



DIGITAL CAMERA

SAMSUNG ST76/ST77/ST78/ST79

SERVICE

Manual

DIGITAL CAMERA



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1. Repair information

1-1 Customer satisfaction statement



We hold ourselves to the highest standards of customer satisfaction and service.

- Combining perfect technical solutions with a customer-oriented approach is our top priority.
- We treat our customers we serve with kindness, loyalty, respect and dignity.
- We are committed to earn customers' trust continuously through excellence in repair solutions.
- We keep our promises and commitments to our customers.
- Committed to quick and easy resolution of all support issues, we deliver industry-leading response times.

[Guide]

We listen carefully to our customers' requirements and always find an optimum solution for their needs.

We are committed to your satisfaction and have procedures in place to provide you with a fair, timely and effective means to resolve problems. It combines industry leading preventive assistance with responsive support that helps us address problems quickly and effectively.

We will continuously maintain and improve our services to satisfy the needs of our customers.

1-2 Warranty and repair service information

(1) General terms and conditions

It is guaranteed to be free of charge from defects in material and workmanship under normal use for a period of one year from date of purchase.

Digital Camera and lens come with a one year limited warranty from the date of purchase.

*** The duration of the warranty depends on the laws in the country in which it was purchased.**

The following information will be required to process warranty requests:

- a. We imply warranties to one year from the original date of purchase. In the event that the purchaser is unable to provide a warranty card or proof of purchase, the warranty period will be determined by the date of manufacture. The warranty period shall be decreased to three months from the original product manufactured date.
- b. The coverage under this warranty begins on the date of your purchase of the product. In the event that a warranty card or proof of purchase is not available, a purchase receipt, preferably the purchase invoice, to confirm the date of purchase is required for warranty service.
- c. In the event that a valid date of purchase is not available, the warranty period will be determined by the date of manufacture. The warranty period shall be decreased to three months from the original product manufactured date.

(2) Limited Warranty

It reserves the right to retain any parts or components replaced at its discretion in the event of a defect noticed in the product. The period with respect to retaining components may vary respectively depending on its components. We are not liable to repair or replace its faulty product after the Warranty Period has expired.

*** We warrant its retaining camera and lenses for five years and three years for the accessories.**

- a. If a warranty claim is filed after the product has been discontinued, we reserves the right to honor the components warranty. Warranty period may vary depending on the type of components.
- b. In the event that no identical warranty information is available for service repair, company has the right to provide warranty. The warranty does not affect the consumers' rights against the company related to its information.

For the length of the period indicated on the chart below, it starts with the date of original purchase.

(3) Warranty Period for components

Our liability under this warranty shall be limited to the following:

- a. In the event of a same malfunction problem within two months after repair service by Samsung authorized technician, we will repair or replace free of charge the component of the product which is found to be defective.
- b. In the event of the component that you have paid the replacement cost is returned under normal use within one year at our premises, such components will be replaced free of charge component of the product which is found to be defective.

<Table. 1-1 Warranty Periods for Parts>

Part Name	Warranty Period
Battery Charger	Six months
AC Adaptor	
Battery	
Remote Control	
CD Software	Three months
Earphone	
Pouch for camera	Not applicable
Cable	

(4) Repair Claims

1) Repair free of charge

Essentially, the following causes of damage are covered:

- a. Failing to function properly under normal use during the limited warranty period.
- b. Repair Services free of charge is granted for the performance of a specific contract.

2) Repair charges

This warranty does not cover damage caused by:

- a. Defect occurring after the expiration of the Warranty Period.
- b. Damage due to negligence, immersion in water, impact, loss and tampering.
- c. Repair or alteration performed by any party other than Samsung authorized technicians.
- d. Misuse or other improper use of the power button.
- e. Exhausted parts such as batteries, lamps and filters, etc.
- f. Defect that occurs due to sand, dirt liquid, etc. entering the inside of the product casing.
- g. Consumable parts which have ceased working through normal use such as as earphone, battery discharger and various accessories.
- h. Products purchased second hand or any damage that occurs due to a second hand or repair performed by anyone other than Samsung or a Samsung authorized service station.
- i. Fire, earthquake, flood or other natural disasters.

The warranty cover period for components is listed below as per table 1-2.

<Table. 1-2 Warranty Period for components>

Types of consumer damages			Compensation	
Failing to perform or failing to function properly under normal use	Required for essential repair within 10 days after the purchase		Replace the product or refund	-
	Required for essential repair within one month after the purchase		Replace the product or repair at free of charge	Repair charges
	Applicable to repair	Problem occurred twice due to same malfunction	Free of charge	
		Problem occurred three times due to same malfunction	Replace the product or refund	Repair charges
		Problem occurred four times due to some other malfunction		
Not applicable to repair	Within the period with respect to retaining components	Replace the product at the cost of the depreciated value or refund its price added 10% of depreciation		
Failing to perform or failing to function properly as a result of willful intent and negligence of customer	Applicable repair		Repair charges	
	Not applicable to repair (Except for defects or malfunction as a result of fire or flood or other natural disasters)		Replacement charge	Repair charge and replace the product at the cost of the depreciated value

1-3 Precaution for disassembly and reassembly

CAUTION

1. Use the anti-static handling procedures included with the anti-static mat to ensure that there is no electrostatic discharge and component damage.
2. Static electricity is the biggest danger to the PCB parts you are about to disassemble or assemble. It's important to use your anti-static wrist strap to prevent damage to these components.
3. Dismantling a discrete electronic component such as main capacitor is dangerous.
The capacitor contains high voltage, which can cause a severe electric shock if you touch it. This holds a charge even when the unit is not plugged in and is capable of delivering a fatal shock.
4. Using excessive force during disassembly and assembly can damage locking parts. Use care when handling "Locking parts" to avoid damage to FPCB or wire. Apply pressure only at the points designated in the maintenance instructions.
5. Due to increasing environmental concerns, a number of restrictions have been placed on the material content of electronic components and electronic assemblies. It requires utilizing Lead-Free (Pb-free) Soldering.
6. The following precautions must be observed when handling such components below.

<Table. 1-3 Precaution for disassembly and reassembly>

Component	Precautions
FPCB	FPCB is brittle material. It can be easily damaged thus it should be handled with care. It is recommended to use wooden or plastic tweezers for manual placement.
CCD (CMOS) IR CUT Filter LCD, LENS	Be careful not to stained your finger. It is recommended to use wooden or plastic tweezers for manual placement. Stain is often caused by the Alcohol used in these components. Find a clean, well-ventilated place to do your work.
PCB	Use an anti-static mat as well as an anti-static wrist strap to avoid ESD damage to PCB.
CONNECTOR	The use wooden or plastic tweezers is recommended for manual placement. Metal tip tweezer might make marks or damage.
BARREL	Always follow proper direction while assembling the components of the barrel.

2. Product specifications

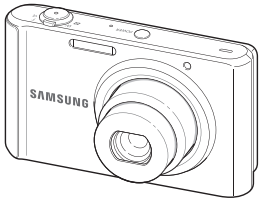
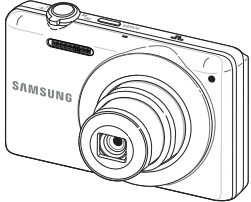
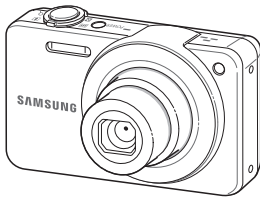
2-1 Specifications

<Table. 2-1 Specifications>

Image Sensor	1/2.3" (Approx. 7.76 mm) CCD	
Effective pixels	Approx. 16.1 mega-pixels	
Total pixels	Approx. 16.4 mega-pixels	
Wight	3.53oz (without battery and memory card)	
Dimensions	3.57 X 2.11 X 0.67in (without protrusions)	
LCD	TFT LCD, 2.7" (6.9 cm) QVGA (230K)	
Zoom	<ul style="list-style-type: none"> • Still image mode: 1.0–5.0X (Optical zoom X Digital zoom: 25.0X) • Playback mode: 1.0–14.4X (depending on image size) 	
Shutter Speeds	<ul style="list-style-type: none"> • Smart Auto: 8–1/2,000 sec. • Program: 1–1/2,000 sec. • Night: 8–1/2,000 sec. 	
Flash Range	<ul style="list-style-type: none"> • Wide: 0.3–4.2 m (ISO Auto) • Tele: 0.5–1.6 m (ISO Auto) 	
ISO Range	Auto, ISO 80, ISO 100, ISO 200, ISO 400, ISO 800, ISO 1600, ISO 3200	
Focal Length	Samsung Lens f = 4.5–22.5 mm (35 mm film equivalent: 25–125 mm)	
Storage	<ul style="list-style-type: none"> • Internal memory: Approx. 70 MB • External memory (Optional): <ul style="list-style-type: none"> – microSD card (up to 2 GB guaranteed) – microSDHC card (up to 8 GB guaranteed) 	
Image Stabilization	ST76/ST78	Digital Image Stabilization (DIS)
	ST77/ST79	Optical Image Stabilization (OIS)
Battery Source	Lithium-ion battery (BP70A, 740 mAh: Min. 700 mAh)	
Connector type	Micro USB (5 pin)	

2-2 Product comparison









<Table. 2-2 Product comparison>




Model Specs	ST77	ST93	ST95
Product image			
Image Sensor	1/2.3" (Approx. 7.76 mm) CCD	1/2.3" (Approx. 7.76 mm) CCD	1/2.3" (Approx. 7.76 mm) CCD
Effective pixels	Approx. 16.1 mega-pixels	Approx. 16.1 mega-pixels	Approx. 16.2 mega-pixels
Total pixels	Approx. 16.4 mega-pixels	Approx. 16.4 mega-pixels	Approx. 16.4 mega-pixels
Wight	3.53oz (without battery and memory card)	3.35oz (without battery and memory card)	3.77oz (without battery and memory card)
Dimen- sions	3.57 X 2.11 X 0.67in (without protrusions)	3.53 X 2.16 X 0.69in (without protrusions)	3.62 X 2.09 X 0.67in (without protrusions)
LCD	TFT LCD, 2.7" (6.9 cm) QVGA (230K)	TFT LCD, 2.7" (6.9 cm), QVGA (230K)	TFT LCD, 3.0" (7.6 cm) Wide 230 K/ Full Touch Screen Panel
Zoom	<ul style="list-style-type: none"> • Still image mode: 1.0–5.0X (Optical zoom X Digital zoom: 25.0X) • Playback mode: 1.0–14.4X (depending on image size) 	<ul style="list-style-type: none"> • Still image mode: 1.0X - 5.0X (Optical zoom X Digital zoom 25.0X) • Play mode: 1.0X - 14.4X (depending on image size) 	<ul style="list-style-type: none"> • Still image mode: 1.0X-5.0X (Optical zoom x Digital zoom: 25.0X) • Playback mode: 1.0X-14.4X
Shutter Speeds	<ul style="list-style-type: none"> • Smart Auto: 8–1/2,000 sec. • Program: 1–1/2,000 sec. • Night: 8–1/2,000 sec. 	<ul style="list-style-type: none"> • Smart Auto: 1/8 - 1/2,000 sec. • Program: 1 - 1/2,000 sec. • Night: 8 - 1/2,000 sec. 	<ul style="list-style-type: none"> • Smart Auto: 1/8 - 1/2,000 sec. • Program: 1 - 1/2,000 sec. • Night: 8 - 1/2,000 sec.
ISO Range	Auto, ISO 80, ISO 100, ISO 200, ISO 400, ISO 800, ISO 1600, ISO 3200	Auto, 80, 100, 200, 400, 800, 1600, 3200	Auto, ISO 80, ISO 100, ISO 200, ISO 400, ISO 800, ISO 1600, ISO 3200
Focal Length	Samsung Lens f = 4.5–22.5 mm (35 mm film equivalent: 25–125 mm)	Samsung 5X Zoom Lens f = 4.7 - 23.5 mm (35 mm film equivalent: 26 - 130 mm))	Samsung Lens f = 4.7 mm-23.5 mm (35 mm film equivalent: 26 mm-130 mm)
Storage	<ul style="list-style-type: none"> • Internal memory: Approx. 70 MB • External memory (Optional): – microSD card (up to 2 GB guaranteed) – microSDHC card (up to 8 GB guaranteed) 	<ul style="list-style-type: none"> • Internal memory: Approx. 12 MB • External memory (Optional): – microSD card (up to 2 GB guaranteed) – microSDHC card (up to 8 GB guaranteed) 	<ul style="list-style-type: none"> • Internal memory: Approx. 10 MB • External memory (Optional): – microSD card (up to 2 GB guaranteed) – microSDHC card (up to 8 GB guaranteed)
Image Stabiliza- tion	ST76/ST78 Digital Image Stabilization (DIS) ST77/ST79 Optical Image Stabilization (OIS)	DUAL IS [Optical Image Stabilization (OIS) + Digital Image Stabilization (DIS)]	Digital Image Stabilization (DIS)
Battery Source	Lithium-ion battery (BP70A, 740 mAh: Min. 700 mAh)	Lithium-ion battery (BP70A) (740 mAh, Minimum 700 mAh)	Lithium-ion battery (BP70A) (740 mAh, Minimum 700 mAh)

2-3 About the memory card

Memory card capacity The memory capacity may differ depending on shooting scenes or shooting conditions. These capacities are based on a 1 GB microSD card:

<Table. 2-3 Memory card capacity>

Size		Super Fine	Fine	Normal	
P h o t o s	 16M	4608 X 3456	108	212	313
	 14M	4608 X 3072	123	241	354
	 12M	4608 X 2592	144	283	417
	 10M	3648 X 2736	170	332	484
	 5M	2592 X 1944	329	624	892
	 3M	1984 X 1488	540	992	1,381
	 2M	1920 X 1080	882	1,471	1,962
	 1M	1024 X 768	1,637	2,575	3,210

Size		30 FPS	15 FPS
*V i d e o s	 FULL HD	Approx. 4' 30"	Approx. 7' 36"
	 VGA	Approx. 9' 27"	Approx. 18' 16"
	 QVGA	Approx. 33' 44"	Approx. 61' 13"

* The figures above are measured without using the zoom function. Available recording time may vary if you use the zoom. Several videos were recorded in succession to determine the total recording time.




2-4 About the battery

<Table. 2-4 Battery specifications>

Specification	Description
Model	BP70A
Type	Lithium-ion battery
Cell capacity	740 mAh (min. 700 mAh)
Voltage	3.7 V
Charging time *(When the camera is switched off)	Approx. 160 min

* Charging the battery by connecting it to a computer may take longer.

<Table. 2-5 Battery life>

Average shooting time/ Number of photos		Test conditions (when the battery is fully charged)
Photos	Approx. 120 min/ Approx. 240 photos	<p>The battery life was measured under the following conditions: in  mode, in darkness,  resolution, Fine quality, OIS or DIS on.</p> <ol style="list-style-type: none"> 1. Set the flash option to Fill in, take a single shot, and zoom in or out. 2. Set the flash option to Off, take a single shot, and zoom in or out. 3. Perform steps 1 and 2, waiting 30 seconds between each step. Repeat the process for 5 minutes, and then turn off the camera for 1 minute. 4. Repeat steps 1 to 3.
Videos	Approx. 105 min	Record videos at  resolution and 30 FPS.

- The figures above are measured by Samsung's standards. Your results may differ, depending on your actual usage.
- Several videos were recorded in succession to determine the total recording time.

3. Disassembly and reassembly

3-1 Screw parts list

<Table. 3-1 Screw Information>

PAGE NO.	TYPE	CODE	QTY
3-2	SCREW MACHINE	6001-002166	2
	SCREW MACHINE	6001-002152	3
3-5	SCREW MACHINE	6001-002166	2
3-10	SCREW TAPTYPE	6003-001369	3
3-11	SCREW TAPTYPE	6003-001630	5
3-12	SCREW TAPTYPE	6003-001369	1
3-28	SCREW TAPTYPE	6003-001369	1
3-29	SCREW TAPTYPE	6003-001630	5

3-2 Disassembly of main unit

1. Disassembly of BACK COVER ASSY.

(a) Remove the two SCREWS on the left side.



Fig. 3-1

(b) Remove the two SCREWS on the right side.



Fig. 3-2

(c) Remove the one SCREW on the bottom side.



Fig. 3-3

- (d) Run a safe open pry tool around the join of LOCKING PART to release the BACK COVER as illustrated in image. Slightly wiggle the LOCKING PART to widen the gap. You'll have to apply a little force to remove it.



Fig. 3-4

- (e) Remove the BACK COVER ASSY.



Fig. 3-5

2. Disassembly of KEY PCB ASSY.

(a) Lift up the KEY PCB ASSY in the direction of the arrow and remove it.

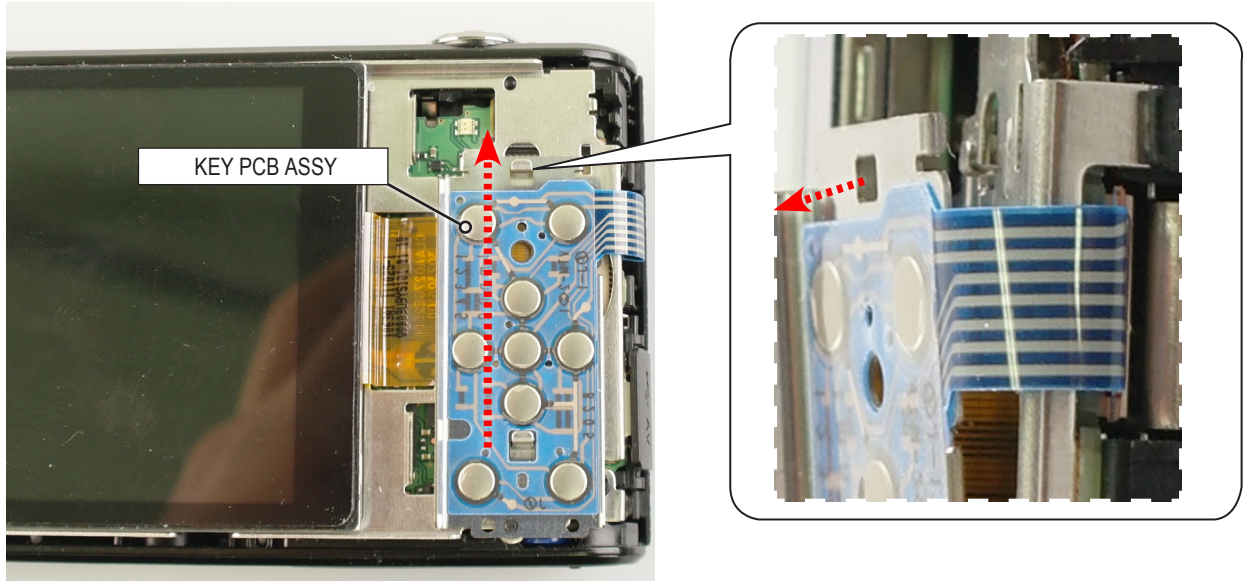


Fig 3-6

(b) Remove the CONNECTOR as indicated " Fig. A" below.

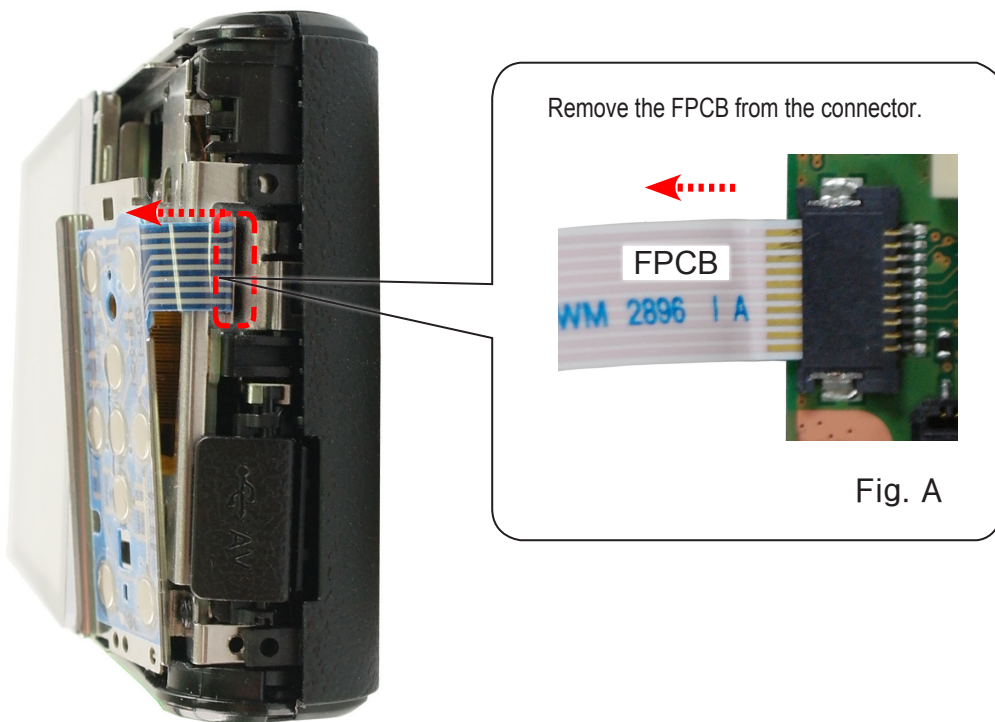


Fig 3-7

3. Disassembly of LCD ASSY.

(a) Remove the CONNECTOR as indicated " Fig. A" below and Then remove the LCD ASSY.

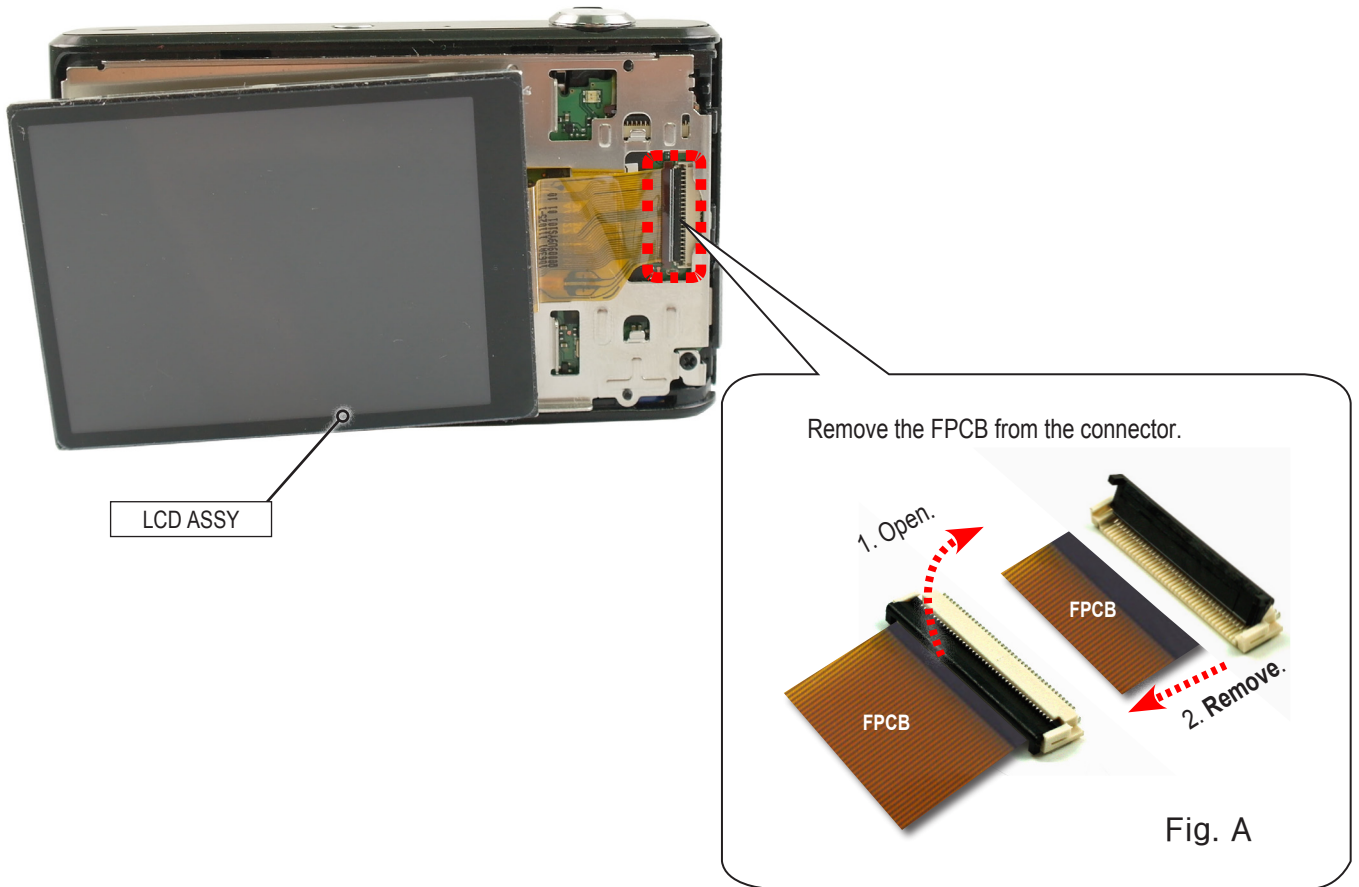


Fig 3-8

4. Disassembly of MAIN FRAME.

Remove the two SCREWS.

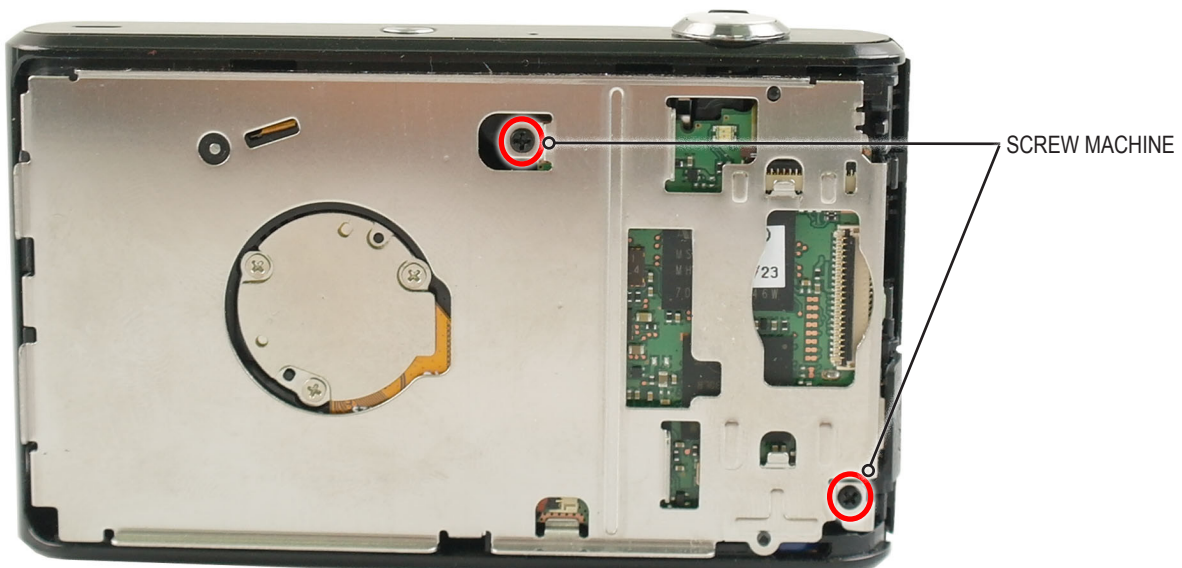


Fig 3-9

(b) Remove the MAIN FRAME.

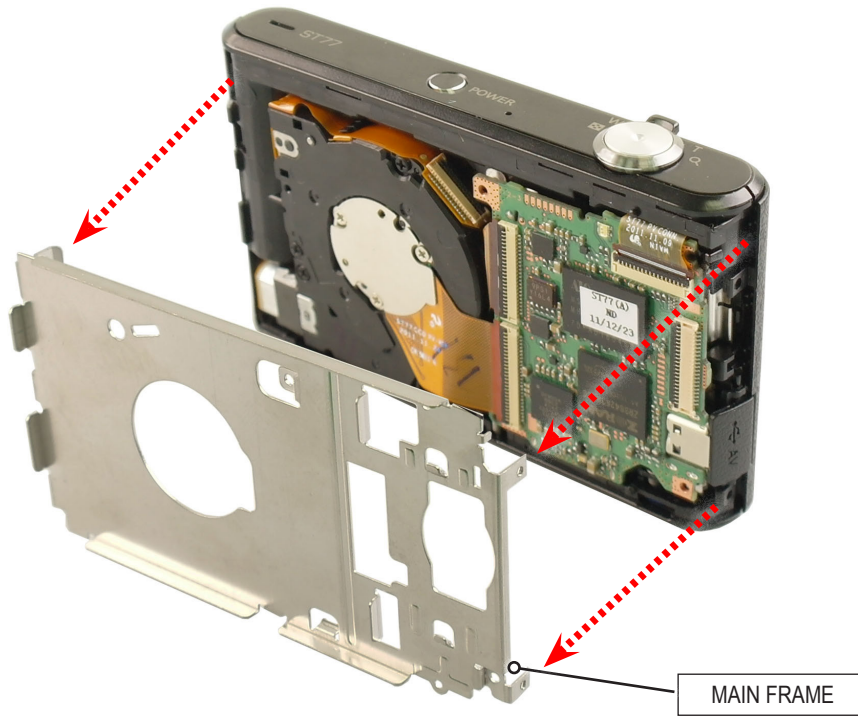


Fig 3-10

5. Disassembly of BARREL ASSY and MAIN PCB ASSY.

(a) Remove the CONNECTOR as indicated " Fig. A" below..

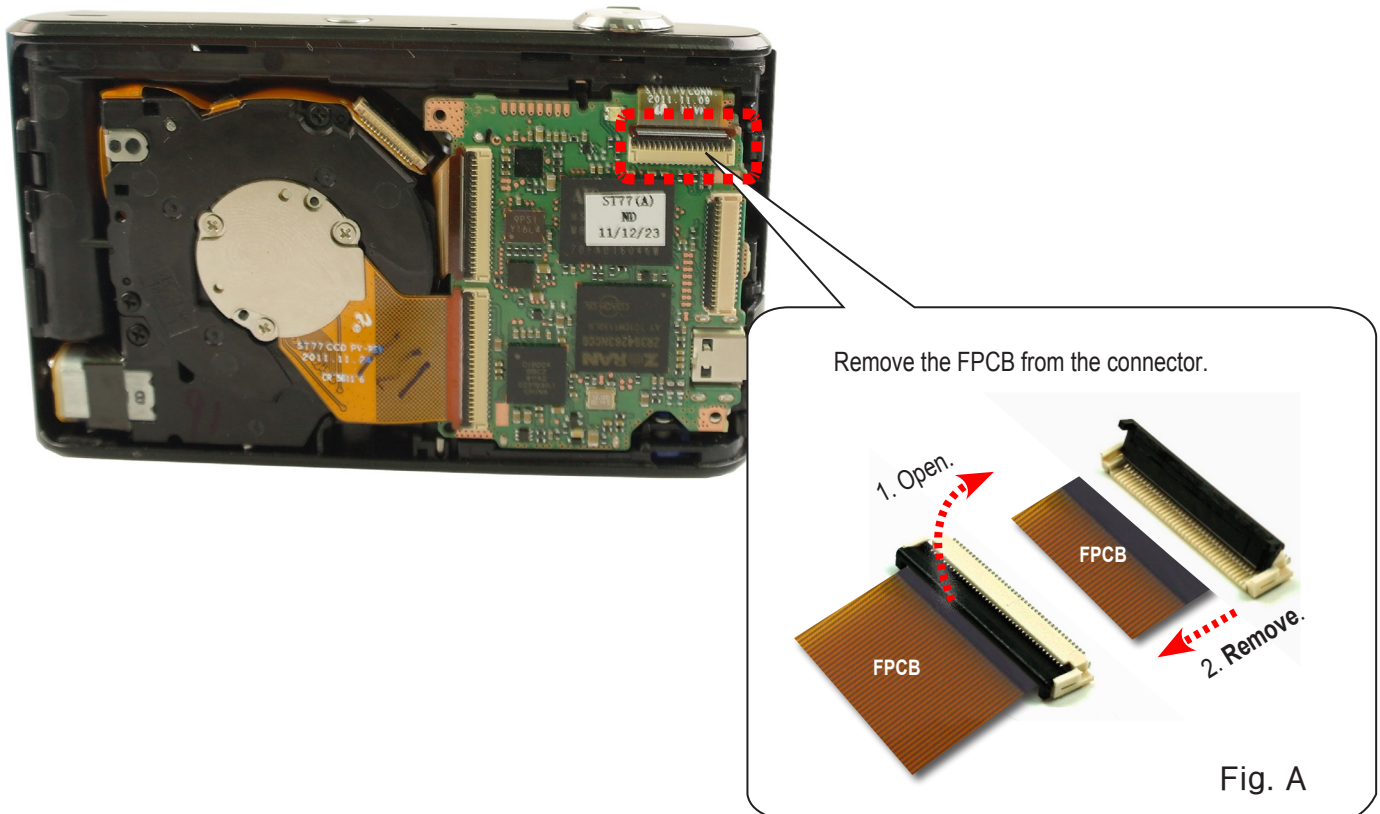


Fig 3-11

(b) Remove the BARREL ASSY/ASSY MAIN PCB.

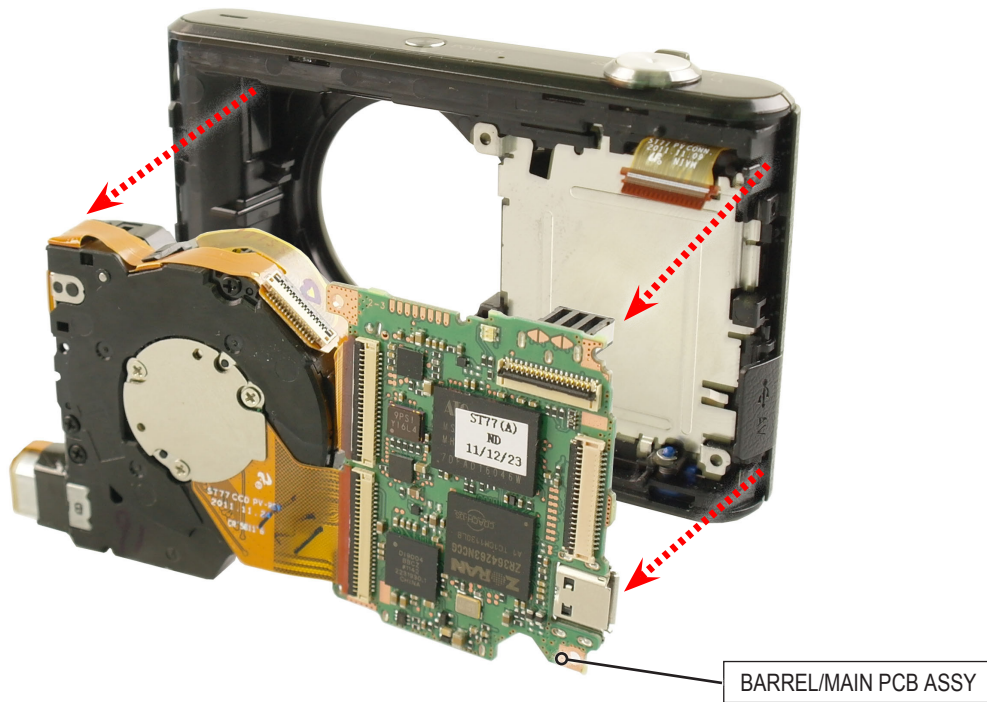


Fig 3-12

(c) Remove the CONNECTOR as indicated " Fig. A" below.

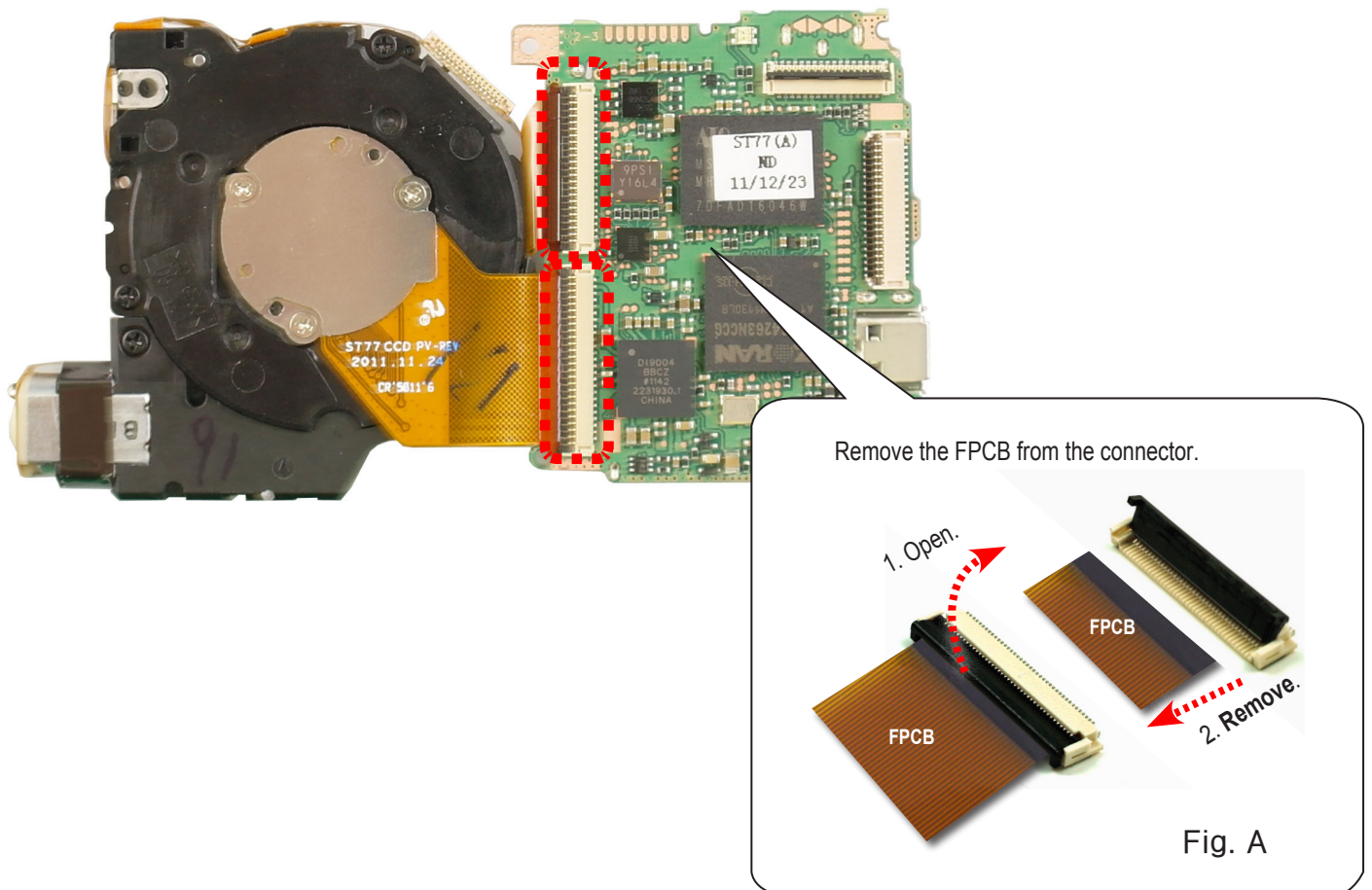


Fig 3-13

(d) Remove the BARREL ASSY with MAIN PCB.

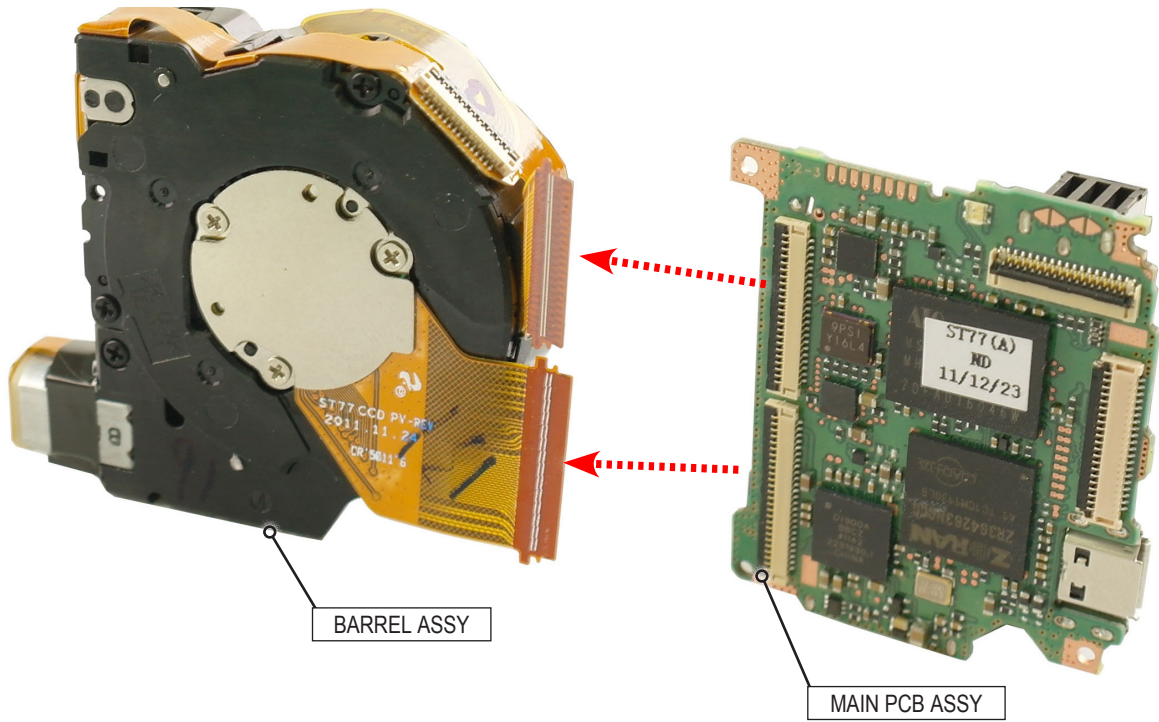


Fig 3-14

6. Disassembly of TOP PCB ASSY.

(a) Remove the CHAMBER ASSY.

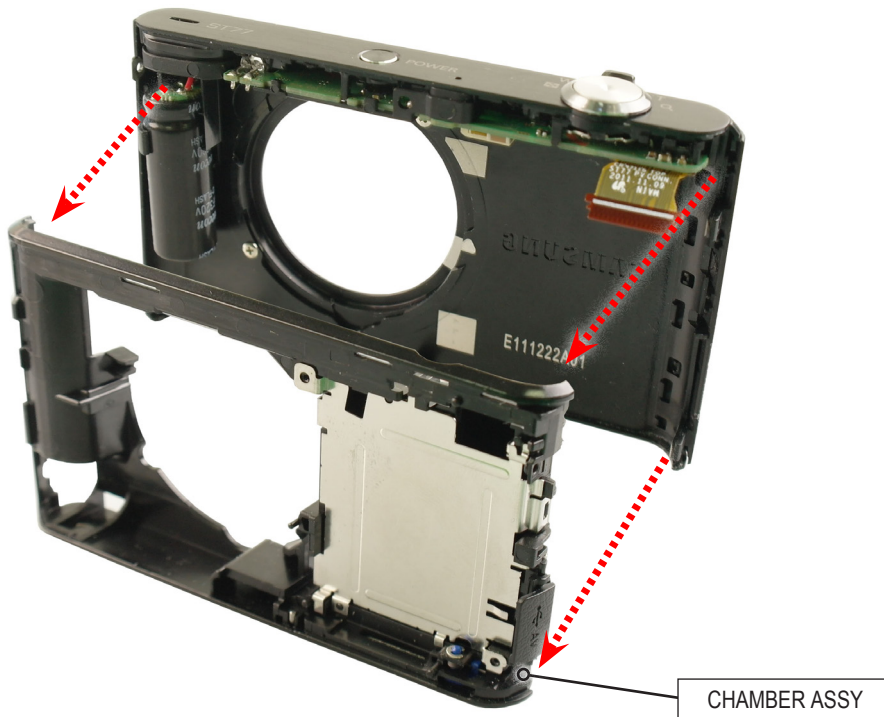


Fig 3-15

(b) Discharge.**CAUTION**

It must be processed for discharge to the main condenser as shown in the below picture.

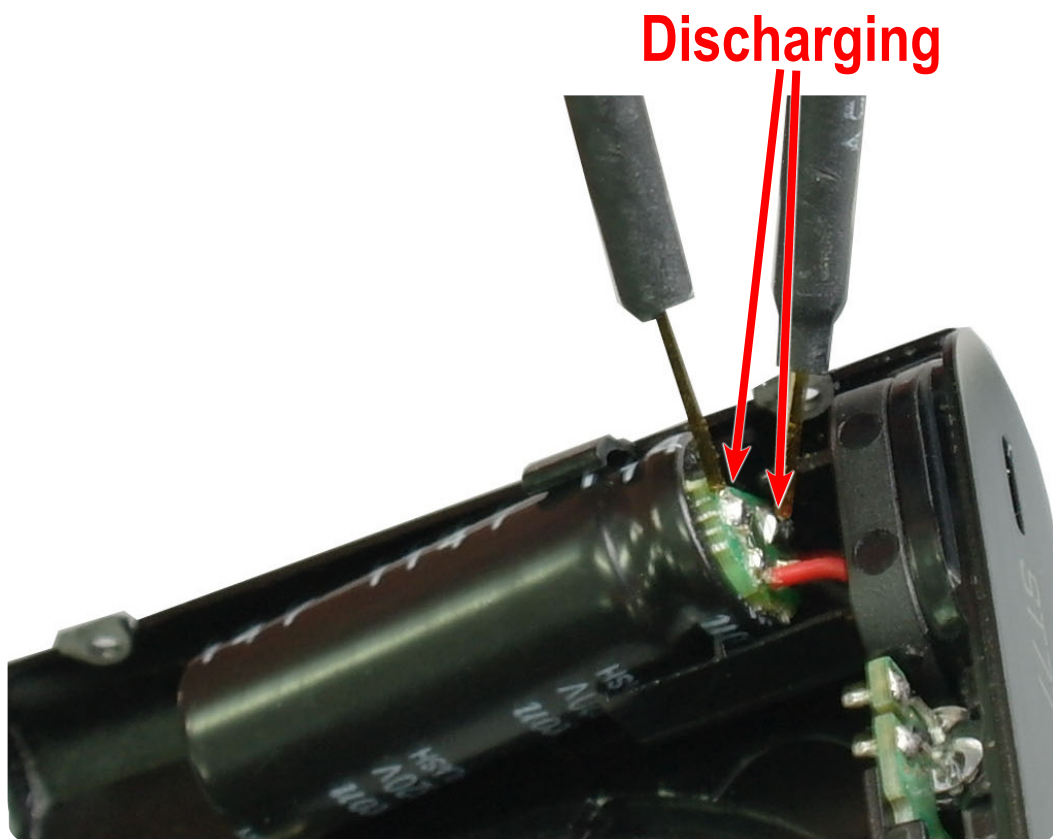


Fig 3-16

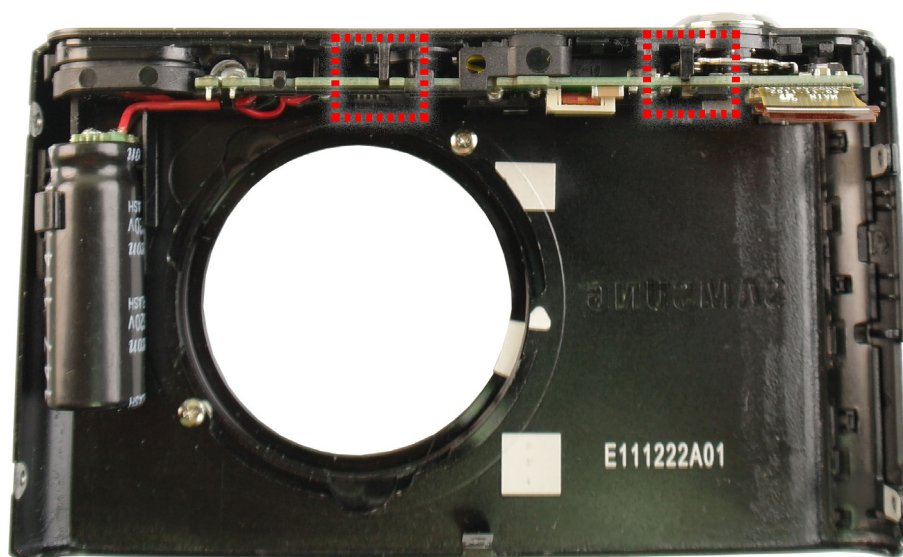
(c) Remove the two LOCKs from the TOP PCB ASSY.

Fig 3-17

(d) Remove the TOP PCB ASSY.

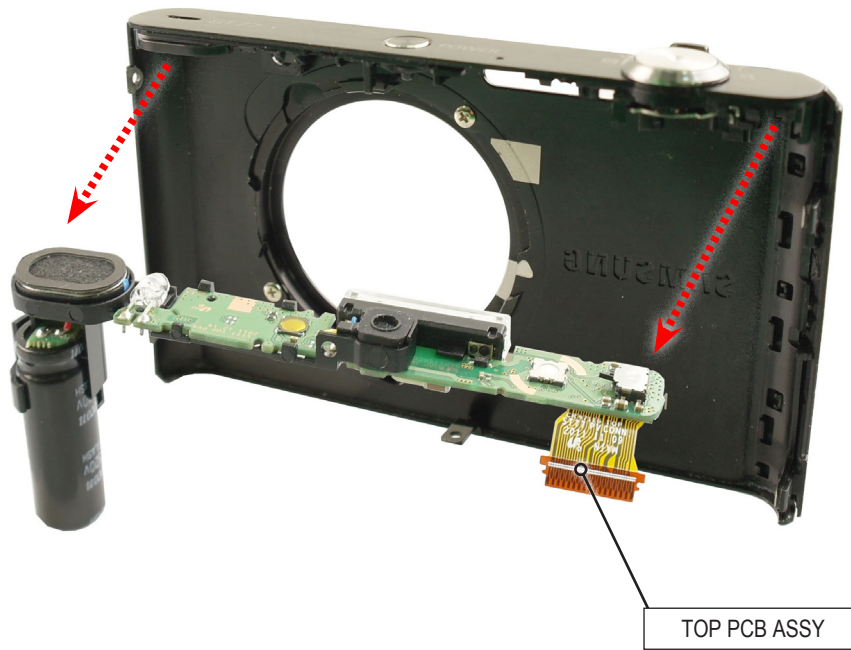


Fig 3-18

3-3 Disassembly of barrel

1. Disassembly of PCB FPC-CCD ASSY.

(a) Remove the three SCREWS from the PCB FPC-CCD ASSY.

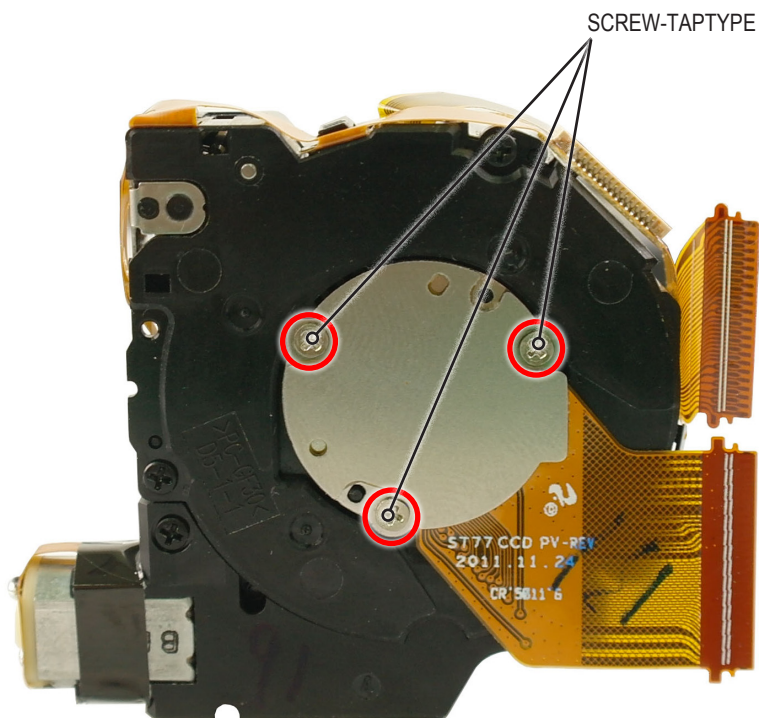


Fig 3-19

(b) Remove the PCB FPC-CCD ASSY.

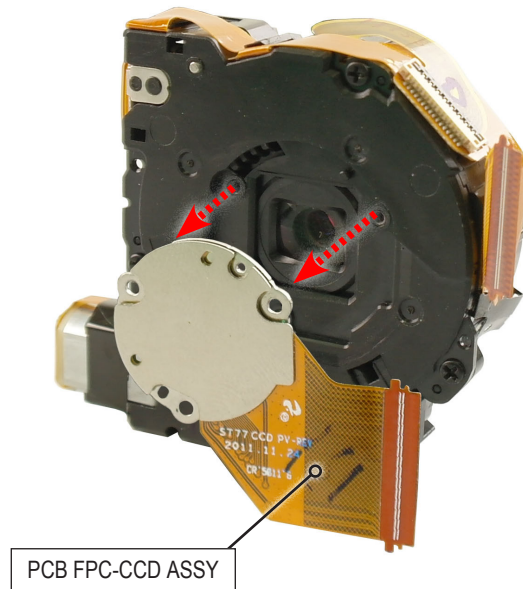


Fig 3-20

2. Disassembly of BARREL FPCB.

(a) Remove the five SCREWS.

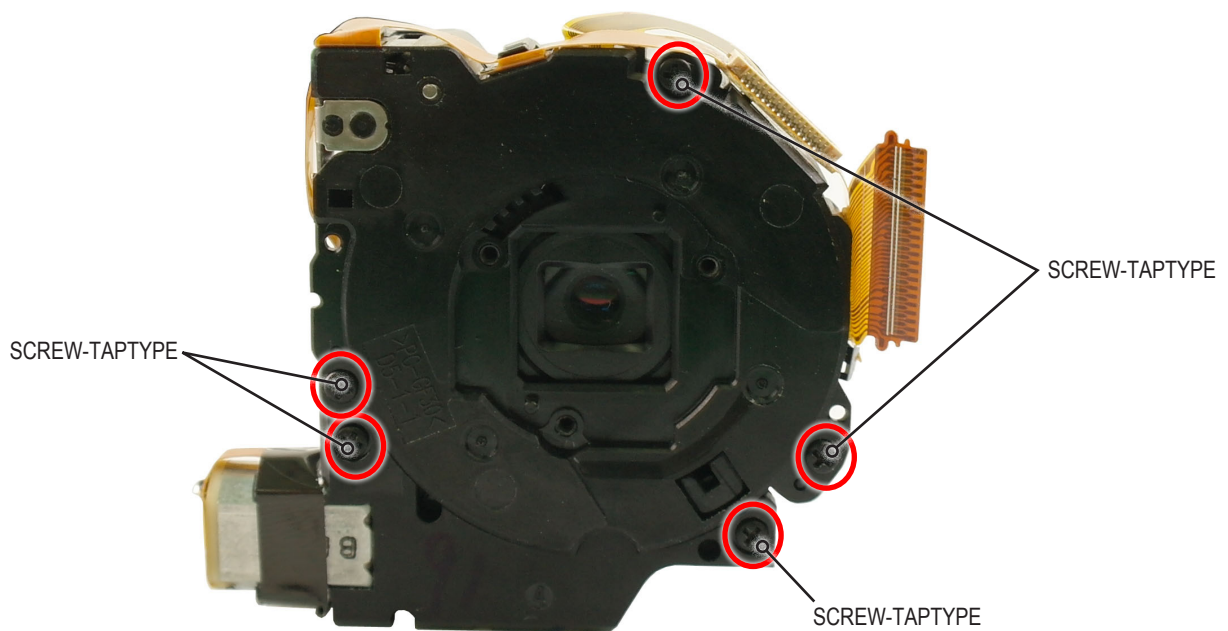


Fig 3-21

(b) Remove the one SCREW.

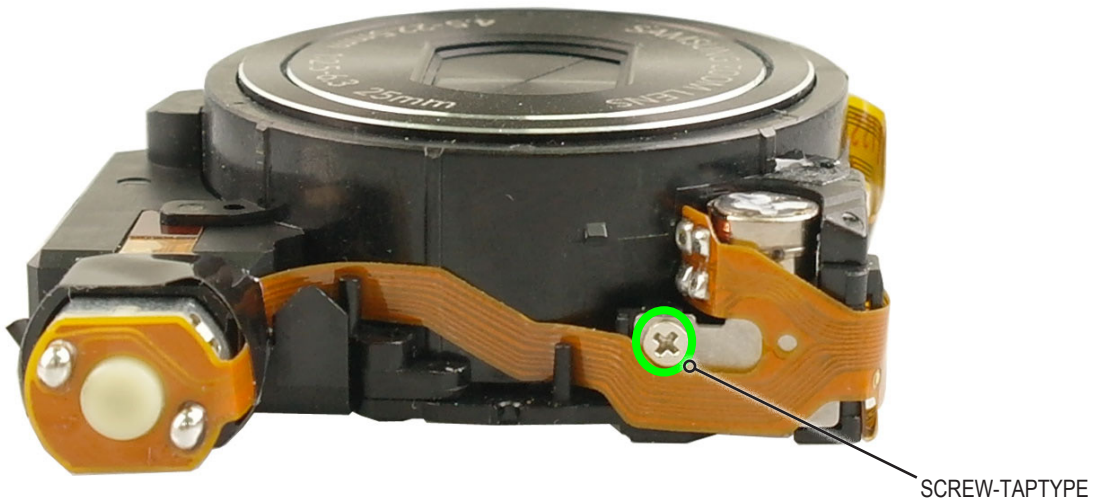


Fig 3-22

(c) Remove the FPCB from the CONNECTOR as indicated "Fig. A" below.
(d) Remove the fixed part by slightly move the FPCB as shown in the "Fig.B".

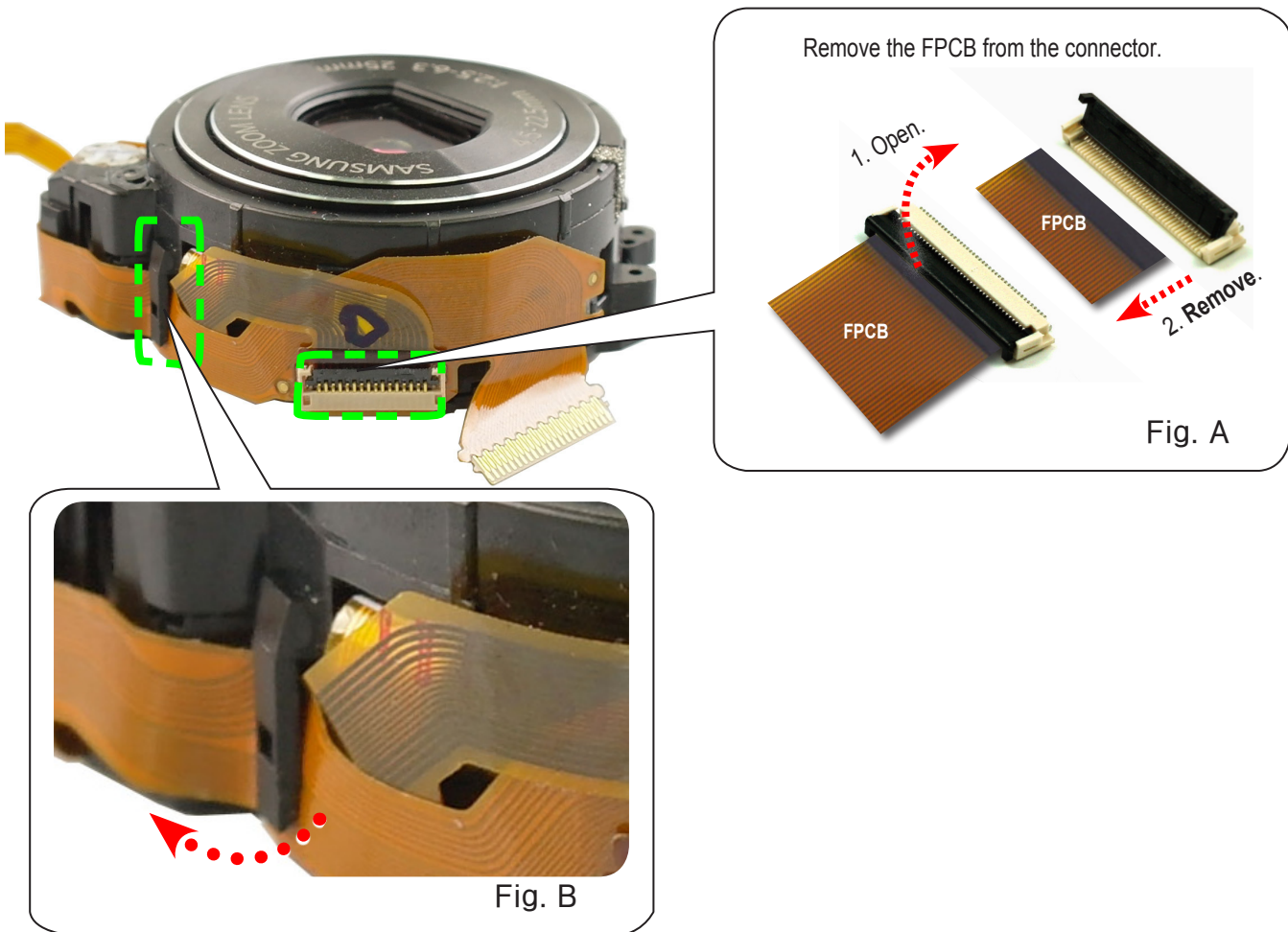


Fig 3-23

3. Disassembly of BARREL.

(a) Remove the ASSY LENS BASE-D5.

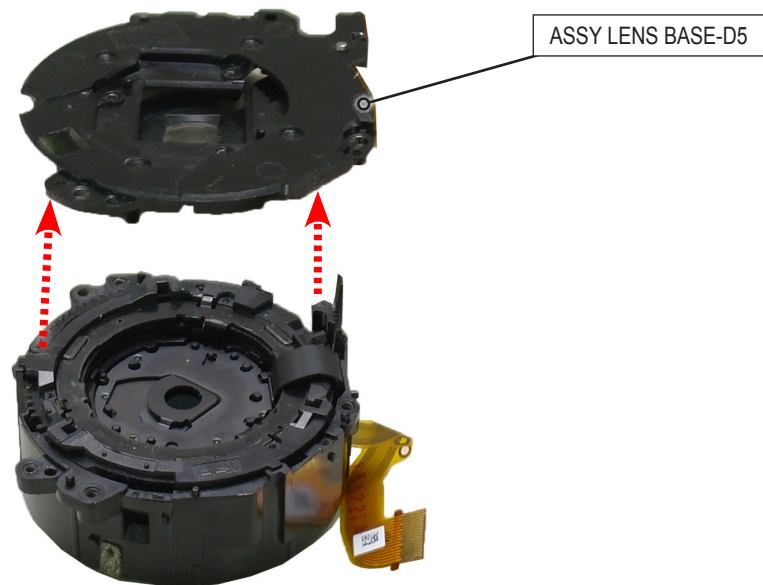


Fig 3-24

(b) Remove the FPCB from the slot "a" of ASSY SHUTTER-OIS as illustrated.



Caution

Make the BARREL by state of WIDE as illustrated and then remove the FPCB.
Be damage the FPCB if state to CLOSE of BARREL when remove the FPCB.

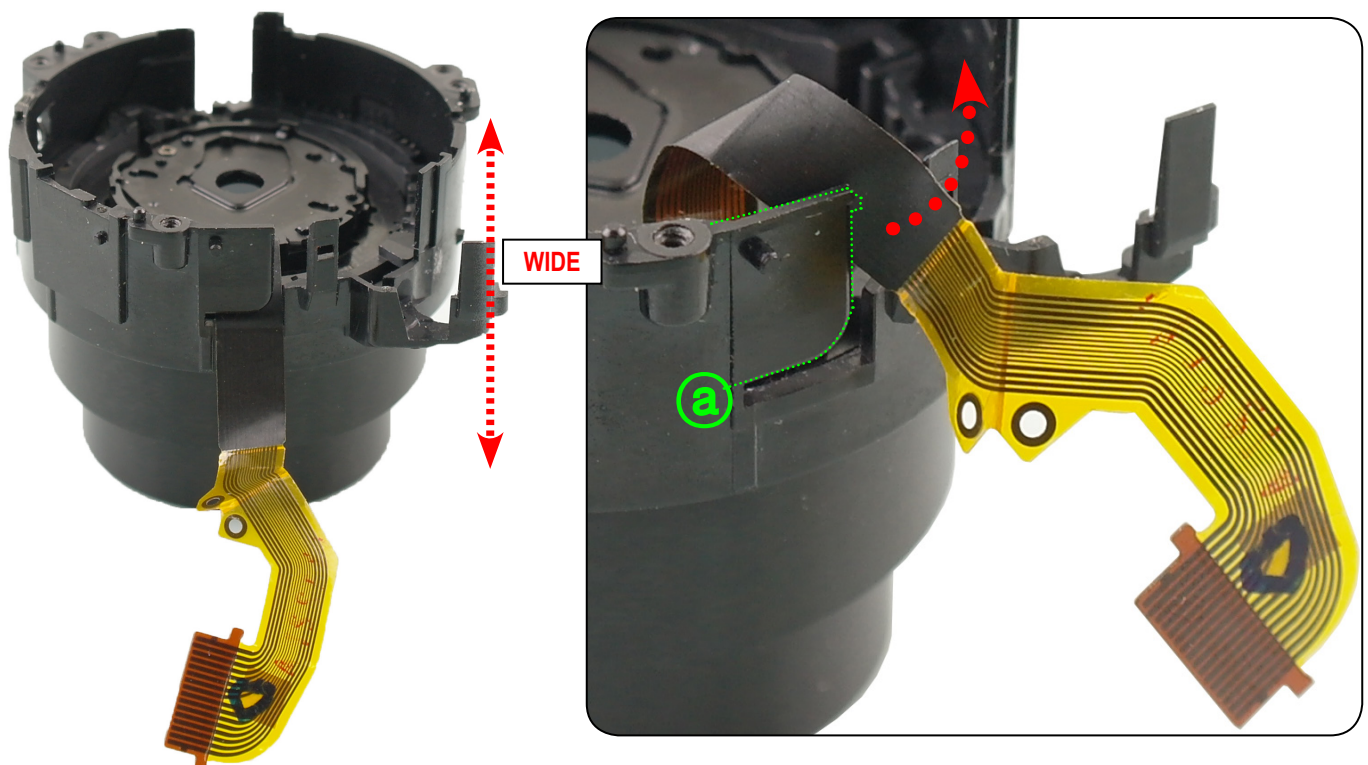


Fig 3-25

(c) Remove the BARREL BASE.

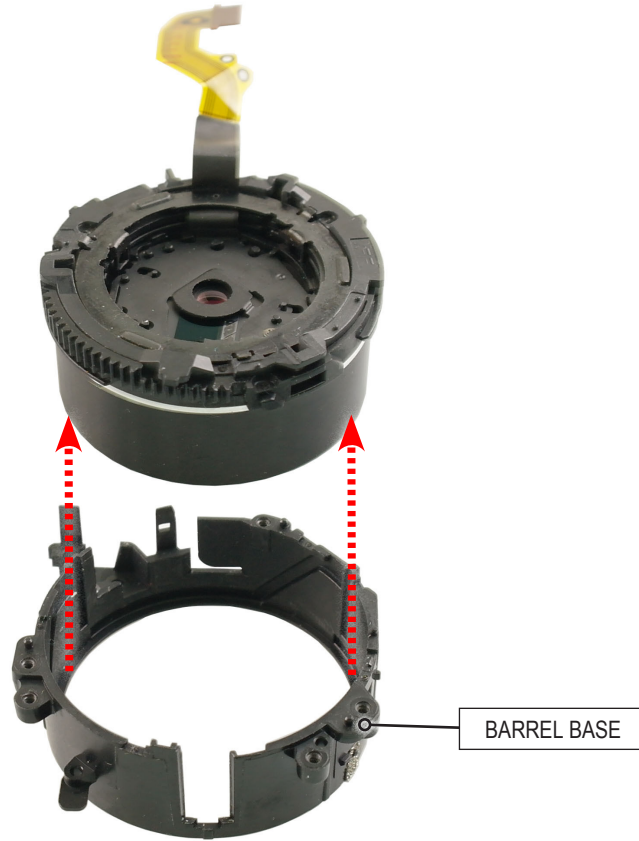


Fig 3-26

(d) Remove the BARREL-OUTER CAM.

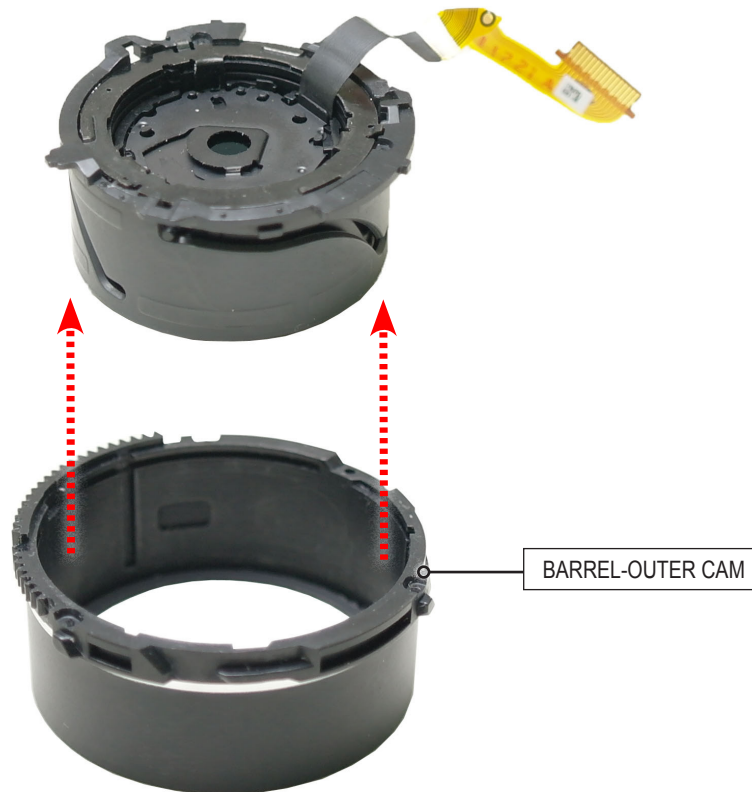


Fig 3-27

(e) Remove the BARREL-OUTER GUIDE.

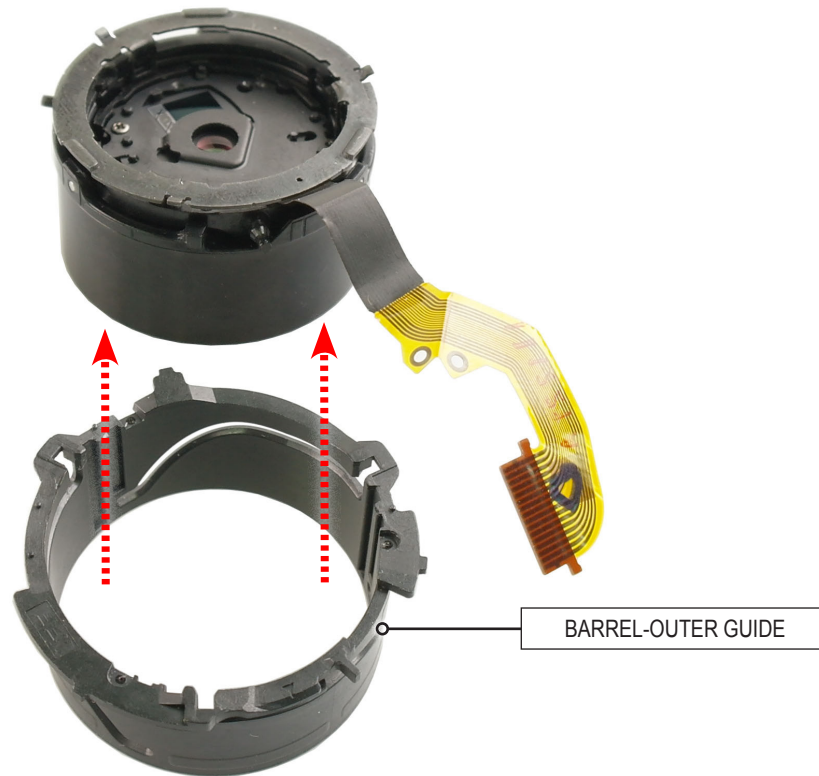


Fig 3-28

(f) Remove the BARREL-INNER CAM/ ASSY SUB BARREL-ZOOMRING and ASSY SUB BARREL-2ND_OIS/ PLATE-INNER GUIDE.

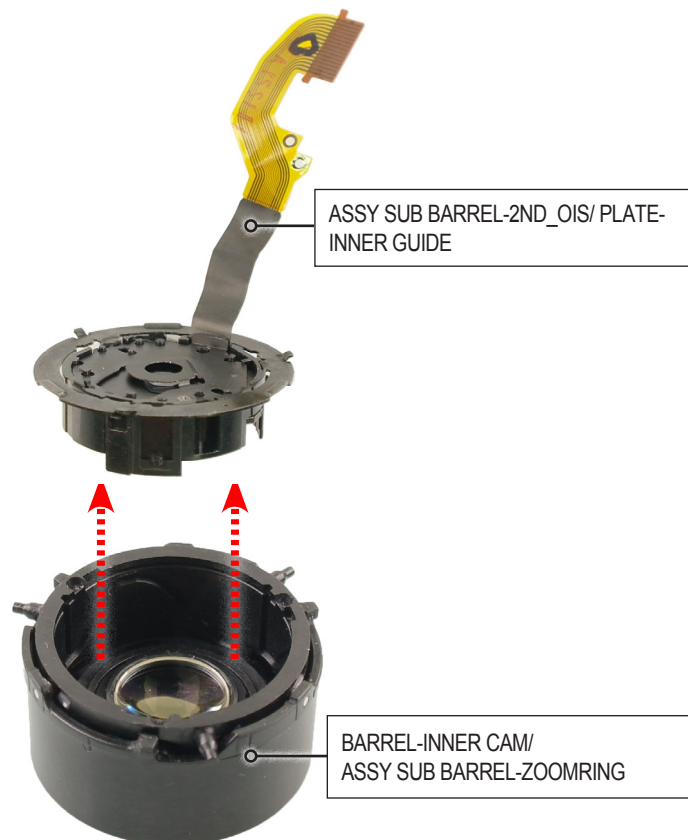


Fig 3-29

(g) Turn the ASSY SUB BARREL-ZOOMRING by clockwise direction as arrow and remove it.

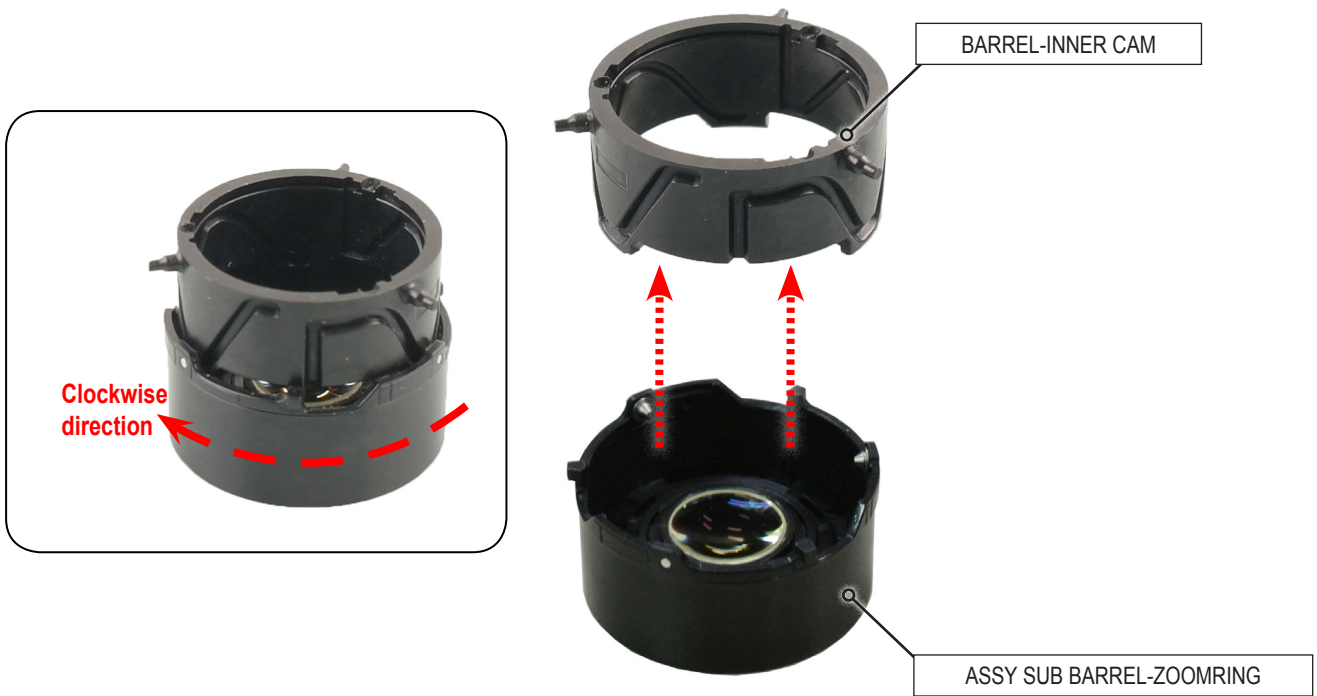


Fig 3-30

(h) Remove the PLATE-INNER GUIDE.

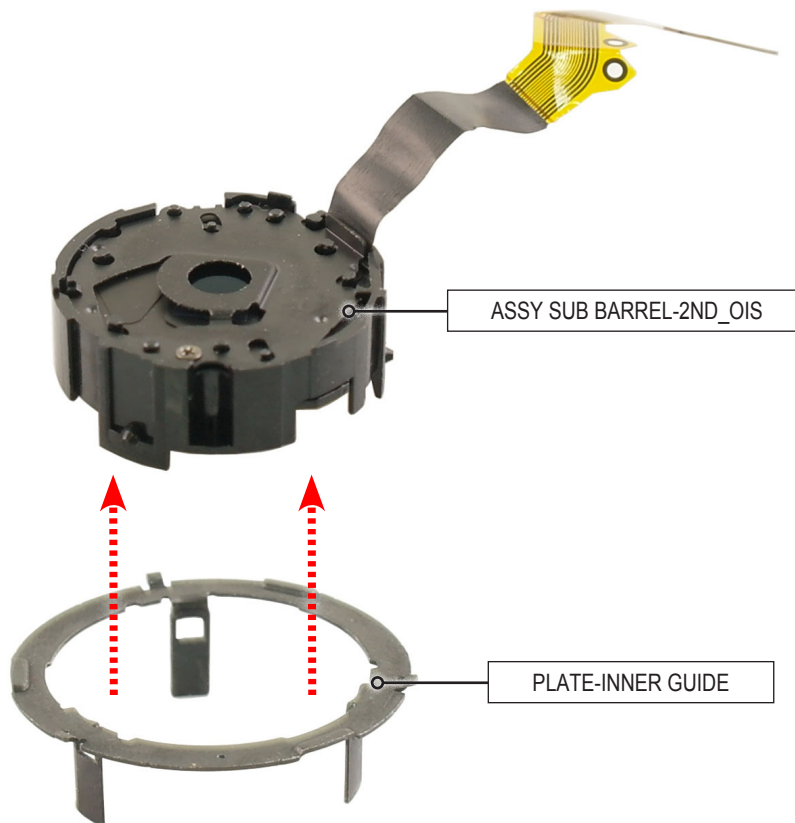


Fig 3-31

3-4 Reassembly of barrel

3-4-1 How to use the lubricant for anti-friction to the ASSY BARREL assembly.



- Anti-friction lubricant serves to prevent from the possibility of defective parts.
- Replacement parts are required to apply the lubricant before installing the ASSY BARREL.

CAUTION

- HANARL is volatile product. Keep its container tightly covered.
- Make sure to shake the HANARL well first before you use it because it has a lot of particles in the bottom. (Otherwise it becomes ineffective.)
- Shake the HANARL until there are no lumps at all and apply it with brush.

1. Type of lubricant

<Table. 3-2 lubricant Information>

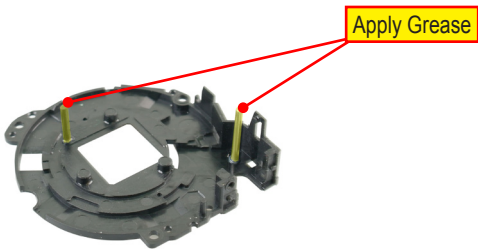
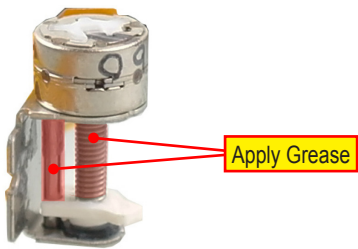
Component Name	Where to apply	Name of lubricant
Lens Base	Sliding contact surfaces of AF Lens.	Grease KG-513
Barrier assy Related Parts	Friction part and the pins	RX-410
AF motor Related Parts	Clip part and lead screw	NFH-743C
Others components	Inside and outside friction surface	HANARL UD-420K

- Brand Name: Kanto Kasei(<http://www.kanto-kasei.co.jp/e/index.html>)

* To purchase this product simply click on the URL above.

2. Instructions

<Table. 3-3 Lubricating with Grease: Lens Base>

The pins that work AF Lens	Lead screw with clip of AF motor.
1) Apply the Grease KG-513 to the two pins of AF Lens. 2) Do not get any Grease on the AF lens. 3) Apply a light coating of the Grease KG-513 and make sure not to get any on the AF lens and other components.	1) Apply the Grease NFH-743C to the lead screw and clip of AF motor. 2) Apply the Grease RX-410 to the related parts fo BARRIER ASSY.
	

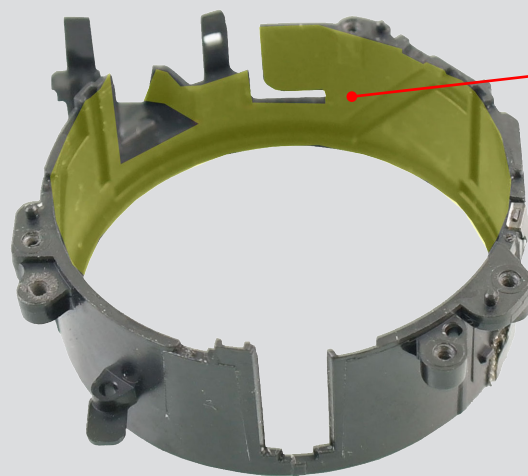
3. Lubricating with HANARL: Others components

Apply the HANARL to the Inside and outside friction surface of the components such as ZOOMRING, CAM BARREL, GUIDE PLATE as illustrated in image below.

CAUTION

- Make sure to shake the HANARL well first before you use it until there are no lumps.
- Apply the HANARL with a clean and good-quality brush, making sure the surface is clean.
- HANARL is volatile product. Keep its container tightly covered.

BARREL OUTER GUIDE



Inside surface thoroughly

ASSY SUB BARREL-OUTER CAM

Inside surface thoroughly

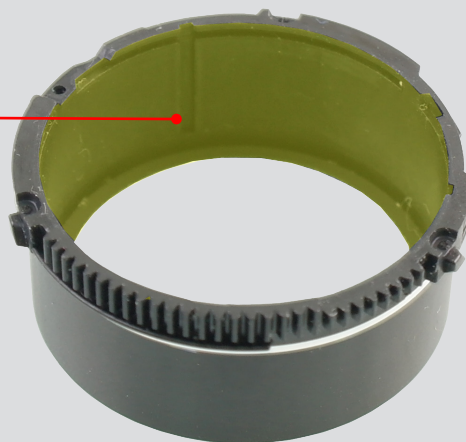


Fig. 3-32

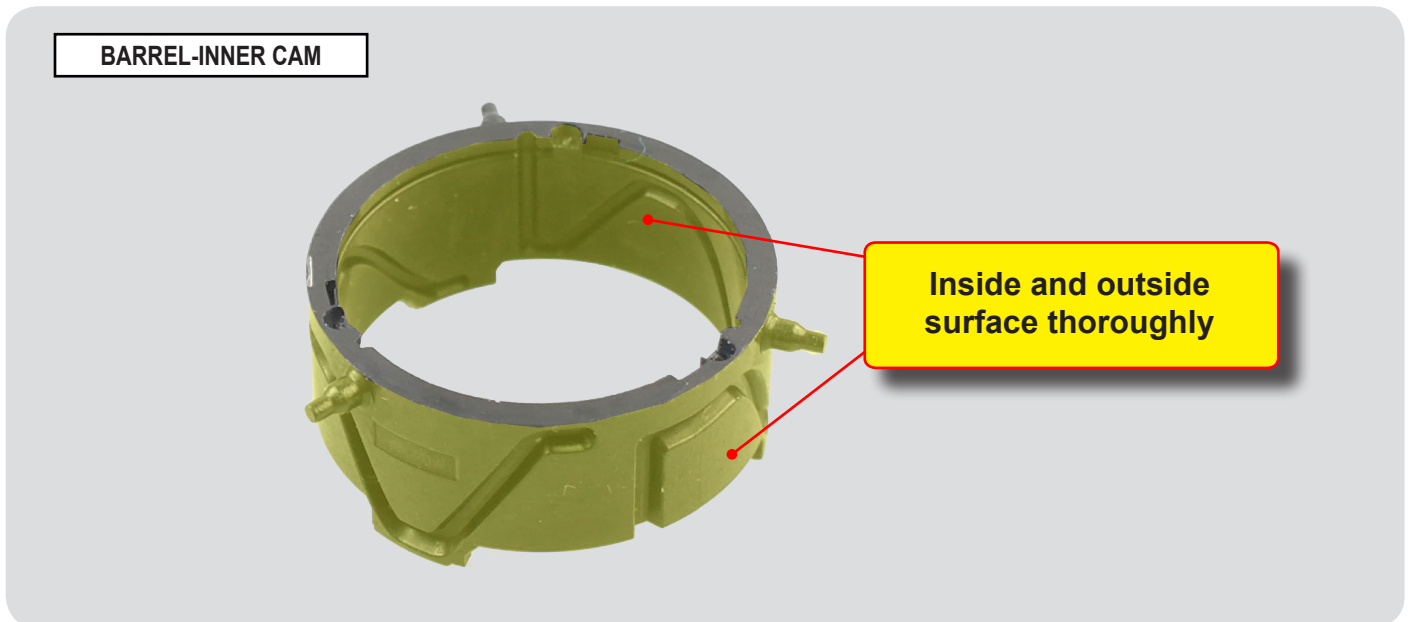
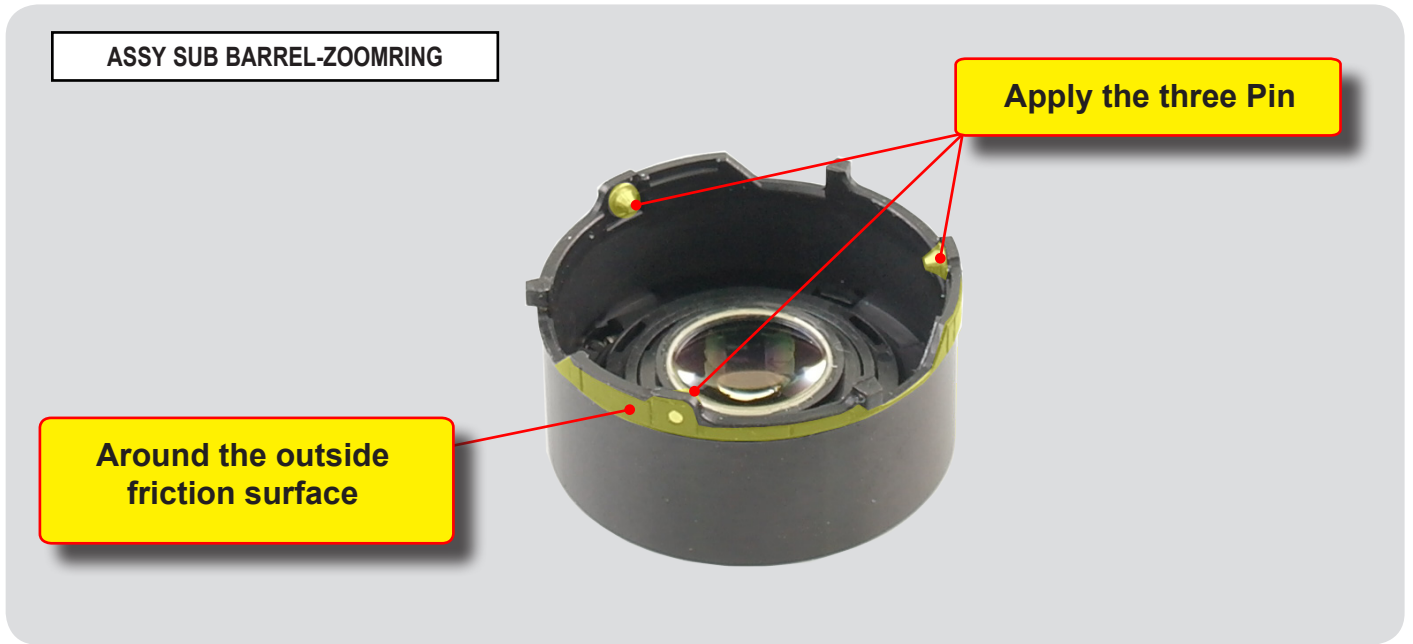


Fig. 3-33

3-4-2 Reassembly of BARREL ASSY.

1. Reassembly of BARREL.

(a) Assemble the ABARREL-INNER CAM and ASSY SUB BARREL-ZOOMRING by aligning the part "a" as illustrated and then turn the ASSY SUB BARREL-ZOOMRING by counterclockwise direction as arrow and assemble it.

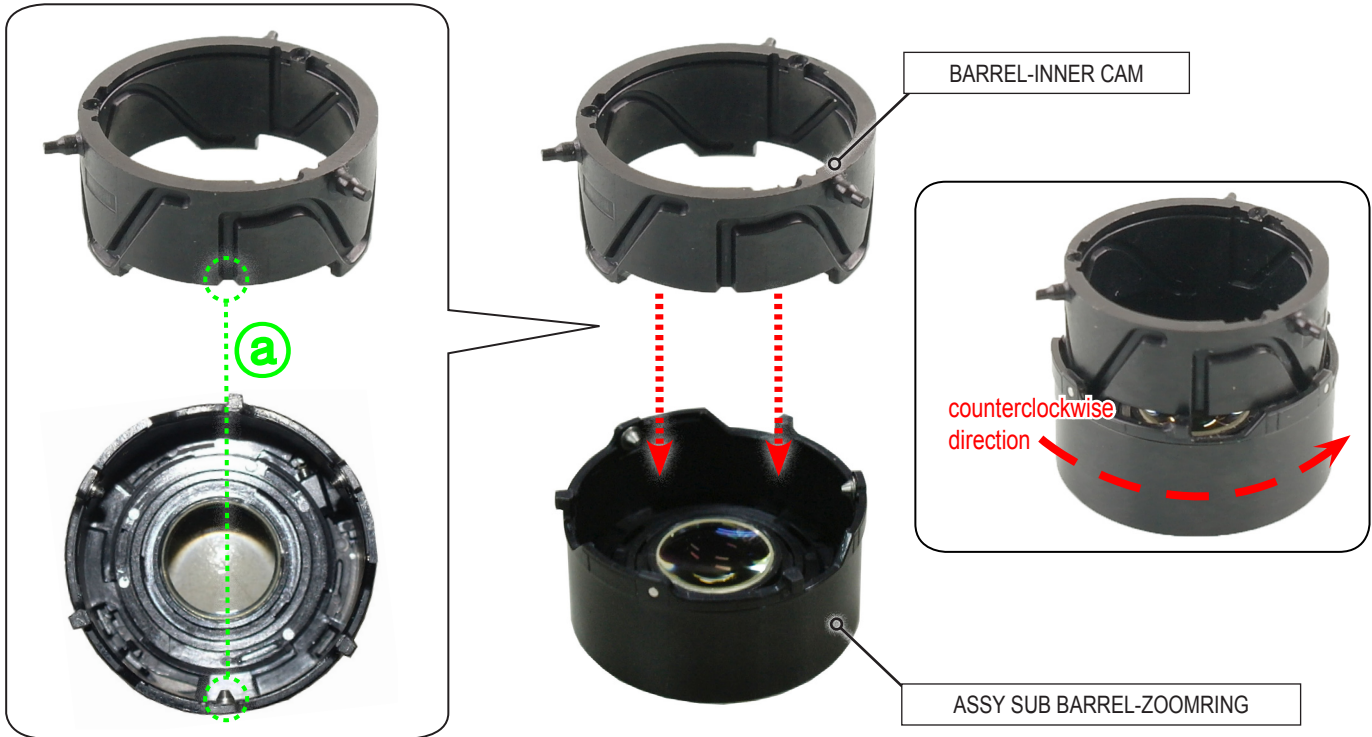


Fig 3-34

(b) Assemble the ASSY SUB BARREL-2ND_OIS and PLATE-INNER GUIDE by aligning the part "a with b" as illustrated. (Does not matter the Three location ① ~ ③.)

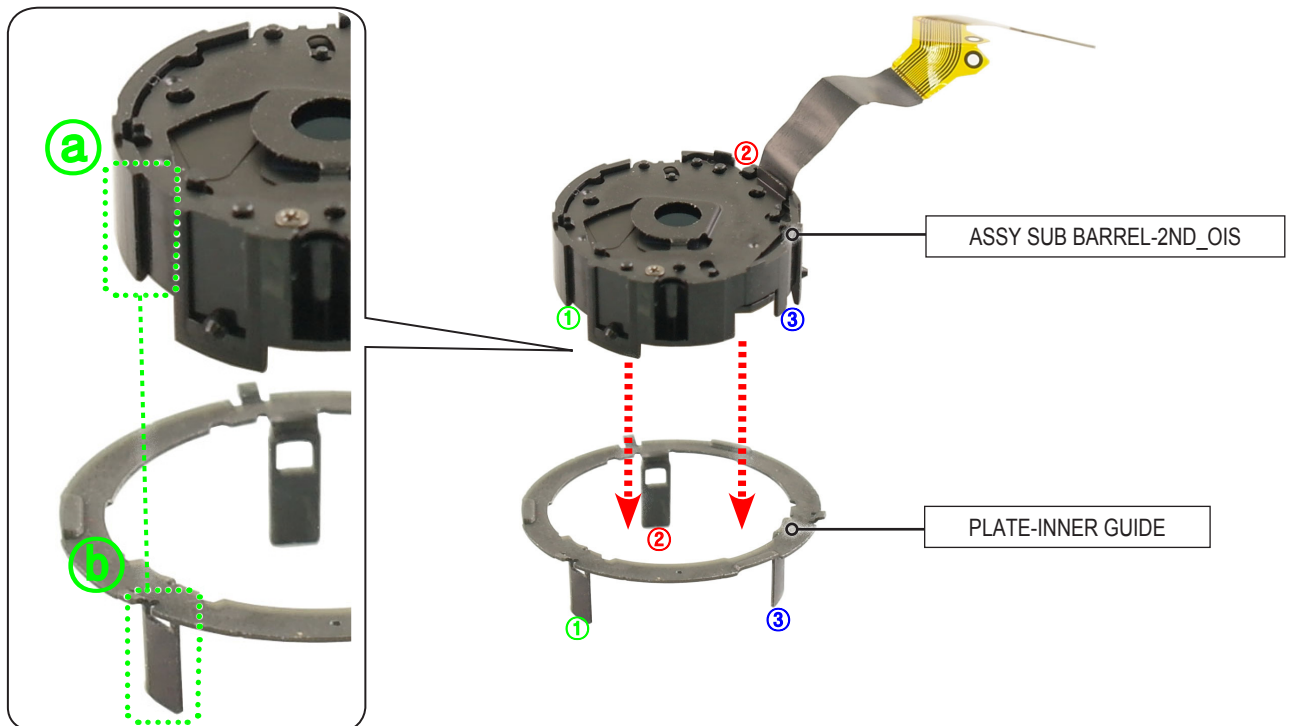


Fig 3-35

(c) Assemble the Protrusion part of BARREL-INNER CAM/ ASSY SUB BARREL-ZOOMRING and ASSY SUB BARREL-2ND_OIS/ PLATE-INNER GUIDE by aligning the part "a" with "b" as illustrated. (Does not matter the Three location ① ~ ③.)

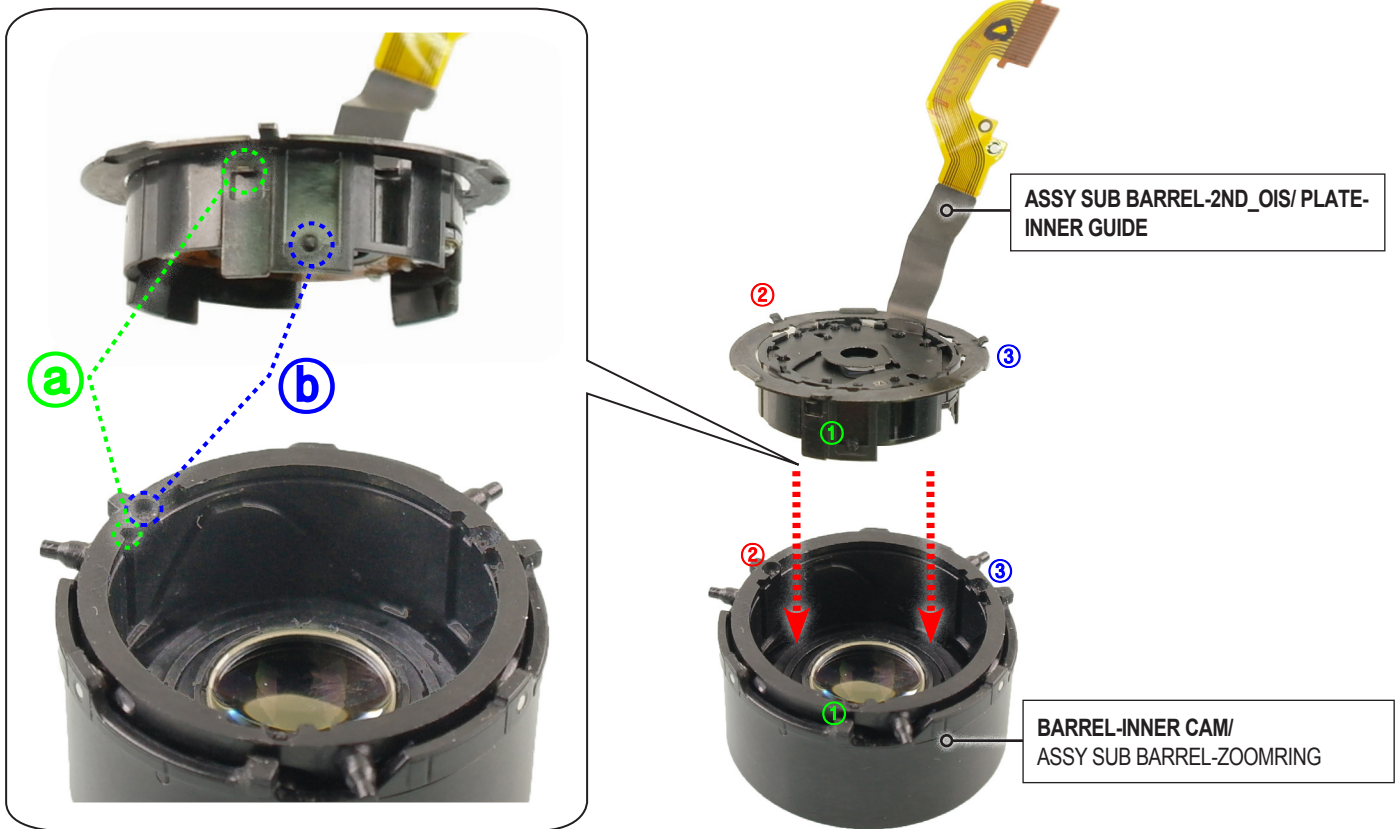


Fig 3-36

(d) Converge the protrusion part to the middle as part "a" of "Fig.A" and then assemble the BARREL-OUTER GUIDE by aligning the part "b" as illustrated.

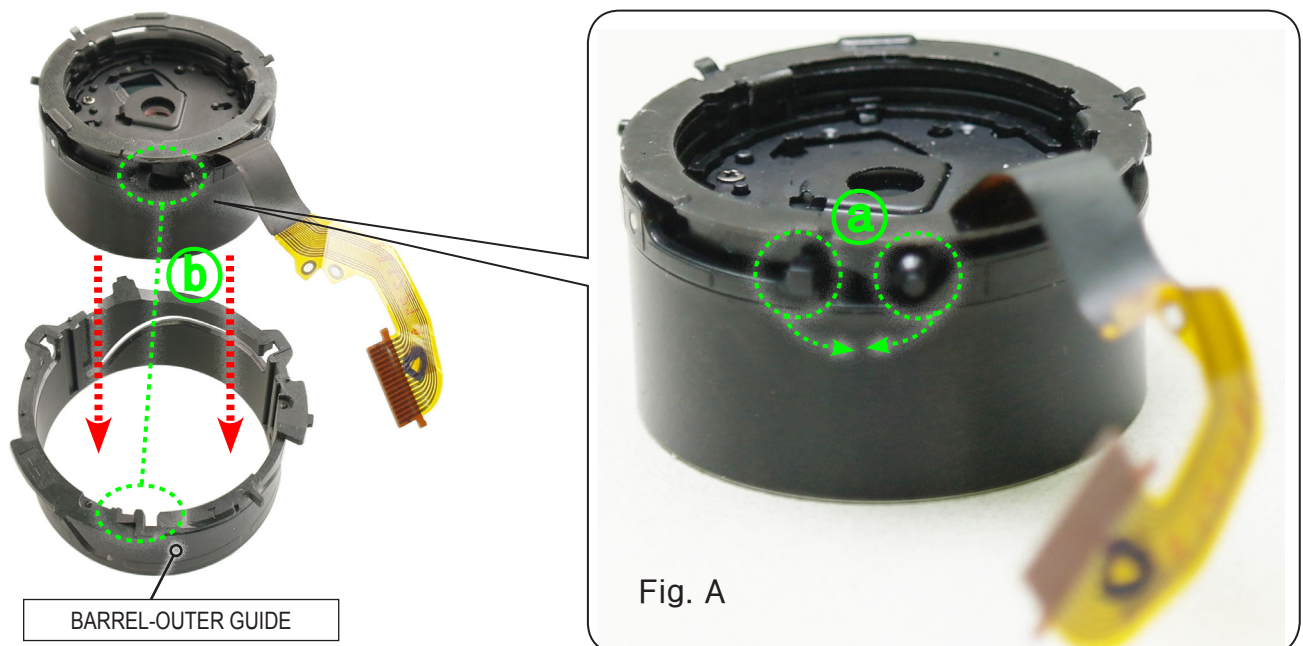


Fig 3-37

(e) Assemble the ASSY SUB BARREL-OUTER CAM by aligning the part "a" with "b" as illustrated.

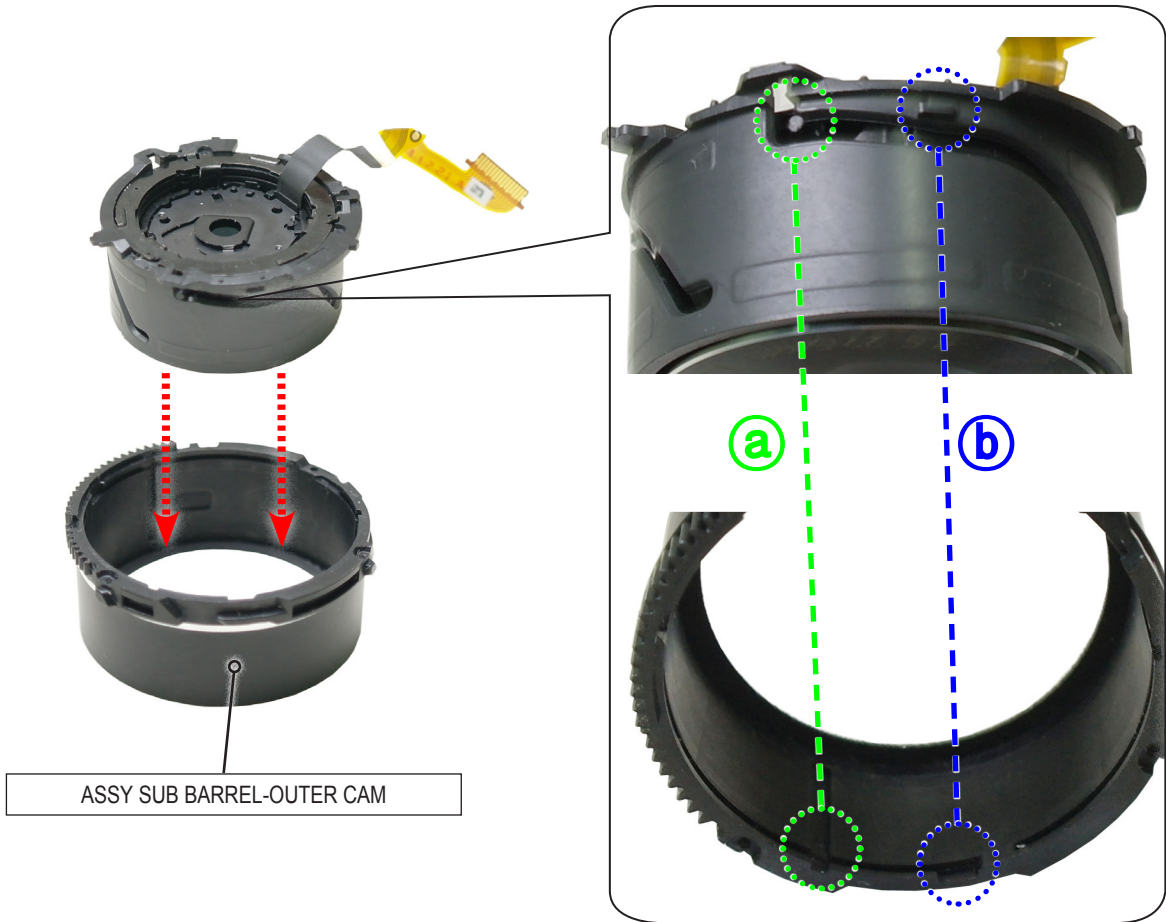


Fig 3-38

(f) Assemble the BARREL BASE.

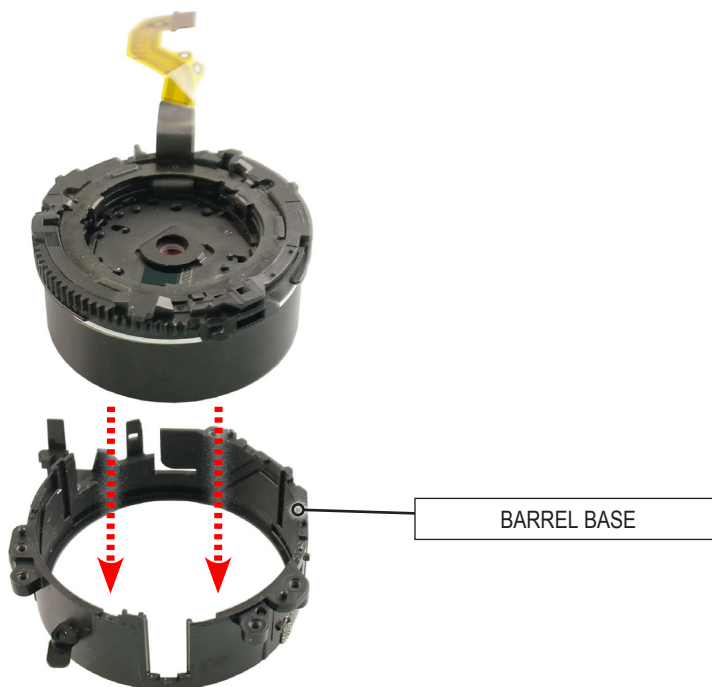


Fig 3-39

(g) After Assemble the FPCB HOLDER as illustrated, slide it into the marked slot "a".

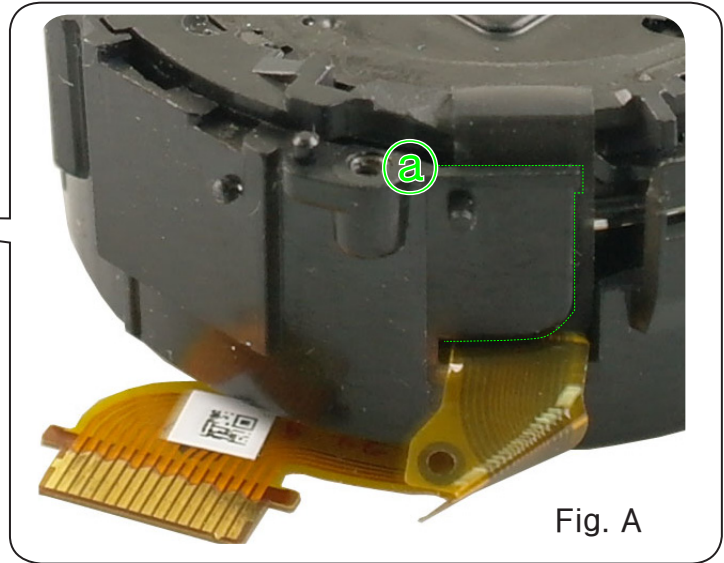
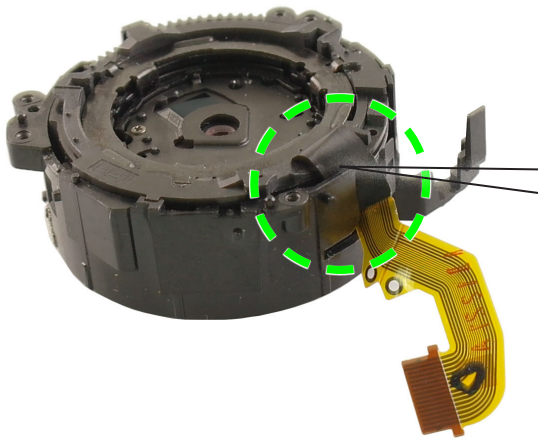


Fig. A

Fig 3-40

(h) Assemble the ASSY LENS BASE-D5 by aligning the part "a" with "b" as illustrated.

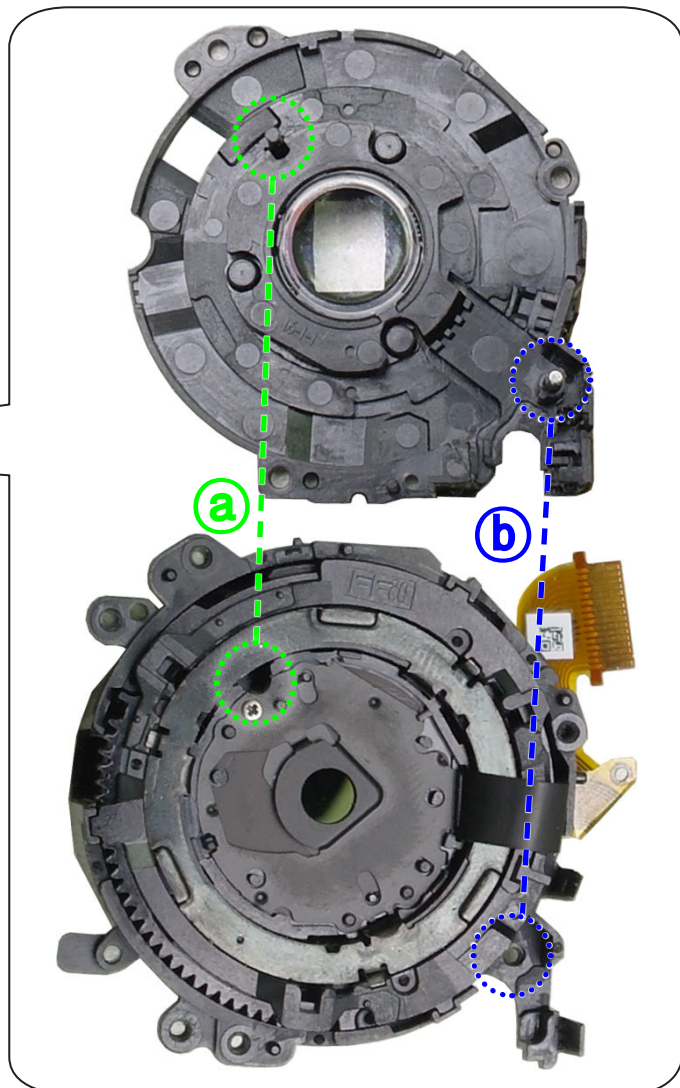
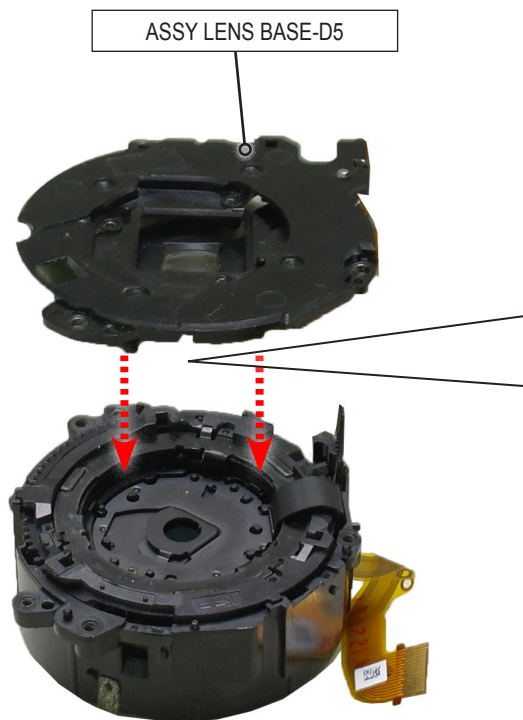


Fig 3-41

(i) Assemble the ASSY ZOOM-0523-D5 by aligning the part "a", "b", "c" as illustrated.



Fig 3-42

2. Reassembly of BARREL FPCB.

(a) Tighten the open SCREW.

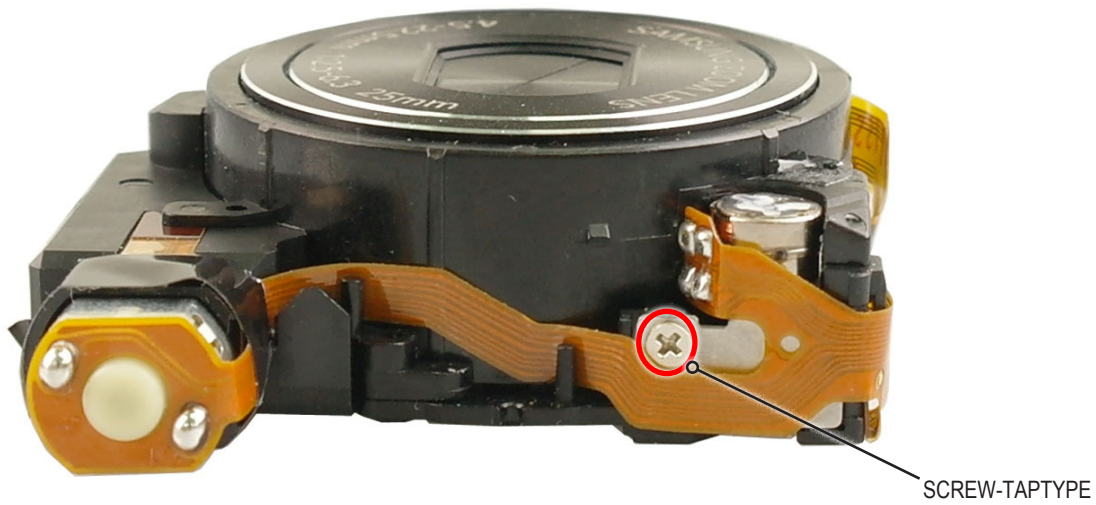


Fig 3-43

(b) Assemble the FPCB as "Fig. A".

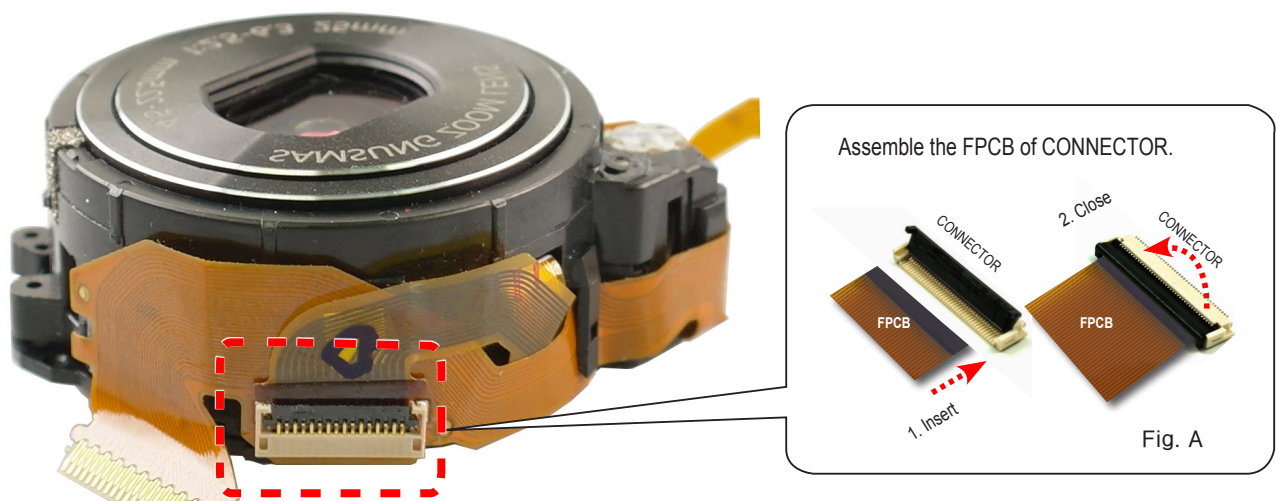


Fig 3-44

(c) Tighten the five SCREWS.

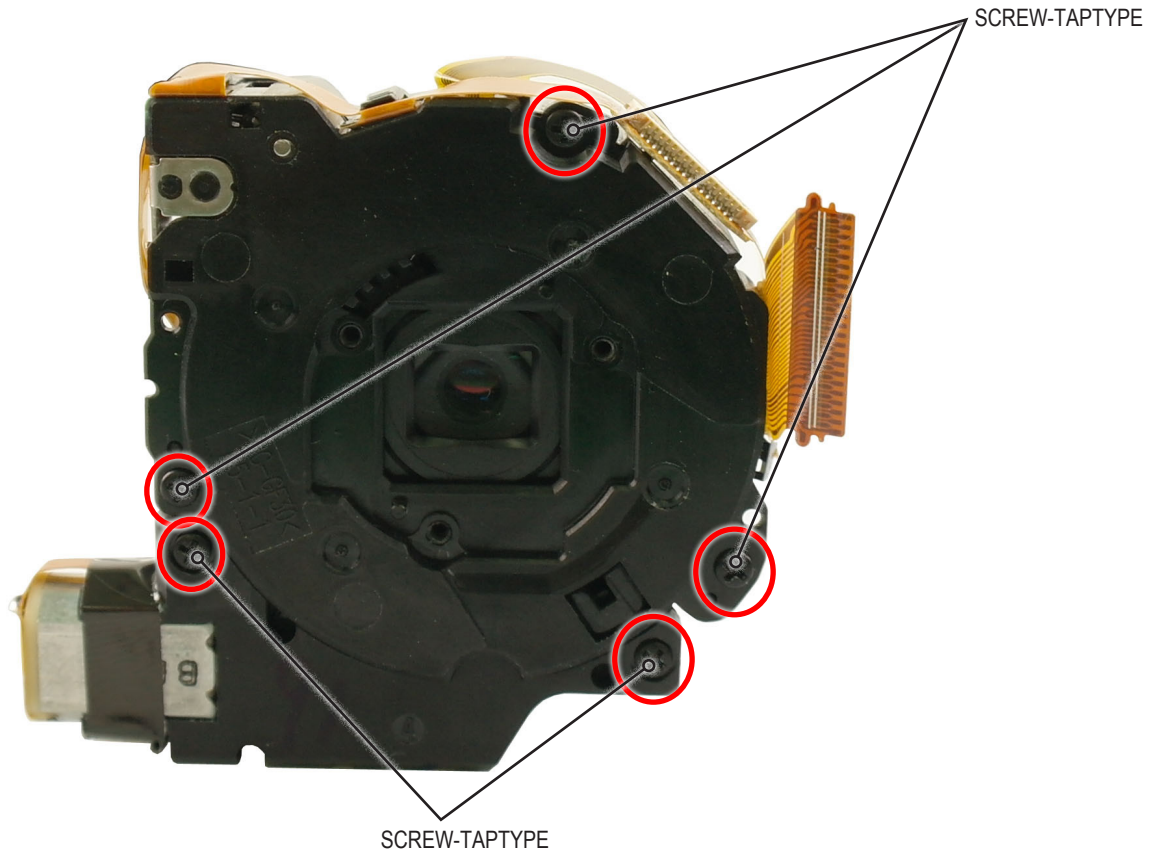


Fig 3-45

3. Reassembly of PCB FPC-CCD ASSY.

(a) Assemble the PCB FPC-CCD ASSY.

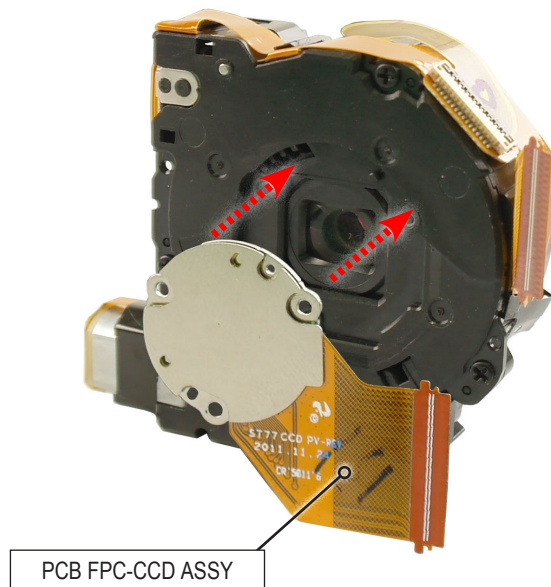


Fig 3-46

(b) Tighten the three SCREWS.

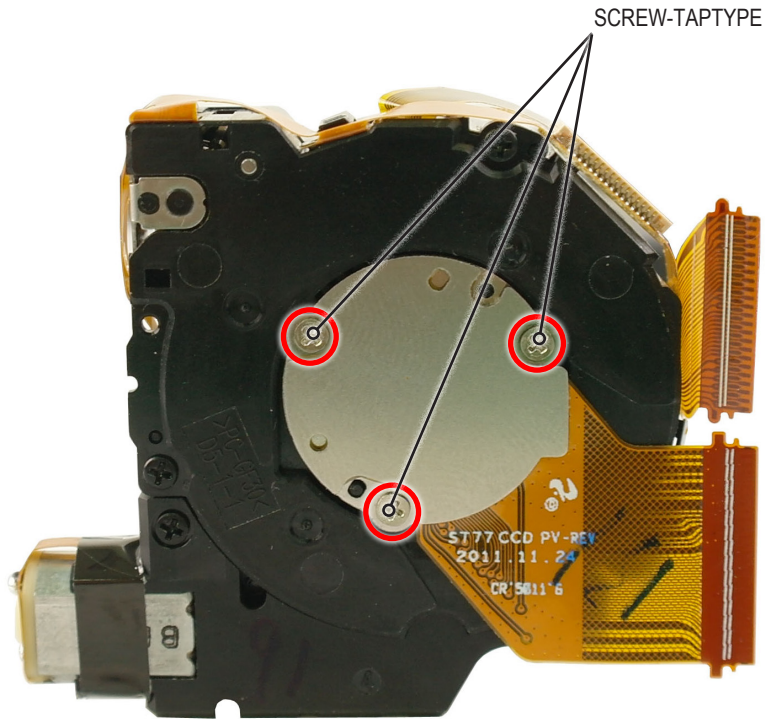
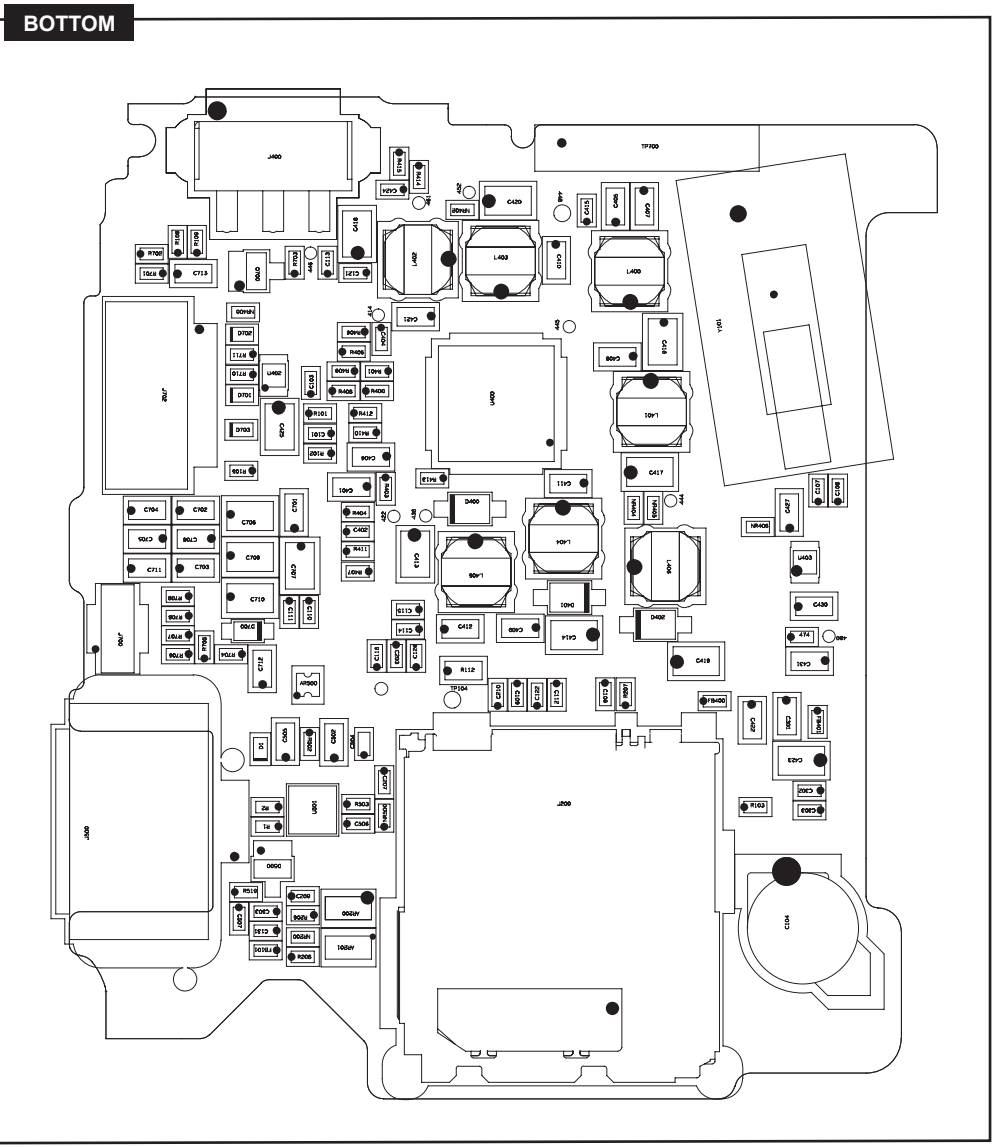
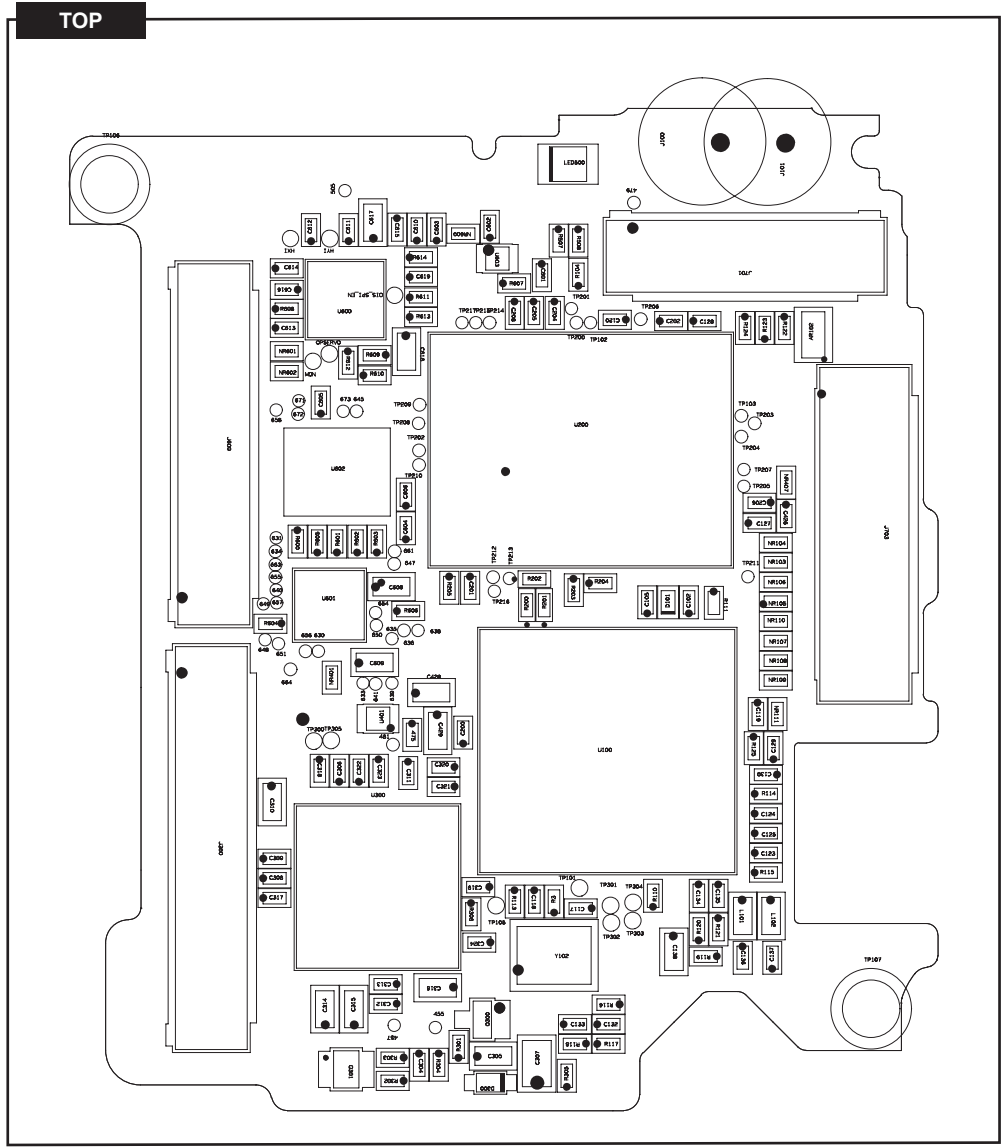


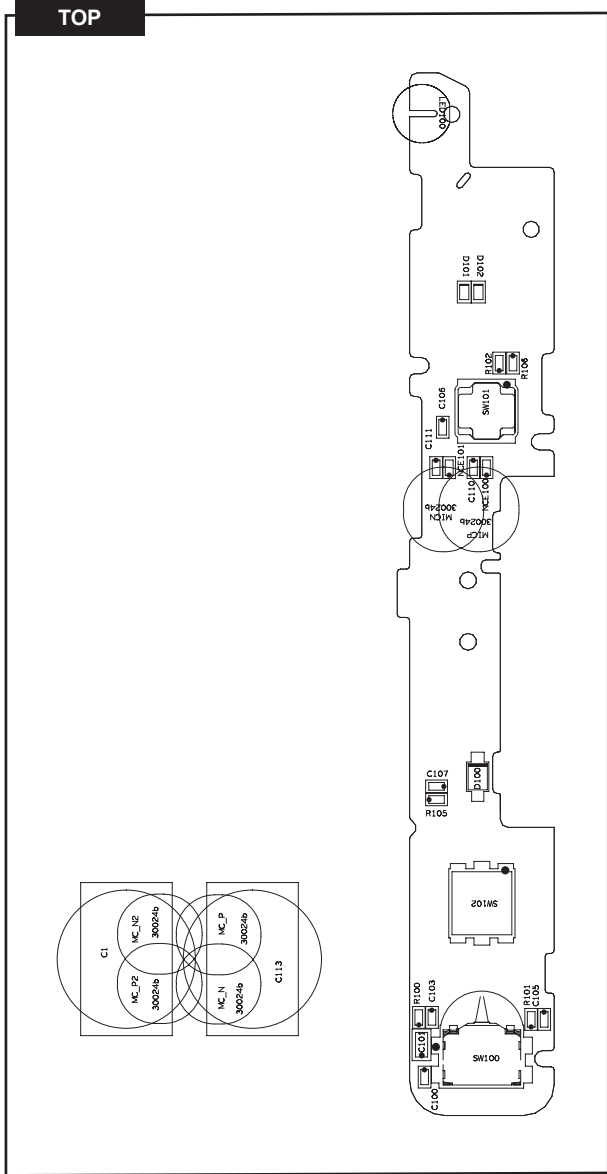
Fig 3-47

4. PCB diagrams

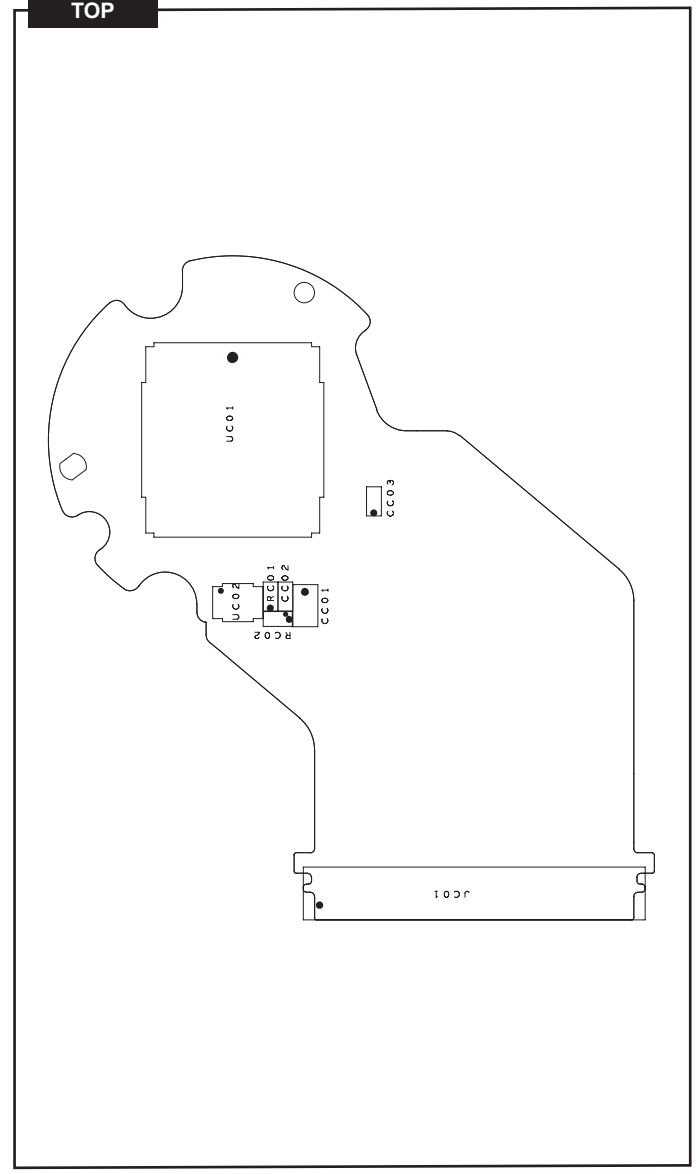
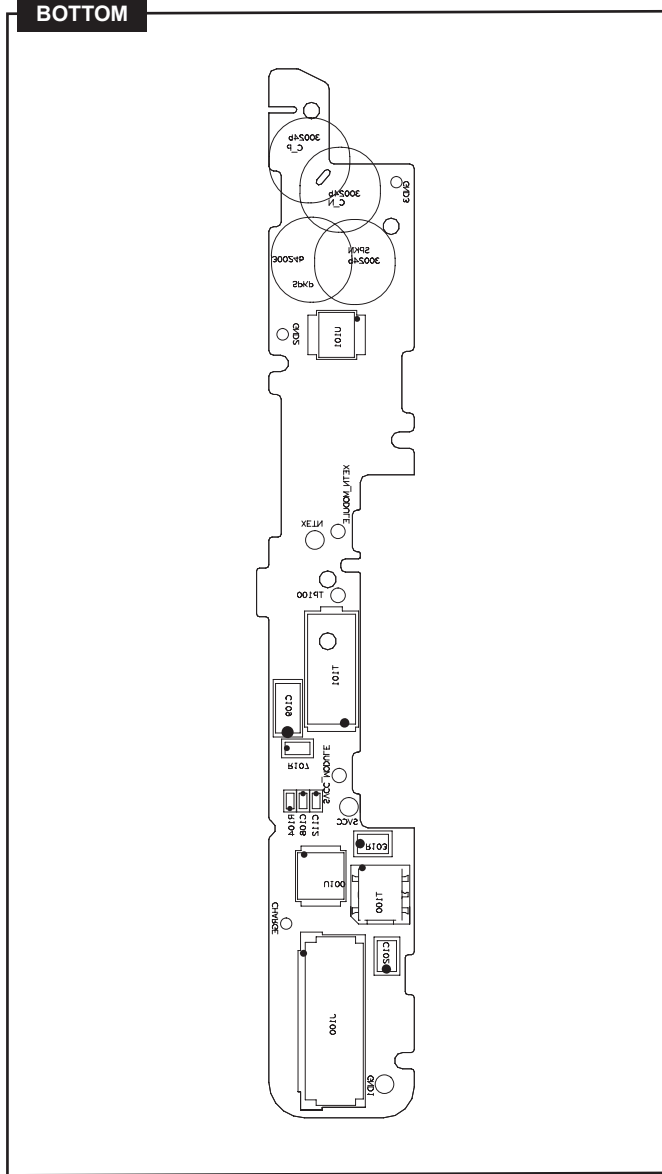
4-1 MAIN PCB



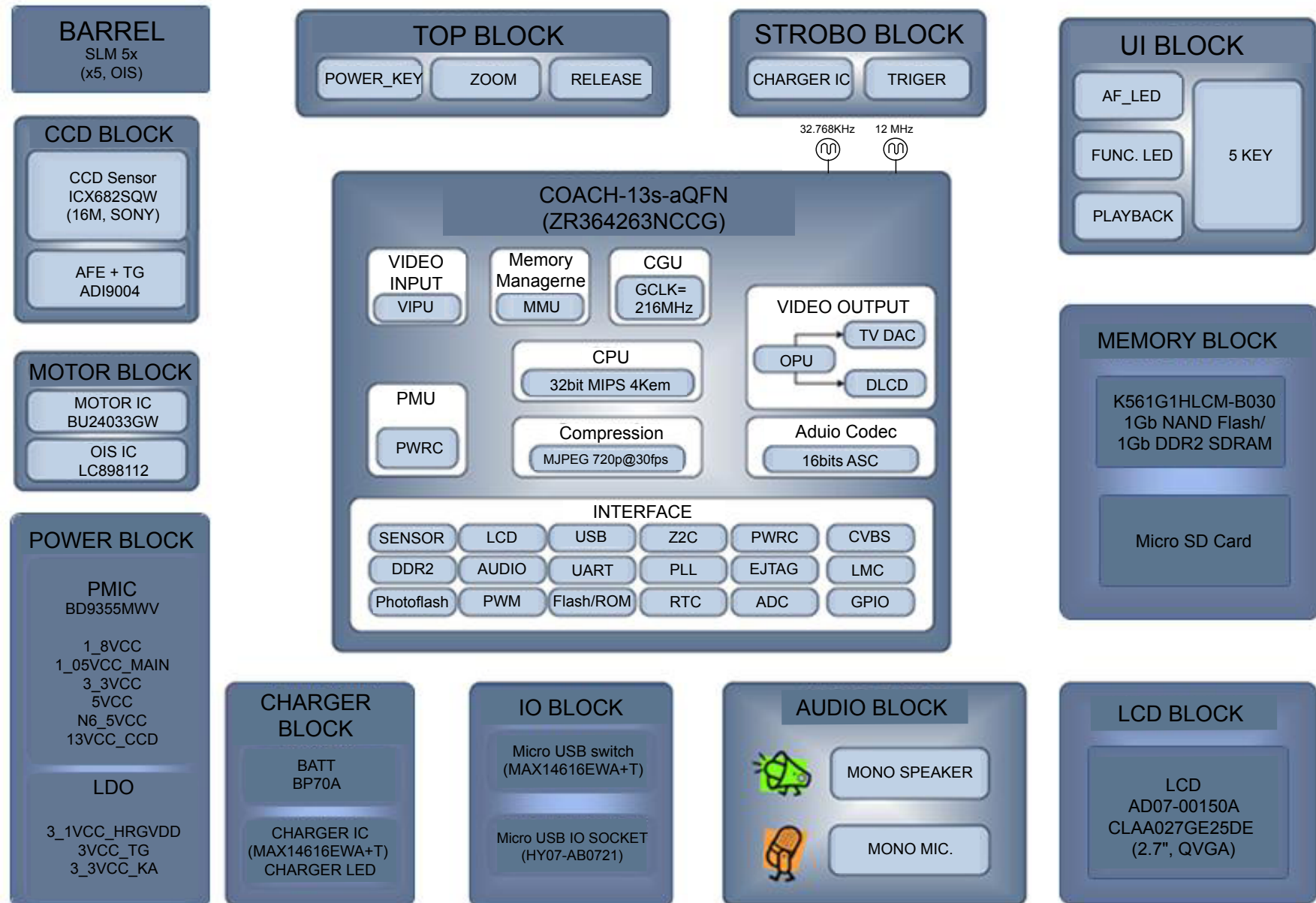
4-2 TOP PCB



4-3 CCD FPCB



5. Block diagram



6. Firmware update

6-1 Product reset



▪ This describes how to reset the camera to factory default setting.

1. First turn on the power of the camera.



Fig. 6-1

2. Press the ❶ WIDE button + DOWN button and then turn the ❷ POWER off.

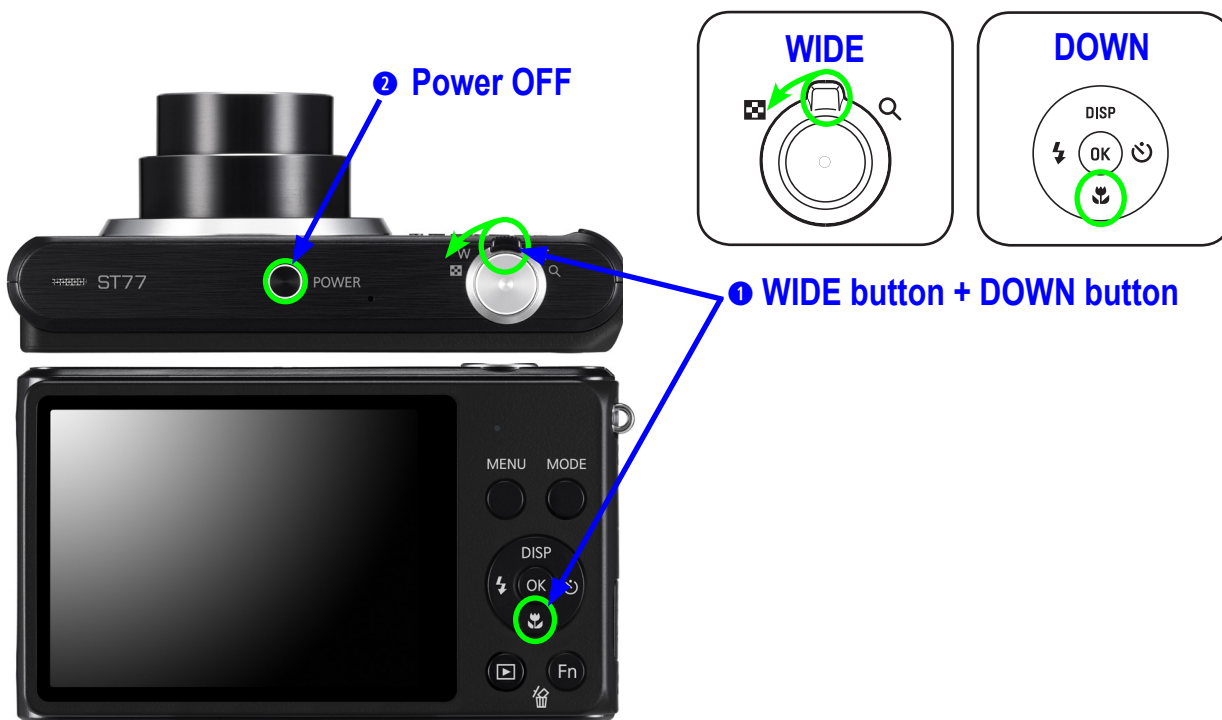


Fig. 6-2

3. Turn the power of the camera on again to check whether it has been reset.

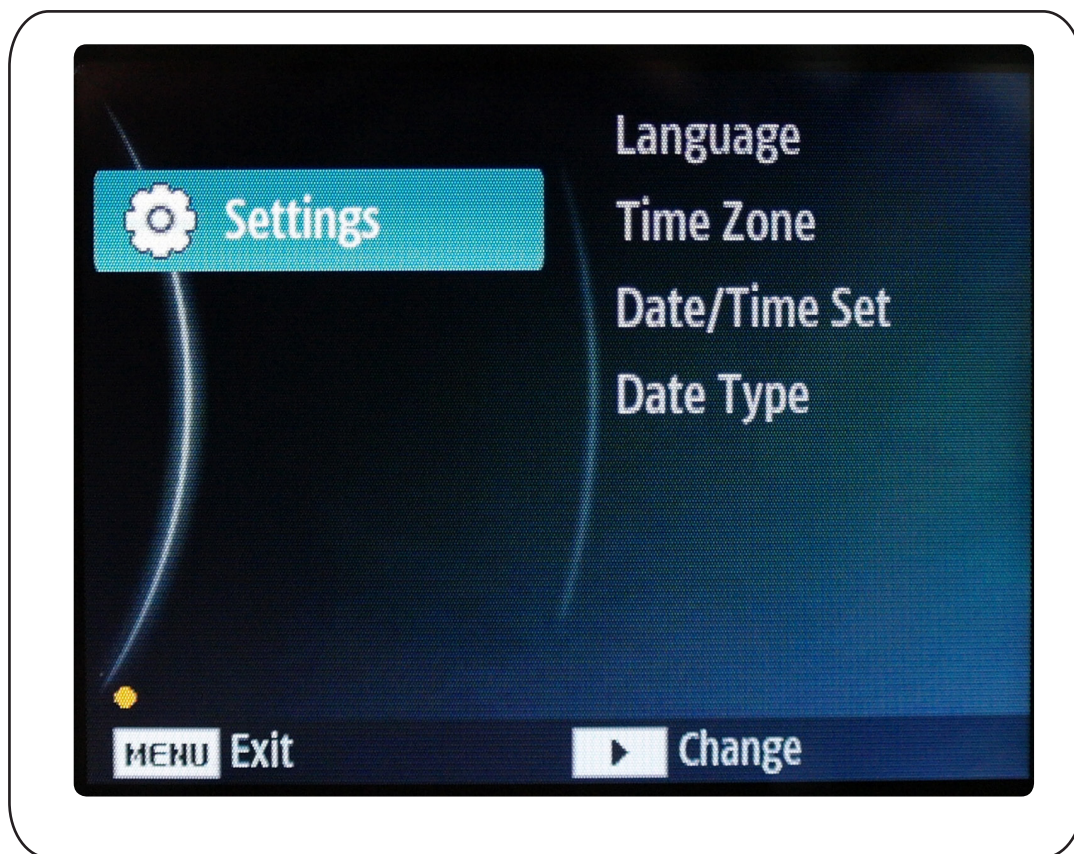


Fig. 6-3

6-2 Version check



- This describes how to check the version of the current firmware of the camera.

1. Use fully charged batteries for power.
2. First turn off the power of the camera.
3. Press the ❶ SHUTTER button + DOWN button, and then turn the ❷ POWER on.

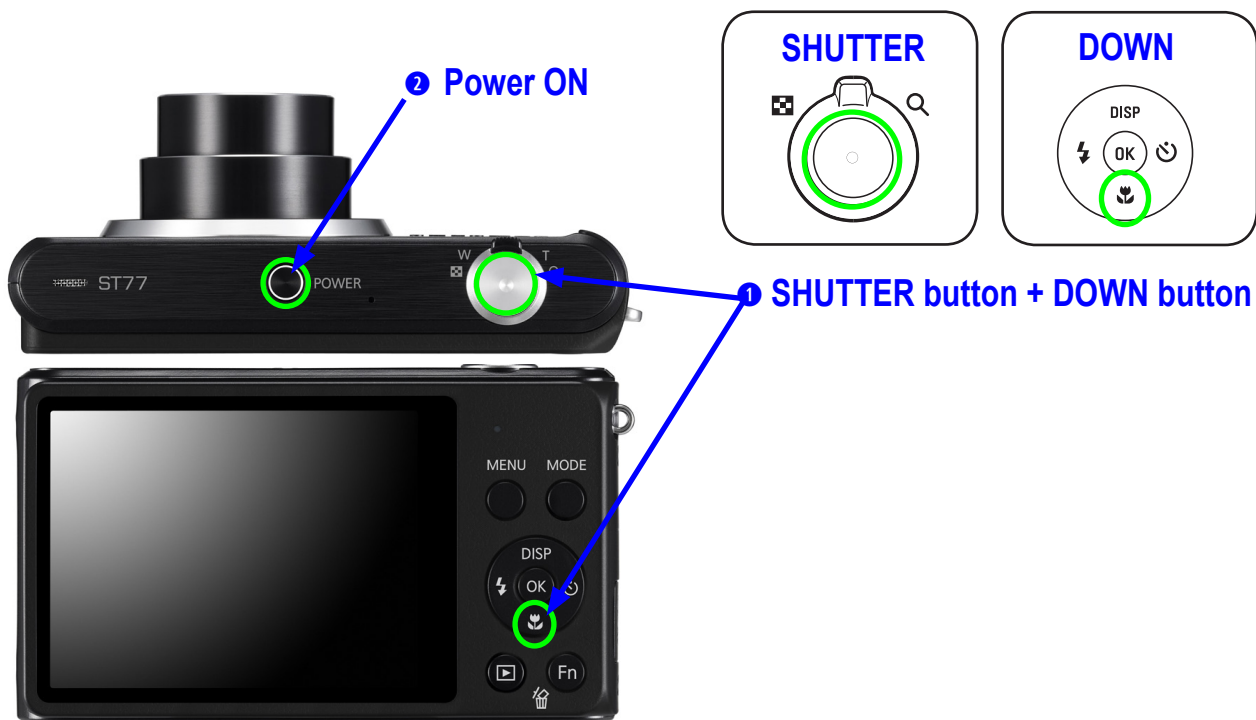


Fig. 6-4

4. Check the version of the firmware and then turn the power off.



Fig. 6-5

6-3 Upgrade

◆ How to execute the firmware

The firmware is configured in the following structure.

Code area is where the execution codes to operate the camera are located, and the Partition [1:3] area is where the various resources necessary to operate the camera are saved. Among these areas, Partition 3 area is where the Defective Pixel adjustment data and Lens Shading adjustment data are saved.

User Area is where the setting values are saved through the menu when the user uses the camera, and the adjusted data through integrated process is saved.

<Table. 6-1>

Code	partition1	partition2	partition3	User Area
------	------------	------------	------------	-----------

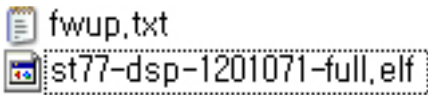
▶ Reference of general version:

- As the version to update the Code + Partition [1:2] area, this protects both the adjusted data saved in the User Area and the Partition 3 area.

1. Insert the memory card containing the firmware data file and Upgrade Script file into the camera.

* You need two files to upgrade the firmware and the required files are firmware data file and Upgrade Script file.

* Because all data saved on the FLASH memory will be reset when you upgrade the firmware, back up your data before proceeding with the upgrade.



2. Use the AC adaptor or fully charged batteries for the power.

* You can proceed with the upgrade only when the battery level is full (Icon showing full up to 3rd level).

3. Turn on the power of the camera.



Fig. 6-6

4. The version of the firmware to upgrade will be displayed on the LCD screen. When you press the SHUTTER button, the firmware upgrade will start.



Fig. 6-7

5. The progress of the firmware upgrade will be displayed on the LCD and the upgrade will proceed.



Fig. 6-8

6. When the upgrade is completed, the camera will automatically be turned off.

7. Adjustment

7-1 Basic guide for adjustment



- After replacing an electronic part, you must make changes for each adjustment item in the **ST76/ST77**.
- The following table shows the necessary adjustment item for replacing each part.
- The camera must be fixed with a tripod and levelled condition must be maintained.

1. After replacing an electronic part, you must make adjustments for each item by referring to the following table.

<Table. 7-1 Adjustment information>

	MAIN PCB	TOP PCB	CCD FPCB	BARREL ASSY
FIRMWARE UPGRADE	●	X	●	●
LENS SHADING ADJ	●	X	●	●
SHUTTER CLOSE TIME ADJ	●	X	●	●
FLASH ADJ	●	●	●	●
PUNT ADJ	●	X	●	●
VERTICAL LINE ADJ	●	X	●	●
CCD DEFECT PIXEL ADJ	●	X	●	●
OIS CENTERING	●	X	●	●
BACKLASH ADJ	●	X	●	●
SERIAL NUMBER WRITING ADJ	●	X	X	X

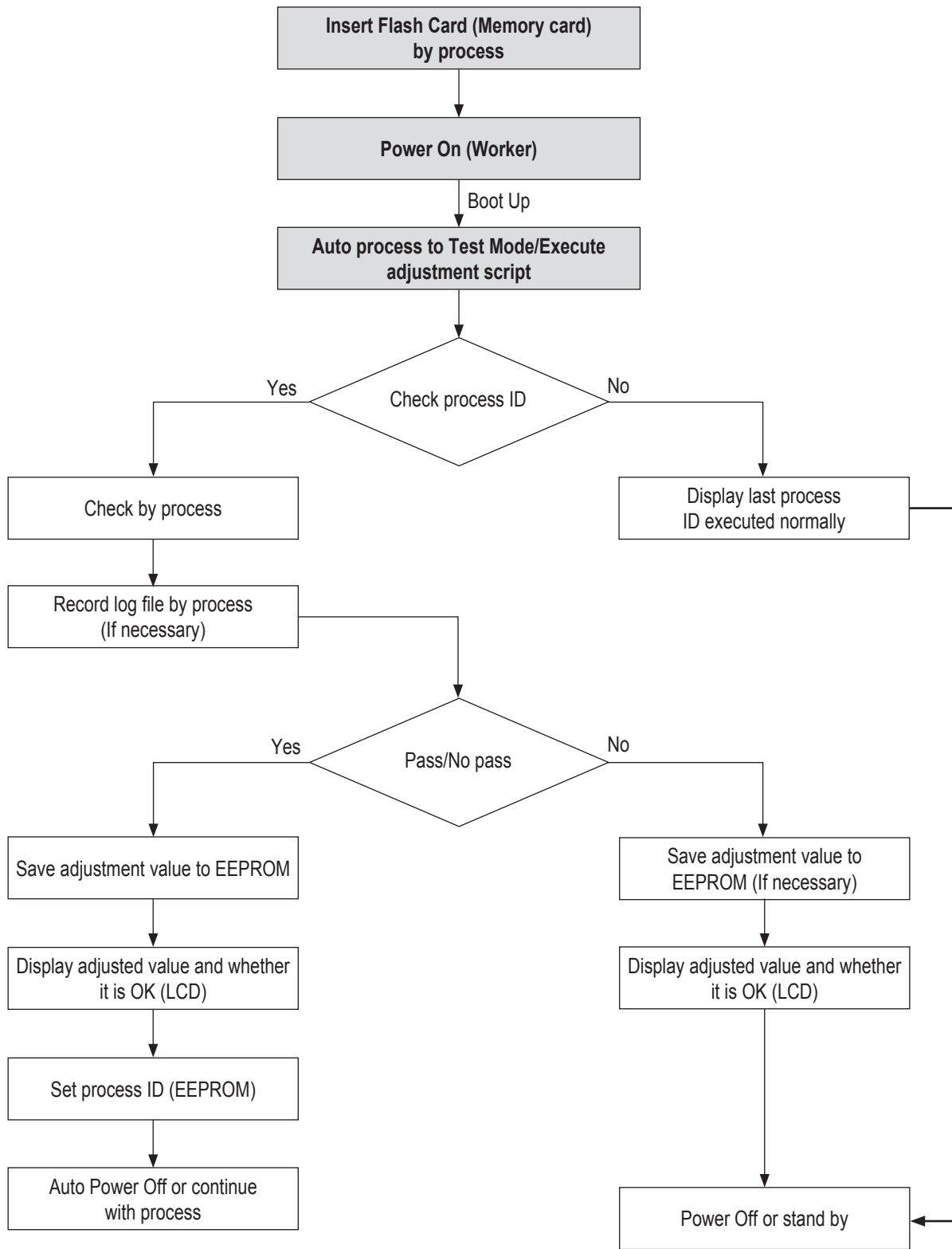
2. Adjustment equipment

- AE TESTER: AE TESTER that enables **LV 12**.
- The colour temperature specification of the Light box is **5500K**.
- Infinity Collimator for PUNT adjustment
- Gray chart (18%) for FLASH & AWB, DARK BOX)
- POWER SUPPLY: 4.2V/2A

3. Adjustment program file

Save and use the program for each adjustment item on the memory card to adjust each item.
The file name for each adjustment item is the same as "**ST76_ADJ.TXT**", "**ST77_ADJ.TXT**".

4. Operating procedure of adjustment program



7-2 Lens shading ADJ



- Make adjustments to the Lens Shading to the surrounding brightness of each camera.
- Because the surrounding brightness is lower compared to the centre for each set, separately adjust each set so that the surrounding brightness is higher.

<Adjustment method>

1. Prepare the AE TESTER.

- * Luminance specification of the Light box is **LV 12**.
- * The Light box is located at 10mm ± 1mm with the body tube open.
- * The colour temperature specification of the Light box is **5500K**.

2. Save the applicable adjustment file to the memory card.

3. After inserting the memory card containing the program file to the camera, set the camera to the AE TESTER.



Fig. 7-1

4. Adjust the LV value of the AE METER to **12**.

5. When you turn on the power of the camera, the adjustment will start automatically.

- ① Adjust the Lens Shading with large lense, Zoom 0 condition.
- ② Refer to the EEPROM WRITE information and write the adjustment result to EEPROM.
- ③ Refer to the CARD WRITE INFORMATION to write the adjustment result to the data file.
- ④ Set the lower and upper specification.

6. When the adjustment is completed, the camera will automatically be turned off.

<Adjustment result>

On the memory card, open and check if a CSV file was generated from the adjustment..

<Restriction>

If the capacity of CSV file is more than 30KB, clear all of the previous data and then, record

7-3 Shutter close time ADJ

- Adjust the Close timing of the device shutter by camera.
- Because there is a deviation of shutter closing time by each set, make adjustments by each set to reduce this deviation.
- AWB LOW item and AWB LOW are adjusted simultaneously.

<Adjustment method>

1. Prepare the AE TESTER that can be adjusted to **LV 12**.
2. Install the camera to the AE TESTER.
 - * Luminance specification of the Light box is **LV 12**.
 - * The colour temperature specification of the Light box is **5500K**.



Fig. 7-2

3. After inserting the memory card containing the program file to the camera, turn on the power of the camera.
4. The adjustment process will automatically start.
 - ① Refer to the specification (Illuminance) for testing.
 - Line delay and Sub delay are adjusted so that the appropriate value can be identified to the specification illuminance.
 - ② If the result line delay wish within the min and max range, it is OK. If it is outside of the range, process as NG.
 - ③ Refer to the EEPROM WRITE information and write the adjustment result to EEPROM.
 - ④ Refer to the CARD WRITE INFORMATION to write the adjustment result to the data file.
5. When the adjustment is completed, the camera will automatically be turned off.

<Adjustment result>

On the memory card, open and check if a CSV file was generated from the adjustment.

<Restriction>

If the capacity of CSV file is more than 30KB, clear all of the previous data and then, record

7-4 Flash ADJ



- Set a limit to the illuminance by the Strobe light to classify the hardware defect.
- Classify the set that deviates from the specifications by illuminating 2 times and then calculate the flash R, B gain.

<Adjustment method>

1. Attach an 18% reflective paper in the dark room where the light is blocked.
2. Set up the camera in the dark room.
3. Set the distance between the reflective paper and camera to 50cm.

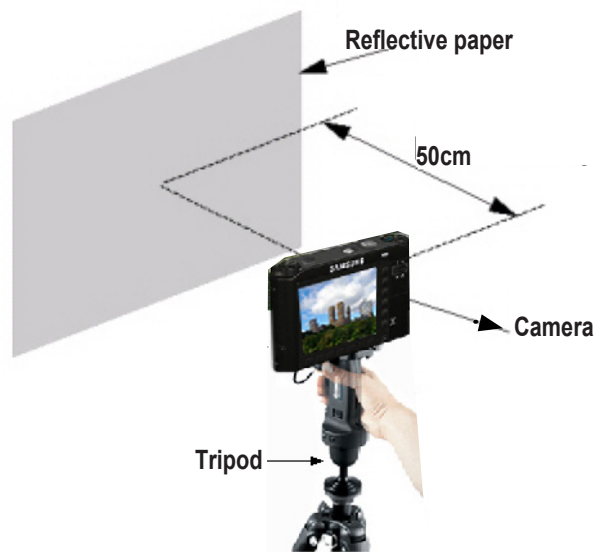


Fig. 7-3

4. Save the applicable adjustment file to the memory card.
5. After installing the memory card containing the program file, turn on the power of the camera.
6. The adjustment will automatically start.
 - ① Compare the reference illumination for 2 illuminations using the flash algorithm, and make a judgment.
 - ② By using the average value of the illuminance of 2 times, check the R and B gain to make Pass/No Pass judgment.
 - ③ Record the R and B gain to EEPROM during flash process and R, B gain success.

<Adjustment result>

On the memory card, open and check if a CSV file was generated from the adjustment.

<Restriction>

If the capacity of CSV file is more than 30KB, clear all of the previous data and then, record

7-5 Punt ADJ

-
- **Adjustment objective:** After replacing the MAIN PCB and BARREL, you must decide the AF search range so that the optimal focus can be identified by the body tube.
 - **Necessary equipment:** Infinity Collimator
-

<Adjustment method>

1. Save the adjustment file to the memory card and install it on the camera.

2. Refer to the following adjustment environment specification to adjust the focus.

1) Used specification of Infinity Collimator

- Set the illuminance specification of the Collimator to 6 LV.
- Maintain distance of less than 1cm between the end of the camera body tube to the lens surface of the Infinity Collimator.
- The camera must be fixed while the adjustment is made.

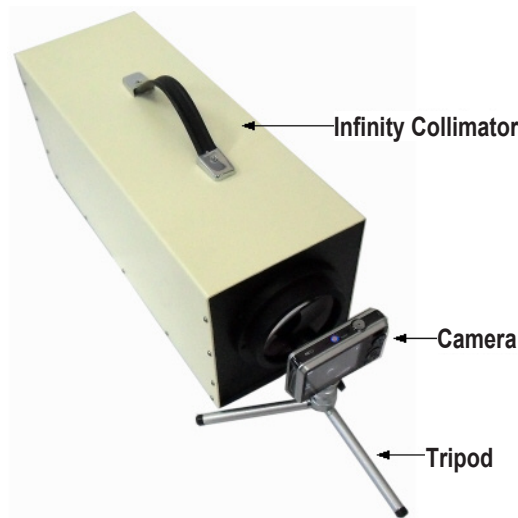


Fig. 7-4

2) Used specification for infinite object

- The camera must be fixed with a tripod and levelled condition must be maintained.
- Set up the camera toward a building or object in infinite distance (more than 500m). (Do not use the chart)
- Set a cathedral, apartment or object with high contrast in day environment/AF area display.

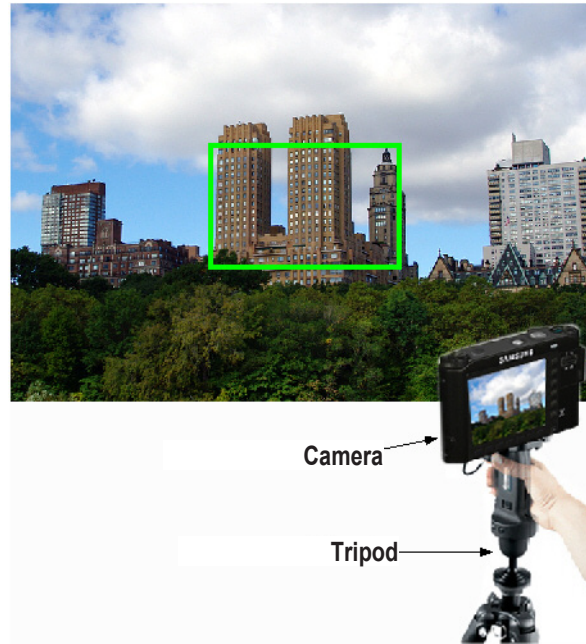
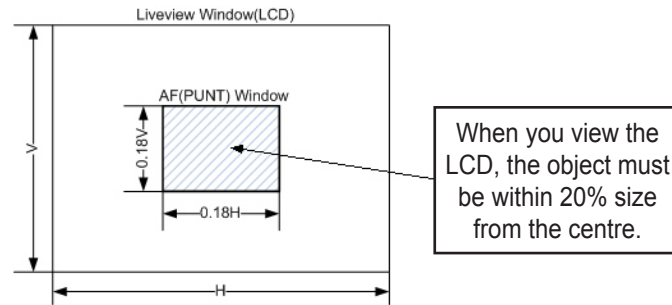


Fig. 7-5

CAUTION

For the object, exclude full glass buildings or objects with low contrast, and this cannot be adjusted for night time.
For the adjustment in these environments, AF may not be accurate when shooting Tele or macro.

3. Turn on the power of the camera.
4. The adjustment will automatically start.

<Adjustment result>

On the memory card, open and check if a CSV file was generated from the adjustment.

7-6 Vertical line ADJ



- Set the maximum number of vertical line to prevent displaying a big vertical line.

<Adjustment method>

1. Prepare the AE TESTER.

- * Luminance specification of the Light box is **LV 12**.
- * The Light box is located at 10mm+-1mm with the body tube open.
- * The colour temperature specification of the Light box is **5500K**.

2. Save the applicable adjustment file to the memory card.

3. After inserting the memory card containing the program file to the camera, set the camera to the AE TESTER.



Fig. 7-6

4. Adjust the LV value of the AE METER to **12**.

5. When you turn on the power of the camera, the adjustment will start automatically.

- ① To do the compensation of vertical line, check the minimum and maximum ratio of EVC and ISO
- ② Compare the checked information with basic information. (Record the real q'ty and ratio of vertical line)
- ③ Write the vertical line at the file.

6. When the adjustment is completed, the camera will automatically be turned off.

<Adjustment result>

On the memory card, open and check if a CSV file was generated from the adjustment.

<Restriction>

If the capacity of CSV file is more than 30KB, clear all of the previous data and then, record

7-7 CCD defect ADJ



- Calibrate the Defective pixel of CMOS for each camera.

<Adjustment method>

1. Save the applicable adjustment file to the memory card.
2. After inserting the memory card containing the program file, turn on the power of the camera.
3. The adjustment will automatically start.
 - ① Check the set reference level, exposure time and loop, and execute the Defective Pixel calibration.
 - ② Refer to the specification (Maximum number of defective cells) and execute the check.
 - ③ Refer to the CARD WRITE information to write the number of defective cells to the data file.
4. When the adjustment is completed, the camera will automatically be turned off.

<Adjustment result>

On the memory card, open and check if a CSV file was generated from the adjustment.

7-8 OIS centering ADJ



- Process to check if OIS performs well or not.

<Adjustment method>

1. Save OIS .hex file and script file on memory card.
2. Install memory card with a program file and then, turn the camera on.
3. Adjustment is made automatically.
OIS module will be operated left/right/up/down 2-3 times.
4. When the adjustment is completed, the camera will be off automatically.

<Adjustment result>

On the memory card, open and check if a CSV file was generated from the adjustment.

CAUTION

Put your camera, face up, on a steady surface such as a table or anything solid that won't move.
Don't put your camera on a highly unstable surface. Also don't put your camera down or hold it.
The noise may significantly affect degrading the Gyro Sensor and Hall Sensor performance.

7-9 Backlash ADJ



- Calibrate the error that occurs when the direction of the lens change by each camera.
-

<Adjustment method>

1. Save the applicable adjustment file to the memory card.
2. After inserting the Memory card containing the program file, turn on the power of the camera.
3. The adjustment will automatically start.
 - ① Close the body tube.
 - ② After moving the body tube to Tele, calculate the error of PI count after it comes to Close.
 - ③ Repeat as many times as the count as above and obtain PI Count error sample to calculate the average.
 - ④ Judge whether the obtained average falls within the range of Max_backLash Range.
 - ⑤ Prepare the log file and move to Wide.
4. When the adjustment is completed, the camera will automatically be turned off.

<Adjustment result>

On the memory card, open and check if a CSV file was generated from the adjustment.

7-10 Serial number writing process



- Save S/N on the label of the camera in non-volatile memory due to the illegal distribution of DSC.
- When checking the version, check S/N to see if the camera is original or illegally distributed one.

<Process method>

1. Create the "ST76_ADJ.txt" or "ST77_ADJ.txt" File with below contents at PC and save into the memory card.

- For Serial Number, put the Serial Number(Red text) at the previous main board.

```
sys_serial set 123456789123
sys_serial get
poweroff zoom_close
```

Fig. 7-7

2. Insert the memory card that has modified file into the Main board.

3. Turn on the power of the camera



Fig. 7-8

4) The change of Serial Number will be done automatically.

5) When the adjustment is completed, the camera will automatically be turned off.

<Process result>

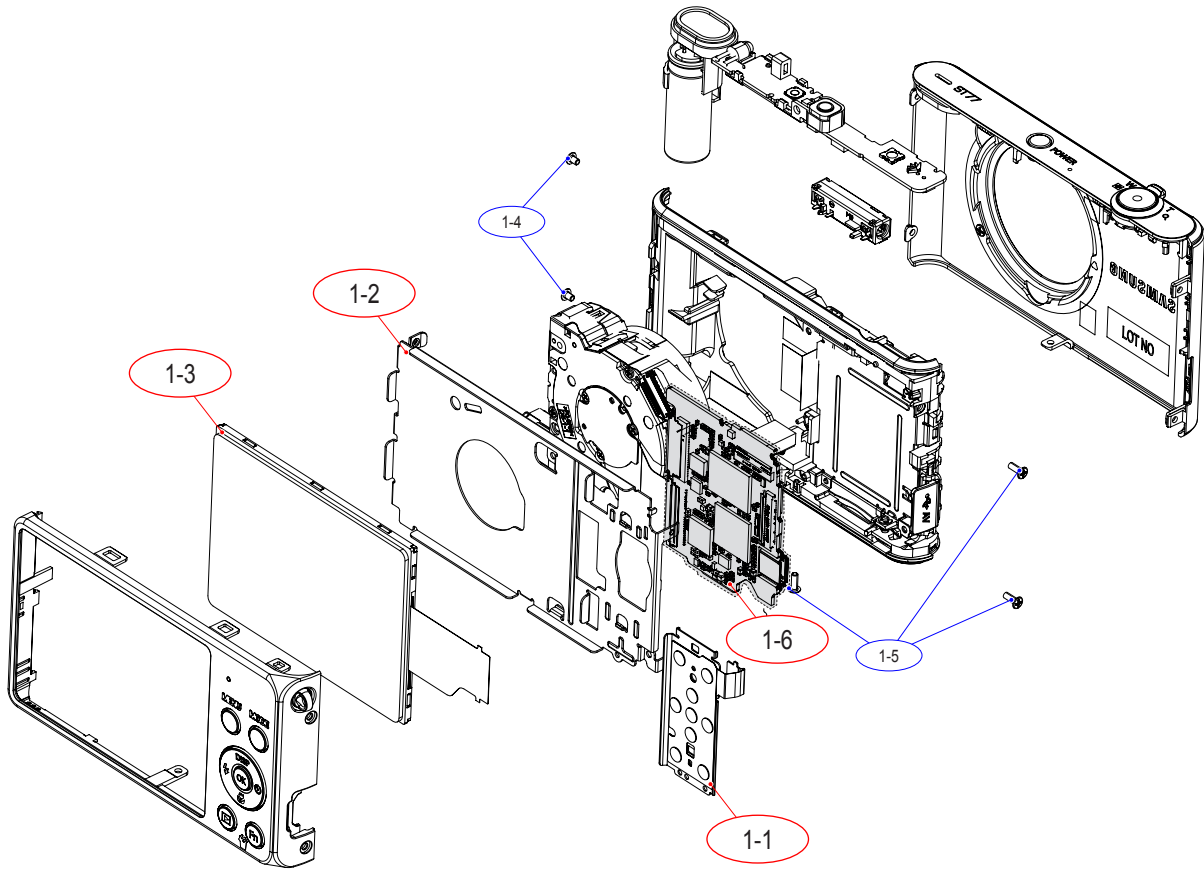
When checking the version (Press SHUTTER button and DOWN button to turn on), S/N appears on the screen.



Fig. 7-9

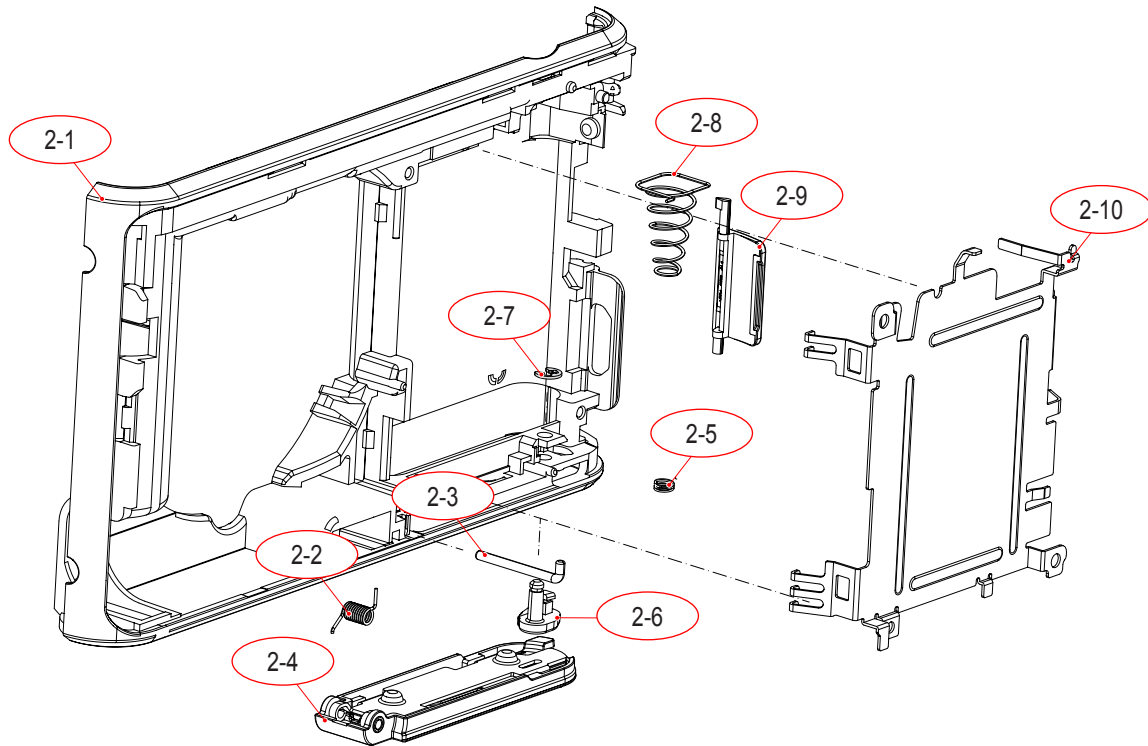
8. Exploded view and parts list

8-1 BODY ASSEMBLY



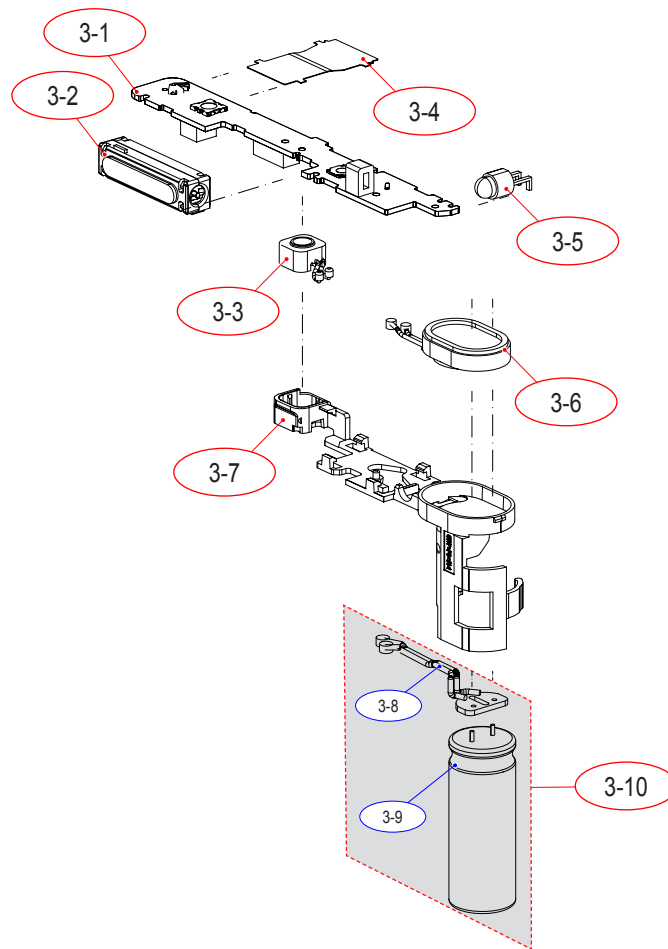
Loc. No	Parts No.	Description	Q ty	Available	Remark
1-1	AD92-01855A	ASSY KEY PCB	1	O	
1-2	AD61-05557A	FRAME MAIN	1	O	
1-3	AD97-21828A	ASSY LCD 2.7"(CPT)	1	O	
1-4	6001-002166	SCREW MACHINE-BK	2	X	
1-5	6001-0022152	SCREW MACHINE-BK	3	X	
1-6	AD92-01784A	ASSY PCB MAIN	1	O	

8-2 CHAMBER ASSEMBLY



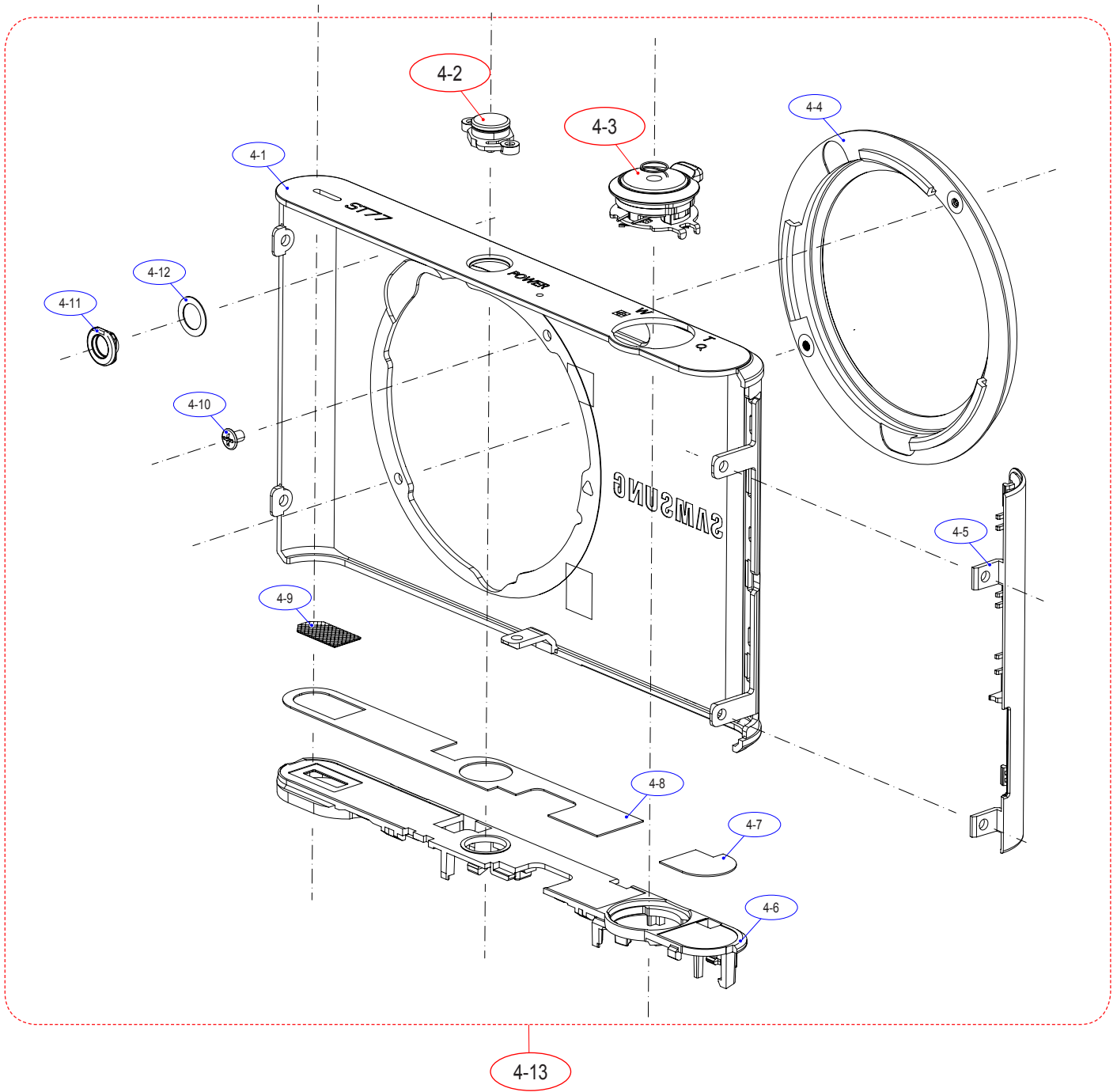
Loc. No	Parts No.	Description	Q ty	Available	Remark
2-1	AD62-00192A	CHAMBER BODY-BK	1	0	BLACK
	AD62-00192B	CHAMBER BODY-RD	1	0	RED
	AD62-00192C	CHAMBER BODY-WH	1	0	WHITE
	AD62-00192D	CHAMBER BODY-PP	1	0	PURPLE
	AD62-00192E	CHAMBER BODY-SL	1	0	SILVER
2-2	6107-002238	SPRING TS	1	0	
2-3	AD61-05409A	HINGE COVER BATTERY	1	0	
2-4	AD97-21829A	ASSY COVER BATTERY-BK	1	0	BLACK
	AD97-21829B	ASSY COVER BATTERY-RD	1	0	RED
	AD97-21829C	ASSY COVER BATTERY-WH	1	0	WHITE
	AD97-21829D	ASSY COVER BATTERY-PP	1	0	PURPLE
	AD97-21829E	ASSY COVER BATTERY-SL	1	0	SILVER
2-5	6107-001766	SPRING TS	1	0	
2-6	AD66-00885A	LEVER BATTERY LOCK	1	0	
2-7	6044-001137	E-RING	1	0	
2-8	6107-001556	SPRING CS	1	0	
2-9	AD63-06633A	COVER SOCKET-BK	1	0	BLACK
	AD63-06633B	COVER SOCKET-RD	1	0	RED
	AD63-06633C	COVER SOCKET-WH	1	0	WHITE
	AD63-06633D	COVER SOCKET-PP	1	0	PURPLE
	AD63-06633E	COVER SOCKET-SL	1	0	SILVER
2-10	AD61-05556A	PLATE BATTERY HOLDER	1	0	

8-3 TOP PCB ASSEMBLY



Loc. No	Parts No.	Description	Q ty	Available	Remark
3-1	AD94-00255A	ASSY TOP PCB-SMD	1	O	
3-2	AD97-21942A	ASSY FLASH MODULE	1	O	
3-3	3003-001183	MIC	1	O	
3-4	AD41-01805A	TOP FPCB	1	O	
3-5	0601-003138	AF-LED	1	O	
3-6	3001-002641	SPEAKER	1	O	
3-7	AD61-05559A	HOLDER TOP	1	O	
3-8	AD41-01855A	ASSY COIN PCB	1	X	
3-9	2401-005082	CONDENSOR	1	X	
3-10	AD92-01863A	CONDENSOR PCB ASSY	1	O	

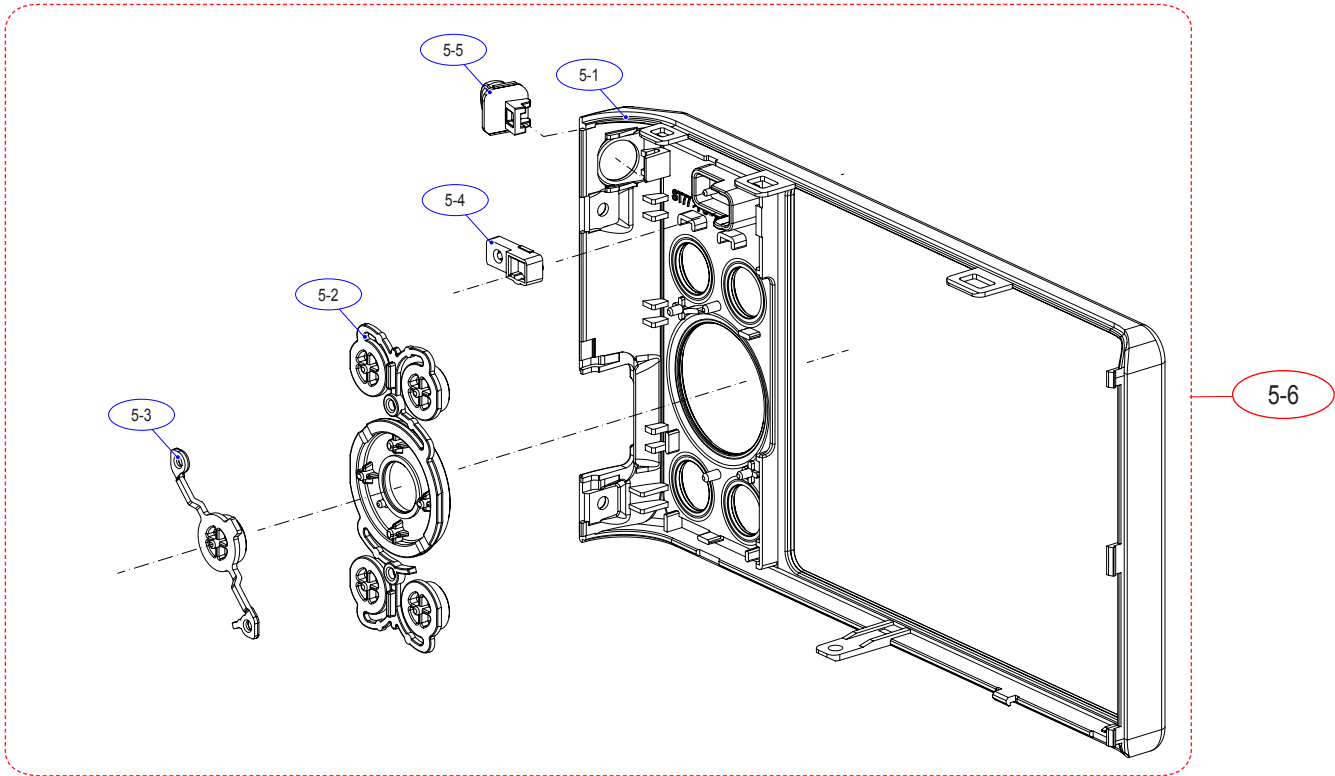
8-4 FRONT COVER ASSEMBLY



Loc. No	Parts No.	Description	Q ty	Available	Remark
4-1	AD63-06627A	COVER FRONT_BK_ST77	1	X	BLACK
	AD63-06627B	COVER FRONT_RD_ST77	1	X	RED
	AD63-06627C	COVER FRONT_WH_ST77	1	X	WHITE
	AD63-06627D	COVER FRONT_PP_ST77	1	X	PURPLE
	AD63-06627E	COVER FRONT_SL_ST77	1	X	SILVER

Loc. No	Parts No.	Description	Q ty	Available	Remark
4-2	AD97-21832A	ASSY BUTTON POWER-BK	1	O	BLACK
	AD97-21832B	ASSY BUTTON POWER-RD	1	O	RED
	AD97-21832C	ASSY BUTTON POWER-WH	1	O	WHITE
	AD97-21832D	ASSY BUTTON POWER-PP	1	O	PURPLE
	AD97-21832E	ASSY BUTTON POWER-SL	1	O	SILVER
4-3	AD97-21831A	ASSY ZOOM	1	O	
4-4	AD64-03578A	DECORATION FRONT RING-BK	1	X	BLACK
	AD64-03578B	DECORATION FRONT RING-RD	1	X	RED
	AD64-03578E	DECORATION FRONT RING-SL	1	X	WHITE
	AD64-03578D	DECORATION FRONT RING-PP	1	X	PURPLE
	AD64-03578E	DECORATION FRONT RING-SL	1	X	SILVER
4-5	AD63-06629A	COVER FRONG GRIP-BK	1	X	BLACK
	AD63-06629B	COVER FRONG GRIP-RD	1	X	RED
	AD63-06629C	COVER FRONG GRIP-WH	1	X	WHITE
	AD63-06629D	COVER FRONG GRIP-PP	1	X	PURPLE
	AD63-06629E	COVER FRONG GRIP-SL	1	X	SILVER
4-6	AD63-06630A	COVER FRONT-INNER	1	X	
4-7	AD63-06653A	T/SHEET-COVER FRONT B	1	X	
4-8	AD63-06652A	T/SHEET-COVER FRONT A	1	X	
4-9	AD63-06775A	MESH_SPEAKER	1	X	
4-10	6001-002165	SCREW	2	X	
4-11	AD64-03607A	WINDOW LED-AF	1	X	
4-12	AD63-06845A	T/SHEET-AF LED WINDOW	1	X	
4-13	AD97-21836A	ASSY COVER FRONT-BK_ST77	1	O	BLACK
	AD97-21836B	ASSY COVER FRONT-RD_ST77	1	O	RED
	AD97-21836C	ASSY COVER FRONT-WH_ST77	1	O	WHITE
	AD97-21836D	ASSY COVER FRONT-PP_ST77	1	O	PURPLE
	AD97-21836E	ASSY COVER FRONT-SL_ST77	1	O	SILVER
	AD97-22032A	ASSY COVER FRONT-BK_ST76	1	O	BLACK
	AD97-22032B	ASSY COVER FRONT-RD_ST76	1	O	RED
	AD97-22032C	ASSY COVER FRONT-WH_ST76	1	O	WHITE
	AD97-22032D	ASSY COVER FRONT-PP_ST76	1	O	PURPLE
	AD97-22032E	ASSY COVER FRONT-SL_ST76	1	O	SILVER
	AD97-22233A	ASSY COVER FRONT-BK_ST78	1	O	BLACK
	AD97-22233C	ASSY COVER FRONT-WH_ST78	1	O	WHITE
	AD97-22233D	ASSY COVER FRONT-PP_ST78	1	O	PURPLE
	AD97-22233E	ASSY COVER FRONT-SL_ST78	1	O	SILVER
	AD97-22230A	ASSY COVER FRONT-BK_ST79	1	O	BLACK
AD97-22230B	ASSY COVER FRONT-RD_ST79	1	O	RED	

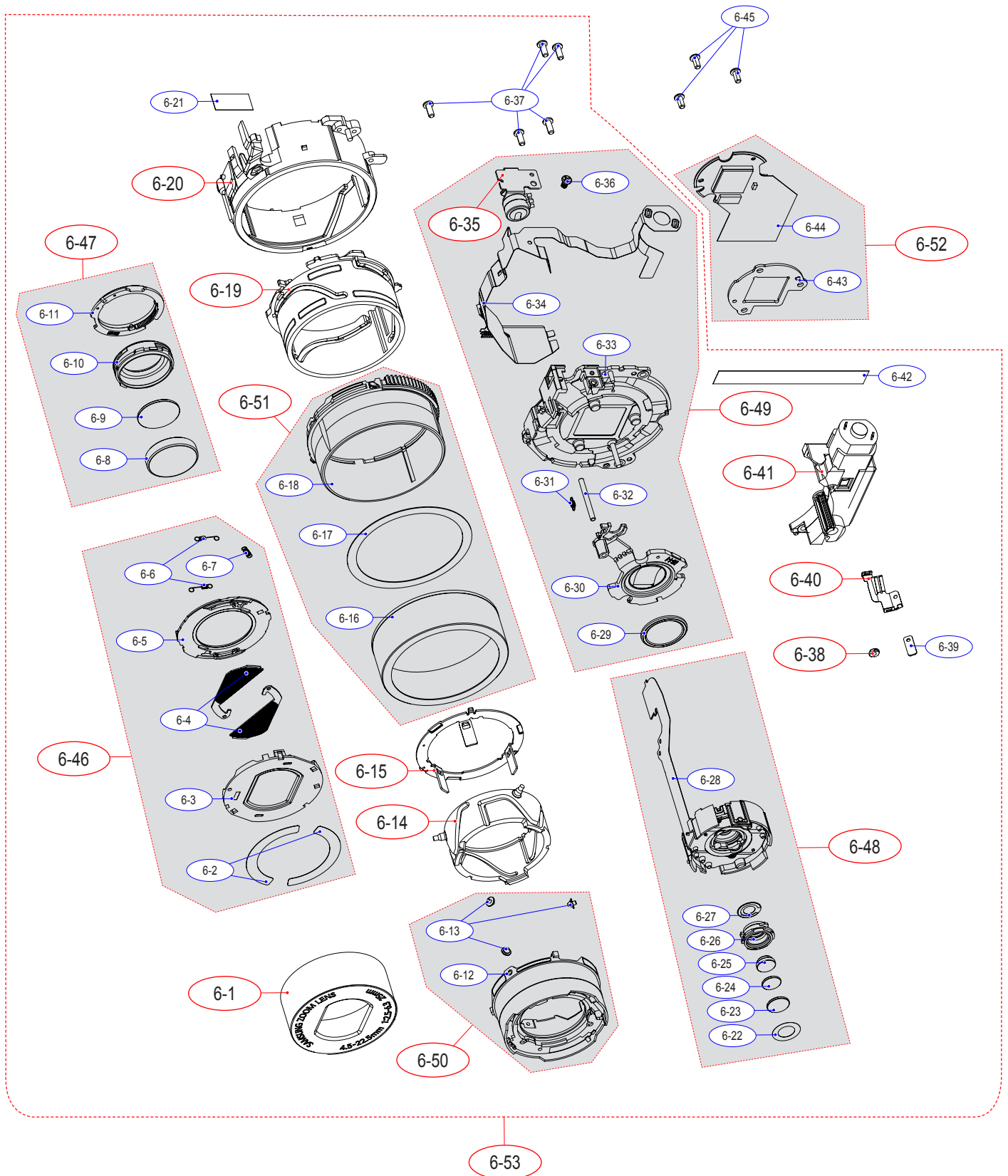
8-5 BACK COVER ASSEMBLY



Loc. No	Parts No.	Description	Q ty	Available	Remark
5-1	AD63-06628A	COVER BACK-BK	1	X	BLACK
	AD63-06628B	COVER BACK-RD	1	X	RED
	AD63-06628C	COVER BACK-WH	1	X	WHITE
	AD63-06628D	COVER BACK-PP	1	X	PURPLE
	AD63-06628E	COVER BACK-SL	1	X	SILVER
5-2	AD64-03609D	BUTTON BACK-BK	1	X	BLACK
	AD64-03609E	BUTTON BACK-RD	1	X	RED
	AD64-03609F	BUTTON BACK-WH	1	X	WHITE
	AD64-03609G	BUTTON BACK-PP	1	X	PURPLE
	AD64-03609H	BUTTON BACK-SL	1	X	SILVER
5-3	AD64-03608B	BUTTON OK-BK	1	X	BLACK
	AD64-03608C	BUTTON OK-RD	1	X	RED
	AD64-03608D	BUTTON OK-WH	1	X	WHITE
	AD64-03608E	BUTTON OK-PP	1	X	PURPLE
	AD64-03608F	BUTTON OK-SL	1	X	SILVER
5-4	AD64-03174A	WINDOW REAR ACCESS	1	X	
5-5	AD61-05575A	HOLDER STRAP	1	X	
5-6	AD97-21834A	ASSY COVER BACK-BK	1	O	BLACK
	AD97-21834B	ASSY COVER BACK-RD	1	O	RED
	AD97-21834C	ASSY COVER BACK-WH	1	O	WHITE
	AD97-21834D	ASSY COVER BACK-PP	1	O	PURPLE
	AD97-21834E	ASSY COVER BACK-SL	1	O	SILVER

8-6 BARREL ASSEMBLY

8-6-1 BARREL ASSEMBLY_OIS_ST77

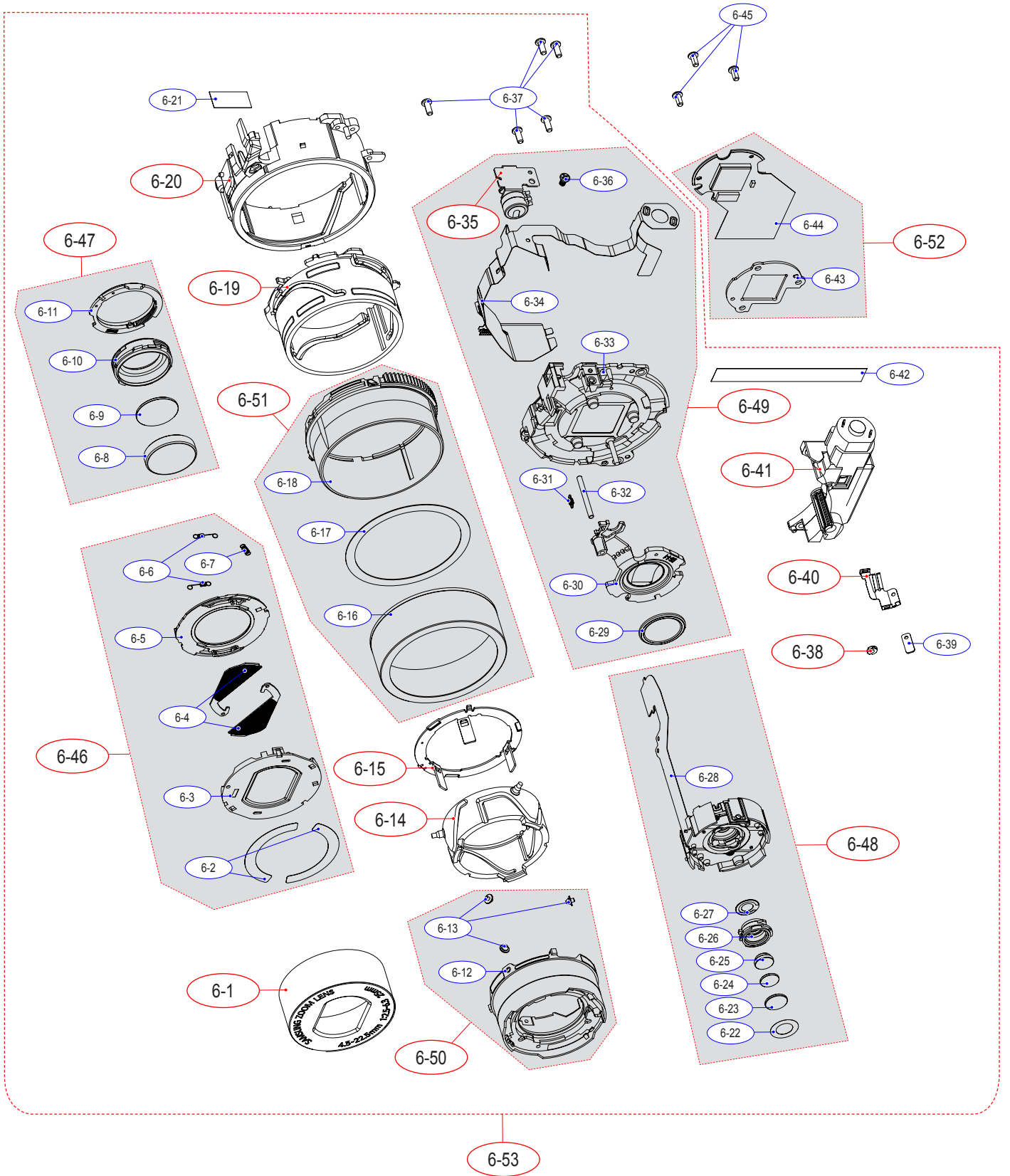


Exploded view and parts list

Loc. No	Parts No.	Description	Q ty	Available	Remark
6-1	AD64-03543A	DECO RING-FRONT_BK	1	O	BLACK
	AD64-03661A	DECO RING-FRONT_RD	1	O	RED
	AD64-03660A	DECO RING-FRONT_PP	1	O	PURPLE
	AD64-03658A	DECO RING-FRONT_SL	1	O	SILVER
6-2	AD63-04522A	T/SHEET-FRONT	2	X	
6-3	AD63-06509A	BARRIER-PANEL_BK	1	X	BLACK
	AD63-06811A	BARRIER-PANEL_RD	1	X	RED
	AD63-06810A	BARRIER-PANEL_PP	1	X	PURPLE
	AD63-06808A	BARRIER-PANEL_SL	1	X	SILVER
6-4	AD63-06511A	BARRIER-BLADE_BK	2	X	BLACK
	AD63-06806A	BARRIER-BLADE_RD	2	X	RED
	AD63-06805A	BARRIER-BLADE_PP	2	X	PURPLE
	AD63-06803A	BARRIER-BLADE_SL	2	X	SILVER
6-5	AD63-06510A	BARRIER-LEVER	1	X	
6-6	6107-003160	SPRING-ES	2	x	
6-7	6107-003161	SPRING-ES	1	X	
6-8	AD67-02335A	LENS-G1	1	X	
6-9	AD67-02336A	LENS-G2	1	X	
6-10	AD67-02358A	BARREL-1ST	1	X	
6-11	AD67-02361A	BARREL-SLIPRING	1	X	
6-12	AD67-02362A	BARREL-ZOOMRING	1	X	
6-13	AD66-00985A	SHAFT-ZOOMRING PIN	3	X	
6-14	AD67-02364A	BARREL-INNER CAM	1	O	
6-15	AD61-05495A	PLATE-INNER GUIDE	1	O	
6-16	AD64-03544A	DECO RING-CAM_BK	1	X	BLACK
	AD64-03656A	DECO RING-CAM_RD	1	X	RED
	AD64-03655A	DECO RING-CAM_PP	1	X	PURPLE
	AD64-03654A	DECO RING-CAM_SL	1	X	SILVER
6-17	AD63-06796A	SHIELD-CAM	1	X	
6-18	AD67-02363A	BARREL-OUTER CAM	1	X	
6-19	AD67-02365A	BARREL-OUTER GUIDE	1	O	
6-20	AD67-02366A	BARREL-BASE	1	O	
6-21	AD81-04801A	A/S-MAIN PCB TAPE	1	X	
6-22	AD63-06512A	SHEET-G3	1	X	
6-23	AD67-02339A	LENS ASP LENS-G3	1	X	
6-24	AD67-02337A	LENS-G4	1	X	
6-25	AD67-02338A	LENS	1	X	
6-26	AD67-02359A	BARREL-2ND	1	X	

Loc. No	Parts No.	Description	Q ty	Available	Remark
6-27	AD63-06513A	SHEET-G5	1	X	
6-28	AD97-21682A	ASSY SHUTTER-OIS	1	X	
6-29	AD67-02340A	LENS ASP LENS-G6	1	X	
6-30	AD67-02360A	BARREL-3RD	1	X	
6-31	6107-003159	SPRING-ES	1	X	
6-32	AD66-00984A	SHAFT-AF GUIDE	1	X	
6-33	AD61-05494A	BASE-LENS	1	X	
6-34	AD94-00250A	ASSY SMD INSERT-OIS	1	X	
6-35	AD97-21679A	ASSY MOTOR	1	O	
6-36	6003-001369	SCREW-TAPTYPE	1	X	
6-37	6003-001630	SCREW-TAPTYPE	5	X	
6-38	AD67-01744A	BARREL-DECENT_RING	1	O	
6-39	AD63-06739A	SHEET-GASKET-D5	1	X	
6-40	AD61-05620A	PLATE-GASKET HOLDER-D5	1	O	
6-41	AD97-21680A	ASSY ZOOM-0523-D5	1	O	
6-42	AD63-04560A	T/SHEET-MOTOR_5717	1	X	
6-43	AD61-05507A	PLATE-CCD HOLDER	1	X	
6-44	AD94-00257A	ASSY SMD INSERT-CCD	1	X	
6-45	6003-001369	SCREW-TAPTYPE	3	X	
6-46	AD97-21933A	ASSY BARRIER_BK	1	O	BLACK
	AD97-22109A	ASSY BARRIER_RD	1	O	RED
	AD97-22108A	ASSY BARRIER_PP	1	O	PURPLE
	AD97-22106A	ASSY BARRIER_SL	1	O	SILVER
6-47	AD97-21646A	ASSY LENS-1ST GROUP	1	O	
6-48	AD97-21928A	ASSY SUB BARREL-2ND_OIS	1	O	
6-49	AD97-21931A	ASSY LENS BASE_OIS	1	O	
6-50	AD97-21929A	ASSY SUB BARREL-ZOOMRING	1	O	
6-51	AD97-21930A	ASSY SUB BARREL-OUTERCAM_BK	1	O	BLACK
	AD97-22114A	ASSY SUB BARREL-OUTERCAM_RD	1	O	RED
	AD97-22113A	ASSY SUB BARREL-OUTERCAM_PP	1	O	PURPLE
	AD97-22111A	ASSY SUB BARREL-OUTERCAM_SL	1	O	SILVER
6-52	AD92-01785A	ASSY PCB FPC-CCD	1	O	
6-53	AD97-21935A	ASSY BARREL_BK_OIS	1	O	BLACK
	AD97-22099A	ASSY BARREL_RD_OIS	1	O	RED
	AD97-22098A	ASSY BARREL_PP_OIS	1	O	PURPLE
	AD97-22096A	ASSY BARREL_SL_OIS	1	O	SILVER

8-6-2 BARREL ASSEMBLY_NON-OIS_ST76



Loc. No	Parts No.	Description	Q ty	Available	Remark
6-1	AD64-03543A	DECO RING-FRONT_BK	1	O	BLACK
	AD64-03661A	DECO RING-FRONT_RD	1	O	RED
	AD64-03660A	DECO RING-FRONT_PP	1	O	PURPLE
	AD64-03658A	DECO RING-FRONT_SL	1	O	SILVER
6-2	AD63-04522A	T/SHEET-FRONT	2	X	
6-3	AD63-06509A	BARRIER-PANEL_BK	1	X	BLACK
	AD63-06811A	BARRIER-PANEL_RD	1	X	RED
	AD63-06810A	BARRIER-PANEL_PP	1	X	PURPLE
	AD63-06808A	BARRIER-PANEL_SL	1	X	SILVER
6-4	AD63-06511A	BARRIER-BLADE_BK	2	X	BLACK
	AD63-06806A	BARRIER-BLADE_RD	2	X	RED
	AD63-06805A	BARRIER-BLADE_PP	2	X	PURPLE
	AD63-06803A	BARRIER-BLADE_SL	2	X	SILVER
6-5	AD63-06510A	BARRIER-LEVER	1	X	
6-6	6107-003160	SPRING-ES	2	x	
6-7	6107-003161	SPRING-ES	1	X	
6-8	AD67-02335A	LENS-G1	1	X	
6-9	AD67-02336A	LENS-G2	1	X	
6-10	AD67-02358A	BARREL-1ST	1	X	
6-11	AD67-02361A	BARREL-SLIPRING	1	X	
6-12	AD67-02362A	BARREL-ZOOMRING	1	X	
6-13	AD66-00985A	SHAFT-ZOOMRING PIN	3	X	
6-14	AD67-02364A	BARREL-INNER CAM	1	O	
6-15	AD61-05495A	PLATE-INNER GUIDE	1	O	
6-16	AD64-03544A	DECO RING-CAM_BK	1	X	BLACK
	AD64-03656A	DECO RING-CAM_RD	1	X	RED
	AD64-03655A	DECO RING-CAM_PP	1	X	PURPLE
	AD64-03654A	DECO RING-CAM_SL	1	X	SILVER
6-17	AD63-06796A	SHIELD-CAM	1	X	
6-18	AD67-02363A	BARREL-OUTER CAM	1	X	
6-19	AD67-02365A	BARREL-OUTER GUIDE	1	O	
6-20	AD67-02366A	BARREL-BASE	1	O	
6-21	AD81-04801A	A/S-MAIN PCB TAPE	1	X	
6-22	AD63-06512A	SHEET-G3	1	X	
6-23	AD67-02339A	LENS ASP LENS-G3	1	X	
6-24	AD67-02337A	LENS-G4	1	X	
6-25	AD67-02338A	LENS	1	X	
6-26	AD67-02359A	BARREL-2ND	1	X	

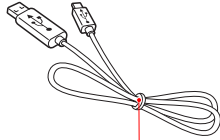
Exploded view and parts list

Loc. No	Parts No.	Description	Q ty	Available	Remark
6-27	AD63-06513A	SHEET-G5	1	X	
6-28	AD97-21725A	ASSY SHUTTER-NON_OIS	1	X	
6-29	AD67-02340A	LENS ASP LENS-G6	1	X	
6-30	AD67-02360A	BARREL-3RD	1	X	
6-31	6107-003159	SPRING-ES	1	X	
6-32	AD66-00984A	SHAFT-AF GUIDE	1	X	
6-33	AD61-05494A	BASE-LENS	1	X	
6-34	AD94-00254A	ASSY SMD INSERT-NON-OIS	1	X	
6-35	AD97-21679A	ASSY MOTOR	1	O	
6-36	6003-001369	SCREW-TAPTYPE	1	X	
6-37	6003-001630	SCREW-TAPTYPE	5	X	
6-38	AD67-01744A	BARREL-DECENT_RING	1	O	
6-39	AD63-06739A	SHEET-GASKET-D5	1	X	
6-40	AD61-05620A	PLATE-GASKET HOLDER-D5	1	O	
6-41	AD97-21680A	ASSY ZOOM-0523-D5	1	O	
6-42	AD63-04560A	T/SHEET-MOTOR_5717	1	X	
6-43	AD61-05507A	PLATE-CCD HOLDER	1	X	
6-44	AD94-00257A	ASSY SMD INSERT-CCD	1	X	
6-45	6003-001369	SCREW-TAPTYPE	3	X	
6-46	AD97-21933A	ASSY BARRIER_BK	1	O	BLACK
	AD97-22109A	ASSY BARRIER_RD	1	O	RED
	AD97-22108A	ASSY BARRIER_PP	1	O	PURPLE
	AD97-22106A	ASSY BARRIER_SL	1	O	SILVER
6-47	AD97-21646A	ASSY LENS-1ST GROUP	1	O	
6-48	AD97-21940A	ASSY SUB BARREL-2ND_NON-OIS	1	O	
6-49	AD97-21941A	ASSY LENS BASE-D5_NON-OIS	1	O	
6-50	AD97-21929A	ASSY SUB BARREL-ZOOMRING	1	O	
6-51	AD97-21930A	ASSY SUB BARREL-OUTERCAM_BK	1	O	BLACK
	AD97-22114A	ASSY SUB BARREL-OUTERCAM_RD	1	O	RED
	AD97-22113A	ASSY SUB BARREL-OUTERCAM_PP	1	O	PURPLE
	AD97-22111A	ASSY SUB BARREL-OUTERCAM_SL	1	O	SILVER
6-52	AD92-01785A	ASSY PCB FPC-CCD	1	O	
6-53	AD97-21938A	ASSY BARREL_BK_NON-OIS	1	O	BLACK
	AD97-22094A	ASSY BARREL_RD_NON-OIS	1	O	RED
	AD97-22093A	ASSY BARREL_PP_NON-OIS	1	O	PURPLE
	AD97-22091A	ASSY BARREL_SL_NON-OIS	1	O	SILVER

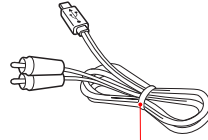
8-7 PACKING ITEMS



7-1



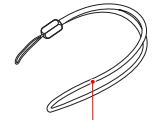
7-2



7-3



7-4



7-5

Loc. No	Parts No.	Description	Q ty	Available	Remark
7-1	AD43-00194A	BATTERY_BP70A	1	0	
7-2	AD39-00190A	DATA LINK CABLE-MICRO USB	1	0	
7-3	AD39-00191A	AV OUT CABLE-MICRO USB	1	0	
7-4	AD44-00178A	ADAPTOR-KOR	1	0	
	AD44-00184A	ADAPTOR-CHI	1	0	
	AD44-00179A	ADAPTOR-USA	1	0	
	AD44-00180A	ADAPTOR-BRA	1	0	
	AD44-00181A	ADAPTOR-ARG	1	0	
	AD44-00182A	ADAPTOR-UK	1	0	
	AD44-00183A	ADAPTOR-EXP	1	0	
	AD44-00185A	ADAPTOR-AUS	1	0	
7-5	AD63-02596A	STRAP_KENOX_S730_SILVER	1	0	
	AD63-02604A	STRAP_KENOX_S860_BLACK	1	0	



Area	Web Site
Europe, MENA, CIS, Africa	https://gspn1.samsungcsportal.com
E.Asia, W.Asia, China, Japan	https://gspn2.samsungcsportal.com
N.America, S.America	https://gspn3.samsungcsportal.com

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