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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-7 digits

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

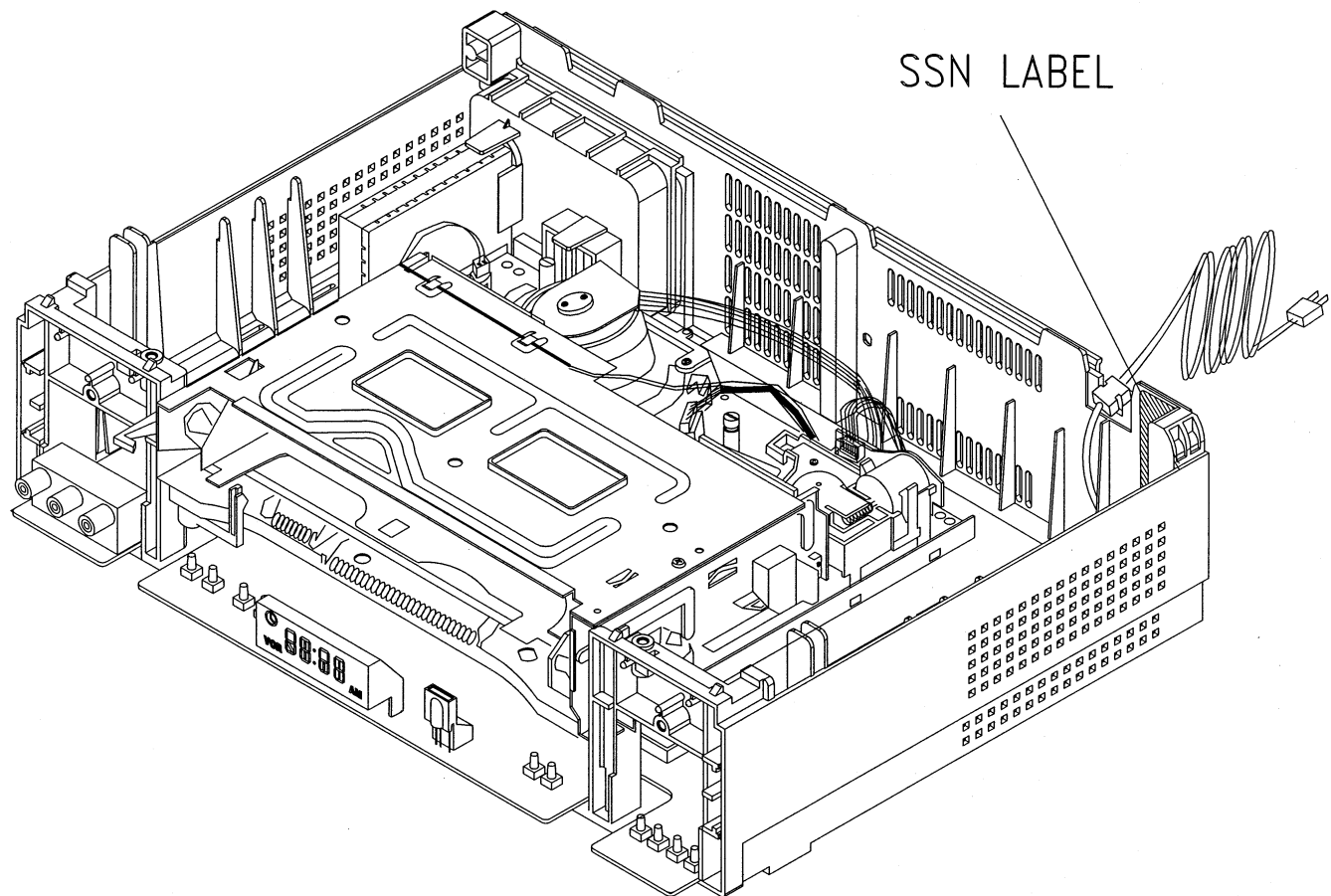
Range: 0-50V, 2A well filtered.

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

**Note:** 500°F Maximum for leadless components.

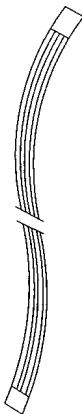
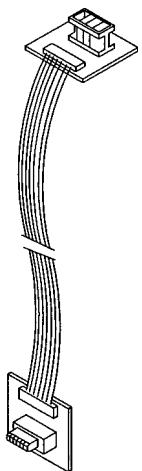
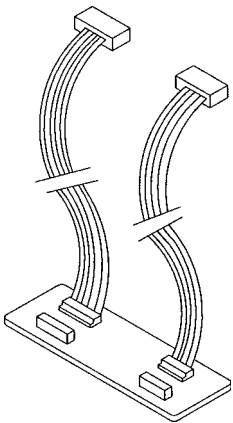
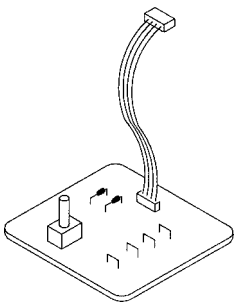
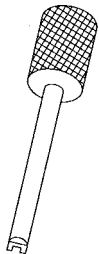
**AC Variac**-Continuously variable.

## SERIAL NUMBER LOCATION LABEL





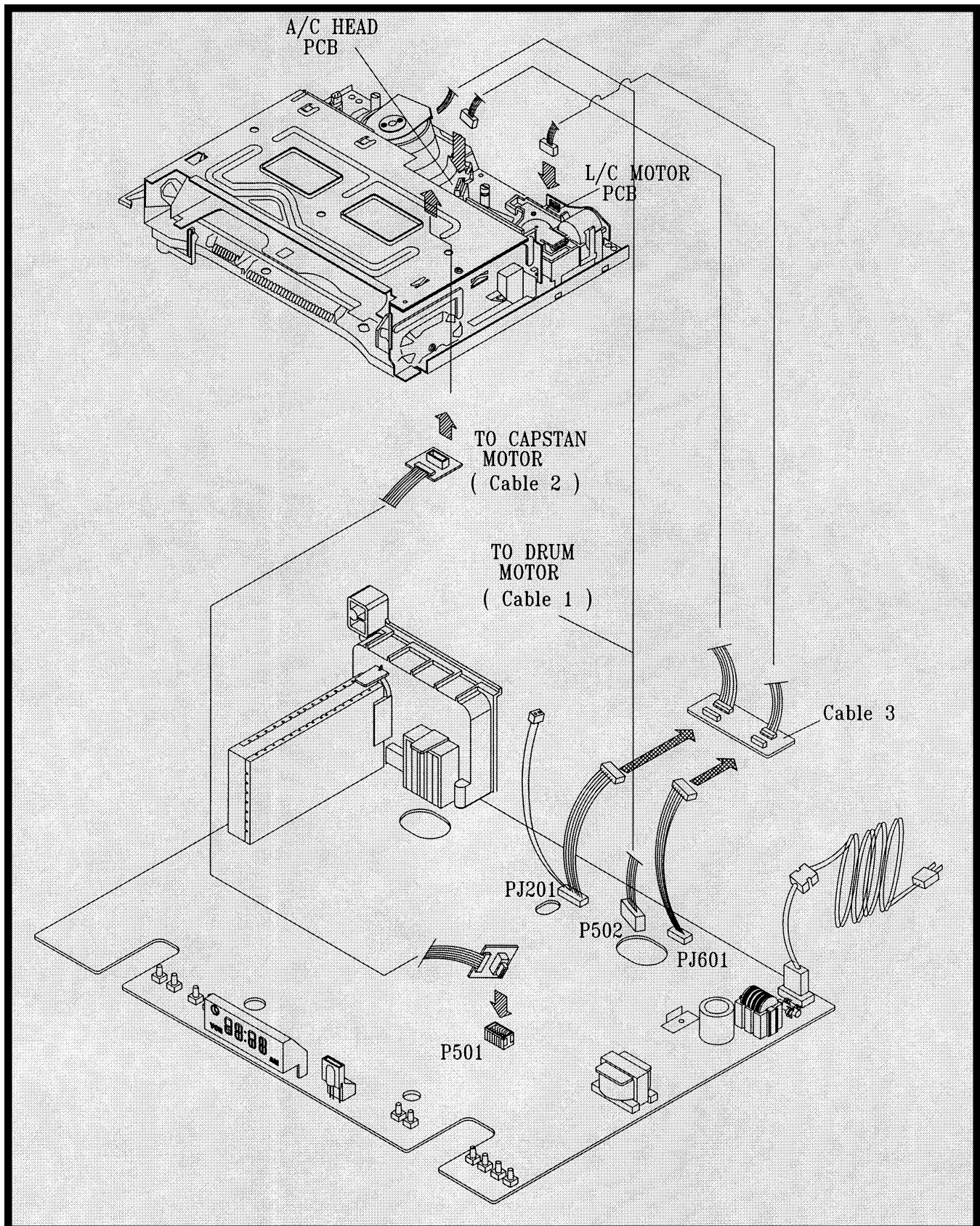
## SERVICE FIXTURES

FIXTURE ITEM	DESCRIPTION			P/N
Extension Cable 1	Use for K-30 mecha Drum Motor Connecting Cable			97P88F0737
Extension Cable 2	Use for K mecha Capstan Motor connecting cable			97PB400200
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			
Cable 1	Cable 2	Cable 3	Path Adj. Fixture	Special Driver
				





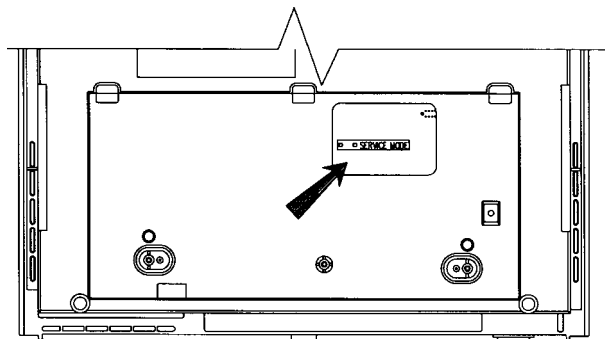
## EXTENSION CABLE CONNECTION



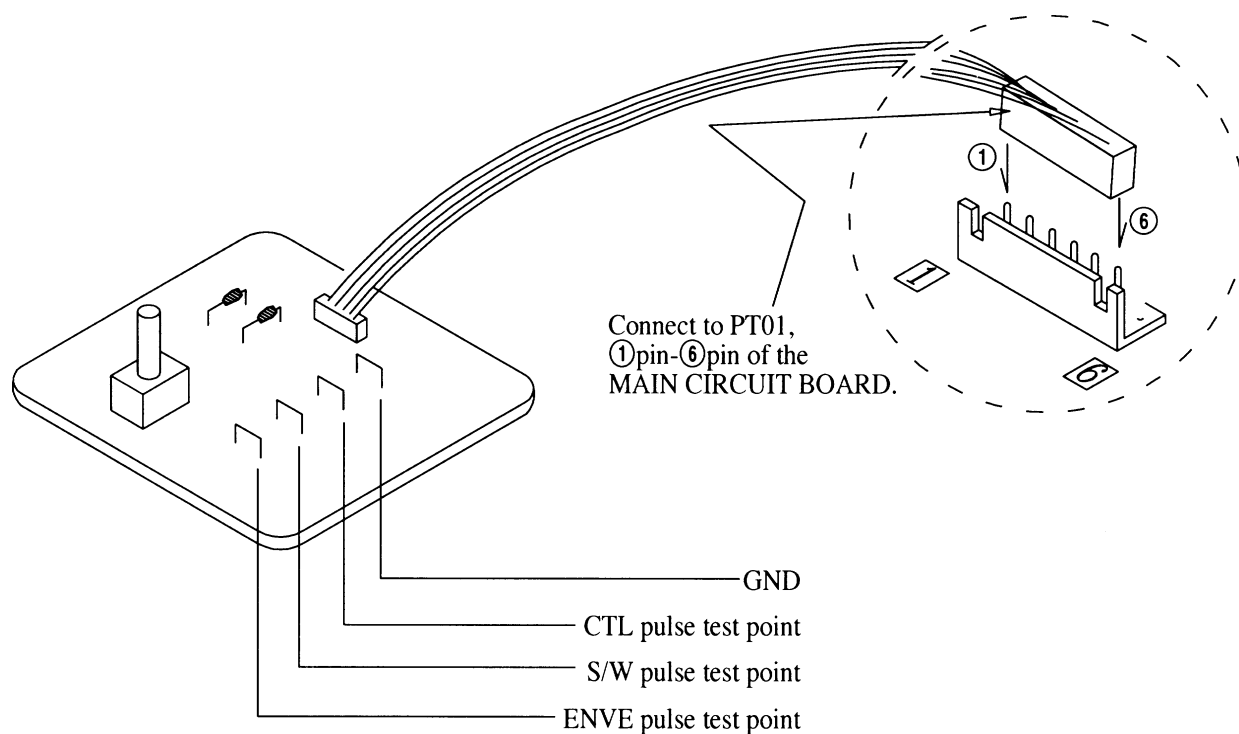


## PLACING THE UNIT IN THE SERVICE MODE

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:**

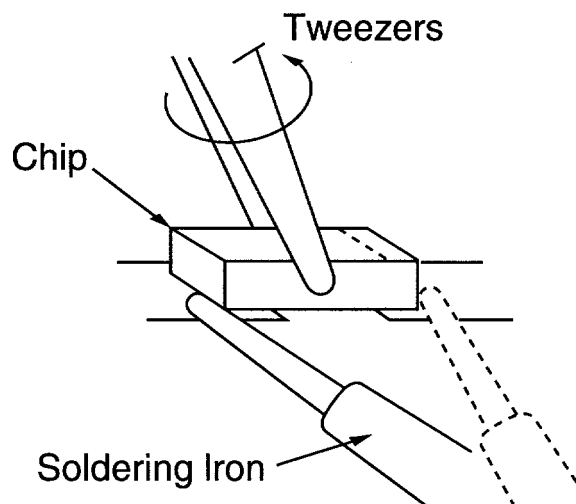
- Leadless component must not be reused after removal.
- Excessive mechanical stress and rubbing of the component electrode must be avoided.

### 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.

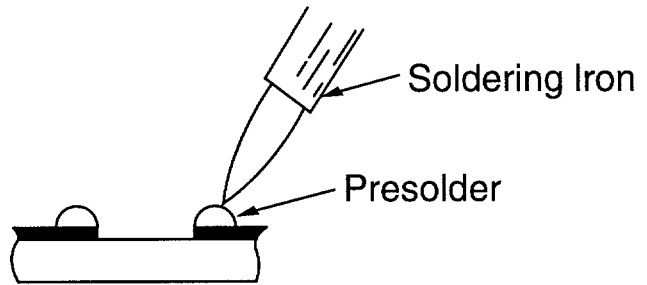
**Note:**

- 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.



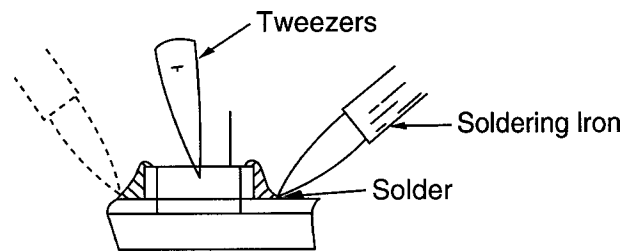
### 3. Installing the Leadless (chip) Component

#### a. Presolder the contact points of the circuit board.



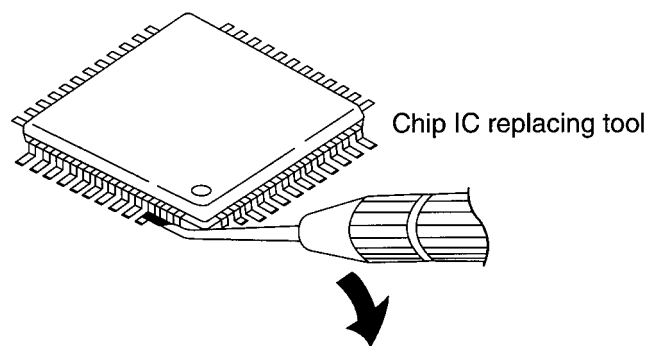
#### b. Press the part downward with tweezers and solder both electrodes as shown below.

**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).



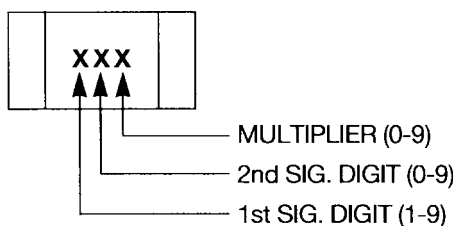


## LEADLESS (CHIP) COMPONENT IDENTIFICATION

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		$= 47 \times 10^0 (1) = 47\Omega$

