

# RIEHLE COMPRESSION/TENSION MACHINE

## Standard Operating Procedure



Version 1.1

**Andrew Sutherland**

Supervisor of Laboratory/Workshop

**Mechanical & Electrical**

Type of hazards (mechanical, electrical, chemical, biological or radiation)

**Riehle Compression/Tension Tester**

**Room A2**

Name and Function of Lab/Project

**Riehle**

Make

**FH 60**

Model

### A. Introduction/Specifications

- Compression and Tension machine
- Capacity = 60,000lb

#### *Specifications*

	<b>Riehle FH 60</b>
<b>Tension Testing Opening (<i>less tooling</i>)</b>	36"
<b>Compression Testing Opening (<i>less tooling</i>)</b>	36"
<b>Distance Between Columns/Screws</b>	30"
<b>Testing Stroke</b>	6"
<b>Table Size (<i>WxD</i>)</b>	30" x 30"
<b>Testing Speed (IPM)</b>	0 - 4
<b>Crosshead Adjustment Speed (IPM)</b>	20
<b>Electrical Requirements (V,Hz, PH)</b>	220/440
	60
	3

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### B. Health and Safety Considerations

#### I. Safety devices required (e.g. machine guards, personal protective equipment, etc.)

- **SAFETY GOGGLES/GLASSES** must be worn **at all times in the lab**. Prescription glasses can be worn under the safety goggles.
- **HARD TOE BOOTS/SHOES** must be worn **at all times in the lab**.

#### II. General Safety

- **FOOD AND DRINK** are not allowed in any laboratory
- Be aware of the specific hazards associated with each lab exercise.
- Wear appropriate clothing and foot wear (**NO OPEN-TOED SHOES**).
- Familiarize yourself with all emergency safety equipment (eyewash, fire alarm, fire extinguishers, telephone).
- Do not leave hazardous experiment unattended
- **Clean** your work area before leaving the laboratory

**FIRE:** Immediately **report it to the supervisor or lab demonstrator** or other responsible personal, and then exit the laboratory and building quickly via proper exit route (Make sure you know where the exits are). Use fire extinguishers for bench-top fires or other small fires.

**ACCIDENTS AND INJURIES** must be reported to the demonstrator or other responsible personal. There are emergency first aid supplies available and all technicians are trained in basic first-aid, however any injury of consequence will be handled by the medical services.

**UNSUPERVISED WORK:** No student is permitted in the laboratories unless there is a supervisor present.

**THE BEST SAFETY PRECAUTIONS** include **ADVANCED PREPARATION** for each laboratory and a **CLEAN ORGANIZED WORK SPACE**.

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### D. Operation Procedures:

*The following guidelines are for persons who request the use of the Riehle compression/tension tester. A verbal **request** to departmental technicians must be made to obtain permission to use any testing equipment. If operating any equipment for the first time, a competent certified operator must be present to provide adequate training and guidance.*

- Press “START” button **Figure 1 (A)**
- Select load range (use lowest range for specific test of interest to increase accuracy)  
➤ Turn dial **Figure 1 (B)**

Raise base table to the line indicated on the screw jack; **Figure 1 (B1)**

- Turn load dial past “HOLD” position (Clockwise) **Figure 1 (C)**

Once positioned properly;

- Turn load dial to “HOLD” position **Figure 1 (C)**

Adjust cross-head until a 10 mm gap is positioned between the cross-head and specimen;

- Turn dial to “LOWER” or “RAISE” as required **Figure 1 (D)**

**DO NOT LOAD SPECIMEN WITH CROSS-HEAD**

Zero load dial;

- Turn dial (clockwise or counter-clockwise) as required **Figure 1 (E)**

Loading the Sample;

- Turn load dial (clockwise) till loading rate required is achieved (typically 1-3) **Figure 1 (C)**

Once sample has failed;

- Press “STOP” button **Figure 1 (F)**
- Turn load dial to “RETURN” position **Figure 1 (C)**

To test another specimen, continue as previously directed; and

Once finished;

- Turn load dial (counter-clockwise) to “RETURN” position **Figure 1 (C)**
- Clean entire workstation (front and back)  
➤ Properly discard broken specimens

You **must** acquire the assistance of a technician to perform any **tension testing!**

***If you ever have any doubts or questions, ASK THE SHOP TECHNICIANS!***

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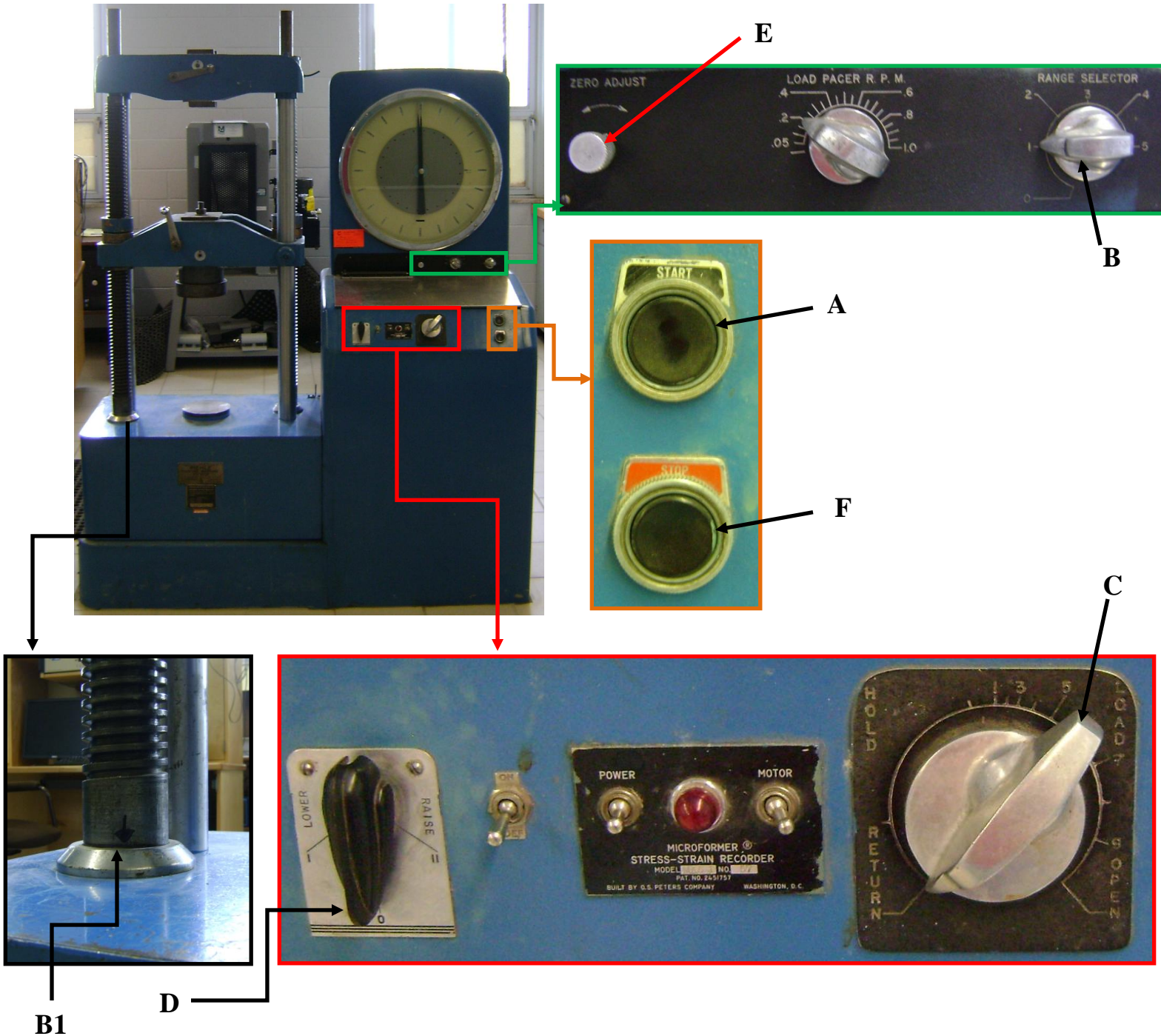


Figure 1. Riehle 60,000 lb Compression/Tension Machine

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### **Emergency Contacts:**

Andrew Sutherland, Chief Technician, HA-11, 453-5126

Chris Forbes, Technician, HA-11, 452-6114

Ken Knoftel, Technician, HA-11, 452-6114

Campus Security, 453-4830

FIRE/AMBULANCE/SAFETY -Emergency Response, 9-911 Internal (UNB Phones)  
911 External (Cell Phone)