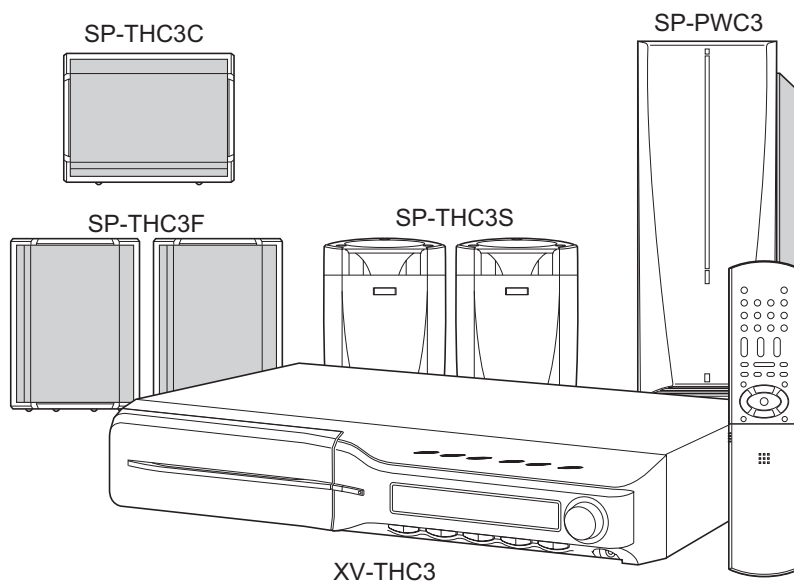


JVC

SERVICE MANUAL

DVD DIGITAL CINEMA SYSTEM

TH-C3



Area suffix

UW ----- Brazil, Mexico, Peru
UY ----- Argentina
UJ ----- U.S. Military



Digital Direct Progressive Scan

Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade)

TABLE OF CONTENTS

1	PRECAUTION	1-4
2	SPECIFIC SERVICE INSTRUCTIONS	1-7
3	DISASSEMBLY	1-8
4	ADJUSTMENT	1-30
5	TROUBLESHOOTING	1-35

SPECIFICATION

Center unit (XV-THC3)

Audio section	Total Harmonic Distortion*1		0.02%
	Digital input*2		DIGITAL IN (DBS): -21 dBm to -15 dBm (OPTICAL: 660 nm ± 30 nm)
Video section	Video System		PAL/NTSC
	Horizontal Resolution		500 lines
	Signal-to-Noise Ratio		64 dB
	Video output level		Composite: 1.0 V(p-p)/75 Ω S-video-Y: 1.0 V(p-p)/75 Ω S-video-C: For PAL: 0.3 V(p-p)/75 Ω S-video-C: For NTSC: 0.286 V(p-p)/75 Ω Component-Y: 1.0 V(p-p)/75 Ω Component-PB/PR: 0.7 V(p-p)/75 Ω
	Video input sensitivity/Impedance (VCR IN)		Composite: 1.0 V(p-p)/75 Ω S-video-Y: 1.0 V(p-p)/75 Ω S-video-C: For PAL: 0.3 V(p-p)/75 Ω S-video-C: For NTSC: 0.286 V(p-p)/75 Ω
Tuner section	Tuning Range	FM	87.5 MHz to 108.0 MHz
		AM	531 kHz to 1 710 kHz (at 9 kHz channel spacing) 530 kHz to 1 710 kHz (at 10 kHz channel spacing)
		For Middle East	531 kHz to 1 602 kHz (at 9 kHz channel spacing) 530 kHz to 1 600 kHz (at 10 kHz channel spacing)
General	Power Requirements		AC 110-240 V , 50/60 Hz
	Power Consumption		19 W (at operation) 1.9 W (in standby mode)
	Dimensions (W × H × D)		400 mm × 85 mm × 399 mm
	Mass		4.2 kg (9.3 lbs)

*1: This value is measured at System cord CONNECTOR for reference.

*2: Corresponding to Linear PCM, Dolby Digital, and DTS Digital Surround (with sampling frequency -32 kHz, 44.1 kHz, 48 kHz)

Subwoofer (SP-PWC3)

Amplifier section	Front	140W per channel, RMS at 4 Ω at 1 kHz, with 10 % total harmonic distortion.	
	Center/Surround	130W per channel, RMS at 4 Ω at 1 kHz, with 10 % total harmonic distortion.	
	Subwoofer	140 W, RMS at 4 Ω at 100 Hz, with 10 % total harmonic distortion.	
Speaker section	Speaker unit	16 cm Bass-reflex	
	Power Handling Capacity	140 W	
	Impedance	4 Ω	
	Frequency Range	30 Hz to 200 Hz	
General	Power Requirements		AC 110 V/ AC 127 V/AC 220-240 V , 50/60 Hz
	Power Consumption		135 W (at operation) 0 W (in standby mode)
	Dimensions (W × H × D)		169 mm × 411 mm × 451 mm
	Mass		11.3 kg

Satellite Speakers (SP-XTHC3)

Front speakers (SP-THC3F)	Speaker unit	8.0 cm 1.5 cm Bass-reflex, Magnetically Shielded
	Power Handling Capacity	140 W
	Impedance	4 Ω
	Frequency Range	80 Hz to 20 kHz
	Dimensions (W \times H \times D)	104.5 mm \times 139 mm \times 101 mm
	Mass	0.56 kg each
Center speaker (SP-THC3C)	Speaker unit	8.0 cm 1.5 cm Bass-reflex, Magnetically Shielded
	Power Handling Capacity	140 W
	Impedance	4 Ω
	Frequency Range	80 Hz to 20 kHz
	Dimensions (W \times H \times D)	137 mm \times 105 mm \times 104.5 mm
	Mass	0.57 kg (1.3 lbs)
Surround speakers (SP-THC3S)	Speaker unit	8.0 cm Bass-reflex
	Power Handling Capacity	140 W
	Impedance	4 Ω
	Frequency Range	80 Hz to 20 kHz
	Dimensions (W \times H \times D)	111.5 mm \times 148 mm \times 106.5 mm
	Mass	0.56 kg each

Designs & 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 manufacturer's warranty and will further relieve the manufacturer 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.

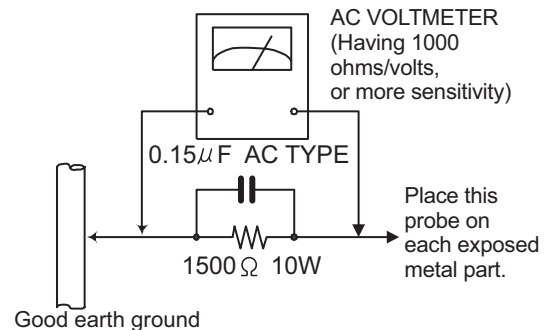
(5) Leakage shock hazard testing

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 part 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 (■), diode (■) and ICP (●) 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 does 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

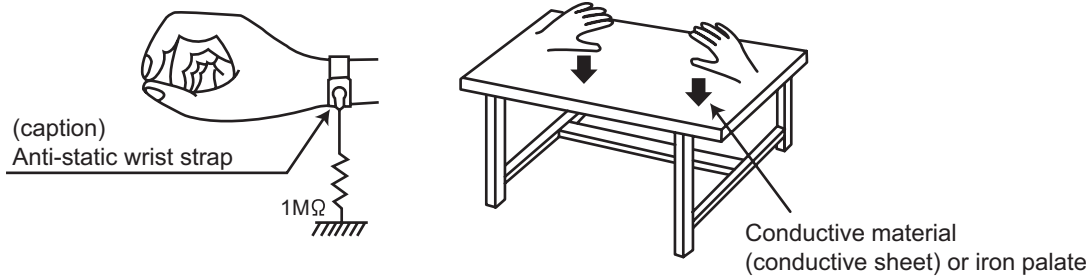
Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as laser products. Be careful to use proper grounding in the area where repairs are being performed.

(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.

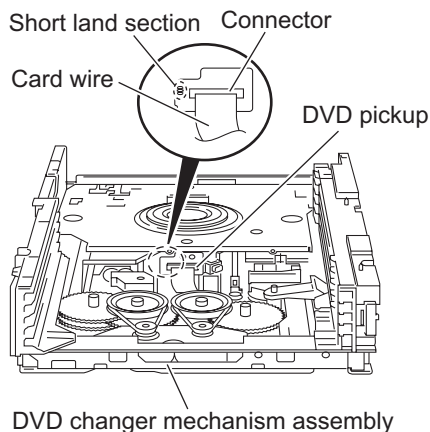
1.6 Handling the traverse unit (optical pickup)

- (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 traverse unit is decomposed

***Please refer to "Disassembly method" in the text for the pickup unit.**

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



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 metal cover (See Figs. 1 to 4)

- (1) From the both sides of the main body, remove the four screws **A** attaching the metal cover. (See Figs. 1 and 2.)
- (2) From the back side of the main body, remove the three screws **B** attaching the metal cover. (See Fig. 3.)
- (3) Lift the rear section of the metal cover in the direction of the arrow while extending the lower sections of the metal cover, release the seven claws **a** using a longer screwdriver from the inside as required. (See Fig. 4.)

Note:

Do not damage any parts and boards inside the main body when releasing the claws **a** using a longer screwdriver.

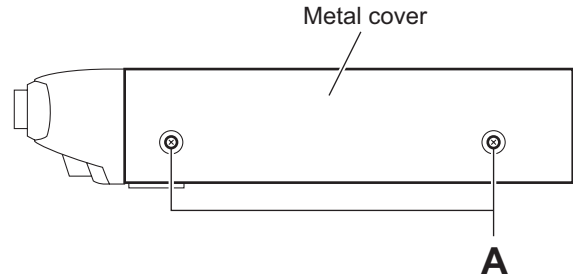


Fig.1

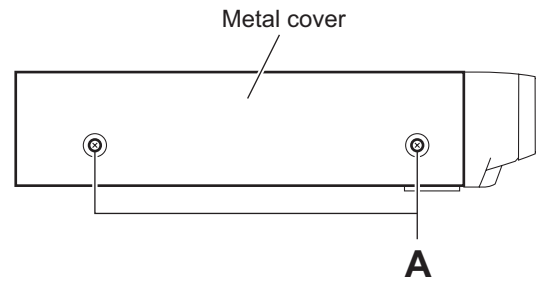


Fig.2

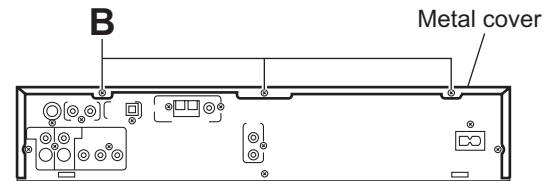


Fig.3

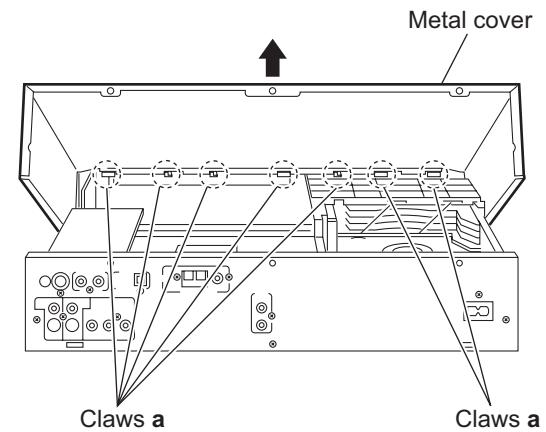


Fig.4

3.1.2 Removing the front panel assembly (See Figs. 5 and 6)

- Prior to performing the following procedures, remove the metal cover.

- (1) From the top side of the main body, disconnect the parallel wires from the connectors (CN456, CN457) on the main board. (See Fig. 5.)
- (2) Disconnect the card wires from the connectors (CN450, CN460) on the main board. (See Fig. 5.)
- (3) Remove the screw **C** attaching the earth wires to the main board. (See Fig. 5.)

Reference:

When attaching the screw **C**, attach the earth wires with it. (See Fig. 5.)

- (4) From the bottom side of the main body, remove the three screws **D** attaching the front panel assembly. (See Fig. 6.)
- (5) From the both and bottom sides of the main body, remove the front panel assembly in the direction of the arrow while releasing the joints **b** and **c**. (See Fig. 6.)

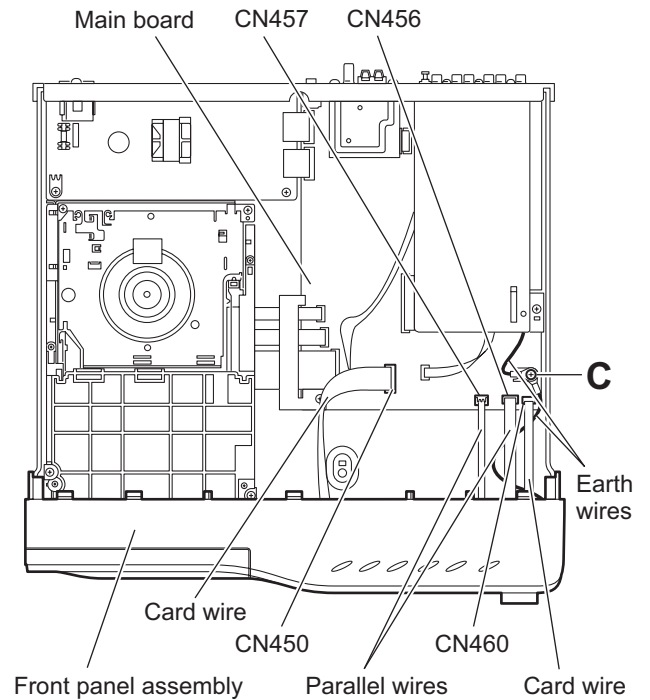


Fig.5

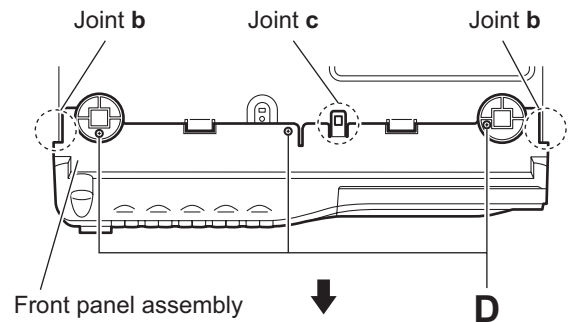


Fig.6

3.1.3 Removing the DVD changer mechanism assembly (See Fig. 7)

- Prior to performing the following procedures, remove metal cover and front panel assembly.

- (1) From the top side of the main body, remove the screw **E** attaching the wire protection board to the main board.
- (2) Take out the wire protection board, and disconnect the card wires from the connectors ([CN401](#) to [CN403](#)) on the main board.

Reference:

When attaching the wire protection board, attach the wire protection board after connecting the card wires to the connectors ([CN401](#) to [CN403](#)) on the main board.

- (3) Remove the four screws **F** attaching the DVD changer mechanism assembly on the bottom chassis.
- (4) Take out the DVD changer mechanism assembly in the upward direction.

Reference:

When attaching the DVD changer mechanism assembly, align the holes of the DVD changer mechanism assembly to the projections **d** on the bottom chassis.

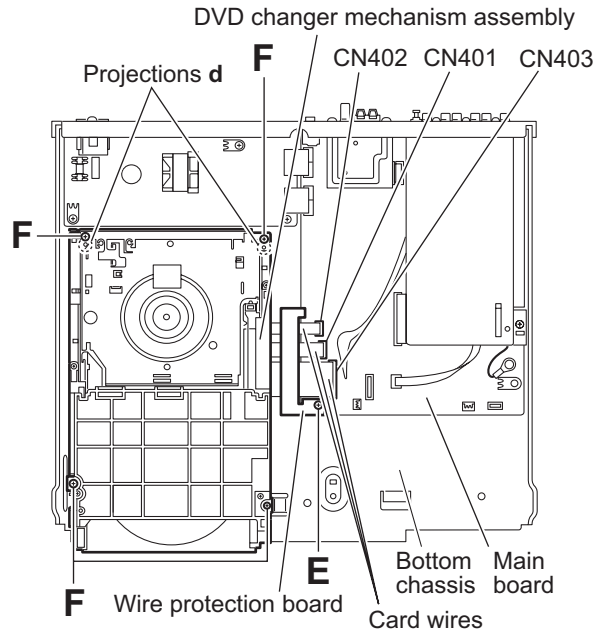


Fig.7

3.1.4 Removing the rear panel (See Fig. 8)

- Prior to performing the following procedures, remove the metal cover.

- (1) From the back side of the main body, remove the screw **G** and eleven screws **H** attaching the rear panel.

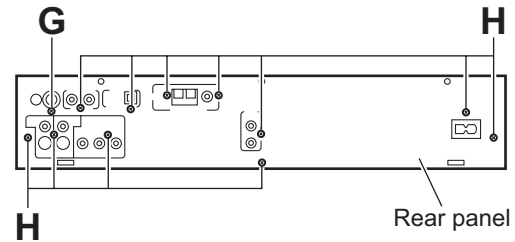


Fig.8

3.1.5 Removing the audio & digital input board (See Figs. 9 and 10)

- Prior to performing the following procedures, remove the metal cover.

- (1) From the top side of the main body, disconnect the card wires from the connectors (CN411, CN412) on the main board. (See Fig. 9.)
- (2) Remove the screw J attaching the earth wires to the main board. (See Fig. 9.)

Reference:

When attaching the screw J, attach the earth wires with it. (See Fig. 9.)

- (3) From the back side of the main body, remove the screw K and two screws L attaching the audio & digital input board to the rear panel. (See Fig. 10.)
- (4) Move the audio & digital input board in the direction of the arrow, and release the claw e of bracket board. (See Fig. 9.)
- (5) Take out the audio & digital input board from the main body.

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

- Prior to performing the following procedures, remove the metal cover.

- (1) From the top side of the main body, disconnect the card wire from the connector CN1 on the tuner. (See Fig. 9.)
- (2) From the back side of the main body, remove the two screws M attaching the tuner to the rear panel. (See Fig. 10.)
- (3) Take out the tuner from the main body.

3.1.7 Removing the power supply board (See Figs. 9 and 10)

- Prior to performing the following procedures, remove the metal cover.

- (1) From the top side of the main body, disconnect the parallel wires from the connectors (CN404 to CN407) on the main board. (See Fig. 9.)
- (2) Remove the three screws N attaching the power supply board. (See Fig. 9.)
- (3) From the back side of the main body, remove the screw P attaching the power supply board to the rear panel. (See Fig. 10.)
- (4) Take out the power supply board from the main body.

Reference:

Remove the rear panel as required. (See "3.1.4 Removing the rear panel")

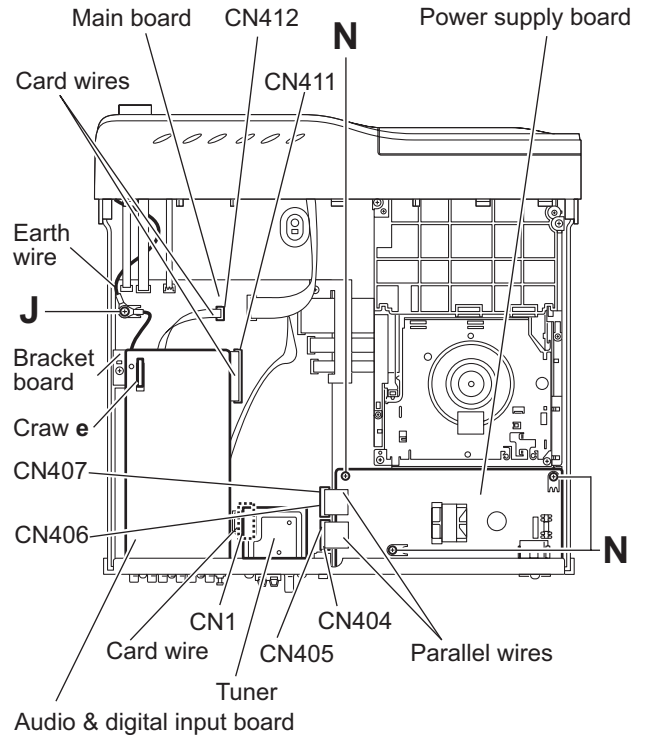


Fig.9

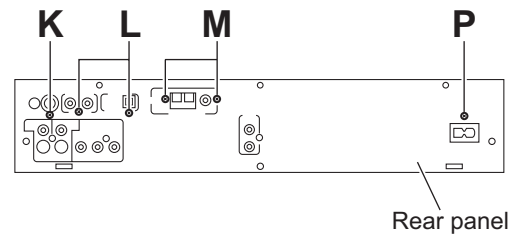


Fig.10

3.1.8 Removing the main board (See Fig. 11)

- Prior to performing the following procedures, remove the metal cover, rear panel, audio & digital input board and tuner.

- (1) From the top side of the main body, remove the screw **Q** attaching the bracket board and take the bracket board.
- (2) Remove the screw **R** and screw **R'** attaching the main board on the bottom chassis.

Reference:

When attaching the screw **R'**, attach the wire protection board with it.

- (3) Take out the wire protection board, and disconnect the card wires from the connectors ([CN401](#) to [CN403](#)) on the main board.

Reference:

When attaching the wire protection board, attach the wire protection board after connecting the card wires to the connectors ([CN401](#) to [CN403](#)) on the main board.

- (4) Disconnect the card wires from the connectors ([CN450](#) and [CN460](#)) on the main board.
- (5) Disconnect the parallel wires from the connectors ([CN404](#) to [CN407](#), [CN456](#) and [CN457](#)) on the main board.
- (6) Take out the main board from the main body.

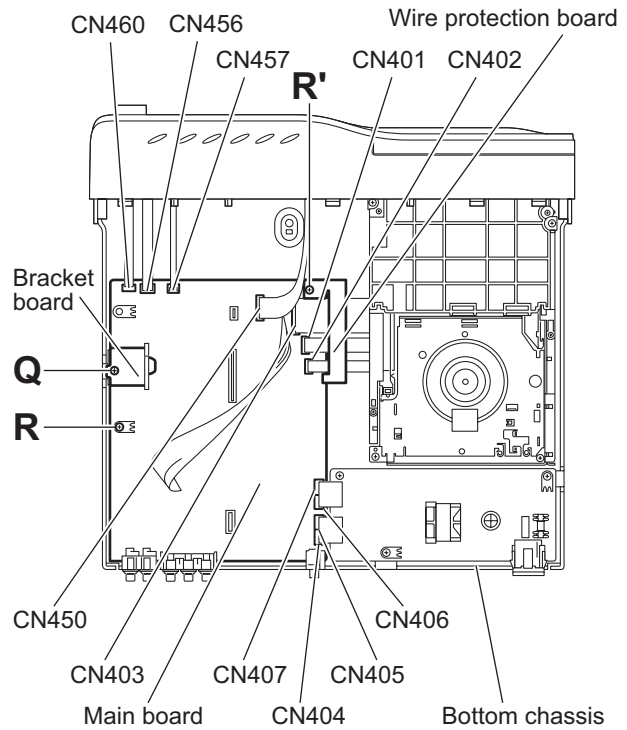


Fig.11

3.2 Front panel assembly section

- Prior to performing the following procedures, remove the front panel assembly from the main body. (See "Removing the front panel assembly")

3.2.1 Removing the phone jack board (See Fig. 1)

- (1) From the inside of the front panel assembly, remove the screw **A** attaching the phone jack board.
- (2) Take out the phone jack board from the front panel assembly.

3.2.2 Removing the bracket board (See Fig. 1)

- (1) From the inside of the front panel assembly, remove the two screws **B** attaching the bracket board.

Reference:

When attaching the connect board, align the projections of the bracket board to the slots a and b of the front panel assembly.

- (2) Take out the bracket board from the front panel assembly.

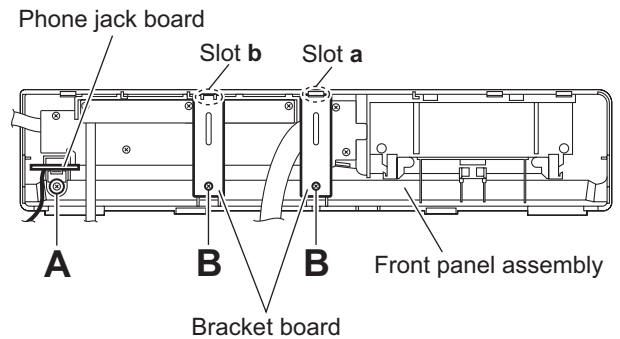


Fig.1

3.2.3 Removing the operation board (See Fig. 2)

- Prior to performing the following procedures, remove the bracket board.
- (1) From the inside of the front panel assembly, remove the three screws **C** attaching the operation board.

Reference:

When attaching the operation board, align the projections **c** of the front panel assembly to the holes of the operation board.

- (2) Take out the operation board.

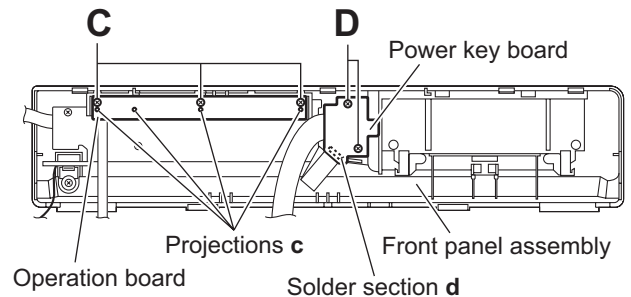


Fig.2

3.2.4 Removing the power key board (See Fig. 2)

- Prior to performing the following procedures, remove the bracket board.
- (1) From the inside of the front panel assembly, remove the two screws **D** attaching the power key board.
- (2) Take out the power key board and remove the solder from the soldered point **d** to remove the parallel wire.

3.2.5 Removing the front board (See Figs. 3 and 4)

- Prior to performing the following procedures, remove the phone jack board, bracket board and operation board.
 - (1) From the front side of the front panel assembly, pull out the volume knob in the direction of the arrow. (See Fig. 3.)
 - (2) From the inside of the front panel assembly, remove the six screws **E** attaching the front board. (See Fig. 4.)
 - (3) Take out the front board and remove the solder from the soldered point **e** to remove the parallel wire. (See Fig. 4.)

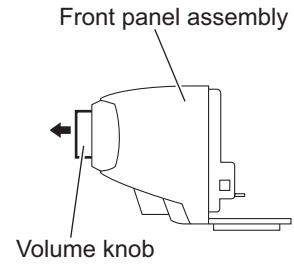


Fig.3

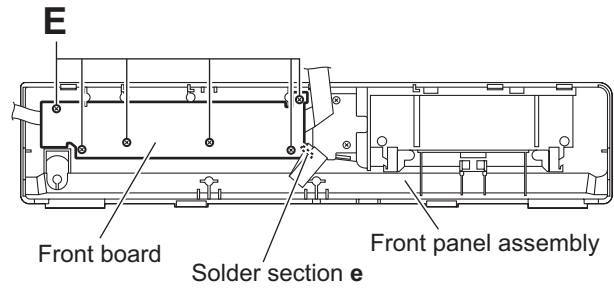


Fig.4

3.3 DVD changer mechanism assembly section

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

3.3.1 Removing the tray assemblies

(See Figs.1 to 5)

- (1) From the top side of the main body, remove the two screws **A** from the top cover and release the two joints **a** on the both sides of the DVD changer mechanism assembly. (See Figs.1 and 2.)
- (2) Remove the two rods from the top cover and remove the top cover from the lifter assembly. (See Figs.1 and 2.)
- (3) Remove the open det. lever on the left side of the DVD changer mechanism assembly. (See Fig.3.)
- (4) From the right side of the DVD changer mechanism assembly, draw out the tray assemblies toward the front while pushing the part **b** of the side (R) assembly. (See Figs.4 and 5.)

Note:

The tray can be locked if all tray assemblies are attached.

- (5) From the topside of the DVD changer mechanism assembly, move the stopper tabs **c** in the direction of the arrow and release them. Pull out the tray assemblies from the DVD changer mechanism assembly. (See Fig. 5.)

Note:

Remove the tray assembly from top tray 5 in order.

Reference:

When reattaching the tray assembly, or when removing the disc remaining inside, refer to another section "3.3.15 Taking out the disc in the play mode".

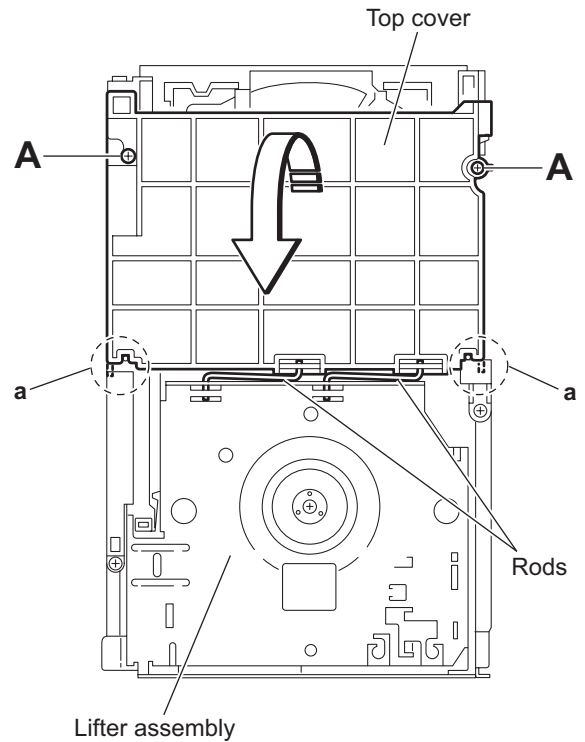


Fig.1

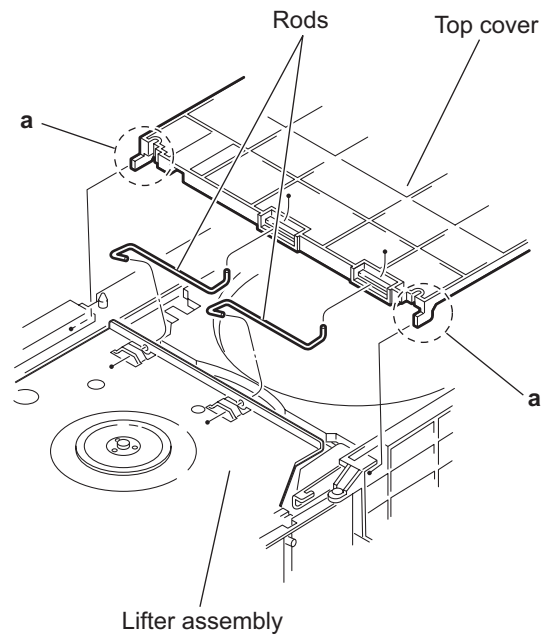


Fig.2

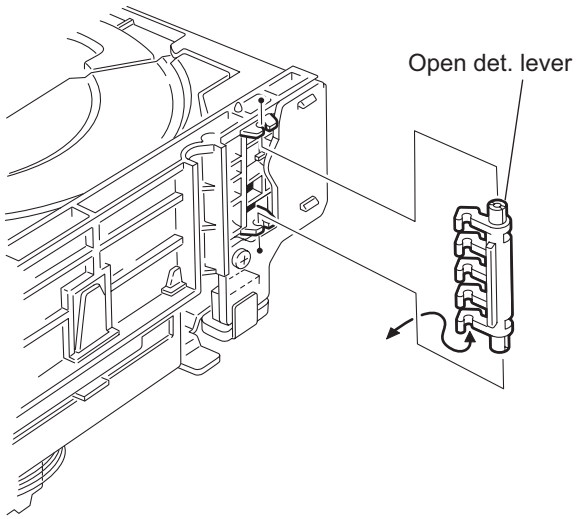


Fig.3

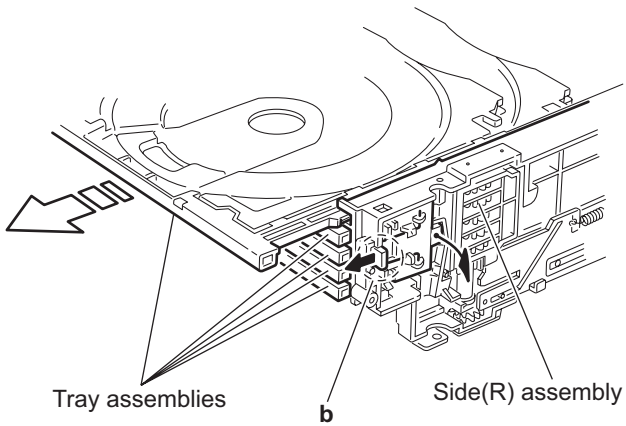


Fig.4

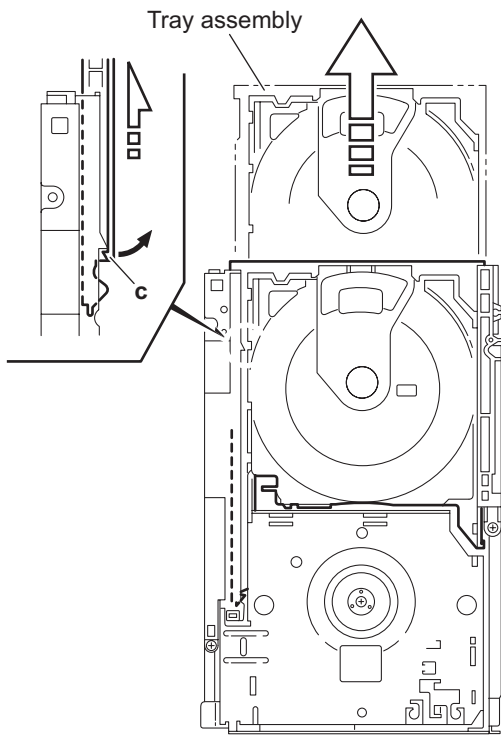


Fig.5

3.3.2 Removing the DVD servo board (See Figs.6 to 8)

Caution:

Solder the short land sections **d** on the DVD pickup before disconnecting the card wire extending from the DVD pickup. If you do not follow this instruction, the DVD pickup may be damaged.

- (1) From the topside of the DVD changer mechanism assembly, solder the short land sections **d** on the DVD pick up. (See Fig.6.)
- (2) From the bottom side of the DVD changer mechanism assembly, disconnect the card wire from the connectors (CN201, CN451) on the DVD servo board. (See Fig.7.)

Reference:

When connecting the card wire to the connector CN451, pass it through the sections **e** on the DVD traverse mechanism assembly. (See Fig.7.)

- (3) Disconnect the wires from the connectors (CN452, CN453) on the DVD servo board. (See Fig.7.)
- (4) Remove the two screws **B** attaching the DVD servo board. (See Fig.7.)
- (5) From the reverse side of the DVD servo board, release the lock of the connector CN101 in the direction of the arrow and disconnect the card wire. (See Fig.8.)

Caution:

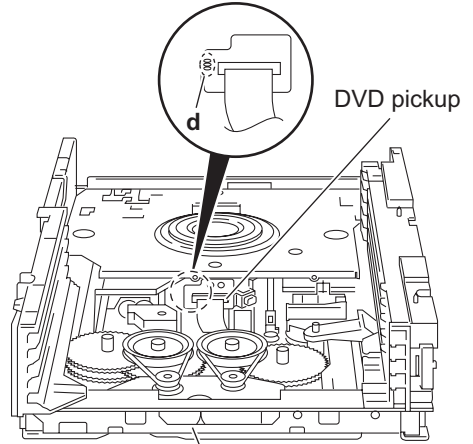
Unsolder the solders from the short land sections **d** after reassembling. (See Fig.6.)

3.3.3 Removing the switch board (See Fig.7)

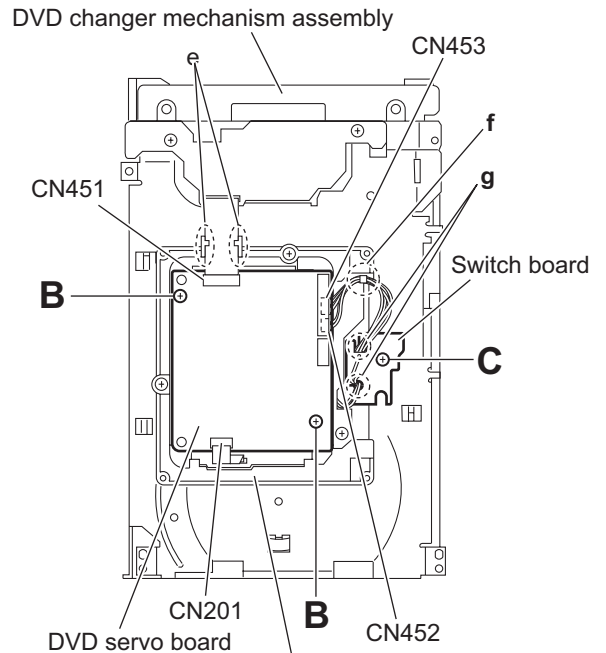
- (1) From the bottom side of the DVD changer mechanism assembly, remove the screw **C** attaching the switch board on the DVD changer mechanism assembly.
- (2) Disconnect the wires from the connectors (CN452, CN453) on the DVD servo board.
- (3) Release the wires from the section **f** and remove the switch board.
- (4) Release the wires from the sections **g** and remove the switch board.

Reference:

When reassembling, pass the wires through the sections (f, g) as before.



DVD changer mechanism assembly
Fig.6



DVD servo board
DVD traverse mechanism assembly
Fig.7

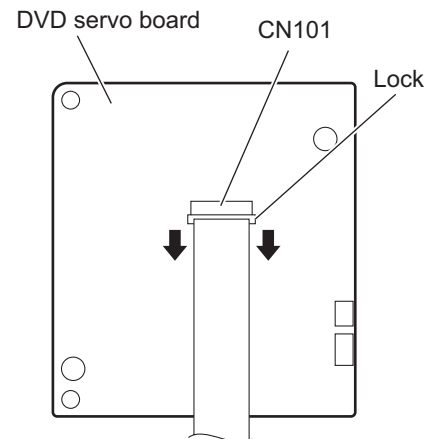


Fig.8

3.3.4 Removing the motor board (See Figs.9 and 10)

- (1) From the top side of the DVD changer mechanism assembly, remove the two belts from the motor pulleys. (See Fig.9.)

Note:

Take care not to attach grease on the belt.

- (2) Remove the two screws **D** attaching the motors to the loader assembly. (See Fig.9.)
- (3) From the bottom side of the DVD changer mechanism assembly, remove the two screws **E**. (See Fig.10.)
- (4) Disconnect the connector **CN2** on the motor board from the tray switch board and remove the motor board. (See Fig.10.)
- (5) Disconnect the card wire from the connector **CN1** on the forward side of the motor board. (See Fig.10.)

Note:

When connecting the card wire, let the card wire through the slots **h** of the motor board. (See Fig.10.)

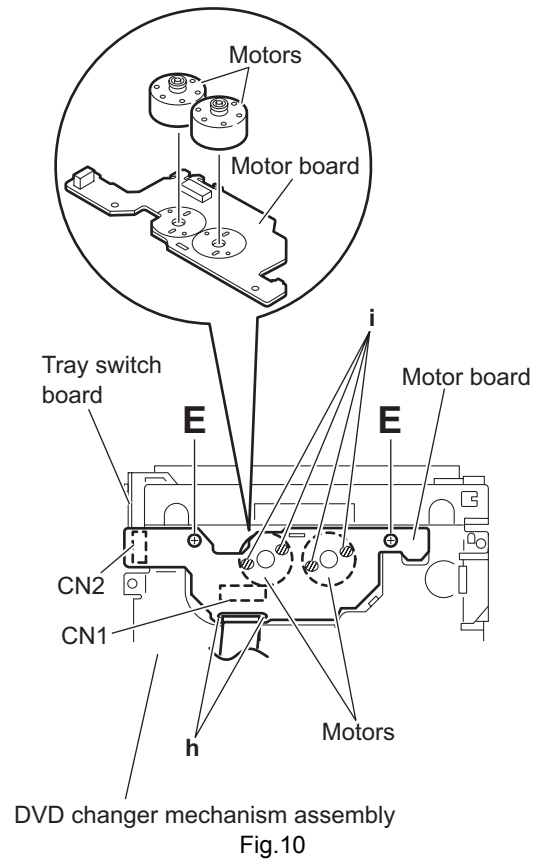
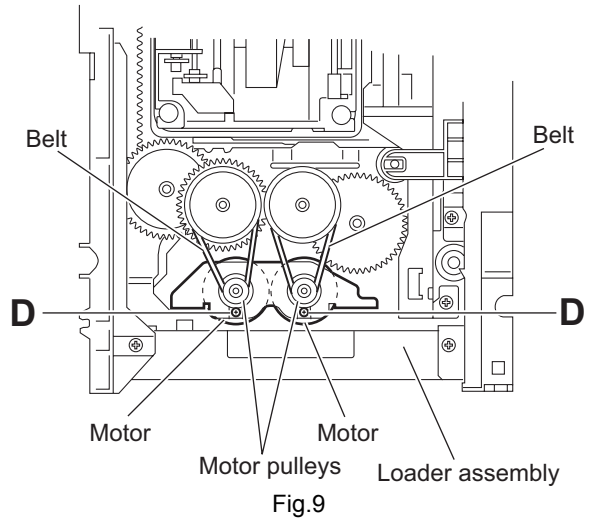
Reference:

You need not to remove the tray assemblies, and in such case, move it.

3.3.5 Removing the motor (See Fig. 10)

- Remove the motor board.

- (1) From the reverse side of the motor board, unsolder the four soldered sections **i** on the motor board.
- (2) From the forward side of the motor board, remove the motors.



3.3.6 Removing the DVD traverse mechanism assembly (See Fig.11)

- Remove the tray assemblies and DVD servo board.
 - (1) From the bottom side of the DVD changer mechanism assembly, remove the three screws **F** attaching the DVD traverse mechanism assembly.
 - (2) Remove the wires from the section **j**.
 - (3) Take out the DVD traverse mechanism assembly from the DVD changer mechanism assembly.

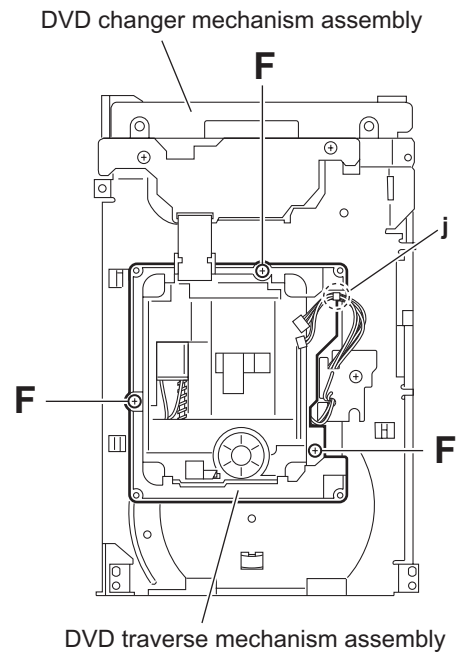


Fig.11

3.3.7 Removing the DVD pickup (See Figs.12 to 14)

- Remove the tray assemblies, DVD servo board and DVD traverse mechanism assembly.
 - (1) From the top side of the DVD traverse mechanism assembly, release the lock of the connector on the DVD pickup and disconnect the card wire in the direction of the arrow. (See Fig.12.)
 - (2) Turn the screw shaft gear in the direction of the arrow 1 to move the DVD pickup in the direction of the arrow 2. (See Fig.12.)
 - (3) Remove the screw **G** attaching the feed bracket and remove the feed bracket from the sections **k**. (See Fig.12.)
 - (4) Release the claw **m** of the thrust spring in the direction of the arrow and remove the thrust spring. (See Fig.12.)
 - (5) Remove the guide shaft from the sections (**n**, **p**) on the C.TM chassis. (See Fig.13.)
 - (6) Remove the section **q** of the DVD pickup. (See Fig.13.)
 - (7) Remove the two screws **H** attaching the rack arm spring and rack arm. (See Fig.14.)
 - (8) Pull the guide shaft from the DVD pickup in the direction of the arrow. (See Fig.14.)

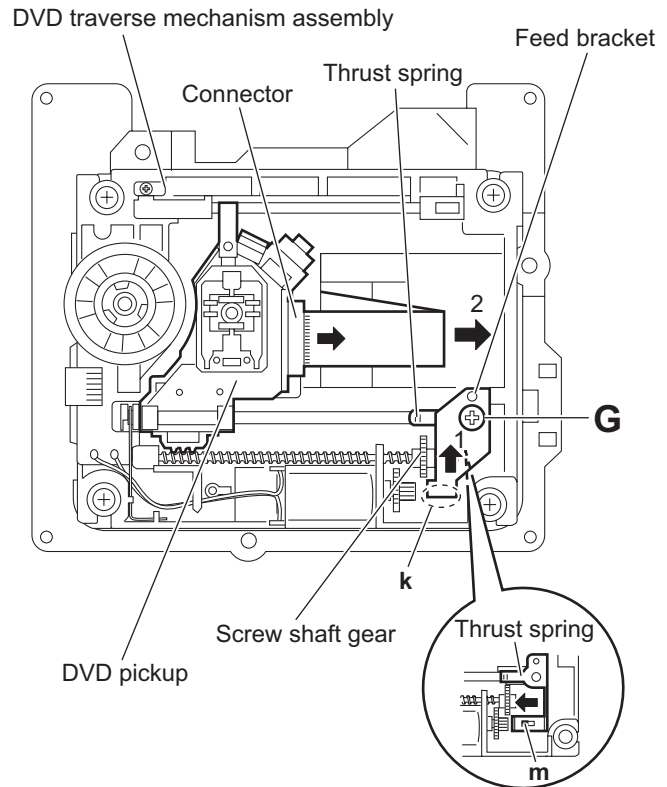


Fig.12

3.3.8 Attaching the DVD pickup (See Figs.12 to 14)

- (1) Attach the guide shaft to the DVD pickup and attach the rack arm spring and rack arm with the screws **H**. (See Fig.14.)
- (2) Attach the section **q** of the DVD pickup to the C.TM chassis first and attach the guide shaft to the sections (**n**, **p**). (See Fig.13.)

Reference:

When attaching the guide shaft to the section **p**, attach it under the rod spring. (See Fig.13.)

- (3) Attach the thrust spring and feed bracket with the screw **G**. (See Fig.12.)
- (4) Turn the screw shaft gear in the direction of the arrow 1 to move the DVD pickup in the direction of the arrow 2. (See Fig.15.)
- (5) Connect the card wire to the connector on the DVD pickup. (See Fig.15.)

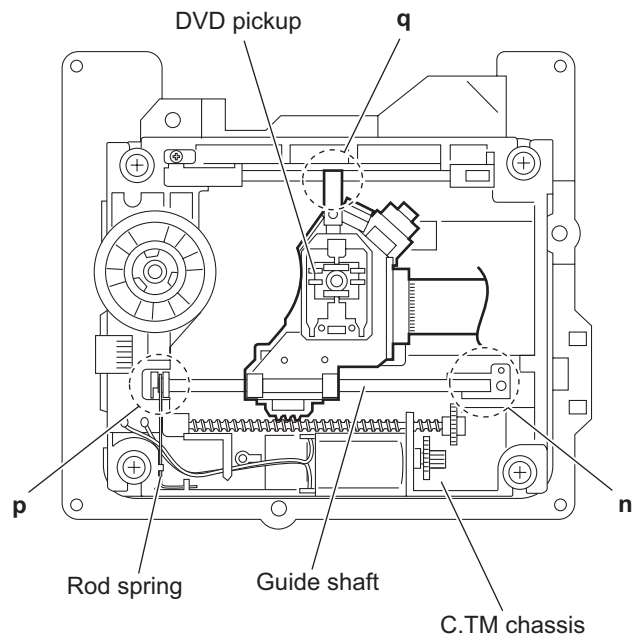


Fig.13

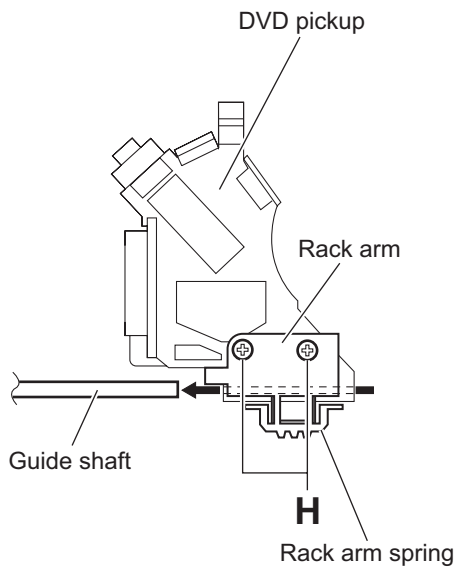


Fig.14

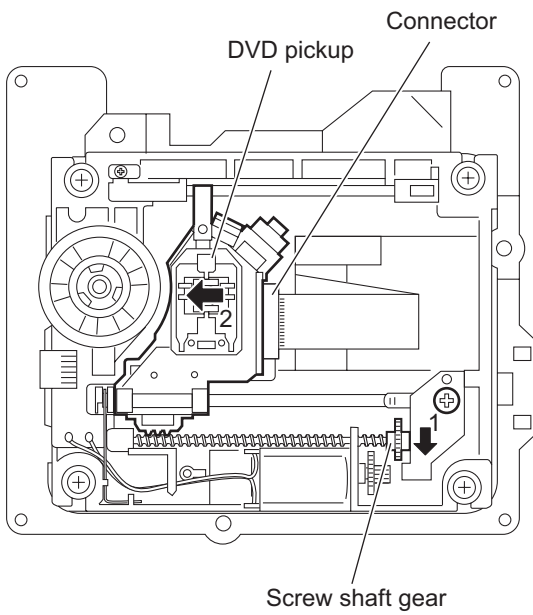


Fig.15

3.3.9 Removing the spindle motor board (See Figs.16 and 17)

- Remove the tray assemblies, DVD servo board and DVD traverse mechanism assembly.
 - From the top side of the DVD traverse mechanism assembly, remove the wires from the soldered sections **r** on the spindle motor board. (See Fig.16.)
 - From the bottom side of the DVD traverse mechanism assembly, remove the three screws **J** attaching the spindle motor board. (See Fig.17.)

Reference:

When attaching the spindle motor board, let the card wire through the hole **s** on the C.TM chassis. (See Fig.17.)

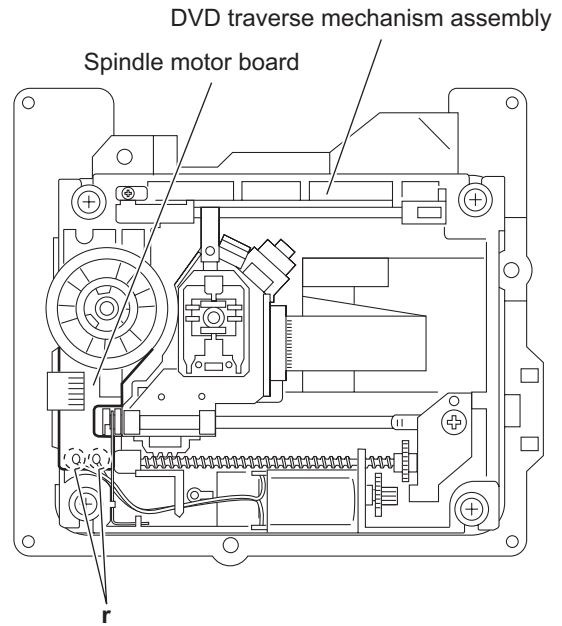


Fig.16

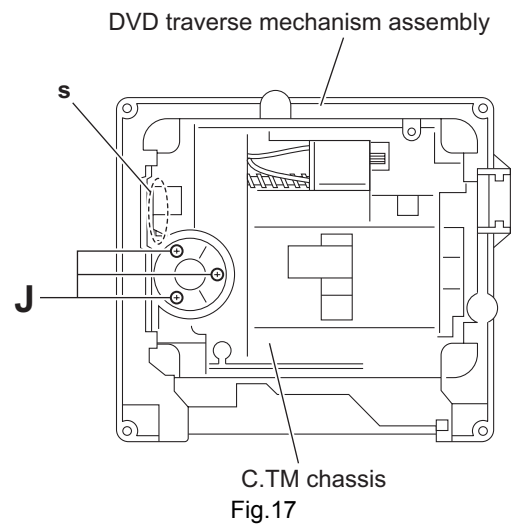


Fig.17

3.3.10 Removing the feed motor (See Figs.18 and 19)

- Remove the tray assemblies and DVD traverse mechanism assembly.
 - (1) From the top side of the DVD traverse mechanism assembly, remove the screw **K** attaching the feed bracket and remove the feed bracket from the sections **t**. (See Fig.18.)
 - (2) Release the claw **u** of the thrust spring in the direction of the arrow and remove the thrust spring. (See Fig.18.)
 - (3) Remove the screw shaft from the section **v** and remove it in the direction of the arrow. (See Fig.19.)
 - (4) Remove the middle gear. (See Fig.19.)
 - (5) Remove the screw **L** attaching the feed motor to the C.TM chassis. (See Fig.19.)
 - (6) Remove the wires from the soldered sections **w** on the spindle motor board. (See Fig.19.)
 - (7) Take out the feed motor from the motor base.

Reference:

After attaching the feed motor, pass the wires through the sections **x** on the C.TM chassis as before. (See Fig.19.)

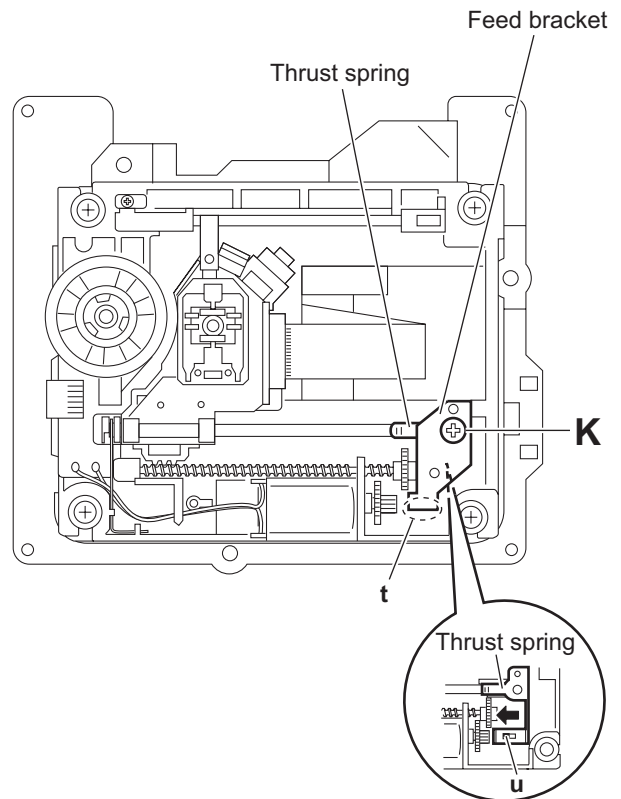


Fig.18

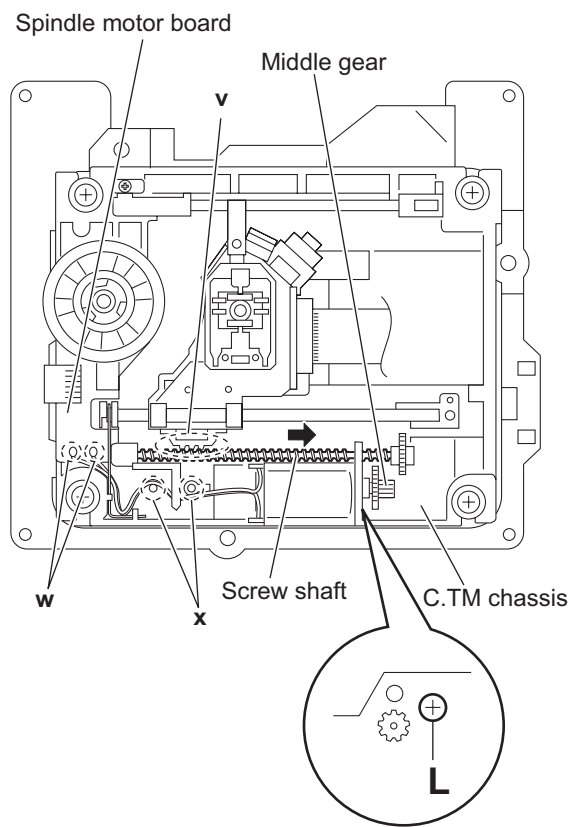
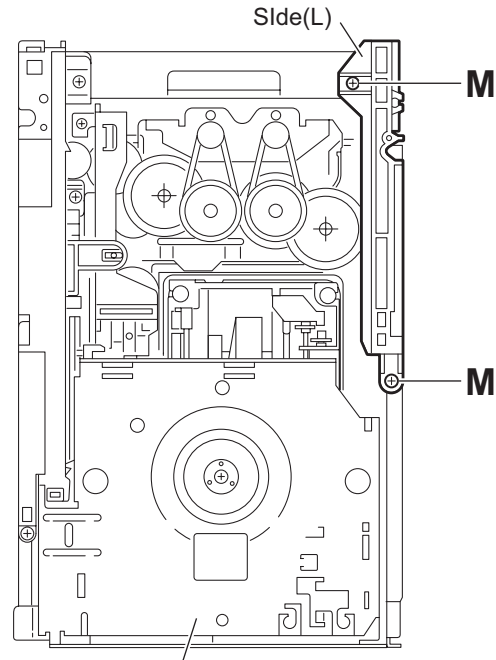


Fig.19

3.3.11 Removing the side (L) and tray switch board (See Figs.20 to 22)

- Remove the tray assemblies.

- (1) From the topside of the DVD changer mechanism assembly, remove the two screws **M** attaching the side (L). (See Fig.20.)
- (2) From the left side of the DVD changer mechanism assembly, disconnect the connector **CN3** on the tray switch board from the motor board and detach the side (L) in an upward direction. (See Fig.21.)
- (3) Remove the screw **N** attaching the tray switch board to the side (L). (See Fig.22.)
- (4) Release the joint tab **y** of the side (L) in the direction of the arrow 1 and release the joint tab **z** while removing the tray switch board in the direction of the arrow 2. (See Fig.22.)



DVD changer mechanism assembly
Fig.20

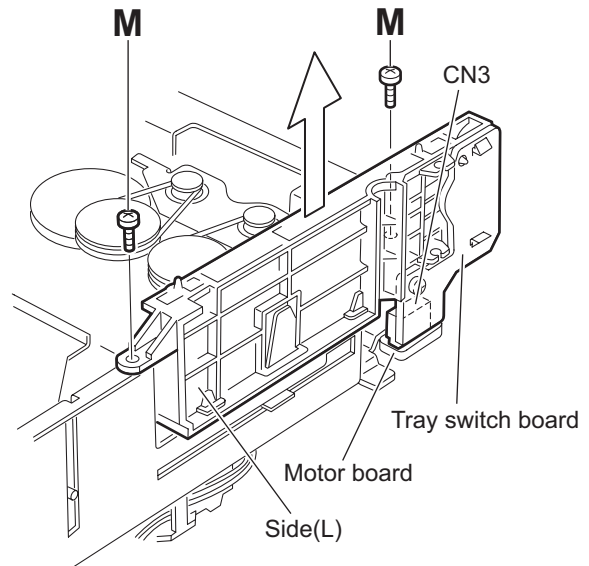


Fig.21

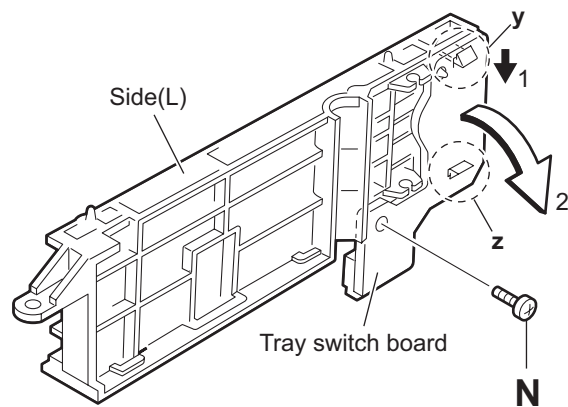


Fig.22

3.3.12 Removing the side (R) assembly (See Fig.23 to 27)

- Remove the tray assemblies and DVD servo board.
 - From the inside of the side (R) assembly, release the two tabs **aa** of the gear cover and remove the gear cover outward. (See Figs.23 and 24.)
 - From the right side of the DVD changer mechanism assembly, remove the elevator spring attached to the hook **ab** of the loader assembly. (See Figs.24 and 25.)
 - From the top side of the DVD changer mechanism assembly, turn the gear 1 clockwise to move the elevator cam rearward. (See Fig.25.)
 - Move the two slots **ac** and joint **ad** of the elevator cam and remove the elevator cam outward. (See Fig.25.)
 - Remove the three screws **P** and detaches the side (R) assembly upward. (See Figs.26 and 27.)

Note:

When reattaching the side (R) assembly, make sure to fit the shaft (part **ae**) into the slot of the select lever. (See Fig.26.)

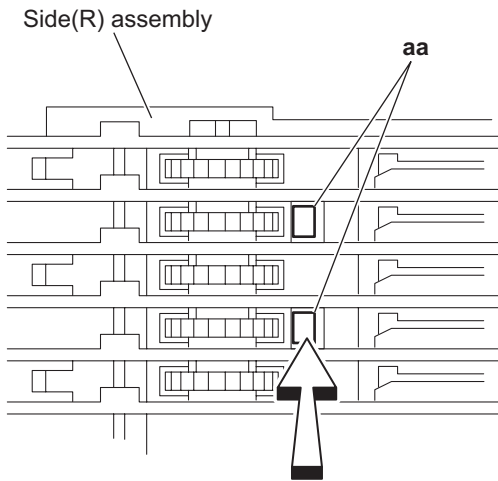
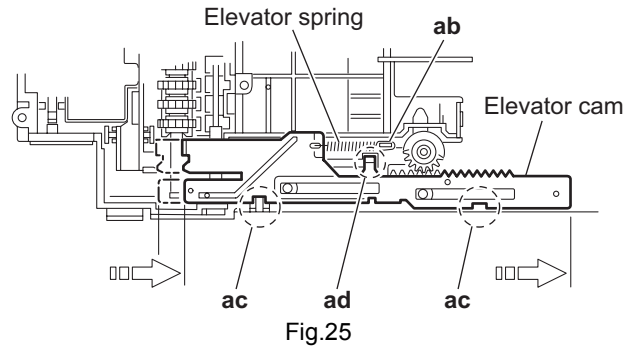


Fig.23

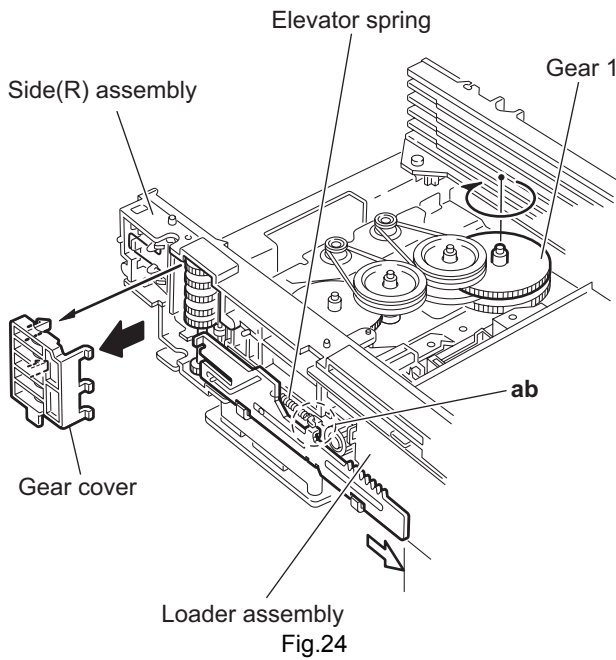


Fig.24

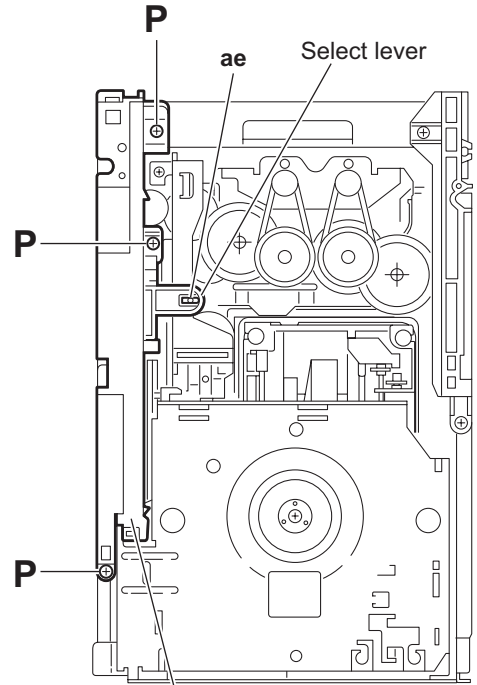


Fig.26

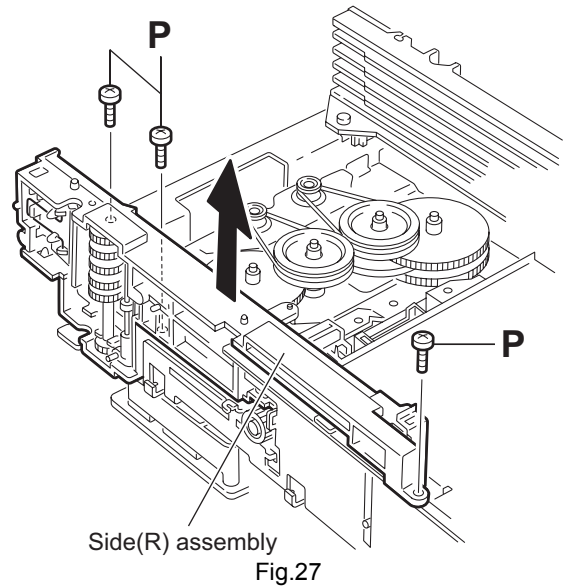


Fig.27

3.3.13 Removing the lifter assembly (See Figs.28 to 32)

- Remove the tray assemblies, DVD servo board, side (L) and side (R) assembly.
- (1) From the top side of the DVD changer mechanism assembly, turn the gear 1 clockwise to move the lifter assembly upward. (See Figs.28 and 29.)
- (2) Turn the gear 2 clockwise to move the hook toward the front until it stops. (See Figs.28 and 29.)
- (3) Move the hook stopper in the direction of the arrow 2 while pushing the tab **af** of the hook stopper to unlock it in the direction of the arrow 1 and release four joints **ag** to detach from the rack holder. (See Fig.30.)
- (4) Release the rod (L) from part **ah**. (See Fig.30.)
- (5) Turn the gear 1 clockwise again to move the lifter assembly upward. (See Fig.31.)
- (6) Remove the lifter assembly from the DVD changer mechanism assembly upward at the positions **ai** where the four pins on the both sides of the lifter assembly fit to the notches of the loader assembly. (See Fig.31.)
- (7) Move the lifter assembly in the direction of the arrow and release it from the hook. (See Fig.32.)

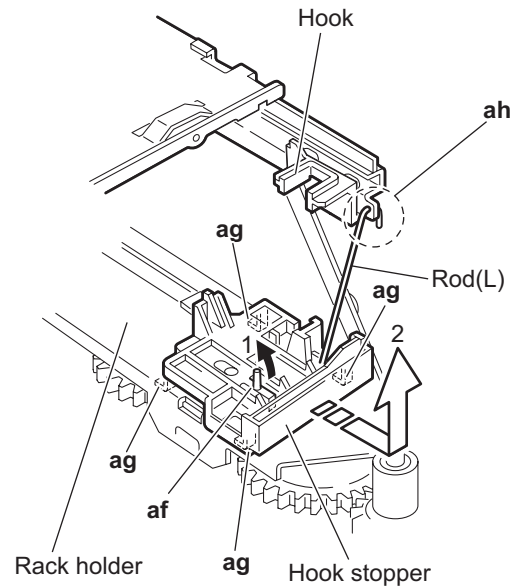
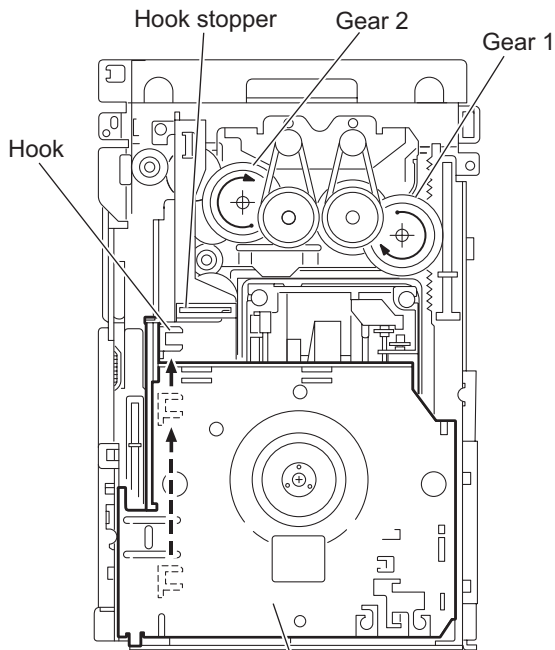
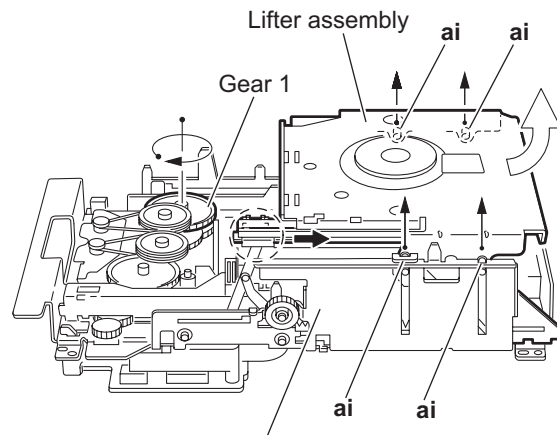


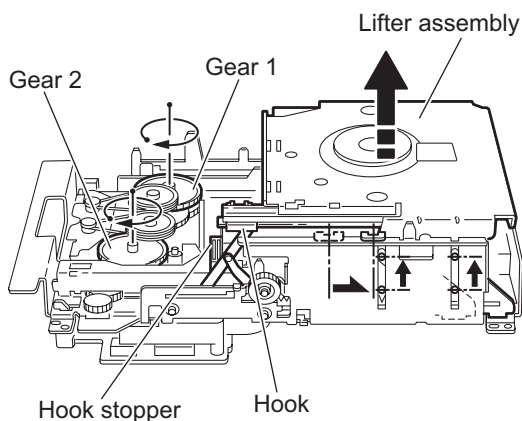
Fig.30



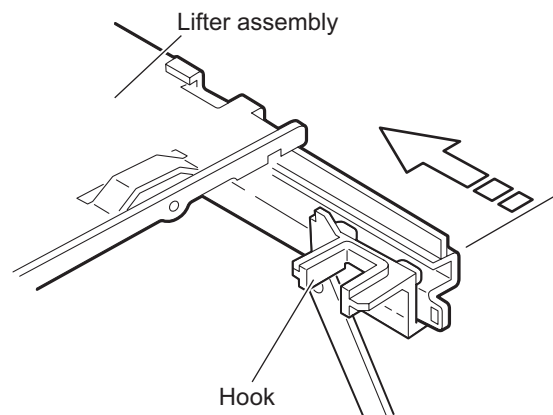
Lifter assembly
Fig.28



Lifter assembly
Loader assembly
Fig.31



Lifter assembly
Hook stopper
Hook
Fig.29



Lifter assembly
Hook
Fig.32

3.3.14 Removing the sensor board and SV resistor (See Fig.33)

- Remove the tray assemblies, side (L), side (R) assembly and lifter assembly.
 - Remove the solders from the soldered sections **aj** on the sensor board and remove the wires.
 - Remove the two screws **Q** and take out the sensor board with the SV resistor.

Reference:

- Remove the soldered section **ap** on the sensor board as required.
- When reassembling, pass the wires through the slot **ak** of the sensor board as before.

Note:

When reattaching the SV. resistor, fit the projection **am** on the bottom of the SV. resistor into slot **an** of the sensor slider.

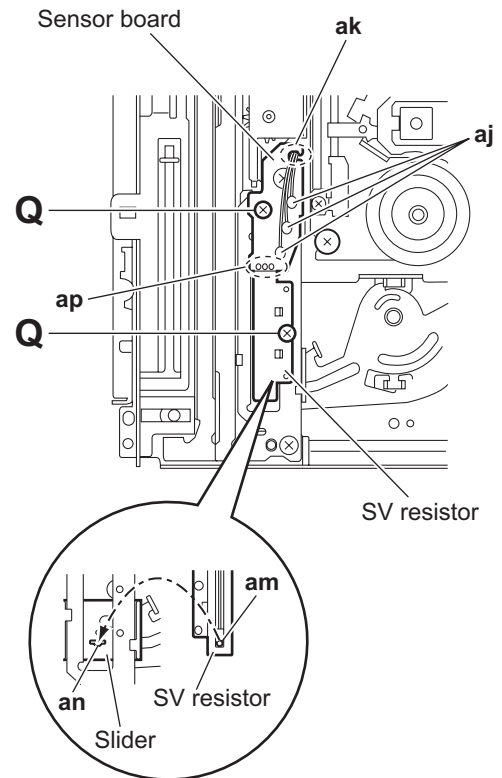


Fig.33

3.3.15 Taking out the disc in the play mode (See Fig.34 to 37)

Reference:

Refer to "3.3.1 Removing the tray assemblies".

- (1) From the top side of the DVD changer mechanism assembly, remove the top cover.
- (2) Unlock the tray assemblies and draw out the tray assemblies toward the front.
- (3) From the top side of the DVD changer mechanism assembly, turn the gear 1 clockwise to move the lifter assembly upward. (See Fig.34.)
- (4) Turn the gear 2 clockwise to move the sub tray remaining inside the lifter assembly toward the front, then pull out.
- (5) Take out the disc on the sub tray. (See Fig.35.)
- (6) After clearing away the disc, insert the sub tray into the main tray. (See Fig.36.)

Note:

When reattaching the sub tray, move the tray stopper on the bottom of the main tray in the direction of the arrow to lock the sub tray certainly. (See Figs.36 and 37.)

- (7) Push the tray assembly toward the DVD changer mechanism assembly and reattach.

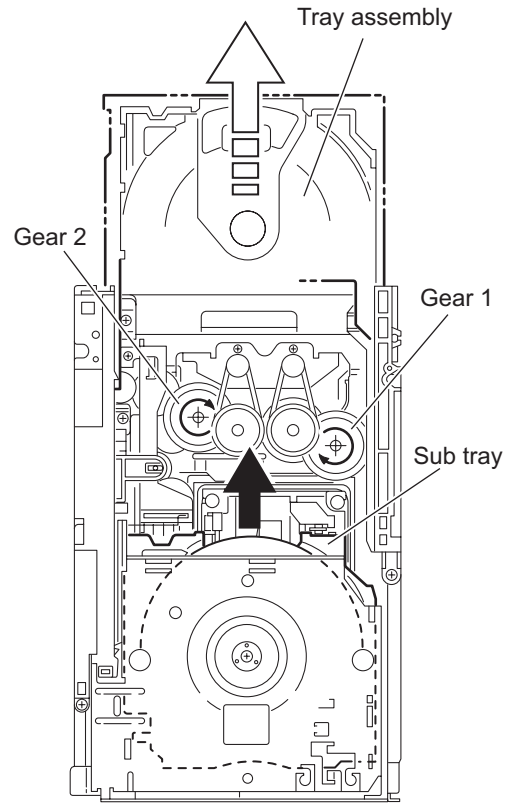


Fig.34

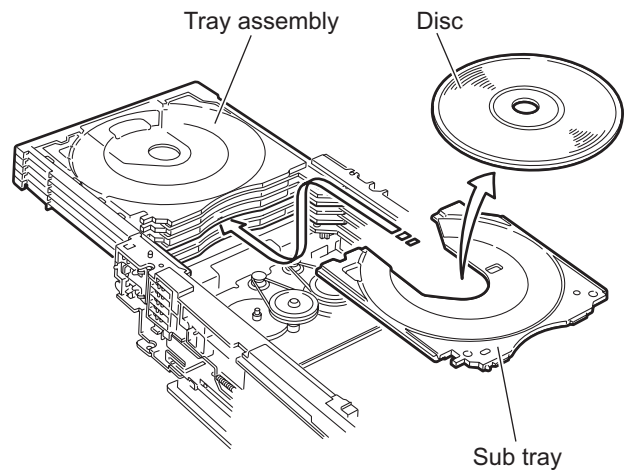


Fig.35

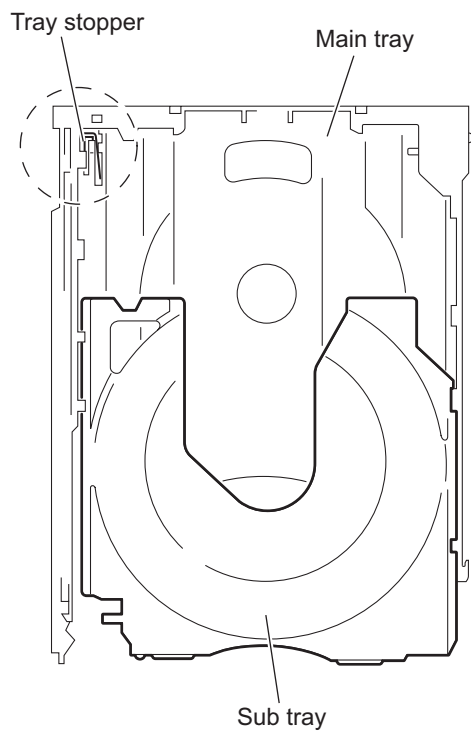


Fig.36

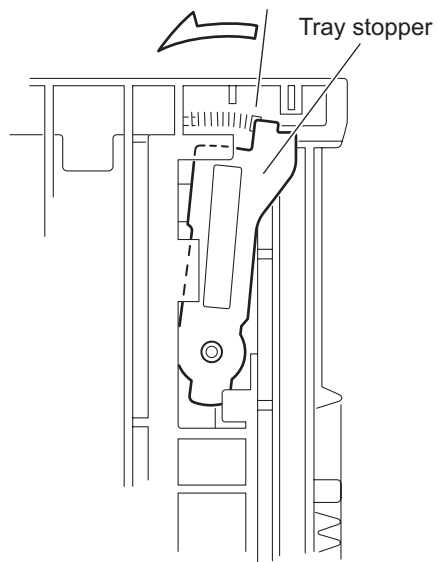


Fig.37

SECTION 4 ADJUSTMENT

4.1 Special mode

4.1.1 Outline

The contents in the special mode of operation, and the definition of a key (remote controller or main unit)

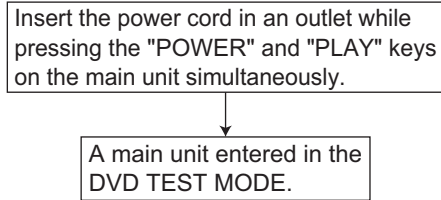
4.1.2 Special mode

1.DVD TEST MODE

It goes into the TEST mode of DVD.

DVD TEST mode is canceled by except DVD source, and POWER OFF.

It is referring to the "4.2 DVD test mode" for details.

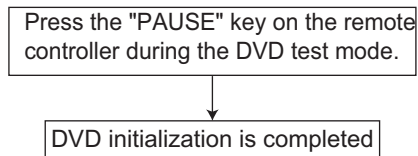


2.DVD NORMAL INITIALIZE

Initialize DVD backend memory.

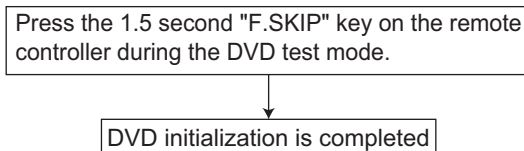
<RDS> segment of FL will light up if successful.

It is referring to the "4.2 DVD test mode" for details.



3.DVD FULL INITIALIZE

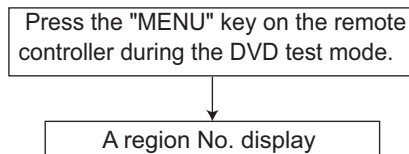
It is referring to the "4.2 DVD test mode" for details.



4.DVD REGION CHECK

FL display in DVD TEST MODE.

It is referring to the "4.2 DVD test mode" for details.



5.FORCED NTSC MODE

It is made compulsive NTSC mode.

From this, with regards to the input of NTSEL_SW, there is nothing only at the time of 1st power on, and it performs NTSC starting.

(Command specification is performed to a module.)

A mode clearance is performed by power off.

VIDEO FORMAT change is prohibited during Forced NTSC mode.

Insert the power cord in an outlet while pressing the "POWER" and "PAUSE" keys on the main unit simultaneously.

A main unit entered in the NTSC mode compulsively.

6.TRAY LOCK

A loader mechanism's tray lock is carried out. In the tray lock function ON state, EJECT processing is not performed to the EJECT key.

And , a LOCK display is performed at this time.

When it turns off a tray lock function, STOP and EJECT KEY are pushed simultaneously again.

Back up ON/OFF of a tray lock.

Press the "STOP" and "OPEN/CLOSE1" keys on the remote controller at standby.

A tray lock is completed.

4.1.3 Upgrading of firmware (DVD UPGRADE)

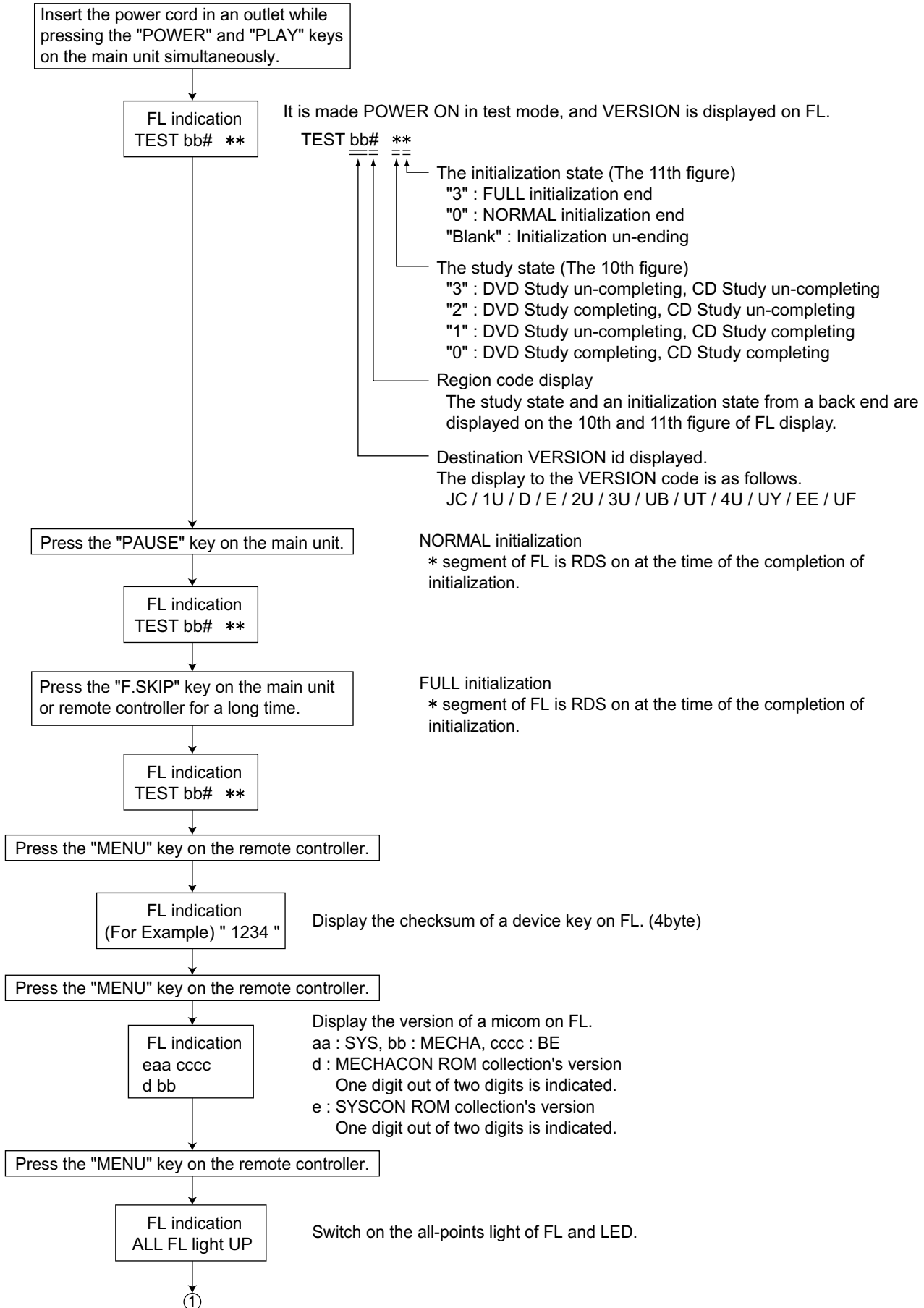
The latest firmware for upgrading is updated in "Optical disc CSG" page in JS-net. At the time of service, compare the version of the product and the latest version, and upgrade the old version into the latest version.

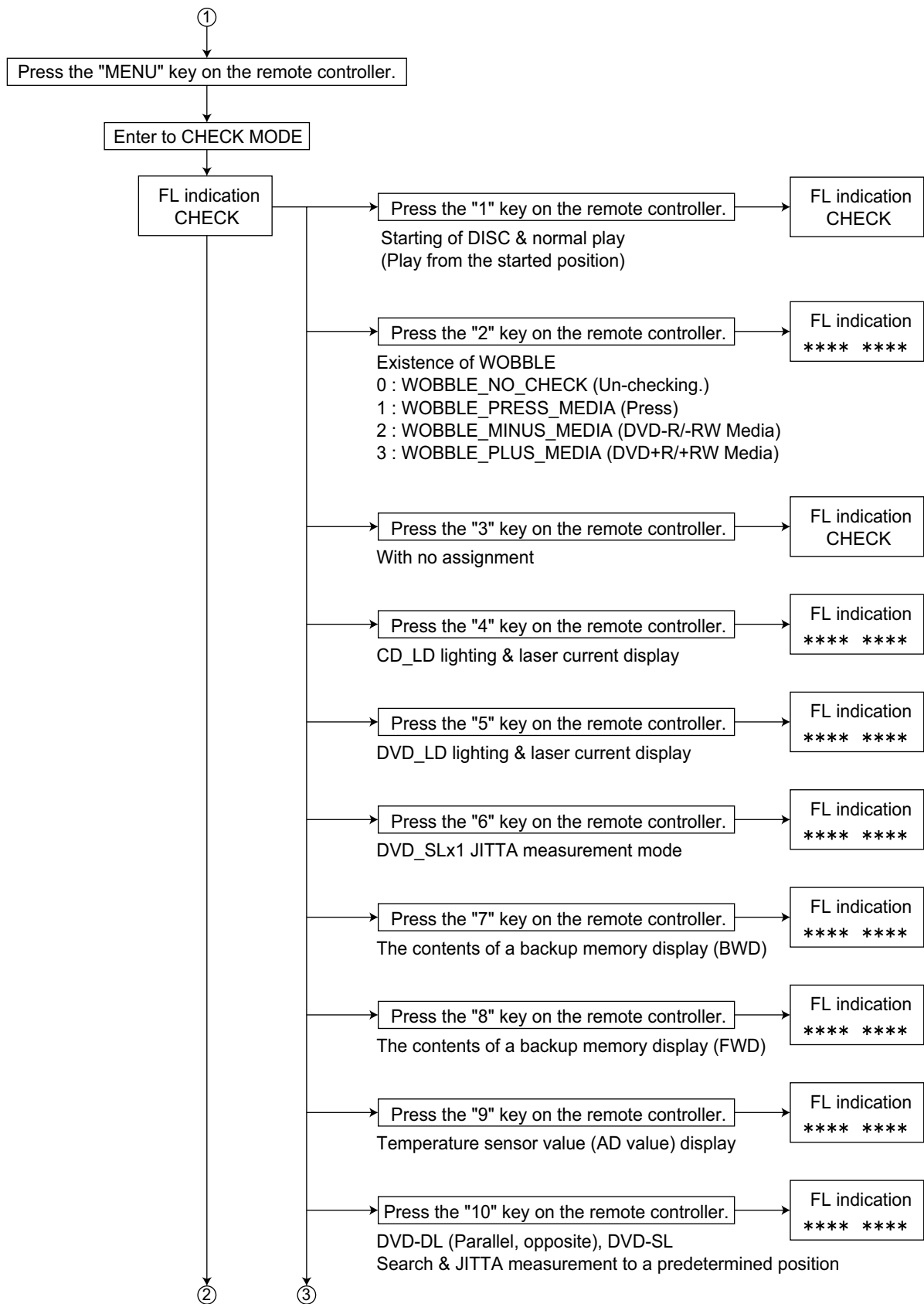
- (1) Press "STANDBY/ON" key of the main body to turn it on.
- (2) Push "OPEN/CLOSE" key of the main body, and insert the upgrade disc in the tray.
- (3) When reading the data of the disc, the OSD screen is displayed "VERSION UP DISC", "PROGRAM & DESTINATION MODE" and "READING..".
- (4) When the screen changes from "READING.." to "WRITING..", upgrading starts.
- (5) After writing the data of the disc, the screen is displayed "OPEN".
- (6) Take out the disc, and press "STANDBY/ON" key of the main body.
- (7) When the stand-by indicator is lighted, upgrading is completed.
- (8) Set the main body at test mode, and confirm the version of the firmware. (Refer to "4.2 Method of displaying version firmware".)

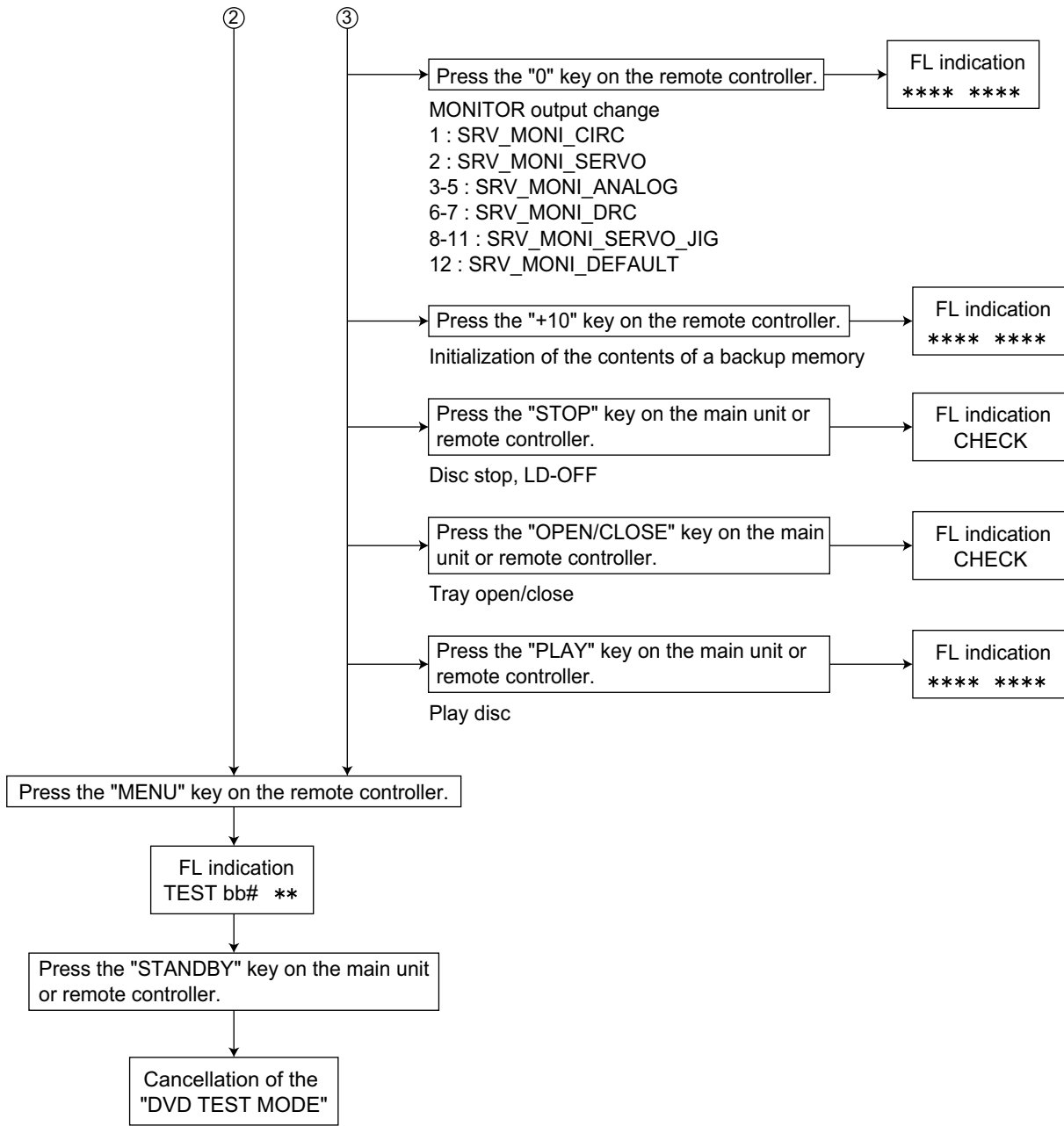
4.1.4 Upgrading of system microcomputer (ROM CORRECTION)

- (1) Press "STANDBY/ON" key of the main body to turn it on.
- (2) Push "OPEN/CLOSE" key of the main body, and insert the upgrade disc in the tray.
- (3) When reading the data of the disc, the OSD screen is displayed "VERSION UP DISC", "SYSCON UPG MODE" and "READING..".
- (4) When the screen changes from "READING.." to "WRITING..", system data is written.
- (5) After writing the data of the disc, the FL display of the main body is displayed "COMPLETE".
- (6) Take out the disc, and press "STANDBY/ON" key of the main body.
- (7) When the stand-by indicator is lighted, upgrading is completed.
- (8) Set the main body at test mode, and confirm the version of the system microcomputer. (Refer to "4.2 Method of displaying version firmware".)

4.2 DVD TEST MODE







SECTION 5 TROUBLESHOOTING

This service manual does not describe TROUBLESHOOTING.



JVC

Victor Company of Japan, Limited
AV & MULTIMEDIA COMPANY AUDIO/VIDEO SYSTEMS CATEGORY 10-1,1chome,Ohwatari-machi,Maebashi-city,371-8543,Japan

(No.MB420)