

SERVICE MANUAL



MODEL VL-8

4 CHANNEL READY MANUAL TURNTABLE

DIMENSIONS : H - 7-1/2", W - 19-3/8", D - 16-3/4"

WEIGHT : 22.0 lbs.

SPECIFICATIONS

Type	: 4 Channel Ready Manual Turntable
Motor	: DC Brushless Servo Motor
Speeds	: 33-1/3 and 45 r.p.m.
Turntable Platter	: 12" Dia. Aluminum Die Cast Platter
Drive System	: Belt Drive
Tone Arm	: Stable Balancing Tubular Arm, Adjustable in height, with Anti-Skating device and Oil Damped Cueing Control, Overhang Adjustable to 15 mm (5/8")
Pitch Control	: ± 2.5% Variable
SN Ratio	: Better than 60dB
W & F	: 0.05% (WRMS)
Rise Time	: Within a Half Rotation of Platter
Strobe Scope	: High Brightness Illuminated Strobe System
Cabinet	: Cover Removable Legs Adjustable Board 40mm (1-3/4") Thick
Power Source	: AC 120V 60Hz
Power Consumption	: 5W
Accessories	: A Low Capacity Signal Cord

COMPONENTS

1. Turntable seat

Designed for stable holding and easy handling of the record.

2. Turntabl

12" dia. and 35.2 lbs. Die-cast aluminum.

3. Motor board

High quality motor board of die-cast aluminum.

4. Speed change buttons

The left is for 33 rpm and the right for 45 rpm.

Press one of the buttons depending on the record used, and the power is switched on to turn the turntable. These are feather touch buttons.

5. Stop button

Press this button to stop the turntable and switch off the player.

6. Stroboscope window

The accuracy in speed of rotation of the turntable can be seen at a glance through this window. Towards you are the marks for 33 rpm and away from you the marks for 45 rpm.

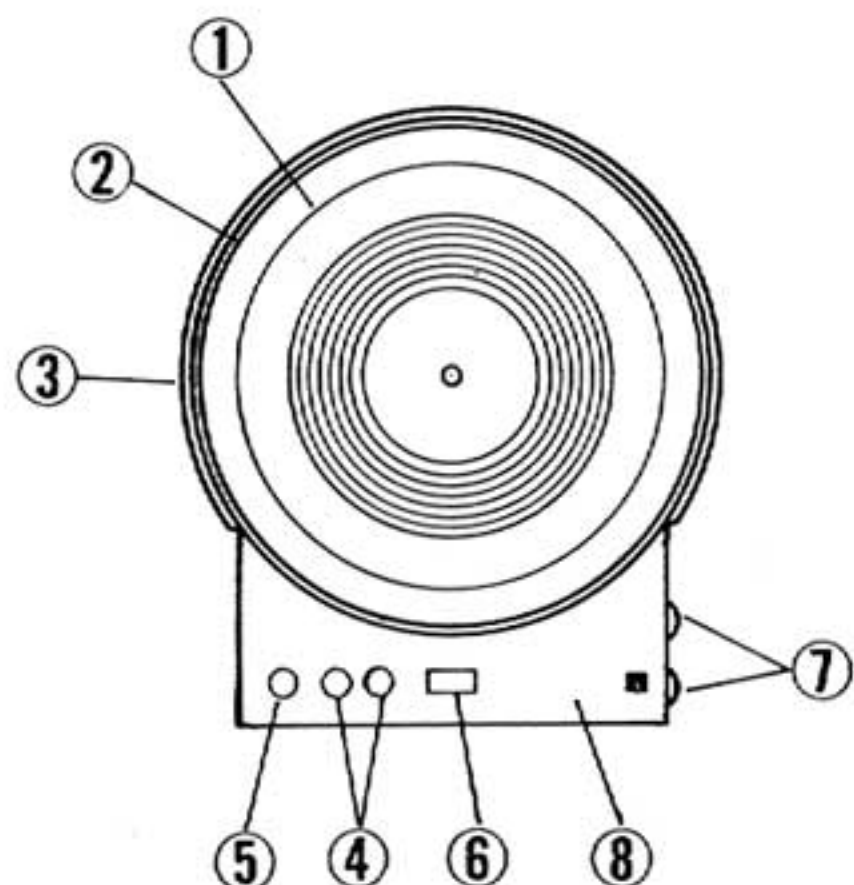


Fig. 1

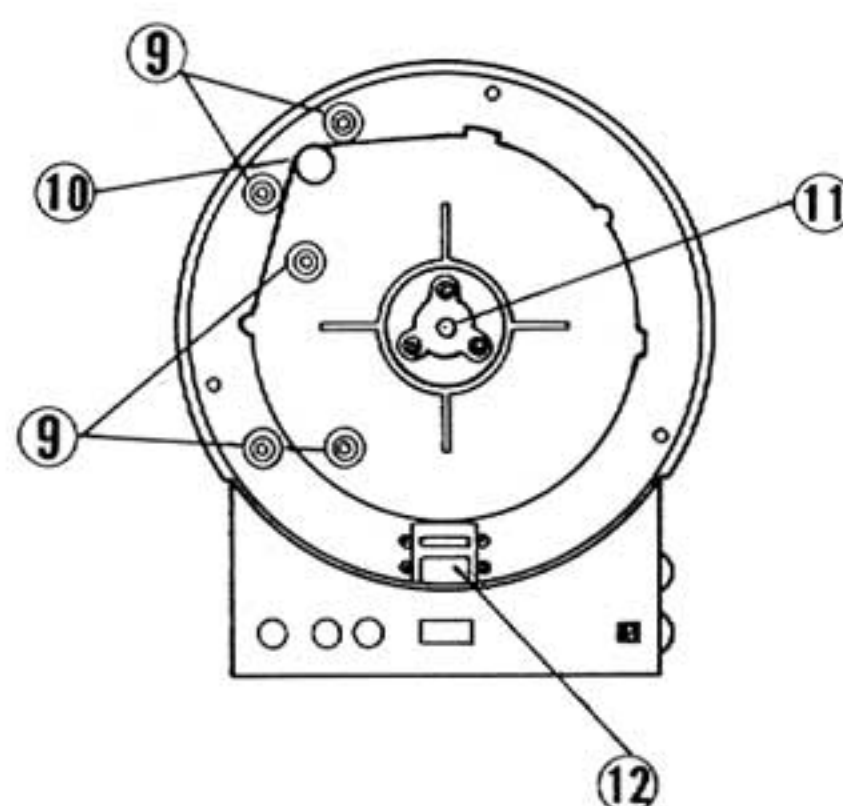


Fig. 2

7. Turntable speed fine adjustment knobs

Use these when it is necessary to adjust the speed of the turntable finely. Two knobs are provided for independent adjustment of each speed (33 and 45 rpm). The speed is adjustable between -3% and $+3\%$ by means of these knobs. To adjust, drive the turntable and turn the knob until the respective marks are stationary on the stroboscope.

8. Control panel

Die-cast panel.

9. Screws

For protecting the motor and power circuit during transportation. Remove them when setting up the player. Keep them because you will need them when you have to transport the player again.

10. Pulley

This is a shaft which transmits the driving power from the motor to the turntable. Don't apply any excessive external force. Special care should be taken of it to guarantee the specified performance.

11. Turntable spindle

The turntable is fitted on this spindle. Don't apply an additional large external force.

12. Cycle plate

If the frequency of the power supply is other than that for which the player is set, it is necessary to re-fit the cycle plate. See the section "Frequency changes".

HOW TO REMOVE THE CONTROL PANEL

Remove the three screws and the lever as shown below.

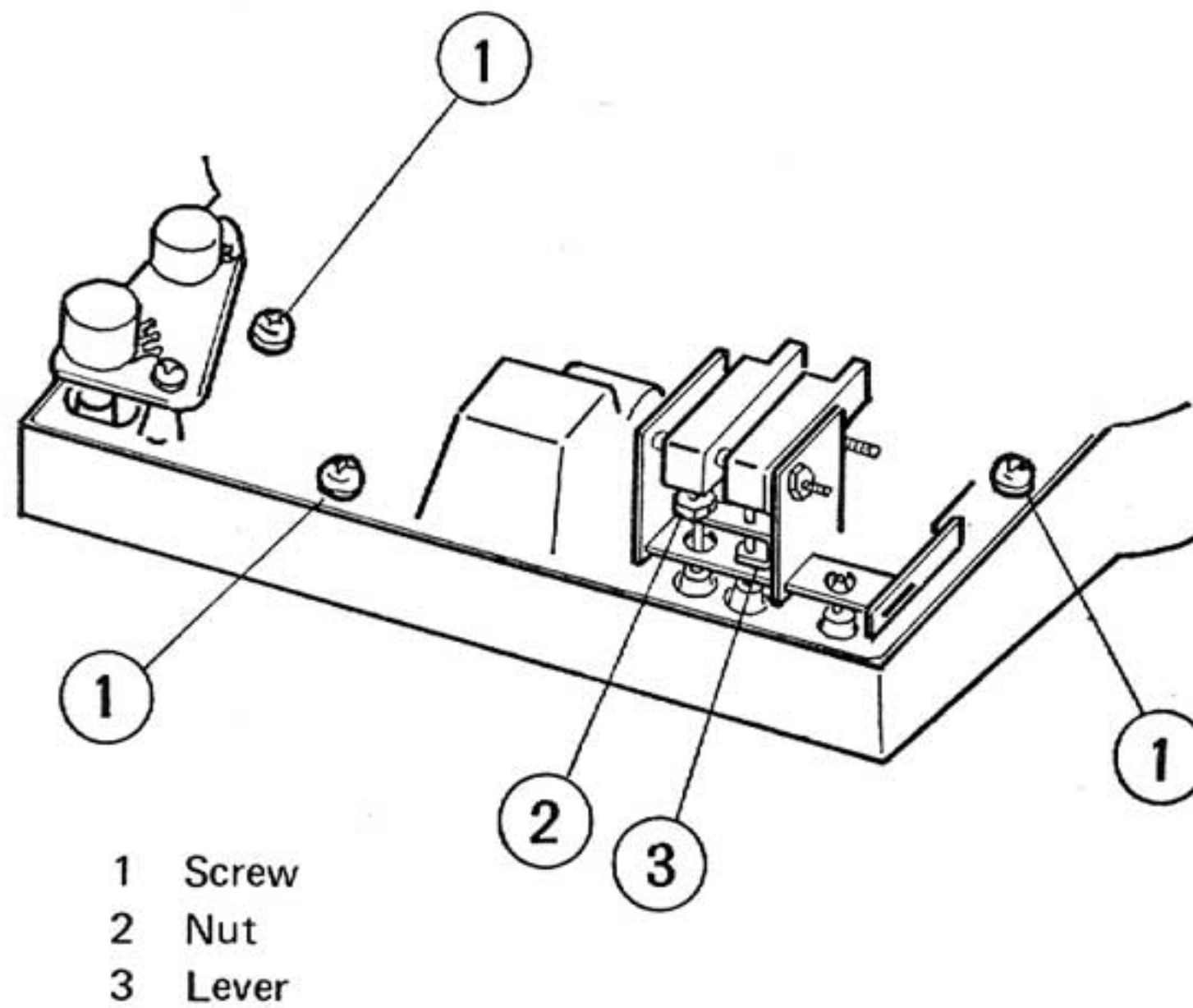


Fig. 3

FREQUENCY CHANGES

In conventional record players the speed of revolution is determined by the frequency of the power supply. This is not the case with the VL-8 because it is driven by a servo motor. The lamp which illuminates the stroboscope, however, is powered directly from the power supply, and the frequency with which it flickers is determined by the frequency of the power supply. Because of this, if the frequency of the power supply is other than that for which the VL-8 is set, the cycle plate must be changed as shown below so that the correct marks on the stroboscope can be seen.

Two screws hold this plate in place.

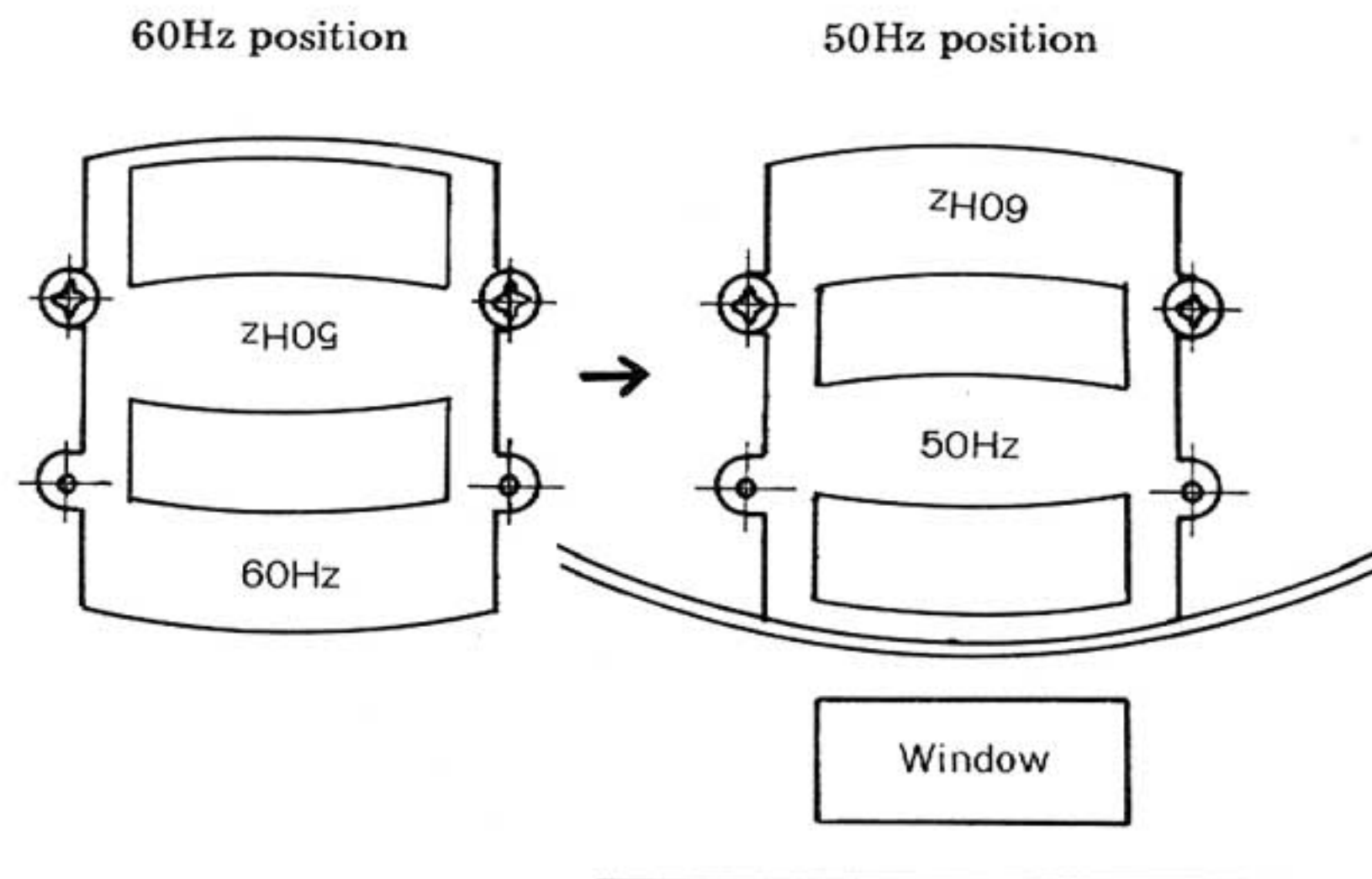


Fig. 4

VOLTAGE CHANGES

The VL-8 incorporates a universal transformer. When the supply voltage is different from that for which it is set, make connections as shown below.

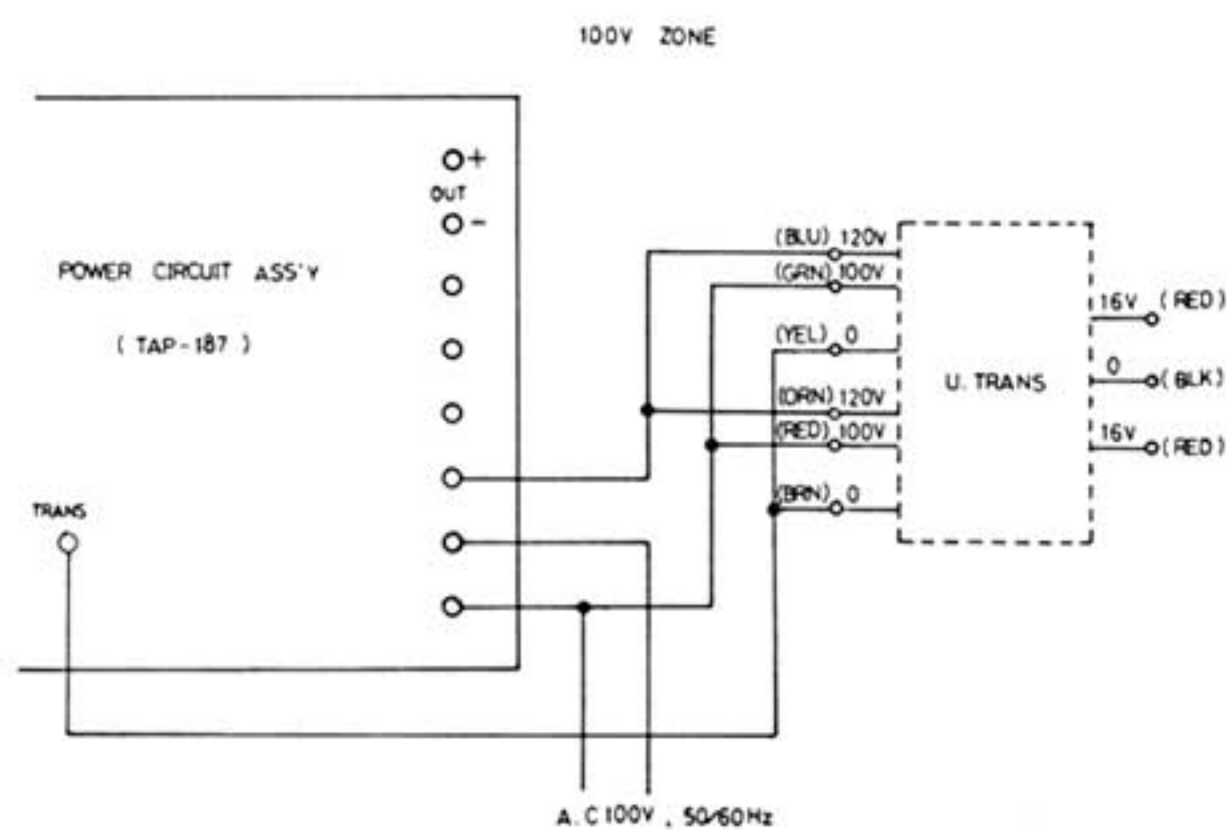


Fig. 5

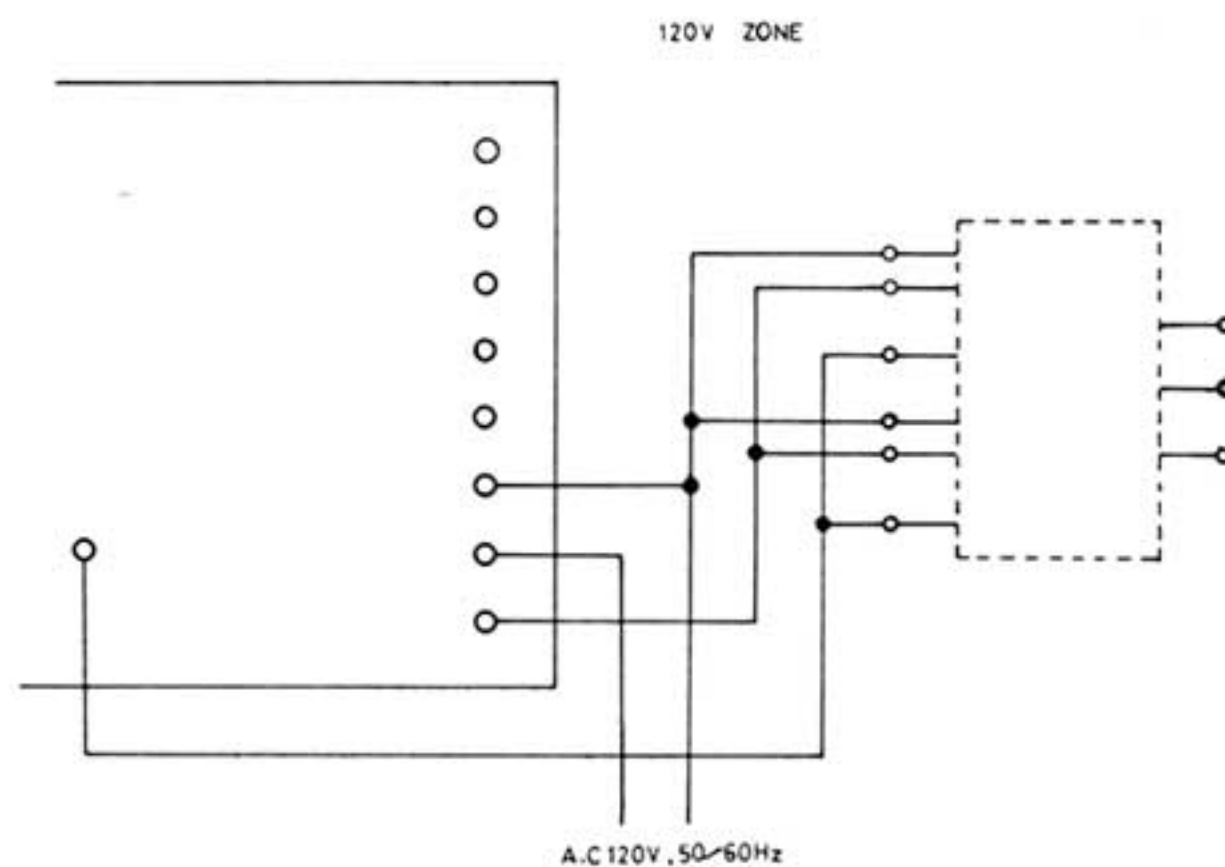


Fig. 6

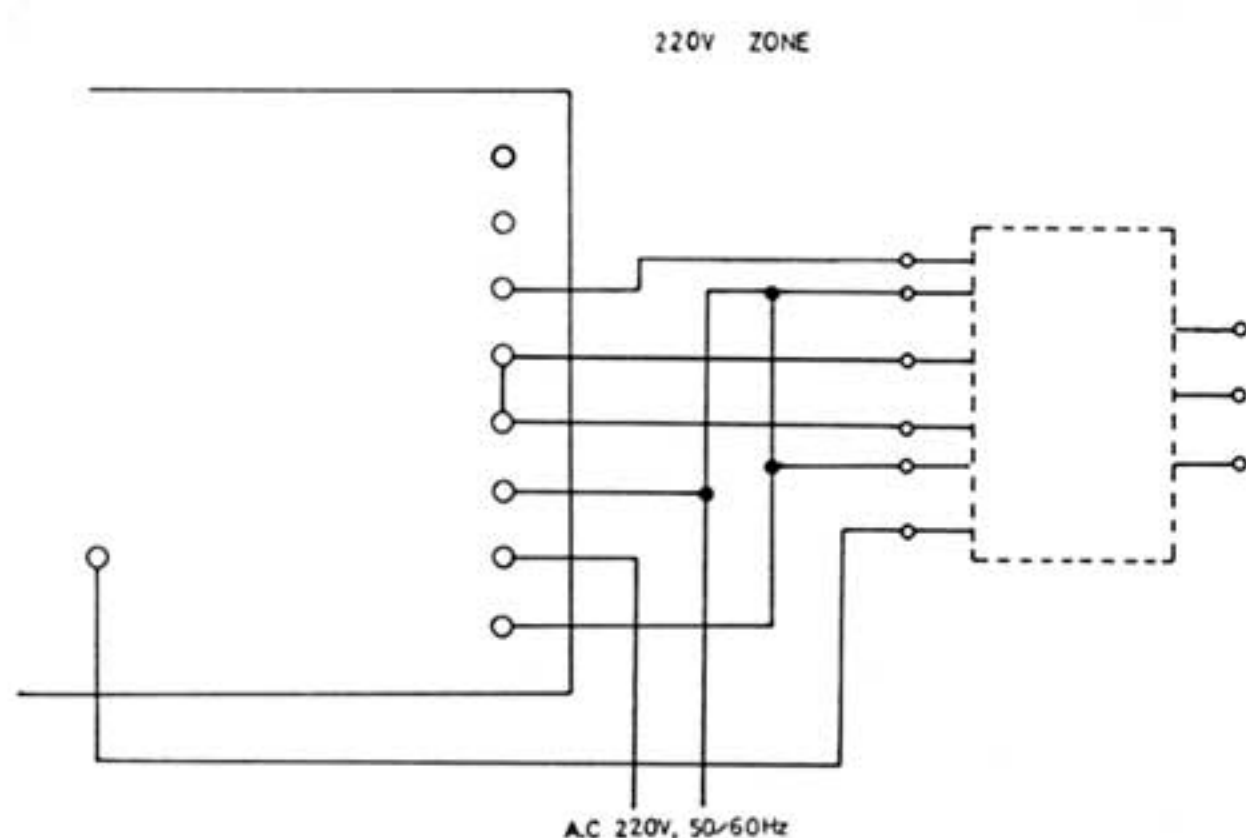


Fig. 7

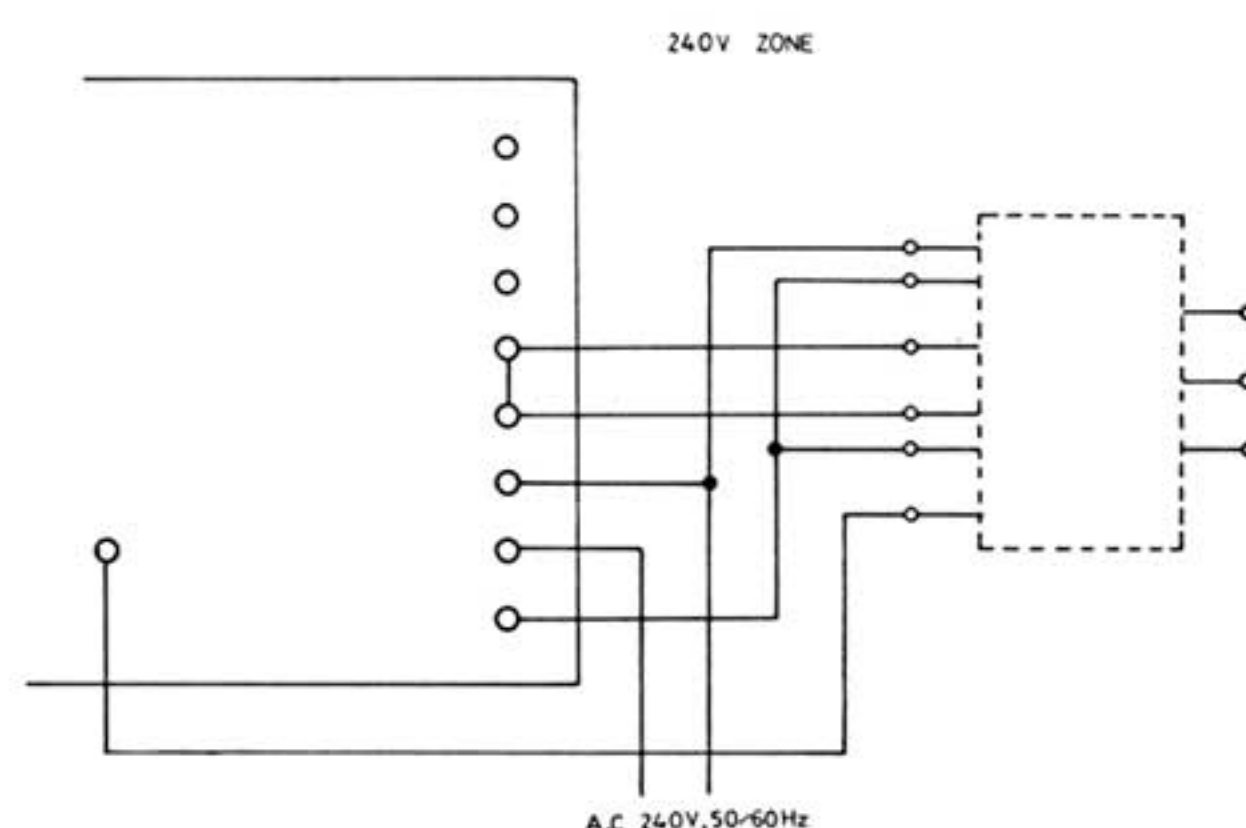


Fig. 8

PICK-UP ADJUSTMENT

1. Over Hung adjustment

There is an over hung mark on the control panel. The center of this circle indicates the correct overhang $5/8$ inch (15mm). When you replace the cartridge, be sure to align the stylus tip with this point by sliding the cartridge back and forth.

Refer below.

2. Arm height adjustment

The arm can be freely adjusted in height after loosening the two set screws shown below. This adjustment is necessary especially when the distance between the cartridge and the record surface is too little because of the weight of the cartridge.



Fig. 9



Fig. 10

3. Anti-skate adjustment

The anti-skate device of the VL-8 consists of a frictionless nylon thread and two separate weights. For given stylus pressures the correct cancelling force can be obtained by selecting one of the shown combinations of the grooves and the number of weights.

4. Headshell positioning

If the stylus tip is not at right angles to the record surface, loosen the screw as shown below and reposition the stylus estimating its position visually. Tighten the screw.

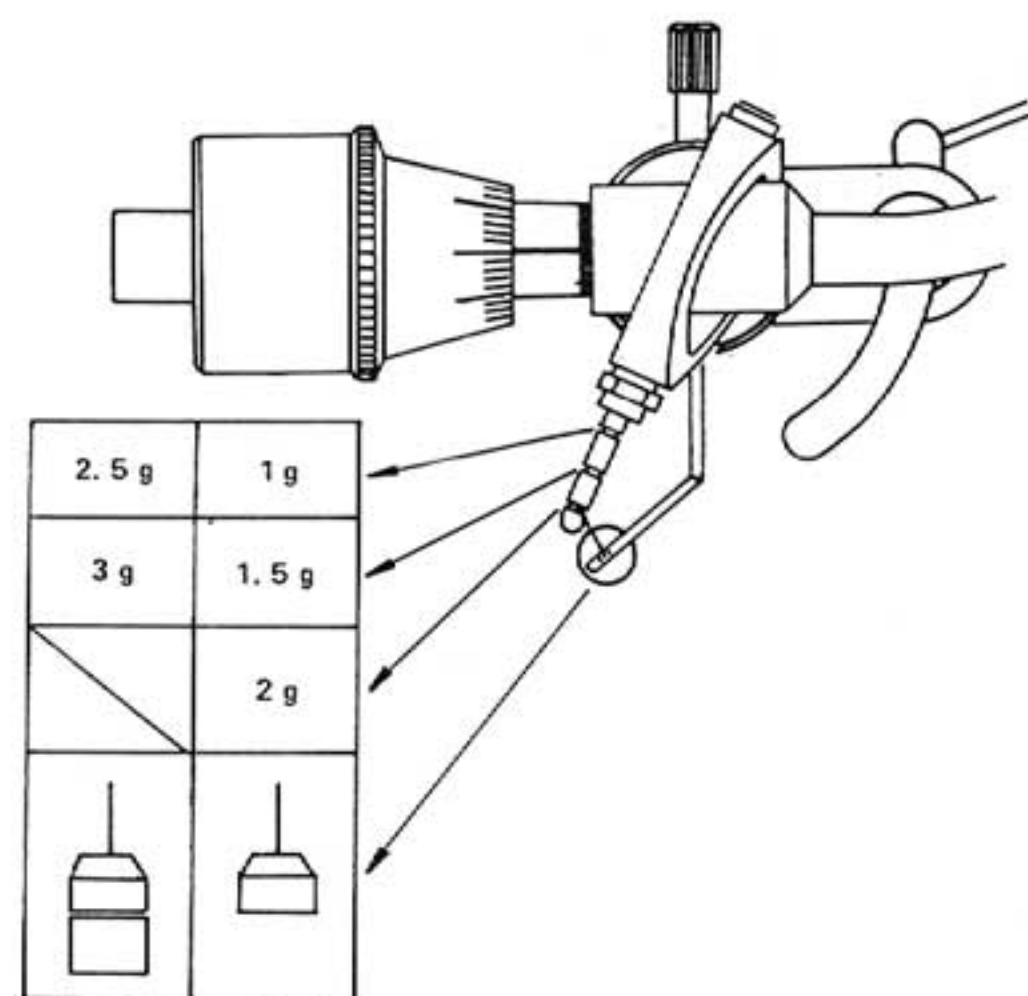
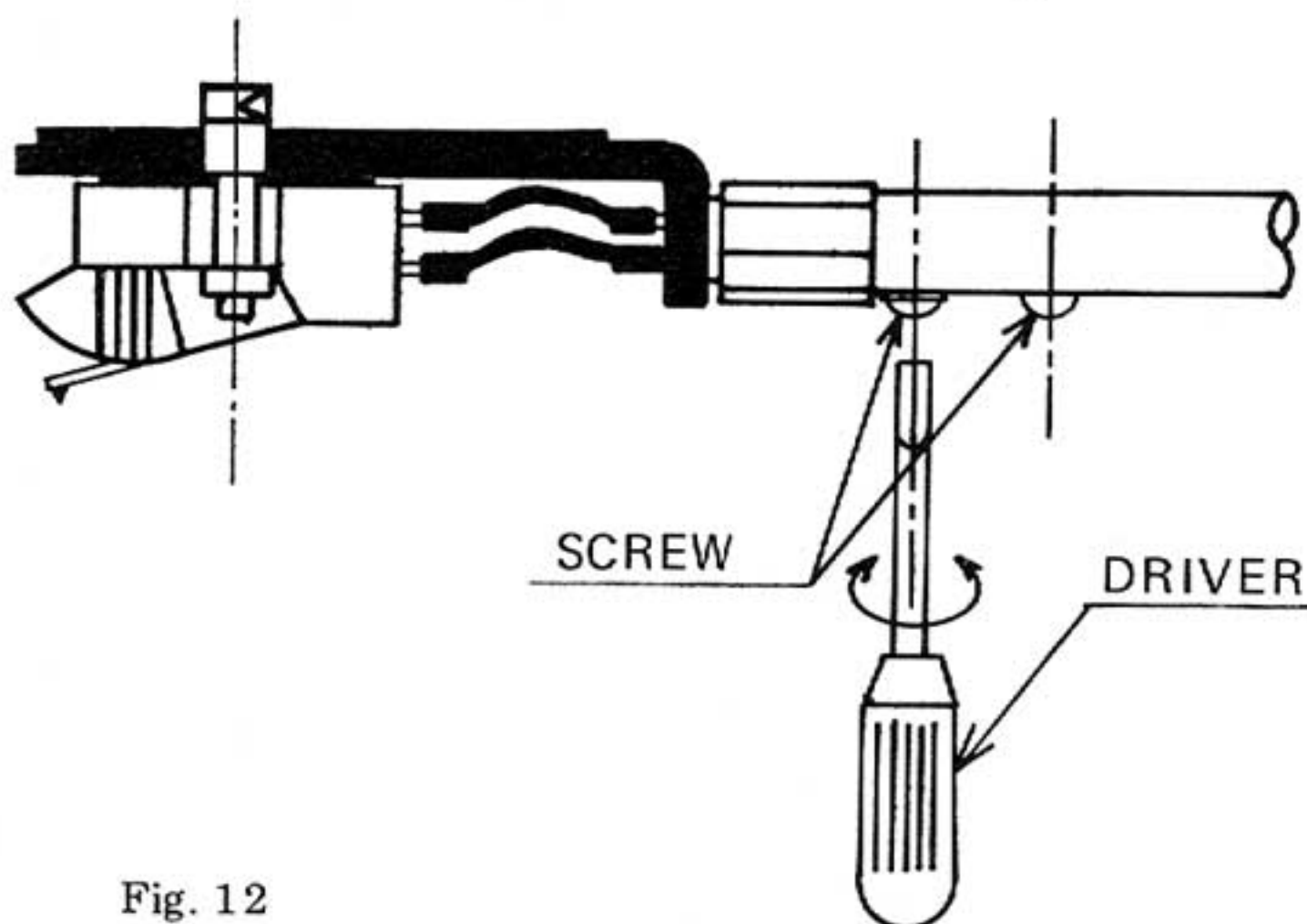
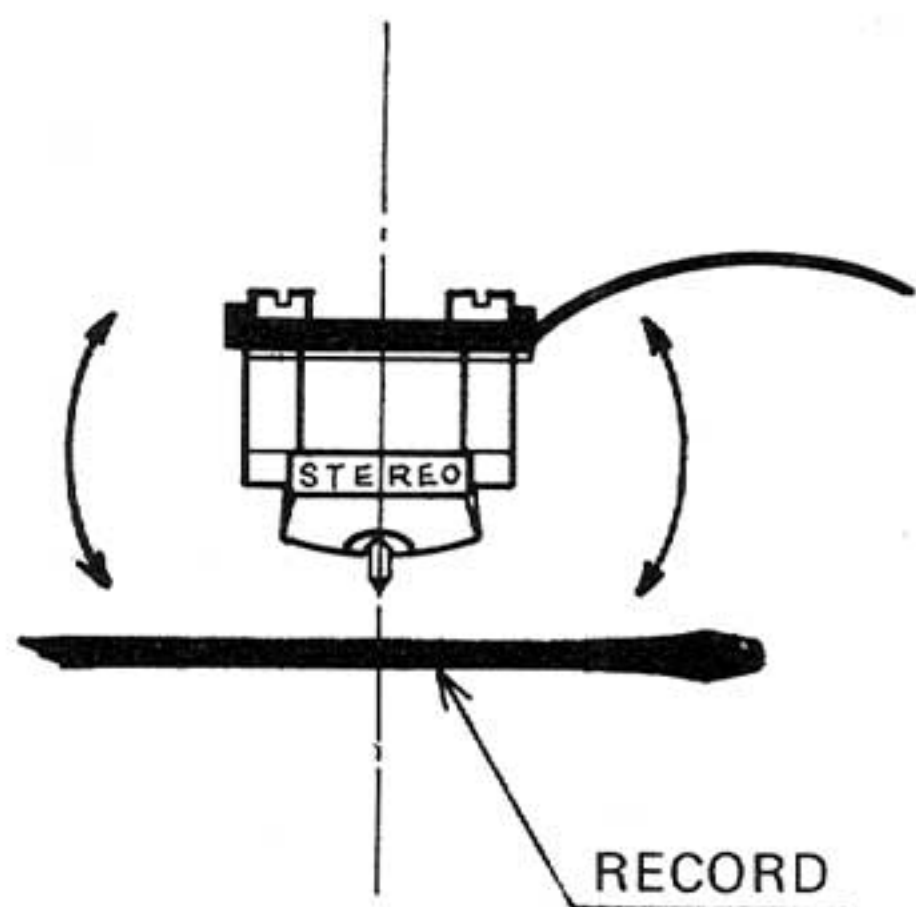


Fig. 11

Fig. 12

5. Stylus pressure adjustment

- 1) Turn the main weight in either direction to balance the arm in a horizontal plane.
- 2) Hold the main weight against movement and turn the scale ring so that its "0" position is against the index line on the weight shaft.
- 3) Turn the main weight clockwise so that the specified value is against the index line on the weight shaft.
- 4) If the cartridge is too heavy to be balanced with the main weight alone, use the supplied sub-weights according to the table below.

Weight of cartridge (incl. headshell) (12g)	sub-weight used
13 – 26 g	—
15 – 28 g	Small one
27 – 34 g	Large and small ones

SERVICING HINTS

- 1) When you have replaced the motor and the control circuit board :
Adjust the fine adjustment knobs on control panel (variable resistors R24 and R25) and the semi-fixed resistors R13 and R14 so that the marks on the stroboscope stop correctly.
- 2) When you have replaced the power circuit board :
The power circuit is a constant-voltage circuit. Therefore, after replacing it, adjust the output voltage on the secondary side to 14V by means of the semi-fixed resistor R107.
- 3) Speed fluctuation (Wow & Flutter)
 - o D02 – D04 1S188FM defective. → Replace
 - o Pulley out of center. → Replace
 - o Motor windings defective. → Replace.

- 4) Dead point on the motor
 - X01 — X03 2SA496Y damaged. → Replace.
 - Motor windings defective. → Replace.
- 5) Excessive motor vibration (Rumble)
 - Rubber bushing hanging the motor is damaged. → Replace.
 - X01 — X03 2SA496Y defective. → Replace.
- 6) Motor rotates at a higher speed than specified and cannot be controlled.
 - R11 or R16 imperfectly soldered or damaged. Solder correctly or replace. → Check.
 - X05 2SA628E damaged. → Replace.
 - D02 — D04 1S188FM damaged. → Replace.
 - X04 2SA496Y damaged. → Replace.
- 7) Motor (turntable) speed varies with time
 - Output voltage from the power circuit is too low. Re-adjust to the rated voltage 14V.
 - Varistor diode STV-4 inside the motor is damaged. → Replace.
 - Control circuit board defective. → Replace.

TAP-186 PARTS LIST

Dwg. No.	Parts No.	Parts Name	Description
1	E33364-001	Circuit Board	
2	2SA496Y	Transistor	X01~04
3	2SA628E	"	X05
4	2SC828Q	"	X06~10
5	VD1121	Varistor Diode	D06
6	JL953	Diode	D01
7	1S188FM	"	D02~05
8	E0771-17	Zener Diode	D07
9	Q04770-120	OMF Resistor	R01
10	Q04799-1.2K	Carbon Resistor	R18
11	" -1.5K	"	R06,07,17,20,21,23
12	" -2.2K	"	R05
13	" -3.3K	"	R04
14	" -4.7K	"	R19
15	" -5.6K	"	R15
16	" -6.8K	"	R03
17	" -10K	"	R10,12,22
18	" -15K	"	R16
19	" -18K	"	R02,09
20	" -22K	"	R08
21	" -56K	"	R11
22	E03511-102	Metal Glaze Resistor	R13,14
23	QEB41EM-106	L.L.C. Electrolytic Capacitor	C09,10
24	QEB41EM-336	"	C08
25	Q03110-100	Electrolytic Capacitor	C07
26	" -4.7	"	C04,05,06
27	Q03244-222	F Capacitor	C01,02,03
28	E47924	Heat Shink	
29	A41096	Tab	
30	SPSP3006NS	Screw	
31	LPSP3006NS	Ass'y Screw	
32	AC222	Insulator Film	

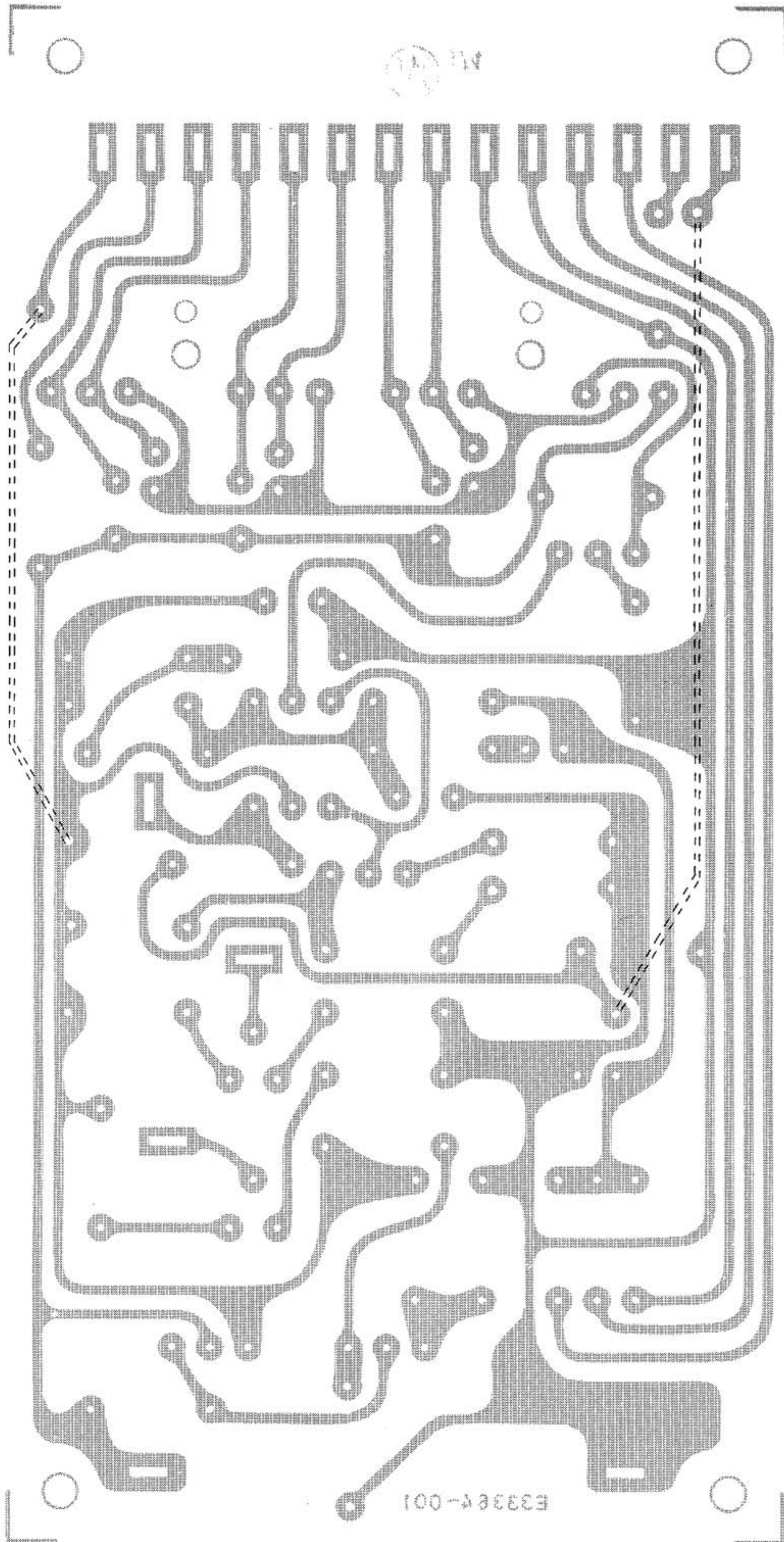


Fig. 13

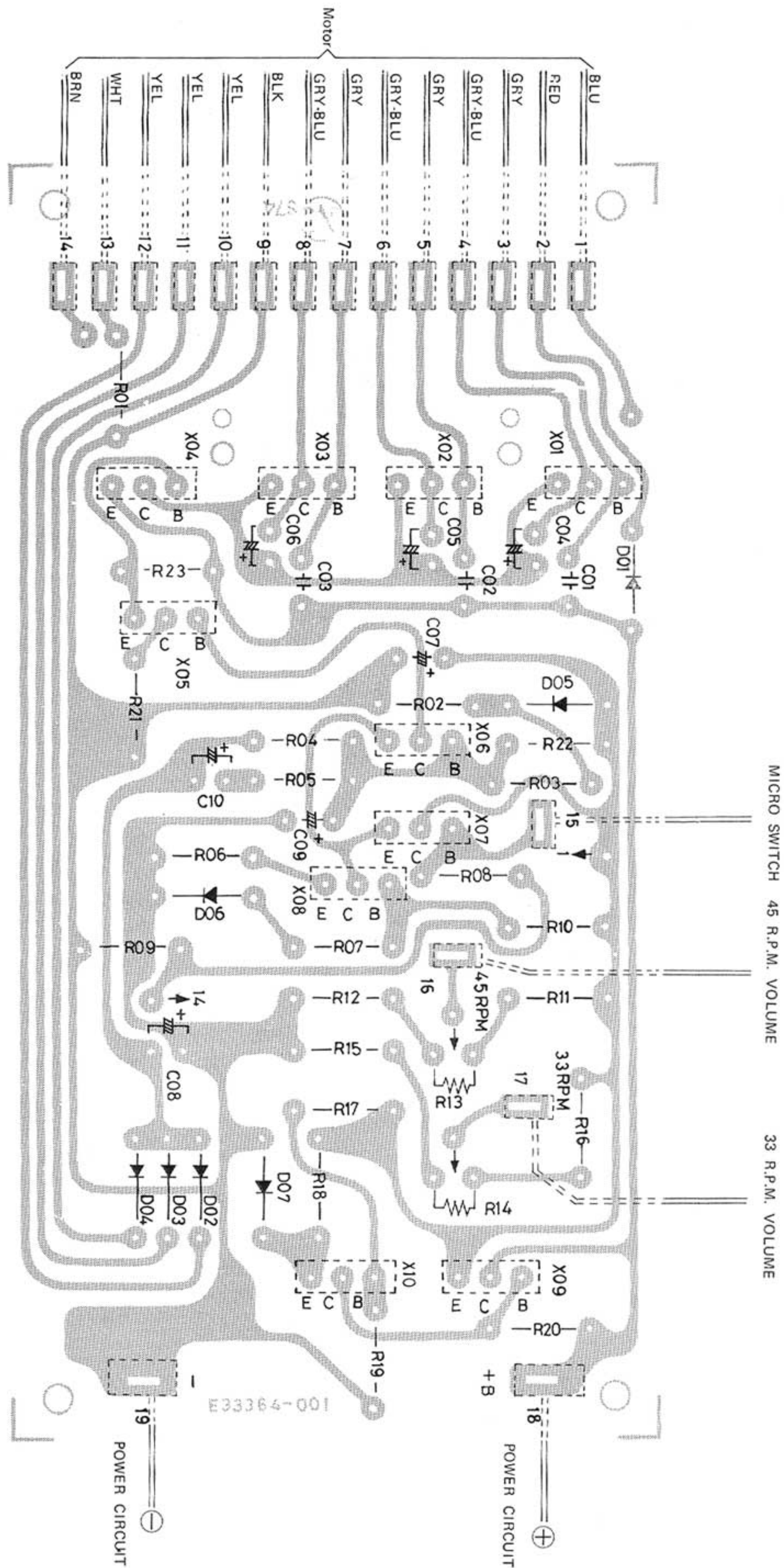


Fig. 14

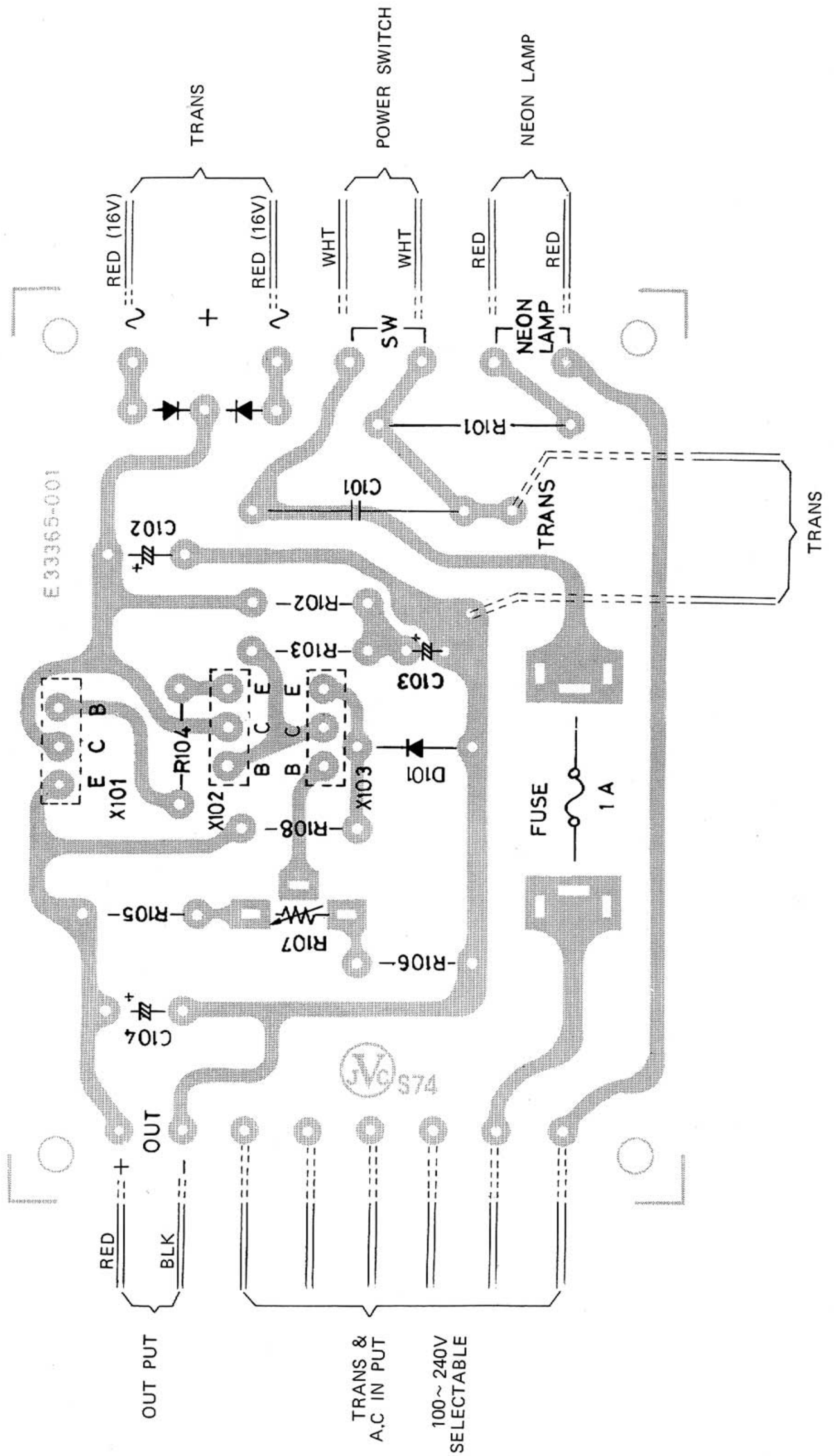


Fig. 15

TAP-187 PARTS LIST

Dwg. No.	Parts No.	Parts Name	Description
1	E33365-001	Circuit Board Ass'y	
2	2SC1173Y	Transistor	X101
3	2SC711E	"	X102,103
4	E03155	Diode	D101
5	E0771-17	Zener Diode	D102
6	Q04799-15	Carbon Resistor	R104
7	" -1K	"	R105,106
8	" -1.5K	"	R108
9	" -4.7K	"	R103
10	" -22K	"	R102
11	Q03110-10	Electrolytic Capacitor	C103
12	Q03112-500	"	C102
13	Q03138-470	"	C104
14	Q04843-2	Variable Resistor	R107
15	Q04772-2.7K	OM Resistor	R101
16	QFM72EM-473	MM Cap	C101
17	E45524-001	Contact Clip	
18	Q04741-1	Fuse	
19	E46728-001	Insulator Film	
20	E41541-16	Spacer	
21	E47925-001	Heat Shink	
22	SPSP3008NS	Screw	
23	NNZ3000NS	Nut	
24	E43727-002	Tab	
25	E03032-14	Universal Trans	without

MOTOR ASS'Y

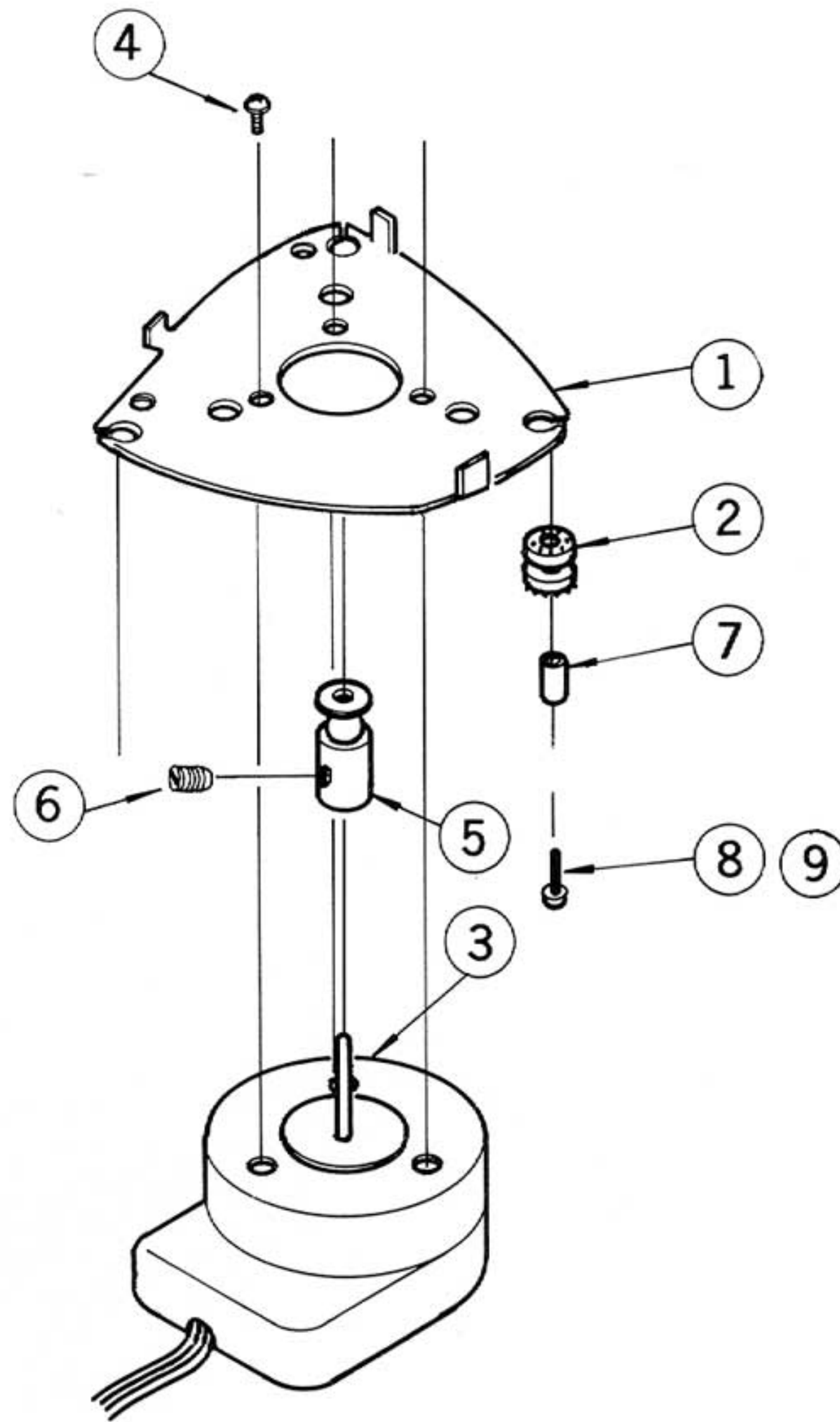


Fig. 16

MOTOR PARTS LIST

Dwg. No.	Parts No.	Parts Name
1	EG10616	Mounting Plate
2	52992-1	Rubber Bushing
3	E03401-002	Motor
4	LPSP2605MS	Screw
5	EG10656	Ass'y Screw
6	TFB3006S	Set Screw
7	EG10588	Tube Spacer
8	M4913As or Bs	Screw Ass'y
9	"	"

PHONO MOTOR ASS'Y

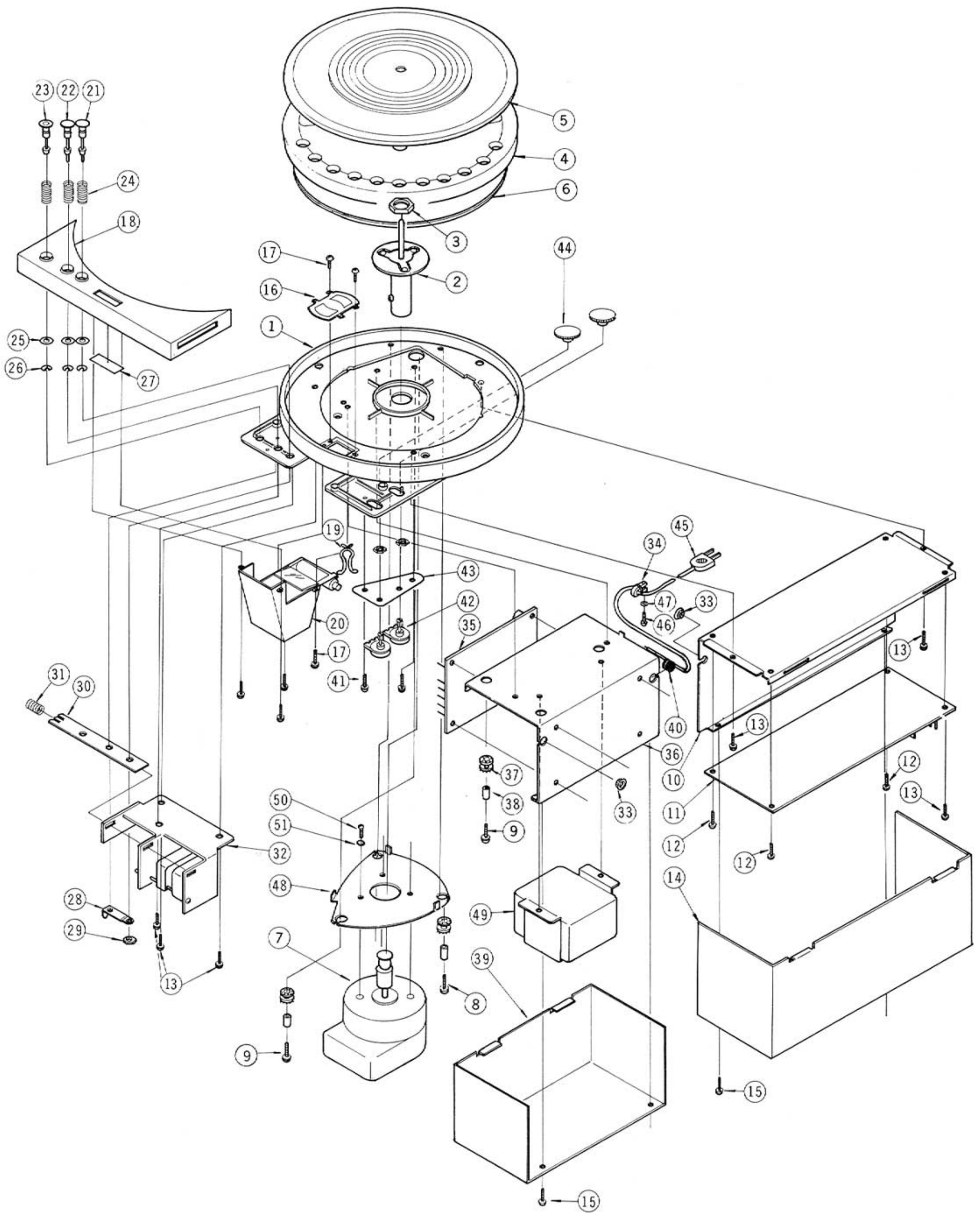


Fig. 17

PHONO MOTOR PARTS LIST

Dwg. No.	Parts No.	Parts Name
1	G1261-1S	Motor Board
2	G41134AS	Spindle Bearing Ass'y
3	EG-10611	Nut
4	G2504	Turntable
5	G2506	Turntable Sheet
6	G3626-4	Belt
7	E03401-002	Motor (without pulley)
8	M4913AS	Screw Ass'y
9	M4913BS	"
10	G30043	Circuit Bracket
11	TAP-186	Circuit Ass'y
12	LPSP3006ZS	Ass'y Screw
13	LPSP4010ZS	"
14	G30039	Circuit Cover
15	SSSP3006MS	Ass'y Screw
16	G41128	Cycle Plate
17	LPSP3006ZS	Screw
18	G30018AS	Control Panel Ass'y
19	E45842-001	Wire Clamp
20	G41110	Mirror Box Ass'y
21	G41216A	Shaft Ass'y
22	G41216B	"
23	G41216C	"
24	G41126	Coil Spring
25	G41136	Felt Washer
26	REE3000	E. Ring
27	G41112	Storobo Plate
28	G41129	Lever
29	NNZ3000ZS	Nut
30	G41217	Plate
31	G41137	Coil Spring
32	G41118AS	Micro Switch Ass'y
33	E5629-2	Insulator Bushing
34	G4084	Wire Clamp
35	TAP-187	Power Ass'y
36	EG-10632	Power Bracket
37	52992-1	Rubber Bushing
38	M0303-134	Tube Spacer
39	G30041	Power Cover
40	G41077	Cord Stopper
41	LPSP4016ZS	Ass'y Screw
42	Q04831-3	Volume
43	G41107	Volume Bracket
44	G41125	Volume Knob
45	Q03056-14	Power Cord
46	Ass'y Screw	LPSP3016MS
47	WNS3000M	Washer
48	EG-10616	Mounting Plate
49	E03032-14	Universal Trans
50	LPSP2605M	Ass'y Screw
51	WNS2600M	Washer

PICK UP ASS'Y

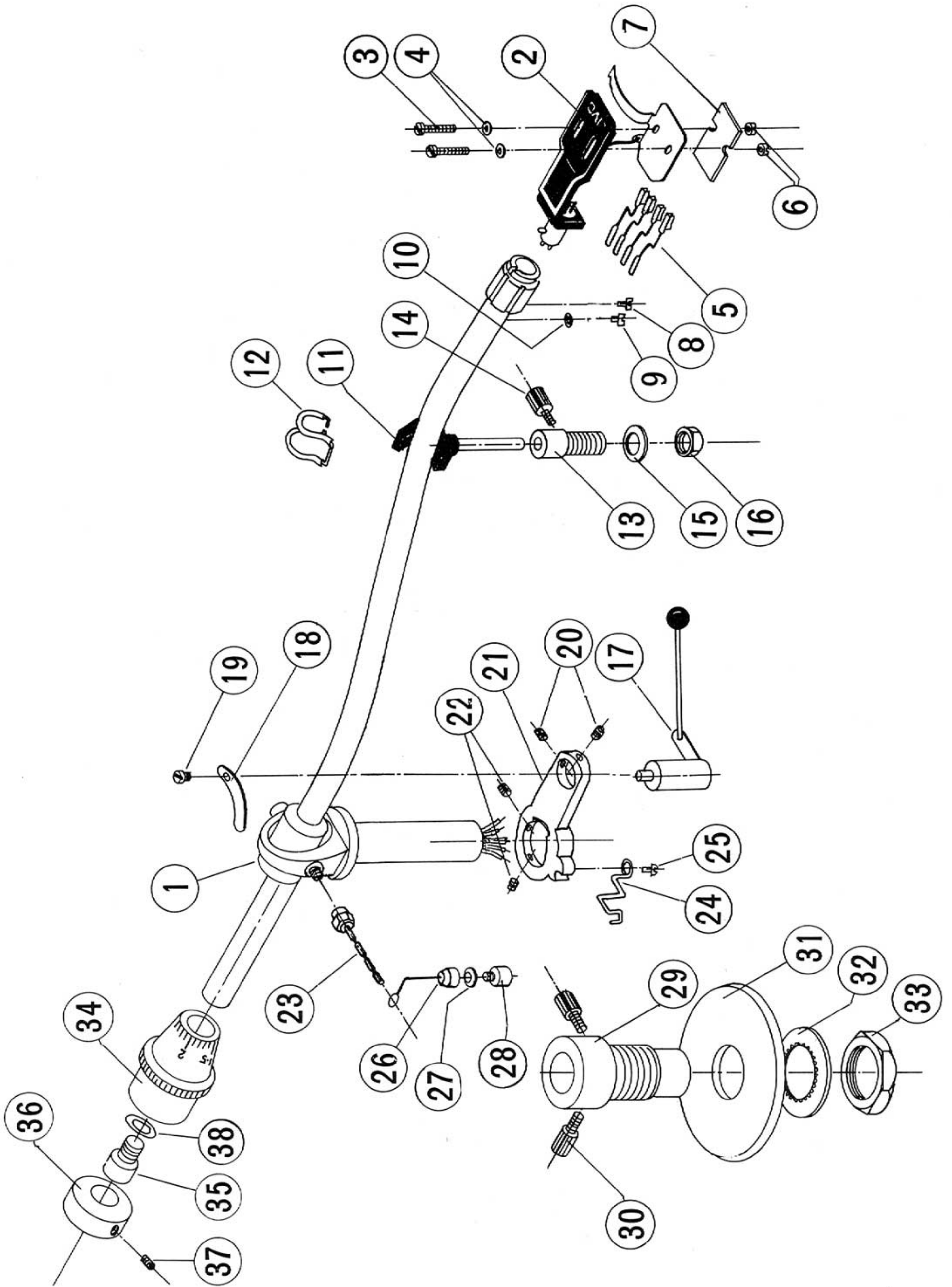


Fig. 18

PICK UP PARTS LIST

Dwg. No.	Parts No.	Parts Name
1	EG81544	Arm Bpdy
2	EG81666	Head Shell
3	EG83142	Screw
4	EG82971	Washer
5	EG83217	Lead Wire Ass'y
6	EG83143B	Nut
7	EG83034A	Sub Weight
8	LPB1402N	Lock Screw
9	SPB1703N	"
10	WLS1700	Washer
11	EG83265	Arm Rest
12	EG83266	Rest Clamp
13	EG83234	Rest Stand
14	EG83229	Lock Nut
15	WNB6000N	Washer
16	NNB6000N	Nut
17	EG81646	Lifter Ass'y
18	EG81490	Lifter Arm
19	SSB2004N	Screw
20	TRS3003ZS	Lock Screw
21	EG81491	Lifter Bracket
22	YRS3004S	Screw
23	EG83228	IFC Bar
24	EG81494	IFC Stand
25	SPB2003N	Lock Screw
26	EG83263B	IFC Weight
27	EG83264	IFC Washer
28	EG83223	IFC Sub Weight
29	EG83224	Arm Base
30	EG83227	Screw
31	EG83224	Base Flange
32	EG83261	Washer
33	EG83235	Nut
34	EG81647	Main Weight
35	EG83220	Sub Weight A
36	EG83221	Sub Weight B
37	TRS3006ZS	Screw
38	EG83254	Washer

EG81667
Head Shell Ass'y

EG83244B
IFC Weight Ass'y

CABINET ASS'Y

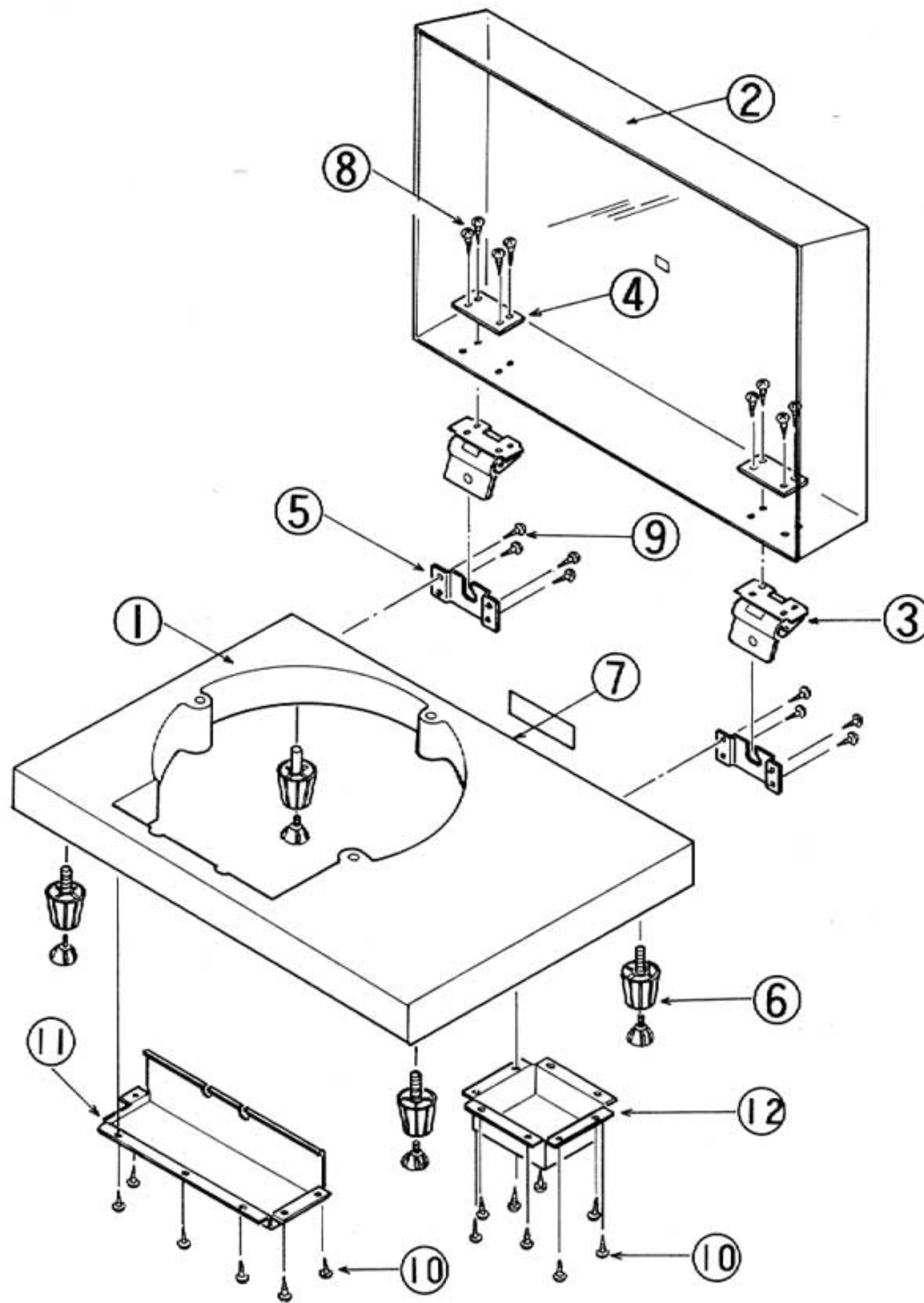


Fig. 19

CABINET PARTS LIST

Dwg. No.	Parts No.	Parts Name
1	ED20783	Cabinet (VL-8)
2	ED20408-911	Cover Ass'y
3	ED35330-001S	Free Hinge Ass'y
4	ED42992-001	Plate
5	ED42991-001	Lock Plate
6	E33179-003	Foot Ass'y
7	EG10657	Rating Label
8	SHSP3016RS	Screw
9	MRSP2710N	Wood Screw
10	MRSP2708M	"
11	EG10624	Switch Cover
12	EG10654	Pick-up Cover Ass'y

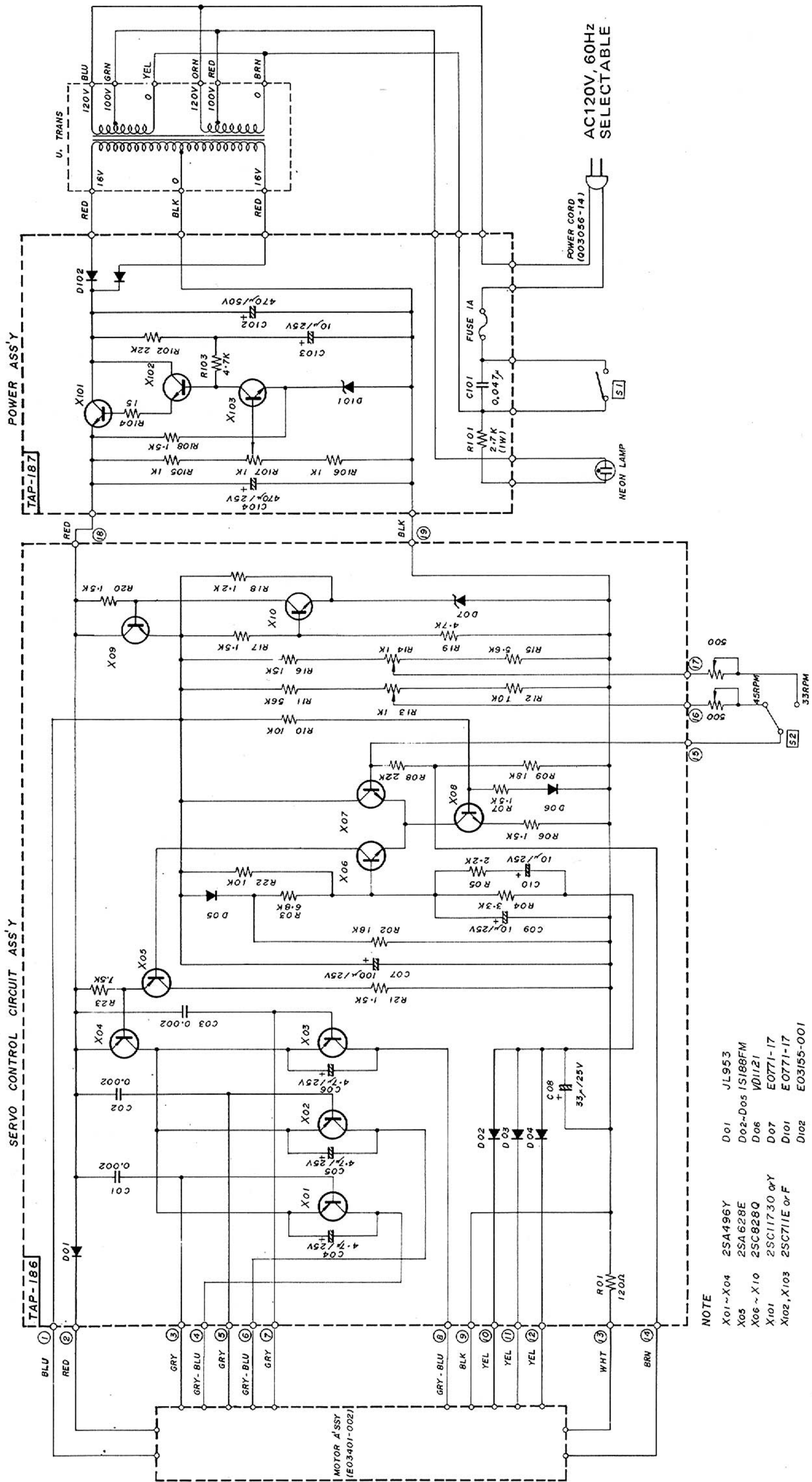


Fig. 20

The List of **JVC NIVICO** Service Manual

(Phonograph)

No.	Model	No.	Model	No.	Model	No.	Model	No.	Model
2131	STP-808A	2141	5320, 5340	2151(B)	5040 (R#-2)	2161	4333U	2171	5202
2132	ARC-41, 42	2142	L-311D	2152	SSL-46E	2162	MPX-18B	2172	5220
2133	TRE-666C	2143	6102, 6103, 6104	2153	SSL-46EA	2163	MCA-104E	2173	ARC-15A
2134(B)	4TR-990DX (a)	2144	ARC-10	2154	MSL-300ES	2164	SEA-100E/5100	2174	4344, 4344U
2135	5001	2145	5011/PST-1000E	2155	4330	2165	5240B	2175(B)	4450, 4450U
2136	SRP-B30E/5230	2146	5012/MST-1000E	2156(B)	N-404, N-404Y	2166	4330U	2176	CSL-130SE
2137	N-65F	2147	5201	2157	MSL-501E	2167	MCA-105E/5107	2177	5020/5020U
2138	4TR-511D, L511D	2148	MSL-300E	2158	N202, 303	2168	5030/5030U	2178	MTR-10ME
2139(B)	SRP-B40E/5240	2149	5310	2159(B)	4211	2169	SRC-900	2179	5010L
2140	5203	2150	MSL-110S	2160	4333U, 4333	2170	5200	2180	4TR-1000
			2150		5010				

No.	Model	No.	Model	No.	Model	No.	Model	No.	Model
2181(B)	4400, 4400U	2191	MCM-105E/5111	2201	MSL-201L	2211	BLA-500E	2221	4431U
2182	ARC-50	2192	5395	2202	MSL-201S	2212	MCT-V7E	2222	4310U
2183	MCT-105E/5108	2193	MSL-201E	2203	4431	2213	5306	2223	N303FYE, N203FY
2184	SCR-500	2194	MCA-V7E	2204	4310	2214	N203/Run No. 2	2224	MCA-104Z
2185	4330M	2195	SRC-800	2205	N-303YE	2215	5250U	2225	MSL-501E
2186	N-404F Series	2196	5301/GB-2E	2206	5500	2216	5444/5444U	2226	MSL-201E
2187	5325, 5335	2197	5390	2207	5540	2217	5910	2227	MCP-105E
2188	MSL-501L	2198	5321	2208	MTR-15ME	2218	MCT-V5E	2228	MCA-V9E
2189	MSA-404E	2199	5341/5341K	2209	5550/5550U	2219	5100	2229	MCA-V5E
2190	N-202FMY	2200	5331/5331K	2210	5351/5351K	2220	5020/5020U 5030/5030U 5040/5040U	2230	ECA-102
									5345

No.	Model	No.	Model	No.	Model	No.	Model	No.	Model
2231	CD4-1E	2241	4344U (R#-2)	2251	VR-5501	2261	VS-5307	2271	VN-700
2232	SRP-473E	2242	MS-4431, 4311U	2252	VN-5101	2262	VR-5511	2272	4MD-10X
2233	N-404FMY #3	2243	MF-4440	2253	VS-5308	2263	4DD-10	2273	VP-10, VB-10
2234	SEA-V7E	2244	MF-4451	2254	VS-5332	2264	5911	2274	VS-5313
2235	MSL-502ES	2245	QSL-F777E	2255	VS-5352	2265	VT-700	2275	VN-900
2236	VS-5391	2246	MF-4430	2256	VS-5342	2266	4ME-4801	2276	GB-1ED
2237	VS-5396	2247	4MM-4600	2257	VS-5322	2267	VS-5399	2277	MSL-602L
2238	5520/5520U	2248	VR-5501L	2258	VR-5541	2268	4VN-770	2278	MSL-302L
2239	VR-5521L	2249	VR-5521	2259	VR-5551	2269	VP-100	2279	4VN-550
2240	4ME-4800	2250	4VR-5445	2260(B)	4VR-5414	2270	VB-100	2280	VT-500

No.	Model	No.	Model	No.	Model	No.	Model	No.	Model
2281	4VN-990	2291	VR-5660						
2282	N-404FMY-4	2292							
2283	4MM-1000	2293							
2284	4VN-880	2294							
2285	CSL-135E	2295							
2286	VN-300	2296							
2287	MF-4430U	2297							
2288	4MD-20X	2298							
2289	4DD-5	2299							
2290	VT-900	2300							