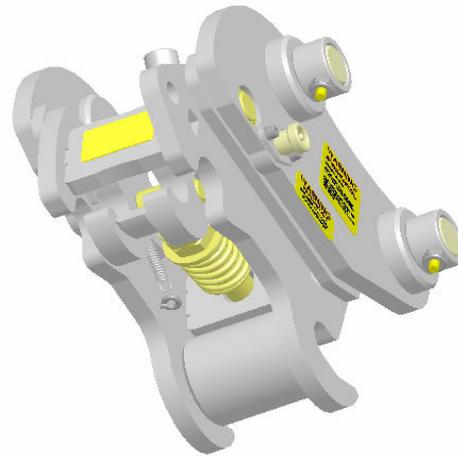


MINI EXCAVATOR QUICK COUPLER



MINI EXCAVATOR QUICK COUPLER  
WITH LATCHING MECHANISM SHOWN.

MINI EXCAVATOR QUICK COUPLER—MANUAL OPERATION

OWNERS MANUAL

# **Index.**

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# **Introduction.**

Thank you for purchasing the Dromone 'MINI EXCAVATOR QUICK COUPLER'. This coupler has been designed and manufactured with ease of use and operator safety in mind.

This product has undergone extensive testing and benchmarking against similar competitor products and we believe the Dromone 'MINI EXCAVATOR QUICK COUPLER' product, to be the best available in today's market place.

The 'MINI EXCAVATOR QUICK COUPLER' is characterised firstly by its physical size (this range of quick hitches has been designed for attachment to machines of 1T – 6T capacity). Secondly this hitch type has been designed for ease of operation. The coupler latches automatically and is unlatched with the aid of a special hand held lever.

The 'MINI EXCAVATOR QUICK COUPLER' is fitted with a movable, spring loaded back hook, which is rotated by means of a hand held lever. The hook is held locked in either the open or closed position by means of a spring loaded plunge pin and ratchet lever mechanism. This front jaw of the hitch is stationary.

This 'MINI EXCAVATOR Quick Coupler' product, when used correctly and with proper OEM (Original Equipment Manufacturer) excavator buckets and attachments will provide a safe and reliable means of quick attachment and changeover of various implements, thus allowing the user to get maximum productivity from the machine.

To guarantee satisfactory and safe operation of the equipment, we insist that only experienced and qualified personnel install and operate the product.

Dromone Engineering LTD will accept no responsibility or liability for equipment installed or operated unless it is full accordance with the information provided in this manual.

As a new owner / operator of a Dromone 'MINI EXCAVATOR Quick Coupler' it is very important that you take time to acquaint yourself with the main features of the product and the requirements for its safe installation, operation and maintenance.

Therefore, we recommend that you study the contents of this booklet very carefully and be fully familiar with its contents before commencing work.

Great care must be taken when working on or working with the 'MINI EXCAVATOR Quick Coupler'. Never attempt to work or carry out maintenance to this product without first ensuring that it has been made safe and that the machine to which it is attached is switched off.

While the 'MINI EXCAVATOR Quick Coupler' is designed and proven to work with most available buckets and other attachments, it is recommended that for prolonged use with a rock hammer, the 'MINI EXCAVATOR Quick Coupler' should be detached and the rock hammer connected directly to the machine.

Regardless of the bucket or attachment being used with the 'MINI EXCAVATOR Quick Coupler' they must be used in strict accordance with their individual manufacturers guide lines and instructions.

In order to ensure that you get the most from your 'MINI EXCAVATOR Quick Coupler' product we have set out in this booklet some recommended service and maintenance checks. These should be carried out on a daily basis and any damaged parts should be replaced immediately.

Never attempt to modify either the Dromone 'MINI EXCAVATOR Quick Coupler' or the machinery onto which it is intended to be attached without first receiving approval from Dromone Engineering personnel. Unauthorised modification of the 'MINI EXCAVATOR Quick Coupler' or the host machine can seriously impair the performance of the equipment and could cause serious injury to personnel involved in working with or in close proximity to the machinery

All persons involved in the installation, maintenance and operation of the Dromone 'MINI EXCAVATOR Quick Coupler' must ensure that they take full responsibility for their own personal safety by wearing suitable protective clothing, safety shoes and eye glasses where appropriate.

If you should have any difficulty with your Dromone 'MINI EXCAVATOR Quick Coupler' which is not addressed in this manual, then you should contact Dromone Engineering immediately, at the numbers provided on the back page of this manual.

Please refer to the safety labels illustrated below. These can be seen attached to the 'MINI EXCAVATOR Quick Coupler'. They should be heeded at all times.

# WARNING

THE FOLLOWING WARNING RELATES TO THE QUICK HITCH DEVICE FITTED TO THIS MACHINE

GREASE HITCH DAILY.

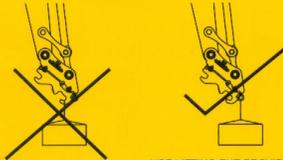
ENSURE SAFETY PIN IS ENGAGED AT ALL TIMES DURING OPERATION.

IF YOU SHOULD HAVE DIFFICULTIES WITH THIS PRODUCT PLEASE CONSULT THE OPERATORS MANUAL FOR ADVICE.

# WARNING

ENSURE SAFETY PIN IS ENGAGED AT ALL TIMES DURING OPERATION.

# WARNING



# WARNING

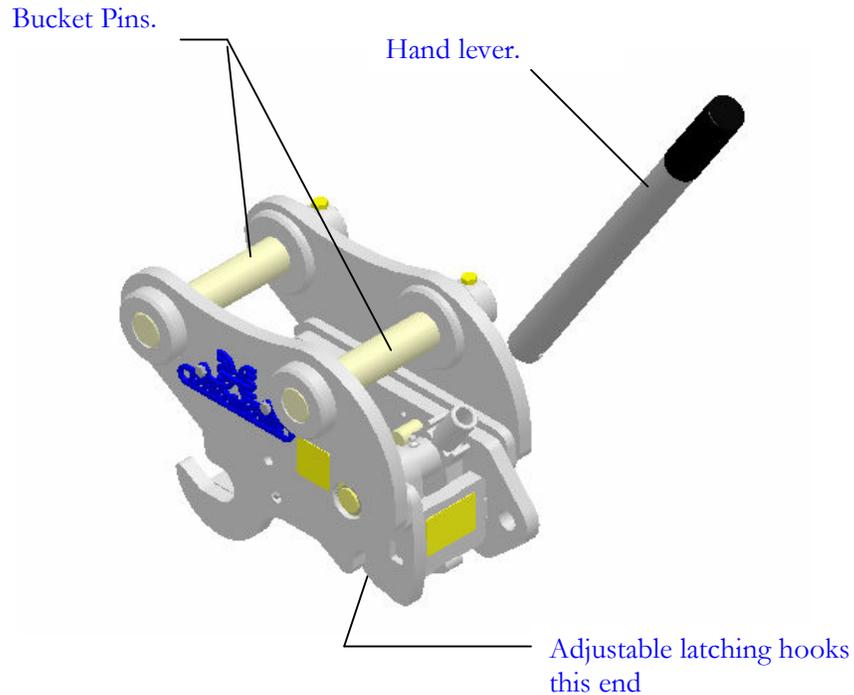


KEEP HANDS CLEAR.

405-00006-00

# Installation Instructions.

## MINI EXCAVATOR Quick Coupler



### Installation of the Dromone 'MINI EXCAVATOR Quick Coupler'.

To guarantee satisfactory and safe operation of the equipment, it is strongly recommended that the 'MINI EXCAVATOR Quick Coupler' be installed and fitted by trained personnel only.

Installation of the 'MINI EXCAVATOR Quick Coupler' must be in accordance with the instructions provided in this manual, any deviation from the instructions given here needs to be authorised by Dromone Engineering personnel.

Any difficulty with interpretation of the installation instructions in this manual should be resolved between the fitter and Dromone Engineering, before preceding any further - **IF IN DOUBT ASK.**

## Procedure:

If you have NOT done so already, **READ THIS MANUAL** in full before proceeding. Failure to read and understand the full contents of this manual may result in improper Installation, Operation or Maintenance of the 'MINI EXCAVATOR Quick Coupler' which in turn could lead to serious injury or death of equipment operators.

Carry out a visual inspection of the 'MINI EXCAVATOR Quick Coupler' and its accessories. Check the packaging for any damage, which might have occurred in transit. Check that all items have been delivered. If you encounter anything, which appears to be damaged, missing or incorrect, then contact Dromone Engineering before you proceed any further.

### **IMPORTANT. NOTE:**

**DO NOT PROCEED WITH THE INSTALLATION, OPERATION OR MAINTENANCE OF THE DROMONE 'MINI EXCAVATOR QUICK COUPLER' UNTIL YOU HAVE READ AND UNDERSTAND THE PRODUCT MANUAL IN FULL. TO DO SO COULD LEAD TO SERIOUS INJURY OR DEATH OF THE PERSONNEL INVOLVED.**



The installation of the 'MINI EXCAVATOR Quick Coupler' is a job for one person who is familiar with the workings of the excavator machine onto which the product will be attached

Tools required for the installation of the 'Quick Coupler'.

- a. Lifting gear (suitably sized hoist, chains and straps) to manoeuvre the coupler from its packaging to the site prepared for installing it onto the host machine.
- b. Fitter's toolkit.

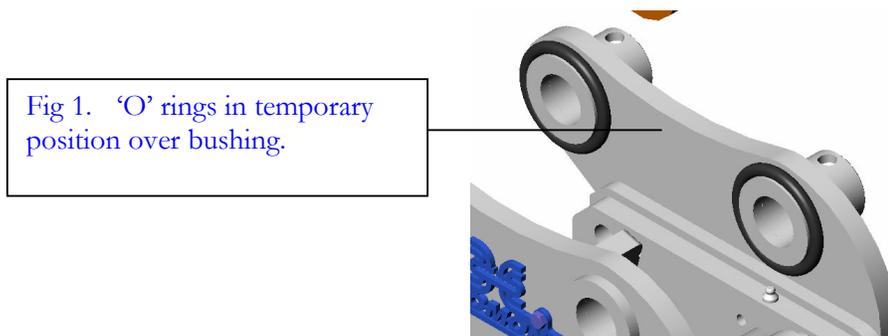
1. Before commencing with the installation of the 'MINI EXCAVATOR Quick Coupler' you must remove the existing attachment (bucket etc) from the machine to which the 'MINI EXCAVATOR Quick Coupler' will be fitted. Remove the OEM pins holding the bucket to the machine and set them aside for later use. These will be used to attach the 'MINI

EXCAVATOR Quick Coupler' to the machine at step 8. You must also ensure that the joint area of the machine arm and the bucket are thoroughly cleaned.

2. Remove the bucket pins which have been installed in the 'MINI EXCAVATOR Quick Coupler' prior to delivery. These pins are for use on the bucket or implement to which the 'MINI EXCAVATOR Quick Coupler' will be attached. They can be installed in the bucket or implement later.

3. Remove the 'O' ring seals from the existing attachment. Check them to ensure they are in good condition (replace if necessary), clean them and temporarily place them over the 'MINI EXCAVATOR Quick Coupler' bushings as illustrated.

(Refer to fig 1).

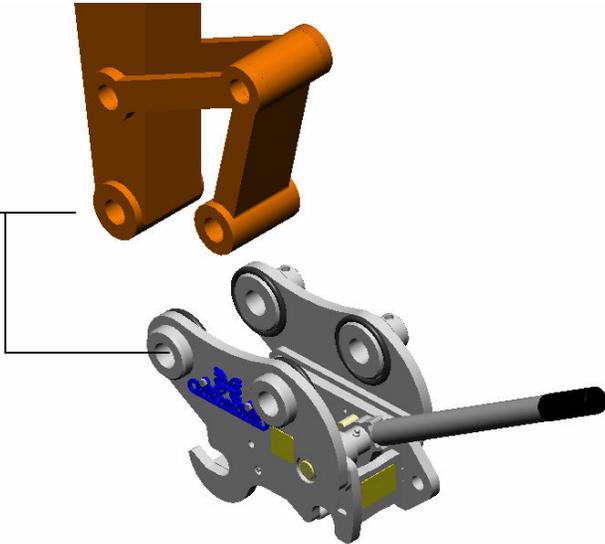


4. Attachment of the Coupler to the machine.

a. Place the 'MINI EXCAVATOR Quick Coupler' on the ground with the fixed pin positions facing upwards. Move the machine arm over the 'MINI EXCAVATOR Quick Coupler' and lower it into position, aligning the holes in the machine arm and links with those of the 'Quick Coupler'.

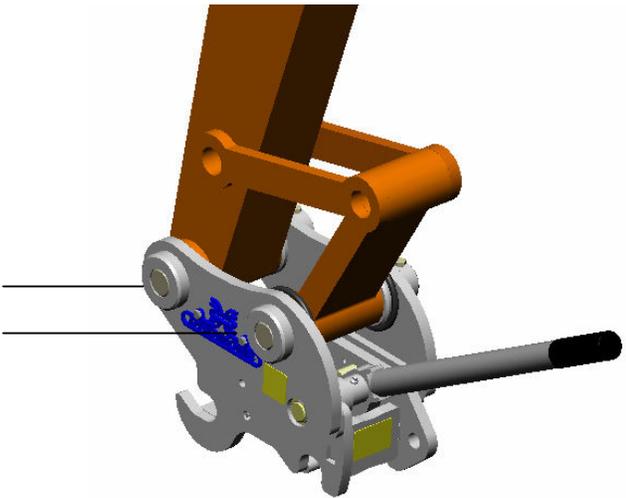
(Refer to fig 2).

Fig 2a. Illustrates how to line up the pin positions of the dipper arm and the MINI EXCAVATOR Quick Coupler.



b. Install the OEM pins previously removed at stage 5. Grease the pins and bushings and secure the pins in place with the bolts and lock nuts removed earlier.

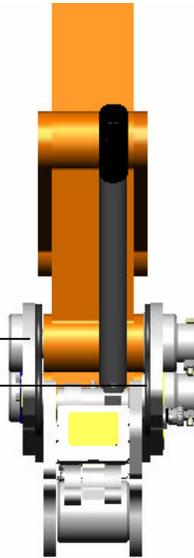
Fig 2b. OEM pins installed, greased and secured with nuts and bolts on far side.



c. Move the 'O' rings referenced earlier in point 7 to positions between the machine bushings and the 'MINI EXCAVATOR Quick Coupler' bushings. Check that they are fitting correctly.

(Refer to fig 3).

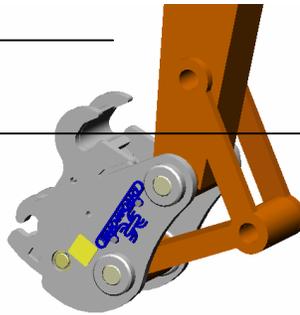
Fig 3. Move 'O' rings into position on front and back pins.



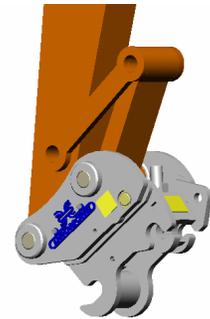
5. Safety check. Check that the 'MINI EXCAVATOR Quick Coupler' is fitting correctly by manoeuvring it with the machine and at the same time watching for any interference or resistance to movement that may exist. If there is any sign of problems with the smooth functioning of the 'Quick Coupler' DO NOT attempt to carry out any modifications to it or the host machine. Instead contact Dromone Engineering who will advise as necessary.

(Refer to fig 4).

Fig 4. Manoeuvre the MINI EXCAVATOR Quick Coupler to check for interferences.



Crowned Fully In



Crowned Fully Out

# Operating Instructions.

## MINI EXCAVATOR Quick Coupler

### Bucket / Attachment 'Pick up'.

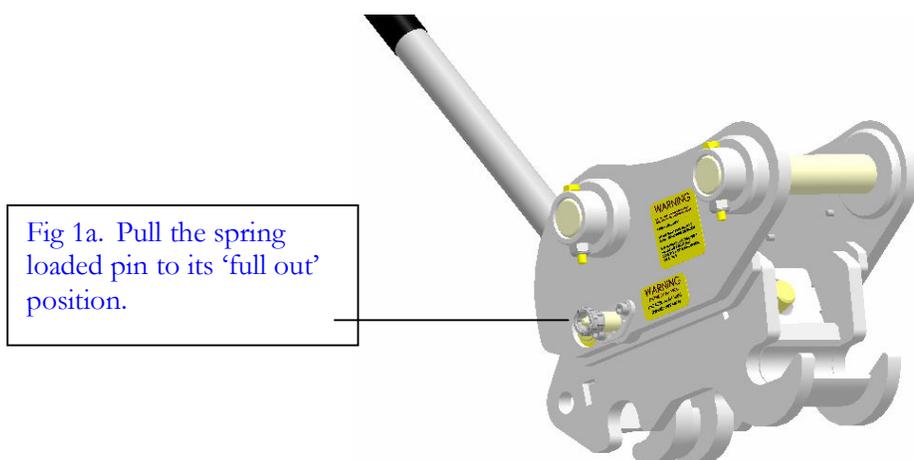
Before attaching to a bucket or any other attachment it is important to check for the following.

- a. The attachment is fitted with the correct pins at the correct centre distances and that they are secured properly in place.
- b. Ensure that the 'MINI EXCAVATOR Quick Coupler' has been left safe after previous use / operation.
- c. Ensure that the area within the maximum machine swing radius is clear of all personnel and obstacles.

### Procedure:

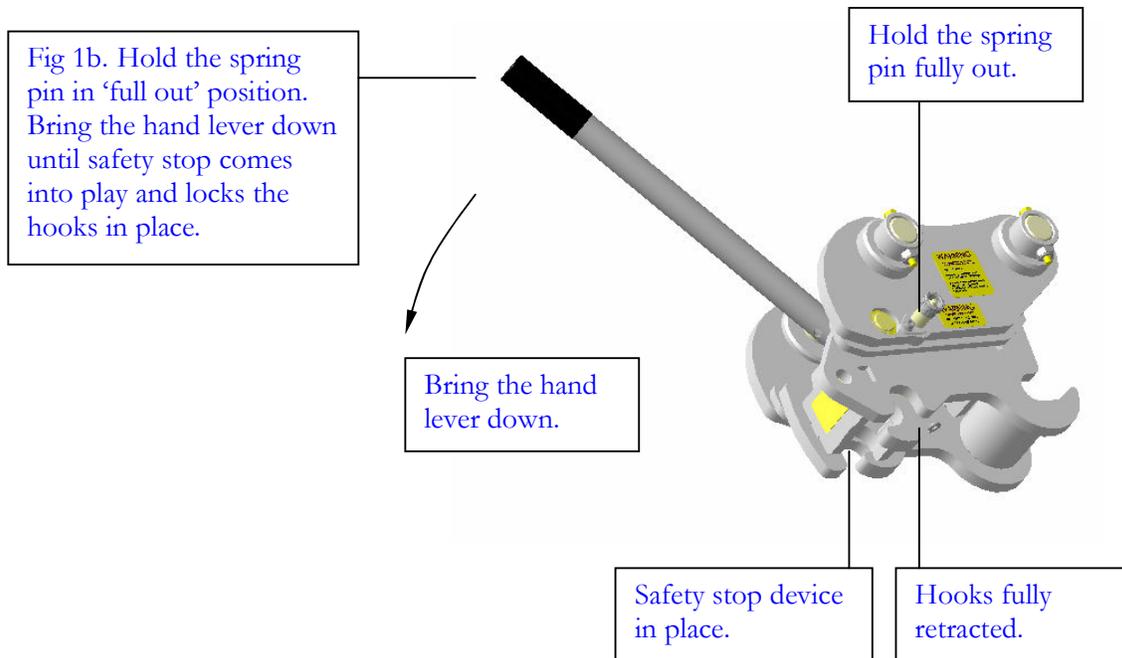
- 1a. Before proceeding any further the 'MINI EXCAVATOR Quick Coupler' must be set to lock the movable latching hook in the open position. To do this, you must first withdraw the spring loaded pin to its 'full out' position.

(Refer to fig 1a).



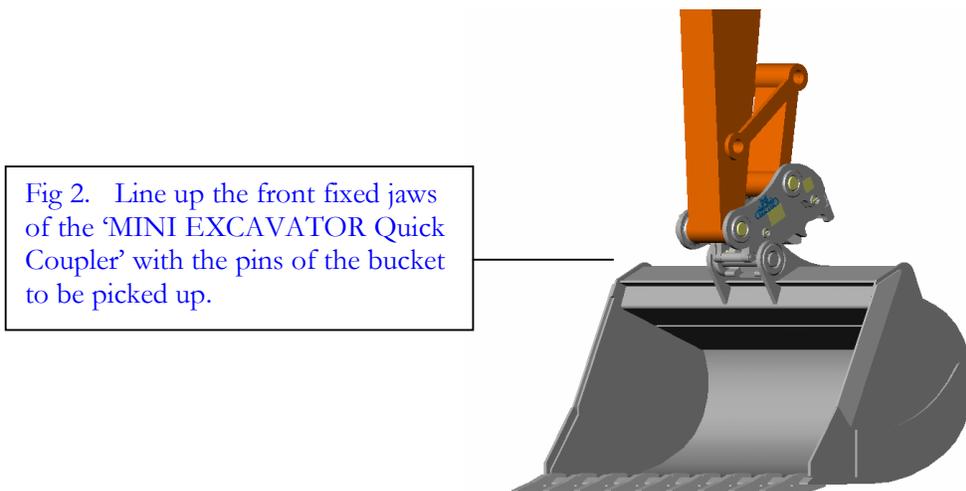
- b. Hold the spring pin in the full out position and at the same time bring the hand lever down until the movable hooks have rotated fully back and the safety stop device has come into play to prevent them re-closing.

(Refer to fig 1b).



2. The MINI EXCAVATOR Quick Coupler is now ready to attach to the bucket or implement to be picked up. The hand lever should be removed at this stage and stored safely for future use.
3. Manoeuvre the 'MINI EXCAVATOR Quick Coupler' to line it up with the bucket or implement to be picked up.

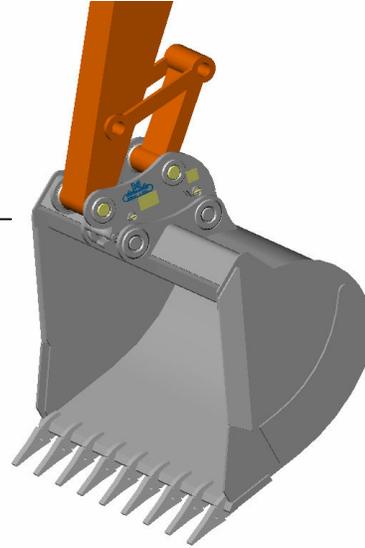
(Refer to fig 2)



2. Lower the 'MINI EXCAVATOR Quick Coupler' downwards and slide forward to engage the front jaw of the 'MINI EXCAVATOR Quick Coupler' over the nearest bucket pin. Rotate the 'MINI EXCAVATOR Quick Coupler' clockwise to line up the second bucket pin (furthest from the machine) with the rear jaw of the quick coupler.

(Refer to fig 2).

Fig 3. Manoeuvre the 'MINI EXCAVATOR Quick Coupler' to cradle the front and back pins of the bucket in the Quick Coupler jaws.



3. As the rear jaw of the 'MINI EXCAVATOR Quick Coupler' begins to cradle the back bucket pin, the safety stop will be disengaged and the movable hooks will spring forward to grasp the pin. In the same action the spring-loaded safety pin will engage and secure the hooks from re-opening.

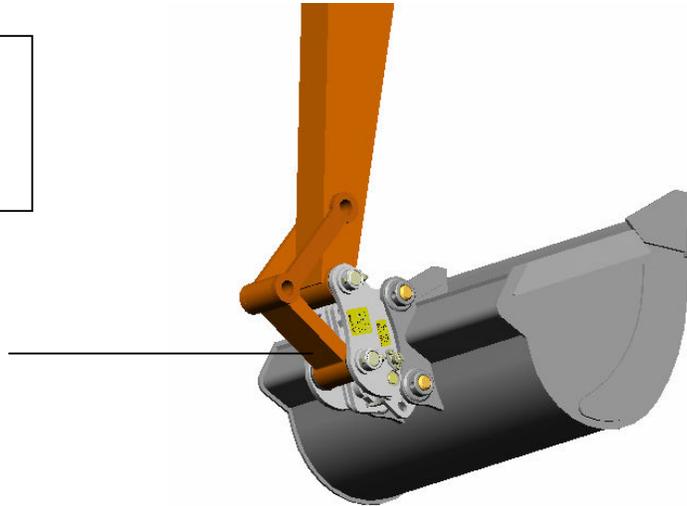
(Refer to fig 3).

**NOTE:** The safety pin is not normally engaged in a working position. It only comes into action in the event of a complete failure of the latching spring mechanism.

4. When both attachment pins are seated in the 'MINI EXCAVATOR Quick Coupler' jaws, rotate the attachment fully inwards using the excavator bucket cylinder. This manoeuvre will ensure that the attachment is fully seated

(Refer to fig 4).

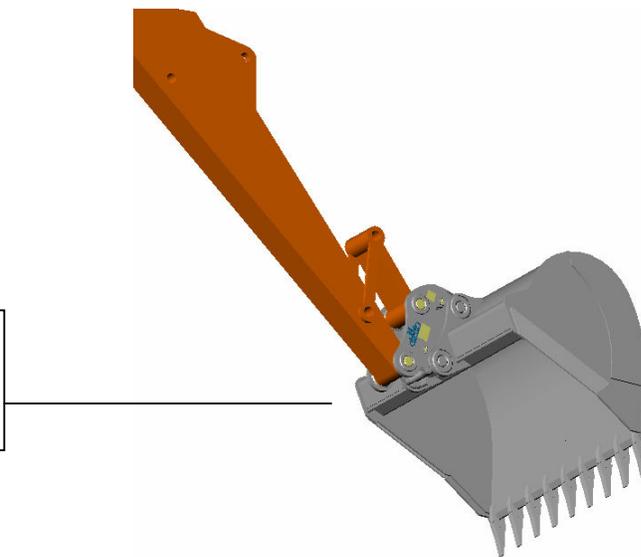
Fig 4. Curl the bucket inwards to ensure it is properly seated and the safety pin has engaged.



5. As a final check that this procedure has been carried out correctly, the 'MINI EXCAVATOR Quick Coupler' with the bucket or attachment coupled to it should be rotated fully outwards. If all is OK at this stage the 'MINI EXCAVATOR Quick Coupler' is ready for use.

(Refer to fig 5).

Fig 5. Rotate bucket fully out to check it has been coupled correctly



**CAUTION:** Ensure there are no personnel in the immediate vicinity whilst performing this operation.

## Bucket / Attachment Release.

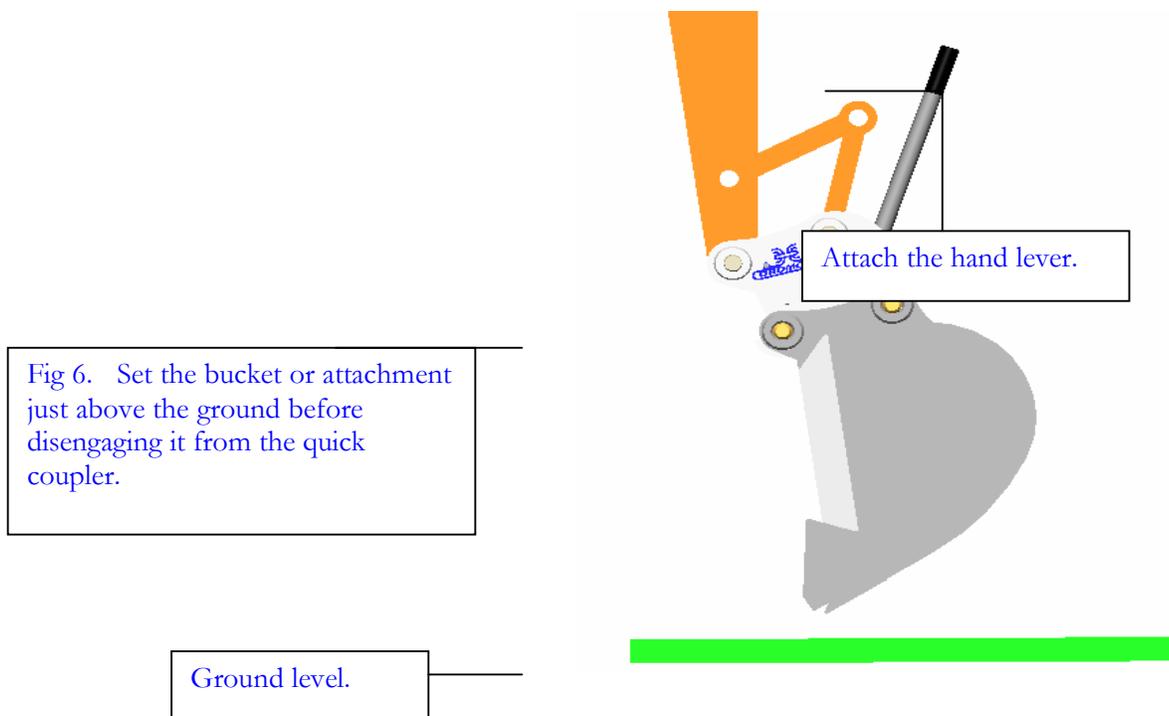
Before attempting the release of a bucket or any other attachment it is important to check for the following.

- a. Ensure that the area within the maximum machine swing radius is clear of all personnel and obstacles.

### Procedure:

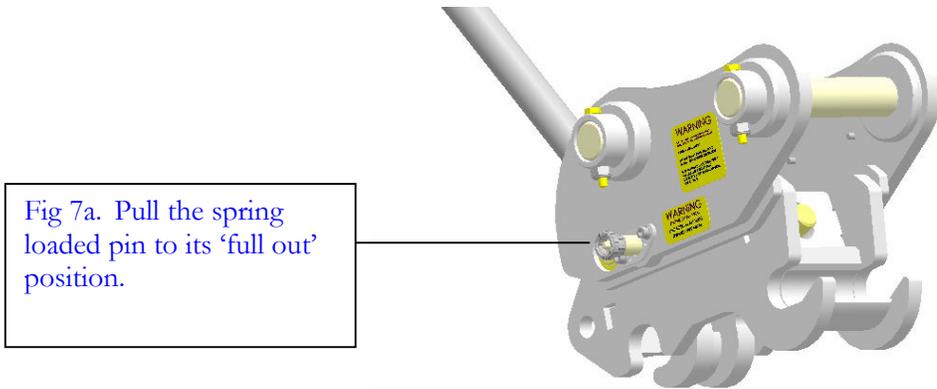
1. Lower the 'Quick Coupler and the attachment close to the ground (2 inches or so) this will allow the bucket or attachment to roll away from the coupler once released. Attach the hand lever to the quick hitch.

(Refer to fig 6).



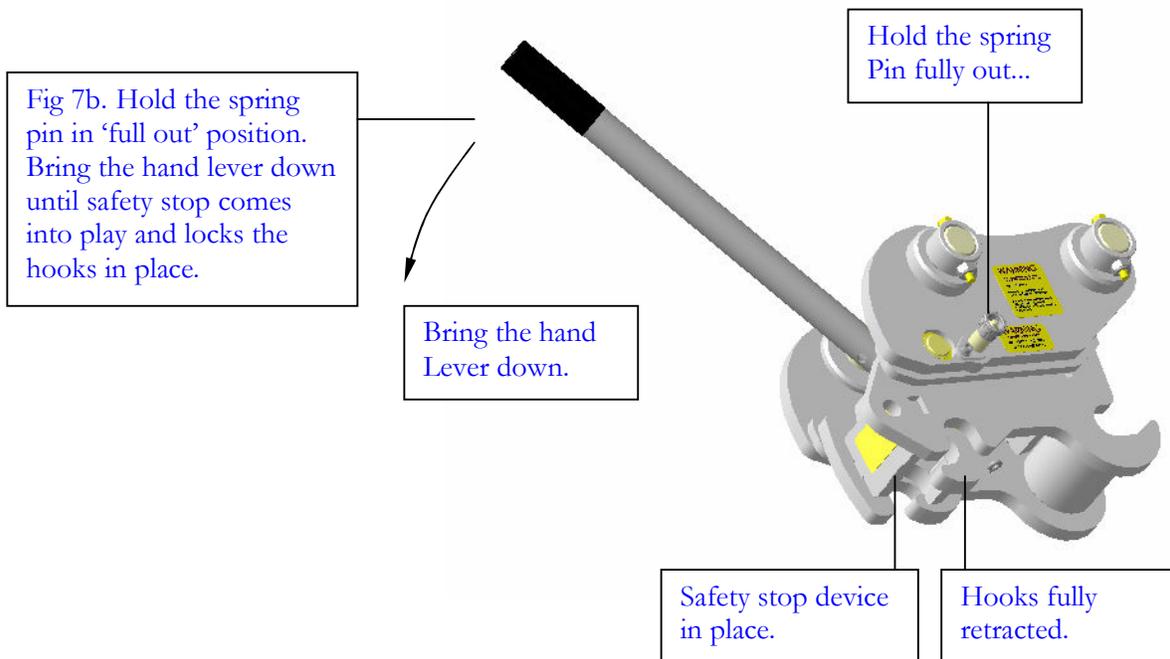
2. The 'MINI EXCAVATOR Quick Coupler' must be set to lock the movable latching hook in the open position. To do this you must first withdraw the spring loaded pin to its 'full out' position.

(Refer to fig 7a).



Hold the spring pin in the full out position and at the same time bring the hand lever down until the movable hooks have rotated fully back and the safety stop device has come into play to prevent them re-closing.

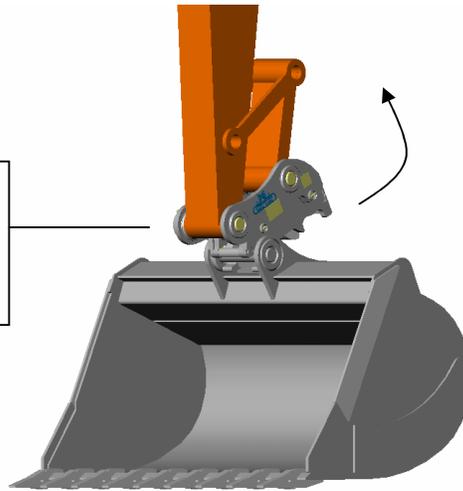
(Refer to fig 7b).



4. The MINI EXCAVATOR Quick Coupler is now ready to detach from the bucket or implement to which it has been fixed. The hand lever should be removed at this stage and stored safely for future use.
5. Manoeuvre the 'MINI EXCAVATOR Quick Coupler' away from the back pins of the bucket or implement to detach.

(Refer to fig 8)

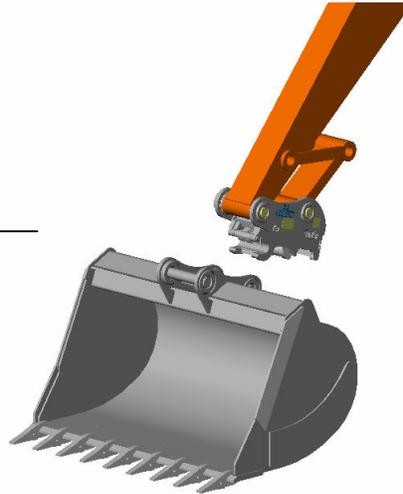
Fig 8. Manoeuvre the 'MINI EXCAVATOR Quick Coupler' away from the pins of the bucket to be detached.



6. Manoeuvre the 'Quick Coupler' rearwards, away from the machine and this will disengage the 'Quick Coupler' from the bucket or other attachment. This should be performed as close to the ground as possible without touching as the bucket will roll to a rest position.

(Refer to fig 9).

Fig 9. Move the Quick Coupler rearwards to dislodge the bucket.



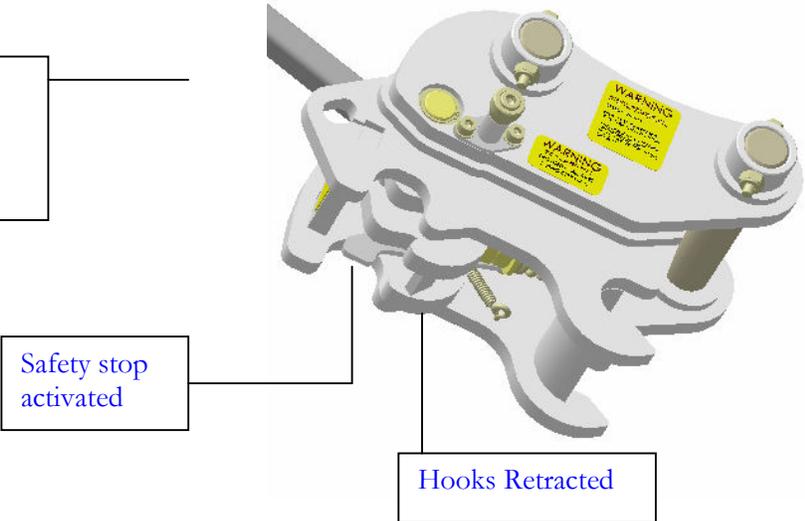
**VERY IMPORTANT  
NOTE:**

7. It is very important that the 'MINI EXCAVATOR Quick Coupler' should not be left unattended between disconnection from one bucket or implement and attachment to the next bucket or implement. There is a real danger that the latching mechanism on the coupler could be accidentally operated by those not familiar with the mechanics of the coupler.

The danger arises when the latching hooks are in the retracted position and the safety stop device has activated to lock the hooks in that position.

(Refer to fig 10).

Fig10. Shows the 'MINI EXCAVATOR Quick Coupler' with the hooks retracted and safety stop activated.



8. Release of the latching hooks could occur by hitting and dislodging the safety stop lever with your hands.

(Refer to fig 11)

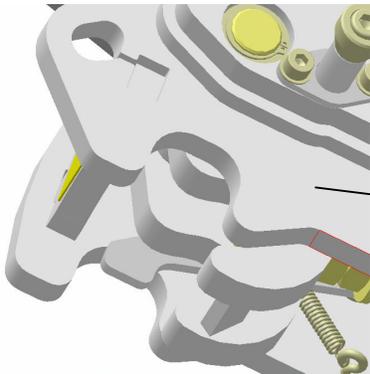


Fig11. Shows the 'MINI EXCAVATOR Quick Coupler' safety stop.

# Maintenance & Service Checks.

## Maintenance Checks.

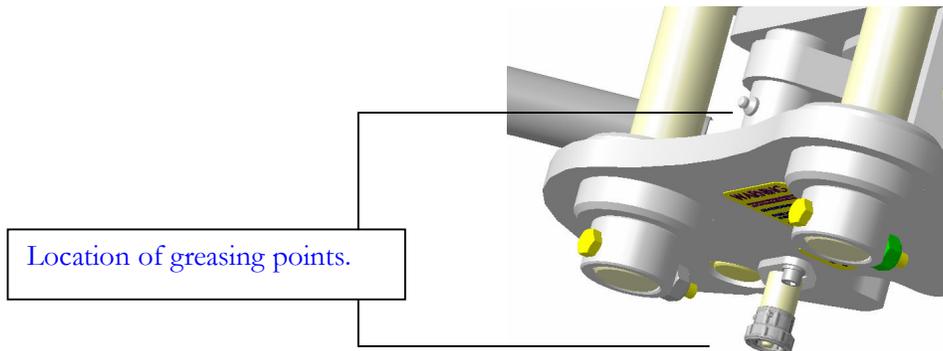
The following checks should be carried out on a daily basis.

1. Check that the coupler components are not damaged or showing signs of wear.
2. Check the latching hooks for damage or undue wear.
3. Check the attachment pins for damage or undue wear.
4. Check for any sign of damage or clogging of the spring latch or linkage mechanism and compression spring.
5. Ensure that the spring loaded safety pin is in tact and operating freely.
6. Check that all nuts and bolts used to secure pins are locked tight.

## Service Instructions.

The following service instructions should be carried out on a regular basis.

1. Grease hitch at regular intervals (**daily or every 8 hours of operation**). All pins and bushings should be greased. Grease nipples are provided at various locations to facilitate access for this purpose.



2. Tighten all nuts and bolts used to secure pins.
3. Clean coupler of all dirt and debris and ensure all labels are clean and legible.
4. Any damaged or badly worn parts should be replaced immediately.

# Trouble Shooting.

The Dromone 'Quick Coupler' is not a complex device and provided it is used and maintained in accordance with the instructions contained in this manual it should not present any difficulty to the operator.

However, in the unlikely event of the coupler failing to operate as expected there are a couple of routine checks, which should be carried out.

1. Hooks will not retract to release the bucket or implement currently attached to the coupler.

Possible Cause.

The spring loaded safety plunger has not been retracted (refer to p.15 of this manual).

2. The spring plunger on the side of the coupler fails to operate.

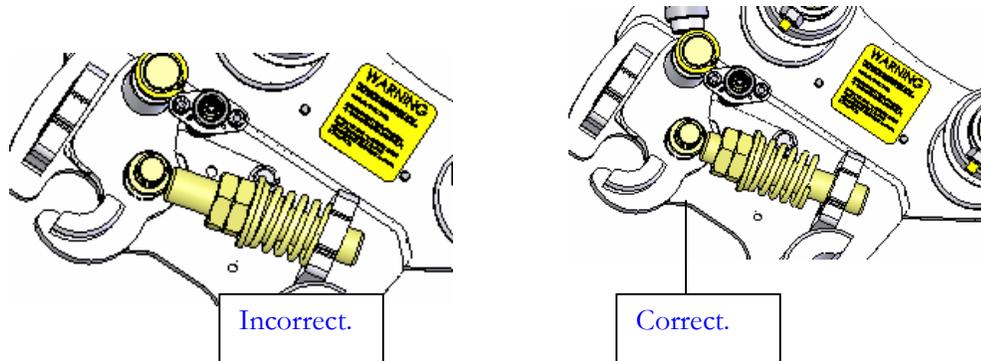
Possible Cause.

The spring mechanism has been jammed or damaged. It should be unassembled for examination. Damaged parts must be replaced immediately.

3. The latching flat fails to hold the movable hooks in the open position.

Possible Cause.

- a. The latch is jammed or the tension spring is damaged. The mechanism should be inspected and any damaged parts should be replaced immediately.
- b. The compression spring acting on the latching hooks has been over-adjusted. This should be reset, to position the locking nuts back towards the hooks slightly, while still allowing the spring to exert sufficient force.



# Parts List.

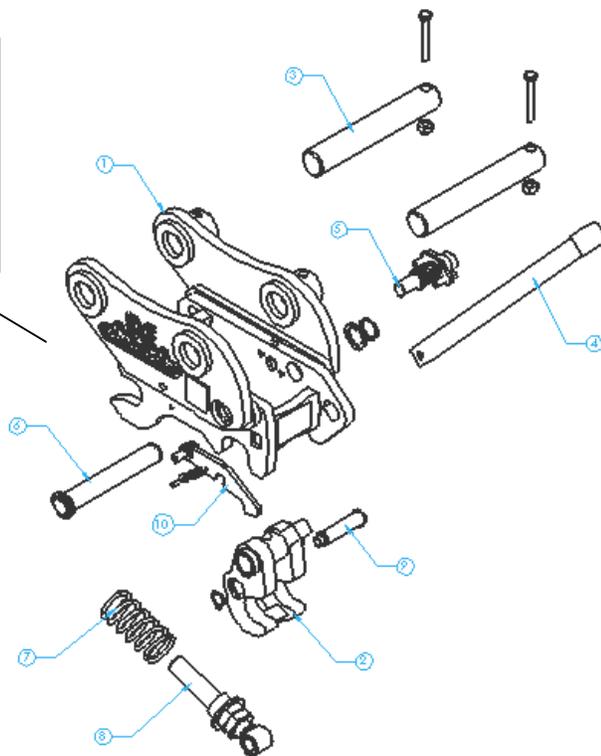
## Ordering Spare Parts.

All Dromone Engineering 'MINI EXCAVATOR Quick Couplers' are stamped with a unique serial number.

The serial number is located on the side of the hitch, below the Dromone logo. Before ordering spare or replacement parts, you will need to note down the serial number of your hitch.

At the time of ordering spare or replacement parts, you will be required to provide the serial number and a description of the part(s) required. The parts description can be found by reference to the illustration drawing attached in this manual.

Fig D1. This is a part illustration of the spare parts drawing which can be found in the appendix to this manual.



# Customer Acceptance.

Once you have taken delivery of this product you should complete the details required on this page and return it immediately.

This acceptance form can be returned either direct to, Dromone Engineering LTD at the address shown on back page of this manual, or alternatively return it to your appointed Dromone Engineering dealer.

---

(Please complete the following details in full, block capitals only).

**Customer Name:** \_\_\_\_\_

**Customers Address:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Hitch Serial Number.** \_\_\_\_\_

**Date of Delivery:** \_\_\_\_\_

## Customer Declaration:

I confirm that the person(s) responsible for the fitting, operation and maintenance of the 'Quick Coupler' detailed above, have read and are fully acquainted with the manufacturers recommendations and operator's responsibilities as described in this manual.

**Name:** \_\_\_\_\_

**Position:** \_\_\_\_\_

**Signature:** \_\_\_\_\_



Dealers Stamp Here.

# Product Register.

## Certificate of Compliance.

This product has been fully checked and tested, and found to be in accordance with Dromone Engineering LTD, specifications for quality of finish, methods of assembly, functionality and fitness for purpose.

The above checks have been carried out on the product bearing the following serial number.

**Serial Number:** \_\_\_\_\_

This product has been designed to attach and function with the following machine type.

**Machine Type:** \_\_\_\_\_

**Signed.**

\_\_\_\_\_  
Dromone Representative.

\_\_\_\_\_  
Date.

## Dromone Engineering LTD

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Web site: [www.dromone.com](http://www.dromone.com)