

SERVICE MANUAL

AUTOMATIC DIRECT DRIVE TURNTABLE

SANSUI P-D15

(Silver & Black Model)



● SPECIFICATIONS

Type	Direct-drive turntable
Rated speeds	33-1/3, 45 rpm
Platter	Aluminum alloy diecast, 304 mm (12") diameter, 0.65 kg (1.43 lbs.) weight
Motor	Coreless and Brushless DC/FG Servo
Wow/flutter	0.04% (WRMS)
Signal-to-noise ratio	Better than 72 dB (DIN-B) Better than 60 dB (IEC-B)
Tonearm	Statically-balanced type
Effective tonearm length.	220 mm (8-11/16")
Power voltage	110 ~ 120/220 ~ 240 V (50/60 Hz)
For U.S.A. and Canada..	120 V (60 Hz)
Power consumption	14 W
Dimensions	430 mm (16-29/32") W 96 mm (3-25/32") H 367 mm (14-15/32") D
Weight	4.0 kg (8.8 lbs.) net 4.9 kg (10.8 lbs.) packed

Specifications of the cartridge (applicable only to the units with cartridge)

Model SV-P313

Type	Dual Magnet type
Output voltage	2.5 mV (1,000 Hz, 35.4 mm/sec)
Correct load impedance	47 kohms
Frequency response	20 ~ 20,000 Hz
Stylus	0.6 mil diamond stylus (SN-P313 replacement stylus)

- Design and specifications subject to changes without notice for improvements.
- Due to local laws and regulations, this unit sold in some areas are not equipped with variable voltage selectors.

CAUTION

1. Parts identified by the Δ symbol on the schematic diagram and the parts list are critical for safety. Use only replacement parts that have critical characteristics recommended by the manufacturer.
2. Make leakage-current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.

Sansui

SANSUI ELECTRIC CO., LTD.

CAUTION

1. The symbols, UL, CSA, SA, BS, UK, EU, AS and XX on the parts list and the schematic diagram mean followings respectively.

- UL Manufactured for U.S.A market.
(Underwriters Laboratories approved model.)
- CSA Manufactured for Canadian market.
- SA Manufactured for South African market.
- BS, UK Manufactured for United Kingdom market.
- EU Manufactured for European market.
- AS Manufactured for Australian market.
- XX Standrd Version.
- NON MARK Common Parts.

2. Some printed circuit boards are not supplied as the assembled. To separate these in this service manual, the stock No's are not indicated at the ends of the board names. However, the individual parts on the circuit boards are provided by orders.

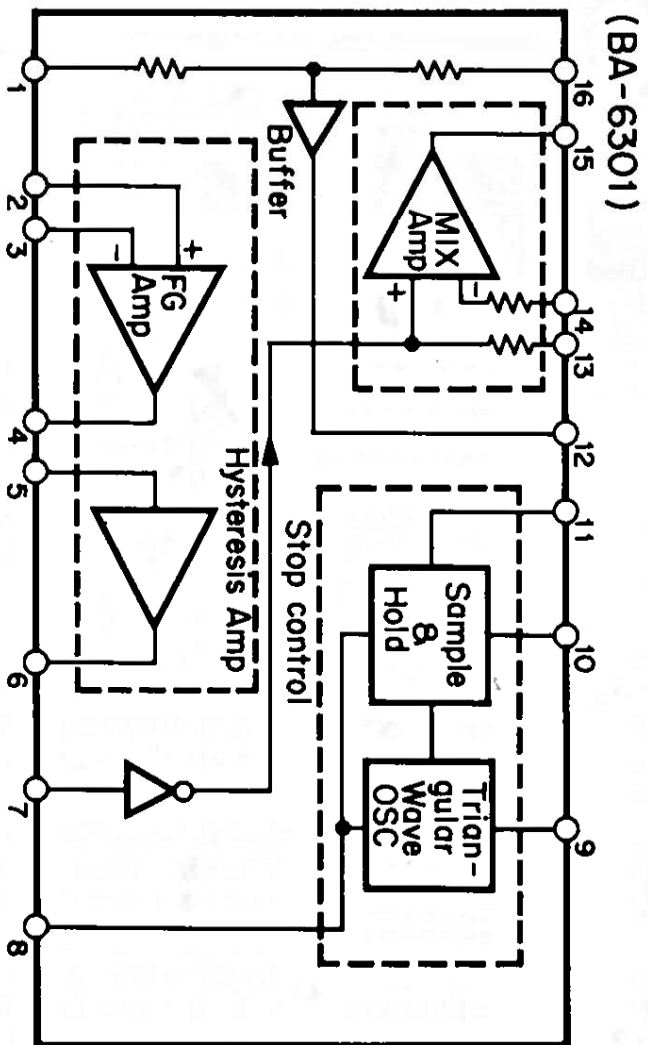
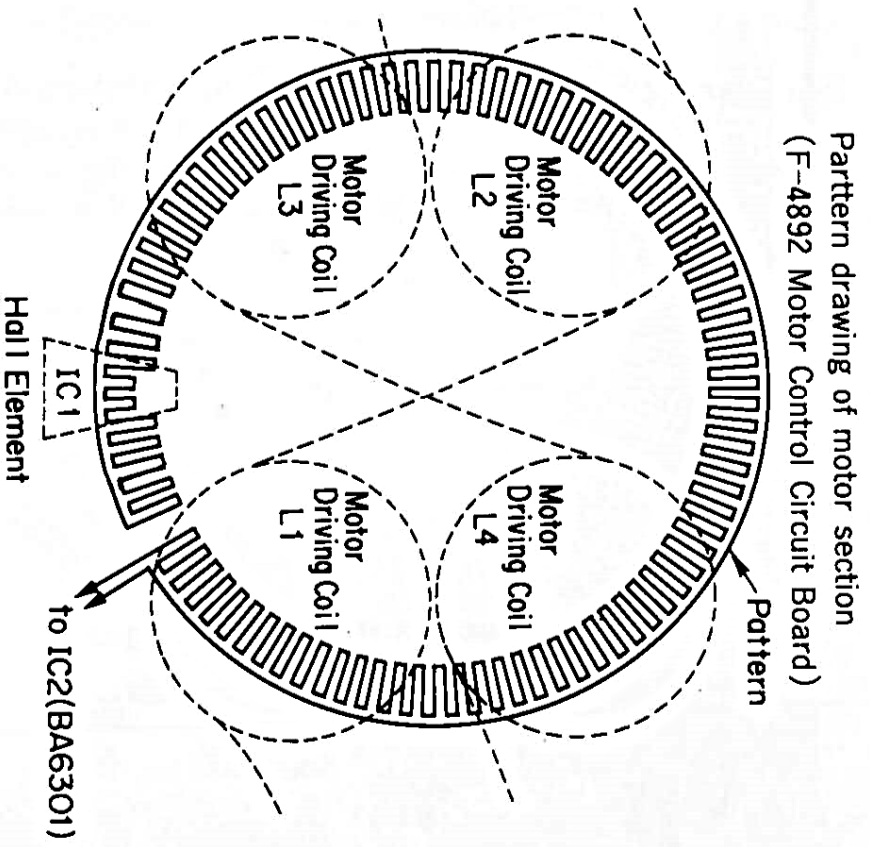
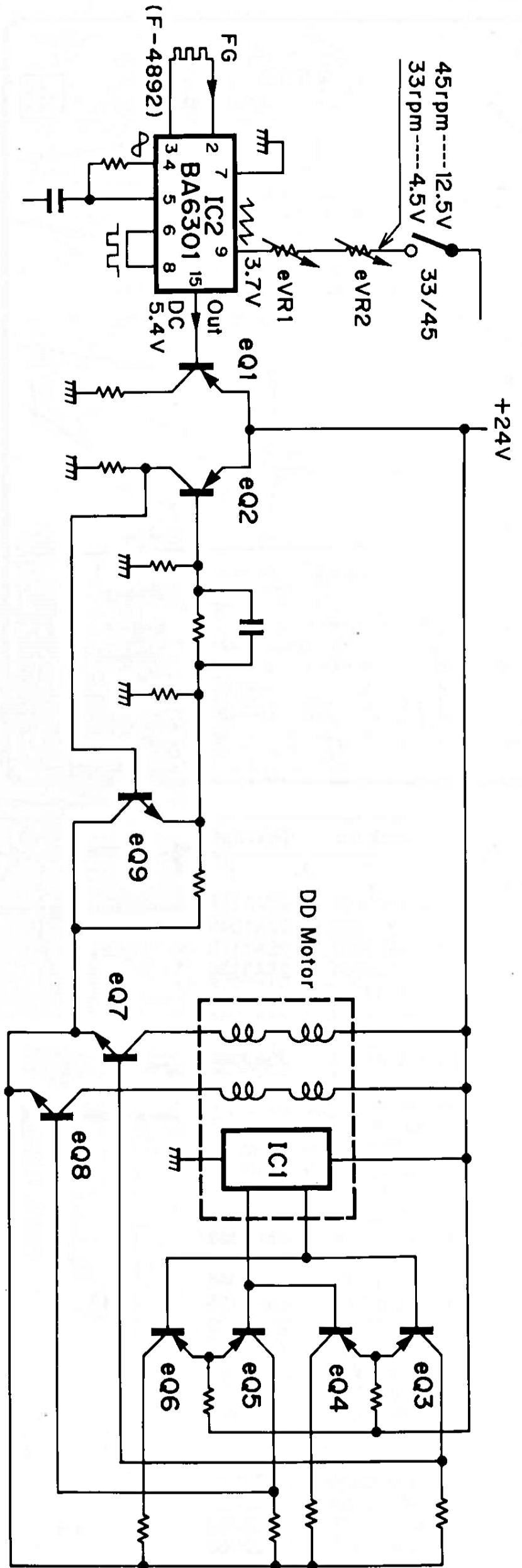
3. Since some of capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors & resistors, which was issued on February 1983.

4. Abbreviations in this service manual are as follows.

• Abbreviations List

C.R.	: Carbon Resistor	E.B.L.	: Low Leak Bi-Polar Electrolytic Capacitor
S.R.	: Solid Resistor	Ta.C.	: Tantalum Capacitor
Ce.R	: Cement Resistor	F.C.	: Film Capacitor
M.R.	: Metal Film Resistor	M.P.	: Metalized Paper Capacitor
F.R.	: Fusing Resistor	P.C.	: Polystyrene Capacitor
N.I.R.	: Non-Inflammable Resistor	G.C.	: Gimmic Capacitor
A.R.	: Array Resistor	A.C.	: Array Capacitor
C.C.	: Ceramic Capacitor	V.R.	: Variable Resistor
C.T.	: Ceramic Capacitor, Temperature Compensation	S.V.R.	: Semi Variable Resistor
E.C.	: Electrolytic Capacitor	SW.	: Switch
E.L.	: Low Leak Electrolytic Capacitor	Chip R.	: Chip Resistor
E.B.	: Bi-Polar Electrolytic Capacitor	Chip C.	: Chip Capacitor

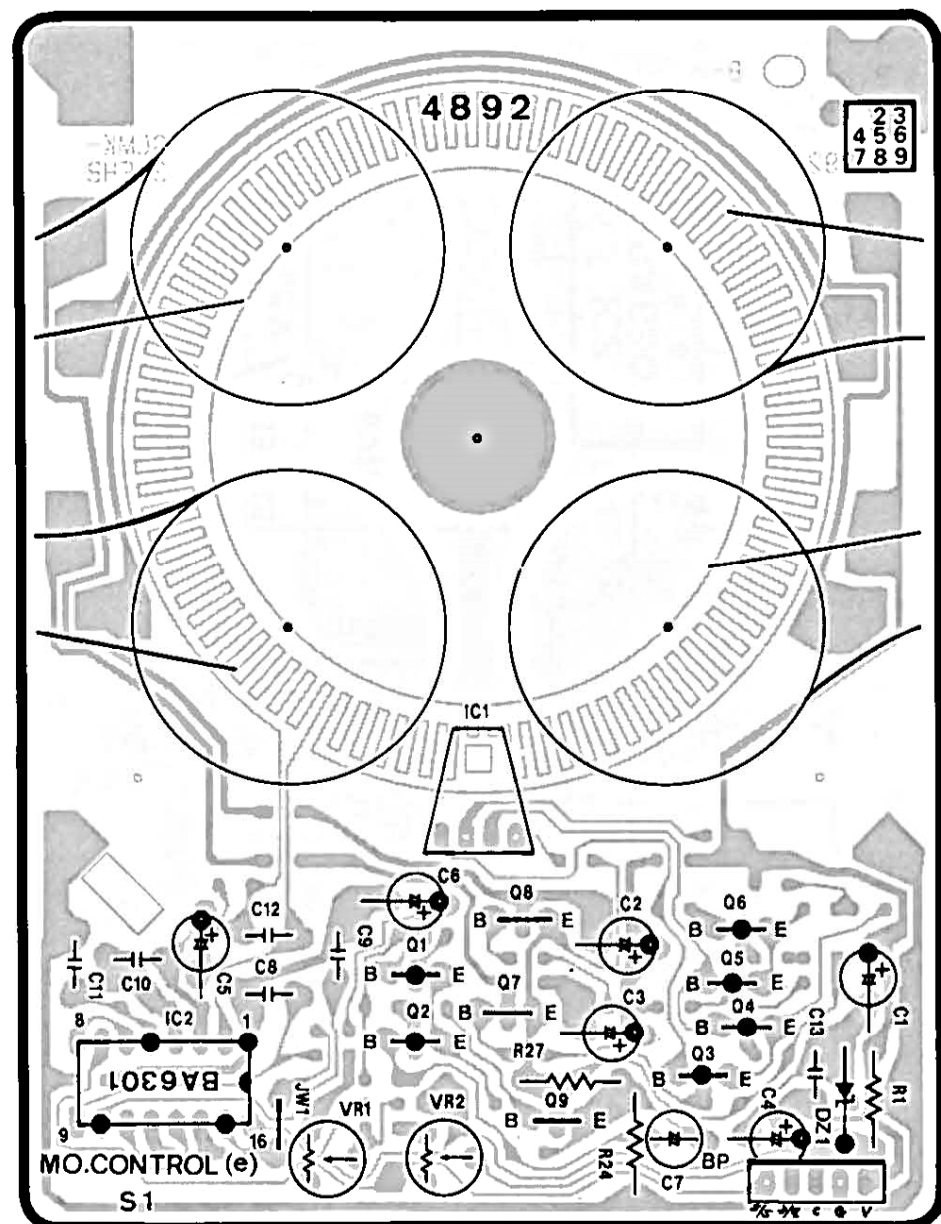
1. BLOCK DIAGRAM



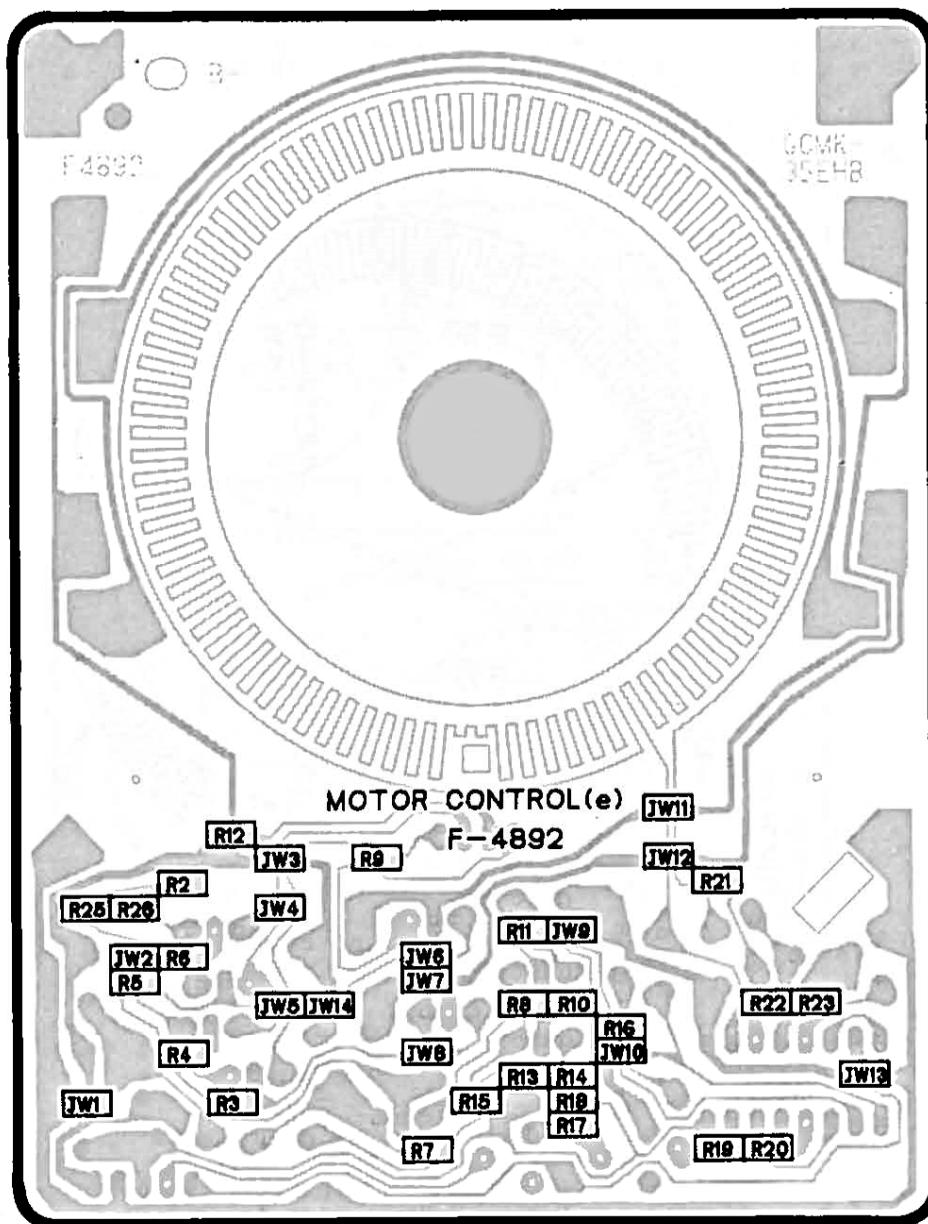
2. PARTS LOCATION & PARTS LIST

2-1. F-4892 Motor Control Circuit Board

Component Side



Pattern Side <Chip Parts>



Parts List

Parts No.	Stock No.	Description
• Transistor		
eQ1	46367001	2SA1115
	or 46367201	2SA1048
	or 46392001	2SA1175
	or 48058601	2SA933S
eQ2	46367001	2SA1115
	or 46367201	2SA1048
	or 46392001	2SA1175
	or 48058601	2SA933S
eQ3	46367001	2SA1115
	or 46367201	2SA1048
	or 46392001	2SA1175
	or 48058601	2SA933S
eQ4	46367001	2SA1115
	or 46367201	2SA1048
	or 46392001	2SA1175
	or 48058601	2SA933S
eQ5	46367001	2SA1115
	or 46367201	2SA1048
	or 46392001	2SA1175
	or 48058601	2SA933S
eQ6	46367001	2SA1115
	or 46367201	2SA1048
	or 46392001	2SA1175
	or 48058601	2SA933S
eQ7	46359801	2SC2001
	or 46614101	2SC3243
	or 48000901	2SC2060
eQ8	46359801	2SC2001
	or 46614101	2SC3243
	or 48000901	2SC2060
eQ9	03083901	2SD313AL
	or 46546701	2SD880

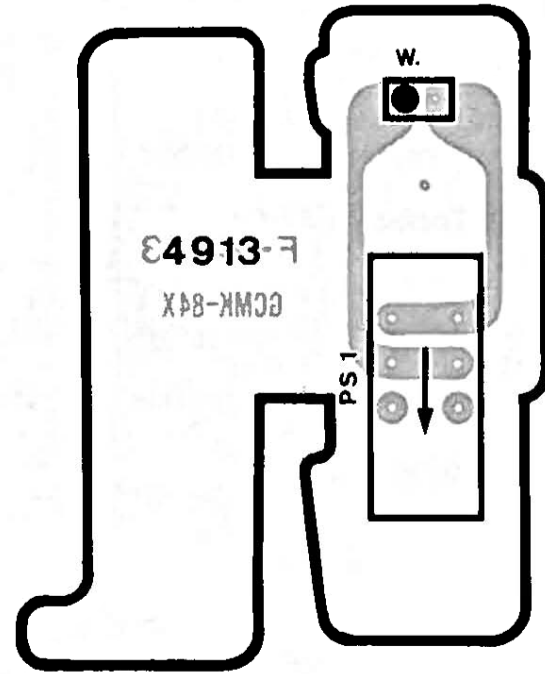
Parts No.	Stock No.	Description
• IC		
eIC1	46354301	HW-301C-Q
	or 46354302	HW-301C-R
eIC2	46354400	BA6301
• Zener Diode		
eDZ1	46103700	05Z12-Y
eR2	46747400	820 Ω 1/8W Chip R.
eR3	46749200	4.7 KΩ 1/8W Chip R.
eR4	46749200	4.7 KΩ 1/8W Chip R.
eR5	46749200	4.7 KΩ 1/8W Chip R.
eR6	46749200	4.7 KΩ 1/8W Chip R.
eR7	46750000	10 KΩ 1/8W Chip R.
eR8	46747600	1 KΩ 1/8W Chip R.
eR9	46747600	1 KΩ 1/8W Chip R.
eR10	46747600	1 KΩ 1/8W Chip R.
eR11	46747600	1 KΩ 1/8W Chip R.
eR12	46747300	750 Ω 1/8W Chip R.
eR13	46749100	4.3 KΩ 1/8W Chip R.
eR14	46751500	43 KΩ 1/8W Chip R.
eR15	46747000	560 Ω 1/8W Chip R.
eR16	46752600	120 KΩ 1/8W Chip R.
eR17	46753400	270 KΩ 1/8W Chip R.
eR18	46753300	240 KΩ 1/8W Chip R.
eR19	46750300	13 KΩ 1/8W Chip R.
eR20	46747900	1.3 KΩ 1/8W Chip R.
eR21	46745200	100 Ω 1/8W Chip R.
eR22	46753600	330 KΩ 1/8W Chip R.
eR23	46751600	47 KΩ 1/8W Chip R.
eR25	46745200	100 Ω 1/8W Chip R.
eR26	46745200	100 Ω 1/8W Chip R.
	46741100	Cross Conductor

Parts List <F-4892>

Parts No.	Stock No.	Description
eC1	46929700	33 μ F 25V E.L.
eC2	46929600	22 μ F 25V E.L.
eC3	46929600	22 μ F 25V E.L.
eC4	46928700	22 μ F 16V E.L.
eC5	46929200	10 μ F 25V E.L.
eC6	46930800	0.22 μ F 50V E.L.
eC7	48165000	0.1 μ F 50V E.B.
eC8	46284100	0.1 μ F 50V F.C.
eC9	46282900	0.01 μ F 50V F.C.
eVR1	46634900	100 K Ω S.V.R., speed adj. 33 rpm
eVR2	46635300	470 K Ω S.V.R., speed adj. 45 rpm

2-4. F-4913 Speed SW. Board

Component Side

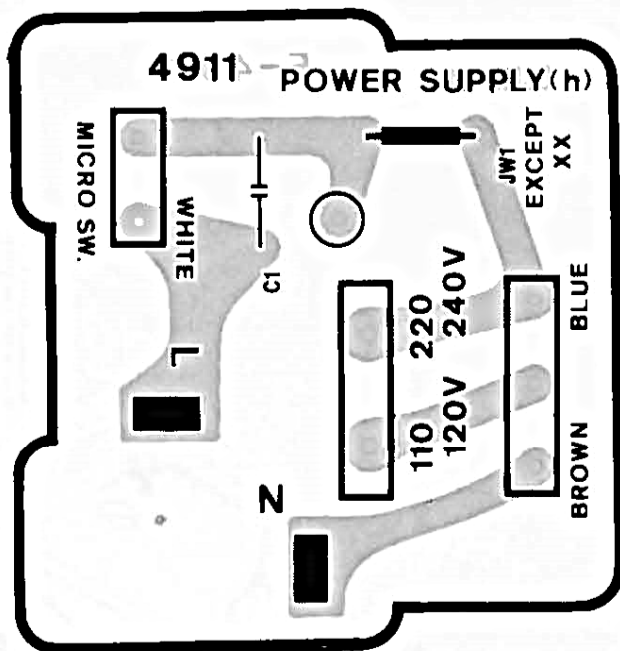


Parts List

Parts No.	Stock No.	Description
gSW1	46164900	Push SW., SPEED

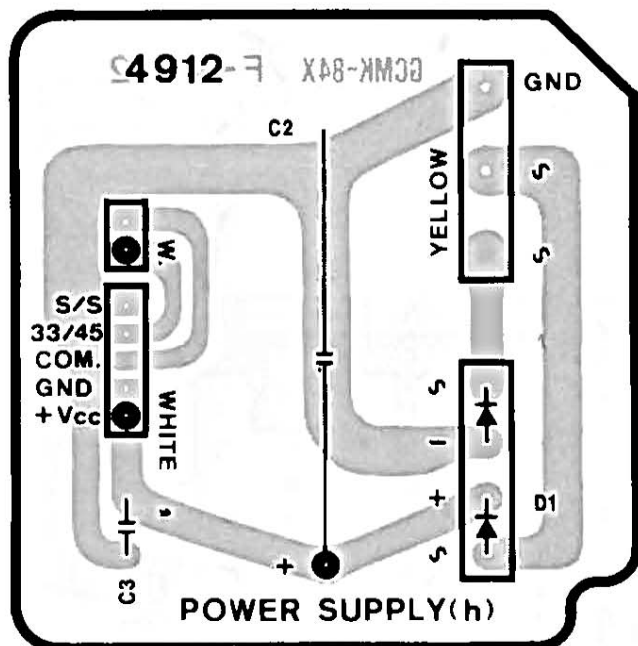
2-2. F-4911 Power Supply Board (1)

Component Side



Parts No.	Stock No.	Description
Δ hC1	46425800	0.01 μ F 400V C.C.

2-3. F-4912 Power Supply Board (2)



Parts List

Parts No.	Stock No.	Description
\bullet Diode		
Δ hD1	03117000	RB152-LFF
hC2	48164900	1000 μ F 35V E.L.

3. MAIN PARTS REPLACEMENT

(See Fig. 3-5 on page 6 & Top View on page 7 & Bottom View on page 8)

A. Tonearm Ass'y

- 1) Loosen two pivotal screws. (See Fig. 3-1)
- 2) Extract a plug from F-4904 at tonearm holder.

B. Attachment of Tonearm Ass'y

- 1) Connect the plug.
- 2) Screw a pivotal screw at nut of tonearm ass'y.
- 3) Put the pivot on the groove of tonearm holder and depress the tonearm ass'y. (See Fig. 3-2)
- 4) Screw a pivotal screw at nut of the other side.

Note: Arrange wires of tonearm ass'y.

Fig. 3-1

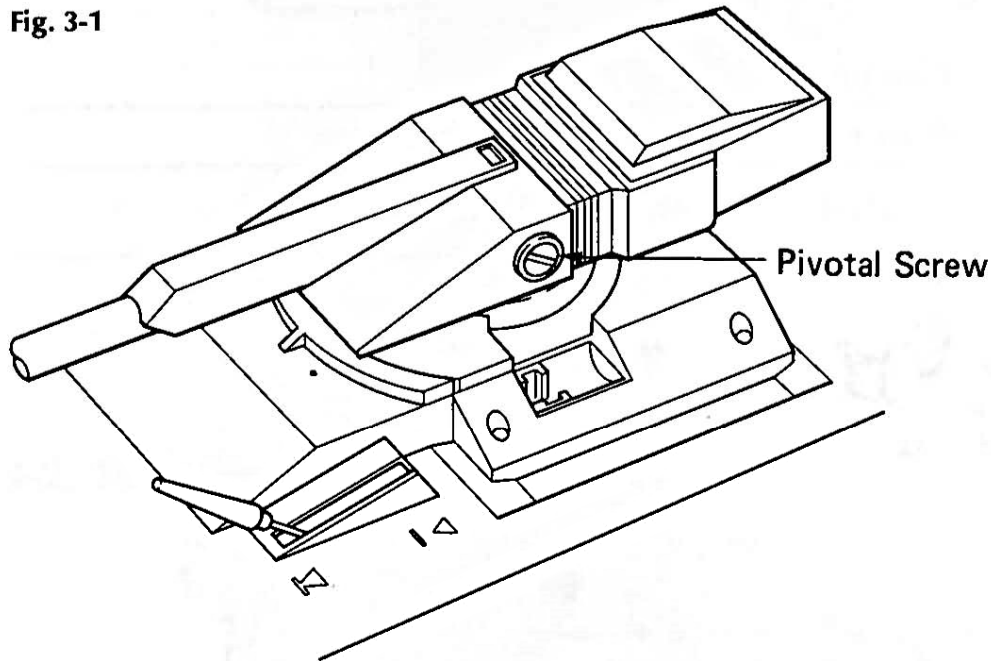
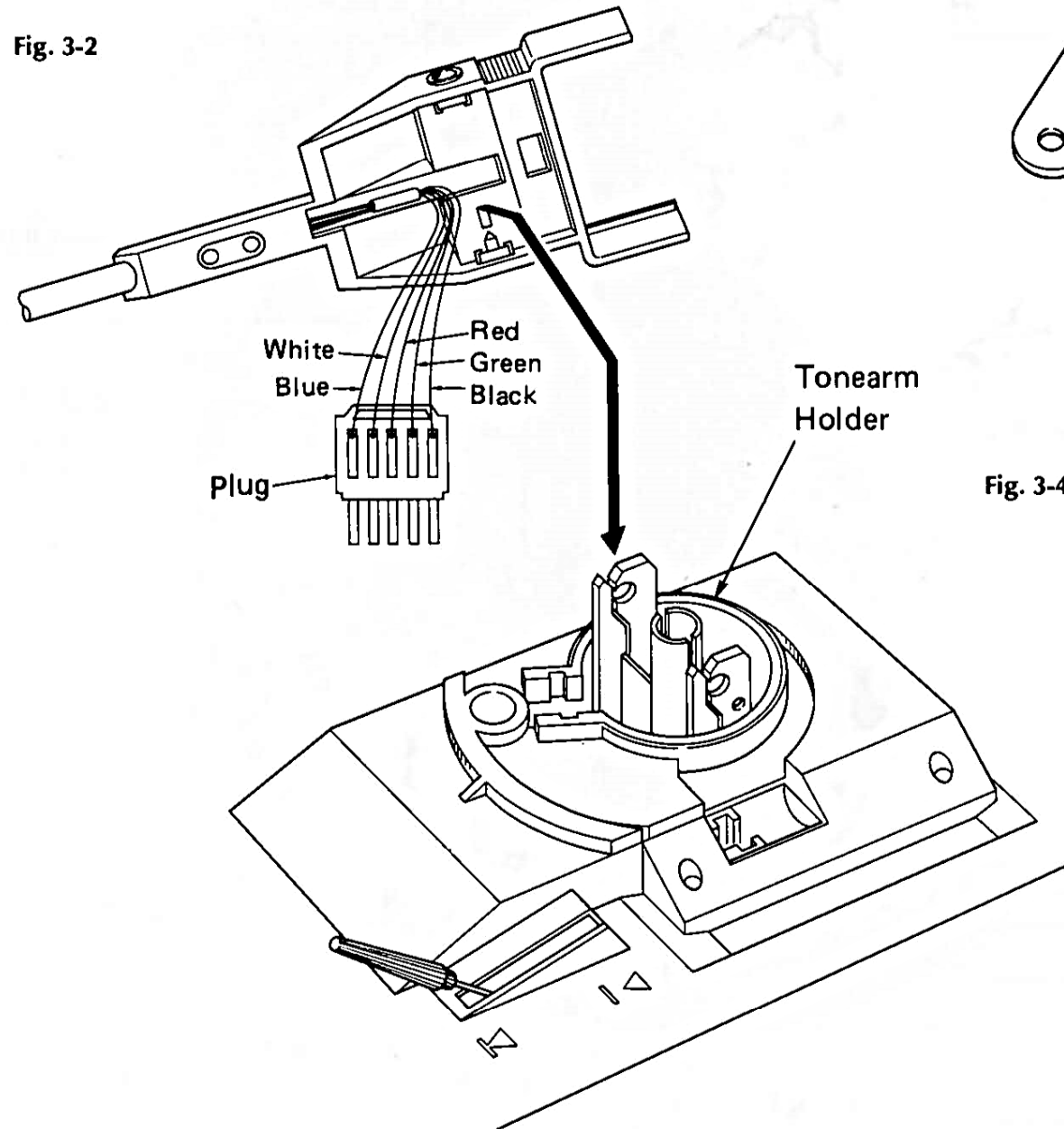


Fig. 3-2



C. Auto Mechanism Ass'y, Restore Lever Ass'y ⑧, Lifter Stage ⑱, Spring ⑲ ⑳ Elevation Chip ㉑ & Arm Rest Ass'y ㉓.

- 1) Pull out the lifter lever knob.
- 2) Remove the tonearm ass'y.
- 3) Loosen the adjusting screw. (See Fig. 3-3)
- 4) Remove the bottom plate.
- 5) Remove the DD motor Ass'y with F-4892 board.
- 6) Remove the screw ④, screw ⑤ and washer ⑤. (See Bottom View)
- 7) Pull out the hook of trip lever ③ from hole of restore lever.
- 8) Undo four hooks to remove auto mechanism ass'y.
- 9) Take off the spring of restore lever.
- 10) Remove the restore lever. (See Fig. 3-3)
- 11) Loosen one screw ⑦ to remove micro sw. plate ⑥.
- 12) Undo two hooks of tonearm holder to remove the stopper. (See Fig. 3-4)
- 13) Take off the tonearm holder with bushing.
- 14) Take out the F-4904 board.
- 15) Loosen one screw ㉒ to remove lifter stage ⑱, spring ⑲ ⑳ and elevation chip ㉑.
- 16) Loosen one screw ㉔ to remove hook ㉓.

Fig. 3-3

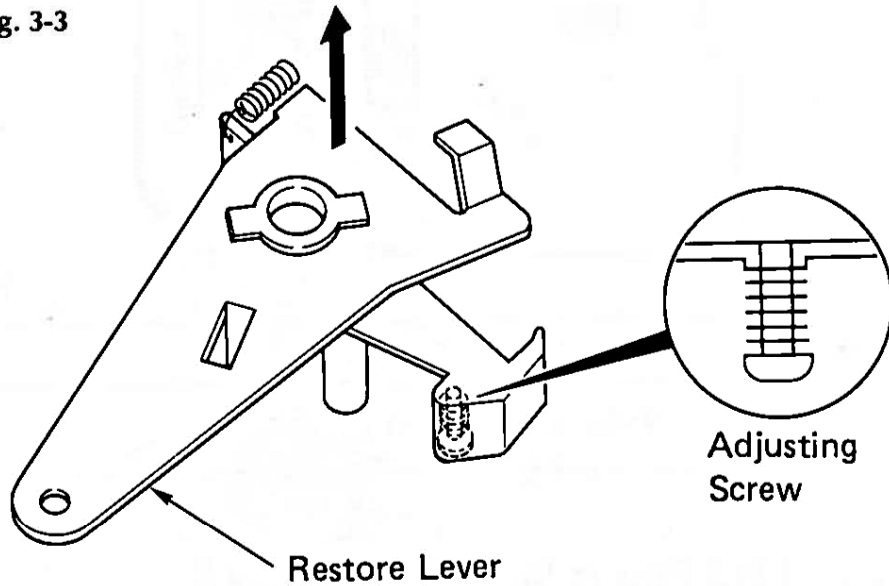


Fig. 3-4

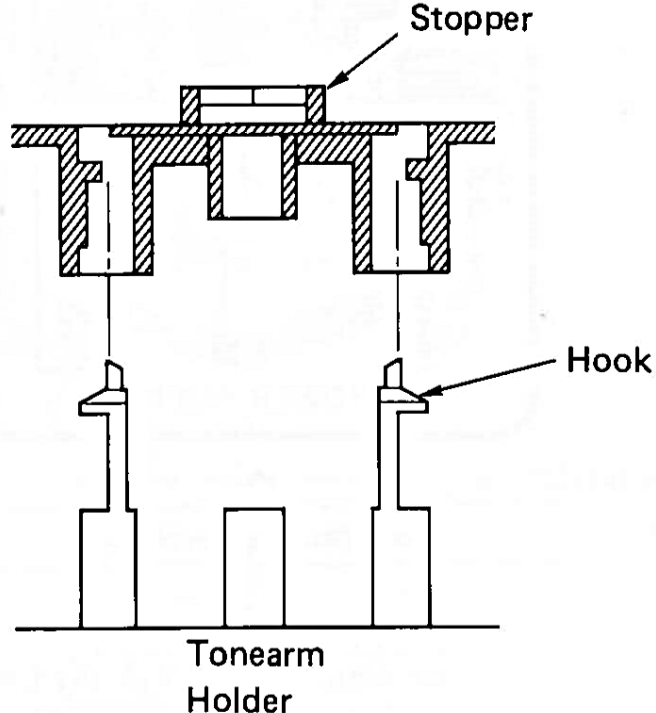
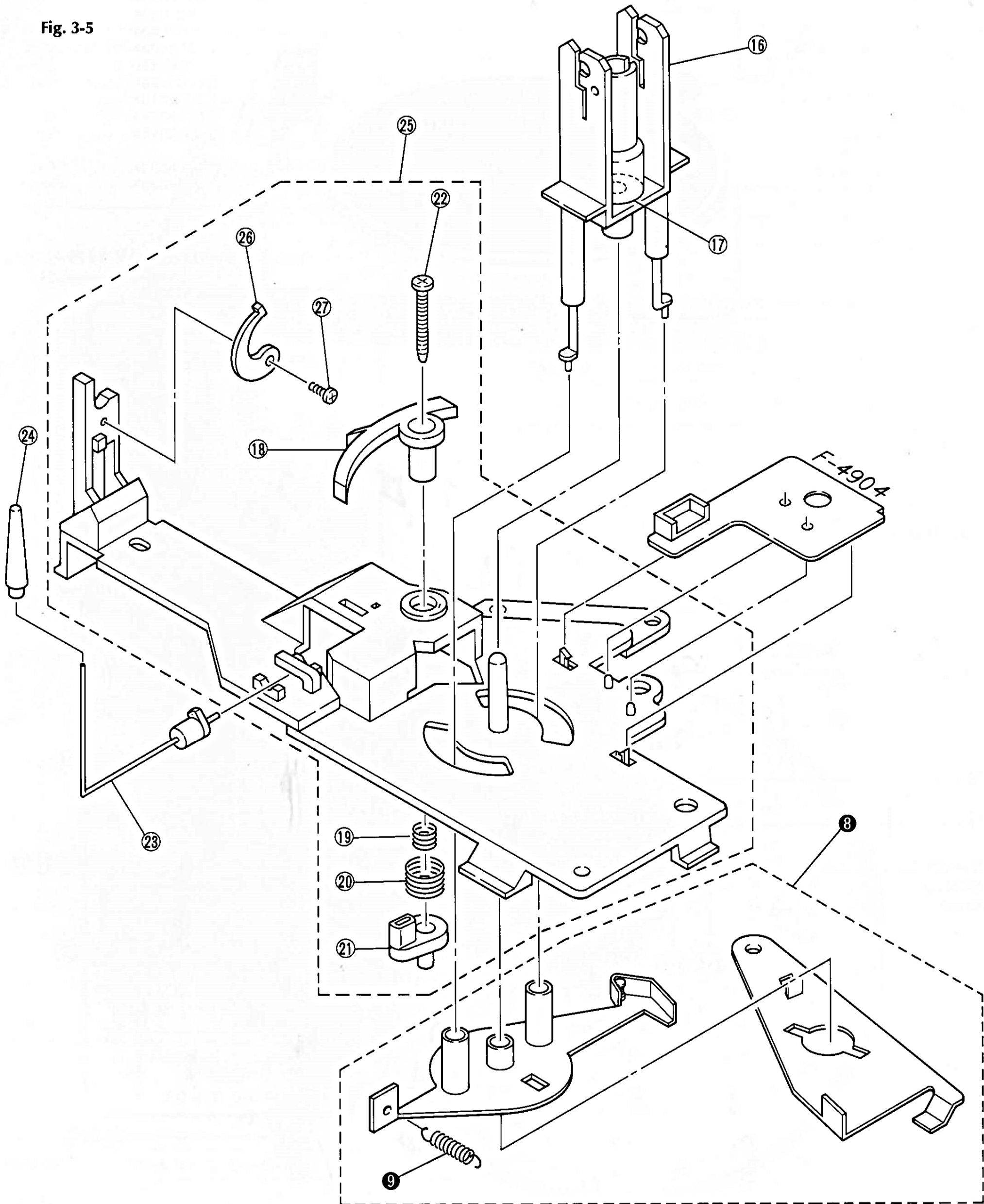


Fig. 3-5



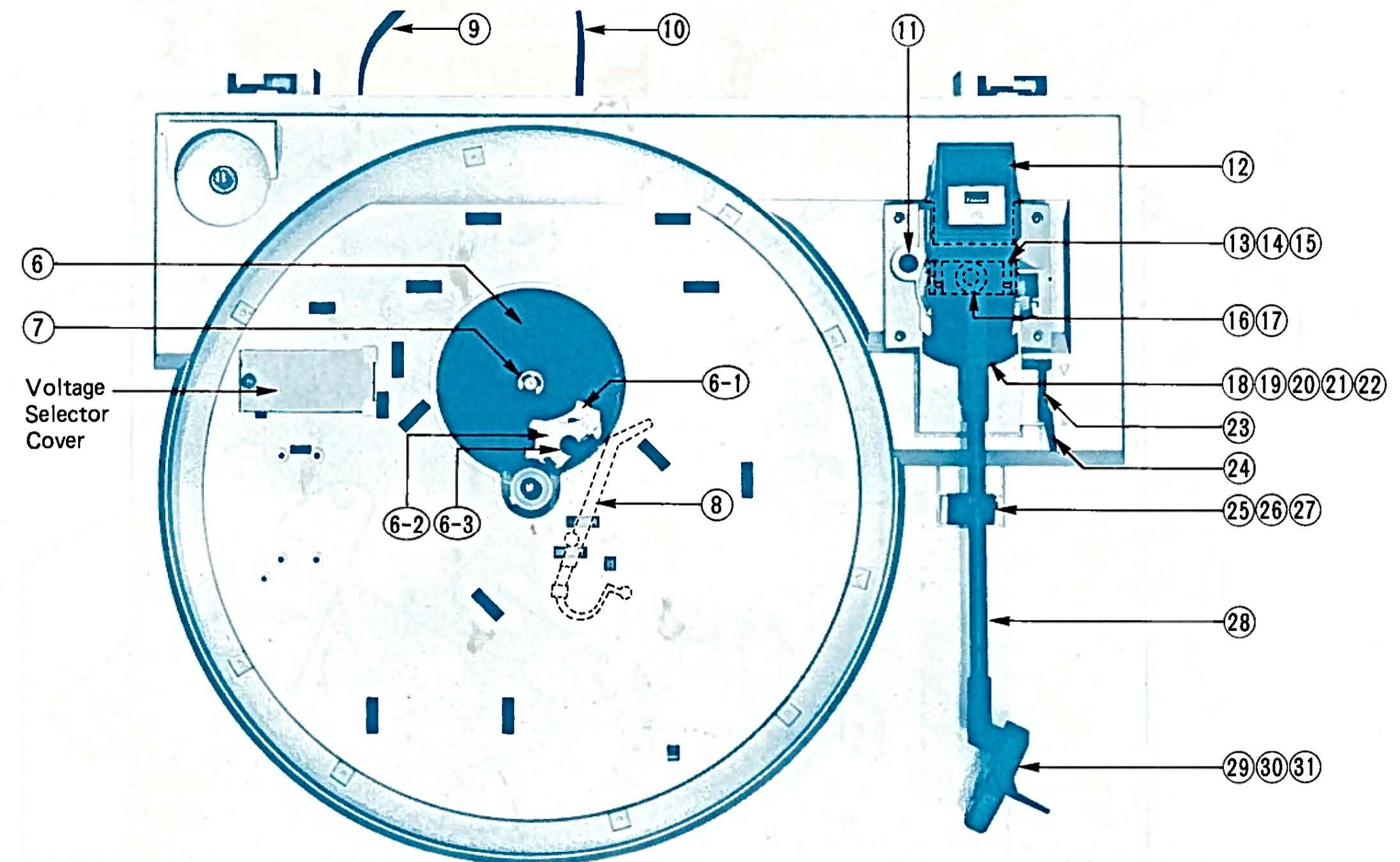
* The " ⑩ ~ ⑳ " are number of Top View.
* The " ⑧ & ⑨ " are number of Bottom View.

4. OTHER PARTS

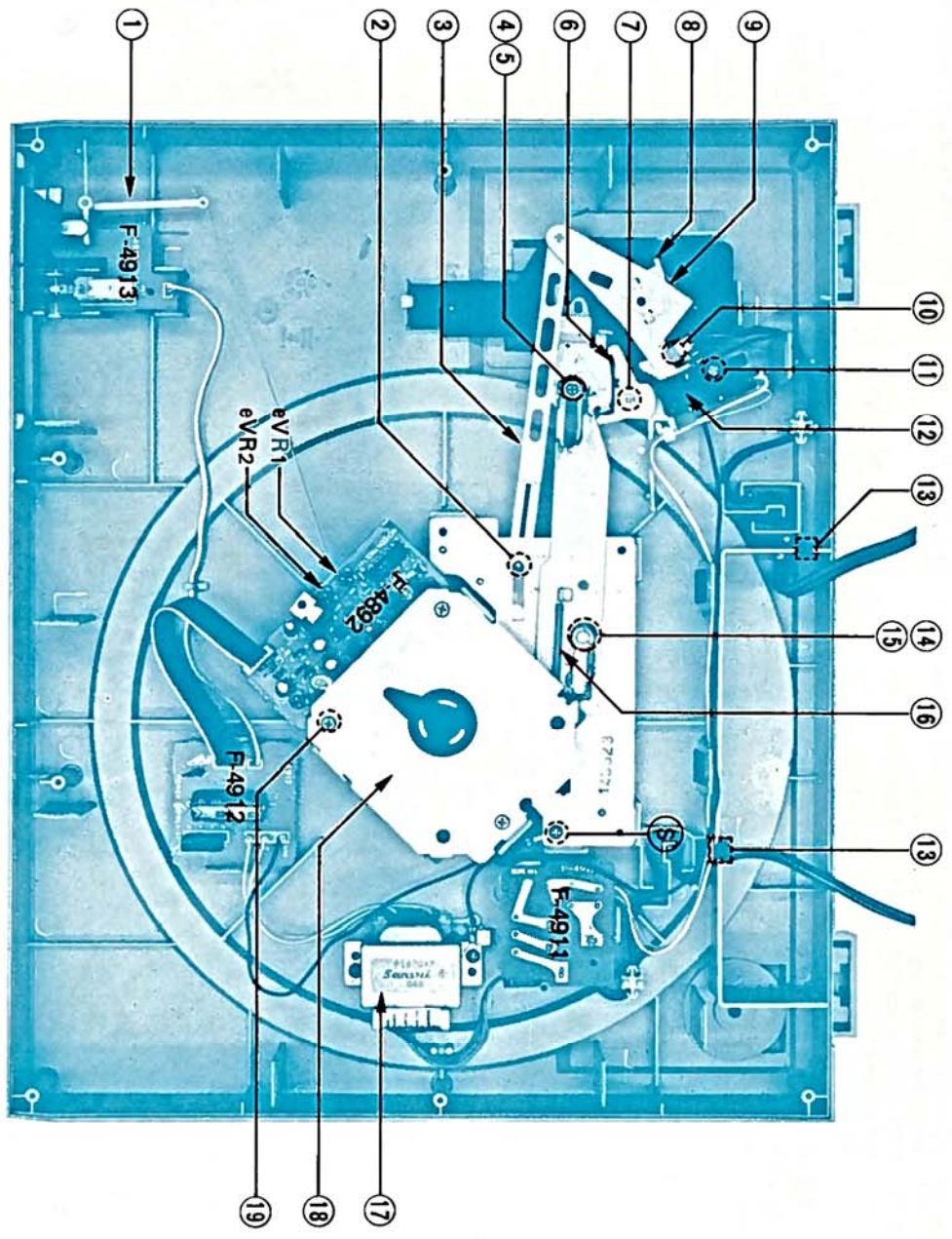
4-1. Front View



4-2. Top View



4-3. Bottom View



Parts No.	Stock No.	Description
1	13012300	45 r.p.m. Adaptor
2	13140800	Turntable Sheet (XX, CSA, EU, BS, AS)
3	13140900	Turntable Sheet (UL)
4	13147210	Turntable Platter
	47753300	Knob, SPEED, CUT (Silver Model)
	47753400	Knob, SPEED, CUT (Black Model)
5	46164900	Push SW., SPEED
6	13017200	Main Gear Ass'y
6-1		Lower Trip
6-2		Upper Trip
7	51822900	CS-type Washer, d=3
8	00489400	E-type Washer, d=5
9	47743400	Reject Arm
10	46413200	Power Supply Cord (XX, CSA)
	38004700	Power Supply Cord (UL)
	38004500	Power Supply Cord (EU)
	38004300	Power Supply Cord (BS)
	07204200	Power Supply Cord (AS)
	13154300	Output Cord (XX, CSA, EU, BS, AS)
	or 13309900	Output Cord (XX, CSA, EU, BS, AS)
11	13154400	Output Cord (UL)
12	50624800	Adjusting Hole Cover
13	13733500	Main Weight
14	47781400	I.F.C. Bar (EU)
15	13272100	I.F.C. Ass'y (EU)
16	48201000	CS-type Washer, I.F.C. Bar (EU)
17	47739100	Tonearm holder
	47739200	Bushing, tonearm holder
18	47738800	Lifter Stage
19	13035600	Spring, D = 5.3 x 10 mm (C)
20	47805100	Spring, lifter D = 10 x 24
21	47738900	Elevation Chip
22	13038100	Pan Head Screw (A), lifter M3 x 20
23	13138300	Lifter Lever Ass'y
24	13013500	Knob, lifter lever ass'y
* 25	13733700	Arm Rest Ass'y
26	13138500	Hook, arm rest
27	13167700	Binding Tapping Screw, hook M2 x 5
28	13733400	Tonearm Ass'y
29	13283300	Cartridge, SV-P313
30	13283400	Stylus, SN-P313
31	13288800	Screw Ass'y, cartridge
	13142400	Dust Cover Ass'y
	13142600	Auto Hinge

*The Arm Rest Ass'y (25) includes lifter stage (28), spring (29), elevation chip (21), screw (A) (22), hook (26) and screw (27).

Parts No.	Stock No.	Description	Parts No.	Stock No.	Description
1	47753100	Lever, CUT	12	11602500	Micro SW. power
2	13051900	Steel Ball, 5φ	13	13206000	Gum Spacer, strain relief
3	47804800	Trip Lever	14	00489300	E-type Washer, d = 4
4	47846900	Pan Head Tapping Screw (C), slide arm	15	00467100	Thrust Washer, d = 5 x 10 x 1.0
5	13180900	Thrust Washer, slide arm	16	13733600	Spring, slide arm
6	47738700	Micro SW. Plate	17	15019601	Power Transformer (XX)
7	46563800	Binding Head Tapping Screw, micro SW. plate M3 x 20	18	15019602	Power Transformer (UL, CSA)
8	47804400	Restore Lever Ass'y	19	18100101	DD Motor Ass'y with control circuit board, F-4892
9	69034400	Spring, stopper		08320700	Washer Head Tapping Screw, M3 x 12
10	00437300	Pan Head Screw, adjusting M3 x 12		13153500	Insulator
11	00454900	Binding Head Tapping Screw, micro SW. M3 x 16			

6. SCHEMATIC DIAGRAM

• Design and specifications subject to change without notice for improvement.
 • La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suite d'améliorations éventuelles.
 • Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.

5-3. Adjustment of the main gear
 When the main gear makes abnormal mechanical noise caused by touching to the pinion gear during playing record disc, adjust its position with cam to make even clearance between the circular arc portion of the main gear and the pinion gear.

5-4. Speed Adjustment
 • See Bottom View on page 8.

STEP	SPEED SELECTOR	ADJUST	ADJUST FOR
1.	33-1/3 r.p.m.	eVR1 (F-4892)	Strobe marking pattern appears to stand still.
2.	45 r.p.m.	eVR2 (F-4892)	Same as above

- 5-1. Adjustment of the Auto Return**
- 1) The adjusting screw in top view is one to adjust the position of Auto Return when stylus reaches lead-out groove.
 - 2) Make adjustment of the screw in such a way that stylus lifts up automatically around the middle way of lead-out groove. Namely turn the adjusting screw clockwise is for lagging and counterclockwise is for leading.
 - 3) After adjusting the screw properly, check its operation a few times.
- 5-2. Adjustment of the Clearance between Stopper and Micro Switch**
 After replacing the micro switch, adjust the clearance between Stopper and micro switch (See Fig. 5-1) to be approximately 0.3 mm.

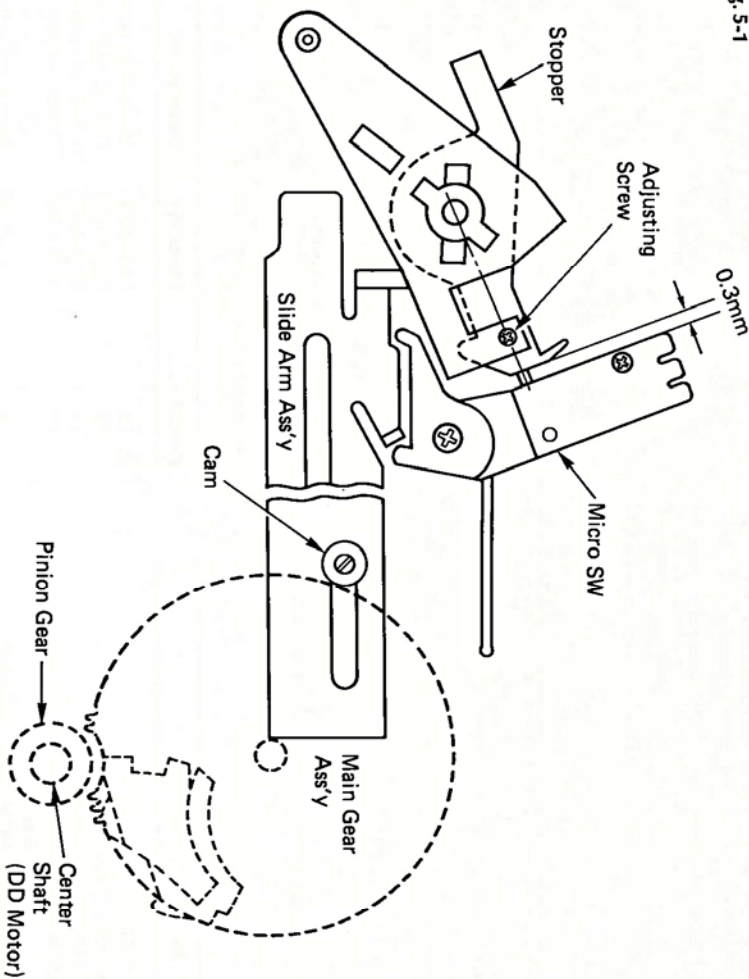
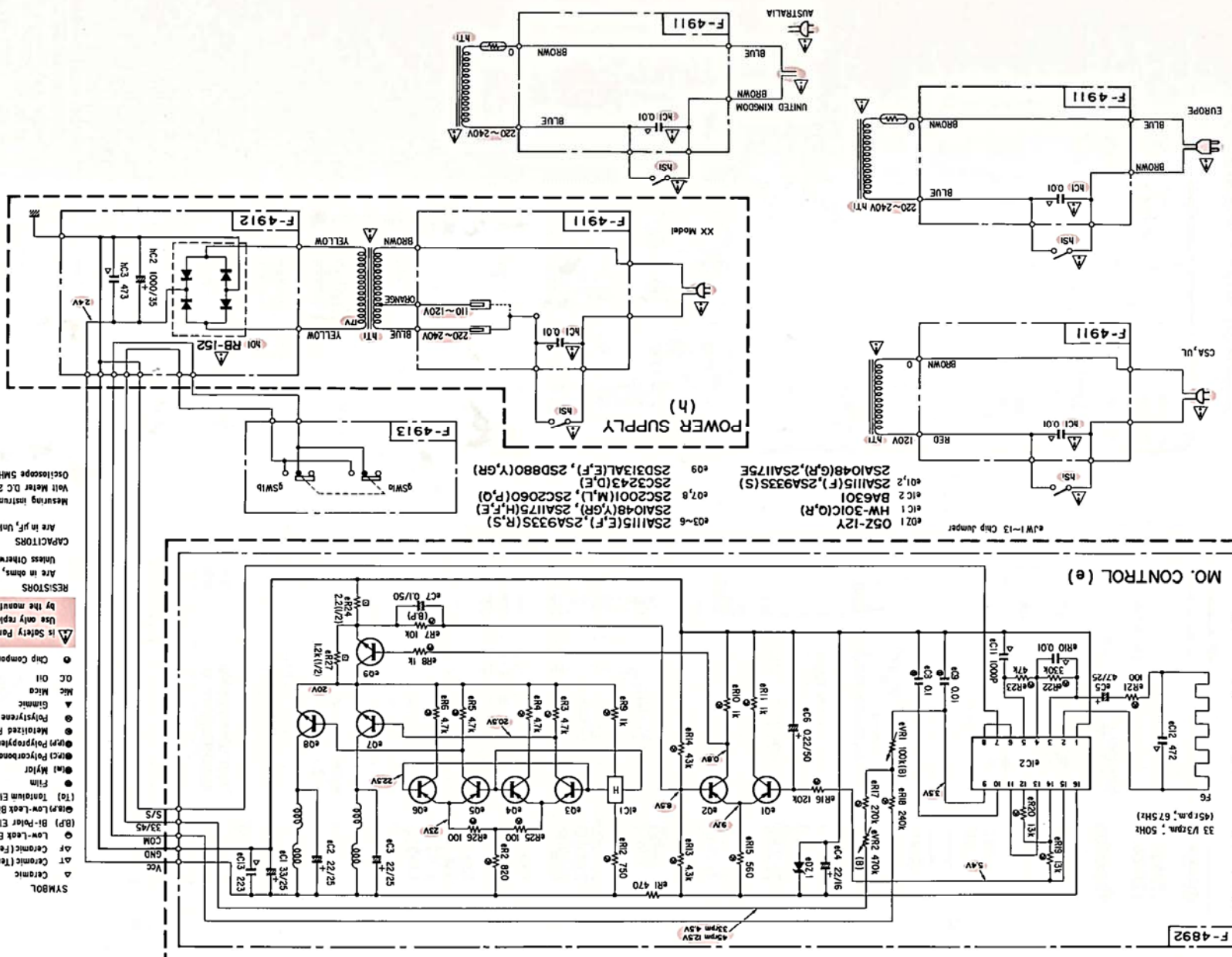


Fig. 5-1



• Chip Component (Cylindrical Type)
 • Film
 • Mylar
 • Polycarbonate
 • Polypropylene
 • Polyester
 • Gilmic
 • Mica
 • DC Oil
 • Chip Component (Cylindrical Type)
 • Solder Part.
 • Use only replacement parts recommended by the manufacturer.
 RESISTORS
 Are in ohms, 1/4 Watts, ±5% Tolerance
 Unless Otherwise Noted. R: Ω, K: KΩ, M: MΩ.
 CAPACITORS
 Are in pF, Unless Otherwise Noted. P: pF
 Measuring Instruments
 Volt Meter DC 2000V, AC 1kN/V
 Oscilloscope Switch

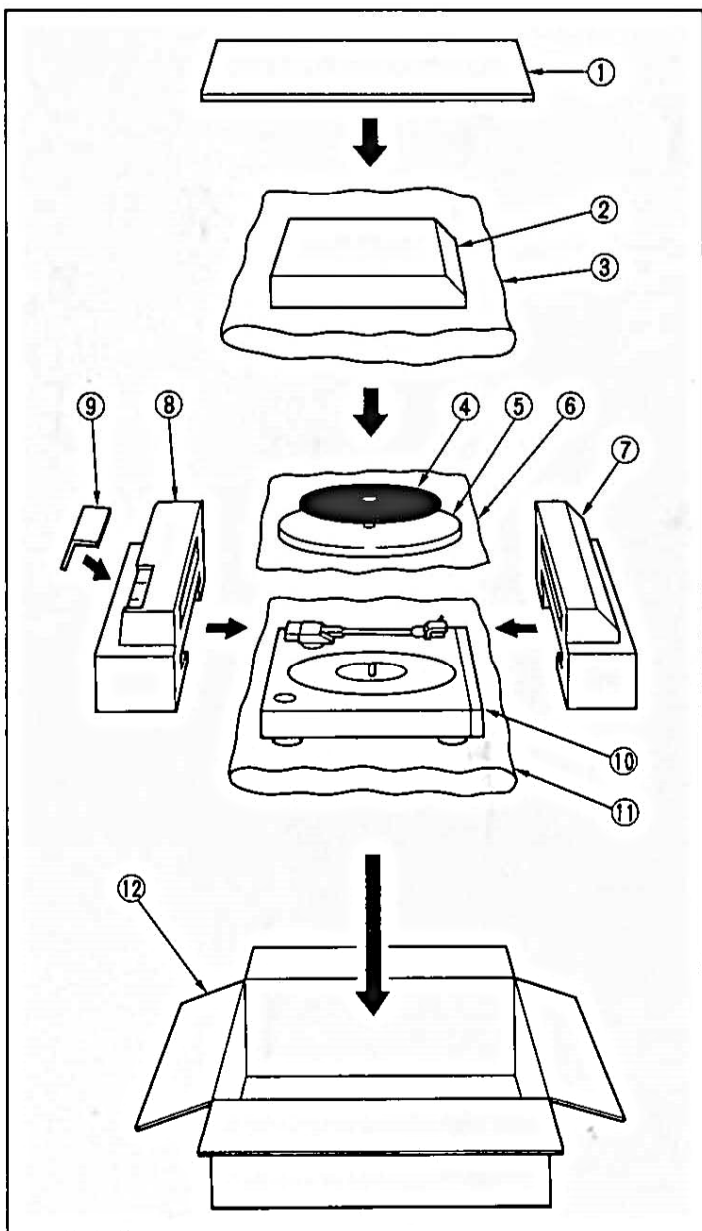
7. PACKING LIST

Parts No.	Stock No.	Description
1	_____	Protector Board, upper
2	13142400	Dust Cover Ass'y
3	47859600	Polyethylene Bag A
4	13140800	Turntable Sheet < XX, CSA, EU, BS, AS >
	13140900	Turntable sheet < UL >
5	13147210	Platter, turntable
6	91165200	Polyethylene Bag B
7	47777600	Styrofoam Packing, front
8	47777700	Styrofoam Packing, rear
9	_____	Accessories Cover
10	_____	Turntable Unit
11	91122710	Polyethylene Bag G
12	47776500	Carton Case (Silver Model) with dust cover
	47776700	Carton Case (Silver Model) without dust cover
	47776400	Carton Case (Black Model) with dust cover
	47776600	Carton Case (Black Model) without dust cover

8. ACCESSORY LIST

Stock No.	Description
46966600	Operating Instruction
13283300	Cartridge, SV-P313
13283400	Stylus, SN-P313
13288800	Screw Ass'y

- **Note:** There are two types of units in P-D15
 - 1) The unit with a cartridge
 - 2) The unit without a cartridge
 The mark "E" is stamped on the side of carton case.





SANSUI ELECTRIC CO., LTD.:

SANSUI ELECTRONICS CORPORATION:

SANSUI ELECTRONICS (U.K.) LTD.:
SANSUI ELECTRONICS G.M.B.H.:

14-1, Izumi 2-chome, Suginami-ku, Tokyo 168 Japan
PHONE: (03) 324-8891/TELEX: 232-2076 (International Division)
1250 Valley Brook Ave. Lyndhurst, N.J. 07071 U.S.A.
17150 South Margay Ave. Carson, California 90746 U.S.A.
3036 Koapaka Street, Honolulu, Hawaii 96819 U.S.A.
Unit 10A, Lyon Industrial Estate, Rockware Avenue, Geenford, Middx UB6, OAA, England
Pau Ehrich Strasse 8, 6074 Rödermark 2, West Germany