Section B

Body and Framework

Service Manual - 1CX

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Notes:

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General

Slide Hammer Kit

TB-003

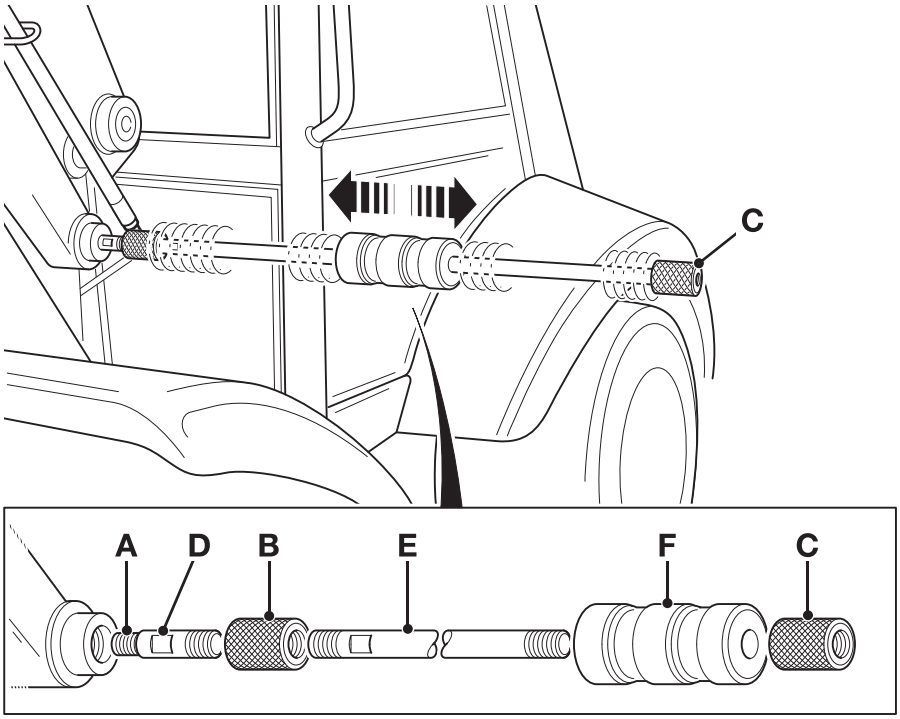

Fig 1. Typical M/c. Installation

The slide hammer kit is used to remove pivot pins that must be extracted, i.e. cannot be 'knocked through'. The purpose of this description is to explain how the kit and the various components are used to remove the pivot pins.

The adaptors **1-A** that form part of the kit have a screwed thread at each end. One of the threads will always be M20 size, this is to accommodate the end stops, items **1-B** and **1-C**. The other end of the adaptor will have varying thread sizes to suit the different size of threads in the pivot pins.

Fitting Procedure

1 Prepare the pivot pin, for instance, if fitted, remove the pivot pin retaining bolt.

2 Determine the thread size of the pivot pin and then fit the appropriate adaptor **1-A** as shown. Use the spanner flats **1-D** to securely fit the adaptor.

3 Fit an end stop **1-B** onto the other end of the adaptor (M20 thread size), make sure that the adaptor threads are fully engaged.

4 Fit the 'slide bar' **1-E** into the end stop. Again make sure that the threads are fully engaged.

5 Fit the 'slide hammer', item **1-F**, onto the slide bar as shown.

6 Finally, fit another end stop, item **1-C**, at the end of the slide bar, as shown. The slide hammer kit is now ready to use.

7 To extract the pivot pin, slide the hammer along the bar until it contacts end stop **1-C**. Repeat this step until the pivot pin is released.

8 To remove the slide hammer kit, reverse steps 2 to 7.

Loader

Loader Arm

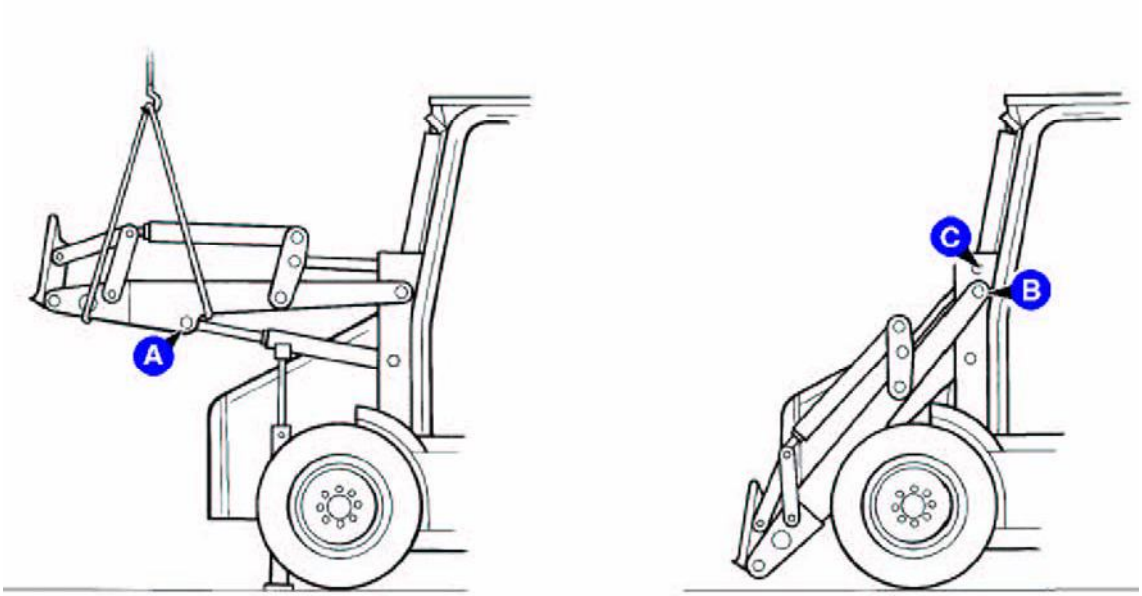

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Fig 2.

Removal

⚠ WARNING

Lifting Equipment

You can be injured if you use faulty lifting equipment. Make sure that lifting equipment is in good condition. Make sure that lifting tackle complies with all local regulations and is suitable for the job. Make sure that lifting equipment is strong enough for the job.

INT-1-3-7

Ensure that all attachments are removed from the loader arm and park the machine on clean level ground. Raise the loader arm so that the lift ram eye end pivot pin is clear of the machine structure. Support the weight of the loader arm using suitable lifting equipment. Stop the engine and vent hydraulic pressure from the system (see ***Venting Hydraulic Pressure***).

⚠ WARNING

Hydraulic Pressure

Hydraulic fluid at system pressure can injure you. Before disconnecting or connecting hydraulic hoses or couplings, vent the pressure trapped in the hoses in accordance with the instructions given in this publication.

HYD-1-5

Disconnect and plug the auxiliary hoses and the crowd ram hoses on both sides. Mark the hoses to ensure correct reconnection.

Remove the bolts retaining the lift ram eye end pivot pin **A** from both sides. Ensuring that the weight of the loader arm is supported at the front end, and also supporting the lift rams, drift out the lift ram eye end pivot pins from both sides. Allow the rams to rest on the bodywork. Lower the loader arm to the ground.

Remove the locking pins for the lift arm pivots **B** and compensating arm pivots **C** on both sides. Supporting the weight of the loader arm, drift out the lift arm and compensating arm pivot pins. The loader arm can now be

manoeuvered from the machine using the lifting equipment. Place the loader arm on a clean dry surface.

Replacement

Replacement is a reversal of the removal procedure. Grease all pins and securing bolts with JCB Special MPL grease.

Shims are available in two thicknesses (2 mm and 3 mm) and should be fitted as required on the left hand side of the loader arm pivot to eliminate end float.

Reconnect all hoses and bleed the hydraulic system.

Excavator

Dipper

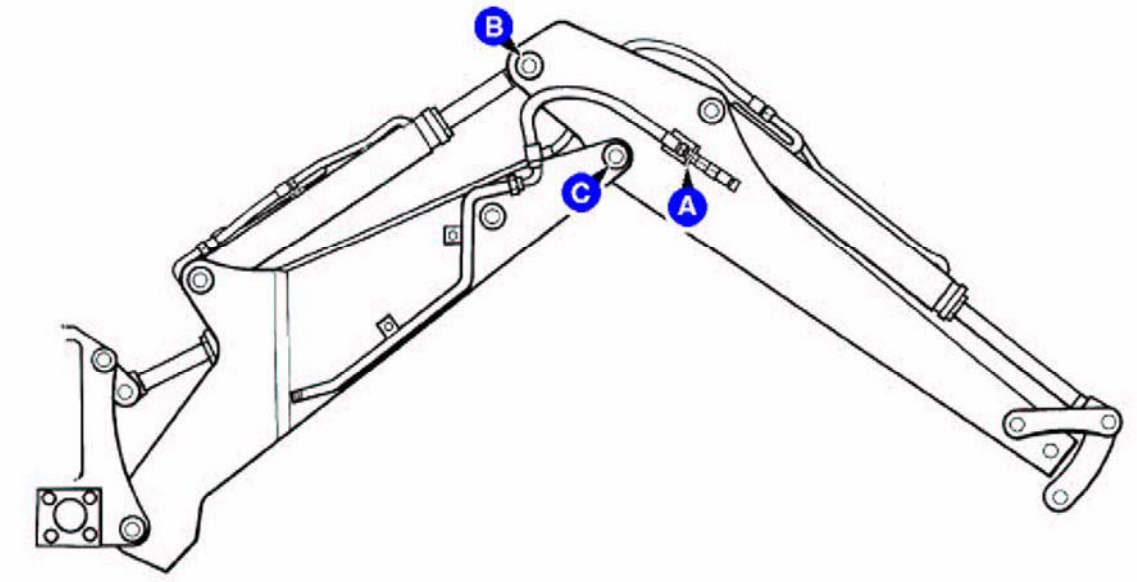

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Fig 3.

Removal

Remove the bucket or other attachment from the machine and park the machine on clean level ground. Place the excavating end in the position shown. Stop the engine and vent hydraulic pressure from the system (see ***Venting Hydraulic Pressure***).

⚠ WARNING

Hydraulic Pressure

Hydraulic fluid at system pressure can injure you. Before disconnecting or connecting hydraulic hoses or couplings, vent the pressure trapped in the hoses in accordance with the instructions given in this publication.

HYD-1-5

Disconnect and plug the auxiliary hoses, marking the hoses to ensure correct reconnection. Remove the auxiliary hose bracket A from the dipper. Disconnect and plug the crowd ram feed and return hoses, marking the hoses to ensure correct reconnection.

Remove the bolt retaining the dipper ram eye end pivot pin B. Supporting the ram, drift out the dipper ram eye end pivot pin. Allow the ram to rest on the boom.

⚠ WARNING

Lifting Equipment

You can be injured if you use faulty lifting equipment. Make sure that lifting equipment is in good condition. Make sure that lifting tackle complies with all local regulations and is suitable for the job. Make sure that lifting equipment is strong enough for the job.

INT-1-3-7

Remove the locking pins (2 off) for the dipper pivot pin **C**. Supporting the weight of the dipper, drift out the pivot pin. The dipper can now be manoeuvered from the machine using the lifting equipment. Place the dipper on a clean dry surface.

Replacement

Replacement is a reversal of the removal procedure. Grease all pins and securing bolts with JCB Special MPL grease.

Reconnect all hoses and bleed the hydraulic system.

Boom

Removal

It is assumed that the dipper has been removed. ⇒ *Dipper (B-5)*

WARNING

Hydraulic Pressure

Hydraulic fluid at system pressure can injure you. Before disconnecting or connecting hydraulic hoses or couplings, vent the pressure trapped in the hoses in accordance with the instructions given in this publication.

HYD-1-5

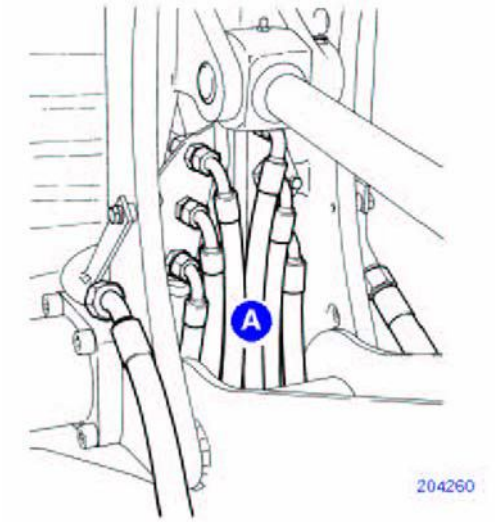

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Fig 4.

Disconnect and plug the auxiliary hoses, marking the hoses to ensure correct reconnection (see ***Connecting/ Disconnecting Hoses***). Disconnect and plug the feed and return hoses **A** (6 off), marking the hoses to ensure correct reconnection.

Remove the bolt retaining the boom ram eye end pivot pin **B**. Supporting the ram, drift out the boom ram eye end pivot pin.

WARNING

Lifting Equipment

You can be injured if you use faulty lifting equipment. Make sure that lifting equipment is in good condition. Make sure that lifting tackle complies with all local regulations and is suitable for the job. Make sure that lifting equipment is strong enough for the job.

INT-1-3-7

Remove the bolt retaining the boom pivot pin **C**. Supporting the weight of the boom, drift out the pivot pin. The boom can now be manoeuvered from the machine using the lifting equipment. Place the boom on a clean dry surface.

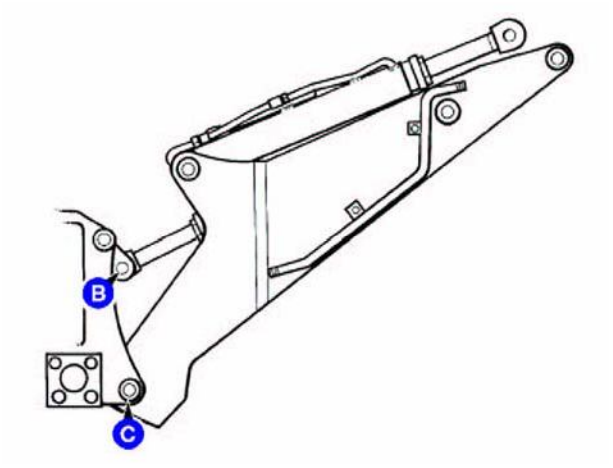

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Fig 5.

Replacement

Replacement is a reversal of the removal procedure. Grease all pins and securing bolts with JCB Special MPL grease.

Reconnect all hoses and bleed the hydraulic system.

Kingpost Assembly

Removal and Replacement up to machine no. 807225

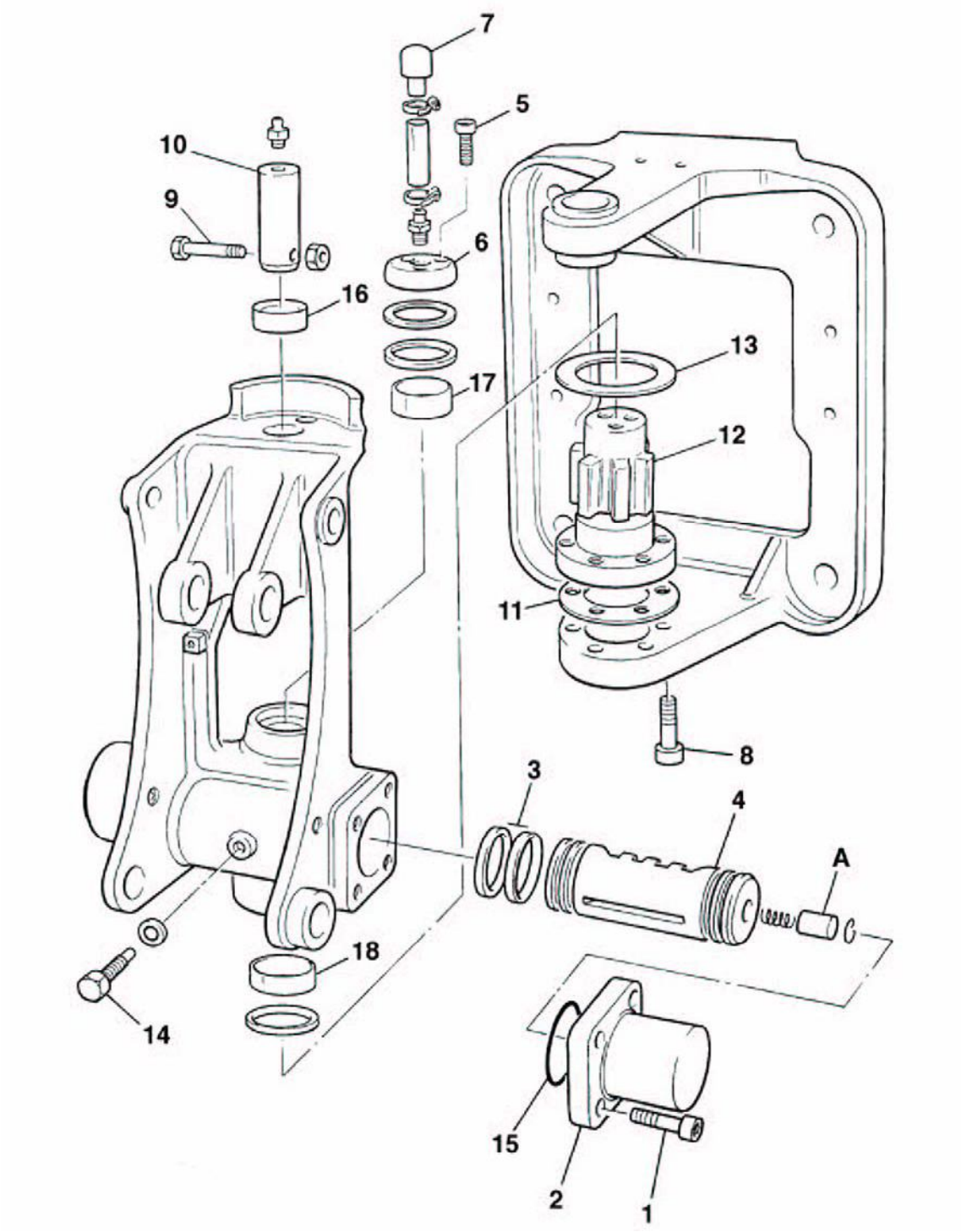

Fig 6.

⇒ *Slew Cylinder - Removal (B-9)*

Slew Cylinder - Removal

⇒ *Fig 6. (B-8)*

Position the machine on firm level ground, rest the front shovel on the ground and position the excavator bucket just above the ground. Stop the engine. Operate the excavator controls to vent residual hydraulic pressure.

Release the hydraulic connections to the slew cylinders.

Unscrew and remove capscrews **1** from each slew cylinder **2**.

Position an oil tray underneath the kingpost to catch any oil lost during dismantling.

Withdraw the cylinders by manually swinging the excavator assembly to one side and then the other. This will push off each cylinder in turn.

Remove rack seals **3** as each side of the rack **4** is exposed.

Kingpost - Removal

If required, remove the boom and dipper.

Note: *Unless the kingpost is to be renewed, it is not necessary to remove the boom and dipper to release the kingpost from the machine.*

⚠ WARNING

Hydraulic Pressure

Hydraulic fluid at system pressure can injure you. Before disconnecting or connecting hydraulic hoses or couplings, vent the pressure trapped in the hoses in accordance with the instructions given in this publication.

HYD-1-5

At the kingpost, disconnect and plug the hydraulic hoses, marking the hoses to ensure correct reconnection (see ***Connecting/Disconnecting Hydraulic Hoses***).

Position an oil tray underneath the kingpost to catch any oil lost during dismantling. Remove capscrews **5** and lift off the thrust cap **6** complete with filler tube assembly **7**.

Slacken and remove the pinion capscrews **8**.

Support the backhoe by placing a sling from a crane around the boom ram to kingpost pivot. (If the boom and dipper have been removed, place the sling around the kingpost.)

Remove locking bolt **9** and kingpost pivot pin **10**.

Using the crane, lift the excavator assembly up which will free the pinion from the carriage base then pull the assembly back away from the carriage, taking care to collect shim **11**.

Note: *Shim **11** is not fitted to later machines.*

Remove pinion **12** and thrust washer **13** from the kingpost.

Remove the anti-rotation pin **14** and withdraw the rack **4**.

Kingpost - Replacement

Repacement is a reversal of the removal procedure.

If bushes **16**,**17** or **18** are to be renewed, coat outside diameter with JCB Multi-Gasket before pressing into position.

Note: *On later machines, bush **18** was changed to a flanged type and is fitted with a thrust washer as shown at **X**. The flanged type bush may be fitted to earlier machines provided the thrust washer is also fitted.*

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Fig 7.

Lubricate the pinion and rack with gear oil before assembly.

Apply JCB Special MPL grease to pivot pin **10**.

Check that shim **11** is the latest steel type; replace if not.

Note: *Shim **11** is not fitted to later machines; the pinion flange is machined 3 mm deeper. The shim should be discarded if the later pinion is fitted to earlier machines.*

Clean threads of capscrews **8** and apply JCB Threadlocker and Sealer. Tighten to correct torque.

After replacement, refill the slew housing with the appropriate grade of oil (see ***Routine Maintenance, Section 3*** for correct procedure).

Slew Cylinder - Replacement

Fit new seals **3** to rack **4**. Ensure that plungers **A** move freely in their bores without sticking.

Assemble cylinders **2** using new 'O' ring 15. Reconnect hydraulic pipework.

After replacement, refill the slew housing with the appropriate grade of oil (see ***Routine Maintenance, Section 3*** for correct procedure).

When assembly is complete, operate excavator services fully to bleed the hydraulic system then check the hydraulic level.

Torque Settings

Item	Nm	kgf m	lbf ft
1	300	30.6	221
5	159	16.2	117
8	395	40.3	291