



Operation and Maintenance Manual

Electrohydraulic control unit, 2 functions

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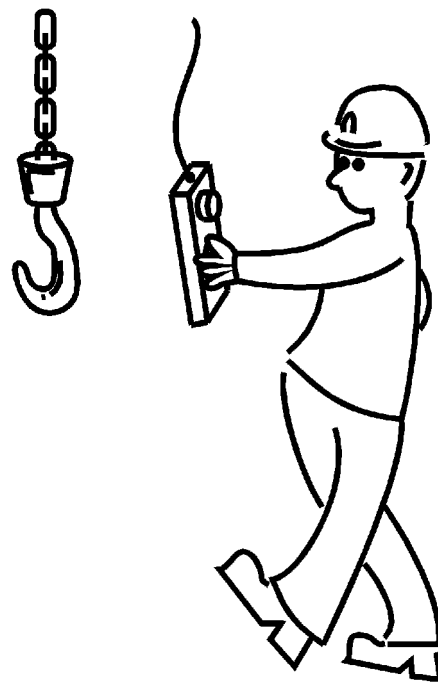
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2 Your safety



3 Storage and transport

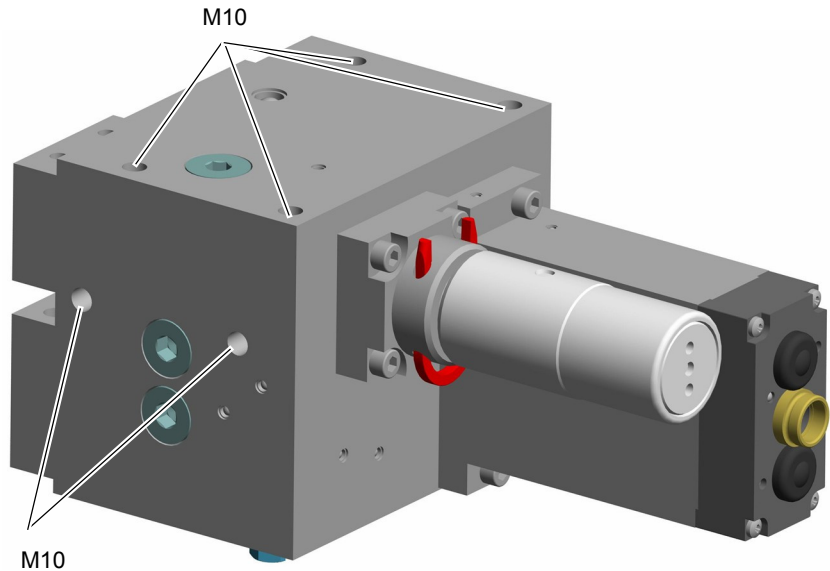




Installation of the control unit

- ☞ Put the control unit in the position intended for installation and tighten the mounting bolts (M10) by hand.

Fig. 7: Tapped holes



Caution!

Before the hydraulic lines are connected with one another, the coupling sockets and nipples of the plug-in connections must be treated with the molybdenum disulfide-free B3 lubricating paste in accordance with EWN 7068. See chapter 6, section “Lubricating greases and pastes”.

- ☞ Connect the hydraulic hoses. Ensure that you do not mix up the connections.
Follow the hose plan and the identification of the hoses.



Danger!

You could be seriously injured or even killed by a hydraulic hose that is thrashing about!
Only use the correct size of staple to secure connector sockets. Push the staples on completely, using both sides of the staple. Never use nails, wire or similar materials.

safety

- ☞ Check the hose connections again. The hose nipples must be firmly seated in the connector socket and must be locked in place with a staple. Both arms of the staple must fit in the connector socket.
Ensure that the connections don't leak.
- ☞ Test all of the control unit functions and remove all of the safety measures used.



Warning!

Only release the machine for use once you have checked that it works properly and did not find any malfunctions.



Replacing the accumulator cartridge

Preparatory work



Warning!

The accumulator cartridge is permanently pressurized. You could be seriously injured or even killed by pressurized components and escaping hydraulic fluid. Before starting work you must thus be absolutely certain that the hydraulic system is depressurized.

- ☞ Close the shut-off valve in the pressure supply line.
- ☞ Alternately actuate the opposing pushbuttons of the control unit 10 times to relieve the remaining pressure in the hydraulic system.
- ☞ Check if there is any residual pressure in the control unit. Consider the hydraulic lines and the hydraulic diagram when doing this.

Once the hydraulic system is depressurized, you can continue with the next step.

Removing the accumulator cartridge



Caution!

Contamination in the hydraulic fluid can cause serious damage to the whole system!
You should thus always ensure that your working area is clean.

- ☞ Clean dust and other loose debris from the immediate vicinity of the accumulator cartridge on the control block, so that no contaminants get into the hydraulic system during the removal/installation of the accumulator cartridge.



Warning!

If staples are difficult to disconnect or cannot be disconnected, the hydraulic line may still be pressurized. Make sure the line is depressurized.

- ☞ Pull out the staple (a) upwards.
- ☞ Pull the accumulator cartridge (b) forwards out of the socket.



Permissible media

Hydraulic fluids

Permissible hydraulic fluids



Notice!

Only use hydraulic fluids for which you have a valid certificate issued by Caterpillar. Otherwise, there is a danger that the hydraulic equipment can be seriously damaged and could result in the loss of warranty claims.

Only those hydraulic fluids may be used for the operation of hydraulic components from Caterpillar for which the respective operator has a valid certificate in accordance with EWN 8350 or an exemption permit from Caterpillar. Caterpillar will not accept any claims under warranty for components which have been or are operated using a different hydraulic fluid.

In addition, national – and sometimes also regional – regulations on health and safety at work and any environmental regulations must be observed for operation.

If a mine only uses individual hydraulic components without using shield supports, or if obtaining a valid certificate would require too much effort, the same hydraulic fluid which is used for the existing shield support may be used for these individual components, subject to approval by Caterpillar. The same applies for example to hydraulic chain tensioners, hydraulically tensionable drives etc. A corresponding certificate of exemption will be issued by Caterpillar upon request.

Suitability test

Before the certificate of Caterpillar is issued for a hydraulic fluid, the respective fluid has to be subjected to a suitability test. However, this suitability test only refers to the technological properties of the hydraulic fluid, and does not allow any conclusions to be drawn with respect to its properties regarding health, safety and environmental protection.

To perform the suitability test, original samples are required of the concentrate and the water which will be used later when preparing the hydraulic fluid at the mine.

The suitability test is carried out by an independent testing institute authorized by Caterpillar. The criteria as specified in EWN 8350 will be applied for the test. The suitability test mainly serves to clarify the properties of the hydraulic fluid with respect to:

- stability,
- sealing materials,
- corrosion.

Furthermore, a chemical “fingerprint” of the concentrate is created in order to rule out or verify any possible changes in the composition of the concentrate if necessary.

If the suitability test shows that the hydraulic fluid meets requirements, the operator will receive a corresponding certificate from Caterpillar.

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