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DENON

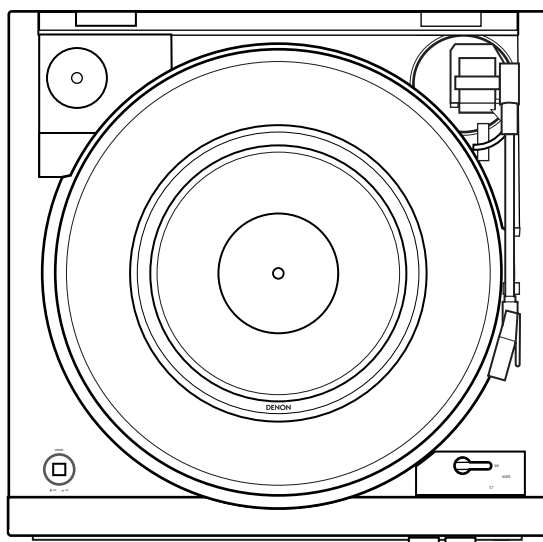
**For U.S.A., Canada
& Europe model**

Hi-Fi Full Automatic
Turntable system

SERVICE MANUAL

MODEL DP-29F

FULL AUTOMATIC TURNTABLE SYSTEM
(with MM Cartridge)



SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the unit is defective.

● Some illustrations using in this service manual are slightly different from the actual set.

DENON, Ltd.

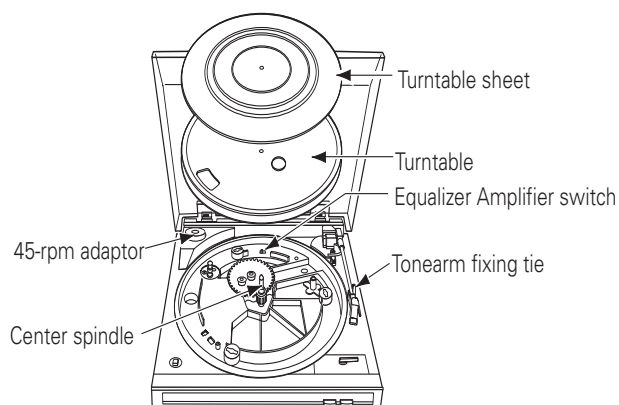
16-11, YUSHIMA 3-CHOME, BUNKYU-KU, TOKYO 113-0034 JAPAN
Telephone : 03 (3837) 5321

ASSEMBLY

1. Remove the main unit with the packing from the box and take off the packing.
2. Set the 45-rpm adaptor on the main unit as shown in the diagram.
3. Insert the turntable onto the center spindle.
4. Set the belt on the driving pulley. (The belt is wound on the turntable.)
5. Set the turntable sheet on the turntable.
6. Remove the tie securing the tonearm.

NOTE:

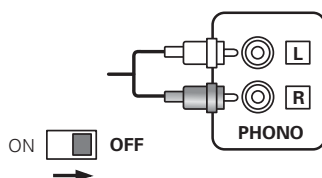
The turntable will not function if this tie is not removed.



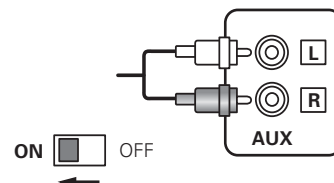
Equalizer Amplifier switch

This unit has built-in RIAA equalizer amplifier, so it can be connected to an amplifier without PHONO (turntable) input jack. According to the amplifier, set the EQUALIZER AMPLIFIER SWITCH.

When the unit is connected to the PHONO(MM) jacks:

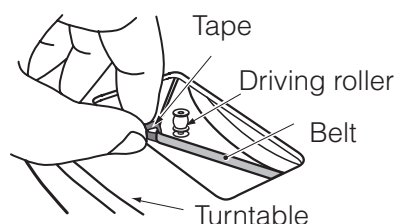


When the unit is connected to the AUX jacks, etc:



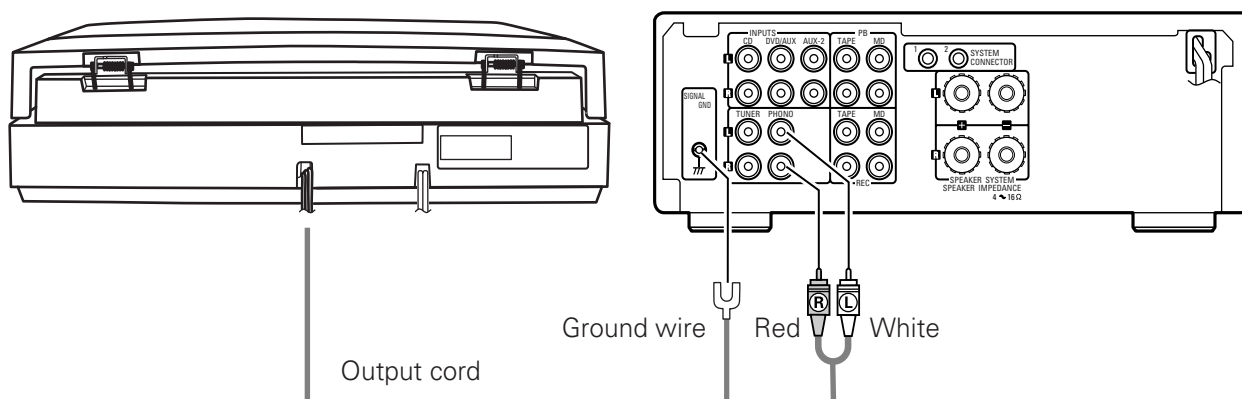
Setting the belt

Grasp both sides of the tape and set the belt on the motor pulley. Once the belt is set properly, remove the tape. Set the belt on the motor pulley properly as shown in the diagram.

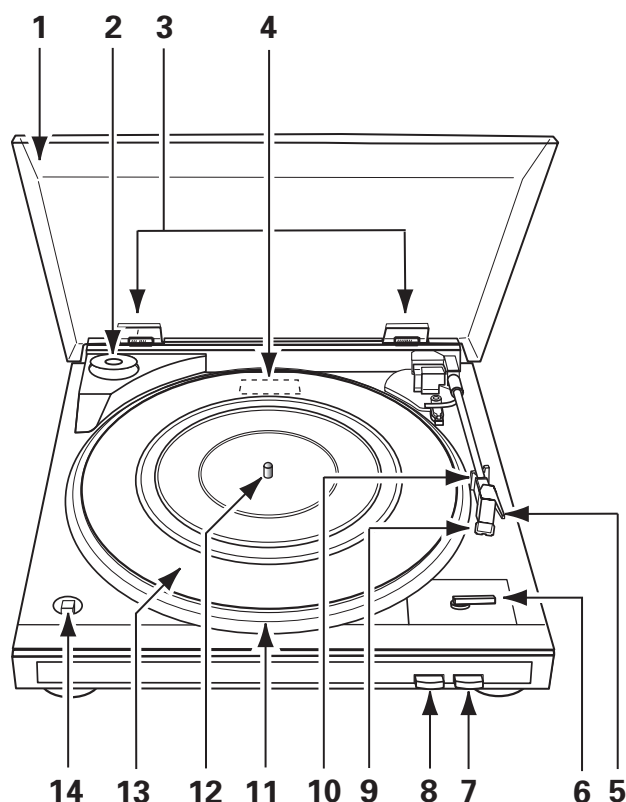


CONNECTIONS

1. Connect the left (white) and right (red) output cords respectively to your amplifier's PHONO jacks etc .
2. Connect the ground wire to the amplifier's signal ground terminal.
3. Plug the power cord into a wall outlet. (Or if the amplifier has power outlets, plug it in there, but before doing so, read the amplifier's manual and check that the capacity is sufficient.)



PART NAMES AND FUNCTIONS



1 Dust cover

2 45 rpm adaptor and holder

3 Dust cover hinge

4 Equalizer amplifier switch

5 Finger lever

6 Size Select Lever

Set according to the size of the record.

7 STOP Button

Press to stop playback.

8 START Button

Press to start playback.

9 Cartridge

10 Tone arm rest

Holds the tone arm.

11 Platter

12 Spindle

13 Rubber mat

Place on the turntable.

14 SPEED Select Button

Set according to the record speed.

For 33 1/3 rpm: 

For 45 rpms: 

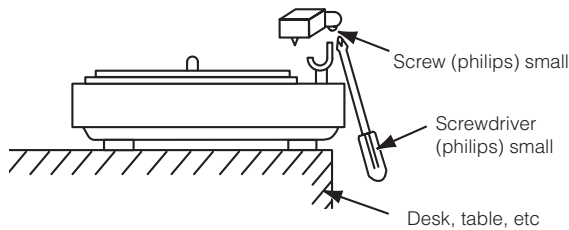
NOTE:

As this set is light, it may move when buttons or knobs are operated, so do not press too strongly.

CARTRIDGE REPLACEMENT

(The cartridge forms a single body with the head shell. Use the following procedure to replace it.)

1. Remove the screw on the bottom of the head shell as shown in the diagram.

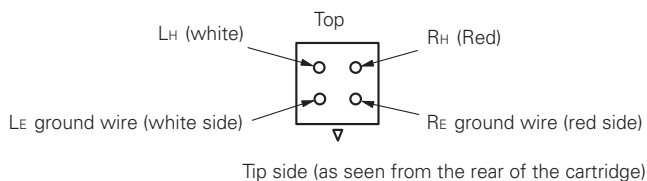


2. Rotate the entire head shell gently in both directions.

The neck of the head shell is attached to the pipe arm.

Turn it gently until the shell comes loose.

3. Carefully remove the head shell.
(Be careful not to break the lead wire.)
4. Remove the tip of the lead wire from the cartridge terminal.
5. Install the new cartridge (with head shell).
The polarities are as shown on the diagram.



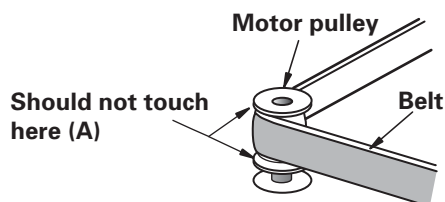
6. Assemble by following the removal procedure in reverse order.

Use one drop of Cemedyne #3000 to attach the neck of the head shell and the pipe arm.

METHOD OF ADJUSTMENT

1. Relationship between belt and pulley.

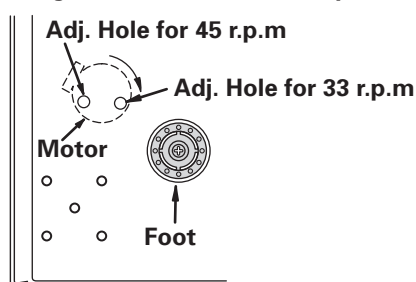
Check that the belt is not touching the collars (A) of the motor pulley. If it is, remove the turntable and reattach the belt at the center of the turntable skirt.



2. Speed adjustment

If the speed is off, adjust it with the variable resistor on the motor control board. Adjust for 33 r.p.m first, then set at 45 r.p.m and check. After adjusting, check the two speeds (33 and 45 r.p.m) once again.

This diagram shows the bottom panel.



3. Lead in and lead out adjustment

(1) Lead in

(Test record: Hitachi HT-5 (30cm))

Check that the stylus lowers at 5 to 25 counts for both 17 cm and 30 cm records.

(2) Lead out

(Test record: Nippon Columbia EM-1001 (17cm))

Check that the pickup returns at 3 to 15 counts (3mm pitch).

If the counts are off, adjust as follows:

- Fasten the pickup to the arm rest.
- Insert a screwdriver into the lead in or lead out adjustment holes and adjust.

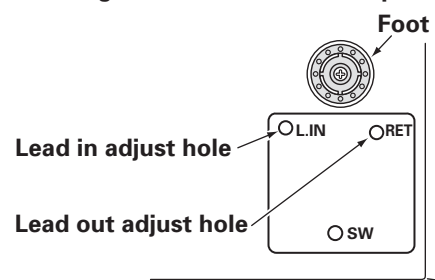
Lead in

- Count increases when turned clockwise
- Count decreases when turned counter-clockwise

Lead out

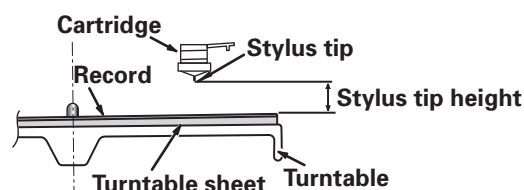
- Count increases when turned clockwise
- Count decreases when turned counter-clockwise

This diagram shows the bottom panel.

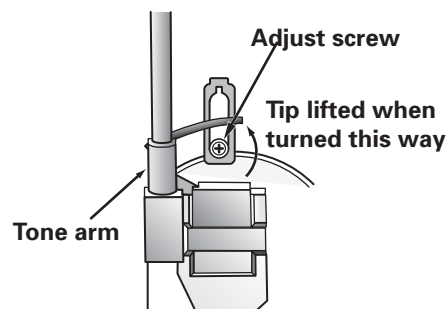


4. Stylus tip height adjustment

- Adjust the stylus tip height under standard conditions.
(Standard conditions: with the turntable, turntable sheet, and record set)
- The stylus tip height should be adjusted to about 6mm when returned (5-7mm at the outermost position for 17cm records).



- If the stylus tip is too high, sound may be distorted and the stylus may not advance. If it is too low, it may scratch the record when returning.
- Adjust using the lifter screw.
Turn clockwise to lower the stylus tip.
Turn counterclockwise to lift the stylus tip.



NOTE FOR PARTS LIST

- Part indicated with the mark "⊕" are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including Carbon Film $\pm 5\%$, 1/4W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

WARNING:

Parts marked with this symbol  have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

● Resistors

Ex.: RN 14K 2E 182 G FR
Type Shape Power Resist- Allowable Others
 and per-
 formance

RD : Carbon	2B : 1/8W	F : $\pm 1\%$	P : Pulse-resistant type
RC : Composition	2E : 1/4W	G : $\pm 2\%$	NL : Low noise type
RS : Metal oxide film	2H : 1/2W	J : $\pm 5\%$	NB : Non-burning type
RW : Winding	3A : 1W	K : $\pm 10\%$	FR : Fuse-resistor
RN : Metal film	3D : 2W	M : $\pm 20\%$	F : Lead wire forming
RK : Metal mixture	3F : 3W		
	3H : 5W		

* Resistance

1 8 2 $\Rightarrow$ 1800 ohm = 1.8 kohm
↑ ↑ ↑
Indicates number of zeros after effective number.
2-digit effective number.

• Units: ohm

1 R 2 $\Rightarrow$ 1.2 ohm
↑ ↑ ↑
1-digit effective number.
2-digit effective number, decimal point indicated by R.

• Units: ohm

● Capacitors

Ex.: CE 04W 1H 2R2 M BP
Type Shape Dielectric Capacity Allowable Others
 and per-
 formance strength error

CE : Aluminum foil electrolytic	0J : 6.3V	F : $\pm 1\%$	HS : High stability type
CA : Aluminum solid electrolytic	1A : 10V	G : $\pm 2\%$	BP : Non-polar type
CS : Tantalum electrolytic	1C : 16V	J : $\pm 5\%$	HR : Ripple-resistant type
CQ : Film	1E : 25V	K : $\pm 10\%$	DL : For charge and discharge
CK : Ceramic	1V : 35V	M : $\pm 20\%$	HF : For assuring high frequency
CC : Ceramic	1H : 50V	Z : $+80\%$	U : UL part
CP : Oil	2A : 100V	-20%	C : CSA part
CM : Mica	2B : 125V	P : $+100\%$	W : UL-CSA type
CF : Metallized	2C : 160V	-0%	F : Lead wire forming
CH : Metallized	2D : 200V	C : $\pm 0.25\text{pF}$	
	2E : 250V	D : $\pm 0.5\text{pF}$	
	2H : 500V	= : Others	
	2J : 630V		

* Capacity (electrolyte only)

2 2 2 $\Rightarrow$ 2200 μF
↑ ↑ ↑
Indicates number of zeros after effective number.
2-digit effective number.

• Units: μF .

2 R 2 $\Rightarrow$ 2.2 μF
↑ ↑ ↑
1-digit effective number.
2-digit effective number, decimal point indicated by R.

• Units: μF .

* Capacity (except electrolyte)

2 2 2 $\Rightarrow$ 2200pF=0.0022 μF
↑ ↑ ↑
(More than 2) — Indicates number of zeros after effective number.
2-digit effective number.

• Units: μF .

2 2 1 $\Rightarrow$ 220pF
↑ ↑ ↑
(0 or 1) — Indicates number of zeros after effective number.
2-digit effective number.

• Units: pF.

• When the dielectric strength is indicated in AC, "AC" is included after the dielectric strength value.

PARTS LIST OF EXPLODED

Ref. No..	Part No.	Part Name	Remarks	Q'ty
1	941 0001 001	45 r.p.m. Adapter		1
2	941 0001 108	Strain Relief		1
3	941 0001 205	Dust Cover		1
5	941 0001 328	Bottom Cover	for E3	1
5	941 0001 315	Bottom Cover	for E2	1
6	941 0001 409	Knob	for E3	2
6	941 0001 412	Knob	for E2	2
7	941 0001 519	Rating Label	for E3	1
7	941 0001 522	Rating Label	for E2	1
8	941 0001 603	Pendulum (L)		1
9	941 0001 700	Pendulum (M)		1
10	941 0001 807	Select Record Knob	for E3	1
10	941 0001 810	Select Record Knob	for E2	1
11	941 0001 904	Serial No. Label		1
12	941 0002 000	Lifter		1
13	941 0002 107	Fixing Switch Set		1
14	941 0002 204	Pendulum (S)		1
15	941 0002 301	Shaft Holder		1
16	941 0002 408	Speed Bracket Ass'y		1
17	941 0002 505	Speed Support		1
19	941 0002 602	Selector		1
20	941 0002 709	Hinge Ass'y		1
21	941 0002 806	Select Plate		1
23	941 0002 903	Turntable		1
25	941 0003 009	Tonearm Shaft Set		1
27	941 0003 106	Locus Shaft		1
28	941 0003 203	Shaft		1
29	941 0003 300	Shaft		1
30	941 0003 407	Shaft		1
31	941 0003 504	Copper Washer		2
32	941 0003 601	Control Plate		1
36	941 0003 708	Cartridge		1
36-1	941 0003 805	Stylus Cover		1
36-2	DSN 82	Stylus		1
37	941 0003 902	Caution Label		1
38	941 0004 008	Washer		1
39	941 0004 105	Switch and Set Ass'y		1
40	941 0004 202	IC. P.W.B. Ass'y		1
41	941 0004 309	Micro Switch and Wire Ass'y		1
42	941 0004 406	Screw		1
43	941 0004 503	Screw		1
⚠ 44	941 0004 707	AC Power Cord	for E3	1
⚠ 44	941 0004 804	AC Power Cord	for E2	1
45	941 0004 901	Insulator		1
⚠ 46	941 0005 104	Transformer	for E3	1
⚠ 46	941 0005 201	Transformer	for E2	1
47	941 0005 308	Rectifier P.W.B. Ass'y		1
49	941 0005 405	Screw		2
50	941 0005 502	Square Knob	for E3	1
50	941 0005 515	Square Knob	for E2	1
51	941 0005 609	Nut		1
52	941 0005 706	Nut		1
53	941 0005 803	Nut		1
54	941 0005 900	Screw		5
55	941 0006 006	Screw		5
57	941 0006 103	Screw		6
58	941 0006 200	Screw		1
59	941 0006 307	Screw		1
60	941 0006 404	Screw		4
62	941 0006 501	Screw		2
63	941 0006 608	Screw		1
64	941 0006 705	Screw		1

Ref. No..	Part No.	Part Name	Remarks	Q'ty
65	941 0006 802	Screw		4
66	941 0006 909	Screw		2
67	941 0007 005	Screw		1
68	941 0007 102	Screw		1
69	941 0007 209	Spring		1
70	941 0007 306	Spring		1
71	941 0007 403	Spring (SUS,304, WP8)		1
72	941 0007 500	Spring (SUS,304, WP8)		1
73	941 0007 607	Spring (SUS,304, WP8)		1
74	941 0007 704	Spring		1
75	941 0007 801	Play Spring		1
76	941 0007 908	Stop Spring		1
77	941 0008 004	Spring		1
78	941 0008 101	Spring(Play,Stop Knob)		2
79	941 0008 208	Spring		1
80	941 0008 305	Spring		1
81	941 0008 402	Spring		1
82	941 0008 509	Rubber (S.B.R)		2
83	941 0008 606	Slipmat Packing Ass'y		1
84	941 0008 703	Rubber		4
85	941 0008 800	Belt		1
86	941 0008 907	Rubber Foot for Motor		3
87	941 0009 003	Rubber Cap		1
88	941 0009 100	Washer		1
89	941 0009 207	E-Ring(3mm)		4
90	941 0009 304	E-Ring(5mm)		2
91	941 0009 401	CS Washer (3mm)		3
92	941 0009 508	Washer		1
93	941 0009 605	E-Ring(2mm)		1
94	941 0009 702	Washer		1
95	941 0009 809	Washer		1
96	941 0010 005	Washer		1
97	941 0010 102	Washer		1
98	941 0010 209	Washer		2
99	941 0010 306	Washer		1
103	941 0010 403	Foot (ABS)		2
108	941 0010 500	Return Link Ass'y		1
111	941 0010 607	Cueing Lever Ass'y		1
113	941 0010 704	Hinge Ass'y		1
118	941 0014 302	Signal Wire		1
151	941 0012 113	Chassis	for E2	1
151	941 0012 126	Chassis	for E3	1
152	941 0012 207	Tone Arm Ass'y	for E3	1
152	941 0012 210	Tone Arm Ass'y	for E2	1
153	941 0012 304	Center & Pinion Ass'y		1
154	941 0012 401	Cam Gear Ass'y		1
155	941 0012 508	Motor Ass'y		1

PARTS LIST OF P.W.B. UNIT
I.C. P.W.B. ASS'Y

Ref. No.	Part No.	Part Name	Remarks	Q'ty
40	941 0004 202	I.C. P.W.B. ASS'Y		1
SW101	941 0014 001	Slide Sw(SBB-22-14)		1
	-	Elec. Capacitor(4.7uF/50V,M,Bulk 5*11)		1
IC101	958 0049 702	IC(UPC1228HA,8pin)		1
C108,208	-	Ceramic Capacitor(1000pF/50V K Y5P Taping)		2
C102,107	-	Elec. Capacitor(4.7uF/50V,M,Taping 5*11)		2
C202,207	-	Elec. Capacitor(4.7uF/50V,M,Taping 5*11)		2
C104,204	-	Elec. Capacitor(10uF/25V,M,Taping 5*11)		2
C105,205	-	Mylar Capacitor(0.01uF J 50V Taping)		2
C101,103	958 0021 306	Ceramic Capacitor(100pF/50V K SL Taping)		2
C201,203	958 0021 306	Ceramic Capacitor(100pF/50V K SL Taping)		2
C106,206	-	Mylar Capacitor(0.0027uF Taping)		2
C301,302	-	Elec. Capacitor(100uF/16V,M,Taping 6.3*11)		2
R107,207	-	Carbon Film Resistor(100K Ohm J 1/6W Taping 26mm)		2
R105,205	-	Carbon Film Resistor(27K Ohm J 1/6W Taping 26mm)		2
R101,103	-	Carbon Film Resistor(470 Ohm J 1/6W Taping 26mm)		2
R201,203	-	Carbon Film Resistor(470 Ohm J 1/6W Taping 26mm)		2
R102,202	-	Carbon Film Resistor(47K Ohm J 1/6W Taping 26mm)		2
R106,108	-	Carbon Film Resistor(1K Ohm J 1/6W Taping 26mm)		2
R206,208	-	Carbon Film Resistor(1K Ohm J 1/6W Taping 26mm)		2
R104,204	-	Carbon Film Resistor(390K Ohm J 1/6W Taping 26mm)		2
R301	-	Carbon Film Resistor(120 Ohm J 1/4W Taping 26mm)		1

RECTIFYER P.W.B. ASS'Y

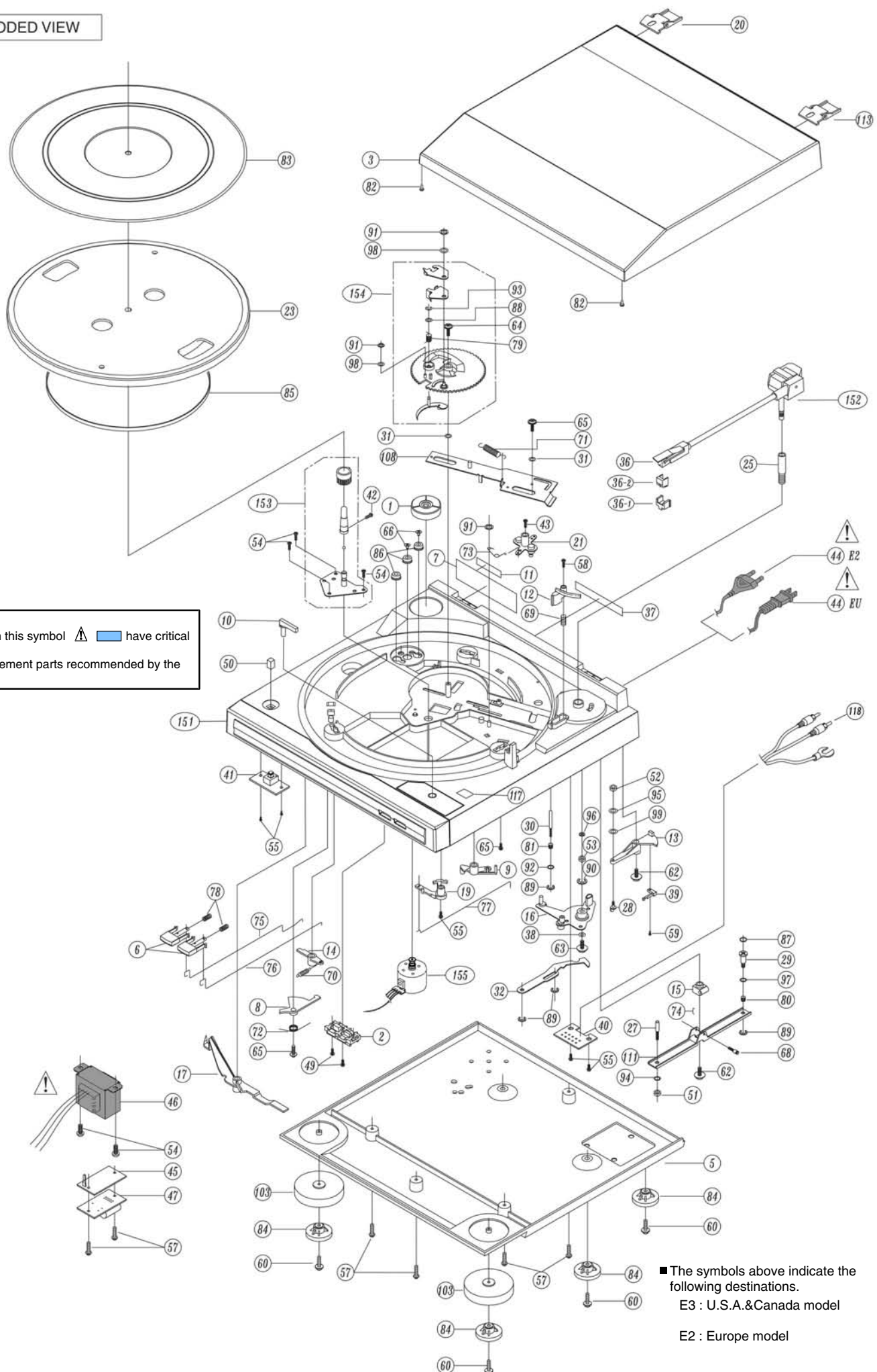
Ref. No.	Part No.	Part Name	Remarks	Q'ty
47	941 0005 308	Rectifyer P.W.B. Ass'y		1
C1	254 4254 080	Elec. Capacitor(1000uF/16V,M,Bulk 13*21)		1
D1~D4	941 0013 002	Diode(1N4002,1A/100V,Bulk)		4

MICRO SWITCH AND WIRE ASS'Y

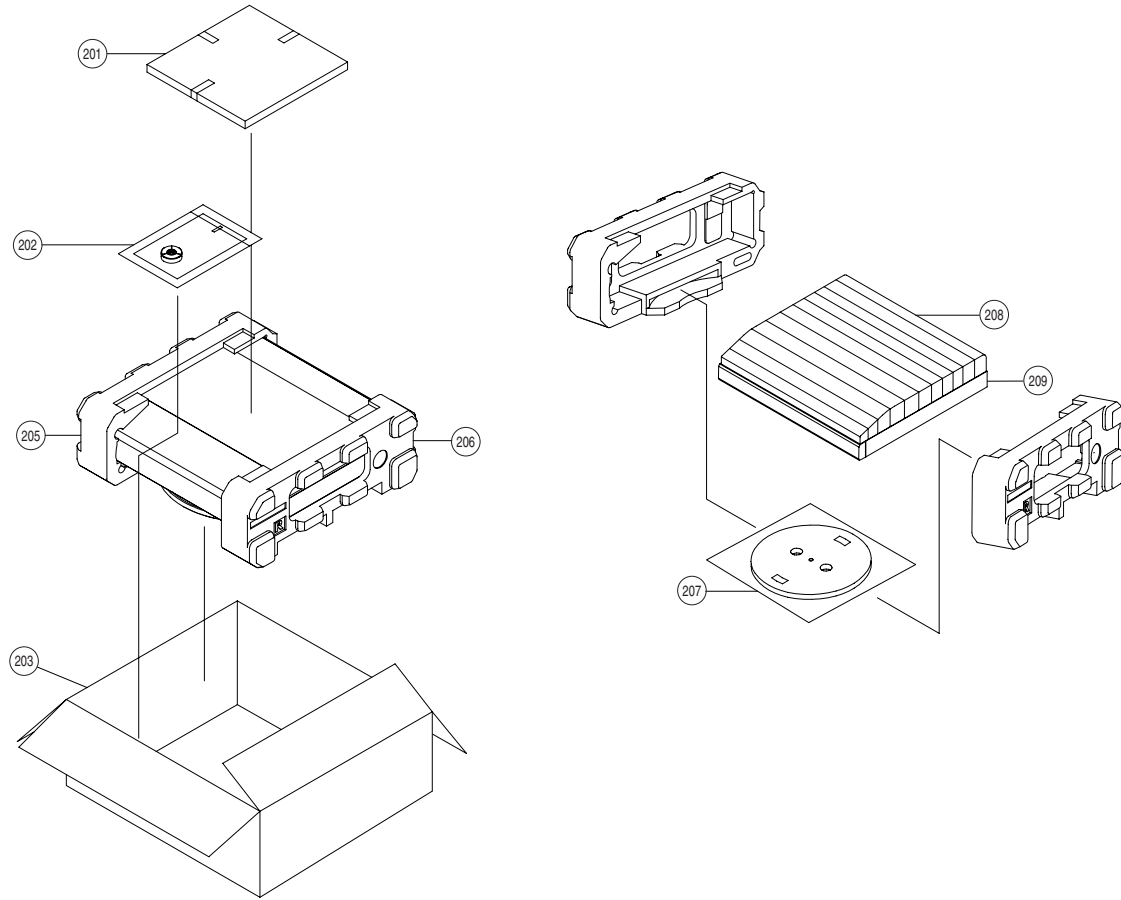
Ref. No.	Part No.	Part Name	Remarks	Q'ty
41	941 0004 309	Micro Switch and Wire Ass'y		1
SW101	941 0014 205	Push Sw(SPEA12MC06-HF)		1

EXPLODED VIEW

WARNING:
Parts marked with this symbol   have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.



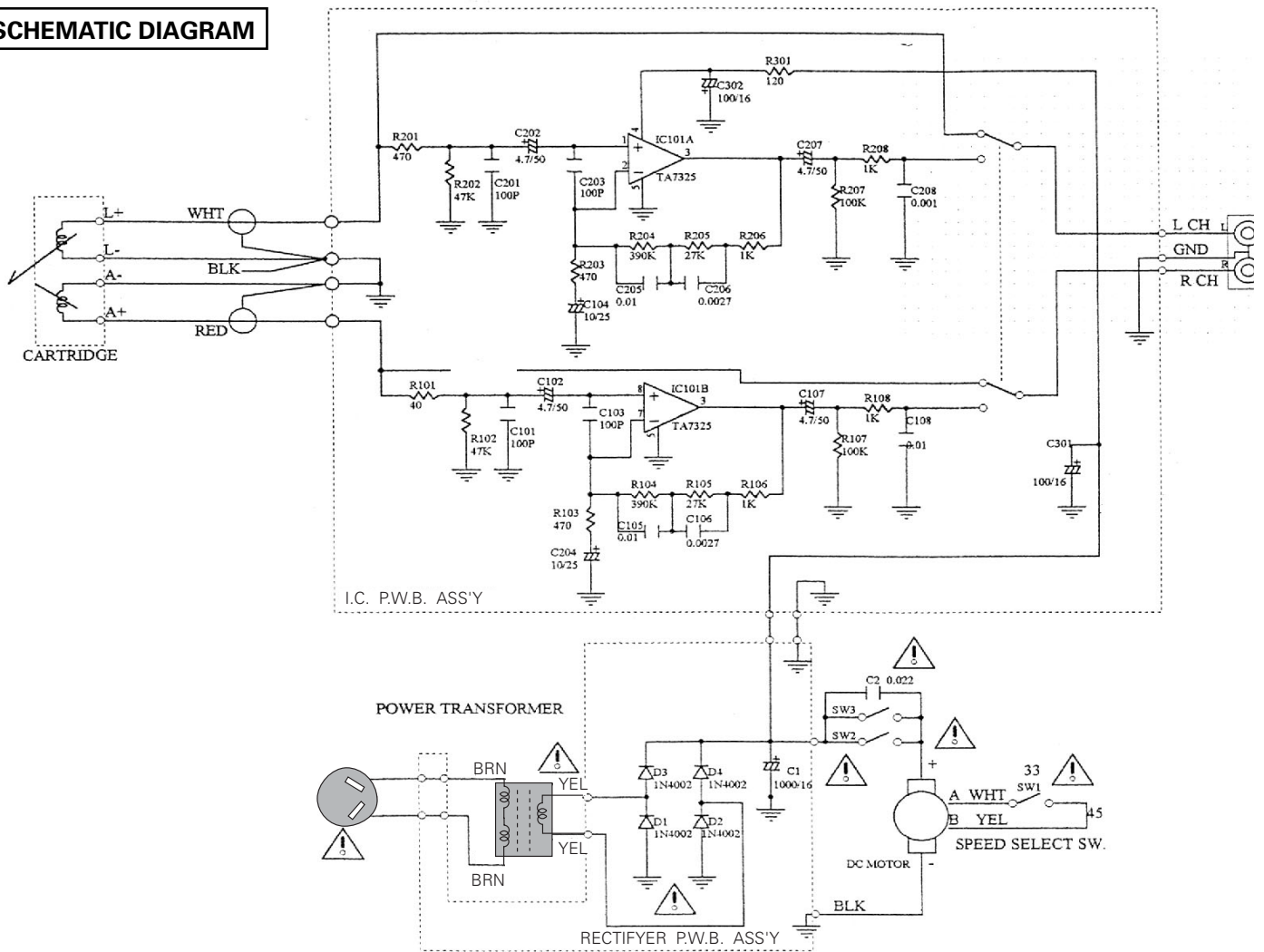
PACKING & ACCESSORIES



PARTS LIST OF PACKING & ACCESSORIES (not included EXPLODED VIEW)

Ref. No.	Part No.	Part Name	Remarks	Q'ty
201	941 0008 606	Slipmat Packing Ass'y		1
202	941 0011 114	Envelope sub Ass'y	for E3	1
202	941 0011 127	Envelope sub Ass'y	for E2	1
	511 3872 007	Inst. Manual	for E3	1
	511 3872 007	Inst. Manual	for E2	1
	511 3865 001	Inst. Manual	for E2	1
203	941 0011 224	Carton Case		1
205	941 0011 305	Cushion(L)		1
206	941 0011 402	Cushion(R)		1
207	941 0002 903	Turntable		1
208	941 0001 205	Dust Cover Ass'y	3+82	1
209	941 0011 509	Poly Cover	for Main	1

SCHEMATIC DIAGRAM



WIRING DIAGRAM

