

PS-X60



*US Model
Canadian Model
AEP Model
UK Model
E Model*

STEREO TURNTABLE SYSTEM

SPECIFICATIONS

GENERAL

Power Requirements: 120, 220 V ac, 50/60 Hz (AEP, E model)
220, 240 V ac, 50/60 Hz (UK model)
120 V ac, 60 Hz (US, Canadian model)

Power Consumption: 8 W (US, Canadian model)
12 W (AEP, E, UK model)

Dimensions: 480 (w) x 165 (h) x 420 (d) mm
18⁷/₈ (w) x 6¹/₂ (h) x 16¹/₂ (d) inches
including projecting parts and controls

Weight: Approx. 12 kg, 26 lb 7 oz (net)
Approx. 13.3 kg, 29 lb 5 oz
(in shipping carton)

TURNTABLE

Platter: 32 cm (12⁵/₈ inches), diecasting
aluminum alloy

Motor: DC servo-controlled linear BSL motor

Drive System: Direct drive, crystal lock control
system

Speeds: 33¹/₃, 45 rpm.

Starting Characteristics: Comes to nominal speed within a half
revolution (33¹/₃ rpm)

Wow and Flutter: ±0.045% (DIN)
0.025% (WRMS)

S/N Ratio: 75 dB (DIN-B)

Initial Drift: Within 0.0003%

Load Characteristics: 0% up to 150 g tracking force

Automatic System: Lead-in, return, reject, repeat

TONEARM

Type: Statically balanced, universal

Arm Length: 330 mm (13 inches), overall
235 mm (9¹/₄ inches), pivot-to-stylus

Overhang: 14 mm (9/₁₆ inches)


Tracking Error: +2° 27', -1° 30'

**Tracking-force Adjustment
Range:** 0 - 2.5 g


Shell Weight: 11 g

Cartridge Weight Range: 11.0 - 19.5 g
(including shell) (19.0 - 27.5 g with extra weight)

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 UN TRAMÉ 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 DES SUPPLÉMENTS PUBLIÉS PAR SONY.

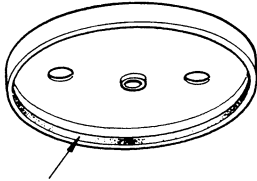
SONY
SERVICE MANUAL

1138

SERVICING NOTE

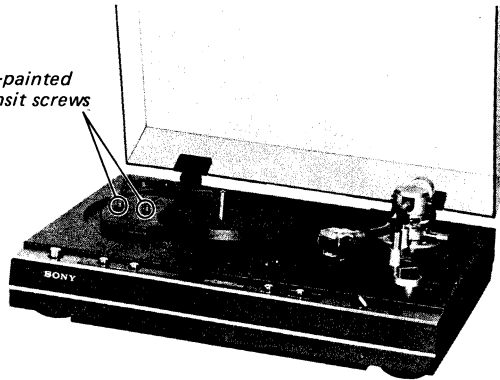
1. Wait a few minutes after the power switch is turned on.
2. When replacing the lamp of automatic-return detection, make the automatic-return adjustment (page 13).
3. Platter handling.
4. When operating the set, confirm that the transit screws are removed.

Bottom view of platter



Be sure not to spoil the magnetic coating (dark brown color).

red-painted transit screws



MODEL IDENTIFICATION

— Specification Label —

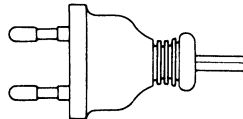
(US, Canadian model)

SONY	STEREO TURNTABLE SYSTEM		
	MODEL NO, PS-X60		
	AC 120V	60Hz	8W
	SERIAL NO.		
	MADE IN JAPAN		

— Power Cord —

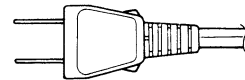
E1 model: euro-plug

1-551-530-00



E2 model: parallel-blade plug

1-534-487-XX



(AEP, E1 and E2 model)

SONY	STEREO TURNTABLE SYSTEM		
	MODEL NO, PS-X60		
	~120, 220V 50/60Hz 12W		
	SERIAL NO.		
	MADE IN JAPAN		



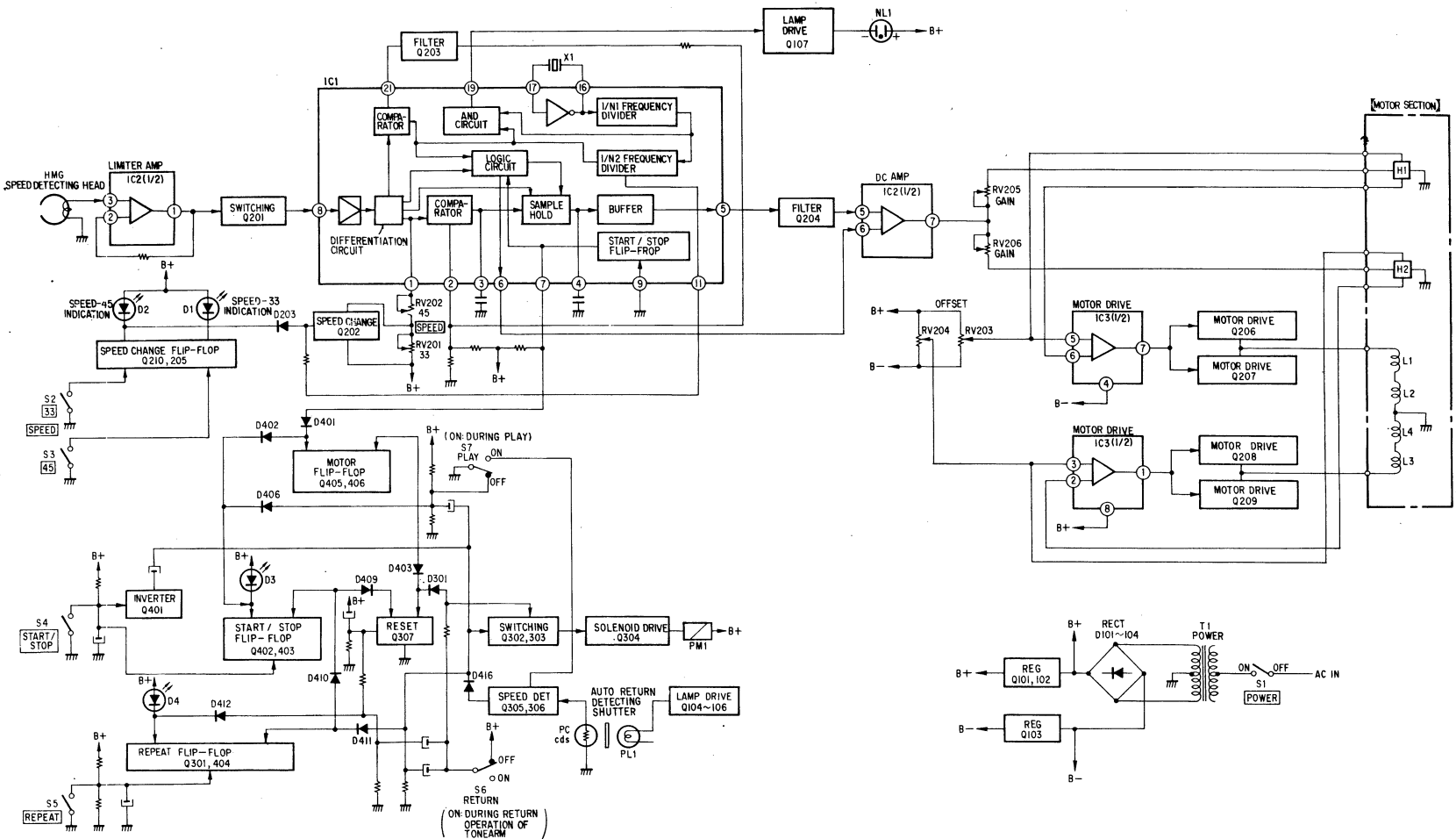
(UK model)

SONY	STEREO TURNTABLE SYSTEM		
	MODEL NO, PS-X60		
	~220, 240V 50/60Hz 12W		
	SERIAL NO.		
	MADE IN JAPAN		



1. BLOCK DIAGRAM

SECTION 1
OUTLINE



SECTION 2 DISASSEMBLY

- Follow the disassembly or the installation procedure in the numerical order given.

Dust Cover, Turntable Mat and Turntable Removal

Labels: *dust cover*, *turntable mat*, *turntable*

Top Cover Removal

Label: *TA, B 3 x 10*

After this removal, drive gear, miniature switch (S6) and solenoid (PM) can be replaced. (See page 7.)

Bottom Plate Removal

Label: *TA, B 3 x 10*

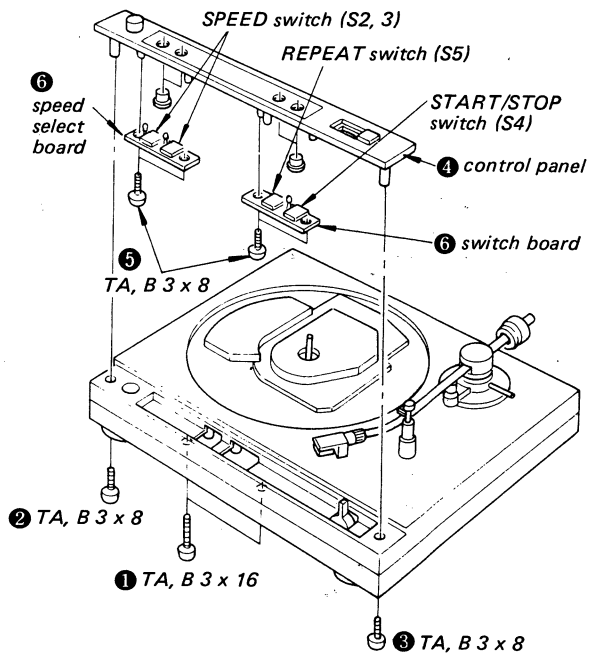
Label: *TA, B 3 x 10*

Motor Removal

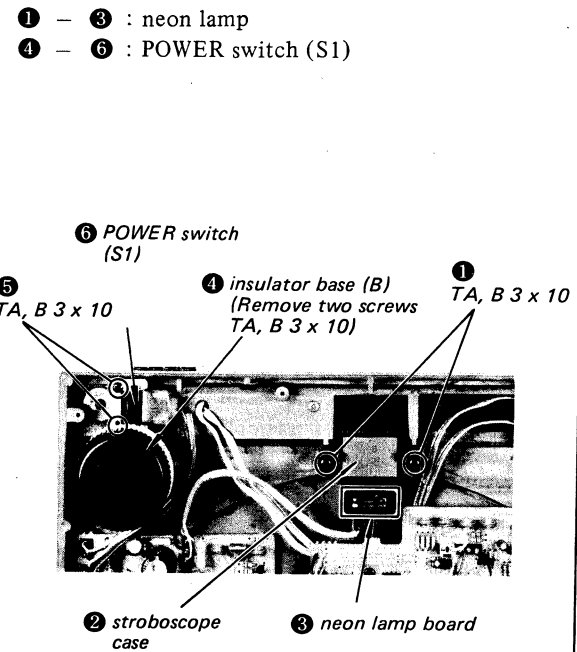
1. Disconnect the motor lead-wires from the servo amp/system control board.
2. Remove the three screws (PSW 3 x 12).
3. Remove the motor.

Label: *PSW 3 x 12*

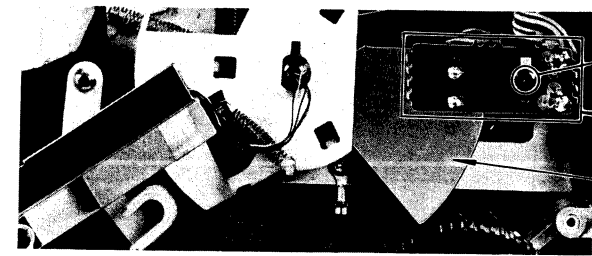
SPEED Switch (S2, 3), START/STOP Switch (S4) and REPEAT Switch (S5) Removal



Neon Lamp (NL1) and POWER Switch (S1) Removal

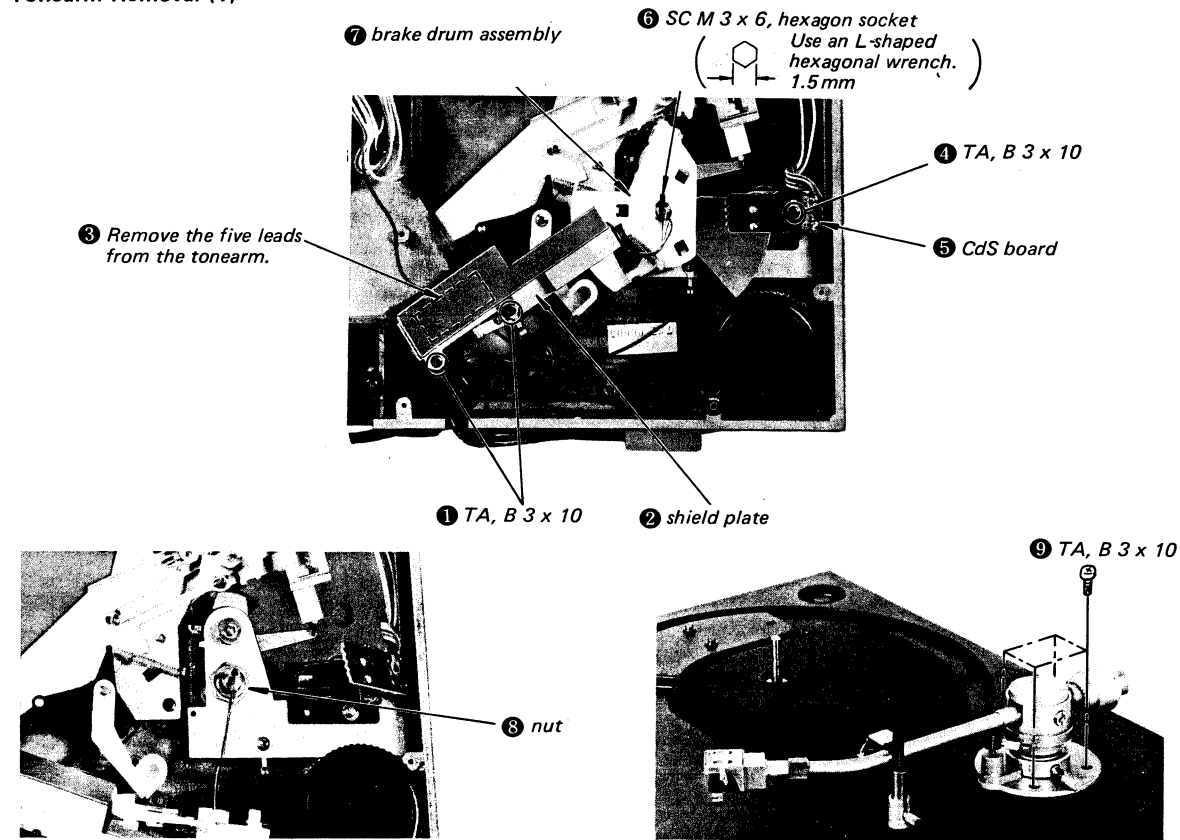


Automatic Return Detecting Lamp (PL1) Replacement

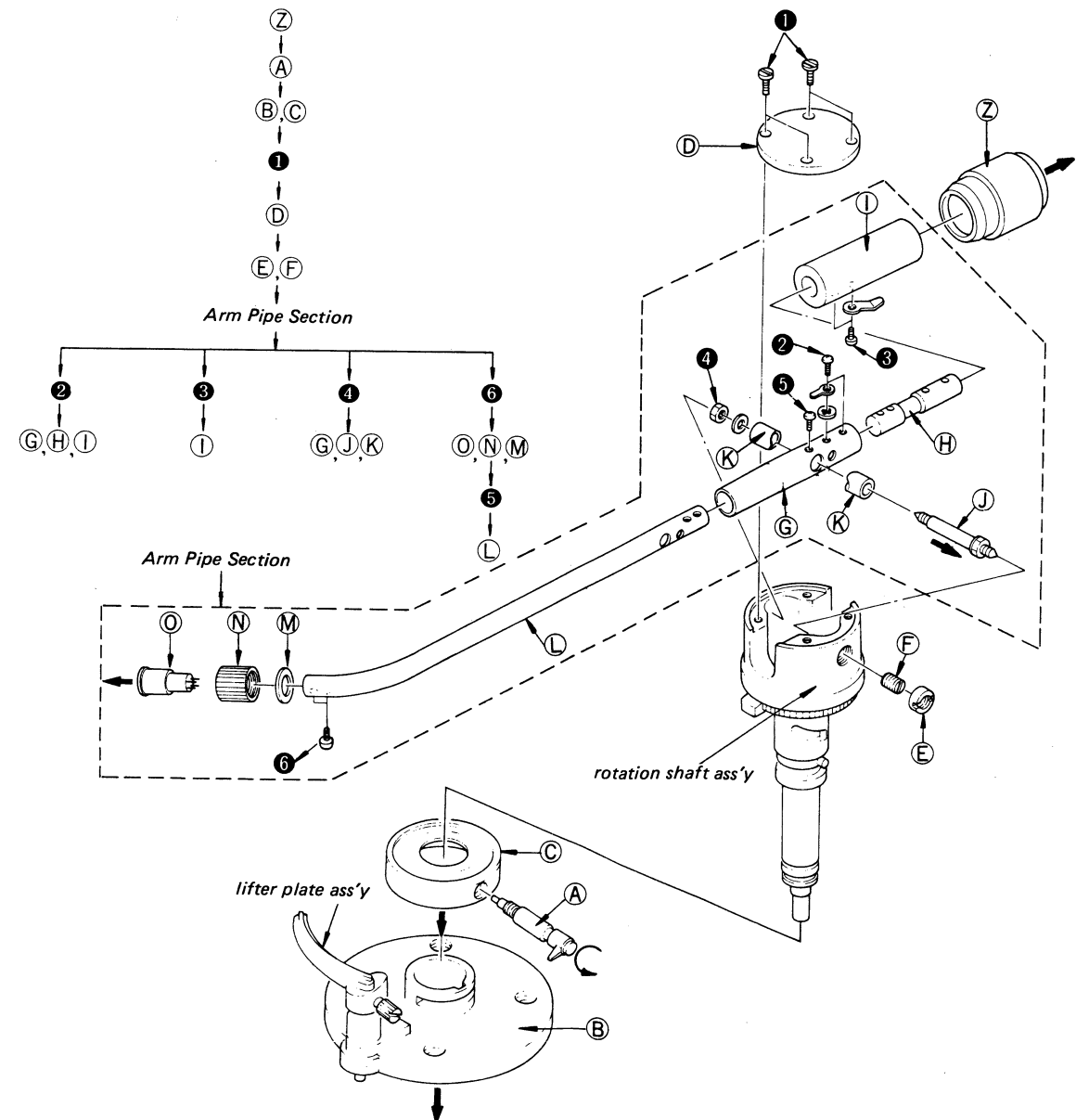


- 3 Bring the tonearm toward center spindle side.
- 4 Remove the lamp from the lamp holder.

Tonearm Removal (1)

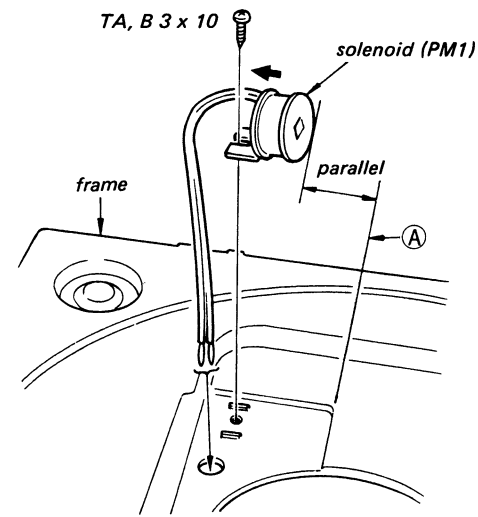


Tonearm Removal (2)

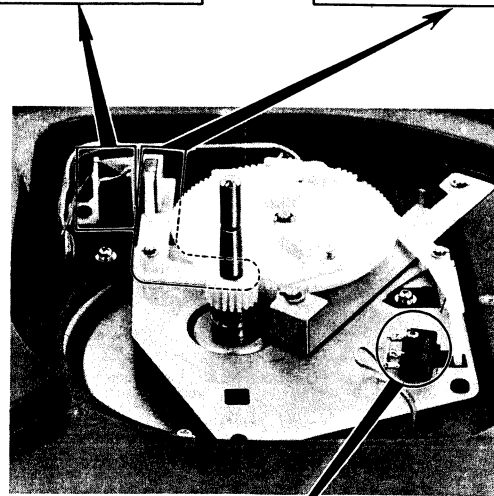
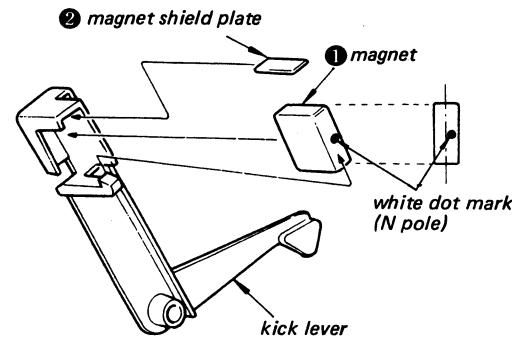


Solenoid (PM1) Installation

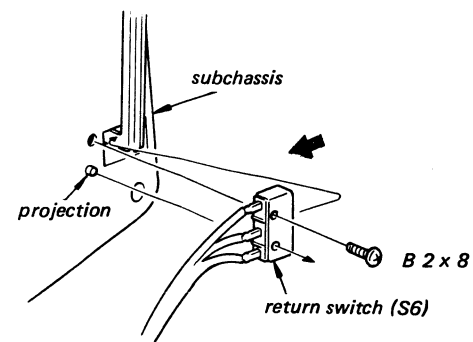
Note: Install the solenoid (PM1) in parallel to the line (A).



Brake Magnet Installation



Return Switch (S6) Installation

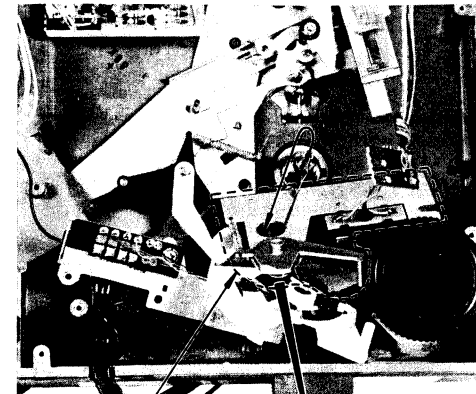


Note on Arm Lifter Mechanism

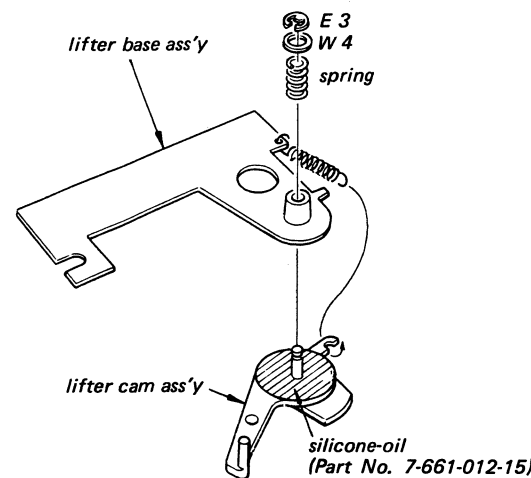
The arm lifter mechanism of this set uses silicone-oil as damper between the lifter cam assembly and the lifter base assembly.

If the arm lifter moves down too quickly, apply silicone-oil in the numerical order given.

1. Perform the tonearm removal (1) on page 5.
2. Remove the lifter base assembly.
3. Remove E3 and the lifter cam assembly from the lifter base assembly.
4. Wipe off the silicone-oil on the lifter cam assembly and the lifter base assembly.
5. Apply silicone-oil (7-661-012-15) on the lifter cam assembly.
6. Install the lifter cam assembly on the lifter base assembly.

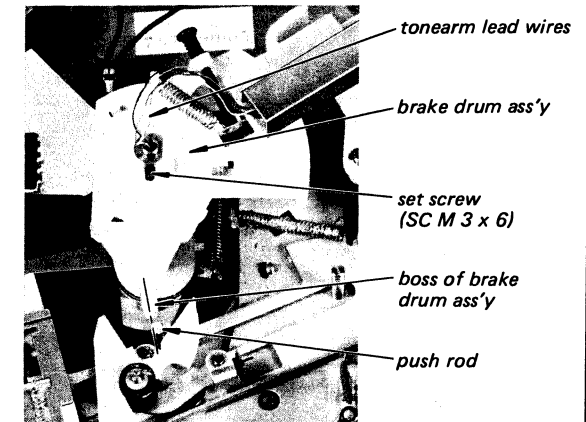


lifter base ass'y
silicone-oil (Part No. 7-661-012-15)

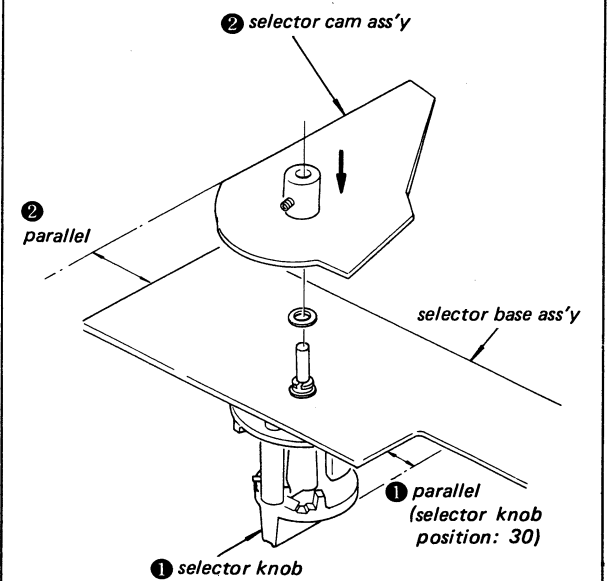


Brake Drum Assembly Installation

1. Thread the lead wires of tonearm in the brake drum assembly.
2. Insert the brake drum assembly in the rotation shaft of tonearm.
3. Place the boss of brake drum assembly as shown below and fix the brake drum assembly with a set screw (SC M 3 x 6).
4. Perform the automatic return adjustment (Refer to the page 13).



Selector Cam Assembly Installation



2. Lead Wire Threading (2)

1) Thread a wire in the rotation shaft assembly.

2) Pull the wire in the direction shown by the arrow.

3. Pivot Needle Installation

Turn the nuts so that A is equal to B.

4. ARM PIPE INSTALLATION

- 1) Loosen the pivot-locking nuts and the pivot bearings.
- 2) Install the pivot needle to the pivot bearings as shown in Fig. A.
- 3) Tighten the pivot bearings temporarily as shown in Fig. B.

5. Cartridge-Lead Wire Connection

blue: left channel (ground)
white: left channel (signal)
green: right channel (ground)
red: right channel (signal)

Fig. A

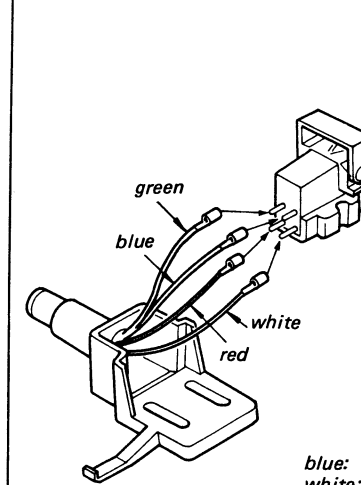
Fig. B

Fig. C

Fig. D

Cartridge-Lead Wire Replacement

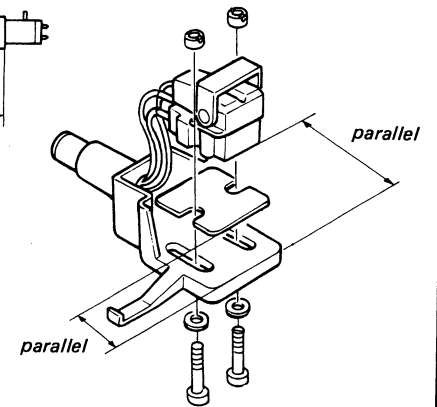
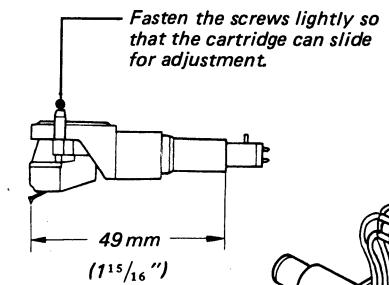
1. Cartridge-Lead Wire Connection



blue: left channel (ground)
white: left channel (signal)
green: right channel (ground)
red: right channel (signal)

2. Cartridge Installation

Install the cartridge into the shell with the mounting screws so that the distance between the shell end and the stylus tip is 49 mm (1¹⁵/₁₆ inches).

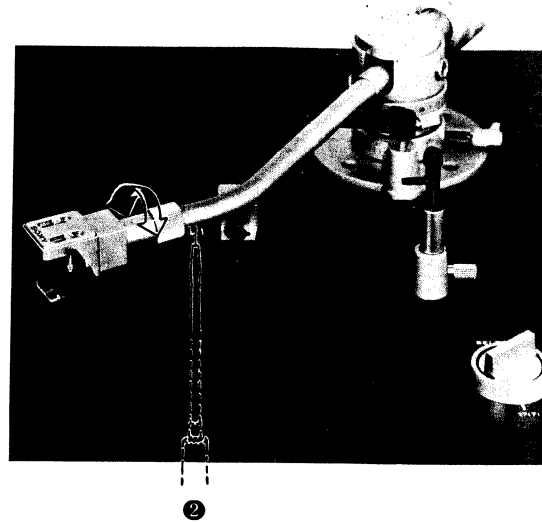


SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

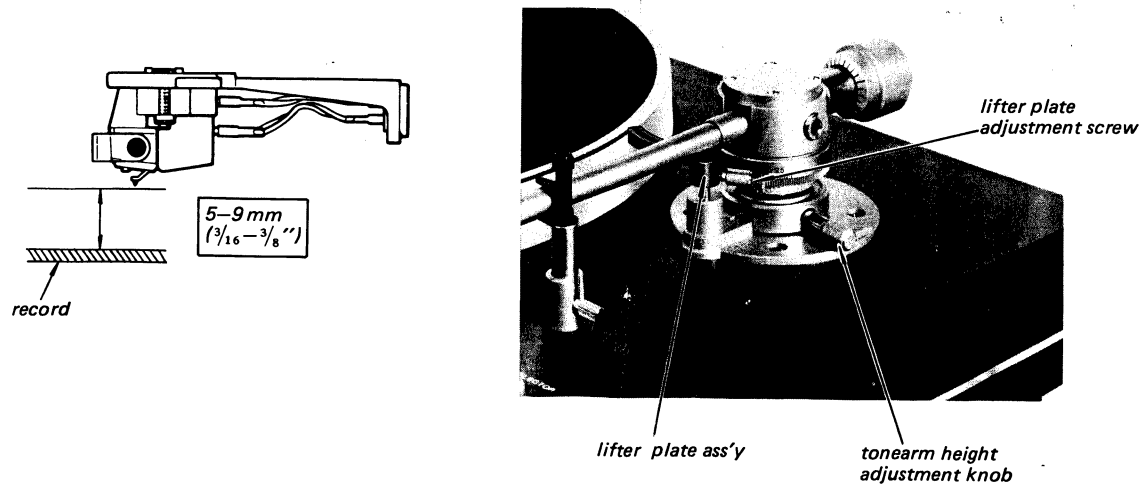
Head Shell Angle Adjustment

- 1. Remove the bottom plate and turntable.



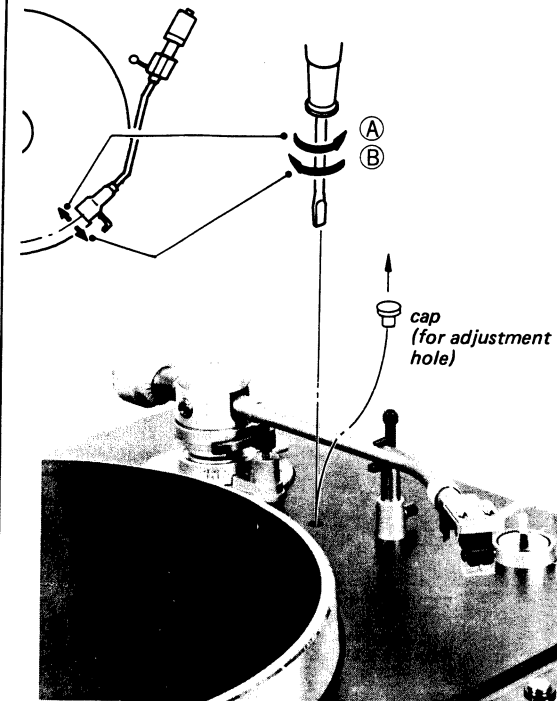
Stylus Height Adjustment

1. Bring the tonearm above the record.
2. Lift the cueing lever up and make sure that the clearance between the stylus tip and the record is 5-9 mm ($\frac{3}{16}$ - $\frac{3}{8}$ inches).
3. If necessary, loosen the lifter plate adjustment screw and adjust the lifter height.



Stylus Drop-point Adjustment

- Remove the cap from the adjustment hole.



1. Set the record size selector lever to the 30 (12") position and make sure that the stylus gets down on the specified point of the test record.

test record: YFSC-16

Record size selector lever position	Count of drop-point
30 (12")	4 to 16
25 (10")	6 to 24
17 (7")	7 to 25

2. If necessary, insert the screwdriver into the hole and adjust the drop-point by turning the adjustment screw.

To change the drop-point inward
Turn the adjustment screw slightly counterclockwise (A).

To change the drop-point outward:
Turn the adjustment screw slightly clockwise (B).

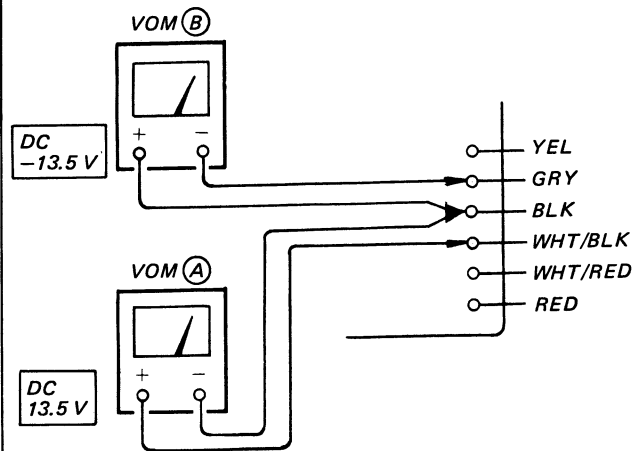
3. Once it is properly adjusted with a 30 cm (12") record, the drop-point will be correct for 17 cm (7") and 25 cm (10") records as well.

Note: The stylus drop-point is changed to about 12 mm ($\frac{1}{2}$ ") by one turn of the adjustment screw.

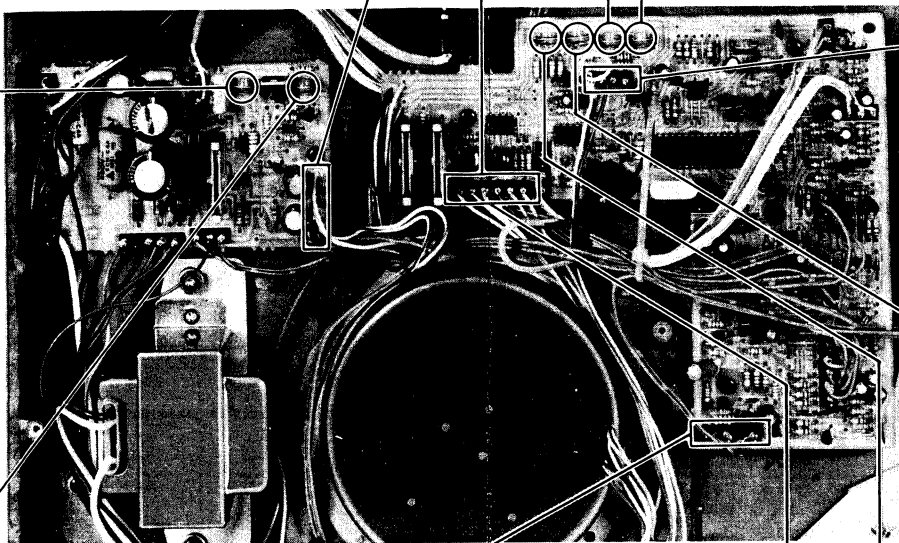
3-2. ELECTRICAL ADJUSTMENTS

B+ Voltage Adjustment

Adjust RV101 for 13.5 V dc reading on the VOM (A), and -13.5 V dc reading on the VOM (B).



RV101

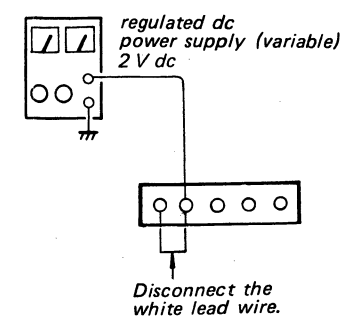


RV206 (H2)
RV205 (H1)

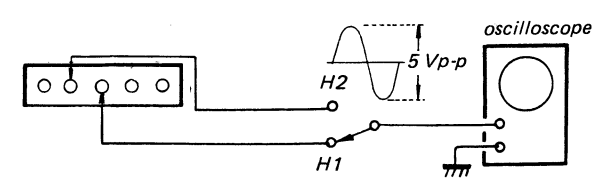
RV203 (H2)
RV204 (H1)

Hall Device Gain Adjustment (33 1/3 rpm)

1. Disconnect the white lead wire and connect the regulated power supply as shown below.

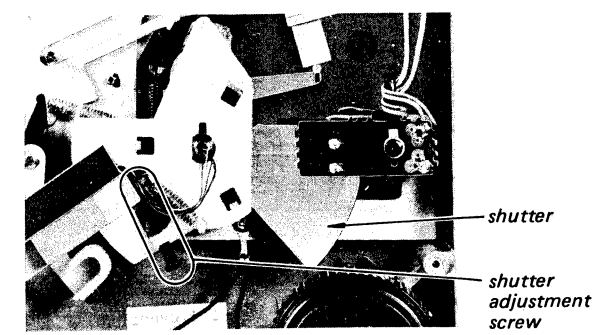
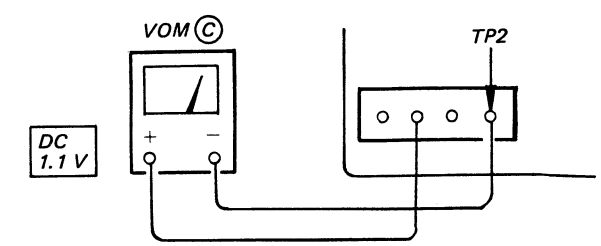


2. Connect an oscilloscope to H1 and adjust RV205 for the specified waveform on the oscilloscope.
3. Connect an oscilloscope to H2 and adjust RV206 for the specified waveform on the oscilloscope.

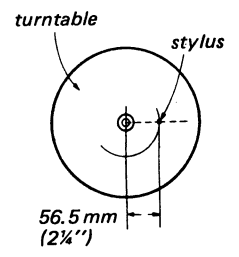


Automatic Return Adjustment

1. Set the power switch on.
2. Bring the tonearm toward the center spindle side.
3. Adjust RV102 for 1.1 V dc reading on the VOM (C).



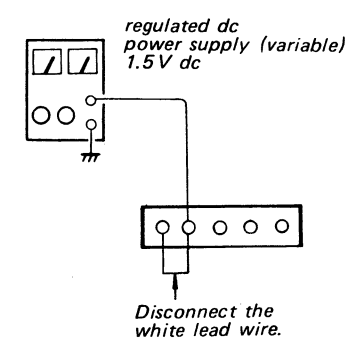
4. Set the stylus position as shown below. Adjust the shutter adjustment screw for 7.3 V dc reading on the VOM (C).



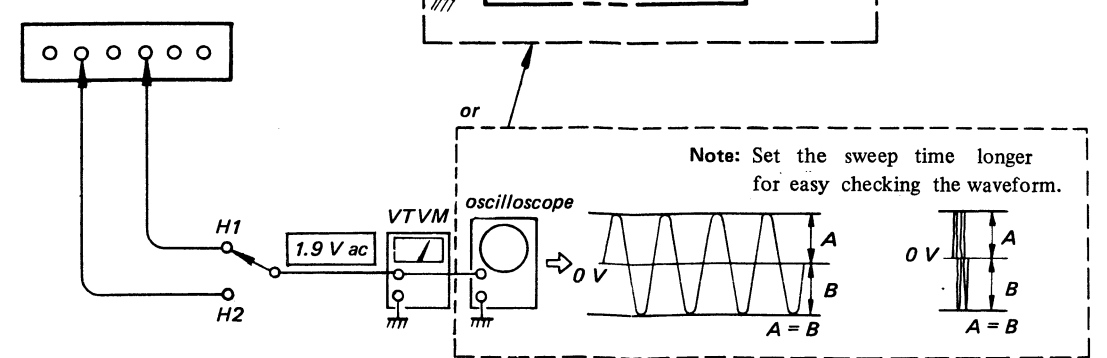
5. Play the test record (YFSC-6, BAND 2, 33 rpm).
6. Turn the shutter adjustment screw so that tonearm starts to return at count of 15-17.
7. Play the test record (YFSC-6, BAND 3, 33 rpm).
8. Adjust RV102 so that the tonearm starts to return when only 1 kHz playback signal is heard.
9. If RV102 is turned, readjust the steps 4 to 7 several times.

Motor Amp Offset Adjustment (33 rpm)

1. Disconnect the white lead wire and connect the regulated power supply as shown below.

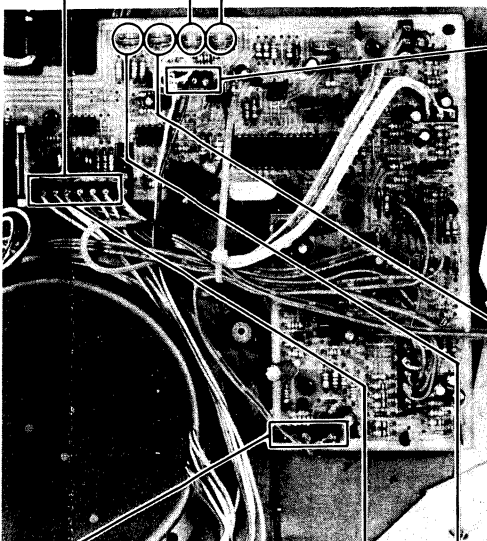


2. Connect VTVM or oscilloscope to H1 and adjust RV204 for 0 V dc VTVM reading or the waveform on oscilloscope as shown below.
3. Connect VTVM or oscilloscope to H2 and adjust RV203 for 0 V dc VTVM reading or the waveform on oscilloscope as shown below.



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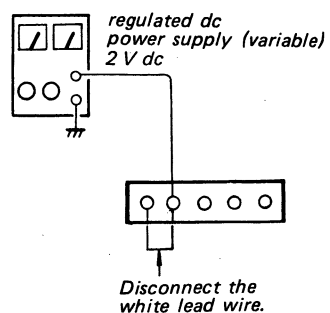


RV206 (H2)
RV205 (H1)

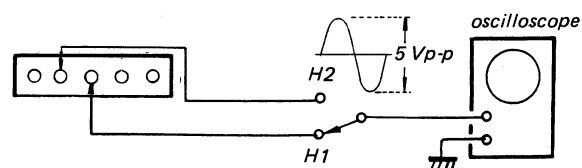
RV203 (H2)
RV204 (H1)

Hall Device Gain Adjustment (33 1/3 rpm)

1. Disconnect the white lead wire and connect the regulated power supply as shown below.

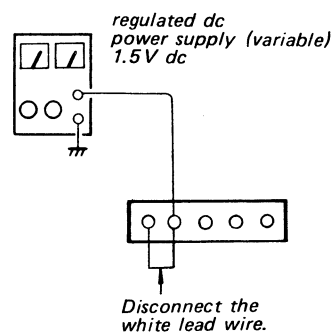


2. Connect an oscilloscope to H1 and adjust RV205 for the specified waveform on the oscilloscope.
3. Connect an oscilloscope to H2 and adjust RV206 for the specified waveform on the oscilloscope.

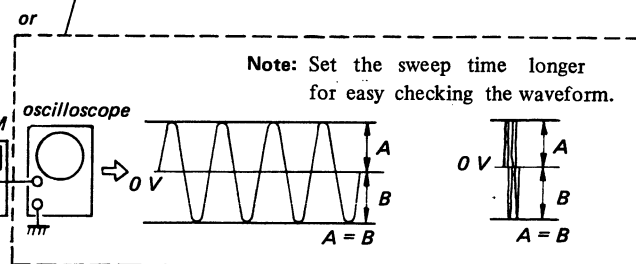
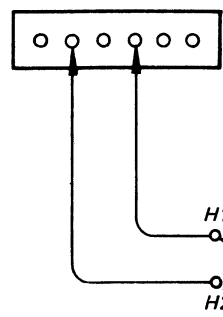
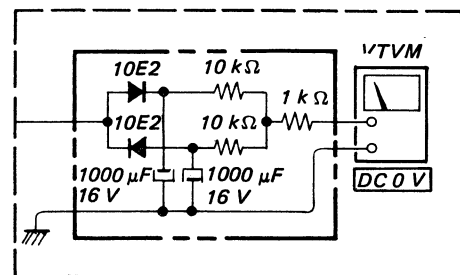


Motor Amp Offset Adjustment (33 rpm)

1. Disconnect the white lead wire and connect the regulated power supply as shown below.



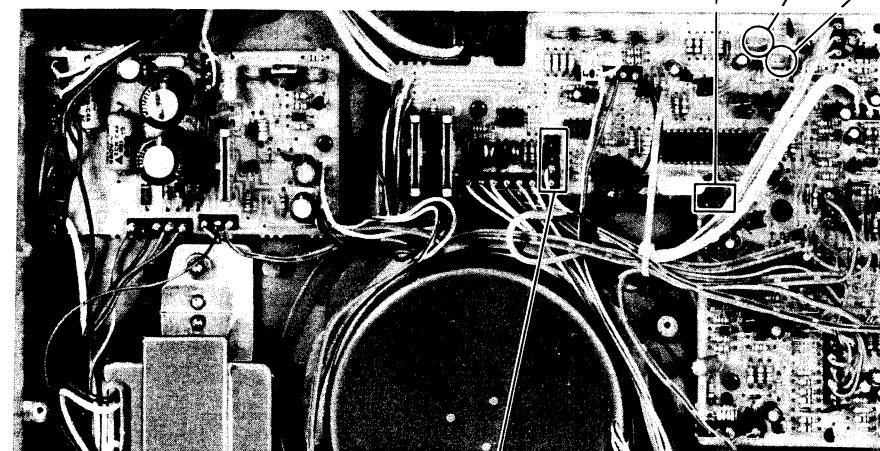
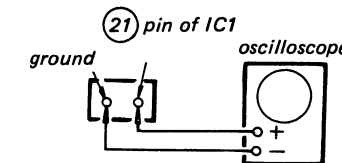
2. Connect VTVM or oscilloscope to H1 and adjust RV204 for 0 V dc VTVM reading or the waveform on oscilloscope as shown below.
3. Connect VTVM or oscilloscope to H2 and adjust RV203 for 0 V dc VTVM reading or the waveform on oscilloscope as shown below.



Turntable Speed Adjustment

1. Set the SPEED switch (S2, 3) to "45" position.
2. Reference waveform: Note: Waveform must appear ⊕ side.
3. If the correct waveform does not appear, adjust RV202 (45 rpm).
4. Set the SPEED switch (2, 3) to "33" position.

5. Reference waveform: Note: Waveform must appear ⊕ side.
6. If the correct waveform does not appear, adjust RV201 (33 rpm) so that the stroboscope pattern appears stationary.



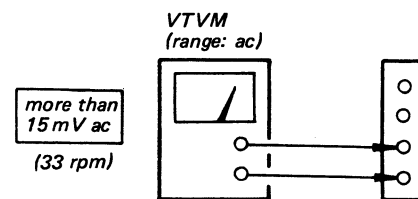
RV202 (45 rpm)
RV201 (33 rpm)

Speed Detecting Head Output Level Adjustment

Power switch: ON

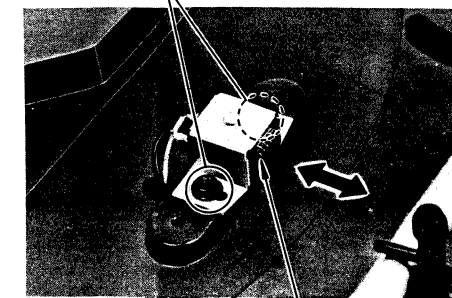
1. Adjust the position of the head so that the VTVM reading is more than 15 mV ac at 33 rpm.
2. Make sure that the head does not touch the turntable and tighten the screws securely.

Note: The clearance between the magnet coated rim and the speed detecting head must be more than 0.3 mm.




— Adjustment Location —


BVTT, 3 x 12



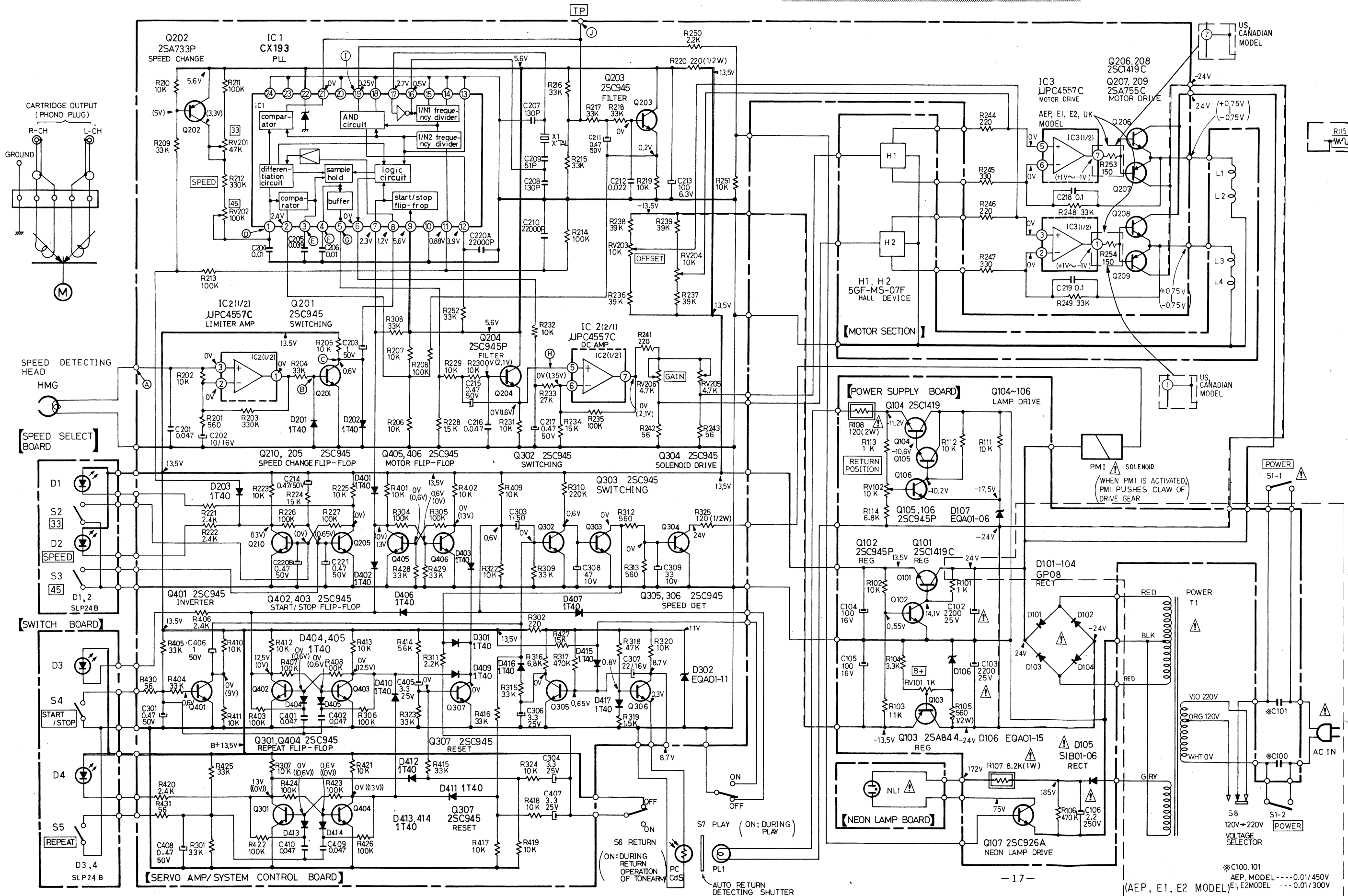
speed detecting head (HMG)

SECTION 4
DIAGRAMS

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

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

4-1. SCHEMATIC DIAGRAM

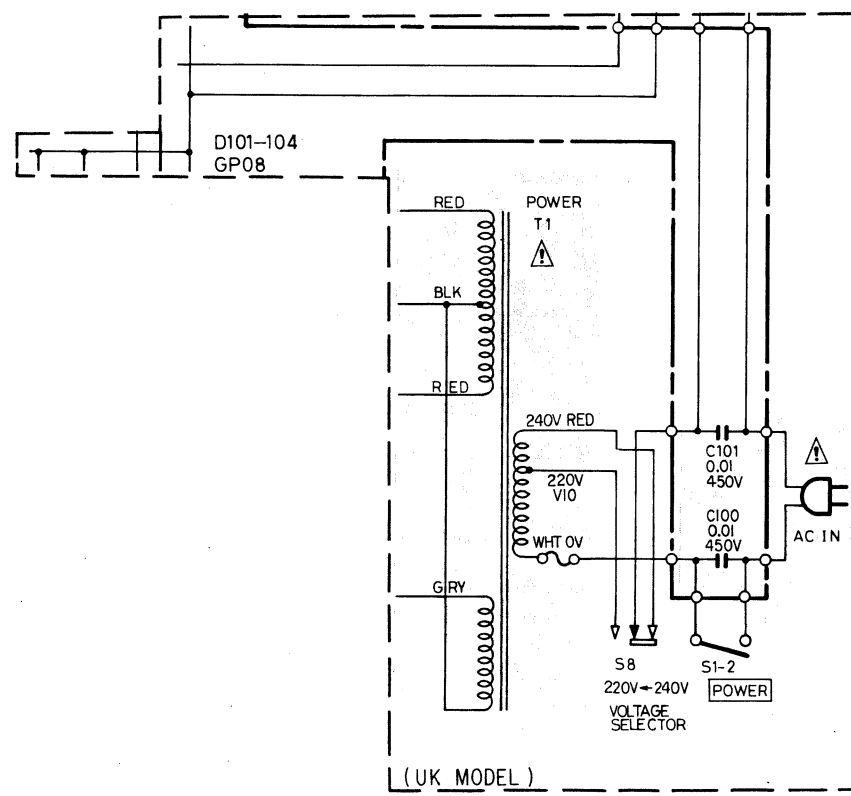
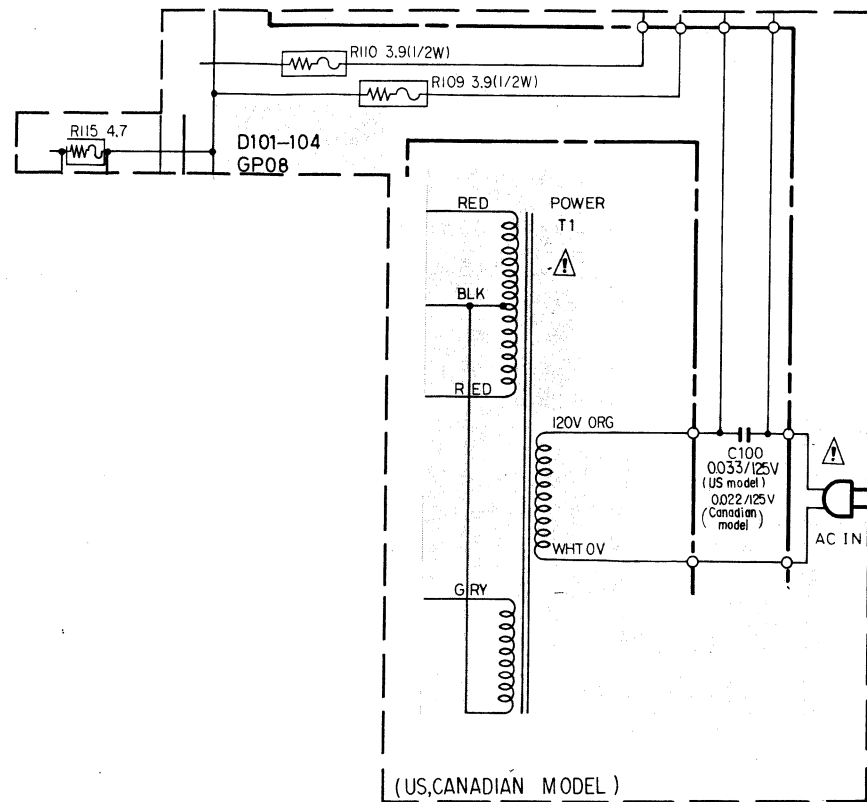
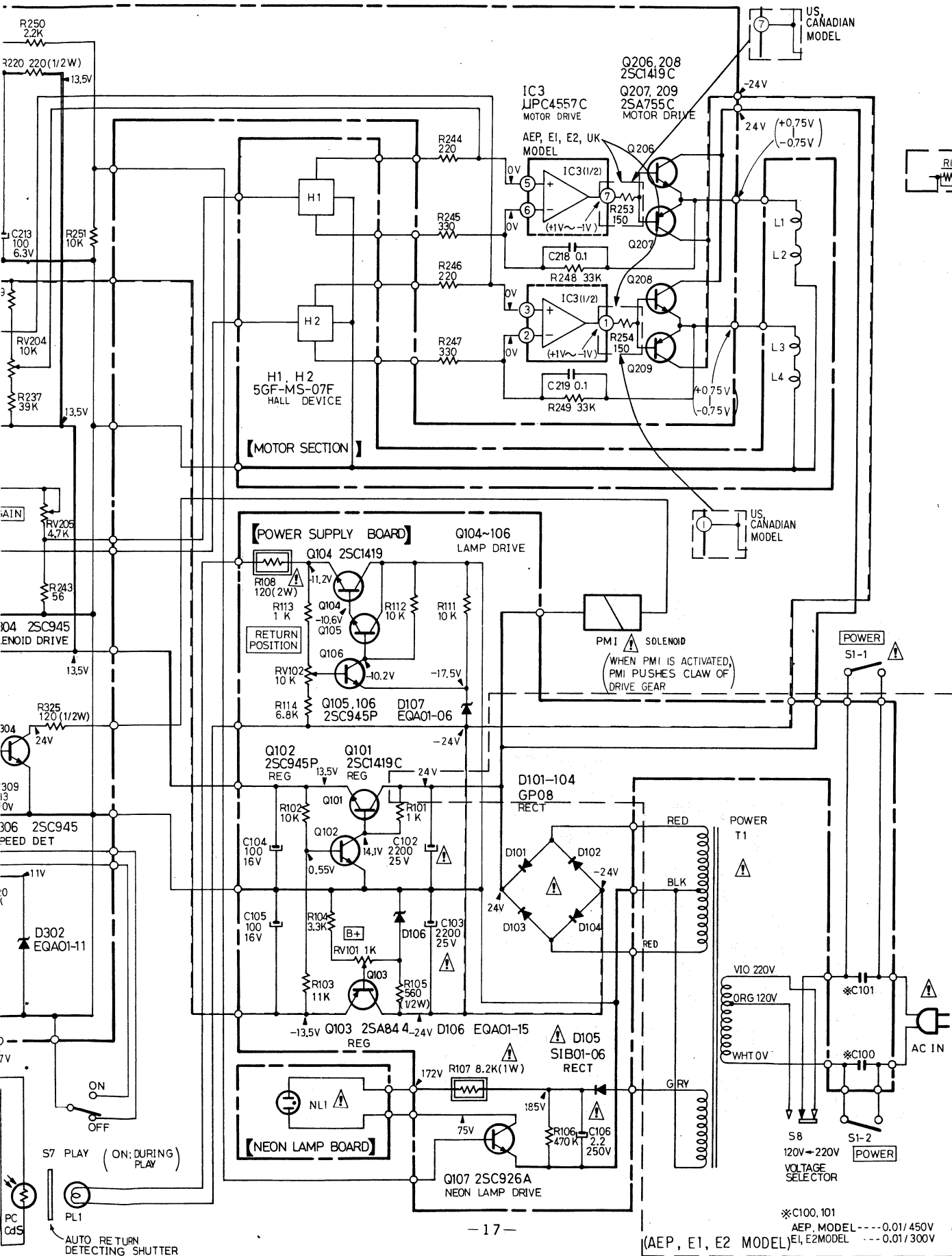


*C100, 101 AEP, MODEL ----- 0.01/450V E1, E2 MODEL ----- 0.01/300V

and mark only with

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

PS-X60 PS-X60

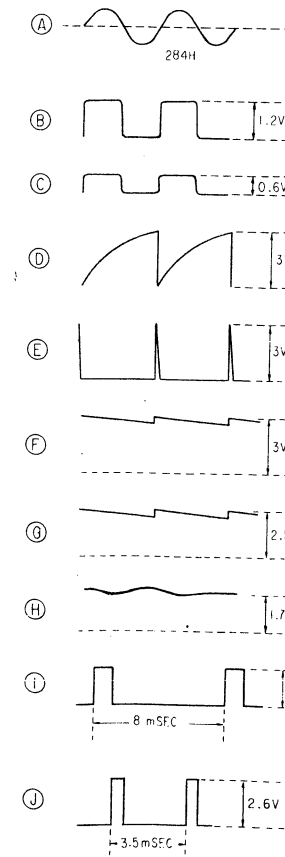


Note.

- All capacitors are in μF unless otherwise noted. $\text{pF} : \mu\text{F}$ 50WV or less are not indicated except for electrolytics.
- All resistors are in Ω , $\frac{1}{4} \text{W}$ unless otherwise noted. $\text{K}\Omega : 1000 \Omega$; $\text{M}\Omega : 1000 \text{k}\Omega$
- \square : nonflammable resistor.
- \square : panel designation.
- \square : adjustment for repair.
- All adjustable resistors have characteristic curve B, unless otherwise noted.
- --- : B+ bus.
- --- : B- bus.
- Readings are taken under no-signal conditions with a VOM ($20 \text{k}\Omega/\text{V}$).
- no mark : Tonearm is on arm rest.
- S1 (POWER) ON
- () : S2 (SPEED 33) ON
- Tonearm is on arm rest.
- Selector knob MANUAL
- S1 (POWER) ON
- S4 (START/STOP) ON
- (()) When S5 (REPEAT) is pressed during play at 33 rpm.

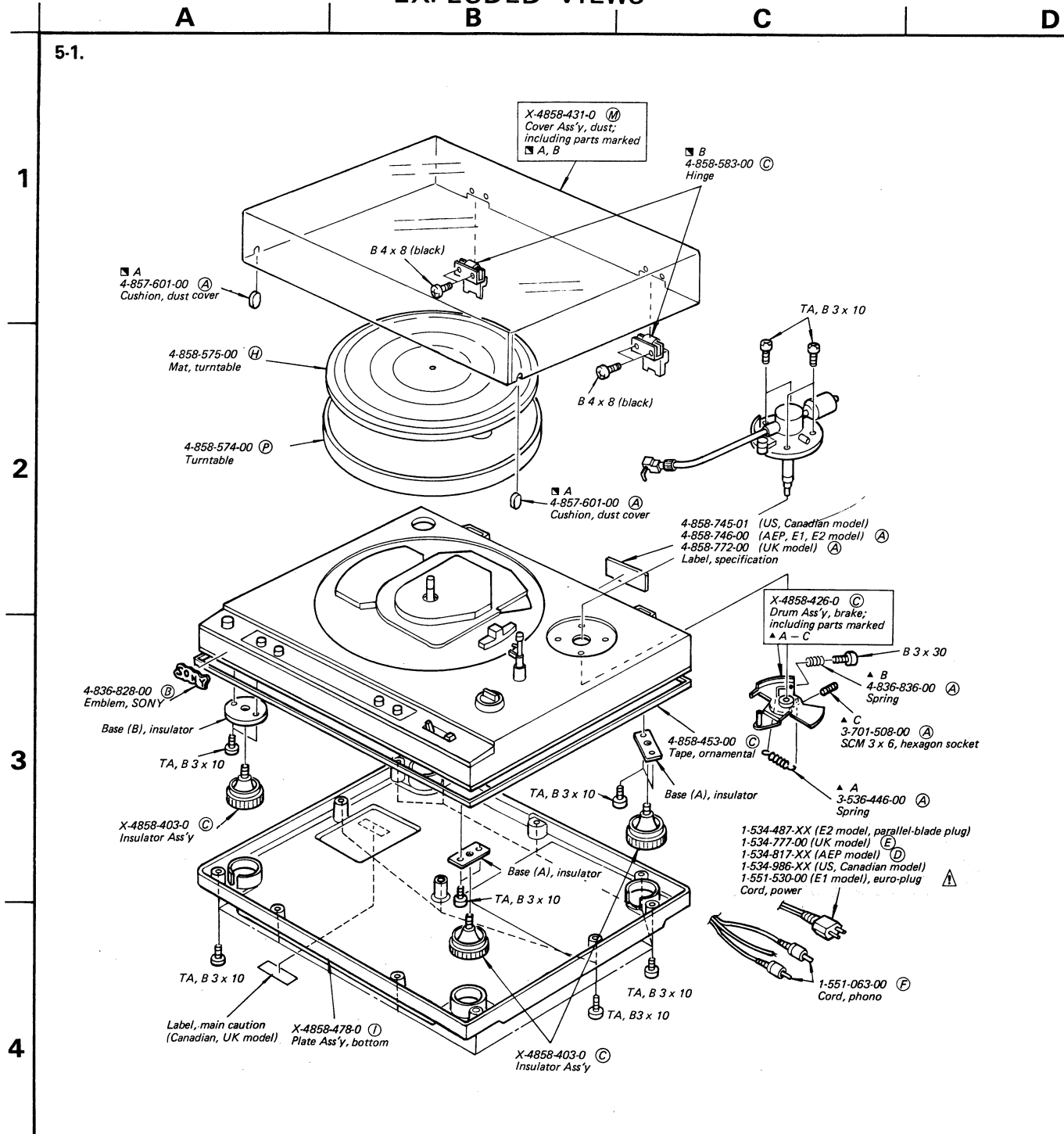
• Switch

Ref. No.	Switch	Position
S1	POWER	OFF
S2	SPEED 33	OFF
S3	SPEED 45	OFF
S4	START/STOP	OFF
S5	REPEAT	OFF
S6	RETURN	OFF
S7	PLAY	OFF
S8	VOLTAGE SELECTOR	220 V (AEP, E1, E2 model) 240 V (UK model)



*C100, 101
AEP, MODEL --- 0.01/450V
E1, E2 MODEL --- 0.01/300V

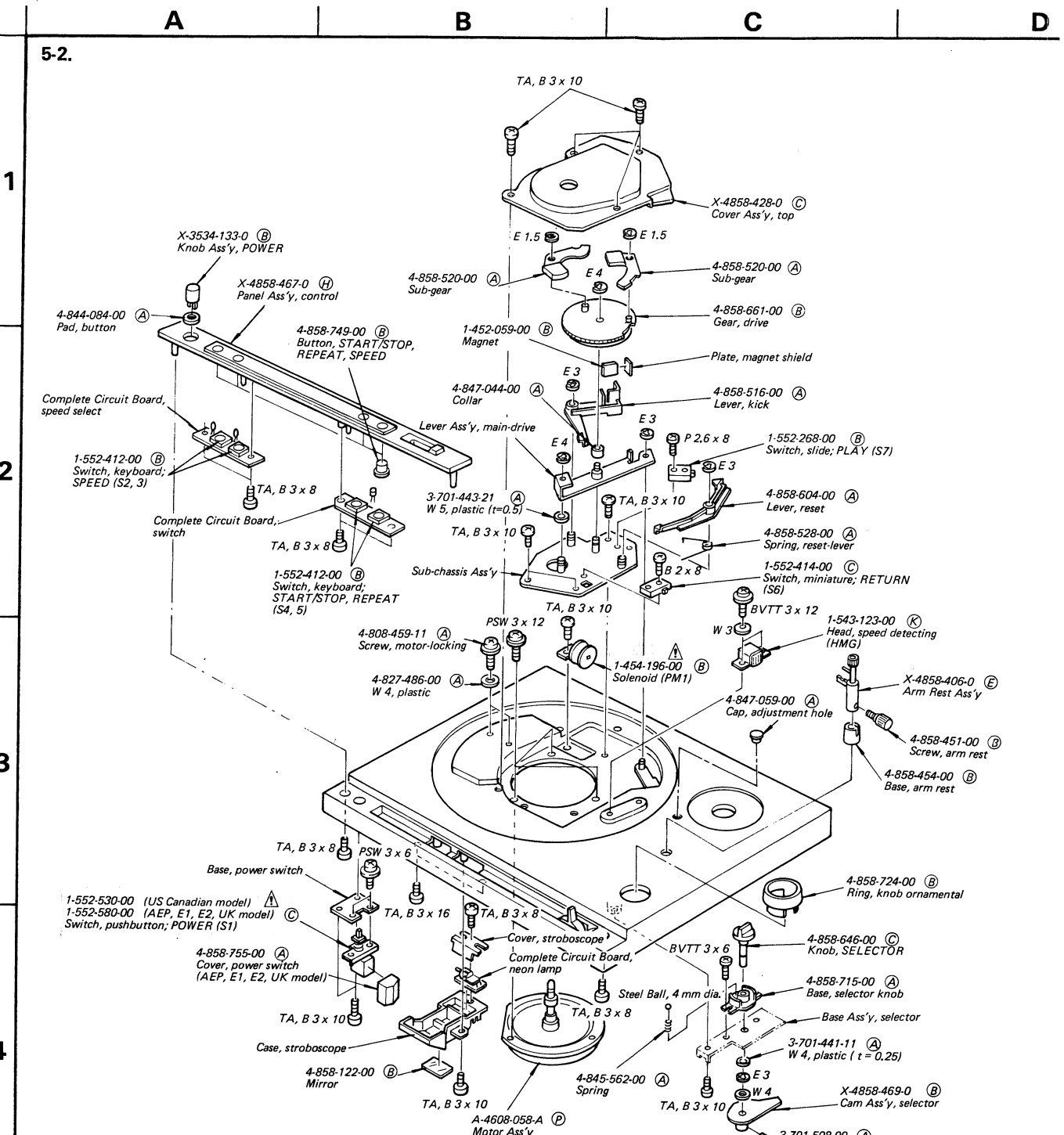
SECTION 5
EXPLODED VIEWS



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

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

- Note:**
- Circled letters (A) to (Z) are applicable to European models only.
 - Items with no part number and/or no description are not stocked because they are seldom required for routine service.
 - All screws are Phillips (cross recess) type unless otherwise noted.
(-) = slotted head



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

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

- Note:**
- Circled letters (A) to (Z) are applicable to European models only.
 - Items with no part number and/or no description are not stocked because they are seldom required for routine service.
 - All screws are Phillips (cross recess) type unless otherwise noted.
(-) = slotted head

SECTION 6

ELECTRICAL PARTS LIST

Note: Circled letters (A to Z) are applicable to European models only.

Ref. No. Part No. Description

SEMICONDUCTORS

Transistors

- ⇒ Q101 8-729-316-12 (D) 2SC1061
- ⇒ Q102 8-729-663-47 (B) 2SC1364
- ⇒ Q103 8-727-788-00 (B) 2SA678
- ⇒ Q104 8-729-316-12 (D) 2SC1061
- ⇒ Q105, 106 8-729-663-47 (B) 2SC1364
- Q107 8-720-950-03 (C) 2SC926A

- ⇒ Q201 8-729-663-47 (B) 2SC1364
- ⇒ Q202 8-727-788-00 (B) 2SA678
- ⇒ Q203-205 8-729-663-47 (B) 2SC1364
- ⇒ Q206 8-729-316-12 (D) 2SC1061
- ⇒ Q207 8-729-317-12 (E) 2SA671

- ⇒ Q208 8-729-316-12 (D) 2SC1061
- ⇒ Q209 8-729-317-12 (E) 2SA671
- ⇒ Q210 8-729-663-47 (B) 2SC1364

- ⇒ Q301-307 8-729-663-47 (B) 2SC1364
- ⇒ Q401-406 8-729-663-47 (B) 2SC1364

ICs

- IC1 8-751-930-00 (K) CX193
- IC2, 3 8-759-145-57 (C) μ PC4557C

Diodes

- D1-4 8-719-900-24 (C) SLP24B
- ⇒ D101-104 (A) 8-719-200-02 (B) 10E2
- ⇒ D105 (A) 8-719-210-06 (B) 10D6
- ⇒ D106 8-719-931-15 (B) EQB01-15
- ⇒ D107 8-719-931-06 (B) EQB01-06

- ⇒ D201-203 8-719-815-55 (B) 1S1555
- ⇒ D301 8-719-815-55 (B) 1S1555
- ⇒ D302 8-719-930-11 (B) EQB01-11
- ⇒ D401-407 8-719-815-55 (B) 1S1555
- ⇒ D409-417 8-719-815-55 (B) 1S1555

Hall Devices

- H1, 2 8-719-905-07 (D) SGF-MS-07F

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

⇒ Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

Ref. No. Part No. Description

TRANSFORMERS

- T1 (A) 1-442-877-00 Power (US, Canadian model)
- T1 (A) 1-446-175-00 (L) Power (AEP, E1, E2 model)
- T1 (A) 1-446-199-00 (L) Power (UK model)

CAPACITORS

All capacitors are in μ F and ceramic unless otherwise noted. 50 WV or less are not indicated except for electrolytics. p : μ F, elect : electrolytic

- C100, 101 (A) 1-108-779-00 0.01 300 V mylar (E1, E2 model)
- C100, 101 (A) 1-115-148-00 (C) 0.01 450 V paper (AEP, UK model)
- C100 (A) 1-130-098-00 0.022 125 V polyethylene (Canadian model)
- C100 (A) 1-108-750-00 0.033 125 V mylar (US model)
- C102, 103 (A) 1-123-047-00 (C) 2200 25 V elect
- C104, 105 1-121-415-00 (A) 100 16 V elect
- C106 (A) 1-123-027-00 (B) 2.2 250 V elect

- C201 1-101-925-00 (A) 0.047
- C202 1-121-651-00 (A) 10 16 V elect
- C203 1-121-391-00 (A) 1 50 V elect
- C204 1-108-804-00 (A) 0.01 mylar
- C205 1-108-360-00 (A) 0.039 mylar

- C206 1-108-804-00 (A) 0.01 mylar
- C207, 208 1-101-081-00 (A) 130 p
- C209 1-102-491-00 (A) 51 p
- C210, 220A 1-101-924-00 (A) 22000 p
- C211 1-121-726-00 (A) 0.47 50 V elect

- C212 1-108-242-00 (A) 0.022 mylar
- C213 1-124-413-00 (A) 100 6.3 V elect
- C214, 215 1-121-726-00 (A) 0.47 50 V elect
- C216 1-108-812-00 (A) 0.047 mylar
- C217 1-121-726-00 (A) 0.47 50 V elect

- C218, 219 1-108-870-00 (A) 0.1 mylar
- C220B, 221 1-121-726-00 (A) 0.47 50 V elect
- C301 1-121-726-00 (A) 0.47 50 V elect

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

Ref. No. Part No. Description

- C303 1-121-391-00 (A) 1 50 V elect
- C304, 306 1-121-392-00 (A) 3.3 25 V elect
- C307 1-121-479-00 (A) 22 16 V elect
- C308 1-121-352-00 (A) 47 10 V elect
- C309 1-121-402-00 (A) 33 10 V elect

- C401, 402 1-101-952-00 (A) 0.047
- C405 1-121-392-00 (A) 3.3 25 V elect
- C406 1-121-391-00 (A) 1 50 V elect
- C407 1-121-392-00 (A) 3.3 25 V elect
- C408 1-121-726-00 (A) 0.47 50 V elect
- C409, 410 1-101-925-00 (A) 0.047

RESISTORS

All resistors are in ohms. Common $\frac{1}{4}$ W carbon resistors are omitted.

All adjustable resistors have characteristic curve B, unless otherwise noted. k Ω : 1000 Ω , M Ω : 1000 k Ω

- R105 1-244-867-00 (A) 560 $\frac{1}{2}$ W carbon
- R107 (A) 1-213-154-00 (A) 8.2 k 1 W metal oxide (nonflammable)
- R108 (A) 1-206-642-00 (A) 120 2 W metal oxide (nonflammable)
- R109, 110 (A) 1-212-948-00 3.9 $\frac{1}{2}$ W fusible (US, Canadian model)
- R115 (A) 1-217-383-00 4.7 $\frac{1}{4}$ W fusible (US, Canadian model)

- R220 1-244-857-00 (A) 220 $\frac{1}{2}$ W carbon
- R325 1-244-851-00 (A) 120 $\frac{1}{2}$ W carbon

- RV101 1-224-631-00 (A) 1 k, adjustable; B+ VOLTAGE
- RV102 1-224-645-XX (A) 10 k, adjustable; RETURN POSITION
- RV201 1-224-636-00 (A) 47 k, adjustable; SPEED 33
- RV202 1-224-648-XX (B) 100 k, adjustable; SPEED 45
- RV203, 204 1-224-634-00 (B) 10 k, adjustable; OFFSET
- RV205, 206 1-224-633-00 (B) 4.7 k, adjustable; GAIN

- S1 (A) 1-552-530-00 Pushbutton, power (US, Canadian model)
- S1 (A) 1-552-580-00 (C) Pushbutton, power (AEP, UK, E1, E2 model)

SWITCHES

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

Note: Circled letters (A to Z) are applicable to European models only.

Ref. No. Part No. Description

- S2-5 1-552-412-00 (B) Keyboard, SPEED, START/ STOP, REPEAT
- S6 1-552-414-00 (B) Miniature, RETURN
- S7 1-552-268-00 (B) Slide, PLAY

- S8 (A) 1-552-535-00 (C) Voltage Selector (AEP, E1, E2, UK model)

MISCELLANEOUS

- HMG 1-543-123-00 (K) Head, speed detecting
- NL1 (A) 1-519-152-00 (B) Lamp, neon
- PC 1-800-652-00 (B) CdS
- PL1 1-518-234-00 (B) Lamp
- PM1 (A) 1-454-196-00 (B) Solenoid
- X1 1-527-380-21 (D) Crystal

- A-4505-003-A Cartridge Ass'y, XL-15 (E1, E2 model)
- A-4608-058-A (P) Motor Ass'y
- 1-452-059-00 (B) Magnet
- 1-533-051-XX (A) Holder, lamp
- (A) 1-534-487-XX Cord, power; E2 model; parallel-blade plug

- (A) 1-534-777-00 (B) Cord, power (UK model)
- (A) 1-534-817-XX (D) Cord, power (AEP model)
- (A) 1-534-986-XX Cord, power (US, Canadian model)
- 1-551-063-00 (F) Cord, phono
- (A) 1-551-530-00 Cord, power; E1 model; euro-plug
- 1-561-202-00 (F) Connector, head shell

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

Note: Circled letters (A to Z) are applicable to European models only.

ACCESSORIES AND PACKING MATERIALS

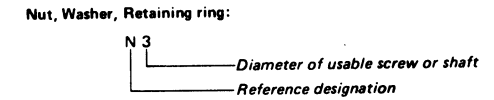
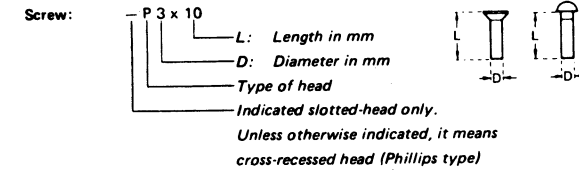
Part No.	Description
2-056-532-00	(B) Screw (A), cartridge (AEP, US, Canadian, UK model)
2-224-081-00	(A) Screw (E), cartridge (AEP, US, Canadian, UK model)
2-227-313-00	(A) Spacer (AEP, US, Canadian, UK model)
3-701-438-21	(A) W 2.5, plastic (AEP, US, Canadian, UK model)
3-701-613-00	(A) Bag, plastic
3-701-614-00	(A) Bag, plastic (AEP, US, Canadian, UK model)
3-701-616-00	(A) Bag, plastic
3-701-630-00	(A) Bag, plastic
3-701-634-00	(A) Bag, plastic
3-710-806-00	(A) Adaptor, 45 r.p.m.
3-770-585-11	(D) Manual, instruction (AEP, E1, E2, UK model)
3-770-585-21	Manual, instruction (US, Canadian model)
3-794-265-11	Sheet, XL-15 (E1, E2 model)
3-749-284-31	Manual, instruction; French (Canadian model)
4-815-655-00	(A) Nut (A), cartridge (AEP, US, Canadian, UK model)
4-848-002-00	(A) Cushion, arm pipe
4-858-407-00	(A) Drop-point Adjustment Key
4-858-483-00	(C) Extra Weight
4-858-585-00	(C) Cushion, right
4-858-586-00	(C) Cushion, left
4-858-587-00	(B) Case, accessory
4-858-588-00	(C) Bag, protection
4-858-589-00	(A) Plate, protection
4-858-590-00	(C) Box, accessory
4-858-593-00	(A) Cushion, main weight shaft
4-858-735-00	(F) Carton

Specifications for Cartridge XL-15 (E model)

Type: Moving-magnet
 Frequency Response: 10 - 30,000 Hz
 Channel Separation: 25 dB at 1 kHz
 Output Voltage: 4 mV at 1 kHz, 5 cm/sec, 45°
 Load Impedance: 50 kΩ
 Tracking Force: 1.2 - 2.5 g (1.7 g recommended)
 Stylus: Sony ND-15G (conical 0.5 mil diamond)
 Weight: 5.2 g

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	1-246-425-00	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
SCREWS			
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-fillister-head screw	
RF		fillister-head screw	
BV		braizer-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
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
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	

Sony Corporation

79A05103-1

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STEREO TURNTABLE SYSTEM

PS-X60

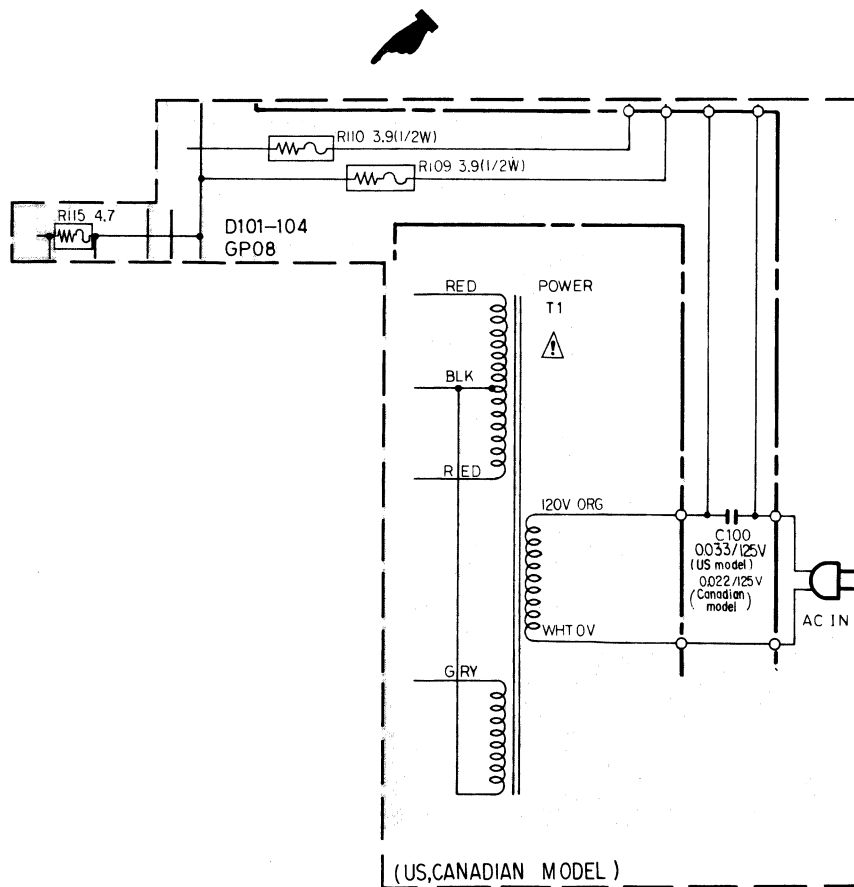
*US Model
Canadian Model
AEP Model
UK Model
E Model*

CORRECTION

 : Corrected Portion. Correct the service manual as shown below.

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January, 1979

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SONY®

SERVICE MANUAL