



Hydraulics

Contamination Guidelines

Recommended Practices for Handling and Storage of Hydraulic Components

Technical Data

The life of every hydraulic system is directly related to system cleanliness. Typically, the cleaner a system is, the longer it will last. Particle or chemical contamination, therefore, is the enemy of any hydraulic system and extra effort should be taken to avoid contamination whenever and wherever possible. The following is a list of good practices to reduce or eliminate potential contamination while storing, handling, assembling and using hydraulic system components.

Ports & Fittings

- Port plugs should remain in components and hoses until ready to use.
- Use care in removing port plugs so that plastic does not shear off in threads.
- Use caution to ensure excess paint near the port face does not chip off or fall into the unit.
- The area around the port face is a sealing surface and should be protected from dents or contamination.
- Fittings being screwed into the port should be kept clean and lubricated.

Assembly & Storage

- Hose and tube assemblies should be flushed and capped until used.
- Reservoirs should be pickled treated with rust protection and sealed until used. At the time of use the rust protection must be flushed out.
- Never use shop air to blow out a tube, hose or reservoir as the air supply may not be “clean” air.
- Filler caps should be kept clean.
- Hydraulic assembly areas should be free of airborne contaminants.

- If components are stored in a cold environment, be sure to remove any condensation that may occur as the components warm up.
- If storage is prolonged, components may need to be rust proofed.

Fluids

- Hydraulic fluid should be filtered to ISO 18/13 or better for initial fill.
- Water and hydraulic fluid do not mix; water is considered a foreign chemical contaminant.
- Any surface in contact with hydraulic fluid must be clean and dry.
- Random sampling should be taken from hydraulic systems on vehicles ready to ship to ensure cleanliness level meets ISO 18/13 or better.

Exposed Surfaces

- Exposed cylinder rods should be handled with care to avoid scratches and dents.
- Motor and pump shafts should be kept clean and free of physical damage. Splines should be coated with anti-seize compound or grease before assembly. Tapered shafts should also be protected from physical damage to the shaft and coupling ID.

Returns

If there is a suspected problem with a new start-up component, remove the component and protect it for later analysis. In the event a component must be returned to Eaton, do NOT disassemble the unit and use only lint-free rags to wipe components. NOTE: Units returned to Eaton require a returned goods authorization (RGA) assigned BEFORE shipping.

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