

# PS-LX1

*US Model  
AEP Model  
E Model*



## STEREO TURNTABLE SYSTEM

### SPECIFICATIONS


#### GENERAL

**Power Requirements:** 120 V ac, 60 Hz (US model)  
220 V ac, 50/60 Hz (AEP model)  
110–120 or 220–240 V ac adjustable,  
50/60 Hz (E model)


**Power Consumption:** 5 W

**Dimensions:** Approx. 430 (w) x 105 (h) x 345 (d) mm  
(17 (w) x 4 1/4 (h) x 13 5/8 (d) in.)  
including projecting parts and controls

#### SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT  
À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET UNE MARQUE  SUR LES DIAGRAMMES SCHEMATIQUES, LES VUES EXPLOSÉES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

**Weight:** Approx. 4.3 kg (9 lbs 8 oz) net  
Approx. 5.6 kg (12 lbs 6 oz), in shipping carton

#### TURNTABLE

**Platter:** 30.4 cm (12 in.), aluminum-alloy diecast

**Motor:** Linear torque BSL (brushless and slotless) motor

**Drive System:** Direct drive

**Control System:** Magnedisc servo control system

**Speed:** 33 1/3 rpm, 45 rpm

**Wow and Flutter:** 0.03 % (WRMS)†, 0.04 % (WRMS)  
±0.055 % (DIN)

**Signal-to-noise Ratio:** 72 dB (DIN-8)

**Automatic System:** Return, reject

— Continued on next page —



MICROFILM

# SONY

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# SERVICE MANUAL

**TONEARM**

**Type:** Statically balanced  
**Pivot-to-stylus Length:** 216.5 mm (8½ in.)  
**Overall Arm Length:** 275 mm (10¾ in.)  
**Overhang:** 16.5 mm (21/32 in.)  
**Tracking Error:** +3°, -1°

**CARTRIDGE VL-38GSA**

**Type:** Moving magnet type  
**Frequency Response:** 20 to 20,000 Hz  
**Channel Separation:** 20 dB at 1 kHz  
**Output Voltage:** 2.5 mV at 1 kHz, 5 cm/sec., 45°  
**Load Impedance:** 50 to 100 kΩ  
**Tracking Force:** 2.5 g  
**Stylus:** Sony ND-138G, Audio Technica ATN-3400  
(0.6 mil diamond)  
**Weight:** 8 g

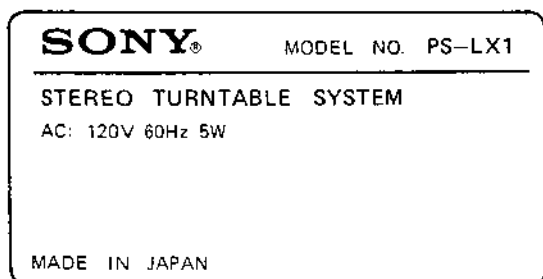
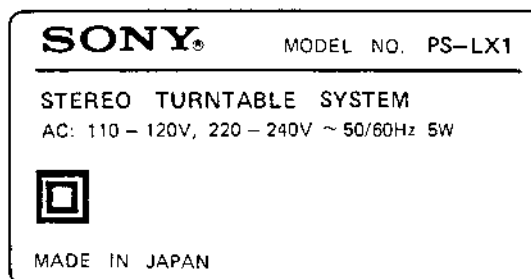
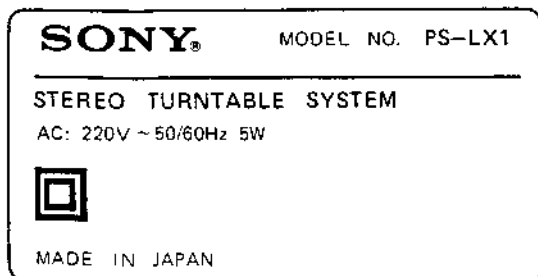
**Note**

Appliance conforms with EEC Directive 76/889 regarding interference suppression.

\* This new measuring method concerns only the turntable assembly, including the platter. It excludes wow and flutter caused by the tonearm, the cartridge, or the record. Measured by obtaining signal from magnetic pickup head.

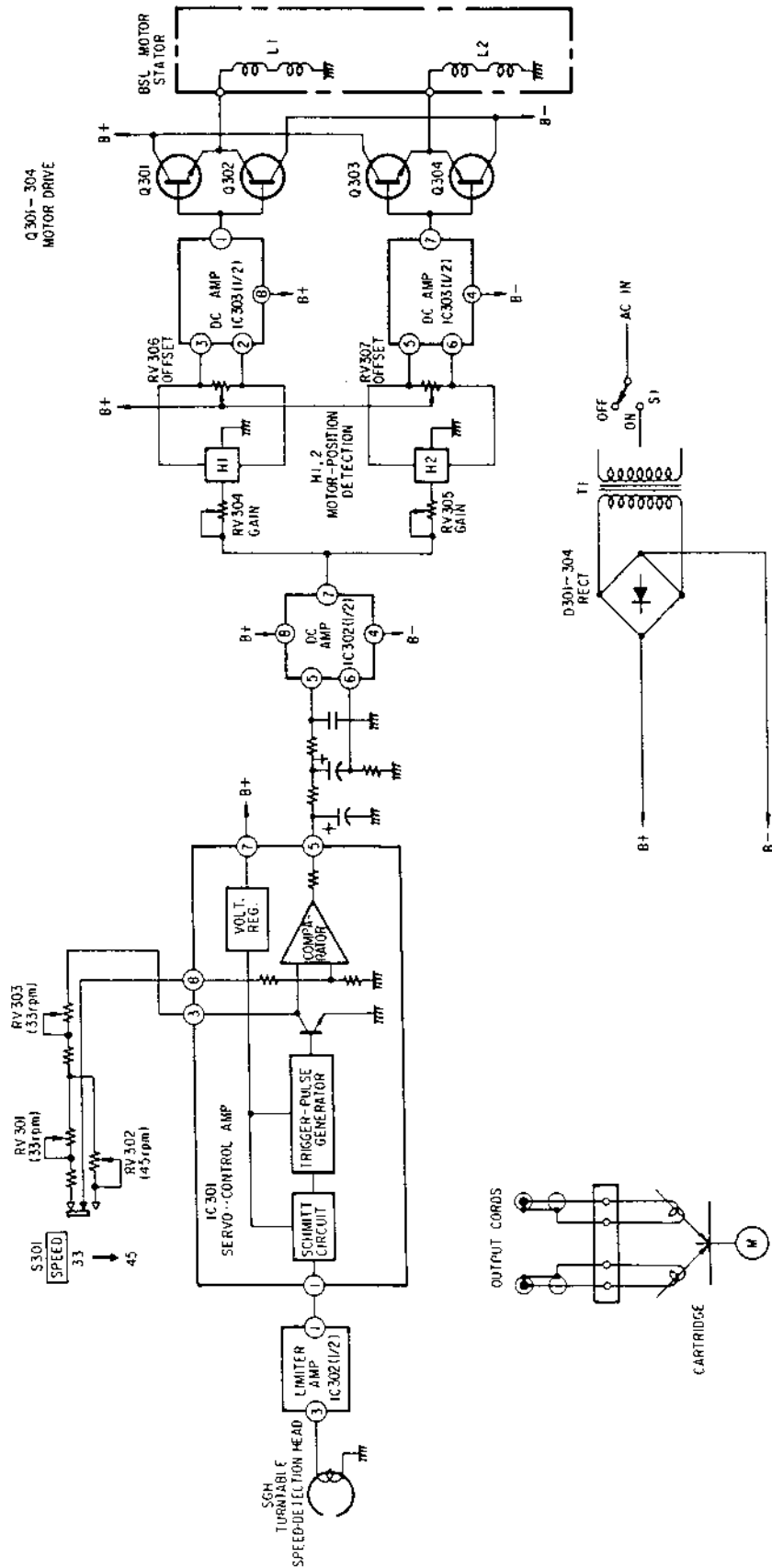
**MODEL IDENTIFICATION**

— Specifications Labels —

**US model****E model****AEP model**

# SECTION 1 OUTLINE

## BLOCK DIAGRAM



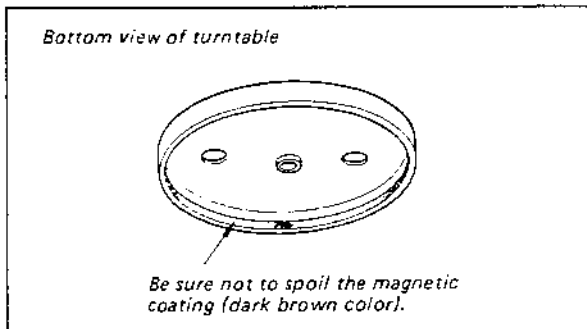
## SECTION 2 DISASSEMBLY

**Note:**

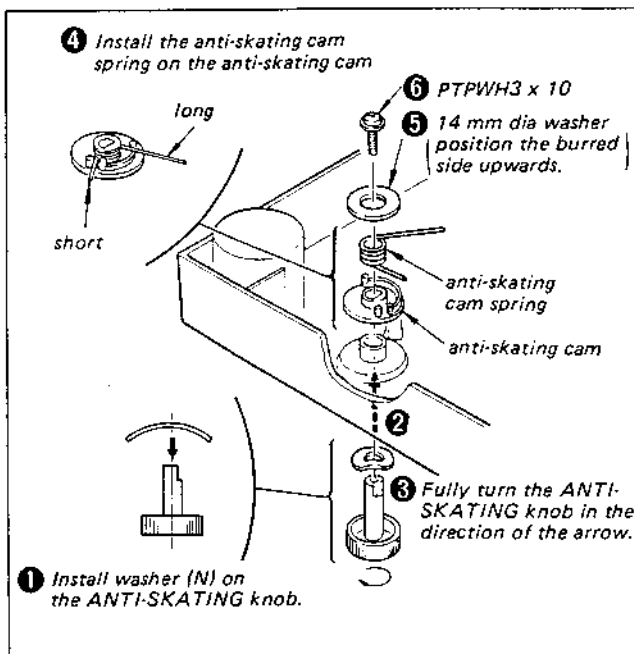
- Follow the disassembly procedure in the numerical order given.
- Be sure to note the parts placements/positionings of each other before disassembling them apart.
- Be sure to note the burred side of the washers and retaining rings with bur.

### NOTES ON REPAIRING

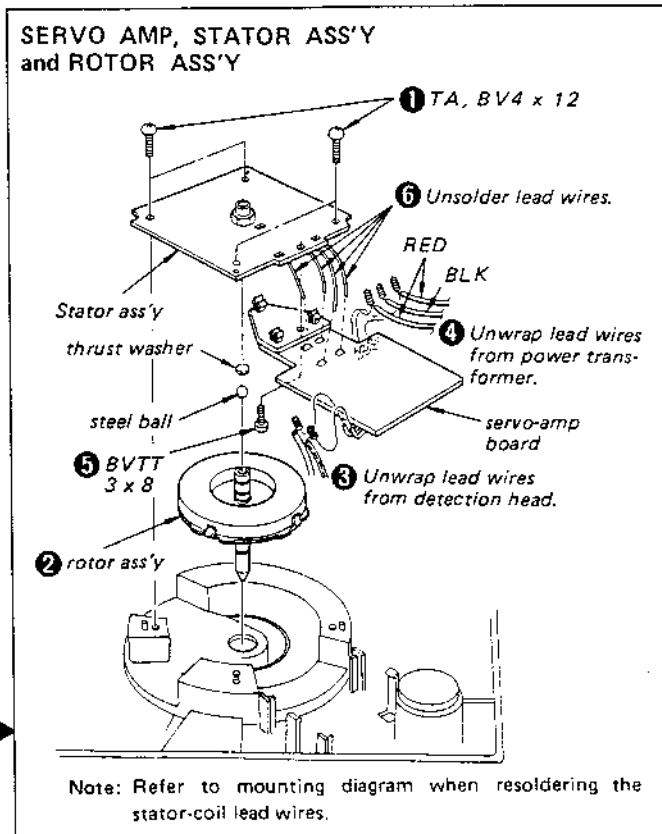
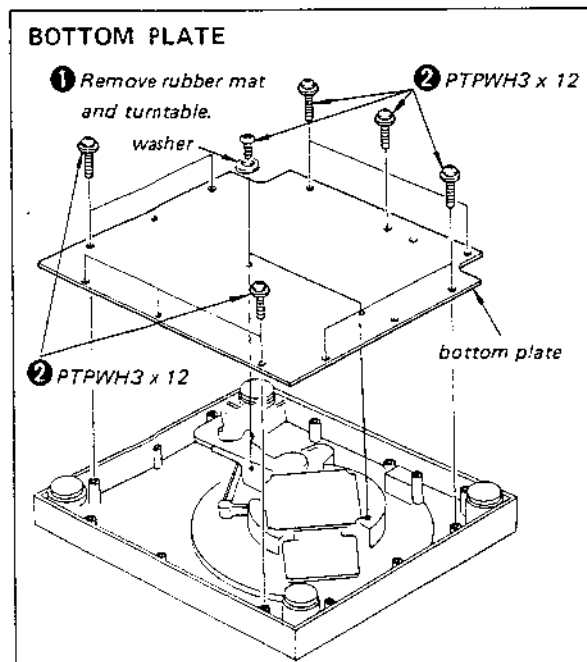
#### TURNTABLE HANDLING



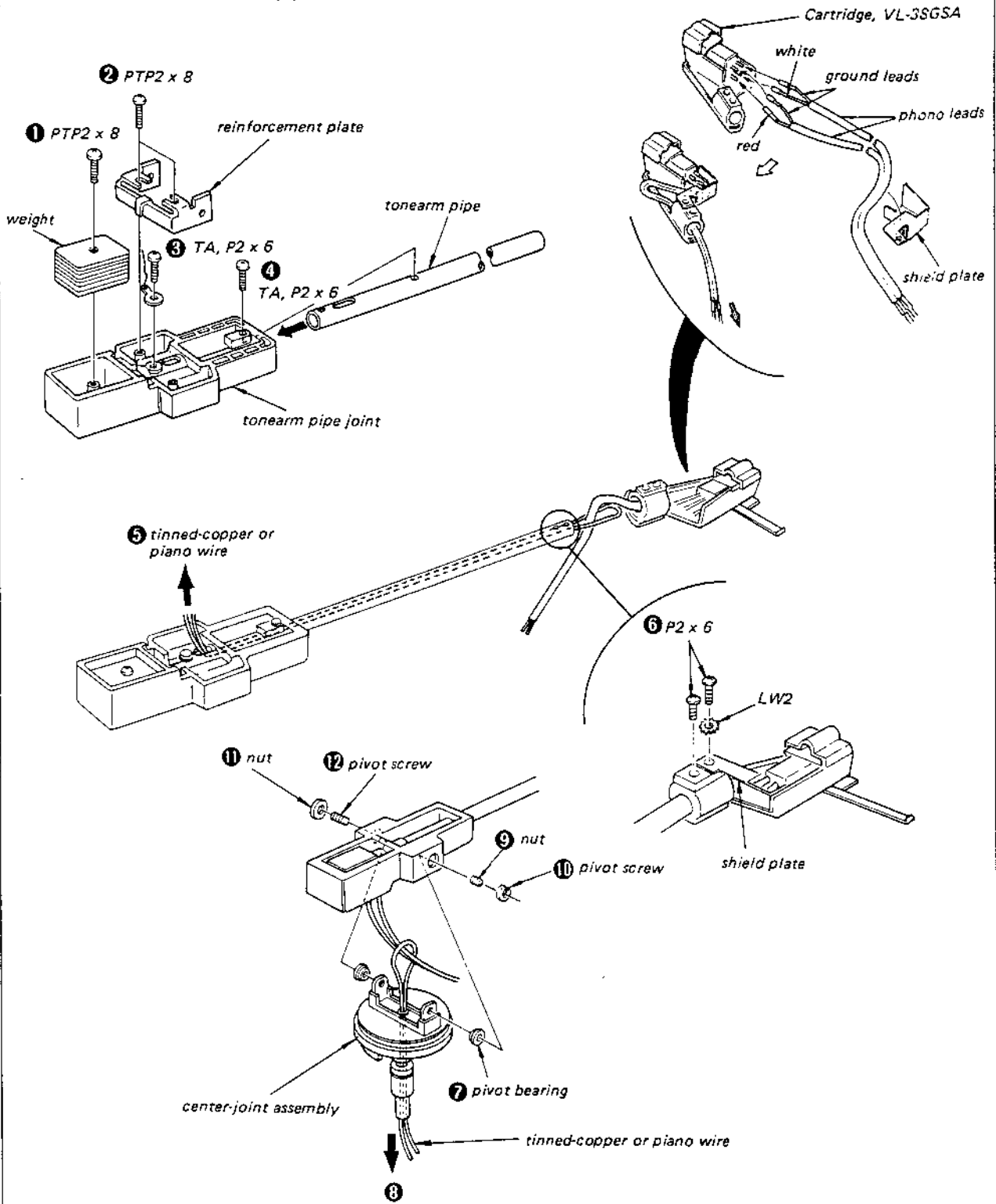
#### ANTI-SKATING KNOB INSTALLATION



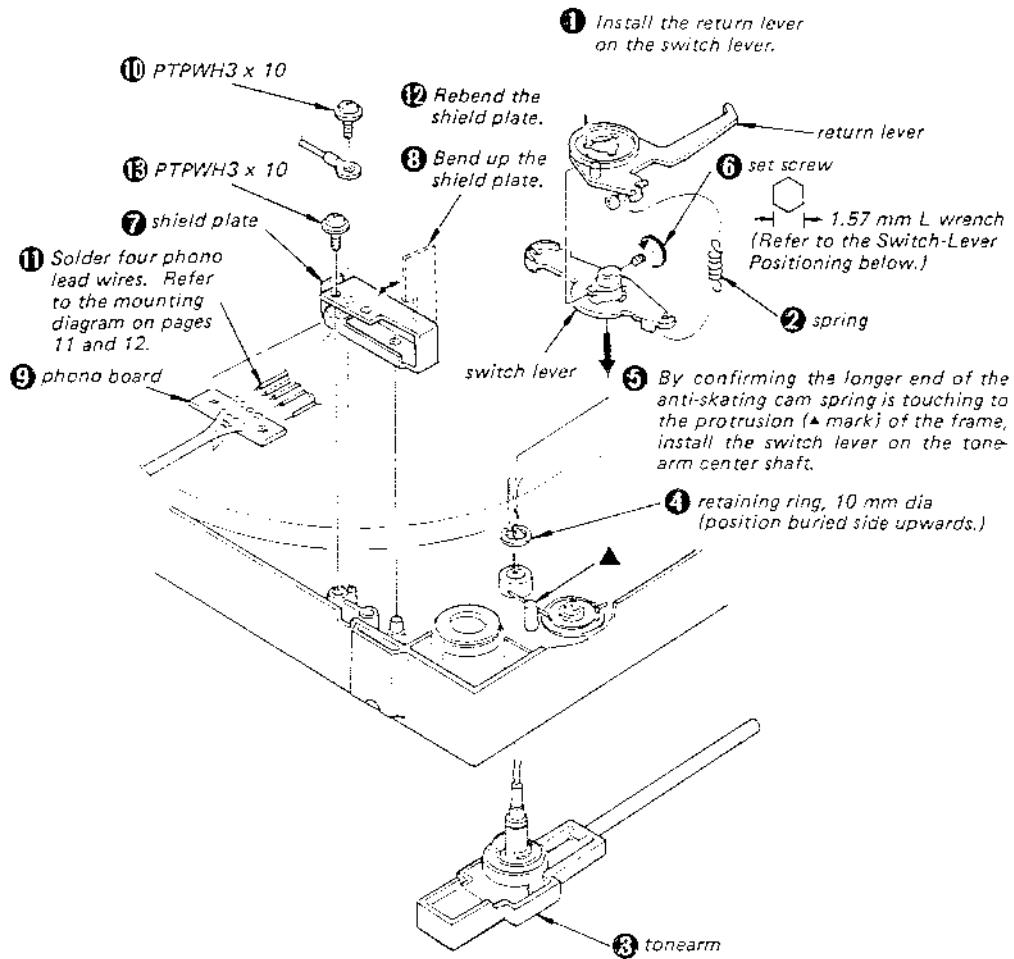
#### REMOVAL



TONEARM INSTALLATION(1)

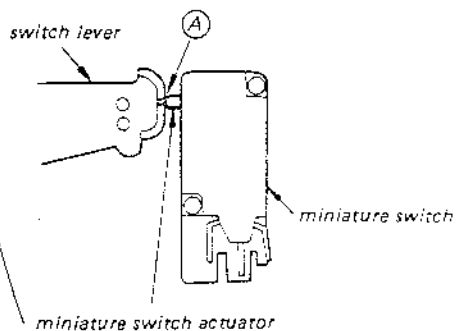
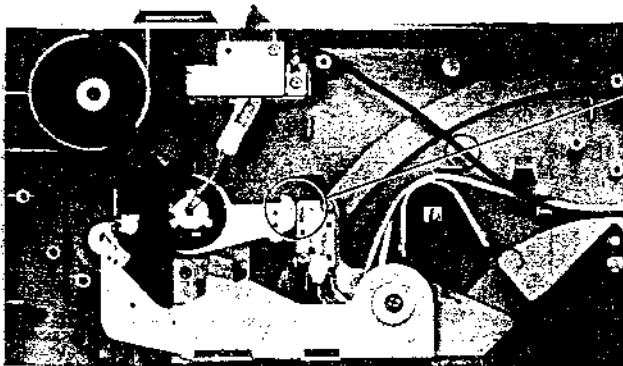


### TONARM INSTALLATION (2)



#### Switch-Lever Positioning:

1. Place the tonearm on the tonearm rest.
2. Position the drive gear to the rest mode.
3. Position the part (A) of the switch lever in line with the switch actuator and tighten the setscrew securely.

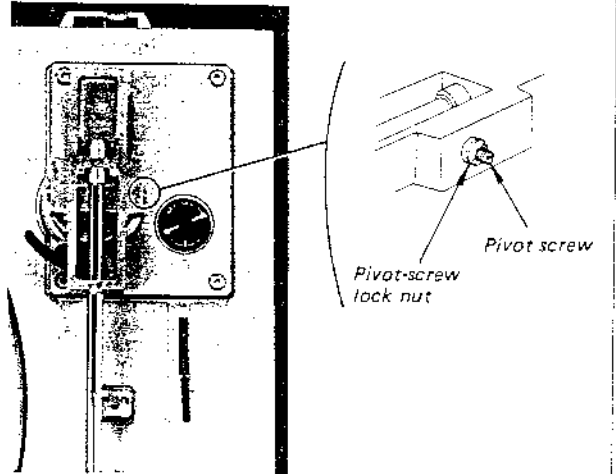


## SECTION 3 ADJUSTMENTS

### 3-1. MECHANICAL ADJUSTMENTS

#### Longitudinal Sensitivity Adjustment

1. Make the longitudinal balance adjustment of tonearm.
2. Repeating the following procedures, adjust the pivot screws and the lock nuts.
  - a. When the 60 mg weight is placed on the top of the shell, the tonearm sinks more than 5 mm measured at stylus-tip.
  - b. When the weight is removed, the tonearm returns horizontally.

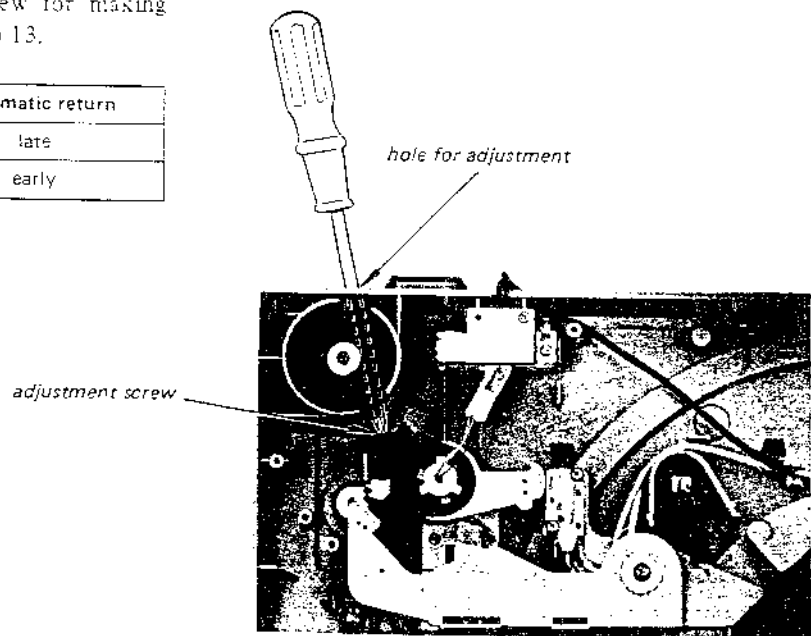


#### Automatic Return Position Adjustment

1. Reject the tonearm by REJECT button.
2. Bring the tonearm to the automatic-return test groove (inside portion) of the test record (YFSC-16), and adjust the screw for making the tonearm return at count 3 to 13.

Note: The normal auto-return position is between 59 mm ( $2\frac{3}{4}$ " ) and 64 mm ( $2\frac{1}{2}$ " ) from the center of the center shaft.

Turning direction	Automatic return
clockwise	late
counterclockwise	early



## Tonearm Height Adjustment

Note: Perform both adjustments A) and B).

A)

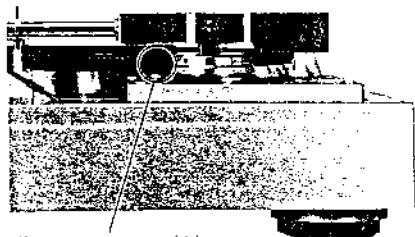
1. Bring the tonearm toward the inner of the record and put the stylus in the last groove of the record.
2. Push the REJECT button and slowly turn the turntable by hand to lift the tonearm.
3. Adjust the height of the tonearm lifter by turning the adjustment screw(A) so that the clearance between the stylus tip and the record is approx. 4 mm ( $\frac{3}{16}$ " ) to 12 mm ( $\frac{15}{32}$ " ).
4. After the adjustment, make sure by turning the turntable by hand that the tonearm smoothly returns to the tonearm rest.

that the clearance between the stylus tip and the record surface becomes in 4 mm ( $\frac{3}{16}$ " ) to 12 mm ( $\frac{15}{32}$ " ).

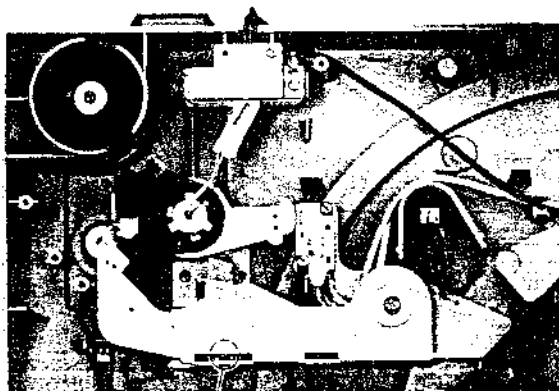
3. By further turning the turntable by hand, move the tonearm to the inner-most groove. In this condition, the clearance between the stylus tip and the record surface should also be 4 mm ( $\frac{3}{16}$ " ) to 12 mm ( $\frac{15}{32}$ " ).
4. The clearance difference between A) and B)-3 should be less than 4 mm ( $\frac{3}{16}$ " ).
5. After the adjustment, lock the adjustment screw (B) with locking compound.

B)

1. Make a lifter up mode by pushing the lifter button.
2. Slowly turn the turntable by hand clockwise and, at the same time, bring the tonearm to the outer-most record groove. With this condition, adjust the adjustment screw (B) so



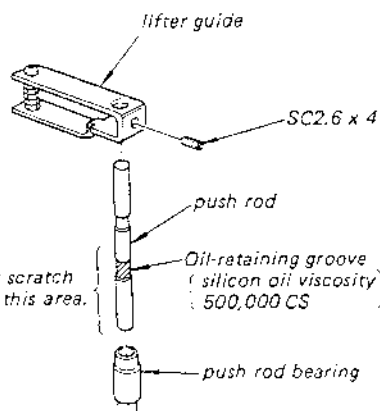
adjustment screw (A)  
(Use a 1.27 mm L wrench)



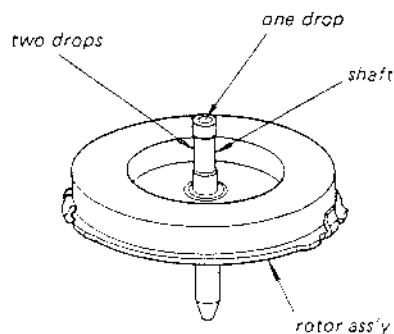
adjustment screw (B)

## Lubrication

1. When the motor rotor ass'y is replaced, apply Sony oil OL-2KA to the rotor shaft as illustrated below.



2. When the push rod or damper rod is replaced, apply proper silicon oil to the oil-retaining groove of the shaft as illustrated below.

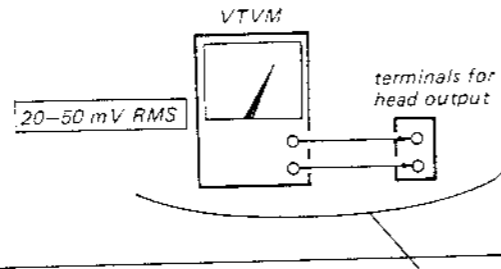




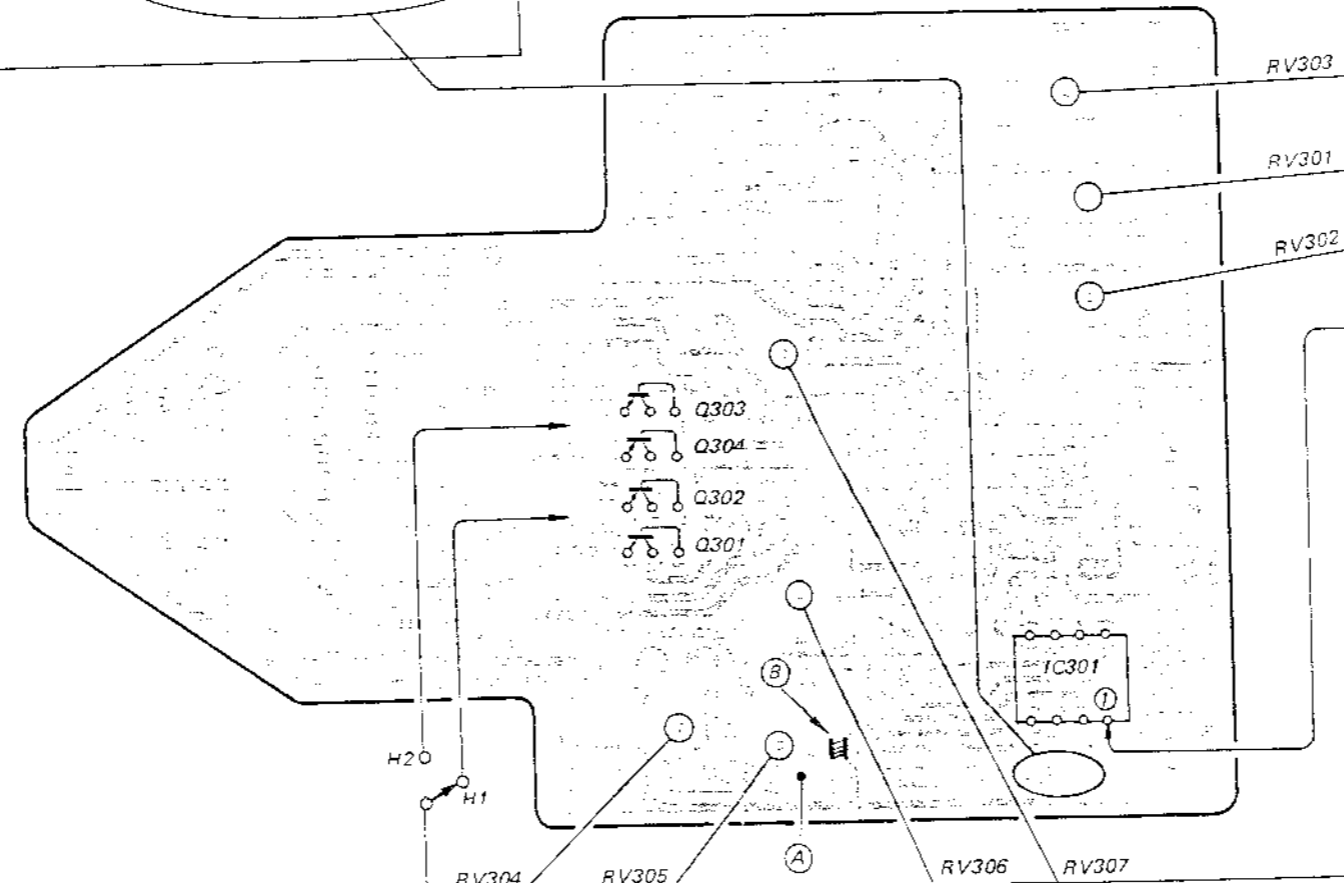
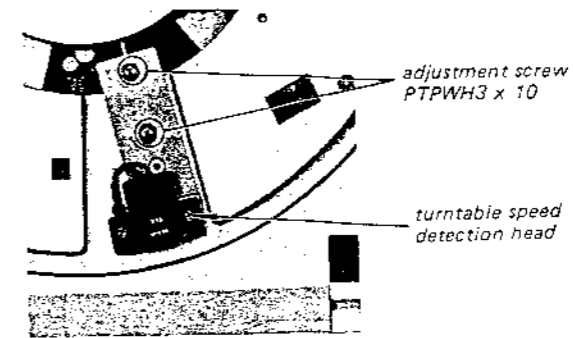
3.2. ELECTRICAL ADJUSTMENTS

Speed-detection Head's Position Adjustment

1. Turn the POWER on.
2. Turn the SPEED switch to 33.
3. Put a test record on the mat.
4. Set the unit to the ON position. Read the VTVM reading.



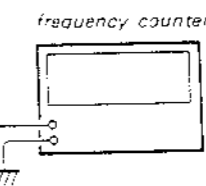
5. With the turntable turning, stopping, and removing it at a time, adjust the position of the speed-detection head's position inside and out by loosening the adjustment screw so that the output-signal level becomes in 20 mV RMS to 50 mV RMS. Note that the output-signal level critically varies in accordance with a little displacement of the head.
6. Check that the head is not touching with the coating of the inside turntable. The clearance between the head and coating should not be less than 0.3 mm or the thickness of an ordinal name-card.



Speed Adjustment

Note: Use a small-blade screwdriver for the adjustments.

1. Turn POWER on.
2. Connect a frequency counter to pin ① of IC301.

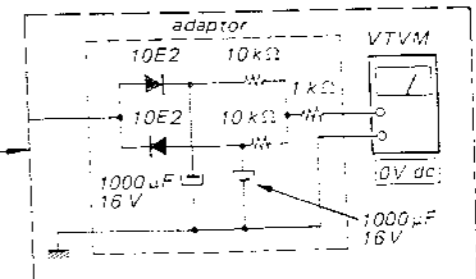
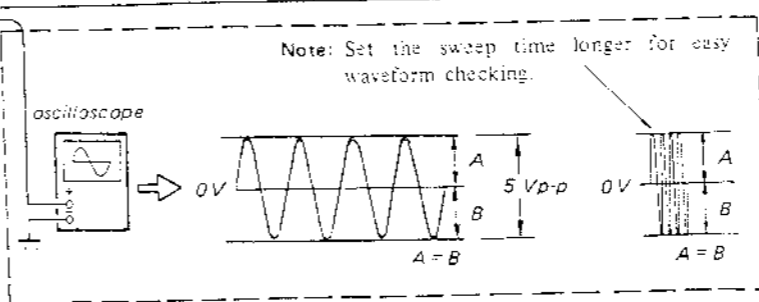


3. Turn the SPEED switch to 33.
4. Adjust the coarse adjustment RV303, which acts both for 33 and 45 rpm, for 284.0 Hz reading on the frequency counter.
5. Turn the SPEED switch to 45.
6. Adjust the fine adjustment RV302 for 384.0 Hz reading.
7. Turn the SPEED switch to 33.
8. Adjust the fine adjustment RV301 for 284.4 Hz reading.

Gain/Offset Adjustments

1. Cut the pattern foil at the point (B), and apply a 2V dc to the point (A).
2. Put an appropriate record on the mat.
3. Turn the POWER switch on.
4. Adjust the gain adjustment RV304 at the switch position H1 for a 5 Vp-p reading on the oscilloscope.
5. Adjust the gain adjustment RV305 at H2 for a 5 V p-p reading on the oscilloscope.

6. Adjust the offset adjustment RV306 at H1 for a 0V dc centering on the waveform.
7. Adjust the offset adjustment RV307 at H2 for a 0V dc centering on the waveform.
8. After the adjustments, bridge the opened patterns at the point (B) and remove the dc-voltage connection from the point (A).



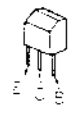
SECTION 4  
DIAGRAMS

4-1. MOUNTING DIAGRAM  
— Conductor Side —

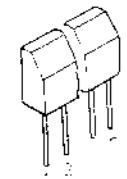
Semiconductor Leads Layout

A B C D E F G

2SB734  
2SD774



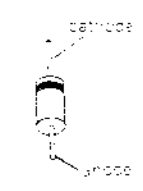
CX065B



μPC4558C



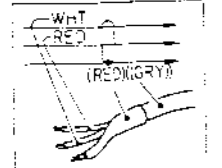
10E2



HL300C



Color code of sleeving over the end of the jacket.



- : parts extracted from the component side.
- : parts extracted from the conductor side.
- |— and —|— : electrolytics

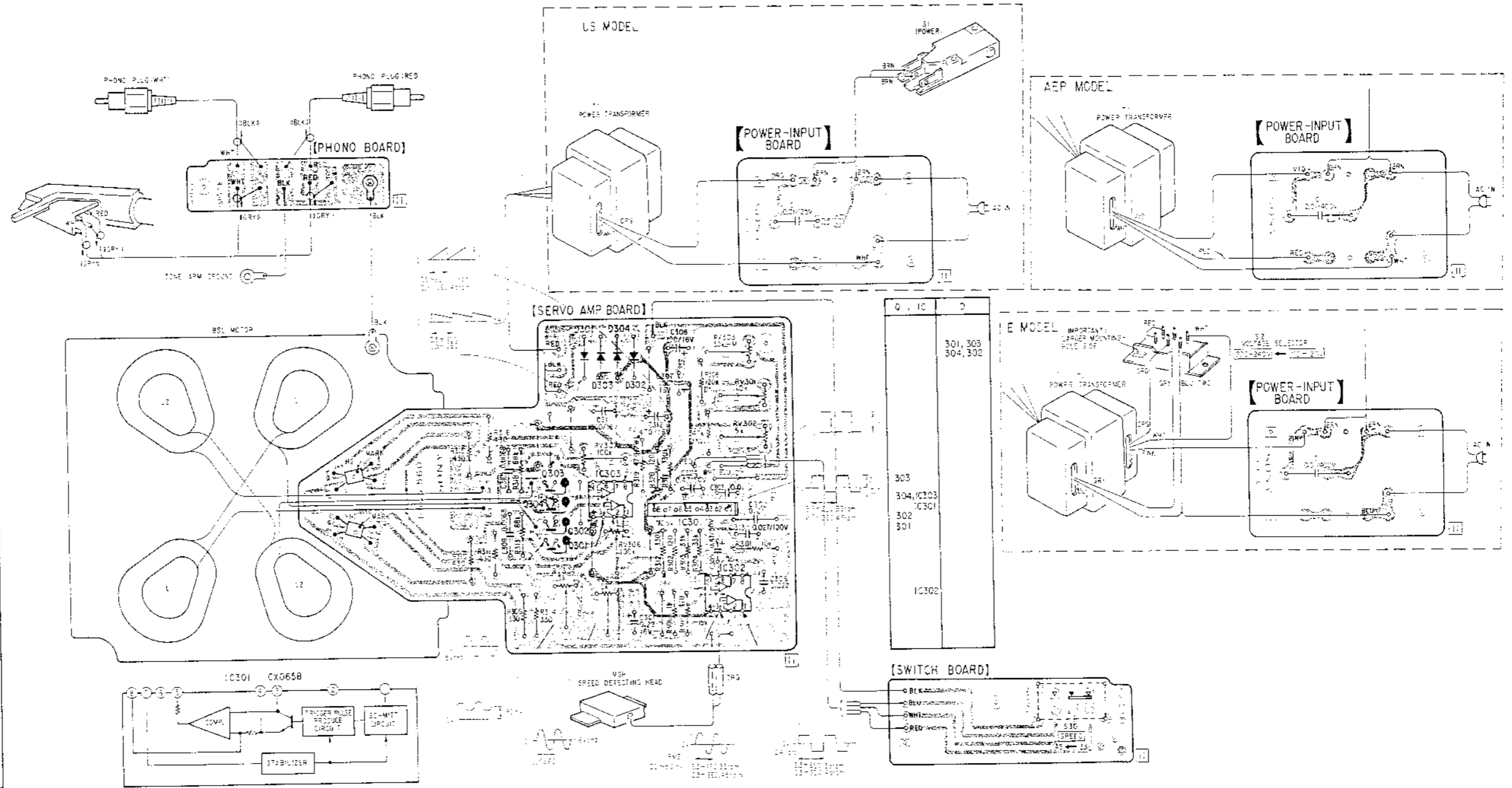
1

2

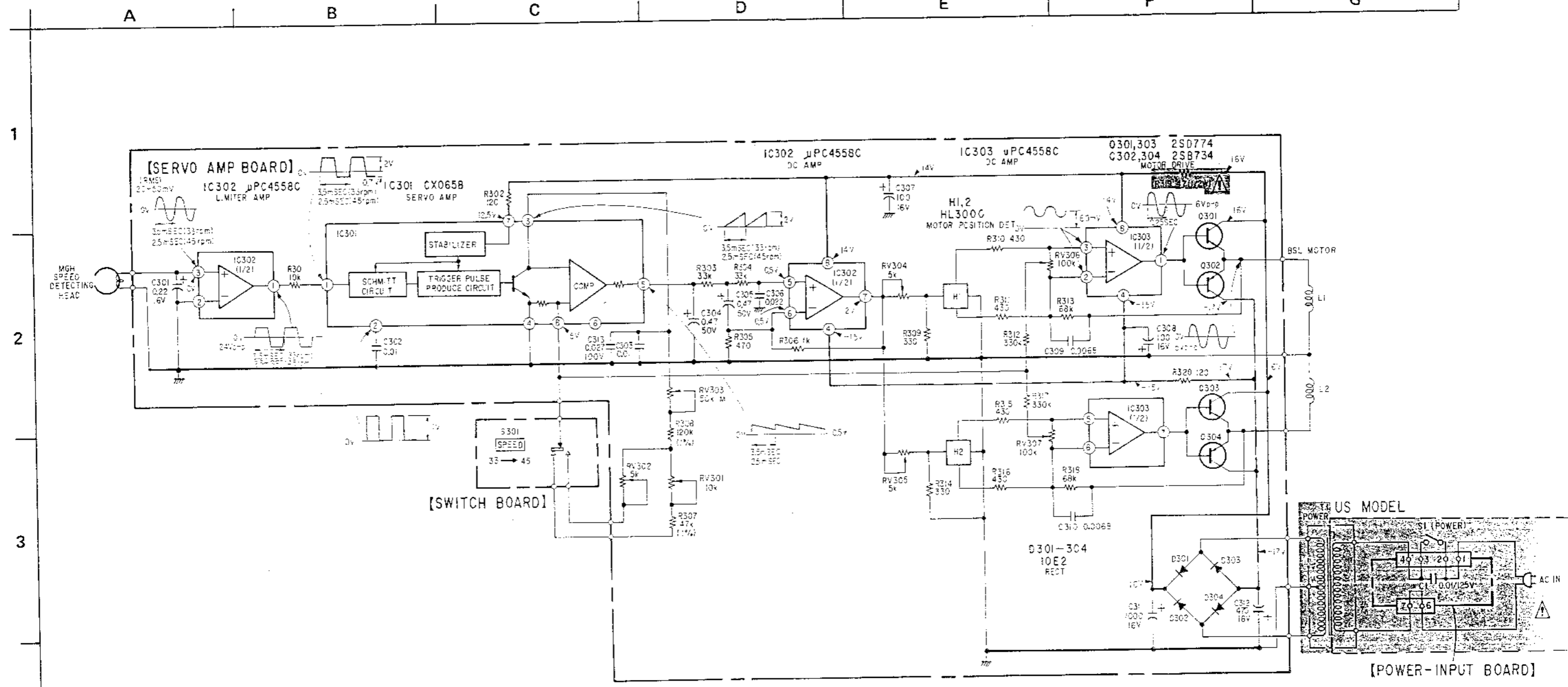
3

4

5



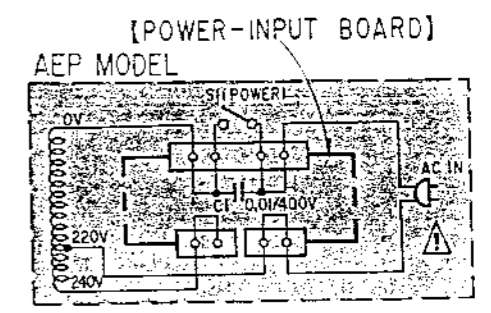
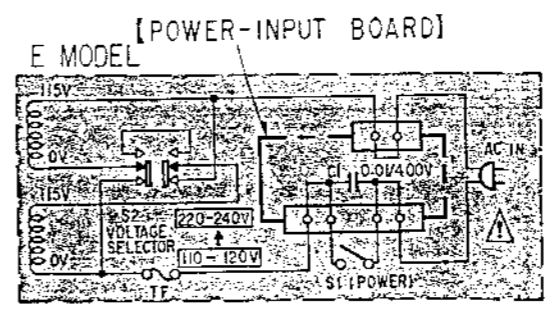
4-2. SCHEMATIC DIAGRAM



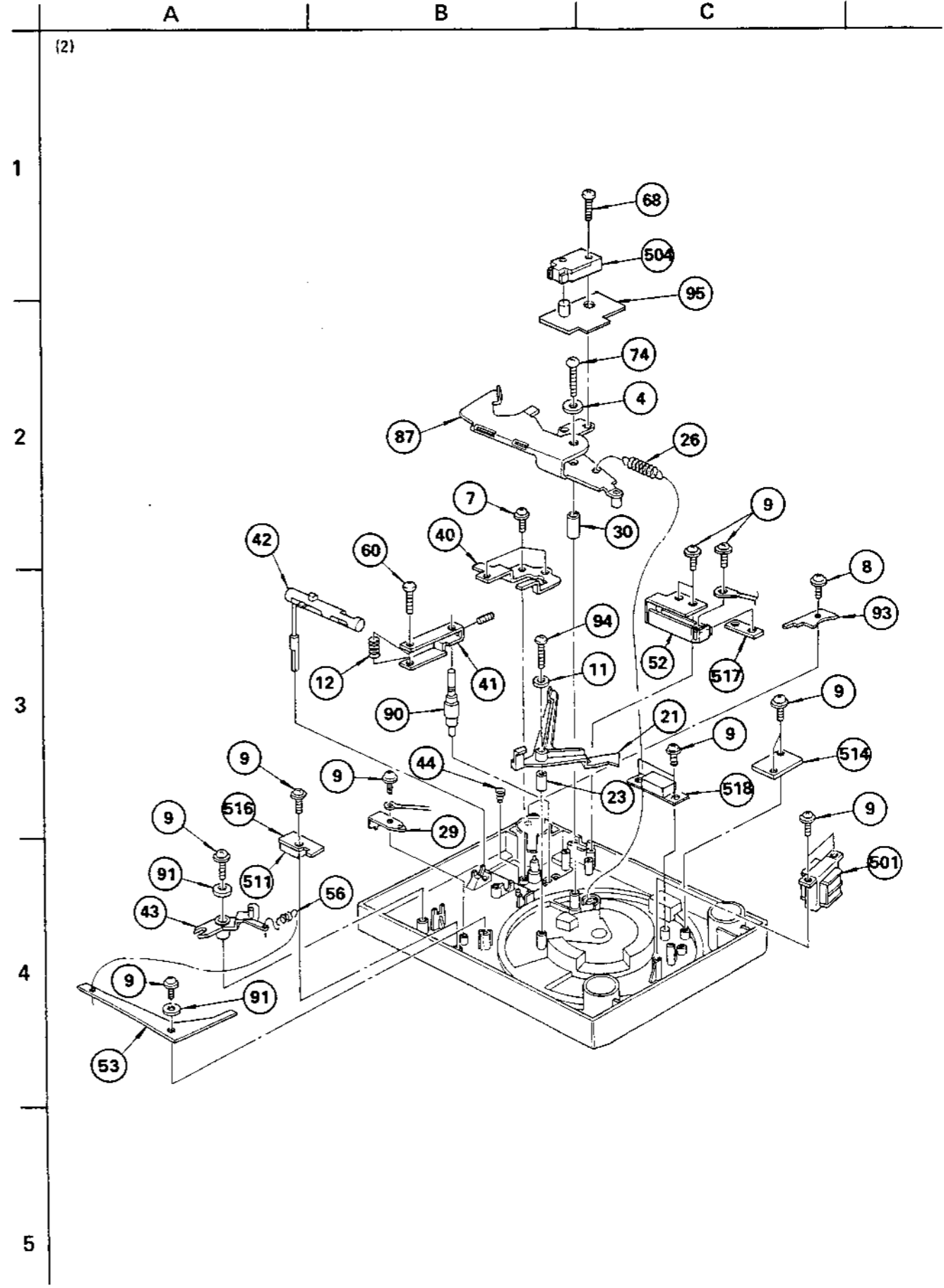
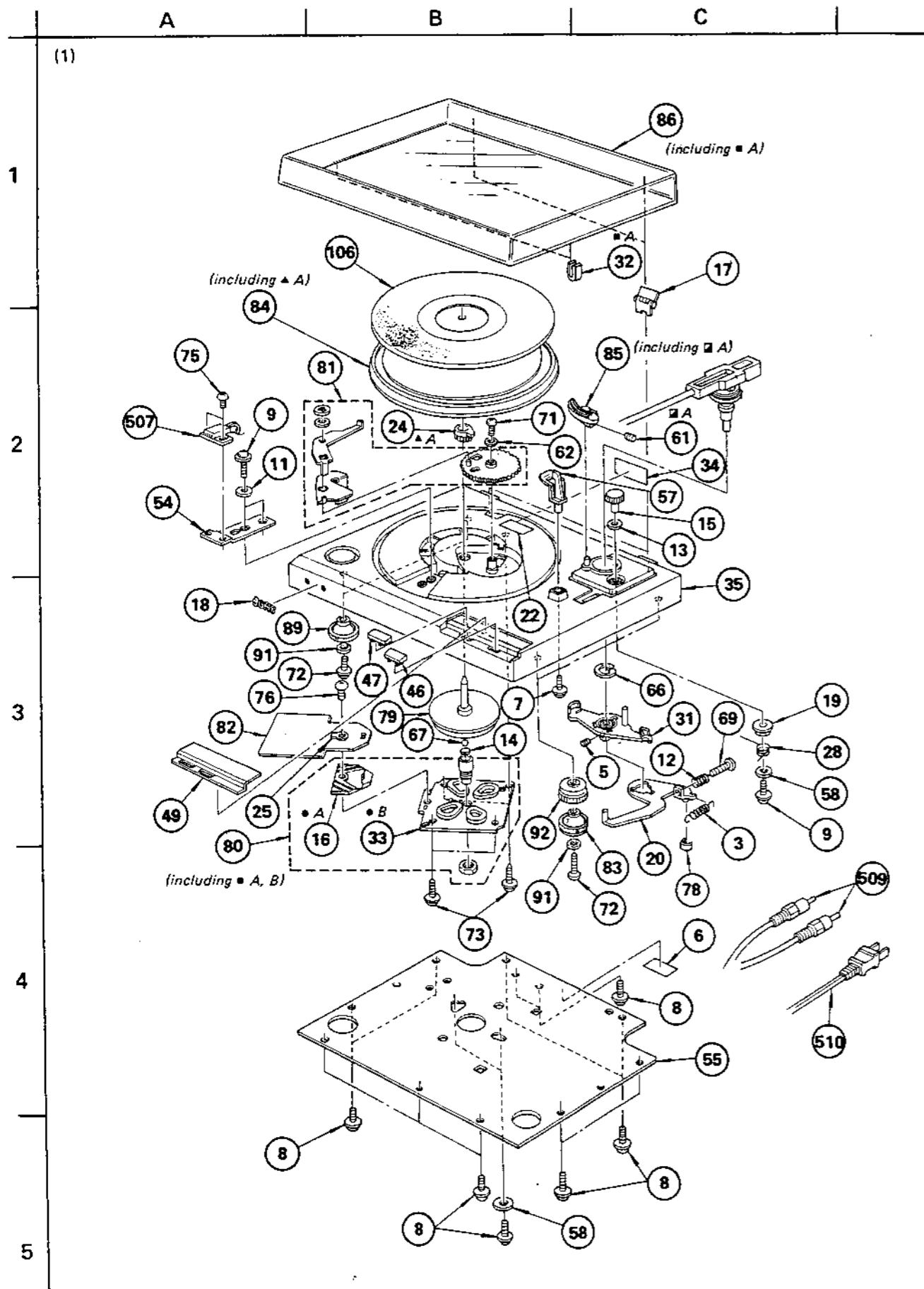
- Note:
- All resistors are in ohms, 1/4W unless otherwise noted. kΩ : 1000 Ω, MΩ : 1000 kΩ
  - Adjustment for repair
  - B+ bus
  - B- bus
  - Readings are taken under no-signal conditions with a VOM (20 kΩ, V).
  - Switch

Ref. No.	Switch	Position
S1	POWER	OFF
S301	SPEED	33

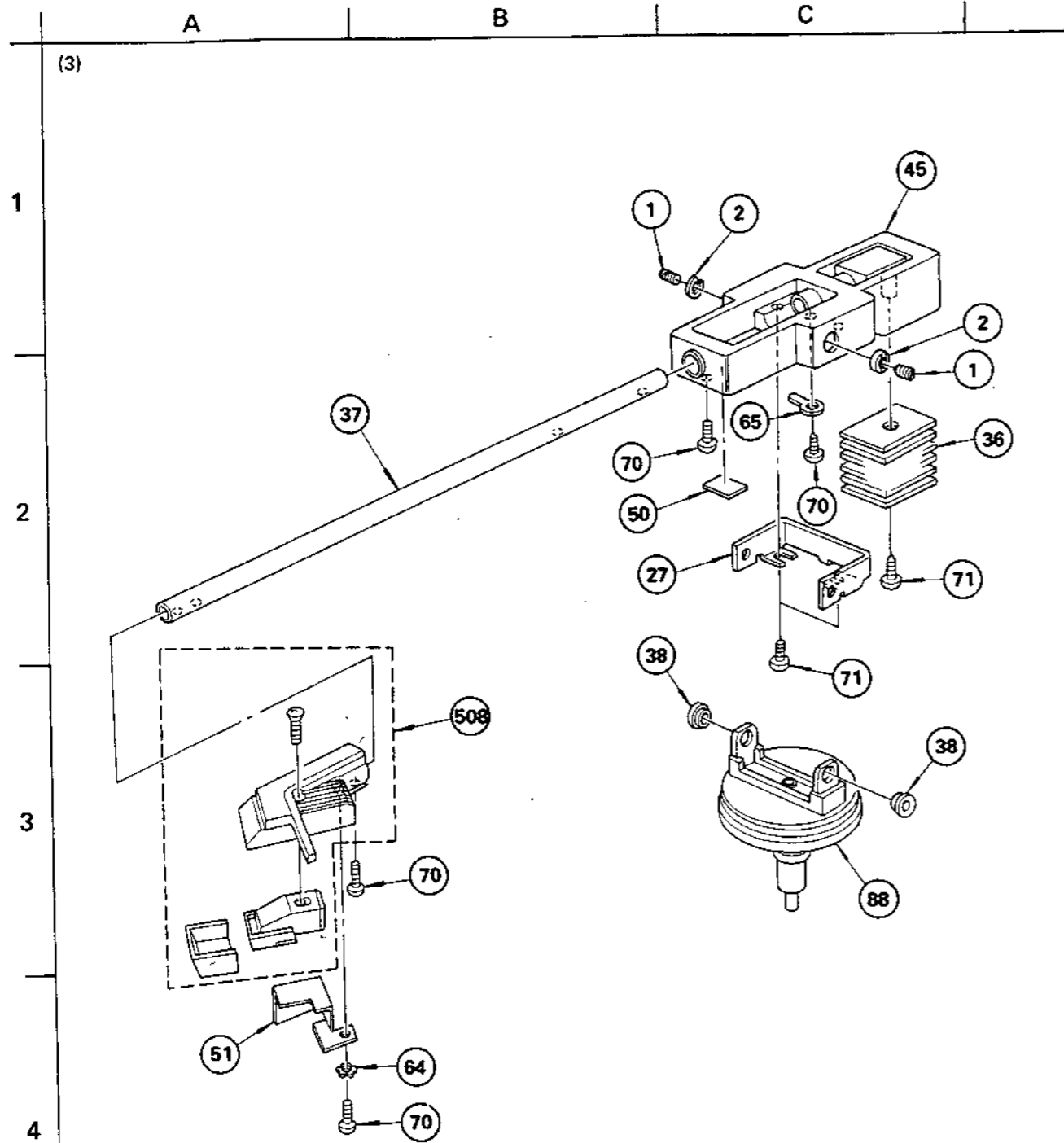
- Electrolytics
- Note: The components identified by shading and mark are critical for safety. Replace only with part number specified.
- Note: Les composants identifiés par une trame et une marque sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



SECTION 5  
EXPLODED VIEWS AND PARTS LIST



PS-LX1 PS-LX1



GENERAL SECTION

No.	Part No.	Description
1	2-203-518-61	SCREW, PIVOT
2	2-203-519-00	NUT
3	3-536-780-00	SPRING, TENSION
4	3-610-931-11	SPACER, SHAFT, DRUM, HEAD
5	▲;3-701-508-00	SET SCREW, DOUBLE POINT 3X6
6	3-703-043-21	LABEL, CAUTION, MAIN
7	3-703-135-00	SCREW, PTPWH 3X8
8	3-703-136-00	SCREW, PTPWH 3X12
9	3-703-137-00	SCREW, PTPWH 3X10
10	4-301-647-00	WASHER, SPECIAL
11	4-812-554-00	WASHER
12	4-836-836-00	SPRING, COMPRESSION
13	4-844-041-00	WASHER, (N)
14	4-852-007-00	RETAINER (A), THRUST
15	4-852-037-11	KNOB, IFC
16	4-857-642-00	HOLDER, PC BOARD
17	4-857-653-11	HINGE, DUST COVER
18	4-857-661-11	EMBLEM, SONY
19	4-858-229-00	CAM, IFC
20	▲;4-858-234-00	LEVER, RETURN
21	▲;4-858-240-00	LEVER (M), CLUTCH
22	4-858-264-21	LABEL, CAUTION
23	4-861-933-00	SLEEVE (D)
24	4-868-052-00	GEAR, CENTER
25	4-870-539-00	PLATE, GROUND
26	4-870-785-00	SPRING, TENSION (MAIN LEVER)
27	▲;4-874-209-00	REINFORCEMENT
28	4-874-250-00	SPRING
29	▲;4-874-273-00	PLATE, GROUND, PANEL
30	4-875-207-00	SLEEVE
31	▲;4-875-214-11	LEVER, SWITCH
32	4-876-304-00	CUSHION, DUST COVER
33	▲;4-876-389-00	STATOR
34	4-877-801-00	(US)...LABEL, SPECIFICATION
34	4-877-802-00	(AEP)...LABEL, SPECIFICATION
34	4-877-804-00	(E)...LABEL, SPECIFICATION
35	4-877-809-01	FRAME
36	4-877-810-00	WEIGHT
37	4-877-812-00	PIPE, ARM
38	4-877-814-00	BEARING, PIVOT
39	4-877-816-00	SHAFT, PIVOT
40	▲;4-877-821-00	PLATE, FIXED, LIFTER
41	▲;4-877-822-00	GUIDE, LIFTER
42	4-877-824-00	CAM, LIFTER
43	▲;4-877-826-00	LEVER, REJECT
44	4-877-829-00	SPRING, COMPRESSION
45	4-877-830-00	JOINT, PIPE

GENERAL SECTION

No.	Part No.	Description
46	4-877-831-00	KNOB, REJECT
47	4-877-832-00	KNOB, SPEED SELECTION
48	.....	
49	4-877-834-01	PANEL (A), CONTROL
50	9-911-838-XX	SHEET
51	▲;4-877-838-00	PLATE, SHIELD
52	▲;4-877-839-00	PLATE (B), SHIELD
53	▲;4-877-840-00	LEVER, REJECT SUPPORT
54	▲;4-877-841-00	BRACKET, HEAD
55	▲;4-877-843-00	PLATE, BOTTOM
56	4-877-850-00	SPRING
57	4-877-851-00	REST, ARM
58	4-890-173-00	WASHER
59	7-621-258-25	SCREW +P 2.3X20
60	7-621-259-85	SCREW +P 2.6X14
61	7-621-736-09	SET-SCT, HEX. 2.6X5
62	7-623-105-16	W 2, MIDDLE
63	7-623-208-22	SW 3, TYPE 2
64	7-623-420-07	LW 2, TYPE B
65	7-623-505-01	LUG, 2
66	7-624-133-64	STOP RING 10, TYPE-CE
67	7-671-114-01	BALL 4, STEEL
68	7-682-150-01	(US)...SCREW +P 3X14
68	7-682-122-27	(AEP,E)...SCREW +P 3X15
69	7-682-553-09	SCREW +B 3X20
70	7-685-104-64	SCREW +P 2X6 TYPE4
71	7-685-105-21	SCREW +P 2X8 TYPE2 SLIT
72	7-685-651-21	SCREW +BVTP 3X20 TYPE1
73	7-685-661-71	SCREW +BVTP 4X12 TYPE2 SLIT
74	7-685-666-21	SCREW +BVTP 4X30 TYPE2 SLIT
75	7-685-870-09	SCREW +BVTT 3X5 (S)
76	7-685-872-01	SCREW +BVTT 3X8 (S)
77	.....	
78	9-911-815-01	CUSHION
79	A-4608-195-A	ROTOR ASSY
80	A-4608-196-A	STATOR ASSY
81	A-4609-010-A	GEAR ASSY, DRIVING
82	▲;A-4619-174-A	MOUNTED PCB, AMPLIFIER, SERVO
83	X-4857-048-0	INSULATOR ASSY
84	X-4877-802-0	TURNTABLE ASSY
85	X-4877-803-0	PLATE ASSY, UP AND DOWN
86	X-4877-804-0	COVER ASSY, DUST
87	▲;X-4877-805-2	LEVER ASSY, MAIN
88	X-4877-806-0	JOINT ASSY, CENTER
89	X-4877-807-0	INSULATOR ASSY
90	X-4877-808-1	ROD ASSY PUSH

NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked "▲" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (0-000-000-XX or 0-000-000-X) may be different from those used in the set.

CAPACITORS:

All capacitors are in uF. Common capacitors are omitted. Refer to the following lists for their part numbers.  
MF:uF, PF:uF.

RESISTORS

All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.

F: nonflammable

COILS

MMH: mH, UH: uH

The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ▲ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



ELECTROLYTIC CAPACITORS

Table of Electrolytic Capacitors with columns for CAP. (uF) and RATING (6.3 VOLT, 10 VOLT, 16 VOLT, 25 VOLT, 35 VOLT, 50 VOLT). Includes part numbers and a note to use the high voltage rated one.

Table of Electrolytic Capacitors with columns for CAP. (uF) and RATING (100 VOLT, 160 VOLT, 250 VOLT, 350 VOLT). Includes part numbers.

CERAMIC CAPACITORS

Table of Ceramic Capacitors with columns for CAP. (pF) and RATING (50 VOLT). Includes part numbers.

0.001uF = 1,000pF

CERAMIC (SEMICONDUCTOR) CAPACITORS

Table of Ceramic (Semiconductor) Capacitors with columns for CAP. (uF) and RATING (25 VOLT, 50 VOLT). Includes part numbers.

MYLAR CAPACITORS

Table of MYLAR Capacitors with columns for CAP. (uF) and RATING (50 VOLT, 100 VOLT, 200 VOLT). Includes part numbers.

TANTALUM CAPACITORS

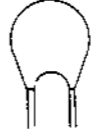


Table of Tantalum Capacitors with columns for CAP. (uF) and RATING (3.15 VOLT, 6.3 VOLT, 10 VOLT, 16 VOLT, 20 VOLT, 25 VOLT, 35 VOLT). Includes part numbers.

TANTALUM CAPACITORS

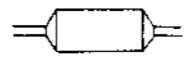
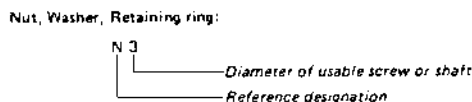
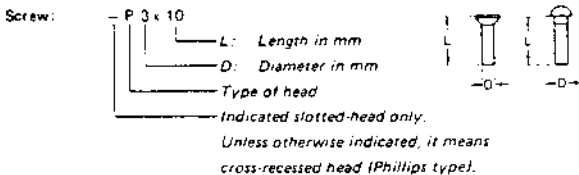


Table of Tantalum Capacitors with columns for CAP. (uF) and RATING (3 VOLT, 6.3 VOLT, 10 VOLT, 16 VOLT, 20 VOLT, 35 VOLT). Includes part numbers.

1/4 WATT CARBON RESISTORS

Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.
1.0	1-246-401-00	10	1-246-125-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00	1.0M	1-246-545-00
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00	1.1M	1-210-814-00
1.2	1-246-403-00	12	1-246-427-00	120	1-246-451-00	1.2k	1-246-475-00	12k	1-246-499-00	120k	1-246-523-00	1.2M	1-210-815-00
1.3	1-246-404-00	13	1-246-428-00	130	1-246-452-00	1.3k	1-246-476-00	13k	1-246-500-00	130k	1-246-524-00	1.3M	1-210-816-00
1.5	1-246-405-00	15	1-246-429-00	150	1-246-453-00	1.5k	1-246-477-00	15k	1-246-501-00	150k	1-246-525-00	1.5M	1-210-817-00
1.6	1-246-406-00	16	1-246-430-00	160	1-246-454-00	1.6k	1-246-478-00	16k	1-246-502-00	160k	1-246-526-00	1.6M	1-210-818-00
1.8	1-246-407-00	18	1-246-431-00	180	1-246-455-00	1.8k	1-246-479-00	18k	1-246-503-00	180k	1-246-527-00	1.8M	1-210-819-00
2.0	1-246-408-00	20	1-246-432-00	200	1-246-456-00	2.0k	1-246-480-00	20k	1-246-504-00	200k	1-246-528-00	2.0M	1-210-820-00
2.2	1-246-409-00	22	1-246-433-00	220	1-246-457-00	2.2k	1-246-481-00	22k	1-246-505-00	220k	1-246-529-00	2.2M	1-210-821-00
2.4	1-246-410-00	24	1-246-434-00	240	1-246-458-00	2.4k	1-246-482-00	24k	1-246-506-00	240k	1-246-530-00	2.4M	1-244-754-00
2.7	1-246-411-00	27	1-246-435-00	270	1-246-459-00	2.7k	1-246-483-00	27k	1-246-507-00	270k	1-246-531-00	2.7M	1-244-755-00
3.0	1-246-412-00	30	1-246-436-00	300	1-246-460-00	3.0k	1-246-484-00	30k	1-246-508-00	300k	1-246-532-00	3.0M	1-244-756-00
3.3	1-246-413-00	33	1-246-437-00	330	1-246-461-00	3.3k	1-246-485-00	33k	1-246-509-00	330k	1-246-533-00	3.3M	1-244-757-00
3.6	1-246-414-00	36	1-246-438-00	360	1-246-462-00	3.6k	1-246-486-00	36k	1-246-510-00	360k	1-246-534-00	3.6M	1-244-758-00
3.9	1-246-415-00	39	1-246-439-00	390	1-246-463-00	3.9k	1-246-487-00	39k	1-246-511-00	390k	1-246-535-00	3.9M	1-244-759-00
4.3	1-246-416-00	43	1-246-440-00	430	1-246-464-00	4.3k	1-246-488-00	43k	1-246-512-00	430k	1-246-536-00	4.3M	1-244-760-00
4.7	1-246-417-00	47	1-246-441-00	470	1-246-465-00	4.7k	1-246-489-00	47k	1-246-513-00	470k	1-246-537-00	4.7M	1-244-761-00
5.1	1-246-418-00	51	1-246-442-00	510	1-246-466-00	5.1k	1-246-490-00	51k	1-246-514-00	510k	1-246-538-00	5.1M	1-244-762-00
5.6	1-246-419-00	56	1-246-443-00	560	1-246-467-00	5.6k	1-246-491-00	56k	1-246-515-00	560k	1-246-539-00		
6.2	1-246-420-00	62	1-246-444-00	620	1-246-468-00	6.2k	1-246-492-00	62k	1-246-516-00	620k	1-246-540-00		
6.8	1-246-421-00	68	1-246-445-00	680	1-246-469-00	6.8k	1-246-493-00	68k	1-246-517-00	680k	1-246-541-00		
7.5	1-246-422-00	75	1-246-446-00	750	1-246-470-00	7.5k	1-246-494-00	75k	1-246-518-00	750k	1-246-542-00		
8.2	1-246-423-00	82	1-246-447-00	820	1-246-471-00	8.2k	1-246-495-00	82k	1-246-519-00	820k	1-246-543-00		
9.1	1-246-424-00	91	1-246-448-00	910	1-246-472-00	9.1k	1-246-496-00	91k	1-246-520-00	910k	1-246-544-00		

HARDWARE NOMENCLATURE



Reference Designation	Shape	Description	Remarks
<b>SCREWS</b>			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-filister-head screw	
RF		filister-head screw	
BV		braszer-head screw	

Reference Designation	Shape	Description	Remarks
<b>SELF-TAPPING SCREWS</b>			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self-tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread rolling screw with washer face	binding-head (B) screw and flat washer for replacement
<b>SET SCREWS</b>			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
<b>NUT</b>			
N		nut	
<b>WASHERS</b>			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
<b>RETAINING RINGS</b>			
E		retaining ring	
G		grid type retaining ring	