EM016361-0 (EN-US)

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Operation and Maintenance Manual

Electrohydraulic control unit, 10 functions

Typ
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2 Your safety

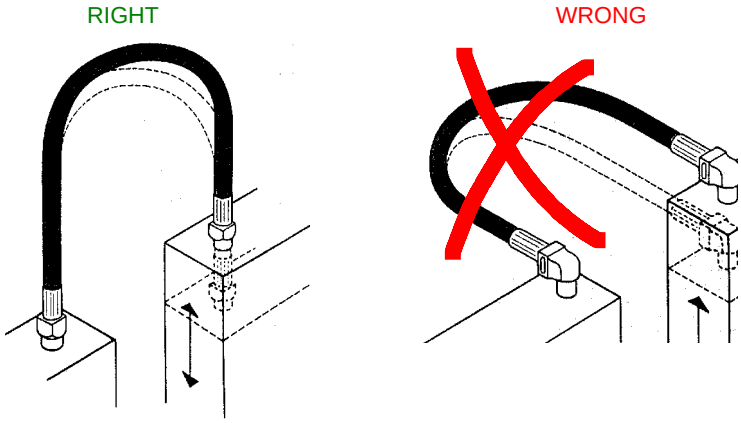
- are not kinked,
- do not have to withstand tensile loads,
- are protected against thermal radiation,
- are accessible at all times.

Only push hydraulic hoses into the sockets by hand. Never try to drive the hydraulic hoses in with a tool as this will damage the connections.

When laying the hydraulic hoses, ensure that they cannot be:

- torn out,
- kinked,
- crushed,
- driven over
- twisted as a result of moving equipment. (Fig. 6).

Fig. 6: Laying hydraulic hoses, connections on moving parts



Installation

This chapter contains information on the installation and deinstallation of electrohydraulic control units. Please pay special attention to the warnings and tips.

Warning!
Improper or faulty installation can endanger yourself and others.
You may only carry out the installation if you can demonstrate that you have the requisite, special knowledge.

Requirements for the face hydraulic system

Notice!
The hydraulic and electronic parts of the shield control system are dealt with in separate operating manuals.
You will find details on the commissioning and use of the shield control system in the operating manual on the electronic controls.

The hydraulic medium must meet the following conditions for all hydraulic system components included in the Caterpillar scope of delivery:

- If the test specified in EWN 8350, part 1, is successful, the hydraulic fluid will be classified as suitable. See the section “Operating media” in chapter 6 of this operating manual
- Contamination Class 18/14 pursuant to ISO 4406.

Filter cartridge

A filter cartridge is located in the distributor block of the control unit. It protects the control unit's valves from damage caused by impurities in the hydraulic fluid.

Maintenance intervals

Important!
The recommended maintenance intervals are for guidance only. Particular operating conditions may require other maintenance intervals. Be sure to modify the maintenance intervals to the specific operating conditions.

after startup

Filter cartridges on electrohydraulic shield control system must be replaced immediately after commissioning or restart (e.g. after changing to another face or working on the hydraulic system).

After working on a hydraulic system, you can assume that dirt has gotten into the hydraulic system. Depending on the degree of contamination, this can cause the filters in the system to block up. As a result, functions are slowed down, performed incorrectly, or not performed at all.

according to a schedule

If problems occur in the preparation of the hydraulic medium, there will be an increased risk of failures due to clogged filters. Measures which have to be carried out regularly may become necessary to ensure reliable and safe operation. If necessary, the filter cartridges should be replaced at regular intervals, as a precaution.

Filter

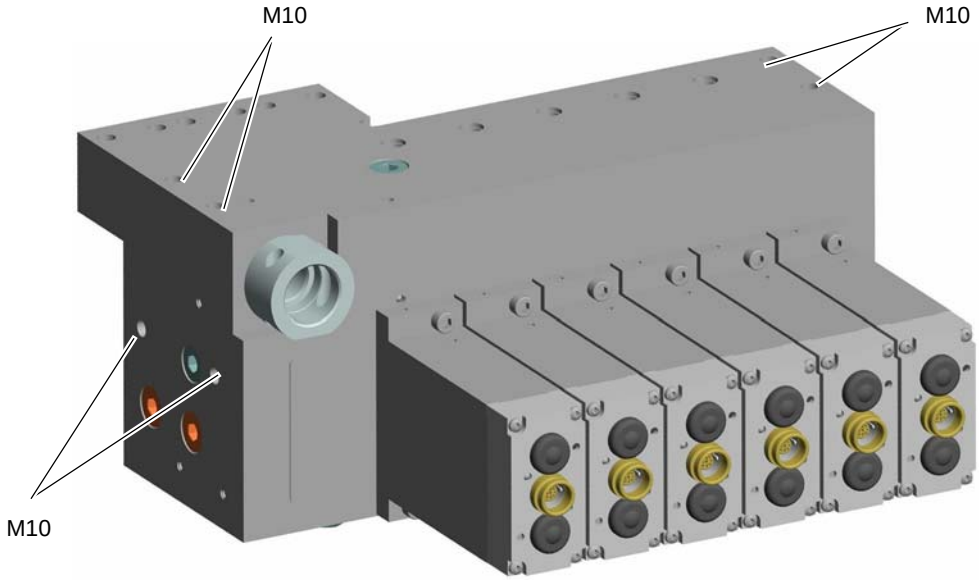
The filter cartridge protects the pilot control circuit from contamination. Only use new cartridges. Do not use any “cleaned” filter cartridges.

Only with new filter cartridges are the required filter characteristics guaranteed (fineness = 25 μm).
See also chapter 5, section “Changing the filter cartridge”

Mounting

There are 4 tapped holes (M 10) located on the upper side of the distributor block of the control unit and 2 holes (M 10) each on each side.

Fig. 16: Tapped holes



Valves

Working valves:

- 3 x 3/2 directional control valves (NG 20)
- 8 x 3/2 directional control valves (NG 13)

They are actuated via pilot valves.

Pilot valves:

- 5 x double 3/2 directional control valves (NG 0.5)

The pilot valves are driven by a control unit (e.g. PMC®-R). In an emergency, or for repairs, they can also be operated directly. For this, two pushbuttons are fitted in the valve cover.

The power supply to the pilot valve comes from the electronic control unit. In the housing cover of each pilot valve there are 4 contacts, which serve to attach a suitable connecting cable.