

# PS-LX520

## SERVICE MANUAL

US Model  
Canadian Model  
AEP Model  
E Model

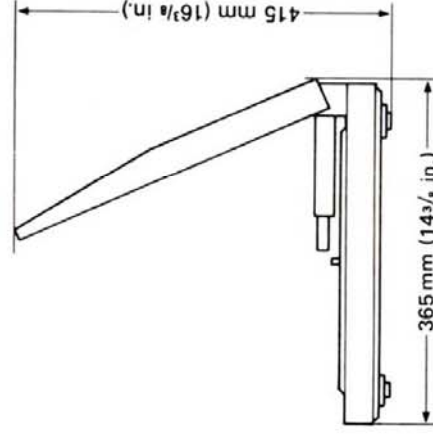


SILVER MODEL SHOWN

### SPECIFICATIONS

<b>Turntable</b>	
Platter	30 cm (12 in.), aluminum-alloy diecast
Motor	BSL (brushless and slotless) motor
Drive system	Direct drive
Control system	Quartz lock servo control system
Speed	33 $\frac{1}{3}$ rpm, 45 rpm
Wow and flutter	0.03% (WRMS)*, 0.035% (WRMS) $\pm 0.045\%$ (DIN)
Signal-to-noise ratio	75 dB (DIN-B)
Automatic system	Lead-in, return, reject, repeat, arm up/down, record size selection
Speed deviation	Within $\pm 0.003\%$
<b>Tonearm</b>	
Type	Linear tracking tonearm
Pivot-to-stylus length	75 mm (3 in.)
Tracking error	$\pm 0.1^\circ$
Usable cartridge	plug-in type, 6 g
<b>General</b>	
Power requirements	120 V ac, 60 Hz (US, Canadian model) 220 V ac, 50/60 Hz (AEP model) 110 - 220 V, 120 - 240 V ac, 50/60 Hz (E model)
Power consumption	10 W
Dimensions	Approx. 430 x 95 x 365 mm (w/h/d) (16 $\frac{7}{8}$ x 3 $\frac{3}{4}$ x 14 $\frac{3}{8}$ in.) including projecting parts and controls

With the dust cover opened.



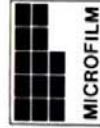
— Continued on page 2 —

ATTENTION AU COMPOSANT AYANT RAPPORT  
À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET UNE MARQUE  $\Delta$  SUR LES DIAGRAMMES SCHEMATIQUES 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.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK  $\Delta$  ON THE SCHEMATIC DIAGRAMS 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.



# STEREO TURNTABLE SYSTEM

# SONY®

**Weight**

Approx. 5 kg (11 lbs 0 oz), net  
 Approx. 6.1 kg (13 lbs 7 oz), in shipping  
 carton

**Cartridge VL-45G**  
 (supplied only with Canadian and partial US model)

Type: Moving magnet  
 Frequency Response: 20 Hz – 20 kHz  
 Channel Separation: 20 dB at 1 kHz  
 Output Voltage: 3.5 mV at 1 kHz, 5 cm/sec., 45°  
 Load Impedance: 50 k $\Omega$  – 100 k $\Omega$   
 Tracking Force: 1.0 – 1.5 g (1.25 g recommended)  
 Stylus: Sony ND-145G  
 Weight: 6 g

• 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 pick-up head

**Cartridge XL-250G** (supplied only with AEP, E model)

Type: Moving magnet  
 Frequency Response: 10 Hz – 20 kHz  
 Channel Separation: 23 dB at 1 kHz  
 Output Voltage: 5 mV at 1 kHz, 5 cm/sec., 45°  
 Load Impedance: 50 k $\Omega$  – 100 k $\Omega$   
 Tracking Force: 1.0 – 1.5 g (1.25 g recommended)  
 Stylus: Sony ND-250G  
 Weight: 6 g

## SAFETY CHECK-OUT (US Model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

### LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

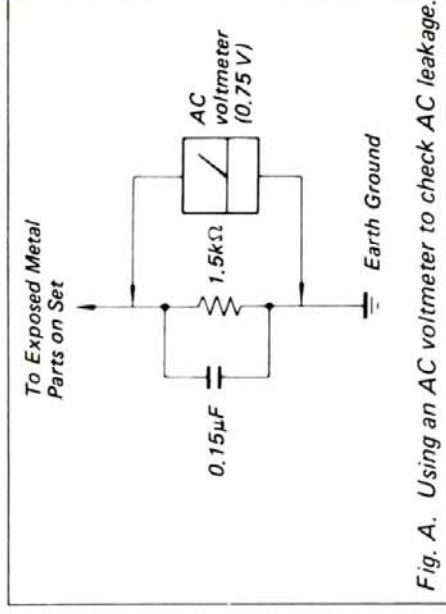
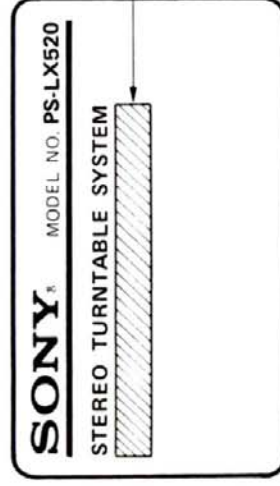


Fig. A. Using an AC voltmeter to check AC leakage.

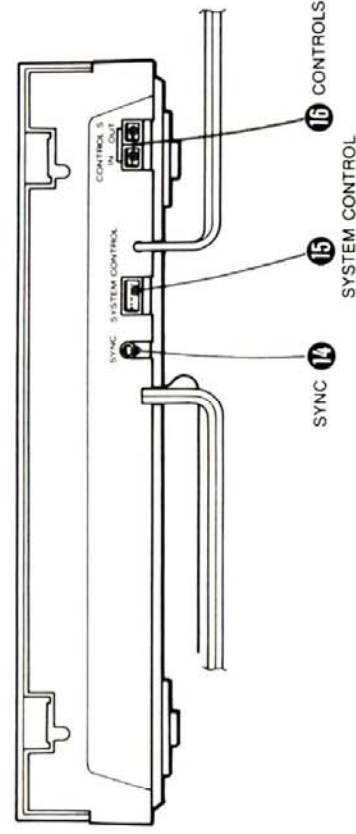
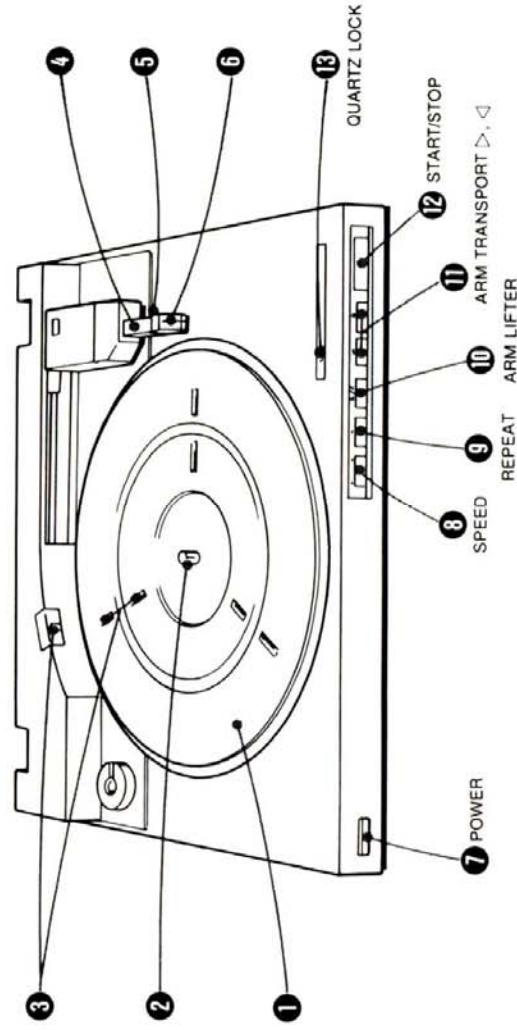
### MODEL IDENTIFICATION

— Specification Label —



US, Canadian : AC: 120 V ~ 60 Hz 10W  
 AEP : AC: 220 V ~ 50/60 Hz 10W  
 E : AC: 110 – 220 V, 220 – 240 V ~ 50/60 Hz 10W

## LOCATION AND FUNCTION OF CONTROLS



### Front panel

- 1 Rubber mat**
- 2 Center spindle**
- 3 Auto-record-size selection holes and lamp**
- 4 Tonearm**
- 5 Cartridge locking screw**
- 6 Cartridge**
- 7 POWER switch**
- 8 SPEED selector and indicators**  
Selects the record speed. When the POWER switch is turned on, the speed is always 33<sup>2</sup>/<sub>3</sub> rpm and the indicator on the right illuminates. When the selector is pressed, 45 rpm is selected and the indicator on the left illuminates.
- 9 REPEAT button and indicator**  
Press this button to repeat play. The indicator illuminates and repeat play continues until this button is pressed to stop it.
- 10 ARM LIFTER button**  
This button lifts and lowers the tonearm. When the tonearm is on the arm rest position, this button cannot operate.
- 11 ARM TRANSPORT buttons**  
Press to move the tonearm inwards or outwards.

### 12 START/STOP button

Press this button to start the record playing. To stop during play, press it again.

### 13 QUARTZ LOCK indicator

The indicator illuminates when the turntable rotation is locked to the nominal speed by the quartz lock control system. The indicator goes out when the turntable rotation is out of the nominal speed.

### Rear panel

#### 14 SYNC connector

Connect a Sony cassette deck equipped with a flat 3-pin synchro remote control connector for synchronized play function.

#### 15 SYSTEM CONTROL connector

Connect to the PHONO connector of the RM-44 system remote controller (optional) for remote control operation.

When the RM-44 is connected to this connector, do not connect audio equipment to the CONTROL S connectors. This will cause malfunction of the remote control system.

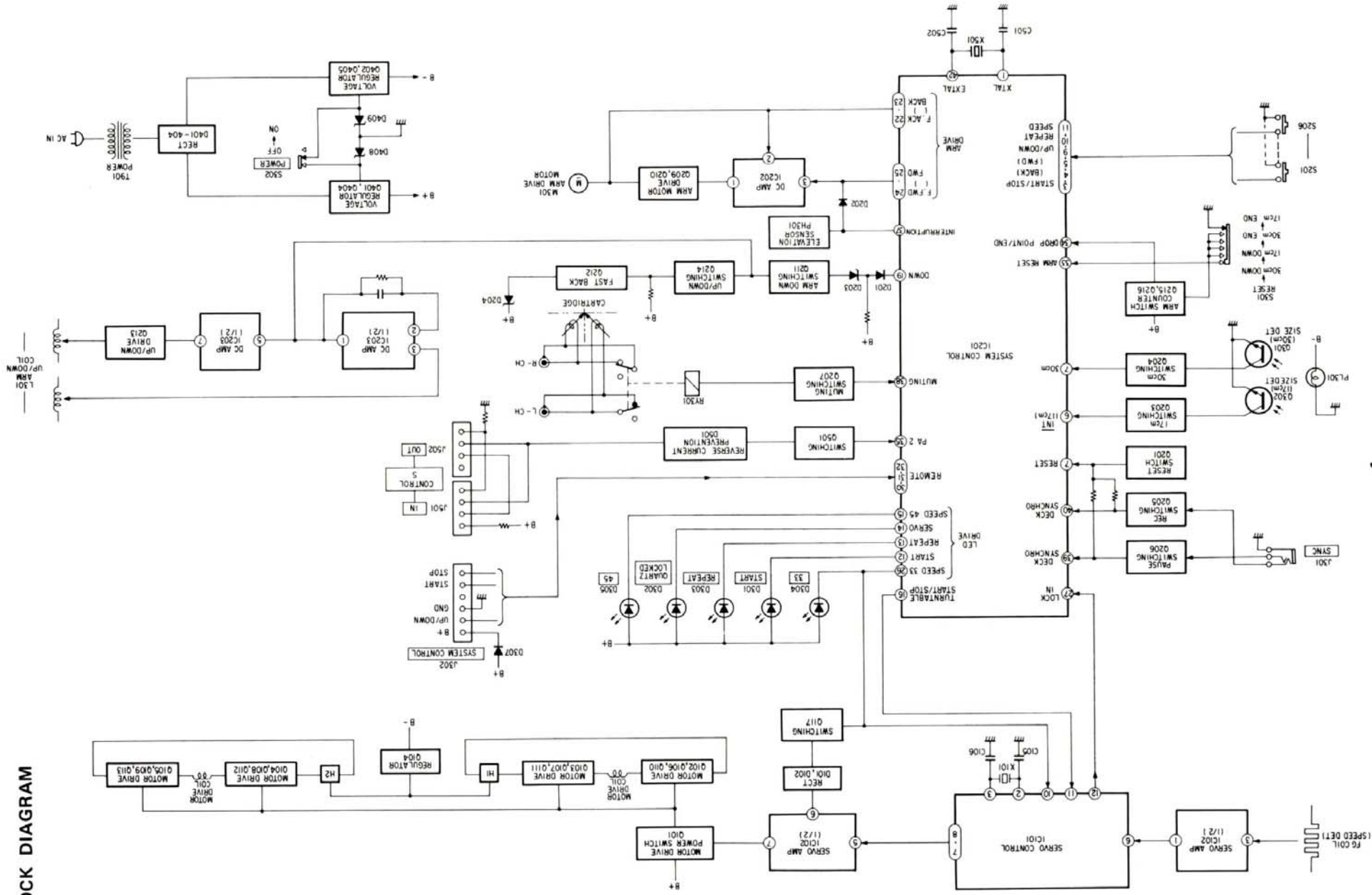
#### 16 CONTROL S connectors (4-pin)

**OUT:** Connect to the CONTROL S IN or REMOTE IN connector of other Sony audio equipments with the supplied flat 4-pin remote control cord for remote control of the total audio system.

**IN:** Connect to the CONTROL S OUT or REMOTE OUT connector of an optional Sony system control tuner or receiver for remote control of the total audio system.

# SECTION 1 OUTLINE

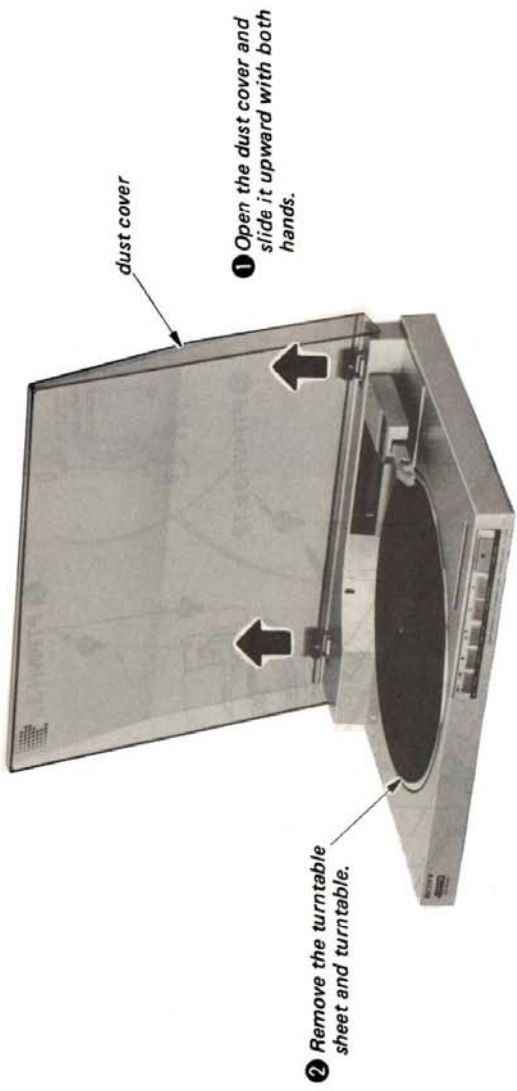
1-1. BLOCK DIAGRAM



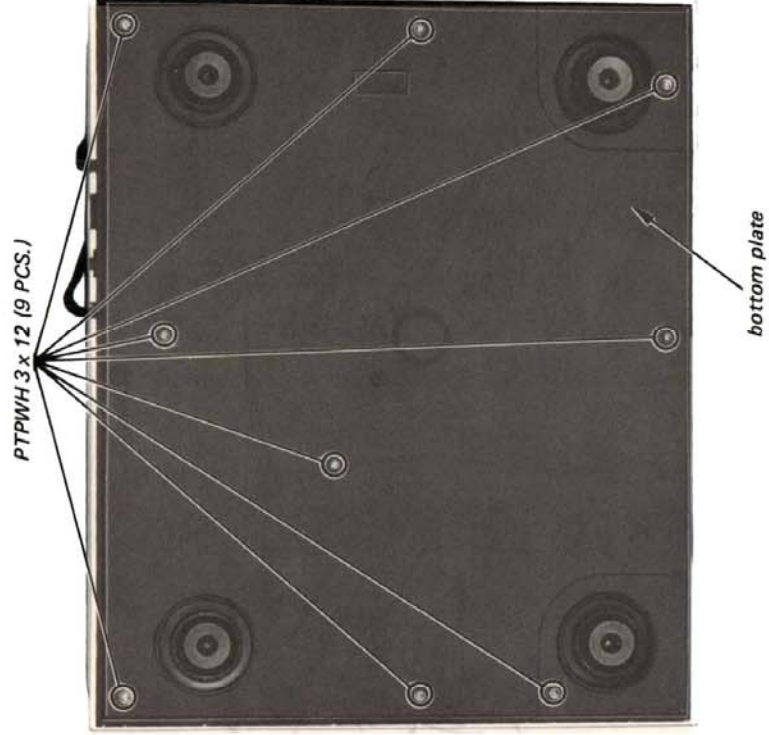
## SECTION 2 DISASSEMBLY

2-1. REMOVAL **Note:** Follow the disassembly procedure in the numerical order given.

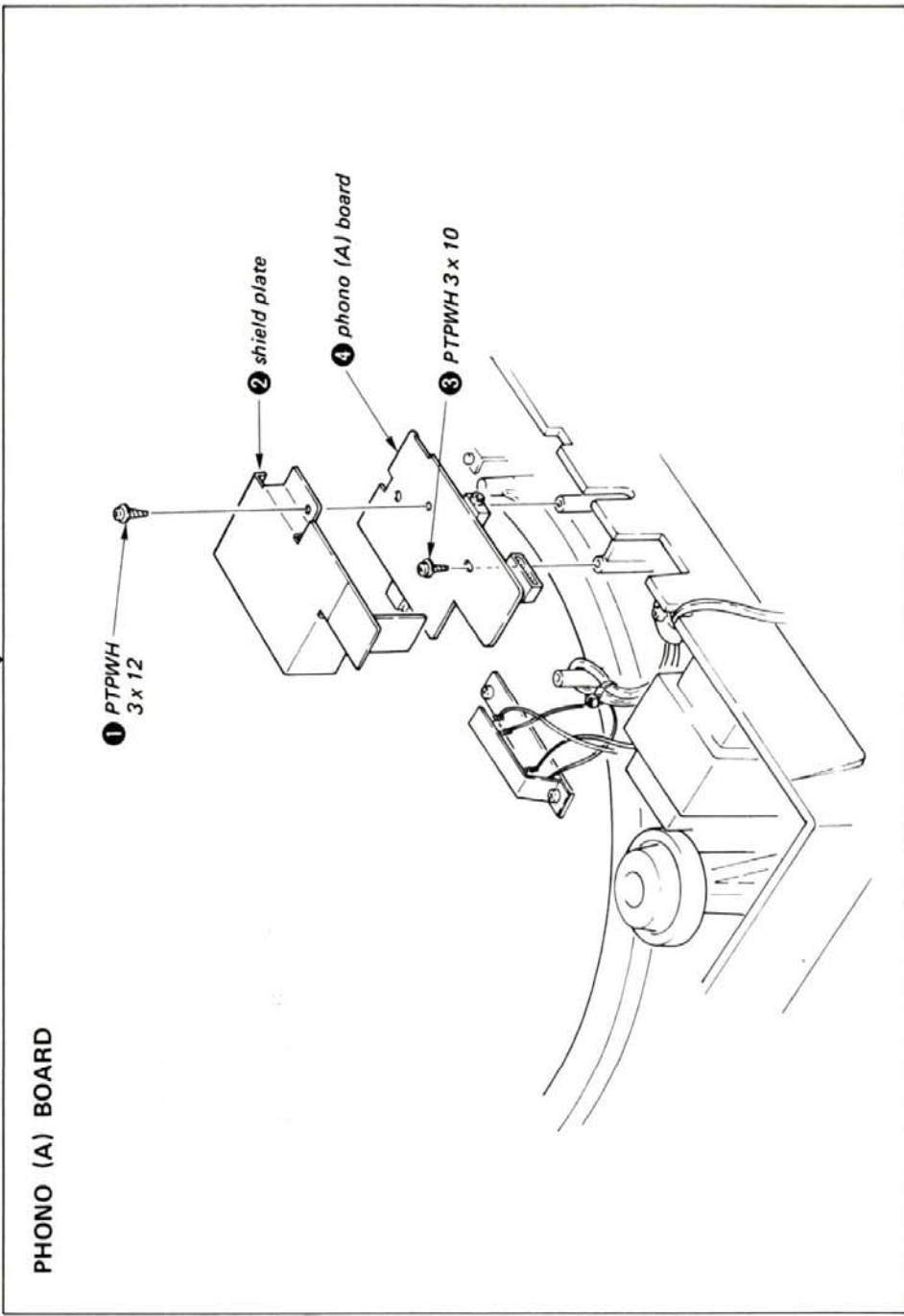
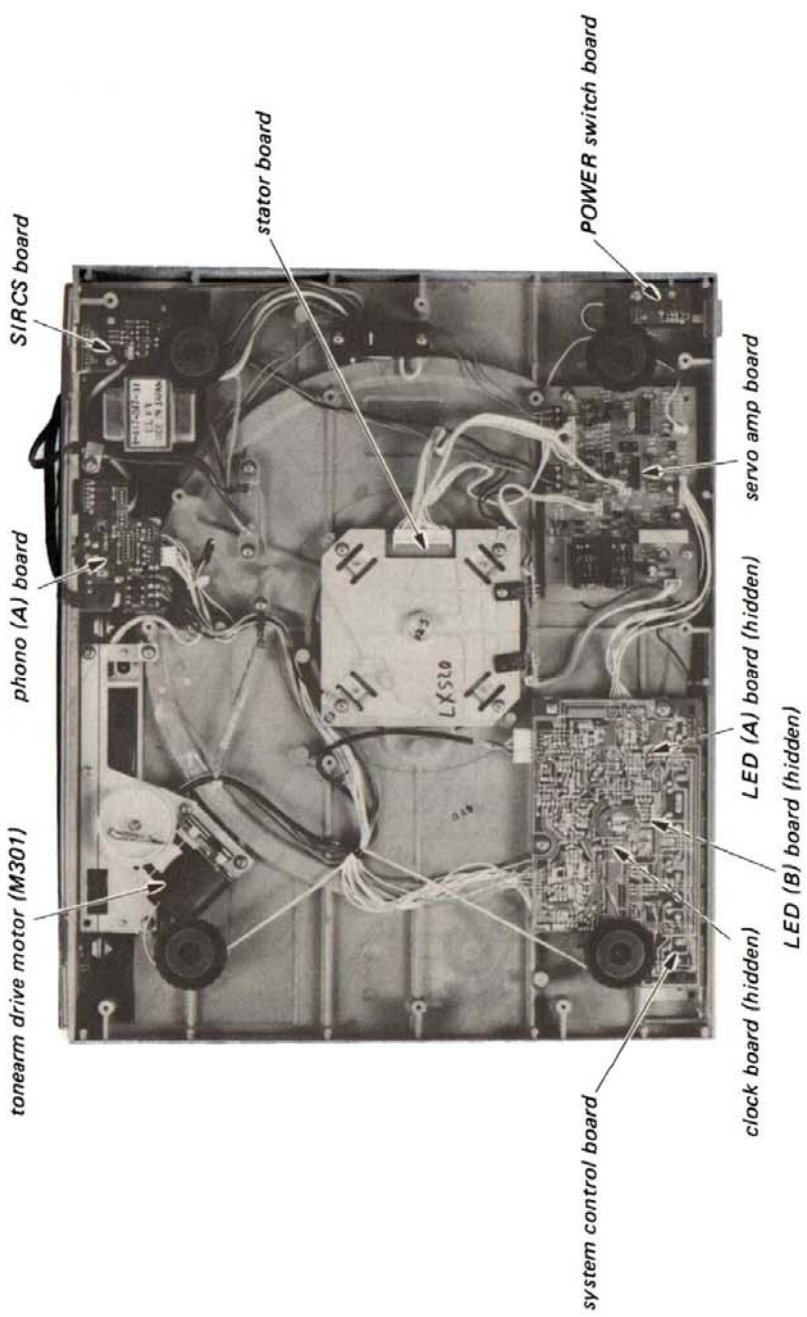
### DUST COVER/TURNTABLE



### BOTTOM PLATE

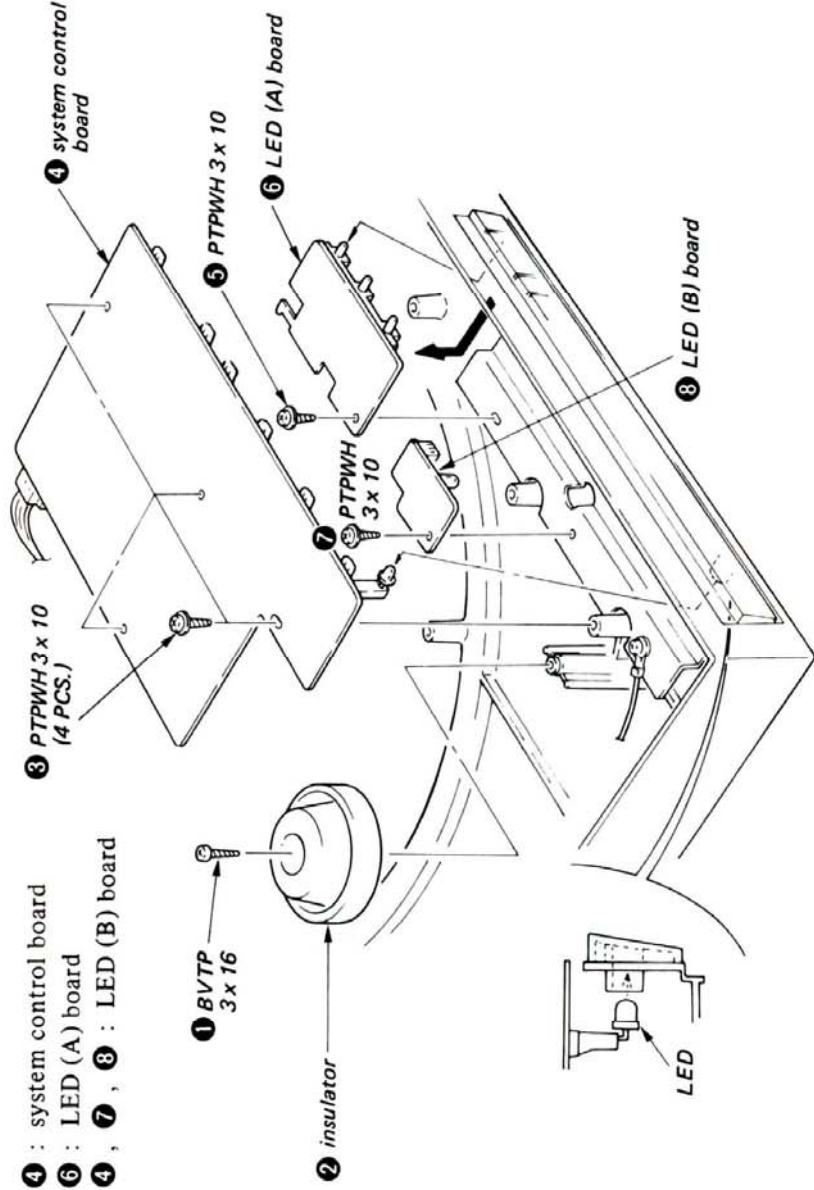


— With bottom plate removed —

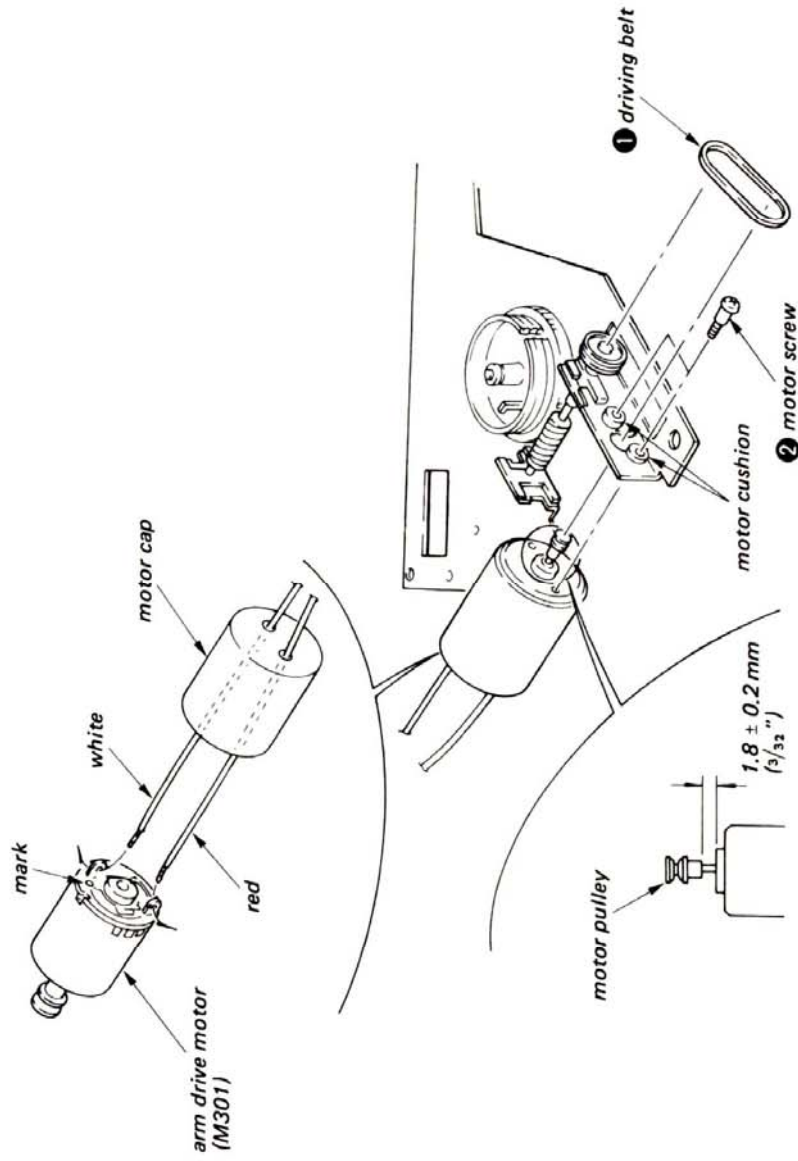


### SYSTEM CONTROL/LED (A), (B) BOARDS

- ① - ④ : system control board
- ① - ⑥ : LED (A) board
- ① - ④, ⑦, ⑧ : LED (B) board

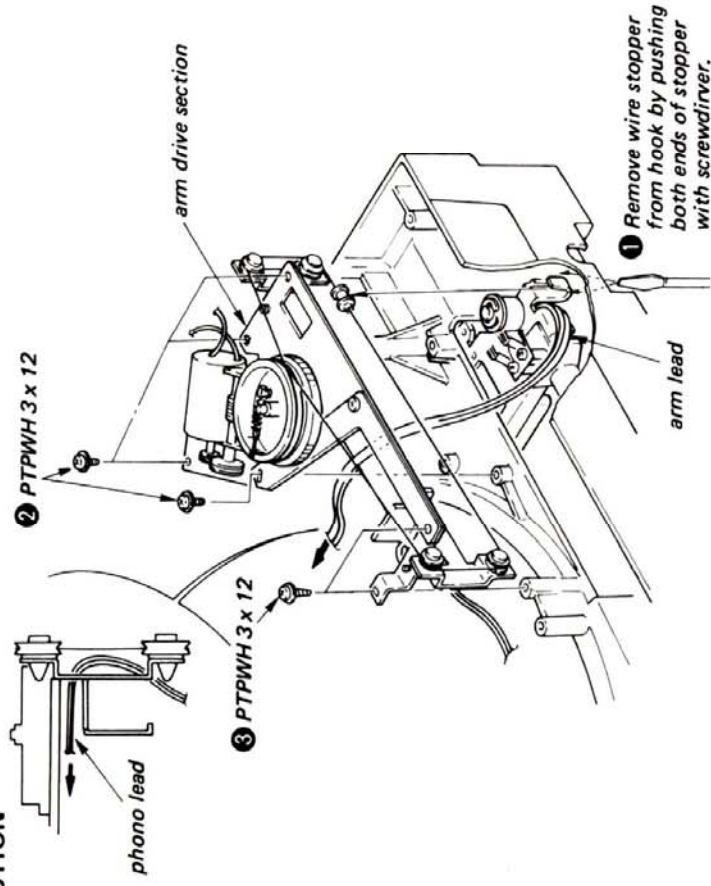


### TONEARM DRIVE MOTOR (M301)



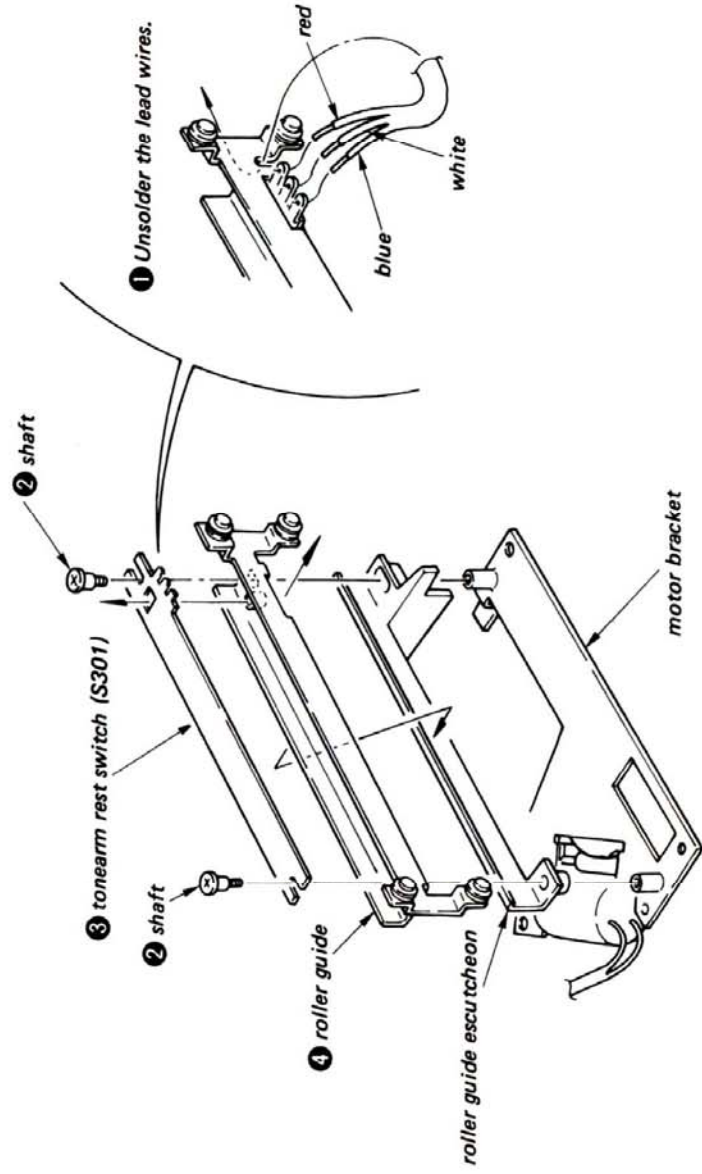
Remove the bottom plate.  
(See page 5.)

### TONEARM DRIVE SECTION



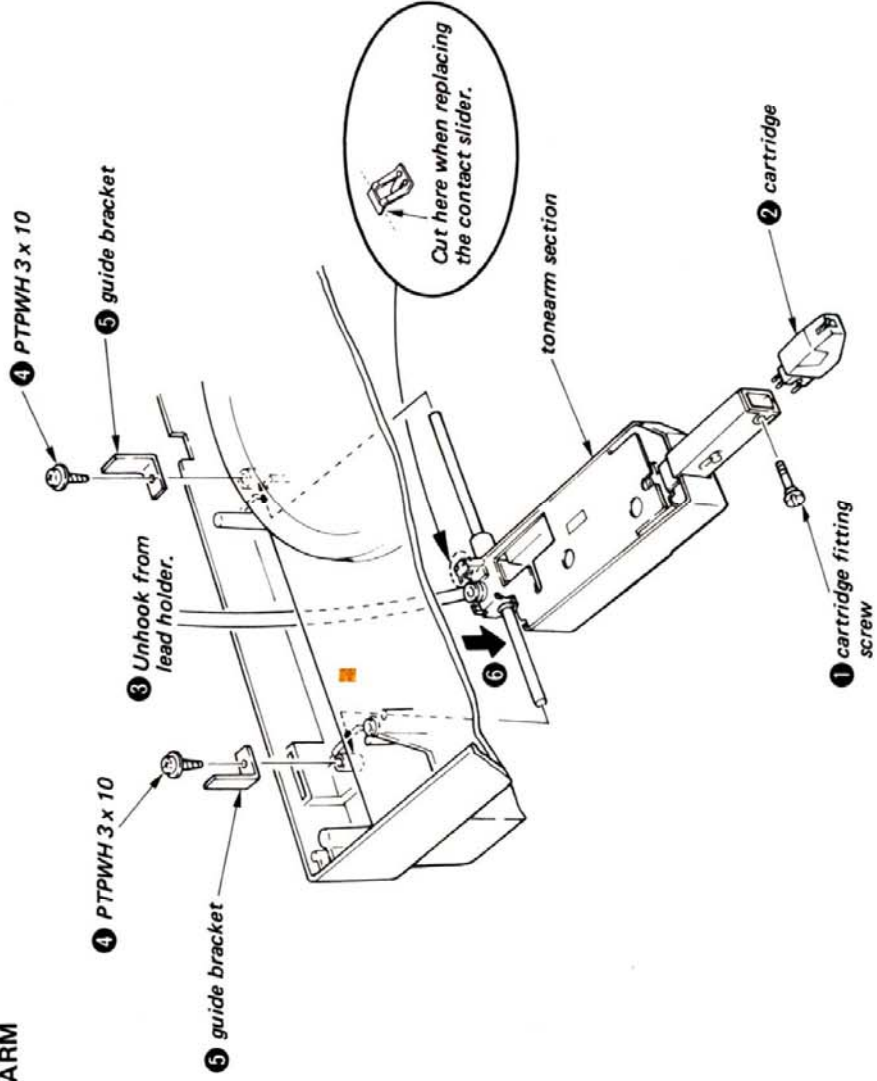
### TONEARM DRIVE CORD STRINGING (See page 12.)

### TONEARM REST SWITCH (S301)/ROLLER GUIDE

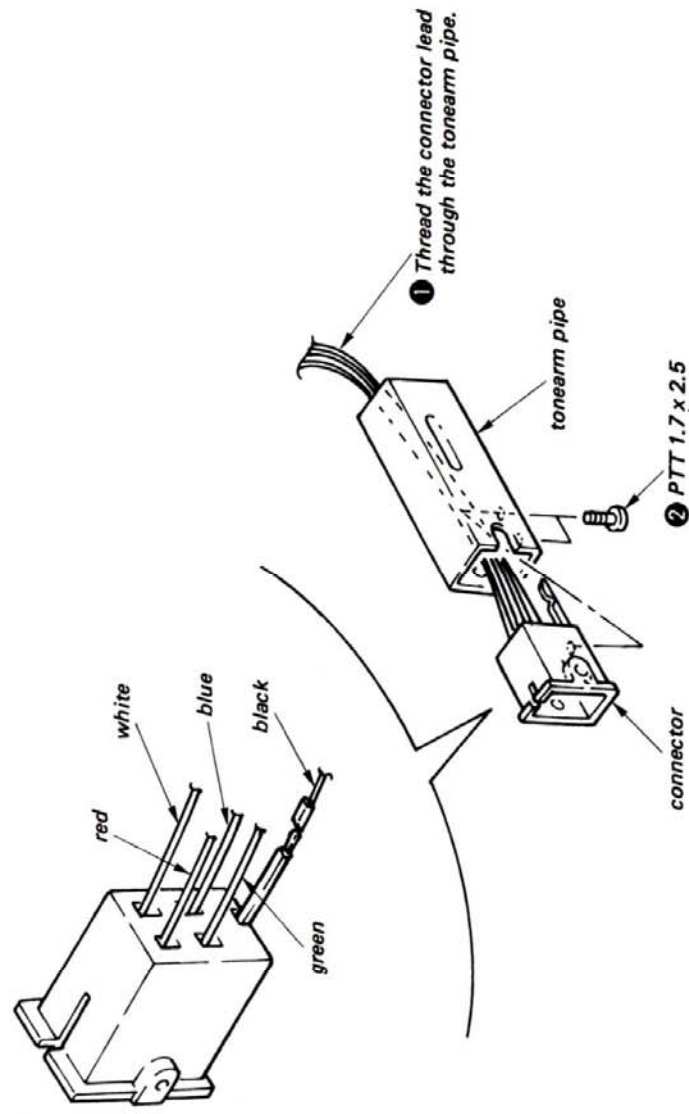




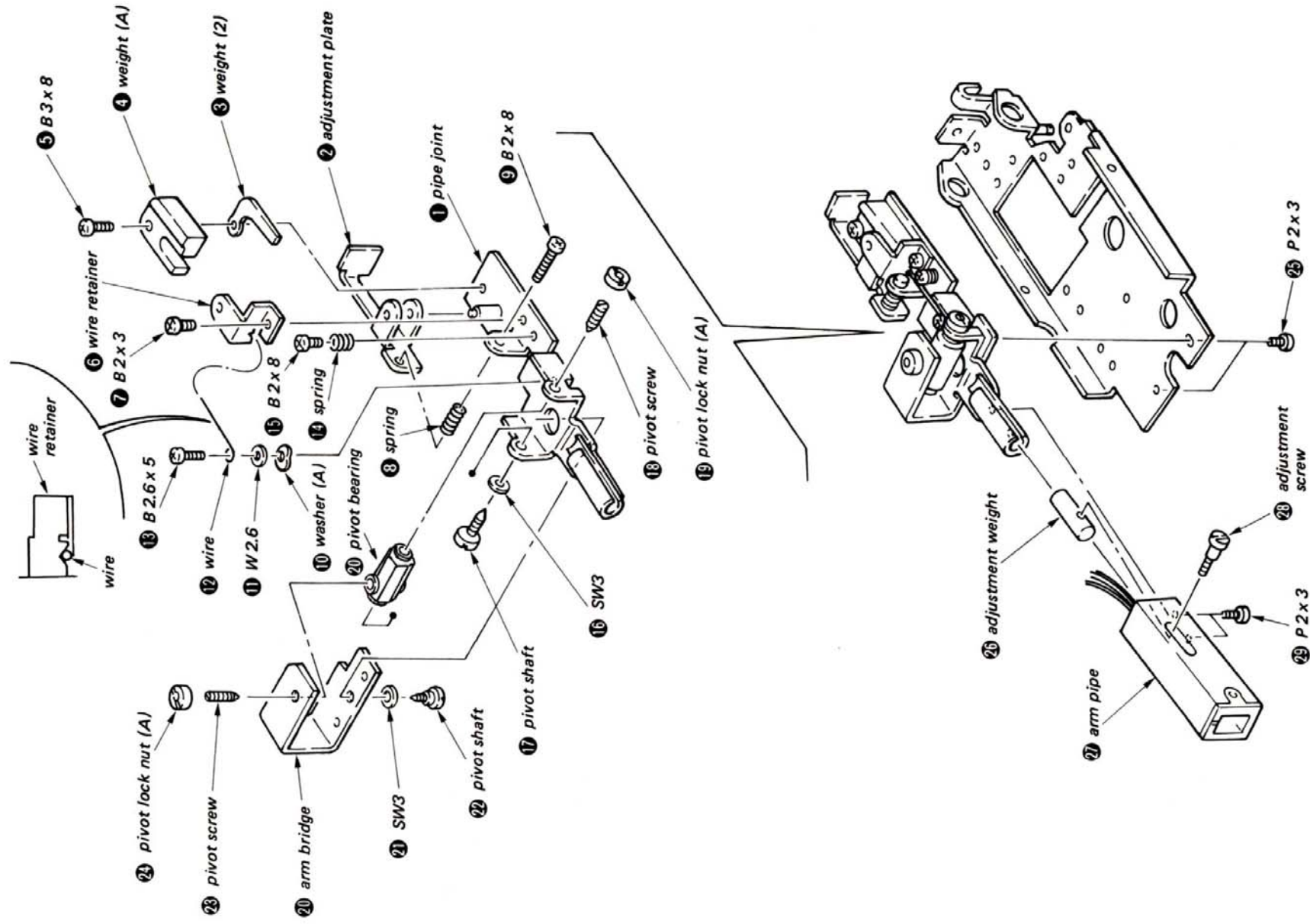
## TONEARM



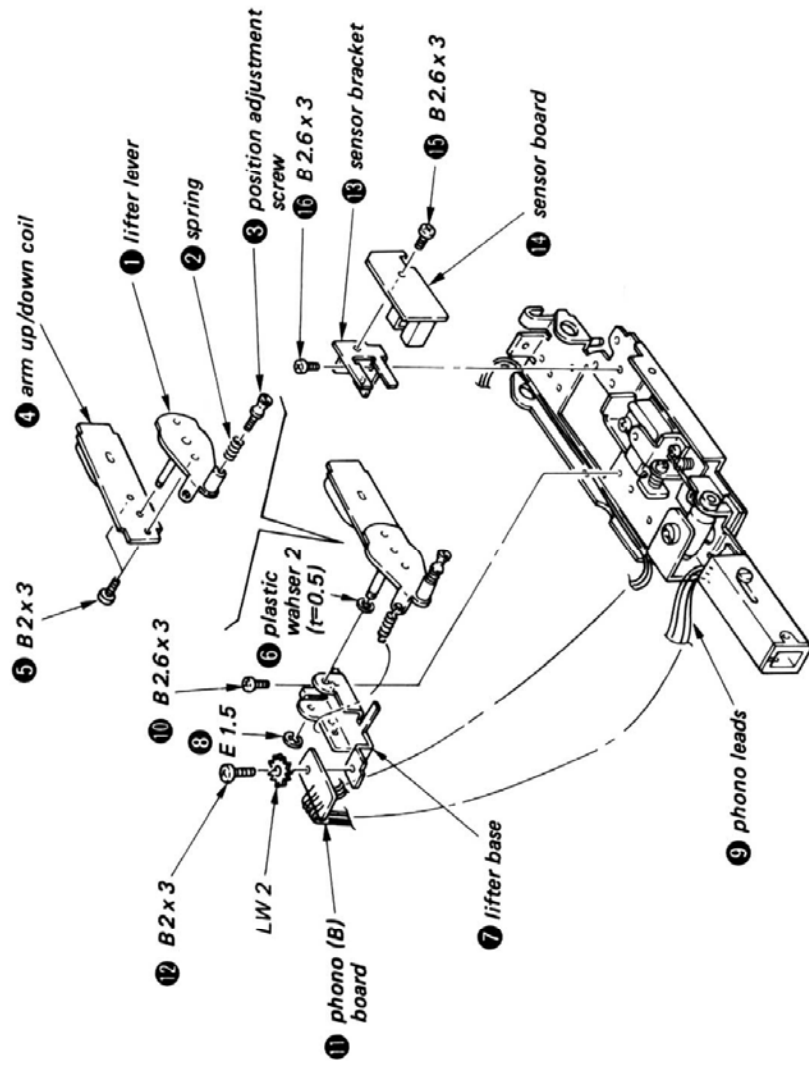
## 2.2. TONEARM ASSEMBLING TONEARM ASSEMBLING (1)



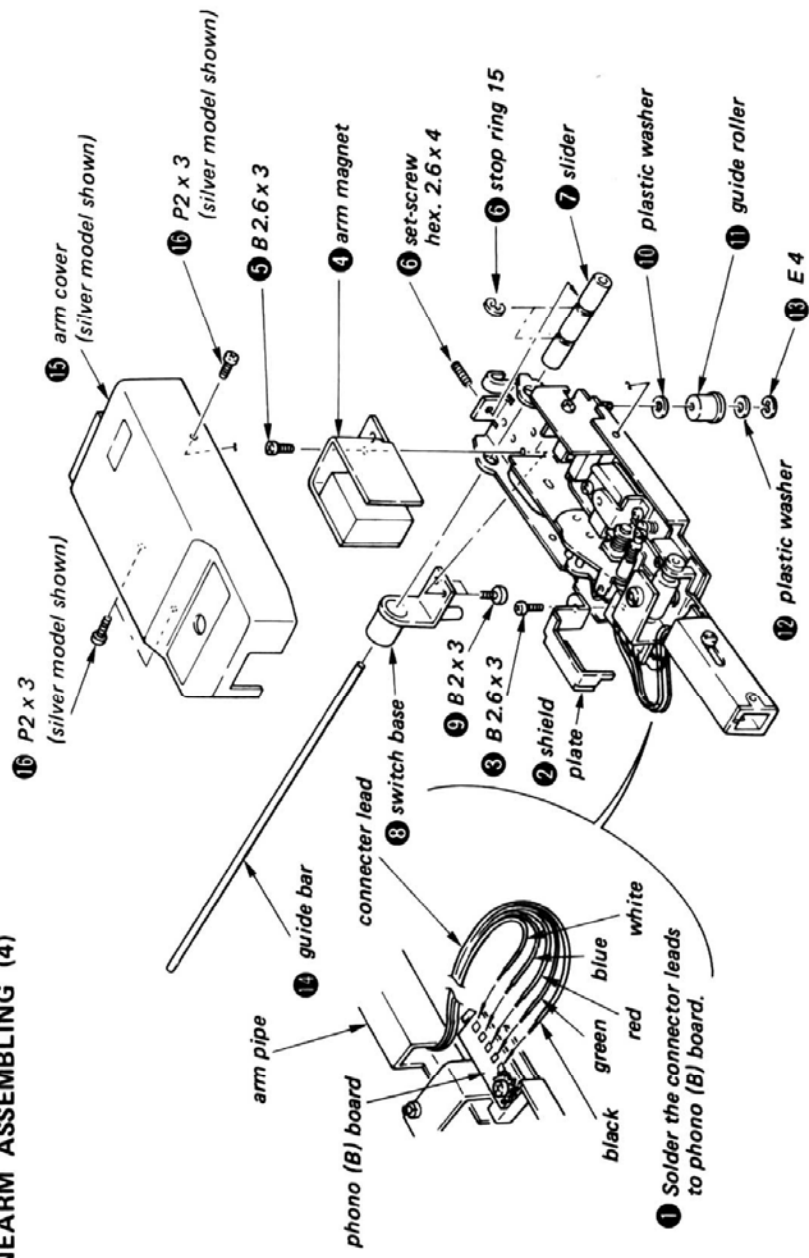
TONEARM ASSEMBLING (2)

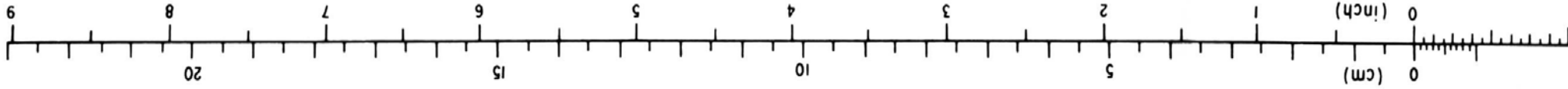


### TONEARM ASSEMBLING (3)



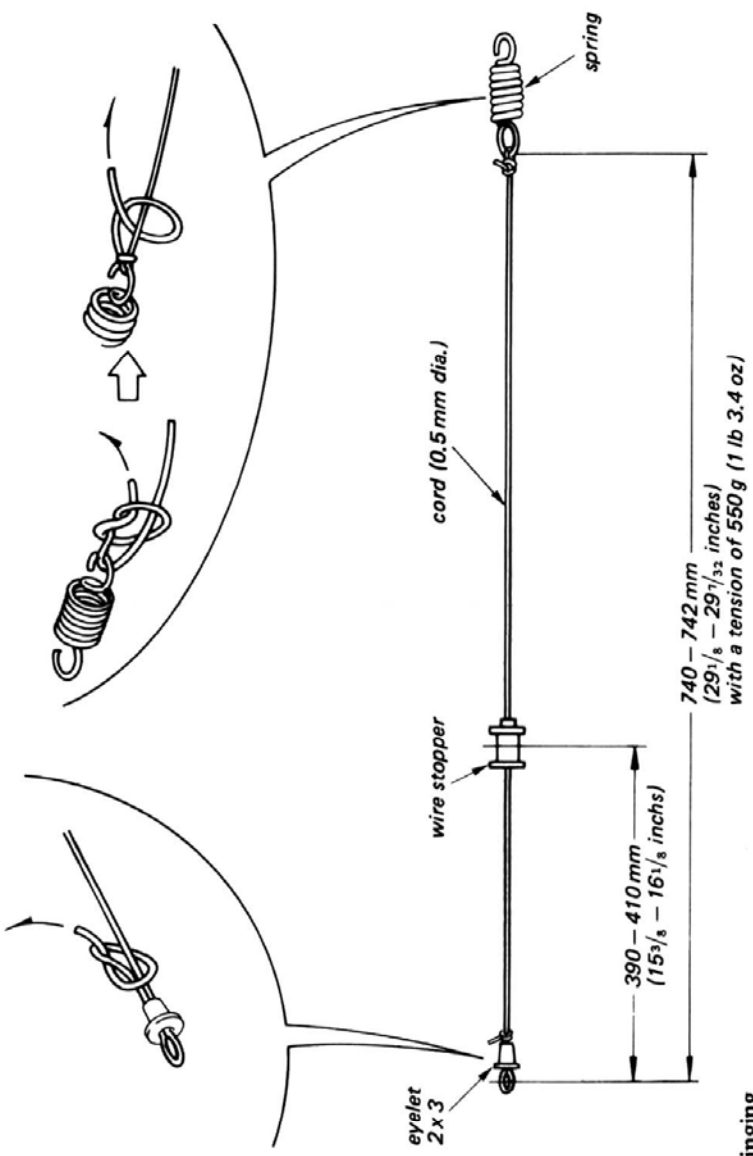
### TONEARM ASSEMBLING (4)



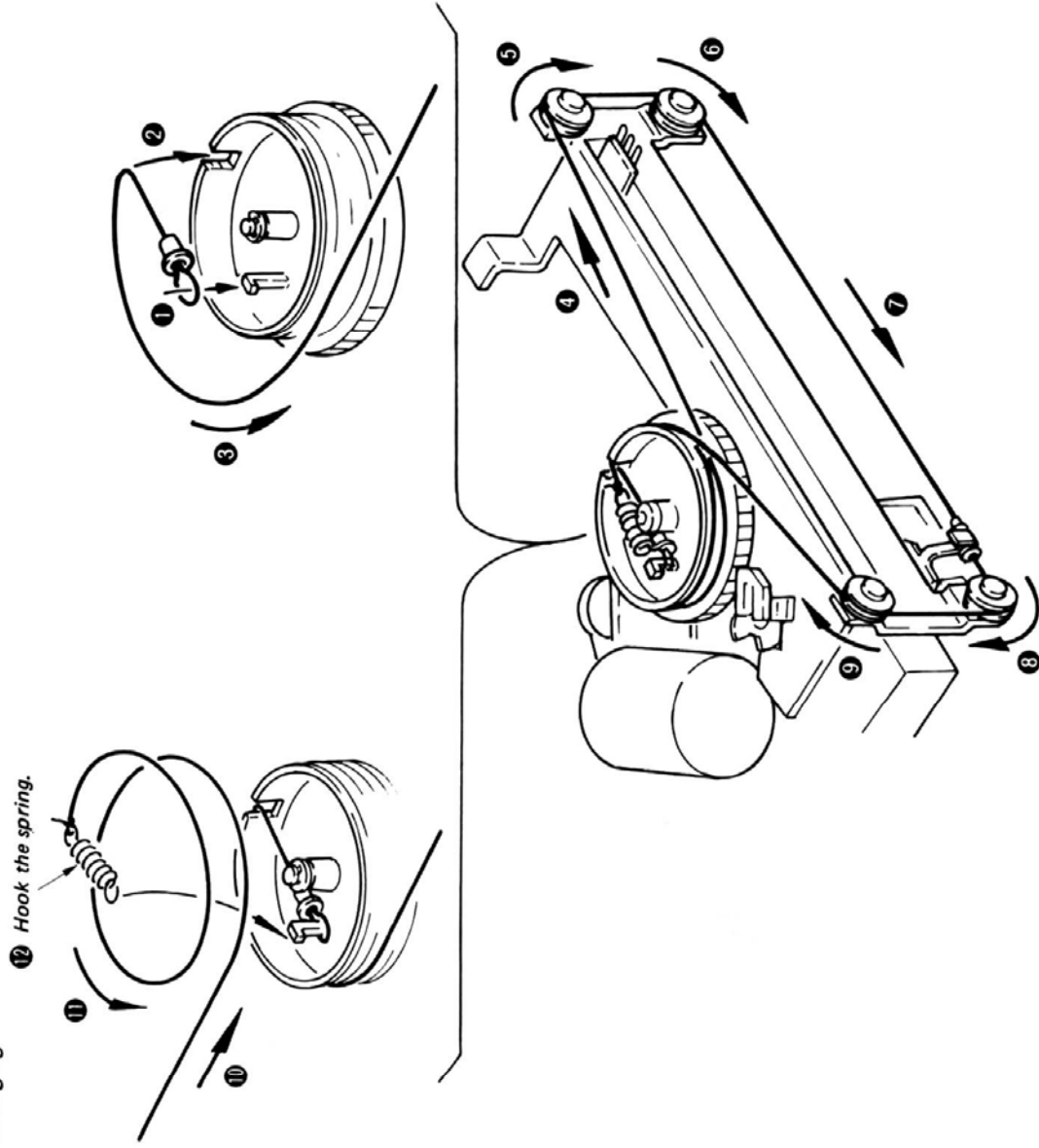


### 2-3. TONEARM DRIVE CORD STRINGING

#### (1) Preparation



#### (2) Stringing

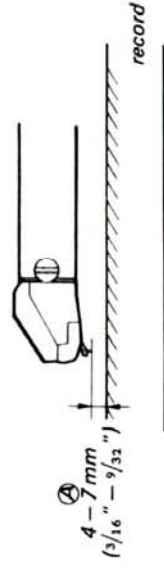


## SECTION 3 ADJUSTMENTS

### 3-1. MECHANICAL ADJUSTMENTS

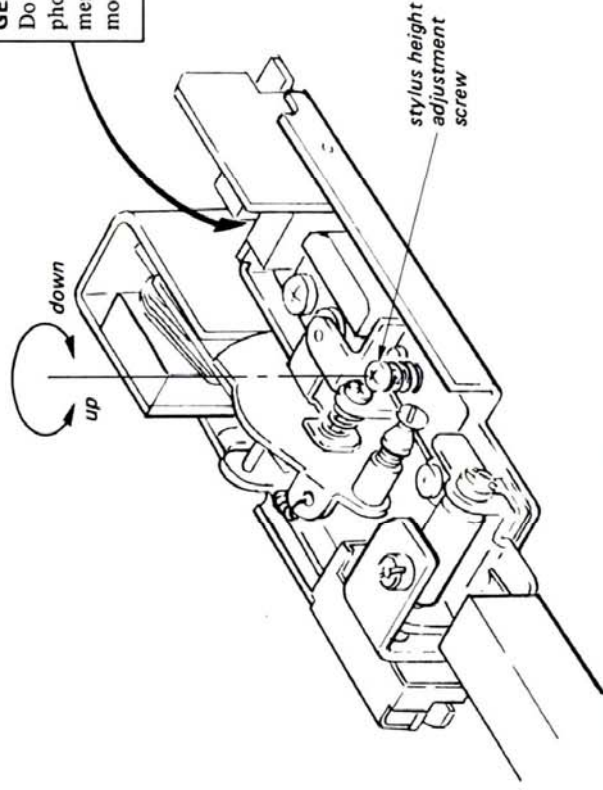
#### Stylus Height Adjustment

1. Put a record.
2. Press ARM TRANSPORT button (◀) and move the arm outside the record.
3. Make sure that clearance (A) is 4 - 7 mm ( $3/16$  -  $9/32$  inches). If necessary, adjust the stylus height adjustment screw.



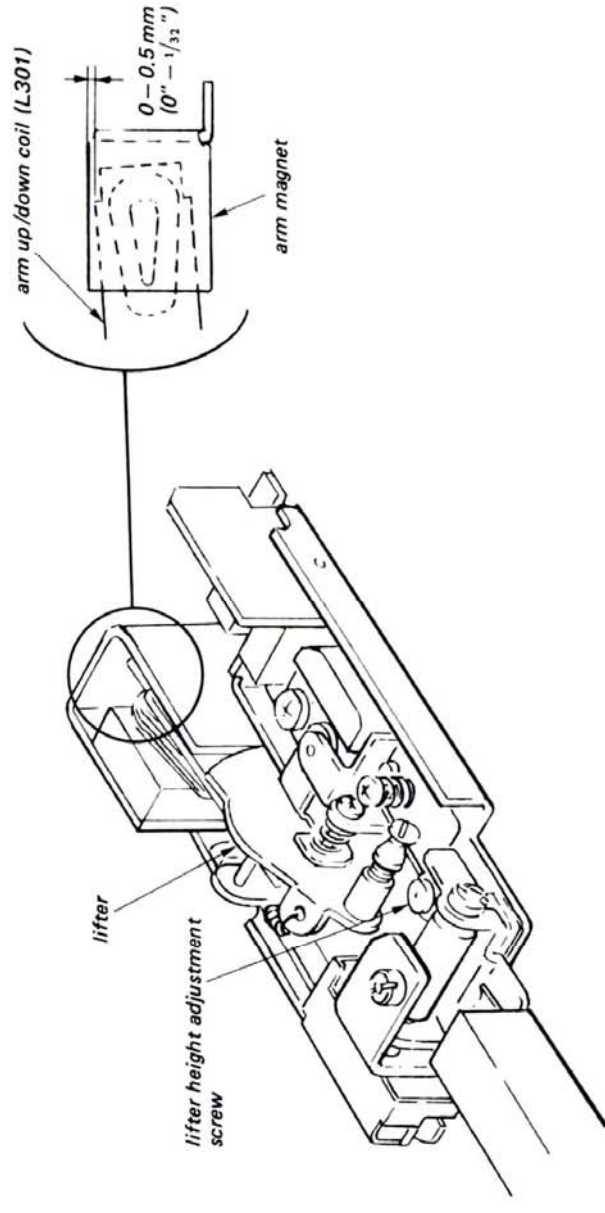
#### GENERAL NOTE:

Do not let a strong light get in the groove of photo interruptor during mechanical adjustment. Otherwise, misoperation of stoppage or moving may occur to the tonearm base.



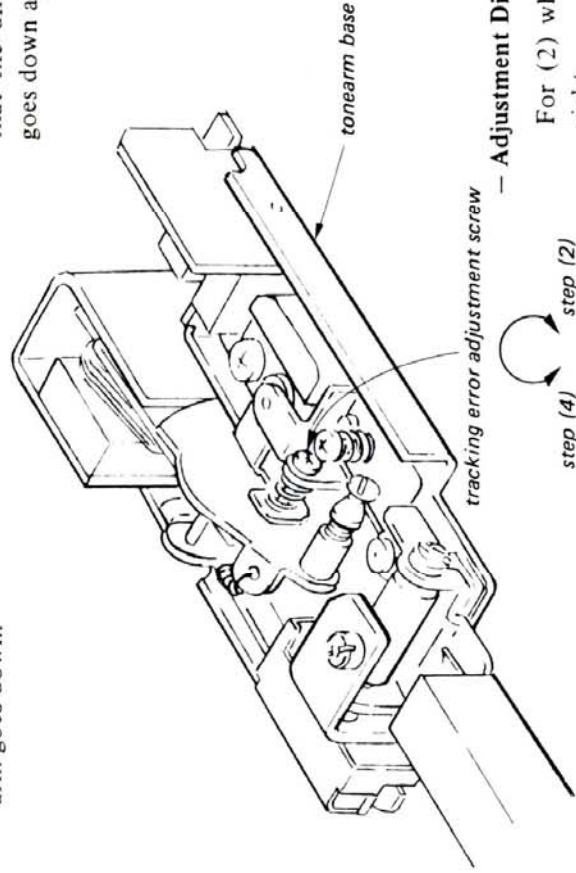
#### Lifter Height Adjustment

Adjust the lifter height adjustment screw so that the arm up/down coil position is 0 - 0.5 mm ( $0$ " -  $1/32$ " ) as shown below.



### Tracking Error Adjustment

- (1) Place a test record (YFSC-16) on the turntable and press the START/STOP button for lead-in.
- (2) Adjust with the adjustment screw so that the tonearm base does not move just after the tonearm goes down.
- (3) After completing step (2), cause the tonearm to lead in, and then go UP after the tonearm base moves.
- (4) Check the count at this time, and then check that the difference in count when the tonearm goes down again is within 5 counts.



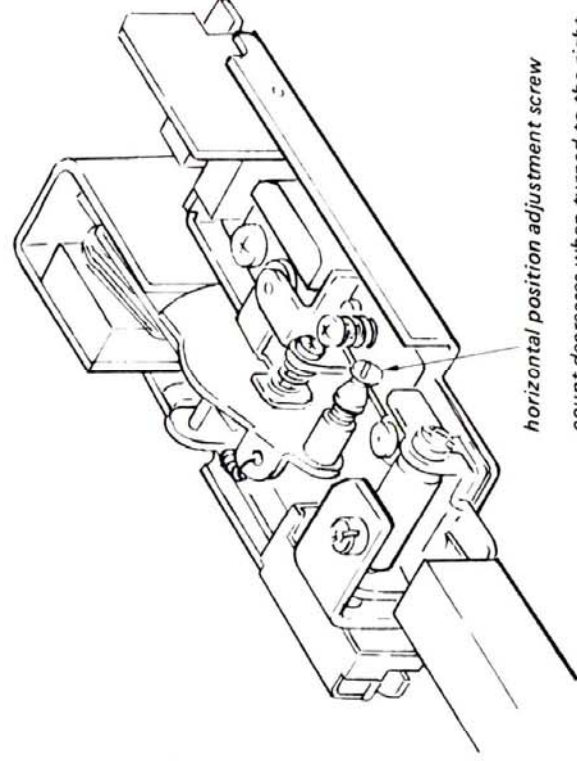
For (2) when the arm base moves, turn to the right.

For (4) when the difference in count is too large, turn to the left.



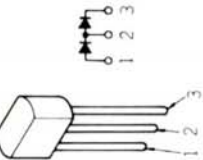

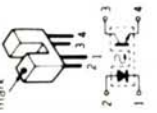

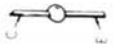


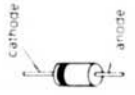
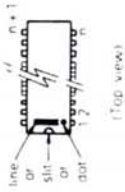
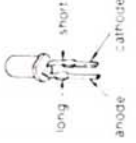
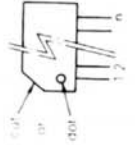
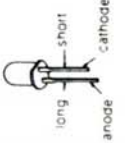
### Drop Point (30 cm) Adjustment

- (1) Place a test record (YFSC-16) on the turntable and press the START/STOP button for lead-in.
- (2) Adjust the horizontal position adjustment screw so that the drop point at this time is within the specification.

Specification: 9 – 14 counts



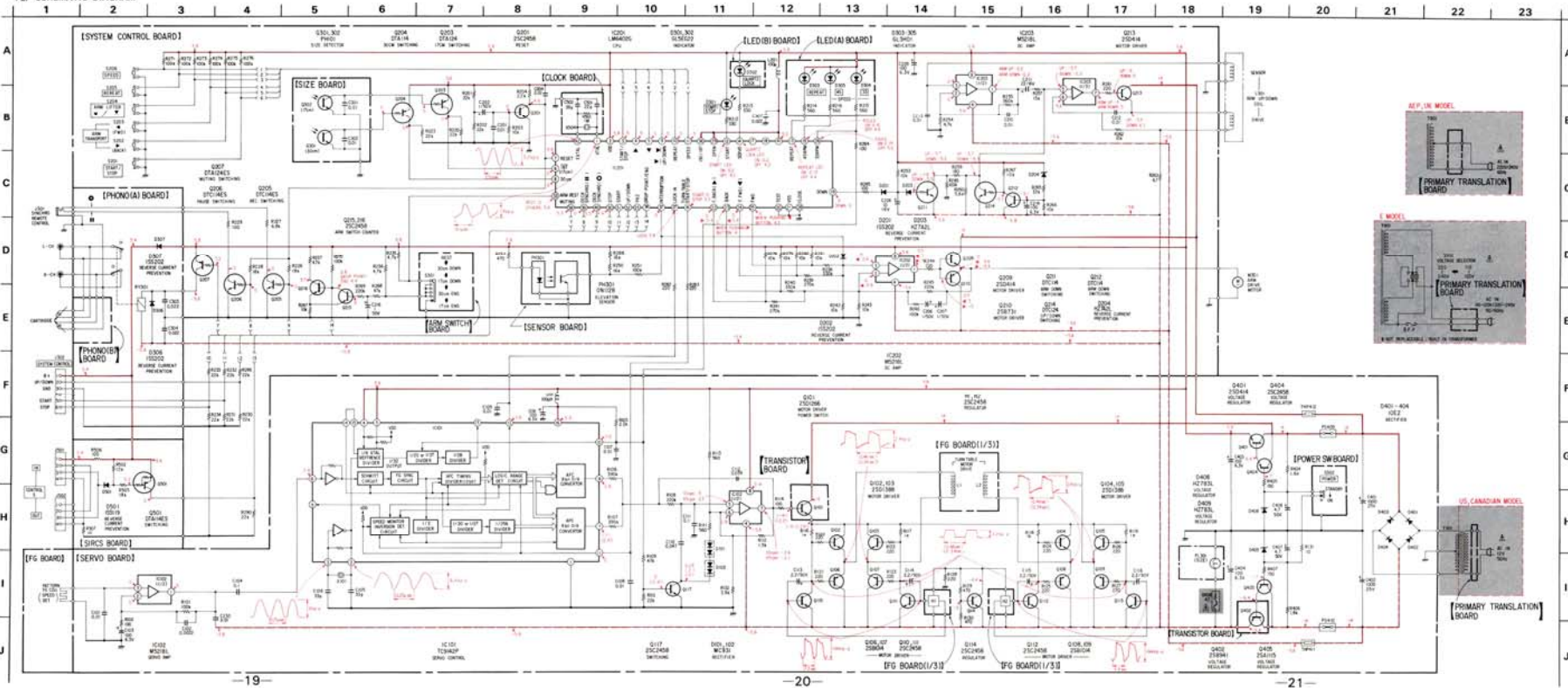
● Semiconductor Lead Layouts

<p>2SB731 2SD414-R 2SD809</p> 	<p>2SB941 2SD1266</p> 	<p>MC931</p> 
<p>2SC2603F DTA114ES DTA124ES DTA124XS DTC124ES DTC114ES</p> 	<p>ON112B</p> 	<p>2SD1388</p> 
<p>PH101</p> 	<p>HW-300B</p> 	<p>2SB1014</p> 
<p>10E2 1SS119 RD6.8JN1 RD7.5EL2</p> 	<p>TC9142P LM6402G-575</p> 	
<p>GL-3HD1</p> 	<p>M5218L</p> 	
<p>GL-5EG22</p> 		



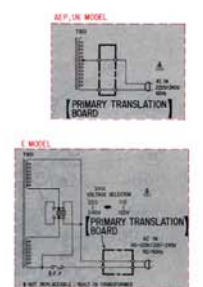


4.2. SCHEMATIC DIAGRAM



Note for MOUNTING DIAGRAM:

- Color code of sleeving over the end of the jacket.
- parts extracted from the component side.
- parts extracted from the conductor side.
- part mounted on the conductor side.
- B = gasket.



Note for SCHEMATIC DIAGRAM:

- All capacitors are in  $\mu F$  unless otherwise noted.  $\mu F$ ,  $\mu F$ ,  $50 WV$  or less are not indicated, except for electrolytics and tantalum.
- All resistors are in  $\Omega$  and  $\frac{1}{2} W$  or less unless otherwise specified.
- Resistor: fusible resistor.
- Resistor:  $B = 100k$ .
- Resistor:  $B = 10k$ .
- Adjustment for repair.
- Voltages are to be taken with respect to ground unless otherwise noted.
- Readings are taken under no-load conditions with a VOM (500/1V).
- Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken to ground in no signal mode by using oscilloscope.
- Voltage variations may be noted due to normal production tolerances.

Switch

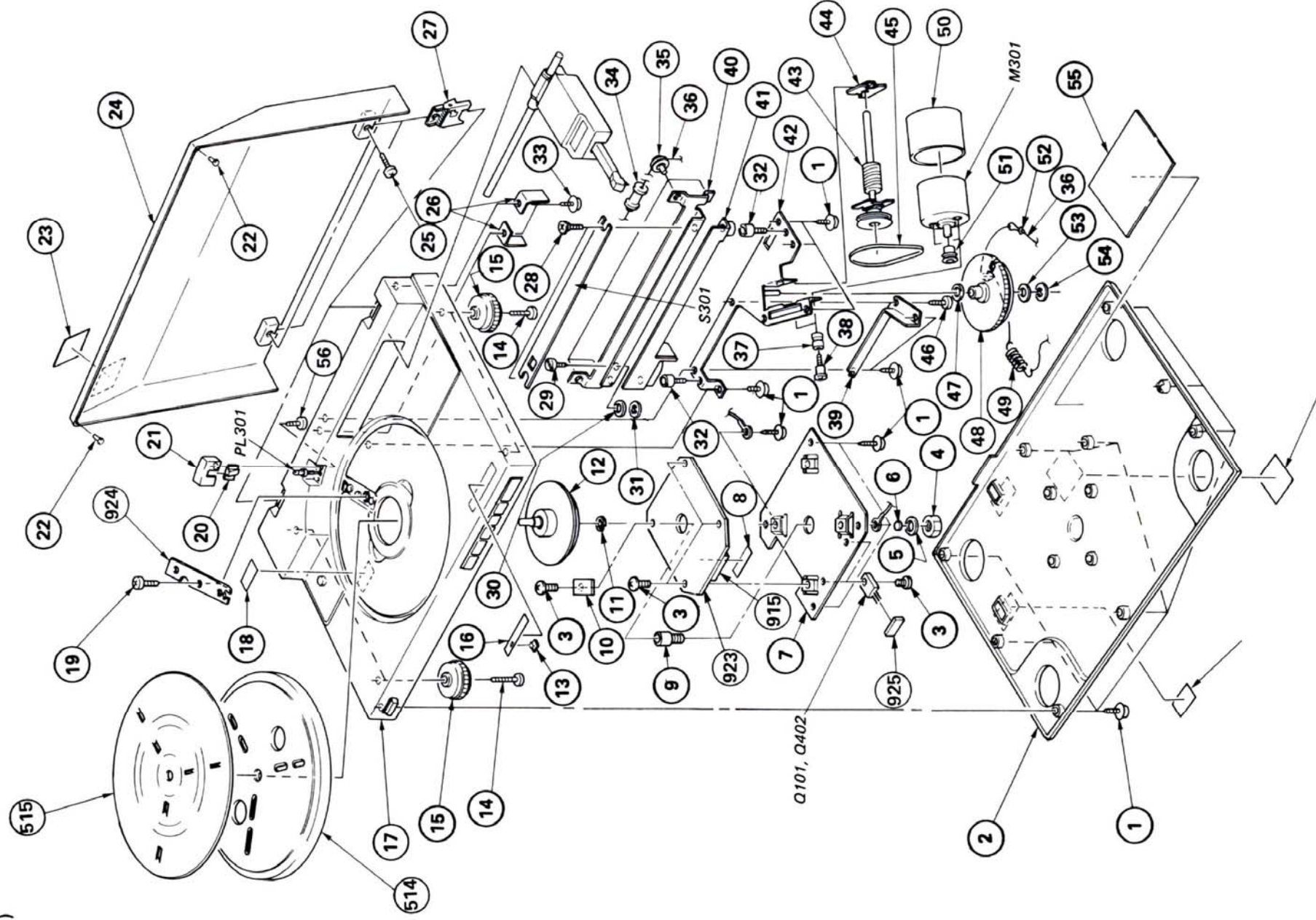
Ref. No.	Switch	Position
S201	START/STOP	
S202	ARM TRANSPORT ( $\blacktriangle$ )	
S203	ARM TRANSPORT ( $\blacktriangle$ )	
S204	ARM LIFTER	
S205	REPEAT	
S206	SPEED	
S301	ARM SWITCH	
S302	POWER SWITCH	STAND BY

Note: The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

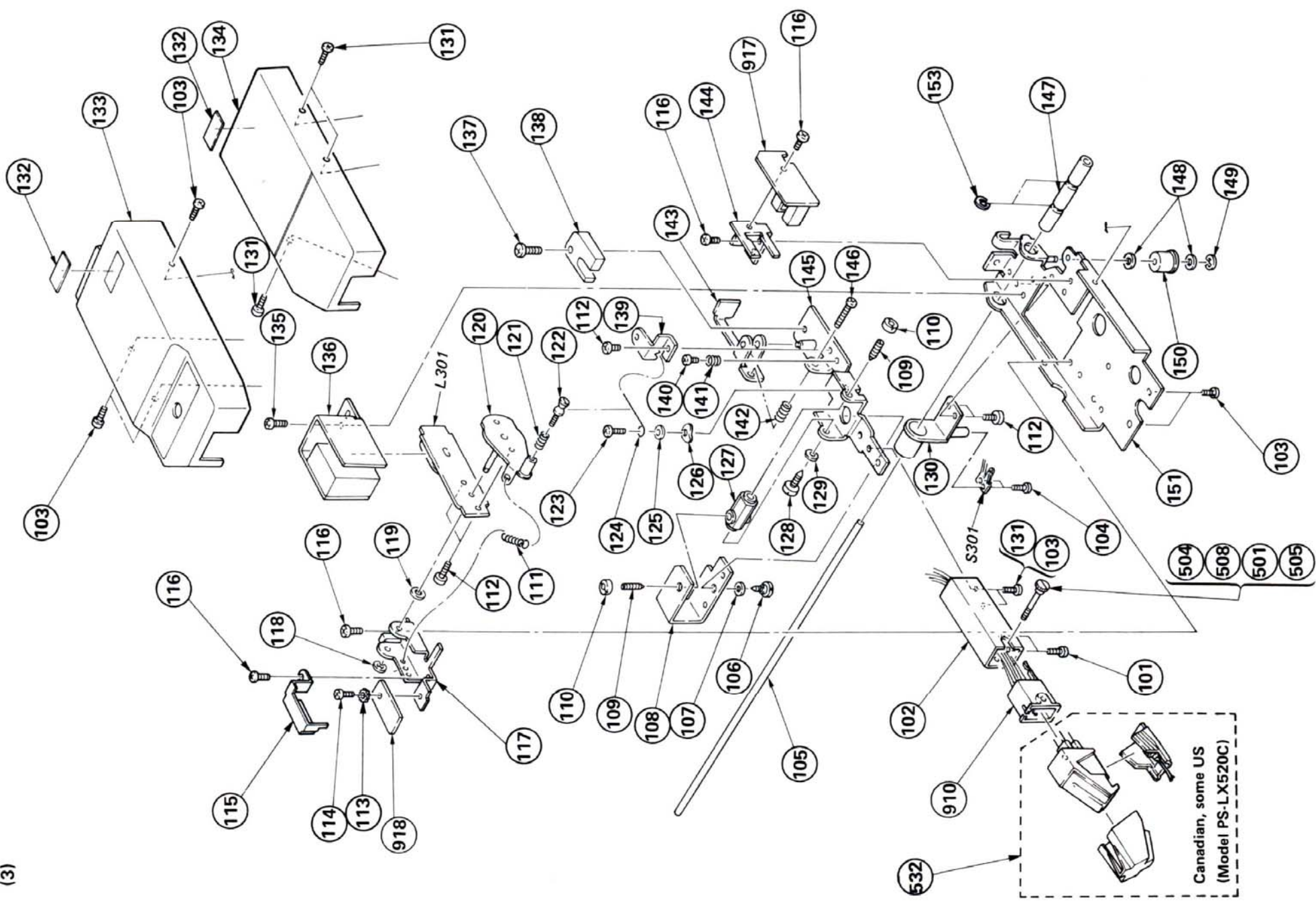
SECTION 5  
EXPLODED VIEWS

(1)





(3)



# SECTION 6 ELECTRICAL PARTS LIST

**NOTE:**

\* Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

• If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

**CAPACITORS:**

MF:µF, PF:µuF.

**RESISTORS**

• All resistors are in ohms.  
• F : nonflammable

**COILS**

• MMH : mH, UH : µH

**SEMICONDUCTORS**

In each case, U : µ, for example:  
UA....: µA...., UPA....: µPA...., UPC....: µPC,  
UD....: µPD....

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

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

No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	3-703-136-00	SCREW, SELF-TAPPING, +PTPMH 3X12, SLIT		53	3-701-441-01	WASHER	
2	*4-887-410-01	(AEP,Canadian)...PLATE, BOTTOM		54	7-624-106-04	STOP RING 3.0, TYPE -E	
	*4-887-410-11	(US).....PLATE, BOTTOM		55	4-887-422-11	LABEL, ARM ASSY	
3	*4-887-410-21	(E).....PLATE, BOTTOM		56	7-685-135-14	SCREW +P 2.6X10 TYPE2 NON-SLIT	
4	*4-903-330-01	SCREW +BVT1 3X6 (S)		71	X-4887-403-3	(SILVER)....PANEL ASSY, SUB	
5	4-885-728-00	NUT (TMD), BEARING			X-4887-403-4	(BLACK)....PANEL ASSY, SUB	
6	4-885-135-00	PACKING		72	4-887-429-00	SPACER	
7	*4-887-472-01	RETAINER, THRUST		73	3-831-441-XX	CUSHION (25X15X0.3)	
8	3-831-441-XX	STATOR		74	A-4630-148-	BUTTON ASSY, CONTROL	
9	*4-887-477-01	BEARING		75	*4-887-406-00	RETAINER, BUTTON, CONTROL	
10	*4-887-476-01	PLATE, STOPPER		76	3-703-137-00	SCREW, TAPPING, +PTPMH 3X10	
11	*A-4608-312-A	STOP RING 7, TYPE-CE		77	3-531-576-31	RIVET (DIA. 3), NYLON	
12	*4-903-328-01	MOTOR ASSY		78	*4-887-415-00	HOLDER (B), LED	
13	7-685-150-14	WINDOW, LED		79	*4-887-414-00	HOLDER (A), LED	
14	X-4885-704-3	SCREW +BVP 3X16 TYPE2 SLIT		80	4-885-789-00	SPRING, TENSION	
15	4-887-445-01	INSULATOR ASSY		81	7-682-547-09	SCREW +B 3X6	
16	4-887-464-01	LABEL (B), PANEL		82	*4-885-562-11	HEAT SINK	
17	4-887-464-01	(US,Canadian:SILVER)....FRAME		83	3-460-077-00	CLAMP, WIRE	
	4-887-464-31	(AEP,E:BLACK).....FRAME		84	*4-885-798-00	COVER, POWER	
	4-887-464-11	(US,Canadian:BLACK)....FRAME		85	3-703-136-00	SCREW, SELF-TAPPING, +PTPMH 3X12, SLIT	
	4-887-464-21	(AEP,E:SILVER).....FRAME		86	*3-701-748-00	CLAMP	
	4-887-464-51	(AEP,E:BLACK).....FRAME		87	7-623-422-07	LW 3, TYPE B	
18	*3-701-030-00	LABEL, SERIAL NUMBER		88	*4-887-470-01	(US,Canadian)....LABEL, MODEL NUMBER	
19	7-685-147-21	SCREW +P 3X10 TYPE2 SLIT			*4-887-468-01	(AEP).....LABEL, MODEL NUMBER	
20	4-879-741-00	WINDOW, LAMP		89	*3-001-707-01	HOLDER, WIRE	
21	4-887-412-11	(BLACK)....HOLDER, LAMP		90	4-875-501-00	GUIDE, POWER KNOB	
22	4-887-412-21	(SILVER)....HOLDER, LAMP		91	4-885-734-00	(SILVER)....BUTTON, POWER	
23	*4-885-183-00	CUSHION (D)			4-885-734-12	(BLACK)....BUTTON, POWER	
24	X-4887-705-01	STICKER, SONY SYMBOL (30)		92	*4-887-426-00	PLATE, SHIELD	
25	7-682-547-04	COVER ASSY, DUST		93	*3-701-748-00	CLAMP	
26	*4-885-742-00	SCREW +B 3X6		94	3-703-150-11	CLAMP	
27	4-887-404-00	BRACKET, GUIDE		101	7-685-799-04	SCREW +PTT 1.7X2.5	
	4-887-404-11	(BLACK)....HINGE		102	4-908-114-01	(SILVER)....PIPE, ARM	
28	*3-465-048-00	SHAFT			4-908-114-11	(BLACK)....PIPE, ARM	
29	4-885-748-00	PIN, ADJUSTMENT		103	7-627-553-37	(SILVER)....SCREW, PRECISION +P 2X3	
30	4-885-747-00	WASHER (H)		104	4-887-321-01	SCREW (B1.7X4) (G), SELF-TAPPING	
31	7-624-190-81	STOP RING 2, TYPE-CS		105	4-885-709-00	BAR, GUIDE	
32	4-885-741-00	SPACER		106	4-887-449-01	SHAFT, PIVOT	
33	3-703-137-00	SCREW, TAPPING, +PTPMH 3X10		107	7-688-003-01	W 3, SMALL	
34	4-885-744-00	STOPPER, WIRE		108	4-887-454-01	BRIDGE, ARM	
35	X-4856-325-0	PULLEY ASSY		109	2-203-518-61	SCREW, PIVOT	
36	7-633-120-45	STRING, TETRON DIAL (0.5MM)		110	2-203-519-21	(BLACK)....NUT (A), LOCK, PIVOT	
37	3-570-118-00	CUSHION, MOTOR			2-203-519-01	(SILVER)....NUT (A), LOCK, PIVOT	
38	3-570-027-00	SCREW, MOTOR		111	4-887-439-01	SPRING, TENSION	
39	*4-885-787-00	GUIDE, LEAD WIRE		112	7-621-772-00	SCREW +B 2X3	
40	*4-885-750-00	GUIDE, ROLLER		113	7-623-420-07	LW 2, TYPE B	
41	4-885-777-11	(SILVER)....ESCUTCHEON, ROLLER GUIDE		114	7-621-772-08	SCREW +B 2X3	
	4-885-777-00	(BLACK)....ESCUTCHEON, ROLLER GUIDE		115	*4-887-446-01	PLATE, SHIELD	
42	X-4885-702-0	WORM ASSY		116	7-621-775-00	SCREW +B 2.6X3	
43	X-4885-710-0	GUIDE, WORM SHAFT		117	*4-887-437-01	BASE, LIFTER	
44	4-885-735-00	BELT, DRIVING		118	7-624-102-04	STOP RING 1.5, TYPE -E	
45	7-682-545-04	SCREW +B 3X4		119	*X-4887-409-1	WASHER	
46	3-701-441-21	WASHER		120	4-885-764-02	LEVER ASSY, LIFTER	
47	4-885-749-00	WHEEL, WORM		121	4-885-706-04	SCREW, COMPRESSION	
48	4-885-767-00	SPRING, TENSION		122	4-885-706-04	SCREW, ADJUSTMENT, POSITION	
49	4-885-775-00	CAP, MOTOR		123	7-621-773-95	SCREW +B 2.6X6	
50	4-885-704-03	PULLEY, MOTOR		124	4-885-737-00	WIRE	
51	7-623-616-01	EYELET, 2X3		125	7-688-002-01	W 2.6, SMALL	
52				126	4-887-463-01	WASHER (B)	

## ELECTRICAL PARTS

No.	Part No.	Description	Remarks	Ref.No.	Part No.	Description
127	X-4908-101-1	BEARING ASSY		901	*1-508-878-00	BASE POST
128	4-877-816-00	SHAFT, PIVOT		902	*1-508-880-00	BASE POST, MCD CONNECTOR 6P
129	7-623-208-22	SW 3, TYPE 2		903	*1-535-115-00	TERMINAL
130	4-887-442-01	BASE, SWITCH		904	*1-535-116-00	TERMINAL
131	7-627-553-38	(BLACK)...SCREW, PRECISION +P 2X3		908	A.1-551-628-00	(US).....CORD, POWER
132	*4-885-792-00	PLUG IN SEAL (A)		A.1-551-964-00	(Canadian)...CORD, POWER	
133	4-887-456-21	(SILVER)...COVER, ARM		A.1-551-427-11	(AEP).....CORD, POWER; EURO PLUG	
134	4-908-123-01	(BLACK)...COVER, ARM		A.1-551-188-XX	(E).....CORD, POWER	
135	7-628-253-95	SCREW +PS 2.6X4		909	1-551-294-34	(Canadian, AEP, E)...CORD, OUTPUT
136	X-4887-415-1	MAGNET ASSY, ARM		909	1-551-294-41	(US)...CORD, OUTPUT
137	7-682-548-09	SCREW +B 3X8		910	1-556-552-00	CONNECTOR (PLUG IN TYPE)
138	4-908-117-01	WEIGHT (C)		911	*1-560-200-00	BASE POST, MCD CONNECTOR 2P
139	*4-887-444-01	RETAINER, WIRE		912	*1-564-496-11	PIN, CONNECTOR 3P
140	7-621-772-30	SCREW +B 2X6		913	*1-564-501-11	PIN, CONNECTOR 8P
141	4-885-766-00	SPRING, COMPRESSION		914	*1-564-518-11	PLUG, CONNECTOR 3P
142	4-887-461-01	SPRING, COMPRESSION		915	*1-564-527-11	PLUG, CONNECTOR 12P
143	*4-887-462-01	PLATE, ADJUSTMENT		916	*1-608-536-00	PC BOARD, PRIMARY TRANSLATION
144	*4-887-440-01	BRACKET, SENSOR		917	*1-612-356-11	PC BOARD, SENSOR
145	*X-4887-410-1	JOINT ASSY PIPE		918	*1-612-357-21	PC BOARD, PHONO (B)
146	7-621-772-40	SCREW +B 2X8		919	*1-615-888-11	PC BOARD, POWER SWITCH
147	*4-887-465-01	SLIDER (B)		920	*1-615-889-11	PC BOARD, SIRCS
148	3-701-443-11	WASHER		921	*1-615-890-11	PC BOARD, CLOCK
149	7-624-108-04	STOP RING 4.0, TYPE -E		922	*1-615-892-11	PC BOARD, SIZE
150	4-887-443-01	ROLLER, GUIDE		923	A-4644-247-A	PC BOARD ASSY, STATOR
151	*4-887-412-1	BASE ASSY, ARM		924	*A-4644-249-A	MOUNTED PCB, SYSTEM CONTROL (INCLUDING LED(A),LED(B),PHONO(A) AND SIZE BOARDS)
153	7-624-133-44	STOP RING 9, TYPE-C		925	*A-4644-252-A	MOUNTED PCB, SERVO (INCLUDING POWER SWITCH, SIRCS,TRANSISTOR(A) AND TRANSISTOR(B)BOARDS)
				C101	1-162-306-31	CERAMIC 0.01MF 30% 16V
				C102	1-162-302-31	CERAMIC 0.0022MF 30% 16V
				C103	1-123-661-00	ELECT 100MF 20% 6.3V
				C104	1-136-165-00	FILM 0.1MF 5% 50V
				C105	1-162-211-31	CERAMIC 33PF 5% 50V
				C106	1-162-211-31	CERAMIC 33PF 5% 50V
				C107	1-162-306-31	CERAMIC 0.01MF 30% 16V
				C108	1-162-306-31	CERAMIC 0.01MF 30% 16V
				C109	1-162-306-31	CERAMIC 0.01MF 30% 16V
				C110	1-136-161-00	FILM 0.047MF 5% 50V
				C111	1-136-165-00	FILM 0.1MF 5% 50V
				C112	1-136-160-00	FILM 0.039MF 5% 50V
				C113	1-123-612-00	ELECT 2.2MF 20% 50V
				C114	1-123-612-00	ELECT 2.2MF 20% 50V
				C115	1-123-612-00	ELECT 2.2MF 20% 50V
				C116	1-123-612-00	ELECT 2.2MF 20% 50V
				C118	1-123-661-00	ELECT 100MF 20% 6.3V
				C201	1-162-306-31	CERAMIC 0.01MF 30% 16V

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

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

## ELECTRICAL PARTS

Ref.No.	Part No.	Description
C202	1-123-611-00	ELECT
C204	1-162-306-31	CERAMIC
C206	1-123-611-00	ELECT
C207	1-123-611-00	ELECT
C210	1-162-306-31	CERAMIC
C211	1-123-622-00	ELECT
C212	1-162-306-31	CERAMIC
C213	1-162-306-31	CERAMIC
C214	1-123-661-00	ELECT
C216	1-123-611-00	ELECT
C224	1-123-617-00	ELECT
C228	1-123-661-00	ELECT
C230	1-162-306-31	CERAMIC
C301	1-162-113-00	CERAMIC
C302	1-162-113-00	CERAMIC
C303	1-161-494-00	CERAMIC
C304	1-161-494-00	CERAMIC
C307	1-161-494-00	CERAMIC
C401	1-123-337-00	ELECT
C402	1-123-337-00	ELECT
C403	1-123-661-00	ELECT
C404	1-123-661-00	ELECT
C406	1-123-619-00	ELECT
C407	1-123-619-00	ELECT
C501	1-162-207-31	CERAMIC
C502	1-162-213-31	CERAMIC
D101	8-719-000-12	DIODE MC931
D102	8-719-000-12	DIODE MC931
D201	8-719-911-19	DIODE 1SS119
D202	8-719-911-19	DIODE 1SS119
D203	8-719-101-63	DIODE R06.8E-L1
D204	8-719-101-63	DIODE R06.8E-L1
D301	8-719-907-36	DIODE GL-5EG22
D302	8-719-907-36	DIODE GL-5EG22
D303	8-719-904-31	DIODE GL-3HD1
D304	8-719-904-31	DIODE GL-3HD1
D305	8-719-904-31	DIODE GL-3HD1
D306	8-719-911-19	DIODE 1SS119
D307	8-719-911-19	DIODE 1SS119
D401	8-719-200-02	DIODE 10E-2
D402	8-719-200-02	DIODE 10E-2
D403	8-719-200-02	DIODE 10E-2
D404	8-719-200-02	DIODE 10E-2
D408	8-719-101-67	DIODE RD7.5E-L2
D409	8-719-101-67	DIODE RD7.5E-L2
D501	8-719-911-19	DIODE 1SS119
H101	8-719-920-37	ELEMENT, HALL HW-300B
H102	8-719-920-37	ELEMENT, HALL HW-300B
IC101	8-759-201-58	IC TC9142P

## ELECTRICAL PARTS

Ref.No.	Part No.	Description
IC102	8-759-600-02	IC M5218L
IC201	8-759-802-00	IC LM6402G-575
IC202	8-759-600-02	IC M5218L
IC203	8-759-600-02	IC M5218L
J301	1-507-813-00	JACK (SYNC)
J302	*1-560-317-00	CONNECTOR PIN 6P (SYSTEM CONTROL)
J501	*1-564-980-11	PIN, CONNECTOR 4P (CONTROL IN)
J502	*1-564-980-11	PIN, CONNECTOR 4P (CONTROL OUT)
L101	1-410-033-11	MICRO INDUCTOR 1000H
L201	1-410-033-11	MICRO INDUCTOR 1000H
L301	1-422-162-11	COIL
M301	1-541-218-00	MOTOR
PH301	8-719-411-28	ON1128
PL301	1-518-169-XX	LAMP, PILOT
PS409	1-532-605-00	LINK, IC
PS410	1-532-605-00	LINK, IC
Q101	8-729-400-81	TRANSISTOR 2SD1266-Q
Q102	8-729-802-34	TRANSISTOR 2SD1388
Q103	8-729-802-34	TRANSISTOR 2SD1388
Q104	8-729-802-34	TRANSISTOR 2SD1388
Q105	8-729-802-34	TRANSISTOR 2SD1388
Q106	8-729-802-22	TRANSISTOR 2SB1014
Q107	8-729-802-22	TRANSISTOR 2SB1014
Q108	8-729-802-22	TRANSISTOR 2SB1014
Q109	8-729-802-22	TRANSISTOR 2SB1014
Q110	8-729-606-33	TRANSISTOR 2SC2603F
Q111	8-729-606-33	TRANSISTOR 2SC2603F
Q112	8-729-606-33	TRANSISTOR 2SC2603F
Q113	8-729-606-33	TRANSISTOR 2SC2603F
Q114	8-729-606-33	TRANSISTOR 2SC2603F
Q117	8-729-606-33	TRANSISTOR 2SC2603F
Q201	8-729-606-33	TRANSISTOR 2SC2603F
Q203	8-729-900-67	TRANSISTOR DTA124XS
Q204	8-729-900-61	TRANSISTOR DTA114ES
Q205	8-729-900-80	TRANSISTOR DTC114ES
Q206	8-729-900-80	TRANSISTOR DTC114ES
Q207	8-729-900-63	TRANSISTOR DTA124ES
Q209	8-729-141-42	TRANSISTOR 2SD414-R
Q210	8-729-173-13	TRANSISTOR 2SB731
Q211	8-729-900-80	TRANSISTOR DTC114ES
Q212	8-729-606-33	TRANSISTOR 2SC2603F
Q213	8-729-141-42	TRANSISTOR 2SD414-R
Q214	8-729-900-36	TRANSISTOR DTC124ES
Q215	8-729-606-33	TRANSISTOR 2SC2603F
Q216	8-729-606-33	TRANSISTOR 2SC2603F
Q301	8-729-101-01	TRANSISTOR PH101
Q302	8-729-101-01	TRANSISTOR PH101
Q401	8-729-141-42	TRANSISTOR 2SD414-R
Q402	8-729-400-11	TRANSISTOR 2SB941-Q

## ELECTRICAL PARTS

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
Q404	8-729-606-33	TRANSISTOR 2SC2603F	R240	1-247-891-00	CARBON
Q405	8-729-117-54	TRANSISTOR 2SA1175	R241	1-247-889-00	CARBON
Q501	8-729-900-61	TRANSISTOR DTA114ES	R242	1-247-855-00	CARBON
			R243	1-247-855-00	CARBON
R101	1-247-879-00	CARBON	R244	1-247-815-00	CARBON
R102	1-247-807-00	CARBON	R245	1-247-887-00	CARBON
R105	1-249-421-11	CARBON	R246	1-247-879-00	CARBON
R106	1-247-893-00	CARBON	R250	1-247-860-00	CARBON
R107	1-247-893-00	CARBON	R251	1-247-879-00	CARBON
R108	1-247-887-00	CARBON	R252	1-247-823-00	CARBON
R109	1-247-871-00	CARBON	R253	1-247-855-00	CARBON
R110	1-247-863-00	CARBON	R254	1-247-847-00	CARBON
R111	1-247-825-00	CARBON	R255	1-247-892-00	CARBON
R112	1-247-835-00	CARBON	R257	1-247-859-00	CARBON
R113	1-247-825-00	CARBON	R258	1-247-879-00	CARBON
R114	1-247-807-00	CARBON	R259	1-247-813-00	CARBON
R116	1-247-831-00	CARBON	R260	1-247-849-00	CARBON
R117	1-247-831-00	CARBON	R261	1-247-815-00	CARBON
R118	1-247-831-00	CARBON	R262	1-247-855-00	CARBON
R119	1-247-831-00	CARBON	R263	1-247-775-00	CARBON
R120	1-247-815-00	CARBON	R265	1-247-867-00	CARBON
R121	1-247-815-00	CARBON	R266	1-247-855-00	CARBON
R122	1-247-815-00	CARBON	R267	1-247-855-00	CARBON
R123	1-247-815-00	CARBON	R268	1-247-871-00	CARBON
R124	1-247-815-00	CARBON	R269	1-247-887-00	CARBON
R125	1-247-815-00	CARBON	R270	1-247-879-00	CARBON
R126	1-247-815-00	CARBON	R271	1-247-879-00	CARBON
R127	1-247-815-00	CARBON	R272	1-247-879-00	CARBON
R128	1-247-815-00	CARBON	R273	1-247-879-00	CARBON
R129	1-247-823-00	CARBON	R274	1-247-879-00	CARBON
R130	1-247-823-00	CARBON	R275	1-247-879-00	CARBON
R131	1-247-783-00	CARBON	R276	1-247-879-00	CARBON
R132	1-247-845-00	CARBON	R278	1-247-855-00	CARBON
R201	1-247-863-00	CARBON	R279	1-247-855-00	CARBON
R202	1-247-863-00	CARBON	R280	1-247-855-00	CARBON
R203	1-247-855-00	CARBON	R281	1-247-855-00	CARBON
R204	1-249-421-11	CARBON	R282	1-247-815-00	CARBON
R212	1-247-819-00	CARBON	R283	1-247-815-00	CARBON
R213	1-247-819-00	CARBON	R284	1-247-807-00	CARBON
R214	1-247-825-00	CARBON	R285	1-247-807-00	CARBON
R215	1-247-825-00	CARBON	R286	1-247-863-00	CARBON
R216	1-247-825-00	CARBON	R287	1-247-855-00	CARBON
R220	1-247-863-00	CARBON	R288	1-247-860-00	CARBON
R223	1-247-863-00	CARBON	R290	1-247-863-00	CARBON
R226	1-247-861-00	CARBON	R404	1-247-836-00	CARBON
R227	1-247-851-00	CARBON	R405	1-247-811-00	CARBON
R228	1-247-861-00	CARBON	R406	1-247-837-00	CARBON
R229	1-247-807-00	CARBON	R407	1-247-811-00	CARBON
R230	1-247-863-00	CARBON	R408 Δ	1-217-395-00	FUSIBLE
R231	1-247-863-00	CARBON	R501	1-247-903-00	CARBON
R232	1-247-863-00	CARBON	R502	1-247-857-00	CARBON
R233	1-247-863-00	CARBON	R505	1-247-861-00	CARBON
R234	1-247-863-00	CARBON	R506	1-247-807-00	CARBON
R235	1-247-847-00	CARBON	R507	1-247-783-00	CARBON
R236	1-247-847-00	CARBON	RY301	1-515-519-00	RELAY
R237	1-247-847-00	CARBON			
R238	1-247-891-00	CARBON			
R239	1-247-889-00	CARBON			

## ELECTRICAL PARTS

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
R240	1-247-891-00	CARBON	R240	1-247-891-00	CARBON
R241	1-247-889-00	CARBON	R241	1-247-889-00	CARBON
R242	1-247-855-00	CARBON	R242	1-247-855-00	CARBON
R243	1-247-855-00	CARBON	R243	1-247-855-00	CARBON
R244	1-247-815-00	CARBON	R244	1-247-815-00	CARBON
R245	1-247-887-00	CARBON	R245	1-247-887-00	CARBON
R246	1-247-879-00	CARBON	R246	1-247-879-00	CARBON
R250	1-247-860-00	CARBON	R250	1-247-860-00	CARBON
R251	1-247-879-00	CARBON	R251	1-247-879-00	CARBON
R252	1-247-823-00	CARBON	R252	1-247-823-00	CARBON
R253	1-247-855-00	CARBON	R253	1-247-855-00	CARBON
R254	1-247-847-00	CARBON	R254	1-247-847-00	CARBON
R255	1-247-892-00	CARBON	R255	1-247-892-00	CARBON
R257	1-247-859-00	CARBON	R257	1-247-859-00	CARBON
R258	1-247-879-00	CARBON	R258	1-247-879-00	CARBON
R259	1-247-813-00	CARBON	R259	1-247-813-00	CARBON
R260	1-247-849-00	CARBON	R260	1-247-849-00	CARBON
R261	1-247-815-00	CARBON	R261	1-247-815-00	CARBON
R262	1-247-855-00	CARBON	R262	1-247-855-00	CARBON
R263	1-247-775-00	CARBON	R263	1-247-775-00	CARBON
R265	1-247-867-00	CARBON	R265	1-247-867-00	CARBON
R266	1-247-855-00	CARBON	R266	1-247-855-00	CARBON
R267	1-247-855-00	CARBON	R267	1-247-855-00	CARBON
R268	1-247-871-00	CARBON	R268	1-247-871-00	CARBON
R269	1-247-887-00	CARBON	R269	1-247-887-00	CARBON
R270	1-247-879-00	CARBON	R270	1-247-879-00	CARBON
R271	1-247-879-00	CARBON	R271	1-247-879-00	CARBON
R272	1-247-879-00	CARBON	R272	1-247-879-00	CARBON
R273	1-247-879-00	CARBON	R273	1-247-879-00	CARBON
R274	1-247-879-00	CARBON	R274	1-247-879-00	CARBON
R275	1-247-879-00	CARBON	R275	1-247-879-00	CARBON
R276	1-247-879-00	CARBON	R276	1-247-879-00	CARBON
R278	1-247-855-00	CARBON	R278	1-247-855-00	CARBON
R279	1-247-855-00	CARBON	R279	1-247-855-00	CARBON
R280	1-247-855-00	CARBON	R280	1-247-855-00	CARBON
R281	1-247-855-00	CARBON	R281	1-247-855-00	CARBON
R282	1-247-815-00	CARBON	R282	1-247-815-00	CARBON
R283	1-247-815-00	CARBON	R283	1-247-815-00	CARBON
R284	1-247-807-00	CARBON	R284	1-247-807-00	CARBON
R285	1-247-807-00	CARBON	R285	1-247-807-00	CARBON
R286	1-247-863-00	CARBON	R286	1-247-863-00	CARBON
R287	1-247-855-00	CARBON	R287	1-247-855-00	CARBON
R288	1-247-860-00	CARBON	R288	1-247-860-00	CARBON
R290	1-247-863-00	CARBON	R290	1-247-863-00	CARBON
R404	1-247-836-00	CARBON	R404	1-247-836-00	CARBON
R405	1-247-811-00	CARBON	R405	1-247-811-00	CARBON
R406	1-247-837-00	CARBON	R406	1-247-837-00	CARBON
R407	1-247-811-00	CARBON	R407	1-247-811-00	CARBON
R408 Δ	1-217-395-00	FUSIBLE	R408 Δ	1-217-395-00	FUSIBLE
R501	1-247-903-00	CARBON	R501	1-247-903-00	CARBON
R502	1-247-857-00	CARBON	R502	1-247-857-00	CARBON
R505	1-247-861-00	CARBON	R505	1-247-861-00	CARBON
R506	1-247-807-00	CARBON	R506	1-247-807-00	CARBON
R507	1-247-783-00	CARBON	R507	1-247-783-00	CARBON
RY301	1-515-519-00	RELAY	RY301	1-515-519-00	RELAY

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## ELECTRICAL PARTS

Ref.No.	Part No.	Description
S201	1-553-976-00	SWITCH, PUSH
S202	1-553-976-00	SWITCH, PUSH
S203	1-553-976-00	SWITCH, PUSH
S204	1-553-976-00	SWITCH, PUSH
S205	1-553-976-00	SWITCH, PUSH
S206	1-553-976-00	SWITCH, PUSH
S301	1-554-817-11	SWITCH, TONEARM
S302	1-553-331-21	SWITCH, PUSH (POWER)
S902	Δ.1-552-535-00	(E)...SWITCH, SLIDE (VOLTAGE SELECTOR)
T901	Δ.1-447-515-21	(US,Canadian)...TRANSFORMER, POWER
T901	Δ.1-447-516-21	(AEP).....TRANSFORMER, POWER
T901	Δ.1-447-517-31	(E).....TRANSFORMER, POWER
THP411	1-806-882-11	THERMISTOR (POSITIVE)
THP412	1-806-882-11	THERMISTOR (POSITIVE)
X101	1-527-380-21	CRYSTAL, OSC
X501	1-567-192-11	OSCILLATOR, CERAMIC

## ACCESSORY &amp; PACKING MATERIAL

No.	Part No.	Description
501	X-4887-418-1	(SOME US WITHOUT ACCESSORY CARTRIDGE:BLACK)
502	*3-701-616-00	...SCREW ASSY, CARTRIDGE FITTING
503	3-795-753-21	BAG, POLYETHYLENE INSTRUCTION
504	4-887-481-01	(BLACK)...SCREW (B), CARTRIDGE FITTING
505	X-4887-419-1	(SOME US WITHOUT ACCESSORY CARTRIDGE:SILVER)
506	3-701-616-00	...SCREW ASSY, CARTRIDGE FITTING
507	3-795-753-21	BAG, POLYETHYLENE INSTRUCTION
508	4-887-481-01	(BLACK)...SCREW (B), CARTRIDGE FITTING
508	4-887-481-11	(SILVER)...SCREW (B), CARTRIDGE FITTING
509	1-556-372-41	CORO, CONNECTION (4 CORE)
510	1-557-569-11	CORO, CONNECTION
511	*3-701-630-00	BAG, POLYETHYLENE
512	3-701-806-00	ADAPTOR, 45, (E)
513	3-760-547-11	(AEP,E).....MANUAL, INSTRUCTION
513	3-760-547-21	(US,Canadian)...MANUAL, INSTRUCTION
513	3-760-547-31	(Canadian).....MANUAL, INSTRUCTION
513	3-760-547-41	(AEP).....MANUAL, INSTRUCTION
514	4-883-720-00	TURNTABLE
515	4-883-723-01	(AEP,E).....SHEET, TURNTABLE
515	4-883-723-11	(US,Canadian)...SHEET, TURNTABLE
516	3-565-234-00	BAG, PROTECTION (UNIT)
517	3-701-634-00	BAG, POLYETHYLENE (TURNTABLE)
518	3-703-137-00	SCREW, SELF-TAPPING
519	3-703-895-01	(BLACK)....LABEL, COLOR
520	3-703-906-01	(SILVER)...LABEL, COLOR
521	4-350-525-00	SHEET, PROTECTION
522	4-880-101-00	PLATE (B), PROTECTION
523	4-885-779-00	BOLSTER, ARM
524	4-885-780-00	CUSHION, ARM
525	4-885-782-00	PROTECTOR (B)
526	4-887-309-11	LABEL (A), CAUTION
527	4-887-420-00	CUSHION (RIGHT)
528	4-887-421-00	CUSHION (LEFT)
529	4-887-423-00	HOLDER, TURNTABLE
530	4-887-441-01	COVER, ARM LOCK
531	4-887-482-01	(PS-LX520)....INDIVIDUAL CARTON
531	4-887-483-01	(PS-LX520C)...INDIVIDUAL CARTON
532	1-549-117-21	(Canadian,SOME US)...CARTRIDGE:VL-45G (B)
533	Δ.1-526-565-12	(E)....ADAPTOR, AC PLUG

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