSE TO REPAIR THEM.**

Any replacements can be ordered from us and sent to you overnight if required.

The 180C Box Rotator is a low maintenance unit, and requires little mechanical attention as such, other than **greasing the main shaft, radius arm and hydraulic ram/rod ends at the greasing points located and visible at these areas and by following a general basic care routine.**

Your **180C Box Rotator weighs 565kg** including bracketing (weight may vary dependant on bracket type) and has a **max loading of 2.5 tonnes.**

NOTE: During use, please be aware of increased weight due to shock loading. This includes performing manoeuvres such as driving down a rough field, at some speed, with a full box. The resulting bouncing effect is known as shock loading and the weights can be significantly magnified to the point of overload.

The 180C Box rotator is not to be used for any other purpose than for which it is intended - that is the lifting and rotating of one box containing free flowing product at a time. **It is not to be used as a fork lift.** Damage to the unit resulting from overload will not be covered under a warranty or liability claim.

The specifications, descriptions and illustrations in this manual are accurate at the time of publication but may be subject to change.

Safety

All operators of the 180C and forklift/loader must hold the appropriate forklift licence or certificate of competence to do so.

All operators must be familiar with the 180C Operators Manual and forklift/loader operations prior to use. If safety instructions are not observed and complied with it can lead to the risk of injury to the operator and others as well as damage to the machine, property and the environment. Non-compliance to the safety instructions can lead to claims for damages/injury becoming invalid.

When travelling on public roads the pallet forks on the box rotator should be removed due to their protrusion and potential risk for accident/injury particularly when negotiating junctions or in traffic.

Dangers, operating errors and exemption from liability

1. No responsibility will be accepted for possible dangers arising from operations complying with the designated use.
2. Damage to agricultural produce particularly vulnerable to damage during processing cannot be entirely ruled out. Weather conditions, the quality of the produce and many other circumstances beyond our or the operator's control have an influence on the vulnerability to damage of the produce being processed. For example, when processing potatoes the submerged weight of the potatoes, the manuring (nitrogen content) of the potatoes, the degree of maturity (firmness of the skin) of the potatoes, the temperatures during processing and many other circumstances can have an influence on the vulnerability to damage. These examples do not claim to be exhaustive.
3. To avoid damage to agricultural produce the user must adapt the machine to the respective operating conditions. The results produced by the machine must be constantly monitored and checked.
4. Agriweld shall not be liable for any damage to agricultural produce and other items, which occurs as a result of normal operating, adjustments errors or other incorrect usage.
5. Agriweld accepts no liability for any damage caused as a result of operations not complying with the designated use of the machine. This also applies to damage to agricultural produce caused by certain external influences, which cannot be avoided with the current state of the art.

Qualification & training

Only personnel with the appropriate forklift/loader licence are authorised to use this machine.

Statutory minimum age limits must be observed and reliable personnel only should perform maintenance/work on this machine.

Persons undergoing training or instruction or taking part in a general training course should only use this machine under direct supervision of an experienced and trained person.

Agriweld shall not be responsible for any damage/injury caused by the use of parts/repairs not supplied and/or approved by Agriweld or through the use of the rotator by inadequately trained personnel.

General safety

Any warning signs/instructions on the machine provide important information and must be observed.

Ensure that you are familiar with the machine before starting work.

Check round the machine for any noticeable damage, or missing parts before starting work.

It is advisable that the operator does not wear jewellery and baggy clothing to avoid the risk of snagging and trapping.

Ensure that you are working in an area clear of obstructions and watch out for wandering individuals (particularly children!).

Important safety instructions

Take extra care when attaching the 180C to the forklift/loader to ensure that it is attached correctly via the bracketing and hydraulic fittings. (See page 7 Connection to the forklift/loader).

Ensure that the forklift/loader and its hydraulic system are in full working order.

Never allow any person to stand between the forklift/loader and the 180C during connection or at any time.

Never exceed the permissible weight of the box and its contents for handling.

Ensure that the side and top arms are set in accordance with the OPERATOR INSTRUCTIONS in relation to the sizes of box being handled at the time and NOTE that this may need adjustment for different sized boxes.

Take into account the protrusion of the 180C pallet forks (a further 1200mm from the carriage of the unit) when manoeuvring around and take particular care when negotiating corners. When travelling on public roads the pallet forks on the box rotators should be removed due to their protrusion and potential risk for accident/injury particularly when negotiating junctions or in traffic.

The driving characteristics of the forklift/loader are influenced and altered by the attachment of mounted machines and it is important to ensure adequate steering and braking ability as required.

Never allow any person to sit or ride on the 180C at any time.

Never perform any adjustments to the 180C whilst mounted, unless the forklift/loader is stopped, turned off and the 180C is resting on the ground where possible.

Ensure that the forklift/loader cannot roll away by use of a park brake or wheel chocks.

It is forbidden to allow persons to ride on the 180C or the forklift/loader it is attached to, at any time.

Keep clear of unit discharge to avoid being hit by stray produce.

NEVER ALLOW ANY PERSON TO STAND OR WORK BENEATH A SUSPENDED LOAD!

Connection to the forklift/loader

The 180C will be delivered already fitted with the correct bolt-on bracketing, hydraulic fittings and hydraulic hose to fit your forklift/loader.

If for any reason the fittings are lost or damaged they must be replaced with the following specification of fitting;

QUICK-HITCH brackets or CARRIAGE BLOCKS require the following fittings;

8 X M20 X 50mm counter sunk socket head setscrew BZP - high tensile 10.9

8 X M20 high tensile grade 8.8 Nylock nuts

8 X M20 good quality washers (fitted nut side.)

IMPORTANT NOTE (FOR YARD TRUCKS - Excludes telehandlers)

CARRIAGE BLOCKS ONLY REQUIRE THE TOP BLOCK FITTING WITH "LOCKTITE" Top blocks are pre LOCKTITED before dispatch but will require LOCKTITE again if removed and re-fitted at any time.

For your own safety and the safety of others, always use the correct fittings to attach bolt-on bracketing to the rear of the unit. Always place the unit on the ground and turn off the forklift/loader before attempting any changes.

Attachment

Stand the 180C up the correct way using the lifting eye on the top catcher arm, in an area free from obstruction to allow you to drive the forklift/loader towards the bracketing.

For Quick Hitch bracketing, connect as you would with any other attachment and the type of bracketing fitted to the box rotator.

For Carriage blocks, drive forward and locate the forklift carriage with the top block ensuring the centre castellation is lined up with the notch inside the top block to prevent unwanted movement left or right. Lift the unit off the ground enough to give access to bolt the bottom blocks in position.

Attach the hydraulic hoses via the pipes and fittings supplied to fit your forklift/loader whilst it is TURNED OFF.

If your machine is being exported out of the UK, for safety purposes we cannot run any hydraulic oil through the machine for shipping, please be aware that you will need to plug your hydraulic couplings in to the forklift/loader and run the machine through with hydraulic oil for operation.

YOU ARE NOW READY FOR OPERATION.

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Adjustment

The 180C requires immediate adjustment of the top and side arms and pallet forks in relation to the size of boxes you will be handling. This will require repeating when you change to different size boxes. Set the pallet forks using the latches located on the top of the fork to the maximum width your boxes can take for stability. Set the top arm 50mm or so higher than the height of the box and the same for the side arm to allow for driving in and out of the box. The arms are adjusted simply via a pin system at 100mm increments. Ensure the pin is fully located and the linch pin is replaced to prevent the pin working loose.

The 180C is a high visibility unit and the pallet forks can be seen below the rotators carriage and back plate to guide you into the box. The side arm will also enable you to gauge access to the box.

The adjustment range of the 180C arms/forks are as follows:

TOP ARM (taken from top of pallet fork to underside of arm)

MINIMUM HEIGHT:	901mm	MAXIMUM HEIGHT:	1201mm
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SIDE ARM (taken from centre of carriage)

MINIMUM WIDTH:	707mm	MAXIMUM WIDTH:	907mm
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PALLET FORKS (outside to outside)

MINIMUM WIDTH:	808mm	MAXIMUM WIDTH:	1211mm
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Rules of Conduct for Operation

The following points must always be observed before the machine is started up and during operation:

- Never leave the machine unattended.
- Check the machine regularly for oil leakage. Replace defective components immediately.
- The user is responsible for damage to the produce caused by oil leakage.
- Check the machine for dirt accumulation and clean it on a regular basis.

Rules of conduct when handling the hydraulic system

DANGER

The hydraulic system is under high pressure!

Fluids escaping under high pressure can penetrate the skin and cause serious injuries! If such injuries occur, call a doctor immediately as otherwise there is a risk of serious infection!

Consequently: Work only on the hydraulic system when the hydraulic system is depressurized and the drive is switched off.

Note

All components of the machine are driven hydraulically. Replace defective hose connections immediately. The user is responsible for damage to the produce caused by oil leakage.

Speed Restriction

Your box rotator is fitted with 2mm restrictors in the hydraulic system to set the speed. As a personal preference if you require rotation speeding up or slowing down these restrictors can be changed simply, please contact us to discuss your requirements and we can supply the relevant restrictors and instructions how to change them yourself.

Operational Procedure

Once the 180C is attached to the forklift/loader correctly and adjusted for the correct box size you can begin operation.

The following step by step procedure will take you through the basic operation of the machine;

The 180C is a high visibility unit and the pallet forks can be seen below the rotators carriage and back plate to guide you. The side arm will also enable you to gauge access to the box.

Drive in to collect a full box until it touches the 180C's carriage (as far back as it will sit)

Ensure that the 180C is not tilted forwards on the forklift/loader as the box could slide off.

Pick up the box, and tilt the rotator back slightly to keep the load against the carriage and drive to the desired tipping point.

Position the forklift/loader so that on rotating the box the product will fall as required. As standard the 180C will tip to the left (from the driver's seat of your forklift/loader).

Begin rotation. Ensuring that the forklift carriage and 180C is NOT tilted forwards to prevent the box sliding off. The speed is pre-set before delivery and you do not need to worry about "feathering" the controls as the rotator will rotate at a steady speed without jarring.

Once the box is empty, rotate the box fully back. It will return to level at all times unless the ram stop (NYLON CUFF) around the top ram is missing, in which case it will return 20 degrees past level. Drop the box off where required. On leaving the box it is easier to slightly tilt the forklift carriage forwards to aid exit from the box.

If you decide not to empty the box fully, the 180C will return to level if required with a part full box.

Repeat the process.

**REMEMBER TO ADJUST THE BOX ROTATOR SIDE AND TOP ARMS FOR DIFFERENT BOX SIZES.
TOO MUCH SPACE BETWEEN THE BOX AND ARMS OF THE ROTATOR IS DANGEROUS AS
EXCESSIVE FREE MOVEMENT COULD RESULT IN LOSING THE BOX OFF.**

Maintenance

Regular maintenance is a prerequisite for good operational reliability. The following safety advice is to be observed before starting any maintenance, cleaning or repair work.

Trained personnel may only execute maintenance activities.

Inform operating personnel before beginning special operations and maintenance work! Delegate a supervisor!

If necessary, ensure that the maintenance area is adequately secured.

Use suitable tools and wear gloves and appropriate PPE when working on the machine!

Switch off the machine completely for maintenance and repair work and ensure that it is protected against inadvertent starting by:

- Locking the principal controls and removing the ignition key and/or
- Detaching the hydraulic supply.

Carry out maintenance and repair work only when the machine is positioned on stable and level ground and has been secured against involuntary movement and toppling.

To avoid the risk of accidents, individual parts and larger subassemblies being moved for replacement purposes should be carefully securely attached to lifting tackle. Use only suitable hoisting and lifting gear with adequate load capacity, which is in proper working condition. Never work or stand under suspended loads!

The securing of loads and the instruction of crane operators should only be entrusted to experienced persons. A signaller giving instructions must be within sight of the crane operator or must be provided with a radio link.

For carrying out overhead work, always use specially designed facilities or safe ladders/platforms. Never climb on the machine itself! Wear a safety harness when carrying out maintenance work at greater heights.

Clean the machine, especially connections and threaded unions, of any traces of oil, fuel or preservatives before carrying out maintenance/repairs! Never use aggressive detergents. Use lint-free cleaning cloths.

Before cleaning the machine with water or steam jets (high-pressure cleaners) or other cleaning agents, cover or tape all openings which – for safety and operational reasons – must be protected against ingress of water, steam or cleaning agents.

After cleaning, examine all fuel, lubricant and hydraulic oil lines for leaks, loose connections, scuffing marks and damage. Any defects found must be rectified without delay.

Always retighten any screwed connections that have been unscrewed during maintenance and repairs.

Any safety devices removed for setting-up, maintenance or repair purposes must be refitted and checked immediately upon completion of the maintenance and repair work and prior to operation.

GREASING ROUTINE – VERY IMPORTANT!

It is very important to grease your box rotator using a good quality general purpose grease at least once weekly whilst working under normal conditions and twice weekly under extreme use and or very dry/dusty conditions. Any components not greased often enough are at risk of excessive wear and possible seizing; these components therefore would not be covered under warranty.

Instructions

- Whilst connected to the Forklift/loader grease all parts (main shaft, radius arm and both hydraulic cylinders) using 3 pumps from the gun or more if required.
- Being aware of your own safety/safety of others, rotate the machine through its entire cycle and repeat the greasing process to ensure full coverage.
- Rotate machine on forklift/loader back and forth several times to work the new grease in.
- You are now ready to use the machine again.

It is important to follow the recommended greasing routine to protect your 180C from damage and prolong the lifespan of its main operating parts.

Failure to carry out this maintenance may result in your warranty becoming invalid due to non-maintenance.

Acquiring spare parts

Please quote the details on the type plate(s) as well as the machine's serial no. on every order for spare parts or accessories, or enquiries of a technical nature.

The use of spare parts supplied by others shall only be permitted after consultation with the manufacturer. Original spare parts and accessories authorised by the manufacturer ensure safe and reliable operation. The use of other parts may invalidate the liability of the manufacturer for any consequences arising from such use.

Disposing of replaced parts

The following points should be observed before replacing or disposing of parts.

- Replaced parts, which still function, should be cleaned and stored in an orderly manner.
- Machine parts, which cannot be repaired should only be disposed of at appropriate collecting points or be collected by a scrap metal dealer.
- So-called "valuable" materials should be disposed of in a proper way, i.e. plastics, rubber, scrap metal, etc. should be recycled.
- Collect and dispose of old oil in accordance with the current regulations.

Fitting replacement ram stop to top arm ram assembly

Please note that the replacement stop may require trimming to suit.

Trim from one side only and anything up to 10mm may be required to suit your machine.

RAM STOP FITTING INSTRUCTIONS – 180C and CONTRACTOR BOX ROTATORS

Whilst attached to the forklift, and being aware of your safety and the safety of others, set the Box Rotator level by eye looking from the front. Lower the box rotator to the ground and turn off the loader/forklift to ensure that the hydraulics do not operate whilst working on the machine.

Take a measurement between the stop on the hydraulic cylinder down the rod to the external casing on the ram.

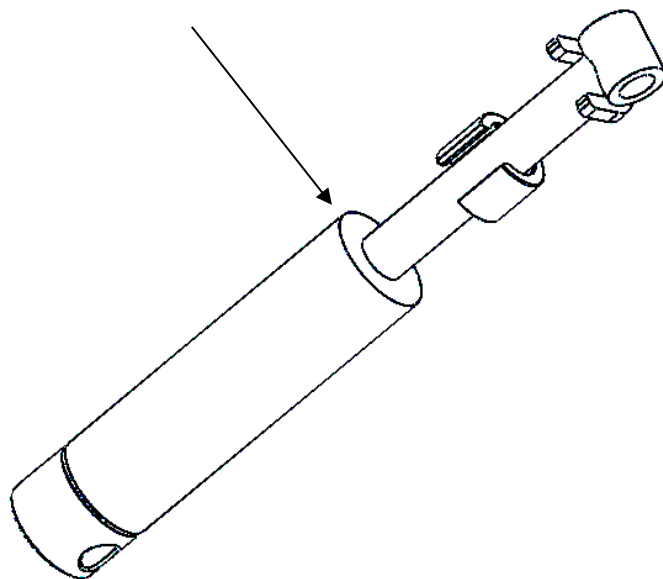
Add a further 2mm to this distance (as tolerance) and use this measurement to trim off one side of the nylon stop.

Cut from one side only. This cut side will fit towards the ram stop end of the cylinder (horseshoe) and the machined side will fit towards the cylinder casing.

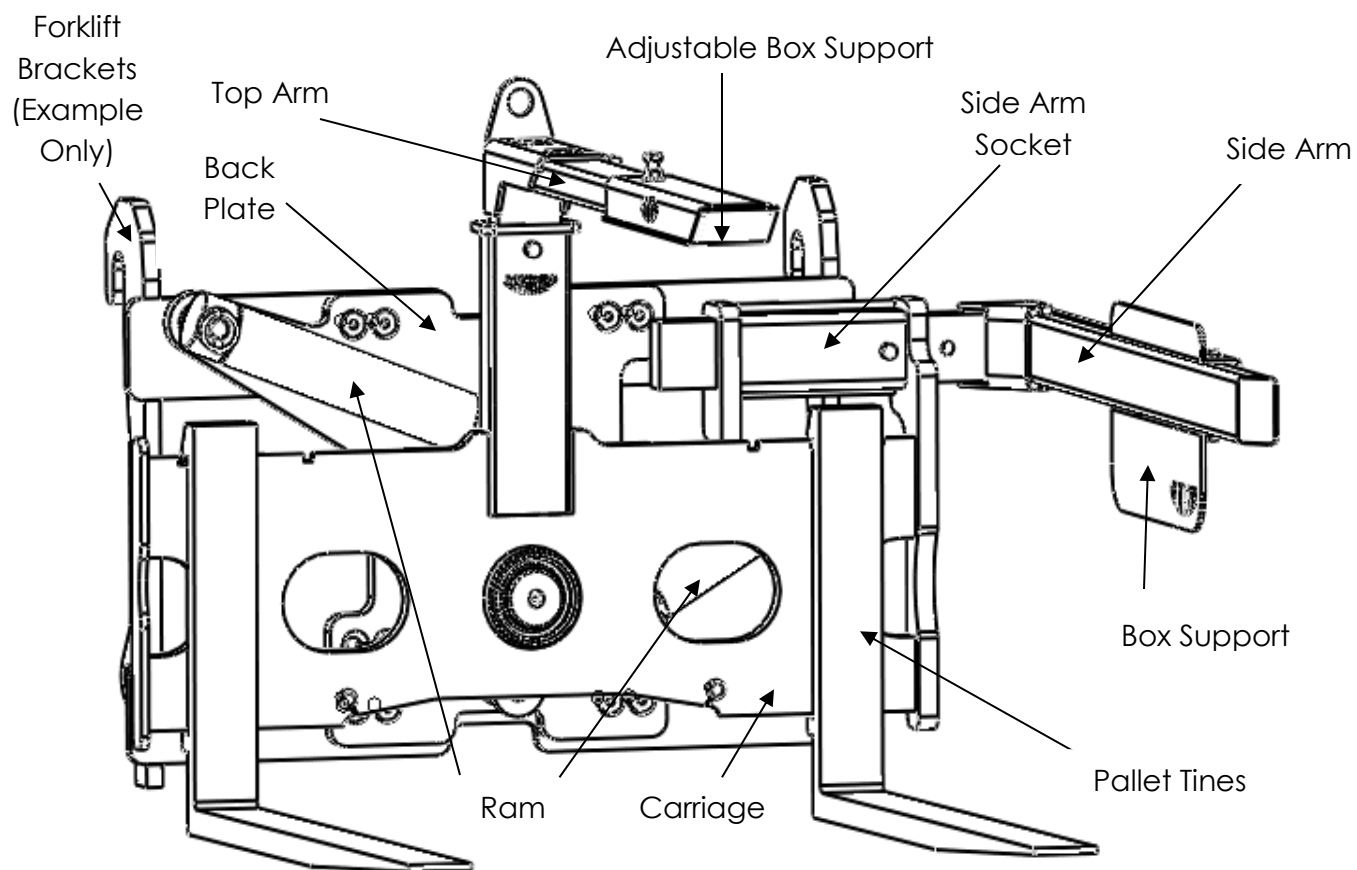
If you are unsure of these instructions, please do not hesitate to contact us for assistance.

REMEMBER: Safety first. Never work under a suspended load and always lower the rotator to the ground before making any adjustments or alterations.

Machined edge of ram stop
faces this side

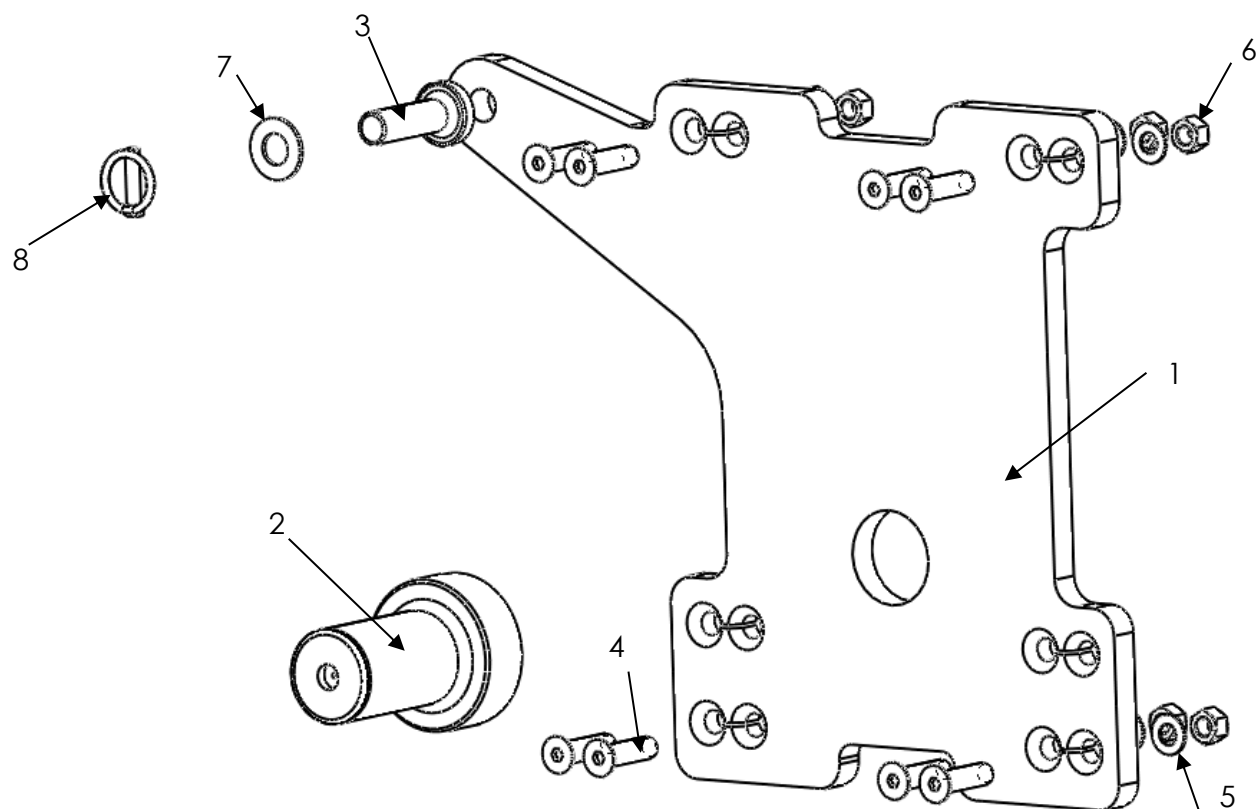


Ram stop **trimmed edge** to
face horseshoe.

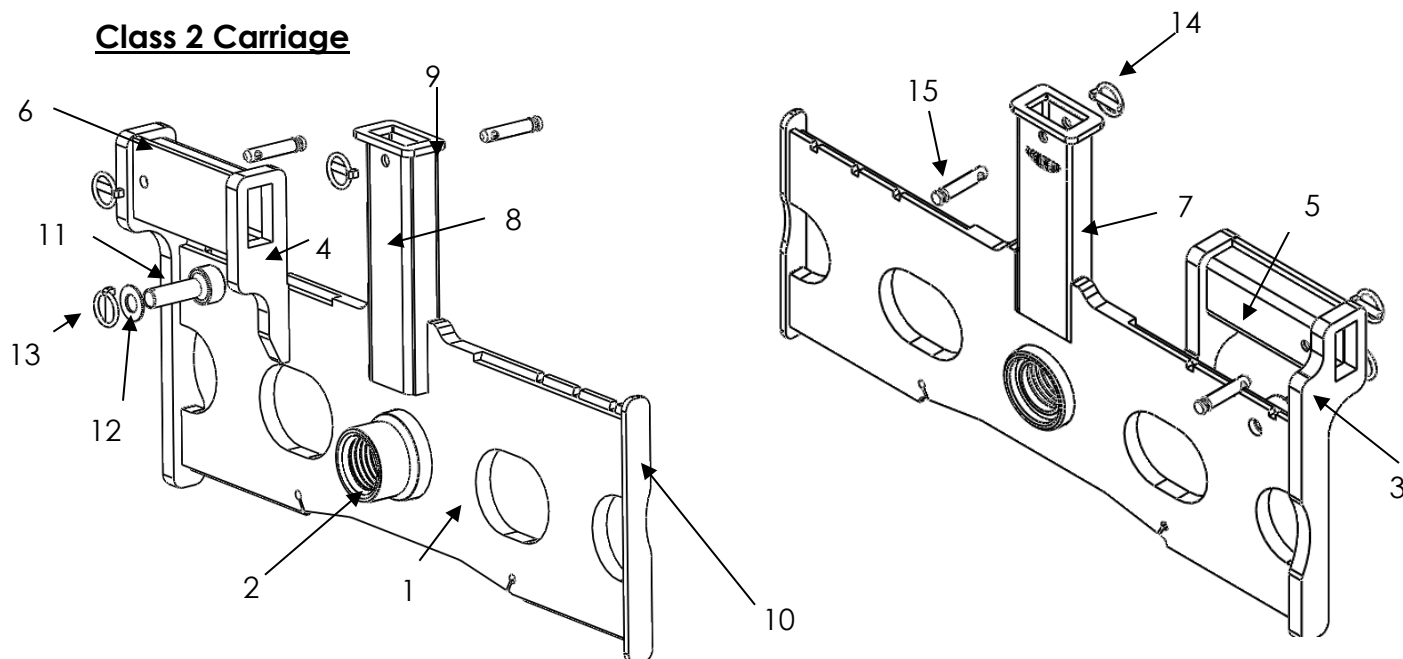
Full assembly

Total Weight (Including Brackets) – 565 KG.

This is an approximate weight due to different types of bracketing.

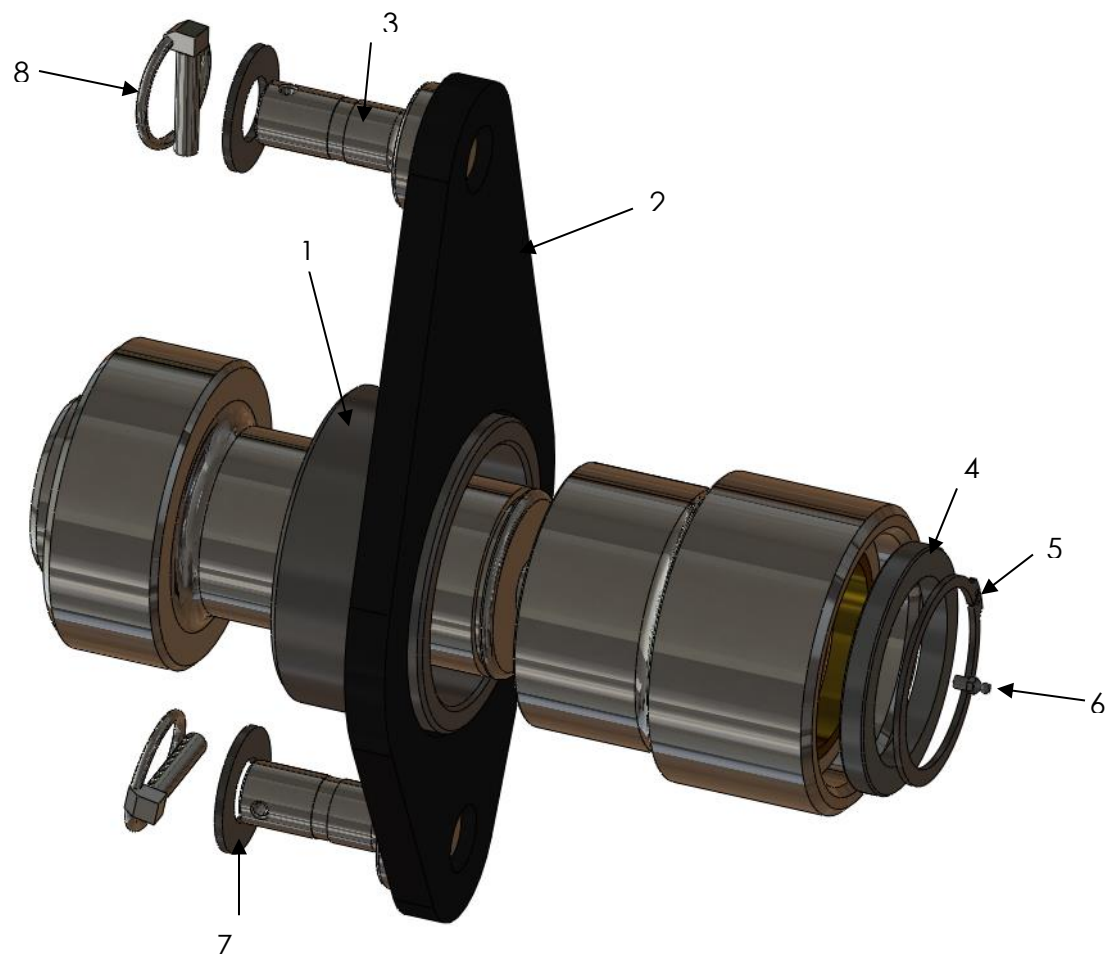
Back plate

Item Number	Part Number	Description	Quantity per Machine
1	AW_180_001	Back plate	1
2	WK_180_154	Main Shaft 89.9mm Diameter	1
3	WK_180_200	Top Ram Pin 30mm Diameter	1
4	M20 x 80 Counter Sunk Bolt	10.9 High Tensile Strength	8
5	M20 Flat Washer		8
6	M20 Nylock Nut		8
7	M30 Flat Washer		1
8	LP6Z	Linch Pin	1

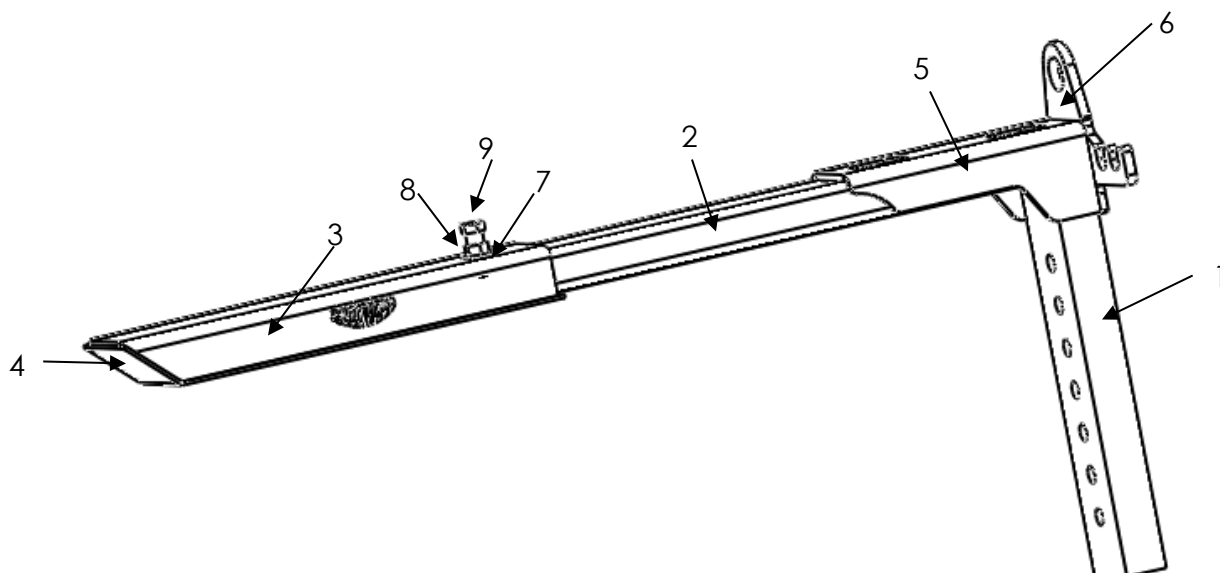
Class 2 Carriage

Item Number	Part Number	Description	Quantity per Machine
1	AW_180_030	16" Carriage	1
2	WK_180_152	Main Hub with a Phosphor Bronze centre.	1
3	AW_180_020	Side Arm Socket (30mm)	1
4	AW_180_021	Side Arm Socket (30mm)	1
5	AW_180_145	Side Arm Socket (6mm)	1
6	AW_180_130	Side Arm Socket (12mm)	1
7	AWARGI016	Top Arm Socket (6mm)	1
8	AW_180_142	Top Arm Socket (6mm)	1
9	AW_180_135	Top Arm Socket (12mm)	1
10	AW_180_110	Tyne Stop (12mm)	1
11	WK_180_202	Carriage Pin (106mm Length)	1
12	M30 Flat Washer		1
13	LP6Z	Holds ram in place.	1
14	LP11Z	Linch Pin	2
15	Z319.075	Side and top arm pin	2

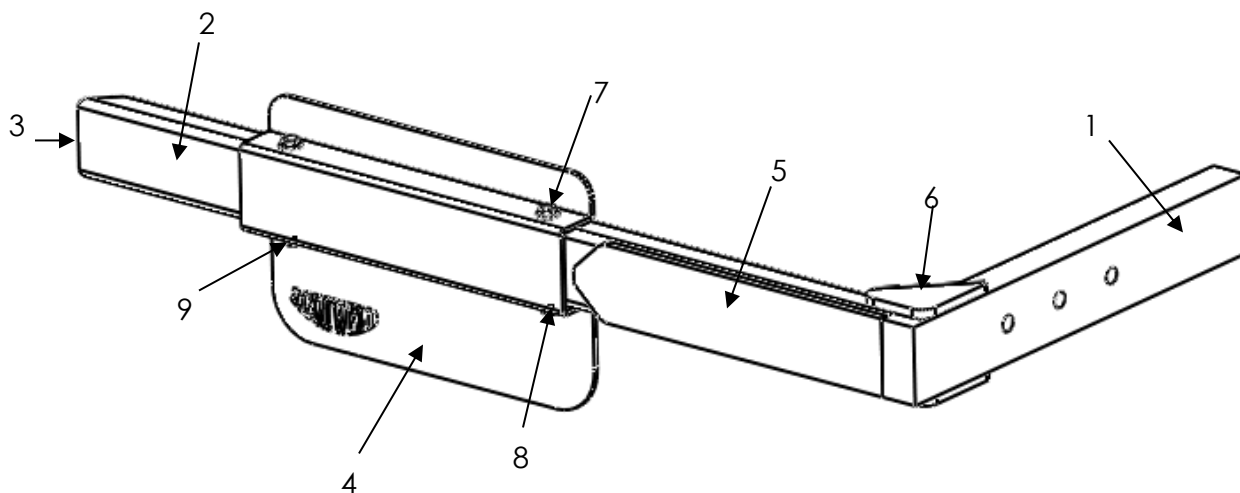
Main shaft, radius arm and main hub assembly



Item Number	Part Number	Description	Quantity per Machine
1	WK_180_150	Radius Arm Hub	1
2	AW_180_040	Radius Arm (20mm Profile)	1
3	WK_180_205	Radius Arm Pin	2
4	180_Washer		1
5	D1400-090 (EXT 90mm)	Circlip	1
6	M6 Straight Grease Nipple	Set in main shaft	1
7	M30 Flat Washer		2
8	LP6Z	Linch Pin	2

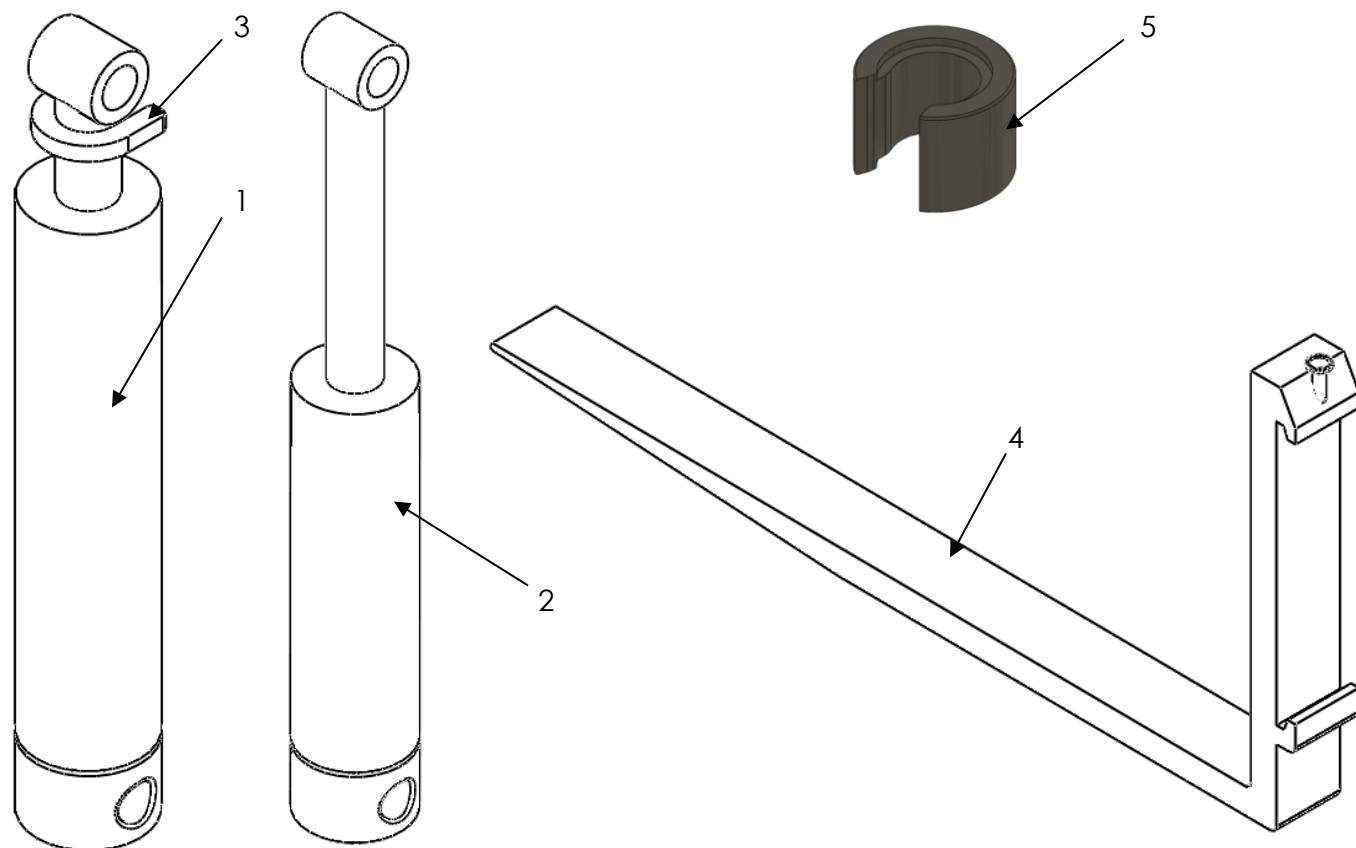
Top arm

Item Number	Part Number	Description	Quantity per Machine
1	Solid_100x50_180	Top arm height adjustment	1
2	Box_100x50_180		1
3	AWARGI011A	Top arm length adjustment	1
4	AWARGI013		1
5	AW_180_100	8mm Strengthener profile	1
6	AW_180_115	12mm Pipe holder and lifting point profile	1
7	M16 Flat Washer		1
8	M16 Lock Nut		1
9	M16 x 40 Bolt		1

Side arm

Item Number	Part Number	Description	Quantity per Machine
1	SOLID_100x50	Side Arm	1
2	Box Section_100x50	Side Arm	1
3	100x50 End Cap		1
4	AWARGI012A	Box Support	1
5	AW_180_125	Strengthener Plate	1
6	AW_180_140	Strengthener	1
7	M12 x 140	Bolt	2
8	M12 Nylock	Nut	2
9	M12 Flat Washer		4

Rams and pallet forks



Item Number	Part Number	Description	Quantity per Machine
1	CY_705_3_(40_80)	Top Ram	1
2	CY_705_2_(40_80)	Bottom Ram	1
3	AW_180_120	Stop buffer	1
4	Class 2B	Pallet Fork	2
5	AW_NYS	Nylon Stop	1

Pallet Fork Information

Our supplier has manufactured the pallet forks on your machine subject to Quality Control Procedures assessed and approved to BS EN ISO 9001:2008 and BS EN ISO 3834-2:2005

In compliance with The Machine Directive 2006/42/EC (formerly 98/37/EC), all fork arms manufactured by our supplier are manufactured to ISO 2328, ISO 2330 and meet the requirements of BS EN ISO 3691-5:2014 clause 4.4.5 or BS EN ISO 3691-1:2015 clause 4.6.5.6, whichever is applicable (where this information is known at the time of manufacture).

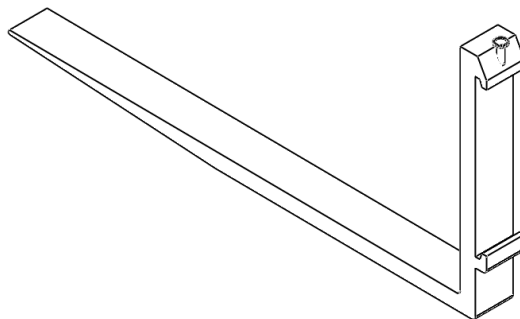
Material Specification: SAE 15 B 35 H (Mod) or Equivalent

Surface Hardness: BHN 285 - 360

Safety Factor: 3 x Safe Working Load

Safe Working Load: 1250kg @ 500mm per fork

The forks are 100% inspected for cracks according to the requirements of ISO 2330.

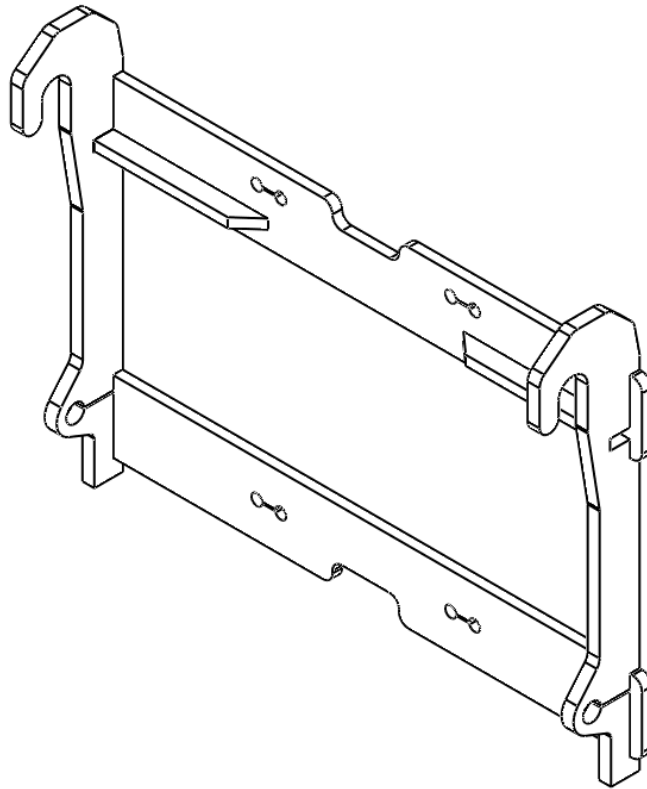


Machine technical specification

WEIGHT:	565Kgs
LLC:	205mm
Horizontal centre of gravity:	280mm
Max capacity:	2500Kgs

This information is shown on your machine's serial plate

Forklift brackets



Bolt on brackets for a JCB example.

QUICK-HITCH brackets or CARRIAGE BLOCKS require the following fittings;

8 X M20 X 80mm counter sunk socket head setscrew BZP - high tensile 10.9

8 X M20 high tensile grade 8.8 Nylock nuts






8 X M20 good quality washers (fitted nut side.)

IMPORTANT NOTE (FOR YARD TRUCKS - Excludes telehandlers)

CARRIAGE BLOCKS ONLY REQUIRE THE TOP BLOCK FITTING WITH “LOCKTITE”

Top blocks are pre LOCKTITED before dispatch but will require LOCKTITE again if removed and re-fitted at any time.

Stickers

Sticker	Part number	Description	Quantity per Machine
	AW_180C	180C Sticker	2
	AW_180_AS (185 mm x 85mm)	Agriweld Sticker	2
	AW_180_GB (85mm x 50mm)	Great Britain Sticker	2
	AW_180_OM	Read operator manual sticker	1
	AW_180_GNS	Grease nipple Sticker	7

Warranty

Your Agriweld 180C is covered for a period of 24 months from the date of delivery (which is recorded on our files) against faulty components and/or bad workmanship.

Our welders are coded to ISO 9606-1 and our welding procedures are approved in accordance with: ISO 15614-1 to manufacture your equipment and all products are checked for quality prior to delivery/collection.

We cannot be responsible for claims arising from ignorance, occurrences outside our control, such as accidents, and malicious damage.

Damage occurred during transit must be reported on signing for the item from the haulier to enable us to make a claim for damages caused during transport.

WARRANTY CLAIMS FOR DAMAGE DURING TRANSIT

Damage occurred during transit via an external haulier must be reported immediately upon unloading and signing for the item. The limit of our liability to undertake repairs to products damaged during transit is dependent on signing for any damaged product upon delivery as "DAMAGED".

CE DECLARATION OF CONFORMITY

The equipment which accompanies this declaration is in conformity with EU Directive(s):-

2006/42/EC Machinery Directive

Manufacturer Name: Agriweld Ltd

Manufacturer Address: Main Street
Garton-on-the-Wolds
Drifffield
East Yorkshire
YO25 3ET

Product: 180C Box Rotator

Product Options: All

Individual Serial Number:

Product Description: AGRIWELD 180C Box Rotator

Date of Last Load Test Report: N/A

Supplementary Information:

Authorised Signatory on Behalf of
Manufacturer: 

Name of Signatory: Dawn Foster

Position in Company: Director

Date of Issue:

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