

JVC

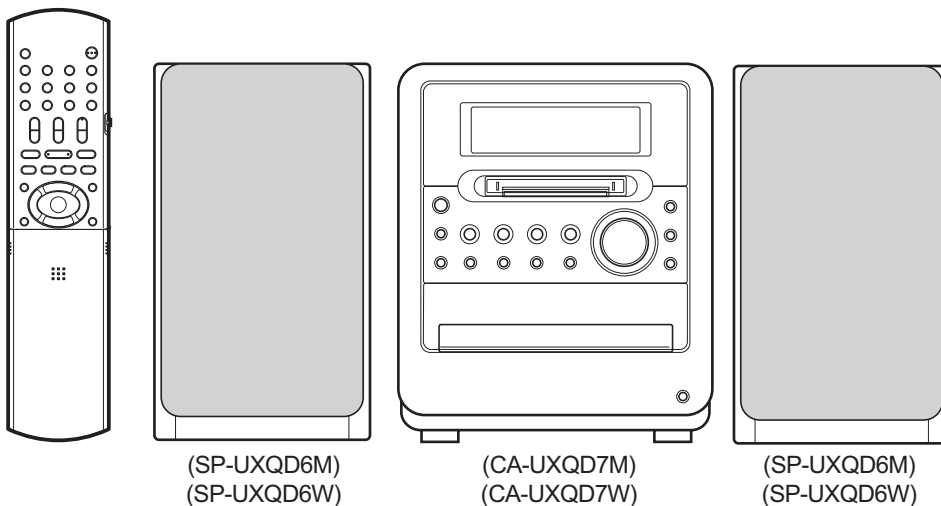
SERVICE MANUAL

MICRO COMPONENT MD SYSTEM

UX-QD7M,UX-QD7W

Area suffix

UB ----- Hong Kong



MDLP

AV COMPU LINK
Digital Direct Progressive Scan



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SPECIFICATION

MD/DVD receiver (CA-UXQD7)

Amplifier	Output power		20 W + 20 W at 4 Ω (10% THD)
	Input terminals	Analog	AUX $\times$ 1, 500 mV/47 k Ω (LEVEL1) 250 mV/47 k Ω (LEVEL2)
		Digital	Digital optical input $\times$ 1 -23 dBm to -15 dBm (Optical square terminal) (Compatible with frequency of 32 kHz, 44.1 kHz and 48 kHz)
	Output terminals	Analog	Speaker $\times$ 1, 20 W/4 Ω Impedance 4 Ω - 16 Ω Headphone ($\times$ 1), 25 mW/32 Ω Impedance 16 Ω - 1 k Ω
		Digital	DVD/CD optical input $\times$ 1 -23 dBm to -15 dBm (Optical square terminal)
		Other	AV COMPU LINK $\times$ 2 ($\varnothing$ 3.5)
Tuner	Frequency	FM	87.50 MHz - 108.00 MHz
		AM	531 kHz - 1 710 kHz (9 kHz spacing) 530 kHz - 1 710 kHz (10 kHz spacing)
DVD player	Playable discs		DVD VIDEO, DVD AUDIO, CD, VCD, SVCD, CD-R/CDRW (CD, VCD, SVCD, MP3/ WMA/JPEG format), DVD-R/ DVD-RW (video format)
MD recorder	Audio playing system		MiniDisc digital audio system
	Recording system		Magneto-optical overwrite system
	Reading system		Non-contact, semiconductor laser pickup
	Recording/Playback time (when using an 80-minute MD)	SP	80 minutes
		LP2	160 minutes
		LP4	320 minutes
	Sampling frequency		44.1 kHz
	Audio compression system		ATRAC (Adaptive Transform Acoustic Coding)/ATRAC3 (MDLP)
Cassette deck	Frequency response	Normal (type I)	60 Hz - 14 000 Hz
		Wow and flutter	0.15% (WRMS)
General	Power source		AC 220 V , 50 Hz
	Power consumption		70 W (at operation) 1.3 W (on standby)
	Dimensions		165 mm (W) $\times$ 200 mm (H) $\times$ 355 mm (D)
	Mass (approx.)		5.1 kg

Speaker (SP-UXQD6)

System		3-way bass reflex type, Magnetically shielded type
Speakers	Woofer	10 cm $\times$ 1
	Midrange	4 cm $\times$ 1
	Tweeter	1.5 cm $\times$ 1
Power handling capacity		20 W
Impedance		4 Ω
Frequency range		58 Hz - 40 kHz
Sound pressure level		85 dB/W·m
Dimensions		135 mm (W) $\times$ 200.5 mm (H) $\times$ 211.5 mm (D)
Mass (approx.)		2.0 kg (1 unit)

Micro component MD system (UX-QD7)

Dimensions	435 mm (W) $\times$ 200.5 mm (H) $\times$ 355 mm (D)
Mass (approx.)	9.1 kg

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Design and specifications are subject to change without notice.

SECTION 1

PRECAUTION

1.1 Safety Precautions

- (1) This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
- (2) Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturers warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
- (3) Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (Δ) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
- (4) The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after reassembling.

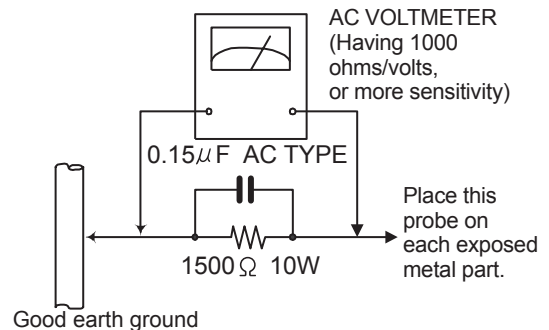
(5) Leakage shock hazard testing

After reassembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock. Do not use a line isolation transformer during this check.

- Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.).
- Alternate check method
Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 Ω per volt or more sensitivity in the following manner. Connect a 1,500 Ω 10W resistor paralleled by a 0.15 μ F AC-type capacitor between an exposed metal part and a known good earth ground. Measure the AC voltage across the resistor with the AC

voltmeter.

Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Voltage measured any must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



1.2 Warning

- (1) This equipment has been designed and manufactured to meet international safety standards.
- (2) It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
- (3) Repairs must be made in accordance with the relevant safety standards.
- (4) It is essential that safety critical components are replaced by approved parts.
- (5) If mains voltage selector is provided, check setting for local voltage.

1.3 Caution

Burrs formed during molding may be left over on some parts of the chassis.

Therefore, pay attention to such burrs in the case of pre-forming repair of this system.

1.4 Critical parts for safety

In regard with component parts appearing on the silk-screen printed side (parts side) of the PWB diagrams, the parts that are printed over with black such as the resistor ($\blacksquare$), diode ($\blacksquare$) and ICP ($\bullet$) or identified by the " Δ " mark nearby are critical for safety. When replacing them, be sure to use the parts of the same type and rating as specified by the manufacturer.
(This regulation dose not Except the J and C version)

1.5 Preventing static electricity

Electrostatic discharge (ESD), which occurs when static electricity stored in the body, fabric, etc. is discharged, can destroy the laser diode in the traverse unit (optical pickup). Take care to prevent this when performing repairs.

1.5.1 Grounding to prevent damage by static electricity

Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as laser products.

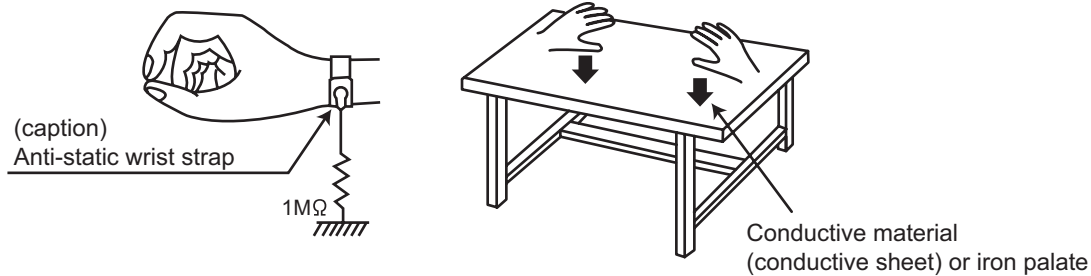
Be careful to use proper grounding in the area where repairs are being performed.

(1) Ground the workbench

Ground the workbench by laying conductive material (such as a conductive sheet) or an iron plate over it before placing the traverse unit (optical pickup) on it.

(2) Ground yourself

Use an anti-static wrist strap to release any static electricity built up in your body.



(3) Handling the optical pickup

- In order to maintain quality during transport and before installation, both sides of the laser diode on the replacement optical pickup are shorted. After replacement, return the shorted parts to their original condition. (Refer to the text.)
- Do not use a tester to check the condition of the laser diode in the optical pickup. The tester's internal power source can easily destroy the laser diode.

1.6 Handling the traverse unit (optical pickup)

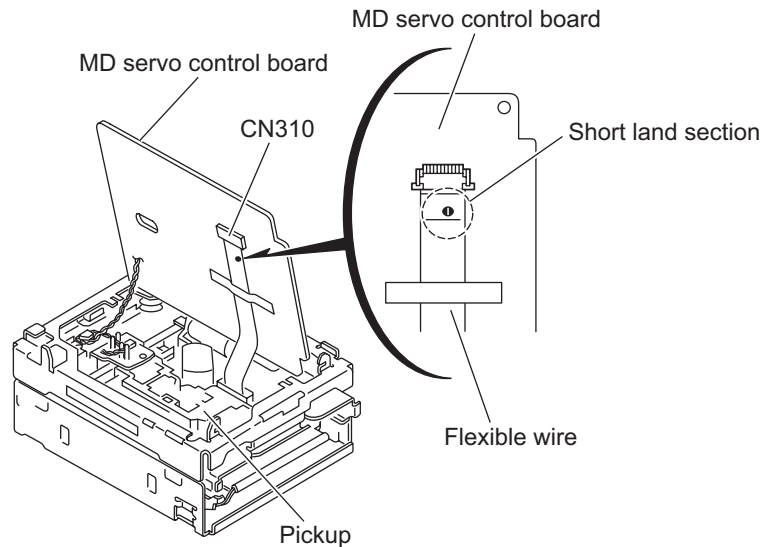
- (1) Do not subject the traverse unit (optical pickup) to strong shocks, as it is a sensitive, complex unit.
- (2) Cut off the shorted part of the flexible cable using nippers, etc. after replacing the optical pickup. For specific details, refer to the replacement procedure in the text. Remove the anti-static pin when replacing the traverse unit. Be careful not to take too long a time when attaching it to the connector.
- (3) Handle the flexible cable carefully as it may break when subjected to strong force.
- (4) It is not possible to adjust the semi-fixed resistor that adjusts the laser power. Do not turn it.

1.7 Attention when pickup unit is removed

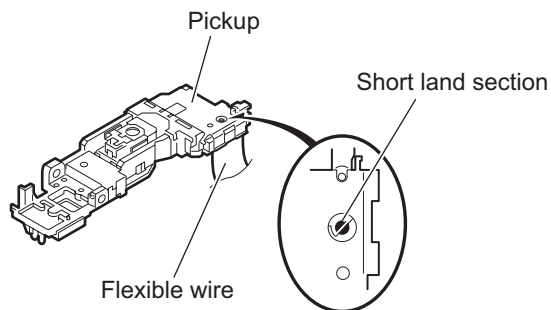
1.7.1 Attention when MD pickup unit is removed

*Please refer to "DISASSEMBLY" in the text.

- (1) Apply solder to short land section before the flexible wire is disconnected from the connector CN310 on the MD servo control board.
(If the flexible wire is disconnected without applying solder, the pickup may be destroyed by static electricity.)
- (2) In the assembly, be sure to remove solder from the short land section after connecting the flexible wire.



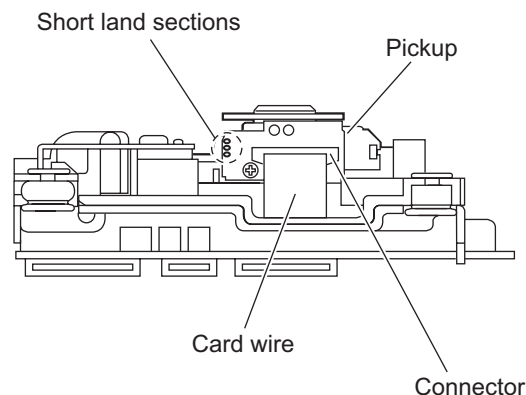
- (3) Apply solder to short land section before the flexible wire is disconnected from the connector on the pickup.
(If the flexible wire is disconnected without applying solder, the pickup may be destroyed by static electricity.)
- (4) In the assembly, be sure to remove solder from the short land section after connecting the flexible wire.



1.7.2 Attention when DVD pickup unit is removed

*Please refer to "DISASSEMBLY" in the text.

- (1) Apply solder to short land sections before the card wire is disconnected from the connector on the pickup.
(If the card wire is disconnected without applying solder, the pickup may be destroyed by static electricity.)
- (2) In the assembly, be sure to remove solder from the short land sections after connecting the card wire.



1.8 Important for laser products

1.CLASS 1 LASER PRODUCT

2.DANGER : Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.

3.CAUTION : There are no serviceable parts inside the Laser Unit. Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.

4.CAUTION : The CD,MD and DVD player uses invisible laser radiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.

5.CAUTION : If safety switches malfunction, the laser is able to function.

6.CAUTION : Use of controls, adjustments or performance of procedures other than those specified here in may result in hazardous radiation exposure.



CAUTION Please use enough caution not to see the beam directly or touch it in case of an adjustment or operation check.

CAUTION : Visible and invisible laser radiation when open and interlock failed or defeated.

AVOID DIRECT EXPOSURE TO BEAM.

ADVARSEL : Synlig og usynlig laserstråling når maskinen er åben eller interlocken fejler. Undgå direkte eksponering til stråling.

VARNING : Synlig och osynlig laserstråling när den öppnas och spärren är urkopplad. Betrakta ej strålen.

VARO : Avattaessa ja suojalukitus ohitettuna tai viallisena olet alttiina näkyvälle ja näkymättömälle lasersäteilylle. Vältä säteen kohdistumista suoraan itseesi.

REPRODUCTION AND POSITION OF LABELS

WARNING LABEL

CAUTION : Visible and invisible laser radiation when open and interlock failed or defeated. AVOID DIRECT EXPOSURE TO BEAM. (e)	ADVARSEL : Synlig og usynlig laserstråling når maskinen er åben eller interlocken fejler. Undgå direkte eksponering til stråling. (d)	VARNING : Synlig och osynlig laserstråling när den öppnas och spärren är urkopplad. Betrakta ej strålen. (s)	VARO : Avattaessa ja suojalukitus ohitettuna tai viallisena olet alttiina näkyvälle ja näkymättömälle lasersäteilylle. Vältä säteen kohdistumista suoraan itseesi. (f)
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CAUTION : Visible and invisible laser radiation when open and interlock failed or defeated. AVOID DIRECT EXPOSURE TO BEAM. (e)	VARO : Avattaessa ja suojalukitus ohitettuna tai viallisena olet alttiina näkyvälle ja näkymättömälle lasersäteilylle. Vältä säteen kohdistumista suoraan itseesi. (f)
VARNING : Synlig och osynlig laserstråling när den öppnas och spärren är urkopplad. Betrakta ej strålen. (s)	ADVARSEL : Synlig og usynlig laserstråling når maskinen er åben eller interlocken fejler. Undgå direkte eksponering til stråling. (d)

SECTION 2

SPECIFIC SERVICE INSTRUCTIONS

This service manual does not describe SPECIFIC SERVICE INSTRUCTIONS.

SECTION 3 DISASSEMBLY

3.1 Main body section

3.1.1 Removing the rear cover

(See Figs.1 and 2)

- (1) From the back side of the main body, remove the twelve screws **A** attaching the rear cover. (See Fig.1.)
- (2) From the bottom side of the main body, remove the three screws **B** attaching the rear cover. (See Fig.2.)
- (3) Remove the rear cover from the main body.

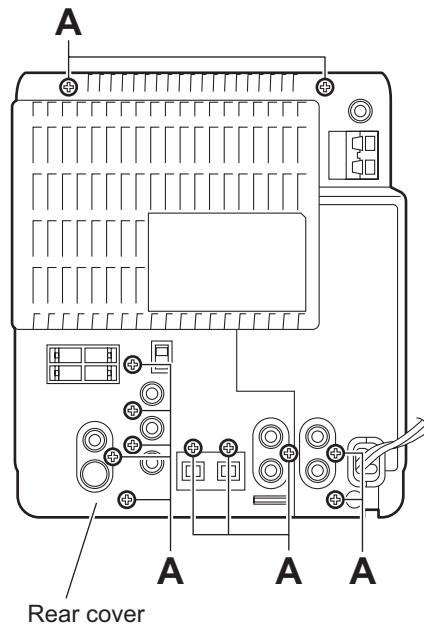


Fig.1

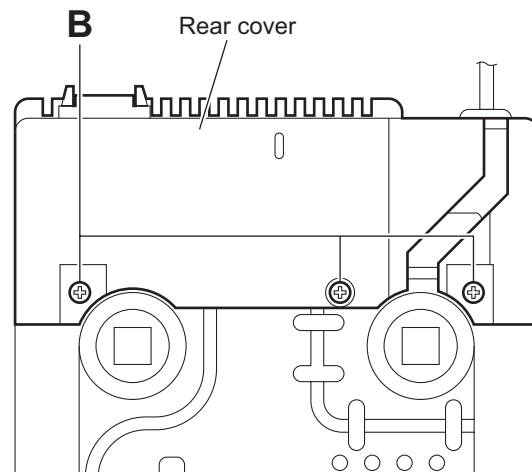


Fig.2

3.1.2 Removing the side panels (L)/(R) (See Fig.3)

- Remove the rear cover.
 - From the bottom side of the main body, remove the two screws **C** attaching the side panels (L)/(R).
 - Slide the side panels (L)/(R) in the direction of the arrow and remove the side panels (L)/(R).

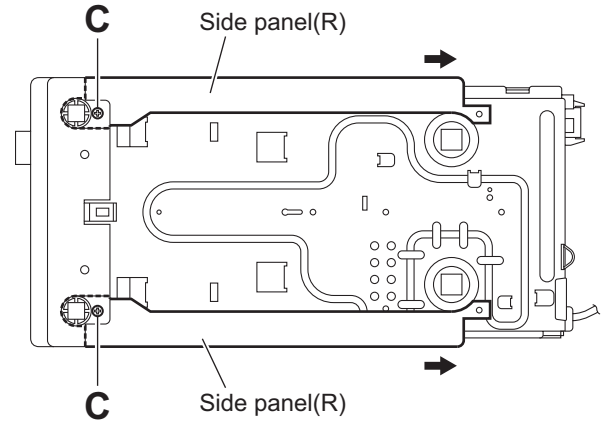


Fig.3

3.1.3 Removing the top cover assembly (See Figs.4 and 5)

- Remove the rear cover and side panels(L)/(R).
 - From the left side of the main body, disconnect the card wires from the connectors ([CN703](#), [CN709](#)) on the micon board. (See Fig.4.)
 - Remove the screw **D** attaching the top cover assembly. (See Fig.4.)
 - From the right side of the main body, disconnect the card wire from the connector [CN105](#) on the main board. (See Fig.5.)
 - Disconnect the wire from the connector [CN108](#) on the main board. (See Fig.5.)

Reference:

When connecting the wire, pass it through the slot **b** of the main board as before. (See Fig.5.)

- From the both sides of the main body, remove the two screws **E** and screw **F** attaching the top cover assembly. (See Figs.4 and 5.)
- Release the joints **a** and remove the top cover assembly. (See Figs.4 and 5.)

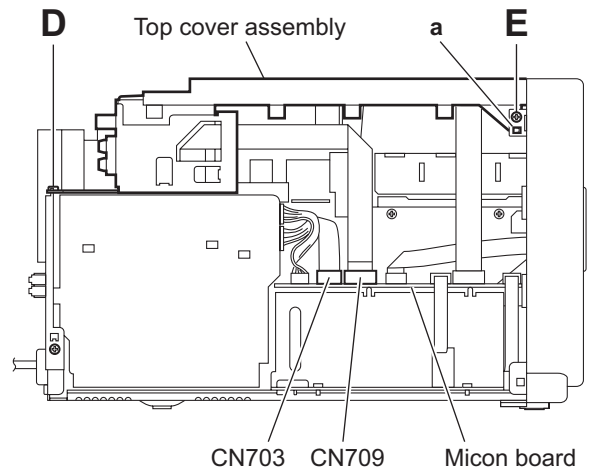


Fig.4

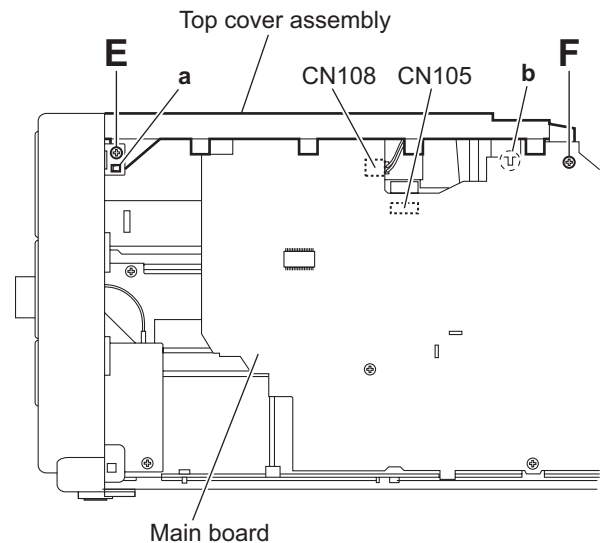


Fig.5

3.1.4 Removing the front panel assembly (See Figs.6 to 8)

- Remove the rear cover, side panels(L)/(R) and top cover assembly.

- (1) From the left side of the main body, disconnect the card wires from the connectors (CN702, CN710) on the micon board. (See Fig.6.)
- (2) From the right side of the main body, disconnect the earth wire from the micon board. (See Fig.6.)
- (3) From the both sides and bottom sides of the main body, release the joints **c** and joint **d**. (See Figs.6 to 8.)
- (4) Remove the front panel assembly in the direction of the arrow. (See Figs.6 to 8.)

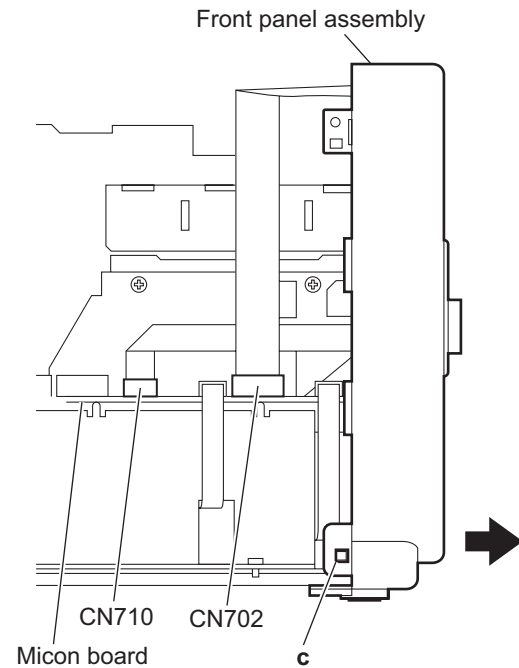


Fig.6

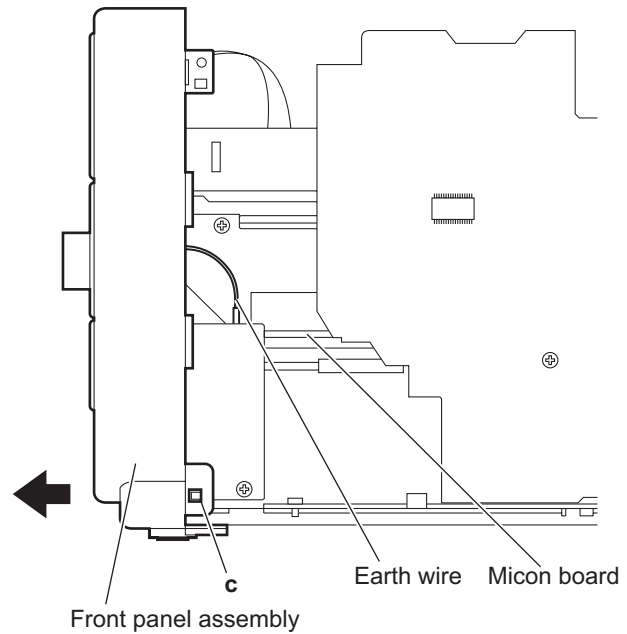


Fig.7

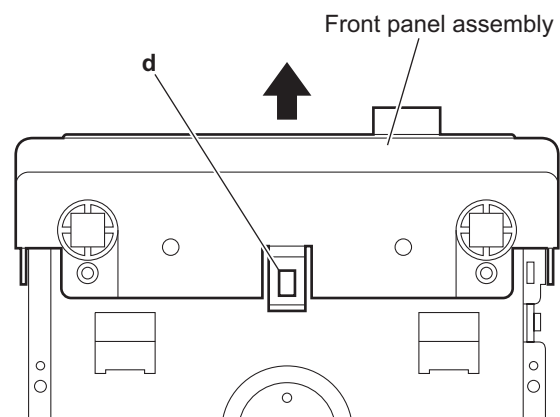


Fig.8

3.1.5 Removing the fan motor (See Figs.9 and 10)

- Remove the rear cover, side panels(L)/(R) and top cover assembly.
- (1) From the back side of the top cover assembly, remove the screw **G** attaching the fan motor. (See Fig.9.)

Reference:

When attaching the screws **G**, attach the spacer with it.
(See Fig.9.)

- (2) Take out the fan motor.

Reference:

When attaching the fan motor, pass the wire through the slot **e**. (See Fig.10.)

3.1.6 Removing the tuner (See Figs.9 and 10)

- Remove the rear cover, side panels(L)/(R) and top cover assembly.
- (1) From the back side of the top cover assembly, remove the two screws **H** attaching the tuner bracket. (See Fig.9.)
- (2) From the inside of the top cover assembly, remove the screw **J** attaching the tuner bracket. (See Fig.10.)
- (3) Take out the tuner with the tuner bracket.
- (4) Remove the tuner from the tuner bracket.

3.1.7 Removing the cassette mechanism assembly (See Fig.10)

- Remove the rear cover, side panels(L)/(R) and top cover assembly.
- (1) From the inside of the top cover assembly, remove the screw **K**, screw **L** and two screws **L'** attaching the cassette mechanism assembly.
- (2) Loosen the screw **M** attaching the cassette mechanism assembly.
- (3) Remove the cassette mechanism assembly.

Reference:

When attaching the screws **L'**, attach the shield with them.

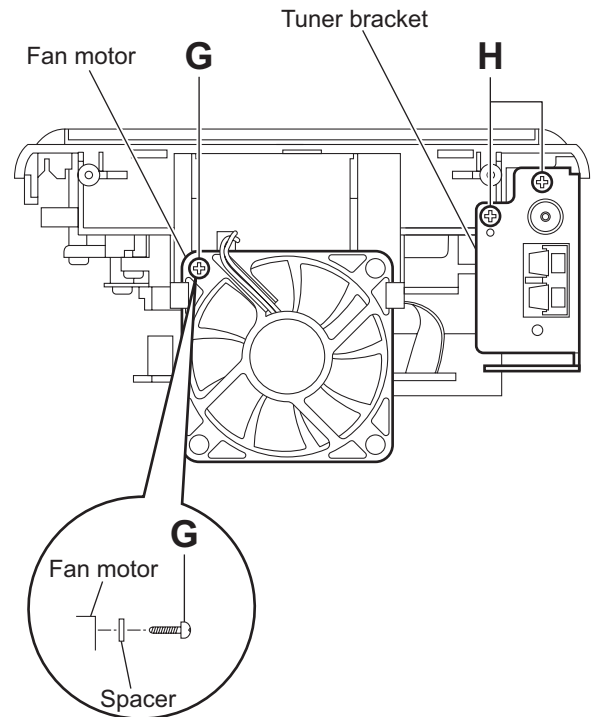


Fig.9

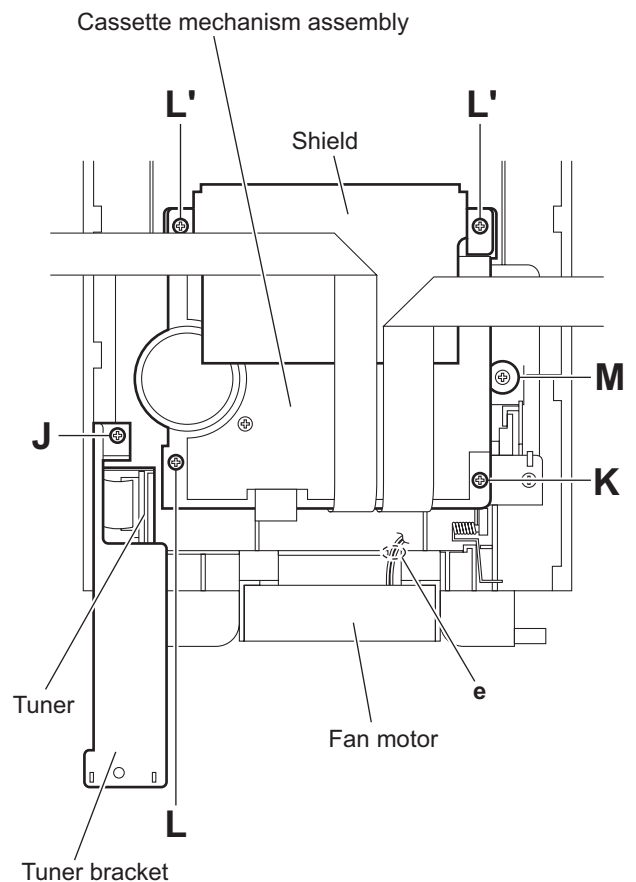


Fig.10

3.1.8 Removing the heat sink (See Fig.11)

- Remove the rear cover, side panels(L)/(R) and top cover assembly.
 - From the back side of the main body, remove the eight screws **N** attaching the heat sink.
 - Remove the heat sink from the main board and regulator board.

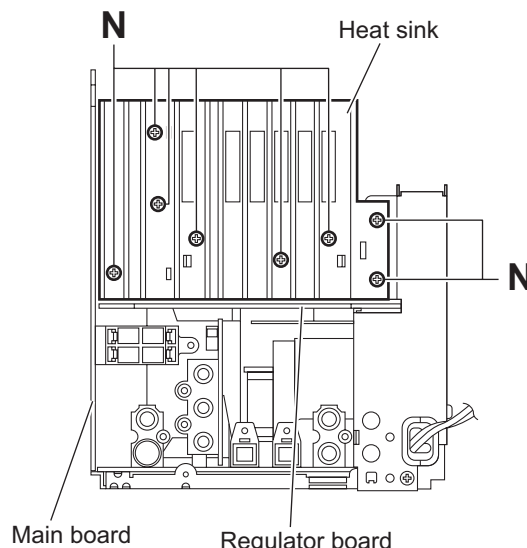


Fig.11

3.1.9 Removing the main board (See Figs.12 and 13)

- Remove the rear cover, side panels(L)/(R), top cover assembly and heat sink.
 - From the forward side of the main board, disconnect the card wire from the connector [CN107](#). (See Fig.12.)

Reference:

Remove it when a lug wire from the main board is installed with a screw **P**.
(When the screw **P** and lug wire are installed, apply it.)
(See Fig.12.)

- From the right side of the main body, remove the two screws **Q** attaching the main board. (See Fig.13.)
- Disconnect the connectors ([CN101](#) to [CN104](#), [CN106](#) and [CN110](#)) on the main board toward this side. (See Fig.13.)
- From the forward side of the main board, disconnect the wires from the connectors ([CN109](#) and [CN111](#)). (See Fig.13.)

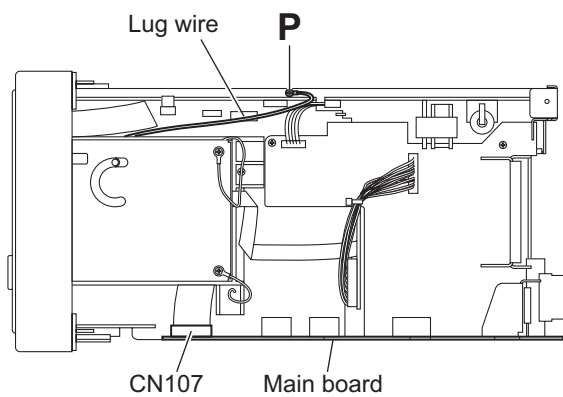


Fig.12

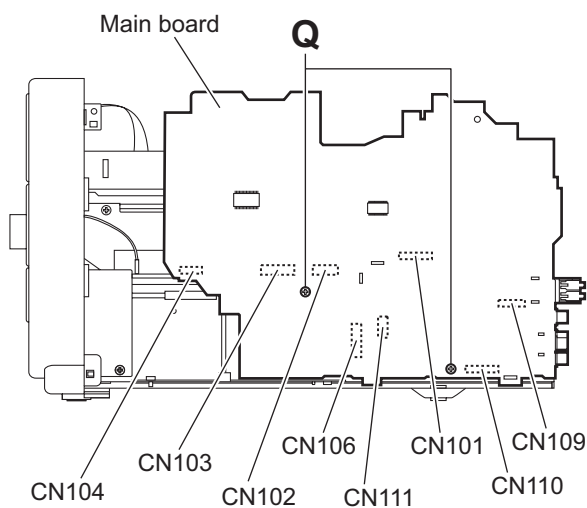


Fig.13

3.1.10 Removing the regulator board

(See Fig.14)

- Remove the rear cover, side panels(L)/(R), top cover assembly, heat sink and main board.
 - (1) From the top side of the main body, disconnect the wire from the connector [CN902](#) on the transformer board.
 - (2) Disconnect the wire from the connector [CN202](#) on the regulator board.
 - (3) Remove the three screws **R** attaching the regulator board.
 - (4) Take out the regulator board from the main body.

Reference:

After attaching the regulator board, attach the barrier as before.

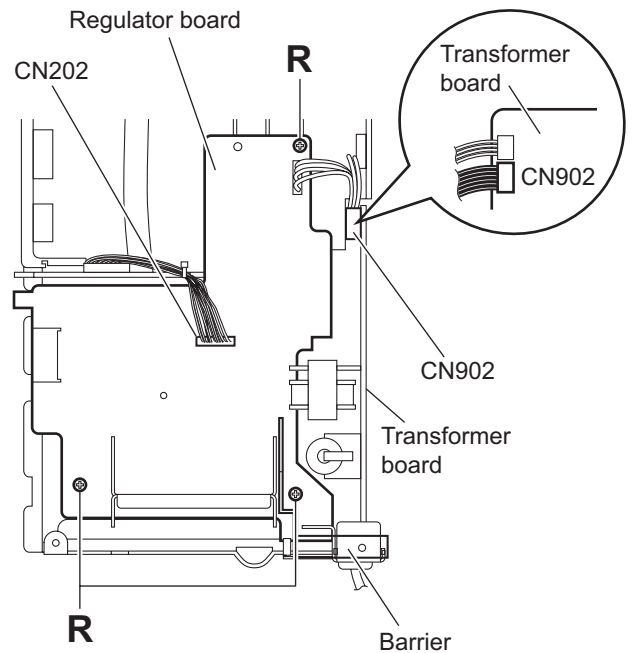


Fig.14

3.1.11 Removing the transformer board

(See Fig.15)

- Remove the rear cover, side panels(L)/(R), top cover assembly, heat sink, main board and regulator board.
 - (1) From the back side of the main body, remove the two screws **S** attaching the heat sink bracket.
 - (2) From the left side of the main body, remove the tie band.

Reference:

After attaching the transformer board, fix the power cord with the new tie band as before.

- (3) Disconnect the wire from the connector [CN903](#) on the transformer board.
- (4) Disconnect the power cord from the connector [CN901](#) on the transformer board.
- (5) Remove the three screws **T** attaching the power transformer and take out the transformer board from the main body.

Reference:

Remove the transformer shield as required.

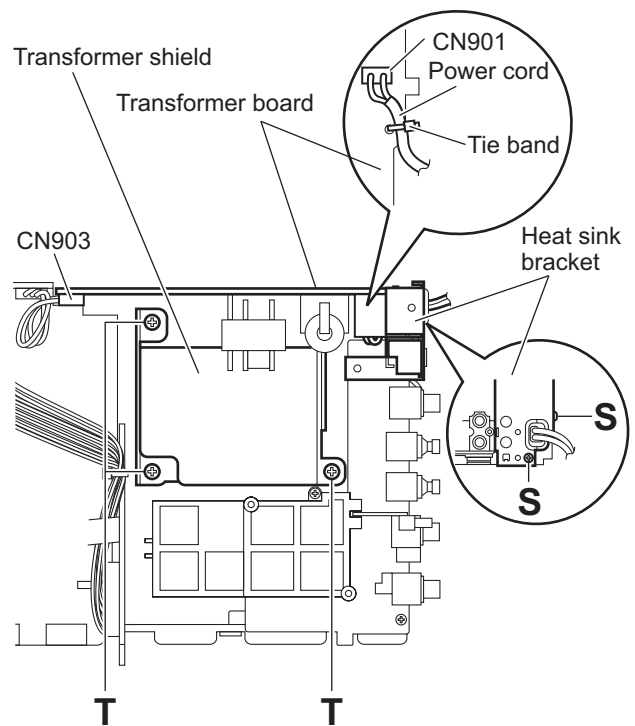


Fig.15

3.1.12 Removing the power transformer (See Fig.16)

- Remove the rear cover, side panels(L)/(R), top cover assembly, heat sink, main board, regulator board and transformer board.
 - From the reverse side of the transformer board, remove the solders from the sections **f** on the transformer board.
 - Remove the power transformer from the transformer board.

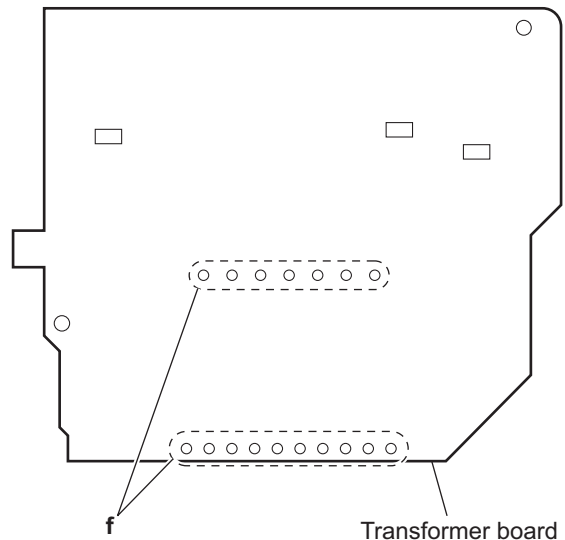


Fig.16

3.1.13 Removing the jack board and component board (See Fig.17)

- Remove the rear cover, side panels(L)/(R), top cover assembly, heat sink, main board and regulator board.
 - From the back side of the main body, remove the two screws **U** attaching the heat sink bracket.
 - From the top side of the main body, remove the screw **V** attaching the PWB holder and take out the PWB holder.

Reference:

When attaching the PWB holder, put the section **g** under the hook of the bottom chassis.

- Remove the screw **W** attaching the jack board and take out the jack board with the component board.

Reference:

- Remove the connector [CN631](#) on the component board from the jack board as required.
- When attaching the jack board, attach it after putting a projection **h** of the bottom chassis in a hole of the jack board.

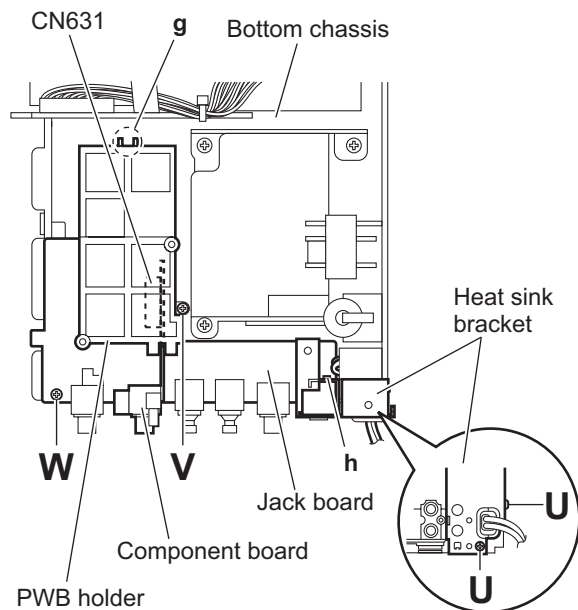


Fig.17

3.1.14 Removing the joint board

(See Fig.18)

- Remove the rear cover, side panels(L)/(R), top cover assembly, heat sink, main board, regulator board and transformer board.

Reference:

Remove the jack board as required.

- From the back side of the main body, remove the two screws **X** attaching the joint board.
- Remove the connector **CN805** on the joint board from the micon board toward this side.
- From the forward side of the joint board, disconnect the card wires from the connectors (**CN801** to **CN804**) on the joint board.
- Take out the joint board from the main body.

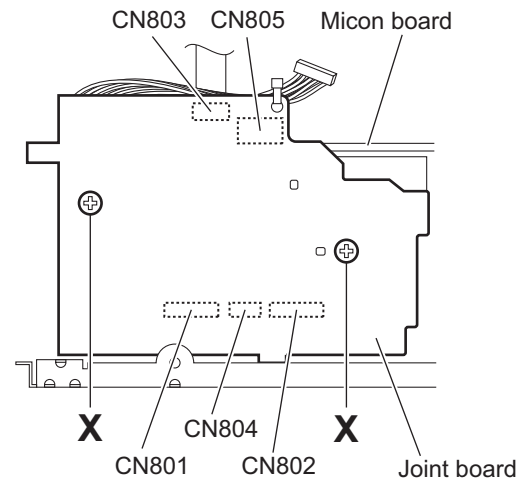


Fig.18

3.1.15 Removing the MD mechanism assembly

(See Figs.18 and 20)

- Remove the rear cover, side panels(L)/(R), top cover assembly, front panel assembly, heat sink and main board.
- From the back side of the main body, disconnect the card wire from the connector **CN803** on the joint board. (See Fig.8.)
 - Remove the screw **Y** attaching the MD mechanism assembly. (See Fig.19.)
 - From the right side of the main body, remove the screw **Z** attaching the MD mechanism assembly. (See Fig.19.)

Reference:

When attaching the screw **Z**, attach it with the lug and shield (C). (See Fig.19.)

- From the both sides of the main body, remove the three screws **AA** and screw **AA'** attaching the MD mechanism assembly. (See Figs.19 and 20.)

Reference:

When attaching the screw **AA'**, attach the lug wire with it. (See Fig.20.)

- Take out the MD mechanism assembly from the main body.

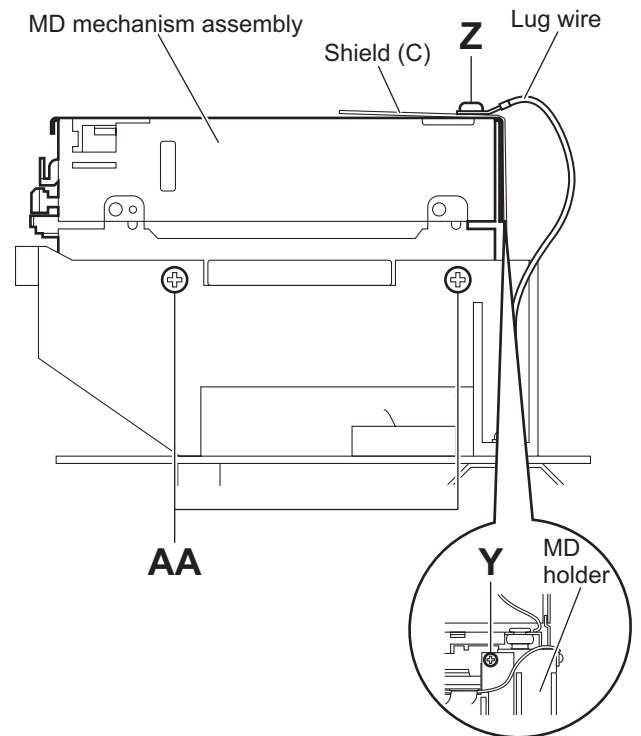


Fig.19

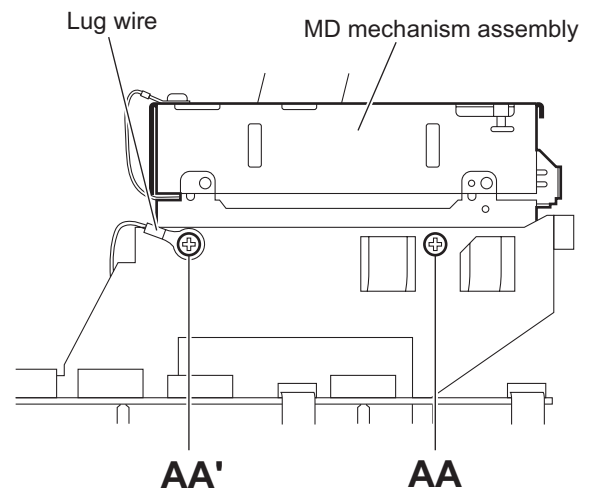


Fig.20

3.1.16 Removing the micon board

(See Figs.21 and 22)

- Remove the rear cover, side panels(L)/(R), top cover assembly, front panel assembly, heat sink, main board and regulator board.

- (1) From the top side of the main body, disconnect the card wire from the connector [CN803](#) on the joint board. (See Fig.21.)
- (2) Remove the screw **AB** and screw **AB'** attaching the MD holder to the micon board. (See Fig.21.)
- (3) Take out the MD holder with the MD mechanism assembly.

Reference:

When attaching the screw **AB'**, attach the lug wire with it. (See Fig.21.)

- (4) Disconnect the wire from the connector [CN903](#) on the transformer board. (See Fig.22.)
- (5) Disconnect the card wires from the connectors ([CN705](#) and [CN711](#)) on the micon board. (See Fig.22.)
- (6) Remove the screw **AC** attaching the micon board. (See Fig.22.)
- (7) Disconnect the micon board from the connector [CN805](#) on the joint board. (See Fig.22.)
- (8) Take out the micon board from the main body.

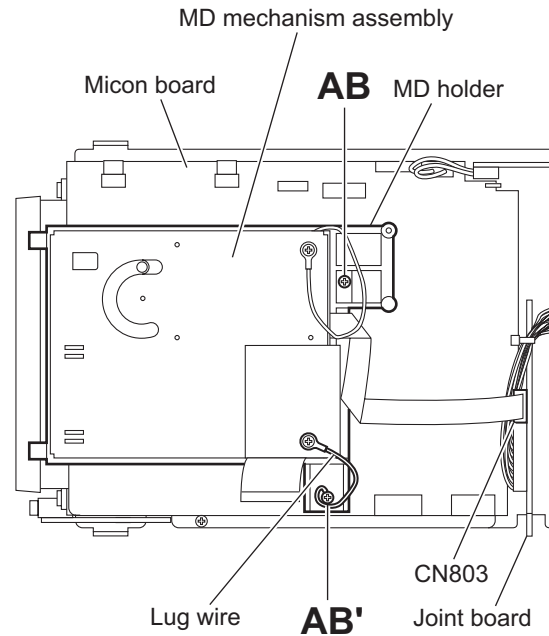


Fig.21

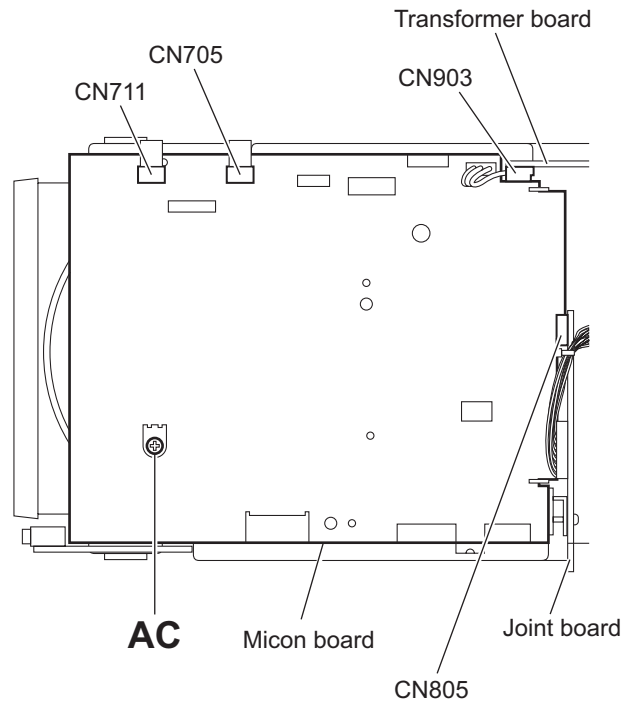
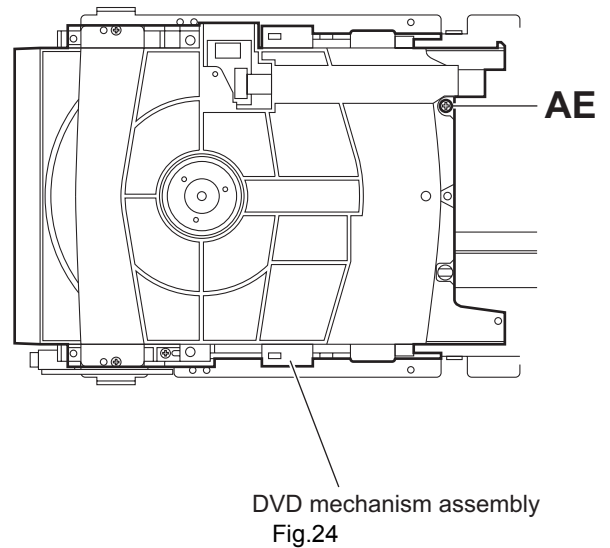
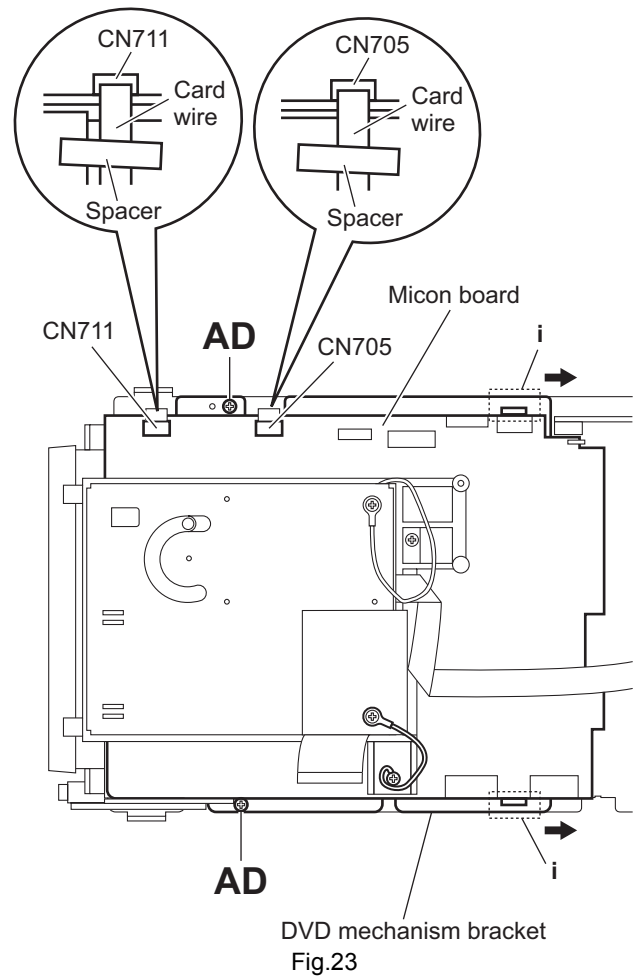


Fig.22

3.1.17 Removing the DVD mechanism assembly (See Figs.23 and 24)

- Remove the rear cover, side panels(L)/(R), top cover assembly, heat sink, main board, regulator board, transformer board and joint board.
- (1) From the top side of the main body, disconnect the card wires from the connectors (CN705 and CN711) on the micon board. (See Fig.23.)
 - (2) From the left side of the main body, remove the spacers fixing the card wires. (See Fig.23.)
 - (3) From the top side of the main body, remove the two screws **AD** attaching the DVD mechanism bracket. (See Fig.23.)
 - (4) Move the DVD mechanism bracket in the direction of the arrow to release the claws **i** and remove the DVD mechanism bracket. (See Fig.23.)
 - (5) Remove the screw **AE** attaching the DVD mechanism assembly. (See Fig.24.)
 - (6) Take out the DVD mechanism assembly from the main body. (See Fig.24.)



3.1.18 Removing the headphone board (See Fig.25)

- Remove the rear cover, side panels(L)/(R), top cover assembly, heat sink, main board, regulator board, transformer board, joint board and DVD mechanism assembly.
 - From the right side of the main body, remove the screw **AF** attaching the headphone board.
 - Take out the headphone board from the main body.

Reference:

- When attaching the headphone board, put the headphone board in the slot **j**.
- When attaching the headphone board, pass the wire through the section **k**.
- After attaching the headphone board, fix the wires with the spacers as before.

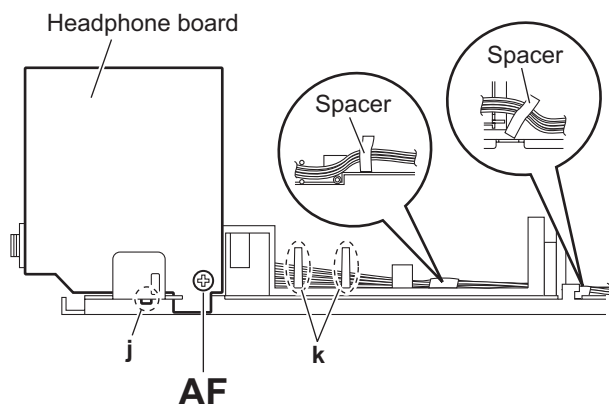


Fig.25

3.1.19 Removing the FL board (See Fig.26)

- Remove the rear cover, side panels(L)/(R), top cover assembly and front panel assembly.
 - From the inside of the front panel assembly, remove the three screws **AG** attaching the FL board.
 - Take out the FL board from the front panel assembly.

Note:

When attaching the FL board, be careful not to damage the LCD panel.

3.1.20 Removing the key board (See Figs.26 and 27)

- Remove the rear cover, side panels(L)/(R), top cover assembly and front panel assembly.
 - From the front side of the front panel assembly, pull out the volume knob in the direction of the arrow. (See Fig.27.)
 - From the inside of the front panel assembly, remove the six screws **AH** attaching the key board. (See Fig.26.)
 - Take out the key board from the front panel assembly.

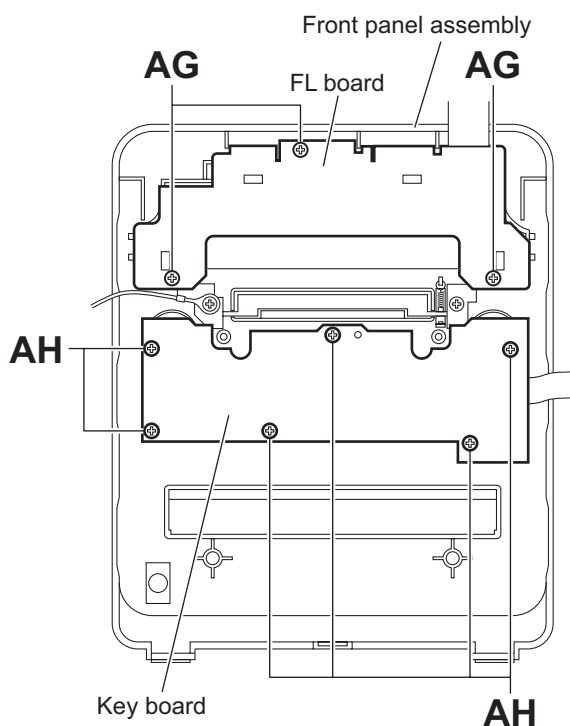


Fig.26

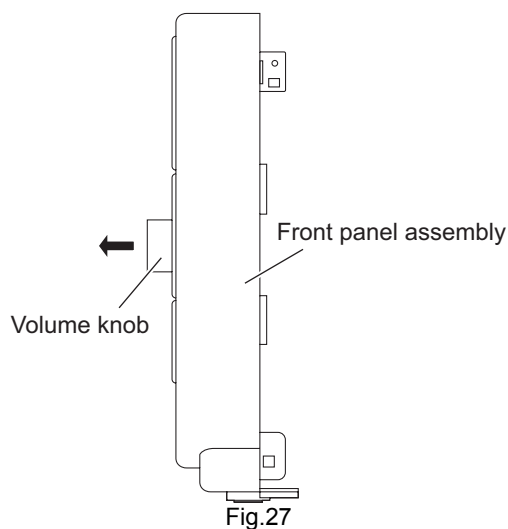


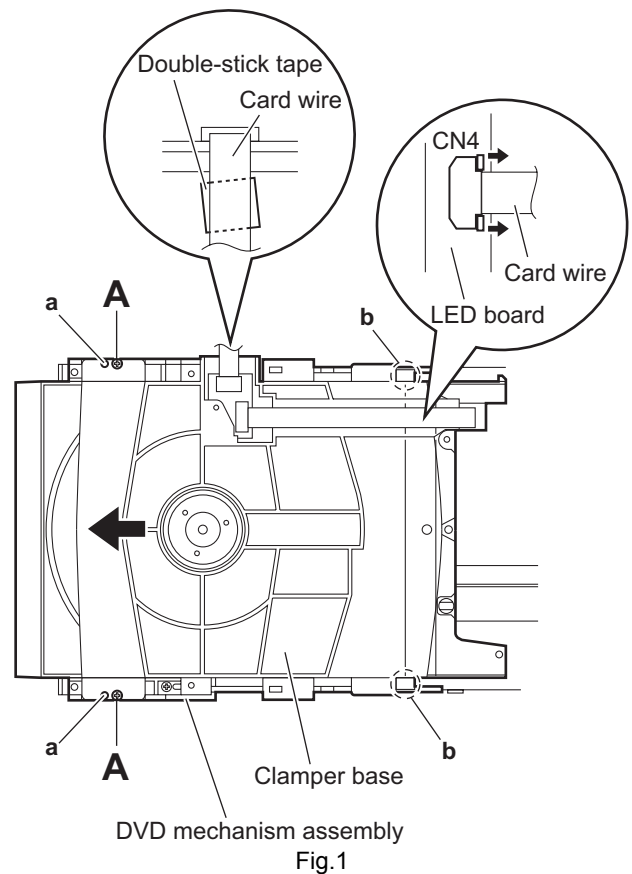
Fig.27

3.2 DVD mechanism assembly section

- Remove the DVD mechanism assembly from the main body.
(See "3.1.17 Removing the DVD mechanism assembly".)

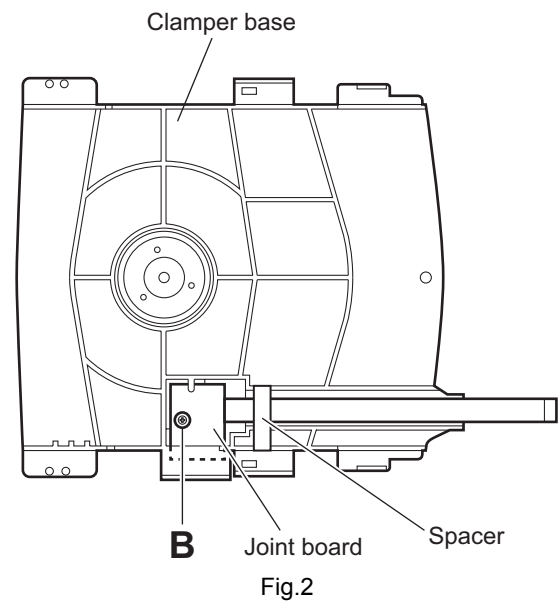
3.2.1 Removing the DVD cover (See Fig.1)

- From the top side of the DVD mechanism assembly, remove the two screws **A** attaching the DVD cover.
- Remove the double-stick tape fixing the card wire.
- Lift the DVD cover in an upward direction and remove it from the projections **a** of the DVD mechanism assembly.
- Slide the DVD cover in the direction of the arrow and remove it from the sections **b**.
- Release the lock of the connector **CN4** on the LED board and disconnect the card wire.



3.2.2 Removing the joint board (See Fig.2)

- Remove the DVD cover.
- From the inside of the DVD cover, remove the screw **B** attaching the joint board.
 - Remove the spacer attaching the joint board and take out the joint board from the DVD cover.



3.2.3 Removing the tray assembly (See Figs.3 and 4)

- Remove the DVD cover.
 - (1) From the right side of the DVD mechanism assembly, push the slide cam and pull the tray assembly out of the DVD mechanism assembly in the direction of the arrow. (See Fig.3.)
 - (2) From the top side of the DVD mechanism assembly, remove the two screws **C** attaching the tray assembly. (See Fig.4.)
 - (3) Remove the bushing of the tray assembly from the projections **c** on the DVD mechanism assembly and take out the tray assembly in an upward direction. (See Fig.4.)

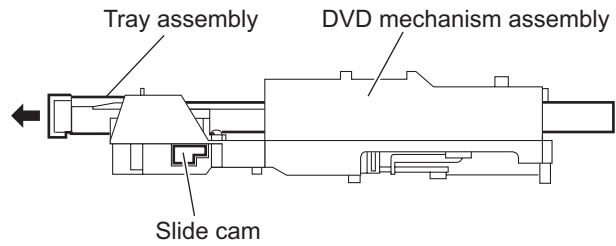


Fig.3

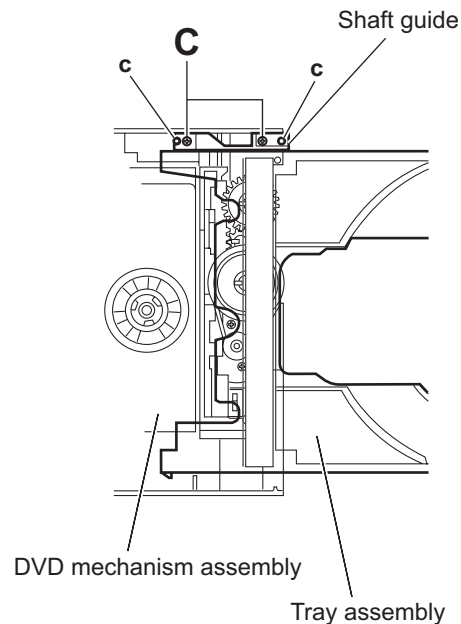


Fig.4

3.2.4 Removing the LED board (See Fig.5)

- Remove the DVD cover and tray assembly.
 - (1) From the top side of the tray assembly, remove the sections **d** which were fixed in bond.
 - (2) Remove the double-stick tape attaching the LED board and take out the LED board.

Note:

When removing the LED board, be sure not to damage the LED board.

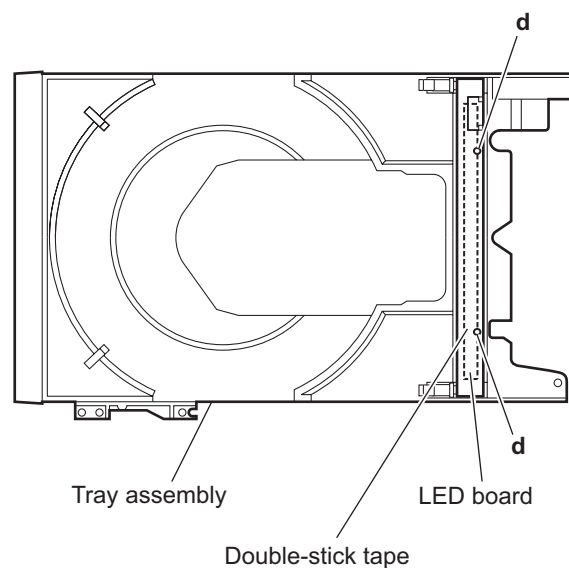


Fig.5

3.2.5 Removing the traverse mechanism assembly (See Figs.6)

- Remove the DVD cover.
 - (1) From the bottom side of the DVD mechanism assembly, remove the four screws **D** attaching the traverse mechanism assembly.
 - (2) Take out the traverse mechanism assembly with the DVD module board.

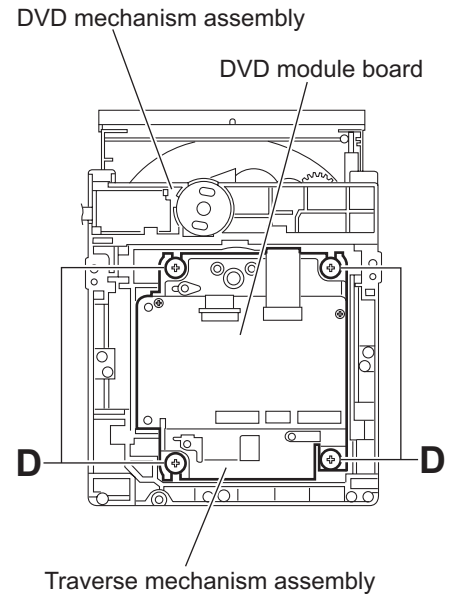


Fig.6

3.2.6 Removing the DVD module board (See Figs.7 and 8)

- Remove the DVD cover and traverse mechanism assembly.
 - (1) From the side of the traverse mechanism assembly, solder the short land sections **e** of the pickup. (See Fig.7.)
 - (2) From the bottom side of the traverse mechanism assembly, release the lock of the connector **CN101** on the DVD module board in the direction of the arrow and disconnect the card wire. (See Fig.8.)

Caution:

- Solder the short land section **e** on the pickup before disconnecting the card wire from the connector **CN101** on the DVD module board. If the card wire is disconnected without attaching solder, the pickup may be destroyed by static electricity. (See Figs.7 and 8.)
 - When attaching the DVD module board, be sure to remove solders from the short land section **e** after connecting the card wire to the connector **CN101** on the DVD module board. (See Figs.7 and 8.)
- (3) Disconnect the card wire from the connector **CN201** on the DVD module board. (See Fig.8.)
 - (4) Remove the two screws **E** attaching the DVD module board. (See Fig.8.)
 - (5) Remove the DVD module board from the projection **f** in an upward direction and remove the claw **h** in the direction of the arrow 2 while removing the claw **g** in the direction of the arrow 1. (See Fig.8.)

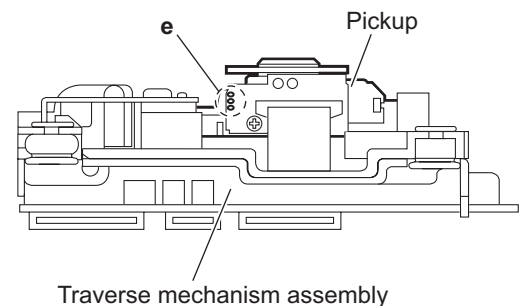


Fig.7

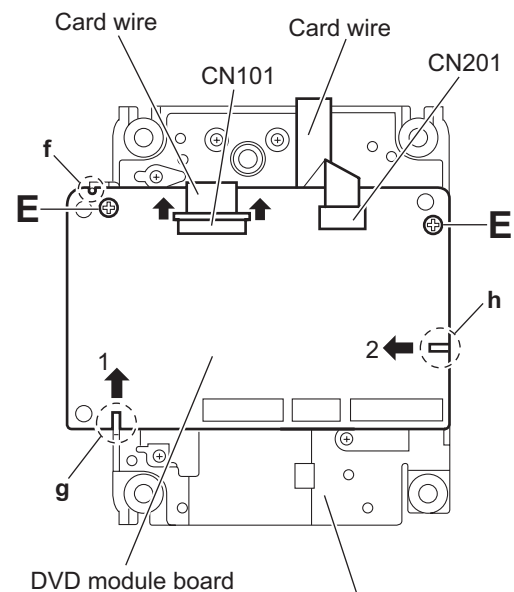


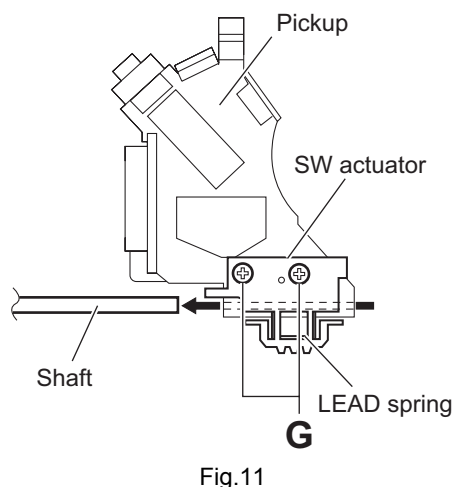
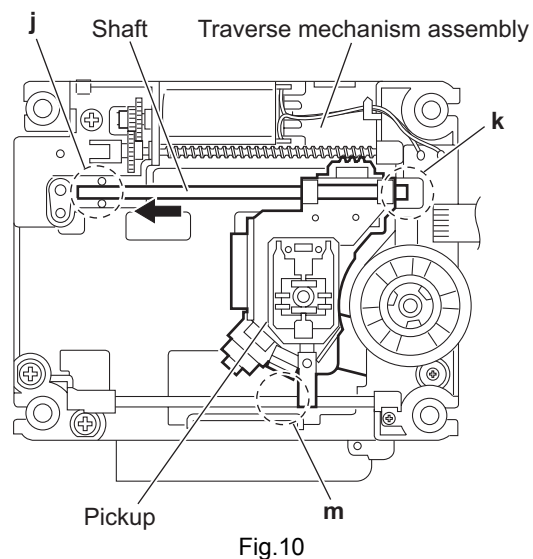
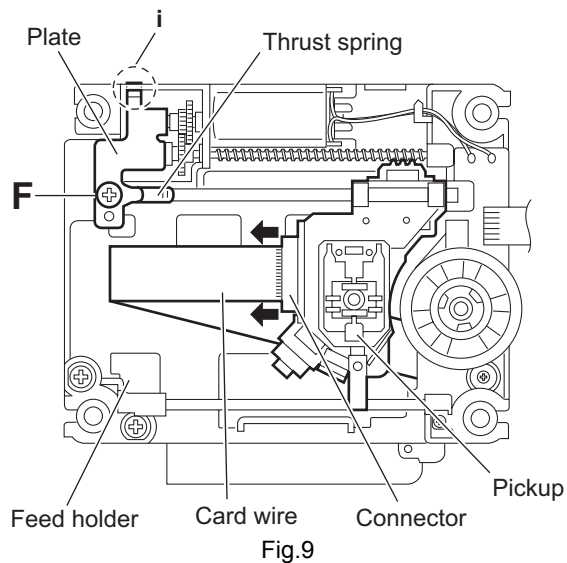
Fig.8

3.2.7 Removing the pickup (See Figs.7, 9 to 11)

- Remove the DVD cover and traverse mechanism assembly.
- (1) From the side of the traverse mechanism assembly, solder the short land sections **e** of the pickup. (See Fig.7.)
- (2) Release the lock of the connector of the pickup in the direction of the arrow and disconnect the card wire. (See Fig.9.)

Caution:

- Solder the short land section **e** on the pickup before disconnecting the card wire from the connector on the pickup. If the card wire is disconnected without attaching solder, the pickup may be destroyed by static electricity. (See Figs.7 and 9.)
 - When attaching the pickup, be sure to remove solders from the short land section **e** after connecting the card wire to the connector on the pickup. (See Figs.7 and 9.)
- (3) Remove the screw **F** attaching the plate and thrust spring. (See Fig.9.)
 - (4) Remove the plate from the joint **i** of the feed holder and take out the plate with the thrust spring. (See Fig.9.)
 - (5) Remove the shaft of the pickup from the section **j** of the traverse mechanism assembly and remove it from the section **k** while moving the shaft in the direction of the arrow. (See Fig.10.)
 - (6) Remove the pickup from the section **m** of the traverse mechanism assembly and take out the pickup with the shaft. (See Fig.10.)
 - (7) From the bottom side of the pickup, remove the two screws **G** attaching the SW actuator and LEAD spring. (See Fig.11.)
 - (8) Pull the shaft out of the pickup. (See Fig.11.)



3.2.8 Attaching the pickup (See Figs.7, 9 to 12)

- See "3.2.7 Removing the pickup".
 - (1) Attach the shaft, SW actuator and LEAD spring to the pickup. (See Fig.11.)
 - (2) Align the pickup to the section **m** of the traverse mechanism assembly first, and set the both ends of the shaft of the pickup in the sections (**j**, **k**) of the traverse mechanism assembly. (See Fig.10.)
 - (3) Attach the plate and thrust spring. (See Fig.9.)
 - (4) Remove the solders from the soldered sections **e** after attaching the card wire to the connector on the pickup. (See Figs.7 and 9.)
 - (5) Turn the feed gear M in the direction of the arrow 1 to move the pickup fully in the direction of the arrow 2. (See Fig.12.)

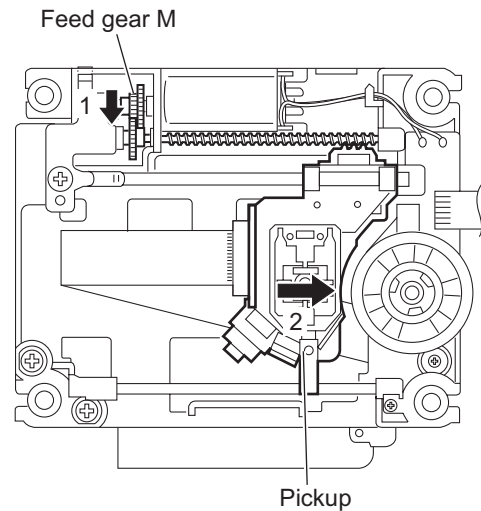


Fig.12

3.2.9 Removing the feed motor (See Figs.13 to 15)

- Remove the DVD cover and traverse mechanism assembly.
 - (1) From the top side of the traverse mechanism assembly, remove the screw **H** attaching the plate and thrust spring. (See Fig.13.)
 - (2) Remove the plate from the joint **n** of the feed holder and take out the plate with the thrust spring. (See Fig.13.)
 - (3) Remove the wires from the soldered sections **p** on the spindle motor board. (See Fig.14.)

Reference:

When attaching the feed motor, pass the wires through the section **q** on the spindle base. (See Fig.14.)

- (4) Remove the three screws **J** attaching the feed holder. (See Fig.14.)
- (5) Remove the feed holder, feed motor, lead screw, feed gear E and feed gear M simultaneously. (See Fig.14.)
- (6) From the side of the feed holder, remove the two screws **K** attaching the feed motor. (See Fig.15.)

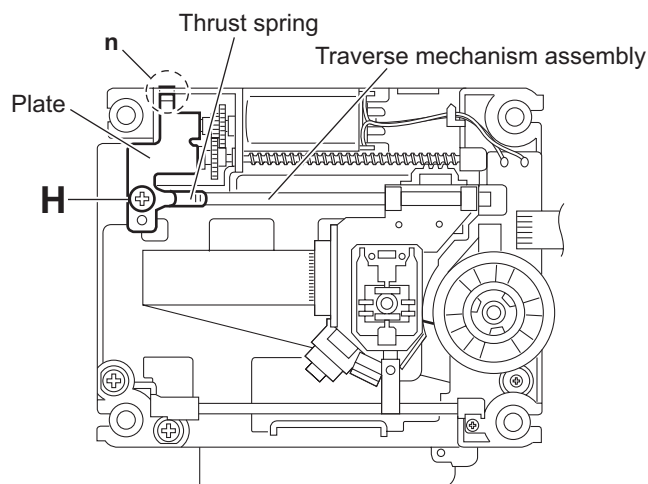


Fig.13

3.2.10 Removing the spindle motor board (See Fig.14 and 16)

- Remove the DVD cover, traverse mechanism assembly and DVD module board.
 - (1) From the top side of the traverse mechanism assembly, remove the wires from the soldered sections **p** on the spindle motor board. (See Fig.14.)
 - (2) From the bottom side of the traverse mechanism assembly, remove the three screws **L** attaching the spindle motor board. (See Fig.16.)

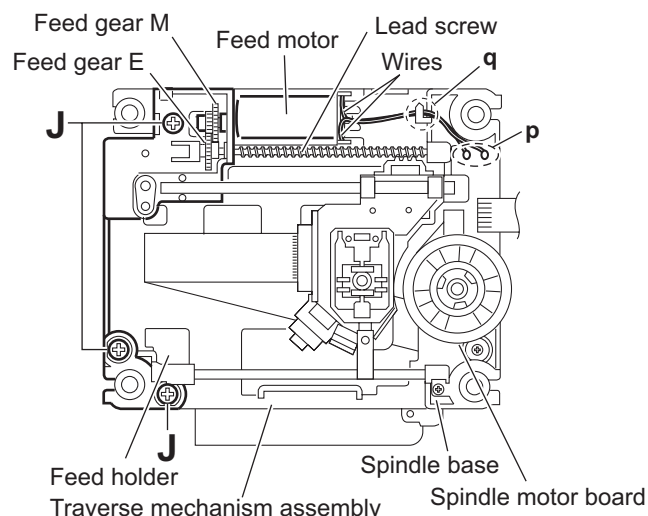


Fig.14

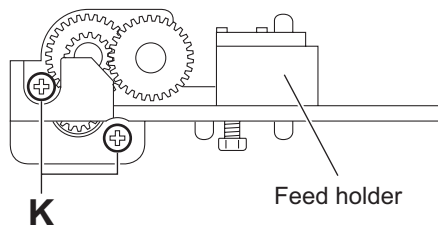


Fig.15

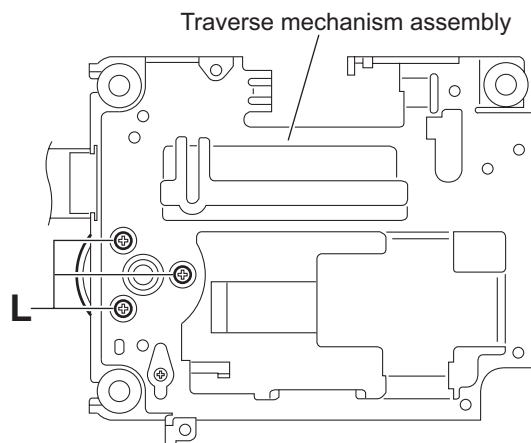


Fig.16

3.2.11 Removing the DVD loading switch board (See Fig.17)

- (1) From the bottom side of the DVD mechanism assembly, remove the screw **M** attaching the DVD loading switch board.
- (2) Remove the wires from the soldered sections **r** on the DVD loading switch board.
- (3) Lift the DVD loading switch board while pressing the claw **s** of the DVD mechanism assembly in the direction of the arrow and remove the DVD loading switch board from the section **t**.
- (4) From the forward side of the DVD loading switch board, disconnect the card wire from the connector **CN1**.

Reference:

- Put the wires on the section **u** after attaching the DVD loading switch board to the DVD mechanism assembly.
- Fix the claw **t** on the DVD mechanism assembly with bonds after attaching the DVD loading switch board.

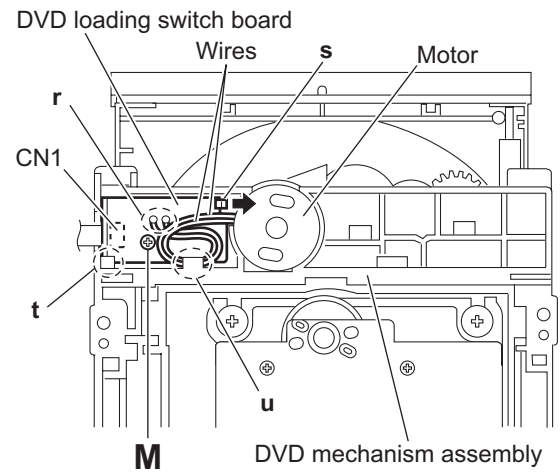


Fig.17

3.2.12 Removing the motor (See Figs.17 and 18)

- Remove the DVD cover and tray assembly.
- (1) From the bottom side of the DVD mechanism assembly, remove the wires from the soldered sections **r** on the DVD loading switch board. (See Fig.17.)
- (2) From the top side of the DVD mechanism assembly, remove the belt from the motor pulley. (See Fig.18.)

Note:

Take care not to attach grease on the belt.

- (3) Remove the two screws **N** attaching the motor to the DVD mechanism assembly and take out the motor from the bottom side of the DVD mechanism assembly. (See Fig.18.)

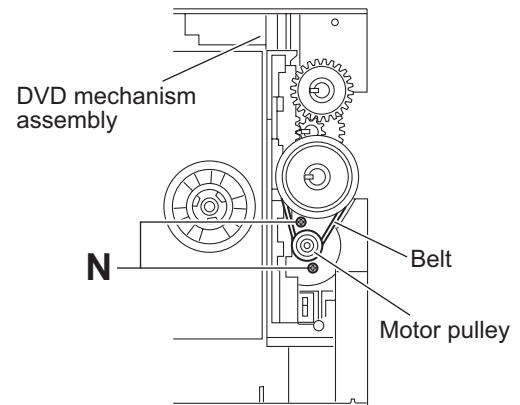


Fig.18

3.3 MD mechanism section

3.3.1 Removing the MD servo control board

(See Figs.1 and 2)

Caution:

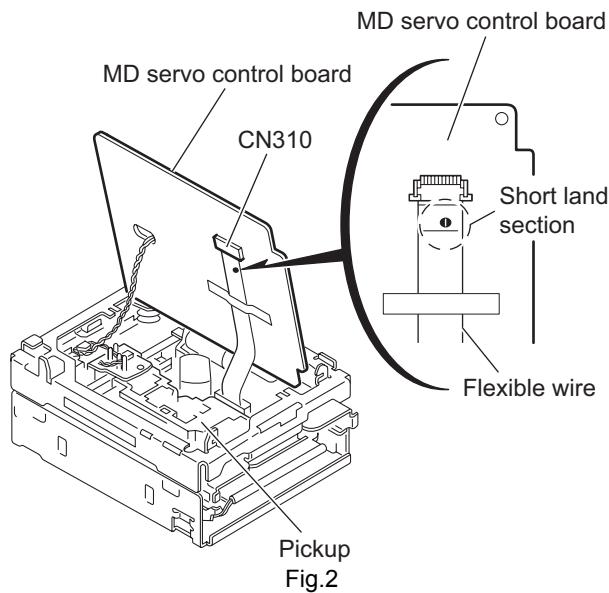
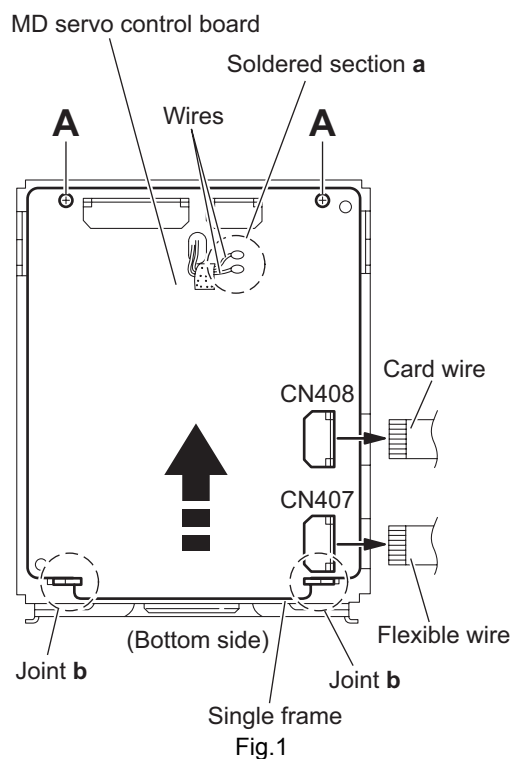
Be sure to solder the short land section on the flexible wire before disconnecting the flexible wire from the connector [CN310](#) on the MD servo control board.

If the flexible wire is disconnected without attaching solder, the pickup may be destroyed by static electricity. (See Fig.2.)

- (1) From the bottom side of the main body, disconnect the card wire from the connector [CN408](#) on the MD servo control board. (See Fig.1)
- (2) Disconnect the flexible wire from the connector [CN407](#) on the MD servo control board. (See Fig.1.)
- (3) Remove the wires from the soldered section **a** on the MD servo control board. (See Fig.1.)
- (4) Remove the two screws **A** attaching the MD servo control board. (See Fig.1.)
- (5) Move the MD servo control board in the direction of the arrow and remove it from the joints **b** of the single frame. (See Fig.1.)
- (6) From the inside of the main body, solder the short land section on the flexible wire. (See Fig.2.)
- (7) From the reverse side of the MD servo control board, disconnect the flexible wire from the connector [CN310](#) and remove the MD servo control board. (See Fig.2.)

Caution:

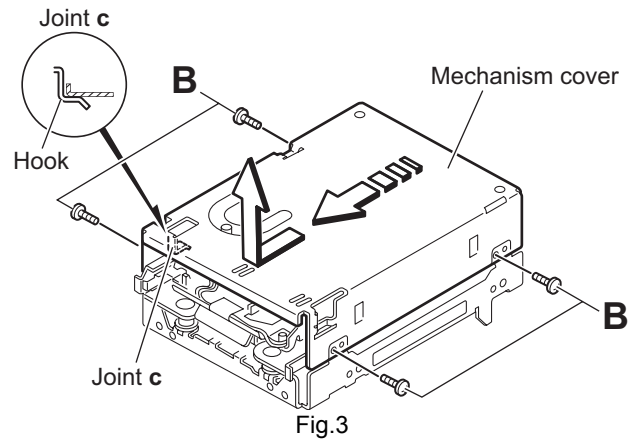
When attaching the MD servo control board, remove the solders from the short land section after connecting the flexible wire to the connector [CN310](#) on the MD servo control board. (See Fig.2.)



3.3.2 Removing the mechanism cover

(See Fig.3.)

- (1) From the both sides of the main body, remove the four screws **B** attaching the mechanism cover.
- (2) Move the mechanism cover toward the front to disengage the front hook of the mechanism cover from the internal loading assembly (joint **c**). Then remove the mechanism cover in an upward direction.



3.3.3 Removing the head lifter

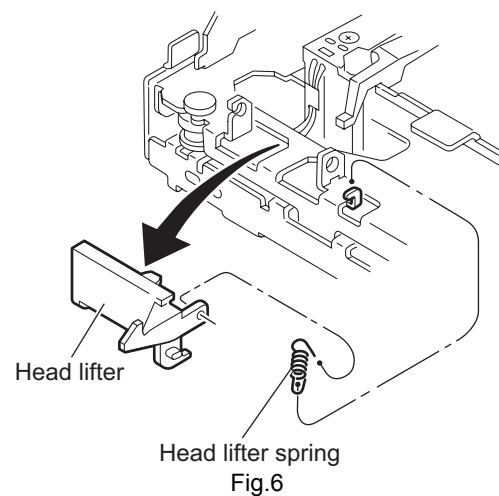
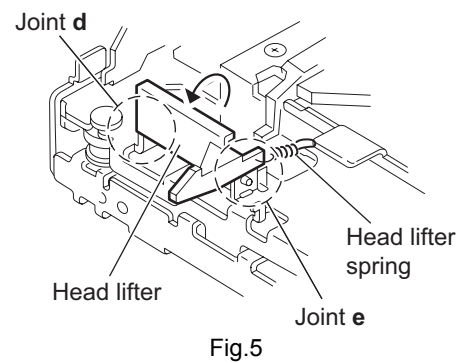
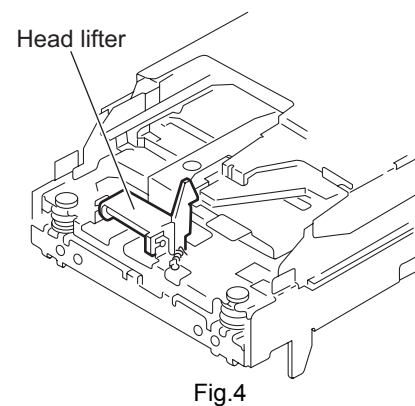
(See Figs.4 to 6)

- (1) Remove the head lifter spring from the hook of the main body.

Reference:

Remove the head lifter spring from the head lifter as required.

- (2) Move the head lifter in the direction of the arrow, disengage the joints **d** and **e**.



3.3.4 Removing the MD head (See Figs.7 and 8)

- Remove the MD servo control board.
 - From the bottom side of the main body, remove the wire from the H.wire holder 1. (See Fig.7.)
 - From the top side of the main body, remove the screw **C** attaching the MD head. (See Fig.8.)

Note:

- When attaching the wire, fix it to the H.wire holder 1 on the bottom side of the pick up. (See Fig.7.)
- After attaching the wire, confirm that the rest switch is pressed by the pickup. (See Fig.8.)

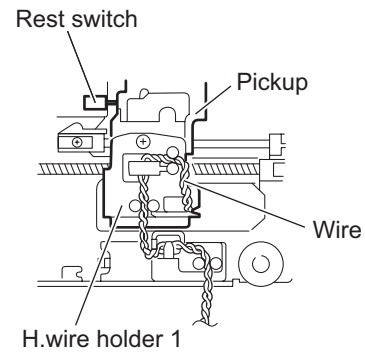


Fig.7

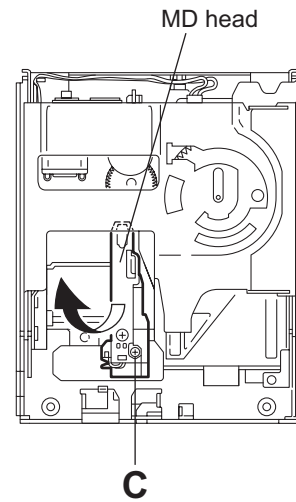


Fig.8

3.3.5 Removing the loading assembly (See Figs.9 and 10)

Reference:

The loading assembly, traverse mechanism assembly and single frame will be removable after removing the loading assembly from the main body.

- Remove the MD servo control board, mechanism cover, head lifter and MD head.
 - (1) From the top side of the main body, remove the three screws **D** attaching the loading assembly.
 - (2) Move the loading assembly forward to disengage it from the traverse mechanism assembly (joint **f**) and then remove the loading assembly in an upward direction.
 - (3) Remove the traverse mechanism assembly from the single frame.

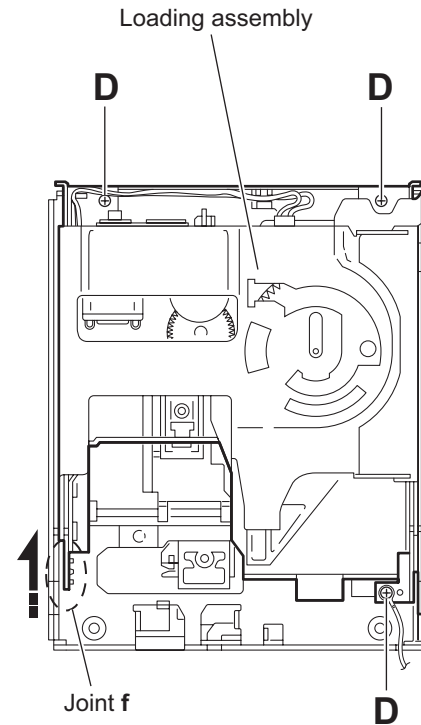


Fig.9

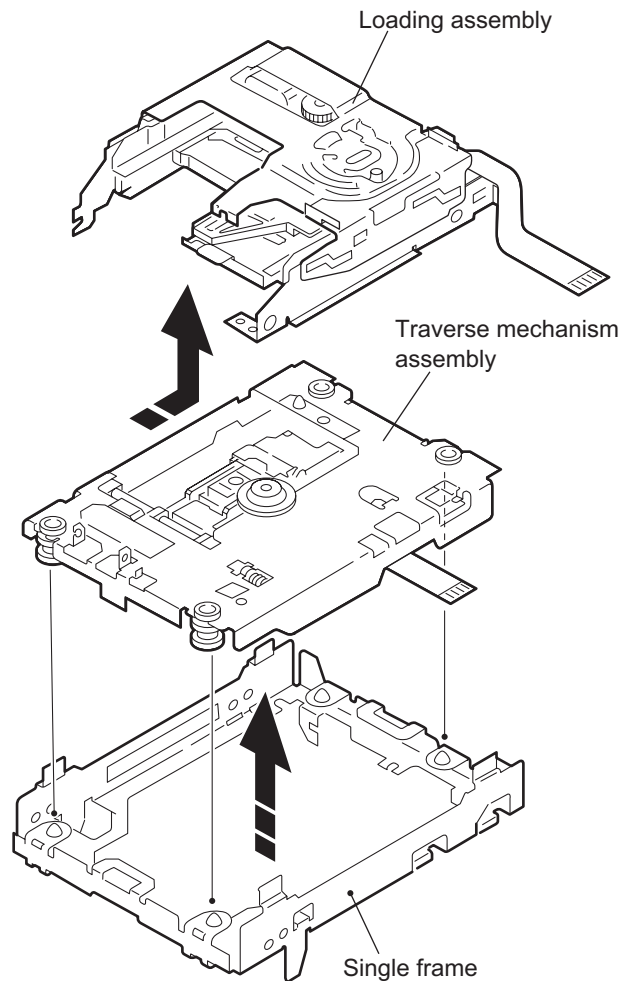


Fig.10

3.3.6 Removing the slide base L and slide base R (See Fig.11)

- (1) From the top side of the loading assembly, remove the two screws **E** attaching the slide base L and slide base R.
- (2) Remove the slide base L outward. (Release it from the joints **g**.)
- (3) Remove the slide base R outward.

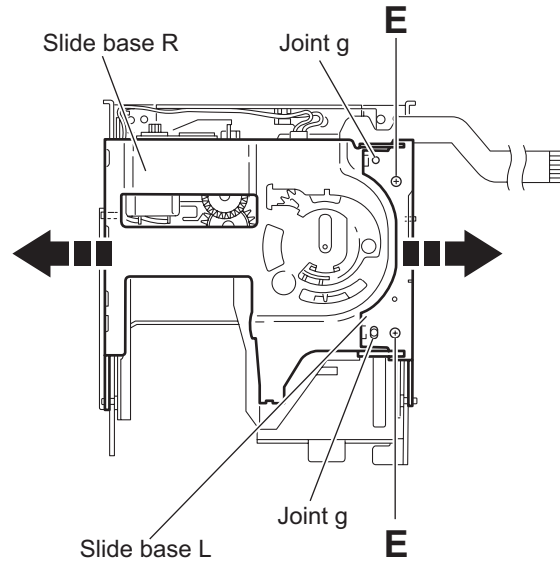


Fig.11

3.3.7 Removing the loading mechanism assembly (See Fig.12)

- (1) Remove the loading mechanism assembly upward to release the four pins from the both sides of the loading mechanism base while paying attention to the section **h** of the loading mechanism base.

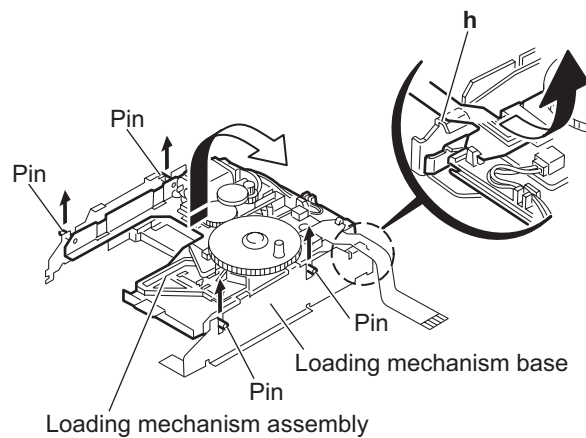


Fig.12

3.3.8 Removing the loading motor

(See Figs.13 and 14)

- (1) Remove the wire from the wire holder and disconnect the wire from the connector [CN612](#) on the MD cam switch board. (See Fig.13.)
- (2) Remove the screw **F** attaching the loading motor assembly and disengage the joint **i**. (See Fig.13.)
- (3) Remove the belt from the loading motor assembly. (See Fig.14.)
- (4) Remove the two screws **G** attaching the loading motor. (See Fig.14.)

3.3.9 Removing the cam gear and MD cam switch board

(See Fig.13)

- (1) Remove the slit washer attaching the cam gear and pull out the cam gear.
- (2) Remove the wire from the wire holder and disconnect the wire from the connector [CN612](#) on the MD cam switch board.
- (3) Remove the two screws **H** attaching the MD cam switch board, and remove the MD cam switch board.

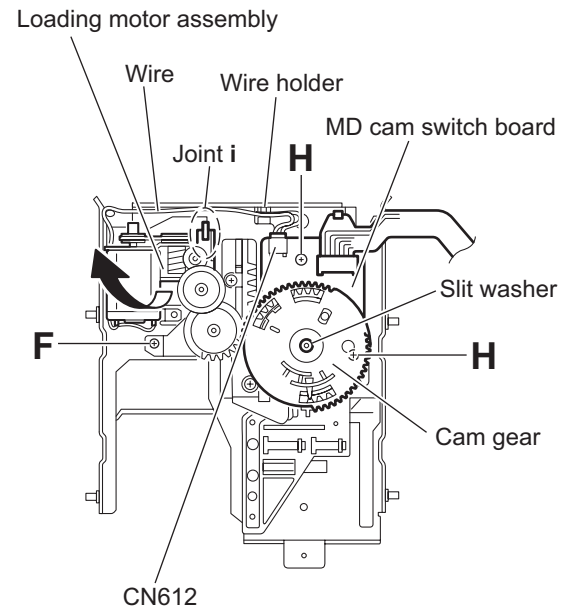


Fig.13

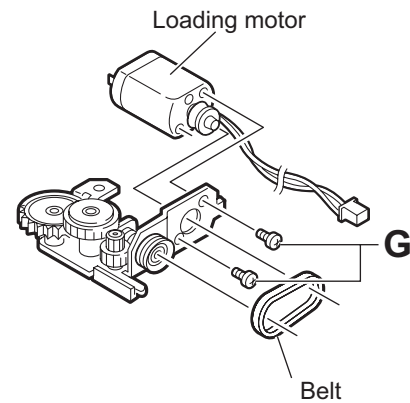


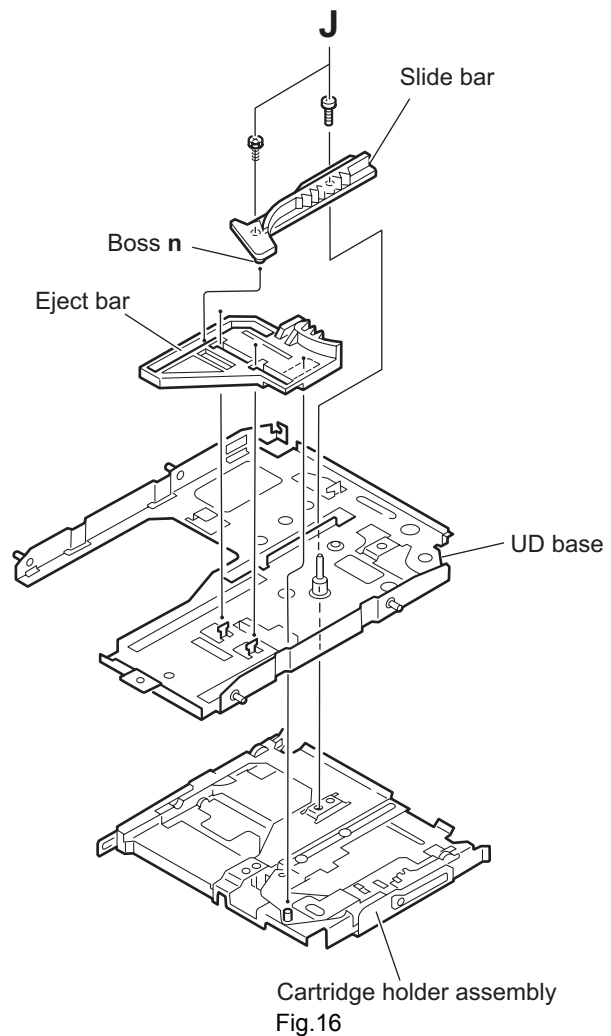
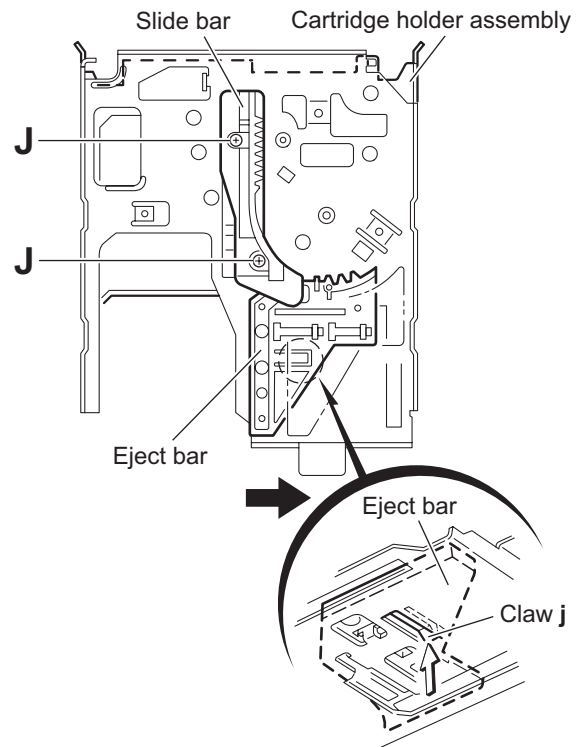
Fig.14

3.3.10 Removing the cartridge holder assembly (See Figs.15 and 16)

- (1) From the top side of the loading assembly, remove the two screws **J** attaching the slide bar and cartridge holder assembly.

3.3.11 Removing the slide bar and eject bar (See Figs.15 and 16)

- Remove the cartridge holder assembly.
 - (1) Remove the slide bar in an upward direction.
 - (2) Move the eject bar outward until stops as shown in Fig.15. Push the claw **j** on the bottom side of the main body and remove the eject bar from the chassis.



3.3.12 Removing the insulators

(See Fig.17)

- (1) Remove the four insulators from the notches of the traverse mechanism chassis.

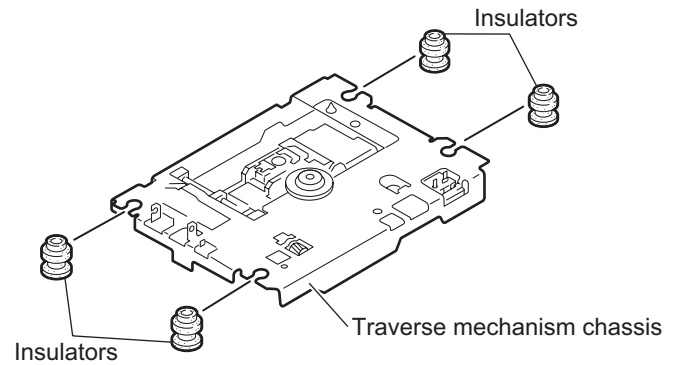


Fig.17

3.3.13 Removing the pickup unit

(See Fig.18)

- (1) From the bottom side of the traverse mechanism assembly, remove the screw **K** attaching the shaft holder **F**.
- (2) Move the guide shaft in the direction of the arrow 1 and remove it from the shaft holder **R**.
- (3) Move the guide shaft side of the pickup unit and disengage the joint **k** with the pickup guide. Then remove the pickup unit with the guide shaft in the direction of the arrow 2.

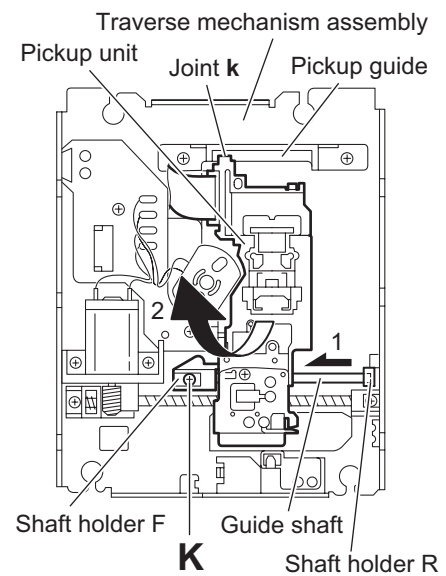


Fig.18

3.3.14 Removing the pickup

(See Fig.19)

- (1) Pull out the guide shaft from the pickup.
- (2) Remove the two screws **L** attaching the rack spring to the pickup.

Caution:

Be sure to solder the short land section on the flexible wire before disconnecting the flexible wire from the pickup.
If the flexible wire is disconnected without attaching solder, the pickup may be destroyed by static electricity. (See Fig.2.)

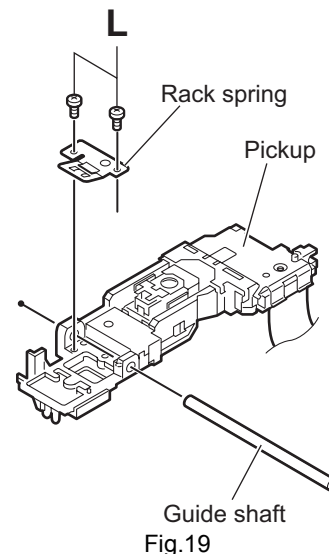


Fig.19

3.3.15 Removing the feed motor assembly (See Figs.20 and 21)

Reference:

Remove the pickup unit as required.

- (1) Remove the wires (White/Black) from the soldered section **k** on the traverse mechanism board.
- (2) Remove the two screws **M** attaching the feed motor assembly. (See Fig.20.)
- (3) Remove the two screws **P** attaching the feed motor to the feed motor bracket. (See Fig.21.)

3.3.16 Removing the traverse mechanism board (See Fig.20)

- Remove the feed motor assembly.
 - (1) Remove the wires (Red/Black) from the soldered section **m** on the traverse mechanism board.
 - (2) Remove the screw **N** attaching the traverse mechanism board.

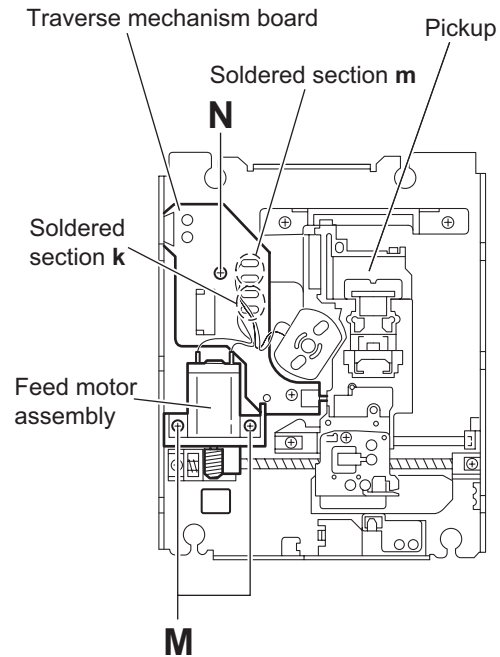


Fig.20

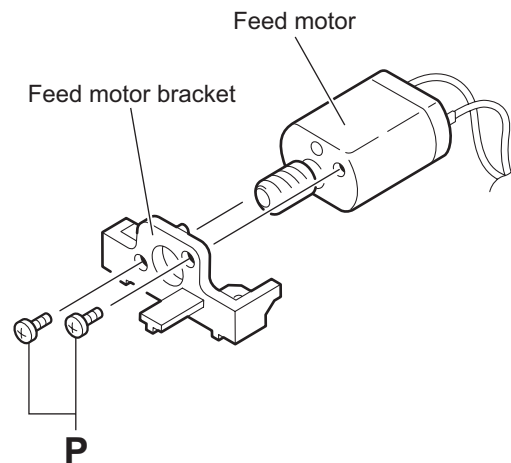


Fig.21

3.3.17 Reattaching the loading assembly

(See Figs.22 and 28)

- (1) Reattach the eject bar to the UD base. (See Figs.16 and 22.)
- (2) Reattach the slide bar to the loading mechanism chassis while fitting the boss **n** of the slide bar to the groove of the eject bar. (See Fig.16.)
- (3) Move the slide bar and eject bar in the direction of the arrow as shown in Fig.22 and reattach the cartridge holder assembly using the two screws **J**. (See Figs.22 and 23.)

Note:

Make sure the pin **p** of the eject lever is fitted to the groove **q** of the eject bar at the bottom side of the loading mechanism chassis after moving the eject lever and loading slider of the cartridge holder assembly in the direction of the arrow as shown in Fig.23.

- (4) Reattach the wire holder to the UD base while engaging the hook **s** of the UD base to the slot **r** of the wire holder. (At the same time, the boss on the reverse side of the wire holder is fitted to the round hole of the UD base.) (See Fig.22.)
- (5) Reattach the MD cam switch board using the two screws **H**. (See Fig.22.)
- (6) Turn the cam switch to align the boss to the triangle mark on the MD cam switch board. (See Fig.24.)
- (7) Reattach the cam gear using a slit washer while fitting the hole of the cam gear to the boss of the cam switch. (See Fig.24.)

Note:

When reattaching the cam gear, the boss of the cam switch should be fitted to the hole of the cam gear, and the triangle mark of the cam gear should be aligned to the hole (section **r**) of the eject bar as shown in Fig.24.

- (8) Reattach the loading motor assembly using the screw **F**. (See Fig.24.)
- (9) Connect the wire of the loading motor to the connector **CN612** on the MD cam switch board.
- (10) Hang the wire to the hook **t** of the UD base and fix it with the wire holder.
- (11) Reattach the UD base while engaging the four pins on the both sides of the UD base to the notches of the loading mechanism base and placing the edge **u** of the cartridge holder assembly under the hook **h** of the loading mechanism base. (See Fig.25.)
- (12) Reattach the slide base **R** while fitting the two pins on another side of the UD base to the slots of the slide base **R**. (See Figs.26 and 27.)

Note:

Fit the section **v** of the slide base **R** to the section **w** on the inward side of the cam gear rib.

- (13) Reattach the slide base **L** on the slide base **R** while fitting the two pins on another side of the UD base to the slots of the slide base **L**. Make sure the two slots of the slide base **L** are fitted to the two joints **g** and tighten the two screws **E**. (See Figs.26 and 28.)

Reference:

To expedite the work, lift the UD base slightly when fitting each pin to the notches.

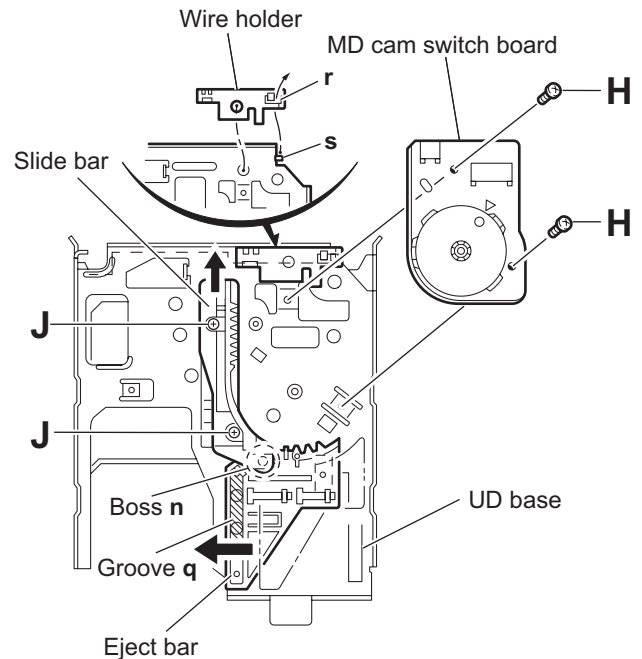


Fig.22

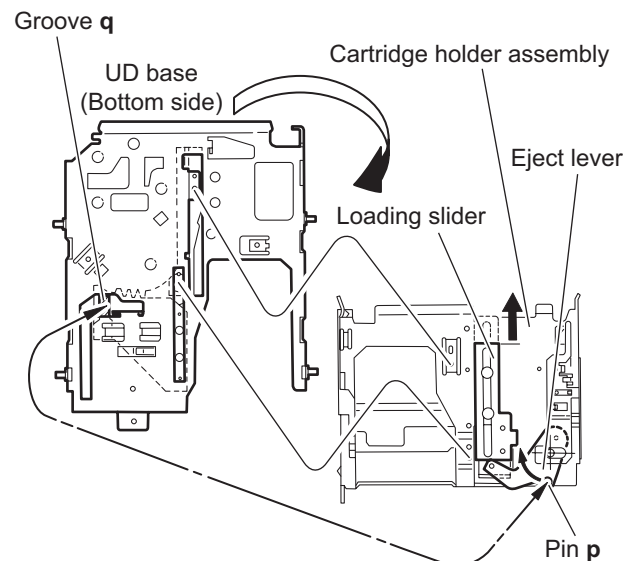


Fig.23

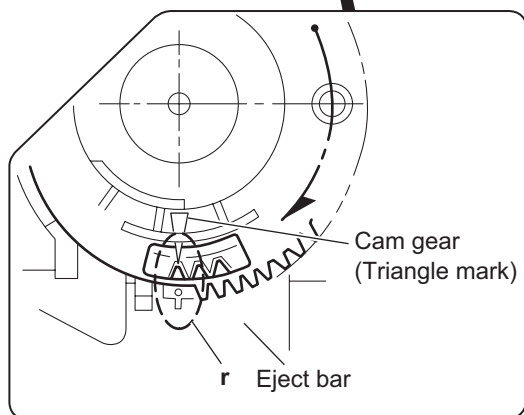
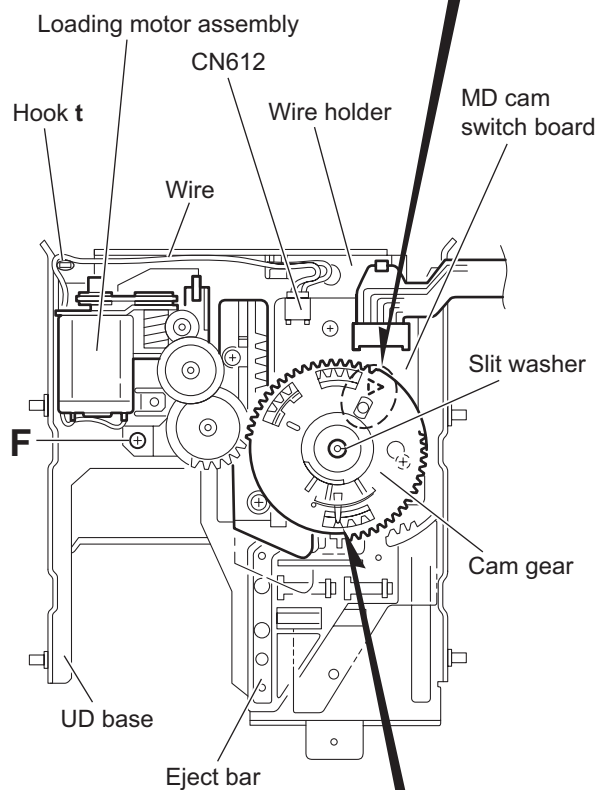
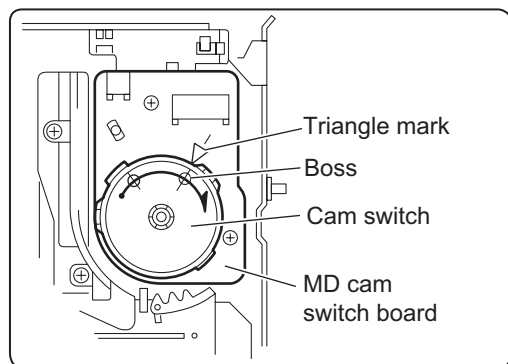


Fig.24

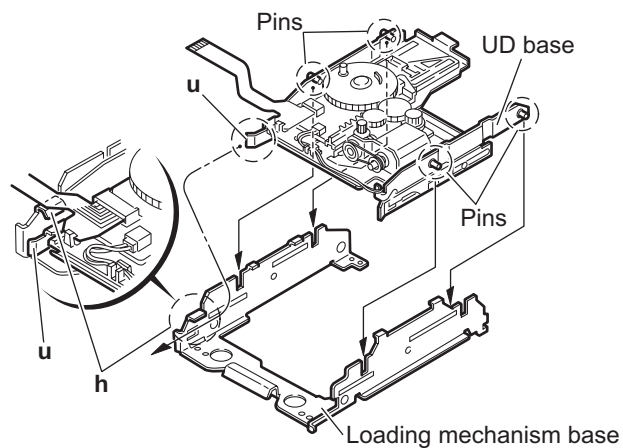


Fig.25

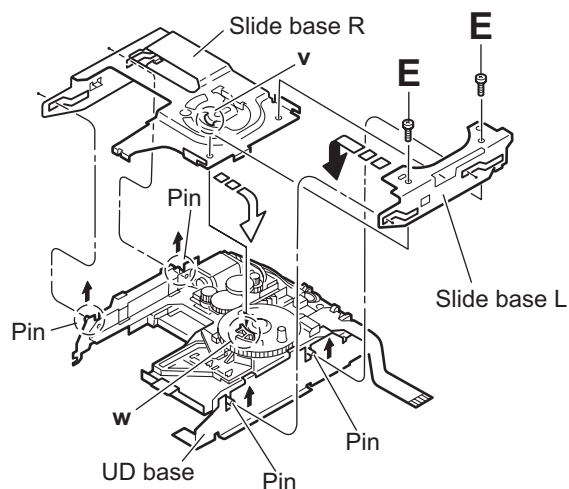


Fig.26

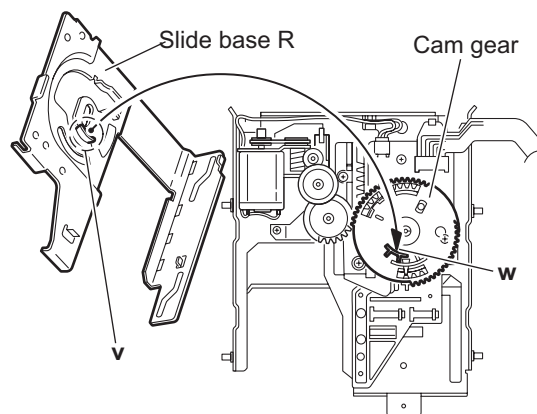


Fig.27

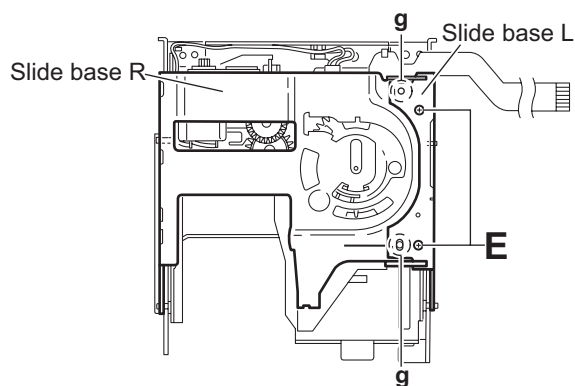


Fig.28

3.4 Cassette mechanism assembly

3.4.1 Removing the Play/Record & Clear head

(See Fig.1~3)

- (1) While moving the trigger arm on the right side of the head mount in the direction of the arrow, turn the flywheel R counterclockwise until the head mount comes ahead and clicks.
- (2) The head turns counterclockwise as you turn the flywheel R counterclockwise (See Fig.2 and 3).
- (3) Disconnect the flexible wire from connector **CN31** on the head amplifier & mechanism control board.
- (4) Remove the spring from the back of the head.
- (5) Loosen the azimuth screw for reversing attaching the head.
- (6) Remove the head on the front side of the head mount.

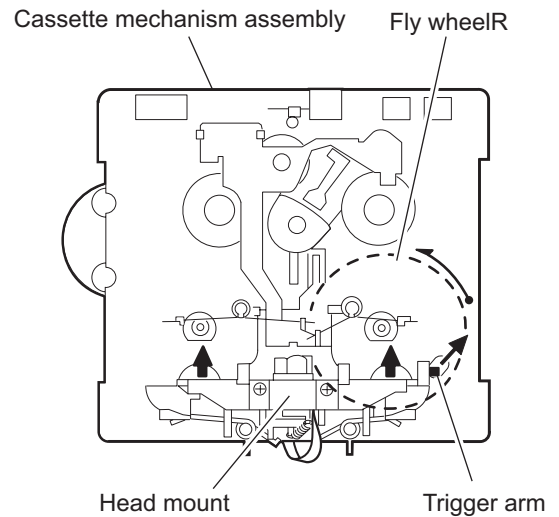


Fig.1

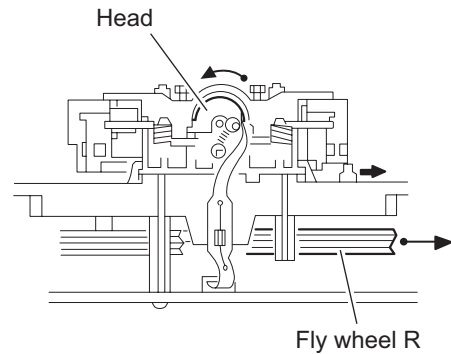


Fig.2

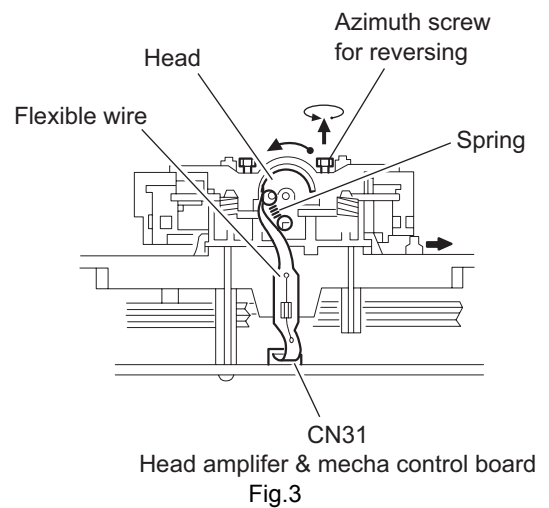


Fig.3

3.4.2 Removing the head amplifier & mechanism control board (See Fig.4)

- (1) Turn over the cassette mechanism assembly and remove the three screws **A** attaching the head amplifier & mechanism control board.
- (2) Disconnect the flexible wire from connector **CN31** on the head amplifier & mechanism control board.
- (3) Disconnect connector **CN32** of the head amplifier & mechanism control board from connector **CN1** on the reel pulse board. REFERENCE: If necessary, unsolder the 4-pin wire soldered to the main motor.

3.4.3 Removing the main motor (See Fig.4~7)

- (1) Remove the two screws **B**.
- (2) Half raise the motor and remove the capstan belt from the motor pulley.

ATTENTION:

Be careful to keep the capstan belt from grease. When reassembling, refer to Fig.6 and 7 for attaching the capstan belt.

Head amplifier & mecha control board

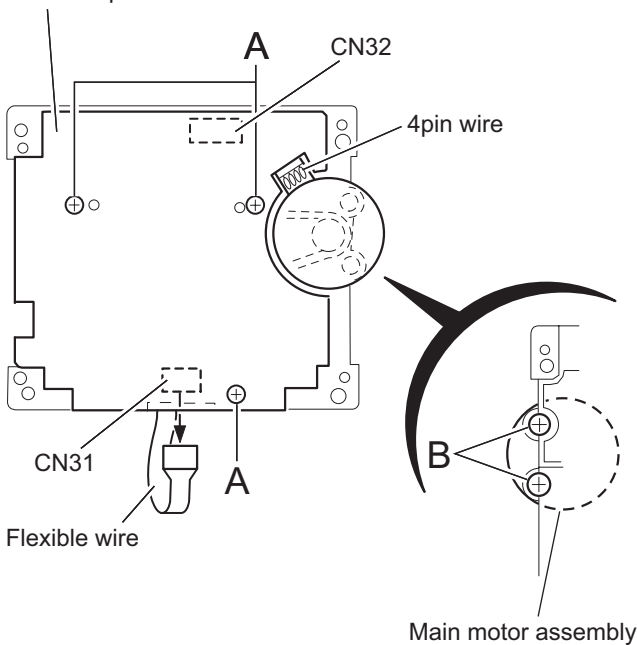


Fig.4

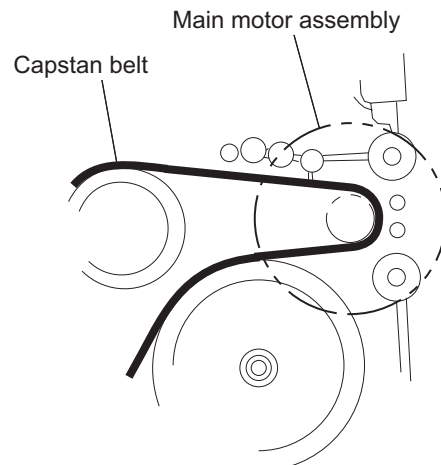


Fig.5

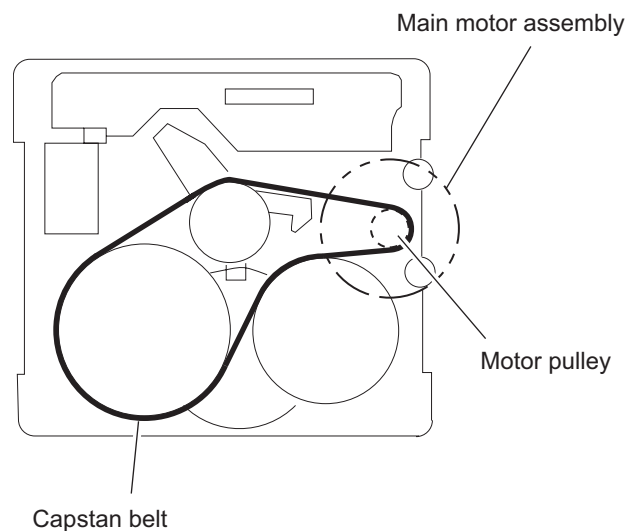


Fig.6

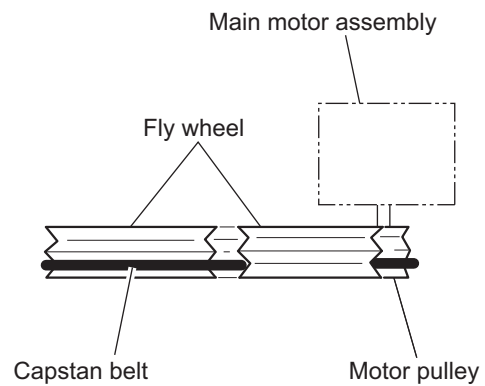


Fig.7

3.4.4 Removing the flywheel (See Fig.8, 9)

- Prior to performing the following procedure, remove the head amplifier & mechanism control board and the main motor assembly.
- (1) From the front side of the cassette mechanism, remove the slit washers attaching the capstan shaft **L** and **R**. Pull out the flywheels backward.

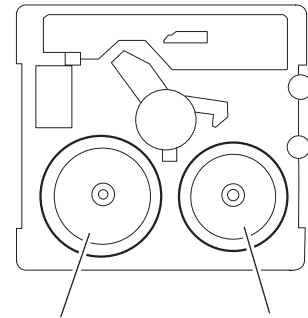


Fig.8

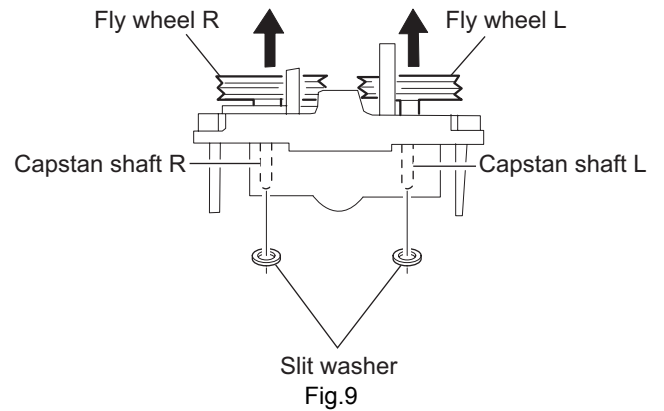


Fig.9

3.4.5 Removing the reel pulse board and solenoid (See Fig.10)

- Prior to performing the following procedure, remove the head amplifier & mechanism control board.
- (1) Remove the screw **C**.
- (2) Release the tab **a**, **b**, **c**, **d** and **e** retaining the reel pulse board.
- (3) Release the tab **f** and **g** attaching the solenoid on the reel pulse board.
- (4) The reel pulse board and the solenoid come off.

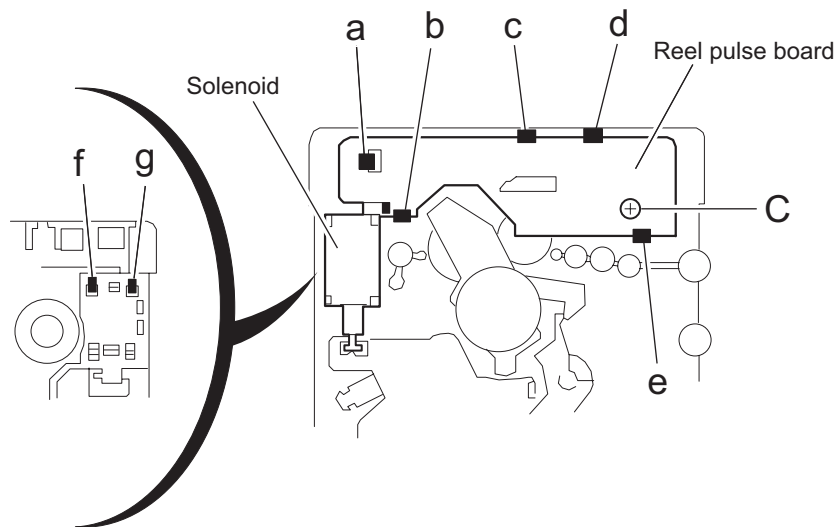


Fig.10

3.4.6 Reattaching the Play/ Record & Clear head (See Fig.11~13)

(1) Reattaching the head mount assembly.

- a) Change front of the direction cover of the head mount assembly to the left (Turn the head forward).
- b) Fit the bosses **O'**, **P'**, **Q'**, **U'** and **V'** on the head mount assembly to the holes **P** and **V**, the slots **O**, **U** and **Q** of the mechanism sub assembly (See Fig.11 to 13).

CAUTION:

To remove the head mount assembly, turn the direction cover to the left to disengage the gear. If the gear can not be disengaged easily, push up the boss **Q'** slightly and raise the rear side of the head mounts slightly to return the direction lever to the reversing side.

(2) Tighten the azimuth screw for reversing.

(3) Reattach the spring from the back of the Play/ Record & Clear head.

(4) Connect the flexible wire to connector [CN31](#) on the head amplifier & mechanism control board.

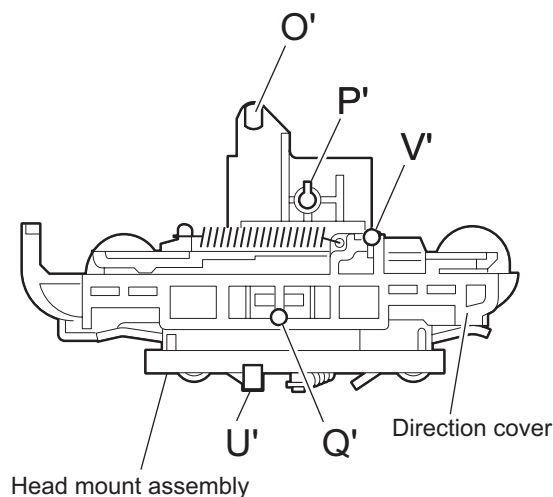


Fig.11

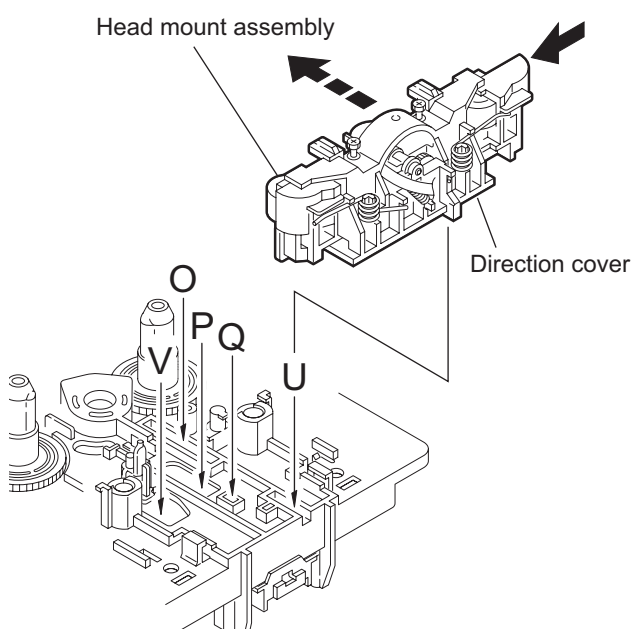


Fig.12

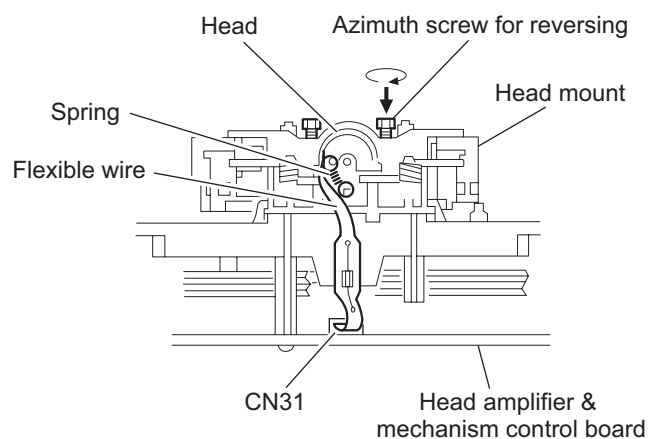


Fig.13

SECTION 4 ADJUSTMENT

4.1 Adjustment method for DVD section

4.1.1 Jigs and test instruments

- External jig
- Upgrade disc
- Remote controller

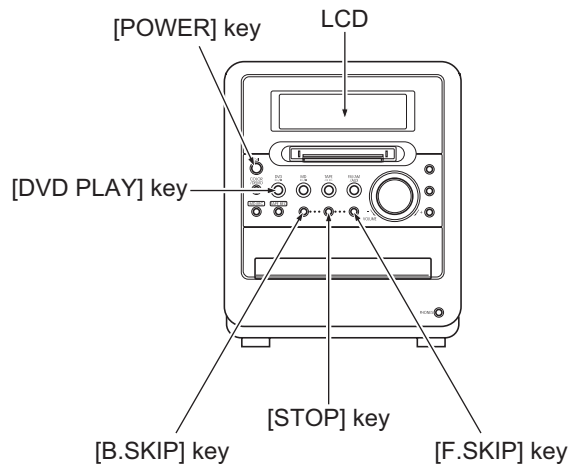
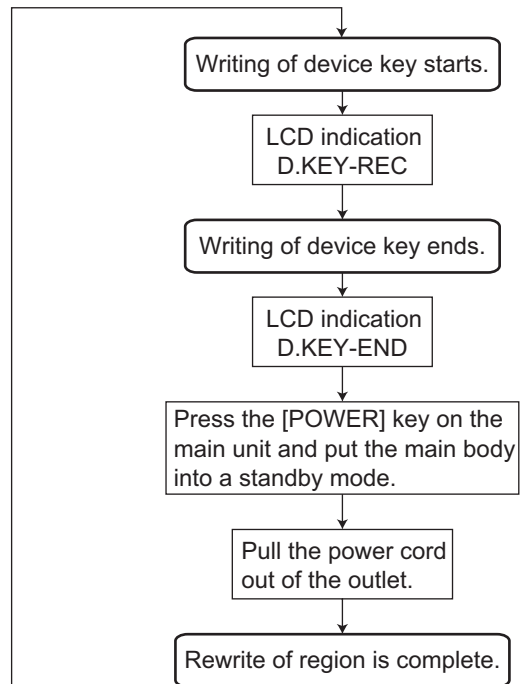
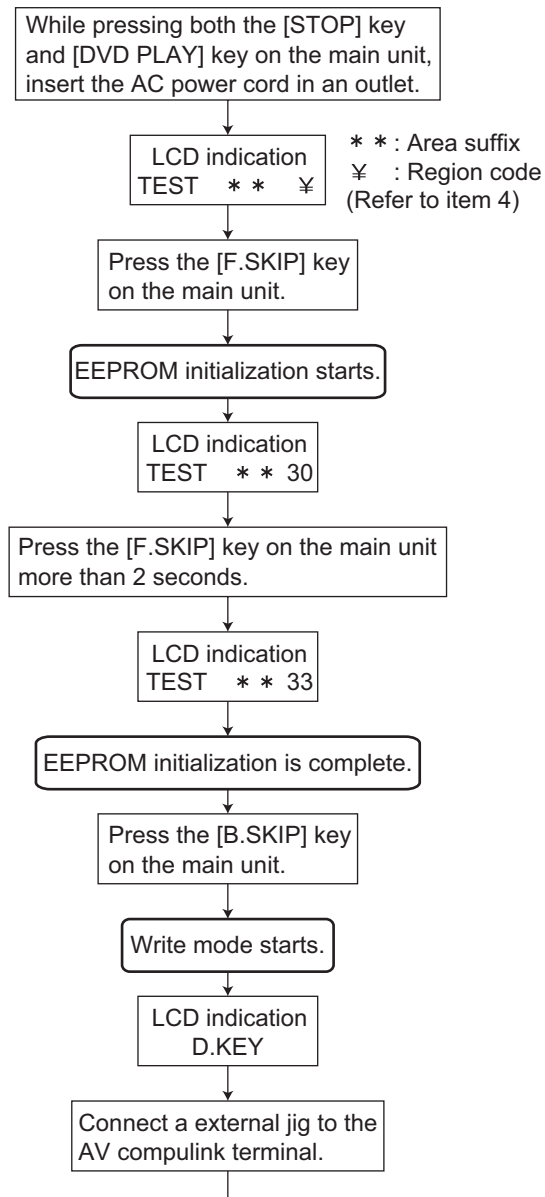
4.1.2 Adjustment and check items

- (1) Rewrite of region
- (2) Upgrade of back-end firm
- (3) Upgrade of system microcomputer (ROM correction)
- (4) Confirm of region code and system control version
- (5) DVD IOP check

4.1.3 Adjustment and check method

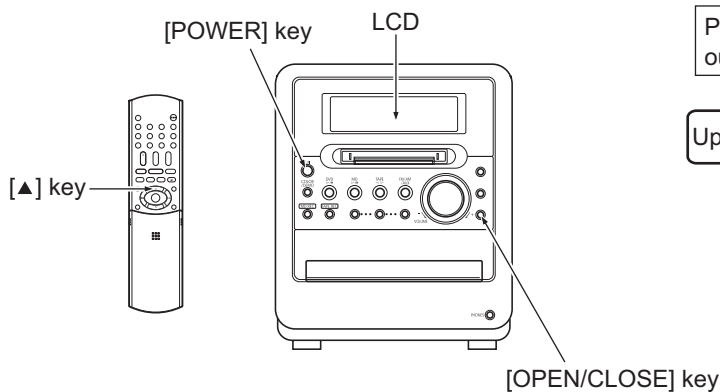
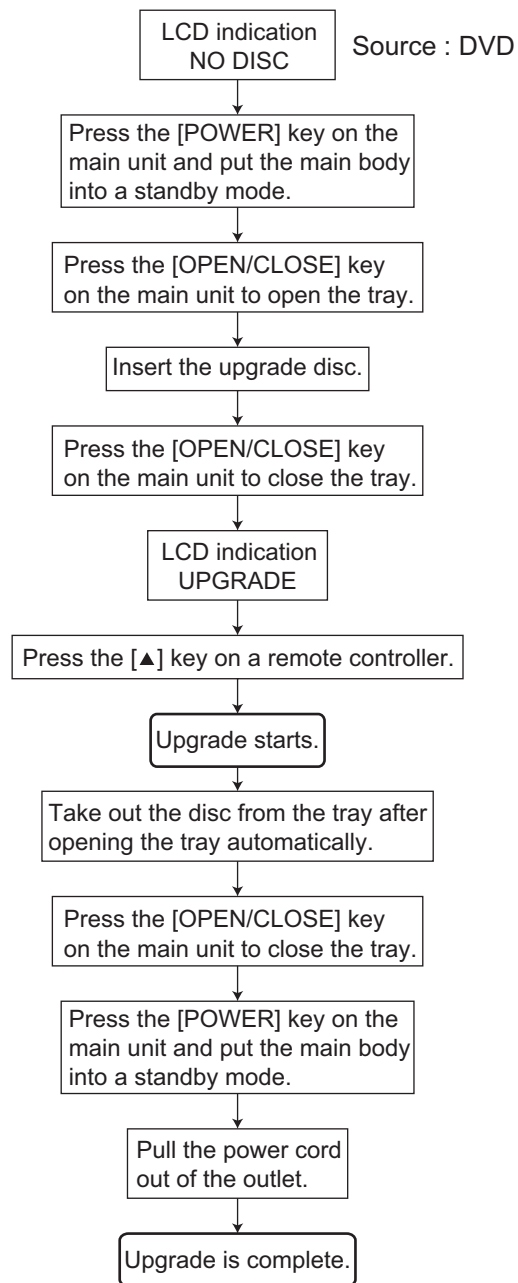
1. Rewrite of region

- * Confirm that a disc is not in a tray.



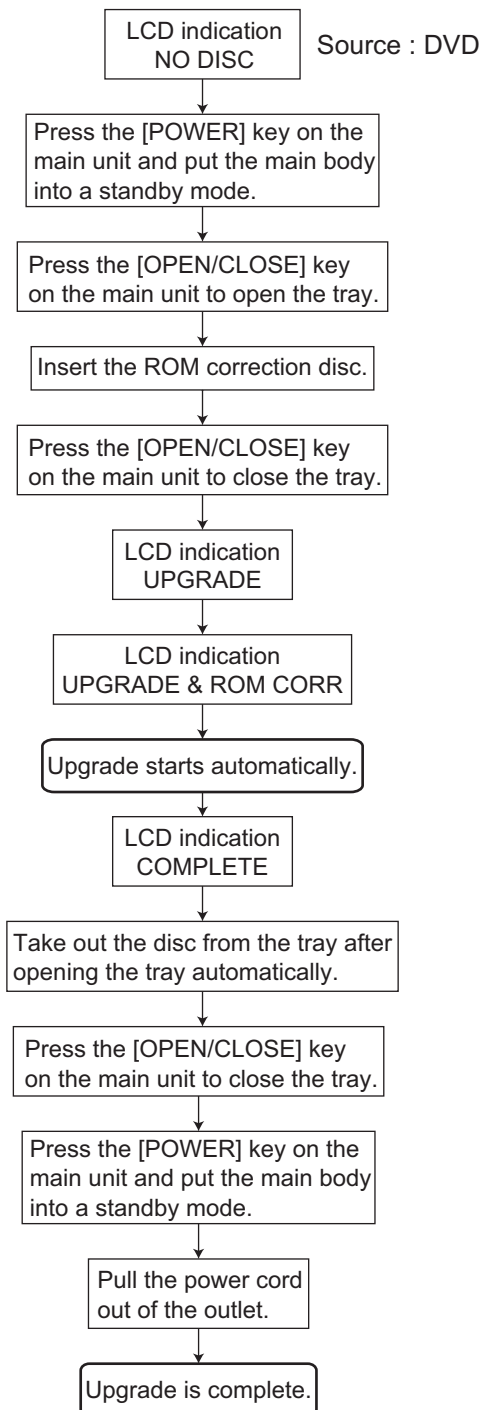
2. Upgrade of back-end firm

* This set can do upgrade of a back-end firm with an upgrade disc.



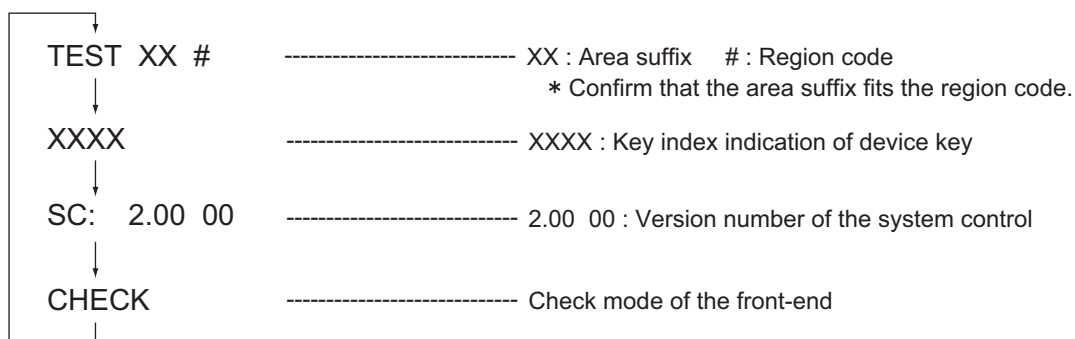
3. Upgrade of system microcomputer (ROM correction)

* This set can do upgrade of a microcomputer with a ROM correction disc.

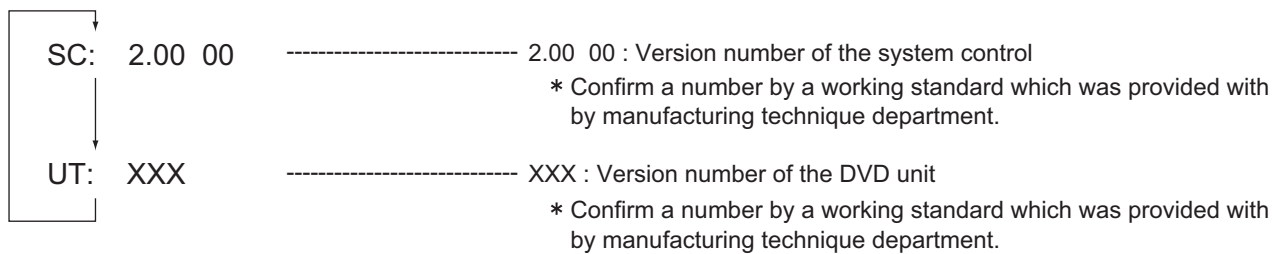


4. Confirmation of region code and system control version

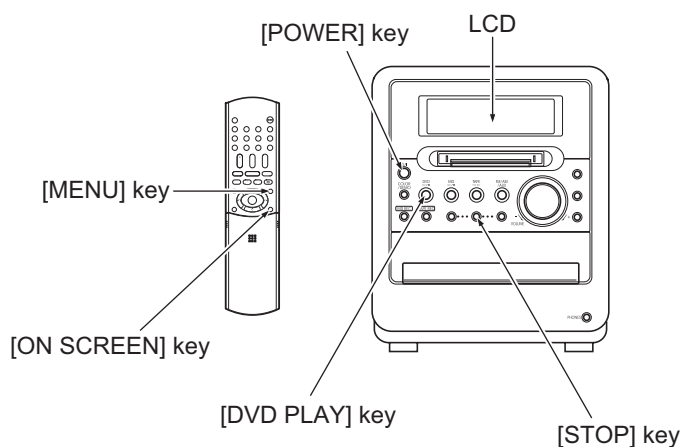
- (1) Insert the AC power cord in an outlet while pressing both the [STOP] key and [DVD PLAY] key on the main unit and put the main unit in a test mode.
- (2) Indication of LCD changes sequentially as follows by pushing a [MENU] key of a remote controller.



- (3) Version indication of a DVD unit is displayed by pressing the [ON SCREEN] key on the remote controller in the system controller version indication



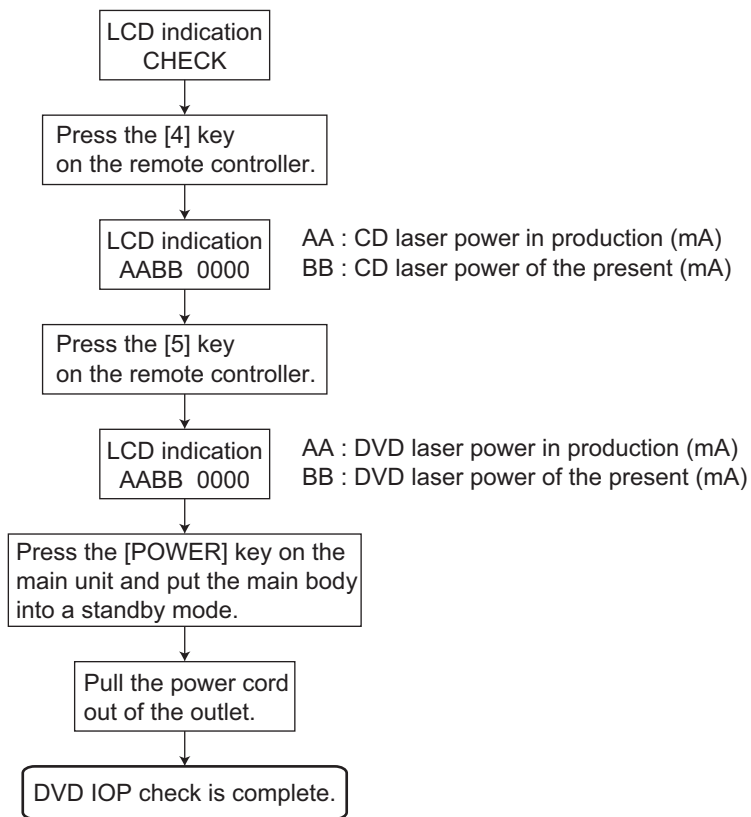
- (3) Press the [POWER] key of the main unit in order to let the test mode finish.



5. DVD IOP check

* Confirm that a disc is not in a tray.

- (1) Insert the AC power cord in an outlet while pressing both the [STOP] key and [DVD PLAY] key on the main unit and put the main unit in a test mode.
- (2) Turn indication of LCD into CHECK by pushing a [MENU] key of a remote controller.



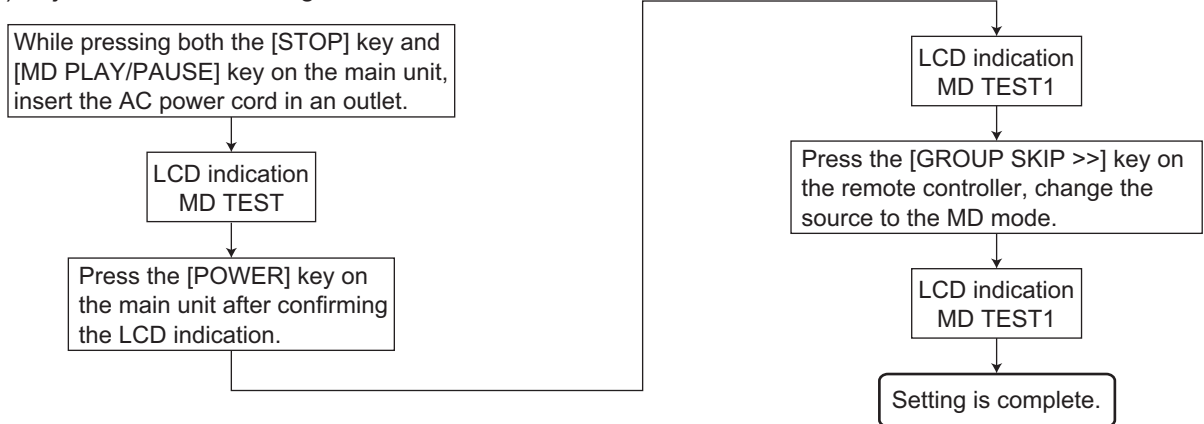
4.2 Adjustment method for MD section

Note:

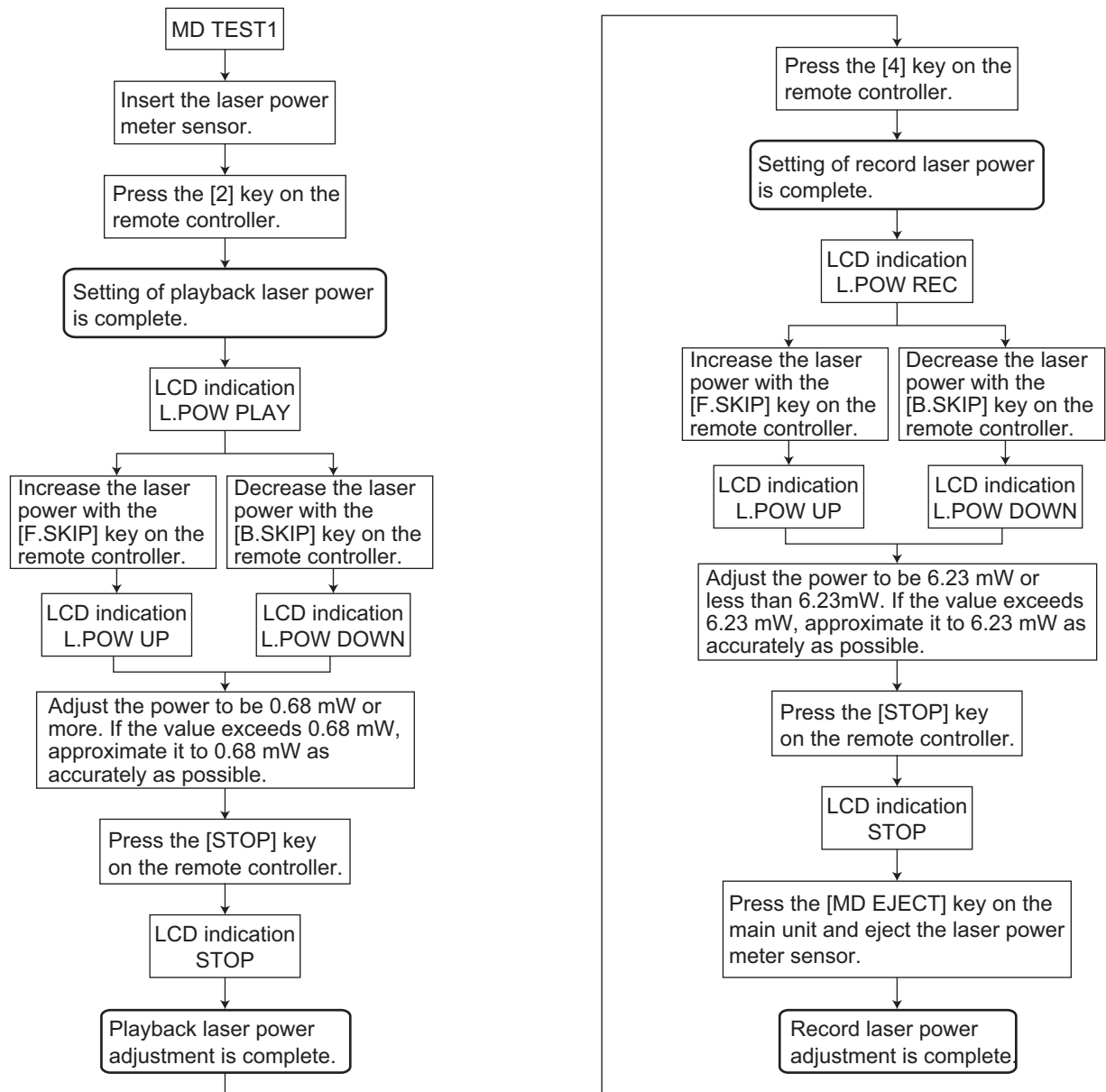
This set has an automatic adjustment function by test mode setting.
In addition, pay attention not to have initialized EEPROM of this set.

4.2.1 Adjustment method by a test mode

(1) Adjustment mode setting of MD section



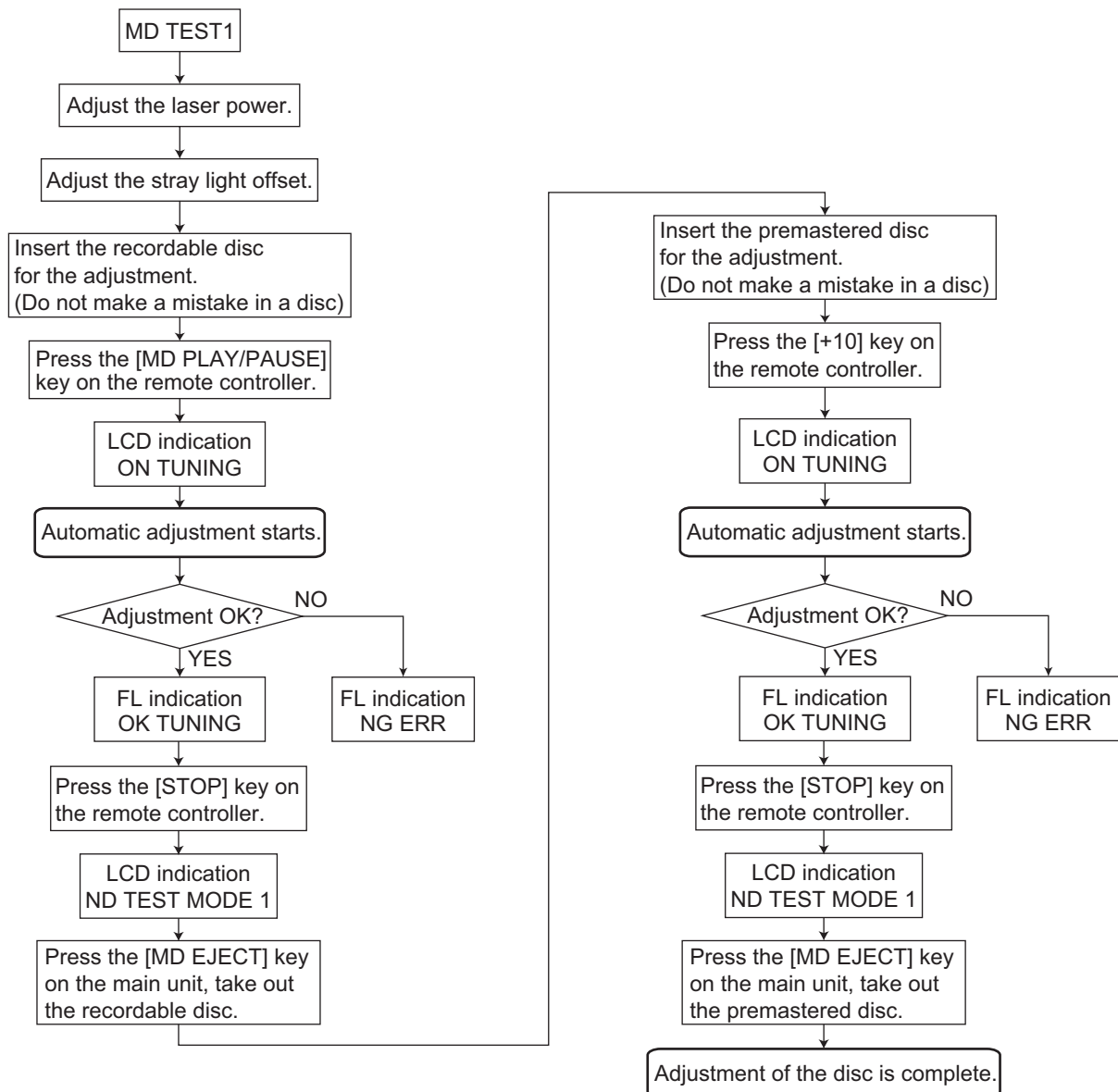
(2) Adjustment of the laser power



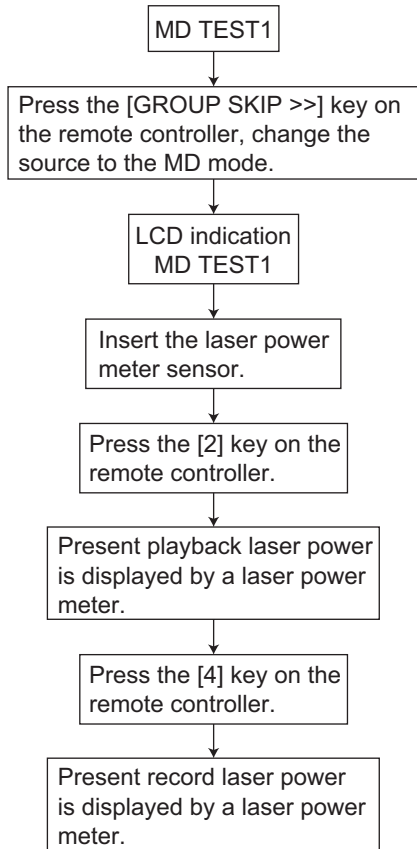
(3) Adjustment of stray light offset



(4) Adjustment of the disc



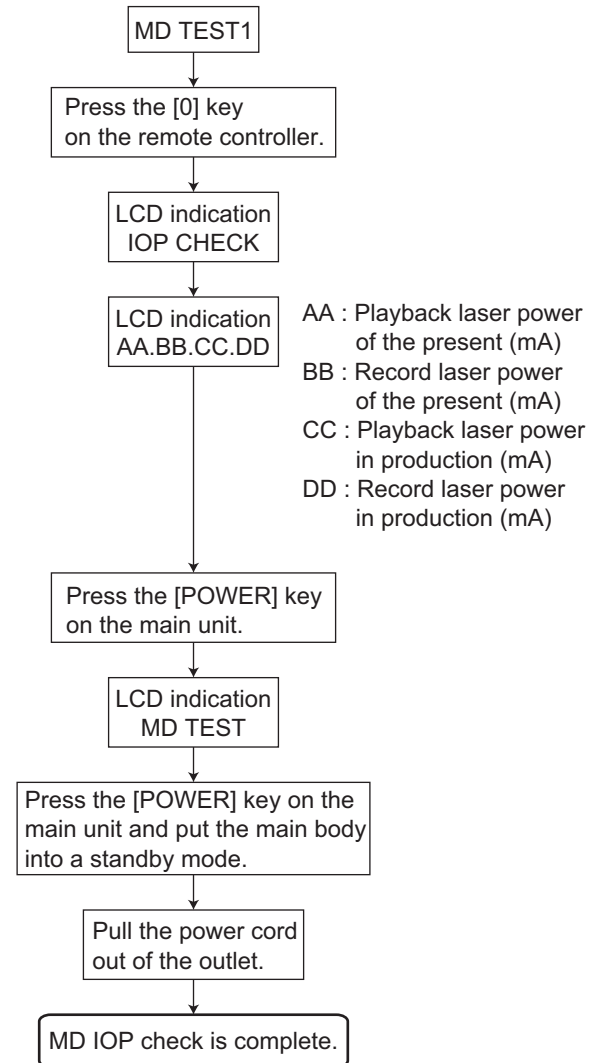
* Confirmation method of Laser power



Caution :
Because EEPROM of the main body has been updated when [STOP] key is pressed, pay enough attention not to push it.

(5) MD IOP check

* Confirm that a disc is not in a MD slot.



SECTION 5 TROUBLESHOOTING

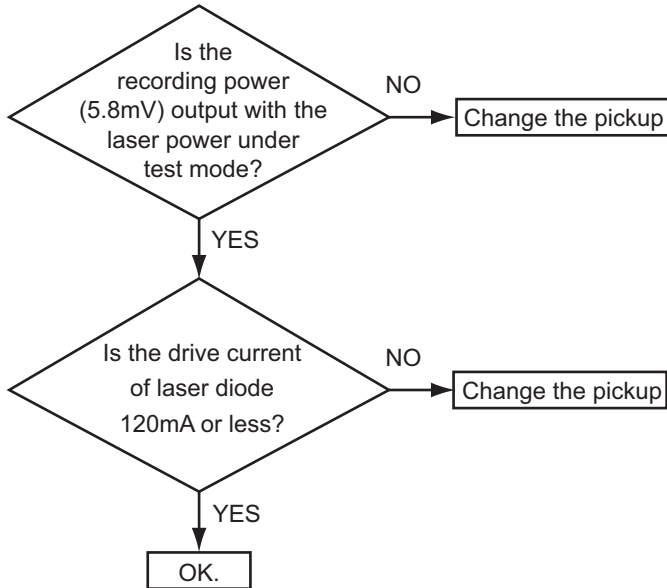
5.1 Maintenance of laser pickup (MD)

1. Confirm the life of a laser diode

When the life of the laser diode has expired, the following symptoms will appear.

- (1) Recording will become impossible.
- (2) The RF output (EFM output, amplitude of eye pattern) will become lower.
- (3) The drive current required for light emitting of laser diode will be increased.

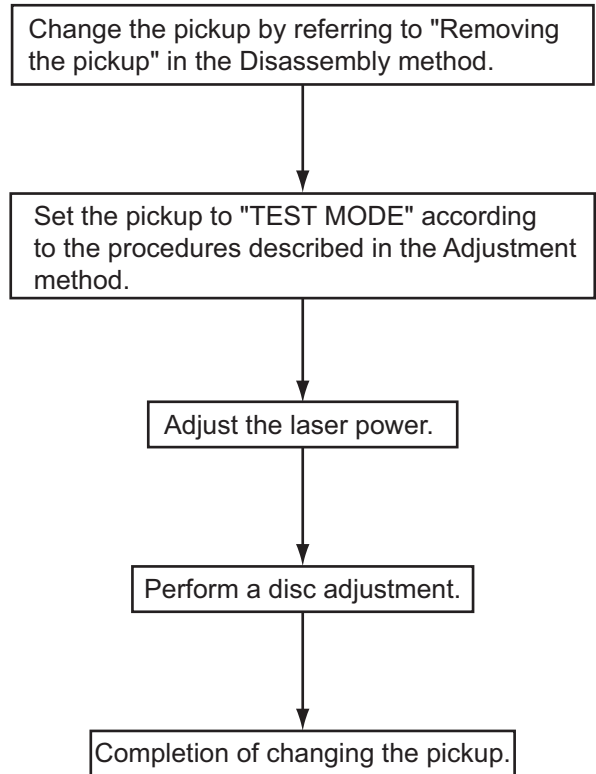
2. Confirm the service life according to the following flow chart.



3. Method of measuring the drive current of laser diode

When the voltage measured at R337(both end) on the MD servo control board (ENX-0223) have become 120mV or over, the service life of the laser diode is judged to have been exhausted.

5.2 Replacement of laser pickup (MD)



Note:

Since this system is designed to perform magnetic recording, the laser power ten times or over of the conventional MD player will be output. Therefore, be sure to perform not only adjustment and operation of this system so carefully as not to directly look at the laser beam or touch on the body.



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