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"Clarion Service Manual"

Service Manual

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MAZDA Automobile Genuine Cassette Stereo Deck

Model PT-8004



SPECIFICATIONS:

Reproduction system: 4 track, 2 program, 2 channel stereo reproduction
Tape speed: 4.76cm/s
Wow and flutter: Less than 0.3% (W.R.M.S.)
Separation: More than 30dB
Crosstalk: More than 40dB
S/N ratio: More than 40dB
Output level: 150mV (120mV~190mV) (10kΩ load, 315Hz, 0VU)
FF, REW time: Less than 90s. (C-60)
Power supply voltage: DC 13.2V
Negative ground
Current consumption: 0.4A
Less than 2A (at plunger operated)
Semiconductors: 2 ICs, 8 transistors and 9 diodes.
Dimensions: Width 150mm
Height 50mm
Depth 135mm
Weight: 1.1kg

FEATURES:

1. Auto eject at play ended.
2. Auto eject at F.F. ended.
3. Auto play at rewinded.

COMPONENT:

- PT-8004F-A, N-A Main unit 1

ADJUSTMENT:

1. AZIMUTH ADJUSTMENT

Play the 6.3kHz, -10VU section of the AZIMUTH tape and adjust the head azimuth adjustment screw (716-0429-00) so that the output levels are maximized in both tape running directions. (Figure 1)

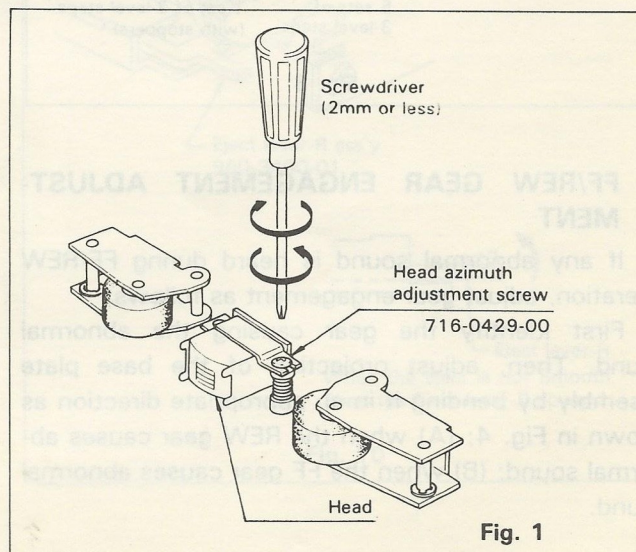


Fig. 1

2. REEL BASE TORQUE ADJUSTMENT

The plate spring (brass) which applies torque to each reel base can be seen through the hole in the deck plate around each reel shaft. (Figure 2)

Six sets of 3-level steps are provided on each reel base and torque can be varied by changing the step on which each plate spring foot is placed; Changing it to a lower step decreases torque and changing it to a higher step increases torque.

Among the six feet of the plate spring, one rests a step with stoppers as shown in Figure 3. To adjust torque slightly lift the spring and shift it to another step with tweezers. Be careful not to lift the spring foot too much, or it may be deformed.

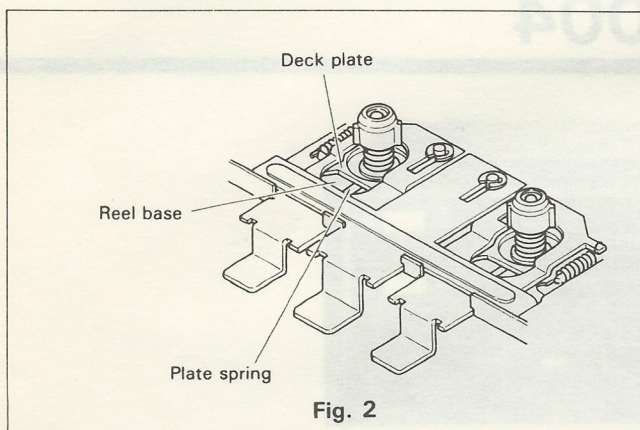


Fig. 2

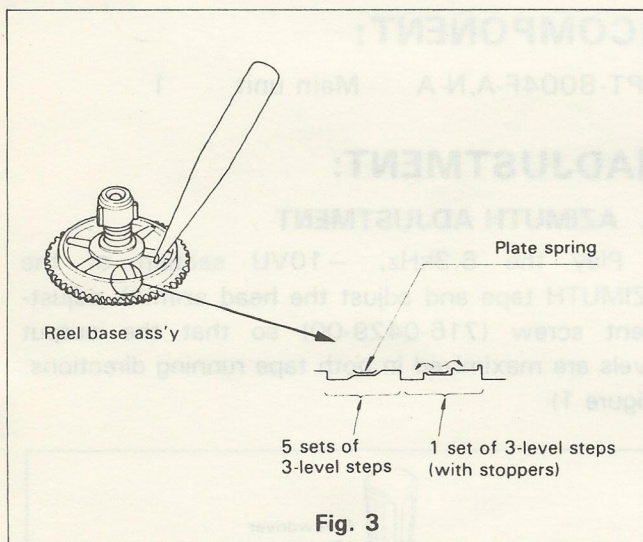
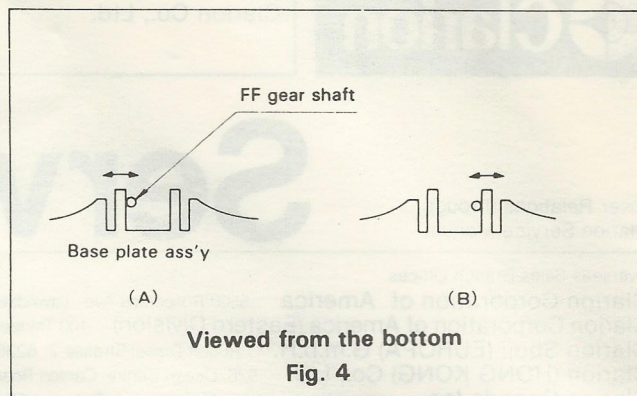


Fig. 3

3. FF/REW GEAR ENGAGEMENT ADJUSTMENT

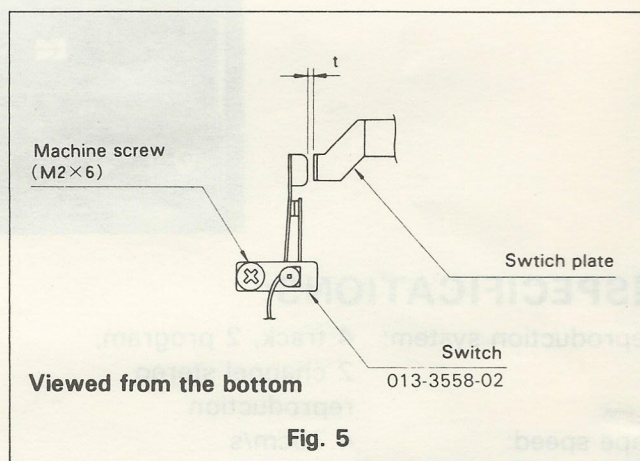
If any abnormal sound is heard during FF/REW operation, adjust gear engagement as follows.

First identify the gear causing the abnormal sound. Then, adjust projection of the base plate assembly by bending it in an appropriate direction as shown in Fig. 4; (A) when the REW gear causes abnormal sound; (B) when the FF gear causes abnormal sound.



4. LEAF SWITCH ADJUSTMENT

Adjust the leaf switch gap (t) to 0.5mm by loosening the machine screw (M2×6) has shown in Figure 5.

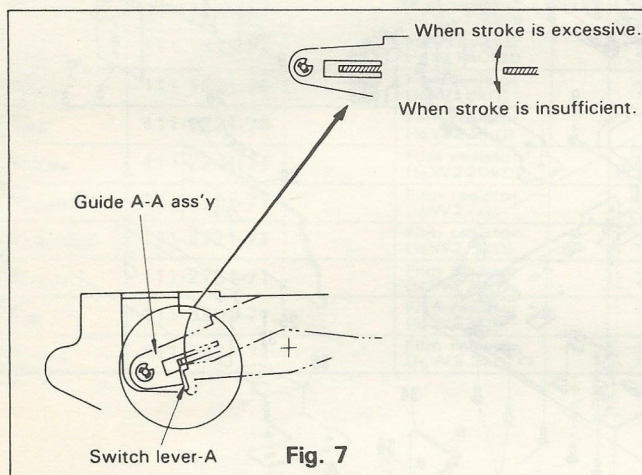
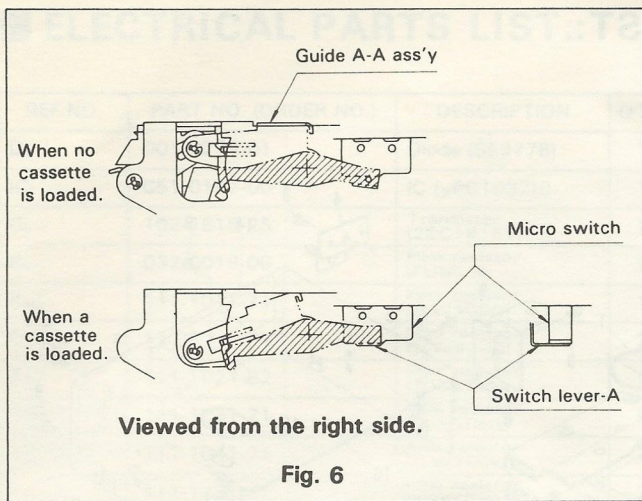


5. POWER SWITCH (MICROSWITCH) ADJUSTMENT

The microswitch is actuated as follows: when a cassette is inserted, the guide A-A assembly drops and the projection on the right side of the A-A assembly pushes switch lever A so that the other end of the switch lever A actuates the microswitch.

When a cassette is loaded, the flat part of switch lever A around the microswitch actuation point (embossed part) must contact the microswitch and must not move any further. (Figure 6)

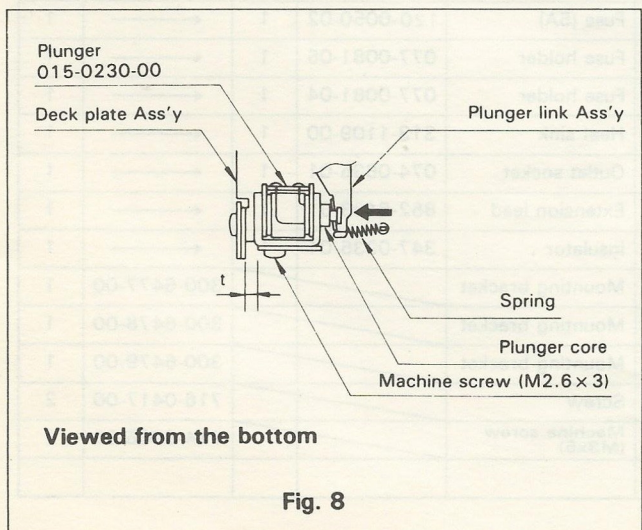
Bend the projection (highlighted part) of the guide A-A assembly in the direction of movement of switch lever A so that the above condition is satisfied. (Figure 7)



6. HEAD PLATE SLIDING PLUNGER (015-0230-00) ADJUSTMENT

Press the plunger core by hand in the direction indicated with; if the core stroke is insufficient, the lock mechanism of the plunger link will not be released and the cam gear will not move; and, if the core stroke is excessive, the drawing force will be lowered and the core will not be drawn.

Adjust distance t in Figure 8 to 1.3 ~ 1.5mm after loosening the machine screw (M2.6×3). After adjustment has been completed, press the core and check whether or not it is returned smoothly by the spring. Apply lock paint to the screw.



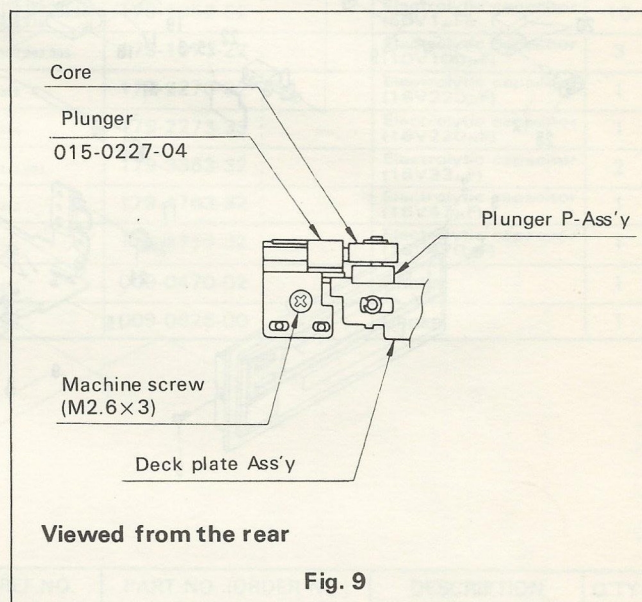
7. HEAD PLATE LATCHING PLUNGER (015-0227-04) ADJUSTMENT

When the gap between the core and plunger is too large, plunger plate B cannot be drawn by the core and head shift operation cannot be performed.

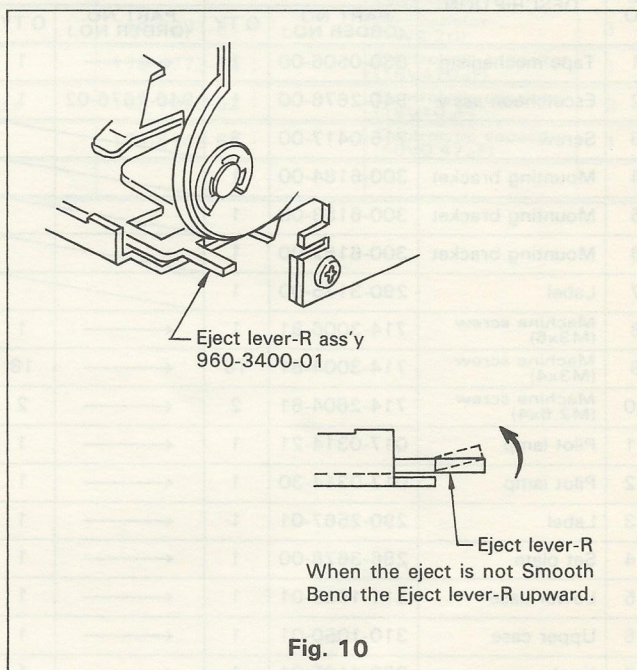
When the gap is too narrow, the head link lock may be reset.

Press the plunger (015-0230-00) core (Figure 8), turn the cam a little and adjust the gap so that the core contacts the plunger when the lock arm is all the way to the left after loosening the machine screw (M2.6×3). (Figure 9)

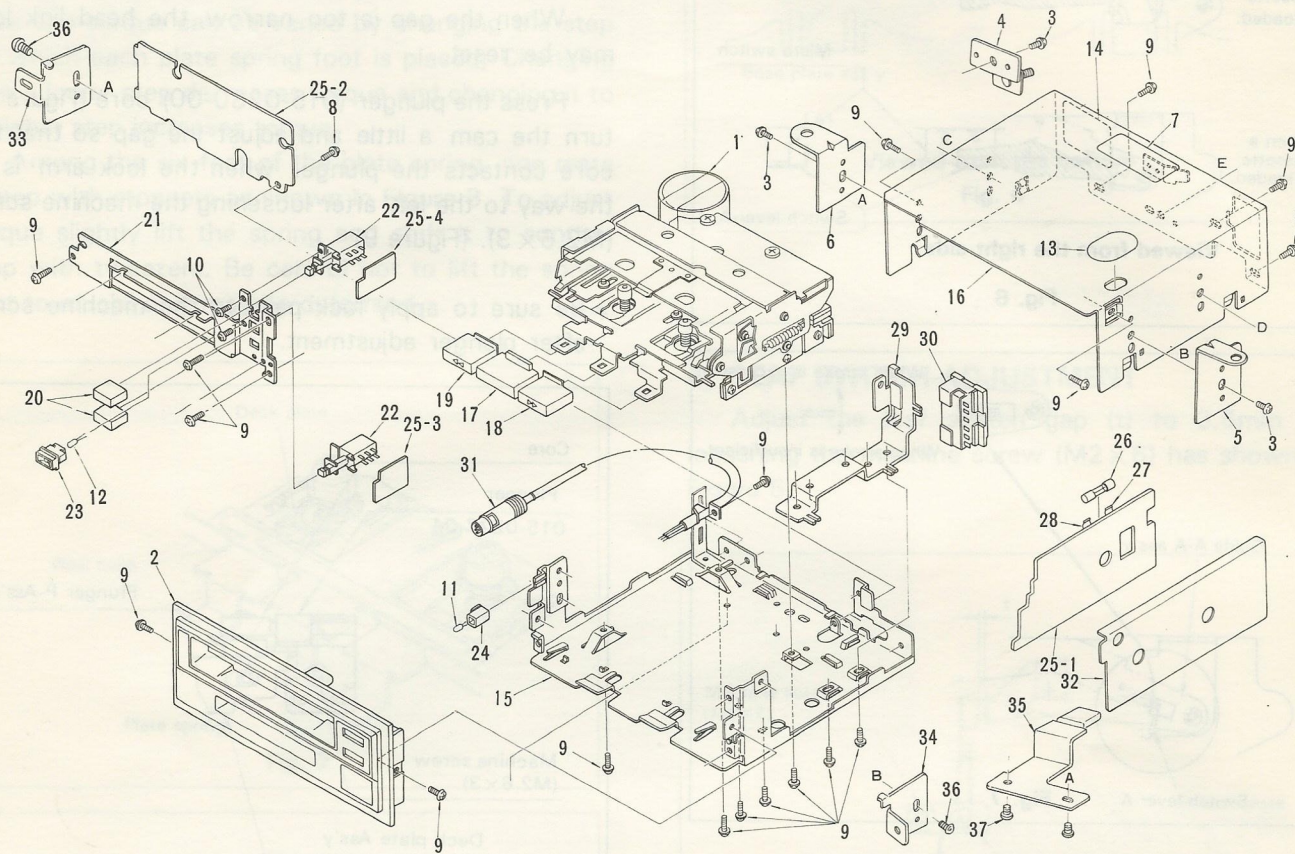
* Be sure to apply lock paint to the machine screw after plunger adjustment.



8. AUTO EJECT ADJUSTMENT



MAIN EXPLODED VIEW • PARTS LIST:



REF. NO.	DESCRIPTION	PT-8004F-A		PT-8004N-A	
		PART NO. (ORDER NO.)	Q'TY	PART NO. (ORDER NO.)	Q'TY
1	Tape mechanism	930-0506-00	1	←	1
2	Escutcheon ass'y	940-2676-00	1	940-2676-02	1
3	Screw	716-0417-00	3	←	18
4	Mounting bracket	300-6184-00	1	←	1
5	Mounting bracket	300-6183-00	1	←	1
6	Mounting bracket	300-6182-00	1	←	1
7	Label	290-3175-00	1	←	1
8	Machine screw (M3x6)	714-3006-81	1	←	1
9	Machine screw (M3x4)	714-3004-81	18	←	18
10	Machine screw (M2.6x4)	714-2604-81	2	←	2
11	Pilot lamp	017-0314-21	1	←	1
12	Pilot lamp	017-0314-30	1	←	1
13	Label	290-2567-01	1	←	1
14	Set plate	286-3678-00	1	←	1
15	Lower case	311-1035-01	1	←	1
16	Upper case	310-1050-01	1	←	1
17	Knob	380-4105-01	1	←	1
18	Knob	380-4106-01	1	←	1
19	Knob	380-4107-01	1	←	1

REF. NO.	DESCRIPTION	PT-8004F-A		PT-8004N-A	
		PART NO. (ORDER NO.)	Q'TY	PART NO. (ORDER NO.)	Q'TY
20	Knob	380-4012-00	2	←	2
21	Front plate	309-0457-00	1	←	1
22	Switch	013-3346-03	2	←	2
23	P.L holder	345-3369-00	1	←	1
24	P.L holder	345-3265-01	1	345-3265-03	1
25	P.W.B	099-6732-00	1	←	1
26	Fuse (5A)	120-0050-02	1	←	1
27	Fuse holder	077-0081-05	1	←	1
28	Fuse holder	077-0081-04	1	←	1
29	Heat sink	313-1109-00	1	←	1
30	Outlet socket	074-0635-01	1	←	1
31	Extension lead	852-6463-01	1	←	1
32	Insulator	347-0935-01	1	←	1
33	Mounting bracket	←	←	300-6477-00	1
34	Mounting bracket	←	←	300-6478-00	1
35	Mounting bracket	←	←	300-6479-00	1
36	Screw	←	←	716-0417-00	2
37	Machine screw (M3x5)	←	←	714-3005-80	2

ELECTRICAL PARTS LIST:

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
D ₉	001-0276-01	Diode (S5277B)	1
IC ₁	051-0187-00	IC (μ PC1032H)	1
Q ₁₋₇	102-1815-25	Transistor (2SC1815Y)	7
R ₄₀₃	032-0018-00	Film resistor (FUSE-R)	1
R ₃₀₄	111-1011-71	Film resistor ($\frac{1}{8}$ W100 Ω)	1
R _{109,209}	111-8211-71	Film resistor ($\frac{1}{8}$ W820 Ω)	2
R ₃₀₁	111-1021-82	Film resistor ($\frac{1}{8}$ Ws1k Ω)	1
R _{115,118,120,215,218}	111-1031-71	Film resistor ($\frac{1}{8}$ W10k Ω)	5
R _{101,116,117,119,201,216,217}	111-1041-71	Film resistor ($\frac{1}{8}$ W100k Ω)	7
R _{111,211}	111-1231-71	Film resistor ($\frac{1}{8}$ W12k Ω)	2
R ₃₀₆	111-1521-22	Film resistor ($\frac{1}{4}$ Ws1.5k Ω)	1
R _{104,204}	111-1541-71	Film resistor ($\frac{1}{8}$ W150k Ω)	2
R _{114,214}	111-1831-78	Film resistor ($\frac{1}{8}$ W18k Ω)	2
R ₃₀₃	111-2221-78	Film resistor ($\frac{1}{8}$ W2.2k Ω)	1
R _{108,208}	111-2241-71	Film resistor ($\frac{1}{8}$ W220k Ω)	2
R _{102,202}	111-2701-71	Film resistor ($\frac{1}{8}$ W27 Ω)	2
R _{105,205,305}	111-2721-71	Film resistor ($\frac{1}{8}$ W2.7k Ω)	3
R _{113,213}	111-2731-71	Film resistor ($\frac{1}{8}$ W27k Ω)	2
R ₃₀₂	111-3301-71	Film resistor ($\frac{1}{8}$ W33 Ω)	1
R _{110,210}	111-3321-71	Film resistor ($\frac{1}{8}$ W3.3k Ω)	2

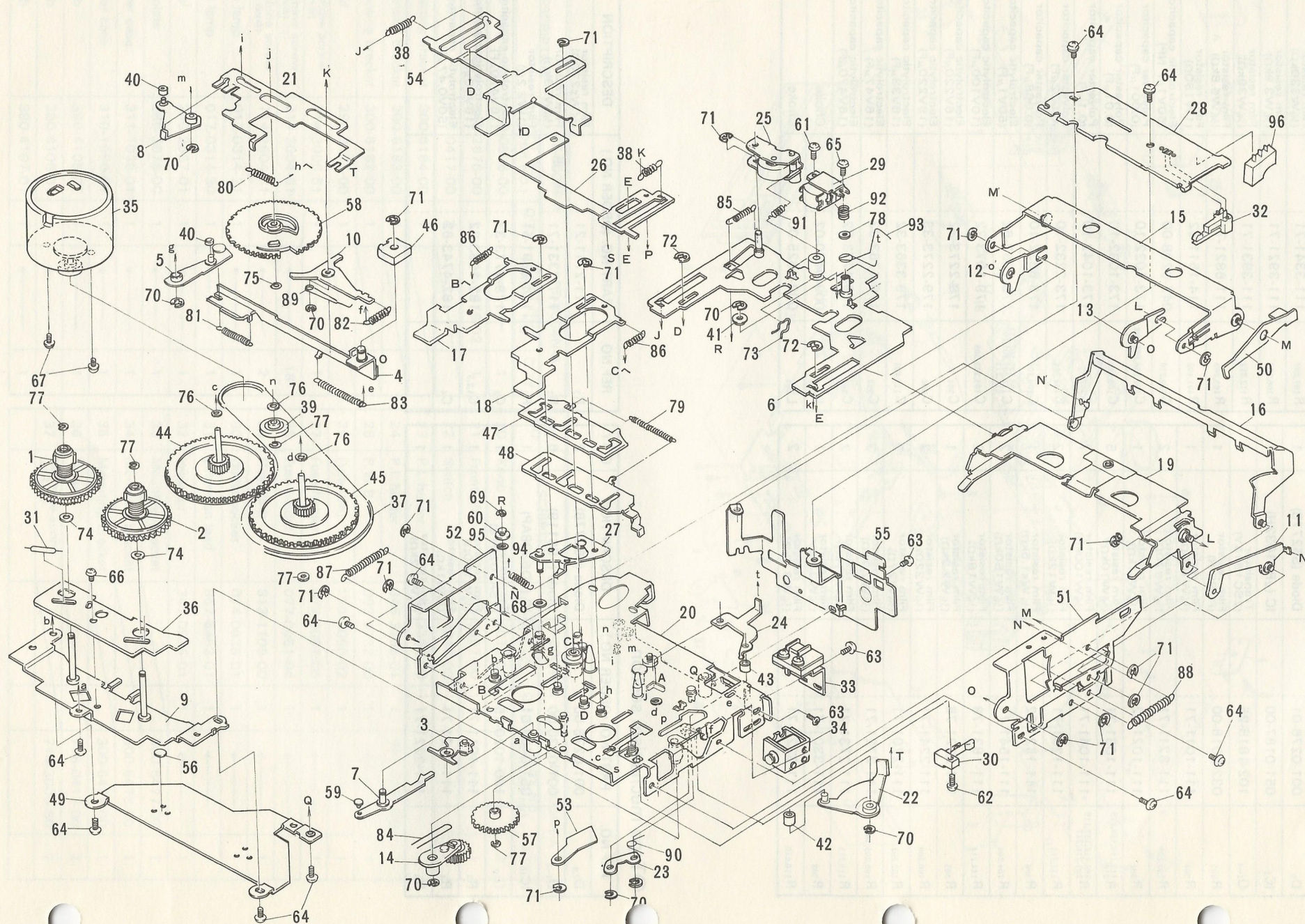
REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
R _{107,207}	111-3341-71	Film resistor ($\frac{1}{8}$ W330k Ω)	2
R _{106,206}	111-3921-71	Film resistor ($\frac{1}{8}$ W3.9k Ω)	2
R _{112,212}	111-3931-71	Film resistor ($\frac{1}{8}$ W39k Ω)	2
R _{103,203}	111-6821-71	Film resistor ($\frac{1}{8}$ W6.8k Ω)	2
R _{401,402}	114-1511-52	Film resistor (1W150 Ω)	2
C _{110,210}	042-0298-00	Electrolytic capacitor (50V1 μ F NP)	2
C _{101,108,201,208}	173-1022-10	Polyester capacitor (0.001 μ F)	4
C _{106,206}	173-1032-10	Polyester capacitor (0.01 μ F)	2
C ₃₀₂	173-1042-10	Polyester capacitor (0.1 μ F)	1
C _{104,204}	173-2232-10	Polyester capacitor (0.022 μ F)	2
C _{109,209}	173-6832-10	Polyester capacitor (0.068 μ F)	2
C _{102,105,107,111,112,202,205,207,211,212}	179-1053-62	Electrolytic capacitor (50V1 μ F)	10
C _{103,203,305}	179-1073-22	Electrolytic capacitor (10V100 μ F)	3
C ₃₀₄	179-2273-32	Electrolytic capacitor (16V220 μ F)	1
C ₃₀₆	179-2273-33	Electrolytic capacitor (16V220 μ F)	1
C _{113,401}	179-3363-32	Electrolytic capacitor (16V33 μ F)	2
C ₃₀₃	179-4763-32	Electrolytic capacitor (16V47 μ F)	1
C ₃₀₁	179-4773-32	Electrolytic capacitor (16V470 μ F)	1
L ₄₀₁	009-0470-02	Choke	1
L ₃₀₁	009-0625-00	Choke	1

©Tape mechanism section

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
D _{7,8}	001-0276-00	Diode (S5277B)	2
D ₁₋₆	001-0330-00	Diode (1SS119)	6
IC ₁₀	051-0403-01	IC (TD6308AP)	1
Q ₁₀	100-1020-25	Transistor (2SA1020YZ)	1
R ₂	111-1011-71	Film resistor ($\frac{1}{8}$ W100 Ω)	1
R ₄	111-1021-71	Film resistor ($\frac{1}{8}$ W1k Ω)	1
R ₆	111-2221-71	Film resistor ($\frac{1}{8}$ W2.2k Ω)	1

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
R ₃	111-2711-21	Film resistor ($\frac{1}{4}$ Ws270 Ω)	1
R ₁	111-3331-71	Film resistor ($\frac{1}{8}$ W33k Ω)	1
R ₅	114-2291-51	Film resistor (1W2.2 Ω)	1
C ₅	179-4773-33	Electrolytic capacitor (16V470 μ F)	1
C _{1,2,3}	182-1063-32	Electrolytic capacitor (16V10 μ F)	3
C ₄	182-4743-62	Electrolytic capacitor (50V0.47 μ F)	1

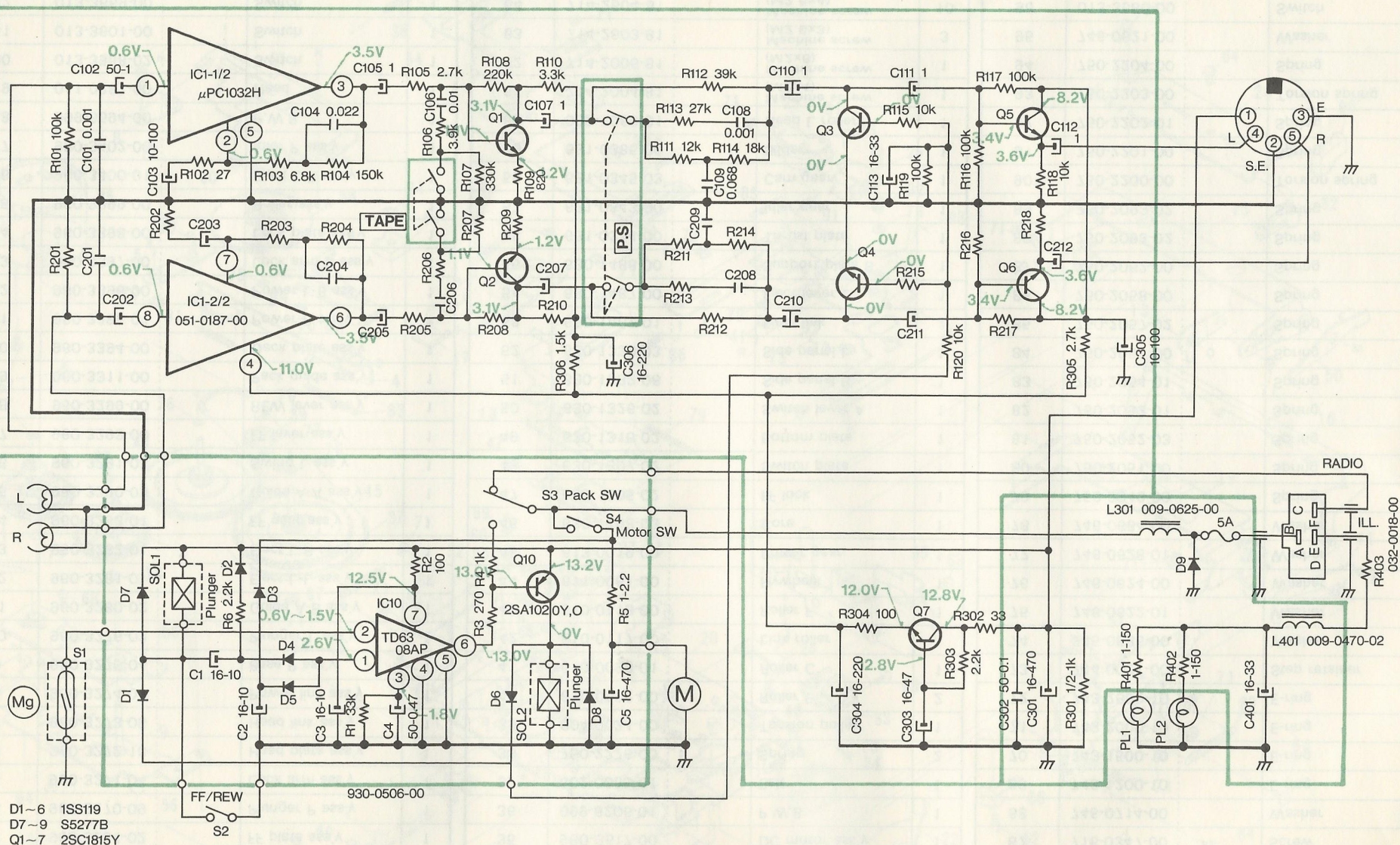
TAPE MECHANISM EXPLODED VIEW • PARTS LIST:



REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
1	960-3259-03	Reel base ass'y	1
2	960-3259-06	Reel base ass'y	1
3	960-3264-02	FF plate ass'y	1
4	960-3270-09	Plunger P ass'y	1
5	960-3271-04	Lock arm ass'y	1
6	960-3272-10	Head plate ass'y	1
7	960-3273-05	Head link ass'y	1
8	960-3274-04	Power link ass'y	1
9	960-3275-04	Base P ass'y	1
10	960-3276-02	Plunger L ass'y	1
11	960-3280-02	Guide A-B ass'y	1
12	960-3281-01	Eject L-L ass'y	1
13	960-3282-01	Eject L-R ass'y	1
14	960-3283-01	FF gear ass'y	1
15	960-3290-03	Guide A-A ass'y	1
16	960-3291-03	Swing L ass'y	1
17	960-3298-00	FF lever ass'y	1
18	960-3299-00	REW lever ass'y	1
19	960-3311-00	Pack guide ass'y	1
20	960-3394-00	Deck plate ass'y	1
21	960-3395-01	Power P ass'y	1
22	960-3396-00	Power L-B ass'y	1
23	960-3397-00	Lock arm B ass'y	1
24	960-3398-00	Lock plate ass'y	1
25	960-3399-00	Roller ass'y	1
26	960-3400-01	Eject L-R ass'y	1
27	960-3402-00	Idler P ass'y	1
28	099-6594-00	P.W.B	1
29	011-0281-00	Head	1
30	013-3558-02	Switch	1
31	013-3601-00	Switch	1
32	013-3669-00	Switch	1

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
33	015-0227-04	Plunger	1
34	015-0230-00	Plunger	1
35	960-3517-00	DC motor ass'y	1
36	099-6206-01	P.W.B	1
37	602-0065-01	Belt	1
38	750-2276-00	Spring	2
39	604-0024-00	Tension pulley	1
40	610-0092-00	Roller E	2
41	610-0093-01	Roller C	1
42	610-0117-00	Link roller	1
43	610-0118-00	Roller F	1
44	611-0061-00	Flywheel	1
45	613-0019-00	Power gear	1
46	630-1198-03	Core	1
47	630-1305-02	FF lock	1
48	630-1307-02	Switch plate	1
49	630-1316-02	Bottom plate	1
50	630-1326-02	Switch lever A	1
51	630-1332-06	Side panel R	1
52	630-1333-03	Side panel L	1
53	630-1482-01	Eject link	1
54	630-1487-00	Eject lever L	1
55	630-1488-00	Support plate B	1
56	631-0314-00	Thrust plate	1
57	631-0343-00	Idler gear	1
58	631-0345-03	Cam gear	1
59	631-0385-00	Slider	1
60	632-1069-01	Head L roller	1
61	714-2004-81	Machine screw (M2x4)	1
62	714-2006-81	Machine screw (M2x6)	1
63	714-2603-81	Machine screw (M2.6x3)	3
64	714-2604-81	Machine screw (M2.6x4)	10

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
65	716-0429-00	Screw	1
66	716-0479-00	Screw	1
67	716-0347-00	Screw	2
68	746-0714-00	Washer	1
69	743-1200-10	E-ring	1
70	743-1500-10	E-ring	8
71	743-2000-10	E-ring	16
72	743-2500-10	E-ring	2
73	744-0021-00	Step retainer	1
74	745-0586-00	Washer	2
75	746-0622-01	Washer	1
76	746-0624-00	Washer	3
77	746-0628-01	Washer	5
78	746-0664-00	Washer	1
79	750-2049-00	Spring	1
80	750-2051-00	Spring	1
81	750-2052-03	Spring	1
82	750-2053-01	Spring	1
83	750-2054-01	Spring	1
84	750-2055-00	Spring	1
85	750-2057-02	Spring	1
86	750-2058-00	Spring	2
87	750-2062-00	Spring	1
88	750-2063-02	Spring	1
89	750-2093-02	Spring	1
90	750-2200-00	Torsion spring	1
91	750-2201-00	Spring	1
92	750-2202-01	Spring	1
93	750-2203-00	Torsion spring	1
94	750-2204-00	Spring	1
95	746-0621-00	Washer	1
96	013-3580-00	Switch	1



PRINTED WIRING BOARD:

A	
B	Power supply
C	
D	
E	Illumination
F	Radio power supply

1	RED	AMP power supply
2	Shield	Earth
3	WHT	Signal earth
4	YEL	Lch output
5	BLK	Rch output

