Mechanical Bijur Lubrication Pump - Troubleshooting Guide

LAST UPDATED: 05/01/2023

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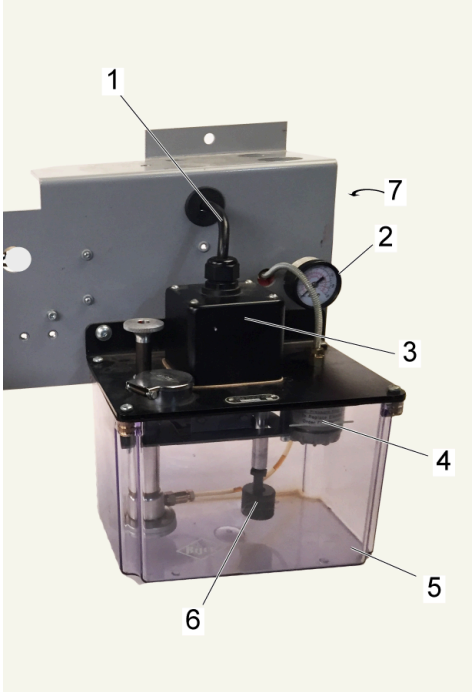
Introduction



Main Components:

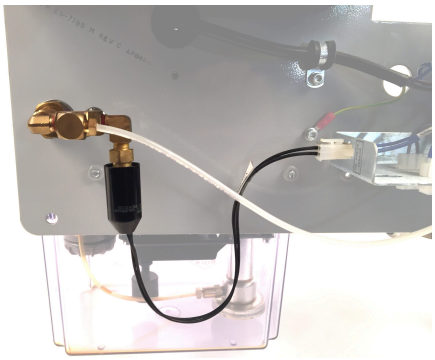
1. **Power cable:** Supplies power to the lube pump.
2. **Oil pressure gauge:** Shows the oil pressure.
3. **Oil pump motor and gearbox:** Pumps the oil from the reservoir.
4. **Oil filter:** Removes contamination from the oil. Some machines have an external filter next to the oil reservoir.
5. **Oil reservoir:** Stores the oil.
6. **Low-level switch:** Shows if the oil level is low. This activates **Alarm 121** LOW OIL LEVEL OR PRESSURE.
7. **Pressure switch:** (behind pump) Shows if the pressure is low.

Some symptoms are resolved by regular maintenance. Refer to BIJUR - MECHANICAL - OIL PUMP - SERVICE AND TEST for detailed information on how to perform proper maintenance on your oil pump.

Symptom Table

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
Alarm 121 LOW OIL LEVEL OR PRESSURE	Oil level is low.	Add oil.
	The pressure switch is faulty.	Replace the pressure switch.
	There is no voltage going to the pump, or the pump is damaged.	Check the voltage to the pump and I/O PCB.
	The filter is clogged.	Remove the sintered Bronze filter.
The pump does not hold pressure.	There is a leak from the fittings.	Stop fittings from leaking. Replace if necessary.
Pressure remains high for more than 10 minutes.	One of the oil lines or metering units are clogged.	Clean out the clogged oil line or meter unit.

Pressure Switch

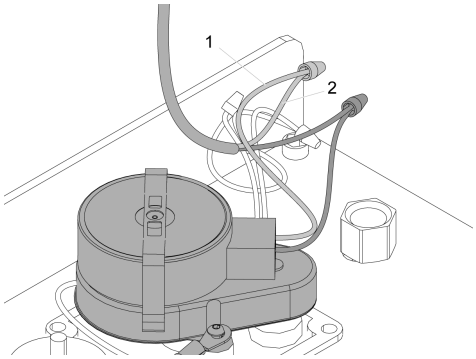


Corrective Action:

Check the pressure switch for correct operation. The switch is located behind the lube pump assembly. Use a multi meter set to Ohms to measure the resistance between both leads on the switch. The plunger activates approximately every (30) minutes.

When the plunger is NOT activated, the reading on the multi meter should be very high or "O.L." Once you manually activate the plunger, you will see 1 Ohm. If the switch operates correctly, go to I/O PCB - TROUBLESHOOTING GUIDE (CLASSIC HAAS CONTROL) to troubleshoot the I/O PCB.

Voltage



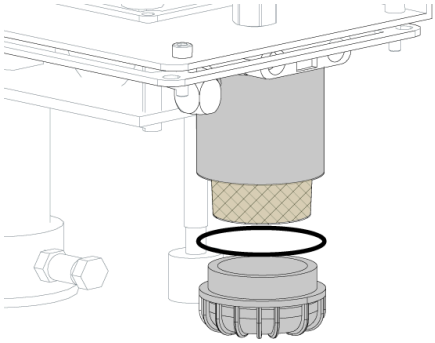
Corrective Action:

Command the spindle to operate at 5 rpm. Measure the voltage to the lube pump motor.

Use a multi meter set to VAC. If the voltage is 120 VAC, but there is no movement, replace the pump.

Examine the worm screw inside the tank. If the lube pump is receiving voltage, the screw rotates slowly at 1 rpm.

Filter



Symptom: The pump does not hold pressure.

Possible Cause: The filter is clogged.

Corrective Action:

Remove the oil tank, Clean any sludge or debris.

Remove and discard the sintered bronze filter.

Reassemble the unit without the filter.

Reinstall the tank and fill with synthetic oil.

Oil Leak

Corrective Action:

Test the system for leaks by manually lifting the plunger. The gauge will show pressure and gradually drop to zero. This takes 3-10 minutes. If pressure drops immediately, check for leaks at the lube pump. Examine all axis linear guide trucks and ballscrews for signs of lubrication. Examine each of the flow meters, lube fittings, and connectors.

Look for drips of oil near the axis flow meters, tees, and connectors.

Check for leaks in the system. Start with the fittings located at the lube pump assembly. Repair the leaks.

Repair all leaks. Make sure the pressure is correct.

Flow Meters

Corrective Action:

Clogged orifices are the only cause of high pressure for more than 10 minutes. Remove the cause of the clogged oil lines or meter units.