

SERVICE MANUAL

FULLY AUTOMATIC DD TURNTABLE

SANSUI P-D30



● SPECIFICATIONS

Type	Two-speed direct-driven
Speeds .	33-1/3, 45 rpm
Platter . .	Aluminum alloy die-cast 304 mm (12") diameter
Motor	FG Servo DC Motor
Wow and flutter	0.03 % (W.R.M.S.)
S/N	Better than 60 dB (IEC-B)
Rumble	Better than 72 dB (DIN-B)
Tonearm	
Tonearm length .	220 mm (8-11/16")
Overhang . . .	17.5 mm (3/4")
Applicable cartridge weight	
.	4 to 9 g
Dimensions	430 mm (16-29/32") W 120 mm (4-23/32") H 360 mm (14-3/16") D
Weight	4.4 kg (9.7 lbs.) net 5.2 kg (11.5 lbs.) packed
Power consumption	12 W

- The power voltage is adjusted to the one of the area where you bought the unit.

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

Model SC-37A

Type	Induced magnet
Frequency response	20 ~ 20,000 Hz
Output voltage . .	3.5 mV per channel (1,000 Hz, 50 mm/sec)
Load impedance . .	47 k Ω
Tracking force	2.5 g
Stylus	0.5 mil, diamond spherical (SN-37A)

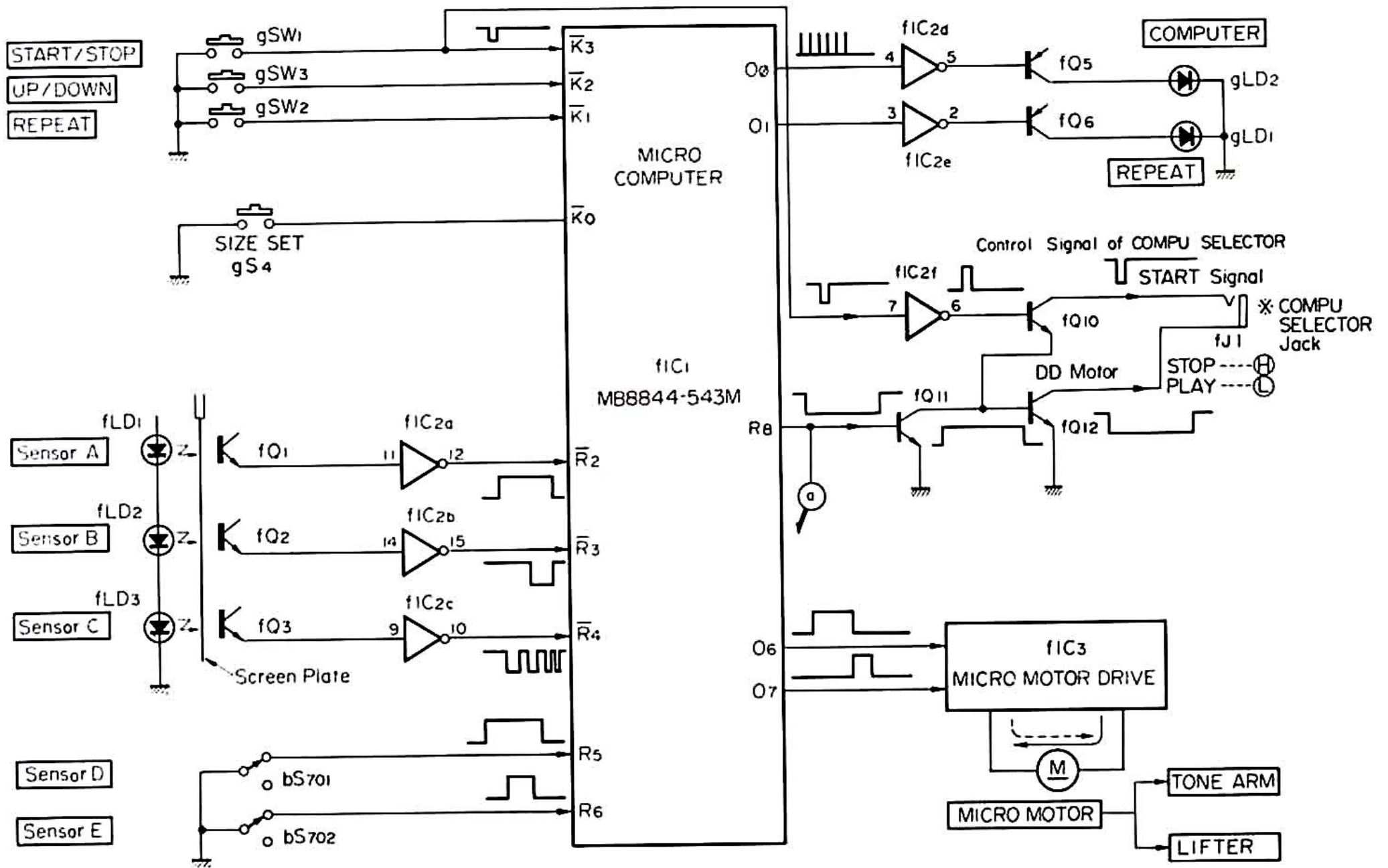
- Design and specifications subject to change without notice for improvements.

Sansui

SANSUI ELECTRIC CO., LTD.

1. BLOCK DIAGRAM

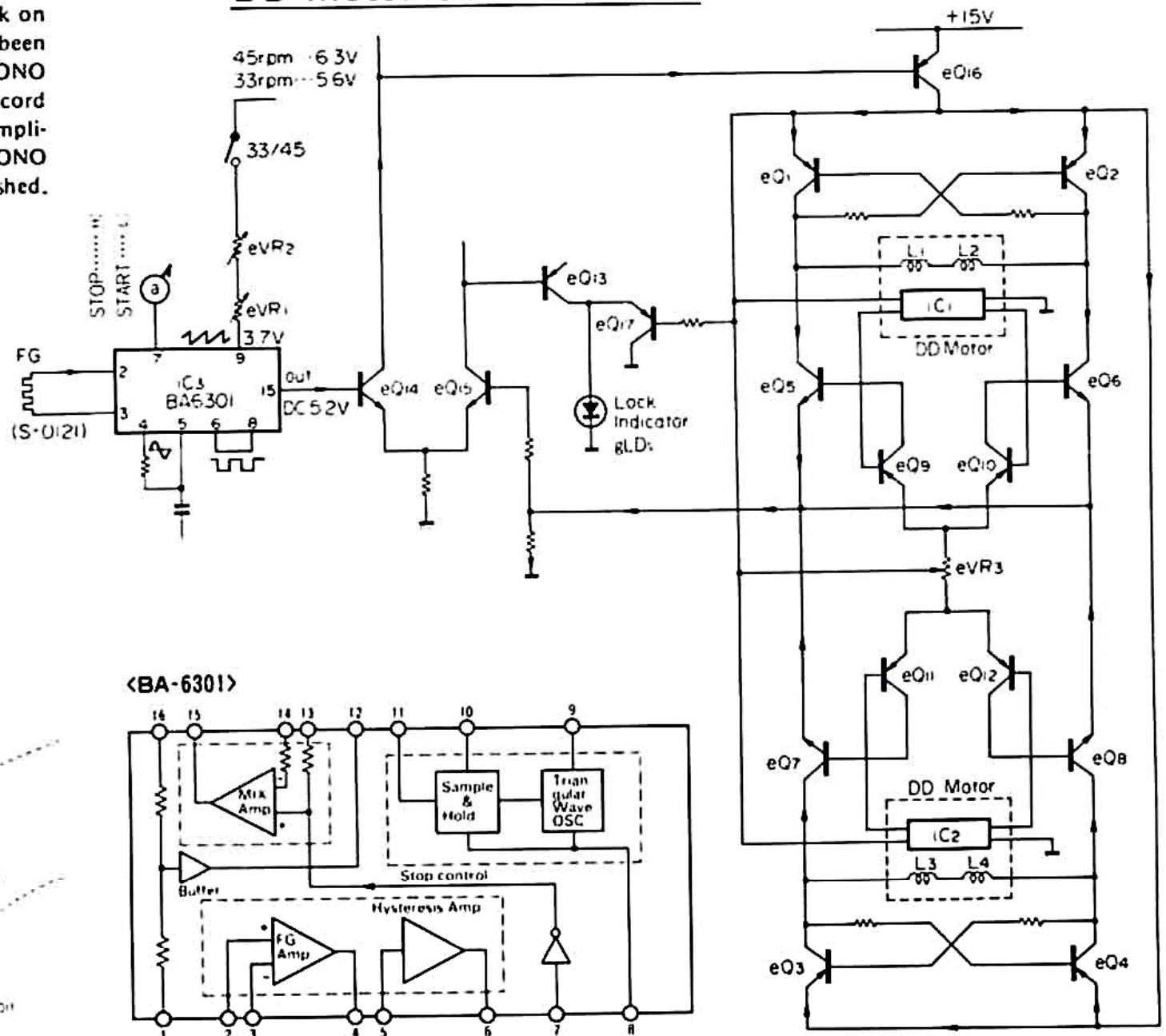
* See FR-D40 Service Manual for operations of the microcomputer MB8844-543M and its peripheral circuits.



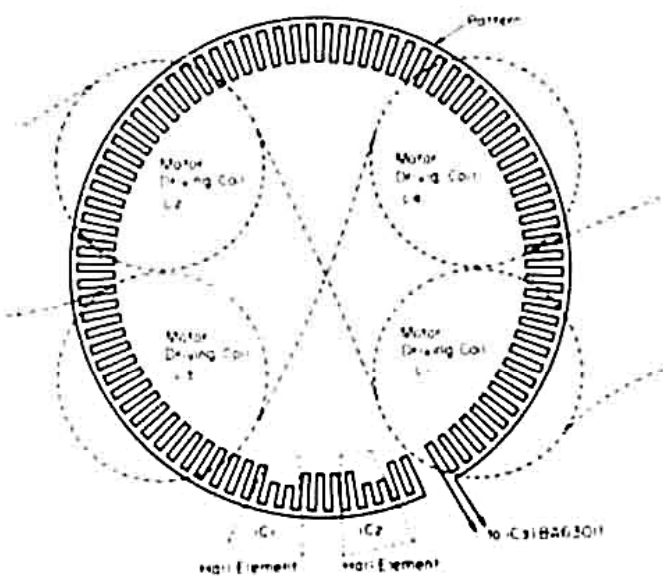
COMPU SELECTOR Jack

The rear panel COMPU SELECTOR jack is for connection to the COMPU SELECTOR jack on the amplifier or receiver. Once this jack has been connected to the COMPU SELECTOR-PHONO jack on the amplifier or receiver using the cord with mini plugs, the input selector on the amplifier or receiver is set automatically to PHONO when the unit's START/STOP switch is pushed.

DD Motor Control Circuit



Pattern drawing of motor section (S0121) Motor Control Circuit Board

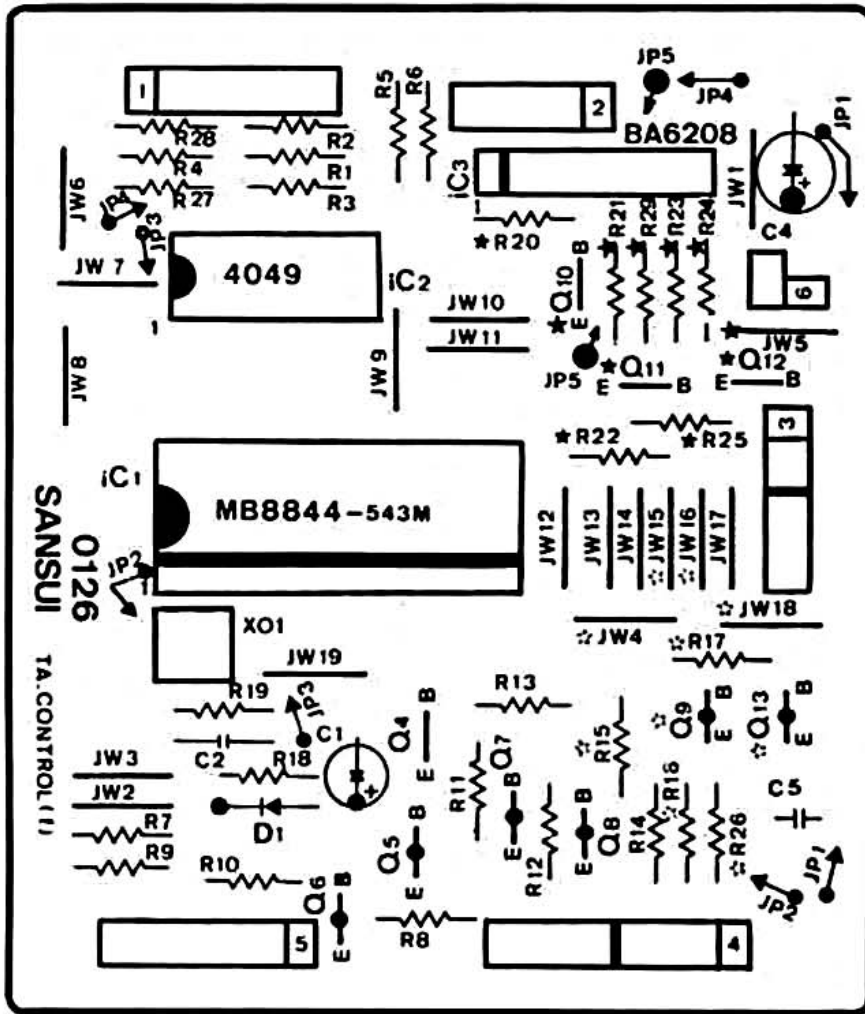


2. PARTS LOCATION & PARTS LIST

2-1. S-0126 T.A. Control Circuit Board (Stock No. 13152001)

• 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 appended previously to Sansui Manual.

Component Side



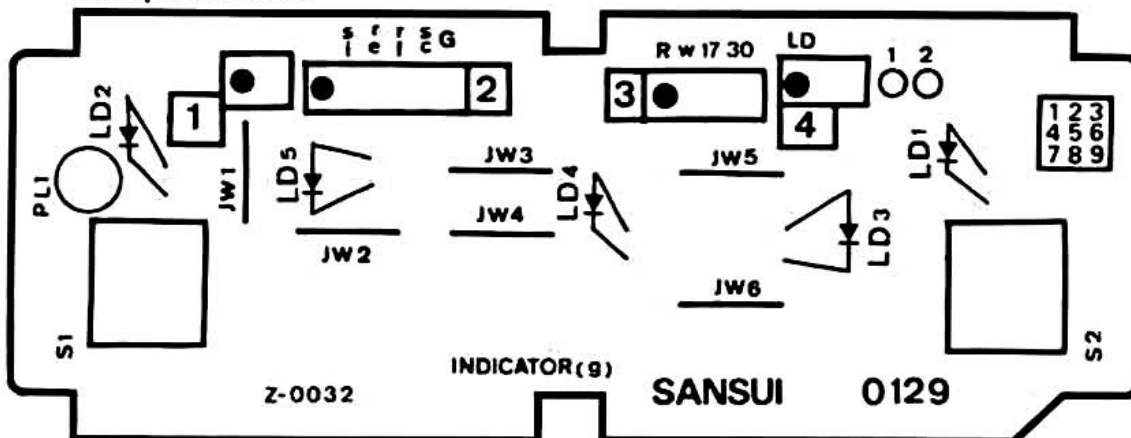
Parts List

Parts No.	Stock No.	Description
fXO1	46149200	Ceramic Osc Element 3.58 MHz
• Transistor		
fQ4	46367101	2SC2603
	or 46367301	2SC2458
	or 46367501	2SC945A
fQ5	46367001	2SA1115
	or 46367201	2SA1048
	or 46367401	2SA733A
fQ6	46367001	2SA1115
	or 46367201	2SA1048
	or 46367401	2SA733A
fQ7	46367001	2SA1115
	or 46367201	2SA1048
	or 46367401	2SA733A
fQ8	46367001	2SA1115
	or 46367201	2SA1048
	or 46367401	2SA733A
fQ10	46367101	2SC2603
	or 46367301	2SC2458
	or 46367501	2SC945A
fQ11	46367101	2SC2603
	or 46367301	2SC2458
	or 46367501	2SC945A
fQ12	46367101	2SC2603
	or 46367301	2SC2458
	or 46367501	2SC945A
• IC		
fIC1	46149500	MB8844-543M
fIC2	46160400	MB84049B
	or 46160500	TC4049BP
	or 03611800	MSM4049RS
fIC3	46149600	BA6208
• Diode		
fD1	03117600	1S2473

• Note: The circuit board, S-0129, S-0121, S-0128, S-0122, S-0155, S-0156 & S-0130 are not supplied as the assembled. However, the individual parts on the circuit boards are provided for orders.

2-2. S-0129 Indicator Circuit Board

Component Side

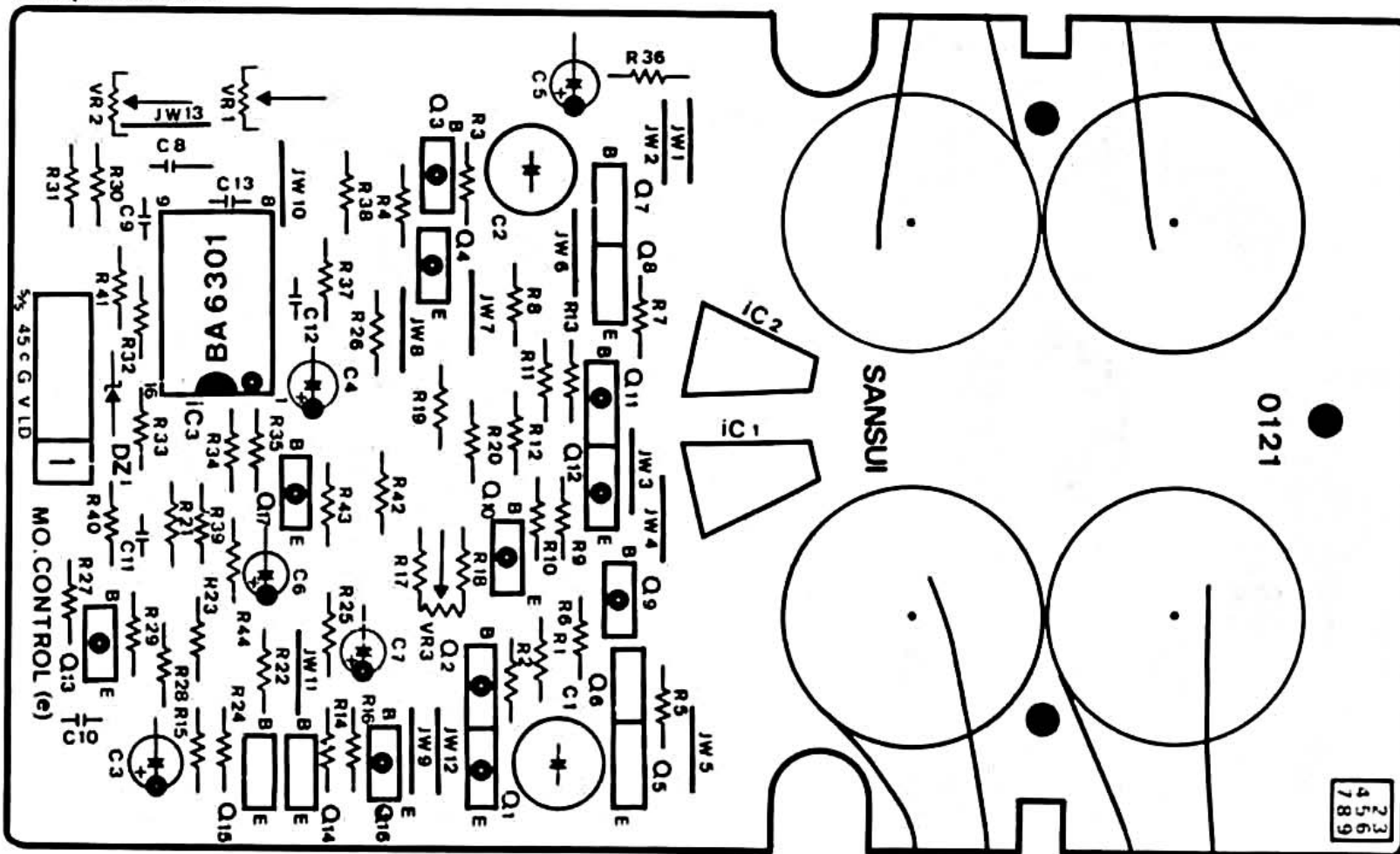


Parts List

Parts No.	Stock No.	Description	Parts No.	Stock No.	Description
gLD1	46095200	Light Emitting Diode TLR123	gPL1	46438300	Pilot Lamp 12V 0.1A
gLD2	46095200	Light Emitting Diode TLR123	gSW1	46395900	Push Switch, START/STOP
gLD3	46095200	Light Emitting Diode TLR123	gSW2	46395900	Push Switch, REPEAT
gLD4	46095200	Light Emitting Diode TLR123			
gLD5	07250900	Light Emitting Diode TLG-123A			

2-3. S-0121 DD Motor Control Circuit Board

Component Side

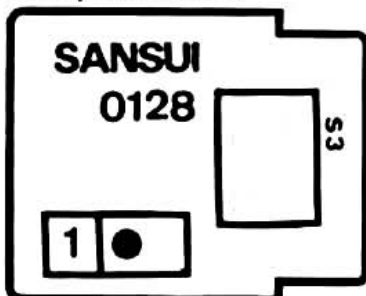


Parts List

Parts No.	Stock No.	Description	Parts No.	Stock No.	Description
• Transistor			eQ16	46149301	2SB744
eQ1	46359701	2SA952	eQ17	46367001	2SA1115
eQ2	46359701	2SA952	or 46367201		2SA1048
eQ3	46359701	2SA952	• IC		
eQ4	46359701	2SA952	eIC1	46354301	H-300BC
eQ5	46359801	2SC2001	eIC2	46354301	H-300BC
eQ6	46359801	2SC2001	eIC3	46354400	BA6301
eQ7	46359801	2SC2001	• Zener Diode		
eQ8	46359801	2SC2001	eDZ1	46113900	05Z12
eQ9	46367401	2SA733A	eR41	00205500	240kΩ 1/4W M.R.
	or 46367001	2SA1115	eC1	08451100	22μF 16V E.B.
	or 46367201	2SA1048	eC2	08451100	22μF 16V E.B.
eQ10	46367401	2SA733A	eC10	07216600	47000pF 25V C.C.
	or 46367001	2SA1115	eC11	07216600	47000pF 25V C.C.
	or 46367201	2SA1048	eC12	07211700	1000pF 25V C.C.
eQ11	46367401	2SA733A	eC13	07211700	1000pF 25V C.C.
	or 46367001	2SA1115	eVR1	46366600	100kΩ (B) S.V.R., 33 r.p.m.
	or 46367201	2SA1048	eVR2	07241700	200kΩ (B) S.V.R., 45 r.p.m.
eQ12	46367401	2SA733A	eVR3	07241000	1kΩ (B) S.V.R., Wow and flutter
	or 46367001	2SA1115			
	or 46367201	2SA1048			
eQ13	46367001	2SA1115			
	or 46367201	2SA1048			
eQ14	46367101	2SC2603			
	or 46367301	2SC2458			
eQ15	46367101	2SC2603			
	or 46367301	2SC2458			

2-4. S-0128 UP/DOWN Switch Circuit Board

Component Side



Parts List

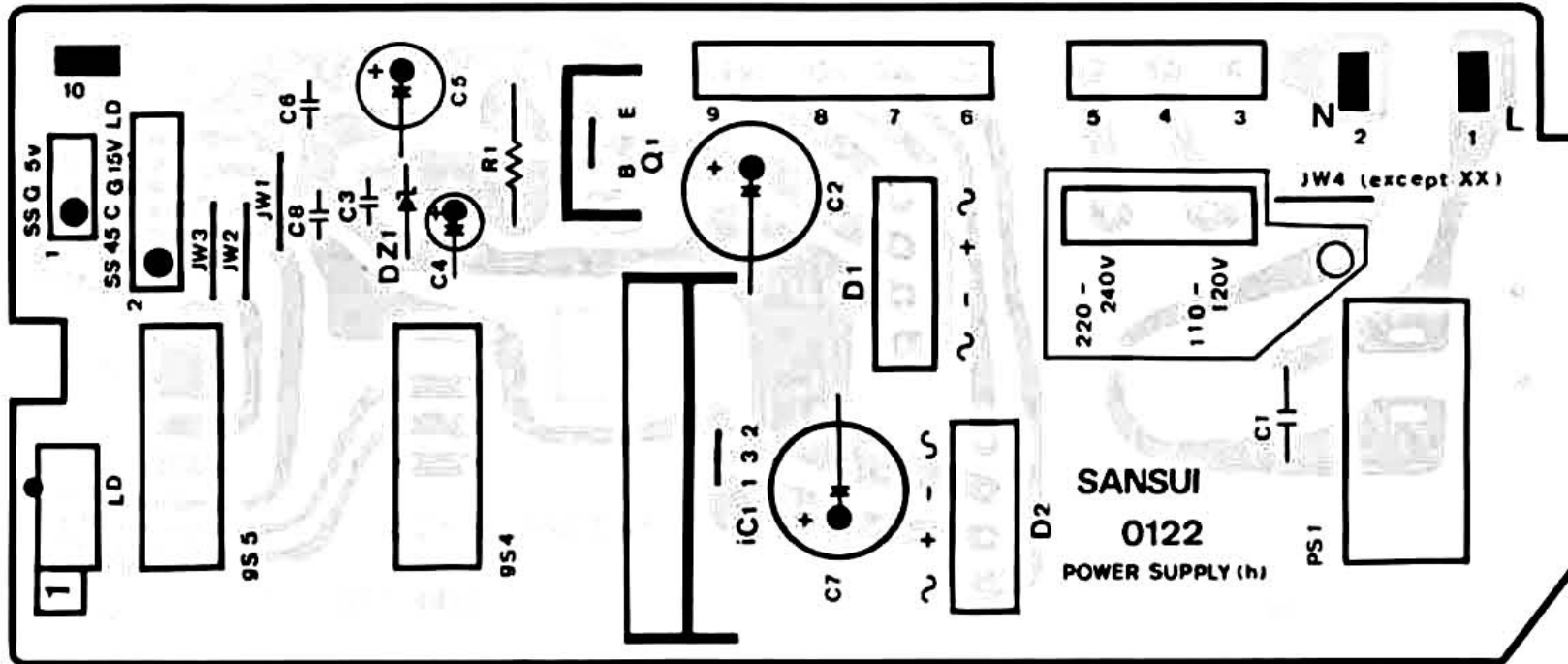
Parts No.	Stock No.	Description
gSW3	46371600	Push Switch, UP/DOWN

• Abbreviations

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

2-5. S-0122 Power Supply Circuit Board

Component Side



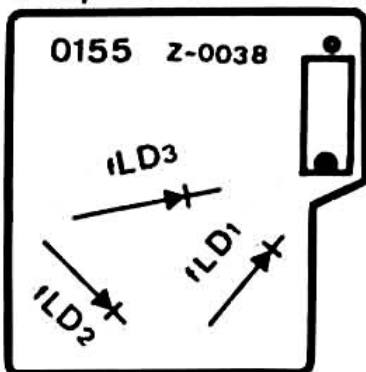
Parts List

Parts No.	Stock No.	Description
gSW4	46371000	Push Switch, SIZE
gSW5	46368500	Push Switch, SPEED
●Transistor		
hQ1	03083902	2SD313AL
●IC		
hIC1	07183500	μPC78M05H
	46144200	NJM78M05A

Parts No.	Stock No.	Description
●Diode		
hD1	03117000	RB-152
hD2	03117000	RB-152
●Zener Diode		
hDZ1	46104500	05Z16
	or 46104600	05Z16
	or 46104700	05Z16
hC1	08302600	10000pF 400V C.C.
hSW1	46364300	Push Switch, POWER

2-6. S-0155 L.E.D. (Sensor (A), (B), (C)) Circuit Board

Component Side

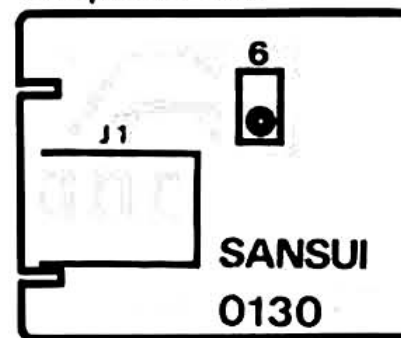


Parts List

Parts No.	Stock No.	Description
fLD1	46150400	LED TLR121
fLD2	46150400	LED TLR121
fLD3	46150400	LED TLR121

2-8. S-0130 COMPU Selector Jack Circuit Board

Component Side



Parts List

Parts No.	Stock No.	Description
	46148200	Jack

2-7. S-0156 Sensor (A), (B), (C) Circuit Board

Parts List

Parts No.	Stock No.	Description
●Transistor		
fQ1	46160000	Photo Transistor TPS605
fQ2	46160000	Photo Transistor TPS605
fQ3	46160000	Photo Transistor TPS605

3. EXPLODED VIEW OF MECHANISM Ass'y & PARTS LIST

Fig. 3-1

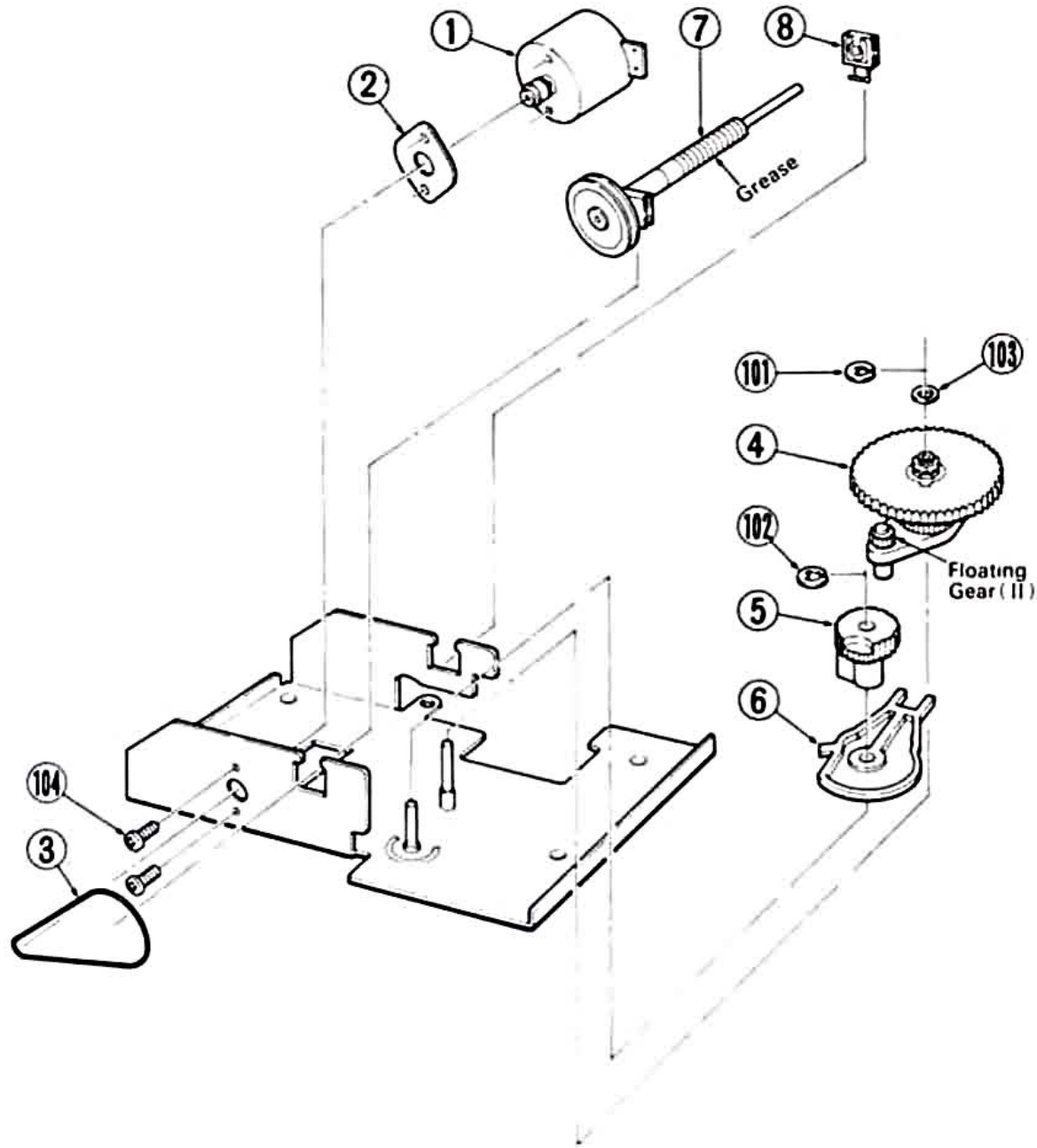


Fig. 3-3

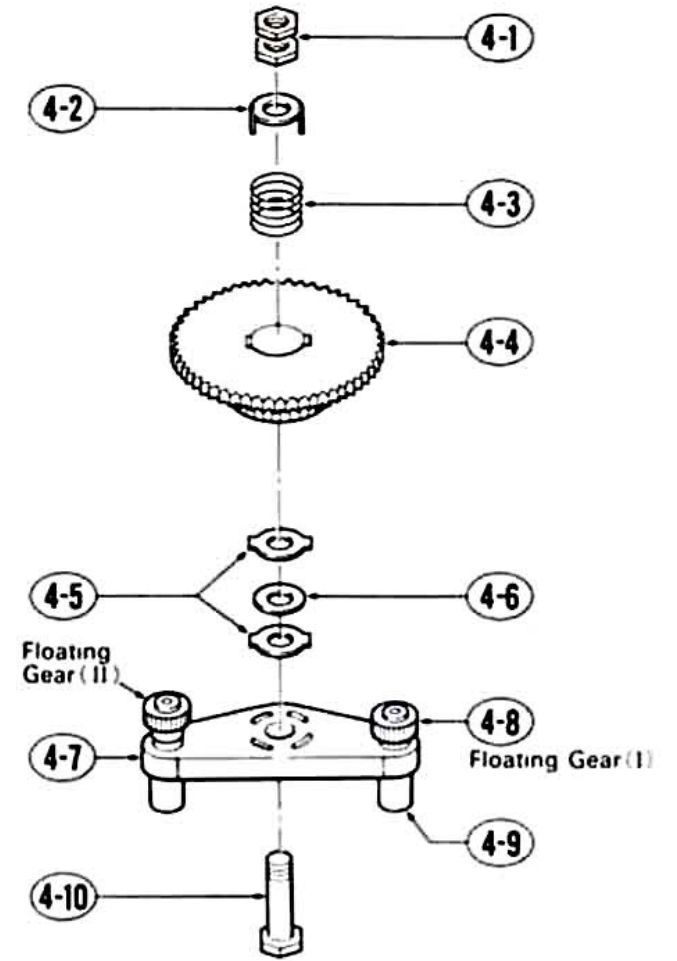
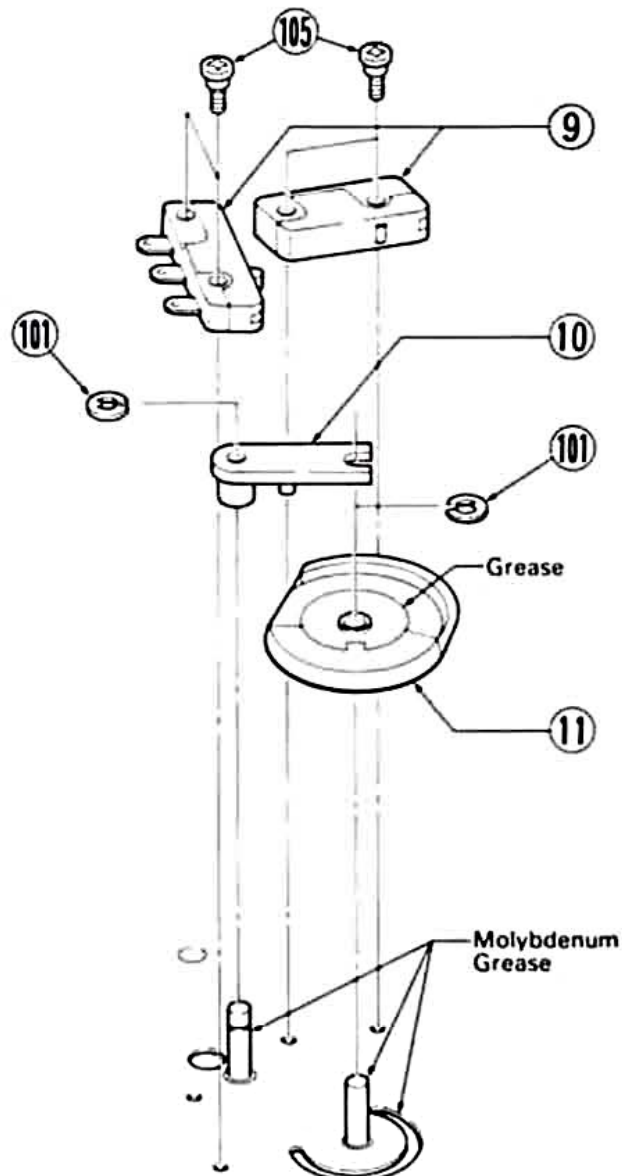


Fig. 3-2

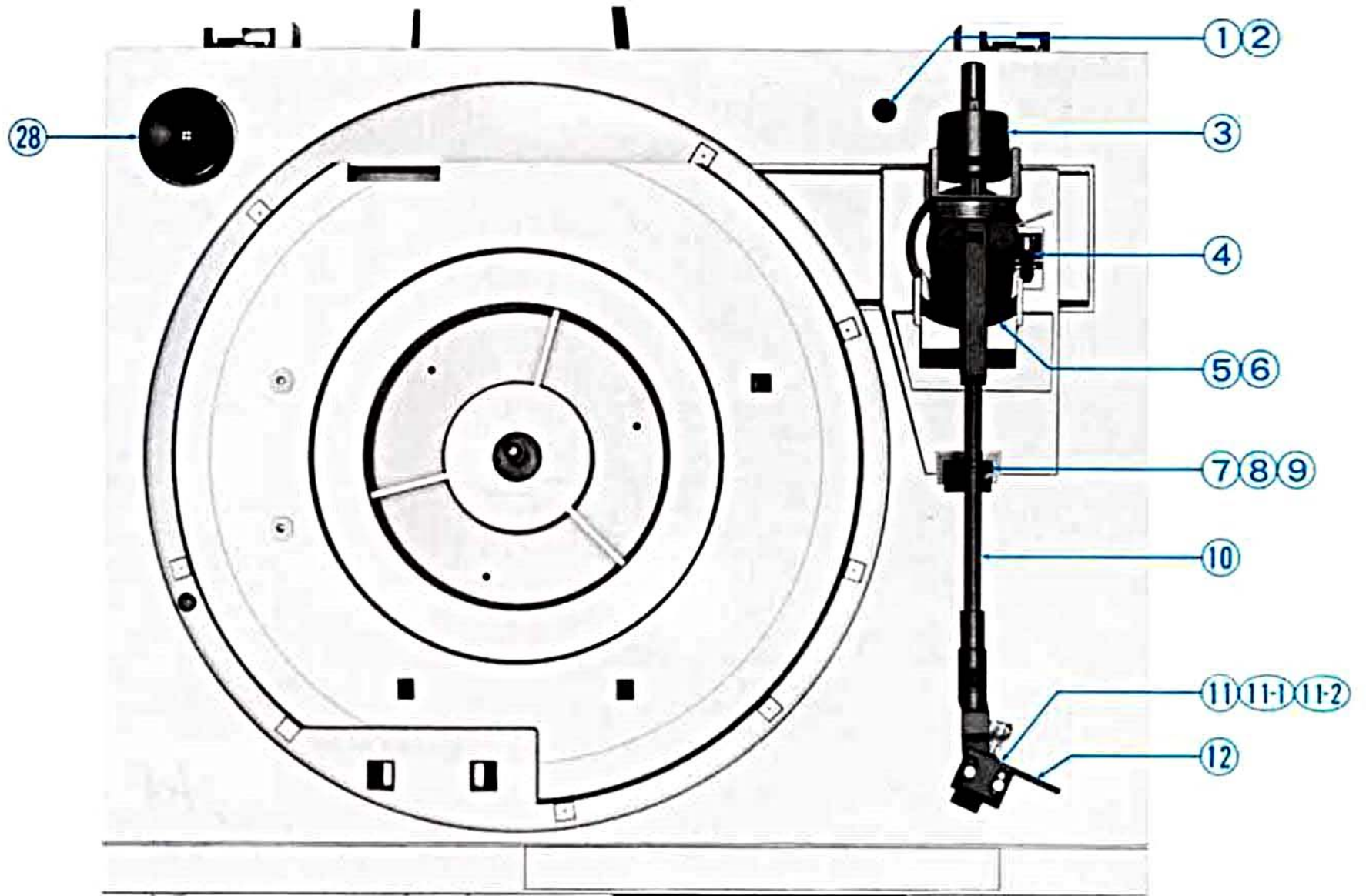


Parts List

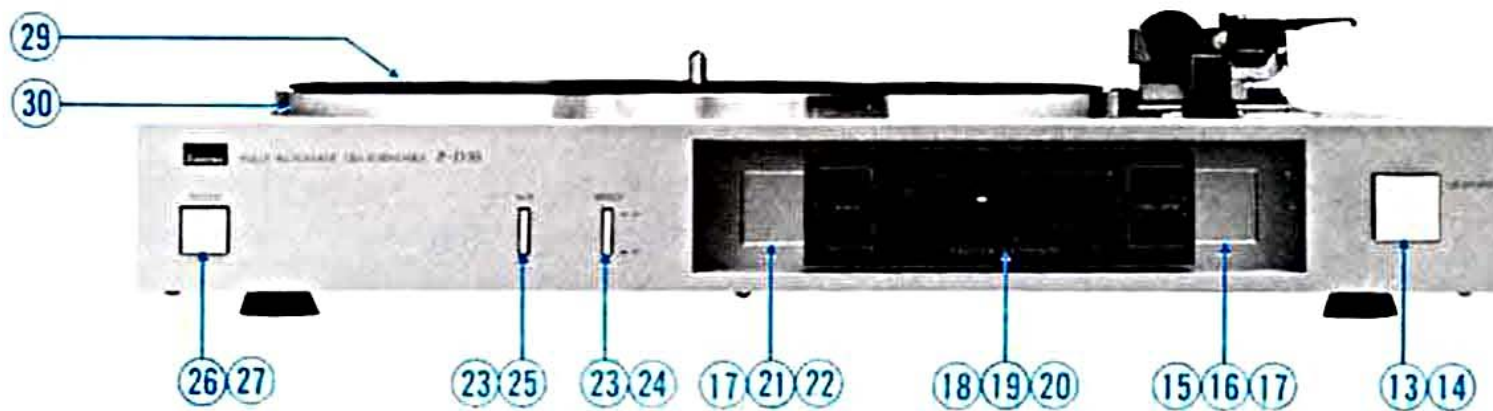
Parts No.	Stock No.	Description
1	46161600	Micro Motor
2	55029810	Rubber Cushion
3	60322310	Drive Belt
4	13110700	Drive Gear Ass'y
4-1	—	Hexagon Nuts
4-2	—	Holding Plate
4-3	—	Compression Spring
4-4	—	Drive Gear
4-5	—	Friction Plate
4-6	—	Friction Disc
4-7	—	Reverse Arm
4-8	—	Floating Gear
4-9	—	Drive Pulley
4-10	—	Boss
5	13082710	Cam Gear
6	13081920	Cam Spring
7	18036100	Worm Gear Ass'y
8	13083700	Bearing Holder
9	11602700	Micro Switch
10	13083900	Lifter Guide
11	13083110	Lifter Cam
●Washer & Screw		
101	08322600	2.5φ E-Type Washer
102	00489200	3φ E-Type Washer
103	51821600	3φ Thrust Washer
104	00436500	M2 x 4 Pan Head Screw
105	13113200	M2 x 10 Pan Head SEMS A

4. OTHER PARTS

4-1. Top View



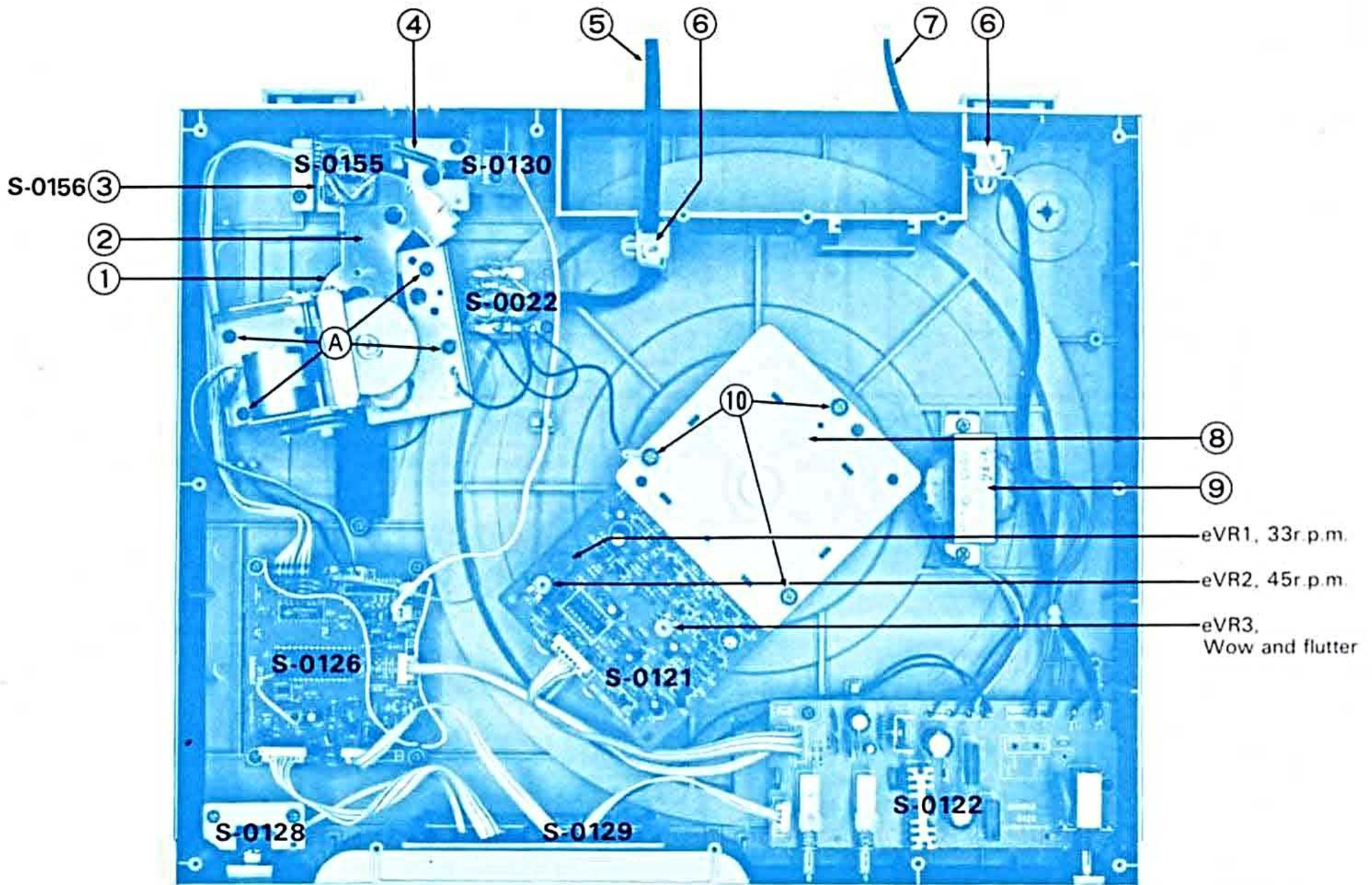
4-2. Front View



Parts List <Top View/Front View>

Parts No.	Stock No.	Description	Parts No.	Stock No.	Description
1	50624800	Cap	17	07962600	Cushion
2	13083210	Adjusting Cam	18	13166400	Indicator Case Cover
3	13176700	Main Weight Ass'y	19	13146000	Indicator Plate (Silver Model)
4	13141800	I.F.C. Ass'y		13169200	Indicator Plate (Black Model)
5	13139900	Lifter Plate	20	13175300	Indicator Holder (Silver Model)
6	13153400	Lifter Spring		13145800	Indicator Holder (Black Model)
7	13137600	Arm Rest	21	07926500	Push SW. Knob, REPEAT
8	13138500	Rest Hook	22	46395900	Push SW., REPEAT
9	13167700	Screw 2 x 5, rest hook	23	07910900	Push SW. Knob, SIZE, SPEED (Silver Model)
10	13176400	Tonearm Ass'y		07191100	Push SW. Knob, SIZE, SPEED (Black Model)
11	13190700	Cartridge Ass'y, SC-37A (XX, UL, EU, BS, AS)	24	46368500	Push SW., SPEED
11-1	13190800	Stylus, SN-37A (XX, UL, EU, BS, AS)	25	46371000	Push SW., SIZE
11-2	51921500	Screw Ass'y	26	07911100	Push SW. Knob, POWER (Silver Model)
12	13176600	Head Shell Ass'y		07911200	Push SW. Knob, POWER (Black Model)
13	13139700	Push SW. Knob, UP/DOWN (Silver Model)	27	46364300	Push SW., POWER
	13139800	Push SW. Knob, UP/DOWN (Black Model)	28	13012300	EP Adaptor
14	46371600	Push SW., UP/DOWN	29	13147200	Turntable Sheet
15	07926600	Push SW. Knob, START/STOP	30	13140800	Turntable Platter
16	46395900	Push SW., START/STOP			

4-2. Bottom View



Parts List <Bottom View>

Parts No.	Stock No.	Description
1	13137200	TA Drum
2	13083500	Screen Plate (1)
3	13141500	Screen Plate (S), S-0156 circuit board
4	13153200	Spring
5	13154300	P.U. Output Cord (XX, CSA, EU, BS, AS)
6	13154400	P.U. Output Cord (UL)
	07254700	Strain Relief

Parts No.	Stock No.	Description
7	46413200	Power Supply Cord (XX, CSA)
	38004800	Power Supply Cord (UL)
	38004500	Power Supply Cord (EU)
	38004300	Power Supply Cord (BS)
	07204200	Power Supply Cord (AS)
8	13028800	DD Motor (with control circuit board)
9	15007811	Power Transformer (XX)
	15007812	Power Transformer (UL, CSA)
	15007815	Power Transformer (EU, BS, AS)
10	08320700	Screw 4 x 12
	13153500	Insulator

● Note 1:

As to UL, CSA, BS, ES, AS and xx marked in the Parts Lists, note the followings:

- UL, CSA . . . Parts used in the unit which is applicable to the USA and Canada under industrial standards.
- BS Parts used in the unit which is applicable to British under industrial standards.
- EU Parts used in the unit which is applicable to Sweden, Denmark, Norway, Finland, West Germany, and Switzerland under industrial standards.
- AS Parts used in the unit which is applicable to Australia under industrial standards.
- XX Parts used in the unit which is applicable to other countries excepting mentioned above.

* In this parts list, those parts with no above mark in the place of Description are all the same as XX marked parts.

● Note 2:

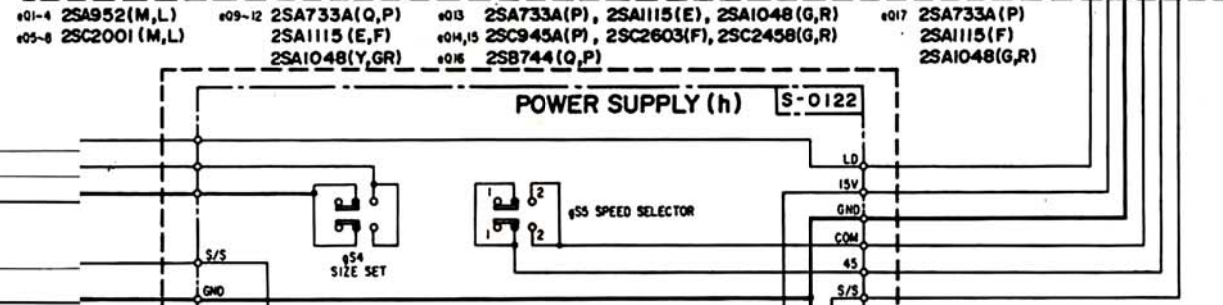
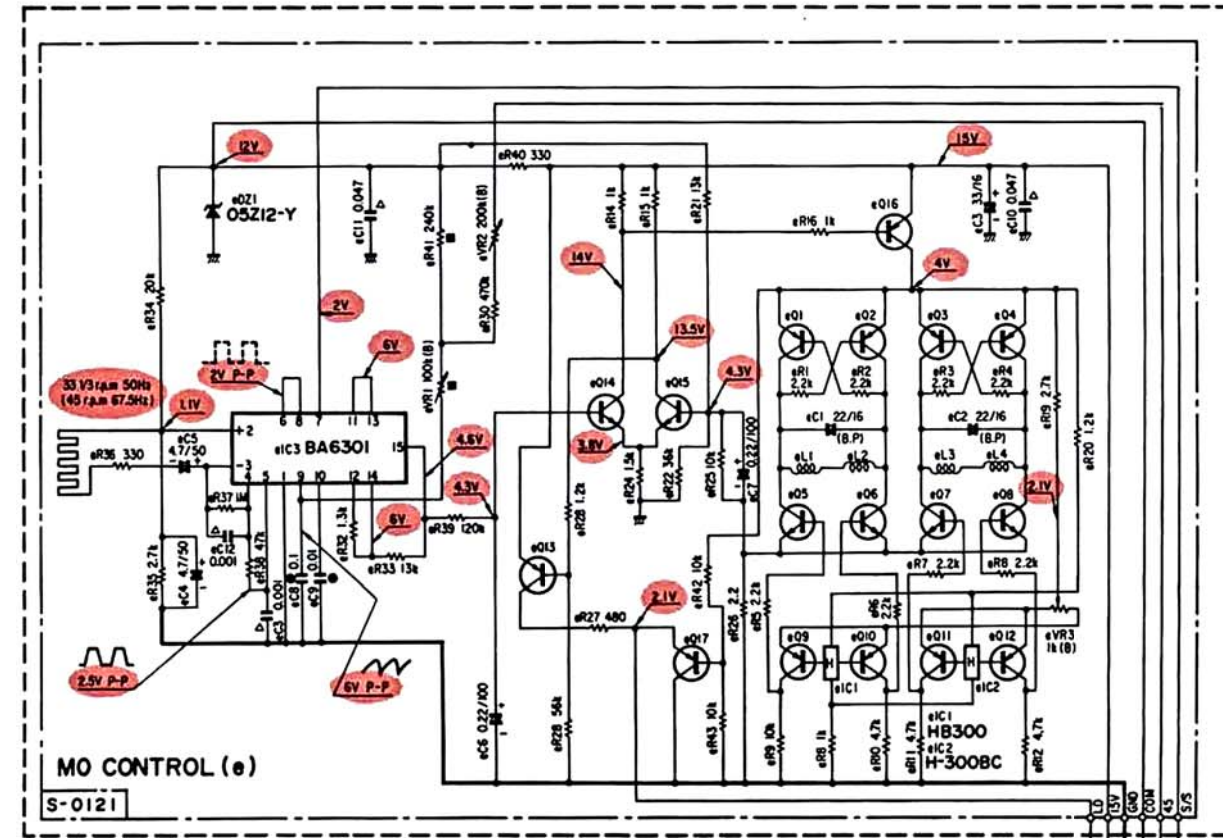
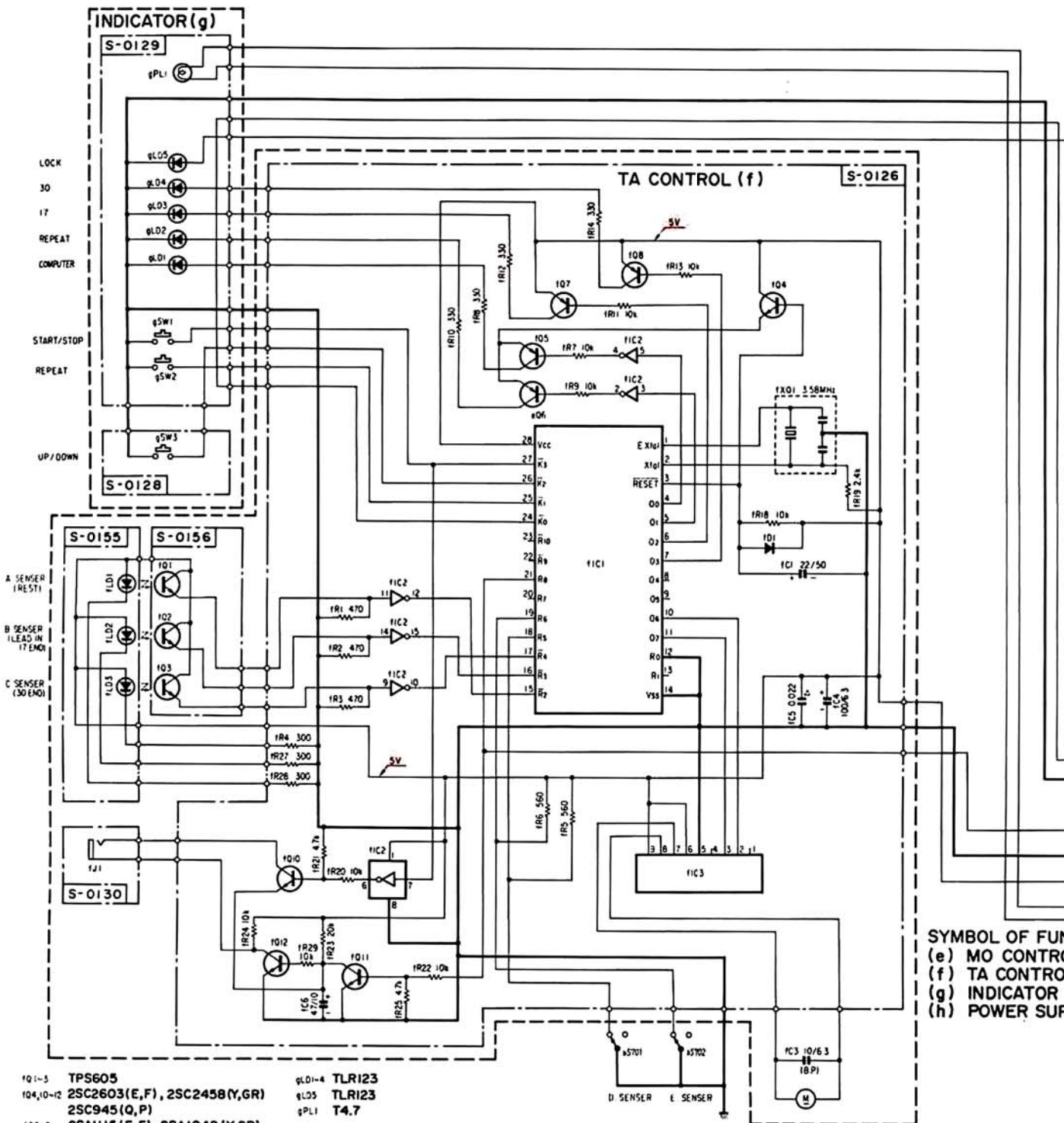
Please note that this unit, P-D30, includes a cartridge or not depending on the cabinet color and the unit sold in specific area shown in the left description.

Model	Cabinet Color	Cartridge	Indication of Carton Case
XX, UL, EU, BS, AS	Silver	With Cartridge	Silver
XX, UL, EU, BS, AS	Black	With Cartridge	Black
XX, UL, CSA, BS	Silver	Without Cartridge	Silver, (E)
XX, UL, CSA, BS	Black	Without Cartridge	Black, (E)

(Cartridge, Stylus, Stylus Cover, and Screw Ass'y) are not included in the unit stamped (E) on carton case.

5. 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 suites d'améliorations éventuelles.
 * Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.



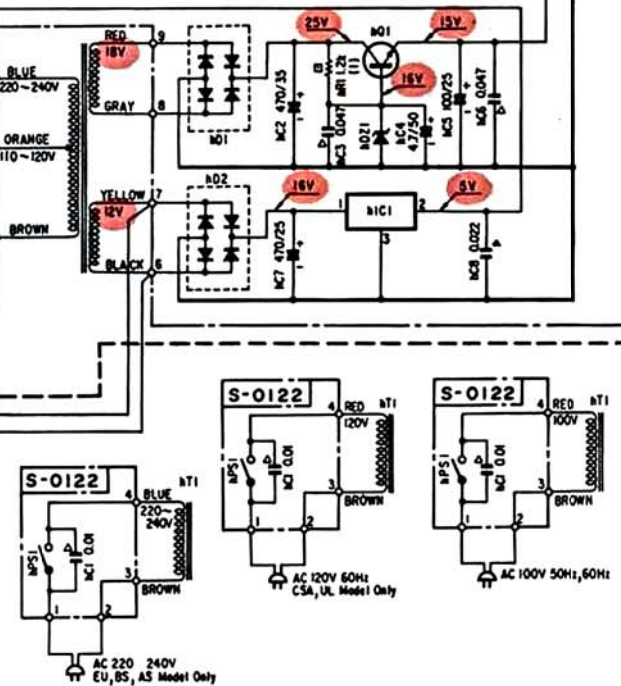
SYMBOL OF FUNCTION
 (e) MO CONTROL
 (f) TA CONTROL
 (g) INDICATOR
 (h) POWER SUPPLY

- †01-5 TPS605
- †04,†0-12 2SC2603(E,F), 2SC2458(Y,GR)
- †05-8 2SA1115(E,F), 2SA1048(Y,GR)
- †1C1 M88844-543M
- †1C2 MSM4049RS, TC4049B
- †1C3 BA6208
- †01 IS2473D
- †L01-5 TLR-121
- †L01-4 TLR123
- †L05 TLR123
- †PL1 T4.7

- SYMBOL**
- A Ceramic
 - AT Ceramic (Temperature Compensation)
 - AT Ceramic (Face Through)
 - ⊖ Low-Lead Electrolytic
 - (BP) Bi-Polar Electrolytic
 - ⊖BP Low-Lead Bi-Polar Electrolytic
 - (T) Tantalum Electrolytic
 - Film
 - ⊖ Mylar
 - ⊖PC Polycarbonate
 - ⊖PP Polypropylene
 - Metallized Paper
 - Polystyrene
 - ▲ Gimmic
 - Mic Micro
 - OC Oh
- RESISTORS**
- Fusing Resistor
 - Non-Inductive Resistor
 - Metal Film Resistor
 - Cement Resistor
 - ⊖ Non-Inductive Cement Resistor
- RESISTORS
 Are in ohms, 1/4 Watts, ±5% Tolerance
 Unless Otherwise Noted, ±10, M, MD
- CAPACITORS**
 Are in pF, Unless Otherwise Noted, P, pF
- TOLERANCE**
 J ±5%, G ±2%, F ±1%

Each DC Voltage shows the nominal value in volts at input signal during recording

Each DC Voltage measured by the instruments described below shows the nominal value in volts at 33 Ω/3pF Measuring instruments
 Volt Meter DC 20kΩ/V, AC 1kΩ/V
 Oscilloscope 5MHz
 Electrolytic Capacitor
 Capacitance (pF)/Volt(V)



- 2SA733
- 2SA952
- 2SA1048
- 2SA1115
- 2SC945
- 2SC2001
- 2SC2458
- 2SD313AL
- 2SB744
- μPC78M05H, NJM78M05A
- BA6208
- MSM4049RS
- M88844-543M
- BA6301, TC4049BP
- M884049B
- RB152
- 05Z12, 05Z16
- 1S2473

6. ADJUSTMENTS

6-1. Adjustment of Screen Plate Installation Position

Adjust the position whenever the tonearm is replaced. With the tonearm placed on the arm rest, install the screen plate to the tonearm shaft, as shown in Fig. 6-1 and 6-2.

Fig. 6-1 Side View of Screen Plate

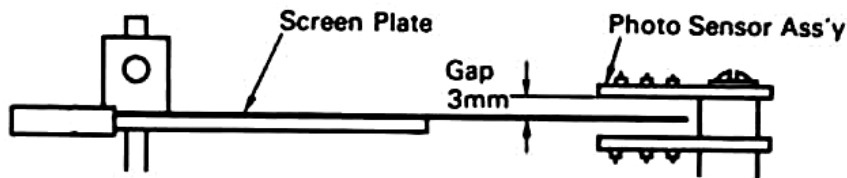
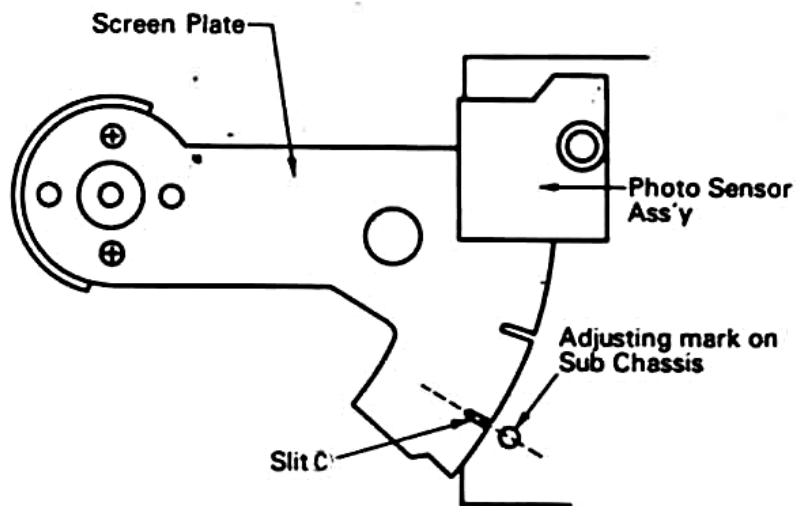


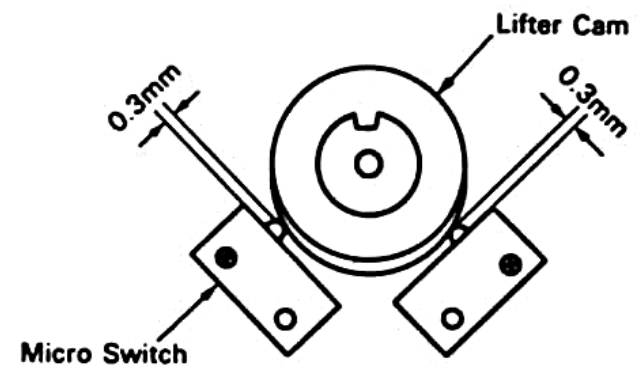
Fig. 6-2 Bottom View of Screen Plate



6-2. Adjustment of Micro Switch Position

When the micro switch is replaced, adjust its position as shown in Fig. 6-3.

Fig. 6-3



6-3. Lead-in Position Adjustment

- 1) Confirm that the screen plate is installed as shown in Fig. 6-2.
- 2) Turn the adjusting cam ② (See 4-1. Top View on Page 5) so as to lower the stylus to the middle of lead-in groove.

6-4. Speed Adjustment

- 1-a) Set the Speed Selector to 33 (r.p.m.)
 - 1-b) Adjust eVR1 on the D.D. Motor Control Circuit Board (4-2. Bottom View on Page 5) so as to standstill the stripe marking pattern.
 - 2-a) Set the Speed Selector to 45 (r.p.m.)
 - 2-b) Adjust eVR2 on the D.D. Motor Control Circuit Board (4-2. Bottom View on Page 5) so as to standstill the stripe marking pattern.
- Set eVR3 (S-0121) center position.

7. MAIN PARTS REPLACEMENT

7-1. How to remove the mechanical assembly (See bottom view on Page 5)

- 1) Set the arm lifter at the down position.
 - 2) Remove the bottom plate.
 - 3) Unscrew four ① screws fastening the mechanical assembly, and pull the mechanical assembly toward the front panel.
- When installing the mechanical assembly, pull the arm lifter upward.

7-2. How to replace the tone-arm (See bottom view on Page 5)

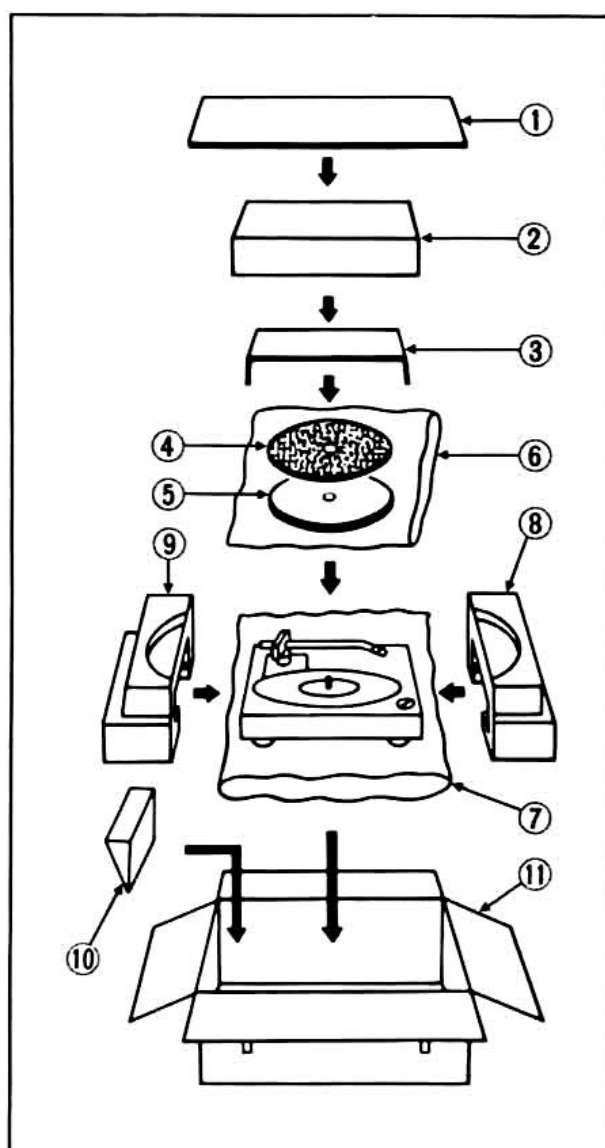
- 1) Remove the mechanical assembly in accordance with the procedures as stated under 7-1 above.
- 2) Remove the cords connected to the S-0022 circuit board.
- 3) Loosen a screw fastening the screen plate by using a 1.5 mm-hexagon wrench to remove the slit plate.
- 4) Unscrew a nut fastening the tone-arm assembly.

7-3. How to replace drive gear assembly ④ and take precautions (See Fig. 3-1 on Page 4)

- 1) Remove the mechanical assembly in accordance with the procedures as stated under 7-1 above.
 - 2) Remove the E-ring 101 to remove the drive gear assembly ④.
- When installing the drive gear assembly ④, use care to gear positions of the floating gears I and II. (See Figs. 3-1 and 3-2 on Page 4)

8. PACKING LIST

Parts No.	Stock No.	Description
1	—	Protector Board, upper
2	13142400	Dust Cover Ass'y
3	—	Protector Board, platter
4	13140800	Turntable Sheet
5	13147200	Turntable Platter
6	91166000	Polyethylene Bag, turntable platter
7	91122710	Polyethylene Bag, turntable unit
8	13170400	Styrofoam Packing, front
9	13170500	Styrofoam Packing, rear
10	—	Accessory Box
11	13146500	Carton Case (Silver)
	13146600	Carton Case (Black)



9. ACCESSORY LIST

Stock No.	Description
13176700	Main Weight Ass'y
13012300	EP Adaptor
13176600	Head Shell
46358500	Operating Instruction
13190700	Cartridge Ass'y, SC-37A
13190800	Stylus, SN-37A (SN-70)
13142600	Auto Hinge, dust cover

● Note: There are two types of units in P-D30.

1) The unit with a cartridge, SC-37A.

2) The unit without a cartridge.

The mark $\text{\textcircled{E}}$ is stamped on the side of carton case.

● In particular area, either type of these unit is sold.



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SANSUI ELECTRONICS CORPORATION:

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