

The home of the turntable

THE VINYL ENGINE®

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PS-4300

*US Model
Canadian Model
AEP Model
E Model*



FULL AUTOMATIC STEREO TURNTABLE SYSTEM

SPECIFICATIONS

GENERAL

Power Requirements:	120V ac, 60 Hz (US, Canadian model) 110, 127, 220 or 240V ac \sim , adjustable, 50/60 Hz (AEP model) 100, 120, 220 or 240V ac, adjustable, 50/60 Hz (E model)
Power Consumption:	12W (US, Canadian model) 13W (AEP model) 10W (E model)
Dimensions:	Approx. 445 (w) x 155 (h) x 375 (d) mm 17 ⁵ / ₈ (w) x 6 ¹ / ₈ (h) x 14 ⁷ / ₈ (d) inches
Weight:	Approx. 10.3 kg, 22 lb 12 oz (net) Approx. 11.5 kg, 25 lb 6 oz (in shipping carton)

TURNTABLE

Platter:	31.4 cm (12 ³ / ₈ inches), aluminum-alloy diecast
Motor:	DC servo-controlled motor (brushless)
Drive System:	Direct drive
Speed:	33 ¹ / ₃ rpm, 45 rpm
Pitch Control Range:	$\pm 4\%$
Wow and Flutter:	$\pm 0.045\%$ (DIN) 0.03% (WRMS)
S/N Ratio:	70 dB (DIN-B)

TO NEARM

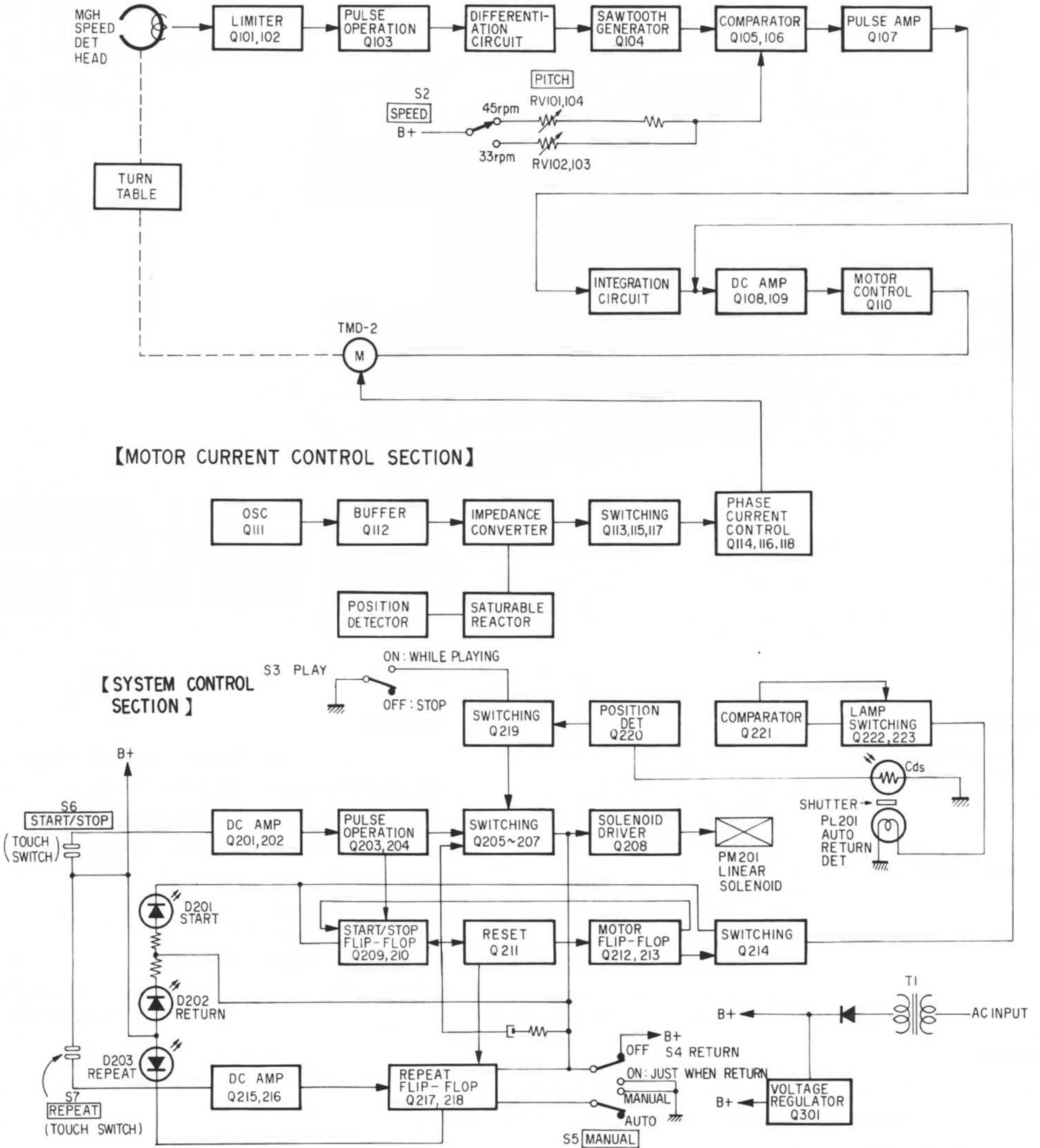
Type:	Statically balanced, universal
Pivot to Stylus Length:	216.5 mm (8 ¹ / ₂ inches)
Overall Arm Length:	300 mm (11 ³ / ₄ inches)
Overhang:	16.5 mm (⁵ / ₈ inches)
Tracking Error:	Within +3°, -1°
Tracking-force Adjustment Range:	0–3 g
Shell Weight:	7.5 g
Cartridge Weight Range:	4–10 g (without extra weight) 10–15.5 g (with extra weight)

Cartridge is not supplied with this turntable system.

SONY[®]
SERVICE MANUAL

SECTION 1 BLOCK DIAGRAM

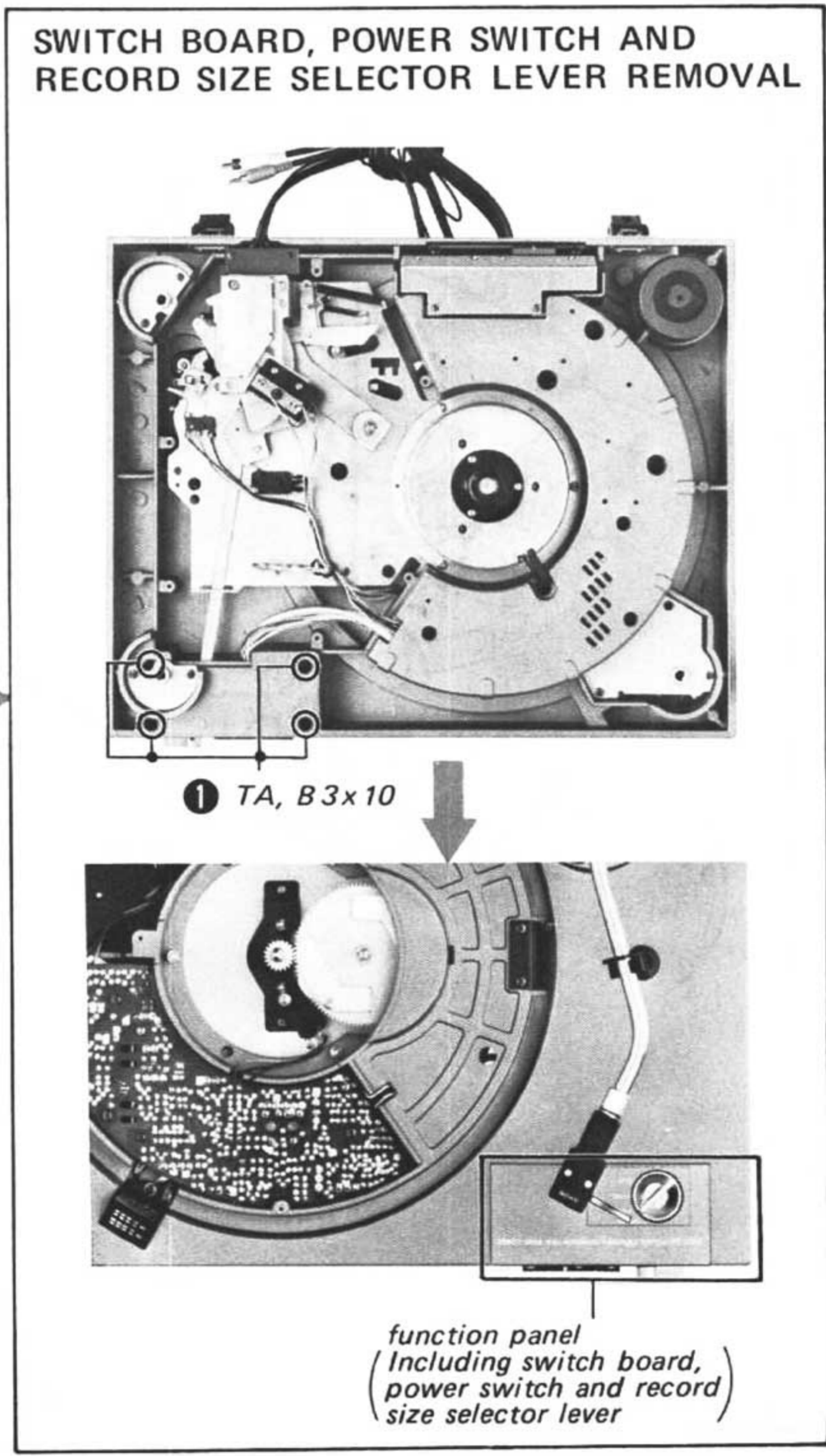
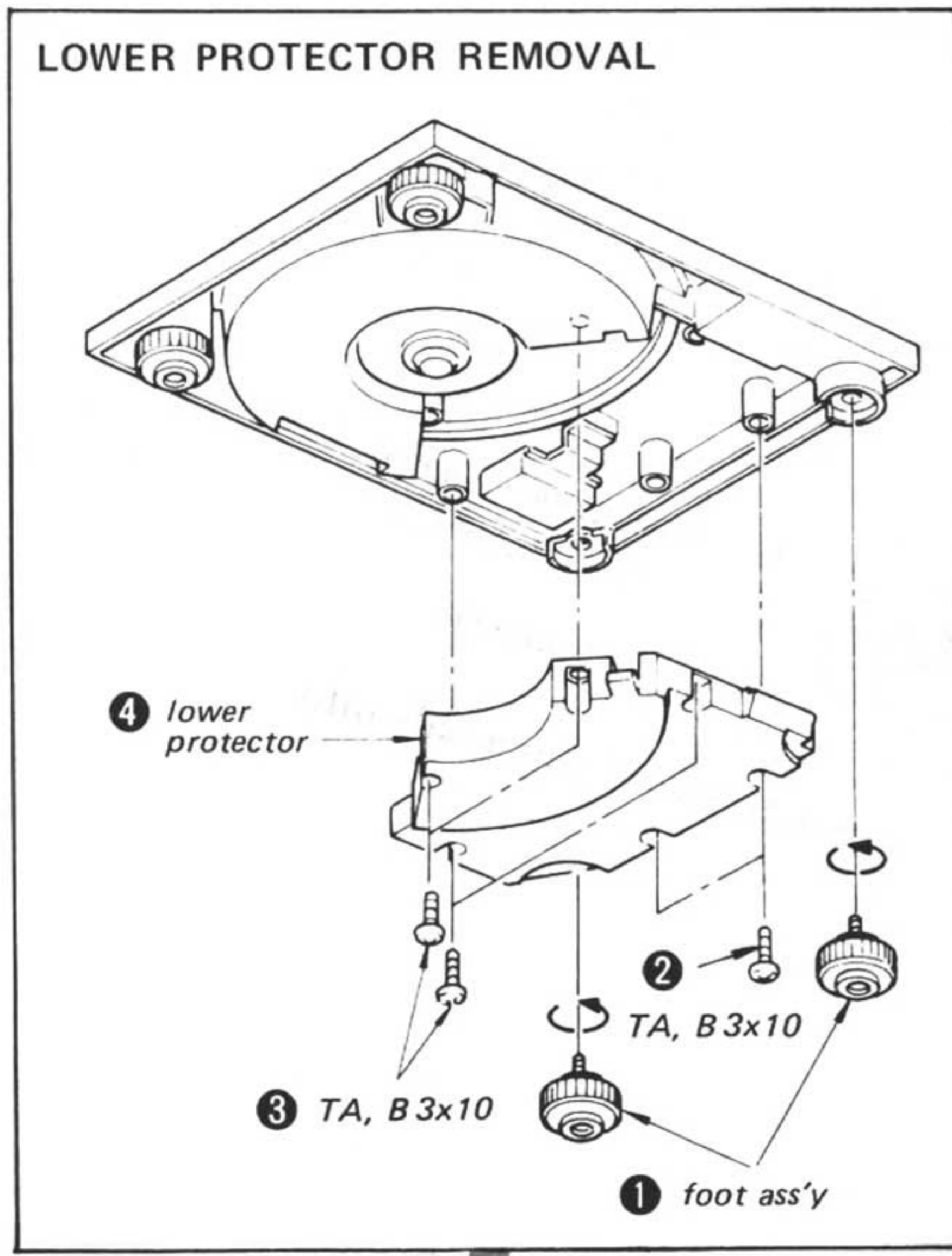
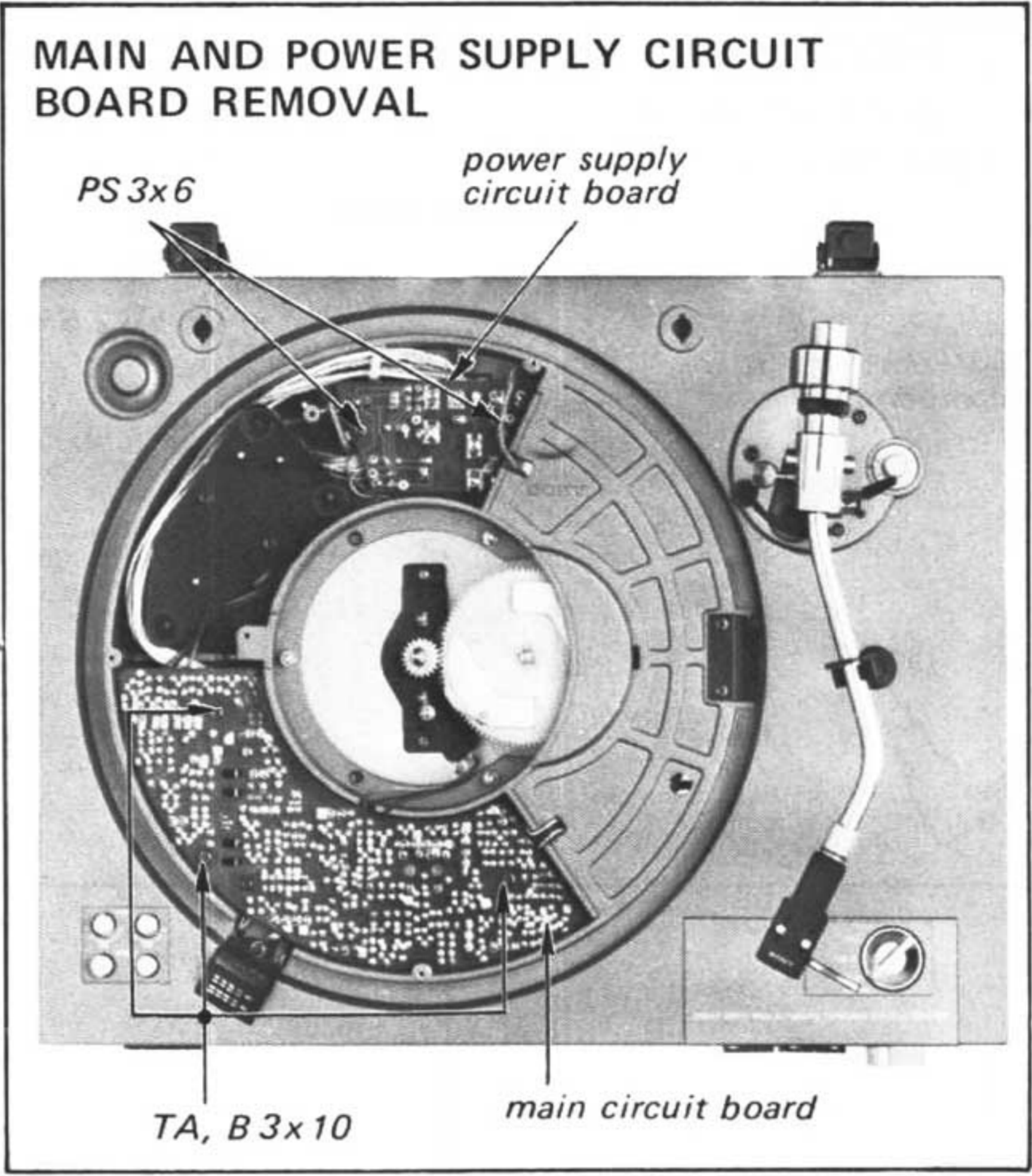
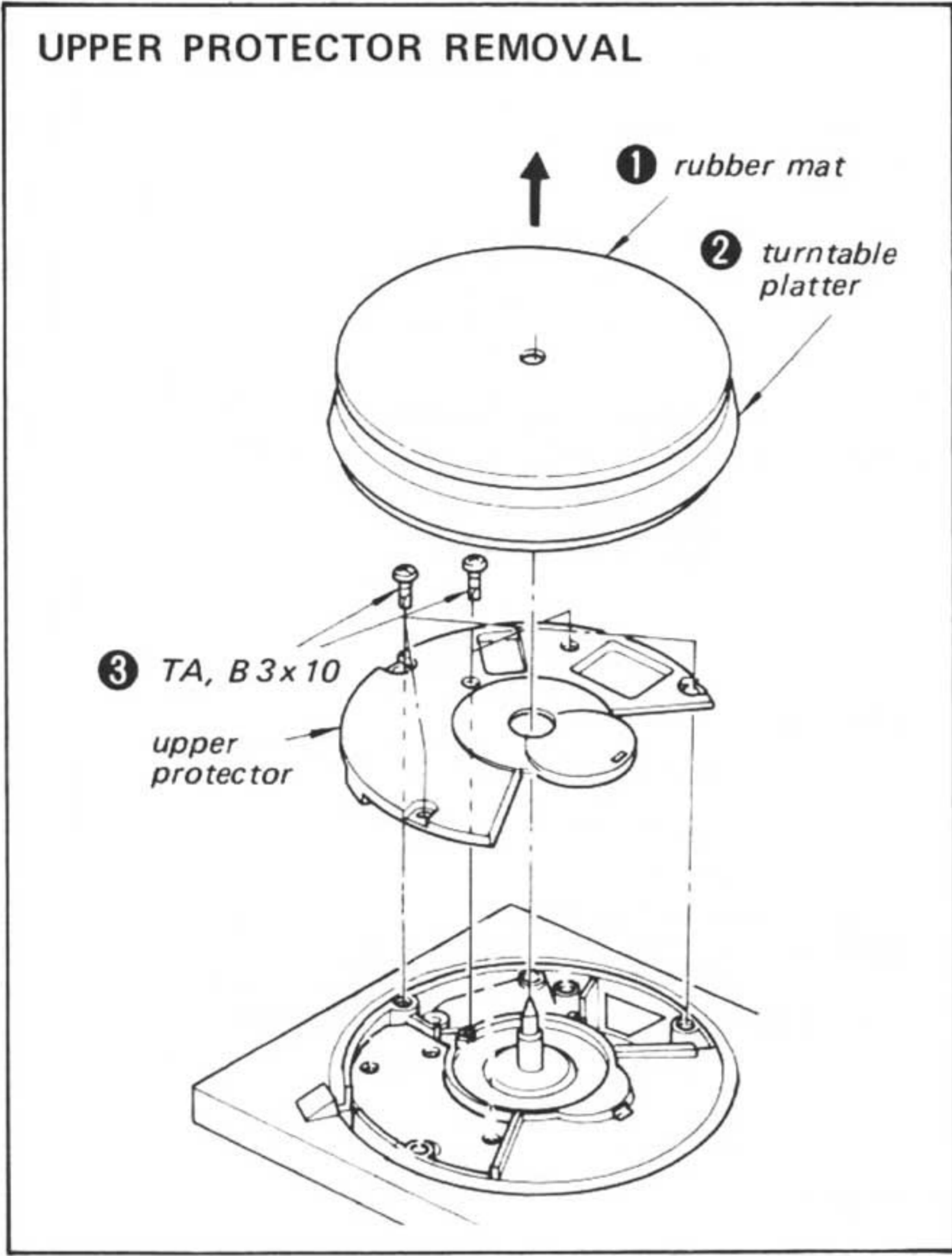
1-1. BLOCK DIAGRAM



1-2. SPECIFICATION LABELS

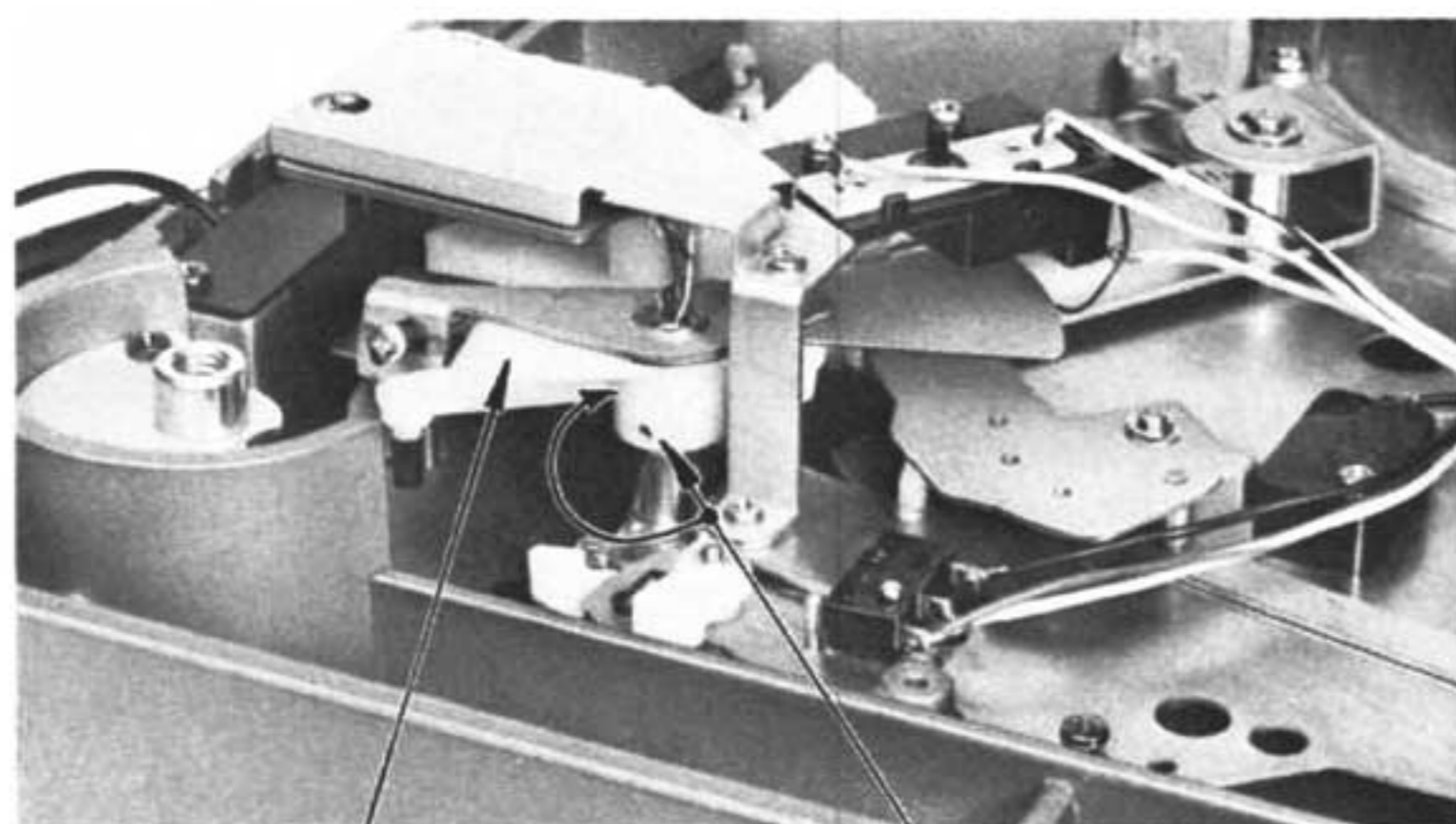
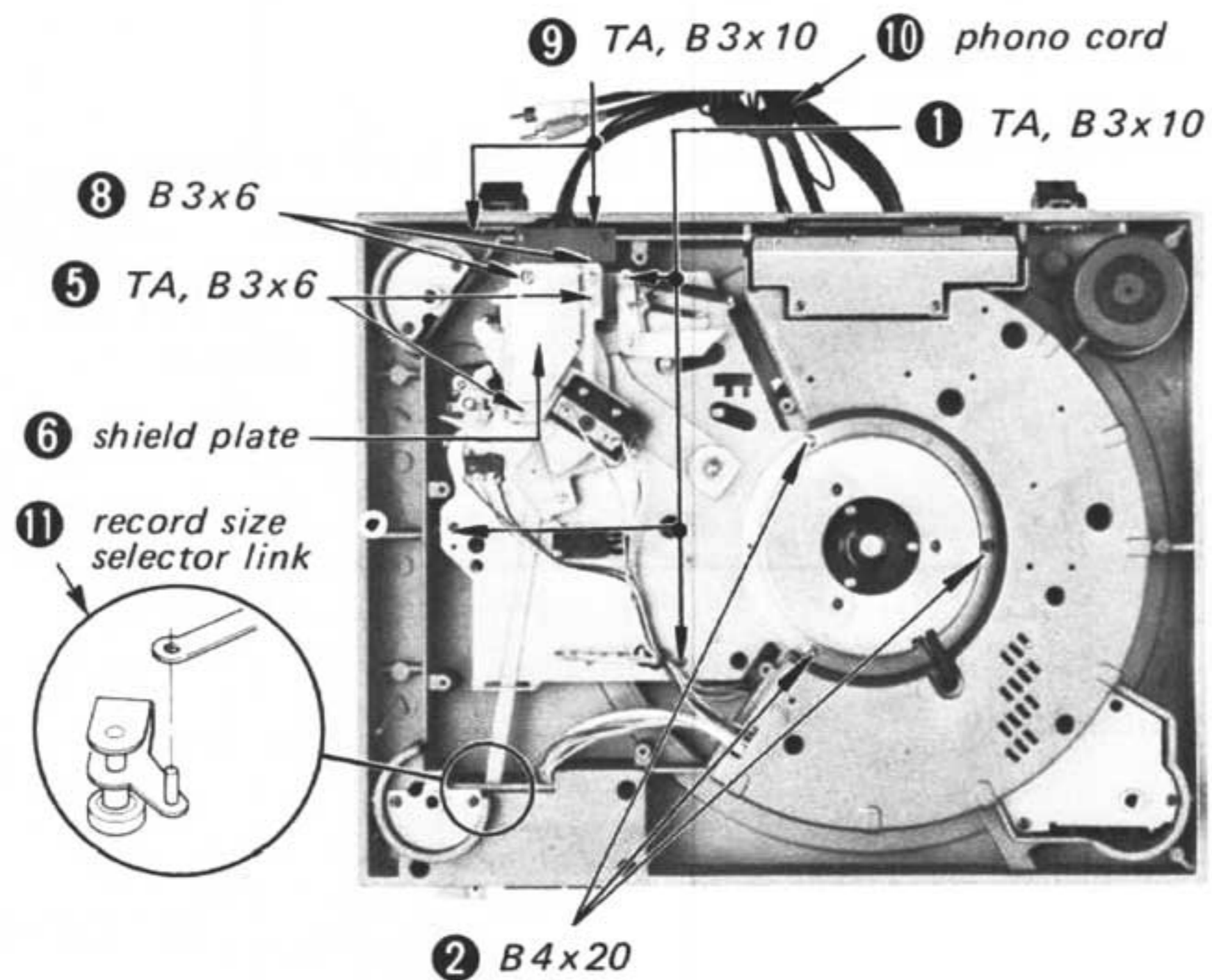
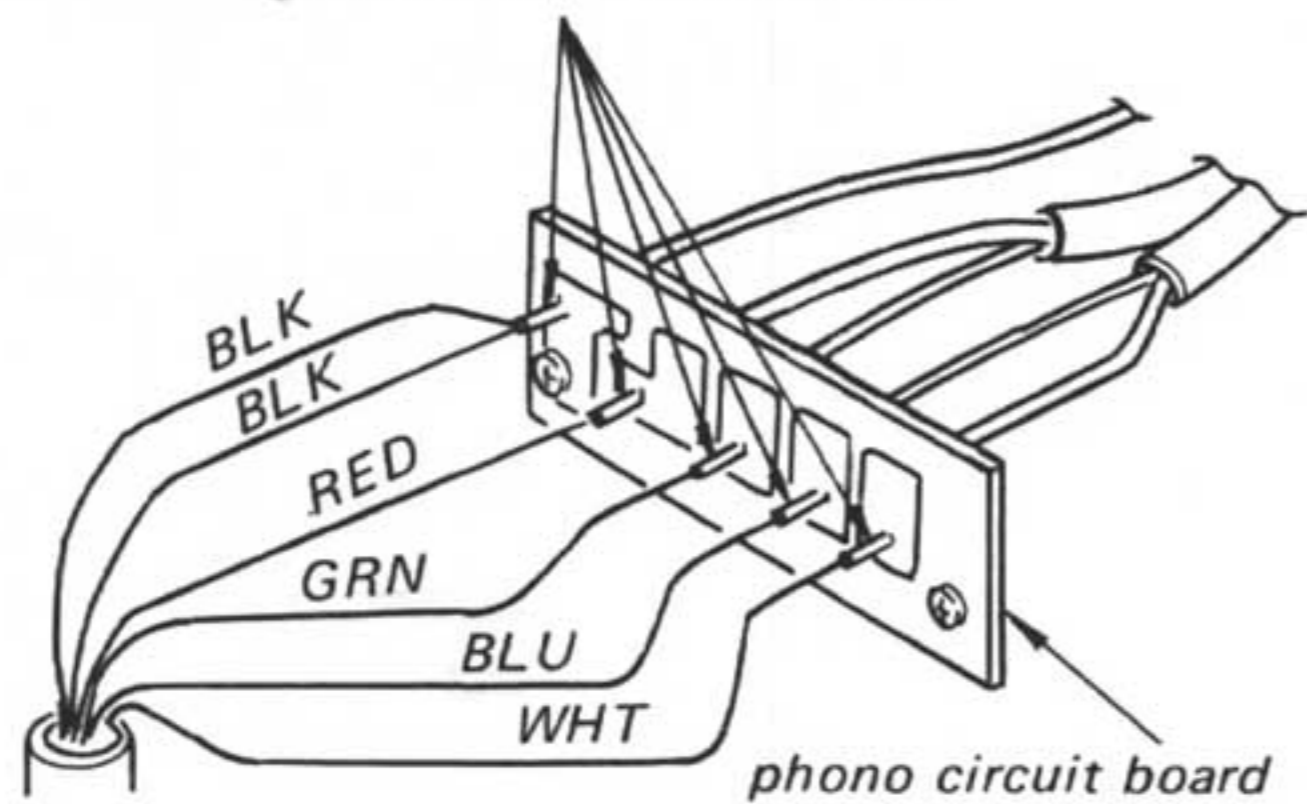
US, Canadian model	AEP model	E model
SONY® STEREO TURNTABLE SYSTEM MODEL NO. PS-4300 AC 120V 60Hz 12W SERIAL NO. _____ MADE IN JAPAN	SONY® STEREO TURNTABLE SYSTEM MODEL NO. PS-4300 110, 127, 220, 240V 50/60Hz 13W SERIAL NO. _____ MADE IN JAPAN	SONY® STEREO TURNTABLE SYSTEM MODEL NO. PS-4300 AC 100, 120, 220, 240V 50/60Hz 10W SERIAL NO. _____ MADE IN JAPAN

SECTION 2 DISASSEMBLY AND REPLACEMENT

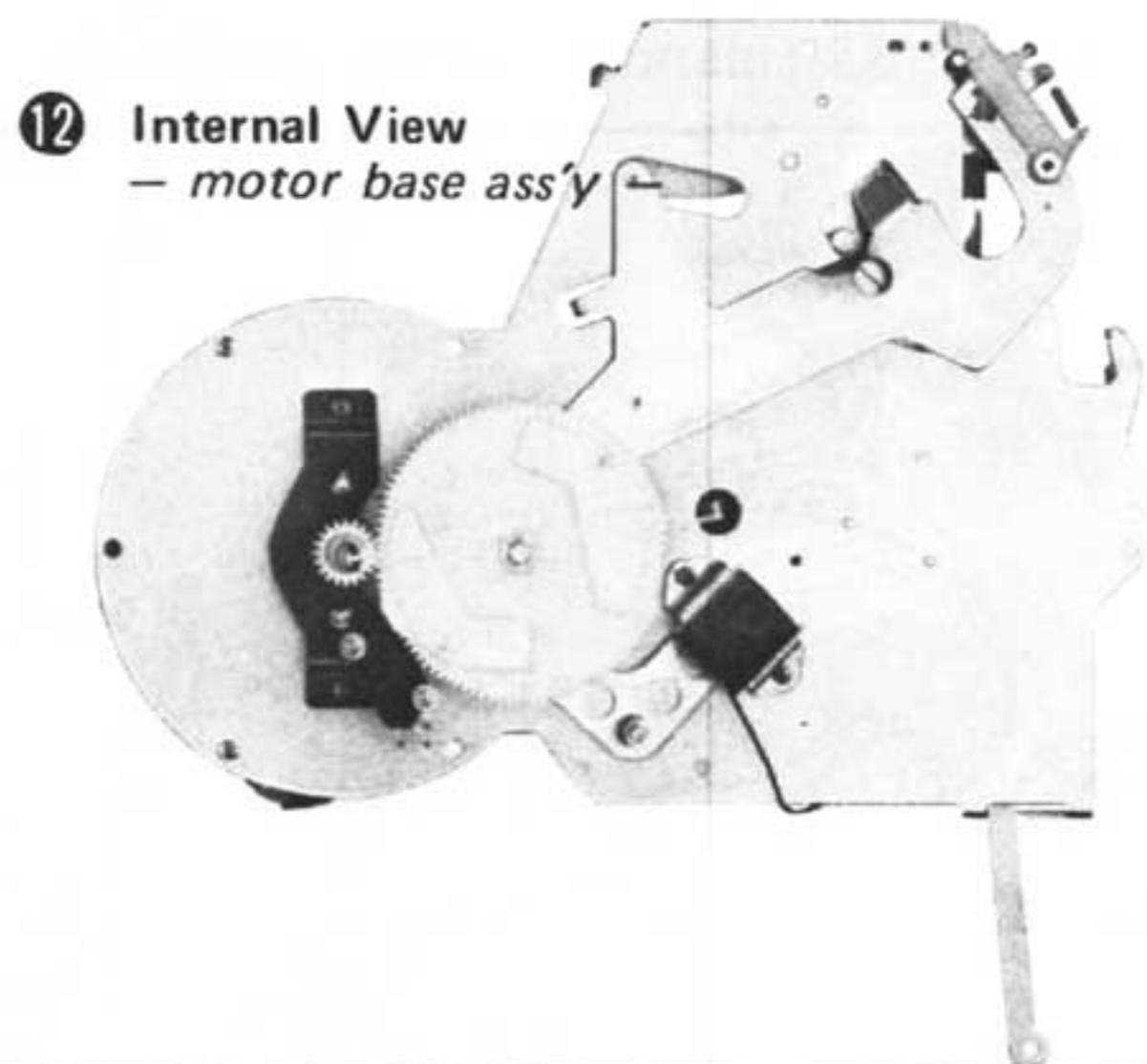


MOTOR BASE ASS'Y REMOVAL

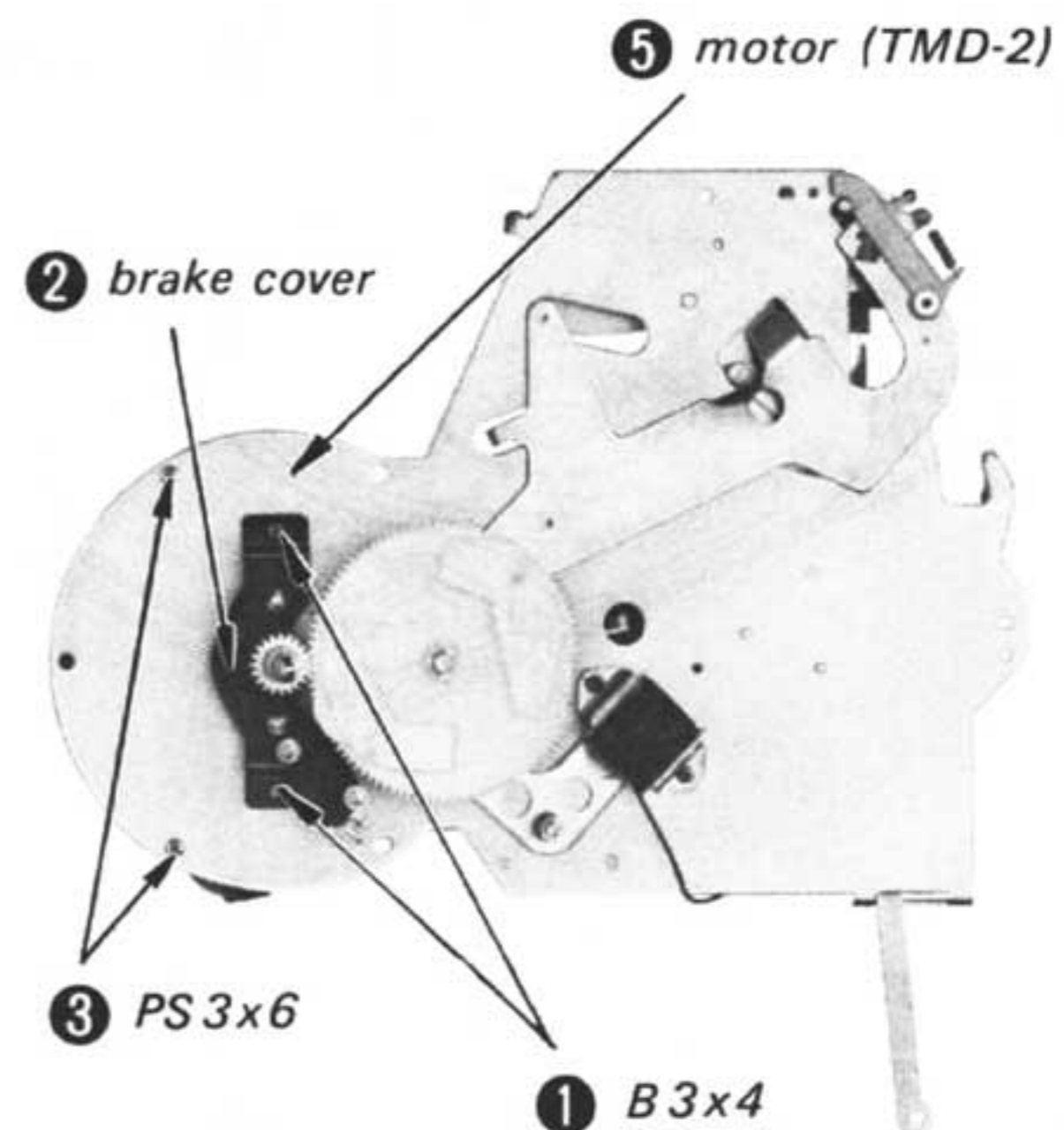
7 Unsolder six lead wires.



4 brake drum
3 SC3x6



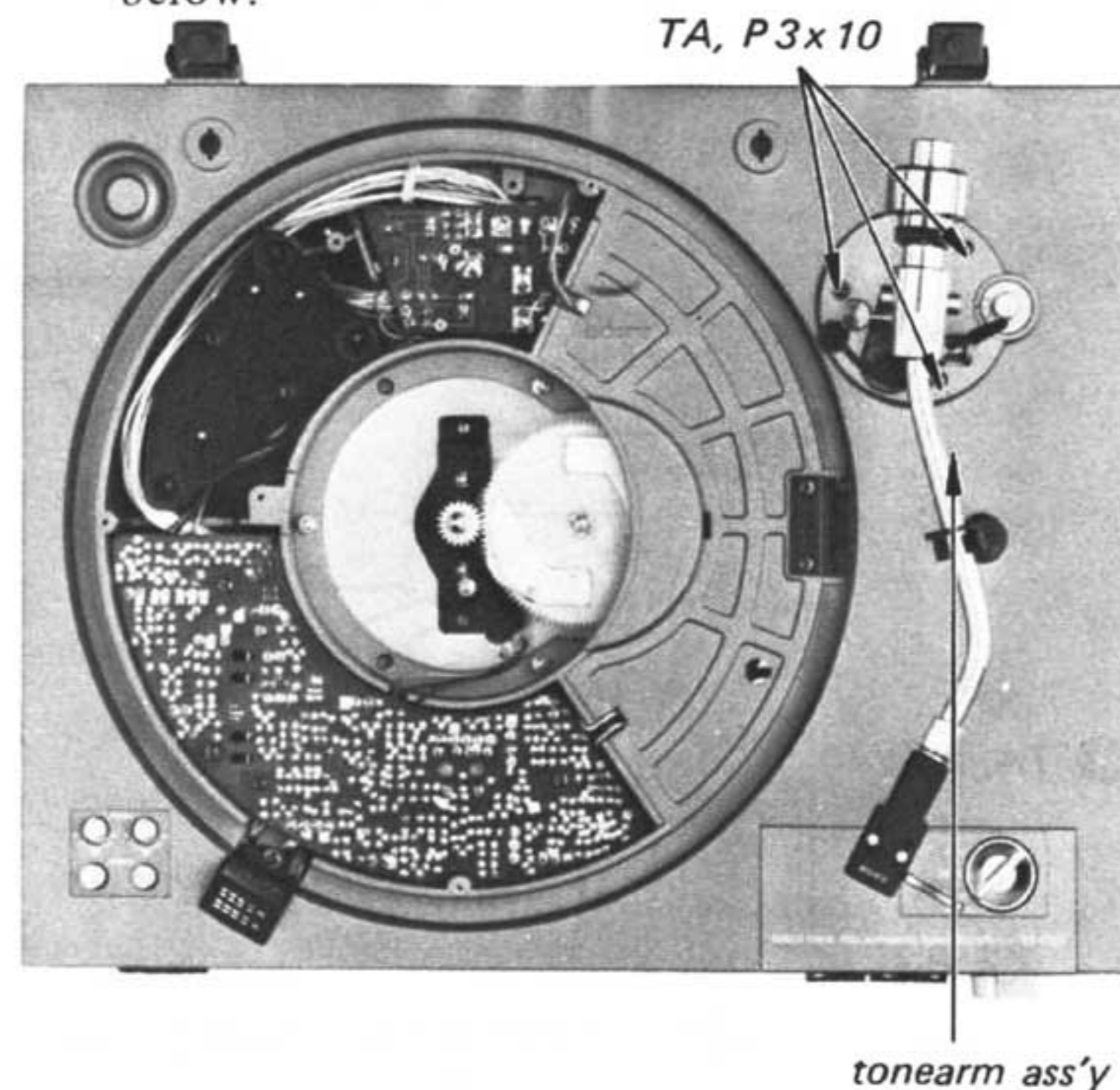
MOTOR REMOVAL



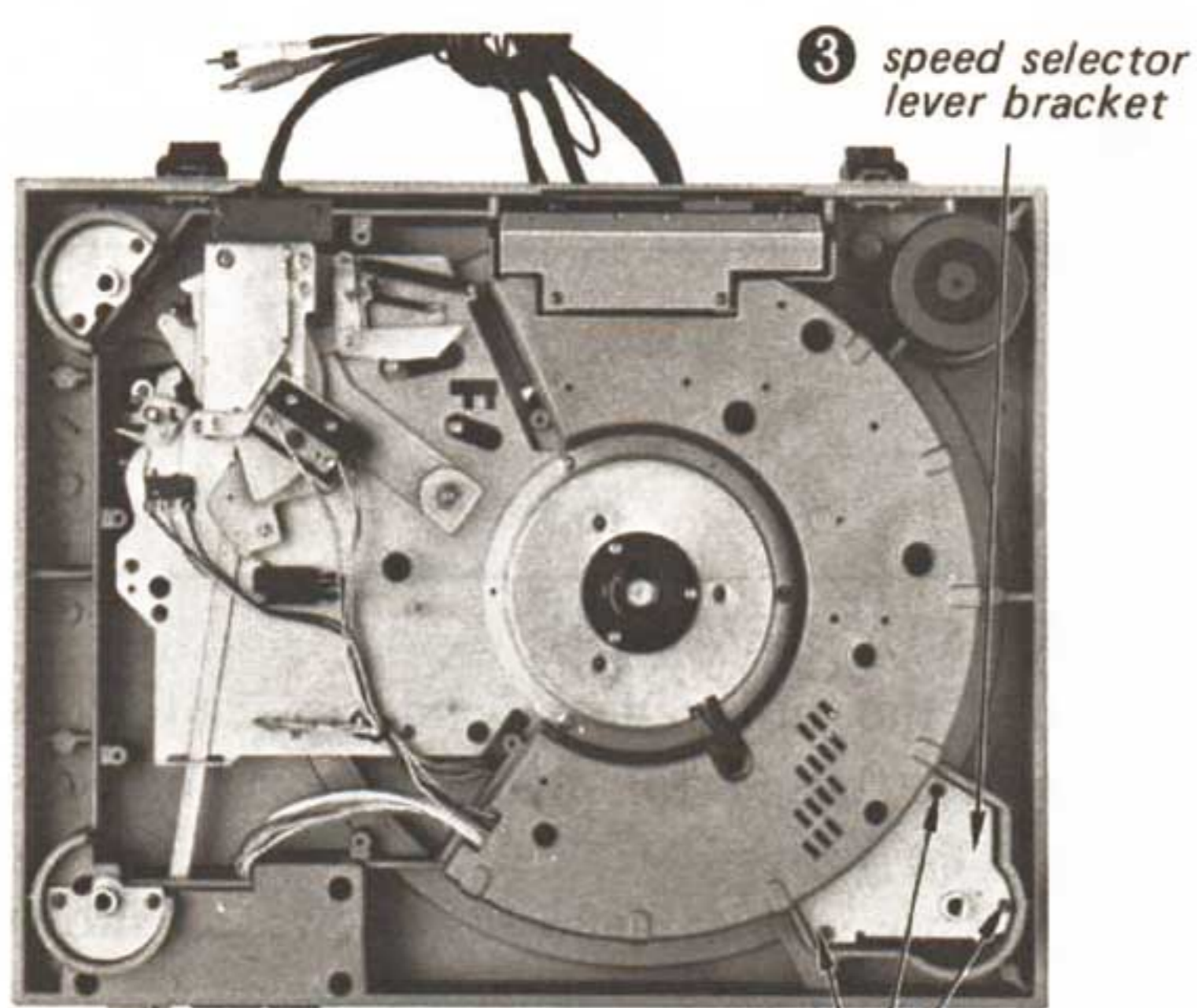
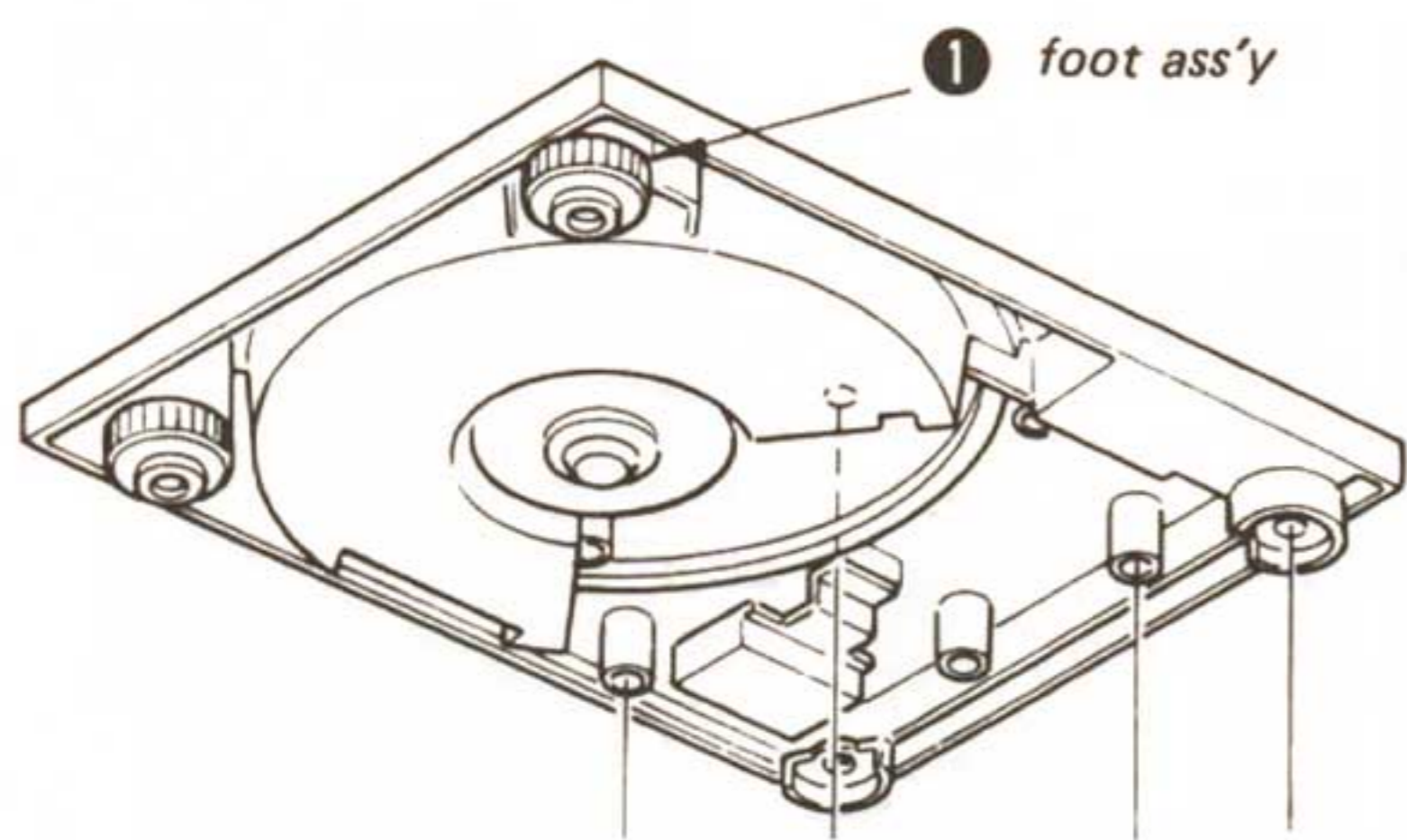
4 Unsolder eight leads from the main circuit board. (Refer to the mounting diagram on page 11-12.)

TONEARM ASS'Y REMOVAL

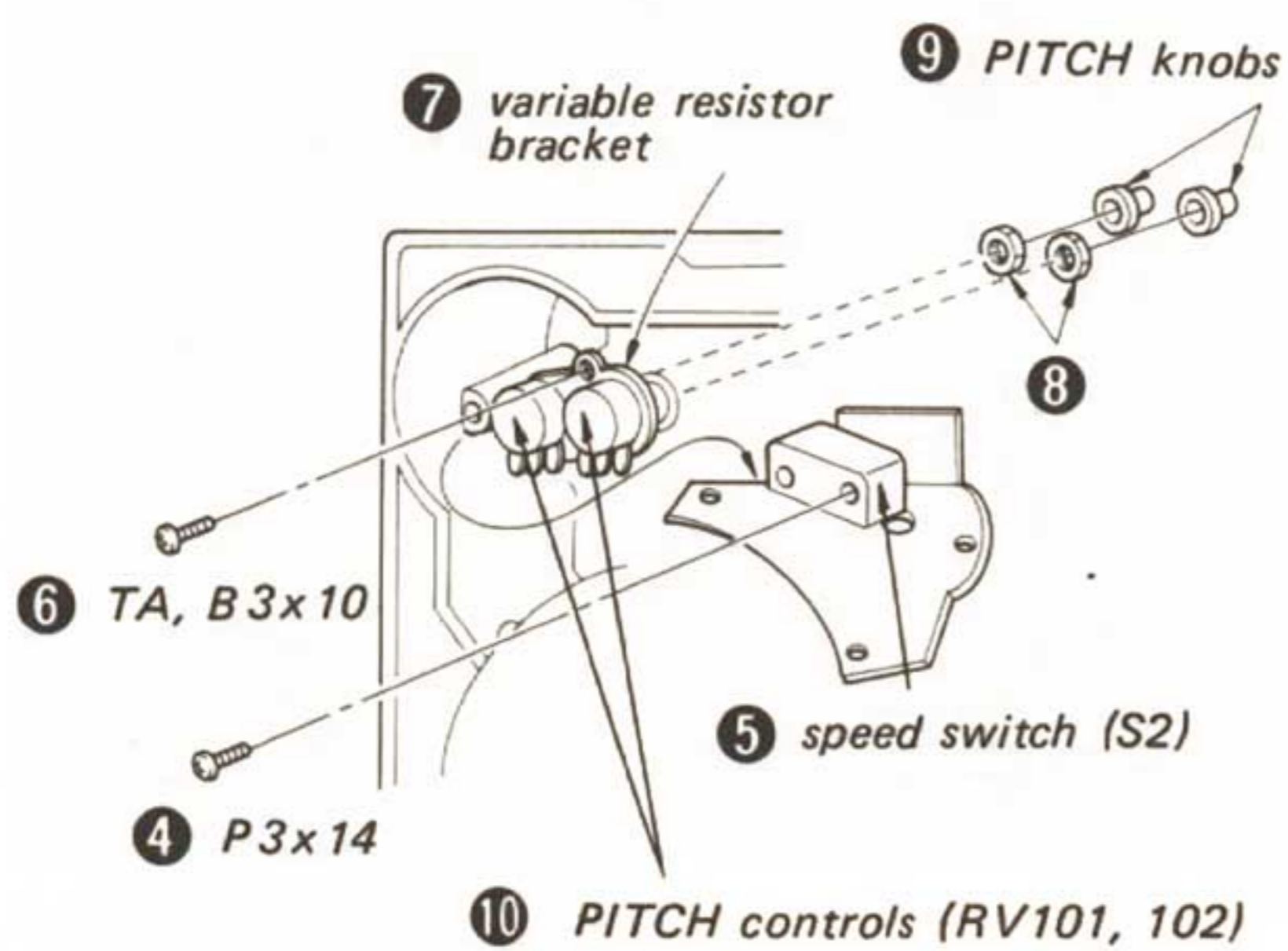
1. Remove the brake drum and six lead wires. (Refer to the Motor Base Ass'y Removal - 4 and 7.)
2. Remove three TA, P3x10 screws as shown below.



PITCH CONTROL (RV101, 102) and SPEED SWITCH (S2) REMOVAL



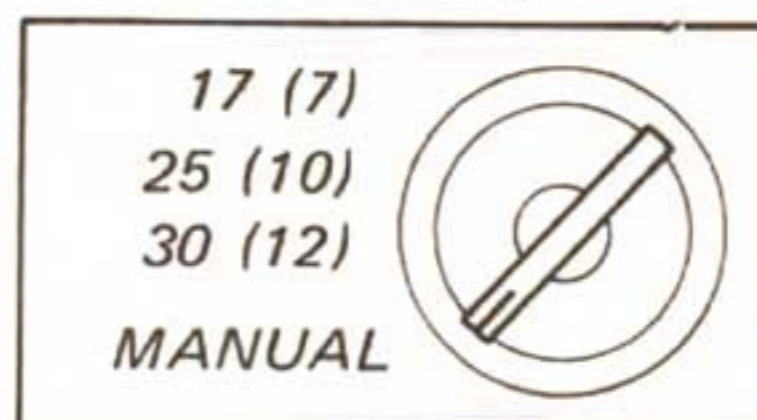
2 TA, B3x10



CAUTION FOR INSTALLATION

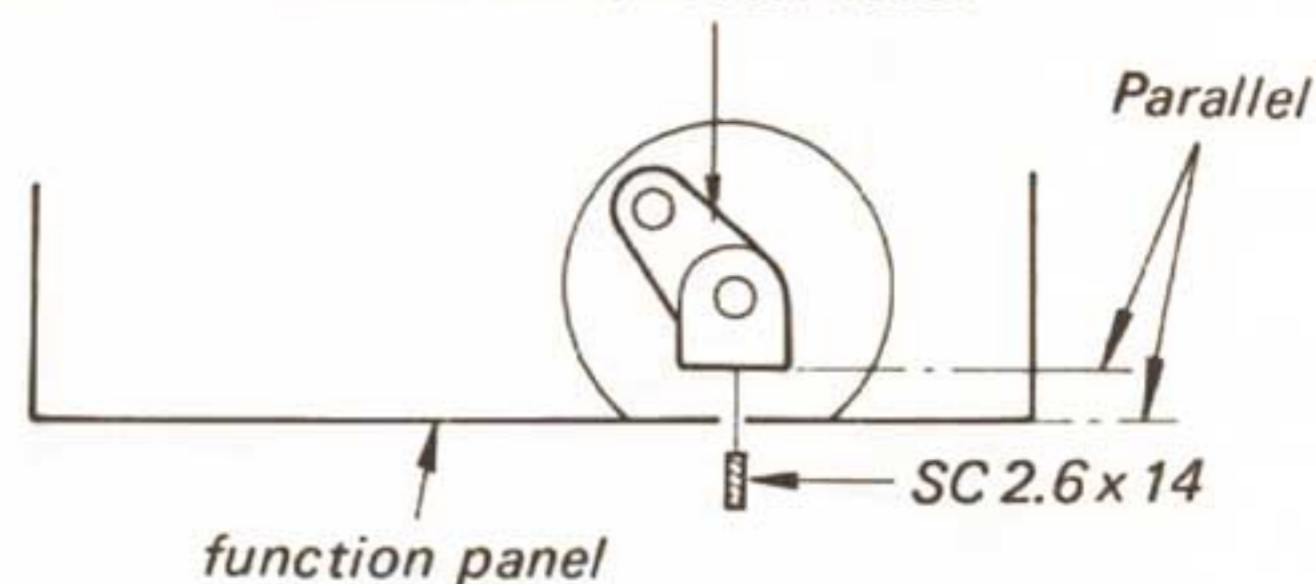
RECORD SIZE SELECTOR LEVER INSTALLATION

1. Remove the switch board, power switch and record size selector lever (See page 3).
2. Set the record size selector knob to MANUAL as shown below.



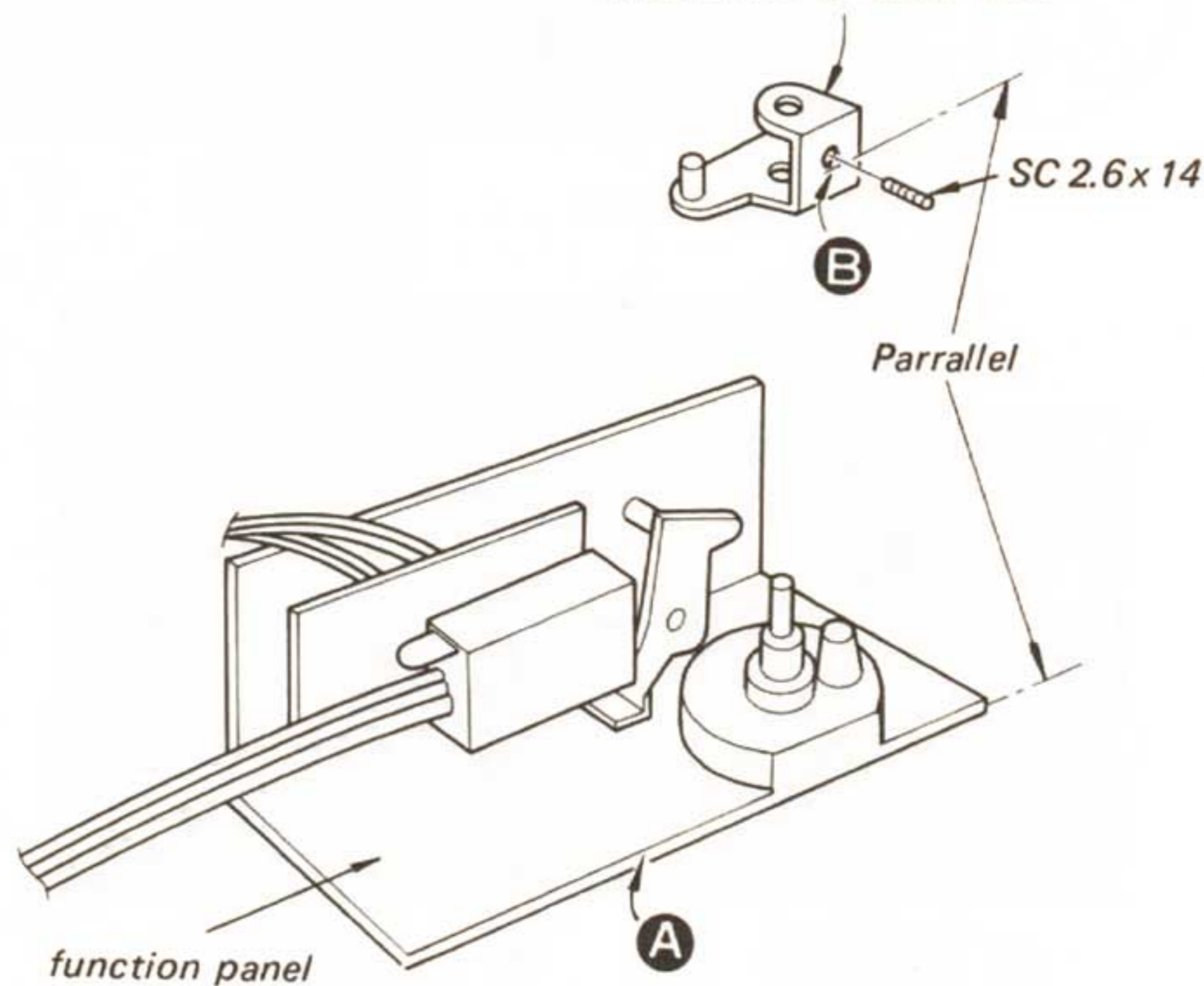
3. Install the record size selector lever as shown below.

— Top View — record size selector lever

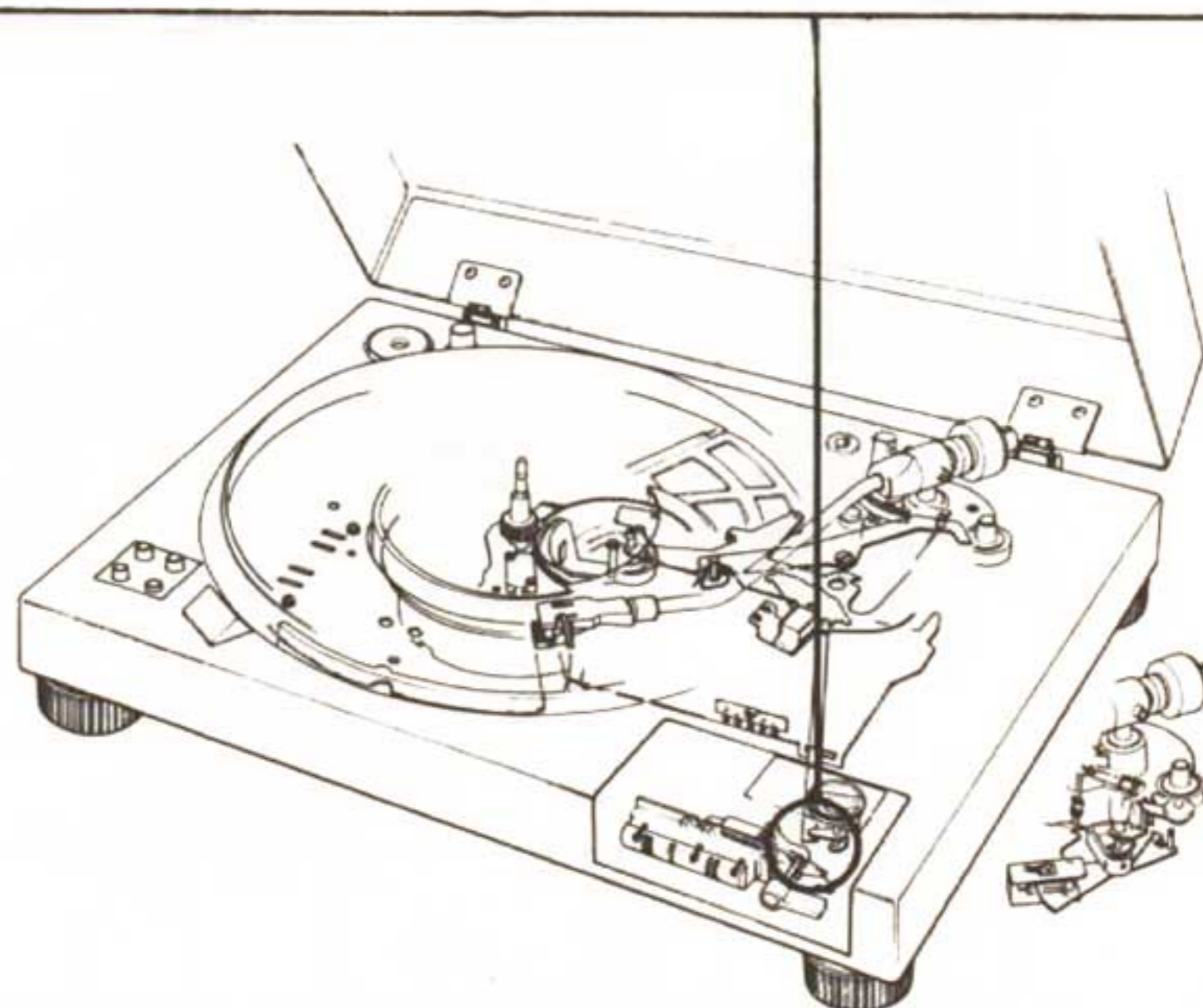


— Side View —

record size selector lever



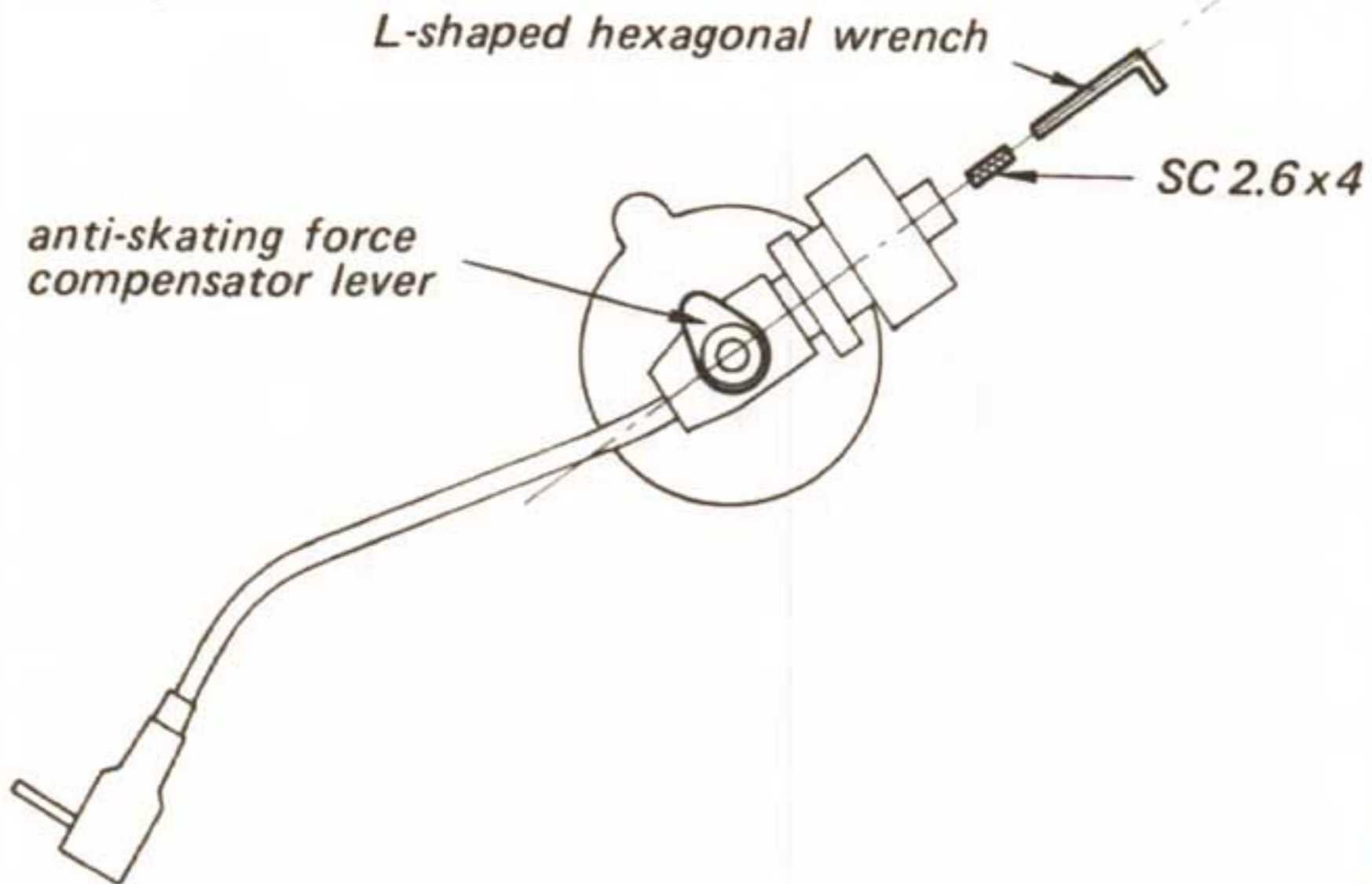
4. Confirm that S5 (manual switch) turns ON.



ANTI-SKATING FORCE COMPENSATOR LEVER INSTALLATION

Install the anti-skating force compensator lever as shown below.

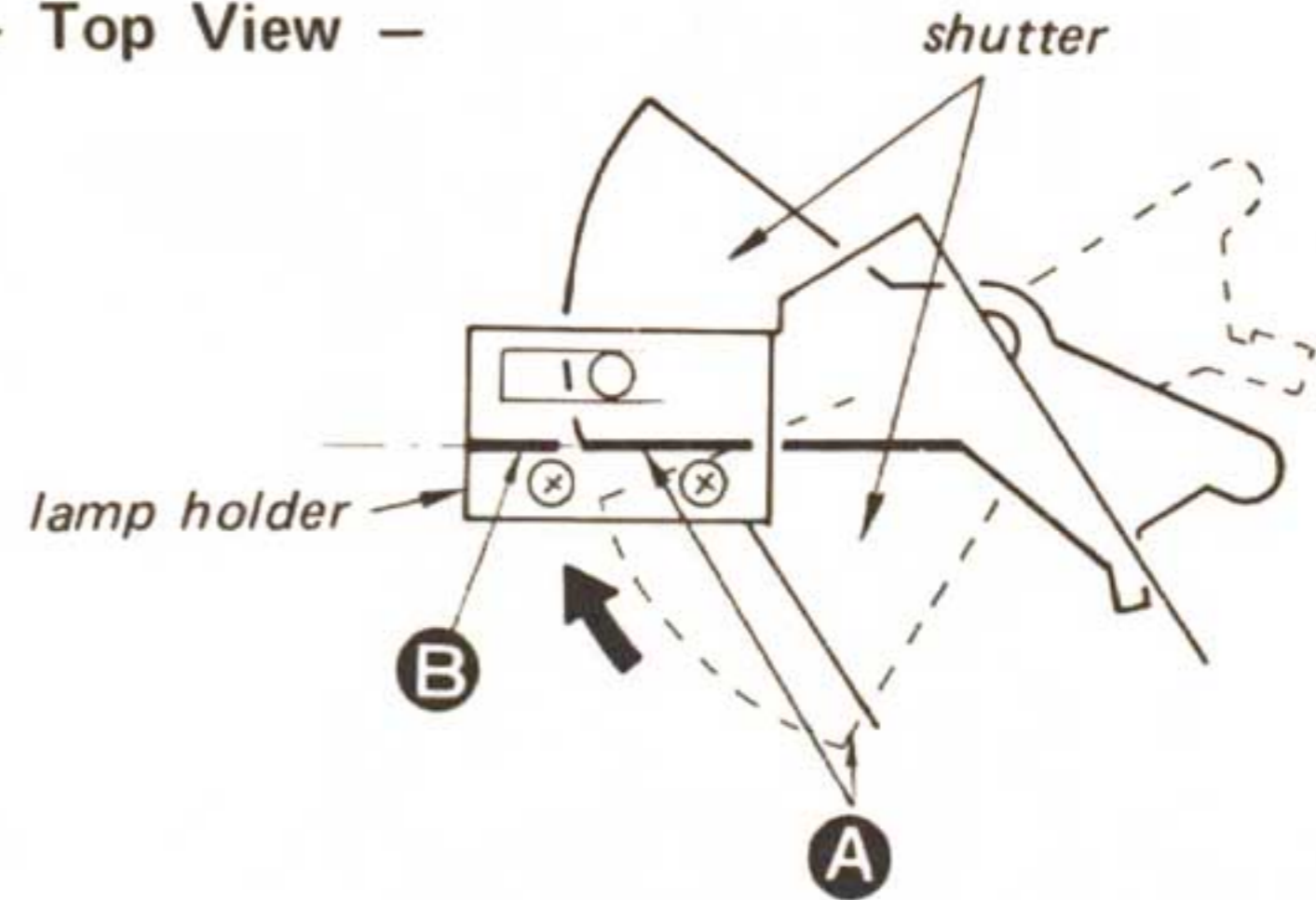
— Top View —



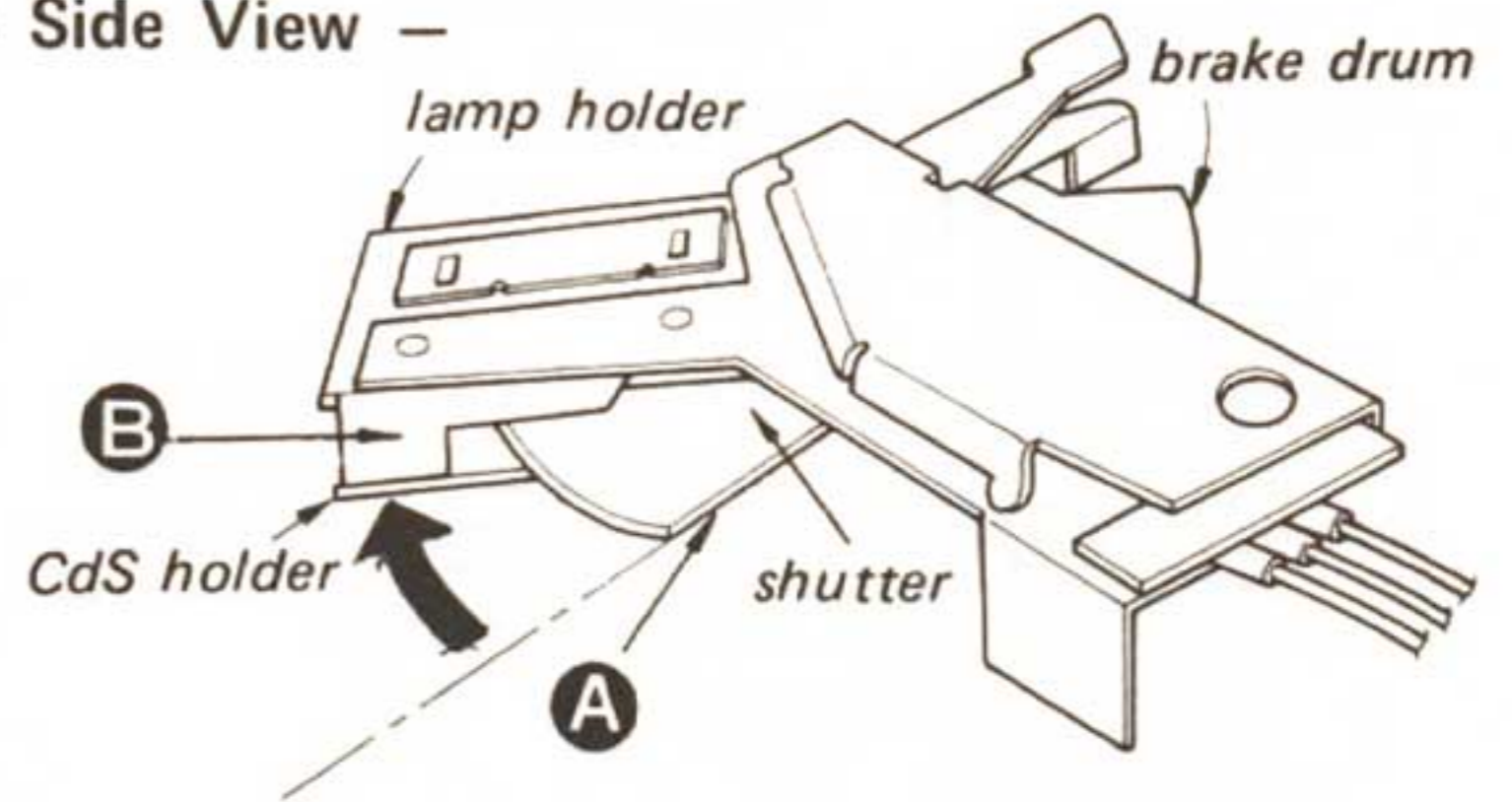
BRAKE DRUM INSTALLATION

1. Install the brake drum at the tonearm shaft and set the tonearm on the tonearm rest.
2. Move the shutter as shown below.

— Top View —

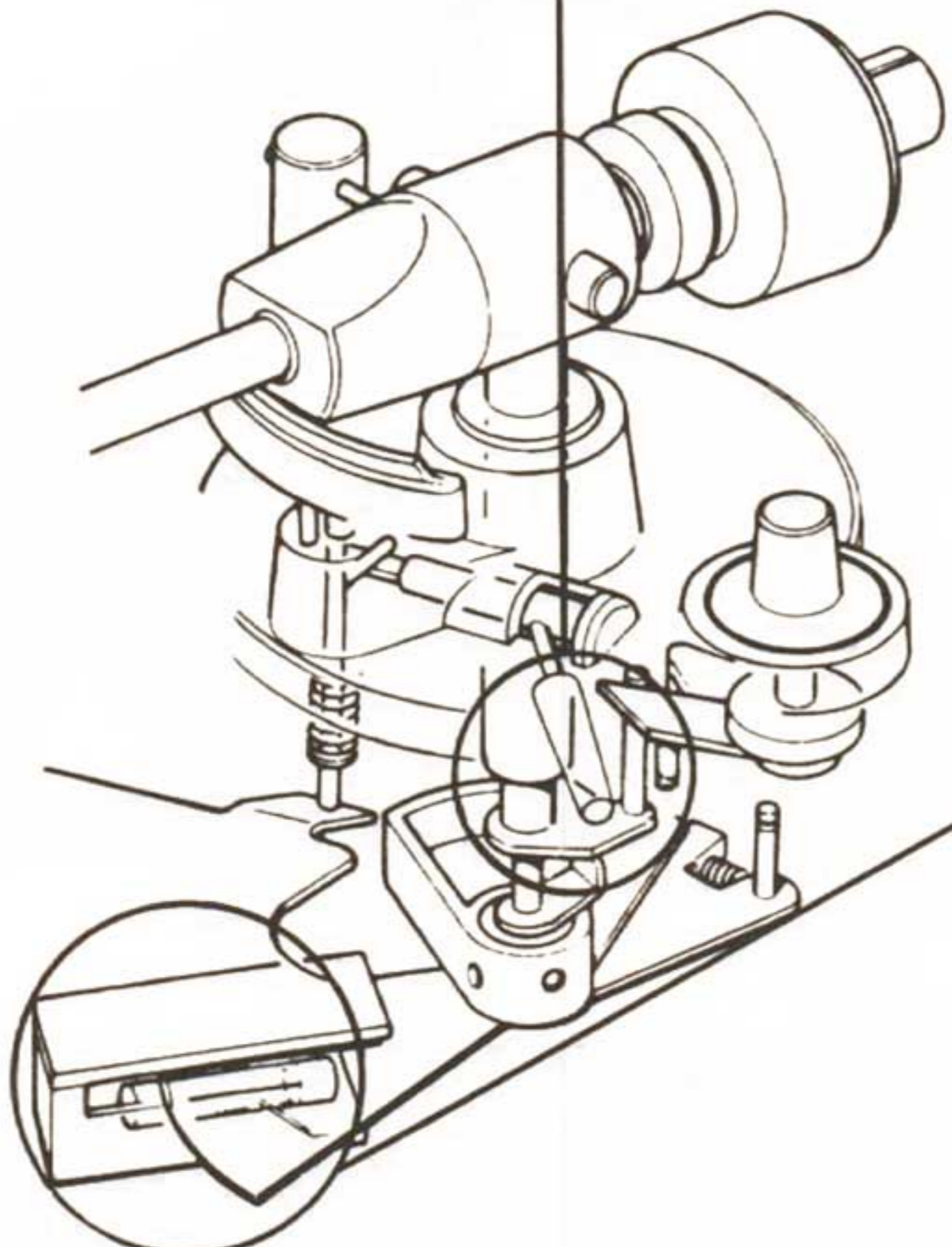
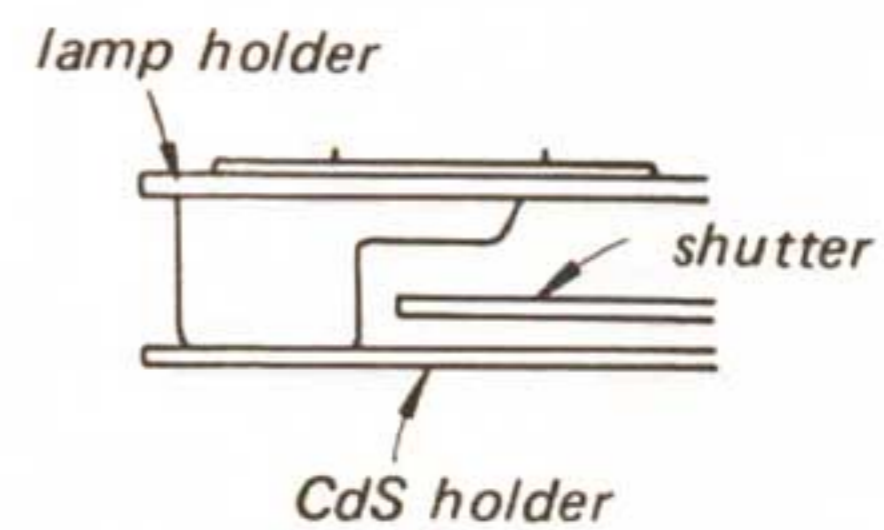


— Side View —



CAUTION:

Confirm that the shutter does not touch the lamp holder and CdS holder.

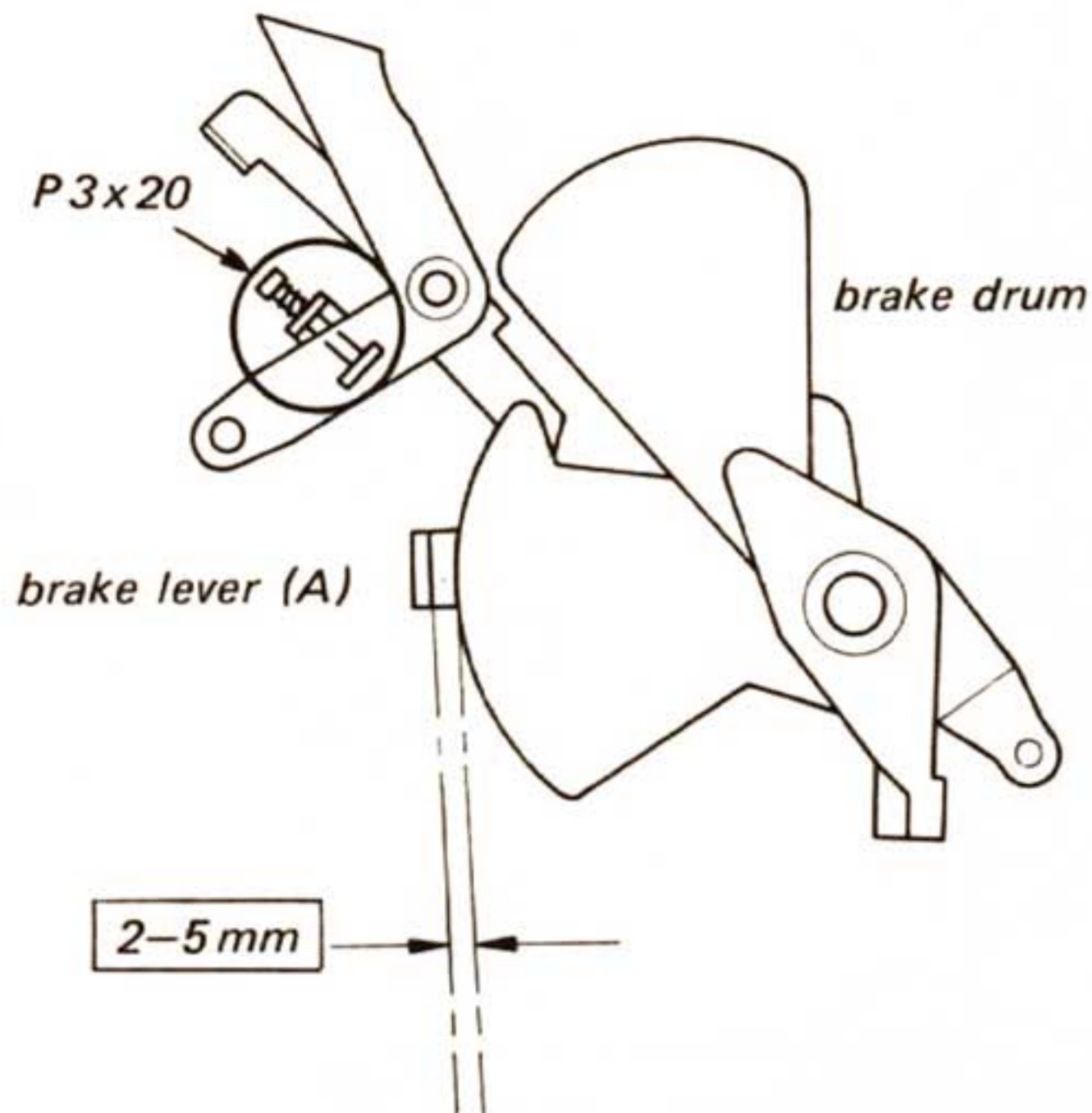


SECTION 3 ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

BRAKE LEVER (A) ADJUSTMENT

1. Set the tonearm on the tonearm rest and turn P 3×20 screw as shown below.
2. Confirm that the tonearm moves smoothly.



FOOT HEIGHT ADJUSTMENT

Float the turntable horizontally by turning the feet counterclockwise.

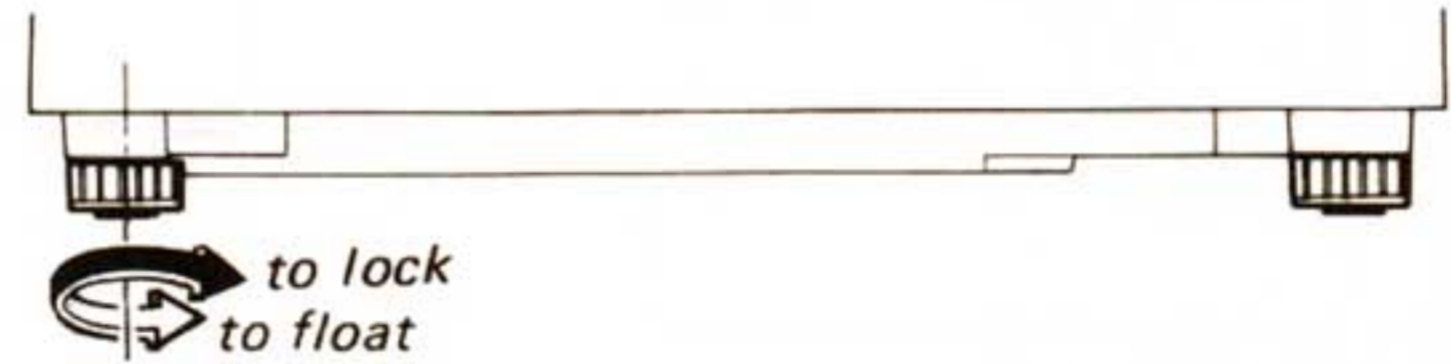
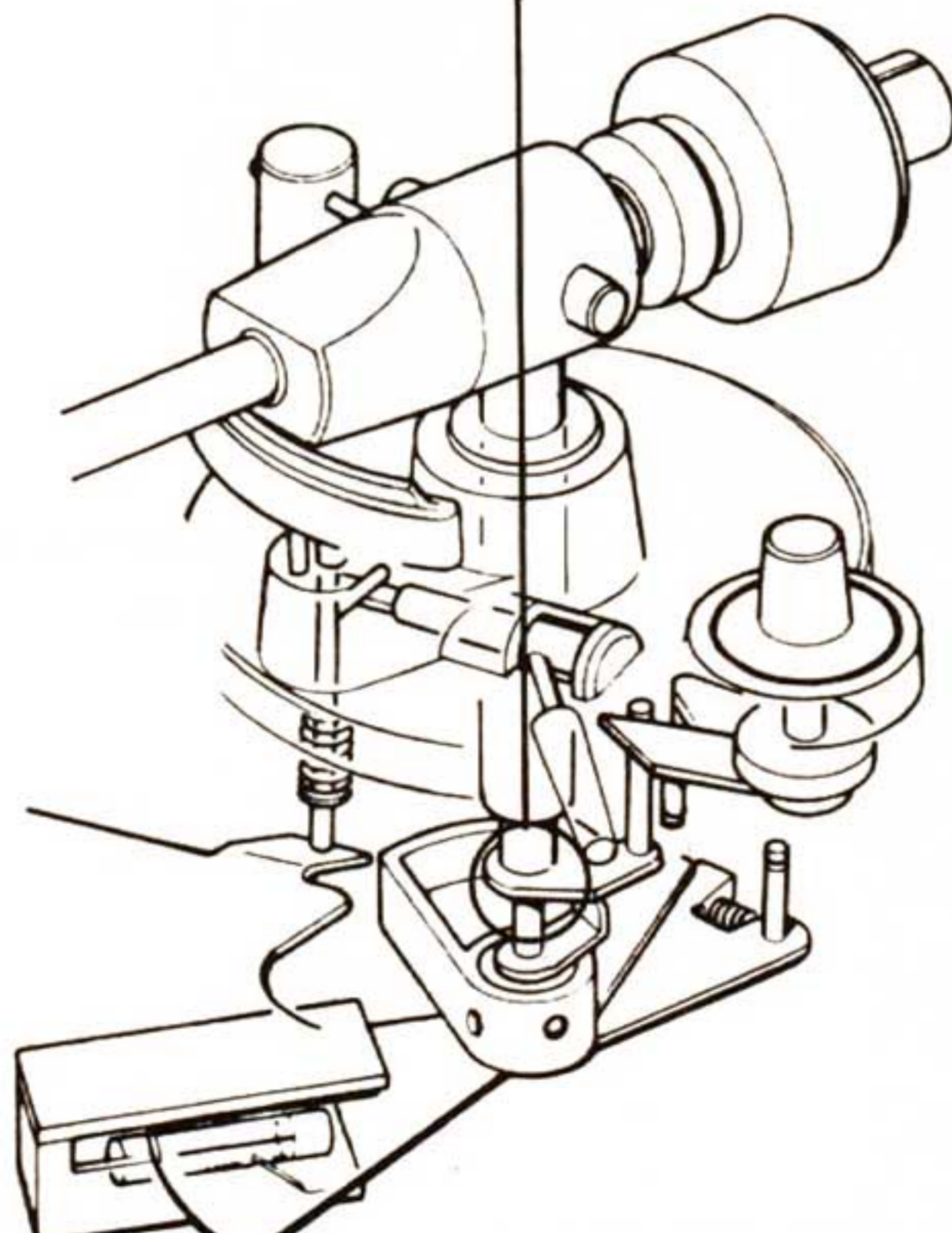
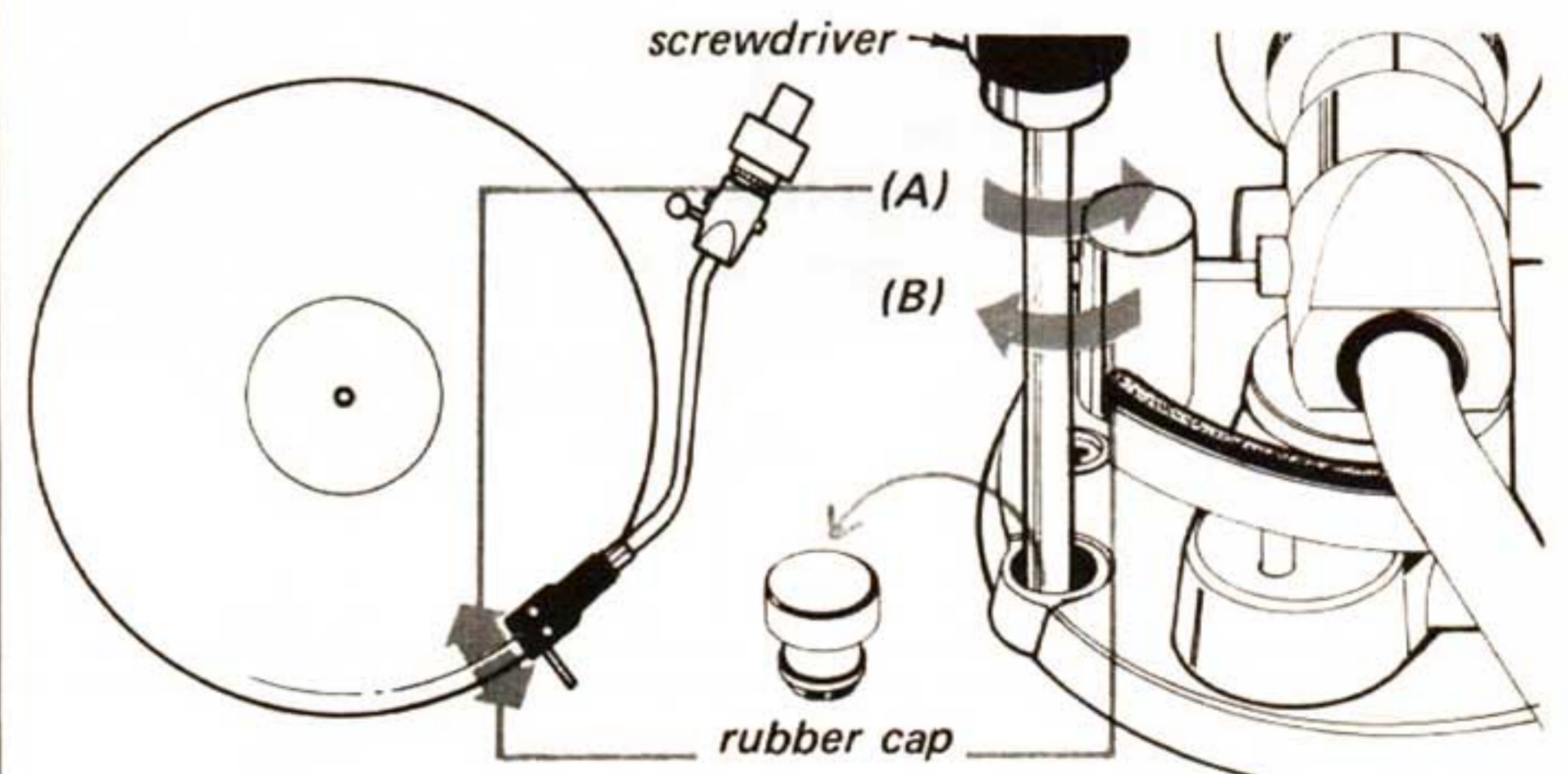


Fig. 3-1

TONEARM DROP-POINT ADJUSTMENT

1. Remove the rubber cap.
2. Insert the screwdriver into the hole.
To change the drop point inward . . . Turn the screw counterclockwise. (A)
To change the drop point outward . . . Turn the screw 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.



3-2. ELECTRICAL ADJUSTMENT

3-2-1. SPEED DETECTING HEAD OUTPUT ADJUSTMENT

Before the adjustment, set the speed detecting head on the head bracket as shown in Fig. 3-1.

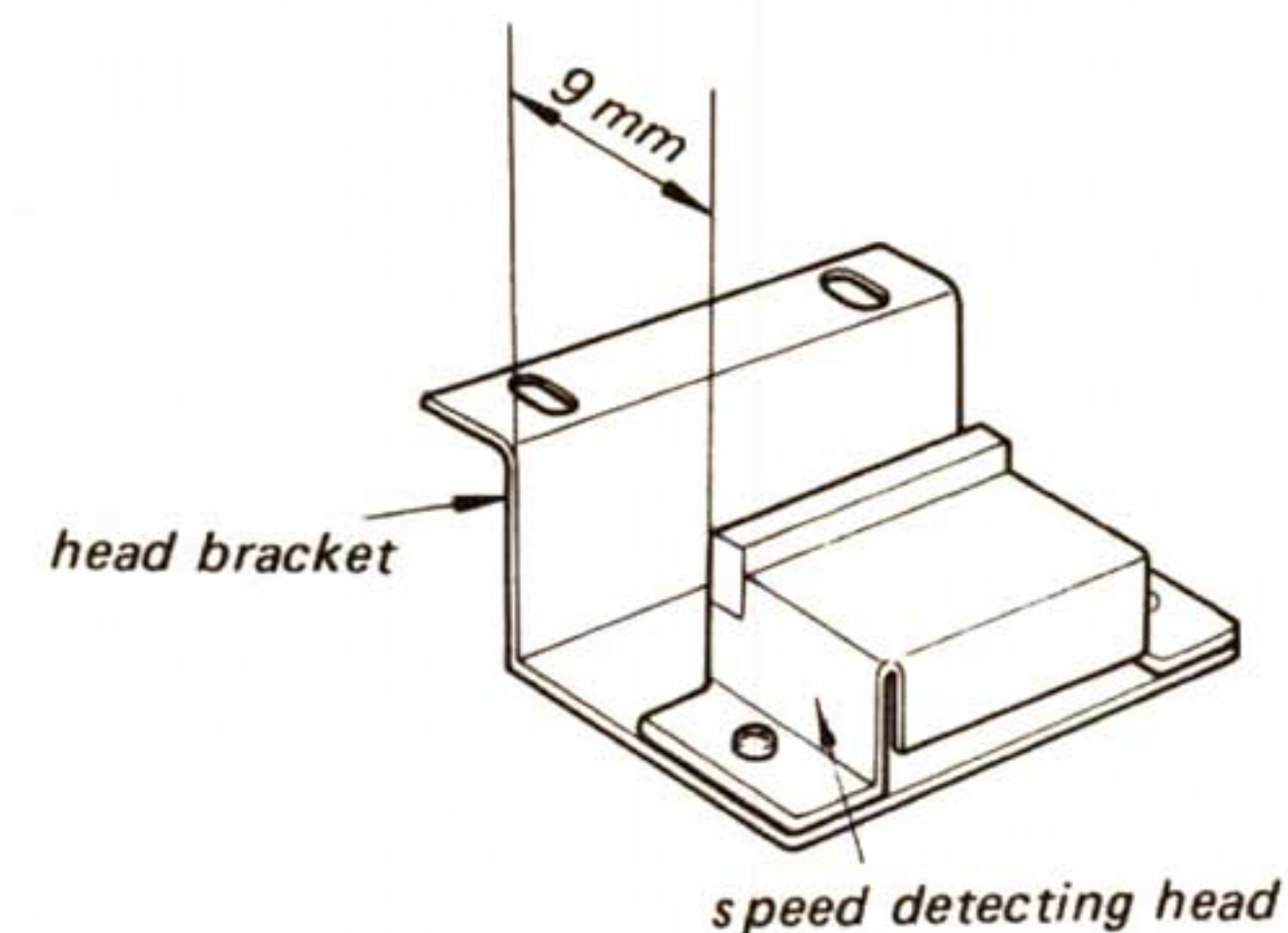


Fig. 3-1

1. Adjust the position of the head bracket by loosening B 3x10 screws (See Fig. 3-2) so that the VTVM reads 14–35 mV (33 rpm) as shown in Fig. 3-3.
2. Confirm that the head does not touch the platter and tighten B 3x10 screws securely.

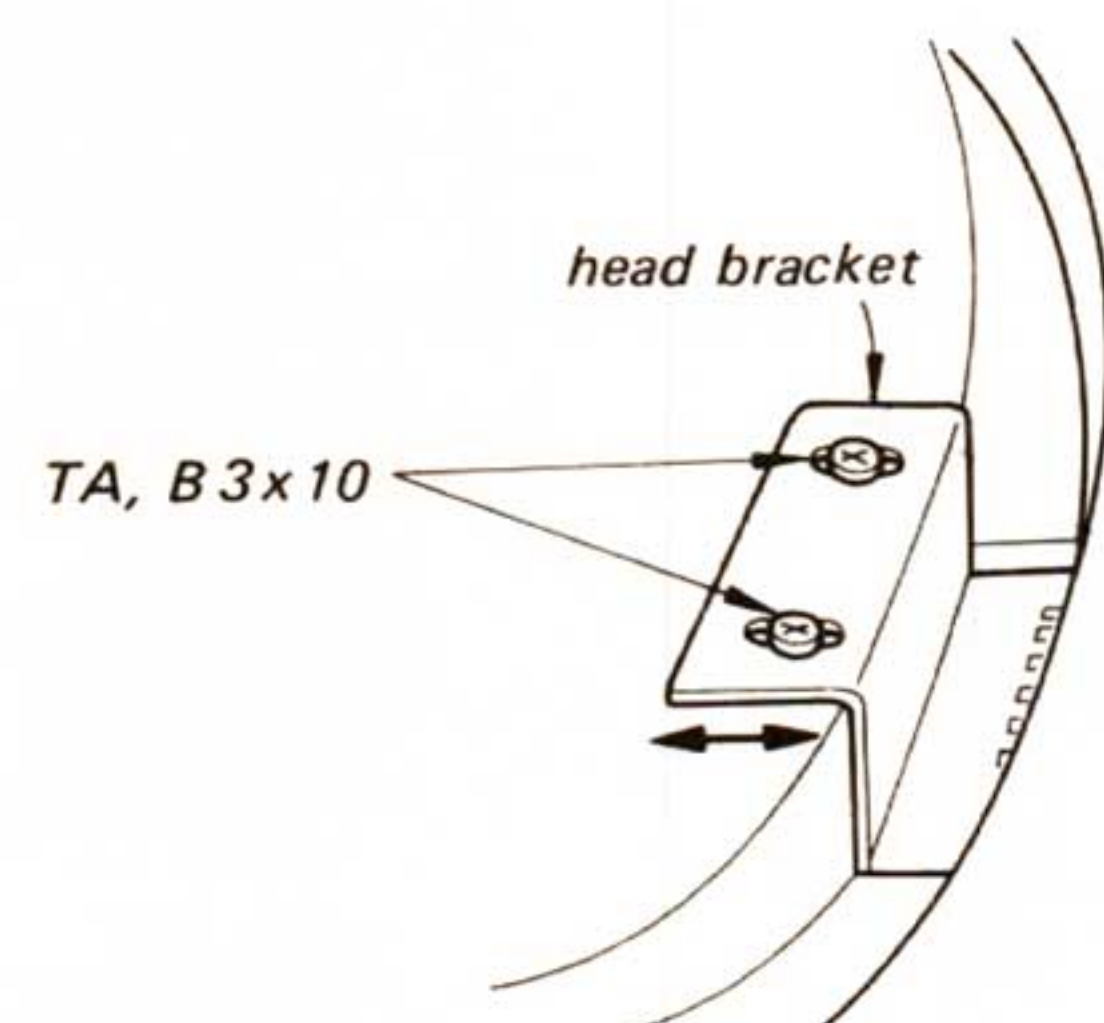


Fig. 3-2

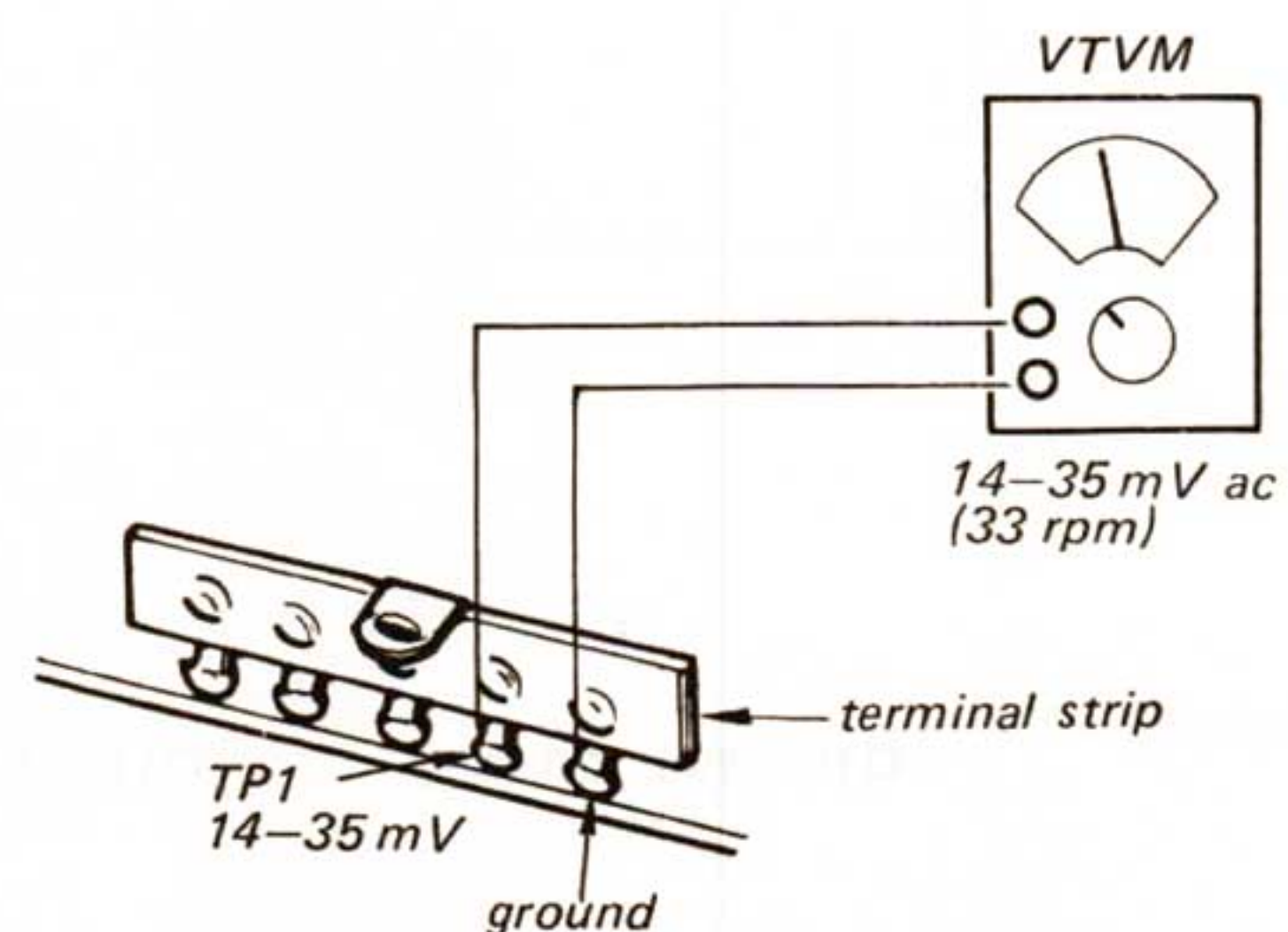


Fig. 3-3

3-2-2. AUTOMATIC RETURN POSITION ADJUSTMENT

1. Connect the VOM across TP4 and ground as shown in Fig. 3-4.
2. Move the tonearm into the turntable center by hand so that the shutter keeps apart from the CdS and lamp holders (See Fig. 3-6).
3. Adjust RV201 so that the VOM reads $2 \pm 0.1V$ dc.
4. Set the position of the stylus as shown in Fig. 3-5 and turn the adjustment screw so that the VOM reads 4.4V dc.
5. Confirm that the tonearm returns correctly.

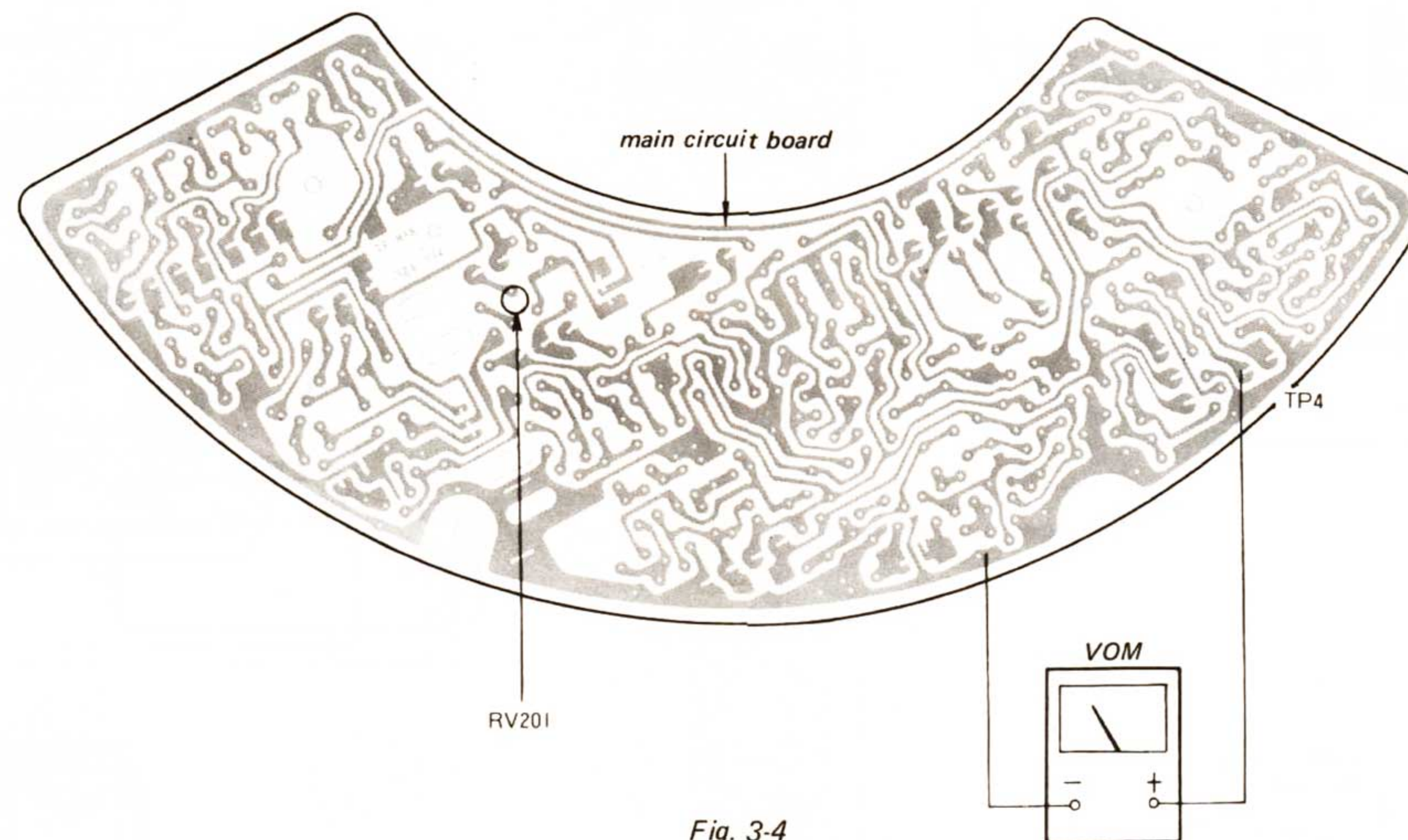


Fig. 3-4

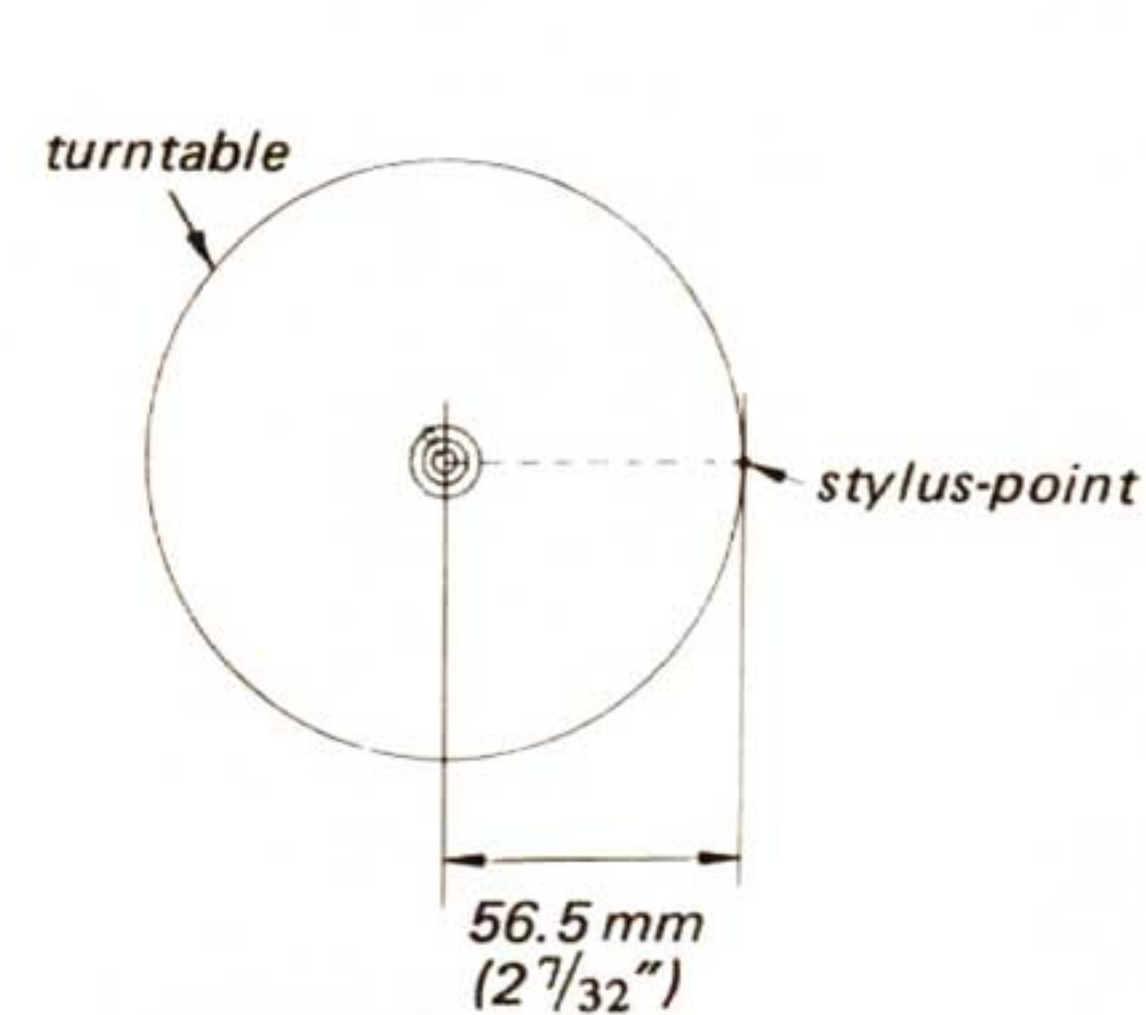


Fig. 3-5

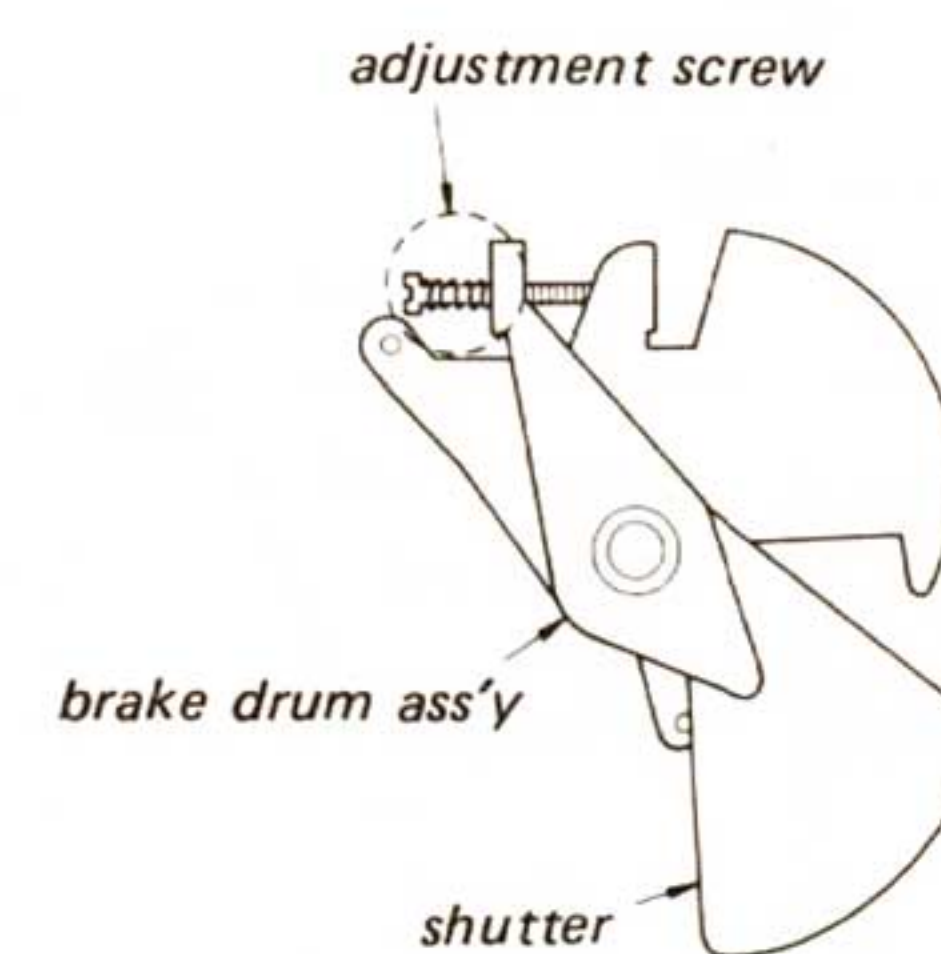
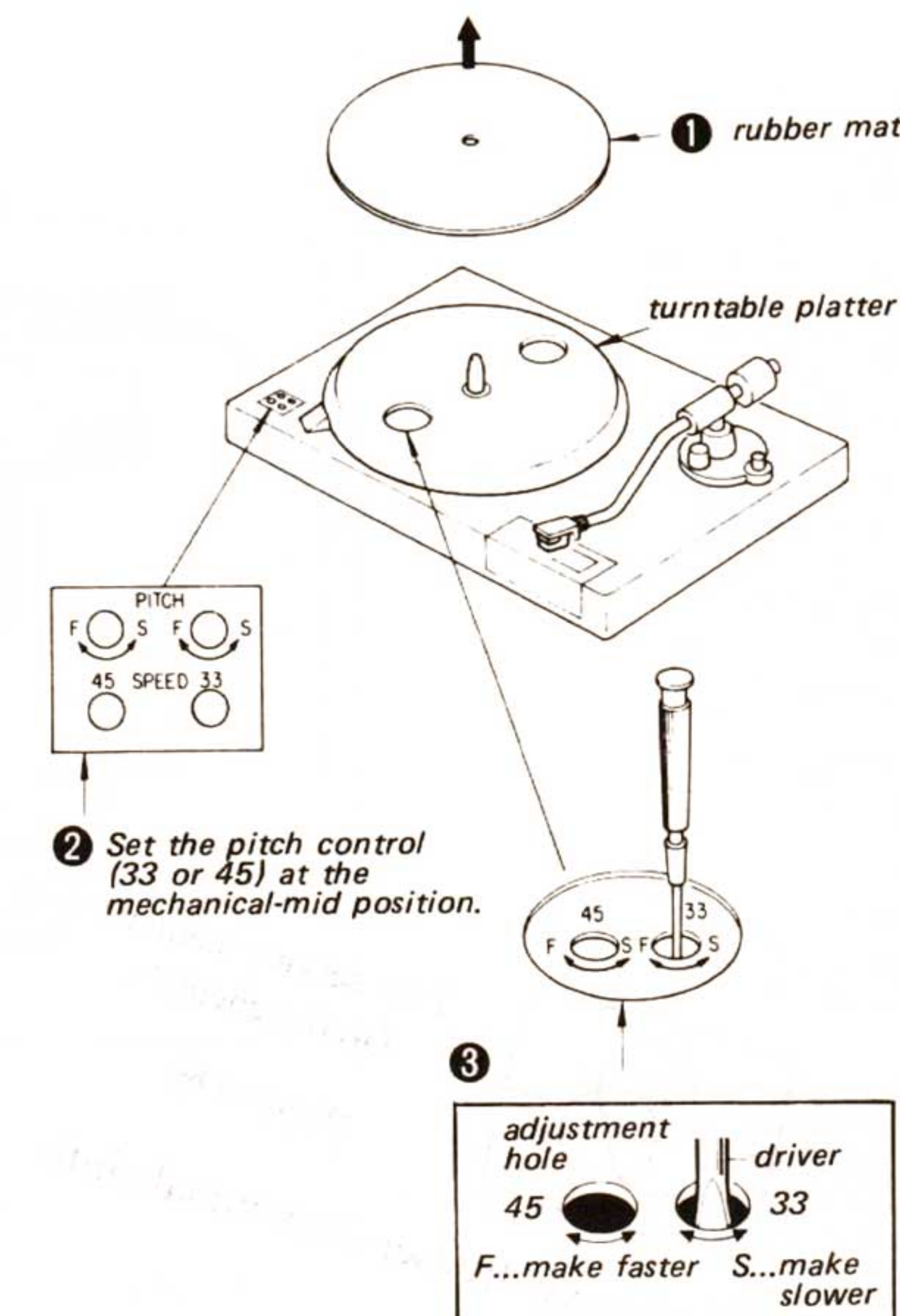


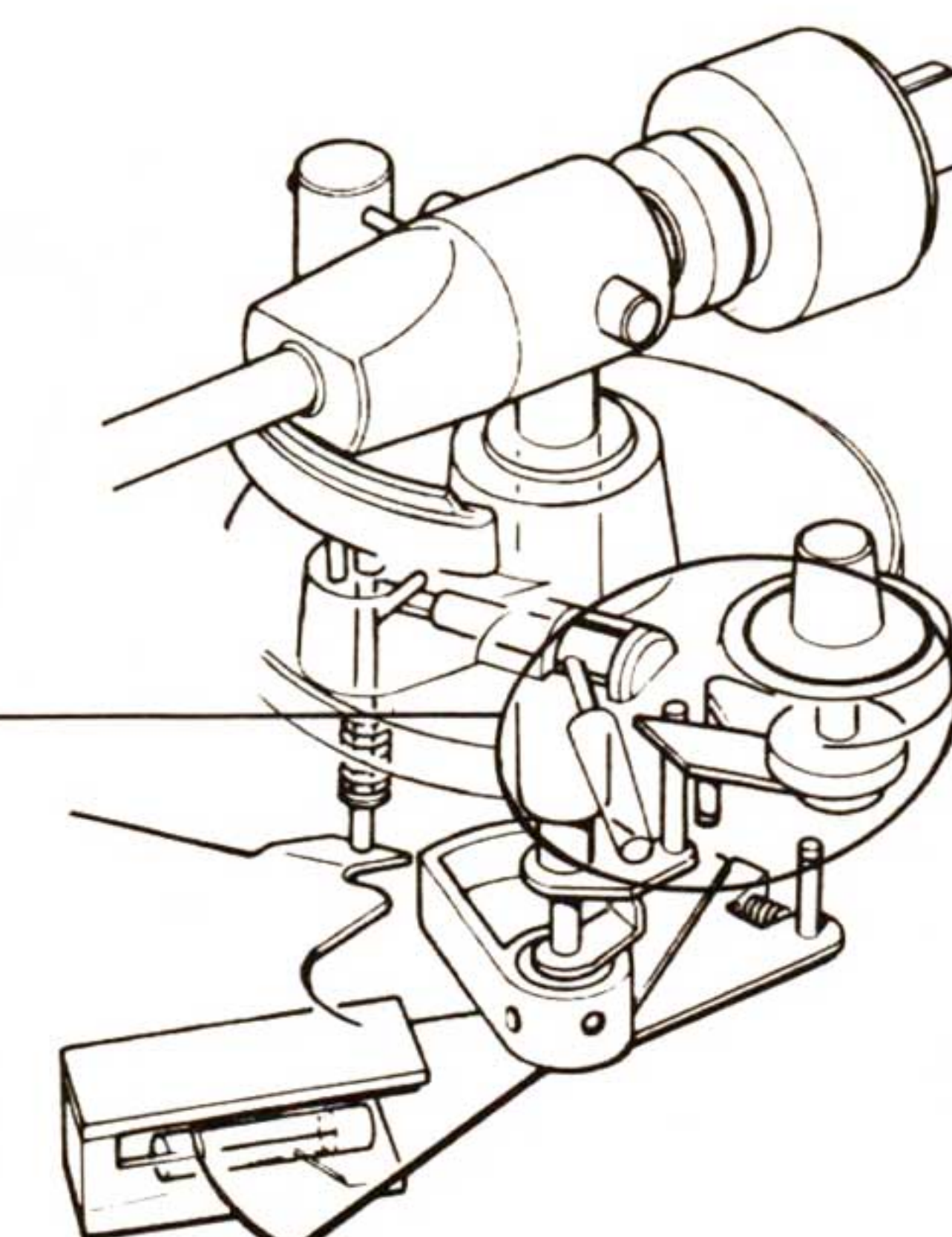
Fig. 3-6

TURNTABLE SPEED ADJUSTMENT

If correct speed cannot be obtained by adjusting the pitch controls, readjust RV101, RV102.

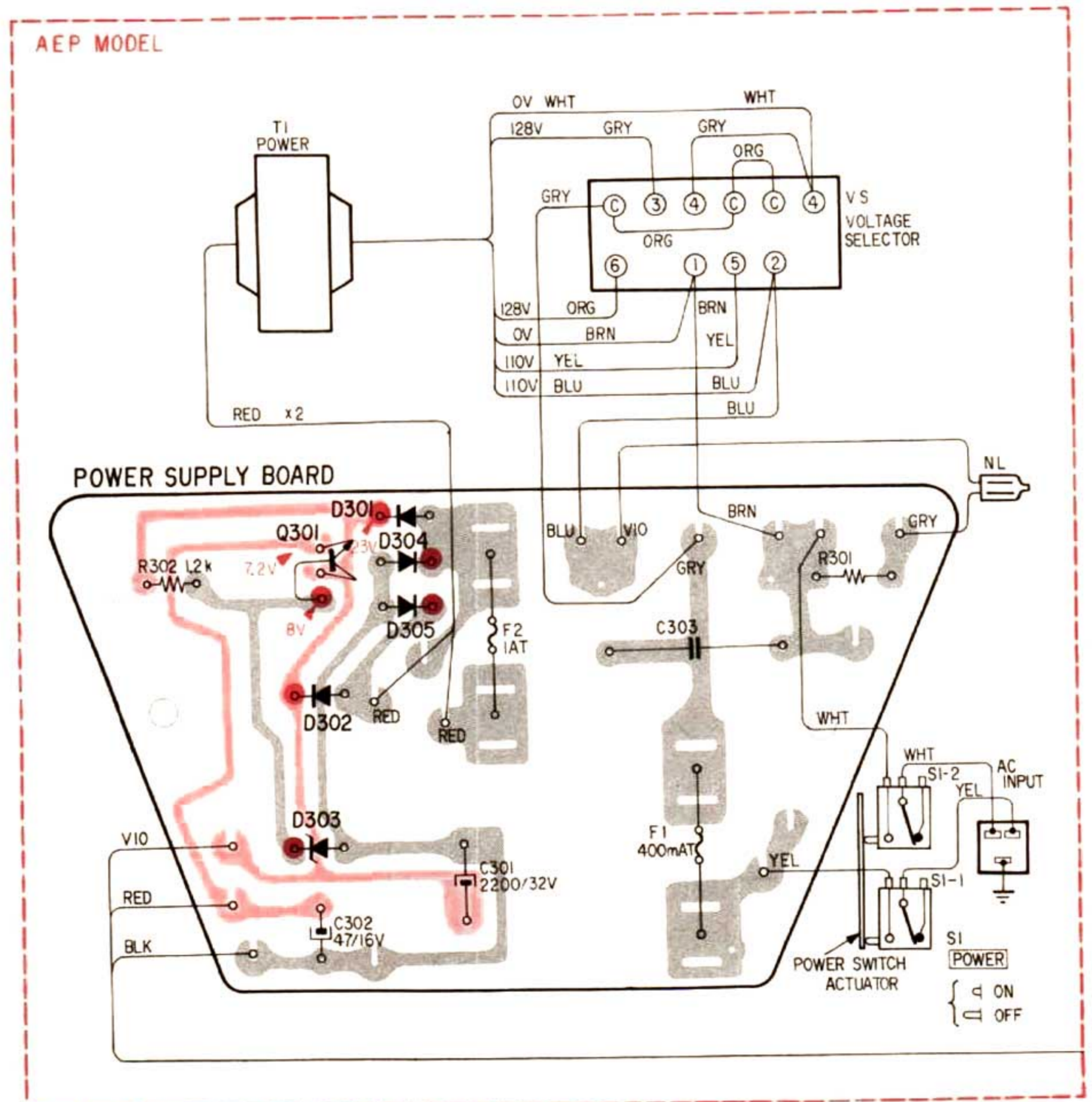
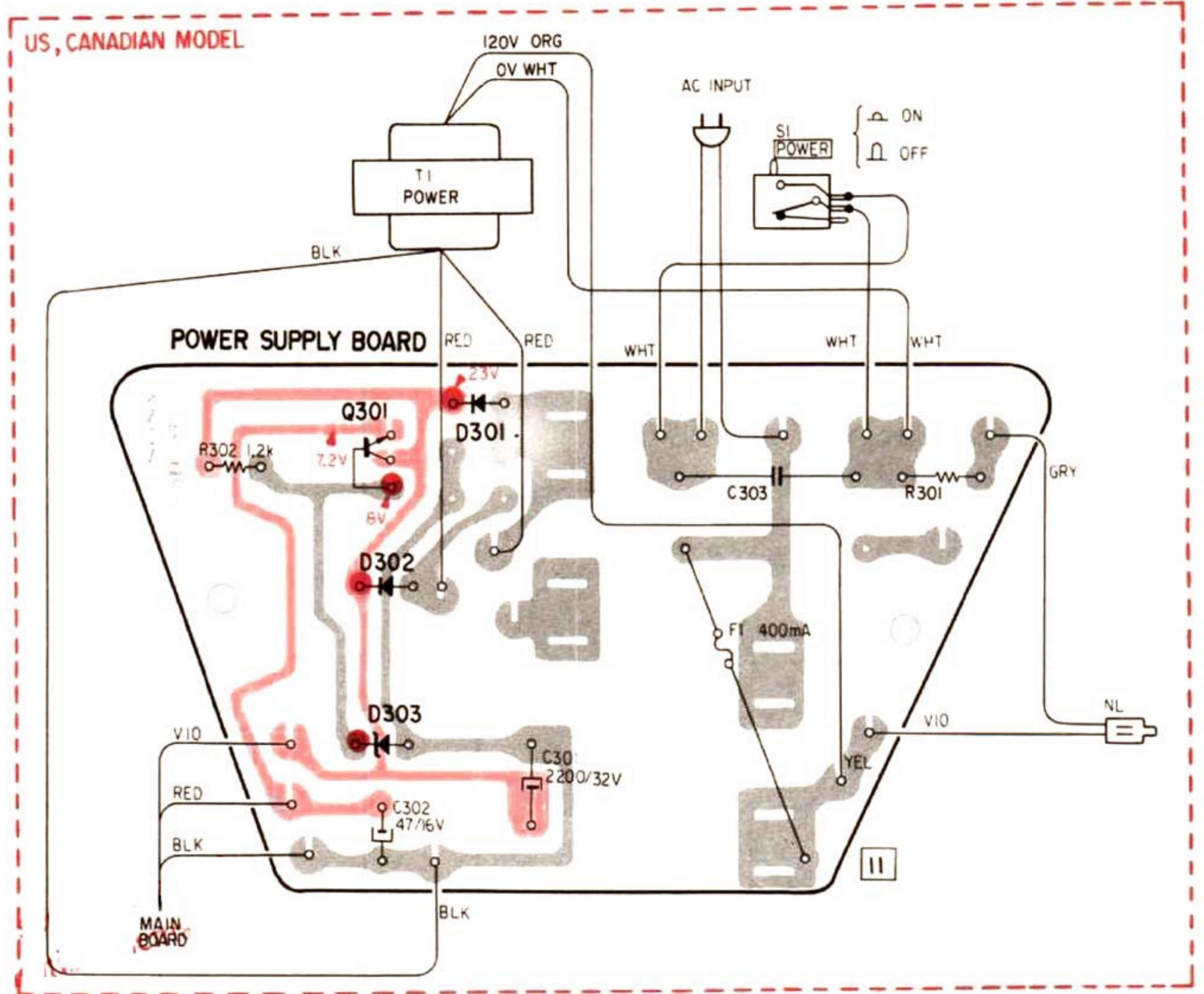


After the adjustment, touch the START/STOP button and confirm that the pattern appears stationary.

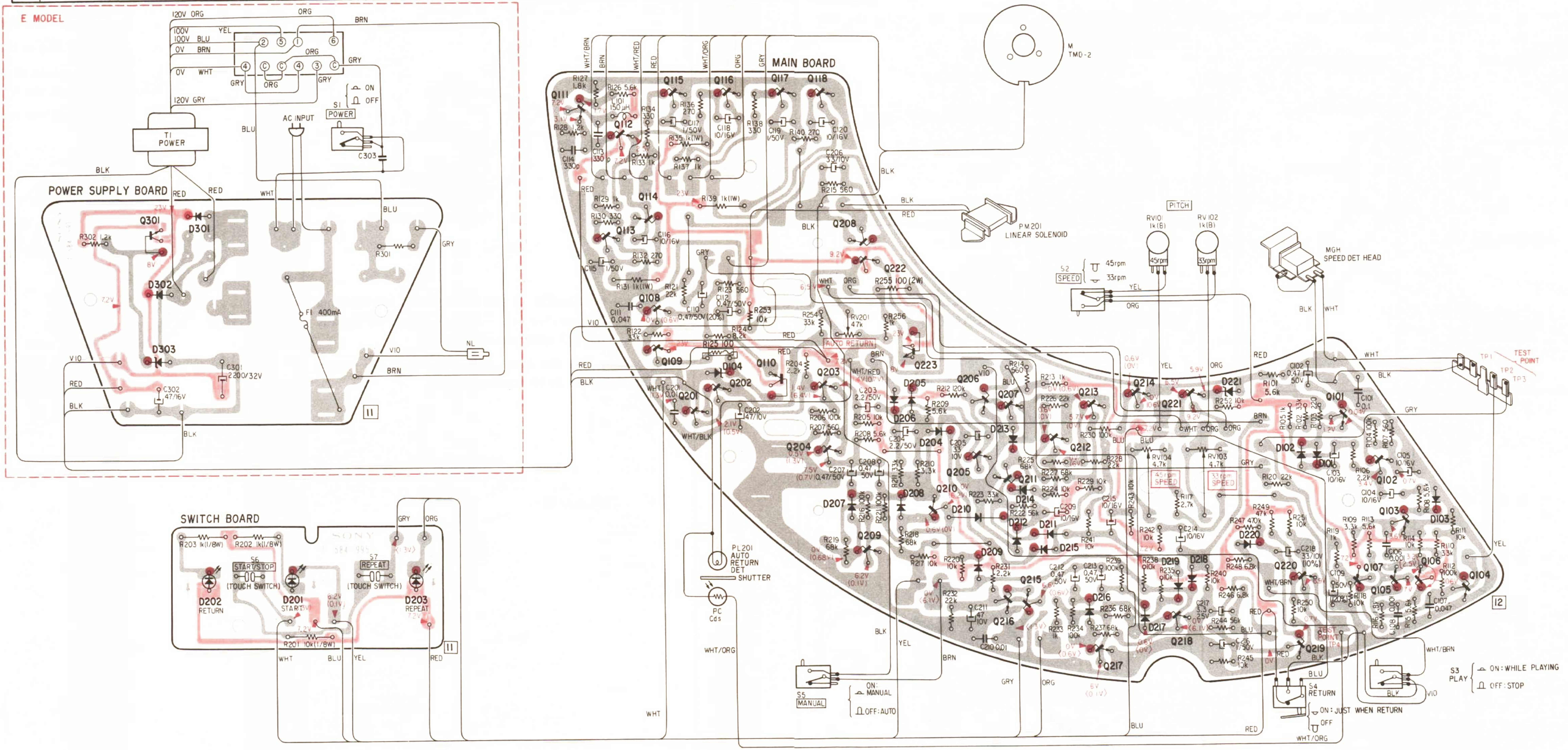


4-1. MOUNTING DIAGRAM

— Conductor Side —



Q	301	III	113	112	108,109	115	201	202	116	110	117	118	208	206	207	213	214	221	220	101	107	102	105	106	104	Q		
D	302 303	301	202	201	203				104				207	206,208	204	210	213	214,211	216	217	219	218	221	220	102	101	103	D



Q101, 102, 105, 106,
 Q108, 111~113, 115,
 Q117, 201~207,
 Q209~211, 214~222 : 2SC633A

Q103, 104,
 Q212, 213 : 2SC1363

Q107, 109: 2SA677

Q110, 223, 301: 2SC1173

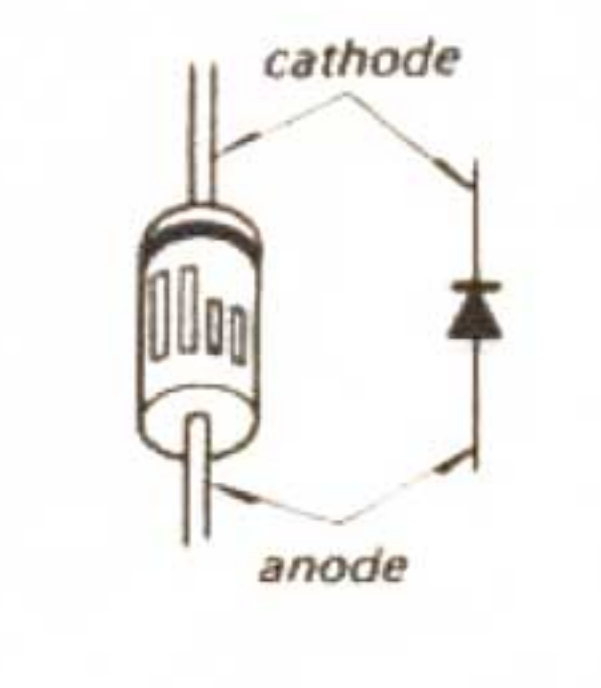
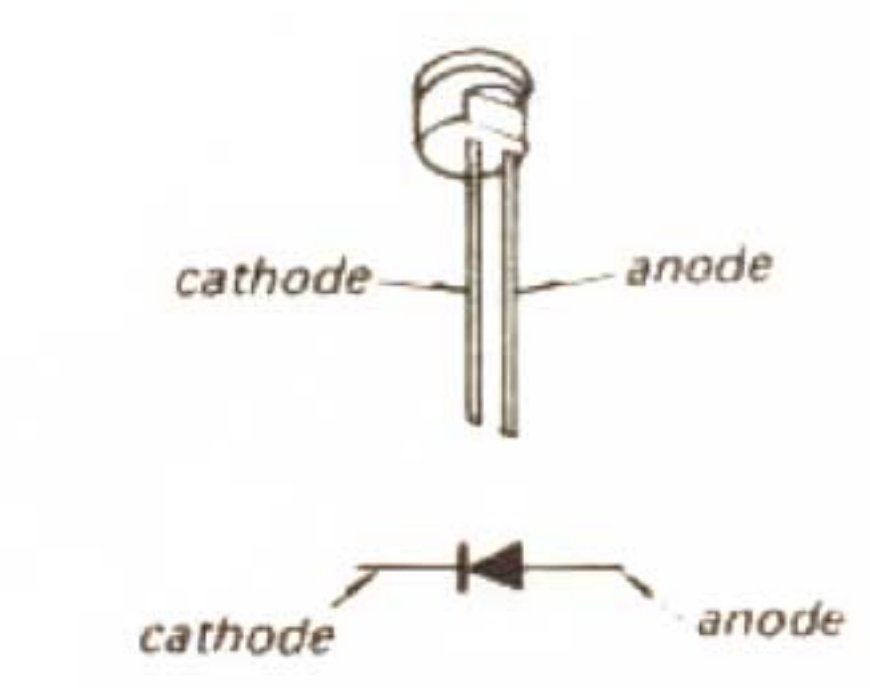
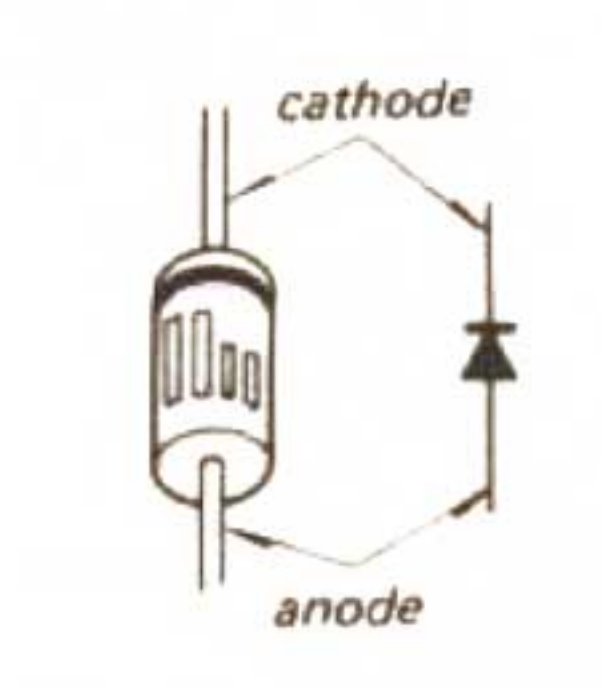
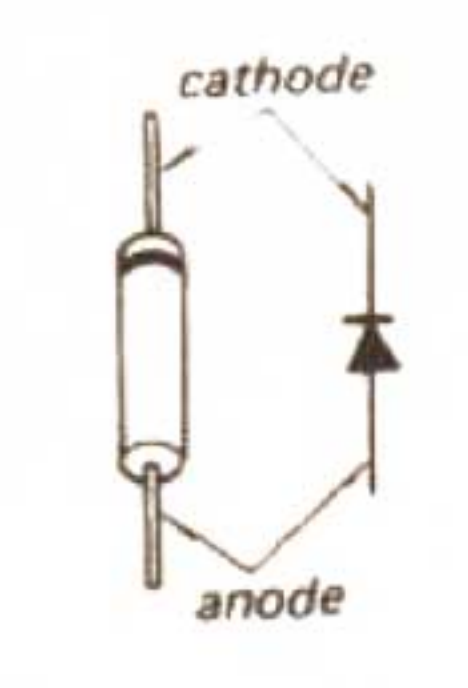
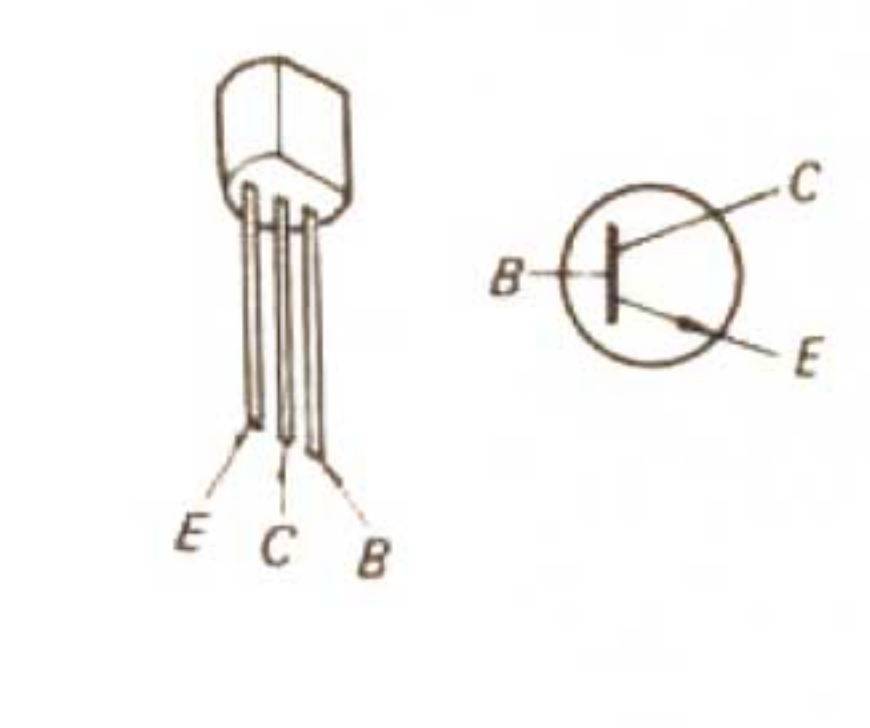
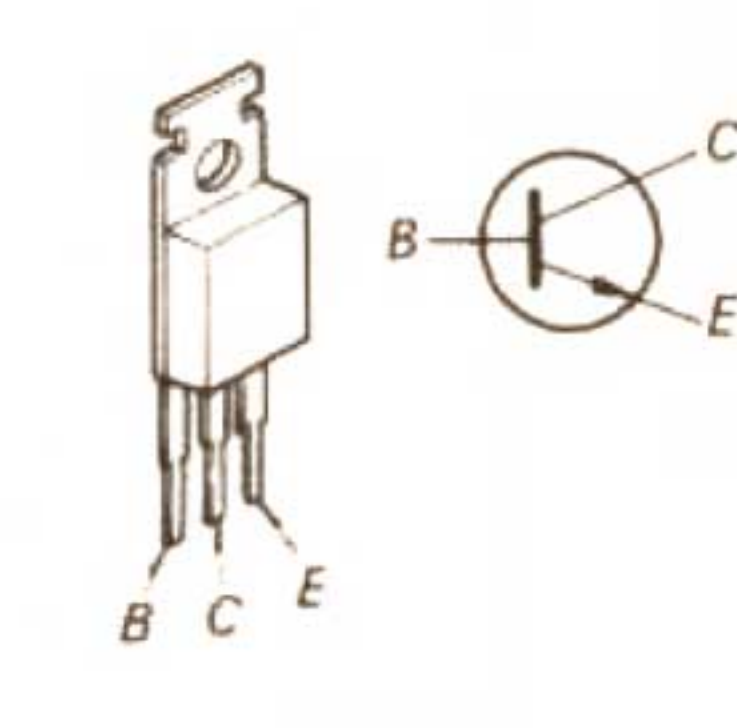
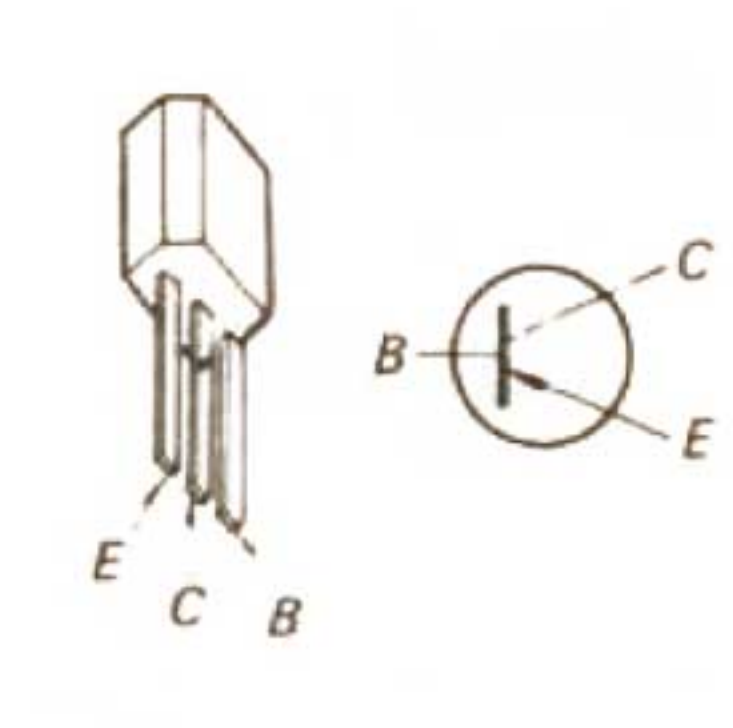
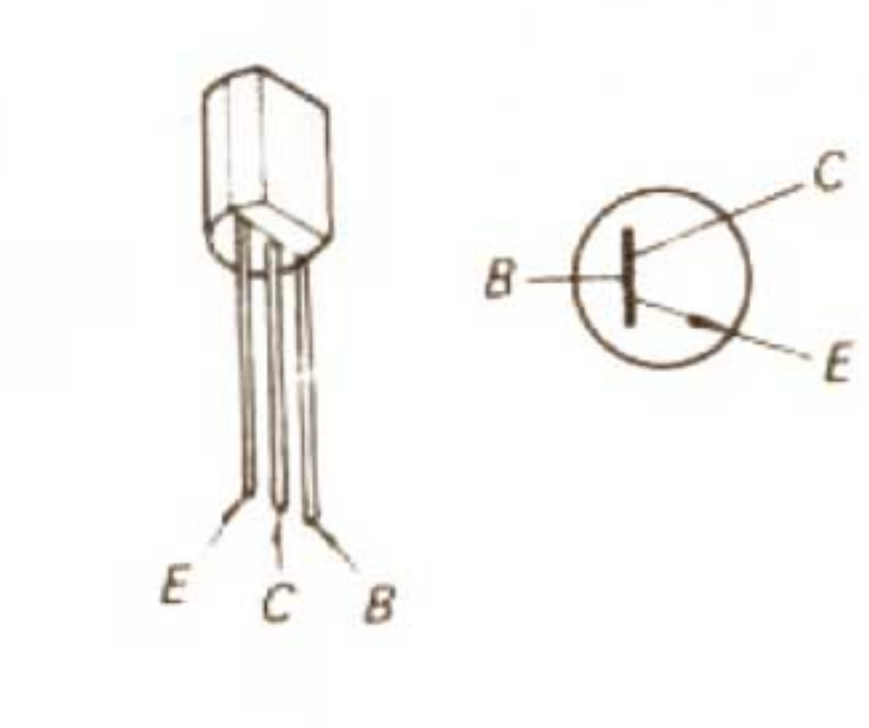
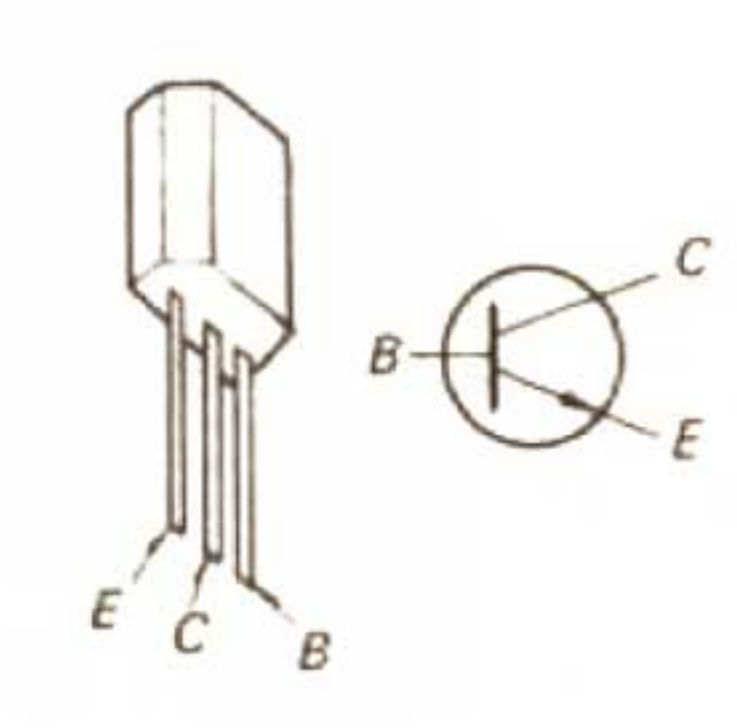
Q114, 116,
 Q118, 208 : 2SC1383

D101~103,
 D204~222 : 1T40

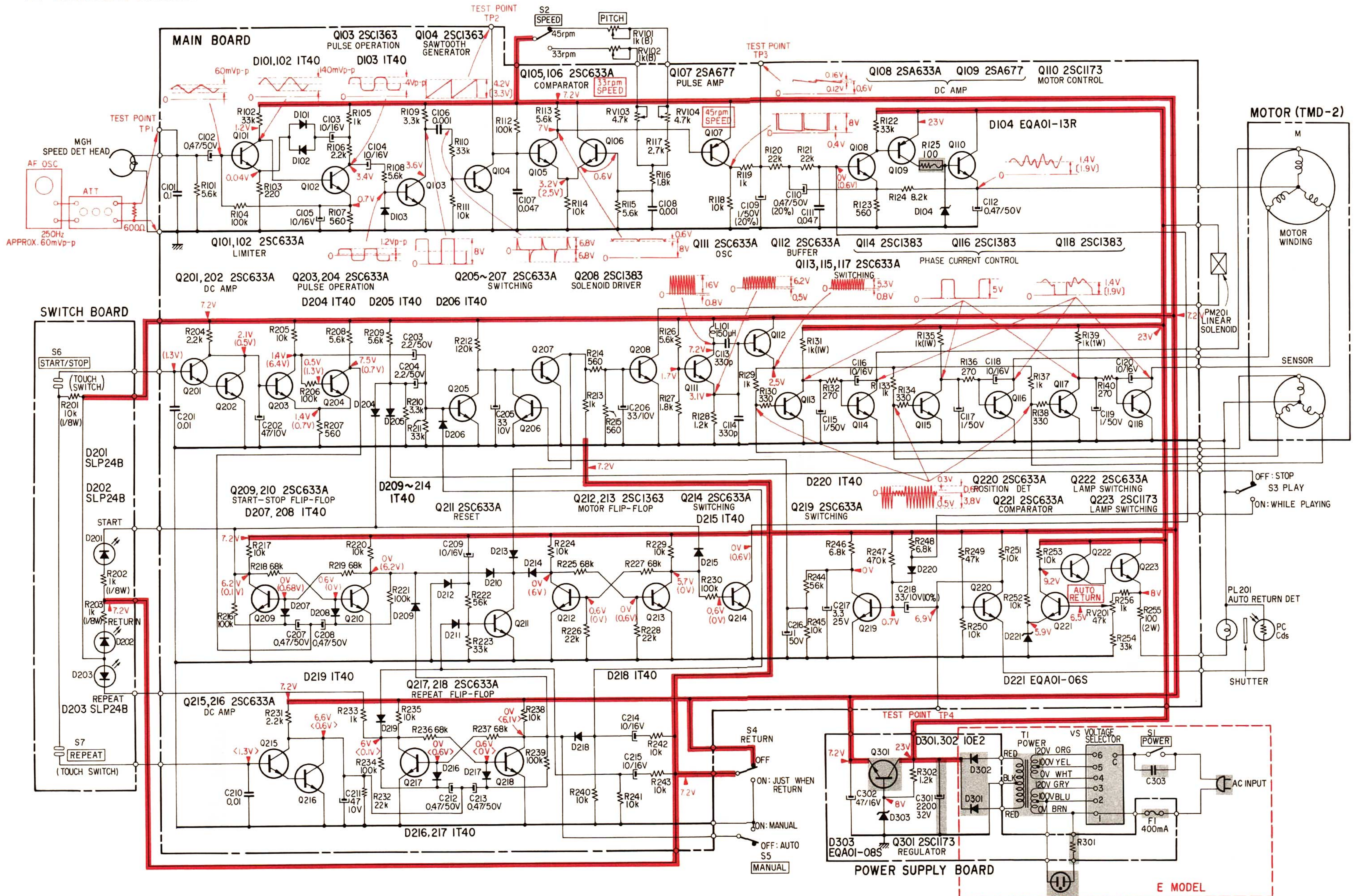
D104: EQA01-13R
 D221: EQA01-06S
 D303: EQA01-08S

D201~203: SLP24B

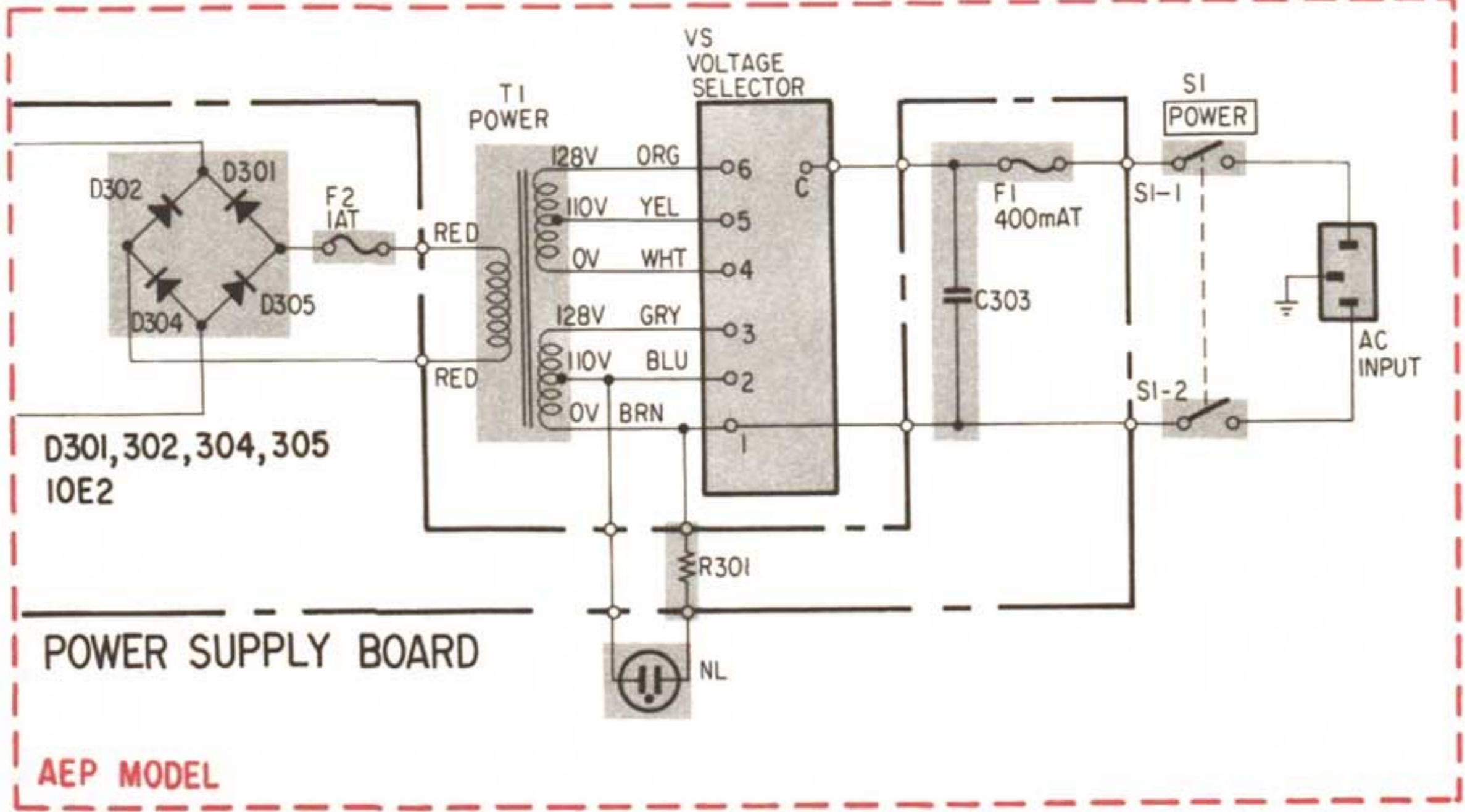
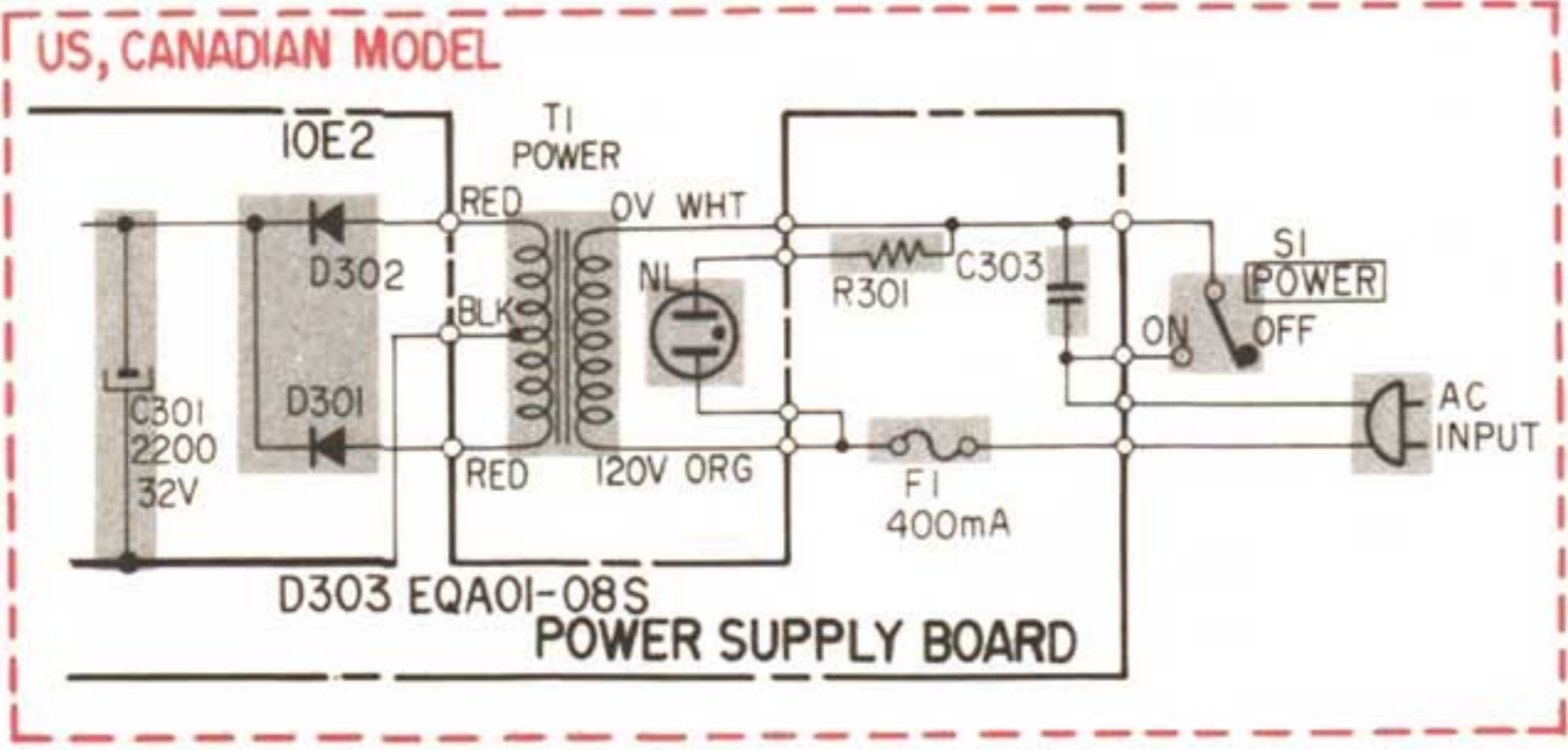
D301, 302,
 D304, 305 : 10E2



4-2. SCHEMATIC DIAGRAM



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



Note:

- All capacitors are in μF unless otherwise noted. 50 or less working voltages are not indicated except for electrolytic type. $\rho = \mu\mu\text{F}$
- % indicates component tolerance.
- All resistors are in Ω , $\frac{1}{2}\text{W}$, unless otherwise noted. $\text{k} = 1,000$ $\text{M} = 1,000 \text{k}$
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- indicates chassis ground.
- indicates the connection point marked with on the chassis.
- indicates B+ circuit.
- Voltages are DC with respect to ground unless otherwise noted. Readings are taken under no-signal conditions with a VOM (20 $\text{k}\Omega/\text{V}$).
- Voltage variations may be noted due to normal production tolerances.
 - [] : 45 rpm
 - () : Measured while touching S6.
 - < > : Measured while touching S7.
- Voltage between base and emitter are measured with 2.5V range.
- Waveforms are measured with oscilloscope.
 - Vertical scale: voltage
 - Horizontal scale: time
- indicates fusible resistor.
- indicates designation on the panel.
- indicates the adjustment for repair.
- Switch Mode:

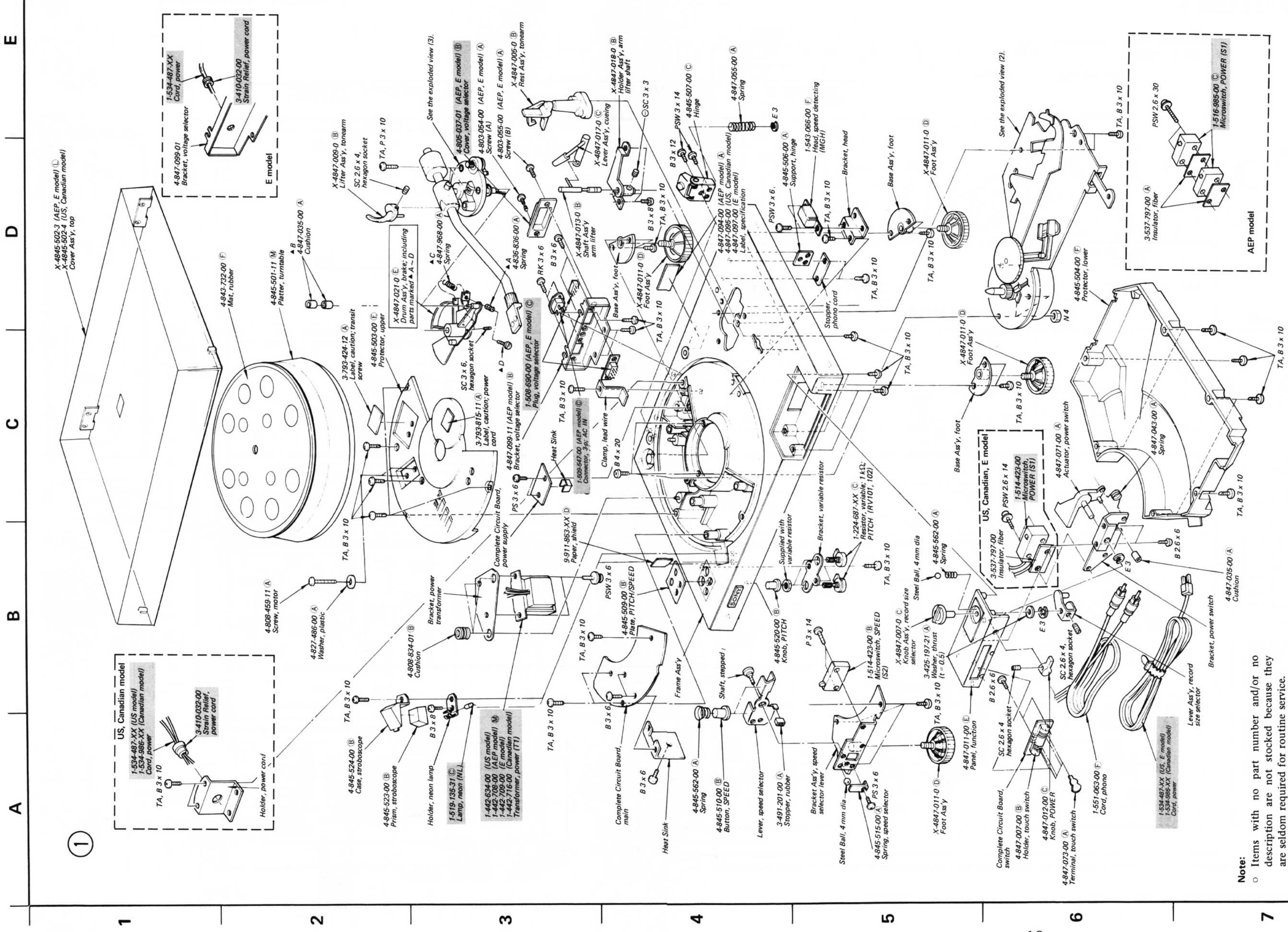
Ref. No.	Switch	Position
S1	POWER	OFF
S2	SPEED	45
S3	PLAY	OFF
S4	RETURN	OFF
S5	MANUAL	OFF: AUTO
S6	START/STOP	
S7	REPEAT	

MEMO

(1)

SECTION 5 EXPLODED VIEWS

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



Note:

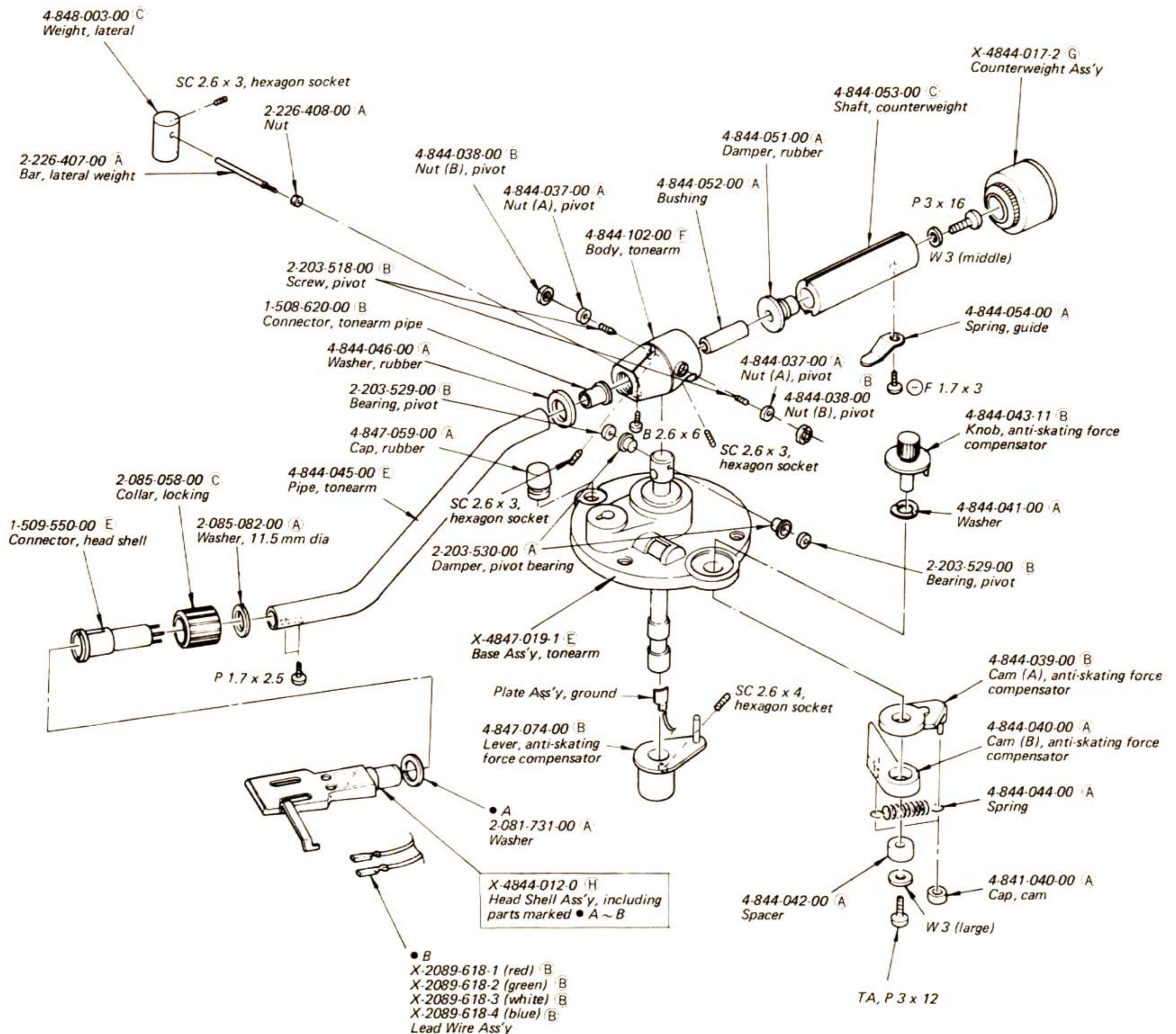
- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
- The circled letters (A) to (Z) are applicable for the European model only.

A

B

C

(3)

**Note:**

- 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
- The circled letters (A) to (Z) are applicable for the European model only.

SECTION 6 ELECTRICAL PARTS LIST

Note: The circled letters (A) to (Z) are applicable for the European model only.

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

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
SEMICONDUCTORS		
Transistors		
⇒ Q101~106	(B)	2SC634A
⇒ Q107	(C)	2SA678
⇒ Q108	(B)	2SC634A
⇒ Q109	(C)	2SA678
Q110	(C)	2SC1173
⇒ Q111~113	(B)	2SC634A
⇒ Q114	(C)	2SC1475
⇒ Q115	(B)	2SC634A
⇒ Q116	(C)	2SC1475
⇒ Q117	(B)	2SC634A
⇒ Q118	(C)	2SC1475
⇒ Q201~207	(B)	2SC634A
⇒ Q208	(C)	2SC1475
⇒ Q209~222	(B)	2SC634A
⇒ Q212,222	(B)	2SC634A
Q223	(C)	2SC1173
Q301	(C)	2SC1173
Diodes		
D101~103	(B)	1S1555
D104	(B)	EQB01-13
D201~203	(C)	SLP24B
D204~220	(B)	1S1555
D221	(B)	EQB01-06
⇒ D301,302		10D2 (US, Canadian, E model)
D303		EQA01-08S
⇒ D304,305	(B)	10E2 (AEP model)
PC	1-800-343-00	(D) CdS
COILS AND TRANSFORMERS		
L101	1-407-171-XX	(A) Microinductor, 150μH
PM101	1-454-155-00	(E) Linear Solenoid

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
T1	1-442-634-00	Transformer, power (US model)
	1-442-708-00	(M) Transformer, power (AEP model)
	1-442-709-00	Transformer, power (E model)
	1-442-716-00	Transformer, power (Canadian model)
	1-407-854-00	(B) Inductor, sensing

CAPACITORS

All capacitors are in μF and of electrolytic unless otherwise noted. (p = μμF)
50 and/or less working voltages are not noted except for electrolytic type.

C101	1-108-290-12	(B) 0.1	mylar
C102	1-121-726-11	(A) 0.47	50V
C103~105	1-121-651-11	(A) 10	16V
C106	1-102-074-11	(A) 0.001	ceramic
C107	1-108-595-12	(A) 0.047	mylar
C108	1-102-074-11	(A) 0.001	ceramic
C109	1-121-952-11	(A) 1	50V
C110	1-121-951-11	(A) 0.47	50V
C111	1-108-595-12	(A) 0.047	mylar
C112	1-121-726-11	(A) 0.47	50V
C113,114	1-101-112-11	(A) 330p	ceramic
C115	1-121-391-11	(A) 1	50V
C116	1-121-651-11	(A) 10	16V
C117	1-121-391-11	(A) 1	50V
C118	1-121-651-11	(A) 10	16V
C119	1-121-391-11	(A) 1	50V
C120	1-121-651-11	(A) 10	16V
C201	1-108-278-12	(A) 0.01	mylar
C202	1-121-352-11	(A) 47	10V
C203,204	1-121-450-11	(A) 2.2	50V
C205,206	1-121-402-11	(A) 33	10V
C207,208	1-121-726-11	(A) 0.47	50V
C209	1-121-651-11	(A) 10	16V
C210	1-108-278-12	(A) 0.01	mylar
C211	1-121-352-11	(A) 47	10V
C212,213	1-121-726-11	(A) 0.47	50V
C214,215	1-121-651-11	(A) 10	16V
C216	1-121-391-11	(A) 1	50V

⇒: Due to replacement parts, the descriptions are different from the diagrams.

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

Note: The circled letters (A) to (Z) are applicable for the European model only.

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
C217	1-121-392-11 (A) 3.3	25V
C218	1-131-195-11 (B) 33	10V tantalum
C301	1-123-047-11 (B) 2200	32V
C302	1-121-409-11 (A) 47	16V
⇒ C303	1-108-750-12 (B) 0.033	250V mylar

RESISTORS

All resistors are in ohms. Regular-type ¼W carbon resistors are omitted. Check the schematic diagram for the resistance values. (k = 1000)

R125	1-217-399-11 (B) 100	¼W fusible
R131,135 R139	1-213-143-11 (A) 1 k	1W metal-oxide (nonflammable)
R255	1-206-640-11 (A) 100	2W metal-oxide (nonflammable)
R301	1-213-154-11	8.2 k 1W metal-oxide (nonflammable) (E model)
	1-213-155-11 (A) 10 k	1W metal-oxide (nonflammable) (AEP model)
	1-213-156-11	12 1W metal-oxide (nonflammable) (US, Canadian model)
RV101,102	1-224-687-XX (C) 1 k, variable; PITCH	
RV103,104	1-224-644-XX (B) 4.7 k, adjustable	
RV201	1-224-254-XX (C) 47 k, adjustable	

SWITCHES

S1	1-514-423-00	Micro, POWER (US, Canadian, E model)
	1-516-985-00 (C)	Micro, POWER (AEP model)
S2	1-514-423-00 (B)	Micro, SPEED
S3	1-514-722-XX (C)	Micro, play
S4,5	1-514-423-00 (B)	Micro, return; MANUAL/auto

⇒: Due to replacement parts, the descriptions are different from the diagrams.

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
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FUSES

F1	1-532-066-00 (A)	400 mA (AEP model)
	1-532-317-00	400 mA (US, Canadian model)
	1-532-461-XX	400 mA (E model)
F2	1-532-078-00 (B)	1AT (AEP model)

MISCELLANEOUS

MGH	1-543-066-00 (F)	Head, speed detecting
NL	1-519-135-31 (C)	Lamp, neon
PL201	1-518-234-00 (B)	Lamp, pilot; 6V 100 mA
	1-452-059-00 (B)	Magnet, brake
	1-508-620-00 (B)	Connector, tonearm pipe
	1-508-690-00 (C)	Plug, voltage selector (AEP, E model)
	1-509-547-00 (C)	Connector, 3-p; AC IN (AEP model)
	1-509-550-00 (F)	Connector, head shell
	1-533-051-XX (B)	Holder, lamp
	1-534-487-XX	Cord, power (US, E model)
	1-534-986-XX	Cord, power (Canadian model)
	1-536-401-XX (A)	Terminal Strip
	1-551-063-00 (F)	Cord, phono

Note: The circled letters (A) to (Z) are applicable for the European model only.

ACCESSORIES AND PACKING MATERIALS

<u>Part No.</u>	<u>Description</u>
X-4845-514-1	C Sub-weight Ass'y
2-054-619-00	(A) Spacer (t2), cartridge
2-054-624-00	(B) Screw (large), cartridge
2-054-625-00	(A) Screw (small), cartridge
2-227-313-00	(A) Spacer (t0.5), cartridge
3-701-438-21	(A) Washer, plastic; 2.5 mm dia.
3-701-806-01	(A) Adaptor, 45 rpm
3-780-922-11	(E) Manual, instruction (AEP, E model)
3-780-922-21	Manual, instruction (US, Canadian model)
3-793-395-13	(B) Gauge, overhang adjustment
4-815-655-00	(A) Nut, cartridge
4-838-319-00	(A) Screw (middle), cartridge
4-844-060-00	(C) Bag, plastic; unit
4-845-557-00	(C) Cushion, side
4-845-560-00	(A) Sheet, protection; top cover
4-845-567-00	(B) Spacer
4-847-092-00	(A) Screwdriver
4-848-004-00	(F) Carton
4-848-005-00	(C) Holder (A), accessories
4-848-006-00	(B) Holder (B), accessories
4-849-790-00	(B) Bag, plastic; turntable
9-911-851-XX	(E) Cushion (t3), tonearm pipe

9-958-353-00

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