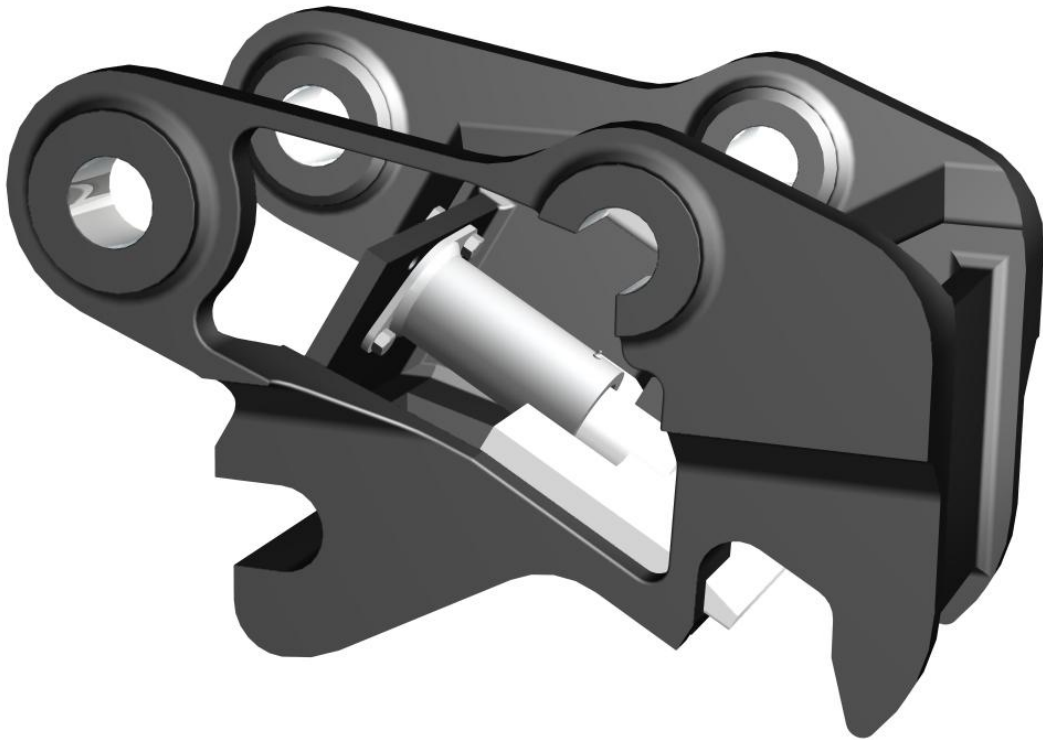


HARFORD WEDGELOCK MECHANICAL QUICK HITCH

Installation & Operation Manual

Important: This manual must be kept with the excavator at all times and referred to as required



Harford Manufacturing Ltd

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Item Checklist

The following items are supplied.

Item	Supplied
Mechanical quick hitch	✓
Safety bar and linch pin	✓
CE Declaration of Conformity	✓
Ratchet	✓
Installation and operation manual	✓
Warning label	✓
Lifting eye test certificate	see note

Note

The lifting eye test certificate is only supplied if a lifting eye is fitted to the quick hitch at manufacture.

If at any time in the future, you require additional information on the
HARFORD WEDGELOCK quick hitch or any aspects of its use, please do not hesitate to
contact:

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email: info@harford-mfg.co.uk website: www.harford.mfg.co.uk

Introduction

Thank you for choosing to purchase the **Harford Wedgelock** quick hitch for excavators. The information contained in this manual should be thoroughly read and understood by all operators of this quick hitch.

The **Harford Wedgelock** quick hitch is designed to attach to standard OEM specification attachments of the excavator. The adjustable sliding wedge plate provides a locking device, which is free from movement. This results in minimal wear over time.

Due to the large number of excavator makes and models available worldwide, it is not possible to provide installation instructions that will cover every situation. It is, therefore, extremely important that the installation be carried out by properly skilled persons, preferably with past quick hitch installation experience.

It is essential that the operation and maintenance instructions are followed carefully to ensure safe and reliable operation of the quick hitch at all times. Failure to do so could result in serious injury and invalidate warranties. Several safety features are built into the design of both the manual and hydraulic versions of the quick hitch, all of which contribute to a very safe and reliable quick hitch.

This manual contains the installation and operation instructions for the mechanical version of the **Harford Wedgelock** quick hitch. If the quick hitch you are about to fit or operate is the hydraulic version, please refer to the separate manual.



WARNING:

The quick hitch extends the length of the dipper arm and some attachments may hit the cab or boom in certain positions.



WARNING:

The quick hitch is designed to accept attachments which are manufactured to OEM specifications and capacities. Oversized attachments could be hazardous when used with this quick hitch and could invalidate any warranties.



IMPORTANT:

This quick hitch has undergone CE certification by Harford Manufacturing. Any modification could invalidate this certification and therefore new certification would be required.

Safety features

There are several important safety features that are an integral part of the **Harford Wedgelock Mechanical quick hitch**. Each feature further removes the possibility of inadvertently disengaging attachments that are connected to the quick hitch.

1. The wedge plate is tightened the same way as a bolt (e.g. clockwise rotation).
2. There is a patented anti-unwind feature built into the threaded actuator. This can easily be adjusted to ensure firm rotation during maintenance.
3. The geometry of the wedge plate and quick hitch locking surface creates a locking mechanism in its own right. The clamping force of the wedging surface is up to 4.5 times the force applied by the threaded actuator. This feature creates an extremely positive and safe locking device.
4. As an additional measure a safety bar is located at the front of the hitch to enclose the front 'C' section. In the unlikely event of the complete loss of wedge interaction against the rear attachment pin, it ensures the attachment will not disengage from the hitch.

Fitting the quick hitch to the excavator

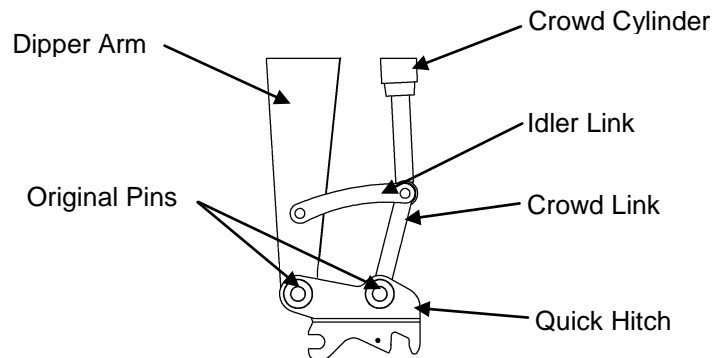


SAFETY NOTICE:

It is recommended that safety gloves are worn during the installation of the quick hitch.

1. Remove any existing attachment from the machine dipper arm and crowd link arm. The two original pins that are removed from these pivot points must be used to attach the quick hitch to the excavator (These pins are usually hardened and greasable).
2. Carefully align the dipper arm between the two front bosses on the hitch as shown in diagram 1. Replace any 'O' rings that were removed previously and slide one of the original pins through the quick hitch and dipper arm. Securely fix the pin in place by using the original or supplied retention method. Ensure any retention bolts are tightened using double nuts to lock against each other.
3. Repeat step 2 with the crowd link arm linkage.
4. Grease the two pins and visually check that they are located and secured correctly.
5. Use the excavator hydraulics to carefully rotate the quick hitch to the extremes of the crowd cylinder (e.g. no stroke and full stroke). Check the clearance of the quick hitch with any part of the dipper arm and linkage.
6. Fit the supplied warning label in the cab in a prominent position.
7. Medium tensile pins (or better) should be used in both pin location holes of the attachment. Visually check to ensure the pins are correctly fitted and are secure before the attachment is used. Ensure any retention bolts are tightened using double nuts to lock against each other.

Diagram 1



Connecting an attachment



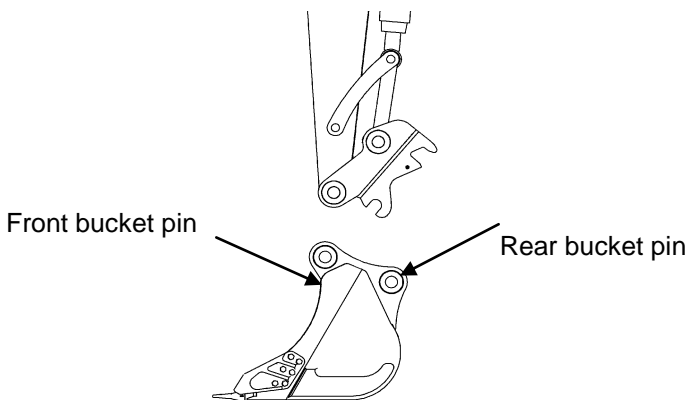
SAFETY NOTICE:

It is recommended that safety gloves are worn during the attachment changeover operation.

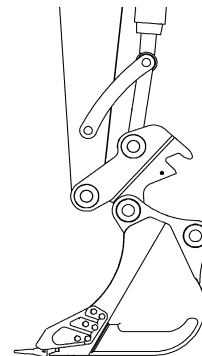
1. Remove the safety pin as shown in diagram 3.
2. Lower the quick hitch front 'C' shaped jaw down towards the front attachment pin as shown in diagram 2, step 1.
3. Engage 'C' shaped jaw with front attachment pin as shown in diagram 2, step 2.
4. Extend the crowd cylinder down towards the rear attachment pin and lift the attachment at the same time as shown in diagram 2, step 3.
5. Keep extending the crowd cylinder so the front attachment pin is firmly seated in the "C" shaped jaw and the rear pin is seated onto the rear locking surface as shown in diagram 2, step 4.
6. Use the ratchet spanner to rotate the threaded actuator in a clockwise direction until the wedge plate is fully tightened against the rear attachment pin.
7. Visually check that the attachment is connected correctly and the locking wedge plate is securely located against the rear attachment pin.

Diagram 2

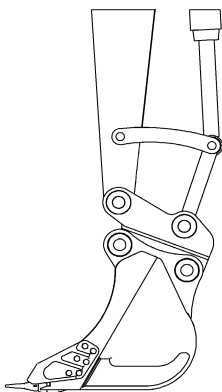
Step 1 – Lower quick hitch to front attachment pin



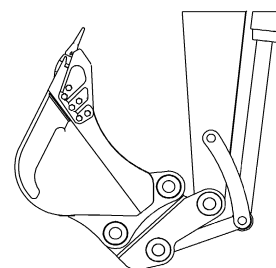
Step 2 – Engage 'C' shaped jaw with front attachment pin



Step 3 – Crowd quick hitch to engage with rear attachment pin

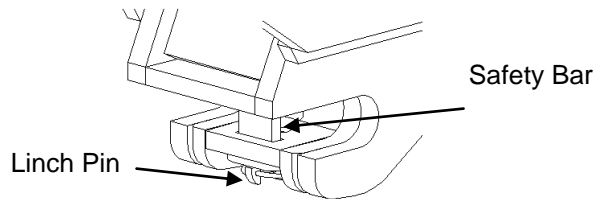


Step 4 – Crowd bucket until rear pin is much lower than attachment pin



8. Fit the safety bar to the hitch and lock in place with the lynch pin as shown in diagram 3. This encloses the front 'C' section to ensure that in the unlikely event of the complete loss of wedge interaction against the rear attachment pin, the attachment will not disengage from the hitch.

Diagram 3



WARNING:

Although the safety bar is designed to retain the attachment to the hitch if failure occurs, the attachment would rotate on the front pin with considerable force. If this situation occurs, the safety bar and lynch pin must be replaced. Also, the cause of failure must be determined before the hitch is used again.



WARNING:

During operation there should be no movement between the quick hitch and attachment. If any movement is detected, stop operation immediately, lower attachment to the ground and inspect the hitch.



WARNING:

The quick hitch extends the length of the dipper arm and some attachments may hit the cab or boom in certain positions.



WARNING:

The quick hitch is designed to accept attachments which are manufactured to OEM specifications and capacities. Oversized attachments could be hazardous when used with this quick hitch and could invalidate any warranties.



WARNING:

Ensure the Safe Working Load of the excavator is not exceeded. Refer to the excavator manufacturer's information.



IMPORTANT:

If hammers are to be used for long periods of time the quick hitch should be removed to prevent unnecessary wear.

Releasing an attachment

1. Place the attachment on level ground or in a position so that once released the attachment cannot roll away from the hitch. Ensure people and property are well clear of the immediate area. Remove the safety bar from the hitch and retain for further use.
2. Use the ratchet spanner to rotate the threaded actuator in an anti-clockwise direction until the wedge plate is fully retracted.
3. Using the crowd cylinder of the excavator, rotate the quick hitch away from the rear pin of the attachment and then lift away from the front attachment pin.

Lifting a load



IMPORTANT:

This section only applies to quick hitches that are manufactured with a lifting eye as shown in diagram 4.

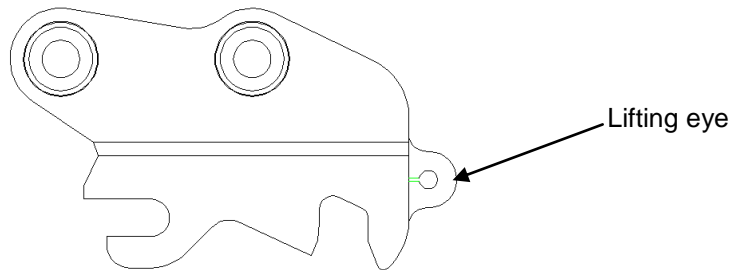
1. Ensure that the load to be lifted does not exceed the safe working load of the lifting eye.
2. The lifting eye is designed to be used with a lifting shackle with the same safe working load rating.
3. Release the attachment from the quick hitch prior to using it to lift load.



IMPORTANT:

Ensure the safe lifting capacity of the excavator is not exceeded. Refer to excavator manufacturer's information.

Diagram 4



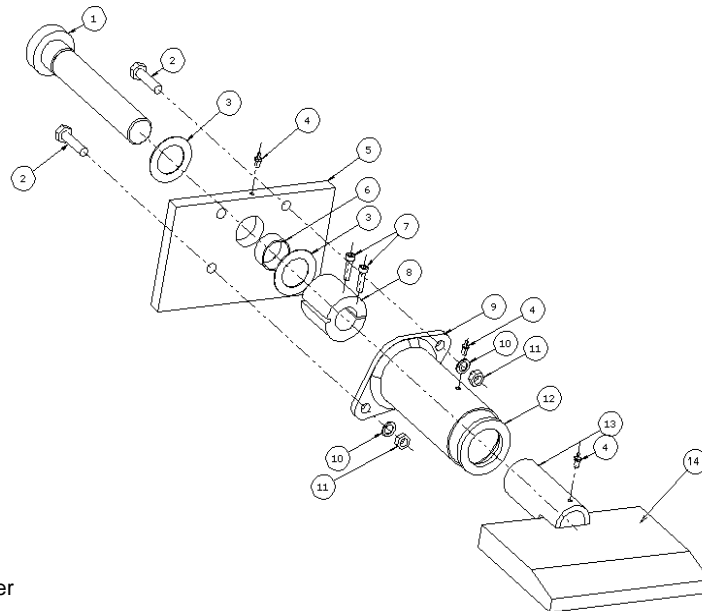
Adjusting the threaded actuator

The rotational resistance of the threaded actuator must be firm at all times. This is a safety feature that further enhances the positive locking mechanism built into the **Harford Wedgelock** mechanical quick hitch. This resistance can easily be adjusted using standard tools.

1. Disconnect the attachment from the quick hitch.
2. Remove the wedge plate from the quick hitch by rotating the threaded actuator in a clockwise direction until the two parts disconnect.
3. Remove the two bolts retaining the protective shroud over the threaded actuator.
4. Slide the shroud off the threaded shaft and remove completely.
5. Using an Allen key, loosen the two cap screws in the split nut.
6. Place the ratchet spanner in the square drive and using a screw driver, chock the split nut and rotate it so that it tightens up firmly against the thrust washers.
7. Clamp the split nut against the threaded shaft by tightening up the cap screw(s).
8. Check the tightness of the threaded actuator. You should only be able to rotate the actuator with the ratchet spanner, not by hand.
9. Repeat steps 5 through to Step 8 if required.
10. Re-assemble & grease all grease points liberally.

Diagram 5

(This is a typical assembly but your version may vary slightly)



Part No Description

1. Threaded actuator
2. Shroud bolt
3. Thrust DU washer
4. Grease nipple
5. Front plate
6. DU bush
7. Cap screw
8. Split nut
9. Shroud
10. Spring locking washer
11. Nut
12. Shroud wiper seal
13. Female lock nut
14. Mechanical wedge plate

Maintenance



SAFETY NOTICE:

It is recommended that safety gloves are worn during the maintenance of the quick hitch.

Daily

1. Check all pin retaining bolts and nuts for tightness on quick hitch and attachments.
2. Check safety bar and lynch pin. Replace if damaged.
3. Grease all wedge slide housing points. It is necessary to remove attachment to gain access to a grease nipple on the underside of the hitch.
4. Grease all threaded actuator points
5. Check quick hitch for correct operation by connecting an attachment.

Weekly

1. Check that the threaded actuator is firm to rotate in its housing. Adjust as required.
2. Check quick hitch for evidence of fatigue, weld failure or stress.
3. Clean away any material build up around the quick hitch cylinder and wedge.



WARNING:

If the hitch should be damaged in any way and there is any doubt as to the continued safety of the product please contact Harford Manufacturing Ltd, Technical Department on +44 (0) 1603 403099.

Warranty

Harford Manufacturing Ltd (the seller) warrants their quick hitches as follows:

1. The seller shall repair or replace at the seller's option any of the goods which are, or which become, defective within 12 months from delivery due to faulty workmanship, materials or faulty design if the seller is responsible for design, provided that the buyer shall have notified the seller in writing of such defect and have given the seller a reasonable opportunity to inspect the defective goods.
2. All expenses incurred by the seller in connection with the repair or replacement of the defective goods, including all costs of transportation, shall be paid by the seller.
3. If the seller shall fail to so repair or replace the defective goods within reasonable time of having been notified by the buyer, then the buyer shall be entitled to have the work of repair or replacement carried out by others, and the seller shall pay to the buyer the costs reasonably incurred to the buyer in so doing.
4. The seller's liability in respect of defects in the goods shall be limited to those stated in this clause and subject to Clause 2(1) of the **Unfair Contract Terms Act 1997**, the seller shall not be liable whether in contract or in tort, including but not limited to negligence, or by reason of breach of statutory duty or otherwise, for any damage or loss whatsoever suffered by the buyer arising out of or attributable to such defects.