

# **DOUBLE-LOCKING MECHANICAL QUICK HITCH**

**Installation & Operation Manual (English)**

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



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Serial Number Location	Serial Number
Stamped plate on side of hitch	
Sticker on rear of control box	
Sticker on solenoid manifold	

**Serial number table (above) for completion by owner**

This manual part number PROLOK/GEN/MAN/R4

If this Pro-Lok quick hitch is to be used on a jobsite, the operator shall follow the site rules where the machine is to be used.

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

### **Harford Attachments Ltd**

Spar Road, Norwich. NR6 6BY. England  
Tel +44 (0) 1603 403099

**email:** [info@harfordattachments.com](mailto:info@harfordattachments.com)

**website:** [www.harfordattachments.com](http://www.harfordattachments.com)

## **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.

## 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, i.e., 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.

## Guide to Safety Symbols

	<b>SAFETY NOTICE:</b> These indicate specific precautions and recommended personal protective equipment (PPE) for use during the given situations.
	<b>IMPORTANT:</b> Specific points to note and situations to be aware of.
	<b>IMPORTANT:</b> Prohibited situations are specified and should be avoided.
	<b>WARNING:</b> Situations of danger in which the operator or installer must pay particular attention to the information provided to minimise the risk of injury to self or others

## General Safety Information

-  **IMPORTANT:**  
Due to the weight of the product, handling of the hitch prior to installation should be done using appropriate lifting aids for the weight, which can be found on the punched information plate affixed to the side of the hitch.
-  **IMPORTANT:**  
Ensures that the machine to which the Pro-Lok quick hitch is installed does not exceed its safe working load (SWL), taking into account the additional weight of the hitch, which is stated on the punched information plate affixed to the side of the hitch.
-  **IMPORTANT:**  
Be aware that the addition of the Pro-Lok quick hitch will increase the reach distance of the excavator arm, which may cause it to impact nearby objects and people or to impact the operators cab, leading potentially to property damage, injury, loss of limb or fatal injury.
-  **IMPORTANT:**  
It is recommended for safety reasons that the machine to which this Pro-Lok quick hitch is installed is operated by an experienced, competent person, trained to ISO 7130:2013 or later.
-  **IMPORTANT:**  
If hammers are to be used for long periods of time the quick hitch should be removed to prevent unnecessary wear.
-  **IMPORTANT:**  
During installation, no alterations must be undertaken to any protective structure (e.g., rollover protective structures (ROPS), tip-over protective structures (TOPS), or falling object protective structures (FOPS) are permitted except where authorised by the manufacturer, or according to the manufacturer's specifications.



**IMPORTANT:**

It is not permitted to transport or lift persons using the Pro-Lok quick hitch.

### **Safety labels**

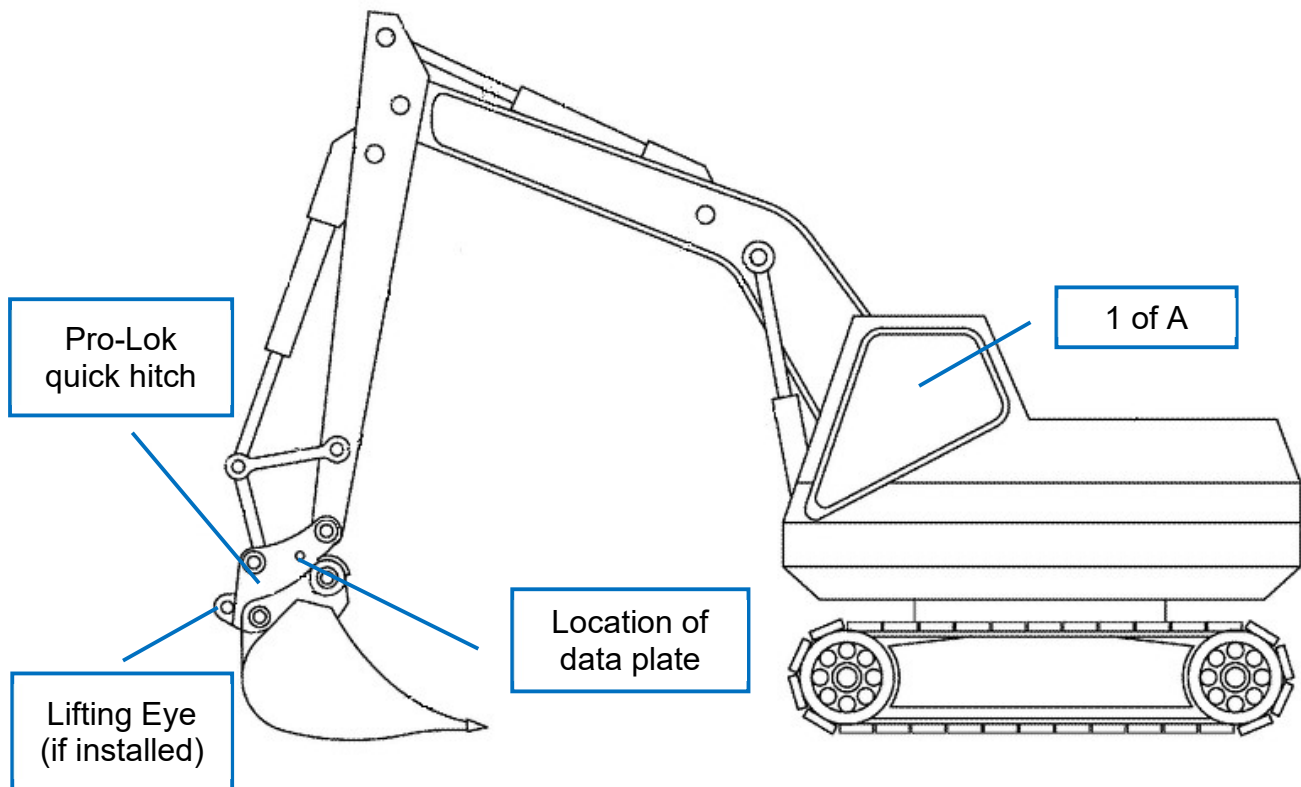
All safety labels are to be kept clean and legible and should be replaced if missing or unreadable by contacting the manufacturer, Harford Attachments, on +44 (0)1603 403099.

The following safety label is supplied in the required quantities with the Pro-Lok fitting kit. Their locations are given in the description, and shown graphically in the following diagram.

- A) One yellow warning sticker to be affixed prominently in the cab warning that the attachment increases the overall length of the dipper arm and could therefore impact the cab or boom if care is not taken:



## Safety Sticker and Data Plate Location Guide



## Specified Parameters

Your Harford Pro-Lok quick hitch has been designed to meet the original equipment manufacturer (OEM) specifications of the excavator for which it was ordered. The excavator model for which it was designed and the maximum load category of the hitch can be found on the punched information plate affixed to the side of the quick hitch body.

## Storage Instructions

If your Pro-Lok Quick hitch is to be removed for an extended period of time, please observe the following instructions:

### **SAFETY NOTICE:**



It is strongly recommended that the Pro-Lok quick hitch is lowered to the ground, the machine switched off, the key removed and the parking brake engaged, blocks applied to the wheels, the system depressurised and that safety gloves are worn during any maintenance on the quick hitch. A warning label should be affixed prominently in the cab to warn others of ongoing maintenance.

- Wearing appropriate PPE, hydraulic fluid should be drained from the quick hitch and disposed of according to regulations.
- Basic maintenance tasks should be carried out on the hitch, including cleaning and greasing (see the Daily Checks list for further information).
- The hitch should be covered and stored in a safe, dry location.

## End of Life Considerations

Your Pro-Lok quick hitch is predominantly made of recyclable materials. If your quick hitch should become damaged beyond repair and is to be disposed of, please be aware of the environmentally unfriendly nature of the lubricants and hydraulic fluids used. Please check the cleaning and disposal instructions of the supplier of the contaminants before disposing of the hitch in an environmentally responsible manner.

## Compatible Attachments

Attachment	Can be used (up to the safe working load)	Can be used, with limitations	Cannot be used
<b>All Harford Attachments</b>	<input checked="" type="checkbox"/>		
Buckets	<input checked="" type="checkbox"/>		
Hammer or breaker		For limited periods. For constant or long-term use, the Pro-Lok hitch should be removed to prevent unnecessary wear	
Pallet forks			<b>Under no circumstances</b>
Lifting Objects with hitch		Only if a factory fitted lifting eye was supplied with the hitch, certified to the SWL.	
Operator cages			<b>Under no circumstances</b>
Thumb	<input checked="" type="checkbox"/>		
Ripper Tooth	<input checked="" type="checkbox"/>		
Rake	<input checked="" type="checkbox"/>		



### **IMPORTANT:**

Attachments should be within the recommended limits of the carrying machine when the quick coupler is attached



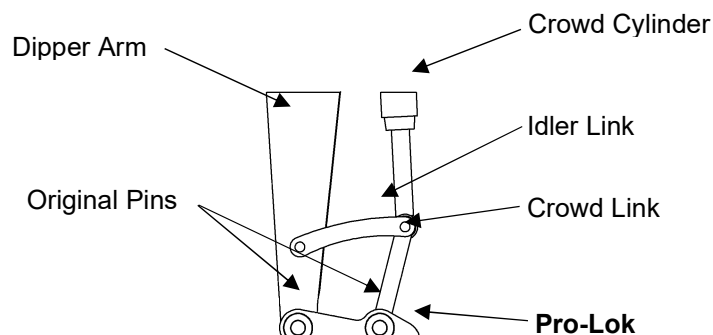
## Fitting the Harford Pro-Lok to your Excavator



### **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 greaseable).
2. Carefully align the dipper arm between the two front bosses on the hitch as shown in Figure 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**'.



*Figure 1*

## Connecting an Attachment to your Pro-Lok



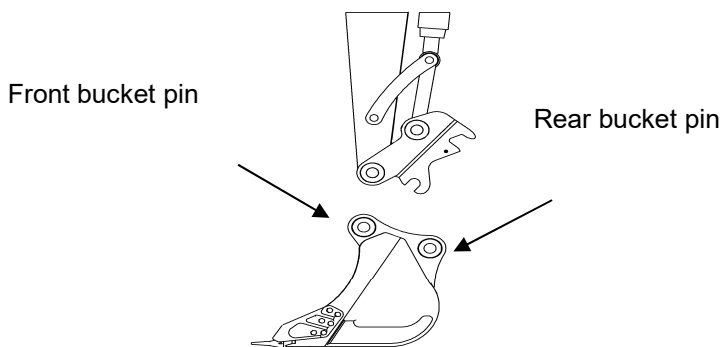
### **SAFETY NOTICE:**

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

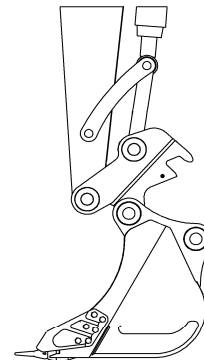
1. Lower the quick hitch front C-shaped jaw down towards the front attachment pin, as shown in Figure 2, step 1.
2. Engage C-shaped jaw with front attachment pin as shown in Figure 2, step 2.
3. Extend the crowd cylinder down towards the rear attachment pin whilst simultaneously lifting the attachment, as shown Figure 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 Figure 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 Figure 3.

*Figure 2*

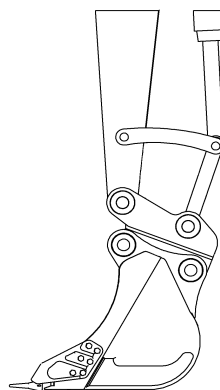
**Step 1** – Lower quick hitch to front attachment pin



**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

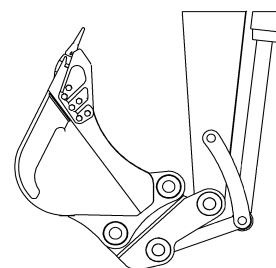


Figure 3: Correct operating position

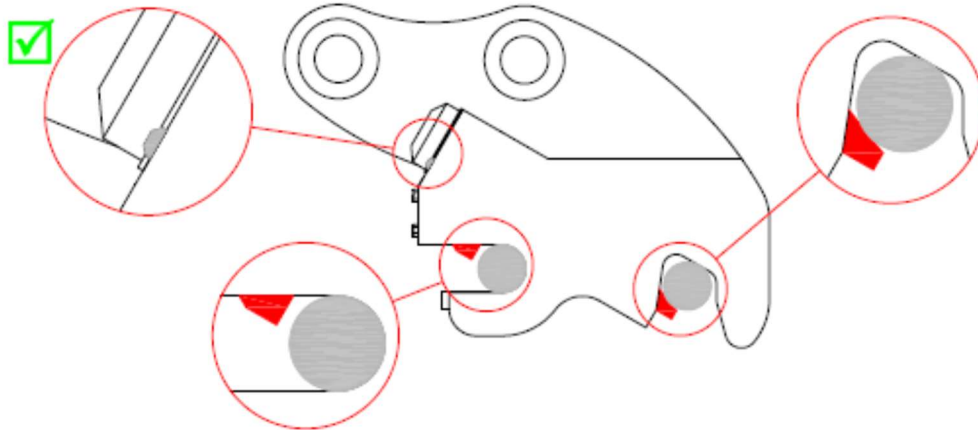


Figure 4: Incorrect operating position

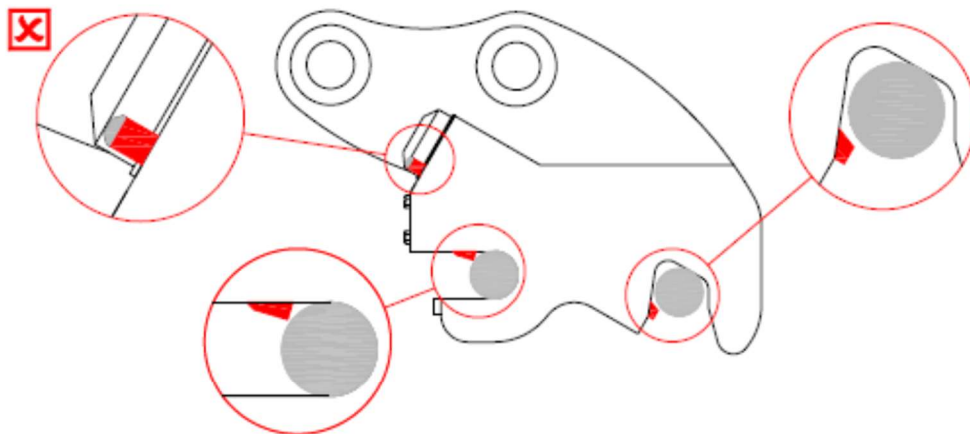
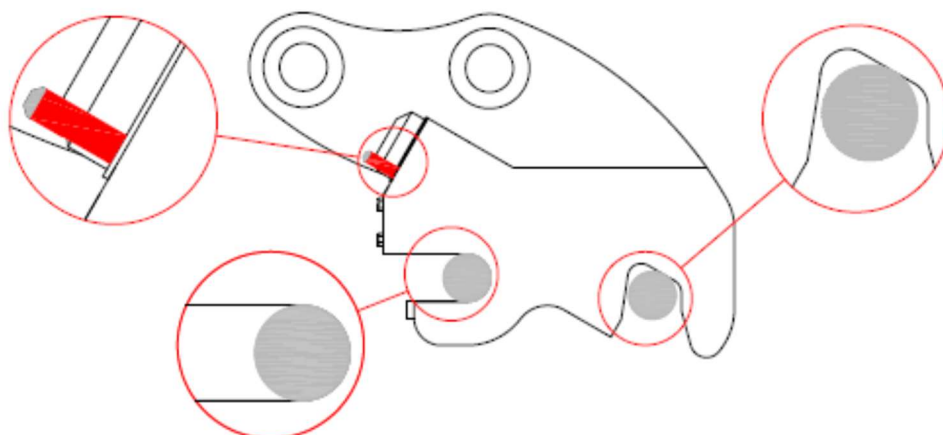


Figure 5: Releasing an attachment position



**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 supplied with a factory fitted and certified lifting eye.

**WARNING:**



If your Pro-Lok hitch was not supplied with a factory fitted and certified lifting eye you must not attempt to lift loads that are not wholly contained within a bucket-type attachment, it is unsafe, may lead to damage and will invalidate the warranty.



**IMPORTANT:**

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

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.

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](http://www.hse.gov.uk).

## Important Maintenance Information

### Adjusting the Threaded Actuator

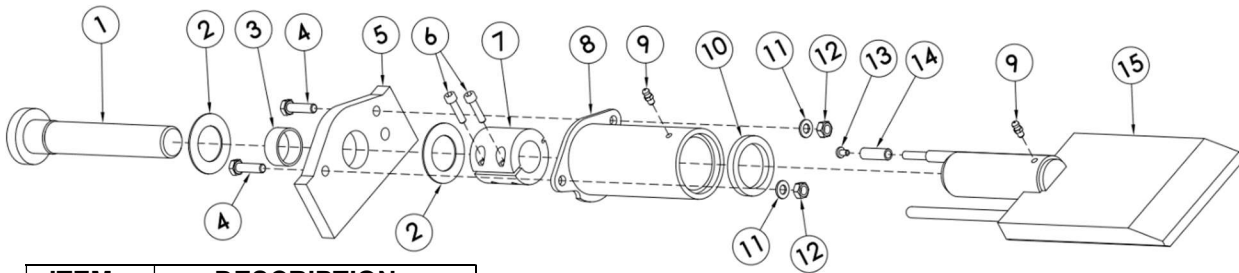
The rotational resistance of the threaded actuator must be firm at all times but can be easily adjusted using standard tools. This safety feature further enhances the positive locking mechanism built into the **Harford Pro-Lok** hitch.

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.



*Figure 6: Typical thread actuator assembly*

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 strongly recommended that the Pro-Lok quick hitch is lowered to the ground, the machine switched off and the ignition key removed, the parking brake engaged and blocks applied to the wheels, that the system depressurised and safety gloves are worn during any maintenance on the quick hitch. A warning label should be affixed prominently in the cab to warn others of ongoing maintenance.

### **Daily Checks:**

Daily checks are to be carried out before the use of the Pro-Lok quick coupler; the operator shall have sufficient competence and training to perform the maintenance. During these checks, should any faults that could compromise safety be identified they should be remedied immediately.

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.



### **IMPORTANT:**

Due to the self-tightening and infinite wear feature accommodated with the wedge lock, if any attachment is fitted to the hitch for long periods of time it should be released daily. If the daily maintenance tasks are adhered to, this will happen automatically.



### **WARNING:**

If the quick hitch is damaged in any way and/or there is any doubt as to the continued safety, cease operation immediately and contact Harford Attachments Ltd, Technical Department on Europe: +44 (0)1603 403099, USA: 727 477 3044



### **IMPORTANT:**

Any unauthorised modification of the quick hitch may compromise the safety of the operator and those nearby, and will invalidate the product warranty.

## **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.

Europe: Spar Road, Norwich, NR6 6BY, UK  
Tel +44 (0) 1603 403099

USA: 4500 140th Avenue North, Suite 180,  
Clearwater, FL33762.  
Tel: 727 477 3044

Email: [sales@harfordattachments.com](mailto:sales@harfordattachments.com) Website: [www.harfordattachments.com](http://www.harfordattachments.com)



## **Example Declaration**

Example of declaration that will accompany your Pro-Lok quick hitch

### **UKCA & EC DECLARATION OF CONFORMITY**

Serial Number	D
Description	Excavator Quick Coupler
Name	Pro-Lok
Denomination	PL
Type	Pin on
Model	Mechanical
Function	Manual

We hereby declare that the above Machinery complies with the essential health and safety requirements of the Machinery Directive 2006/42/EC enacted in the United Kingdom by The Supply of Machinery (Safety) Regulations 2008, (SI 2008/1597).

This machinery has been designed and manufactured in accordance with the following harmonised European standards.

BS EN 12100:2010	Safety of machinery-General Principles for Design – Risk Assessment and Risk Reduction Supersedes: EN ISO 12100-1:2003, EN ISO 12100-2:2003 & EN ISO 14121-1:2007
BSEN 474-1:2006 +A6:2019	Earth-Moving Machinery – Safety Pt 1 General Requirements Pt 5 Requirements for hydraulic excavators.
BSEN 14121:2007	Safety of machinery. Risk Assessment. Pt 1 Principles.
ISO 13031	Earth Moving Machinery – Quick Couplers – Safety
BS ISO 6750-1:2019	Earth-Moving Machinery – Operator's Manual Pt 1 Principles.

Signed	_____	Date	_____
Name	_____	Position	_____