



DOUBLE-LOCKING MECHANICAL QUICK HITCH

Installation & Operation Manual

Important: This manual should be kept with the excavator at all times for easy reference.



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Item Checklist

The following items are supplied with the **Harford Pro-Lok**.

Item	Supplied
Mechanical quick hitch	✓
CE Declaration of Conformity	✓
Ratchet	✓
Installation and operation manual	✓
Safety pin not required stickers	✓
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 **Pro-Lok** during manufacture.

For further technical or product information, contact us:

Harford Attachments

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Introduction

Thank you for purchasing the **Harford Pro-Lok** quick hitch for excavators. The information contained in this manual should be read carefully and understood by all operators of the quick hitch, to ensure optimum performance of the product.

The **Harford Pro-Lok** is designed to pick up standard attachments for excavators, made to OEM specification. The adjustable sliding wedge plate provides a locking device, which is free from movement. This minimises any wear over the lifetime of the hitch.

There are several unique safety features are built-in to the **Pro-Lok**. The combination of which results in a safe, tough and durable product. Regular maintenance of the hitch will give you many hours of reliable, trouble-free operation.

It is important that the installation is carried out by a competent person, preferably someone with experience of quick hitch operation.

The operation and maintenance instructions should be followed carefully to ensure safe and correct use of the quick hitch. Failure to do so could cause injury and/or invalidate the product warranty.



IMPORTANT:

All **Harford Pro-Lok** hitches are CE certified, having undergone a thorough evaluation process by Harford Attachments. Any subsequent modification to the hitch will invalidate this certification and the product warranty.

Safety Features

There are several unique safety features incorporated into the **Harford Pro-Lok** quick hitch. The features combine to prevent attachments becoming unintentionally disengaged from the quick hitch.

1. The wedge plate is tightened the same way as a bolt, ie. in a clockwise direction.
2. A patented anti-unwind feature is 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 wedge surface is up to 4.5 times the force applied by the threaded actuator. This feature creates a secure and safe locking device.
4. A sprung loaded front lock ensures that the front pin is secure when connecting an attachment and during operation. This is visible to the operator from the cab.
5. A rear lock indicator allows the operator to check that the rear locking wedge is in its correct operating position. This is also visible from the cab.

Fitting the Harford Pro-Lok to your Excavator

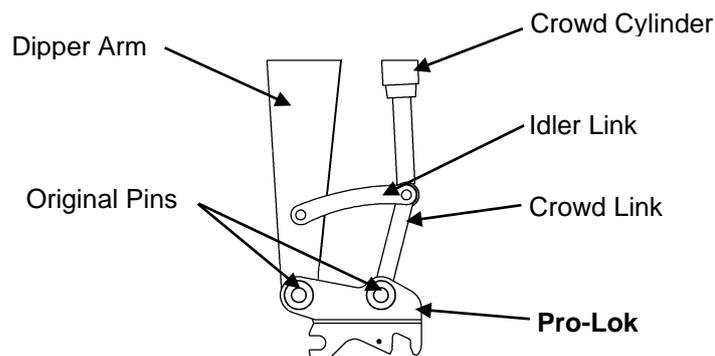


SAFETY NOTICE:

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 **Pro-Lok** 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 yellow **Warning sticker** in the cab in a prominent position. Also supplied are three '**Safety Pin Not Required**' stickers – one to fit in the cab alongside the yellow **Warning sticker** and one each side of the dipper arm near the quick hitch.
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.
8. You can now proceed to 'Connecting an Attachment to your **Pro-Lok**'.

Diagram 1



Connecting an Attachment to your Pro-Lok



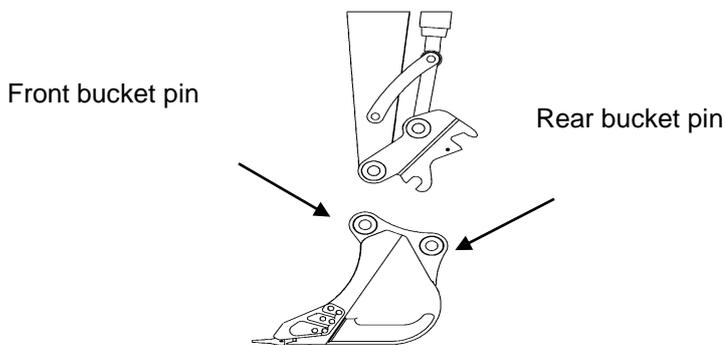
SAFETY NOTICE:

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

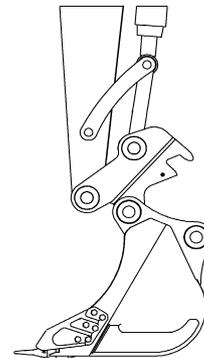
1. Lower the quick hitch front C-shaped jaw down towards the front attachment pin, as shown in Diagram 2, step 1.
2. Engage C-shaped jaw with front attachment pin as shown in Diagram 2, step 2.
3. Extend the crowd cylinder down towards the rear attachment pin whilst simultaneously lifting the attachment, as shown in Diagram 2, step 3.
4. Continue extending the crowd cylinder so the front attachment pin is firmly seated in the C-shaped jaw and the rear pin is seated on the rear locking surface, shown in Diagram 2, step 4.
5. 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.
6. Visually check that the locking wedge plate is securely located against the rear attachment pin and the front lock is closed. Also ensure that the indicator bar is in the correct operating position as shown by Diagram 3.

DIAGRAM 2

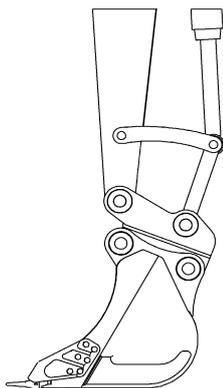
Step 1 – Lower quick hitch to front attachment pin



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

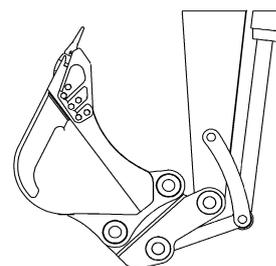


Diagram 3
Correct operating position

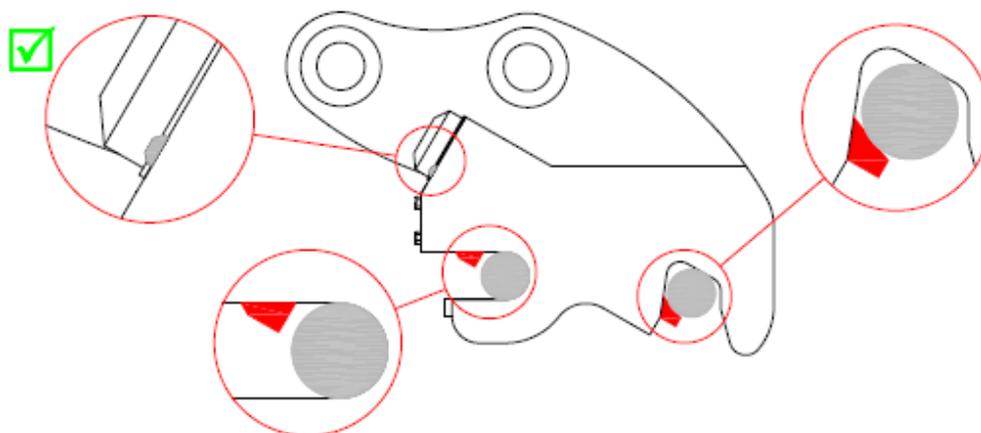


Diagram 4
Incorrect operating position

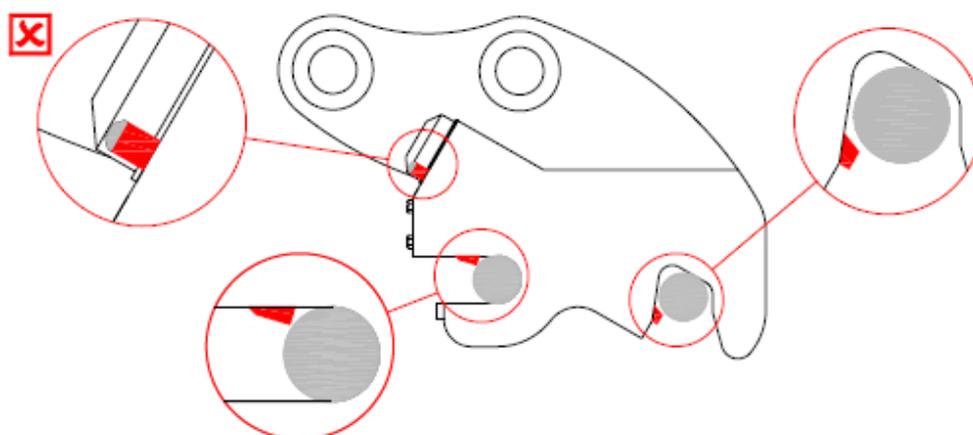
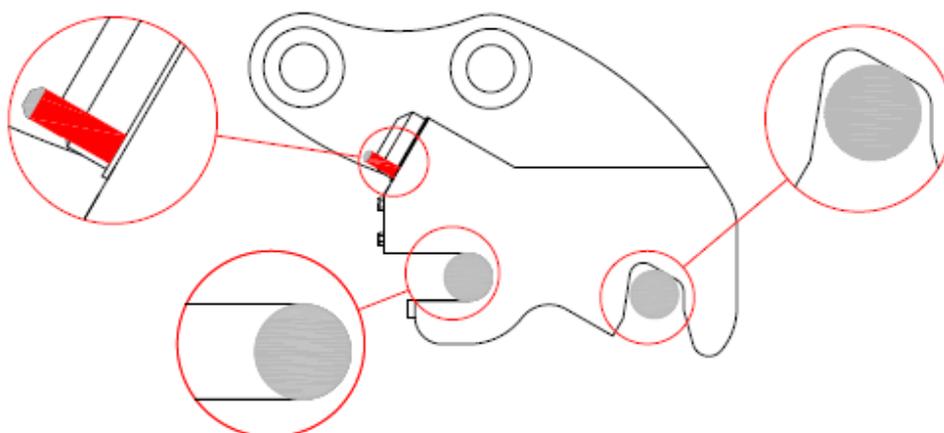


Diagram 5
Releasing an attachment



**WARNING:**

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

**WARNING:**

The **Pro-Lok** extends the length of the dipper arm and some attachments may hit the cab or boom in certain positions as a result.

**WARNING:**

The **Pro-Lok** is designed to pick up attachments manufactured to OEM specifications and capacities only. Use of oversized attachments with this quick hitch can be hazardous and may invalidate the product warranty should damage occur.

**WARNING:**

Ensure the Safe Working Load of the excavator is not exceeded - check the excavator manufacturer's information.

**IMPORTANT:**

To prevent unnecessary wear and tear, we recommend that the **Pro-Lok** hitch is removed if hydraulic hammers are to be used on the excavator for long periods of time.

**IMPORTANT:**

The use of pallet forks with the **Pro-Lok** is not recommended, in order to maintain the integrity of the product design. Mis-use, resulting in damage to the hitch could invalidate the product warranty.

Releasing an Attachment

1. When releasing an attachment, first ensure people and property are well clear of the area of operation. Place the attachment on level ground or in a position so that once released the attachment cannot roll away from the hitch.
2. Use the ratchet spanner to rotate the threaded actuator in an anti-clockwise direction until the rear wedge plate is fully retracted and front lock fully open as shown in Diagram 5.
3. Using the crowd cylinder of the excavator, rotate the quick hitch away from the rear pin of the attachment 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 certified by **Harford Attachments**.

1. Ensure that the load to be lifted does not exceed the Safe Working Load (SWL) of the lifting eye and that the lifting shackle to be used has the same SWL rating.
2. Release any attachment from the **Pro-Lok** prior to using it to for lifting.

**IMPORTANT:**

Ensure the safe lifting capacity of the excavator is not exceeded. Please check the excavator manufacturer's technical information.

If your **Pro-Lok** hitch was supplied with a factory-fitted lifting eye, it must be examined at regular intervals for damage and defects, by a competent person, in accordance with UK HSE LOLER 1998 guidelines, which can be found at www.hse.gov.uk.

IMPORTANT MAINTENANCE INFORMATION

Adjusting the Threaded Actuator

The rotational resistance of the threaded actuator must be firm at all times but can be easily adjusted using standard tools. This safety feature further enhances the positive locking mechanism built into the **Harford Pro-Lok** hitch.

1. Disconnect the attachment from the **Harford Pro-Lok**.
2. Remove the wedge plate from the **Pro-Lok** 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. Slide the shroud off the threaded shaft and remove completely.
4. Using an Allen key, loosen the cap screws in the split nut.
5. Place the ratchet spanner in the square drive and rotate the split nut anti-clockwise (L.H. thread) until it tightens up firmly against the thrust washers.
6. Clamp the split nut against the threaded shaft by tightening up the cap screws.
7. Check the tightness of the threaded actuator. It should only be possible to rotate the actuator with the ratchet spanner, not by hand.
8. Re-assemble and grease, see Routine Maintenance Information on page 8, steps 3 and 4.

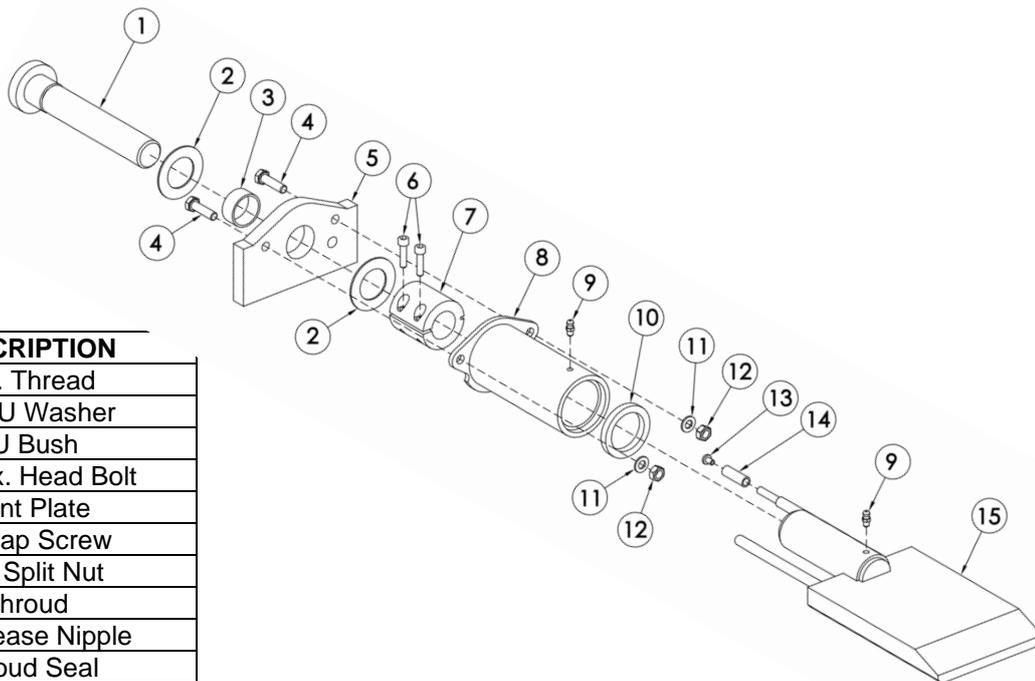


WARNING:

Ensure wedge plate is fully retracted before greasing.

Diagram 6

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



ITEM	DESCRIPTION
1	L.H. Thread
2	2 x DU Washer
3	DU Bush
4	2 x Hex. Head Bolt
5	Front Plate
6	2 x Cap Screw
7	L.H. Split Nut
8	Shroud
9	2 x Grease Nipple
10	Shroud Seal
11	2 x Spring Washer
12	2 x Hex. Nut
13	Pan Head Screw
14	Red Sleeve
15	Wedge Assembly

Routine Maintenance Information



SAFETY NOTICE:

It is recommended that safety gloves and glasses are worn during the maintenance of the **Harford Pro-Lok** hitch.

Daily

1. Clean away any material build up around the front lock, indicator bar and wedge.
2. Check all pin retaining bolts and nuts for tightness on the quick hitch and attachments.
3. Grease wedge slide housing points as required. It is necessary to remove attachments in order to gain access to a grease nipple on the underside of the hitch.
4. Grease threaded actuator points, as required.



WARNING:

Ensure wedge plate is fully retracted before greasing.

5. Check the **Pro-Lok** for correct operation by connecting an attachment.
6. Check that the threaded actuator is firm to rotate in its housing. Adjust as required, see “Adjusting the Threaded Actuator” on page 7.
7. Visually check the **Pro-Lok** for evidence of fatigue, weld failure or stress.



WARNING:

If the hitch should be damaged in any way and you are in any doubt as to the continued safety of the product please contact Harford Attachments Technical Advice:
Europe: +44 (0) 1603 403099, USA: 727 477 3044.

Warranty

Harford Attachments (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 the design, provided that the buyer shall have notified the seller in writing of such defect (to include supporting photographic evidence) and having given the seller a reasonable opportunity to inspect the defective goods.
2. If, in the opinion of the seller, the goods have not been operated or maintained in accordance with the instruction contained within this manual, or have been subject to unauthorised repair or modification, the warranty will be invalidated.
3. 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 (UK)**, 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. For further technical or product information, contact us.

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