

**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. Turn on cooling water for dynamometer (lower right-hand of scale).
2. Turn on cooling water for engine (left side, front of engine).
3. Turn on exhaust fan (wall near old tool room).
4. Connect gasoline drum to fuel inlet line.
5. Check battery connections (neg. ground).
6. Fill glass burette with electric fuel pump (switch is on burette stand near the pump).
7. Turn on master dynamometer switch.
8. Turn on line switch.
9. Check Variac knob position. \*\*\*\*\*NOTE: VARIAC KNOB MUST POINT TO 'O' OR 'OFF'.
10. Insert key and start engine.
  - Allow engine to warm up.
  - **NEVER** run over 3000 RPM's.
  - Regulate engine temperature with water valve on top of engine. Do not exceed **130°F**. REMEMBER THIS WATER DOES NOT RECIRCULATE.

## HOUSEKEEPING

1. Turn off all equipment once experiment is completed.
2. Keep all walkways and aisles free of clutter and debris.

## POTENTIAL HAZARDS

- Amputation from fan blades/belt and pulley
- Noise
- Eye injuries
- Electrical shock
- Manual handling
- Heat
- Exhaust fumes

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

Signature \_\_\_\_\_