

A-09b

MAINTENANCE MECHANIC TRAINING

TRAINER'S GUIDE

Duty A: Pumps (Not Hydraulic)
A-09b: Rebuild Pump (Aro Diaphragm)

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Instructions To The Trainer

1. The Learner will contact you when ready to practice rebuilding a 1/2" Aro diaphragm pump.
2. Be prepared to demonstrate the steps for this task.
3. Ask the Learner to contact the Evaluator when ready for the Skill Check.



Skill Objective

Given a request to rebuild a 1/2" Aro diaphragm pump, rebuild the pump.

Task Standards

1. Pump must be rebuilt using a repair kit specified by the 1/2" Aro Diaphragm Pump Service Manual.
2. U-cup packing seals, pilot valve assembly, pilot rod, and o-rings must be lubricated with Amojel assembly lubricant.
3. The polished side of the valve plate must mate with the dished side of the valve insert.
4. Fasteners must be tightened wrench-tight.
5. Valve block holes must align with the motor body.
6. The pump must operate per specifications.
7. Cleaning solution disposal must comply with HAZMAT regulations.

What The Learner Will Need

This section contains the safety information, tools, and resources you will need before rebuilding a 1/2" Aro diaphragm pump.



- Follow all Caterpillar facility safety standards when performing this task.
- When working in the paint area, wear heavy industrial gloves and a respirator fitted with charcoal filter for protection against the hazards associated with the cleaning solvents.
- An explosive hazard exists with cleaning solvents. Smoking is not permitted in the paint or cleaning areas.
- Know the location of the MSDS for the cleaning solutions.
- Cleaning solution disposal must comply with HAZMAT regulations.



- 1/2" Aro diaphragm pump repair kit
- 1/2" Aro diaphragm pump
- Amojel assembly lubricant
- tank of solvent and solvent tray for cleaning parts
- tray with putty knife
- wire brush
- external snap ring pliers
- 1/2" wrench
- 7/16" wrench
- 7/8" wrench



□ 1/2" Aro Diaphragm Pump Service Manual



Practice Set-Up

The Learner may perform the following practice to help prepare for the Skill Check. Set up the practice for the Learner. Assist the Learner during the practice, if necessary; answer any questions concerning the task; and be prepared to demonstrate the task to the Learner. Make sure the Learner follows safe work practices while practicing the task.

Practice

Designate a pump for the rebuilding activity. Ask the Learner to select the required repair kit. Check to ensure the proper kit is selected before beginning disassembly. Ask the Learner to:

- disassemble the pump
- clean the pump components
- reassemble the pump

Observe as the Learner rebuilds the pump to ensure that the pump is disassembled and assembled properly. Check to make sure that the task standards are met.

The Learner is required to follow all the recommended safe practices associated with handling and disposing of cleaning solvents.

Practice Objective

Pump must be reassembled using the specified parts. Fasteners must be wrench-tight. U-cup packing seals, pilot valve assembly, pilot rod and o-rings must be lubricated with Amojel assembly lubricant. The polished side of the valve plate must mate with the dished side of the valve insert. Cleaning solutions must be disposed of per regulatory procedures. All safe practices must be demonstrated.

Next Step

Allow the Learner to continue practicing and developing skills needed to demonstrate the task. The Learner should ask the Evaluator to schedule a Skill Check when ready to demonstrate the task unaided and meet all the task standards and safe work practices.