

**DO NOT** use this equipment unless an instructor has instructed you in its safe use/operation and has given permission.



Safety glasses may be required in work areas.



Long and loose hair must be contained or constrained.



Appropriate footwear with closed-toe must be worn.



Long-pants are required.



Rings and jewellery must not be worn.



Protective gloves may be required.

## PRE-OPERATIONAL SAFETY CHECKS

1. Check workspaces and walkways to ensure no slip/trip-hazards are present.
2. Check that all equipment components are in position and are operational.
3. Ensure you are familiar with the operation of the equipment.
4. Keep table and work area clear of all tools and debris.
5. Faulty equipment must not be used. Immediately report suspect equipment.
6. Be aware of any other students or personnel in the immediate vicinity and ensure the area is clear before using this equipment.
7. Familiarize yourself with all mechanical operations, switches and controls, including potential chemicals that may be used.
8. If you have any questions or concerns, ask the laboratory technician or instructor first.

## OPERATIONAL PROCEDURES

### **NO FOOD OR DRINK PERMITTED NEAR EXPERIMENTS.**

1. Position the apparatus above the working channel of the hydraulic bench.
2. Connect the flexible tube of the turbine apparatus at the hydraulic bench supply connector.
3. Turn the switch of the bench pump and open the bench control valve fully.
4. Gradually open the spear valve. The turbine will be working.
5. Use the tachometer to find the speed of the turbine.
6. Apply tension in the band brake slightly to slow the rotor speed slightly. Find the new speed of the turbine.

## HOUSEKEEPING

1. Turn off all equipment once experiment is completed and dispose of chemicals in proper receptacles on completion. Leave equipment and working area in a safe, clean and tidy state.
2. Keep all walkways and aisles free of clutter and debris.

## POTENTIAL HAZARDS

- Chemical exposure on skin
- Noise
- Eye injuries
- Electrical shock
- Manual handling
- Broken glass

Date of last review \_\_\_\_\_

Signature \_\_\_\_\_