

DCR-TRV238E/TRV239E

RMT-814

SERVICE MANUAL

Level 1

Ver 1.2 2002.06

Self Diagnosis
Supported model

Digital 8

Digital Handycam



Photo : DCR-TRV238E



AEP Model
East European Model
DCR-TRV238E/TRV239E
UK Model
North European Model
Russian Model
DCR-TRV238E

M2000 MECHANISM

2. GENERAL will be issued shortly.

SPECIFICATIONS

Video camera recorder

System

Video recording system
2 rotary heads
Helical scanning system
Audio recording system
Rotary heads, PCM system
Quantization: 12 bits (Fs 32 kHz, stereo 1, stereo 2), 16 bits (Fs 48 kHz, stereo)
Video signal
PAL colour, CCIR standards
Recommended cassette
Hi8/Digital8 video cassette
Recording/playback time (using 90 min. Hi8 video cassette)
SP mode: 1 hour
LP mode: 1 hour and 30 minutes
Fast-forward/rewind time (using 90 min. Hi8 video cassette)
Approx. 5 min.
Viewfinder
Electric Viewfinder, Monochrome
Image device
3 mm (1/6 type CCD)
(Charge Coupled Device)
Gross: Approx. 800 000 pixels
Effective: Approx. 400 000 pixels
Lens
Combined power zoom lens
Filter diameter 37 mm (1 1/2 in.)
DCR-TRV238E:
25× (Optical), 700× (Digital)
DCR-TRV239E:
25× (Optical), 800× (Digital)

Focal length
2.4 – 60 mm (1/8 – 2 3/8 in.)
When converted to a 35 mm still camera
46 – 1 150 mm (1 13/16 – 45 3/8 in.)
Camera mode:
48 – 720 mm (1 15/16 – 28 3/8 in.)
Memory mode:
40 – 600 mm (1 5/8 – 23 5/8 in.)
Colour temperature
Auto
Minimum illumination
6 lx (lux) (F 1.6)
0 lx (lux) (in the NightShot mode)*
* Objects unable to be seen due to the dark can be shot with infrared lighting.

output connectors

S video output
4-pin mini DIN
Luminance signal: 1 Vp-p, 75 Ω (ohms), unbalanced
Chrominance signal: 0.3 Vp-p, 75 Ω (ohms), unbalanced
Audio/Video output
AV MINIJACK, 1 Vp-p, 75 Ω (ohms), unbalanced, sync negative 327 mV, (at output impedance more than 47 kΩ (kilohms))
Output impedance with less than 2.2 kΩ (kilohms)/Stereo minijack (ø 3.5 mm)

Headphone jack
Stereo minijack (ø 3.5 mm)
USB jack
mini-B
LANC jack
Stereo mini-minijack (ø 2.5 mm)
MIC jack
Stereo minijack (ø 3.5 mm)
DV output
4-pin connector

LCD screen

Picture
6.2 cm (2.5 type)
50.3 × 37.4 mm (2 × 1 1/2 in.)
Total dot number
For European models:
123 200 (560 × 220)

General

Power requirements
7.2 V (battery pack)
8.4 V (AC power adaptor)
Average power consumption (when using the battery pack)
During camera recording using LCD
3.8 W
Viewfinder
3.0 W

Operating temperature
0°C to 40°C (32°F to 104°F)
Recommended charging temperature
10°C to 30°C (50°F to 86°F)
Storage temperature
-20°C to +60°C (-4°F to +140°F)
Dimensions (approx.)
206 × 101 × 85 mm
(8 1/8 × 4 × 3 3/8 in.)
(w/h/d)
Mass (approx.)
890 g (1 lb 15 oz)
excluding the battery pack, cassette, lens cap and shoulder strap
DCR-TRV238E:
1 030 g (2 lb 4 oz)
DCR-TRV239E:
1 040 g (2 lb 4 oz)
including the battery pack
NP-FM30, NP-FM50, 90min. Hi8 cassette, lens cap and shoulder strap
Supplied accessories
See page 3.

— Continued on next page —

DIGITAL VIDEO CAMERA RECORDER

SONY®

AC power adaptor

Power requirements
100 – 240 V AC, 50/60 Hz
Power consumption
23 W
Output voltage
DC OUT: 8.4 V, 1.5 A in the operating mode
Operating temperature
0°C to 40°C (32°F to 104°F)
Storage temperature
–20°C to + 60°C (–4°F to + 140°F)
Dimensions (approx.)
125 × 39 × 62 mm
(5 × 1 9/16 × 2 1/2 in.) (w/h/d)
excluding projecting parts
Mass (approx.)
280 g (9.8 oz)
excluding mains lead

Battery pack

Maximum output voltage
DC 8.4 V
Mean output voltage
DC 7.2 V
Capacity
5.0 Wh (700 mAh)
Operating temperature
0°C to 40°C (32°F to 104°F)
Dimensions (approx.)
38.2 × 20.5 × 55.6 mm
(1 9/16 × 13/16 × 2 1/4 in.)
(w/h/d)
Mass (approx.)
65 g (2.3 oz)
Type
Lithium ion

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK \triangle OR DOTTED LINE WITH MARK \triangle ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

CAUTION :

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

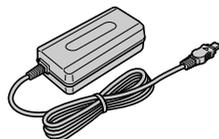
1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit Board Repairing
 - Keep the temperature of the soldering iron around 270°C during repairing.
 - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
 - Be careful not to apply force on the conductor when soldering or unsoldering.

Checking supplied accessories.

Make sure that the following accessories are supplied with your camcorder.



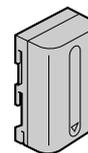
Wireless Remote Commander (1)
RMT-814
1-475-141-61



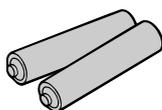
AC power adaptor (1)
(AC-L10A)
△ 1-475-599-11



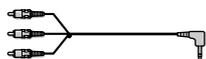
Power cord (Main lead)(1)
(AEP, EE, NE, RU model)
△ 1-769-608-11
Power cord (Main lead)(1)
(UK model)
△ 1-783-374-11



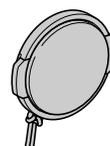
NP-FM30 battery pack (1)
(Not supplied)



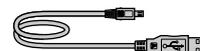
R6 (Size AA) battery for
Remote Commander (2)
(not supplied)



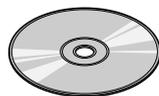
A/V connecting cable (1.5m) (1)
1-765-080-11



Lens cap (1)
X-3949-376-1



USB cable (1)
1-757-293-21



CD-ROM
(SPVD-008(P) USB Driver)(1)
3-072-414-01



21-pin adaptor (1)
1-573-291-11



Shoulder strap (1)
3-987-015-01

Other accessories

- 3-072-653-12 MANUAL, INSTRUCTION (ENGLISH/RUSSIAN)
(TRV238E:UK, EE, NE, RU)
- 3-072-653-22 MANUAL, INSTRUCTION (FRENCH/GERMAN)
(TRV238E:AEP/TRV239E:AEP)
- 3-072-653-32 MANUAL, INSTRUCTION (ENGLISH/DUTCH)
(TRV238E:AEP/TRV239E:AEP)
- 3-072-653-42 MANUAL, INSTRUCTION (SPANISH/PORTUGUESE)
(TRV238E:AEP)
- 3-072-653-52 MANUAL, INSTRUCTION (ITALIAN/GREEK)
(TRV238E:AEP)

- 3-072-653-62 MANUAL, INSTRUCTION (ENGLISH/SWEDISH)
(TRV238E:NE)
- 3-072-653-72 MANUAL, INSTRUCTION (DANISH/FINNISH)
(TRV238E:NE)
- 3-072-653-82 MANUAL, INSTRUCTION (POLISH/CZECH)
(TRV238E:EE/TRV239E:EE)
- 3-072-653-92 MANUAL, INSTRUCTION (HUNGARIAN/SLOVAKIAN)
(TRV238E:EE/TRV239E:EE)

Note : The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

- Abbreviation
- EE : East European model
- NE : North European model
- RU : Russian model

TABLE OF CONTENTS

SERVICE NOTE

- 1. POWER SUPPLY DURING REPAIRS 5
- 2. TO TAKE OUT A CASSETTE WHEN NOT EJECT
(FORCE EJECT) 5

SELF-DIAGNOSIS FUNCTION

- 1. Self-diagnosis Function 6
- 2. Self-diagnosis Display 6
- 3. Service Mode Display 6
- 3-1. Display Method 6
- 3-2. Switching of Backup No. 6
- 3-3. End of Display 6
- 4. Self-diagnosis Code Table 7

1. MAIN PARTS

- 1. ORNAMENTAL PARTS 9
- 2. DISASSEMBLY 10
- 2-1. LCD UNIT, PD-156 BOARD-1 11
- 2-2. LCD UNIT, PD-156 BOARD-2 11
- 2-3. FRONT PANEL SECTION 12
- 2-4. SI-032 BOARD 12
- 2-5. MICROPHONE 13
- 2-6. CABINET (R) SECTION 14
- 2-7. LENS SECTION 15
- 2-8. EVF SECTION 15
- 2-9. LB-076 BOARD 16
- 2-10. BATTERY PANEL SECTION 16
- 2-11. BATTERY TERMINAL BOARD 17
- 2-12. CONTROL SWITCH BLOCK (SS-1380) 17
- 2-13. CABINET (L) SECTION 18
- 2-14. CS FRAME ASSEMBLY (25) 18
- 2-15. VC-276 BOARD 19
- 2-16. MECHANISM DECK 19
- 2-17. CONTROL SWITCH BLOCK (CF-2500) 20
- 2-18. CONTROL SWITCH BLOCK (FK-2500) 20
- 2-19. HINGE SECTION 21
- 3. REPAIR PARTS LIST 22
- 3-1. EXPLODED VIEWS 22
- 3-1-1. OVERALL SECTION 22
- 3-1-2. CABINET (L) SECTION-1 23
- 3-1-3. CABINET (L) SECTION-2 24
- 3-1-4. LENS, EVF SECTION 25
- 3-1-5. CABINET (R) SECTION 26
- 3-1-6. LCD SECTION 27

2. GENERAL

2. GENERAL will be issued shortly.

SERVICE NOTE

1. POWER SUPPLY DURING REPAIRS

In this unit, about 10 seconds after power is supplied (8.4V) to the battery terminal using the service power code (J-6082-223-A), the power is shut off so that the unit cannot operate.

These following two methods are available to prevent this. Take note of which to use during repairs.

Method 1.

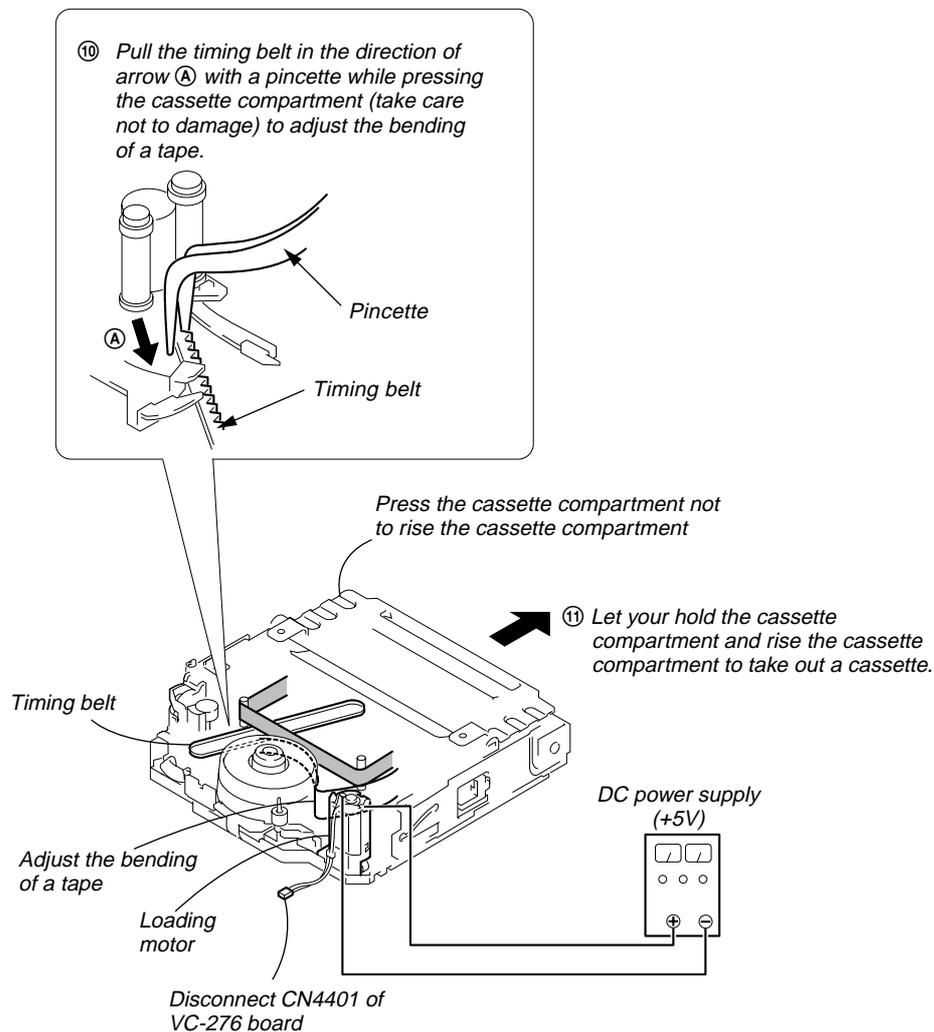
Use the DC IN terminal. (Use the AC power adaptor.)

Method 2.

Connect the adjustment remote commander RM-95 (J-6082-053-B) to the LANC jack, and set the HOLD switch to the "ADJ" side.

2. TO TAKE OUT A CASSETTE WHEN NOT EJECT (FORCE EJECT)

- ① Refer to 2-3. to remove the front panel section.
- ② Refer to 2-6. to remove the cabinet (upper) section.
- ③ Refer to 2-6. to remove the cabinet (R) section.
- ④ Refer to 2-7. to remove the lens section.
- ⑤ Refer to 2-8. to remove the EVF section.
- ⑥ Refer to 2-10. to remove the battery panel section.
- ⑦ Refer to 2-12. and 2-13. to remove the cabinet (L) section. (Include the control switch block (SS-1380).)
- ⑧ Disconnect CN440-1 (2P) of VC-276 board.
- ⑨ Add +5V from the DC POWER SUPPLY and unload with a pressing the cassette compartment.

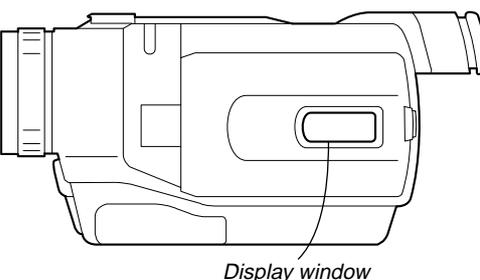
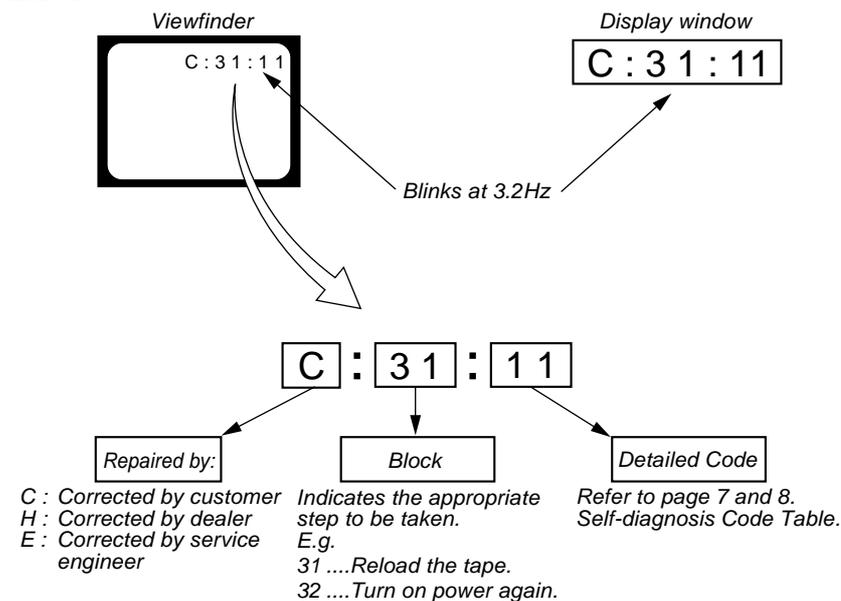


SELF-DIAGNOSIS FUNCTION

1. Self-diagnosis Function

When problems occur while the unit is operating, the self-diagnosis function starts working, and displays on the viewfinder or Display window what to do. This function consists of two display; self-diagnosis display and service mode display.

Details of the self-diagnosis functions are provided in the Instruction manual.

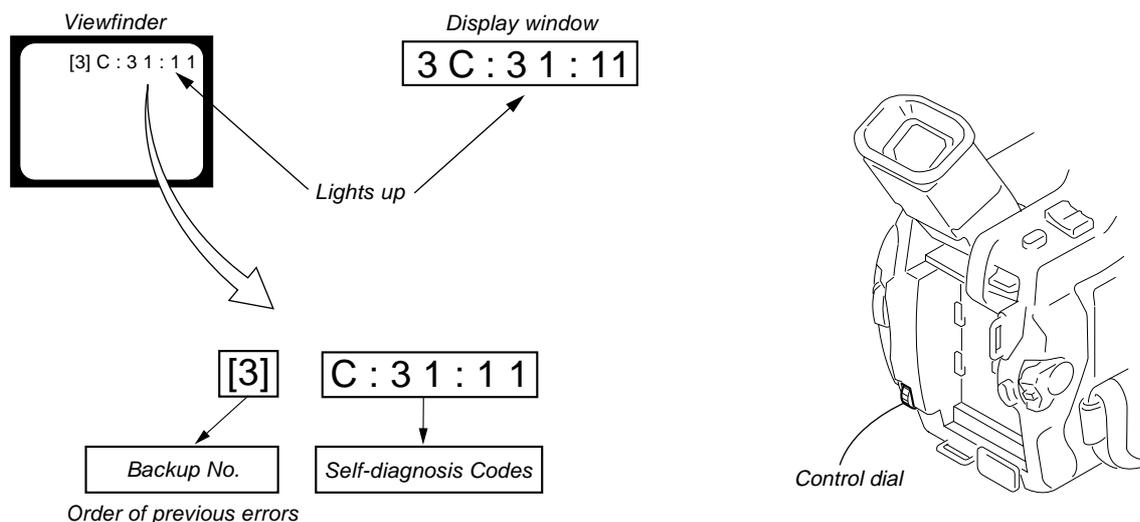


3. Service Mode Display

The service mode display shows up to six self-diagnosis codes shown in the past.

3-1. Display Method

While pressing the "STOP" key, set the switch from OFF to "VTR or PLAYER", and continue pressing the "STOP" key for 5 seconds continuously. The service mode will be displayed, and the counter will show the backup No. and the 5-character self-diagnosis codes.



3-2. Switching of Backup No.

By rotating the control dial, past self-diagnosis codes will be shown in order. The backup No. in the [] indicates the order in which the problem occurred. (If the number of problems which occurred is less than 6, only the number of problems which occurred will be shown.)

- | | |
|----------------------------|------------------------------|
| [1] : Occurred first time | [4] : Occurred fourth time |
| [2] : Occurred second time | [5] : Occurred fifth time |
| [3] : Occurred third time | [6] : Occurred the last time |

3-3. End of Display

Turning OFF the power supply will end the service mode display.

Note: The "self-diagnosis display" data will be backed up by the coin-type lithium battery (CF-2500 block BT101). When the CF-2500 block is disconnected, the "self-diagnosis display" data will be lost by initialization.

4. Self-diagnosis Code Table

Self-diagnosis Code				Symptom/State	Correction
Repaired by:	Block Function	Detailed Code			
C	0 4	0 0		Non-standard battery is used.	Use the InfoLITHIUM battery.
C	2 1	0 0		Condensation.	Remove the cassette, and insert it again after one hour.
C	2 2	0 0		Video head is dirty.	Clean with the optional cleaning cassette.
C	3 1	1 0		LOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
C	3 1	1 1		UNLOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
C	3 1	2 0		T reel side tape slacking when unloading.	Load the tape again, and perform operations from the beginning.
C	3 1	2 1		S reel side tape slacking when unloading.	Load the tape again, and perform operations from the beginning.
C	3 1	2 2		T reel fault.	Load the tape again, and perform operations from the beginning.
C	3 1	2 3		S reel fault.	Load the tape again, and perform operations from the beginning.
C	3 1	3 0		FG fault when starting capstan.	Load the tape again, and perform operations from the beginning.
C	3 1	3 1		FG fault during normal capstan operations.	Load the tape again, and perform operations from the beginning.
C	3 1	4 0		FG fault when starting drum.	Load the tape again, and perform operations from the beginning.
C	3 1	4 1		PG fault when starting drum.	Load the tape again, and perform operations from the beginning.
C	3 1	4 2		FG fault during normal drum operations.	Load the tape again, and perform operations from the beginning.
C	3 1	4 3		PG fault during normal drum operations.	Load the tape again, and perform operations from the beginning.
C	3 1	4 4		Phase fault during normal drum operations.	Load the tape again, and perform operations from the beginning.
C	3 2	1 0		LOAD direction loading motor time-out.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	1 1		UNLOAD direction loading motor time-out.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	2 0		T reel side tape slacking when unloading.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	2 1		S reel side tape slacking when unloading.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	2 2		T reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	2 3		S reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	3 0		FG fault when starting capstan.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	3 1		FG fault during normal capstan operations.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	4 0		FG fault when starting drum.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	4 1		PG fault when starting drum.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	4 2		FG fault during normal drum operations.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	4 3		PG fault during normal drum operations.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	4 4		Phase fault during normal drum operations.	Remove the battery or power cable, connect, and perform operations from the beginning.

Self-diagnosis Code			Symptom/State	Correction
Repaired by:	Block Function	Detailed Code		
E	6 1	0 0	Difficult to adjust focus (Cannot initialize focus.)	Inspect the lens block focus reset sensor (Pin ⑬ of CN1551 of VC-276 board) when focusing is performed when the focus ring is rotated in the focus manual mode and the focus motor drive circuit (IC1553 of VC-276 board) when the focusing is not performed.
E	6 1	1 0	Zoom operations fault (Cannot initialize zoom lens.)	Inspect the lens block zoom reset sensor (Pin ⑭ of CN1551 of VC-276 board) when zooming is performed when the zoom switch is operated and the zoom motor drive circuit (IC1553 of VC-276 board) when zooming is not performed.
E	6 2	0 0	Handshake correction function does not work well. (With pitch angular velocity sensor output stopped.)	Inspect pitch angular velocity sensor (SE301 of SE-032 board) peripheral circuits.
E	6 2	0 1	Handshake correction function does not work well. (With yaw angular velocity sensor output stopped.)	Inspect yaw angular velocity sensor (SE302 of SE-032 board) peripheral circuits.

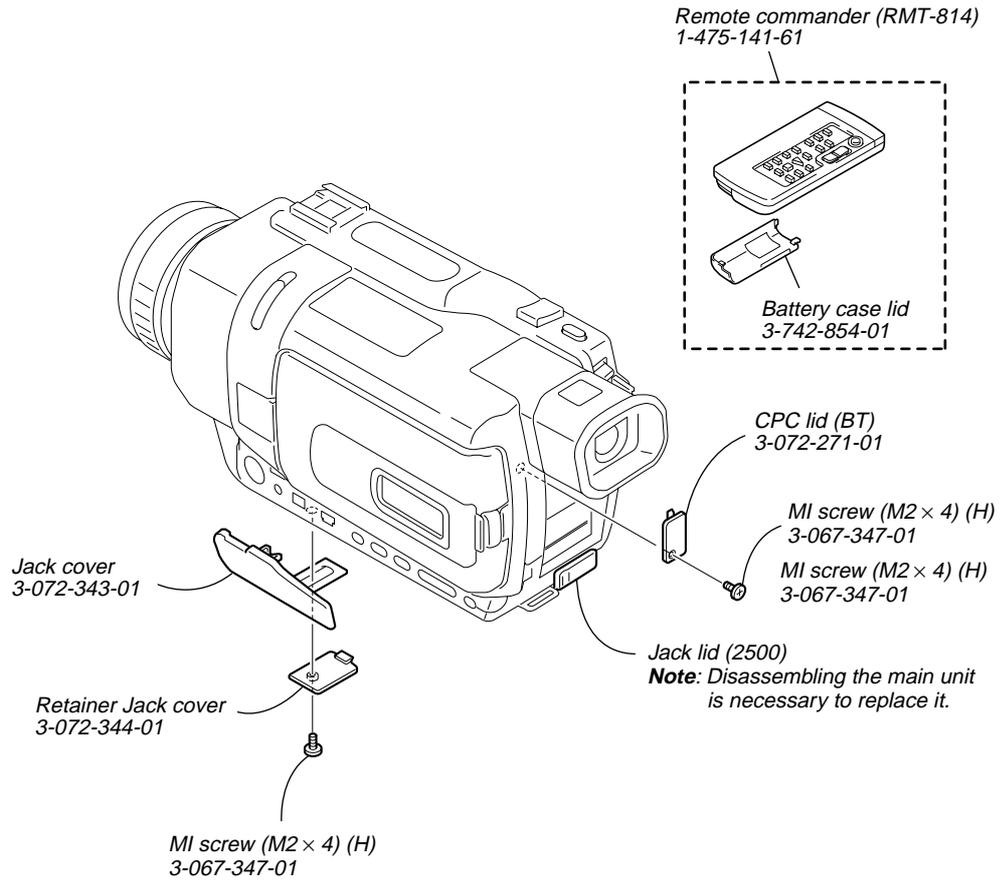
1. MAIN PARTS

Note:

- Follow the disassembly procedure in the numerical order given.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The parts numbers of such as a cabinet are also appeared in this section. Refer to the parts number mentioned below the name of parts to order.

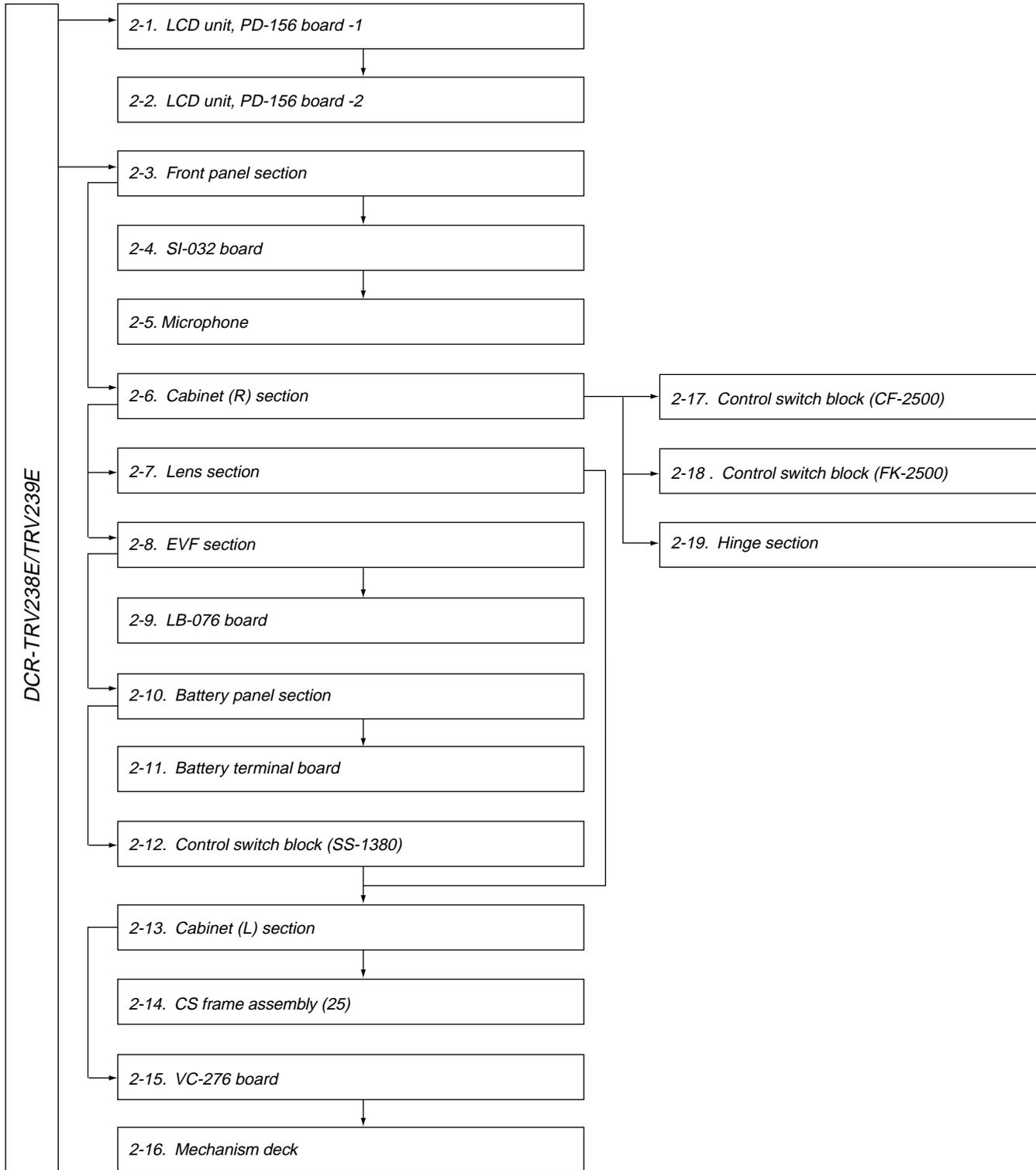
The components identified by mark \triangle or dotted line with mark \triangle are critical for safety. Replace only with part number specified.

1. ORNAMENTAL PARTS



2. DISASSEMBLY

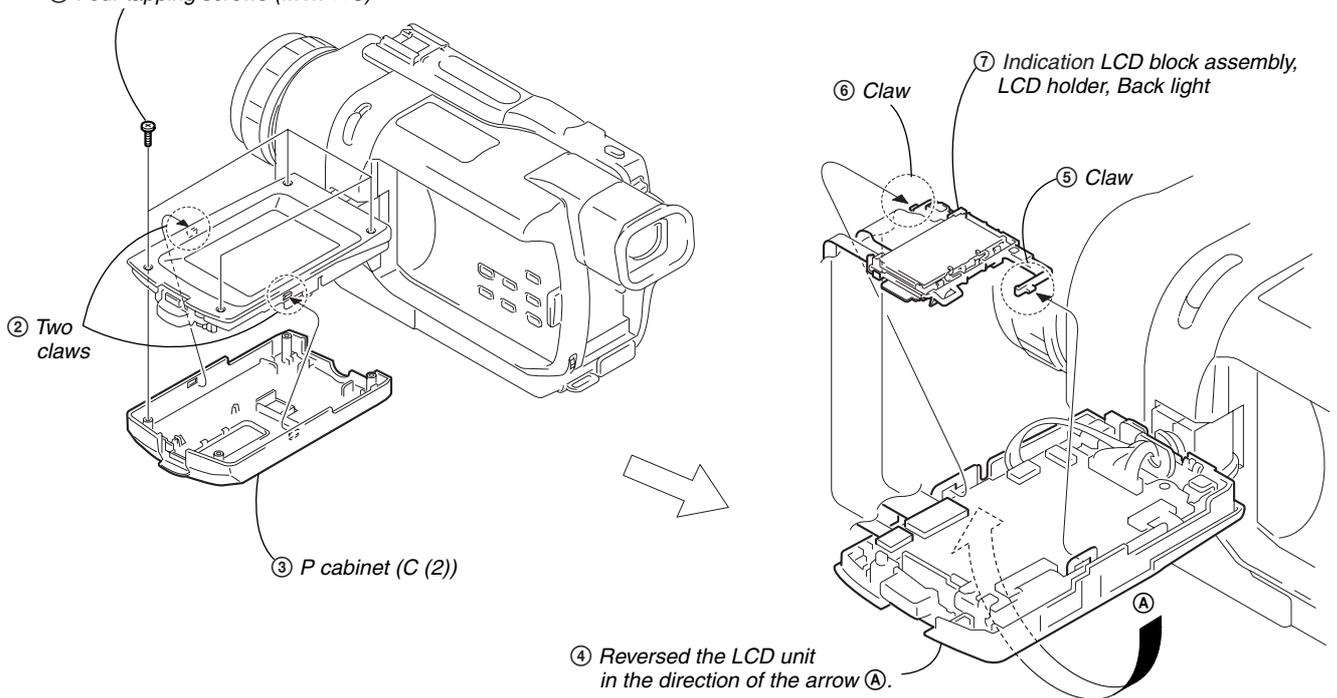
The following flow chart shows the disassembly procedure.



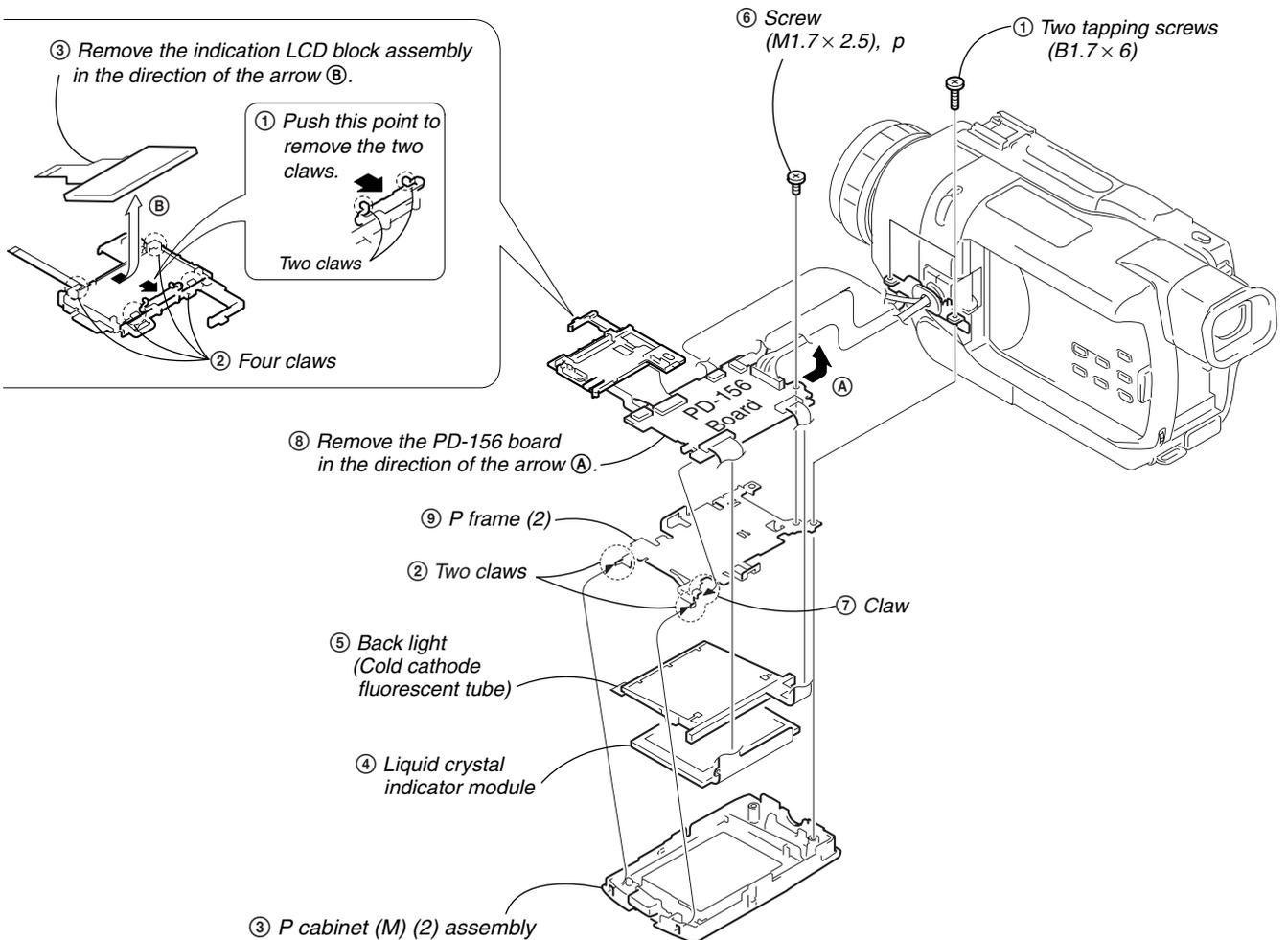
NOTE: Follow the disassembly procedure in the numerical order given.

2-1. LCD UNIT, PD-156 BOARD-1

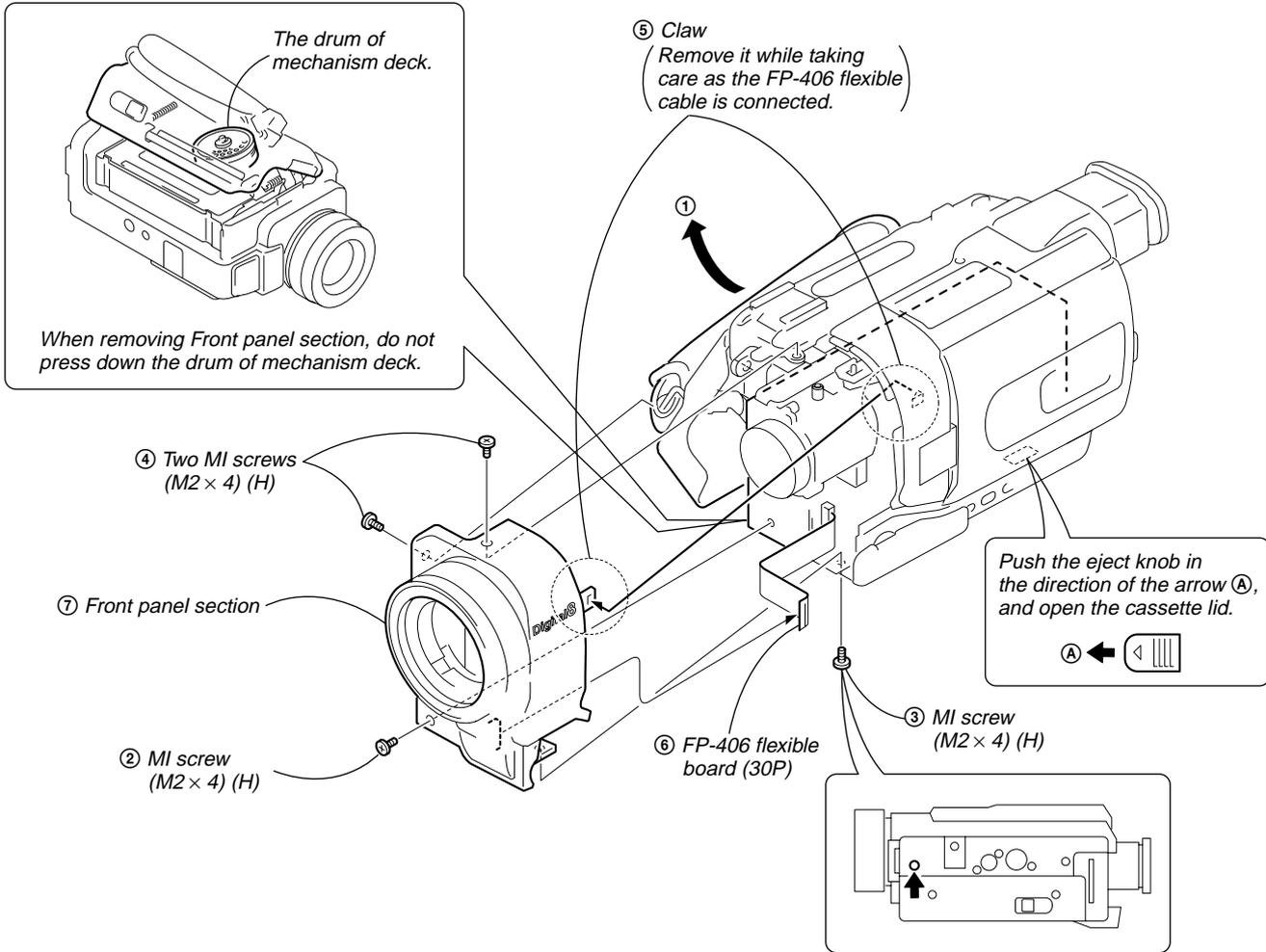
① Four tapping screws (M1.7×5)



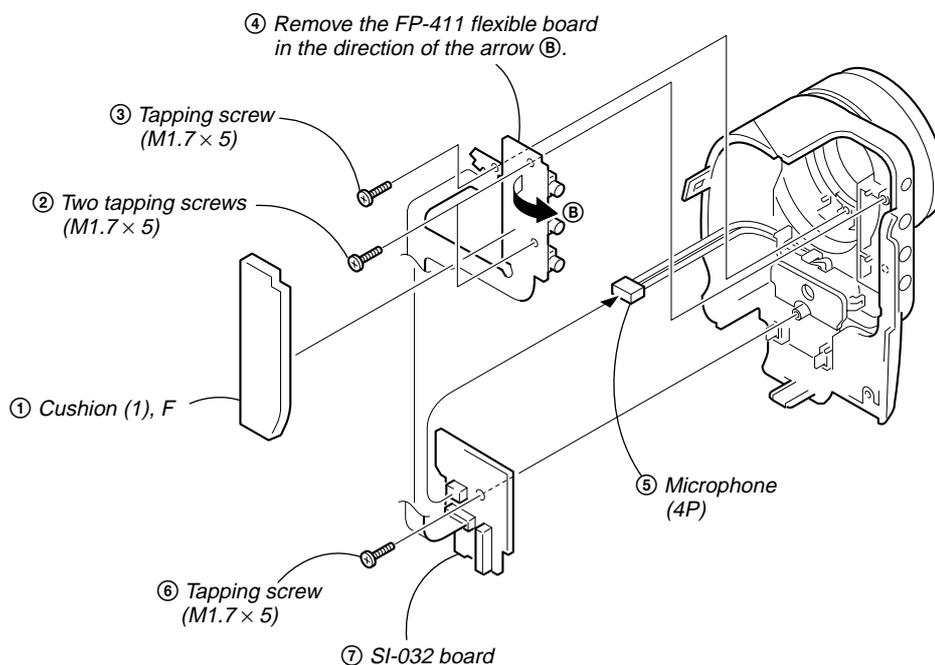
2-2. LCD UNIT, PD-156 BOARD-2



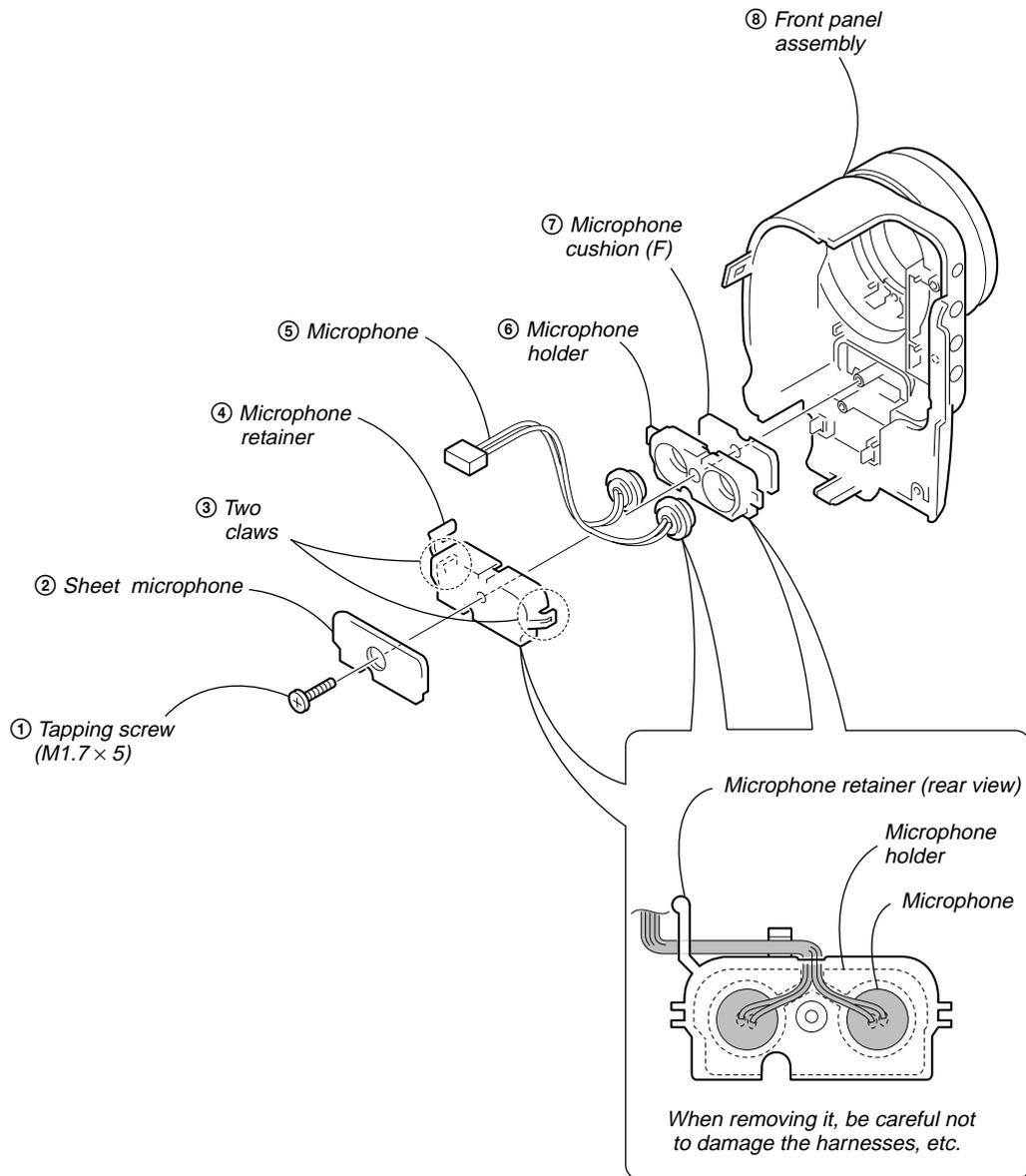
2-3. FRONT PANEL SECTION



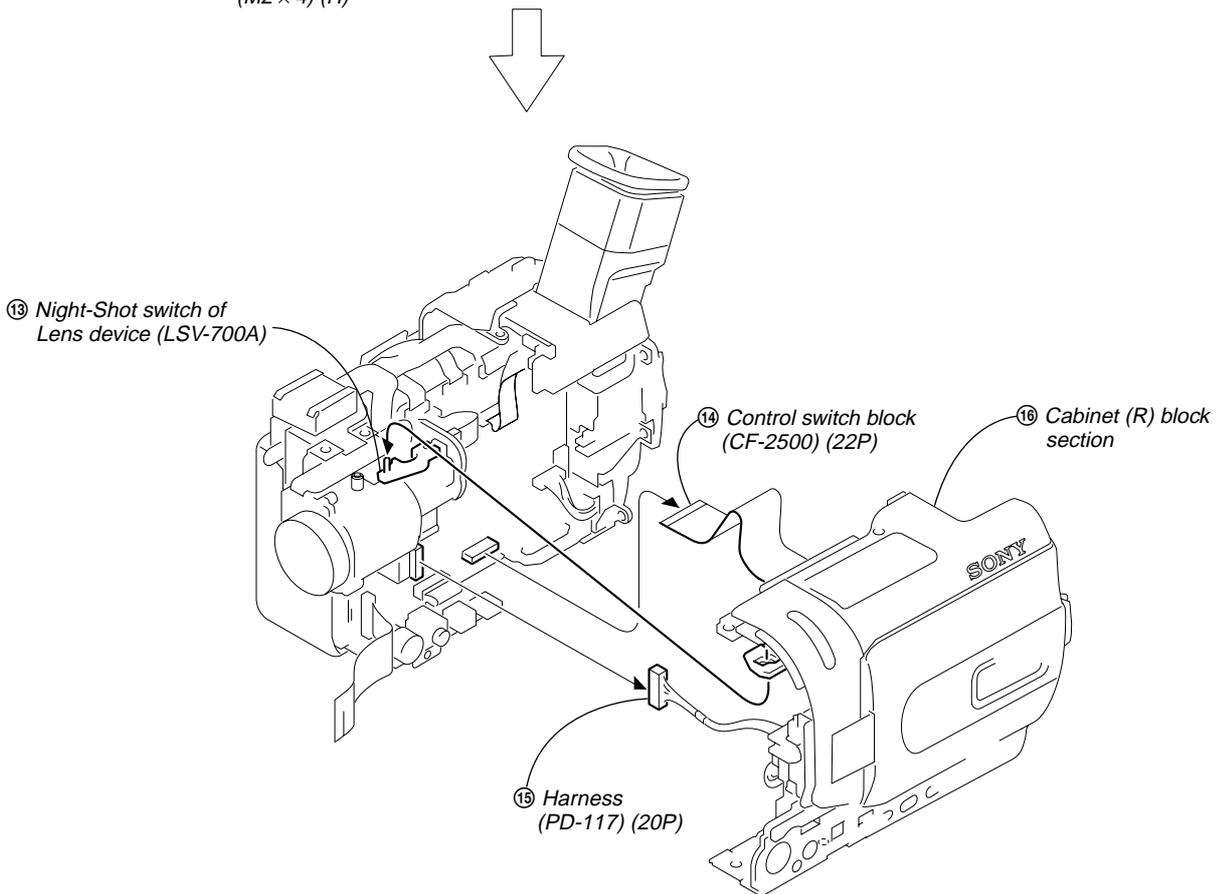
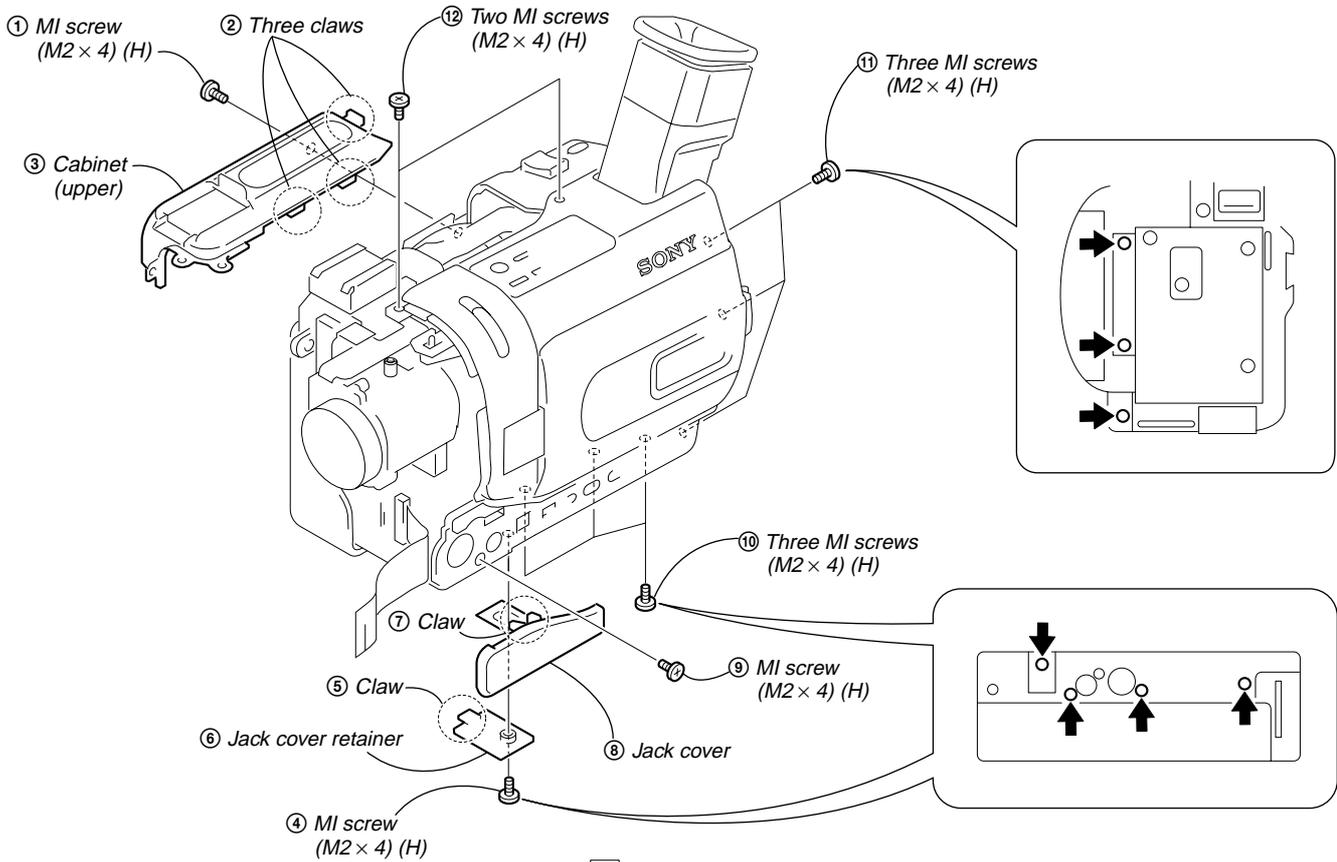
2-4. SI-032 BOARD



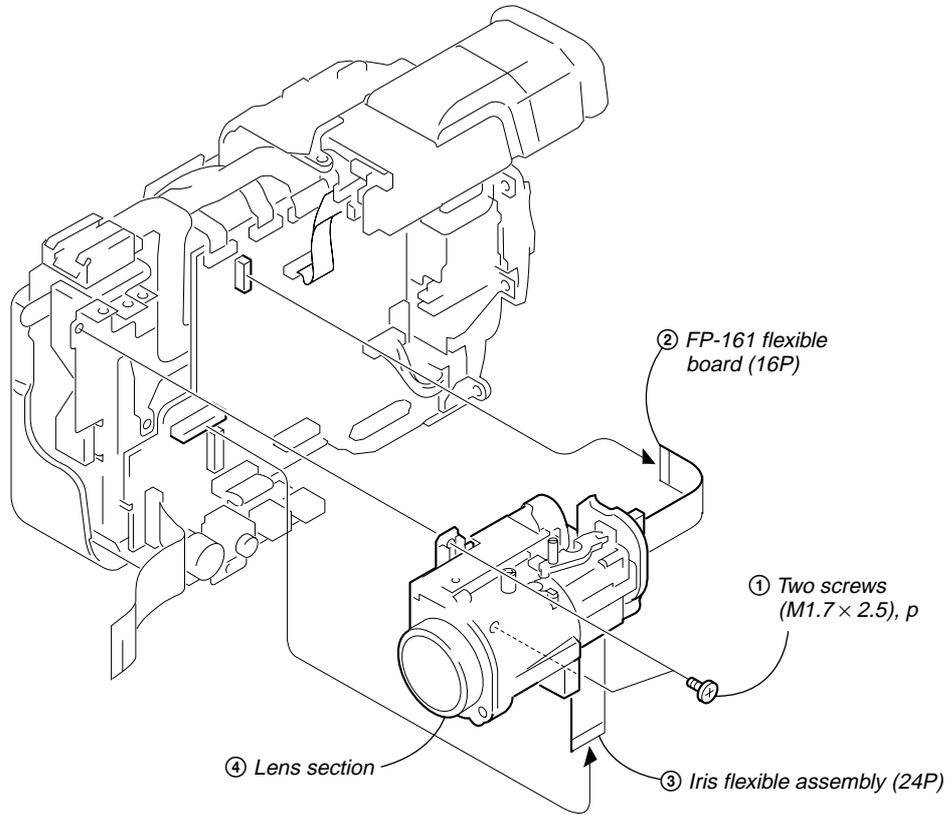
2-5. MICROPHONE



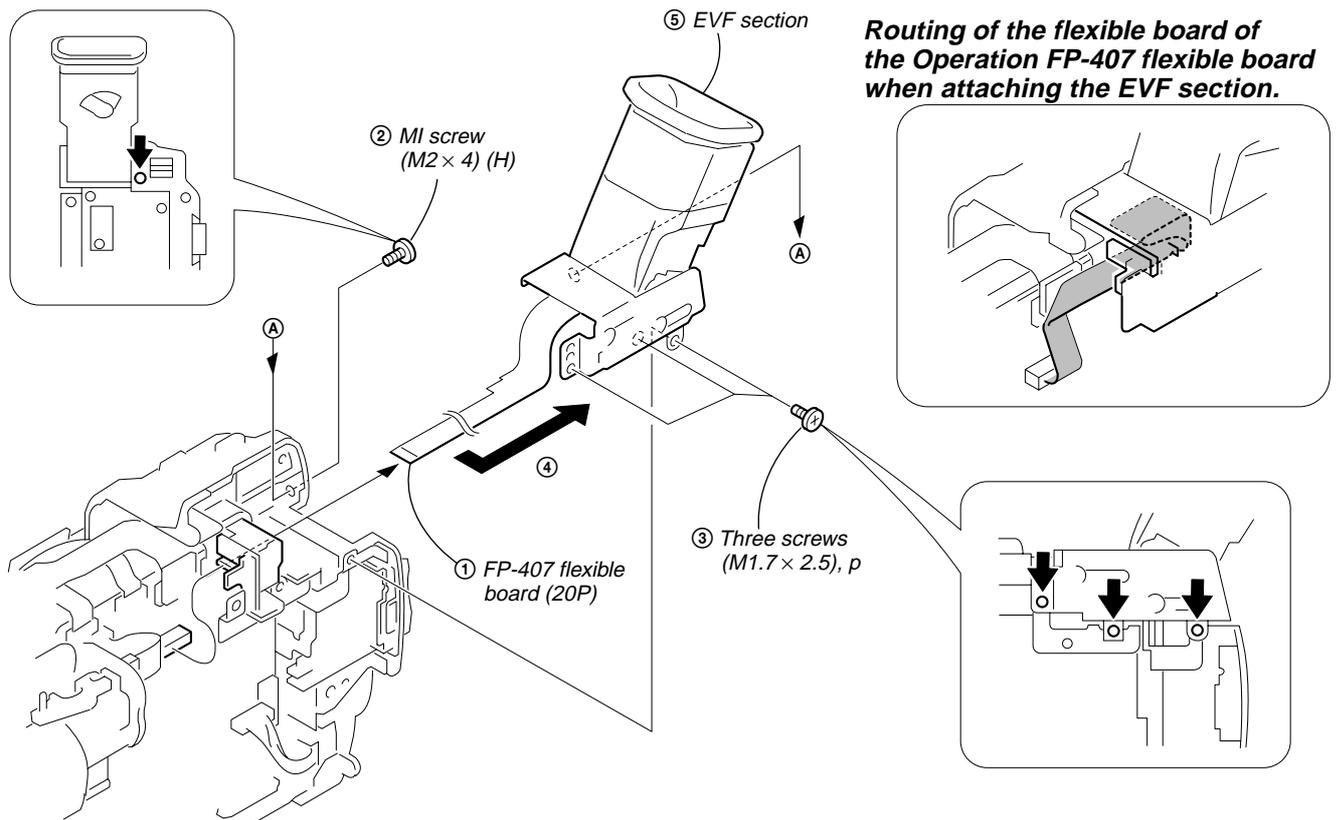
2-6. CABINET (R) SECTION



2-7. LENS SECTION

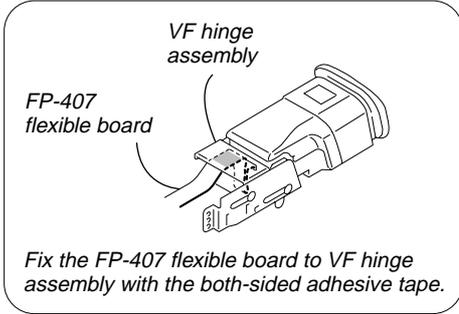


2-8. EVF SECTION

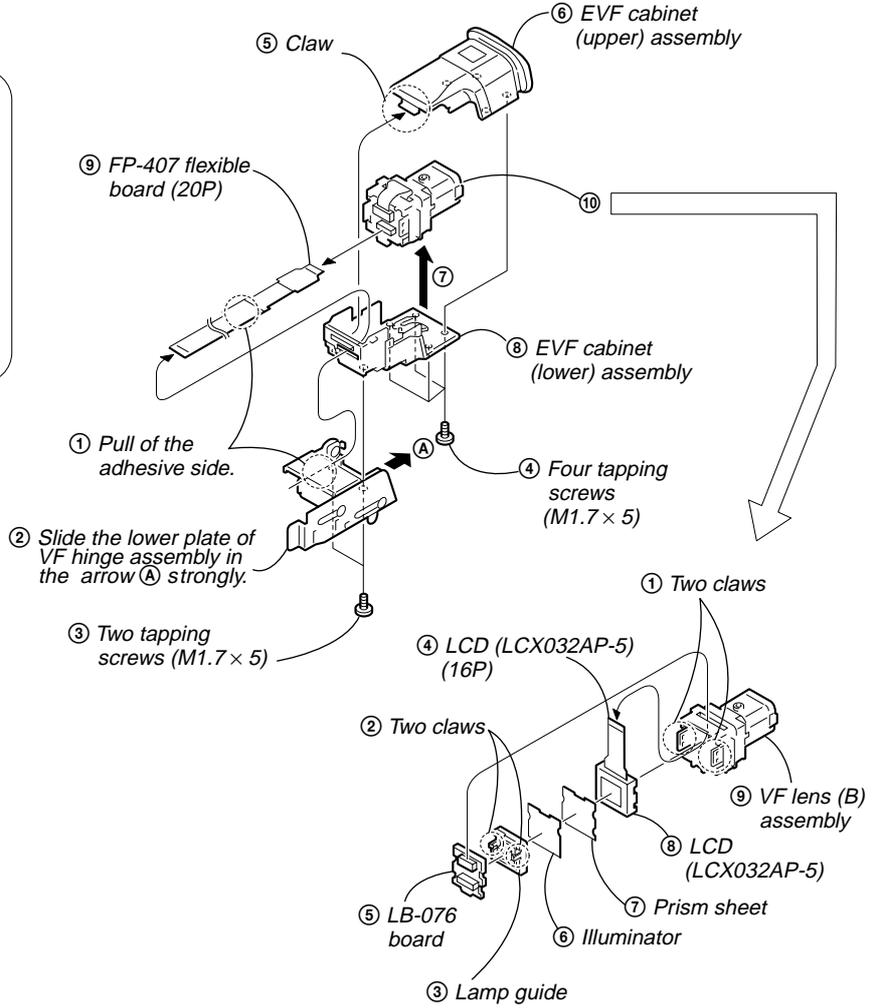
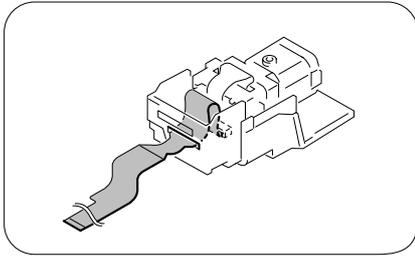


2-9. LB-076 BOARD

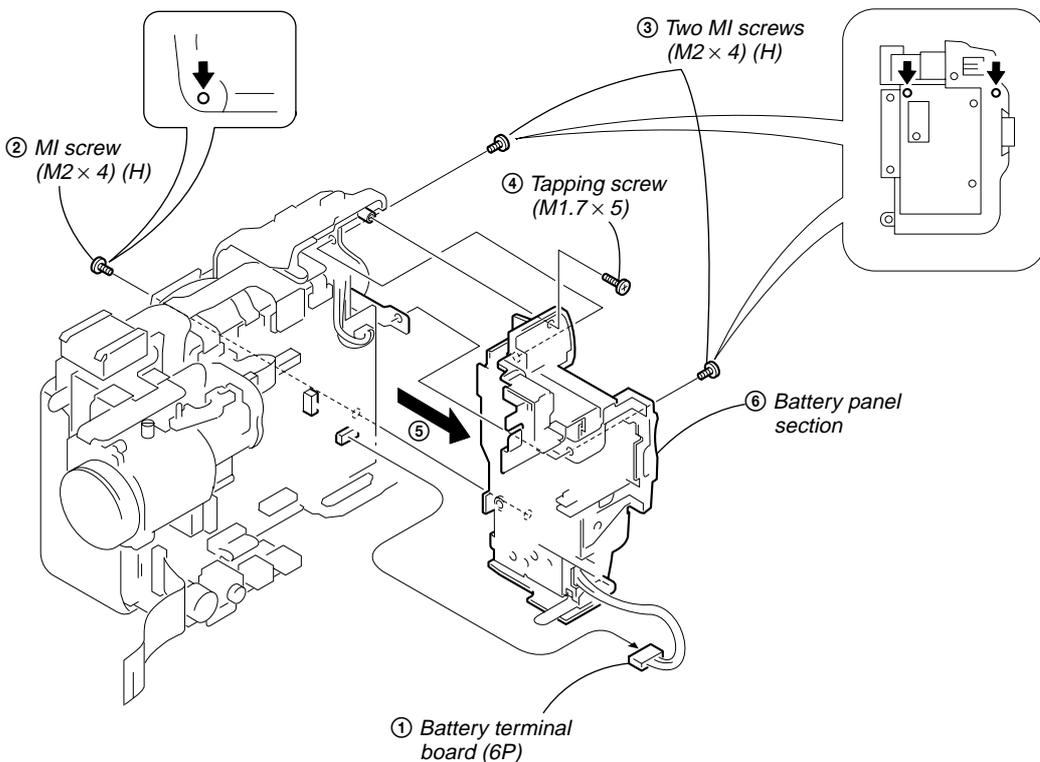
PRECAUTION WHEN ATTACHING FP-407 FLEXIBLE BOARD



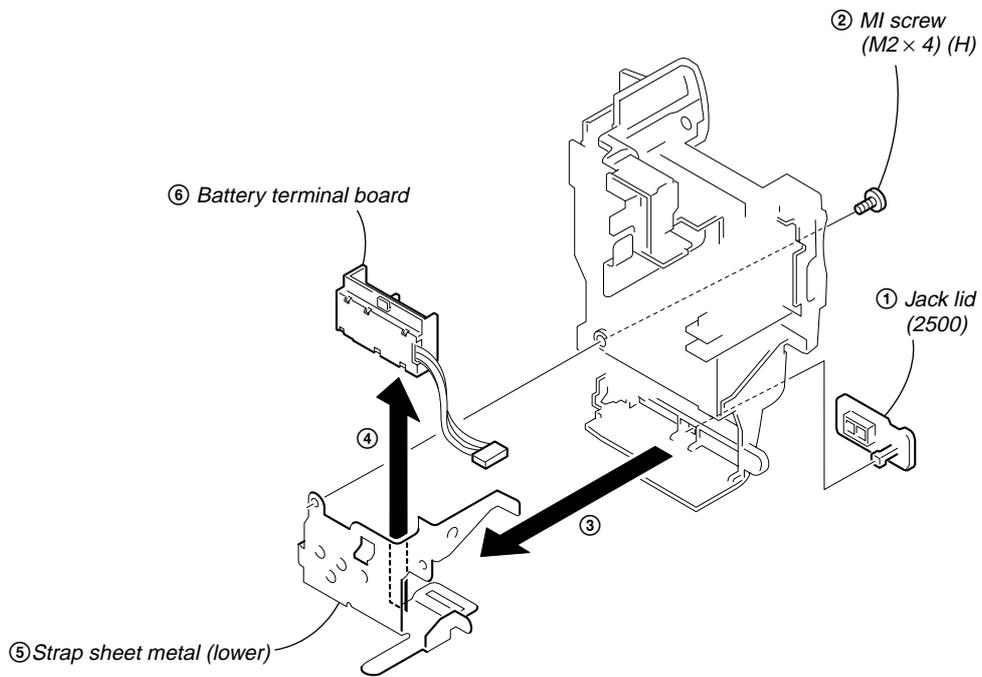
Routing of the flexible board of the Operation FP-407 flexible board when attaching the EVF cabinet (lower) assembly.



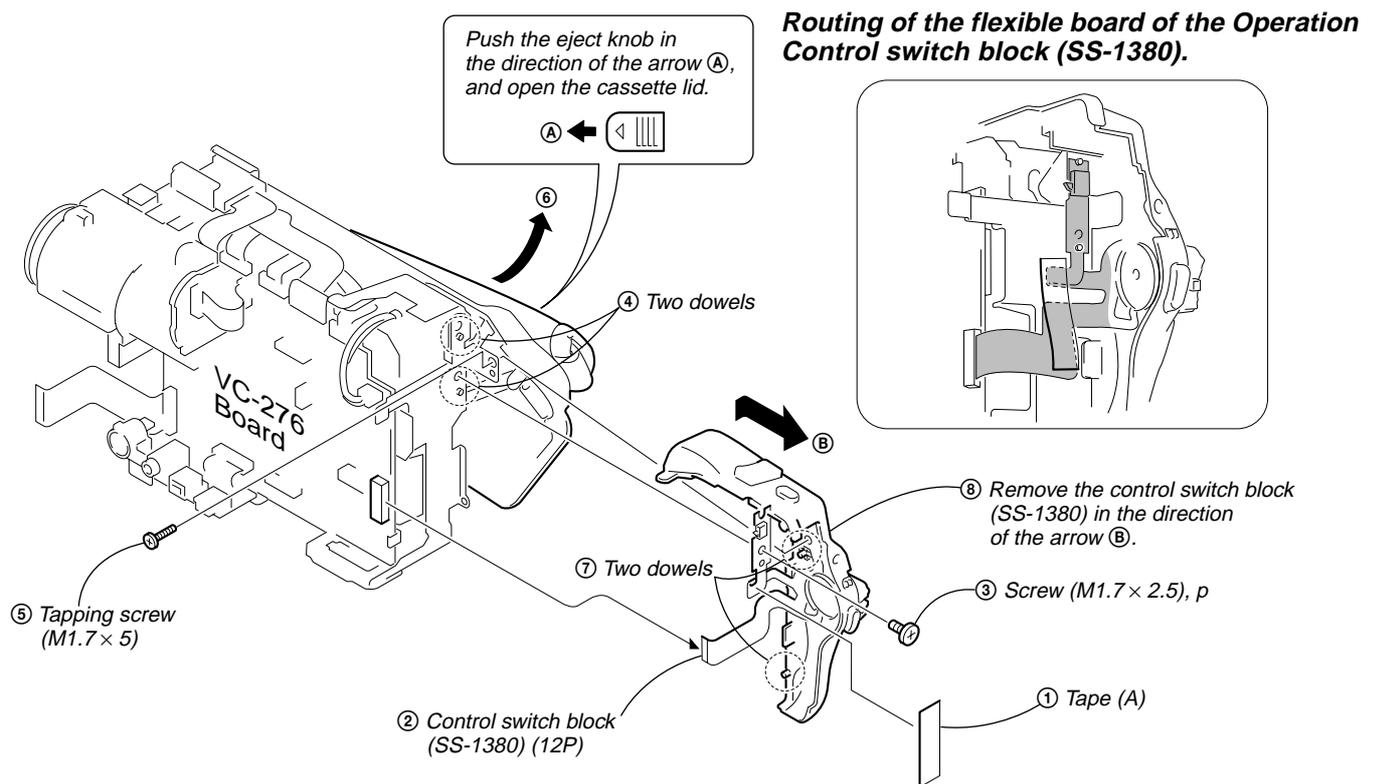
2-10. BATTERY PANEL SECTION



2-11. BATTERY TERMINAL BOARD

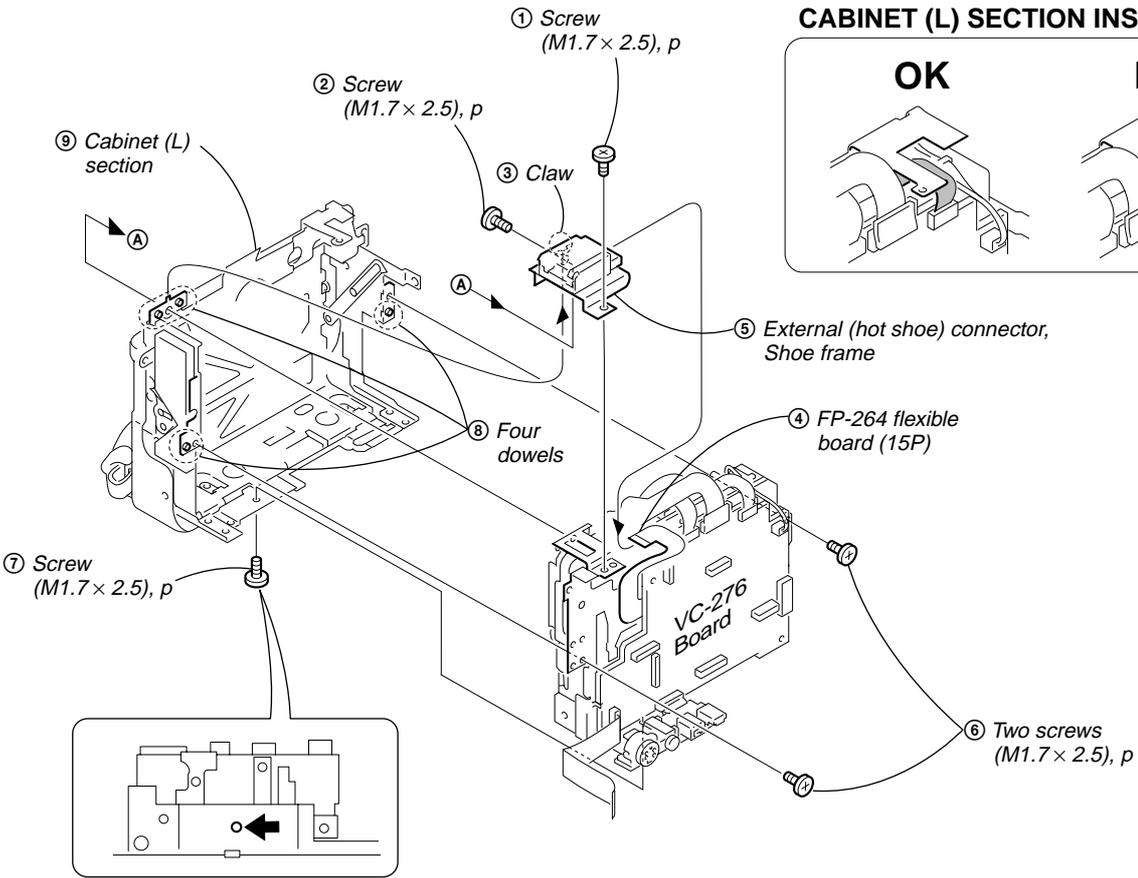


2-12. CONTROL SWITCH BLOCK (SS-1380)

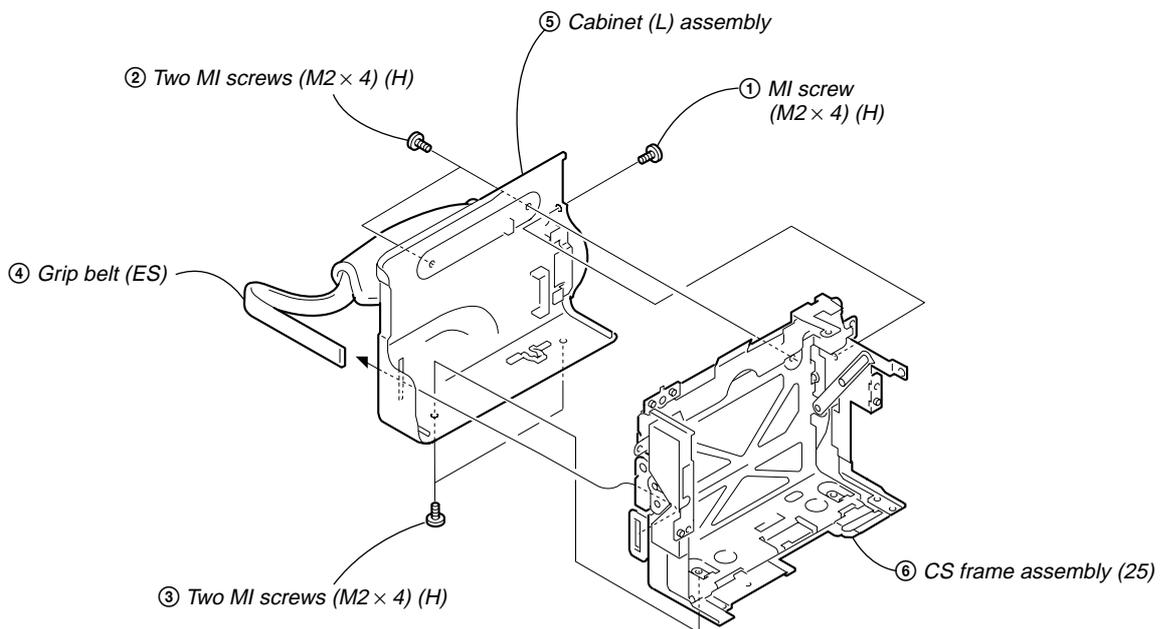


2-13. CABINET (L) SECTION

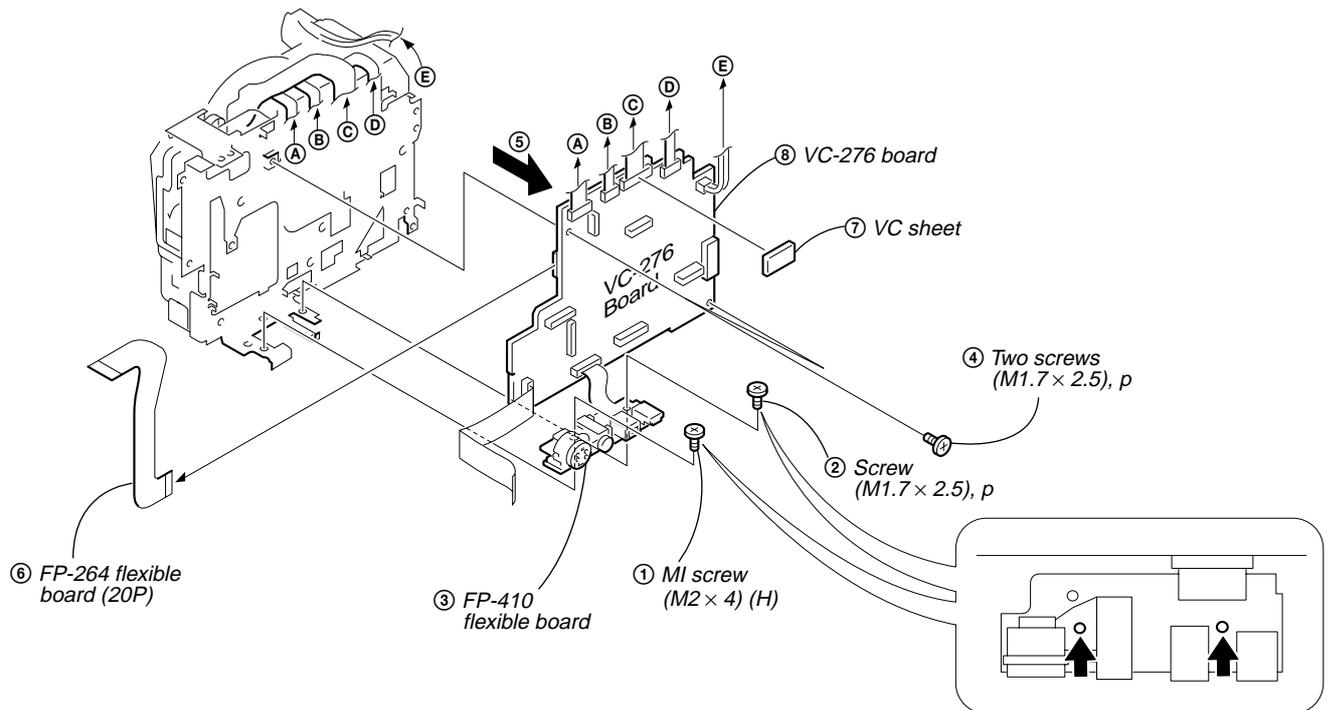
PRECAUTION DURING CABINET (L) SECTION INSTALLATION



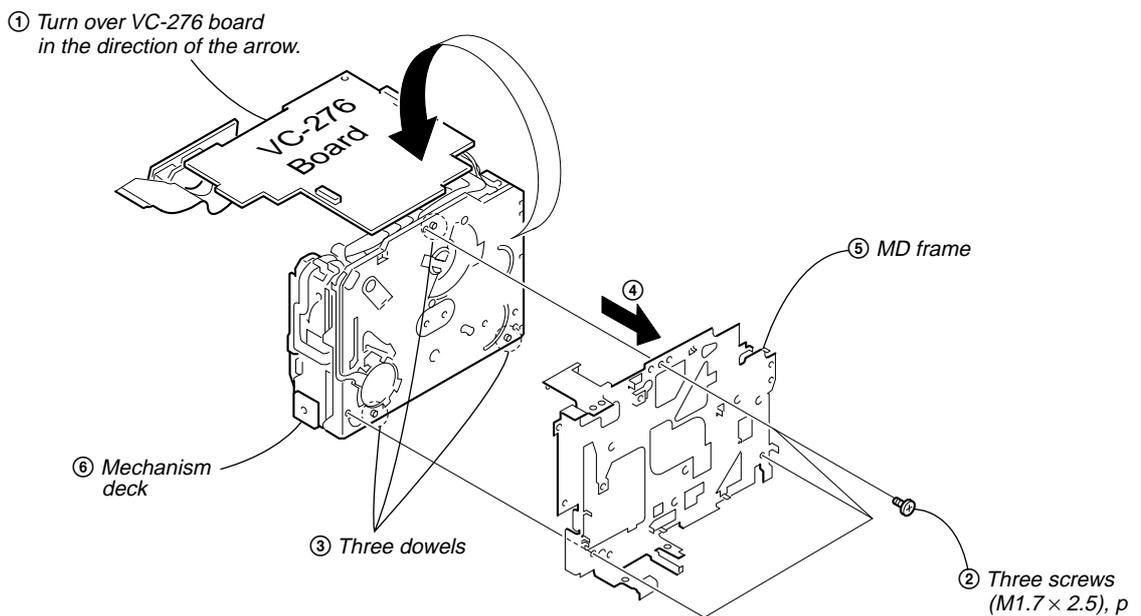
2-14. CS FRAME ASSEMBLY (25)



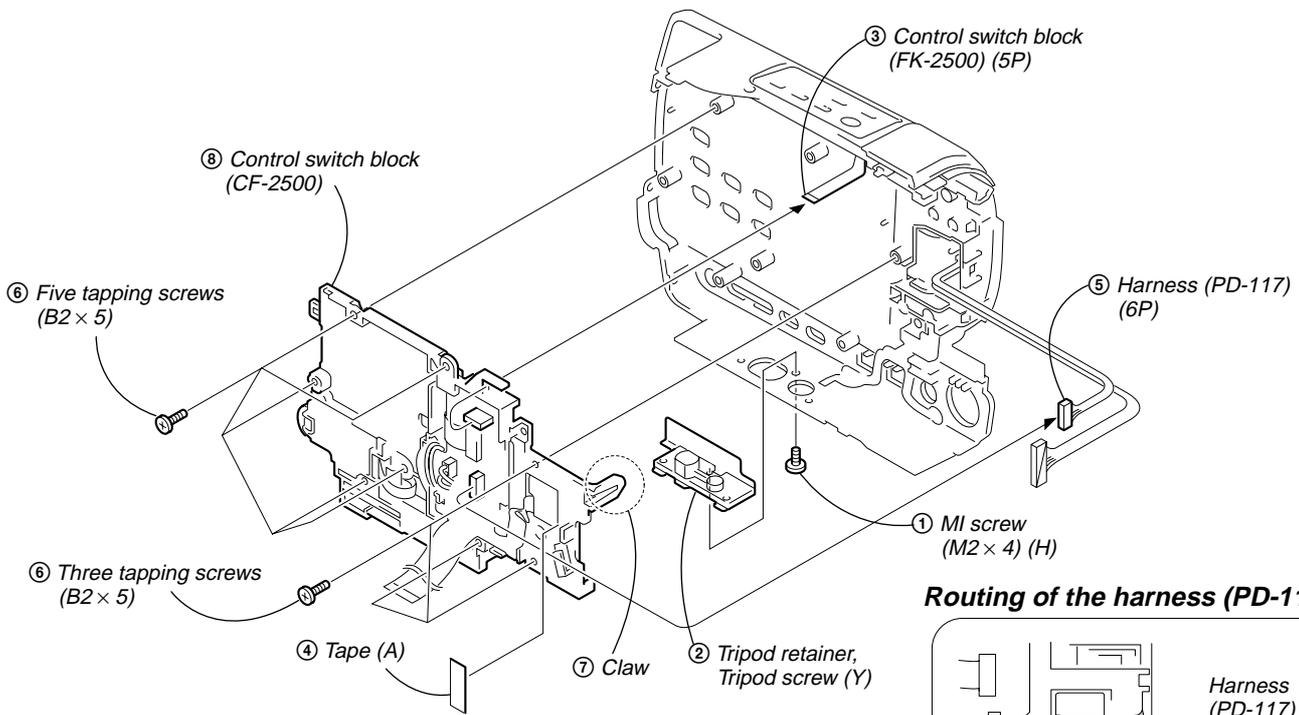
2-15. VC-276 BOARD



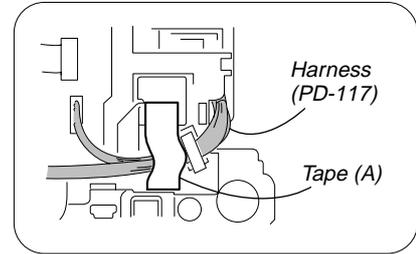
2-16. MECHANISM DECK



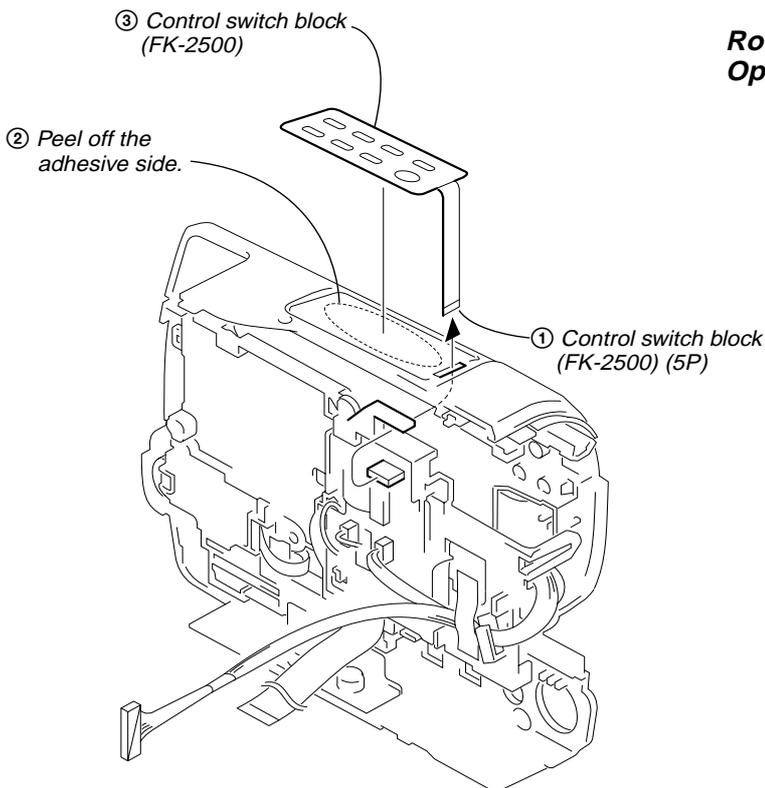
2-17. CONTROL SWITCH BLOCK (CF-2500)



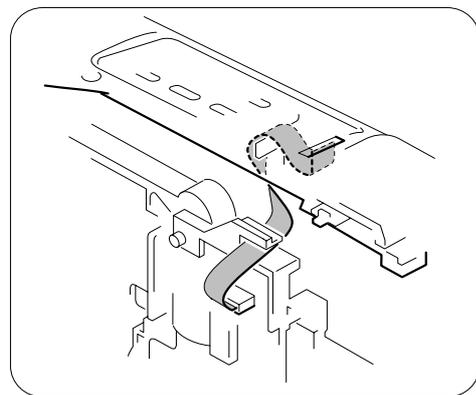
Routing of the harness (PD-117).



2-18. CONTROL SWITCH BLOCK (FK-2500)

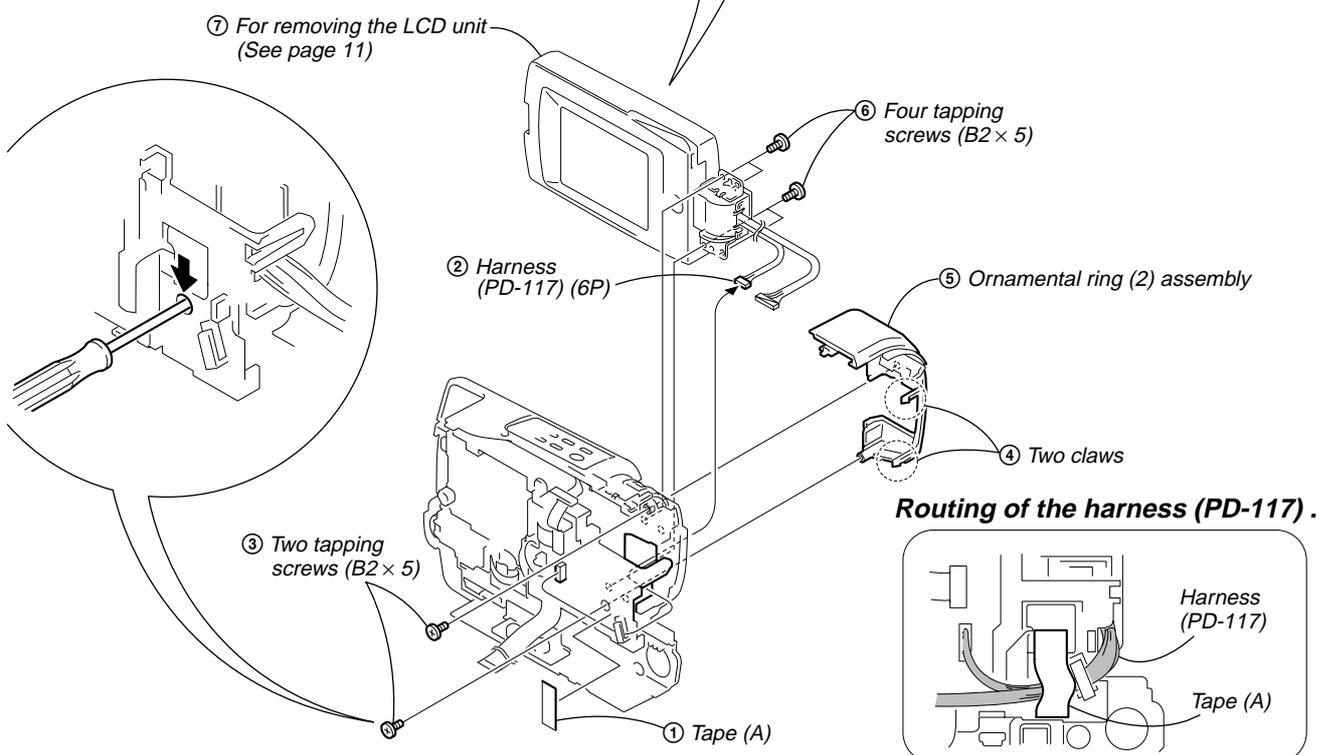
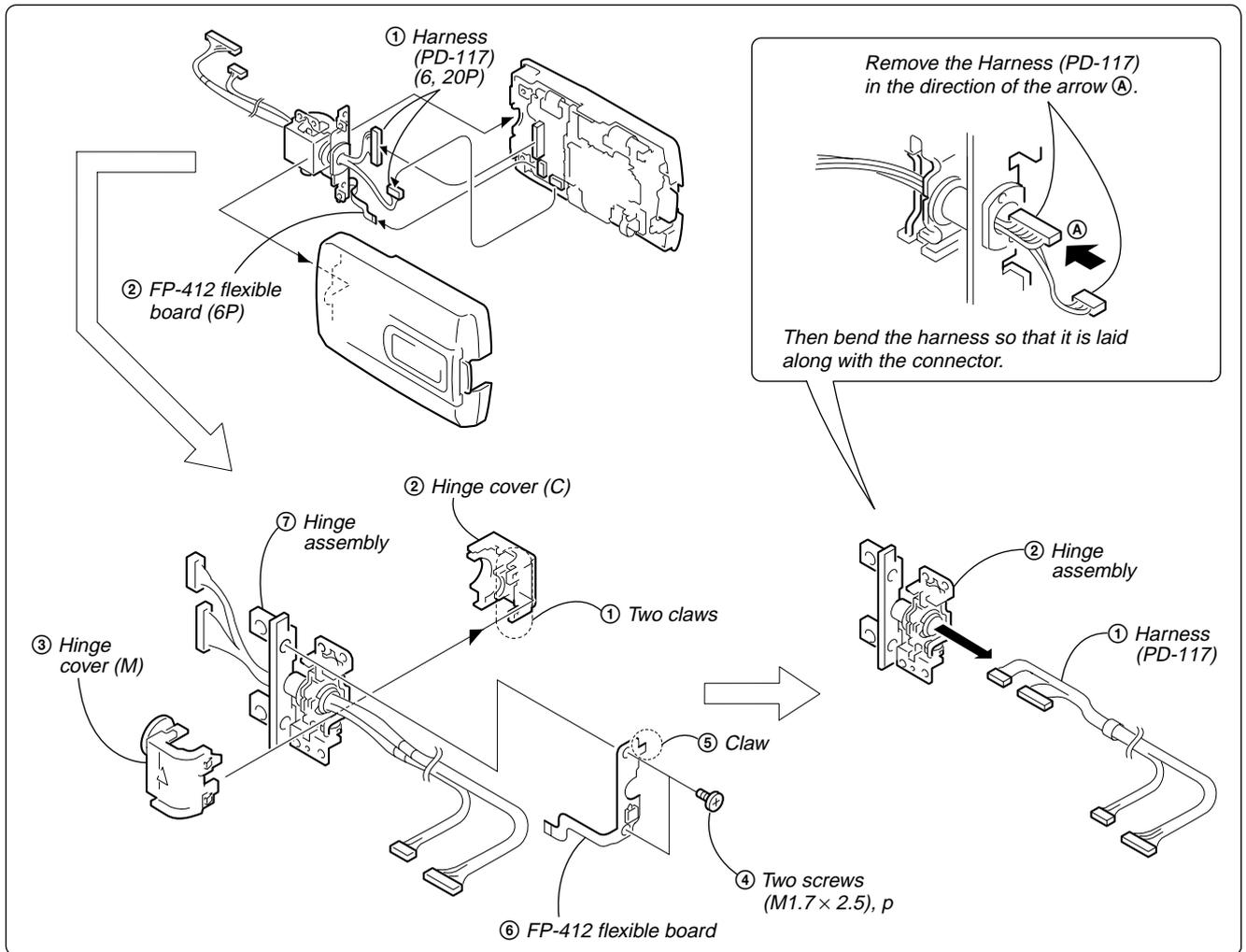


Routing of the flexible board of the Operation Control switch block (FK-2500).



2-19. HINGE SECTION

REMOVING THE HINGE ASSEMBLY



3. REPAIR PARTS LIST

3-1. EXPLODED VIEWS

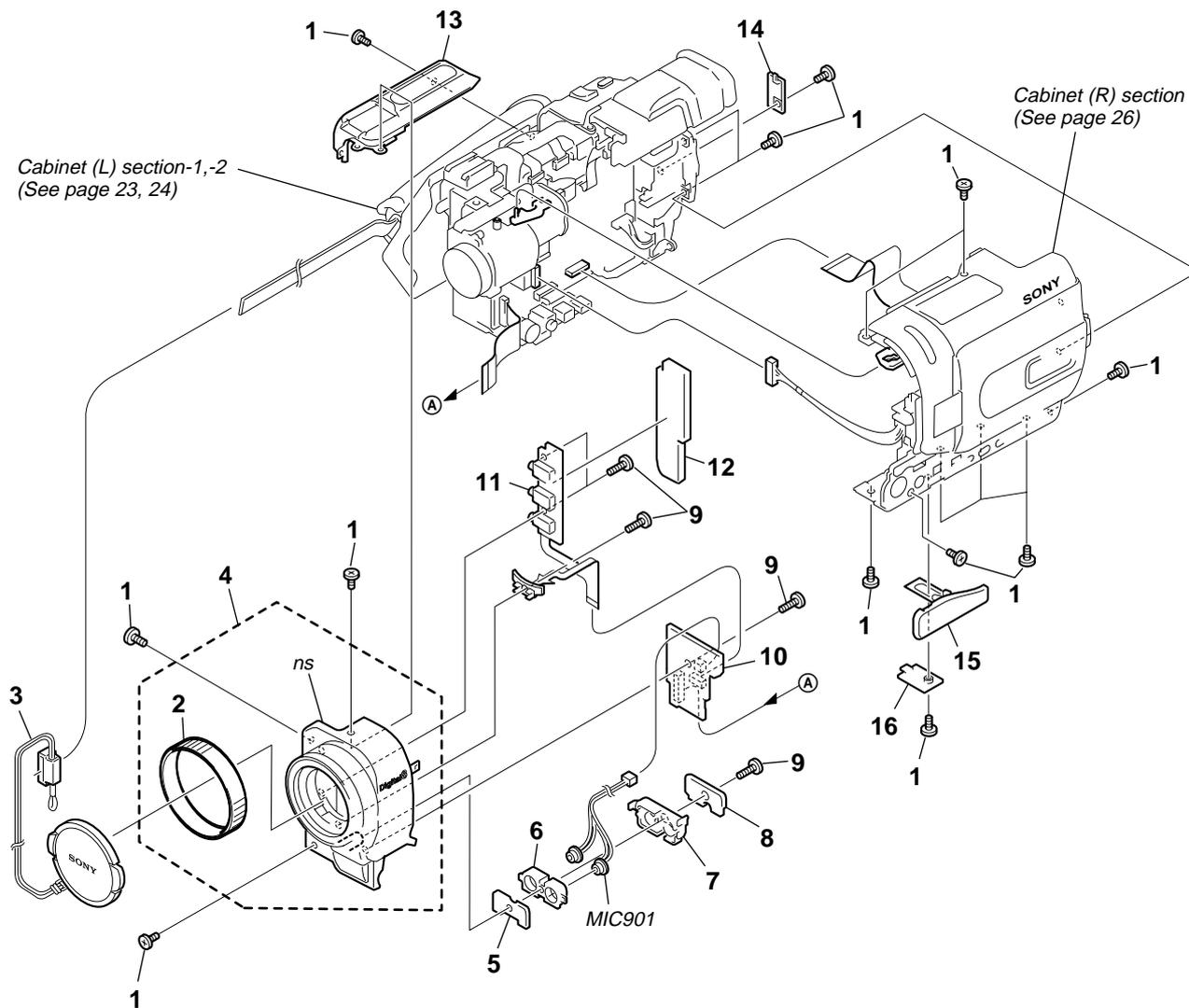
NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

The components identified by mark \triangle or dotted line with mark \triangle are critical for safety. Replace only with part number specified.

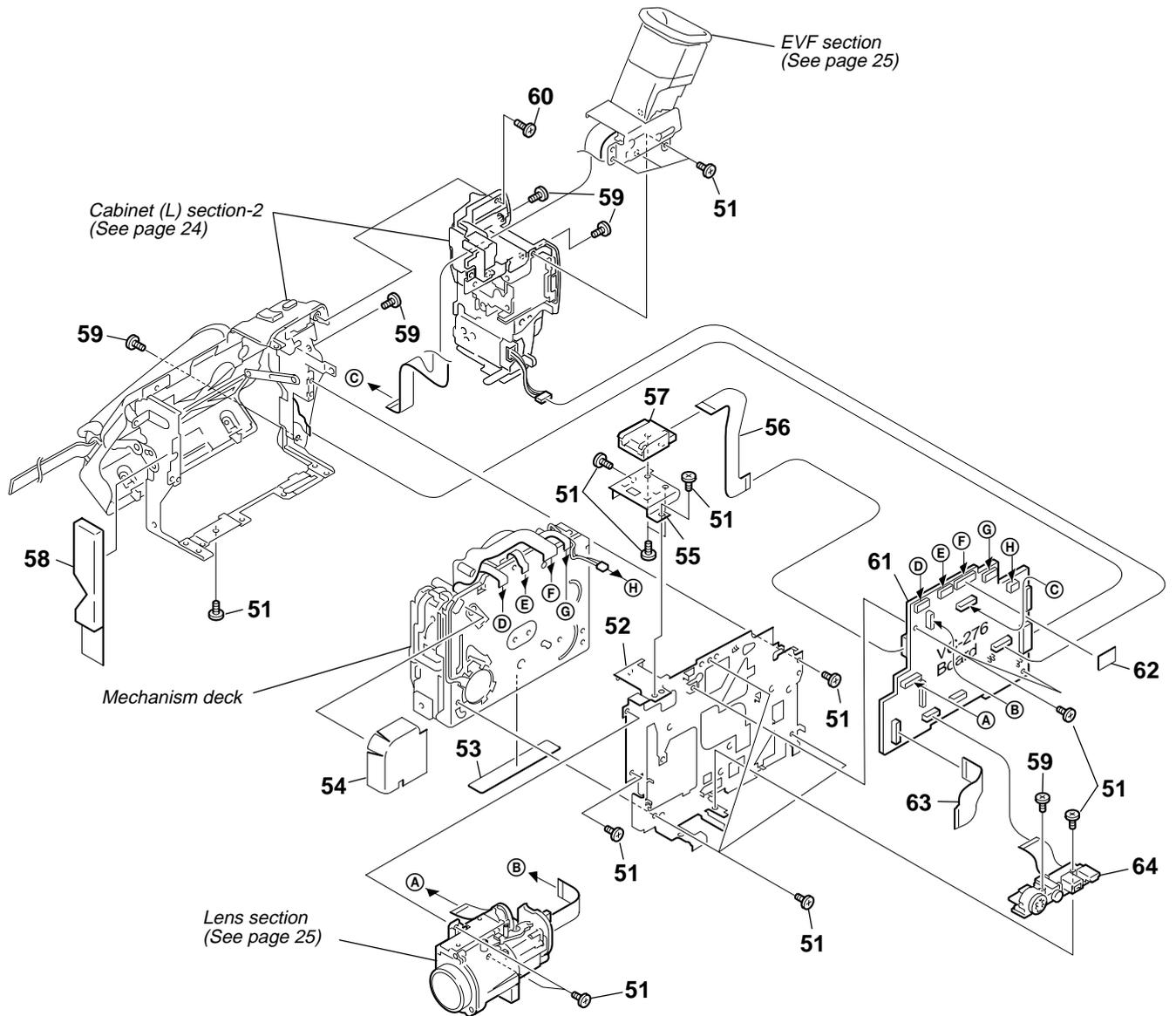
3-1-1. OVERALL SECTION

ns : not supplied



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
1	3-067-347-01	MI SCREW M2 (H)		9	3-065-567-01	TAPPING (M1.7)	
2	3-065-310-01	RING, RUBBER		10	not supplied	SI-032 BOARD, COMPLETE	
3	X-3949-376-1	CAP (N) ASSY, LENS		11	1-683-627-21	FP-411 FLEXIBLE BOARD	
4	X-3952-131-1	PANEL ASSY (24), FRONT (TRV238E)		12	3-072-309-01	CUSHION (1), F	
4	X-3952-246-1	PANEL ASSY (23D), FRONT (TRV239E)		13	3-065-326-01	CABINET (UPPER)	
5	3-072-279-01	CUSHION (F), MICROPHONE		14	3-072-271-01	LID (BT), CPC	
6	3-072-278-01	HOLDER, MICROPHONE		15	3-072-343-01	COVER, JACK	
7	3-072-277-01	RETAINER, MICROPHONE		16	3-072-344-01	RETAINER, JACK COVER	
8	3-072-307-01	SHEET, MICROPHONE		MIC901	1-542-477-11	MICROPHONE	

3-1-2. CABINET (L) SECTION-1

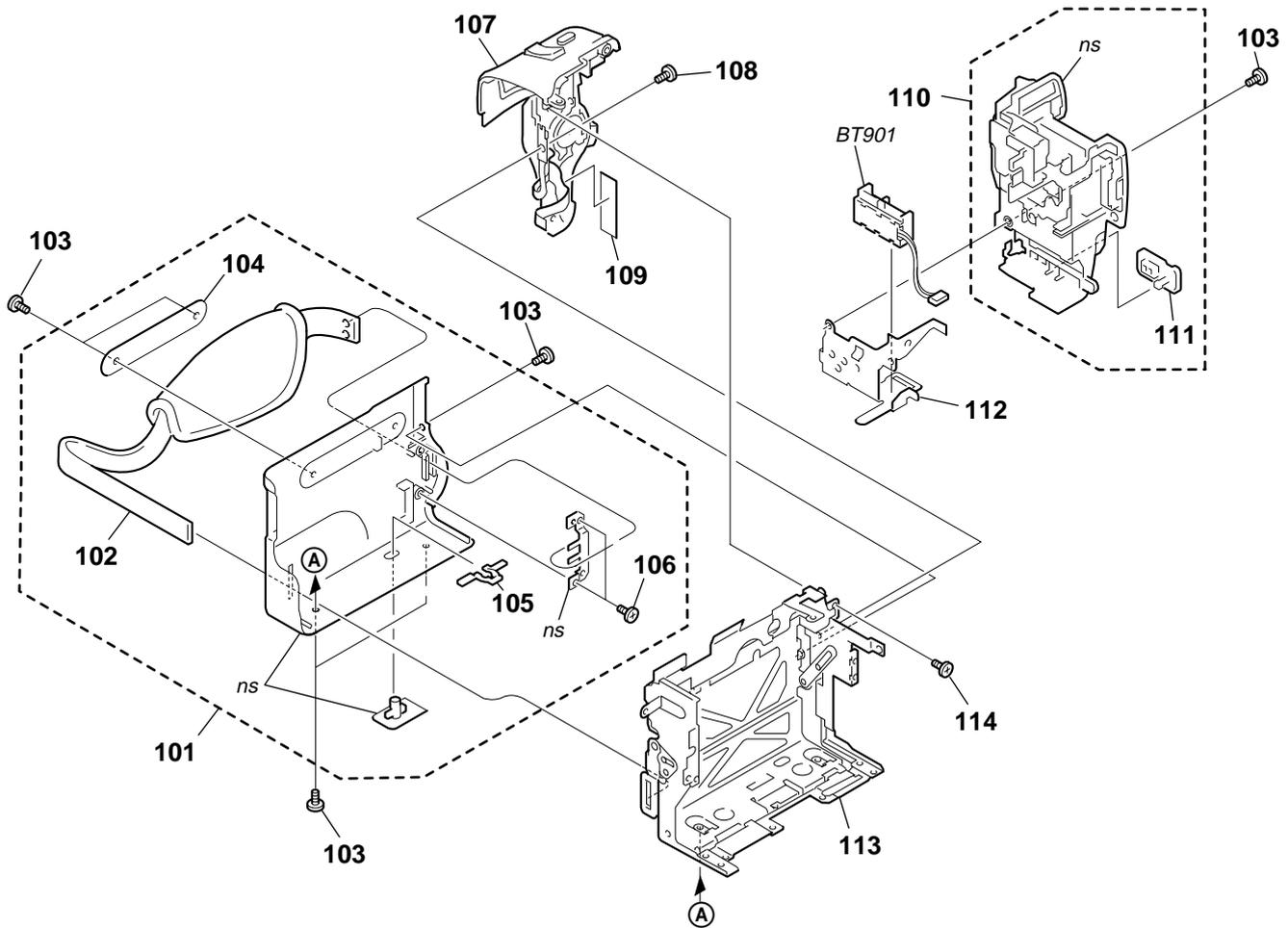


Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
51	4-974-725-01	SCREW (M1.7X2.5), P		58	3-072-308-01	COVER, MD	
52	3-072-267-01	FRAME, MD		59	3-067-347-01	MI SCREW M2 (H)	
53	3-065-662-01	LABEL, LS CAUTION		60	3-065-567-01	TAPPING (M1.7)	
54	3-066-169-01	SHEET, MD		61	not supplied	VC-276 (QPAQ) BOARD, COMPLETE (SERVICE)	
55	3-072-268-01	FRAME, SHOE		62	3-066-759-01	SHEET, VC	
56	1-680-118-11	FP-264 FLEXIBLE BOARD		63	1-683-623-11	FP-406 FLEXIBLE BOARD	
57	1-815-124-21	CONNECTOR, EXTERNAL (HOT SHOE)		64	1-683-626-21	FP-410 FLEXIBLE BOARD	

DCR-TRV238E/TRV239E

3-1-3. CABINET (L) SECTION-2

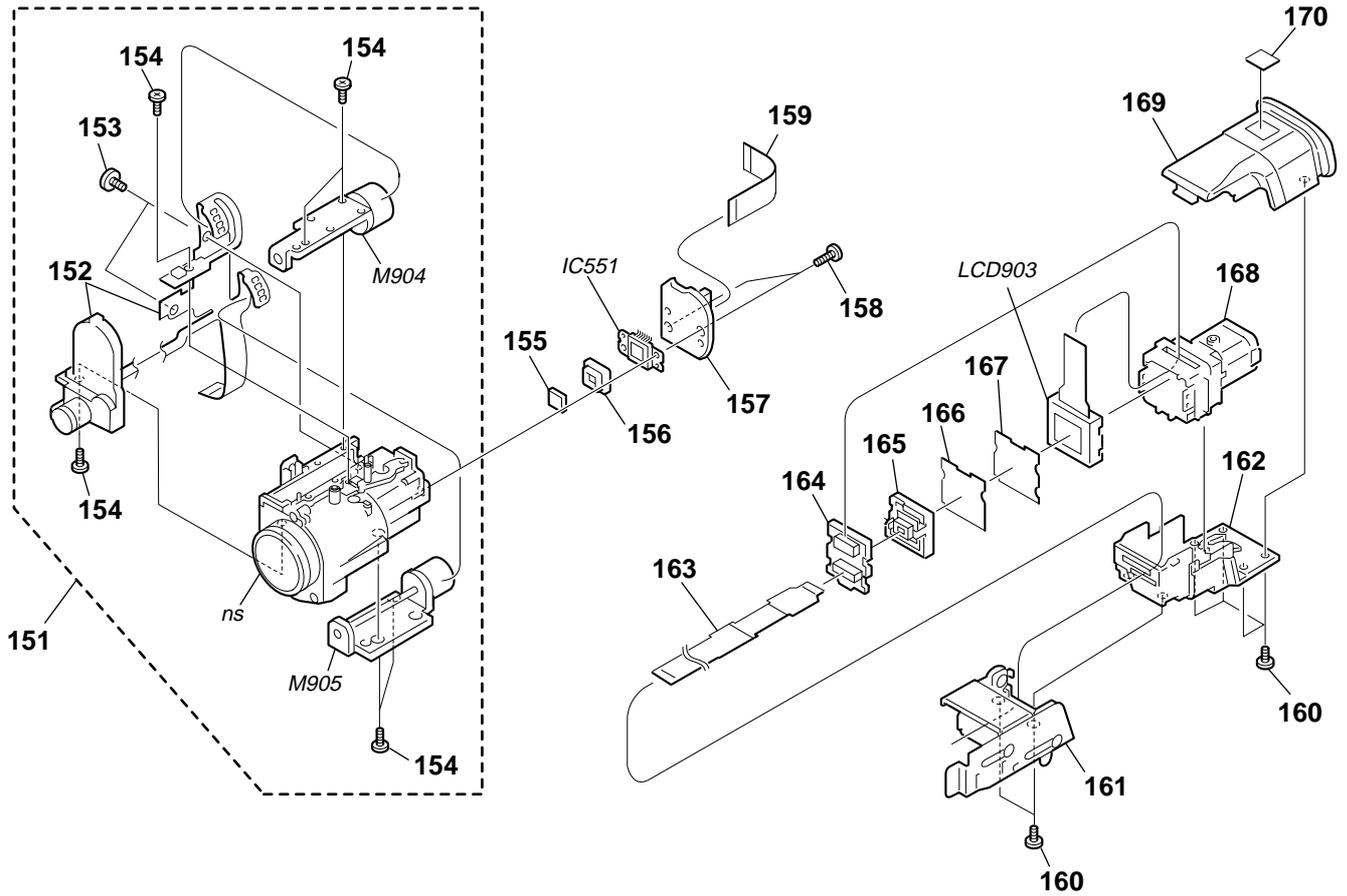
ns : not supplied



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
101	X-3951-159-1	CABINET (L) ASSY		109	3-941-343-21	TAPE (A)	
102	3-052-815-01	BELT (ES), GRIP		110	X-3952-149-1	PANEL ASSY, BATTERY	
103	3-067-347-01	MI SCREW M2 (H)		111	3-072-305-01	LID (2500), JACK	
104	3-065-308-01	LABEL (L)		112	3-072-274-01	SHEET METAL (LOWER), STRAP	
105	3-978-765-01	SLIDER, G LOCK		113	X-3952-136-1	FRAME ASSY (25), CS	
106	3-713-791-01	SCREW (M1.7X4), TAPPING, P2		114	3-065-567-01	TAPPING (M1.7)	
107	1-476-415-41	SWITCH BLOCK, CONTROL (SS-1380)		BT901	1-694-772-11	TERMINAL BOARD, BATTERY	
108	4-974-725-01	SCREW (M1.7X2.5), P					

3-1-4. LENS, EVF SECTION

ns : not supplied

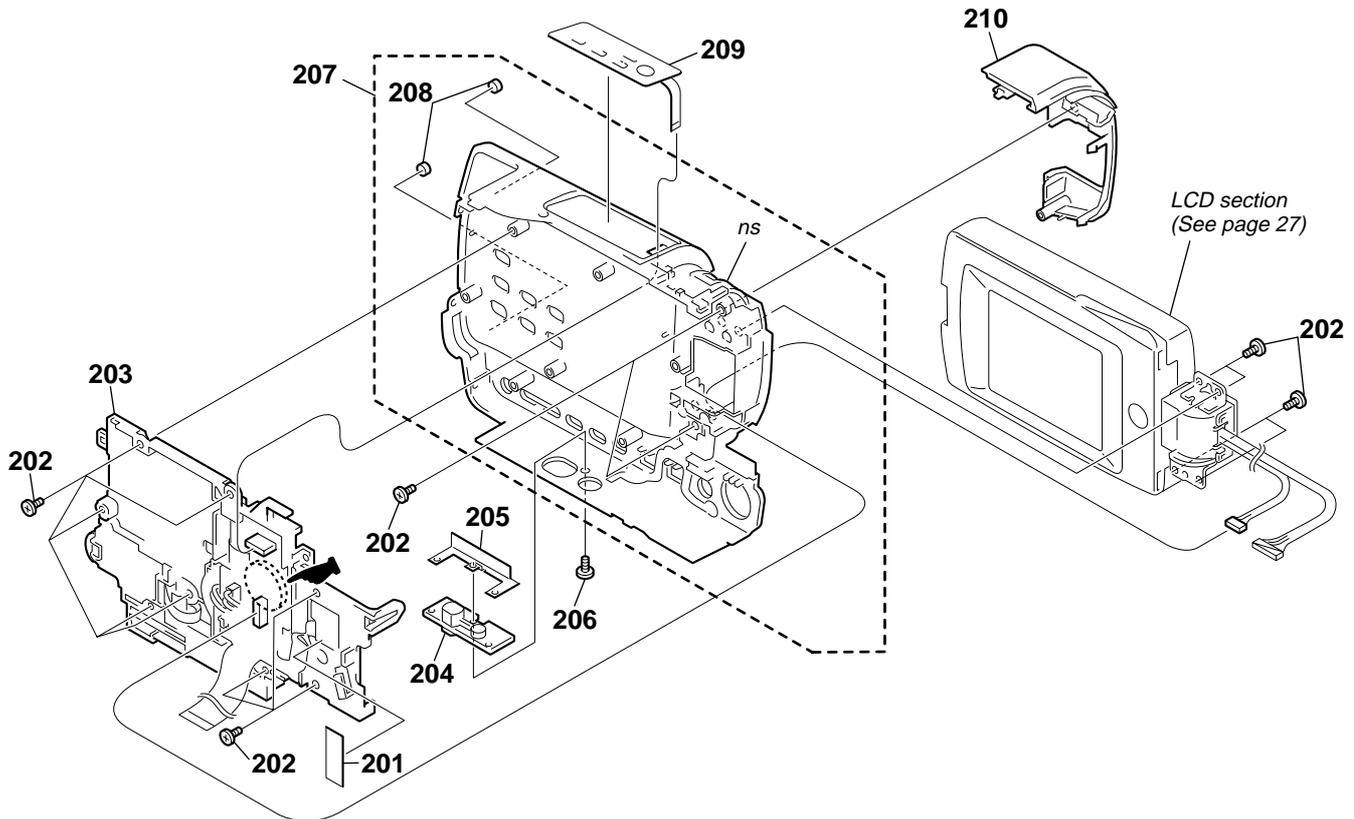


Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
151	not supplied	DEVICE, LENS LSV-700A		163	1-683-624-11	FP-407 FLEXIBLE BOARD	
152	not supplied	IRIS FLEXIBLE, ASSY		164	not supplied	LB-076 BOARD, COMPLETE	
153	not supplied	TAPPING (B1.7X3.5), HEAD		165	3-065-058-01	GUIDE, LAMP	
154	not supplied	SCREW, TAPPING (M1.7X5),P2		166	3-072-211-01	ILLUMINATOR	
155	not supplied	FILTER BLOCK, OPTICAL		167	3-072-210-01	SHEET, PRISM	
156	not supplied	RUBBER (W), SEAL		168	X-3952-214-1	LENS (B) ASSY, VF	
157	not supplied	CD-357 (Q) BOARD, COMPLETE		169	X-3952-132-1	CABINET (UPPER) ASSY, EVF	
158	not supplied	SCREW (B1.7X6), TAPPING		* 170	3-065-376-01	LABEL (138), B	
159	1-676-822-11	FP-161 FLEXIBLE BOARD		IC551	not supplied	CCD BLOCK ASSY (CCD IMAGER)	
160	3-065-567-01	TAPPING (M1.7)		LCD903	8-753-028-49	LCX032AP-5	
161	X-3951-165-1	HINGE ASSY, VF		M904	not supplied	MOTOR STEPPING Z700 (ZOOM)	
162	X-3952-134-1	CABINET (LOWER) ASSY, EVF		M905	not supplied	MOTOR STEPPING F700 (FOCUS)	

DCR-TRV238E/TRV239E

3-1-5. CABINET (R) SECTION

ns : not supplied

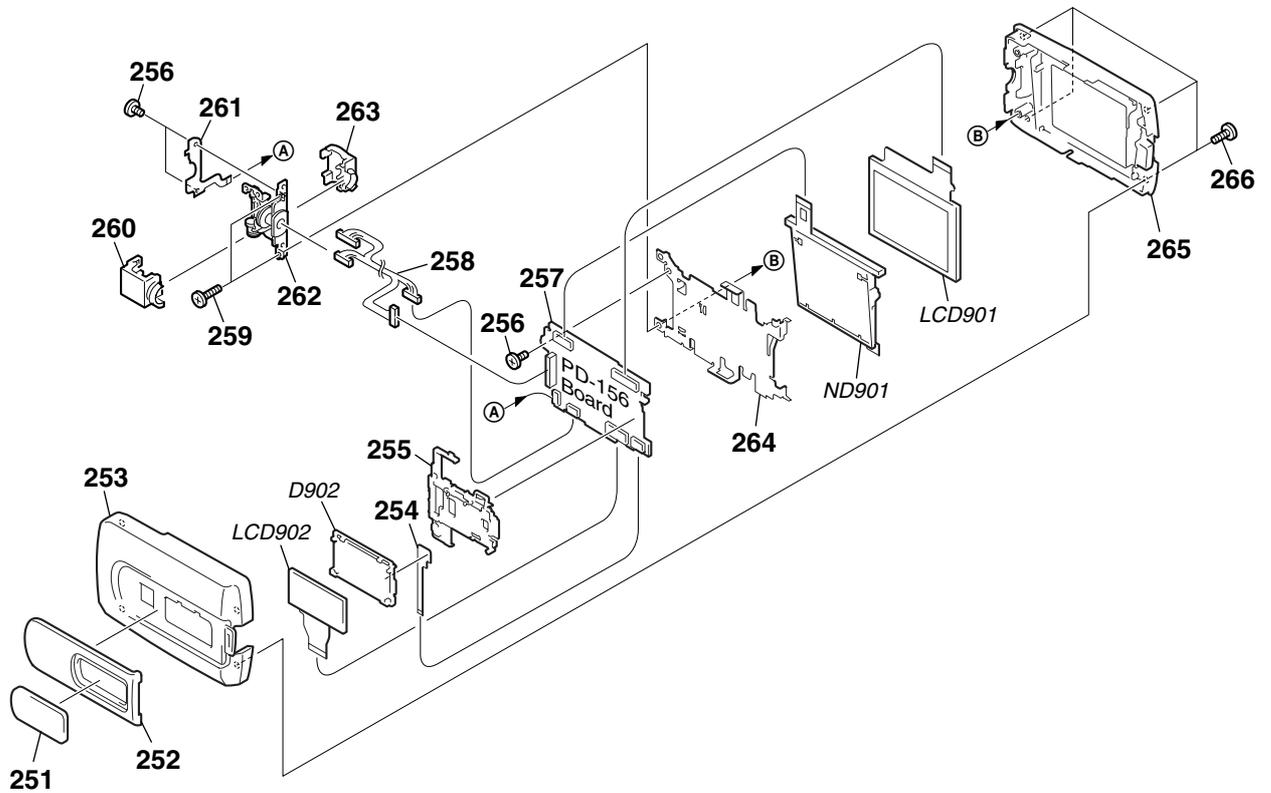


 : The printed wiring board of the Control switch block (CF-2500) on which BT001 (lithium battery) is mounted, is not shown.

CAUTION :
 Danger of explosion if battery is incorrectly replaced.
 Replace only with the same or equivalent type.

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
201	3-941-343-21	TAPE (A)		206	3-067-347-01	MI SCREW M2 (H)	
202	3-948-339-61	TAPPING		207	X-3952-145-1	CABINET R (2) ASSY	
203	1-477-085-11	SWITCH BLOCK, CONTROL (CF-2500)		208	3-959-978-02	CUSHION, PANEL	
204	3-065-373-01	SCREW (Y), TRIPOD		209	1-477-084-21	SWITCH BLOCK, CONTROL (FK-2500)	
205	3-072-455-01	RETAINER, TRIPOD		210	X-3952-171-1	RING (2) ASSY, ORNAMENTAL	

3-1-6. LCD SECTION



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
251	3-072-272-01	WINDOW, LCD		261	1-683-628-21	FP-412 FLEXIBLE BOARD	
252	X-3952-195-1	COVER (2) ASSY, CPC (TRV238E)		262	X-3952-147-1	HINGE ASSY	
252	X-3952-196-1	COVER (2) ASSY, CPC (TRV239E)		263	3-072-287-01	COVER (M), HINGE	
253	3-072-341-01	CABINET (C (2)), P		264	3-072-403-01	FRAME (2), P	
254	1-683-629-11	FP-414 FLEXIBLE BOARD		265	X-3952-150-1	CABINET (M) (2) ASSY, P	
255	3-072-286-01	HOLDER, LCD		266	3-065-567-01	TAPPING (M1.7)	
256	4-974-725-01	SCREW (M1.7X2.5), P		△D902	not supplied	LIGHT, BACK	
257	not supplied	PD-156 (XC12) BOARD, COMPLETE		LCD901	not supplied	INDICATOR MODULE LIQUID CRYST	
258	1-961-556-11	HARNESS (PD-117)		LCD902	not supplied	INDICATION LCD BLOCK ASSY	
259	3-318-203-11	SCREW (B1.7X6), TAPPING		△ND901	not supplied	TUBE, FLUORESCENT,COLD CATHODE	
260	3-072-288-01	COVER (C), HINGE					

Note : The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

