



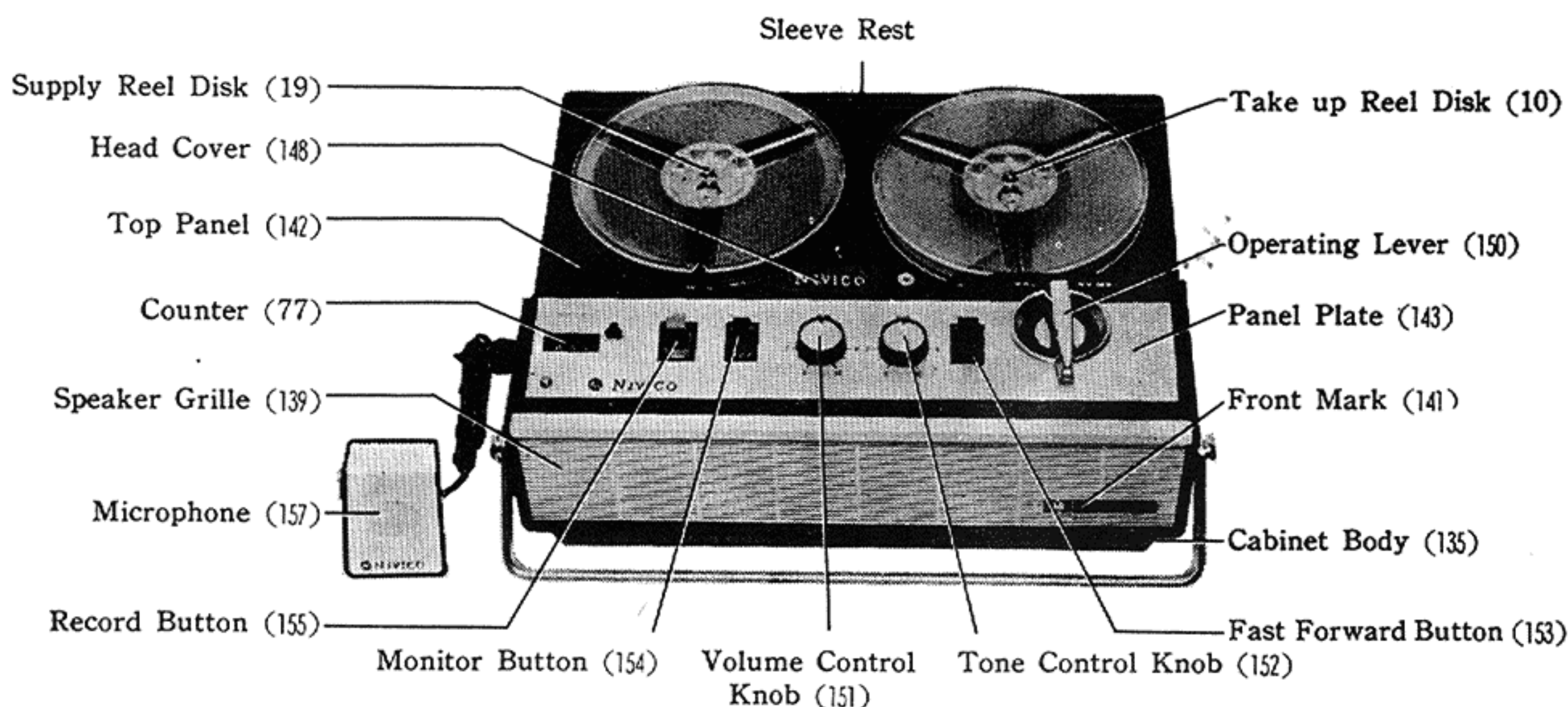
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NIVICO

No. 4012

SERVICE NOTE



MODEL TR-541U, (B), (Z)

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 :	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 :	2SB443×1, 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 ($3\frac{3}{4}$ i.p.s) 100c/s to 4,000c/s ($1\frac{7}{8}$ 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% ($3\frac{3}{4}$ i.p.s)
Life of Battery :	Approx. 15 hours (Continuous use of 3 hours a day at 500mW power output)

(Note : The difference between TR-541U, B and TR-541Z is of AC input voltage.)

VICTOR COMPANY OF JAPAN, LTD.

Accessories

Dynamic microphone with remote control switch.	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

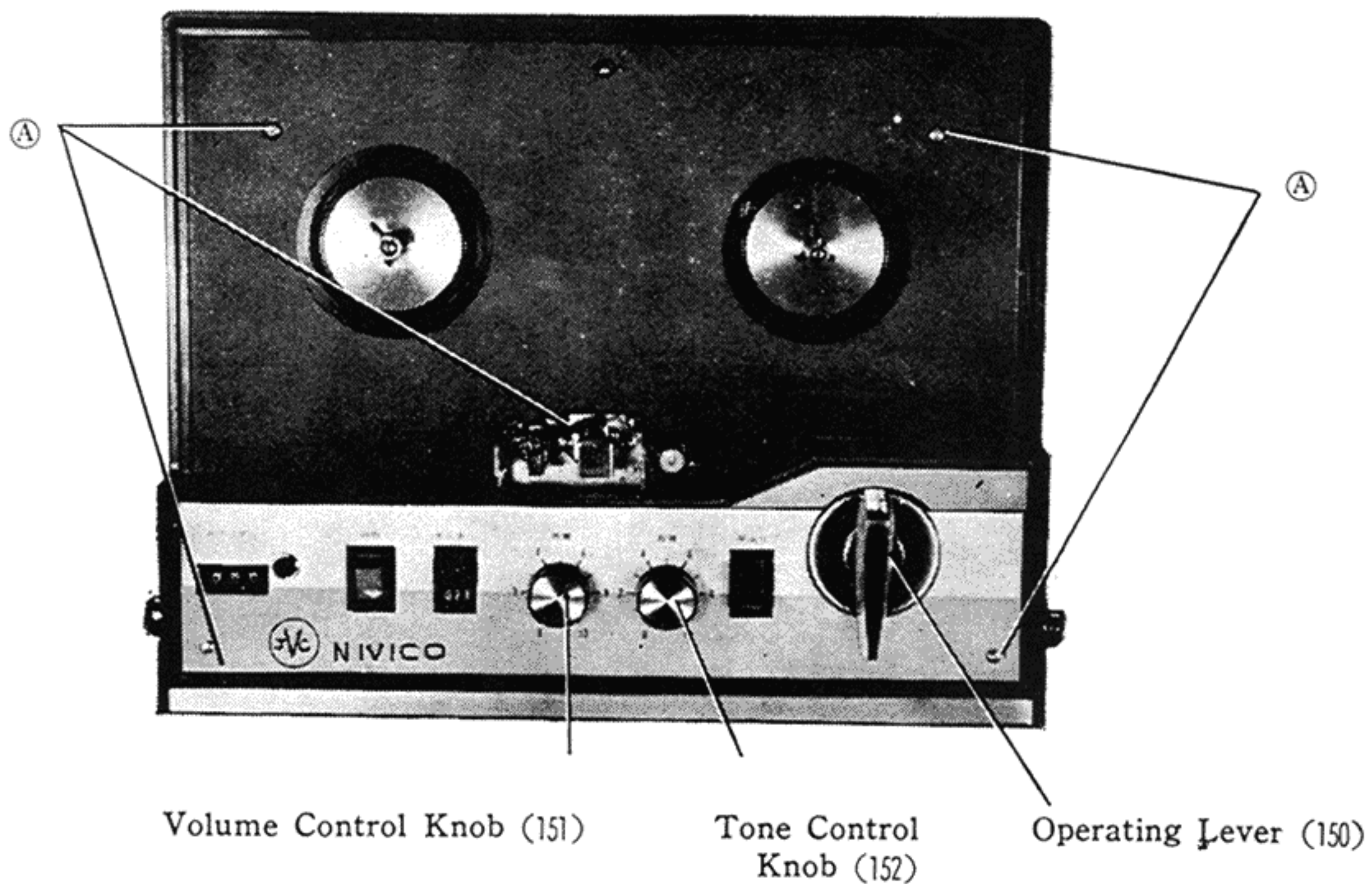


Fig. 1

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

- (1) Pull off Operating Lever (150), Volume Control Knob (151), Tone Control Knob (152) and Head Cover (148).
- (2) Remove five screws (A) to detach Top Panel (140).

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

- (1) Remove Top Panel according to the above procedure.
- (2) Detach Jack Board (122) from the left side of the body. When to detach the Jack Board, push the center part of it inward and the pull out the board upward paying attention so as the side of the board not to touch the fitting screws for the board.

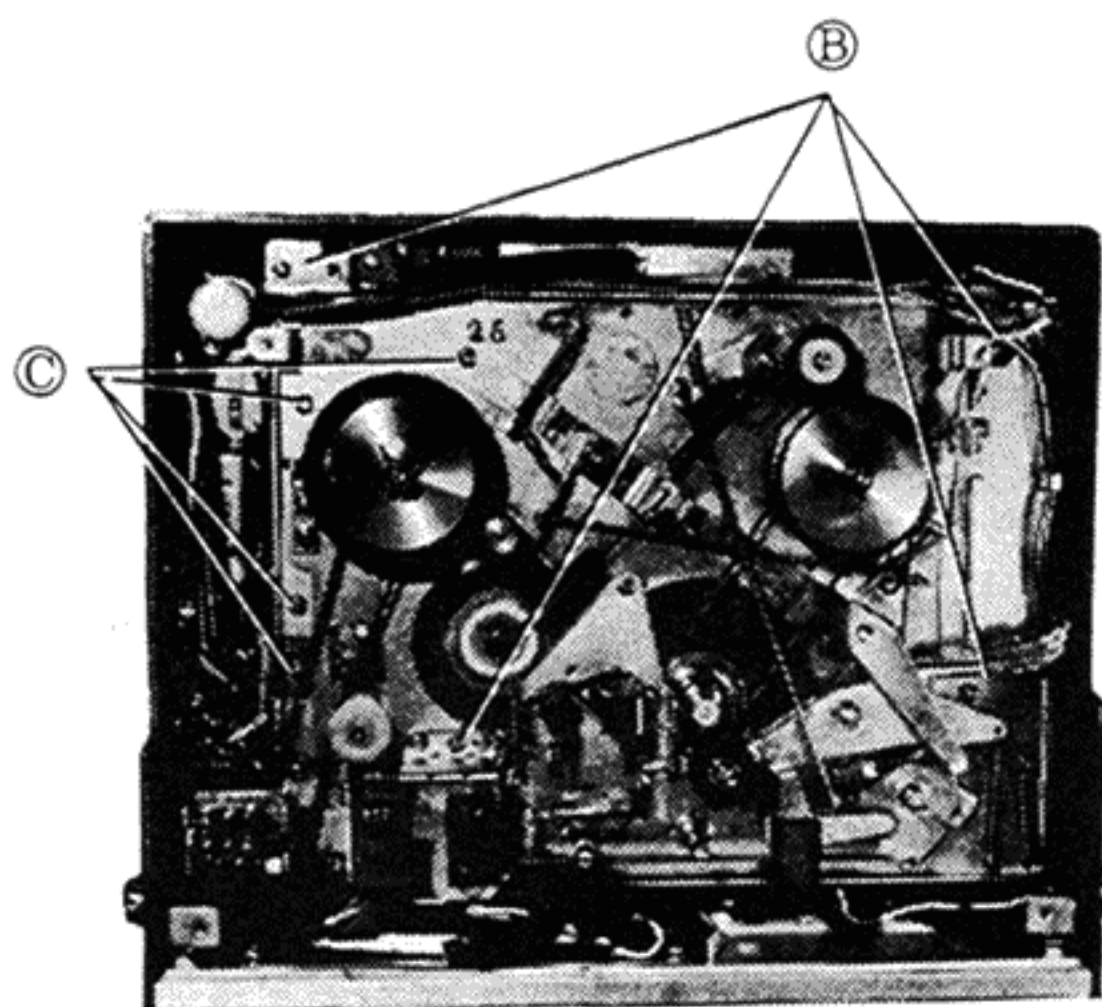


Fig. 2

- (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.

- (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 (156) 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.

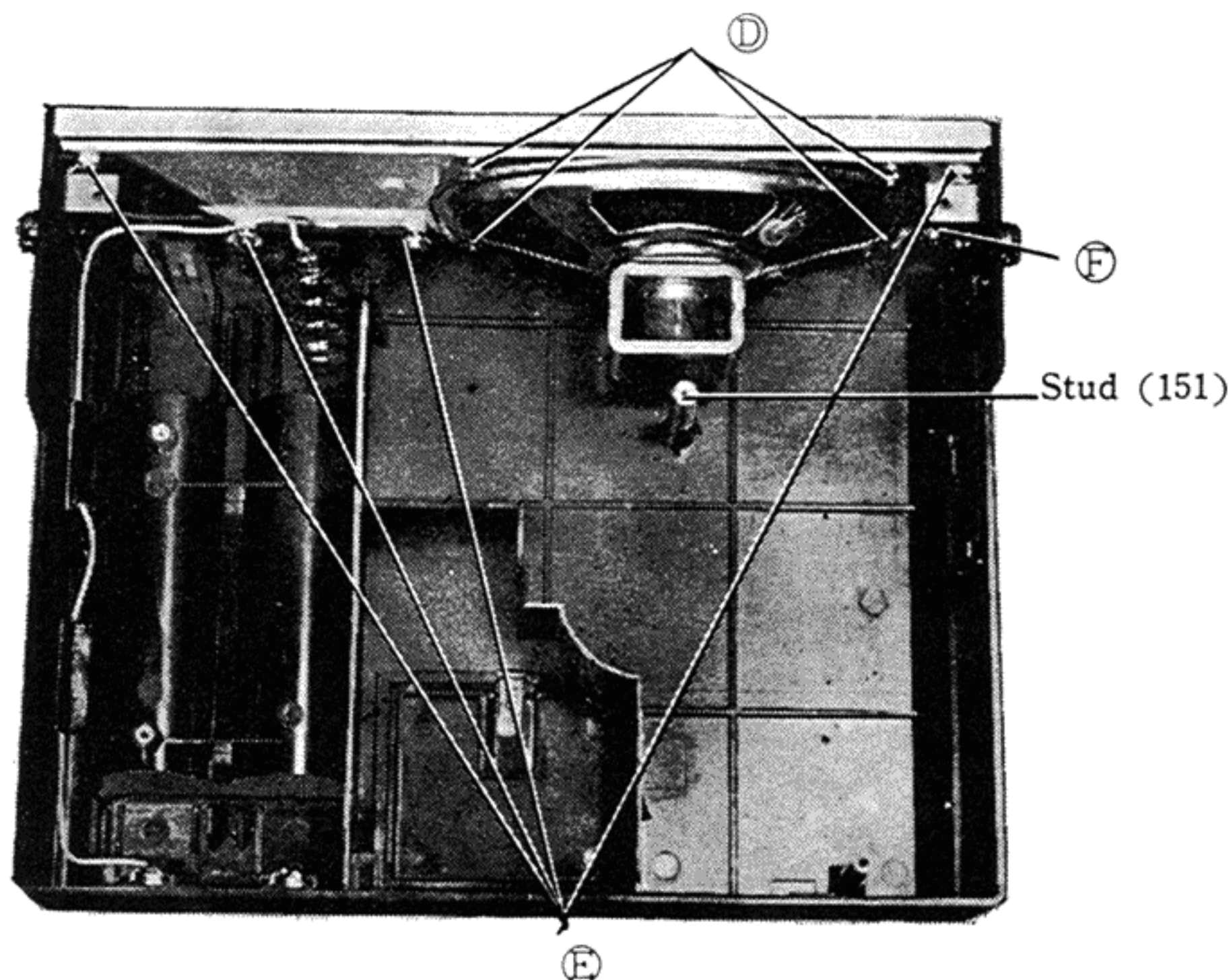


Fig. 3

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 Screw, take off the Disk.

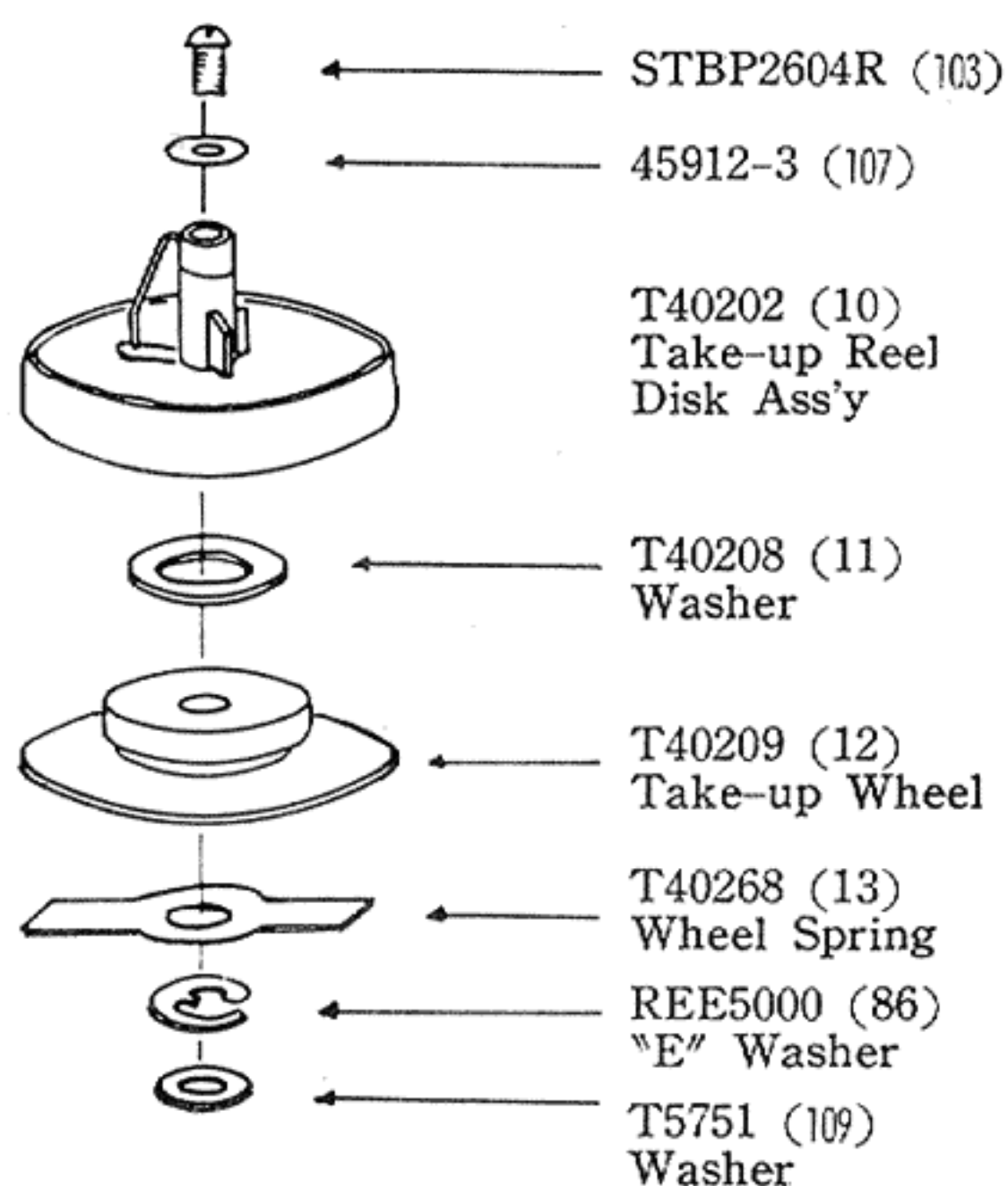


Fig. 4

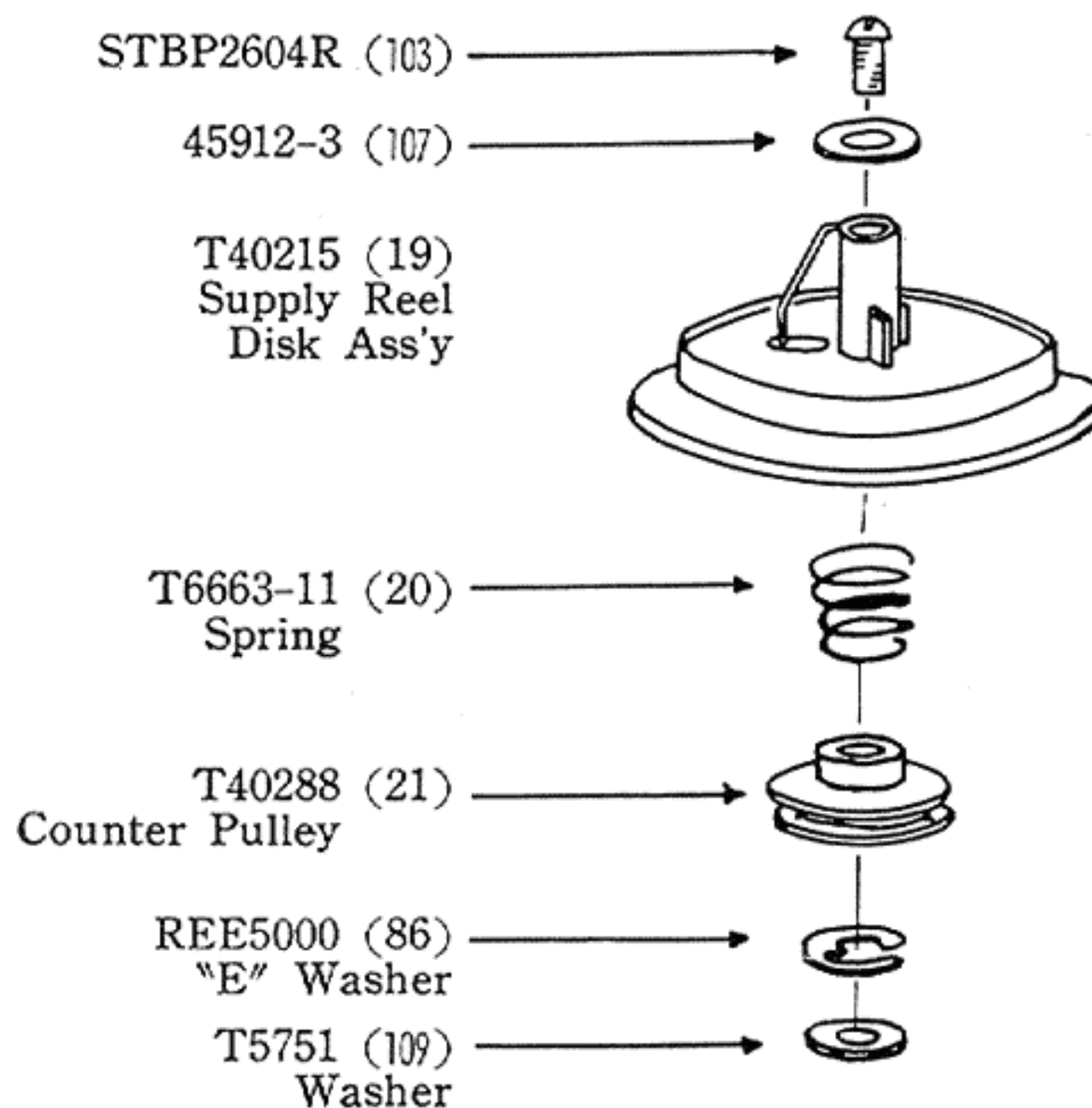


Fig. 5

Replacement and Adjustment of Head

When to replace Head

- (1) Take off Head Cover (148)
- (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 recorder 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—10.6 ozs) (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.

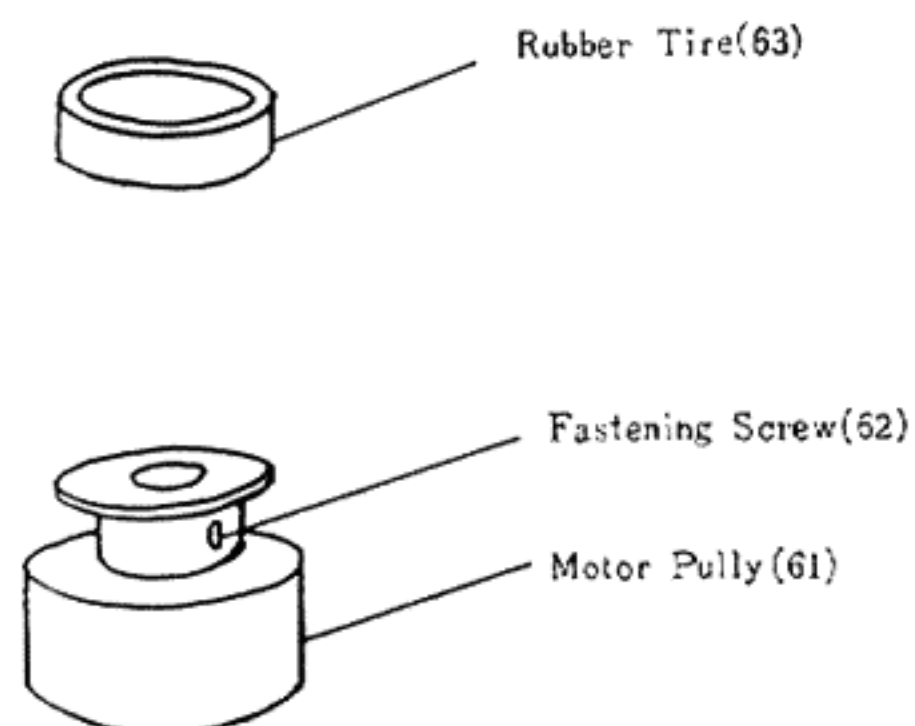


Fig. 6

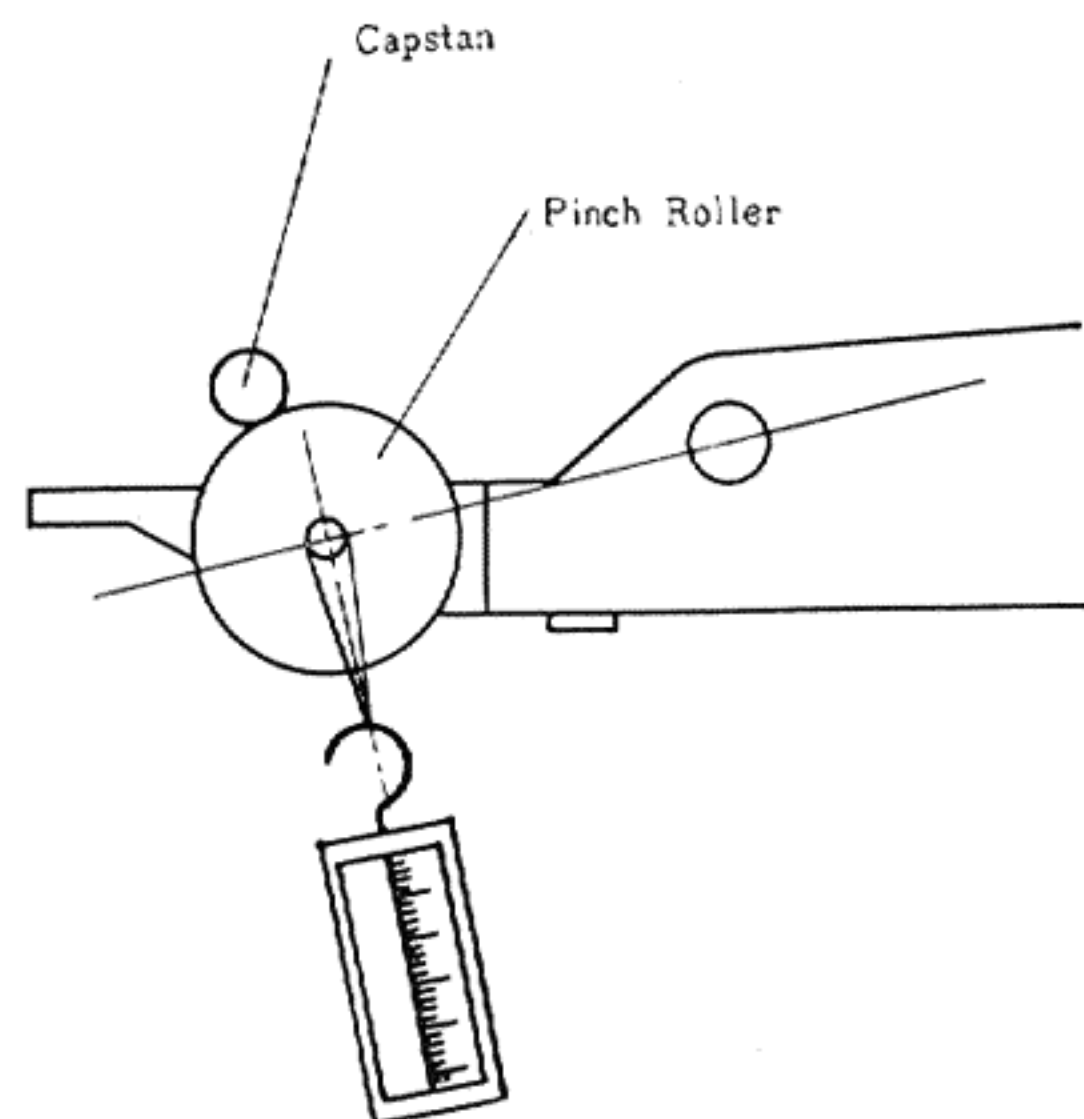


Fig. 7

(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 inch 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 (T40268) 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.

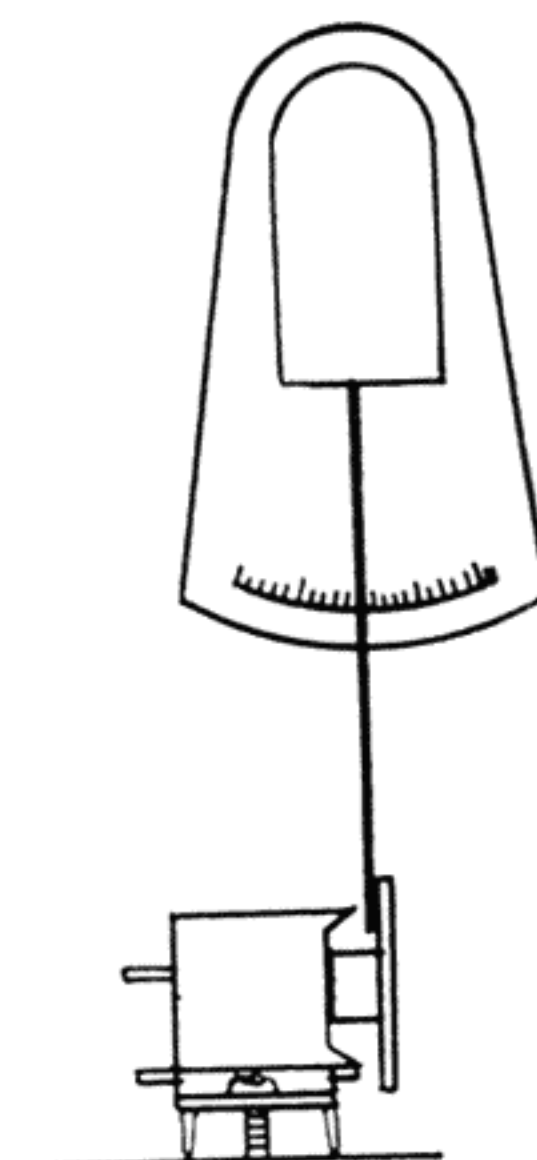


Fig. 8

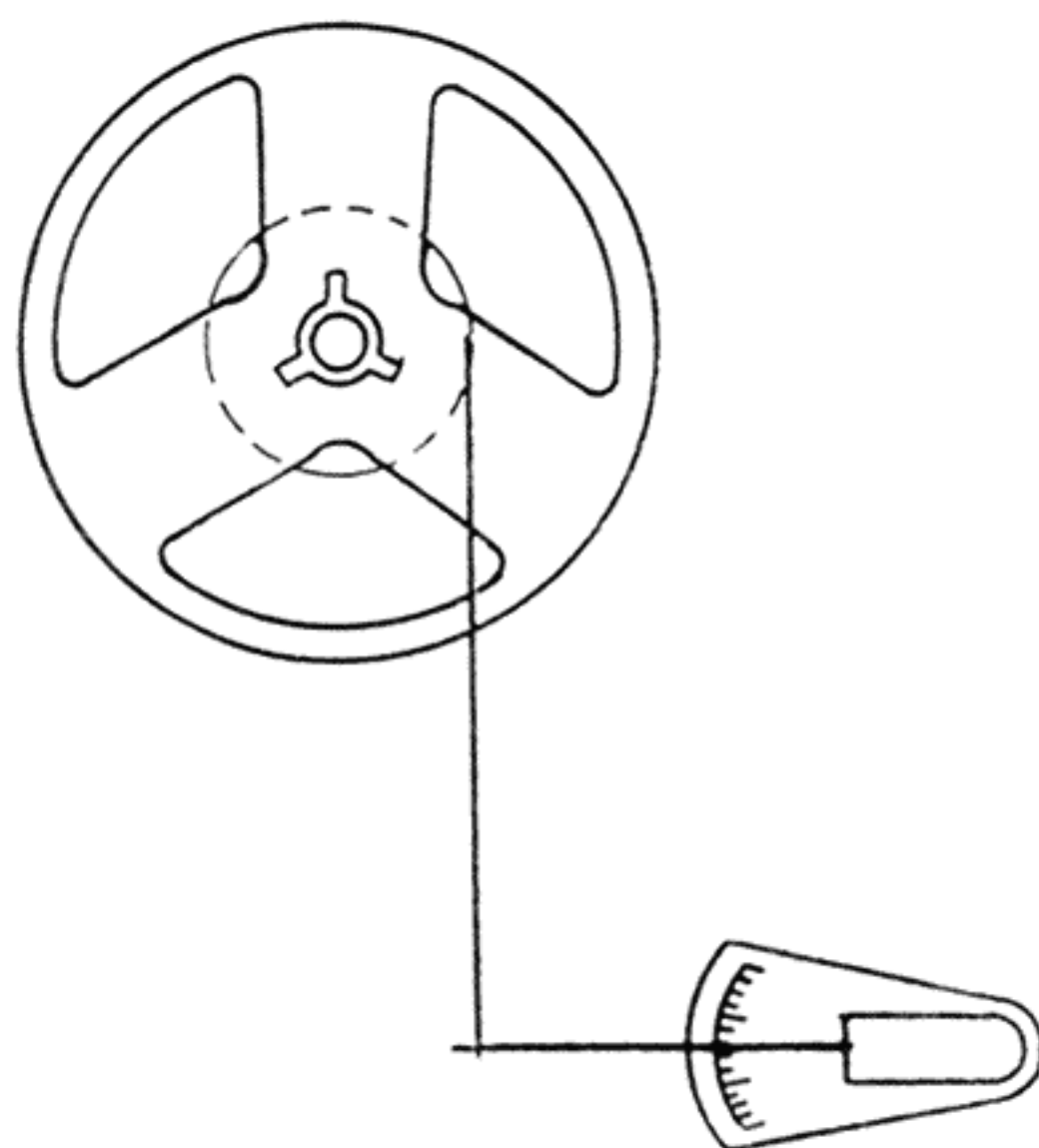


Fig. 9

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.

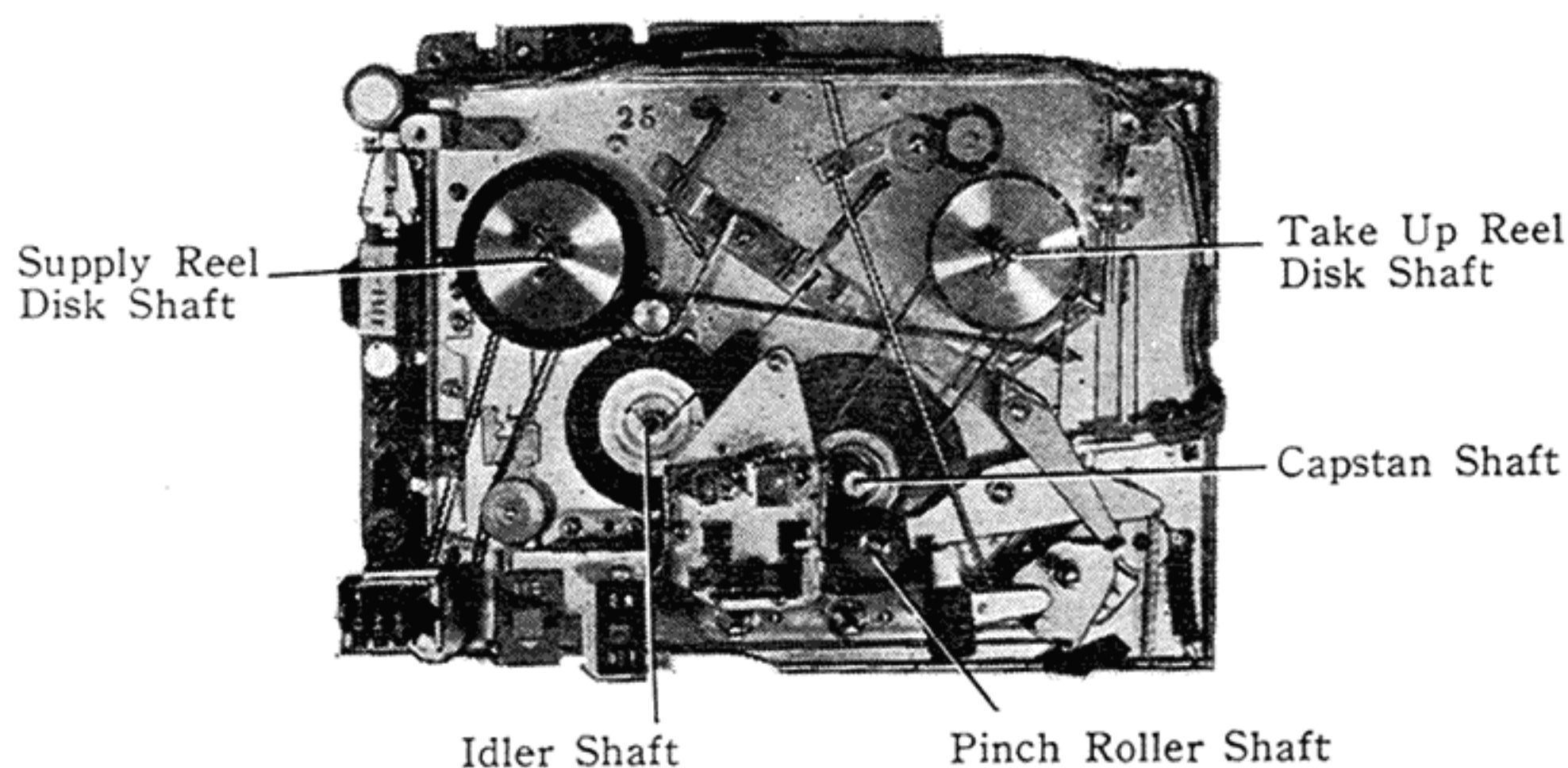
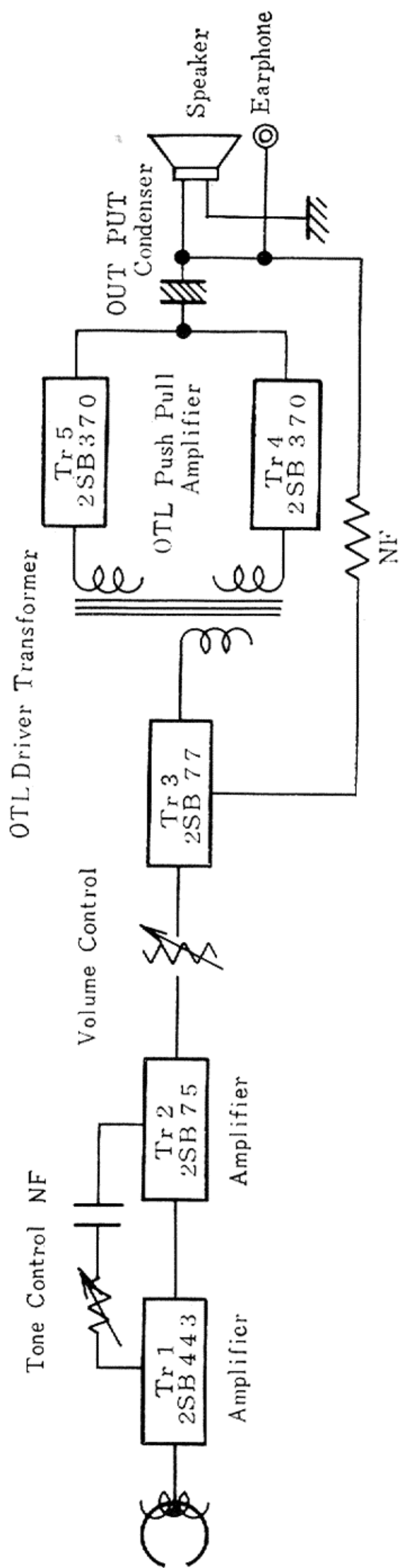
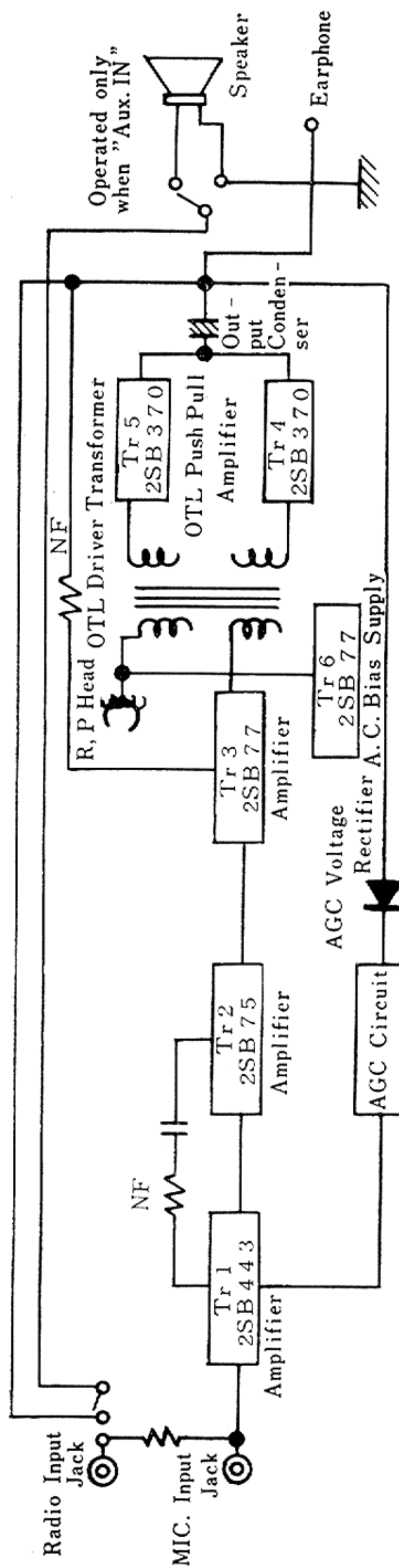


Fig. 10



Block Diagram in Playback

Fig. 11



Block Diagram in Recording

Fig. 12

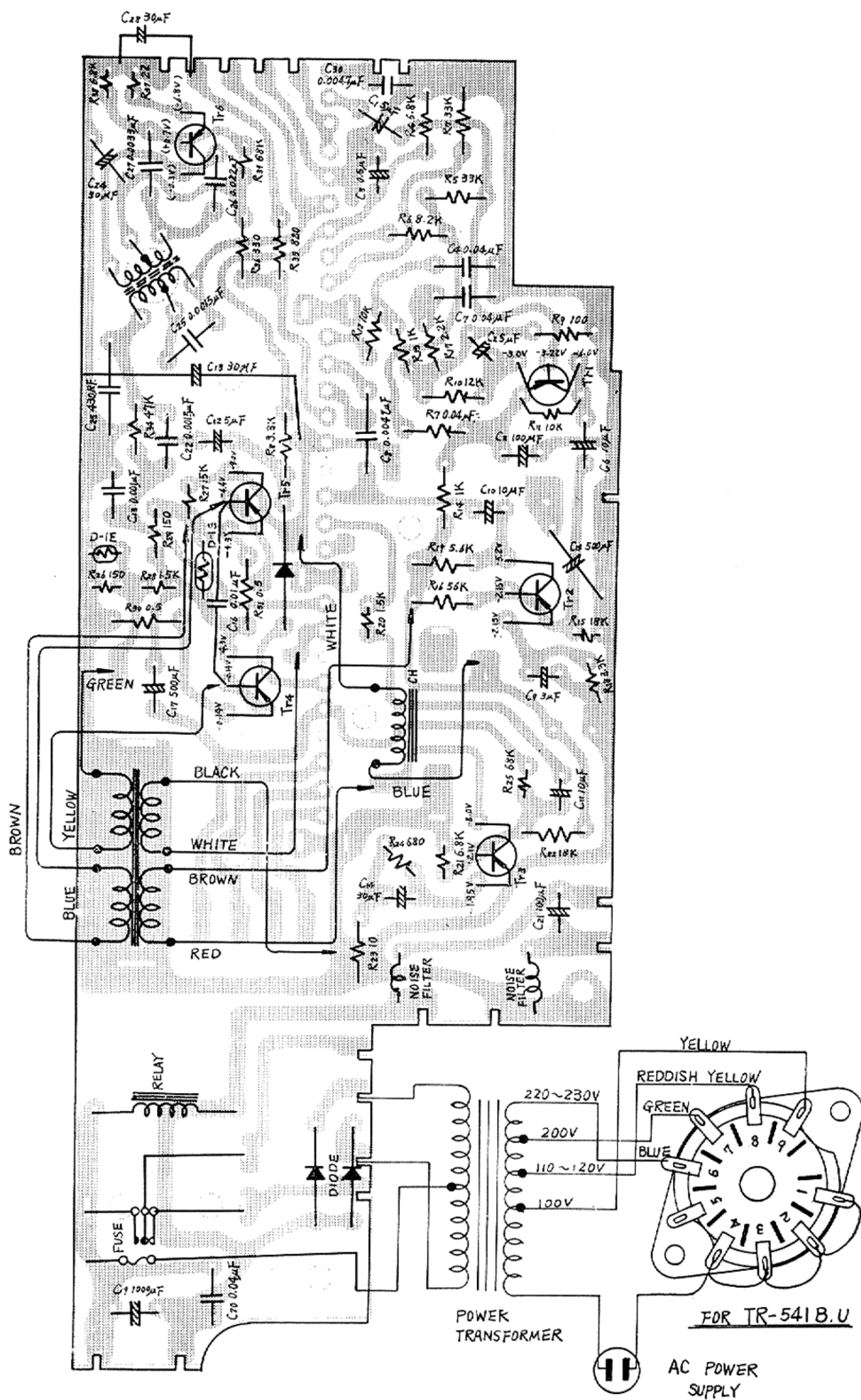


Fig. 13 Parts Arrangement on Print Board

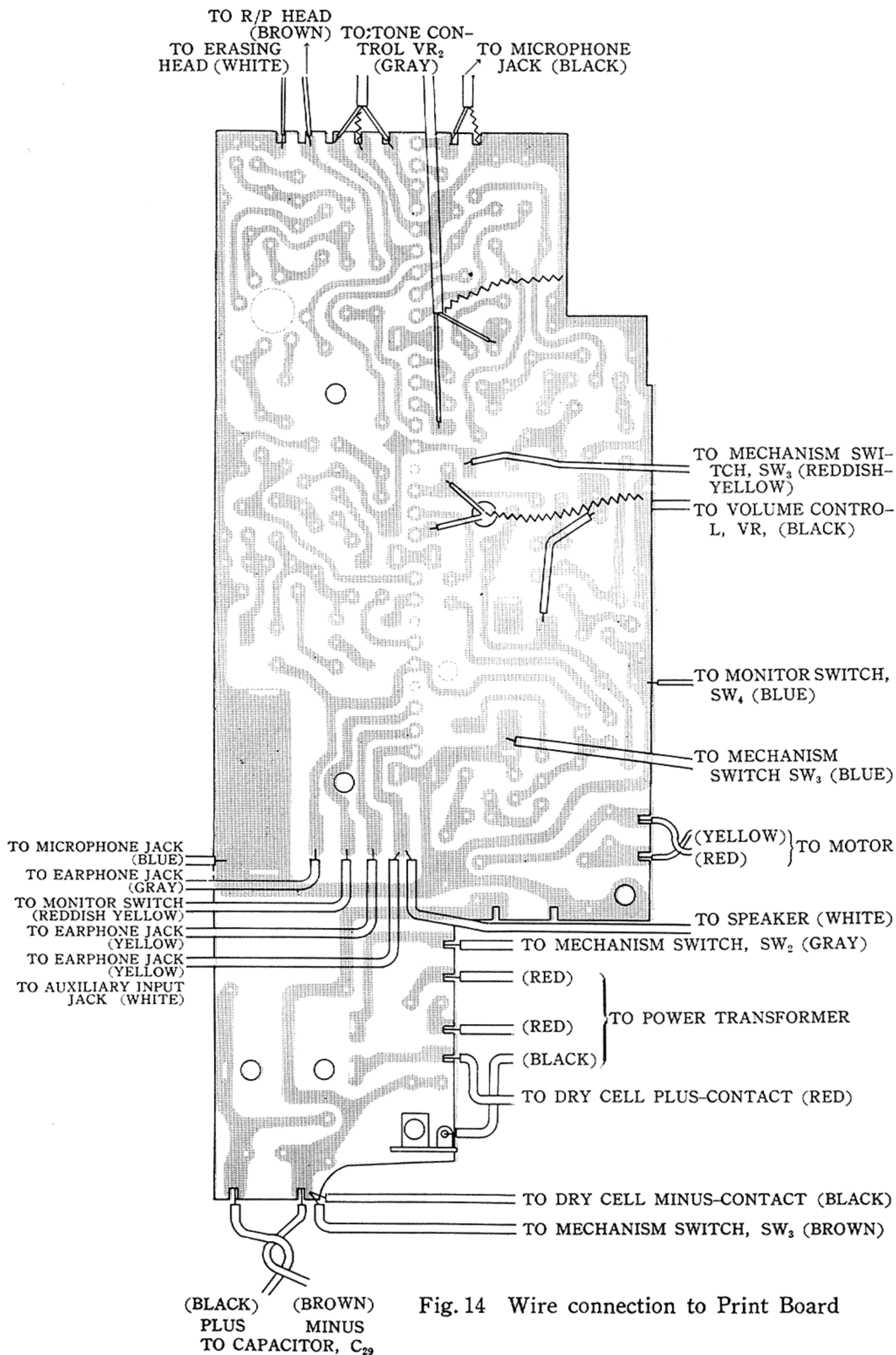
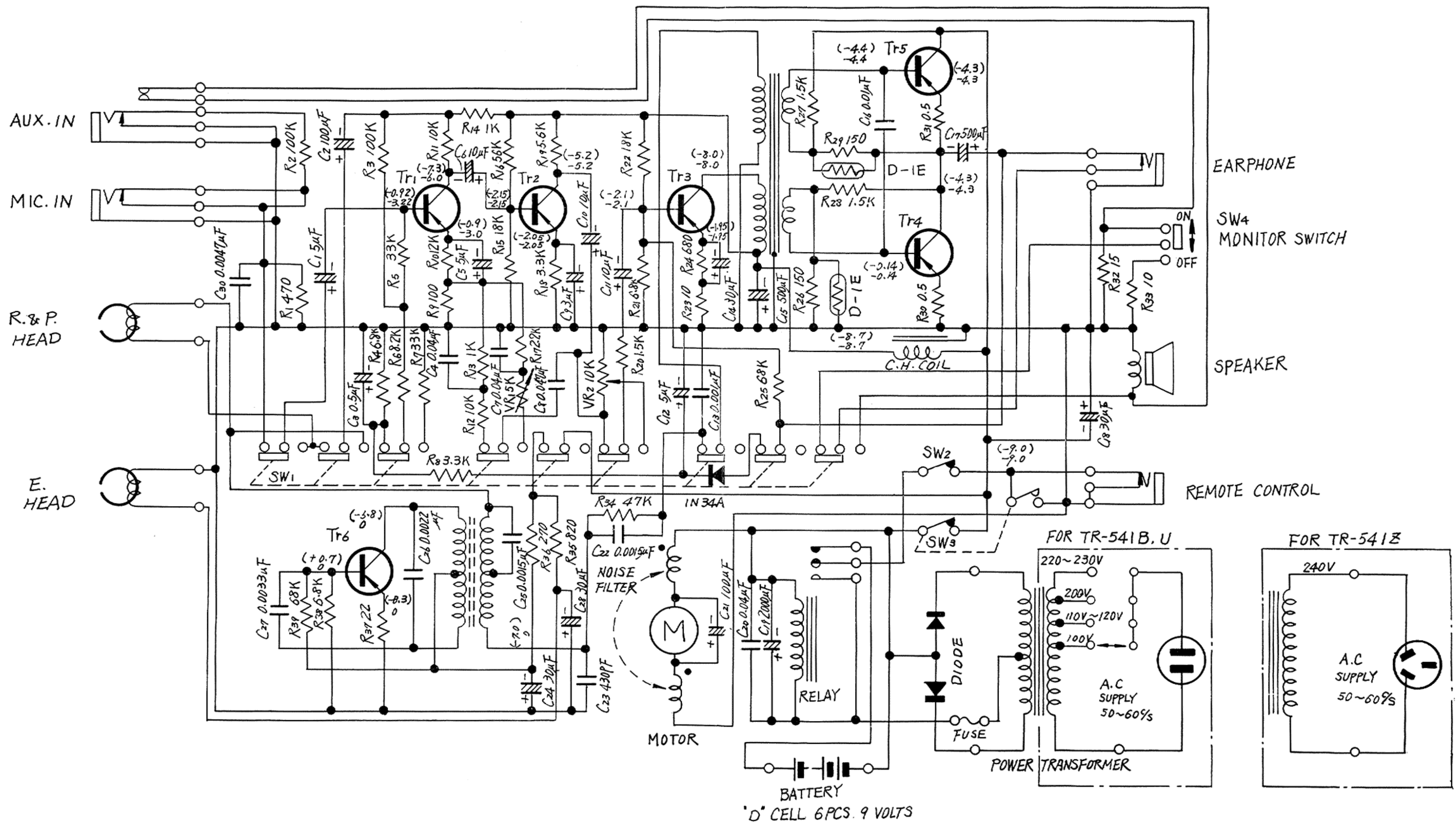


Fig. 14 Wire connection to Print Board



Tr₁ 2SB443 (B) or EQUIVALENT
 Tr₂ 2SB 75 (C) or EQUIVALENT
 Tr₃, Tr₄ 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-541U (B, Z) SCHEMATIC DIAGRAM

Subject to change without notice

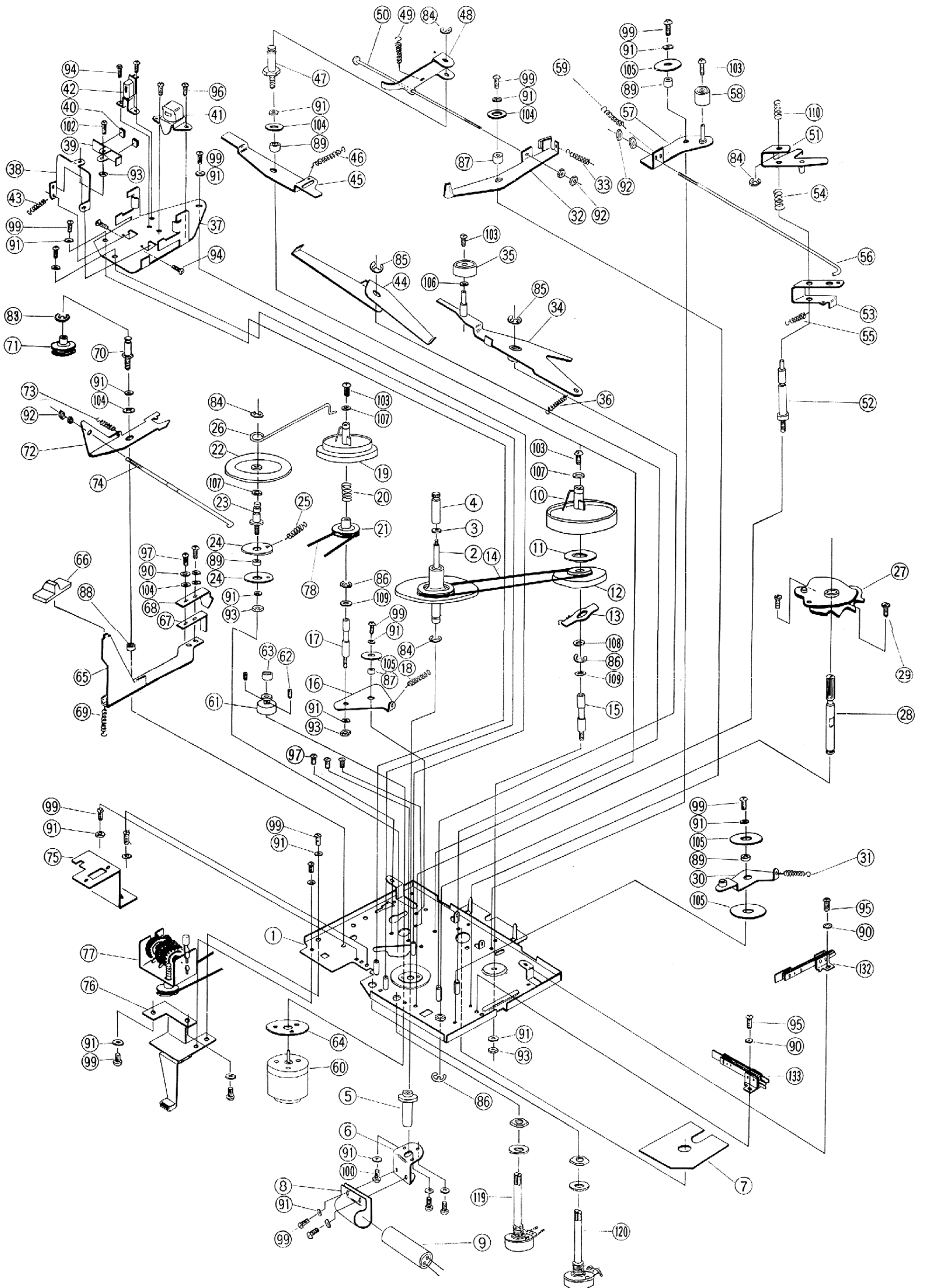


Fig. 16 Disassembly Diagram of Mechanism. (TR-541U, B, Z)

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
1	T-2196	Chassis Base Ass'y	49	T6661-23	Spring
2	T40446	Flywheel Ass'y	50	T7050	Connecting Rod
3	T7069-2	Cushion	51	T40244	F.F. Lever (1) Ass'y
4	※T5735	Capstan Sleeve Ass'y	52	T40247	Stud
5	T7030	Capstan Bushing	53	T40248	F.F. Lever (2)
6	T6831	Holder Bracket	54	T6663-9	Spring
7	T40427-2	Sheet	55	T6661-3	Spring
8	T40347	Band	56	T40249	Connecting Rod
9	Q03108-1000(F)	Elect. cap.	57	T40250	F.F. Lever (3)
10	※T40202	Take up Disk Ass'y	58	T40253	Roller Ass'y
11	T40208	Washer	59	T6315-5	Spring
12	※T40209	Take up Wheel	60	※T40321-C	Motor Ass'y
13	T40268	Wheel Spring	61	※T40256	Motor Pulley
14	※T6302	Belt	62	TFS2603Z	Fastening Screw
15	T40210	Reel Shaft	63	T7132	Rubber Tire
16	T40212	Disk Arm	64	T6299	Rubber Cushion
17	T40213	Reel Shaft	65	T40258	Recording Bar
18	T6661-19	Spring	66	T40259	Recording Button
19	※T40215	Supply Disk Ass'y	67	T40260	Sw. Spring
20	T6663-11	Spring	68	T40261	Sw. Stopper
21	T40288	Counter Pulley	69	T6315-1	Spring
22	※T40085-B	Idler Ass'y	70	T40289	Stud
23	T40219	Idler Shaft	71	T40290	Guide Pulley
24	T40220	Special Washer	72	T40262	Lock Lever
25	T6315-1	Spring	73	T6661-10	Spring
26	T40221	Connecting Rod	74	T40263	Connecting Rod
27	T40222	Index Cam Ass'y	75	T40264	M.R. Bracket
28	T7046	Cam Shaft	76	T40323	Counter Bracket Ass'y
29	T5684	Screw	77	T3677	Counter
30	T40225	Index Arm Ass'y	78	※T40291	Belt
31	T6661-17	Spring	79	E0593	2P Plug
32	T40453	Brake Lever Ass'y	80	E0563-6	9P Socket
33	T6661-22	Spring	81	T40464	Index Plate
34	T40229	Pinch Roller Arm Ass'y	82	T40474	Socket Cover
35	※T6474	Pinch Roller	83	R E E 2000	E. Washer
36	T6661-24	Spring	84	R E E 3000	E. Washer
37	T40236	Head Base	85	R E E 4000	E. Washer
38	T40237	Pad Plate (1)	86	R E E 5000	E. Washer
39	T40238	Pad Plate (2)	87	T5670-1	Collar
40	※T7115	Pad	88	T5670-3	Collar
41	※T3641-C	R/P Head Ass'y	89	T5696	Collar
42	※T6997	E. Head Ass'y	90	W L S 2600	Lock Washer
43	T4682-1	Spring	91	W L S 3000	〃
44	T40239	Drive Lever (A)	92	N N B 2000	Nut
45	T40240	Drive Lever (B)	93	N N B 3000	Nut
46	T6661-18	Spring	94	SPSP2004Z	Screw
47	T40241	Stud	95	SPSP-2604Z	〃
48	T40242	Brake Arm	96	SPSP-2608Z	〃
			97	SPSP-2606Z	〃

Dwg. No.	Parts No.	Parts Name	Dwg. No.	Parts No.	Parts Name
98	SPSP3004Z	Screw	133	※T6871	Short Sw. (2)
99	SPSP3006Z	〃	134	※T3701	Power Transfor. (TR-541U, B)
100	SPSP3008Z	〃		T3702	〃 〃 (TR-541Z)
101	SPSP3012R	〃		T40459	3Pin AC Plug (〃)
102	SSSP2014R	〃		T40460	Power Cord (〃)
103	STBP2604R	〃		T40461	Wire Clamp (〃)
104	WNB3000	Washer		Cabinet	
105	T40214	〃	135	T1074	Body
106	45912-1	〃	136	T3658	Handle
107	45912-3	〃	137	T40184	Special Screw
108	T5750	〃	138	T40177	Bracket
109	T5751	〃	139	T3657-B	Speaker Grille Ass'y
110	T6663-10	Spring	140	T40178	Fitting
	Amplifier		141	T3700	Mark
111	T3665-1	Circuit Board	142	T2192-B	Top Panel Ass'y
112	T4810	Choke Coil	143	T3708	Panel Plate
113	※Q03778	Slide Sw. (Record)	144	T40139	Head Cover Plug
114	※T6894	Oscillator Coil	145	T40182	Plate
115	T40284	D.C Relay	146	T40174-A	Battery Cover
116	※A04049-D	Silicon Diode	147	T40173-A	Pocket Cover Ass'y
117	※D-I E	Thermistor	148	T40127-2	Head Cover
118	※1N34A	Diode	149	T2193-B	Cover Ass'y
119	※04065-17	V. Resistor 10KΩ	150	T3678	Operating Lever
120	※04064-80	〃 5KΩ	151	※T40176	V.R Control Knob
121	※Q03936	Slide Sw. (Monitor)	152	※T40176	Tone Control Knob
122	T40273	Jack Board	153	※T40276	F.F. Button
123	Q03936	Jack Ass'y (3.5φ)	154	※T40275	Monitor Button
124	T6683	〃 (Remote)	155	※T40259	Record Button
125	Q03944-1	Double Jack Ass'y	156	T40175	Stud
126	※T3666	Input Transformer		Attachments	
127	T40517	Power Cord Ass'y (TR-541U, B)	157	※MD-315LC	Dynamic Microphone
128	※SK-2098Je	Speaker	158	T3313-17	Tape Ass'y
129	※T40186	Battery Contact (+)	159	T3312-16	Reel Ass'y
130	※T40185	〃 (-)	160	T40618-B	Extention Cord
131	FG9011	Inserting Pin	161	T4848-1	Earphone
132	※T6870	Short Sw. (1)	162	UM-1	Dry Cell
			163	T40134-B	Head Cleaning Ribbon

- Note.** 1. For the purpose of prompt supply of service parts, inscribe parts number, parts name, and model name correctly when you order
2. The parts marked with ※ are recommendable to keep as spare parts.

The List of NIVICO & ISCO Service Manual

(Radio)

No.	Model	No.	Model	No.	Model	No.	Model	No.	Model	No.	Model
ISCO		1001	8H-4	1011	8H-5	1021	10TA-1	1031	8TA-10E	1041	11F-5
S-1001	9F-220C	1002	8H-3	1012	9TA-1	1022	10A-5	1032	7A-7L	1042	7H-4M
S-1002	12F-245,	1003	8TA-6E	1013	6B-1	1023	8A-2	1033	8TA-6R	1043	6A-210
S-1003	11F-314MB	1004	11A-7	1014	6TB-3	1024	9TH-2	1034	11F-3	1044	8H-302
S-1004	6H-129	1005	6H-3	1015	7TB-1	1025	6H-201	1035	6H-102	1045	6A-107
S-1005	JR-120	1006	7TH-1	1016	7TA-1	1026	6H-101	1036	5A-28E	1046	9F-3
S-1006	6H-133G	1007	7TH-4	1017	7TH-2	1027	8A-9	1037	9A-4L	1047	6H-112
S-1007	STF-24	1008	10A-3	1018	8B-1	1028	8TA-6L	1038	9H-304	1048	6H-114
S-1008	FS-216etc.	1009	6TB-4	1019	8TH-500	1029	8H-4B	1039	8H-303	1049	FA-6000
S-1009	FA-900	1010	6H-4	1020	5A-23	1030	9TA-3R(S)	1040	9A-301	1050	6H-109

No.	Model	No.	Model	No.	Model	No.	Model	No.	Model	No.	Model
1051	11F-9	1061	9F-216	1071	TCR-555	1081	6H-156	1091	RS-1400	1101	8A-137
1052	8A-228	1062	6H-112C	1072	RS-1100	1082	6H-324	1092	TP-4A	1102	9F-313,A,R
1053	6H-222(P)	1063	7H-236	1073	10A-323	1083	7H-129M	1093	FA-6000T	1103	12F-250
1054	9H-701	1064	7H-237	1074	9F-220	1084	8H-333	1094	8H-350	1104	6H-138
1055	TCR-325	1065	M•X	1075	10H-406	1085	TH-2770SZ	1095	10A-327, 337	1105	8A-252E
1056	6H-109S	1066	8H-238	1076	8H-407	1086	11F-314S	1096	RS-2100(T)	1106	12F-343
1057	6H-109B	1067	6H-130	1077	7H-324	1087	6H-257	1097	M • SSE	1107	RS-2000(T)
1058	M•3E	1068	6H-119	1078	F-215T	1088	8A-334	1098	8H-360	1108	6H-258
1059	7H-120(M)	1069	6H-124	1079	7H-250	1089	6H-142	1099	AA-6E, U	1109	RS-1400S
1060	9F-218	1070	11F-314, (A), (R)	1080	6H-131	1090	6H-141	1100	7H-146E	1110	8A-251

No.	Model	No.	Model	No.	Model	No.	Model	No.	Model	No.	Model
1111	TP-5(A)	1121	FA-900N	1131	RS-2000A						
1112	10H-407	1122	RS- 2100LA	1132	12F- 335E, R						
1113	5H-258E	1123	8H-345	1133	TCR-101						
1114	8H-407A	1124	8H-300	1134	TRH-400						
1115	RS-2100A	1125	6H-145(B)	1135	10F-353L						
1116	10F-407	1126	10H-410	1136	STF-200E						
1117	8A-265	1127	AA-6E, u, C	1137	FT-268A						
1118	TCR-575S	1128	A-730S, B,	1138	STF-600E						
1119	8A-353(A)	1129	8H-407R	1139							
1120	HE-412	1130	8A-150E	1140							

The List of NIVICO Service Manual

(Phonograph)

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
2002	STP-4	2012	STL-13	2022	STP-200	2032	N350	2042	STP-6	2052	ARC-10F	2062	N240
2003	2020N	2013	STL-33	2023	STP-3	2033	N600	2043	TPE-20	2053	ARC-11A, 12A	2063	N65
2004	ARC-2B	2014	STL-34	2024	TPE-10	2034	N800	2044	STP-5	2054	N21, N31	2064	STP-5T
2005	646N	2015	SRE-30	2025	TRE-45	2035	NP-6	2045	4TR-4	2055	N460C	2065	N466C
2006	N550	2016	SRP-105etc.	2026	N300	2036	TRE-6	2046	N191	2056	N661	2066	N880
2007	1025N	2017	STL-14	2027	N310	2037	J-141W	2047	STP-7	2057	N55	2067	N170
2008	4TR-31N	2018	STL-65	2028	N120S	2038	N-11	2048	N231S	2058	4TR-4U	2068	N45
2009	N225S	2019	TRE-5	2029	ASP-850A	2039	N510, 512	2049	N130SE	2059	TRE-8N	2069	N710
2010	ARC-1B	2020	SRE-221	2030	ASP-820A	2040	N40, 41	2050	TPE-21	2060	N-51	2070	N41SR
												2071	{ AA-2E AA-500
												2072	AST-220E
												2073	TRE-12S
												2074	SRP-471E
												2075	FRS-103etc.
												2076	N455, N590
												2077	N177, 185, 187
												2078	N440
												2079	4TR-55U
												2080	AST-320E

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				
2082	N-55T	2092	4TR-55T	2102	SRP-472E	2112	SST-61	2122	L-21M				
2083	SRE-130E	2093	N670, N730MG 4TR-99U etc.	2103	SRP-469E	2113	FRS-103(R#-2)						
2084	{ N590F 4TR-390F	2094	STP-7LA	2104	ARC-10L	2114	STP-808C						
2085	ARC-40A	2095	TRE-26C	2105	BLA-Series	2115	SSL-95E						
2086	TRE-12F	2096	STP-7F	2106	AST-140E	2116	MSL-16T						
2087	SRP-467E	2097	N880(R#2)	2107	ARC-12C, E	2117	AST-215E						
2088	SRP-468E	2098	N163	2108	CSL-1E	2118	SRC-700U						
2089	ECA-101E	2099	4TR-6U	2109	MSL-8E-1	2119	AST-102E						
2090	STC-19	2100	MSL-15E	2110	SST-31	2120	No. 200 Series						