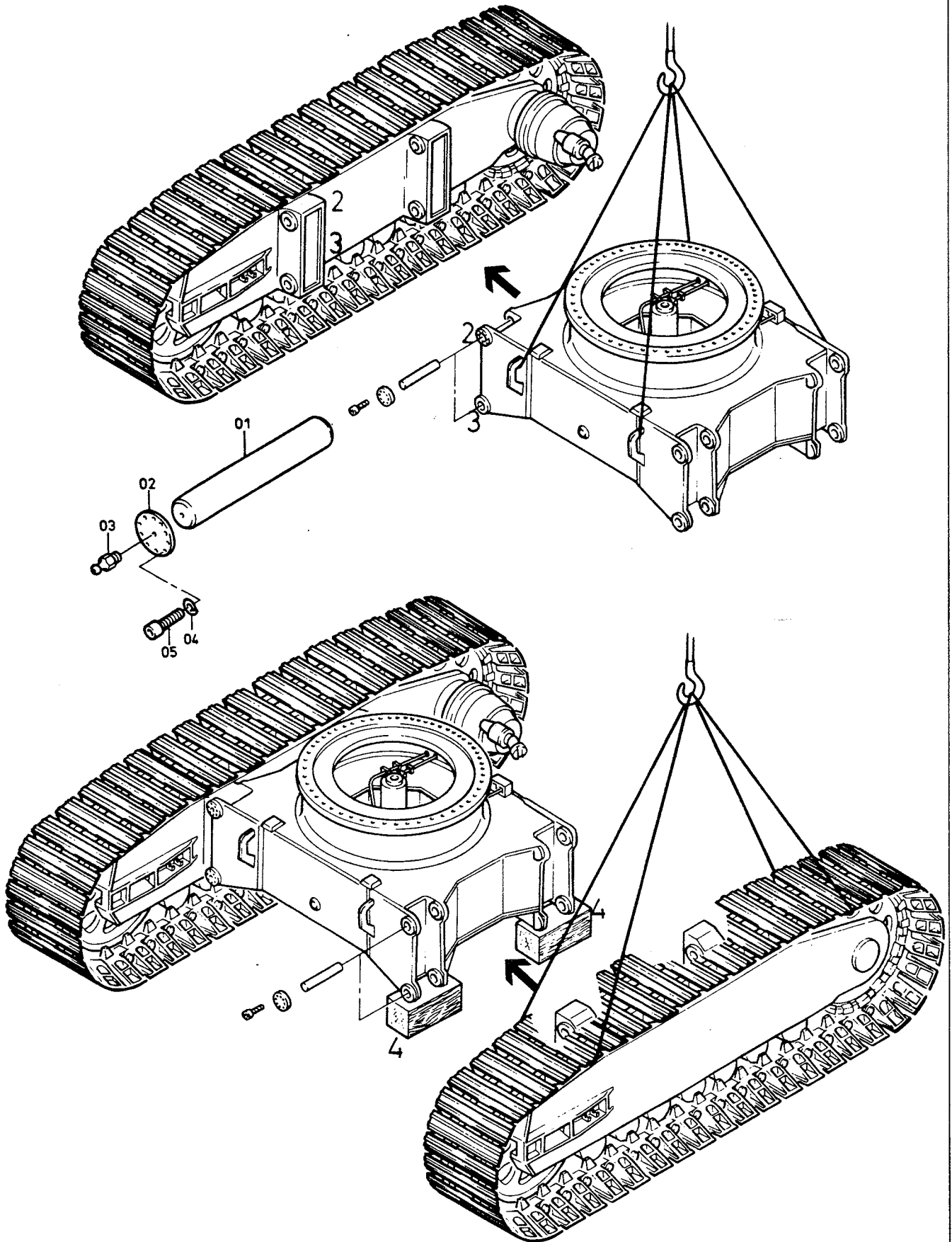


# **Shop Manual**

# **H285S**

## **HYDRAULIC SHOVEL**

**SERIAL NUMBER H285S 78094, 78111 & 78113**

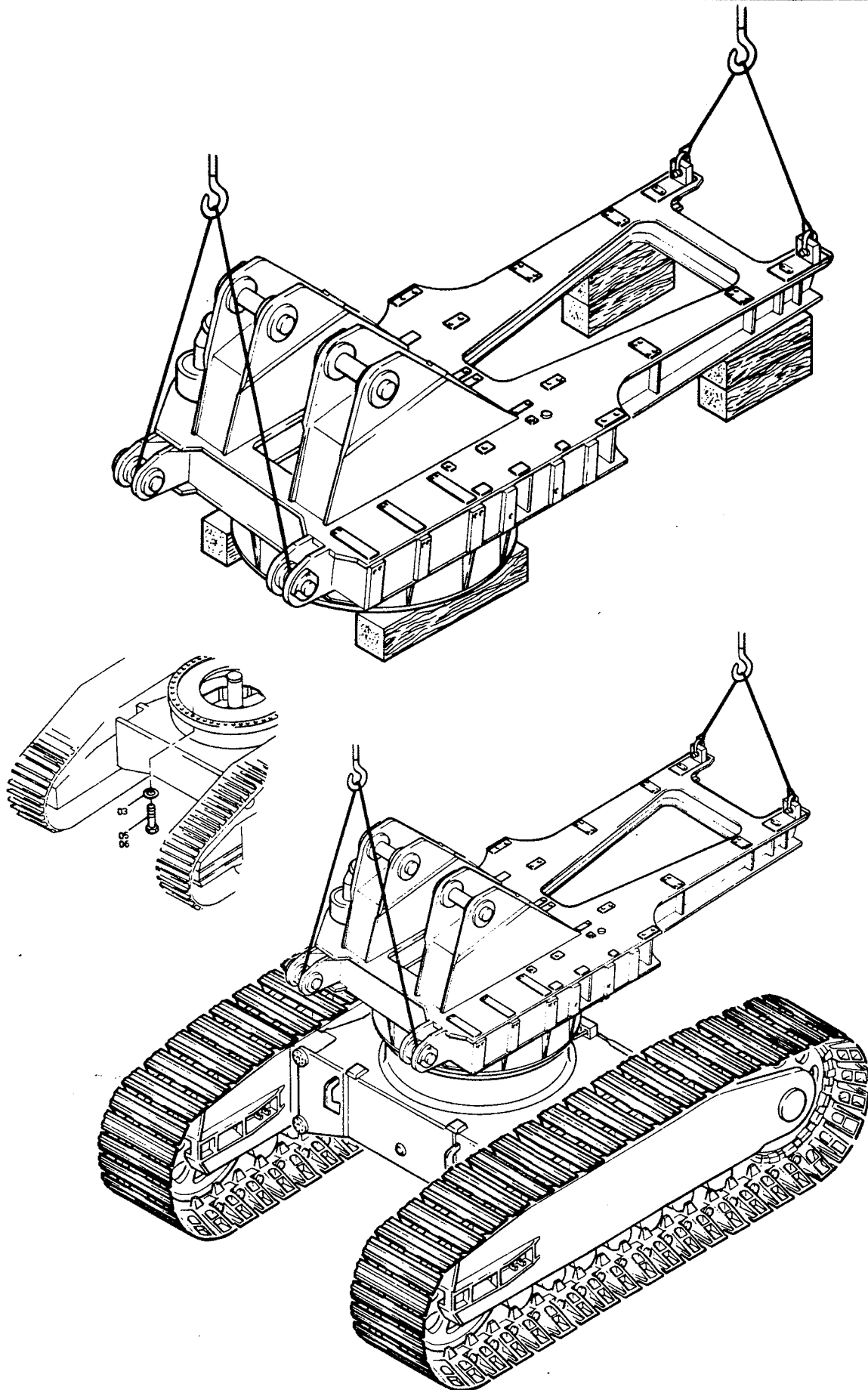


Assembling the under carriage

8104

1. Insert all 8 pins (01) into the outer boring (2+3) of the center section.
2. Attach carbody to the crane (travel brake valves of the carbody must be in direction of the travel motors).
3. Align carbody with the side frame; lower borings (3) first and insert pins (01).
4. Align upper borings (2) and insert pins (01).
5. Support carbody with wooden blocks (4) in a way that the free side is appr. 100mm higher than the attached side.(This makes it easier to attach the 2nd side frame).
6. Lift the 2nd side frame with the crane and align with the carbody. Lower borings first and insert pins.
7. Align upper borings and insert pins
8. Lift up the undercarriage a little and remove the wooden blocks.
9. Secure all pins with the retainer plates (02) and bolts (05) and grease all pins through the grease nipples (03) in the retainer plates.
10. Connect pipe work between brake blocks and the travel motors.

continued



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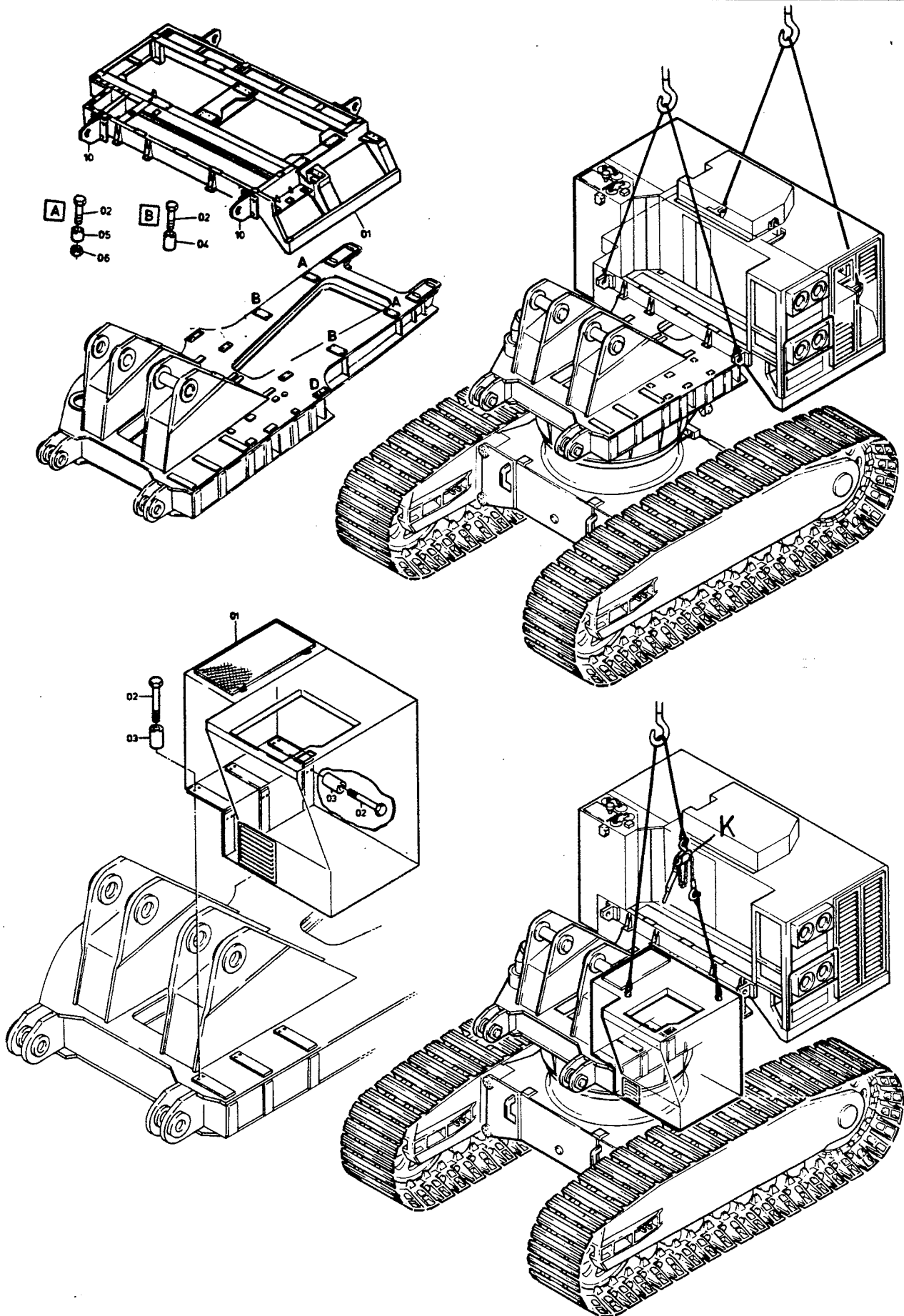
Mounting the platform or upperstructure to the under carriage 8105

1. Attach the upperstructure to the crane, lift up the upperstructure and carefully clean the surface (contact area) of the slew ring.  
Clean very carefully the mating surface of the slew ring and the carbody.
2. Check if the "S" position of the inner and outer ring of the slew ring is left and right of travel direction.
3. Prepare all bolts (05), thrust washers (03) and lubricate the threads as well as the head surface of the bolts, also clean off any paste of the bolts.  
(See SB 21-192 last edition)
4. Align upperstructure to the carbody and lower the upperstructure as required to insert 4 bolts.
5. Screw in one bolt at each 90° (for guiding) and lower upperstructure so that there is a very thin gap between slew ring and carbody.
6. Screw in all bolts and tighten hand tight. (Follow the SB 21-192.)
7. Tighten the bolts cross wise with the determined value (see SB 21-192).

Note:

If appr. 10 bolts (front and rear) are tightened the upperstructure can be unhooked from the crane.

continued



Cont'd.

Mounting the prime drive module

8106

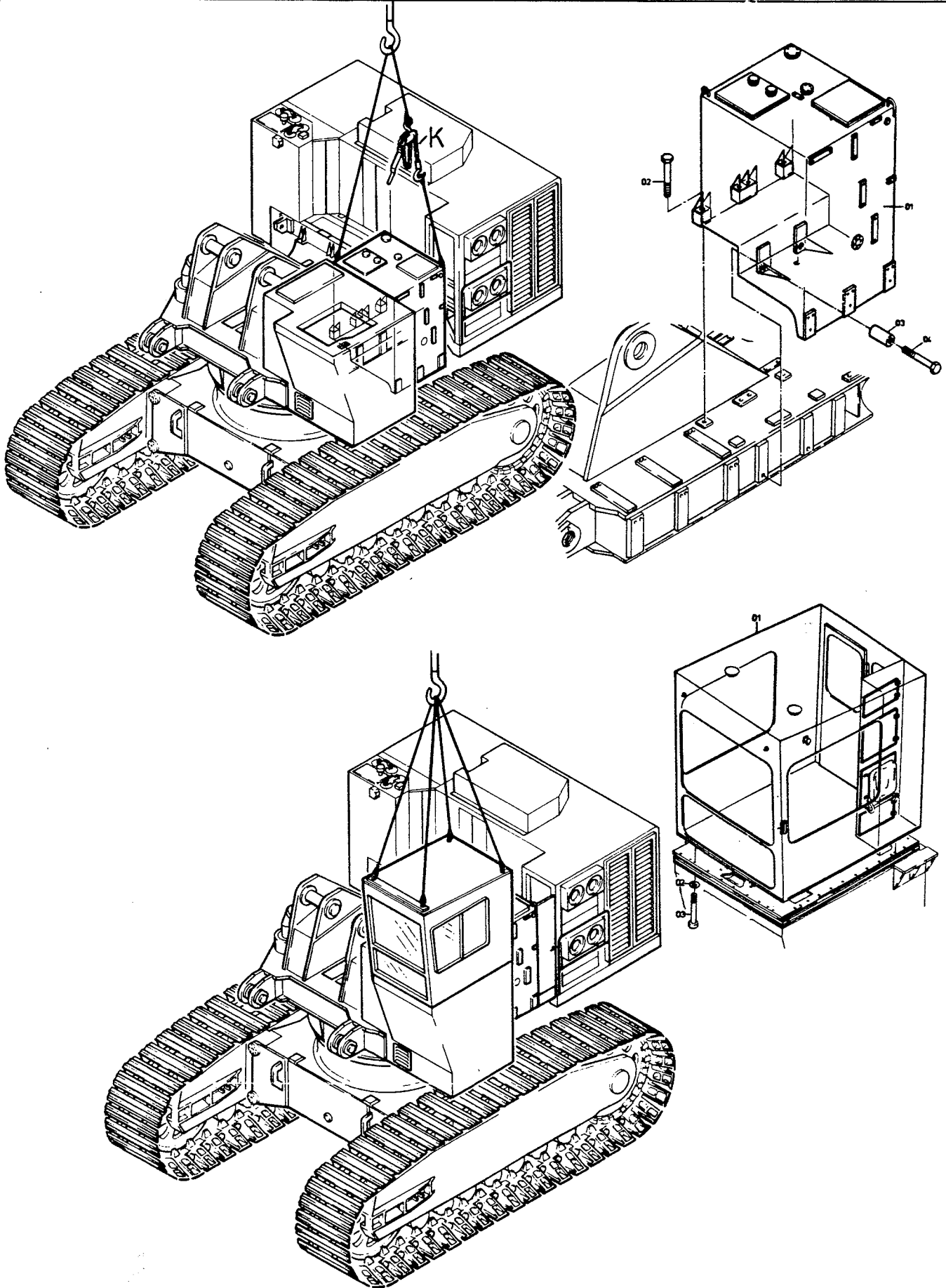
1. Attach the module to the crane (use only the attached lifting points).
2. Lower the module as required so that two bolts (for guiding) with the sleeves can be screwed in.
3. Lower the module fully down and screw in all bolts with the sleeves. Tighten the bolts with the resp. torque. (This must be done directly because later-on it's difficult to reach the bolts).
4. Remove the lifting brackets. There are only for transportation and assembling.

Mounting the cab support

8106

1. Lift the cab support with the crane , use slings and one chain-pull (come-along) (K). The chain-pull (come-along) allows easy alignment.
2. Align the cab support with the upperstructure and lower the support as required so that two bolts (02) (for guiding) with the sleeve (03) can be screwed in. Tighten in the two bolts.
3. Lower the support fully and screw in all the bolts with the sleeves. Tighten the bolts with the resp. torque.

continued





Cont'd.

Mounting the fuel tank

8107

1. Attach the fuel tank to the crane , use slings and one come-along. The chain-pull (come-along) (K) allows easy alignment.
2. Align the fuel tank with the upperstructure and lower the support as required so that two bolts (02) (for guiding) can be screwed in.

Note:

Pay attention that between the tank and the air filter frame is enough place for the door.

3. Lower the fuel tank fully down and screw in all bolts (the two side bolts (04) with sleeves (03). Tighten the bolts with the resp. torque.

Mounting the cab

8107

1. Attach the cab to the crane and align cab with cab support. Lower the cab as required so that two bolts (for guiding) can be screwed in.
2. Lower cab fully down and screw in all the bolts (from inside cab support). Tighten the bolts with the resp. torque.

continued

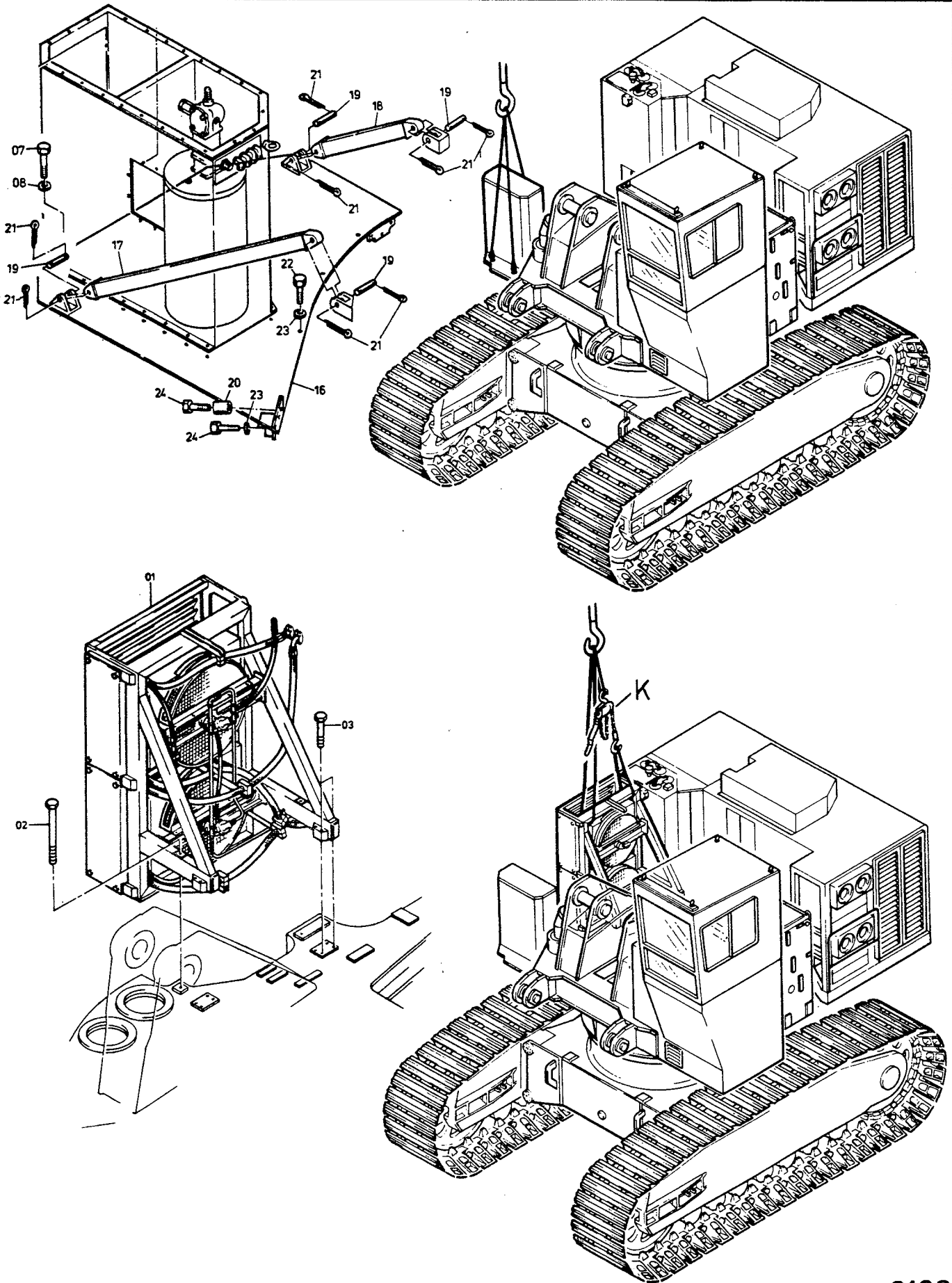
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Cont'd.

Mounting the central lube module

8108

1. Attach the module to the crane and align with the upperstructure.

Note:

Attach the slings to the 3 eye bolts which are screwed into the auxiliary platform. Don't attach the slings to the grease container housings!

2. Lower the module as required so that two bolts (for guiding) can be screwed in.
3. Lower the module fully down and screw in all the bolts. Tighten the bolts with the resp. torque.
4. Fix the torque bars (17+18) between the aux. platform and the superstructure.
5. Connect the air and grease lines.

Note.

Pay attention that air and grease lines are not mixed up when making the connections.

Mounting the oil cooler assembly

8107

1. Attach the oil cooler assembly with the slings and the come-long (chain-pull) to the crane. The chain-pull (come-along) allows an easy alignment.
2. Align the oil cooler unit with the upperstructure and lower the assembly as required so that two bolts (for guiding) can be screwed in.
3. Lower the oil cooler assembly fully down and screw in all the bolts.

Tighten the bolts with the resp. torque.

continued

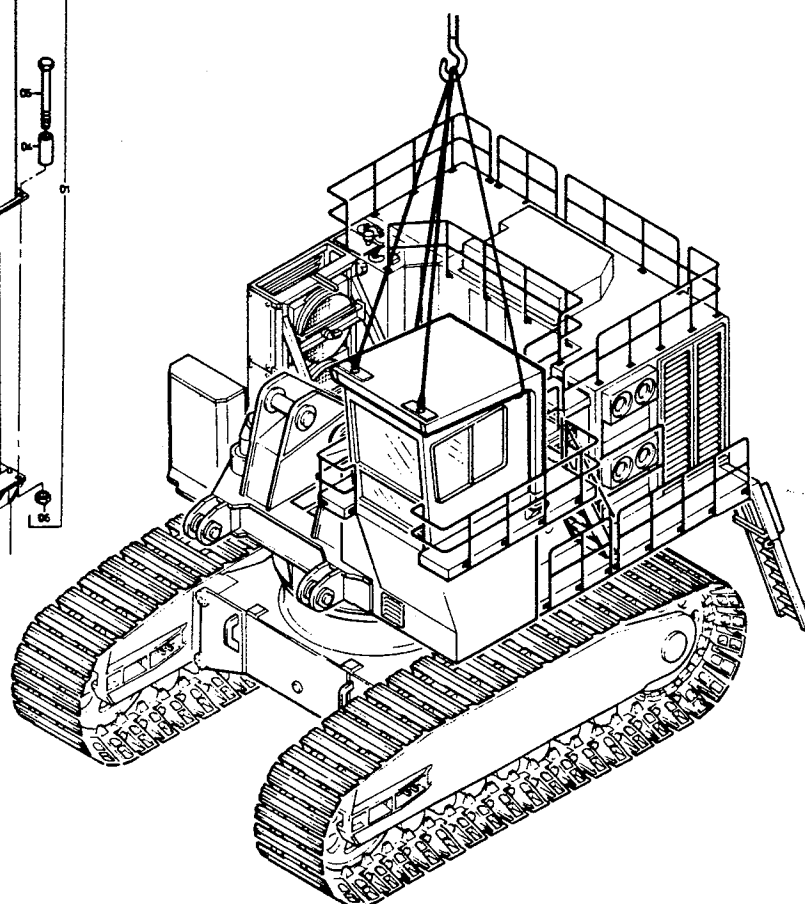
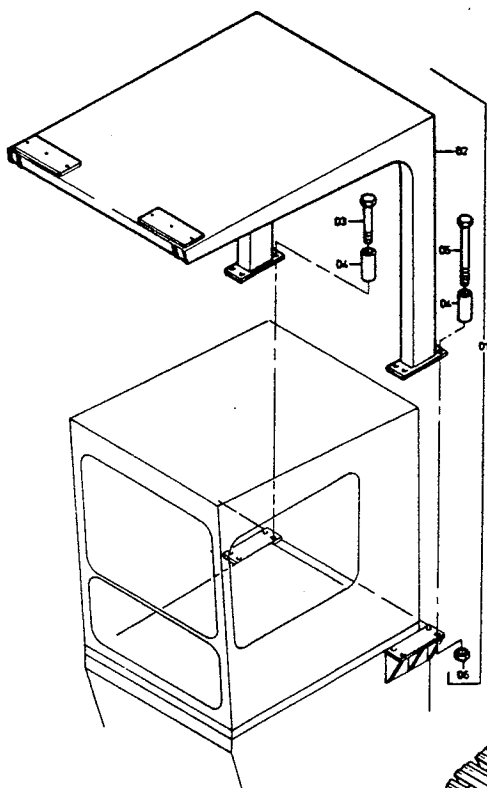
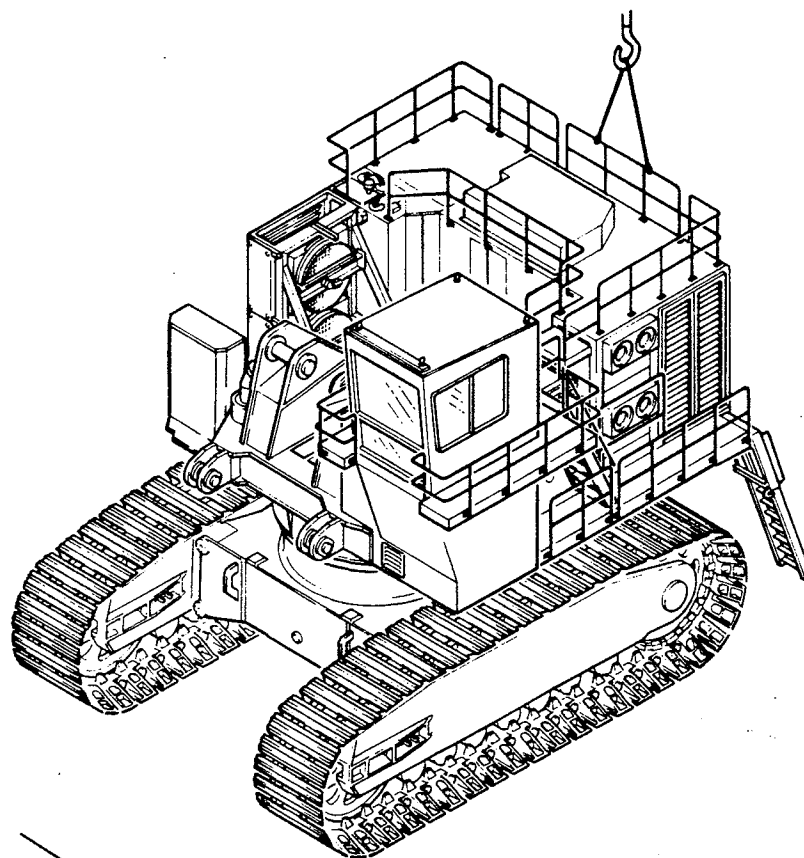
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Cont'd.

- Attach all hand rails, catwalks and steps etc.
- Mount the cab guard.
- Connect all pipes, hoses and electr. wiring.

8109

Note:

All connections are marked before disassembly of the excavator therefore joining the connections are not difficult.

Pre-checks for initial start-up

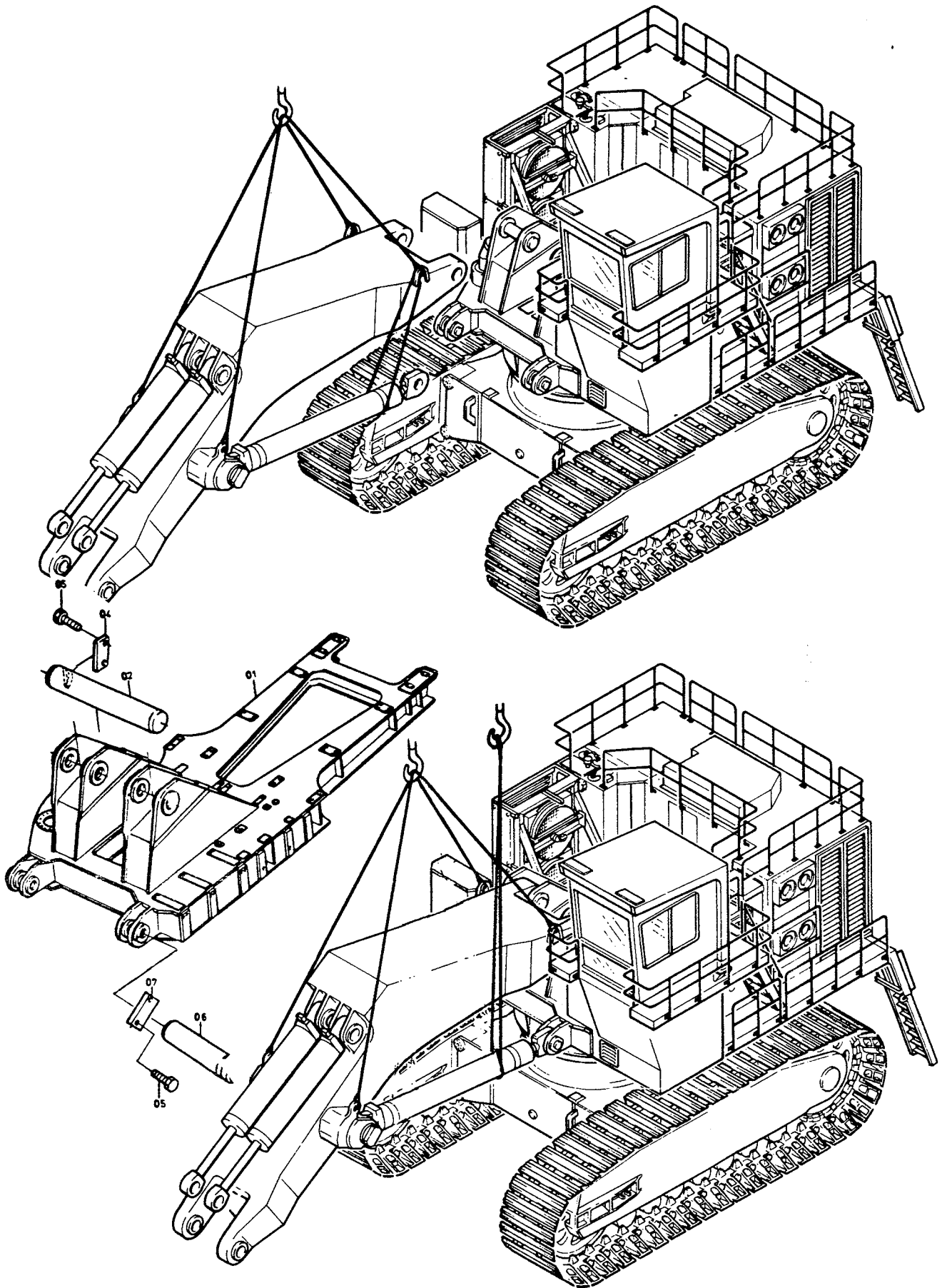
1. Make sure that the shut off valve between the main and suction tank is opened completely.
2. Check all oil and water levels and correct if necessary.
3. Make sure that the pipe lines for the attachment are blanked.
4. Now the engine can be started and the machine can be moved for any additional assembling.

For the starting procedure and procedures after starting pay attention to the hints in the operation manual!

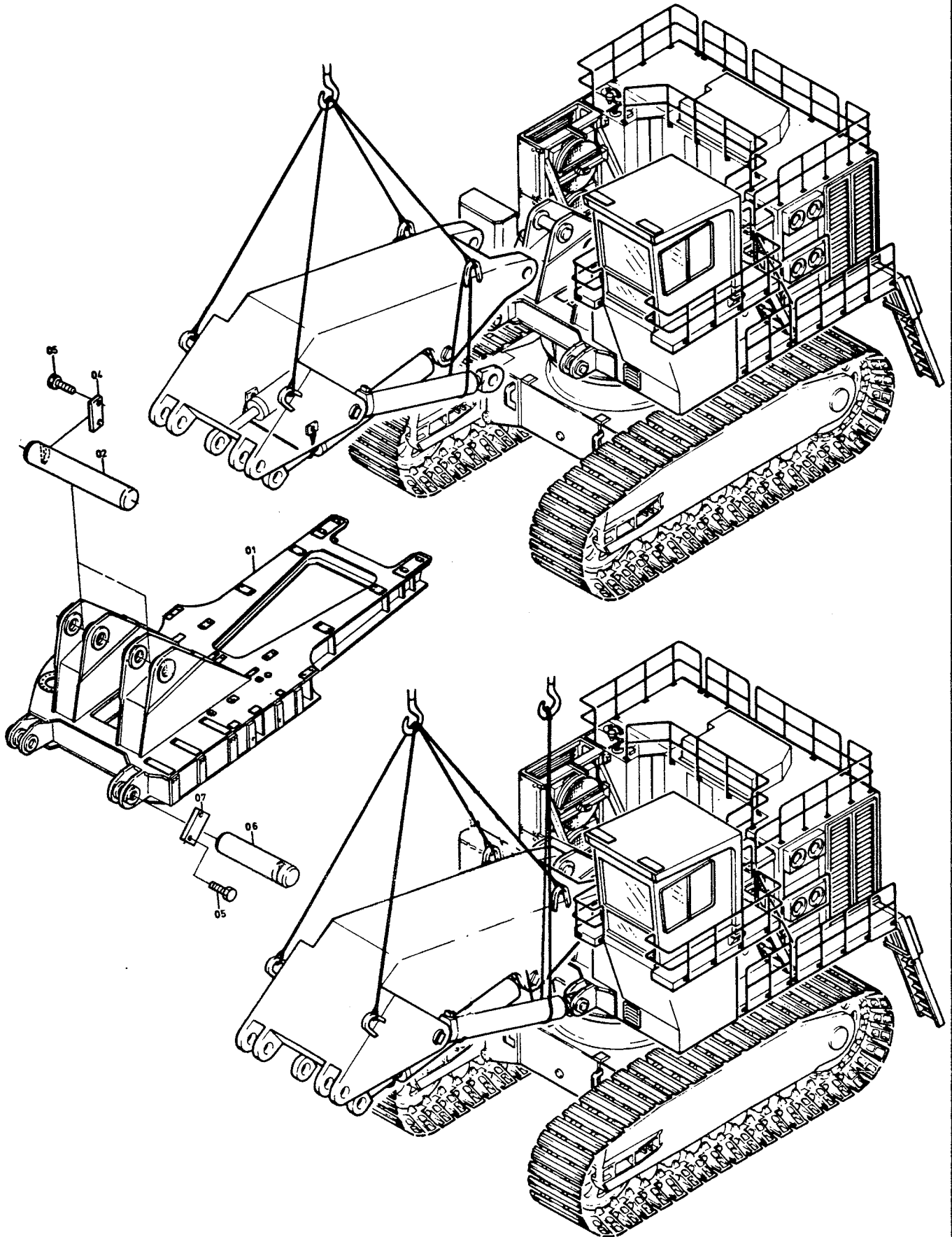
The additional assembling is done in the following sequence:

1. Boom with its cylinders attached and the two stick cylinders as in the case with the backhoe.
2. Counterweight
3. Stick assembly with attached bucket cylinders.
4. Bucket.

Procedure see next pages.









Mounting the boom and the boom cylinders

1. Lift the boom with the attached cylinders with the crane. 8110a
2. Align the boom with the boom bearings on the upperstructure. 8110b
3. Lower the boom that the borings of the boom and the boom bearings are aligned.
4. Insert the two pins (02) and secure with the retainers (04).

Note:

With the boom still attached to the crane!

5. Lift one boom cylinder with an other crane and disconnect the transport fastenings.
6. Lower the boom cylinder until the boring of the cylinder and the upperstructure bearings are aligned.

Note:

If necessary lower or lift up the boom for easier alignment.

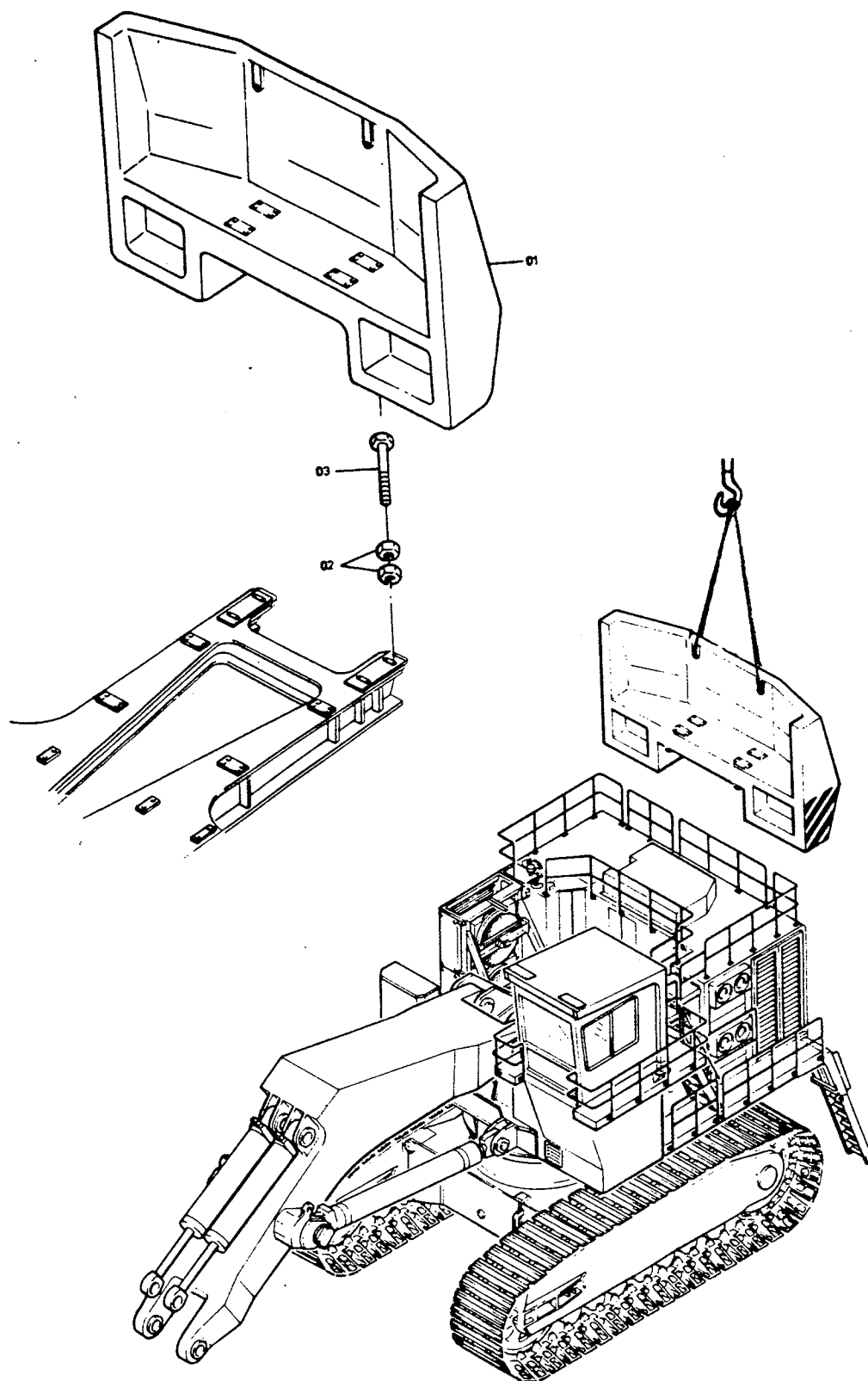
7. Insert the pin (06) and secure with the retainer (07).
8. Fix the 2nd cylinder in the same manner.
9. Connect the pipes resp. hoses for the boom and the stick cylinders. Unhook boom from the crane.

Note:

The boom may be unhooked earlier but be careful and pay attention while the hydraulic lines are open. They may be under pressure!

10. Connect the pipes / hoses to the central lube system.

continued



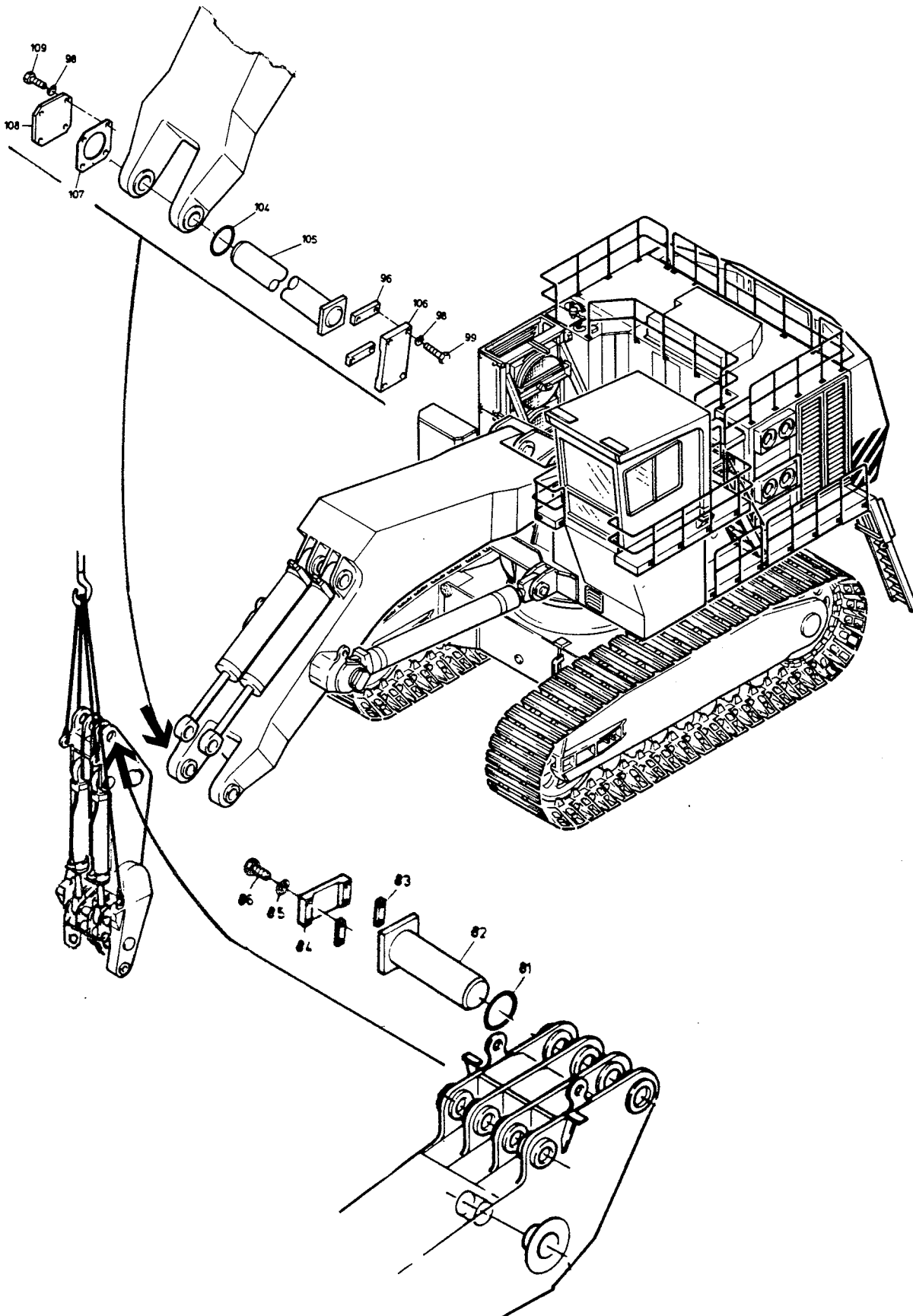
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Mounting the counterweight

8111

1. Lift the counterweight with the crane or cranes and align it with the bolt holes at the back of the upperstructure.
2. Lower counterweight as required so that the bolts can be inserted.
3. Lower counterweight fully and screw on all the nuts and tighten with the resp. torque. Secure the nuts by fitting the lock nuts and tighten.

continued





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