

SERVICE  
MANUAL

TT185

4822725 50857

**marantz®**

model TT185

*Turntable*



## MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, MARANTZ company has created the ultimate in stereo sound.

Only **original MARANTZ parts** can insure that your MARANTZ product will continue to perform to the specifications for which it is famous.

Parts for your MARANTZ equipment are generally available to our National Marantz Subsidiary or Agent.

### ORDERING PARTS:

Parts can be ordered either by mail or by telex. In both cases, correct part number has to be specified. The following information must be supplied to eliminate delays in processing your order:

1. Complete address
2. Complete part numbers and quantities required
3. Description of parts
4. Model number for which part is required
5. Way of shipment
6. Signature: any order form or telex must be signed otherwise such part order will be considered as null and void.

### TECHNICAL ASSISTANCE

Should you require any other technical support, do not hesitate to contact the Technical Department of MARANTZ INTERNATIONAL

Quality & Service Dept.

Vestdijk 9

5600 MD Eindhoven

The Netherlands

Phone: +31/40.75.88.91 or 75.88.78 or 75.89.01

Telefax: +31/40.75.82.99

Telex: 35000 PHTC NL routing IND NLMTFAT

### PARTS ORDERING

Parts may be ordered at the following addresses:

**AUSTRIA**  
HORNYPHON  
Vertriebsgesellschaft GmbH  
Wienerbergstrasse 1  
A 1101 Wien  
Austria  
Telex: 132.332

**FINLAND**  
MARANTZ  
DIVISION OF OY PHILIPS Ab  
Kaivokatu 8  
00100 Helsinki  
Finland  
Telex: 124811

**GREAT BRITAIN**  
MARANTZ AUDIO U.K. Ltd  
Unit 15/16  
Saxon Way Industrial Estate  
Moor Lane  
Harmondsworth UB7 0LW  
Great Britain  
Telex: 935196

**SAUDI ARABIA**  
AL ALAMIAH ELECTRONICS  
P.O.Box 5954  
University Street  
Riyadh 11432  
Saudi Arabia  
Telex: 401530

**SWITZERLAND**  
DYNAVON ELECTRONICS  
Route de Villars 105  
1701 Fribourg  
Switzerland  
Telex: 942377

**BELGIUM**  
SVD DIVISION MARANTZ  
Industrialaan 1  
1720 Groot-Bijgaarden  
Belgium  
Telex: 24466

**FRANCE**  
MARANTZ FRANCE  
4 Rue Bernard Palissy  
92600 Asnières  
France  
Telex: 611651

**GREECE**  
SHERTON ELECTRONICS S.A.  
P.O.Box 21025  
Hippocrates Street 188  
Athens 11471  
Greece  
Telex: 216.795

**SOUTH AFRICA**  
MARANTZ  
DIVISION OF PHILIPS S.A.  
Main Road Martindale  
P.O. Box. 58088  
Newville 21114  
South Africa

**TURKEY**  
DOGRUOL Ltd.  
I.M.C.  
6 Blok N°6310  
Unkapani  
Istanbul  
Turkey  
Telex: 22085

**CHILE**  
MARANTZ  
DIVISION OF PHILIPS S.A.  
AV. Santa Maria, 0760  
Casilla 2687  
Santiago  
Telex: 240.239

**GERMANY**  
MARANTZ GERMANY GmbH  
Max-Planck-Strasse 22  
6072 Dreieich 1  
Germany  
Telex: 529821

**JAPAN**  
MARANTZ JAPAN, Inc.  
35-1, 7-chome, Sagamiono  
Sagamihara-shi, Kanagawa  
Japan

**SPAIN**  
PHONO S.A.  
Ignacio Iglesias 10  
Badalona (Barcelona)  
Spain  
Telex: 59355

**MALTA**  
CACHIA & GALEA  
Republic Street, 68D  
Valetta  
Telex: 1682

**DENMARK**  
MARANTZ  
DIVISION OF PHILIPS  
SERVICE A/S  
Prags Boulevard 80  
Postbox 1919  
DK-2300 København S  
Denmark  
Telex: 31201

**THE NETHERLANDS**  
Elpro Marantz  
Wint Hontlaan 28  
3526 KV Utrecht  
The Netherlands  
Telex: 4748

**KUWAIT**  
AL ALAMIAH ELECTRONICS  
Ussama Building  
Fahd al Saleem Street  
P.O.Box 23781  
Safat-Kuwait  
Telex: 22694

**SWEDEN**  
MARANTZ  
DIVISION OF PHILIPS  
Försäljning AB  
Tegeluddsvägen 1  
S-115 84 Stockholm  
Sweden  
Telex: 14060

**PORTUGAL**  
MARANTZ  
Divisao philips S.A. service  
Ourela-carnaxide  
2795 LinDA-A-VELHA  
Telex: 43906

**NORWAY**  
MARANTZ  
DIVISION OF PHILIPS A/S  
Sandstuveien 40  
0680 Oslo 6  
Norway  
Telex: 72640

**ITALY**  
MARANTZ ITALIANA S.P.A.  
Via Chiese, 74  
20126 Milano  
Italy

All of the above locations are fully equipped to take care of your total service needs. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your country, please, contact the nearest facility for the necessary assistance.

In case of difficulties, do not hesitate to contact the Technical Department at abovementioned address.



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## FEATURES

Automatic-return Belt Drive Turntable

## SPECIFICATIONS (Limit)

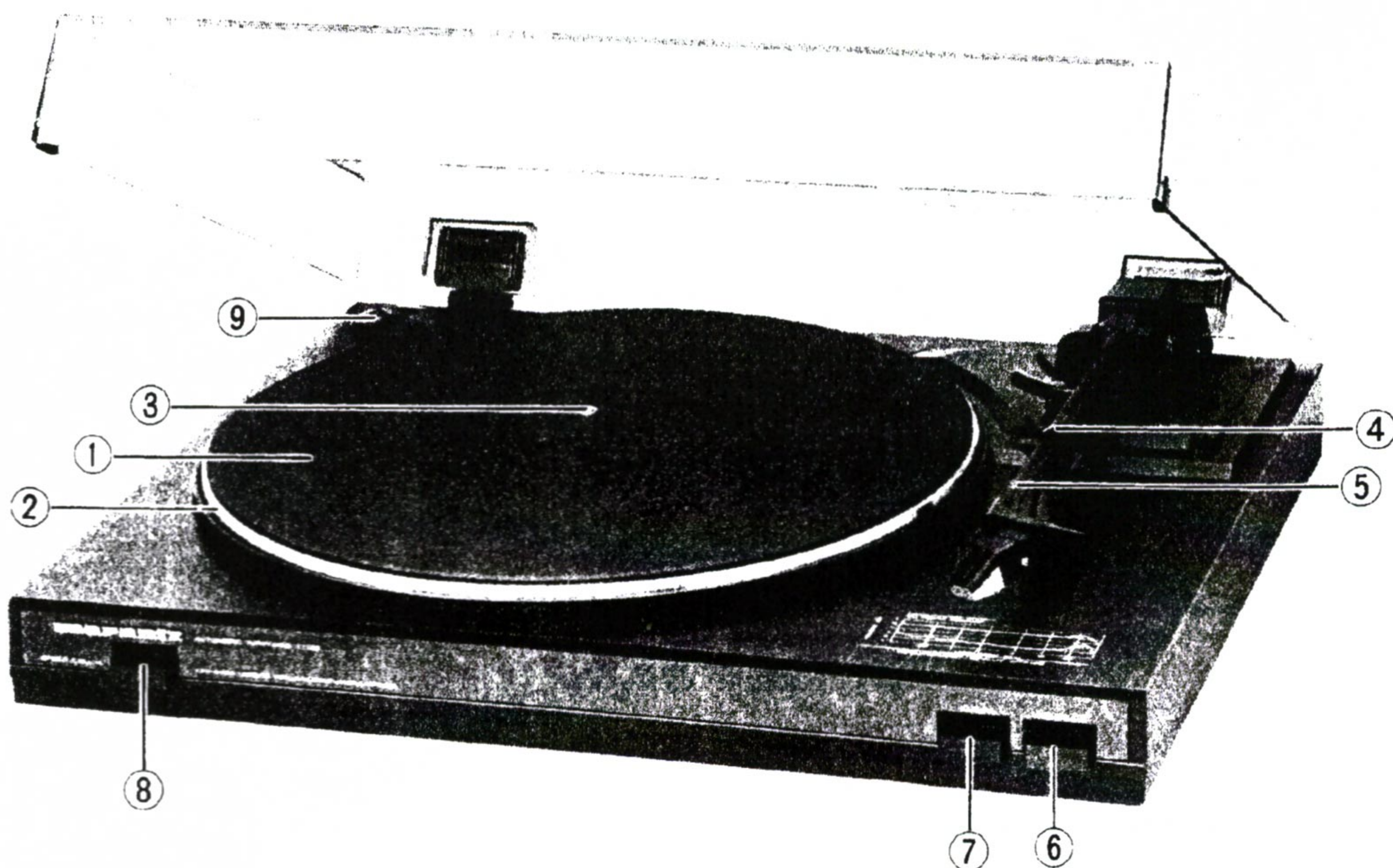
<b>TURNTABLE</b>			
<b>Motor</b>	DC Servo motor	<b>Output voltage</b>	2.5mV±3.5dB at 1kHz 3.54cm/sec
<b>Speed</b>	33-1/3 and 45 r.p.m.	<b>Channel balance</b>	Within 3dB at 1kHz
<b>Wow &amp; Flutter</b>	0.15% (WRMS)	<b>Channel separation</b>	More than 18dB at 1kHz
<b>Rumble</b>	57dB DIN45539B(weighted)	<b>Load resistance</b>	47KΩ
<b>Turntable platter</b>	296mm aluminum alloy die-cast	<b>Weight</b>	6g
<b>TONEARM</b>		<b>OPERATION</b>	
<b>Effective length</b>	222mm		Automatic return, automatic shut off, stop
<b>Usable cartridge</b>	Universal, P-mount type	<b>Cueing</b>	Oil-damped
<b>CARTRIDGE</b>		<b>GENERAL</b>	
<b>Type</b>	P-mount system, with 0.6 mil stylus Moving Magnet type	<b>Power consumption</b>	4 watts
<b>Frequency response</b>	20—20,000Hz	<b>Dimensions</b>	420(w)×99(h)×337(d) mm
		<b>Weight</b>	2.8kg(net)

**NOTE:** Nominal Specs represent the design specs; all units should be able to approximate these-some will exceed and some may drop slightly below these specs. Limit Specs represent the absolute worst condition which still might be considered acceptable; in no case should a unit perform to less than within any Limit Spec.

Lubrication of the mechanism is not required. However, whenever a unit is brought in for adjustment or repair, always use good common sense ... clean any dust or dirt from mechanical parts and if moving parts do seem to bind, check for dirt. If necessary, add a very fine film of light-weight specially formulated lubricant.

Specifications and appearance are subject to change for modification without notice.





1. Turntable platter mat
2. Turntable platter
3. Turntable shaft
4. Tonearm rest
5. Tonearm

6. CUEING button
7. CUT button
8. SPEED selector button
9. 45 rpm adapter

## 1. MECHANISM OPERATING PRINCIPLES

### AUTOMATIC RETURN (Refer to Fig. 1)

While Stylus (42-1) tip approaches the final groove of the record, Arm (32), linked to Tonearm (43) by Lever (31), pushes Cam (27) in the direction of the arrow, and Cam (26) moves together with Cam (27) in that direction. When Stylus (42-1) tip enters the final rough-pitch groove of the record, Cam (26) engages the pawl of Turntable shaft (37) and Gear (25) starts turning. Lever Ass'y (30) is moved by turning of Gear (25) and slope on Lever Ass'y (30) pushes Arm (35) up, and Tonearm (43) is lifted from record surface.

Then, Lever Ass'y (30) also pushes Lever (31), and Tonearm (43) returns to its rest. On the other hand, Arm (32) is pulled by Lever (31) and Mini Switch (S001) is turned off, and Phono Motor (52) stops rotation.

## 2. DISASSEMBLY INSTRUCTIONS

Before disassembly, disconnect AC Power Cord (50) and Connective Cord (51). Remove Bottom Lid (5) from Cabinet (1) as follows:

1. Remove Dust Cover (11).
2. Fasten Tonearm (43) to Retainer Ass'y (16).
3. Remove Turntable Sheet (24) and remove Belt (36) from Phono Motor (52) pulley.
4. Remove turntable (39).
5. Position the unit upside down and remove seven Screws (102) which mount Bottom Lid (5) to Cabinet (1) and four Screws (28) (A in Fig. 2) which mount Leg (19) to Cabinet (1).



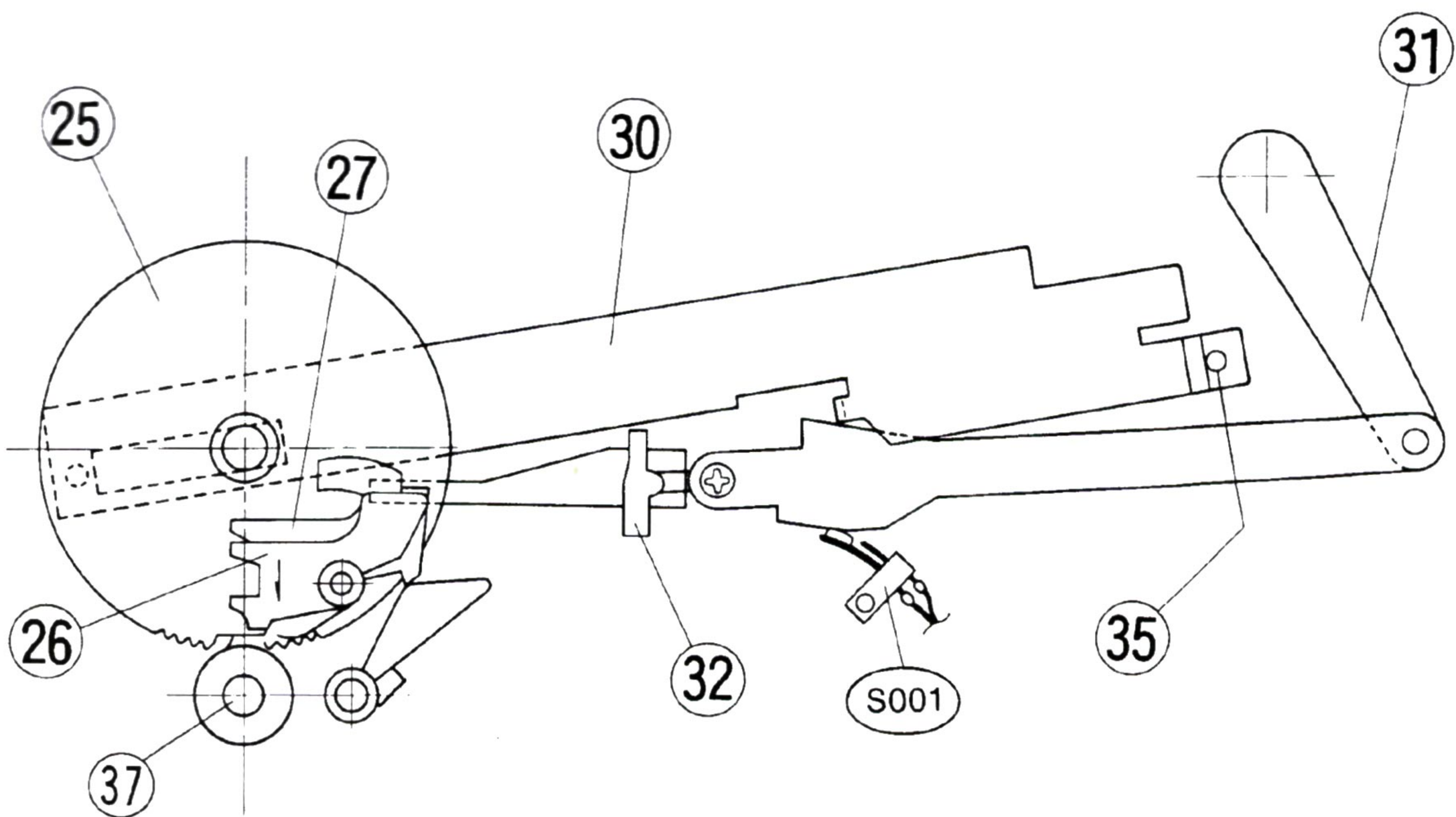


Fig. 1

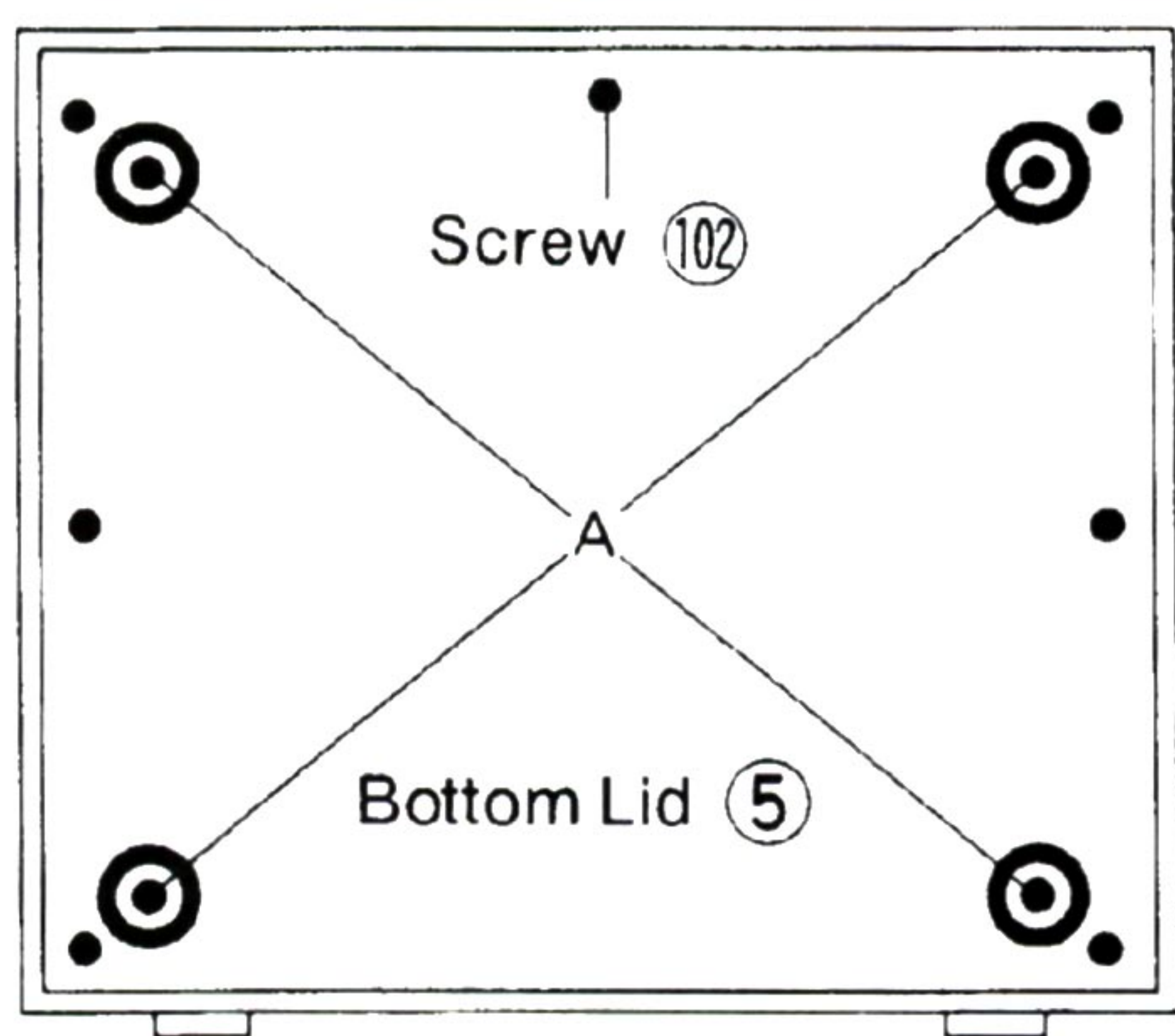


Fig. 2

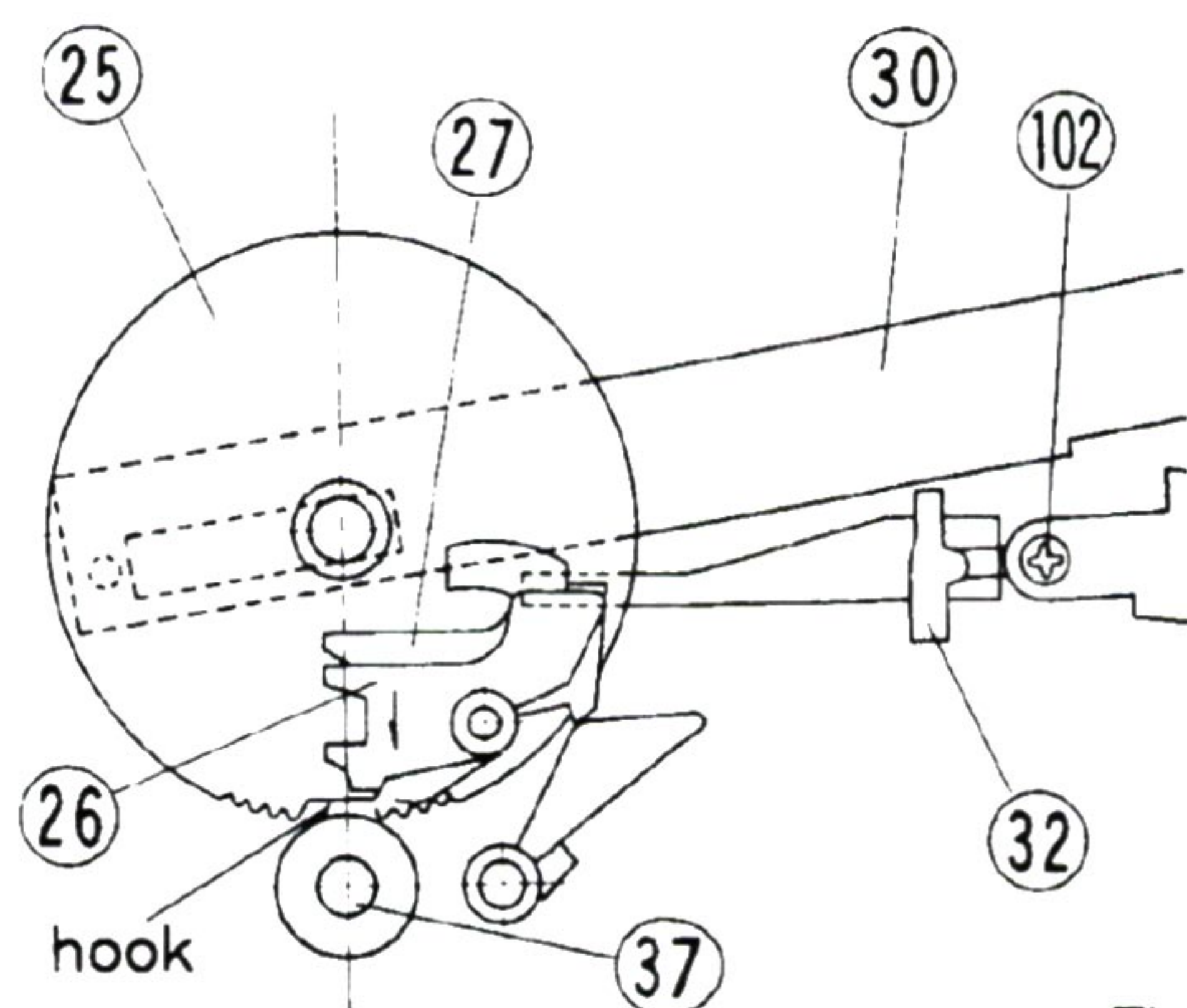


Fig. 3

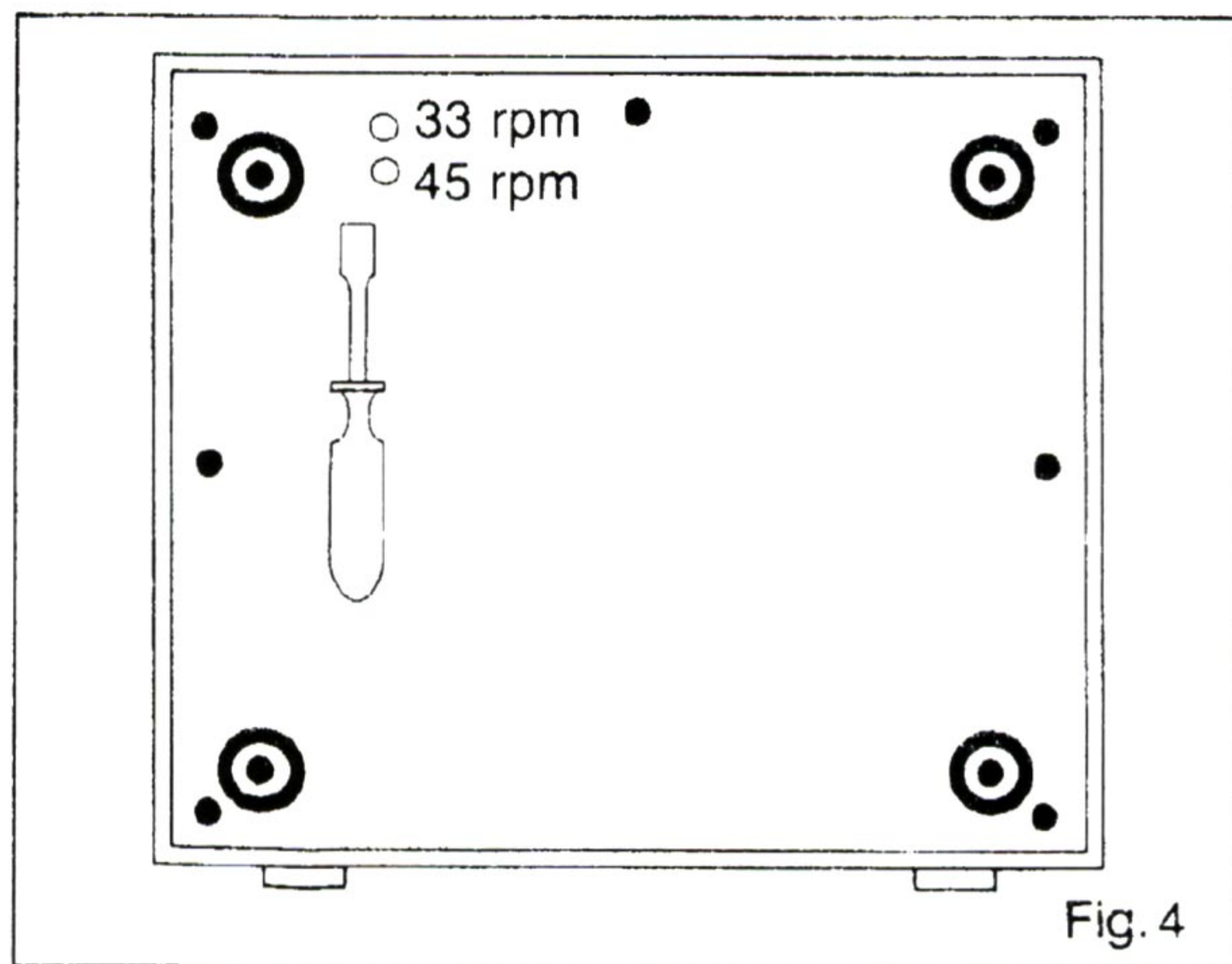


### 3. REASSEMBLY INSTRUCTION

To reassemble, use DISASSEMBLY INSTRUCTIONS in reverse.

### 4. ADJUSTMENTS

1. Tools required for adjustments
  - 1) Phillips screwdrivers (for M3)
  - 2) Flat-blade screwdrivers (small sizes)
  - 3) Stroboscope/Stroboscopic disc
2. Auto-return adjustments
  - 1) Set CUEING Button (3) to the up position.
  - 2) Turn the adjusting screw of Arm (32) so that Cam (27) trigger and hook of Turntable shaft (37) gear match with Stylus (42-1) tip between R61.5mm–62mm away from Turntable shaft (37) (Fig. 3).
  - 3) After this adjustment check that Tonearm (43) returns to the original position at the end of the completed program on the disc.
3. Turntable speed adjustments
  - 1) Set Speed Button (3) to 45 rpm position.
  - 2) Set the stroboscopic disc on Turntable (39).
  - 3) Turn the adjusting VR (VR201, VR202) located in Bottom Lid (5) of the unit with the flat-blade screwdriver so that the strobo pattern becomes stationary (Fig. 4).
  - 4) After setting Speed Button (3) to 33, repeat the above adjustment.



### 5. PARTS REPLACEMENT

1. TONEARM (43)
  - 1) Remove Bottom Lid (5) from Cabinet (1) according to DISASSEMBLY INSTRUCTIONS.
  - 2) Remove Screw (101) which fixes Shield (44) and remove Shield (44).
  - 3) Disconnect Tonearm (43) leads from Phono P.W. Board (53).
  - 4) Remove Retainer (40) after removing two Screws (101) and remove Stopper (41).
  - 5) Remove Lever (31) and Tonearm (43) can be removed.
  - 6) Before placing new Tonearm (43), wipe the shaft of new Tonearm (43) with soft cloth dipped in silicon oil. Reverse the above procedure to install a new Tonearm (43).
  - 7) To make sure the automatic return operation apply ADJUSTMENTS 2. After replacing Tonearm (43), make the Auto-return adjustments.
2. PHONO MOTOR (52)
  - 1) Remove Bottom Lid (5) from Cabinet (1) according to DISASSEMBLY INSTRUCTIONS.
  - 2) Disconnect Phono Motor (52) leads.
  - 3) Remove two Screws (29).
  - 4) Reverse the above procedure to install a new Phono Motor (52).
  - 5) After replacing Phono Motor (52), make the turntable speed adjustments.
3. TURNTABLE SHAFT (37)
  - 1) Remove Turntable (39) and remove Hexagon nut (108), Washers (106) and (105) which mount Turntable shaft (37) and install new Turntable shaft (37).
  - 2) After replacing Turntable shaft (37), make Auto-return adjustments.

### 6. TROUBLESHOOTING

1. Turntable (39) will not rotate even though Tonearm (43) is above a record.
  - Check if Belt (36) is in place at pulley on Phono Motor (52).
    - No** : Fit Belt (36).
    - Yes**: Check if the voltage is supplied to the both end of AC Power Cord (50).
      - No** : AC Power Cord (50) is defective.
      - Yes**: Check if the voltage is supplied to lug terminal plate for Phono Motor (52) leads wires.
        - No** : Phono Motor (52) is defective.
        - Yes**: Mini Switch (S001) is defective.



2. Tonearm (43) will not return to the correct point.

- Check if the gap between Turntable shaft (37) gear and Cam (27) is adequate referring to ADJUSTMENTS 2.

[No : Adjust the gap.

[Yes: Check if Lever Ass'y (30) moves to the original position when Tonearm (43) is moved from the center of Turntable (39) to Retainer Ass'y (16) by hand.

[No : Lever Ass'y (30) is not correctly mounted.

[Yes: Lever (31) is not correctly mounted or Gear (25) is not laterally mounted.

3. Tonearm (43) will not automatically return.

- Check if the gap between Turntable shaft (37) gear and Cam (27) is adequate referring to ADJUSTMENTS 2.

[No : Adjust the gap.

[Yes: Check if Tonearm (43) returns when Tonearm (43) is moved to the center of a record.

[No : Lever (31) is not correctly mounted.

[Yes: Adjust return position referring ADJUSTMENT 2.

4. Turntable (39) will not stop rotation.

- Check if the knob of Mini Switch (S001) is sufficiently pushed by Arm (32) when Tonearm (43) returns to Retainer Ass'y (16).

[No : Mini Switch (S001) is not correctly mounted.

[Yes: Check to see that the gap between Arm (32) and Mini Switch (S001) is adequate referring to ADJUSTMENTS 5.

[No : Adjust the gap.

[Yes: Mini Switch (S001) is defective.

5. No sound from the speaker

- Removing Cartridge (42), touch the upper two terminals (L ⊖ and R ⊕) at the end of tonearm (43) with a metallic screwdriver and listen for the speaker to produce a humming noise (Fig. 5).

[Yes: Cartridge (42) or Tonearm (43) lead-wires is defective

[No : Perform continuity test between Tonearm (43) end and Connective Cord (51) on dead channel (Fig. 6).

[Yes: ⊕ and ⊖ cables are not isolated.

[No : Plug of Connective Cord (51) or terminal is connected incorrectly. Perform continuity test of input terminal of amplifier or receiver.

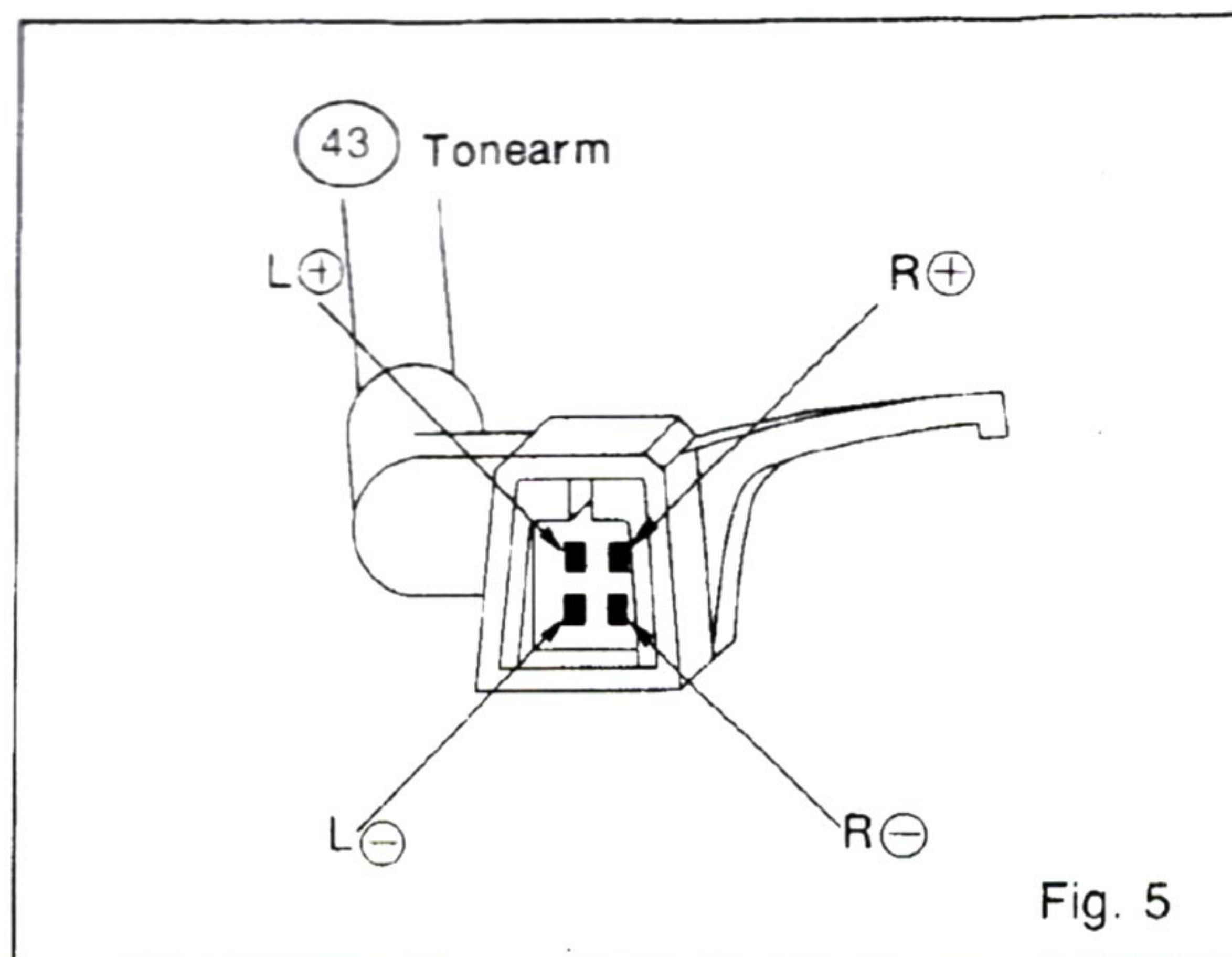


Fig. 5

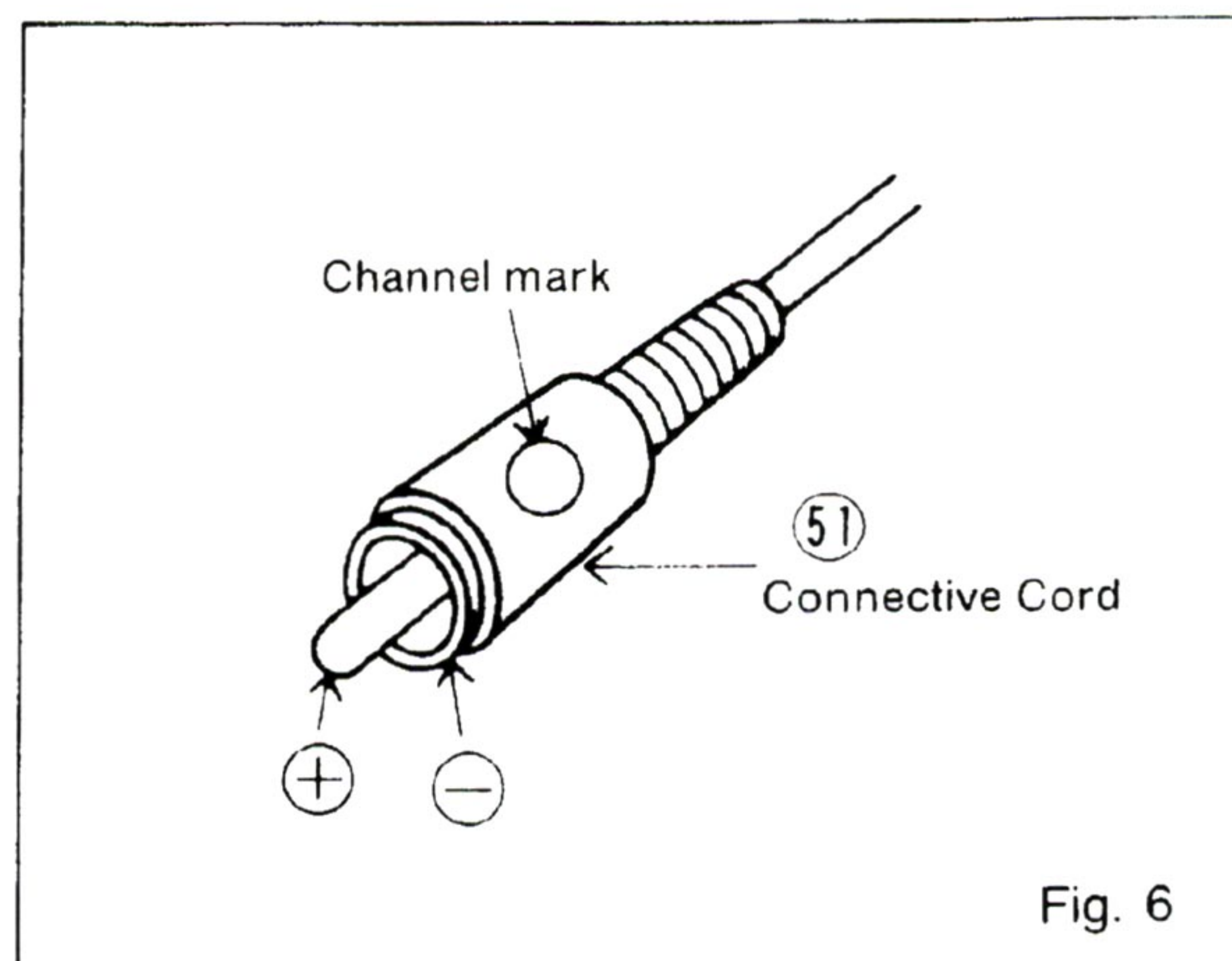


Fig. 6

6. Turntable (39) turns at incorrect speed.

- Check if the supply voltage is correct for this unit.

[No : Connect the unit to the correct voltage.

[Yes: Adjust speed of Turntable (39) turns in accordance with ADJUSTMENTS 3.

7. Noise from unit

- Check for noise with Turntable (39) removed.

[Yes: Check Phono Motor

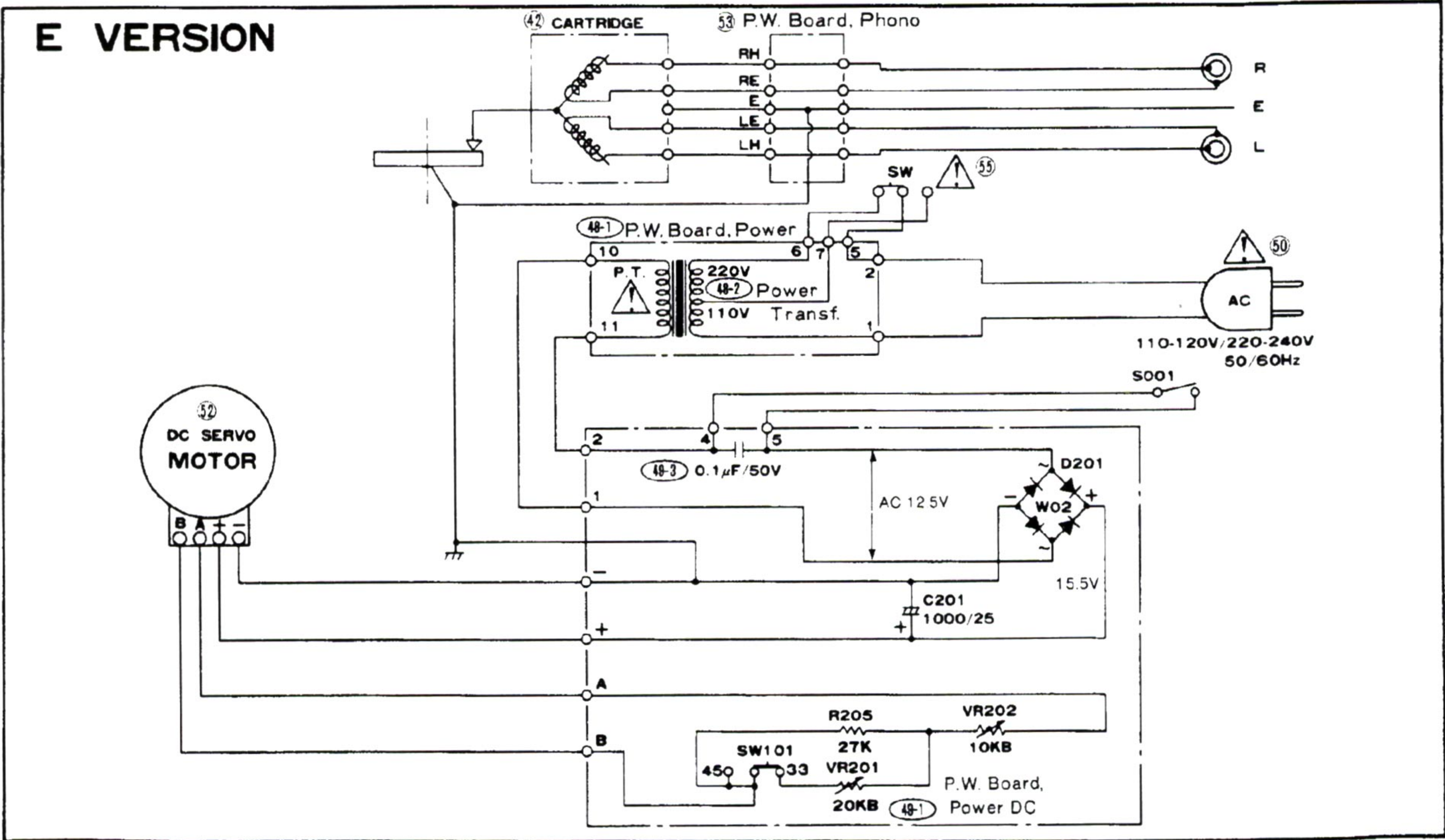
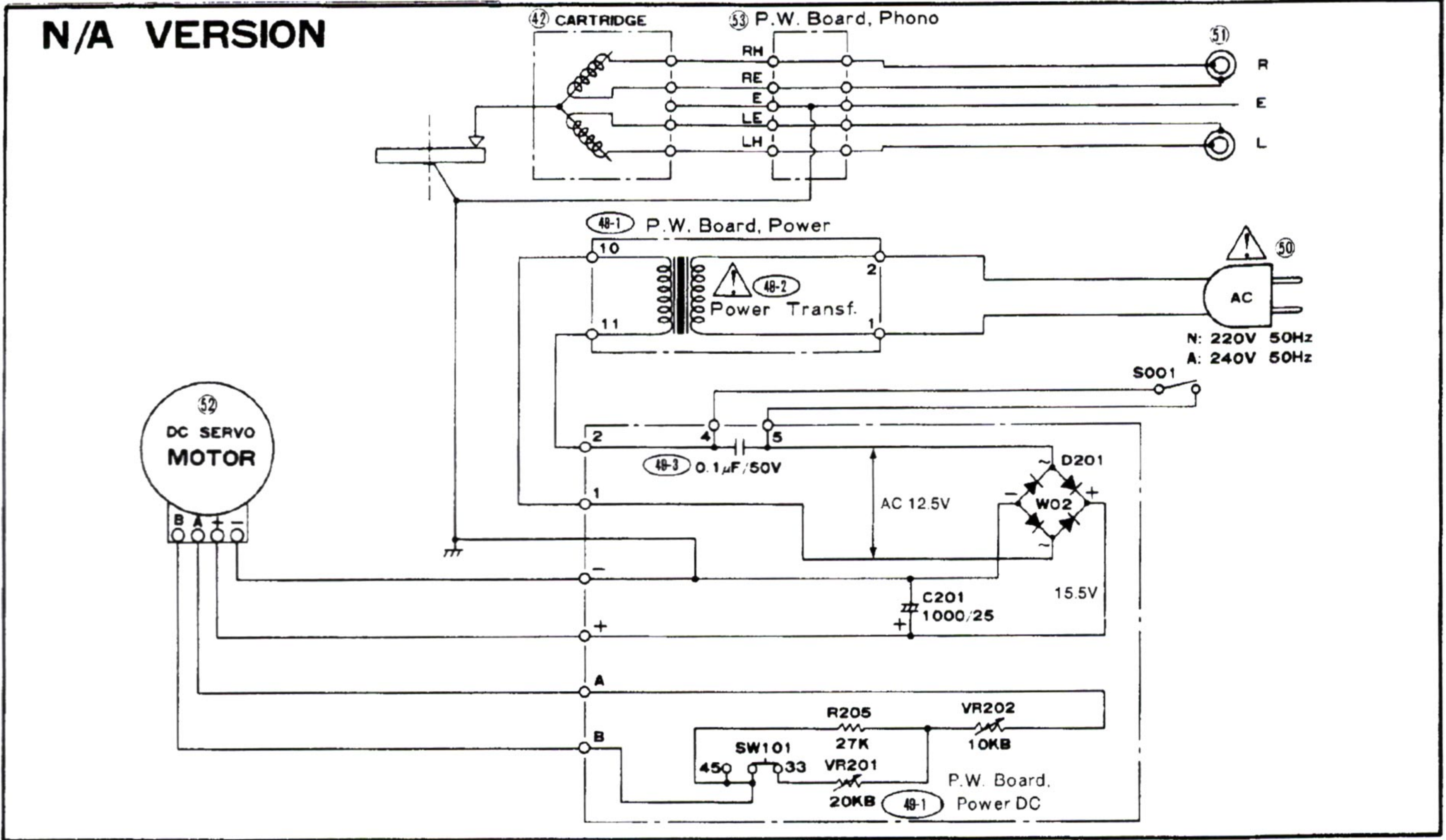
[No : Check for noise when Turntable (39) is moved by hand after Belt (36) is removed.

[No : Check the position of Belt (36) and pulley on Phono Motor (52). (See ADJUSTMENTS 6)

[Yes: Turntable shaft (37) is defective.



7. SCHEMATIC DIAGRAMS

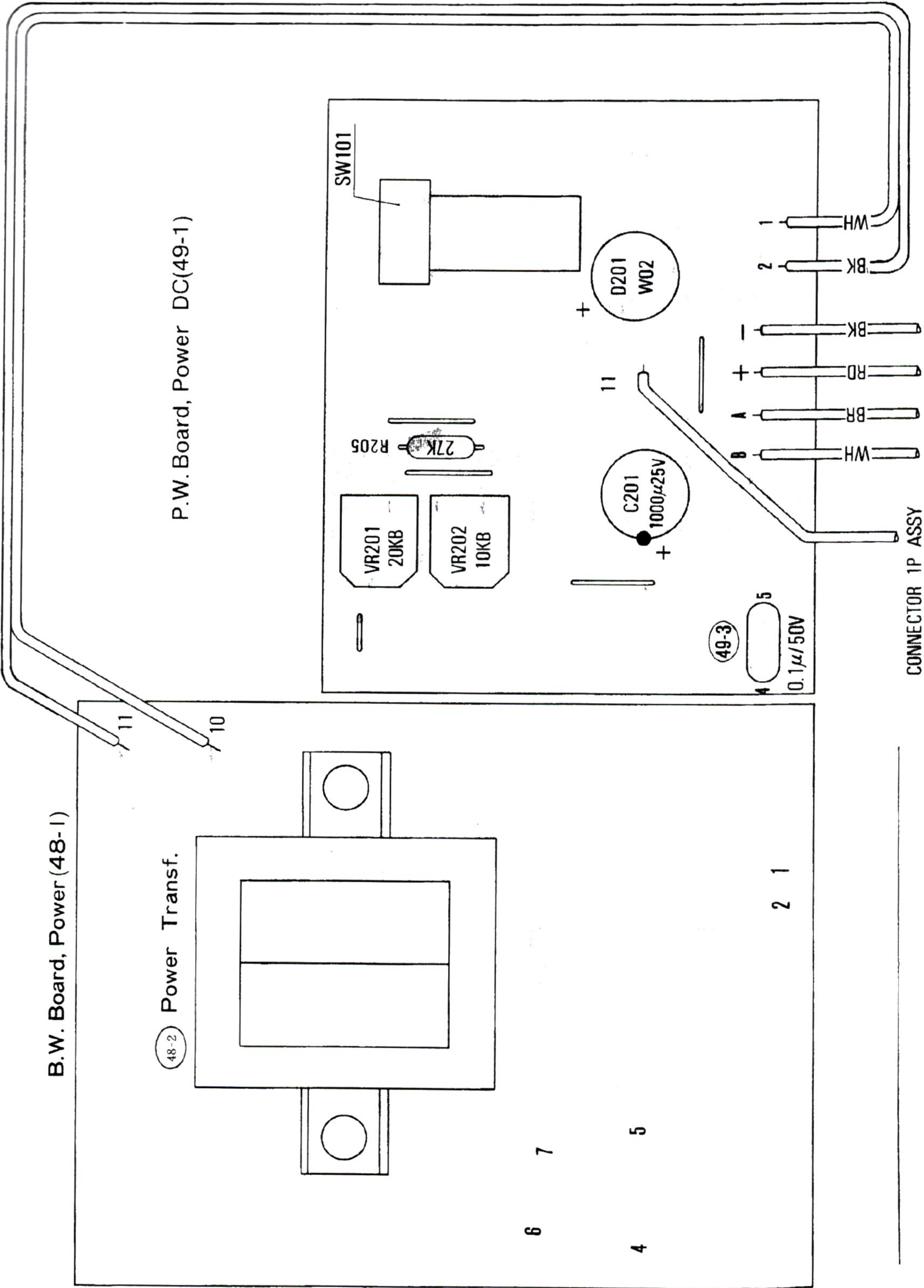


Components and wiring are subject to change for modification without notice.

To service personnel  
Make sure that only replacement parts recommended by the manufacturer should be used when the parts marked "!" in schematic diagram are exchanged.  
Never fail to make leakage-current or resistance measurements before returning the appliance to the customer so as to make sure that exposed parts are acceptably insulated from the supply circuit.

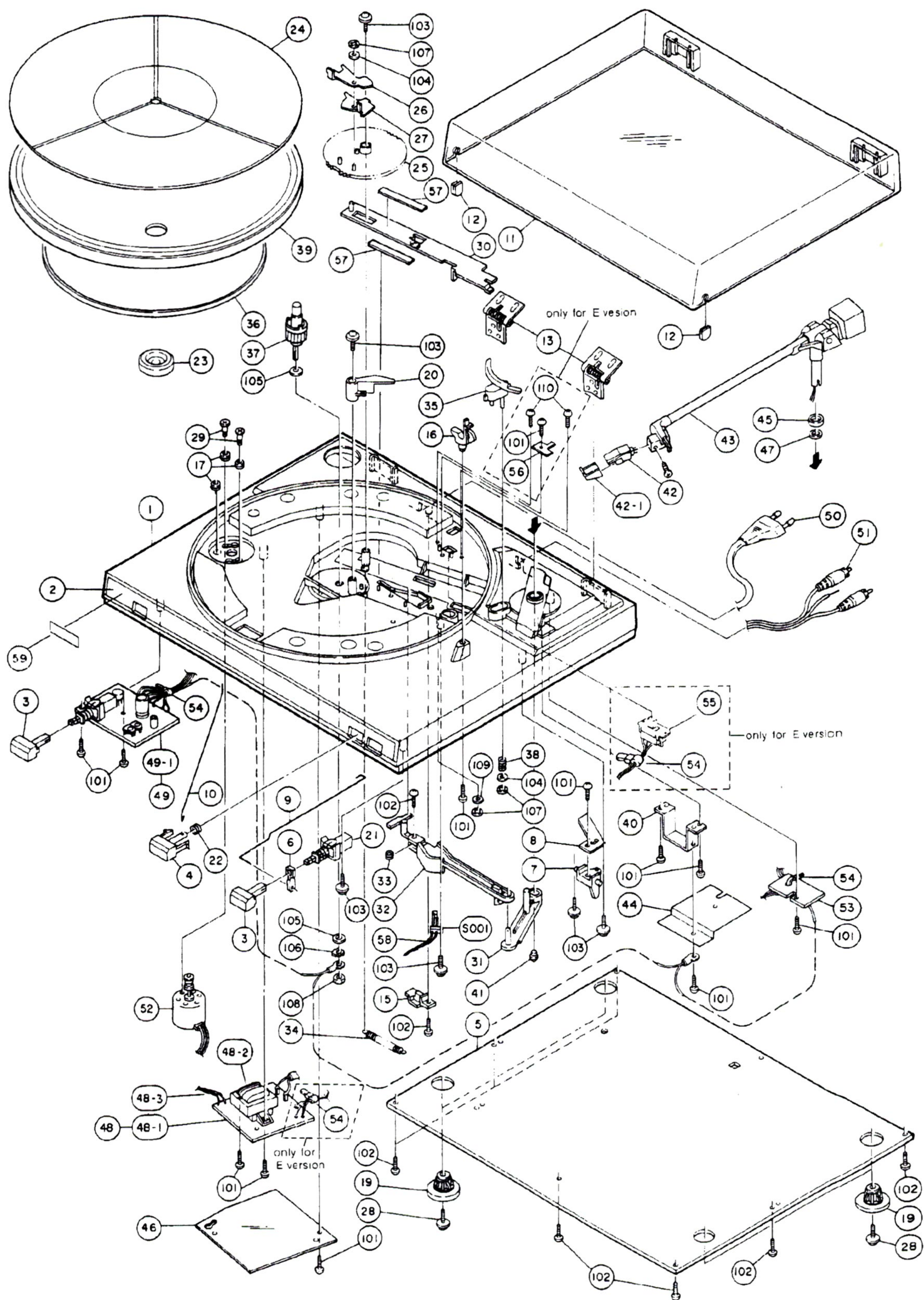


8. PRINTED WIRING BOARDS





9. (C01-99) EXPLODED VIEW





# 10. PARTS LIST

N: for Europe  
E: for Europe  
A: for Australia

REF. DESIG.	PART NO.	DESCRIPTION
1	4822 444 10145	Cabinet
2	4822 450 61242	Window, Front
3	4822 410 25683	Button, Cue/Speed
4	4822 410 25684	Button, Cut
5	4822 426 60486	Lid, Bottom
6	4822 535 70979	Spacer
7	4822 403 40263	Arm
8	4822 402 61071	Lever
9	4822 535 92324	Rod, Cueing
10	4822 535 92325	Rod, Cut
11	4822 443 50764	Cover, Dust Cover
12	4822 462 30301	Pad, Dust Cover
13	4822 417 10976	Hinge
16	4822 532 11577	Retainer Ass'y
17	4822 466 61313	Cushion
19	4822 462 71473	Leg
20	4822 403 10274	Arm
21	4822 276 11637	Push Switch
22	4822 492 41744	Spring
23	4822 528 90687	Adaptor, 45 rpm
24	4822 466 50167	Sheet, Turntable
25	4822 522 32298	Gear
26	4822 402 61084	Cam
27	4822 402 61085	Cam
28	4822 502 12877	Screw
29	4822 502 12876	Screw
30	4822 403 10279	Lever Ass'y
31	4822 403 10278	Lever
32	4822 403 10275	Arm
33	4822 492 32714	Spring
34	4822 492 32715	Spring
35	4822 403 10276	Arm
36	4822 358 30758	Belt
37	4822 535 92484	Shaft, Turntable
38	4822 492 32716	Spring
39	4822 528 10709	Turntable
41	4822 462 71474	Stopper
42	4822 251 11013	Cartridge, CT185
42-1	4822 251 30137	Stylus, CTS185
42-2	4822 462 71523	Retainer, Stylus
43	4822 251 70308	Tonearm
45	4822 532 11578	Spacer
47	4822 532 11573	Washer
<b>POWER CIRCUIT BOARD</b>		
48-2	4822 148 60163	Power Transformer
48-2	4822 148 60164	Power Transformer
<b>POWER DC CIRCUIT BOARD</b>		
VR201	4822 100 10474	20kΩ Trimming
VR202	4822 100 10472	10kΩ Trimming
D201	4822 130 33127	Diode, W02
SW101	4822 276 11681	Push Switch

N, E  
A

REF. DESIG.	PART NO.	DESCRIPTION
50	4822 321 10435	AC Power Cord
50	4822 321 10436	AC Power Cord
51	4822 321 21537	Connective Cord
52	4822 361 21082	Phono Motor
55	4822 277 30736	Voltage Selector
5001	4822 271 30627	Mini Switch
101	4822 502 12231	Screw, φ3 × 10
102	4822 502 12232	Screw, φ3 × 12
103	4822 502 12875	Screw, φ3 × 10
104	4822 532 21181	Flat Washer, P. φ3.2
105	4822 532 11574	Washer, φ4.2
106	4822 532 11527	T.L. Washer, φ4
107	4822 530 80311	RG Ring, E, φ2
108	4822 505 10904	Hexagon Nut, M4
109	4822 532 11575	Flat Washer, P. φ3.2
73	4822 736 13978	User's Manual
83	4822 265 10089	AC Adaptor

N

E

E

E

(W01-99) Assembly and Wiring  
(T01-99) Adjustment  
(X01-00) Correction

To service personnel

Make sure that only replacement parts recommended by the manufacturer should be used when the parts marked "A" in schematic diagram are exchanged.



Never fail to make leakage-current or resistance measurements before returning the appliance to the customer so as to make sure that exposed parts are acceptably insulated from the supply circuit.



11. (H01-99) PACKING MATERIALS

