

# Supplement for User and Maintenance Manual

---

---

---

# Rear Mechanical Quick Coupler

**WARNING!**

This supplement is supplied to the customers who use the rear mechanical quick coupler for Komatsu machines.

It completes and partially modifies the information contained in the operation and maintenance manual of the machines; for this reason, it must be stored together with the machine manual and be considered an integral part of the same.

**KOMATSU**  
*Utility*

# TABLE OF CONTENTS

	<b>TABLE OF CONTENTS .....</b>	<b>1</b>
<b>1.</b>	<b>CONTENTS .....</b>	<b>1</b>
1.1	PRODUCT INFORMATION.....	1
<b>2.</b>	<b>IDENTIFICATION .....</b>	<b>1</b>
<b>3.</b>	<b>SAFETY INFORMATION AND PROCEDURES .....</b>	<b>2</b>
3.1	GENERAL .....	2
3.2	OPERATION .....	3
<b>4.</b>	<b>OPERATION - THINGS TO AVOID .....</b>	<b>4</b>
<b>5.</b>	<b>COUPLER - ROLL PINS .....</b>	<b>6</b>
5.1	INSTALLATION .....	6
5.2	REMOVAL .....	7
5.3	OPERATION - ENGAGING & LOCKING ATTACHMENTS .....	8
5.4	OPERATION - GENERAL PROCEDURES.....	9
5.5	OPERATION - RELEASING ATTACHMENTS.....	10
<b>6.</b>	<b>MAINTENANCE .....</b>	<b>11</b>
6.1	MAINTENANCE SCHEDULE .....	11
<b>7.</b>	<b>COMPONENT PARTS AND TOOLS REQUIRED .....</b>	<b>12</b>
7.1	COMPACT COUPLERS INSTALLED USING ROLL PINS .....	12



# 1. CONTENTS

A Compact Manual Quick Coupler provides safe, easy and reliable changeover of standard OEM buckets and attachments.

This manual describes the installation, operation, maintenance and safety procedures for Compact Manual Quick Couplers. Please take the time to read the instructions carefully and follow the recommended procedures.

## 1.1 PRODUCT INFORMATION

The Compact Manual Quick Coupler is a durable, low maintenance quick coupler designed to provide fast, efficient, clean, on-site changeover of attachments.

The Compact Quick Coupler operates with standard OEM buckets and a variety of attachments including hydraulic breakers.

As it is a manual quick coupler, attachments **MUST** be locked and released from **OUTSIDE** the cab using the coupler operating handle, locking pin and lynch pin provided.

## 2. IDENTIFICATION

The Data Plate attached to the coupler contains the details of the product type, weight, date of manufacture, safe working load (for lifting) and serial number (see example here below).



## 3. SAFETY INFORMATION AND PROCEDURES

### 3.1 GENERAL

#### **WARNING**

- Use of the Compact Manual Quick Coupler may allow the machine operator to fit buckets which are beyond the excavator's designed capacity (e.g. oversized tools, buckets or equipment). **DO NOT** exceed the operating capacity of the excavator, otherwise it may become unstable and/or dangerous.
  - Please ensure you have read and understand the following safety information and procedures before installing and operating the Coupler.
  - Compact Couplers must be installed and operated by appropriately trained and experienced personnel.
  - The manufacturer cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this manual and on the product are, therefore, not exhaustive. Before you use a tool, procedure, work method or operating technique not specifically recommended the manufacturer, you must satisfy yourself that it will be safe for you and for others. You should also ensure that the product will not be damaged or be made unsafe by the operation, lubrication, maintenance or repair procedures that you choose. It is the owner's and operator's responsibility to ensure the coupler is maintained in a safe working condition.
  - Field service personnel and operators must be fully conversant with the installation and operating procedures. If in doubt, seek advice.
- 

#### 3.1.1 COUPLER CONDITION

DO NOT operate a coupler that is defective: it may injure you or others.

#### 3.1.2 LOCKING PIN

Before operating the coupler ALWAYS ensure the locking pin and pin cotter are fitted correctly.

#### 3.1.3 MACHINE OPERATION

ALWAYS stop and shut off the engine when leaving the machine.

NEVER keep the machine running whilst installing or servicing the coupler.

#### 3.1.4 SAFETY SHUTDOWN PROCEDURE

Work of any type on machinery is always more dangerous when the machine is operating.

Before cleaning, lubricating or servicing the coupler, go through this safety shutdown procedure:

- 1 - Position the coupler so that it is completely resting on the ground.
- 2 - Move the machine's throttle to slow idle, shut the engine off and remove the ignition key.

#### 3.1.5 PROTECTIVE CLOTHING

ALWAYS wear safety gloves during installation and dismantling.

#### 3.1.6 MANUAL HANDLING

Take CARE when manually handling the coupler, its components, buckets and installation pins.

## **3.2 OPERATION**

### **3.2.1 MAINTENANCE WORK**

Maintenance of the coupler must **ONLY** be carried out by competent personnel.

### **3.2.2 MACHINE PINS**

Flying metal splinters can cause injury when hammering machine pins in and out.

**ALWAYS** wear safety glasses and use a soft-faced hammer or drift when fitting and removing machine pins.

### **3.2.3 LIFTING**

**ALWAYS** use the correctly rated shackle and lifting equipment. **NEVER** use worn, damaged or undersized lifting equipment.

### **3.2.4 MODIFICATION AND WELDING**

Non-approved modifications can make your coupler unsafe, leading to injury and damage.

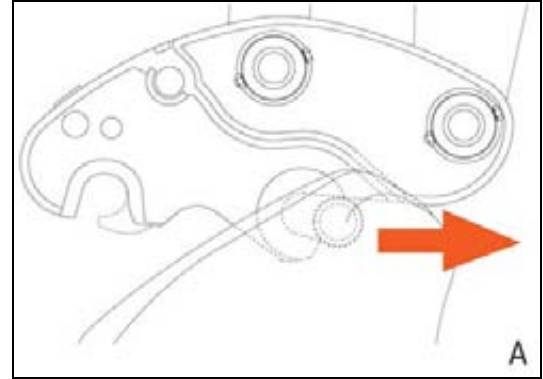
Please call the manufacturer for advice and service requirements.

## 4. OPERATION - THINGS TO AVOID

The Compact Manual Quick Couplers must ONLY be used in accordance with the instructions in this manual. The manufacturer will not be liable for any accidents or damage which result from bad working practices. The guidance below is applicable to all Compact Manual Quick Couplers.

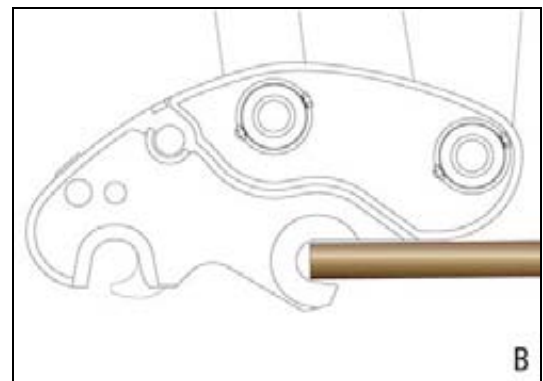
1 - AVOID incorrect use of coupler to pick up and move attachments, for example:

- moving attachments with only the front jaw (A).
- lifting attachments using only the hook.
- nipping or jamming the rear pin with the hook.



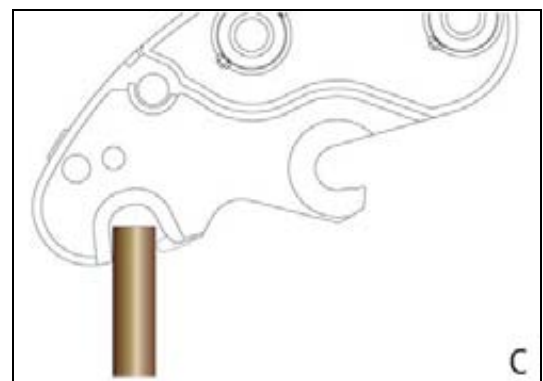
2 - AVOID using the jaw as a lifting tool or hammer, for example:

- moving items held in the jaw (B);
- using the jaw to hammer items into the ground.



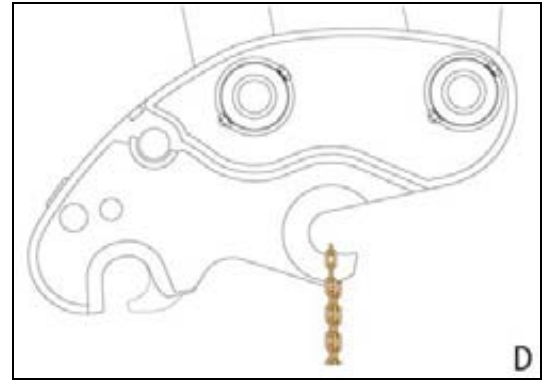
3 - AVOID using the hook to lift and manoeuvre items, for example:

- moving items using the hook;
- positioning items gripped with the hook (C).

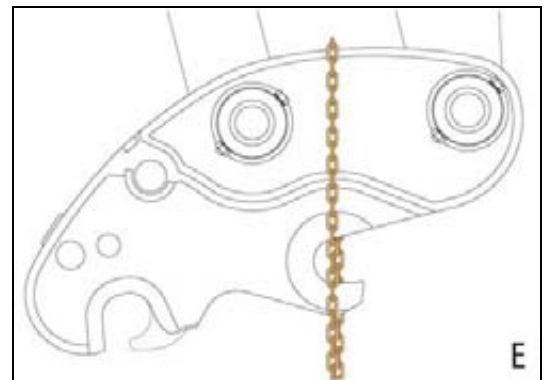


4 - AVOID incorrect use of the coupler to pick up items, for example:

- using the jaw to pick up items using chains (D);
- using the corner of the jaw to pick up items using chains;
- using the hook to pick up items using chains;



- using the coupler body to pick up items using chains (E);
- using the dipper arm to pick up items using chains.





## 5. COUPLER - ROLL PINS

### 5.1 INSTALLATION

- 1 - Place coupler on the ground. Fit O-ring seals where required (place O-ring seals over the edge of the coupler and ensure they do not enter the pin bore or are damaged when the power link is lowered).  
Align machine power link with coupler link bore.



- 2 - Insert machine pin through coupler link bore and machine power link bore and slot over lugs.



- 3 - Fit O-ring seals where required (place O-ring seals over the edge of the coupler and ensure they do not enter the pin bore or are damaged when the machine dipper is lowered). Align machine dipper with coupler dipper bore.



- 4 - Insert machine pin through coupler dipper bore and machine dipper bore and slot over lugs.



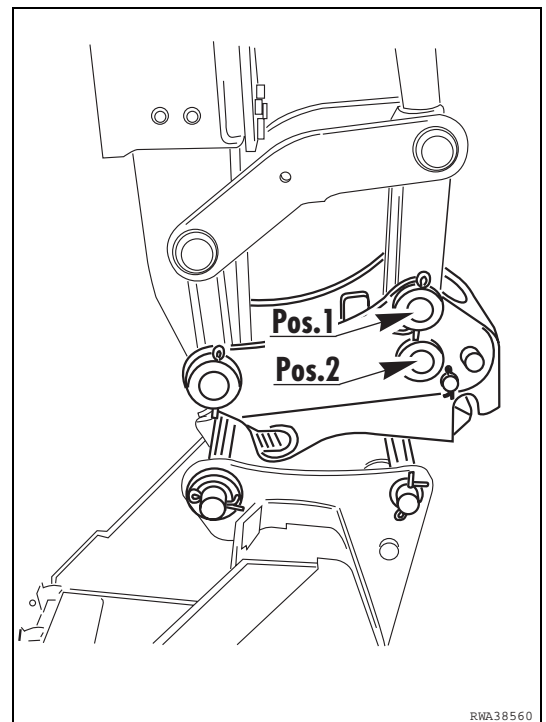
- 5 - Insert roll pins through lugs to retain machine pins (see inset). Grease as required. Grease coupler hook via grease nipple.



- 6 -The quick coupling device features (like for a simple digging bucket) two different positions for the coupling to the backhoe, which can be selected according to the operation to be performed and to the equipment to be used:

**Pos.1:** Normal digging position

**Pos.2:** Indicated for operations on vertical walls, ensures the maximum swing and the maximum digging height along walls.



## 5.2 REMOVAL

Position the coupler so it is resting on the ground and switch off the machine.

Remove roll pins and slide out machine pins, taking care not to damage O-ring seals.

Restart machine and carefully lift machine power link away from the coupler.

Refit machine pins, O-ring seals and roll pins to the coupler. Remove excess dirt and grease and lubricate all moving parts before safely storing the coupler undercover.

### 5.3 OPERATION - ENGAGING & LOCKING ATTACHMENTS

The engaging and locking procedure is the same for all the Compact Manual Quick Couplers.

The example below shows the procedure to attach a bucket.

1 - Lower the coupler and engage the front bucket pin.



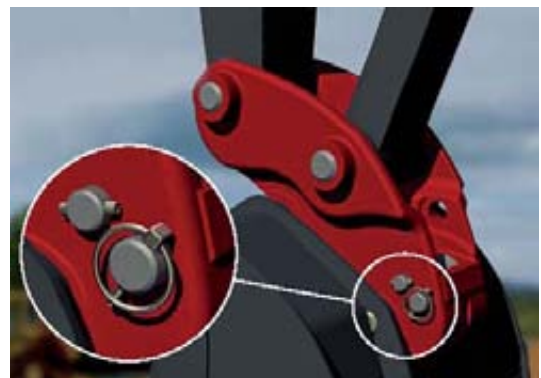
2 - Lift the bucket slightly off the ground. Rotate the bucket towards the cab until the back bucket pin bears against the hook. Insert the coupler operating handle into the hole at the back of the coupler.



3 - Press down on the coupler operating handle to open the hook. The weight of the bucket drives the back bucket pin into the back socket of the coupler. Engage the hook by taking pressure off the coupler operating handle. Remove the coupler operating handle.



4 - Insert the locking pin and secure in place using the lynch pin (see inset).



- 5 - Check the bucket pins are securely held by the coupler. Apply pressure to the bucket by rotating it against the ground and away from the machine.



## **⚠ ATTENTION**

- Before starting work, make sure that the coupling pins are completely engaged in the equipment seats.

## **5.4 OPERATION - GENERAL PROCEDURES**

### **5.4.1 Moving buckets and attachments**

Always complete the engaging and locking procedure in full even if you are only moving a bucket from one location to another.

### **5.4.2 Demolition attachments & work tools**

The Compact Manual Quick Coupler can be used with hydraulic breakers and work tools of appropriate pin spread and weight. DO NOT use a tool which is beyond the tonnage class specified the manufacturer.

Always use breakers in the vertical position. NEVER use the breaker as a lever. When used with a breaker the coupler should be inspected frequently. DO NOT use a breaker continuously for long periods without regular inspections of all moving parts.

If the hydraulic breaker is to be used continuously for long periods of time it should be mounted directly to the machine, not to the coupler.



## 5.5 OPERATION - RELEASING ATTACHMENTS

The releasing procedure is the same for all the Compact Manual Quick Couplers. The example below shows the procedure to release a bucket.

- 1 - Raise the bucket slightly off the ground (about 50mm) and slightly angle the bucket teeth towards the ground - this will allow the bucket to rotate away from the rear pin after the coupler operating handle has released the hook.

Remove the lynch pin which secures the locking pin. Remove the locking pin.



- 2 - Insert the coupler operating handle into the hole at the back of the coupler.



- 3 - Press down on the coupler operating handle to disengage the hook and release the rear bucket pin. The bucket will swing forward on the front bucket pin.

### DANGER

- The bucket is now engaged by the front pin only and may fall.

Remove the coupler operating handle.



- 4 - Lower the bucket to the ground. Rotate the coupler away from the cab to release the front bucket pin.



## 6. MAINTENANCE

Maintenance work must only be done by competent personnel.

If in doubt contact the service department.

### Coupler condition

DO NOT operate a coupler that is defective or that you believe to be defective. A defective coupler could injure you or others.

### Replacement parts

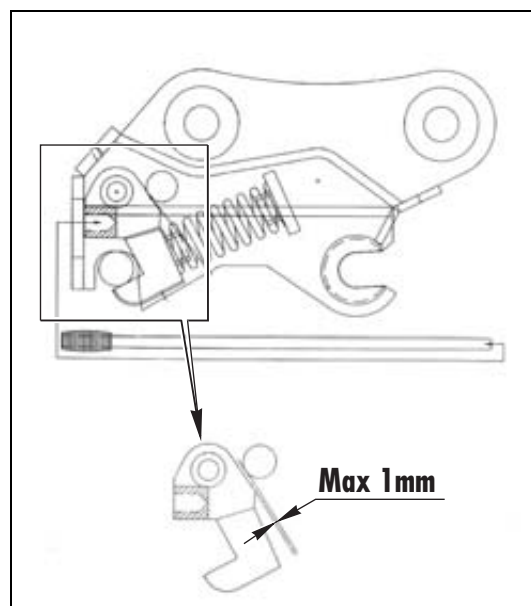
Fit only genuine replacement parts. When ordering parts, quote the coupler serial number stamped on the data plate (See «2. IDENTIFICATION»).

## 6.1 MAINTENANCE SCHEDULE

To ensure that your quick coupler works safely and to maximum efficiency it is imperative that it is properly maintained in accordance with the following service schedule and guidelines.

### 6.1.1 DAILY

- 1 - Thoroughly clean the coupler.
- 2 - Check the coupler for damage, missing parts, loose or bent pins and broken or damaged springs. Replace any missing, broken or damaged parts immediately.
- 3 - Check the spring for defects and that the bolts are tight. DO NOT operate the coupler if any parts are damaged or broken.
- 4 - The gap between the back of the hook and the locking pin should not exceed 1 mm. If it does check the wear on the rear horseshoe of the coupler, build up with weld and grind to original profile.
- 5 - Check the security of the machine pins or roll pins, locking bolts and nuts. Check for wear in and around all pin holes.
- 6 - Check the locking pin is undamaged and in place. Replace if bent or faulty. Check that all pins are securely fastened. Replace if necessary.
- 7 - Grease all grease points with general purpose chassis grease.



### 6.1.2 WEEKLY (AT LEAST ONCE PER WEEK)

- 1 - Lubricate. Ensure that all grease points are greased regularly (at least once a week) and that moving/rotating parts are lubricated and can move/rotate freely. Apply grease to the hook via the grease nipple.
- 2 - Release the bucket/attachment (refer to the operation instructions).
- 3 - Where applicable, check lifting eye is undamaged.

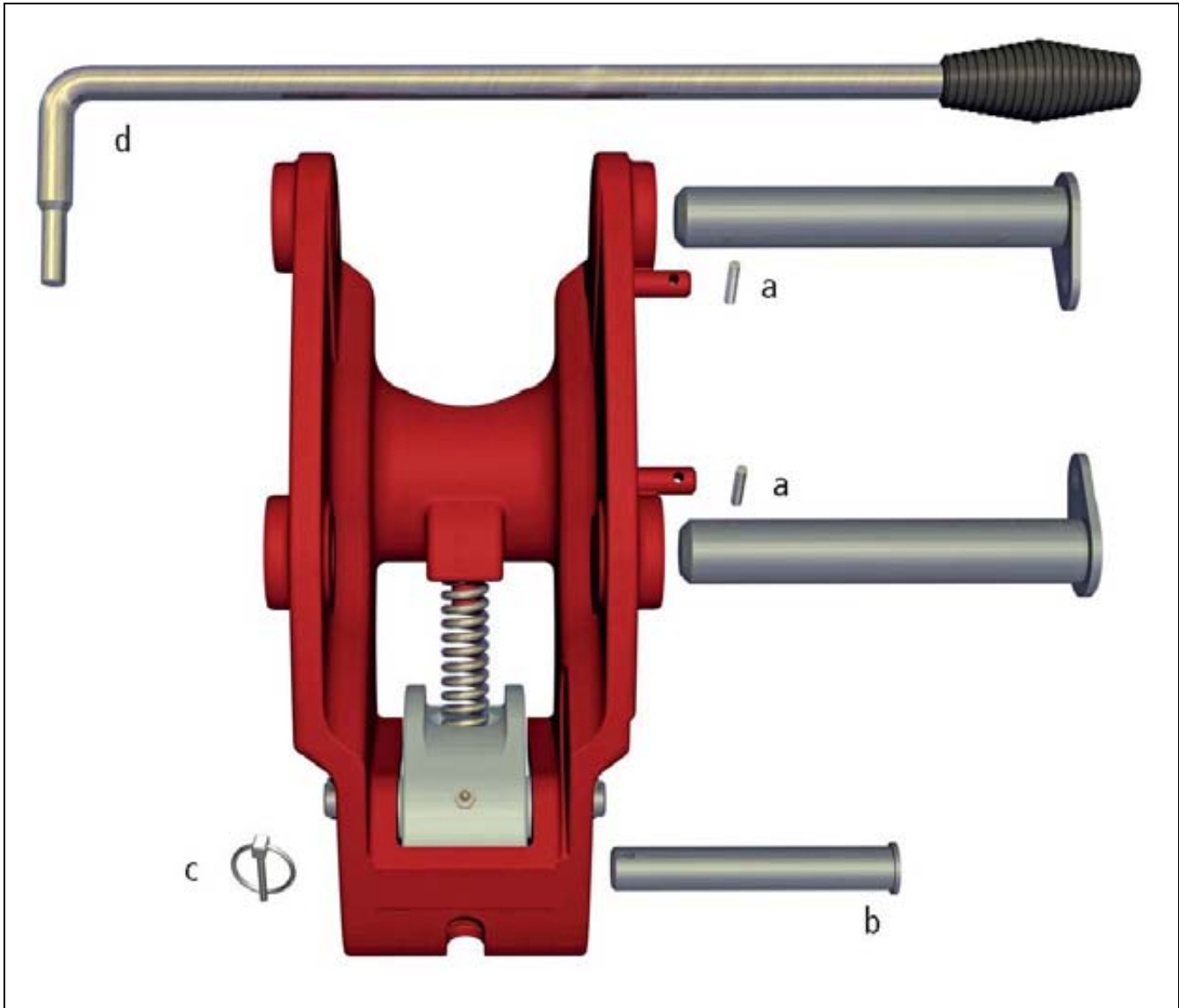
### 6.1.3 TROUBLE SHOOTER

If a bucket appears slack on a coupler after the above schedule has been carried out, check the bucket pin diameter and that the OEM dimensions are both correct (especially the pin centre).

Contact the manufacturer if you need further assistance.

## 7. COMPONENT PARTS AND TOOLS REQUIRED

### 7.1 COMPACT COUPLERS INSTALLED USING ROLL PINS



This Coupler is supplied with:

- a** - 2 x roll pins (to secure bucket pins)
- b** - 1 x locking pin (for securing attachments)
- c** - 1 x lynch pin (to secure locking pin)
- d** - 1 x coupler operating handle

Tools required for installation (not supplied with the coupler):

- Grease gun
- Mallet (to fit roll pins)



© 2010 KOMATSU UTILITY EUROPE S.p.A.  
All Rights Reserved  
Printed in Europe 07-2010