

Portable Hydraulic Power Supply Units

University of Saskatchewan - Mechanical Engineering – Fluid Power and Controls

Portable Hydraulic Power Supply Units (Room 1B19)

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1. PURPOSE AND SCOPE

This SOP provides general instructions to operate the portable hydraulic power supply units. All general lab safety practices must be followed in addition to those cited in this SOP. This SOP applies to all parties using this equipment.

2. RESPONSIBILITIES AND PREQUALIFICATIONS

All workers must:

- Have completed the WSEP (Workplace Safety and Environmental Protection) Lab Safety Course and received a certificate.
- Received training from the Departmental Assistant in charge of the laboratory area.
- Read and understand this SOP prior to beginning the procedure.
- Signed the signatures of understanding page to verify they have read and understood this SOP and any relevant MSDS.
- Have read and understood the University of Saskatchewan **Laboratory Safety Manual**, which can be found with the MSDS binders in rooms 2C26 and OC17.
- This procedure is not to be started outside of regular business hours (unless special permission is given by the Departmental Assistant in charge of the laboratory space) and **MUST NOT** be conducted while working **ALONE**.

3. EQUIPMENT AND CONSUMABLES REQUIRED

The following Personal Protective Equipment (PPE) is required for this procedure:

- Closed toed shoes and long pants
- Safety glasses, goggles or Face Shield
- This SOP

4. DEFINITIONS AND ABBREVIATIONS

None applicable

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5. HAZARDS

5.1. Physical

- **THE HYDRAULIC POWER SUPPLY CANNOT BE LEFT UNATTENDED WHILE BEING OPERATED.**
- Slip hazard from oil spills or oil leaks on the floor. Clean up immediately
- Cut hazard due to pressurized oil jets from leaking pipes or hoses.
- Burn hazard due to hot pipes, hoses, valves or actuators. Avoid contact

5.2. Chemical and Toxicological

- Toxic hazard if oil jet penetrates the skin. Seek medical attention immediately if this occurs.

6. CHEMICAL SPILL/RELEASE & EMERGENCY RESPONSE PROCEDURES

Emergency Contact Information:

FIRE Pull an alarm station AND call 9-911 (just 911 from pay phone or cell)

CAMPUS SECURITY 966-5555 24 hours a day

AMBULANCE 9-911 (just 911 from pay phone or cell)

CHEMICAL SPILLS 966-8497 or 966-8493 (days)
966-5555 (evenings and weekends)

7. WASTE DISPOSAL PROCEDURES

All waste oil must be placed in drain pans for recycling.

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8. PROCEDURAL STEPS

Stage 1: Setting Up

1. Ensure that all lines are properly connected and unused ports are capped, plugged or closed.
2. Position the Off Switch (Red button) where it is easily accessible in case of emergency.
3. Ensure level of fluid in the reservoir is above minimal level (check sight glass).
4. If compensator is installed, ensure compensator setting is at minimum before starting (setting where spring tension is at minimum). **Caution: Do not unscrew compensator knob all the way or oil will gush out. If this occurs, shut off the pump immediately, screw the knob back in and clean up the oil spill.**
5. If a variable displacement pump or fixed displacement pump is installed on the unit, ensure a relief valve is installed directly downstream of the pump.

Stage 2: Start Up Procedure

6. Remove interlock bolt from switch.
7. Press Green button to start up the pump.
8. For unit with a variable displacement pump, adjust relief valve to set maximum pressure and then adjust swash plate angle control lever (as needed).
9. For unit with a pressure compensated pump, adjust compensator knob as needed to set maximum pressure.

Caution: * Do Not Exceed 60 C operating temperature
 * Do Not Exceed 3000 psi pressure

Stage 3: Shut Down Procedure

10. Release system pressure to minimum level (relief valve or compensator knob).
11. Stop Pump (press Red button).
12. Install interlock bolt on switch.

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9. REFERENCES

University of Saskatchewan WSEP Documents:

Laboratory Safety Manual:

http://www.usask.ca/dhse/file_view/download.php/Laboratory_Safety_Manual.pdf?id=32&view=1

