

ONKYO SERVICE MANUAL

QUARTZ LOCKED DIRECT DRIVE AUTOMATIC TURNTABLE MODEL CP-1046F



Silver and black models

Note.

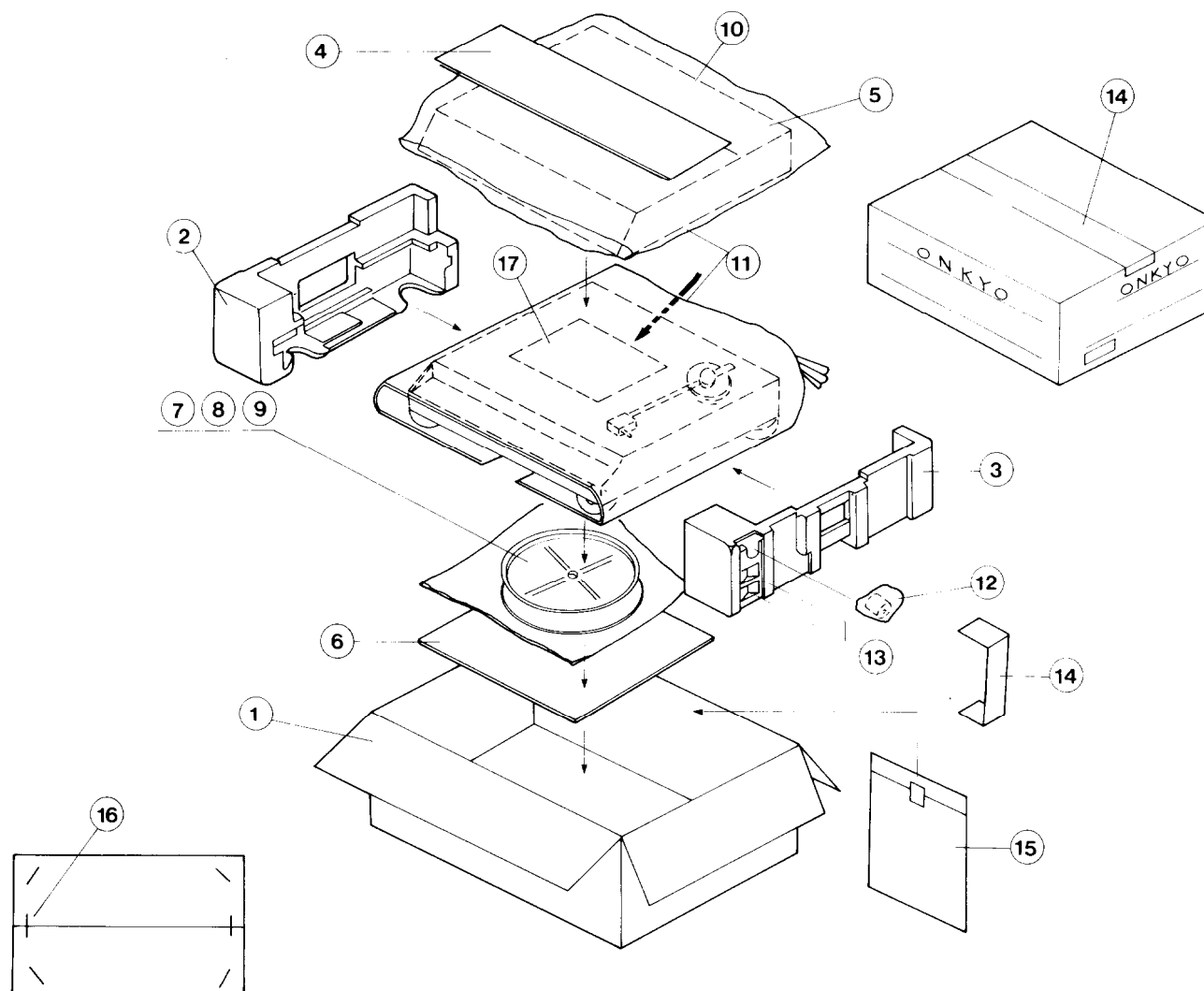
For model CP-1046F, read CP-1044F as CP-1046F. But the following parts are not the same on models CP-1046F and CP-1044F.

PAGE	REF. NO.	PART NO.	DESCRIPTION
4		24509320	Dust cover
4	34	24509327	Insulator (J)
4	31	24509325	Insulator (H)
4	32	24509326	Insulator (I)
4	44	28191249	Clear plate
4	45	27262267	Plate 46
4	45	27262268	Plate 46 (B)
12	8	24509329	T.T sheet (N)
12	8	24509286	T.T sheet (G)
4	43	27267335	Guide (L) (B)
4	36	28321549	Knob (S) (B)
4	35	28321546	Knob (R) ass'y (B)
		24505155	PU-cable (N)
		24505158A	PU-cable (V)
4	4	28110290	Floating base ass'y (B)
4	1	28110289	Cabinet (B)
4	P304	242960	OC-61VE, Cartridge (G)
4	P304	242959	DN-61STE, Stylus (G)
		28180080	Hinge (B)

NOTE

N: Only 120V Model
G: Other Models
B: Black Model
V: West Germany Model

ONKYO
AUDIO COMPONENTS



REF. NO.	PART NO.	DESCRIPTION
1	29050939	Master carton box (Black Model)
	29050938	Master carton box (Silver Model)
2	29090916A	Pad (L)
3	29090917A	Pad (R)
4	29090918A	Sheet
5	29095366	Sheet
6	29095286	Sheet
7	24502159	Turntable platter
8	24509328	T. T. Sheet (N)
	24509286A	T. T. Sheet (G)
9	29100046	370 x 470, Poly-vinyl bag
10	24501460	Dust cover
11		Sheet
12	24501460	Counter weight
13	28180080	Hinge (Black Model)
13	28180078	Hinge (Silver Model)
14		P. P. tape
15	Accessory bag complete	
	29340775	Instruction manual (N)
	292049A	45 rpm adaptor
	24509197	Overhang gauge
	29358004	Service station list (N)
	29365006-6	Warranty card (N)
	29100005	220 x 330, Poly-vinyl bag
	24501330	Cartridge attachment parts ass'y (G)
	25055040	C-V-K2, Conversion plug (G)
	29340776	Instruction manual (G)
16	282301	Sealing hook

NOTE
 N: Only 120V Model
 G: Other Models

ONKYO SERVICE MANUAL

SERIAL NO. 3159

QUARTZ LOCKED DIRECT DRIVE FULLY AUTOMATIC TURNTABLE MODEL CP-1044F



UDN, UD	120V AC, 60 Hz
UU	110/120/220/240V AC, 50/60 Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK $\triangle$ ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PARTS NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLE INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

SPECIFICATIONS

Type:	Quartz locked direct drive fully automatic turntable with auto lead-in and return, reject, repeat, cue and search button functions, two-motor micro-computer design
Turntable Platter:	310 mm (12-1/4") aluminum die-cast.
Motor:	Quartz locked direct drive brushless DC motor
Speeds:	33-1/3, 45 rpm
Wow & Flutter:	less than 0.025% (WRMS)
Signal-to-Noise Ratio:	better than 75dB (DIN B)
Tonearm:	Statically balanced straight type
Effective Arm Length:	224 mm (8-7/8")
Overhang:	13 mm (1/2")
Offset Angle:	21 degrees
Maximum Tracking Error:	+3 degrees, -1.5 degrees
Suitable Cartridge Weight:	Min. 5, Max. 9 grams
Tracking Force:	0 - 3.0 grams
Other Features:	Tracking force direct readout scale Removable headshell Anti-skating device

ONKYO
AUDIO COMPONENTS

Dimensions (W x D x H)	418 x 376 x 132 mm (16-1/2" x 14-13/16" x 5-1/5")
Weight:	6.0 kg (13.2 lbs.)
Accessories:	Headshell, counterweight, overhang gauge, adapter, instruction manual

Optional Recommended Headshell: SH-21E

Specifications are subject to change for further product improvements.

SERVICE PROCEDURES

Insulation resistance measurement

Connect the insulating-resistance tester between the plug of power supply cord and chassis.

Specifications; D model	500 V $3.3 \pm 0.33 \text{ M}\Omega$
G/W models	500 V more than $10 \text{ M}\Omega$

ADJUSTMENT PROCEDURES

1. Return sensitivity adjustment (fig. 1)

Turn the unit upside-down and, with the DD motor and arm motor connector removed, connect a DC voltmeter between TP and GND. Move the arm to the inside of the platter, put the return sensor in the release position and shut out extraneous light. Starting with the semi-fixed resistor R703 set all the way to the left, begin to rotate the resistor clockwise to the point where the voltage between TP and GND rises 2mV above low (a few hundred mV).

2. Platter height adjustment (fig. 2)

Return the unit to the upright position and rotate the float base height adjustment screw. Adjust so that the platter height is $13 \text{ mm} \pm 2 \text{ mm}$ above the cabinet.

3. Stylus height adjustment

Set the tonearm in the up position and adjust the lifter plate screw so the height of the stylus tip is $8 \text{ mm} \pm 1 \text{ mm}$ above the platter mat.

Note 1: The height should be $11 \text{ mm} \pm 2 \text{ mm}$ measured from the surface of the platter.

Note 2: Rotate the lifter plate screw counterclockwise to lower the stylus height and clockwise to raise the stylus height.

4. Lead-in count adjustment (Tracking force: 2 grams Anti-skating force: 2 grams Speed: 45 rpm)

Using test record ONK-1000, adjust so the lead-in count is 10-20 counts for both 30cm and 17cm records. Adjust using the PU pulley shutter and NCDG-1731 printed circuit board jumper lead.

The count changes in the following manner as the jumper leads are cut:

Jumper lead A	3 count changes
Jumper lead B	6 count changes
Jumper lead C	12 count changes
Jumper lead $\pm$	cut: - . connect: +

5. Return count adjustment (Speed: 45 rpm)

Using test record ONK-1000, adjust so the 3mm pitch return count is 24-26 counts. Adjust using the PU pulley eccentricity pin. Confirm that the tonearm does not return until 22 counts at a pitch of 1mm.

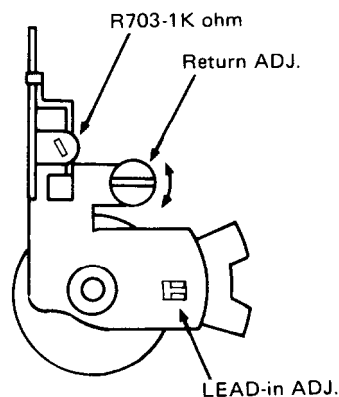


fig. 1

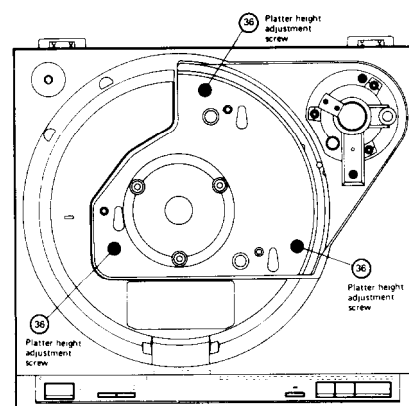
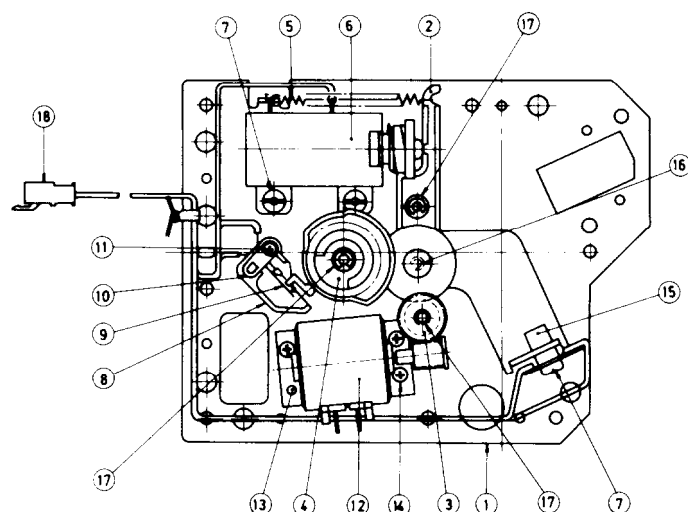


fig. 2

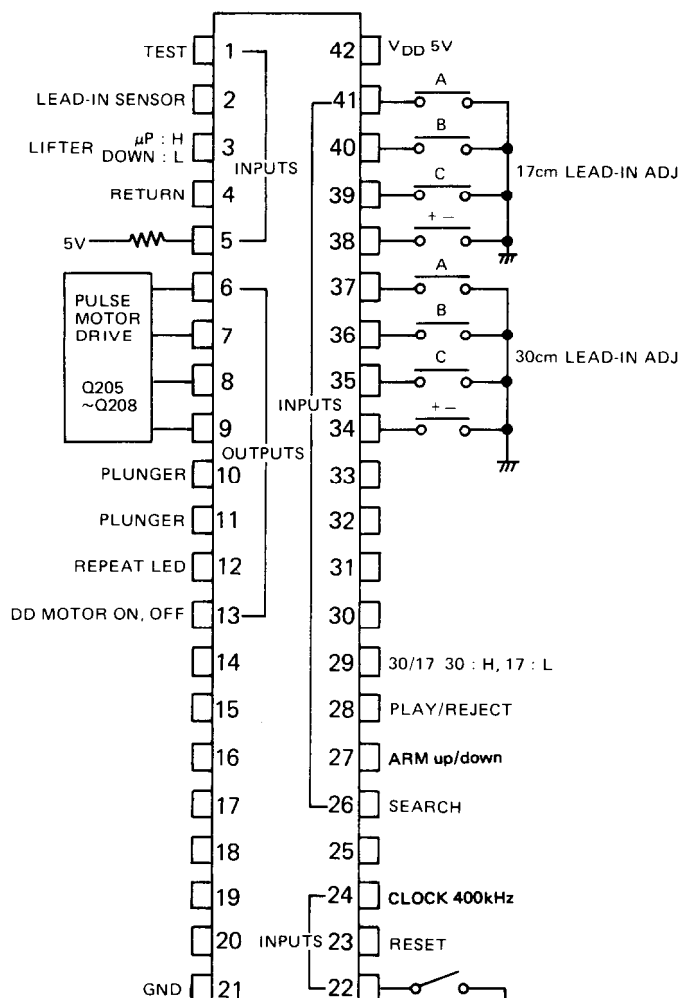
MECHANISM COMPONENT LOCATION



REF. NO.	PARTS NO.	DESCRIPTION
1	24506644	Chassis
2	24504310	Lever
3	24503097	Wheel
4	24503098	Cam wheel
5	24503100	Tension spring
6	24506474	Solenoid
7	24506437	Screw
8	24506463	Cover
9	24503102	Switch
10	24509234	Spacer
11	82112024	2P-24FN, Pan head screw
12	24502125B	Motor ass'y
13	24506464	Rubber plate
14	82142306	2.3P + 6FN (BC), Pan head screw
15	24506596	Photo diode/transistor ass'y
16	893030	E-3, Circlip
17	893020	E-2, Circlip
18	2000241	NSAS-8P179, Socket
19		Belt
20		Label
21	24506658	Screw
22	24506659	Toothed washer
23	24506461	Rubber ring

MICROCOMPUTER

TMP4315AP (1031)



COMPONENT LOCATION PARTS LIST

REF. NO.	PARTS NO.	DESCRIPTION	REF. NO.	PARTS NO.	DESCRIPTION
1	28110274	Cabinet	M001	24502155A	787V, Motor ass'y
4	28110275A	Floating base ass'y	P001	25050045	NSCT-7P14, DIN terminal
9	24509279	Dust cover	P301	24506642	N35, Fully automatic mechanism ass'y
11	28180078	Hinge	P302	24501457	Tone arm ass'y
13	28153076	Bottom board		24501459	Attachment screw
17	24502159	Turntable platter		24501460	Counter weight
19	27140866	Bracket B		24501325	Headshell
20	27140393	Bracket AC	P303	24501330	Attachment part ass'y, cartridge (D)
22	27150126	Shielded plate		24501138	2.6x11, Screw
25	27140856	Bracket A		24501123	2.6x4, Nut
26	28140209	Cushion		24506079	Washer
27	28140496	Cushion	P304	24501456	Cartridge ass'y (U)
29	28140507	Cushion		242953	OC-61V, Cartridge
31	24509313	Insulator G		242954	DN-61ST, Stylus
32	24509312	Insulator F		24501138	Screw
33	24509314	Insulator Y		24500079	Washer
34	24509289	Insulator E		24501123	Nut
35	28321222	Knob R	P901	253099B	AS-UC-3, Power supply cable (D)
36	28321221	Knob S		253083	AS-CEE, Power supply cable (U)
37	28321193	Knob L	P901a	270025	SR-3P-4, Strainrelief (D)
38	27260119A	Shaft, power		270280	SR-4K-4, Strainrelief (U)
39	27140749A	Bracket, power	P902	200250	NSAS-5P188, Socket
40	27260120A	Shaft S	△ PT101	230734	NPT-816D, Power transformer (D)
42	8930301S	ES-3, Circlip		230735	NPT816ADGQ, Power transformer (U)
43	27267289	Guide L	△ SW101	25035385	NPS-111-L349, Power switch (D)
44	28191196A	Clear plate		25035386	NPS-111-L350P, Power switch (D)
45	27262234A	Plate 44	△ S002	25065168	HXW0131-01-060, Voltage selector switch (U)
46	28198596	Facet			
47	28133078	Back plate A	U1	10108531	NADG-1731, Power supply and mechanism control pc board ass'y
48	28133079	Back plate B	U2	10128584	NAPS-1684, Power supply terminal pc board ass'y
49	28321163-1	Knob IFC	U3	10108532	NASW-1732, Play switch pc board ass'y
50	28400012A	Cam IFC	U4	10108533	NALED-1733, Repeat indicator pc board ass'y
51	27180175A	Spring IFC	U5	10101834	NASW-1734, Size/speed indicator pc board ass'y
52	27267271	Guide IFC	U6	10108535	NALED-1735, Size/speed indicator pc board ass'y
53	870071	WW-6, Wave washer	U7	16627510	NAPI-1010, Output cable terminal pc board ass'y
54	24506645	Tonearm rest ass'y	U8	10128517B	NARET-917b, Return detection pc board ass'y
55	24506648	Lifter plate			
56	27260121A	Lifter shaft	Note:	(D): Only 120V model	
57	27180156	Spring		(U): Only Universal model	
58	27180140-1	Spring			
59	8930301S	ES-3S, Circlip			
60	87644012	W4x12, Washer			
61	831430120	3TTW + 12P (BC), Tapping screw			
62	831430100	3TTW + 10P (BC), Tapping screw			
63	834440120	4TTP + 12P (BC), Tapping screw			
64	834440200	4TTP + 20P (BC), Tapping screw			
66	834430108	3TTS + 10B (BC), Tapping screw			
67	82544020	4B + 20FN (BC), Screw			
68	801275	Special screw			
69	82144016	4P + 16FN (BC), Pan head screw			
70	87644012	W4x12F (BC), Washer			
71	8761401816	W4x12F (BC), Washer			
72	27270155	Spacer			
73	87313006	M-3B, Toothed washer			
74	876430100	W3x10F (BC), Washer			
75	27265083	4x5. 3x14, Ring			
76	870060	W3x15, Washer			

NOTE : THE COMPONENTS IDENTIFIED BY MARK △ ARE CRITICAL FOR LISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PARTS NUMBER SPECIFIED.

PRINTED CIRCUIT BOARD-PARTS LIST

POWER SUPPLY AND MECHANISM CONTROL PC BOARD (NADG-1731)

CIRCUIT NO.	PARTS NO.	DESCRIPTION
Q201	IC	
	222677	TMP4315AP (1031)
Q203, Q205 Q210, Q212 Q213	Transistors	
	2211253,	2SC1815 (O),
	2211254,	2SC1815 (Y),
	2211255,	2SC1815 (GR),
	2210746,	2SC945A (P),
Q204	2210747 or	2SC945A (Q) or
	2210748	2SC945A (K)
	2211706	2SD655 (F)
Q206-Q209	2211544	2SC1959 (Y)
Q211	2211644	2SA965 (Y)
Q301, Q302	2211254 or	2SC1815 (Y) or
	2211255	2SC1815 (GR)
Q901, Q903	2201074	2SD880 (Y)
Q904	2201074	2SD880 (Y)
D201, D202 D206, D209 D904	Diodes	
	223145,	1S2076TD,
	223150,	VS1040,
	223105 or	1S1555 or
D203, D205	223133	DS442X
	223103 or	1N60 or
D901	223132	1K60
	223869	W01
D903	224200 or	D57Z18-Z or
	2244193	GZA18Z
D905	224190 or	D5Z13Y or
	2241132	GZA18Z
D906	224162 or	D5Z5. 6X or
	2240951	GZA5. 6X
D908	223848	GP08B
D907	223929,	BZ130,
	2239972 or	RD13FB2 or
	2239973	RD13FB3
L201	Transformer	
	232108	NMIF-6042
C202 C301 C302 C903 C904 C907 C908 C910 C911	Capacitors	
	357280109	1 μ F, 50V, Elect.
	352734709	47 μ F, 10V, Elect.
	352733309	33 μ F, 10V, Elect.
	352761029	1,000 μ F, 35V, Elect.
	352751029	1,000 μ F, 25V, Elect.
	352754709	47 μ F, 25V, Elect.
	352764709	47 μ F, 35V, Elect.
	352744709	47 μ F, 16V, Elect.
	352754709	47 μ F, 25V, Elect.
	Resistors	
R201-R204	49121472504	4.7kohmx4, 1/8W, Network
R205-R209	49121332505	3.3kohmx4, 1/8W, Network
R210-R217	49121223508	22kohmx8, 1/8W, Network
R903, R904	44172204	22ohm, 1/2W, Metal oxide film
R905	441721804	18ohm, 2W, Metal oxide film
R907	441626804	68ohm, 1W, Metal oxide film
	Sockets	
	2000239	NSAS-5P177
	2000236	NSAS-3P174
	2000237	NSAS-3P175

CIRCUIT NO. PARTS NO. DESCRIPTION

Plugs

25055089	NPLG-3P73
25055091	NPLG-5P75
25055093	NPLG-7P77
55055094	NPLG-8P78

Radiators

27160029	RAD07
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Lamps

210175	14V. 0.06A
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Bracket

27140790	
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PLAY SWITCH PC BOARD (NASW-1732)

CIRCUIT NO. PARTS NO. DESCRIPTION

25035291	NPS-111-S257, Push switches
2000240	NSAS-7P178, Socket

REPEAT INDICATOR PC BOARD (NALED-1733)

CIRCUIT NO. PARTS NO. DESCRIPTION

D501	225142	SEL2913K, LED
	27250062	Lamp case
	27140795	Bracket U
	8334330080	3TTP +8P (BC), Tapping screw

SIZE/SPEED SWITCH PC BOARD (NASW-1734)

CIRCUIT NO. PARTS NO. DESCRIPTION

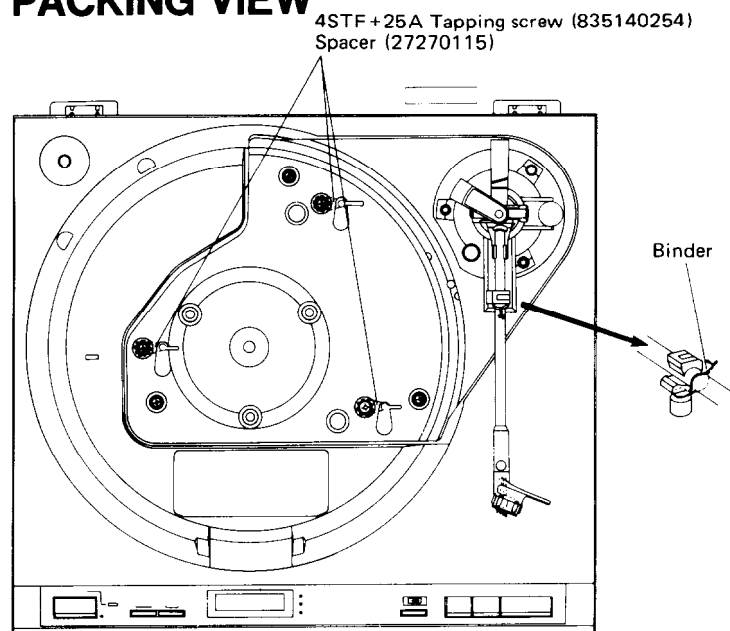
25035399	NPS-122-L364, Push switch
2000249	NSAS-5P178, Socket

SIZE/SPEED INDICATOR PC BOARD (NALED-1735)

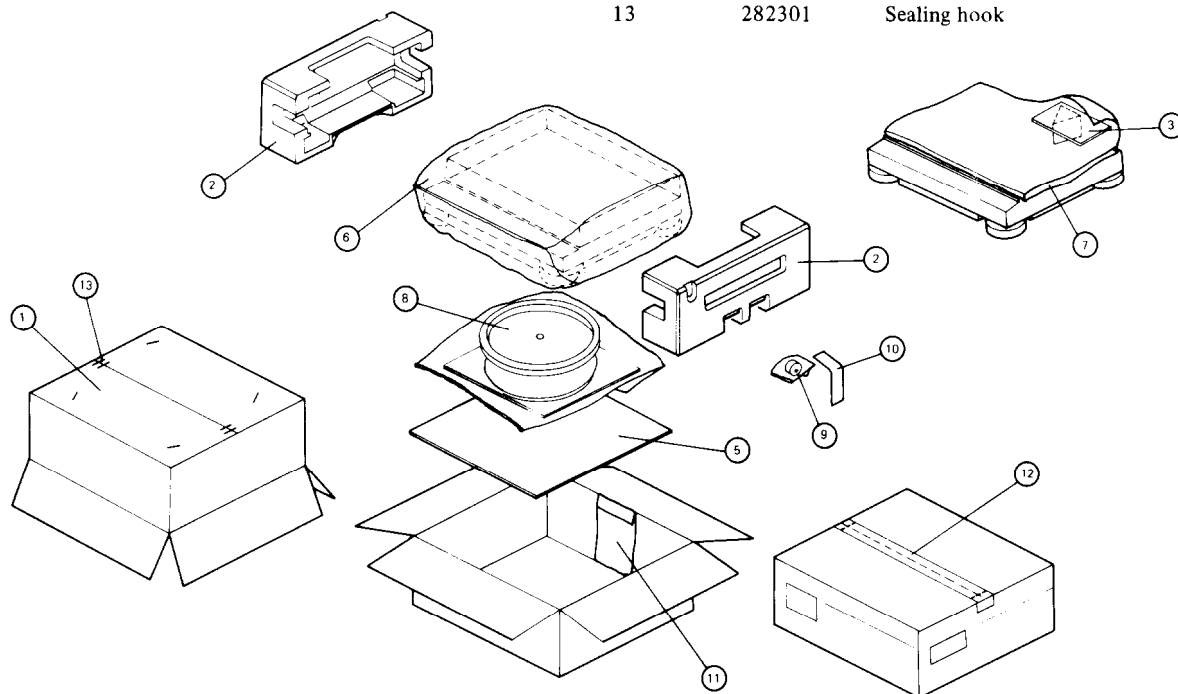
CIRCUIT NO. PARTS NO. DESCRIPTION

D601, D603	225142	SEL2913K, LED
D602, D604	225137	SEL2413E, LED
	27250061	Lamp case
	27140795	Bracket U
	833430080	3TTP + 8P (BC), Tapping screw

PACKING VIEW



REF. NO.	PARTS NO.	DESCRIPTION
1	29050778	Master carton box
2	29090791	Pad
3	29090837	Pad, tonearm
5	29095286	Pad sheet
6	29100049	640 x 620mm, Poly-vinyl bag
7	29095295	Sheet
8	24502159	Turntable platter
	24509286	T.T. sheet
9	29100046	370x470mm, Poly-vinyl bag
	24501460	Counter weight
10	29100002A	80x150mm, Poly-vinyl bag
	260013	P.P tape
11		Accessory bag complete
120V model		
	29340704	Instruction manual
	292049A	45rpm adaptor
	24509197	Overhang gauge
	24501330	Cartiridge attachment parts ass'y
	29358002	Service station list (Only USA model)
	29365006-5	Warranty card (Only USA model)
	29100005	220x330mm, Poly-vinyl bag
120/220V model		
	29340705	Instruction manual
	292049A	45rpm adaptor
	29509197	Overhang gauge
	25055040	C-V-K2, Conversion plug
	29100005	220x330mm, Poly-vinyl bag
12	260012	W550mm, Dampson tape
13	282301	Sealing hook



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