PS-F1770

SERVICE MANUAL



US Model
Canadian Model
AEP Model
E Model

SPECIFICATIONS

Turntable

Platter

28 cm (11 in.), aluminum-alloy diecast

Motor

Linear torque BSL (brushless and slotless)

motor

Drive system

Direct drive

Control system

FG servo control system

Speed

331/3 rpm, 45 rpm

Wow and flutter

0.03% (WRMS)*, 0.035% (WRMS)

±0.045% (DIN)

Signal-to-noise ratio

75 dB (DIN-B)

Automatic system

Lead-in, return, reject, repeat, record size

selection

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK

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.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET UNE MARQUE À SUR LES DIAGRAMMES SCHÉMATIQUES 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.

Tonearm

Type Electronic tonearm, linear tracking

Pivot-to-stylus length

75 mm (3 in.)

Overall arm length

170 mm (63/4 in.)

Tracking error ±0.1°

Tracking force adjustment range 1.25 ±0.25 g

Cartridge plug-in type, 6 g

Cartridge (XL-300G for AEP, E model, VL-45G for certain US, Canadian model)

Type

Moving magnet type

Frequency response

20 Hz to 20 kHz

Channel separation

AEP, E model: 23 dB at 1 kHz

US, Canadian model: 20 dB at 1 kHz

Output voltage

AEP, E model: 3 mV at 1 kHz,

5 cm/sec., 45°

5 cm/sec., 45°

US, Canadian model: 3.5 mV at 1 kHz,

47 kilohms

Load impedance Tracking force

force 1.25 g

Stylus

Weight

AEP, E model: Sony ND-300G

US, Canadian model: Sony ND-145G

6 g

- Continued on page 2 -



STEREO TURNTABLE SYSTEM

STEREO TURNTABLE SYSTEM

General

Power requirements

AEP model: 220 V ac, 50/60 Hz US, Canadian model: 120 V ac, 60 Hz E model: 110 – 120 or 220 – 240 V ac ad-

justable 50/60 Hz

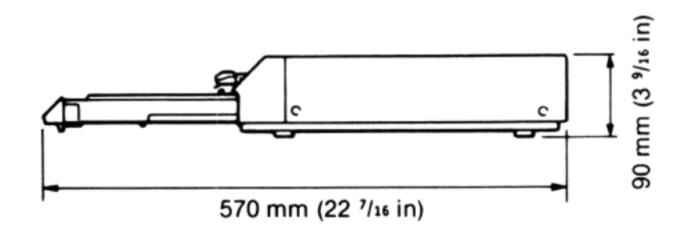
Power consumption Dimensions 15 W

Approx. $355(w) \times 90(h) \times 400(d) \text{ mm}$

(14 x 3½x 15¾ in.)

including projecting parts and controls (For the dimensions with the module open-

ed, see illustration below.)



Weight

Approx. 7.0 kg (15 lbs 7 oz), net

Approx. 8.2 kg (18 lbs 2 oz), in shipping

carton

Note

This appliance conforms with EEC Directives 76/889 and 82/499 regarding interference suppression.

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

FEATURES

Unique modular turntable system

Other audio components (max. 35 kg) can be positioned on top of the turntable cabinet.

RMS (Random Music Sensor)

The RMS allows you to play the selections on one side of the record in a desired sequence.

Synchronized operation with the Sony tape decks

The synchronized operation is possible with Sony cassette decks equipped with a synchro remote control connector.

Wireless remote control operation

With the optional ST-V77/V77L system control tuner, the total audio system can be remotely controlled.

- Direct function
- Servo-controlled linear tracking tonearm
- A microprocessor which controls four motors
- Fully automatic system
- Muting system
- Liner torque BSL motor

SAFETY CHECK-OUT (US Model)

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

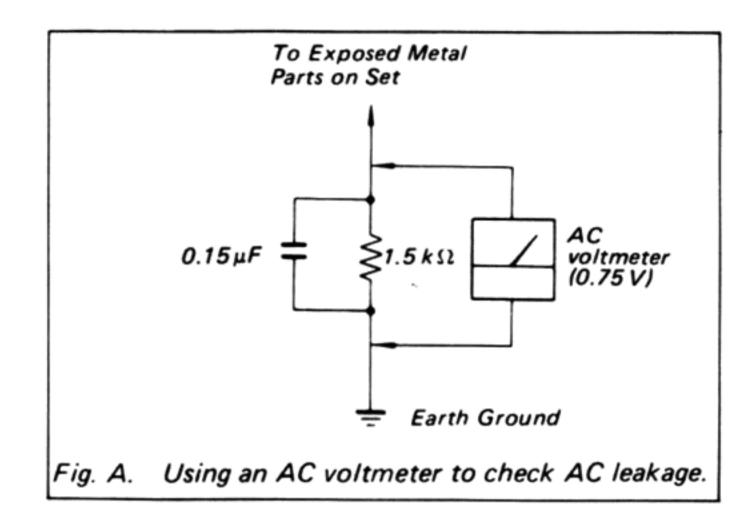
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

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 microampers). Leakage current can be measured by any one of three methods.

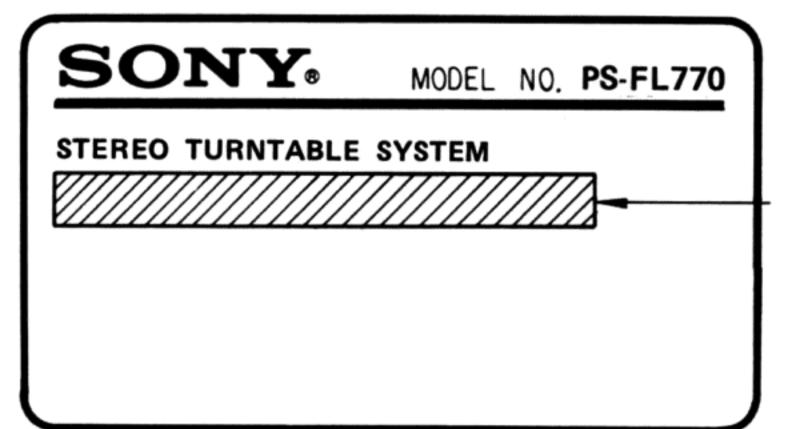
- A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
- A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

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 2V AC range are suitable. (See Fig. A)



MODEL IDENTIFICATION

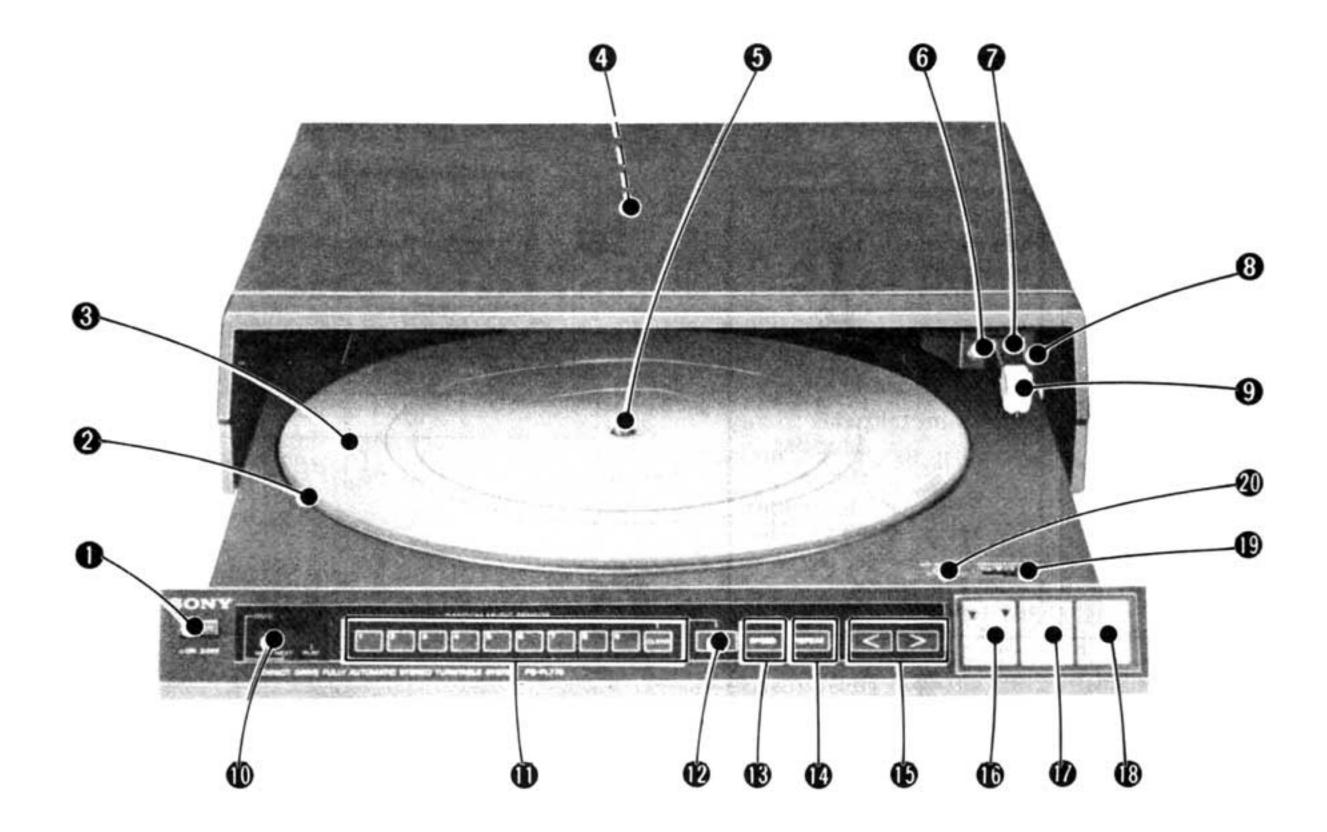
- Specification Label -



US, Canadian model: AC: 120 V \sim 60 Hz 15 W AEP, G-AEP model: AC: 220 V \sim 50/60 Hz 15 W

E model: AC: 110 - 120 V, 220 - 240 V ~ 50/60 Hz 15 W

FUNCTION OF CONTROLS



- Power switch
- Platter
- Rubber mat

O Photo detector

Detects the record size (30 cm, 25 cm and 17 cm) and how many selections are on a record, by searching for blank spaces between selections when the module closes.

- 6 Center spindle
- Tonearm position indicator
- Tonearm
- Cartridge locking screw
- O Cartridge

Display window

The number of the selection being played, the programmed selections for RMS play, etc. are displayed in this window.

RMS programming keys and CLEAR key

Used for programming the selections to be played in the desired sequence. Press the CLEAR key to cancel the program.

® SKIP key

Press this key to skip a selection during play.

This key is also used for AMS (Automatic Music Sensor) play.

SPEED selector and indicators

Press this key when a 45 rpm record is to be played. Press it again for a 33¹/₃ rpm record. Corresponding indicator illuminates.

REPEAT key and indicator

Press this key to repeat play. The indicator illuminates. To cancel the repeat play, press this key again. You can also use this key to repeat the selections programmed by the RMS function.

ARM TRANSPORT keys

▼/▼ ARM LIFTER key

This key lifts and lowers the tonearm. When the tonearm is lowered, the turntable starts rotating.

This key does not function when the tonearm is in the arm rest position.

START/STOP key and indicator

Press to start the record playing. The play indicator illuminates. To stop during play, press it again.

OPEN/CLOSE key

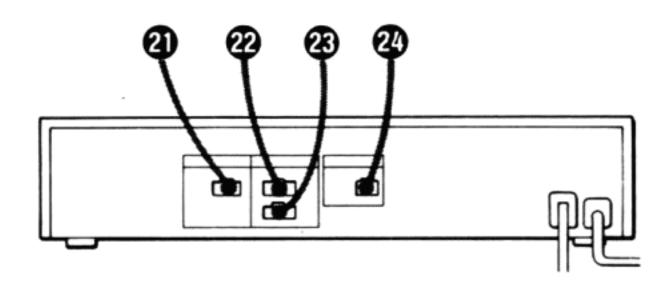
With one touch of this key the turntable module automatically opens for loading a record. With another touch the module automatically closes.

SENSITIVITY selector

Normally set this selector to M. When the number of the selections detected is not correct, set the selector to either H or L.

@ DP ADJUST (drop-point adjustment) opening

Rear panel



SYNC connector

Connect to the synchro connector of the Sony cassette deck for synchronized recording.

CONTROL S connector

Use this connector for total audio system remote control. For details, refer to the Operating Instructions of the optional Sony ST-V77/V77L system control tuner.

CONTROL S connector

Use this connector for total audio system remote control. For details, refer to the Operating Instructions of the optional Sony ST-V77/V77L system control tuner.

FUNCTION CONTROL connector

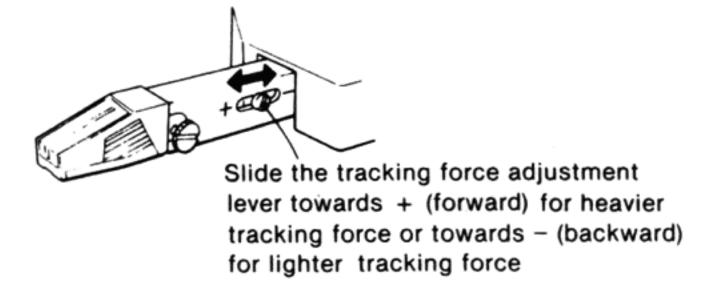
Connect this connector to the PHONO direct function connector of the optional ST-V77/V77L system control tuner for direct function.

TRACKING FORCE FINE ADJUST-MENT

The tracking force has been correctly adjusted at the factory. Make fine adjustment only when the tracking force is so light that the stylus skips grooves.

- Depress the power switch (

 ON), then press the OPEN/CLOSE key to open the module.
- 2 Press the < ARM TRANSPORT key to move the tonearm toward the center spindle.
- 3 Slide the tracking force adjustment lever. Be sure that the stylus guard is installed.



4 Press the ≥ ARM TRANSPORT key to move the tonearm to the arm rest position.

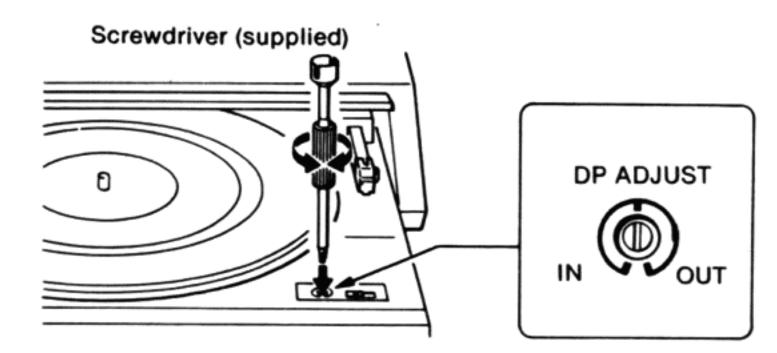
TONEARM DROP-POINT ADJUST-MENT

The tonearm's drop-point during auto play, AMS play or RMS play has been adjusted at the factory. Adjust this if the stylus does not lower correctly at the beginning of the desired selection.

- 1 Press the OPEN/CLOSE key to open the module.
- 2 Insert the supplied screwdriver into the DP ADJUST opening.

To move the drop-point inward, turn the screw counterclockwise (towards IN).

To move the drop-point outward, turn the screw clockwise (towards OUT). Do not turn it so far clockwise that the stylus tip cannot make contact with the record.



3 Check if the drop-point is correctly adjusted by lowering the tonearm to the beginning of a selection in the middle of the record, using the AMS function. (Checking the drop-point for the first selection is not sufficiently accurate.)

If the drop-point is correct for one selection, it will also be correct for all the selections.

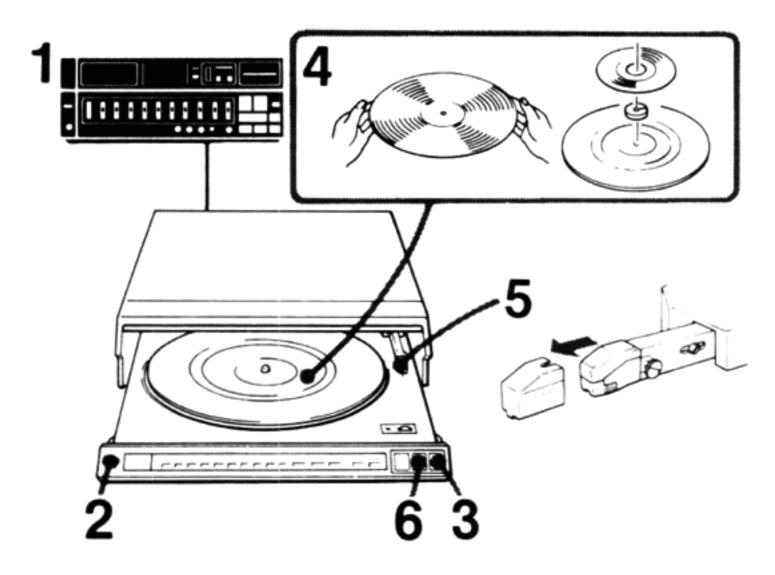
RECORD PLAYING

AUTO PLAY

—To begin record play from the beginning of the record

This turntable's photo detector detects the record size: 30 cm (12 inch), 25 cm (10 inch) or 17 cm (7 inch), and the number of the selections on the record when the module closes. Therefore after turning the power on, be sure to press the OPEN/CLOSE key to open the module completely so that the detector is on standby.

Follow the numbered sequence.



- 1 Turn on the amplifier, lower the amplifier volume and set the input selector to PHONO.
- 2 Depress the power switch (\(\sigma \) ON).
- 3 Press the OPEN/CLOSE key to open the module.
- 4 Place a record on the platter. For 45 rpm record playing, see below.
- 5 Remove the stylus guard.
- 6 Press the START/STOP key. Play will begin.

When the tonearm reaches the end of the record, it will automatically return to the arm rest position.

Turn off the power switch after the tonearm returns to the arm rest position.

45 rpm record playing

- Put the supplied 45 rpm adaptor over the center spindle and place a record on the platter.
- Press the SPEED selector so that the 45 indicator illuminates.

Notes

•If the power switch is turned off while the tonearm is returning to the arm rest position, when you press the power switch the next time the tonearm will return to the arm rest position. While the tonearm is moving, the START/STOP key is not activated.

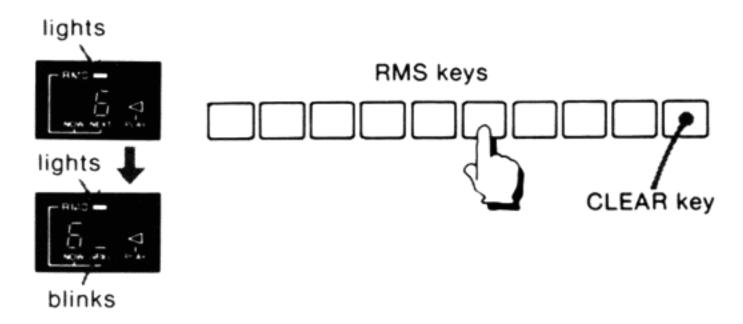
RMS (RANDOM MUSIC SENSOR) PLAY

You can play selections on one side of the record in the desired sequence, which has been programmed using the RMS key.

- 1 Press the OPEN/CLOSE key to open the module, put on a record and select the record speed.
- 2 Press the RMS keys in the sequence in which you want to listen to the selections.

Each time the RMS key is pressed, the selected number is displayed once in the right position in the display window, immediately moves to the left position, and the cursor blinks in the right position to indicate another selection can be programmed.

Up to 15 selections can be programmed.



To change the program, press the CLEAR key and input the selections again.

3 Press the START/STOP key. The module closes and play begins from the first-programmed selection. The RMS indicator lights during RMS play.



-The next selection to be played

When searching the next selection, the left digit blinks rapidly.

Current selection being played (blinks slowly)

At the end of the last-programmed selection, the tonearm will return to the arm rest position automatically. If you wish to play the same selections in the same sequence again, press the START/STOP key.

To change the programmed sequence

Press the CLEAR key when the tonearm is on the arm rest position.

The display will change to 00 and the programmed sequence will be erased. Then press the RMS keys again in the desired sequence.

Automatic editing function of the RMS program

If a selection number which does not exist on the record is selected with the module open, that number will be erased automatically when the module closes.

For example, if you have pressed the 6, 2, 8, 5 and 7 RMS keys in that order, for a record containing only 6 selections, numbers 8 and 7 will be erased when the module closes and the 6th, 2nd and 5th selections will be played.

If an incorrect RMS keys is pressed with the module closed, the number of the key will not be displayed. This is an automatic editing function of the RMS program.

If the pressed RMS keys are all incorrect, the "E" (error) indicator will flash several times, or the display will not change from 00.

To cancel the RMS program

Press the ARM TRANSPORT keys or the OPEN/CLOSE key during play, or press the CLEAR key when the tonearm is in the arm rest position. The display will change to 00 when the tonearm is in arm rest position and the programmed sequence will be erased.

TO LIFT UP THE STYLUS DURING RMS PLAY

To lift up the stylus for a moment and then start playing from the same point, press the ARM LIFTER key. To lower the tonearm onto the record, press the ARM LIFTER key again.

TO STOP DURING RMS PLAY

Press the START/STOP key. The tonearm will return to the arm rest position.

When the START/STOP key is pressed again, the RMS play will restart from the beginning.

TO SKIP SELECTIONS DURING RMS PLAY

Press the SKIP key during play. Each time the SKIP key is pressed, the next selection ahead is played.

TO REPEAT RMS PLAY IN THE PROGRAMMED SE-QUENCE

Press the REPEAT key either before or after starting RMS play. At the end of the last-programmed selection, the tonearm will return to the first-programmed selection automatically, then play will restart.

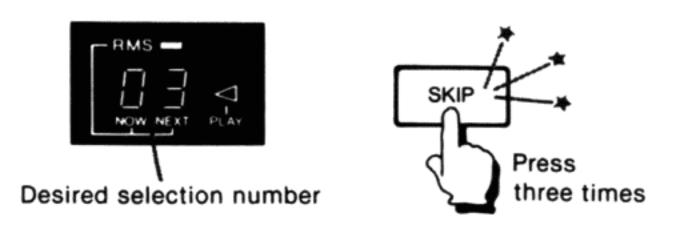
To stop during repeat play, press the REPEAT key. When the last-programmed selection has been played, the tonearm will return to the arm rest position and repeat function will be cancelled.

If you press the START/STOP key during repeat play, play will stop immediately, the tonearm will return to the arm rest position and the repeat function will be cancelled.

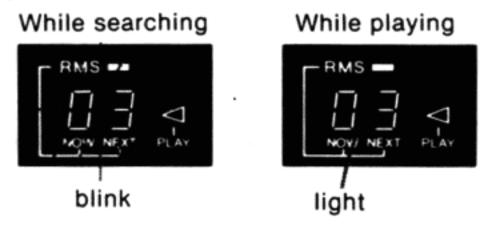
AMS (AUTOMATIC MUSIC SENSOR) PLAY

- -To begin record play from the desired selection
- 1 Press the OPEN/CLOSE key to open the module, put on a record and select the correct record speed.
- 2 Press the SKIP key repeatedly until the number of the selection from which you want to start play is displayed.

Each time the SKIP key is pressed, the number of the selection displayed increases by one, up to 15, then returns to 01.



3 Press the START/STOP key. The module closes, the tonearm searches for the preset selection and play begins.



Note

If the selection number which does not exist (for example, "08" for a record which contains only 7 selections) is input with the module opended, the "E" (error) indicator appears and flashes several times, then "00" is displayed. In this case, input an appropriate selection number.

TO SKIP TO THE DESIRED SELECTION DURING PLAY

-Using the SKIP function

Press the SKIP key repeatedly during play until the number of the desired selection is displayed.

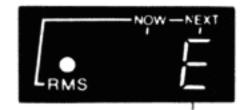
Each time the SKIP key is pressed, the next selection in advance is displayed, and when the last selection has been selected, the display reverts to 01.

The tonearm will lift up, search for the preset selection and play will start automatically.

Note

The SKIP function is inoperative while the tonearm is in the raised position or while the record is being played with the module open.

Error indicator

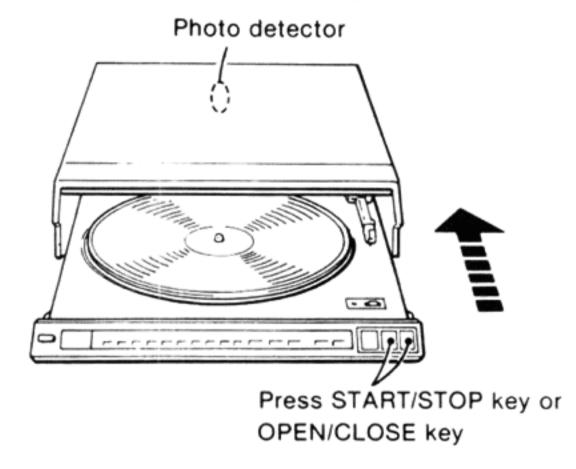


The "E" (error) indicator flashes several times and the display will change to 00 in the following cases.

- •When the START/STOP key is pressed, but there is no record on the platter.
- •When inappropriate selection numbers are set for AMS or RMS play with the module open, and the START/ STOP key is pressed.
- ●When the OPEN/CLOSE key is pressed while the module is closing and the same button is pressed again before the module has opened completely, then the START/STOP key is pressed.

AUTO RECORD SIZE SELECTION SYSTEM

When the module closes, the photo detector searches over the record to detect the record size (30 cm, 25 cm or 17 cm) and sense how many selections are on the record, by detecting the blank spaces between selections. The selection number indicator changes rapidly from 01 to the number of the selection contained on the record. Up to 15 selections can be counted. The data is input into the memory of the microcomputer incorporated. This data will be erased from the memory when the OPEN/CLOSE key is pressed to open the module.



Note

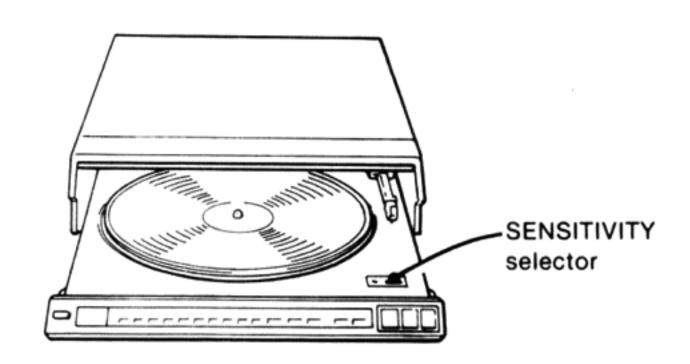
If the OPEN/CLOSE key is pressed while the module is closing and the same key is pressed again before the module has opened completely, the record size and selections will not be detected and the "E" (error) indicator will flash several times when the START/STOP key is pressed later.

In this case, press the OPEN/CLOSE key to open the module completely and press it again to close the module.

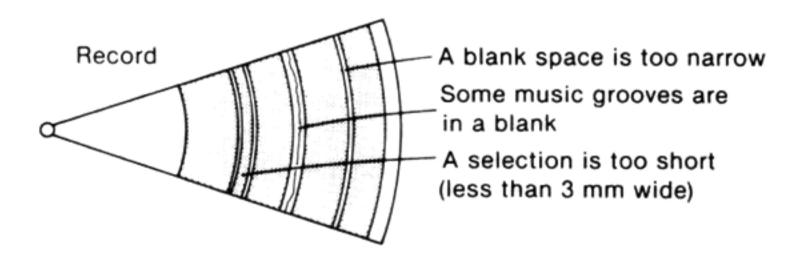
SENSITIVITY selector

Since the photo detector searches for the blank spaces on a record, it cannot operate correctly if the blank spaces and music grooves are not in good condition. As a result, the RMS, AMS and skip functions may malfunction.

If the number of the selections detected is different from the number of the selections actually existing, change the position of the SENSITIVITY selector to either H (high) or L (low).

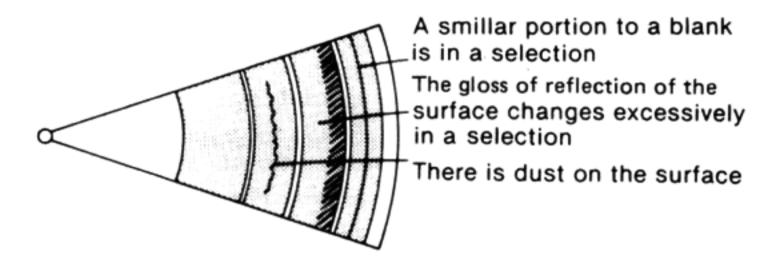


Why too few selections are detected:



In this case, change the SENSITIVITY selector setting to H

Why too many selections are detected:



In this case, change the SENSITIVITY selector setting to L.

The presence and size of the special records, such as transparent, non-standardized, unusual shape or color (red, yellow, etc.) records, can be detected. However, the blank spaces sometimes cannot be searched, resulting in inferior RMS or AMS operation. Play these records manually, referring to "Manual play".

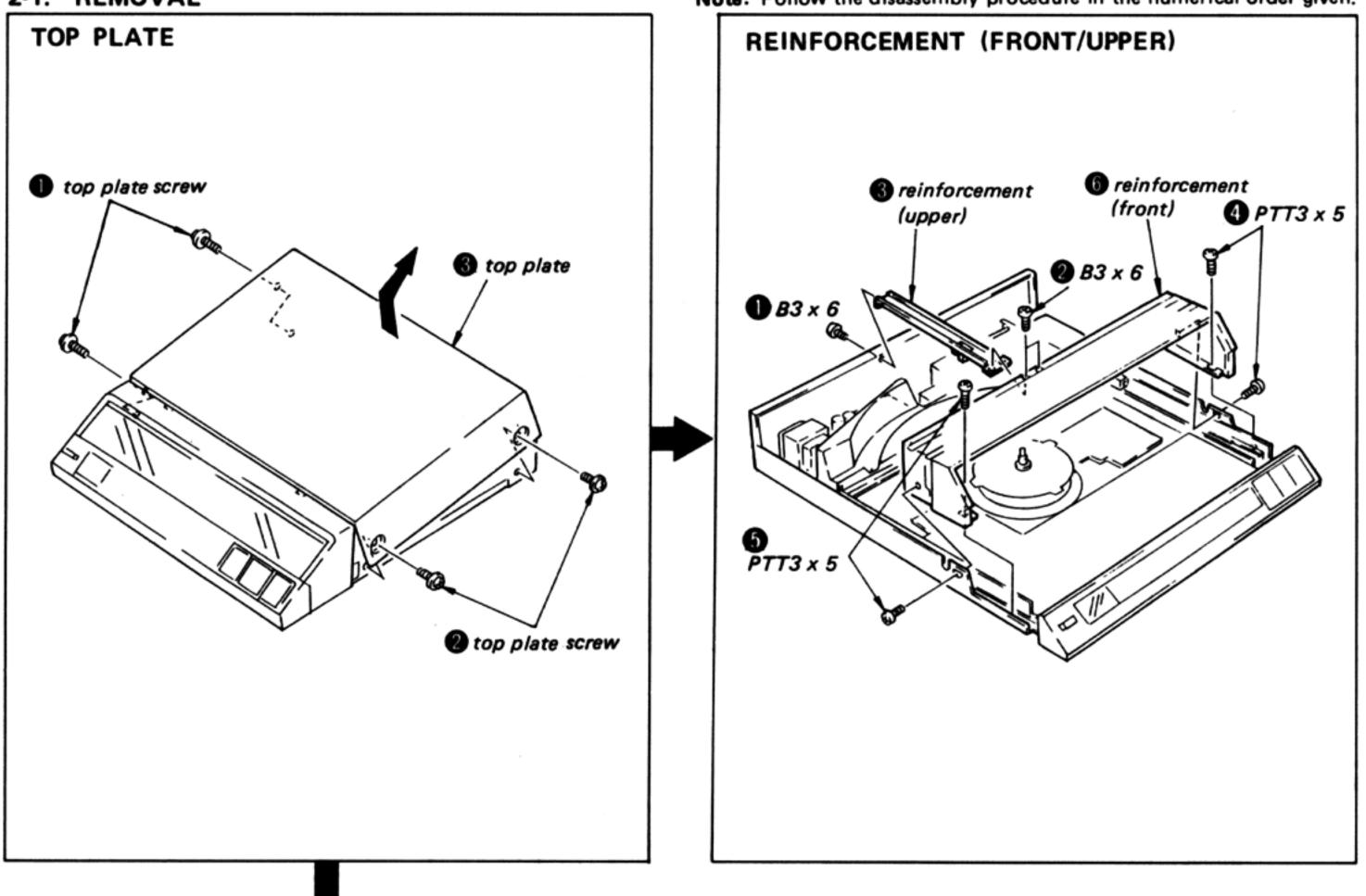
SECTION 1 OUTLINE B+5V 1-1. BLOCK DIAGRAM KEY MATRIX INPUT SELECT MOTOR DRIVE SI01 - SI18 FWD/REV 8+4.40 ▼DI13 ▼DI14 ▼DI15 DI16▼ ▼DI17 TRACKING ERROR DET Q403 RMS LED SEGMENT SW Q118,119 ARM POSITION DET NOW NEXT LOADING SENSOR Q402 00WN (30) SYNCRO REMOCON SM Q112,113,128 DATA MEMORY IC103 SYSTEM CONTROL FUNCTION REMOTE START REMOTE DC AMP 1C 108(1/2) POSITION DET B DC AMP (7) BLANK SPACE DET Q404 DC AMP IC105(1/2) PHONO OUT *F*------DP ADJUST CARTRIDGE S201 SENSITIVITY AC/DC CONVERTER VOLT REG. Q102, 106 POWER OFF VOLT REG. Q105 MOTOR DRIVE Q303,304 STATOR B+ 12V H301,302 POSITION DET IC301 MOTOR DRIVE POWER STABILIZER Q109 FG AMP 1C303(1/2) FG AMP 1C303(1/2) MOTOR DRIVE Q305, 306 (SPEED DET) VOLT REG. QIOI, IO3 **-10-**

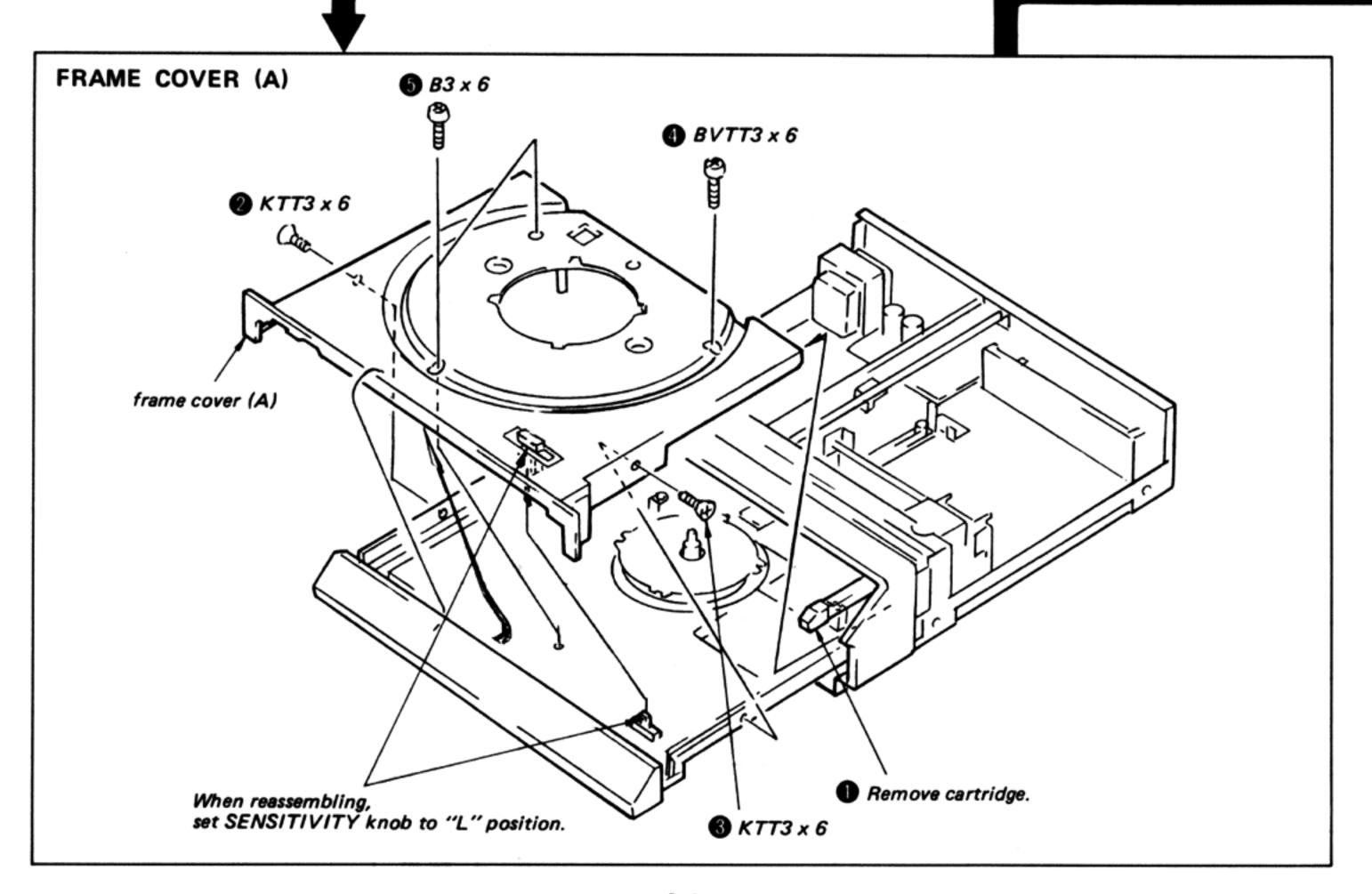
SECTION 2

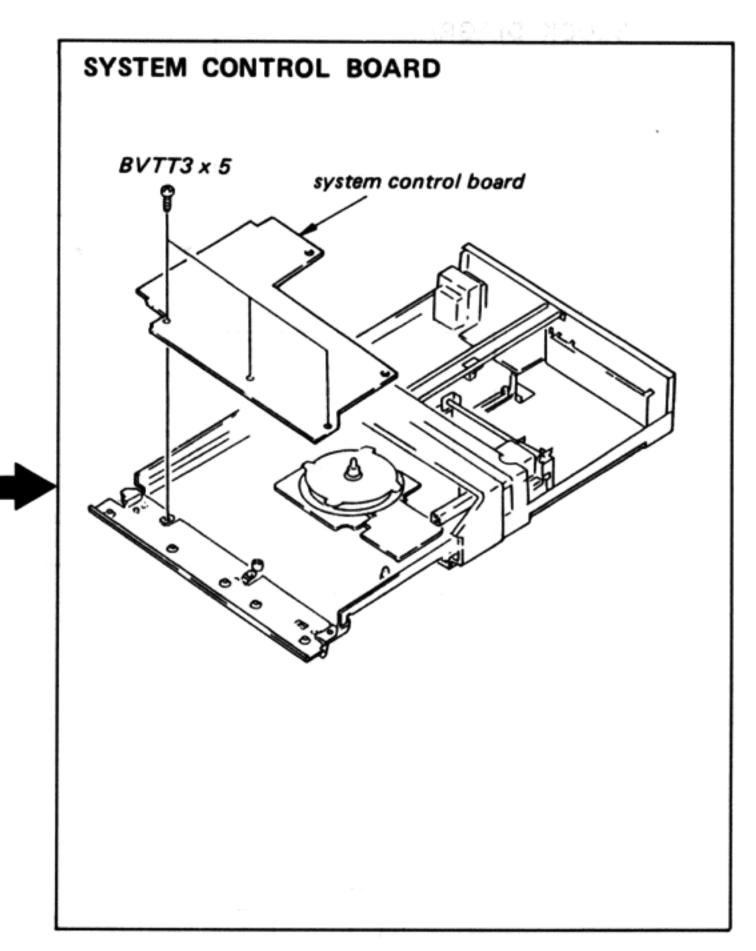
DISASSEMBLY

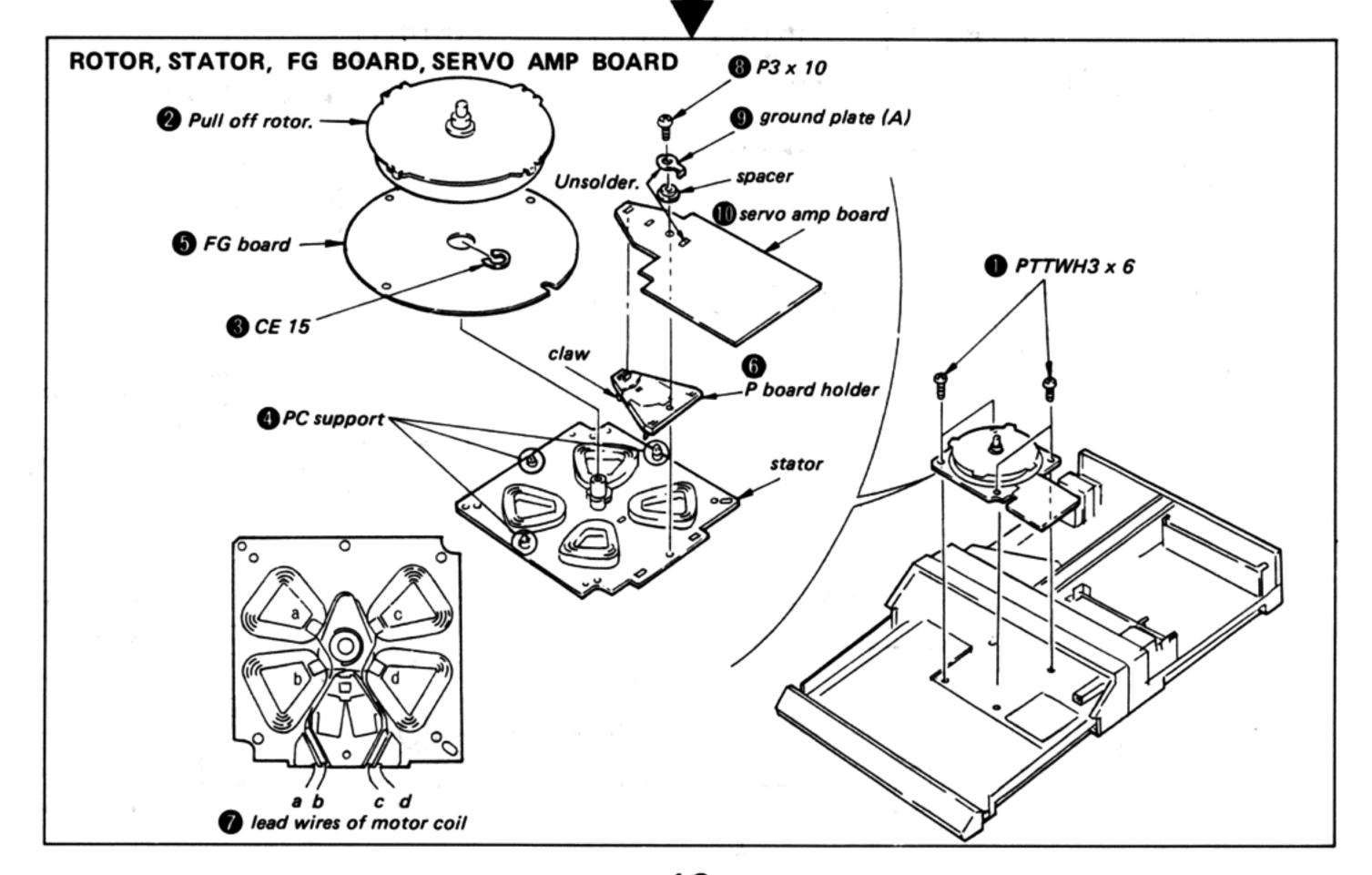


Note: Follow the disassembly procedure in the numerical order given.

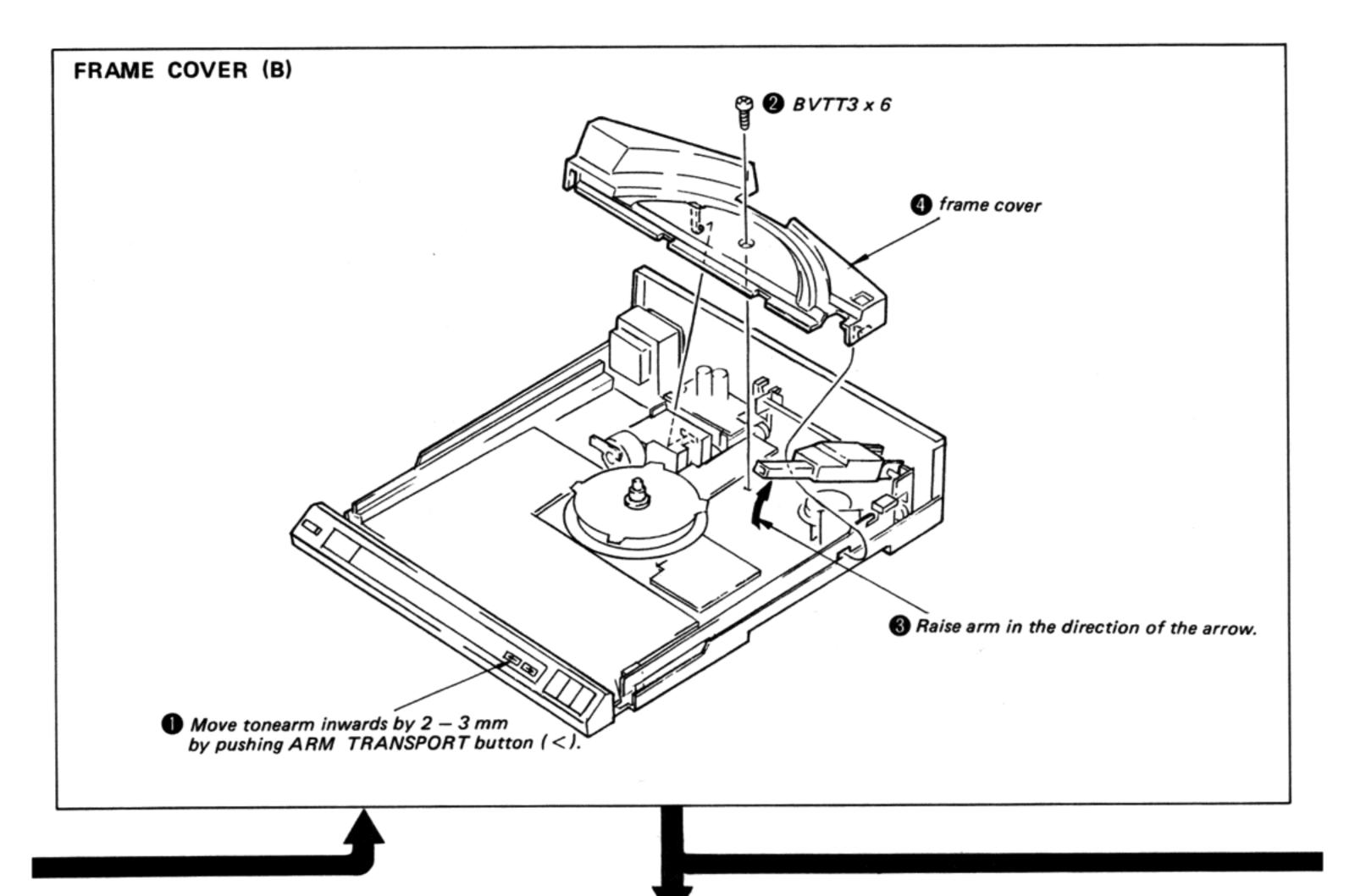


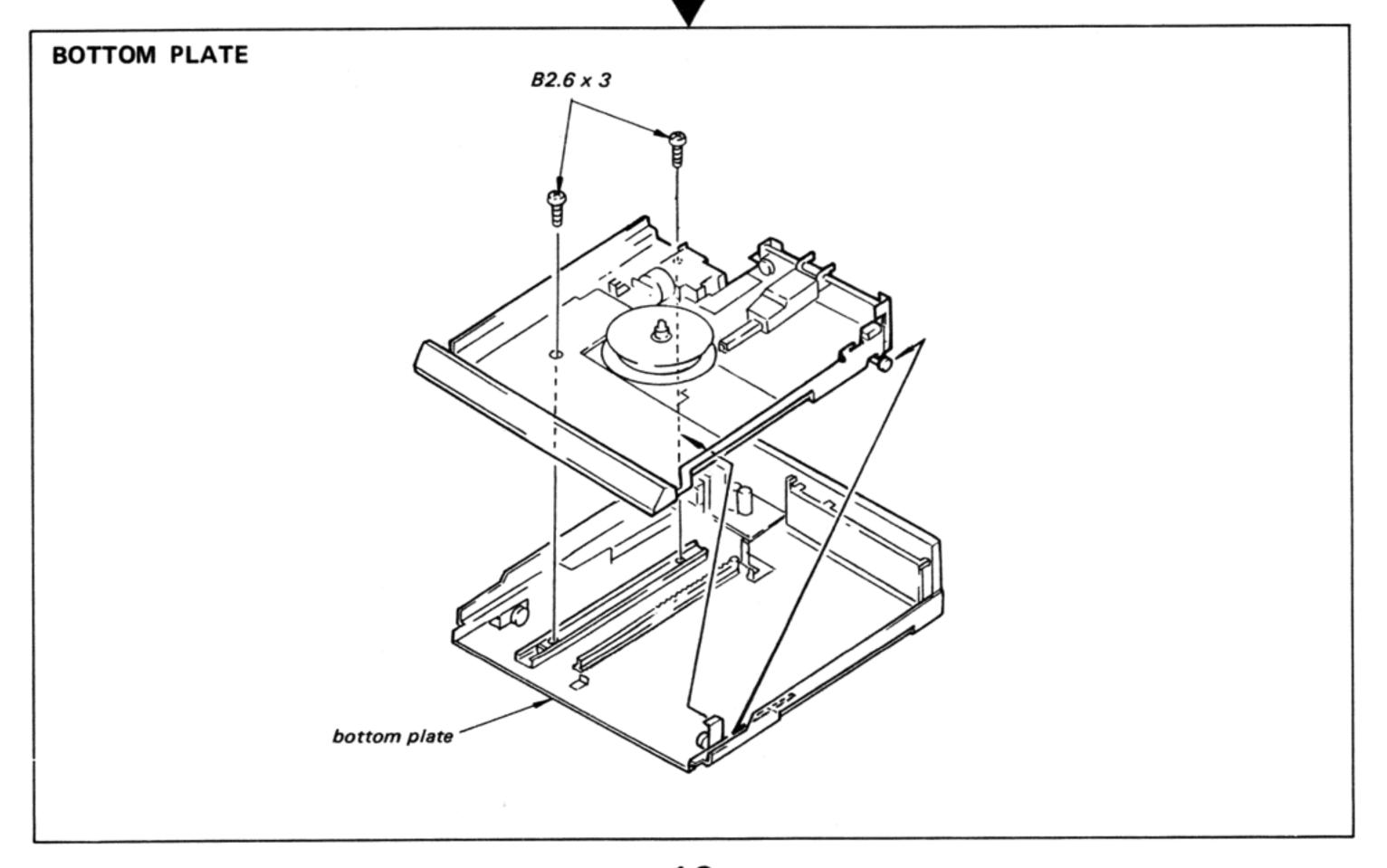


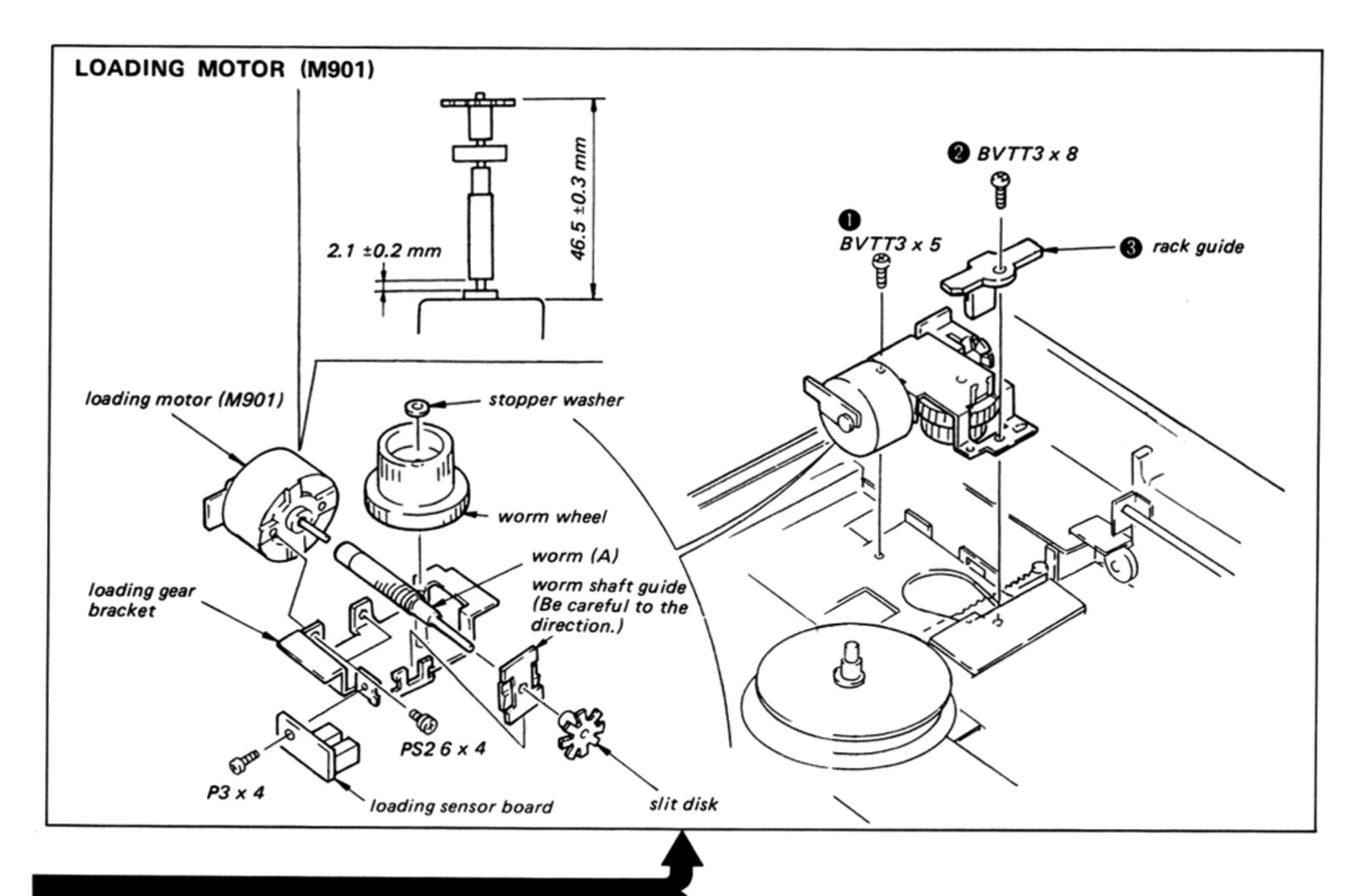


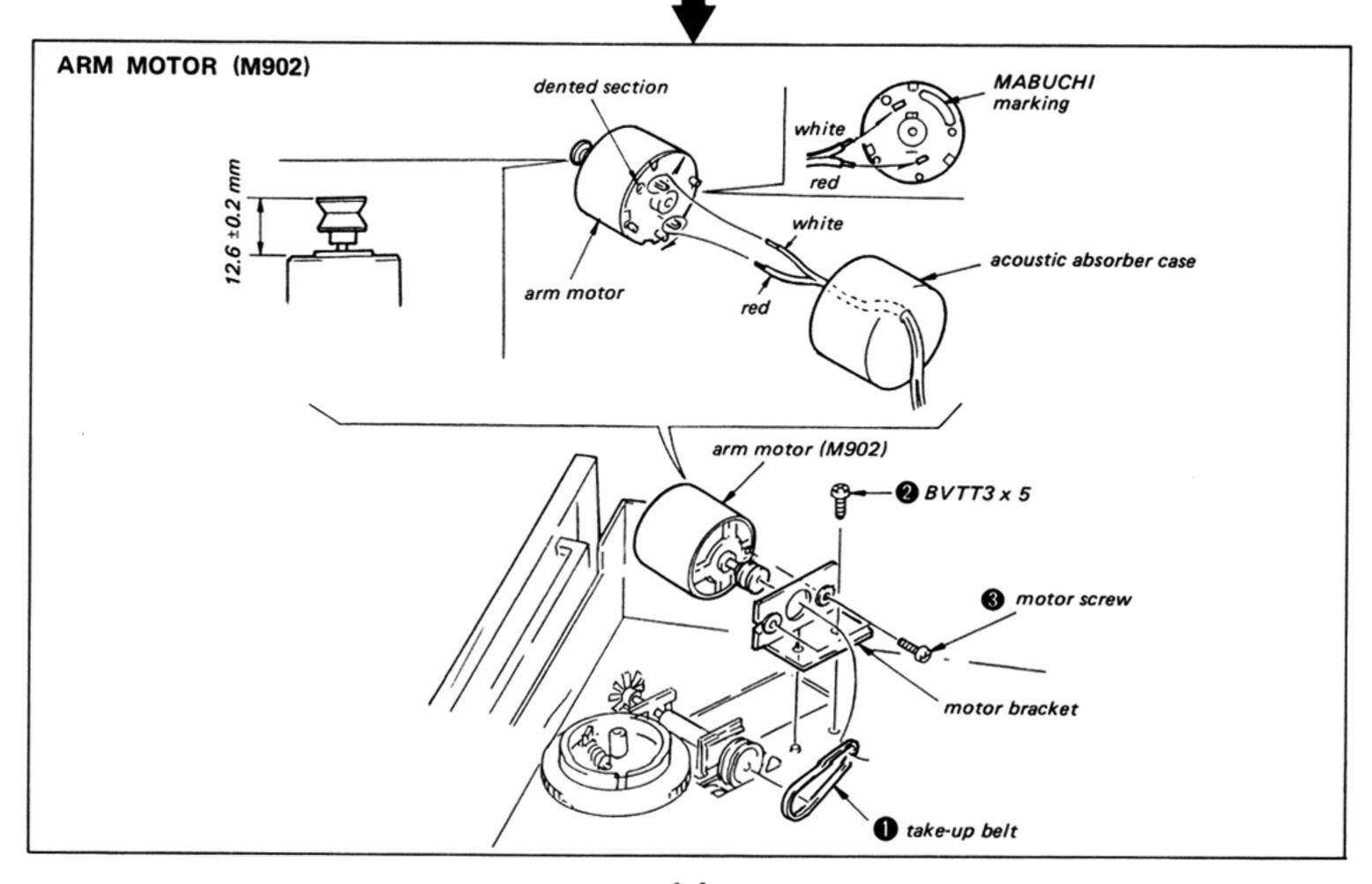


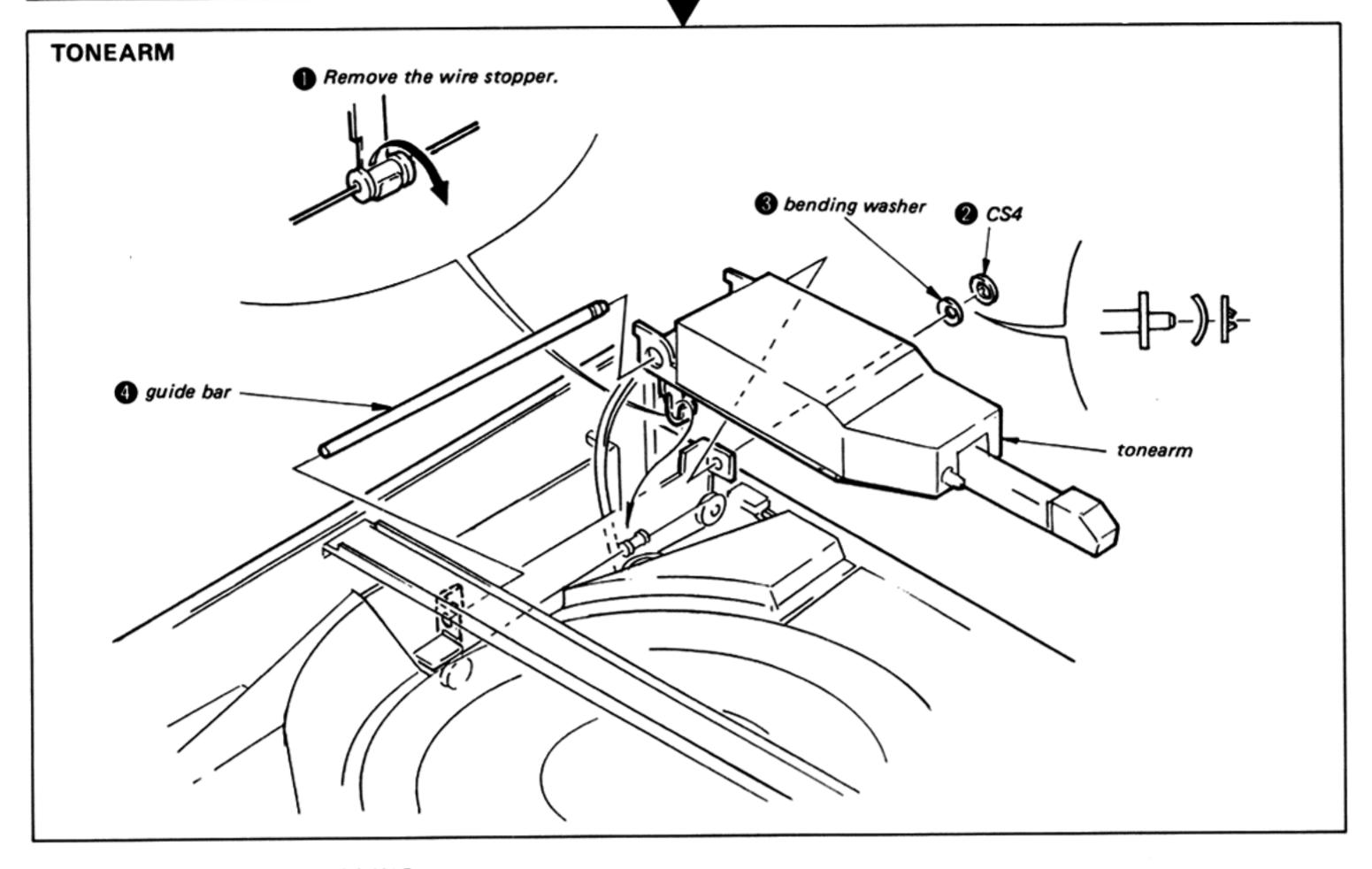
BTP3 x 8 (5 pcs.)



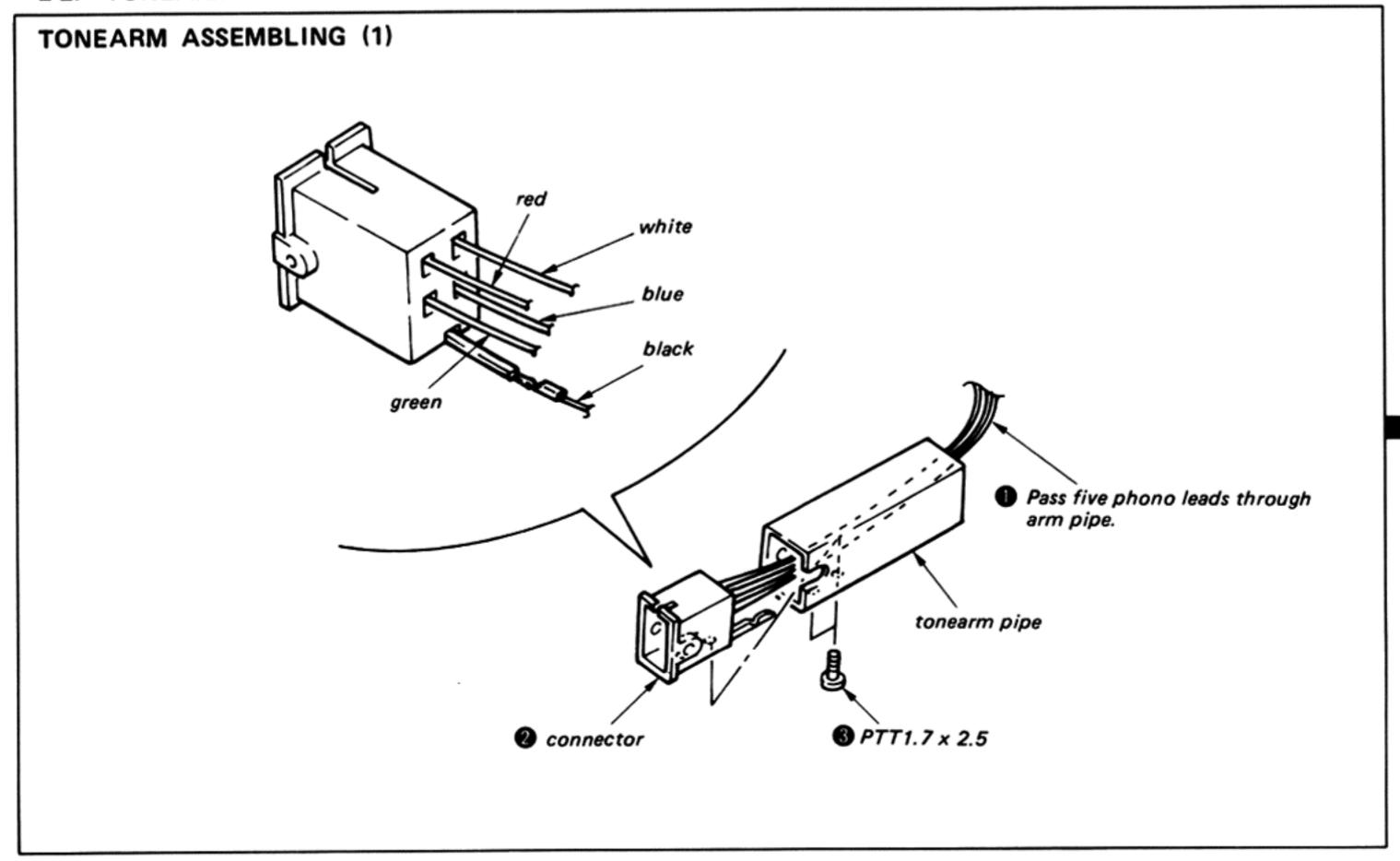


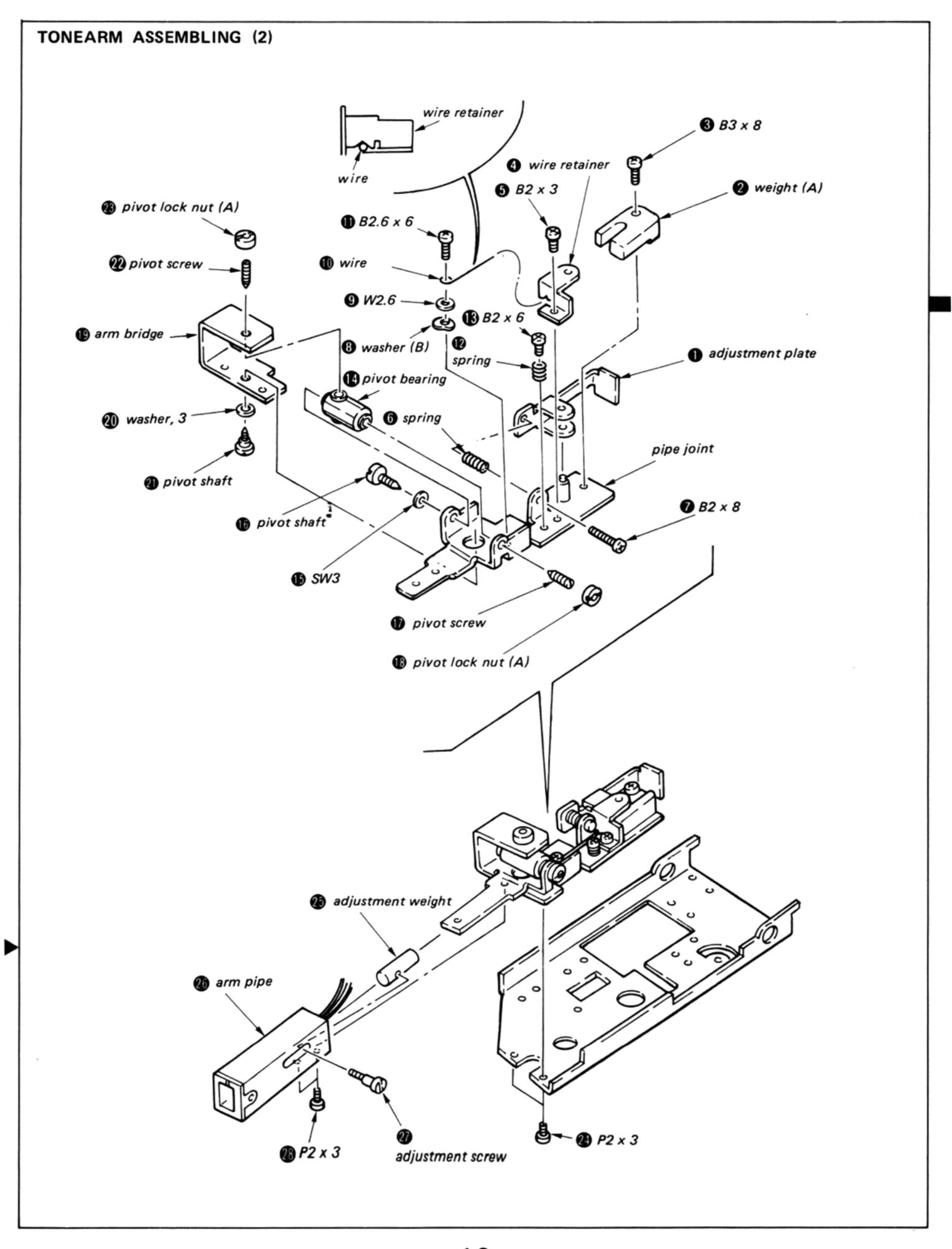


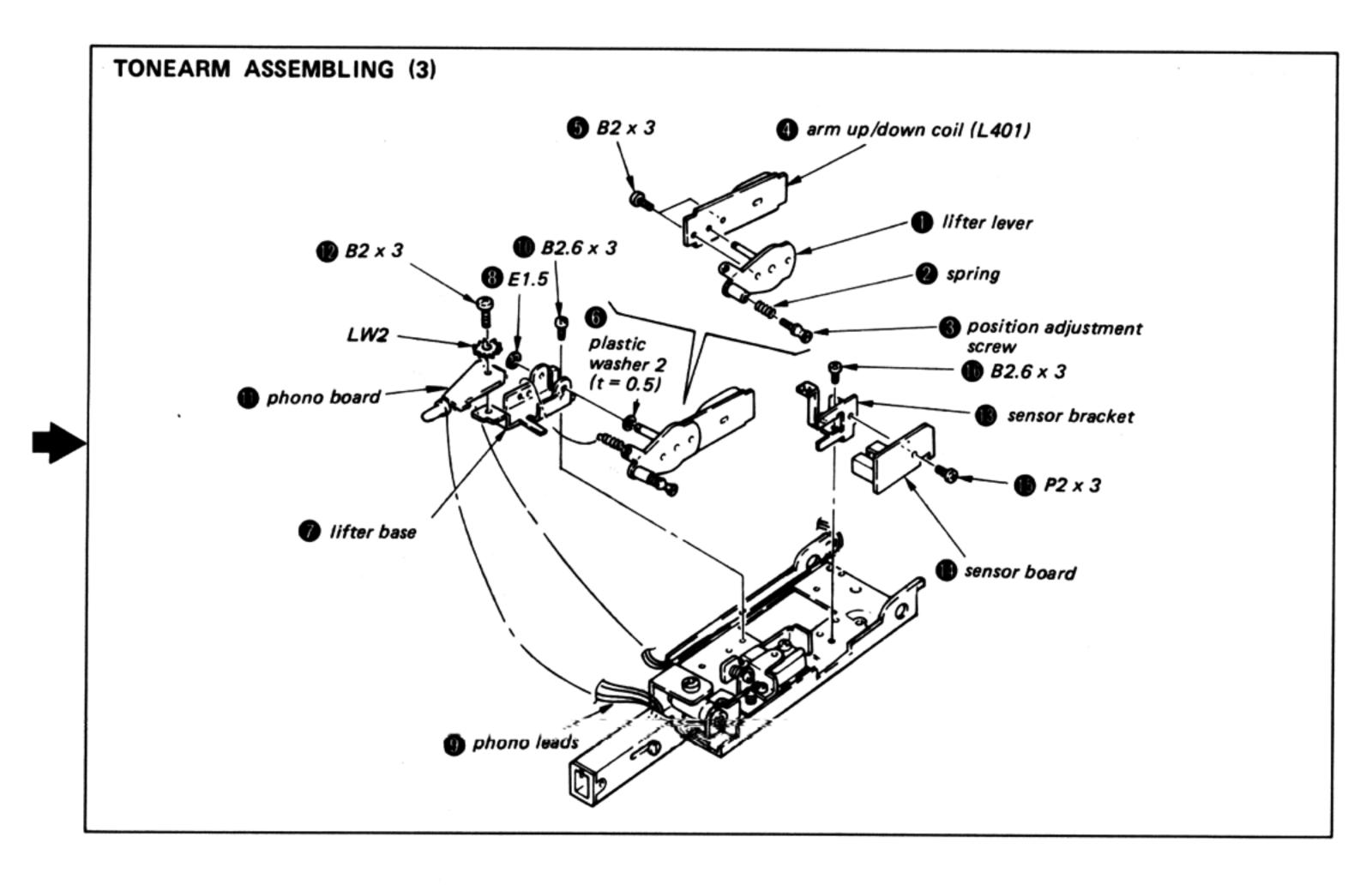


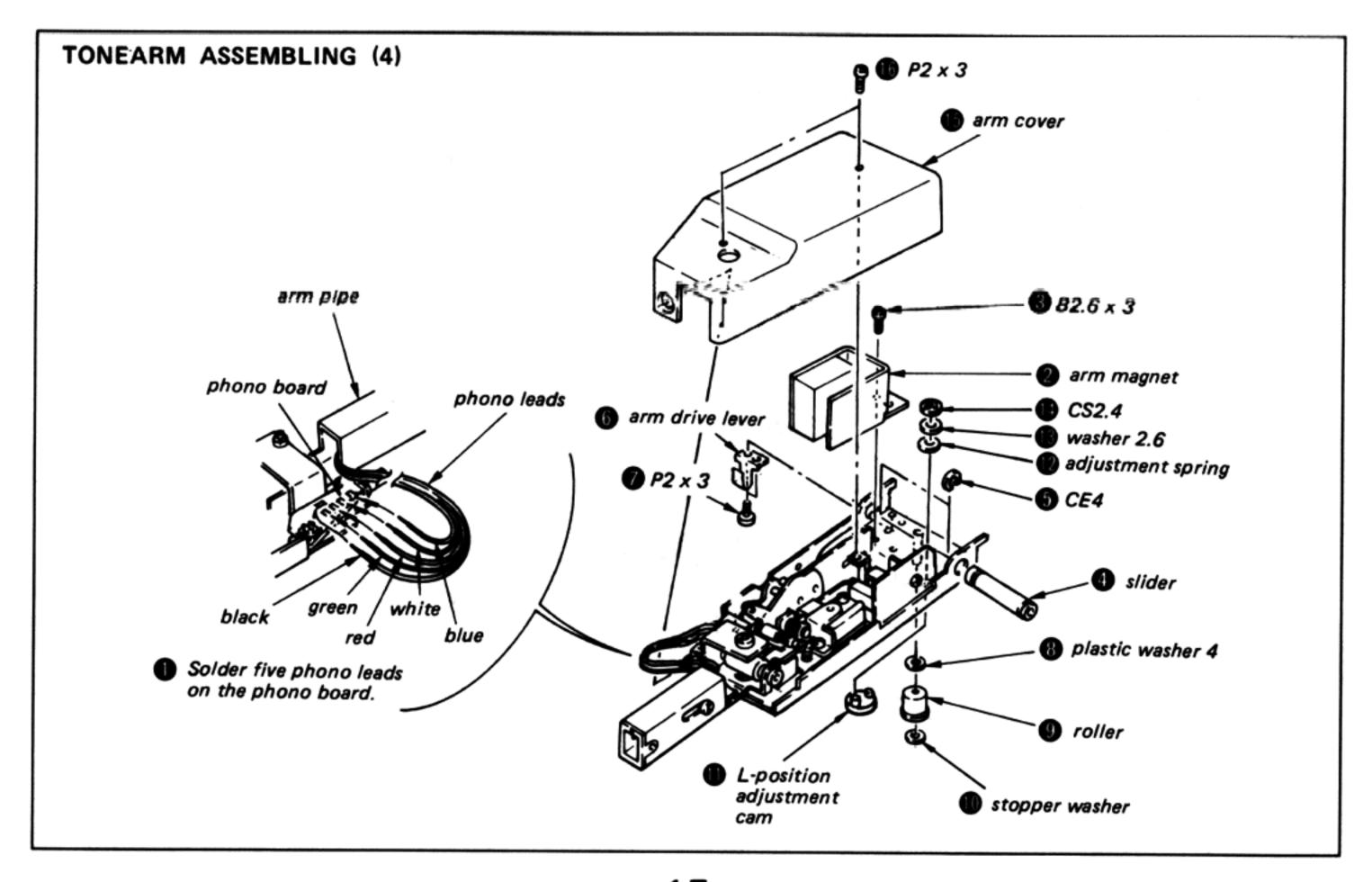


2-2. TONEARM ASSEMBLING



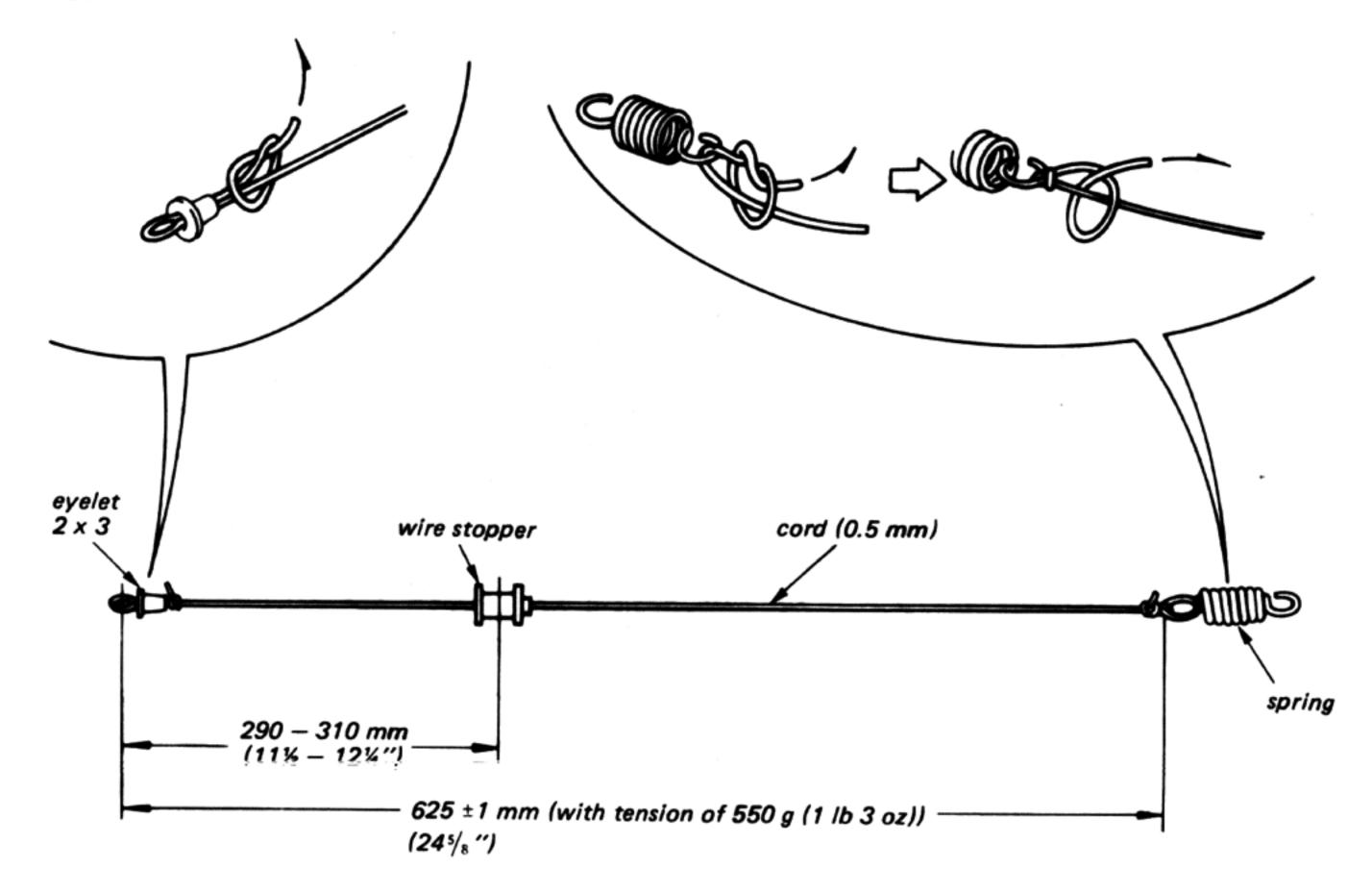




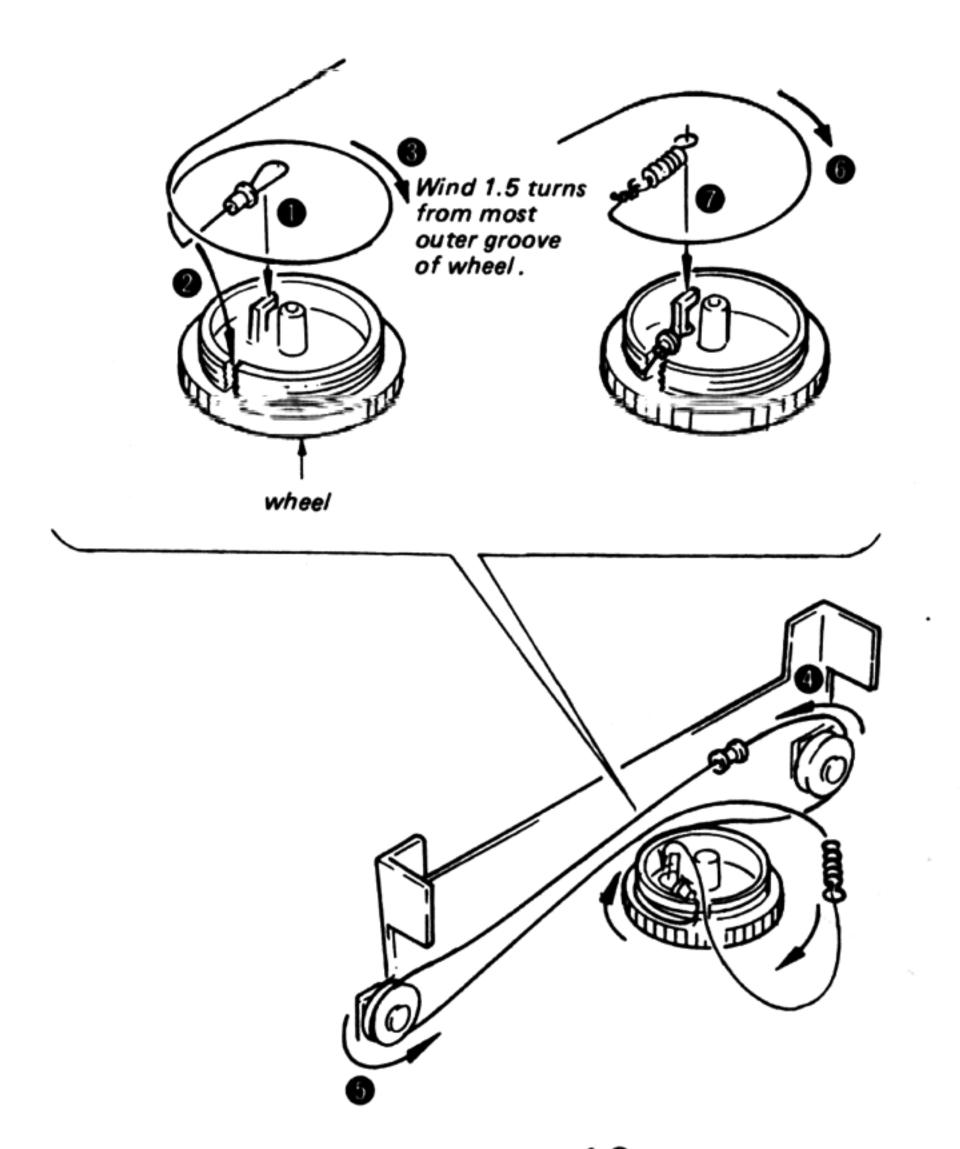


2-2. ARM DRIVE CORD STRINGING

1) Preparation



2) Stringing



SECTION 3 ADJUSTMENTS

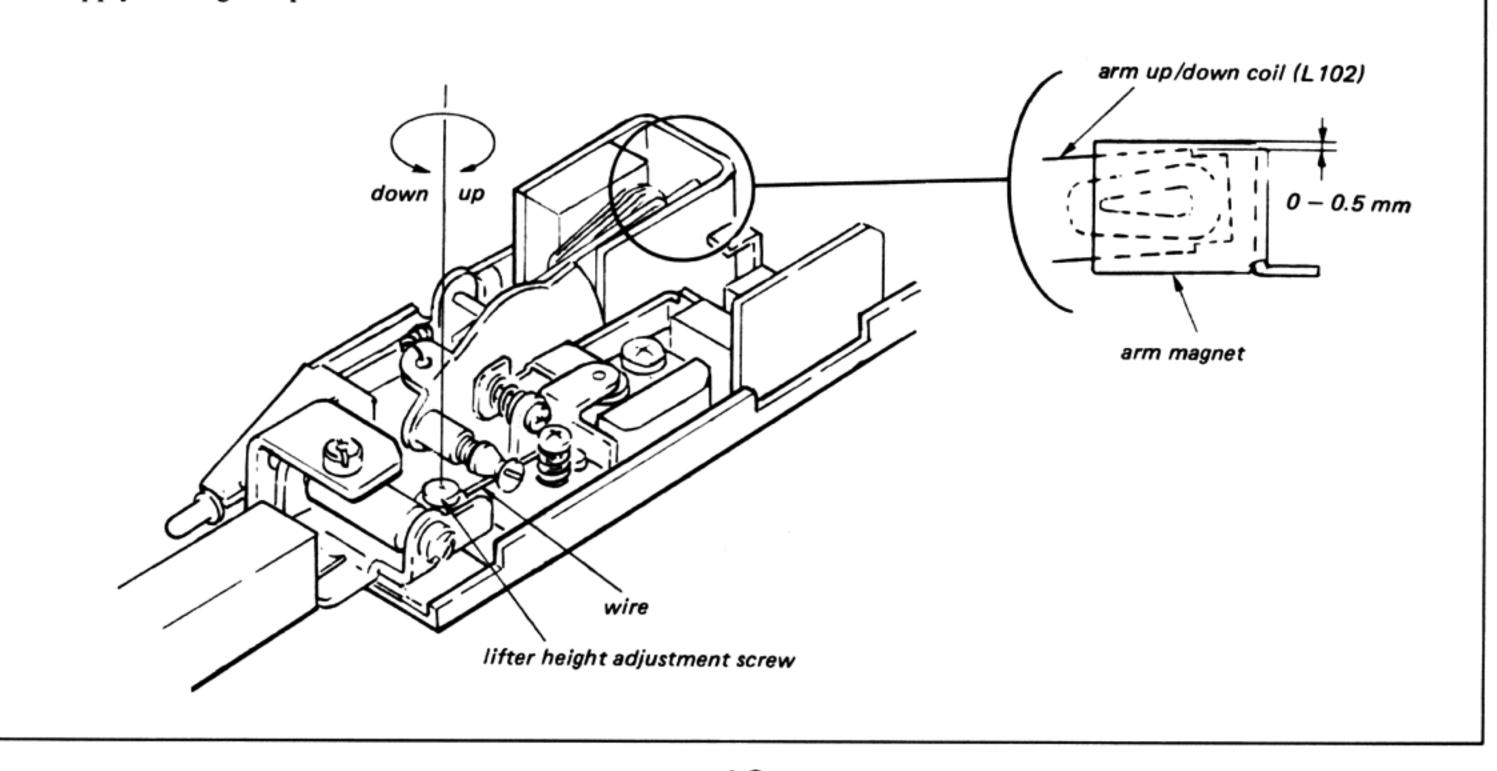
3-1. MECHANICAL ADJUSTMENTS

Note: Follow the adjustment procedure in the order given.

Stylus Height Adjustment 1. Put a record. 2. Press ARM TRANSPORT button (←) and move the arm inside the record groove. 3. Make sure that clearance (A) is 3 - 8 mm ($\frac{1}{8}$ -GENERAL NOTE: 5/16 inches). If necessary, adjust the stylus height Do not let a strong light get in the groove of photo interruptor during mechanical adjustadjustment screw. ment. Otherwise, misoperation of stoppage or 4. Press ARM TREATMENT button (→) and move moving may occur to the tonearm base. the arm outside the record groove. 5. Make sure that the difference of height between step 3 and step 4 is within 2.5 mm ($\frac{1}{8}$ "). stylus height adjustment screw

Lifter Height Adjustment

- 1. Adjust the lifter height adjustment screw so that the arm up/down coil position is 0 0.5 mm $(0'' \frac{1}{32}'')$ as shown below.
- 2. Apply locking compound to the screw.

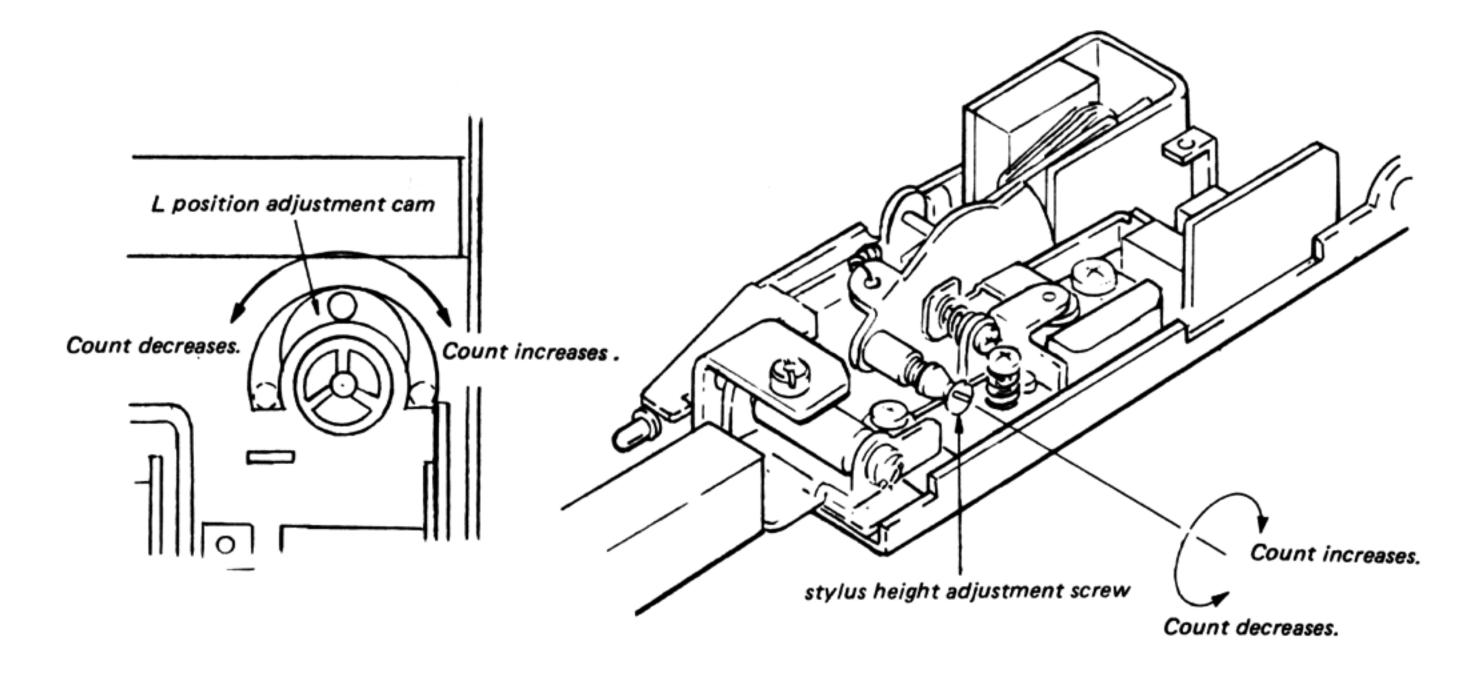


Drop Point (30 cm) Adjustment

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

Specification: 7 - 19 counts.

3. When the adjustemtn cannot be made by L position adjustment cam, adjust by using horizontal position adjustment screw.



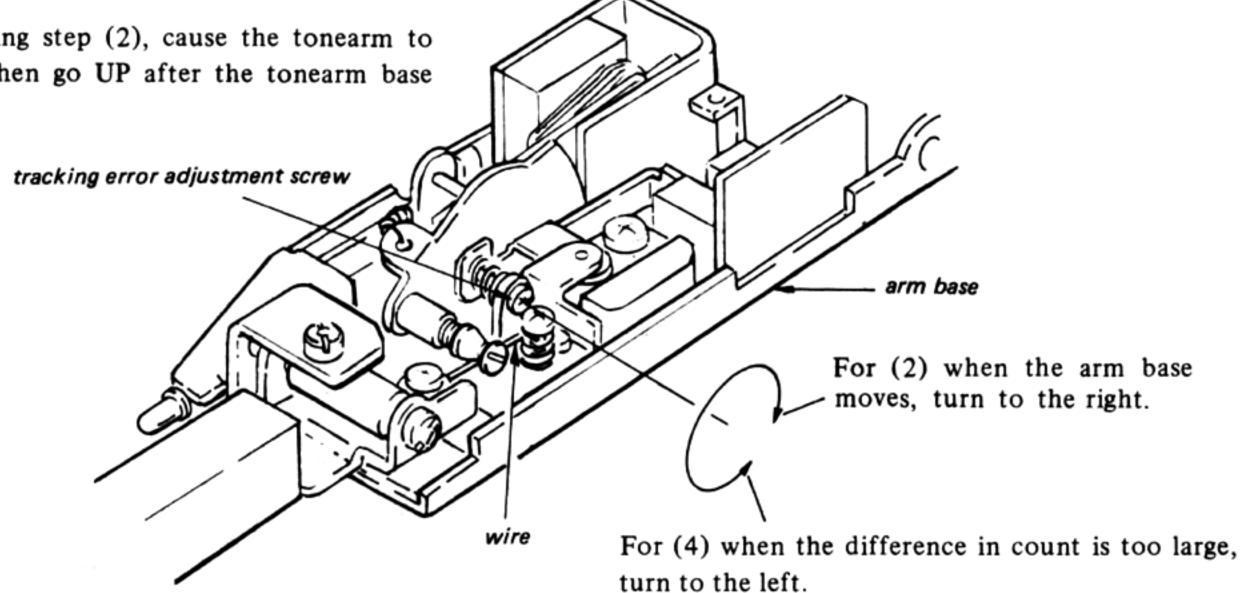
Tracking Error Adjustment

1. Place a test record (YFSC-16) on the turntable and press the START/STOP button for lead-in.

2. Turn 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 0 to 2 counts.

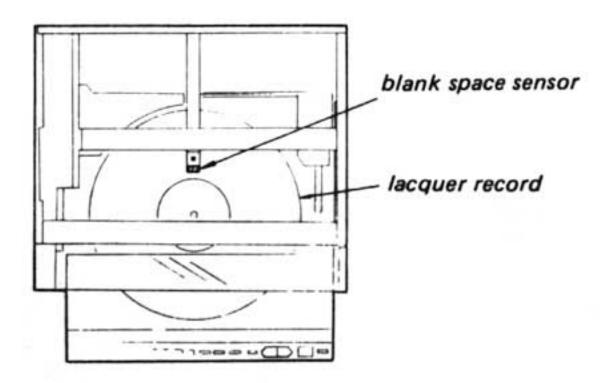


3-2. ELECTRICAL ADJUSTMENTS

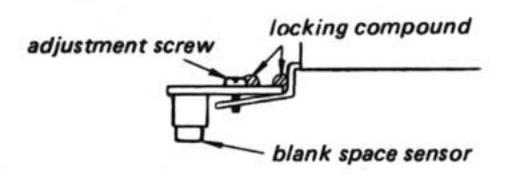
Blank Space Sensor Adjustment

This adjustment should be performed only when the followings have been done.

- When assembling blank space sensor section:
- When replacing photo coupler (Q404) of blank space sensor:
- 1. Blank Space Sensor Inclination Adjustment
 - Place the lacquer record (no groove record) on the turntable.
 - (2) Move the turntable module so that the turntable position is as shown in the figure below.



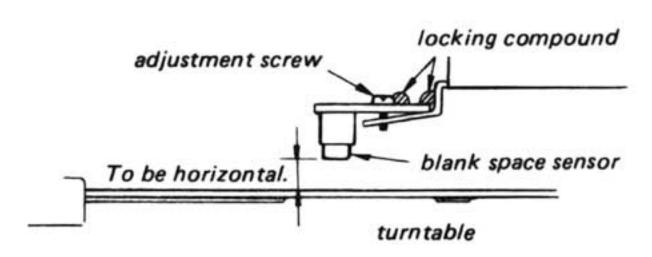
(3) Adjust the adjustment screw so that the VOM reading is maximum in minus range.



- (4) Turn the adjustment screw a half turn clockwise.
- (5) Apply locking compound.

Simple Adjustment –

 Adjust the adjustment screw so that the blank space sensor is horizontal.



2) Apply locking compound.

- 2. Blank Space Sensor Voltage Adjustment
 - Place the lacquer record (no groove record) on the turntable.
 - (2) Move the turntable module so that the turntable position is as shown in the step 1-(2).
 - (3) Adjust the RV101 or RV102 so that VOM reading is −1 to −0.95 V dc.

Simple Adjustment –

- Place the test record (YFSC-16) on the turntable.
- Press the OPEN/CLOSE button and close the turntable module.
- Adjust the RV101 or RV102 so that the indication on the display at this time within the specification.

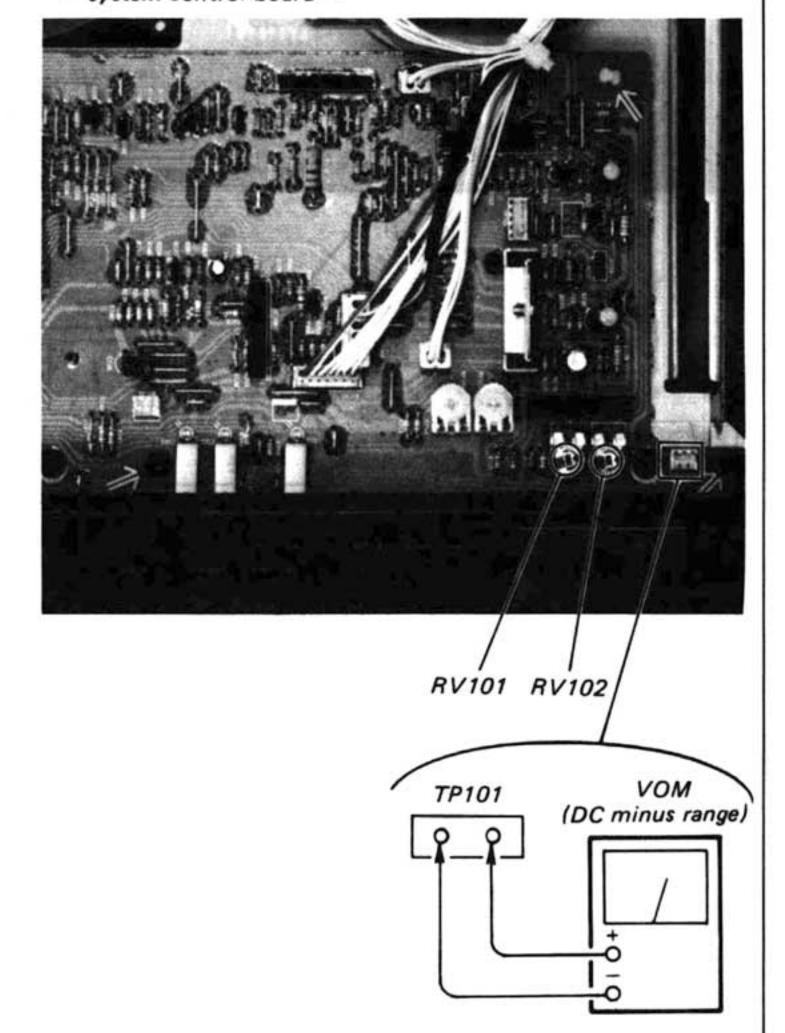
Note: This adjustment should be performed for both A side and B side of the test record (YFSC-16).

Specifications:

side A: 6 - 7side B: 13 - 14

Adjustment Location and VOM Connecting Point:

- system control board -



Arm Interrupter Adjustment

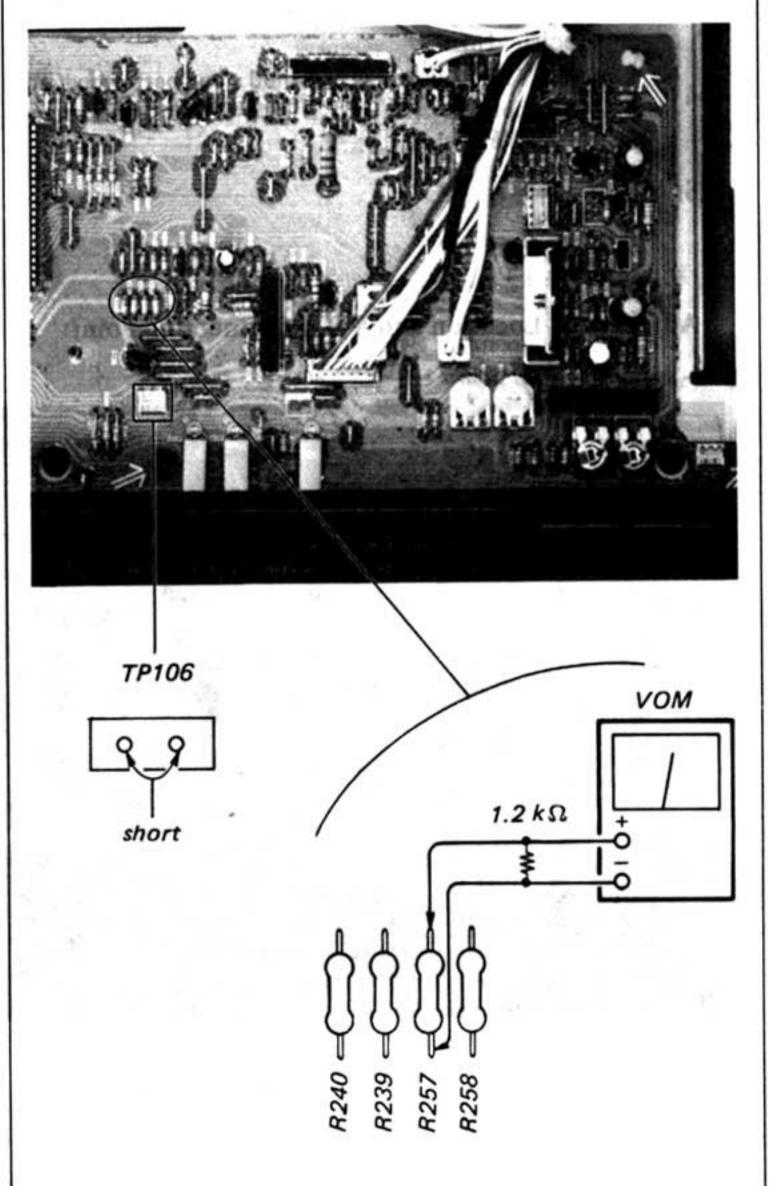
This adjustment should be performed only when replacing photo interrupter (Q401).

- Press the arm transport button (<) and move the arm over the turntable.
- 2. Press the arm lifter button and down the arm.
- Set the arm fully rightward.
 (Be sure that the interrupter for tracking error detection is fully opened.)
- 4. Read the voltage on the VOM.

 If the reading is more than 0.6 V, short the TP106.

Adjustment Location:

-system control board -



Blank Space Drop Point Adjustment

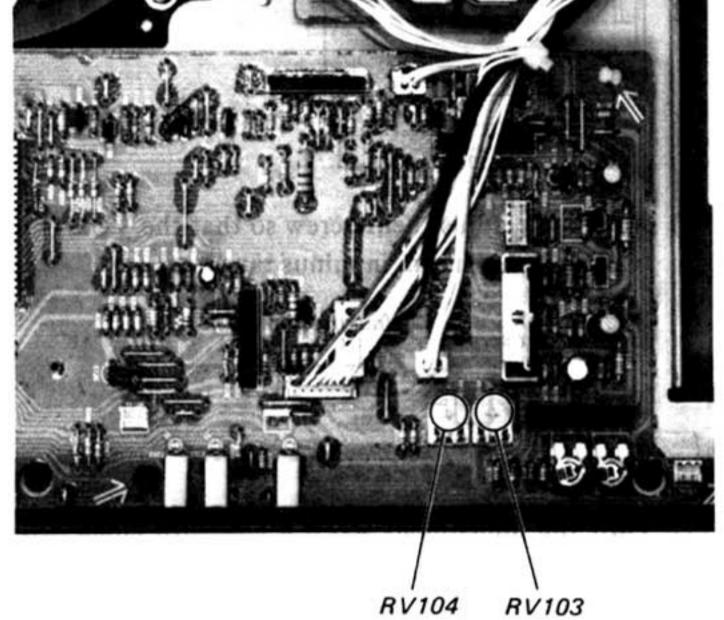
- Set the RV301 (drop point adjustment resistor for user) to mechanical center.
- 2. Set the SENSITIVITY switch to "M".
- 3. Place the any one record on the turntable.
- Press the OPEN/CLOSE button and close the turntable module.
- Press the RMS button and play the second selection and last selection.

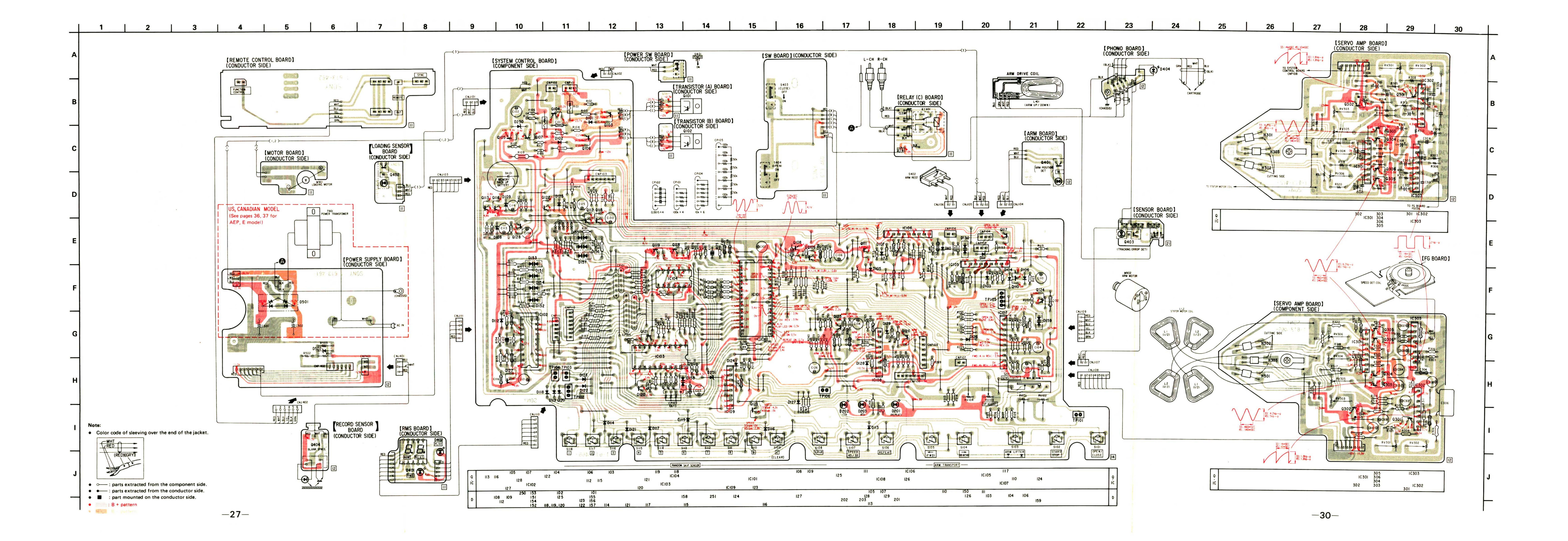
At this time, confirm that the stylus tip drops on the blank space.

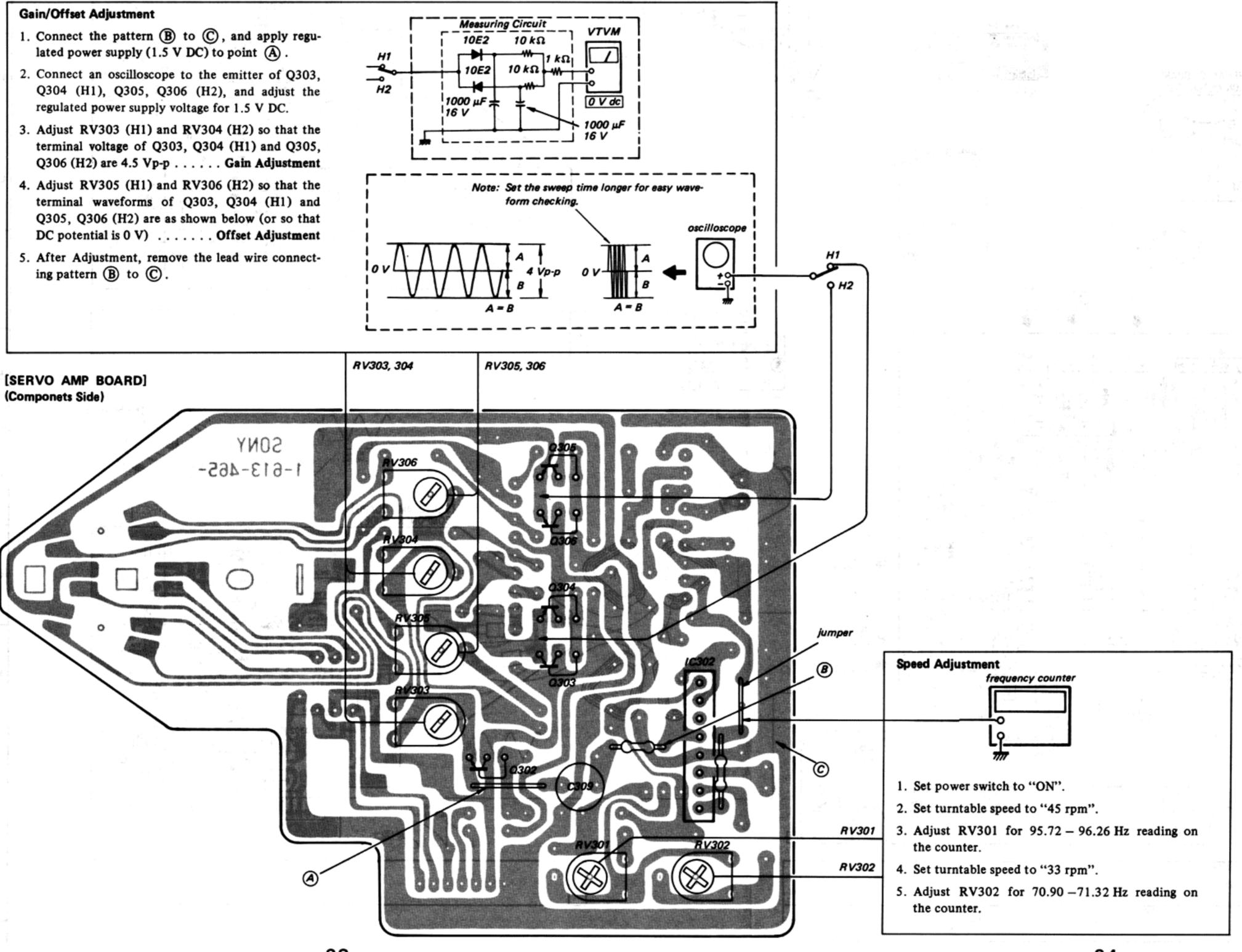
If it is not, adjust RV104 and repeat steps 4 and 6.

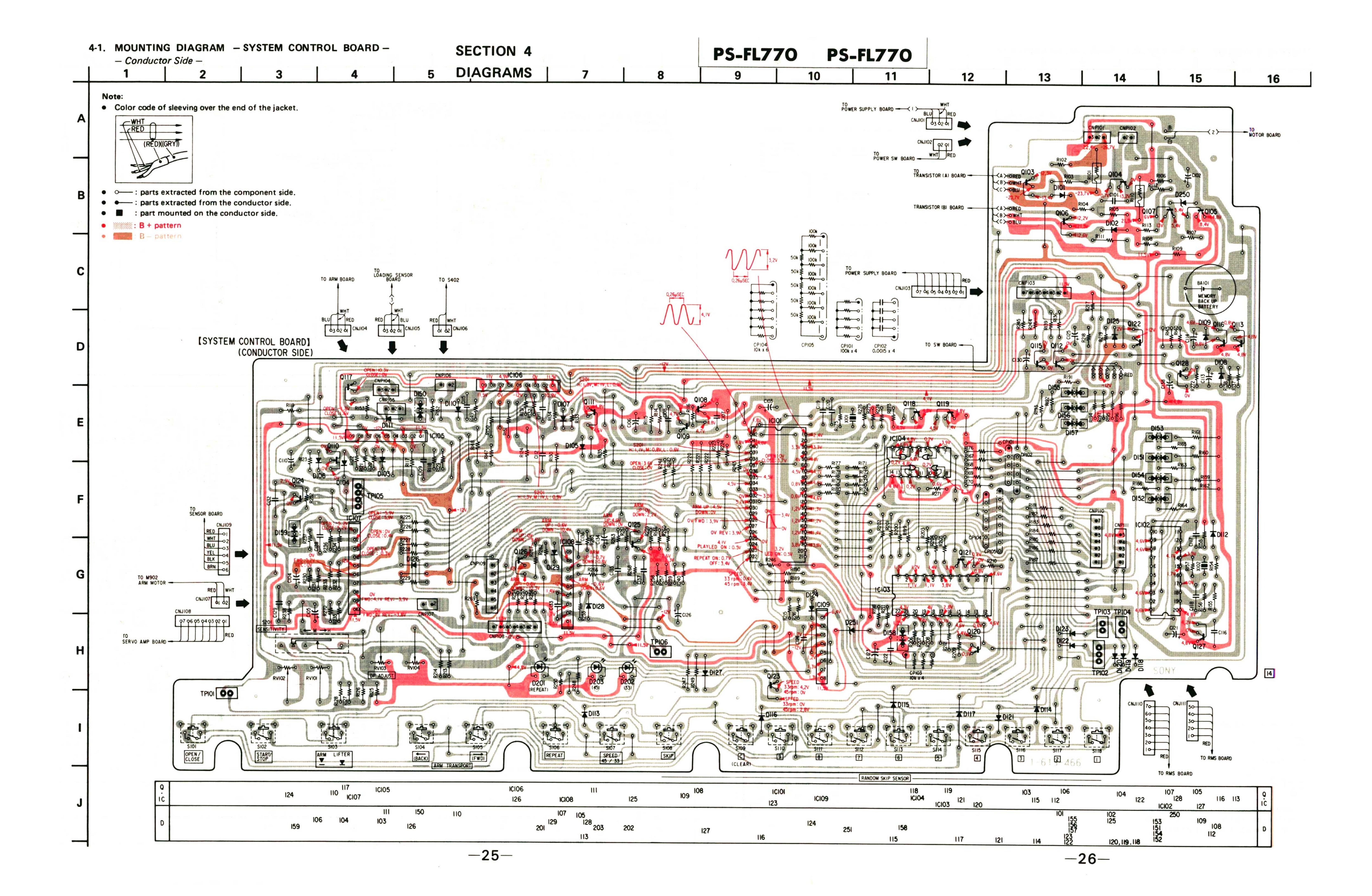
Adjustment Location:

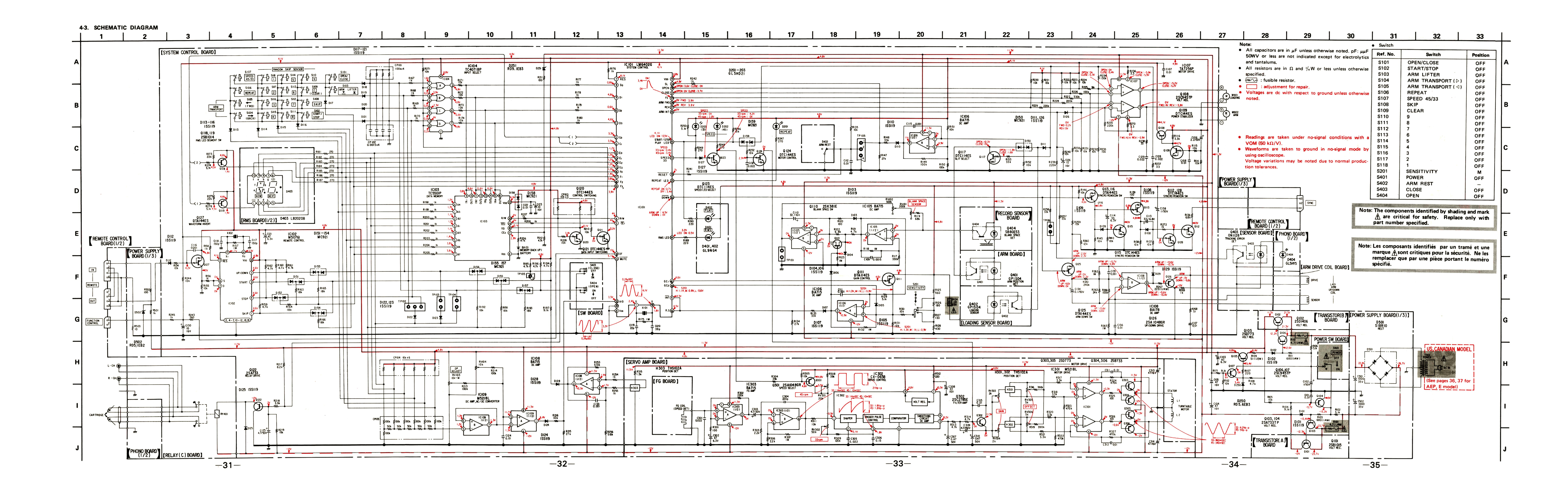
- system control board -







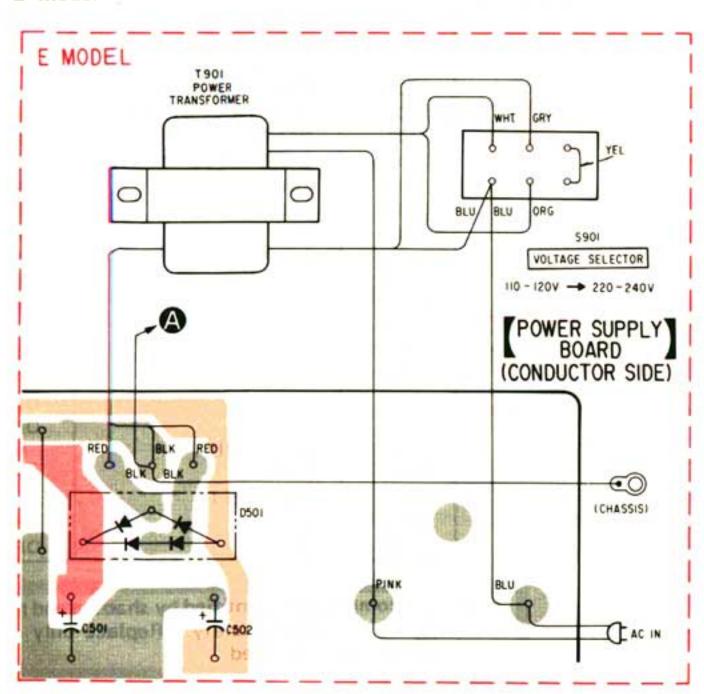




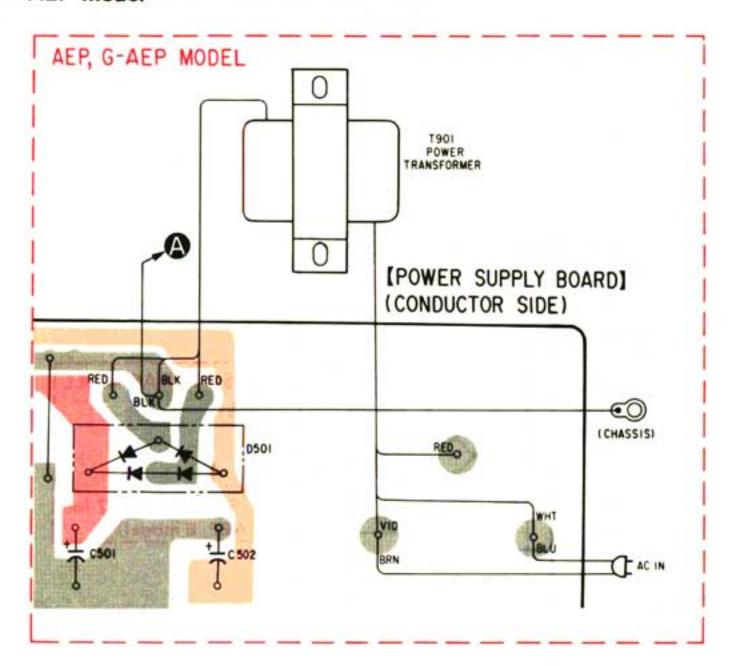
4-4. MOUNTING AND SCHEMATIC DIAGRAMS

Power Supply Section –(AEP, E Model)

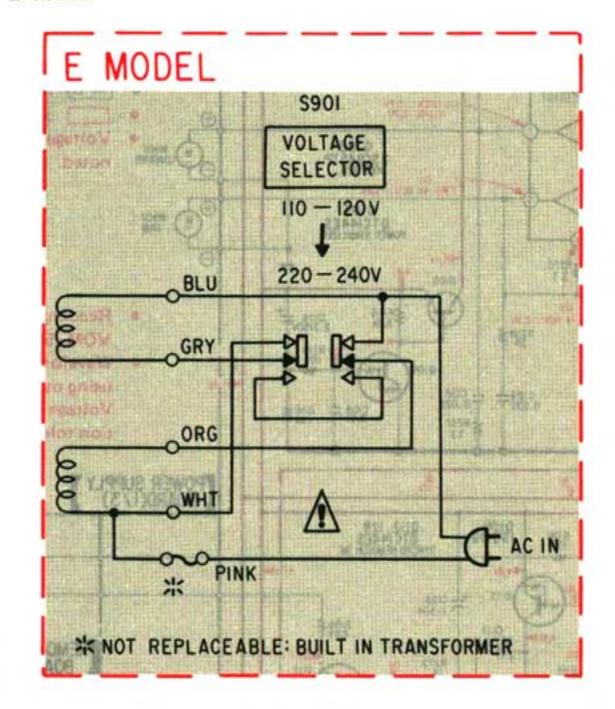
E Model



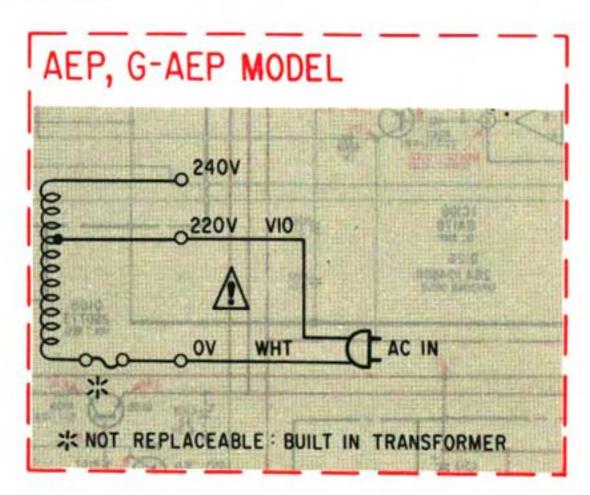
AEP Model



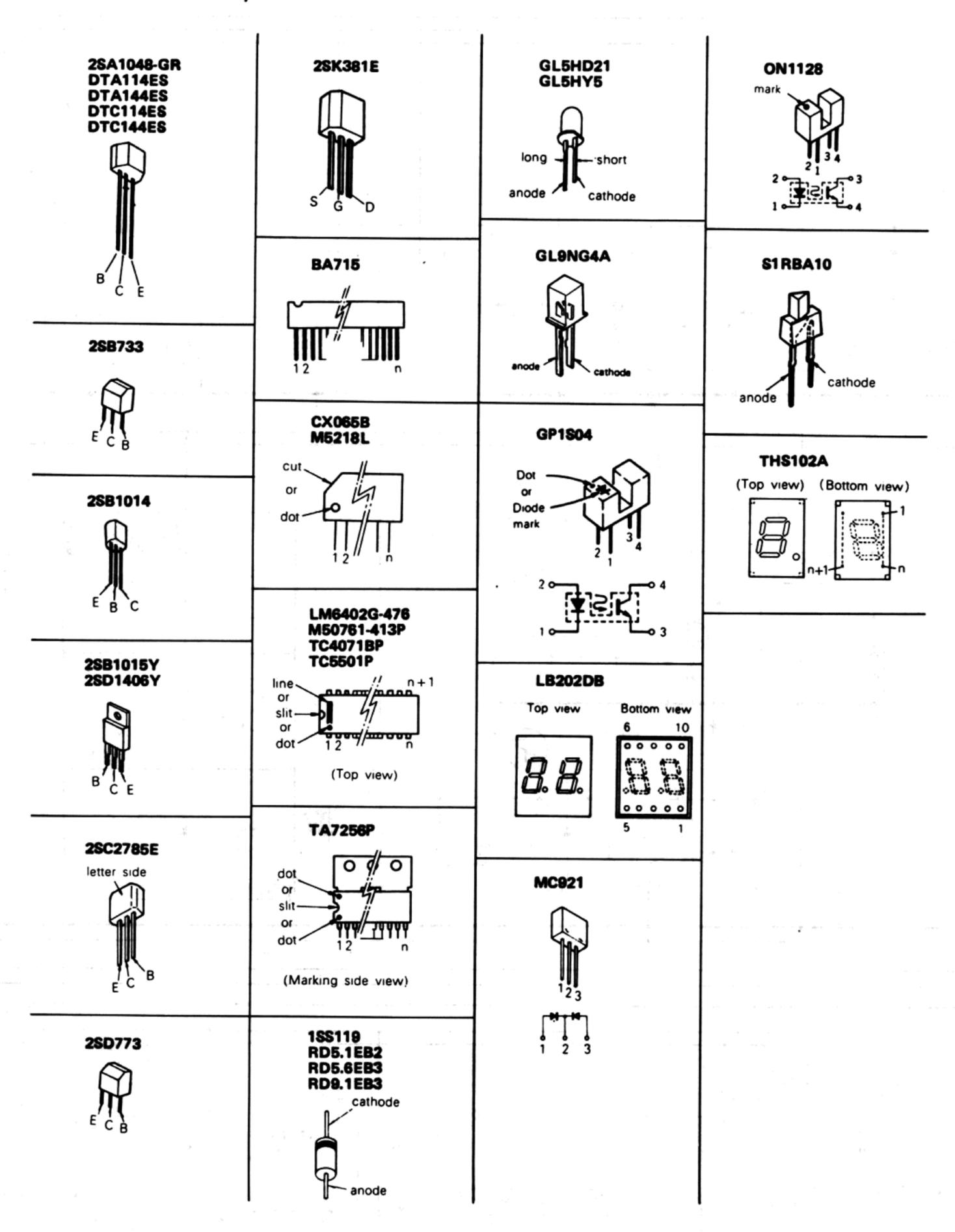
E Model



AEP Model



Semiconductor Lead Layouts



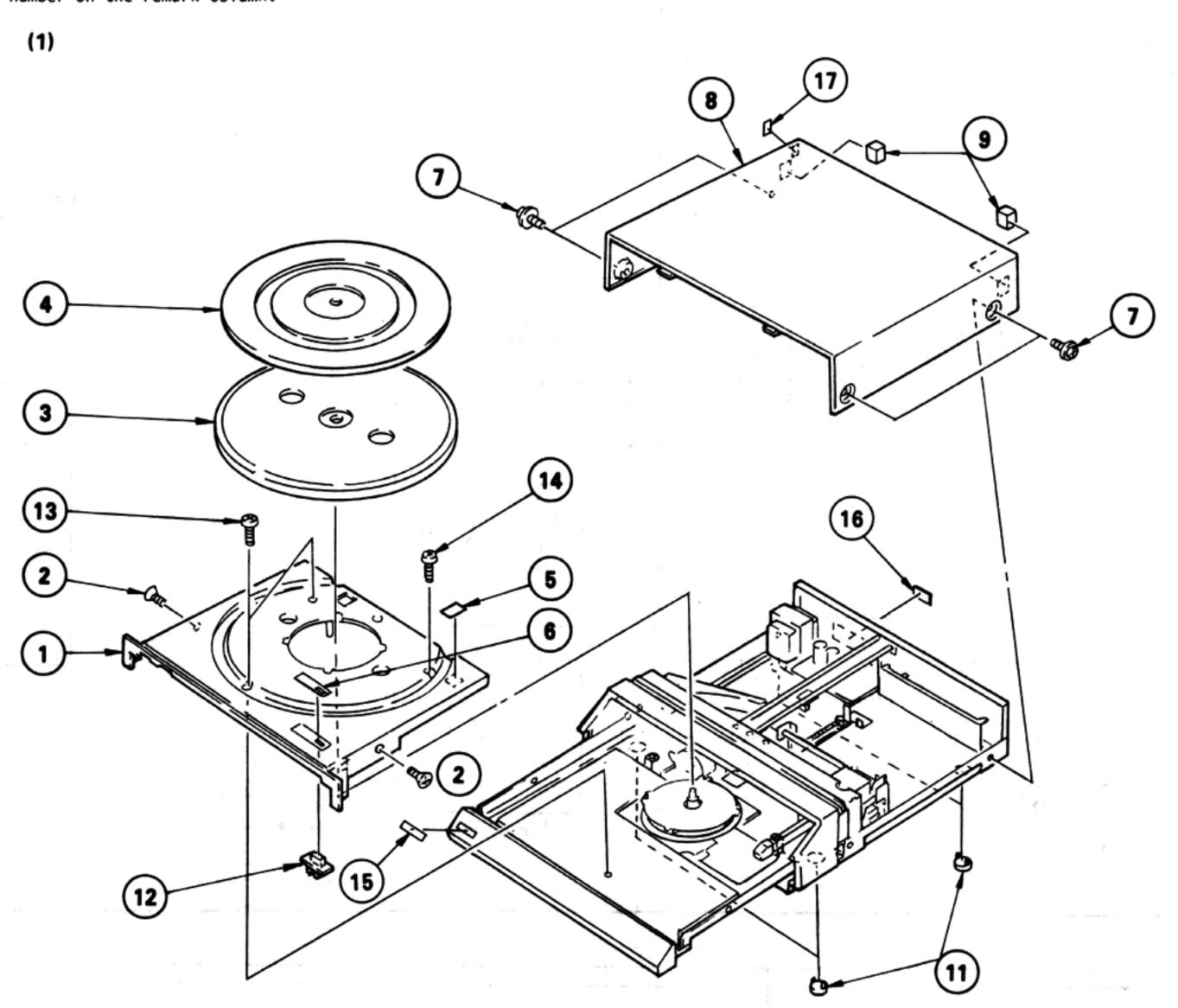
SECTION 5 EXPLODED VIEWS AND PARTS LIST

NOTE:

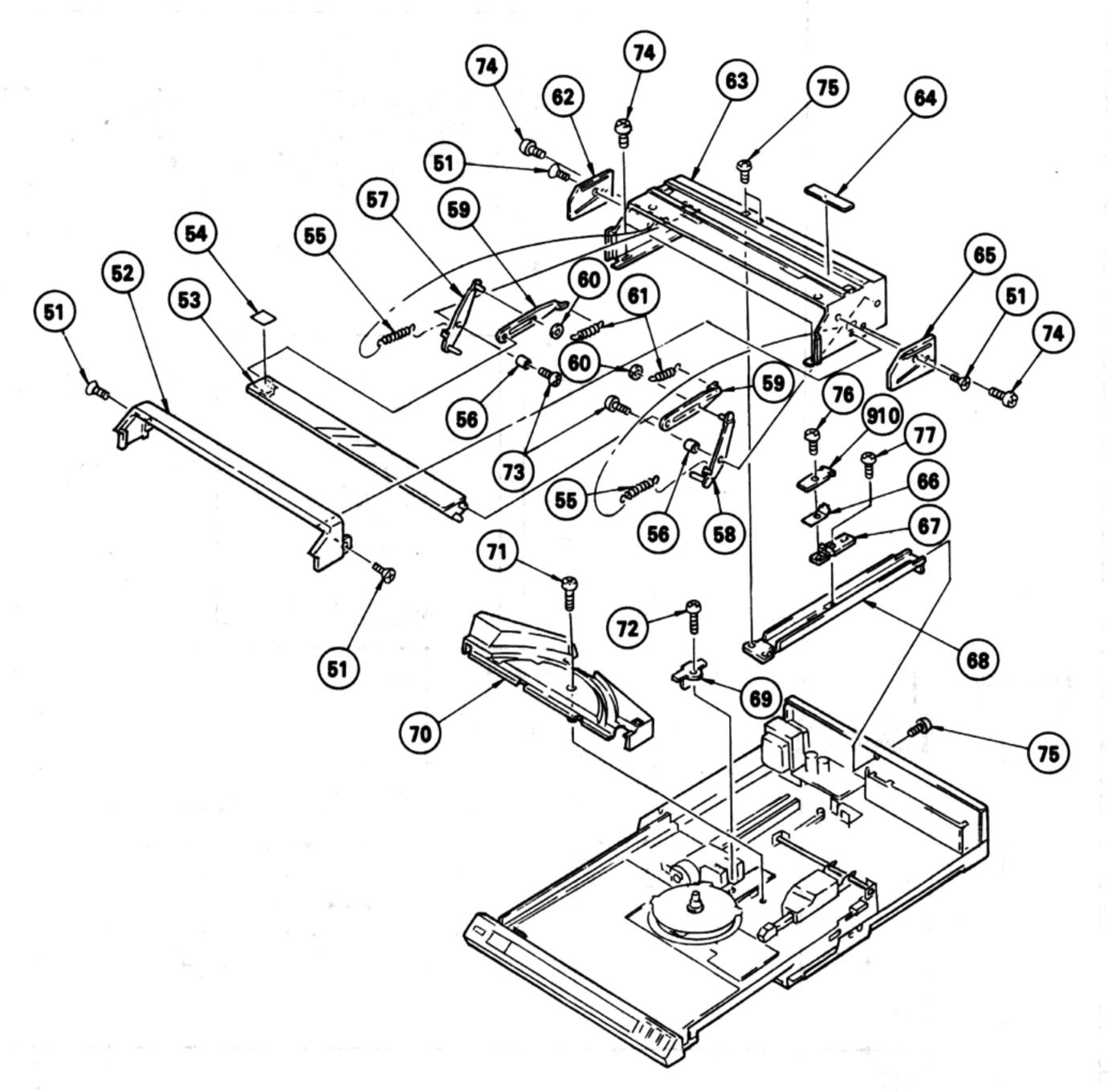
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The construction parts of an assembled part are indicated with a collation number on the remark column.

The components identified by shading and mark Aare critical for safety.

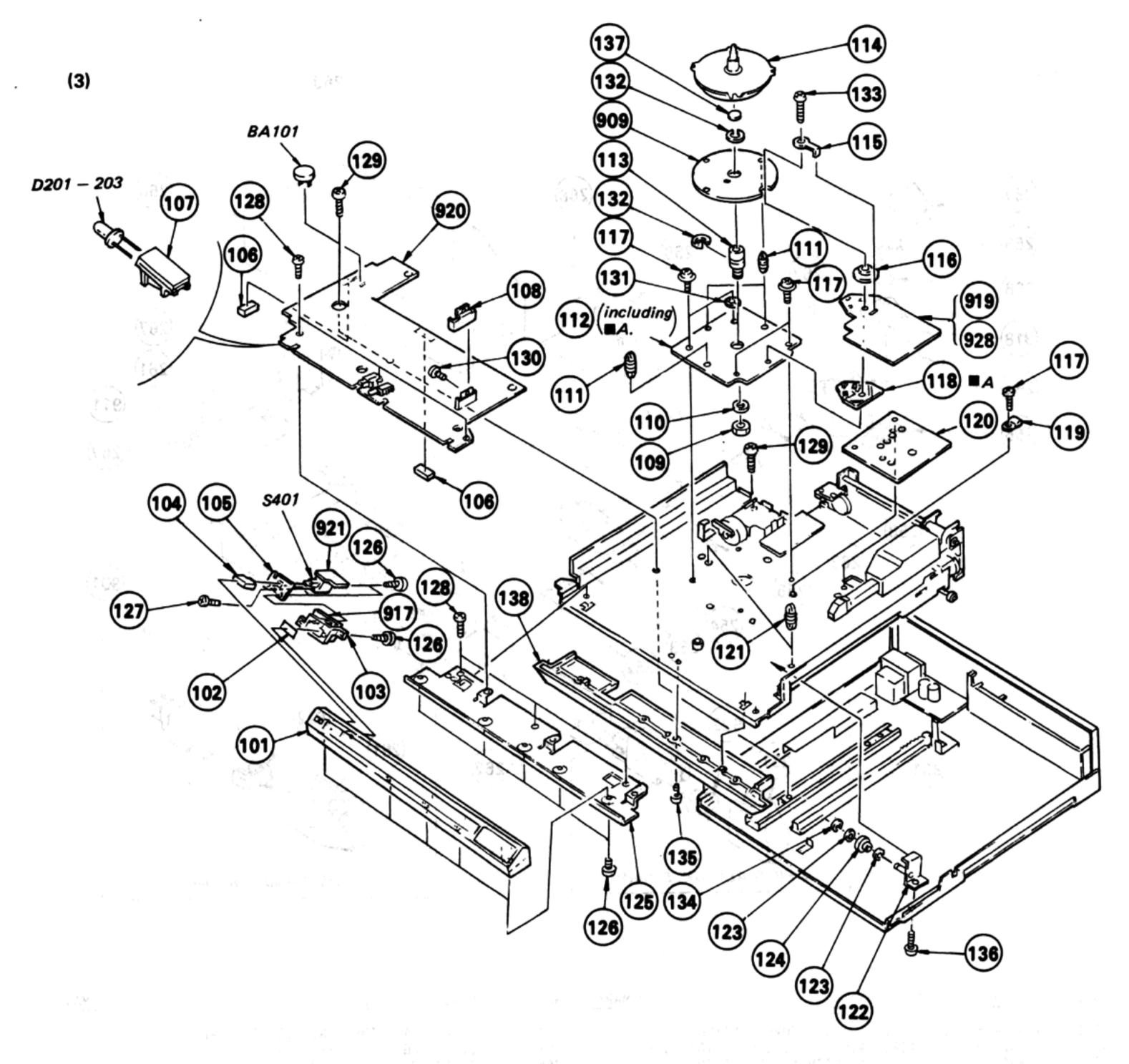
Replace only with part number specified.



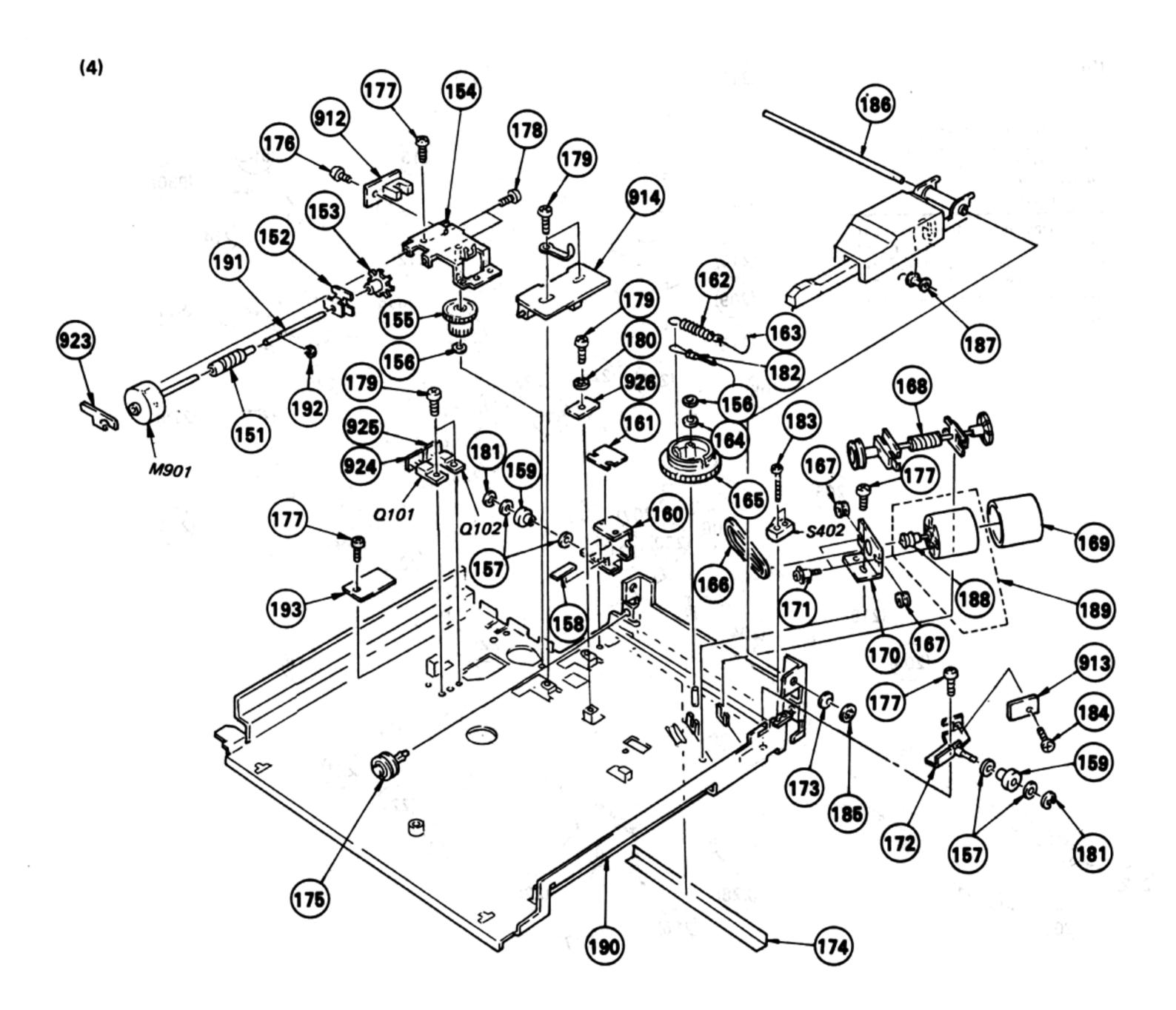
No.	Part No.	Description	REMARKS	No.	Part No.	Description	REMARKS
1 2 3 4 5 6 7 8		COVER (A), FRAME SCREW (3X6), TIGHT TURNTABLE SHEET, TURNTABLE PLUG IN SEAL (A) LABEL, SENSITIVENESS SELECTION SCREW, M3 TOP PLATE PLATE, TOP		9 11 12 13 14 15 16 17	3-538-026-00 *4-907-980-01 4-907-929-01 7-682-547-09 7-685-751-09 3-701-690-01 *4-302-759-00 *3-703-680-00	FOOT KNOB, SELECTION, SENSITIVENESS SCREW +B 3X6 SCREW +BVTT 3X6 (S) (UK)LABEL (MADE IN JAPAN) LABEL, SERIAL NUMBER	UL



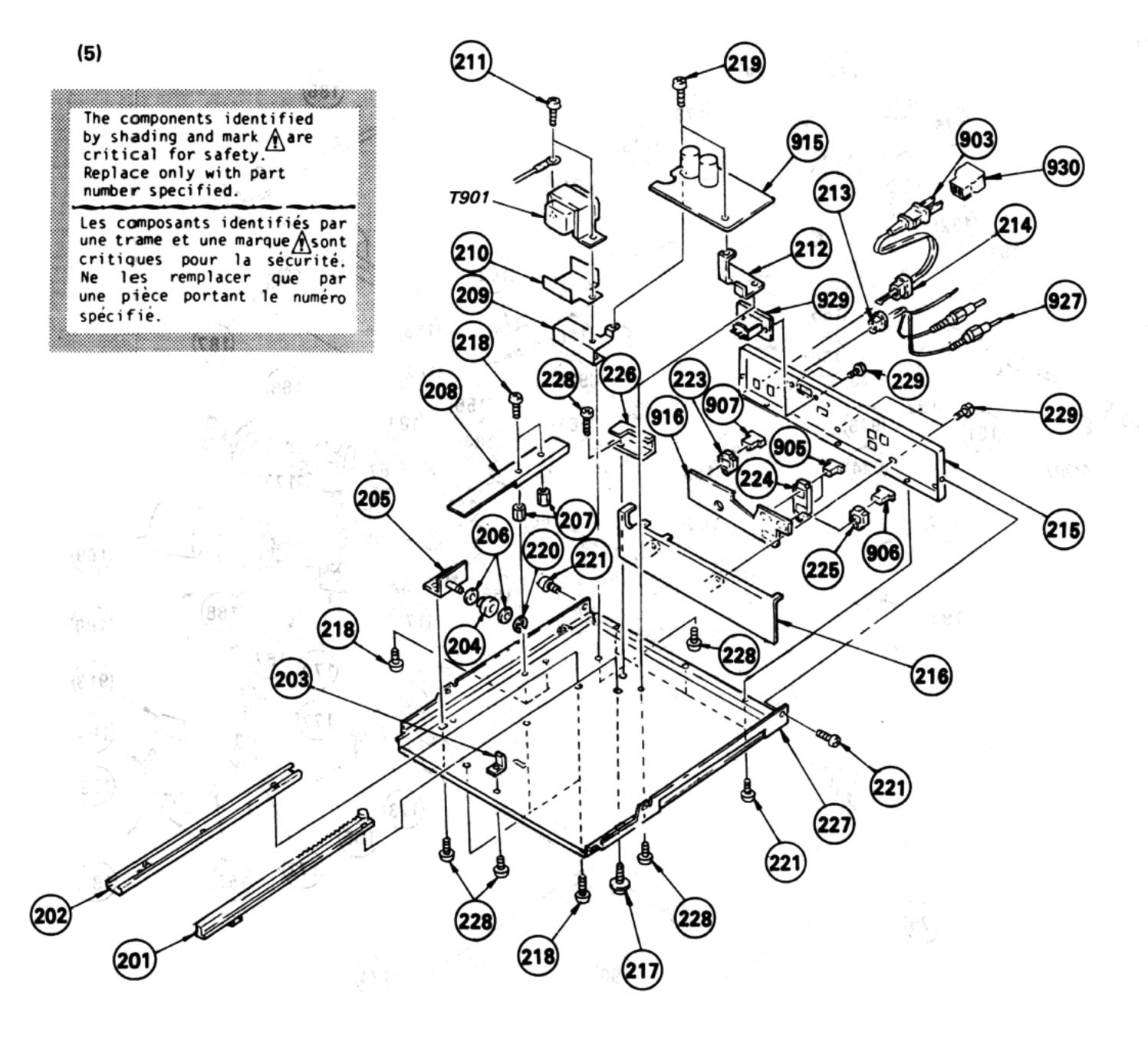
No.	Part No.	Description	REMARKS	No.	Part No.	Description	REMARKS
51	3-703-583-11	SCREW (3X6), TIGHT		65	4-907-952-01	CAM (RIGHT), SWITCHING	
52	4-907-950-01			66	4-888-945-00		
53	4-907-949-01	PANEL, FRONT		67		PLATE, ADJUSTMENT, SENSOR	
54	3-703-708-01	STICKER, SONY SYMBOL (18)		68		REINFORCEMENT (UPPER)	
55	4-907-982-01	SPRING, TENSION	,	69	*4-907-913-01	, , ,	
56	4-907-936-01			70		COVER (B), FRAME	
57	X-4907-902-1	LEVER (LEFT) ASSY, SWITCHING		71	7-685-751-09	SCREW +BVTT 3X6 (S)	
58		LEVER (RIGHT) ASSY, SWITCHING		72		SCREW, TIGHT, S	
59	4-907-947-01	LEVER, INTERMEDIATION		73	7-685-870-09	T	
60	3-558-708-21	WASHER, STOPPER		74	7-685-750-09	()	
61	4-907-983-01	SPRING, TENSION		75	7-682-547-09	(-)	
62	4-907-948-01			76	7-621-775-40		
63	*4-907-964-01	REINFORCEMENT (FRONT)		77		SCREW +BVTT 2.6X5 (S)	
64	4-907-976-11			910		PC BOARD, RECORD SENSOR	



No.	Part No.	Description	REMARKS	No.	Part No.	Description	REMARKS
101	X-4907-915-1	PANEL ASSY, CONTROL	. 1	123	3-701-441-11	WASHER	
102		COVER, INDICATION		124	4-907-908-01	ROLLER	
103		HOLDER (A), LED		125	*4-907-946-01	REINFORCEMENT, PANEL	
104		BUTTOM, POWER		126	7-685-146-19	SCREW +BTP 3X8 TYPE2 N-S	
105		BRACKET, SWITCH		127	7-628-253-05	SCREW +PS 2X4	
106		CUSHION (S)		128	7-685-870-09	SCREW +BVTT 3X5 (S)	
107		HOLDER (B), LED		129		SCREW +B 2.6X3	
108		HEAT SINK (B)		130	7-682-545-04	SCREW +P 3X4	
109		NUT (TMD), BEARING		131		LW 3, TYPE B	
110	4-885-728-00			132	7-624-133-94	STOP RING 15, TYPE-CE	
111		SUPPORT (TMD), PC		133		SCREW +P 3X10	
112	X-4887-413-1		118	134	7-624-106-04	STOP RING 3.0, TYPE -E	
113	4-885-724-00	BEARING		135		SCREW +P 3X4	
114	A-4608-232-A	ROTOR ASSY		136		SCREW +BVTT 3X5 (S)	
115	*4-881-629-00	PLATE (A), GROUND		137	4-885-135-00	RETAINER, THRUST	
116	4-885-727-00	SPACER		138		COVER, PANEL	
117	3-703-249-01	SCREW, S TIGHT, +PTTWH 3X6		¦909	*1-608-883-00		
118	4-857-642-00	HOLDER, PC BOARD		917		PC BOARD, RMS	
119	*3-001-707-01	HOLDER, WIRE		919		PC BOARD, SERVO AMP	
120	*4-907-938-01	SHEET, PROTECTION		920	*1-613-466-11	PC BOARD, SYSTEM CONTROL	
121		FASTENER, (A)		921		PC BOARD, POWER SW	
122	X-4907-904-1	BRACKET (FRONT) ASSY, ROLLER		928	*A-4619-249-A	MOUNTED PCB, SERVO AMP	
			_1	1			

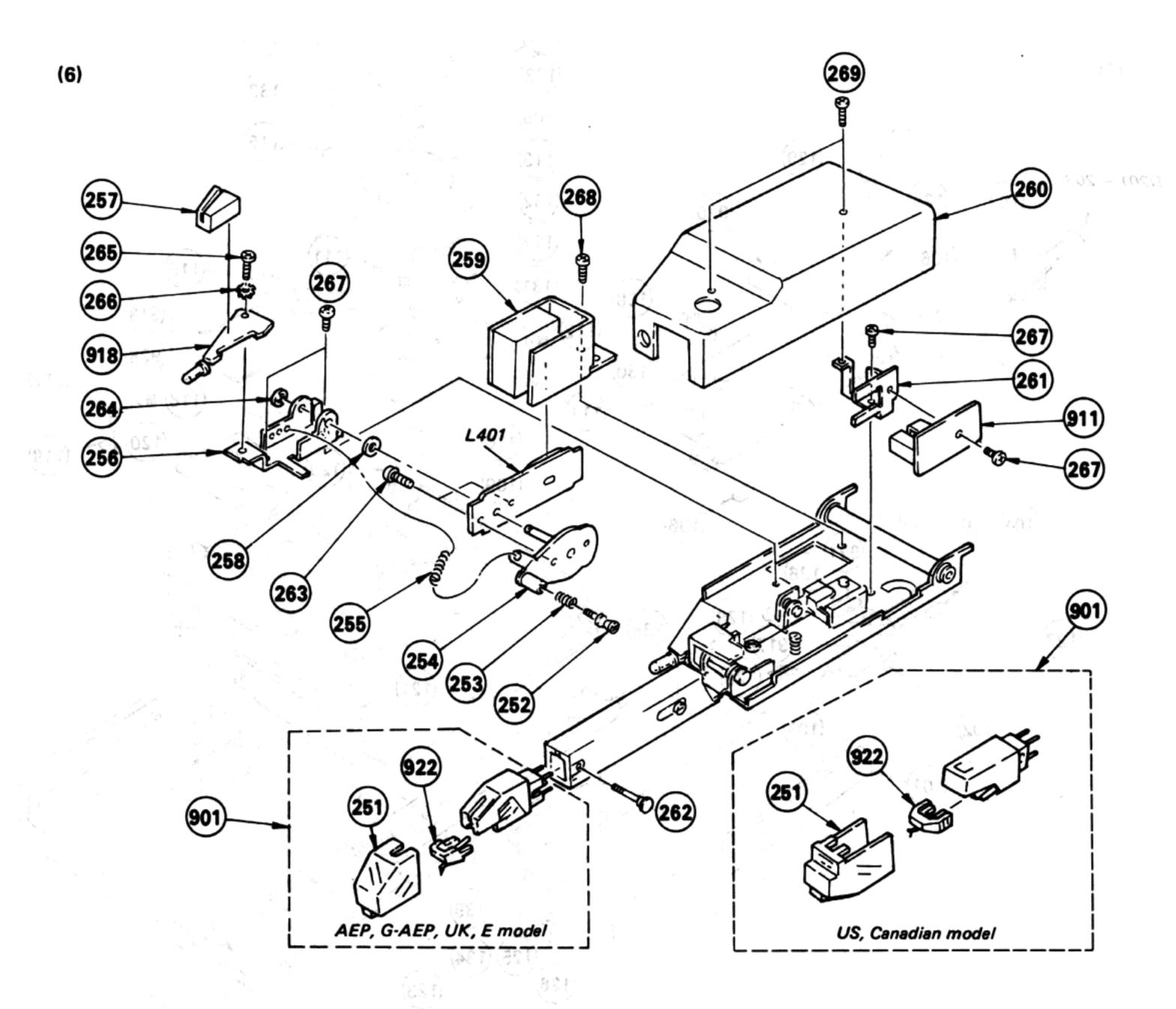


No.	Part No.	<u>Description</u> <u>REMA</u>	RKS No.	Part No.	Description	REMARKS
151	4-888-904-00	WORM (A)	175	X-4907-910-1	PULLEY ASSY	
153	4-906-105-01		176	7-682-545-09	SCREW +B 3X4	
154	*X-4907-907-1		177	7-685-870-09	SCREW +BVTT 3X5 (S)	
155	4-907-916-01	WHEEL, WORM	178	7-628-253-95	SCREW +PS 2.6X4	
156	3-558-708-21	and the second of the second o	179	7-685-871-01		
157	3-701-441-11	WASHER	180		LW 3, TYPE B	
158	*4-907-981-01	SHEET (S)	181		STOP RING 3.0, TYPE -E	
159	4-907-908-01	ROLLER	182	7-623-616-01		
160	X-4907-906-1	BRACKET ASSY, MARKER	183	7-685-855-01		
161	*4-907-973-01	MARKER, STANDARD	184	7-682-546-09		
162	4-885-767-00	SPRING, TENSION	185		STOP RING 4, TYPE-CS	
163	9-911-825-42	STRING, DIAL	186	*4-907-903-01		
164	3-701-441-21	WASHER	187	4-885-744-00		
165	4-888-960-00		188	4-885-704-03		
166	3-573-122-00	BELT, TAKE-UP	189	A-4608-291-A		
167	3-570-118-00	CUSHION, MOTOR	190	*X-4907-913-1		
168	X-4906-101-1	WORM ASSY	191	4-888-902-00		
169	*4-882-233-00	CASE, ACOUSTIC ABSORBER	192	7-624-102-04		
170	*4-907-943-01	BRACKET, MOTOR	193	*4-907-990-01	_	
171	3-570-027-00	SCREW, MOTOR	912		PC BOARD, LOADING SENSOR	
172	X-4907-905-2	BRACKET (REAR) ASSY, ROLLER	913	*1-613-459-11		
173	4-905-842-01	WASHER, BENDING	914	*1-613-460-11	PC BOARD, SW	
174	*4-907-940-01	SHEET, PROTECTION, LEAD WIRE				

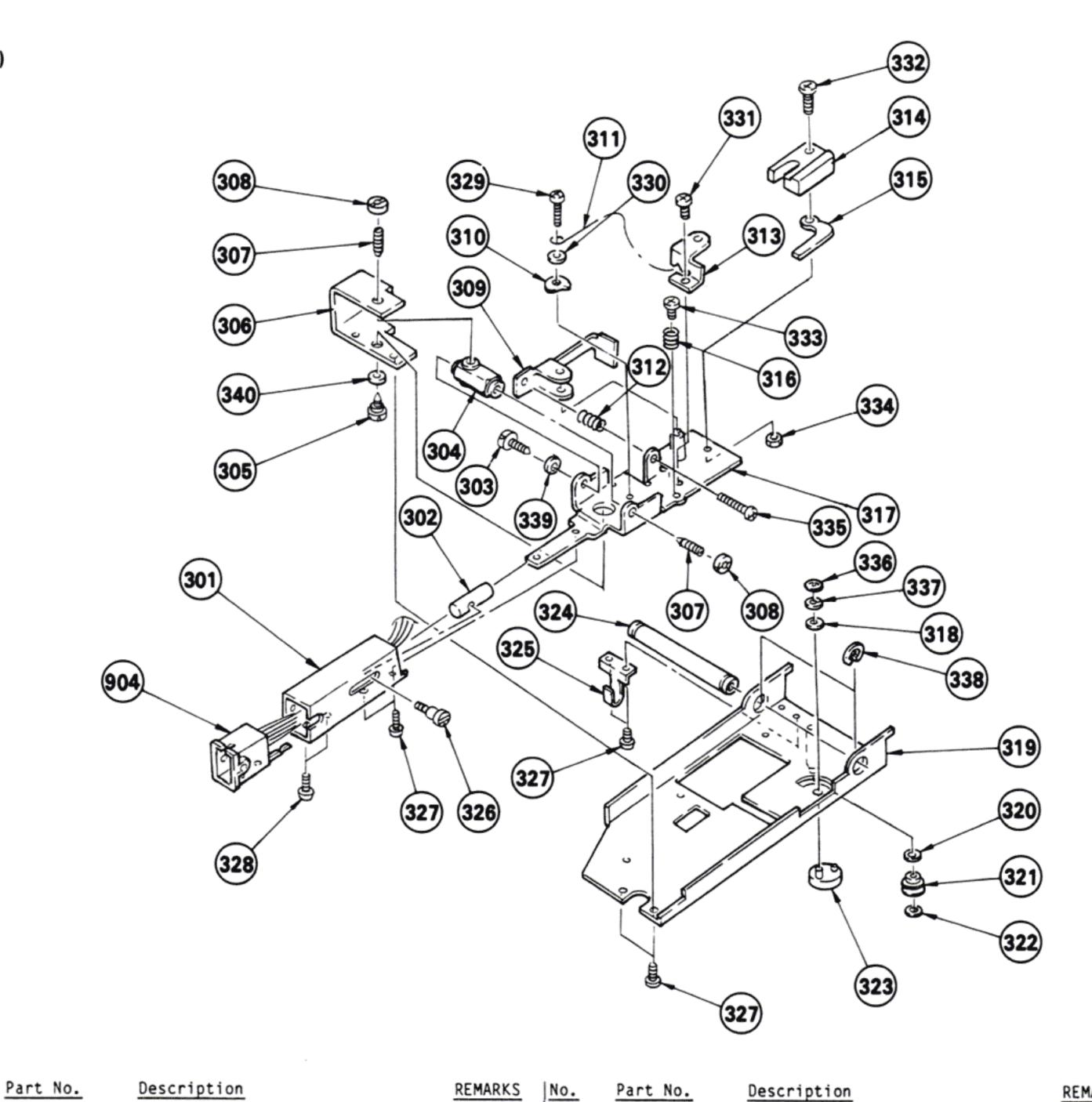


No.	Part No.	<u>Description</u> <u>REMARKS</u>	No.	Part No.	<u>Description</u> R
201	4-907-951-01	PLATE, RACK	220	7-624-106-04	STOP RING 3.0, TYPE -E
202	X-4907-912-1		221	7-685-750-09	
203	*4-907-902-01		222	7-685-870-09	SCREW +BVTT 3X5 (S)
204	4-907-908-01	ROLLER	223	*3-323-401-01	HOLDER (2 PIN), CONNECTOR
205	X-4907-911-1	BRACKET (LEFT) ASSY, ROLLER	224	*3-322-818-01	HOLDER, CONNECTOR
206	3-701-441-11	WASHER	225	*3-322-819-01	HOLDER, CONNECTOR
207	4-907-937-01	SUPPORT (A)	226	*4-907-988-01	GUIDE, FRAME
208	*4-907-959-01	SHEET, RETAINER, LEAD WIRE	227	*4-907-971-01	PLATE, BOTTOM
209	*4-907-931-01	BRACKET, TRANSFORMER	228	7-685-870-09	SCREW +BVTT 3X5 (S)
210	*4-907-979-01	PLATE, SHIELD	229	7-682-546-09	SCREW +B 3X5
211	3-703-249-01	SCREW, S TIGHT, +PTTWH 3X6	903	▲ .1-551-427-11	(AEP)CORD. POWER
212	*4-907-911-01	PLATE (REAR), FUNCTION, SWITCH		▲ .1-551-472-00	(E)CORD, POWER
213	3-703-244-00	BUSHING, CORD		▲.1-551-628-00	(US)CORD POWER
214	3-703-571-00	(US)BUSHING (S), CORD		▲ .1-551-964-00	(Canadian) CORD . POWER
	3-703-244-00	(Canadian, AEP, G-AEP, UK, E)BUSHING, CORD		▲ .1-556-560-00	(UK)CORD, POWER
215	*4-907-967-11	(G-AEP)PLATE, REAR	905	*1-560-039-00	PIN, CONNECTOR
	*4-907-967-21	(US,Canadian)PLATE, REAR	906	*1-560-280-00	CONNECTOR PIN 3P
	*4-907-967-41	(E)PLATE, REAR	907	*1-560-286-00	CONNECTOR PIN 2P
	*4-907-967-51		915	*1-613-461-11	PC BOARD, POWER
216	*4-907-957-01	GUIDE, LEAD WIRE	916	*1-613-462-11	
217	3-703-135-00	SCREW, TAPPING	927	1-551-294-61	
218	7-682-544-09	SCREW +B 3X3	CONTRACTOR OF THE PARTY OF THE	▲.1-552-535-00	STATES WILL AREA CONTROL AND THE PROPERTY OF T
219	7-682-546-04	SCREW +BVTT 3X5 (S)	930	A.1-526-565-00	(E) AC PLUG ADAPTOR

REMARKS



No.	Part No.	Description	REMARKS	No.	Part No.	Description	REMARKS
251	4-903-347-01	(US)COVER, STYLUS		264	7-624-102-04	STOP RING 1.5, TYPE -E	
	2-332-001-01	(AEP,G-AEP,UK,E)PROTECTOR,	STYLUS	265	7-621-772-08	SCREW +B 2X3	
252	4-885-706-04	SCREW, ADJUSTMENT, POSITION		266	7-623-420-07	LW 2, TYPE B	6
253	4-885-764-02	SPRING, COMPRESSION		267	7-621-775-00	SCREW +B 2.6X3	
254	*X-4887-409-1	LEVER ASSY, LIFTER		268	7-628-253-95	SCREW +PS 2.6X4	
256	*4-887-437-01	BASE, LIFTER		269	7-627-553-37	SCREW, PRECISION +P 2X3	N - A
257	4-907-984-01	CUSHION, ARM LEAD		901	A-4505-110-A	(AEP,G-AEP,UK,E)CARTRIDGE COM	MPLATE
258	3-701-437-21	WASHER		1		ASSY (XL-	
259	X-4887-415-1	MAGNET ASSY, ARM		1	1-549-117-00	(US, Canadian)CARTRIDGE (VL-49	5G)(S)
260	*4-907-954-01	COVER, ARM		911	*1-612-356-21	PC BOARD, SENSOR	
261	*4-887-440-01	BRACKET, SENSOR		918	*1-613-464-11	PC BOARD, PHONO	,
262	4-885-746-00	SCREW, FITTING, CARTRIDGE		922	A-4587-082-A	(AEP,G-AEP,UK,E)STYLUS (ND-3)	00G)
263	7-621-772-00	SCREW +B 2X3			1-549-118-11	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	tini. Podrovije



No.	Part No.	Description	REMARKS	No.	Part No.	Description	REMARKS
No. 301 302 303 304 305 306 307 308 309 310 311	4-907-923-01 4-885-770-00 4-877-816-00 X-4907-909-1 4-887-449-01 *4-907-921-01 2-203-518-61 2-203-519-00	PIPE, ARM WEIGHT, ADJUSTMENT SHAFT, PIVOT HOLDER ASSY, BEARING SHAFT, PIVOT BRIDGE, ARM SCREW, PIVOT NUT (A), LOCK, PIVOT PLATE, ADJUSTMENT WASHER (B)	REMARKS	322 323 324 325 326 327 328 329 330 331 332	3-558-708-21 4-907-944-01 *4-907-920-01 *4-907-934-01 4-885-771-00 7-627-553-37 7-685-799-04	WASHER, STOPPER CAM (B), ADJUSTMENT, L POSITION SLIDER LEVER, ARM DRIVING SCREW, ADJUSTMENT SCREW, PRECISION +P 2X3 SCREW +PTT 1.7X2.5 SCREW +B 2.6X6 W 2.6, SMALL SCREW +B 2X3	REMARKS
312 313 314 315 316 317 318 319 320 321	*4-887-444-01 4-887-310-00 4-885-768-00 4-885-766-00 X-4907-908-1 4-904-236-01	WEIGHT (2) SPRING, COMPRESSION JOINT ASSY, PIPE SPRING BASE ASSY, ARM WASHER		333 334 335 336 337 338 339 340 904	7-624-190-61 7-688-002-11 7-624-133-44 7-623-208-22 7-688-003-01	N 3, TYPE 2 SCREW +B 2X8 STOP RING 2.4, TYPE-CS W 2.6, MIDDLE STOP RING 9, TYPE-CE SW 3, TYPE 2	

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 circuitsin 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:μμF.

RESISTORS

- · All resistors are in ohms.
- · F : nonflammable

COILS

· MMH : mH, UH : բH

SEMICONDUCTORS

In each case, $U:\mu$, for example: UA...: μ A..., UPA...: μ PA..., UPC...: μ PC,

UPD...: μPD...

The components identified by shading and mark fare critical for safety.

Replace only with part number specified.

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

ELECTRICAL PARTS

ELECTRICAL PARTS

	CEECIKICA	NE PARTS					LLLOTRIO	AL TAKIS			
Ref.No.	Part No.	Description				Ref.No.	Part No.	Description			
901	A-4505-110-A	(AEP,G-AEP,U)	A:	SSY (XL-	-300G)	C113 C114	1-123-646-00 1-123-646-00	ELECT ELECT	33MF	20% 20%	6.3V 6.3V 50V
902	1-549-117-00 *1-535-116-00	(US,Canadian) TERMINAL)CARIRIDGE	E (VL-4:	56)(5)	C115	1-162-110-00		0.001MF	10%	
4	.1-551-427-11 .1-551-472-00 .1-551-628-00	(AEP) (E) (US)	.CORD, POWER			C116 C117 C118	1-162-110-00 1-162-100-00 1-162-100-00	CERAMIC CERAMIC CERAMIC	0.001MF 150PF 150PF	10% 10% 10%	50V 50V 50V
THE RESIDENCE OF THE PARTY OF	.1-551-964-00	(Canadian)	DESCRIPTION OF THE PARTY OF THE			C119 C120 C121	1-162-052-00 1-162-027-00 1-123-647-00	CERAMIC CERAMIC ELECT	22PF 39PF 47MF	5% 5% 20%	50V 50V 6.3V
	1-556-552-00 *1-560-039-00 *1-560-280-00	CONNECTOR (PI PIN, CONNECTO CONNECTOR PIN	OR			C122 C123 C124	1-162-113-00 1-123-617-00 1-162-113-00	CERAMIC ELECT	0.01MF 10MF 0.01MF	30% 20% 30%	16V 16V 16V
907 908 909	*1-560-286-00 1-564-722-11 *1-608-883-00	CONNECTOR PIN PIN, CONNECTO PC BOARD, FG	OR (SMALL TY	PE) 6P		C125 C126 C128	1-123-619-00 1-123-617-00 1-161-494-00	ELECT ELECT CERAMIC	4.7MF 10MF 0.022MF	20% 20% 30%	50V 16V 25V
911 912	*1-610-415-00 *1-612-356-21 *1-613-458-11	PC BOARD, REG PC BOARD, SEI PC BOARD, LO	NSOR ADING SENSOR			C129 C130 C132	1-161-494-00 1-123-617-00 1-161-494-00	CERAMIC ELECT CERAMIC	0.022MF 10MF 0.022MF	30% 20% 30%	25V 16V 25V
914	*1-613-459-11 *1-613-460-11 *1-613-461-11	PC BOARD, SW				C133 C134 C135	1-162-110-00 1-123-607-00 1-162-110-00	ELECT	0.001MF 0.1MF 0.001MF	10% 20% 10%	50V 50V 50V
917	*1-613-462-11 *1-613-463-11 *1-613-464-11	PC BOARD, RM	S			C136 C137 C138	1-162-113-00 1-162-113-00 1-123-611-00	CERAMIC	0.01MF 0.01MF 1MF	30% 30% 20%	16V 16V 50V
	*1-613-465-11 *1-613-466-11 *1-613-467-11	PC BOARD, SY	STEM CONTRO	L		C301 C302 C303	1-161-494-00 1-123-647-00 1-123-619-00	ELECT	0.022MF 47MF 4.7MF	30% 20% 20%	25V 6.3V 50V
922	A-4587-082-A 1-5497118211				00G)	C304 C305	1-162-102-00 1-161-494-00		220PF 0.022MF	10% 30%	50V 25V
928	1-551-294-61 *A-4619-249-A	MOUNTED PCB,	SERVO	A. 2 Care		C306	1-130-885-00		0.15MF	5%	50V
930 ₺	.1-552-535-00	(E)AC PL	UG ADAPTOR	La Kreeve E		C307 C308 C309	1-123-610-00 1-123-622-00 1-123-619-00	ELECT	0.47MF 22MF 4.7MF	20% 20% 20%	50V 16V 50V
C101	1-528-120-00		0.01MF	30%	16V	C310 C311	1-123-610-00 1-162-113-00		0.47MF 0.01MF	20% 30%	50V 16V
C102 C103	1-123-611-00 1-123-647-00	ELECT	1MF 47MF	20% 20%	50V 6.3V	C312	1-162-113-00	CERAMIC	0.01MF	30%	16V
C104 C105 C106	1-123-821-00 1-123-821-00 1-123-612-00	ELECT	47MF 47MF 2.2MF	20% 20% 20%	16V 16V 50V	C313 C314 C315	1-123-821-00 1-123-821-00 1-162-113-00	ELECT	47MF 47MF 0.01MF	20% 20% 30%	16V 16V 16V
C107 C108 C109	1-162-113-00 1-162-113-00 1-161-380-00	CERAMIC CERAMIC	0.01MF 0.01MF 0.0015MF	30% 30% 10%	16V 16V 50V	C501 C502	1-123-349-00 1-123-349-00 *1-564-705-11	ELECT	1000MF 1000MF	20% 20% TYPE) 3P	35V 35V
C110 C111 C112	1-161-380-00 1-123-820-00 1-162-110-00 1-162-113-00	ELECT CERAMIC	33MF 0.001MF 0.01MF	20% 10% 30%	16V 50V 16V	CN102 CN103	*1-564-336-00 *1-564-709-11 *1-564-337-00	PIN, CONNECT PIN, CONNECT	OR 2P OR (SMALL		

ELECTRICAL PARTS

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
CN106 CN107		PIN, CONNECTOR 2P PIN, CONNECTOR 2P	D156 D157 D158	8-719-000-06 8-719-000-06 8-719-000-06	DIODE MC921
CN110	*1-564-341-11	PIN, CONNECTOR 6P PIN, CONNECTOR 7P PIN, CONNECTOR 5P	D159 D201 D202	8-719-000-06 8-719-906-58 8-719-906-58	DIODE GL-5HD21
CN401	*1-564-341-11 *1-560-602-00 *1-564-708-11	PIN, CONNECTOR 3P	D203 D250 D251	8-719-906-58 8-719-100-36 8-719-100-55	
CP105	1-235-385-11	ENCAPSULATED COMPONENT	D401 D402 D403	8-719-919-70 8-719-919-70 8-719-918-70	
D101 D102 D103 D104	8-719-911-19 8-719-911-19		D404 D501 D502	8-719-900-57 8-719-510-01 8-719-100-30	DIODE GL-5HY5 DIODE S1RBA10
D105 D106 D107	8-719-911-19	DIODE 1SS119 DIODE 1SS119 DIODE 1SS119	H301 H302 H303	8-719-800-17 8-719-800-17 8-719-800-17	
D108 D109 D110		DIODE 1SS119 DIODE 1SS119	IC102		IC LM6402G-476 IC M50761-413P IC TC5501P
D111 D112 D113	8-719-911-19 8-719-911-19 8-719-911-19	DIODE 1SS119	IC105	8-759-240-71 8-759-909-95 8-759-909-95	IC BA715
D114 D115 D116	8-719-911-19 8-719-911-19 8-719-911-19	DIODE 1SS119	IC108	8-759-202-01 8-759-909-95 8-759-600-02	IC BA715
D117 D118 D119	8-719-911-19 8-719-911-19 8-719-911-19		IC301 IC302 IC303	8-759-600-02 8-759-602-65 8-759-909-95	IC M5218L IC CX-065B IC BA715
D120 D121	8-719-911-19 8-719-911-19	DIODE 1SS119 DIODE 1SS119	L401	1-422-162-11	COIL
D122 D123 D124	8-719-911-19 8-719-911-19 8-719-911-19	DIODE 1SS119 DIODE 1SS119 DIODE 1SS119	Q101 Q102 Q103	8-729-202-02 8-729-201-78 8-729-204-83	TRANSISTOR 2SB1015-Y TRANSISTOR 2SD1406-Y TRANSISTOR 2SA1048-GR
D125 D126 D127	8-719-911-19 8-719-911-19 8-719-911-19	DIODE 1SS119 DIODE 1SS119 DIODE 1SS119	Q104 Q105 Q106	8-729-204-83 8-729-177-32 8-729-178-55	TRANSISTOR 2SA1048-GR TRANSISTOR 2SD773 TRANSISTOR 2SC2785E
D128	8-719-911-19 8-719-911-19	DIODE 1SS119 DIODE 1SS119	Q107 Q108 Q109	8-729-178-55 8-729-178-55 8-729-900-89	TRANSISTOR 2SC2785E TRANSISTOR 2SC2785E TRANSISTOR DTC144ES
D150 D151 D152	8-719-000-06 8-719-000-06 8-719-000-06	DIODE MC921 DIODE MC921 DIODE MC921	Q110 Q111 Q112	8-729-600-08 8-729-900-61 8-729-900-89	TRANSISTOR 2SK381-E TRANSISTOR DTA114ES TRANSISTOR DTC144ES
D153 D154 D155	8-719-000-06 8-719-000-06 8-719-000-06	DIODE MC921 DIODE MC921 DIODE MC921	Q113 Q115 Q116	8-729-900-30 8-729-900-89 8-729-900-30	TRANSISTOR DTA144ES TRANSISTOR DTC144ES TRANSISTOR DTA144ES

ELECTRICAL PARTS

Ref.No.	Part No.	Description				Ref.No.	Part No.	Description			
Q117 Q118 Q119	8-729-900-80 8-729-802-22 8-729-802-22	TRANSISTOR DTC1148 TRANSISTOR 2SB1014 TRANSISTOR 2SB1014				R125 R126 R127	1-247-825-00 1-247-813-00 1-247-810-00	CARBON CARBON CARBON	560 180 130	5% 5% 5%	1/6W 1/6W 1/6W
Q120 Q121 Q122	8-729-900-89 8-729-900-89 8-729-204-83	TRANSISTOR DTC1448 TRANSISTOR DTC1448 TRANSISTOR 2SA1048	S			R128 R129 R130	1-247-822-00 1-247-848-00 1-247-855-00	CARBON CARBON CARBON	430 5.1K 10K	5% 5% 5%	1/6W 1/6W 1/6W
Q123 Q124 Q125	8-729-900-80 8-729-900-89 8-729-900-30	TRANSISTOR DTC1146 TRANSISTOR DTC1446 TRANSISTOR DTA1446	S			R131 R132 R133	1-247-855-00 1-247-903-00 1-247-867-00	CARBON CARBON CARBON	10K 1M 33K	5% 5% 5%	1/6W 1/6W 1/6W
Q126 Q127 Q128	8-729-204-83 8-729-900-30 8-729-900-89	TRANSISTOR 2SA1048 TRANSISTOR DTA1448 TRANSISTOR DTC1448	S			R134 R135 R136	1-247-865-00 1-247-855-00 1-247-851-00	CARBON CARBON CARBON	27K 10K 6.8K	5% 5% 5%	1/6W 1/6W 1/6W
Q301 Q302 Q303	8-729-204-83 8-729-178-55 8-729-177-32	TRANSISTOR 2SA1048 TRANSISTOR 2SC2788 TRANSISTOR 2SD773				R137 R138 R139	1-247-855-00 1-247-855-00 1-247-807-00	CARBON CARBON CARBON	10K 10K 100	5% 5% 5%	1/6W 1/6W 1/6W
Q304 Q305 Q306	8-729-113-32 8-729-177-32 8-729-113-32	TRANSISTOR 2SB733 TRANSISTOR 2SD773 TRANSISTOR 2SB733				R140 R145 R146	1-247-855-00 1-247-855-00 1-247-855-00	CARBON CARBON CARBON	10K 10K 10K	5% 5% 5%	1/6W 1/6W 1/6W
Q401 Q402 Q403 Q404	8-719-918-74 8-719-918-74 8-719-411-28 1-806-664-11	DIODE GP-1S04 DIODE GP-1S04 DIODE ON1128 PHOTO COUPLER (RES	LECTION	N TYPE)		R147 R148 R149	1-247-865-00 1-247-867-00 1-247-879-00	CARBON CARBON CARBON	27K 33K 100K	5% 5% 5%	1/6W 1/6W 1/6W
R101 A	.1-217-383-00	FUSIBLE 4.7	5%	1/4W	F	R150 R151	1-247-863-00 1-247-855-00	CARBON CARBON	22K 10K	5% 5%	1/6W 1/6W
R102 R103	1-247-848-00 1-247-127-00	CARBON 5.11 CARBON 680	AND DESCRIPTION OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUM	1/6W 1/4W	©ee. ♥ 191	R152	1-247-855-00	CARBON	10K	5%	1/6W
R104 R105 R106	1-247-854-00 1-247-855-00 1-247-848-00	CARBON 9.18 CARBON 10K CARBON 5.18	5%	1/6W 1/6W 1/6W		R153 R154 R155	1-247-867-00 1-247-855-00 1-247-855-00	CARBON CARBON CARBON	33K 10K 10K	5% 5% 5%	1/6W 1/6W 1/6W
R107 R108 R109	1-247-815-00 1-247-847-00 1-244-842-00	CARBON 220 CARBON 4.71 CARBON 51	5%	1/6W 1/6W 1/2W		R156 R157 R158	1-247-831-00 1-247-903-00 1-247-831-00	CARBON CARBON CARBON	1K 1M 1K	5% 5% 5%	1/6W 1/6W 1/6W
R110▲ R111	.1-217-383-00 1-247-127-00	FUSIBLE 4.7 CARBON 680	5% 5%	1/4W 1/4W	F	R159 R160 R161	1-247-847-00 1-247-847-00 1-247-847-00	CARBON CARBON CARBON	4.7K 4.7K 4.7K	5%	1/6W 1/6W 1/6W
R112 R113 R114	1-247-855-00 1-247-854-00 1-247-855-00	CARBON 10K CARBON 9.11 CARBON 10K	5% 5% 5%	1/6W 1/6W 1/6W		R162 R163 R164	1-247-847-00 1-247-861-00 1-247-861-00	CARBON CARBON CARBON	4.7K 18K 18K	5% 5% 5%	1/6W 1/6W 1/6W
R115 R116 R117	1-247-855-00 1-247-843-00 1-247-891-00	CARBON 10K CARBON 3.31 CARBON 3300		1/6W 1/6W 1/6W		R165 R166 R167	1-247-861-00 1-247-861-00 1-247-831-00	CARBON CARBON CARBON	18K 18K 1K	5% 5% 5%	1/6W 1/6W 1/6W
R118 R119 R120	1-247-903-00 1-247-875-00 1-247-807-00	CARBON 1M CARBON 68K CARBON 100	5% 5%	1/6W 1/6W 1/6W		R168 R169 R170	1-247-831-00 1-247-831-00 1-247-831-00	CARBON CARBON CARBON	1K 1K 1K	5% 5% 5%	1/6W 1/6W 1/6W
R121 R122	1-247-847-00	CARBON 4.7	5%	1/6W		R171 R172	1-247-855-00 1-247-855-00	CARBON CARBON	10K 10K	5% 5%	1/6W 1/6W
R123 R124 ▲	1-247-903-00 .1-213-132-11	CARBON 1M METAL OXIDE 120	5% 5%	1/6W 1W	F	R173	1-247-855-00	CARBON	10K	5%	1/6W

The components identified by shading and mark A are critical for safety.

Replace only with part number specified.

Ref.No.	Part No.	Description				Ref.No.	Part No.	Description			
R174	1-247-855-00	CARBON	10K	5%	1/6W	R220	1-247-855-00	CARBON	10K	5%	1/6W
R175 R176	1-247-903-00 1-247-831-00	CARBON CARBON	1M 1K	5% 5%	1/6W 1/6W	R221 R222	1-247-855-00 1-247-855-00	CARBON CARBON	10K	5% 5%	1/6W
K170	1-24/-031-00	CARBON	11	3 /6	1/0#	KZZZ	1-24/-055-00	CARBON	10K	3%	1/6W
R177	1-247-831-00	CARBON	1K	5%	1/6W	R223	1-247-855-00	CARBON	10K	5%	1/6W
R178 R179	1-247-831-00 1-247-831-00	CARBON CARBON	1K 1K	5% 5%	1/6W 1/6W	R224 R225	1-247-855-00	CARBON	10K	5%	1/6W
1173	1-24/-031-00	CARBON	11	3 /6	1/0₩	K225	1-247-878-00	CARBON	91K	5%	1/6W
R180	1-247-831-00	CARBON	1K	5%	1/6W	R226	1-247-879-00	CARBON	100K	5%	1/6W
R181 R182	1-247-817-00 1-247-817-00	CARBON	270	5% 5%	1/6W	R227	1-247-891-00	CARBON	330K	5%	1/6W
K,102	1-24/-01/-00	CARBON	270	5%	1/6W	R228	1-247-887-00	CARBON	220K	5%	1/6W
R183	1-247-817-00	CARBON	270	5%	1/6W	R229	1-247-887-00	CARBON	220K	5%	1/6W
R184	1-247-817-00	CARBON	270	5%	1/6W	R230	1-247-855-00	CARBON	10K	5%	1/6W
R185	1-247-817-00	CARBON	270	5%	1/6W	R231	1-247-855-00	CARBON	10K	5%	1/6W
R186	1-247-817-00	CARBON	270	5%	1/6W	R232	1-247-855-00	CARBON	10K	5%	1/6W
R187	1-247-817-00	CARBON	270	5%	1/6W	R233	1-247-855-00	CARBON	10K	5%	1/6W
R189	1-247-815-00	CARBON	220	5%	1/6W	R234	1-247-882-00	CARBON	130K	5%	1/6W
R190	1-247-815-00	CARBON	220	5%	1/6W	R235	1-247-887-00	CARBON	220K	5%	1/6W
R191	1-247-861-00	CARBON	18K	5%	1/6W	R236	1-247-771-00	CARBON	3.3	5%	1/6W
R192	1-247-861-00	CARBON	18K	5%	1/6W	R237	1-247-795-00	CARBON	33	5%	1/6W
R193	1-247-861-00	CARBON	18K	5%	1/6W	R238	1-247-795-00	CARBON	33	5%	1/6W
R194	1-247-847-00	CARBON	4.7K	5%	1/6W	R239	1-247-887-00	CARBON	220K	5%	1/6W
R195	1-247-847-00	CARBON	4.7K	5%	1/6W	R240	1-247-855-00	CARBON	10K	5%	1/6W
R196	1-247-847-00	CARBON	4.7K	5%	1/6W	R241	1-247-831-00	CARRON	10	C 44	1 /64
R197	1-247-854-00	CARBON	9.1K	5%	1/6W	R242	1-247-831-00	CARBON CARBON	1K 1K	5% 5%	1/6W 1/6W
R198	1-247-831-00	CARBON	1K	5%	1/6W	R243	1-247-825-00	CARBON	560	5%	1/6W
R199	1-247-831-00	CARBON	1K	5%	1 /61	D244	1 247 055 00	CADDON	104	-~	1.60
R200	1-247-831-00	CARBON	1K	5%	1/6W 1/6W	R244 R245	1-247-855-00 1-247-831-00	CARBON CARBON	10K 1K	5% 5%	1/6W 1/6W
R201	1-247-831-00	CARBON	1K	5%	1/6W	R246	1-247-855-00	CARBON	10K	5%	1/6W
R202	1-247-831-00	CARBON	10	E o r	1 /61/	0047	1 247 017 00	0400011	070		
R203	1-247-831-00	CARBON	1K 1K	5% 5%	1/6W 1/6W	R247 R248	1-247-817-00 1-247-817-00	CARBON CARBON	270 270	5% 5%	1/6W 1/6W
R204	1-247-831-00	CARBON	1K	5%	1/6W	R249	1-247-817-00	CARBON	270	5%	1/6W
D205	1 247 221 22	040004	1.,,								
R205 R206	1-247-831-00 1-247-847-00	CARBON CARBON	1K 4.7K	5% 5%	1/6W 1/6W	R250	1-247-848-00	CARBON	5.1K	5%	1/6W
R207	1-247-831-00	CARBON	1K	5%	1/6W	R252 R253	1-247-855-00 1-247-896-00	CARBON CARBON	10K 510K	5% 5%	1/6W 1/6W
								or moon	02011	0,0	2,04
R208	1-247-831-00	CARBON	1K	5% 5%	1/6W	R254	1-247-831-00	CARBON	1K	5%	1/6W
R209 R210	1-247-855-00 1-247-855-00	CARBON CARBON	10K 10K	5% 5%	1/6W 1/6W	R255 R256	1-247-831-00 1-247-896-00	CARBON	1K	5% 5%	1/6W
	2 2 17 000 00	or in both	2010	- N	1/04	1 1230	1-24/-030-00	CARBON	510K	5%	1/6W
R211	1-247-807-00	CARBON	100	5%	1/6W	R257	1-247-867-00	CARBON	33K	5%	1/6W
R212 R213	1-247-847-00 1-247-879-00	CARBON	4.7K	5% 5%	1/6W	R258	1-247-867-00	CARBON	33K	5%	1/6W
KC13	1-24/-0/3-00	CARBON	100K	5%	1/6W	R259	1-247-855-00	CARBON	10K	5%	1/6W
R214	1-247-879-00	CARBON	100K	5%	1/6W	R260	1-247-857-00	CARBON	12K	5%	1/6W
R215	1-247-865-00	CARBON	27K	5% 5~	1/6W	R261	1-247-888-00	CARBON	240K	5%	1/6W
R216	1-247-867-00	CARBON	33K	5%	1/6W	R262	1-247-903-00	CARBON	1M	5%	1/6W
R217	1-247-853-00	CARBON	8.2K	5%	1/6W	R263	1-247-864-00	CARBON	24K	5%	1/6W
R218	1-247-845-00	CARBON	3.9K	5%	1/6W	R265	1-247-903-00	CARBON	1M	5%	1/6W
R219	1-247-861-00	CARBON	18K	5%	1/6W	R266	1-247-879-00	CARBON	100K	5%	1/6W

	ELECTRICA	AL PARTS			
Ref.No.	Part No.	Description	<u>n</u>		
R267	1-247-115-00	CARBON	220	5%	1/4W
R268	1-247-800-00	CARBON	51	5%	1/6W
R269	1-247-831-00	CARBON	1K	5%	1/6W
R270	1-247-771-00	CARBON	3.3	5%	1/6W
R271	1-247-855-00	CARBON	10K	5%	1/6W
R272	1-247-831-00	CARBON	1K	5%	1/6W
R273	1-247-863-00	CARBON	22K	5%	1/6W
R274	1-247-848-00	CARBON	5.1K	5%	1/6W
R275	1-247-863-00	CARBON	22K	5%	1/6W
R276	1-247-848-00	CARBON	5.1K	5%	1/6W
R301	1-247-807-00	CARBON	100	5%	1/6W
R302	1-247-887-00	CARBON	220K	5%	1/6W
R303	1-247-839-00	CARBON	2.2K	5%	1/6W
R304	1-247-869-00	CARBON	39K	5%	1/6W
R305	1-247-855-00	CARBON	10K	5%	1/6W
R306	1-247-839-00	CARBON	2.2K	5%	1/6W
R307	1-247-903-00	CARBON	1M	5%	1/6W
R308	1-214-767-00	METAL	39K	1%	1/4W
R309	1-214-779-00	METAL	120K	1%	1/4W
R311	1-247-855-00	CARBON	10K	5%	1/6W
R312	1-247-815-00	CARBON	220	5%	1/6W
R313	1-247-847-00	CARBON	4.7K	5%	1/6W
R314	1-247-847-00	CARBON	4.7K	5%	1/6W
R315	1-247-835-00	CARBON	1.5K	5%	1/6W
R316	1-247-893-00	CARBON	390K	5%	1/6W
R317	1-247-843-00	CARBON	3.3K	5%	1/6W
R318	1-247-843-00	CARBON	3.3K	5%	1/6W
R319	1-247-893-00	CARBON	390K	5%	1/6W
R320	1-247-843-00	CARBON	3.3K	5%	1/6W
R321	1-247-843-00	CARBON	3.3K	5%	1/6W
R322	1-247-895-00	CARBON	470K	5%	1/6W
R323	1-247-895-00	CARBON	470K	5%	1/6W
R324	1-247-895-00	CARBON	470K	5%	1/6W
R325	1-247-807-00	CARBON	100	5%	1/6W
R326	1-247-807-00	CARBON	100	5%	1/6W
R327	1-247-895-00	CARBON	470K	5%	1/6W
R502	1-247-831-00 1-247-807-00 1-247-783-00	CARBON	1K 100 10	5%	1/6W
RV102	1-226-240-00 1-226-241-00 1-228-542-00	RES, ADJ, RES, ADJ, RES, ADJ,	CARBON 500	IK	
RV301	1-228-542-00 1-228-238-00 1-228-239-00	RES, ADJ, RES, ADJ, RES, ADJ,	METAL GLAZ	E 20K	

Ref.No. Part No.	Description
RV305 1-226-235-00	RES, ADJ, CARBON 2K RES, ADJ, CARBON 2K RES, ADJ, CARBON 5K RES, ADJ, CARBON 5K
RY401 1-515-519-00	RELAY
S101 1-554-088-00 S102 1-554-088-00 S103 1-554-088-00	SWITCH, KEY BOARD
\$104 1-554-088-00 \$105 1-554-088-00 \$106 1-554-088-00	SWITCH, KEY BOARD
S107 1-554-088-00 S108 1-554-088-00 S109 1-554-088-00	
S110 1-554-088-00 S111 1-554-088-00 S112 1-554-088-00	SWITCH, KEY BOARD
S113 1-554-088-00 S114 1-554-088-00 S115 1-554-088-00	SWITCH, KEY BOARD
S116 1-554-088-00 S117 1-554-088-00 S118 1-554-088-00	,
\$201 1-552-339-00 \$401 A.1-570-043-11 \$402 1-554-921-11	SWITCH, SLIDE (SENSITIVITY) SWITCH, PUSH (1 KEY) (POWER) SWITCH, MICRO (APM REST)
S403 1-554-205-00 S404 1-554-205-00	SWITCH, PUSH (CLOSE) SWITCH, PUSH (OPEN)
T901 A .1-446-851-00 T901 A .1-447-124-00 T901 A .1-447-125-00	(E)TRANSFORMER, POWER (AEP,G-AEP,UK)TRANSFORMER, POWER (US,Canadian)TRANSFORMER, POWER
TP101 *1-564-336-00 TP102 *1-564-337-00 TP103 *1-564-336-00	PIN, CONNECTOR 3P
TP104 *1-564-336-00 TP105 *1-564-338-00 TP106 *1-564-336-00	PIN, CONNECTOR 4P
X101 1-567-192-11 X102 1-527-532-00	OSCILLATOR, CERAMIC OSCILLATOR, CERAMIC

The components identified by shading and mark nare critical for safety.

Replace only with part number specified.

ACCESSORY & PACKING MATERIAL

Part No.	Description
1-556-372-41 1-557-109-21	(E3)AC PLUG ADAPTOR CORD, CONNECTION (4 CORE) CORD, CONNECTION
3-532-616-00 3-610-931-11 3-701-616-00	BAG, POLYETHYLENE SPACER, SHAFT, DRUM, HEAD BAG, POLYETHYLENE
3-701-630-00 3-701-634-00 3-701-806-00	BAG, POLYETHYLENE BAG, POLYETHYLENE ADAPTOR, 45RPM, (E)
3-760-118-11 3-760-118-41	(US,Canadian,AEP,UK,E) MANUAL, INSTRUCTION (AEP,G-AEP)MANUAL, INSTRUCTION
3-795-753-21 4-808-459-51 4-885-782-00	(US)INSTRUCTION SCREW (B), MOTOR LOCK PROTECTOR (B)
4-888-942-00 4-907-918-01 4-907-919-01	SCREWDRIVER, ADJUSTMENT LOCK, TRANSPORT LOCK, TRANSPORT, ARM
4-907-974-01 4-907-975-01 4-907-978-01	
4-907-986-01	PROTECTOR (SMALL) CUSHION, ARM SCREW, TRANSPORT
4-907-996-01	SLEEVE, TRANSPORT INDIVIDUAL CARTON SCREW +B 3X40

The components identified by shading and mark fare critical for safety.

Replace only with part number specified.