

LAEMPEUNIVERSITY
TRAINING TOOLS

Hydraulic Pump Replacement





As with any equipment procedure, follow your plant safety rules and regulations. Consult with your chemical supplier and SDS sheets before handling chemicals. Follow proper safety protocol, and follow proper disposal of chemicals.

It is an honor to be your core equipment partner and offer this simple guideline on the replacement of your LAEMPE hydraulic pump. Machines differ, but basic procedures apply to any hydraulic system.



LOTO | PPE First, before you begin, observe proper LOTO (LOCK OUT TAG OUT) procedures. Wear proper PPE (PERSONAL PROTECTION EQUIPMENT) when servicing any hydraulic system.



Prevent damage to hydraulic components during initial startup by:

1. Developing commissioning procedures specific to equipment.
2. Training your maintenance personnel to effectively carry out these procedures.

Begin with...

- A plan
- Assembling all parts needed for repair
- A procedure
- Clean working area

Before beginning replacement of a hydraulic pump, care should be taken to make sure the hydraulic reservoir and any area above the hydraulic unit is **completely** cleaned of sand and debris. This prevents dropping sand and debris into the open hydraulic system. On LAEMPE LL Series machines, it is best to remove the complete hydraulic unit from the machine and perform pump clean up and pump replacement in a separate and clean environment.

BASIC STEPS

- Make sure the hydraulic reservoir and any area above the hydraulic unit is completely cleaned of sand and debris.
- Drain oil reservoir.
- Remove pump.
- Clean reservoir of any residue and impurities.
- If pump damage was severe and there are signs of excessive metal particulates in the oil reservoir, flush the manifolds, valves, hoses, and pipes on the machine to remove all metal particles.
- Install pump assembly.

NOTE –Assure the motor-to-pump coupling is installed properly and has the proper space between coupling halves. Improper coupling installation can cause immediate failure or accelerated wear

See Figure 1

- Refill reservoir with clean oil.

⚠ New oil is not clean oil | New hydraulic oil from of a new drum does not meet general hydraulics oil cleanliness specifications.

⚠ It is recommended by all hydraulic pump manufacturers to pump oil into the system through a pre-filter on a pump cart.

On Laempe CoreCenters, the proper oil fill port introduces the oil into the reservoir through the return filter to help filter the new oil as it is introduced into the system. Opening the breather cap or other port on the hydraulic reservoir and introducing unfiltered new oil into the unit will cause shortened service life of the pump.

- Fill pump case with oil through the case drain line.

⚠ Failure to fill the pump case can cause immediate failure of a new pump.

- Fill as much oil into the suction and pressure lines of the pump as possible.

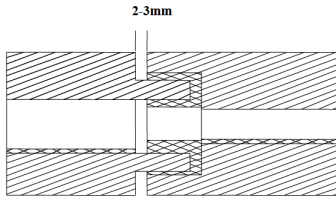
- **⚠** Check motor rotation.

- Start hydraulic motor.

- **⚠** If there is excessive pump noise there is possibly air in the system, stop the pump immediately. If the pump continues to run with air and cavitation present, pump damage will occur and shorten the service life of the pump.


- Let the pump idle for 10 – 15 minutes before moving machine in manual.

When replacing the hydraulic pump, pay particular attention to the coupling play between “motor coupling” and “pump coupling”.



If the play is not maintained, it can result in a considerable increase in noise and destruction of the pump.

Figure 1 Couplings

- Move all hydraulic motions of the machine in **manual SET UP** operation.
-  **DO NOT** move anything to an “end-position” thus causing the pump to shift into high-pressure.
- **First**, move all hydraulic components in **setup mode** (slowest hydraulic speeds).
- Next, move all hydraulic components in **manual** mode but without using **setup**. This will allow all motions to move at full speed.
 - **NOTE** that front door will have to be closed and light curtain (if equipped) reset to move machine in manual without setup.
- After all motions have been made in setup and manual mode, and no pump noises can be detected (*an indication of lack of oil or cavitation*) the machine can be run at full-speed in “Automatic” and high-pressure.

These basic pump replacement procedures are taken from various hydraulic pump manufacturers and from our experience. All hydraulic pumps and systems have common procedures to ensure good service life and performance of hydraulic systems.

3RD PARTY LINKS TO EXPAND YOUR PREPARATION AND PLANNING

<http://www.machinerylubrication.com/>

https://www.youtube.com/channel/UCBX5Aj80CYu_DWmwdIZGIKQ

<https://www.lunchboxsessions.com/>

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