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SERVICE PUMP BOSCH
SERIE 10

Repair Manual

MANITOU

2.6 Product-specific safety instructions

The following safety instructions apply for chapters 6 to 14.

⚠ WARNING

Danger from suspended loads!

Danger to life or risk of injury, damage to equipment!

Improper transportation may cause the axial piston unit to fall down lead to injuries e.g. crushing or broken bones or damage to the product.

- Make sure that the forklift truck or lifting device has adequate lifting capacity.
- Never stand under or put you hands under suspended loads.
- Ensure your position is stable during transportation.
- Use your personal protective equipment (e.g. safety glasses, safety gloves, suitable working clothes, safety shoes).
- Use suitable lifting devices for transportation.
- Observe the prescribed position of the lifting strap.
- Observe the national laws and regulations on work and health protection and transportation.

Pressurized machine/system!

Danger to life or risk of injury, serious injuries when working on machines/ systems not shutdown! Damage to equipment!

- Protect the complete system against being energized.
- Make sure that the machine/system is depressurized. Please follow the machine/system manufacturer's instructions.
- Do not disconnect any line connections, connections and components when the machine/system is pressurized.
- Switch off all power-transmitting components and connections (electric, pneumatic, hydraulic) in accordance with the manufacturer's instruction and secure them against being switched back on.

Escaping oil mist!

Danger of explosion, danger of fire, allergic reactions, environmental pollution!

- Depressurize the machine/system and repair the leak.
- Only perform welding work then the machine/system is depressurized.
- Keep open flames and ignition sources away from the axial piston unit.
- If axial piston units are to be situated in the vicinity of ignition sources or powerful thermal radiators, a shield must be erected to ensure that any escaped hydraulic fluid can not ignite, and to protect hose lines from premature aging.

Electrical voltage!

Risk of injury due to electric shock or damage to equipment!

- Always set up the relevant part of the machine/system so that it is free of electrical voltage before you install the product or when connecting and disconnecting plugs. Protect the machine/system against being energized.

After removal

If a removed axial piston unit is to be stored, it must be preserved against corrosion for the duration of storage.

The following instructions only refer to axial piston units which are operated with a mineral-oil based hydraulic fluid. Other hydraulic fluids require preservation methods that are specifically designed for them. In such a case, consult with Bosch Rexroth Service, see chapter 10.5 "Spare parts" for address.

Bosch Rexroth recommends the following procedure:

1. Clean the axial piston unit, see chapter 10.1 "Cleaning and care".
2. Empty the axial piston unit.
3. For storage time up to 12 months: Moisten the inside of the axial piston unit with mineral oil and fill with approx. 100 ml mineral oil.
   For storage time up to 24 months: Fill the axial piston unit with corrosion protection medium VCI 329 (20 ml).
   Filling is done via the reservoir port **L, L_1** or **L_2**, see chapter 7.4 "Installing the axial piston unit", Fig. 12 to 16.
4. Seal all ports airproof.
5. Moisten the unpainted surfaces of the axial piston unit with mineral oil or a suitable, easily removed corrosion protection agent, e.g. acid-free grease.
6. Package the axial piston unit airproof together with desiccant in corrosion protection film.
7. Store the axial piston unit so that it is protected against jolts, see "Requirement" in this chapter.

7.4.8 Hydraulically connecting the axial piston unit

NOTE

Insufficient suction pressure!

Generally, a minimum permissible suction pressure at port **S** is specified for axial piston pumps in all installation positions. If the pressure at port **S** drops below the specified values, damage may occur which may lead to the axial piston pump being damaged beyond repair!

- Make sure that the necessary suction pressure is not undercut. This is influenced by:
  - the piping (e.g. suction cross-section, pipe diameter, length of suction line)
  - the position of the reservoir
  - the viscosity of the hydraulic fluid
  - if fitted, a filter cartridge or check valve in the suction line (regularly check the level of soiling of the filter cartridge)

The machine/system manufacturer is responsible for dimensioning the lines. The axial piston unit must be connected to the rest of the hydraulic system in accordance with the hydraulic circuit diagram of the machine/system manufacturer.

The ports and fixing threads are designed for the maximum pressure specified in the data sheet. The machine/system manufacturer must ensure that the connecting elements and lines correspond to the specified application conditions (pressure, flow, hydraulic fluid, temperature) with the necessary safety factors.

Connect only hydraulic lines that are appropriate for the axial piston unit port (pressure level, size, system of units).

Notes on routing the lines

Observe the following notes when routing the suction, pressure and reservoir lines.

- Lines and hoses must be installed without pre-charge pressure, so that no further mechanical forces are applied during operation that will reduce the service life of the axial piston unit and, if applicable, the entire machine/system.
- Use suitable seals as sealing material.
- Suction line (pipe or hose)
  - The suction line should be as short and straight as possible.
  - Measure the line cross section of the suction line so that the pressure at the suction port does not drop below the minimum permissible pressure. Make sure that the maximum suction pressure is not exceeded (e.g. when pre-filling).
  - Make sure the connections and connecting elements are air-tight.
  - The hose must be pressure-resistant, also for external air pressure.
- Pressure line
  - For the pressure lines, use only pipes, hoses and connecting elements rated for the operating pressure range specified in data sheet RE 92703, RE 92735 and RE 92741 (see Table 11).

10 Maintenance and repair

NOTE
Inspection and maintenance work carried out too late! Damage to equipment! ▶ Carry out the specified inspection and maintenance work at the intervals described in this manual.

10.1 Cleaning and care

NOTE
Damage to seals and electrical system by mechanical effects! The water jet of a power washer may damage the seals and electrical system of the axial piston unit! ▶ Do not point the power washer at sensitive components, e.g. shaft seal, electrical connections and components.

For cleaning and care of the axial piston unit, observe the following:

- Check whether all seals and fittings on the connections are securely seated to ensure that no moisture can penetrate into the axial piston unit during cleaning.
- Use only water and, if necessary, a mild detergent to clean the axial piston unit. Never use solvents or aggressive detergents.
- Remove coarse external dirt and keep sensitive and important components, such as solenoids, valves, indicators and sensors, clean.