



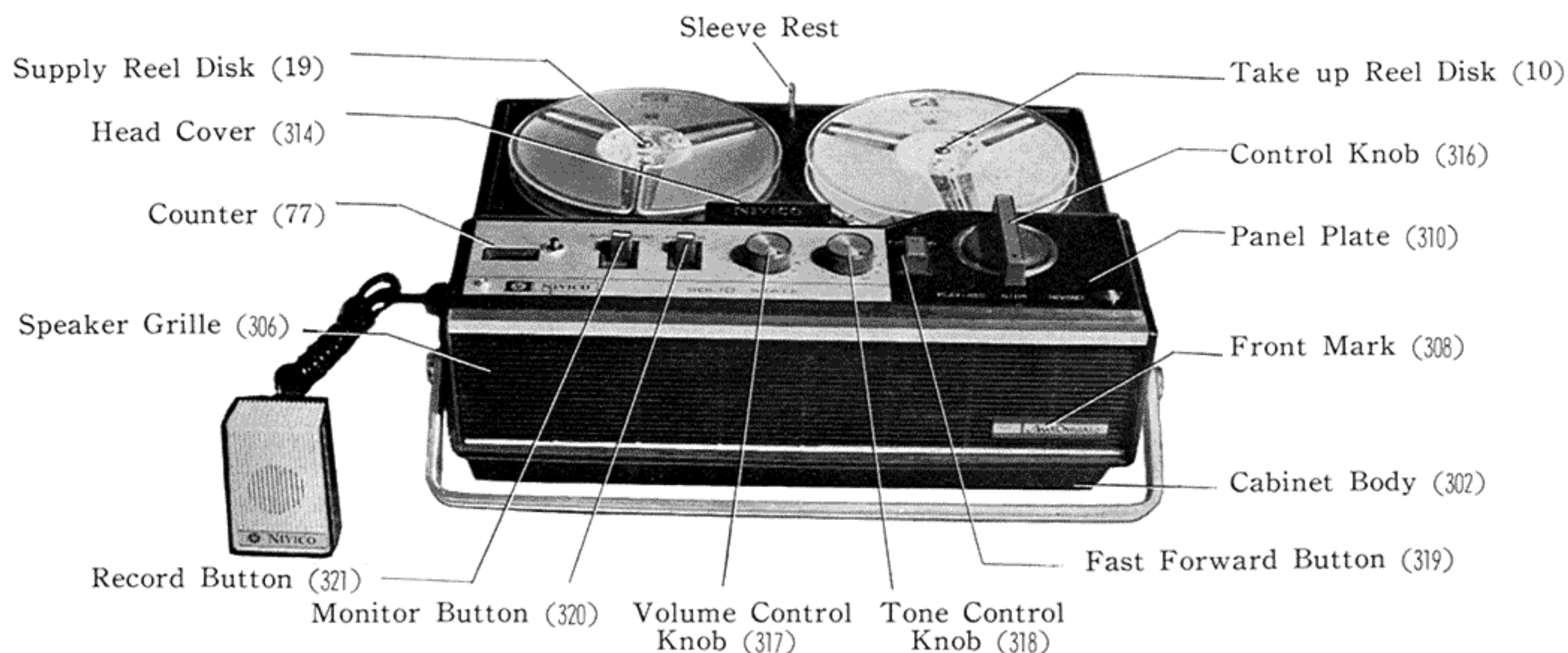
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NIVICO

No. 4027

SERVICE MANUAL



MODEL TR-545U, (1545)

TAPE RECORDER

DIMENSIONS : Width 11.6", Depth 9.3", Height 3.7" WEIGHT : Approx. 7.3lbs.

SPECIFICATIONS

Power Source :	AC-DC Compatible (Automatic Switching System) DC 9 volts (Size ASA designation "D" cell or equivalent $\times$ 6 pcs). AC 100V, 110~120V, 200V, 220~230V or 240V
Output Power :	Maximum 1.5W
Reel Used :	Up to 5" Reel
Track System :	Half track system
Recording Time :	1 hour by $3\frac{3}{4}$ i.p.s. with 5" reel 2 hours by $1\frac{7}{8}$ i.p.s. with 5" reel
Transistors :	2SB443 $\times$ 1, 2SB75 $\times$ 1, 2SB77 $\times$ 2, 2SB370 $\times$ 2
Diode :	1N34A $\times$ 1
Thermister :	D-1E $\times$ 2
Recording System :	AC Bias
Erasing System :	DC Erasing
Monitor :	Sound Monitor system through incorporated speaker
Frequency Response :	100c/s to 7,000c/s ($3\frac{3}{4}$ i.p.s.) 100c/s to 4,000c/s ($1\frac{7}{8}$ i.p.s.)
Speaker :	2.9" $\times$ 5.9" Oval type.
Rewinding Time :	Within 3 minutes
Fast Forward Time :	Within 4 minutes.
Wow & Flutter :	Less than 0.4% ($3\frac{3}{4}$ i.p.s.)
Life of Battery :	Approx. 15 hours (Continuous use of 3 hours a day at 500mW power output)

VICTOR COMPANY OF JAPAN, LTD.

Accessories

Dynamic microphone with remote control swich.	1pc.
Magnetic earphone	1pc.
Extension cord for recording radio program	1pc.
5" reel (tape loaded)	1pc.
5" reel (empty)	1pc.
Head cleaning ribbon	1pc.

Features

- * AC & DC operated tape recorder self-containing an AC adaptor. Switching from battery to AC home power can be done instantly by plugging the power cord.
- * Equipped with an automatic volume control, this recorder can perform distortionless clear recording for full range.
- * A combination of large-sized oval speaker and OTL circuit reproduces excellent Hi-Fi tone. This set is provided with a tone control which will be very convenient to select your favorite tone.
- * A sound monitor is equipped to let you know the recording level when recording from radio or phonograph. And a convenient counter of three digit is also provided, which returns to "000" when pushed.

Removal of Main Parts

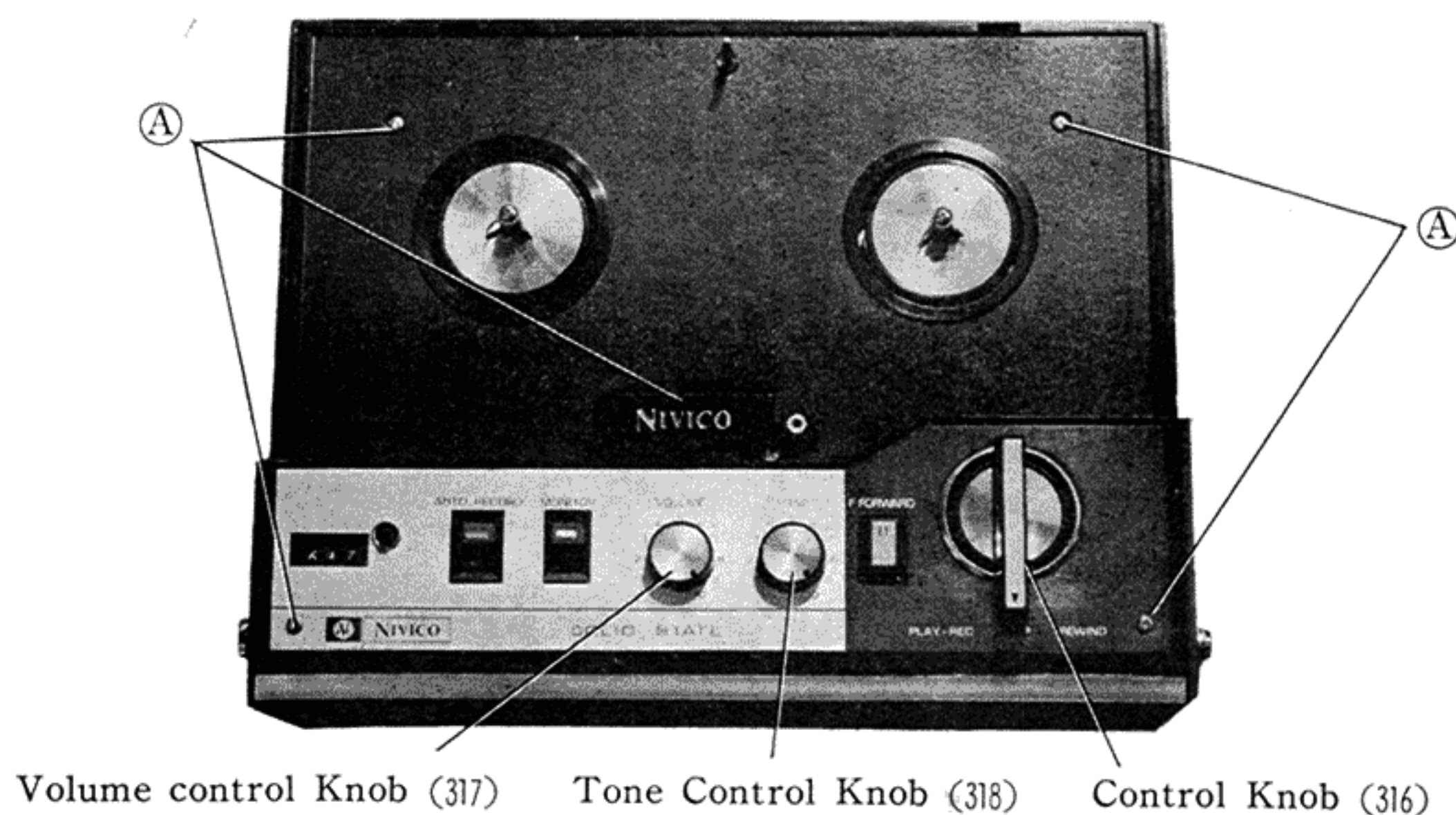


Fig. 1

1. Removal Procedure of Top Panel (Fig. 1)

- (1) Pull off Control Knob (316), Volume Control Knob (317), Tone Control Knob (318) and Head Cover (314).
- (2) Remove five screws (A) to detach Top Panel (309).

2. Removal Procedure of Cabinet Body (Fig. 2)

- (1) Remove Top Panel according to the above procedure.
- (2) Detach Jack Board (222) from the left side of the body. When to detach the Jack Board, push the center part of it inward and then pull out the board upward paying attention so as the side of the board not to touch the fitting screws for the board.

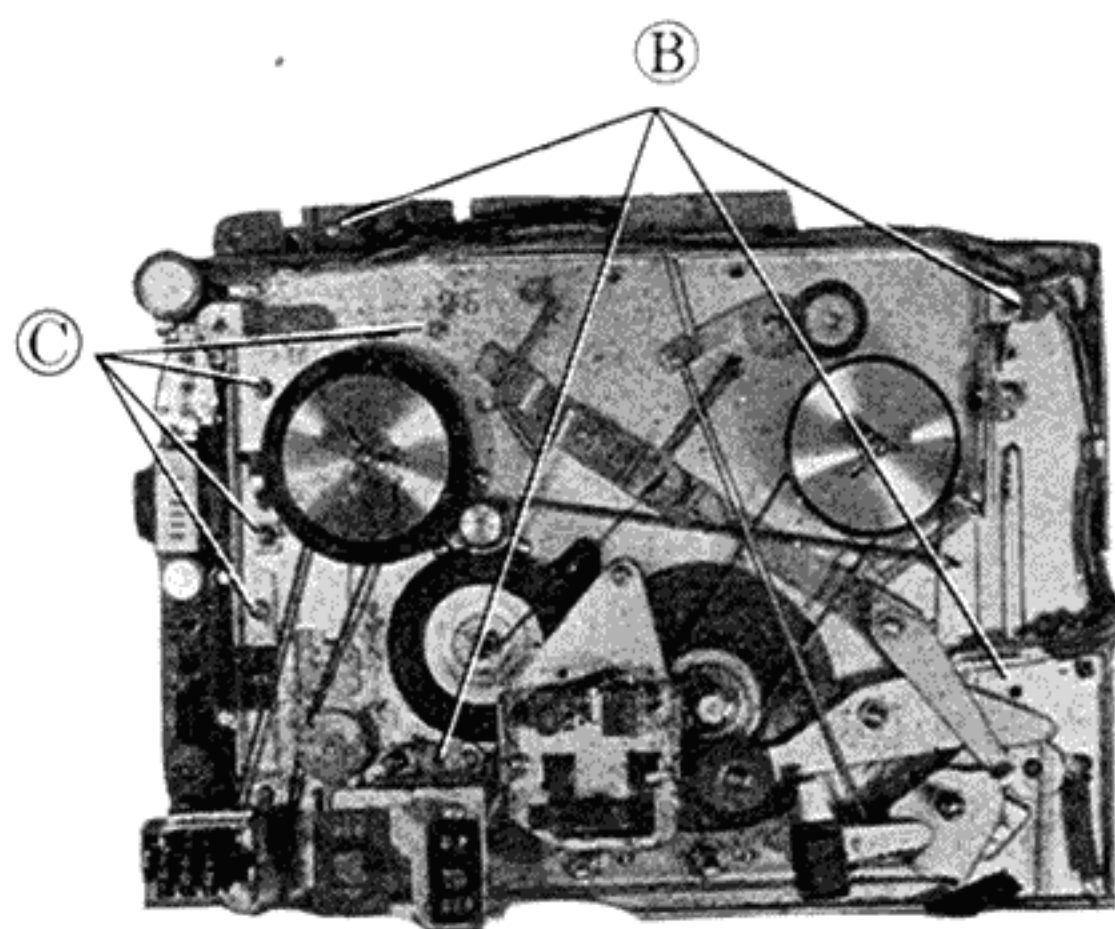


Fig. 2

- (3) Remove four red headed screws (B) which are used for setting Mechanical Chassis to Case, and then pull out the mechanism. When to pull out the mechanism, be careful that lead wires to Speaker Terminal and Battery Terminal are not to be cut.

As the both terminals are connected with a plug pin respectively, the plug pin is easily removed.

Caution : When to remount the Jack Board to the Case, be sure to insert a piece of cushion for preventing vibration.

3. Removal Procudure of Amplifier (Fig. 2)

- (1) After taking off Top Panel and Body Case, remove Mechanical Body
- (2) Remove four fitting screws(C).

4. Removal Procedure of Speaker Grille and Speaker. (Fig. 3)

- (1) After taking off Top Panel and Body Case, remove Mechanical Body.
- (2) Disconnect lead wires from both Speaker Terminals and Battery Terminals.
- (3) Remove Stud (322) fixing Mechanical Chassis and Body Case.
- (4) Remove four fitting screws (D) to take off Speaker.
- (5) Remove four nuts (E) fixing Body Case and Speaker Grille and take off a tapping screw (F), then the Speaker Grille can be removed.

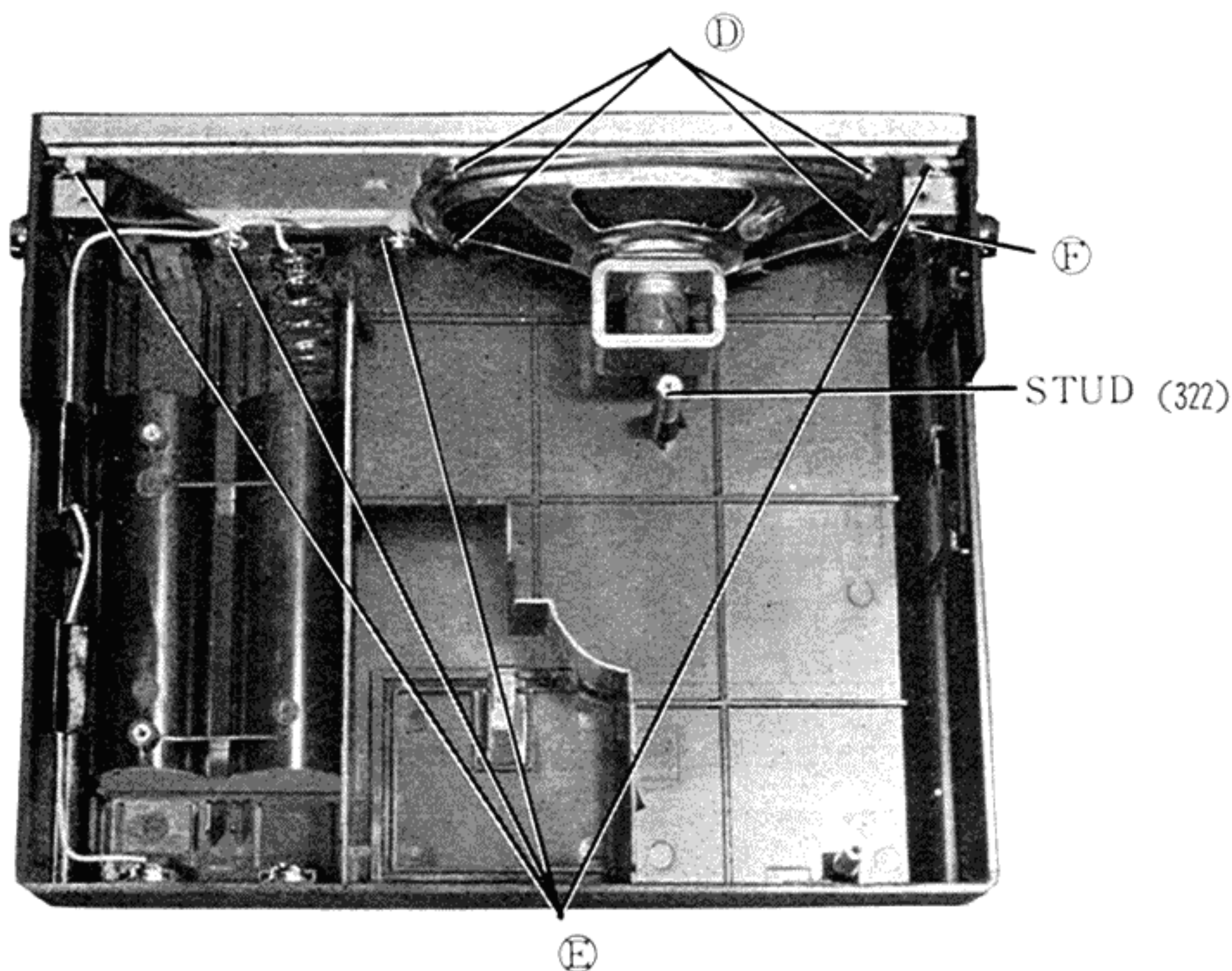


Fig. 3

5. Disassembling Procedure of Supply Reel Disk and Take-up Reel Disk. (Fig. 4 &5)

- (1) Take off Top Panel.
- (2) After removing Disk Fitting Rcrew, take off the Disk.

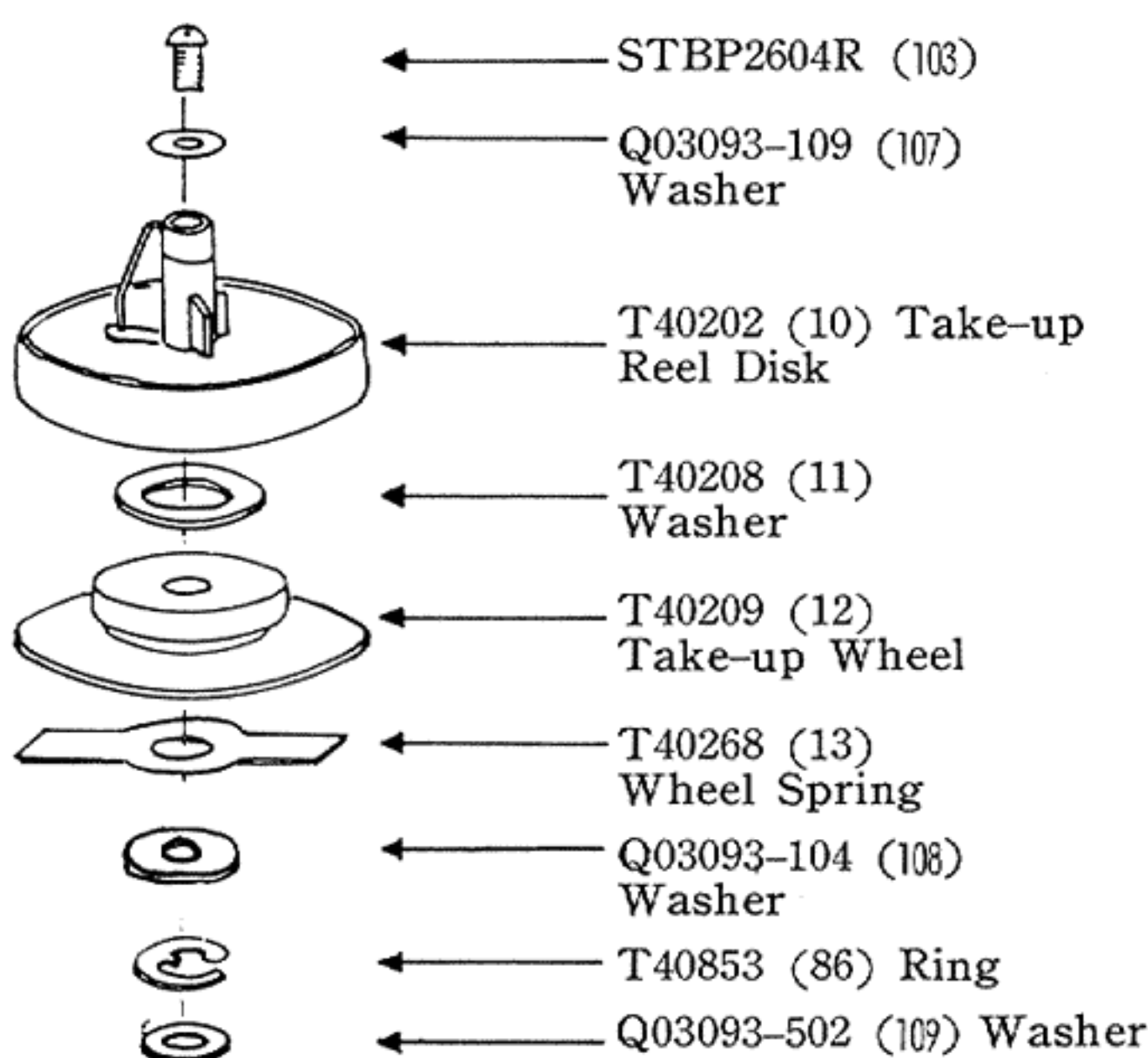


Fig. 4

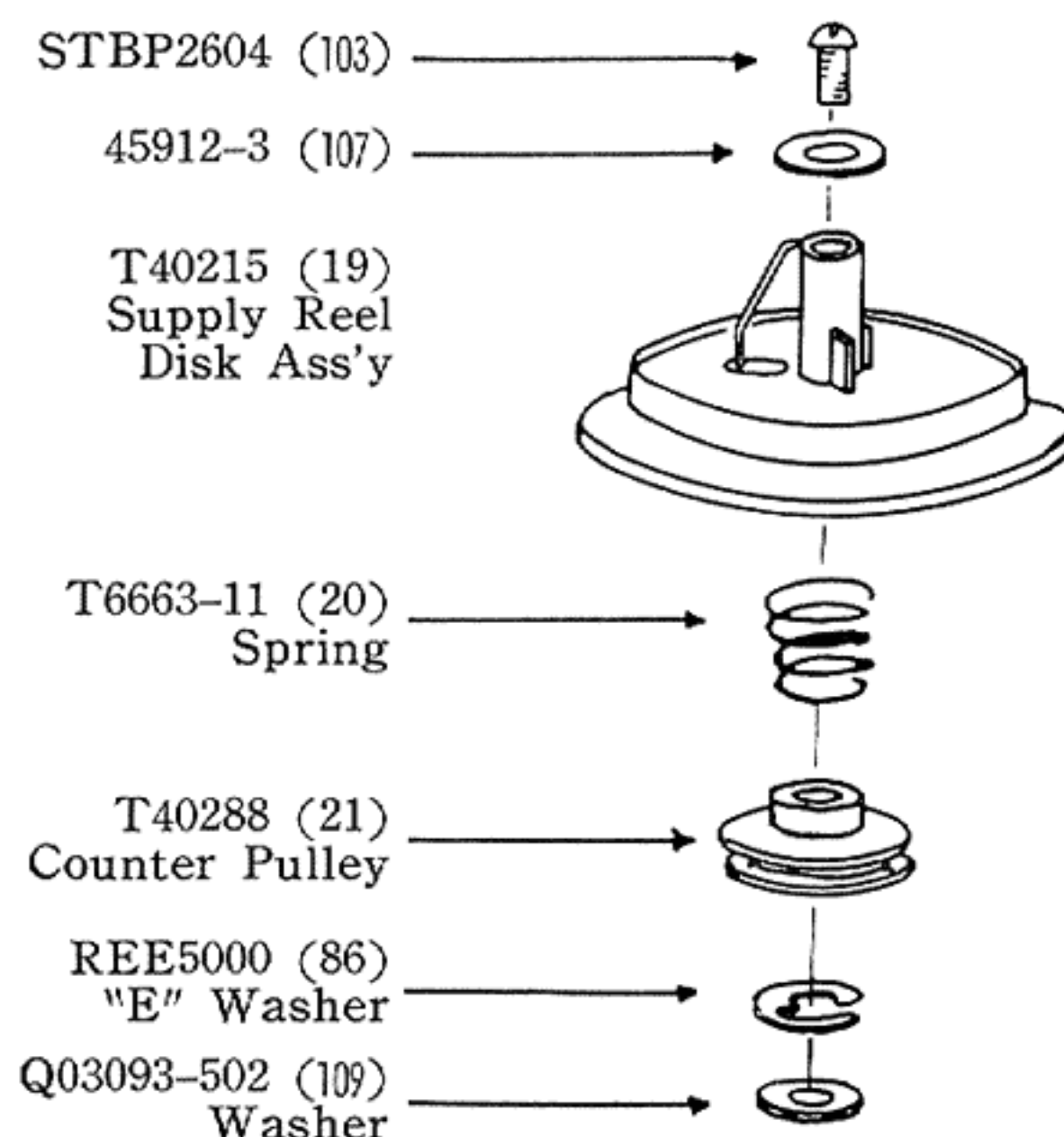


Fig. 5

Replacement and Adjustment of Head

When to replace Head

- (1) Take off Head Cover (314)
- (2) Unsolder Lead wires from the Head
- (3) Remove two screws fastening the Head to take it off.
- (4) Follow the above procedure reversely when to re-mount a new Head.(3)→(2)→(1).

When to adjust Head

- (1) Operate the recoder under reproducing condition with a standard tape for angle adjustment.
- (2) Select the maximum point of sound volume, revolving the screw for angle adjustment.

Replacing Motor Pulley (Fig. 6)

Take off the rubber tire (63) from motor pulley (61), and then remove the interior fastening screw (62), and motor pulley can be taken off.

Then taper screwdriver should be used to make it easier.

Adjustment of Mechanism

Each torque of mechanism part and pressure are as follows; and it is recommendable to use spring gauge 0—10.6ozs (0—300g) and tension gauge when measurement.

(1) Pinch Roller Pressure (Fig. 7)

Standard Pressure 6.3—7.7 ozs (180—220g)

Measure it with spring gauge as shown in Fig. 7 after making the set PLAY state.

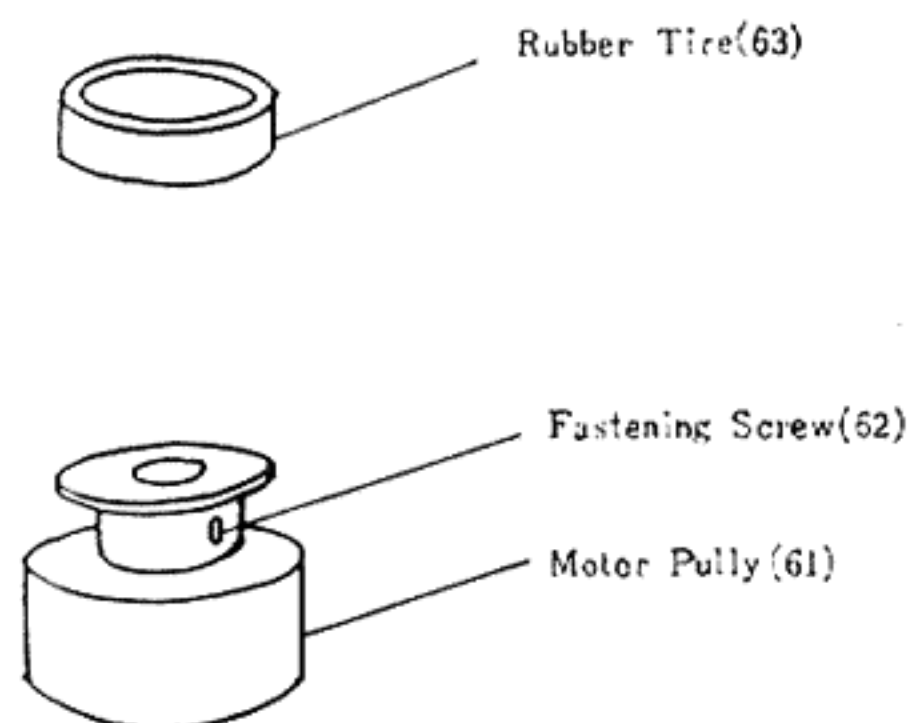


Fig. 6

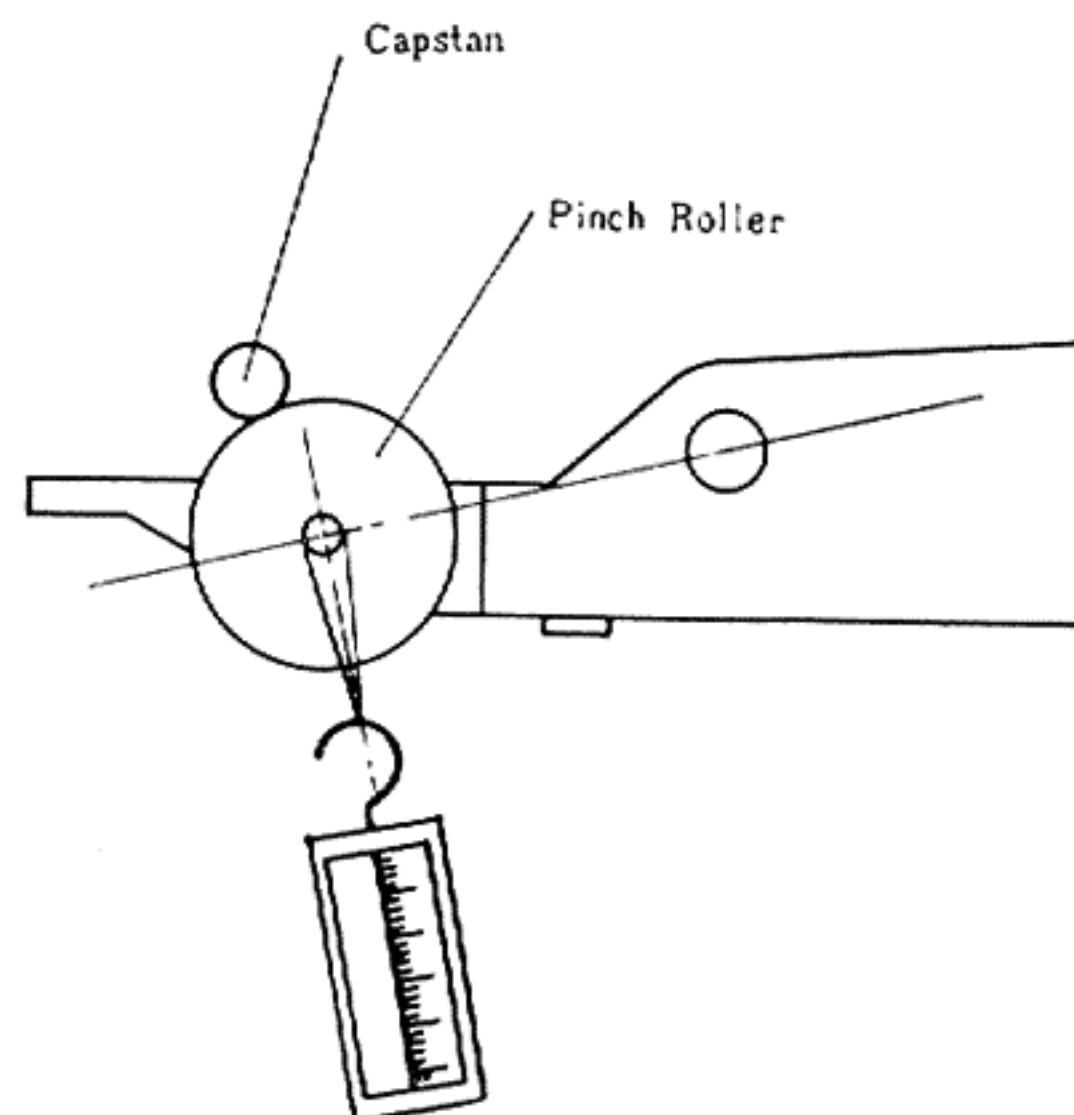


Fig. 7

(2) Pad Pressure (Fig. 8)

Standard Pressure 0.35—0.53 ozs (10g—15g)

Measure with tension gauge as shown in Fig. 8 after setting on PLAY state. In case that pressure is too strong, decrease or fluctuation of tape speed will be remarkable, and in case of too poor, it will cause poor erasing or inferior tone.

(3) Idler Pressure

Standard Pressure 1.2—1.6 ozs (35g—45g)

(4) Rewinding Torque (Fig. 9)

Standard Torque 1—1.4 ozs (30g—40g)

Measure it using 5 inches reel and tension gauge in such a way as shown in Fig. 9. If the torque is too strong, it will cause worse flutter or increase of the current consumption, in this case make the wheel spring (T402 68) looser to readjust for normal pressure. On the contrary, if the torque is too poor, tape will not be rewound up completely, then make the spring stronger.

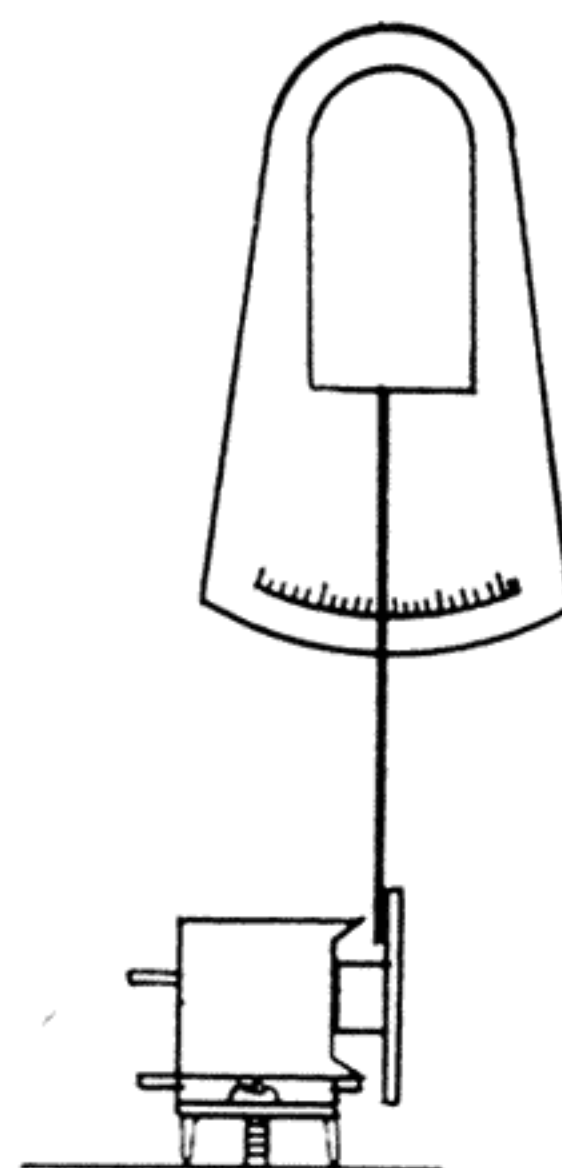


Fig. 8

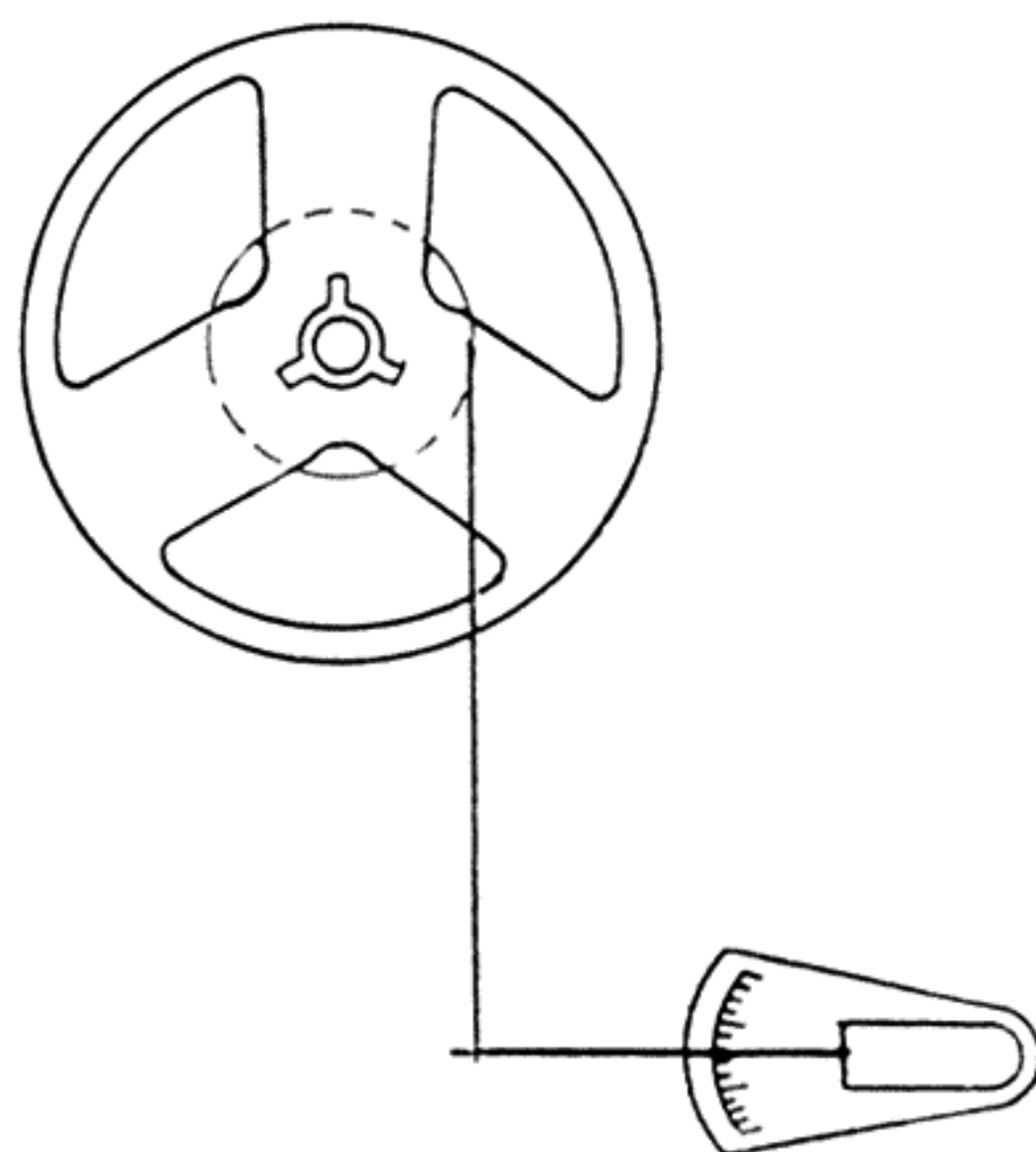


Fig. 9

Cleaning and Lubrication

1. Cleaning

Remove stains from the surfaces of R/P head, capstan, tape guide, pinch roller etc. where tape touches. Especially stains on head will cause inferior tone, and when cleaning, use soft cloth moistened with benzine, tricrene, alcohol etc.

2. Lubrication

After 300 hours use, lubricate the following parts with one or two drops of D.T.E. or equivalent oil:

Idler, Pinch Roller, Capstan and Reel Disk

Caution : Be careful not to drop oil on belt, rubber parts, and revolving parts.

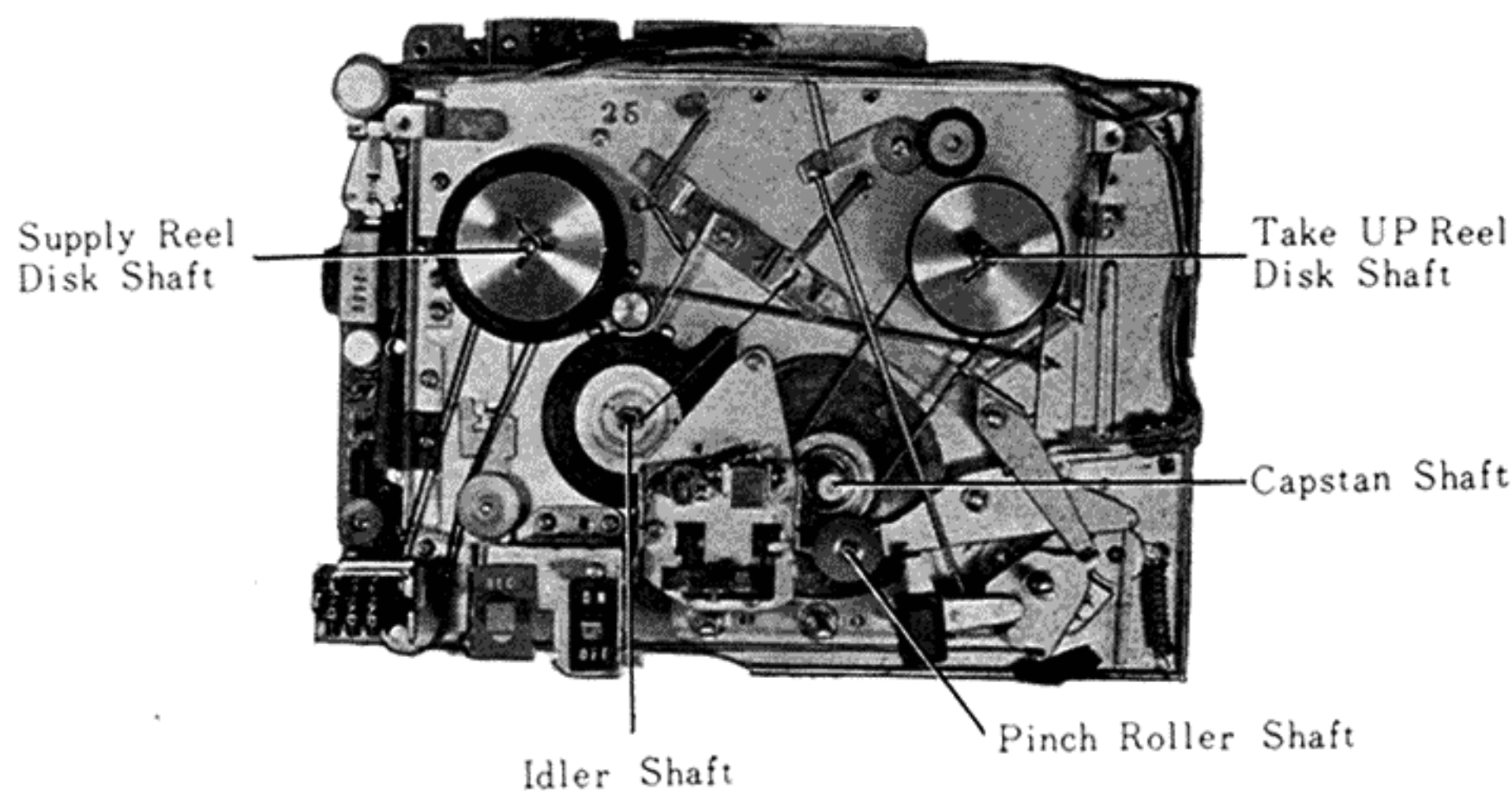


Fig. 10

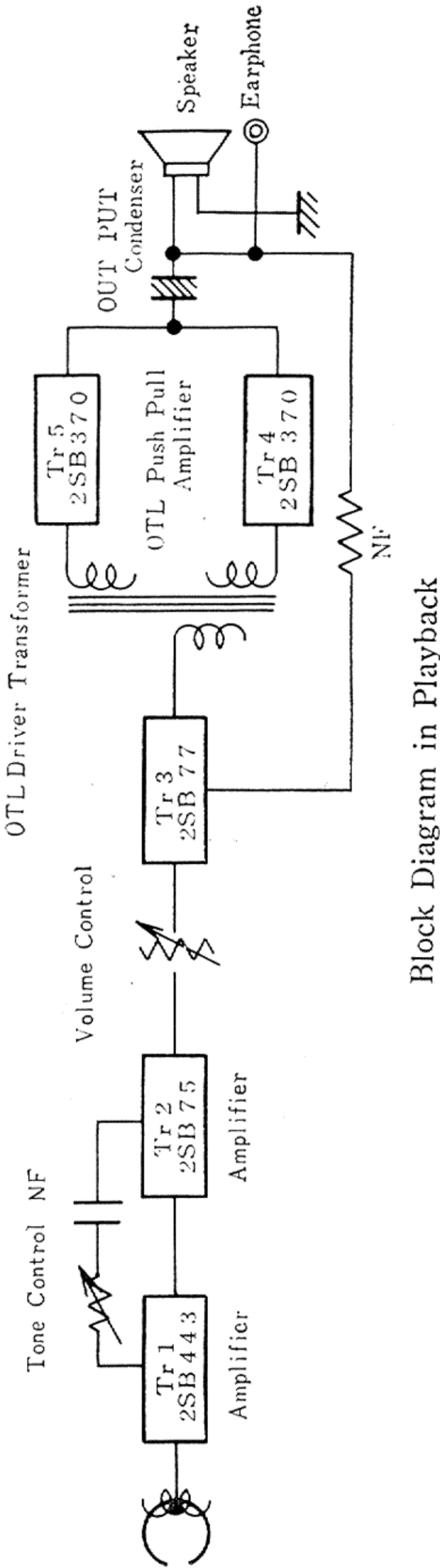


Fig. 11

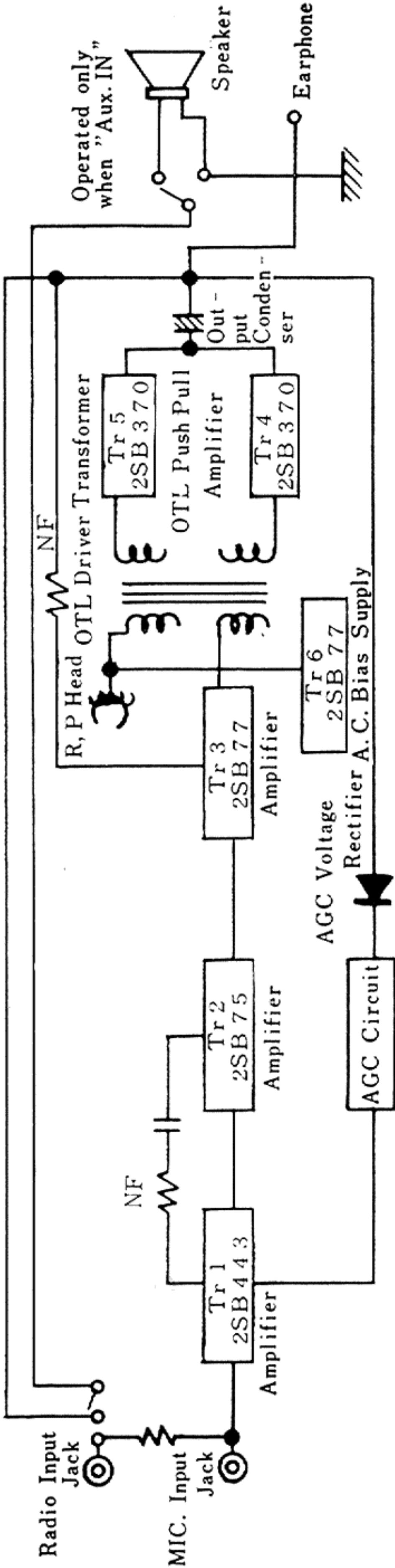


Fig. 12

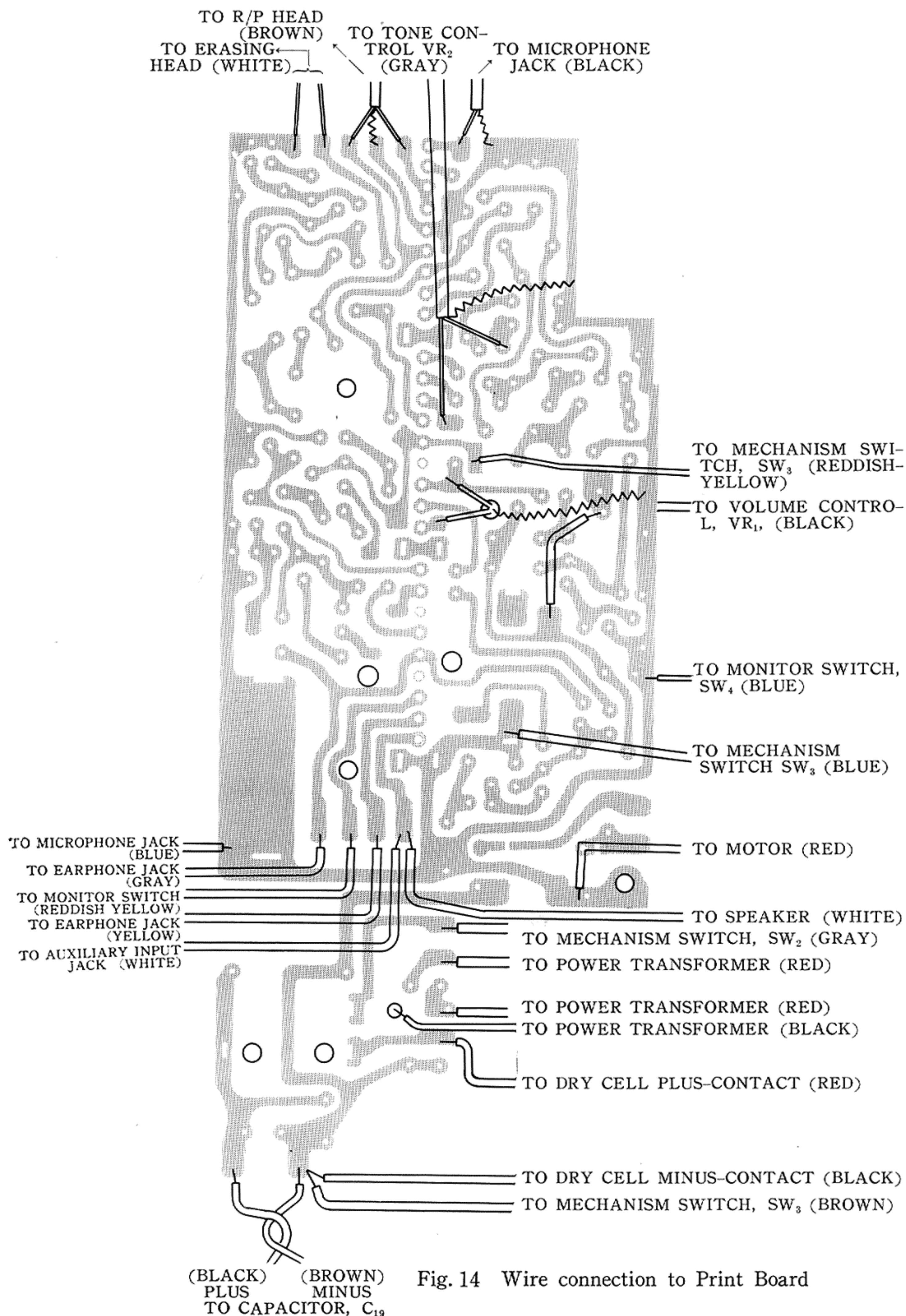
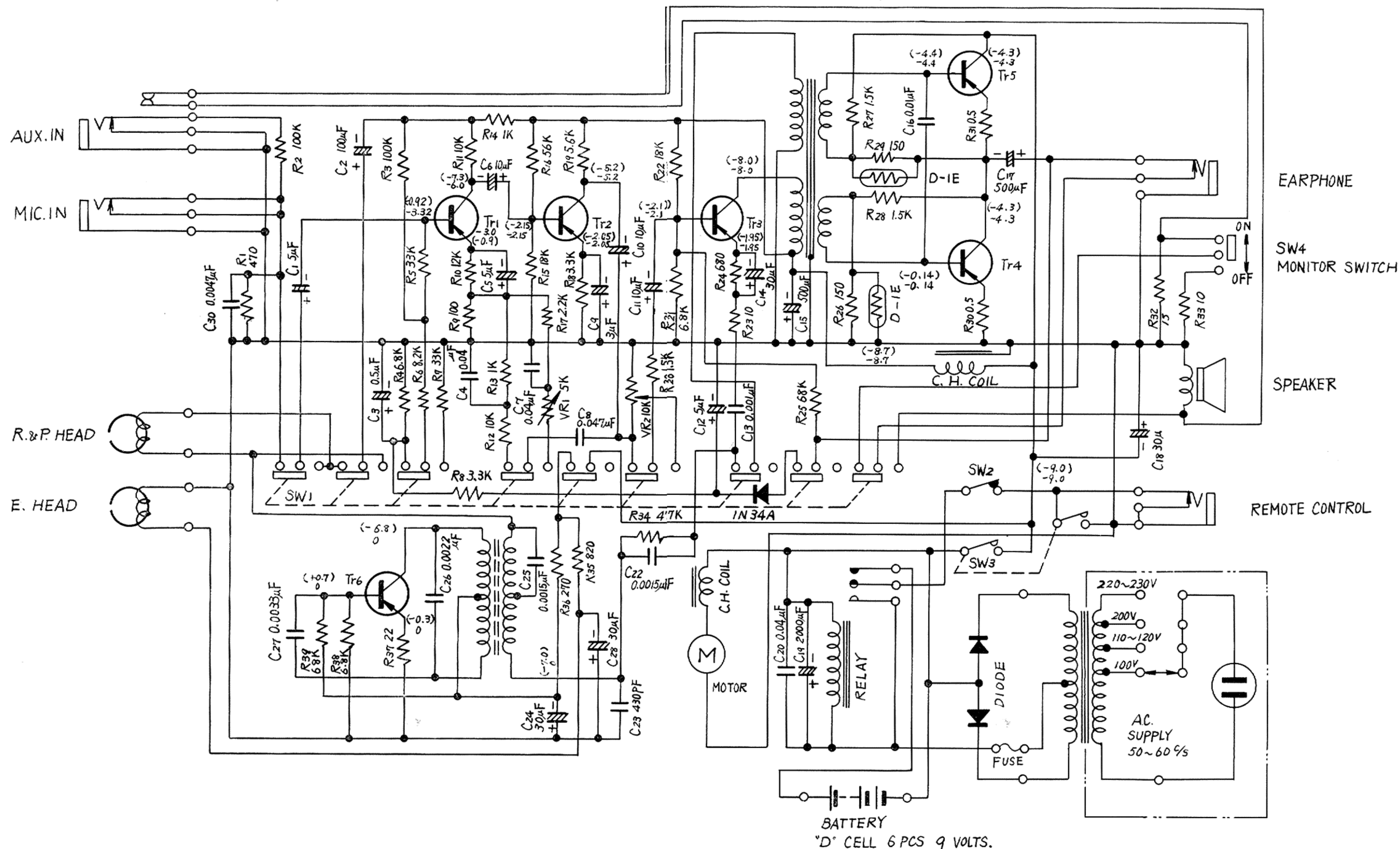


Fig. 14 Wire connection to Print Board



Tr₁ 2SB443 (B) or EQUIVALENT
 Tr₂ 2SB 75 (C) or EQUIVALENT
 Tr₃, Tr₆ 2SB 77. (C) or EQUIVALENT
 Tr₄, Tr₅ 2SB370 (B) or EQUIVALENT

- NOTE 1. ALL RESISTOR VALUE IN OHMS.
 2. VOLTAGES ARE APPROXIMATE BASED ON GROUND POINT,
 () RECORDING POSITION, VALUE IN VOLTS. SUPPLY 9 VOLTS.
 3. SWITCHES ARE RECORDING POSITION.
 4. RESISTOR LAST No, R₃₉.
 CAPACITOR LAST No, C₃₀.

Fig. 15 MODEL TR-545U (1545) SCHEMATIC DIAGRAM

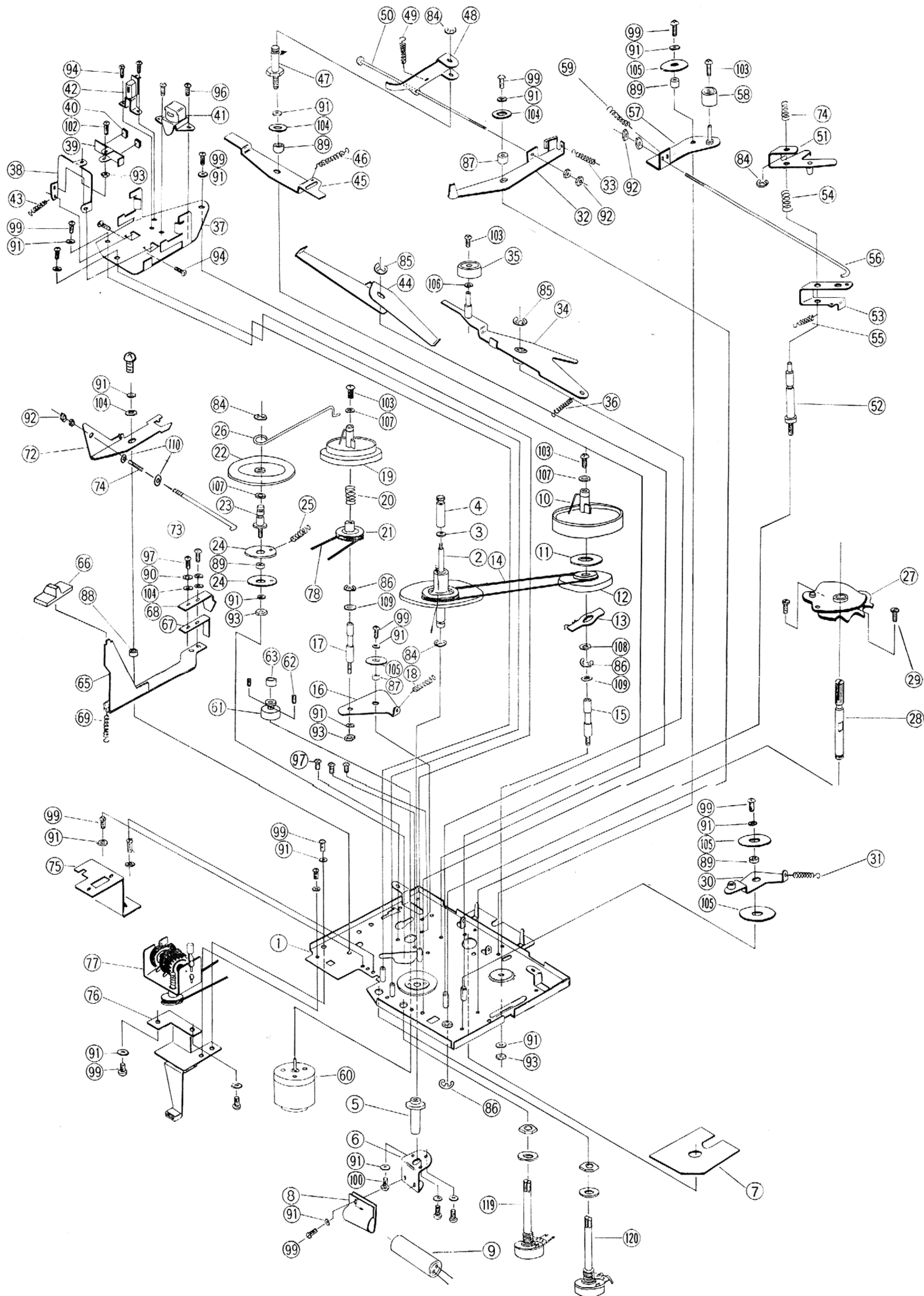


Fig. 16 Disassembly Diagram of Mechanism. (TR-545U/ 1545)

Disassembled Parts List

(Note : The drawing numbers correspond to ones of "Disassembly Diagram of Mechanism")

Dwg. No.	Parts No.	Parts Name	Dwg. No.	Parts No.	Parts Name
	Mechanism		49	T6661-23	Spring
1	T2196	Chassis Base Ass'y	50	T7050	Connecting Rod
2	T40446	Flywheel Ass'y	51	T40244	F.F. Lever (1) Ass'y
3	T7069-2	Cushion	52	T40247	Stud
4	※T5735	Capstan Sleeve Ass'y	53	T40248	F.F. Lever (2)
5	T41809	Capstan Bushing	54	T6663-9	Spring
6	T6831	Holder Bracket	55	T6661-3	Spring
7	T40427-2	Sheet	56	T42271	Connecting Rod
8	T40646	Band	57	T40250	F.F. Lever (3)
9	Q03571-11(200μ)	Elect. cap.	58	T40253	Roller Ass'y
10	※T40202	Take up Disk Ass'y	59	T6315-5	Spring
11	T40208	Washer	60	※T40321-C	Motor Ass'y
12	※T40209	Take up Wheel	61	※T40256	Motor Pulley
13	T40268	Wheel Spring	62	T F S 2603 Z	Fastening Screw
14	※T6302	Belt	63	T7132-2	Rubber Tire
15	T40210	Reel Shaft	64	T40853	Ring
16	T40212	Disk Arm	65	T40258	Recording Bar
17	T40213	Reel Shaft	66	T40900	Recording Button
18	T6661-19	Spring	67	T40260	Sw. Spring
19	※T40215	Supply Disk Ass'y	68	T40261	Sw. Stopper
20	T6663-11	Spring	69	T6315-1	Spring
21	T40288	Counter Pulley	70	—	—
22	※T40085-B	Idler Ass'y	71	—	—
23	T40219	Idler Shaft	72	T40262	Lock Lever
24	T40220	Special Washer	73	T40263	Connecting Rod
25	T6315-1	Spring	74	T6661-10	Spring
26	T40221	Connecting Rod	75	T40264	M.R. Bracket
27	T40222	Index Cam Ass'y	76	T40323	Counter Bracket Ass'y
28	T7046	Cam Shaft	77	T3677	Counter
29	T5684	Screw	78	※T40291	Belt
30	T40225	Index Arm Ass'y	79	E0593	2P Plug
31	T6661-17	Spring	80	E0563-6	9P Socket
32	T40453	Brake Lever Ass'y	81	T40464	Index Plate
33	T6315-1	Spring	82	T40474	Socket Cover
34	T40229	Pinch Roller Arm Ass'y	83	R E E 2000	E. Washer
35	※T6474	Pinch Roller	84	R E E 3000	E. Washer
36	T6661-24	Spring	85	R E E 4000	E. Washer
37	T40236	Head Base	86	R E E 5000	E. Washer
38	T40237	Pad Plate (1)	87	T5670-1	Collar
39	T40238	Pad Plate (2)	88	T5670-3	Collar
40	※T7115	Pad	89	T5696	Collar
41	※T3641-C	R/P Head Ass'y	90	W L S 2600	Lock Washer
42	※T6997	E. Head Ass'y	91	W L S 3000	◇
43	T4682-1	Spring	92	N N B 2000	Nut
44	T40239	Drive Lever (A)	93	N N B 3000	◇
45	T40240	Drive Lever (B)	94	SPSP2004Z	Screw
46	T6661-18	Spring	95	SPSP2604Z	◇
47	T40241	Stud	96	SPSP2608Z	◇
48	T40242	Brake Arm	97	SPSP2606Z	◇

Dwg. No.	Parts No.	Parts Name	Dwg. No.	Parts No.	Parts Name
98	SPSP3004Z	Screw	233	※T6871	Short Sw. (2)
99	SPSP3006Z	〃	234	※T3701	Power Transformer
100	SPSP3008Z	〃		Cabinet	
101	SPSP3012R	〃	301	T2194-H	Body Ass'y
102	SSSP2014R	〃	302	T1074	Body
103	STBP2604R	〃	303	T3658	Handle
104	WNB3000	Washer	304	T40184	Special Screw
105	Q03091-103	〃	305	T40177	Bracket
106	Q03093-807	〃	306	T3657-H	Speaker Grille Ass'y
107	Q03093-109	〃	307	T41656	Fitting
108	Q03093-104	〃	308	T3700	Mark
109	Q03093-502	〃	309	T2192-J	Top Panel Ass'y
110	Q03092-106	〃	310	T30203	Panel Plate
	Amplifier		311	T40139	Head Cover Plug
201	T3665-1	Circuit Board	312	T40174-A	Battery Cover
202	T4810	Choke Coil	313	T40173-A	Pocket Cover
203	※Q03778	Slide Sw. (Record)	314	T40127-2	Head Cover
204	※T6894	Oscillator Coil	315	T2193-B	Cover Ass'y
205	T3784	D.C Relay Ass'y	316	T40901	Control Knob
206	※T30155	Silicon Diode	317	T40176-B	V.R Control Knob
207	※D-I E	Thermistor	318	T40176-B	Tone Control Knob
208	※1N34A	Diode	319	T40896	F.F. Button
209	※04065-17	V. Resistor 10KΩ	320	T40899	Monitor Button
210	※04064-82	〃 5KΩ	321	T40900	Record Button
211	※Q03747-1	Slide Sw. (Monitor)	322	T40175	Stud
212	T40696	Jack Board		Attachments	
213	Q03936-1	Jack Ass' (3.5φ)	351	MD-315 L C	Dynamic Microphone
214	T3764	〃 (Remote)	352	T3772-6	Tape Ass'y
215	Q03944-1	Double Jack Ass'y	353	T3312-34	Reel Ass'y
216	※T3666	Input Transformer	354	T40018-B	Extension Cord
217	T40517	Power Cord Ass'y	355	Q03891-2	Earphone
218	※S K-2098Je	Speaker	356	UM-1	Dry Cell
219	※T40186	Battery Contact (+)	357	T40134-B	Head cleaning Ribbon
220	※T40185	〃 (-)			
221	F G 9011	Inserting Pin			
222	※T6870	Short Sw. (1)			

Note :

1. As to order of spare cabinet, please give it as early occasion as possible since it is very difficult to remanufacture later.
2. The parts marked with ※ are recommendable to keep as spare parts.

JVC America, Inc.
50-35, 56th Road, Maspeth
New York, N.Y. 11378

The List of NIVICO Service Manual

(Television & Tape Recorder)

Television						Tape Recorder					
No.	Model	No.	Model	No.	Model	No.	Model	No.	Model	No.	Model
3001	19W2AN	3011	9T-14CJUHf	3021	19T-750C Q DC	4001	TR-403	4011	NIVICO-500	4021	CHIR-100U(H)
3002	4T-20CIG	3012	4T-50AN	3022	F-592R, F-471R	4002	TR-711	4012	TR-541U, B.Z	4022	CAR-300E
3003	PTV-19CK	3013	9T-14AN	3023	F-593R, 19T-360R	4003	STR-20	4013	TR-671U	4023	CCR-624U
3004	8T-10Z	3014	PV-12AE, AEM	3024	{ ^{2610, 2600,} ^{2810, 2820}	4004	TR-611	4014	TR-161	4024	CCR-600E/1600
3005	G-19-AN	3015	{19T-550AN(CD) 19T-460AN}	3025	VPF-96FJU	4005	TR-411	4015	TR-171U	4025	1694
3006	4T-40A	3016	{C-23CQD 19T-550CCQD}	3026	PV-19U	4006	TR-111U	4016	TD-684U	4026	CCR-620R
3007	{G-19-CK, CB 16T-140-CK}	3017	PV-19AN	3027	{F471CQ, 591CQ F-472CQ, 592CQ}	4007	TR-311U	4017	STR-25G, H	4027	TR-545U/545
3008	4T-40C, CKUHf	3018	C-59HID UHF	3028	F473S, F594S	4008	TR-511	4018	STR-26E	4028	
3009	C-23-AN	3019	VGM-19	3029	2600HU, 2620HU	4009	JV-1	4019	TR-351U	4029	
3010	VIDEO GARD	3020	PV-19CQ	3030	3310	4010	{MAYFAIR 400 & 600}	4020	TR-551U	4030	

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