VOLVO
Construction Equipment

Service Information

Document Title:	Function Group:	Information Type:	Date:
Frame, description	**710**	**Service Information**	**2014/3/10**
Profile: **CWL, L35B [GB]**			

Frame, description

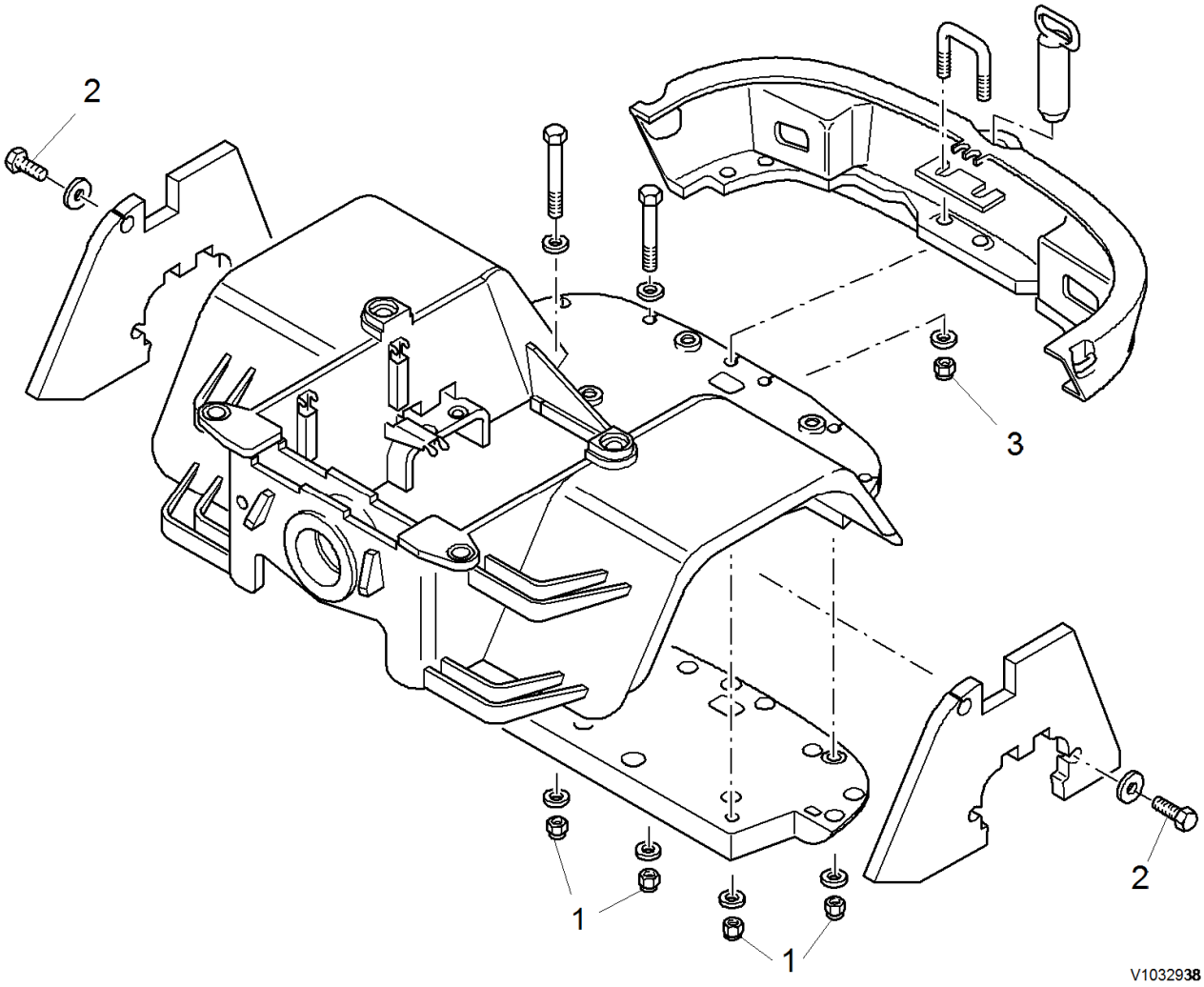

Figure 1
Frame, extra weights

1	Nuts, extra weights rear
2	Screws, extra weights rear
3	Nuts, rear section

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Service Information

Document Title:	Function Group:	Information Type:	Date:
Frame, design	**710**	**Service Information**	**2014/3/10**
Profile: **CWL, L35B [GB]**			

Frame, design

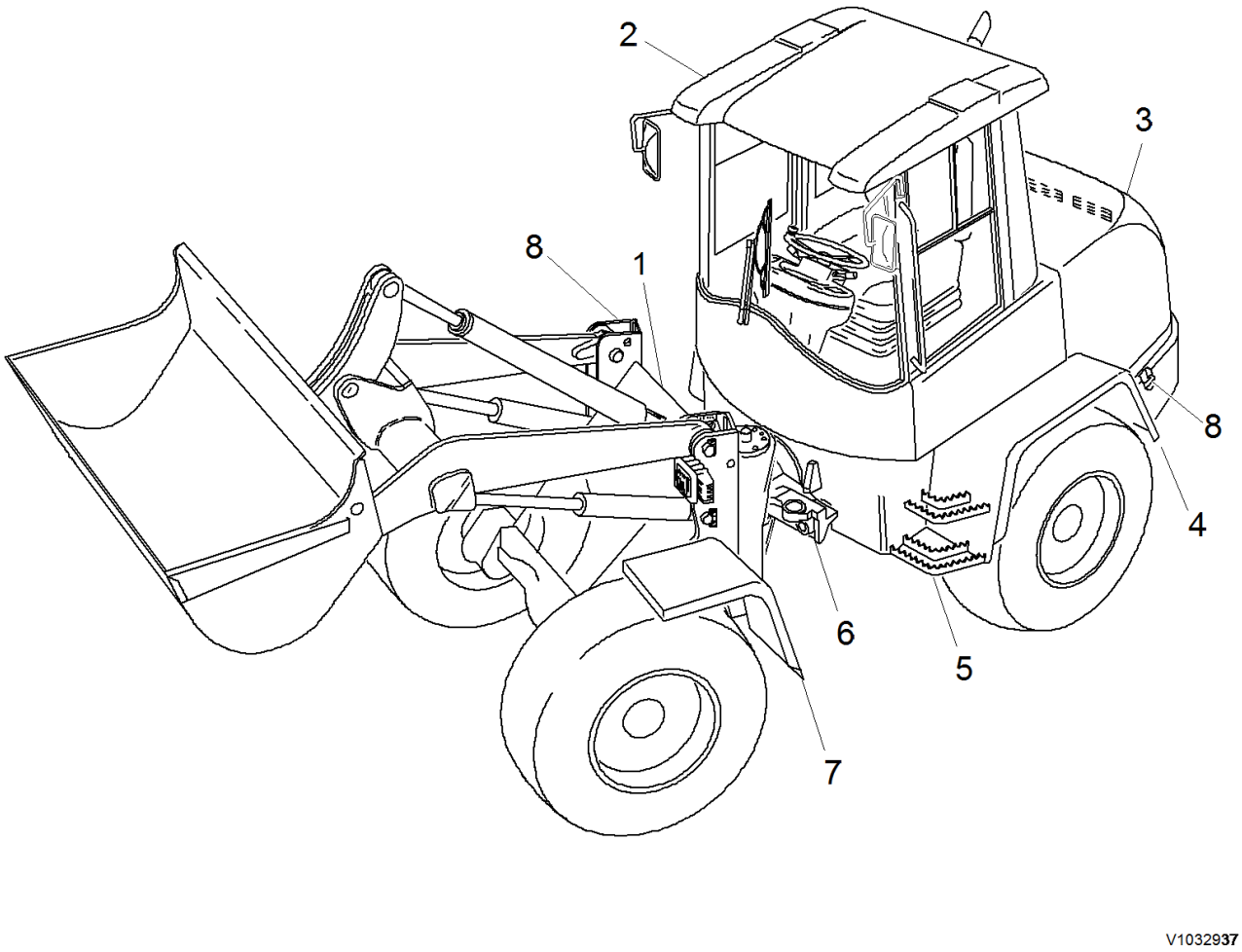

Figure 1
Vehicle, construction

1	Front part
2	Operator's cab
3	Engine hood
4	Damper weight
5	Rear part
6	Steering joint link
7	Wheel cover
8	Loading eyes

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Construction Equipment

Service Information

Document Title: **Frame joint, separating machine**	Function Group: **741**	Information Type: **Service Information**	Date: **2014/3/10**
Profile: **CWL, L35B [GB]**			

Frame joint, separating machine

Op nbr 741-001

WARNING

The work involves handling heavy components - failure to stay alert may result in severe crushing injuries.

1. Remove the bucket or attachment.
2. Place the machine in the service position and position the lifting bracket on a stand jack.

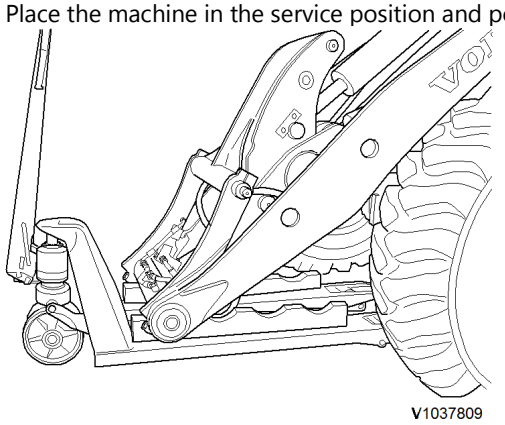

Figure 1

3. Depressurise the hydraulic system and switch off the battery isolation switch.
4. Block the wheels with wedges and position suitable supports under the rear frame.

Figure 2

5. Remove the handbrake wire at the brake lever and the attachment (arrow) in the engine compartment.

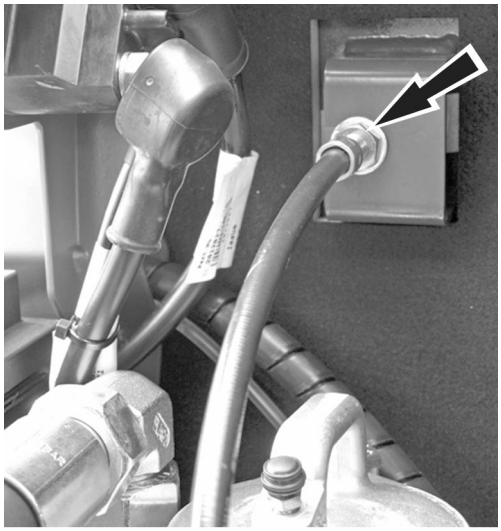
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Figure 3

6. Unscrew the cab roof lock screws and screw in the lifting eyes (1). Hoist the cab with a crane hoist.

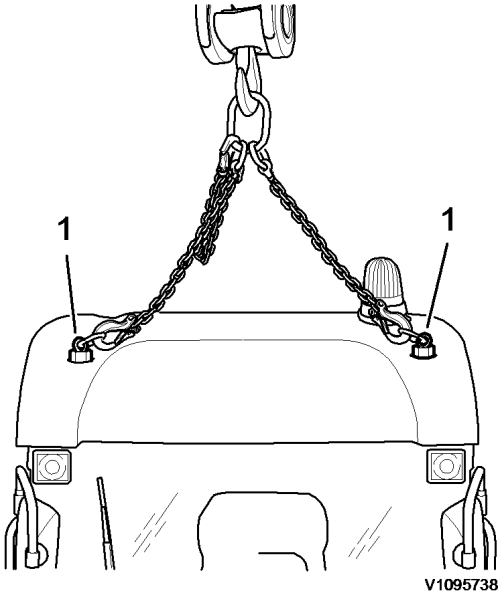

Figure 4

NOTICE

Use a safe lifting device with the proper rated capacity for the job.

7. Remove the front and rear cab attachment.

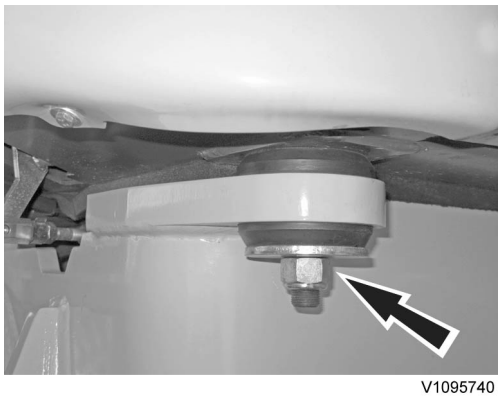
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Figure 5

8. Slowly lift the cab and set it on the cab supports (1). 080 E-tool Cab support

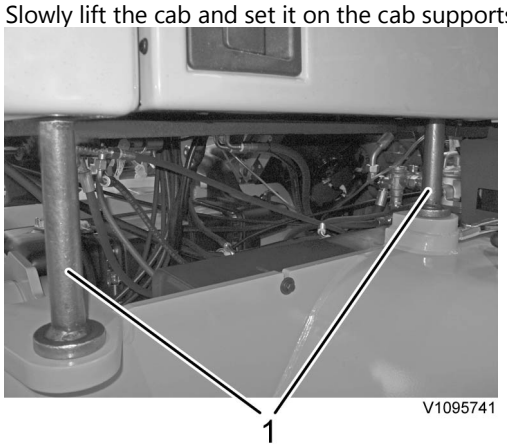

Figure 6

NOTE!
When raising the cab, make sure that no hoses or cables are ripped off.

9. Remove the universal shaft at the front axle

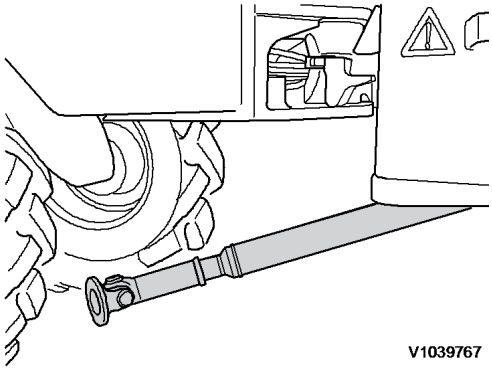

Figure 7

10. Remove the strap (1) at the articulation joint cable bundle.

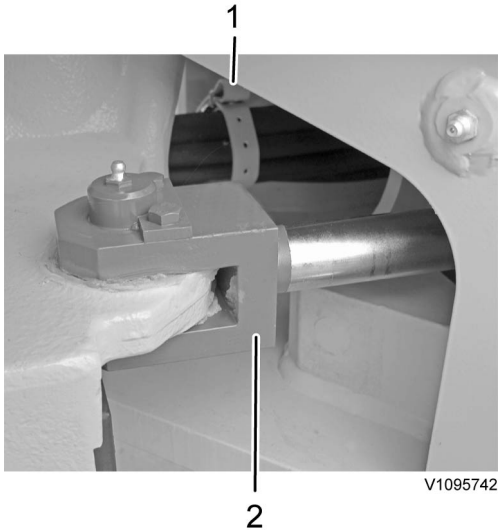

Figure 8

11. Remove steering cylinders (2).

12. Connect the vacuum pump.

13. Open the service hatch on the front frame.

14. Remove the cable tie. Disconnect the connector.

15. Remove all hydraulic hose connections that run through the articulation joint to the rear frame at the main control valve, steering cylinder and front axle differential lock.

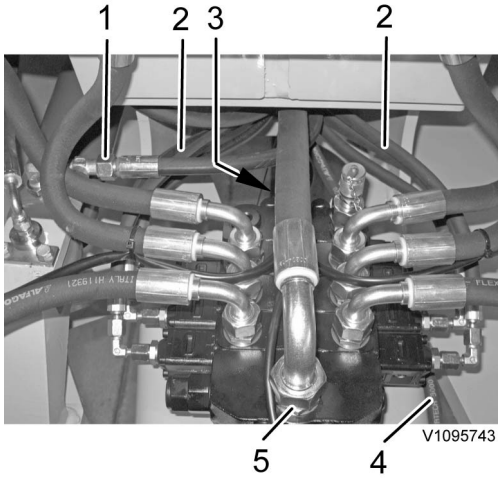

Figure 9

1. Steering cylinder, piston head side
2. Hydraulic servo lines
3. Return line
4. Front axle differential lock
5. Pump pressure check connection

NOTE!
Place suitable catchment container below to catch escaping oil.

NOTICE

When a hose has been disconnected, plug both the hose and the connection immediately. The hoses should be marked for correct connection.

16. Pull the entire cable bundle into the rear frame through the rocker articulation joint.

17. Suspend the front frame from a crane using suitable hoisting equipment.

Figure 10

18. Remove the upper and lower joint bolt with two ejector screws (M12 x 60) and remove the shims.
    NOTE!
    Weight of each joint bolt approx. 7 kg (15.5 lb).

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Figure 11

19. Separate the front and rear frames enough to provide free access to the bearings.
    NOTE!
    A second mechanic is required for this step.

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Service Information

Document Title:	Function Group:	Information Type:	Date:
Frame joint, assembly of separated machine	**741**	**Service Information**	**2014/3/10**
Profile: **CWL, L35B [GB]**			

Frame joint, assembly of separated machine

Op nbr 741-002

WARNING

The work involves handling heavy components - failure to stay alert may result in severe crushing injuries.

NOTE!
Freeze the link bolt approx. 12 hours before fitting.

1. Apply a large amount of fitting grease to the joint bolt bearing points.
   NOTE!
   When moving the frame parts together, make sure that the V-rings are not damaged.

2. Connect the front and rear frames until the bores are concentric.
   NOTE!
   A second mechanic is required for this step.

   WARNING

   Risk of frostbite! Wear protective work gloves.

3. Apply fitting grease to the lower joint bolt and insert. Secure the joint bolt with new screws, tightening in a crosswise pattern. Tightening torque **120 Nm (88.5 lbf ft)**.


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Figure 1

NOTE!
Weight of each joint bolt approx. 7 kg (15.5 lb).

4. Apply fitting grease to the upper joint bolt and insert. Secure the joint bolt to the unit with the old screws, tightening until contact is made without regard to bearing clearance.

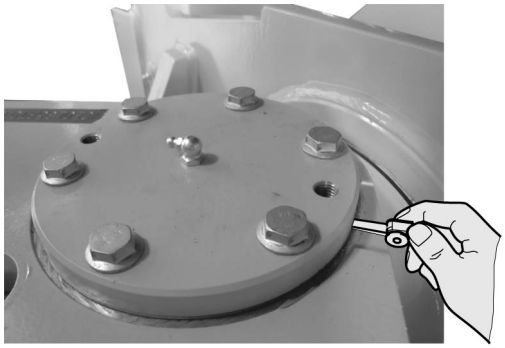
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Figure 2

5. Using a feeler gauge at the milled surface to measure the gap between the bolt flange and the frame.
   NOTE!
   The preload may be between 0.0 and 0.1 mm (0.0 – 0.004 in); set the preload by selecting appropriate shims.

6. Unscrew the old screws from the joint bolt. Raise the joint bolt with two ejector screws (M12 x 60).


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Figure 3

7. Position the selected shim under the joint bolt and fasten with new screws in a crosswise pattern. Tightening torque **120 Nm (88.5 lbf ft)**.
   NOTE!
   If several shims are required, the separation points must be moved by 90°.

8. Remove the lifting equipment from the front frame.

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Figure 4

9. Pull the entire cable bundle into the front frame through the rocker articulation joint.

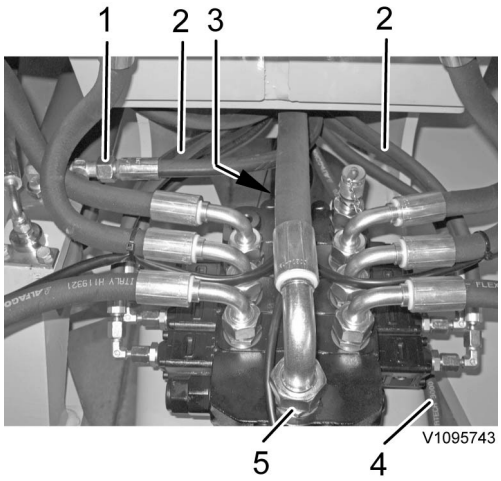

Figure 5

1. Steering cylinder, piston head side
2. Hydraulic servo lines
3. Return line
4. Front axle differential lock
5. Pump pressure check connection

10. Install the hydraulic hose connections at the main control valve, steering cylinder and front axle differential lock as marked.

11. Disconnect the vacuum pump.

12. Connect the electrical connector and fit a cable tie.

13. Fit the strap (1) at the articulation joint cable bundle.

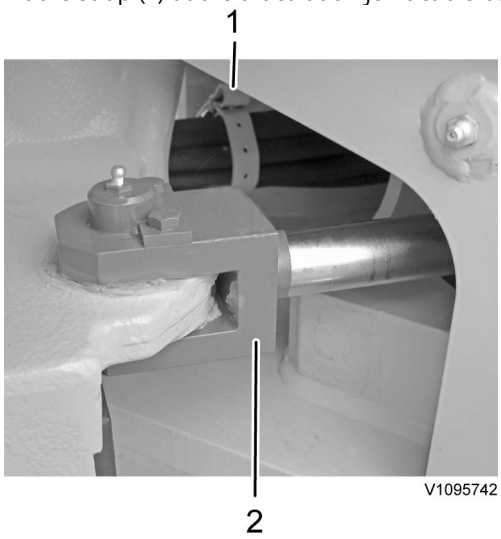

Figure 6

14. Install the steering cylinder (2) to the rocker articulation joint. Torque tighten the striker plate screws to **24 Nm (18 lbf ft)**.

15. Install the universal shaft to the front axle. Tightening torque **80 Nm (59 lbf ft)**.

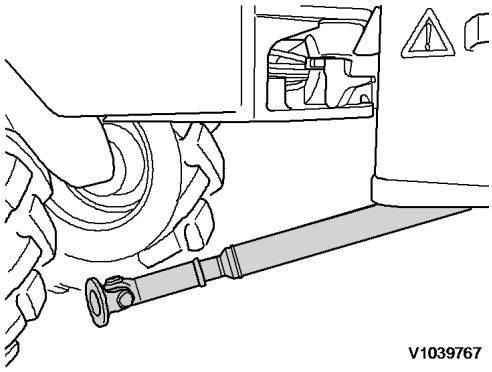

Figure 7

16. Slowly raise the cab, remove the cab supports (1) and put into position.
    NOTE!
    Make sure that no hoses or cables become pinched.

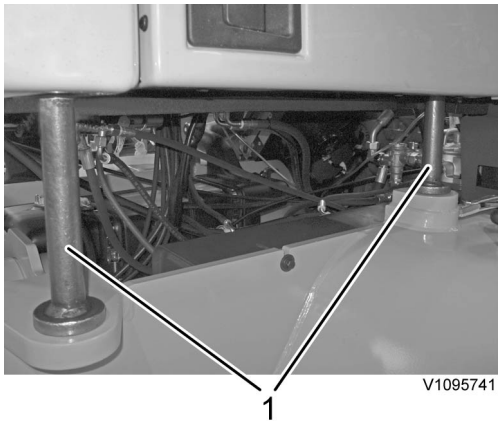

Figure 8

17. Install the front and rear cab attachment. Tightening torque **200 Nm (148 lbf ft)**.

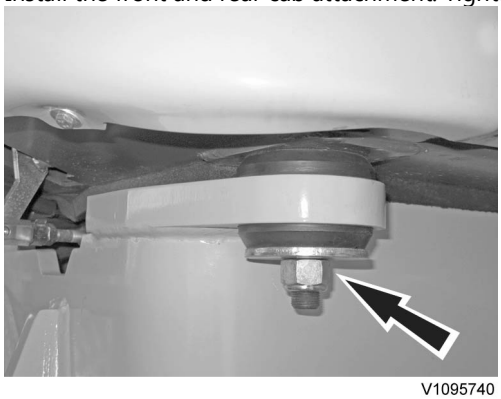

Figure 9

18. Remove the lifting equipment and fit the lock screws to the cab roof.

19. Attach the handbrake wire to the brake cable and install in the engine compartment (arrow).

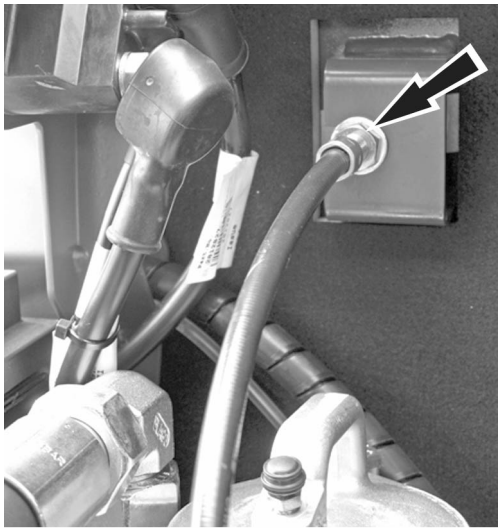

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Figure 10

20. Remove the supports and wedges.
21. Lubricate articulation joint and steering cylinder. For grease grade, see 160 Operating media, fill quantities.
22. Carry out trial run, check for leaks.
23. Close the service hatch on the front frame.
24. Check the hydraulic oil level and top up if necessary.

Document Title: **Frame joint, replacing bearings**	Function Group: **741**	Information Type: **Service Information**	Date: **2014/3/10**
Profile: **CWL, L35B [GB]**			

Frame joint, replacing bearings

Replace bearings with machine open

Op nbr 741-036

Tools:
KUKKO No. 21/8 (56-70) Internal puller

NOTE!
Freeze the bushings approx. 12 hours before fitting.

WARNING

The work involves handling heavy components - failure to stay alert may result in severe crushing injuries.

Remove the rocker articulation joint.

1. Remove the bearing cap (1) at the rocker articulation joint. Remove the shims and V-ring.

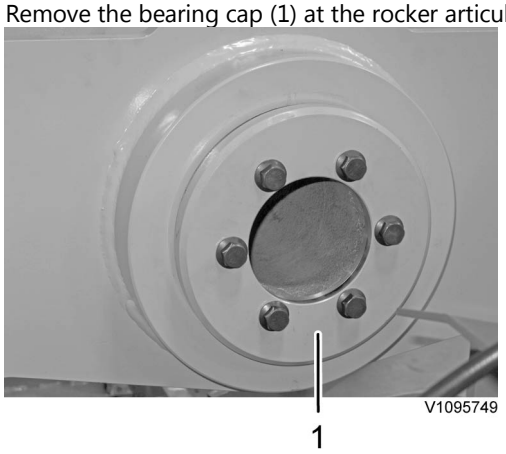

Figure 1

2. Using suitable hoisting equipment, remove the rocker articulation joint (1) from the rear frame and place it on a suitable surface.
   NOTE!
   Rocker articulation joint, weight approx. 100 kg (220 lb).

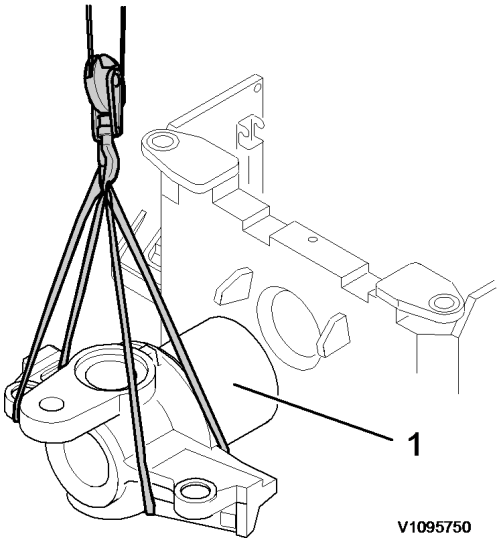

Figure 2

3. Remove both bushings from the bearing tube and clean the bearing seat.

4. Remove the V-rings (1), remove the bushings (2) with a puller and clean the bearing seat.

WARNING

Risk of frostbite! Wear protective work gloves.

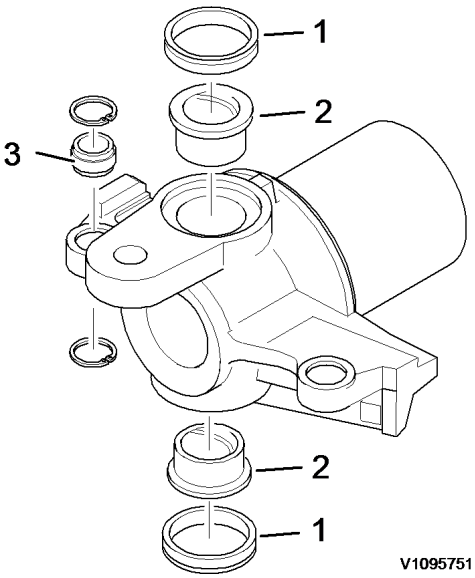

Figure 3

5. Insert new bushings (1) in the bearing points until there is contact with the liner collar. Apply grease to the V-rings (1) and install them on the bushings with the sealing lip facing outwards.

6. Check the steering cylinder ball joint (3) and replace if necessary.

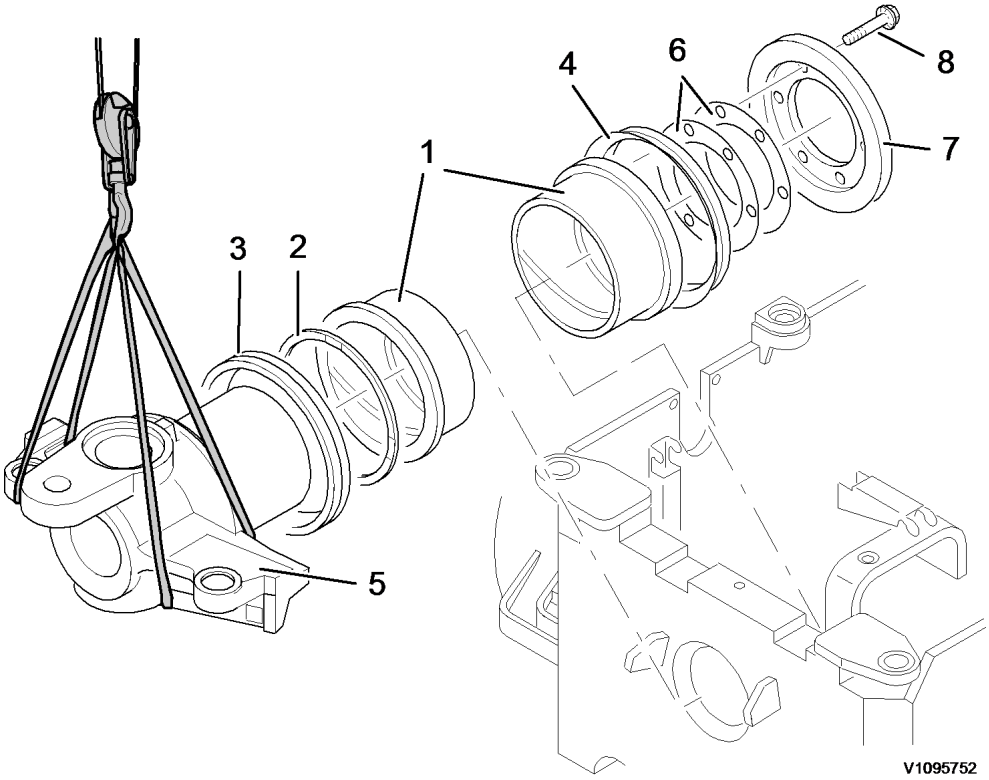

Figure 4
Install pivot bearing

WARNING

Risk of frostbite and burns! Use protective work gloves.

Install the rocker articulation joint.

7. Insert new bushings (1) in the bearing tube until the liner collar makes contact with the frame.
8. Apply Loctite 270 to the smooth side of the thrust washer (2) and affix the washer to the bearing tube face.
9. Apply fitting grease to the new V-ring (3) and insert it. For installation position, see the figure.

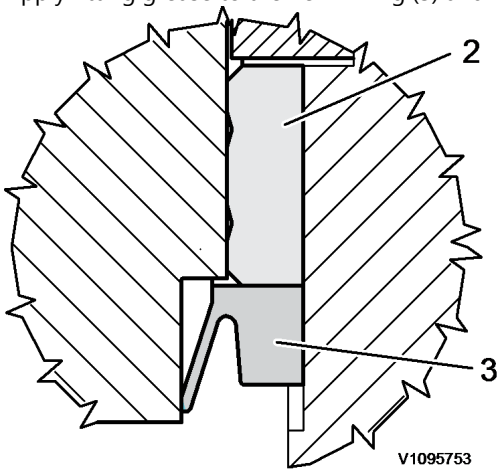

Figure 5

10. Install the rocker articulation joint (5) in the bearing tube using suitable hoisting equipment.
11. Apply fitting grease to the new V-ring (4) and insert it. For installation position, see the figure.

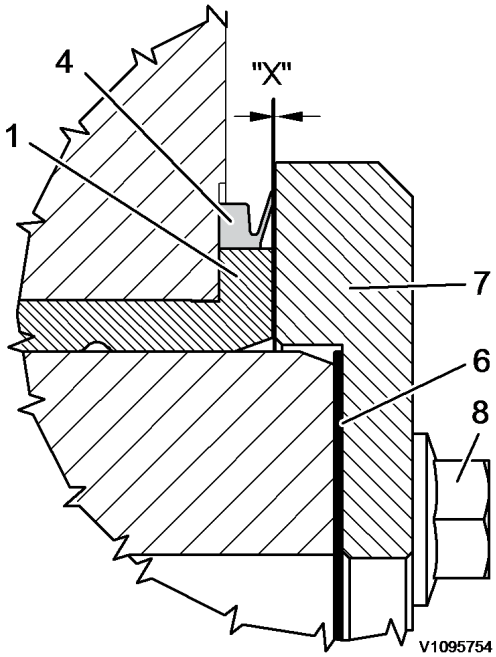

Figure 6

12. Position and fasten the bearing cap (7) with the previously removed shims (6) and old screws (8).

13. Using a feeler gauge, measure clearance "X" between the bushing (1) and the bearing cap (7) at four points in a crosswise pattern.
    NOTE!
    The clearance may be between 0.0 and 0.1 mm (0.0 – 0.004 in); set the clearance by selecting appropriate shims (available shims: 0.3, 0.5 mm (0.012, 0.020 in).

Example	
Shims provided	2.00 mm (0.079 in)
Determined clearance "X"	1.60 mm (0.063 in)
Difference	0.40 mm (0.016 in)
Clearance	+ 0.10 mm (+0.004 in)
Shims	0.50 mm (0.020 in)

14. Remove the bearing cap again (7) and remove the shim.

15. Position the selected shim (6) under the bearing cap (7) and fasten with new screws (8) in a crosswise pattern. Tightening torque **200 Nm (148 lbf ft)**.

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