

## SAFETY PRECAUTIONS

The following precautions should be observed when servicing.

1. Since many parts in the unit have special safety-related characteristics, always use genuine CANON replacement parts. Especially critical parts in the power circuit block should not be replaced with other makes. Critical parts are marked with  $\Delta$  in the schematic diagrams.
2. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
3. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
4. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

### 4-1 Leakage Current Cold Check

- 1) Unplug the AC cord and connect a jumper between the two prongs on the plug.
- 2) Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between  $1M\Omega$  and  $5.2M\Omega$ . When the exposed metal does not have a return path to the chassis, the reading must be  $\infty$ .

### 4-2 Leakage Current Hot Check

- 1) Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
- 2) Connect a  $1.5K\Omega$  10 watt resistor, paralleled by  $0.15\mu F$  capacitor, between each exposed metallic parts on the unit and a good earth ground such as a water pipe, as shown in the figure below.
- 3) Use an AC voltmeter, with  $1000\Omega/\text{volt}$  or more sensitivity, to measure the potential across the resistor.
- 4) Check all exposed metallic parts of the cover (Cable connection, Handle bracket, metallic cabinet. Screwheads, Metallic overlays, etc), and measure the voltage at each point.
- 5) Reverse the AC plug in the AC outlet and repeat each of the above measurements.
- 6) The potential at any point should not exceed 0.75V RMS.

A leakage current tester (FLUKE MODEL : 8000A equivalent) may be used to make the hot checks.

Leakage current must not exceed 0.5 milliamp.

In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and corrective action must be taken before returning the instrument to the customer.

