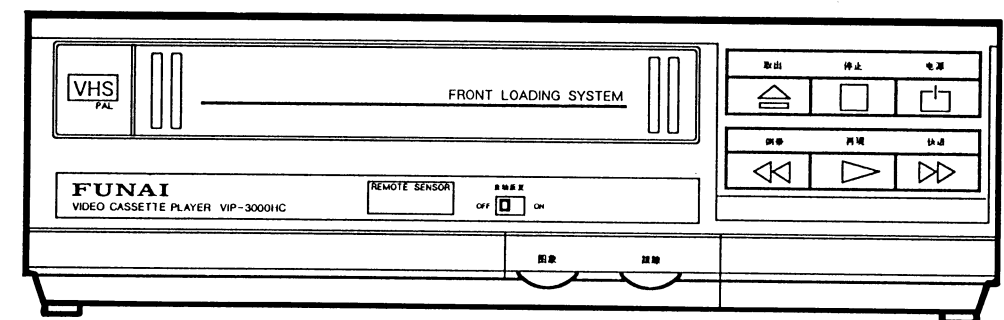
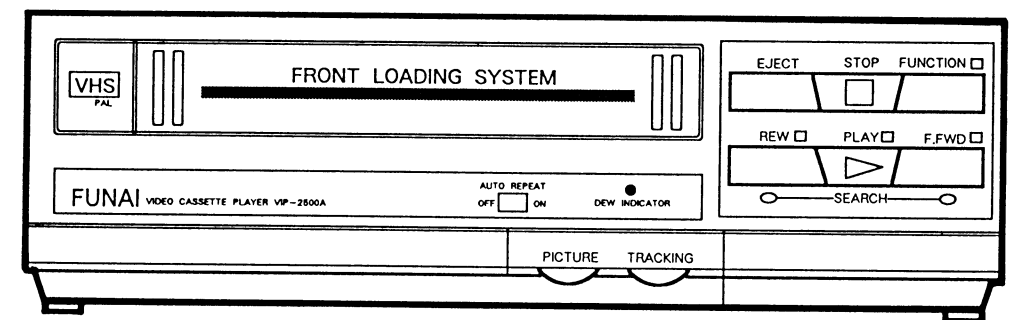


# FUNAI

VIP-2500A/HC  
VIP-3000A/HC

VHS HQ  
PAL

## VIDEO CASSETTE PLAYER



## SERVICE MANUAL

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# SAFETY CHECK AFTER SERVICING

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

## 1. Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table below.

## 2. Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table below.

## 3. Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table below.

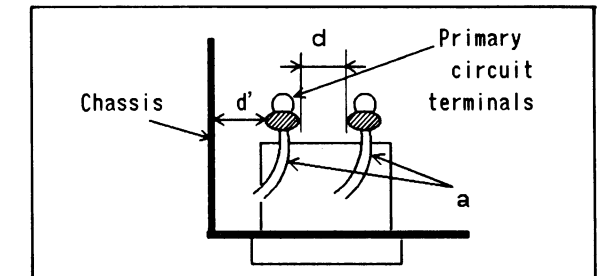


Table 1 : Ratings for selected areas

| AC Line Voltage | Region       | Insulation Resistance | Dielectric Strength | Clearance Distance (d) (d') |
|-----------------|--------------|-----------------------|---------------------|-----------------------------|
| 110 to 130 V    | USA & Canada | ---                   | 900 V 1minute       | ≥3.2 mm                     |
| * 110 to 130 V  | Europe       | ≥10 MΩ                | 3 kV 1minute        | ≥4 mm (d)                   |
| 200 to 240 V    | Australia    | /500 V DC             |                     | ≥6 mm (d')                  |

\* Class II model only.

**Note:** This table is unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

#### 4. Leakage current test

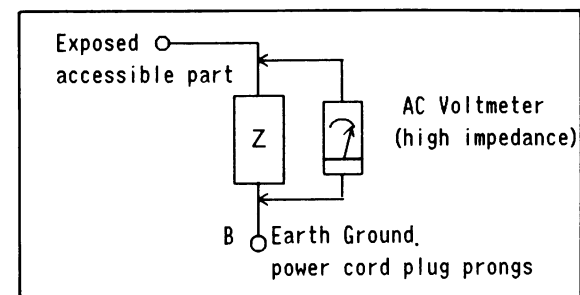
Confirm specified or lower leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method : (Power ON)

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts.

Use an AC voltmeter to measure across both terminals of load Z.

See figure and following table.



**Table 2 :** Leakage current ratings for selected areas

| AC Line Voltage              | Region              | Load Z                                  | Leakage Current(i)                                       | Earth Ground (B) to:     |
|------------------------------|---------------------|-----------------------------------------|----------------------------------------------------------|--------------------------|
| 110 to 130 V                 | USA & Canada        | $0.15 \text{ F}$<br><br>$1.5 \text{ k}$ | $1 \leq 0.5 \text{ mA rms}$                              | Exposed accessible parts |
| 110 to 130 V<br>200 to 240 V | Europe<br>Australia | <br>$2 \text{ k}\Omega$                 | $1 \leq 0.7 \text{ mA peak}$<br>$1 \leq 2 \text{ mA dc}$ | Antenna terminals        |
|                              |                     | <br>$50 \text{ k}\Omega$                | $1 \leq 0.7 \text{ mA peak}$<br>$1 \leq 2 \text{ mA dc}$ | Other terminals          |

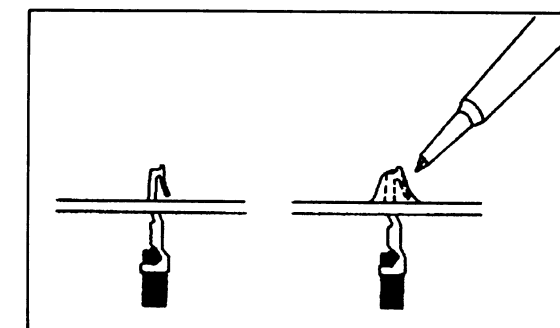
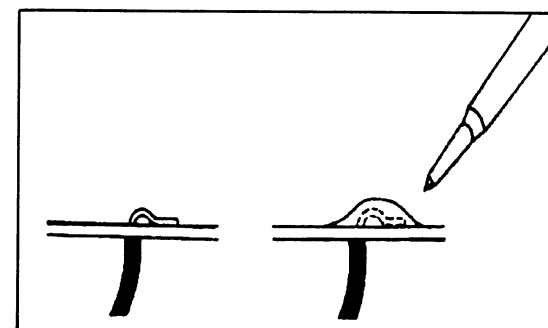
**Note:** This table is unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

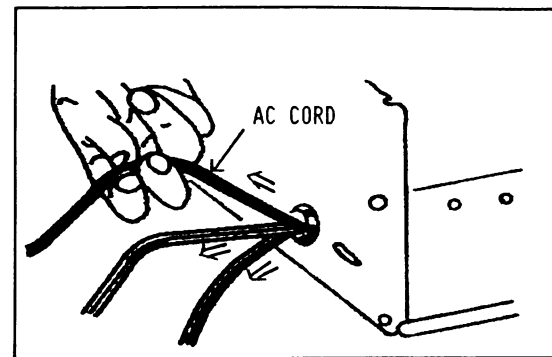
## IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, our products are strictly inspected to conform the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

### ● Precautions during Servicing

- Locations requiring special caution are denoted by labels and inscribed on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.
- Parts identified by the  $\triangle$  symbol parts are critical for safety. Replace only with specified part numbers.
- Use specified internal wiring. Note especially :
  - Wires covered with PVC tubing
  - Double insulated wires
  - High voltage leads
- Use specified insulating materials for hazardous live parts. Note especially :
  - Insulation Tape
  - PVC tubing
  - Spacers
  - Insulation sheets for transistors



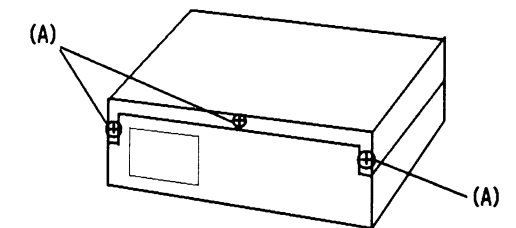


5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely around the terminals before soldering.
6. Observe that wires do not contact heat producing parts (heat sinks, oxide metal film resistors, fusible resistors, etc.)
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.
9. Also check areas surrounding repaired locations.

# 1. DISASSEMBLY INSTRUCTIONS (SET)

## 1-1 Top Cabinet Removal (Fig. 1-1)

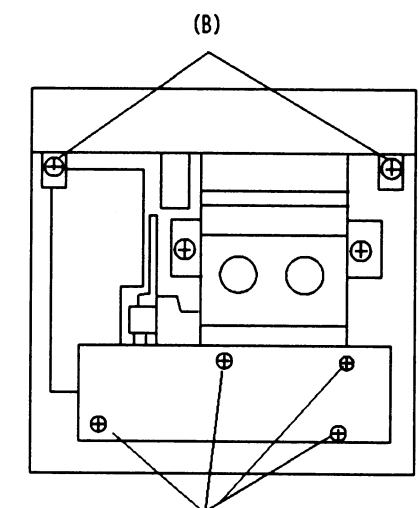
- Remove 3 screws (A).



(Fig. 1-1 Rear)

## 1-2 Front Ass'y Removal (Fig. 1-2)

- Remove 2 screws (B).



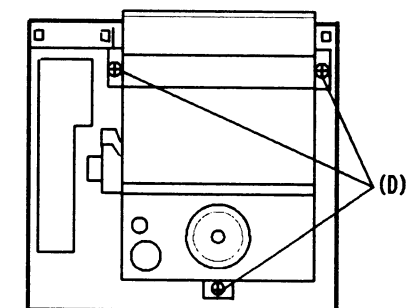
(C) (Fig. 1-2 Top View)

## 1-3 Main PCB Removal (Fig. 1-2)

- Remove 4 screws (C).

## 1-4 Deck Ass'y Removal (Fig. 1-3)

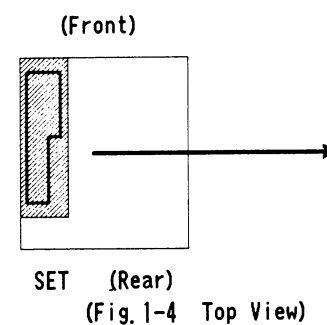
- Remove 3 screws (D).



(Fig. 1-3 Top View)

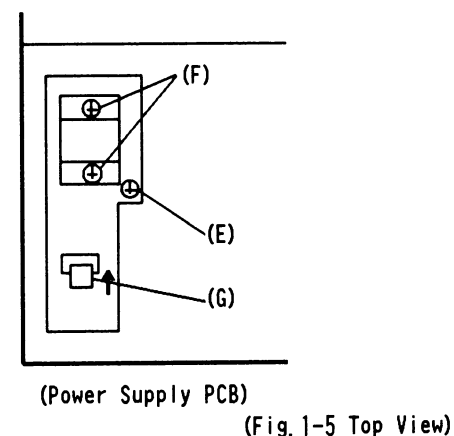
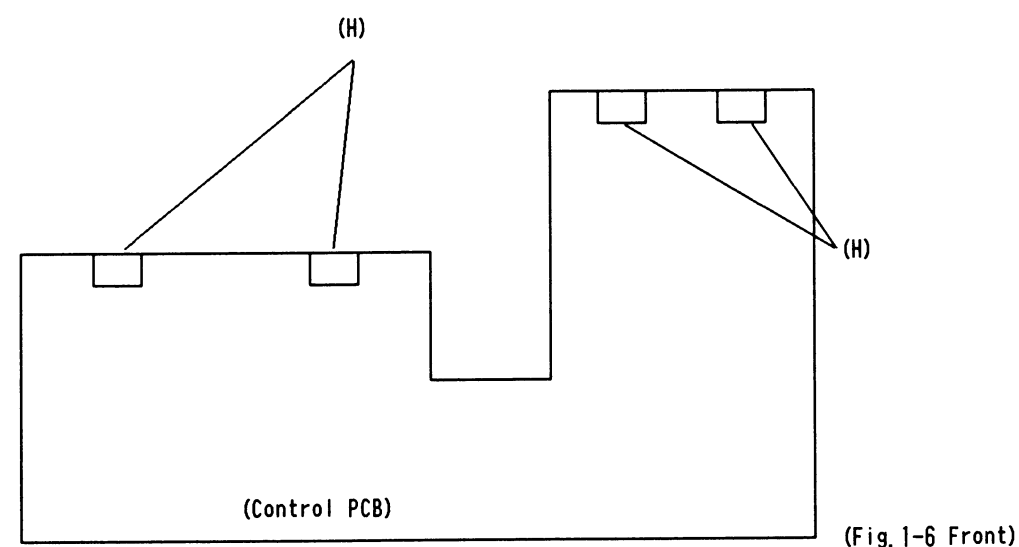
## 1-5 Power Supply PCB Removal (Figs. 1-4 and 1-5)

- Remove 1 screw (E). (Power Supply PCB)
- Remove 2 screws (F). (Power Trans)
- Unfasten 1 hook (G) from cabinet.



1-6 Control PCB Removal (Fig. 1-6)

- Release 4 hooks (H) from Main Cabinet.



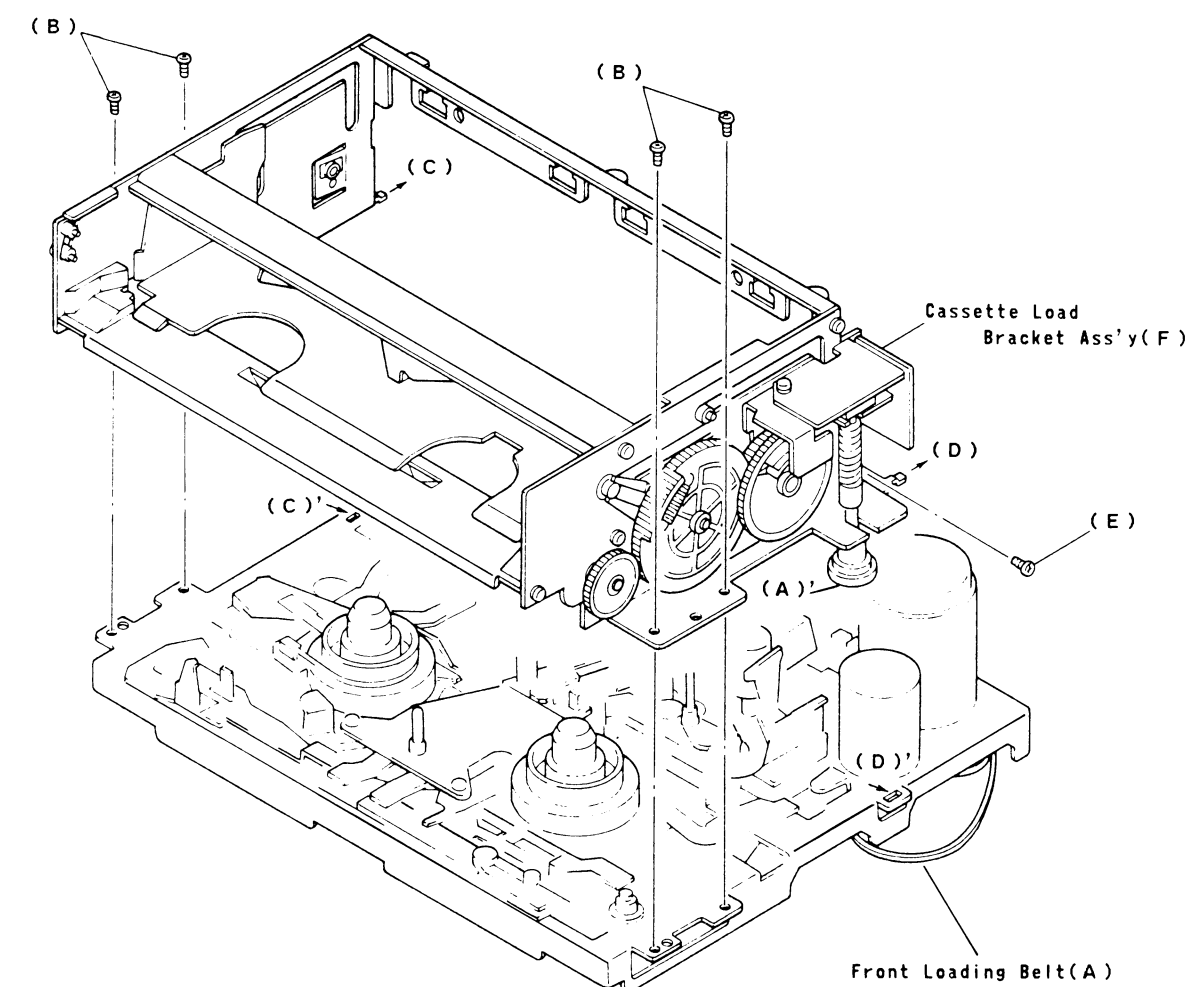
## 2. DISASSEMBLY INSTRUCTIONS (DECK)

### (1) FRONT LOADING UNIT

1. Remove Front Loading Belt (A).  
(Hook the Front Loading Belt (A) to (A').)
2. Remove 4 screws (B).
3. Take off Left side hook (C) and Right side hook (D).  
(To unfasten the hook, hold the front loading unit and lift up and down to this side to take off the hook (C). Similarly to the above, take off hook (D) and hook (C).)

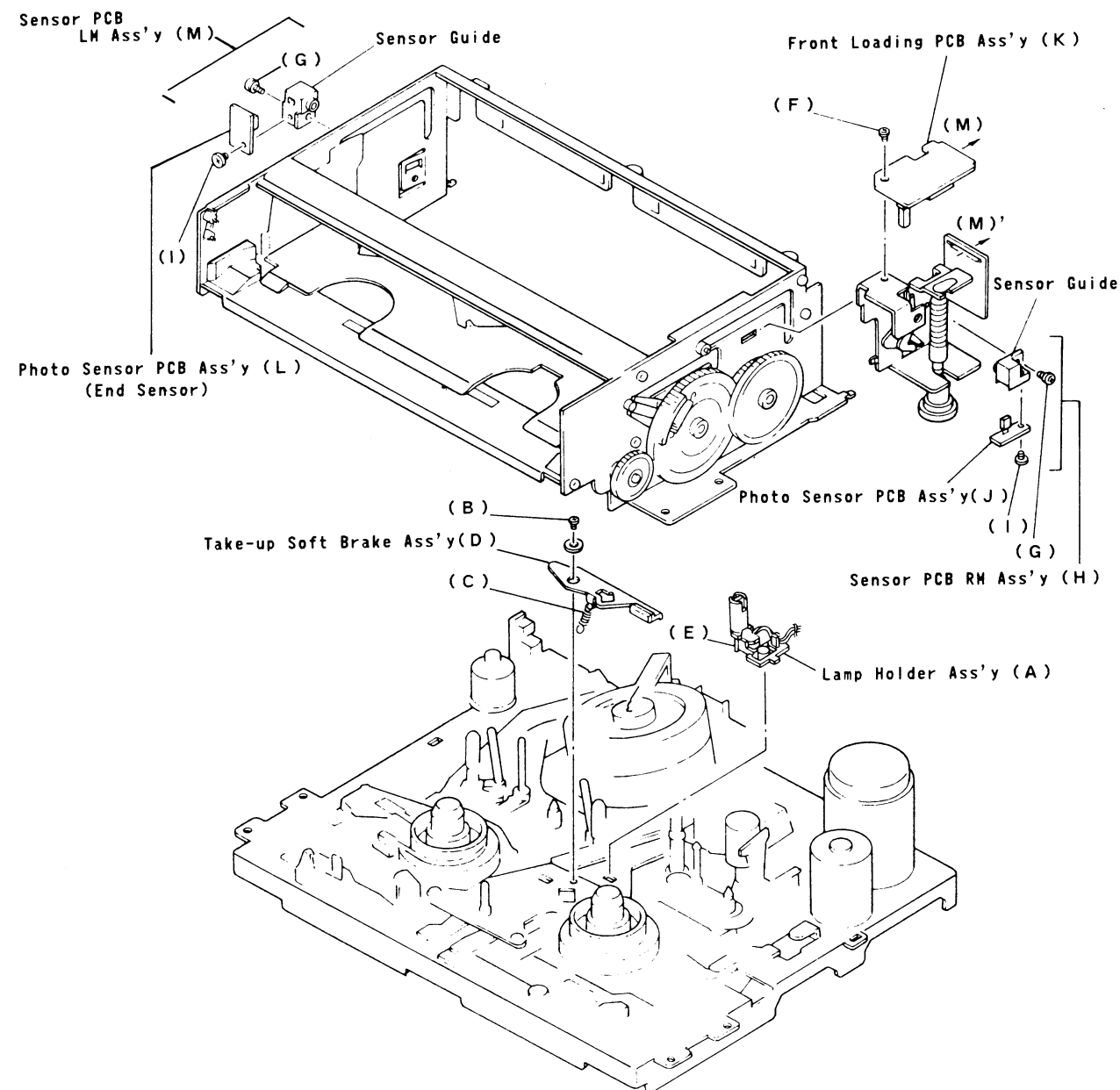
### (2) CASSETTE LOAD BRACKET ASS'Y

1. Remove 1 screw (E).
2. Take off the Cassette Load Bracket Ass'y (F).



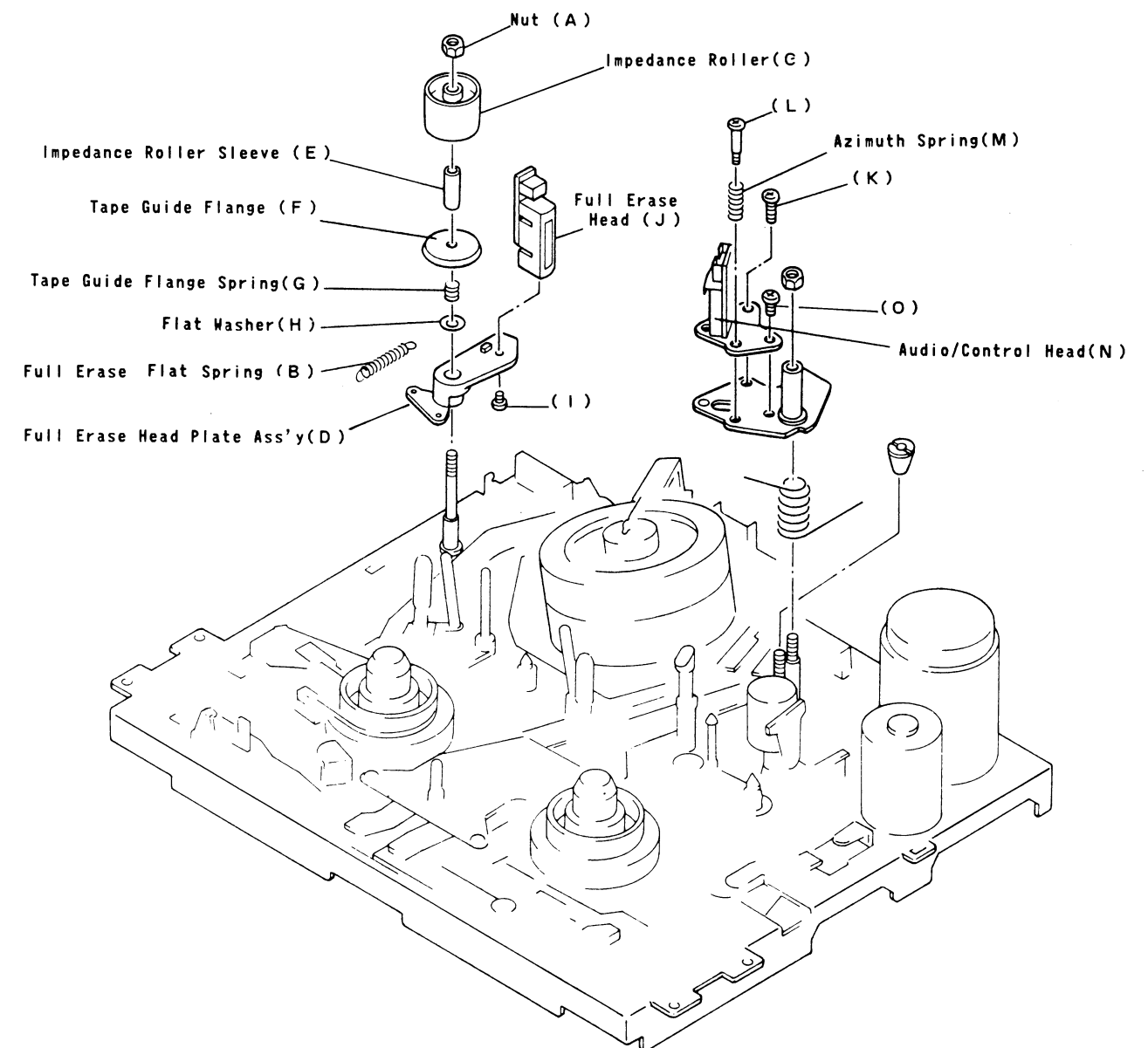
### (3) PHOTO SENSOR

1. Replacement of Lamp Holder Ass'y (A).
  - (1) Remove 1 screw (B), and take off the Take-up Soft Brake Ass'y (D).  
(At this time, never take off the spring (C).)
  - (2) Hold Lamp Holder Ass'y (A) and pull up to remove the hook (E) from the chassis.
  - (3) Turn the Lamp Holder Ass'y (A) counterclockwise and take out the Lamp Holder Ass'y (A).
2. Replacement of Photo (Start) Sensor.
  - (1) Remove 1 screw (F) and take off the Front Loading PCB Ass'y (K).
  - (2) Remove 1 screw (G) and take off the Sensor PCB RM Ass'y (H).
  - (3) Remove 1 screw (I) and take off the Photo Sensor PCB Ass'y (J).
3. Replacement of Photo (End) Sensor (L).
  - (1) Remove 1 screw (G) and take off the Sensor PCB LM Ass'y (M).
  - (2) Remove 1 screw (I) and take off the Photo Sensor PCB Ass'y (L).



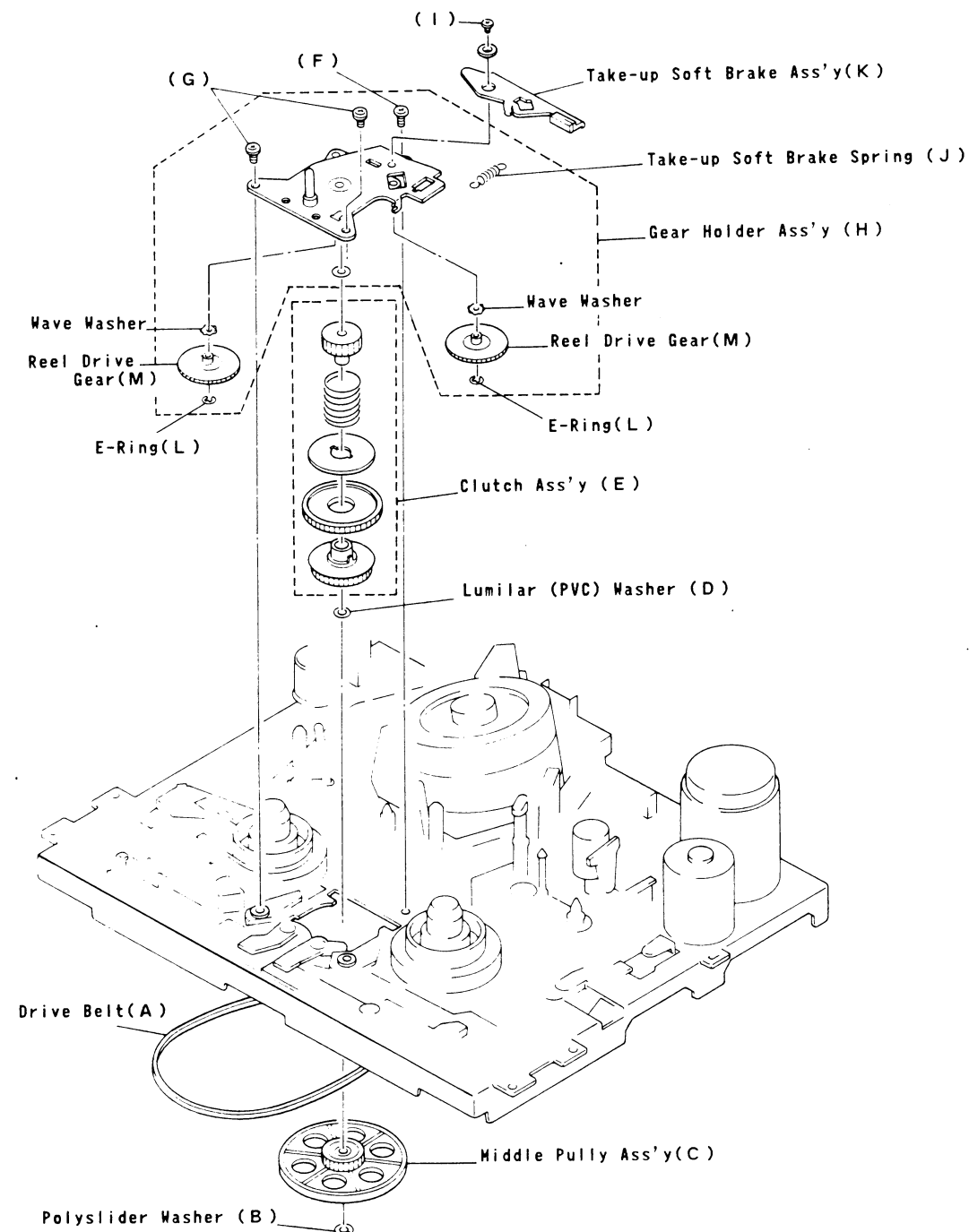
### (4) FULL ERASE HEAD / AUDIO CONTROL HEAD

1. Erase Head (except Play Only Model)
  - (1) Remove Nut (A).
  - (2) Remove Spring (B).
  - (3) Take out the Impedance Roller (C), and pull up the Full Erase Head Plate Ass'y (D).  
(Take care not to lose parts (E) (F) (G) (H) at the time of the Full Erase plate removal.)
  - (4) Remove 1 screw (I) and take off the Full Erase Head (J).
2. Audio / Control Head
  - (1) Remove 1 screw (K), 1 screw (L) 1 screw (O) and Azimuth Spring (M).
  - (2) Remove Audio/Control Head (N).



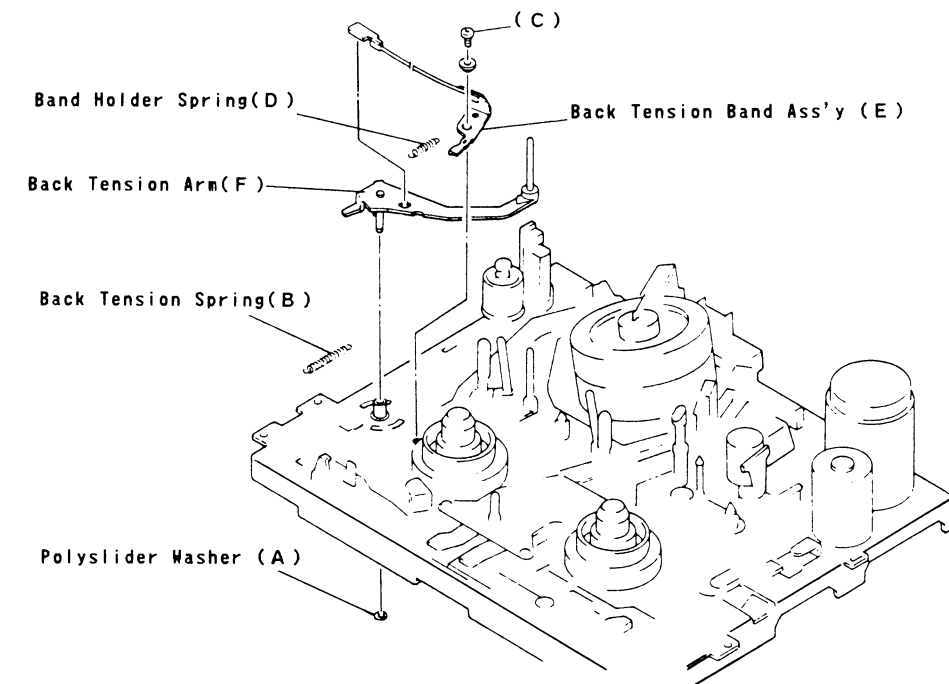
## (5) GEAR HOLDER ASS'Y

1. Remove the Front Loading Unit ( 2. (1) on page 2-1 ).
2. Remove Drive Belt (A).
3. Remove Polyslider Washer (B) and middle Pulley Ass'y (C).
4. Remove Lumilar (PVC) Washer (D) and take off the Clutch Ass'y (E).
5. Remove 1 screw (F) and 2 screws (G) and take off the Gear Holder Ass'y (H).
6. Remove 1 screw (I) and take off the Take-up Soft Brake Spring (J).
7. Take off the Take-up Soft Brake Ass'y (K).
8. Remove 2 E-Rings (L) and take off the 2 Reel Drive Gears (M).



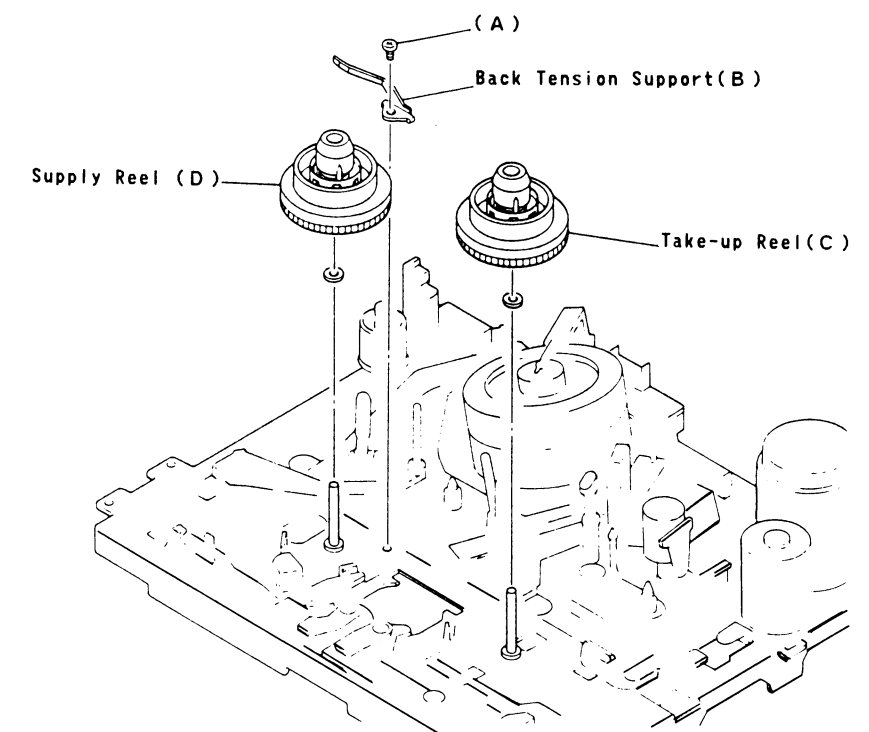
## (6) TENSION ARM ASS'Y

1. Remove the Front Loading Unit ( 2. (1) on page 2-1 ).
2. Remove Polyslider Washer (A) and Back Tension Spring (B) from the Back Tension Arm (F).
3. Remove 1 screw (C) and Band Holder Spring (D).
4. Take off the Back Tension Band Ass'y (E) from the Back Tension Arm (F).



## (7) REEL (TAKE-UP AND SUPPLY)

1. Remove the Front Loading Unit, Gear Holder Ass'y and Back Tension Band Ass'y.
2. Remove 1 screw (A) and the Back Tension Support (B).
3. Remove the Take-up Reel (C) and the Supply Reel (D).

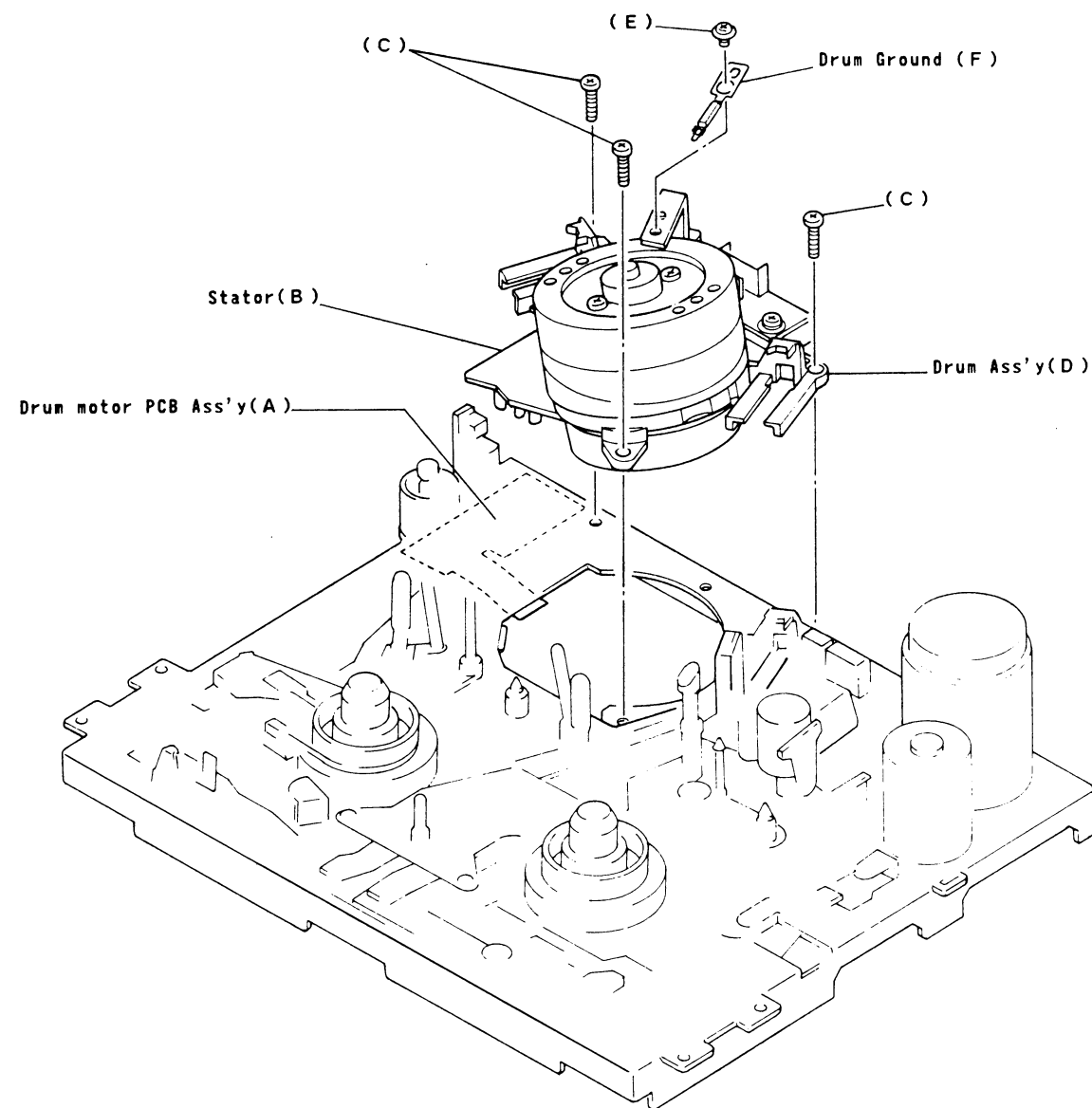


## (8) DRUM ASS'Y

1. Remove the Front Loading Unit ( 2. (1) on page 2-1 ).
2. Pull out the Drum Motor PCB Ass'y (A) from the Stator (B).
3. Remove 1 screw (E) and take off the Drum Ground (F).
4. Remove 3 screws (C) and take off the Drum Ass'y (D).

### ≡Remark≡

Take off the Drum Ass'y (D) carefully without any damage.

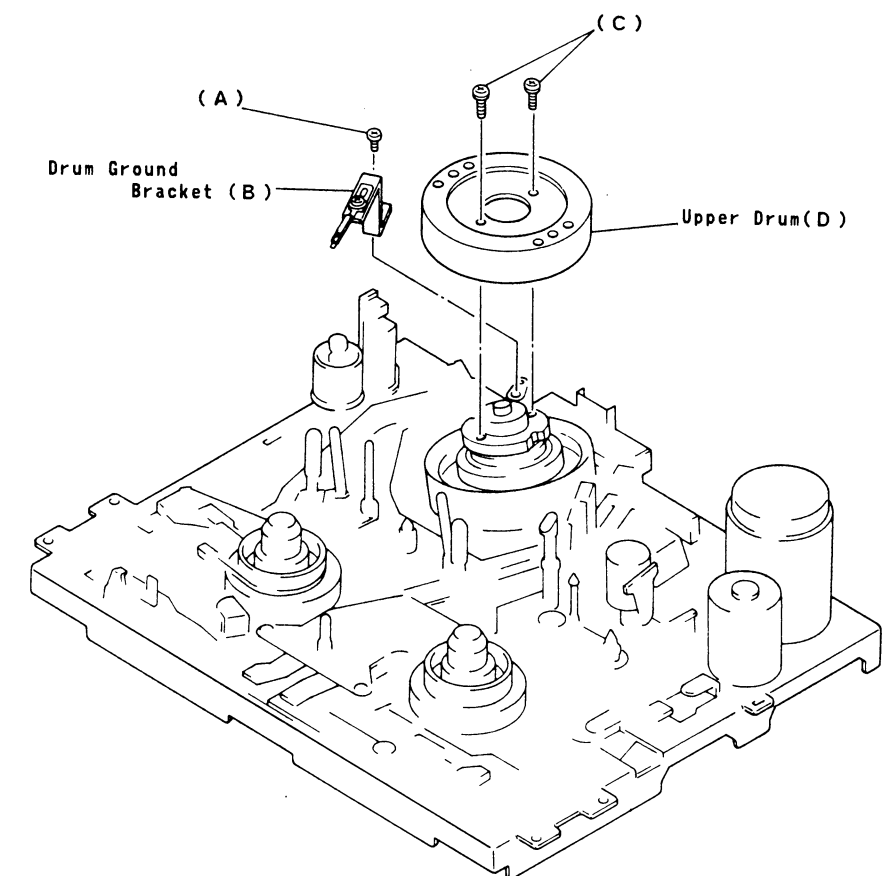
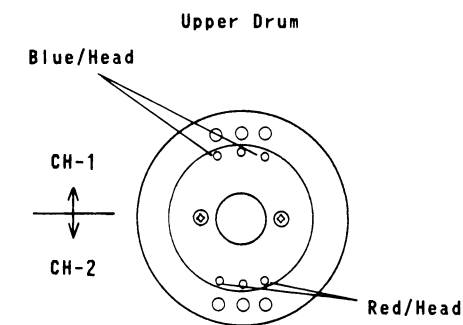


## (9) UPPER DRUM

1. Remove the Front Loading Unit ( 2. (1) on page 2-1 ).
2. Remove 1 screw (A) and take off the Drum Ground Bracket (B).
3. Remove 2 screws (C) and take off the Upper Drum (D).

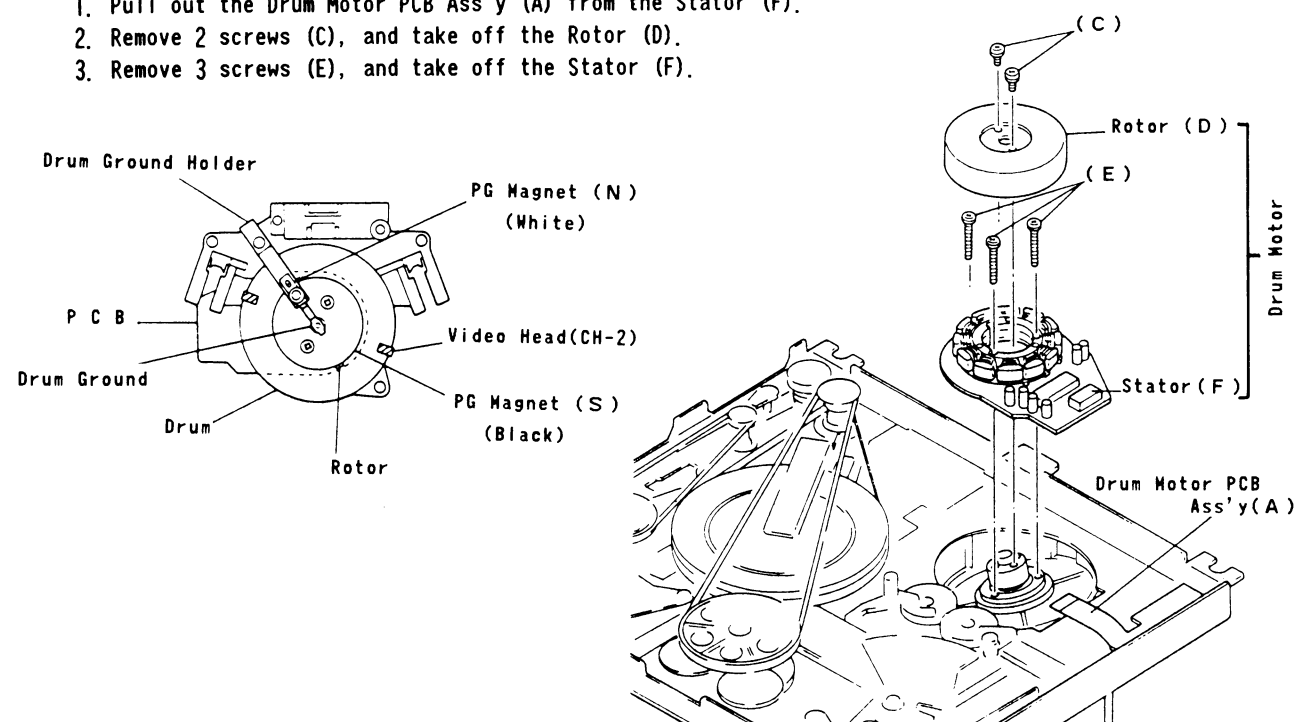
### ≡Remark≡

1. Use gloves and do not touch the drum surface with bare fingers.
2. If the Video Head is defective, replace the complete upper drum with the Head.



## (10) DRUM MOTOR

1. Pull out the Drum Motor PCB Ass'y (A) from the Stator (F).
2. Remove 2 screws (C), and take off the Rotor (D).
3. Remove 3 screws (E), and take off the Stator (F).



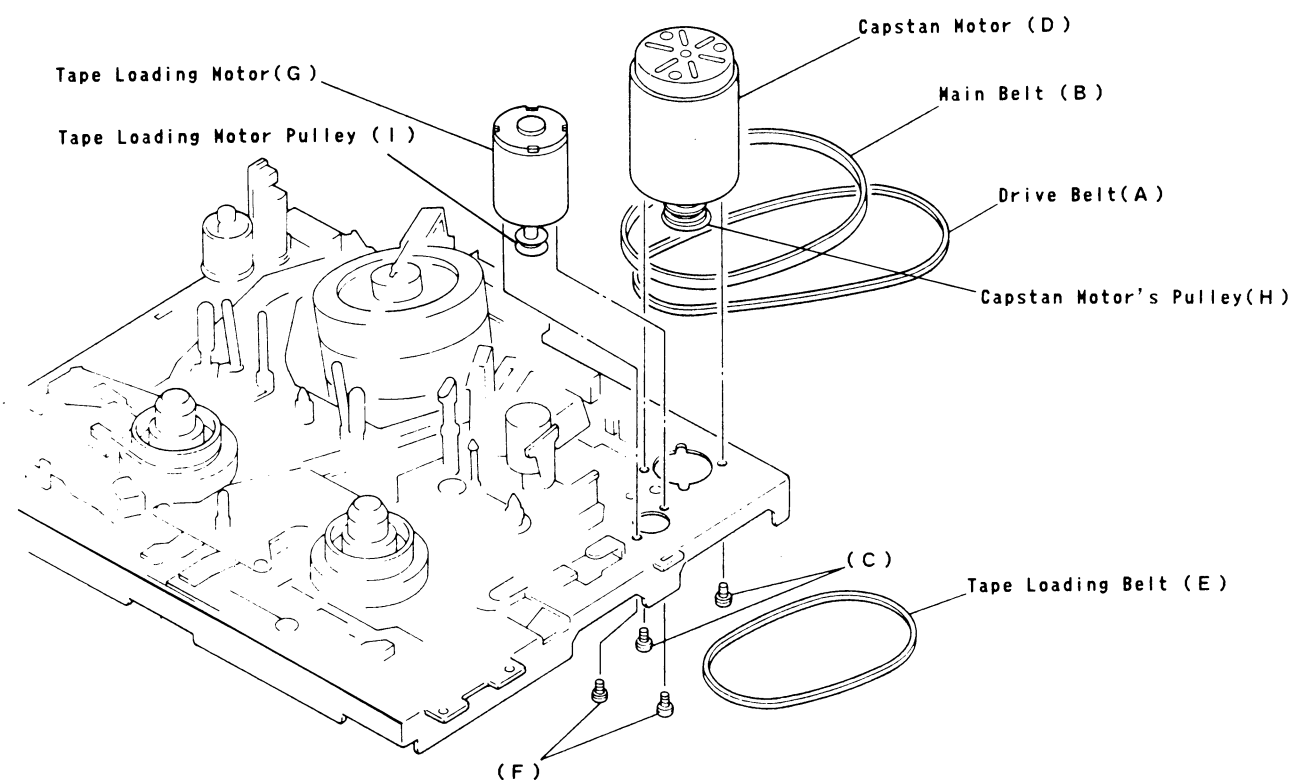
## (11) CAPSTAN MOTOR / TAPE LOADING MOTOR

### 1. CAPSTAN MOTOR

- (1) Take off the Drive Belt (A) and Main Belt (B) from the Capstan Motor's Pulley (H).
- (2) Remove 2 screws (C), and take off the Capstan Motor (D).

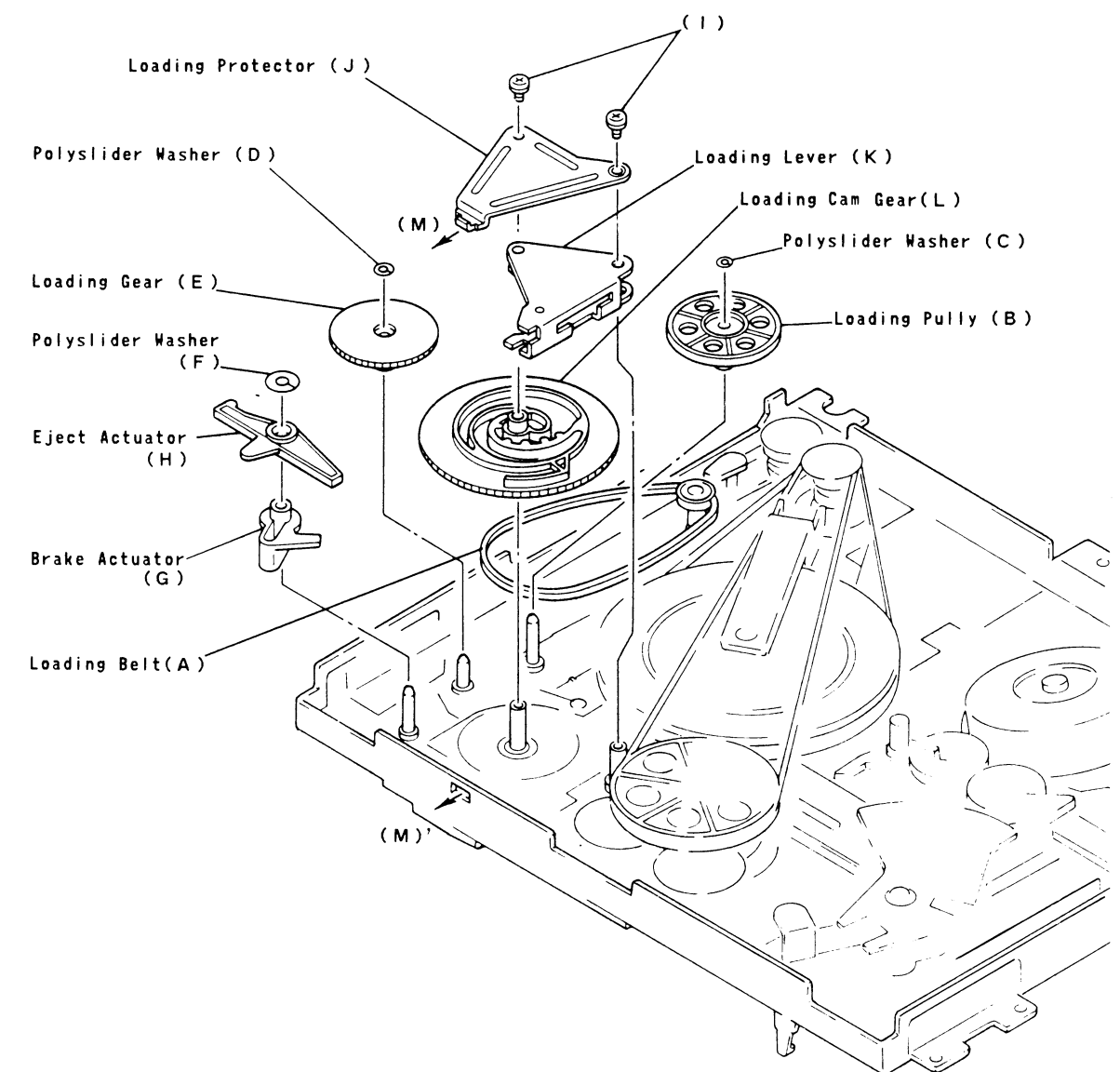
### 2. TAPE LOADING MOTOR

- (1) Take off the Tape Loading Belt (E) from the Tape Loading Motor's Pulley (I).
- (2) Remove 2 screws (F), and take off the Tape Loading Motor (G).



## (12) LOADING CAM GEAR

1. Take off the Loading Belt (A) from the Loading Pulley (B).
2. Remove Polyslider Washer (C), and take off the Loading Pulley (B).
3. Remove Polyslider Washer (D), and take off the Loading Gear (E).
4. Remove Polyslider Washer (F), and take off the Eject Actuator (H) and the Brake Actuator (G).
5. Remove 2 screws (I), and take off the Loading Protector (J) and the Loading Lever (K).
6. Take off the Loading Cam Gear (L).

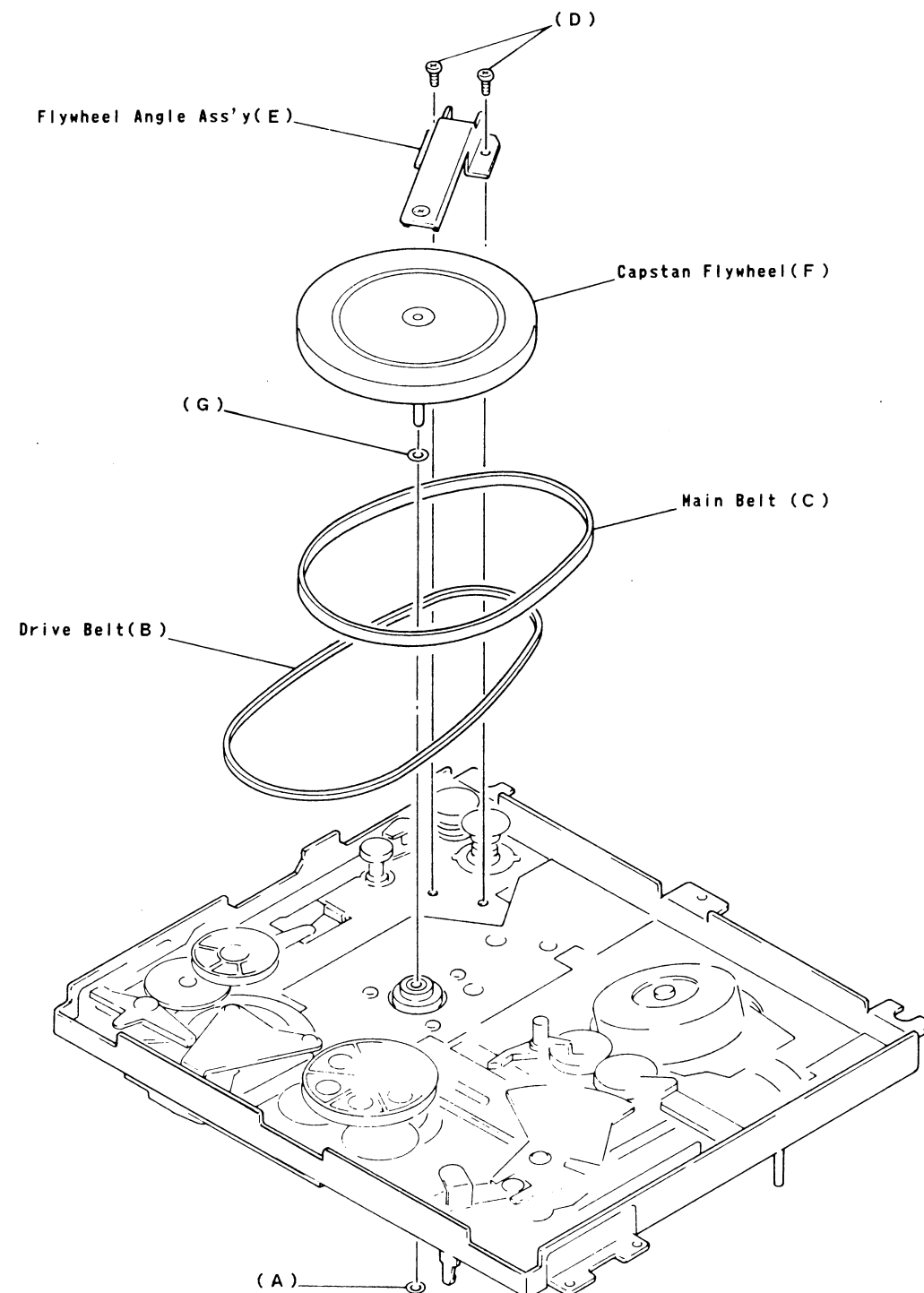


### (13) CAPSTAN FLYWHEEL

1. Remove the Washer (A).
2. Take off the Drive Belt (B) and Main Belt (C).
3. Remove 2 screws (D), and Take off the Flywheel Angle Ass'y (E).
4. Take off the Capstan Flywheel (F).

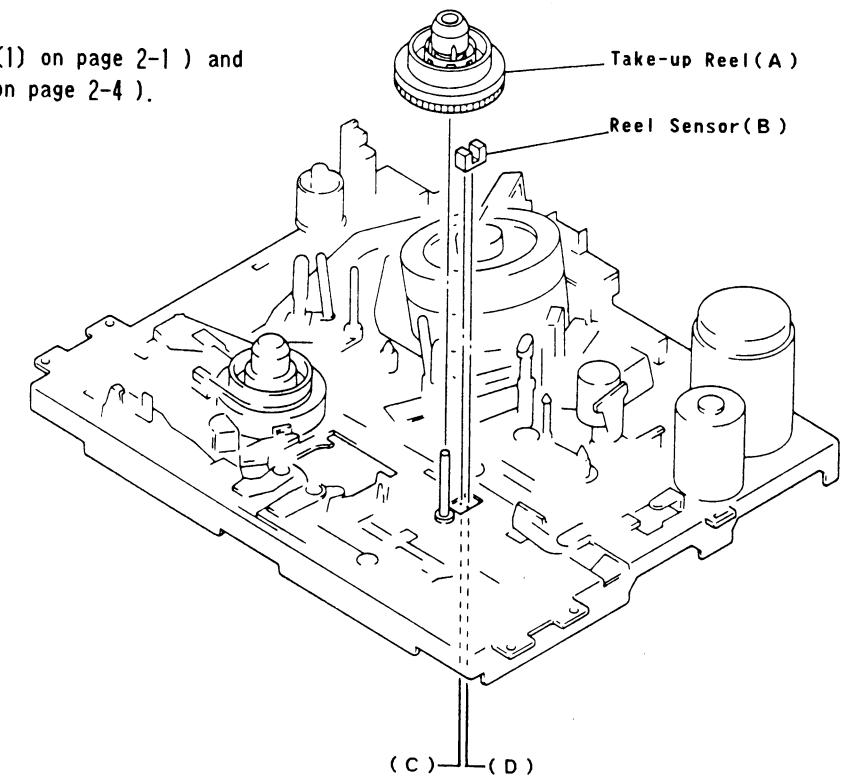
#### ≡Remark≡

Do not miss the Washer (A) and (G) when pulling out the Capstan Flywheel.



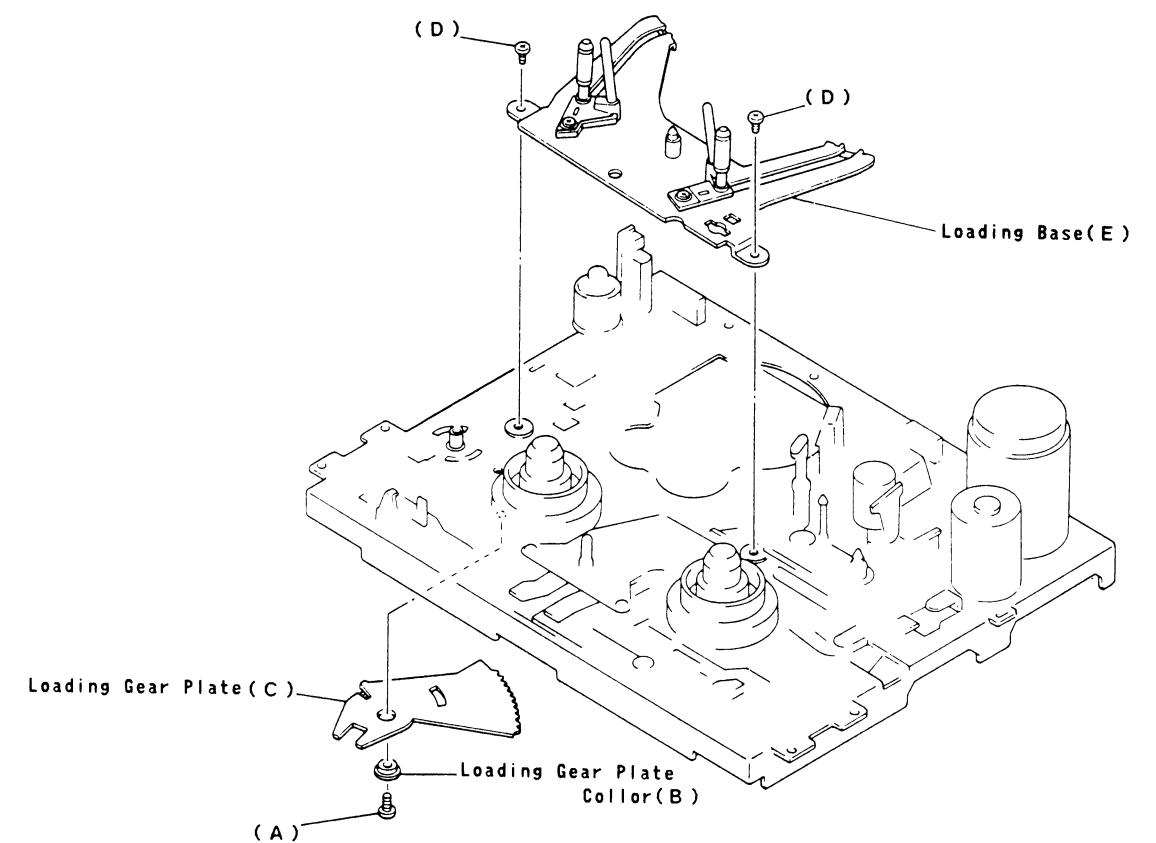
### (14) REEL SENSOR

1. Remove Front Loading Unit ( 2. (1) on page 2-1 ) and the Gear Holder Ass'y ( 2. (5) on page 2-4 ).
  2. Remove Take-up Reel (A).
  3. Remove Reel Sensor (B).
- (Unsolder (C), (D) for bottom.)



### (15) LOADING BASE

1. Remove Drum Ass'y, Tension Arm Ass'y and Photo Sensor. (Sensor Lamp)
2. Remove 1 screw (A) and Loading Gear Plate Collar (B), Loading Gear Plate (C).
3. Remove 2 screws (D).
4. Take off the Loading Base (E).



(16) FRONT LOADING WORMWHEEL UNIT

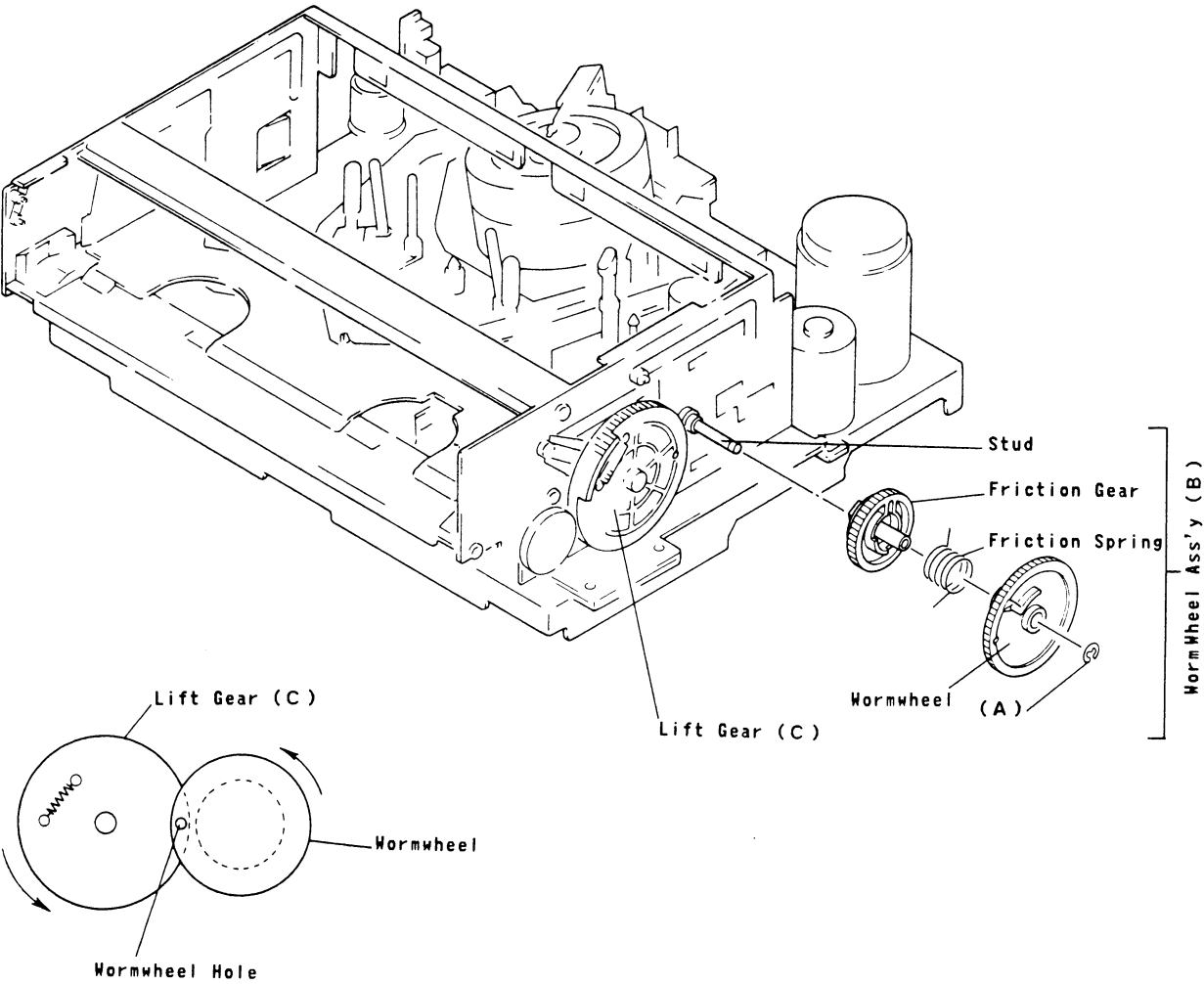
1. DISASSEMBLY
- (1) Remove Front Loading Belt and Bracket Ass'y.

(2) Remove E-Ring (A).

(3) Remove Wormwheel Ass'y (B). (Wormwheel, Friction Spring, Friction Gear)
2. ASSEMBLY
- (1) Turn the Lift Gear (C) fully counterclockwise.

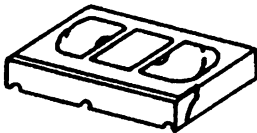
(2) Restore Wormwheel Ass'y (B) to the stud.

≡Remark≡  
Match Lift Gear (C) to the wormwheel hole as illustrated.

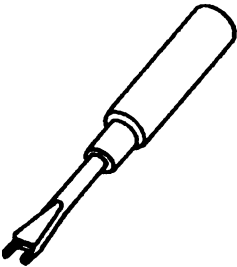


3. SERVICE JIG AND TOOLS

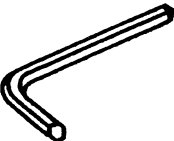
| Ref No. | Jig Item                  | Part No.    | Adjustment                           |
|---------|---------------------------|-------------|--------------------------------------|
| J-1     | Torque Meter              | FSJ-VHT-063 | Back Tension                         |
| J-2     | Driver (Special)          | FSJ-0001    | Control Head / Tape Guide Height     |
| J-3     | Wrench M2 Hexagon(0.9 mm) | FSJ-0002    | Guide Roller Setting                 |
| J-4     | Wrench M3 Hexagon(1.5 mm) | FSJ-0003    | A/C Head Tilt                        |
| J-5     | Mirror                    | FSJ-0004    | Tape Transportation Check            |
| J-6     | Box Driver M3             | FSJ-0005    | Guide Pole / A/C Head Height         |
| J-7     | Alignment Tape            | F6-N        | FM Output Level / Azimuth Adjustment |
| J-8     | Alignment Tape            | F6-A        | Audio Output Adjustment              |



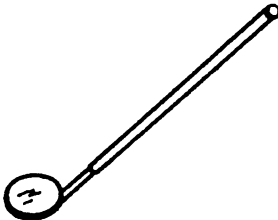
J-1



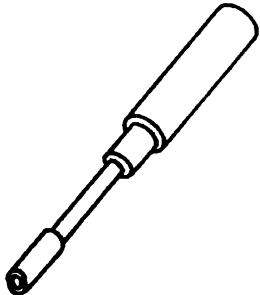
J-2



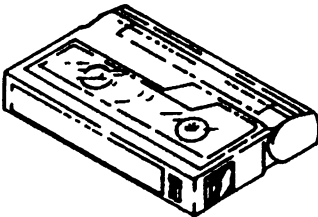
J-3, J-4



J-5



J-6



J-7, J-8

4. STANDARD MAINTENANCE

4-1 SERVICE SCHEDULE OF COMPONENT

○:Check      ●:Change

| D e c k  |                        | Periodic Service Schedule |        |        |        |
|----------|------------------------|---------------------------|--------|--------|--------|
| Ref. No. | Parts Name             | 1000 h                    | 2000 h | 3000 h | 4000 h |
| 2        | Upper Drum             | ○                         | ●      | ○      | ●      |
| 134      | Pinch Roller(A)        |                           | ●      |        | ●      |
| 171      | Capstan Motor Assembly |                           | ●      |        | ●      |
| 229      | Clutch Assembly        |                           | ●      |        | ●      |
| 281      | LM Assembly            |                           |        | ●      |        |
| 173      | Main Belt              |                           | ●      |        | ●      |
| 196      | Back Tension Band      |                           | ●      |        | ●      |
| 233      | Drive Belt             |                           | ●      |        | ●      |
| 251      | Brake Shoe             |                           | ●      |        | ●      |
| 285      | Loading Belt           |                           | ●      |        | ●      |
| 373      | Front Loading Belt     |                           | ●      |        | ●      |
| 14       | Drum Ground            |                           |        | ●      |        |
| 82       | ACE Head               |                           |        | ●      |        |
| 121      | Reel Assembly          |                           |        | ●      |        |

Note:

1. Clean all parts for the tape transport.  
Upper Drum with video head / Pinch Roller  
Audio Control Head
2. After cleaning up the parts, perform all DECK ADJUSTMENTS.

## 4-2 CLEANING

### 1. CLEANING OF VIDEO HEAD

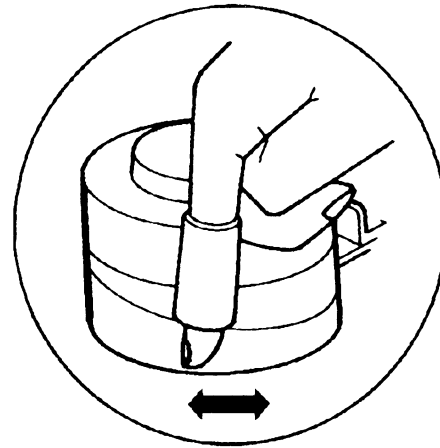
Head cleaning by using a chamois skin.

#### — Procedure —

- (1) Remove the top cabinet.
- (2) Put on a glove (thin type) to avoid touching the upper drum and lower drum with bare hand.
- (3) Put a few drops of alcohol on the Chamois skin, and by slightly placing it against the head tip, allow the upper drum to turn the right and left.

#### — Remark —

- (1) The video head is of very hard material, but since it is very thin, avoid cleaning it vertically.
- (2) Wait for the cleaned part to dry out, before operating the unit.
- (3) Do not reuse the stained chamois skin.



### 2. CLEANING OF AUDIO CONTROL HEAD

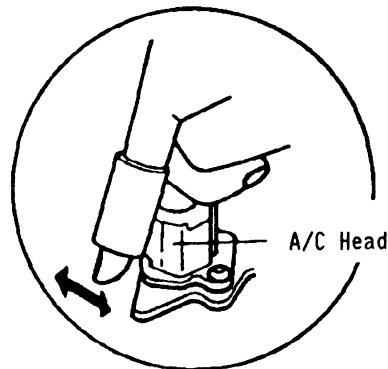
Head cleaning by using a chamois skin.

#### — Procedure —

- (1) Remove the Top Cabinet.
- (2) Put a few drops of alcohol on the chamois skin. Clean up the audio control head, being careful not to damage the upper drum and other tape running parts.

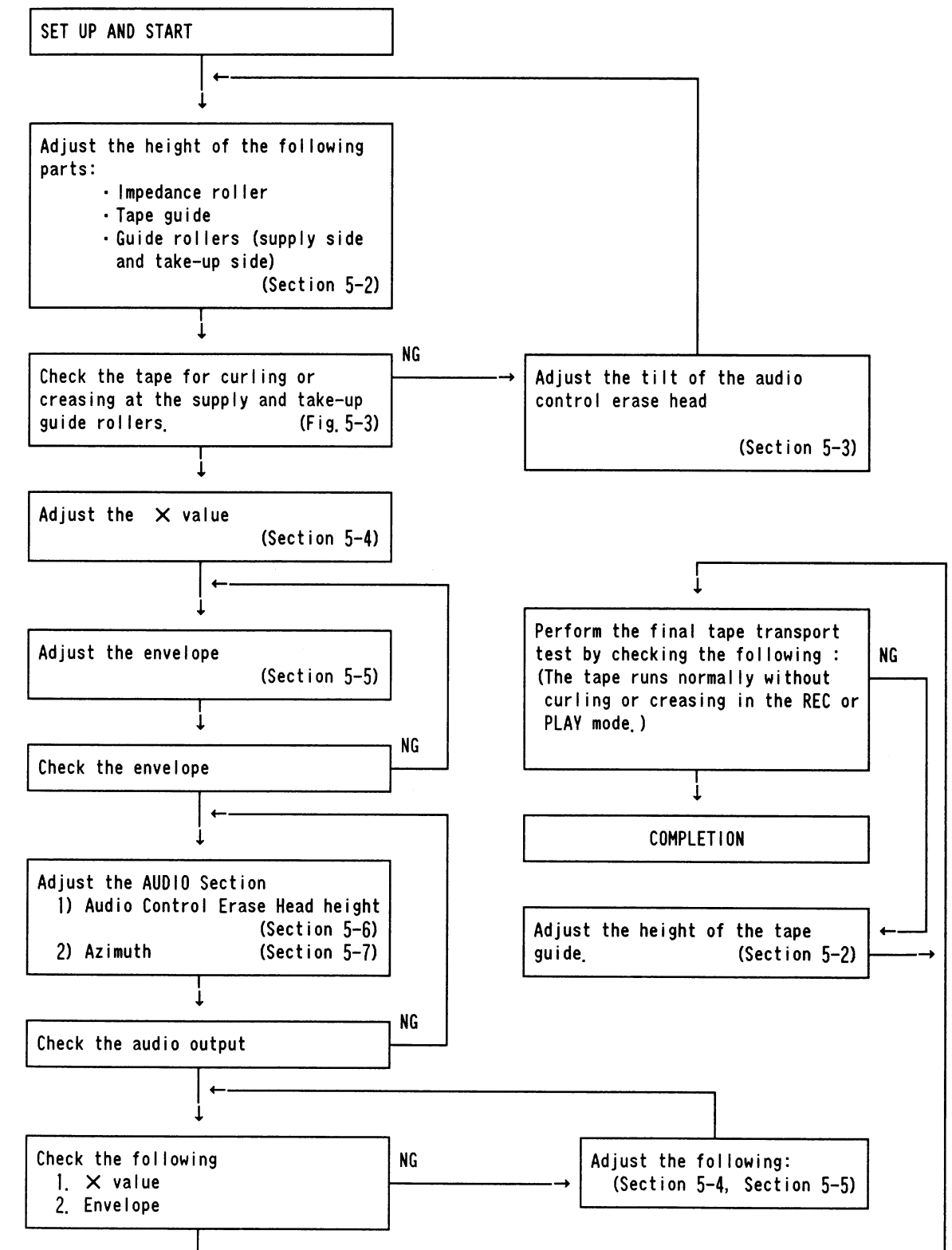
#### — Remark —

- (1) Avoid cleaning audio control head vertically.
- (2) Wait for the cleaned part to dry well, before operating the unit.



## 5. MECHANICAL ADJUSTMENT

### 5-1 TAPE TRANSPORT ADJUSTMENT FLOW CHART



## 5-2 TAPE RUNNING POSITION ADJUSTMENT (GUIDE ROLLER/TAPE GUIDE/IMPEDANCE ROLLER)

1. Perform the height adjustment for the following items to obtain the proper tape running position.
  - ① Impedance Roller
  - ② Guide Roller (Supply side)
  - ③ Guide Roller (Take-up side)
  - ④ Tape Guide

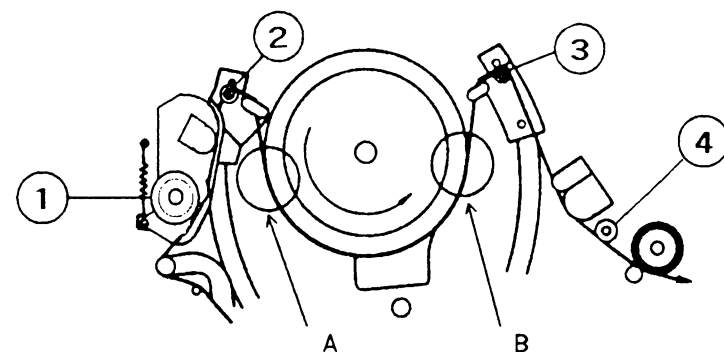


Fig. 5-1

2. Load a blank tape and set the VCR to the PLAY mode. Check the tape transport at points "A" and "B" as shown in Fig. 5-1.
3. Operate the VCR between the PLAY and STOP modes several times.
4. Observe the tape transport at the lead surface of the cylinder during the PLAY mode, and confirm that the tape runs smoothly along the lead surface of the cylinder without slipping downward or upward. (Refer to Fig. 5-2.)

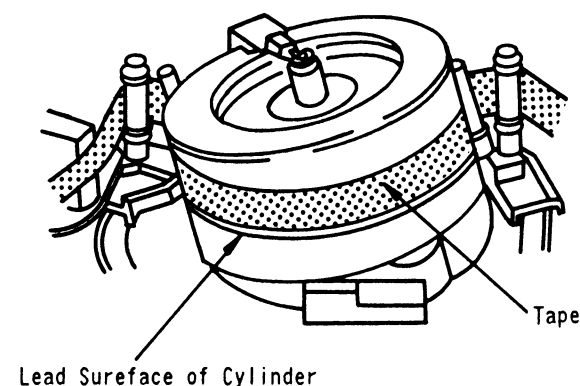


Fig. 5-2

5. During loading, play and unloading, observe the tape at the supply and take-up guide rollers, tape guide and impedance roller. Confirm that there is no curling or creasing etc., as shown in Fig. 5-3.

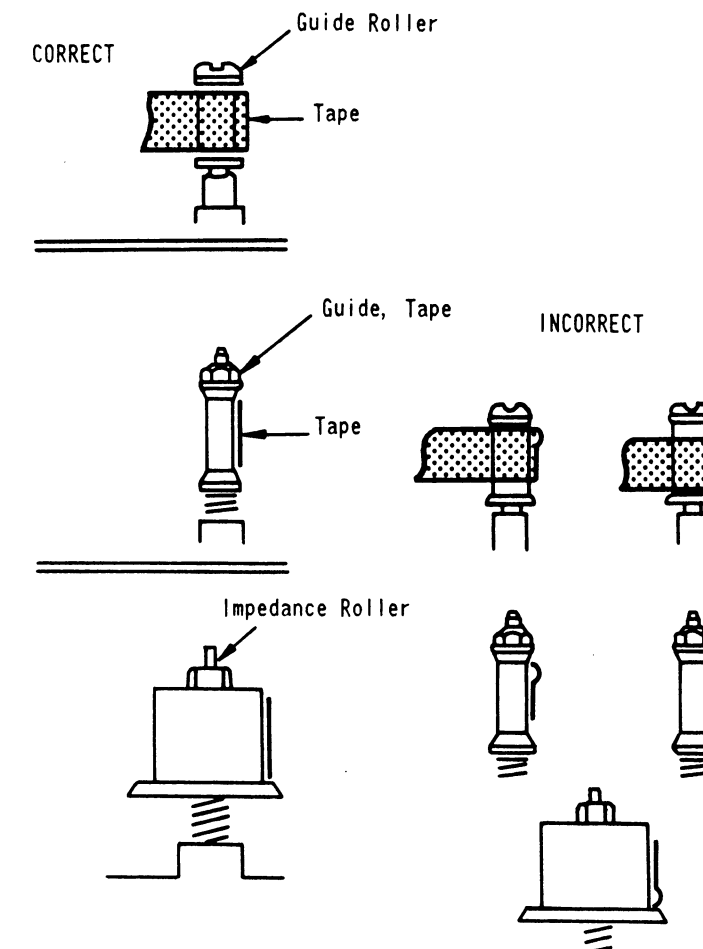


Fig. 5-3

6. If any curling or creasing is noted, adjust tape guide roller and impedance roller first. In this case, adjust the impedance roller in both PLAY and REV modes so that tape runs as shown in Fig. 5-4.

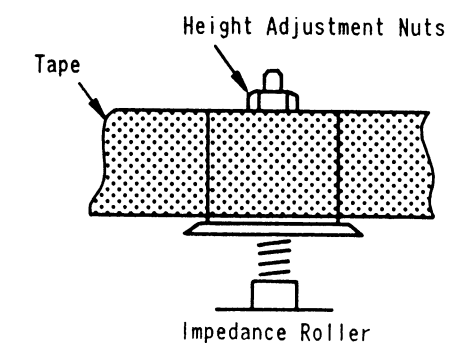


Fig. 5-4.

7. Next, adjust the guide roller height. Insert the adjustment driver (FSJ-0001) into the guide roller top. (Refer to Fig. 5-5.) Adjust the height by turning the driver slightly so that the tape runs on the guide roller as shown in Fig. 5-3, and the lower edge of the tape runs along the lead surface of the cylinder.

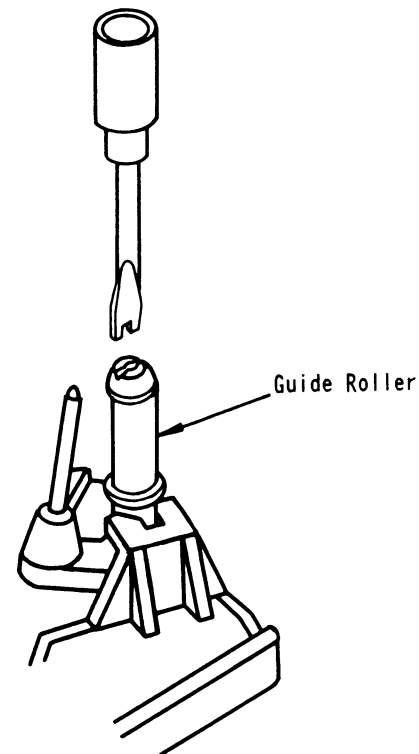


Fig. 5-5

8. After completion of the supply side guide roller adjustments, adjust tape guide so that tape runs as shown in Fig. 5-6, and adjust the take-up side guide roller by using the same procedures as for the supply side adjustments. In this case, adjust the guide roller height first.

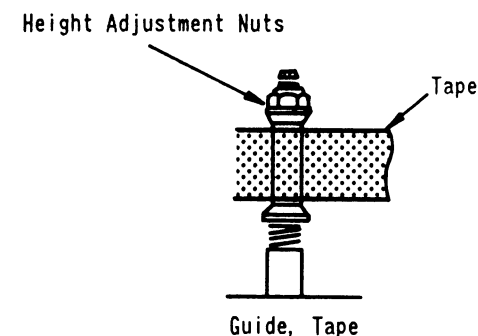


Fig. 5-6

9. Confirm that there is no curling or creasing at the impedance roller. (Both PLAY and REV modes.) If there is any curling or creasing at the impedance roller, adjust the same procedures of Fig. 5-6.
10. Finally, confirm that there is no curling or creasing at the take-up side guide roller and tape guide. If there is any curling or creasing between the take-up side guide roller and the audio control erase head, adjust the audio control erase head.

## 5-3 AUDIO CONTROL ERASE HEAD ADJUSTMENT

1. Load a recorded tape and set the VCR to PLAY mode.
2. Adjust the height of the edge of the audio track on the audio control head by using the height adjustment nut (A) and the tilt adjustment screw (C) so that the tape transport is smooth at the take-up guide pole. Align the audio control head height. (Refer to Fig. 5-7.)

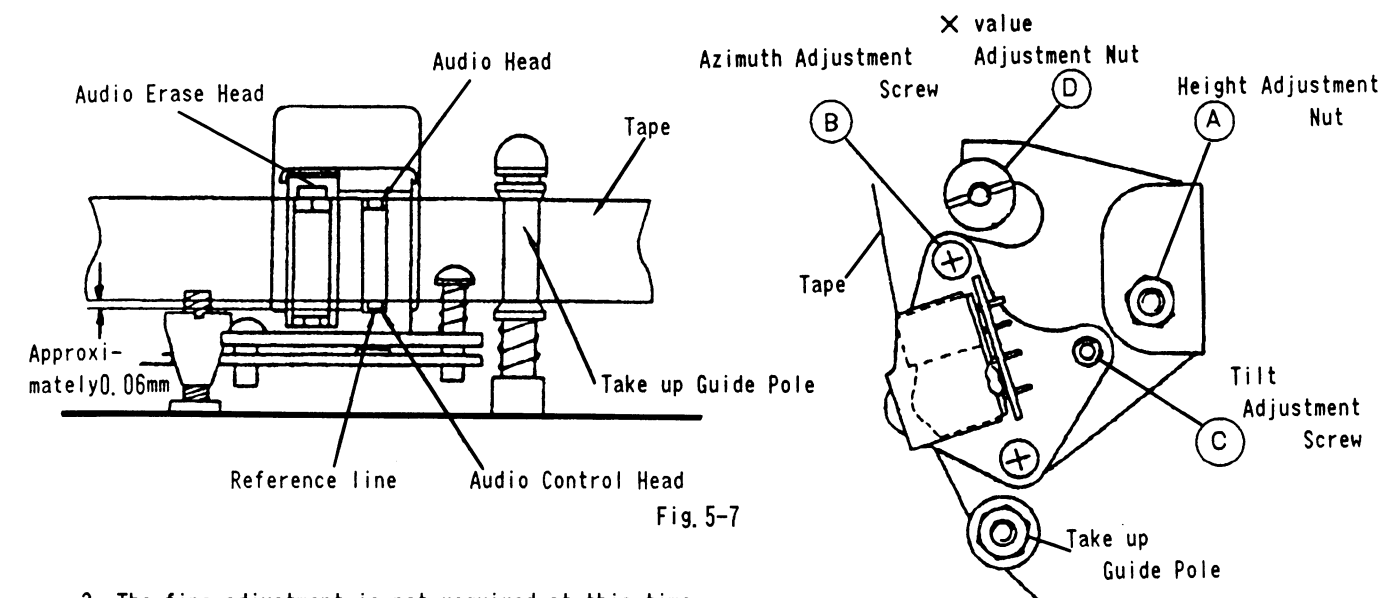


Fig. 5-7

3. The fine adjustment is not required at this time. The following conditions are sufficient :
- (a) Proper tape transport between the audio control head and the take-up guide pole.
  - (b) Stable SERVO system operation. (proper pickup of tape's recorded control signal.)

5-4 X VALUE ADJUSTMENT (PB FM PEAK ADJUSTMENT)

Measuring Method

| Measuring Point                        | Measuring Equip. | ADJ. Condition                   |
|----------------------------------------|------------------|----------------------------------|
| TP 1 (PB FM)<br>GND<br>TP 6 (SW PULSE) | Oscilloscope     | PLAY (SP) MODE<br>Test tape F6-N |
| ADJ. Location                          |                  | ADJ. Value                       |
| X value adjustment nut                 |                  | Maximum level (CH1 PB FM Signal) |

Test Equipment Connecting Diagrams

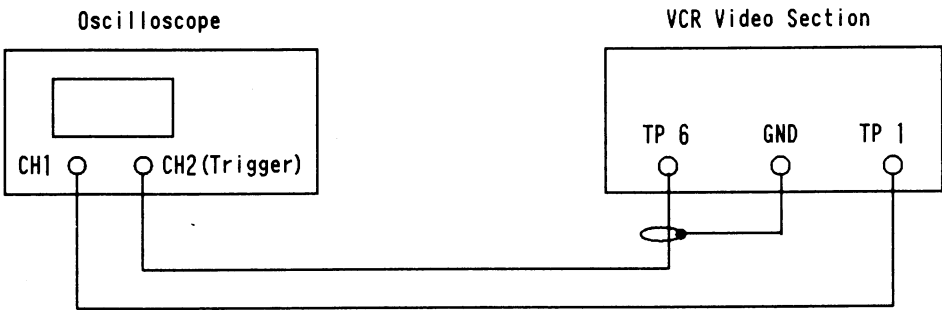


Fig. 5-8

1. Connect the equipment as shown in Fig. 5-8.
2. Adjust VR701(Tracking Volume) to its center position.
3. Adjust the X value adjustment nut ⑤ for maximum PB FM signal for CH1 by using F6-N test tape (Refer to Fig. 5-9).
4. After adjusting the X value, check that the output level of the PB FM signal for CH1 changes symmetrically by rotating VR701 (Tracking Volume).

**Note :** 1. X value adjustment above should be alone so that the noise can be kept out on the TV screen with VR701(Tracking Volume) set to its center.

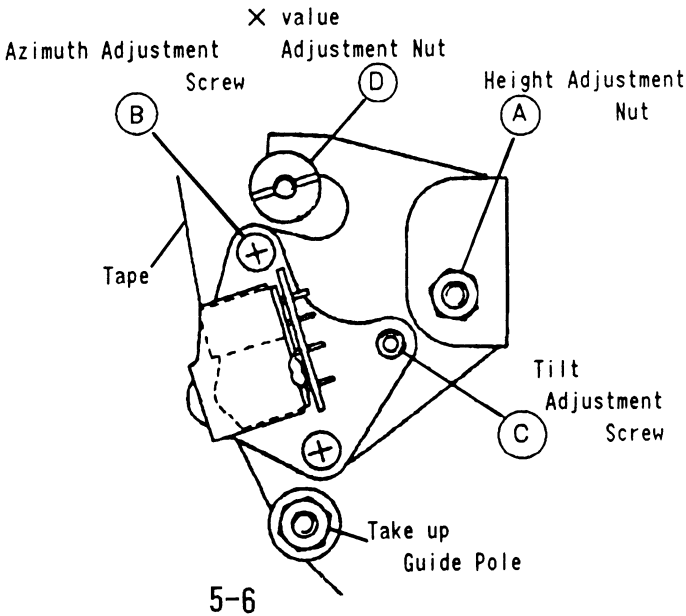


Fig. 5-9

5-5 ENVELOPE WAVEFORM ADJUSTMENT

Measuring Method

| Measuring Point                        | Measuring Equip. | ADJ. Condition                                    |
|----------------------------------------|------------------|---------------------------------------------------|
| TP 1 (PB FM)<br>GND<br>TP 6 (SW PULSE) | Oscilloscope     | PLAY (SP) MODE<br>Test tape F6-N                  |
| ADJ. Location                          |                  | ADJ. Value                                        |
| Guide rollers                          |                  | Maximum level and correct waveform (PB FM Signal) |

Test Equipment Connecting Diagrams

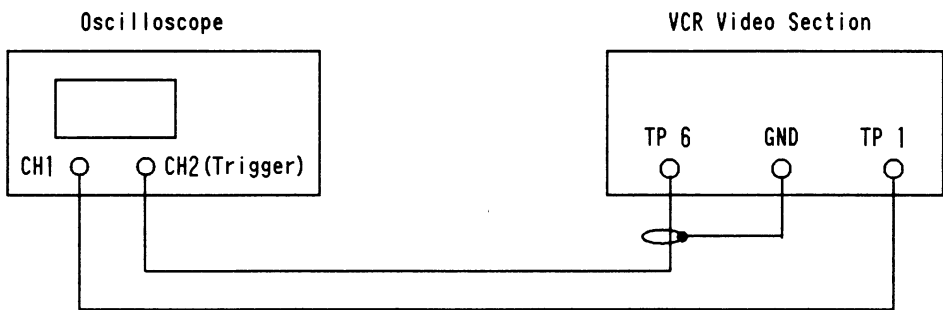


Fig. 5-10

1. Connect equipment as shown in Fig. 5-10.
2. Playback the test tape F6-N.
3. The envelope waveform can be performed by adjusting the height of both the supply side and take-up side guide rollers. Finely adjust the height of guide rollers so that the envelope waveform is as flat as possible.
4. Set VR701(Tracking Volume) to its center position and confirm that a nearly maximum level is obtained. Then rotate the VR701(Tracking Volume) in both directions while adjusting the height of guide rollers, in order to obtain the envelope waveform which is as flat as possible. If the tape is above or lower the helical tape position, the envelope waveforms will take the shape as shown in Fig. 5-11 and Fig. 5-12.
5. Adjust for maximum flatness of the envelope waveform according to the Fig. 5-11 and Fig. 5-12.
6. After adjustment, rotate VR701(Tracking Volume) counterclockwise and clockwise, and check that the waveform changes symmetrically.
7. Check the tape curl. (Refer to Section 5-2.)

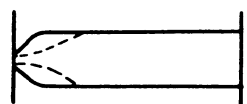
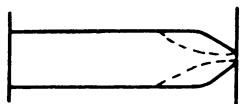
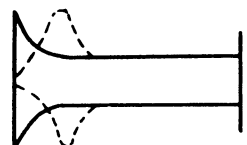
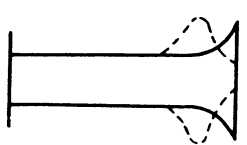
|                                                                                | Tape is too high                                                                                |                                                                                                  |
|--------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
|                                                                                | Supply side                                                                                     | Take-up side                                                                                     |
| When the tracking volume is rotated counterclockwise and clockwise directions. |                |               |
|                                                                                |                |               |
| Adjustment                                                                     | Supply side guide roller rotated clockwise direction (lowers guide roller) to flatten envelope. | Take-up side guide roller rotated clockwise direction (lowers guide roller) to flatten envelope. |

Fig. 5-11

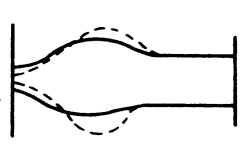
|                                                                                | Tape is too low                                                                                        |                                                                                                         |
|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
|                                                                                | Supply side                                                                                            | Take-up side                                                                                            |
| When the tracking volume is rotated counterclockwise and clockwise directions. |                      |                     |
|                                                                                |                     |                    |
| Adjustment                                                                     | Supply side guide roller rotated counterclockwise direction (raises guide roller) to flatten envelope. | Take-up side guide roller rotated counterclockwise direction (raises guide roller) to flatten envelope. |

Fig. 5-12

# 5-6 AUDIO CONTROL ERASE HEAD HEIGHT/ AUDIO CONTROL ERASE HEAD TILT ADJUSTMENT

## Measuring Method

| Measuring Point                                   | Measuring Equip.             | ADJ. Condition                   |
|---------------------------------------------------|------------------------------|----------------------------------|
| Audio Output                                      | Oscilloscope<br>AC voltmeter | PLAY (SP) MODE<br>Test tape F6-A |
| ADJ. Location                                     |                              | ADJ. Value                       |
| Height adjustment nut<br>Azimuth adjustment screw |                              | Maximum level (AC voltmeter)     |
| Tilt adjustment screw                             |                              |                                  |

## Test Equipment Connecting Diagrams

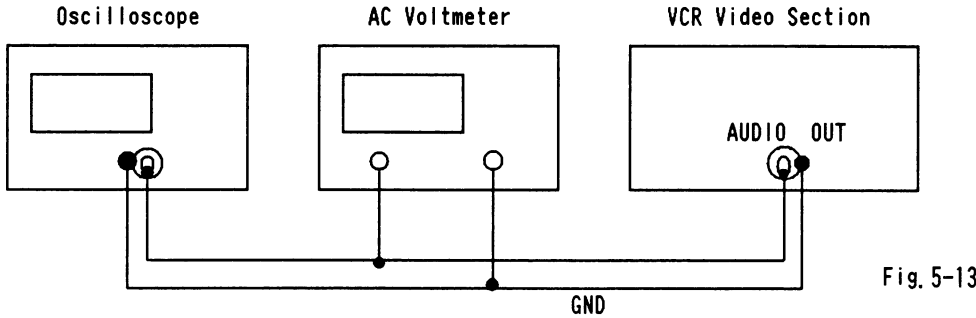


Fig. 5-13

1. Connect equipment as shown in Fig. 5-13.
2. Confirm that the tape running between the take-up guide roller and the audio control erase head has no slack. If the tape has slack, take it up by turning the tilt adjustment screw (C). (Refer to Fig. 5-7.) Then readjust GUIDE ROLLER HEIGHT in section 5-2 and the X value in section 5-4.
3. After confirming on the oscilloscope that a 1 kHz audio signal is being output by playing back F6-A test tape, adjust the height adjustment nut (A) so that the AC voltmeter's reading is brought to its maximum level. (Refer to Fig. 5-14.)
4. Adjust the azimuth adjustment screw (B) so that the AC voltmeter's reading is brought to its maximum level. (Refer to Fig. 5-14.)

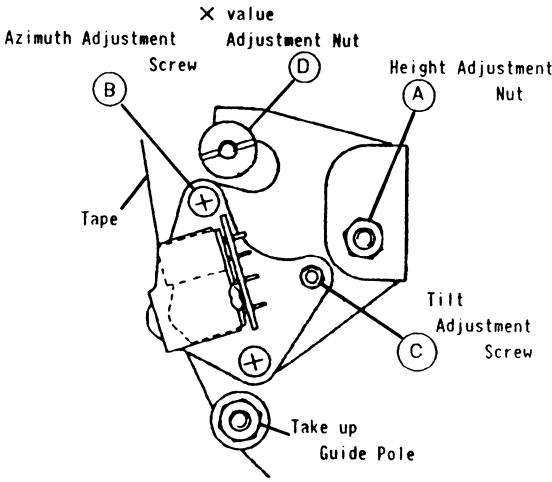


Fig. 5-14

5-7 AUDIO CONTROL ERASE HEAD AZIMUTH ADJUSTMENT

Measuring Method

| Measuring Point        | Measuring Equip.             | ADJ. Condition                   |
|------------------------|------------------------------|----------------------------------|
| Audio Output           | Oscilloscope<br>AC voltmeter | PLAY (SP) MODE<br>Test tape F6-N |
| ADJ. Location          |                              | ADJ. Value                       |
| Azimuth adjustment nut | Maximum level                | (AC voltmeter)                   |

Test Equipment Connecting Diagrams

Refer to Fig.5-13

1. After confirming on the oscilloscope that a 6 kHz audio signal is being output by playing back F8-N test tape, adjust the azimuth adjustment screw ㊸ so that the AC voltmeter's reading or osilloscope waveform is brought to its maximum lebel (Refer to Fig.5-14).

**Note:** Fix the screw ㊸ and ㊹ with lock paint after readjustment.

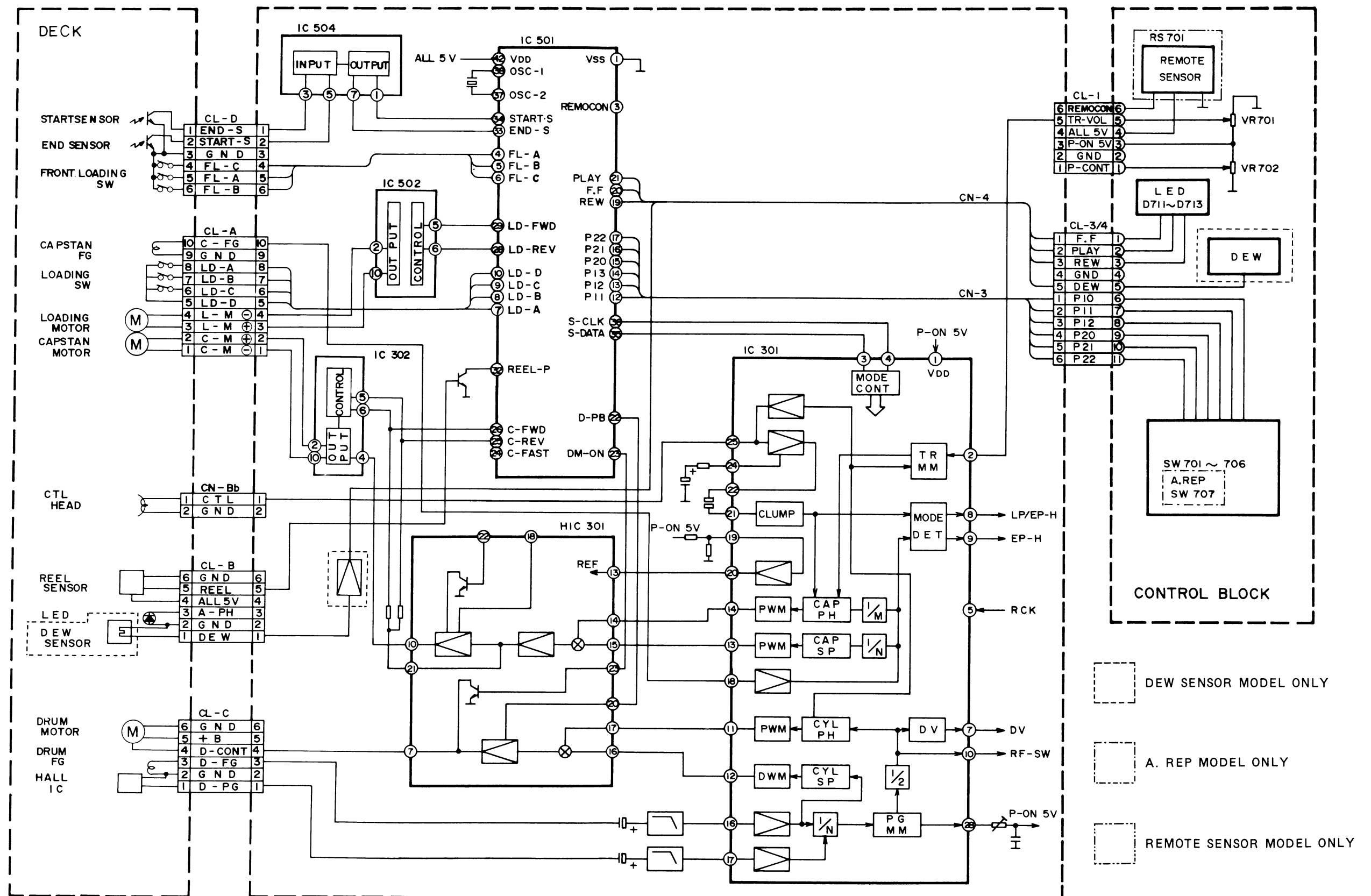
7. IC PIN FUNCTION DESCRIPTION

14DN363 (IC402, SERVO IC)

| Pin No | IN/OUT | Signal name     | Function                                                 |
|--------|--------|-----------------|----------------------------------------------------------|
| 1      | IN     | V <sub>DD</sub> | POWER TERMINAL "H" INPUT (5V) DEGITAL SEC                |
| 2      | IN     | TRMM            | TRACKING MONO-MULT CONTROL (25Hz)                        |
| 3      | IN     | SDAT            | MODE TRANSFER (DATA SIGNAL)                              |
| 4      | IN     | SCLK            | MODE TRANSFER (CLOCK SIGNAL)                             |
| 5      | IN     | RCK             | CLOCK BASE (4.43MHz)                                     |
| 6      | IN     | TEST            | TEST INPUT                                               |
| 7      | OUT    | VLP             | DUMMY V (50Hz)                                           |
| 8      | OUT    | MOD 0           | REC MODE                                                 |
| 9      | OUT    | MOD 1           | REC MODE                                                 |
| 10     | OUT    | HSW             | VIDEO HEAD SWITCH (25Hz)                                 |
| 11     | OUT    | PWM 2           | CYLINDER SERVO PHASE ERROR (34.5kHz)                     |
| 12     | OUT    | PWM 1           | CYLINDER SERVO SPEED ERROR (69.4kHz)                     |
| 13     | OUT    | PWM 3           | CAPSTAN SERVO SPEED ERROR (34.5kHz)                      |
| 14     | OUT    | PWM 4           | CAPSTAN SERVO PHASE ERROR (34.5kHz)                      |
| 15     | IN     | V <sub>SS</sub> | POWER TERMINAL "L" INPUT (GND) DIGITAL SEC               |
| 16     | IN     | YFG             | CYLINDER FG AMP (600Hz)                                  |
| 17     | IN     | YPG             | SYLINDER PG AMP (25Hz)                                   |
| 18     | IN     | FGI             | CAPSTAN FG AMP (504Hz)                                   |
| 19     | IN     | RI              | REFERENCE AMP                                            |
| 20     | OUT    | VRO             | REFERENCE AMP                                            |
| 21     | IN     | C 1             | CONTROL PEAK CLAMP                                       |
| 22     | OUT    | C 0             | CONTROL F/R AMP (25Hz)                                   |
| 23     | IN     | CTLG            | CONTROL GND                                              |
| 24     | IN     | CTLA            | PLAY CONTROL HEAD AMP (NEGATIVE INPUT)                   |
| 25     | IN/OUT | CTLH            | PLAY CONTROL HEAD AMP POSITIVE INPUT, REC CONTROL OUTPUT |
| 26     | IN     | AV              | POWER TERMINAL "H" INPUT (5V) ANALOG SEC                 |
| 27     | IN     | V-SYNC          | V-SYNC SIGNAL (50Hz)                                     |
| 28     | IN     | PGMM            | PG MONO-MULT CONTROL                                     |
|        |        |                 |                                                          |
|        |        |                 |                                                          |
|        |        |                 |                                                          |
|        |        |                 |                                                          |



## 6-2 SYSTEM CONTROL/SERVO/TIMER



14DN348 (IC501, SYSCON IC)

| Pin No | IN/OUT | Signal name | Function                                            |
|--------|--------|-------------|-----------------------------------------------------|
| 1      | IN     | Vss         | GND                                                 |
| 2      | IN     | SAFT        | POWER ABNORMAL DETECTOR                             |
| 3      | —      | —           |                                                     |
| 4      | —      | —           |                                                     |
| 5      | IN     | R-SAFT      | ERASURE PREVENTION SWITCH                           |
| 6      | IN     | LD-A        | TAPE LOADING POSITION DETECTOR                      |
| 7      | IN     | LD-B        | TAPE LOADING POSITION DETECTOR                      |
| 8      | IN     | LD-C        | TAPE LOADING POSITION DETECTOR                      |
| 9      | IN     | LD-D        | TAPE LOADING POSITION DETECTOR                      |
| 10     | —      | —           |                                                     |
| 11     | —      | —           |                                                     |
| 12     | —      | —           |                                                     |
| 13     | IN/OUT | SBT         | SERIAL TRANSFER TIMING CLOCK IN/OUT (BETWEEN CLOCK) |
| 14     | IN/OUT | SBD         | SERIAL TRANSFER DATA IN/OUT (BETWEEN CLOCK)         |
| 15     | —      | —           |                                                     |
| 16     | IN     | RST         | RESET                                               |
| 17     | IN     | V-REF       | COMPARATOR INPUT REFERENCE VOLTAGE                  |
| 18     | IN     | ST-S        | TAPE START POSITION DETECTOR                        |
| 19     | IN     | END-S       | TAPE END POSITION DETECTOR                          |
| 20     | IN     | RF-SW       | SWITCHING PULSE                                     |
| 21     | IN     | REEL-P      | COUNTER INPUT PULSE                                 |
| 22     | IN     | V-REF       | COMPARATOR OUTPUT REFERENCE VOLTAGE                 |
| 23     | IN     | LP/EP-H     | TAPE SPEED                                          |
| 24     | IN     | EP-HWN      | TAPE SPEED                                          |
| 25     | —      | —           |                                                     |
| 26     | IN     | FL-B        | CASSETTE OUT DETECTOR                               |
| 27     | IN     | FL-A        | CASSETTE IN START DETECTOR                          |
| 28     | IN     | FL-C        | CASSETTE DOWN DETECTOR                              |
| 29     | IN     | DEW         | DEW SENSOR                                          |
| 30     | OUT    | S-CLK       | SERVO IC TIMING CLOCK                               |
| 31     | OUT    | S-DATA      | SERVO IC DATA                                       |
| 32     | —      | —           |                                                     |
| 33     | —      | —           |                                                     |
| 34     | —      | —           |                                                     |

| Pin No | IN/OUT | Signal name     | Function                                    |
|--------|--------|-----------------|---------------------------------------------|
| 35     | —      | —               |                                             |
| 36     | —      | —               |                                             |
| 37     | —      | —               |                                             |
| 38     | —      | —               |                                             |
| 39     | —      | —               |                                             |
| 40     | —      | —               |                                             |
| 41     | —      | —               |                                             |
| 42     | —      | —               |                                             |
| 43     | —      | —               |                                             |
| 44     | —      | —               |                                             |
| 45     | —      | —               |                                             |
| 46     | OUT    | TV/VCR          | TV/VCR CONTROL                              |
| 47     | OUT    | A-MUTE          | SOUND MUTE OUTPUT                           |
| 48     | OUT    | PAUSE           | PAUSE CONTROL                               |
| 49     | OUT    | DM-ON           | DRUM ROTATION OUTPUT                        |
| 50     | OUT    | C-FAST          | CAPSTAN MOTOR HIGH SPEED                    |
| 51     | OUT    | C-REV           | CAPSTAN MOTOR REVERSE                       |
| 52     | OUT    | C-FWD           | CAPSTAN MOTOR FORWARD                       |
| 53     | —      | —               |                                             |
| 54     | —      | —               |                                             |
| 55     | —      | —               |                                             |
| 56     | OUT    | LD-REV          | TAPE LOADING/CASSETTE LOADING MOTOR CONTROL |
| 57     | OUT    | LD-FWD          | TAPE LOADING/CASSETTE LOADING MOTOR CONTROL |
| 58     | —      | —               |                                             |
| 59     | OUT    | D-REC           | RECORD CONTROL                              |
| 60     | OUT    | D-PB            | PLAY CONTROL                                |
| 61     | OUT    | P-ON            | POWER ON CONTROL                            |
| 62     | OUT    | OSC-2           | CLOCK OSCILLATION                           |
| 63     | IN     | OSC-1           | CLOCK OSCILLATION                           |
| 64     | IN     | V <sub>DD</sub> | POWER + 5V                                  |
|        |        |                 |                                             |
|        |        |                 |                                             |
|        |        |                 |                                             |
|        |        |                 |                                             |

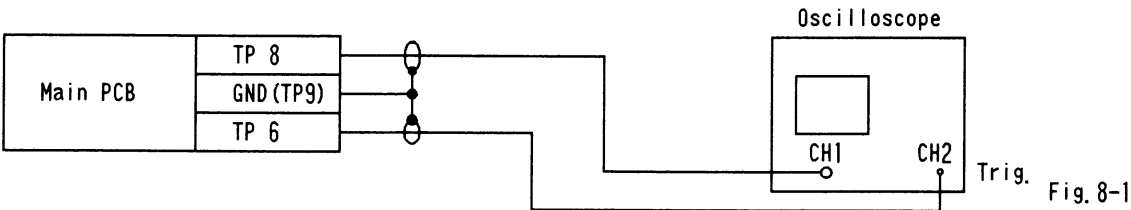
8. ALIGNMENT INSTRUCTIONS

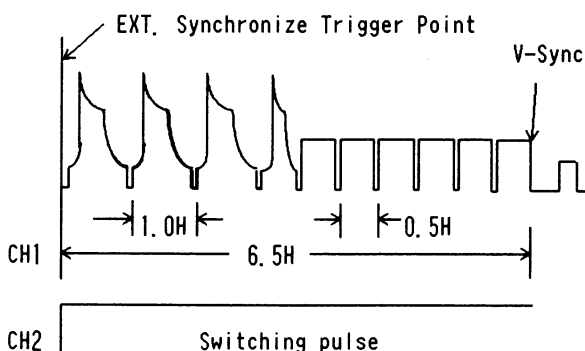
Preparation

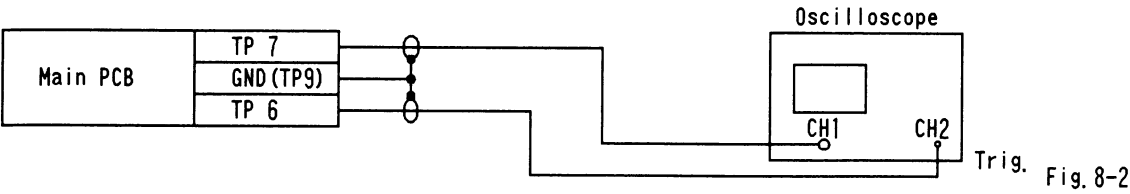
Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.

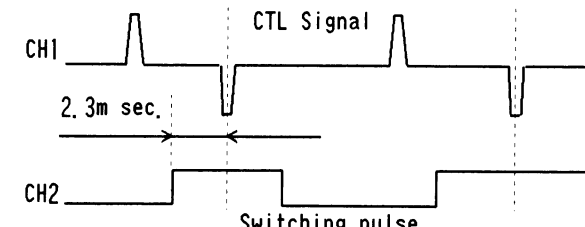
Required Test Equipment

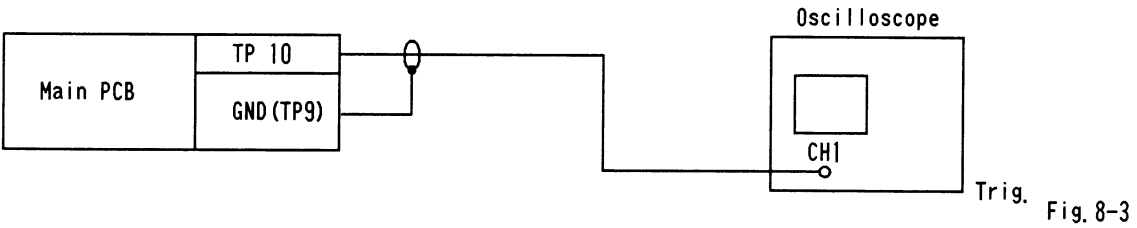
- 1. Oscilloscope : Dual-trace with 10:1 probe.
- 2. Color Monitor
- 3. Alignment Tape F5-A (Color bar)

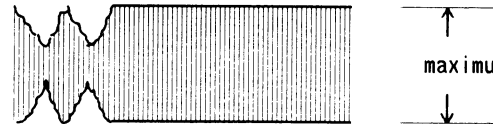


| No. | Item                                           | Test Point                 | Adjustment point | Method                                                                                                                                                                                                                                                                                                                                                                              | Connection Figure |
|-----|------------------------------------------------|----------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| 8-1 | Switching point Adjustment<br>Test Tape (F6-A) | TP 8<br>TP 6<br>TP 9 (GND) | VR302            | 1. Connect CH1 to TP8 of VIDEO-OUT and CH2 to TP6 and set EXT. Trigger mode (+) Trigger.<br>2. Playback the tape and adjust VR302 so that the V-sync front edge of CH1 video output waveform comes the position where 6.5H is delayed from the rising of CH2 Head Switching Pulse waveform.<br> | Fig. 8-1          |



| No. | Item                                                 | Test Point                 | Adjustment point | Method                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Connection Figure |
|-----|------------------------------------------------------|----------------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| 8-2 | CTL Preset Adjustment (P. B. Mode)<br>Test tape F6-A | TP 7<br>TP 6<br>TP 9 (GND) | VR301            | 1. Connect CH1 of oscilloscope across TP7 and Ground.<br>2. Connect CH2 of oscilloscope across TP6 and Ground.<br>3. Set oscilloscope mode to EXT. Trigger(+) Trigger.<br>4. Playback the tape by setting tracking volume at center click position.<br>5. Adjust VR301 to make a position of CTL signal where delayed 2.3msec. from switching pulse starting position.<br> | Fig. 8-2          |

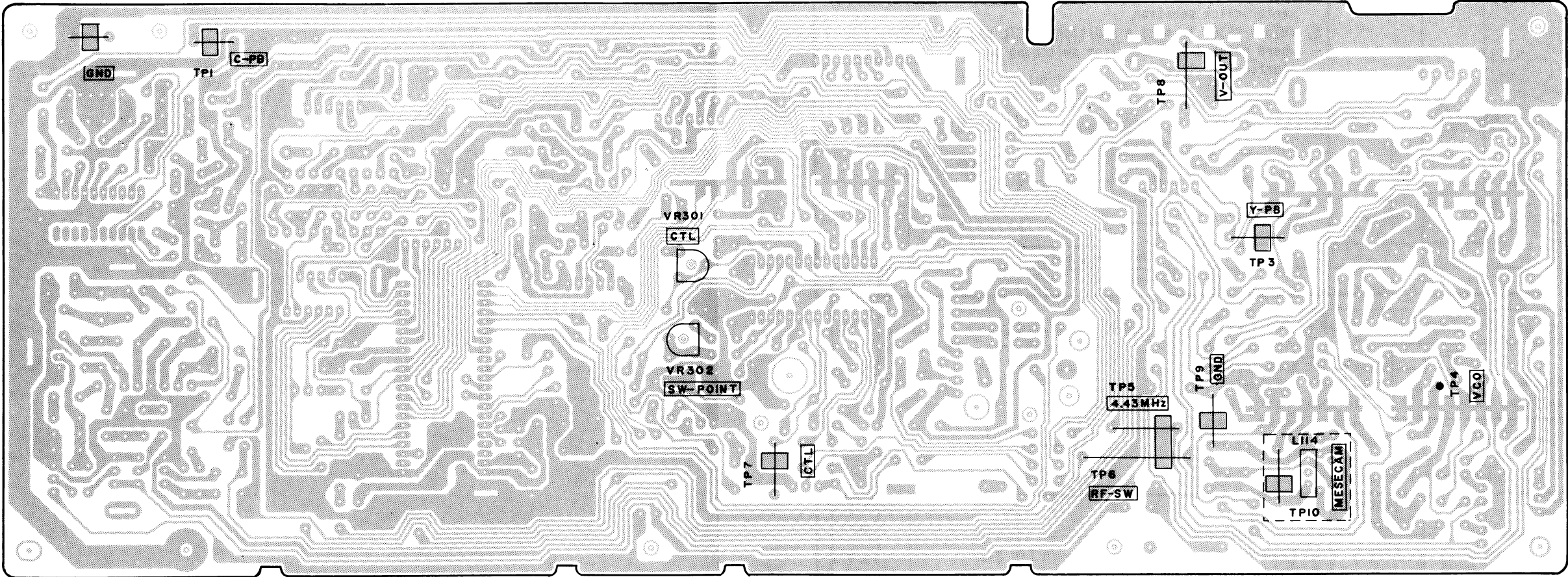


| No. | Item                                                       | Test Point          | Adjustment point | Method                                                                                                                                                                                                                 | Connection Figure |
|-----|------------------------------------------------------------|---------------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| 8-3 | SECAM 1/2fH Tune Adjustment (P. B. Mode)<br>Test tape F5-A | TP 10<br>TP 9 (GND) | L114             | 1. Connect the equipment as shown in Fig. 8-3.<br>2. Playback test tape F5-A.<br>3. Adjust L114 to make mazimum output level.<br> | Fig. 8-3          |

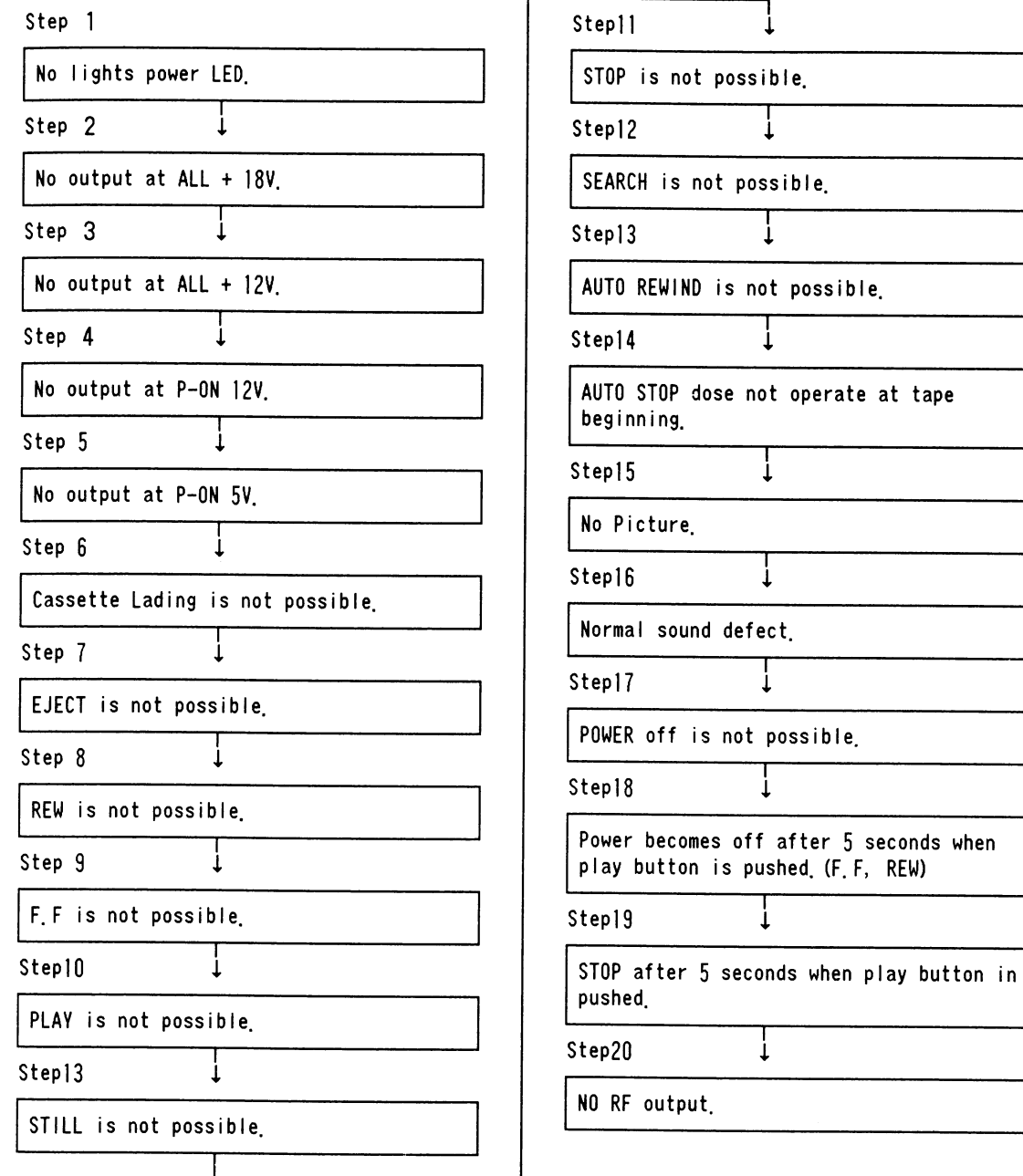
\* MESECAM Model only

9. TEST POINT

9-1 MAIN P.C.BOARD

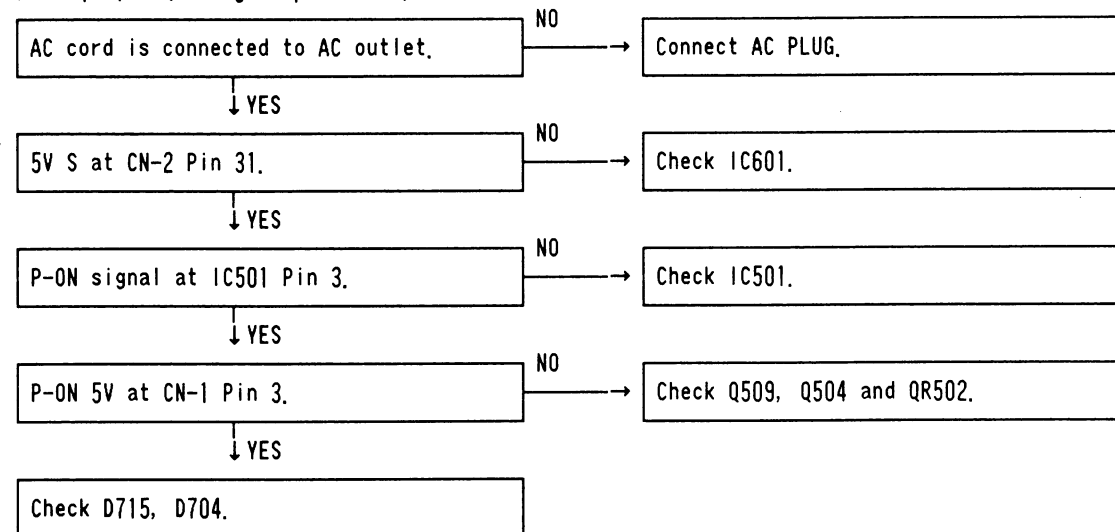


## 10. TROUBLESHOOTING GUIDES

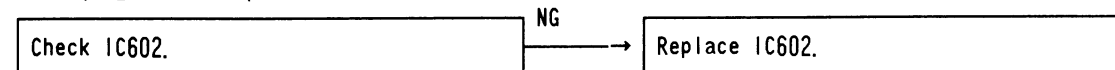


TP  
 C-F  
 TP  
 -OU  
 SY  
 SE  
 EE  
 LEVE

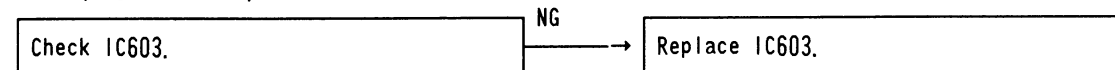
#### Step 1 (No lights power LED)



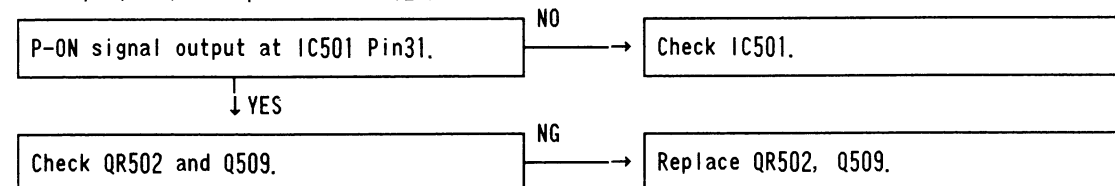
#### Step 2 (No output at ALL + 18V)



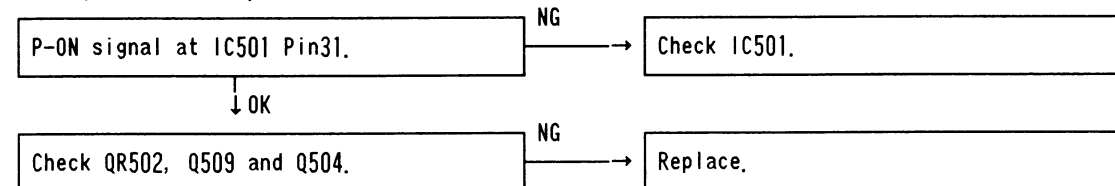
#### Step 3 (No output at ALL + 12V)



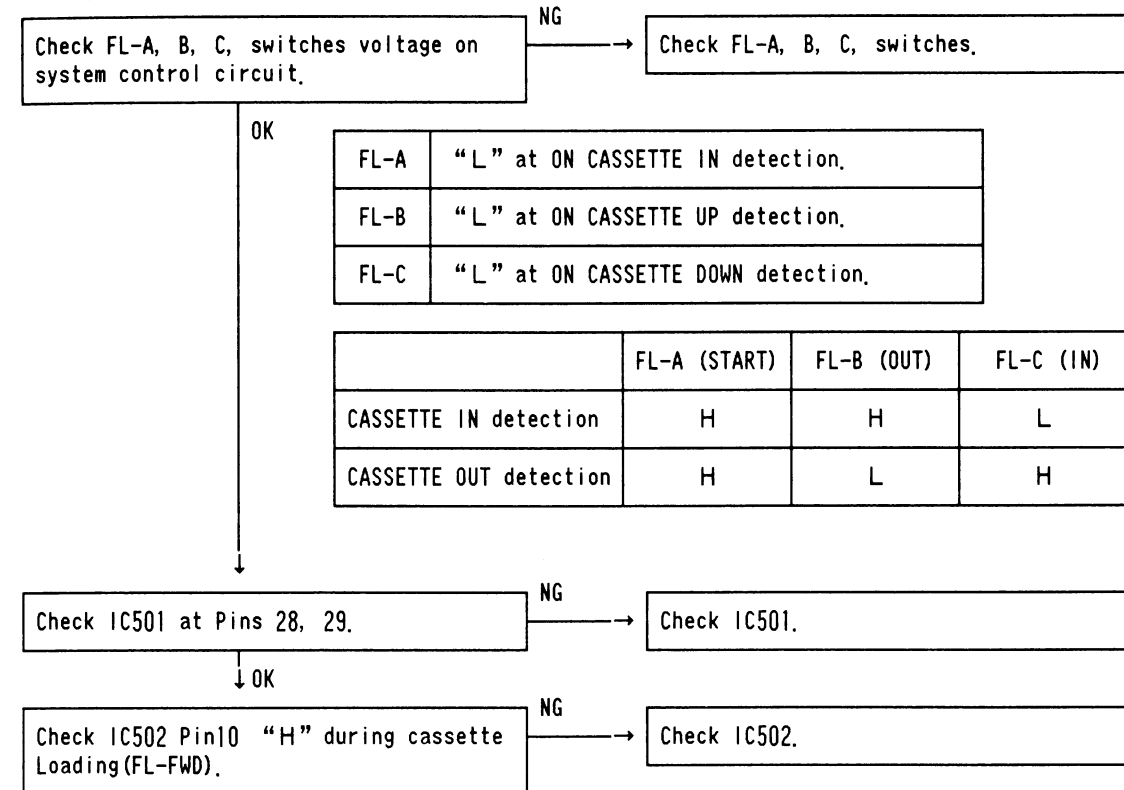
#### Step 4 (No output at P-ON 12V)



#### Step 5 (No output at P-ON 5V)



#### Step 6 (Cassette lading is not possible)

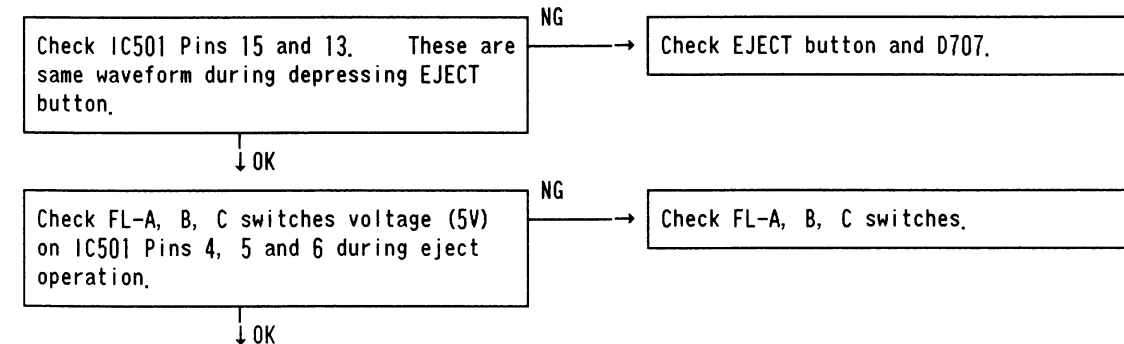


|      |                                    |
|------|------------------------------------|
| FL-A | "L" at ON CASSETTE IN detection.   |
| FL-B | "L" at ON CASSETTE UP detection.   |
| FL-C | "L" at ON CASSETTE DOWN detection. |

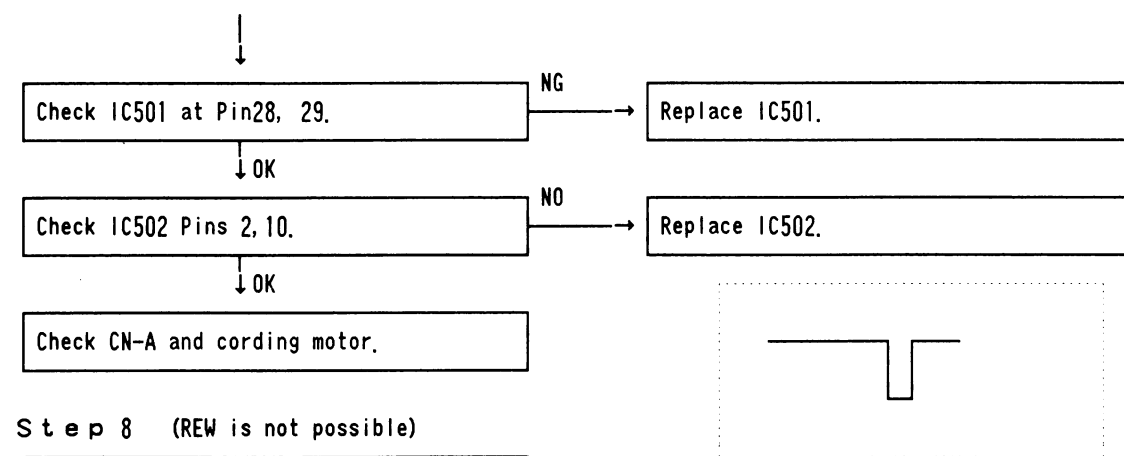
|                        | FL-A (START) | FL-B (OUT) | FL-C (IN) |
|------------------------|--------------|------------|-----------|
| CASSETTE IN detection  | H            | H          | L         |
| CASSETTE OUT detection | H            | L          | H         |

| CAP-FWD | CAP-REV | MOTOR                | REMARK                                   |
|---------|---------|----------------------|------------------------------------------|
| L       | L       | STOP (Idle rotation) | Stopped Brake is not applied.            |
| H       | L       | Reverse rotation     | Capstan reel normal rotation direction.  |
| L       | H       | Normal rotation      | Capstan reel reverse rotation direction. |
| H       | H       | Brake                | Immediate stopping.                      |

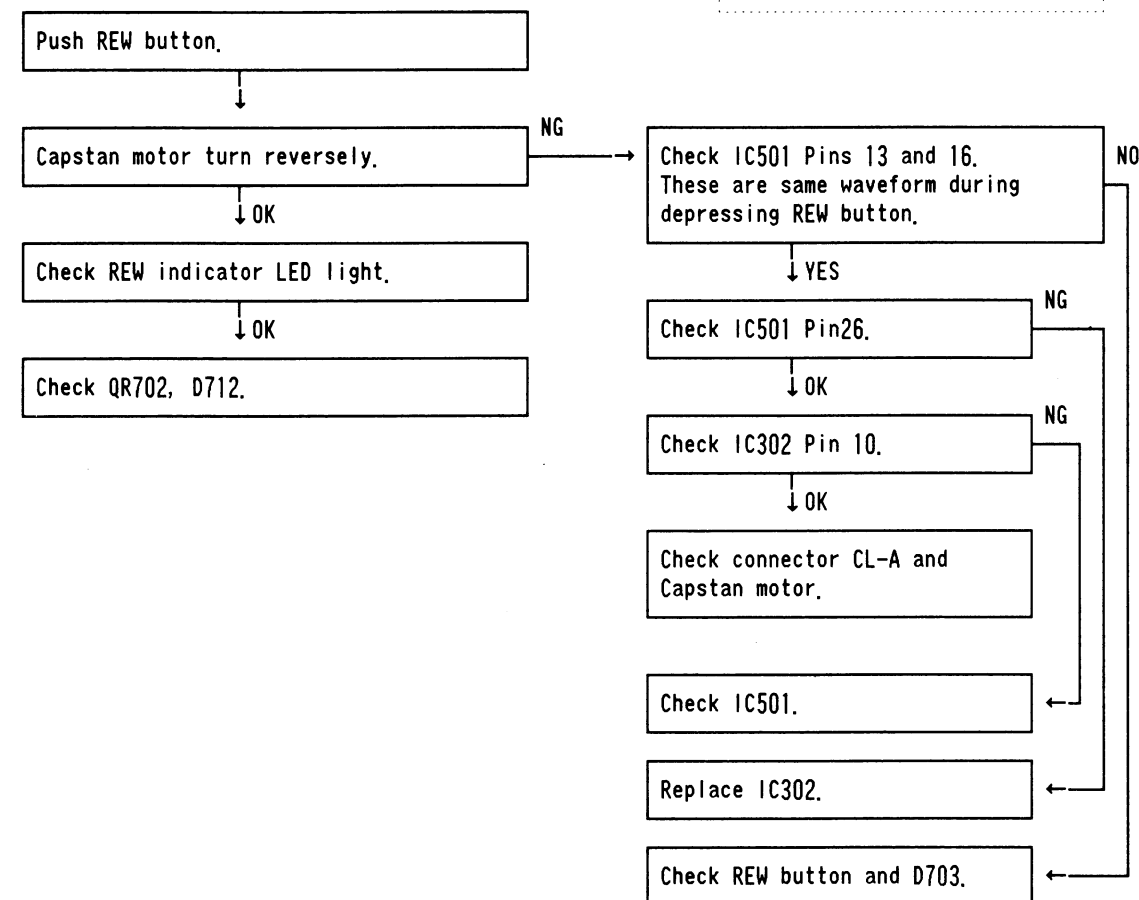
#### Step 7 (EJECT is not possible)



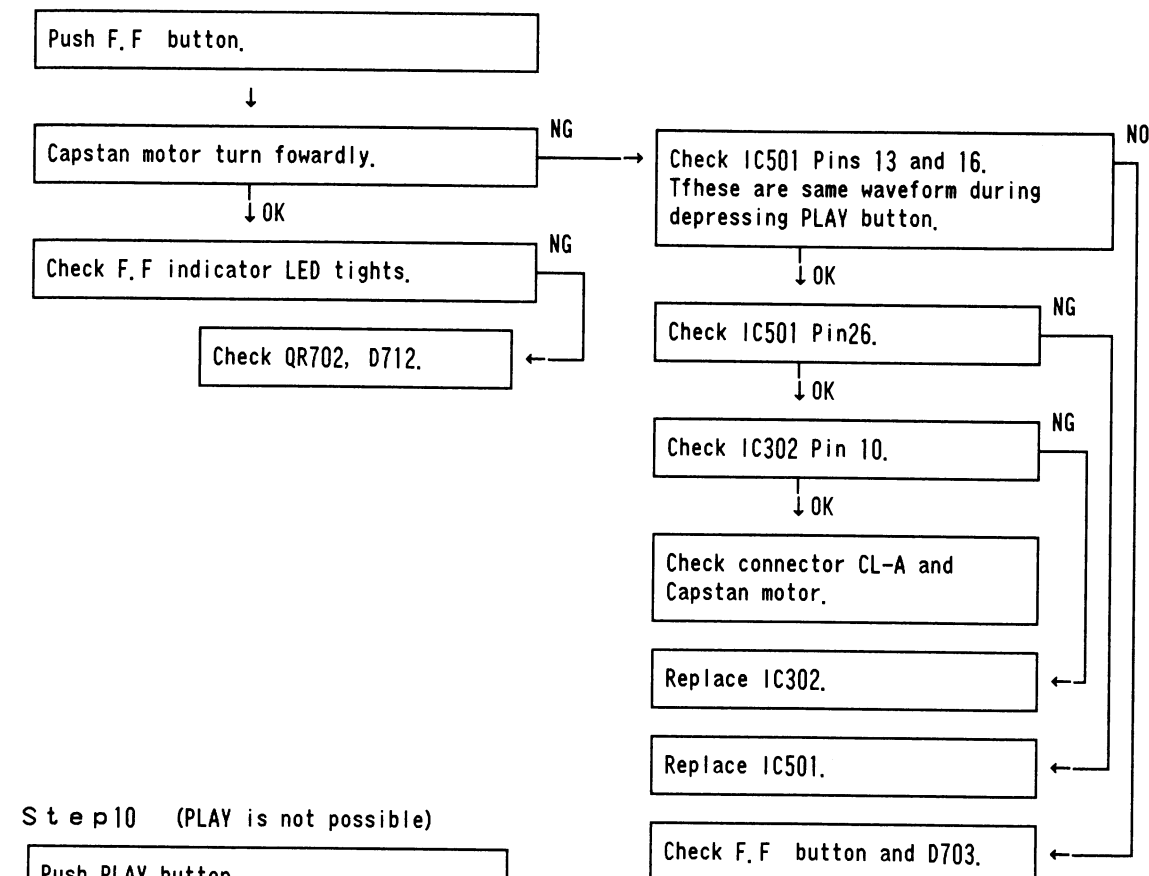
TP  
C-F  
TPE  
OU  
AM  
SYN  
SE  
EE  
LEVEL



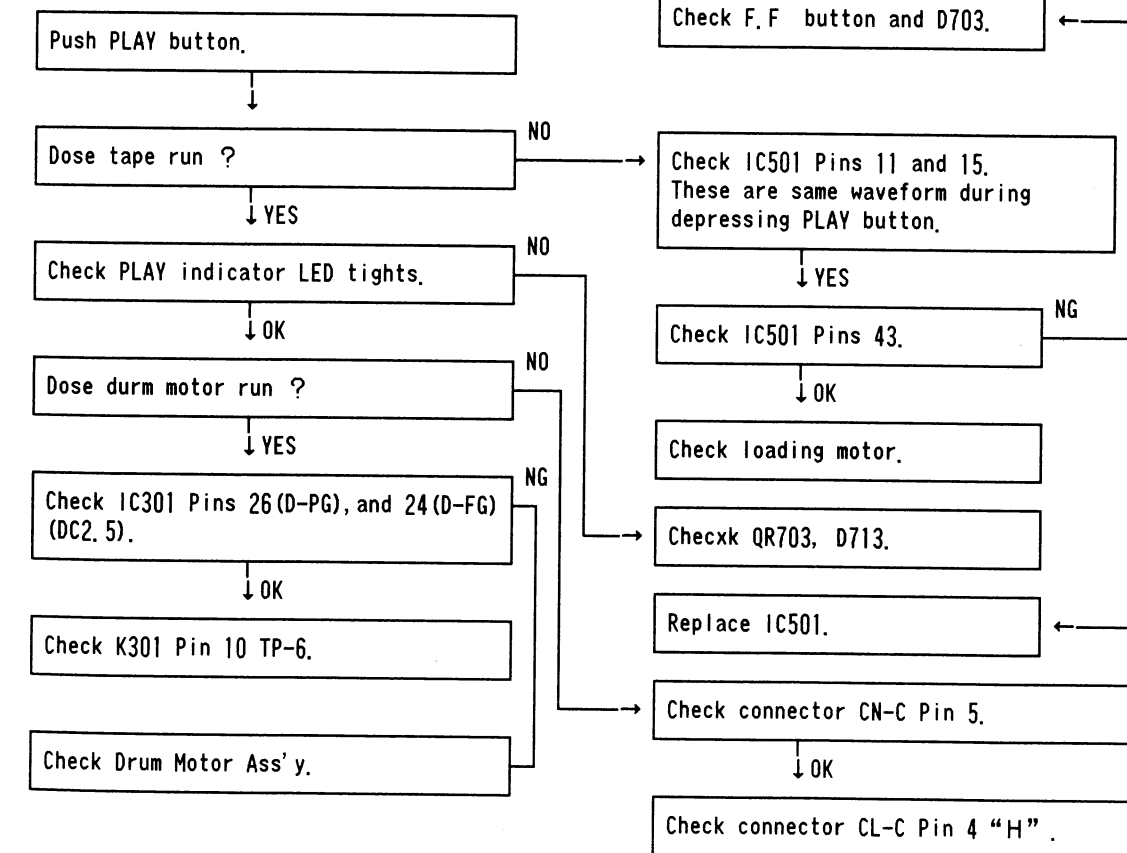
#### Step 8 (REW is not possible)



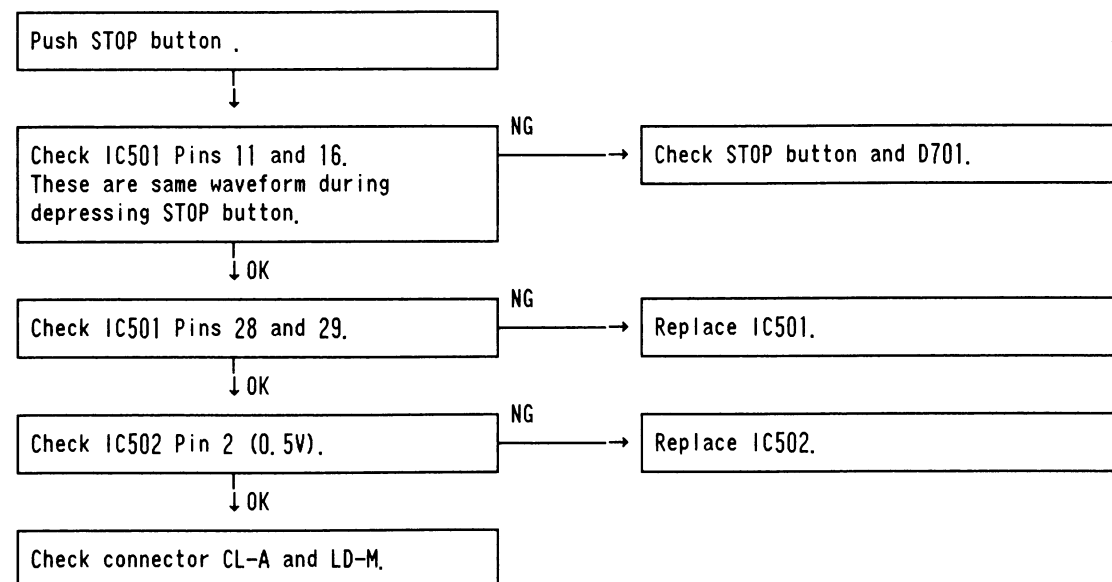
#### Step 9 (F.F is not possible)



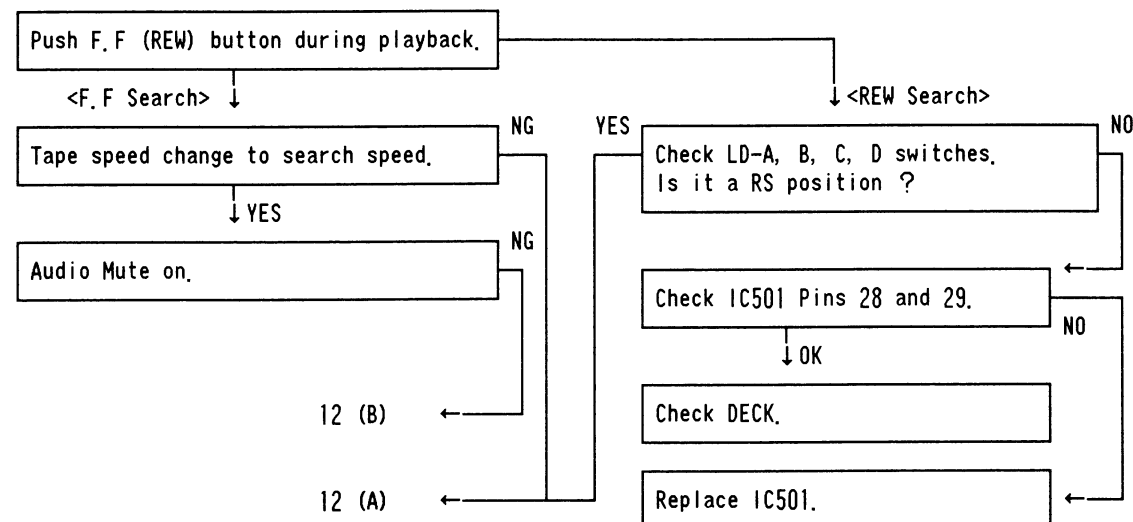
#### Step 10 (PLAY is not possible)



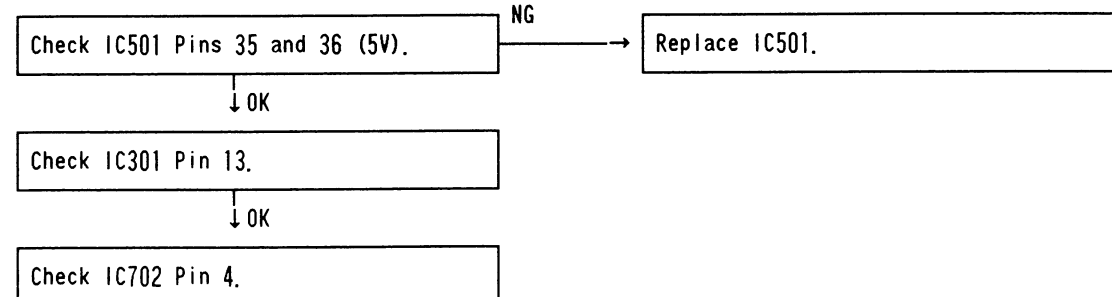
# Step 11 (STOP is not possible)



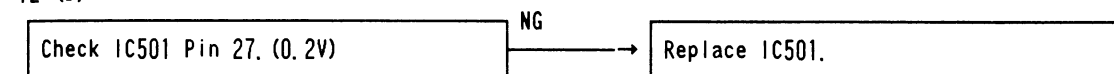
# Step 12 (Search is not possible)



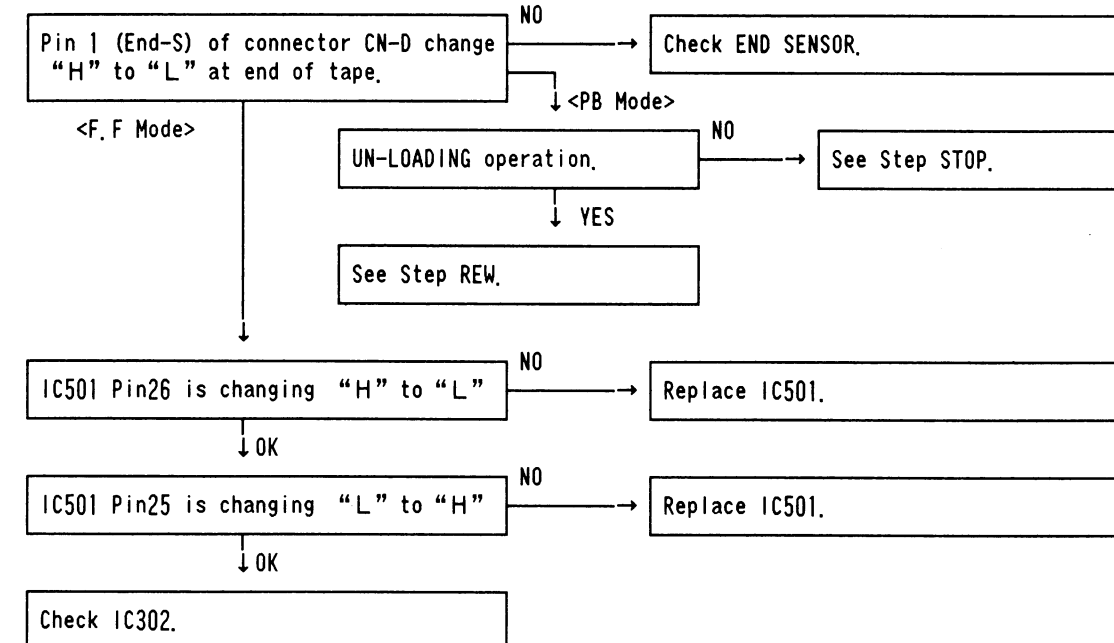
# 12 (A)



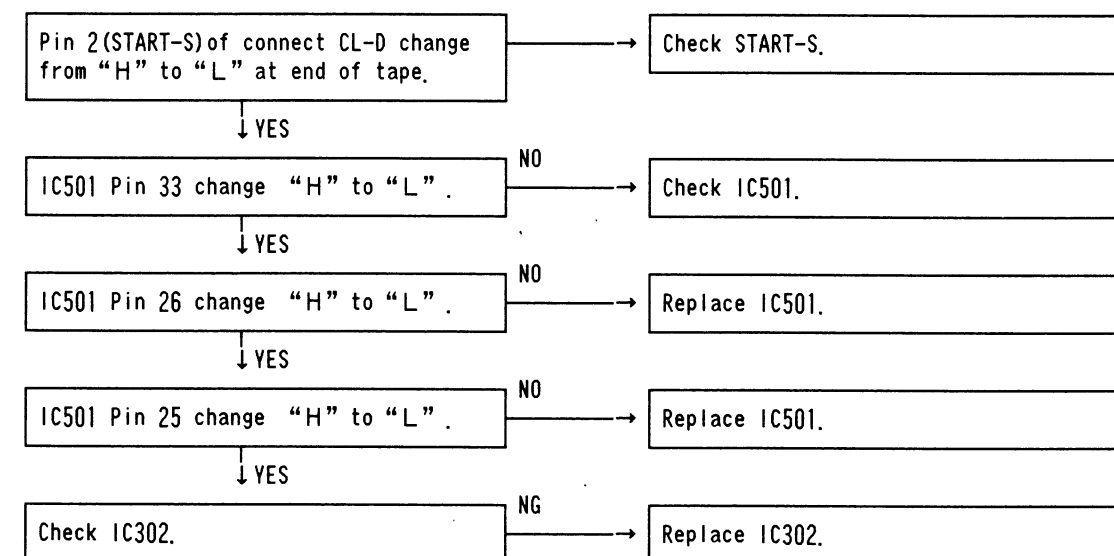
# 12 (B)



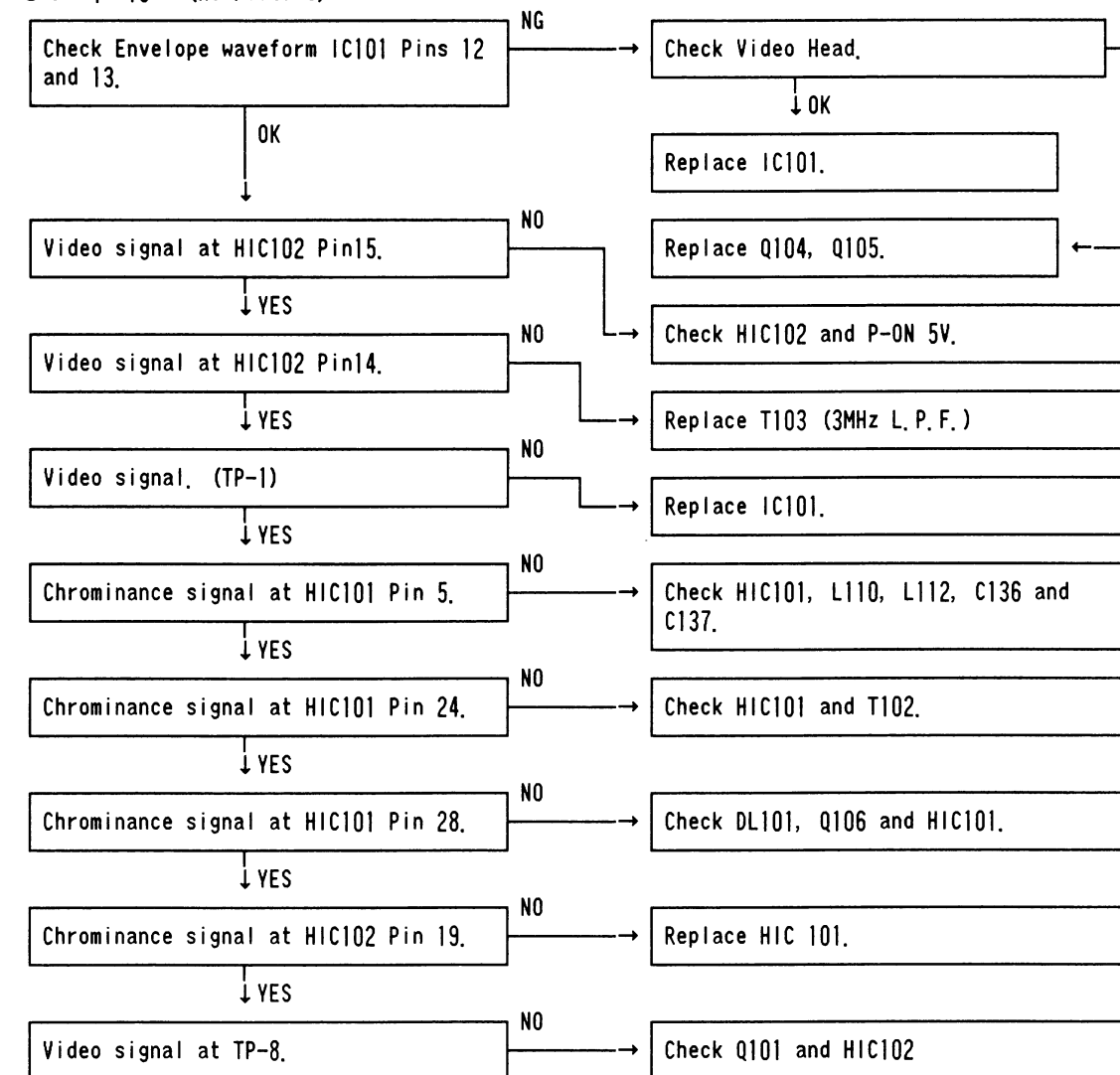
# Step 13 (AUTO REWIND is not possible)



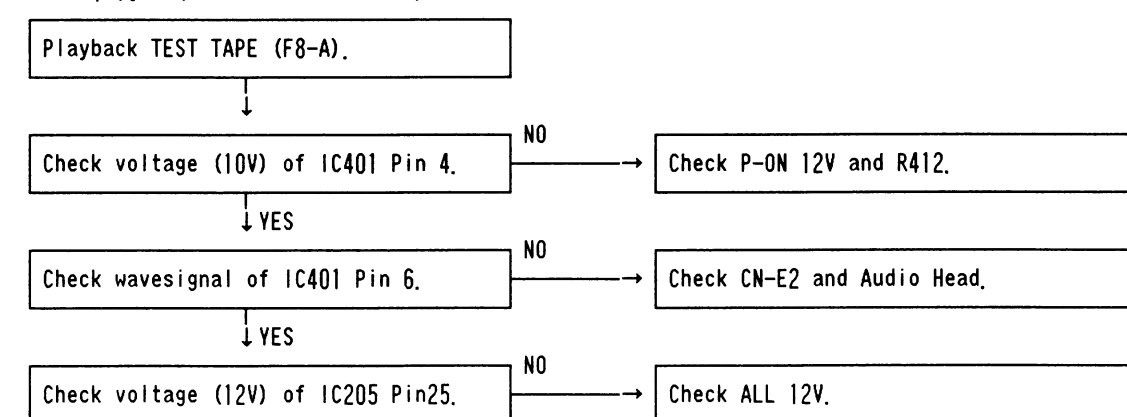
# Step 14 (AUTO STOP dose not operate at tape beginning)



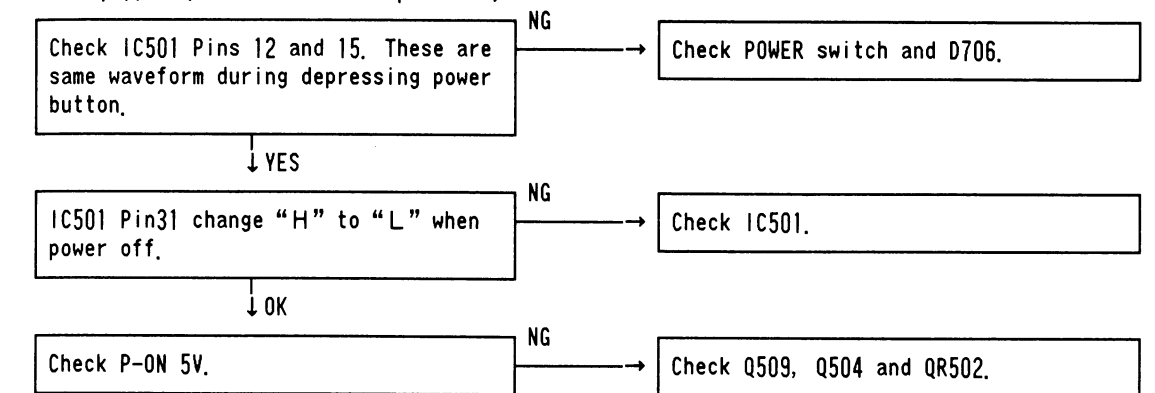
# Step 15 (No Picture)



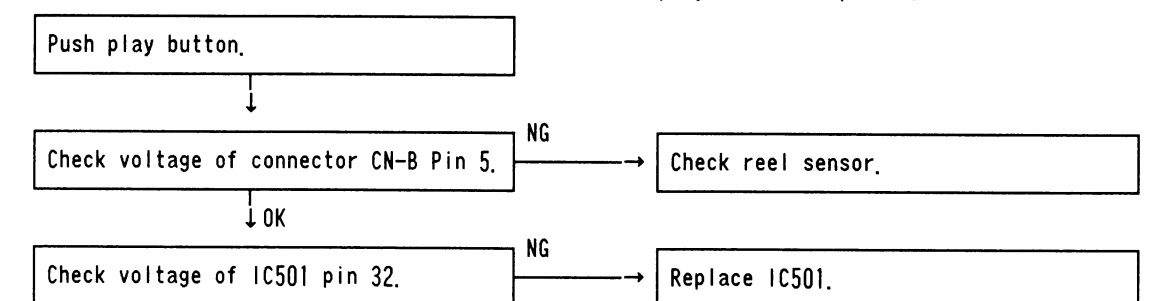
# Step 16 (Normal sound defect)



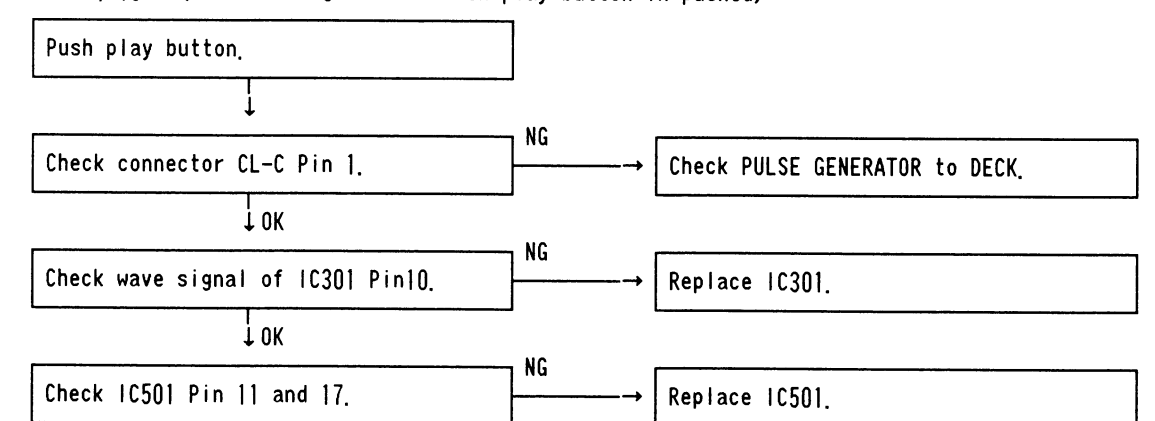
# Step 17 (Power off is not possible)



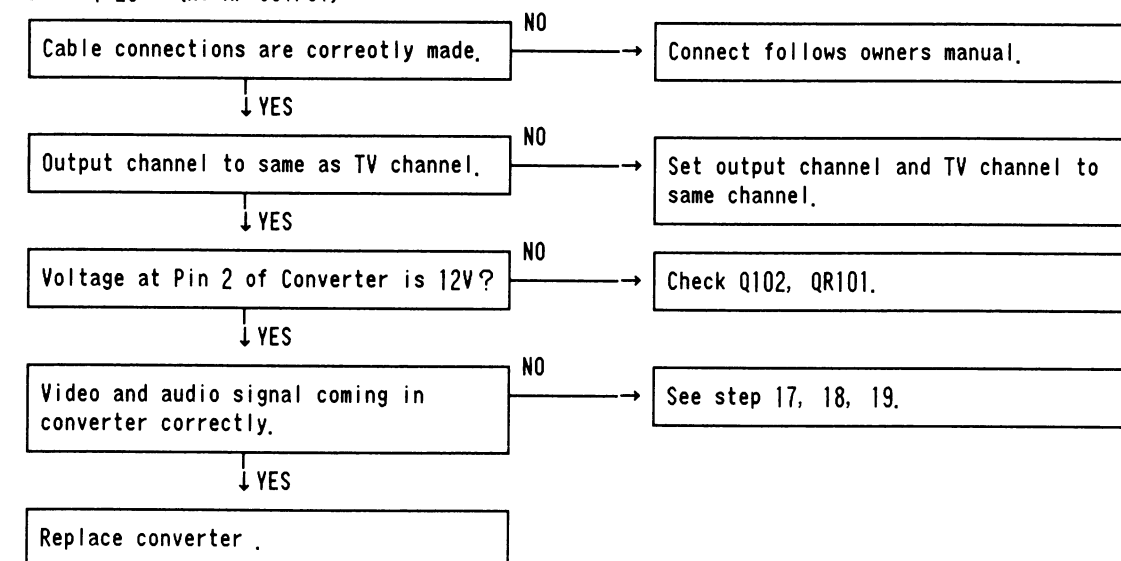
# Step 18 (Power becomes off after 5 seconds when play button is pushed)



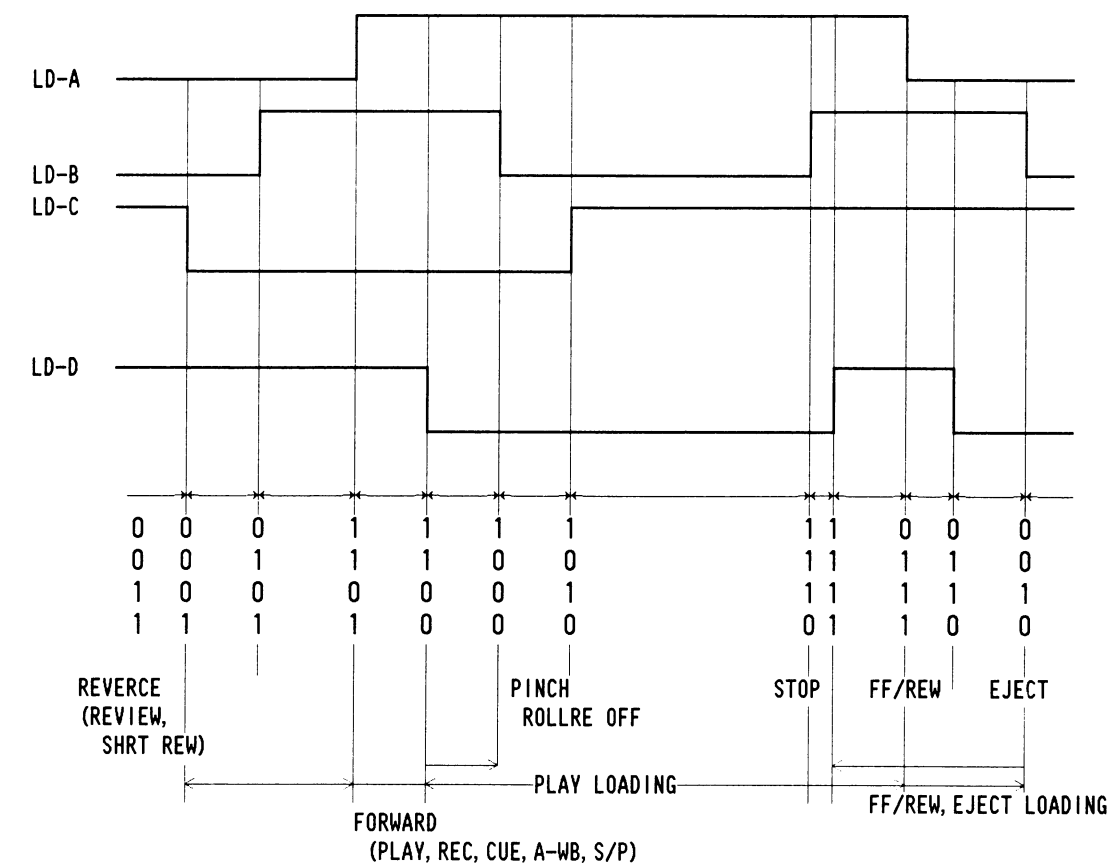
# Step 19 (STOP after 5 seconds when play button in pushed)



# Step 20 (No RF OUTPUT)



\* When SYSTEM CONTROL IC has locked up SYSTEM CONTROL IC will not accept any mode. At this time, disconnect AC cord to reset the SYSTEM CONTROL IC.

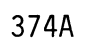


| LD-SW |   |   |   | Symbol | Position             |
|-------|---|---|---|--------|----------------------|
| A     | B | C | D |        |                      |
| L     | L | H | L | EJ     | Front loading, Eject |
| L     | H | H | L | EU     | Intermediate         |
| L     | H | H | H | FR     | FF, REW              |
| H     | H | H | H | FU     | Intermediate         |
| H     | H | H | L | UN     | Stop                 |
| H     | L | H | L | LU     | Tape Loading         |
| H     | L | L | L | PA     | Gear Change          |
| H     | H | L | L | AU     | Intermediate         |
| H     | H | L | H | AL     | Play (Pause)         |
| L     | H | L | H | FS     | Intermediate         |
| L     | L | L | H | RU     | Intermediate         |
| L     | L | H | H | RS     | Review               |

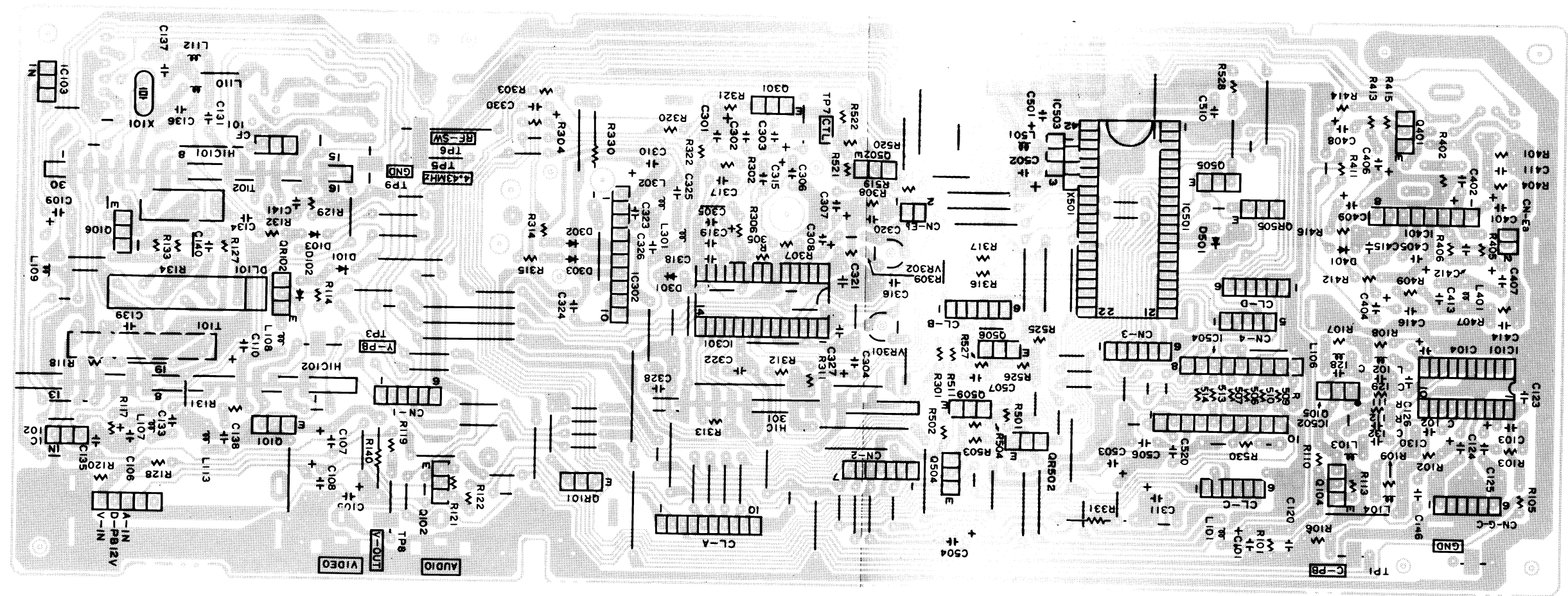
(H = "1")  
(L = "0")

Table 1

### 11-1-1 MAIN P.C.BOARD TOP VIEW

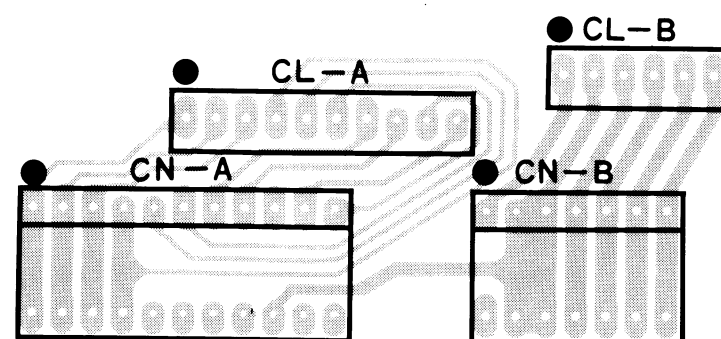


# 11-1-2 MAIN P.C.BOARD BOTTOM VIEW



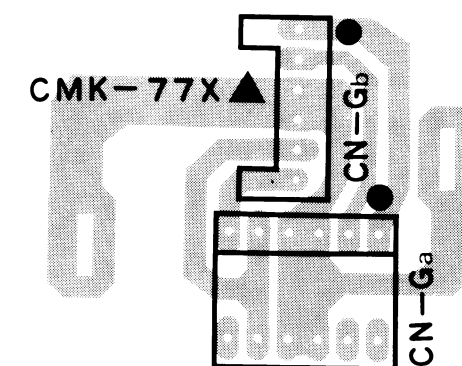
374A

11-2-1 CONNECTOR A  
P.C.BOARD TOP VIEW



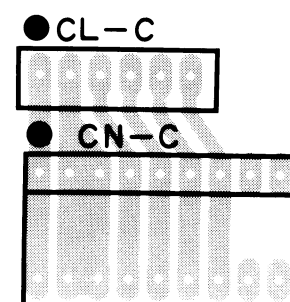
374B

11-3-1 CONNECTOR B  
P.C.BOARD TOP VIEW



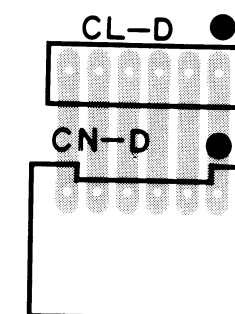
374C

11-4-1 CONNECTOR C  
P.C.BOARD TOP VIEW



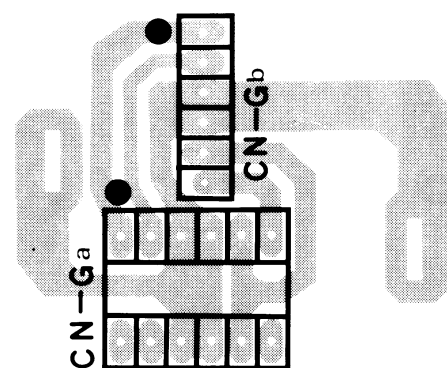
374D

11-5-1 CONNECTOR D  
P.C.BOARD TOP VIEW



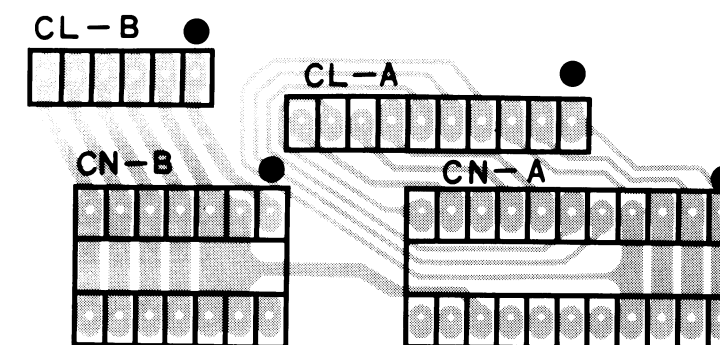
374E

**11-2-2 CONNECTOR B  
P.C.BOARD TOP VIEW**



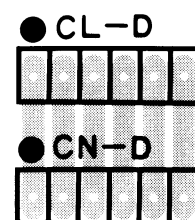
374C

**11-3-2 CONNECTOR A  
P.C.BOARD BOTTOM VIEW**



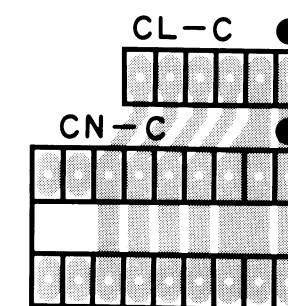
374B

**11-4-2 CONNECTOR D  
P.C.BOARD BOTTOM VIEW**



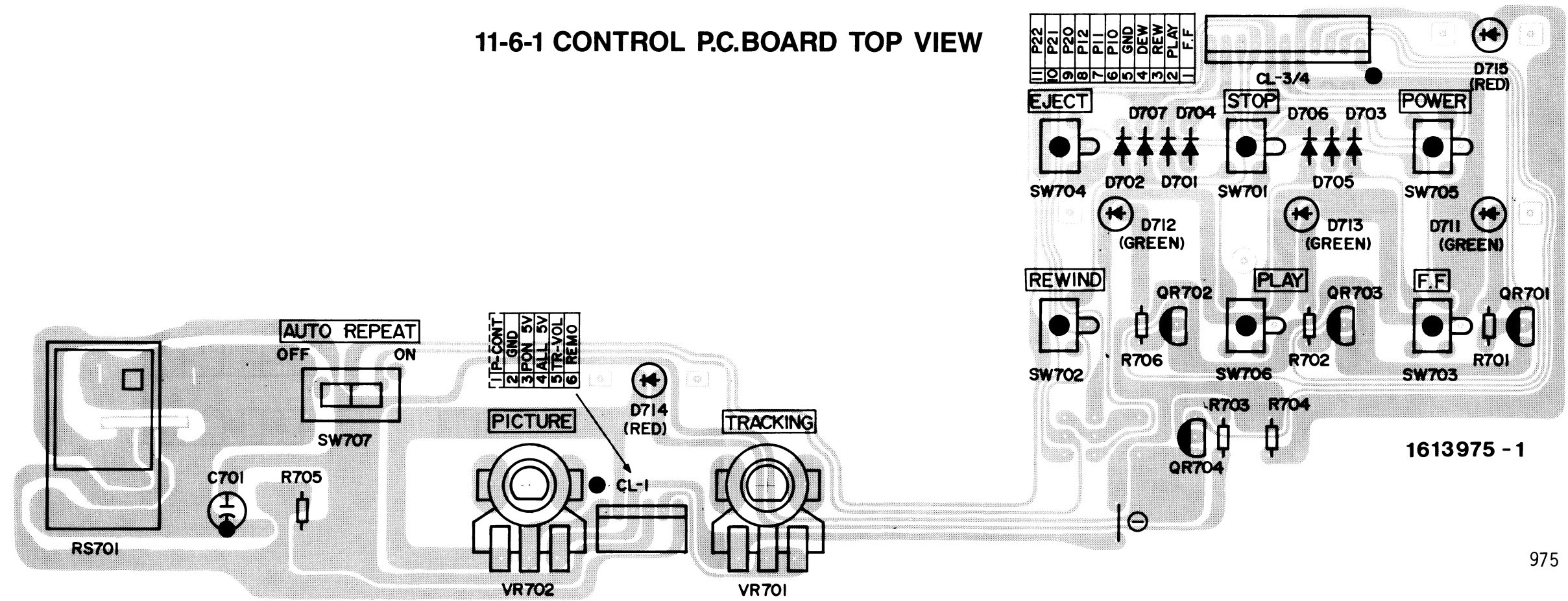
374E

**11-5-2 CONNECTOR C  
P.C.BOARD BOTTOM VIEW**



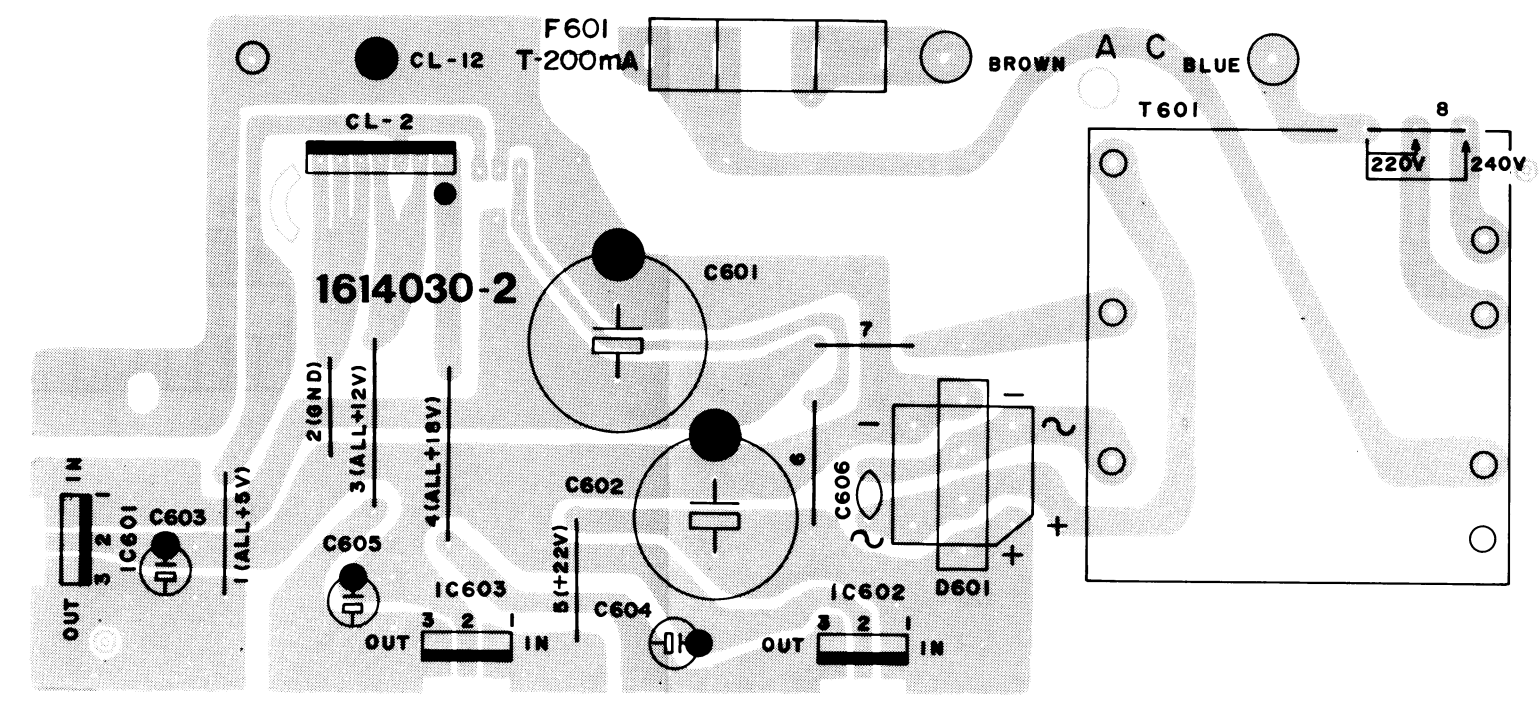
374D

# 11-6-1 CONTROL P.C.BOARD TOP VIEW



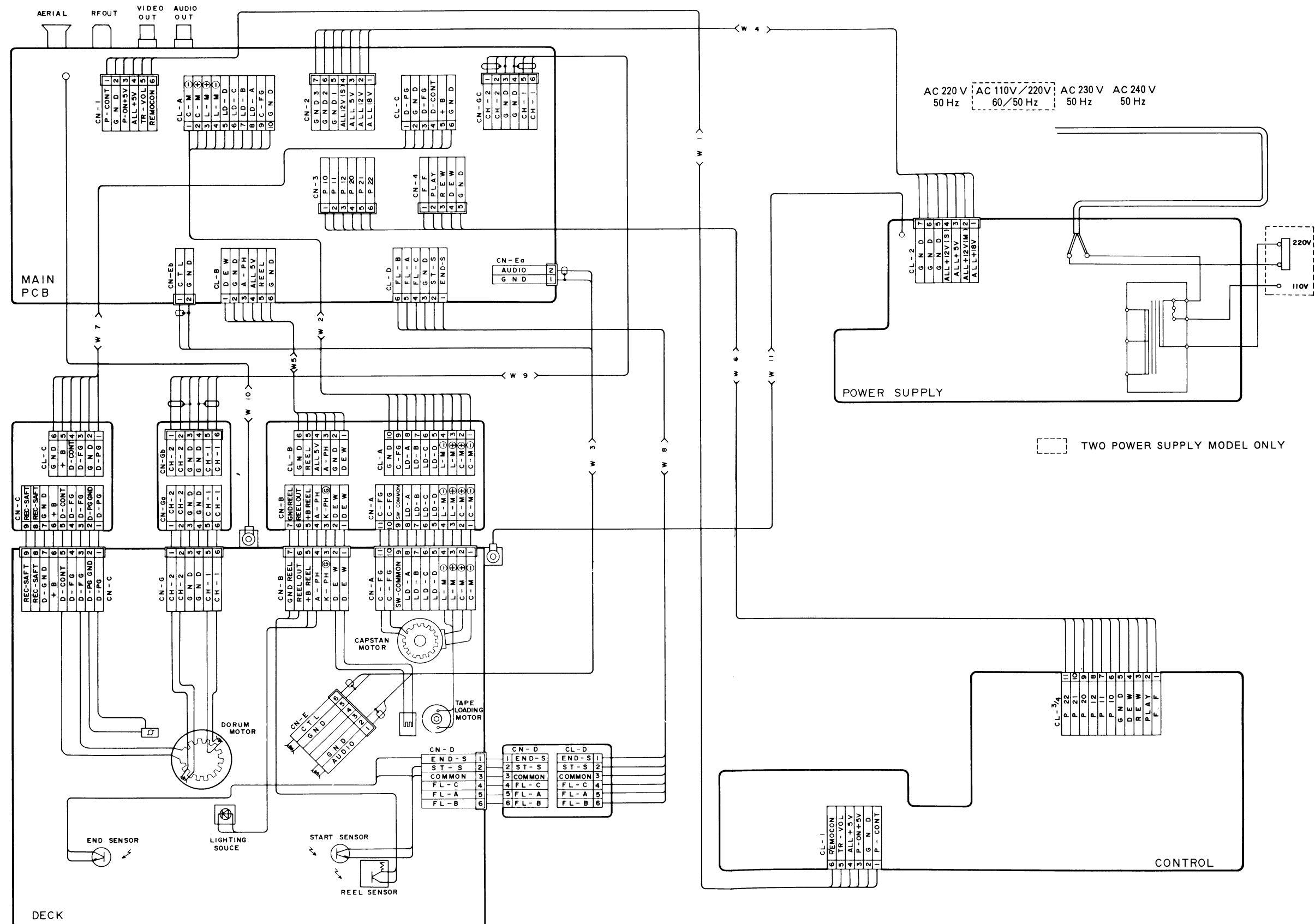
975

# 11-7-1 POWER SUPPLY P.C.BOARD TOP VIEW



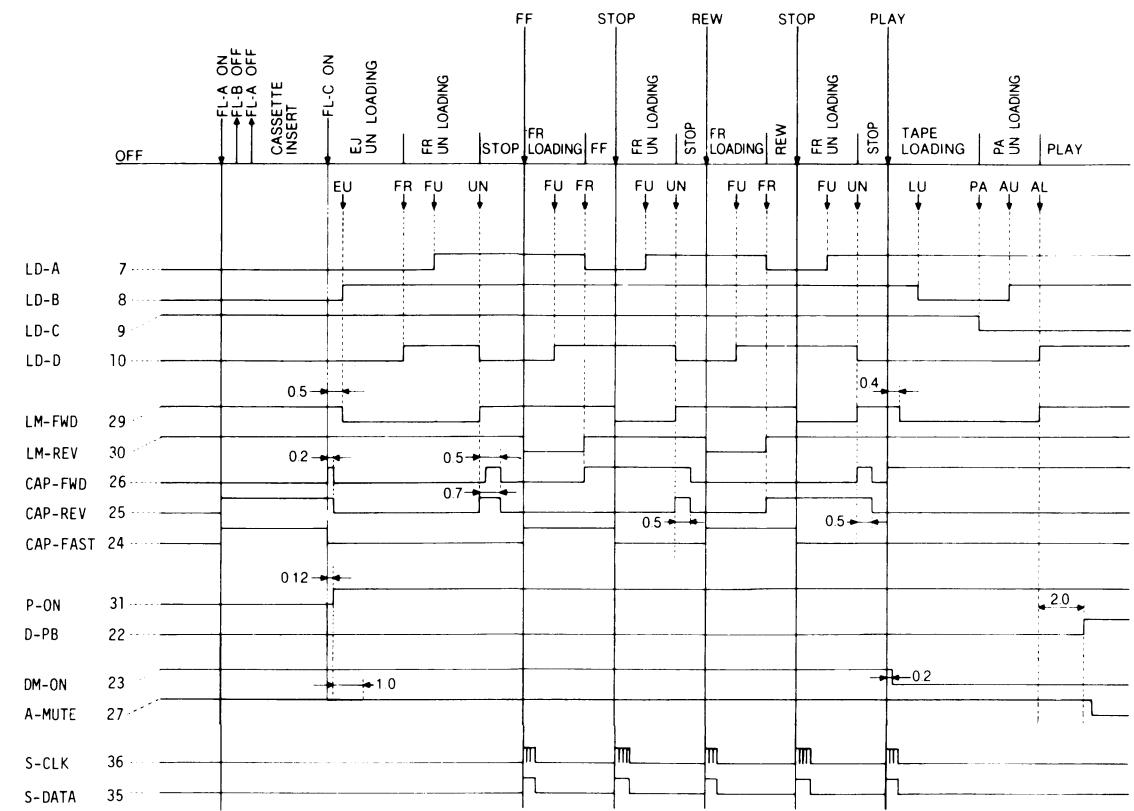
030

# 12. WIRING DIAGRAM

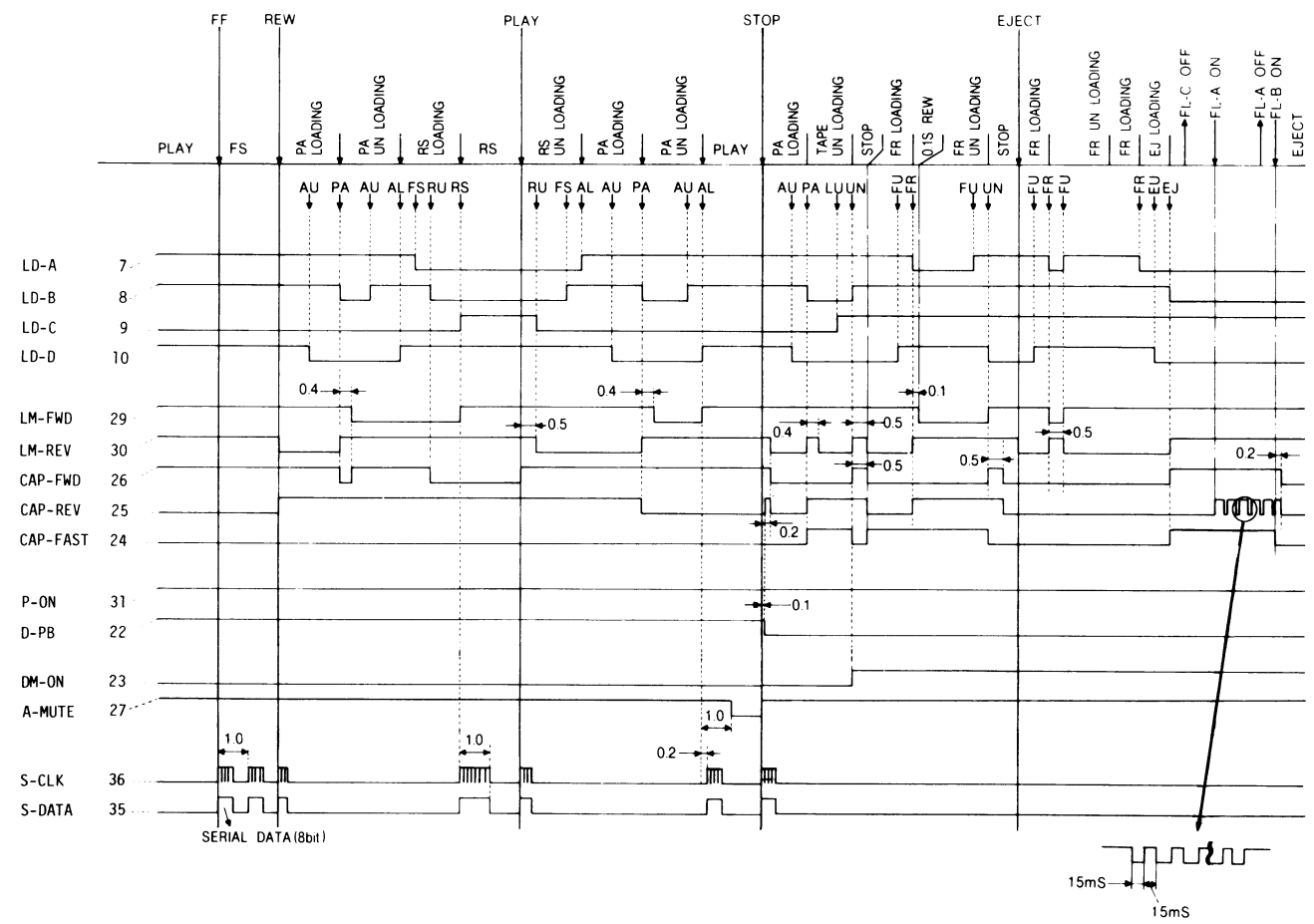


13. SYSTEM CONTROL TIMING CHART

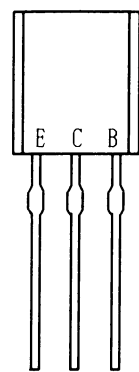
1. OFF → CASSETTE INSERT → F.F. → STOP → REW → STOP → PLAY



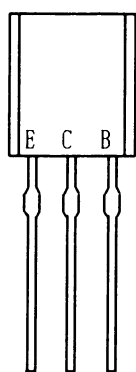
2. PLAY → F.F. → REW(RS) → PLAY → STOP → EJECT



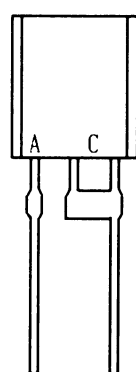
14. LEAD IDENTIFICATIONS



2SA933  
2SC1740  
2SA608SP  
2SC536SP  
2SD1450



DTA124  
DTC124  
DTA144WS  
2SC3400  
2SA1346

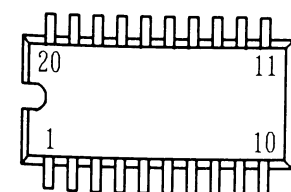


L5631  
 $\mu$ PC574J

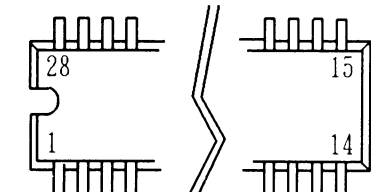
A: Anode  
C: Cathode



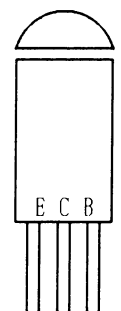
AN7812F  
NJM7812FA  
AN7818F  
AN78M05F  
NJM7818FA  
NJM78M05FA



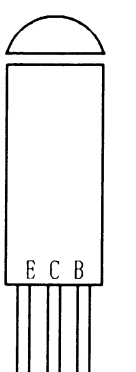
AN3331K



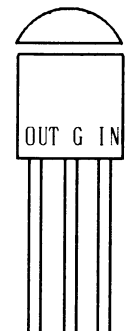
14DN363



2SC2839  
2SC2058



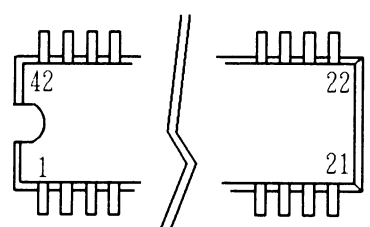
2SB1010  
2SD1384  
2SB892  
2SD1207



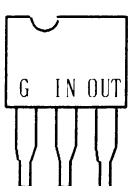
AN78L05  
NJM78L05A



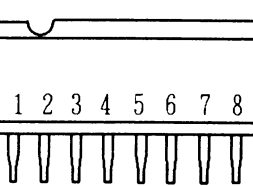
AN78N05



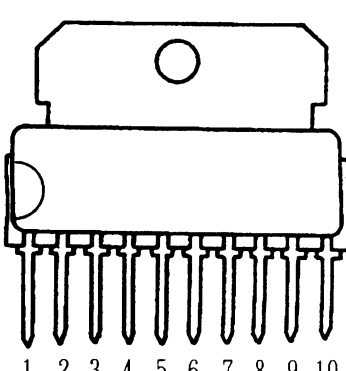
14DN486



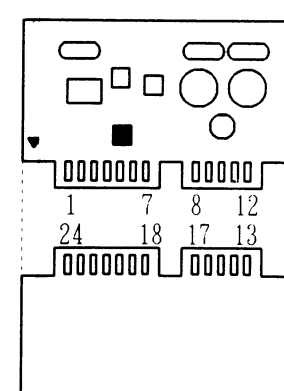
MN1280R



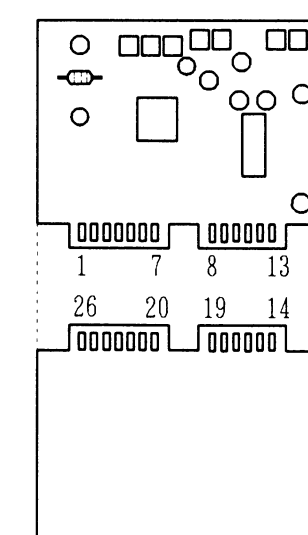
BA6993N



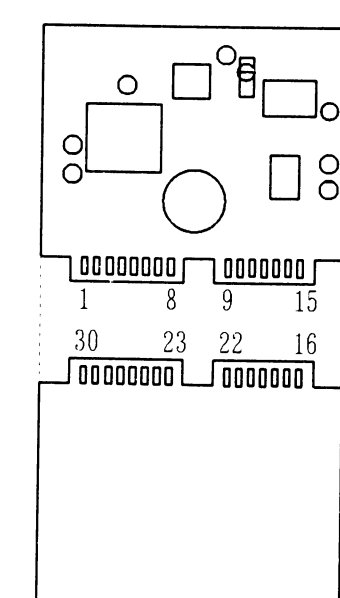
BA6219B  
BA6209



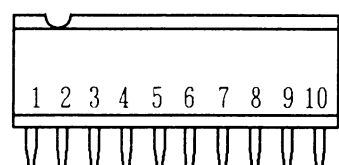
1812240  
(SERVO)  
HIC 301



1812119  
(VIDEO-Y)  
HIC 102



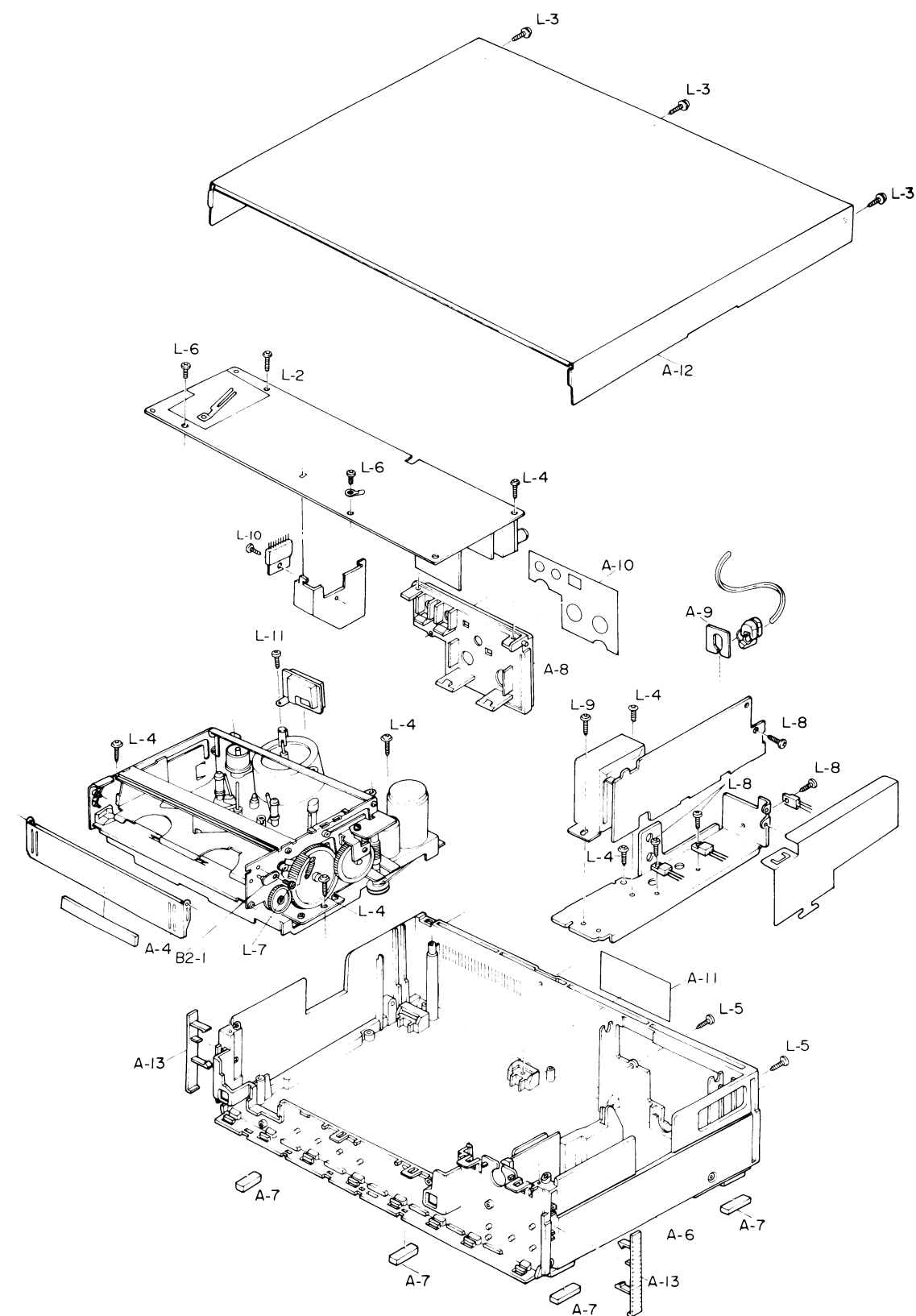
1812422  
(VIDEO-C)  
HIC 101



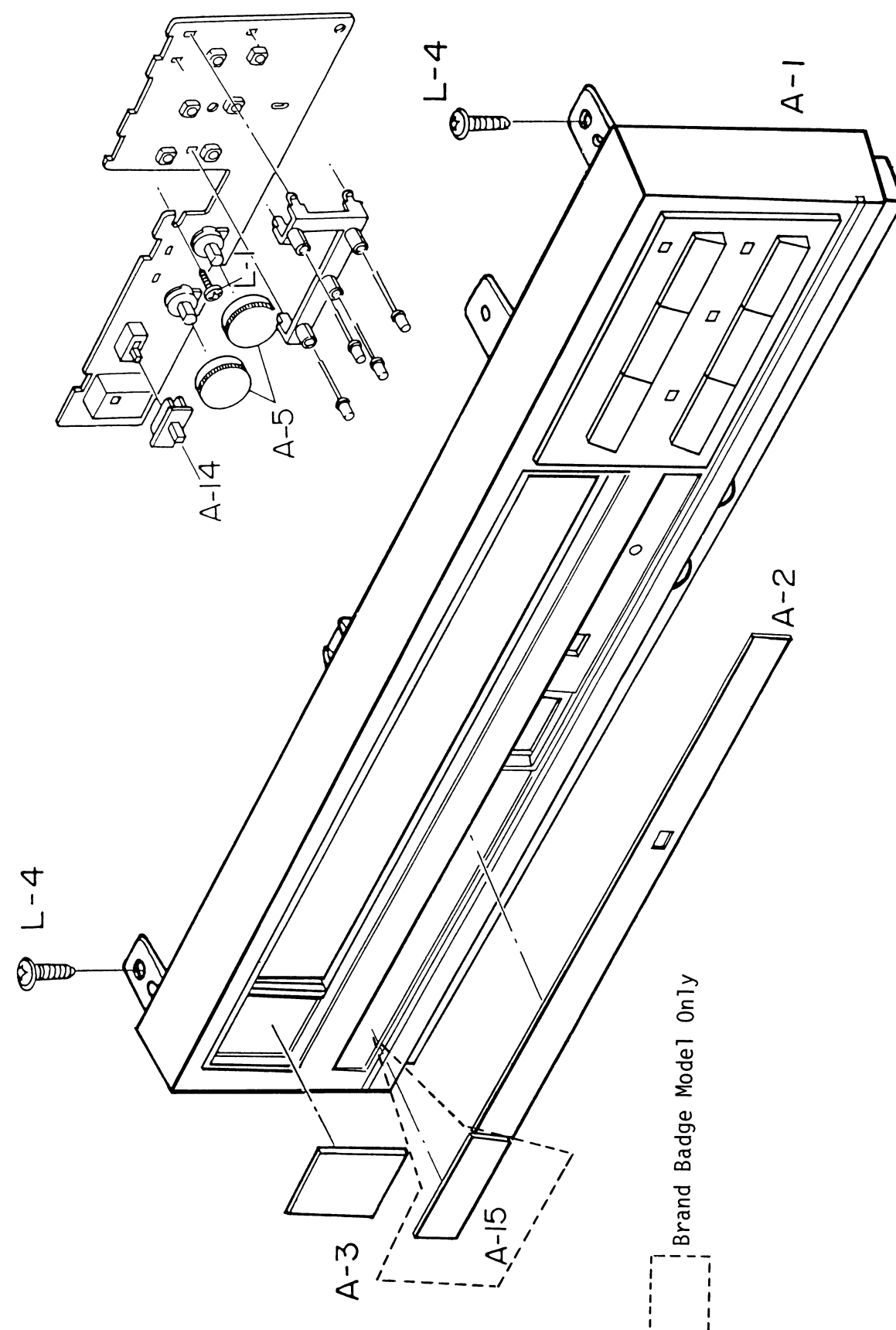
BA328LN

15. EXPLODED VIEW/MECHANICAL PARTS LIST

15-1 EXPLODED VIEW (CABINET)



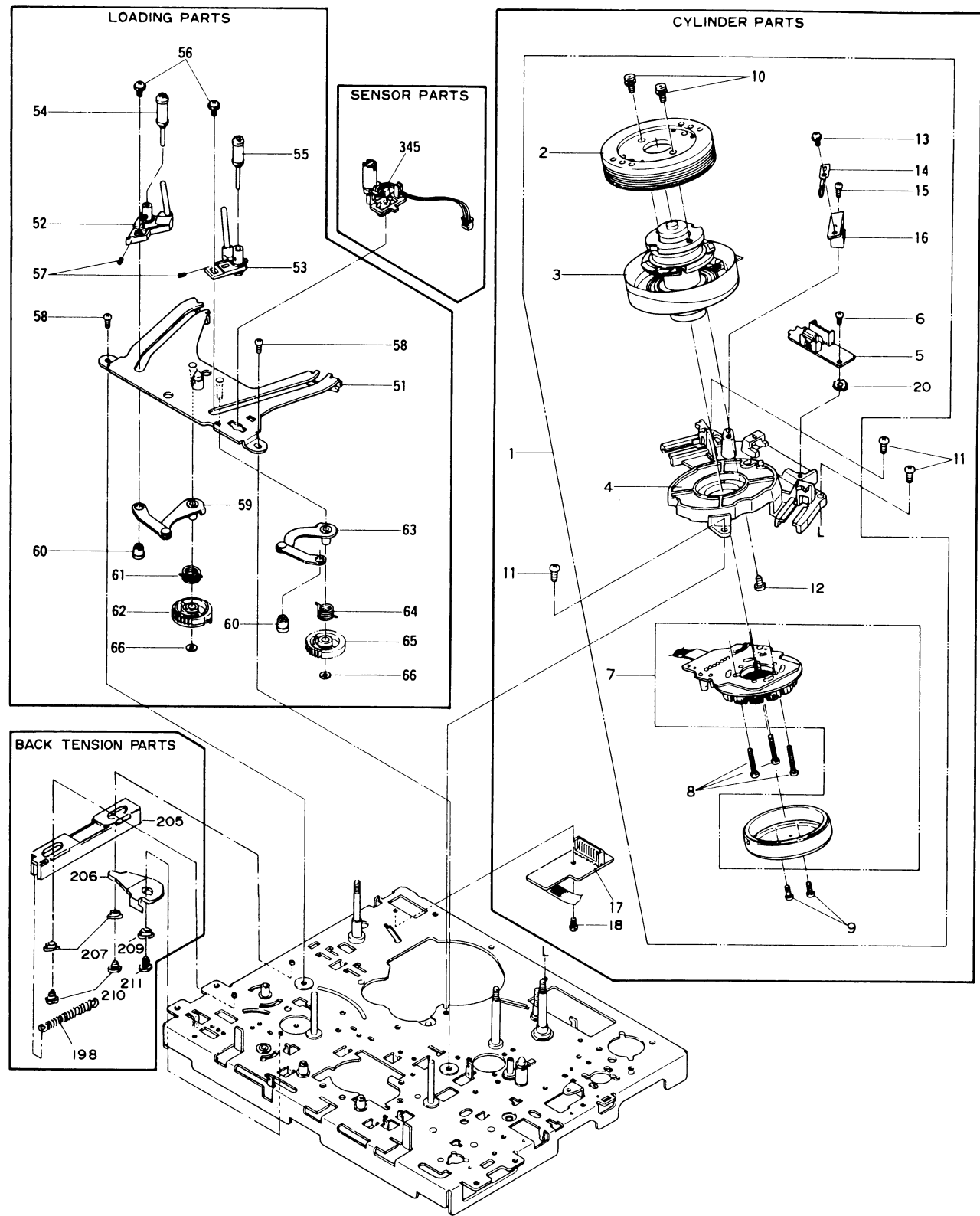
# 15-2 EXPLODED VIEW (FRONT)



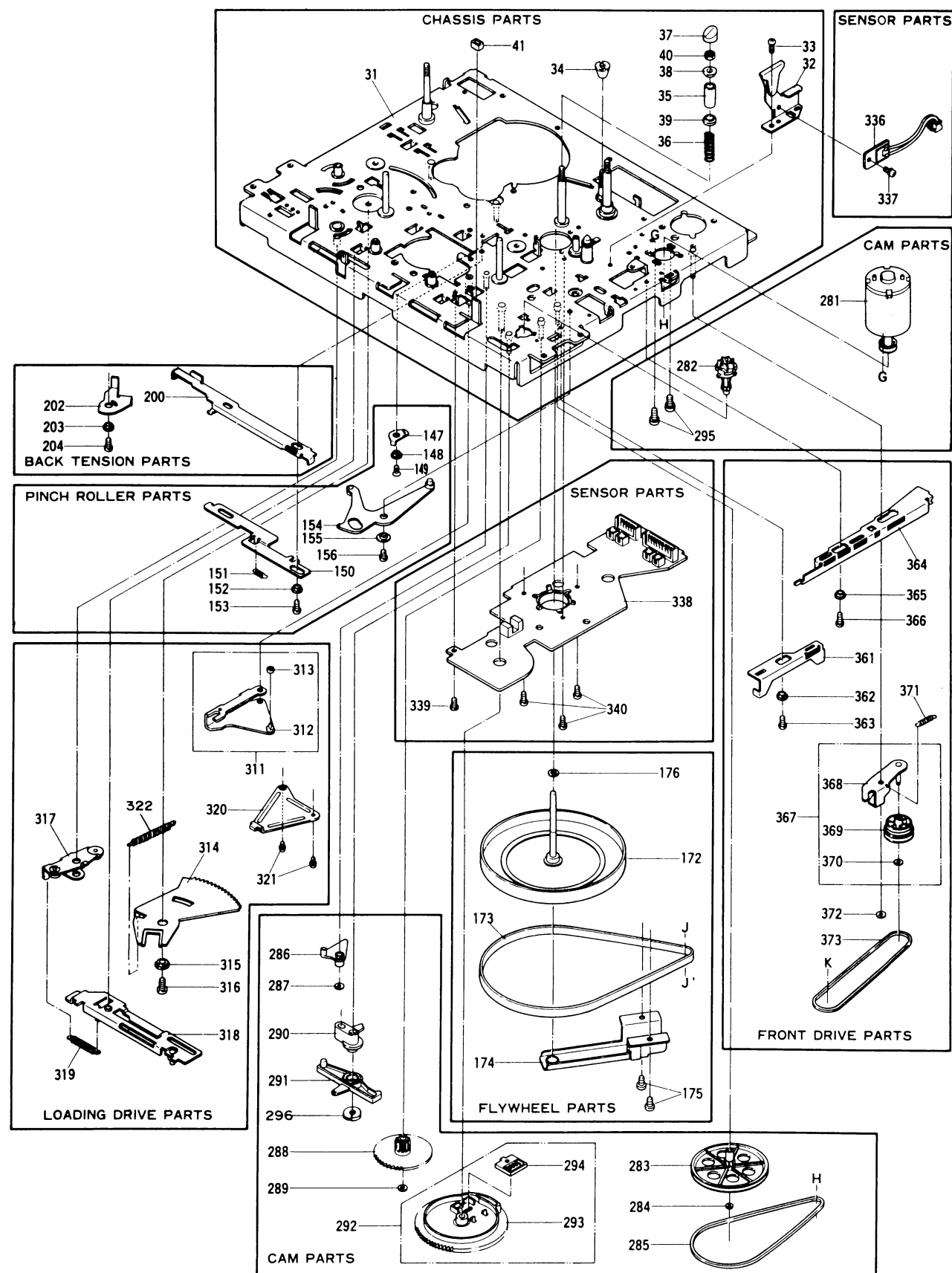
# 15-3 MECHANICAL PARTS LIST

| Description                                                                                                                                                                                                                                | Ref. No. | Parts No.                                                                                                  | Description                                                                                                                                                                                                                                   | Ref. No. | Parts No.                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------|
| Front Ass'y<br>(consists of<br>A-1 - A-3, A-15)                                                                                                                                                                                            | A-1X     | 6A50813<br>6A50857<br>6A50870<br>6A50872                                                                   | Screw, P-Tight, Bind Head<br>M3X8 (for Control PCB---1pc.)                                                                                                                                                                                    | L-1      | GBMP308                                                                   |
| Front Panel Ass'y (Non-repairable)                                                                                                                                                                                                         | A-1      | 6A50813X<br>6A50857X<br>6A50870X<br>6A50872X                                                               | Screw, P-Tight, Bind Head<br>M3X10 (for Main PCB---1pc.)                                                                                                                                                                                      | L-2      | GBMP310                                                                   |
| (VIP-2500A)<br>(VIP-3000A)<br>(VIP-2500HC)<br>(VIP-3000HC)                                                                                                                                                                                 |          |                                                                                                            | Screw, P-Tight, Brazier Head, Flange<br>M3X12 (for Deck Ass'y---3pcs.)                                                                                                                                                                        | L-4      | GCMP312                                                                   |
| (VIP-2500A)<br>(VIP-3000A)<br>(VIP-2500HC)<br>(VIP-3000HC)                                                                                                                                                                                 |          |                                                                                                            | (for Holder, Transformer---2pcs.)<br>(for Jack Board---1pcs.)                                                                                                                                                                                 |          |                                                                           |
| Plate, Front                                                                                                                                                                                                                               | A-2      | 6E51791<br>6E51905<br>6E51953<br>6E51961                                                                   | Screw, P-Tight, Brazier Head, Flange<br>M3X12 (for Jack Board---2pcs.)                                                                                                                                                                        | L-5      | GCKP312                                                                   |
| Plate, VHS<br>(With Remote Control Model)<br>(Without Remote Control Model)                                                                                                                                                                | A-3      | 6E51905<br>6E51030                                                                                         | Screw, S-Tight, Bind Head<br>M3X6 (for Main PCB---2pcs.)                                                                                                                                                                                      | L-6      | GBMS306                                                                   |
| Brand Badge<br>(VIP-2500A/HC, VIP-3000A)<br>(VIP-3000HC)                                                                                                                                                                                   | A-15     | 6H50180<br>Not used                                                                                        | Screw, S-Tight, Bind Head<br>M3X5 (for Holder, Cassette Door---1pc.)                                                                                                                                                                          | L-7      | CPM3305                                                                   |
| Door, Cassette                                                                                                                                                                                                                             | A-4      | 6A50426<br>6A50325<br>6D50301                                                                              | Screw, Tapping, Bind Head<br>M3X10 (for Transistors---3pcs.)<br>(for Power Supply PCB---1pc.)                                                                                                                                                 | L-8      | DBM1310                                                                   |
| Knob, Tracking (TRACKING, PICTURE)                                                                                                                                                                                                         | A-5      | 6C50381<br>6C50521<br>6E50339                                                                              | Screw, CE-Tight<br>M4X8 (for Transformer---1pc.)                                                                                                                                                                                              | L-9      | GZMC408                                                                   |
| Cabinet, Main<br>(220V Model)<br>(110/220V Model)                                                                                                                                                                                          | A-6      | 6C50184<br>6S50286                                                                                         | Screw, Tapping, Bind Head<br>M3X6 (for IC---1pc.)                                                                                                                                                                                             | L-10     | DBM1306                                                                   |
| Foot                                                                                                                                                                                                                                       | A-7      | 6E50961<br>6E50962<br>6E51702                                                                              | Screw, S-Tight, Bind Head<br>M2.6X6 (for Shield, Head---1pc.)                                                                                                                                                                                 | L-11     | GBMS906                                                                   |
| Jack Board                                                                                                                                                                                                                                 | A-8      |                                                                                                            | ***Hardware Kits***                                                                                                                                                                                                                           |          |                                                                           |
| Holder, Stopper                                                                                                                                                                                                                            | A-9      |                                                                                                            | Screw, P-Tight, Bind Head<br>M3X10 (for Case, Top---3pcs.)                                                                                                                                                                                    | L-3      | GBKP310                                                                   |
| Panel, Jack<br>(PAL-B Model)<br>(PAL-G Model)<br>(PAL-D/I Model)                                                                                                                                                                           | A-10     |                                                                                                            | Screw, P-Tight, Brazier Head, Flange<br>M3X12 (for Front Ass'y---2pcs.)                                                                                                                                                                       | L-4      | GCMP312                                                                   |
| Label, Type<br>(VIP-2500A PAL-B 220V Model)<br>(VIP-2500A PAL-B 110/220V Model)<br>(VIP-3000A PAL-B 220V Model)<br>(VIP-3000A PAL-B 110/220V Model)<br>(VIP-3000A PAL-G Model)<br>(VIP-2500HC PAL-D/I Model)<br>(VIP-3000HC PAL-D/I Model) | A-11     | 6E51792<br>6E51960<br>6E51408<br>6E51970<br>6E51580<br>6E51954<br>6E51703<br>6G50069<br>6D50887<br>6D50953 | Accessory                                                                                                                                                                                                                                     |          |                                                                           |
| Case, Top                                                                                                                                                                                                                                  | A-12     |                                                                                                            | RF Cord                                                                                                                                                                                                                                       |          | 1750762 or<br>5750109                                                     |
| Panel, Chassis                                                                                                                                                                                                                             | A-13     |                                                                                                            | Remote Control Box<br>(With Remote Control Model)                                                                                                                                                                                             |          | 1812933                                                                   |
| Knob, Auto Repeat                                                                                                                                                                                                                          | A-14     |                                                                                                            | Owner's Manual<br>(VIP-2500A PAL-B 220V Model)<br>(VIP-2500A PAL-B 110/220V Model)<br>(VIP-3000A PAL-B 220V Model)<br>(VIP-3000A PAL-B 110/220V Model)<br>(VIP-3000A PAL-G Model)<br>(VIP-2500HC PAL-D/I Model)<br>(VIP-3000HC PAL-D/I Model) |          | 7E50976<br>7E51039<br>7E50778<br>7E51045<br>7E50858<br>7E51037<br>7E50919 |
| Deck Ass'y (See Deck List)                                                                                                                                                                                                                 | B1-1     | TN5900<br>P2SPN106                                                                                         |                                                                                                                                                                                                                                               |          |                                                                           |
| Holder, Cassette Door                                                                                                                                                                                                                      | B2-1     | 6L50062                                                                                                    |                                                                                                                                                                                                                                               |          |                                                                           |

15-4 DECK PARTS LIST



| CYLINDER PARTS     |                                                    |             |      |
|--------------------|----------------------------------------------------|-------------|------|
| Ref No.            | Description                                        | MFR' No.    | Q'ty |
| 1                  | Cylinder Assembly<br>(Consists of 2-10, 12-16, 20) | 8059-01-310 | 1    |
| 2                  | Drum, Upper                                        | 8059-01-19  | 1    |
| 3                  | Drum Assembly, Lower                               | 8059-01-304 | 1    |
| 4                  | Mount, Cylinder                                    | 8059-01-01  | 1    |
| 5                  | P.C.B. Assembly, Video Out                         | 8059-01-305 | 1    |
| 6                  | Screw, W Sems, M2.6 X6                             | 9973-00-00  | 1    |
| 7                  | Motor TM82                                         | 6004-09-01  | 1    |
| 8                  | Screw, Sems, M2.6 X20                              | 9050-00-00  | 3    |
| 9                  | Screw, Sems, M2.6 X6                               | 9098-00-00  | 2    |
| 10                 | Screw, Bind Sems, M3X8                             | 9972-00-00  | 2    |
| 12                 | Screw (For Camera) M2 X5                           | 9552-00-00  | 1    |
| 13                 | Screw, Cap, M2.6X3                                 | 9665-00-00  | 1    |
| 14                 | Ground, Drum                                       | 8059-01-23  | 1    |
| 15                 | Screw, C Tapping, M2.6X5                           | 9192-00-00  | 1    |
| 16                 | Bracket, Drum Ground                               | 8059-01-02  | 1    |
| 20                 | Washer, Toothed Lock, M2.6                         | 9715-00-00  | 1    |
| 11                 | Screw, C Tapping, M3X10                            | 9205-00-00  | 3    |
| 17                 | P.C.B. Assembly, DM                                | 8059-01-303 | 1    |
| 18                 | Screw, C Tapping, M2.6X5                           | 9192-00-00  | 1    |
| LOADING PARTS      |                                                    |             |      |
| 51                 | Loading Base                                       | 8059-03-501 | 1    |
| 52                 | Block (L), Loading                                 | 8059-03-04  | 1    |
| 53                 | Block (R), Loading                                 | 8059-03-05  | 1    |
| 54                 | SIS, Roller Post                                   | 8000-03-33  | 1    |
| 55                 | ST, Roller Post                                    | 8000-03-37  | 1    |
| 56                 | Screw, Cup, M2.6X3                                 | 9665-00-00  | 2    |
| 57                 | Screw, Set, M2.0X3 (Plane Type)                    | 9952-00-00  | 2    |
| 58                 | Screw, C Tapping, M2.6X5                           | 9192-00-00  | 2    |
| 59                 | Plate (L), Loading                                 | 8059-03-502 | 1    |
| 60                 | Boss, Loading                                      | 8059-03-14  | 2    |
| 61                 | Spring (L), Loading Gear                           | 8059-03-08  | 1    |
| 62                 | Gear (L), T Loading                                | 8059-03-06  | 1    |
| 63                 | Plate (R), Loading                                 | 8059-03-503 | 1    |
| 64                 | Spring (R), Loading Gear                           | 8059-03-09  | 1    |
| 65                 | Gear (R), T Loading                                | 8059-03-07  | 1    |
| 66                 | Washer, Polyslider,<br>ø2.6 X ø6 X t0.5            | 9884-00-00  | 2    |
| BACK TENSION PARTS |                                                    |             |      |
| 198                | Spring, Back Tension                               | 8059-08-13  | 1    |
| 205                | Plate, BT Actuate                                  | 8059-08-19  | 1    |
| 206                | Lever, BT Actuate                                  | 8059-08-18  | 1    |
| 207                | Collar, BT Actuate Plate                           | 8059-08-21  | 2    |
| 209                | Collar                                             | 8059-06-18  | 1    |
| 210                | Screw, S Tapping (For Camera)<br>M2.6X3.5          | 9840-00-00  | 2    |
| 211                | Screw, C Tapping M2.6 X5                           | 9192-00-00  | 1    |
| SENSOR PARTS       |                                                    |             |      |
| 345                | Lamp Holder Assembly                               | 8059-13-303 | 1    |



| CHASSIS PARTS |                          |             |      |
|---------------|--------------------------|-------------|------|
| Ref No.       | Description              | MFR' No.    | Q'ty |
| 31            | Chassis                  | 8059-02-501 | 1    |
| 32            | Angle Assembly, Open     | 8059-02-301 | 1    |
| 33            | Screw, C Tapping, M2.6X4 | 9191-00-00  | 1    |
| 34            | Adjuster, Tracking       | 8000-03-16  | 1    |
| 35            | Guide, Tape              | 8000-03-14  | 1    |
| 36            | Spring, Tape Guide       | 8059-02-26  | 1    |
| 37            | Cap, Guide               | 8000-03-19  | 1    |
| 38            | Flange (C), Tape Guide   | 8059-03-28  | 1    |
| 39            | Flange (F), Tape Guide   | 8059-02-25  | 1    |
| 40            | Nut M3.0                 | 9453-00-00  | 1    |
| 41            | Rubber, Damper           | 8059-02-23  | 1    |

| PINCH ROLLER PARTS |                                          |             |      |
|--------------------|------------------------------------------|-------------|------|
| Ref No.            | Description                              | MFR' No.    | Q'ty |
| 147                | Crank, P                                 | 8059-06-12  | 1    |
| 148                | Collar, P Crank                          | 8059-06-13  | 1    |
| 149                | Screw, C Tapping FH (For Camera), M2.6X4 | 9999-18-10  | 1    |
| 150                | Slider, P                                | 8059-06-10  | 1    |
| 151                | Spring, P Slider                         | 8059-06-23  | 1    |
| 152                | Collar, P Slider                         | 8059-06-11  | 1    |
| 153                | Screw, C-Tapping, M2.6X5                 | 9192-00-00  | 1    |
| 154                | Leber, P Cam                             | 8059-06-502 | 1    |
| 155                | Collar, P Cam Lever                      | 8059-06-17  | 1    |
| 156                | Screw, C Tapping, M2.6X5                 | 9192-00-00  | 1    |

| FLYWHEEL PARTS |                                               |             |      |
|----------------|-----------------------------------------------|-------------|------|
| Ref No.        | Description                                   | MFR' No.    | Q'ty |
| 172            | Capstan, Flywheel                             | 8059-07-14  | 1    |
| 173            | Belt, Main                                    | 8059-07-10  | 1    |
| 174            | Angle Assembly, Flywheel                      | 8059-07-303 | 1    |
| 175            | Screw, C Tapping, M3X5                        | 9202-00-00  | 2    |
| 176            | Washer, $\phi 3.1 \times \phi 6 \times t 0.5$ | 9912-00-00  | 1    |

| BACK TENSION PARTS |                          |            |      |
|--------------------|--------------------------|------------|------|
| Ref No.            | Description              | MFR' No.   | Q'ty |
| 200                | Plate, BT Change         | 8059-08-10 | 1    |
| 202                | Lever, BT Return         | 8059-08-23 | 1    |
| 203                | Collar                   | 8059-06-18 | 1    |
| 204                | Screw, C Tapping, M2.6X5 | 9192-00-00 | 1    |

| CAM PARTS |                                                             |             |      |
|-----------|-------------------------------------------------------------|-------------|------|
| Ref No.   | Description                                                 | MFR' No.    | Q'ty |
| 281       | LM Assembly                                                 | 8059-11-301 | 1    |
| 282       | Bearing Assembly, Trigger                                   | 8059-11-302 | 1    |
| 283       | Pulley, Loading                                             | 8059-11-03  | 1    |
| 284       | Washer, Polyslider, $\phi 1.6 \times \phi 3.8 \times t 0.3$ | 9743-00-00  | 1    |
| 285       | Belt, Loading                                               | 8059-11-06  | 1    |
| 286       | Arm (B), Search                                             | 8059-11-12  | 1    |
| 287       | Washer, Polyslider, $\phi 2.6 \times \phi 6 \times t 0.5$   | 9884-00-00  | 1    |
| 288       | Gear, Loading                                               | 8059-11-04  | 1    |
| 289       | Washer, Polyslider, $\phi 2.1 \times \phi 5 \times t 0.5$   | 9876-00-00  | 1    |
| 290       | Arm, Brake Actuate                                          | 8059-11-13  | 1    |
| 291       | Arm, Eject Actuate                                          | 8059-11-14  | 1    |
| 292       | Cam Assembly, Loading (Consists of 293-294)                 | 8059-11-303 | 1    |
| 293       | Cam, Loading                                                | 8059-11-01  | 1    |
| 294       | Brush, S                                                    | 8059-11-02  | 1    |
| 295       | Screw, C Tapping, M3X4                                      | 9105-00-00  | 2    |
| 296       | Washer, Polyslider, $\phi 2.6 \times \phi 8 \times t 0.5$   | 9999-03-10  | 1    |

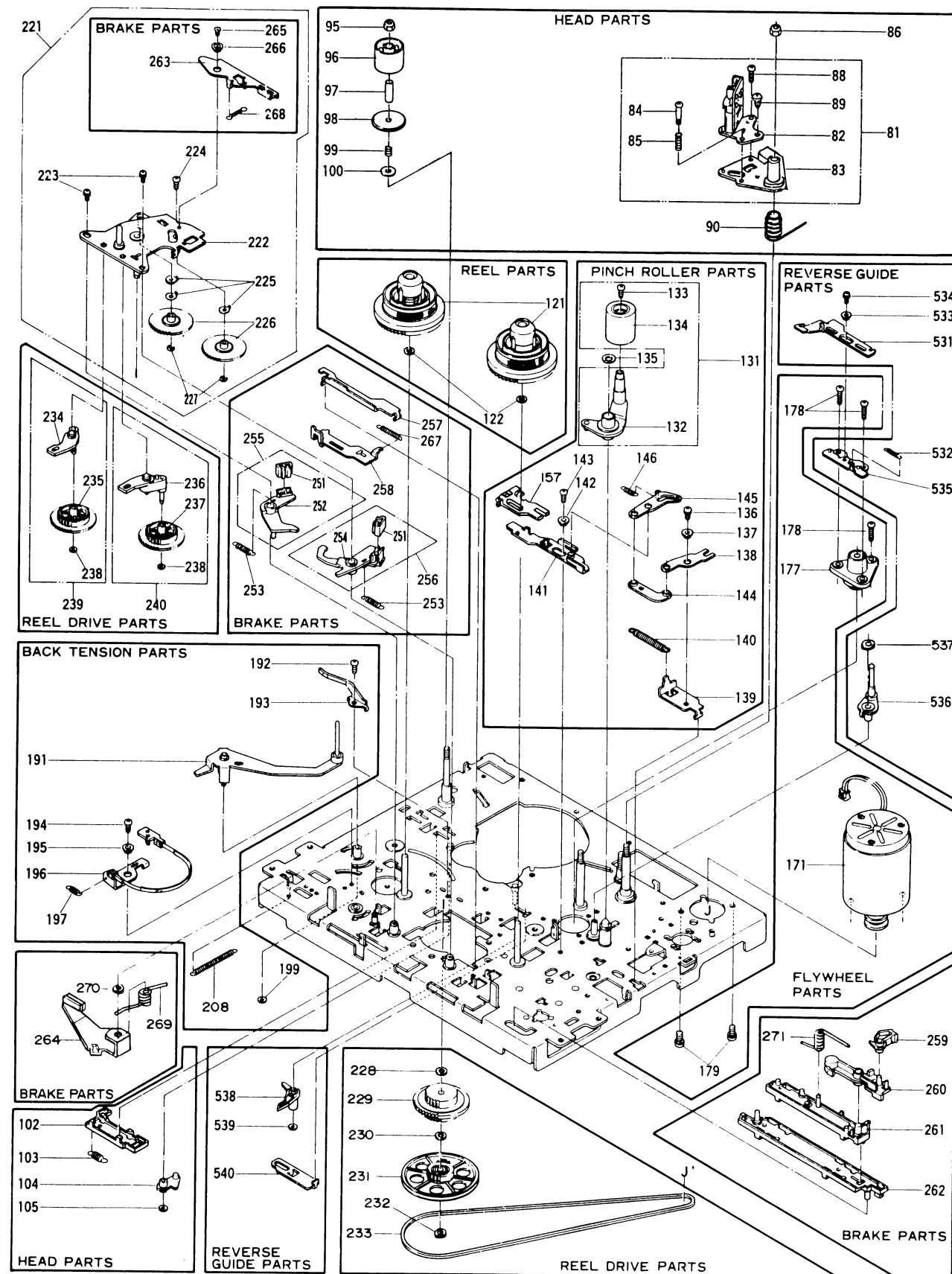
| LOADING DRIVE PARTS |                                               |             |      |
|---------------------|-----------------------------------------------|-------------|------|
| Ref No.             | Description                                   | MFR' No.    | Q'ty |
| 311                 | Lever Assembly, Loading (Consists of 312-313) | 8059-12-301 | 1    |
| 312                 | Lever Semi Assembly, Loading                  | 8059-12-501 | 1    |
| 313                 | Roller, Cam                                   | 8059-12-13  | 1    |
| 314                 | Plate, Loading Gear                           | 8059-12-09  | 1    |
| 315                 | Collar, Loading Gear Plate                    | 8059-12-10  | 1    |
| 316                 | Screw, C Tapping, M3X6                        | 9203-00-00  | 1    |
| 317                 | Lever Semi Assembly, Loading Actuate          | 8059-12-502 | 1    |
| 318                 | Plate, Semi Assembly, Loading Actuate         | 8059-12-503 | 1    |
| 319                 | Spring, Loading Actuate                       | 8059-12-05  | 1    |
| 320                 | Plate, Loading Lever Reinforce                | 8059-12-11  | 1    |
| 321                 | Screw, Sems, M2 X4                            | 9077-00-00  | 2    |
| 322                 | Spring, L Gear Plate                          | 8059-12-12  | 1    |

| SENSOR PARTS |                                       |             |      |
|--------------|---------------------------------------|-------------|------|
| Ref No.      | Description                           | MFR' No.    | Q'ty |
| 336          | Sensor, DEW                           | 6808-08-04  | 1    |
| 337          | Screw, Sems, M2.6 X4                  | 9096-00-00  | 1    |
| 338          | Plate, Base                           | 8059-13-302 | 1    |
| 339          | Screw, S Tapping (For Camera), M2.6X5 | 9691-00-00  | 1    |
| 340          | Screw, C Tapping, M2.6X6              | 9193-00-00  | 3    |

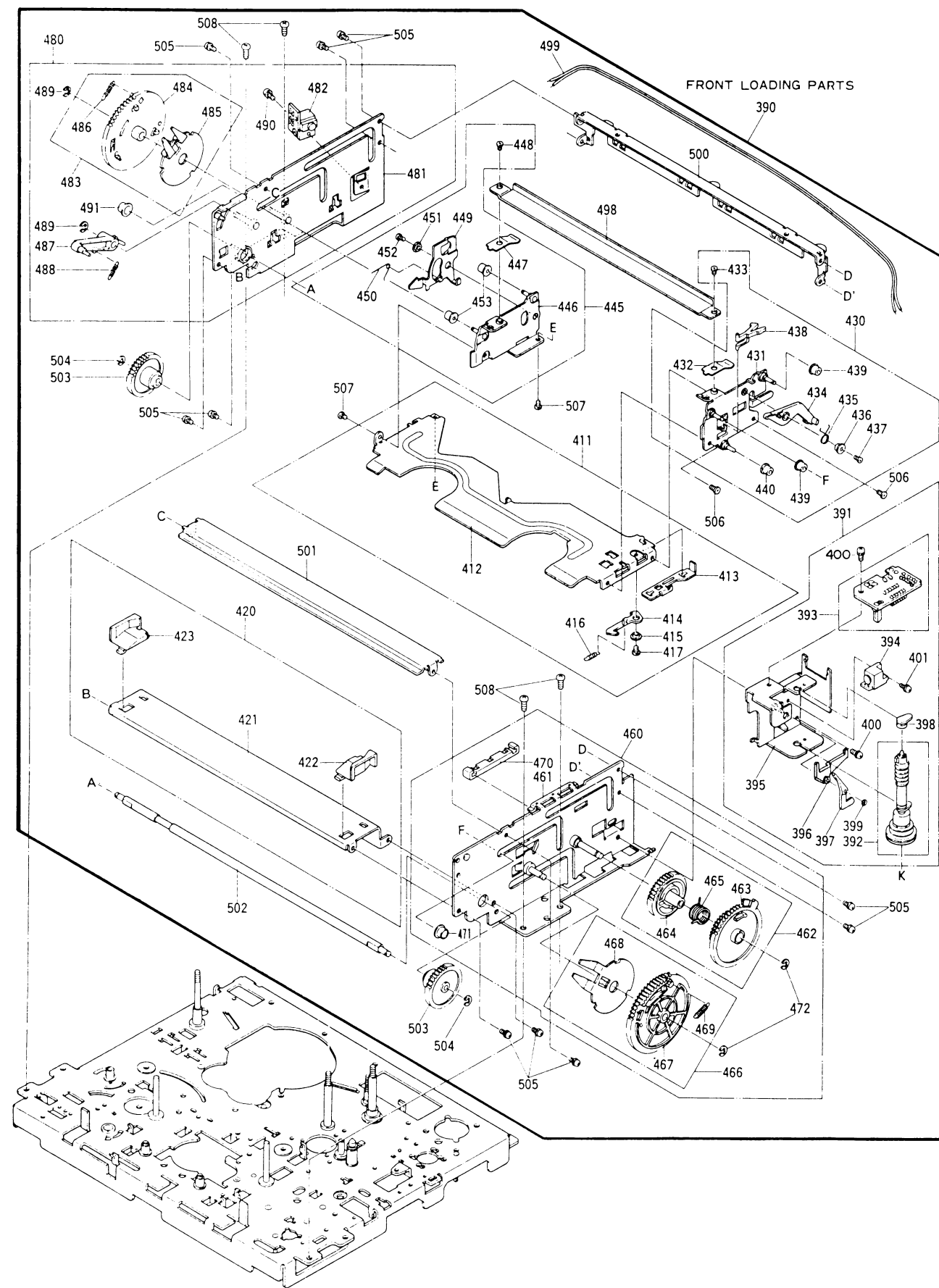
  

| FRONT DRIVE PARTS |                                                           |             |      |
|-------------------|-----------------------------------------------------------|-------------|------|
| Ref No.           | Description                                               | MFR' No.    | Q'ty |
| 361               | Actuator, Eject                                           | 8059-15-08  | 1    |
| 362               | Collar                                                    | 8059-06-18  | 1    |
| 363               | Screw, C Tapping, M2.6X5                                  | 9192-00-00  | 1    |
| 364               | Plate, L Brake                                            | 8059-15-07  | 1    |
| 365               | Collar                                                    | 8059-06-18  | 1    |
| 366               | Screw, C Tapping, M2.6X5                                  | 9192-00-00  | 1    |
| 367               | Arm Assembly, E Idler (Consists of 368-370)               | 8059-15-303 | 1    |
| 368               | Arm Semi Assembly, E Idler                                | 8059-15-502 | 1    |
| 369               | Pulley, Eject                                             | 8059-15-15  | 1    |
| 370               | Washer, Polyslider, $\phi 2.1 \times \phi 6 \times t 0.5$ | 9876-00-00  | 1    |
| 371               | Spring, Idler Arm                                         | 8059-15-11  | 1    |
| 372               | Washer, Polyslider, $\phi 2.1 \times \phi 6 \times t 0.5$ | 9876-00-00  | 1    |
| 373               | Belt, Front Loading                                       | 8059-15-06  | 1    |



| HEAD PARTS         |                                                     |             |      |
|--------------------|-----------------------------------------------------|-------------|------|
| Ref No.            | Description                                         | MFR' No.    | Q'ty |
| 81                 | Head Base Assembly<br>(Consists of 82-85, 88-89)    | 8059-04-303 | 1    |
| 82                 | Head, ACE                                           | 6204-15-06  | 1    |
| 83                 | Base, Head                                          | 8059-04-501 | 1    |
| 84                 | Screw, Azimuth Spring                               | 8000-06-26  | 1    |
| 85                 | Spring, Azimuth                                     | 8000-06-04  | 1    |
| 88                 | Screw, M2.6 X7                                      | 9041-00-00  | 1    |
| 89                 | Screw, Set, M3X6                                    | 9999-20-25  | 1    |
| 86                 | Nut, Nylon M3                                       | 9953-00-00  | 1    |
| 87                 | Not used                                            |             |      |
| 90                 | Spring, Head                                        | 8059-04-15  | 1    |
| 95                 | Nut, Nylon M3                                       | 9953-00-00  | 1    |
| 96                 | Roller, Impedance                                   | 8059-04-05  | 1    |
| 97                 | Sleeve, Impedance Roller                            | 8059-04-06  | 1    |
| 98                 | Flange (A), Tape Guide                              | 8059-04-07  | 1    |
| 99                 | Spring, Tape Guide Flange                           | 8059-04-09  | 1    |
| 100                | Washer, Plane<br>φ3 X φ8 X t0.5                     | 9337-00-00  | 1    |
| REEL PARTS         |                                                     |             |      |
| 121                | Reel Assembly                                       | 8059-05-301 | 2    |
| 122                | Washer, φ3.1 X φ6 X t0.5                            | 9912-00-00  | 2    |
| PINCH ROLLER PARTS |                                                     |             |      |
| 131                | Arm Assembly, Pinch Roller<br>(Consists of 132-134) | 8059-06-301 | 1    |
| 132                | Arm Pinch Roller                                    | 8059-06-501 | 1    |
| 133                | Screw, M2.6 X4                                      | 9038-00-00  | 1    |
| 134                | Roller (A), Pinch                                   | 8000-09-22  | 1    |
| 135                | Washer, Polyslider,<br>φ5 X φ8 X t0.5               | 9999-03-11  | 1    |
| 136                | Screw, Sems, M2.6 X4                                | 9096-00-00  | 1    |
| 137                | Collar                                              | 8059-06-18  | 1    |
| 138                | Angle, P Actuate                                    | 8059-06-05  | 1    |
| 139                | Holder, P Angle                                     | 8059-06-19  | 1    |
| 140                | Spring, P Roller                                    | 8059-06-20  | 1    |
| 141                | Plate (A), P Slide                                  | 8059-06-24  | 1    |
| 142                | Collar                                              | 8059-06-18  | 1    |
| 143                | Screw, C Tapping, M2.6X5                            | 9192-00-00  | 1    |
| 144                | Joint Plate                                         | 8059-06-06  | 1    |
| 145                | Arm, P Actuate                                      | 8059-06-04  | 1    |
| 146                | Spring, P Actuate Arm                               | 8059-06-09  | 1    |
| 157                | Plate (B), P Slide                                  | 8059-06-25  | 1    |
| FLYWHEEL PARTS     |                                                     |             |      |
| 171                | Motor Assembly, Capstan                             | 8059-07-302 | 1    |
| 177                | Housing Assembly, Metal                             | 8059-07-301 | 1    |
| 178                | Screw, C Tapping, M2.6X8                            | 9195-00-00  | 3    |
| 179                | Screw, Sems, M3 X4                                  | 9105-00-00  | 2    |
| BACK TENSION PARTS |                                                     |             |      |
| 191                | Arm, Back Tension                                   | 8059-08-501 | 1    |
| 192                | Screw, C Tapping, M2.6X4                            | 9191-00-00  | 1    |
| 193                | Support, Back Tension                               | 8059-08-09  | 1    |
| 194                | Screw, C Tapping, M2.6X4                            | 9191-00-00  | 1    |
| 195                | Collar, Band Holder                                 | 8059-08-15  | 1    |
| 196                | Band, BT                                            | 8059-08-302 | 1    |
| 197                | Spring, Band Holder                                 | 8059-08-17  | 1    |
| 199                | Washer, Polyslider,<br>φ2.1 X φ4 X t0.5             | 9999-03-15  | 1    |
| 208                | Spring, BT Actuate Plate                            | 8059-08-20  | 1    |

| BRAKE PARTS         |                                                               |             |      |
|---------------------|---------------------------------------------------------------|-------------|------|
| Ref No.             | Description                                                   | MFR' No.    | Q'ty |
| 221                 | Plate Assembly<br>(Consists of 222-227,<br>263, 265-266, 268) | 8059-09-307 | 1    |
| 222                 | Plate Semi Assembly                                           | 8059-09-501 | 1    |
| 223                 | Screw, Sems, M2 X4                                            | 9077-00-00  | 2    |
| 224                 | Screw, C Tapping, M2.6X4                                      | 9191-00-00  | 1    |
| 225                 | Washer, Wave                                                  | 8000-10-25  | 3    |
| 226                 | Gear, Reel Drive                                              | 8059-09-06  | 2    |
| 227                 | E Ring S 1.5                                                  | 9500-00-00  | 2    |
| 263                 | Brake, Take-up soft                                           | 8059-10-303 | 1    |
| 265                 | Screw, SL FH (For Camera), M2 X3                              | 9974-00-00  | 1    |
| 266                 | Collar, Take-up Soft Brake Arm                                | 8059-10-07  | 1    |
| 268                 | Spring, Take-up Soft Brake Arm                                | 8059-10-06  | 1    |
| REEL DRIVE PARTS    |                                                               |             |      |
| 228                 | Washer, Nylon, φ3.1 X φ6 X t0.3                               | 9853-00-00  | 1    |
| 229                 | Clutch Assembly                                               | 8059-09-302 | 1    |
| 230                 | Washer, Nylon, φ2.98 X φ6 X t0.3                              | 9999-06-04  | 1    |
| 231                 | Pulley Assembly, Middle                                       | 8059-09-301 | 1    |
| 232                 | Washer, Polyslider,<br>φ2.6 X φ6 X t0.5                       | 9884-00-00  | 1    |
| 233                 | Belt, Drive                                                   | 8059-09-17  | 1    |
| 239                 | Gear Assembly, P<br>(Consists of 234-235, 238)                | 8059-09-305 | 1    |
| 234                 | Arm Assembly, P Gear                                          | 8059-09-303 | 1    |
| 235                 | Gear, Play                                                    | 8059-09-20  | 1    |
| 238                 | Washer, Polyslider,<br>φ1.6 X φ3.8 X t0.3                     | 9743-00-00  | 1    |
| 240                 | Gear Assembly, RF<br>(Consists of 236-237, 238)               | 8059-09-306 | 1    |
| 236                 | Arm Assembly, RF Gear                                         | 8059-09-304 | 1    |
| 237                 | Gear, RF                                                      | 8059-09-22  | 1    |
| 238                 | Washer, Polyslider,<br>φ1.6 X φ3.8 X t0.3                     | 9743-00-00  | 1    |
| BRAKE PARTS         |                                                               |             |      |
| 253                 | Spring, Brake Arm                                             | 8059-10-02  | 2    |
| 255                 | Arm Assembly, S Brake<br>(Consists of 251-252)                | 8059-10-301 | 1    |
| 251                 | Shoe, Brake                                                   | 8059-10-19  | 1    |
| 252                 | Arm, S Brake                                                  | 8059-10-01  | 1    |
| 256                 | Arm Assembly, T Brake<br>(Consists of 251, 254)               | 8059-10-302 | 1    |
| 251                 | Shoe, Brake                                                   | 8059-10-19  | 1    |
| 254                 | Arm, T Brake                                                  | 8059-10-03  | 1    |
| 257                 | Lifter, Brake                                                 | 8059-10-16  | 1    |
| 258                 | Actuator, L Brake                                             | 8059-10-17  | 1    |
| 259                 | Hook, Trigger                                                 | 8059-10-14  | 1    |
| 260                 | Lever, Trigger                                                | 8059-10-13  | 1    |
| 261                 | Plate, Brake                                                  | 8059-10-11  | 1    |
| 262                 | Brake Actuate, Base                                           | 8059-10-09  | 1    |
| 264                 | Brake, S Soft                                                 | 8059-10-304 | 1    |
| 267                 | Spring, L Brake Actuator                                      | 8059-10-18  | 1    |
| 269                 | Spring, S Soft Brake                                          | 8059-10-22  | 1    |
| 270                 | Washer, Polyslider,<br>φ2.1 X φ5 X t0.5                       | 9876-00-00  | 1    |
| 271                 | Spring, Trigger Lever                                         | 8059-10-23  | 1    |
| REVERSE GUIDE PARTS |                                                               |             |      |
| 531                 | Plate, RG Slide                                               | 8059-17-03  | 1    |
| 532                 | Spring, RG Slide                                              | 8059-17-11  | 1    |
| 533                 | Collar, RG Slide Plate                                        | 8059-17-10  | 1    |
| 534                 | Screw, Sems, M2 X4                                            | 9077-00-00  | 1    |
| 535                 | Base, RG Slide                                                | 8059-17-09  | 1    |
| 536                 | Arm Semi Assembly, RG                                         | 8059-17-501 | 1    |
| 537                 | Washer, Polyslider,<br>φ2.6 X φ6 X t0.5                       | 9884-00-00  | 1    |
| 538                 | Arm, RG Actuate                                               | 8059-17-01  | 1    |
| 539                 | Washer, Polyslider,<br>φ2.1 X φ5 X t0.5                       | 9876-00-00  | 1    |
| 540                 | RG Actuator                                                   | 8059-17-02  | 1    |



| FRONT LOADING PARTS |                                                                                           |             |      |
|---------------------|-------------------------------------------------------------------------------------------|-------------|------|
| Ref No.             | Description                                                                               | MFR' No.    | Q'ty |
| 390                 | Loading Assembly, Front<br>(Consists of 391, 411,<br>420, 430, 455, 460, 480,<br>498-508) | 8059-16-317 | 1    |
| 391                 | Bracket Assembly, Cassette Load<br>(Consists of 392-401)                                  | 8059-16-318 | 1    |
| 392                 | Clutch Assembly, Front Loading                                                            | 8059-16-319 | 1    |
| 393                 | P.C.B. Assembly, Front Loading                                                            | 8059-16-320 | 1    |
| 394                 | Sensor, P.C.B. (RM)                                                                       | 8059-16-316 | 1    |
| 395                 | Bracket Semi Assembly,<br>Cassette Load                                                   | 8059-16-506 | 1    |
| 396                 | Lever, IN SW                                                                              | 8059-16-34  | 1    |
| 397                 | Lever, S SW                                                                               | 8059-16-33  | 1    |
| 398                 | Bearing (A), F Worm                                                                       | 8059-16-06  | 1    |
| 399                 | Washer, Polyslider,<br>φ1.6 × φ3.8 × t0.3                                                 | 9743-00-00  | 1    |
| 400                 | Screw, Sems, M2.6 × 4                                                                     | 9096-00-00  | 2    |
| 401                 | Screw, Sems, M2 × 5                                                                       | 9078-00-00  | 1    |
| FRONT LOADING PARTS |                                                                                           |             |      |
| 411                 | Holder Assembly, Cassette<br>(Consists of 412-417)                                        | 8059-16-306 | 1    |
| 412                 | Holder, Cassette                                                                          | 8000-22-03  | 1    |
| 413                 | Plate, Slide                                                                              | 8000-22-13  | 1    |
| 414                 | Plate (A), C Lock                                                                         | 8000-22-12  | 1    |
| 415                 | Collar                                                                                    | 8059-06-18  | 1    |
| 416                 | Spring, Lock                                                                              | 8059-16-29  | 1    |
| 417                 | Screw, SL (For Camera), M2.6 × 3                                                          | 9968-00-00  | 1    |
| FRONT LOADING PARTS |                                                                                           |             |      |
| 430                 | Plate (R) Assembly, Side<br>(Consists of 431-440)                                         | 8059-16-308 | 1    |
| 431                 | Plate (R), Side                                                                           | 8059-16-502 | 1    |
| 432                 | Plate, Cassette Push                                                                      | 8059-16-28  | 1    |
| 433                 | Screw (For Camera), M2.3 × 2                                                              | 9833-00-00  | 1    |
| 434                 | Lever, Open                                                                               | 8000-22-25  | 1    |
| 435                 | Spring, Open Lever                                                                        | 8000-22-44  | 1    |
| 436                 | Lever Collar, Open                                                                        | 8000-22-42  | 1    |
| 437                 | Screw, SL (For Camera), M2 × 4                                                            | 9967-00-00  | 1    |
| 438                 | Lever, Lock Release                                                                       | 8000-22-16  | 1    |
| 439                 | Roller, Guide                                                                             | 8000-22-75  | 2    |
| 440                 | Roller, Guide                                                                             | 8000-22-23  | 1    |
| FRONT LOADING PARTS |                                                                                           |             |      |
| 445                 | Plate (L) Assembly, Side<br>(Consists of 446-453)                                         | 8059-16-309 | 1    |
| 446                 | Plate (L), Side                                                                           | 8059-16-503 | 1    |
| 447                 | Plate, Cassette Push                                                                      | 8059-16-28  | 1    |
| 448                 | Screw (For Camera), M2.3 × 2                                                              | 9833-00-00  | 1    |
| 449                 | Plate (L), C Lock                                                                         | 8000-22-66  | 1    |
| 450                 | Spring (L), Lock Plate                                                                    | 8059-16-30  | 1    |
| 451                 | Collar, Lock Plate                                                                        | 8000-19-63  | 1    |
| 452                 | Screw (For Camera), M2 × 2.5                                                              | 9966-00-00  | 1    |
| 453                 | Roller, Guide                                                                             | 8000-22-75  | 2    |

| FRONT LOADING PARTS |                                                              |             |      |
|---------------------|--------------------------------------------------------------|-------------|------|
| Ref No.             | Description                                                  | MFR' No.    | Q'ty |
| 460                 | Frame (R) Assembly<br>(Consists of 461-462,<br>466, 470-472) | 8059-16-322 | 1    |
| 461                 | Frame (R)                                                    | 8059-16-504 | 1    |
| 462                 | Wheel Assembly, Worm<br>(Consists of 463-465)                | 8059-16-321 | 1    |
| 463                 | Wheel, Worm                                                  | 8059-16-36  | 1    |
| 464                 | Gear, Friction                                               | 8059-16-45  | 1    |
| 465                 | Spring, Friction                                             | 8059-16-31  | 1    |
| 466                 | Gear (R) Assembly, Lift<br>(Consists of 467-469)             | 8059-16-312 | 1    |
| 467                 | Gear (R), Lift                                               | 8059-16-21  | 1    |
| 468                 | Arm, Lift                                                    | 8000-22-11  | 1    |
| 469                 | Spring, LP                                                   | 8000-22-45  | 1    |
| 470                 | Guide, Open Lever                                            | 8000-22-26  | 1    |
| 471                 | Sleeve, Guide                                                | 8000-22-24  | 1    |
| 472                 | E Ring S 2.5                                                 | 9504-00-00  | 2    |
| FRONT LOADING PARTS |                                                              |             |      |
| 480                 | Frame (L) Assembly<br>(Consists of 481-483, 487-491)         | 8059-16-313 | 1    |
| 481                 | Frame (L)                                                    | 8059-16-505 | 1    |
| 482                 | Sensor, P.C.B. (LM)                                          | 8059-16-301 | 1    |
| 483                 | Gear (L) Assembly, Lift<br>(Consists of 484-486)             | 8059-16-314 | 1    |
| 484                 | Gear, Lift                                                   | 8059-16-22  | 1    |
| 485                 | Arm, Lift                                                    | 8000-22-11  | 1    |
| 486                 | Spring, LP                                                   | 8000-22-45  | 1    |
| 487                 | Lever, Lift                                                  | 8000-22-76  | 1    |
| 488                 | Spring, Lift Lever                                           | 8000-22-47  | 1    |
| 489                 | E Ring S 2.5                                                 | 9504-00-00  | 2    |
| 490                 | Screw, Sems, M2.6 × 7                                        | 9099-00-00  | 1    |
| 491                 | Sleeve, Guide                                                | 8000-22-24  | 1    |
| FRONT LOADING PARTS |                                                              |             |      |
| 498                 | Stay, Top                                                    | 8000-22-65  | 1    |
| 499                 | Wire, End Sensor                                             | 8059-16-19  | 1    |
| 500                 | Angle, Rear                                                  | 8059-16-09  | 1    |
| 501                 | Plate, Upper                                                 | 8000-22-07  | 1    |
| 502                 | Shaft, Synchronize                                           | 8000-22-46  | 1    |
| 503                 | Gear (A), Synchronize                                        | 8059-16-17  | 2    |
| 504                 | E Ring S 2.5                                                 | 9504-00-00  | 2    |
| 505                 | Screw, Sems, M2.6 × 4                                        | 9096-00-00  | 10   |
| 506                 | Screw (For Camera), M2.6 × 3                                 | 9556-00-00  | 2    |
| 507                 | Screw (For Camera), M2.3 × 2.5                               | 9991-00-00  | 2    |
| 508                 | Screw, C Tapping, M2.6 × 5                                   | 9192-00-00  | 4    |
| FRONT LOADING PARTS |                                                              |             |      |
| 420                 | Angle Assembly, Front<br>(Consists of 421-423)               | 8059-16-307 | 1    |
| 421                 | Angle, Front                                                 | 8059-16-18  | 1    |
| 422                 | Guide (R), Tape                                              | 8059-16-25  | 1    |
| 423                 | Guide (L), Tape                                              | 8059-16-24  | 1    |

16. ELECTRICAL PARTS LIST

| DESCRIPTION                                 | REF. NO.                                 | MFR. PART NO          | DESCRIPTION                             | REF. NO.                                           | MFR. PART NO                      |
|---------------------------------------------|------------------------------------------|-----------------------|-----------------------------------------|----------------------------------------------------|-----------------------------------|
| PCB Ass'y, Main                             |                                          | 1614374AX             | Diode, 1SS254 or US1040M or GMB018      | D101, D102, D103<br>D301, D302, D303<br>D401, D501 | 1SS254 or<br>US1040M or<br>GMB018 |
| Cap. Ceramic 22 pF /50V ±5 % SL             | C128, C129, C146                         | 3S41220               |                                         |                                                    |                                   |
| Cap. Ceramic 39 pF /50V ±5 % SL             | C126                                     | 3S41390               |                                         |                                                    |                                   |
| Cap. Ceramic 47 pF /50V ±5 % SL             | C138                                     | 3S41470               |                                         |                                                    |                                   |
| Cap. Ceramic 56 pF /50V ±5 % SL             | C132                                     | 3S41560               |                                         |                                                    |                                   |
| Cap. Ceramic 68 pF /50V ±5 % SL             | C141                                     | 3S41680               |                                         |                                                    |                                   |
| Cap. Ceramic 100 pF /50V ±5 %               | (C143*)                                  | 3B41101               | Filter, LPF 3MHz                        | T101                                               | 1810805 or<br>1810994             |
| Cap. Ceramic 120 pF /50V ±5 %               | C136, (C142*)                            | 3B41121               |                                         |                                                    |                                   |
| Cap. Ceramic 150 pF /50V ±5 %               | C133, C137, C415                         | 3B41151               | Filter, BPF 4.43MHz                     | T102                                               | 1810804 or<br>1810770             |
| Cap. Ceramic 220 pF /50V ±5 %               | C139                                     | 3B41221               |                                         |                                                    |                                   |
| Cap. Ceramic 390 pF /50V ±5 %               | C130                                     | 3B41391               | Filter, Comb                            | DL101                                              | 1812112 or<br>1812215             |
| Cap. Ceramic 0.01 μF /16V ±20%              | C120, C134, C140                         | 3Y40103               |                                         |                                                    |                                   |
| Cap. Ceramic 0.001 μF /50V ±10%             | C123                                     | 12B3102               | Filter, Ceramic SFS 5.06MB              | CF101                                              | 1810497                           |
| Cap. Ceramic 0.0012 μF /50V ±10%            | C131                                     | 12B3122               | Filter, Ceramic SFS 4.5MB               | (CF102*)                                           | 1810359                           |
| Cap. Ceramic 0.033 μF /50V +80/-20%         | C124, C125                               | 1220887               |                                         |                                                    |                                   |
| Cap. Semi-Conductive 0.01 μF /25V ±10%      | C320                                     | 12Y2103               |                                         |                                                    |                                   |
| Cap. Semi-Conductive 0.001 μF /25V ±10%     | C411                                     | 12Y2102               |                                         |                                                    |                                   |
| Cap. Semi-Conductive 0.047 μF /25V ±10%     | C318, C416                               | 12Y2473               | IC AN3331K (Liner) (Head AMP)           | IC101                                              | 14LN235                           |
| Cap. Semi-Conductive 0.022 μF /25V ±10%     | C135, C317                               | 12Y2223               | IC MN15542 FVBG (Mos /Microprocessor)   | IC501                                              | 14DN486                           |
| Cap. Semi-Conductive 0.047 μF /16V +80/-20% | C319, C327, C328                         | 1220523               | (System control)                        |                                                    |                                   |
| Cap. Semi-Conductive 0.1 μF /25V +80/-20%   | C323, C324, C325, C326, C506, C510, C520 | 1220461 or<br>1220520 | IC BA6993N (Liner) (COMPARATER IC)      | IC504                                              | 14LF330                           |
|                                             |                                          |                       | IC MN6748 FVAP (Mos /other) (Servo)     | IC301                                              | 14DN363                           |
| Cap. Electrolytic 0.22 μF /50V ±20%         | C322                                     | 126F224               | IC BA6209 (Linear) (Motor Drive)        | IC502                                              | 14L0106                           |
| Cap. Electrolytic 1 μF /50V ±20%            | C102, C103, C104                         | 126F105               | IC BA6219B (Linear) (Capstan Drive)     | IC302                                              | 14LF232                           |
|                                             | C301, C303, C330                         |                       | IC BA328LN (Liner) (Audio)              | IC401                                              | BA328LN                           |
| Cap. Electrolytic 1 μF /50V ±20%            | (C145*)                                  | 526W105               | IC AN78L05 or NJM78L05A                 | IC102                                              | AN78L05 or<br>J78L05A             |
| Cap. Electrolytic 1 μF /50V ±20% (NP)       | C302                                     | 126X105               | (Linear) (3 terminal Voltage Regulator) |                                                    |                                   |
| Cap. Electrolytic 2.2 μF /50V ±20%          | C501                                     | 526W225               | IC AN78N05                              | IC103                                              | AN78N05                           |
| Cap. Electrolytic 2.2 μF /50V ±20%          | C406                                     | 126F225               | (Linear) (3 terminal Voltage Regulator) |                                                    |                                   |
| Cap. Electrolytic 2.2 μF /50V ±20% (NP)     | C315                                     | 126X225               | IC MN1280-R (Mos /other) (Reset)        | IC503                                              | 14DN160                           |
| Cap. Electrolytic 4.7 μF /25V ±20%          | C404, C407                               | 126D475               | Hybrid C (Color HIC) (Other)            | (HIC101*)                                          | 1812422                           |
| Cap. Electrolytic 8.2 μF /16V ±20%          | C306                                     | 126C825               | Hybrid C (Color HIC) (Other)            | HIC101                                             | 1812421                           |
| Cap. Electrolytic 10 μF /16V ±20%           | C304, C305, C401                         | 126C106               | Hybrid Y (Luminance) (Other)            | HIC102                                             | 1812119                           |
| Cap. Electrolytic 10 μF /16V ±20%           | C108                                     | 526T106               | Hybrid Servo (Servo) (Other)            | HIC301                                             | 1812240                           |
| Cap. Electrolytic 10 μF /16V ±20% (NP)      | C507                                     | 126U106               |                                         |                                                    |                                   |
| Cap. Electrolytic 33 μF /10V ±20%           | C402                                     | 126B336               |                                         |                                                    |                                   |
| Cap. Electrolytic 47 μF /6.3V ±20%          | C101, C106, C109, C307, C308, C409       | 126A476               | Res. Carbon 68 ohm 1 /5W ±5 %           | R119                                               | 1324680                           |
|                                             |                                          |                       | Res. Carbon 100 ohm 1 /5W ±5 %          | R128, R307, R404                                   | 1324101                           |
| Cap. Electrolytic 47 μF /6.3V ±20%          | C502                                     | 526R476               | Res. Carbon 120 ohm 1 /5W ±5 %          | R120, R402                                         | 1324121                           |
| Cap. Electrolytic 100 μF /6.3V ±20%         | C408                                     | 126A107               | Res. Carbon 180 ohm 1 /5W ±5 %          | R511                                               | 1324181                           |
| Cap. Electrolytic 100 μF /16V ±20%          | C105, C503, C504                         | 126C107               | Res. Carbon 220 ohm 1 /5W ±5 %          | R131, R412                                         | 1324221                           |
| Cap. Electrolytic 100 μF /25V ±20%          | C310                                     | 126D107               | Res. Carbon 270 ohm 1 /5W ±5 %          | R112, R127                                         | 1324271                           |
| Cap. Electrolytic 220 μF /16V ±20%          | C405                                     | 126C227               | Res. Carbon 560 ohm 1 /5W ±5 %          | R103, R407                                         | 1324561                           |
| Cap. Electrolytic 330 μF /6.3V ±20%         | C110                                     | 126A337               | Res. Carbon 820 ohm 1 /5W ±5 %          | R108                                               | 1324821                           |
| Cap. Electrolytic 1000 μF /6.3V ±20%        | C107                                     | 626A108               | Res. Carbon 1k ohm 1 /5W ±5 %           | R102, R110, R111                                   | 1324102                           |
| Cap. Electrolytic 1000 μF /16V ±20%         | C311                                     | 626C108               |                                         | R117, R118, R301                                   |                                   |
| Cap. Polyester Film 0.022 μF /50V ±10%      | C413                                     | 1250223               |                                         | R303, R409,                                        |                                   |
| Cap. Polyester Film 0.027 μF /50V ±10%      | C414                                     | 1250273               |                                         | (R137*)                                            |                                   |
| Cap. Polyester Film 0.033 μF /50V ±5 %      | C321, C412                               | 1254333               | Res. Carbon 1.2k ohm 1 /5W ±5 %         | R129, R501, R503                                   | 1324122                           |
| Cap. Polyester Film 0.082 μF /50V ±5 %      | (C144*)                                  | 1254823               | Res. Carbon 1.5k ohm 1 /5W ±5 %         | (R521*)                                            |                                   |
| Cap. Polyester Film 0.15 μF /50V ±5 %       | C316                                     | 1254154               | Res. Carbon 1.8k ohm 1 /5W ±5 %         | R106, R109, R313                                   | 1324152                           |
|                                             |                                          |                       | Res. Carbon 2.2k ohm 1 /5W ±5 %         | R134                                               | 1324182                           |
|                                             |                                          |                       |                                         | R101, R107, R113                                   | 1324222                           |
|                                             |                                          |                       |                                         | R302, R308, R322                                   |                                   |
| Coil, Microinductor 18 μH                   | L106                                     | 2165180               | Res. Carbon 2.7k ohm 1 /5W ±5 %         | R314, R315                                         | 1324272                           |
| Coil, Microinductor 22 μH                   | L113                                     | 2165220               | Res. Carbon 3.3k ohm 1 /5W ±5 %         | R416                                               | 1324332                           |
| Coil, Microinductor 33 μH                   | L104                                     | 2165330               | Res. Carbon 3.9k ohm 1 /5W ±5 %         | R406                                               | 1324392                           |
| Coil, Microinductor 39 μH                   | L107                                     | 2165390               | Res. Carbon 4.7k ohm 1 /5W ±5 %         | R114, R122, R304,                                  | 1324472                           |
| Coil, Microinductor 47 μH                   | L102                                     | 2165470               |                                         | R312, (R520*)                                      |                                   |
| Coil, Microinductor 100 μH                  | L101, L108, L109                         | 2162101               | Res. Carbon 5.6k ohm 1 /5W ±5 %         | R133, R413, R414                                   | 1324562                           |
|                                             | L501                                     |                       | Res. Carbon 6.8k ohm 1 /5W ±5 %         | R513, R514                                         | 1324682                           |
| Coil, Microinductor 180 μH                  | L103                                     | 2165181               | Res. Carbon 10k ohm 1 /5W ±5 %          | R105, R311, R509                                   | 1324103                           |
| Coil, Choke 200 μH                          | L301, L302                               | 117J441 or<br>117B441 | Res. Carbon 10k ohm 1 /5W ±2 %          | R510, R528                                         |                                   |
|                                             |                                          | 2162331               | Res. Carbon 18k ohm 1 /5W ±5 %          | R305, R306                                         | 1354103                           |
| Coil, Microinductor 330 μH                  | L110, L112                               | 117M570 or<br>117M483 | Res. Carbon 33k ohm 1 /5W ±5 %          | R309                                               | 1324183                           |
| Coil, Microinductor 4.7 mH                  | L401                                     | 1130747               | Res. Carbon 39k ohm 1 /5W ±5 %          | R411                                               | 1324333                           |
|                                             | (L114*)                                  |                       | Res. Carbon 47k ohm 1 /5W ±5 %          | R316, R317                                         | 1324393                           |
|                                             |                                          |                       |                                         | R121, R320, R401                                   | 1324473                           |
|                                             |                                          |                       |                                         | R525, (R519*)                                      |                                   |
|                                             |                                          |                       | Res. Carbon 56k ohm 1 /5W ±5 %          | R132                                               | 1324563                           |
|                                             |                                          |                       | Res. Carbon 82k ohm 1 /5W ±5 %          | (R522*)                                            | 1324823                           |
|                                             |                                          |                       | Res. Carbon 100k ohm 1 /5W ±5 %         | R526, R527, R405                                   | 1324104                           |
|                                             |                                          |                       |                                         | R415, R502, R504                                   |                                   |
|                                             |                                          |                       | Res. Carbon 110k ohm 1 /5W ±5 %         | R408                                               | 1324114                           |
|                                             |                                          |                       | Res. Carbon 470k ohm 1 /5W ±5 %         | R321, R506, R507                                   | 1324474                           |

| DESCRIPTION                             | REF. NO.            | MFR.<br>PART NO    | DESCRIPTION              | REF. NO. | MFR.<br>PART NO |
|-----------------------------------------|---------------------|--------------------|--------------------------|----------|-----------------|
| Res. Oxide Film 1.5 ohm 1W ±5 %         | R331                | 1330391 or 1330317 | PCB Ass'y, Connector A   |          | 1614374BX       |
| Res. Oxide Film 3.3 ohm 1W ±5 %         | R530                | 1330395 or 1330320 | Connector Housing 11P    | CN-A     | 1770606         |
| Res. Oxide Film 3.3 ohm 2W ±5 %         | R330                | 1330460 or 1330318 | Connector Housing 7P     | CN-B     | 1770602         |
| Res. Oxide Film 330 ohm 1W ±5 %         | R140                | 1330419 or 1330363 |                          |          |                 |
| Res. Semi-Fixed 200k ohm (B)            | VR301               | 138J786 or 138N786 | PCB Ass'y, Connector B   |          | 1614374CX       |
| Res. Semi-Fixed 200k ohm (B) (Metal)    | VR302               | 1380832 or 238J017 | Connector Housing 6P     | CN-Ga    | 1770601         |
|                                         |                     |                    | Connector Base 6P (Side) | CN-Gb    | 1740780         |
| Transistor, 2SA933QR or 2SA608SPEF      | Q101, Q102          | A933QR or A608SEF  | PCB Ass'y, Connector C   |          | 1614374DX       |
| Transistor, 2SB892ST or 2SB1010QR       | Q509                | B892ST or B1010QR  | Connector Housing 9P     | CN-C     | 1770604         |
| Transistor, 2SC536SPEF 2SC1740QR        | Q104, Q106, Q301    | C536SEF or C1740QR |                          |          |                 |
| Transistor, 2SD1207ST or 2SD1384QR      | Q505, Q506, (Q502Ⓢ) | D1207ST or D1384QR | PCB Ass'y, Connector D   |          | 1614374EX       |
| Transistor, 2SC2839EF or 2SC2058PQ      | Q105                | C2839EF or C2058PQ | Connector Base 6P (Side) | CN-D     | 1770617         |
| Transistor, 2SD1450S or 2SD1450T        | Q401                | D1450S or D1450T   |                          |          |                 |
| Digital Transistor, DTA124ES or 2SA1346 | QR102, (QR505Ⓢ)     | A124ES or A1346    |                          |          |                 |
| Digital Transistor, DTC124ES or 2SC3400 | QR101, QR502        | C124ES or C3400    |                          |          |                 |
| Digital Transistor, DTA144WS            | (QR103, QR104Ⓢ)     | A144WS             |                          |          |                 |
| Connector Base 2P (Top )                | CN-Ea, CN-Eb        | 1740764            |                          |          |                 |
| Connector Base 5P (Top )                | CN-4                | 1770261            |                          |          |                 |
| Connector Base 6P (Top )                | CN-Gc               | 1740768            |                          |          |                 |
| Connector Base 6P (Top )                | CN-1, CN-3          | 1770262            |                          |          |                 |
| Connector Base 7P (Top )                | CN-2                | 1770263            |                          |          |                 |
| RCA JACK (Yellow)                       | JK1                 | 1780079            |                          |          |                 |
| RCA JACK (White)                        | JK2                 | 1780078            |                          |          |                 |
| X' tal 4.433619MHz                      | X101                | 1811259            |                          |          |                 |
| Resonator, Ceramic 3.58MHz              | X501                | 1812206            |                          |          |                 |
| RF CONV.                                | CONV-1 (PAL-B)      | 1812355 or 1812785 |                          |          |                 |
|                                         | (PAL-G)             | 1812370            |                          |          |                 |
|                                         | (PAL-D/I)           | 1812577            |                          |          |                 |
| Heat Sink                               |                     | 6S50441            |                          |          |                 |
| Shield Case A                           |                     | 6S50331            |                          |          |                 |
| Shield Case B                           |                     | 6S50332            |                          |          |                 |
| Shield Case C                           |                     | 6S50333            |                          |          |                 |
| Head Shield A                           |                     | 6S50442            |                          |          |                 |
| Head Shield B                           |                     | 6S50443            |                          |          |                 |
| IC Shield Case                          |                     | 6S50340            |                          |          |                 |

| Description                                                      | Ref. No                                               | Parts No.                   |
|------------------------------------------------------------------|-------------------------------------------------------|-----------------------------|
| PCB Ass'y, Trans                                                 |                                                       | 1614030X                    |
| PCB Ass'y, Trans (110/220V Model Only)                           |                                                       | 1614629X                    |
| Cap. Ceramic 0.022 μF /50V +80/ -20%                             | C606                                                  | 12F3223                     |
| Cap. Electrolytic 4.7 μF /25V ±20%                               | C603, C604                                            | 1260475                     |
| Cap. Electrolytic 47 μF /16V ±20%                                | C605                                                  | 126C476                     |
| Cap. Electrolytic 2200 μF /35V ±20%                              | C602                                                  | 626E228                     |
| Cap. Electrolytic 4700 μF /16V ±20%                              | C601                                                  | 626C478                     |
| Diode, Rectifire                                                 | D601                                                  | S4VB20 or KBL02L or RS403L  |
| IC NJM78M05FA or AN78M05F (Linear) (3terminal Voltage Regulator) | IC601                                                 | 14L0238 or AN78M05F         |
| IC NJM7818FA or AN7818F (Linear) (3terminal Voltage Regulator)   | IC602                                                 | 14L0253 or AN7818F          |
| IC NJM7812FA or AN7812F (Linear) (3terminal Voltage Regulator)   | IC603                                                 | 14L0251 or AN7812F          |
| Power Trans                                                      | T601                                                  | 1150566                     |
| Power Trans (110/220V Model Only)                                | T601                                                  | 1150823                     |
| Trans Holder                                                     |                                                       | 6S50330                     |
| Fuse T-200mA                                                     | F601                                                  | 1790474                     |
| Fuse T-400mA (110/220V Model Only)                               | F601                                                  | 1790477                     |
| AC Cord                                                          |                                                       | 5750009                     |
| Cord Stopper                                                     | SR-4N4                                                | 1790173                     |
| Sheet, Insulation                                                |                                                       | 6P50132                     |
| Fuse Holder                                                      |                                                       | 1790424                     |
| Slide SW (110/220V Model Only)                                   | SW601                                                 | 1621607                     |
| PCB A'ssy, Control                                               |                                                       | 1613975X                    |
| Cap. Electrolytic 47 μF /6.3V ±20%                               | (C701Ⓢ)                                               | 526R476                     |
| Diode, 1SS254 or US1040M or GMB01B                               | D701, D702, D703<br>D704, D705, D706<br>D707          | 1SS254 or US1040M or GMB01B |
| Diode, SLR-34MG5 LED (GREEN)                                     | D711, D712, D713                                      | 1401231                     |
| Diode, SLR-34VR5 LED (RED)                                       | (D714Ⓢ), D715                                         | 1401230                     |
| Switche, Push SW                                                 | SW701, SW702<br>SW703, SW704<br>SW705, SW706<br>SW707 | 1622743 or 1622970          |
| Switche, Slide SW 1C-2P                                          |                                                       | 1621664                     |
| Res. Carbon 680 ohm 1 /5W ±5 %                                   | R701, R702, R706                                      | 1324681                     |
| Res. Carbon 1k ohm 1 /5W ±5 %                                    | (R703Ⓢ), R704                                         | 1324102                     |
| Res. Carton 10k ohm 1 /5W ±5 %                                   | R705                                                  | 1324103                     |
| Res. P-VOL 20k ohm B                                             | VR702                                                 | 539N724                     |
| Res. TR-VOL 250k ohm B                                           | VR701                                                 | 539N682                     |
| Digital Transistor, 2SA1346 or DTA124ES                          | QR701, QR702,<br>QR703, (QR704Ⓢ)                      | 2SA1346 or DTA124ES         |
| LED Holder A                                                     |                                                       | (6D51107Ⓢ)                  |
| LED Holder A (MCV200 Model Only)                                 |                                                       | 6N50104                     |
| LED Cover                                                        |                                                       | (6N50090Ⓢ)                  |
| Remote Sensor                                                    | (RS701Ⓢ)                                              | 1812501                     |

Ⓢ..... With Dew Sensor Model Only  
Ⓢ..... With Mesecam Model Only

Ⓢ..... With Dew Sensor Model Only  
Ⓢ..... With Remote Sensor Model Only

# 17. SCHEMATIC DIAGRAM

## 17-1 VIDEO/AUDIO/SERVO/SYSTEM CONTROL/POWER SUPPLY/CONTROL

