

2. Adjustment

2-1 Operation Without Housing Assembly

1. Remove the Housing Ass'y from the recorder unit.
2. Connect the mechanical chassis to the recorder circuit to supply voltage.
3. Set to Unload mode.
4. Press the S/W Push (Keep ON status) to start loading, and push the PLAY Key. (Cover the Top/End sensor with black tape, because they do not operate.)

Note : For the removal of the Housing Ass'y refer to 3-2

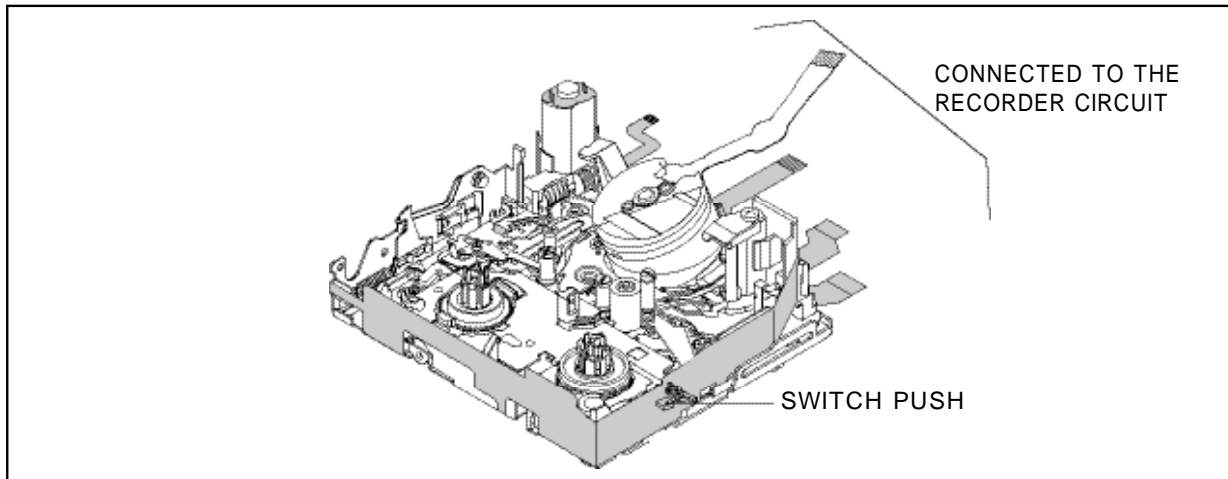


Fig 2-1

2-2 Setting Mechanical Mode (Without Recorder Circuit)

1. Set the power-supply output to approx. 3V.
2. Choose the polarity (depending on whether loading or unloading).
3. Supply the voltage to the Motor Loading, and set to the desired mode.

Table 2-1

		Movement of Chassis
+	-	Loading
-	+	Unloading

Note : See the Table 2-1

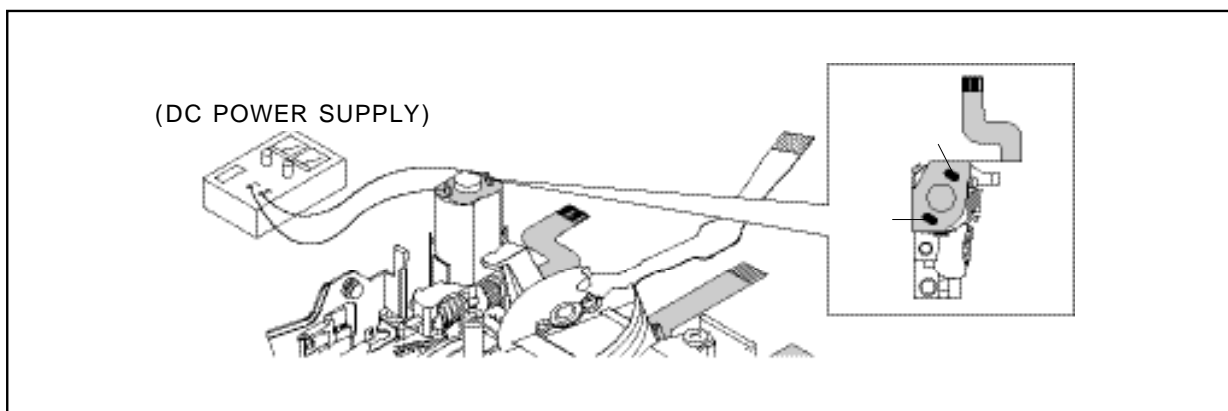
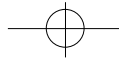


Fig 2-2



2-3 Maintenance

Carry out the following periodic maintenance checks in order to fully exercise all functions, operations and tape.

After repairing, service the set as follows:

2-3-1 Cleaning of Drum Assembly

1. Gently apply lens tissue soaked in ethyl alcohol to the Drum assembly.
Clean the Upper Drum assembly while rotating it slowly counterclockwise (by hand).

Note: Do not rotate the motor by power or rotate the Upper Drum assembly clockwise. Also, the Head tip will be damaged if the lens tissue is moved in a perpendicular direction. Be sure to follow these instructions when cleaning the Drum Assembly.

2-3-2 Cleaning of Tape Path

1. In EJECT mode, clean the tape path system (from Pole Tension P1 through Pole Return P7, Pinch Roller and Capstan Shaft) and the Lower Drum. Using the lens tissue soaked in ethyl alcohol.

Note: Make sure that no oil or grease adheres to the lens tissue.

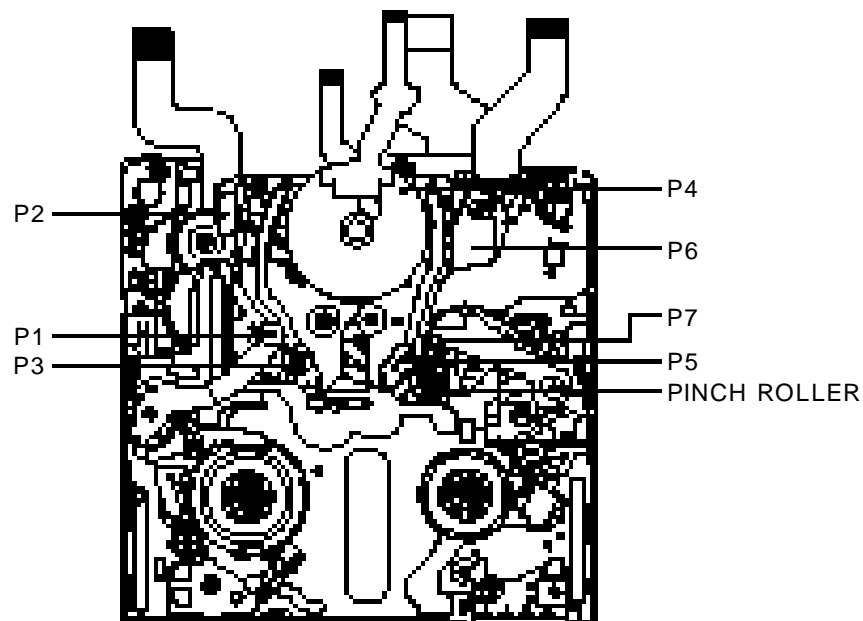
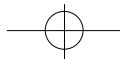


Fig 2-3



2-3-3 Periodic Maintenance and Check List

When overhauling, refer to the following table.

Table 2-2

Maintenance checks		Hours of use(H)										Remarks
		500	1000	1500	2000	2500	3000	3500	4000	4500	5000	
Tape path system	Cleaning of tape path											
	Cleaning and degaussing of drum assembly											
Driving Systeem	Capstan Shaft											Never let oil get on to to the tape path surface.
	Gear Capstan											
	Gear Pully Shaftt											
	Belt Timing											
	Motor Loading											
Performance	Abnormal noise											
Confirmation	Back tension											
	Brake system											
	PB, REV torque measurement											

: Cleaning

: Oil

: Confirmation

* When lubrication bearings, be sure to keep the oil free of dust. (Oil contaminated with dust might cause the bearings to wear out or seize.)

* A "drop" of oil is defined as the amount attached to the tip of a $\varnothing 2\text{mm}$ stick as shown in Fig. 2-4.

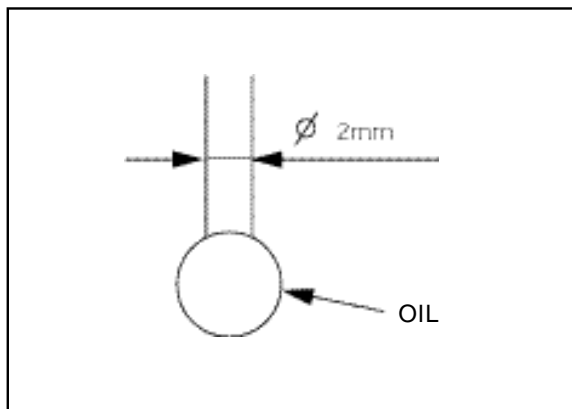
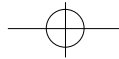


Fig 2-4



2-4 Mechanical Check and Adjustment

2-4-1 Tension Regulator Adjustment

2-4-1(C) REASSEMBLY

2-4-1(A) DISASSEMBLY

1. Refer to 3-2 to mount the Housing Assy

1. Refer to 3-2 to remove the Housing Assy

2-4-1(B) ADJUSTMENT

1. Set to PB mode (without cassette tape).
2. Check that the distance between external surface of Holder Loading and center of Arm Tension is 0 ~ 1mm. (Fig 2-5)
3. If necessary, proceed to step 4.
4. If the Arm Tension is located inside the position specified, adjust the Band Adjust Tension toward arrow A. (If it is located outside, adjust toward arrow B.)

Note: Check if the Arm Tension can be moved toward arrow C in PB mode.

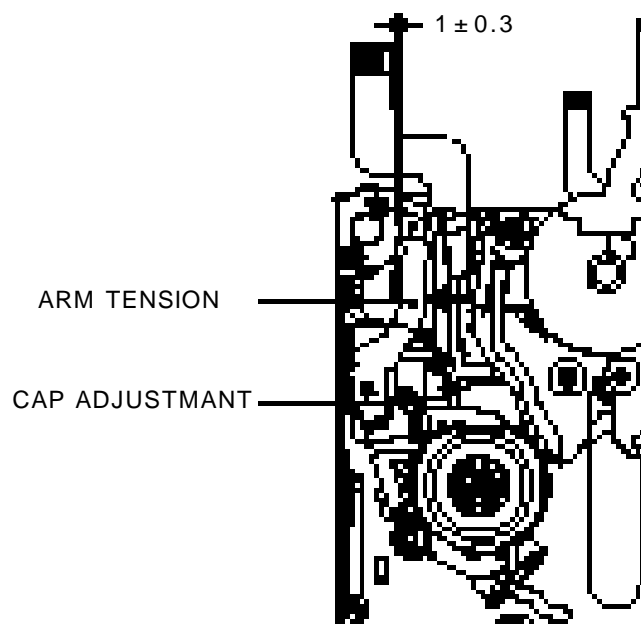
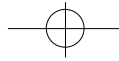


Fig 2-5



2-4-2 Back Tension Confirmation

1. Set up the cassette-torque tape.
2. Set to CAMERA mode, push the EDIT(+) KEY and check that the torque value of Reel S is 4.5 ± 0.5 g.cm.

2-4-3 PB/REV Torque check

1. Set up the cassette torque tape.
2. Set to CAMERA mode, Push the EDIT(+)Key and check that the torque value of Reel T is 7.5 ± 3 g.cm.
3. Push the EDIT(-) Key and check that the torque value of Reel S is 12.5 ± 3 g.cm.
4. If necessary, replace the defective Gear pully Ass'y.

2-4-4 Reel Table Height Check

2-4-4(a) REMOVAL

1. Refer to 3-2 : Remove the Housing Ass'y.
2. Refer to 3-3 : Remove the Idler Ass'y

2-4-4(b) CHECK

1. Using vernier calipers, check the following distances : From the upper surface of the PCB Reel to the resting surfaces of Reel S,T table should each be 3.9 ± 0.1 mm

2-4-4(c) MOUNTING

1. Refer to 3-3 : Mount the Idler Ass'y
2. Refer to 3-2 : Mount the Housing Ass'y

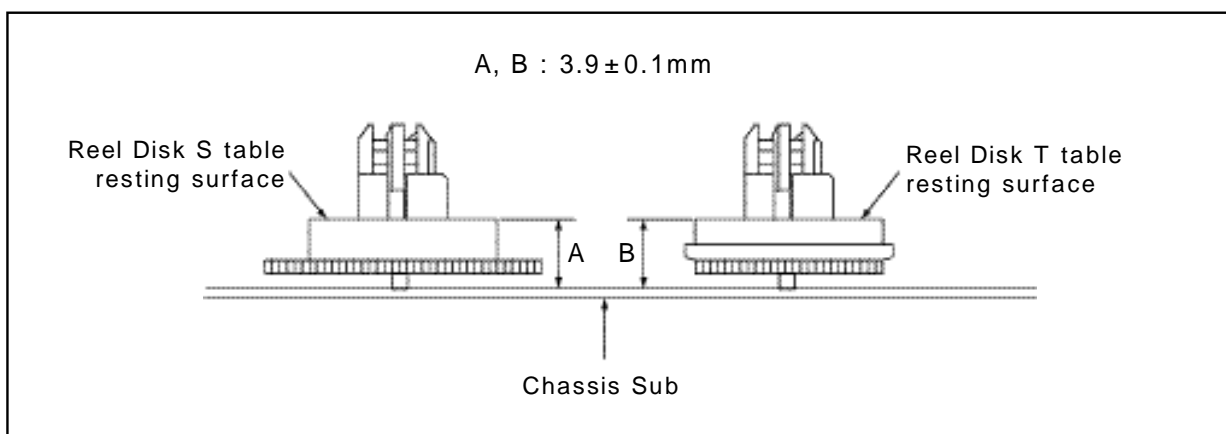
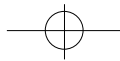


Fig 2-6



2-5 Tape Path Adjustment

2-5-1 Preparation for Adjustment

1. Clean the tape running surface(Poles, Drum, Capstan Shaft, Pinch Roller).
2. Refer to the Service Manual(page 5-1).
Observe the PB RF signal and Head Switching Pulse on an oscilloscope.
3. Play back the alignment tape.
4. Check that the waveform of the RF signal is flat at both inlet and outlet(Fig. 2-7 A)
If not flat (B or C in Fig 2-7), do adjustments 2-5-2 through 2-5-5.

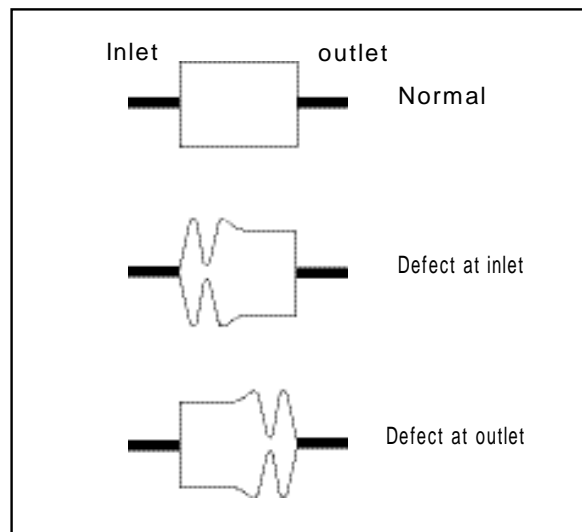


Fig 2-7

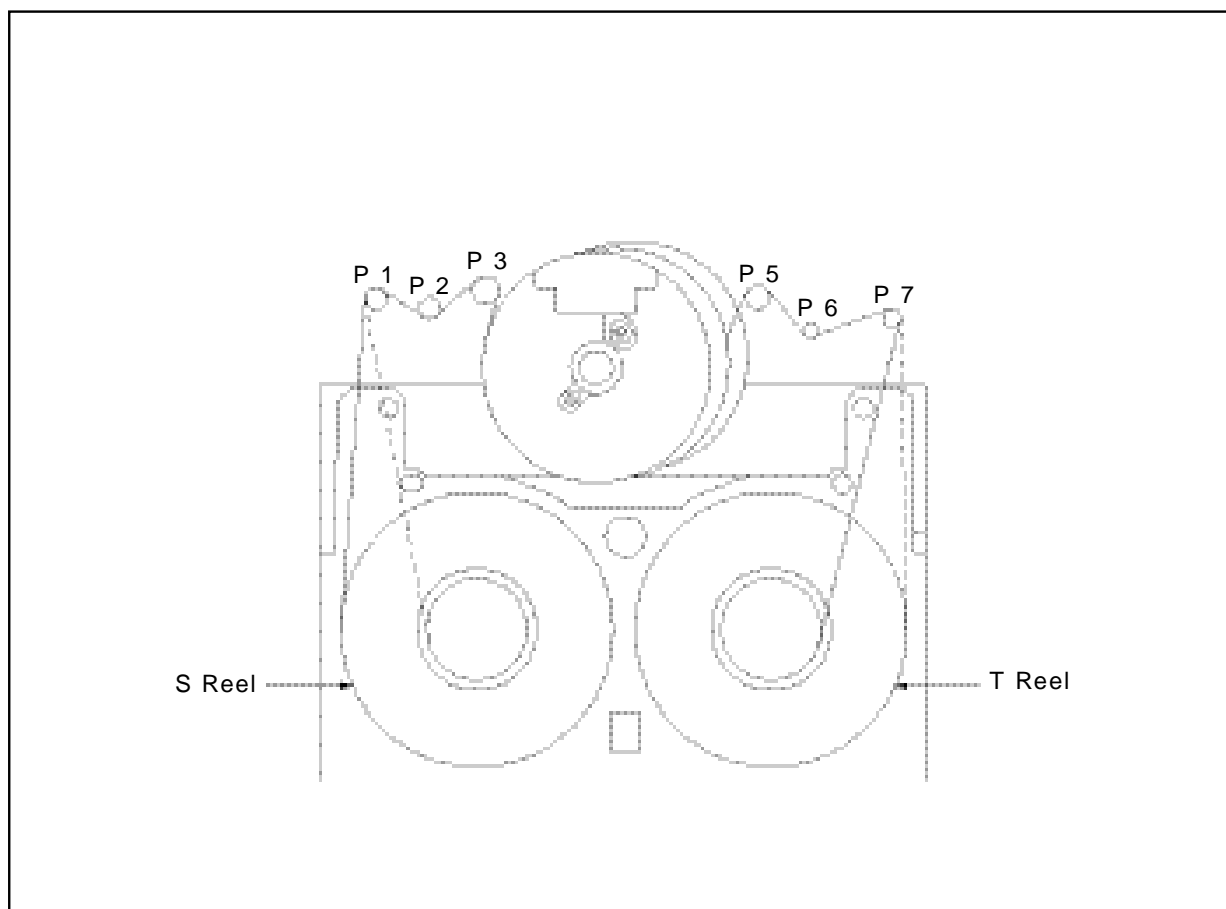
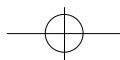


fig 2-8



Adjustment

2-5-2 Tracking adjustment

1. Play Back the alignment tape.
2. Turn P3 to flatten the waveform at the inlet
3. Turn P5 to flatten the waveform at the outlet

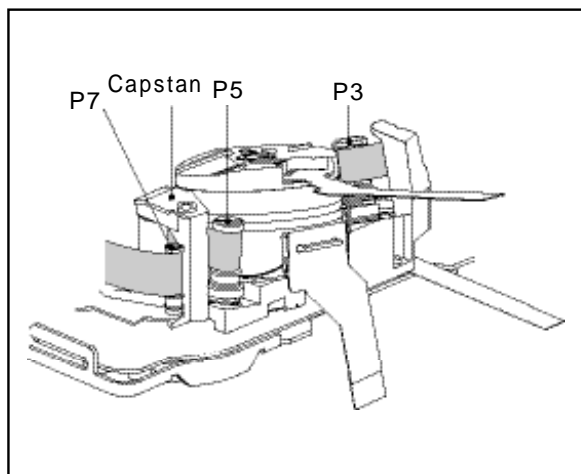


Fig 2-9

2-5-3 P7 Adjustment

1. Play back the alignment tape, and confirm that the tape is not twisted between the Guide Roller T and Capstan. (If the tape is twisted, turn P7, Fig 2-10)
2. Set to REV mode and observe the outlet waveform of PB RF signal. (Fig 2-12)
3. If the outlet waveform is out-of-spec, turn P7 counterclockwise, and redo steps 1 and 2.

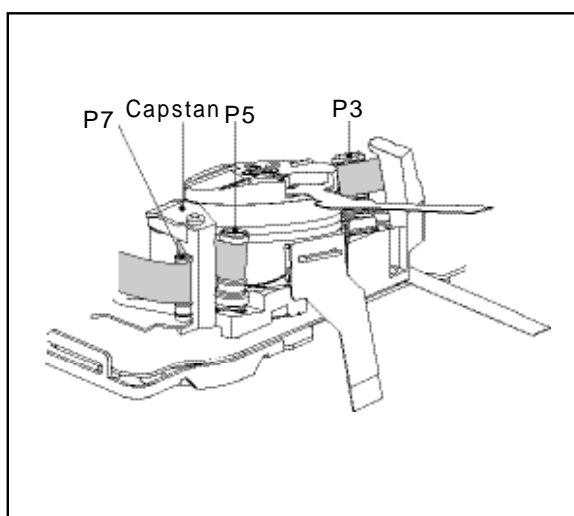


Fig 2-10

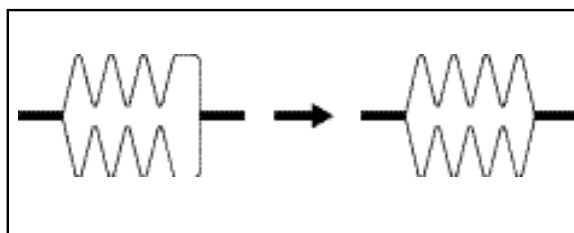
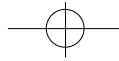


Fig 2-11



2-5-4 Check After Adjustment

2-5-4(b) CUE AND REV CHECK

2-5-4(a) TRACKING CHECK

1. Play back the alignment tape.
2. Confirm that the minimum amplitude value(E_{min}) is 80% of the maximum value(E_{max}) or larger. (Fig. 2-12)
3. Confirm that no large fluctuation occurs on the waveform. (Fig. 2-13)

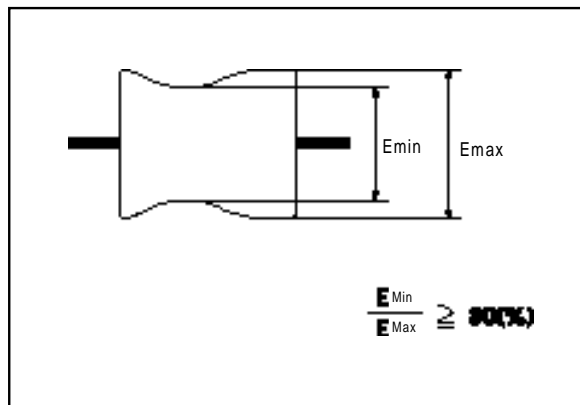


Fig 2-12

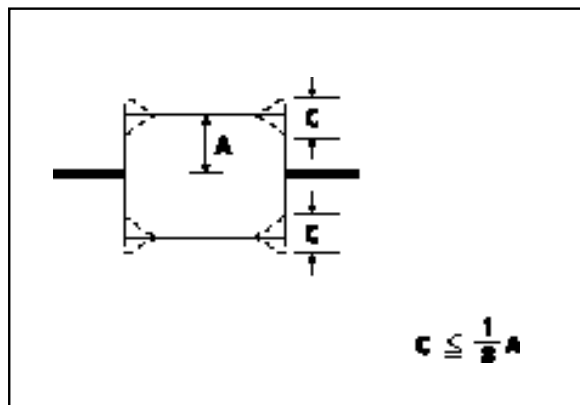


Fig 2-13

1. Play back the alignment tape, and set to REV mode.

Confirm that the waveform peaks have a uniform Pitch. (Fig 2-14 A)

If the track pitch is not uniform, do section 2-5-2 (Tracking adjustment) and 2-5-3 (P7 adjustment)

2. Set to CUE mode.

Confirm that the waveform peaks still have a uniform pitch. (Fig. 2-14 B)

If the track pitch is not uniform, do section 2-5-2 (Tracking Adjustment)

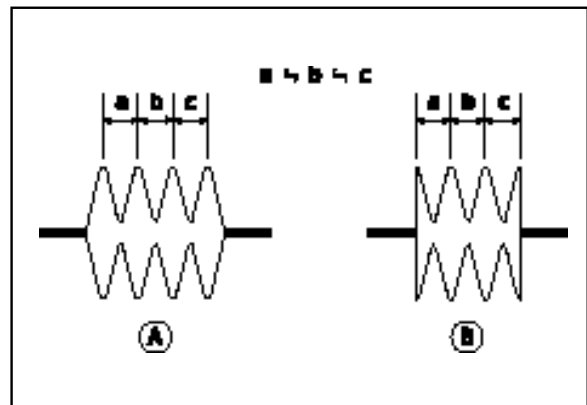
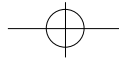


Fig 2-14



Adjustment

2-5-5(C) RISE TIME CHECK

1. Play back the alignment tape.
2. Set to playback mode, and confirm that the waveform of PB RF signal rises flat within 3 seconds. Also confirm that the tape is not twisted or curled around the Pinch Roller.(Fig 2-15)
3. Run the tape in CUE/REV and FF/REW modes, then playback. Confirm the waveform of PB RF signal rises flat within 3 seconds. Also confirm that the tape is not twisted or curled around the Pinch Roller.
4. Repeat steps 2. and 3.

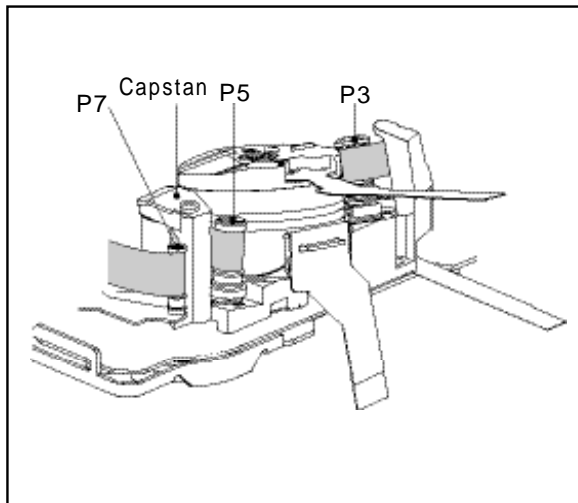


Fig 2-15

2-5-4(D) TAPE PATH CHECK

1. In CUE and REV modes, check that the tape is not curled around the P1, P3, P5 upper flange and P7 upper/Lower flanges.

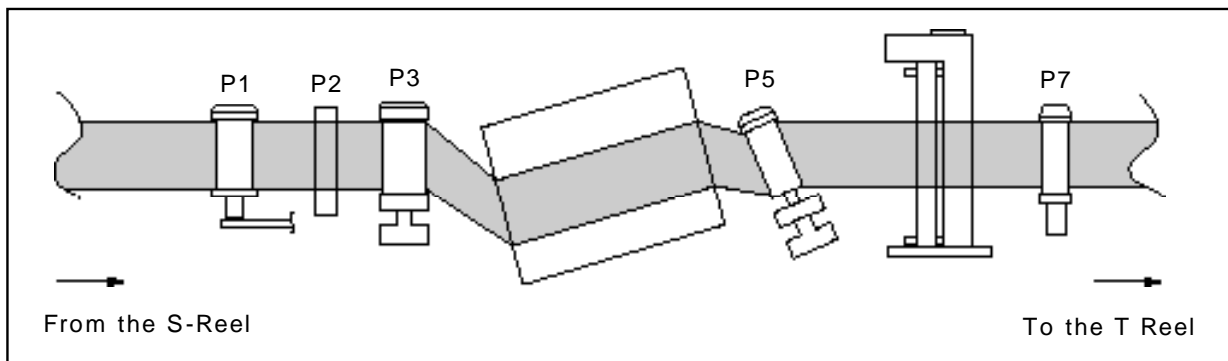


Fig 2-16