

# MAINTENANCE

## WARNING

The following instructions are for use by qualified service personnel only. To avoid electrical shock, do not perform any servicing other than contained in the operating instructions unless you are qualified to do so.

High voltage up to 2000 V is present when covers are removed and the unit is operating. Remember that high voltage may be retained indefinitely on high voltage capacitors. Also remember that ac line voltage is present on line voltage input circuits any time the instrument is plugged into an ac outlet, even if turned off. Unplug the oscilloscope and discharge high voltage capacitors before performing service procedures.

## FUSE REPLACEMENT

If the fuse blows, the "ON" indicator will not light and the oscilloscope will not operate. The fuse should not normally open unless a problem has developed in the unit. Try to determine and correct the cause of the blown fuse, then replace only with the correct value fuse. For 110/125 V line voltage operation, use an 1.0A, 250 V fuse. For 220/240 V line voltage operation, use a 0.8A, 250V fuse. The fuse is located on the rear panel adjacent to the power cord receptacle.

Remove the fuseholder assembly as follows:

1. Unplug the power cord from rear of scope.
2. Insert a small screwdriver in fuseholder slot (located between fuseholder and receptacle). Pry fuseholder away from receptacle.
3. When reinstalling fuseholder, be sure that the fuse is installed so that the correct line voltage is selected (see LINE VOLTAGE SELECTION).

## LINE VOLTAGE SELECTION

To select the desired line voltage, simply insert the fuse and fuse holder so that the appropriate voltage is pointed to by the arrow. Be sure to use the proper value fuse (see label on rear panel).

## PERIODIC ADJUSTMENTS

Probe compensation and trace rotation adjustments should be checked periodically and adjusted if required. These procedures are given below.

### Probe Compensation

1. Connect probes to **CH 1** and **CH 2** input jacks. Perform procedure for each probe, one probe at a time.
2. Set the probe to X10 (compensation adjustment is not possible in the X1 position).
3. Touch tip of probe to **CAL** terminal.
4. Adjust oscilloscope controls to display 3 or 4 cycles of CAL square wave at 5 or 6 divisions amplitude.
5. Adjust compensation trimmer on probe for optimum square wave (minimum overshoot, rounding off, and tilt). Refer to Fig. 3.

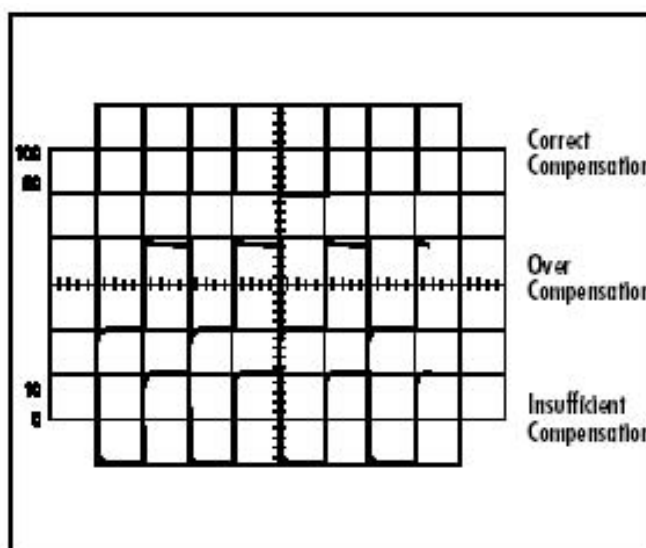


Fig-3

### Trace Rotation Adjustment

1. Set oscilloscope controls for a single trace display in **CH 1** mode, and with the channel 1 **AC-GND-DC** switch set to **GND**.
2. Use the channel 1 **POS**ition control to position the trace over the center horizontal line on the graticule scale. The trace should be exactly parallel with the horizontal line.
3. Use the **TRACEROTATION** adjustment on the front panel to eliminate any trace tilt.