CDP-400/501/501ES /610ES

SERVICE MANUAL

CDP400/-610ES:
US Model
CDP-610ES:
Canadian Model
CDP-501/-501ES:
AEP Model
UK Model
E Model

CDP-400 shown

CDP-501ES shown

COMPACT disc DIGITAL AUDIO

Note: Refer to RM-111 Service Manual issued separately for information of the remote controller supplied with this set.

SPECIFICATIONS

COMPACT DISC PLAYER

System	Compact disc digital audio system
Disc	Compact disc
Laser	Semiconductor laser
Spindle speed	200 r.p.m. to 500 r.p.m. (CLV)
Scan velocity	1.2 - 1.4 m/sec.
Error correction	Sony Super Strategy Cross Interleave Reed Solomon Code
Number of channels	2
D-A conversion	16-bit linear
Frequency response	5 - 20,000 Hz ±0.5 dB
Harmonic distortion	Less than 0.003 % (1 kHz)
Dynamic range	More than 95 dB
Channel separation	More than 90 dB
Wow and flutter	Below measurable limit
Outputs	Line outputs FIXED Output level 2 V rms (at MSB) Load impedance over 10 kilohms VARIABLE Max output level 2 V rms (at MSB) Load impedance over 50 kilohms Headphones 28 mW at 32 ohms

Disc

Track pitch	1.6 μm
Sampling frequency	44.1 kHz
Quantization	16 bit linear quantizing/channel
Modulation system	EFM
Transfer rate	2.03 Mbit/sec. (before modulation)

General

Power requirements	US, Canadian model: 120 V ac, 60 Hz AEP model: 220 V ac, 50/60 Hz UK model: 240 V ac, 50/60 Hz E model: 110, 120, 220 or 240 V ac adjustable, 50/60 Hz
Power consumption	30 W
Dimensions	Approx. 430 × 105 × 325 mm (w/h/d) (17 × 4¹/₄ × 12⁷/₈ in.) including projecting parts and controls
Weight	Approx. 8.6 kg (18 lb 15 oz), net

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 ⚠ 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.

MICROFILM

COMPACT DISC PLAYER

SONY®

FEATURES

In the Compact Disc (CD) system, sound levels are converted to a series of binary codes and recorded as digital pulses of equal amplitude. The pulses are etched on the disc in the shape of tiny pits with a pitch of 1.6μm.
During playback, a laser beam focuses on the pits which reflect the laser light. Variations in the reflected light rays are then converted back into a continuous audio waveform.
Through this system, the CDP series performance and sound fidelity far superior to any analog record and turntable system.

High performance and fidelity
With the CDP series flat frequency response (5 – 20,000 Hz), low wow and flutter (lower than the measurable limit), wide dynamic range (more than 95 dB), minimal distortion (0.003%) and high channel separation (more than 90 dB) are achieved. Listening to the sound reproduction of your CDP series is just like being in the concert hall.

Full-logic "feather touch" operation
At the lightest touch, the "feather-touch" function buttons enable you to switch directly from one mode to another.

AMS and repeat function
The AUTOMATIC MUSIC SENSOR (AMS) locates the beginning of a selection on the disc, and the three types of repeat functions : one for the entire disc, one for a portion of the disc, and one for a specific selection allow you to program the operation as you desire.

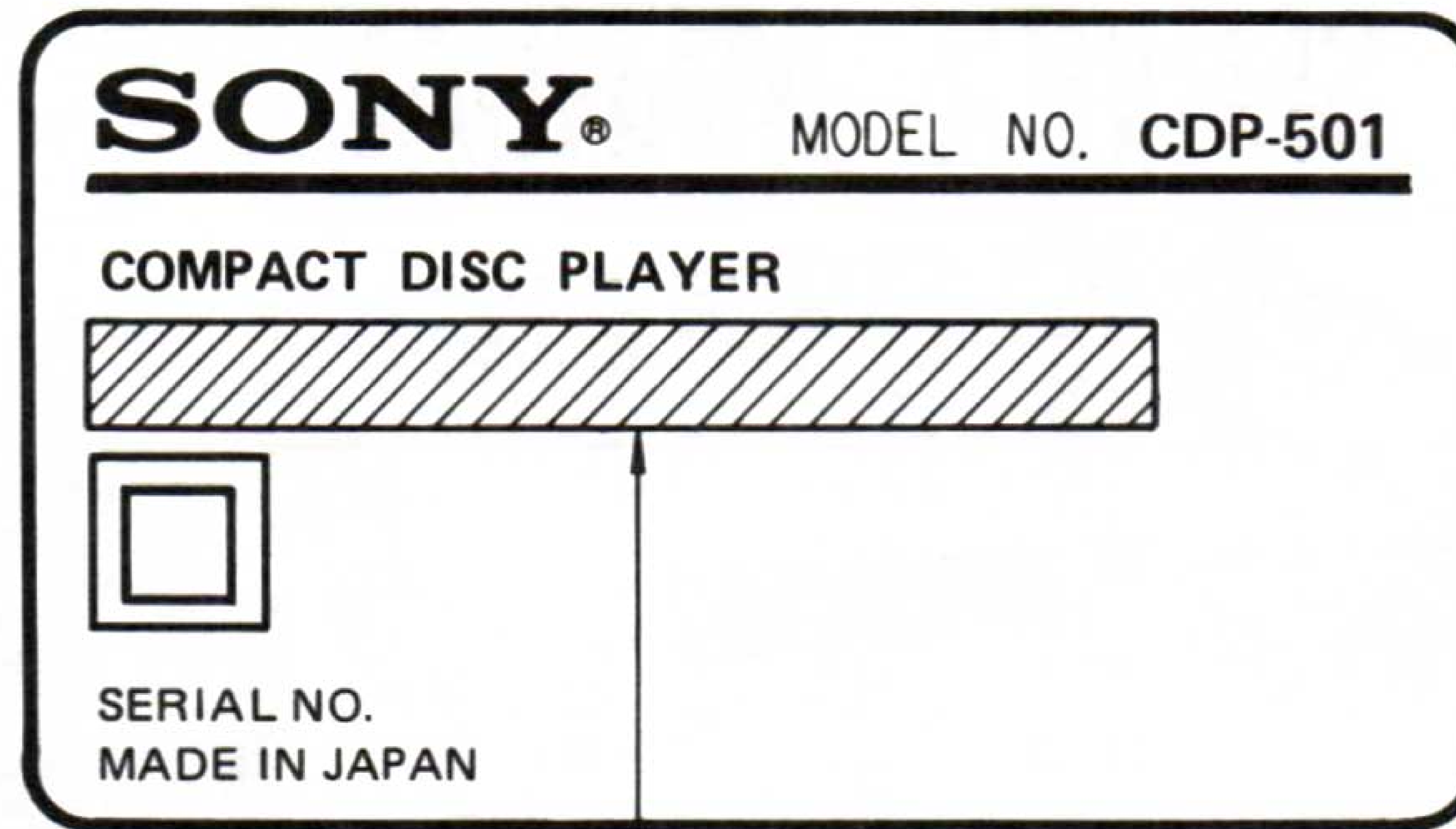
Digital readout display
The track number and the elapsed playing time of the selection playing is shown in the display window. With one touch of the ELAPSED/REMAINING TIME button, this time display will change to indicate with a minus sign how much playing time is left one the disc.

Index function
Using the index numbers recorded on the disc, you can quickly locate the part of the recording you want.

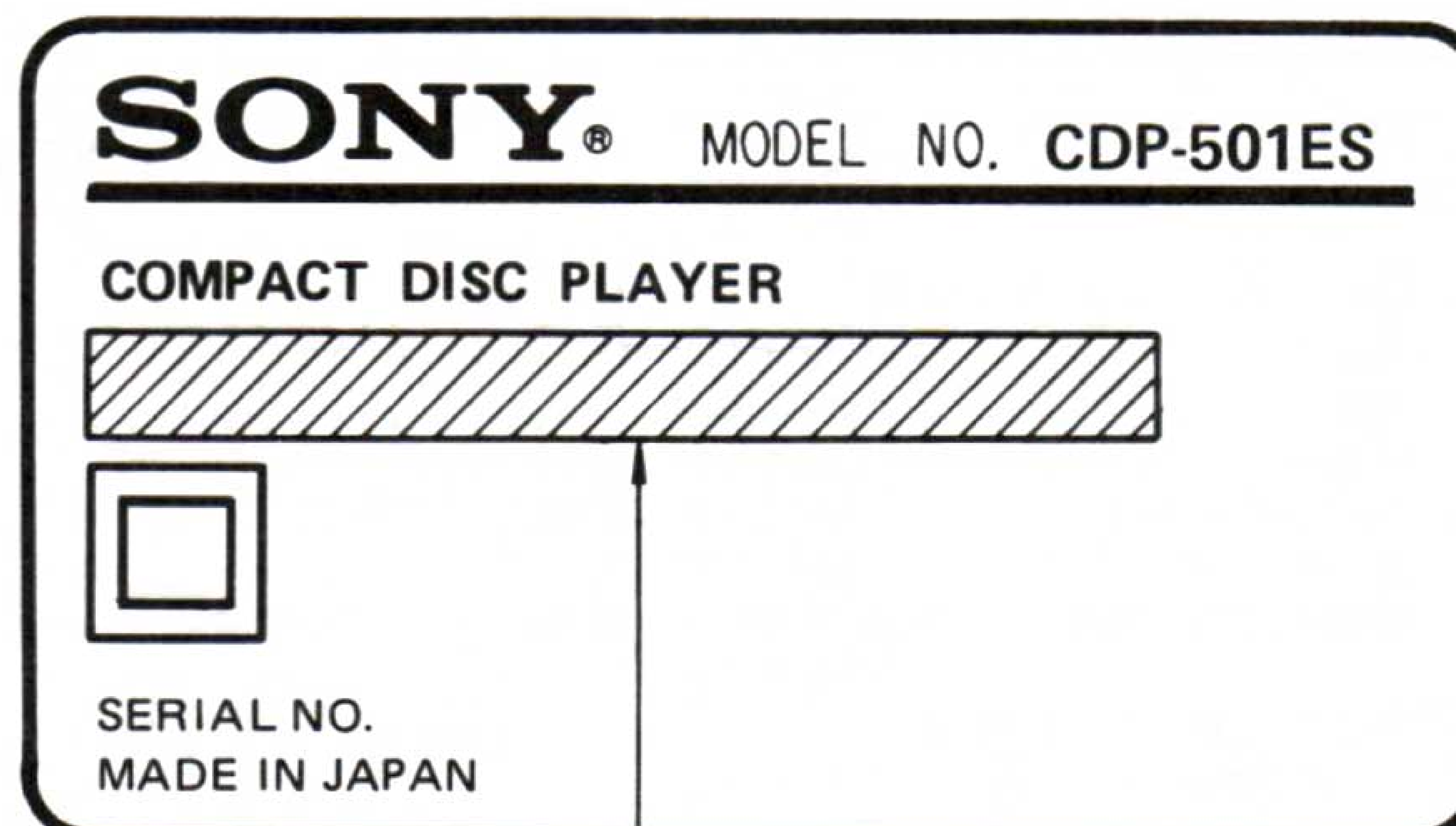
Remote control operation
Using the supplied remote commander, various functions of the player as well as a 10-key music select function can be remotely controlled.

Non-contact signal readout system
Because a laser beam is employed for signal pick-up, there is no physical contact with the disc, which means no wear.
In addition, because the pit pattern is recorded below the surface of the disc, it is not necessary to be constantly on guard against dust, making the disc easy to handle.

MODEL IDENTIFICATION
– Specification Labels –



AEP model:	AC:	220 V ~ 50/60 Hz 30 W
UK model:	AC:	240 V ~ 50/60 Hz 30 W
E model:	AC:	110, 120, 220, 240 V ~ 50/60 Hz 30 W



AEP model:	AC:	220 V ~ 50/60 Hz 30 W
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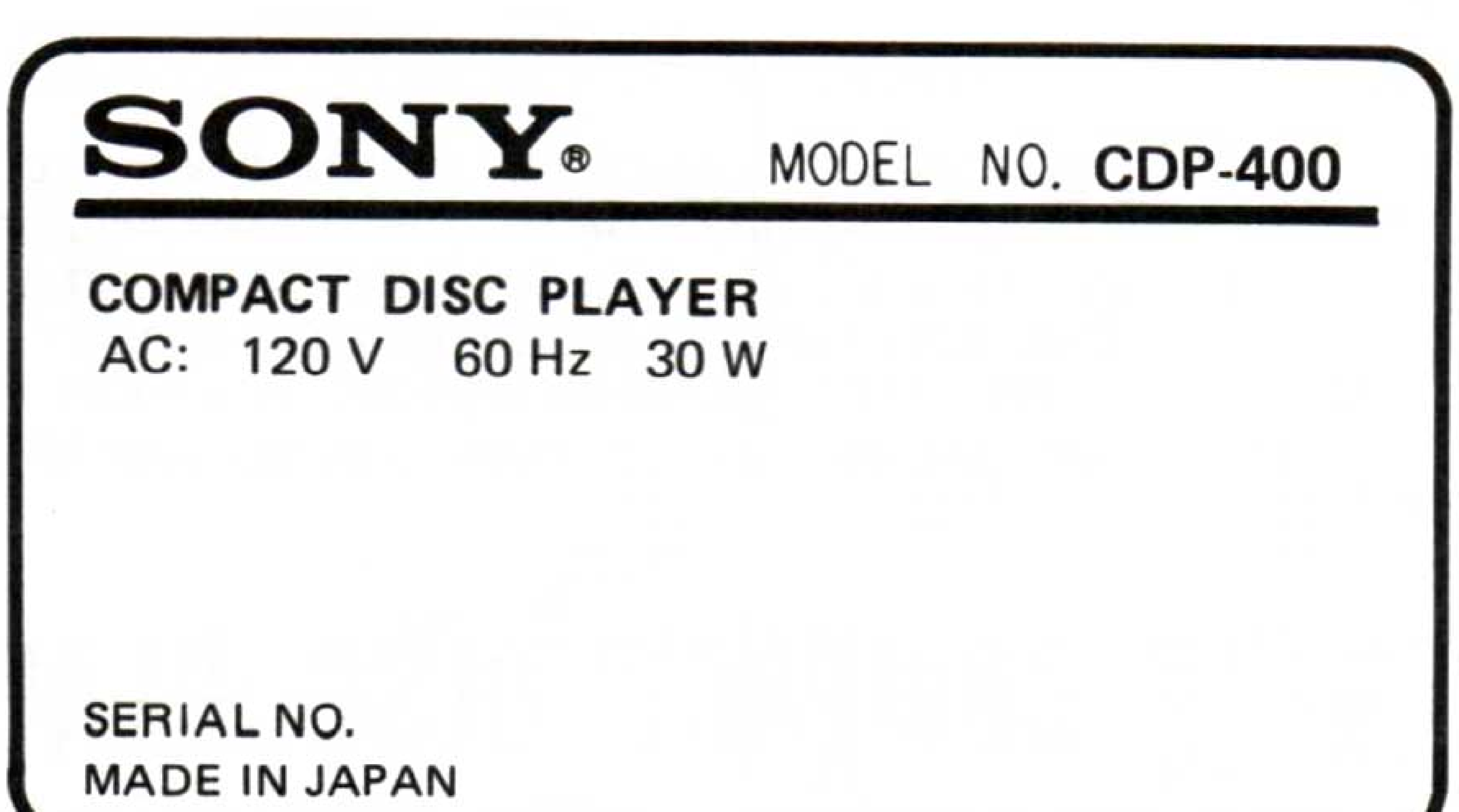

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PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING !!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION, BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30 cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.

1. Laser Diode Properties
   - Material: GaAs
   - Wavelength: 780 nm
   - Emission Duration: continuous
   - Laser Output: max. 0.4 mW*

     * This output is the value measured at a distance of about 1.6 mm from the objective lens surface on the Optical Pick-up Block.
   - Classification: Class IIIb
2. During service, do not take the Optical Pick-up Block apart, and do not adjust the APC circuit. If there is a breakdown in the APC circuit (including laser diode), replace the entire Optical Pick-up Block (including APC board).

LASER WARNING LABELS

The labels shown below are affixed.

1. Protective Housing Label
   1) DHHS Protective Housing Label . . . . . (US model only)

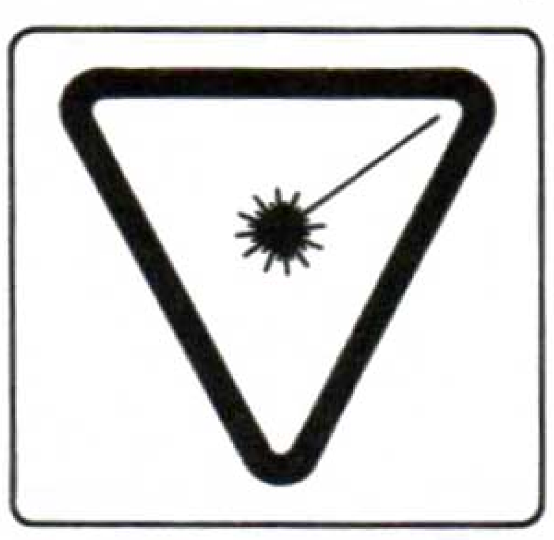
DANGER INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.	**DANGER** RADIATION DE LASER INVISIBLE LORS D'OUVERTURE. EVITER L'EXPOSITION DIRECTE AU RAYON. 4-884-503-01

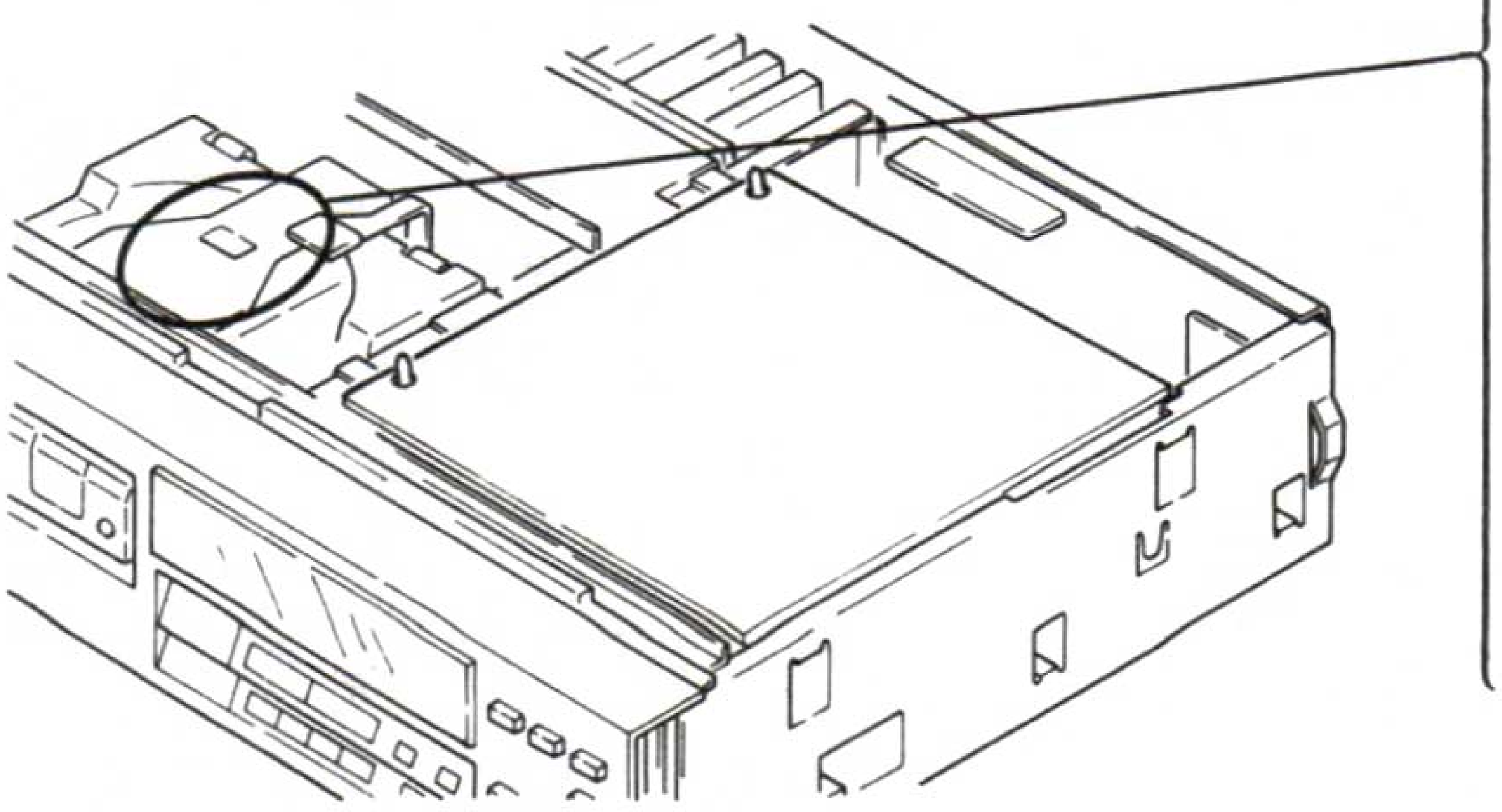
   2) DNHW Protective Housing Label and Laser Radiation Sign Label . . . . . (Canadian model only)

   DNHW Protective Housing Label

CAUTION HAZARDOUS LASER RADIATION WHEN OPEN AND INTERLOCK DEFEATED.	**ATTENTION** RAYONNEMENT LASER DANGEREUX SI OUVERT AVEC L'ENCLENCHEMENT DE SECURITE ANNULE. 4-885-833-01

   Laser Radiation Sign Label





2. Aperture Label . . . . . (AEP, UK model only)

LASER APERTURE
4-885-839-01

- See figure on next page for location of label.

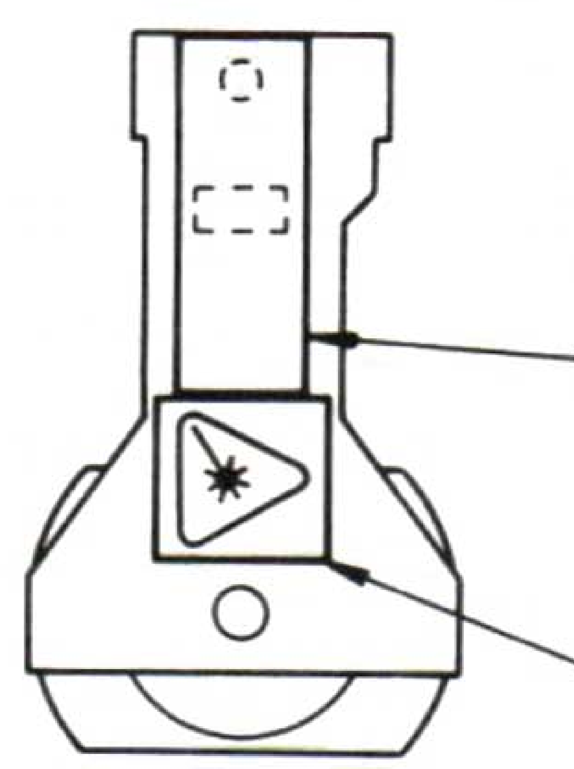
3. Caution Label . . . . . (AEP, UK model only)

CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED AVOID EXPOSURE TO BEAM.

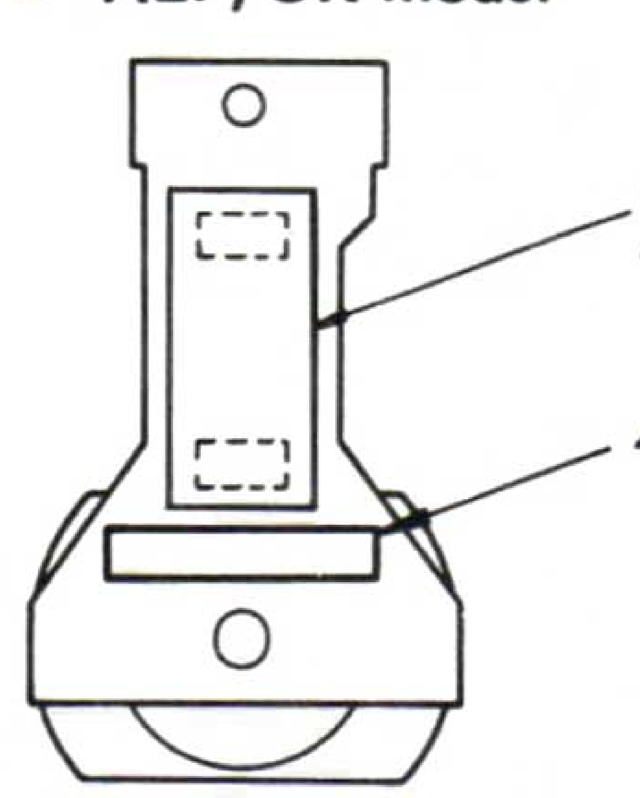
ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSÆTTELSE FOR STRÅLING.

4 885 843 02

- **US, Canadian model**



- **AEP, UK model**



BESKYTTELSE AF ØJNE MOD LASERSTRÅLING UNDER SERVICE

I dette apparat anvendes laserlys. Derfor skal nedenstående instruktioner nøje følges under service.

Følg iøvrigt instruktionerne i servicemanualen.

ADVARSEL!!

Under service må øjnene ikke komme nær objektiv-linsen på den optiske pick-up enhed. I tilfælde af at det er nødvendigt at kontrollere udsendelsen af laserlys, skal det ske i en afstand af mere end 30 cm fra den optiske pick-up.

1. Data for Laser Diode
   - Materiale: Ga-As
   - Bølgelængde: 780 nm
   - Udstråling: Kontinuerlig
   - Laser Output: max. 0.4 mW*

     * målt i 1.6 mm afstand fra overfladen af objektiv-linsen på den optiske pick-up enhsd.
   - Klassifikation: Svarende til klasse IIIb

2. Adskil aldrig den optiske pick-up enhed under service, og juster ikke APC kredsløbet (Automatic Power Control). Hvis APC kredsløbet (incl. laser-dioden) bryder ned, skal hele den optiske pick-up enhed (incl. APC printkortet) udskiftes.

LASER ADVARSEL MÆRKNING (AEP model)

Følgende mærkning findes indvendig i apparatet:

1. Advarsel Mærkning

CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.

ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.

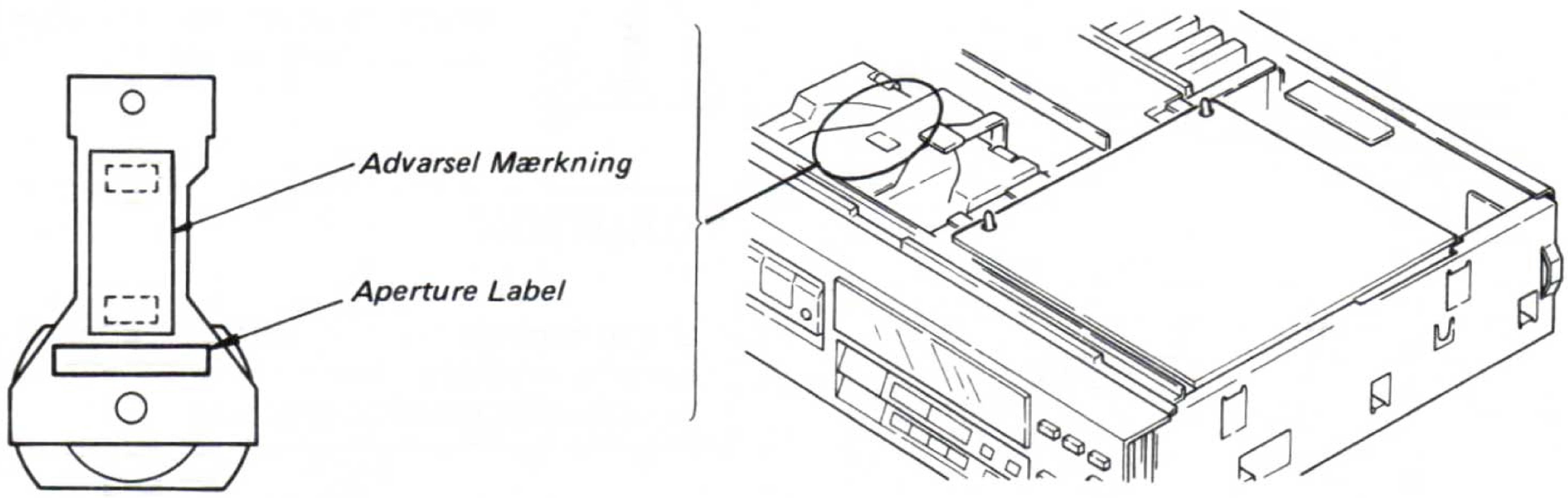
4-885-843-02

2. Aperture Label

LASER APERTURE

4-885-839-01

- **AEP, UK model**



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 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.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

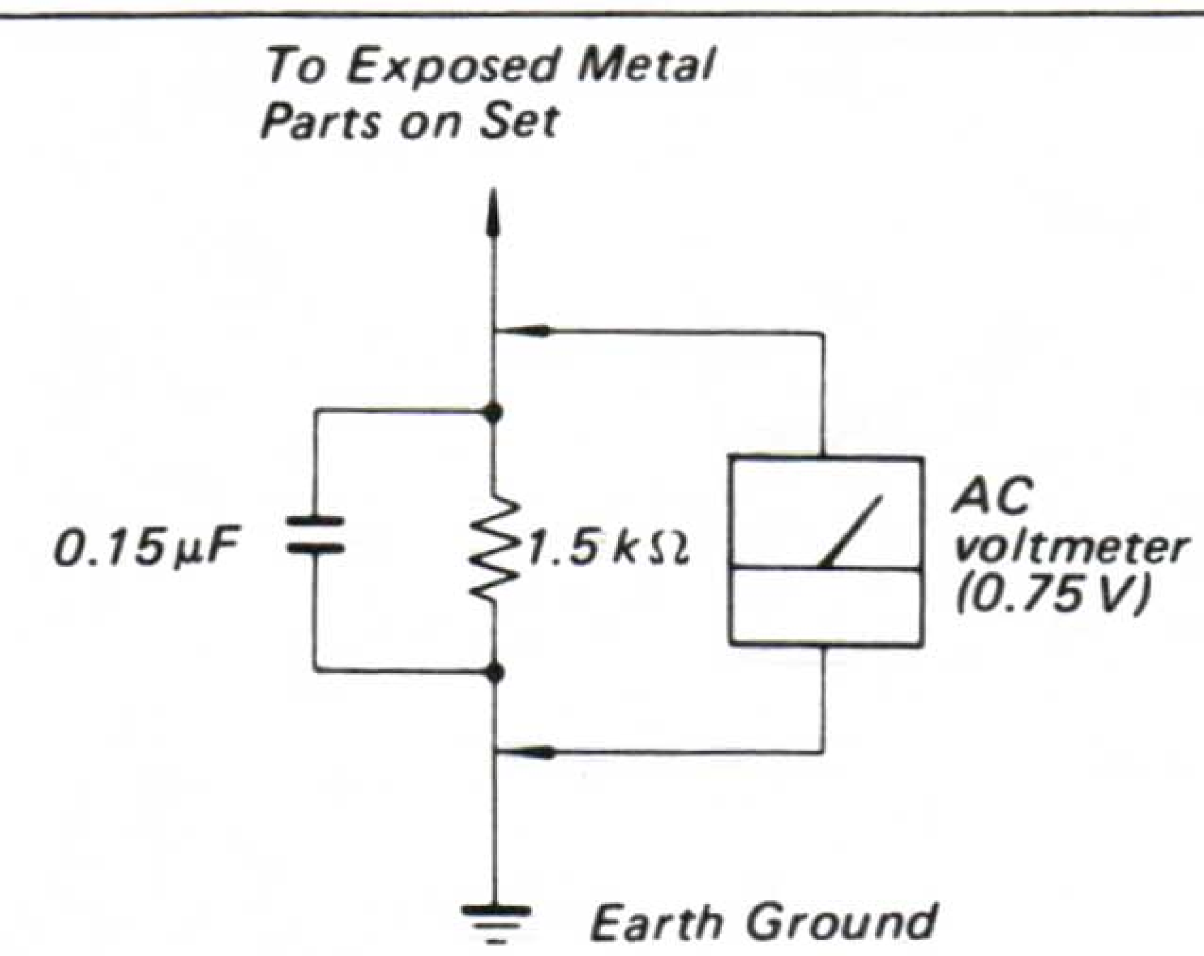
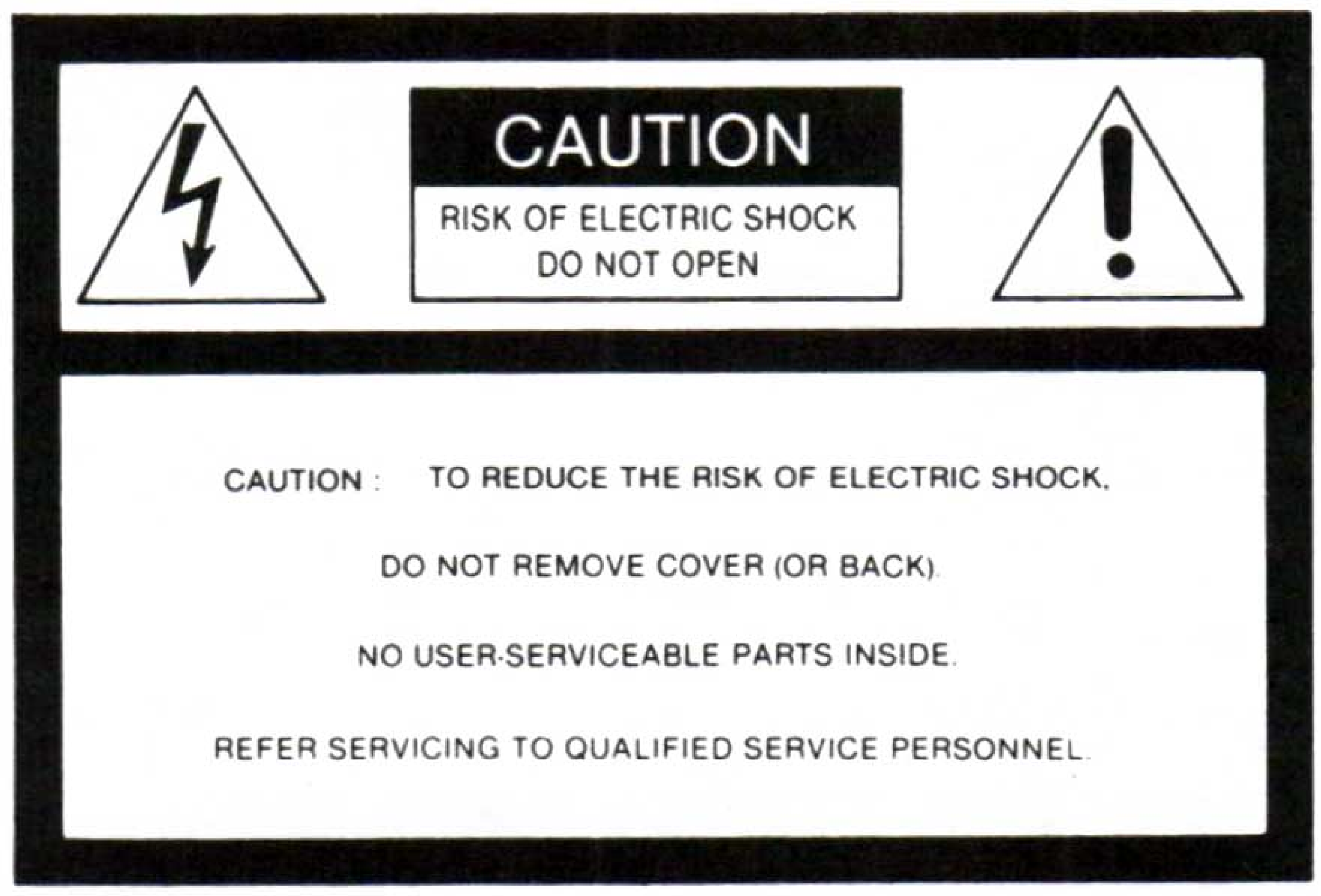


Fig. A. Using an AC voltmeter to check AC leakage.

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. As temporarily permitted by regulation it has not been tested for compliance with the limits for Class A computing devices pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

– CAUTION FOR ELECTROSTATIC BREAKDOWN –

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK (KSS-100A)

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.

The printed matter below is included in the repair parts. During repair, use the procedure in the printed matter.

The following method is an example for reference purposes:

1. Place a conductive sheet on the workbench. (The black sheet used as repair parts wrapping.)
2. Place the set on the conductive sheet so that the chassis touches the sheet. (This makes it the same potential as the conductive sheet.)
3. Place your hands on the conductive sheet. (This makes them the same potential as the sheet.)
4. Remove the optical pick-up block from the bag (conductive).
5. Perform work on top of the conductive sheet. Be careful that clothing does not touch the optical pick-up block.

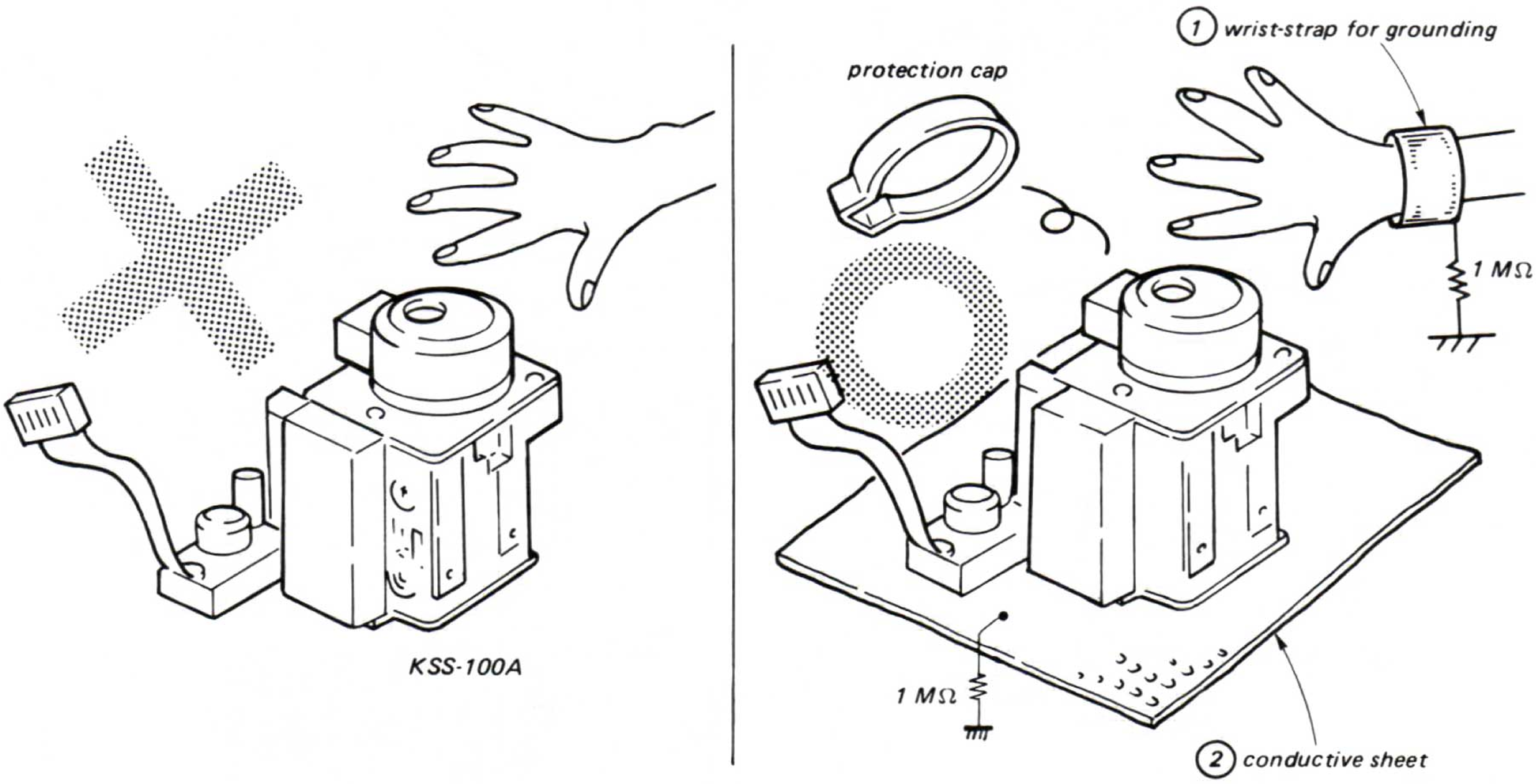
Printed Matter Included in the Repair Parts

When opening or repairing a KSS-100A, the procedure for grounding as follows is required to prevent damage caused by static electricity.

1 Grounding for the human body
Be sure to put on a wrist-strap for grounding (with impedance lower than 10^8 Ω) whose other end is grounded. The strap works to drain away the static electricity build-up on the human body.

2 Grounding for the work table
Be sure to lay on the table a conductive sheet (with impedance lower than 10^9 Ω) such as a sheet of copper, which is grounded.

3 As static electricity build-up on clothes is not drainded away, be careful not to let your clothes touch the KSS-100A.

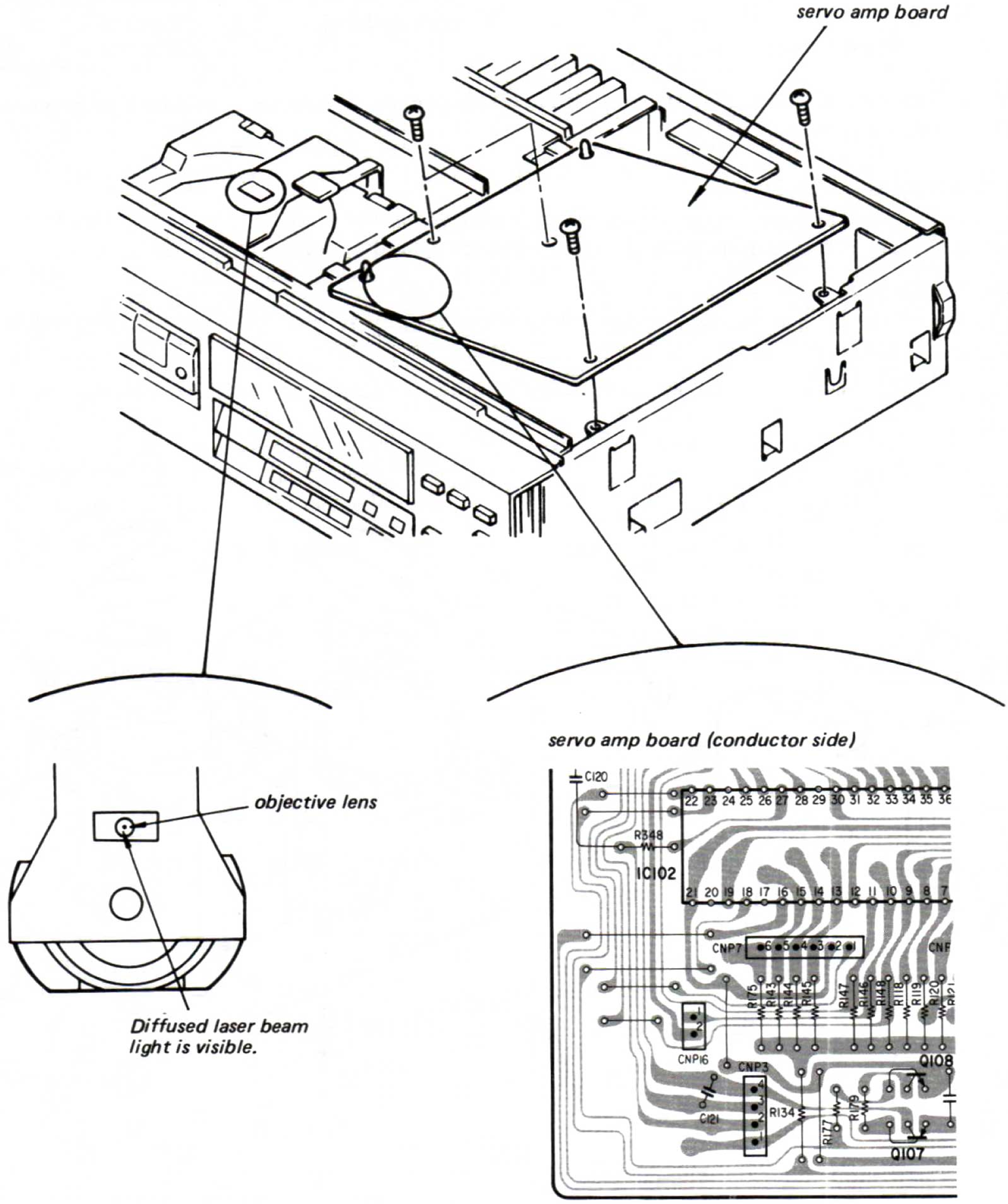


NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

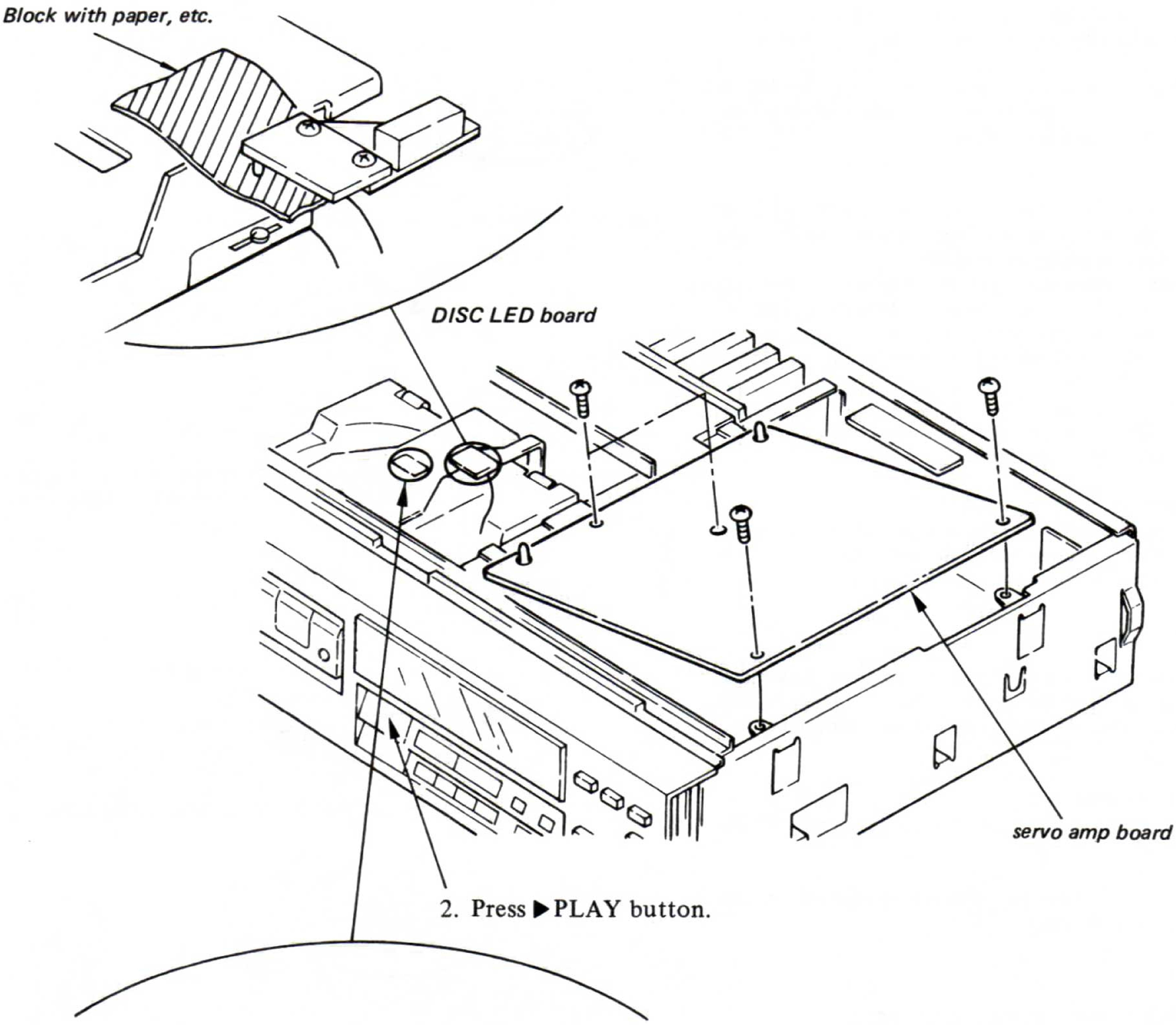
LASER DIODE CHECK

1. Ground servo amp board TP12 (IC102 pin 30 ($\overline{\text{LD ON}}$)).
2. Observe the objective lens and confirm that the laser diode is emitting light.



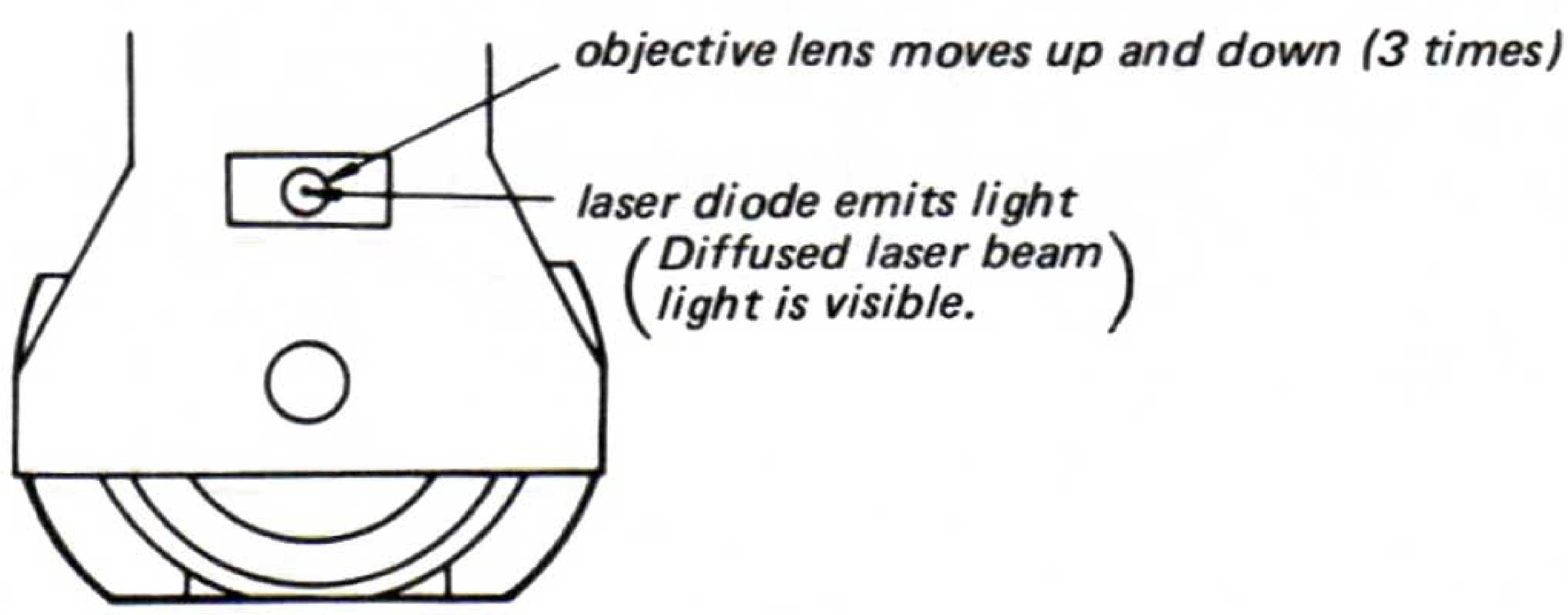
FOCUS SEARCH OPERATION CHECK

1. Block the disc detection phototransistor so that light does not hit it.



2. Press ▶PLAY button.

3. Observe the objective lens and confirm the operations below.



SECTION 1
OUTLINE

1-1. PRECAUTIONS

On safety

- Check that the operating voltage of your unit is identical with the voltage of your local power supply.
- Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by grasping the plug. Never pull the cord itself.

On installation

- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- Good air circulation is essential to prevent internal heat build-up in the unit. Place the unit in a location with adequate air circulation. Do not place the unit on a soft surface, such as a rug that would block the ventilation holes on the bottom.

On operation

When the unit is not used, turn the power off, to conserve energy and to extend the useful life of your unit.

On cleaning the cabinet

Clean the cabinet, panel and controls with a soft cloth lightly moistened with mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine.

On repacking

Do not throw away the carton and the packing material. They make an ideal container to transport the unit in. When shipping the unit for repair work or to another location, repack it as illustrated on the carton box.

For the customers in the USA

For detailed safety precautions, see the leaflet "IMPORTANT SAFEGUARDS".

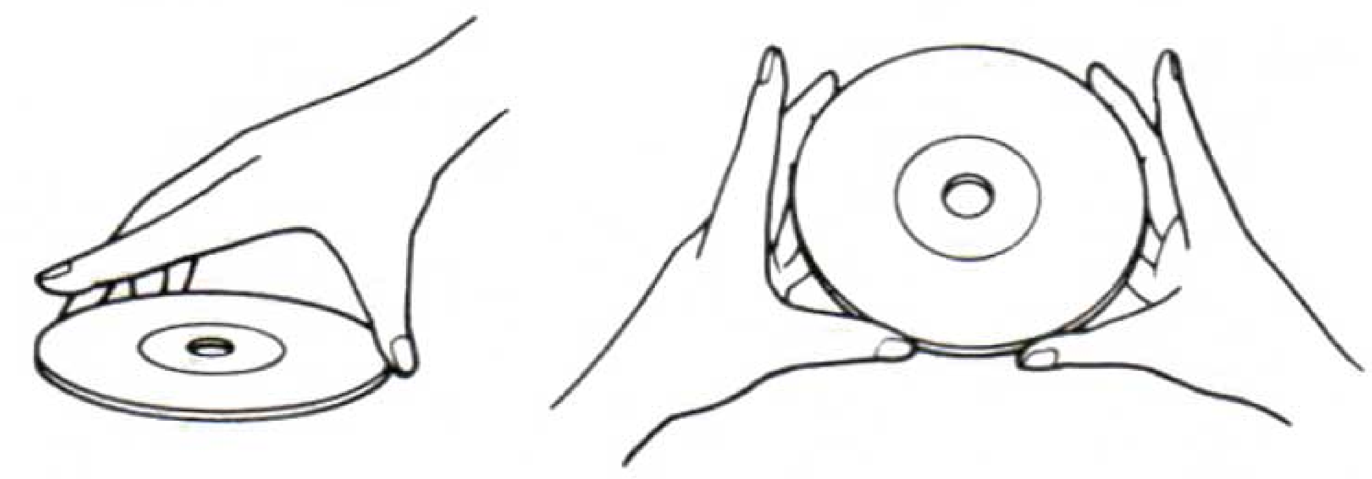
If you have any questions or problems concerning your unit, please contact your nearest Sony dealer.

NOTES ON MOISTURE CONDENSATION

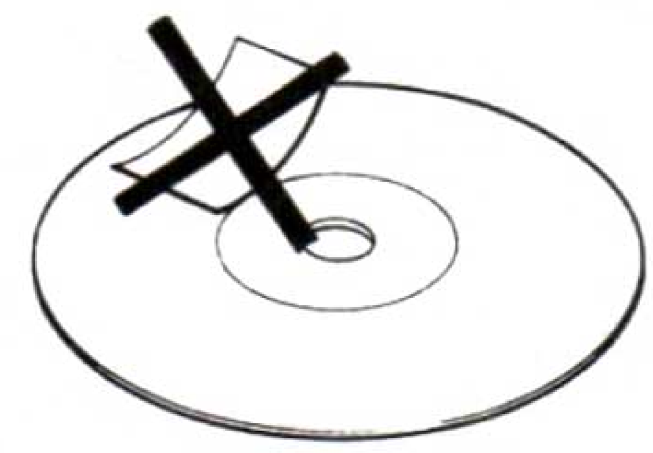
If the player is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense on the lenses inside the unit.
Should this occur, the player will not operate. In this case, remove the disc and leave the player turned on for about an hour to evaporate the moisture.

1-2. NOTES ON COMPACT DISCS

Handle the disc by its edge, and to keep the disc clean, do not touch the rainbow colored surface.



Do not stick paper or tape on the labeled surface.



not this way

Do not expose the disc to direct sunlight or heat sources such as hot air ducts, or leave it in a car parked in direct sunlight where there can be a considerable rise in the temperature.

not this way

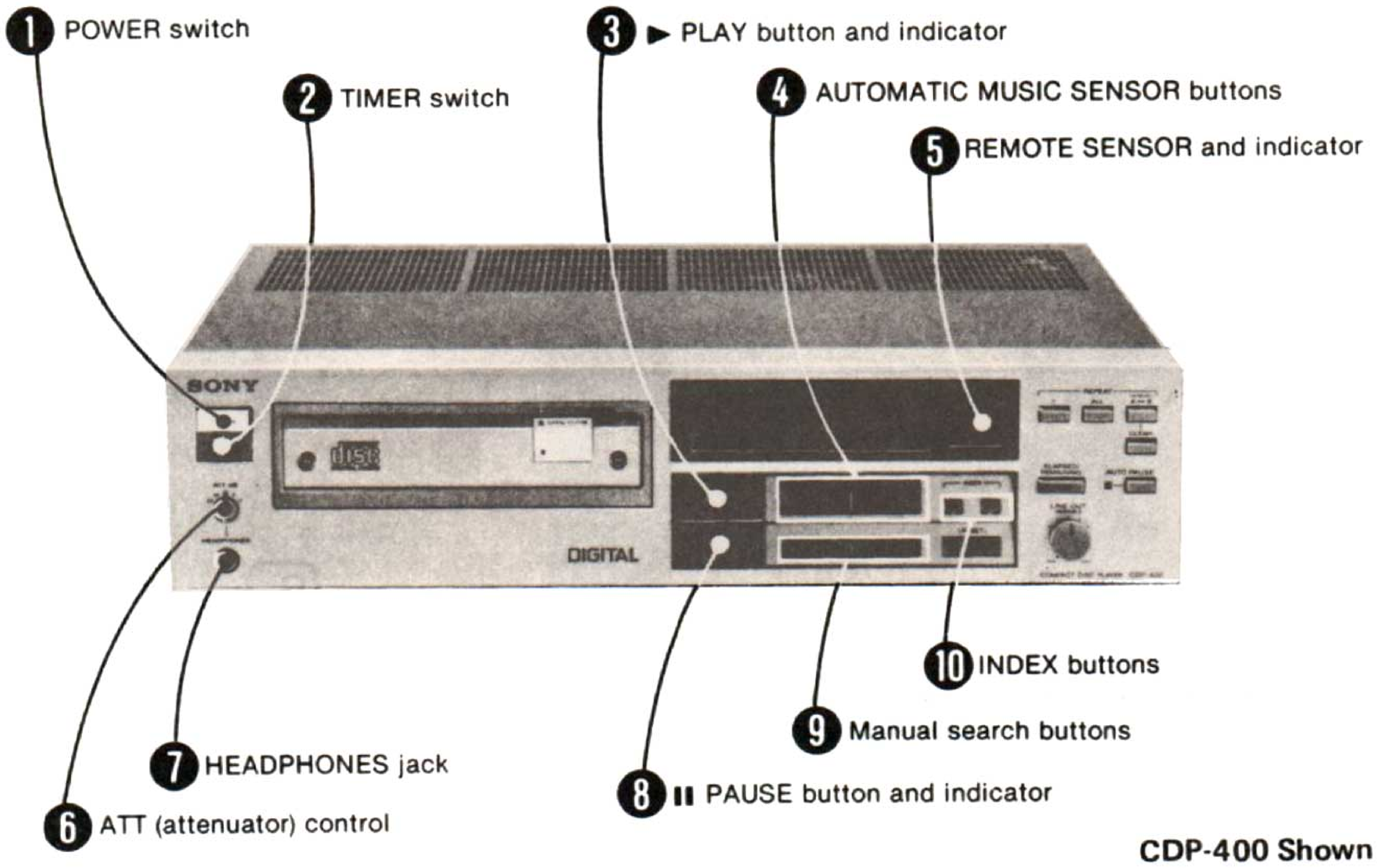
Before playing, clean the disc with the supplied cleaning cloth.

Do not use solvents such as benzine, thinner, commercially available cleaners or anti-static spray intended for analog discs.

After playing, store the disc in its case.

1-3. LOCATION AND FUNCTION OF CONTROLS

Before plugging in or attempting to operate this unit, it is suggested that you familiarize yourself with all its switches and controls and the purpose of each.
Each number in the photo is keyed to the descriptive text.



CDP-400 Shown

❶ POWER switch
Depress to turn on the power (▭ ON). To turn the power off, press the switch again (▭ OFF).

❷ TIMER switch
You can set the player to play a disc at a predetermined time by connecting any commercially available timer. To play, set this switch to PLAY. See "Timer-activated play" on page 19.

❸ ► PLAY button and indicator
Press to start normal disc play. The built-in ► indicator will illuminate.

❹ AUTOMATIC MUSIC SENSOR buttons
|◄◄ (back selection) button: Press to go back to a previous selection.
►►| (forward selection) button: Press to skip ahead to a later selection.

❺ REMOTE SENSOR and indicator (for remote control)
The infrared beam transmitted by the supplied remote commander is received here. The indicator blinks to indicate that a function key of the remote commander has been pressed.

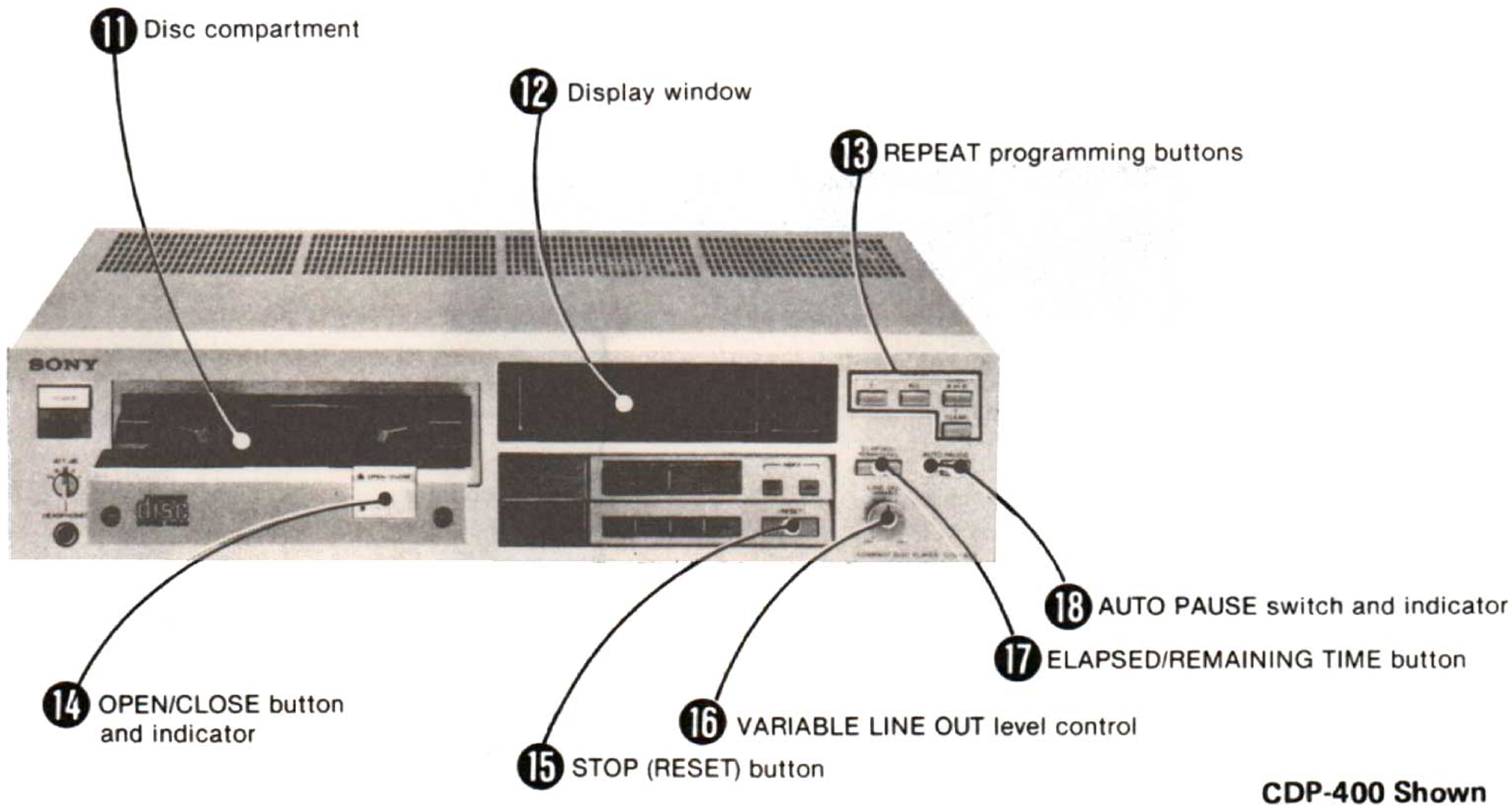
❻ ATT (attenuator) control
This control adjusts the volume at the headphones. At the minimum position, the sound is just audible.

❼ HEADPHONES jack (stereo phone jack)
Accepts any low or high impedance stereo headphones.

❽ ❚❚ PAUSE button and indicator
Press to pause during play. The built-in ❚❚ indicator will illuminate. To release the pause mode, press this button again. The indicator will go off and disc play will resume.

❾ Manual search buttons
Keep holding the appropriate button down to search for a particular point on the disc during either play or pause.
You can monitor the disc sound reproduced in forward or in reverse at a high speed while searching during play.
When you release this button, normal-speed play will resume (during play) or the player will return to the pause mode (during pause).
◄◄ button: To go backwards at a high speed (several times higher than the normal playing speed).
◄◄◄ button: To go backwards at a higher speed than the ◄◄ button.
►► button: To skip ahead at a high speed (several times higher than the normal playing speed).
►►► button: To skip ahead at a higher speed than the ►► button.

❿ INDEX buttons
Press one of these buttons to search for a particular index number so that playback can begin at that point.
Index numbers will be displayed in the display window.
When a button is pressed and immediately released, the index number will increase or decrease by one. When the button is kept depressed, the index number will change continually.
If a button is pressed during playback of a disc on which no index numbers have been recorded, playback will begin from the beginning of the current selection.



CDP-400 Shown

⑪ Disc compartment
Place a compact disc here.

⑫ Display window
See page 13.

⑬ REPEAT programming buttons
Press these buttons to program repeat play of the disc.

1 button : To repeat the selection now being played.
To release repeat play, press the button again.

ALL button : To repeat all the selections on the disc.
To release repeat play, press the button again.

MEMORY A↔B button : To repeat play between specific points on the disc.
With one touch of this button the indicator in the display window flickers and the point where the button has been pressed is memorized as the "A" (start) point of repeat play.
With another touch, the indicator illuminates steadily and the point where the button has been pressed a second time is memorized as the "B" (end) point of repeat play.
When the **CLEAR** button is pressed, this repeat play will be cancelled.

Any repeat program is also cancelled when another REPEAT programming button is pressed.

⑭ OPEN/CLOSE button and indicator
With one touch of this button the disc compartment opens for disc loading. The indicator on the OPEN/CLOSE button will illuminate while the compartment is opening. With another touch the compartment closes.

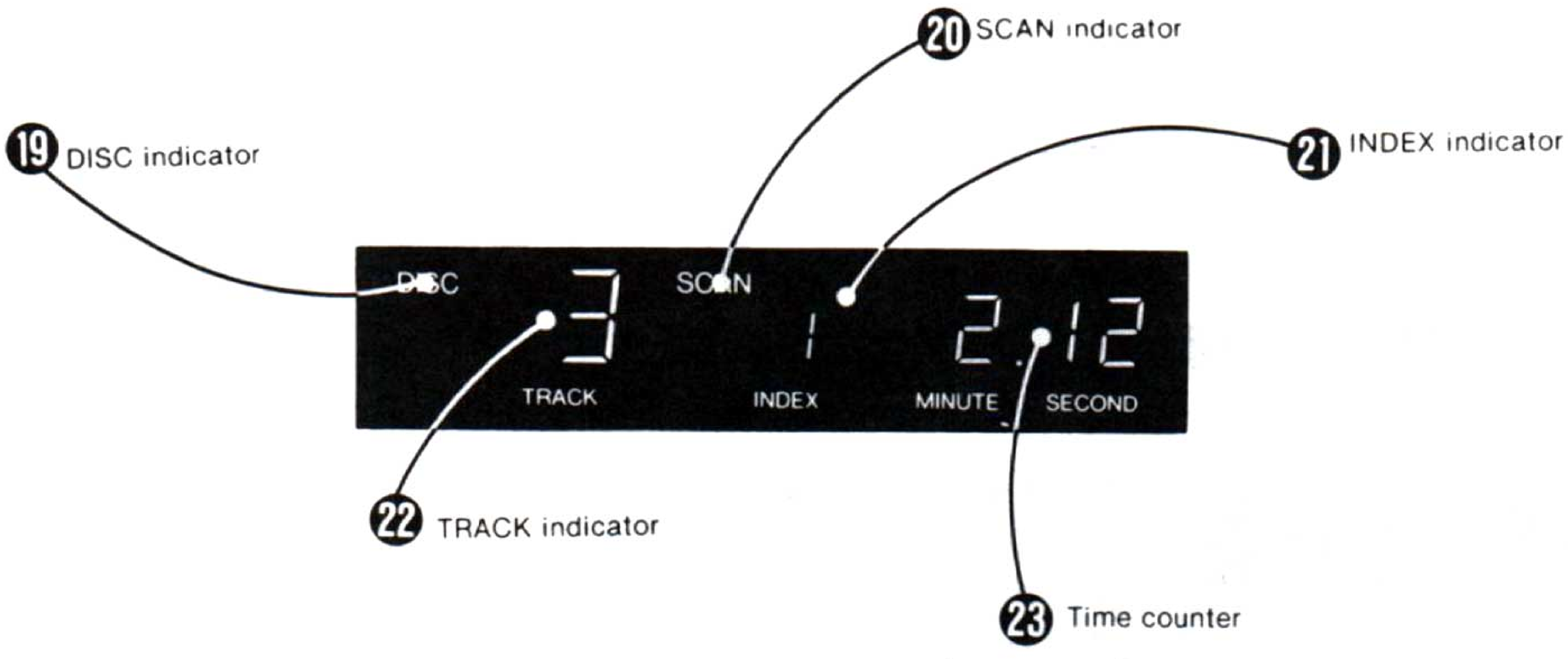
⑮ STOP (RESET) button
When this button is pressed, disc play is reset to the very beginning of the first selection and the player stands by.

⑯ VARIABLE LINE OUT level control
This control is used to adjust the level output at the VARIABLE LINE OUT jacks at the rear. When you turn the control to MIN, the output level decreases. When you turn it to MAX, the output level increases. When the LINE OUT key on the remote commander (supplied) is pressed, the level control turns automatically.

⑰ ELAPSED/REMAINING TIME button
The time counter normally indicates elapsed time.
When this button is pressed, the time counter will show the time remaining before the end of the last selection, preceded by a minus sign.
When this button is pressed a second time, the time counter will again becomes a normal time counter.

⑱ AUTO PAUSE switch and indicator
When this switch is depressed, the indicator at the left lights and the player automatically stops at the end of each selection. At this time, the ❚❚ indicator lights.
To resume playback, press the ❚❚ PAUSE button.

Display window



⑲ DISC indicator
The indicator flickers when the disc compartment is moving.
When the disc compartment has closed with a disc in place (in the standby mode), and during disc playing, the indicator illuminates steadily.

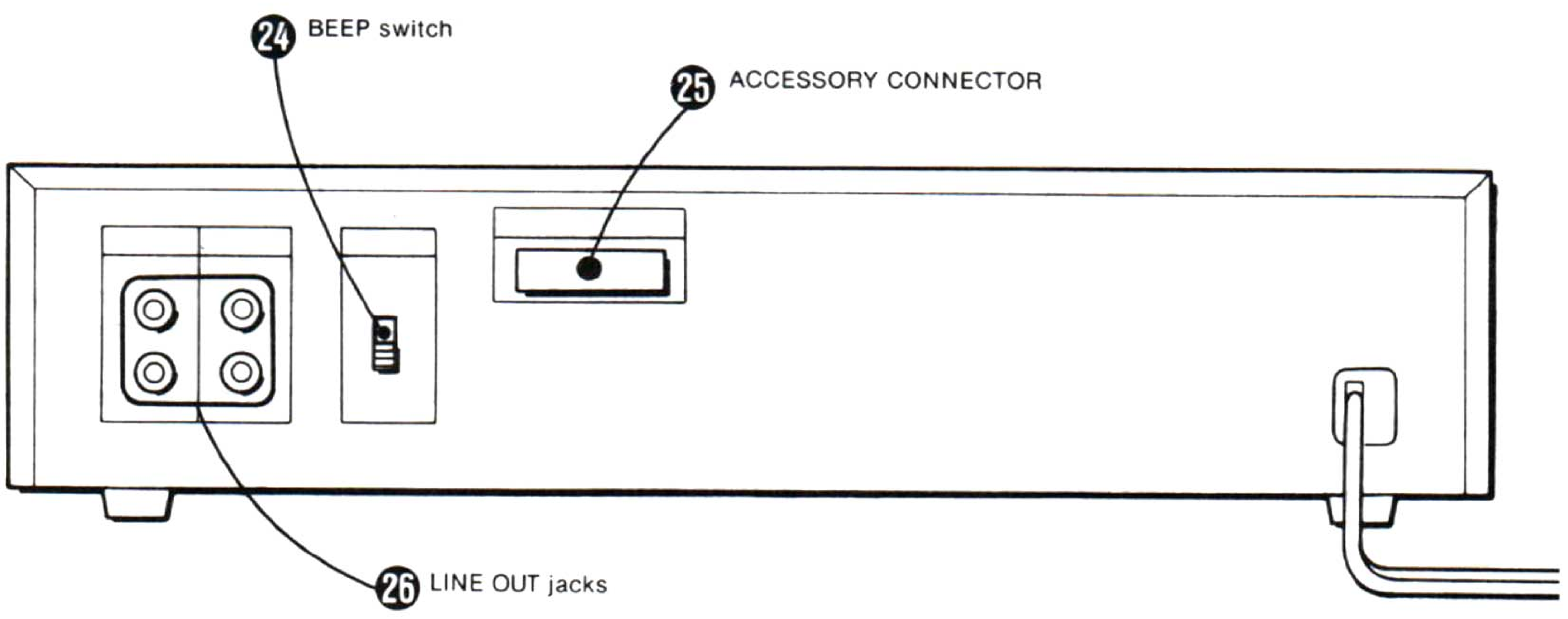
⑳ SCAN indicator
This indicator illuminates while the player is searching for the point on the disc you have programmed.

㉑ INDEX indicator
If index signals are recorded on the disc to allow significant parts of a program to be easily located, the index numbers are shown here.

㉒ TRACK indicator
This indicator shows the track number of the selection being played.

㉓ Time counter
This time counter shows the location in a particular selection by means of actual elapsed time. When the ELAPSED/REMAINING TIME button is pressed, the time counter shows how much playing time is left on the disc. The first two digits of the counter show playing time of the selection in minutes, and the last two digits show the seconds.

Rear panel



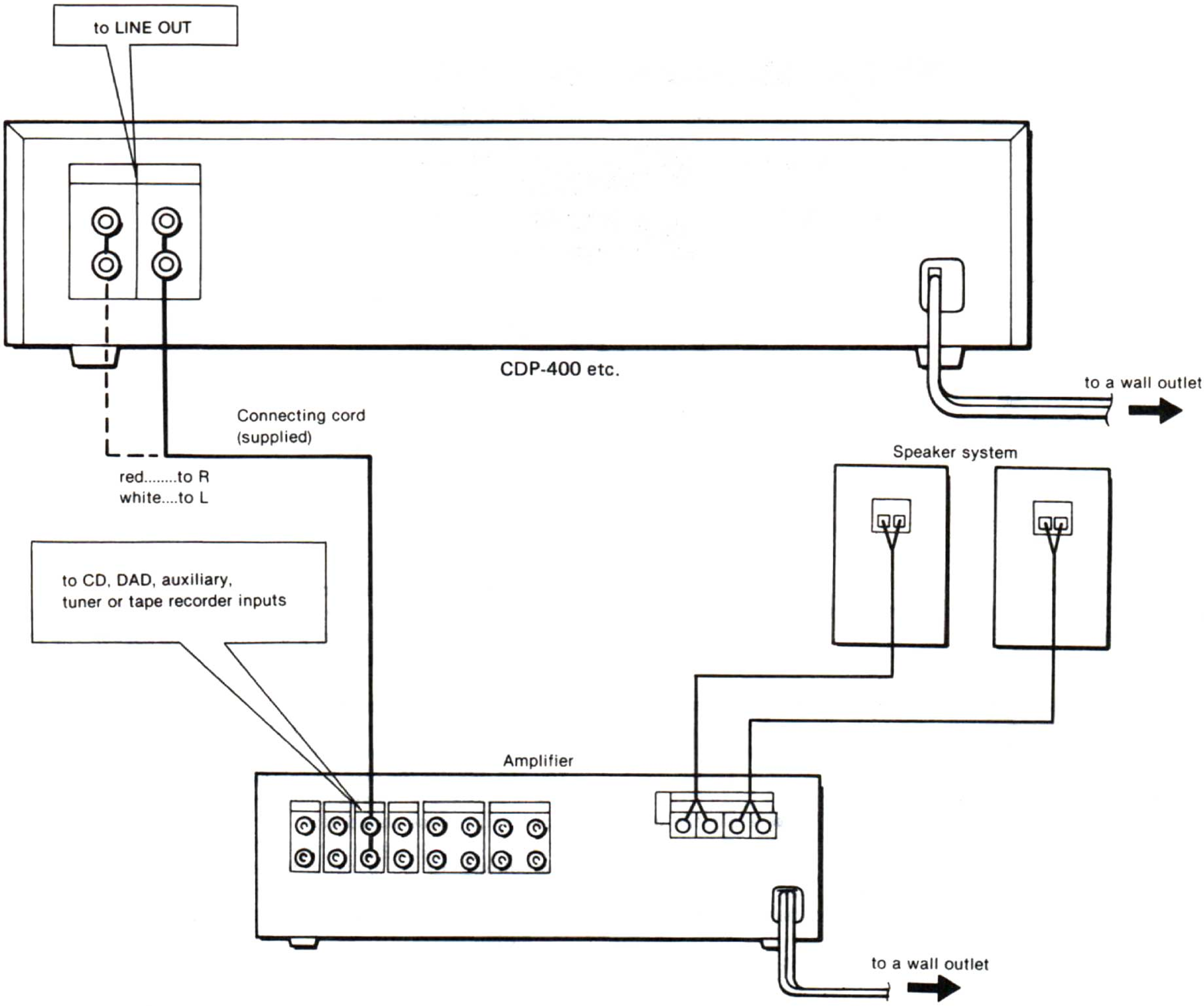
㉔ BEEP (buzzer) switch
Set to ON to have a signal tone sounded when a signal from the supplied remote commander is received. Set the switch to OFF when a signal tone is not necessary.

㉕ ACCESSORY CONNECTOR
Used to extend the utility of this compact disc player by providing for the connection of optional equipment which will be available in the future.
Do not remove the cover except when connecting any equipment to this connector.

㉖ LINE OUT jacks
This unit is equipped with two pairs of LINE OUT jacks—FIXED and VARIABLE. A constant signal level is output at the FIXED LINE OUT jacks. When the VARIABLE LINE OUT jacks are connected to the amplifier, the playback level of the player can be adjusted with the VARIABLE LINE OUT level control on the front panel to the same level of the connected turntable system, tuner, etc.
With the supplied remote commander, the playback level can be adjusted without touching the volume control of the amplifier.

1-4. CONNECTIONS

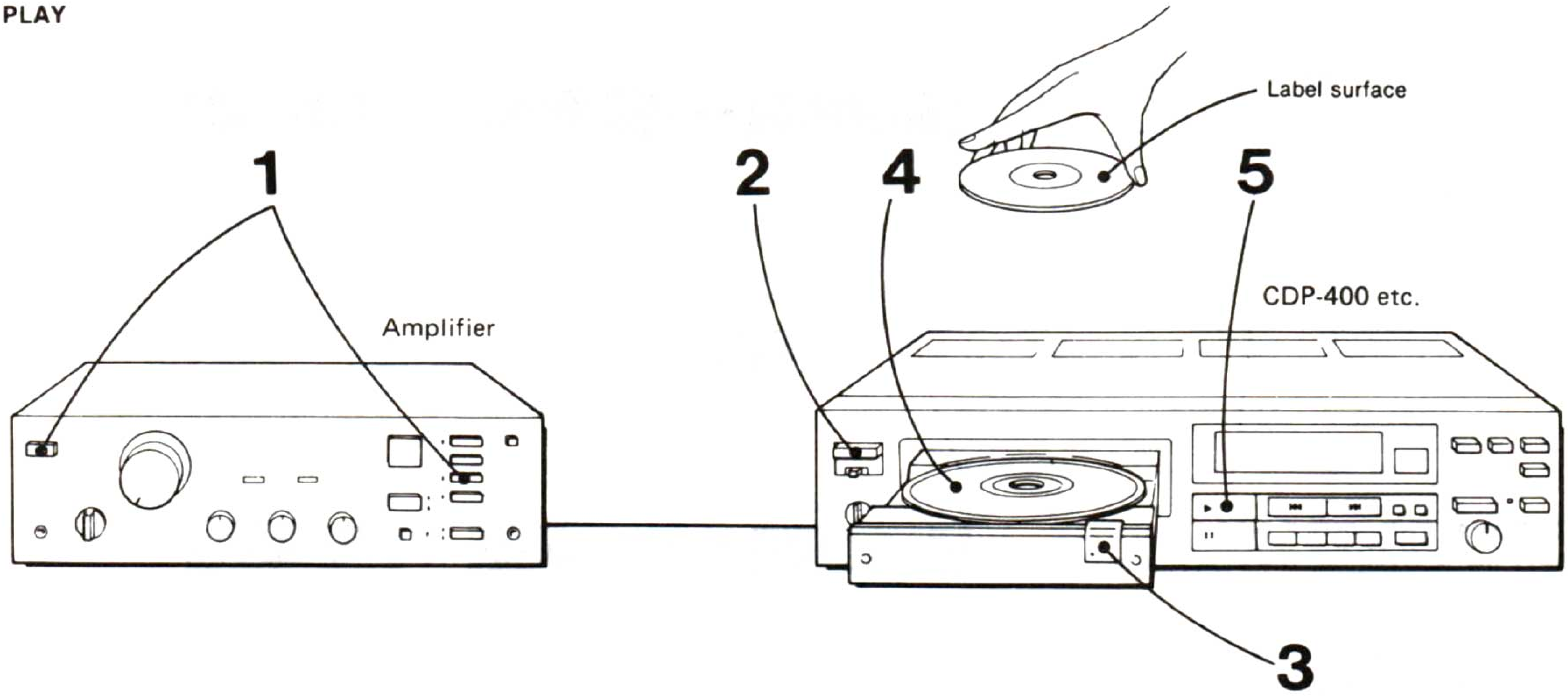
- Turn off the amplifier before making connections.
- Be sure to insert the cable connectors firmly into the jacks. Loose connections may cause hum and noise.
- Connect the red plug of the supplied connecting cord to the right-channel jack [R] of the amplifier and the white plug to the left-channel jack [L]. Otherwise, the right and left channels will be reversed.
- Leave a little slack in the connecting cord to allow for inadvertent shock or vibration.
- Be sure not to connect the CD player to the PHONO input jacks of the amplifier.
- If the CD player causes interference to radio and television reception, turn off the player or move the player away from the receiver.



Power cord
A white mark is visible on one lead of the power cord. This will help you drive the CD player and other components in the system "in phase" by aligning the ac power cord polarities with ac outlet polarities. In most cases, the marked plug of the CD player's power cord should be inserted into the negative potential of the ac outlet.

1-5. OPERATIONS
DISC PLAYING

TO PLAY



1 Turn the amplifier on and set the input selector to the CD player position.
2 Depress the POWER switch (⊏⊐ ON).
3 Press the OPEN/CLOSE button. The DISC indicator flickers and the disc compartment opens.
4 Put the disc in place **with the label surface up.**
5 Press the ▶ PLAY button. The compartment closes and play begins from the beginning of the disc.

If you press the ▶▶| button to select the desired selection with the compartment open, then press the ▶ PLAY button, the compartment will close and play will begin from that selection.

If you press the ❚❚ PAUSE button when the compartment is open, the compartment will close and the disc will pause at the beginning of the first selection.

When the player reaches the end of the last selection of the disc, it is automatically reset to the beginning of the disc and stands by. To open the compartment, press the OPEN/CLOSE button.

An important point to remember
In the CD system, a wider dynamic range is achieved than that of the conventional analog system, and the peaks of high level inputs are recorded with high-fidelity. In addition, the noise level is very low.
If you turn up the volume inadvertently while listening to a portion where no audio signals or very low level inputs are recorded, the speakers may be damaged when the portion with peak levels is played.

TO STOP DURING PLAY

To open the compartment
Press the OPEN/CLOSE button. The disc will stop rotating and the compartment will open.

To pause for a moment during play
Press the ❚❚ PAUSE button. The ❚❚ indicator will illuminate.
To release pause and restart play from the same point, press the ❚❚ PAUSE button again.

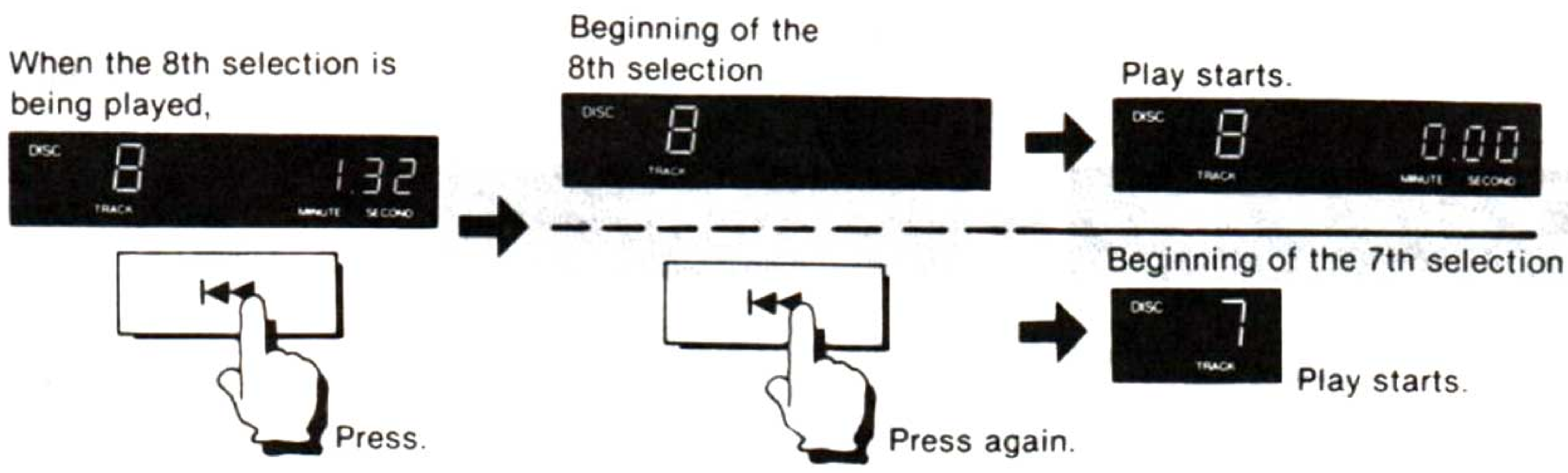
To reset to the beginning of the first selection
Press the STOP (RESET) button. The player will stand by.

To stop at the end of each selection —Auto pause
When the AUTO PAUSE switch is depressed, the indicator at the left lights. When the indicator lights, the player automatically enters pause mode at the end of each selection and the ❚❚ indicator lights. To resume playback, press the ❚❚ PAUSE button. Playback starts from the beginning of the following selection. To release the auto pause mode, press the AUTO PAUSE switch again.

SEARCH OPERATION

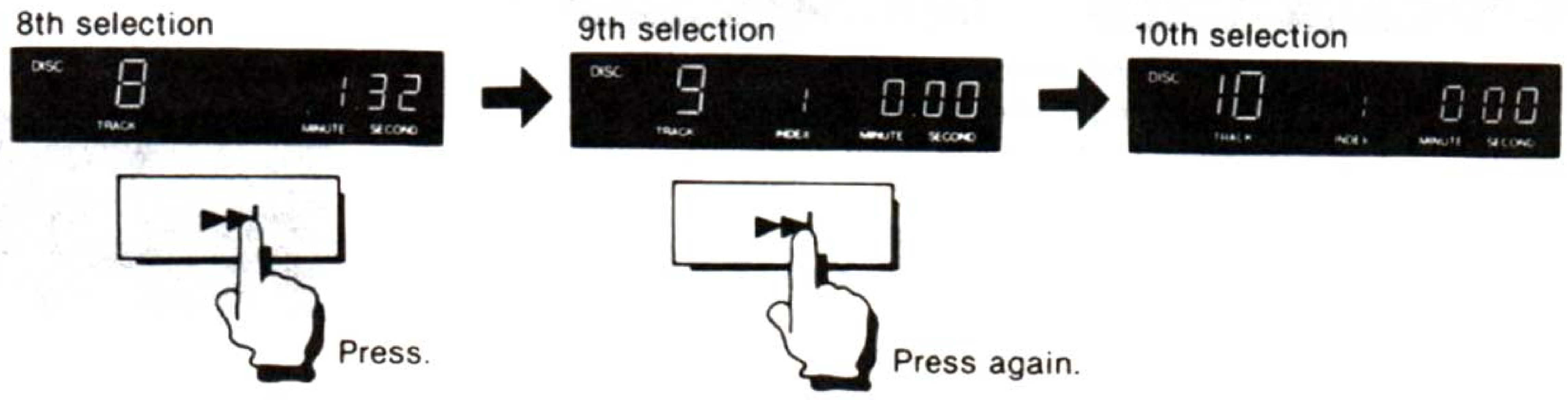
TO SEARCH FOR A PARTICULAR SELECTION—AMS (Automatic Music Sensor) function
Using the ⏮ or ⏭ button, you can quickly locate a desired selection ahead or back. When the button is pressed, the player searches the selection data recorded at the beginning of each selection and play will start from the beginning of the selection.

To search for a back selection
Press the ⏮ button during play or pause.
When the ⏮ button is pressed once, the beginning of the selection being played is searched for.
Each time the button is pressed, one selection back is searched for.



Keep the ⏮ button pressed until the desired music number is displayed.
If you press the ⏮ button after the first selection is located, the TRACK indicator will not change.

To search for a selection ahead
Press the ⏭ button during play or pause.
When the ⏭ button is pressed once, the next selection after that being played is searched for.
Each time the button is pressed, the selection ahead is searched for.

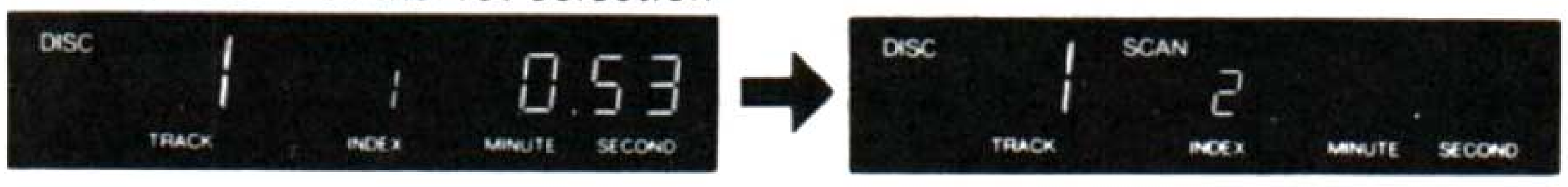


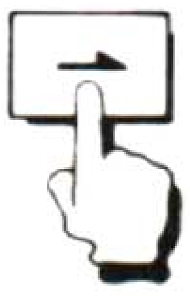
Keep the ⏭ button pressed until the desired music number is displayed.
If you press the ⏭ button after the last selection is located, the TRACK indicator will not change.

TO START PLAYBACK FROM A PARTICULAR SECTION
—Index search

On some discs, the index numbers divide the selections into sections, such as chapters in a book or movements in a symphony. To start playback from a particualar section, you can press the INDEX buttons any time you want, even during playback or in the pause mode, etc.
The selected index number is displayed in the INDEX indicator.

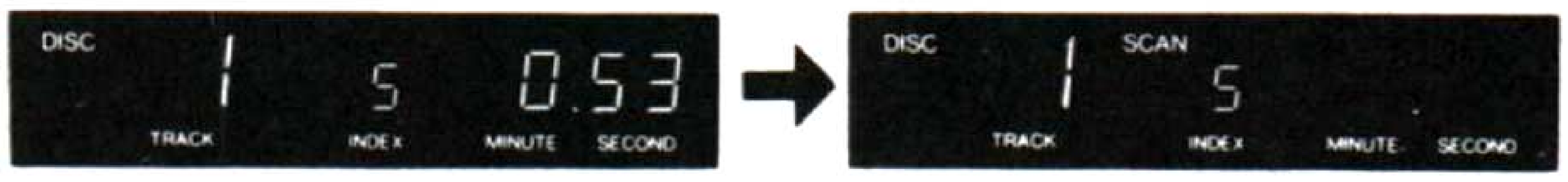
Index number 1 of the 1st selection

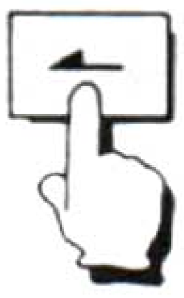




When pressed once, the index number increases by one. When continually pressed, the index number will keep increasing.

After 99, the indication returns to 1.





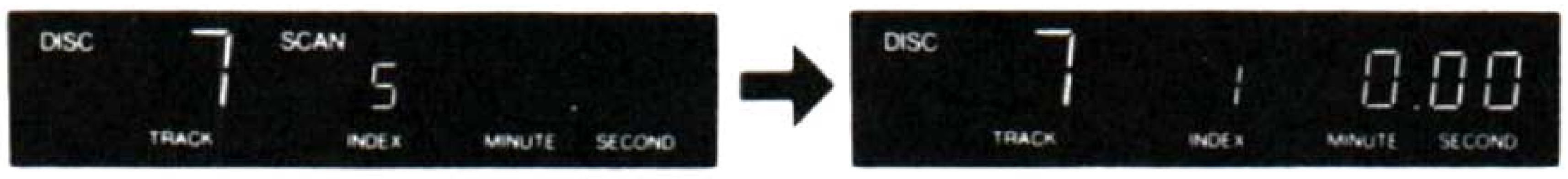
When pressed once, playback begins again at the beginning of the current index number.
When continually pressed, the index number will keep decreasing.
When the INDEX indicator displays 1, the index number does not change even when the button is pressed.

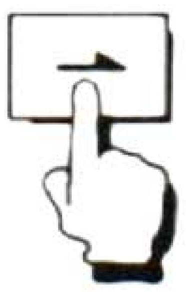
If playback does not start from the specified point

● Are you playing back a disc with no index numbers?
In this case, playback starts from the beginning of the current selection.

● You have selected an index number which is not recorded on the disc.
In this case, playback starts from the section with the highest index number.

● You have selected the wrong index number.
Find the correct index number, referring to the notes accompanying the compact disc.

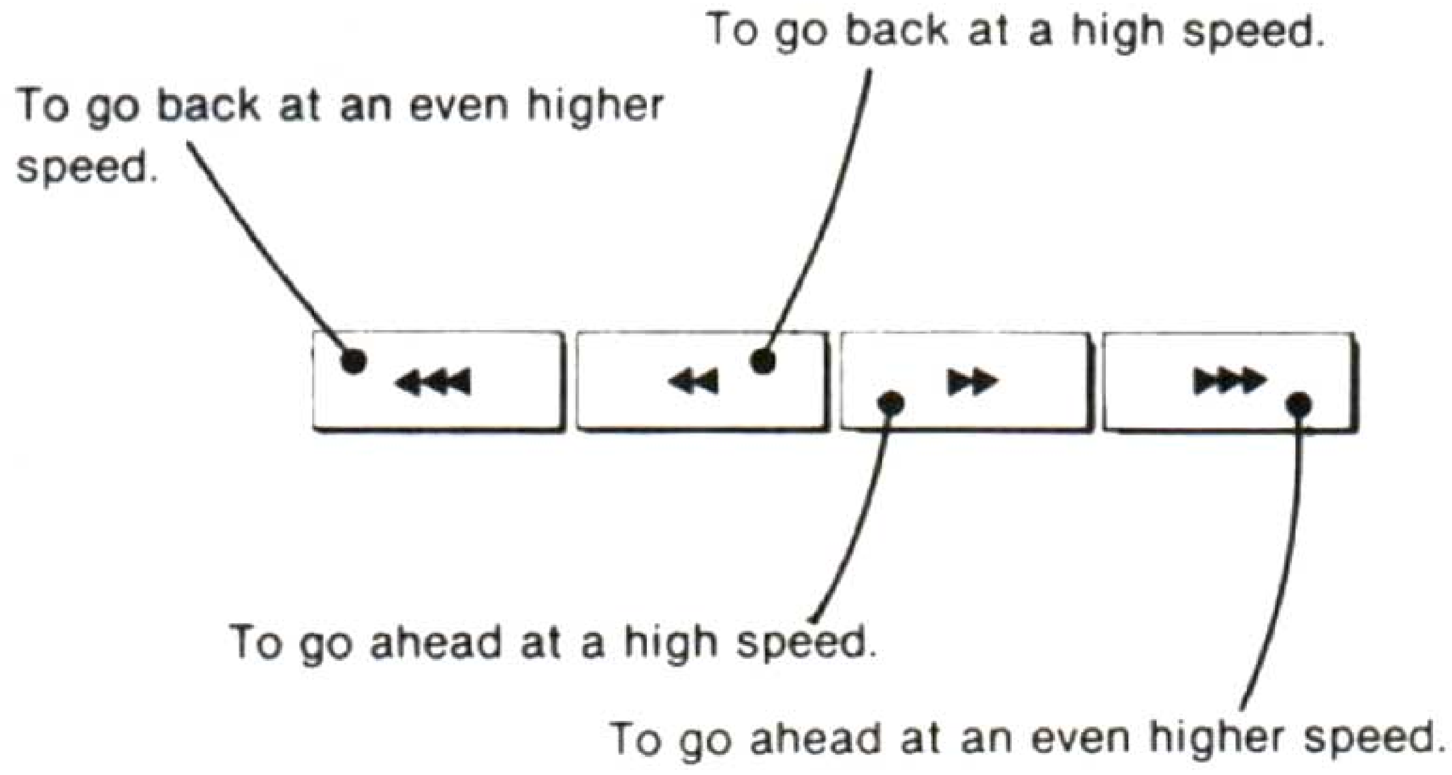




TO SEARCH FOR A PARTICULAR POINT IN A SELECTION
—Manual search

Using the manual search buttons, you can locate a particular point of a selection during play or pause. While one of the manual search buttons is pressed, the disc playing goes ahead or back. Release the button at the desired point found by observing the time counter or monitoring the high-speed sound (only during play).

Manual search buttons



What are these indications?

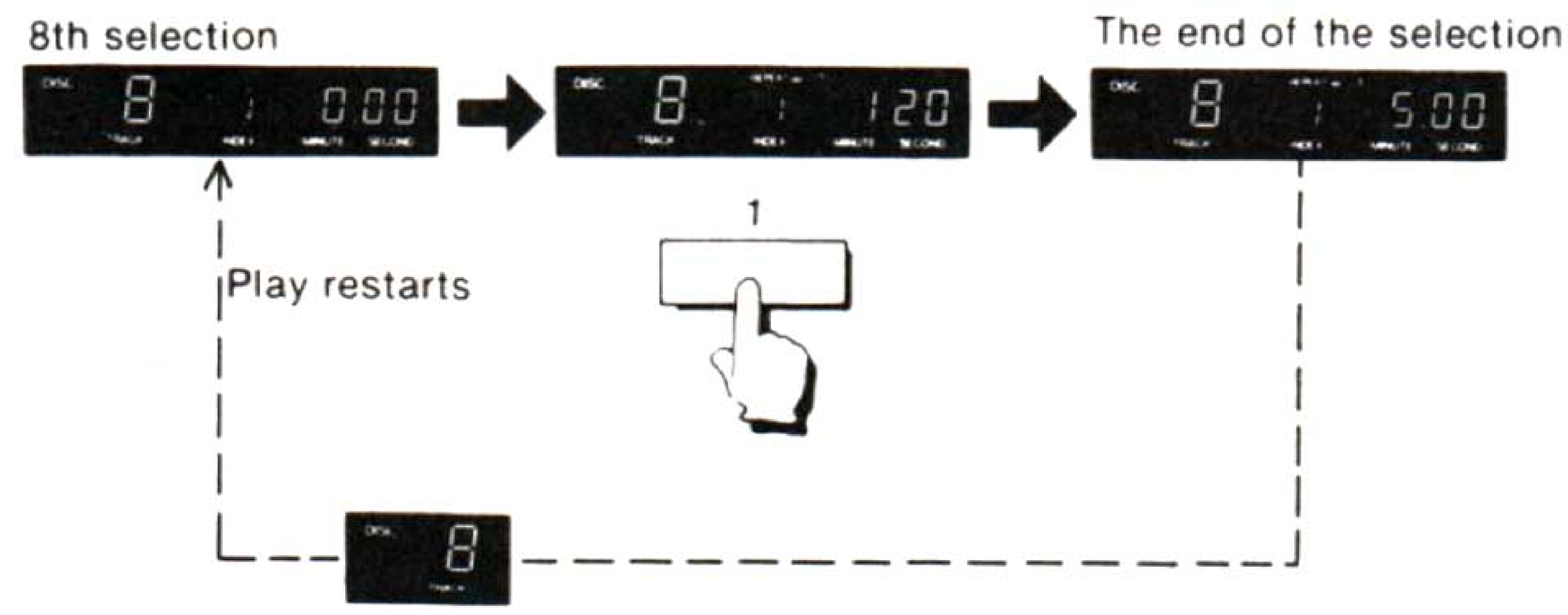
This indication is displayed when you have passed the end of the disc by keeping the ▶▶▶ button or ▶▶ button pressed. The indication returns to normal display when the |◀◀ button, ◀◀◀ button or ◀◀ button is pressed.

This indication is displayed when you have passed the beginning of the disc by keeping the ◀◀◀ button or ◀◀ button pressed. When the player is in the play mode, the indication automatically returns to the normal display. In the pause mode, press the ▶▶| button, ▶▶▶ button or ▶▶ button.

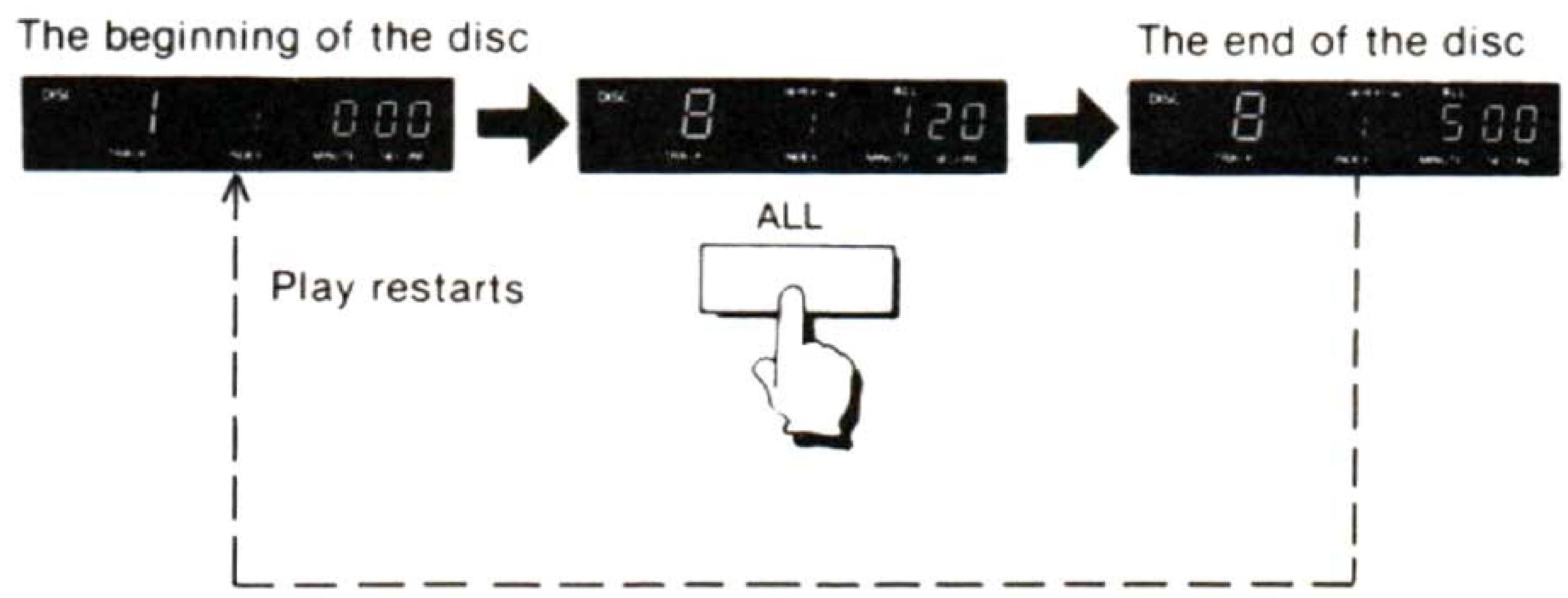
REPEAT PLAY

Using the REPEAT programming buttons, you can repeat the selection being played, the whole disc, or particular portion of the disc.

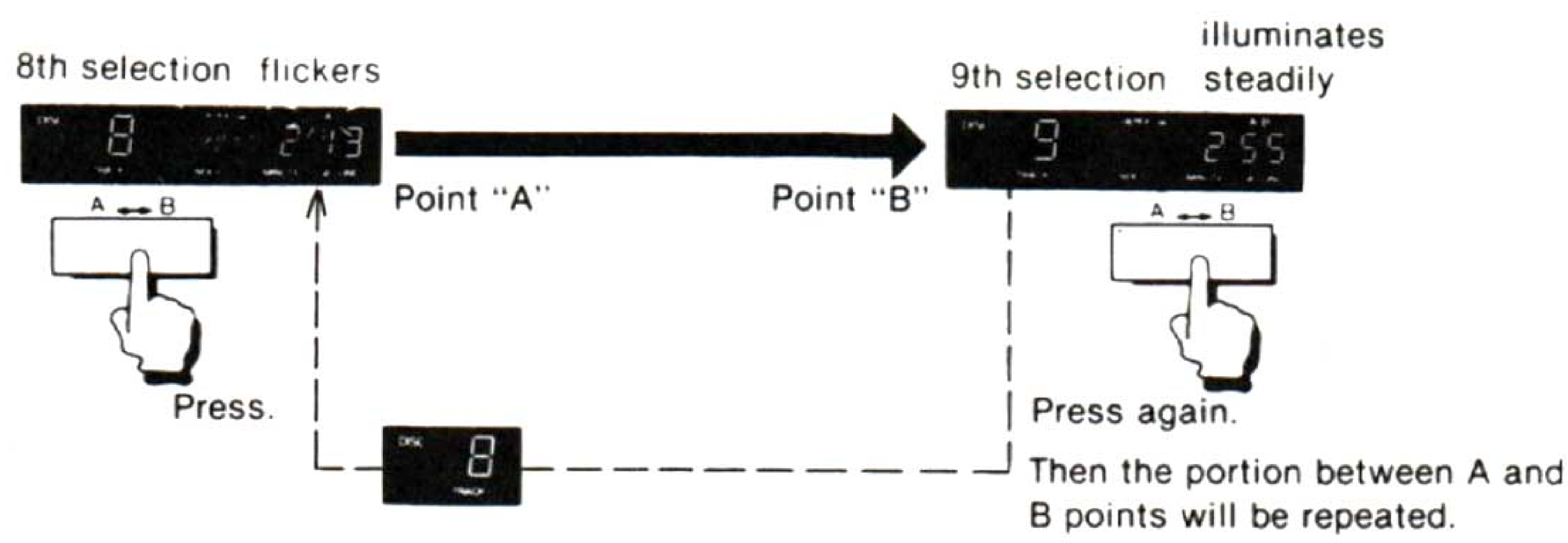
TO REPEAT ONLY THE SELECTION BEING PLAYED
Press the **1** button during play. The indicator in the display window will illuminate. When the disc reaches the end of the selection, it will automatically go back to the beginning of the selection and play will restart.



TO REPEAT THE WHOLE DISC
Press the **ALL** button. The indicator in the display window will illuminate.
When the disc reaches the end of the last selection, the player will automatically go back to the beginning of the first selection, and play will restart.



TO REPEAT BETWEEN PARTICULAR POINTS
1. When the disc plays the point from which you wish to start the repeat play (point A), press the **A ↔ B** button. The indicator in the display window will start flickering showing the point A is memorized.
2. When the disc reaches the point at which you wish to stop the repeat play (point B), press the **A ↔ B** button again. The indicator will then illuminate steadily showing the point B is memorized.
   The disc will go back to the point A and play will restart.



If the ▶ PLAY button is pressed during the A ↔ B repeat play, the disc will go back to the point A.

MORE ABOUT A ↔ B REPEAT FUNCTION

To play from a desired point (memory play)
1. At the point from which you wish to listen later (point A), press the A ↔ B button.
2. When you press the ▶ PLAY button, the disc will go back to the point A and play will restart.

To cancel the point A, press the CLEAR button.

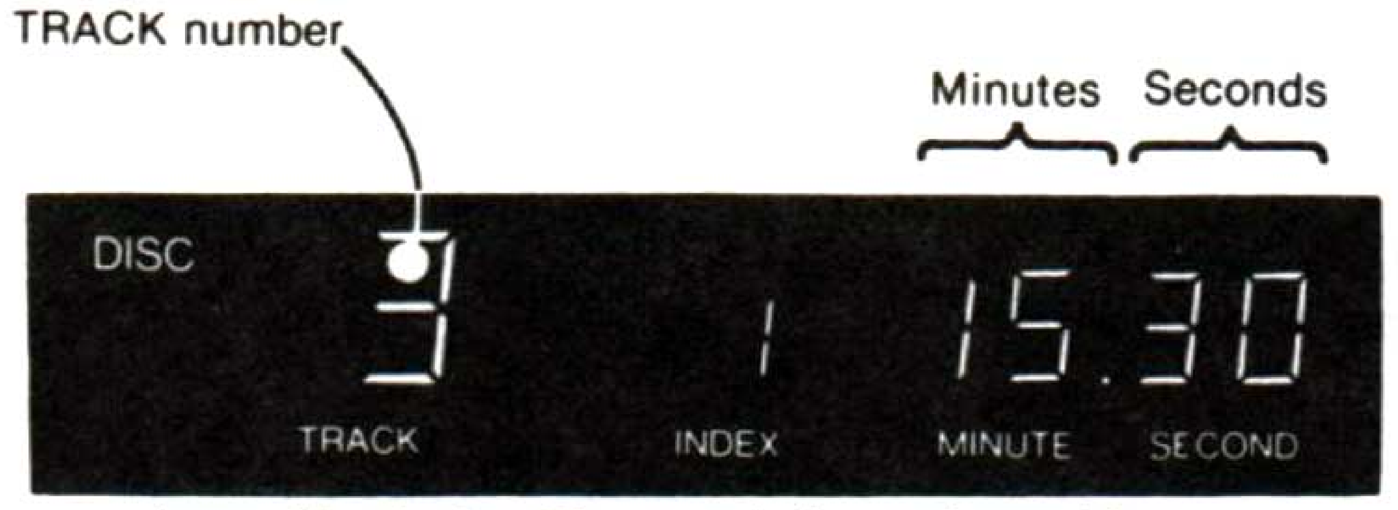
To repeat the whole disc eliminating an unwanted portion (jump repeat)
1. At the point where you wish to end the portion to be eliminated (point A), press the A ↔ B button.
2. Press the ⏮, ◀◀ or ◀◀◀ button to search for the point from which you wish to start eliminating (point B), and then press the A ↔ B button. The repeat play eliminating the B — A portion will start.

To cancel, press the CLEAR button.

TO CANCEL THE REPEAT PLAY
The **1** or **ALL** repeat play continues until the button is pressed again.
To cancel the **A ↔ B** repeat play, press the CLEAR button.
Any repeat program is also cancelled when another REPEAT programming button or the STOP (RESET) button is pressed.

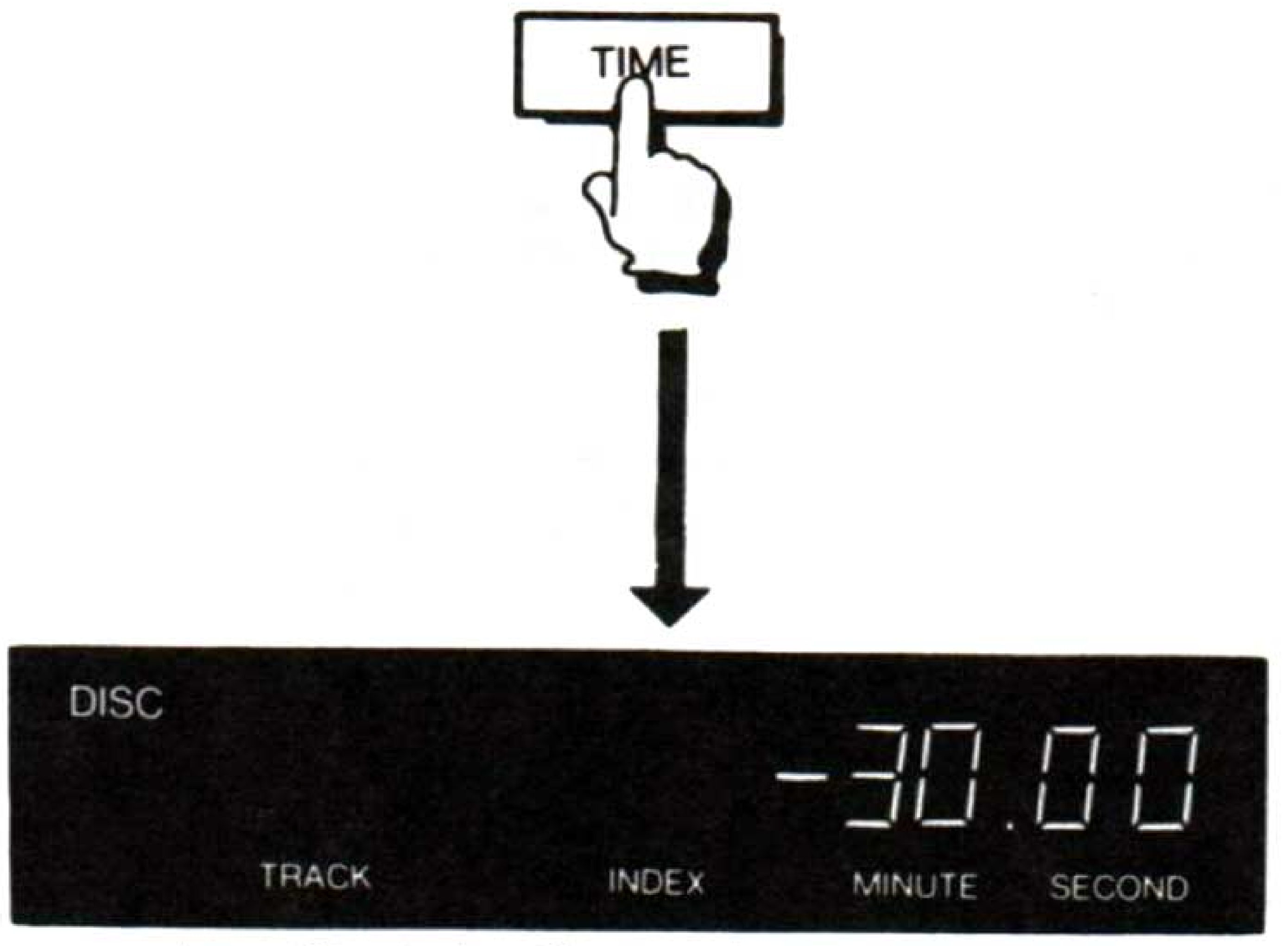
USING THE TIME COUNTER

TO MONITOR THE ELAPSED PLAYING TIME
Generally, the time counter shows the elapsed playing time from the beginning of the selection in minutes and seconds.
When a new selection starts, the counter is reset to "0.00" and then starts counting time again.
If the selection has a blank space at its beginning, the counter is reset to the time preceded by the minus sign such as "−0.02", "−0.01", etc.



shows 15 minutes 30 seconds have elapsed from the beginning of the third selection

TO MONITOR THE REMAINING PLAYING TIME
When the ELAPSED/REMAINING TIME button is pressed, the counter shows the remaining time, preceded by a minus sign, before the end of the last selection.



shows 30 minutes 00 seconds remaining before the end of the disc

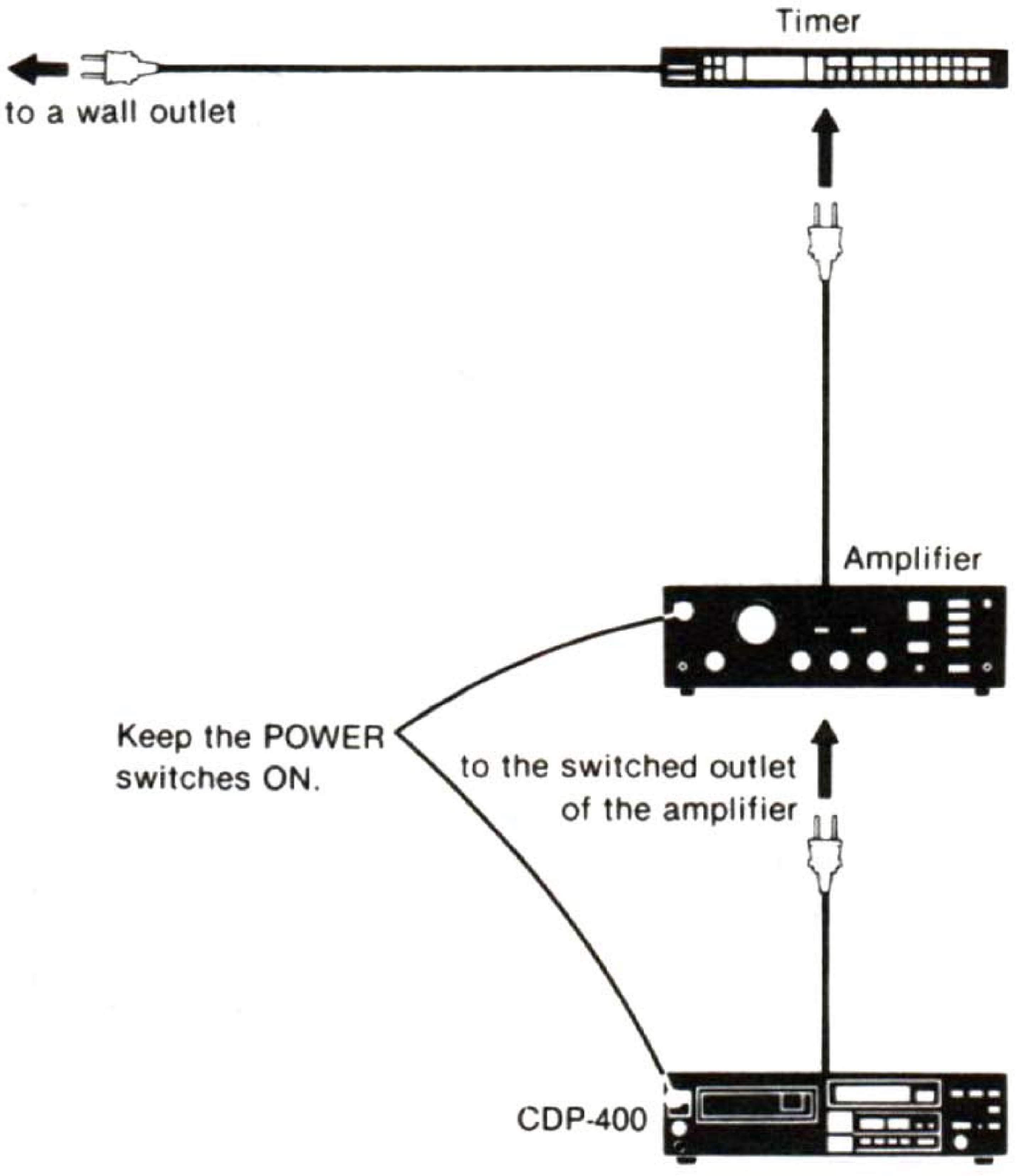
The digits will change, for example, from −30.00 to −29.59, −29.58... as the play goes on, and you can monitor the remaining playing time at any point of the disc.

To return the counter to the elapsed time, press the ELAPSED/REMAINING TIME button again.

TIMER-ACTIVATED PLAY

By connecting any of several commercially-available timers, you can play a disc at any desired time.

Example of power connection



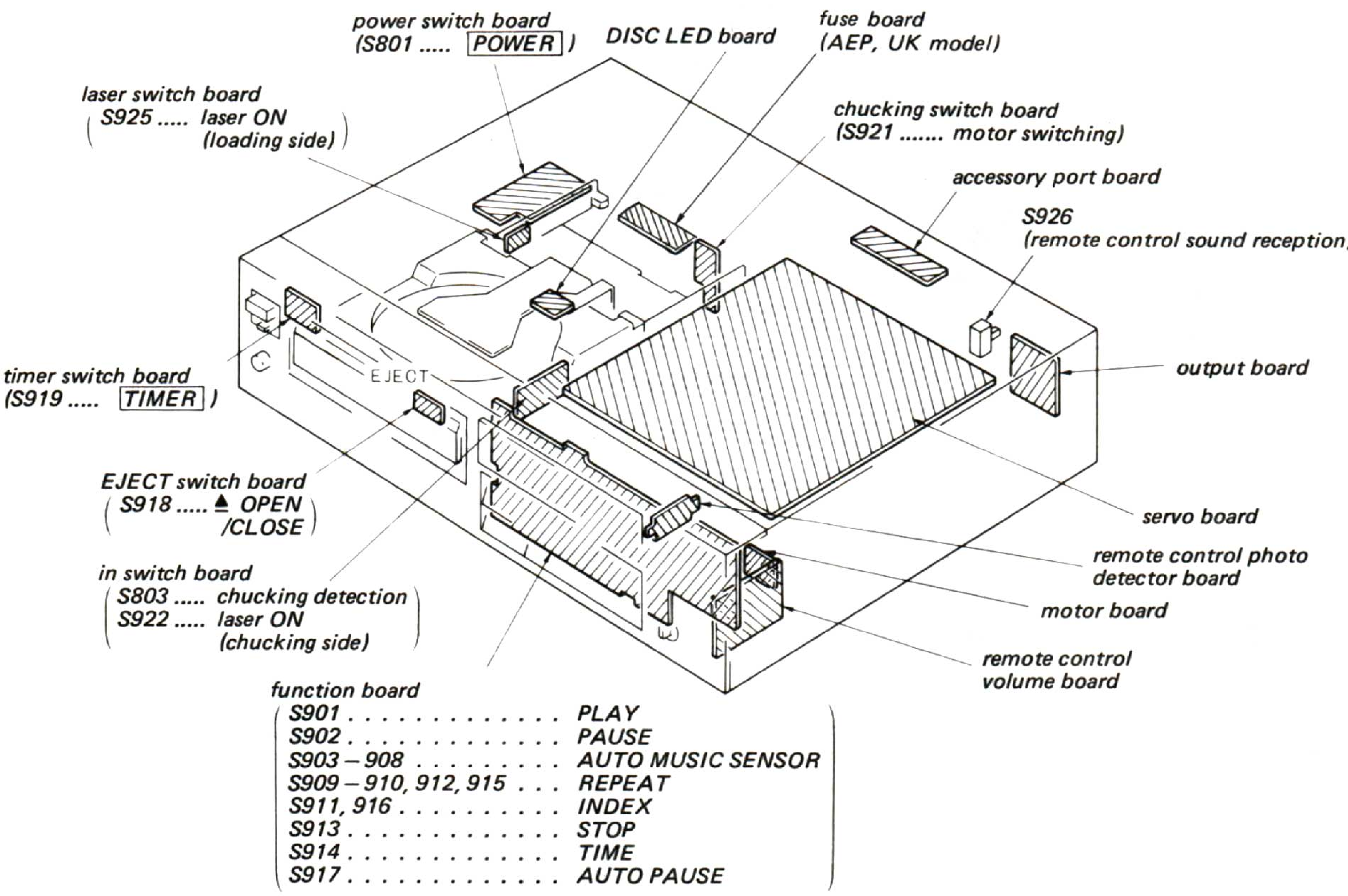
To play using a timer
1 Set the player's TIMER switch to OFF.
2 Turn on the amplifier and set the appropriate switches for disc playing.
3 Turn on the player and insert a disc.
4 Set the timer for the desired time.
(At this point, power will be cut off.)
5 Set the player's TIMER switch to PLAY.
The player is now ready to start play of the first selection at the time set on the timer.

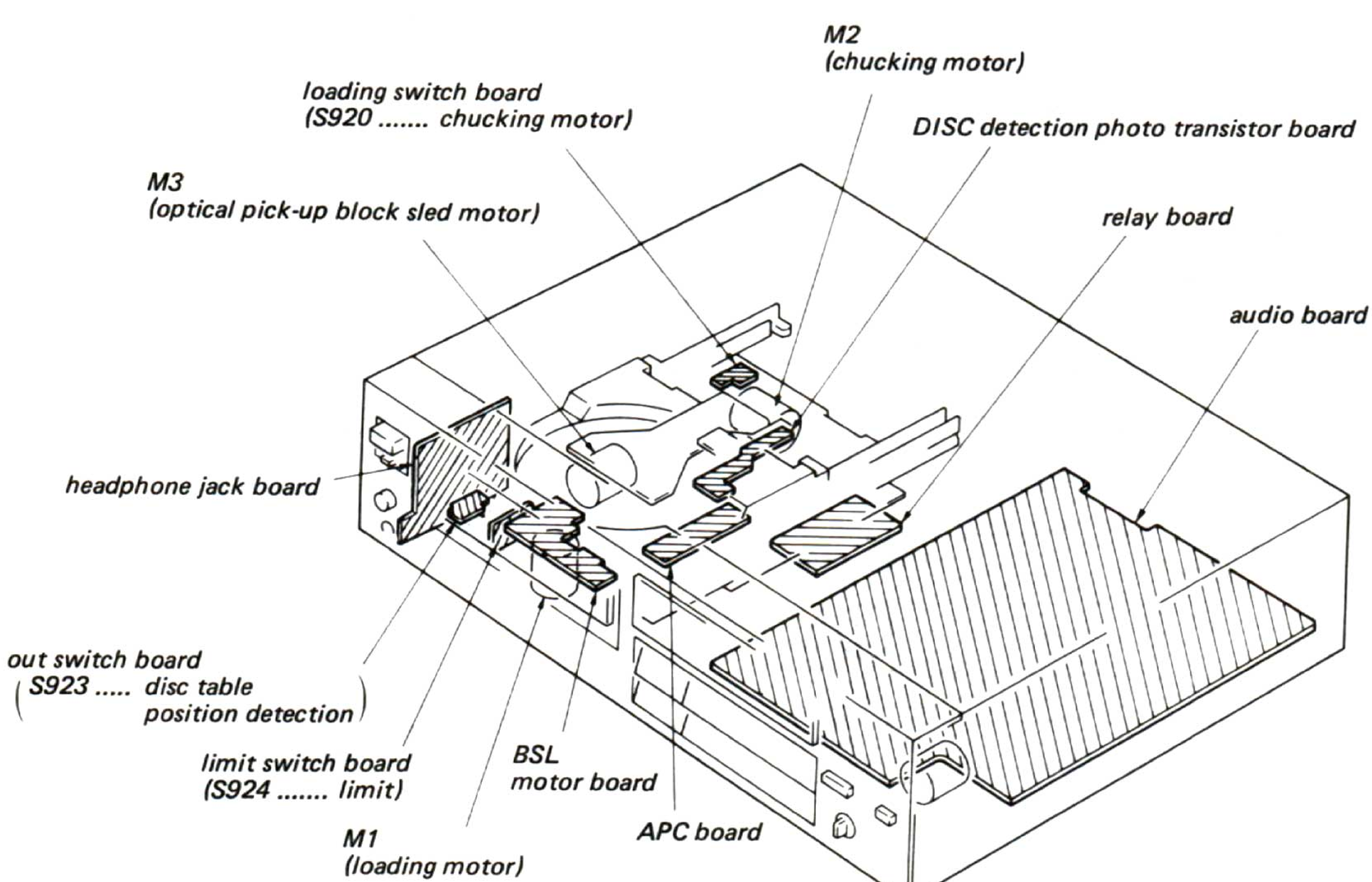
After the timer-activated play has been completed...
Be sure to set the TIMER switch of the player to OFF.

1-6. BLOCK DIAGRAM

SECTION 2
DISASSEMBLY

Layout of Printed Circuit Boards/Switches/Motors

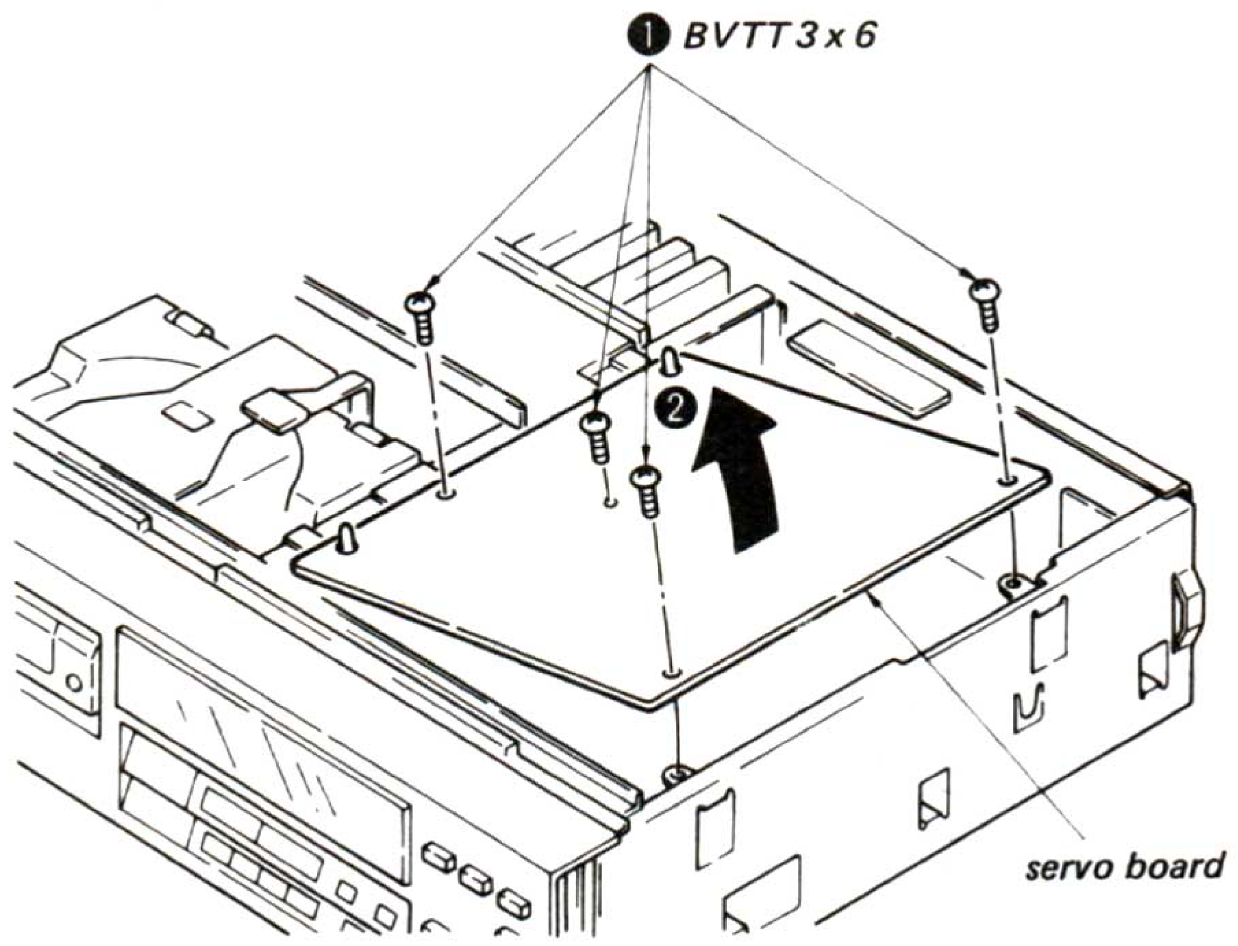




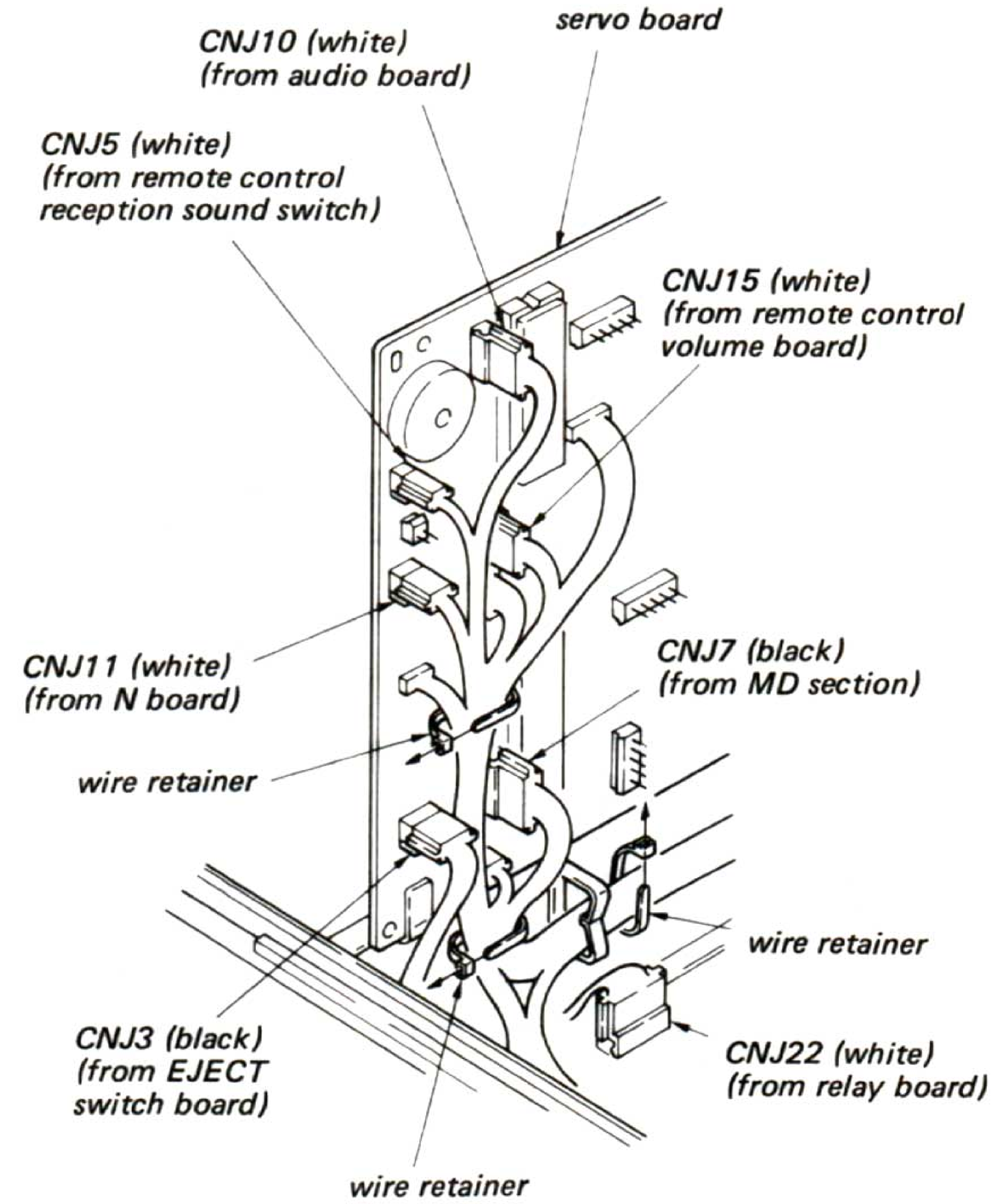
Note: Follow the disassembly procedure in the numerical order given.

Remove the case.
(4 case retaining screws with claw) → Ⓐ

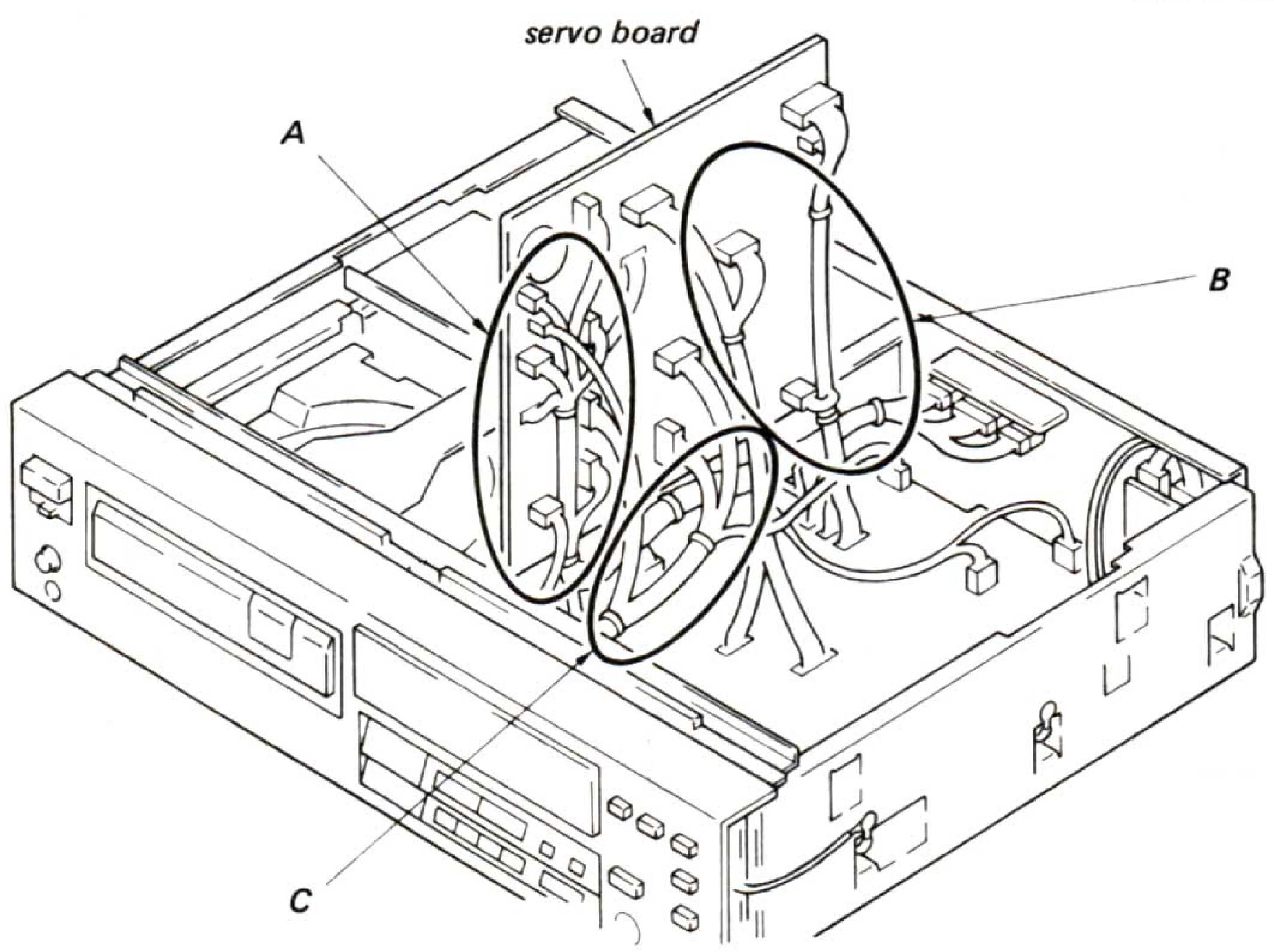
Servo Board



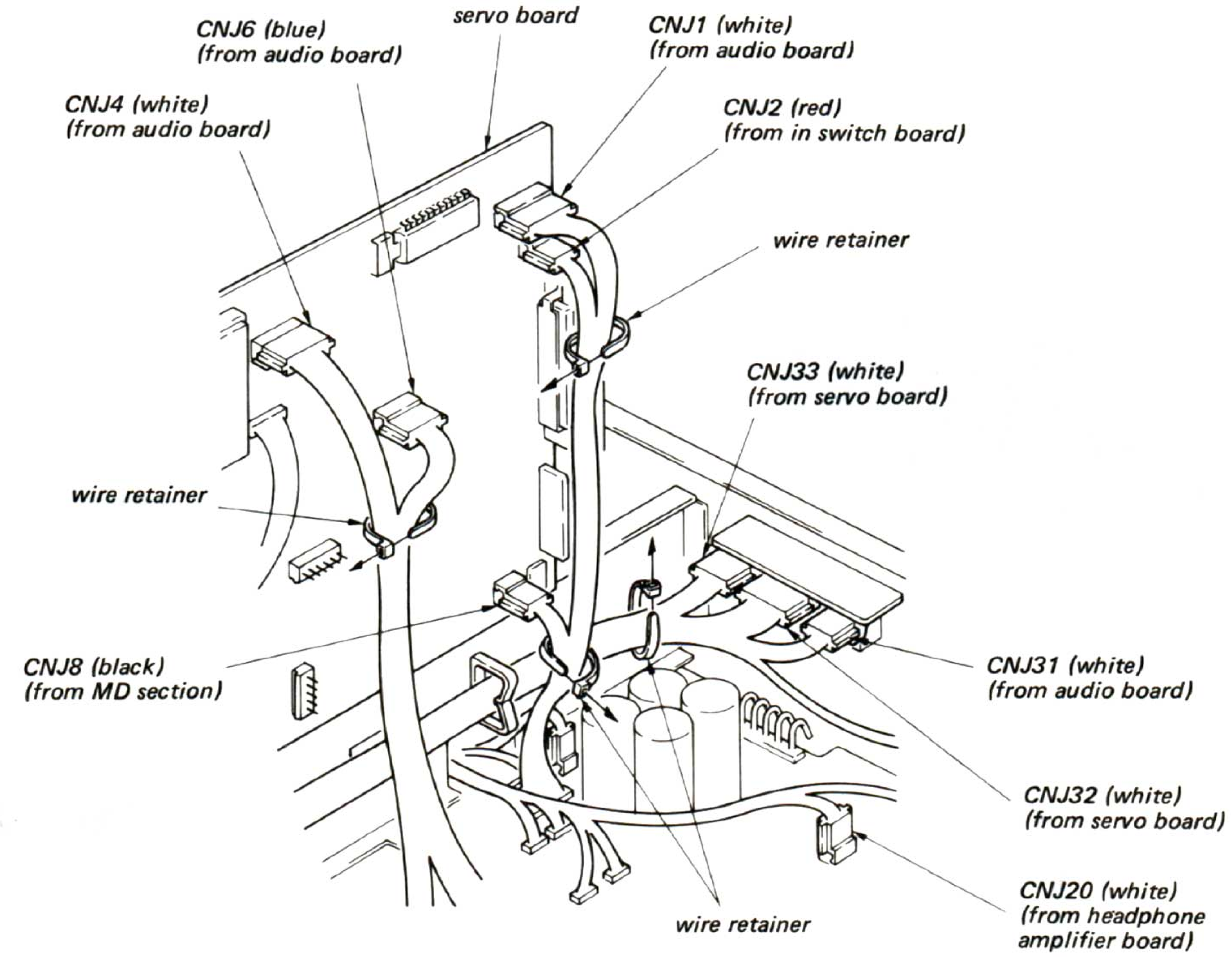
Detail A



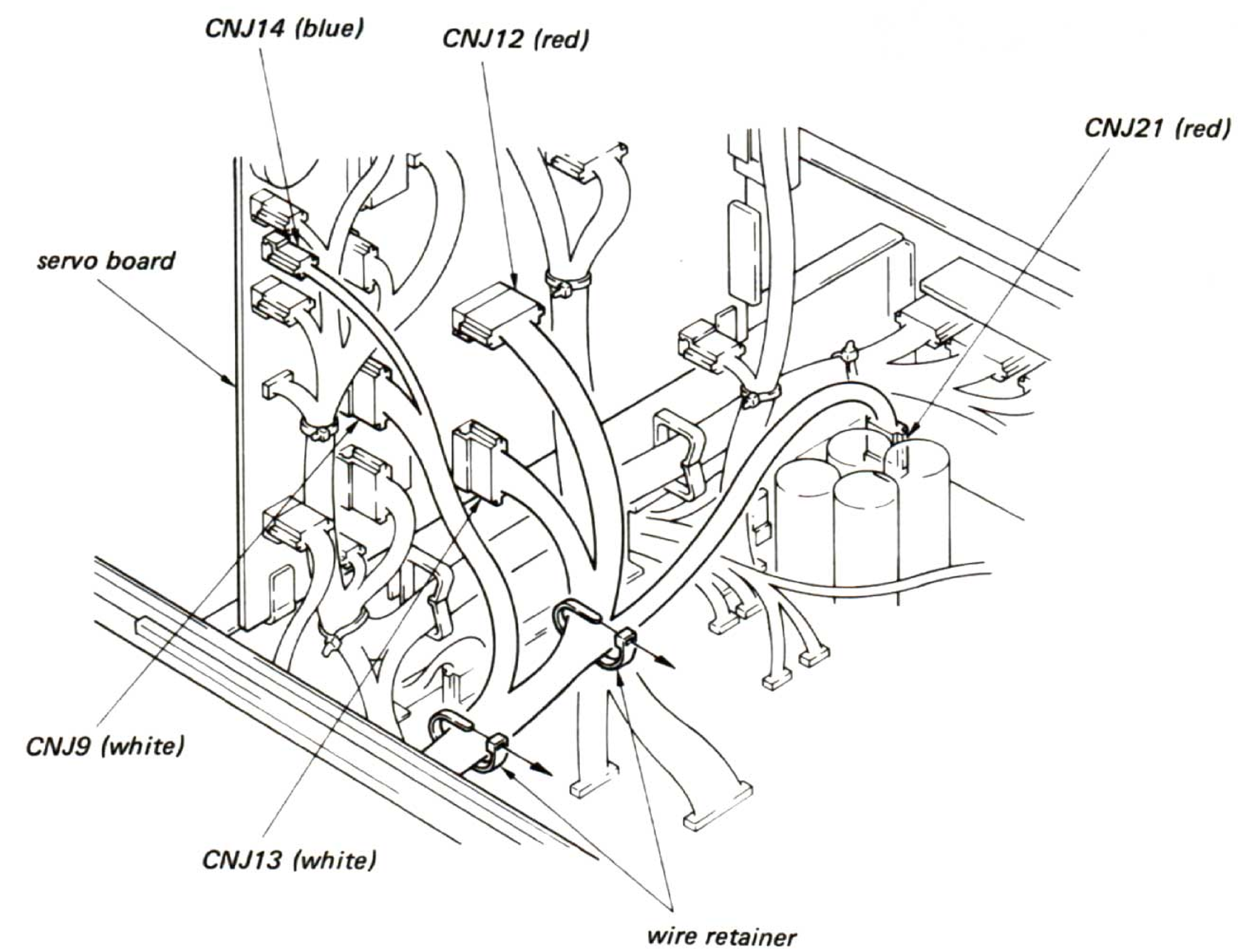
Reference Figure for Handling Wiring



Detail B

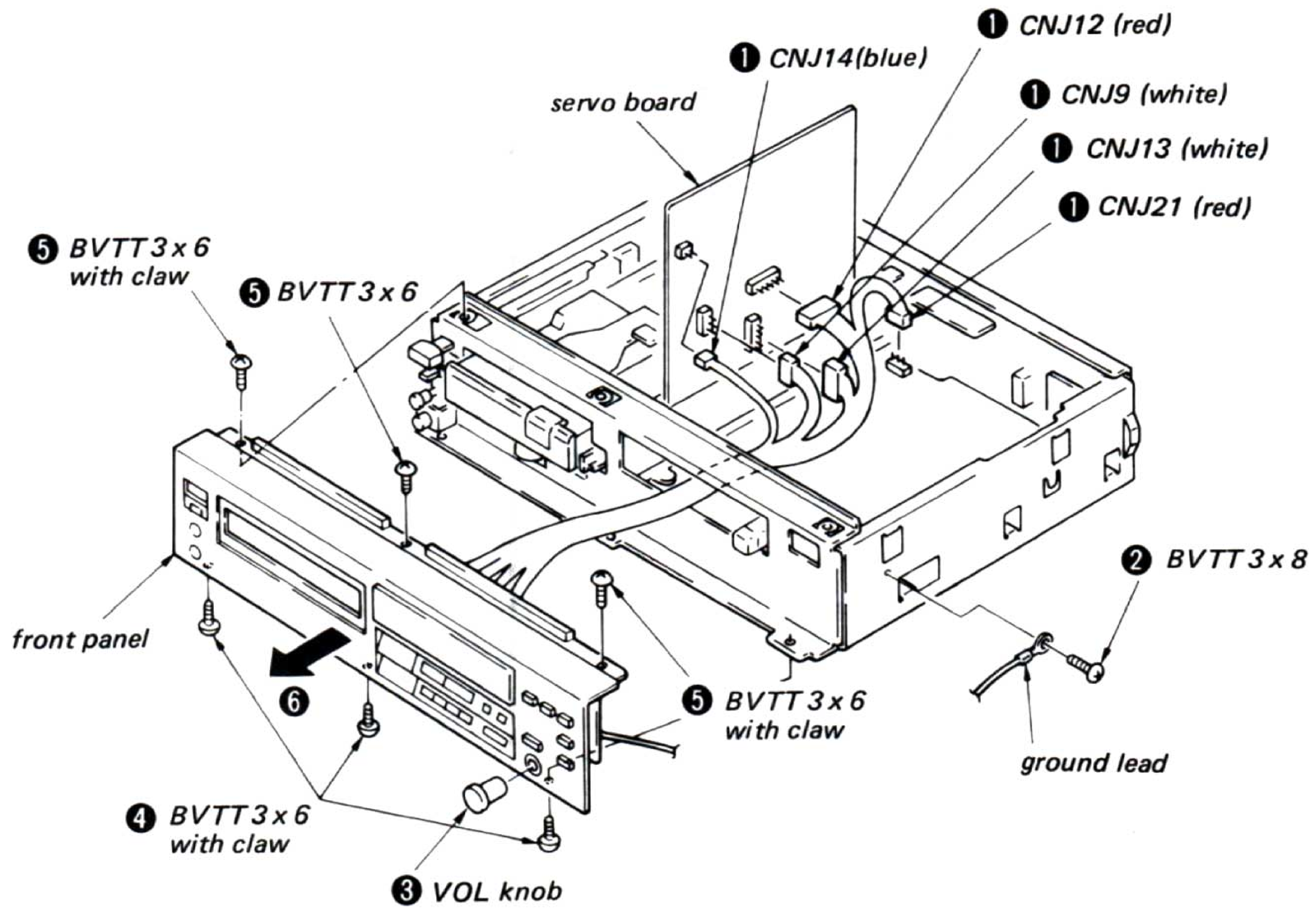


Detail C (Layout of connectors from function board)

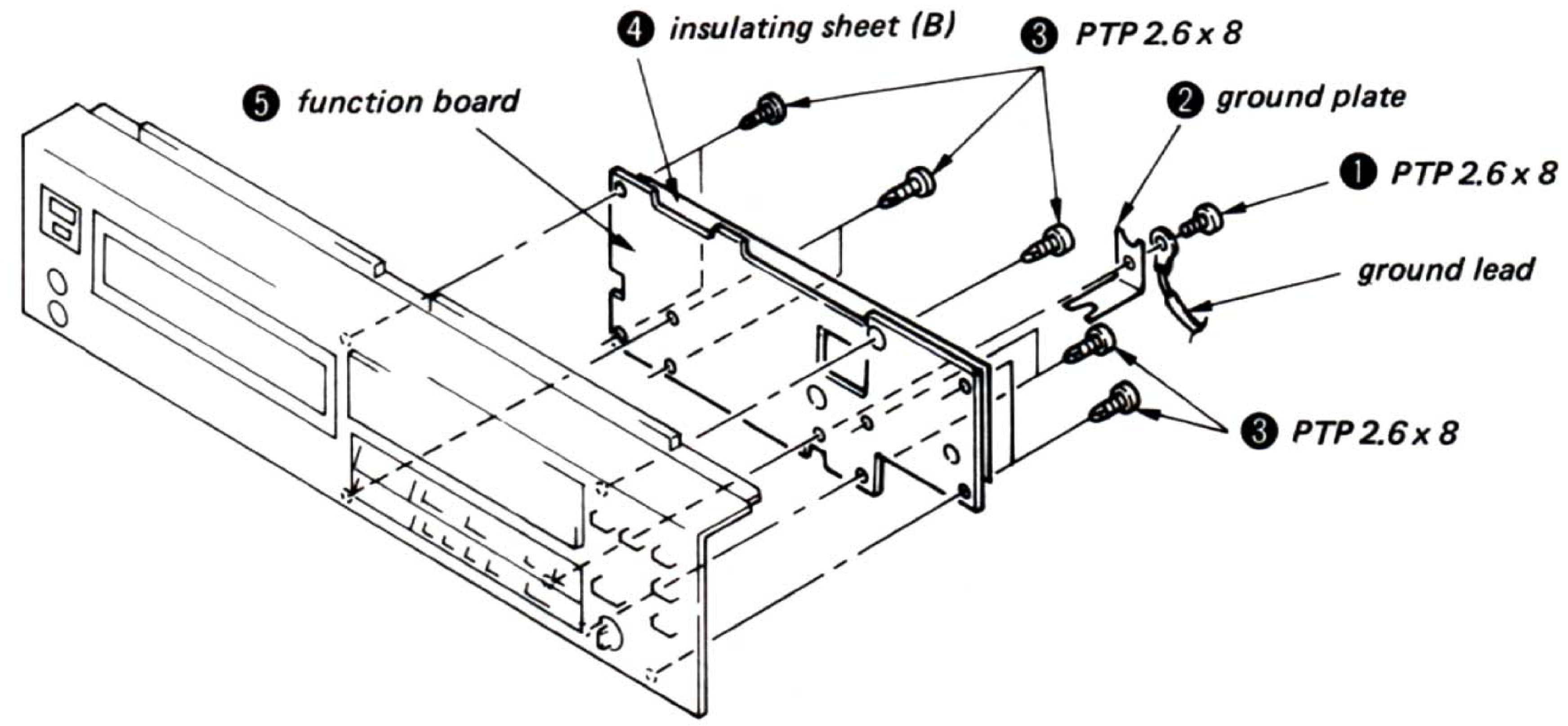


(From page 23) A

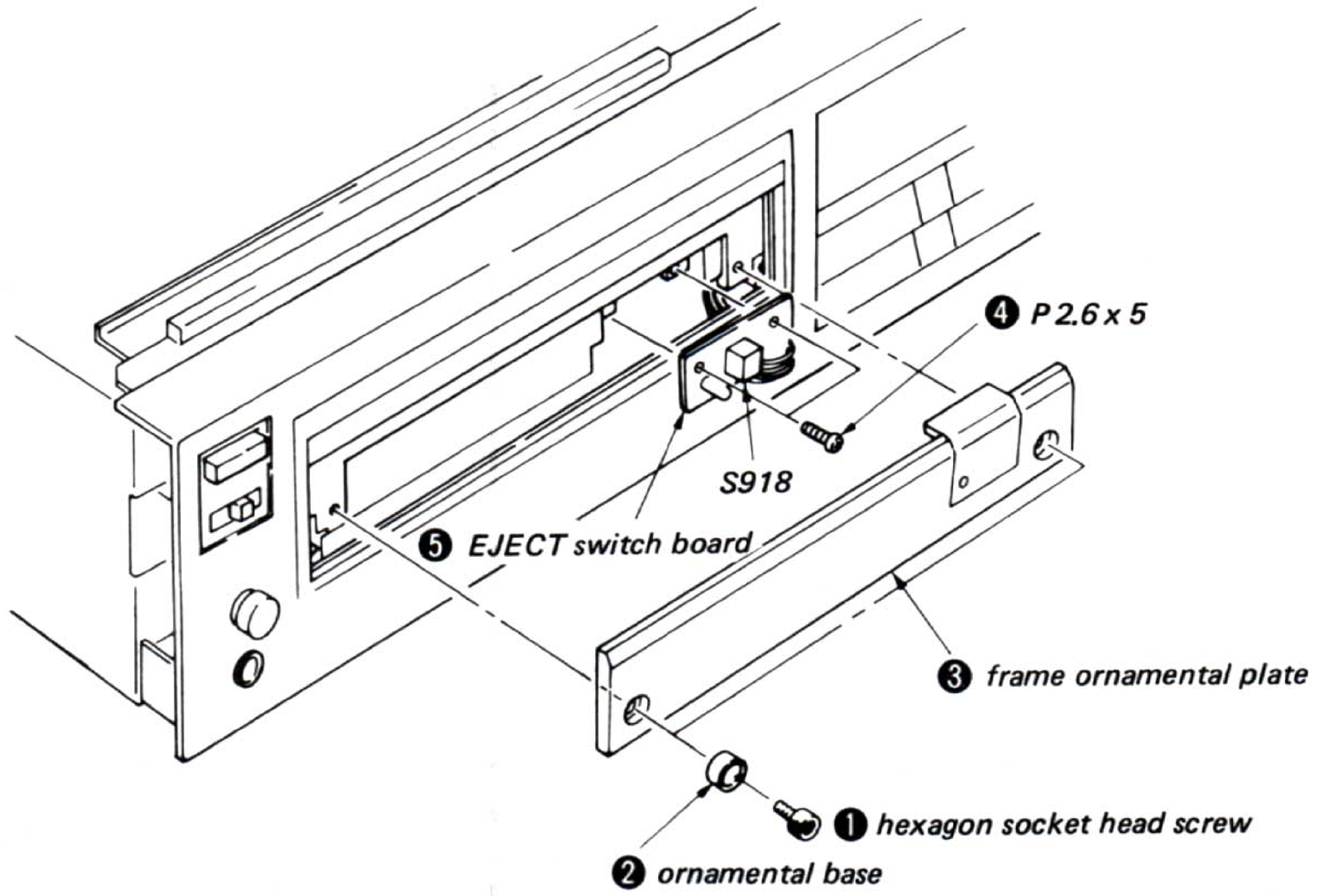
Front Panel



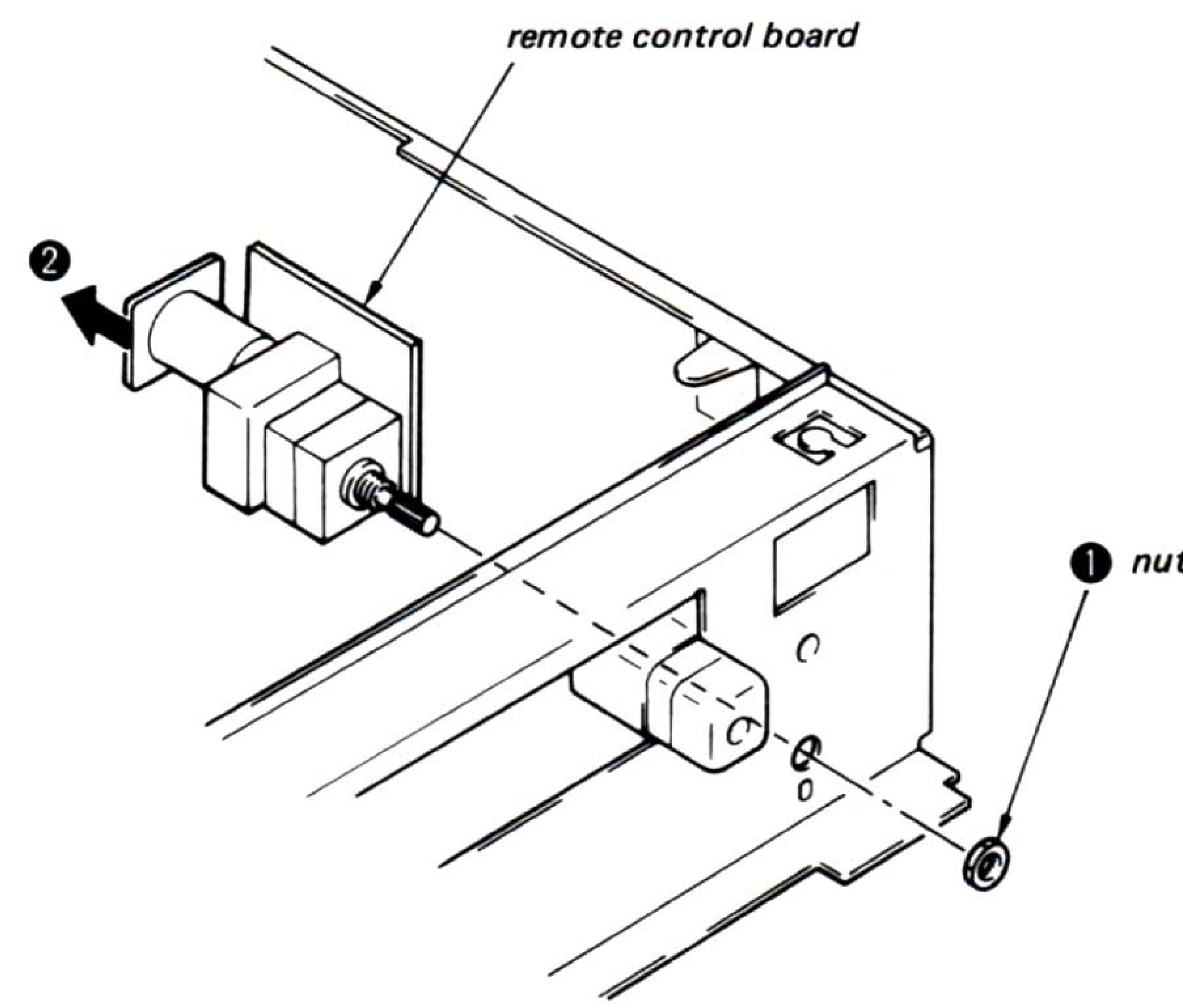
Function Board



Frame Ornamental Plate/EJECT Switch Board



Remote Control Board

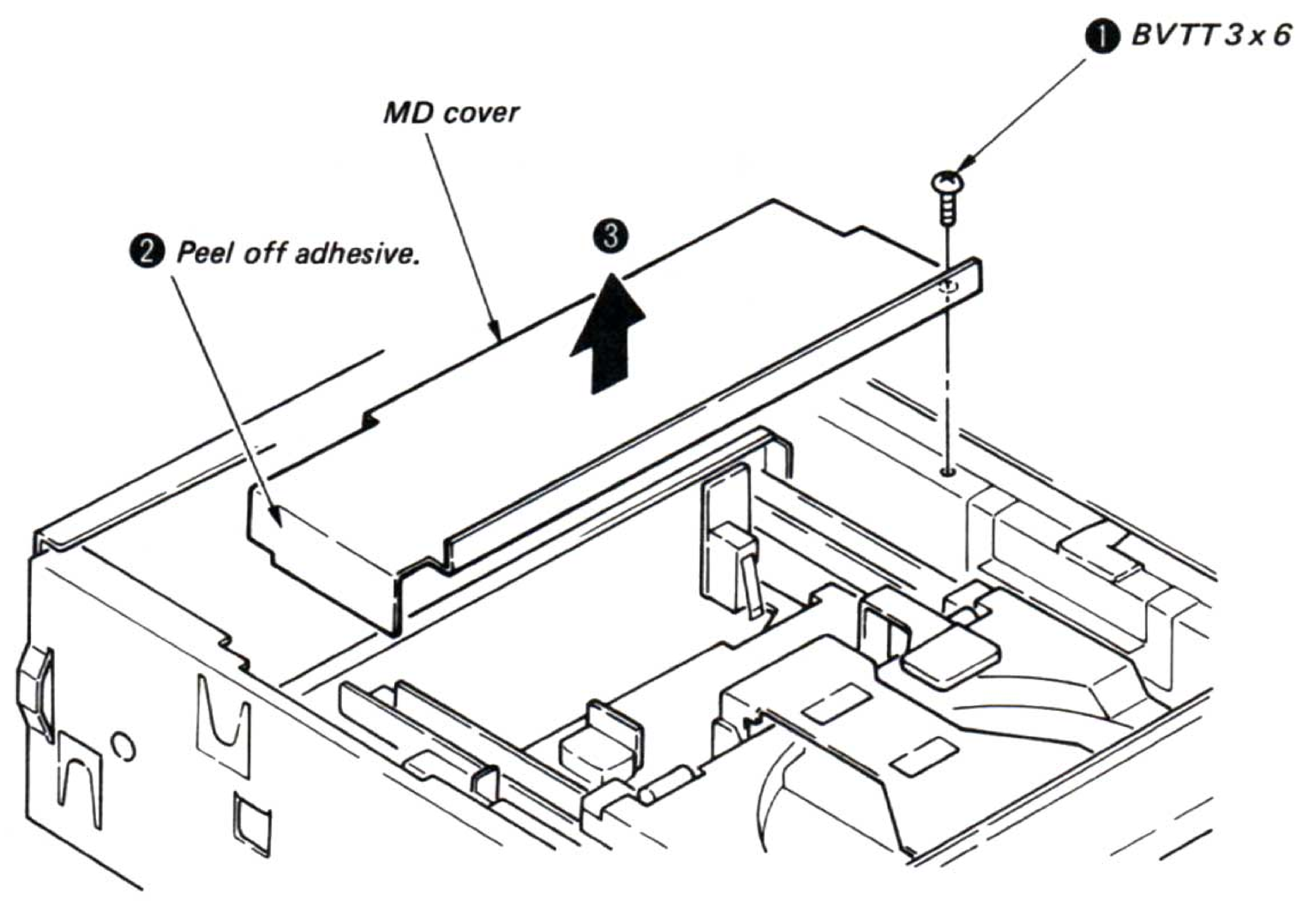


A (From page 23)

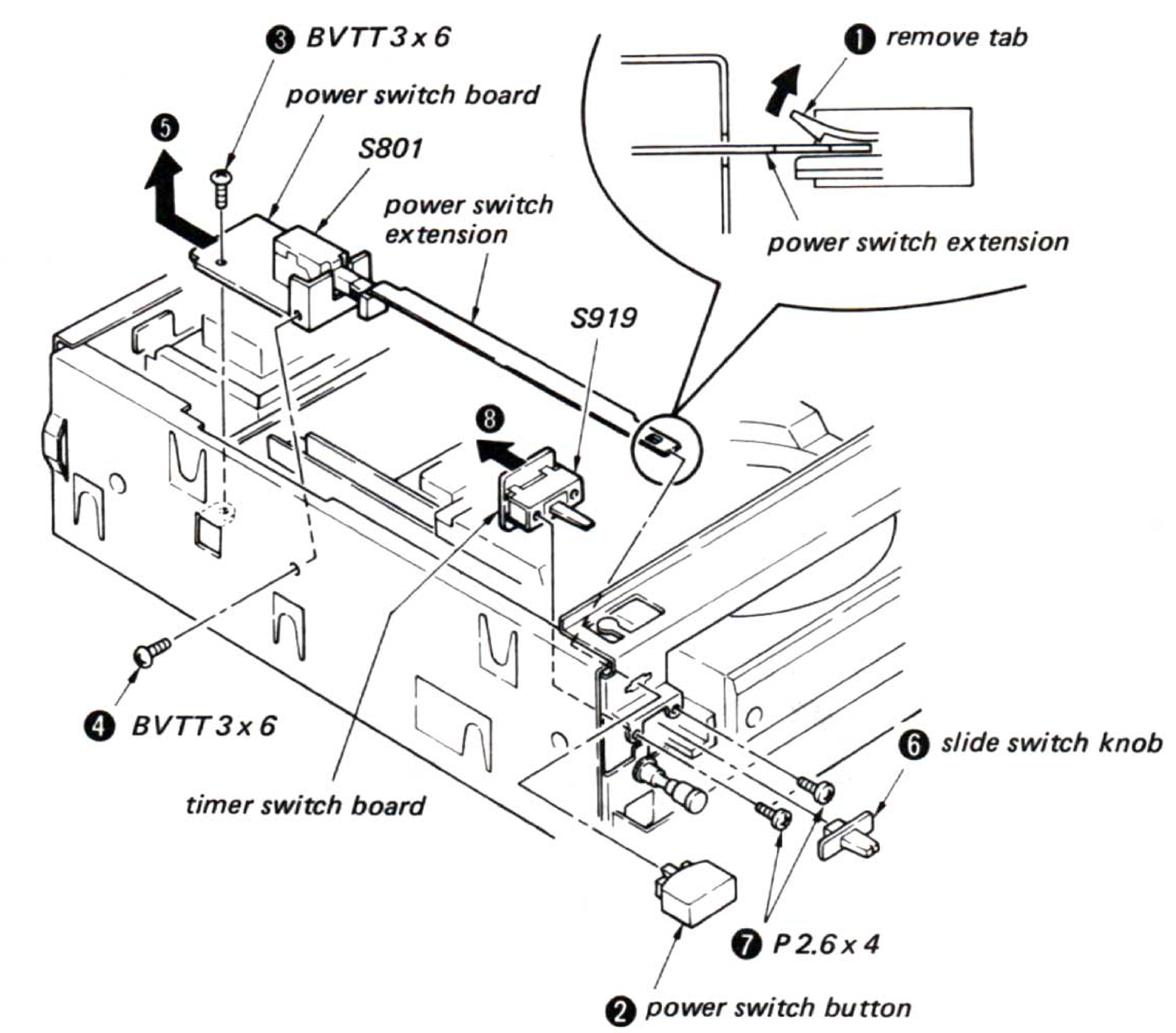
(From page 23) Ⓐ

Ⓑ (To page 30)

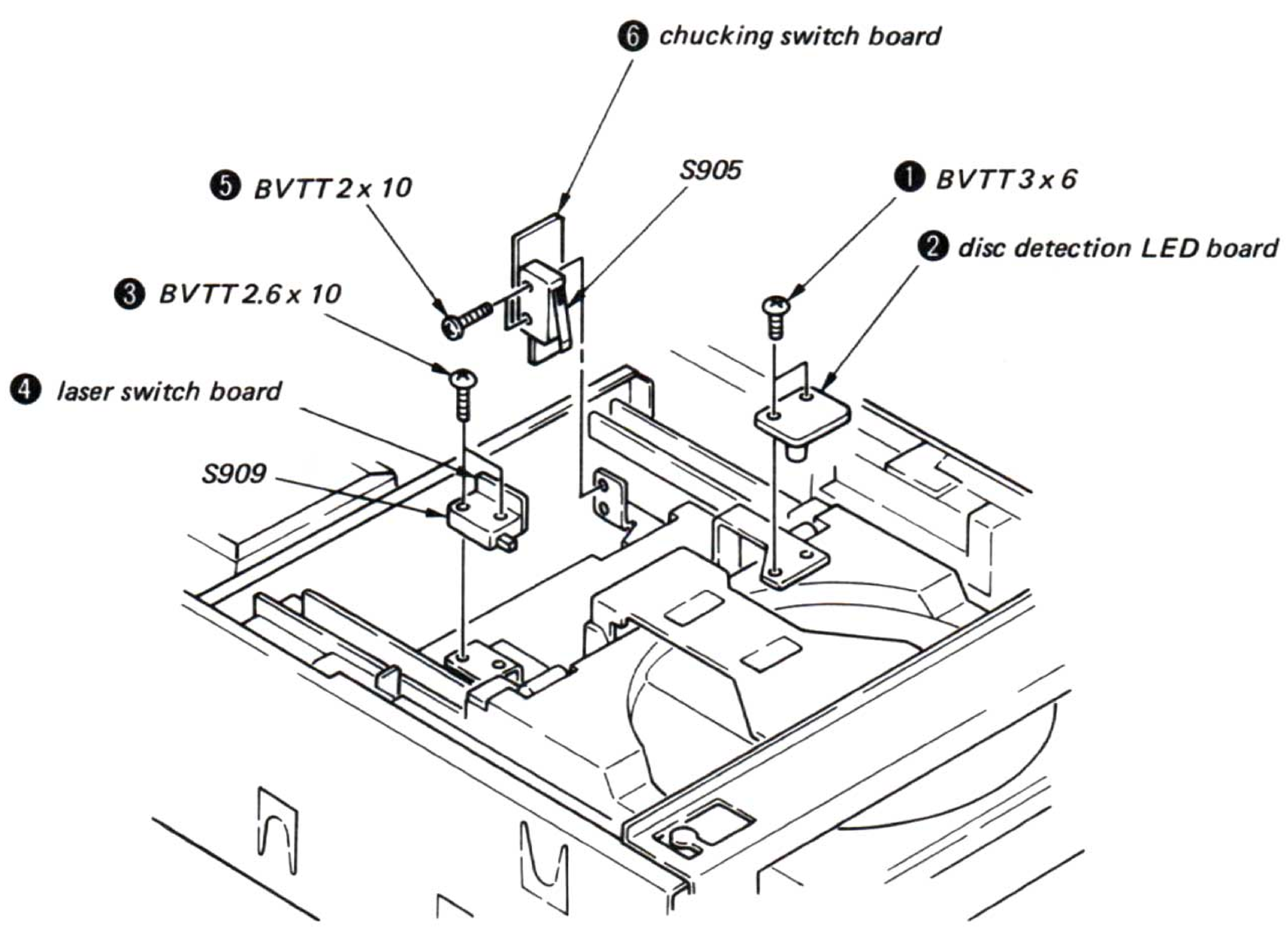
MD Cover



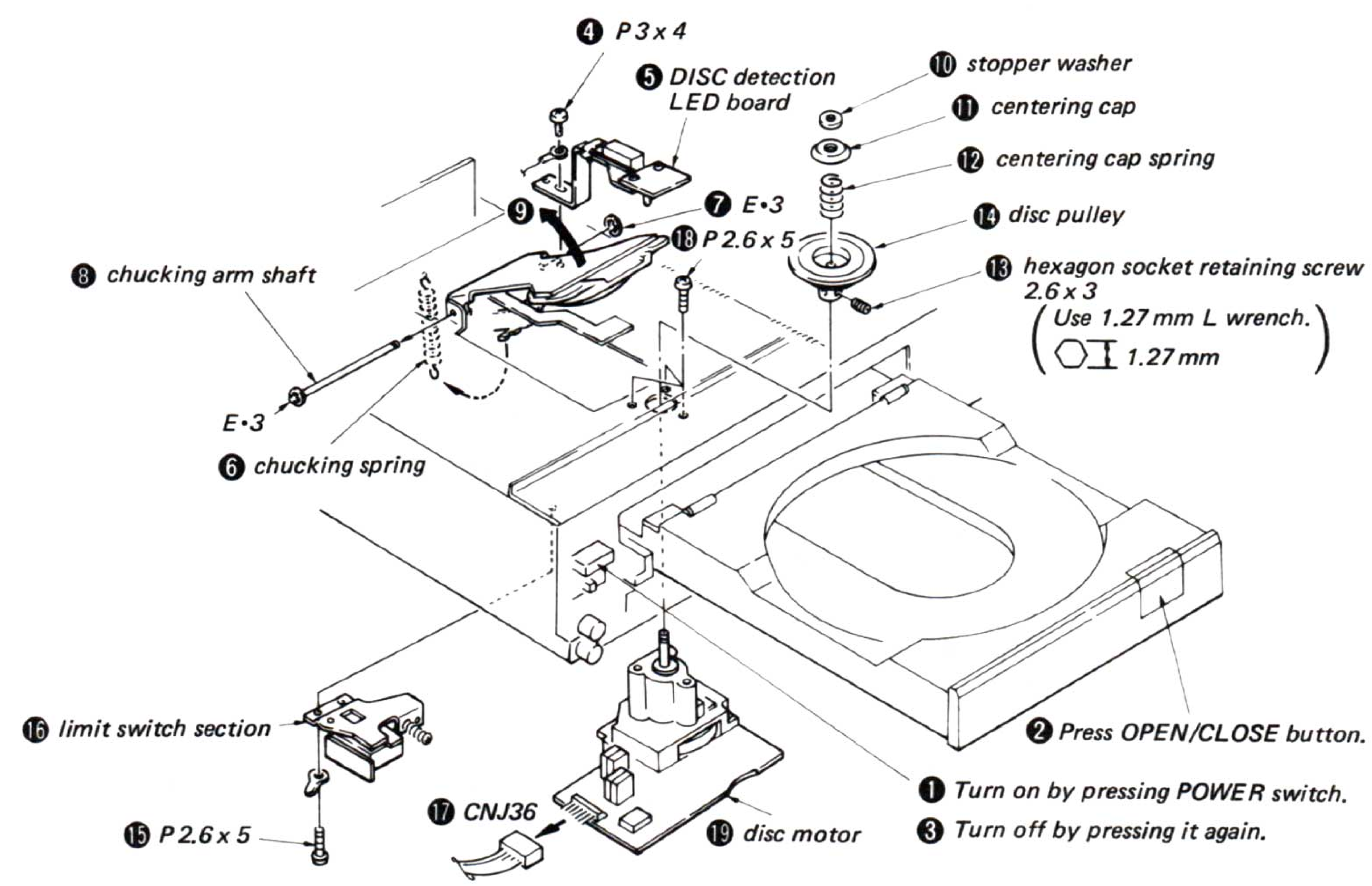
Power Switch Board/Timer Switch Board



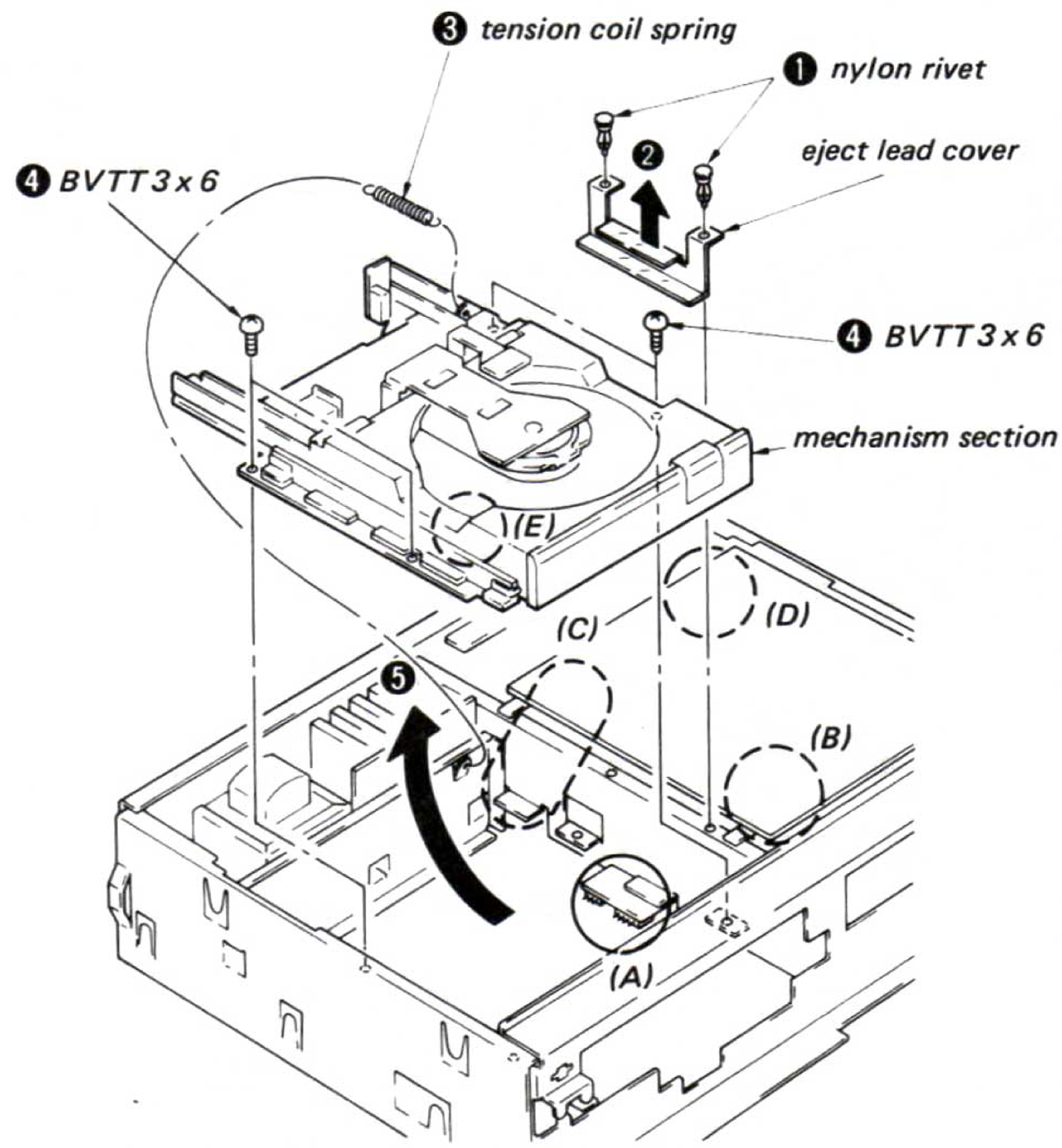
Disc Detection LED Board/Laser Switch Board/Chucking Switch Board



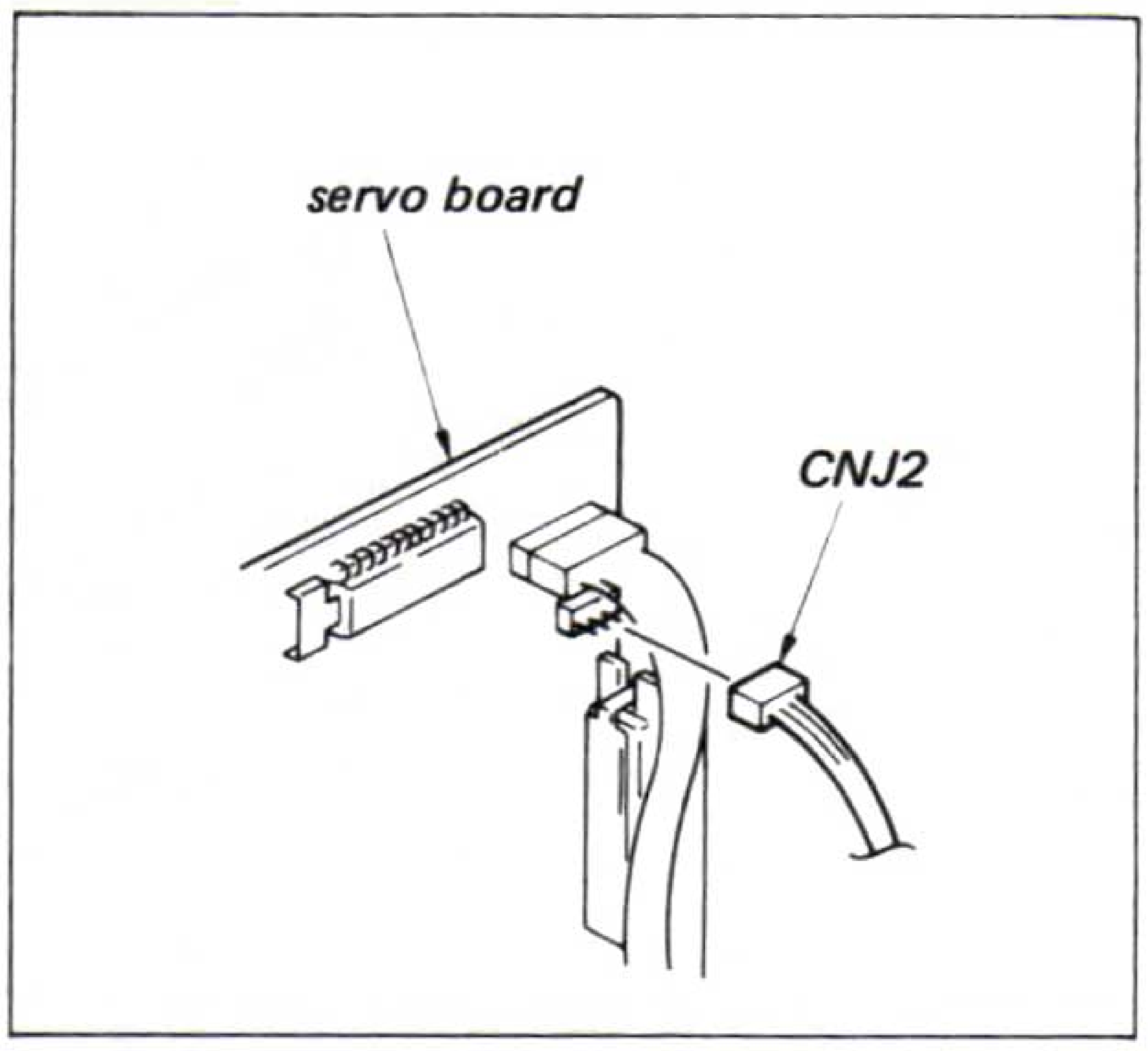
Disc Motor



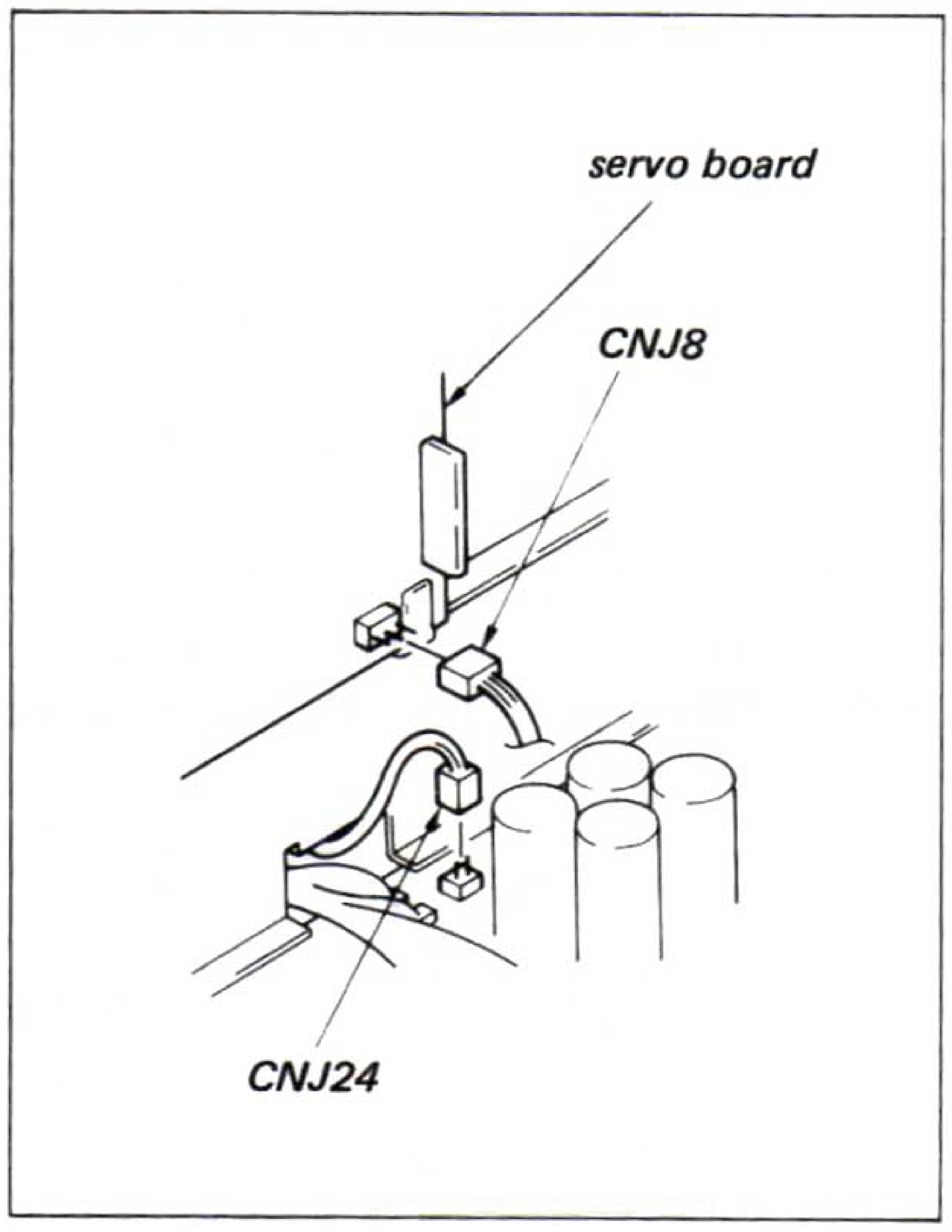
Mechanism Section



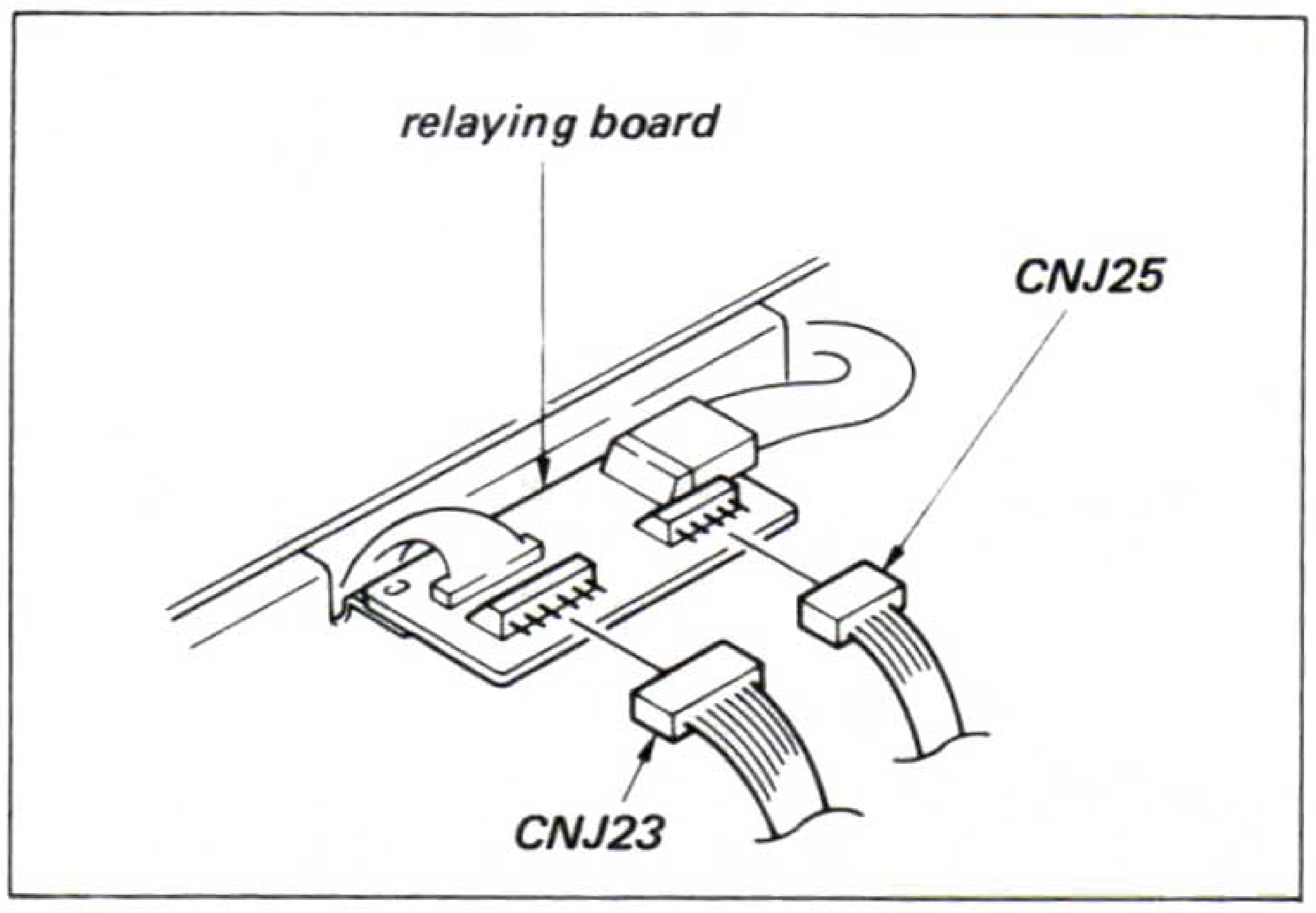
Inset (D)



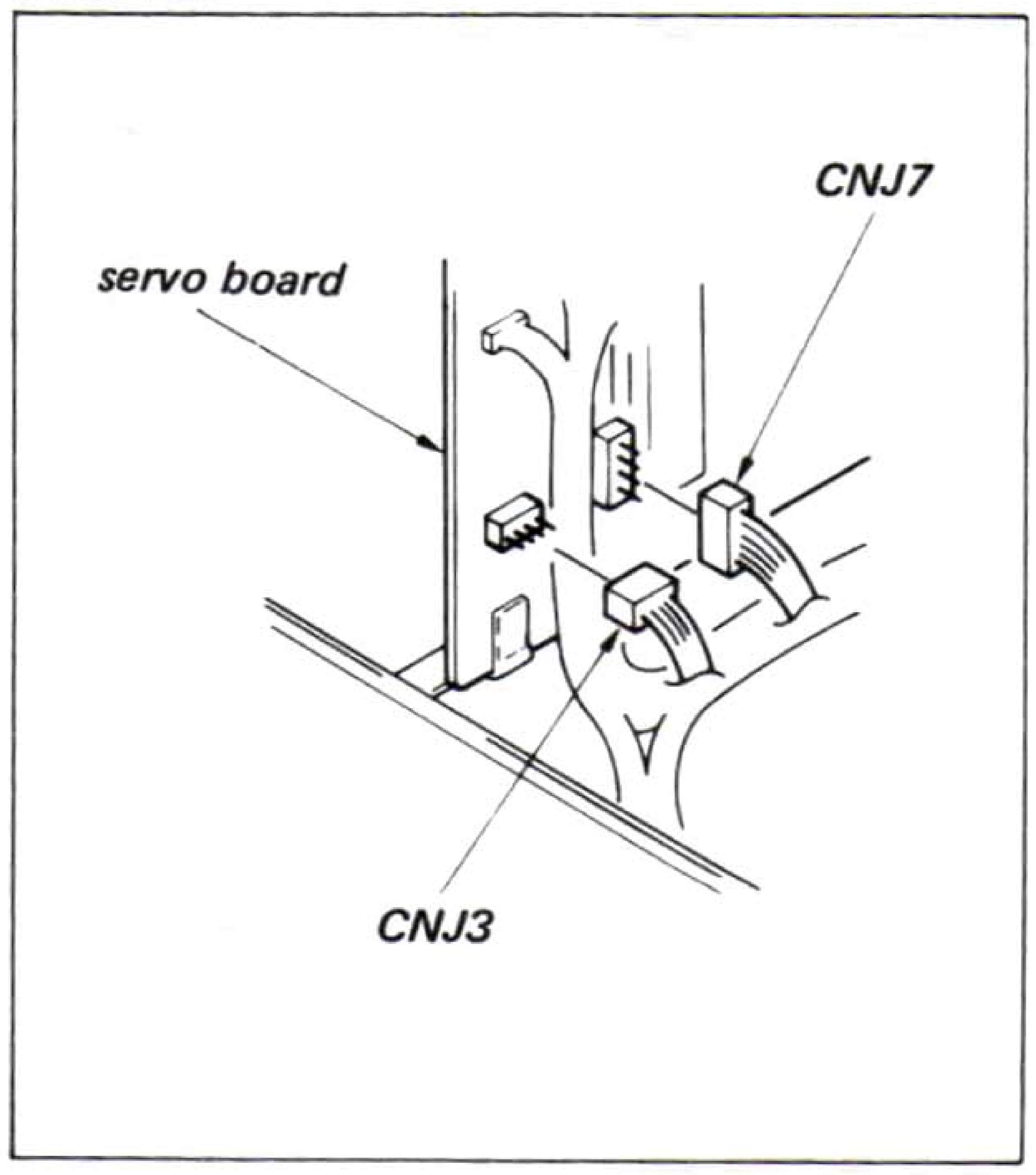
Inset (C)



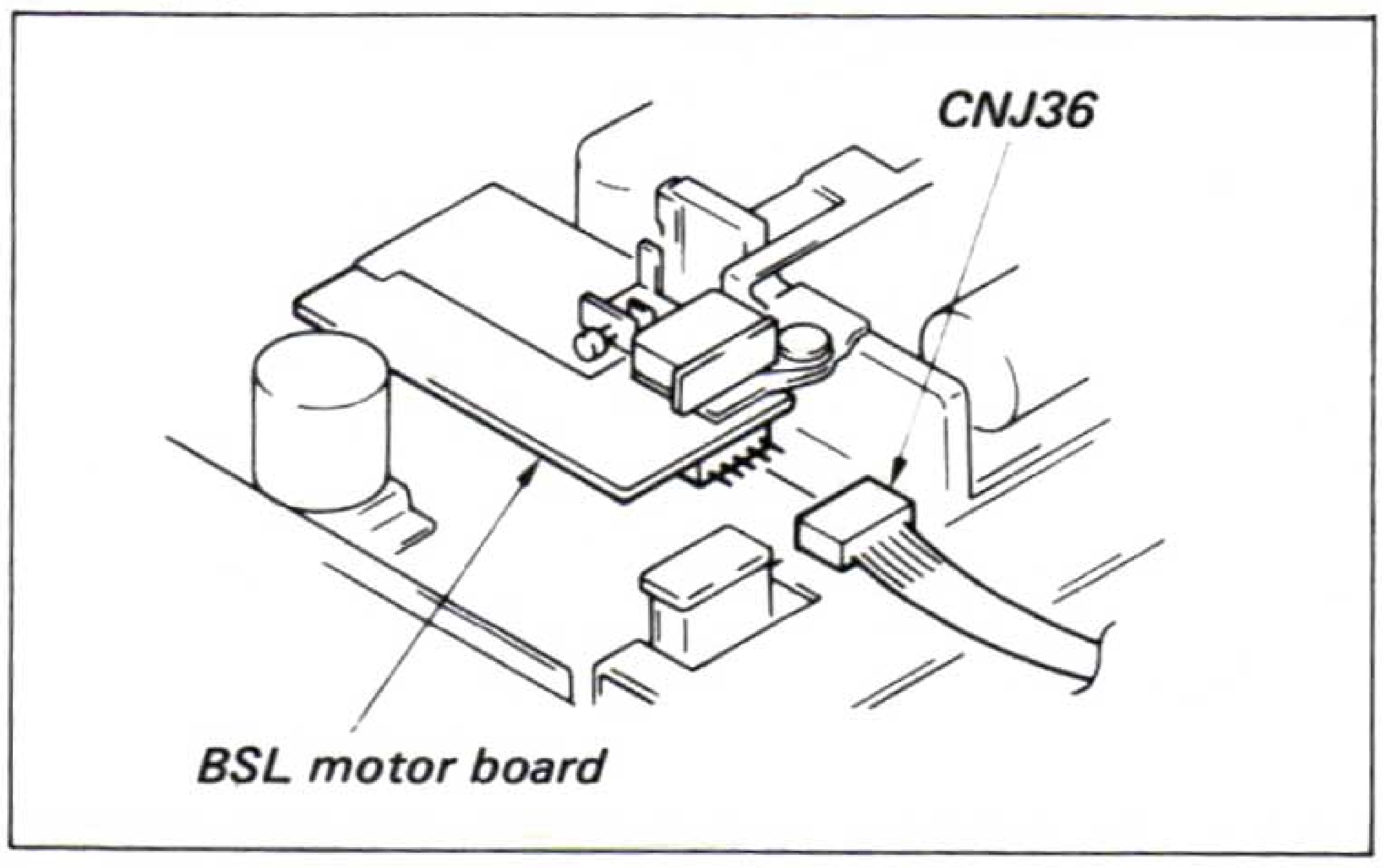
Inset (A)



Inset (B)

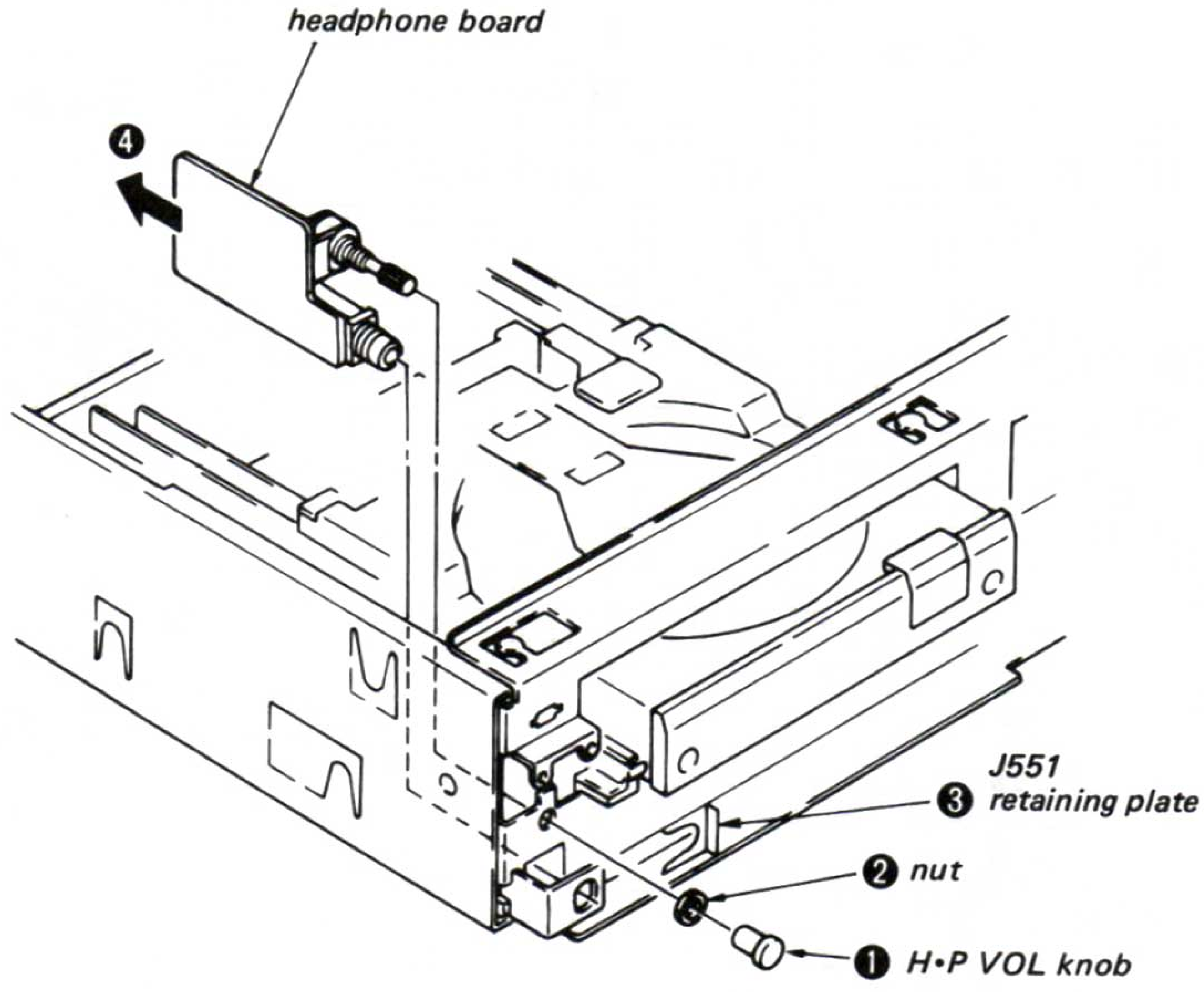


Inset (E)

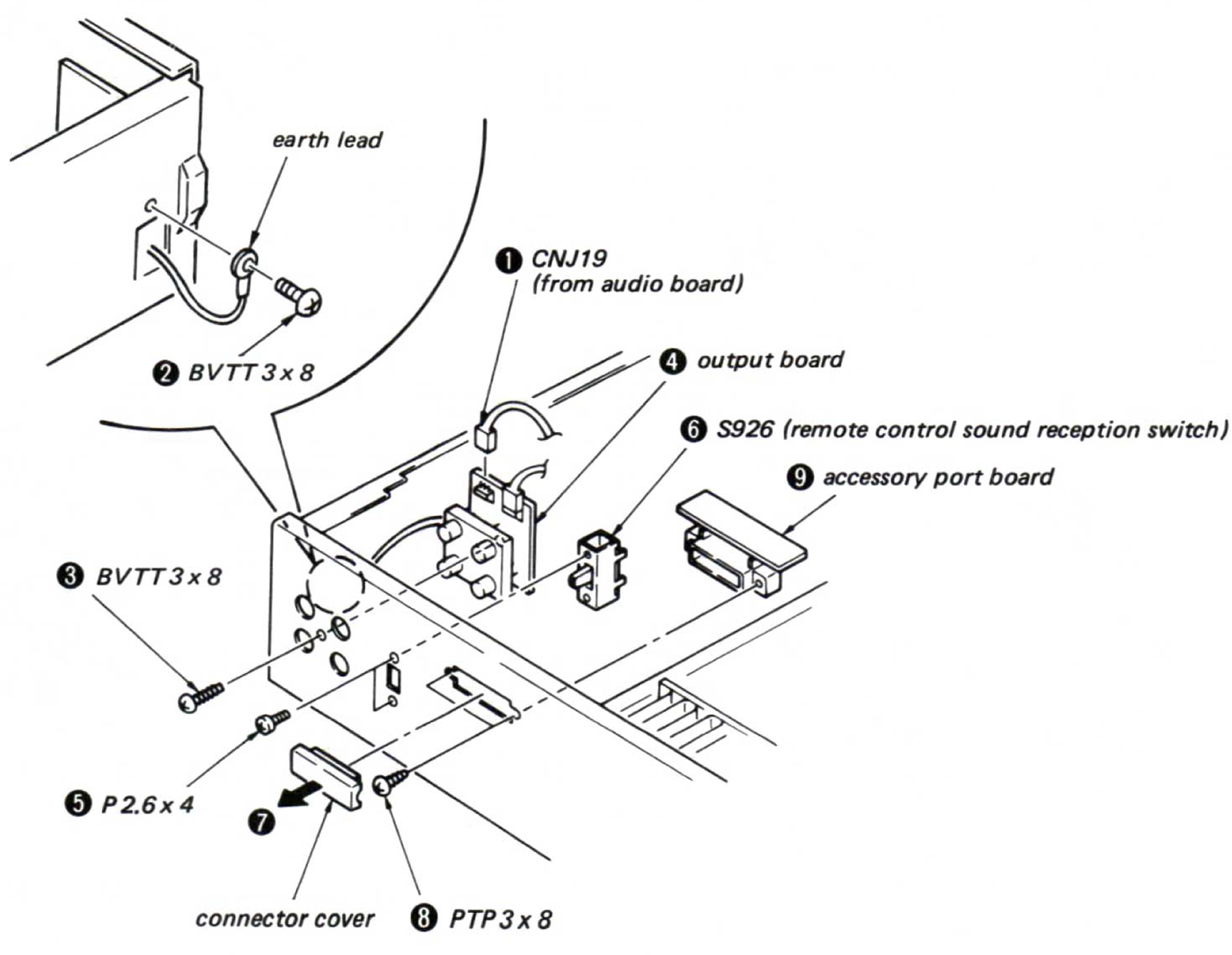


(B) (From page 28)

Headphone Amplifier Board/Headphone Jack Board



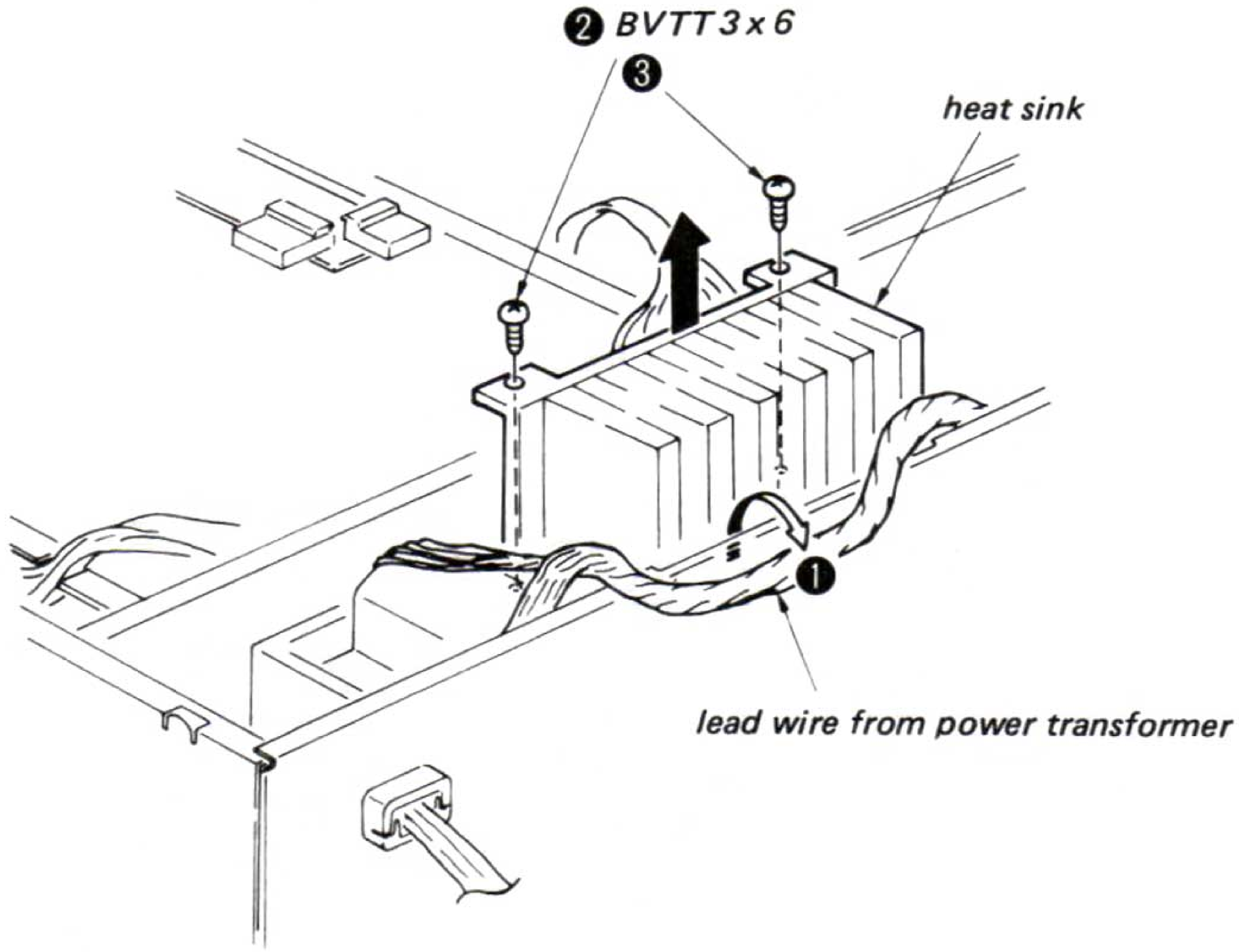
Output Board/Remote Control Sound Reception Switch/Accessory Port Board



(A) (From page 23)

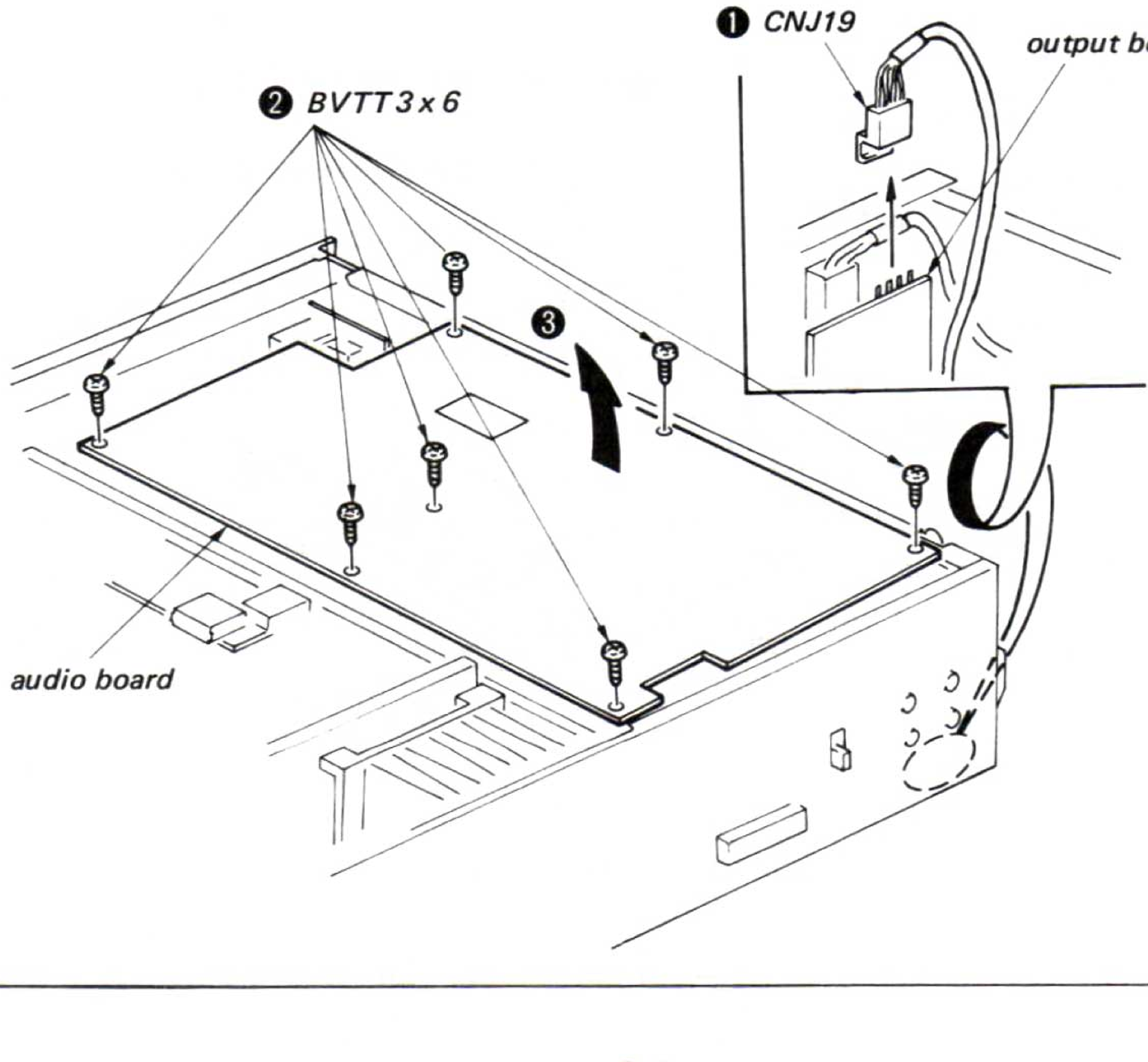
Remove bottom plate.
+BVTT 3 x 8 (with claw)

Heat Sink



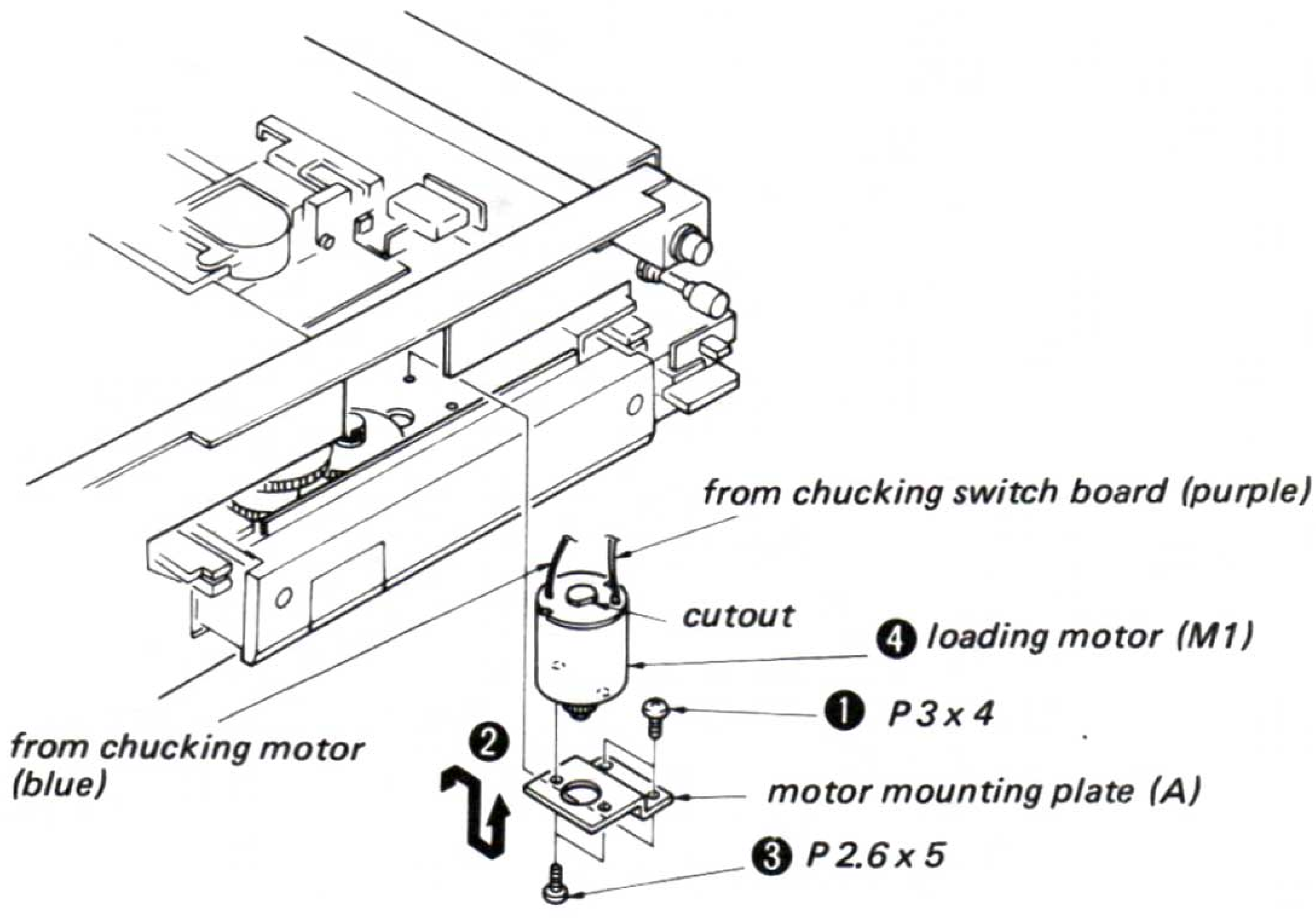
Remove bottom plate.
+BVTT 3 x 8 (with claw)

Audio Board



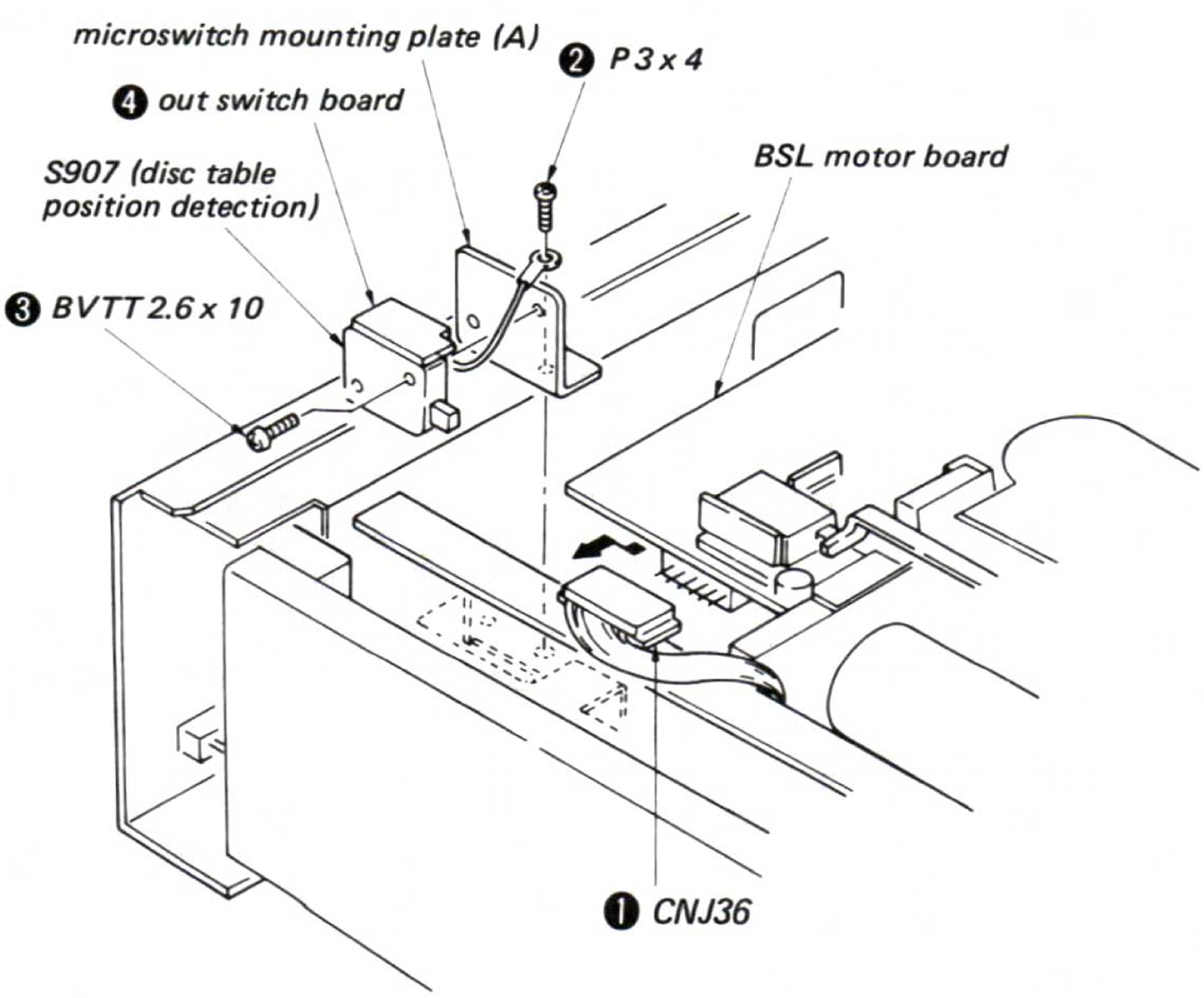
Remove bottom plate.
+BVTT 3 x 8 (with claw)

Loading Motor (M1)



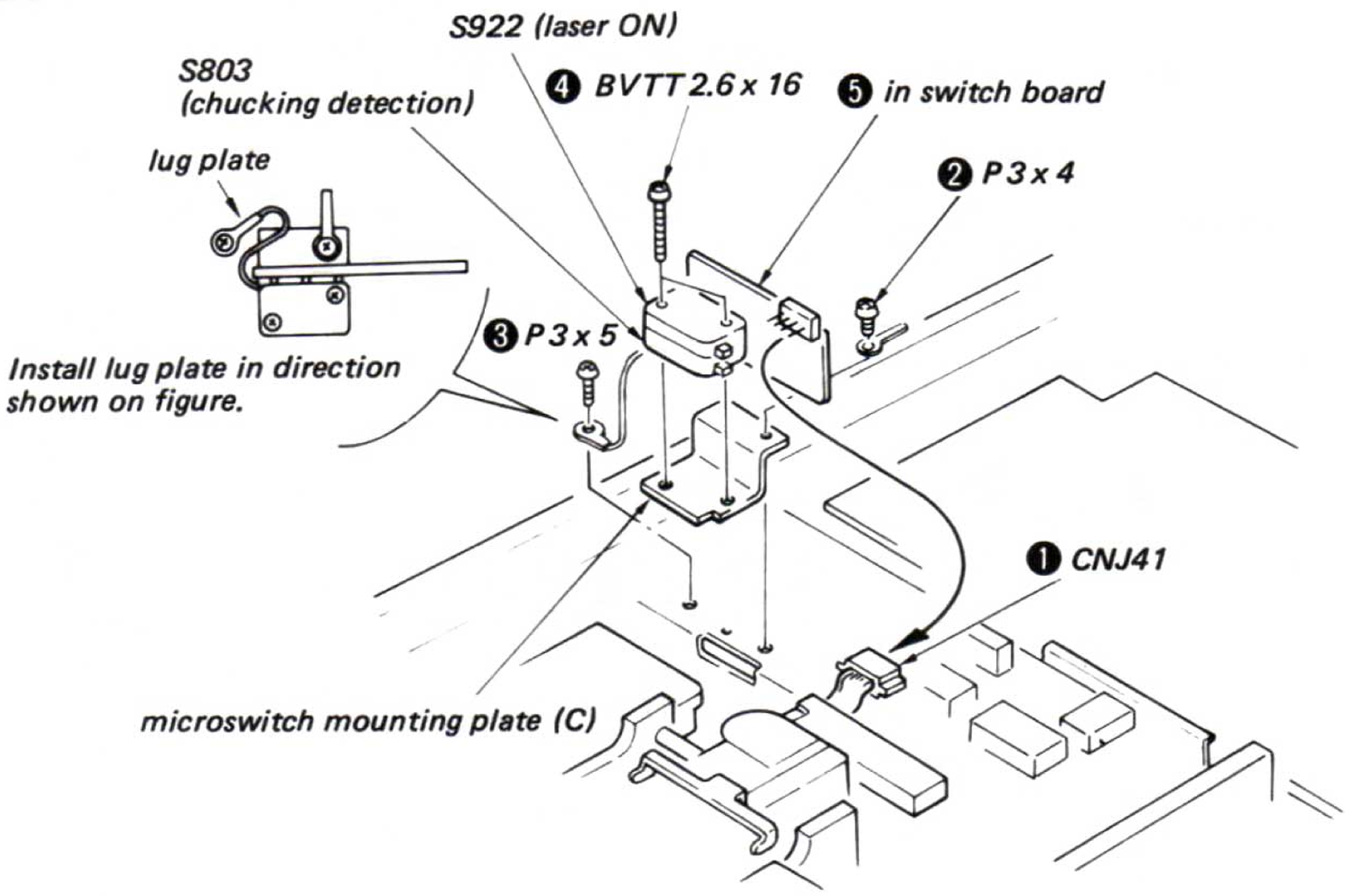
Remove bottom plate.
+BVTT 3 x 8 (with claw)

Out Switch Board



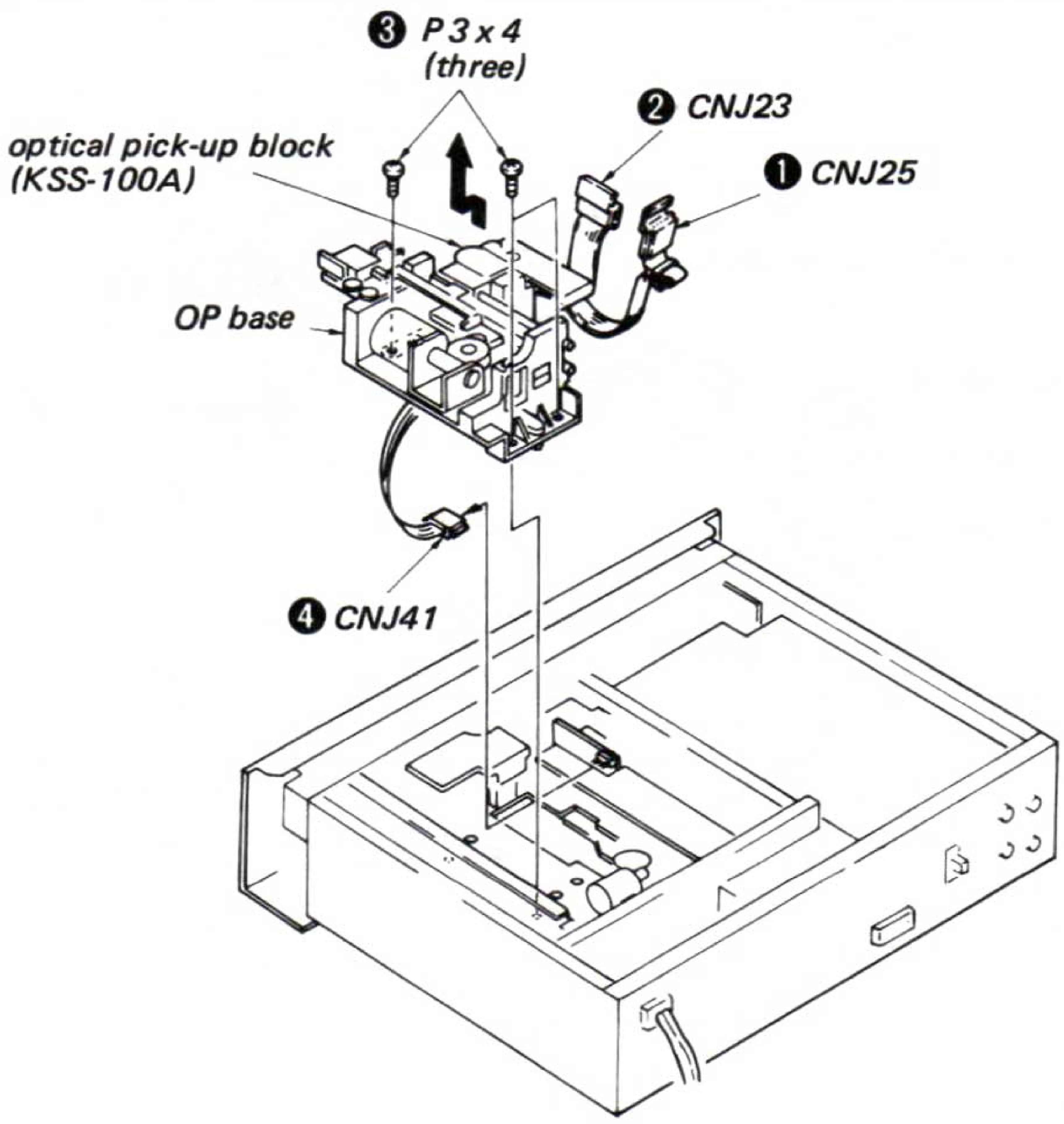
Remove bottom plate.
+BVTT 3 x 8 (with claw)

In Switch Board



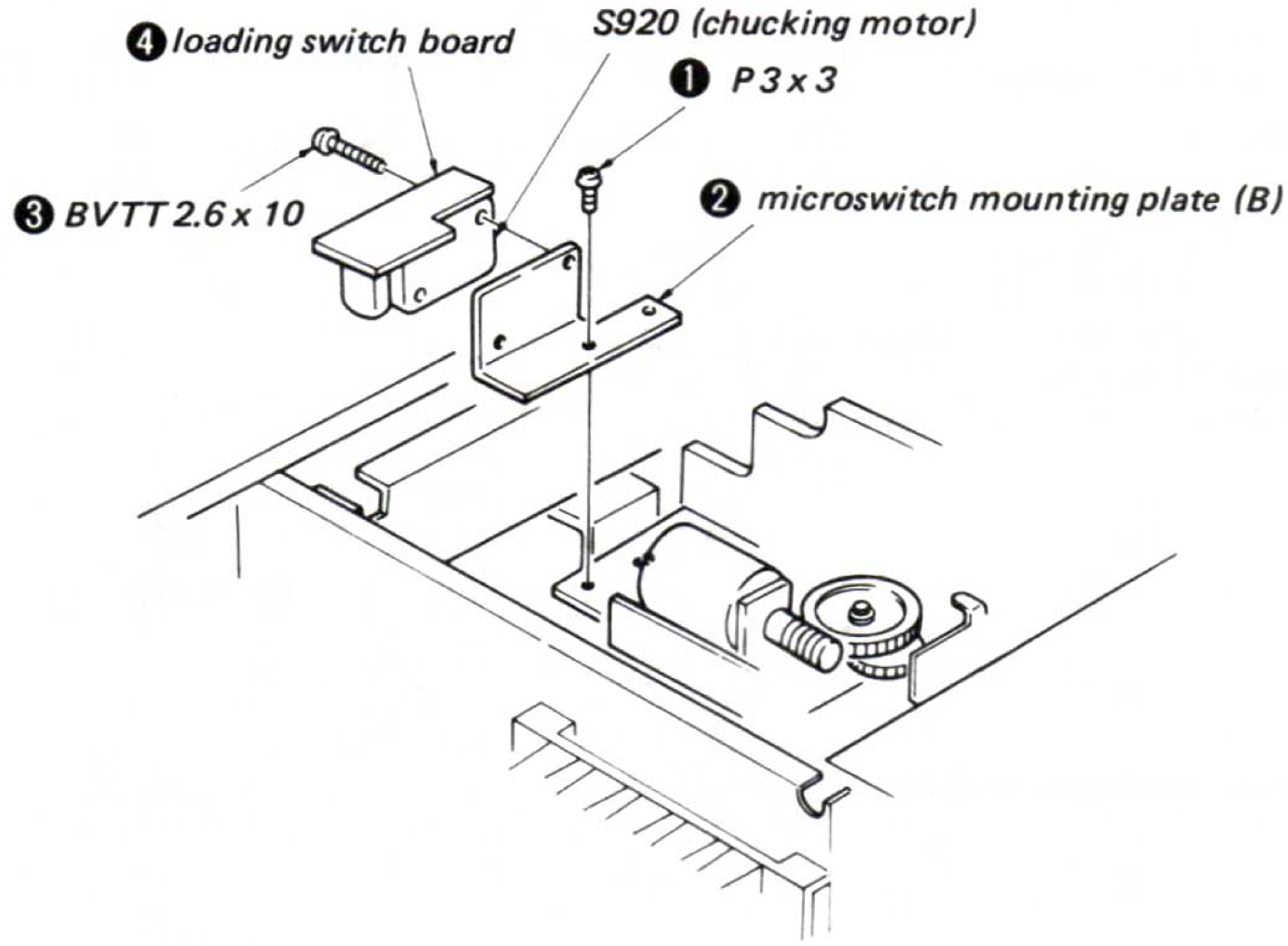
Remove bottom plate.
+BVTT 3 x 8 (with claw)

Optical Pick-up Block

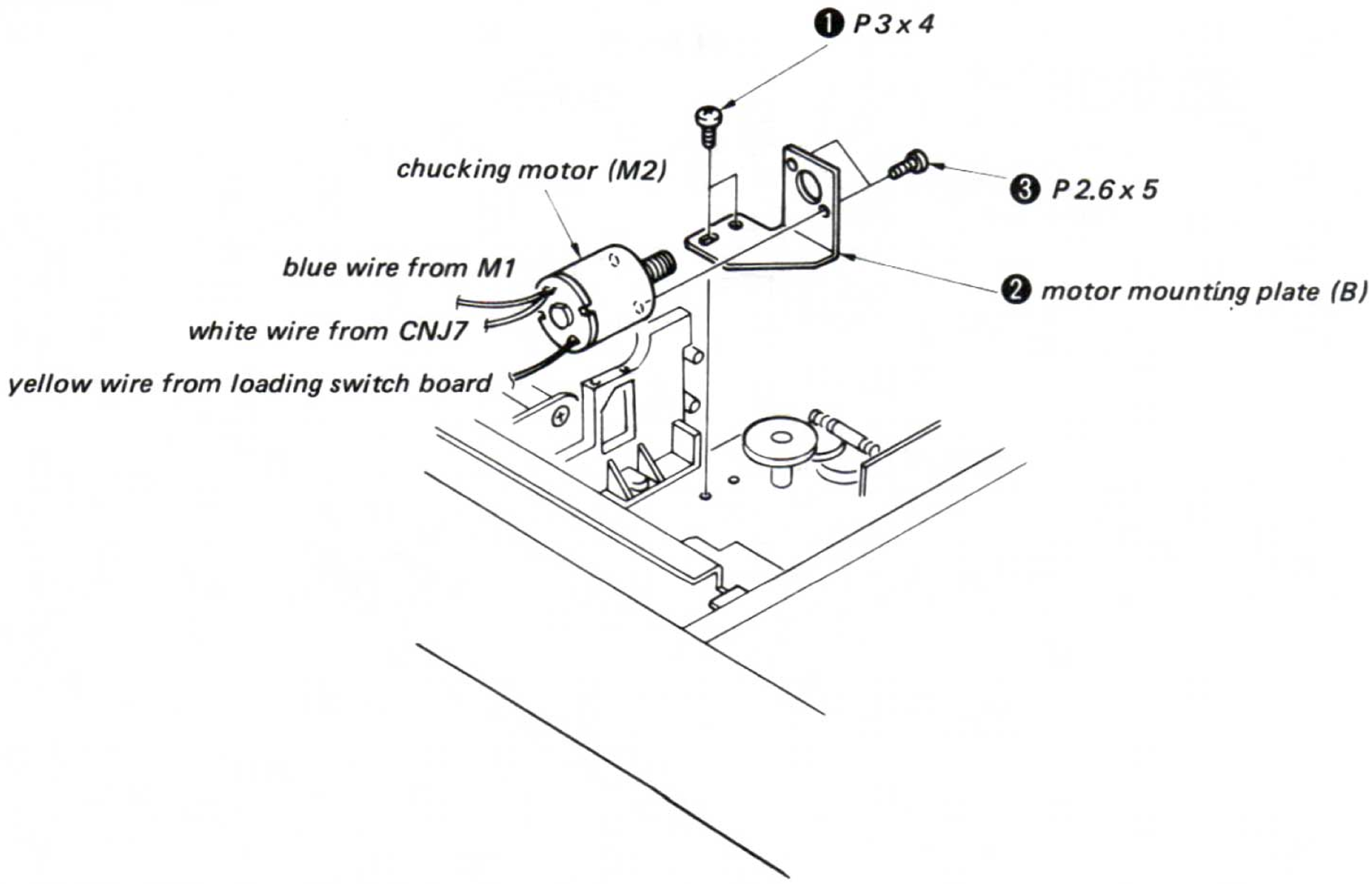


Remove bottom plate.
+BVTT 3 x 8 (with claw)

Loading Switch Board

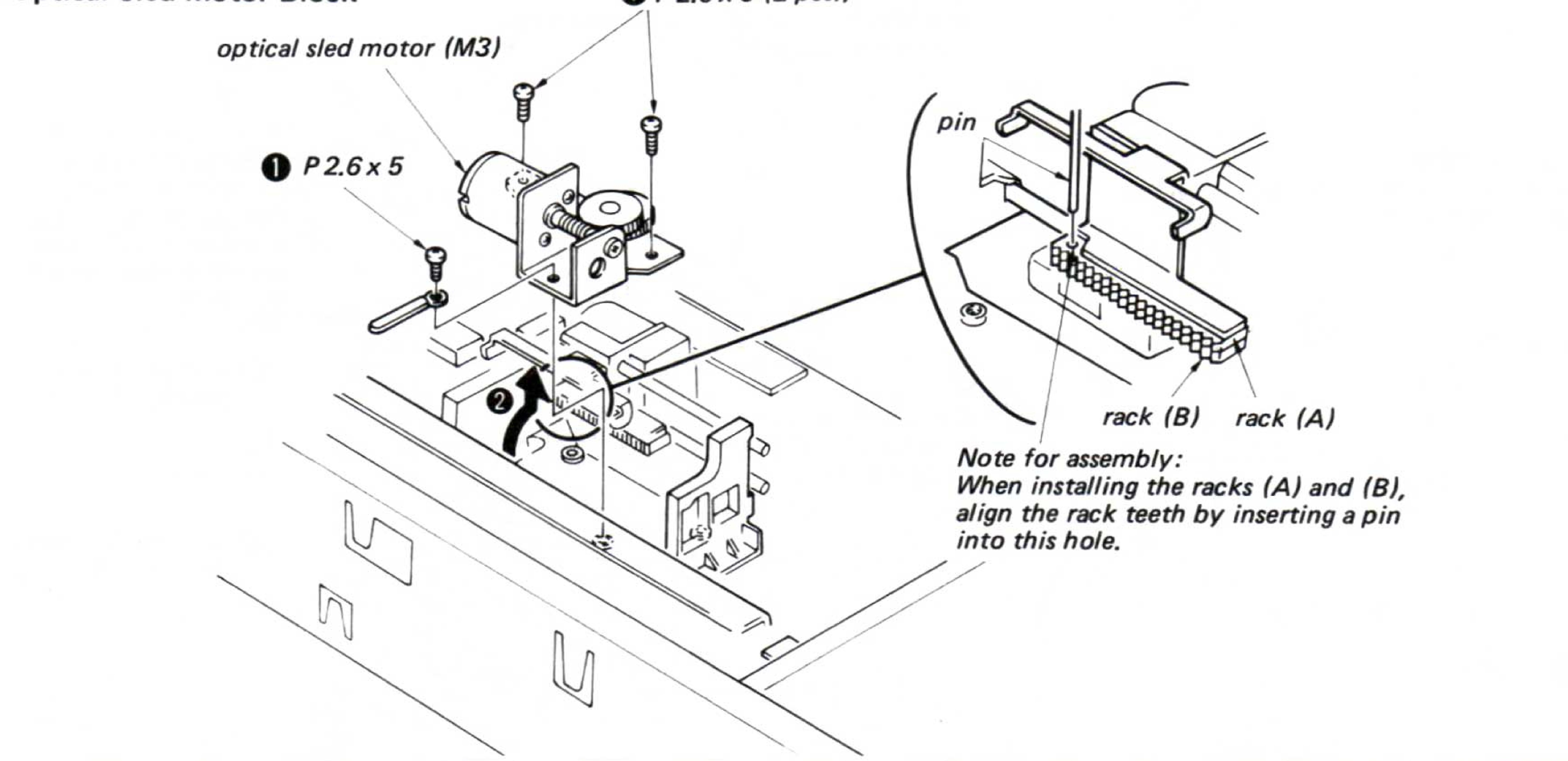


Chucking Motor (M2)

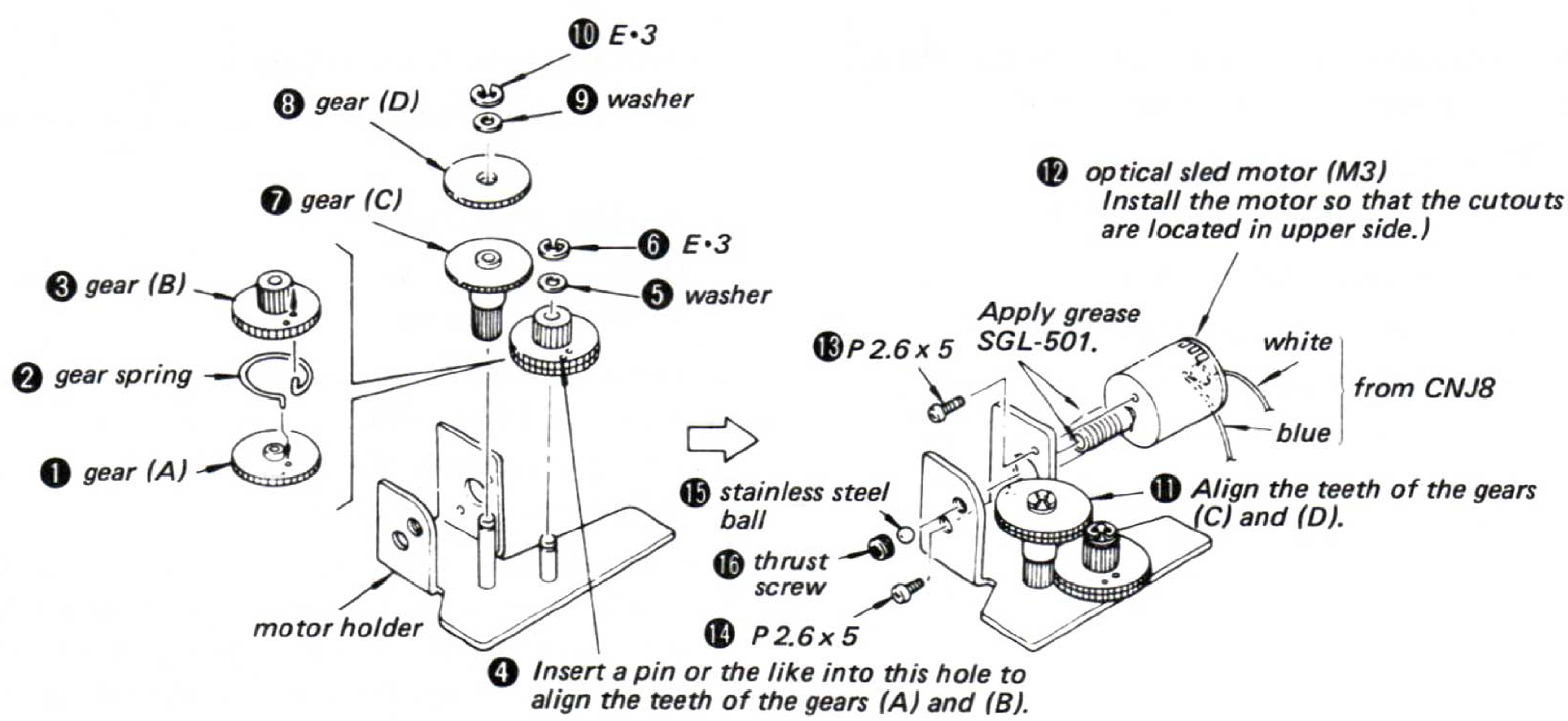


Remove bottom plate
+BVTT 3 x 8 (with claw)

Optical Sled Motor Block

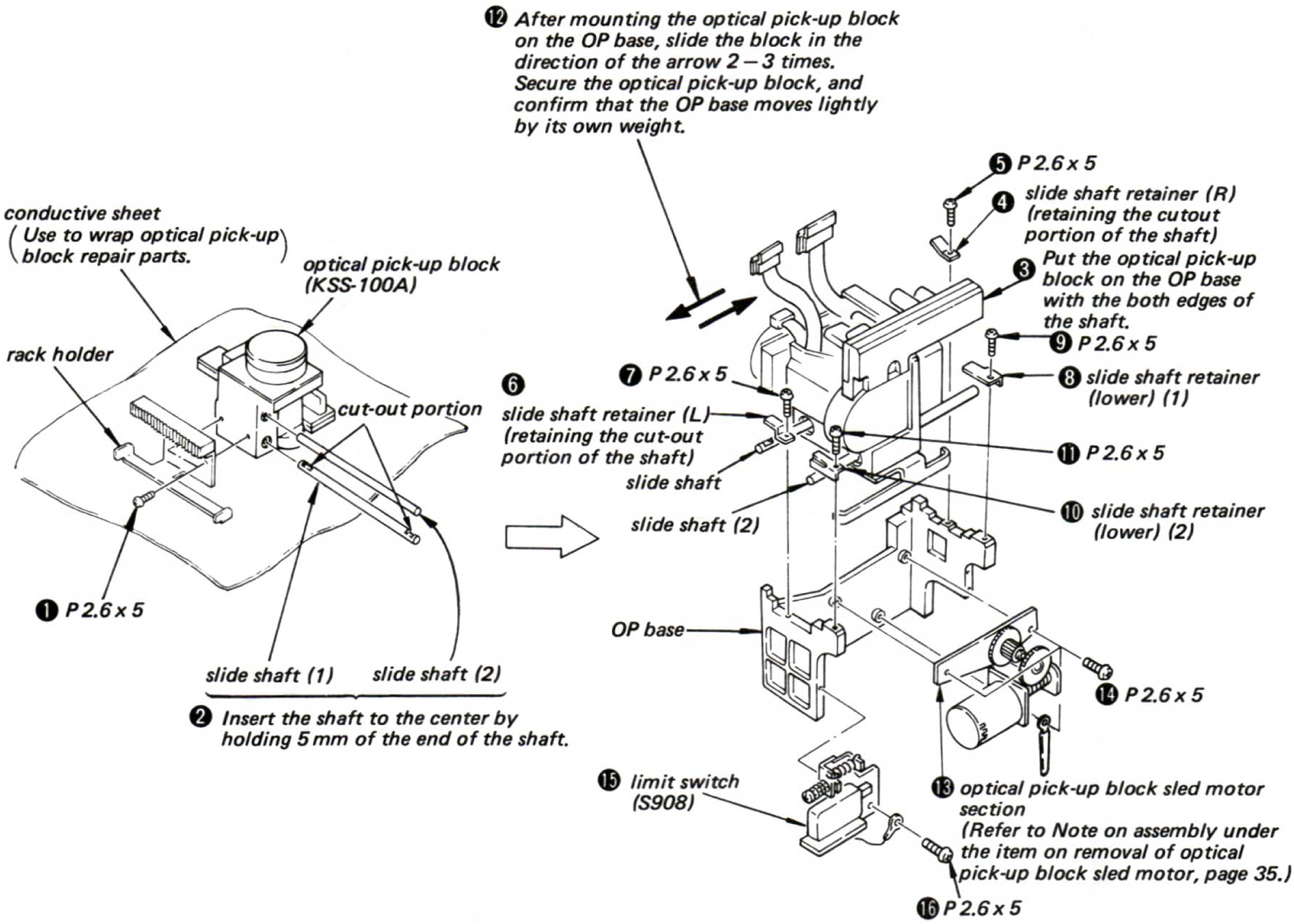


Optical Sled Motor Assembly



Optical Pick-Up Block Assembly

Refer to the Note on Handling the Optical Pick-up Block (KSS-100A). (Page 6)



When replacing the optical pick-up block, check and adjust the items below in order.

1. RF Offset Adjustment (page 42)
2. Tracking Offset Adjustment (page 42)
3. Focus Offset Adjustment (page 43)
4. Tracking Balance Adjustment (page 44)
5. Optical Pick-up Block Position Adjustment (page 37)

After performing the above, confirm focus/tracking gain.

– Checking Focus/Tracking Gain –

Play a disc (YEDS-1) and check the following items.

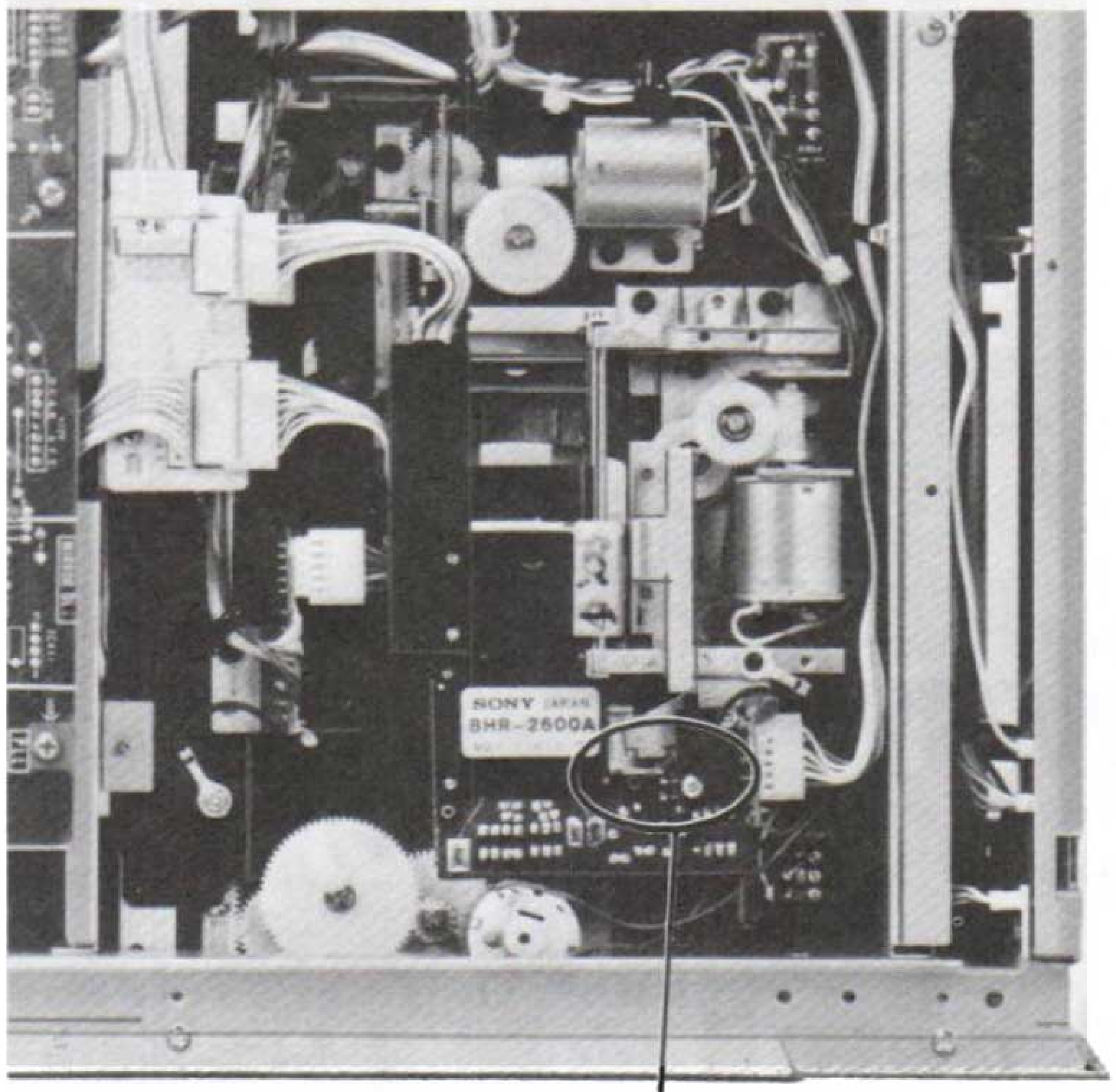
1. No skipping in the sound.
2. Mechanical noise when the 2-axis device operates should be minimum.
3. The beginning of the desired selection is reached when the (⏮, ⏭) buttons are pressed. The time for reaching the beginning of a selection should be about 2 seconds.
4. Turn the anti-shock switch off, and apply light shocks to the sides and top of the set. At this time the display should change correctly and no skipping should occur. Then when a stronger shock is applied, the display may jump and sound may skip, but operation should subsequently be normal.

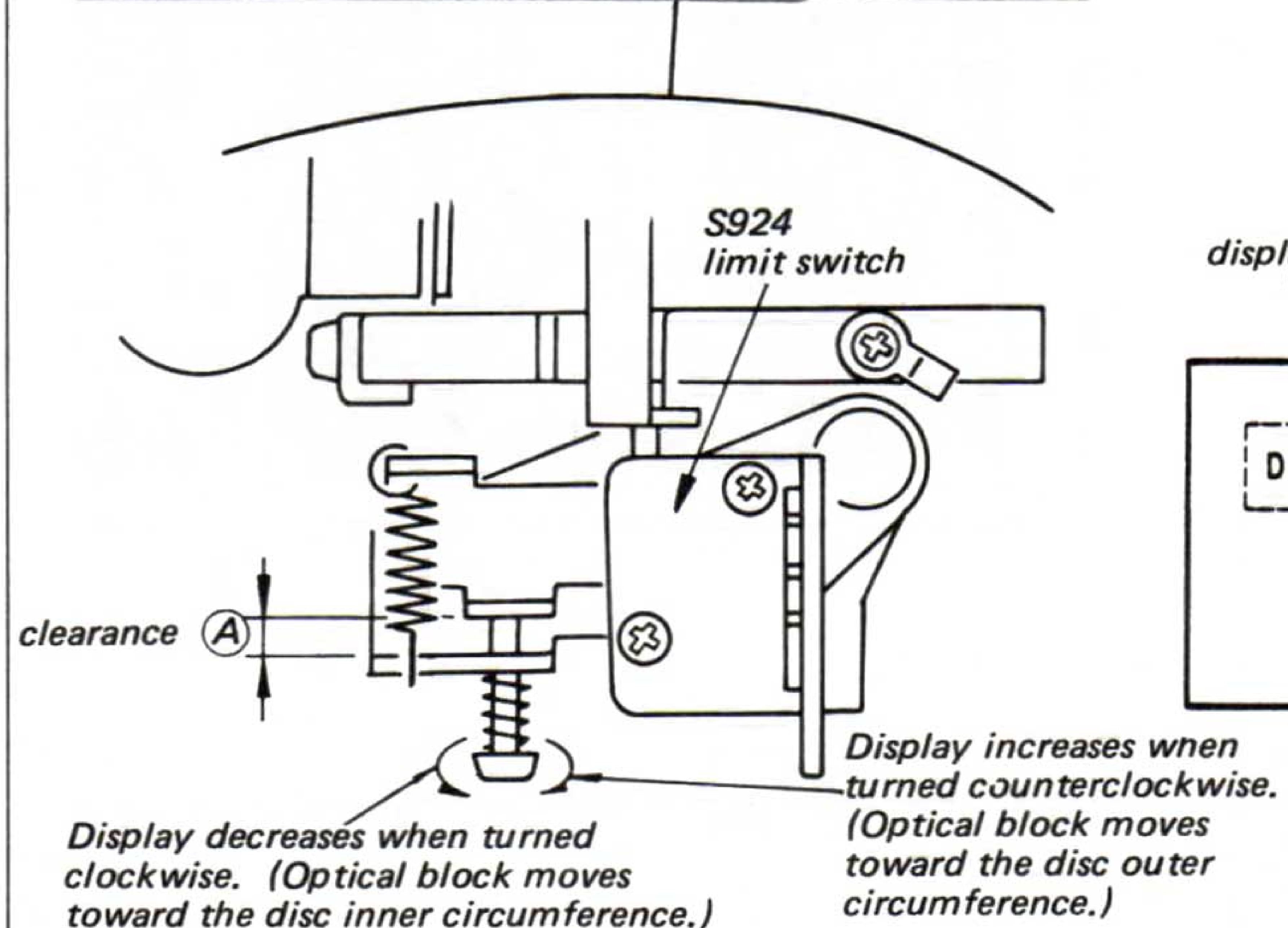
SECTION 3
ADJUSTMENTS

3-1. MECHANISM ADJUSTMENTS

Optical Pick-up Position Adjustment

This adjustment determines the position when the optical block is at its innermost position on the disc. It is done so that the optical block can read the information recorded in the TOC (Table of Contents) on the disc lead-in track.





Perform this adjustment after adjusting so that clearance Ⓐ is approximately 2.6 mm when the adjustment screw is removed.

1. Turn POWER switch on and insert disc (YEDS-1).
2. Press ▶ PLAY button and adjust the adjustment screw so that the display window reading is as shown in Figure A.
   The timer counter decreases approximately 10–20 seconds with one counterclockwise turn of the adjustment screw.
   When turning the adjustment screw, press the OPEN/CLOSE button to reset the microcomputers (IC101, 102, 103). After this, press ▶ PLAY button, read display window and perform adjustment again.
3. Press OPEN/CLOSE button, and after the LED on the OPEN/CLOSE button lights up, press ▶ PLAY button.
   Confirm that the display window reading is as shown in Figure A.
   This can also be confirmed by displaying the remaining time by pressing LAP/REMAINING TIME button.
4. Repeat step 3 about ten times. If there is even one variation from the figure, repeat steps 2-3.
5. Press ▶ PLAY button to obtain PLAY mode. Press Auto Selection (▶▶|) button and Manual Search (▶▶▶) button so that the outermost circumference is played. Next press RESET button.
6. Confirm that play begins when ▶ PLAY button is pressed. If it does not, the optical block and OP base are touching, so push the optical block motor worm gear by hand in the direction of the arrow, as shown in Figure B, and rotate it 1-2 times.
   Turn the adjustment screw clockwise one rotation, and repeat steps 2-6.

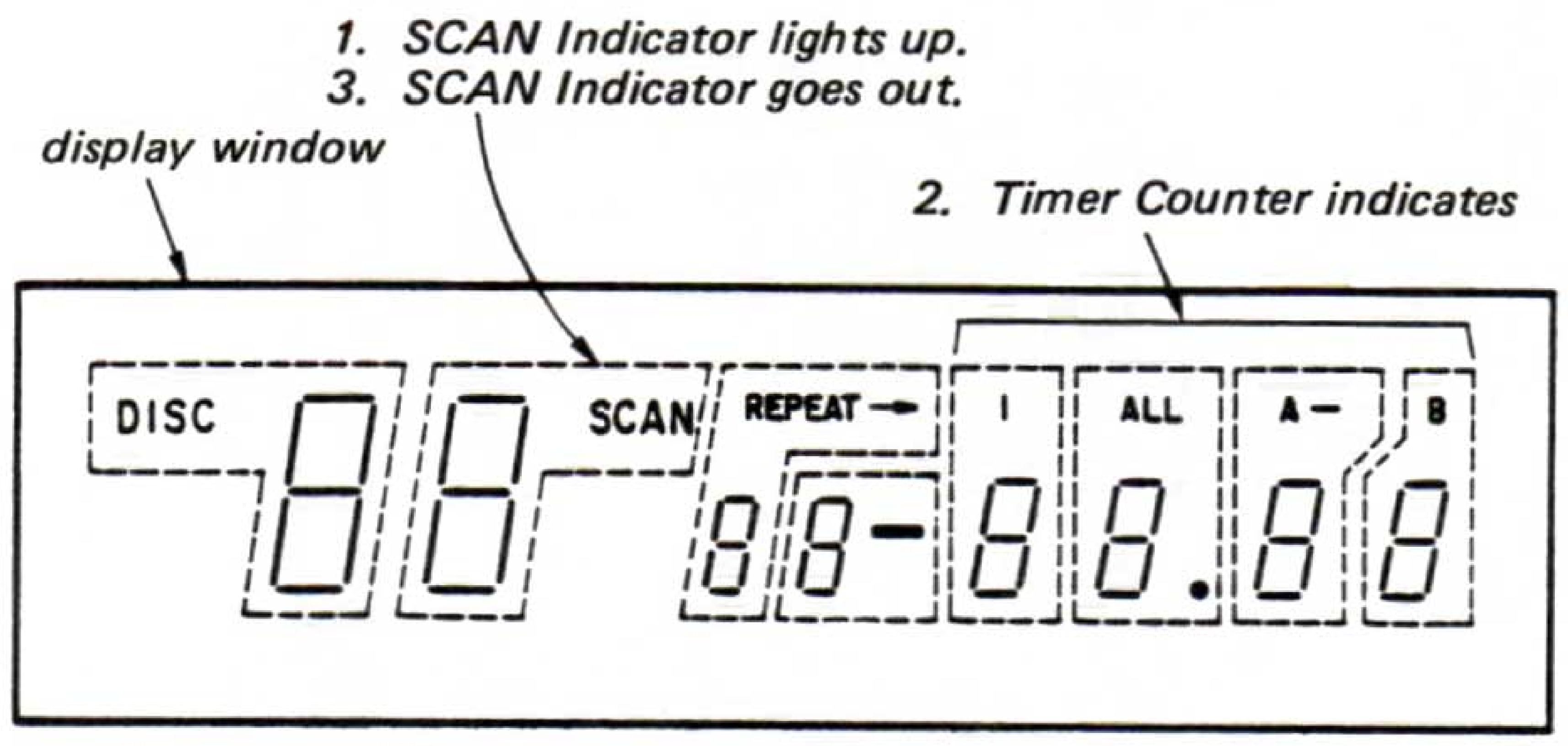


Fig. A

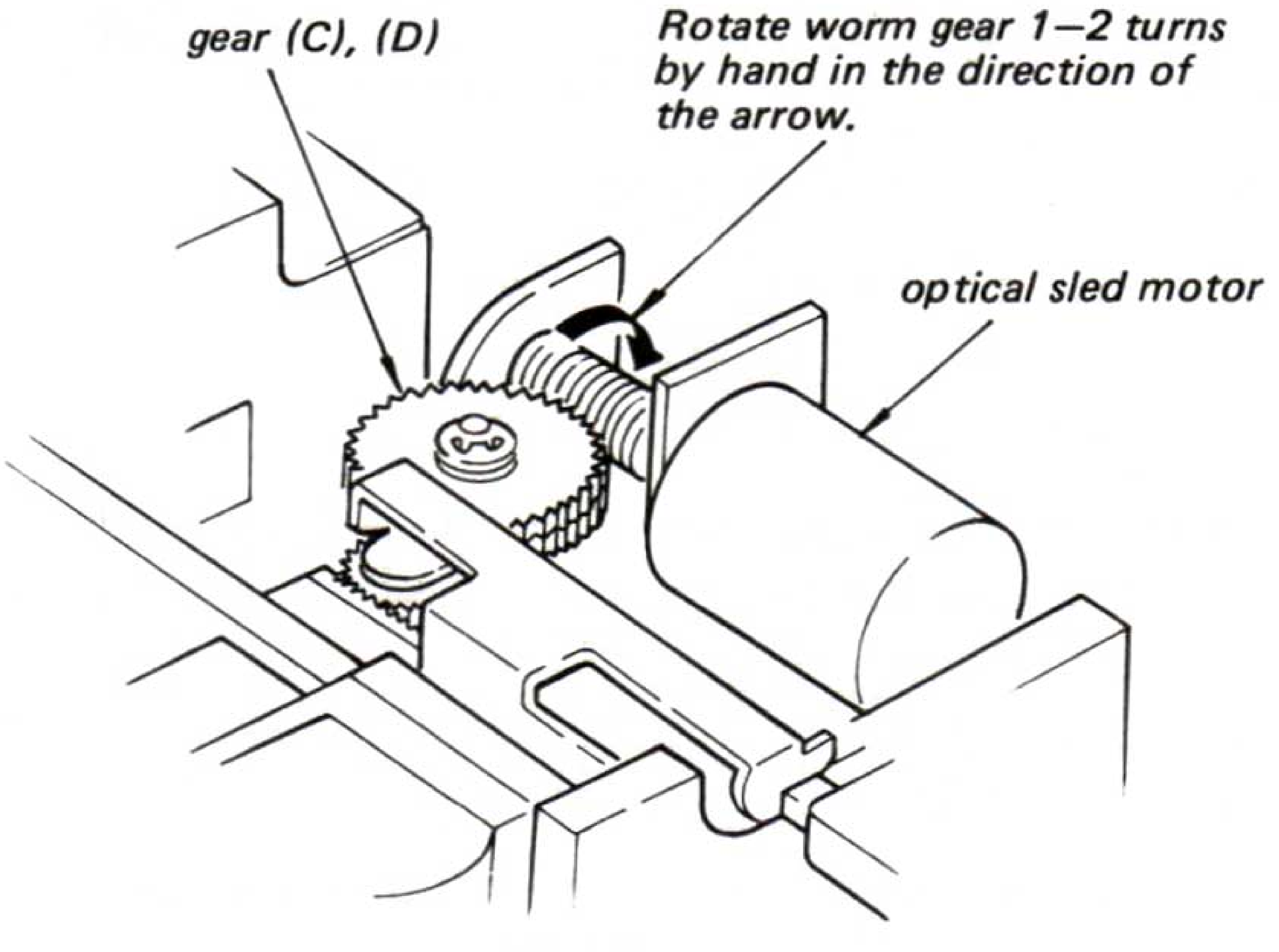
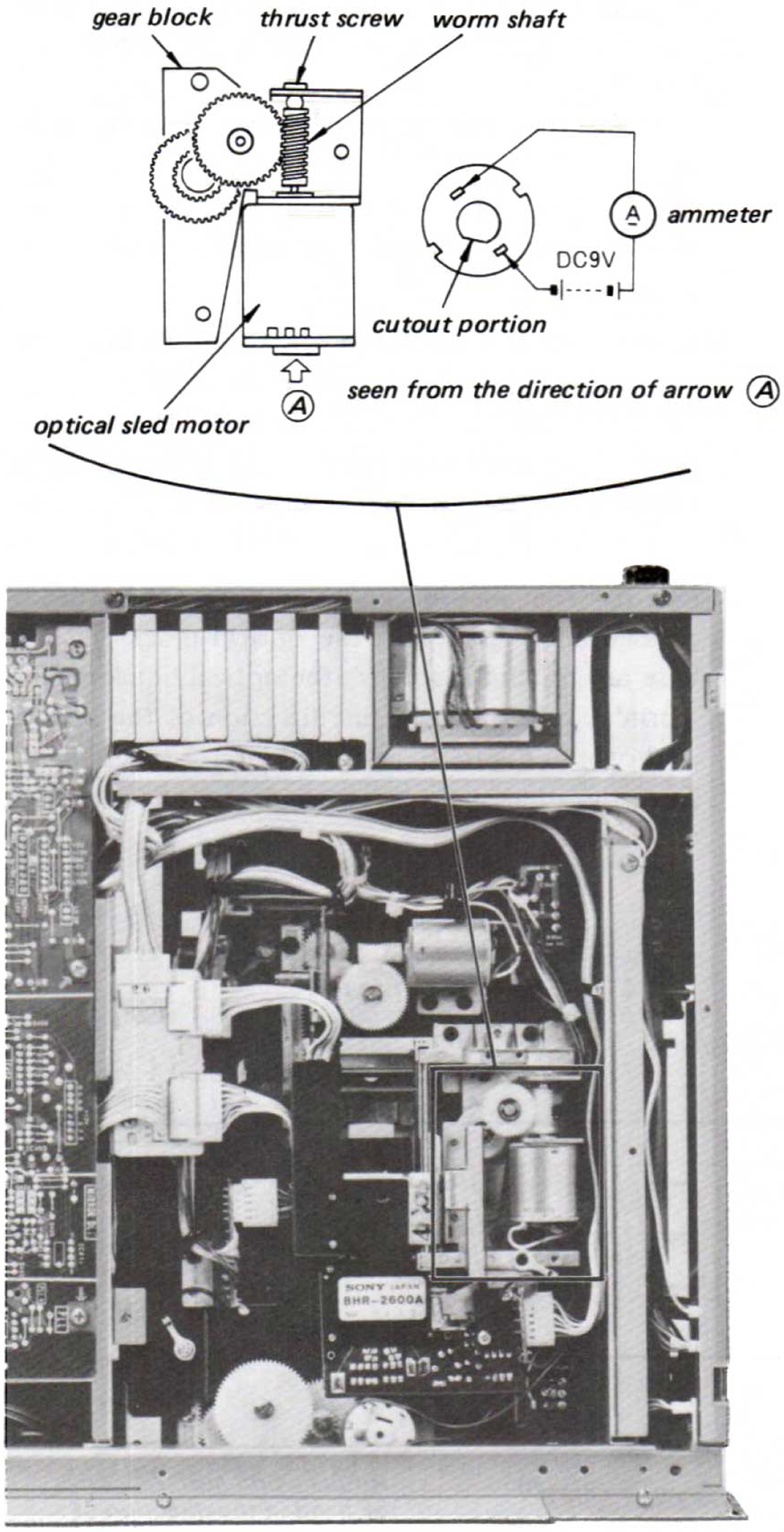


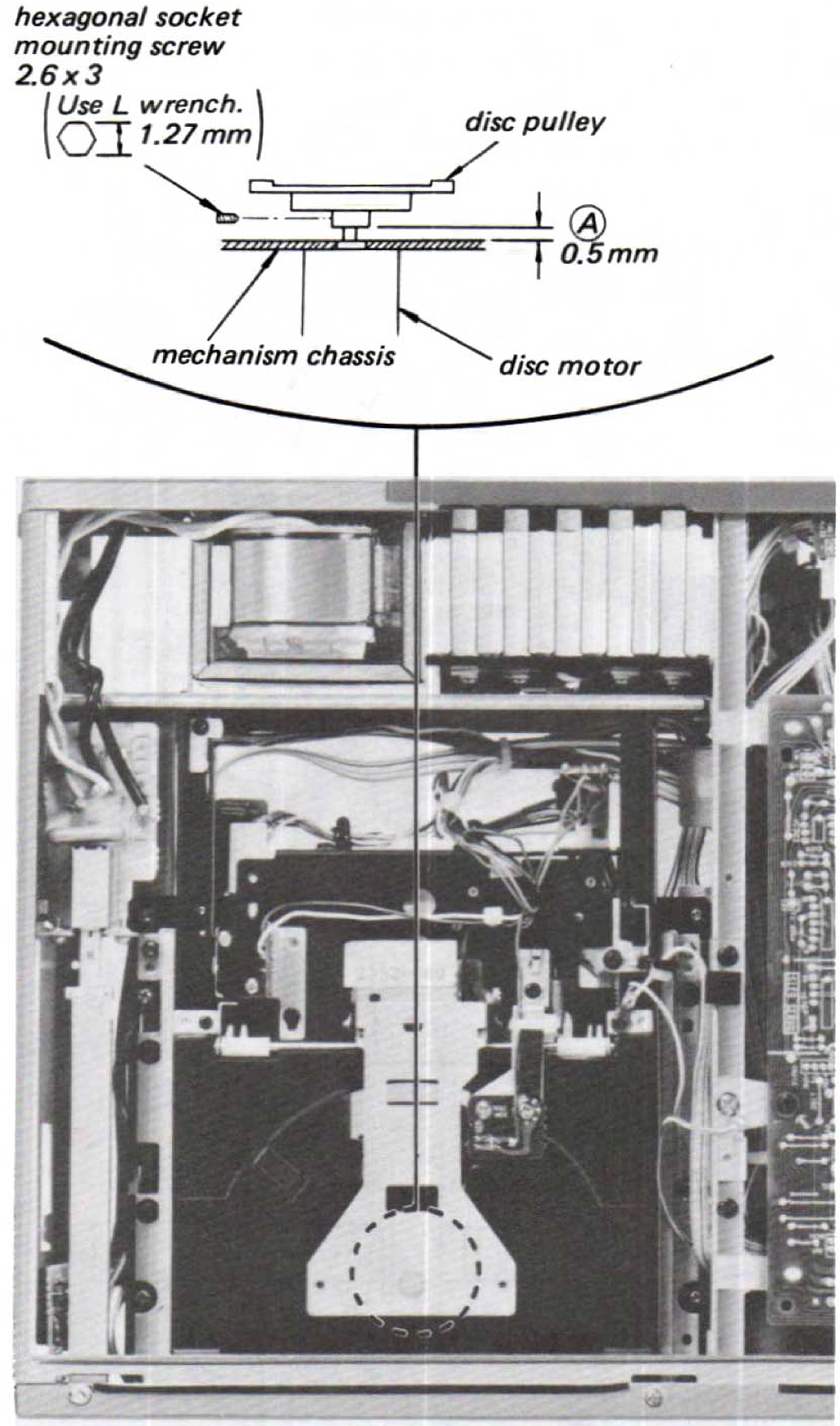
Fig. B

Optical Sled Motor Thrust Adjustment



1. Remove gear block. (See page 35)
2. Turn thrust screw counterclockwise to loosen.
3. Connect as shown above and remember the ammeter reading.
4. Next, turn the thrust screw clockwise slowly and adjust so that the ammeter reading is +1 mA from the reading in step 2.
   Motor drive current must be less than 25 mA.
   Reference value: 17–20 mA.
5. Confirm that there is no worm shaft thrust play.
6. After adjustment, lock the screw.
7. Install the gear block. (See page 35)

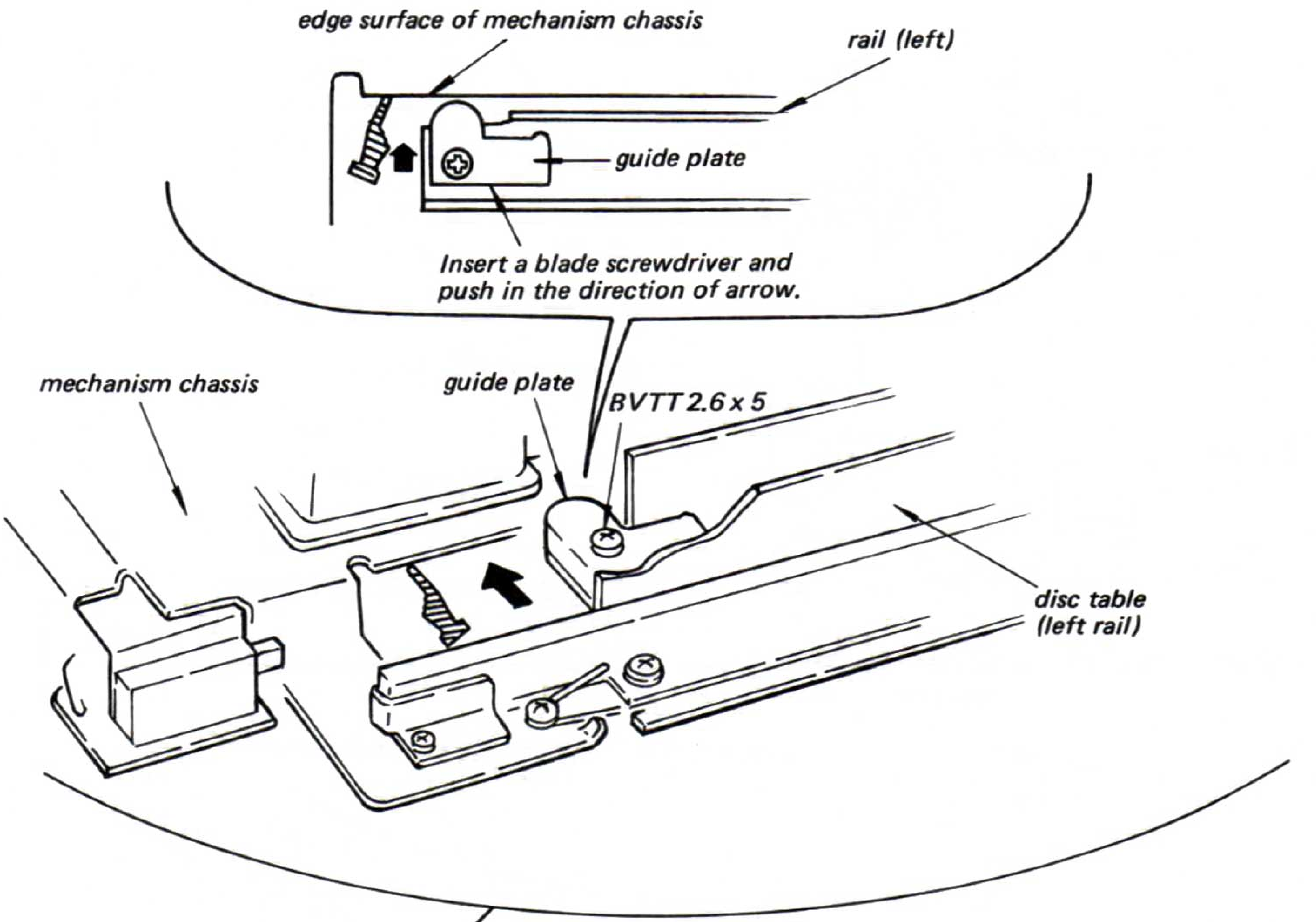
Disc Pulley Height Adjustment

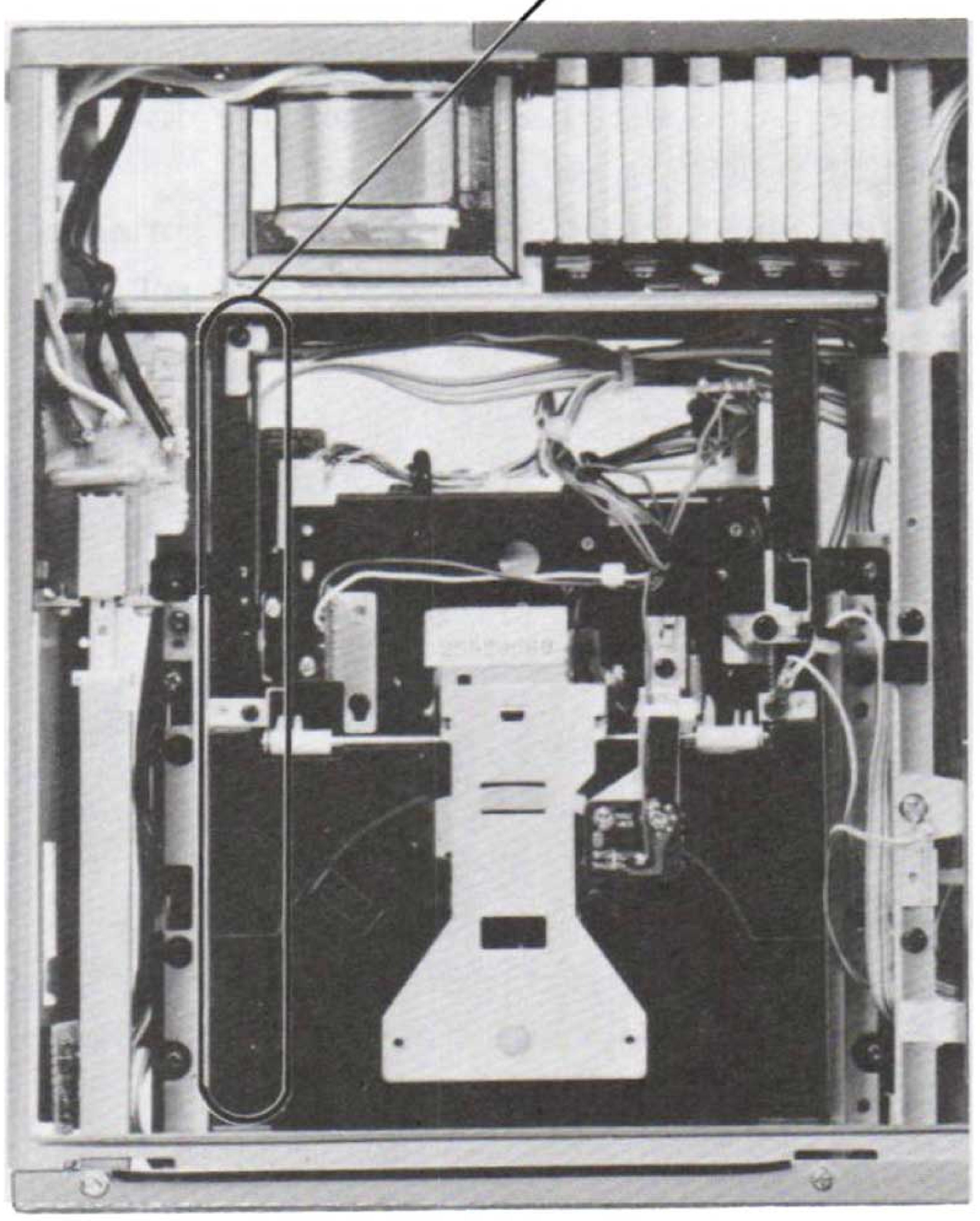


Install the disc pulley so that clearance Ⓐ is 0.5 mm.

Guide Plate Adjustment

This adjustment is to suppress lateral play when the disc table opens.

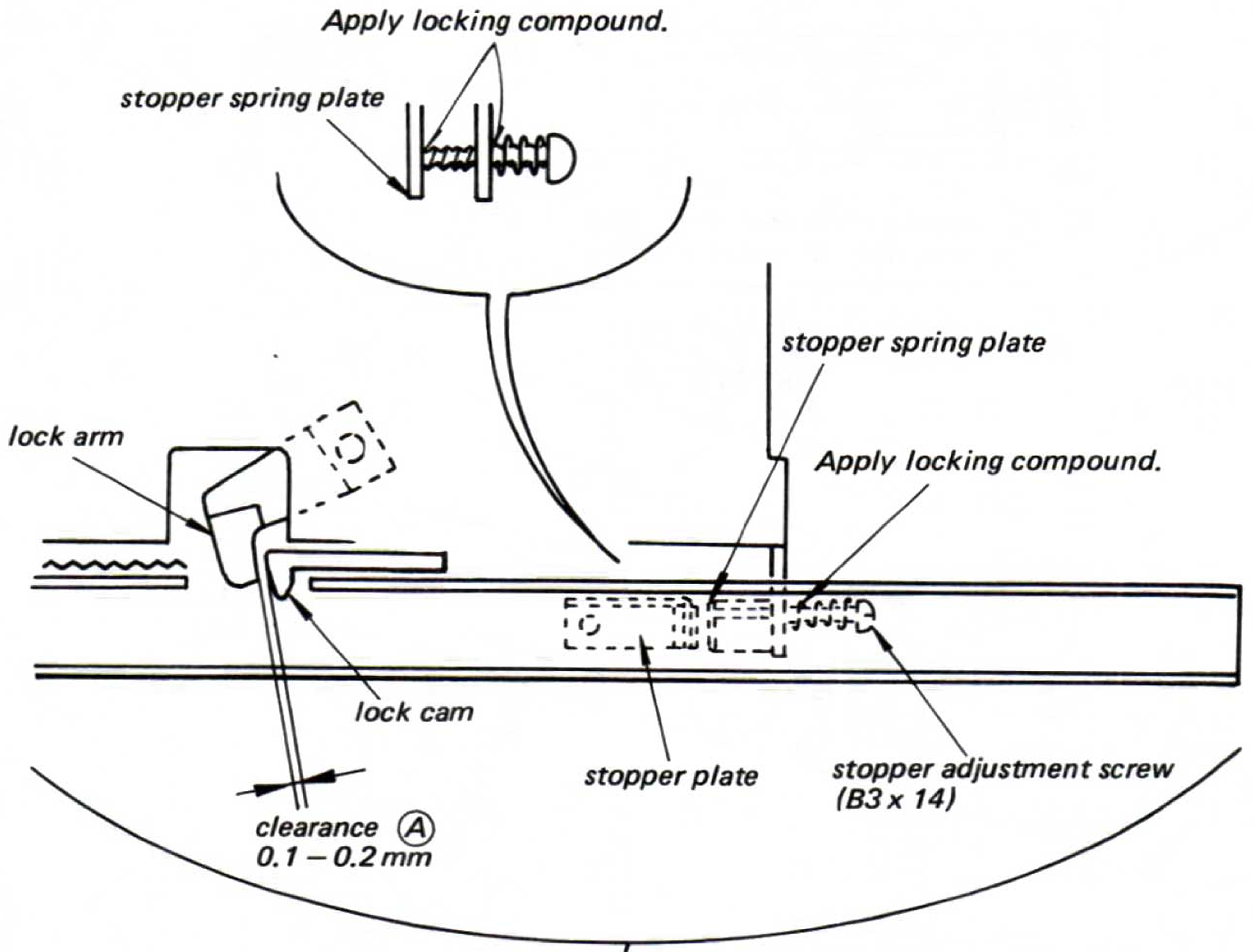


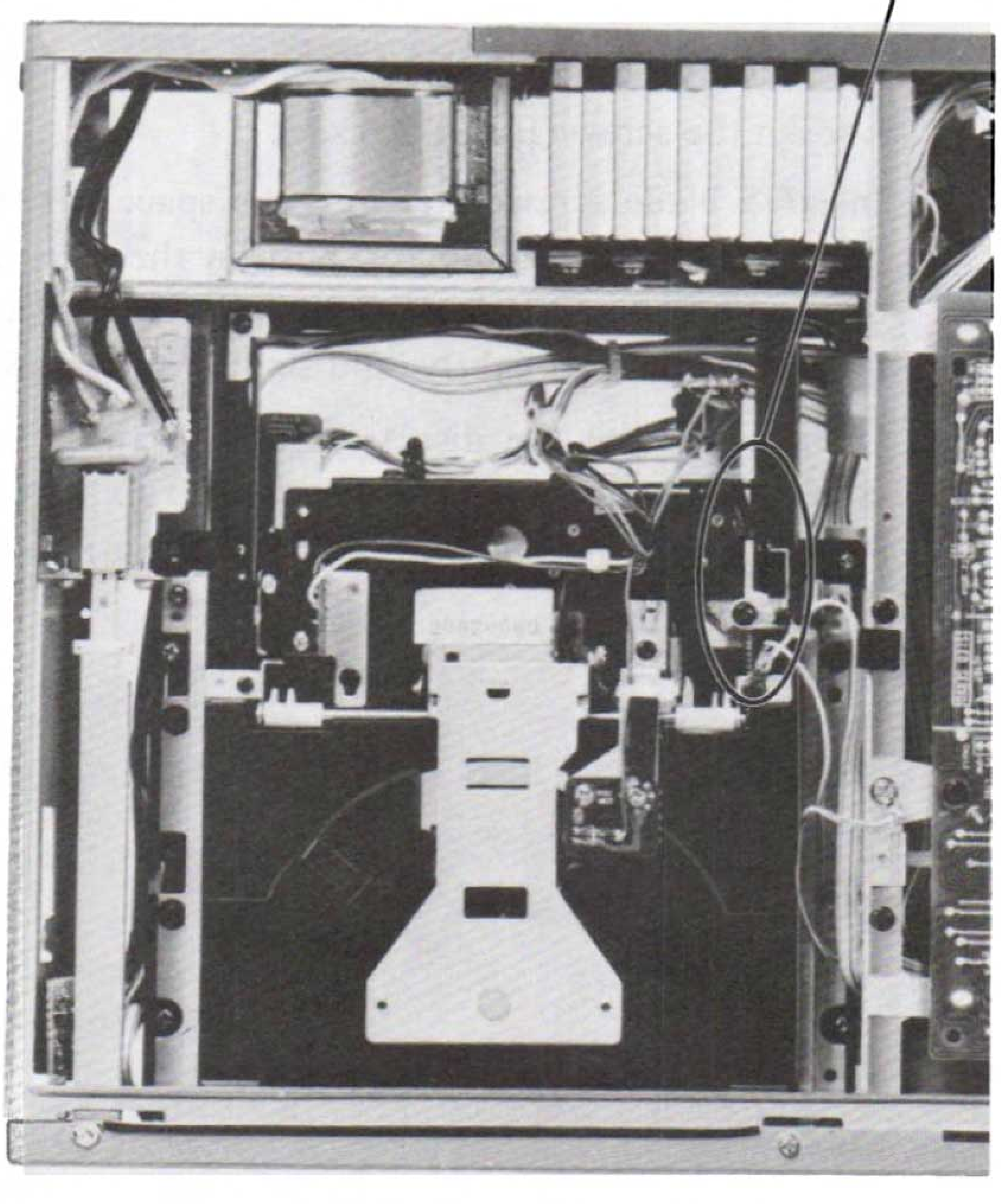


1. Press OPEN/CLOSE button to open the disc table.
2. Loosen the screw (BVTT 2.6 x 5).
3. Insert a blade screwdriver into the space between the left rail and guide plate, push in the direction of the arrow so that it touches the edge surface of mechanism chassis lightly, and tighten the screw.
4. Open and close the disc table 2 – 3 times, and confirm that the guide plate does not rub the edge surface of mechanism chassis (section).

Disc Table Stopper Adjustment

This adjustment is to prevent the disc table from coming forward due to loading gear backrush when the disc table is closed and chucking completed.





Adjust with the stopper adjustment screw so that clearance Ⓐ is 0.1–0.2 mm when the disc table is closed.

After adjustment, lock the stopper spring plate and stopper adjustment screw. (Do not get lock on the stopper plate.)

3-2. ELECTRICAL ADJUSTMENTS

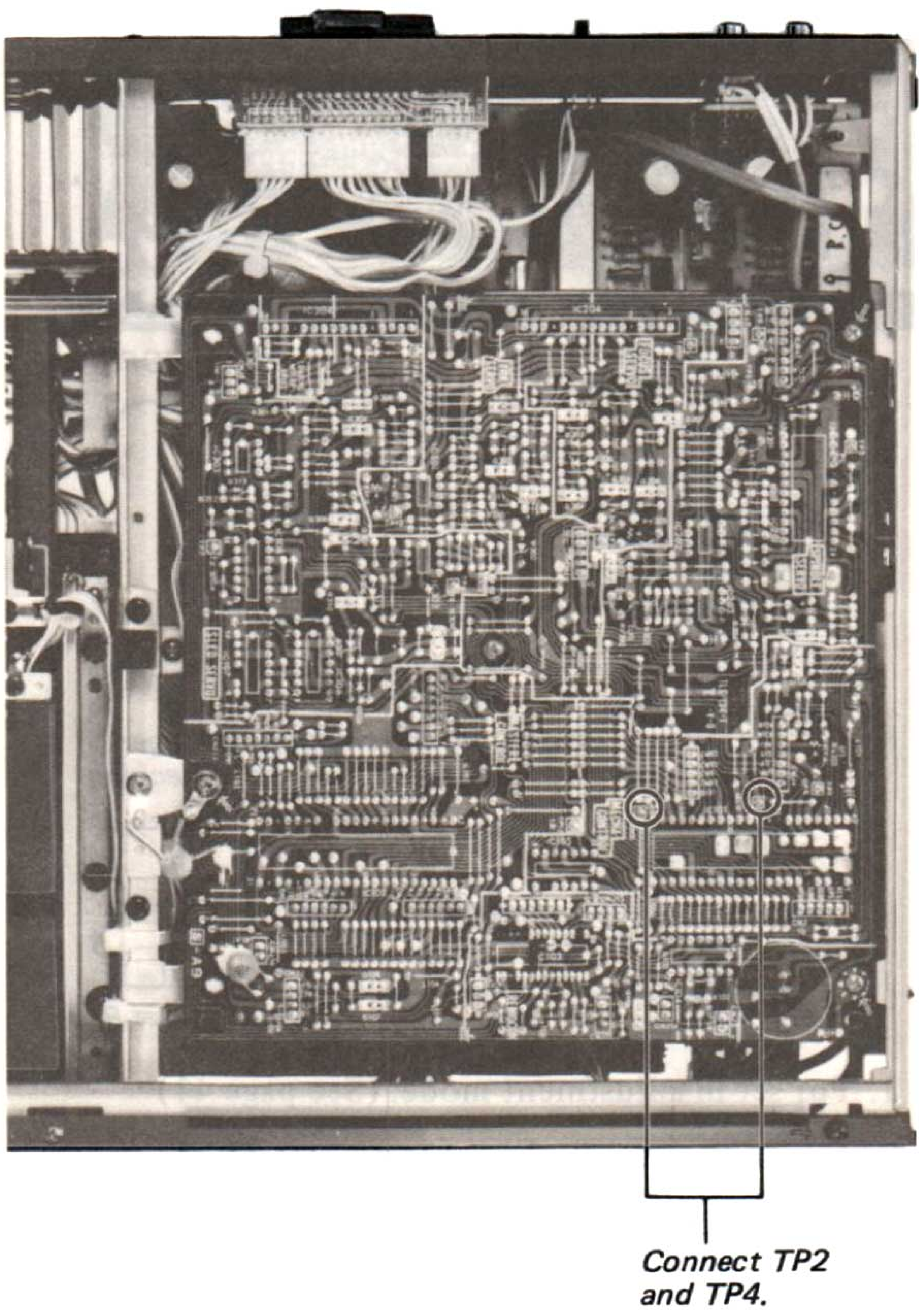
1. Perform adjustments in the order given.
2. Use YEDS-1 disc unless otherwise indicated.
   Part No. of YEDS-1: 3-703-696-01
3. Set the unit horizontal.

Adjustment Mode

1. Connect servo amp board test points TP2 and TP4.
   (This is to prevent the disc table from opening even though pits are not read, by making microcomputer IC101 pin 33 low.)
2. Turn POWER switch on.
   (To reset microcomputer.)

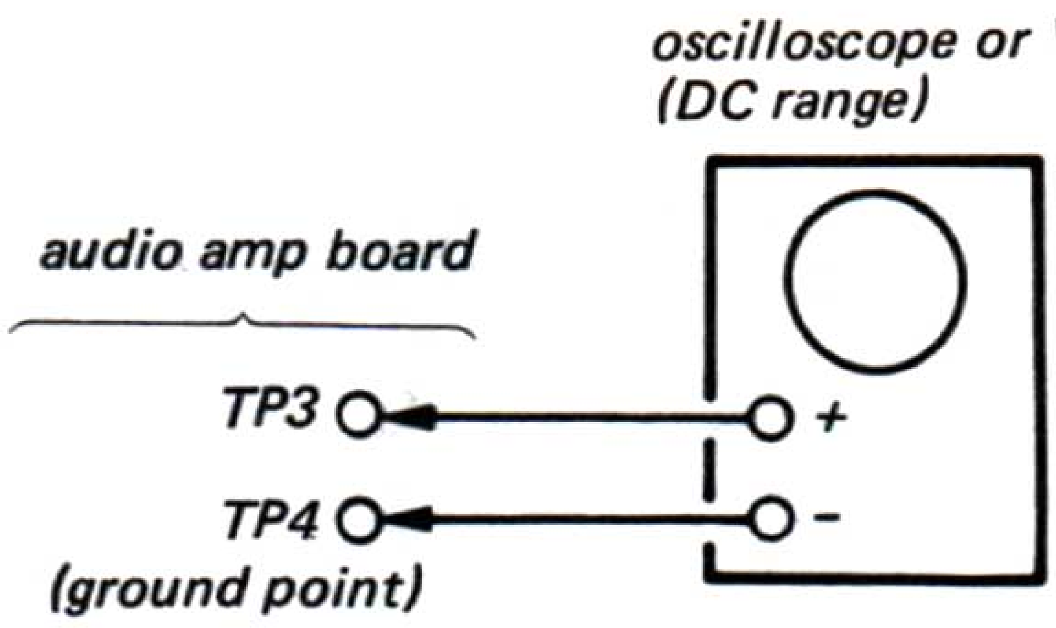
After adjustment, remove the lead wire connecting test points TP2 and TP4.

Adjustment Location: Servo amp board



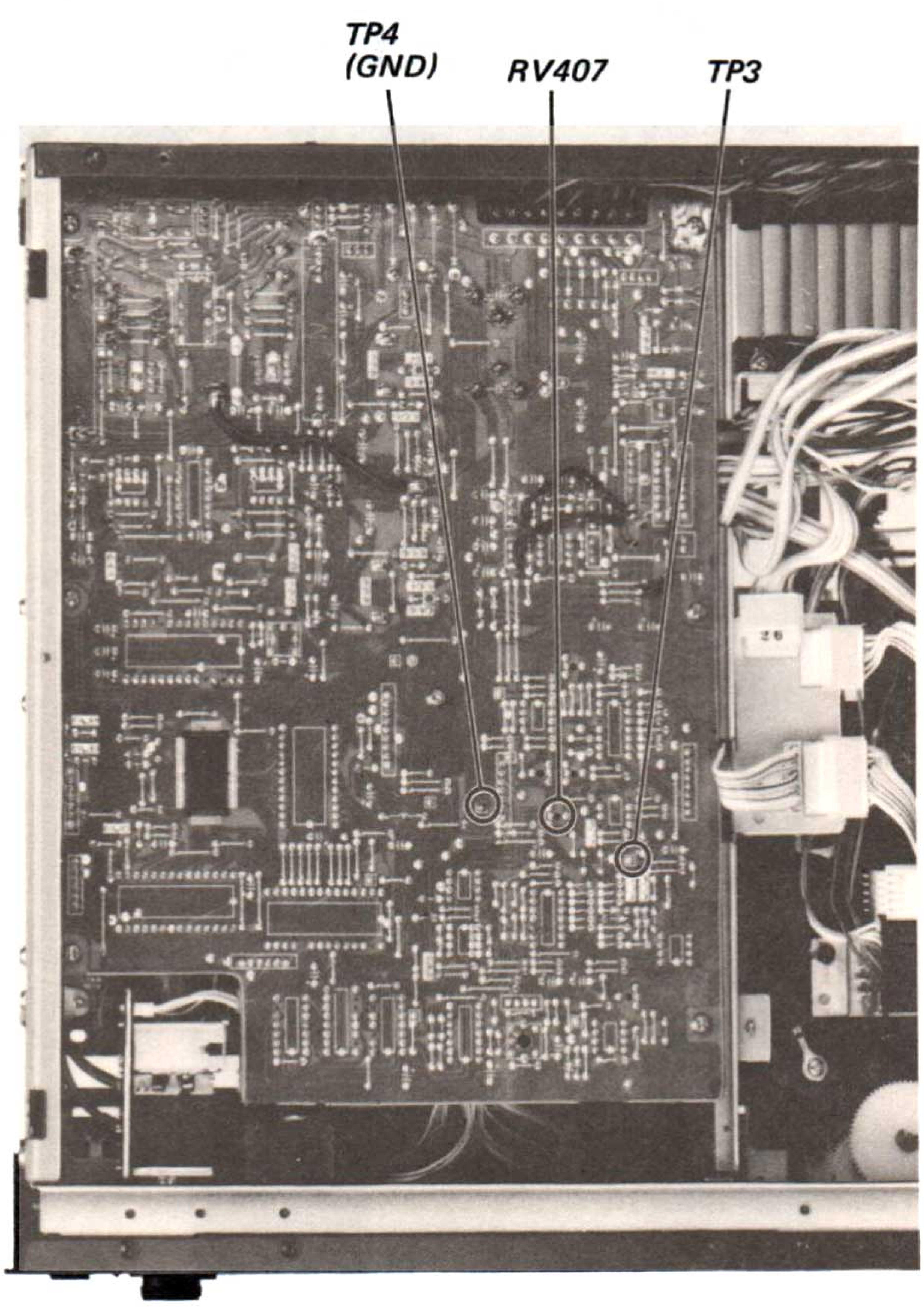
RF Offset Adjustment

Procedure:



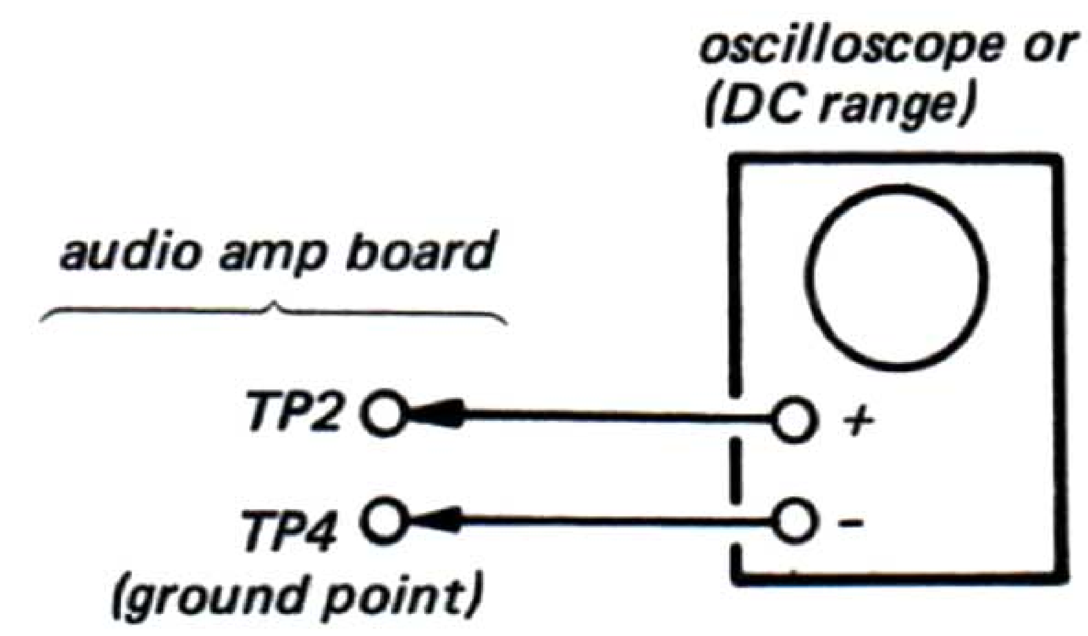
1. Turn POWER switch on. (STOP mode)
2. Connect oscilloscope or VOM to audio amp board test points TP3 and TP4 (ground point).
3. Adjust RV407 so that oscilloscope or VOM reading is DC −0.4 ± 0.1 V.

Adjustment Location: Audio amp board



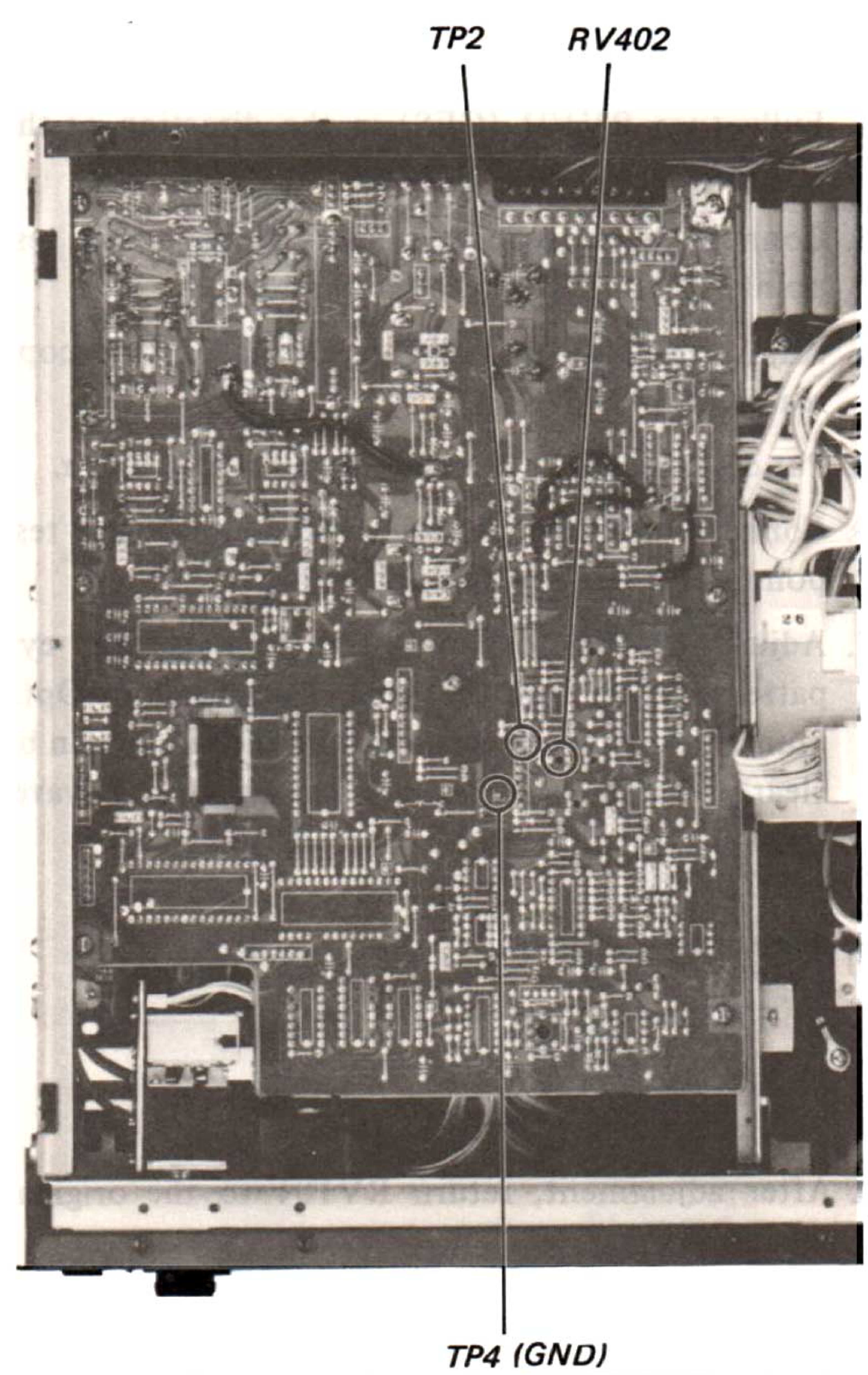
Tracking Offset Adjustment

Procedure:



1. Turn POWER switch on. (STOP mode)
2. Connect oscilloscope or VOM to audio amp board test points TP2 and TP4 (ground point).
3. Adjust RV402 so that oscilloscope or VOM reading is DC 0 ± 0.1 V.

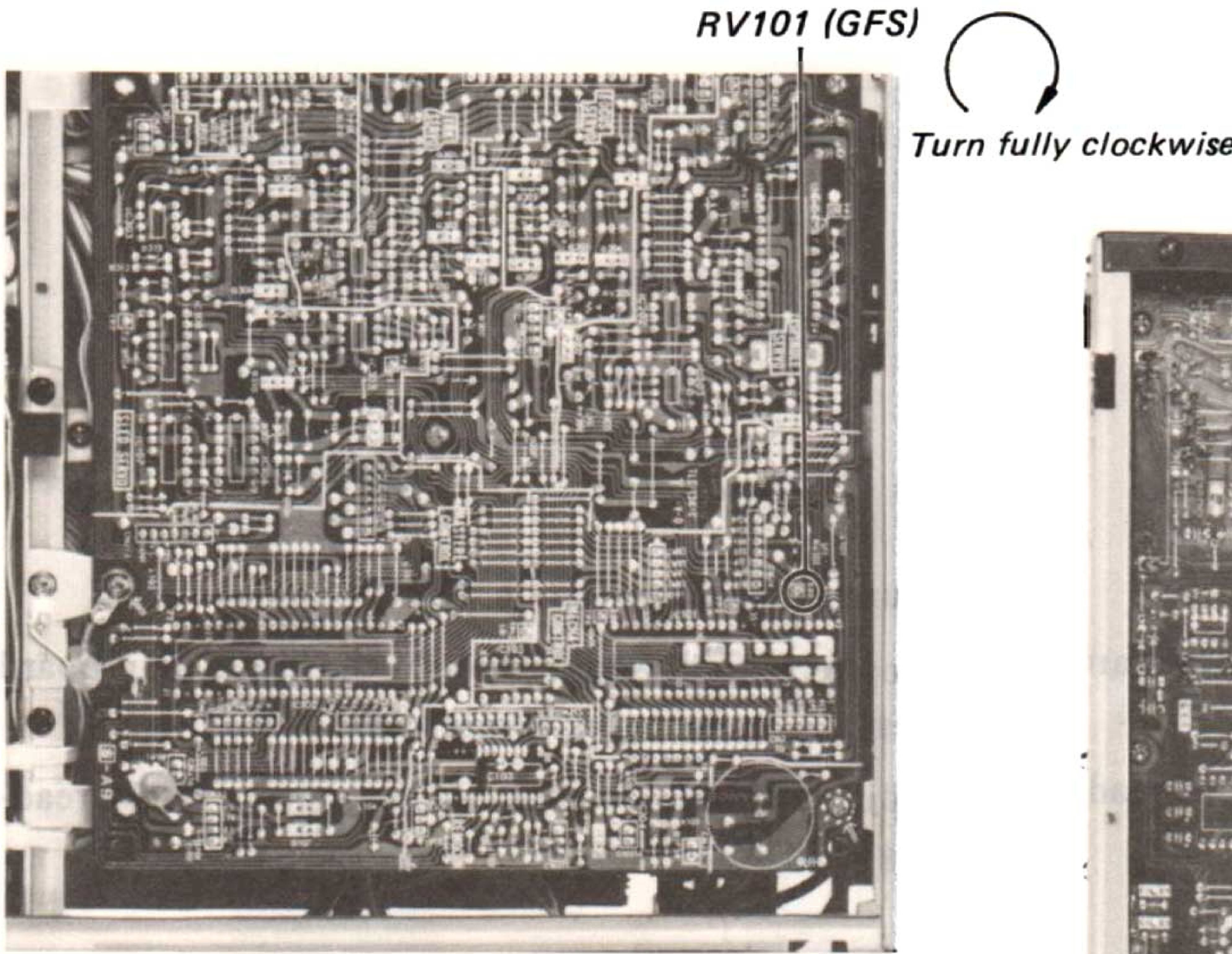
Adjustment Location: Audio amp board

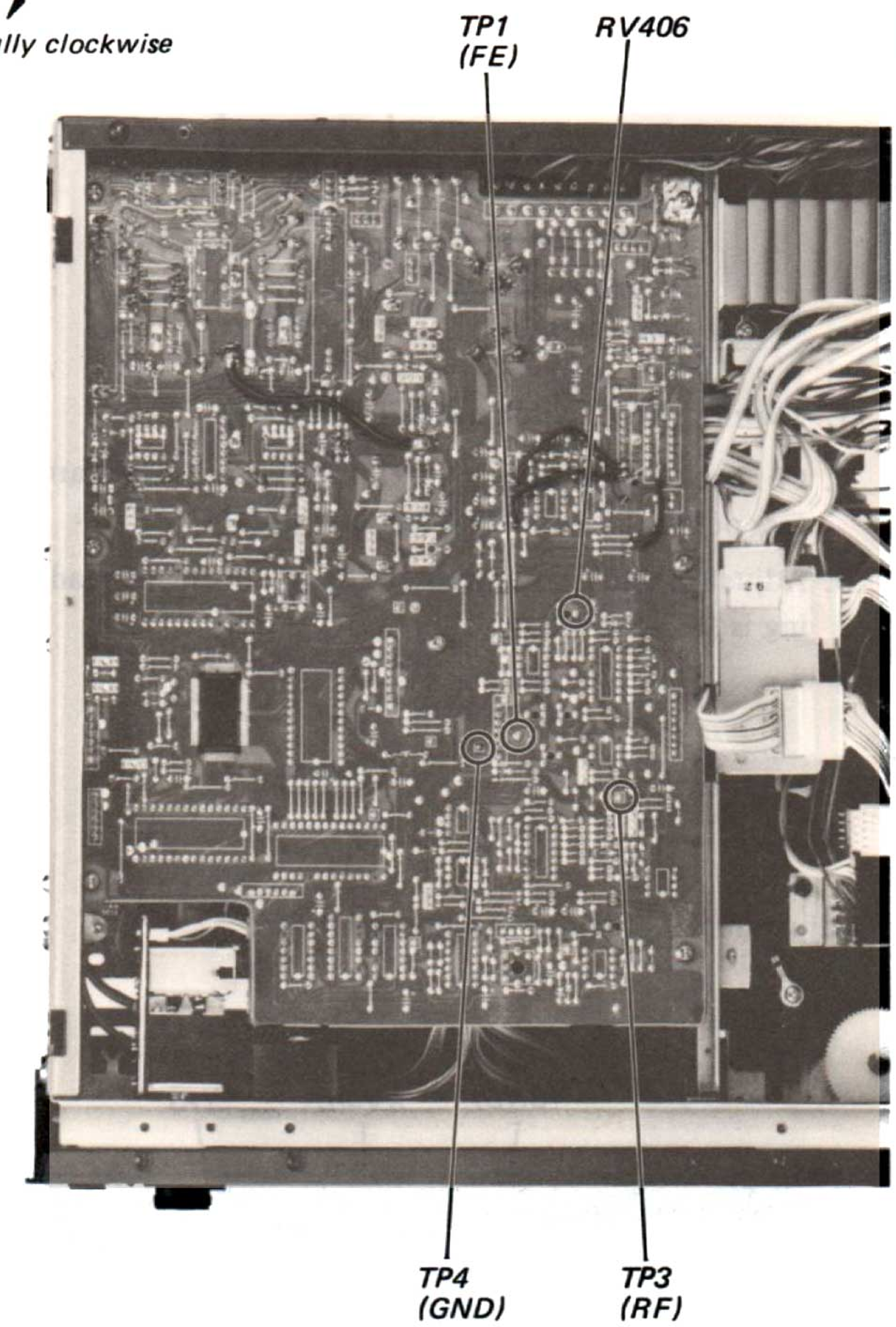


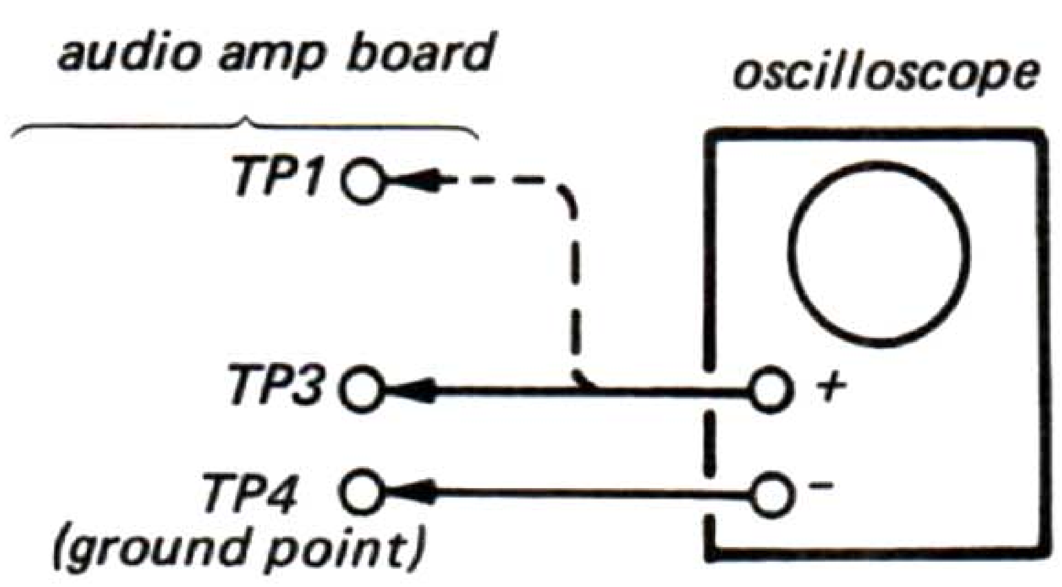
Focus Offset Adjustment

Procedure:

Adjustment Location: Audio amp board

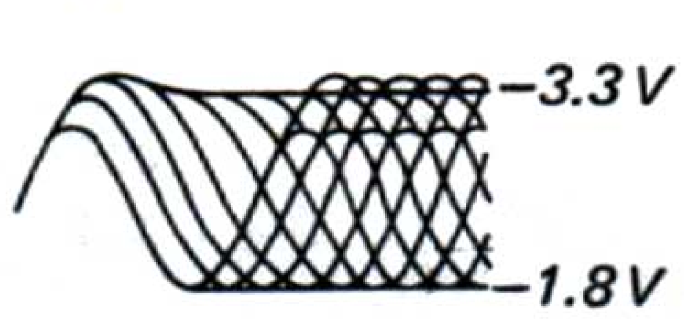






1. Put set in adjustment mode. (See page 41)
2. Fully turn RV101 (GFS) in the direction of the arrow. (See above)
3. Connect oscilloscope to audio amp board test points TP1 and TP4 (ground point).
4. Adjust RV406 tentatively so that oscilloscope reading is DC 0 V.
5. Put disc (YEDS-1) in and press ▶PLAY button.
6. Connect oscilloscope to audio amp board test points TP3 and TP4 (ground point).
7. Adjust RV406 for an optimum waveform eye pattern or so that the peak is maximum. Optimum eye pattern means that the shape "◇" can be clearly distinguished at the center of the waveform.

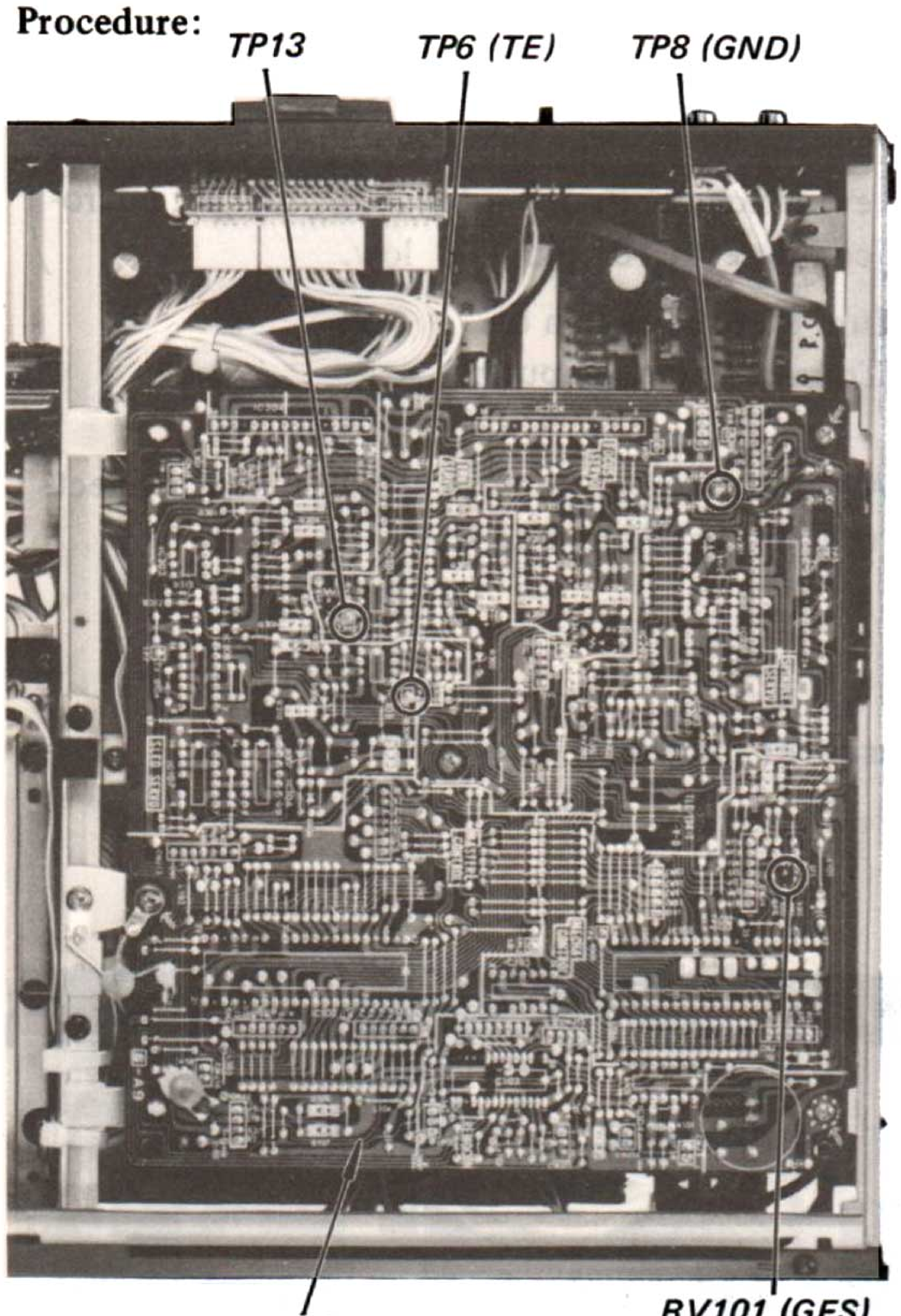
RF signal waveform

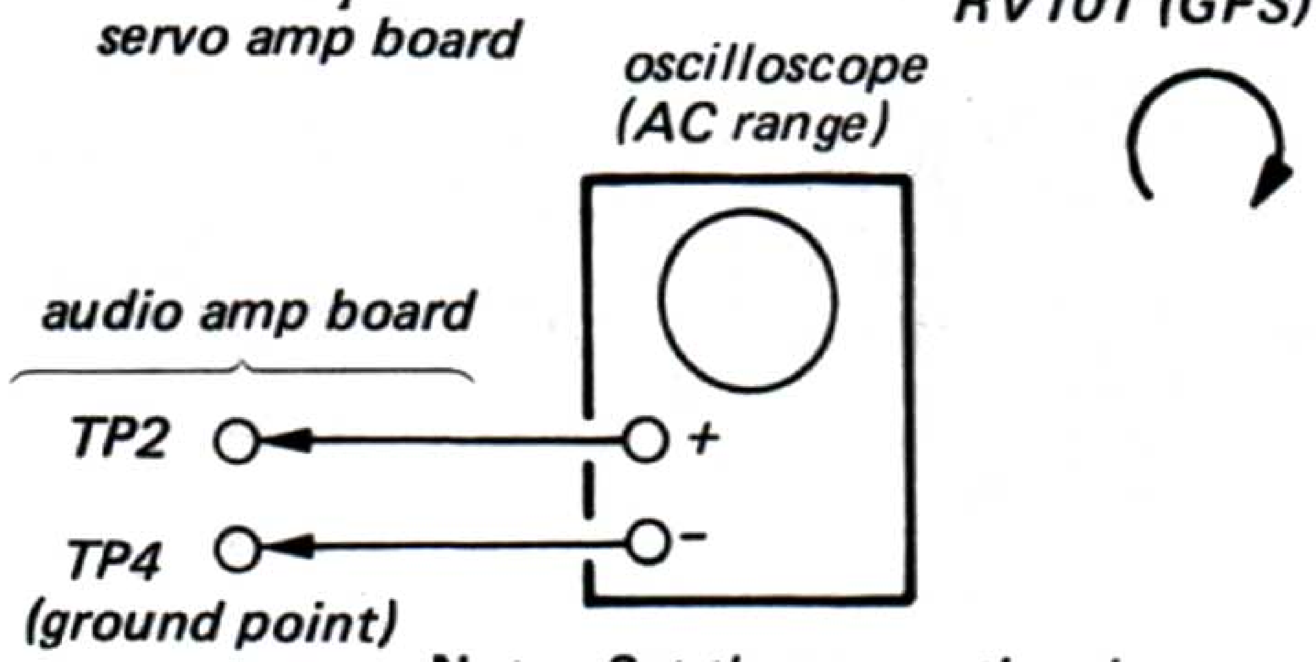


8. After adjustment, return RV101 to the original setting.

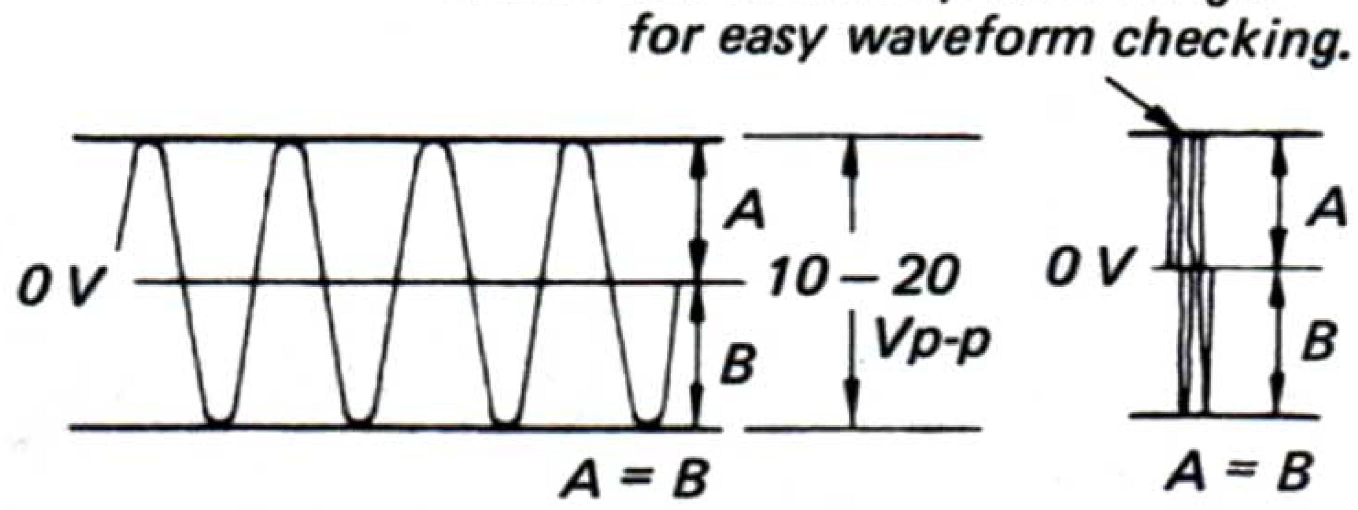
Tracking Balance Adjustment

Procedure:



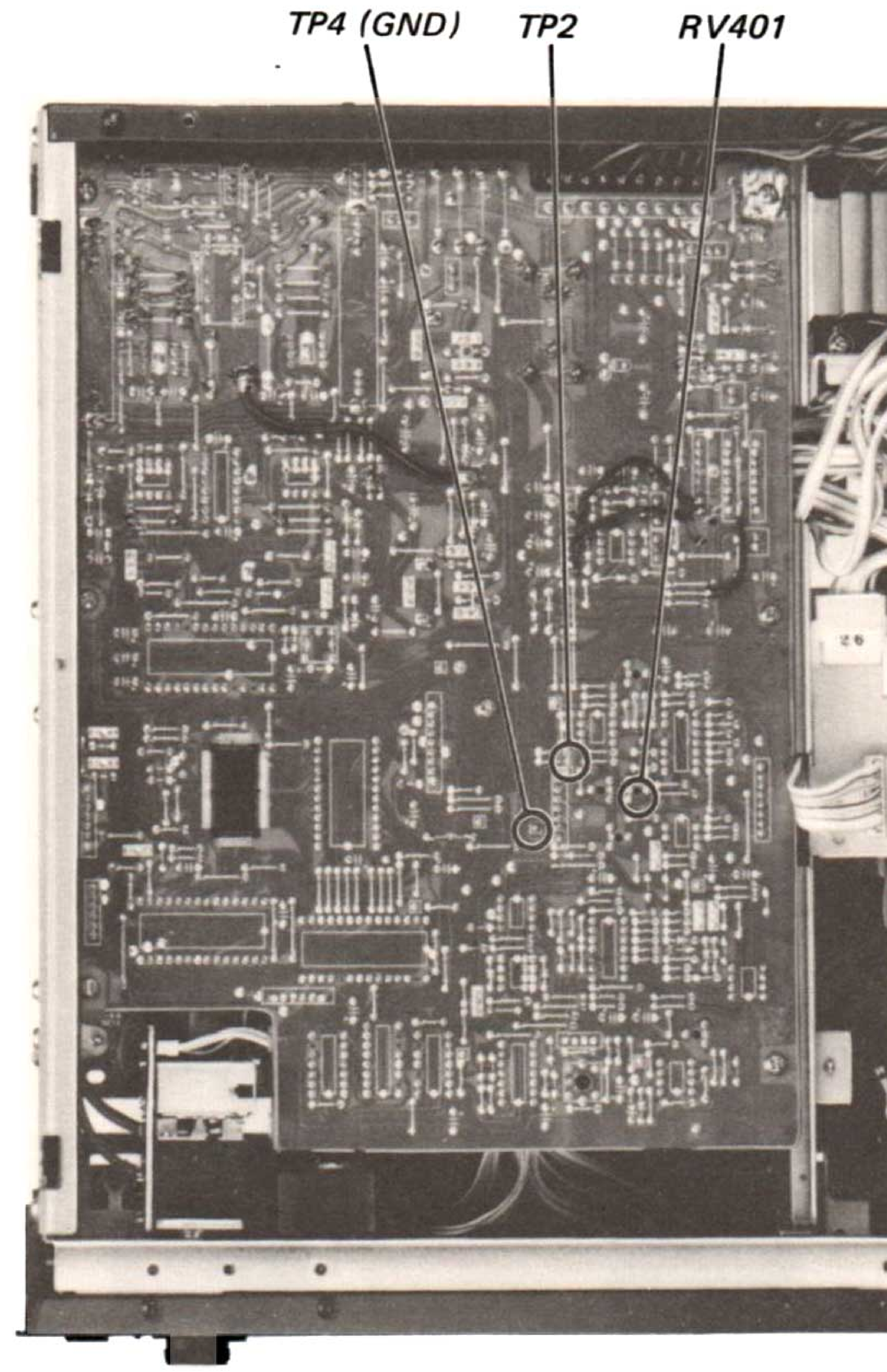


Note: *Set the sweep time longer for easy waveform checking.*



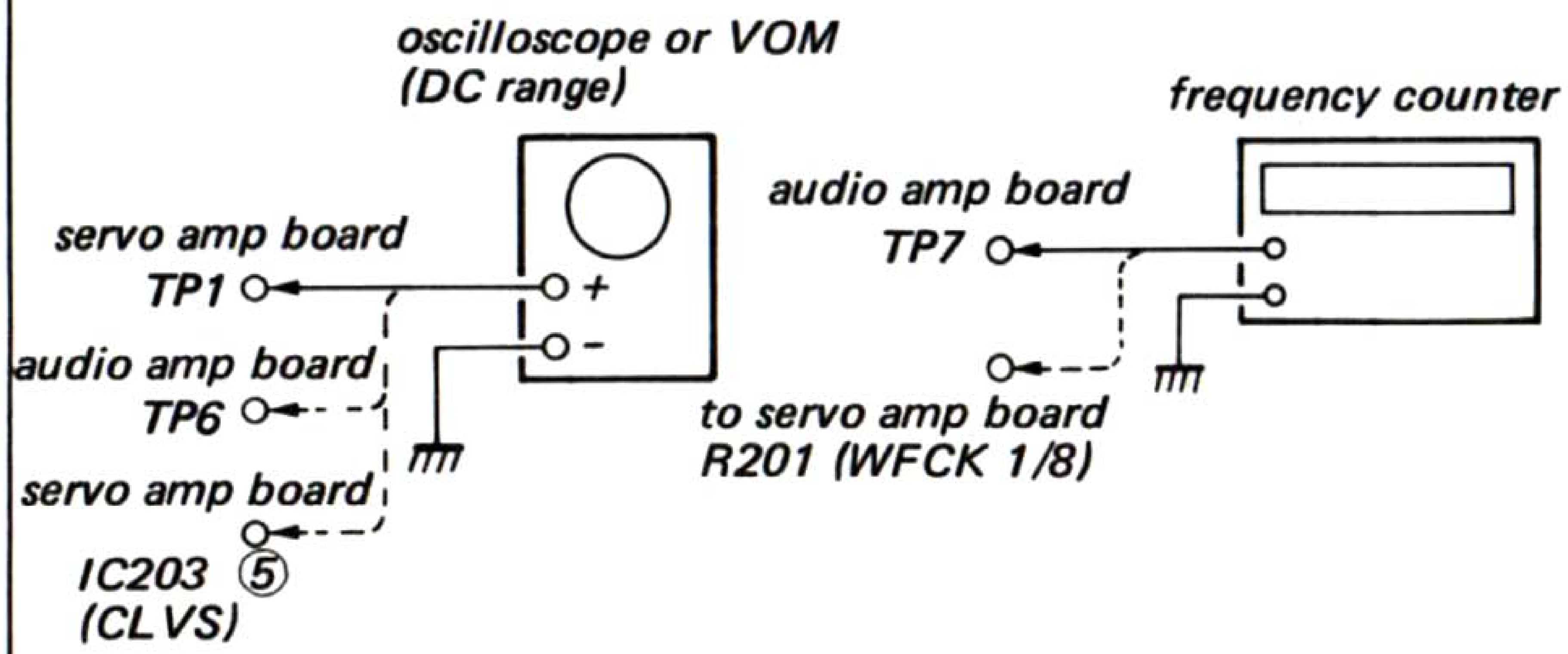
1. Put set in adjustment mode. (See page 41)
2. Ground servo amp board test point TP13.
3. Fully turn RV101 (GFS) in the direction of the arrow. (See above)
4. Put disc (YEDS-1) in and press ▶PLAY button.
5. Connect oscilloscope to audio amp board test points TP2 and TP4 (ground point).
6. Adjust RV401 so that the oscilloscope waveform is symmetrical above and below, relative to 0 V.
7. After adjustment, remove the lead wire which grounded audio amp board test point TP13. Return RV101 to the original setting.

Adjustment Location: Audio amp board

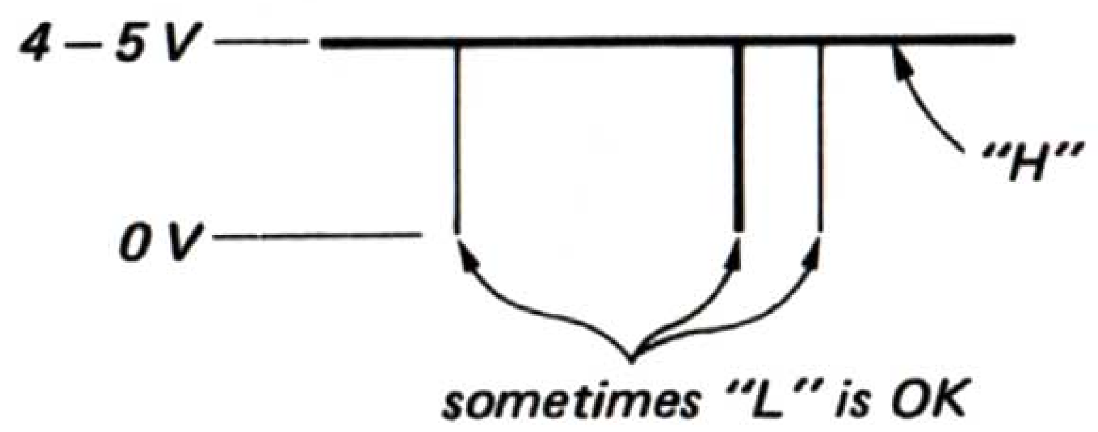


RF PLL Adjustment

Procedure:



1. Put set into adjustment mode. (See page 41)
2. Fully turn RV101 (GFS) in the direction of the arrow. (Refer to adjustment location.)
3. Put disc (YEDS-1) in and press ▶PLAY button.
4. Connect oscilloscope to servo amp board test point TP1.
5. Confirm that the oscilloscope waveform is "H" as shown in the figure below.



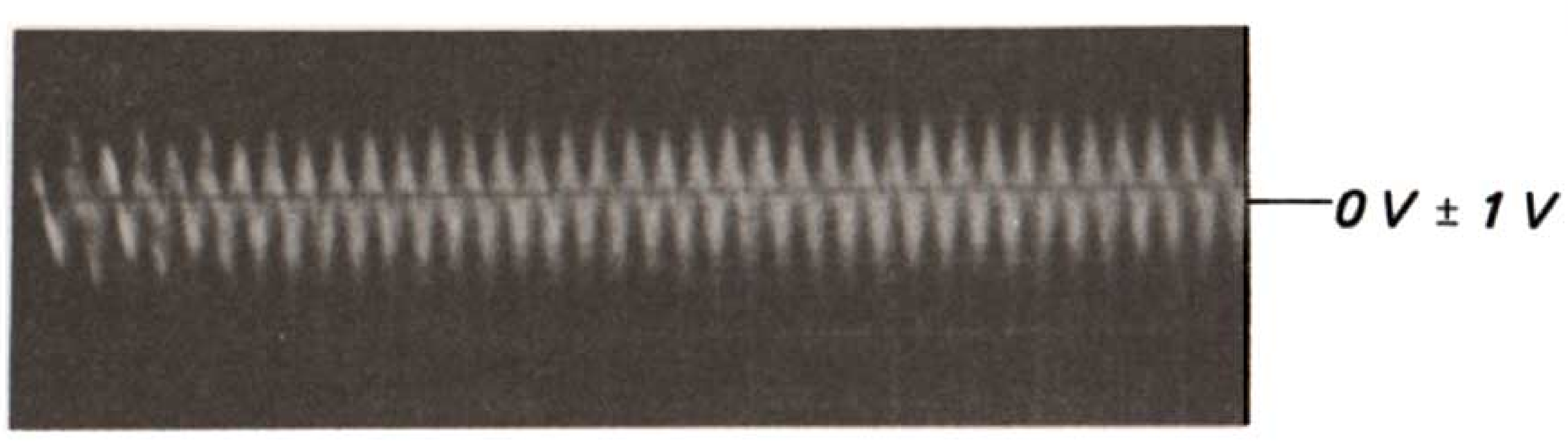
- Confirm the following items when the waveform is as shown above. If it is not, perform the adjustments in steps 6-16.

  A. Connect oscilloscope or VOM to audio amp board test point TP6 and read the voltage value.
  Reading: DC 0 ± 1 V

  B. Connect frequency counter to audio amp board test point TP7 and read frequency.
  Reading: 4.3218 MHz ± 20 kHz

6. Connect oscilloscope or VOM to servo amp board IC203 pin ⑤ (CLVS).
7. Adjust RV202 so that the reading is DC 2.7 V.
8. Connect oscilloscope or VOM to audio amp board test point TP6.
9. Adjust RV405 so that the reading is DC 0 ± 1 V.
10. Connect frequency counter to audio amp board test point TP7.

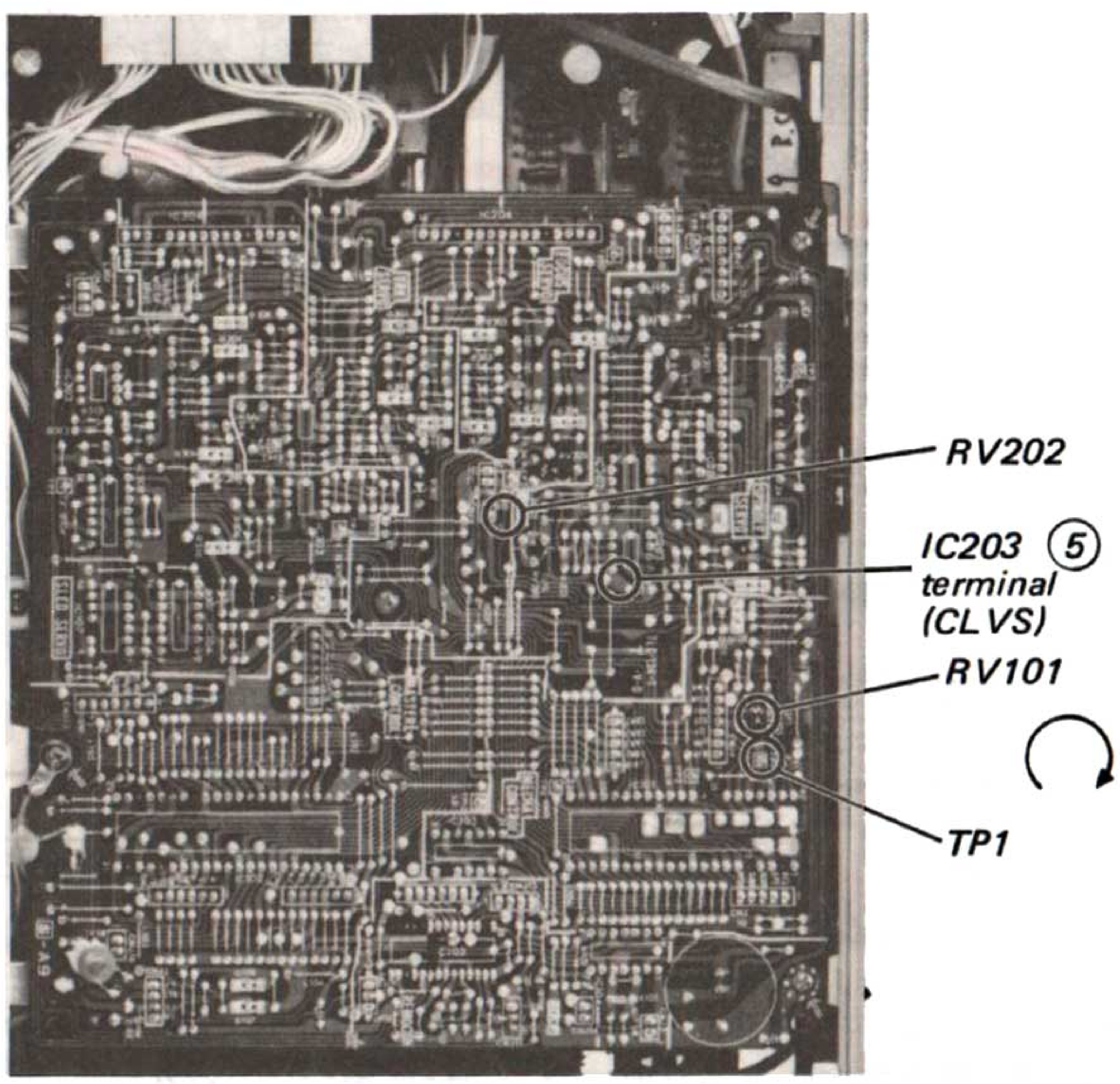
TP6 oscilloscope waveform



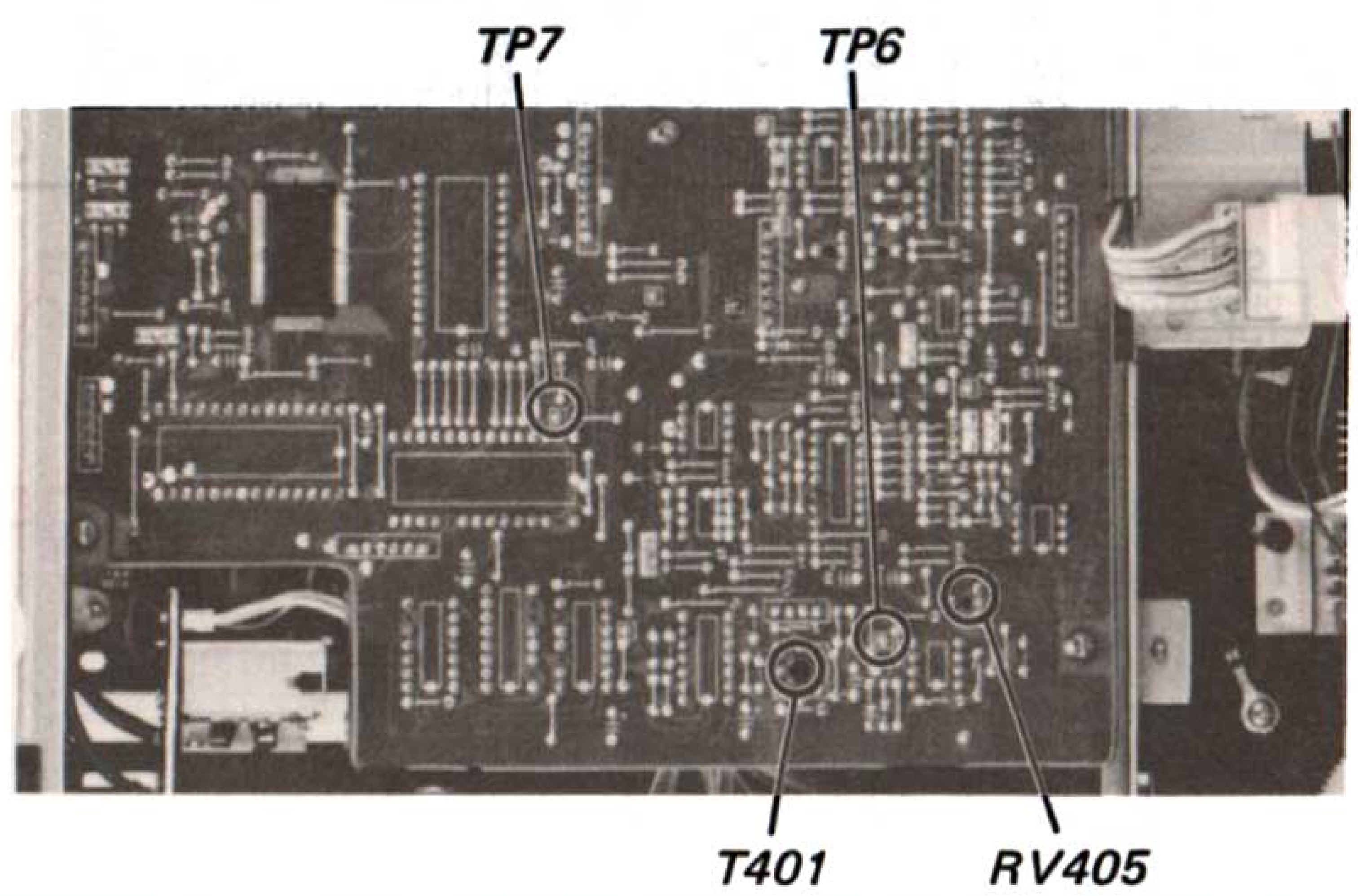
11. Adjust T401 so that frequency counter reading is 4.3218 MHz ± 20 kHz.
12. The adjustment of RV405 and T401 affect each other, so repeat steps 8 – 11 two or three times, finishing with step 11.
13. Connect frequency counter to servo amp board R201 (WFCK 1/8). Or, connect oscilloscope or VOM to servo amp board IC203 pin ⑤ (CLVS).
14. Adjust RV202 for the following specification:
    Frequency counter: 918 ± 10 Hz
    Oscilloscope or VOM: DC 3.05 ± 0.1 V
15. Connect oscilloscope to servo amp board test point TP1.
16. Confirm that the waveform is like the one shown in step 5.
    If it is not, repeat steps 6 – 16.
17. After adjustment, return RV101 to the original setting.

Adjustment Locations:

– Servo amp board –

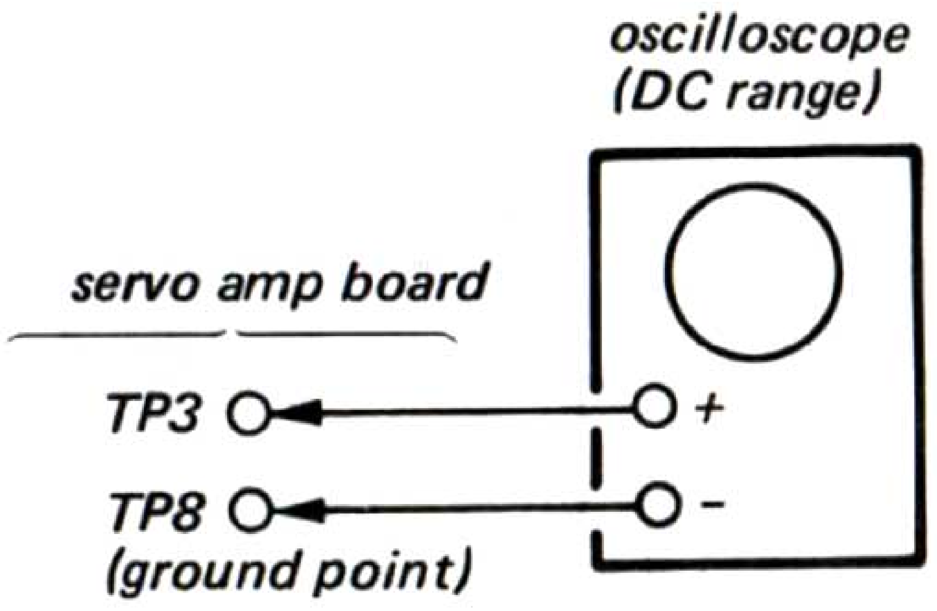


– Audio amp board –

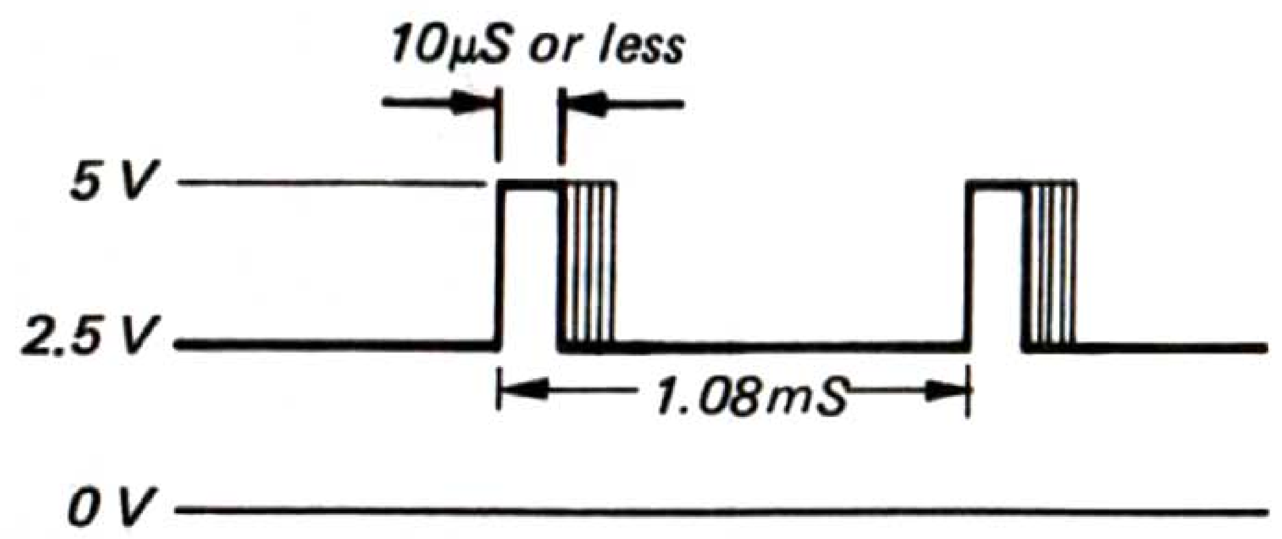


IC201 Phase Lock Adjustment

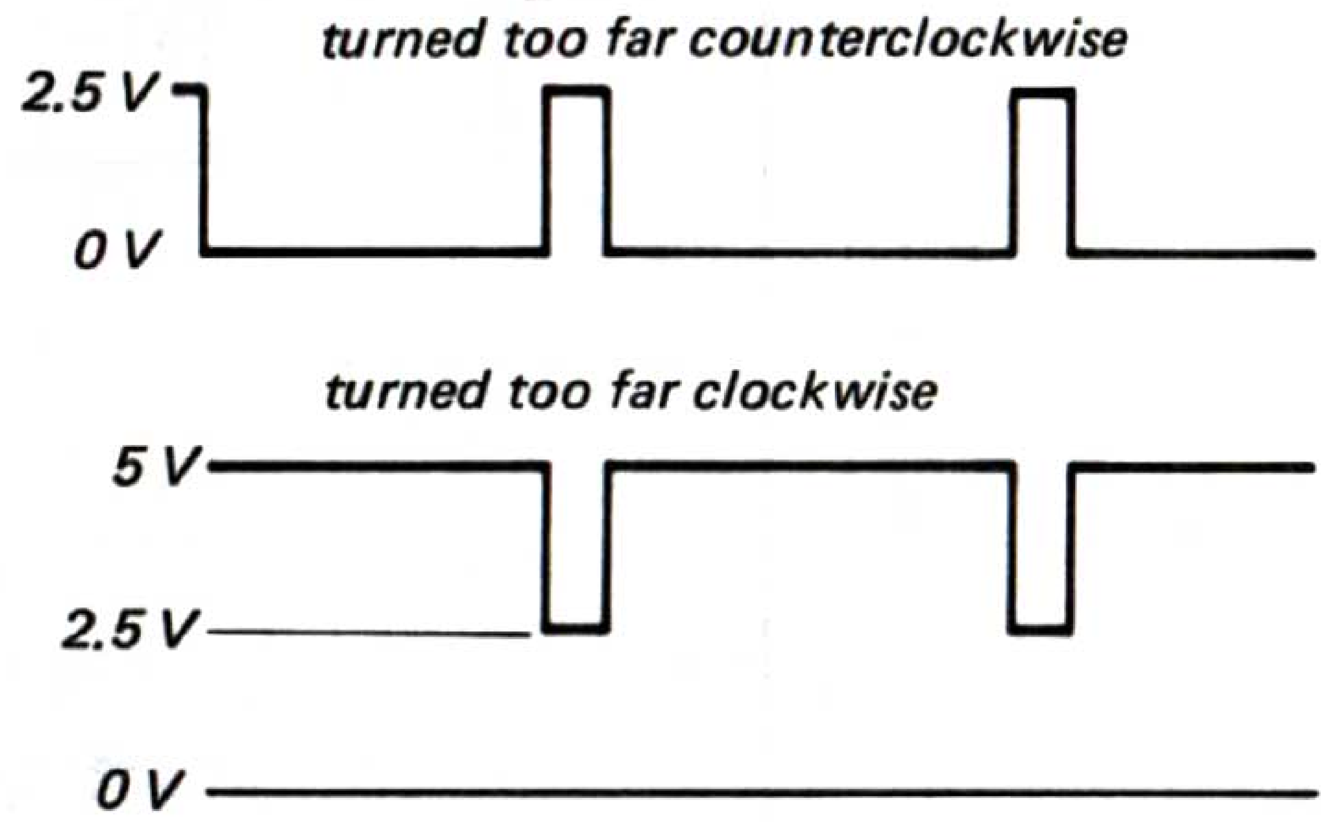
Procedure:



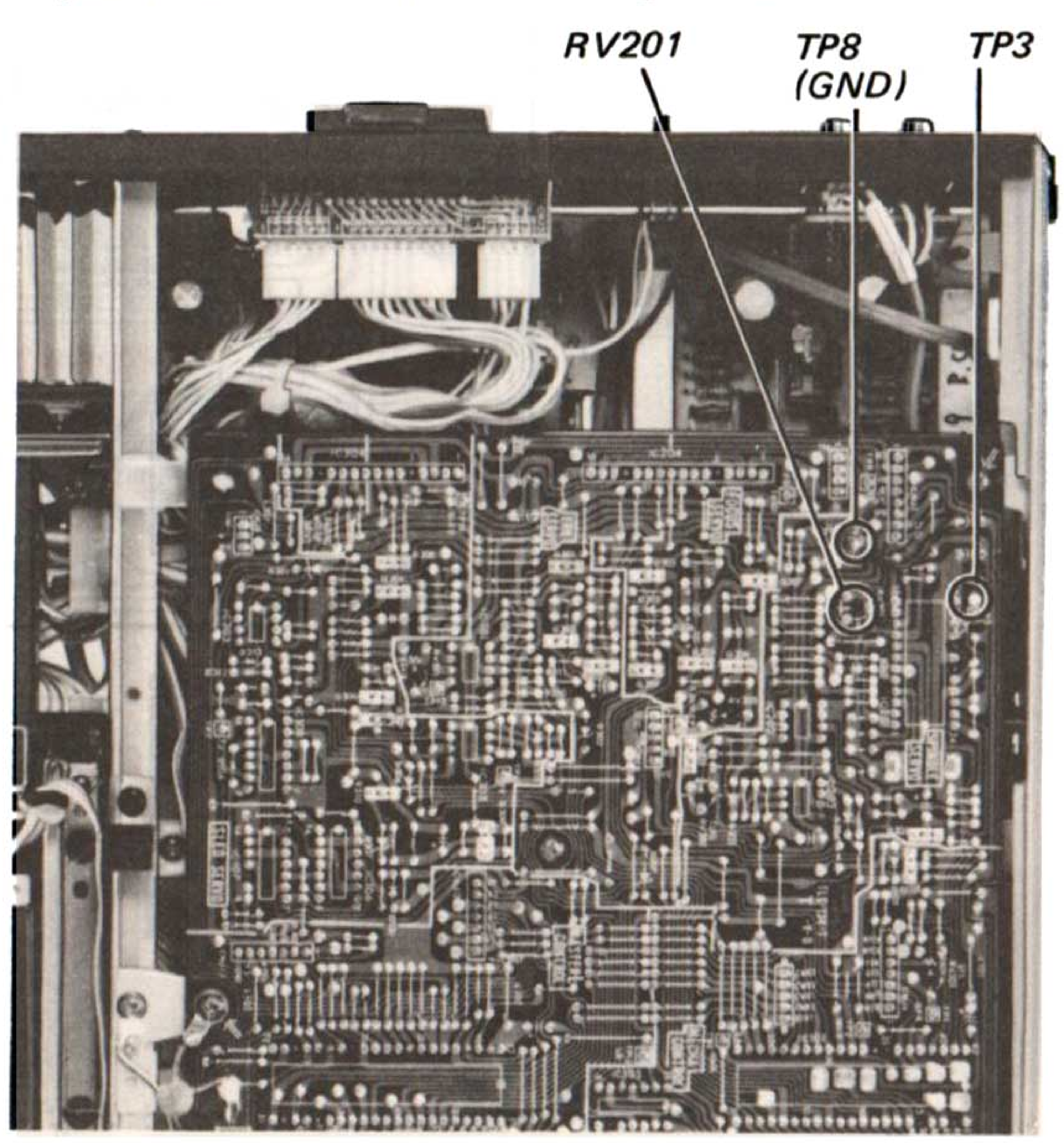
1. Put set in adjustment mode. (See page 41)
2. Put disc (YEDS-1) in and press ▶ PLAY button.
3. Connect oscilloscope to servo amp board test points TP3 and TP8 (ground point).
4. Adjust RV201 so that the waveform is as shown in the figure below.



- **Incorrect Examples**

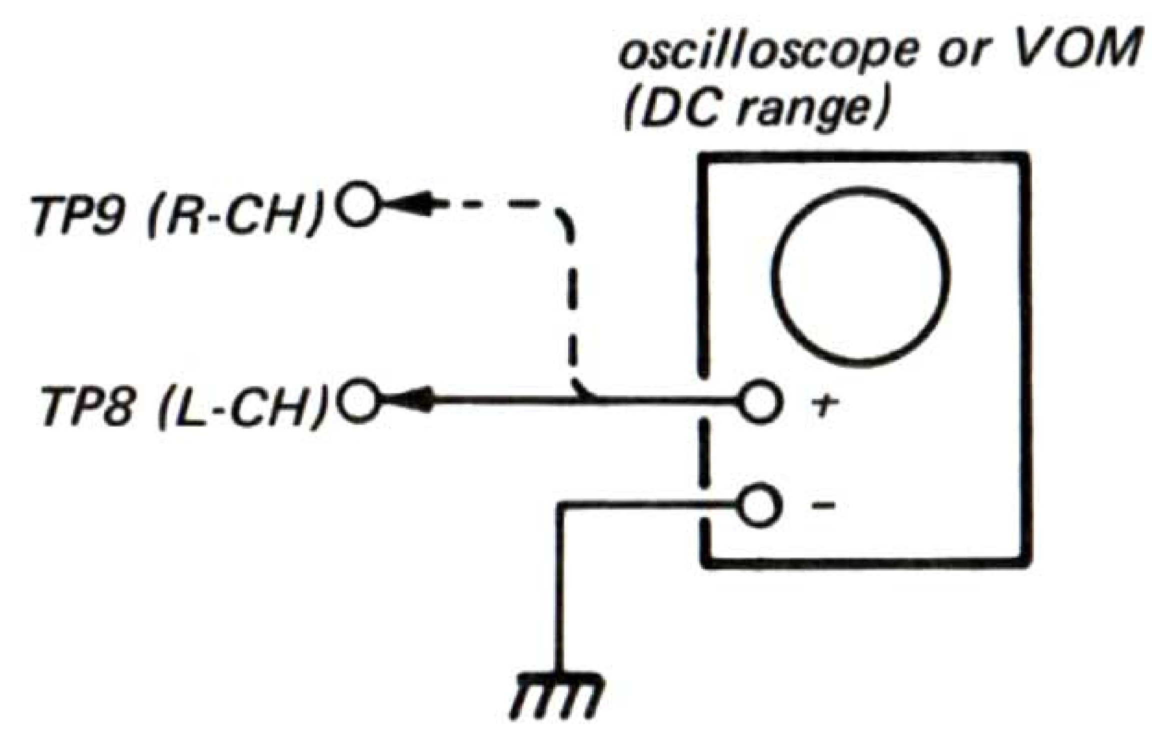


Adjustment Location: Servo amp board



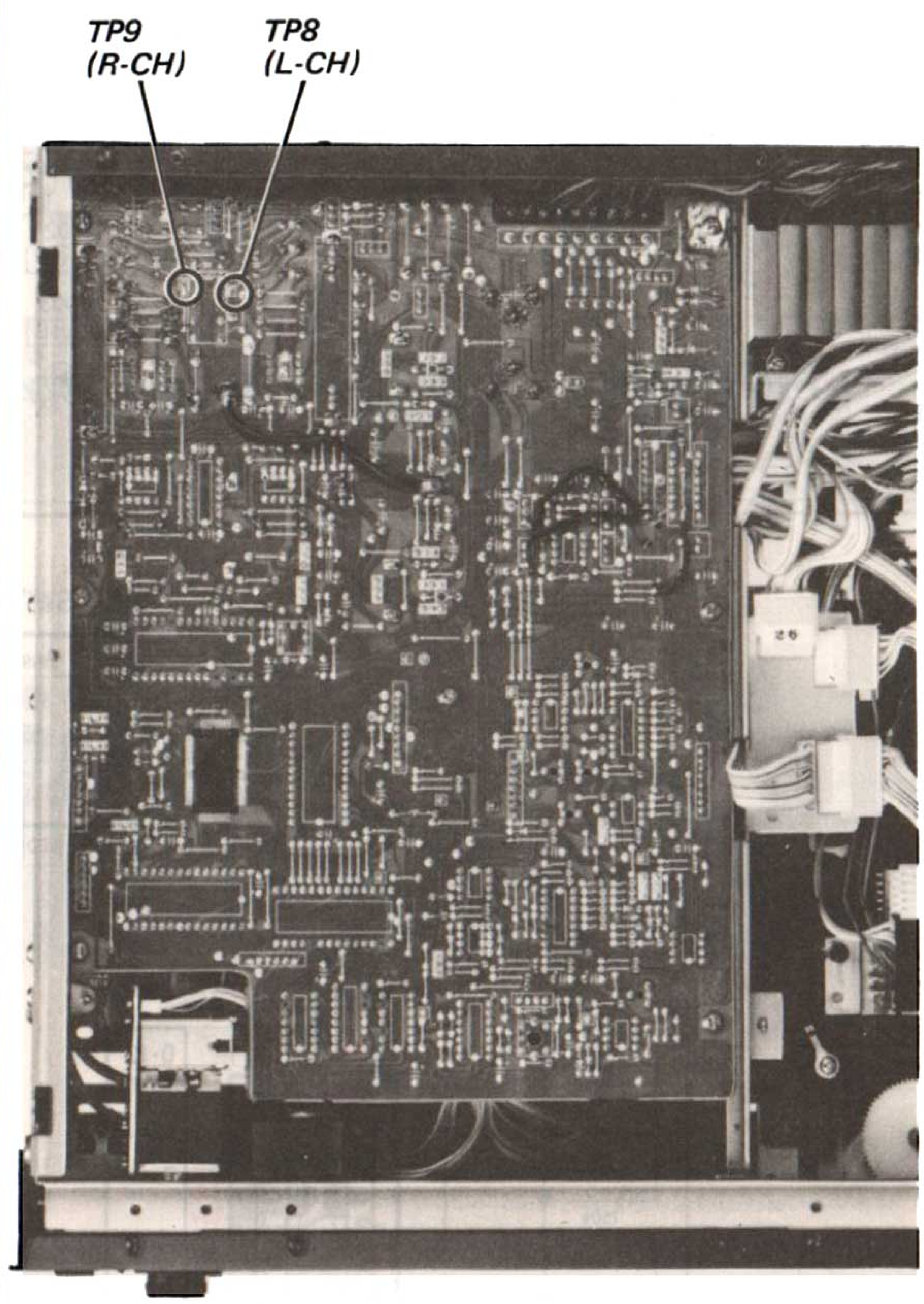
AF Offset Adjustment

Procedure:



1. Turn POWER switch on. (STOP mode)
2. Connect oscilloscope or VOM to audio amp board test points TP8 (L-CH) and TP9 (R-CH).
3. AF offset voltage must read less than ±350mV.

Adjustment Location: Audio amp board

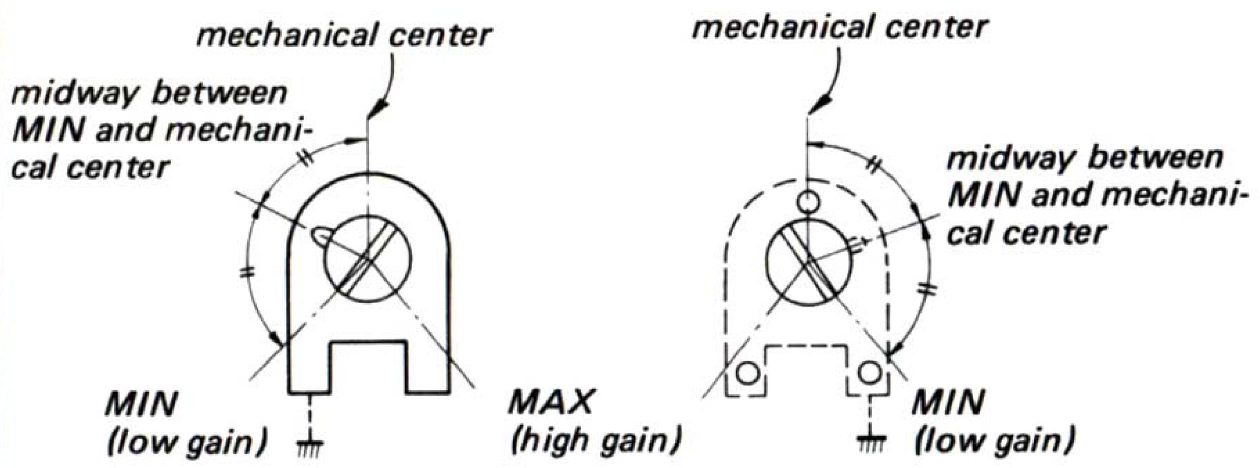


Focus/Tracking Gain Adjustment

A special servo analyzer is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Normally, RV205 and RV301 are set in the positions shown below.



(seen from component side) *(seen from conductor side)*

Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operates.

However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.

When gain adjustment is off, the symptoms below appear.

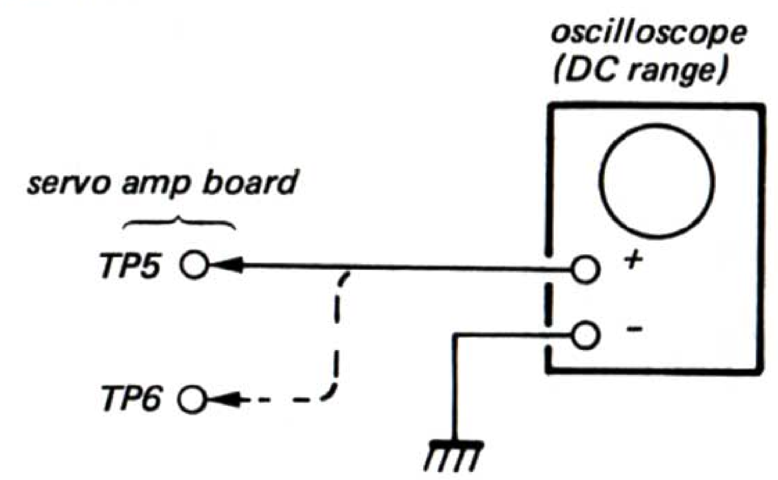
Symptoms \ Gain	Focus	Tracking
• The time until music starts becomes longer for STOP →▶PLAY or automatic selection (|◀◀, ▶▶| buttons pressed. (Normally takes about 2 seconds.)	low	low or high
• Music does not start and disc continues to rotate for STOP→▶PLAY or automatic selection (|◀◀, ▶▶| buttons pressed.)	–	low
• Disc table opens shortly after STOP→▶PLAY.	low or high	–
• Sound is interrupted during PLAY. Or time counter display stops progressing.	–	low
• More noise during 2-axis device operation.	high	high

The following is a simple adjustment method.

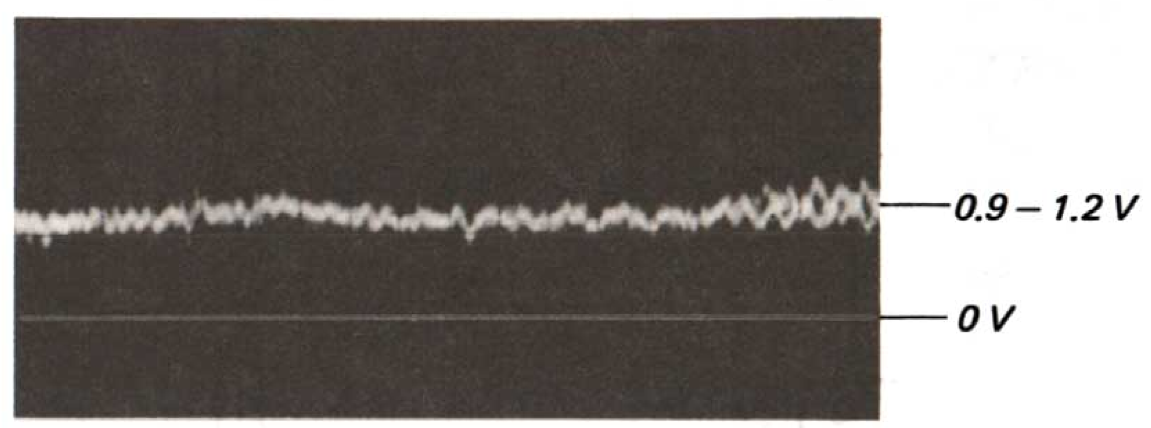
– Simple Adjustment –

Note: Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original positions.

Procedure:

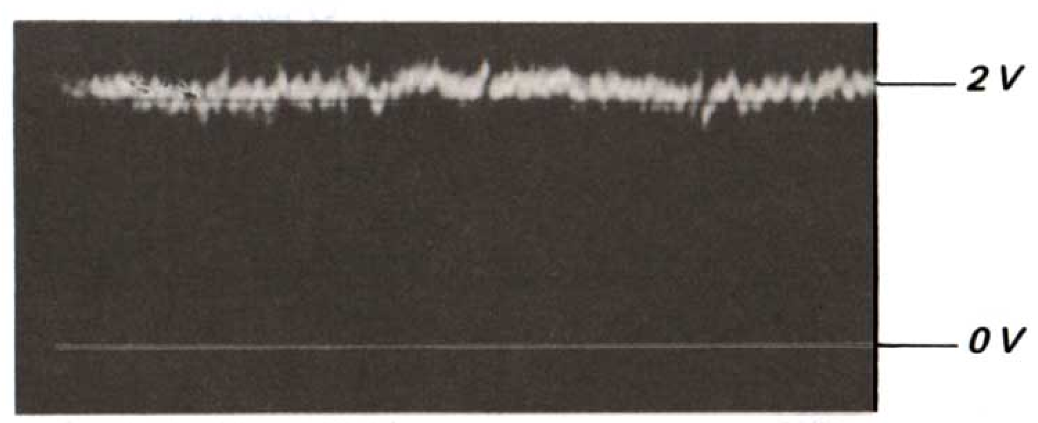


1. Keep the set horizontal.
   (If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2 axis device.)
2. Connect oscilloscope to servo amp board TP5.
3. Adjust RV205 so that the waveform is as shown in the figure below. (focus gain adjustment)

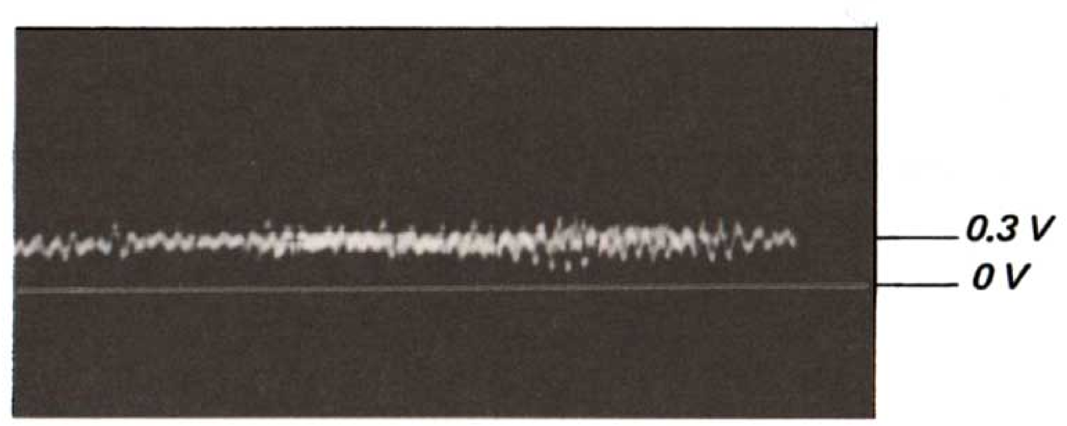


- Incorrect Examples (DC level changes more than adjusted waveform).

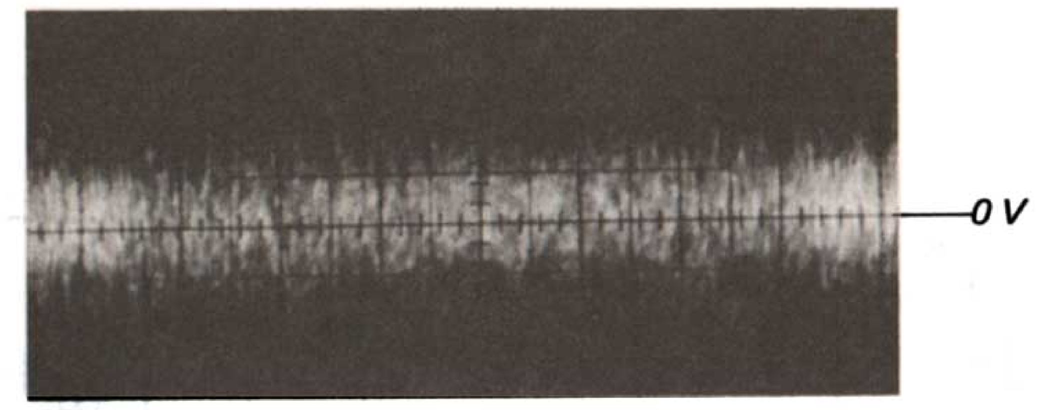
low focus gain



high focus gain

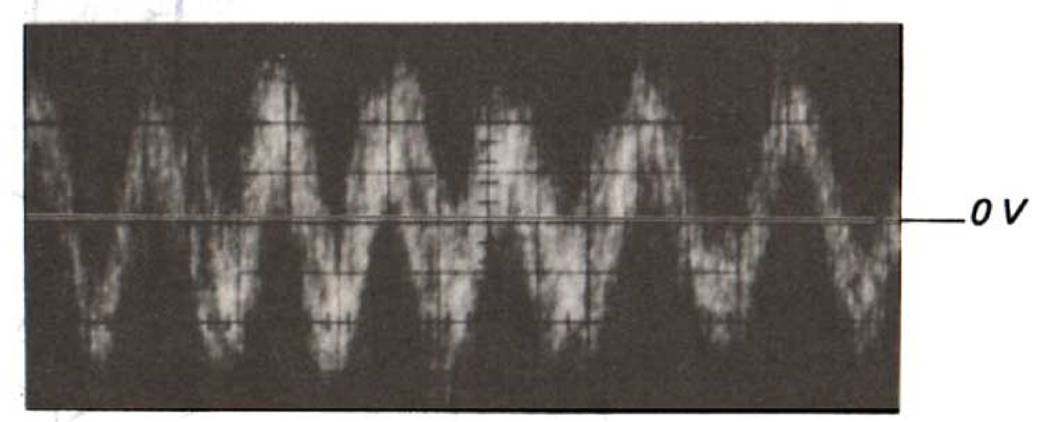


4. Connect oscilloscope to servo amp board TP6.
5. Adjust RV301 so that waveform is as shown in the figure below. (tracking gain adjustment)

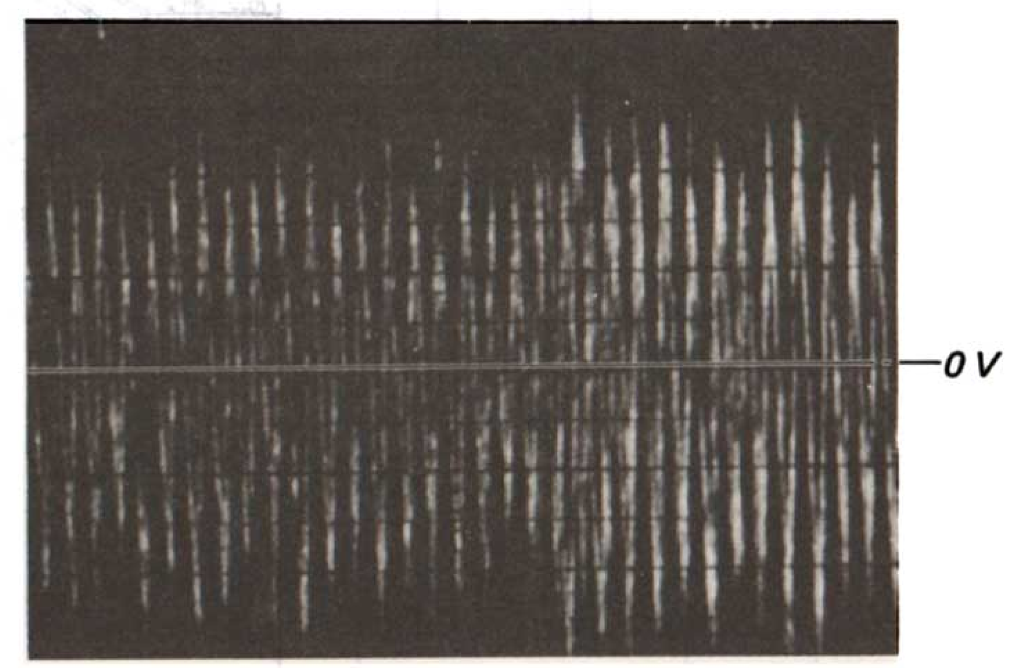


- Incorrect Examples (fundamental wave appears)

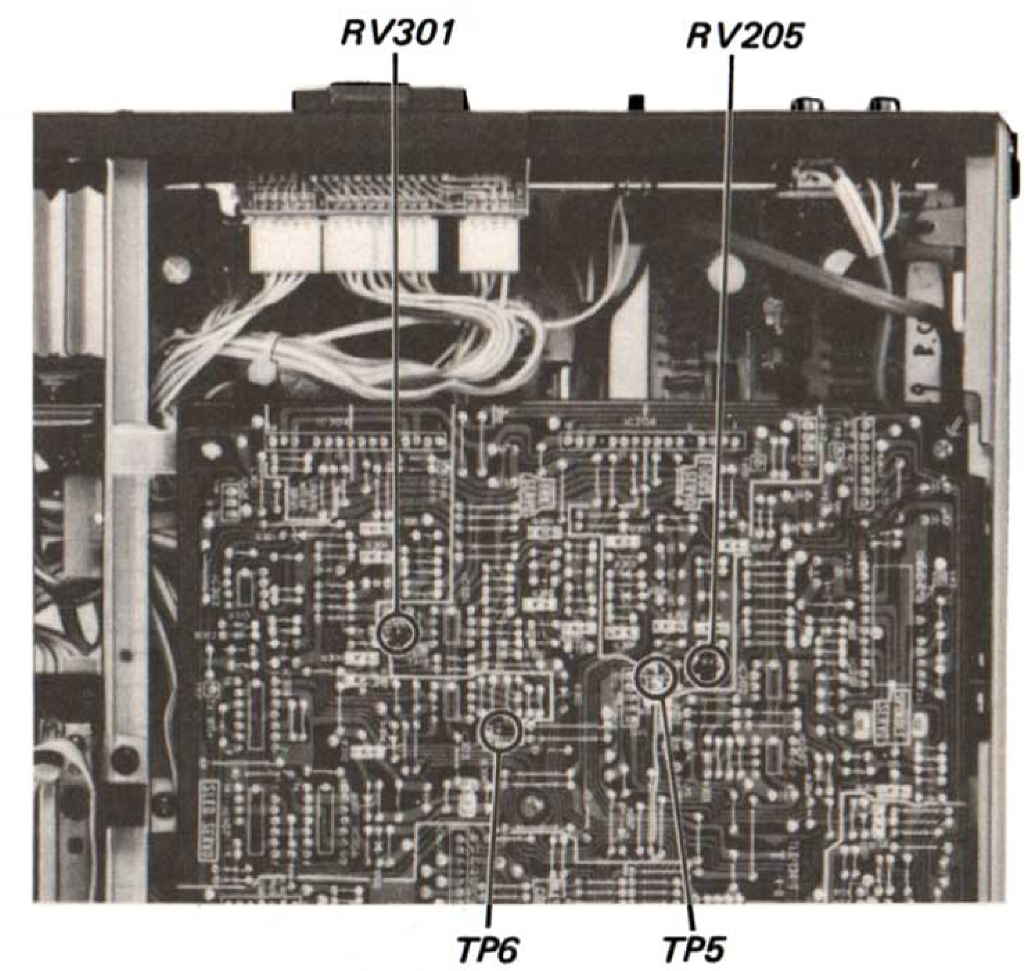
low tracking gain
However, traverse waveform at tracking balance adjustment is acceptable.



high tracking gain
[Fundamental wave is higher than at low gain. However, oscillating waveform is acceptable.]



Adjustment Location: Servo amp board



SECTION 4 DIAGRAMS

4-1. MOUNTING DIAGRAM

– Servo Amp Section –

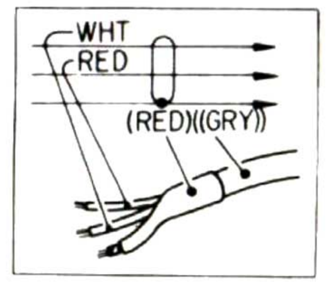
NOTE FOR SCHEMATIC DIAGRAM

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/4 W unless otherwise noted. kΩ : 1000 Ω, MΩ : 1000 kΩ
- ▭ : panel designation.
- ▭ : adjustment for repair.
- ——— : B+ bus.
- – – – : B– bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (50 kΩ/V).
- Waveforms are taken with respect to ground with oscilloscope.
- ➡ : signal path
- Switches

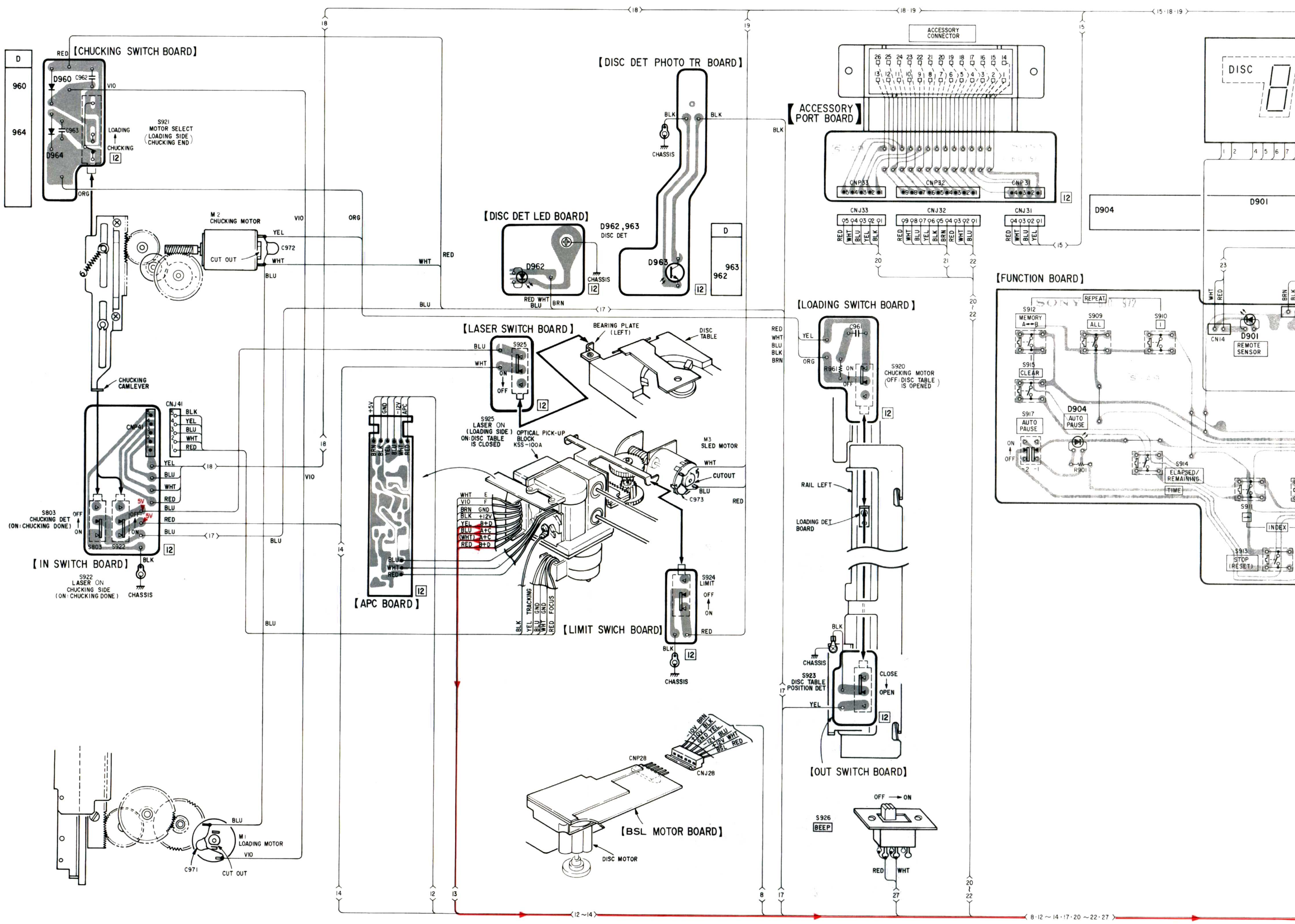
Ref. No.	Switch	Position
S801	Power	OFF
S803	CHUCKING DETECT	ON
S901	▶ PLAY	OFF
S902	❚❚ PAUSE	OFF
S903	❘◀◀ } MUSIC SEARCH	OFF
S904	▶▶❘	OFF
S905	◀◀◀	OFF
S906	◀◀	OFF
S907	▶▶	OFF
S908	▶▶▶	OFF
S909	ALL } REPEAT	OFF
S910	1	OFF
S911	→ (INDEX)	OFF
S912	A ↔ B (REPEAT)	OFF
S913	STOP	OFF
S914	TIME	OFF
S915	CLEAR (REPEAT)	OFF
S916	← (INDEX)	OFF
S917	AUTO PAUSE	OFF
S918	⏏ OPEN/CLOSE	OFF
S919	TIMER	OFF
S920	CHUKING MOTOR	OFF
S921	MOTOR SELECT	ON
S922	LASER ON (CHUCKING SIDE)	CHUCKING
S924	LIMIT	ON
S925	LASER ON (LOADING SIDE)	ON
S926	REMOTE CONTROL RECEPTING SOUND (BEEP)	OFF

NOTE FOR MOUNTING DIAGRAM

- Color code of sleeving over the end of the jacket.



- ○— : parts extracted from the component side.
- ■ : component-side pattern.
- ▒ : B + pattern
- ▒ : B - pattern
- Waveforms are taken with respect to ground with oscilloscope.
- See page 70 for semiconductor lead layouts.




FLUORESCENT INDICATOR TUBE
DISC
SCAN
REPEAT
ALL
[FUNCTION BOARD]
[SERVO AMP BOARD]
[TIMER SWITCH BOARD]
[N BOARD]
[EJECT SWITCH BOARD]
E MODEL
TO AUDIO AMP SECTION
AUTO MUSIC SENSOR
REMOTE SENSOR
INFRARED RAY DETECTOR
GUIDE PULSE
WHEN RECEIVING COMMAND FROM RM-111
POWER ON
APPROX. 1.6 SECONDS

4-2. SCHEMATIC DIAGRAM

– Servo Amp Section –

• See page 50 for note.

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

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

Q R S T U V W X Y Z A1 B1 C1 D1 E1 F1 G1 H1 I1 J1
TO AUDIO AMP BOARD
IC201 CX-193
DISC MOTOR SERVO
DIFFERENTIAL CIRCUIT
PHASE COMP
LOGIC
START/STOP FLIP-FLOP
SWITCHING
CR OSC
COMPA-RATOR
SAMPLE HOLD
BUFFER AMP
STROBO
IC202 NJM4560D
PHASE DET
IC202 NJM4560D
DISC MOTOR DRIVE
IC203 μPC4558C
VOLTAGE DET
IC203 μPC4558C
DISC SIGNAL DET
Q202 2SC2001
SWITCH
D202-204 1SS202-1
DISC MOTOR
[BSL MOTOR BOARD]
MOTOR COIL
Q204 2SA1048-GR
Q205 2SC2001
FOCUS SERVO START SWITCH
Q103 2SC2458
FOCUS ZERO-CROSS DET
D101 1SS202-1
Q206 2SC2001
Q207 2SC2458
MUTING
Q203 2SA1048-GR
MUTING DRIVE
D205 1SS202-1
IC204 STK6922
FOCUS SERVO
D104 1SS202-1
INVERTER
D106 1SS202-1
BUFFER
IC106,107 TC4011BP
IC108 TC4030BP
TRACK JUMP BRAKE CIRCUIT
D206,207 RD2.7E-B1
OPTICAL PICK-UP BLOCK KSS-100A
DISC
OBJECTIVE LENS
1/4 WAVE PLATE
COLLIMATION LENS
SIDE-SPOT DETECTOR
DEFLECTION PRISM (BEAM SPLITTER)
MAIN-SPOT DETECTOR
CYLINDLICAL LENSE
DIFFRACTION GRID
LASER DIODE
FOCUS
TRACKING
[AUDIO AMP BOARD(1/2)]
TRACKING BALANCE
IC401 TL082CP
TRACKING ERROR AMP
TRACKING OFFSET
IC401 TL082CP
FOCUS ERROR AMP
IC402 TC40H004P
AMP
FOCUS BIAS
D409 RD5.1E-B1
TO AUDIO AMP BOARD
IC302 NJM4560D
TRACK JUMP DET
D303 1SS202-1
IC303 μPC4558C
WINDOW COMPARATOR
Q306 2SC2458
SWITCH
Q307 2SC2458
TRACKING GAIN CONTROL SWITCH
D312,313 1SS202-1
IC301 μPC4558C
TRACKING ERROR AMP
TRACKING GAIN
Q301 2SC2001
TRACKING SERVO SWITCH
Q302 2SC2001
Q303 2SC2458
TRACKING GAIN SWITCH
IC204 STK6922S
TRACKING SERVO
IC105 TC4069UBP
INVERTER
D301,302,306 RD2.7E-B1
[APC BOARD]
APC
IC105 TC4069UBP
INVERTER
D310,311 1SS202-1
IC105 TC4069UBP
INVERTER
IC301 μPC4558C
TRACK JUMP CIRCUIT (FOR TRACKING)
IC302 NJM4560D
TRACK JUMP CIRCUIT (FOR SLEDDING)
D307 RD2.7E-B1
Q309 2SA1048-GR
AUTO ANTI SHOCK
Q310 2SC2001
AUTO ANTI SHOCK
Q308 2SC2001
MUTING
Q304 2SC2001
SLEDDING SERVO SWITCH
(SLED SERVO)
IC304 STK6922
MOTOR DRIVE
LOADING/CHUCKING
M3 SLED MOTOR
AEP,UK,US CANADIAN MODEL
CANADIAN MODEL
E MODEL
AEP,E,UK US MODEL
OV OPEN:0.6V CLOSE:1.6V
OV OPEN:1OV CLOSE:3V
OV OPEN:-9V CLOSE:9.8V
D960 D964 1SE-2
S921 MOTOR SELECT (LOADING SIDE / CHUCKING END)
OFF:DISC TABLE IS OPENED
CHUCKING
LOADING
S920 CHUCKING MOTOR
M1 LOADING MOTOR
M2 CHUCKING MOTOR
[CHUCKING SWITCH BOARD]
[IN SWITCH BOARD(1/2)]
S922 LASER ON (CHUCKING SIDE) ON:CHUCKING DONE
[LASER SWITCH BOARD]
S925 LASER ON (LOADING SIDE) ON:DISC TABLE IS CLOSED
[LOADING SWITCH BOARD]
TO AUDIO AMP BOARD
O AMP BOARD]

4-3. MOUNTING DIAGRAM – *Audio Amp Section* –

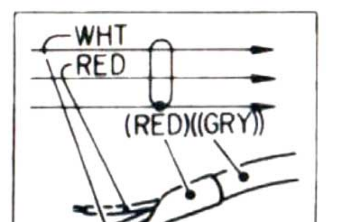
NOTE FOR SCHEMATIC DIAGRAM

- All capacitors are in μF unless otherwise noted. pF: $\mu\mu$F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, $1/_{6}$ W unless otherwise noted. kΩ : 1000 Ω, MΩ : 1000 kΩ
- ▭ : panel designation.
- ▭ : adjustment for repair.
- ——— : B+ bus.
- – – – : B– bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (50 kΩ/V).
  no mark: STOP mode
  ( ) : PLAY mode
- Waveforms are taken with respect to ground with oscilloscope.
  no mark: STOP mode
  ( ) : PLAY mode
- ➡ : signal path
- Switches

Ref. No.	Switch	Position
S801	Power	OFF
S803	CHUCKING DETECT	ON
S901	▶ PLAY	OFF
S902	❚❚ PAUSE	OFF
S903	❙◀◀ MUSIC SEARCH	OFF
S904	▶▶❙ MUSIC SEARCH	OFF
S905	◀◀◀	OFF
S906	◀◀	OFF
S907	▶▶	OFF
S908	▶▶▶	OFF
S909	ALL REPEAT	OFF
S910	1 REPEAT	OFF
S911	→ (INDEX)	OFF
S912	A ↔ B (REPEAT)	OFF
S913	STOP	OFF
S914	TIME	OFF
S915	CLEAR (REPEAT)	OFF
S916	← (INDEX)	OFF
S917	AUTO PAUSE	OFF
S918	▲ OPEN/CLOSE	OFF
S919	TIMER	OFF
S920	CHUKING MOTOR	OFF
S921	MOTOR SELECT	ON
S922	LASER ON (CHUCKING SIDE)	CHUCKING
S924	LIMIT	ON
S925	LASER ON (LOADING SIDE)	ON
S926	REMOTE CONTROL RECEPTING SOUND (BEEP)	OFF

NOTE FOR MOUNTING DIAGRAM

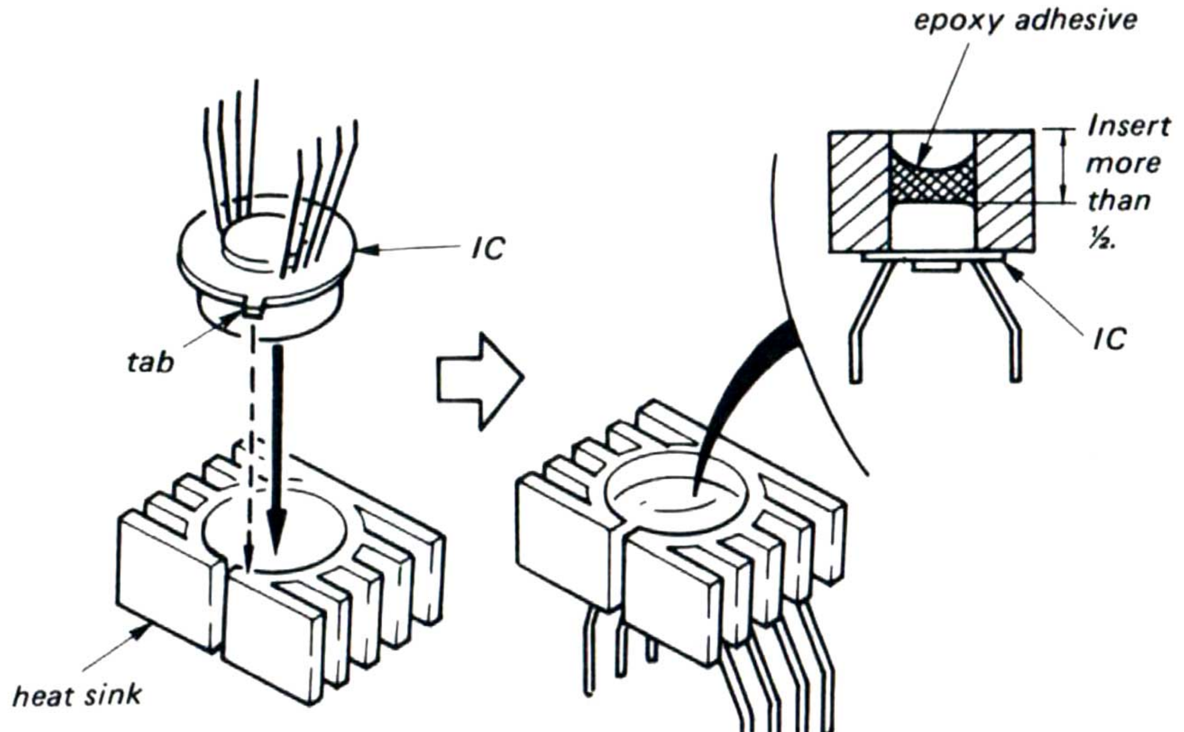
- Color code of sleeving over the end of the jacket.



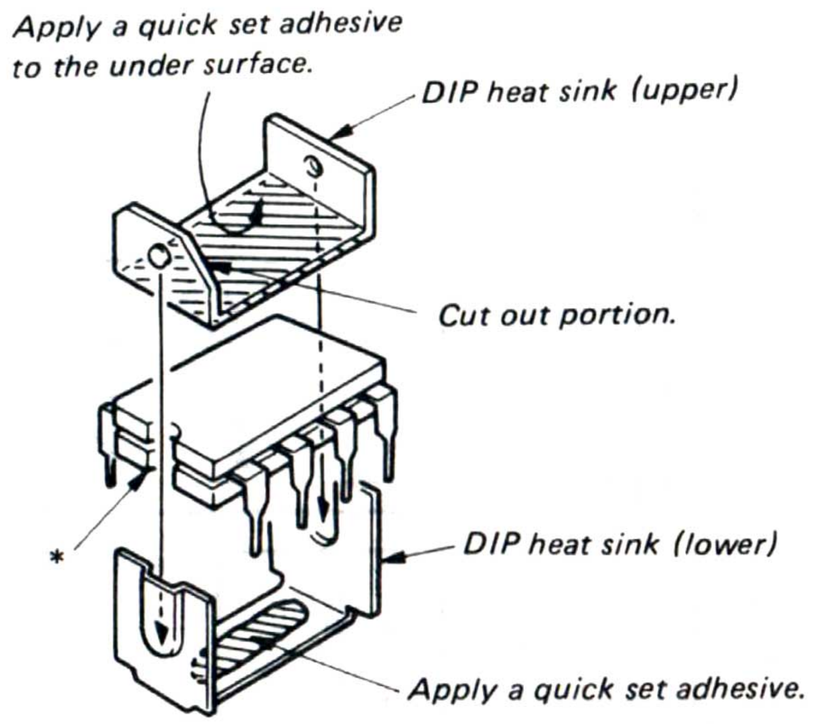
- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- ▭ : B + pattern
- ▭ : B – pattern
- Waveforms are taken with respect to ground with oscilloscope.
  no mark: STOP mode
  ( ) : PLAY mode
- See page 70 for semiconductor lead layouts.

- When replacing IC412, IC521 and IC621 first clean the IC head and the inside of the heat sink with alcohol, then mount the heat sink and fill the heat sink indented portion with an epoxy type adhesive*, as shown in the illustration below.

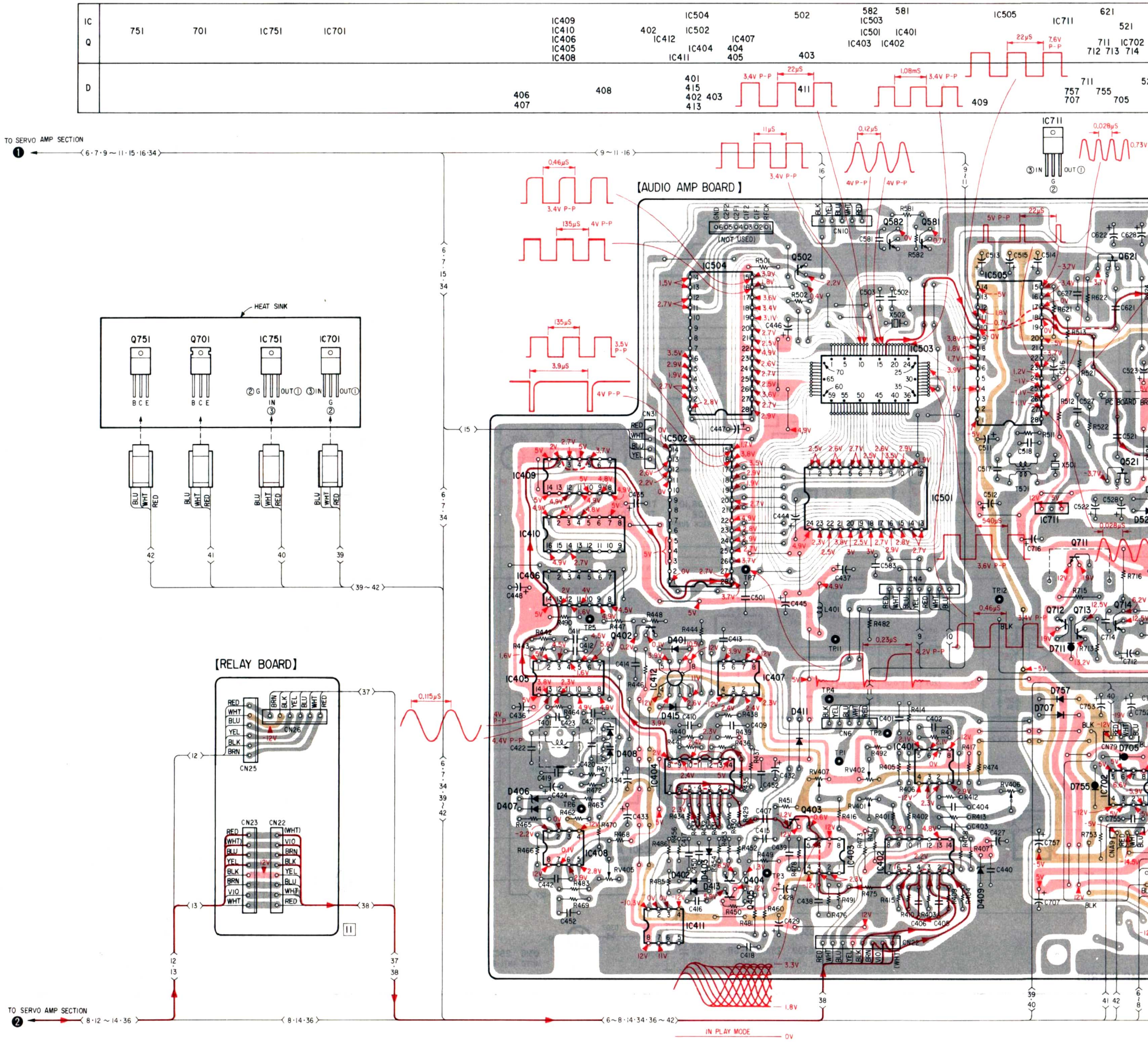
* Epoxy type adhesive: Sony bond SC1000 or other quick drying 2 liquid compound.



- When replacing IC523 and IC623 secure them so that leads of IC do not touch dip heat sink (upper, lower) by quick set adhesive.



Assemble by matching up the section of the IC marked * and the cut-out portion of the DIP heat sink (upper).



[OUTPUT BOARD]
[REMOTE CONTROL VOLUME BOARD]
[MOTOR BOARD]
[HEADPHONE AMP BOARD]
[HEADPHONE JACK BOARD]
E MODEL (CDP-501/-501ES)
[POWER SWITCH BOARD]
AEP, UK MODEL (CDP-501/-501ES)
[FUSE BOARD]
CDP-400 (US MODEL)
CDP-610ES (US, CANADIAN MODEL)

4-4. SCHEMATIC DIAGRAM – *Audio Amp Section* –

- See page 60 for note.

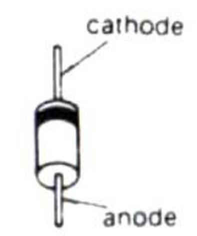
Note: Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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

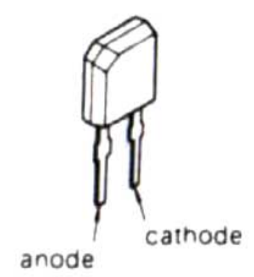
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

- **Semiconductor Lead Layouts.**

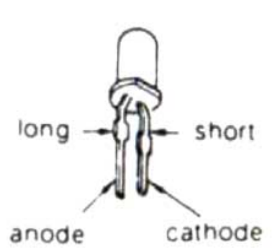
10E2
10YD1.3A
10YD2.4A
1SS202-1
31DQ05
EQA01-06R2
HZ4BLL
HZ5BLL
HZ5CLL
HZ6B1L
RD10E-B2
RD2.7E-B1
RD30E-B2
RD5.1E-B1



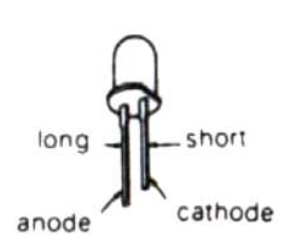
PH302B



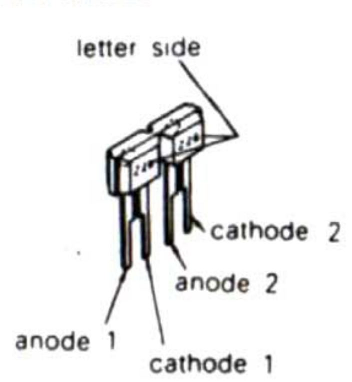
TLR123



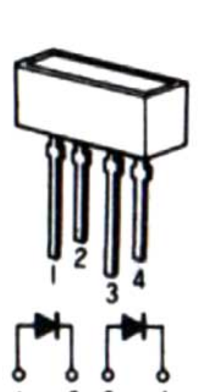
AA5535S
BG5535S



KV1226

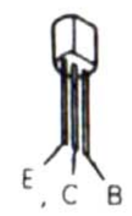


LT9200N



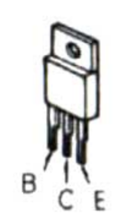
2SK152-3

2SC1775-F
2SC2001



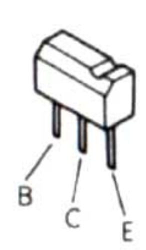
2SA1048-GR
2SC2458

2SA985-P
2SC2275-P
2SD880



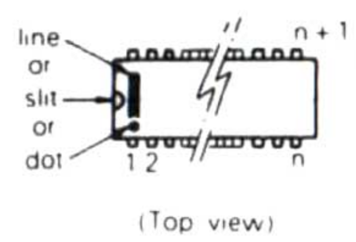
2SA1138
2SA1138-F
2SC2676
2SD774

2SC2673

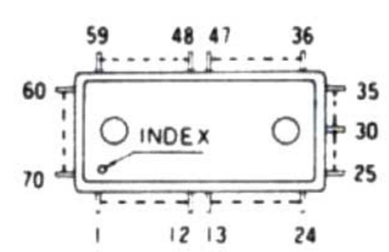


PH102

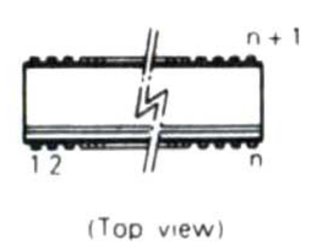
CX7933
CX7935
CX20017
HD14053BP
LM6416E-254
M54940P
MSM5128-12RS
NE5532P
NJM4560D
NJM4560D-D
SN74LS74AN
SN74LS76AN
SN74LS86N
TC4011BP
TC4030BP
TC4069UBP
TC40H004P
TL082CP
μPC357C
μPC4558C



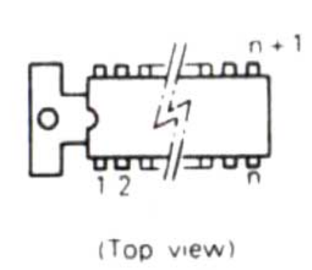
CX-7934



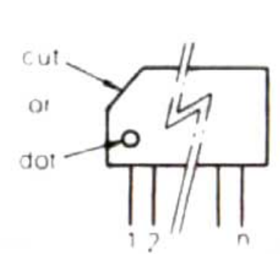
MB8841H-1211K
MB88401-253K



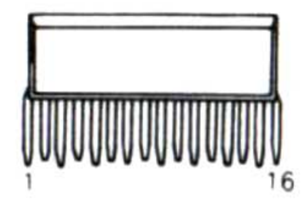
CX-193



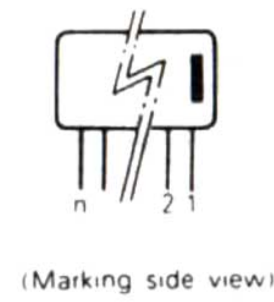
μPC1373H



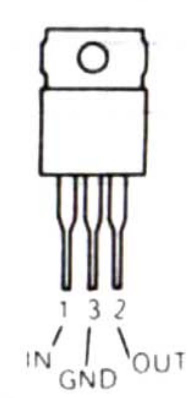
STK6922S



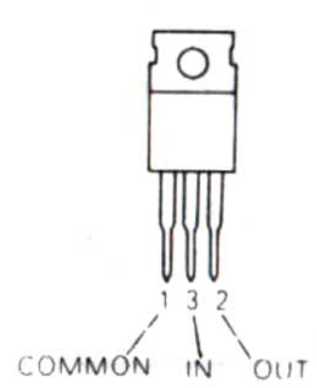
CX-7947



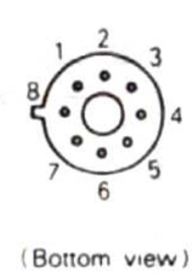
NJM7812A



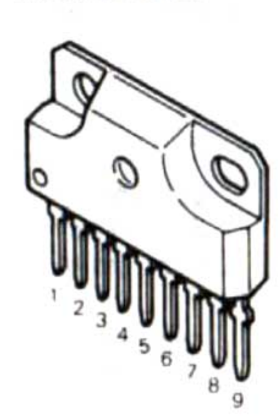
μPC7912H



LF353H
LF353N

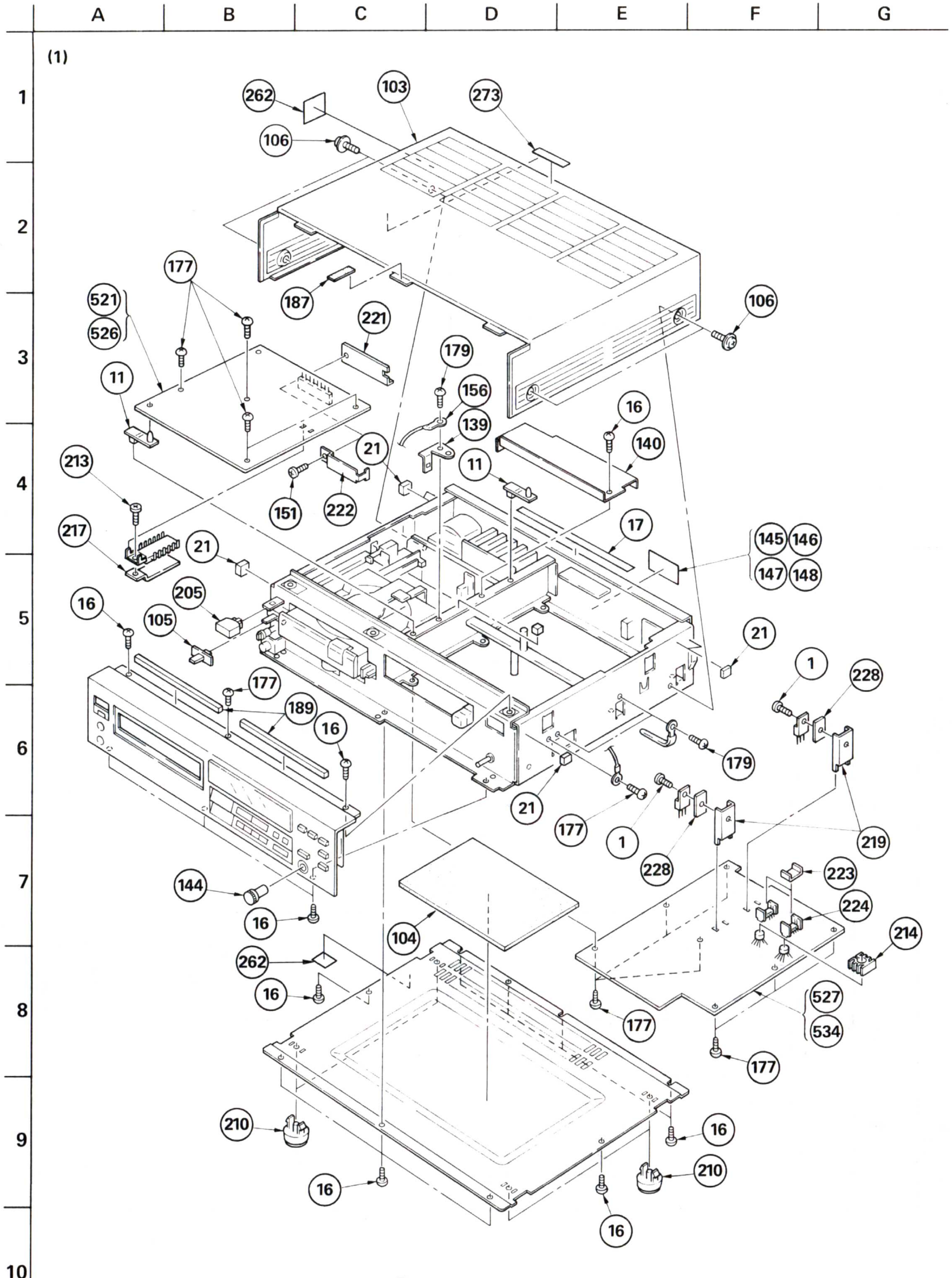


M54543L

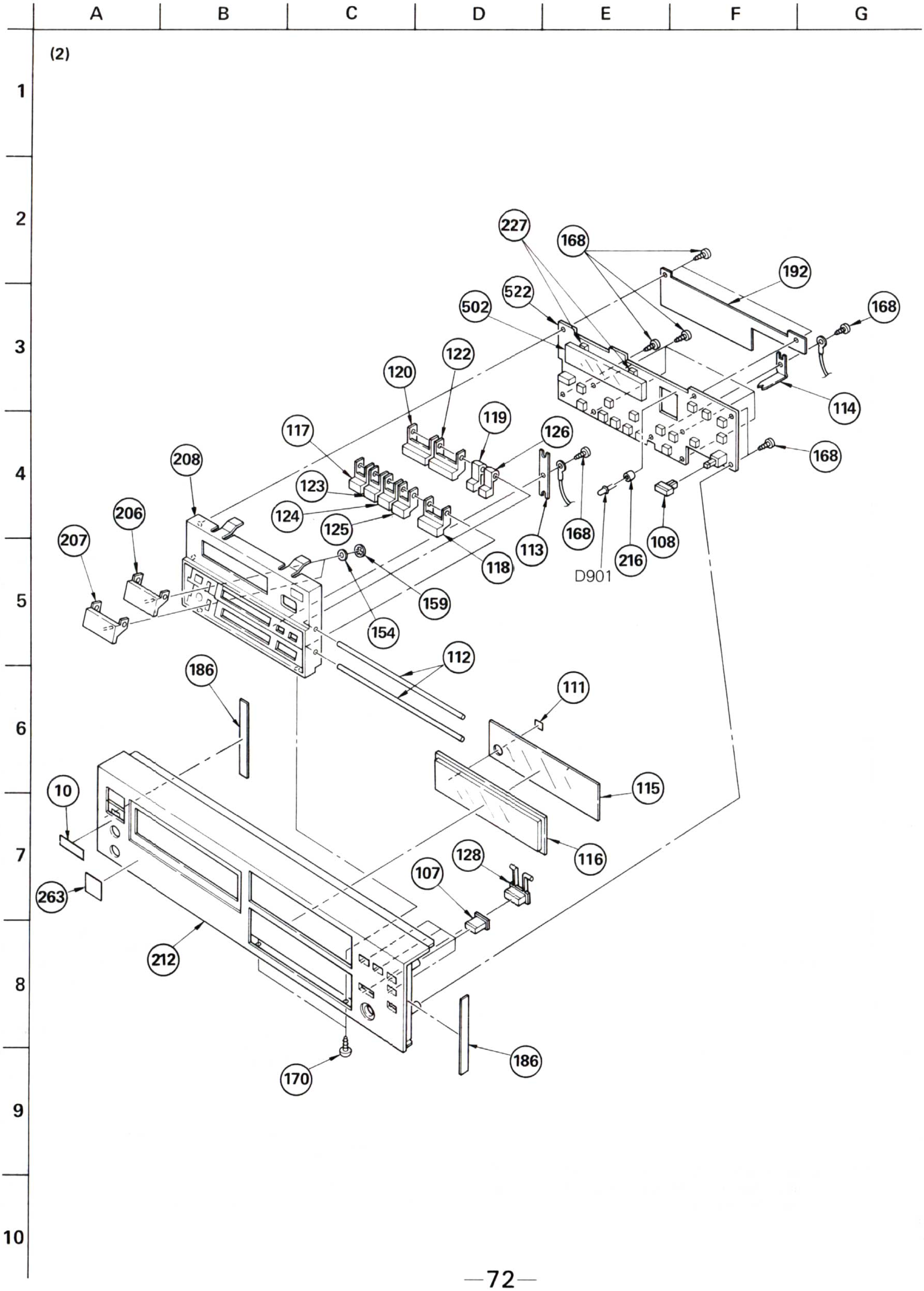


SECTION 5 EXPLODED VIEWS AND PARTS LIST

(1)



(2)



A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
10
227
168
192
522
502
168
122
120
114
119
117
126
168
208
123
124
206
125
168
108
113
207
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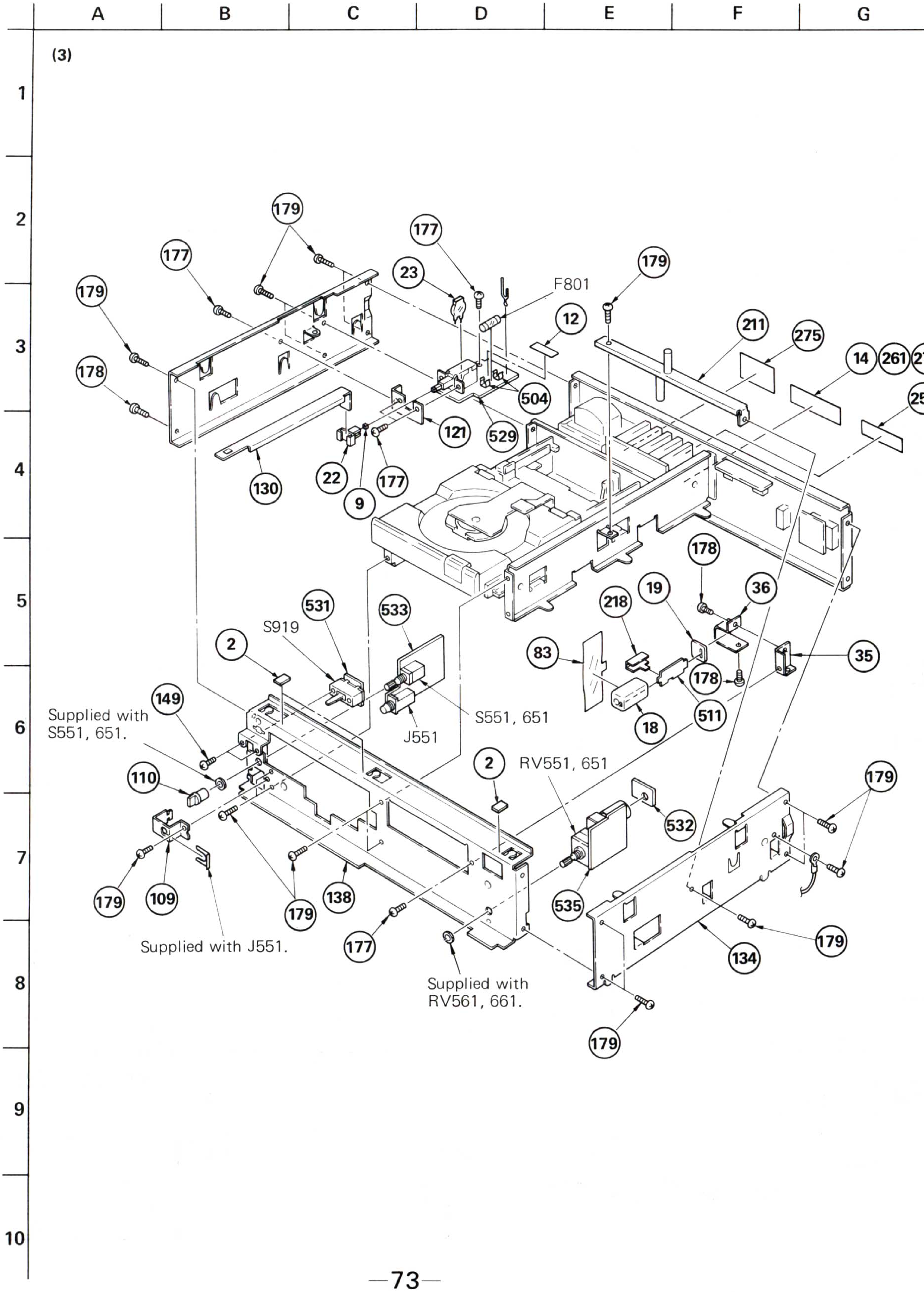
216
D901
159
154
112
186
111
115
10
116
128
107
263
212
186
170

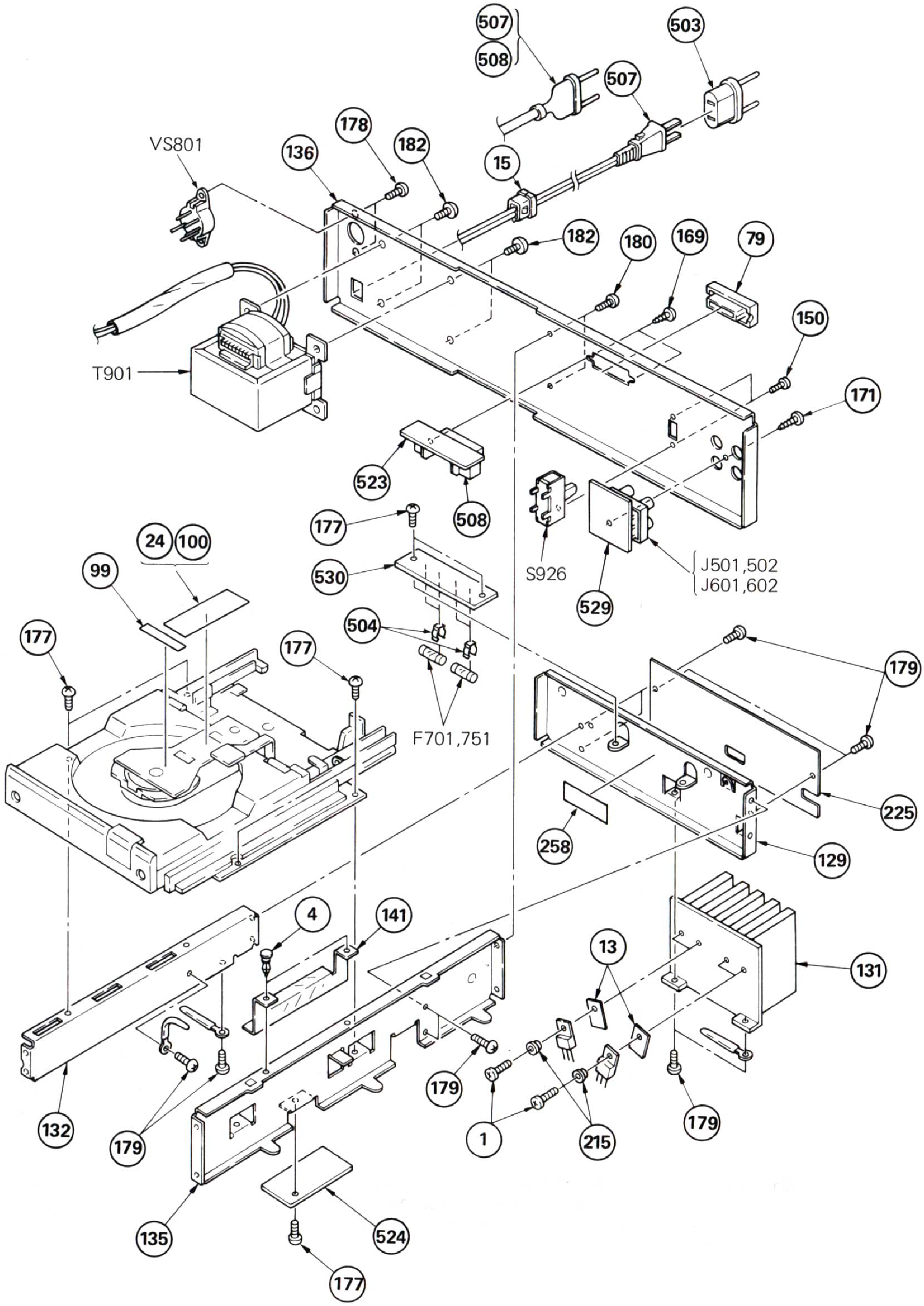
(3)



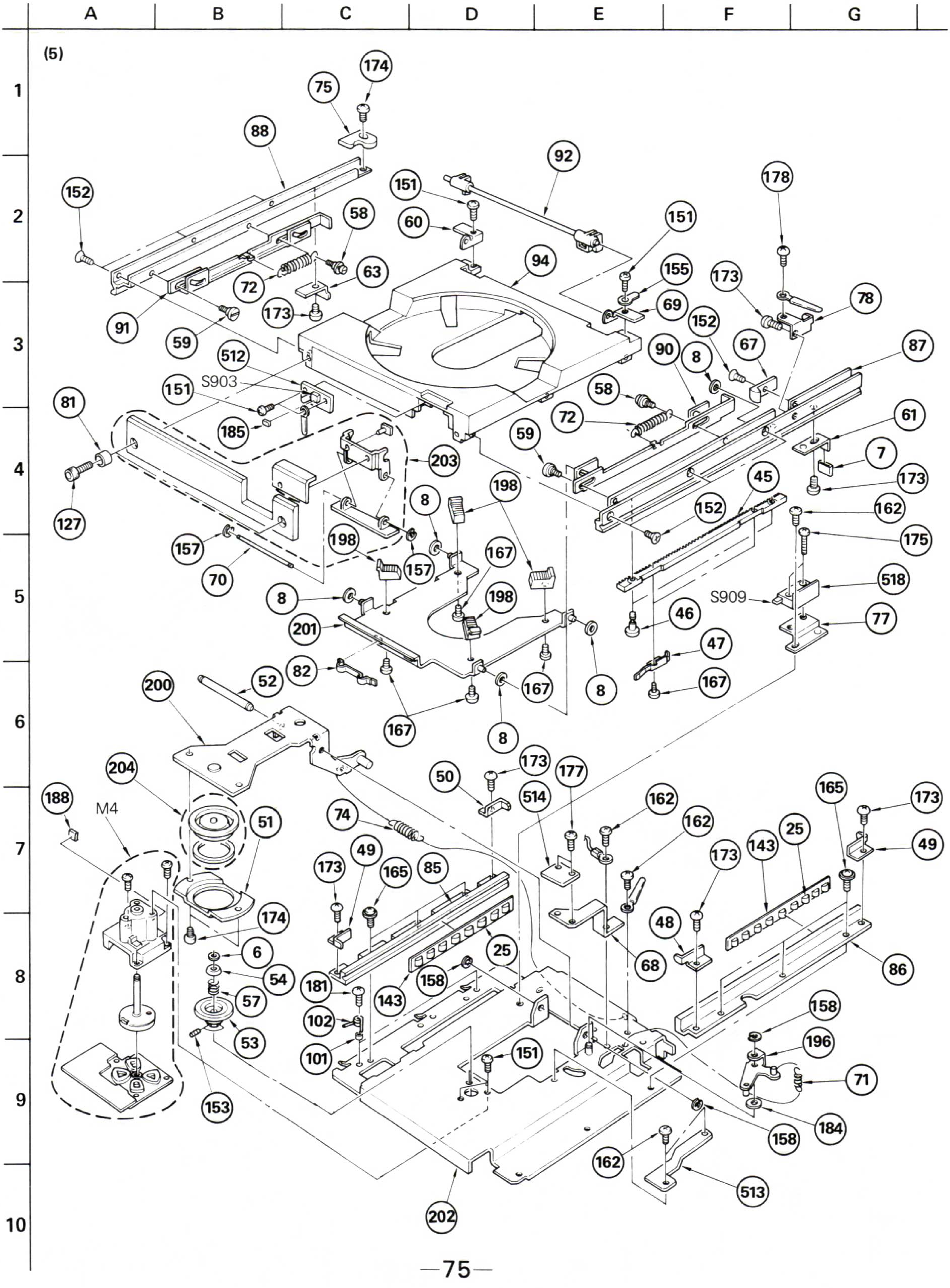
A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
10
179
177
177
23
179
F801
12
211
275
14
261
272
179
178
504
257
121
529
130
22
9
177
178
218
19
36
531
533
S919
83
35
2
178
149
511
Supplied with
S551, 651.
S551, 651
18
J551
2
RV551, 651
110
179
532
179
109
179
138
535
179
177
179
134
Supplied with J551.
Supplied with
RV561, 661.
179

A	B	C	D	E	F	G

(4)


507
508
503
507
178
182
VS801
136
15
182
180
169
79
150
T901
171
523
508
177
24
100
99
530
S926
529
J501,502
J601,602
504
177
177
179
F701,751
225
258
129
4
141
13
131
132
179
179
1
215
179
135
524
177

(5)


A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
10
174
75
88
92
152
151
58
60
178
72
63
94
155
173
91
59
69
78
512
S903
151
90
8
152
67
87
81
185
58
72
61
59
203
7
173
127
198
45
8
152
162
175
157
198
167
157
70
518
8
198
S909
201
46
77
82
47
167
200
52
167
8
167
8
204
173
50
177
514
162
188
M4
51
74
162
165
173
7
173
49
165
85
173
143
25
49
174
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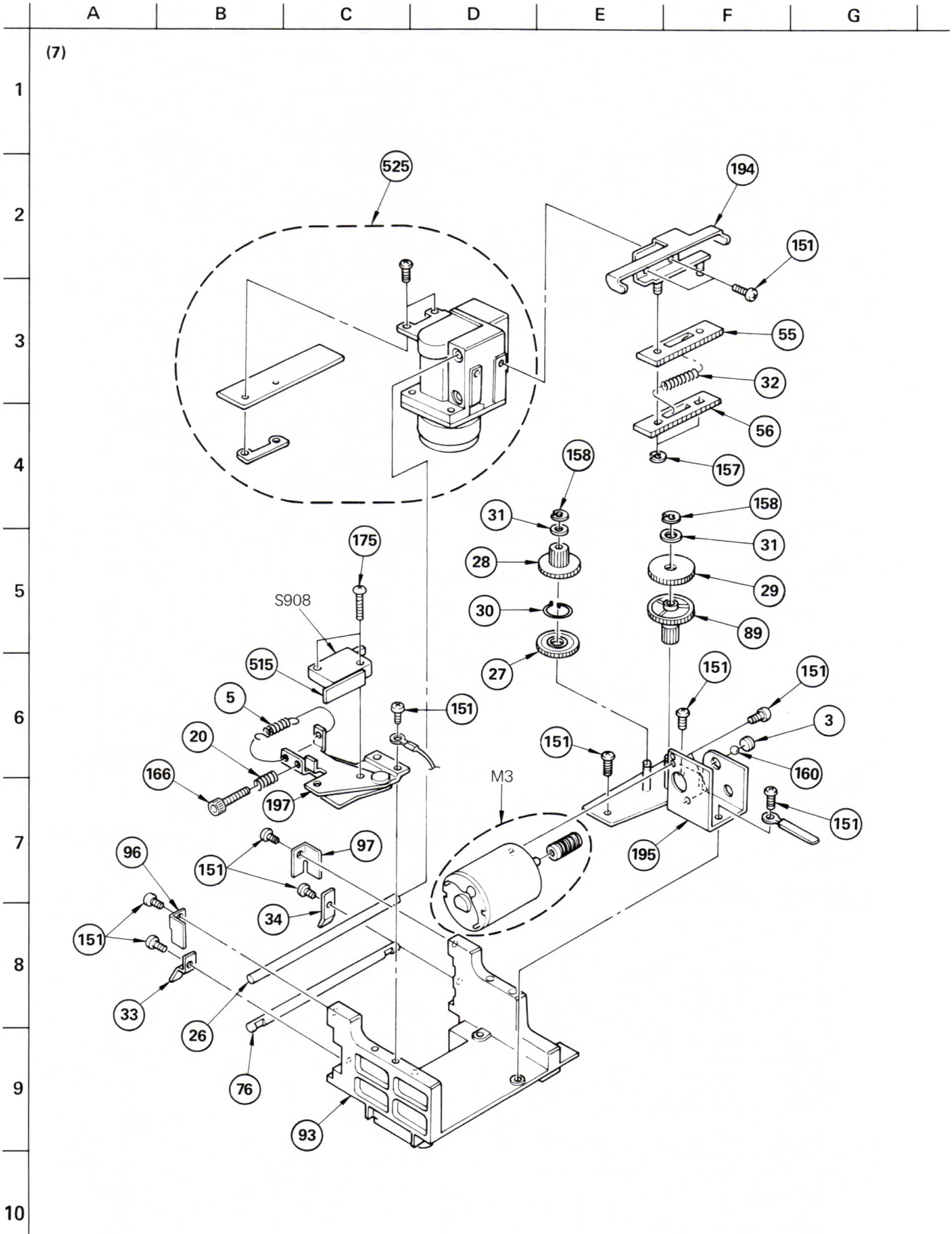
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GENERAL SECTION

No.	Part No.	Description
1	2-259-121-11	SCREW, TR
2	2-272-609-00	SPACER
3	3-489-073-00	SCREW, THRUST
4	3-531-576-01	RIVET
5	3-548-124-00	SPRING, TENSION
6	3-558-708-21	WASHER, STOPPER
7	3-655-122-00	TIRE, S BRAKE
8	3-701-439-11	WASHER
9	3-701-443-21	POLY-SLIDER
10	3-701-690-01	(CDP-501;UK)......LABEL (MEDE IN JAPAN)
10	3-701-690-11	(CDP-501ES;UK)....LABEL (MEDE IN JAPAN)
11	♠;3-701-832-00	HINGE, CIRCUIT BOARD
12	♠;3-701-946-22	(CDP-400,610ES)...LABEL, FUSE
12	♠;3-701-948-13	(CDP-501,501ES)...LABEL, FUSE
13	3-703-037-00	INSULATOR, TO-220
14	3-703-043-21	(UK)....LABEL, CAUTION, MAIN
15	3-703-244-00	BUSHING, CORD
16	3-703-685-21	SCREW (+BV 3X8)
17	3-831-441-XX	CUSHION, PANEL
18	♠;4-342-117-00	CASE, SHIELD (MAIN), R
19	♠;4-342-118-00	LID, SHIELD CASE, R
20	4-836-836-00	SPRING, COMPRESSION
21	4-855-010-00	SPACER, TC
22	4-866-342-00	JOINT (B), KNOB
23	4-875-455-01	(AEP,UK)...COVER (DIA.20), CAPACITOR
23	4-875-455-02	(AEP)......COVER (DIA.20), CAPACITOR
24	4-884-503-01	(CDP-400,610ES;US)...LABEL, CAUTION, LASER
25	4-884-506-00	ROLLER
26	4-884-509-00	SHAFT, SLIDE
27	4-884-510-00	GEAR (A)
28	4-884-511-00	GEAR (B)
29	4-884-512-00	GEAR (D)
30	4-884-513-00	SPRING (A)
31	4-884-514-00	WASHER
32	4-884-515-00	SPRING (RACK), COMPRESSION
33	4-884-516-00	RETAINER (LEFT), SLIDE SHAFT
34	4-884-517-00	RETAINER (RIGHT), SLIDE SHAFT
35	♠;4-884-522-00	BRACKET (A), CATCHER, RAY
36	♠;4-884-523-00	BRACKET (B), CATCHER, RAY
37	4-884-526-00	GEAR (A), THREADING
38	4-884-528-00	GEAR (B), THREADING
39	4-884-533-00	GEAR (A), CHUCKING
40	4-884-535-00	GEAR (B), CHUCKING
41	4-884-536-00	GEAR (C), CHUCKING
42	♠;4-884-538-00	BRACKET (B), MOTOR
43	♠;4-884-539-00	LEVER, CHUCKING CAM

GENERAL SECTION

No.	Part No.	Description
44	4-884-540-00	CAM, CHUCKING
45	4-884-542-00	RACK
46	4-884-543-00	SCREW, RACK
47	4-884-544-00	SPRING
48	♠;4-884-545-00	PLATE (A), STOPPER, ROLLER
49	♠;4-884-546-00	PLATE (B), STOPPER, ROLLER
50	♠;4-884-547-00	PLATE (C), STOPPER, ROLLER
51	4-884-548-00	STOPPER, PRESS PULLEY
52	♠;4-884-550-00	SHAFT, CHUCKING ARM
53	4-884-554-00	PULLEY, DISK
54	4-884-555-00	CAP, CENTERING
55	4-884-558-00	RACK (A)
56	4-884-559-00	RACK (B)
57	4-884-560-00	SPRING
58	4-884-561-00	SHAFT (A),CAM LEVER, UP & DOWN
59	4-884-562-00	SHAFT (B),CAM LEVER, UP & DOWN
60	4-884-567-00	RETAINER (LEFT), SHAFT
61	4-884-584-00	PLATE, STOPPER
62	♠;4-884-585-00	BRACKET (C), MICRO SWITCH
63	♠;4-884-586-00	PLATE, DETECTION, THREADING
64	♠;4-884-587-00	BRACKET (A), MICRO SWITCH
65	♠;4-884-588-00	BRACKET (B), MICRO SWITCH
66	♠;4-884-598-00	BRACKET (A), MOTOR
67	4-884-599-00	CAM, LOCK
68	♠;4-884-601-00	PLATE, DETECTION, DISK
69	4-884-610-00	PLATE (RIGHT), BEARING
70	♠;4-884-611-00	SHAFT, EJECT KNOB
71	4-884-615-00	SPRING
72	4-884-616-00	SPRING
73	4-884-617-00	SPRING
74	4-884-618-00	SPRING
75	4-884-620-00	PLATE, GUIDE
76	4-884-621-00	SHAFT (2), SLIDE
77	♠;4-884-622-00	BRACKET (E), MICRO SWITCH
78	♠;4-884-627-00	STOPPER, CORD
79	4-884-633-00	COVER, CONNECTOR
80	4-884-634-00	PLATE, SPRING, STOPPER
81	4-884-635-02	(CDP-501ES,610ES)...BASE, ORNAMECTAL
81	4-884-635-11	(CDP-400,501).......BASE, ORNAMENTAL
82	4-884-636-00	PLATE, GUIDE, D.P
83	♠;4-884-637-00	SHEET (C), INSULATING
84	4-884-641-00	(CDP-501ES)...PLATE, ORNAMENTAL, FRAME
84	4-884-641-10	(CDP-501).....PLATE, ORNAMENTAL, FRAME
85	♠;4-884-646-00	RAIL (LEFT), FIXED
86	♠;4-884-647-00	RAIL (RIGHT), FIXED
87	4-884-648-00	RAIL (RIGHT)

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COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

GENERAL SECTION

No.	Part No.	Description
88	4-884-649-00	RAIL (LEFT)
89	4-884-654-00	GEAR (C)
90	♠;4-884-657-00	PLATE (RIGHT), CAM, UP & DOWN
91	♠;4-884-658-00	PLATE (LEFT), CAM, UP & DOWN
92	4-884-660-00	LEVER, FUNCTION
93	4-884-664-00	BASE, OP
94	4-884-672-00	TABLE, DISK
95	♠;4-884-696-00	BRACKET (D), MICRO SWITCH
96	4-884-698-00	RETAINER (LOWER)(2), SLIDE SHAFT
97	4-884-699-00	RETAINER (LOWER)(1), SLIDE SHAFT
98	4-885-816-00	GEAR (D), LOADING
99	4-885-839-00	(CDP-501,501ES)...LABEL, APERTURE
100	4-885-843-02	(CDP-501,501ES)...LABEL, CAUTION, LASER
101	♠;4-885-848-00	SPACER
102	4-885-849-00	SPRING
103	4-886-109-21	(CDP-400,501).......CASE
103	4-886-109-31	(CDP-501ES,610ES)...CASE
104	♠;4-886-517-01	SHEET (A), DAMPING
105	4-887-131-01	(CDP-501ES,610ES)...KNOB, SLIDE SWITCH
105	4-887-131-11	(CDP-400,501).......KNOB, SLIDE SWITCH
106	4-889-321-01	(CDP-400,501).......SCREW
106	4-889-321-11	(CDP-501ES,610ES)...SCREW
107	4-901-704-01	(CDP-400,501).......KNOB, REPEAT
107	4-901-704-11	(CDP-501ES,610ES)...KNOB, REPEAT
108	4-901-705-01	(CDP-400,501).......KNOB, A.P
108	4-901-705-11	(CDP-501ES,610ES)...KNOB, A.P
109	♠;4-901-707-01	BRACKET, H.P
110	4-901-708-01	(CDP-400,501).......KNOB, LOV
110	4-901-708-11	(CDP-501ES,610ES)...KNOB, LOV
111	4-901-710-00	COVER (A), LED
112	♠;4-901-712-00	SHAFT, BUTTON
113	♠;4-901-713-00	RETAINER, BUTTON SHAFT
114	♠;4-901-714-00	PLATE, GROUND
115	4-901-715-00	FILTER
116	4-901-716-01	(CDP-400,501).......PLATE, FROSTED
116	4-901-716-11	(CDP-501ES,610ES)...PLATE, FROSTED
117	4-901-717-01	(CDP-400,501).......BUTTON (A), FF
117	4-901-717-11	(CDP-501ES,610ES)...BUTTON (A), FF
118	4-901-718-01	(CDP-400,501).......BUTTON, STOP
118	4-901-718-11	(CDP-501ES,610ES)...BUTTON, STOP
119	4-901-719-01	(CDP-400,501).......BUTTON (A), INDEX
119	4-901-719-11	(CDP-501ES,610ES)...BUTTON (A), INDEX
120	4-901-720-01	(CDP-400,501).......BUTTON (A), N
120	4-901-720-11	(CDP-501ES,610ES)...BUTTON (A), N

GENERAL SECTION

No.	Part No.	Description
121	♠;4-901-721-00	BRACKET, POWER SWITCH
122	4-901-722-01	(CDP-400,501).......BUTTON (B), N
122	4-901-722-11	(CDP-501ES,610ES)...BUTTON (B), N
123	4-901-723-01	(CDP-400,501).......BUTTON (B), FF
123	4-901-723-11	(CDP-501ES,610ES)...BUTTON (B), FF
124	4-901-724-01	(CDP-400,501).......BUTTON (C), FF
124	4-901-724-11	(CDP-501ES,610ES)...BUTTON (C), FF
125	4-901-725-01	(CDP-400,501).......BUTTON (D), FF
125	4-901-725-11	(CDP-501ES,610ES)...BUTTON (D), FF
126	4-901-726-01	(CDP-400,501).......BUTTON (B), INDEX
126	4-901-726-11	(CDP-501ES,610ES)...BUTTON (B), INDEX
127	4-901-727-00	(CDP-400,501)...BOLT (M2.6), HOLE, HEXAGON
127	7-683-412-05	(CDP-501ES,610ES)...BOLT, HEXAGON SOCKET 2.6X6
128	4-901-729-01	(CDP-400,501).......KNOB, L.P
128	4-901-729-11	(CDP-501ES,610ES)...KNOB, L.P
129	♠;4-901-730-00	PARTITION
130	♠;4-901-731-00	BRACKET, EXTENSION, POWER SWITCH
131	♠;4-901-736-00	HEAT SINK
132	♠;4-901-737-00	TABLE (LEFT), FITTING, FRAME
133	♠;4-901-739-00	PLATE (LEFT), SIDE
134	♠;4-901-740-11	PLATE (RIGHT), SIDE
135	♠;4-901-741-11	BRACKET (RIGHT), FRAME
136	4-901-742-12	(AEP,Canadian,UK,US)...PLATE, JACK
136	4-901-742-51	(E)....................PLATE, JACK
137	♠;4-901-744-00	PLATE, BOTTOM
138	♠;4-901-745-11	PANEL, SUB
139	♠;4-901-749-00	STOPPER (A), PC BOARD
140	♠;4-901-752-00	COVER, MECHANISM
141	♠;4-901-753-00	COVER, EJECT LEAD
142	♠;4-901-763-01	COVER (A), WIRE
143	4-902-128-00	RETAINER (A)
144	4-902-506-02	(CDP-400,501).......KNOB, CONTROL
144	4-902-506-11	(CDP-501ES,610ES)...KNOB, CONTROL
145	4-902-510-01	(CDP-501ES;AEP)...LABEL, MODEL NUMBER(AEP1)
145	4-902-511-01	(CDP-501;AEP).....LABEL, MODEL NUMBER(AEP1)
146	4-902-512-01	(CDP-501ES;UK)....LABEL, MODEL NUMBER (UK)
146	4-902-513-01	(CDP-501;UK)......LABEL, MODEL NUMBER (UK)
147	4-902-514-01	(CDP-610ES).......LABEL, MODEL NUMBER
147	4-902-521-01	(CDP-400).........LABEL, MODEL NUMBER
148	4-902-522-01	(CDP-501ES;E).....LABEL, MODEL NUMBER (E)
148	4-902-523-01	(CDP-501;E).......LABEL, MODEL NUMBER (E)

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In each case, U : μ, for example:
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UPD···: μPD···

GENERAL SECTION

No.	Part No.	Description
149	7-621-259-25	SCREW +P 2.6X4
150	7-621-284-00	SCREW +P 2.6X4
151	7-621-284-10	SCREW +P 2.6X5
152	7-621-592-00	SCREW +K 2.6X6
153	7-621-734-09	SET-SCT, HEX. 2.6X3
154	7-623-105-15	W 2, MIDDLE
155	7-623-507-01	LUG, 2.6
156	♠;7-623-508-01	LUG, 3
157	7-624-104-04	STOP RING 2.0, TYPE -E
158	7-624-106-04	STOP RING 3.0, TYPE -E
159	7-624-190-81	STOP RING 2, TYPE-CS
160	7-671-156-01	BALL, STENLESS
161	7-682-144-01	SCREW +P 3X3
162	7-682-145-09	SCREW +P 3X4
163	7-682-146-01	SCREW +P 3X5
164	♠;7-682-551-09	SCREW +B 3X14
165	7-682-948-09	SCREW +PSW 3X8
166	7-683-415-05	BOLT, HEXAGON SOCKET 2.6X12
167	7-685-102-29	SCREW +P 2X4 TYPE2 SLIT
168	7-685-134-14	SCREW +P 2.6X8 TYPE2 NON-SLIT
169	7-685-146-19	SCREW +P 3X8 TYPE2 NON-SLIT
170	7-685-645-79	SCREW +BVTP 3X6 TYPE2 N-S
171	7-685-646-19	SCREW +BVTP 3X8 TYPE2 N-S
172	7-685-855-09	SCREW +BVTT 2X10 (S)
173	7-685-860-04	SCREW +BVTT 2.6X4 (S)
174	7-685-861-09	SCREW +BVTT 2.6X5 (S)
175	7-685-864-01	SCREW +BVTT 2.6X10 (S)
176	7-685-867-09	SCREW +BVTT 2.6X16 (S)
177	7-685-871-01	SCREW +BVTT 3X6 (S)
178	7-685-871-09	SCREW +BVTT 3X6 (S)
179	7-685-872-01	SCREW +BVTT 3X8 (S)
180	7-685-872-09	SCREW +BVTT 3X8 (S)
181	7-685-874-01	SCREW +BVTT 3X12 (S)
182	7-685-880-09	SCREW +BVTT 4X6 (S)
183	7-687-204-11	SCREW +PTPWH, TORSU NON-SLIT, TYPE2
184	7-688-004-11	W 4, MIDDLE
185	9-911-815-01	CUSHION, RETAINER
186	9-911-835-XX	CUSHION, F
187	9-911-837-XX	CUSHION, STOPPER
188	9-911-839-XX	RUBBER (A)
189	9-911-840-XX	CUSHION
190	9-911-843-XX	CUSHION
191	9-911-845-XX	CUSHION
192	9-911-863-XX	SHEET (B), INSULATING
193	X-4884-104-0	(CDP-610ES)...KNOB ASSY, POWER

GENERAL SECTION

No.	Part No.	Description
194	X-4884-501-0	HOLDER ASSY, RACK
195	♠;X-4884-502-0	HOLDER ASSY, MOTOR
196	X-4884-503-0	LEVER ASSY, UP & DOWN
197	♠;X-4884-513-0	HOLDER ASSY, SWITCH
198	X-4884-514-0	RETAINER ASSY, DISK
199	X-4884-515-0	ARM ASSY, LOCK
200	X-4884-516-0	ARM ASSY, CHUCKING
201	♠;X-4884-517-0	PLATE ASSY, DISK
202	♠;X-4884-518-0	CHASSIS ASSY, MECHANISM
203	X-4884-524-1	EJECT ASSY
204	X-4884-529-0	PULLEY ASSY, PRESS
205	X-4887-104-1	(CDP-501ES,610ES)...KNOB ASSY, POWER
205	X-4901-705-1	(CDP-400,501).......KNOB ASSY, POWER
206	X-4901-701-1	(CDP-400,501).......BUTTON ASSY, PLAY
206	X-4901-703-1	(CDP-501ES,610ES)...BUTTON ASSY, PLAY
207	X-4901-702-1	(CDP-400,501).......BUTTON ASSY, PAUSE
207	X-4901-704-1	(CDP-501ES,610ES)...BUTTON ASSY, PAUSE
208	X-4901-708-1	HOLDER ASSY, FUNCTION BUTTON
209	X-4901-709-1	BASE ASSY
210	X-4902-503-0	FOOT ASSY
211	X-4902-504-0	STOPPER (B) ASSY, PC BOARD
212	X-4902-505-1	PANEL ASSY, FRONT
213	2-259-121-00	SCREW, TR
214	2-269-798-01	HEAT SHINK, TO-39
215	2-371-561-00	BUSHING (P), INSULATING
216	♠;3-537-790-41	REST, ARM, TENSION
217	♠;3-565-781-00	HEAT SINK, SERVO IC
218	♠;4-348-551-00	PLATE, SHIELD
219	4-854-790-00	HEAT SINK
220	....	
221	♠;4-884-613-00	HEAT SINK (SMALL)
222	♠;4-884-614-00	HOLDER, IC
223	4-887-709-00	HEAT SINK (UPPER), DIP
224	4-887-710-00	HEAT SINK (LOWER), DIP
225	♠;4-901-755-00	PLATE, SHIELD
226	....	
227	9-911-841-XX	SPACER
228	♠;4-879-920-00	SPACER, HEAT SINK

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ACCSSORY & PACKING MATERIAL

No.	Part No.	Description
251	1-551-315-00	CORD, CONNECTION; RK-112
252	1-556-942-00	(CDP-610ES)...CORD, CONNECTION
253	2-326-445-01	(CDP-610ES;US)...BAG, POLYETHYLENE
254	●;3-667-648-01	(Canadian)...LABEL, CAUTION, LASER
255	3-701-619-00	BAG, POLYETHYLENE, STANDARD
256	3-701-630-00	BAG, POLYETHYLENE
257	●;3-703-043-21	(Canadian)...LABEL, CAUTION, MAIN
258	●;3-703-044-26	(CDP-400,610ES)...LABEL, CAUTION
259	3-703-390-01	(CDP-400,610ES)...INSTRUCTION
260	3-703-507-01	(UK)....LABEL, GUARANTY
261	●;3-703-678-00	(US)....LABEL, CAUTION, NEW UL
262	●;3-703-680-00	(US)....LABEL, CAUTION, NEW UL
263	3-703-708-01	(CDP-400,501)......STICKER, SONY SYMBOL(18)
263	3-703-708-41	(CDP-501ES,610ES)..STICKER, SONY SYMBOL(18)
264	3-773-635-11	(CDP-501,501ES)...MANUAL, INSTRUCTION
265	3-773-635-41	(AEP)..........MANUAL, INSTRUCTION
266	3-773-712-21	(CDP-610ES)....MANUAL, INSTRUCTION
267	3-773-712-31	(CDP-610ES)....MANUAL, INSTRUCTION : FRENCH (Canadian)
268	3-773-728-21	(CDP-400)......MANUAL, INSTRUCTION
269	3-795-629-11	INSTRUCTION
270	3-795-629-13	(AEP)...INSTRUCTION
271	4-858-078-00	SHEET, PROTECTION
272	●;4-884-680-01	(Canadian)...LABEL
273	4-885-831-00	LABEL, CAUTION
274	4-885-833-01	(Canadian)...LABEL (CSA), CAUTION LASER
275	4-885-838-00	(CDP-501,501ES)...LABEL, CLASS 1
276	4-885-842-01	(Canadian)...LABEL, MAKER, LASER
277	4-901-756-00	CUSHION (RIGHT), UPPER
278	4-901-757-00	CUSHION (LEFT), UPPER
279	4-901-758-00	CUSHION, LOWER
280	4-902-516-01	HOLDER, COMMANDER
281	4-902-518-01	(CDP-501ES)...INDIVIDUAL CARTON
281	4-902-519-01	(CDP-501).....INDIVIDUAL CARTON
281	4-902-520-01	(CDP-610ES)...INDIVIDUAL CARTON
281	4-902-524-01	(CDP-400).....INDIVIDUAL CARTON
282	X-4884-523-1	CLEANER ASSY, DISK

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
501	●;1-508-880-00	BASE POST, MCD CONNECTOR 6P			
502	1-519-304-00	INDICATOR TUBE, FLUORESCENT			
503	⚠1-526-565-12	(E).....AC PLUG ADAPTOR			
504	⚠1-533-131-00	HOLDER, FUSE			
505	●;1-535-119-00	(AEP,UK)...TERMINAL			
506	1-535-416-00	TERMINAL			
507	⚠1-555-386-12	(E)...............CORD, POWER			
507	⚠1-555-701-00	(CDP-400,610ES)...CORD, POWER			
507	⚠1-555-795-00	(AEP).............CORD, POWER			
508	⚠1-556-035-11	(UK)..............CORD, POWER			
508	1-562-042-00	SOCKET, CONNECTOR 26P			
509	⚠1-564-085-11	(UK)....PLUG, AC			
510	●;1-564-370-00	BASE POST (U TYPE)			
511	●;1-603-976-00	PC BOARD, N			
512	●;1-608-664-00	PC BOARD, EJECT SWITCH			
513	●;1-608-665-00	PC BOARD, DISC DETECT PHOTO TR			
514	●;1-608-666-00	PC BOARD, DISC DETECTION LED			
515	●;1-608-667-00	PC BOARD, LIMIT SWITCH			
516	●;1-608-668-00	PC BOARD, CHUCKING SWITCH			
517	●;1-608-669-00	PC BOARD, LOADING SWITCH			
518	●;1-608-670-00	PC BOARD, LASER SWITCH			
519	●;1-608-671-00	PC BOARD, IN SWITCH			
520	●;1-608-672-00	PC BOARD, OUT SWITCH			
521	●;1-610-971-12	PC BOARD, SERVO AMP			
522	●;1-610-972-12	PC BOARD, FUNCTION			
523	●;1-610-973-12	PC BOARD, ACCESSORY PORT			
524	●;1-611-395-00	PC BOARD, RELAYING			
525	8-848-000-01	KSS-100A (OPTICAL PICK-UP BLOCK)			
526	●;A-4619-220-A	(US,AEP,UK)...MOUNTED PCB, SERVO AMP			
526	●;A-4619-222-A	(Canadian)....MOUNTED PCB, SERVO AMP			
526	●;A-4619-253-A	(E)...........MOUNTED PCB, SERVO AMP			
527	●;A-4651-009-A	(E)...........MOUNTED PCB, AUDIO AMP			
527	●;A-4651-011-A	(US,AEP,UK)...MOUNTED PCB, AUDIO AMP			
527	●;A-4651-021-A	(Canadian)....MOUNTED PCB, AUDIO AMP			
528	⚠1-526-565-11	(E)...AC PLUG, TC			
528	●;1-611-397-00	PC BOARD, POWER SWITCH			
529	●;1-611-398-00	PC BOARD, OUTPUT			
530	⚠1-611-399-00	(AEP, UK, US, Canadian)...PC BOARD, FUSE			
531	●;1-610-974-00	PC BOARD, TIMER SWITCH			
532	●;1-611-394-00	PC BOARD, MOTOR			
533	●;1-611-396-00	PC BOARD, HEADPHONE			
534	●;1-611-392-00	PC BOARD, AUDIO AMP			
535	●;1-611-393-00	PC BOARD, REMOTE CONTROL VOLUME			
BZ101	1-529-016-00	BUZZER, PIEZOELECTRIC			
C1	1-123-617-00	ELECT	10MF	20%	16V
C2	1-123-617-00	ELECT	10MF	20%	16V
C3	1-123-617-00	ELECT	10MF	20%	16V
C4	1-161-019-00	CERAMIC	0.033MF	10%	25V
C5	1-108-567-00	MYLAR	0.0033MF	5%	50V
C101	1-102-852-00	CERAMIC	47PF	5%	50V
C102	1-102-852-00	CERAMIC	47PF	5%	50V
C103	1-162-104-00	CERAMIC	330PF	10%	50V
C104	1-102-110-00	CERAMIC	220PF	10%	50V
C105	1-102-110-00	CERAMIC	220PF	10%	50V

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UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

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Replace only with part number specified.

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ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C106	1-123-332-00	ELECT	47MF	20%	16V
C107	1-130-628-00	FILM	0.047MF	5%	50V
C108	1-162-110-00	CERAMIC	0.001MF	10%	50V
C109	1-123-356-00	ELECT	10MF	20%	16V
C110	1-123-356-00	ELECT	10MF	20%	16V
C111	1-162-113-00	CERAMIC	0.01MF	30%	16V
C113	1-162-102-00	CERAMIC	220PF	10%	50V
C115	1-123-356-00	ELECT	10MF	20%	16V
C116	1-123-356-00	ELECT	10MF	20%	16V
C120	1-101-005-00	CERAMIC	0.022MF		50V
C121	1-161-494-00	CERAMIC	0.022MF	30%	25V
C201	1-130-188-00	FILM	0.01MF	5%	100V
C202	1-108-591-00	MYLAR	0.033MF	5%	50V
C203	1-108-804-00	MYLAR	0.01MF	5%	50V
C204	1-123-380-00	ELECT	1MF	20%	50V
C205	1-108-808-00	MYLAR	0.022MF	5%	50V
C206	1-108-804-00	MYLAR	0.01MF	5%	50V
C207	1-123-335-00	ELECT	330MF	20%	25V
C208	1-123-330-00	ELECT	22MF	20%	16V
C210	1-162-106-00	CERAMIC	470PF	10%	50V
C211	1-130-632-00	FILM	0.1MF	5%	50V
C212	1-123-305-00	ELECT	33MF	20%	10V
C213	1-123-306-00	ELECT	47MF	20%	10V
C214	1-124-184-00	ELECT	3.3MF	20%	50V
C215	1-108-591-00	MYLAR	0.033MF	5%	50V
C216	1-162-013-00	CERAMIC	10PF	5%	50V
C219	1-123-332-00	ELECT	47MF	20%	16V
C220	1-123-332-00	ELECT	47MF	20%	16V
C221	1-123-307-00	ELECT	100MF	20%	6.3V
C222	1-123-332-00	ELECT	47MF	20%	16V
C223	1-123-332-00	ELECT	47MF	20%	16V
C224	1-123-306-00	ELECT	47MF	20%	10V
C301	1-108-577-00	MYLAR	0.0082MF	5%	50V
C302	1-162-037-00	CERAMIC	100PF	5%	50V
C303	1-108-555-00	MYLAR	0.001MF	5%	50V
C304	1-108-808-00	MYLAR	0.022MF	5%	50V
C305	1-123-608-00	ELECT	0.22MF	20%	50V
C306	1-108-807-00	MYLAR	0.018MF	5%	50V
C307	1-106-188-00	MYLAR	0.0047MF	5%	100V
C308	1-161-494-00	CERAMIC	0.022MF	30%	25V
C309	1-124-184-00	ELECT	3.3MF	20%	50V
C310	1-102-959-00	CERAMIC	22PF	5%	50V
C312	1-162-110-00	CERAMIC	0.001MF	10%	50V
C313	1-162-110-00	CERAMIC	0.001MF	10%	50V
C314	1-130-643-00	FILM	0.82MF	5%	50V
C315	1-108-804-00	MYLAR	0.01MF	5%	50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C316	1-130-628-00	FILM	0.047MF	5%	50V
C317	1-108-804-00	MYLAR	0.01MF	5%	50V
C318	1-123-328-00	ELECT	4.7MF	20%	25V
C320	1-130-630-00	FILM	0.068MF	5%	50V
C401	1-162-025-00	CERAMIC	33PF	5%	50V
C402	1-162-025-00	CERAMIC	33PF	5%	50V
C403	1-162-013-00	CERAMIC	10PF	5%	50V
C404	1-162-013-00	CERAMIC	10PF	5%	50V
C405	1-162-023-00	CERAMIC	27PF	5%	50V
C406	1-162-023-00	CERAMIC	27PF	5%	50V
C407	1-108-808-00	MYLAR	0.022MF	5%	50V
C409	1-162-110-00	CERAMIC	0.001MF	10%	50V
C410	1-130-633-00	FILM	0.12MF	5%	50V
C411	1-102-852-00	CERAMIC	47PF	5%	50V
C412	1-102-852-00	CERAMIC	47PF	5%	50V
C413	1-108-234-00	MYLAR	0.0047MF	10%	50V
C414	1-107-306-00	MICA	180PF	5%	100V
C415	1-108-804-00	MYLAR	0.01MF	5%	50V
C416	1-108-567-00	MYLAR	0.0033MF	5%	50V
C417	1-162-037-00	CERAMIC	100PF	5%	50V
C418	1-108-354-00	MYLAR	0.0039MF	10%	50V
C419	1-162-111-00	CERAMIC	0.0022MF	30%	25V
C420	1-162-111-00	CERAMIC	0.0022MF	30%	25V
C421	1-102-645-00	CERAMIC	33PF	5%	50V
C422	1-162-102-00	CERAMIC	220PF	10%	50V
C423	1-102-645-00	CERAMIC	33PF	5%	50V
C424	1-123-318-00	ELECT	33MF	20%	16V
C425	1-130-640-00	MYLAR	0.01MF	5%	50V
C427	1-123-318-00	ELECT	33MF	20%	16V
C428	1-123-318-00	ELECT	33MF	20%	16V
C429	1-123-318-00	ELECT	33MF	20%	16V
C432	1-123-318-00	ELECT	33MF	20%	16V
C433	1-123-318-00	ELECT	33MF	20%	16V
C434	1-123-318-00	ELECT	33MF	20%	16V
C435	1-123-318-00	ELECT	33MF	20%	16V
C436	1-123-318-00	ELECT	33MF	20%	16V
C437	1-123-299-00	ELECT	1000MF	20%	6.3V
C438	1-162-025-00	CERAMIC	33PF	5%	50V
C439	1-162-015-00	CERAMIC	12PF	5%	50V
C440	1-162-113-00	CERAMIC	0.01MF	30%	16V
C442	1-162-110-00	CERAMIC	0.001MF	10%	50V
C444	1-131-386-00	TANTALUM	33MF	20%	6.3V
C445	1-131-386-00	TANTALUM	33MF	20%	6.3V
C446	1-131-386-00	TANTALUM	33MF	20%	6.3V
C447	1-131-386-00	TANTALUM	33MF	20%	6.3V
C448	1-131-386-00	TANTALUM	33MF	20%	6.3V

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- All resistors are in ohms.
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In each case, U : μ, for example:
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UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C450	1-108-810-00	MYLAR	0.033MF	5%	50V
C452	1-162-113-00	CERAMIC	0.01MF	30%	16V
C453	1-123-465-00	ELECT	220MF	20%	6.3V
C501	1-162-013-00	CERAMIC	10PF	5%	50V
C502	1-102-647-00	CERAMIC	39PF	5%	50V
C503	1-102-647-00	CERAMIC	39PF	5%	50V
C511	1-131-450-00	TANTALUM	1MF	20%	50V
C512	1-131-450-00	TANTALUM	1MF	20%	50V
C513	1-124-080-00	ELECT	33MF	20%	25V
C514	1-124-080-00	ELECT	33MF	20%	25V
C515	1-124-080-00	ELECT	33MF	20%	25V
C516	1-131-526-00	TANTALUM	33MF	20%	10V
C517	1-102-074-00	CERAMIC	0.001MF	10%	50V
C518	1-102-513-00	CERAMIC	18PF	5%	50V
C521	1-104-240-00	POLYSTYRENE	0.001MF	5%	125V
C522	1-123-683-00	ELECT	220MF	20%	16V
C523	1-131-450-00	TANTALUM	1MF	20%	50V
C524	1-104-233-00	POLYSTYRENE	220PF	5%	125V
C525	1-131-450-00	TANTALUM	1MF	20%	50V
C526	1-131-450-00	TANTALUM	1MF	20%	50V
C527	1-107-322-00	MICA	22PF	5%	500V
C528	1-131-450-00	TANTALUM	1MF	20%	50V
C531	1-136-219-11	FILM	0.0047MF	2%	100V
C532	1-124-338-00	ELECT	22MF	20%	100V
C533	1-104-235-00	POLYSTYRENE	820PF	5%	125V
C534	1-131-450-00	TANTALUM	1MF	20%	50V
C535	1-101-005-00	CERAMIC	0.022MF		50V
C536	1-104-235-00	POLYSTYRENE	820PF	5%	125V
C537	1-107-322-00	MICA	22PF	5%	500V
C538	1-107-310-00	MICA	220PF	5%	500V
C539	1-131-450-00	TANTALUM	1MF	20%	50V
C551	1-123-333-00	ELECT	100MF	20%	25V
C562	1-123-307-00	ELECT	100MF	20%	6.3V
C563	1-123-307-00	ELECT	100MF	20%	6.3V
C581	1-102-074-00	CERAMIC	0.001MF	10%	50V
C583	1-130-628-00	FILM	0.047MF	5%	50V
C701 ⚠	1-123-842-00	ELECT	3300MF	20%	25V
C702	1-123-380-00	ELECT	1MF	20%	50V
C703	1-123-333-00	ELECT	100MF	20%	25V
C704 ⚠	1-123-327-00	ELECT	4700MF	20%	16V
C705	1-102-074-00	CERAMIC	0.001MF	10%	50V
C706	1-123-333-00	ELECT	100MF	20%	25V
C707	1-123-311-00	ELECT	1000MF	20%	10V
C712	1-123-333-00	ELECT	100MF	20%	25V
C713	1-131-450-00	TANTALUM	1MF	20%	50V

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C714	1-102-947-00	CERAMIC	10PF	5%	50V
C715	1-123-390-00	ELECT	330.7MF	20%	63V
C716	1-123-333-00	ELECT	100MF	20%	25V
C741	1-123-505-00	ELECT	220MF	20%	35V
C742	1-123-513-00	ELECT	100MF	20%	50V
C743	1-123-504-00	ELECT	100MF	20%	35V
C751 ⚠	1-123-842-00	ELECT	3300MF	20%	25V
C752	1-123-380-00	ELECT	1MF	20%	50V
C753	1-123-333-00	ELECT	100MF	20%	25V
C754 ⚠	1-123-327-00	ELECT	4700MF	20%	16V
C755	1-102-074-00	CERAMIC	0.001MF	10%	50V
C756	1-123-333-00	ELECT	100MF	20%	25V
C757	1-123-311-00	ELECT	1000MF	20%	10V
C762	1-123-333-00	ELECT	100MF	20%	25V
C763	1-131-450-00	TANTALUM	1MF	20%	50V
C764	1-102-947-00	CERAMIC	10PF	5%	50V
C765	1-123-390-00	ELECT	330.7MF	20%	63V
C766	1-123-333-00	ELECT	100MF	20%	25V
C791	1-123-380-00	ELECT	1MF	20%	50V
C792	1-123-356-00	ELECT	10MF	20%	50V
C801 ⚠	1-161-744-00	CERAMIC	0.01MF		400V
C901	1-162-110-00	CERAMIC	0.001MF	10%	50V
C961	1-130-640-00	FILM	0.47MF	5%	50V
C962	1-101-005-00	CERAMIC	0.022MF		50V
C963	1-101-005-00	CERAMIC	0.022MF		50V
C971	1-101-003-00	CAP, CERAMIC	0.0047MF		
C972	1-101-003-00	CAP, CERAMIC	0.0047MF		
C973	1-101-003-00	CAP, CERAMIC	0.0047MF		
CNJ1	●;1-560-065-00	PIN, CONNECTOR 8P			
CNJ2	●;1-560-062-00	PIN, CONNECTOR 4P			
CNJ3	●;1-560-062-00	PIN, CONNECTOR 4P			
CNJ4	●;1-560-338-00	PIN, CONNECTOR 7P			
CNJ4	●;1-562-328-00	SOCKET, CONNECTOR 7P			
CNJ5	●;1-560-060-00	PIN, CONNECTOR 2P			
CNJ6	●;1-560-063-00	PIN, CONNECTOR 5P			
CNJ6	●;1-562-250-00	SOCKET, CONNECTOR 5P			
CNJ7	●;1-560-064-00	PIN, CONNECTOR 6P			
CNJ8	●;1-560-061-00	PIN, CONNECTOR 3P			
CNJ9	●;1-560-064-00	PIN, CONNECTOR 6P			
CNJ10	●;1-560-063-00	PIN, CONNECTOR 5P			
CNJ10	●;1-562-250-00	SOCKET, CONNECTOR 5P			
CNJ11	●;1-560-061-00	PIN, CONNECTOR 3P			
CNJ12	●;1-560-338-00	PIN, CONNECTOR 7P			
CNJ13	●;1-560-338-00	PIN, CONNECTOR 7P			
CNJ14	●;1-560-060-00	PIN, CONNECTOR 2P			

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Ref.No.	Part No.	Description
CNJ15♠;	1-560-062-00	PIN, CONNECTOR 4P
CNJ15♠;	1-562-249-00	SOCKET, CONNECTOR 4P
CNJ16♠;	1-560-060-00	PIN, CONNECTOR 2P
CNJ17♠;	1-560-061-00	PIN, CONNECTOR 3P
CNJ18♠;	1-560-061-00	PIN, CONNECTOR 3P
CNJ19♠;	1-508-878-00	BASE POST
CNJ20♠;	1-560-061-00	PIN, CONNECTOR 3P
CNJ20♠;	1-562-327-00	SOCKET, CONNECTOR 3P
CNJ21♠;	1-560-062-00	PIN, CONNECTOR 4P
CNJ22♠;	1-560-065-00	PIN, CONNECTOR 8P
CNJ23♠;	1-508-881-00	BASE POST
CNJ24♠;	1-560-060-00	PIN, CONNECTOR 2P
CNJ25♠;	1-508-880-00	BASE POST, MCD CONNECTOR 6P
CNJ26♠;	1-508-880-00	BASE POST, MCD CONNECTOR 6P
CNJ26♠;	1-562-251-00	SOCKET, CONNECTOR 6P
CNJ27♠;	1-508-878-00	BASE POST
CNJ28♠;	1-562-251-00	SOCKET, CONNECTOR 6P
CNJ31♠;	1-508-879-00	BASE POST
CNJ31♠;	1-562-249-00	SOCKET, CONNECTOR 4P
CNJ32♠;	1-560-594-00	BASE POST, MCD CONNECTOR 9P
CNJ32♠;	1-562-251-00	SOCKET, CONNECTOR 6P
CNJ32♠;	1-562-327-00	SOCKET, CONNECTOR 3P
CNJ33♠;	1-560-070-00	BASE POST
CNJ33♠;	1-562-250-00	SOCKET, CONNECTOR 5P
CNJ41♠;	1-560-063-00	PIN, CONNECTOR 5P
D1	8-719-110-32	DIODE PH302B
D2	8-719-100-06	DIODE SR106C
D101	8-719-107-94	DIODE 1SS202-1
D103	8-719-107-94	DIODE 1SS202-1
D104	8-719-107-94	DIODE 1SS202-1
D106	8-719-107-94	DIODE 1SS202-1
D202	8-719-107-94	DIODE 1SS202-1
D203	8-719-107-94	DIODE 1SS202-1
D204	8-719-107-94	DIODE 1SS202-1
D205	8-719-107-94	DIODE 1SS202-1
D206	8-719-127-07	DIODE RD2.7E-B
D207	8-719-127-07	DIODE RD2.7E-B
D301	8-719-127-07	DIODE RD2.7E-B
D302	8-719-127-07	DIODE RD2.7E-B
D303	8-719-107-94	DIODE 1SS202
D306	8-719-127-07	DIODE RD2.7E-B
D307	8-719-127-07	DIODE RD2.7E-B
D310	8-719-107-94	DIODE 1SS202
D311	8-719-107-94	DIODE 1SS202
D312	8-719-107-94	DIODE 1SS202
D313	8-719-107-94	DIODE 1SS202

ELECTRICAL PARTS

Ref.No.	Part No.	Description
D401	8-719-107-94	DIODE 1SS202
D402	8-719-107-94	DIODE 1SS202
D403	8-719-107-94	DIODE 1SS202
D406	8-719-100-56	DIODE RD10EB1T
D407	8-719-107-94	DIODE 1SS202
D408	8-719-912-27	DIODE KV1226
D409	8-719-100-29	DIODE RD5.1EB1
D411	8-719-107-94	DIODE 1SS202-1
D413	8-719-107-94	DIODE 1SS202-1
D415	8-719-107-94	DIODE 1SS202-1
D521	8-719-910-65	DIODE HZ6B2L
D522	8-719-224-12	DIODE 10YD1.3
D561	8-719-200-02	DIODE 10E-2
D581	8-719-107-94	DIODE 1SS202
D582	8-719-107-94	DIODE 1SS202
D621	8-719-910-65	DIODE HZ6B2L
D622	8-719-224-12	DIODE 10YD1.3
D701 ⚠	8-719-200-00	DIODE 31DQ05
D702 ⚠	8-719-200-00	DIODE 31DQ05
D703 ⚠	8-719-200-00	DIODE 31DQ05
D704 ⚠	8-719-200-00	DIODE 31DQ05
D705	8-719-224-12	DIODE 10YD1.3
D706	8-719-951-12	DIODE HZ5BLL
D707	8-719-200-02	DIODE 10E-2
D711	8-719-224-11	DIODE 10YD2.4A
D712	8-719-902-97	DIODE EQA01-06R2
D741	8-719-100-29	DIODE RD5.1EB1
D742	8-719-200-02	DIODE 10E-2
D743	8-719-200-02	DIODE 10E-2
D744	8-719-100-98	DIODE RD30EB2
D751 ⚠	8-719-200-31	DIODE 21DQ05
D752 ⚠	8-719-200-31	DIODE 21DQ05
D753 ⚠	8-719-200-31	DIODE 21DQ05
D754 ⚠	8-719-200-31	DIODE 21DQ05
D755	8-719-224-12	DIODE 10YD1.3
D756	8-719-951-12	DIODE HZ5BLL
D757	8-719-200-02	DIODE 10E-2
D761	8-719-224-11	DIODE 10YD2.4A
D762	8-719-902-97	DIODE EQA01-06R2
D791 ⚠	8-719-107-94	DIODE 1SS202-1
D792 ⚠	8-719-107-94	DIODE 1SS202-1
D793	8-719-107-94	DIODE 1SS202-1
D901	8-719-907-81	DIODE BG5535S
D902	8-719-901-66	DIODE LT-9200N
D903	8-719-907-80	DIODE AA5535S

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CAPACITORS:
MF:μF, PF:μμF.

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

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

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

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ELECTRICAL PARTS

Ref.No.	Part No.	Description
D904	8-719-907-80	DIODE AA5535S
D960	8-719-200-02	DIODE 10E-2
D961	8-719-812-31	DIODE TLR123
D962	8-719-812-31	DIODE TLR123
D963	8-729-110-21	TRANSISTOR PH102-L
D964	8-719-200-02	DIODE 10E-2
F501	1-464-299-00	UNIT, LOW PASS FILTER
F601	1-464-299-00	UNIT, LOW PASS FILTER
F701	⚠1-532-237-00	(AEP,UK)....FUSE, TIME-LAG 3.15A
F751	⚠1-532-237-00	(AEP,UK)....FUSE, TIME-LAG 3.15A
F801	⚠1-532-215-00	(CDP-501,501ES)...FUSE, TIME-LAG 0.8A
F801	⚠1-532-555-00	(CDP-400,610ES)...FUSE, 1.6A
IB1	1-232-004-00	COMPOSITION CIRCUIT BLOCK
IC1	8-759-113-73	IC UPC1373H
IC101	8-759-908-83	IC MB8841H-1211K
IC102	8-759-909-25	IC MB88401-261K
IC103	8-759-800-77	IC LM6416E-254
IC104	8-759-220-04	IC TC40H004P
IC105	8-759-240-69	IC TC4069UBP
IC106	8-759-240-11	IC TC4011BP
IC107	8-759-240-11	IC TC4011BP
IC108	8-759-240-30	IC TC4030BP
IC201	8-751-930-00	IC CX-193
IC202	8-759-745-60	IC NJM4560D
IC203	8-759-145-58	IC NJM4558D
IC204	8-749-969-21	IC STK6922S
IC301	8-759-145-58	IC NJM4558D
IC302	8-759-745-60	IC NJM4560D
IC303	8-759-145-58	IC NJM4558D
IC304	8-749-969-21	IC STK6922S
IC401	8-759-990-82	IC TL082CP
IC402	8-759-220-04	IC TC40H004P
IC403	8-759-101-37	IC UPC357C
IC404	8-759-220-04	IC TC40H004P
IC405	8-759-220-04	IC TC40H004P
IC406	8-759-900-86	IC SN74LS86N
IC407	8-759-990-82	IC TL082CP
IC408	8-759-990-82	IC TL082CP
IC409	8-759-900-74	IC SN74LS74AN
IC410	8-759-900-76	IC SN74LS76AN
IC411	8-759-745-61	IC NJM4560D-D
IC412	8-759-908-85	IC LF353N
IC501	8-759-901-28	IC MSM5128-12RS
IC502	8-759-905-50	IC CX-7933
IC503	8-759-905-52	IC CX-7934
IC504	8-759-905-53	IC CX-7935

ELECTRICAL PARTS

Ref.No.	Part No.	Description
IC505	8-752-001-70	IC CX20017
IC521	8-759-993-53	IC LF353H
IC522	8-759-340-53	IC HD14053BP
IC523	8-759-905-42	IC NE5534P
IC551	8-759-745-61	IC NJM4560D-D
IC561	8-759-600-24	IC M54543L
IC621	8-759-993-53	IC LF353H
IC623	8-759-905-42	IC NE5534P
IC701	8-759-700-06	IC NJM7812A
IC702	8-759-900-72	IC NE5532P
IC711	8-759-700-11	IC NJM78M05A
IC751	8-759-700-32	IC NJM7912A
IC761	8-759-700-20	IC NJM79M05A
IC901	8-759-600-35	IC M54940P
J501	1-507-909-21	JACK, PIN 4P
J502	1-507-909-21	JACK, PIN 4P
J551	1-507-863-21	JACK, LARGE TYPE
J601	1-507-909-21	JACK, PIN 4P
J602	1-507-909-21	JACK, PIN 4P
L1	1-404-310-00	COIL
L101	1-408-117-00	MICRO INDUCTOR 10UH
L102	1-408-117-00	MICRO INDUCTOR 10UH
L103	1-408-117-00	MICRO INDUCTOR 10UH
L104	1-408-117-00	MICRO INDUCTOR 10UH
L301	1-408-117-00	MICRO INDUCTOR 10UH
L401	1-408-117-00	MICRO INDUCTOR 10UH
M1	X-4884-526-1	MOTOR ASSY, LOADING
M2	X-4884-527-1	MOTOR ASSY, CHUCKING
M3	X-4884-527-1	MOTOR ASSY, SLEDDING
M4	8-838-039-01	MOTOR, DC (BHR-2600A)(DISC MOTOR)
Q1	8-729-967-32	TRANSISTOR 2SC2673-Q
Q103	8-729-245-83	TRANSISTOR 2SC2458
Q106	8-729-100-13	TRANSISTOR 2SC2001
Q107	8-729-204-83	TRANSISTOR 2SA1048-GR
Q108	8-729-245-83	TRANSISTOR 2SC2458
Q201	8-729-100-13	TRANSISTOR 2SC2001
Q202	8-729-100-13	TRANSISTOR 2SC2001
Q203	8-729-204-83	TRANSISTOR 2SA1048-GR
Q204	8-729-204-83	TRANSISTOR 2SA1048-GR
Q205	8-729-100-13	TRANSISTOR 2SC2001
Q206	8-729-100-13	TRANSISTOR 2SC2001
Q207	8-729-245-83	TRANSISTOR 2SC2458
Q301	8-729-100-13	TRANSISTOR 2SC2001
Q302	8-729-100-13	TRANSISTOR 2SC2001
Q303	8-729-245-83	TRANSISTOR 2SC2458

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CAPACITORS:

MF:μF, PF:μμF.

RESISTORS

- All resistors are in ohms.
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COILS

- MMH : mH, UH : μH

SEMICONDUCTORS

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

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

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

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
Q304	8-729-100-13	TRANSISTOR 2SC2001			
Q306	8-729-245-83	TRANSISTOR 2SC2458			
Q307	8-729-245-83	TRANSISTOR 2SC2458			
Q308	8-729-100-13	TRANSISTOR 2SC2001			
Q309	8-729-204-83	TRANSISTOR 2SA1048-GR			
Q310	8-729-100-13	TRANSISTOR 2SC2001			
Q402	8-729-377-58	TRANSISTOR 2SC1775-G			
Q403	8-729-245-83	TRANSISTOR 2SC2458			
Q404	8-729-245-83	TRANSISTOR 2SC2458			
Q405	8-729-245-83	TRANSISTOR 2SC2458			
Q502	8-729-245-83	TRANSISTOR 2SC2458			
Q521	8-769-163-00	TRANSISTOR 2SK152-3			
Q581	8-729-245-83	TRANSISTOR 2SC2458			
Q582	8-729-245-83	TRANSISTOR 2SC2458			
Q621	8-769-163-00	TRANSISTOR 2SK152-3			
Q701	8-729-288-02	TRANSISTOR 2SD880-Y			
Q711	8-729-107-53	TRANSISTOR 2SC2275-Q			
Q712	8-729-167-62	TRANSISTOR 2SC2676			
Q713	8-729-113-82	TRANSISTOR 2SA1138-F			
Q714	8-729-167-62	TRANSISTOR 2SC2676			
Q741	8-729-177-43	TRANSISTOR 2SD774			
Q751	8-729-118-53	TRANSISTOR 2SA985-P			
Q761	8-729-118-53	TRANSISTOR 2SA985-P			
Q762	8-729-113-82	TRANSISTOR 2SA1138			
Q763	8-729-167-62	TRANSISTOR 2SC2676			
Q764	8-729-113-82	TRANSISTOR 2SA1138			
Q791	8-729-245-83	TRANSISTOR 2SC2458			
R101	1-247-863-00	CARBON	22K	5%	1/6W
R102	1-247-847-00	CARBON	4.7K	5%	1/6W
R103	1-247-863-00	CARBON	22K	5%	1/6W
R104	1-247-863-00	CARBON	22K	5%	1/6W
R105	1-247-847-00	CARBON	4.7K	5%	1/6W
R106	1-247-839-00	CARBON	2.2K	5%	1/6W
R107	1-247-863-00	CARBON	22K	5%	1/6W
R108	1-247-863-00	CARBON	22K	5%	1/6W
R109	1-247-847-00	CARBON	4.7K	5%	1/6W
R110	1-247-847-00	CARBON	4.7K	5%	1/6W
R111	1-247-847-00	CARBON	4.7K	5%	1/6W
R112	1-247-855-00	CARBON	10K	5%	1/6W
R113	1-247-863-00	CARBON	22K	5%	1/6W
R114	1-247-863-00	CARBON	22K	5%	1/6W
R115	1-247-855-00	CARBON	10K	5%	1/6W
R117	1-247-863-00	CARBON	22K	5%	1/6W
R118	1-247-863-00	CARBON	22K	5%	1/6W
R119	1-247-863-00	CARBON	22K	5%	1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R120	1-247-863-00	CARBON	22K	5%	1/6W
R121	1-247-863-00	CARBON	22K	5%	1/6W
R122	1-247-863-00	CARBON	22K	5%	1/6W
R123	1-247-863-00	CARBON	22K	5%	1/6W
R124	1-247-847-00	CARBON	4.7K	5%	1/6W
R125	1-247-847-00	CARBON	4.7K	5%	1/6W
R126	1-247-863-00	CARBON	22K	5%	1/6W
R127	1-247-863-00	CARBON	22K	5%	1/6W
R130	1-247-855-00	CARBON	10K	5%	1/6W
R132	1-247-807-00	CARBON	100	5%	1/6W
R133	1-247-903-00	CARBON	1M	5%	1/6W
R134	1-247-863-00	CARBON	22K	5%	1/6W
R135	1-247-879-00	CARBON	100K	5%	1/6W
R136	1-247-863-00	CARBON	22K	5%	1/6W
R137	1-247-863-00	CARBON	22K	5%	1/6W
R138	1-247-863-00	CARBON	22K	5%	1/6W
R139	1-247-863-00	CARBON	22K	5%	1/6W
R140	1-247-863-00	CARBON	22K	5%	1/6W
R141	1-247-863-00	CARBON	22K	5%	1/6W
R142	1-247-863-00	CARBON	22K	5%	1/6W
R143	1-247-887-00	CARBON	220K	5%	1/6W
R144	1-247-863-00	CARBON	22K	5%	1/6W
R145	1-247-863-00	CARBON	22K	5%	1/6W
R146	1-247-863-00	CARBON	22K	5%	1/6W
R147	1-247-863-00	CARBON	22K	5%	1/6W
R148	1-247-863-00	CARBON	22K	5%	1/6W
R149	1-247-863-00	CARBON	22K	5%	1/6W
R150	1-247-863-00	CARBON	22K	5%	1/6W
R151	1-247-863-00	CARBON	22K	5%	1/6W
R152	1-247-863-00	CARBON	22K	5%	1/6W
R153	1-247-863-00	CARBON	22K	5%	1/6W
R154	1-247-863-00	CARBON	22K	5%	1/6W
R155	1-247-863-00	CARBON	22K	5%	1/6W
R156	1-247-863-00	CARBON	22K	5%	1/6W
R157	1-247-819-00	CARBON	330	5%	1/6W
R158	1-247-855-00	CARBON	10K	5%	1/6W
R159	1-247-859-00	CARBON	15K	5%	1/6W
R160	1-247-855-00	CARBON	10K	5%	1/6W
R162	1-247-903-00	CARBON	1M	5%	1/6W
R163	1-247-863-00	CARBON	22K	5%	1/6W
R164	1-247-863-00	CARBON	22K	5%	1/6W
R165	1-247-863-00	CARBON	22K	5%	1/6W
R166	1-247-863-00	CARBON	22K	5%	1/6W
R167	1-247-863-00	CARBON	22K	5%	1/6W
R168	1-247-879-00	CARBON	100K	5%	1/6W

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- All resistors are in ohms.
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- MMH : mH, UH : μH

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In each case, U : μ, for example:
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UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R169	1-247-903-00	CARBON	1M	5%	1/6W
R170	1-247-811-00	CARBON	150	5%	1/6W
R171	1-247-903-00	CARBON	1M	5%	1/6W
R172	1-247-855-00	CARBON	10K	5%	1/6W
R173	1-247-819-00	CARBON	330	5%	1/6W
R174	1-247-819-00	CARBON	330	5%	1/6W
R175	1-247-817-00	CARBON	270	5%	1/6W
R176	1-247-879-00	CARBON	100K	5%	1/6W
R177	1-247-855-00	CARBON	10K	5%	1/6W
R179	1-247-847-00	CARBON	4.7K	5%	1/6W
R183	1-247-831-00	CARBON	1K	5%	1/6W
R184	1-247-831-00	CARBON	1K	5%	1/6W
R190	1-247-859-00	CARBON	15K	5%	1/6W
R191	1-212-946-00	(Canadian)...FUSIBLE 3.3 5% 1/2W F			
R191	1-246-413-00	(AEP,UK,E,US)...CARBON 3.3 5% 1/4W			
R201	1-247-863-00	CARBON	22K	5%	1/6W
R202	1-247-855-00	CARBON	10K	5%	1/6W
R203	1-214-779-00	METAL	120K	1%	1/4W
R204	1-247-877-00	CARBON	82K	5%	1/6W
R205	1-247-859-00	CARBON	15K	5%	1/6W
R206	1-247-871-00	CARBON	47K	5%	1/6W
R207	1-247-855-00	CARBON	10K	5%	1/6W
R208	1-247-859-00	CARBON	15K	5%	1/6W
R209	1-247-859-00	CARBON	15K	5%	1/6W
R210	1-247-855-00	CARBON	10K	5%	1/6W
R211	1-247-875-00	CARBON	68K	5%	1/6W
R212	1-247-855-00	CARBON	10K	5%	1/6W
R213	1-247-851-00	CARBON	6.8K	5%	1/6W
R214	1-247-869-00	CARBON	39K	5%	1/6W
R215	1-214-843-11	METAL	130	1%	1/2W
R217	1-247-869-00	CARBON	39K	5%	1/6W
R218	1-247-879-00	CARBON	100K	5%	1/6W
R219	1-214-757-00	METAL	15K	1%	1/4W
R220	1-247-895-00	CARBON	470K	5%	1/6W
R221	1-214-737-00	METAL	2.2K	1%	1/4W
R222	1-247-835-00	CARBON	1.5K	5%	1/6W
R223	1-247-855-00	CARBON	10K	5%	1/6W
R225	1-247-839-00	CARBON	2.2K	5%	1/6W
R226	1-247-867-00	CARBON	33K	5%	1/6W
R227	1-247-855-00	CARBON	10K	5%	1/6W
R228	1-247-831-00	CARBON	1K	5%	1/6W
R229	1-247-831-00	CARBON	1K	5%	1/6W
R230	1-247-873-00	CARBON	56K	5%	1/6W
R231	1-247-863-00	CARBON	22K	5%	1/6W
R232	1-214-741-00	METAL	3.3K	1%	1/4W
R233	1-214-759-00	METAL	18K	1%	1/4W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R234	1-247-903-00	CARBON	1M	5%	1/6W
R235	1-247-859-00	CARBON	15K	5%	1/6W
R236	1-247-855-00	CARBON	10K	5%	1/6W
R240	1-247-855-00	CARBON	10K	5%	1/6W
R241	1-247-863-00	CARBON	22K	5%	1/6W
R242	1-247-855-00	CARBON	10K	5%	1/6W
R243	1-247-867-00	CARBON	33K	5%	1/6W
R244	1-247-882-00	CARBON	130K	5%	1/6W
R245	1-247-865-00	CARBON	27K	5%	1/6W
R246	1-247-855-00	CARBON	10K	5%	1/6W
R247	1-247-813-00	CARBON	180	5%	1/6W
R250	1-247-877-00	CARBON	82K	5%	1/6W
R251	1-247-855-00	CARBON	10K	5%	1/6W
R252	1-247-855-00	CARBON	10K	5%	1/6W
R255	1-247-871-00	CARBON	47K	5%	1/6W
R256	1-247-823-00	CARBON	470	5%	1/6W
R257	1-247-855-00	CARBON	10K	5%	1/6W
R258	1-247-883-00	CARBON	150K	5%	1/6W
R269	1-247-861-00	CARBON	18K	5%	1/6W
R303	1-247-847-00	CARBON	4.7K	5%	1/6W
R304	1-247-863-00	CARBON	22K	5%	1/6W
R305	1-247-879-00	CARBON	100K	5%	1/6W
R306	1-247-877-00	CARBON	82K	5%	1/6W
R307	1-247-855-00	CARBON	10K	5%	1/6W
R308	1-247-855-00	CARBON	10K	5%	1/6W
R309	1-247-855-00	CARBON	10K	5%	1/6W
R310	1-247-855-00	CARBON	10K	5%	1/6W
R311	1-247-835-00	CARBON	1.5K	5%	1/6W
R312	1-247-863-00	CARBON	22K	5%	1/6W
R313	1-247-855-00	CARBON	10K	5%	1/6W
R314	1-247-841-00	CARBON	2.7K	5%	1/6W
R315	1-247-875-00	CARBON	68K	5%	1/6W
R316	1-247-863-00	CARBON	22K	5%	1/6W
R317	1-247-881-00	CARBON	120K	5%	1/6W
R318	1-247-871-00	CARBON	47K	5%	1/6W
R319	1-247-871-00	CARBON	47K	5%	1/6W
R320	1-247-867-00	CARBON	33K	5%	1/6W
R321	1-247-863-00	CARBON	22K	5%	1/6W
R322	1-247-863-00	CARBON	22K	5%	1/6W
R323	1-247-867-00	CARBON	33K	5%	1/6W
R324	1-247-843-00	CARBON	3.3K	5%	1/6W
R325	1-247-843-00	CARBON	3.3K	5%	1/6W
R326	1-247-903-00	CARBON	1M	5%	1/6W
R327	1-247-859-00	CARBON	15K	5%	1/6W
R328	1-247-855-00	CARBON	10K	5%	1/6W

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MF:μF, PF:μμF.

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- All resistors are in ohms.
- F : nonflammable

COILS

- MMH : mH, UH : μH

SEMICONDUCTORS

In each case, U : μ, for example:
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UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R329	1-247-863-00	CARBON	22K	5%	1/6W
R330	1-247-875-00	CARBON	68K	5%	1/6W
R331	1-247-863-00	CARBON	22K	5%	1/6W
R332	1-247-875-00	CARBON	68K	5%	1/6W
R333	1-247-867-00	CARBON	33K	5%	1/6W
R334	1-247-877-00	CARBON	82K	5%	1/6W
R335	1-247-871-00	CARBON	47K	5%	1/6W
R336	1-247-855-00	CARBON	10K	5%	1/6W
R337	1-247-847-00	CARBON	4.7K	5%	1/6W
R338	1-247-839-00	CARBON	2.2K	5%	1/6W
R339	1-247-875-00	CARBON	68K	5%	1/6W
R340	1-247-885-00	CARBON	180K	5%	1/6W
R341	1-247-871-00	CARBON	47K	5%	1/6W
R342	1-247-885-00	CARBON	180K	5%	1/6W
R343	1-247-871-00	CARBON	47K	5%	1/6W
R344	1-247-881-00	CARBON	120K	5%	1/6W
R345	1-247-861-00	CARBON	18K	5%	1/6W
R346	1-247-881-00	CARBON	120K	5%	1/6W
R347	1-247-861-00	CARBON	18K	5%	1/6W
R348	1-247-819-00	CARBON	330	5%	1/6W
R349	1-247-839-00	CARBON	2.2K	5%	1/6W
R350	1-247-863-00	CARBON	22K	5%	1/6W
R351	1-247-887-00	CARBON	220K	5%	1/6W
R352	1-247-839-00	CARBON	2.2K	5%	1/6W
R353	1-247-887-00	CARBON	220K	5%	1/6W
R354	1-247-871-00	CARBON	47K	5%	1/6W
R355	1-247-891-00	CARBON	330K	5%	1/6W
R356	1-247-855-00	CARBON	10K	5%	1/6W
R357	1-247-831-00	CARBON	1K	5%	1/6W
R390	⚠1-217-426-00	(AEP,UK,Canadian,US)...FUSIBLE	2.2	5%	1/2W F
R391	⚠1-217-426-00	(AEP,UK,Canadian,US)...FUSIBLE	2.2	5%	1/2W F
R401	1-247-879-00	CARBON	100K	5%	1/6W
R402	1-247-888-00	CARBON	240K	5%	1/6W
R403	1-247-855-00	CARBON	10K	5%	1/6W
R404	1-247-855-00	CARBON	10K	5%	1/6W
R405	1-247-855-00	CARBON	10K	5%	1/6W
R406	1-247-855-00	CARBON	10K	5%	1/6W
R407	1-247-855-00	CARBON	10K	5%	1/6W
R408	1-247-855-00	CARBON	10K	5%	1/6W
R409	1-247-847-00	CARBON	4.7K	5%	1/6W
R410	1-247-847-00	CARBON	4.7K	5%	1/6W
R411	1-247-888-00	CARBON	240K	5%	1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R412	1-247-903-00	CARBON	1M	5%	1/6W
R413	1-247-903-00	CARBON	1M	5%	1/6W
R414	1-247-891-00	CARBON	330K	5%	1/6W
R415	1-247-855-00	CARBON	10K	5%	1/6W
R416	1-247-859-00	CARBON	15K	5%	1/6W
R417	1-247-848-00	CARBON	5.1K	5%	1/6W
R429	1-247-845-00	CARBON	3.9K	5%	1/6W
R430	1-247-858-00	CARBON	13K	5%	1/6W
R431	1-247-831-00	CARBON	1K	5%	1/6W
R432	1-247-843-00	CARBON	3.3K	5%	1/6W
R433	1-247-831-00	CARBON	1K	5%	1/6W
R434	1-247-843-00	CARBON	3.3K	5%	1/6W
R435	1-247-831-00	CARBON	1K	5%	1/6W
R436	1-247-843-00	CARBON	3.3K	5%	1/6W
R437	1-247-867-00	CARBON	33K	5%	1/6W
R438	1-247-867-00	CARBON	33K	5%	1/6W
R439	1-247-838-00	CARBON	2K	5%	1/6W
R440	1-247-838-00	CARBON	2K	5%	1/6W
R441	1-247-855-00	CARBON	10K	5%	1/6W
R442	1-247-831-00	CARBON	1K	5%	1/6W
R443	1-247-831-00	CARBON	1K	5%	1/6W
R444	1-247-903-00	CARBON	1M	5%	1/6W
R446	1-214-761-00	METAL	22K	1%	1/4W
R447	1-247-839-00	CARBON	2.2K	5%	1/6W
R448	1-247-831-00	CARBON	1K	5%	1/6W
R449	1-247-877-00	CARBON	82K	5%	1/6W
R450	1-247-845-00	CARBON	3.9K	5%	1/6W
R451	1-247-839-00	CARBON	2.2K	5%	1/6W
R452	1-247-859-00	CARBON	15K	5%	1/6W
R453	1-247-831-00	CARBON	1K	5%	1/6W
R454	1-247-831-00	CARBON	1K	5%	1/6W
R456	1-247-879-00	CARBON	100K	5%	1/6W
R460	1-247-879-00	CARBON	100K	5%	1/6W
R462	1-247-846-00	CARBON	4.3K	5%	1/6W
R463	1-247-831-00	CARBON	1K	5%	1/6W
R464	1-247-879-00	CARBON	100K	5%	1/6W
R465	1-247-855-00	CARBON	10K	5%	1/6W
R466	1-247-831-00	CARBON	1K	5%	1/6W
R468	1-247-855-00	CARBON	10K	5%	1/6W
R469	1-247-851-00	CARBON	6.8K	5%	1/6W
R470	1-247-855-00	CARBON	10K	5%	1/6W
R471	1-247-879-00	CARBON	100K	5%	1/6W
R472	1-247-879-00	CARBON	100K	5%	1/6W
R473	1-247-119-00	CARBON	330	5%	1/4W
R474	1-247-848-00	CARBON	5.1K	5%	1/6W

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MF:μF, PF:μμF.

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- All resistors are in ohms.
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- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

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Replace only with part number specified.

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ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R475	1-247-847-00	CARBON	4.7K	5%	1/6W
R476	1-247-832-00	CARBON	1.1K	5%	1/6W
R477	1-247-838-00	CARBON	2K	5%	1/6W
R478	1-247-848-00	CARBON	5.1K	5%	1/6W
R481	1-247-859-00	CARBON	15K	5%	1/6W
R482	1-247-855-00	CARBON	10K	5%	1/6W
R483	1-247-853-00	CARBON	8.2K	5%	1/6W
R485	1-247-895-00	CARBON	470K	5%	1/6W
R486	1-247-895-00	CARBON	470K	5%	1/6W
R490	1-247-831-00	CARBON	1K	5%	1/6W
R491	1-247-841-00	CARBON	2.7K	5%	1/6W
R492	1-247-901-00	CARBON	820K	5%	1/6W
R493	1-247-099-00	CARBON	47	5%	1/4W
R501	1-247-855-00	CARBON	10K	5%	1/6W
R502	1-247-863-00	CARBON	22K	5%	1/6W
R511	1-247-807-00	CARBON	100	5%	1/6W
R512	1-214-733-00	METAL	1.5K	1%	1/4W
R513	1-214-771-00	METAL	56K	1%	1/4W
R521	1-214-745-00	METAL	4.7K	1%	1/4W
R522	1-214-737-00	METAL	2.2K	1%	1/4W
R523	1-214-892-00	METAL	15K	1%	1/2W
R524	1-214-759-00	METAL	18K	1%	1/4W
R525	1-214-885-00	METAL	7.5K	1%	1/2W
R526	1-214-729-00	METAL	1K	1%	1/4W
R531	1-214-882-00	METAL	5.6K	1%	1/2W
R532	1-214-890-00	METAL	12K	1%	1/2W
R533	1-214-866-00	METAL	1.2K	1%	1/2W
R534	1-214-929-00	METAL	470K	1%	1/2W
R535	1-214-777-00	METAL	100K	1%	1/4W
R536	1-214-840-00	METAL	100	1%	1/2W
R537	1-214-852-00	METAL	330	1%	1/2W
R538	1-214-872-00	METAL	2.2K	1%	1/2W
R539	1-214-765-00	METAL	33K	1%	1/4W
R551	1-214-733-00	METAL	1.5K	1%	1/4W
R552	1-214-733-00	METAL	1.5K	1%	1/4W
R553	1-214-740-00	METAL	3K	1%	1/4W
R554	1-214-748-00	METAL	6.2K	1%	1/4W
R555	1-214-755-00	METAL	12K	1%	1/4W
R556	1-214-777-00	METAL	100K	1%	1/4W
R557	1-214-745-00	METAL	4.7K	1%	1/4W
R558	1-214-768-00	METAL	43K	1%	1/4W
R559	1-214-713-00	METAL	220	1%	1/4W
R560	1-214-705-00	METAL	100	1%	1/4W
R561	1-214-723-00	METAL	560	1%	1/4W
R563	1-247-863-00	CARBON	22K	5%	1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description				
R564	1-247-863-00	CARBON	22K	5%	1/6W	
R565	1-214-852-00	METAL	330	1%	1/2W	
R581	1-247-847-00	CARBON	4.7K	5%	1/6W	
R582	1-247-847-00	CARBON	4.7K	5%	1/6W	
R701	⚠1-217-429-00	(AEP,UK,Canadian,US)...FUSIBLE	3.9	5%	1/2W	F
R703	1-214-753-00	METAL	10K	1%	1/4W	
R704	⚠1-217-426-00	(AEP,UK,Canadian,US)...FUSIBLE	2.2	5%	1/2W	F
R711	⚠1-212-849-00	(AEP,UK,Canadian,US)...FUSIBLE	4.7	5%	1/4W	F
R713	1-214-723-00	METAL	560	1%	1/4W	
R714	1-214-771-00	METAL	56K	1%	1/4W	
R715	1-214-741-00	METAL	3.3K	1%	1/4W	
R716	1-214-863-00	METAL	910	1%	1/2W	
R717	1-214-864-00	METAL	1K	1%	1/2W	
R741	⚠1-212-849-00	(AEP,UK,Canadian,US)...FUSIBLE	4.7	5%	1/4W	F
R742	1-247-839-00	CARBON	2.2K	5%	1/6W	
R751	⚠1-217-429-00	(AEP,UK,Canadian,US)...FUSIBLE	3.9	5%	1/2W	F
R753	1-214-753-00	METAL	10K	1%	1/4W	
R754	⚠1-217-426-00	(AEP,UK,Canadian,US)...FUSIBLE	2.2	5%	1/2W	F
R761	⚠1-212-849-00	(AEP,UK,Canadian,US)...FUSIBLE	4.7	5%	1/4W	F
R763	1-214-723-00	METAL	560	1%	1/4W	
R764	1-214-771-00	METAL	56K	1%	1/4W	
R765	1-214-741-00	METAL	3.3K	1%	1/4W	
R766	1-214-863-00	METAL	910	1%	1/2W	
R767	1-214-864-00	METAL	1K	1%	1/2W	
R791	⚠1-247-831-00	CARBON	1K	5%	1/6W	
R792	1-247-846-00	CARBON	4.3K	5%	1/6W	
R793	1-247-843-00	CARBON	3.3K	5%	1/6W	
R794	1-247-855-00	CARBON	10K	5%	1/6W	
R795	1-247-855-00	CARBON	10K	5%	1/6W	
R796	1-247-885-00	CARBON	180K	5%	1/6W	
R797	1-247-807-00	CARBON	100	5%	1/6W	
R801	1-214-937-00	(AEP)...METAL	1M	1%	1/2W	
R901	1-247-819-00	CARBON	330	5%	1/6W	
R961	1-247-807-00	CARBON	100	5%	1/6W	

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ELECTRICAL PARTS

Ref.No.	Part No.	Description
RV101	1-226-241-00	RES, ADJ, CARBON 500K
RV201	1-228-997-00	RES, ADJ, METAL GLAZE 100K
RV202	1-228-994-00	RES, ADJ, METAL GLAZE 10K
RV205	1-226-236-00	RES, ADJ, CARBON 10K
RV301	1-226-236-00	RES, ADJ, CARBON 10K
RV401	1-228-998-00	RES, ADJ, METAL GLAZE 220K
RV402	1-228-995-00	RES, ADJ, METAL GLAZE 22K
RV405	1-228-994-00	RES, ADJ, METAL GLAZE 10K
RV406	1-228-994-00	RES, ADJ, METAL GLAZE 10K
RV407	1-228-995-00	RES, ADJ, METAL GLAZE 22K
RV561	1-230-274-00	RES, VAR, CARBON 20K/20K
RV661	1-230-274-00	RES, VAR, CARBON 20K/20K
RY581	1-515-323-00	RELAY
RY582	1-515-323-00	RELAY
S551	1-554-659-00	SWITCH, ROTARY (ATTENUATOR)
S651	1-554-659-00	SWITCH, ROTARY (ATTENUATOR)
S801 ⚠	1-553-318-00	SWITCH, PUSH (AC POWER)
S803	1-554-205-00	SWITCH, PUSH (CHUCKING DETECTION)
S901	1-553-856-00	SWITCH, KEY BOARD (PLAY)
S902	1-553-856-00	SWITCH, KEY BOARD (PAUSE)
S903	1-553-856-00	SWITCH, KEY BOARD
S904	1-553-856-00	SWITCH, KEY BOARD
S905	1-553-856-00	SWITCH, KEY BOARD
S906	1-553-856-00	SWITCH, KEY BOARD
S907	1-553-856-00	SWITCH, KEY BOARD
S908	1-553-856-00	SWITCH, KEY BOARD
S909	1-553-856-00	SWITCH, KEY BOARD (ALL REPEAT)
S910	1-553-856-00	SWITCH, KEY BOARD
S911	1-553-856-00	SWITCH, KEY BOARD (INDEX)
S912	1-553-856-00	SWITCH, KEY BOARD (MEMORY)
S913	1-553-856-00	SWITCH, KEY BOARD (STOP)
S914	1-553-856-00	SWITCH, KEY BOARD (TIME)
S915	1-553-856-00	SWITCH, KEY BOARD (CLEAR)
S916	1-553-856-00	SWITCH, KEY BOARD
S917	1-554-419-00	SWITCH, PUSH (1 KEY)(AUTO PAUSE)
S918	1-553-856-00	SWITCH, KEY BOARD (OPEN/CLOSE)
S919	1-552-808-00	SWITCH, SLIDE (TIME)
S920	1-554-205-00	SWITCH, PUSH (CHUCKING MOTOR)
S921	1-553-636-00	SWITCH, MICRO (MOTOR SELECT)
S922 ⚠	1-554-205-00	SWITCH, PUSH (LASET ON)(CHUCKING SIDE)
S923	1-554-205-00	SWITCH, PUSH (DISC TABLE POSITION DET)
S924	1-554-205-00	SWITCH, PUSH (LIMIT)
S925 ⚠	1-554-205-00	SWITCH, PUSH (LASER ON)(LOADING SIDE)
S926	1-516-777-XX	SLIDE SWITCH (BEEP)

ELECTRICAL PARTS

Ref.No.	Part No.	Description
T401	1-407-569-00	COIL, VARIABLE 10UH
T501	1-426-090-00	TRANSFORMER, RF
T901 ⚠	1-447-724-11	(AEP,UK)..........TRANSFORMER, POWER
T901 ⚠	1-447-725-00	(CDP-400,610ES)...TRANSFORMER, POWER
T901 ⚠	1-447-726-11	(E)...............TRANSFORMER, POWER
X101	1-527-380-21	CRYSTAL, OSC
X102	1-527-895-00	OSCILLATOR, CERAMIC
X501	1-527-948-00	VIBRATOR, CRYSTAL
X502	1-527-999-00	OSCILLATOR, CRYSTAL
VS801 ⚠	1-526-576-41	(E)...SELECTOR, POWER VOLTAGE

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Sony Corporation