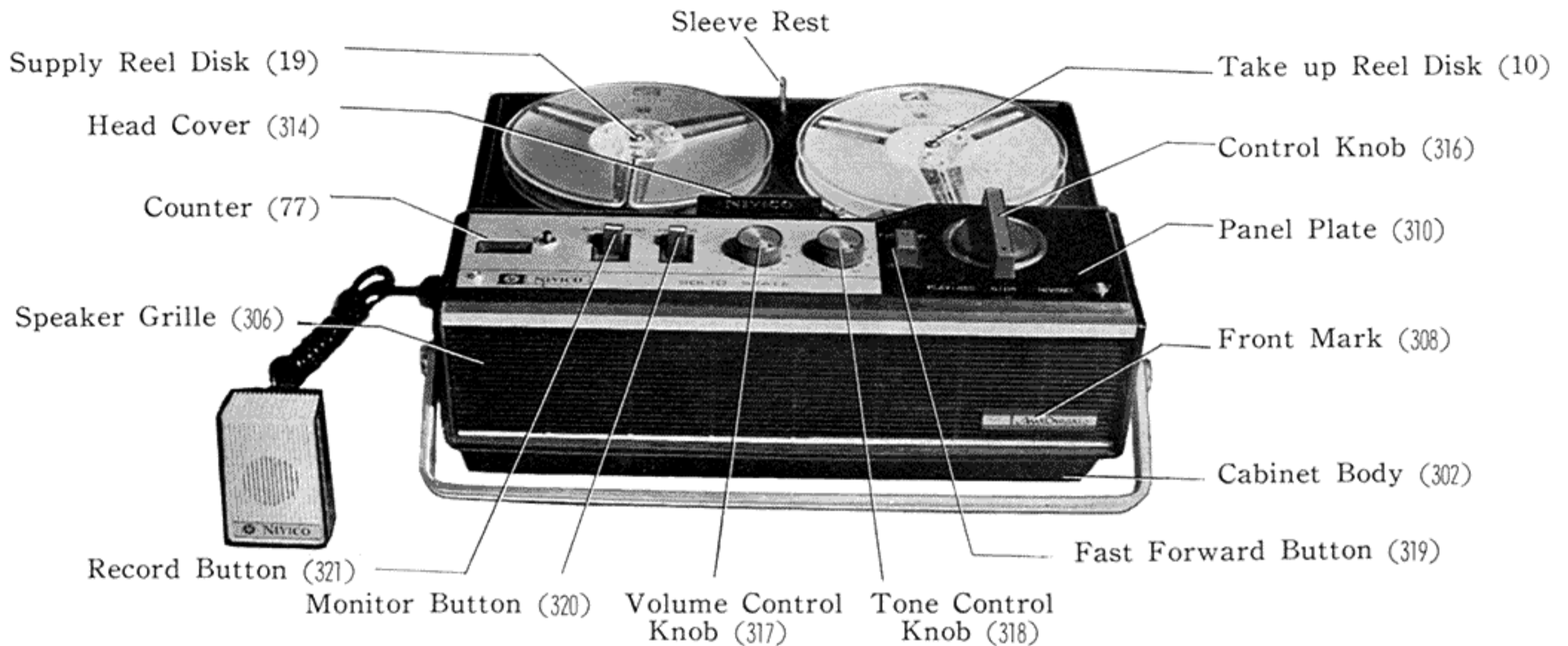




NIVICO

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 × 6 pcs). AC 100V, 110~120V, 200V, 220~230V or 240V
Output Power :	Maximun 1.5W
Reel Used :	Up to 5" Reel
Track System :	Half track system
Recording Time :	1 hour by 3 ³ / ₄ i. p. s. with 5" reel 2 hours by 1 ⁷ / ₈ i. p. s. with 5" reel
Transistors :	2SB443×1, 2SB75×1, 2SB77×2, 2SB370×2
Diode :	1N34A×1
Thermister :	D-1E×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 ³ / ₄ i. p. s.) 100c/s to 4,000c/s (1 ⁷ / ₈ i. p. s.)
Speaker :	2.9" × 5.9" Oval type.
Rewinding Time :	Within 3 minutes
Fast Forward Time :	Within 4 minutes.
Wow & Flutter :	Less than 0.4% (3 ³ / ₄ i. p. s.)
Life of Battery :	Approx. 15 hours (Continuous use of 3 hours a day at 500mW power output)

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

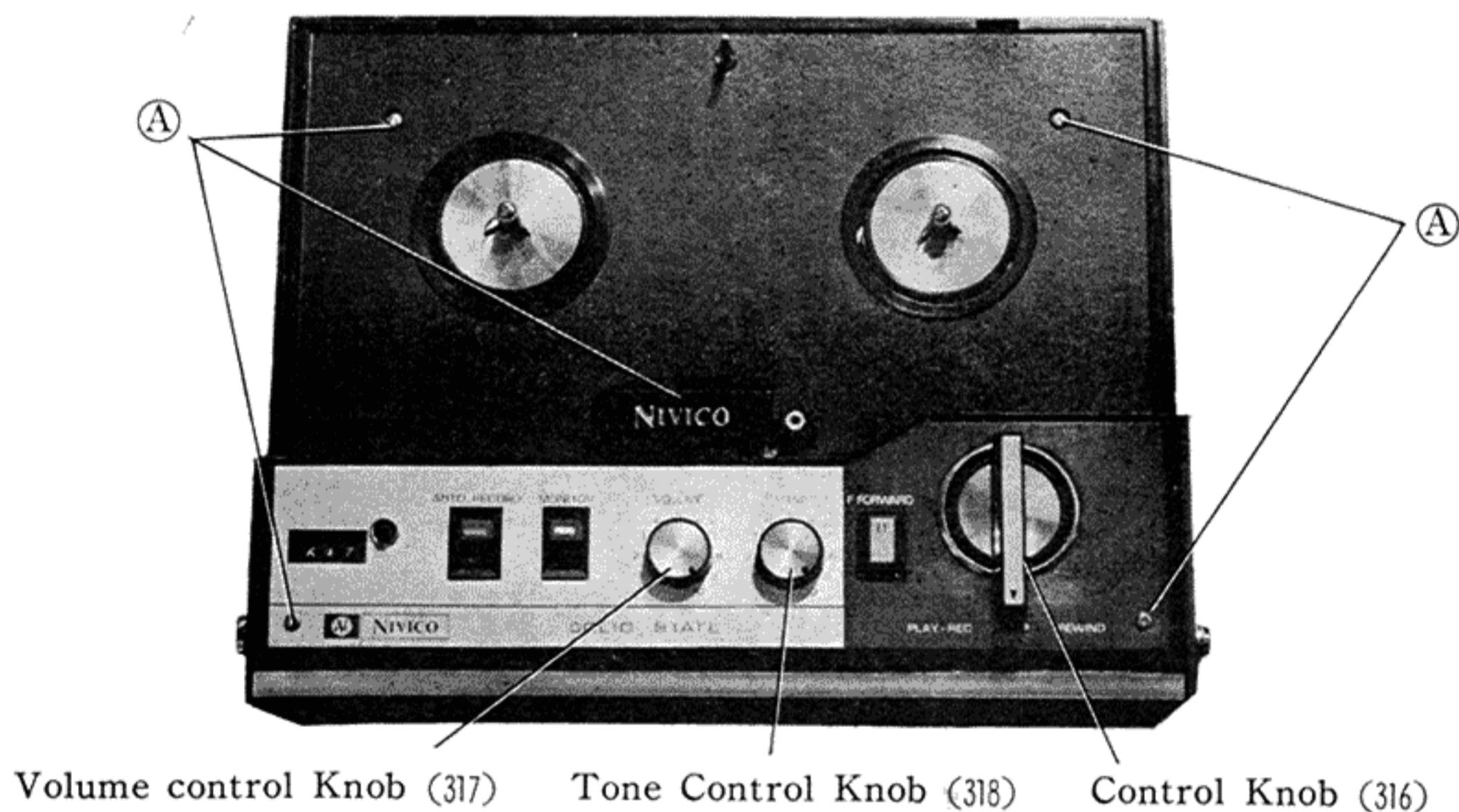


Fig. 1

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.

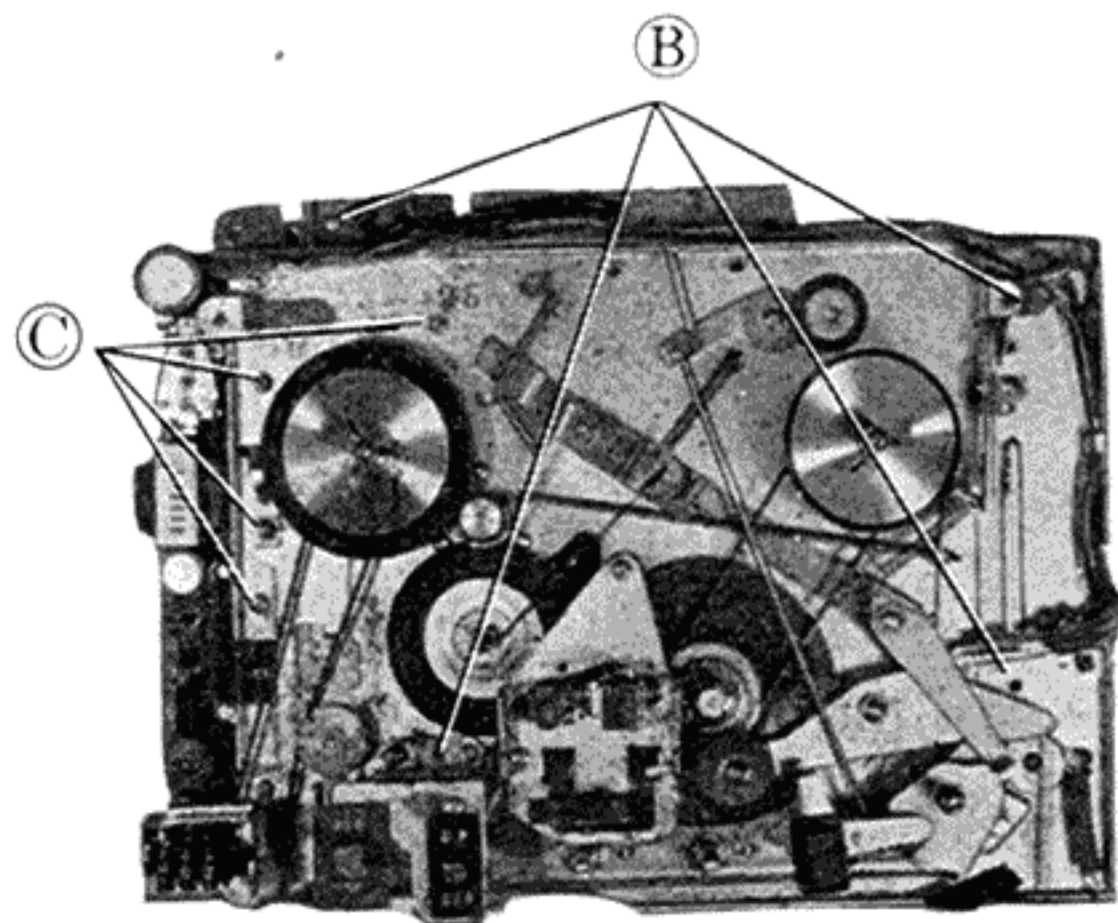


Fig. 2

(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 Procedure 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.

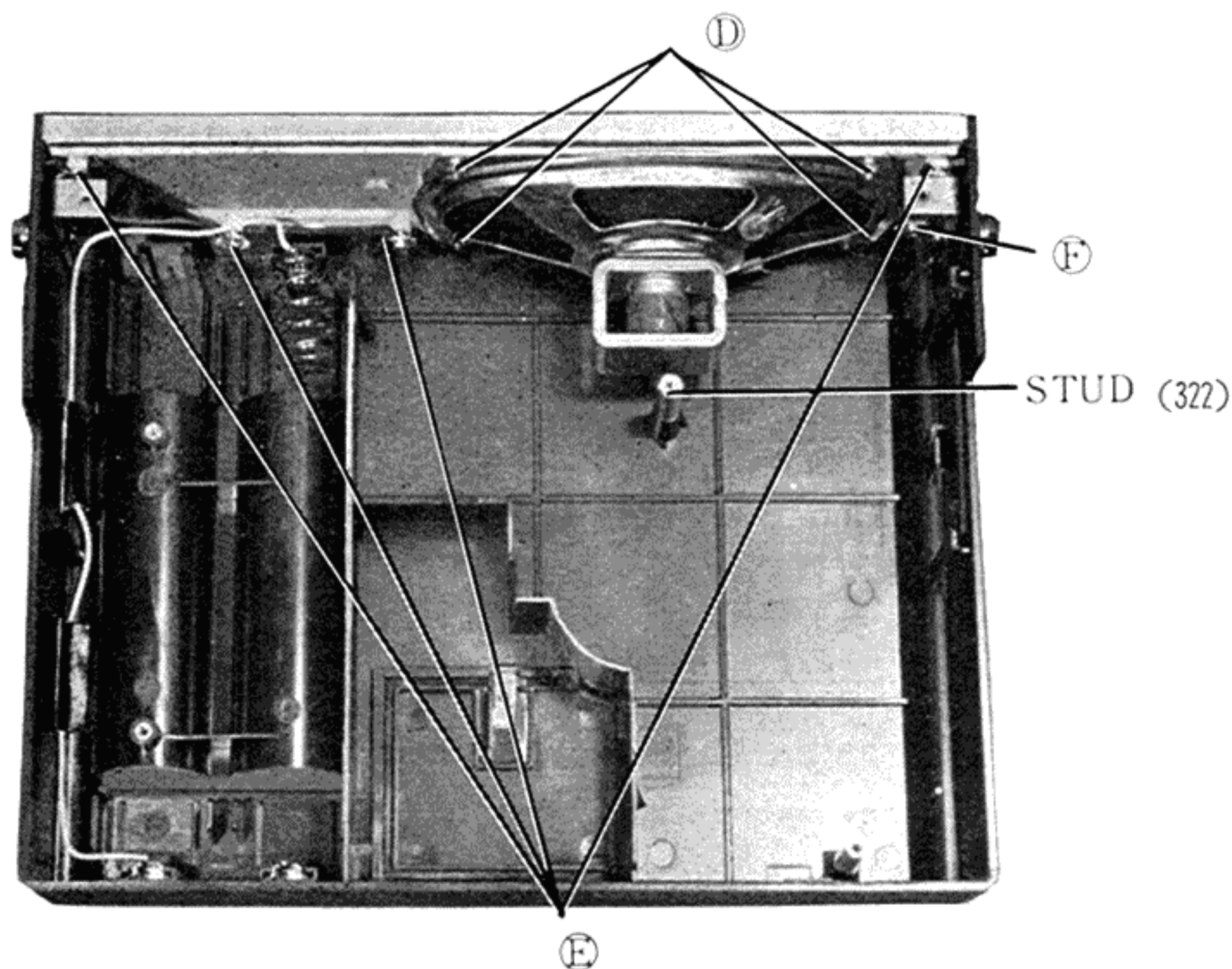


Fig. 3

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.

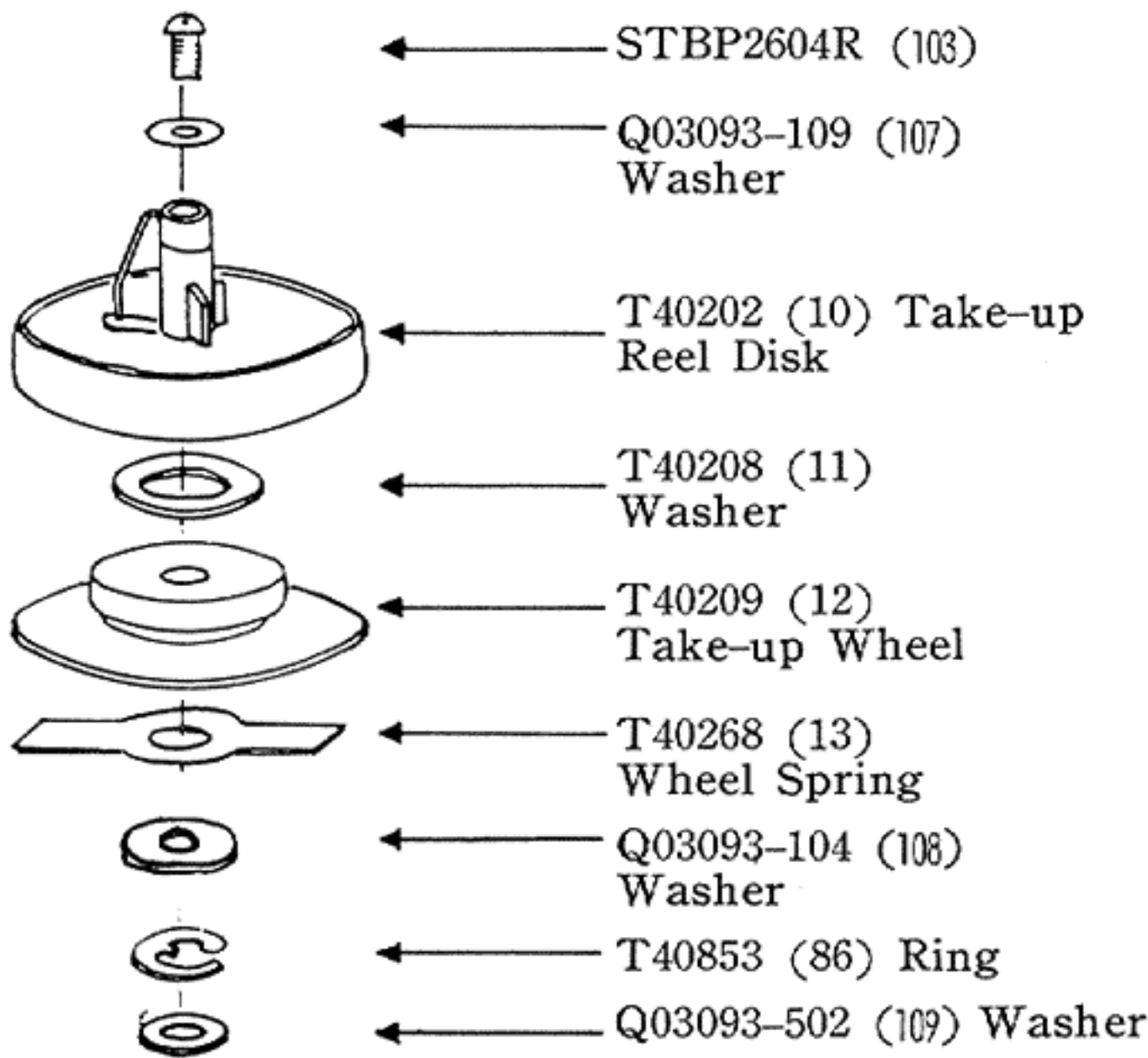


Fig. 4

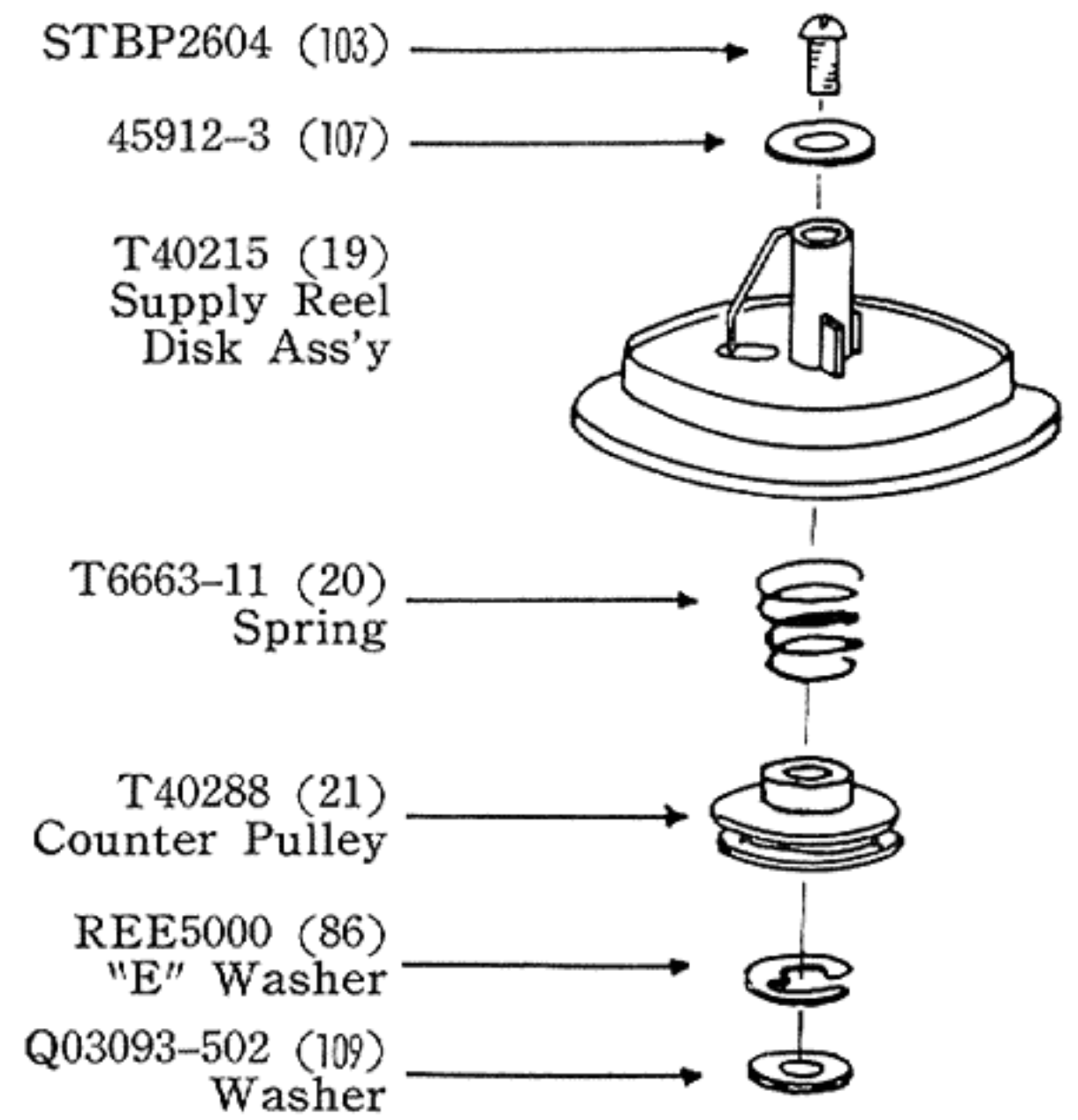


Fig. 5

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.

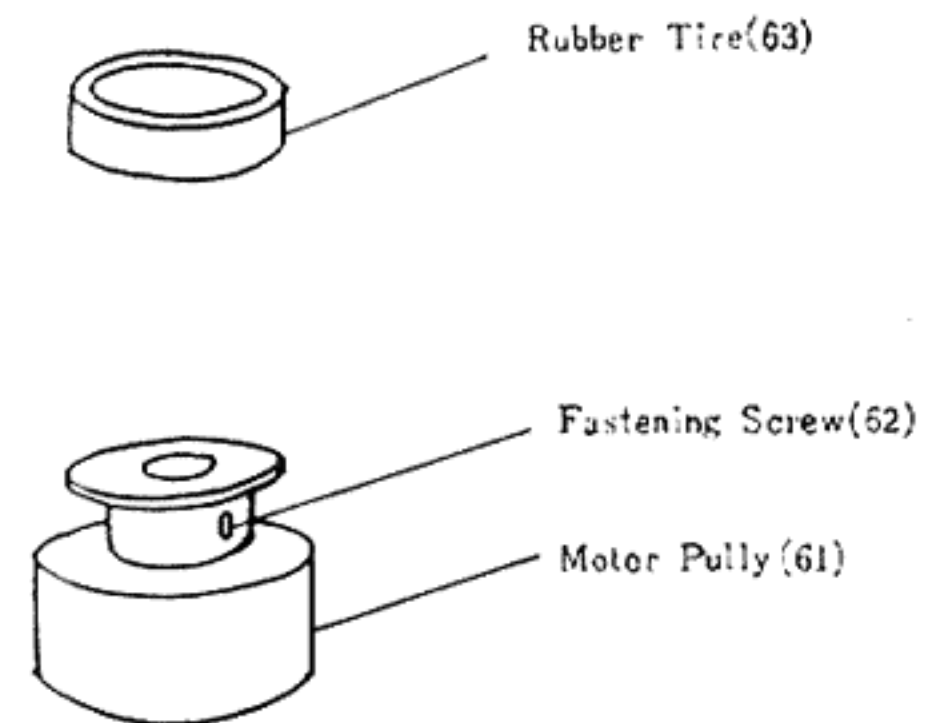


Fig. 6

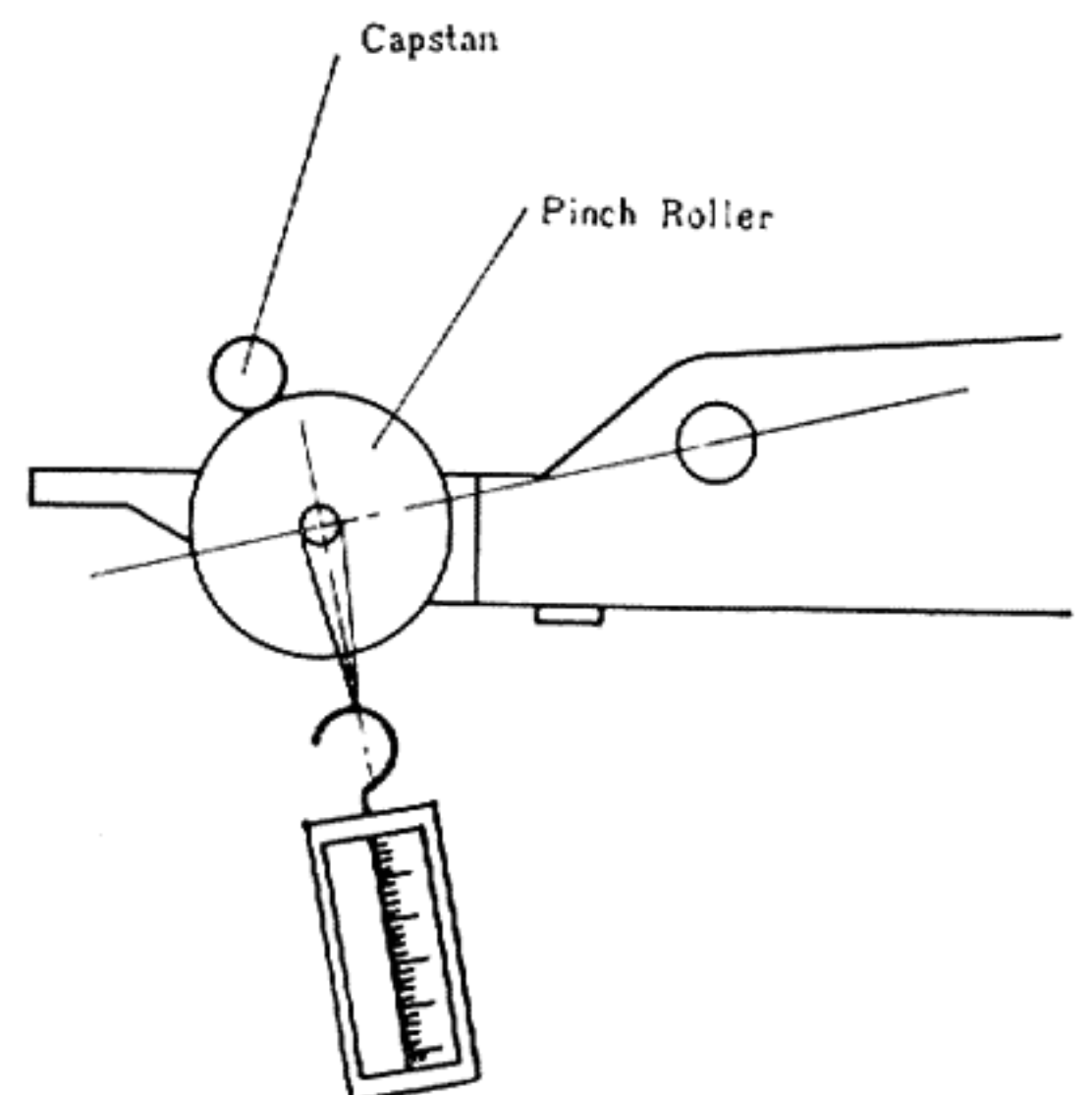


Fig. 7

(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.

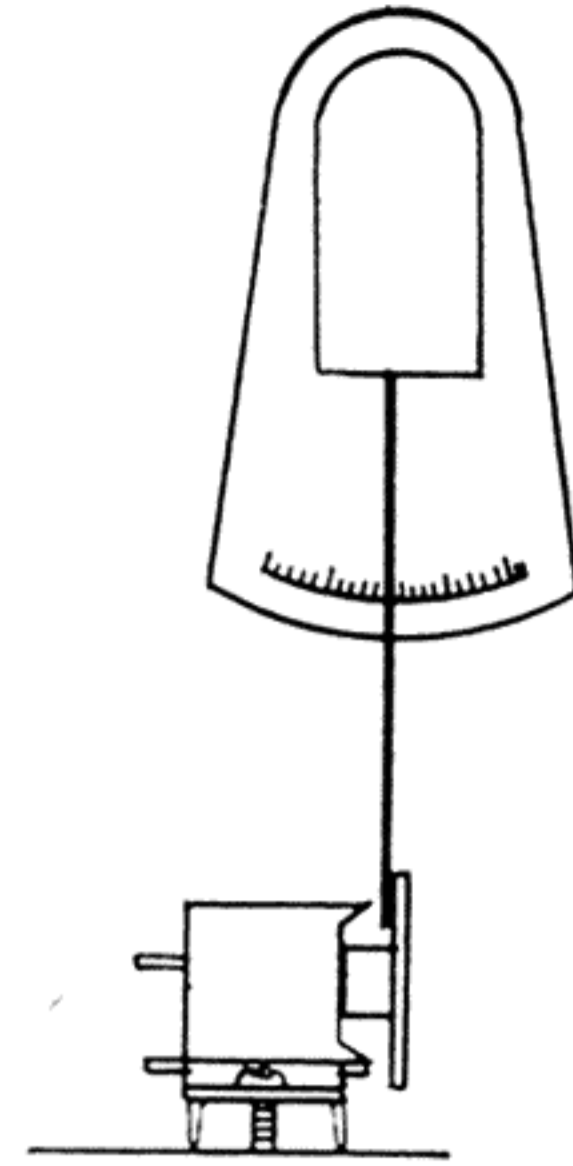


Fig. 8

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.

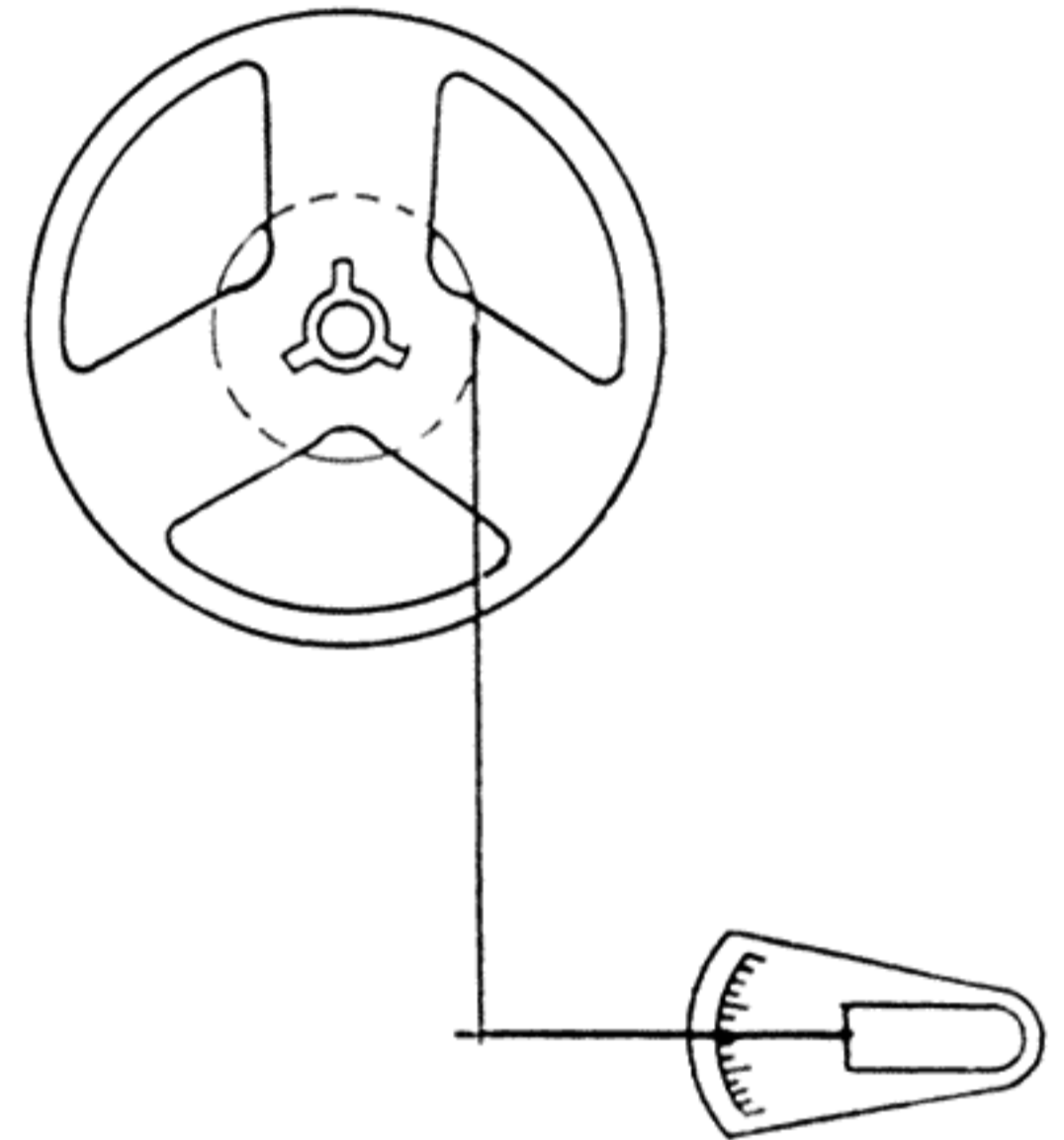


Fig. 9

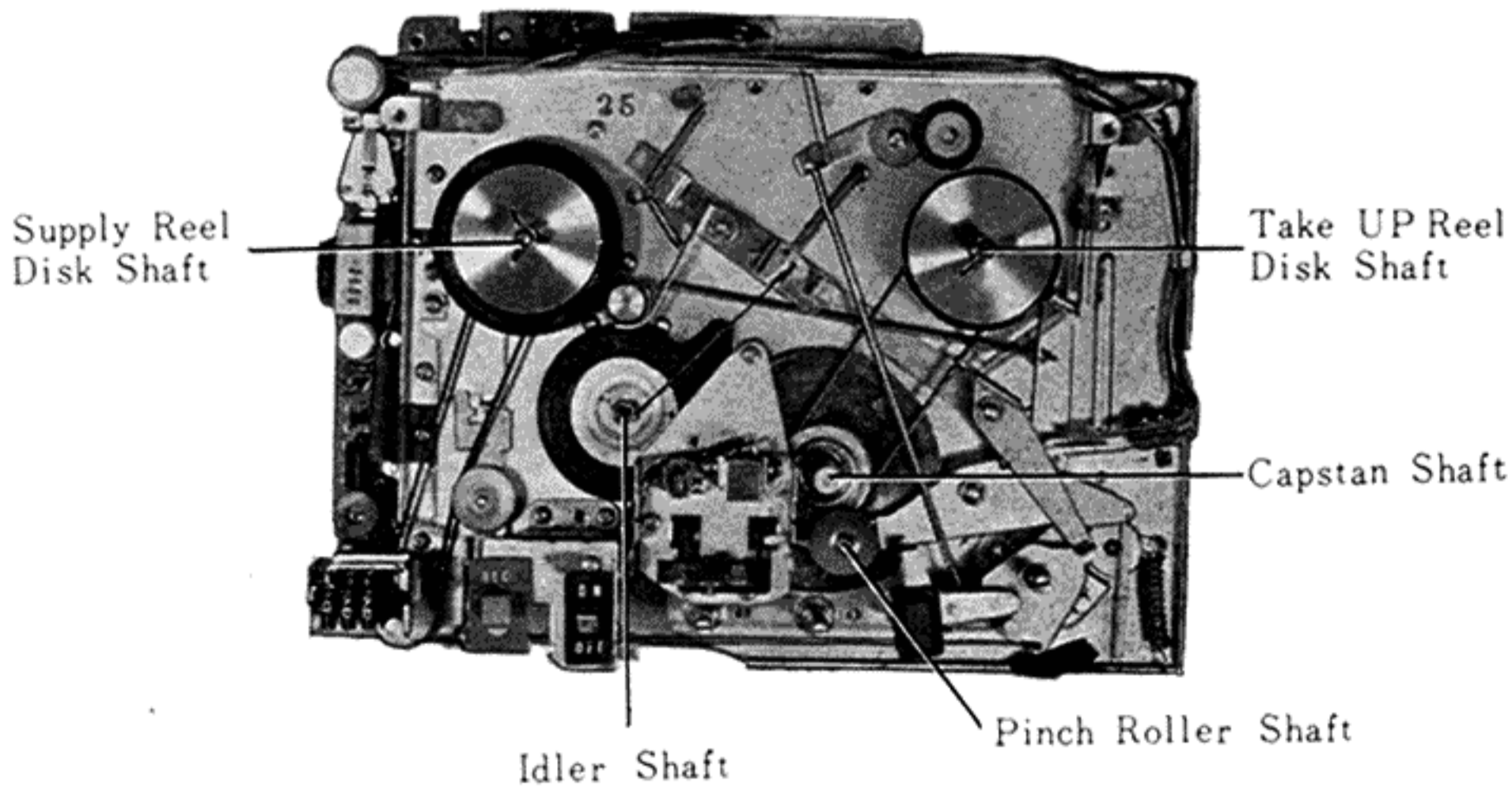
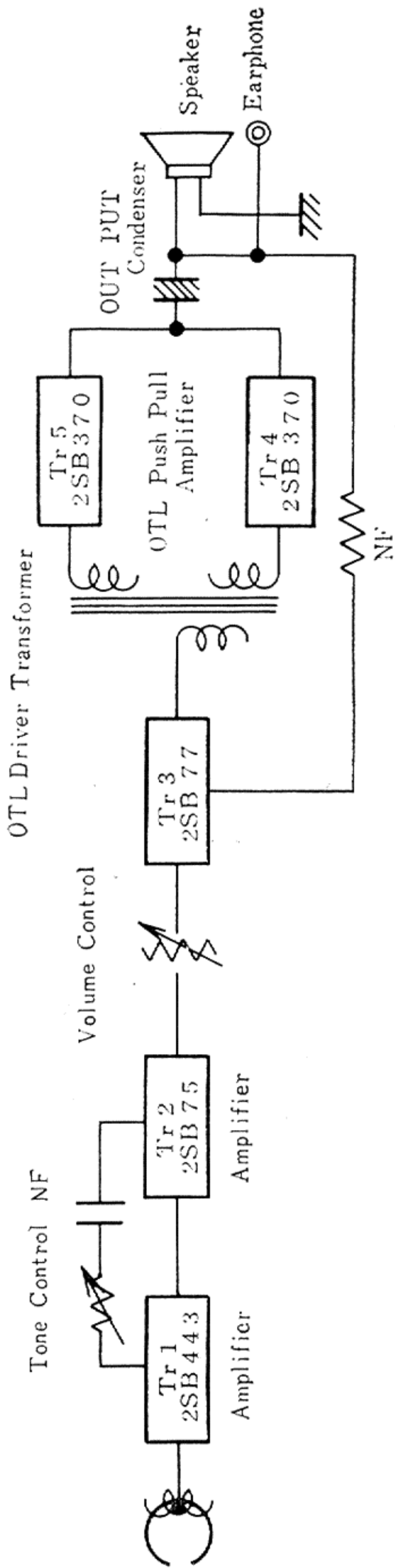
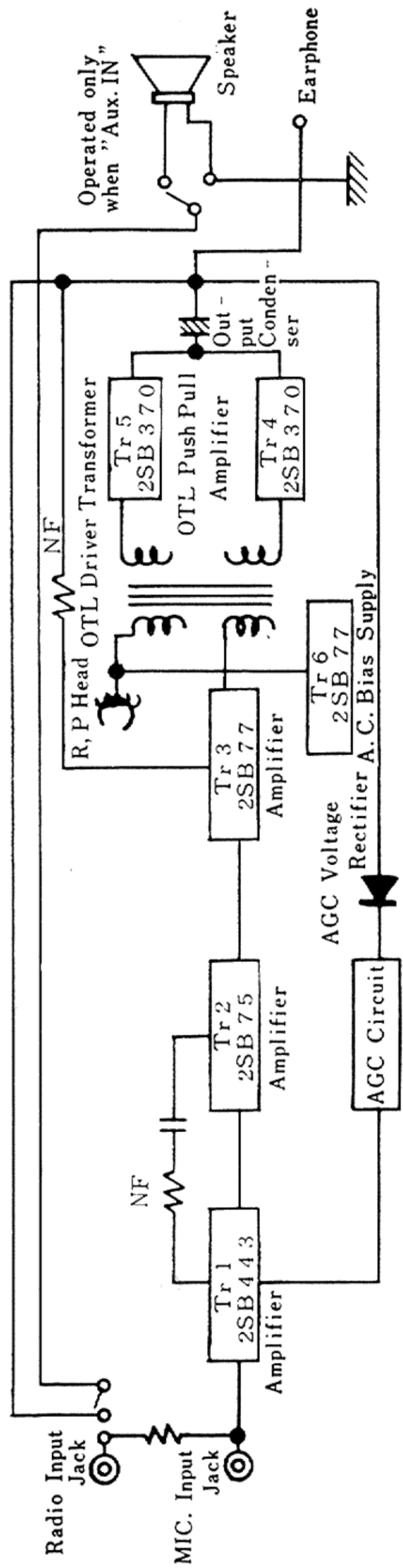


Fig. 10



Block Diagram in Playback

Fig. 11



Block Diagram in Recording

Fig. 12

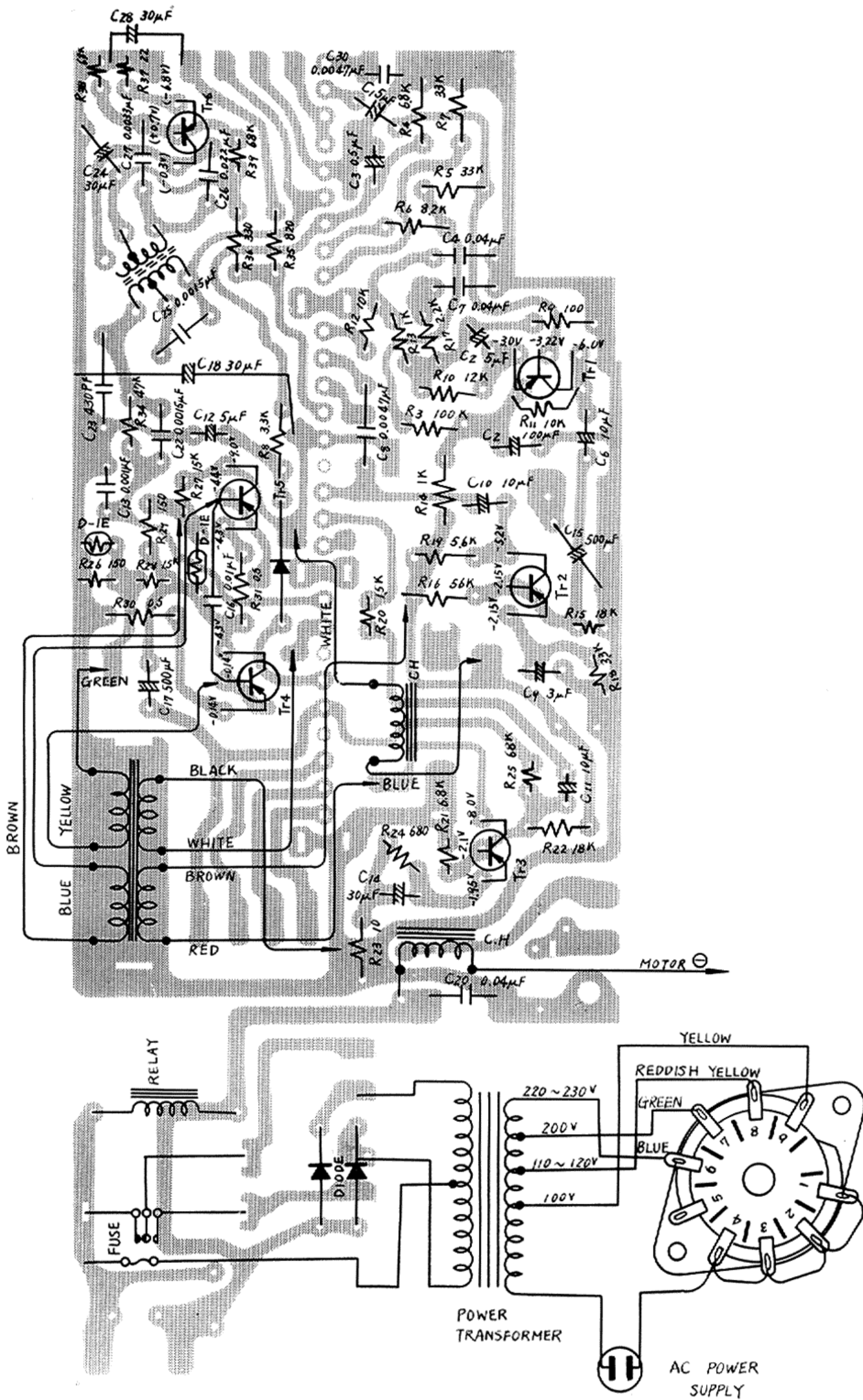


Fig. 13 Parts Arrangement on Print Board

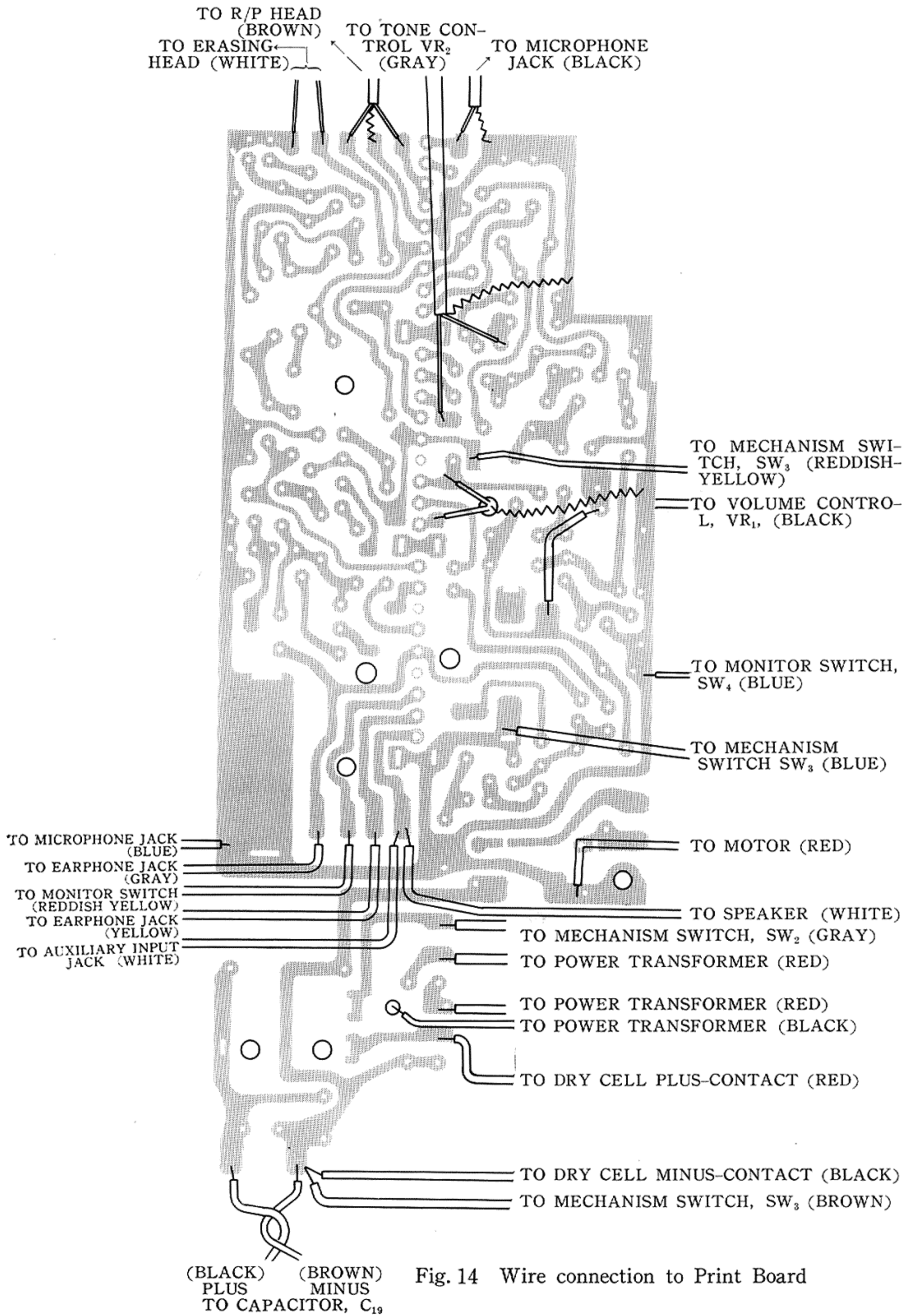
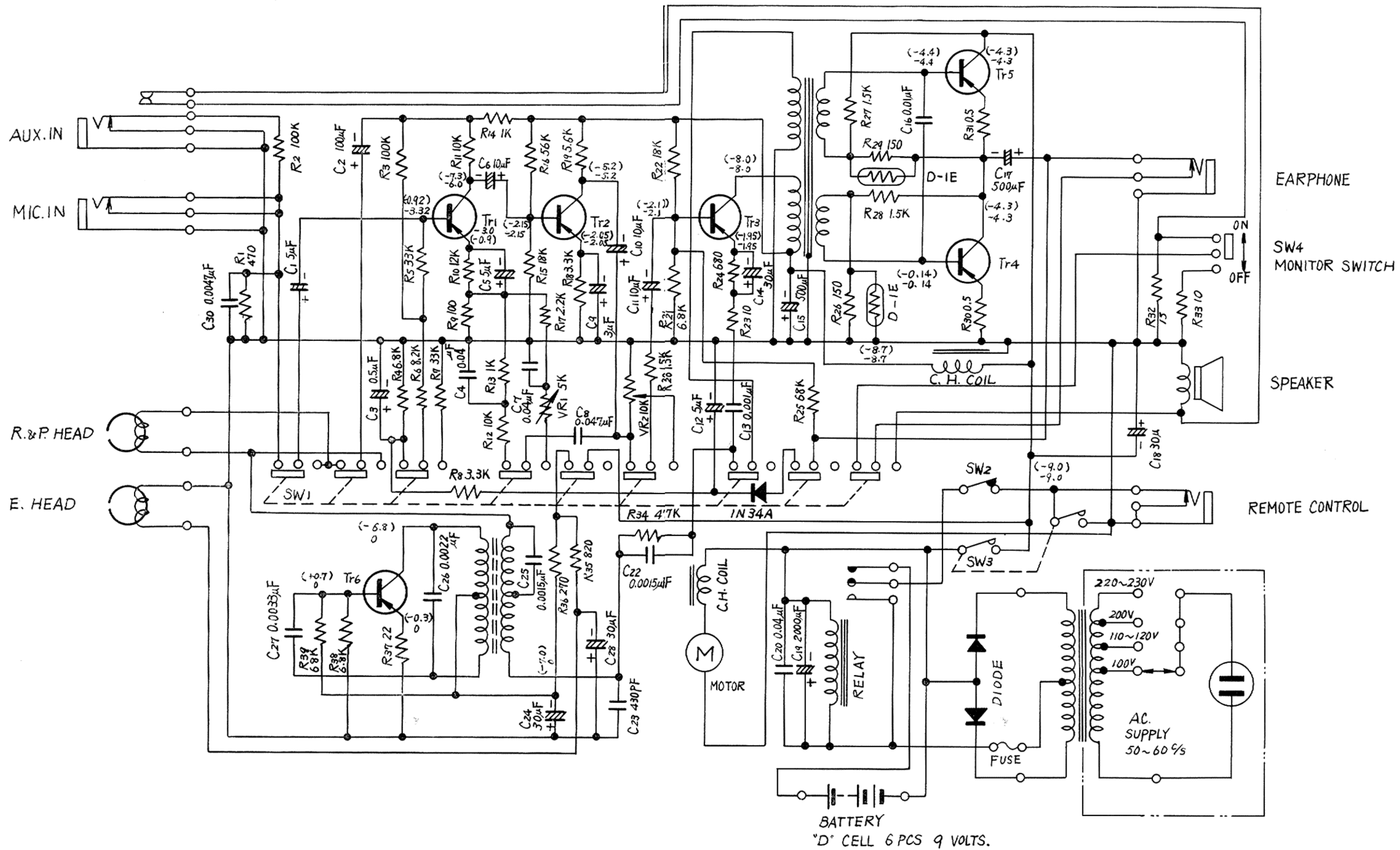


Fig. 14 Wire connection to Print Board



- Tr₁ 2SB443 (B) or EQUIVALENT
- Tr₂ 2SB75 (C) or EQUIVALENT
- Tr₃, Tr₆ 2SB77 (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

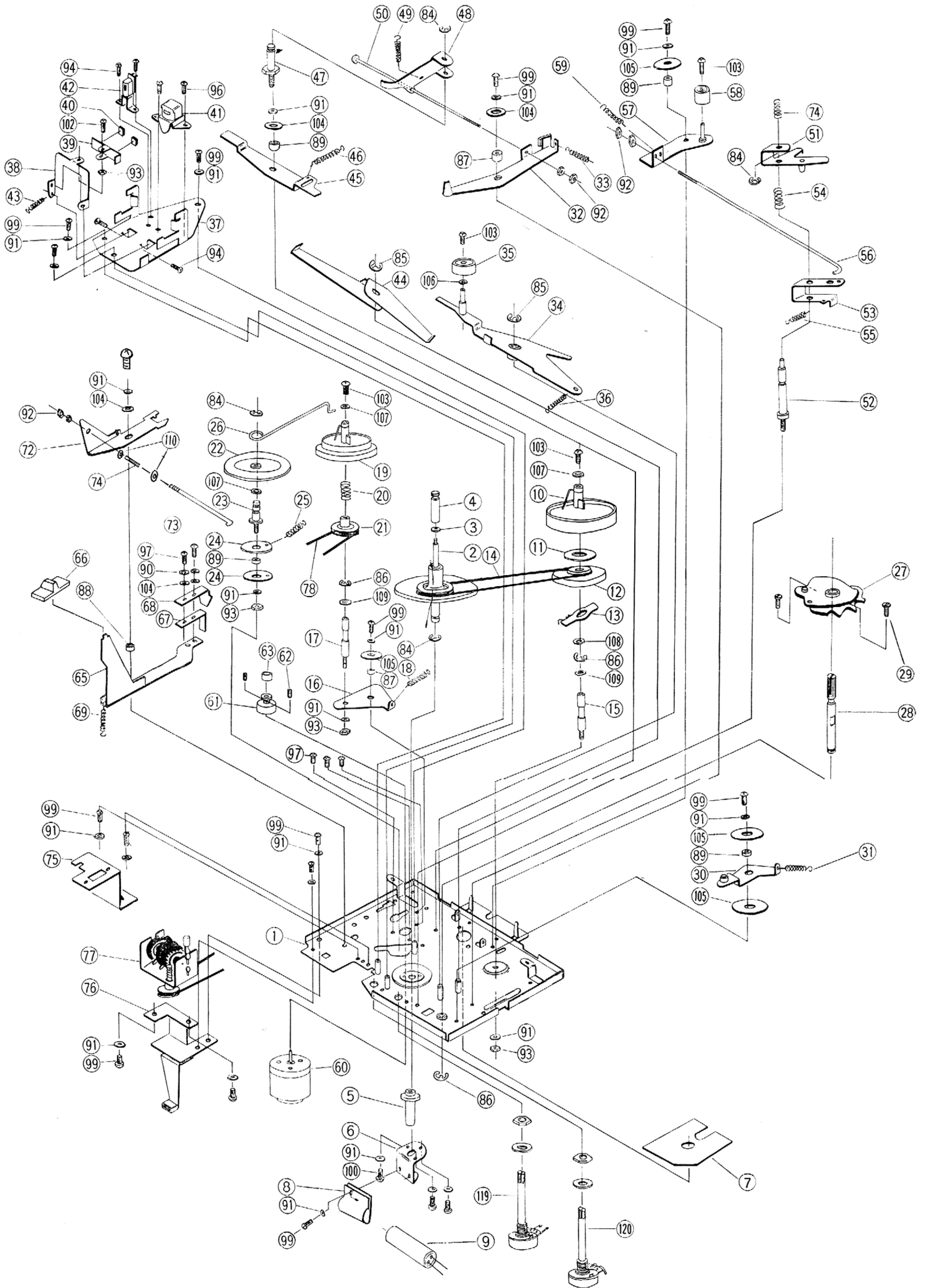


Fig. 16 Disassembly Diagram of Mechanism. (TR-545U/ 1545)

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(200 μ)	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	E 0593	2P Plug
31	T6661-17	Spring	80	E 0563-6	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

(Phonograph)

No.	Model	No.	Model	No.	Model	No.	Model	No.	Model	No.	Model	No.	Model	No.	Model
2001	STL-37	2011	STL-39	2021	STP-100	2031	N400(S)	2041	N511	2051	N61	2061	TPE-8	2071	{ AA-2E AA-500
2002	STP-4	2012	STL-13	2022	STP-200	2032	N350	2042	STP-6	2052	ARC-10F	2062	N240	2072	AST-220E
2003	2020N	2013	STL-33	2023	STP-3	2033	N600	2043	TPE-20	2053	ARC-11A, 12A	2063	N65	2073	TRE-12S
2004	ARC-2B	2014	STL-34	2024	TPE-10	2034	N800	2044	STP-5	2054	N21, N31	2064	STP-5T	2074	SRP-471E
2005	646N	2015	SRE-30	2025	TRE-45	2035	NP-6	2045	4TR-4	2055	N460C	2065	N466C	2075	FRS-103 etc.
2006	N550	2016	SRP-105 etc.	2026	N300	2036	TRE-6	2046	N191	2056	N661	2066	N880	2076	N455, N590
2007	1025N	2017	STL-14	2027	N310	2037	J-141W	2047	STP-7	2057	N55	2067	N170	2077	N177, 185, 187
2008	4TR-31N	2018	STL-65	2028	N120S	2038	N-11	2048	N231S	2058	4TR-4U	2068	N45	2078	N440
2009	N225S	2019	TRE-5	2029	ASP-850A	2039	N510, 512	2049	N130SE	2059	TRE-8N	2069	N710	2079	4TR-55U
2010	ARC-1B	2020	SRE-221	2030	ASP-820A	2040	N40, 41	2050	TPE-21	2060	N-51	2070	N41SR	2080	AST-320E

No.	Model	No.	Model	No.	Model	No.	Model	No.	Model	No.	Model	No.	Model	No.	Model
2081	4TR-3U	2091	ARC-30A, B	2101	N760MG, N99U	2111	STC-707C	2121	5007	2131	STP-808A	2141	5320, 5340		
2082	N-55T	2092	4TR-55T	2102	SRP-472E	2112	SST-61	2122	L-21M	2132	ARC-41, -42	2142	L-311D		
2083	SRE-130E	2093	N670, N730MG 4TR-99U etc.	2103	SRP-469E	2113	FRS-103(R#-2)	2123	ARC-10Series	2133	TRE-666C	2143	6102, 6103, 6104		
2084	{ N590F 4TR-590F	2094	STP-7LA	2104	ARC-10L	2114	STP-808C	2124	5003	2134	4TR-990	2144	ARC-10Y		
2085	ARC-40A	2095	TRE-26C	2105	BLA-Series	2115	SSL-95E	2125	L-311C	2135	5001	2145	5011, 5012		
2086	TRE-12F	2096	STP-7F	2106	AST-140E	2116	MSL-16T	2126	5204	2136	SRP-B30E/5230	2146	5201		
2087	SRP-467E	2097	N880(R#2)	2107	ARC-12C, E	2117	AST-215E	2127	{ 4210, 4220, 4320 R.#2	2137	N-65F	2147	MSL-300E		
2088	SRP-468E	2098	N163	2108	CSL-1E	2118	SRC-700U	2128	5305	2138	4TR-511D, L-511D	2148			
2089	ECA-101E	2099	4TR-6U	2109	MSL-8E-1	2119	AST-102E	2129	TRE-12T	2139	SRP-B40E/5240	2149			
2090	STC-19	2100	MSL-15E	2110	SST-31	2120	No. 200 Series	2130	5304	2140	5203	2150			

The List of NIVICO Service Manual

(Television & Tape Recorder)

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