

DSC-WX150

SERVICE MANUAL

Ver. 1.0 2012.03

LEVEL 2

US Model
Canadian Model
AEP Model
UK Model
E Model
Chinese Model
Korea Model

Internal memory
ON BOARD



Photo: Silver

SERVICE NOTE (Check the following note before the service.)

– ENGLISH –

- 1-1. PRECAUTION ON REPLACING THE SY-327 BOARD
- 1-2. ADDITION OF DESTINATION DATA FILE
- 1-3. PRECAUTION ON REPLACING THE LENS
- 1-4. METHOD FOR COPYING OR ERASING THE DATA IN INTERNAL MEMORY
- 1-5. HOW TO WRITE DATA TO INTERNAL MEMORY
- 1-6. SELF-DIAGNOSIS FUNCTION
- 1-7. PROCESS AFTER FIXING FLASH ERROR
- 1-8. ORNAMENTAL RING A OR BARRIER ASSY REPLACING METHOD
- 1-9. DC MOTOR WORM ASSY REPLACING METHOD
- 1-10. THREE TUBE LUBRICATING BLOCK ASSY AND GROUP 1 FRAME REPLACING METHOD
- 1-11. FINAL INSPECTION

DIGITAL STILL CAMERA

SONY[®]

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

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

Revision History

Ver.	Date	History	Contents	S.M. Rev. issued
1.0	2012.03	Official Release	—	—



Cyber-shot



HDMI

AVCHD

SPECIFICATIONS

Camera

[System]

Image device: 7.76 mm (1/2.3 type)
 Exmor R CMOS sensor
 Total pixel number of camera:
 Approx. 18.9 Megapixels
 Effective pixel number of camera:
 Approx. 18.2 Megapixels
 Lens: Sony G 10× zoom lens
 f = 4.45 mm – 44.5 mm (25 mm – 250 mm
 (35 mm film equivalent))
 F3.3 (W) – F5.9 (T)
 While shooting movies (16:9):
 27.5 mm – 275 mm*
 While shooting movies (4:3):
 33.5 mm – 335 mm*
 * When [Movie SteadyShot] is set
 to [Standard]
 SteadyShot: Optical
 Exposure control: Automatic exposure,
 Scene Selection (15 modes)
 White balance: Automatic, Daylight,
 Cloudy, Fluorescent 1/2/3,
 Incandescent, Flash, One Push
 Underwater White balance: Automatic,
 Underwater 1/2, One Push
 Signal format:
 For 1080 50i: PAL color, CCIR
 standards HDTV 1080/50i
 specification
 For 1080 60i: NTSC color, EIA
 standards HDTV 1080/60i
 specification
 File format:
 Still images: JPEG (DCF, Exif,
 MPF Baseline) compliant,
 DPOF compatible
 3D still images: MPO (MPF Extended
 (Disparity Image)) compliant
 Movies (AVCHD format):
 AVCHD format Ver. 2.0 compatible
 Video: MPEG-4 AVC/H.264
 Audio: Dolby Digital 2ch,
 equipped with Dolby Digital Stereo Creator
 • Manufactured under license from
 Dolby Laboratories.
 Movies (MP4 format):
 Video: MPEG-4 AVC/H.264
 Audio: MPEG-4 AAC-LC 2ch

Recording media: Internal Memory
 (Approx. 19 MB), "Memory Stick Duo"
 media, "Memory Stick Micro" media,
 SD cards, microSD memory cards
 Flash: Flash range (ISO sensitivity
 (Recommended Exposure Index) set to Auto):
 Approx. 0.2 m to 3.7 m
 (7 7/8 inches to 12 feet 1 3/4 inches) (W)
 Approx. 1.5 m to 2.2 m
 (4 feet 11 1/8 inches to 7 feet 2 5/8 inches) (T)

[Input and Output connectors]

HDMI connector: HDMI mini jack
 Micro USB connector:
 USB communication
 USB communication: Hi-Speed USB
 (USB 2.0)

[Screen]

LCD screen:
 7.5 cm (3.0 type) TFT drive
 Total number of dots:
 460 800 dots

[Power, general]

Power: Rechargeable battery pack
 NP-BN, 3.6 V
 AC Adaptor AC-UB10/UB10B,
 5 V
 Power consumption (during shooting):
 1.0 W
 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 (CIPA compliant):
 94.7 mm × 56.4 mm × 21.6 mm
 (3 3/4 inches × 2 1/4 inches × 7/8 inches)
 (W/H/D)
 Mass (CIPA compliant) (including NP-BN
 battery pack, "Memory Stick
 Duo" media):
 Approx. 133 g (4.7 oz)
 Microphone: Stereo
 Speaker: Monaural
 Exif Print: Compatible
 PRINT Image Matching III:
 Compatible

AC Adaptor AC-UB10/UB10B

Power requirements: AC 100 V to
 240 V, 50 Hz/60 Hz, 70 mA
 Output voltage: DC 5 V, 0.5 A
 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. 50 mm × 22 mm × 54 mm
 (2 inches × 7/8 inches × 2 1/4 inches)
 (W/H/D)
 Mass:
 For the USA and Canada:
 Approx. 48 g (1.7 oz)
 For countries or regions other than
 the USA and Canada:
 Approx. 43 g (1.5 oz)

Rechargeable battery pack NP-BN

Used battery: Lithium-ion battery
 Maximum voltage: DC 4.2 V
 Nominal voltage: DC 3.6 V
 Maximum charge voltage: DC 4.2 V
 Maximum charge current: 0.9 A
 Capacity:
 typical: 2.3 Wh (630 mAh)
 minimum: 2.2 Wh (600 mAh)

Design and specifications are subject to
 change without notice.

Caution

Danger of explosion if battery is incorrectly replaced.
 Replace only with the same or equivalent type.
 Dispose of used batteries according to the instructions.

SAFETY-RELATED COMPONENT WARNING!!

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

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE Δ SUR LES
 DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT
 CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REM-
 PLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT
 LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES
 SUPPLÉMENTS PUBLIÉS PAR SONY.

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
 - Set the soldering iron tip temperature to 350 °C approximately.
 - 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.

UNLEADED SOLDER

This unit uses unleaded solder.
 Boards requiring use of unleaded solder are printed with the lead free mark (LF) indicating the solder contains no lead.
 (Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size.)



LEAD FREE MARK

Be careful to the following points to solder or unsolder.

- Set the soldering iron tip temperature to 350 °C approximately. If cannot control temperature, solder/unsolder at high temperature for a short time.
Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
 Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Be sure to control soldering iron tips used for unleaded solder and those for leaded solder so they are managed separately. Mixing unleaded solder and leaded solder will cause detachment phenomenon.

Model information table

Model	DSC-WX150			
Destination	US	CND, E, KR	UK, CH	AEP, E
Color system	NTSC	NTSC	PAL	PAL
TransferJet	○	×	○	×

- Abbreviation
 CH : Chinese model
 CND : Canadian model
 KR : Korea model

1. SERVICE NOTE

1-1. PRECAUTION ON REPLACING THE SY-327 BOARD

DESTINATION DATA

When you replace to the repairing board, the written destination data of repairing board also might be changed to original setting. Start the Adjust Manual in the Adjust Station and execute the "DESTINATION DATA WRITE".

RESTORE DATA

When you replace to the repairing board, get the data from the former one.

Start the Adjust Manual in the Adjust Station and perform "RESTORE DATA" to get the data.

The data getting for this model is as follows.

- USB SERIAL No.
- Angular Velocity Sensor Sensitivity adjustment
- AWB standard data input & check, Color reproduction check

Regarding the PlayMemories Home

PlayMemories Home has been written in internal memory.

SY-327 board for service is supplied with written the PlayMemories Home.

USB SERIAL No.

The set is shipped with a unique ID (USB Serial No.) written in it.

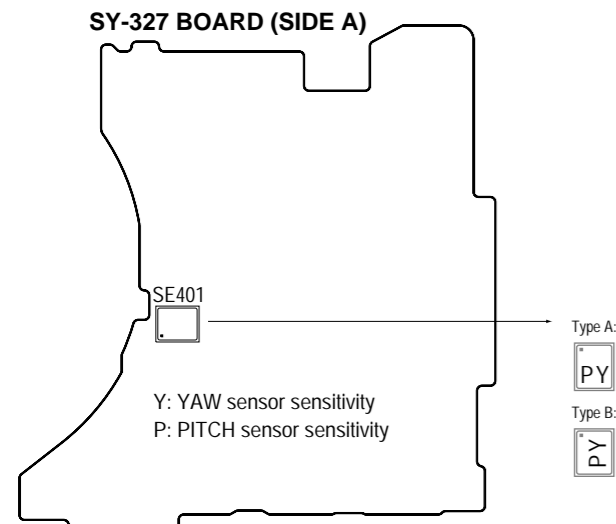
This ID has not been written in a new board for service, and therefore it must be entered after the board replacement.

Start the Adjust Manual in the Adjust Station and execute the "USB SERIAL No. INPUT".

Angular Velocity Sensor

When you replace to the repairing board, write down the sensitivity displayed on the angular velocity sensor (SE401).

Start the Adjust Manual in the Adjust Station and execute the "Angular velocity sensor sensitivity adj".



Note: The sensor sensitivity of SE401 of SY-327 board is written only repair parts.

1-2. ADDITION OF DESTINATION DATA FILE

If the Destination Data file included in the Adjust manual is old, "DESTINATION DATA WRITE" cannot be executed in some cases. In that case, download a new Destination Data file from the TISS homepage according to the following procedure.

Note 1: To perform Destination Data Write for this model, the Adjust manual of the DSC-WX50 series must have been installed.

Install the Adjust manual of the DSC-WX50 series in advance.

Note 2: The actual image may differ from the image shown above.

- 1) If the Destination Data file in the Adjust manual in use is old, the window shown in Fig. 1 is displayed. Click the [OK] button.

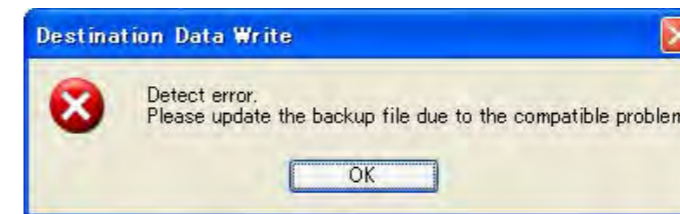
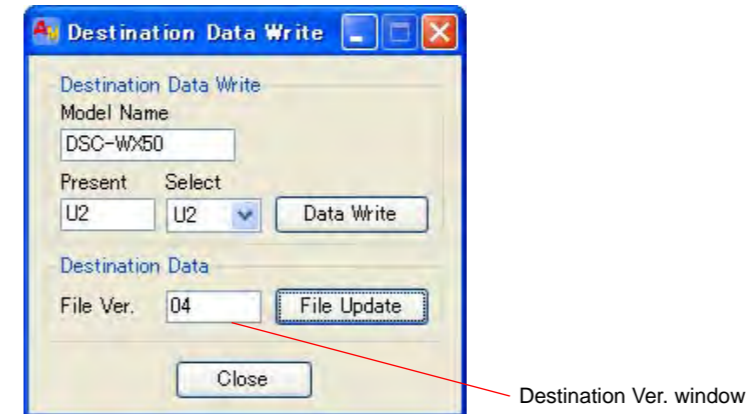


Fig. 1

- 2) The Destination Data Write window opens. Check the version of the Destination Data file retained in the Adjust manual.

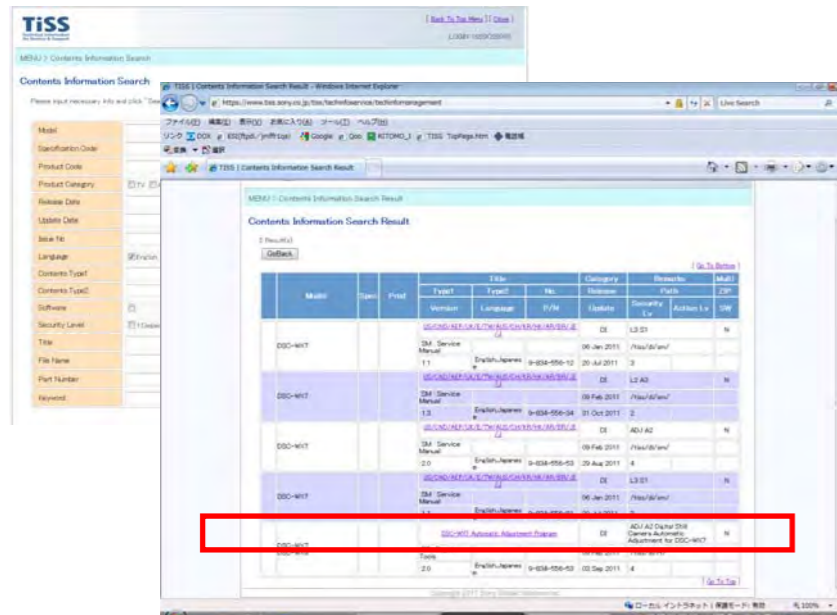


- 3) Search the model whose new Destination Data file you want to get on the TISS homepage.
When the Destination Data file has been updated, a file with a name "Destination File For 'model name'.zip" is registered.

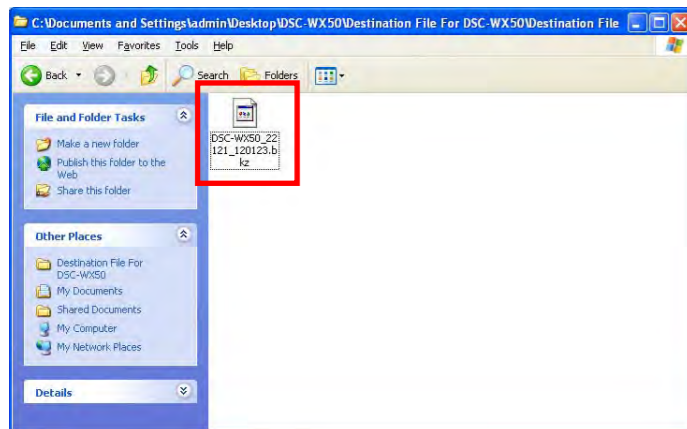
(Example) Destination File For DSC-WX50.zip

Furthermore, the version supported by the Destination Data file is shown in the Remarks column.

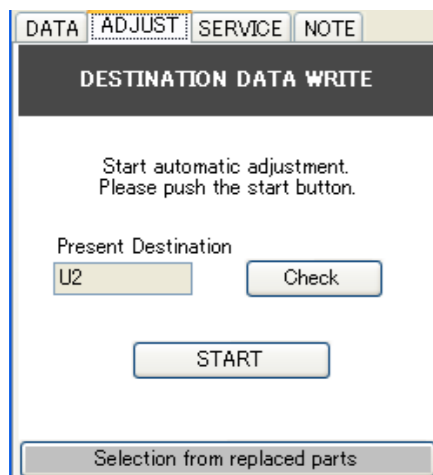
Note : If the Destination Data file has not been updated, contact the Service Headquarters.



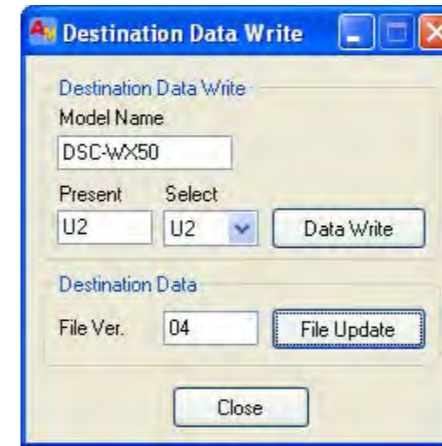
- 4) Download the Destination Data file of the relevant model and unzip the file.



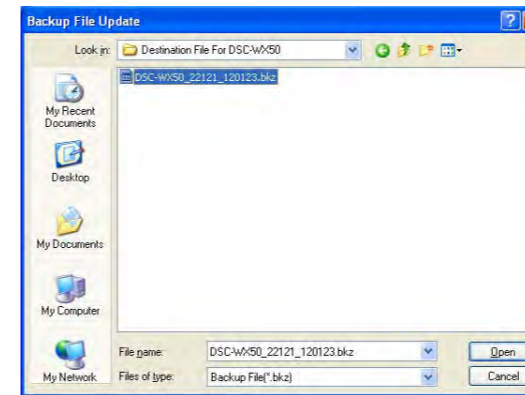
- 5) Execute "DESTINATION DATA WRITE" in the Adjust tab of the Adjust manual.
Click the [START] button.



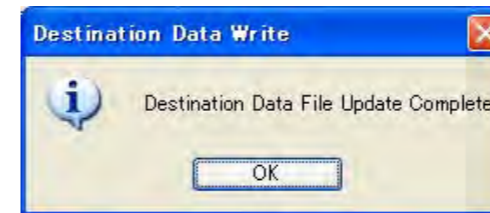
- 6) Click the [File Update] button in the window.



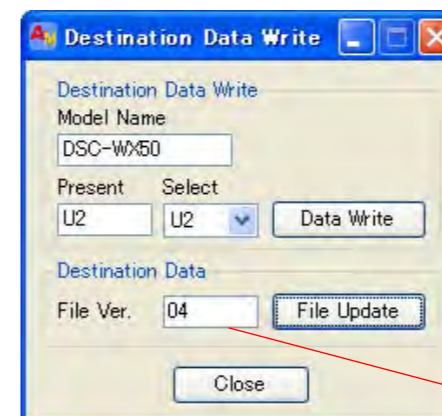
- 7) A file selection screen opens. Select the Destination Data file to be added and click the [Open] button.



- 8) When the file has been successfully added, the following window opens.

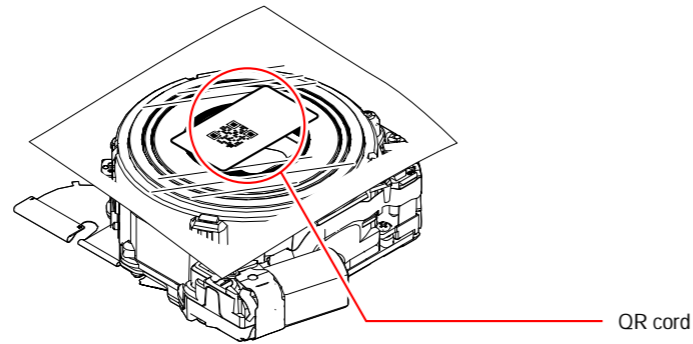


- 9) Check the Destination Ver. window and confirm that the version has been updated.



1-3. PRECAUTION ON REPLACING THE LENS

When replacing the lens, read the QR code given on the data sheet of the replacement lens for service.
Start the Adjust Manual and read the QR code using a QR code reader.
The read data is used for adjustment after replacement.
Select "Lens data carry" on the ADJUST tab of the Adjust Manual, and click the LOAD button to load the file.



1-4. METHOD FOR COPYING OR ERASING THE DATA IN INTERNAL MEMORY

The data can be copied/erased by the operations on the HOME screen. (When erasing the data, execute formatting the internal memory.)

Note 1:When replacing the SY-327 board, erase the data in internal memory of the board before replacement.
Note 2:When replacing the SY-327 board, execute formatting and initialize the internal memory after replacement.

Method for Copying the Data in Internal Memory

Copy

Copies all images in the internal memory to a memory card.

1. Insert a memory card with sufficient free capacity into the camera.
2. MENU → (Settings) → (Memory Card Tool) → [Copy] → [OK] → ●

Notes

- Use a fully charged battery pack. If you attempt to copy image files using a battery pack with little remaining charge, the battery pack may run out, causing copying to fail or possibly corrupting the data.
- Images cannot be copied individually.
- The original images in the internal memory are retained even after copying. To delete the contents of the internal memory, remove the memory card after copying, then format the internal memory ([Format] in [Internal Memory Tool]).
- The data will be copied to the recording folder that is currently being used, with a number one higher than the largest data number in that folder.

Method for Formatting the Internal Memory or "Memory Stick Duo" media

Format

Formats the memory card or the internal memory.

When you use a memory card with this camera for the first time, it is recommended to format the card using the camera for stable performance of the memory card before shooting. Note that formatting permanently erases all data on the memory card, and is unrecoverable. Save precious data on a computer, etc.

1. MENU → (Settings) → (Memory Card Tool) or (Internal Memory Tool) → [Format] → [OK] → ●

Note

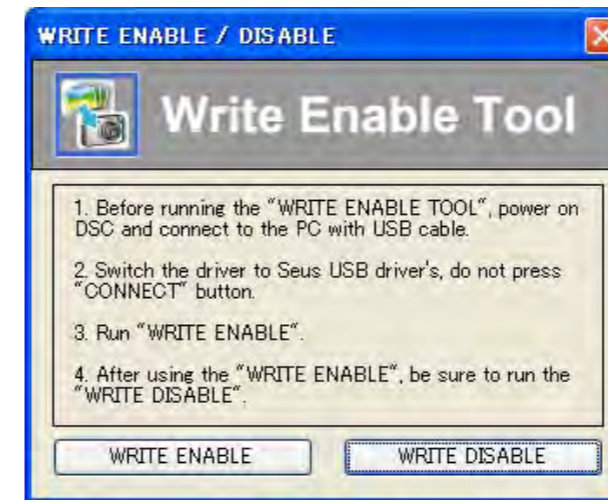
- Note that formatting permanently erases all data including even protected images.

1-5. HOW TO WRITE DATA TO INTERNAL MEMORY

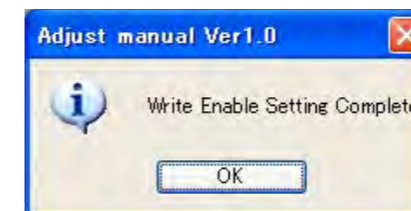
Usually, the camera has been set so as to disable the data writing from the PC to the internal memory of the camera. This setting must be changed temporarily when the data is to be written to the internal memory such as a case after the board replacement. To change settings is enabled with using the writing enabler tool (Write Enable Tool) on the Adjust Manual is activating from the Adjust Station.

Data writing method

- 1) Start the Adjust Manual from the Adjust Station.
- 2) Click (Write Enable Tool) button.
- 3) Click "Activate Write Enable Mode" button.



- 4) Upon completion of the setting change, the following message will be displayed.



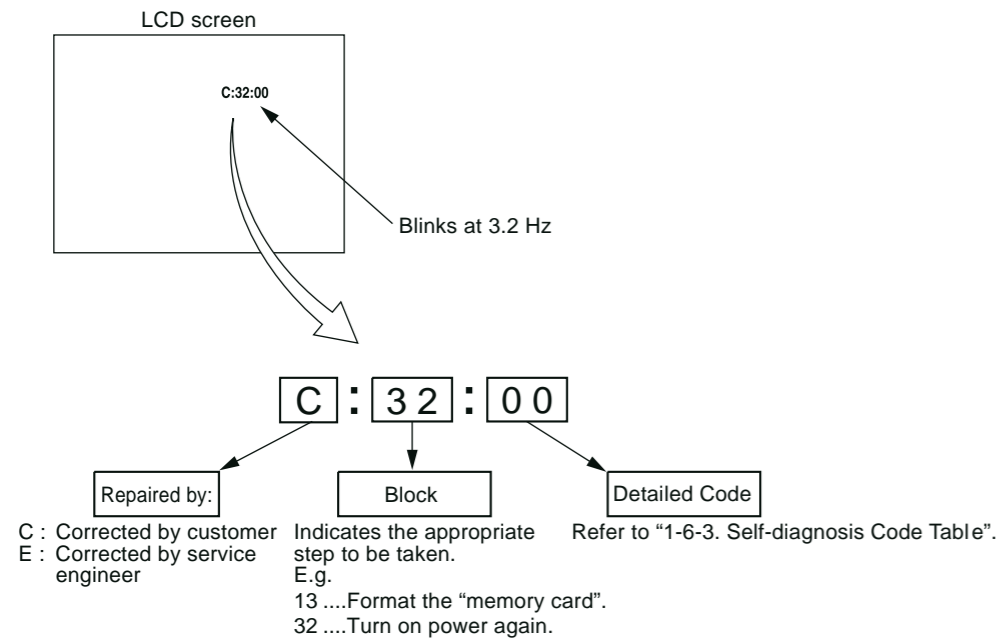
- 5) Return the driver to the original one, and connect the PC to the camera (USB mode: Mass Storage).
- 6) Write the data read out into the PC to the internal memory of the camera.
- 7) Disconnect the PC from the camera, and turn off the camera.

Note: By turning off the camera, the write enable setting is reset.

1-6. SELF-DIAGNOSIS FUNCTION

1-6-1. Self-diagnosis Function

When problems occur while the unit is operating, the self-diagnosis function starts working, and displays on the LCD screen what to do. Details of the self-diagnosis functions are provided in the Instruction manual.



1-6-2. Self-diagnosis Display

When problems occur while the unit is operating, the LCD screen shows a 4-digit display consisting of an alphabet and numbers, which blinks at 3.2 Hz. This 5-character display indicates the "repaired by:", "block" in which the problem occurred, and "detailed code" of the problem.

1-6-3. Self-diagnosis Code Table

Self-diagnosis Code			Symptom/State	Correction
Repaired by:	Block Function	Detailed Code		
C	1 3	0 1	The internal memory has experienced a media error.	Turn the power off and on again.
			The internal memory has experienced a format error.	Format the internal memory.
			Memory card is unformatted.	Format the memory card.
			Memory card is broken.	Insert a new memory card.
			Memory card type error	Insert a supported memory card.
			The camera cannot read or write data on the memory card.	Turn the power off and on again, or taking out and inserting the memory card several times.
C	3 2	0 1	Trouble with hardware	Turn the power off and on again.
E	6 1	0 0	Difficult to adjust focus (Cannot initialize focus)	Retry turn the power on by the power switch. If it does not recover, check the focus reset sensor of lens block (pin ⑭ of CN405 on the SY-327 board). If it is OK, check the focus motor drive IC (IC401 on the SY-327 board).
E	6 1	1 0	Zoom operations fault (Cannot initialize zoom lens.)	Retry turn the power on by the power switch. Check the zoom reset sensor of lens block (pin ⑰ of CN405 on the SY-327 board) when zooming is performed when the zoom button is operated. If it is OK, check the zoom motor drive IC (IC401 on the SY-327 board).
E	6 2	0 2	Abnormality of IC for steadyspot.	Check of the IC for steadyspot (IC401 on the SY-327 board).
E	6 2	1 0	Lens initializing failure.	Check of the IC for steadyspot (IC401 on the SY-327 board).
E	6 2	1 1	Lens overheating (PITCH).	Check the HALL element (PITCH) of optical image stabilizer (pin ⑳, ㉑ of CN405 on the SY-327 board). If it is OK, check PITCH angular velocity sensor (SE401 on the SY-327 board) peripheral circuits.
E	6 2	1 2	Lens overheating (YAW).	Check the HALL element (YAW) of optical image stabilizer (pin ㉒, ㉓ of CN405 on the SY-327 board). If it is OK, check YAW angular velocity sensor (SE401 on the SY-327 board) peripheral circuits.
E	6 2	2 0	Abnormality of thermistor.	Check the OIS temp sensor of optical image stabilizer (pin ㉔ of CN405 on the SY-327 board).
E	9 1	0 1	Abnormality when flash is being charged.	Checking of flash unit or replacement of flash unit. (Note)
E	9 4	0 0	Internal memory fault	Inspect the internal memory (IC211 on the SY-327 board).

Note: After repair, be sure to perform "1-7. PROCESS AFTER FIXING FLASH ERROR".

1-7. PROCESS AFTER FIXING FLASH ERROR

When "FLASH error" (Self-diagnosis Code E : 91 : 01) occurs, to prevent any abnormal situation caused by high voltage, setting of the flash is changed automatically to disabling charge and flash setting.

After fixing, this setting needs to be deactivated. Flash error code can be on the HOME screen.

Method for Initializing the Flash Error Code

Reset Flash Error using the Flash Error Repair Tool Ver_[].[].exe.

1-8. ORNAMENTAL RING A OR BARRIER ASSY REPLACING METHOD

Removal

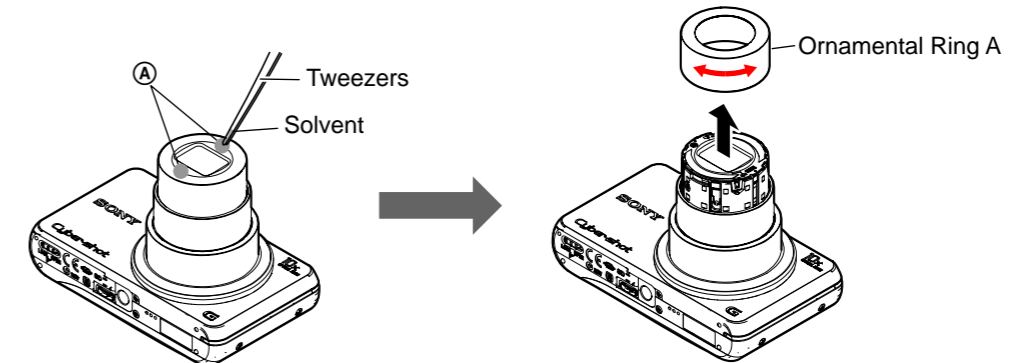
Turn on the power switch and extend the lens (TELE end).

Detach the battery.

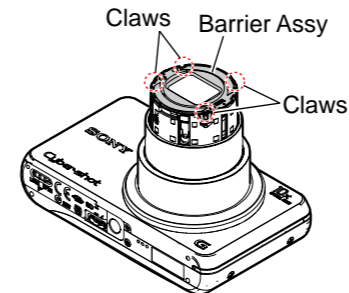
Apply alcohol to two gaps (A) of the Ornamental Ring A with tweezers or a fine-tipped stick as shown below.

Turn the Ornamental Ring A clockwise and counterclockwise to detach it.

Note: As for the figure below, this model and the shape of the main body are different.

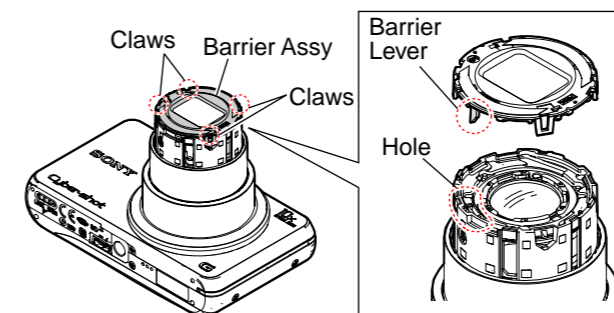


Disengage the four claws and remove the Barrier Assy.



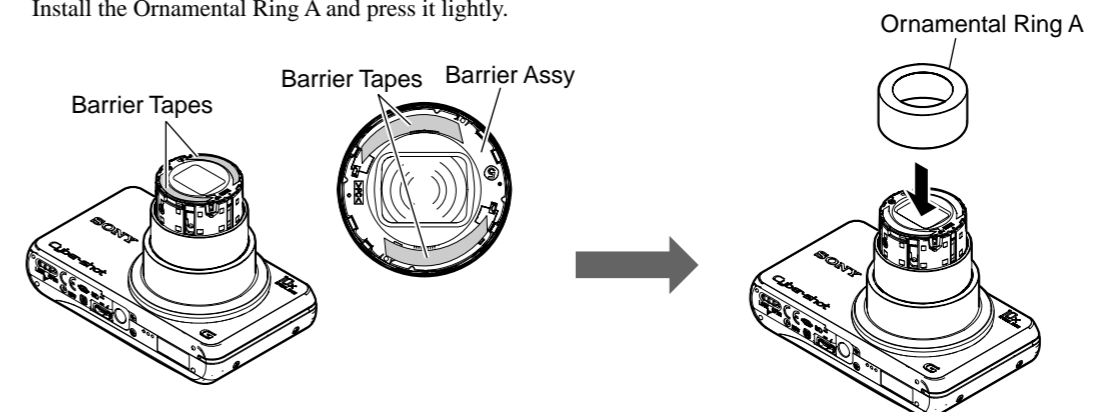
Installation

Fit the four claws while inserting the Barrier Lever into the hole and attach the Barrier Assy.



Peel off the release papers of the Barrier Tapes.

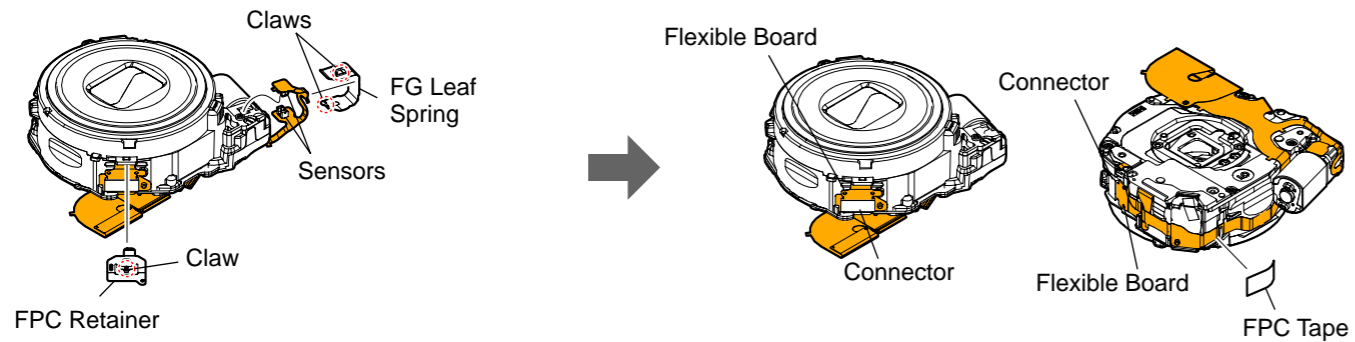
Install the Ornamental Ring A and press it lightly.



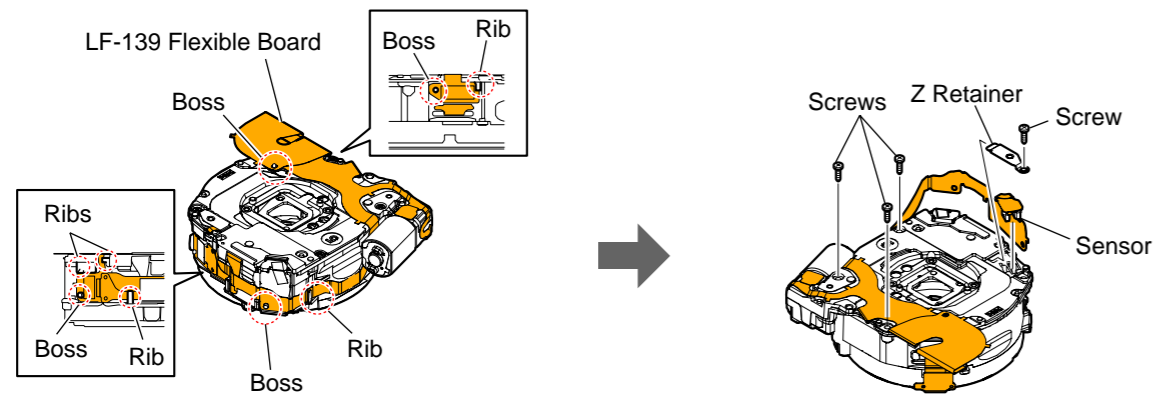
1-9. DC MOTOR WORM ASSY REPLACING METHOD

Removal

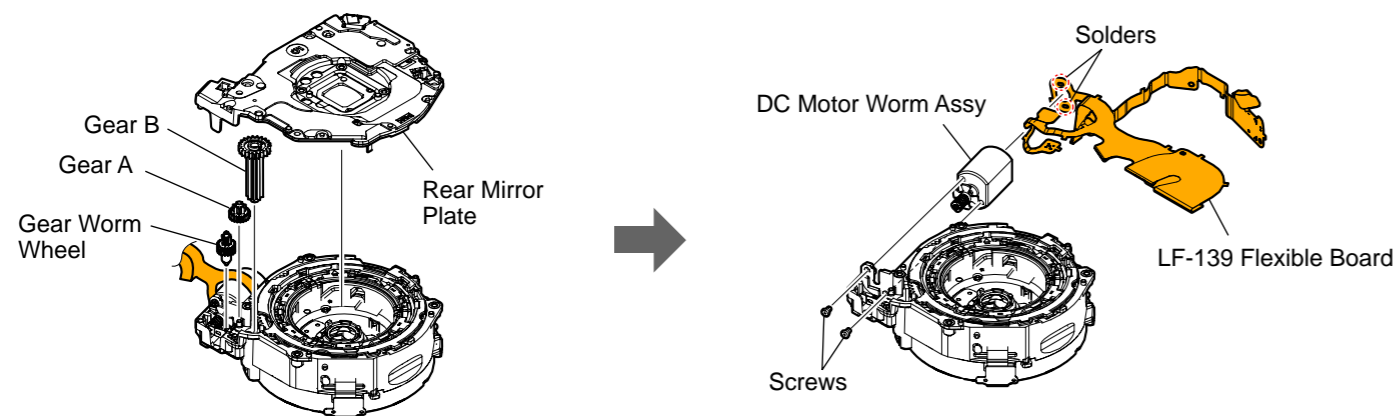
1. Disengage the two claws and remove the FG Leaf Spring.
2. Remove the two Sensors.
3. Disengage the claw and remove the FPC Retainer.
4. Peel off the FPC Tape.
5. Disconnect the two Flexible Boards from the Connectors on the LF-139 Flexible Board.



6. Remove the LF-139 Flexible Board.
7. Remove the four screws and remove the Z Retainer and the Sensor.

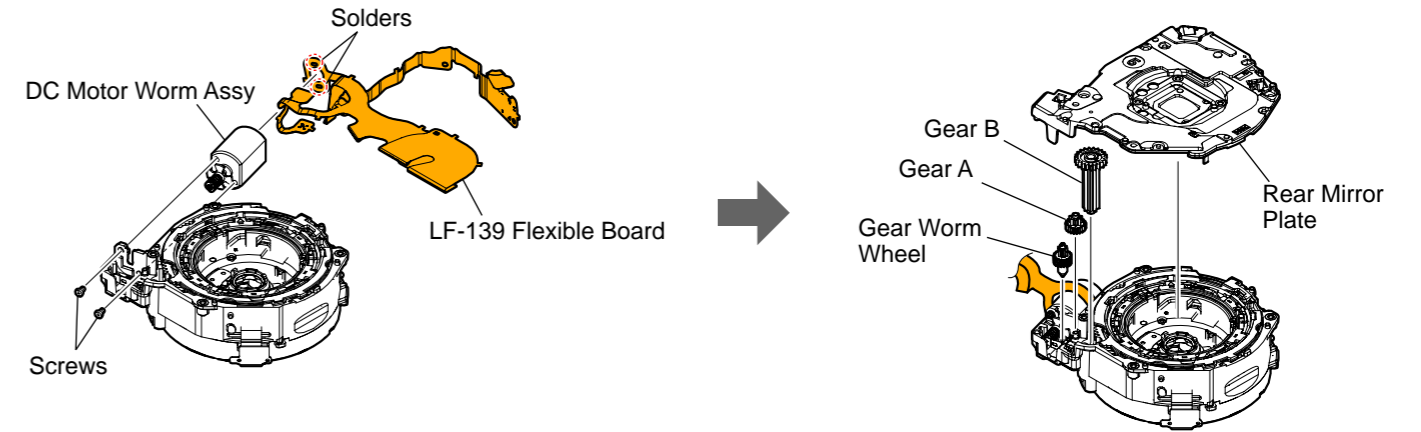


8. Detach the Rear Mirror Plate and remove the Gear Worm Wheel, Gear A, and Gear B.
9. Remove the two screws and remove solder at two locations to detach the DC Motor Worm Assy.

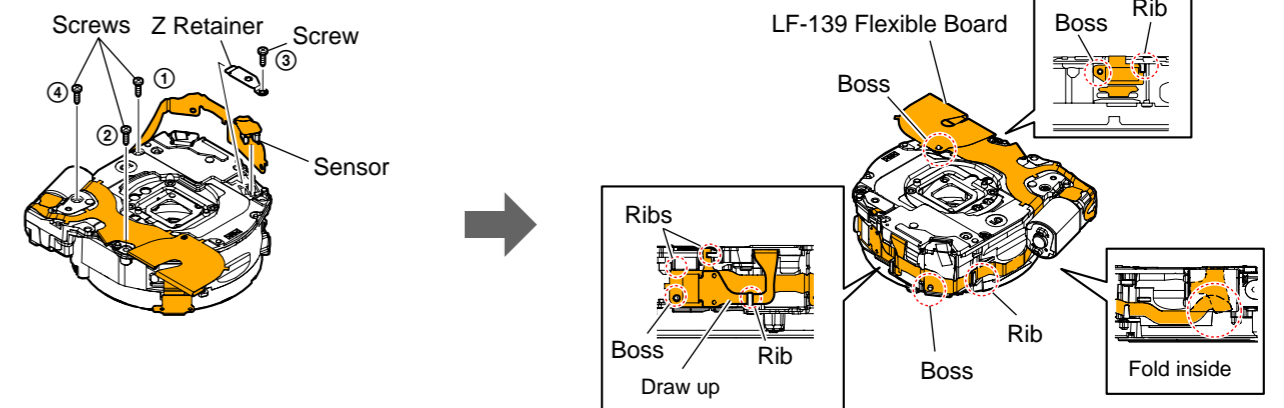


Installation

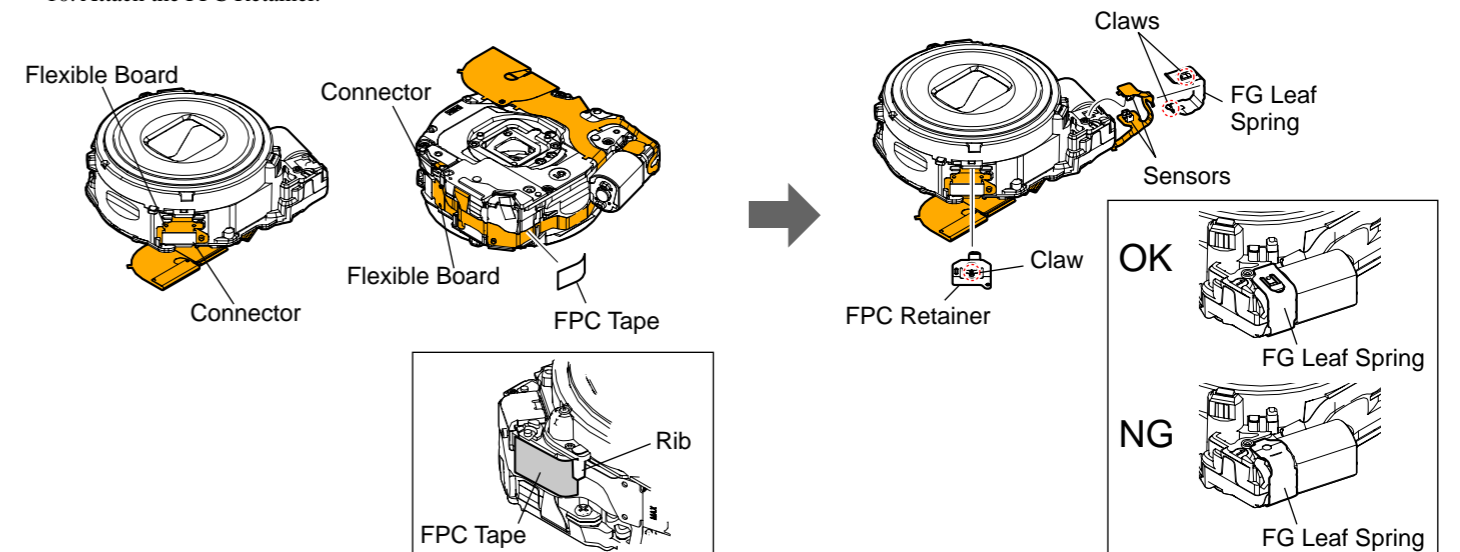
1. Install the LF-139 Flexible Board to the DC Motor Worm Assy and solder the LF-139 Flexible Board at two locations.
2. Install the DC Motor Worm Assy to the Stationary Tube Assy with two screws.
3. Install the Gear Worm Wheel, Gear A, and Gear B.
4. Install the Rear Mirror Plate.



5. Install four screws and the Z Retainer. Tighten the screws in the order of numbers in the figure below.
6. Install the LF-139 Flexible Board.



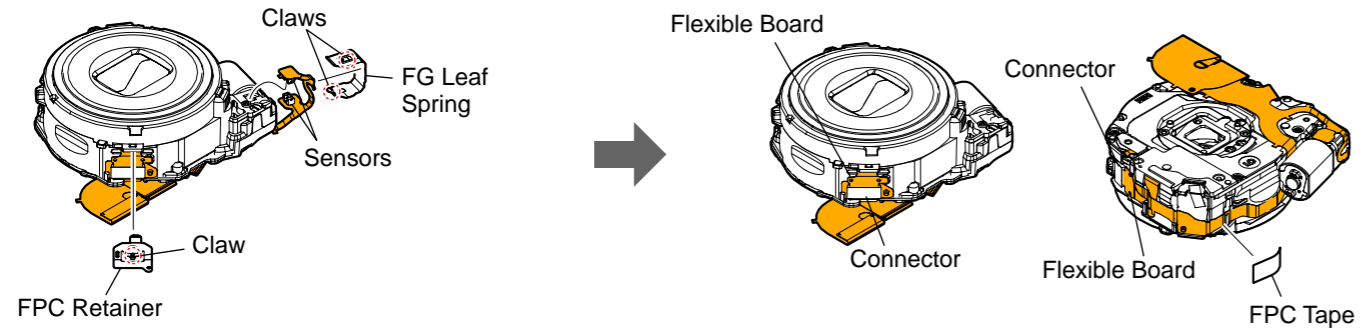
7. Connect the two Flexible Boards to the Connectors on the LF-139 Flexible Board.
 8. Stick the FPC Tape as shown in the figure below.
 9. Install the two Sensors and attach the FG Leaf Spring.
- Note:** Attach the FG Leaf Spring in the correct orientation.
10. Attach the FPC Retainer.



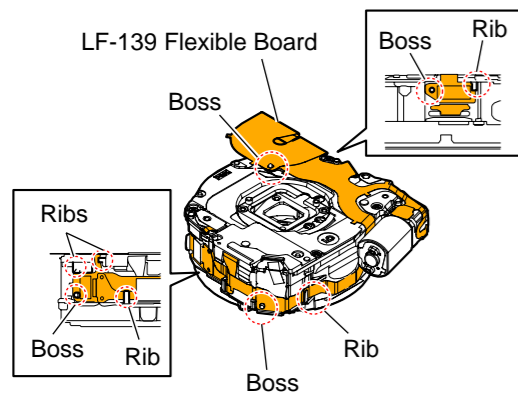
1-10. THREE TUBE LUBRICATING BLOCK ASSY AND GROUP 1 FRAME REPLACING METHOD

Removal

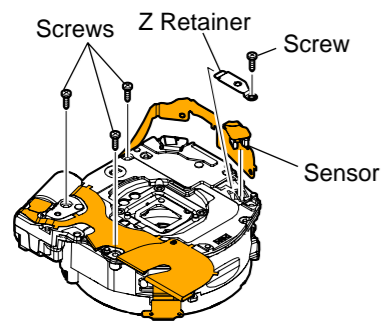
1. Disengage the two claws and remove the FG Leaf Spring.
2. Remove the two Sensors.
3. Disengage the claw and remove the FPC Retainer.
4. Disconnect the Flexible Board from the Connector on the LF-139 Flexible Board.
5. Peel off the FPC Tape.
6. Disconnect the Flexible Board from the Connector on the LF-139 Flexible Board.



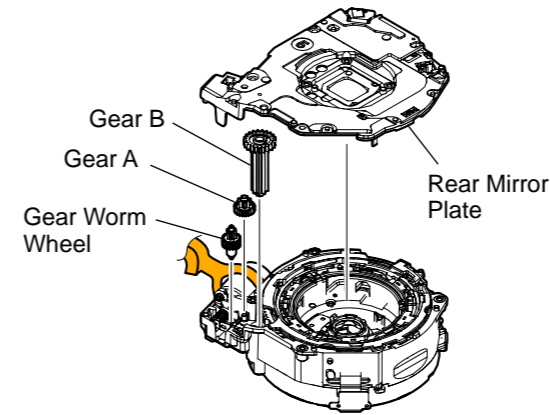
7. Remove the LF-139 Flexible Board.



8. Remove the four screws and remove the Z Retainer and the Sensor.

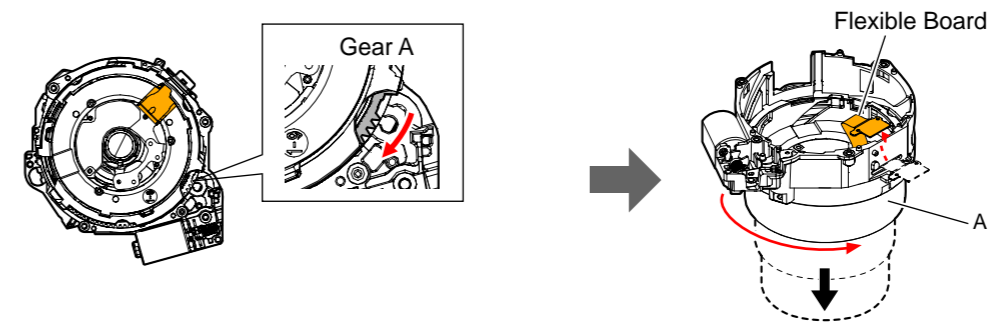


9. Detach the Rear Mirror Plate and remove the Gear Worm Wheel, Gear A, and Gear B.

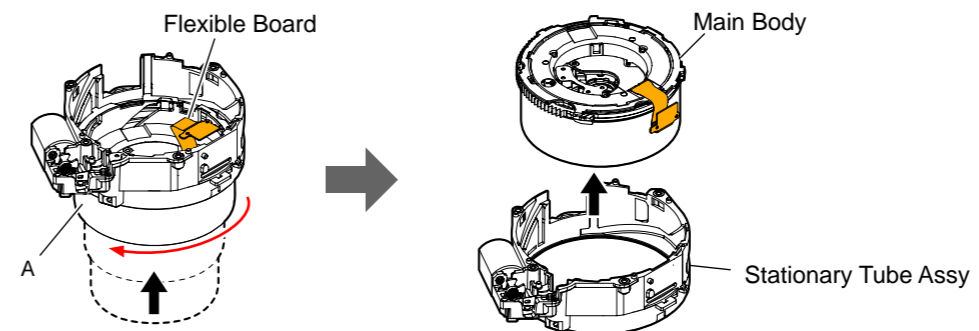


10. Turn the Gear in the arrow direction to extend the Mirror Plate slightly.

11. Turn portion A in the arrow direction to TELE end and remove the Flexible Board from the hole in the Stationary Tube Assy.

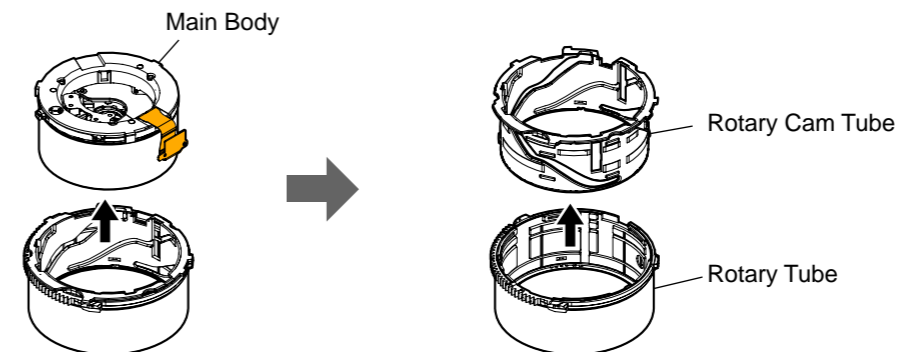


12. Turn portion A in the arrow direction to WIDE end and detach the Main Body from the Stationary Tube Assy.

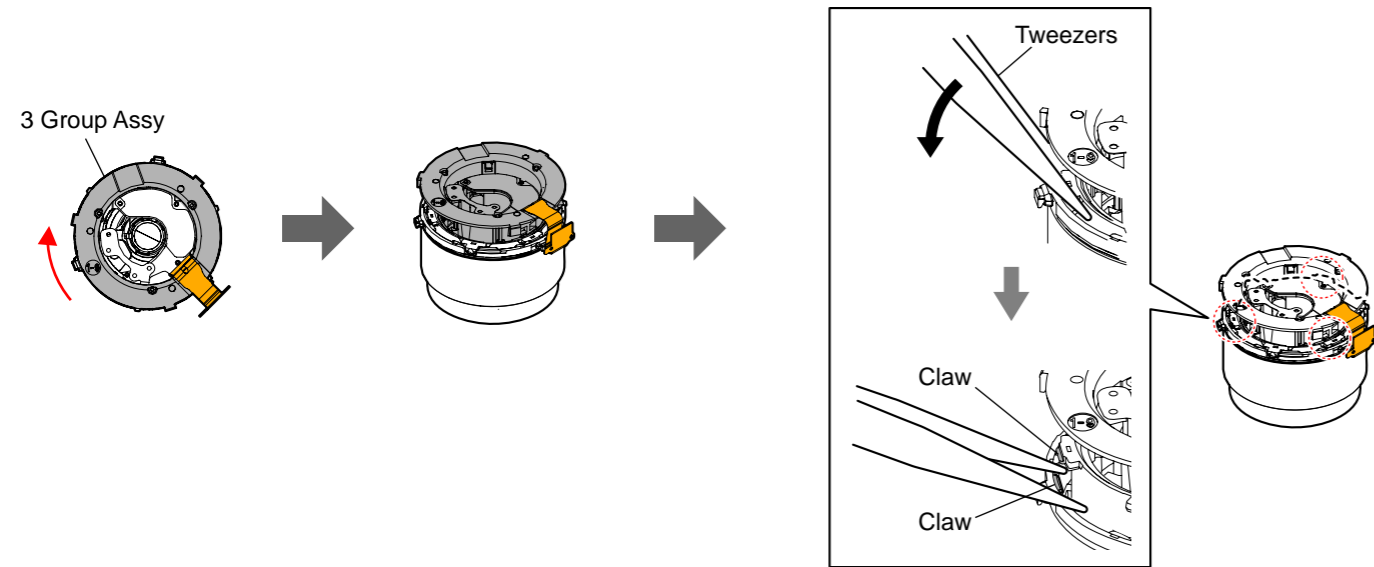


13. Remove the Main Body in the arrow direction.

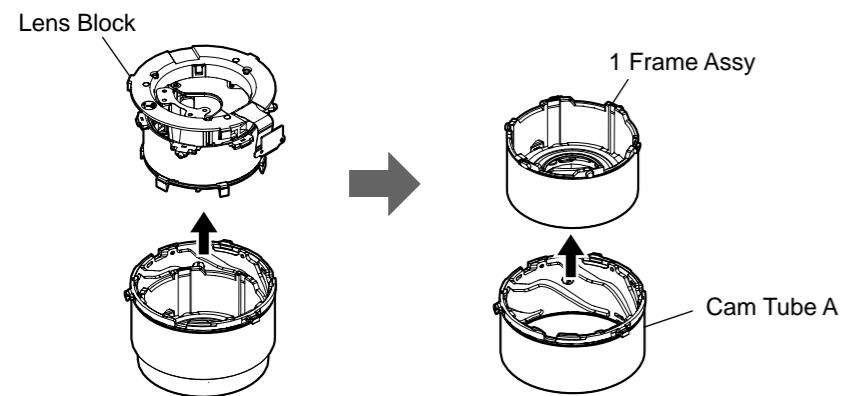
14. Remove the Rotary Cam Tube from the Rotary Tube in the arrow direction.



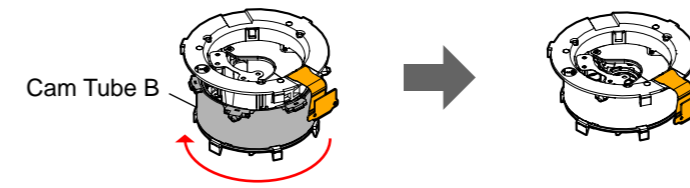
- 15. Turn the 3 Group Assy approx. 20° in the arrow direction.
- 16. Disengage the three Claws with tweezers.



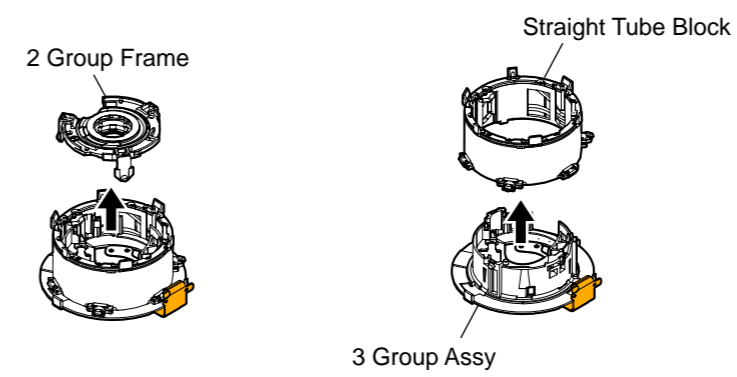
- 17. Remove the Lens Block.
- 18. Remove the 1 Frame Assy from the Cam Tube A.



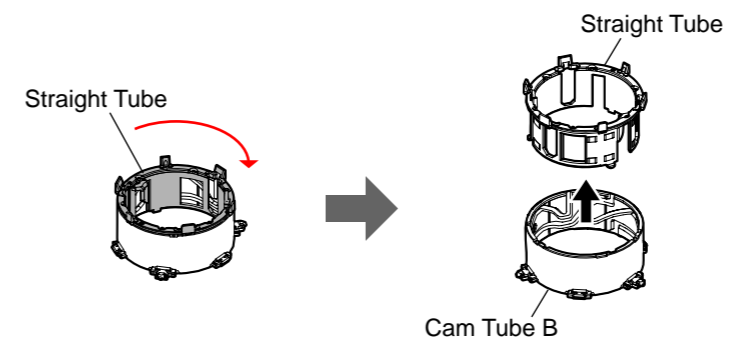
- 19. Fully turn the Cam Tube B in the arrow direction.



- 20. Remove the 2 Group Frame.
- 21. Remove the Straight Tube Block.



- 22. Turn the Straight Tube in the arrow direction to detach it from the Cam Tube B.

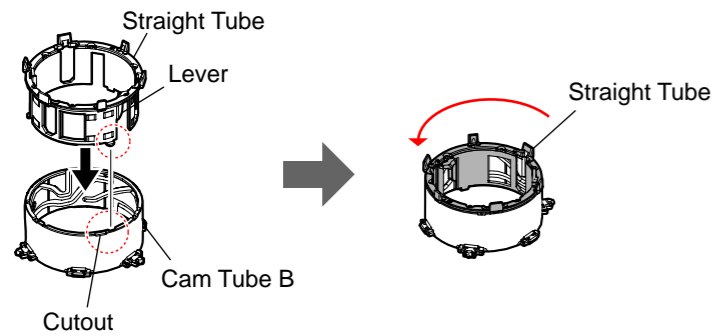


Installation

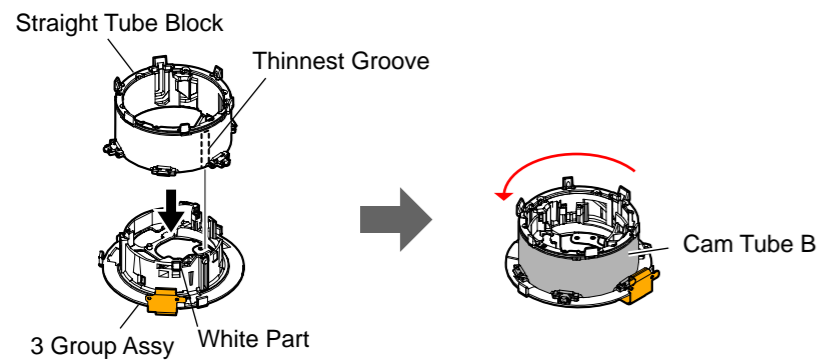
1. Align the Lever with the cutout as shown in the figure, and then install the Straight Tube to the Cam Tube B.

Note: Be sure to set the Straight Tube at the correct insertion position.

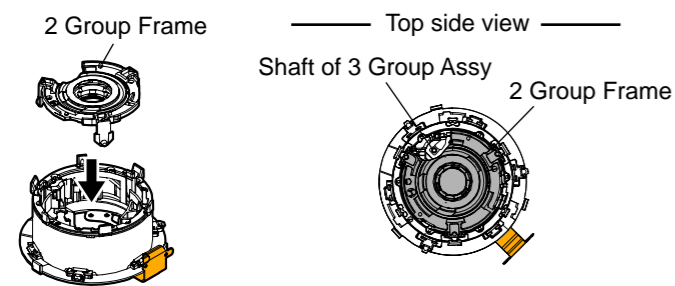
2. Turn the Straight Tube in the arrow direction to the maximum.



3. Install the Straight Tube Block aligning the thinnest groove with the white part as shown in the figure, and then turn the Cam Tube B in the arrow direction to the maximum.

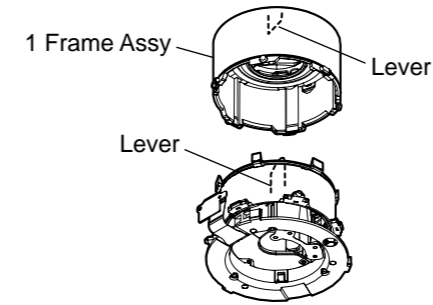


4. Install the 2 Group Frame at a position where the Shaft of 3 Group Assy is visible through the cutout of the 2 Group Frame.



5. Install the 1 Frame Assy so the Lever positions match.

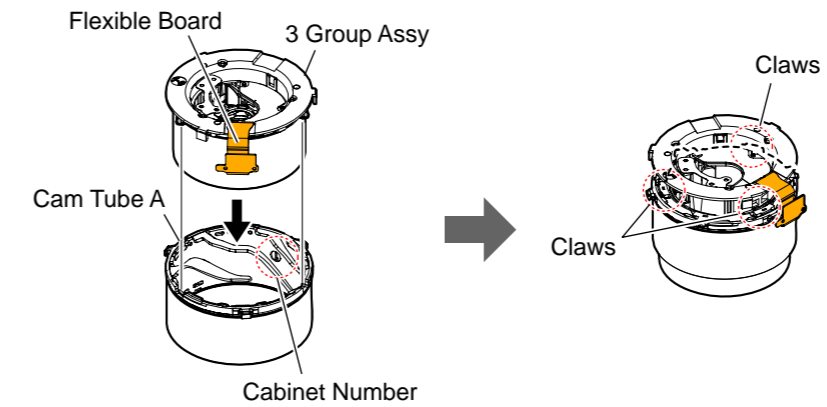
Note: Confirm that the Barrier closes when the 1 Frame Assy is pushed.



6. Set the 3 Group Assy in the groove in the orientation where the Flexible Board comes to the nearly opposite side of the cabinet number on the Cam Tube A.

Note: Be sure to set the 3 Group Assy at the correct insertion position.

7. Push the 3 Group Assy until the three claws lock.

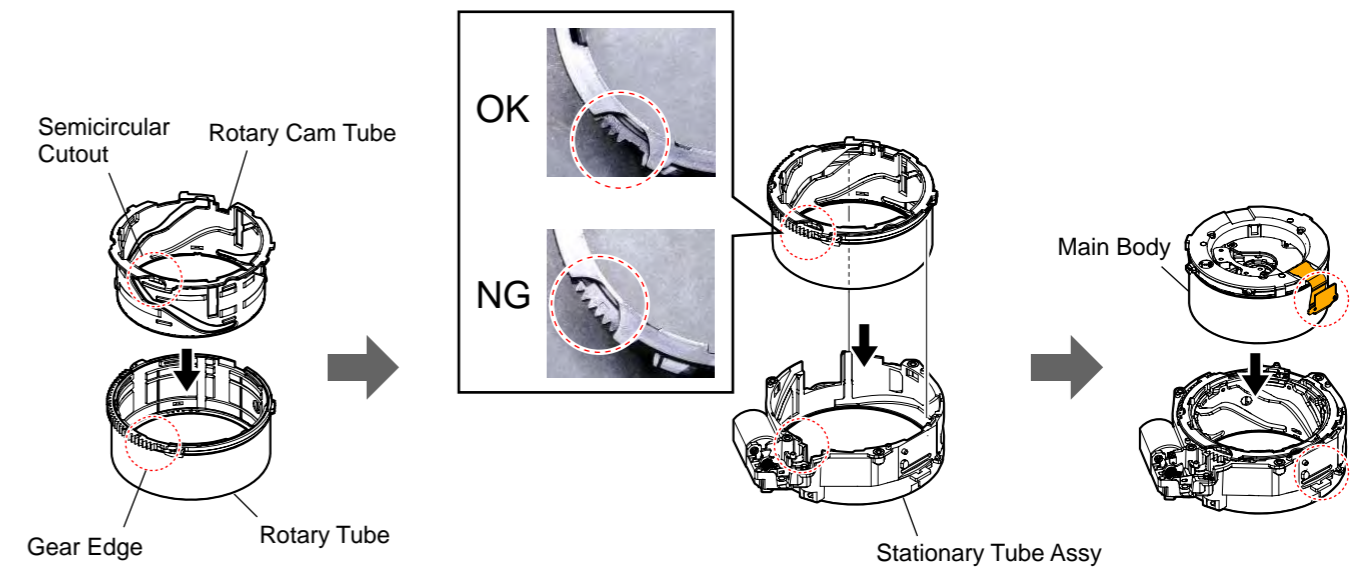


8. Install the Rotary Cam Tube to the Rotary Tube aligning the semicircular cutout with the Gear edge.

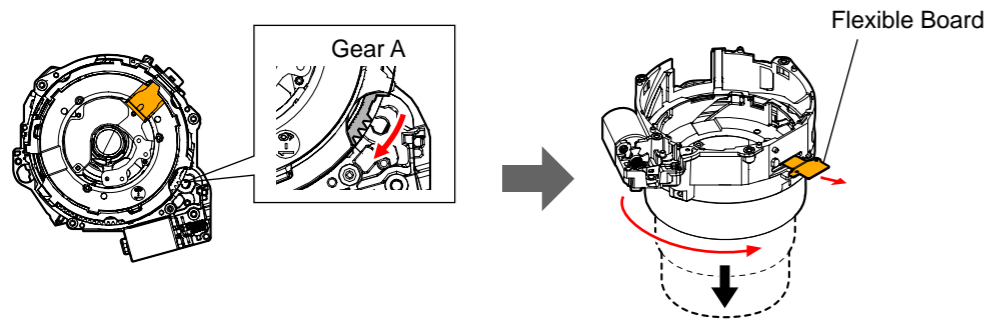
9. Install the Stationary Tube Assy at the position shown in the figure as a guideline.

Note: Be sure to install the Rotary Cam Tube with the semicircular cutout and the Gear edge set in the "OK" state shown in the figure.

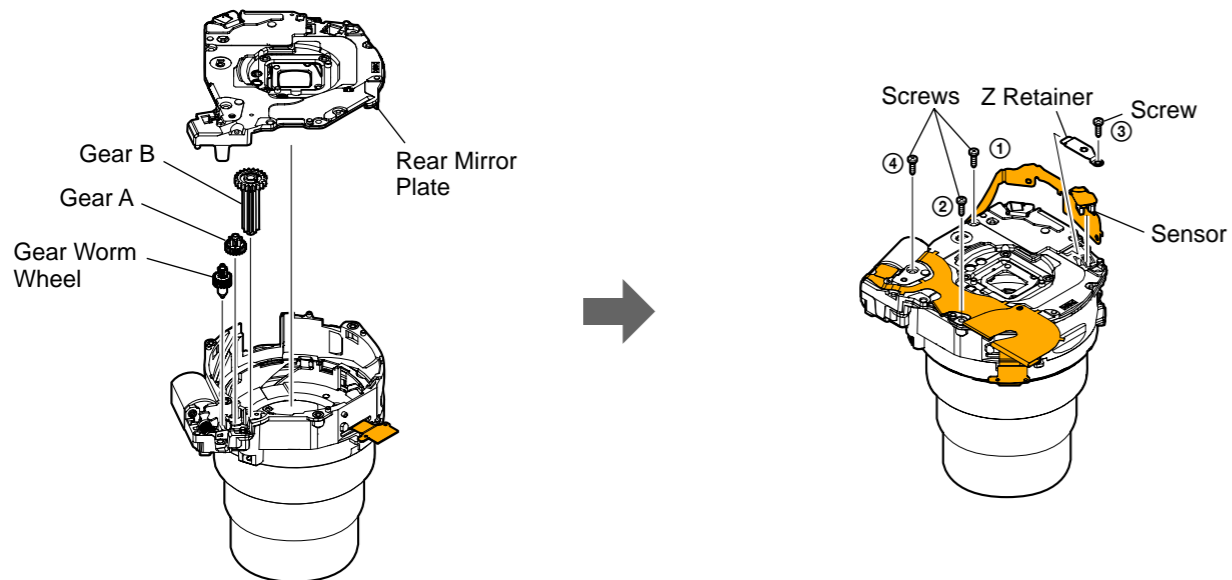
10. Install the Main Body so that the Flexible Board position matches the hole to pass the Flexible Board.



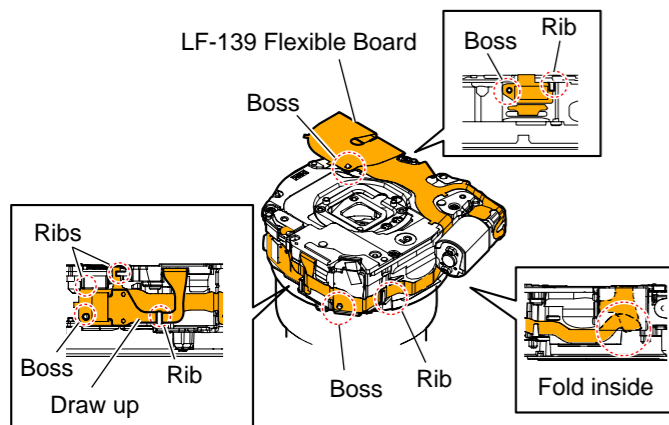
11. Turn the Gear in the arrow direction to extend the Mirror Plate slightly.
12. Turn portion A in the arrow direction to TELE end and remove the Flexible Board from the hole in the Stationary Tube Assy.



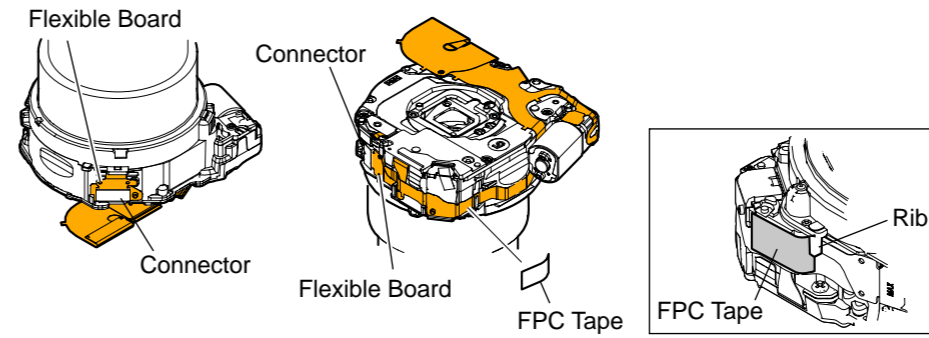
13. Install the Gear Worm Wheel, Gear A, and Gear B.
14. Install the Rear Mirror Plate.
15. Install four screws and the Z Retainer. Tighten the screws in the order of numbers in the figure below.



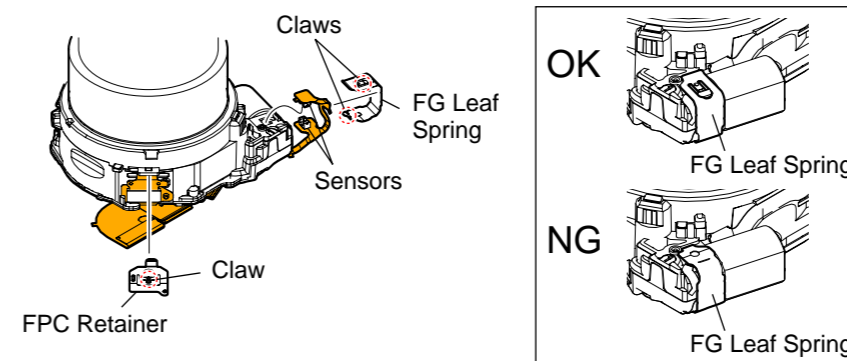
16. Install the LF-139 Flexible Board.



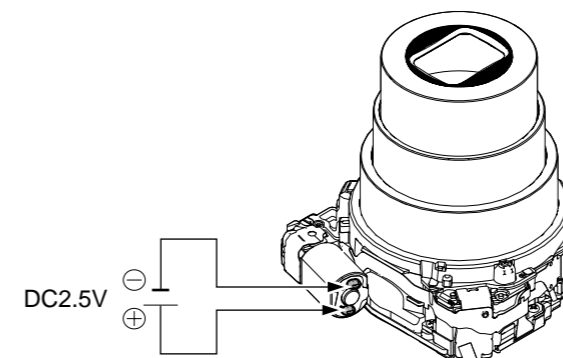
17. Connect the two Flexible Boards to the Connectors on the LF-139 Flexible Board.
18. Stick the FPC Tape as shown in the figure below.



19. Install the two Sensors and attach the FG Leaf Spring.
- Note:** Attach the FG Leaf Spring in the correct orientation.
20. Attach the FPC Retainer.



21. Apply a voltage of 2.5 V to the DC Motor and retract the Lens.



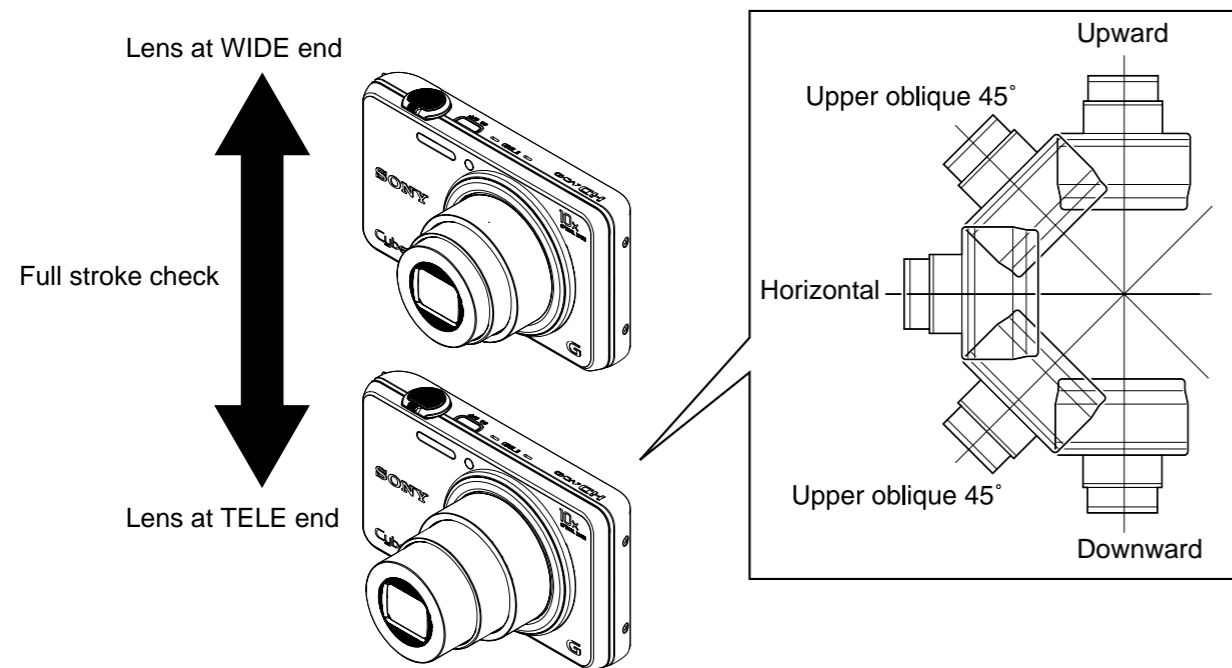
1-11. FINAL INSPECTION

1-11-1. Confirm There Is No Fault In Actual Motion/Actual Screen

Inspect it as follows when you exchange parts in the lens block.

- ① Zoom motion (Check five postures: horizontal, upward/downward, upper/lower oblique 45°)
No abnormal sound or motion must be found over full stroke between TELE end and WIDE end.
- ② Zoom image
No abnormality such as a skipped image or wavy image must be found in the image through LCD or finder over full stroke between TELE end and WIDE end.
- ③ Barrier (Check five postures: horizontal, upward/downward, upper/lower oblique 45°)
The barrier must be opened and closed fully, free from a sticking in the midway.
No abnormal sound must be heard during the operation.
- ④ Appearance condition Scratches or stains must not be noticeable, except that the customer permits them.
- ⑤ Foreign matters on the lens The lens condition must not be worse than that when the camera was received from the customer.

Note: As for the figure below, this model and the shape of the main body are different.



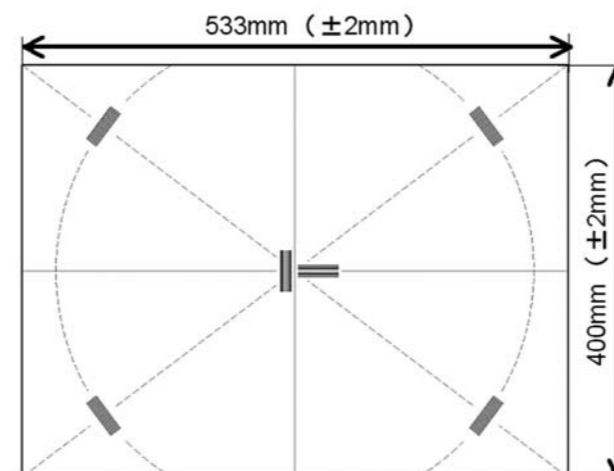
1-11-2. Inspection When Cam Tube Block Assy Or Straight Tube Lubricated Assy Is Replaced

Focus check

- ① Preparation
 - Camera installed re-assemble lens.
 - Chart (Printed PDF file at the same magnification) (Refer to <Reference>)
 - Tripod
 - Mirror (ex. CD)
 - Memory card
 - PC
- ② Shoot setting
 - (1) Paste the chart.
 - Chart should be on the flat wall.
 - Illuminance level in the chart should be the same.
 - Make the tripod's height and the center of the chart to the same height.
 - Enough space needed for shooting.
 - (2) Set the camera.
 - Set [P] mode
 - Set [Maximum] size
 - Set ISO lowest level
 - Set Steady Shot [OFF]
 - Set Flash [OFF]
 - (3) Set the camera on a tripod.
 - (4) Adjust the position of the camera and the chart.
 1. Set the zoom position of the camera at Wide end.
 2. Attach the mirror onto the center of the chart.
* The mirror should not tilt on the chart.
 3. Set the camera to display the chart on LCD like in the following picture.
 4. Adjust the camera position to the center of the chart.
* Adjust the tripod height and the position (Lateral direction).
 5. Adjust the camera angle to the frame of the chart with tripod.
Remove the mirror.
- ③ Shooting
 - (1) Set [Self-Timer]
 - (2) Shot
- ④ Check the shot image.
 - (1) Check the shot image on PC.
 - 100% Display (Display at the same magnification of its Pixel.)
 - Compare the image with the sample you set.
 - No extreme focus blurring
 - It should be distinguished the black and white by the sharpness between them.
 - If it is in NG level, replace the lens unit.

<Reference>

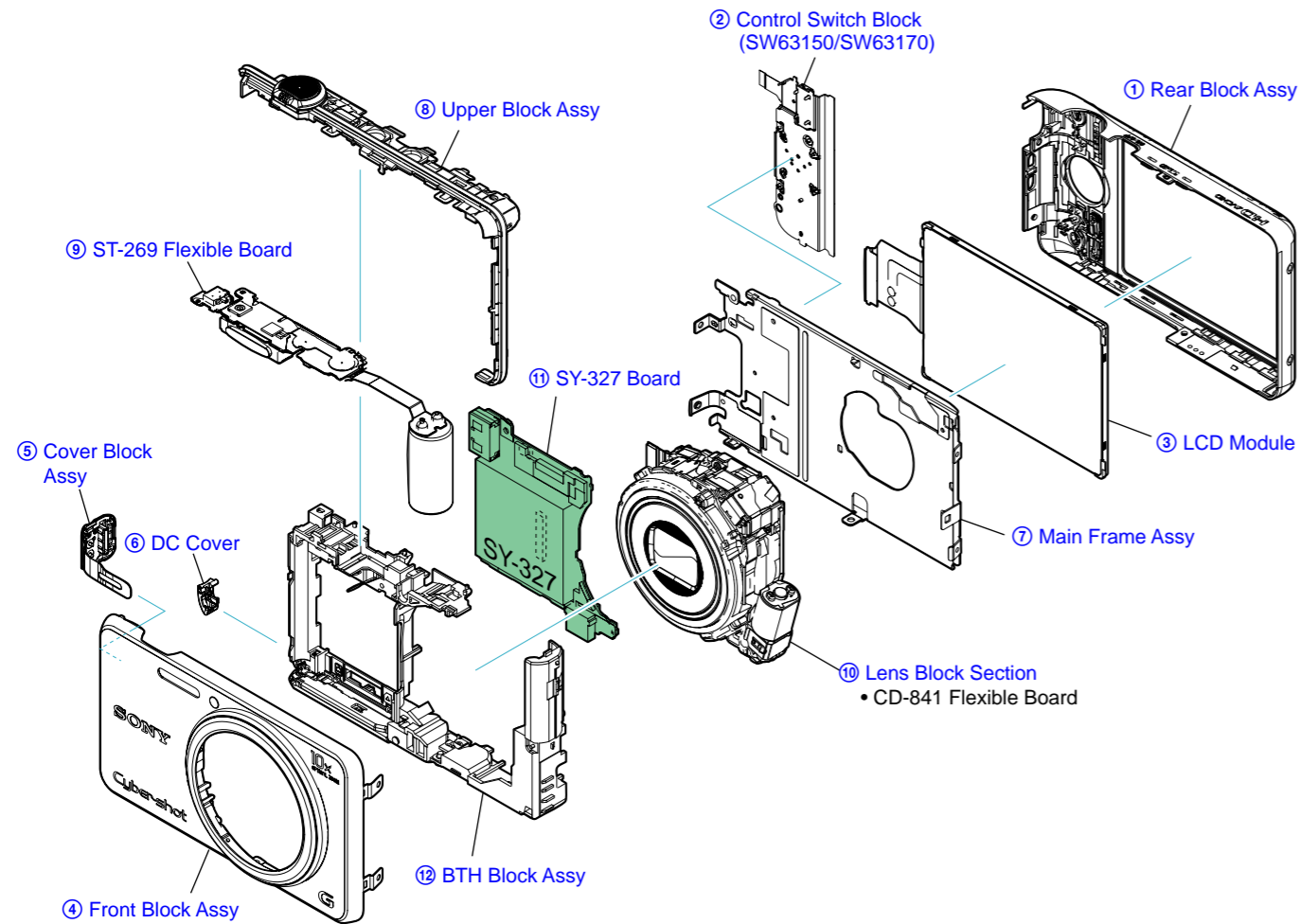
- **How to Print the Chart**
Print "Forcus-Chart_A3.pdf" with printer.
Print at the same magnification (It means 100 % size).
Check the settings of printer to print in proper size.
- **Check of chart size.**
Make charts together and check if the size of charts is the following size.
* The chart consists of 2 pcs.



2. REPAIR PARTS LIST

IDENTIFYING PARTS

Follow the disassembly in the numerical order given.



(ENGLISH)

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.
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- CAPACITORS:
uF: μ F
- COILS
uH: μ H
- RESISTORS
All resistors are in ohms.
METAL: metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F: nonflammable
- SEMICONDUCTORS
In each case, u: μ , for example:
uA...: μ A... , uPA... , μ PA... ,
uPB... , μ PB... , μ PC... , μ PC... ,
uPD... , μ PD...

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

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

Caution

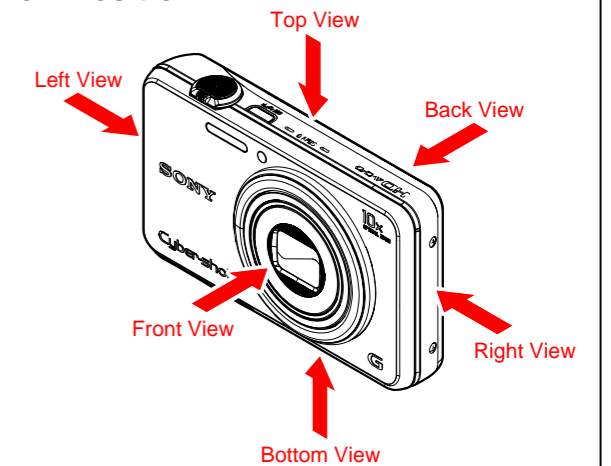
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.
Dispose of used batteries according to the instructions.

- Color Indication of Appearance Parts
Example:
(SILVER): Cabinet's Color
(Silver) : Parts Color

Abbreviation

- CH : Chinese model
- CND : Canadian model
- KR : Korea model

View Position



Link

DISCHARGING OF THE CHARGING CAPACITOR

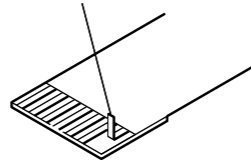
ACCESSORIES

ASSEMBLY

NOTE FOR REPAIR

- Make sure that the flat cable and flexible board are not cracked or bent at the terminal.
Do not insert the cable insufficiently nor crookedly.
- When remove a connector, don't pull at wire of connector. It is possible that a wire is snapped.
- When installing a connector, don't press down at wire of connector.
It is possible that a wire is snapped.
- Do not apply excessive load to the gilded flexible board.

Cut and remove the part of gilt which comes off at the point.
(Be careful or some pieces of gilt may be left inside)



DISCHARGING OF THE CHARGING CAPACITOR (C901)

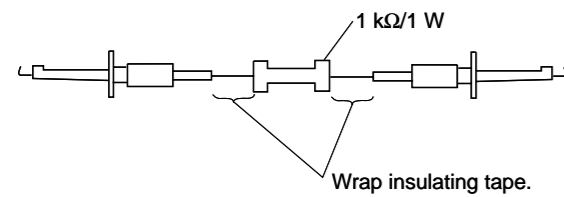
The charging capacitor is charged up to the maximum 330 V potential.

There is a danger of electric shock by this high voltage when the capacitor is handled by hand. The electric shock is caused by the charged voltage which is kept without discharging when the main power of the unit is simply turned off. Therefore, the remaining voltage must be discharged as described below.

Preparing the Short Jig

To preparing the short jig, a small clip is attached to each end of a resistor of 1 k Ω / 1 W (1-215-869-11).

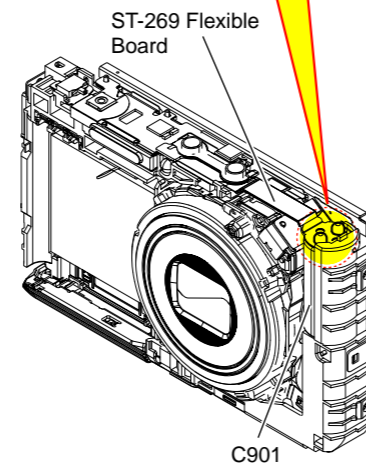
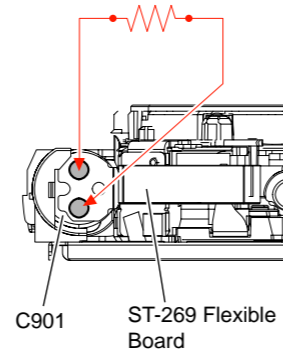
Wrap insulating tape fully around the leads of the resistor to prevent electrical shock.



Note: High-voltage cautions

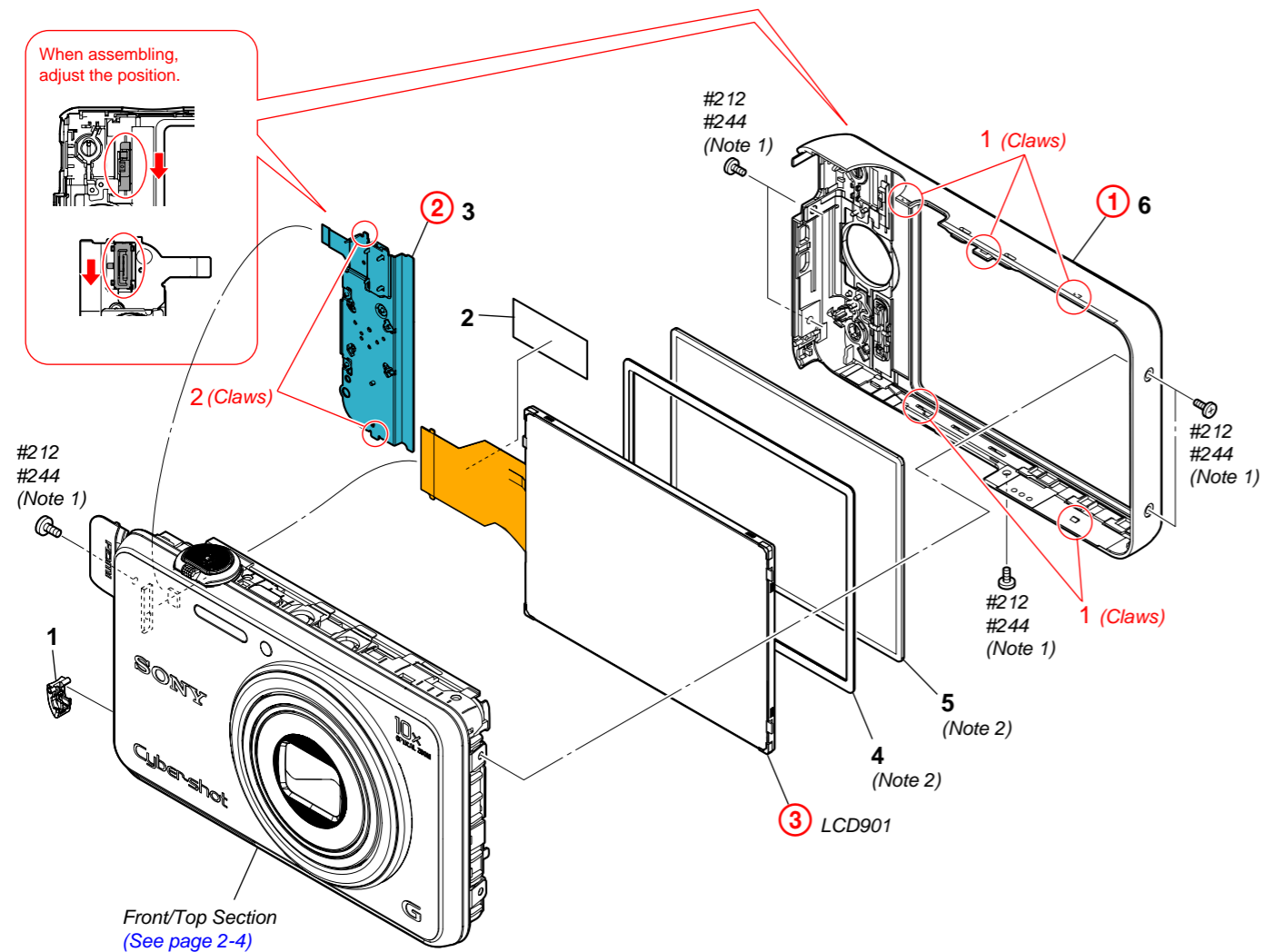
Discharging the Capacitor
Short-circuit between two points with the short jig about 10 seconds.

R:1 k Ω /1 W
(Part code: 1-215-869-11)



2-1. EXPLODED VIEWS

2-1-1. REAR SECTION



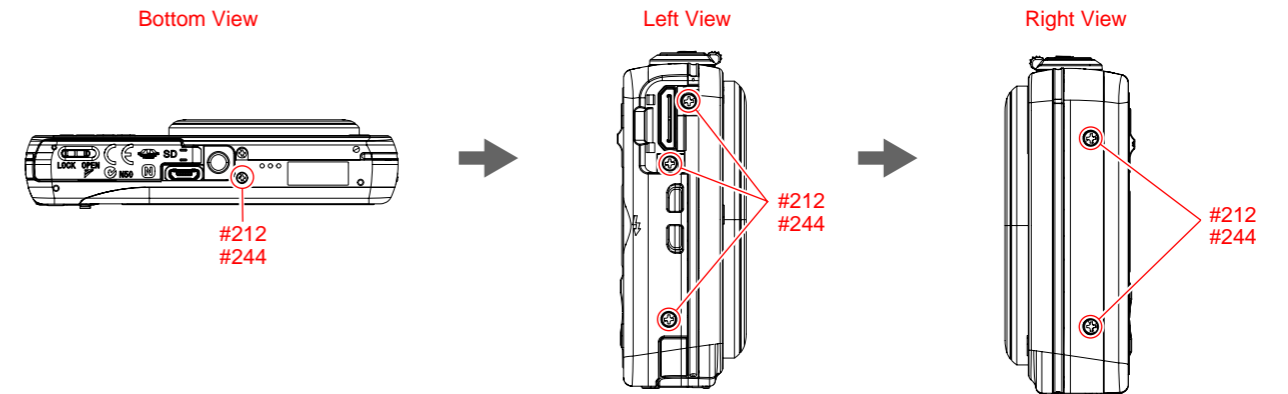
Ref. No.	Part No.	Description
1	4-419-298-01	COVER (180), DC (SILVER)
1	4-419-298-11	COVER (180), DC (BLACK)
1	4-419-298-21	COVER (180), DC (BLUE)
1	4-419-298-31	COVER (180), DC (RED)
2	4-419-299-01	SHEET YP (180)
3	1-490-033-21	SWITCH BLOCK, CONTROL (SW63150) (BLACK)
3	1-490-035-11	SWITCH BLOCK, CONTROL (SW63170) (SILVER)
3	1-490-035-51	SWITCH BLOCK, CONTROL (SW63170) (BLUE)
3	1-490-035-61	SWITCH BLOCK, CONTROL (SW63170) (RED)
4	4-419-307-01	CUSHION (180), LCD (Note 2)

Ref. No.	Part No.	Description
5	4-419-304-01	WINDOW (180), LCD (Note 2)
6	X-2583-899-1	CABINET REAR 180 SILVER ASSY (SILVER)
6	X-2583-900-1	CABINET REAR 180 BLACK ASSY (BLACK)
6	X-2583-901-1	CABINET REAR 180 BLUE ASSY (BLUE)
6	X-2583-902-1	CABINET REAR 180 RED ASSY (RED)
LCD901	1-811-554-11	PANEL MODULE(PE2-BCM)
#212	4-270-114-01	SCREW (M1.4), NEW TRU-STAR, P2 (Note 1)
#244	4-412-769-21	SCREW (M1.4), NEW TRU-STAR, P2 (Note 1)

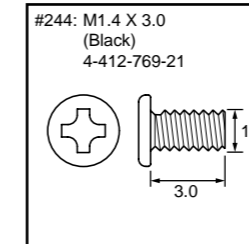
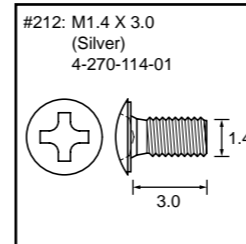
DISASSEMBLY

1. Remove to numerical order (1) to (3) in the left figure.

1 #212/#244 X 6



Screw



Note

Note 1

THE COMBINATION OF CABINET'S COLOR AND SCREW


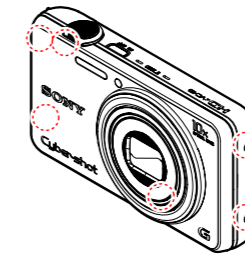
The screw pointed  is different according to the cabinet's color.
For the combination of cabinet's color and screw, please refer to Table 2-1.

Table 2-1

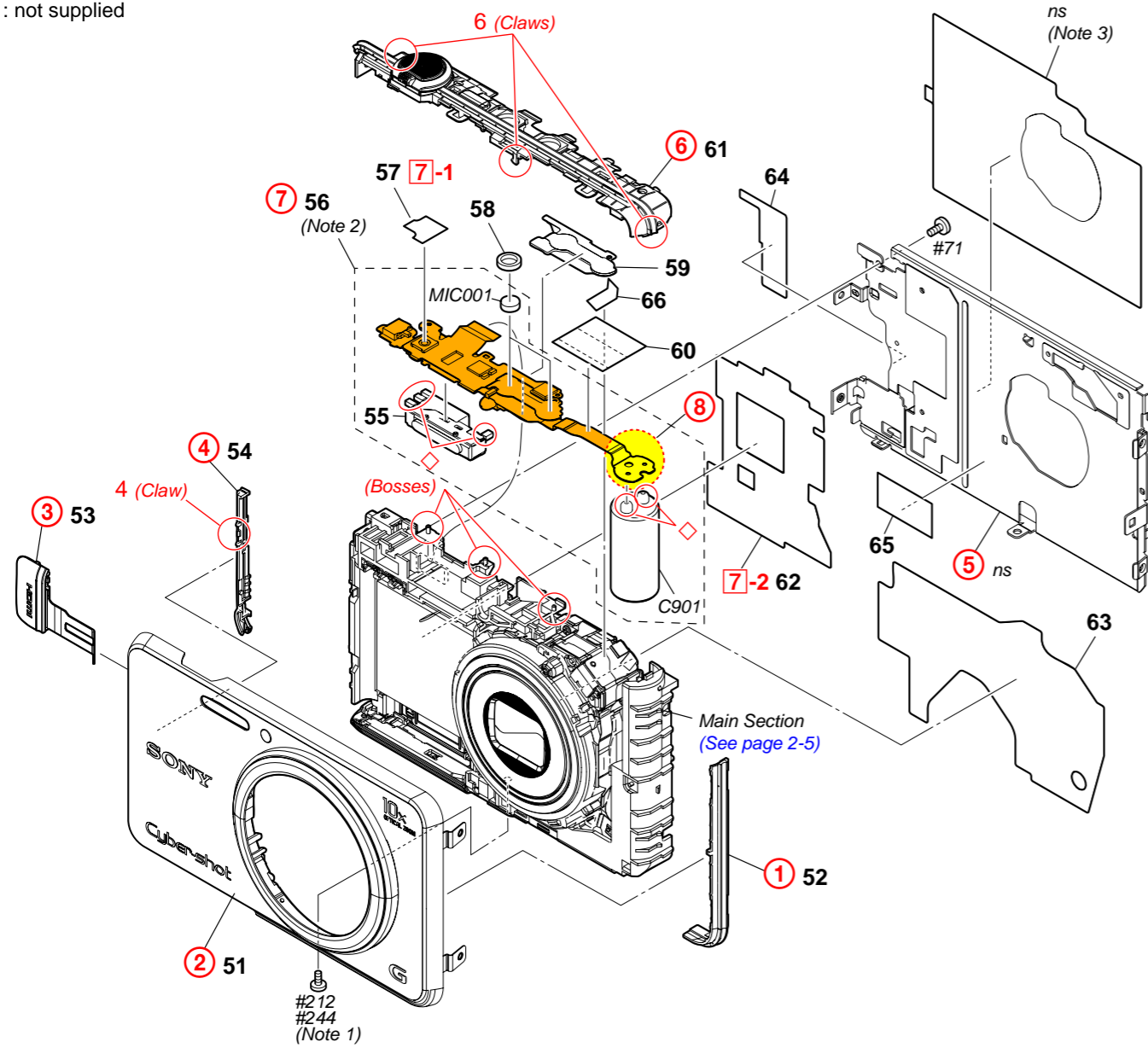
Screw's Ref. No. (Parts Color.)	Cabinet's Color
#212 (Silver)	SILVER
#244 (Black)	BLACK/BLUE/RED



Note 2: Refer to "Assembly-4: Attaching Method of LCD Cushion (180), LCD Window (180)".

2-1-2. FRONT/TOP SECTION

ns : not supplied



Ref. No.	Part No.	Description
51	A-1866-140-A	FRONT 180 SILVER BLOCK ASSY (SILVER)
51	A-1866-141-A	FRONT 180 BLACK BLOCK ASSY (BLACK)
51	A-1866-142-A	FRONT 180 BLUE BLOCK ASSY (BLUE)
51	A-1866-143-A	FRONT 180 RED BLOCK ASSY (RED)
52	4-419-294-01	CABINET (L) (180), SIDE (BLACK, SILVER)
52	4-419-294-11	CABINET (L) (180), SIDE (BLUE)
52	4-419-294-21	CABINET (L) (180), SIDE (RED)
53	X-2583-908-1	COVER TERMINAL 180 SILVER ASSY (SILVER)
53	X-2583-909-1	COVER TERMINAL 180 BLACK ASSY (BLACK)
53	X-2583-910-1	COVER TERMINAL 180 BLUE ASSY (BLUE)
53	X-2583-911-1	COVER TERMINAL 180 RED ASSY (RED)
54	4-419-296-01	CABINET (G) (180), SIDE (BLACK, SILVER)
54	4-419-296-11	CABINET (G) (180), SIDE (BLUE)
54	4-419-296-21	CABINET (G) (180), SIDE (RED)
△55	1-489-357-11	FLASH UNIT
56	A-1854-924-A	ST-269 FLEXIBLE BOARD, COMPLETE (Note 2)
57	4-266-381-01	SHEET, CABINET UPPER (770)
58	4-411-649-01	RUBBER (150), MICROPHONE

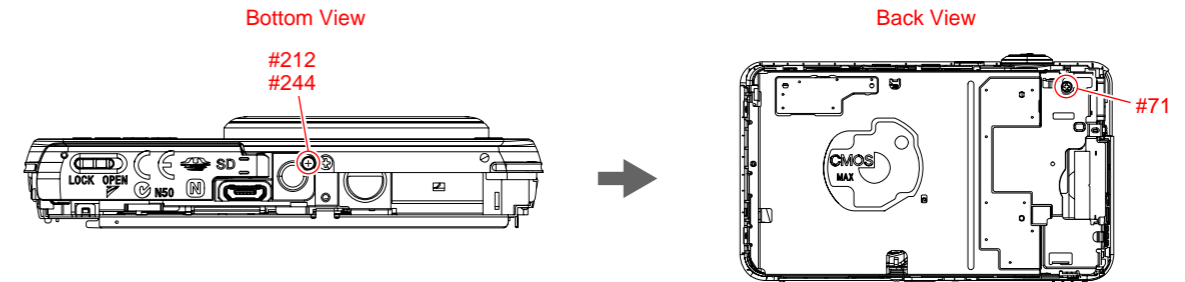
Ref. No.	Part No.	Description
59	4-419-308-01	BASE, SHEET MICROPHONE
60	4-419-310-01	FRAME, SHEET (TOP)
61	X-2583-890-1	CABINET UPPER 180 SILVER ASSY (SILVER)
61	X-2583-891-1	CABINET UPPER 180 BLACK ASSY (BLACK)
61	X-2583-892-1	CABINET UPPER 180 BLUE ASSY (BLUE)
61	X-2583-893-1	CABINET UPPER 180 RED ASSY (RED)
62	4-419-315-01	SHEET (SY) (180)
63	4-419-320-01	SHEET (SY), RADIATION
64	4-419-312-01	FLEXIBLE (180), SHEET (LCD)
65	4-419-321-01	SHEET LE, ELECTROSTATIC
66	4-429-146-01	CONDUCTIVE TAPE A
△C901	1-118-015-11	CAP, ALUMINIUM ELECT 53uF 330V
MIC001	1-542-777-51	MICROPHONE
#71	3-208-537-01	0+Z M1.4X2 NEW TORASUTA
#212	4-270-114-01	SCREW (M1.4), NEW TRU-STAR, P2 (Note 1)
#244	4-412-769-21	SCREW (M1.4), NEW TRU-STAR, P2 (Note 1)

DSC-WX150_L2

DISASSEMBLY

1. Remove to numerical order (① to ⑧) in the left figure.
2. The meaning of the sign in left figure is as follows. Be careful when it removes.
◇-X: Solder

② #212/#244 X 1 → #71 X 1

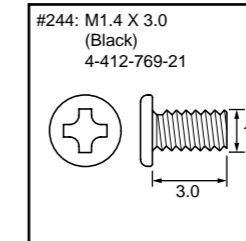
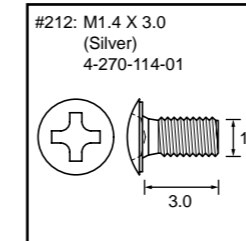
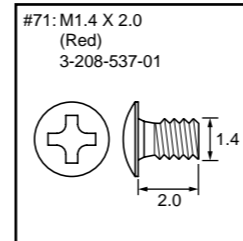


⑦ (7-1) Cabinet Upper Sheet → (7-2) Sheet SY (180)

⑧

DISCHARGING OF THE CHARGING CAPACITOR

Screw



Note

Note 1

THE COMBINATION OF CABINET'S COLOR AND SCREW


The screw pointed  is different according to the cabinet's color. For the combination of cabinet's color and screw, please refer to Table 2-1.

Table 2-1

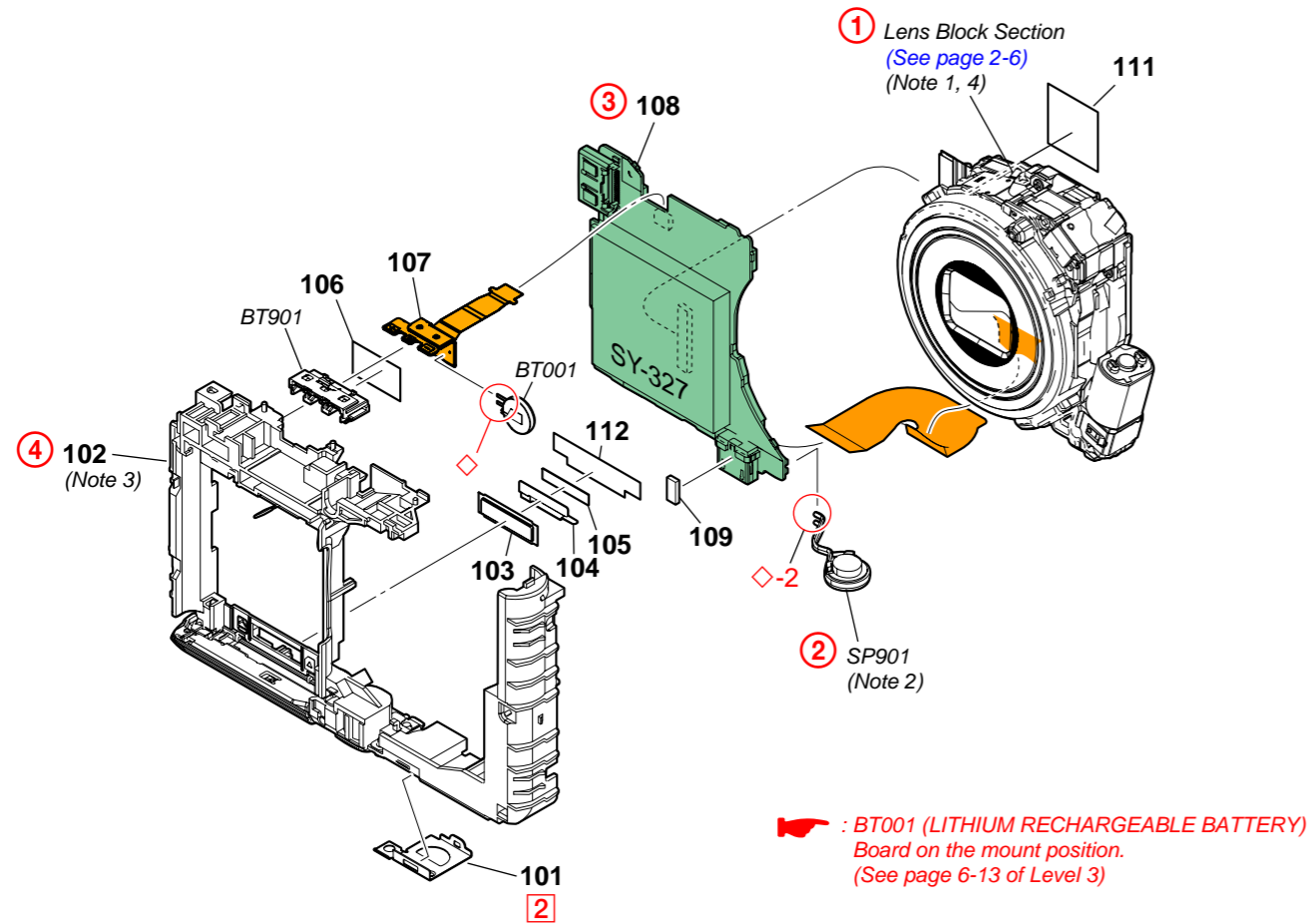
Screw's Ref. No. (Parts Color.)	Cabinet's Color
#212 (Silver)	SILVER
#244 (Black)	BLACK/BLUE/RED



Note 2: Refer to "Assembly-2: Precaution During of ST-269 Flexible Board."

Note 3: The Radiation sheet (P) is stuck to the Flexible Board on the CD-841 Board. Since this Radiation sheet (P) has strong adhesive power, be careful when removing the Main frame assy.

2-1-3. MAIN SECTION



Ref. No.	Part No.	Description
101	4-419-302-01	COVER, SP
102	(Note 3)	SERVICE, BLOCK ASSY
103	4-417-084-01	COVER J (170)
104	4-266-365-01	SHEET METAL (J) (770)
105	4-270-064-01	SHEET, J SPACER (770)
106	4-419-301-01	TERMINAL, SHEET (BT)
107	1-883-820-11	BT-068 FLEXIBLE BOARD
108	A-1866-836-A	SY-327 BOARD, COMPLETE (SERVICE)

Ref. No.	Part No.	Description
109	4-421-334-01	GASKET (U)
111	4-421-333-01	SHEET CD, ELECTROSTATIC
112	4-297-557-01	SHEET (760), J
△ BT001	1-756-710-12	LITHIUM RECHARGEABLE BATTERY
△*BT901	1-780-826-11	TERMINAL BOARD, BATTERY
SP901	1-858-302-61	LOUDSPEAKER (0.8CM) (Note 2)

DISASSEMBLY

1. Remove to numerical order (1) to (4) in the left figure.
2. The meaning of the sign in left figure is as follows. Be careful when it removes.
◇-X: Solder

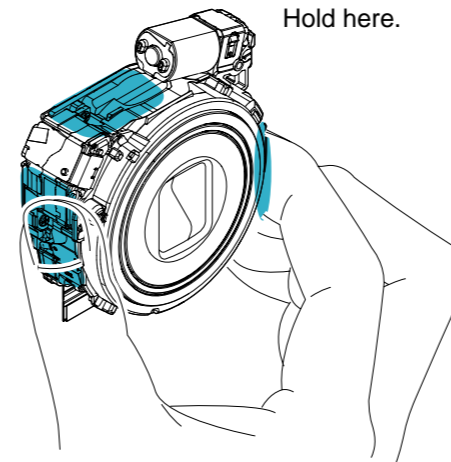
② (2) Plate (SP) (770)

Note

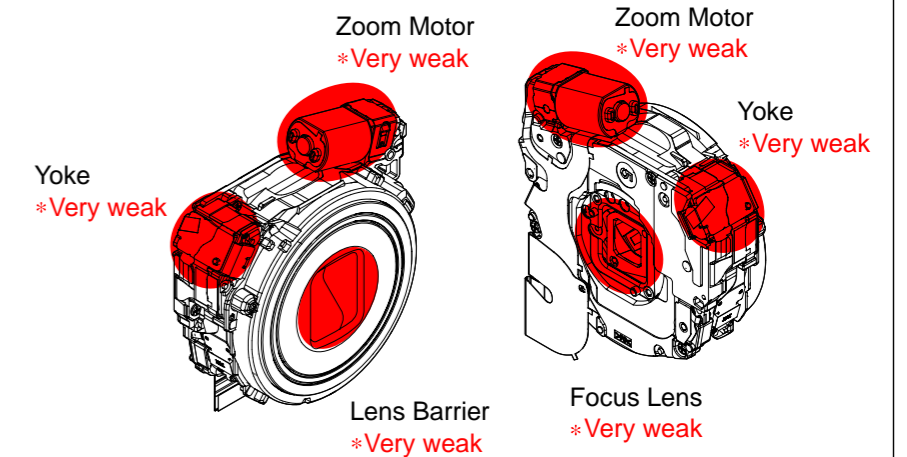
Note 1:

PRECAUTIONS WHEN HOLDING THE LENS BLOCK

Hold the Lens Block at the center of both sides.



Do not hold the following part.



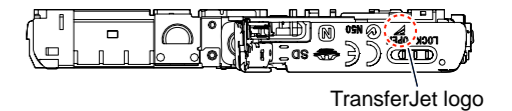
Note 2: Refer to "Assembly-1: Precaution During Speaker Installation."

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.
Dispose of used batteries according to the instructions.

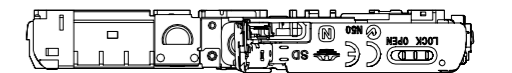
Note 4: Refer to "Assembly-3: Precaution During of Lens Block."

Note 3: When replacing this part, be careful whether a LOGO is existed or not.



Jet model

A-1877-785-A SERVICE, SILVER J BLOCK ASSY (US, UK, CH) (SILVER)
A-1877-786-A SERVICE, BLACK J BLOCK ASSY (US, UK, CH) (BLACK)
A-1877-787-A SERVICE, BLUE J BLOCK ASSY (US, CH) (BLUE)
A-1877-789-A SERVICE, RED J BLOCK ASSY (US, UK, CH) (RED)

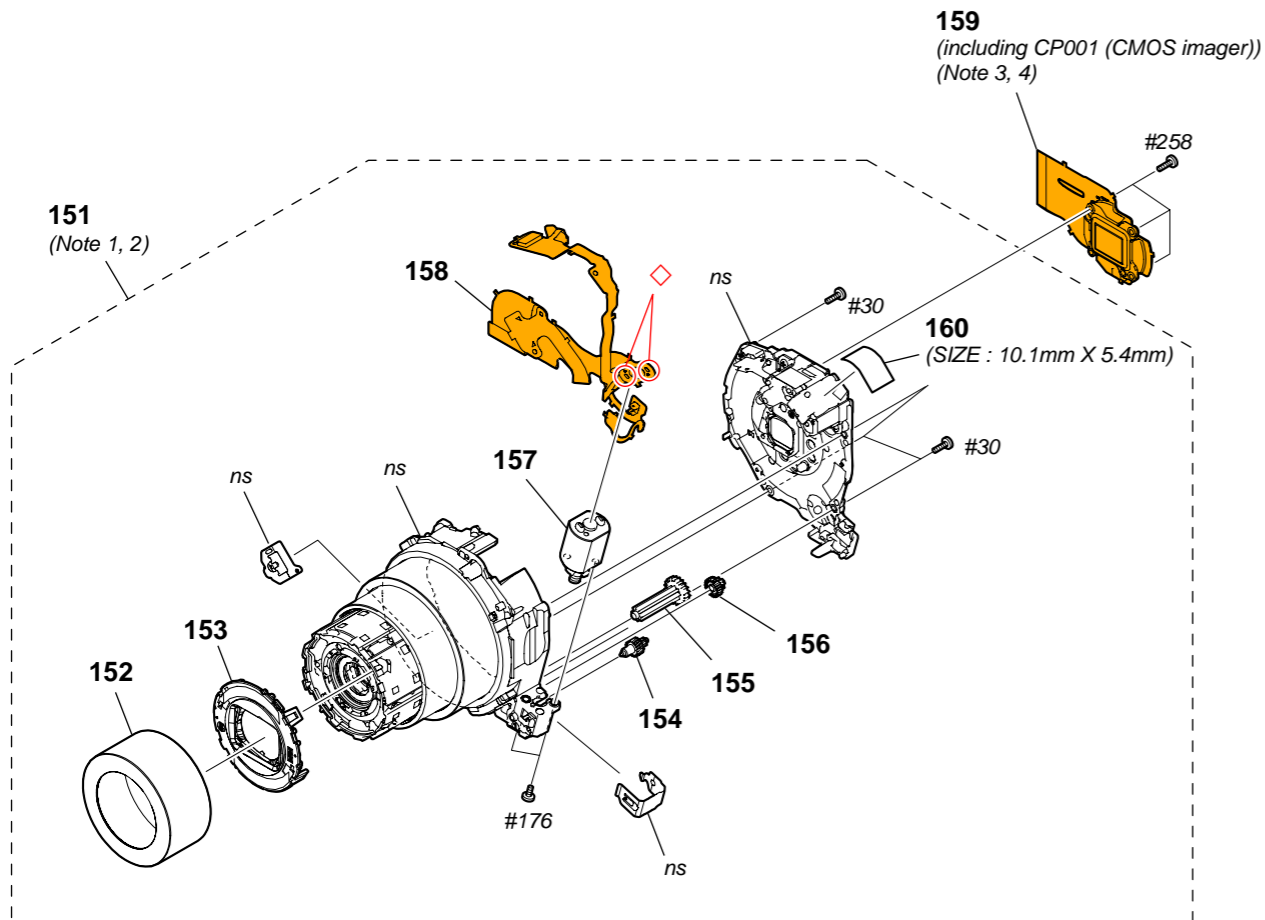


Non Jet model

A-1877-795-A SERVICE, SILVER BLOCK ASSY (EXCEPT US, UK, CH) (SILVER)
A-1877-796-A SERVICE, BLACK BLOCK ASSY (EXCEPT US, UK, CH) (BLACK)
A-1877-797-A SERVICE, BLUE BLOCK ASSY (EXCEPT US, CH) (BLUE)
A-1877-798-A SERVICE, RED BLOCK ASSY (EXCEPT US, UK, CH) (RED)

2-1-4. LENS BLOCK SECTION

ns : not supplied



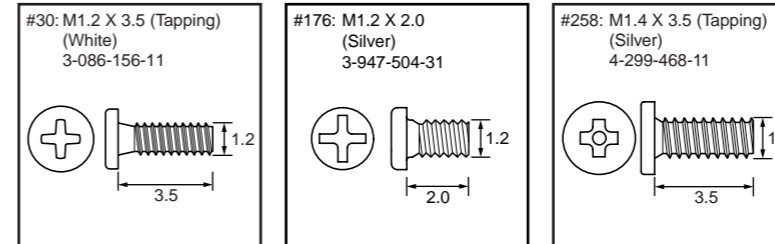
Ref. No.	Part No.	Description
151	8-848-888-01	DEVICE, LENS LSV-1510A-DS (BLUE, RED, SILVER) (Note 1, 2)
151	8-848-888-11	DEVICE, LENS LSV-1510A-BK (BLACK) (Note 1, 2)
152	4-294-350-01	RING A, ORNAMENTAL (Y) (BLUE, RED, SILVER)
152	4-295-917-11	RING A, ORNAMENTAL (T) (BLACK)
153	A-1861-623-A	BARRIER ASSY (1510A-DS) (BLUE, RED, SILVER)
153	A-1861-626-A	BARRIER ASSY (1510A-BK) (BLACK)
154	A-1861-259-A	GEAR WH LUBRICATED ASSY
155	A-1861-257-A	GEAR B LUBRICATED ASSY
156	A-1861-258-A	GEAR A LUBRICATED ASSY
157	A-1861-309-A	DC MOTOR WORM ASSY

Ref. No.	Part No.	Description
158	X-2582-885-1	LF-139 FLEXIBLE BOARD
159	A-1866-221-A	CD-841 FLEXIBLE BOARD, COMPLETE (including CP001 (CMOS imager)) (Note 3, 4)
160	CAUTION	TAPE, FPC
#30	3-086-156-11	SCREW B1.2
#176	3-947-504-31	SCREW (M1.2)
#258	4-299-468-11	SCREW, TAPPING UB1.2 (CH)

DISASSEMBLY

- The meaning of the sign in left figure is as follows. Be careful when it removes.
◇-X: Solder

Screw

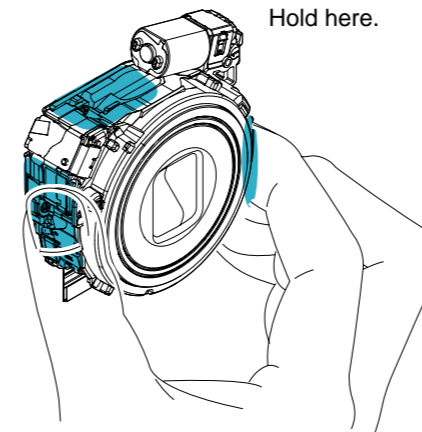


Note

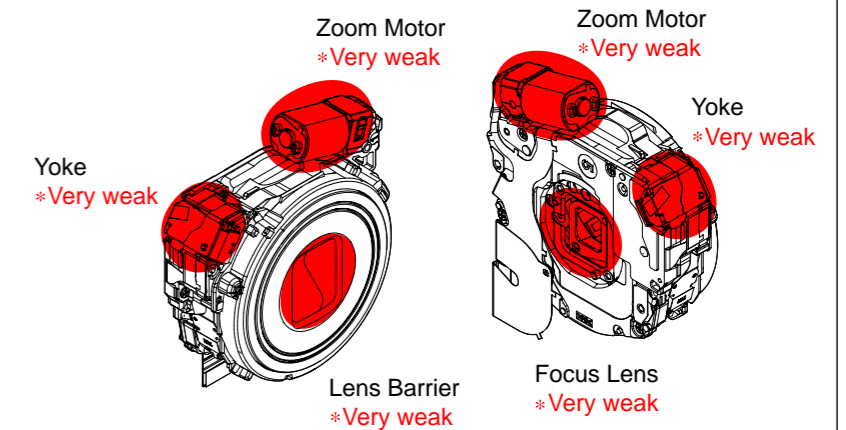
Note 1:

PRECAUTIONS WHEN HOLDING THE LENS BLOCK

Hold the Lens Block at the center of both sides.



Do not hold the following part.



CAUTION

For the part of 160 : TAPE, FPC, cut POLYESTER TAPE (BLACK) 10 MM (9-913-210-03) into the desired length and use it.

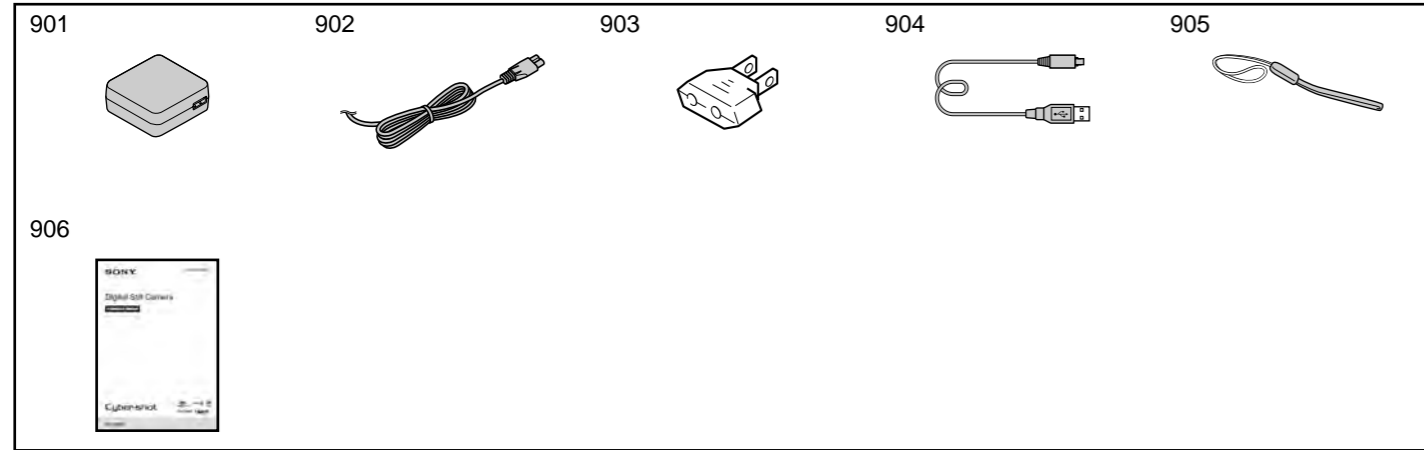
Note 2: Refer to the following each item when you exchange parts of Lens Block

- 1-8. ORNAMENTAL RING A OR BARRIER ASSY REPLACING METHOD (page 1-5)
- 1-9. DC MOTOR WORM ASSY REPLACING METHOD (page 1-6)
- 1-10. THREE TUBE LUBRICATING BLOCK ASSYS AND GROUP 1 FRAME REPLACING METHOD (page 1-7)
- 1-11. FINAL INSPECTION (page 1-11)

Note 3: Be sure to read "Precautions for Replacement of Imager" on page 6-1 of Level3 when changing the imager.

Note 4: STATIONARY TUBE and REAR MIRROR PLATE are supplied with the ASM FILTER BLOCK ASSY (SERVICE). These two parts are used to protect the ASM FILTER BLOCK ASSY (SERVICE). Remove these two parts when replacing the ASM FILTER BLOCK ASSY (SERVICE).

ACCESSORIES



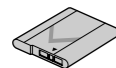
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
△ 901	1-489-282-21	AC Adaptor (AC-UB10/UB10B) (US, CND)	* 906	4-417-826-61	Instruction Manual (ENGLISH, TRADITIONAL CHINESE, SIMPLIFIED CHINESE, MALAY, INDONESIAN, THAI, ARABIC, PERSIAN)
△ 901	1-489-282-31	AC Adaptor (AC-UB10/UB10B) (CH)	* 906	4-417-826-71	Instruction Manual (ENGLISH, SPANISH, PORTUGUESE)
△ 901	1-489-282-61	AC Adaptor (AC-UB10/UB10B) (EXCEPT US, CND, CH)	* 906	4-417-826-81	Instruction Manual (ENGLISH, TRADITIONAL CHINESE, SIMPLIFIED CHINESE, INDONESIAN, ARABIC, PERSIAN)
△ 902	1-837-421-11	Power cord (mains lead) (UK, E (Saudi))	* 906	4-417-826-91	Instruction Manual (ENGLISH, SPANISH, PORTUGUESE, TRADITIONAL CHINESE, SIMPLIFIED CHINESE, KOREAN)
△ 902	1-837-427-11	Power cord (mains lead) (AEP, E (EXCEPT Saudi))	906	4-417-827-21	Instruction Manual (KOREAN)
△ 902	1-837-428-11	Power cord (mains lead) (KR)	* 906	4-417-827-41	Instruction Manual (ENGLISH, ARABIC, PERSIAN)
△ 903	1-569-008-33	Conversion (2P) Adaptor (E: NTSC)			
904	1-839-666-11	Micro USB cable			
905	2-050-981-01	Wrist strap (Gray) (SILVER)			
905	2-050-981-11	Wrist strap (Black) (BLACK, BLUE, RED)			
906	4-417-825-11	Instruction Manual (SIMPLIFIED CHINESE)			
906	4-417-826-11	Instruction Manual (ENGLISH)			
* 906	4-417-826-21	Instruction Manual (ENGLISH, SPANISH)			
* 906	4-417-826-31	Instruction Manual (ENGLISH, FRENCH)			
* 906	4-417-826-51	Instruction Manual (ENGLISH, FRENCH, ITALIAN, SPANISH, PORTUGUESE, GERMAN, DUTCH, TURKISH, GREEK, POLISH, CZECH, HUNGARIAN, SLOVAK, SWEDISH, FINNISH, NORWEGIAN, DANISH, CROATIAN, ROMANIAN)			

Note: This unit has no bundled CD-ROM. Contents included in the CD-ROM will be supplied to customers as follows.

- User Guide (HTML)
 - You can access to the URL of support site described in the Instruction Manual.
 - All of the contents in the User Guide are included in the Instruction Manual or built-in guide.
- Application Software
 - By connecting this unit and Windows PC with the USB cable, the application software [PlayMemories Home Lite version] can be installed on the PC from the unit.
 - In case of using the extended version, install "Expanded Feature" via Internet.

This item is supplied with the unit as an accessory, but is not prepared as a service part.

951

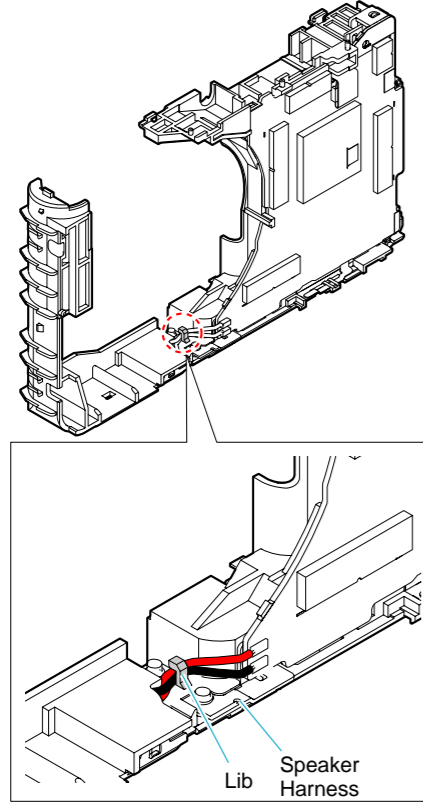


Ref. No.	Part No.	Description	Remark
△ 951	(Not supplied)	Rechargeable battery pack (NP-BN)	

3. ASSEMBLY

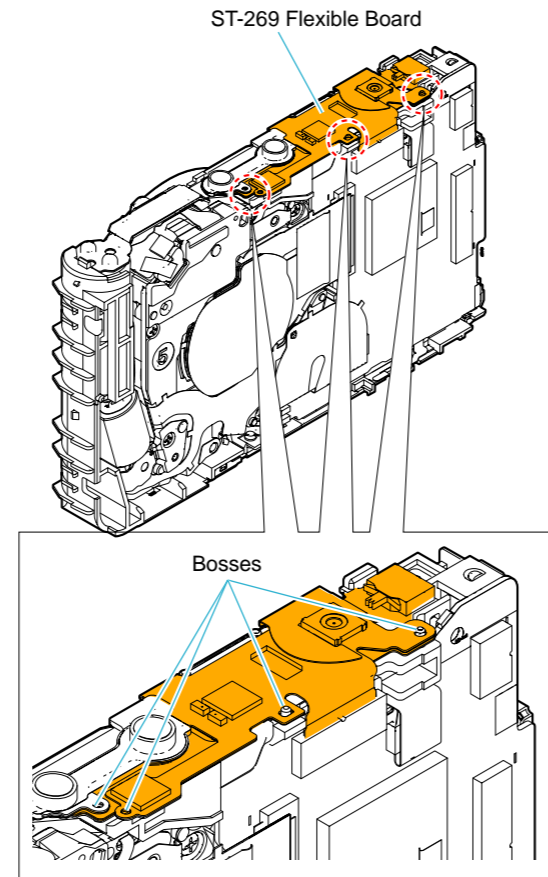
Assembly-1: Precaution During Speaker Installation.

Route the speaker harness as shown below.



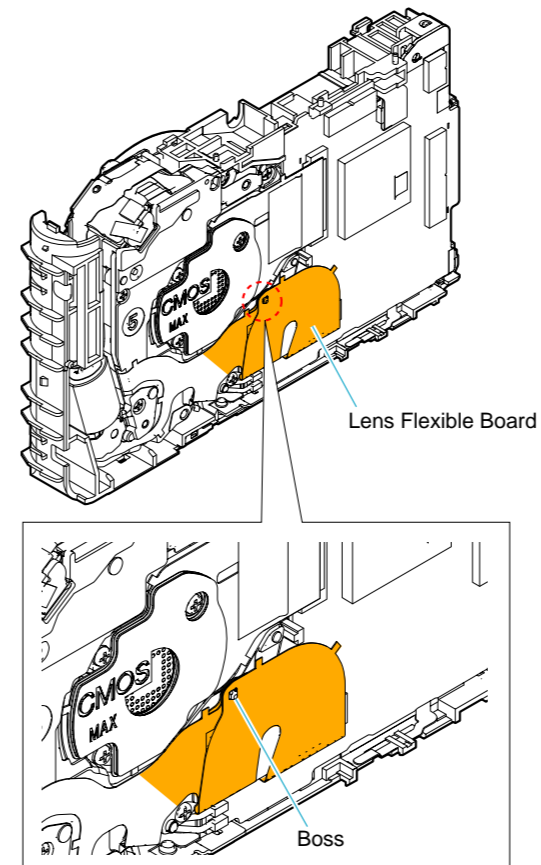
Assembly-2: Precaution During of ST-269 Flexible Board.

Install the ST-269 flexible board.



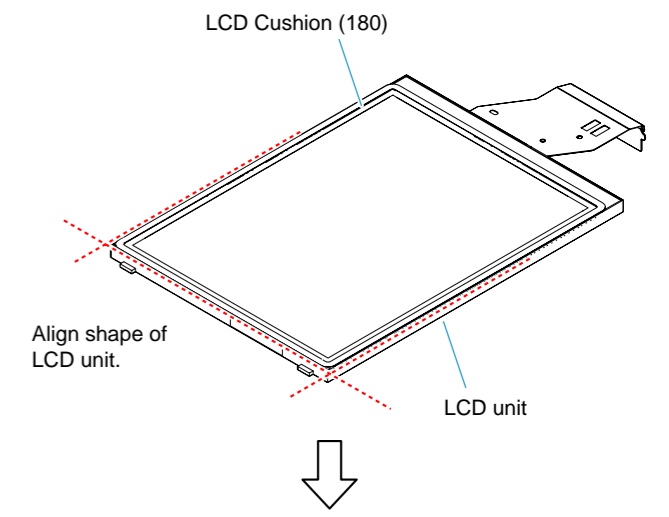
Assembly-3: Precaution During of Lens Block.

Hook the flexible board to the boss.



Assembly-4: Attaching Method of LCD Cushion (180), LCD Window (180).

Apply LCD cushion (180).



Apply LCD window (180).

