

2-2-2 REPLACEMENT OF DD CYLINDER UNIT

1. Remove the 3 screws and connector.
2. Take out D D Cylinder carefully.

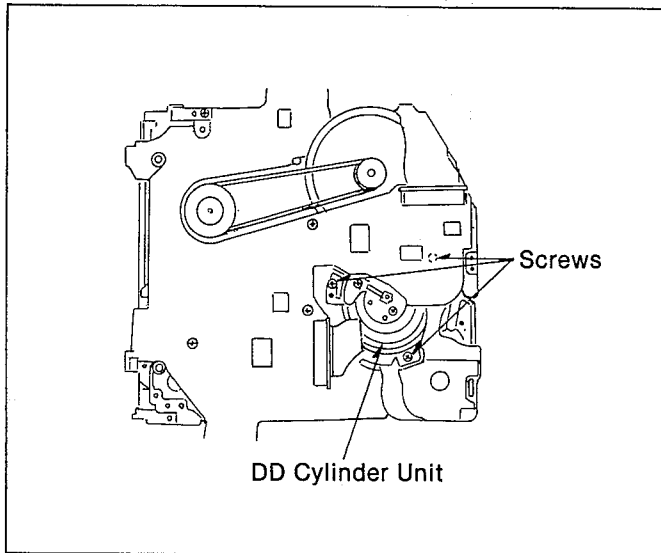


Fig. D16

Note:

Since there is very little clearance between the D.D. Cylinder Unit and the chassis, remove the D.D. Cylinder Unit carefully.

3. Reinstall the new D.D. Cylinder Unit, tighten the 3 screws and reconnect the connector.

Note:

- (1) Gently rub the video head in direction of tape travel with Head cleaning stick.
- (2) After replacement, confirm the performance. If any further maintenance is required, perform "TAPE INTER-CHANGE ABILITY ADJUSTMENT".

2-3 DISASSEMBLY PROCEDURES OF ZOOM MOTOR AND FOCUS MOTOR

The following flowchart describes order or steps for removing the Lens units and certain printed circuit boards in order to make access to the items needing service.

To reassemble the unit follow the steps in reverse order.

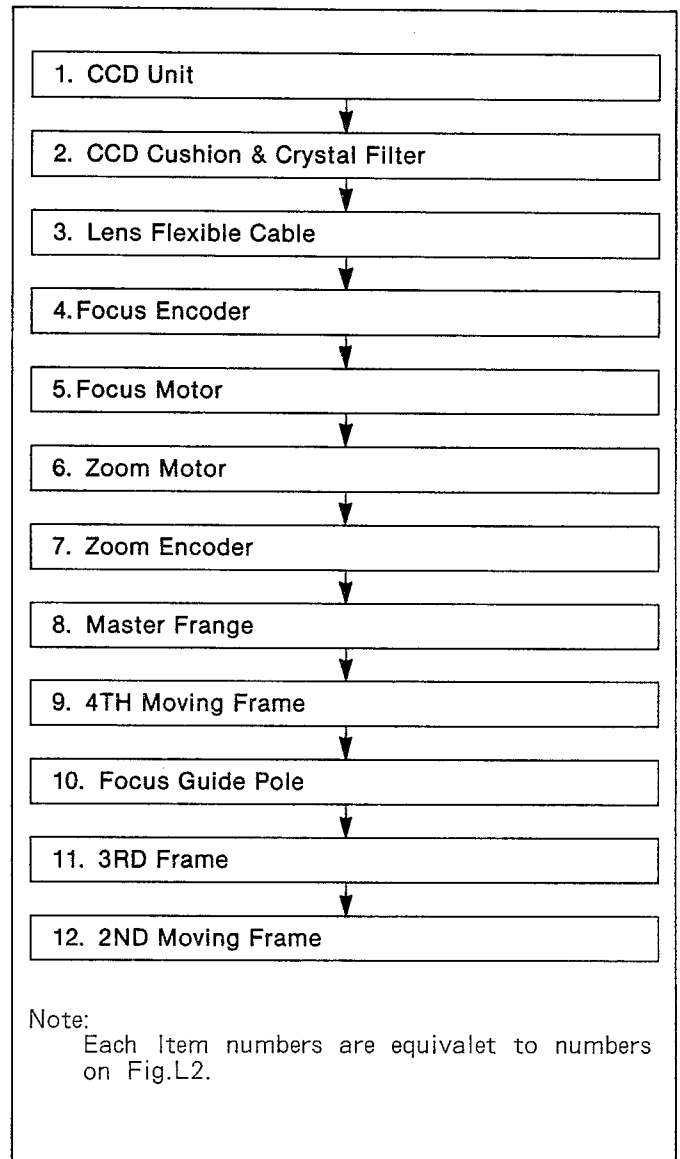


Fig. L1

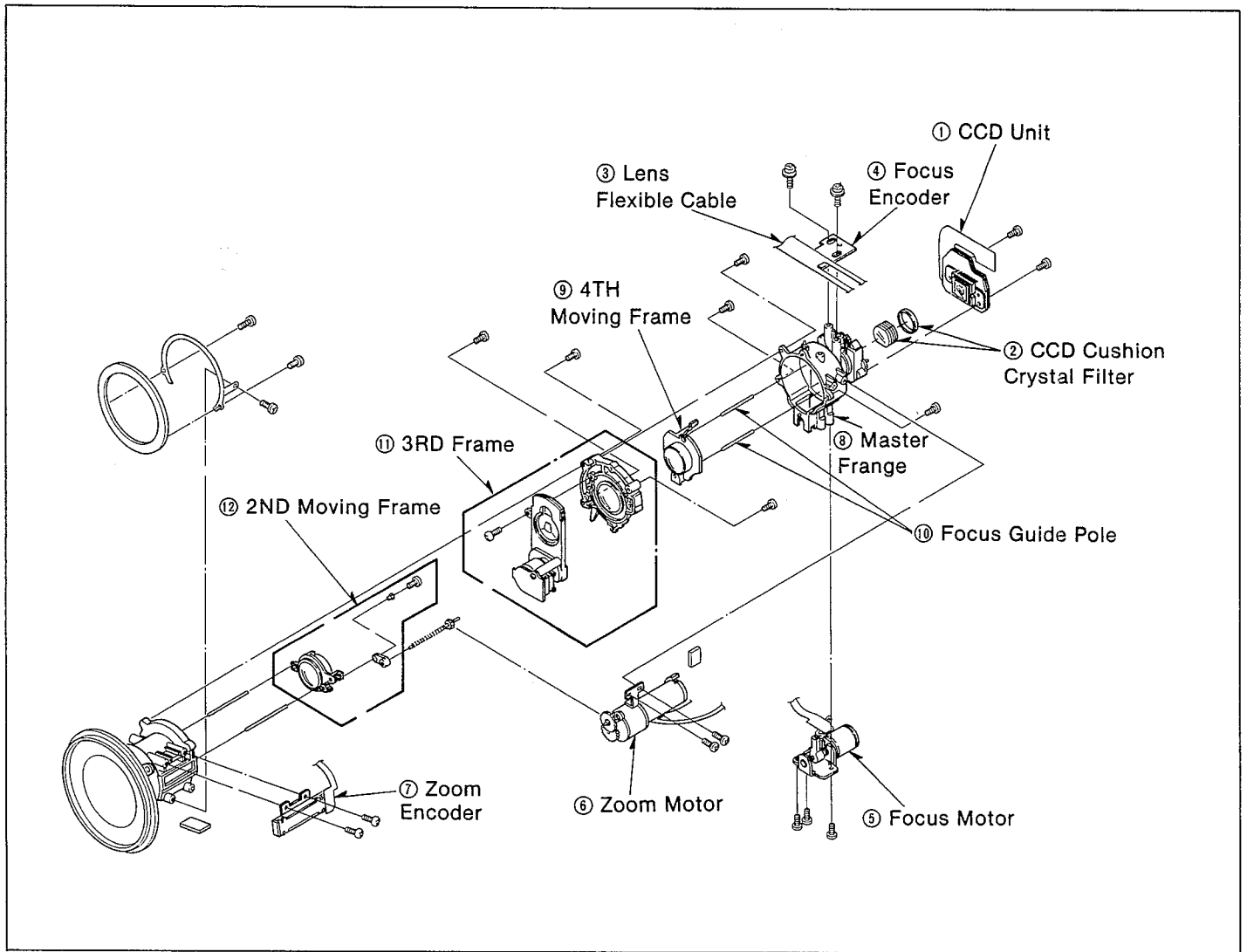


Fig. L2

2-4 ASSEMBLY ADJUSTMENT PROCEDURES OF MECHANISM

The mechanism of this model is mostly engaged to the system control circuit, through the mode select switch.

Therefore the relation between the mode select switch and cam gear decides all further mechanical movement of the mechanical parts such as levers, gears, rollers and so on. If these parts are fixed improperly, the units will be unloaded or compulsory stopped.

And it will result being damaged at any mechanical or electrical parts.

2-4.1. ASSEMBLY PROCEDURES OF T-RAIL UNIT AND LOCK BASE.

- (1). Install a T-Rail Unit and Lock Base Unit as shown in Fig. M1 and M2.

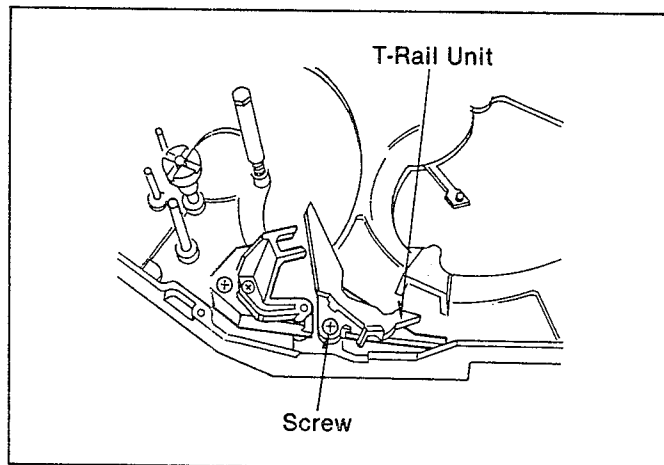


Fig. M1

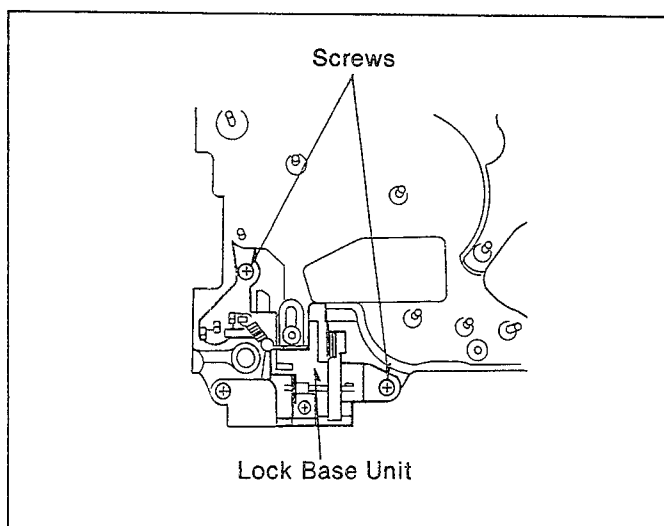


Fig. M2

2-4.2. ASSEMBLY PROCEDURES OF CAM GEAR AND ZENEBA GEAR

- (1). Install a Cam Gear so that phase mark on the Cam Gear, with its point turned up, and then insert the Cut washer as shown in Fig. M3.

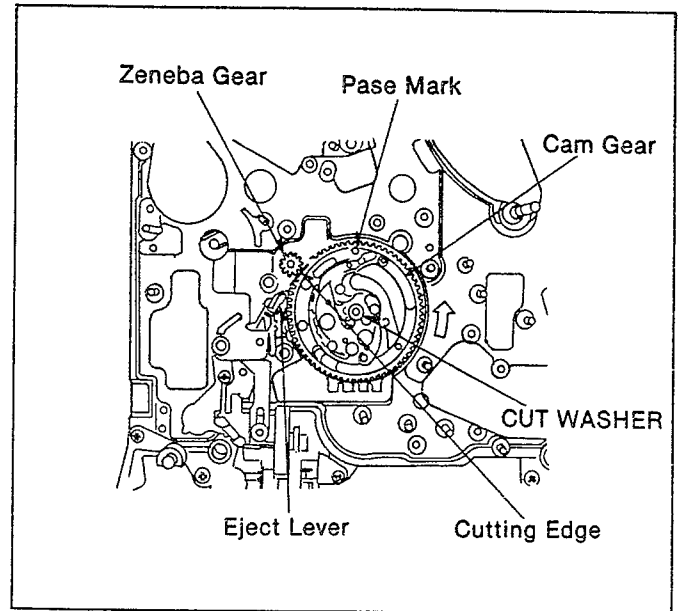


Fig. M3

NOTE:

If can't install the Cam Gear, Eject Lever caught on the Cam Gear. The Cam Gear turn to the left for free from the Eject Lever and then install a Cam Gear.

- (2). Install the Zeneba Gear so that cutting edge of the Zeneba Gear face to the Cam Gear as shown in Fig. M4.

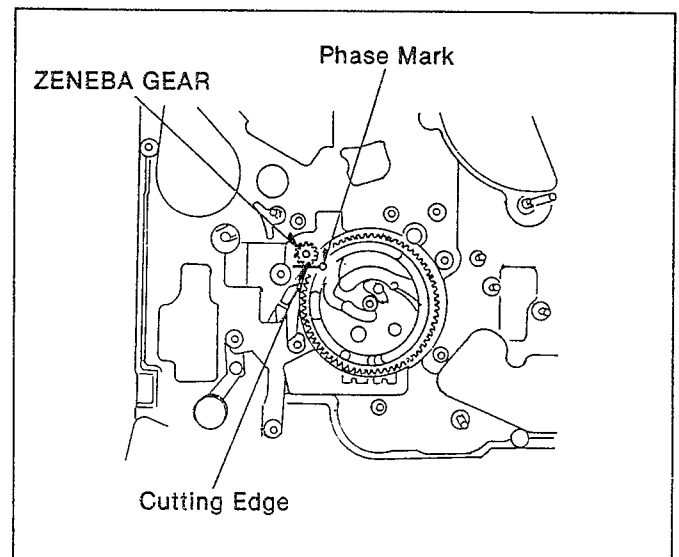


Fig. M4

NOTE:

When installation of the these Gears are finished, make sure that phase mark on the Cam on the Cam Gear face to the Zeneba Gear.

2-4.3 ASSEMBLY PROCEDURES OF S-BOARD UNIT AND GEAR

- (1). Install the S-Board Unit as shown in Fig.M5.

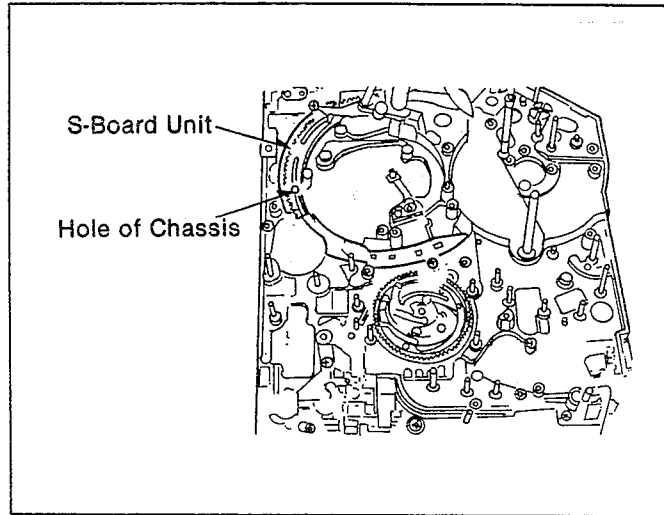


Fig. M5

NOTE

1: S-Board Unit contain the S-Rack,S-Rack Guide,S-Shaft Holder Unit and S2 Roller Post unit.

NOTE

2: The hole of S-Rack is exactly in line with the hole of chassis.

- (2). Install the Loading Gear-S so that the hole of Loading Gear is exactly in with the hole of metal frame of Loading Gear-S Unit as shown in Fig.M6.

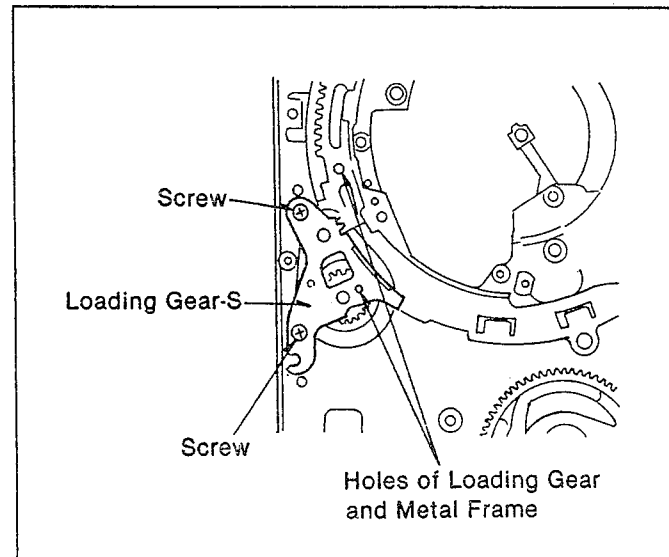


Fig. M6

2-4.4 ASSEMBLY PROCEDURES OF T-RACK GUIDE, T-RAIL, LOADING GEAR T2, LOADING GEAR T1, AND LOADING GEAR 5

- (1). Install the T-Rack Guide as shown in Fig.M7.

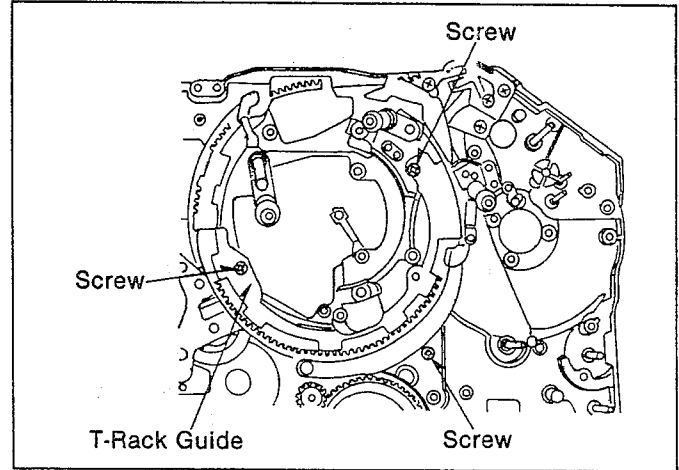


Fig. M7

- (2). Install the T-Rail(R) Unit as shown in Fig.M8

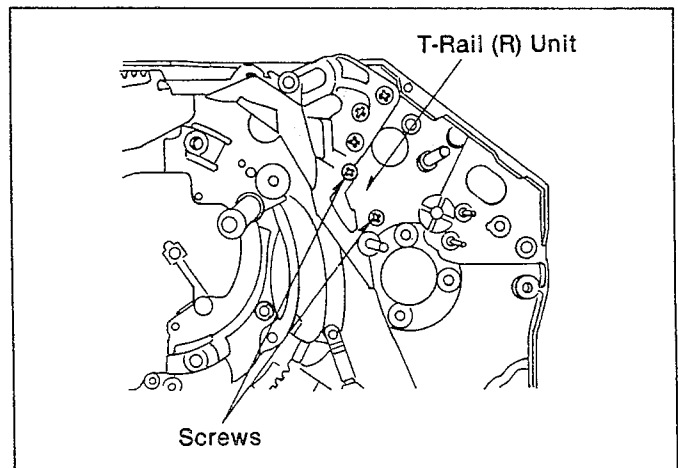


Fig. M8

- (3). The 1st tooth on the T-Rack Guide face to the hole of Guide as shown in Fig.M9.

(Expanded View of Adjustment Portion)

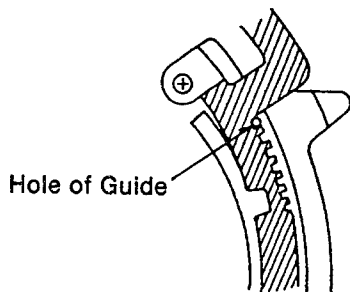


Fig. M9

- (4). Install the Loading Gear-T2 so that the mark on the the Loading Gear T2 is exactly in line with the mark of Loading Gear S as shown in Fig. M10 and M11.
- (5). Install the Loading Gear-T1 so that the mark on the Loading Gear-T1 is exactly in line with the hole of T-Rack Guide.
- (6). Install the Loading Gear 5.
- (7). Insert the Cut Washer to each Loading Gear when phase of each gears are collect.

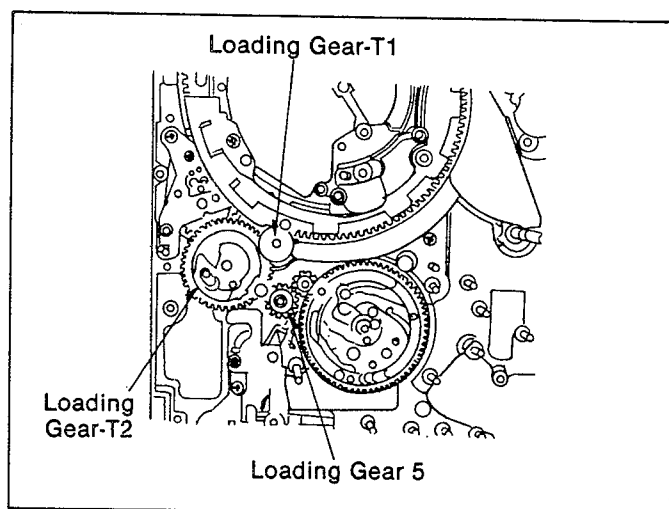


Fig. M10

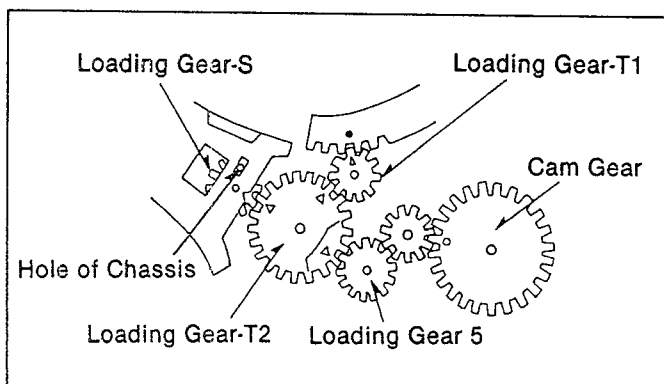


Fig. M11

2-4-5 ASSEMBLY PROCEDURES OF BAND GUIDE AND S-RAIL UNIT.

- (1). Install the Band Guide and then insert the Cut Washer as shown in Fig.M12.

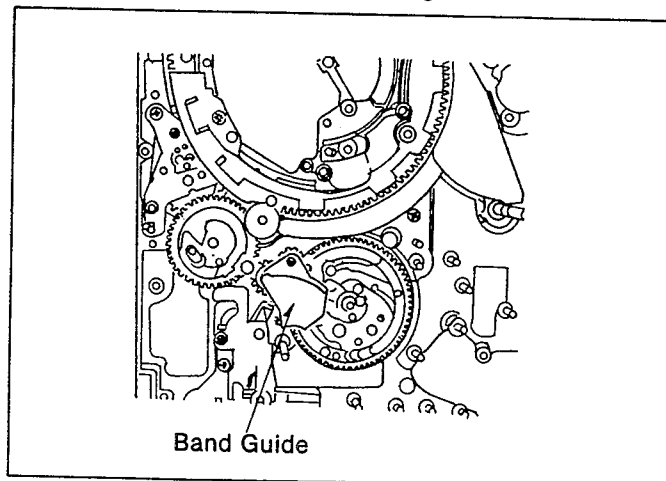


Fig. M12

- (2). Install the S-Rail Unit and then tighten the 3-Screws as shown in Fig.M13.

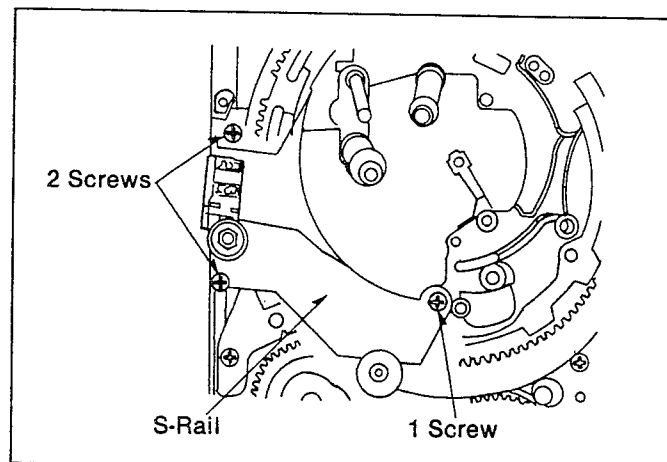


Fig. M13

2-4-6 ASSEMBLY PROCEDURES OF T-RAIL AND S-TV STOPPER.

- (1). Install the T-Rail and then tighten the 3-Screws as shown Fig.M14.

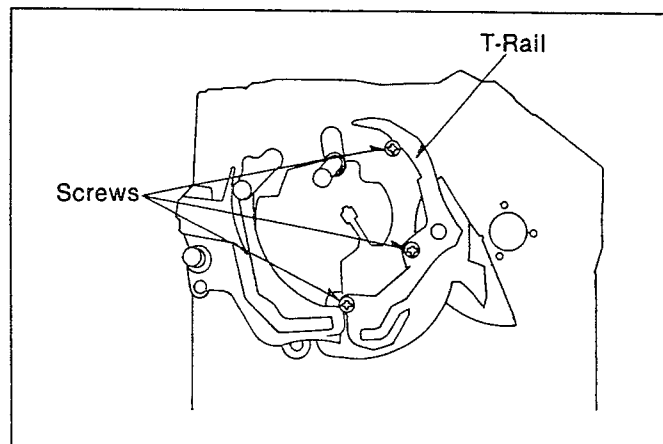


Fig. M14

- (2). When installing of T-Rail finished, turn the Cam Gear to counter-clockwise that set the Roller Posts into stop position as shown in Fig. M15 and M16.

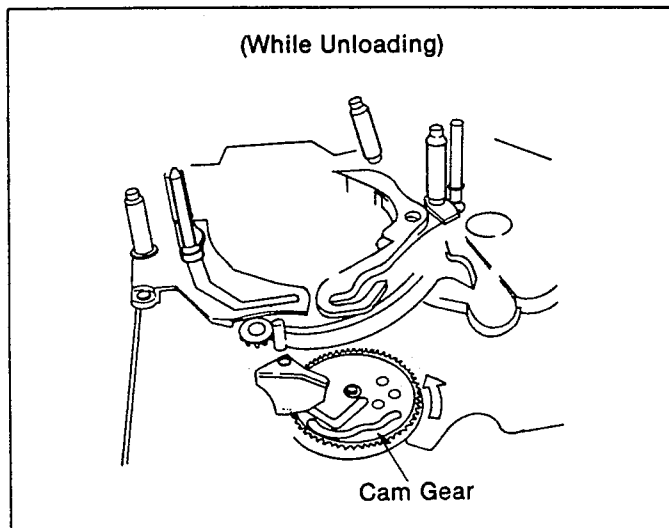


Fig. M15

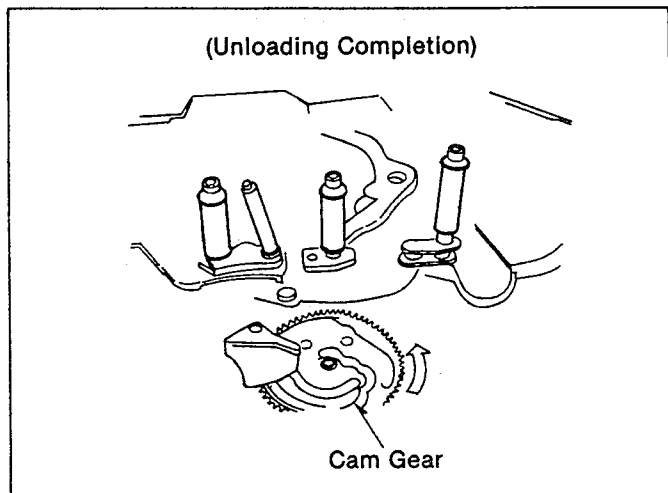


Fig. M16

NOTE:
Roller posts is made up of S2 Roller post, T-Roller Post, and Roller Post.

- (3). Install the S-TV Stopper and then tighten the 2-Screws as shown in Fig.M17.

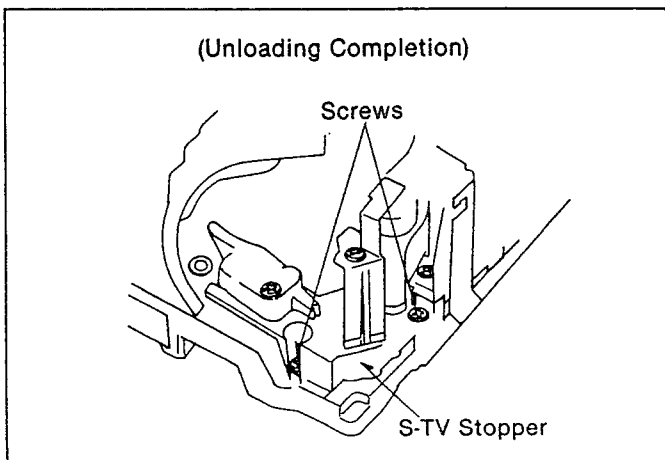


Fig. M17

NOTE:

Before install of the S-TV Stopper, install the the Impedance Roller unit into the S-TV stopper.

2-4-7 ASSEMBLY PROCEDURES OF SECTOR GEAR AND PINCH ARM UNIT

- (1). Install the Sector Gear so that insert the pin of Sector Gear in the ditch on the Cam Gear.
And insert the Pin to the Sector Gear from the Mechanism chassis as shown in Fig.M18.
After that, install the 2-Springs.

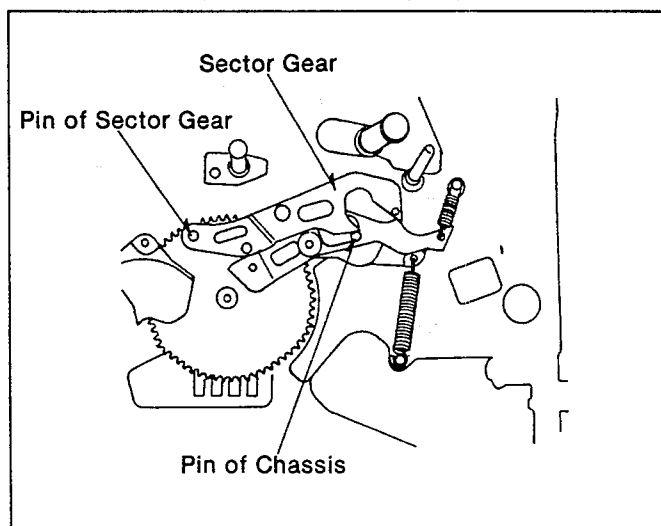


Fig. M18

- (2). When the installing of the Sector Gear is finished, turn the Cam Gear to clockwise that set the Mechanism to play position (loading end) as shown in Fig.M19.

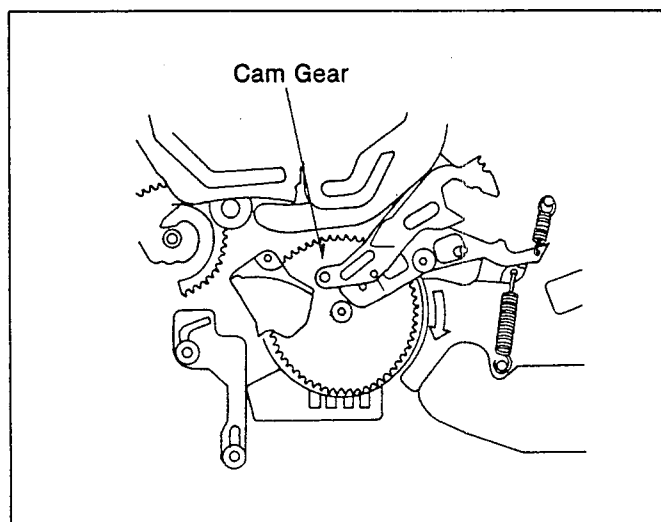


Fig. M19

- (3). Install the Pinch Arm Unit, and then insert the E-Ring as shown in Fig. M20 and M21.

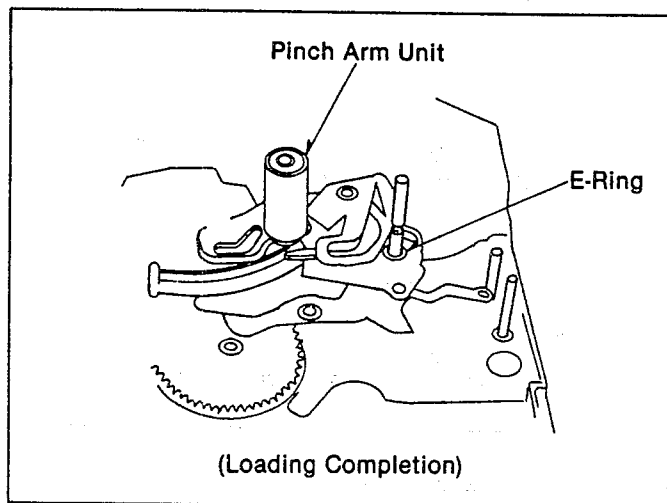


Fig. M20

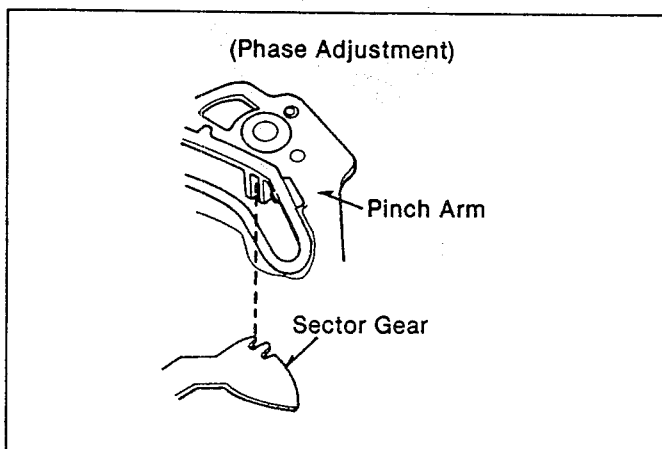


Fig. M21

- (4). Insert the T1-returner Spring so that insert a hooked end(short side) in the hole of the Pinch Arm Base as shown in Fig.M22.

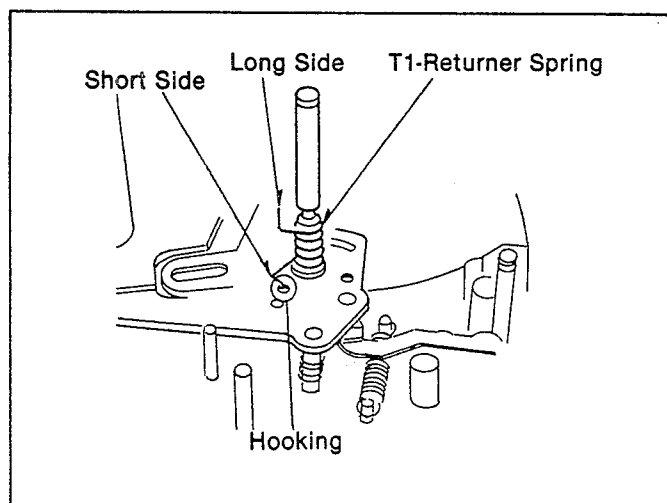


Fig. M22

- (5) Make sure of up side of T1-Returner, after that install the T1-Returner. Then insert hooked end(long side) of T1-Returner Spring in the hole of T1-Returner. Then, turn the T1-Returner to clockwise. Finally, insert the E-ring as shown in Fig.M23

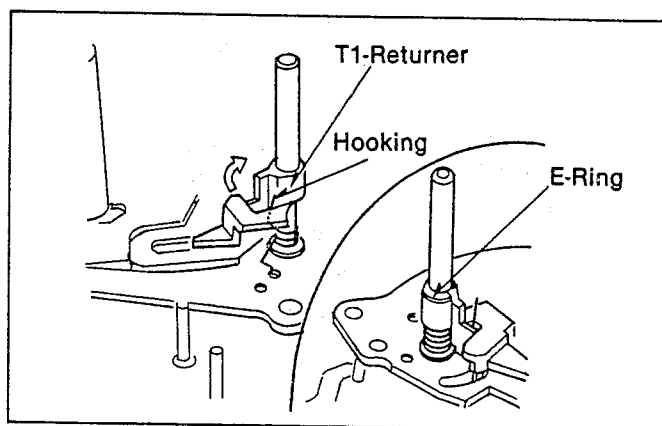


Fig. M23

- (6). Insert the Tape Opener Spring, and then fix the Tape Opener as shown in Fig.M24.

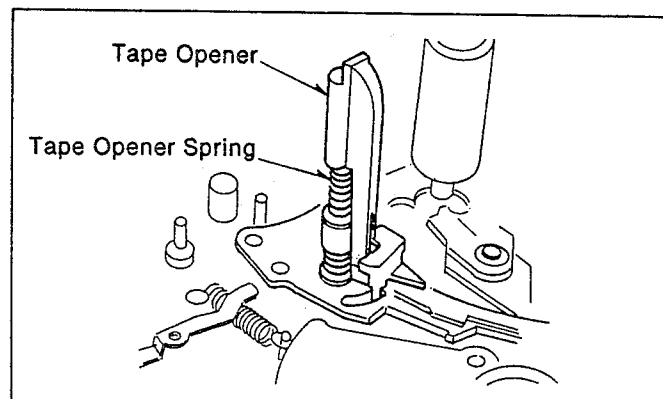


Fig. M24

2-4-8. ASSEMBLY PROCEDURES OF T-LUTCH GEAR AND DRIVE GEAR.

- (1). Turn the Cam Gear to counterclockwise that set the Mechanism to stop position(unloading end) as shown in Fig.M25.

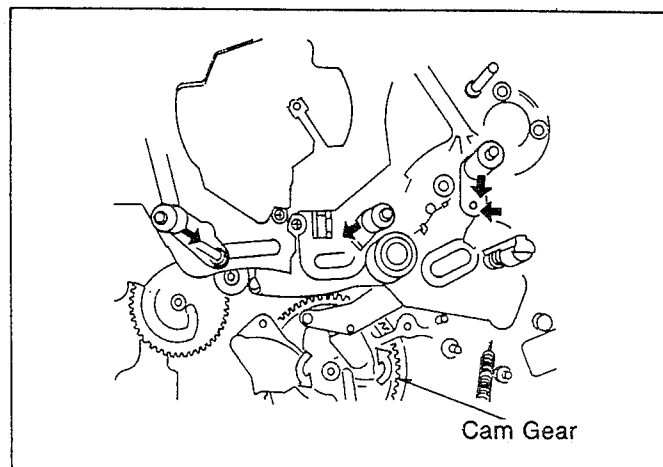


Fig. M25

- (2). Install the T-Clutch gear and then insert the Cut Washer, after that install the Drive Gear D, C and A

And then insert the Cut Washer to the each Drive Gears as shown in Fig.M26.

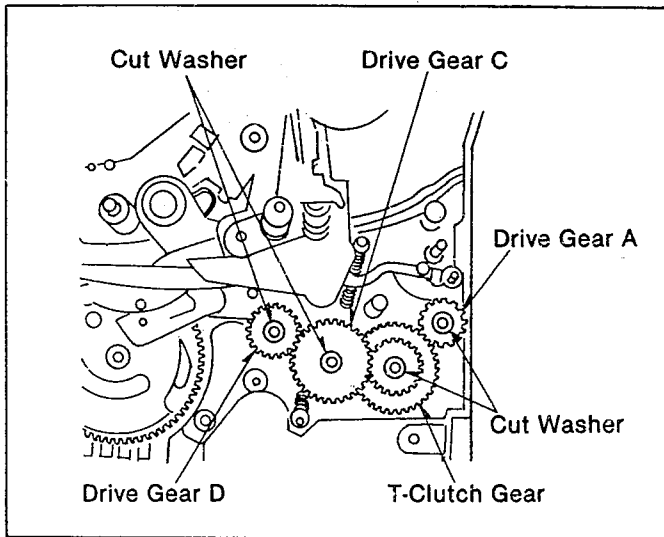


Fig.M26

2-4-9. ASSEMBLY PROCEDURES OF LOADING MOTOR AND LOADING GEAR 2, 3, 4

- (1). Install the Loading Motor Unit and tighten the 2 Screws as shown in Fig.M27.
- (2). Install the Loading Gear 4 as shown in Fig. M27.
- (3). Insert the washer and then install the Loading Gear 2.
- (4). Insert the washer, then install the loading Gear 3.

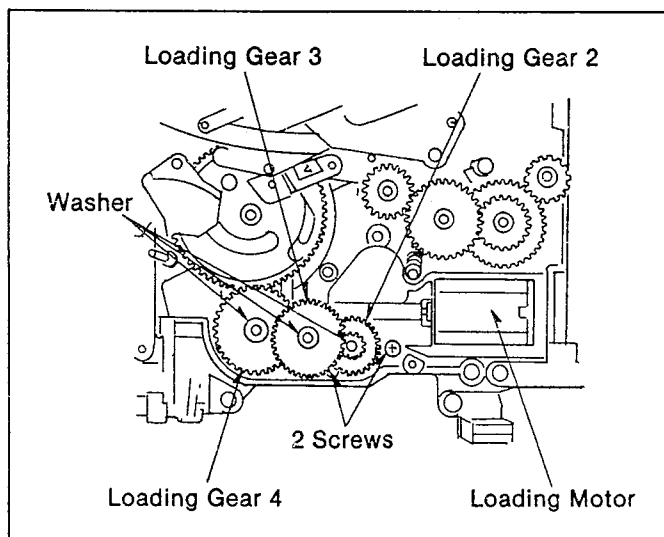


Fig. M27

NOTE :Up side of Loading Gear 4 has rib on inside circle.

2-4-10. ASSEMBLY PROCEDURES OF PULLEY PLATE UNIT AND PULLEY

- (1). install the Pulley Plate and then tighten the 2 Screws as shown in Fig.M28.

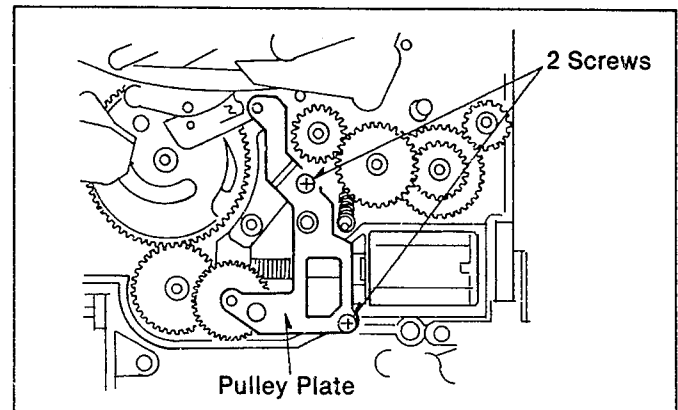


Fig. M28

- (2). Insert the Washer and the pulley from reverse side of chassis, after that install the pulley cap as shown in Fig.M29.

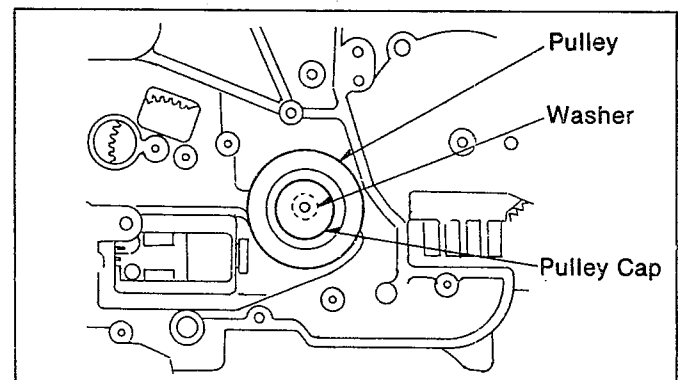


Fig. M29

2-4-11 ASSEMBLY PROCEDURES OF CORRECTOR DRIVE ARM UNIT AND CORRECTOR A, CORRECTOR C.

- (1). Insert the washer to point c and install the Corrector Drive Arm. And then insert the Cut Washer as shown in Fig.M30.

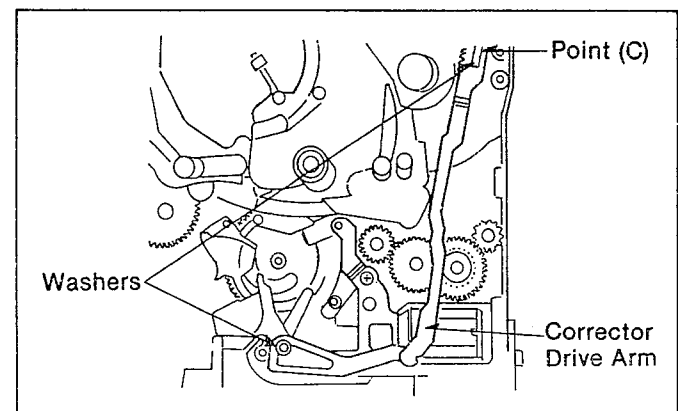


Fig. M30

- (2). Install the Corrector (A) so that the first tip of Corrector Drive Arm comes to first tip of Corrector (A).
After that set a spring in the Corrector (A).
And then insert the Cut Washer to mount it as shown in Fig.M32 and M33.

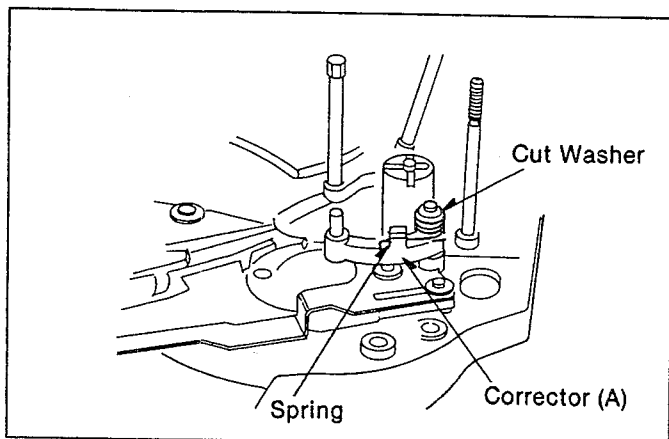


Fig. M31

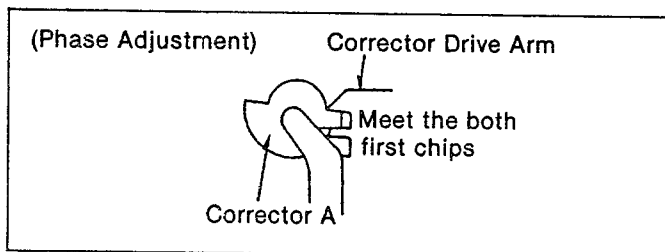


Fig. M32

- (3). Install the Corrector C and the set a Spring in the Corrector C.
After that insert the Cut Washer to mount it as shown in Fig.M33.

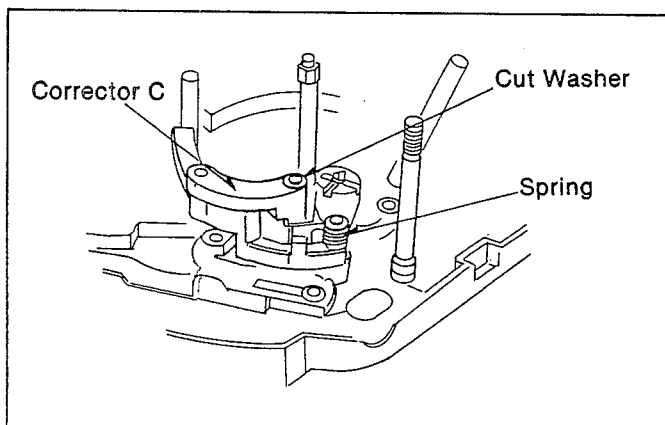


Fig. M33

2-4-12. ASSEMBLY PROCEDURES OF CENTRE GEAR AND T5 ARM

- (1). Insert the Washer and then install the Centre Gear.
After that insert the Cut Washer to mount it as shown in Fig.M34.

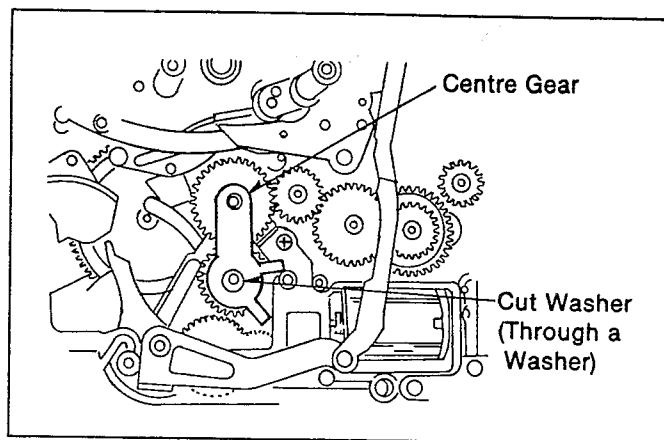


Fig. M34

- (2). Insert the T5 Arm Spring and then install the T5 Arm.
The T5 Arm connect to the Center Gear.
After that insert the E Ring to mount it.

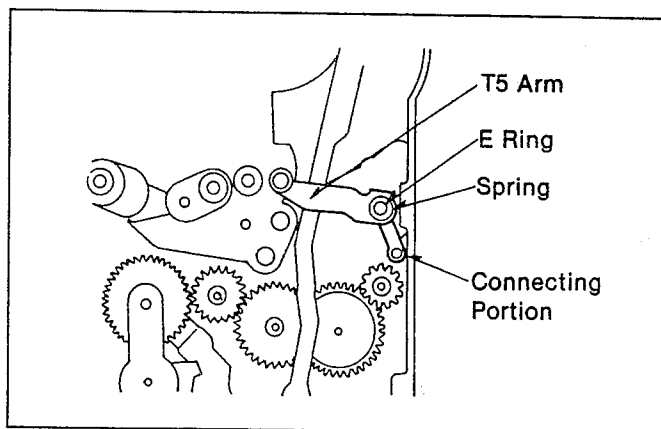


Fig. M35

2-4-13 ASSEMBLY PROCEDURES OF TENSION REGULATOR UNIT AND SUPPLY REEL TABLE.

- (1). Insert the Washer and then install the Tension Regulator Unit so that the Tension Band Arm of Tension Regulator Unit connect to the Loading Gear.
After that insert the Cut Washer as shown in Fig.M36.

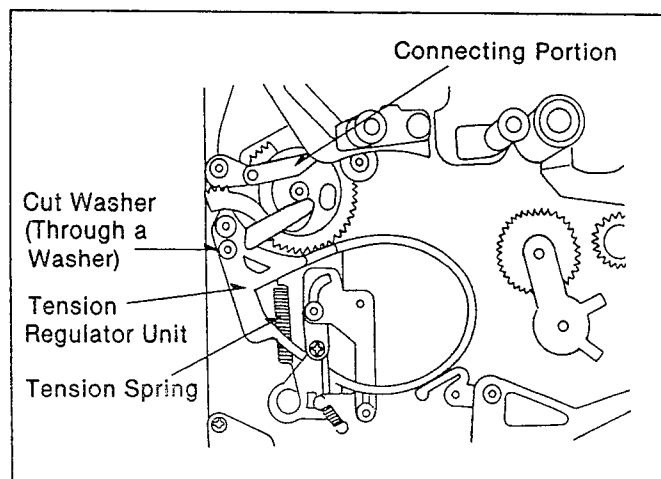


Fig. M36

- (2) Set the Tension Spring in the Lock Base Unit.
- (3) Insert the Washer and then install the Tension Arm so that make sure of phase between the Tension Arm and Tension Band as shown in Fig.M37.
After that insert the Cut Washer to mount it.

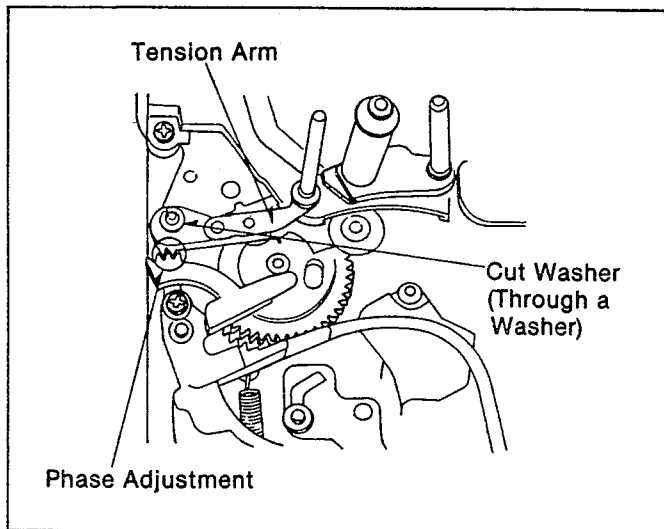


Fig. M37

- (4). Insert the Washer and then install the Supply Reel Table, after that insert the Cut Washer to mount it.

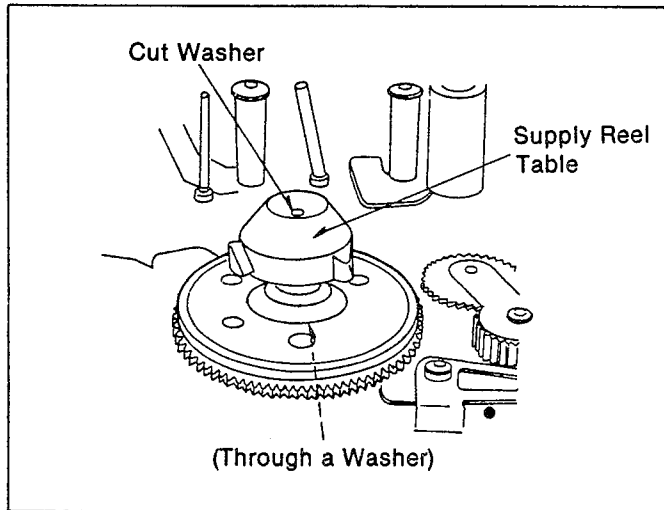


Fig. M38

2-4-14. ASSEMBLY PROCEDURES OF A/C HEAD AND CAPSTAN MOTOR UNIT

- (1). Install the A/C Head Spring and the A/C Head.
- (2). Tighten the hight Adjustment Screw for A/C Head.

NOTE:
Specification of Hight Adjustment of A/C head is as same as interchangeability adjustment.

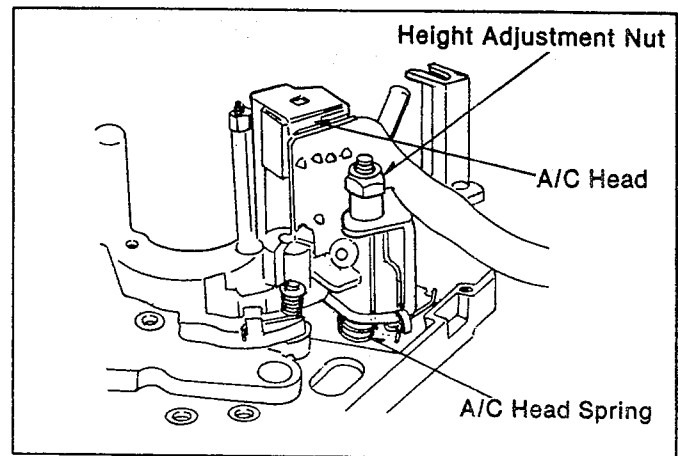


Fig. M39

- (3). Install the Capstan Motor and the tighten the 3 screws as shown Fig.M40.

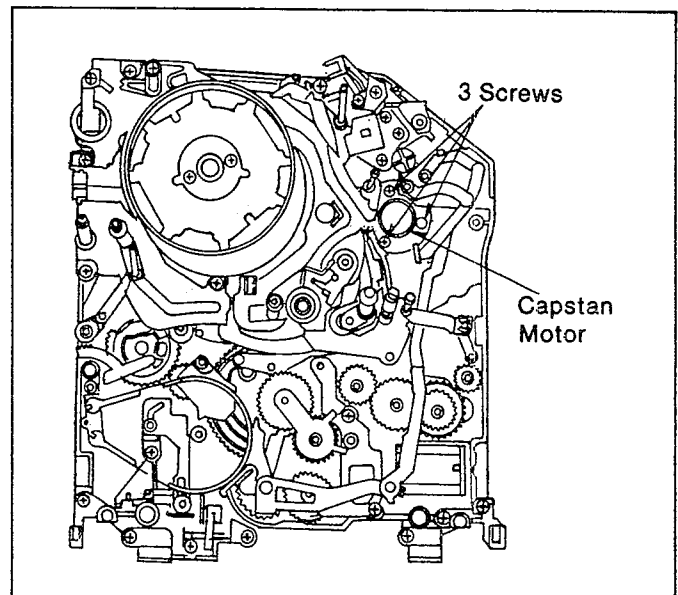


Fig. M40

2-4-15. ASSEMBLY PROCEDURES OF CYLINDER UNIT

- (1). Install the Cylinder unit from the top side, and then tighten the 3-Screws as shown Fig.M41.

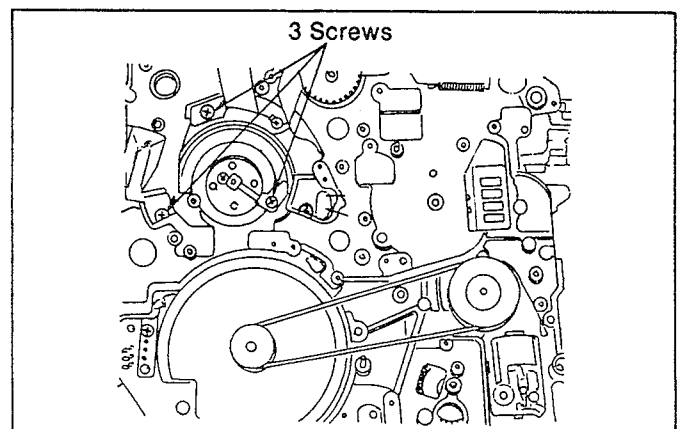


Fig. M41

2-5. INTERCHANGEABILITY ADJUSTMENT

2-5-1 ADJUSTMENT OF BACK TENSION

*Equipment Required.

Tension meter
Alignment tape (VFM8180HUPF)
Specification 17+-2g.

- (1) Remove the Impedance Roller.
- (2) Insert the cassette tape and playback the tape.
- (3) Insert the Tension Meter to Mechanism as shown Fig.T1.

If Back tension is high, spring position change to a.
If Back tension is low, spring position change to c as shown Fig. T2

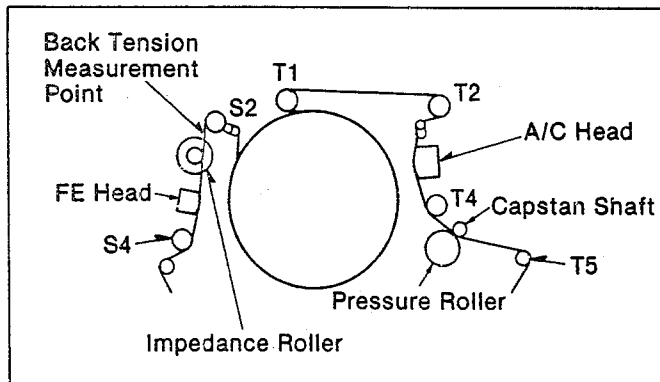


Fig.T1

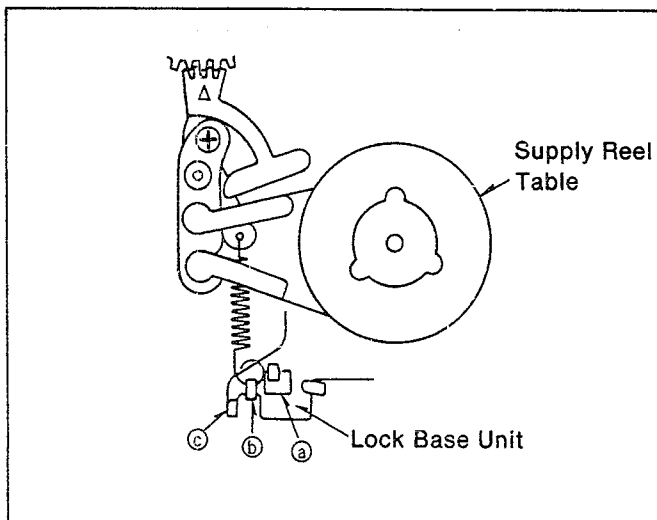


Fig.T2 S-REEL TABLE LOCK.BASE UNIT

- (4) After check the Back tension, install the impedance Roller.

2-5-2. HEIGHT ADJUSTMENT OF TAPE GUIDE POST (PRELIMINARY ADJUSTMENT)

Height adjustment of S4 Post, T4 POST, T5 Post specification.

S4 Post: $17.125 \pm 0.025 \text{ mm}$

T5 Post: $17.175 \pm 0.025 \text{ mm}$

T4 Post: $17.175 \pm 0.025 \text{ mm}$

- (1) For adjustment S4 Post height, turn 4mm Nut (A) Slightly in either direction as necessary to the correct clearance between the upper edge of lower tape guide on S1 Post and lower portion of Mecha chassis Fig. T3 4mm Nut A. upper edge of the Lower tape guide.

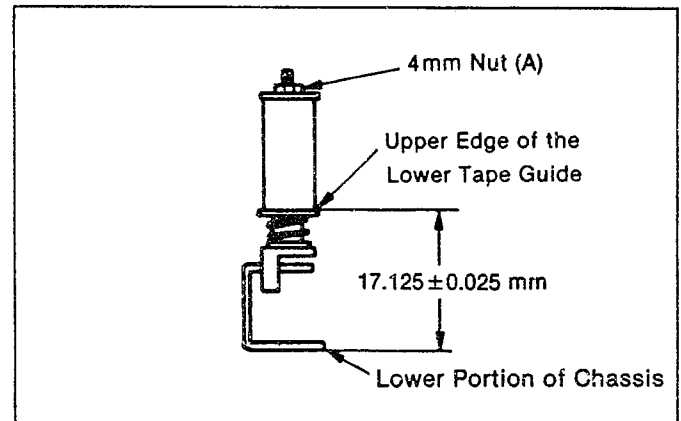


Fig. T3

Confirmation of Tape Travel

- (1) Playback a cassette tape and confirm that the tape travels Without curling at upper and lower guides on posts T4, T2, S4 and S2. Fig. T4.

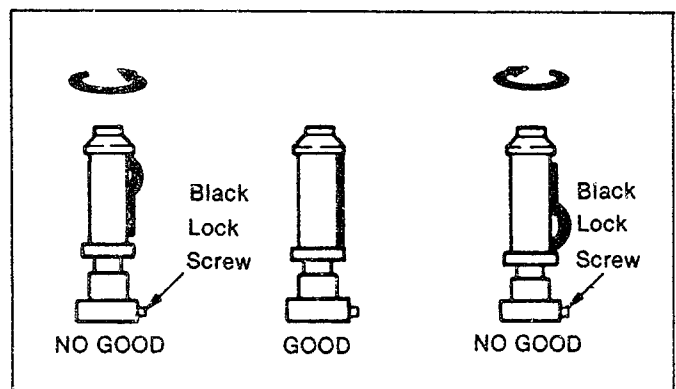


Fig. T4

- (2) If curing is apparent adjust the height of posts by turning the top of post With Hex Wrench.

Note:

Before turning S2 and T1, slightly loosen the Black Lock screw using the Screw driver.

2-5-3. TAPE INTERCHANGEABILITY ADJUSTMENT

NOTE:

- 1) To perform these adjustment/confirmation procedures make sure that the Tracking control is set in fixed position by connecting the jumper wire between P6007-6 and GND.
- 2) Before these adjustment/confirmation procedures, remove the cassette protective tape cover from a cassette tape or the Alignment tape (VFM8180HUPF).

*Equipment Required
Dual Trace Oscilloscope
Alignment tape (VFM8180HUPF)

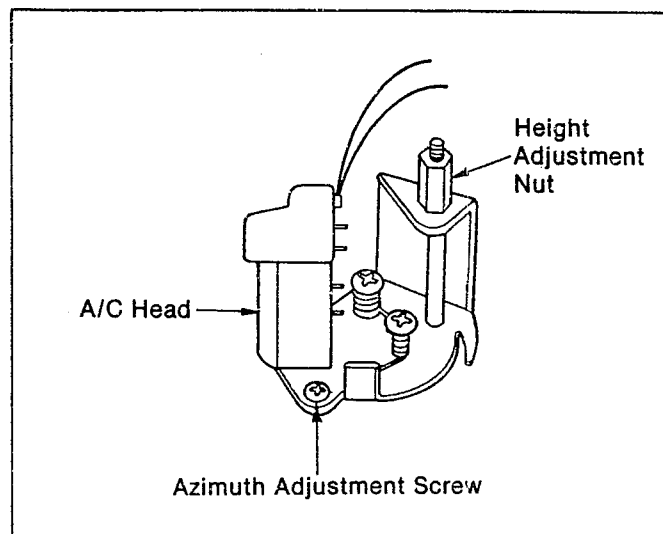


Fig. T6

2-5-4. CONFIRMATION OF TAPE TRAVEL

- (1) Confirmation of A/C Head. This confirmation is required when the A/C Head or capstan Motor is replaced and for preliminary height adjustment.
- (2) Looking at the lower edge of the control Head with the tape in motion, ensure that lower edge of the tape runs 0.25mm above the lower edge of control Head. If it doesn't turn the A/C Head height Adjustment Nut slightly in either direction as necessary to correct it.

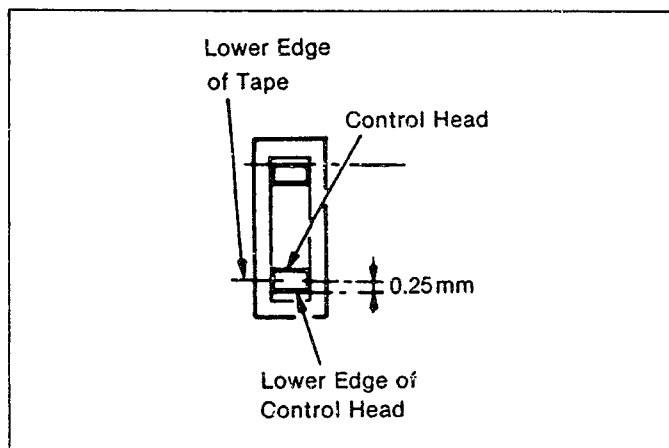


Fig. T5.

2-5-5. AZIMUTH ADJUSTMENT OF A/C HEAD.

- (1) Connect the oscilloscope to Audio Line Output.
- (2) Play back the Monoscope portion (6KHZ, MONO) of the Alignment tape.
- (3) Adjust the Azimuth Adjustment screw on the A/C Head Base in Fig. T6 so that output level is at a maximum.

2-5-6. HORIZONTAL POSITION ADJUSTMENT OF A/C HEAD

- (1) Set the tracking control to the fixed position by pushing both of the tracking control Up/Down switches, in at the same time. Connect the oscilloscope to P5001 pin 23.
- (2) Playback the monoscope portion of the alignment tape and confirm that RF envelope appears as show Fig. T7

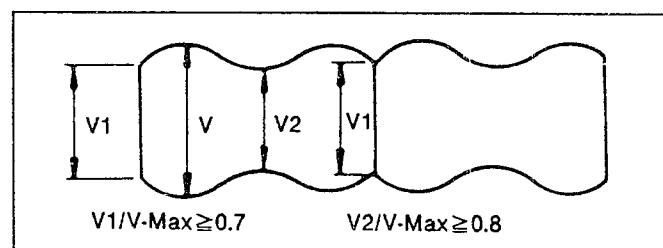


Fig. T7

- (3) If adjustment is required, slowly move the A/C Head Base back and forth using a screwdriver by Turning screwdriver by Turning screw D so that envelope is at a maximum.

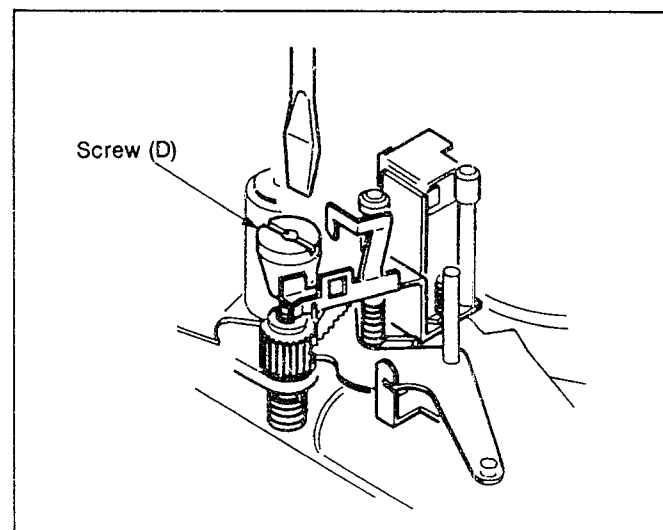


Fig. T8

- (4) Confirmation of the correct adjustment can be made by alternately pushing the Tracking control Up/Down Switches, to check the symmetry of the envelope.
- (5) Reconfirm the symmetry of the envelope. If it has changed, repeat step (B) and (4).

2-5-7 CONFIRMATION/ADJUSTMENT OF ENVELOPE OUTPUT

- (1) Set the tracking control to the fixed position by pushing both of the tracking control Up/Down Switches, connect the Oscilloscope to P5001 PIN23.
- (2) Playback the Monoscope portion of the Alignment Tape and adjust the height of posts S2, T1 posts watching the scope display so that the envelope becomes as flat as possible. ($V1/V-MAX \geq 0.7$, $V2/V-MAX \geq 0.8$)
If adjustment is required, turn top of post with Hex, wrench for adjustment of S2 and T1.

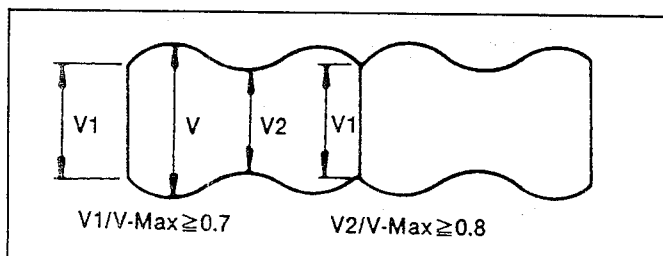


Fig. T9

- (3) When the scope display is shown in Fig. T10 adjust the height of S2 so that the wave looks like Fig. T12.

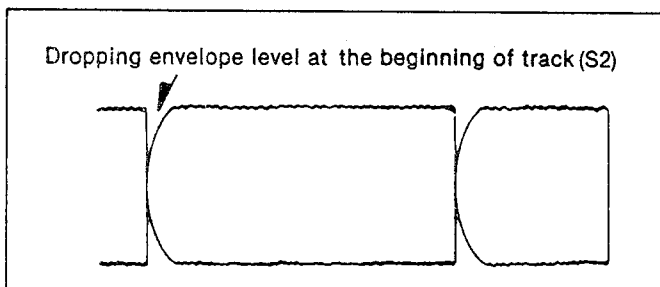


Fig. T10

- (4) When the scope display is shown in Fig. T11, adjust the height of T1 so that the wave form looks like Fig. T12.

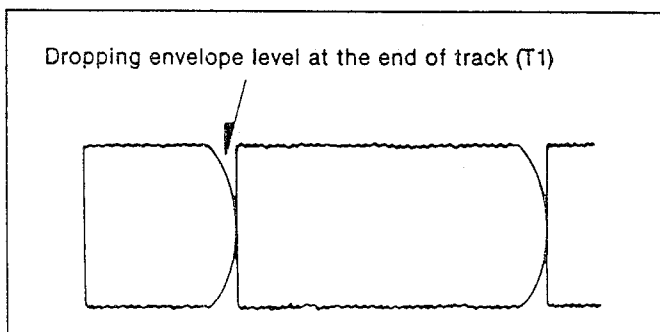


Fig. T11

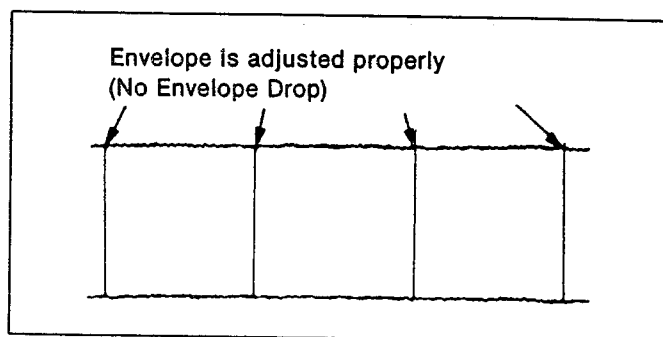


Fig. T12