East Hydraulic Power Supply Unit

University of Saskatchewan - Mechanical Engineering – Fluid Power and Controls

East Hydraulic Power Supply and Test Bench Unit (Room 1B19)

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1. PURPOSE AND SCOPE

This SOP provides general instructions to operate the HYPower hydraulic power supply and test bench unit. 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 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 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

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.

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.

8. PROCEDURAL STEPS

Stage 1: Setting Up

1. Ensure that all lines are properly connected and unused ports are capped, plugged or closed
2. Ensure all needle valves (Yellow Knobs) are closed and pressure reducing valves (Blue Knobs) are set to minimum pressure (counter clockwise to the maximum)
3. Ensure level of fluid in the reservoir is adequate (alarm level not reached)
4. Position the Emergency Off Switch (Red button) where it is easily accessible in case of emergency

Stage 2: Start Up Procedure

5. Press Green button to start up the pump
6. Adjust Swashplate Angle knob (clockwise) as needed
7. Open the Supply Flow valve corresponding to the hydraulic line below it (bottom Yellow Knob)
8. Adjust pressure as needed (Blue Knob)
9. Set temperature switch as needed
10. The system should now be up and running

Caution: *** Do Not Exceed 60 C operating temperature. (Shut system down if this occurs)**
*** Do Not Exceed 3000 psi pressure**

Stage 3: Shut Down Procedure

11. Release system pressure to minimum level with the reducing valve (Blue Knob)
12. Back off Swashplate Control Knob to centre position
13. Close Supply valves (Yellow Knobs)
14. Stop Pump (press Red button)
15. Turn temperature switch to Off position

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

10. SIGNATURES OF UNDERSTANDING

By signing this form I acknowledge that I have read and understand this SOP, as well as the applicable MSDS's and that I will conduct myself in accordance with this SOP and the general laboratory rules.

NOTE: ALL SIGNATURES MUST BE PRESENT ON THE SOP LOCATED IN ROOM 1B19, other SOP's are made available for convenience only.

Name (Print)	Signature