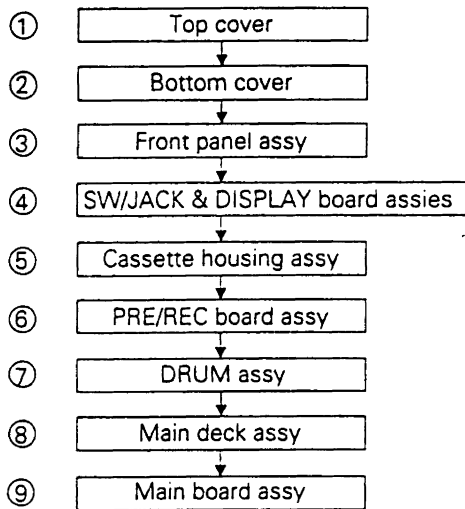


SECTION 1 DISASSEMBLY

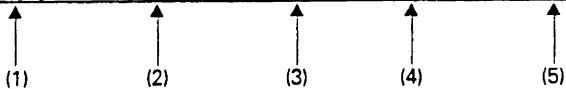
1.1 DISASSEMBLY FLOW CHART

This flowchart lists shows the disassembly steps for the cabinet parts and P.C. boards in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend,route and dress the flat cables as they were originally.



1.2 HOW TO READ THE DISASSEMBLY AND ASSEMBLY

STEP /LOC NO.	PART NAME	FIG. NO.	POINT	NOTE
①	TOP COVER	D1	4(S1)	
②	BOTTOM COVER	D2	(S2), 7(L1)	
③	FRONT PANEL ASSY	D3	7(L2),*JOG/SHUTTLE	<NOTE 1>
④	SW/JACK & DISPLAY BOARD ASSIES	D4	12(L3),*CN1,	<NOTE 2>
⑤	CASSETTE HOUSING ASSY	D5	4(S3) EARTH PLATE	<NOTE 3>
⑥	PRE/REC BOARD ASSY	D6	2(S4),*CN1 *CN201,*CN202 SHIELD CASE	



- (1) Order of steps in Procedure
When reassembling, perform the step(s) in the reverse order. These numbers are also used as the identification (location) NO. of parts Figures.
- (2) Part name to be removed or installed.
- (3) Fig.No. showing procedure or part location
- (4) Identification of part to be removed,unhooked,unlocked, released,unplugged,unclamped or unsoldered. P = Spring, W = Washer, S = Screw, L = Locking tab, * = Unhook,unlock, release,unplug or unsolder.
- (5) Adjustment information for installation

1.3 DISASSEMBLY/ASSEMBLY METHOD

STEP /LOC NO.	PART NAME	FIG. NO.	POINT	NOTE
①	TOP COVER	D1	4(S1)	
②	BOTTOM COVER	D2	(S2), 7(L1)	
③	FRONT PANEL ASSY	D3	7(L2),*JOG/SHUTTLE	<NOTE1>
④	SW/JACK & DISPLAY BOARD ASSIES	D4	12(L3),*CN1	<NOTE2>
⑤	CASSETTE HOUSING ASSY	D5	4(S3) EARTH PLATE	<NOTE3>
⑥	PRE/REC BOARD ASSY	D6	2(S4),*CN1 *CN201,*CN202 SHIELD CASE	
⑦	DRUM ASSY	D7	3(S5),WR1,4(L4) INERTIA PLATE	<NOTE4>
⑧	MAIN DECK ASSY	D8	2(S6),WR2 WR3,2(L5),*CN603	<NOTE5>
⑨	MAIN BOARD ASSY	D9	2(S7)	

<NOTE1>

When reattaching the front panel assy, make sure that the door opener (a) of the cassette housing assy is lowered in position prior to the reinstallation.

<NOTE2>

When plugging the connector in, check that the flat wire is inserted properly and fully.

<NOTE3>

When reattaching the cassette housing assy, pay careful attention to the switch lever not to make it touch the REC switch knob of the REC SAFETY board assy from the up-side.

(If the REC switch knob of the REC SAFETY board assy is damaged, cassette loading is impossible.)

<NOTE4>

When plugging the connector in, check that the flat wire is inserted properly and fully.

<NOTE5>

- When removing the Main deck assy only, unhook the two spacers connecting it with the Main board assy with pliers from the back side of the Main board assy first, and then remove the Main deck assy.
- When reattaching the Main deck assy to the Main board assy, make sure to set the spacers into the retaining slots respectively.

2.7.3 A/C head phase(X-value)

- (1) Connect the oscilloscope to TP6(PB FM) on the PRE/ REC board. Use TP11(D.FF) on the PRE/REC board as a trigger.
- (2) Playback the SP stairstep portion of the alignment tape [MHPE].
- (3) Set the neutral manual tracking position by pressing the **///** button on the remote controller or TV PROG **⏮** and **⏭** buttons simultaneously.
- (4) If adjustment is required, slightly loosen screws (4) and (5). Set A/C head positioning tool on the A/C head adjusting boss as indicated in Fig.2-7-6.
- (5) Turn the tool first to position the A/C head fully toward the drum and stop at the position of maximum FM waveform output level as shown in Fig.2-7-7.
- (6) Tighten screw (5). Remove the tool and tighten screw (4).
- (7) Eject the SP alignment tape [MHPE] and then re-insert the LP alignment tape [MHPE-L].
- (8) Playback the LP stairstep portion of the alignment tape [MHPE-L].
- (9) Set the neutral manual tracking position by pressing the **///** button on the remote controller or TV PROG **⏮** and **⏭** buttons simultaneously.
- (10) Confirm maximum playback FM waveform output level as shown in Fig.2-7-7.
- (11) If not maximum, slightly loosen the screws (4) and (5). Use the tool and adjust the head position for the nearest maximum point. Then tighten screws (4) and (5).

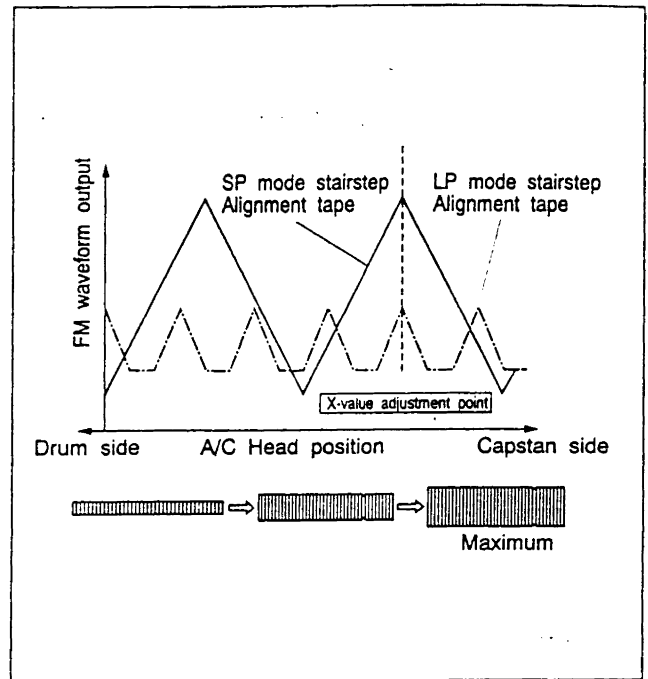


Fig. 2-7-7

2.7.4 LP mode auto tracking

NOTE : Set VCR to the mode A by remote controller.

- (1) Playback the LP stairstep portion of the alignment tape [MHPE-L].
- (2) Confirm that the Automatic tracking indication[AT] stops flashing and remains on.
- (3) Press the 'D' button on the presetting unit[PTU94008] to turn off the Automatic tracking indication[AT].
- (4) Press the 'D' button again to change the mode to the LP interchangeability adjustment mode and confirm that Automatic tracking indication[AT] stops flashing and goes off.
- (5) If the alignment tape ejects automatically, repeat the A/C head phase adjustment(X-value).

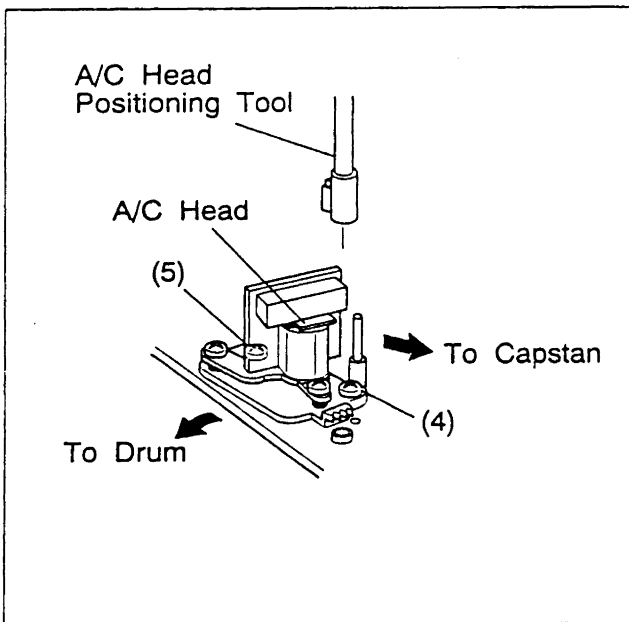


Fig. 2-7-6

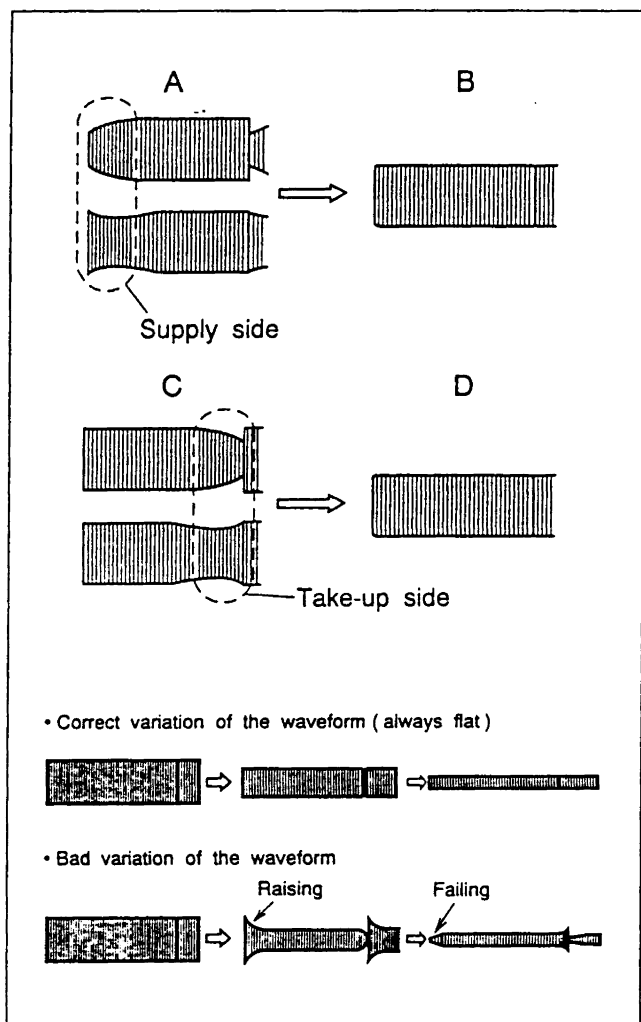


Fig. 2-7-3

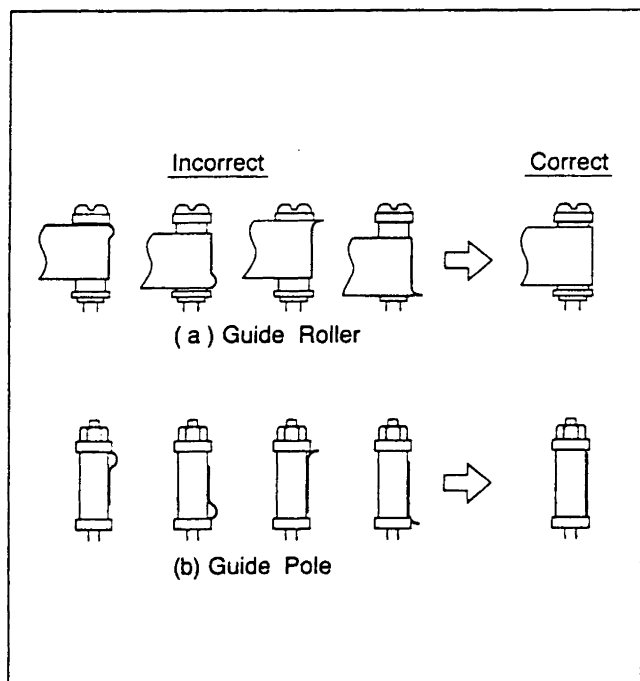


Fig. 2-7-4

2.7.2 A/C head height & azimuth

NOTE :

- Temporarily set A/C head height as indicated in Fig. 2-5-4.
- Use spare tape to check the transport and confirm the tape is not scratched or damaged.

1. Tilt

- (1) Use spare tape and set for playback.
- (2) Turn screw (3) clockwise to where the tape curls just slightly at the TU guide pole bottom flange as shown in Fig.2-7-5.
- (3) Then slowly turn screw (3) counterclockwise to where the curling ceases.

2. Height

- (1) Connect CH-1 of a dual trace oscilloscope to Audio Out.
- (2) Connect CH-2 to TP401(CTL PULSE) of the Main board assy and use the ALT mode.
- (3) Playback the SP stairstep portion of the alignment tape [MHPE].
- (4) Adjust screws (1),(2) and (3) for maximum audio output and control pulse level.

3. Azimuth

- (1) Connect the oscilloscope to Audio Out.
- (2) Playback the SP stairstep portion of the alignment tape [MHPE].
- (3) Adjust screw (2) so that the audio output is both maximum and with minimum fluctuation.

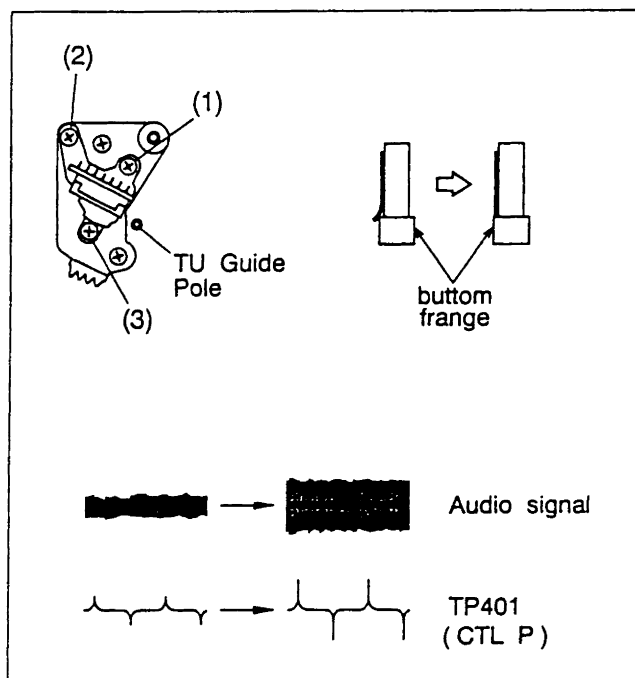


Fig. 2-7-5

2.7 TAPE INTERCHANGEABILITY ADJUSTMENT

- NOTE :**
- *This adjustment is extremely important. However, it is normally not required during routine service. Perform only after replacing major components(A/C head,upper/lower drum assy,pole base assy,etc).*
 - *Before using costly alignment tape,use a spare tape and confirm correct operation of the tape transport.*

2.7.1 Tape pattern

- (1) Connect the oscilloscope to TP6(PB FM) on the PRE/REC board.Use TP11(D.FF) on the PRE/REC board as a trigger.
- (2) Playback the SP staircase portion of the alignment tape [MHPE].Confirm that the FM waveform appears as indicated in Fig.2-7-1.
- (3) Set the manual tracking position by pressing the **///** button on the remote controller or TV PROG '-' and '+' buttons simultaneously.
- (4) Operate the tracking adjustment (press the TV PROG buttons during playback) and set for maximum playback FM waveform.
- (5) By operating the TV PROG button,vary the FM waveform from maximum to minimum and vice versa to confirm that the waveform varies nearly in a flat shape as shown in Fig.2-7-1.
- (6) When the FM waveform does not remain flat during this process,first slightly loosen the set screw located at the bottom of the guide rollers.Using the guide roller adjustment tool (Roller driver) ,adjust the supply and take-up guide rollers (refer to Fig.2-7-2) to obtain the correct waveform as indicated in Fig.2-7-3.
- (7) By pressing the TV PROG buttons several times,vary the FM waveform output from maximum to minimum (and vice versa) gradually,and confirm that the variation proceeds in flat shape, as shown in Fig.2-7-3.
- (8) Next playback the LP staircase portion of the alignment tape [MHPE-L] and adjust the tracking control from maximum to minimum the FM waveform,confirm that FM waveform variation is always flat.
- (9) Record the signal and play it back in both of the SP and LP mode,confirm that the FM waveform is flat in both mode.
- (10) After adjustments,tighten the set screw of the guide rollers.
- (11) Confirm that the tape wrinking does not occur at the roller upper or lower limits as indicated in Fig.2-7-4.

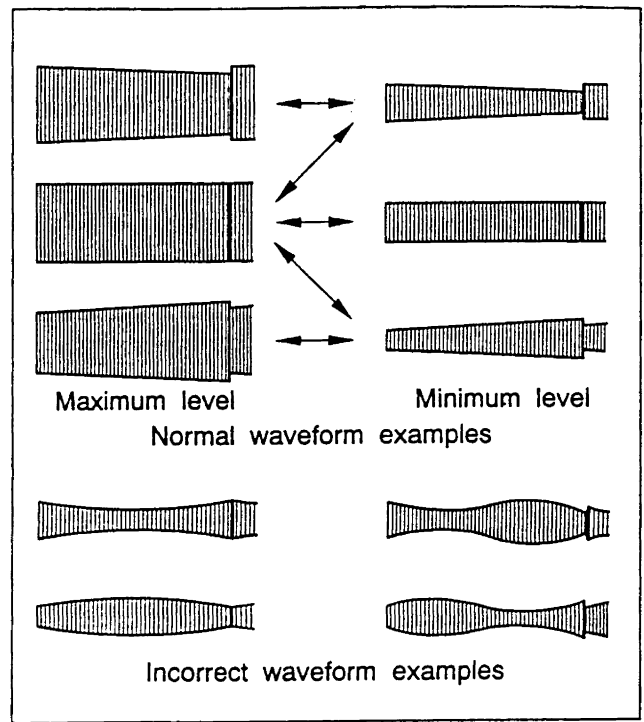


Fig. 2-7-1

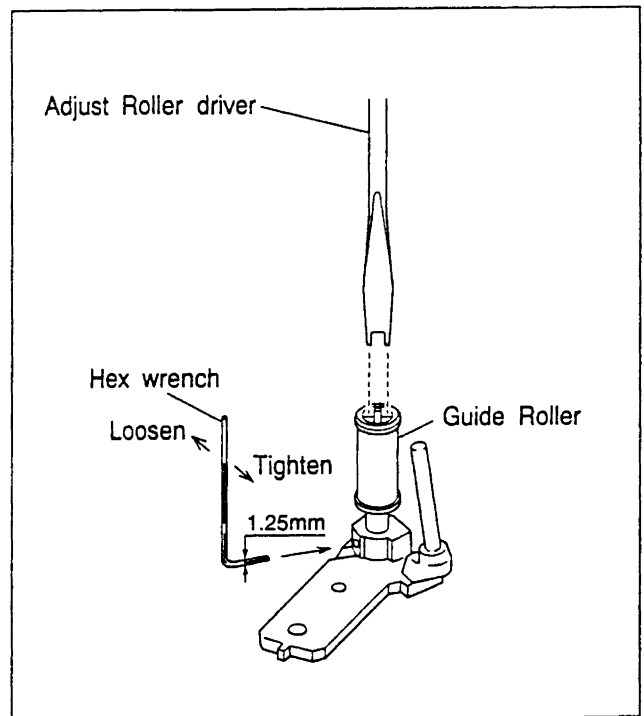


Fig. 2-7-2

2.6.3 Rotary Encoder, Change Lever, Control Cam

- (1) When reinstalling the rotary encoder, adjust its position so as to fit the triangle marks each other and push it deep until it is locked by the pawls.
- (2) When reinstalling the change lever, set it so as to make its positioning hole correspond to the hole of the main deck assy.
- (3) When re-engaging the control cam, lower the capstan brake assy while setting it so as to make its positioning hole correspond to the hole of the main deck assy.

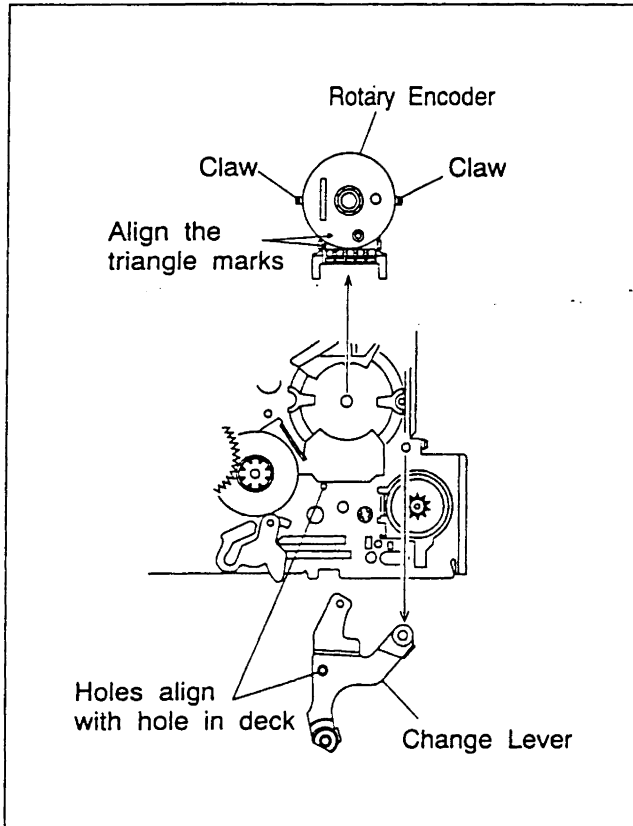


Fig. 2-6-2

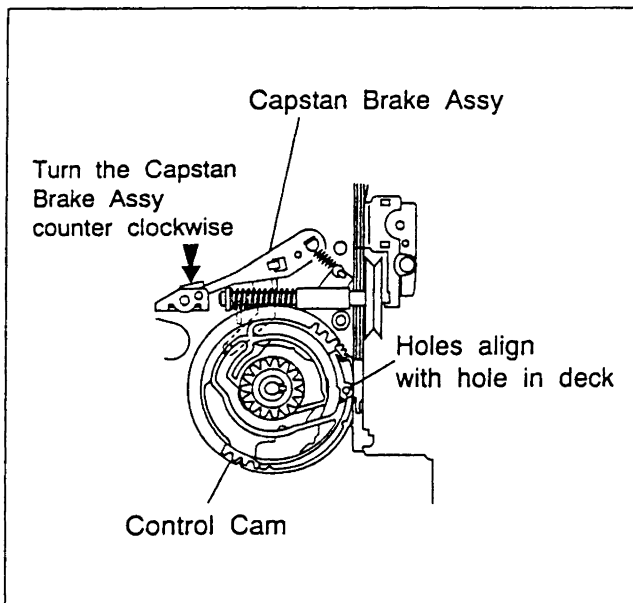


Fig. 2-6-3

2.6.4 Slide Plate

- (1) Lower both the main brake assies (supply and take-up) until they touch the edge of the main deck assy while reinstalling the slide plate so as to make the respective positioning holes of the main brake assies correspond to the holes on the main deck assy.

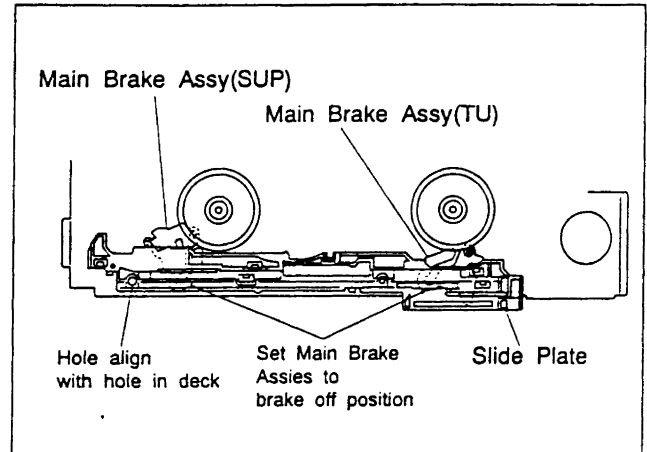


Fig.2-6-4

2.6.5 Control Plate

- (1) Reinstall the control plate so as to set the two positioning holes of it on the holes on the main deck assy respectively and to set the positioning hole of the take-up lever on the hole of the main deck at the same time. When adjusting the hole position of the take-up lever, use a pair of tweezers to hold and move it since it is pulled by a tension spring.
- (2) After reinstalling the control plate, fix it with the slit washer, control bracket-1 and -2.

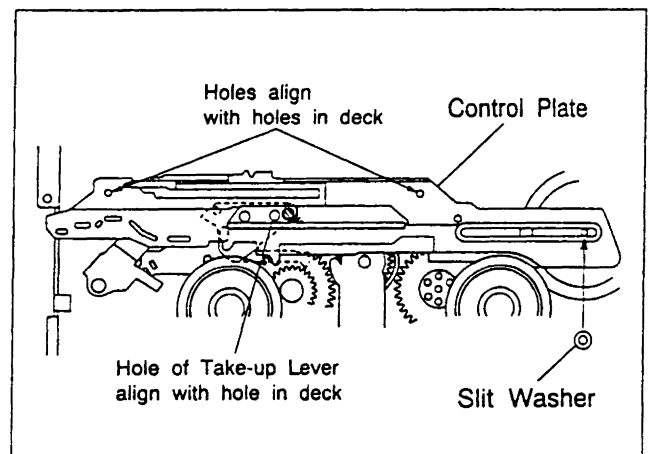


Fig. 2-6-5

- (4) While pressing the collar assy evenly from above with your fingertips, secure the hexagonal screw.

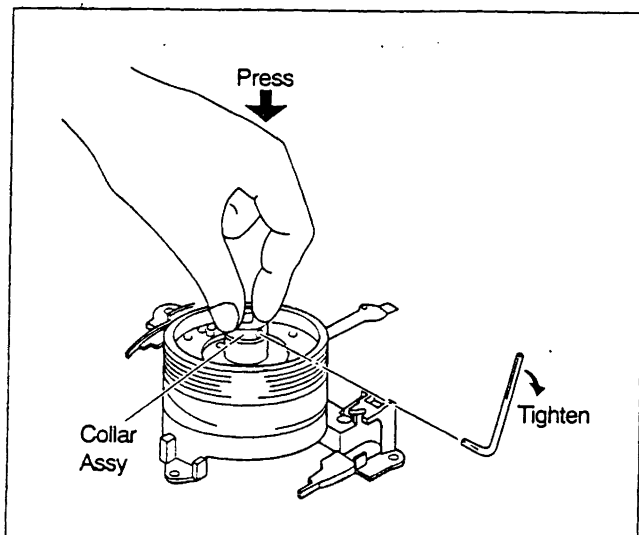


Fig.2-5-28

- (5) After installing, gently turn the upper drum by hand and confirm normal rotation.
- (6) Install the rotar assy and stator assy.
- (7) Clean the upper and lower drum assies and perform the following adjustments;
- PB switching point adjustment
 - Slow tracking preset adjustment
 - Interchangeability adjustment (be sure to check LP mode)

2.6 CHECKUP AND ADJUSTMENT OF MECHANISM PHASE

2.6.1 Precaution

The rotary encoder and syscon circuit are closely interrelated. Therefore, the rotary encoder and control cam connection determines the operations of mechanical parts such as plates, gears, brakes, etc. Correct positioning of these parts is essential for smooth tape loading and mechanical operations.

2.6.2 Loadig Arm Assy (supply, take-up)

- (1) Install the supply loading arm assy and the take-up loading arm assy so that their positioning markings on the respective gear face each other and the holes of their arms correspond to the holes on the main deck assy respectively.
- (2) After setting the guide rails, engage the pole base assies with the tip of the loading arms respectively. Then, enter the mechanism into the unloading mode to return the pole base assies to the front position.
- (3) Reassemble the peripheral parts of the guide rail as originally.

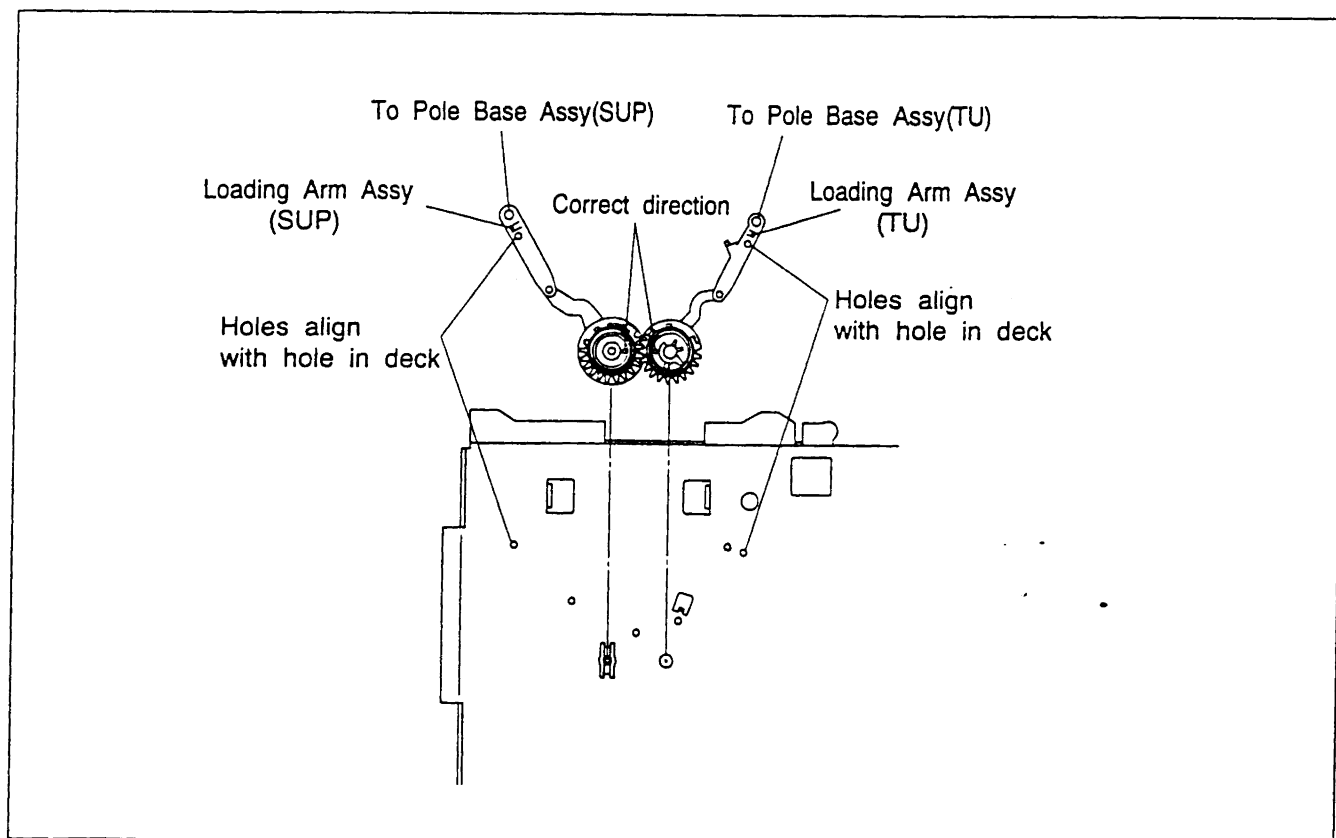


Fig. 2-6-1

- (3) Align the upper drum assy and rotor assy phase as indicated in Fig.2-5-22.
- (4) Overlap holes (a) of the upper drum assy with holes (b) of the rotor assy (align holes in 3 locations) and secure with 2 screws (B) as indicated in Fig.2-5-21.

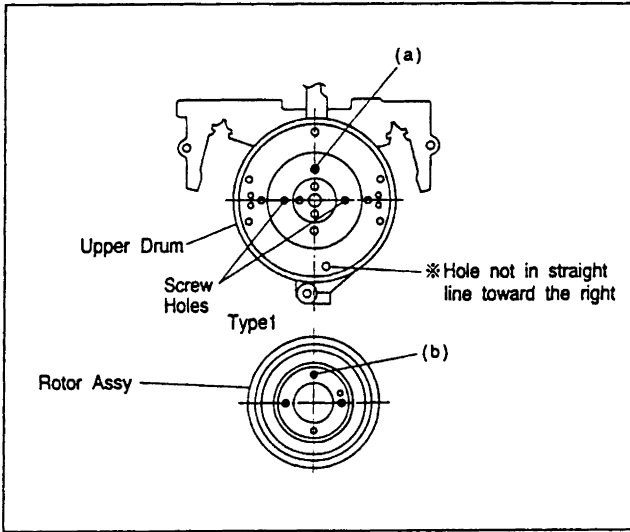


Fig. 2-5-24

2.5.17 Upper Drum Assy

1. Removal

- (1) Remove the stator assy and rotor assy.
- (2) Use a 1.5 mm hexagonal wrench to loosen the collar assy screw and remove the collar assy.
- (3) Remove the upper drum assy and use tweezers to remove the Washer.

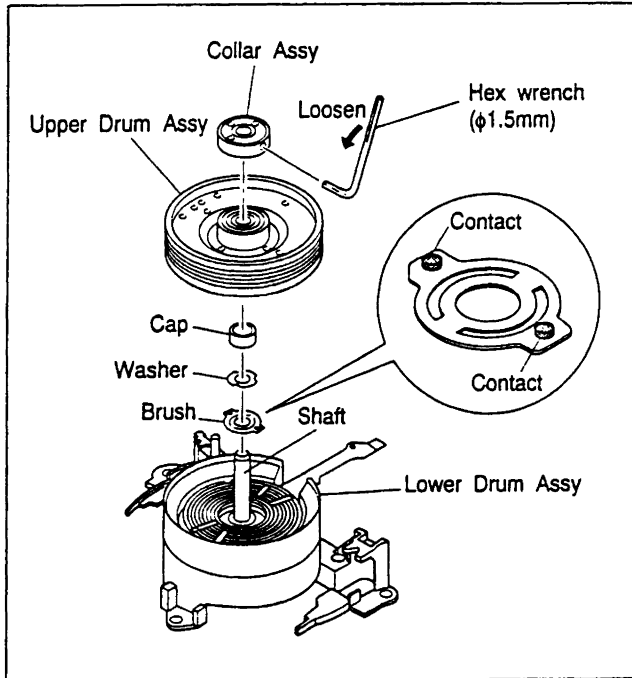


Fig. 2-5-25

NOTE : If the Brush is replaced, do not apply the grease to the contacts.

2. Installation

- (1) Use an air brush to clean the lower drum assy and the coil section of the new upper drum assy.
- (2) Set a new washer on the drum shaft as indicated in Fig.2-5-25.

NOTE : Be sure to use the new washer when replace the upper drum assy.

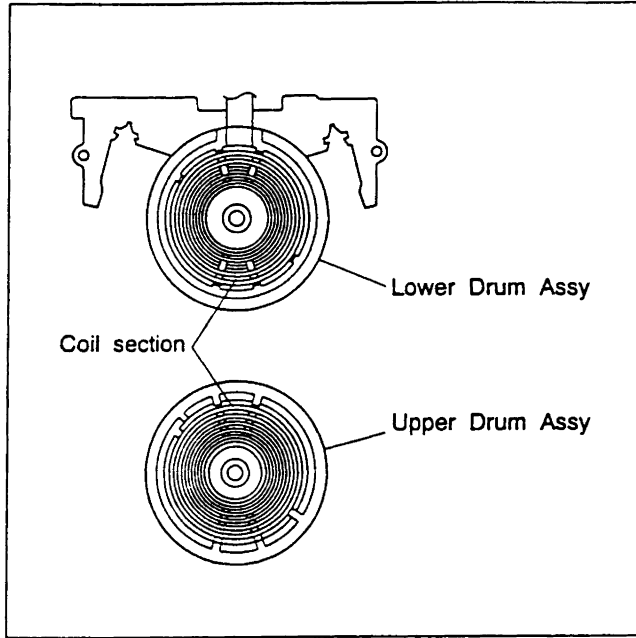


Fig.2-5-26

- (3) Note the top and bottom of the collar assy and determine the position as indicated in Fig.2-5-25.

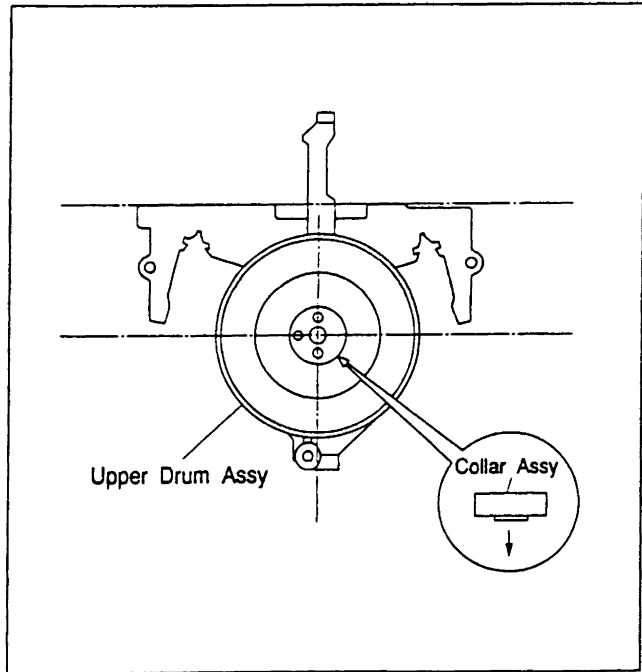


Fig.2-5-27

2.5.14 Guide Rail

- (1) Take out 5 screws (A) and 1 screw (B).
- (2) Disengage 3 claws and remove the guide rail.

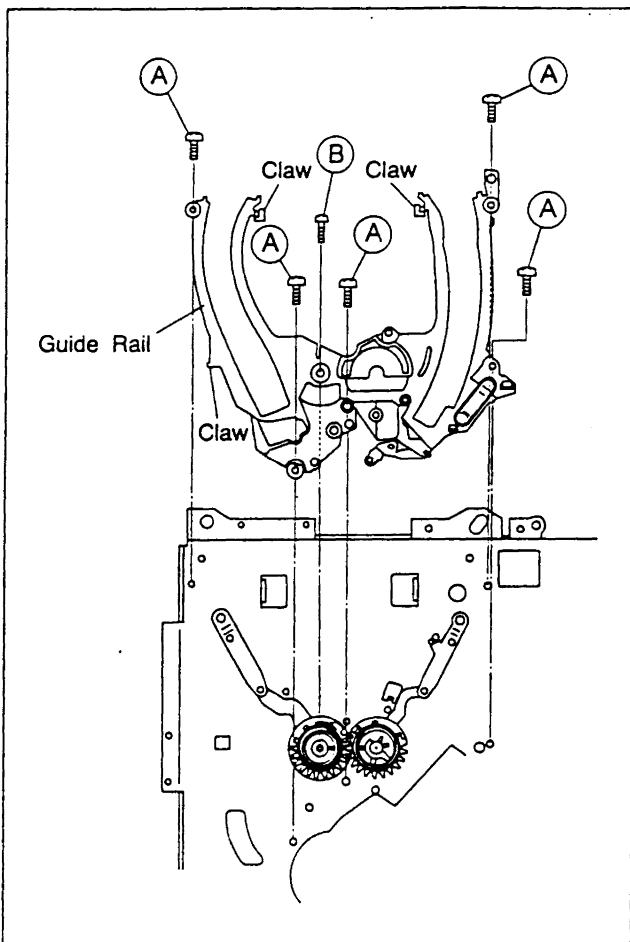


Fig. 2-5-21

2.5.15 Stator Assy

- (1) Take out 2 screws (A).
- (2) Raise the stator assy in the direction indicated by the arrow to remove it (also remove the inertia roller).
- (3) Remove the flat cable.
- (4) To reinstall, first secure the flat cable, then insert 2 screws (A).
- (5) After reinstalling, be sure to perform PB switching point adjustment (See SECTION 3 ELECTRICAL ADJUSTMENT).

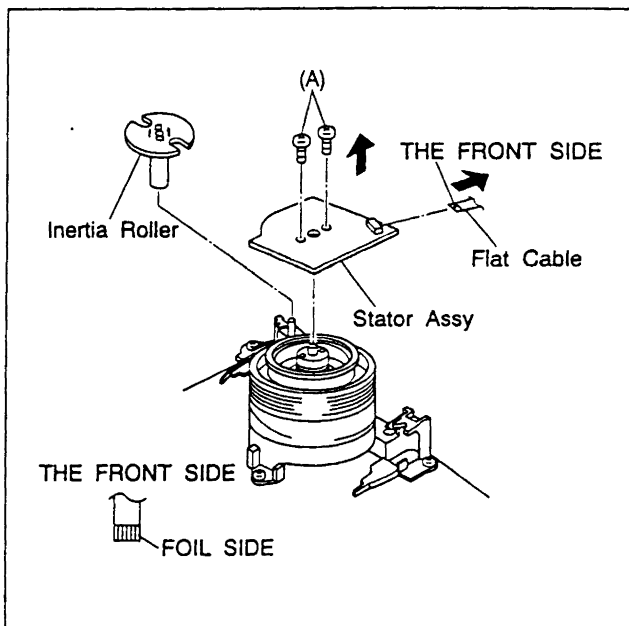


Fig. 2-5-22

NOTE : When refitting the connector, check that the flat wire is inserted correctly.

2.5.16 Rotor Assy

- (1) Remove the stator assy.
- (2) Take out 2 screws (B) and remove the rotor assy.

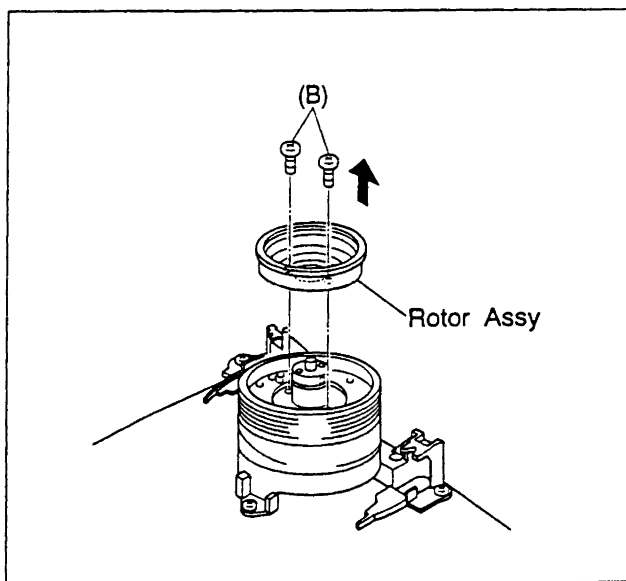


Fig. 2-5-23

2.5.12 Sub Brake (supply),Tension Band Assy,Tension Arm Assy,Take-up Lever Assy,Slit Disk(supply)

- (1) Disengage 1 spring (a).
- (2) Disengage 1 claw and remove the sub brake (supply).
- (3) Take out 1 screw (A),spring (c) and slit washer.
- (4) Remove the tension arm assy with tension band assy.
- (5) Disengage 1 spring (b) and remove the take-up lever assy.
- (6) Remove the slit disk(supply).

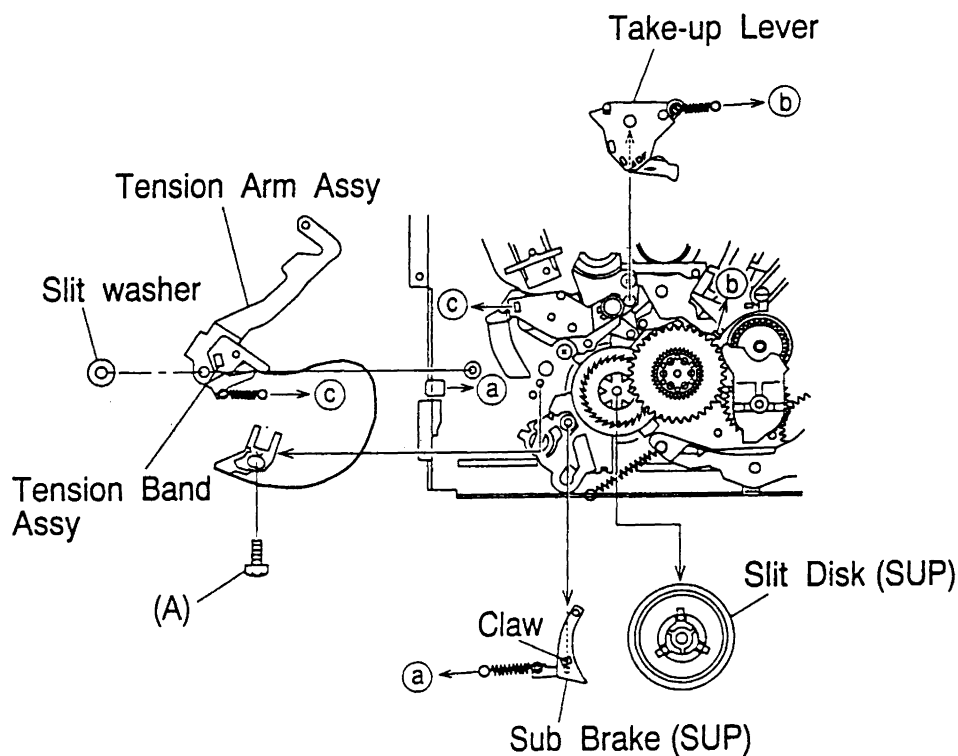


Fig. 2-5-19

2.5.13 Take-up Head,Tension Arm Lever

- (1) Remove the take-up head and tension arm lever.

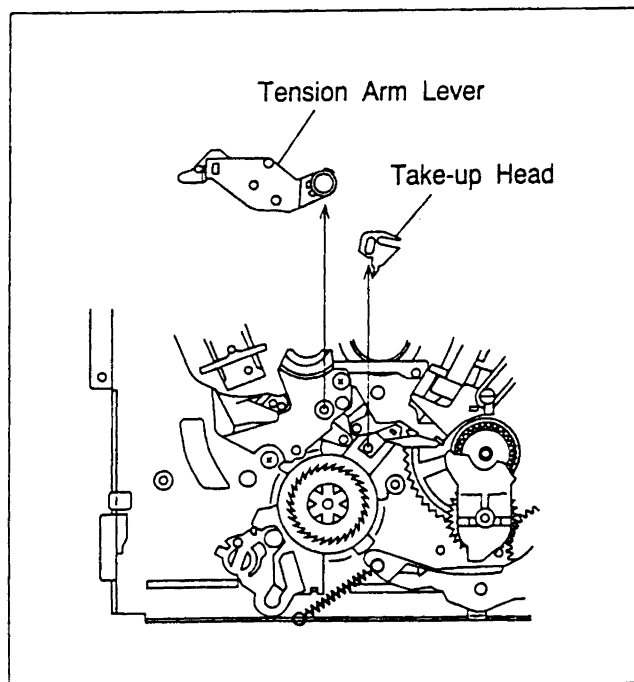


Fig.2-5-20

2.5.9 Sub Brake(take-up),Control Cam

- (1) Disengage 1 spring (a) and 1 claw then remove the sub brake (take-up).
- (2) Disengage 1 claw and remove the control cam.

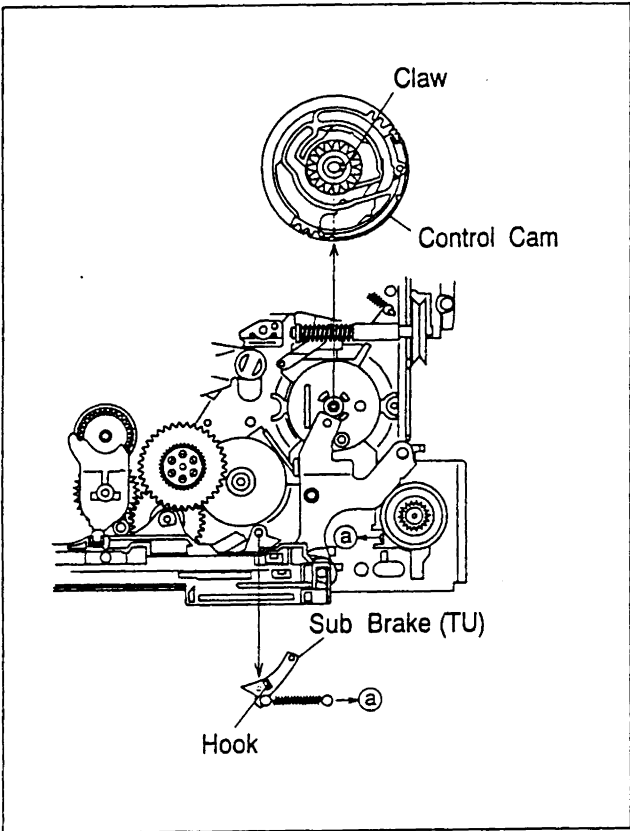


Fig.2-5-15

2.5.10 Slide Plate

- (1) Disengage 7 claws from bottom of the mechanism assy and remove the slide plate.

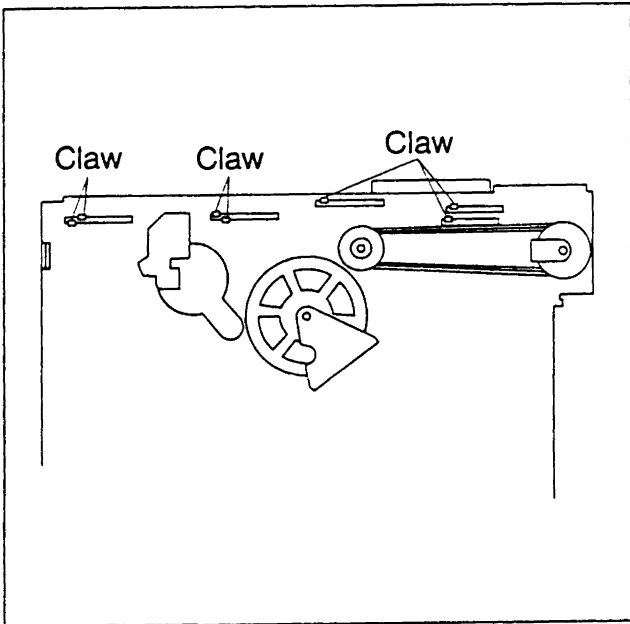


Fig. 2-5-16

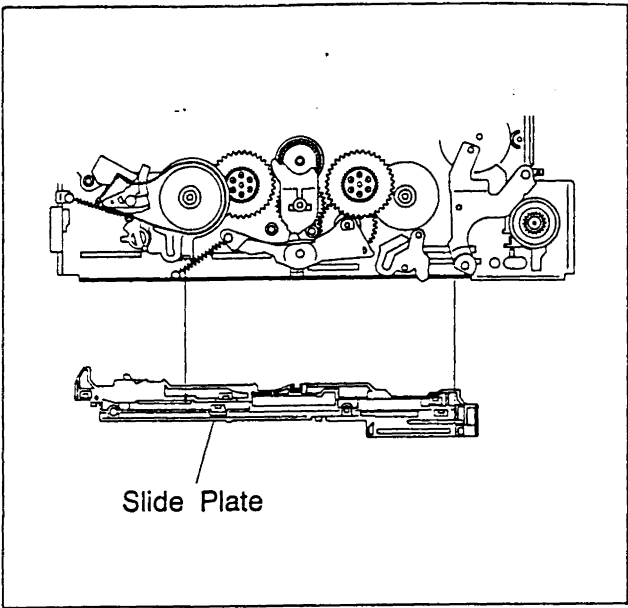


Fig. 2-5-17

2.5.11 Change Lever,Rotary Encoder

- (1) Remove the change lever.
- (2) Disengage 2 claws and remove the rotary encoder.

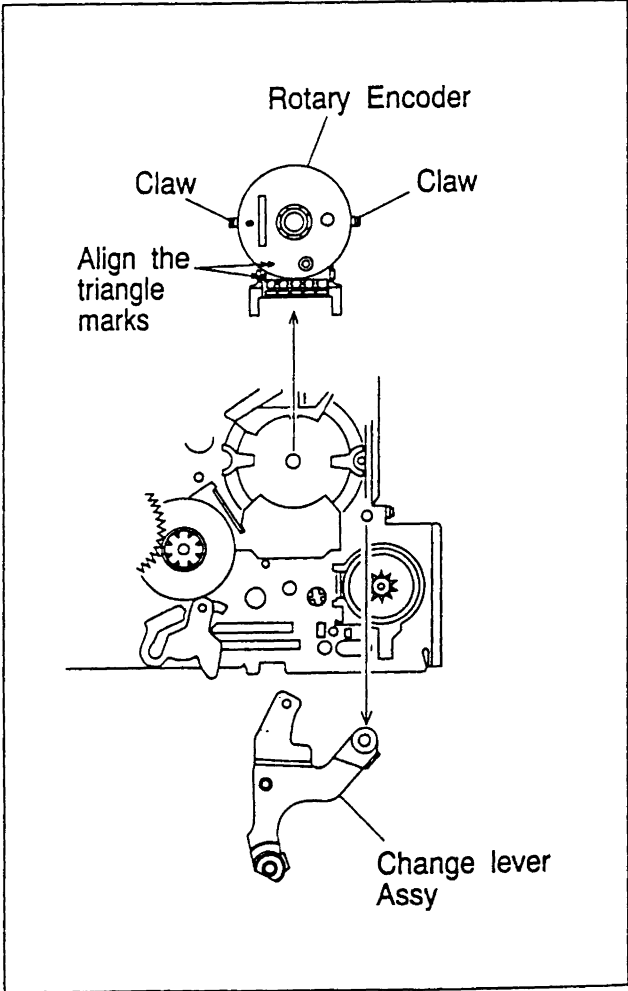


Fig. 2-5-18

2.5.6 Control Bracket-1,Earth Pllate

- (1) Take out 1 screw (A) and 1 screw (B).
- (2) Remove the control bracket-1 and earth pllate.

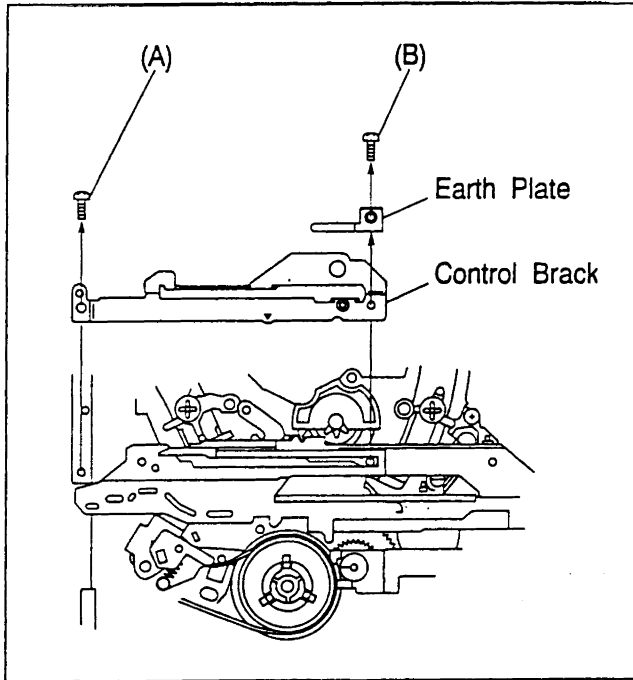


Fig.2-5-11

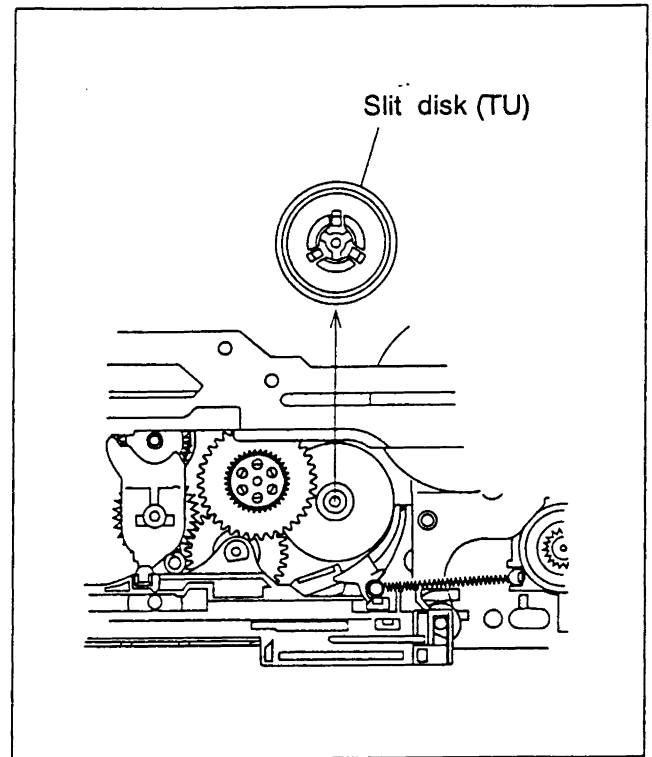


Fig.2-5-13

2.5.7 Reel Bracket,Slit disk (take-up)

- (1) Take out 2 slit washers.
- (2) Remove the reel bracket and slit disk(take-up).

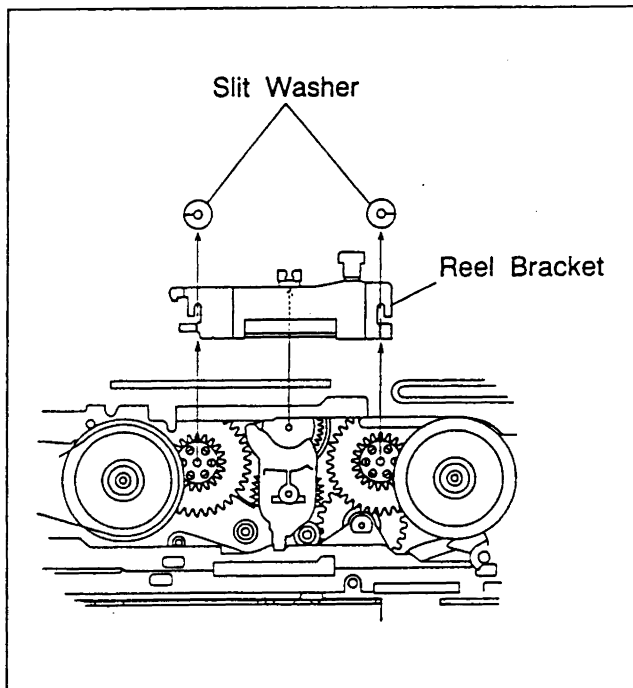


Fig.2-5-12

2.5.8 Control Bracket-2,Control Plate

- (1) Take out 1 screw (A) and remove the control bracket-2.
- (2) Take out 1 slit washer.
- (3) Disengage 2 claws and remove the control plate.

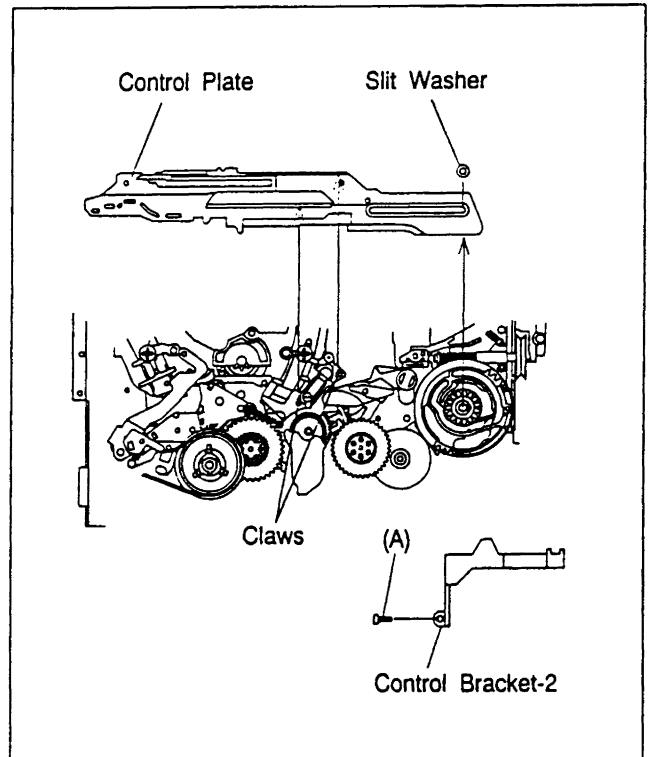


Fig.2-5-14

2.5.4 Mode Motor

- (1) Engage the belt between mode motor and worm gear.
- (2) Take out 2 screws (A) then remove the mode motor.

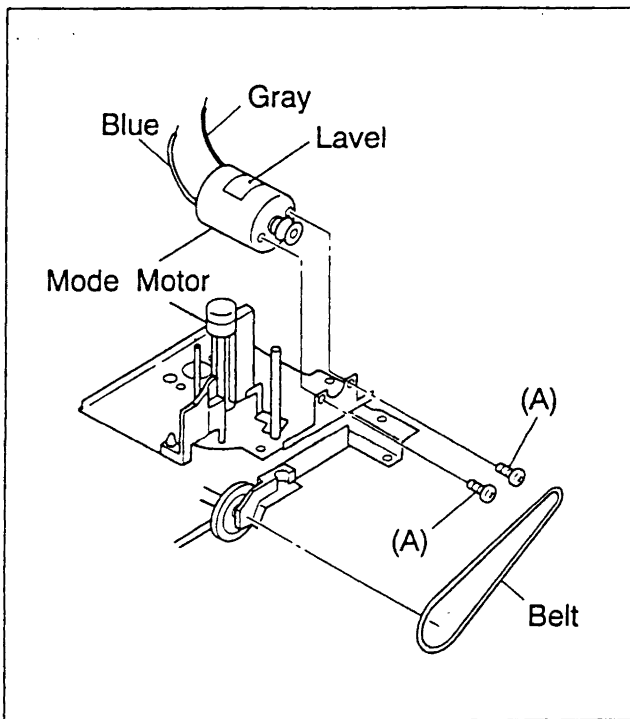


Fig.2-5-7

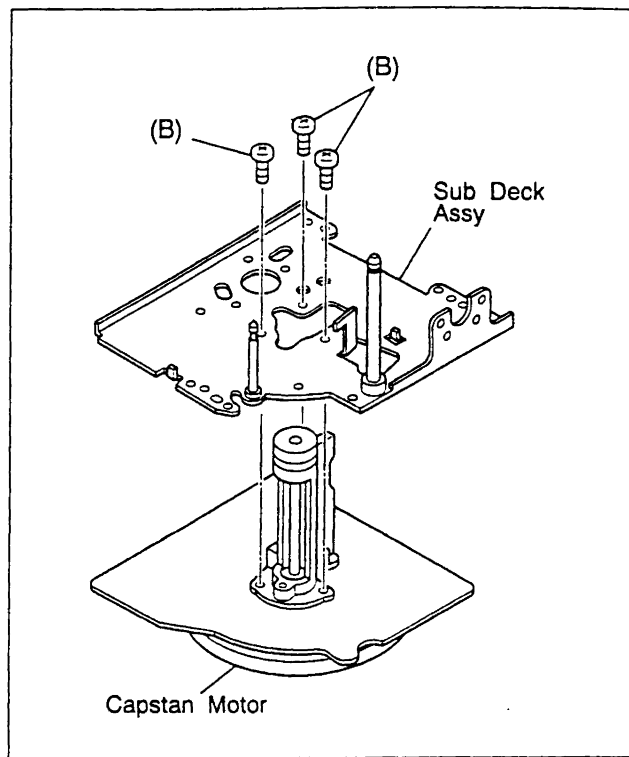


Fig.2-5-9

2.5.5 Lever Assy,Sub Deck Assy,Capstan Motor

- (1) Take out 1 slit washer, then remove the lever assy.
- (2) Engage the belt(capstan motor) from bottom of mechanism assy first as indicated in Fig.2-5-10.
- (3) Take out 3 screws (A) and remove the sub deck assy as indicated in Fig.2-5-8.
- (4) Take out 3 screws (B) and remove the capstan motor from the sub deck assy as indicated in Fig.2-5-9.

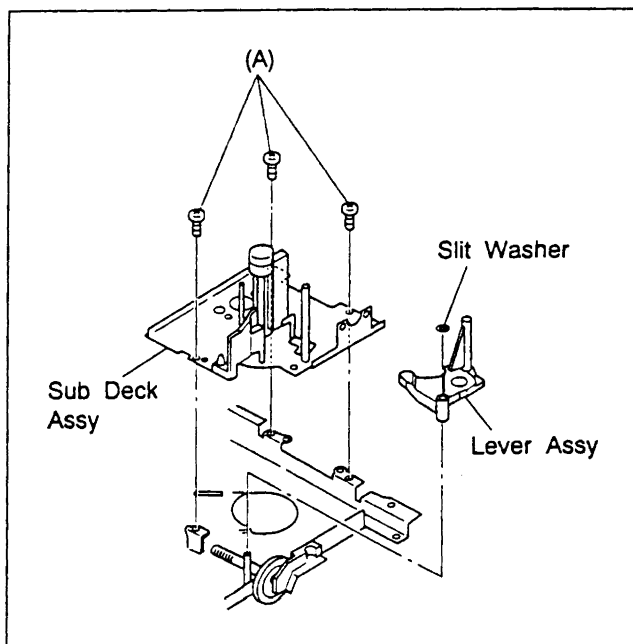


Fig.2-5-8

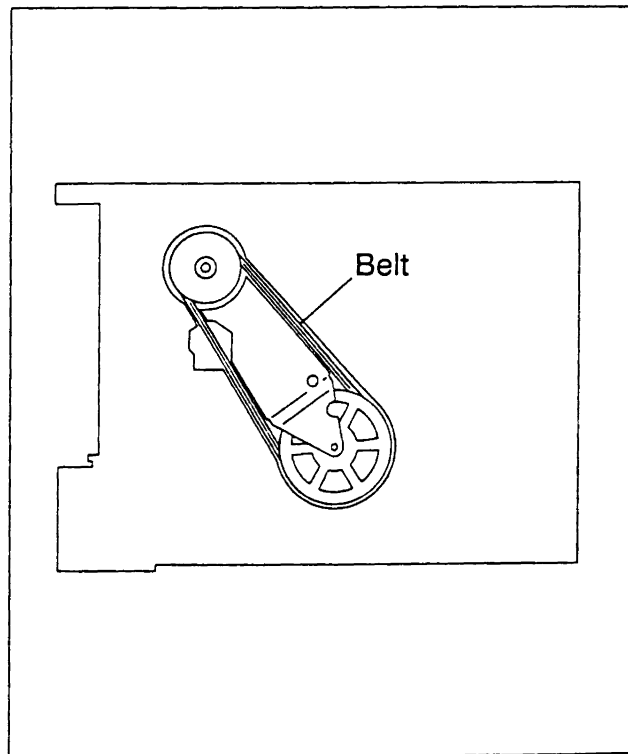


Fig.2-5-10

2.5.2 A/C Head

1. Removal

- (1) Take out 2 screws (A).
- (2) Remove the A/C head with head base.

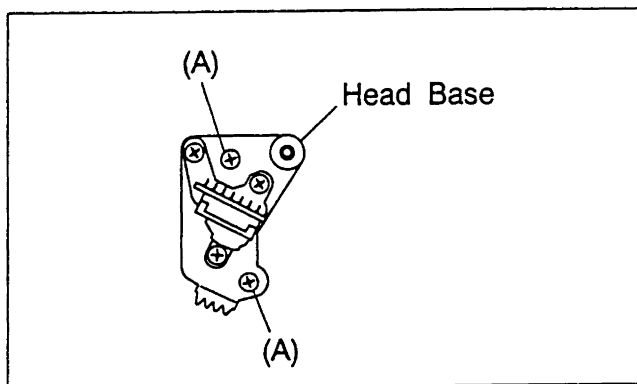


Fig.2-5-2

- (3) When replacing the A/C head only, remove 3 screws (B), use care not to misplace the 3 springs.

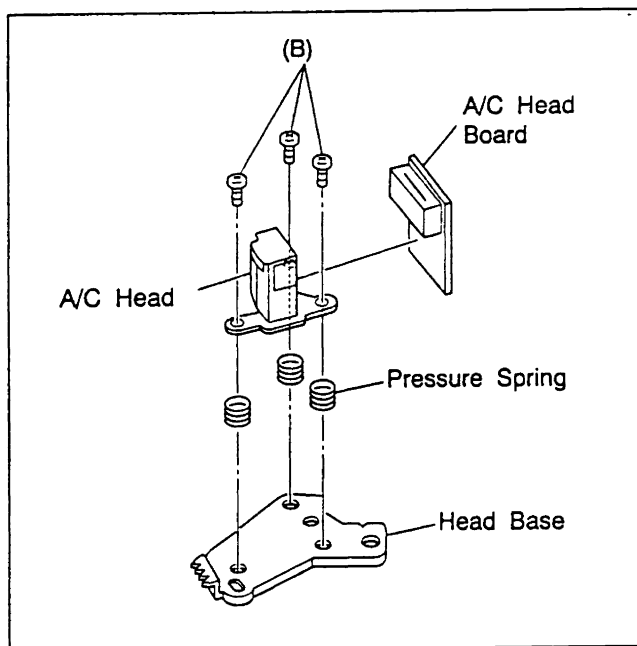


Fig.2-5-3

2. Installation

- (1) Temporarily set A/C head height as indicated in Fig. 2-5-4.

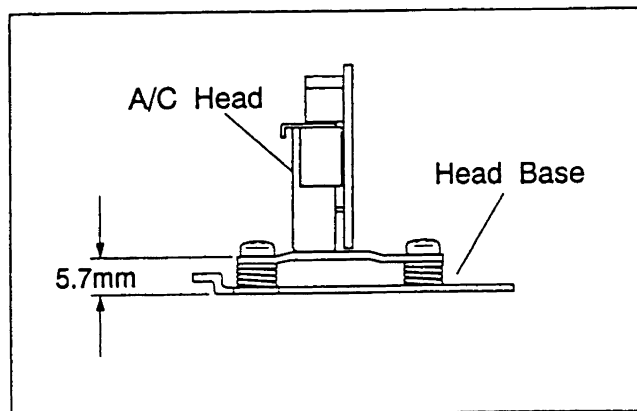


Fig.2-5-4

NOTES:

- It is very important to correctly adjust the control pulse and audio signal in addition to the mechanical tape path.
- Perform interchangeability adjustments after electrical adjustments.

2.5.3 Pinch Plate

1. Removal

- (1) Disengage 2 claws, then remove the pinch plate.

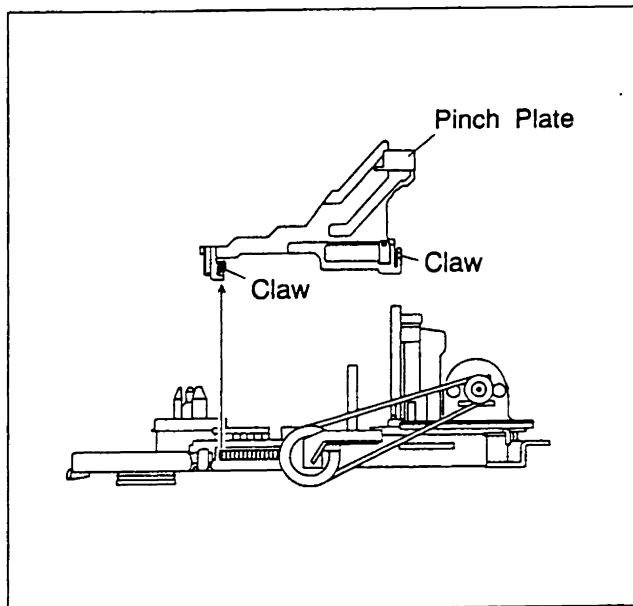


Fig.2-5-5

2. Installation

- (1) When installing pinch plate, align rack of pinch plate and triangle mark of control cam as indicated in Fig.2-5-6.

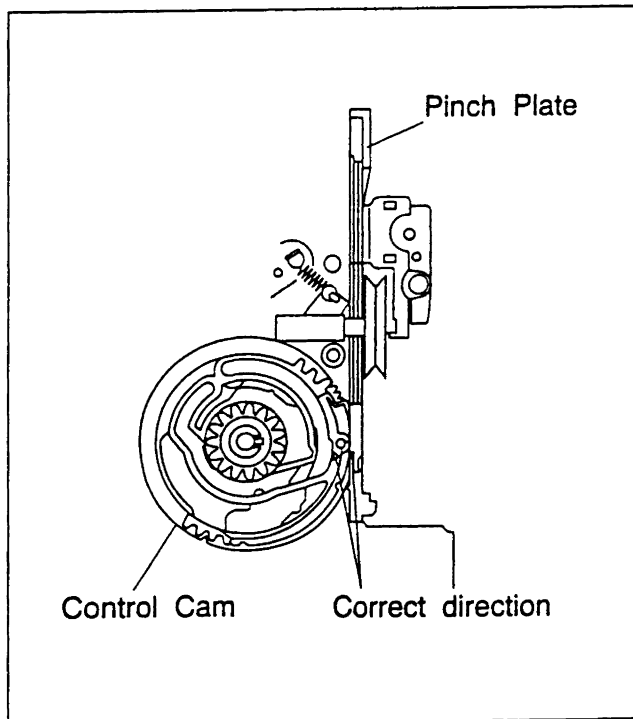


Fig. 2-5-6

2.3 INSPECTION AND MAINTENANCE

This product employs rotary and moving parts which wear out in the course of usage.Periodic inspection, cleaning, lubrication and maintenance are therefore important for ensuring maximum performance. Worn parts must also be replaced as and when required.

2.3.1 Suggested servicing schedule for main components

The following table indicates the suggested period for such service measures as cleaning,lubrication and replacement. In practice, the indicated periods will vary widely according to environmental and usage conditions.However, the indicated components should be inspected when a set is brought for service and the maintenance work performed if necessary. Also note that rubber parts may deform in time,even if the set is not used.

System	Parts Name	Operation Hours	
		~1000H	~2000H
Tape transport	Upper drum assy	★○	○
	A/C head	★○	★○
	Lower drum motor assy	★	★○
	Pinch roller arm assy	★	★
	Full erase head	★	★
	Tension arm assy	★	★
	Guide arm assy	★	★
Drive	Capstan motor		○
	Belt (Capstan)	○	○
	Belt (Mode motor)		○
	Mode motor		○
	Slit disk (supply, take-up)		○
	Clutch unit (supply, take-up)		○
	Worm gear assy		○
	Control plate		○
	Slide plate		○
			○
Other	Brush assy	★○	★○
	Tension band assy	○	○
	Rotary encoder		○

★ : Cleaning
○ : Inspection or Replacement if necessary

Table 2-3-1

2.4 DISASSEMBLY/ASSEMBLY PROCEDURE OF MECHANISM

2.4.1 Precaution before disassembling mechanism
This mechanism has an exclusive operation mode provided for disassembling and installation of the mechanism (MECHANISM ASSEMBLING MODE), and it is suggested to set the mechanism to this mode before disassembly and installation.The exclusive mechanism operation mode is not generally used and becomes available by manual setting only. Then this procedure starts with the condition that the cabinet parts,cassette housing assy and PRE/REC board assy have been removed.

2.4.2 How to set the exclusive mechanism operation mode (MECHANISM ASSEMBLING MODE)

- (1) Turn the mode motor belt by hand.
- (2) Confirm that the hole of the control cam are aligned to the deck hole as shown in Fig.2-4-1.

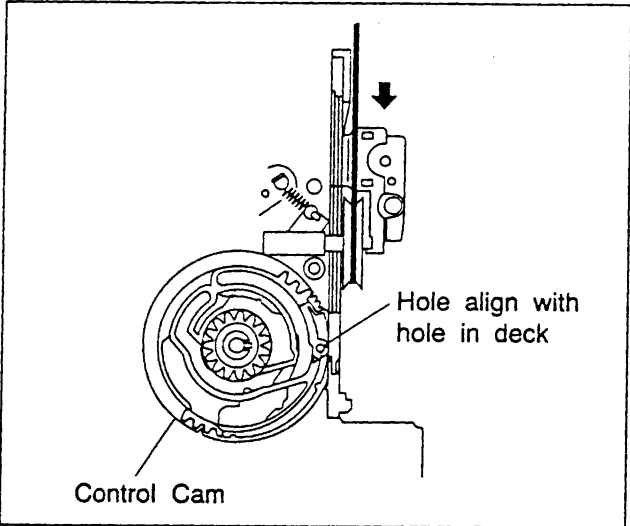


Fig. 2-4-1

2.5 MAIN PARTS REPLACEMENT OF MECHANISM

2.5.1 Pinch Roller Arm ASSY

- (1) Remove the slit washer.
- (2) Tilt up the pinch roller assy in direction of arrow.

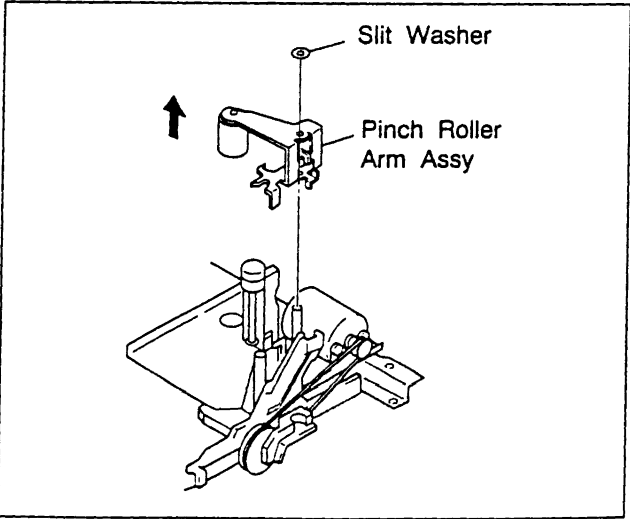


Fig.2-5-1

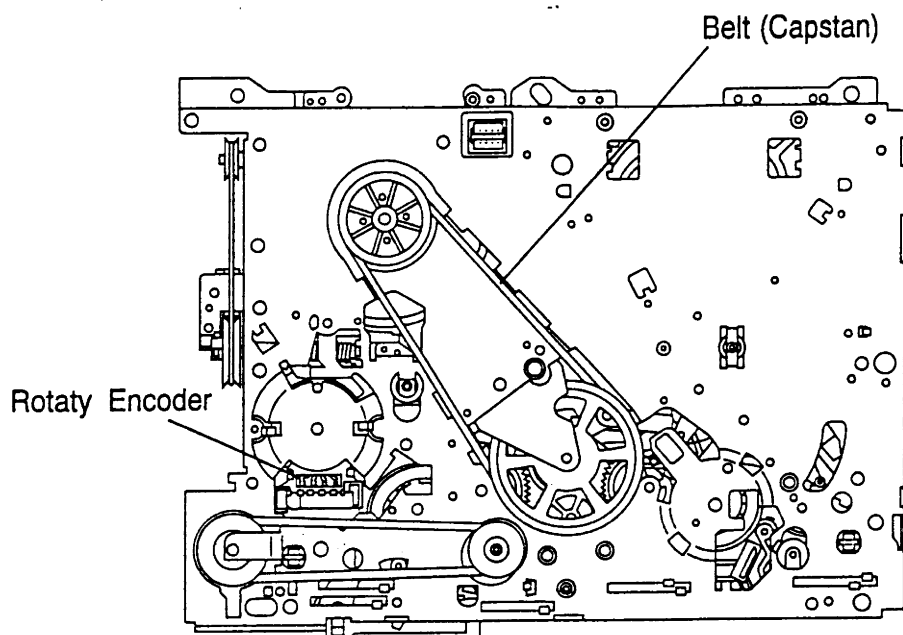


Fig. 2-2-2 Bottom view of main deck

2.2.1 Cleaning

Periodic cleaning of the tape transport system is desirable, but ordinarily not feasible in practice. Therefore, perform cleaning when a set is brought in for repairs or maintenance. Contamination of the video heads, tape guides and brush can detract from playback picture quality and in extreme cases, even damage the tape. For cleaning, use a finemesh cotton cloth (about the texture of a white dress-shirt) moistened in alcohol. It is recommended to also clean the tape tension posts and capstan.

- To clean the video heads, press the moistened cloth gently against the upper drum with fingertip and turn the drum gy hand.
- Do not use a vertical stroke, as this may damage the heads.

2.2.2 Lubrication

Oil and grease do not normally require periodic replenishing. Apply only when replacing lubricated parts (also clean and replace lubrication of mating parts if soiled). For parts and points to apply oil and grease, refer to the exploded views of the mechanism assy. Before oiling, clean with alcohol. Apply one or two drops of oil. Avoid excess oil.

1. Table 2-2-1 indicates the oil and grease used in this set. Use these or recommended locally available equivalents.

Category	Part No.
Oil	COSMO-HV56
Grease	KYODO-SH-P

Table 2-2-1

2. Grease is not required for a replacement cassette housing assy, as this has been applied at the factory.

NOTE : *Stir grease that has been stored for an extended period.*

2.1.4 Test Equipment

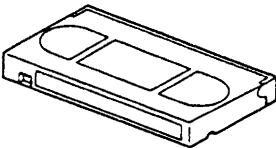
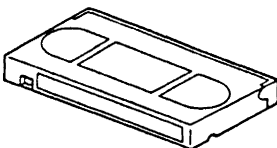
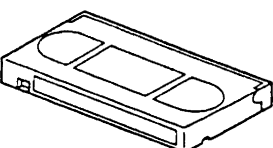

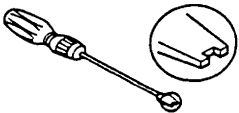
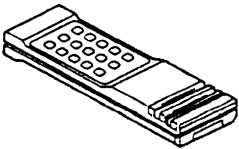

Alignment tape (SP) MHPE	Alignment tape (LP) MHPE-L	Back tension cassette gauge PUJ48076-2	A/C head positioning tool PTU94010
			
Roller driver PTU94002	Presetting unit PTU94008	Grease KYODO-SH-P	
			

Table 2-1 Test equipment

2.2 MAIN MECHANISM PARTS

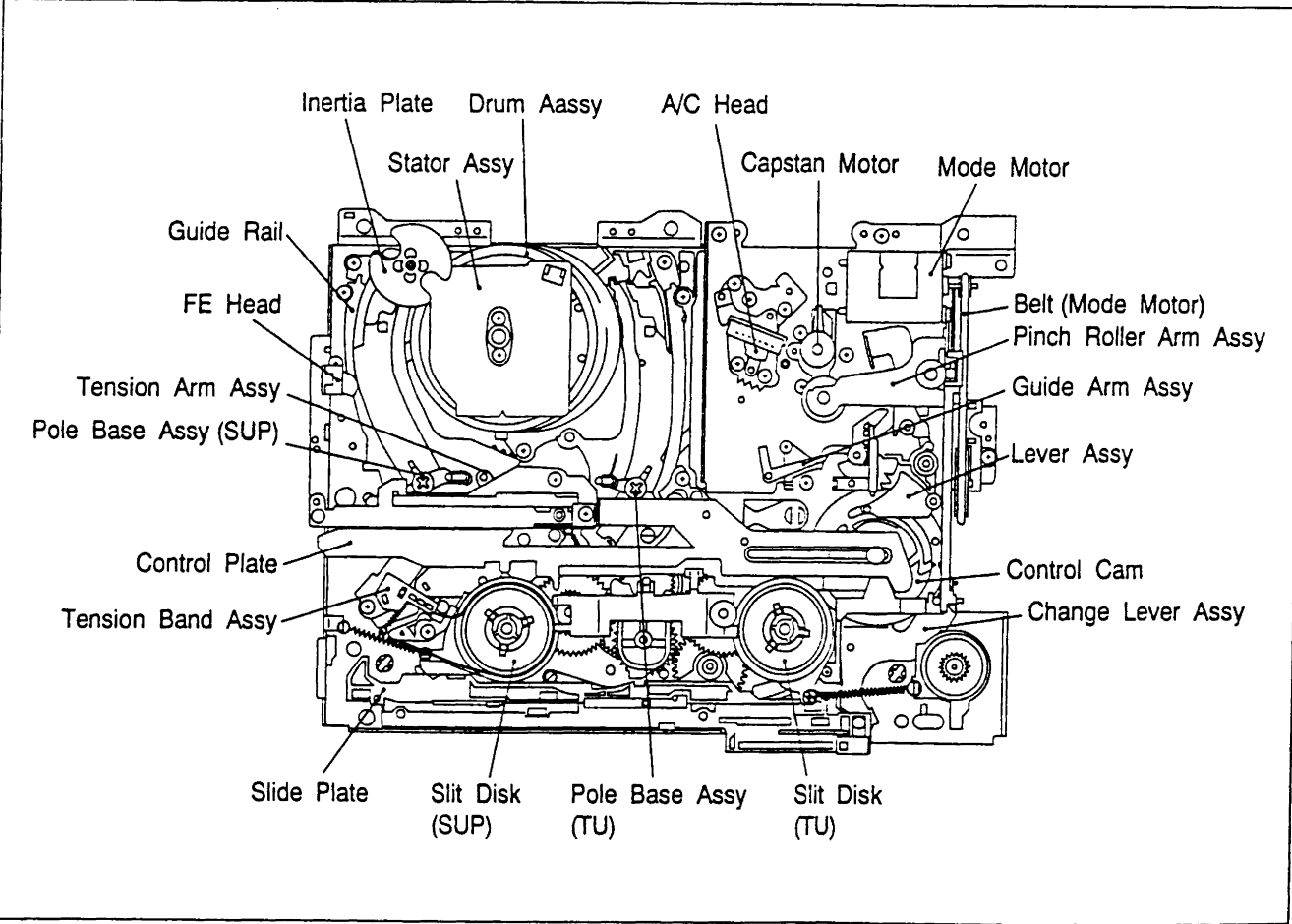


Fig. 2-2-1 Top view of main deck

SECTION 2

MECHANISM ADJUSTMENT

2.1 PREPARATION

2.1.1 Precautions

- (1) Disconnect VCR from AC power before soldering.
- (2) Avoid imparting stress to wires when disengaging connectors.
- (3) Determine and correct the cause of difficulty before proceeding to adjustments. Do not disturb settings unnecessarily.
- (4) Use care not to damage tabs, claws, etc during repairs.
- (5) Install the cassette housing assy only when the mechanism is in the MECHANISM ASSEMBLING MODE position.
- (6) When installing the Front panel assy, be sure to engage the housing door with the door opener of the cassette housing assy.
If this is omitted, the cassette door will not open at Eject and the cassette can not be removed. (See SECTION 1 DISASSEMBLY.)

2.1.2 Check without cassette housing assy.

Mechanism operations can be observed easily by removing the cassette housing assy. Use the MECHANISM SERVICE MODE (See SECTION 1 DISASSEMBLY)

2.1.3 Manual removal of loaded tape

When the deck enters the emergency mode with cassette tape loaded and it can not be ejected by pressing the EJECT button, take out of the cassette tape according to the following procedure.

- (1) Disconnect the power cord from AC outlet then take out the Top cover and Front panel assy.
- (2) Turn the mode motor on the Main deck assy by hand in the unloading direction to where the pole base assy (supply and take-up) is positioned below the cassette tape. At that time, pay careful attention to the tape not to get soiled with grease.
- (3) Take out 4 screws of the cassette housing assy. (See SECTION 1 DISASSEMBLY)
- (4) Remove the cassette housing with slackened tape and guard panel of cassette.
- (5) Wind up the tape by turning the reel hub (either supply or take-up side for convenience) from the bottom of the cassette, and remove the cassette tape.

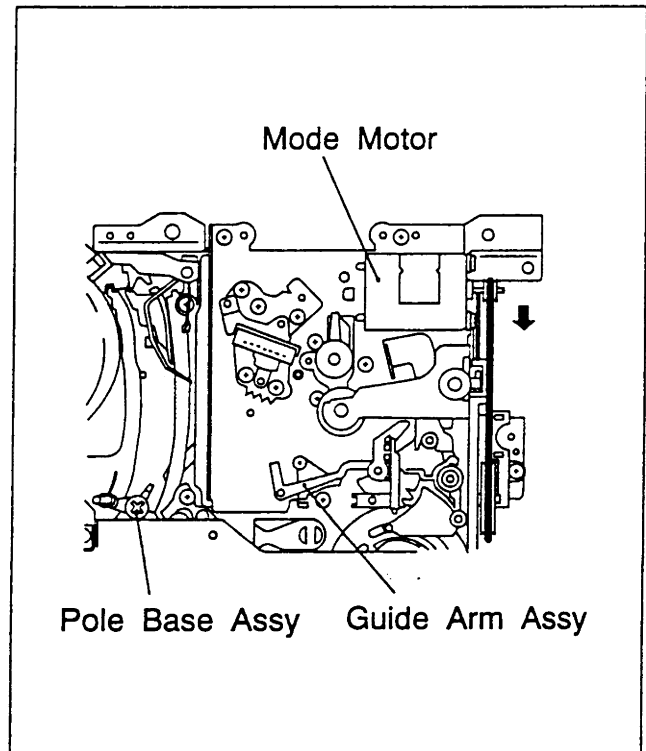


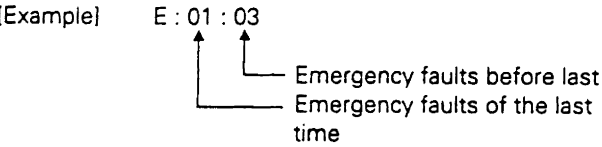
Fig. 2-1-1

1.7 EMERGENCY DISPLAY FUNCTION

This product has the function to store the last two previous emergency faults which can be displayed in the FDP when servicing.

1.7.1 How to display record of an emergency faults

- (1) Press 'N' button of the presetting unit more than 2 seconds. and the two previous emergency faults are shown in the FDP.
- (2) Press 'N' button of the presetting unit again when return the normal mode.



[Example] E : — — : — — ← No record of emergency

1.7.2 Detail of emergency faults

FDP	Symptom	Detect mode	Resulting mode
E : 01	Loading motor rotates for more than 8 Sec without shift to next mode.	Loading	POWER OFF
E : 02	Loading motor rotates for more than 8 Sec without shift to next mode.	Unloading	POWER OFF
E : 03	TU REEL FG input is absent(for more than 4 Sec)	REC/PLAY/FF/REW SEARCH FF/SEARCH REW	STOP → POWER OFF
E : 04	DRUM FF input is absent(for more than 3 Sec)	REC/PLAY/FF/REW SEARCH FF/SEARCH REW	STOP
E : 06	CAPSTAN FG input is absent(for more than 1 Sec)	REC/PLAY/FF/REW SEARCH FF/SEARCH REW	STOP → POWER OFF
E : 07	No SWD5V/12V	POWER ON	POWER OFF

Table 1-7-1 EMERGENCY FAULTS

1.7.3 How to clear emergency record

Press the COUNTER RESET button on the remote controller in the emergency record display mode, and the record of the emergency fault(s) is cleared.

- (5) Turn over the Mechanism assy and Main board assy then connect CN1 of the DISPLAY board assy.
- (6) Carry out checks & repairs as necessary as shown in Fig.1-5-3.

Note: When input the AUDIO/VIDEO signal from connector, connect CN4 of the SW/JACK board assy.

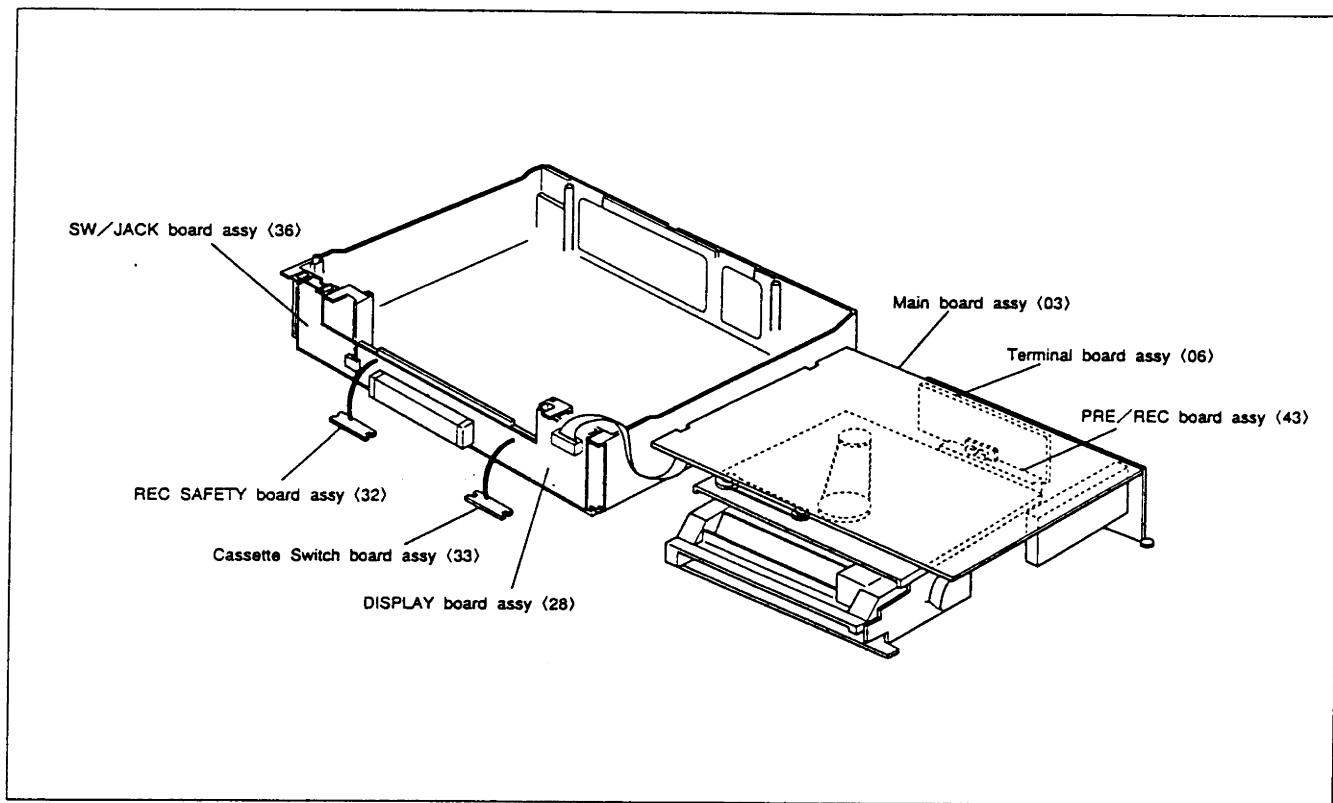


Fig. 1-5-3

1.5.2 Cautions on cassette loading when mechanism is in service position

The REC SAFETY board assembly of this set serves both for detecting the safety tab (erasure prevention tab) of a cassette and detecting a cassette loaded. Therefore, cassette loading in the condition that the mechanism is disassembled from the set needs manual operation of the switches of the REC SAFETY board assembly and the CASSETTE SWITCH board assembly.

1.5.3 Cassette loading and ejecting procedures when mechanism is in service position

- (1) Insert a cassette tape halfway into the cassette housing assembly.
- (2) Press the switch of the REC SAFETY board assembly to turn on.
- (3) When the cassette loading begins and the cassette goes down to the bottom, immediately press the switch of the REC SAFETY board assembly to turn off and hold the status that the switch of the CASSETTE SWITCH board assembly is turned on. (Fix the switch with adhesive tape or put a screwdriver, etc. on it to leave the switch in the ON status.)

- (4) In this status, desired operations (recording, playback, fast forward, rewind, etc.) can be performed.

Note: When the mechanism is in the service position, the safety tab of cassette tape is not detected and recording on cassette tapes without safety tab is possible. Therefore, carefully choose a cassette tape for operation in this mode so as to avoid using cassette tapes of important recording.

- (5) For ejecting the cassette in this status, do it in the reverse order of cassette loading mentioned above.

Note: If the manual operation REC SAFETY switch timing is incorrect, the cassette may be completely or partially ejected, and the cassette is often ejected incompletely. In such a case, it is possible to take out the cassette by hand.

If it is desired to load a cassette again after the cassette is ejected in the above procedure, make sure to set the tray of the cassette housing assembly in the frontmost position prior to loading the cassette once again.

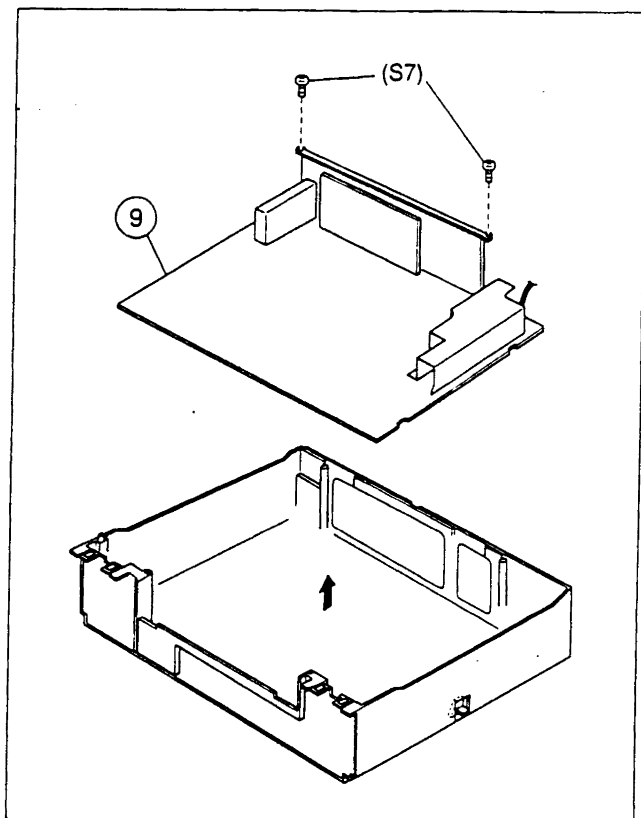


Fig. D9

1.4 CASSETTE HOUSING INSTALLATION

NOTE: Observe the mechanical phase and position (see figure) when installing the cassette housing assembly. If these are incorrect, the system will not operate properly even when tape is inserted.

1. Check that the hole of the control cam are aligned to the deck hole. If necessary, turn the mode motor belt by hand to adjust the position.

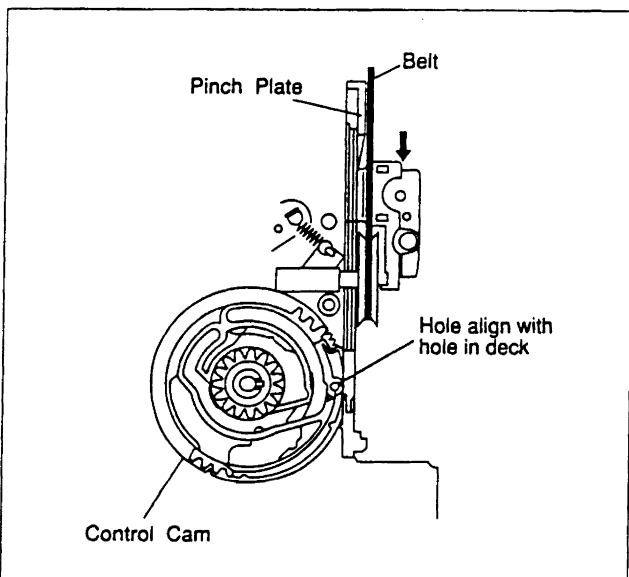


Fig. 1-4-1

1.5 SERVICE POSITION

1.5.1 How to take out the Mechanism and Main board assemblies.

- (1) Remove the Top cover, Front panel assy and CN1 of the DISPLAY board assy.
- (2) Take out 4 screws (A), 2 screws (B) and 1 screw (C) as shown in Fig.1-5-1.

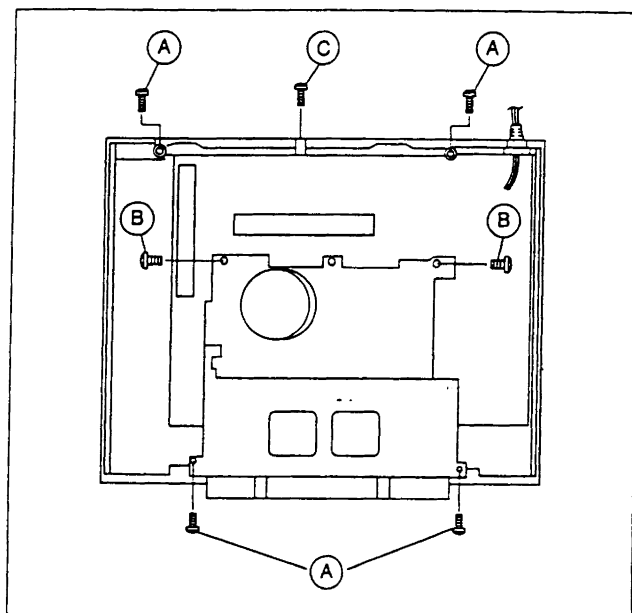


Fig. 1-5-1

- (3) Remove the Mechanism assy (including Cassette housing) and Main board assy out of the chassis as shown in Fig. 1-5-2.

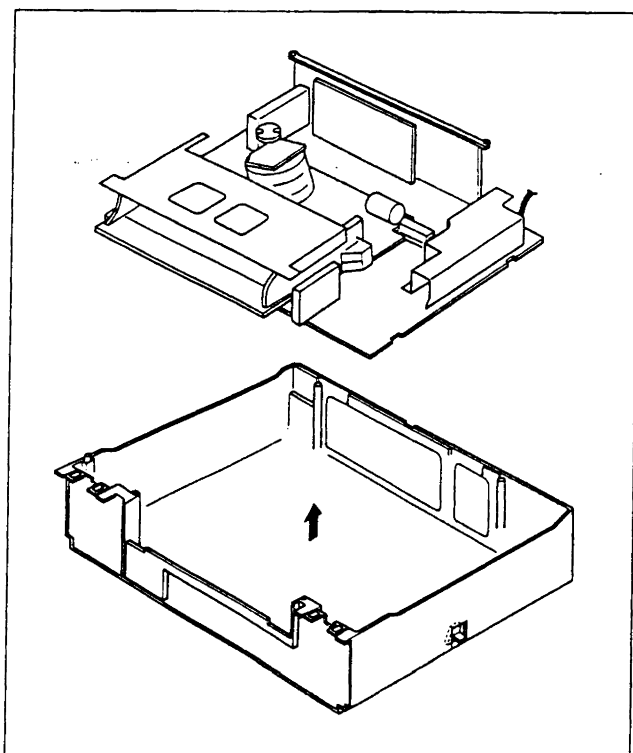


Fig. 1-5-2

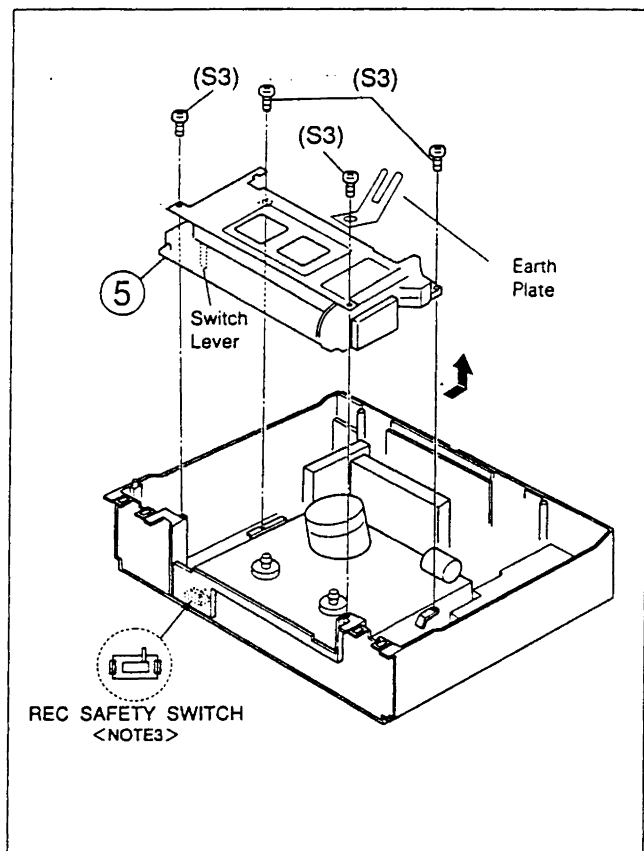


Fig. D5

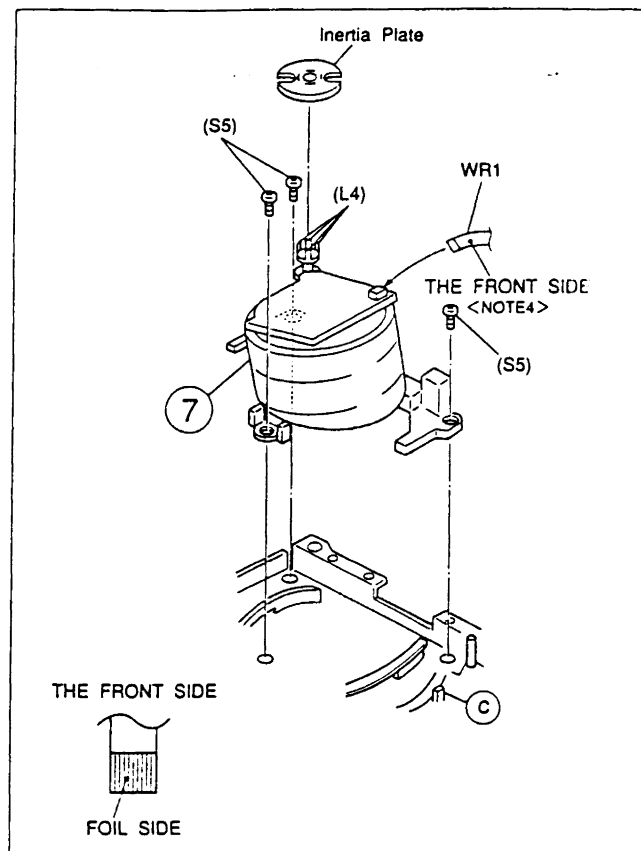


Fig. D7

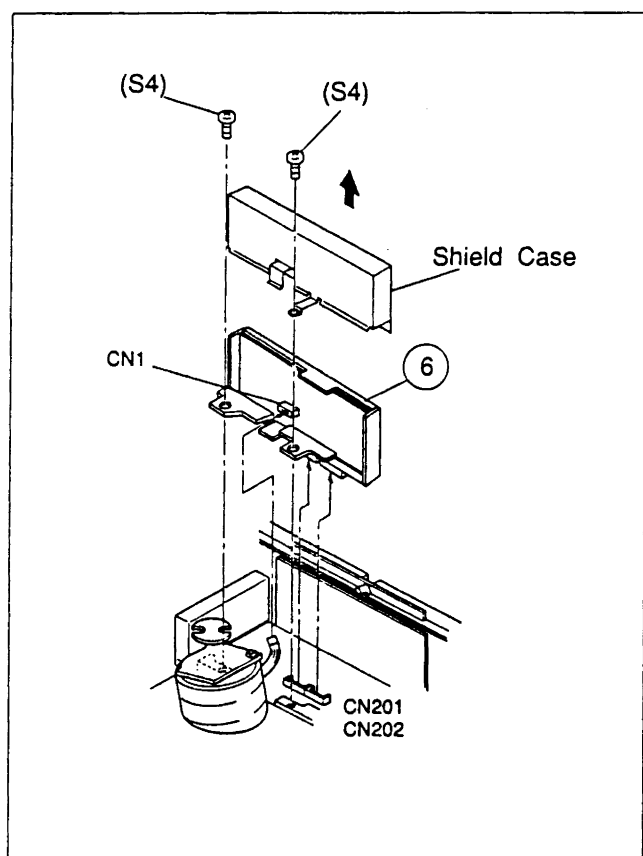


Fig. D6

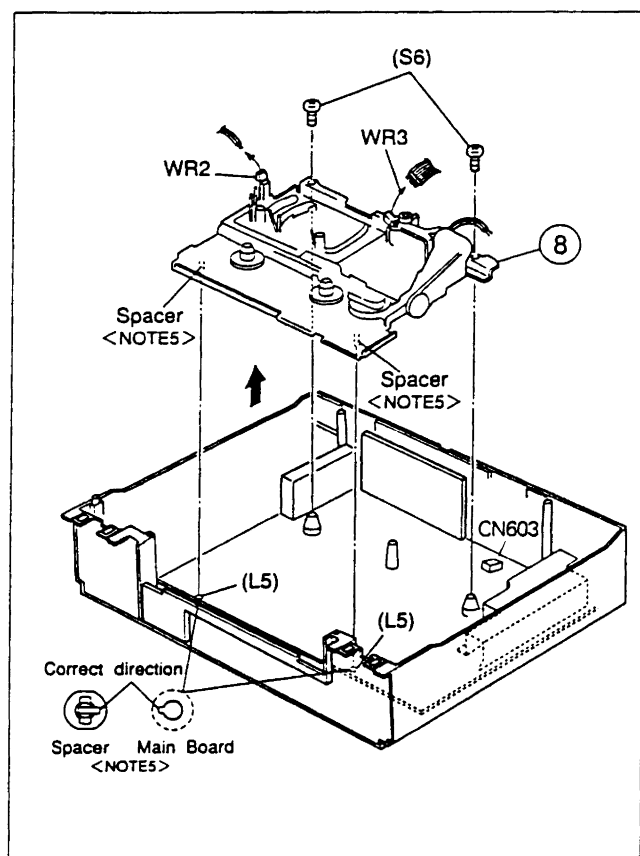


Fig. D8

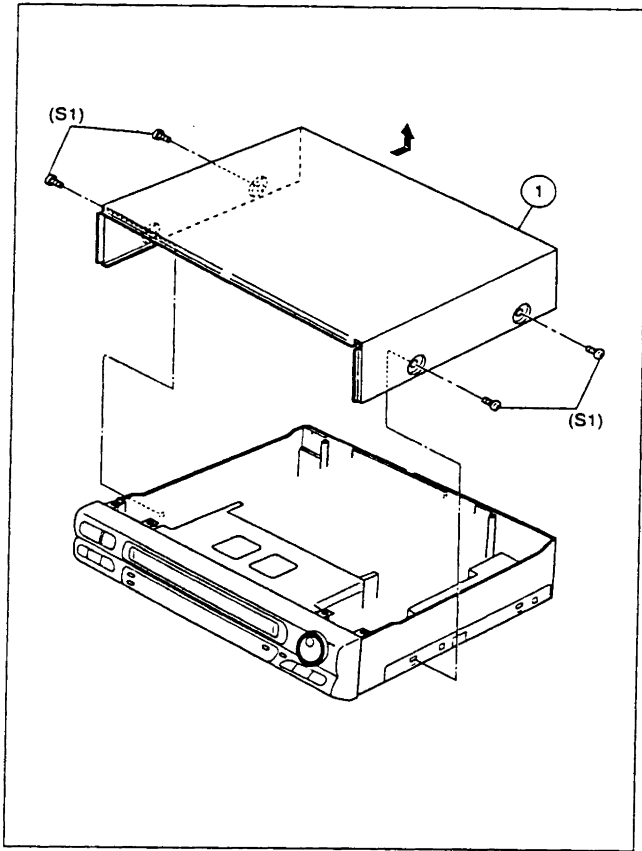


Fig. D1

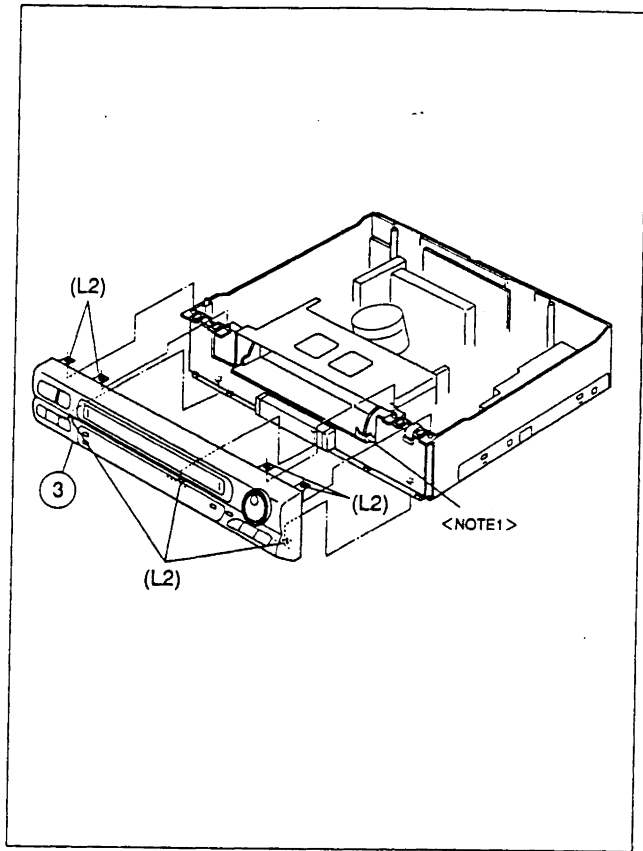


Fig. D3

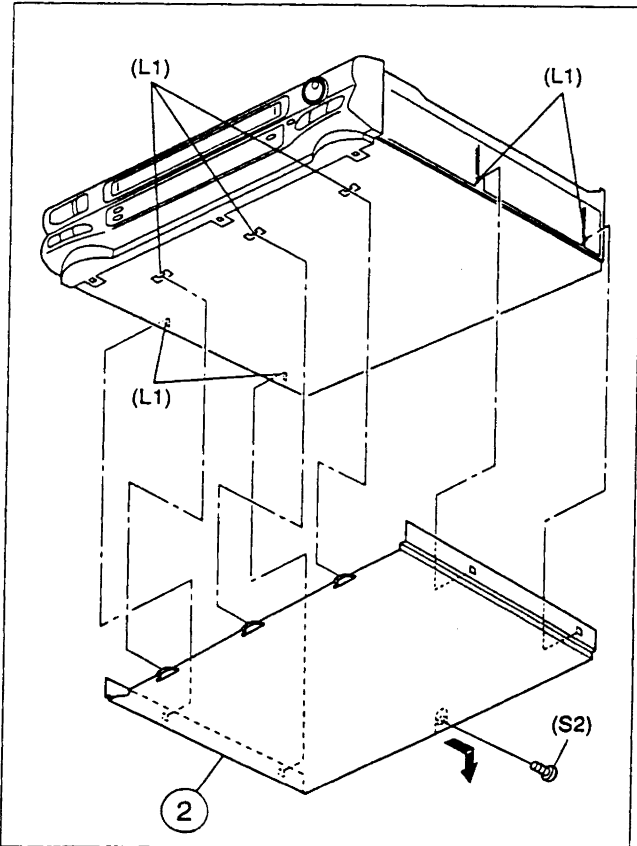


Fig. D2

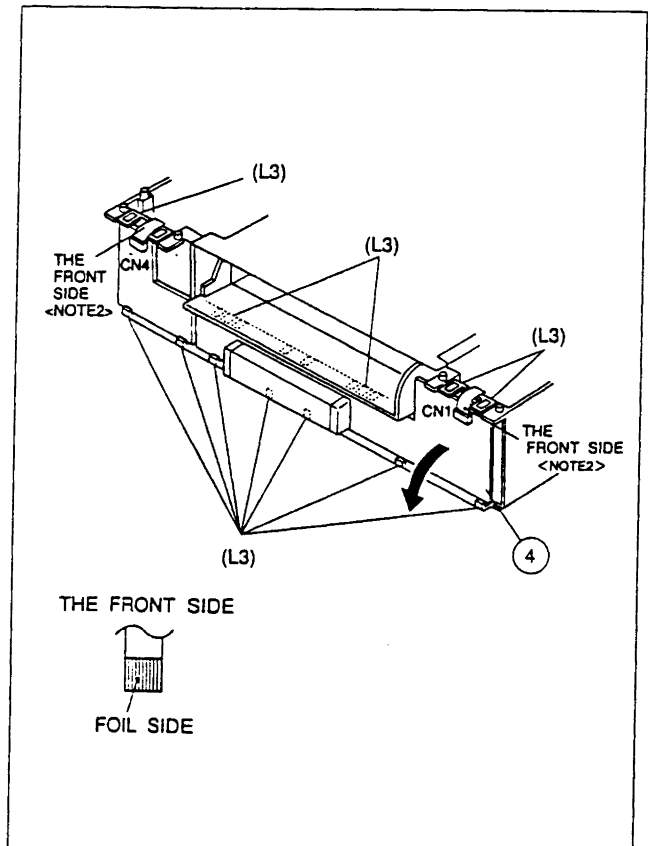


Fig. D4

2.7.5 Tension pole position

- (1) Set for playback mode using MECHANISM SERVICE MODE(See SECTION 1 DISASSEMBLY).
- (2) Slightly loosen the screw (A).
- (3) Turn the adjust pin so that the tension arm assy does not touch $\phi 2.5$ pole on the outside.
- (4) Tighten the screw (A).
- (5) After adjustment, use the back tension cassette gauge and set for the playback mode.
- (6) Confirm reading of 35 to 48 g•cm.

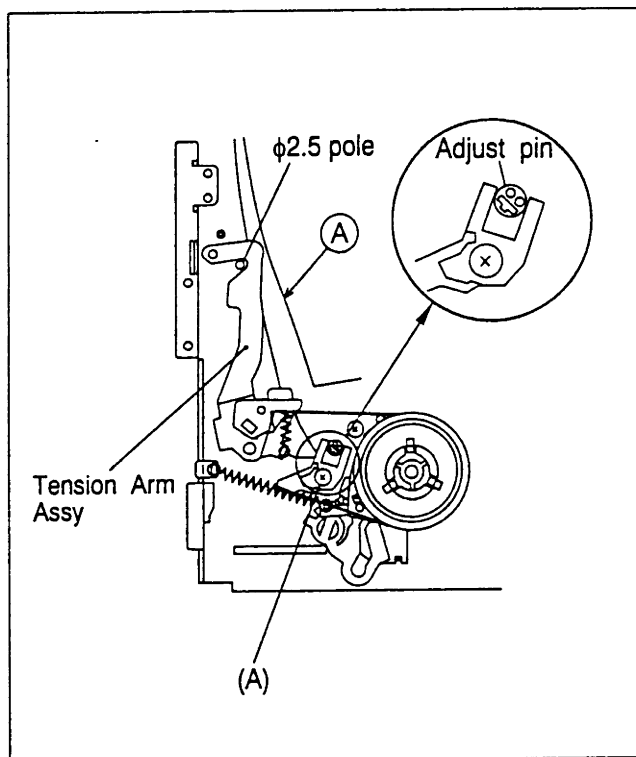


Fig. 2-7-8

2.7.6 Take-up torque

- (1) Use the back tension cassette gauge and set for the playback mode.
- (2) Confirm reading of 60 to 100 g•cm.