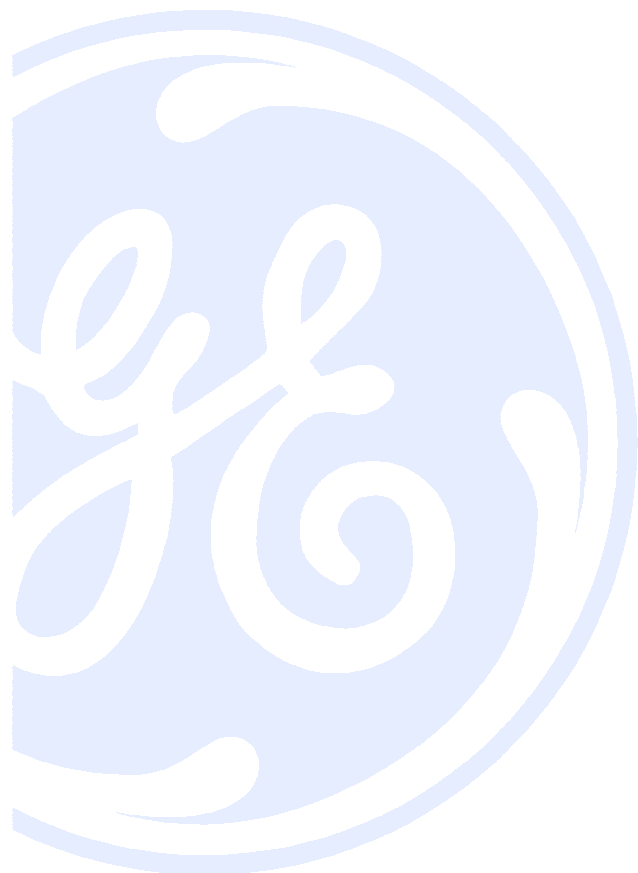


SERVICE NOTES AND CAUTIONS SUBINDEX

TAPE TRANSPORT SYSTEM CLEANING
DRIVE SYSTEM CLEANING
LUBRICATION POINTS
TEST EQUIPMENT REQUIREMENTS
SERIAL NUMBER LOCATION LABEL
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TAPE TRANSPORT SYSTEM CLEANING

The following parts should be cleaned after every 500 hours of use:

- Tension Pole
- S-Guide Post
- FE Head
- S-Guide Roller
- S-Slant Pole
- Video Head/Drum
- T-Slant Pole
- T-Guide Roller
- AC Head/AE Head
- T-Guide Post
- Capstan Shaft
- Pinch Roller

Note: After cleaning with alcohol, allow the parts to dry thoroughly before using a cassette tape.

DRIVE SYSTEM CLEANING

The following parts should be cleaned after every 500 hours of use:

- Reel Table
- T-Main Brake
- S-Main Brake
- Capstan Flywheel/Pulley
- Reel Pulley

LUBRICATION POINTS

The following parts should be cleaned and lubricated after every 500 hours of use. Apply one (1) or two (2) drops of oil. Refer to the "**Replacement Parts List**" for the stock number of the recommended oil.

- S-Reel Table Post
- T-Reel Table Post
- Idler Pulley





TEST EQUIPMENT REQUIREMENTS

AC Millivolt Meter

Sensitivity: 1.0mVAC-400VAC

Dual-Trace Triggered Oscilloscope--with Lo-Cap (X10) and Direct Probes.

Response: DC-20MHz

Sensitivity: 5mV/div.

Max. Sweep Rate: 0.1µsec./div.

Frequency Counter-7digits

Sensitivity: 25mV-5V

Range: 50Hz-100MHz

DVM

Range: 0.1VDC-1000VD

Accuracy: 0.5%

NTSC Video Signal Generator -- Must provide 1V p-p negative sync video across a 75 ohm load and produce standard NTSC 75% saturated color bars with a 100% white window.

DC Power Supply

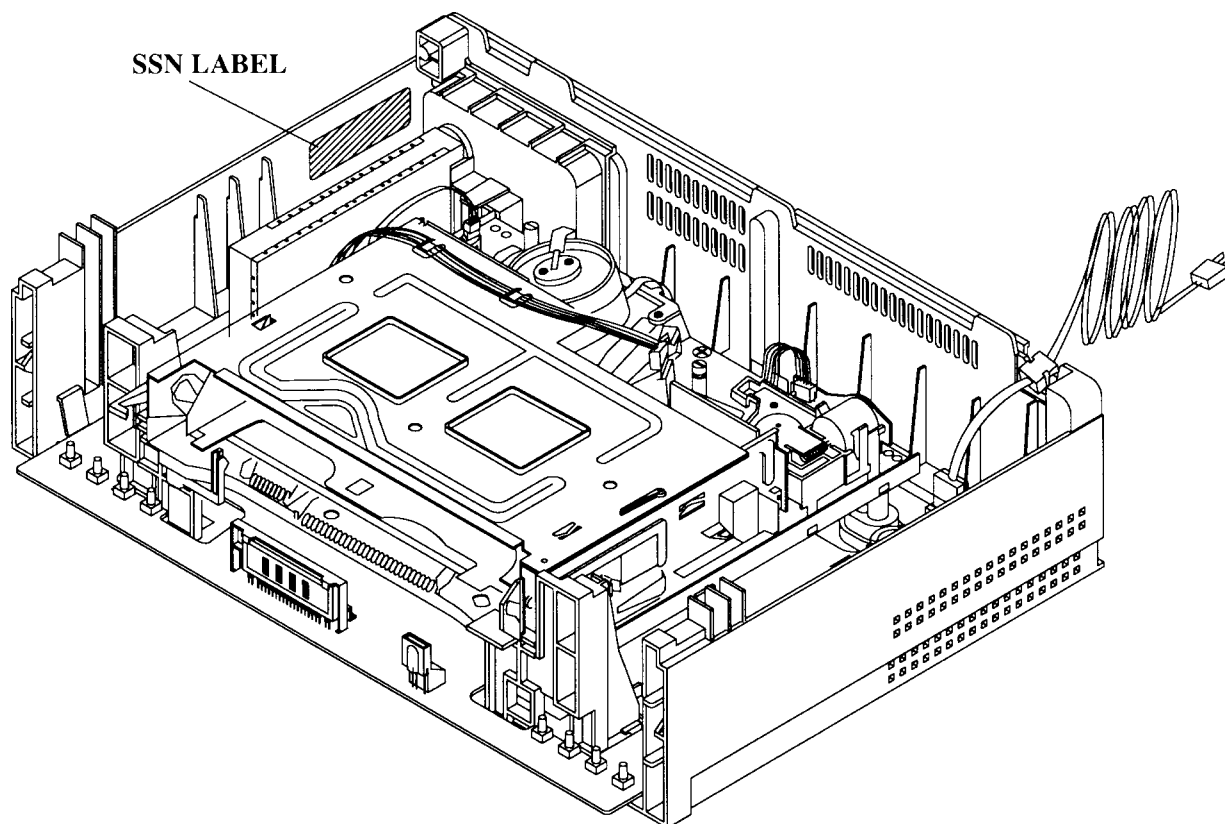
Range: 0-50V, 2A well filtered.

Temperature Controlled Soldering Station -- Grounded tip (Tip temperature: 500°F-600°F).

Note: 500°F Maximum for leadless components.

AC Variac-Continuously variable.

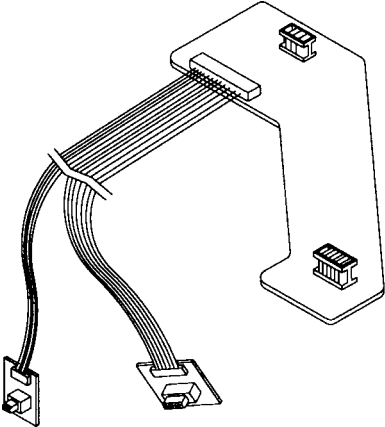
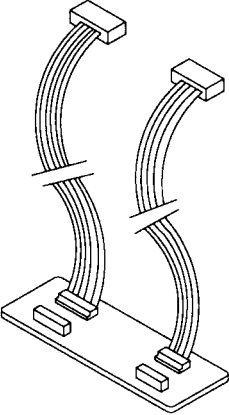
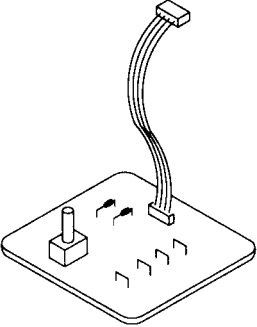
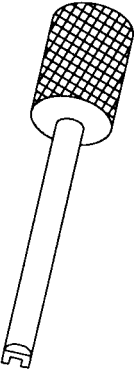
SERIAL NUMBER LOCATION LABEL





SERVICE FIXTURES

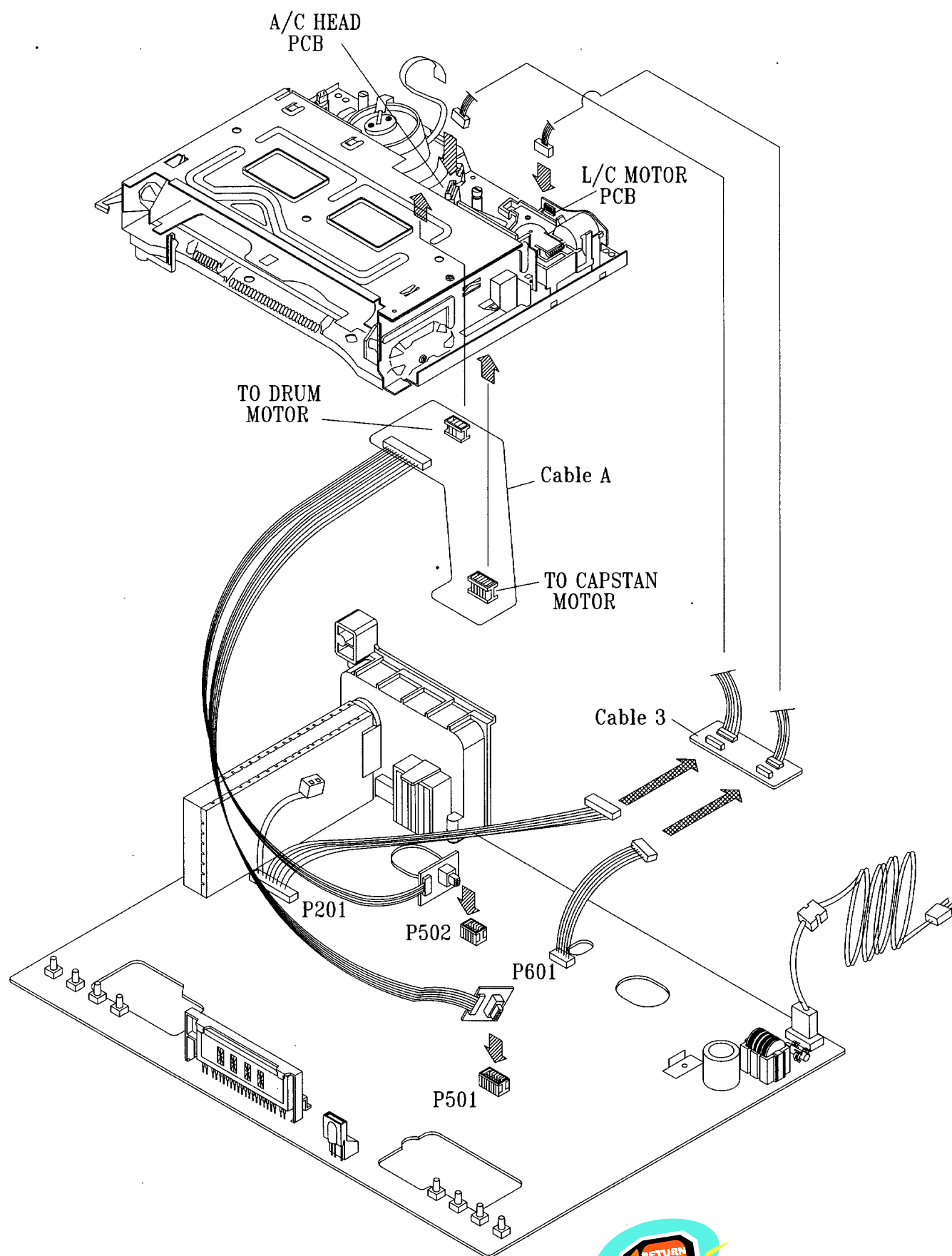
FIXTURE ITEM	DESCRIPTION	P/N
Extension Cable A	Use for K mecha Drum Motor and Capstan Motor Connecting Cable	97PB238200
Extension Cable 3	Use for K mecha A/C head and L/C Motor Connecting Cable	97PB400300
Path Adj Fixture	Use for X-position Adjust/Tape Path Alignment	97PB396000
Special Driver	Use for X-position Adjust/Tape Path Alignment	

<p>Cable A</p>  A diagram showing a multi-wire flat cable connected to a small electronic component with two pins. The cable is shown in a curved path, and the component is mounted on a small PCB.	<p>Cable 3</p>  A diagram showing two parallel multi-wire flat cables connected to a small electronic component with four pins. The cables are shown in a curved path, and the component is mounted on a small PCB.	<p>Path Adj Fixture</p>  A diagram showing a multi-wire flat cable connected to a small electronic component with four pins. The component is mounted on a small PCB.	<p>Special Driver</p>  A diagram showing a cylindrical component with a textured surface, mounted on a long, thin metal rod with a small hook at the end.
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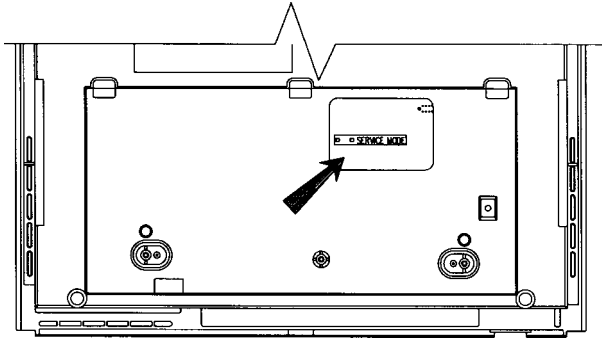
EXTENSION CABLE CONNECTION



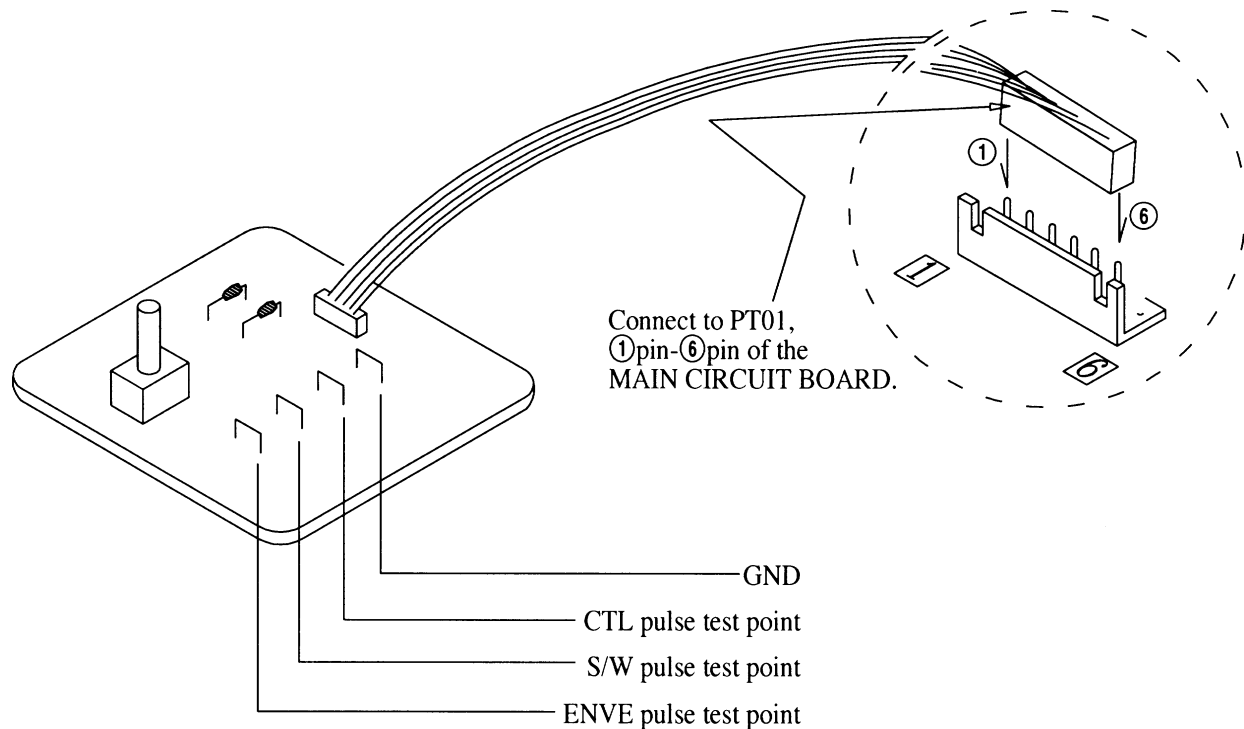


PLACING THE UNIT IN THE SERVICE MODE

For this chassis, the sensors (start/end/reel) are located on the MAIN circuit board, not in the DECK assembly. There is an important service option that has to be followed to repair the MAIN circuit board with the DECK assembly connected. To imitate the function of the sensors, insert the SVC Mode CHIP JUMP WIRE (RJ 900) on the MAIN circuit board as shown below.



PATH FIXTURE CONNECTION/TEST POINT IDENTIFICATION





LEADLESS (CHIP) COMPONENT REMOVAL INSTRUCTION

The following procedures are recommended for the replacement of the leadless components used in this unit.

1. Preparation for replacement

a. Soldering Iron

Use a pencil-type soldering iron that uses less than 30 watts.

b. Solder

Eutectic solder (Tin 63%, Lead 37%) is recommended.

c. Soldering time

Do not apply heat more than 4 seconds.

d. Preheating

Leadless capacitor must be preheated before installation.

(130°C~150°C, for about two minutes).

Note:

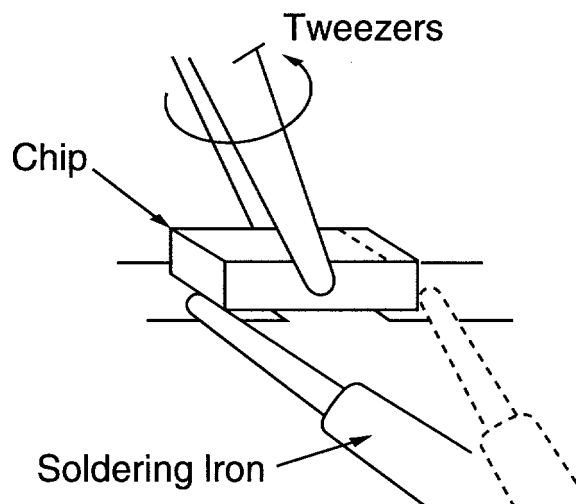
- Leadless component must not be reused after removal.
- Excessive mechanical stress and rubbing of the component electrode must be avoided.

2. Removing the leadless component (Resistors, Capacitors)

Grasp the leadless component body with tweezers and alternately apply heat to both electrodes. When the solder on both electrodes is melted, remove leadless component with a twisting motion.

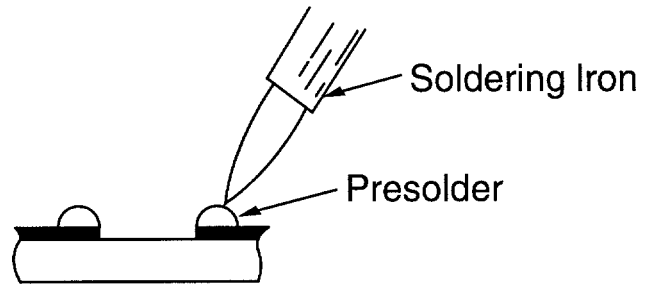
Note:

- Do not attempt to lift the component off the board until the component is completely disconnected from the board by a twisting action.
- Take care not to break the copper foil on printed board.



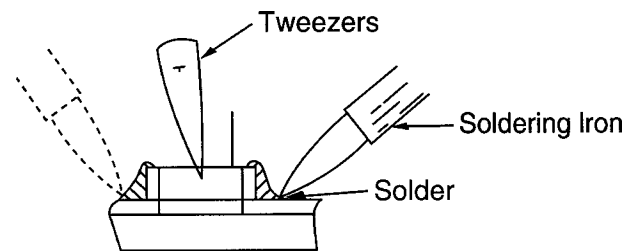
3. Installing the Leadless (chip) Component

a. Presolder the contact points of the circuit board.



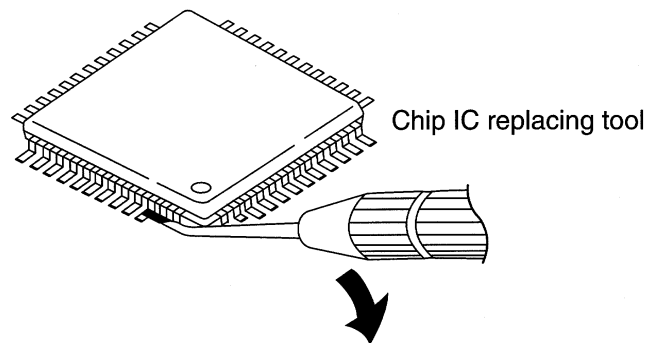
b. Press the part downward with tweezers and solder both electrodes as shown below.

Note: Do not glue the replacement leadless component to the circuit board.



4. Removing of Flate IC's (Recommendable manner)

- For removing solder chips from IC's pins, use a solder remover or a wiry solder absorber.
- Heat the IC's tips evenly by moving the chip IC replacing tool around them, and detach the IC's leads with a tool in the way of using a lever.
- Do not reuse IC's removed once (discard them).



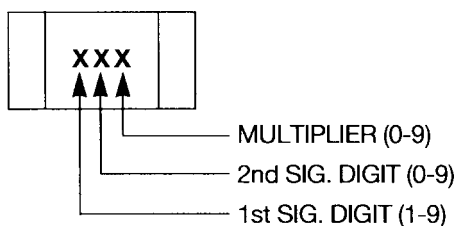


LEADLESS (CHIP) COMPONENT IDENTIFICATION

1. Check the following before S.M.D. Troubleshooting
 - Cracked or Chipped Component Body
 - Cracked or Separated Solder Joints
 - Peeling End Terminations or Fractured Leads
 - Rejection of Solder from Copper Pads or Component
 - Foreign Matter on Copper Pads
 - Solder Bridges

2. S.M.D. (Surface Mounted Devices) Identification
 - a. Chip Resistor Identification

*Standard Chip Resistor Code



- b. Chip Capacitor Identification

There is no identification of chip capacitor

Note: Leadless (CHIP) Components are identified on schematic by means of "(C)" adjacent to symbol numbers.

LEADLESS COMPONENT IDENTIFICATION EXAMPLES

	123		$= 12 \times 10^3 (1000) = 12000\Omega$ $= 12K\Omega$
	470		$= 47 \times 10^0 (1) = 47\Omega$

