



DIGITAL CAMERA EX2F

SERVICE

Manual

DIGITAL CAMERA



CONTENTS

1. Repair information
2. Product specifications
3. Disassembly and Reassembly
4. Troubleshooting
5. PCB diagram
6. Block diagram
7. Firmware update
8. Adjustment
9. Exploded view and parts list

Contents

1. Repair information

1-1 Customer satisfaction statement	1-1
1-2 Warranty and repair service information	1-1
1-3 Precaution for disassembly and reassembly	1-4

2. Product specifications

2-1 Specifications.....	2-1
2-2 Product comparison.....	2-2
2-3 Accessories information.....	2-3
2-4 About the memory card.....	2-5
2-5 About the battery	2-6

3. Disassembly and Reassembly

3-1 Camera Disassembly.....	3-1
3-2 Barrel Disassembly.....	3-20
3-3 Barrel Reassembly	3-24

4. Troubleshooting

4-1 Regarding to power	4-1
4-2 Regarding to LCD screen display	4-2
4-3 Regarding to screen capture	4-3
4-4 Regarding to video capture	4-4
4-5 Regarding to video or audio playback.....	4-5

5. PCB diagram

5-1 TOTAL WIRING	5-1
5-2 MAIN PCB.....	5-2
5-3 Strobe HPCB.....	5-2
5-4 Top FPCB.....	5-3
5-5 LCD ext. FPCB.....	5-3
5-6 AMOLED FPCB	5-3
5-7 CIS FPCB	5-3

Contents

6. Block diagram

6-1 Block diagram	6-1
-------------------------	-----

7. Firmware update

7-1 Factory reset.....	7-1
7-2 Version check	7-2
7-3 Firmware update	7-3
7-4 How to update the firmware when forced to quit.....	7-5

8. Adjustment

8-1 Basic guide for adjustment	8-1
8-2 OIS CENTERING ADJ	8-3
8-3 PUNT ADJ (AF)	8-4
8-4 SHUTTER CLOSE TIME ADJ.....	8-6
8-5 CMOS GAIN ADJ	8-7
8-6 IRIS ADJ (AE).....	8-8
8-7 LENS SHADING ADJ (Color Shading).....	8-9
8-8 CMOS DEFECT PIXEL ADJ (DPC).....	8-10
8-9 FLASH ADJ.....	8-11
8-10 SERIAL NUMBER WRITING ADJ	8-12

9. Exploded view and parts list

9-1 ASSY BODY.....	9-1
9-2 ASSY COVER FRONT	9-3
9-3 ASSY STROBO PCB	9-5
9-4 ASSY CHAMBER	9-6
9-5 ASSY COVER TOP.....	9-7
9-6 ASSY POP-UP	9-9
9-7 ASSY COVER BACK	9-10
9-8 ASSY OLED HINGE	9-12
9-9 ASSY COVER BACK-SUB	9-13
9-10 ASSY BARREL.....	9-14

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	Not applicable
Pouch for camera	
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>

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

Image Sensor					
Type	1/1.7" (Approximately 9.33 mm) BSI CMOS				
Effective / Total pixels	Approximately 12.4 mega-pixels / Approximately 12.76 mega-pixels				
Display					
Type / Feature	AMOLED / 3.0" (7.6 cm) VGA, Rotating, 614k dots (PenTile)				
Lens					
Focal length	Schneider-KREUZNACH Lens f = 5.2–17.2 mm (35 mm film equivalent: 24–80 mm)				
F-stop range	F1.4 (W)–F2.7 (T), Include ND filter				
Digital zoom	Still image mode: 1.0–4.0X (Smart zoom: 1.33X, Optical zoom: 3.3X)				
Shutter					
Speed	Items	Auto	Program	Night	Manual
	F1.4–F3.8 (Wide)	1/8–1/2,000 sec.	1–1/2,000 sec.	8–1/2,000 sec.	30–1/2,000 sec.
	F3.9–F7.7 (Wide)	1/8–1/4,000 sec.	1–1/4,000 sec.	8–1/4,000 sec.	30–1/4,000 sec.
ISO					
Auto, ISO 80, ISO 100, ISO 200, ISO 400, ISO 800, ISO 1600, ISO 3200, ISO 6400*, ISO 12800*					
* Available only when ISO Expansion is activated.					
Shake reduction					
DUAL IS [Optical Image Stabilization (OIS) + Digital Image Stabilization (DIS)]					
Focusing					
Type	TTL auto focus (Multi AF, Center AF, Selection AF, Face Detection AF, Tracking AF, Smart Face Recognition AF), Manual Focus				
Range	Item	Wide (W)	Tele (T)		
	Normal (AF)	40 cm-infinity	100 cm-infinity		
	Macro	1–40 cm	40–100 cm		
	Auto Macro	1 cm-infinity	40 cm-infinity		
Manual Focus	1 cm-infinity	40 cm-infinity			
Effect					
Video Shooting mode	Smart Filter: Normal, Palette Effect 1, Palette Effect 2, Palette Effect 3, Palette Effect 4, Miniature, Vignetting, Half Tone Dot, Sketch, Fish-eye, Classic, Retro				
Shooting					
Videos	- Format: MP4 (H.264) (Max recording time: 20 min) - Size: 1920 X 1080, 1280 X 720, 640 X 480, 320 X 240 - High-speed: 480fps (192 X 144), 240fps (384 X 288), 120fps (640 X 480)				
Interface					
Digital output connector	USB 2.0				
Video output	- A/V: NTSC, PAL (selectable) - HDMI 1.4: NTSC, PAL (selectable)				
Wireless network					
Mobile Link, Remote Viewfinder, Social Sharing, Email, Cloud, Auto Backup, TV Link, Wi-Fi Direct					
Power source					
Rechargeable battery	Lithium-ion battery (SLB-10A, 1030 mAh)				
Connector type	Micro USB (7 pin)				
* The power source may differ depending on your region.					
Dimensions (W X H X D) / Weight					
112.1 X 62.4 X 27.55 mm (without protrusions) / 286 g (without battery and memory card)					

2-2 Product comparison

Spec	Model	EX2F	EX1															
Image																		
Image Sensor		1/1.7" (Approximately 9.33 mm) BSI CMOS	1/1.7" (Approximately 10.9 mm) High Sensitive CCD															
Effective Pixels		Approximately 12.4 mega-pixels	Approximately 10.0 mega-pixels															
Total Pixels		Approximately 12.76 mega-pixels	Approximately 10.0 mega-pixels															
Weight		286 g (without battery and memory card)	315 g (without battery and memory card/with lens cap and accessory shoe)															
Dimensions (W X H X D)		112.1 X 62.4 X 27.55 mm (without protrusions)	114.4 X 64.6 X 30 mm (without protrusions)															
Display		AMOLED, 3.0" (7.6 cm) VGA, Rotating, 614k dots (PenTile)	AMOLED, 3.0" (7.6 cm) VGA, Rotating															
Focal length		Schneider-KREUZNACH Lens f = 5.2–17.2 mm (35 mm film equivalent: 24–80 mm)	Schneider-KREUZNACH Lens f = 5.2–15.6 mm (35 mm film equivalent: 24–72 mm)															
F-stop range		F1.4 (W)–F2.7 (T), Include ND filter	F1.8 (W)–F2.4 (T)															
Digital zoom		Still image mode: 1.0–4.0X (Smart zoom: 1.33X, Optical zoom: 3.3X)	Still image mode: 1.0–4.0X (Play mode: 1.0–11.4 : depending on image size)															
Shutter Speed		<table border="1"> <thead> <tr> <th>Items</th> <th>F1.4–F3.8 (Wide)</th> <th>F3.9–7.7(Wide)</th> </tr> </thead> <tbody> <tr> <td>Auto</td> <td>1/8–1/2,000 sec.</td> <td>1/8–1/4,000 sec.</td> </tr> <tr> <td>Program</td> <td>1–1/2,000 sec.</td> <td>1–1/4,000 sec.</td> </tr> <tr> <td>Night</td> <td>8–1/2,000 sec.</td> <td>8–1/4,000 sec.</td> </tr> <tr> <td>Manual</td> <td>30–1/2,000 sec.</td> <td>30–1/4,000 sec.</td> </tr> </tbody> </table>	Items	F1.4–F3.8 (Wide)	F3.9–7.7(Wide)	Auto	1/8–1/2,000 sec.	1/8–1/4,000 sec.	Program	1–1/2,000 sec.	1–1/4,000 sec.	Night	8–1/2,000 sec.	8–1/4,000 sec.	Manual	30–1/2,000 sec.	30–1/4,000 sec.	<ul style="list-style-type: none"> - Auto: 1/8–1/5,000 sec. - Program: 1–1/1,500 sec. - Aperture Priority, Shutter Priority, Manual: 16–1/1,500 sec. - Night: 8–1/1,500 sec. - Fireworks: 2 sec.
Items	F1.4–F3.8 (Wide)	F3.9–7.7(Wide)																
Auto	1/8–1/2,000 sec.	1/8–1/4,000 sec.																
Program	1–1/2,000 sec.	1–1/4,000 sec.																
Night	8–1/2,000 sec.	8–1/4,000 sec.																
Manual	30–1/2,000 sec.	30–1/4,000 sec.																
ISO		Auto, ISO 80, ISO 100, ISO 200, ISO 400, ISO 800, ISO 1600, ISO 3200, ISO 6400*, ISO 12800* * Available only when ISO Expansion is activated.	Auto, 80, 100, 200, 400, 800, 1600, 3200															
Storage		<ul style="list-style-type: none"> - External memory (Optional): SD card (1–2 GB guaranteed) SDHC card (up to 32 GB guaranteed) SDXC card (up to 64 GB guaranteed) 	<ul style="list-style-type: none"> - Internal memory: Approximately 22MB * Internal memory capacity may not match these specifications. - External memory (Optional): SD card (up to 4 GB guaranteed) SDHC card (up to 8 GB guaranteed) 															
Image Stabilization		DUAL IS [Optical Image Stabilization (OIS) + Digital Image Stabilization (DIS)]	DUAL IS [Optical Image Stabilization (OIS) + Digital Image Stabilization (DIS)]															
Power Source		<ul style="list-style-type: none"> - Lithium-ion battery (SLB-10A, 1030 mAh) - Micro USB (7 pin) * The power source may differ depending on the country.	<ul style="list-style-type: none"> - Lithium-ion battery (SLB-11A, 1130 mAh) * The power source may differ depending on the country.															
Wireless Network		Mobile Link , Remote Viewfinder , Social Sharing , Email , Cloud , Auto Backup , TV Link , Wi-Fi Direct	-															

* This specifications can change without notice to upgrade a performance.

2-3 Accessories information

- The illustrations may differ slightly from the items shipped with your product.
- You can purchase optional accessories at a retailer or a Samsung service center. Samsung is not responsible for any problems caused by using unauthorized accessories.

	Image	Description	Part No.	
Accessories		Camera	EX2F	
		AC adapter	AD5055_EXP	AD44-00183A
			AD5055_USA	AD44-00179A
			AD5055_UK	AD44-00182A
			AD5055_AUS	AD44-00185A
			AD5055_ARG	AD44-00181A
			AD5055_BRA	AD44-00180A
			AD5055_KOR	AD44-00178A
	AD5055_CHI	AD44-00184A		
		USB cable	AD39-00190A	
	Rechargeable battery	4302-001221		
	Strap	Black	AD63-07021A	
		White	AD63-07021B	
	Lens cap / Lens cap strap	AD97-19036A / AD63-02591A		
	User Manual CD-ROM	AD46-00439A		
Quick Start Guide 	Description	Part No.	Description	Part No.
	MANUAL-EX2_KOR	AD68-07377A	MANUAL-EX2_ASIA	AD68-07382A
	MANUAL-EX2_S.CHI	AD68-07378A	MANUAL-EX2_CANADA	AD68-07383A
	MANUAL-EX2_EUR1	AD68-07379A	MANUAL-EX2_SEA	AD68-07384A
	MANUAL-EX2_EUR2	AD68-07380A	MANUAL-EX2_TUR	AD68-07385A
	MANUAL-EX2_EUR3	AD68-07381A		

	Image	Description	Part No.						
Optional accessories		Optical viewfinder	AD97-19538A						
		Conversion lens	AD97-18678A						
		Flash	AD81-08615A						
		Camera Case	AD69-03877A						
		A/V cable	AD39-00191A						
		Battery charger	AD44-00176A						
		HDMI cable (D-TYPE)	AD39-00179A						
		Shutter release	AD64-03699A						
		Memory card	<table border="1"> <tr> <td data-bbox="922 1588 1126 1632">2G</td> <td data-bbox="1131 1588 1485 1632">1109-001446</td> </tr> <tr> <td data-bbox="922 1639 1126 1684">4G</td> <td data-bbox="1131 1639 1485 1684">1109-001420</td> </tr> <tr> <td data-bbox="922 1691 1126 1736">8G</td> <td data-bbox="1131 1691 1485 1736">1109-001396</td> </tr> </table>	2G	1109-001446	4G	1109-001420	8G	1109-001396
	2G	1109-001446							
4G	1109-001420								
8G	1109-001396								
	Memory card / Memory card adapter	<table border="1"> <tr> <td data-bbox="1131 1778 1485 1879">3719-001319</td> </tr> <tr> <td data-bbox="1131 1886 1485 1964">* Note: The contents may vary depending on the country.</td> </tr> </table>	3719-001319	* Note: The contents may vary depending on the country.					
3719-001319									
* Note: The contents may vary depending on the country.									

2-4 About the memory card

The memory capacity may differ depending on shooting scenes or shooting conditions. These capacities are based on a 2 GB SD card.

2 GB SD card:

	Size	Super Fine	Fine	Normal	RAW	RAW + S.Fine	RAW + Fine	RAW + Normal
Photo		277	313	503	73	51	59	69
		254	349	558	74	54	61	71
		286	392	623	76	57	64	73
		335	457	721	78	60	67	75
		333	456	719	78	60	67	75
		512	691	1,060	83	69	74	80
		819	1,081	1,588	87	77	81	85
		1,095	1,418	2,009	89	81	84	87
		2,165	2,610	3,284	91	87	88	90

	Size	480fps	240fps	120fps	30fps
Video	 1920 X 1080	-	-	-	Approx. 19' 05"
	HD 1280 X 720	-	-	-	Approx. 29' 38"
	VGA 640 X 480	-	-	-	Approx. 57' 16"
	QVGA For Sharing	-	-	-	Approx. 716' 50"
	640 640 X 480	-	-	Approx. 24' 52"	-
	384 384 X 288	-	Approx. 32' 49"	-	-
	192 192 X 144	Approx. 26' 02"	-	-	-

* 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.

2-5 About the battery

Battery specifications

Item	Description
Model	SLB-10A
Type	Lithium-ion battery
Cell capacity	1030 mAh
Voltage	3.7 V
Charging time* (When the camera is switched off)	Approximately 240 min

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

Battery life

Average shooting time/ Number of photos		Test conditions (when the battery is fully charged)
Photos	Approximately 130 min/ Approximately 260 photos	<p>The battery life was measured under the following conditions: in p mode, in darkness, 12m resolution, Fine quality, OIS 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	Approximately 90 min	Record videos at FULL HD 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.

* When using network functions, the battery will be depleted more quickly.

3. Disassembly and Reassembly

3-1 Camera Disassembly

1. Remove the 2 screws on the left side, 2 screws on the right side and 2 screws on the bottom side.



Fig. 3-1

2. Remove the SPRING HOTSHOE as illustrated in Fig. A.
3. Remove the 2 screws as illustrated in Fig. B.

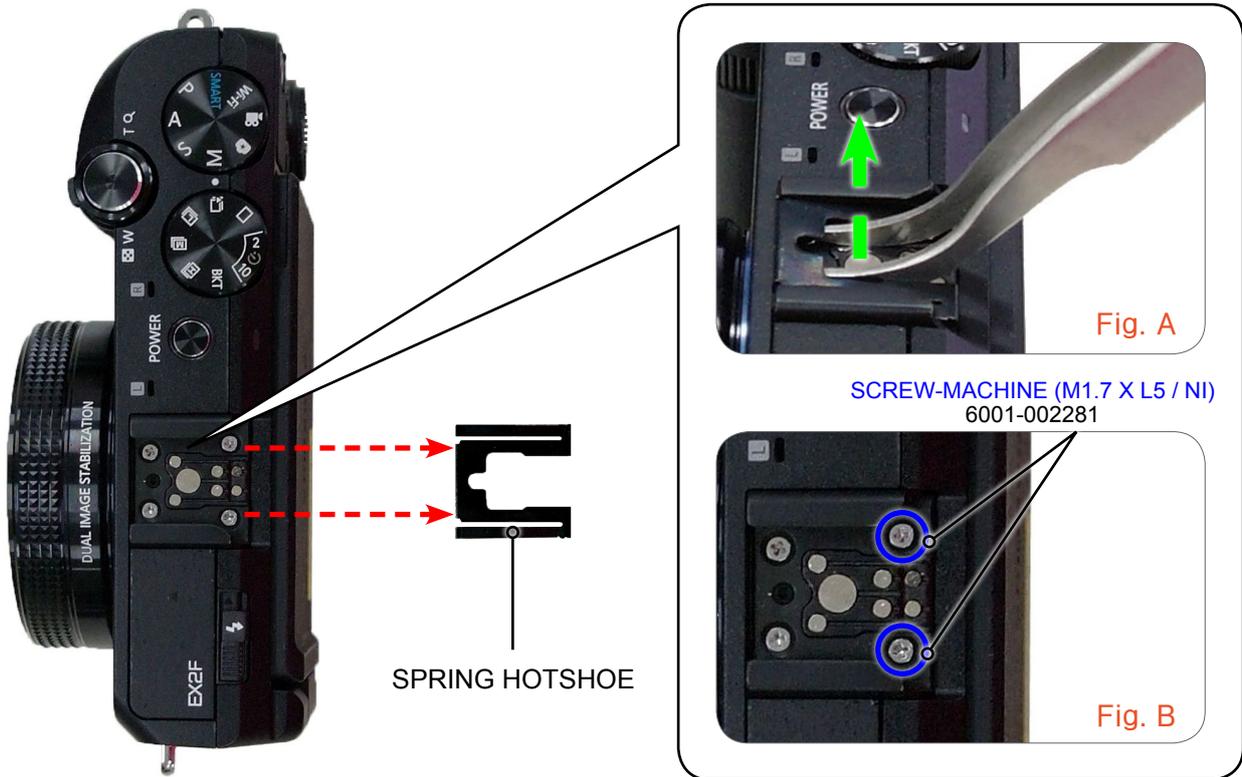


Fig. 3-2

4. Insert open pry tool around the join of locking structure part to release the ASSY COVER BACK as illustrated in image below.



Fig. 3-3

5. Remove the FPCB from the connector as illustrated in Fig. C.

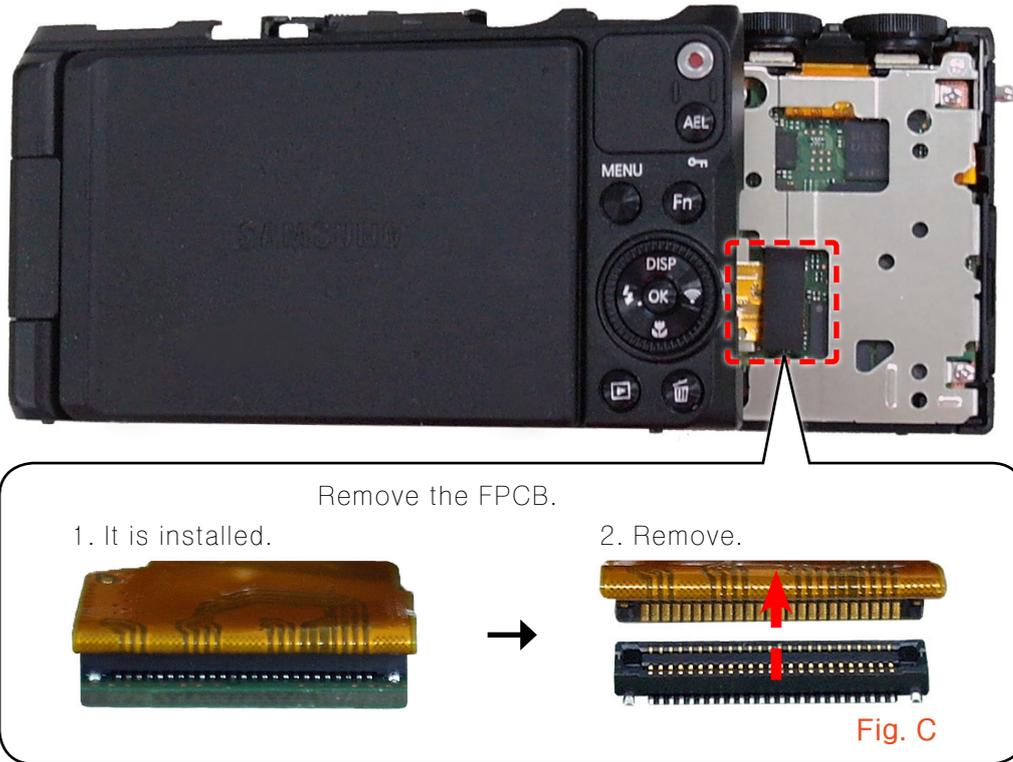


Fig. 3-4

6. Remove the ASSY COVER BACK.

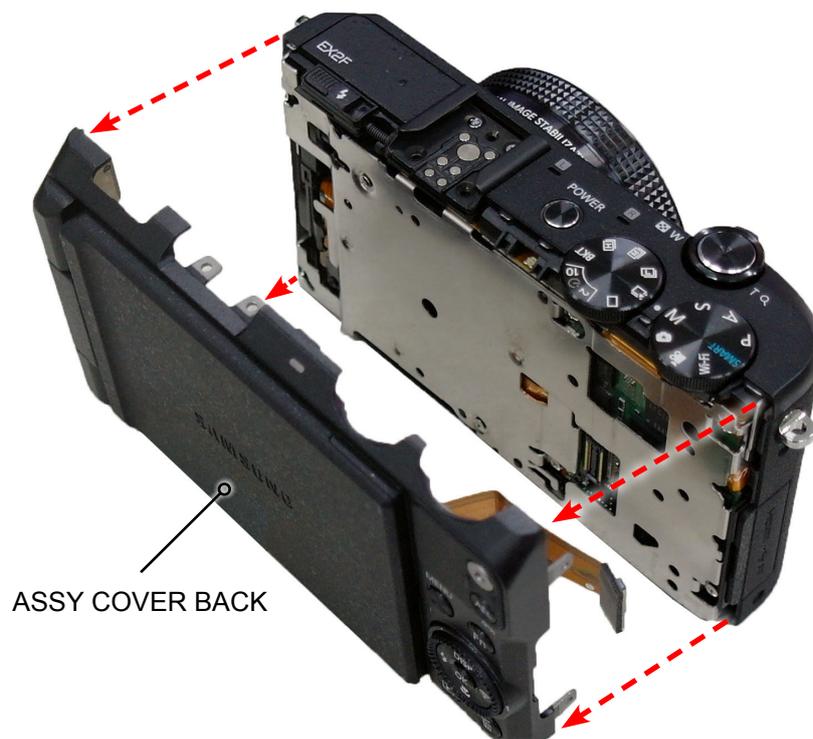


Fig. 3-5

7. Remove the 3 screws.
8. Remove the FPCB from the connector as illustrated in Fig. D.

SCREW-MACHINE (M1.4 X L2 / NI)
6001-002165

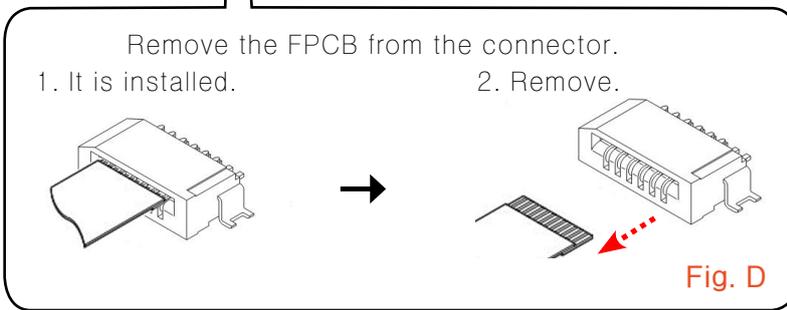
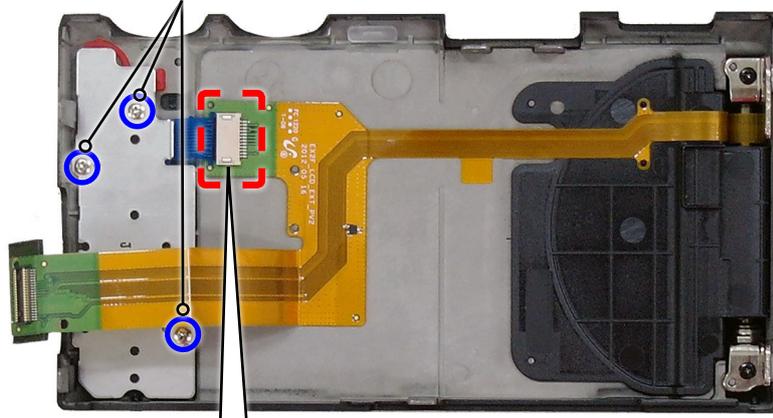


Fig. 3-6

9. Remove the following parts in the order indicated below.
 - ① ASSY PCB KEY
 - ② BUTTON REC

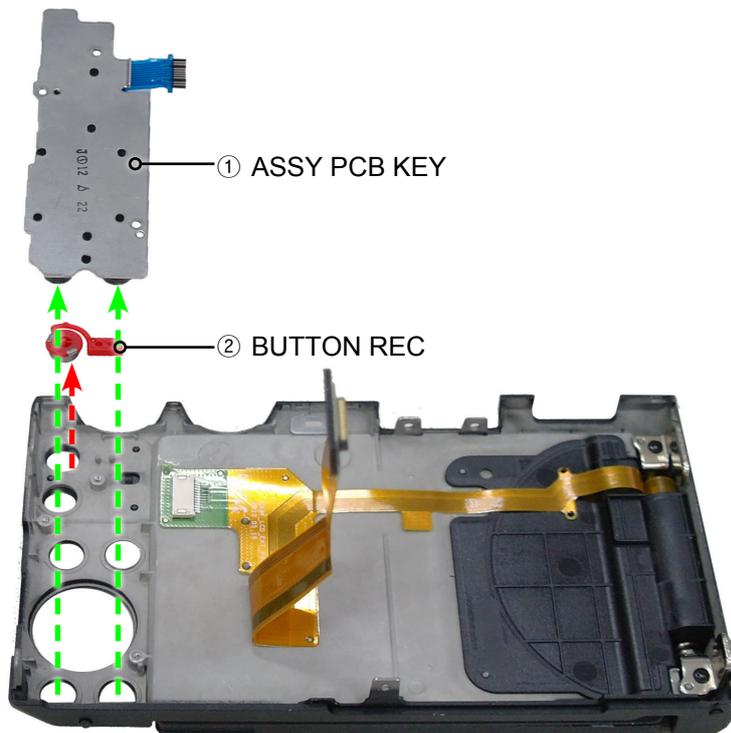


Fig. 3-7

10. Remove the 2 screws.

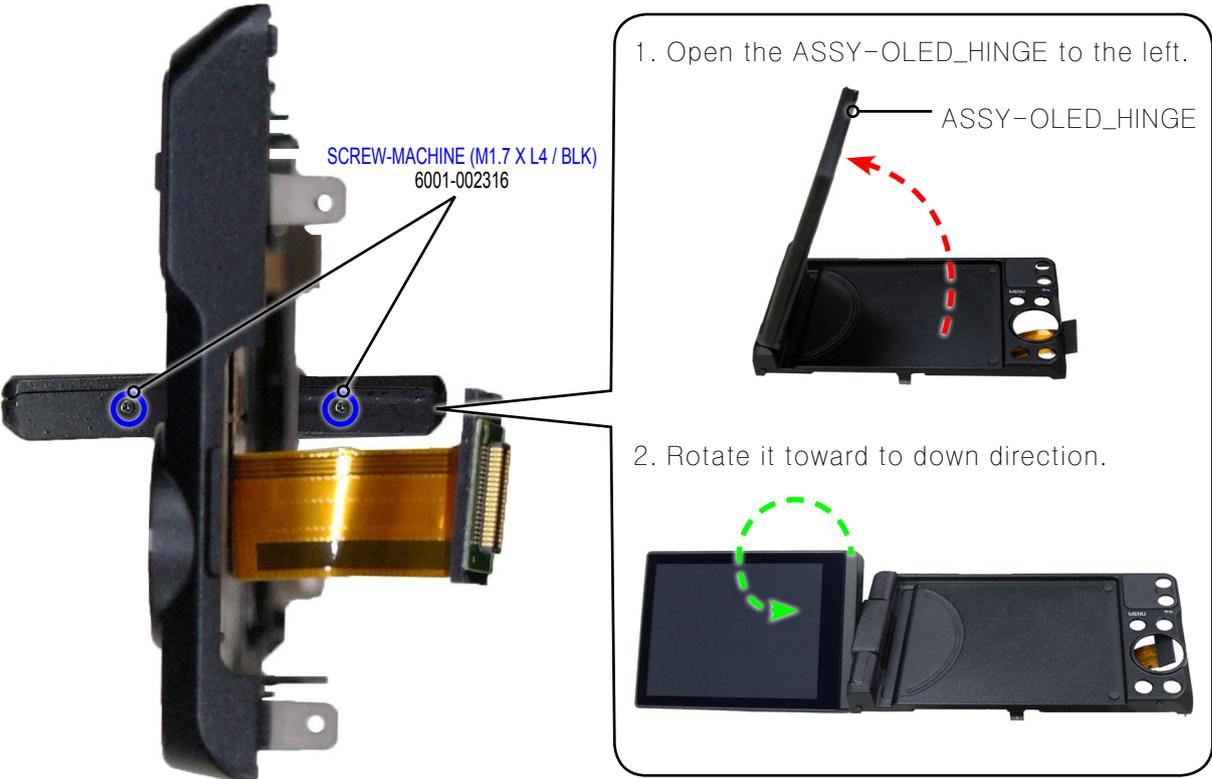


Fig. 3-8

11. Remove the COVER-LCD TOP.



Fig. 3-9

12. Remove the FPCB from the connector as illustrated in Fig. E.

CAUTION

Make sure to attach the SHEET-MR not to cause the surface malfunction.

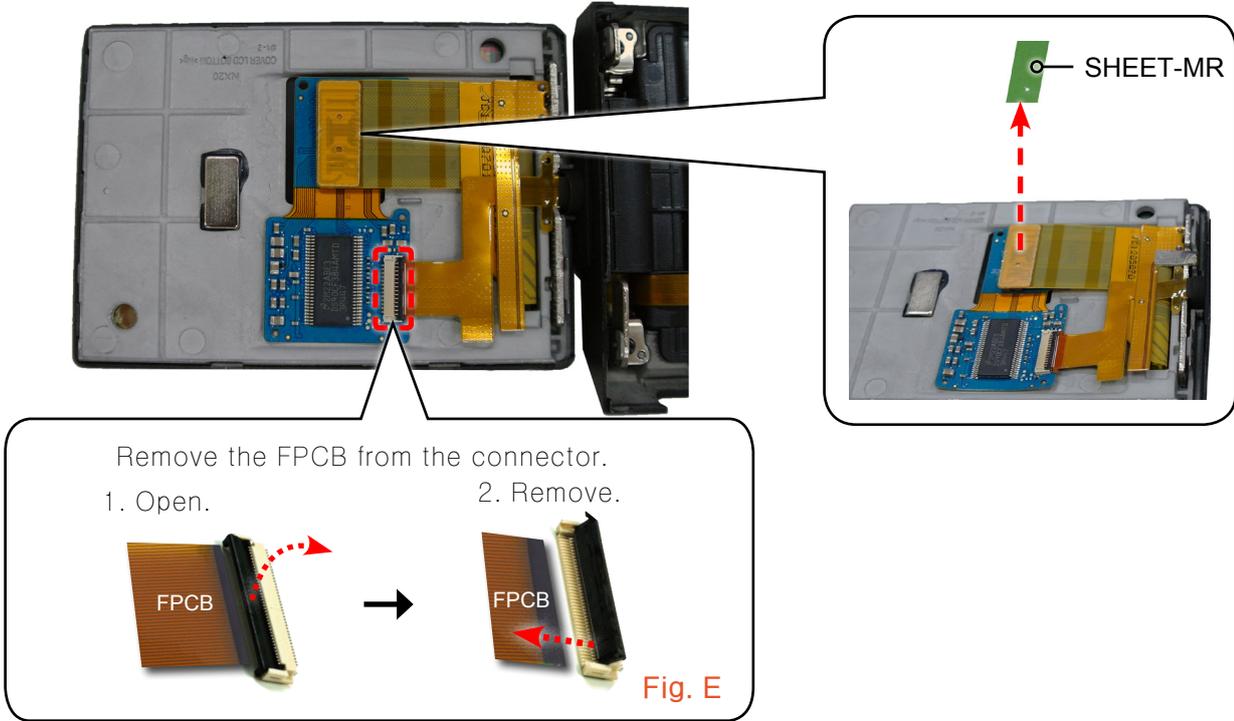


Fig. 3-10

13. Remove the ASSY-OLED_HINGE.

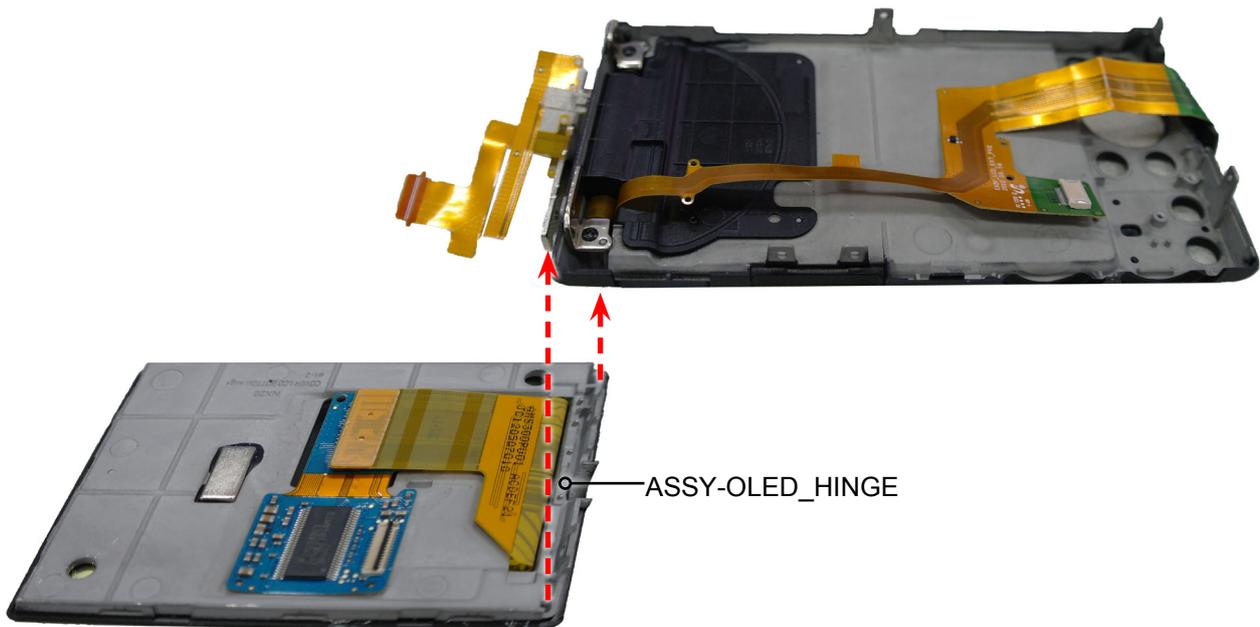


Fig. 3-11

14. Remove the 6 screws.

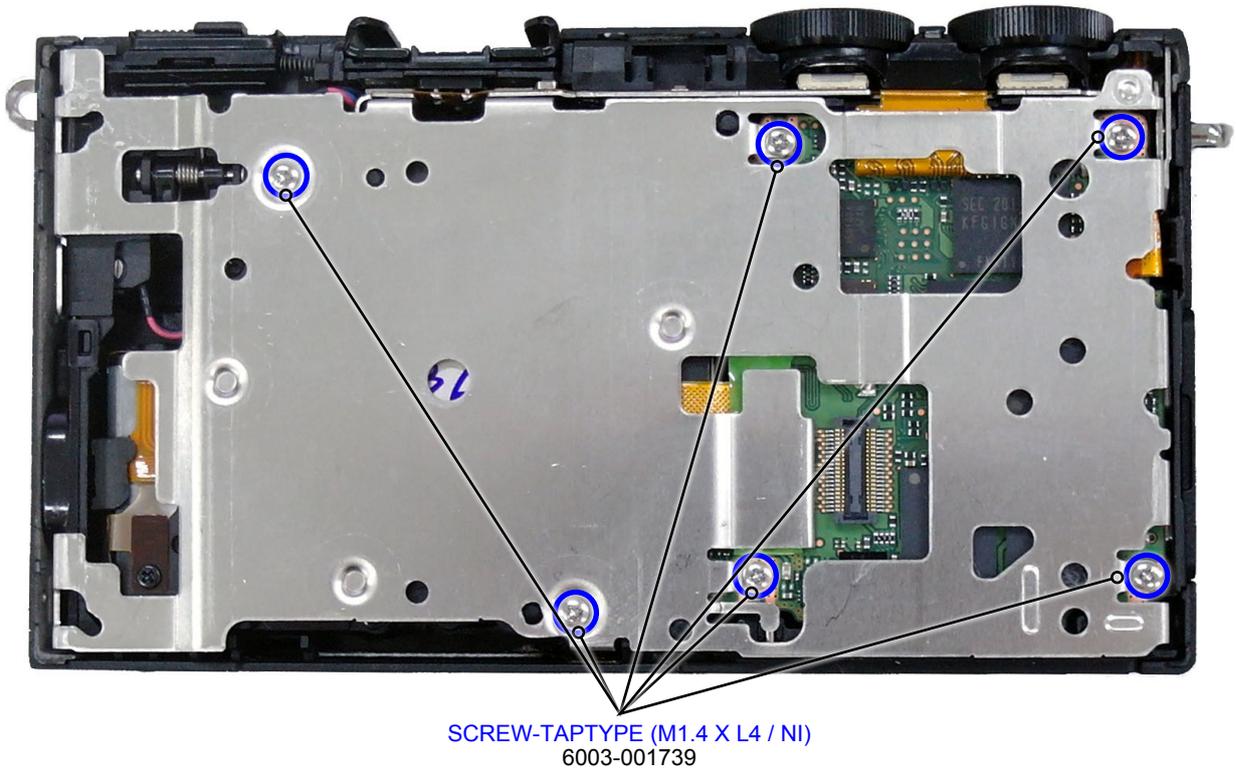


Fig. 3-12

15. Remove the FRAME MAIN.

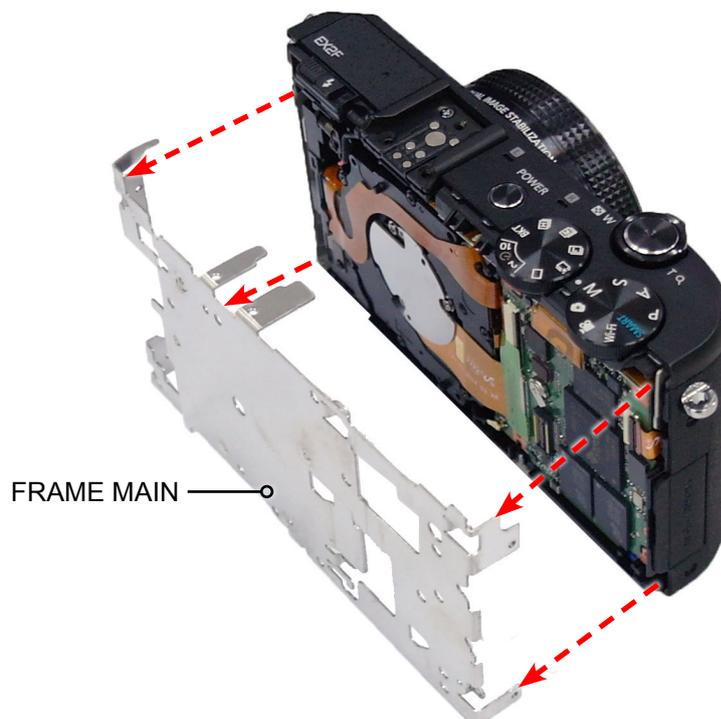


Fig. 3-13

- 16. Remove the FPCB from the connector as illustrated in Fig. F and G.
- 17. Remove the WiFi antenna as illustrated in Fig. H.

CAUTION

Use extra care when removing the FPCB from the connector.

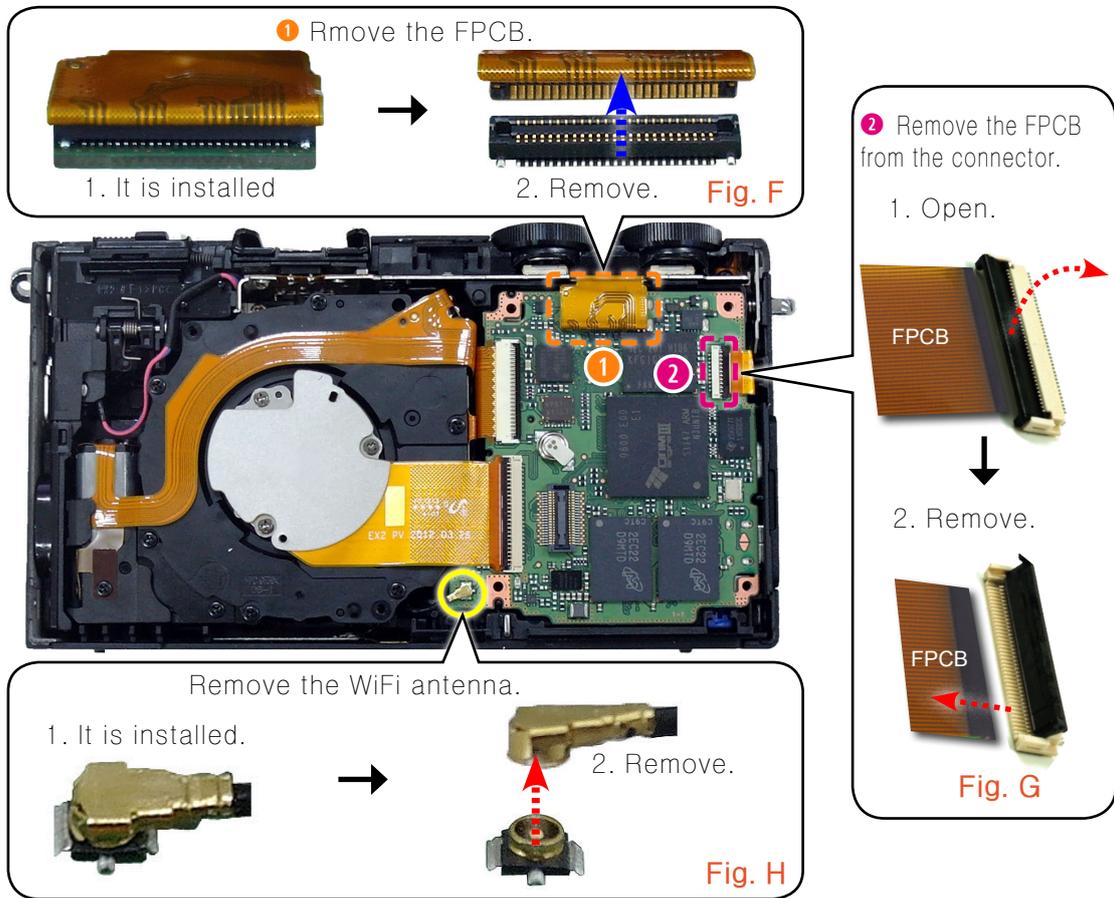


Fig. 3-14

- 18. Remove the MAIN PCB ASSY.

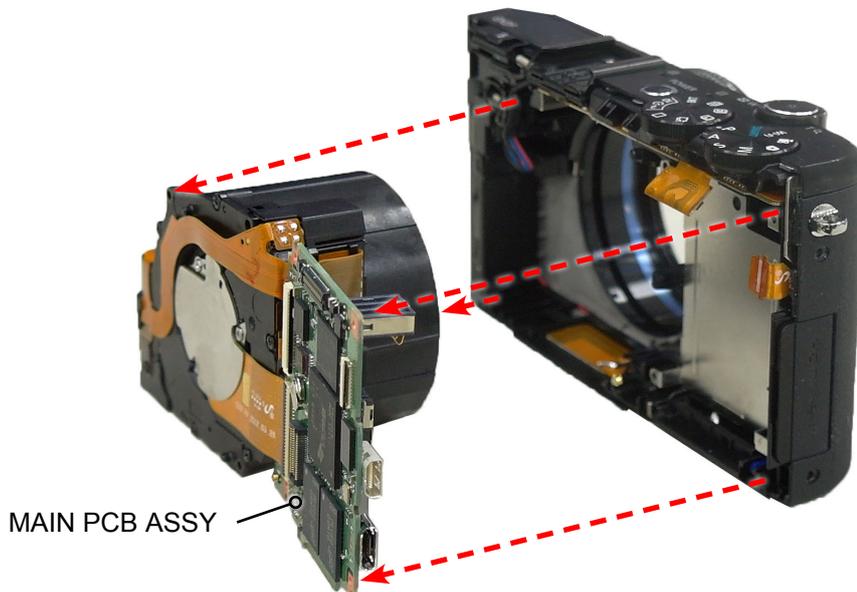


Fig. 3-15

19. Remove the FPCB from the connector as illustrated in Fig. I and J.

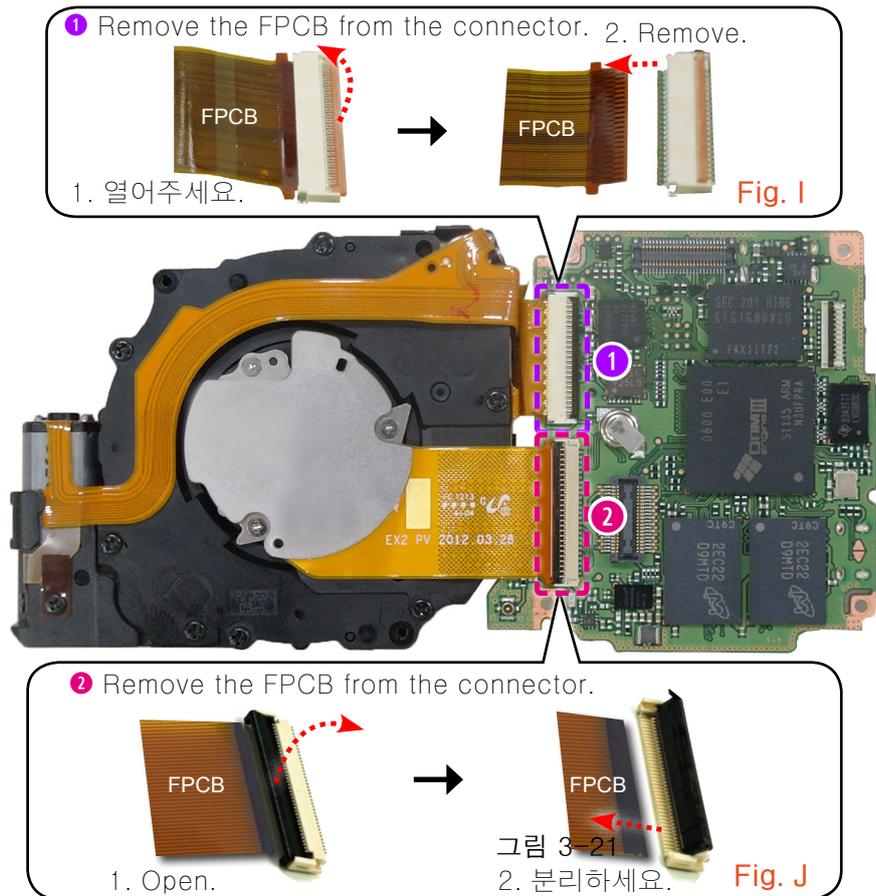


Fig. 3-16

20. Remove the ASSY BARREL CCD and MAIN PCB ASSY.

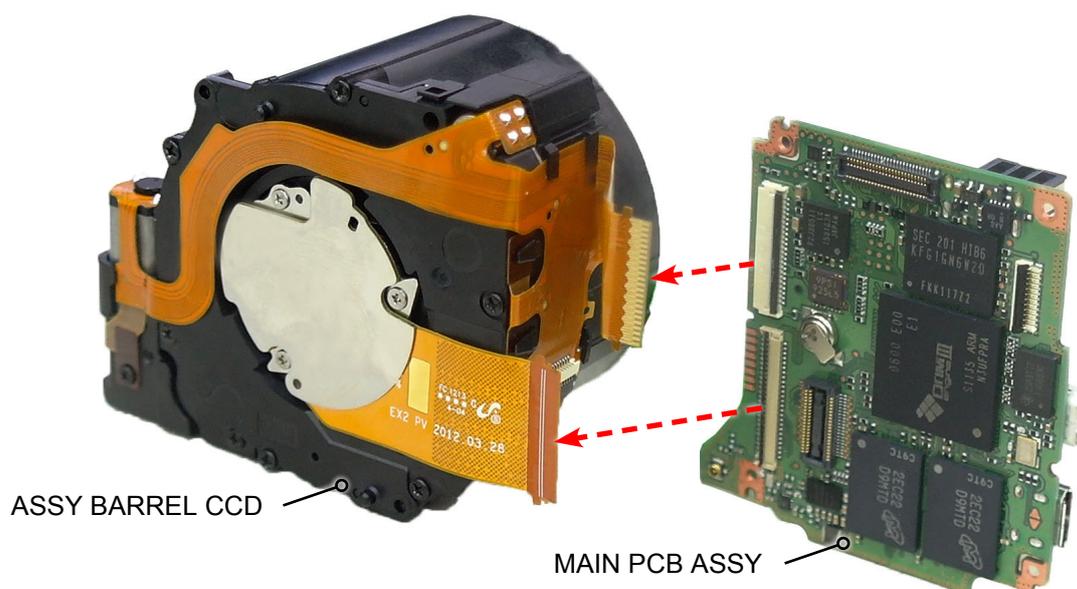


Fig. 3-17

21. Remove the screw.

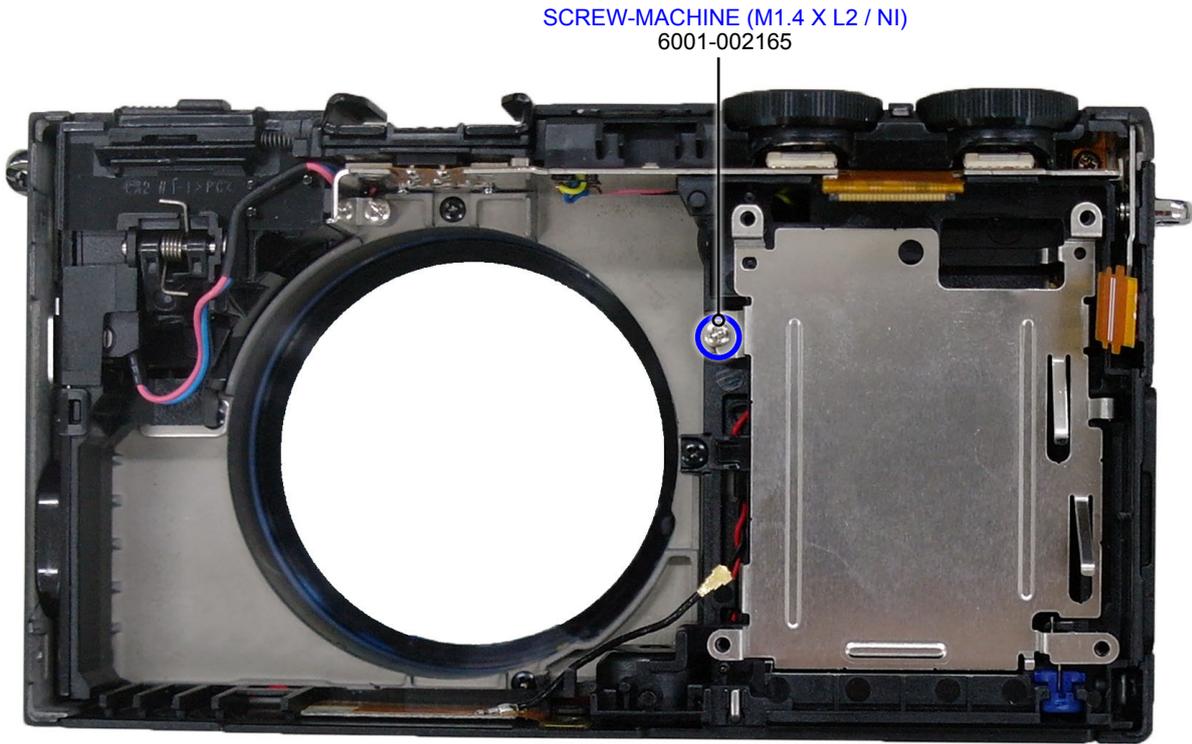


Fig. 3-18

22. Remove the ASSY CHAMBER.

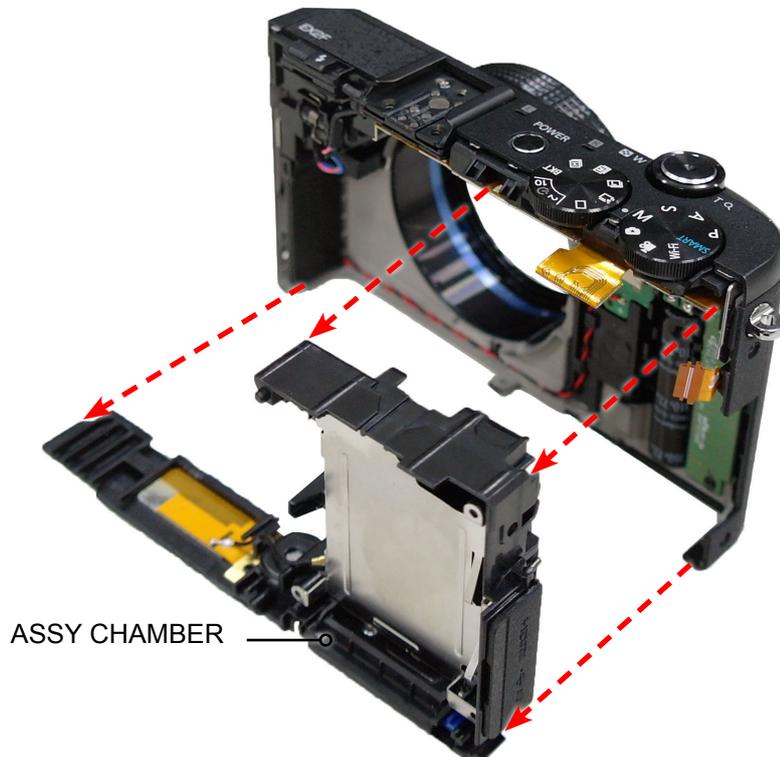


Fig.3-19

23. Remove the 2 screws.
24. Discharge to the positions marked in red circle as illustrated in Fig. K.
25. Remove the 5 solders marked in orange circle as illustrated in Fig. L.
26. Remove the FPCB from the connector as illustrated in Fig. M.

CAUTION

1. Make sure to discharge to the positions marked in red circle as illustrated in Fig. J.
2. Be especially careful not to touch the surrounding circuitry and components when removing the solder.

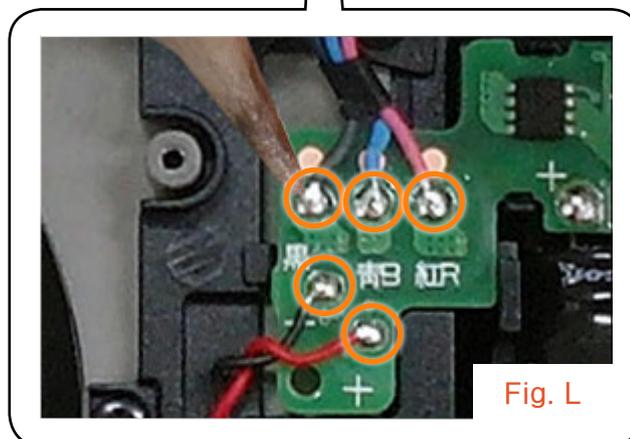
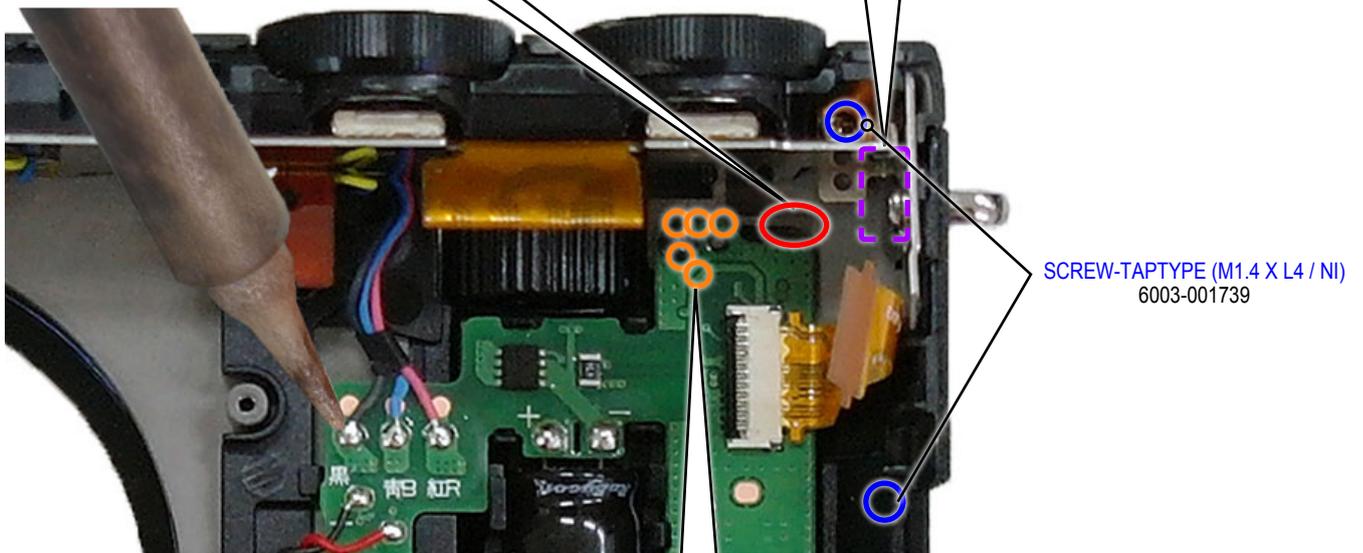
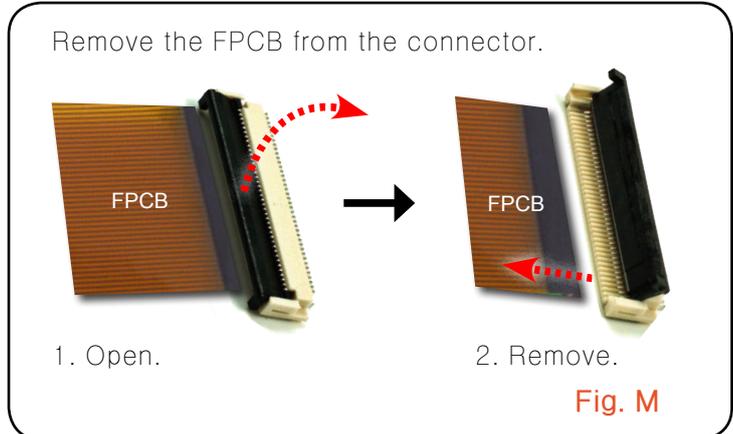
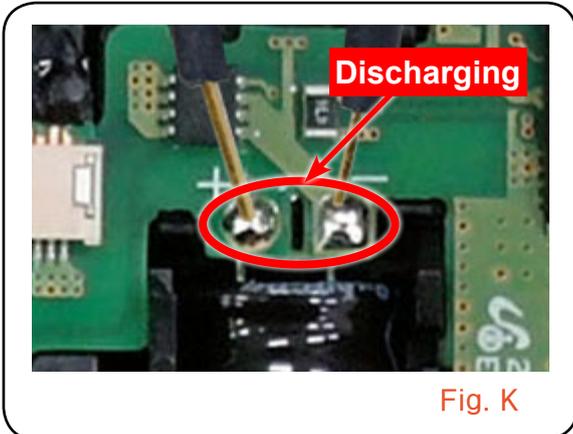


Fig. 3-20

27. Remove the ASSY STROBO PCB.

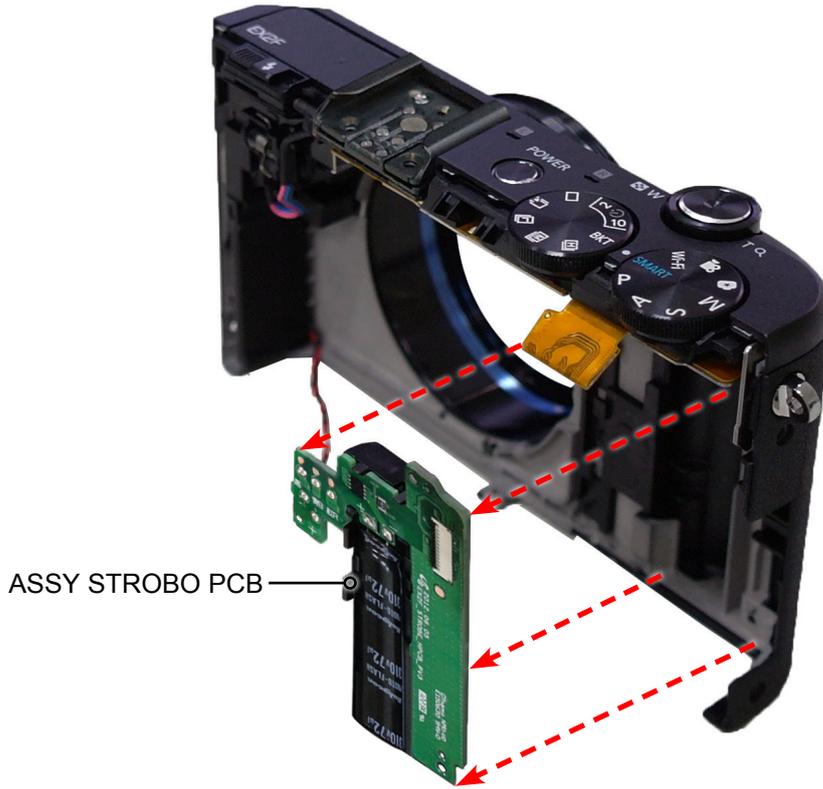


Fig. 3-21

28. Remove the 2 screws.
29. Remove the PLATE HOT SHOE.

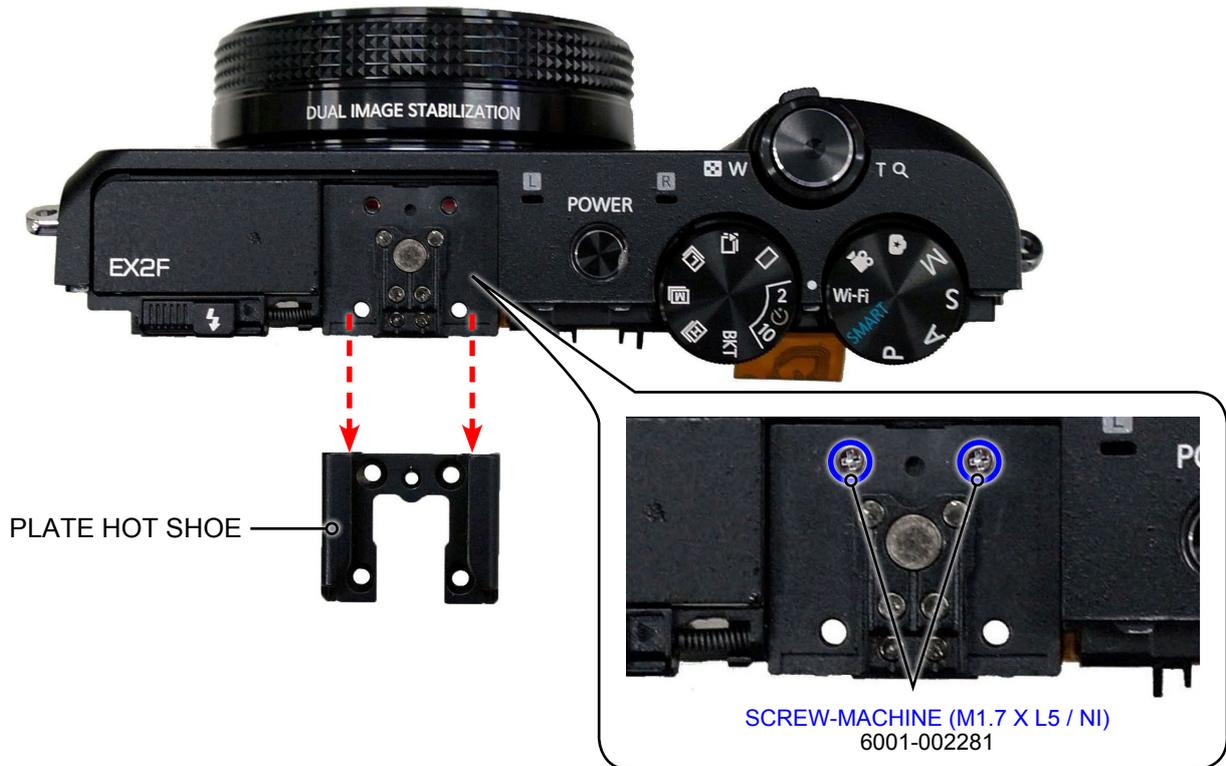


Fig. 3-22

30. Remove the 2 screws.

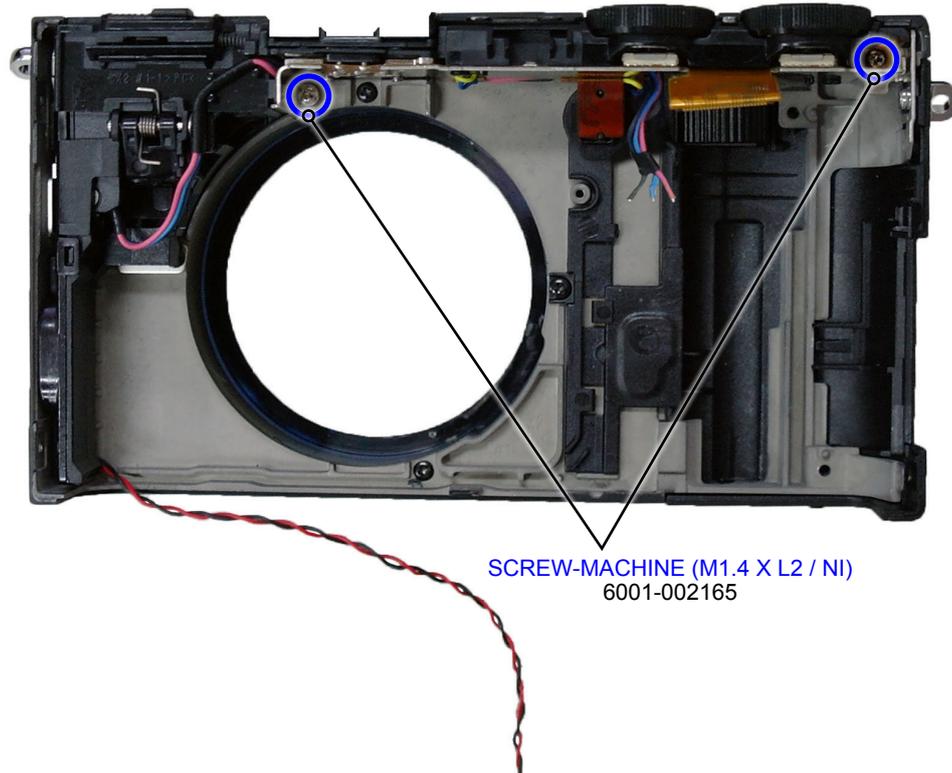


Fig. 3-23

31. Remove the ASSY COVER TOP.

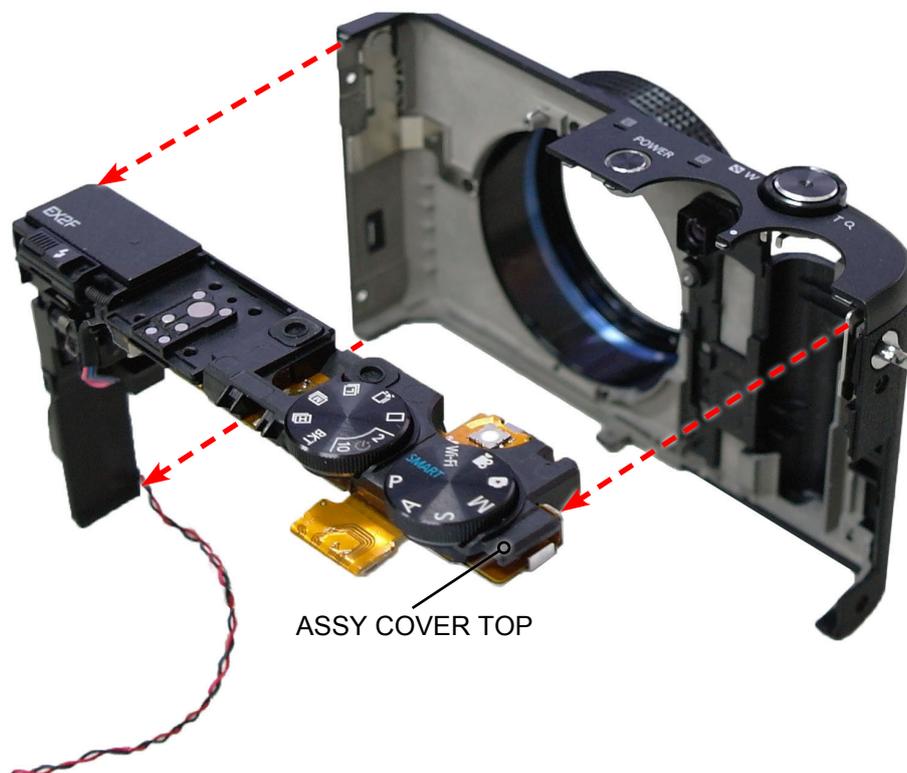


Fig. 3-24

- 32. Remove the 3 screws.
- 33. Remove the 11 solders marked in red circle as illustrated in Fig. N.

CAUTION

납땜 제거시 주변 회로소자 및 기구물에 주의하세요.

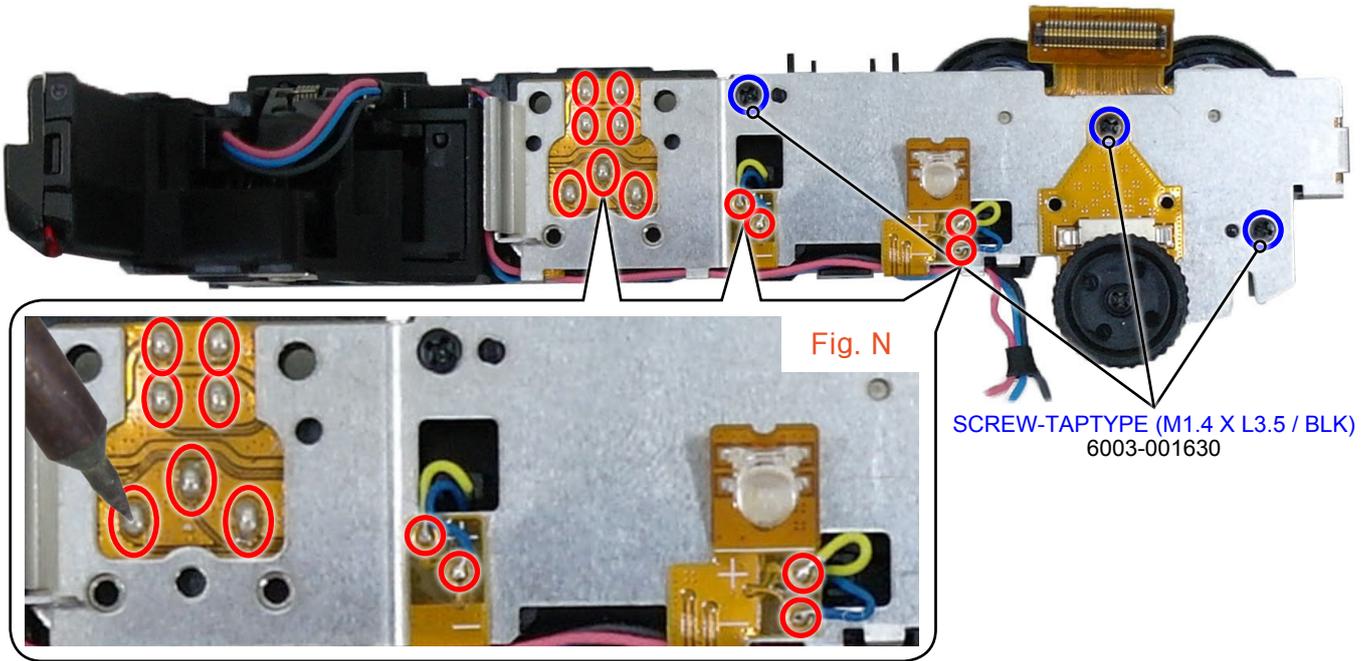


Fig. 3-25

- 34. ASSY TOP F-PCB와 BASE HOT SHOE를 분리합니다.

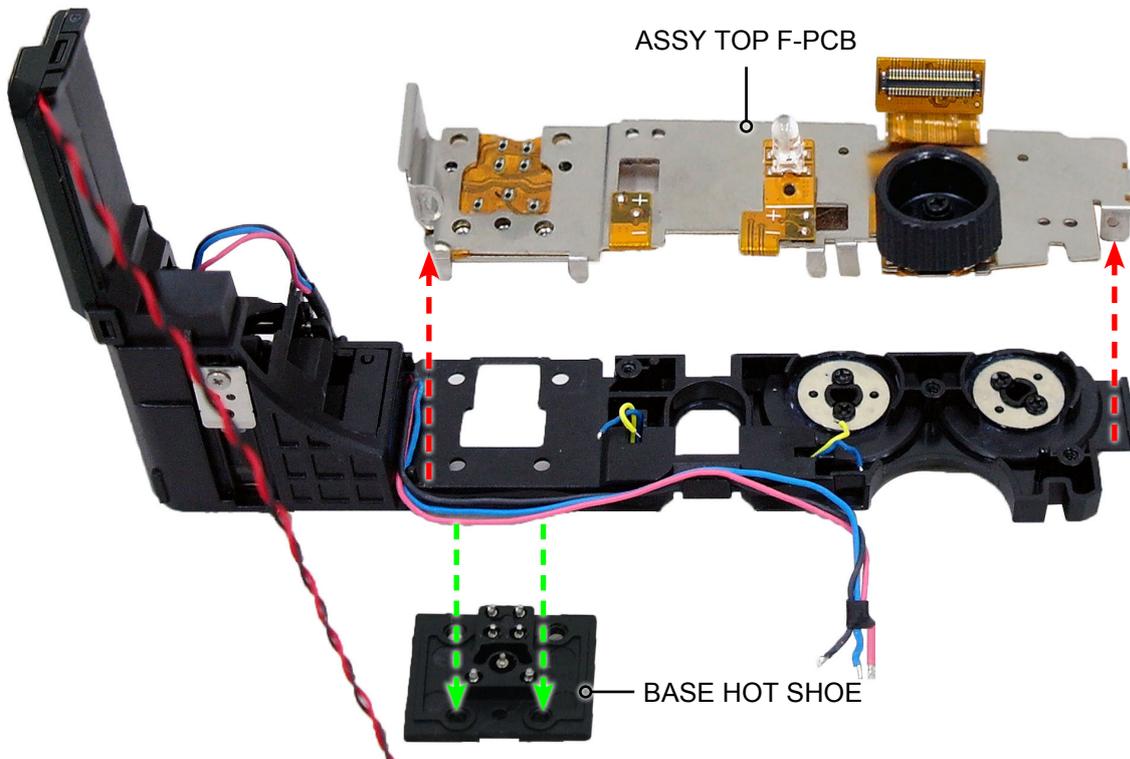


Fig. 3-26

35. Remove the 4 screws.

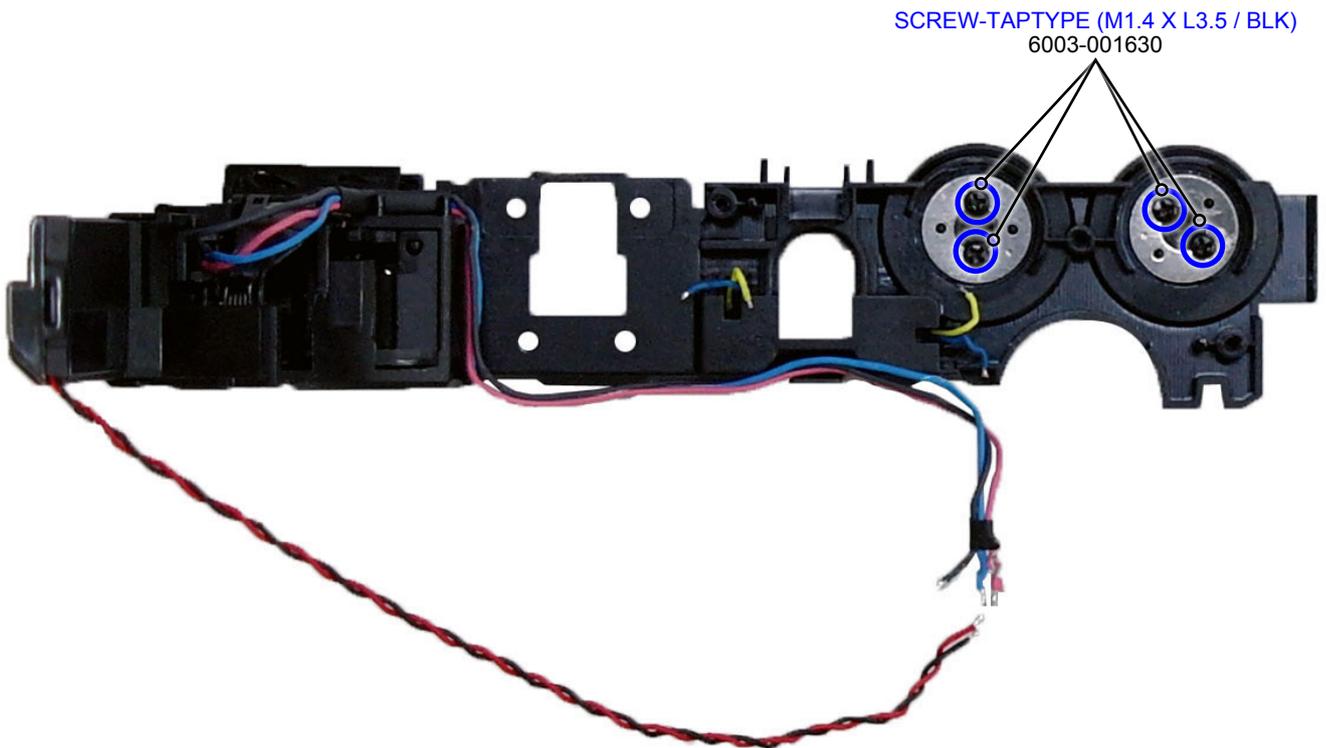


Fig. 3-27

36. Remove the following parts in the order indicated below.

- ① PLATE MODE DIAL
- ② ASSY MODE DIAL A
- ③ ASSY MODE DIAL B
- ④ MODE DIAL CLICK BALL
- ⑤ SPRING ETC MODE DIAL

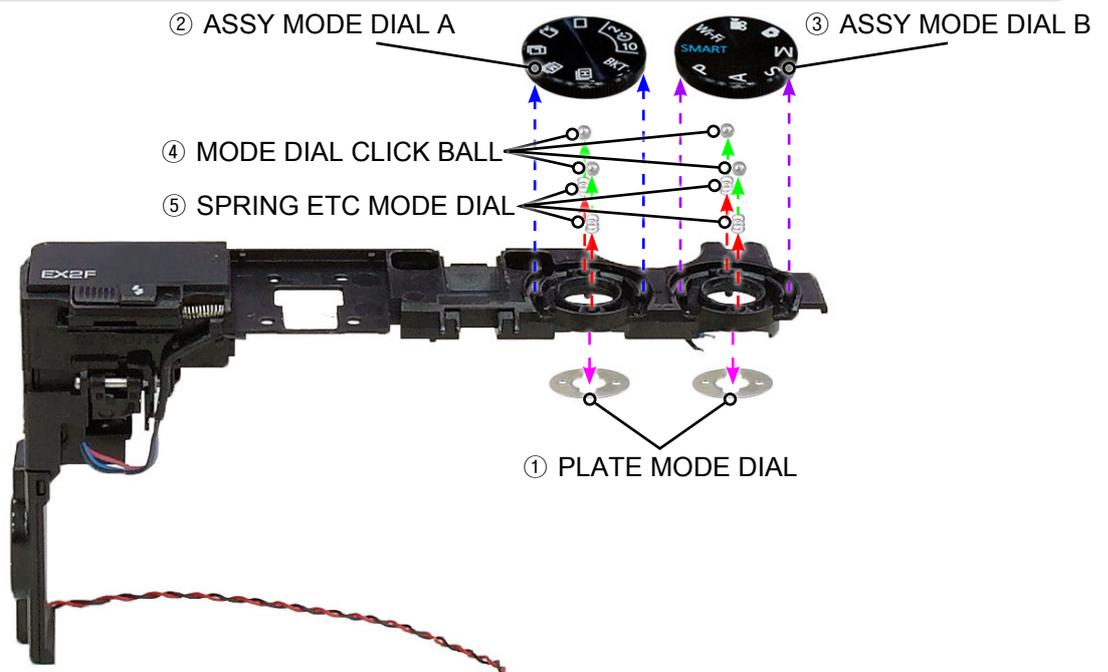


Fig. 3-28

- 37. Remove the E-RING with tweezers as illustrated in Fig. O.
- 38. Remove the following parts in the order indicated below.
 - ① SHAFT HINGE A
 - ② SPRING ETC FLASH

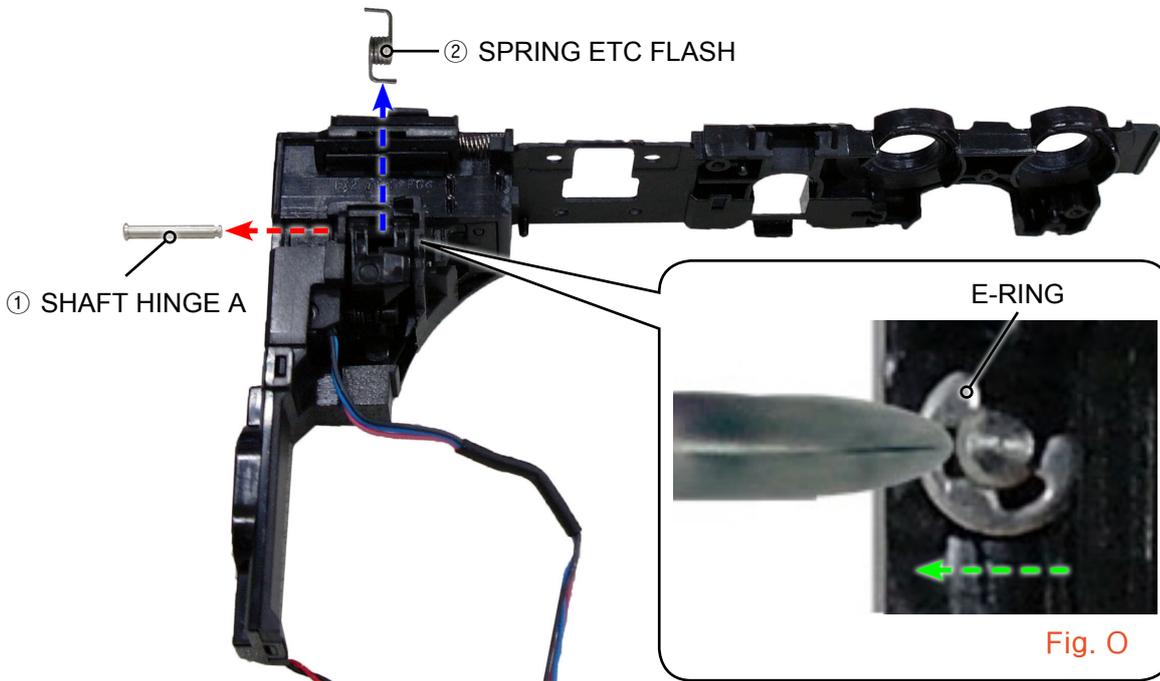


Fig. 3-29

- 39. Remove the screw.
- 40. Remove the 3 locking structure parts marked in circle as illustrated in Fig. N with tweezers.



Fig. 3-30

41. Remove the following parts in the order indicated below.

- ① PLATE GUIDE POP-UP
- ② CUSHION MIC
- ③ ASSY MIC

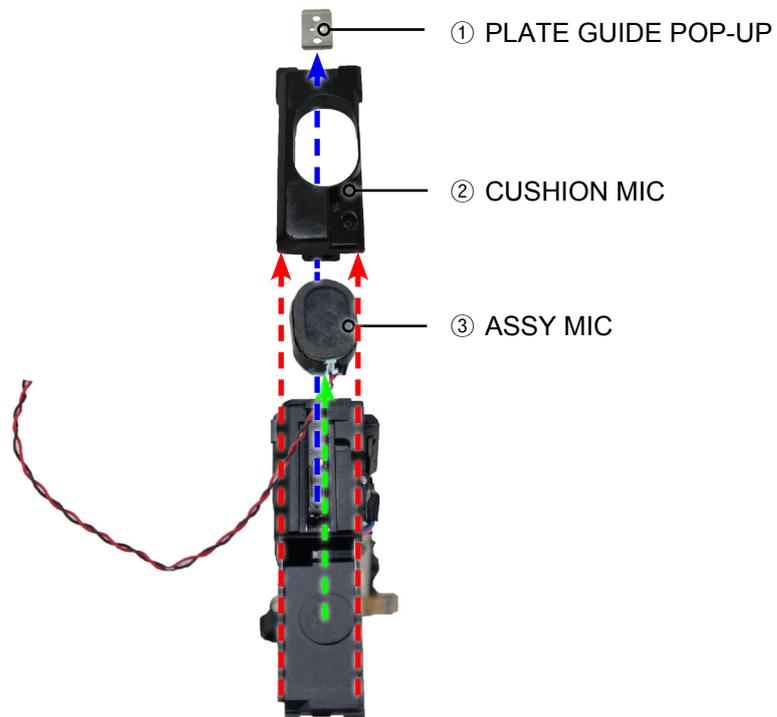


Fig. 3-31

42. Remove the screw.



Fig. 3-32

43. Remove the following parts in the order indicated below.

- ① PLATE GUIDE POP-UP
- ② DAMPER POP-UP

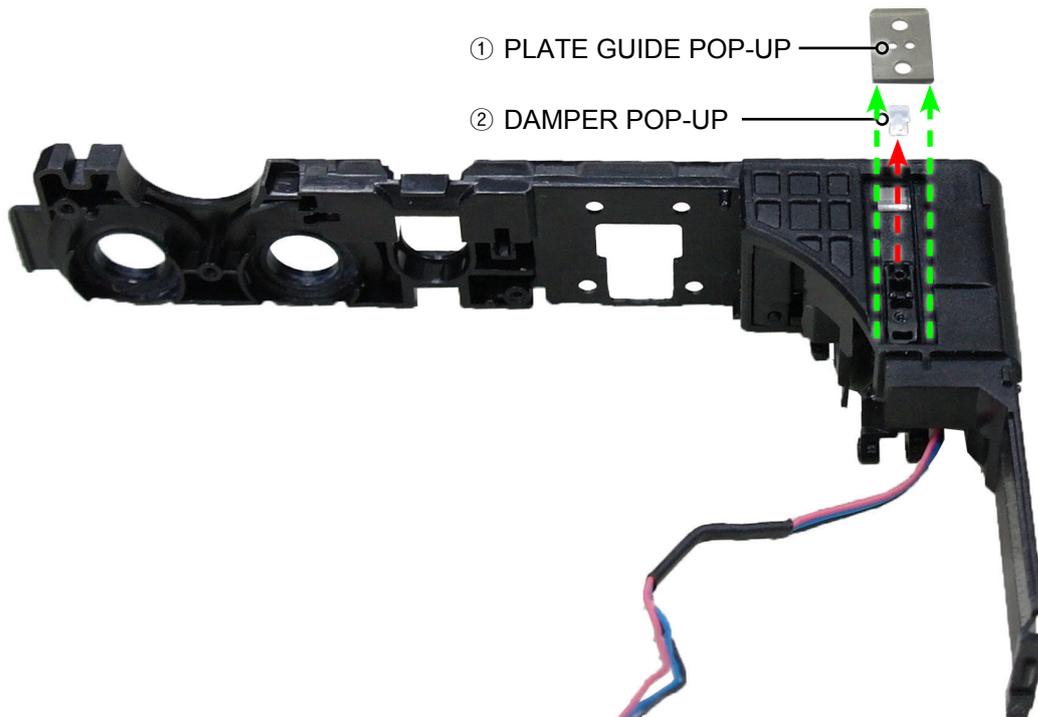


Fig. 3-33

44. Move the KNOB FLASH to the left as illustrated in Fig. Q. Then lift up the ASSY POP-UP

45. Insert tweezers around the join of locking structure part between COVER TOP and ASSY POP-UP to release ASSY POP-UP. Then remove the ASSY POP-UP.

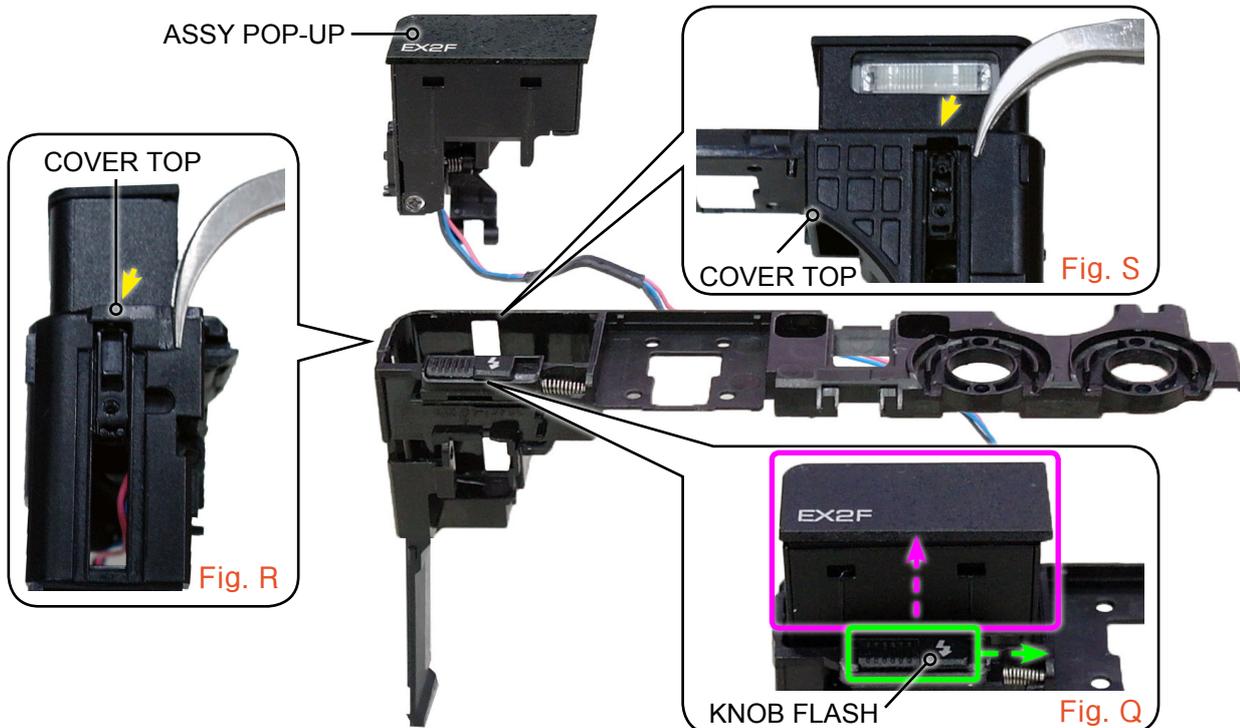


Fig. 3-34

46. Remove the 3 screws.

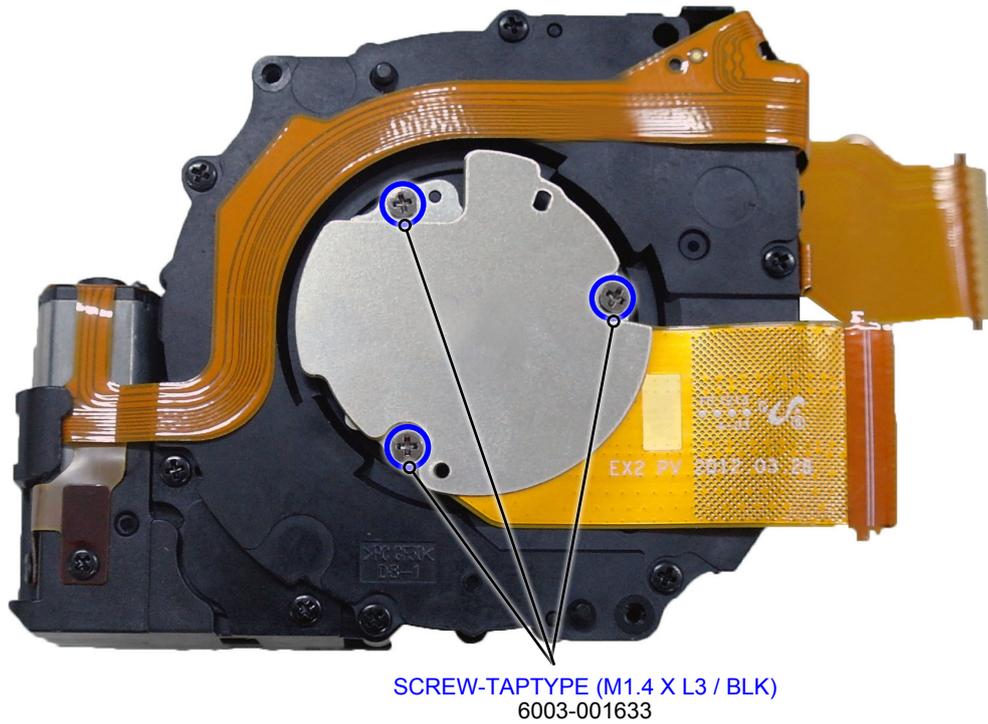
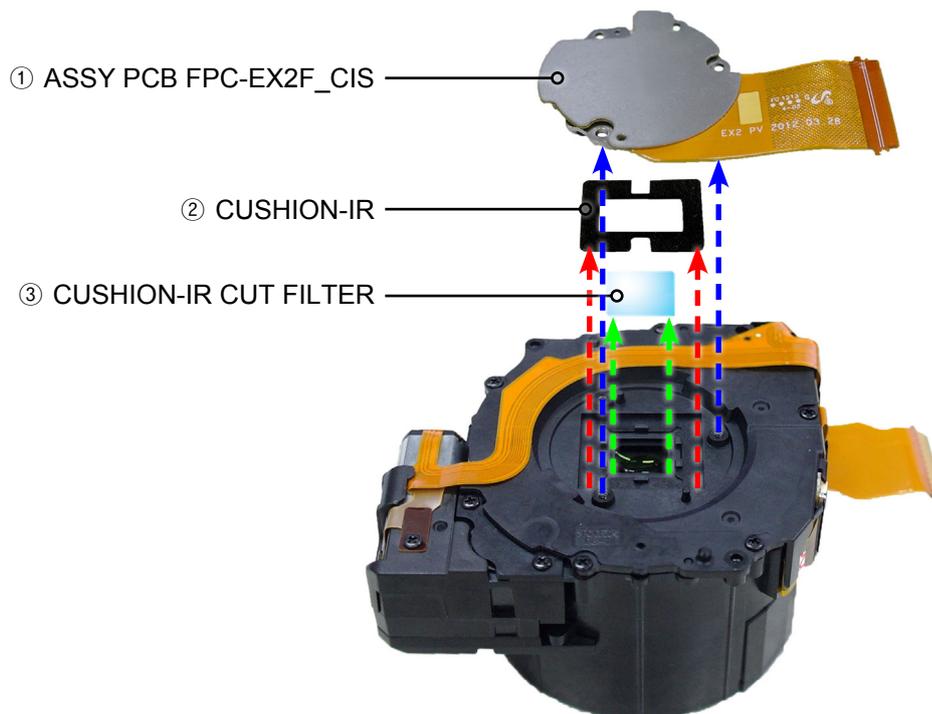


Fig. 3-35

47. Remove the following parts in the order indicated below.

- ① ASSY PCB FPC-EX2F_CIS
- ② CUSHION-IR
- ③ CUSHION-IR CUT FILTER



Fig, 3-36

3-2 Barrel Disassembly

1. Remove the 7 screws.

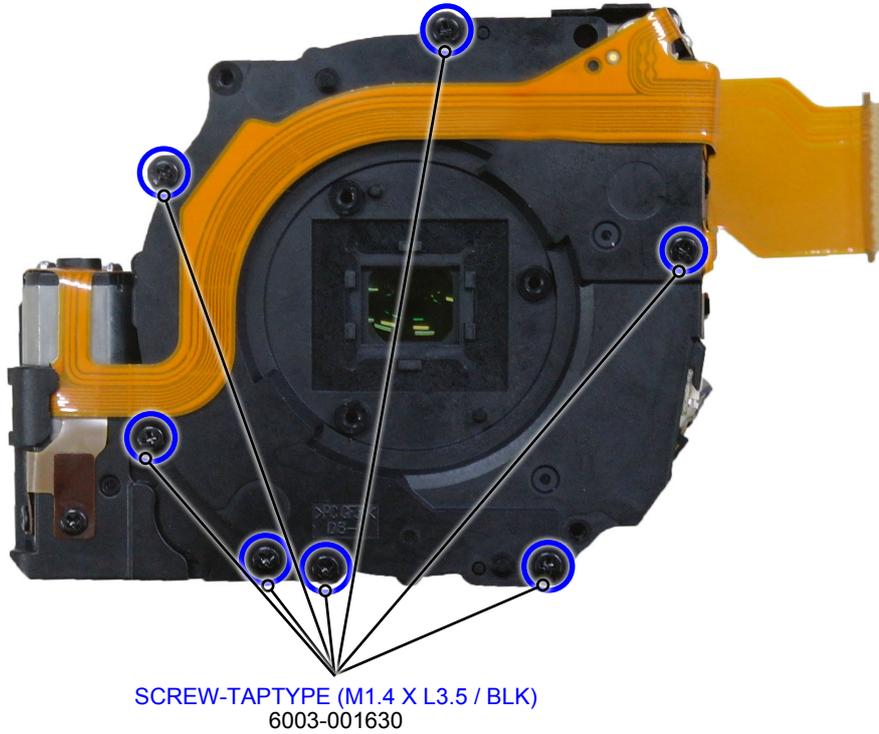


Fig. 3-27

2. Remove the FPCB from the connector as illustrated in Fig. A.
3. Remove the locking structure part as illustrated in Fig. B.

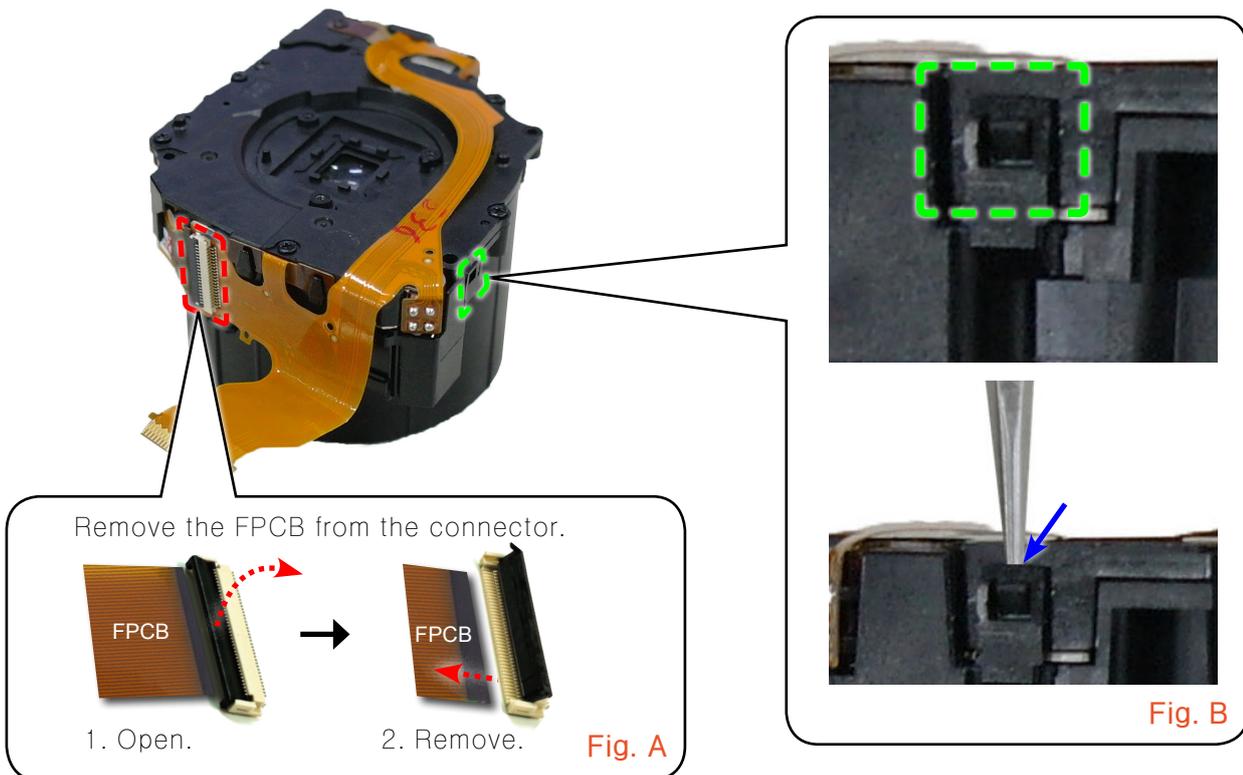


Fig. 3-38

4. Remove the ASSY LENS BASE.



Fig. 3-39

5. Remove the FPCB from the loop part.

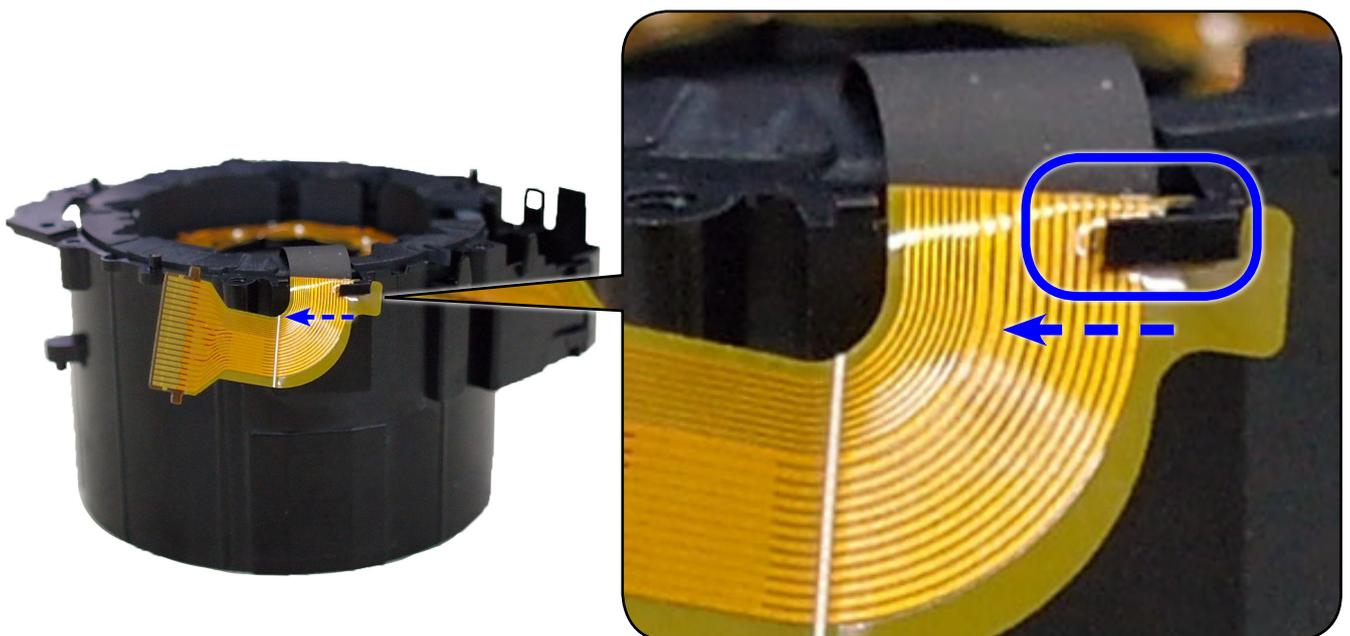


Fig. 3-40

6. Remove the BARREL-BASE.



Fig. 3-41

7. Remove the BARREL-CAM.



Fig. 3-42

8. Remove the DECO RING-CAM.



Fig. 3-43

9. Remove the BARREL-GUIDE.



Fig. 3-44

10. Remove the BARREL-ZOOM RING.



Fig. 3-45

3-3 Barrel Reassembly

1. Align the 3 corresponding positions respectively as illustrated in Fig. A and B.
Once the correct alignment for position **a** is accomplished, install the BARREL-ZOOM.

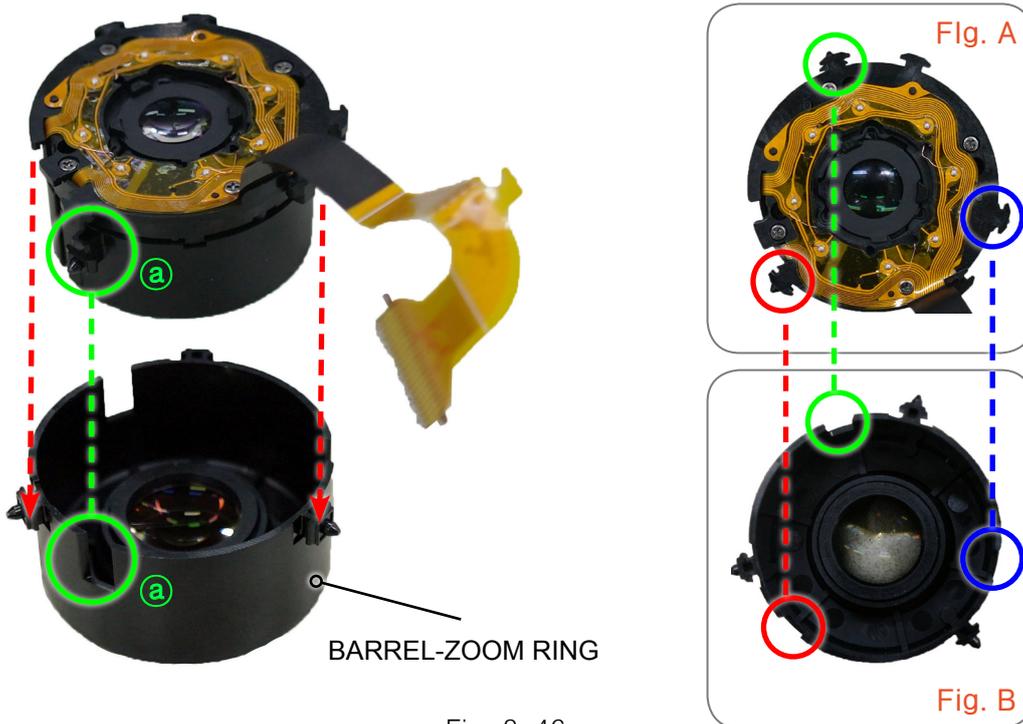
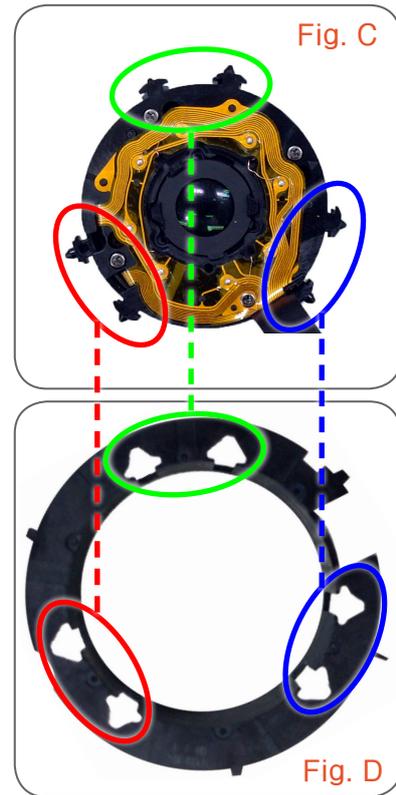


Fig. 3-46

- Align the 3 corresponding positions respectively as illustrated in Fig. C and D.
Once the correct alignment for position **a** is accomplished, install the BARREL-GUIDE.



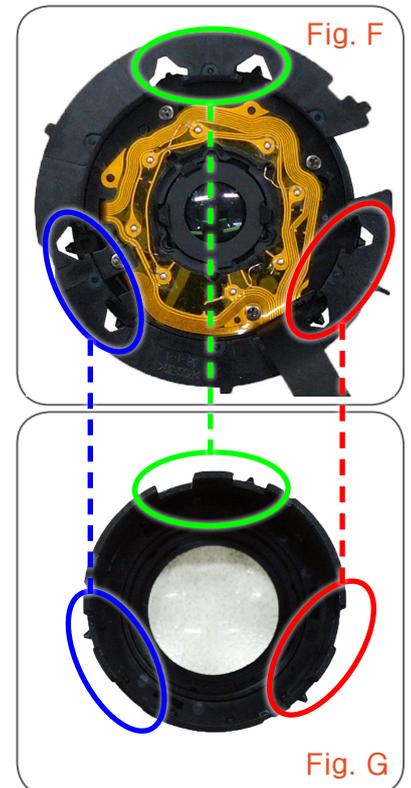
Fig. 3-47



- Put the DECO RING-CAM face down as illustrated in Fig. E.
- Align the 3 corresponding positions respectively as illustrated in Fig. F and G.
Once the correct alignment for position **a** is accomplished, install the DECO RING-CAM.



Fig. 3-48



5. Align the 6 corresponding positions respectively as illustrated in Fig. H and I.
Once the correct alignment for position **(a)** is accomplished, install the BARREL-CAM.

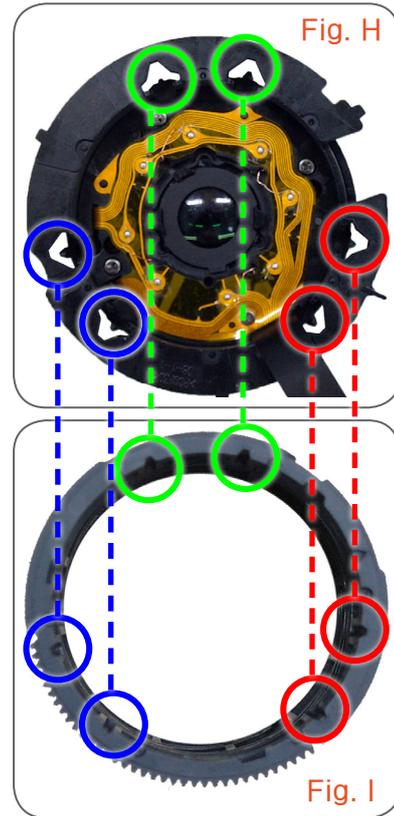


Fig. 3-49

6. Align the 3 corresponding positions respectively as illustrated in Fig. J and K.
Once the correct alignment for position **(a)** and **(b)** is accomplished, install the BARREL-BASE.

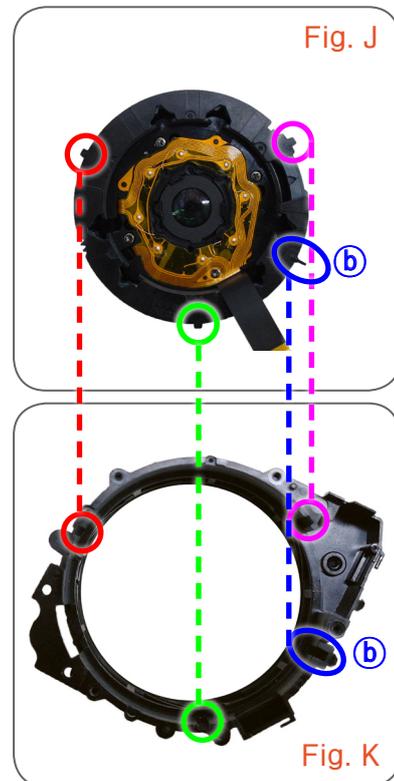
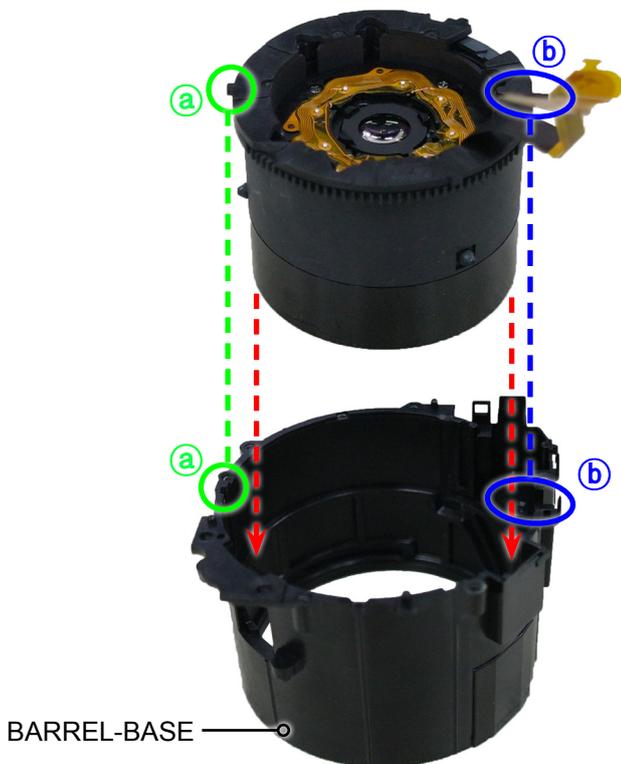


Fig. 3-50

7. Slip the FPCB into the groove as illustrated in Fig. L.
Align the FPCB with the loop and pull the FPCB to the right to install as illustrated in Fig M.

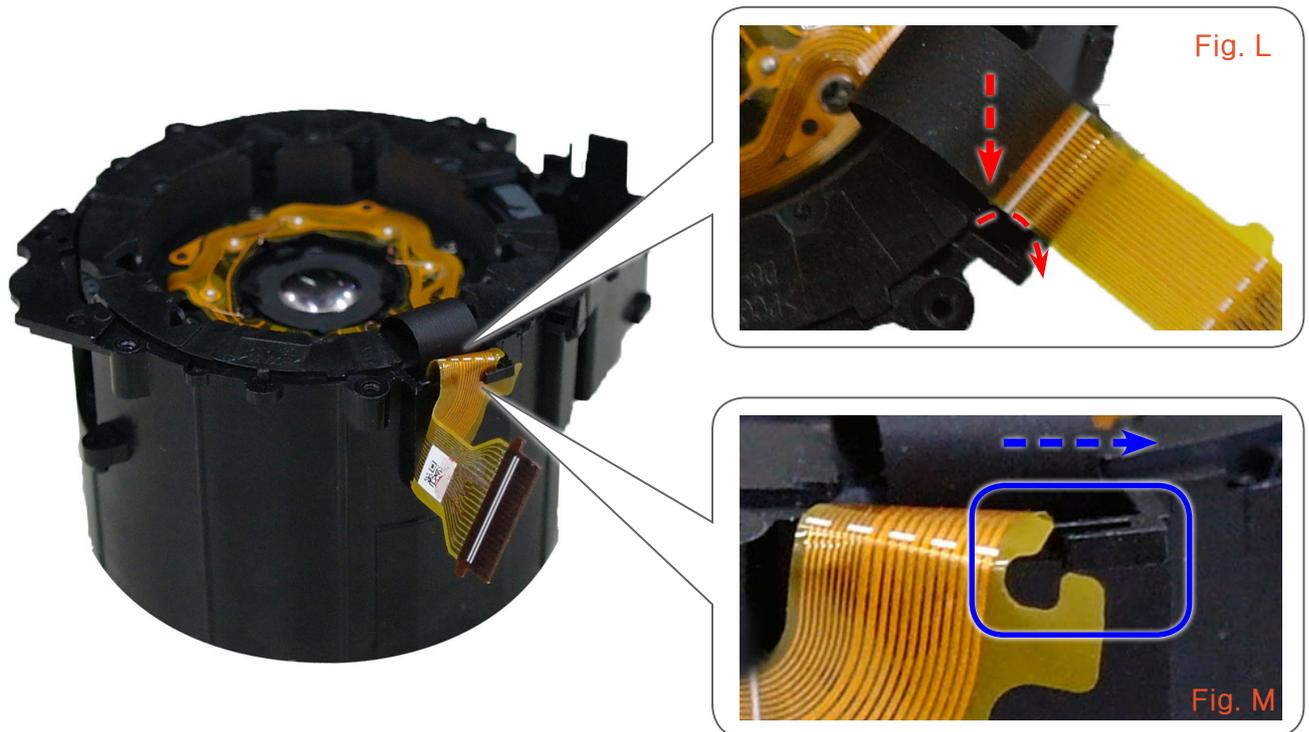


Fig. 3-51

8. Align the corresponding position of (a) and (b) respectively as illustrated in Fig. N and O.
Then install the ASSY LENS BASE.

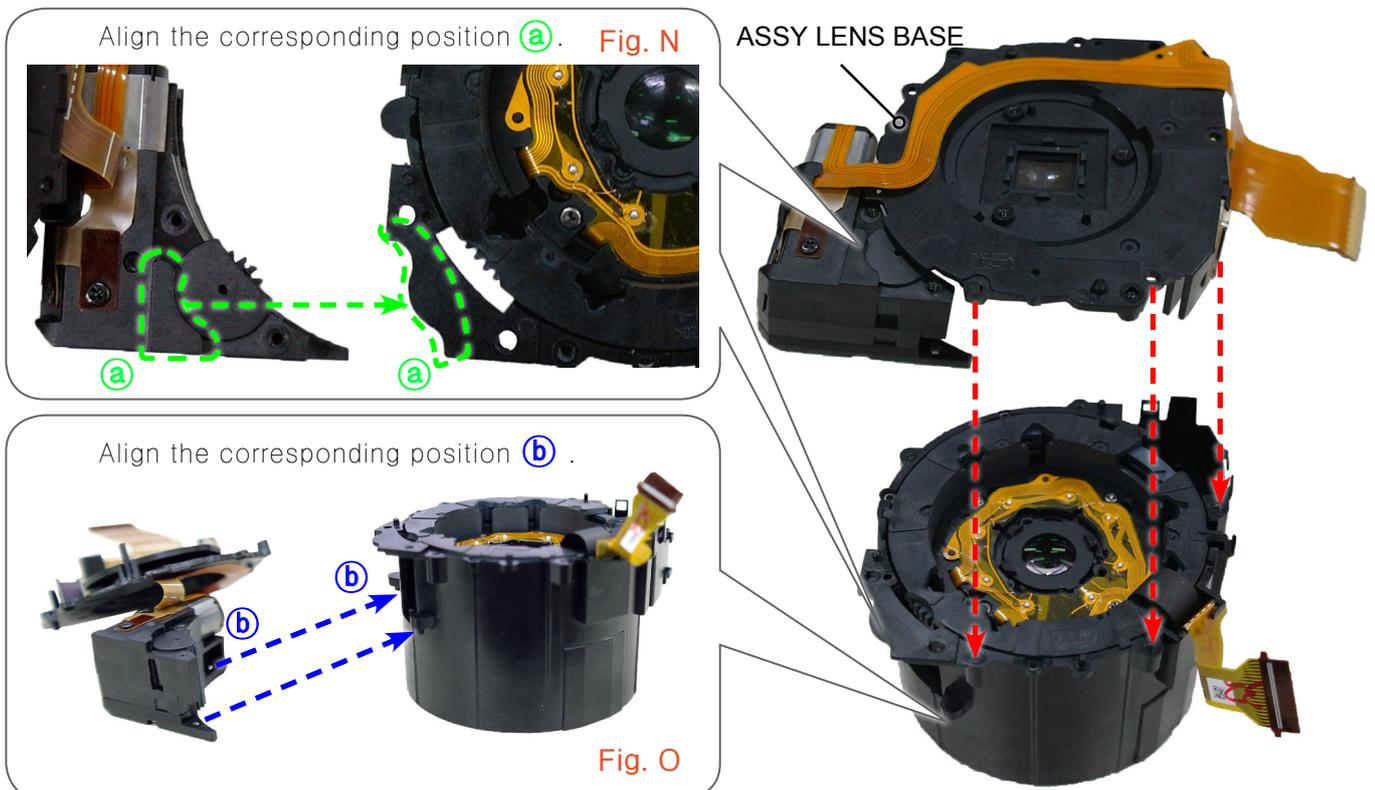


Fig. 3-52

9. Install the FPCB as illustrated in Fig. P and Q.

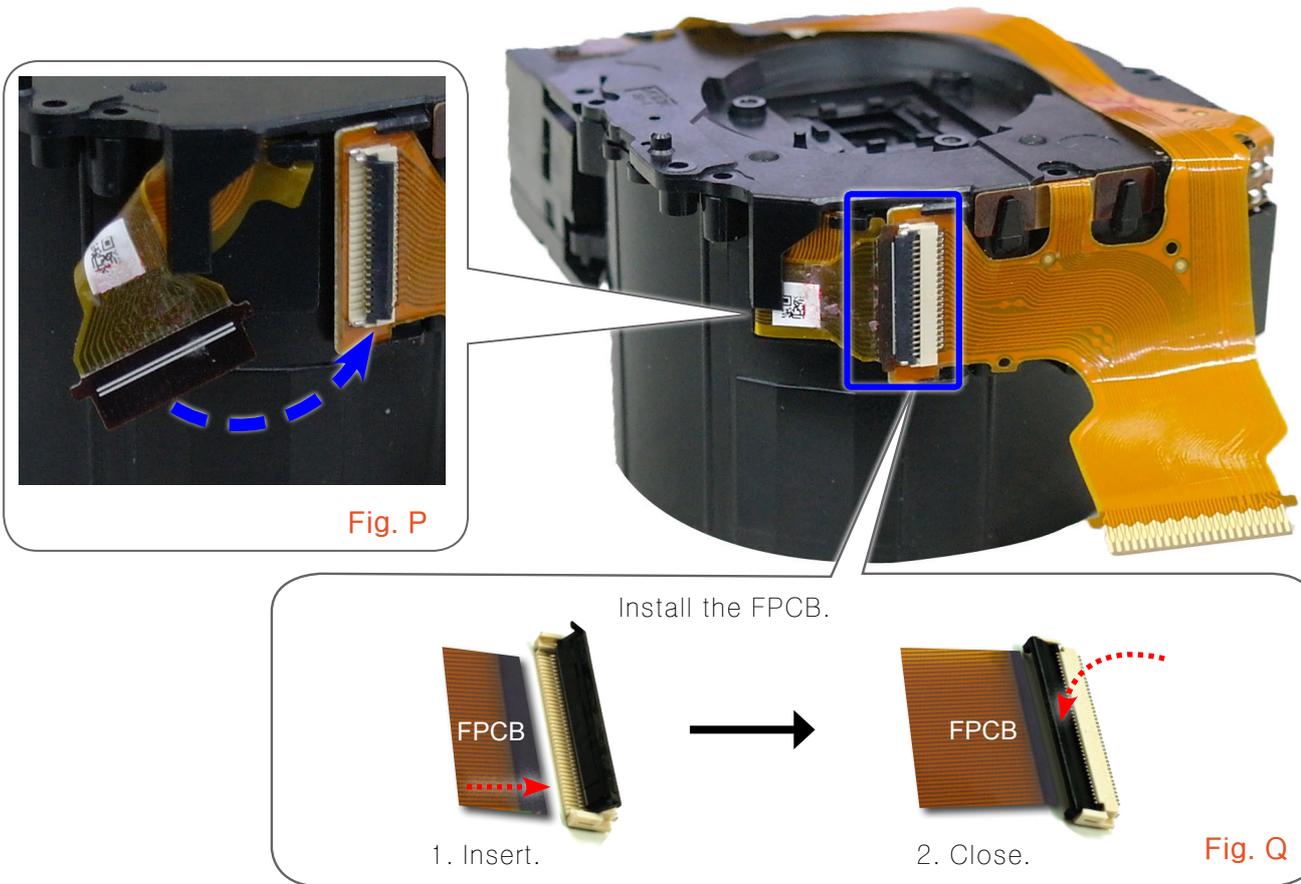


Fig. 3-53

10. Tighten the 7 screws.

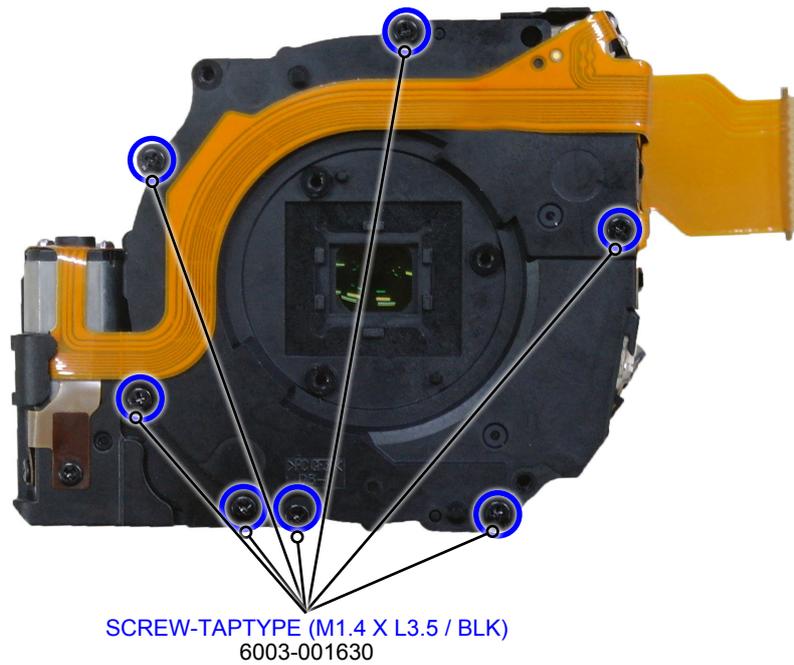
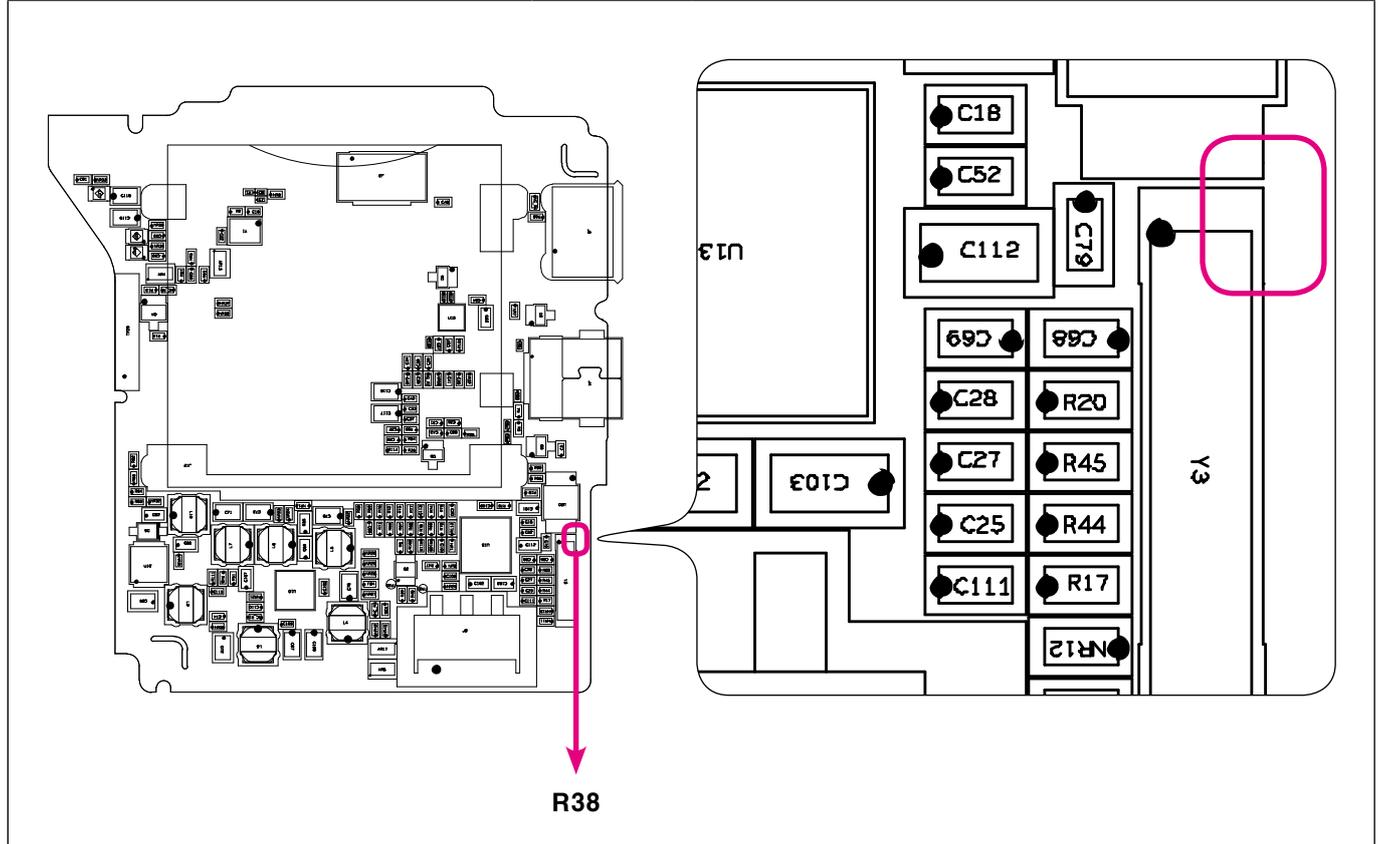


Fig. 3-54

4. Troubleshooting

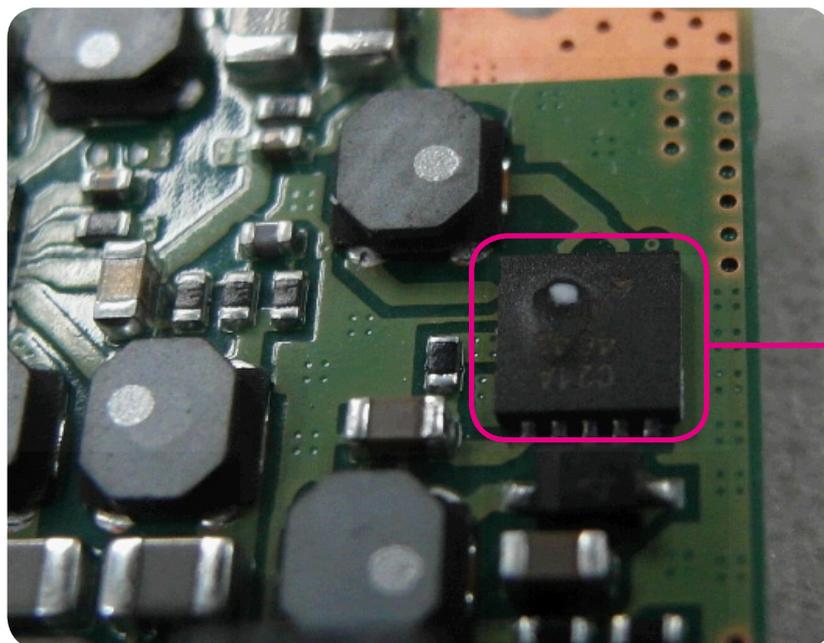
4-1 Regarding to power

Symptom	Explanation/Solution
<p>The product does not turn on.</p>	<p>Working voltage of backside of the MAIN PCB on R38 is 3.3V. When voltage drops below 1V or below, there is a problem.</p> <p>Change MAIN PCB.</p>



4-2 Regarding to LCD screen display

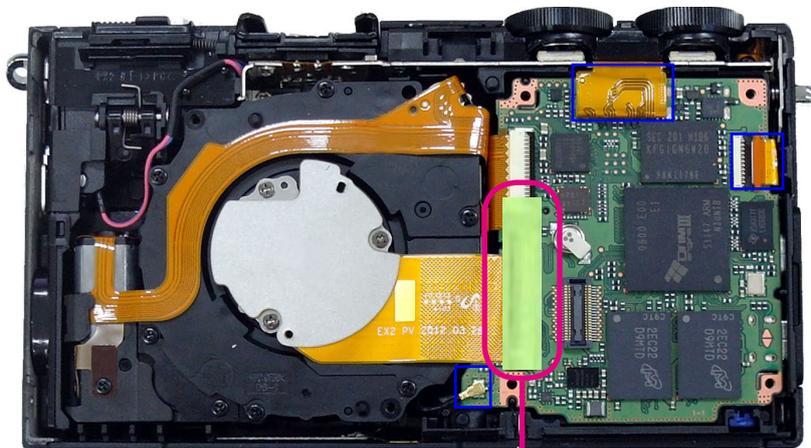
Symptom	Explanation/Solution
LCD screen displays black screens.	PMIC damage can cause the problem.
	Change PMIC or MAIN PCB.



IC damage
due to VBAT short

4-3 Regarding to screen capture

Symptom	Explanation/Solution
<p>Allows to preview images. However, pink horizontal line appears on LCD screen when capturing the image of an object.</p>	<p>MR SHEET may not be connected between CIS FPCB and MAIN.</p> <p>Check MR SHEET is on the connection between CIS FPCB and Main. (MAIN FRAME or SHORT problem)</p>



Make sure to attach MR SHEET

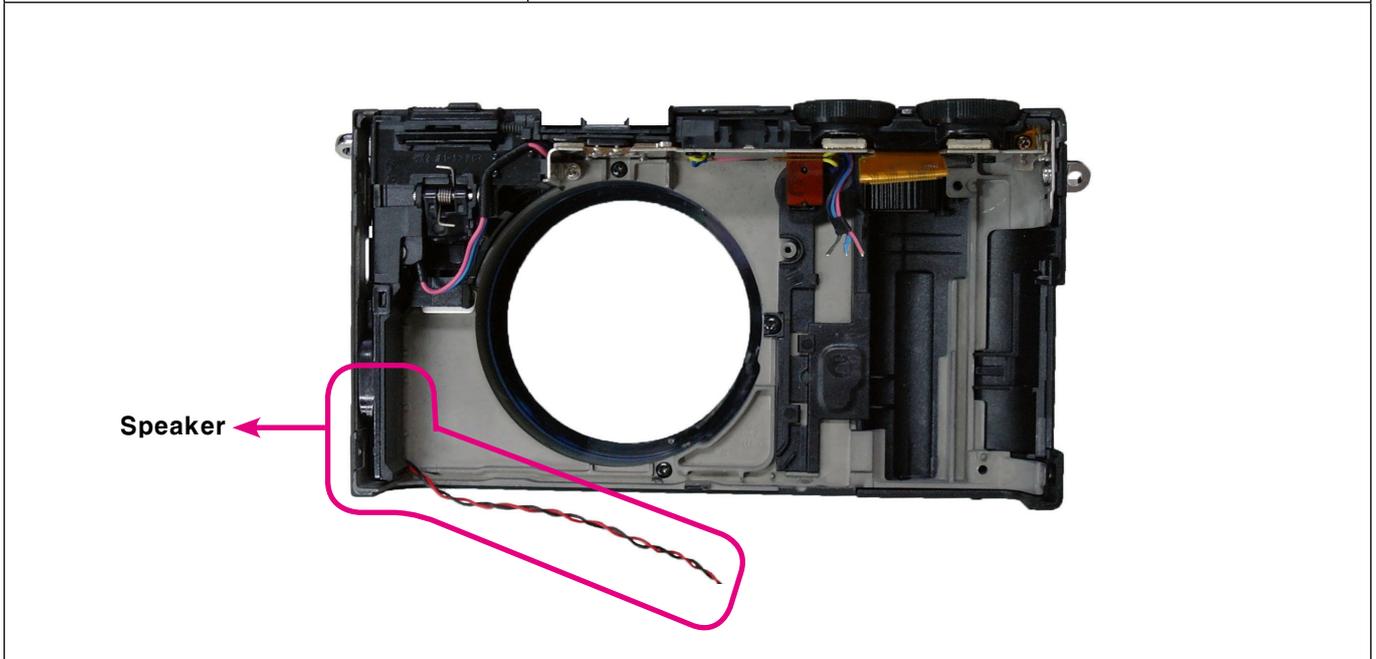
4-4 Regarding to video capture

Symptom	Explanation/Solution
<p>LCD screen displays noises when capturing video.</p>	<p>Resistance to CIS FPCB, capacity or no soldering can cause the problem.</p>
	<p>Check the solder connections and solder again. Change CIS FPCB.</p>



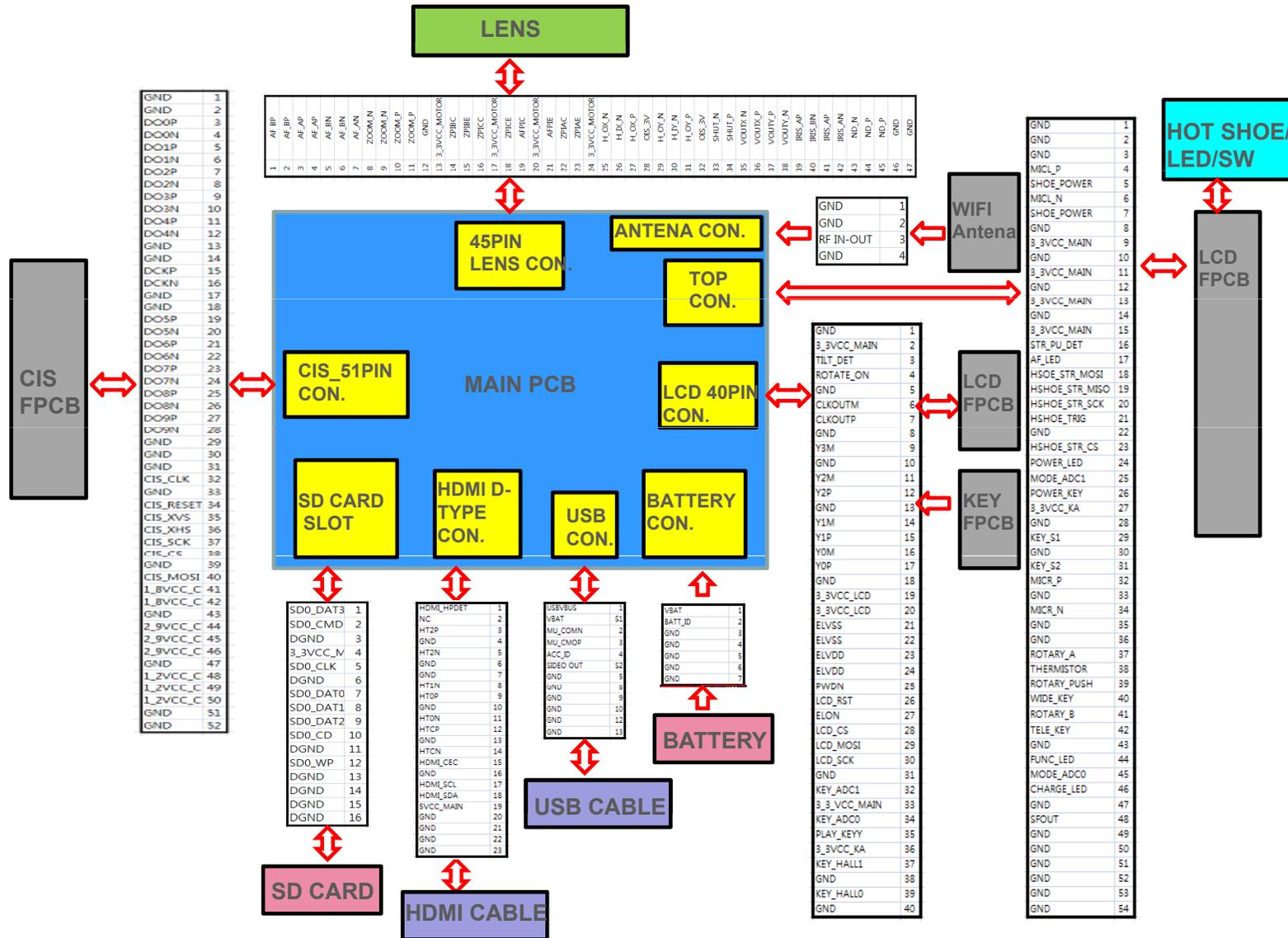
4-5 Regarding to video or audio playback

Symptom	Explanation/Solution
<p>Power can be turned on and off. Camera turns off automatically when playing video or audio.</p>	<p>The long electric wire of speaker is connected to STROBO PCB. Peeling off the coating of electric wire may cause short out.</p>
	<p>Check the speaker and electric wire. Use care for and store electric wire.</p>



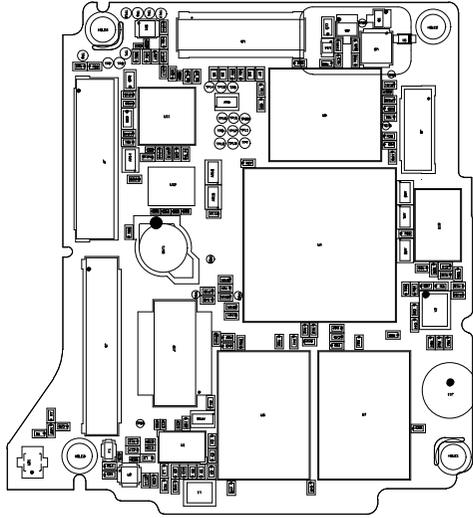
5. PCB diagram

5-1 TOTAL WIRING

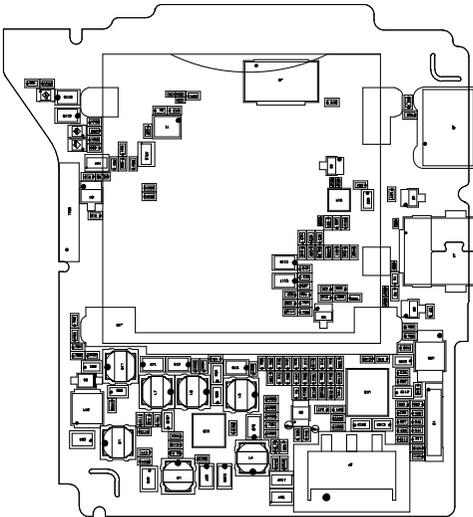


5-2 MAIN PCB

TOP

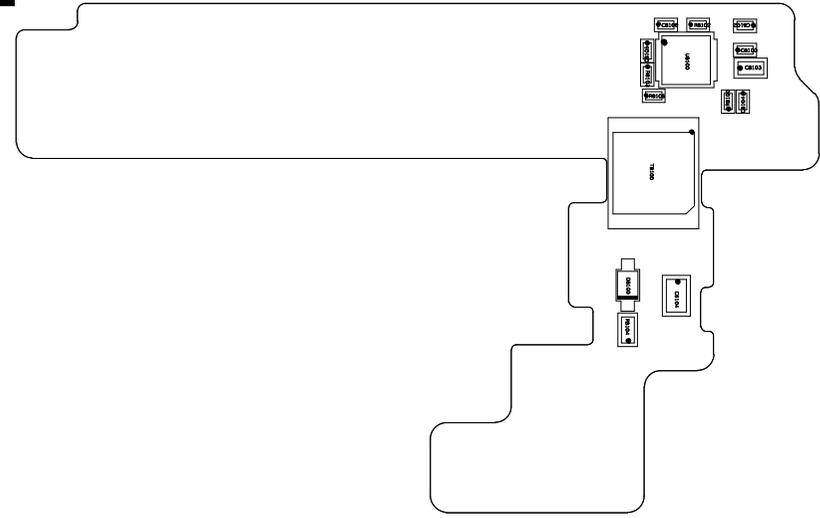


BOTTOM

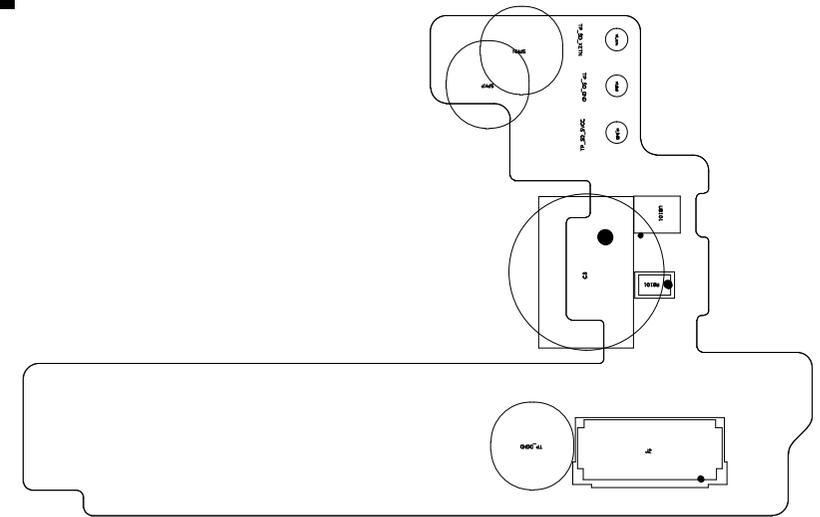


5-3 Strobe HPCB

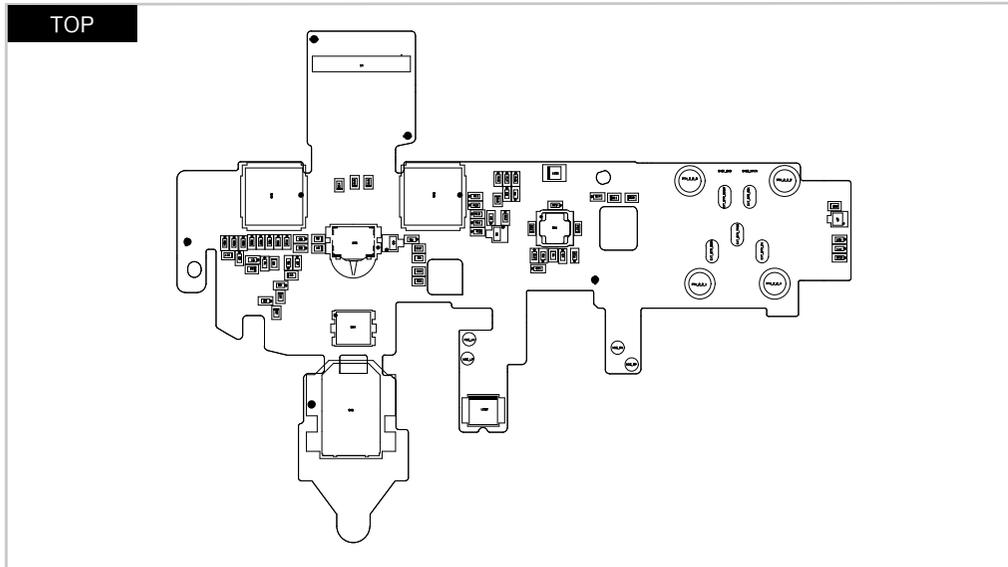
TOP



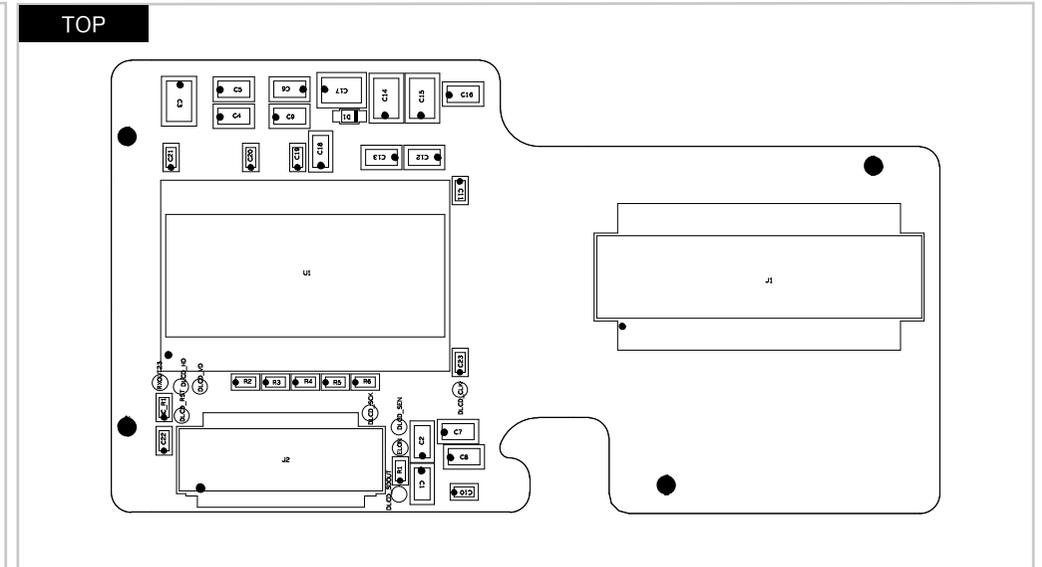
BOTTOM



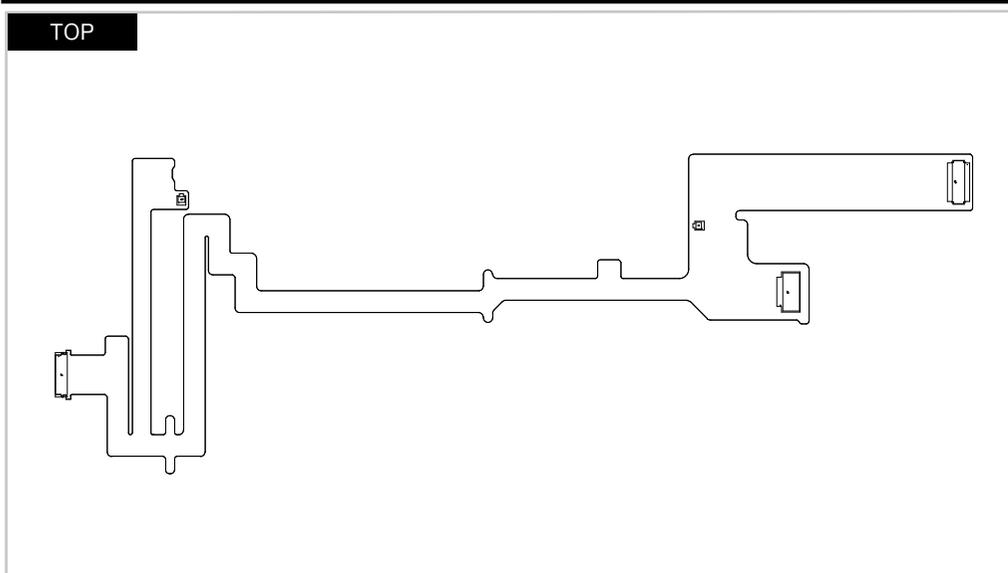
5-4 Top FPCB



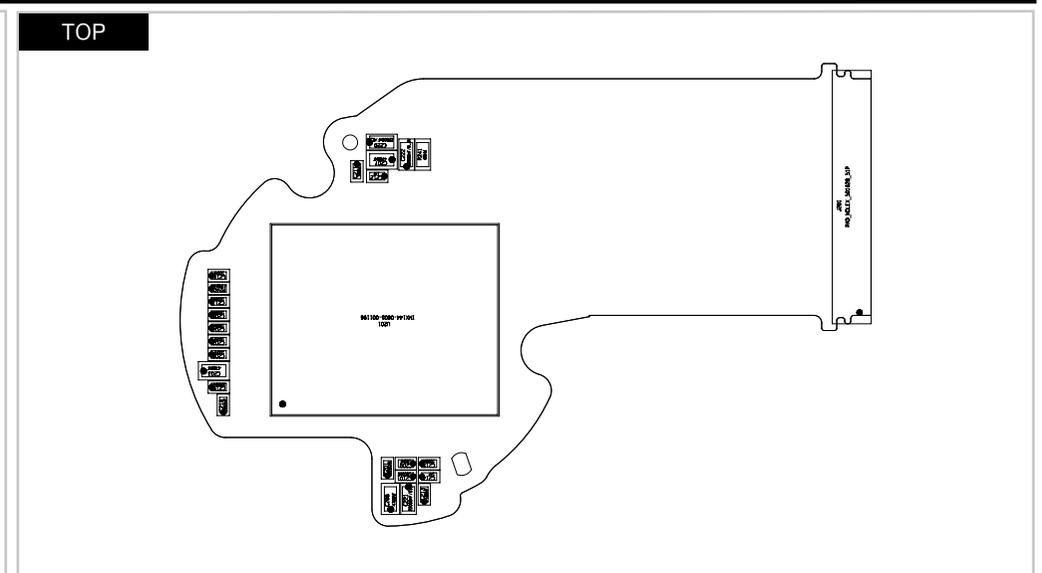
5-6 AMOLED FPCB



5-5 LCD ext. FPCB

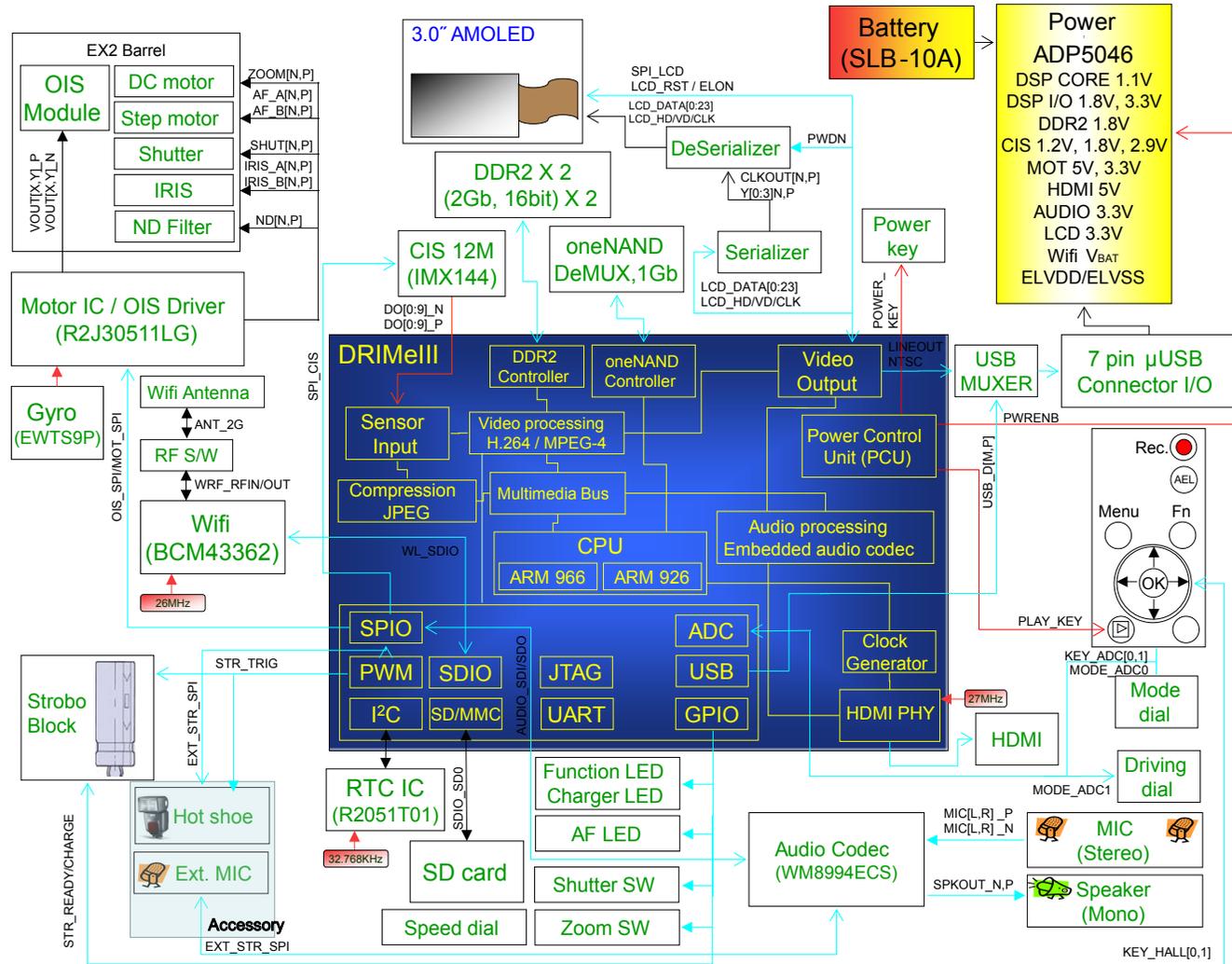


5-7 CIS FPCB



6. Block diagram

6-1 Block diagram



7. Firmware update

7-1 Factory reset



■ This section describes how to reset the camera.

1. Press the power button to turn on the camera.



Fig. 7-1

2. While pressing the zoom lever toward wide direction, press and hold the shutter button all the way down completely. Then press the power button to turn off the camera.



Fig. 7-2

3. Turn on the camera to view the product reset setting.

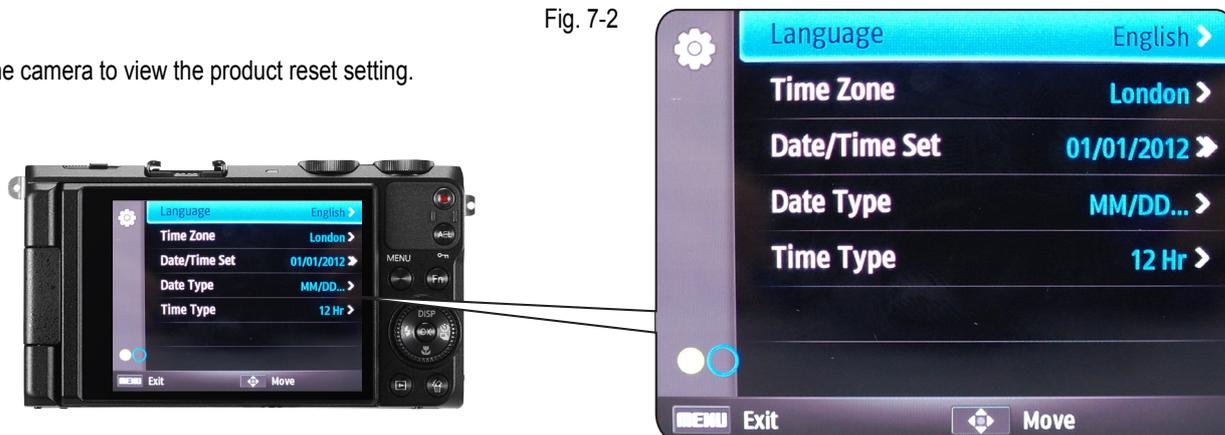


Fig. 7-3

7-2 Version check



- This section describes how to view the current firmware version.

1. Before updating your camera's firmware, make sure the battery is fully charged.
2. Press the power button to turn off the camera.

① Power button (Turn off)



Fig. 7-4

3. While pressing the zoom lever toward wide direction, press and hold the shutter button all the way down completely. Then press the power button to turn on the camera.

② Power button (Turn on)

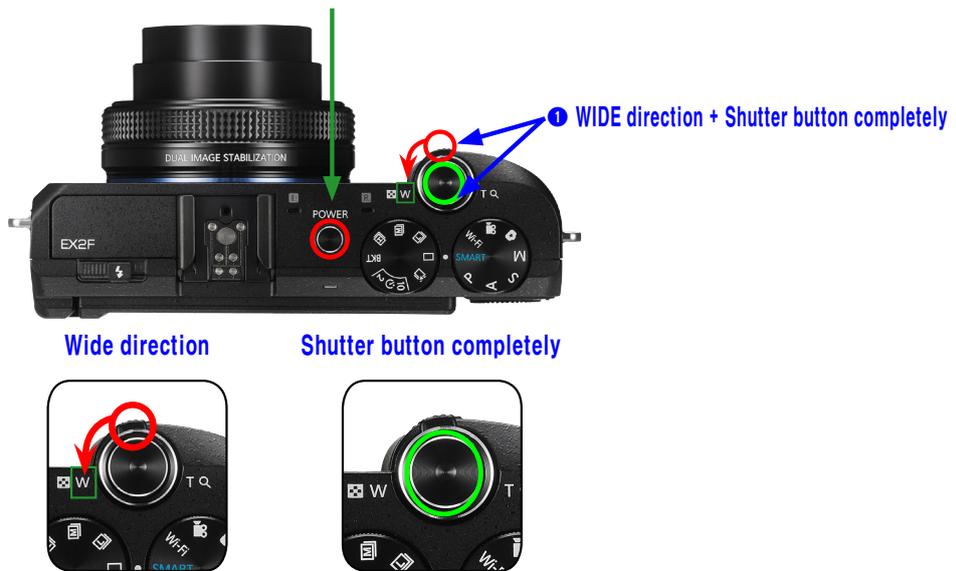


Fig. 7-5

4. The current firmware version is displayed on the LCD screen.



Fig. 7-6

7-3 Firmware update



- This section describes how to update the firmware.

◆ Firmware execution information

The below table provides the information of firmware structure.

Code section contains the execution code to operate the camera. The partition 1 to 3 sections contain the all the resources to operate the camera. Partition 3 section contains the defective pixel adjustment data and lens shading adjustment data.

User Area contains the setting value when user sets up the setting with the menu button. Also, adjustment data is stores in User Area section.

Code	Partition 1	Partition 2	Partition 3	User Area

<Table 7-1>

▶ Reference for general version:

- It updates data contained in the Code and partition 1 section while partition 3 and User Area section data remain.

1. Format the memory card and copy the three below files such as EX2-FW-PV-xxxxxx.bin, FWUP.txt and partialImage.o.map into the memory card. Then insert the memory card into the camera.

*** When the firmware is updated, all the camera settings are set to their default values. Since all the files stored in the internal memory will be deleted, ensure that files are copied to other storage devices before updating firmware.**



2. It is recommended that you use an AC adaptor or the fully charged batteries.

*** Before updating your camera's firmware, make sure the battery is fully charged.**

3. Press the power button to turn on the camera.



Fig. 7-7

Firmware update

4. The firmware version will display on the LCD screen. Press and hold the shutter button to start the firmware update process.



Fig. 7-8

5. The display will show "Firmware is updating..."



Fig. 7-9

6. Once the firmware update process is complete, the camera will automatically power off.

7-4 How to update the firmware when forced to quit



- This section describes how to update the firmware when camera stops functioning due to power failure or some other reasons during the firmware process.

CAUTION

All of the adjustment data will be deleted when forced to quit. Therefore you have to go over all the adjustment process again.

■ Instruction guide

1. Solder the boot option TP in red circle on Main PCB to short out the circuit.
2. Install the camera.
3. Save the files to force quit such as [dnloader.bin](#) & [up_ex2.bin](#) and the latest firmware file such as [EX2-FW-SR-xxxxxx.bin](#) to SD card.
4. Insert the SD card into camera.
5. Turn on the camera to start the firmware update process. LED will blink while the firmware update is processing.
LED will stop blinking when the firmware update is completed.
6. Once the process is complete, disassemble the camera. Remove the solder of boot option TP on Main PCB.
7. Install the camera. Turn on the camera.
8. All of the adjustment data will be deleted when forced to quit. Therefore you have to go over all the adjustment process again.

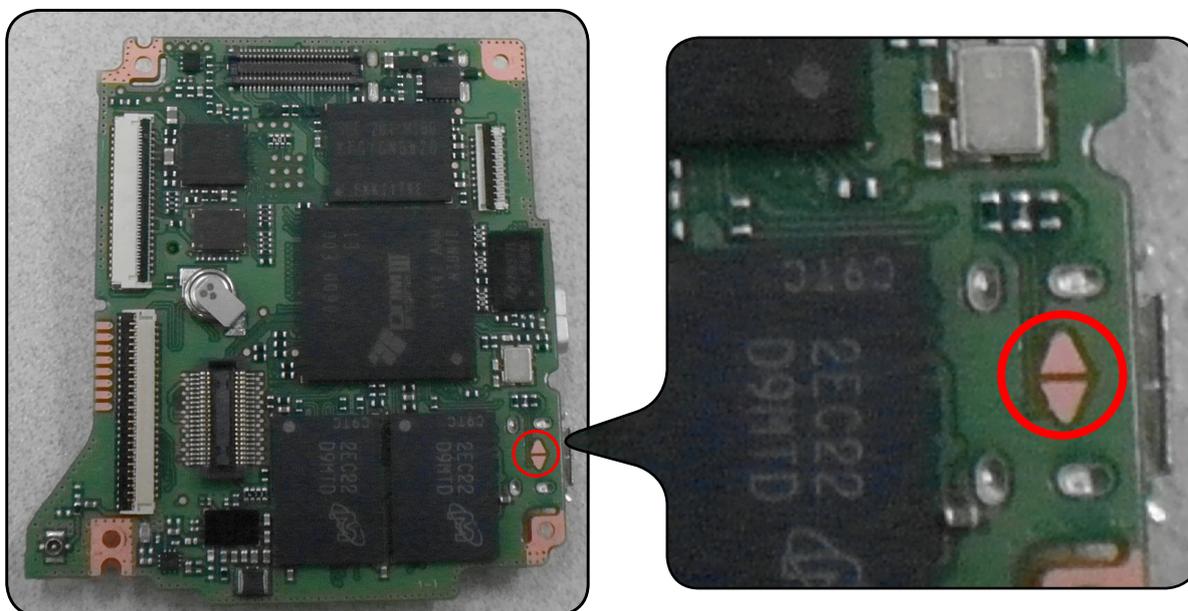


Fig. 7-10

8. Adjustment

8-1 Basic guide for adjustment



- After replacing the parts, you need to adjust the following items.
- The table below provides information about the necessary adjustment process.

1. Please refer to the table information before beginning the adjustment process.

	MAIN PCB	WIFI-STROBO PCB	TOP FPCB	POP UP PCB	CIS PCB	BARREL ASSY
FIRMWARE UPGRADE	O	X	X	X	X	X
OIS CENTERING ADJ	O	X	X	X	O	O
PUNT ADJ (AF)	O	O	X	X	O	O
SHUTTER CLOSE TIME ADJ	O	X	X	X	O	O
CMOS GAIN ADJ	O	X	X	X	O	O
IRIS ADJ (AE)	O	X	X	X	O	O
LENS SHADING ADJ (Color Shading)	O	X	X	X	O	O
CMOS DEFECT PIXEL ADJ (DPC)	O	X	X	X	O	O
FLASH ADJ	O	X	X	O	O	O
SERIAL NUMBER WRITING ADJ	O	X	X	X	X	X

<Table 8-1>

2. Necessary equipment

- 1) AE TESTER: AE TESTER is used to adjust the luminance level and the color temperature of the Light box.
It helps adjust the luminance level to **10LV** and color temperature of the Light box to **3300K**.
- 2) Infinity Collimator for PUNT adjustment
- 3) 18% Reflectance gray chart for FLASH adjustment and Dark Box.
- 4) POWER SUPPLY: 4.2V/2A

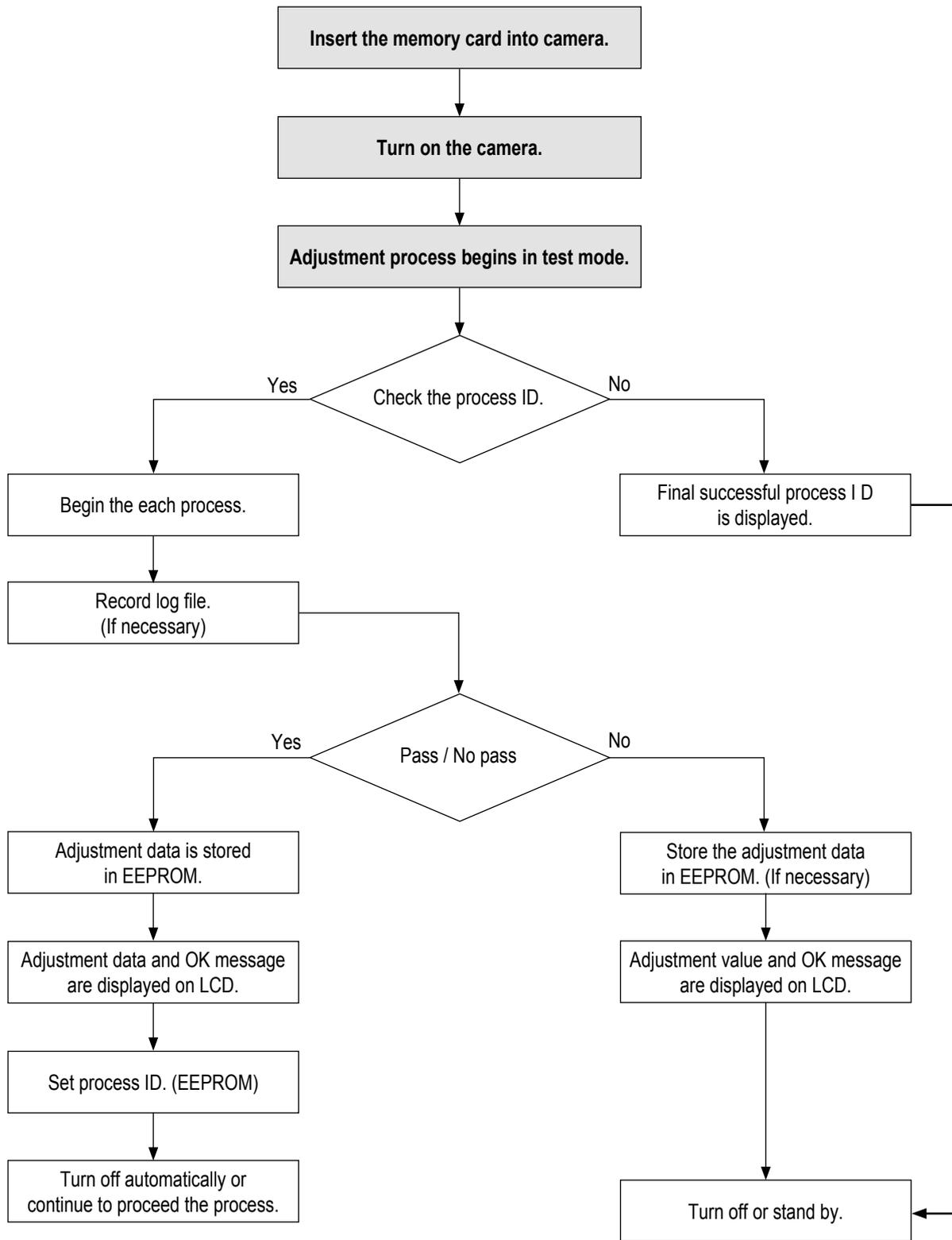
3. Adjustment file

It is necessary to copy the adjustment file such as "**EX2_adj.txt**" into the memory card to proceed the each process.

4. Proceed with the steps listed below in order to complete the adjustment process.

- 1) OIS CENTERING ADJ
- 2) PUNT ADJ (AF)
- 3) SHUTTER CLOSE TIME ADJ
- 4) CMOS GAIN ADJ
- 5) IRIS ADJ (AE)
- 6) LENS SHADING ADJ (Color Shading)
- 7) CMOS DEFECT PIXEL ADJ (DPC)
- 8) FLASH ADJ
- 9) SERIAL NUMBER WRITING ADJ

5. Stages of the adjustment process is described below.



<Table 8-2>

8-2 OIS CENTERING ADJ



■ This section describes how to test the OIS centering performance.

<Adjustment method>

1. Copy the **"EX2_adj.txt"** file into the memory card and insert it into the camera.
2. Once the camera is turned on by pressing the power button, the process will begin automatically. OIS module is actively moved up, down, left and right .
3. Once the adjustment process is completed, the camera will automatically turn off.

<Adjustment result>

Double-click the memory card folder to view the result. You will find the generated CSV file in the folder. Click the file to check the generated content.



CAUTION

**Set the camera face up on a stable surface such as a table, desk or floor.
Otherwise, it will significantly degrade the performance, generating the noise on Gyro Sensor and Hall Sensor.**

8-3 PUNT ADJ (AF)



■ This section describes how to adjust the PUNT. After replacing the MAIN PCB and BARREL, you must decide the AF search range, allowing focus to be properly adjusted for the best picture quality.

■ **Necessary equipment:** Infinity Collimator/ Infinity Subject
(Proceed through the adjustment process with Infinity Collimator or Infinity Subject as illustrated below.)

< With Infinity Collimator >

1. Copy the **"EX2_adj.txt"** file into the memory card and insert it into the camera.
2. Please follow the instruction below to begin the punt adjustment process.
 - 1) Infinity Collimator Specifications
 - Set the luminance level to **6 LV**.
 - Set the distance as less than 1cm between the end of camcorder lens and lens surface of the infinity Collimator.
 - Do not remove the camcorder from tripod during the process.

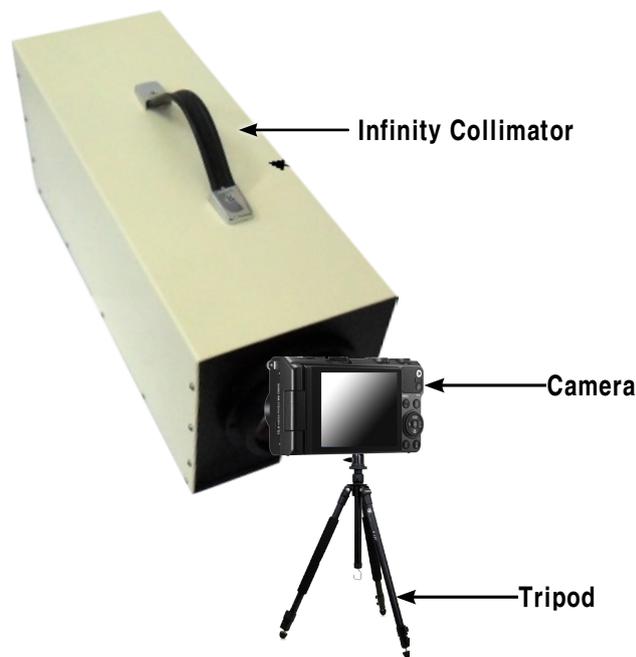


Fig. 8-1

< With Subject Specifications >

2) Infinity Subject Specifications

- Secure the camcorder on the tripod and adjust the height.
- Focus on a subject at infinity which is more than 500m away.
- Choose a subject where it is essentially infinitely far away such as apartment or church as illustrated below.

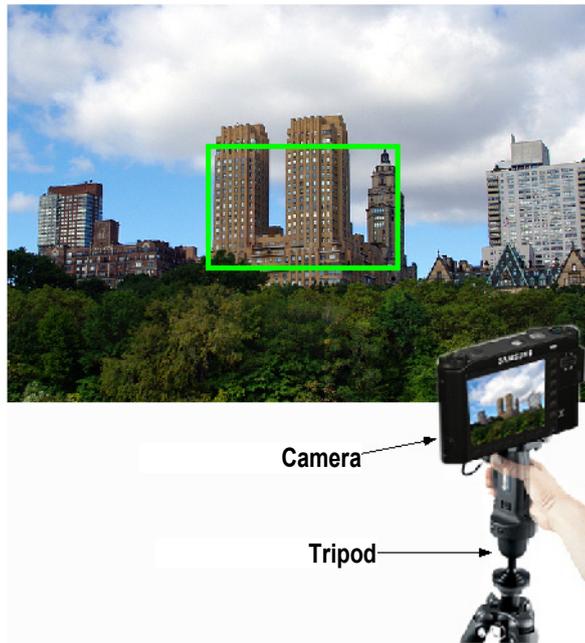
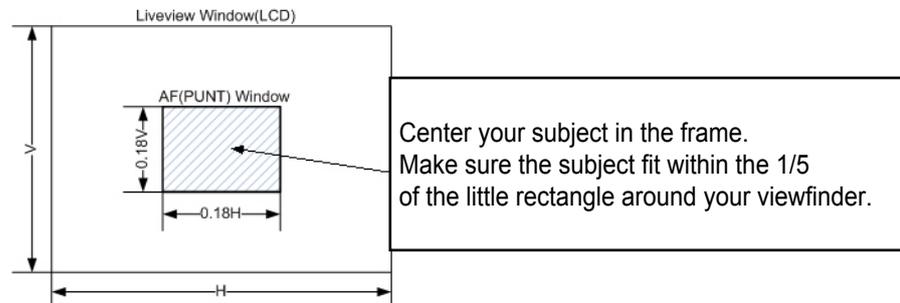


Fig. 8-2

! CAUTION

Try not to attempt the adjustment process during the night. It may generate the inaccurate test result due to the difficulty of auto focus. If you want to proceed the process, choose a subject such as glass building making the contrast level low.

3. Press the power button to turn on the camera.
4. The adjustment process will automatically begin.

<Adjustment result>

Double-click the memory card folder to view the result. You will find the generated CSV file in the folder. Click the file to check the generated content.

8-4 SHUTTER CLOSE TIME ADJ



- This section describes how to adjust Shutter close time.
- It generates the relative tolerance. This adjustment process help reduce the tolerances for better performance.
- It proceeds CCD Gain adjustment process simultaneously.

< Adjustment method >

NOTE: AE TESTER is used to adjust the luminance level and the color temperature of the Light box.

AE TESTER helps adjust the luminance level of the Light box to **10LV** and color temperature of the Light box to **3300K**.

Please follow the instruction to begin the process.

1. Copy the "**EX2_adj.txt**" file into the memory card and insert it into the camera.
2. Mount the camera on AE TESTER. Press the power button to open the lens.
Set the distance between the rear of the lens and the light box to 10mm ± 1mm.
3. Set the luminance level of the AE TESTER to 10 LV.



Fig. 8-3

4. Once the camera is turned on by pressing the power button, the process will begin automatically.
 - 1) The Line delay and Sub delay are adjusted to the luminance level range of 10 LV.
 - 2) If the value of the Line delay is in the range of the minimum and maximum value, the result is OK. Otherwise, it is NG.
 - 3) Refer to the EEPROM WRITE information and write the adjustment value to EEPROM.
 - 4) Refer to the CARD WRITE information and write the adjustment value to the data file.
5. Once the process is completed, the camera will automatically turn off.

< Adjustment result >

Double-click the memory card folder to view the result. You will find the generated CSV file in the folder. Click the file to check the generated content.

< Restriction >

If the CSV file size is more than 30KB, delete all of the previous data and repeat step 4.

8-5 CMOS GAIN ADJ



- This section describes how to adjust CMOS gain.
 - It generates the relative CMOS saturation tolerance.
- This adjustment process help reduce the CMOS saturation tolerances for better performance.

< Adjustment method >

NOTE: AE TESTER is used to adjust the luminance level and the color temperature of the Light box.

AE TESTER helps adjust the luminance level of the Light box to **10LV** and color temperature of the Light box to **3300K**.

Please follow the instruction to begin the process.

1. Copy the **"EX2_adj.txt"** file into the memory card.
Then insert it into the camera.
2. Mount the camera on AE TESTER. Press the power button to open the lens.
Set the distance between the rear of the lens and the light box to $10\text{mm} \pm 1\text{mm}$.
3. Set the luminance level of the AE TESTER to 10 LV.



Fig. 8-4

4. Once the camera is turned on by pressing the power button, the process will begin automatically.
 - 1) Refer to the EEPROM WRITE information and write the adjustment value to EEPROM.
 - 2) Refer to the CARD WRITE information and write the adjustment value to the data file.
 - 3) Set the USL(Upper Specification Limit) and LSL(Lower Specification Limit).
5. Once the process is completed, the camera will automatically turn off.

< Adjustment result >

Double-click the memory card folder to view the result. You will find the generated CSV file in the folder. Click the file to check the generated content.

< Restriction >

If the CSV file size is more than 30KB, delete all of the previous data and repeat step 4.

8-6 IRIS ADJ (AE)

- This section describes how to adjust Iris.
- It generates the relative aperture tolerance. This adjustment process help reduce the aperture tolerances for better performance.

< Adjustment method >

NOTE: AE TESTER is used to adjust the luminance level and the color temperature of the Light box.

AE TESTER helps adjust the luminance level of the Light box to **10LV** and color temperature of the Light box to **3300K**.

Please follow the instruction to begin the process.

1. Copy the "**EX2_adj.txt**" file into the memory card and insert it into the camera.
2. Mount the camera on AE TESTER. Press the power button to open the lens.
Set the distance between the rear of the lens and the light box to 10mm ± 1mm.
3. Set the luminance level of the AE TESTER to 10 LV.



Fig. 8-5

4. Once the camera is turned on by pressing the power button, the process will begin automatically.
 - 1) Set the optical aperture value (AV).
 - 2) Set the Exposure Time and Gain Value to fixed values. Get the Preview G value by changing the aperture level.
 - 3) If the Preview G value in the higher aperture level is greater than the Preview G value in the lower aperture level, luminance level is 10 LV. Otherwise, luminance level is not 10 LV.
 - 4) Check the aperture value (AV) generated if it is in the range of the Iris adjustment.
If the value is in the range, the color temperature of the Light box is 3300K. Otherwise, color temperature of the Light box is not 3300K.
 - 5) Set the final aperture value (AV) as the difference between the highest and the lowest aperture value if it generates the value fulfilled the step 3 to 4.
 - 6) Refer to the EEPROM WRITE information and write the adjustment value to EEPROM.
 - 7) Refer to the CARD WRITE information and write the adjustment value to the data file.
5. Once the process is completed, the camera will automatically turn off.

< Adjustment result >

Double-click the memory card folder to view the result. You will find the generated CSV file in the folder. Click the file to check the generated content.

< Restriction >

If the CSV file size is more than 30KB, delete all of the previous data and repeat step 4.

8-7 LENS SHADING ADJ (Color Shading)



■ This section describes how to adjust the Lens shading.

< Adjustment method >

NOTE: AE TESTER is used to adjust the luminance level and the color temperature of the Light box.

AE TESTER helps adjust the luminance level of the Light box to **10LV** and color temperature of the Light box to **3300K**.

Please follow the instruction to begin the process.

1. Copy the "**EX2_adj.txt**" file into the memory card and insert it into the camera.
2. Mount the camera on AE TESTER. Press the power button to open the lens tube.
Set the distance between the rear of the lens tube and the light box to 10mm ± 1mm.
3. Set the luminance level of the AE TESTER to 10 LV.



Fig. 8-6

4. Once the camera is turned on by pressing the power button, the process will begin automatically.
 - 1) The iris and zoom is set to zero.
 - 2) Refer to the EEPROM WRITE information and write the adjustment value to EEPROM.
 - 3) Refer to the CARD WRITE information and write the adjustment value to the data file.
 - 4) Set the USL(Upper Specification Limit) and LSL(Lower Specification Limit).
5. Once the process is completed, the camera will automatically turn off.

< Adjustment result >

Double-click the memory card folder to view the result. You will find the generated CSV file in the folder. Click the file to check the generated content.

< Restriction >

If the CSV file size is more than 30KB, delete all of the previous data and repeat step 4.

8-8 CMOS DEFECT PIXEL ADJ (DPC)



- This section describes how to adjust the defective pixel detection for CMOS image sensor.
-

<Adjustment method>

1. Copy the "**EX2_adj.txt**" file into the memory card and insert it into the camera.
2. Once the camera is turned on by pressing the power button, the process will begin automatically.
 - 1) Check the data such as reference level, exposure time and loop before beginning the defective pixel detection adjustment.
 - 2) Refer to the specifications about the maximum number of defective cells. Then proceed the process.
 - 3) Refer to the CARD WRITE information and write the number of defective cells to the data file.

<Adjustment result>

Double-click the memory card folder to view the result. You will find the generated CSV file in the folder. Click the file to check the generated content.

8-9 FLASH ADJ



- This section describes how to adjust the Flash and AWB.
It test the brightness of Strobe within the certain limit of the luminance level to verify that a product works properly.
- It proceeds the AWB HIGH adjustment process simultaneously.

<Adjustment method>

1. Set the 18% Reflectance gray card on the wall in the darkroom.
2. Copy the **"EX2_adj.txt"** file into the memory card and insert it into the camera. Mount the camera on Dark Box.
3. Set the distance between the reflective paper and camera to **50cm**.

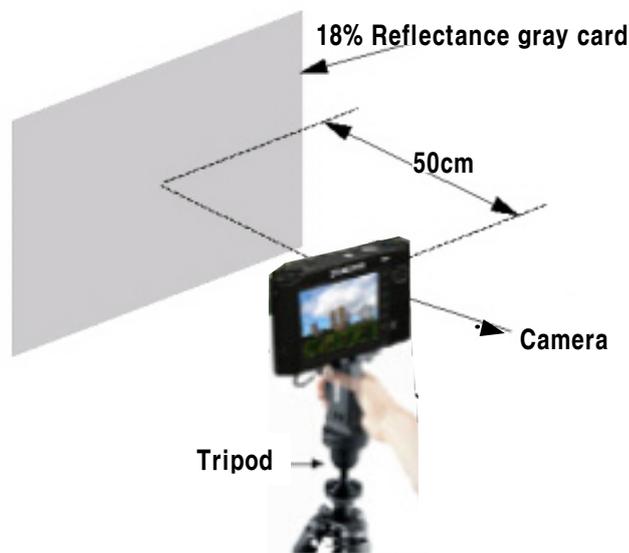


Fig. 8-7

4. Once the camera is turned on by pressing the power button, the process will begin automatically.
 - 1) Refer to the Table 8-2. It provides the information of the adjustment process.
Proceed the process twice in a row. If the value is the range of the standard luminance level, it assures overall hardware quality is good.
 - 2) Average out the two test values. Then check the R gain and B gain to verify the quality of hardware.
 - 3) Refer to the EEPROM WRITE information and write the adjustment value to EEPROM.
 - 4) Write the R. B gain to the EEPROM if the hardware quality test is passed successfully.
5. Once the process is completed, the camera will automatically turn off.

< Adjustment result >

Double-click the memory card folder to view the result. You will find the generated CSV file in the folder. Click the file to check the generated content.

< Restriction >

If the CSV file size is more than 30KB, delete all of the previous data and repeat step 4.

8-10 SERIAL NUMBER WRITING ADJ



- Serial number is provided in the camera's non-volatile memory.
A serial number is a 15-digit alphanumeric code indicated on the sticker at the bottom of a camera.
- It helps to verify the authenticity of Samsung digital camera by checking the 15-digit serial number.

CAUTION

It is necessary to proceed the serial number writing process after replacing the parts due to the Main PCB failure.

<Process method>

1. Generate "EX2_adj.txt" file and copy it into the memory card.
 - Find the 15-digit alphanumeric serial number written on the Main board.

```
sys_serial set A0013CBH700369C
sys_serial get
poweroff zoom_close
```

Fig. 8-8

2. Replace the Main board and insert the memory card that contains "EX2_adj.txt" file into the camera.
3. Press the power button to turn on the camera.



Fig. 8-9

4. The new serial number will be applied automatically.
5. Once the process is completed, the camera will automatically turn off.

<Process result>

To view the result, press the power button to turn off the camera. While pressing the zoom lever toward wide direction, press and hold the shutter button all the way down completely. Then press the power button to turn on the camera. Serial number will be displayed on the screen.

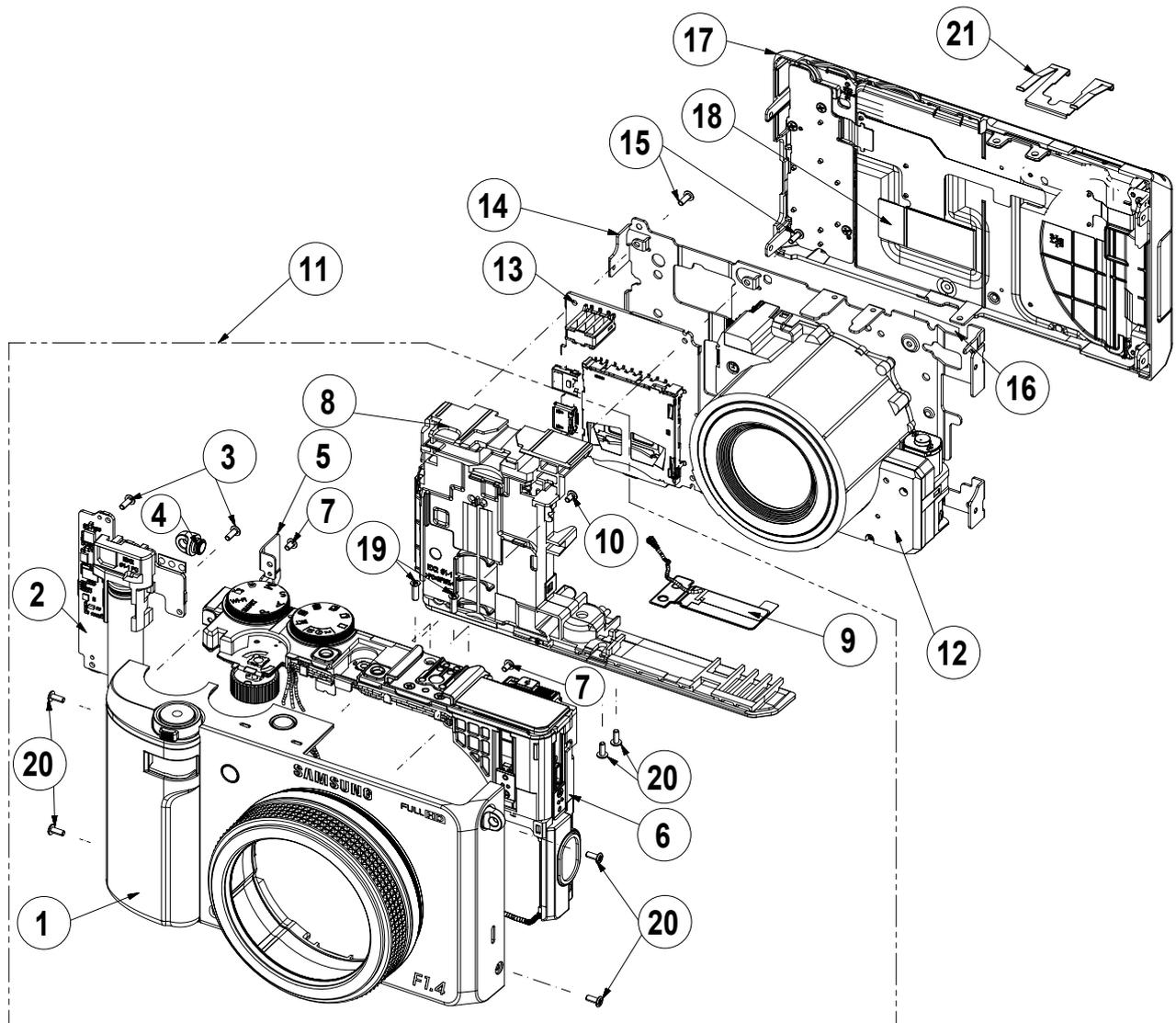


Fig. 8-10

9. Exploded view and parts list

9-1 ASSY BODY

Parts Service Information	Availability
SA	Service is available.
SNA	Service is not available.

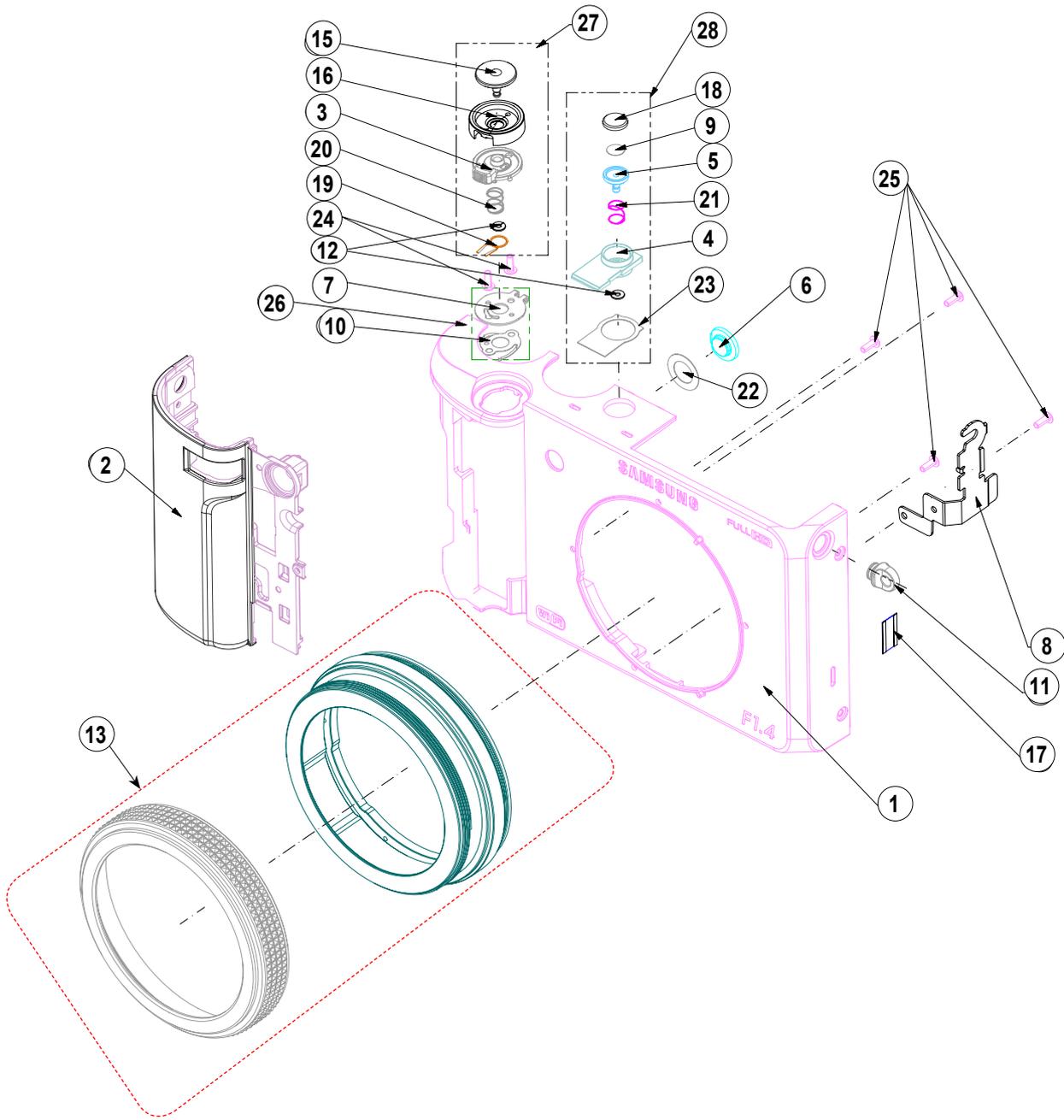


Parts	Parts No.	Description	Qty	Available	Remark
ASSY BODY	AD90-05111A	ASSY BODY-BK	1	SNA	

Exploded view and parts list

Loc. No.	Parts No.	Description	Qty	Available	Remark
1	AD97-22784A	ASSY COVER FRONT-BK	1	SNA	
2	AD97-22786A	ASSY-STROBO_PCB-BK	1	SA	
3	6003-001739	SCREW-TAPTYPE (M1.4 X L4 / NI)	2	SA	
4	AD61-05730A	HOLDER STRAP L	1	SA	
5	AD61-05718A	PLATE STRAP L	1	SA	
6	AD97-22792A	ASSY COVER-TOP-EX2F_BK	1	SNA	
7	6001-002165	SCREW-MACHINE (M1.4 X L2 / NI)	2	SA	
8	AD97-22783A	ASSY CHAMBER-EX2F_BK	1	SNA	
9	AD42-00019A	WIFI ANTENNA	1	SA	
10	6001-002165	SCREW-MACHINE (M1.4 X L2 / NI)	1	SA	
11	AD97-22809A	ASSY-SUB_MAIN-BK	1	SNA	
12	AD97-22219A	ASSY BARREL CCD	1	SNA	
13	AD92-01913A	MAIN PCB ASSY	1	SA	
14	AD61-05724A	FRAME MAIN	1	SA	
15	6003-001739	SCREW-TAPTYPE (M1.4 X L4 / NI)	6	SA	
16	AD63-07160A	T/SHEET-CIS PCB	2	SA	
17	AD97-22788A	ASSY COVER BACK-EX2F_BK	1	SNA	
18	AD63-06266A	CUSHION BACK KEY	1	SNA	
19	6001-002281	SCREW-MACHINE (M1.7 X L5 / NI)	2	SA	
20	6001-002152	SCREW-MACHINE (M1.4 X L4 / BLK)	6	SA	
21	AD61-04096A	SPRING HOTSHOE	1	SA	

9-2 ASSY COVER FRONT

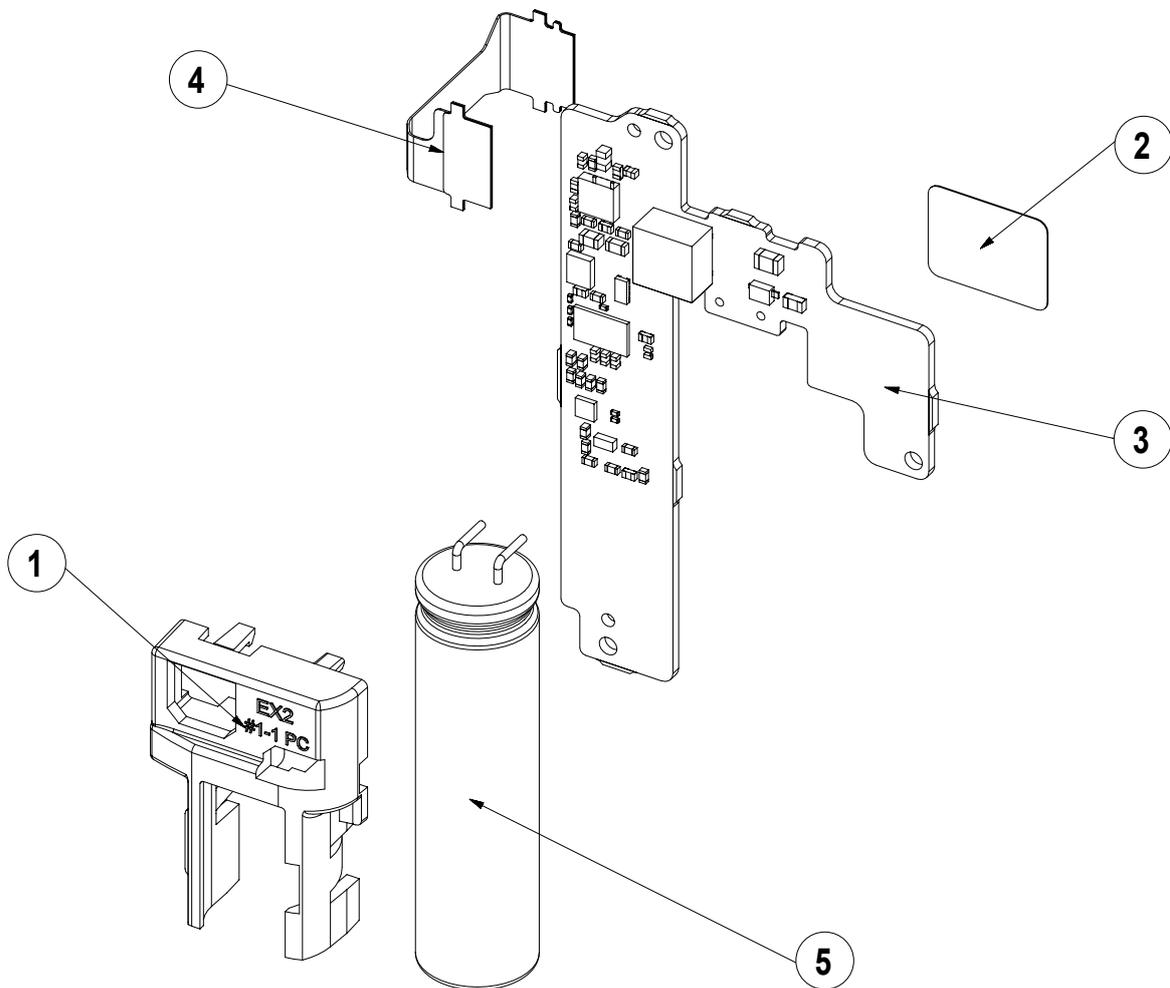


Parts	Parts No.	Description	Qty	Available	Remark
ASSY COVER FRONT	AD97-22784A	ASSY COVER FRONT-BLACK	1	SNA	

Exploded view and parts list

Loc. No.	Parts No.	Description	Qty	Available	Remark
1	AD63-06965A	COVER FRONT	1	SA	
2	AD63-06953A	GRIP FRONT	1	SA	
3	AD64-03711A	BUTTON ZOOM	1	SNA	
4	AD61-05734A	HOLDER BUTTON POWER	1	SNA	
5	AD64-03712A	BUTTON POWER	1	SNA	
6	AD64-02885A	WINDOW LED AF	1	SA	
7	AD61-05716A	PLATE KNOB ZOOM	1	SNA	
8	AD61-05717A	PLATE STRAP R	1	SA	
9	AD63-06624A	TSHEET BUTTON POWER	1	SNA	
10	AD61-05684A	PLATE ZOOM GROUND	1	SNA	
11	AD61-05727A	HOLDER STRAP R	1	SA	
12	6031-001628	WASHER PLAIN	2	SA	
13	AD97-22953A	ASSY-DECO RING	1	SA	
15	AD64-03706A	BUTTON RELEASE	1	SNA	
16	AD64-03707A	BUTTON ZOOM DECO	1	SNA	
17	AD64-03681A	GRIL SPEAKER	1	SA	
18	AD67-02429C	CAP BUTTON POWER	1	SNA	
19	6107-002647	SPRING TS(BUTTON ZOOM)	1	SA	
20	6107-002640	SPRING TS(BUTTON RELEASE)	1	SA	
21	6107-001439	SPRING CS(BUTTON POWER)	1	SA	
22	AD63-04973A	TSHEET AF LED	1	SA	
23	AD63-06959A	TSHEET COVER TOP	1	SNA	
24	6003-001717	SCREW-TAPTYPE (M1.4 X L4.5 / BLK)	2	SA	
25	6001-002152	SCREW-MACHINE (M1.4 X L4 / BLK)	4	SA	
26	AD97-22432A	ASSY PLATE ZOOM	1	SA	
27	AD97-22782A	ASSY ZOOM RELEASE	1	SA	
28	AD97-22785A	ASSY BUTTON POWER	1	SA	

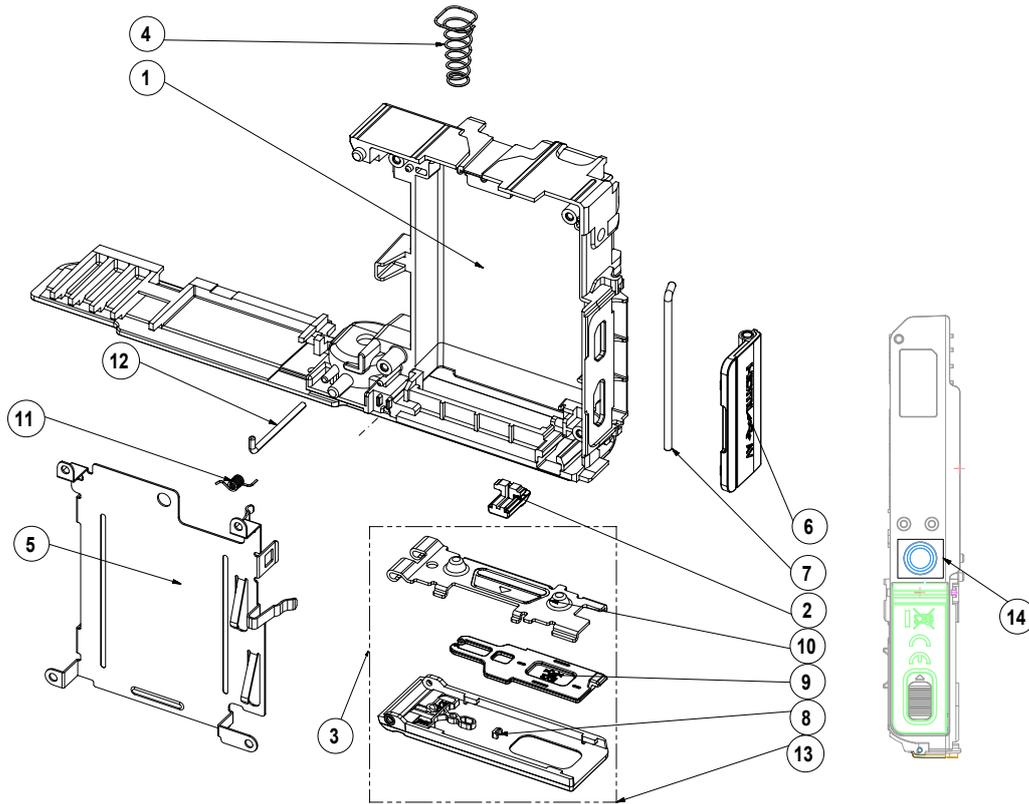
9-3 ASSY STROBO PCB



Parts	Parts No.	Description	Qty	Available	Remark
ASSY STROBO PCB	AD97-22786A	ASSY STROBO PCB	1	SA	

Loc. No.	Parts No.	Description	Qty	Available	Remark
1	AD63-06938A	COVER CONDENSER	1	SNA	
2	AD63-07123A	SHEET SMD STROBO	1	SNA	
3	AD92-01914A	PCB STROBO	1	SNA	
4	AD41-01899A	F-PCB STROBO	1	SNA	
5	2401-004886	CONDENSER	1	SNA	

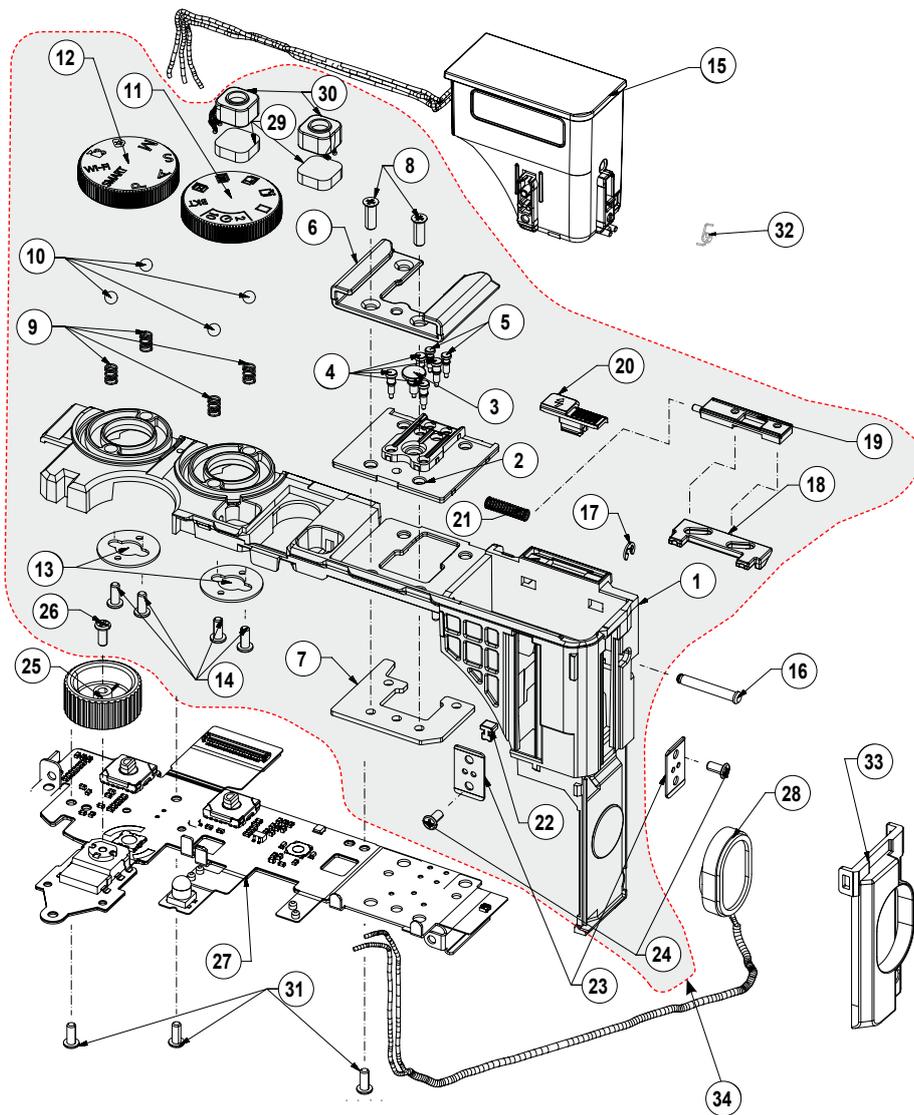
9-4 ASSY CHAMBER



Parts	Parts No.	Description	Qty	Available	Remark
ASSY CHAMBER	AD97-22783A	ASSY CHAMBER-BLACK	1	SNA	

Loc. No.	Parts No.	Description	Qty	Available	Remark
1	AD62-00201A	CHAMBER BODY	1	SA	
2	AD66-00869A	LEVER BATTERY LOCK	1	SA	
3	6107-003195	SPRING-CS	1	SA	
4	6107-001674	SPRING-CS (BATTERY PUSH)	1	SA	
5	AD61-05721A	PLATE HOLDER BATTERY	1	SA	
6	AD63-06946A	COVER JACK	1	SA	
7	AD61-05725A	HINGE JACK DOOR	1	SA	
8	AD63-06944A	COVER BATTERY	1	SNA	
9	AD63-06945A	COVER BATTERY LOCK	1	SNA	
10	AD61-05723A	PLATE COVER BATTERY	1	SNA	
11	6107-001832	SPRING-TS (BATTERY COVER)	1	SA	
12	AD61-04637A	HINGE BATTERY COVER	1	SA	
13	AD97-22787A	ASSY COVER BATTERY	1	SA	
14	AD61-05726A	HOLDER-TRIPOD	1	SA	

9-5 ASSY COVER TOP

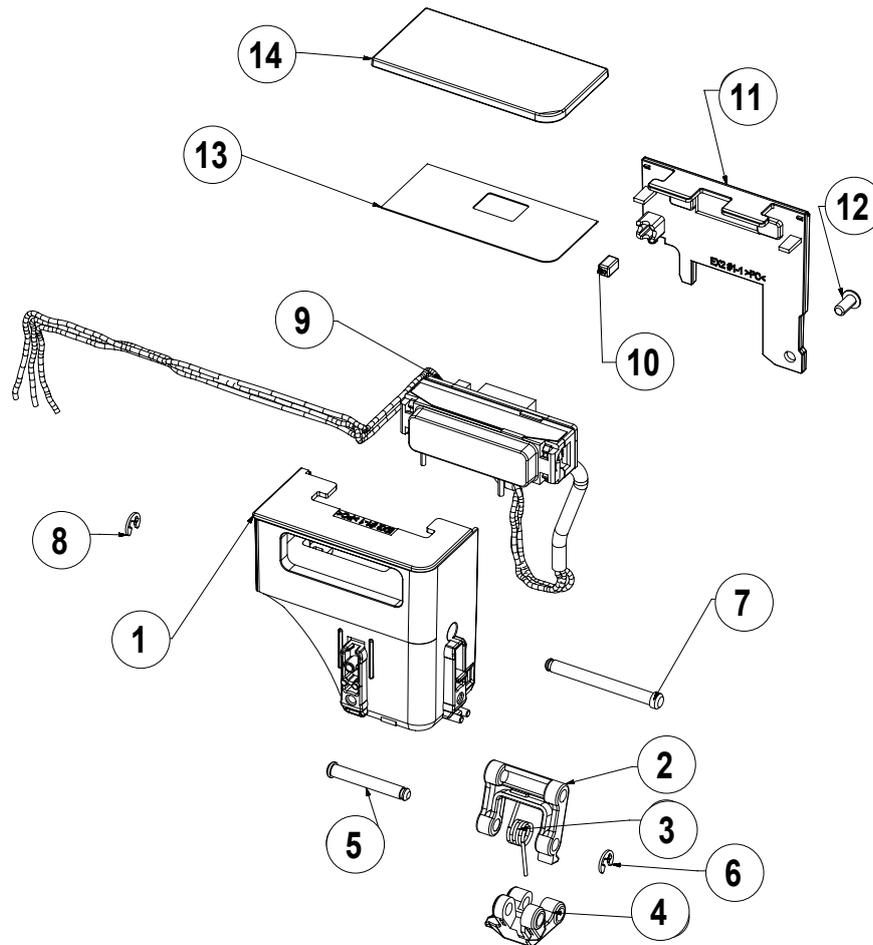


Parts	Parts No.	Description	Qty	Available	Remark
ASSY COVER TOP	AD97-22792A	ASSY COVER TOP_BLACK	1	SNA	

Exploded view and parts list

Loc. No.	Parts No.	Description	Qty	Available	Remark
1	AD63-06939A	COVER TOP_BK	1	SNA	
2	AD61-05733A	BASE HOT SHOE_BK	1	SNA	
3	AD67-02519A	CONTACT HOT SHOE B	1	SNA	
4	AD67-02518A	CONTACT HOT SHOE A	4	SNA	
5	AD67-02520A	CONTACT HOT SHOE C	2	SNA	
6	AD61-05722A	PLATE HOT SHOE	1	SNA	
7	AD61-05720A	PLATE HOLDER HOT SHOE	1	SNA	
8	6001-002281	SCREW-MACHINE (M1.7 X L5 / NI)	2	SA	
9	AD61-05766A	SPRING ETC MODE DIAL	1	SNA	
10	AD64-01738A	MODE DIAL CLICK BALL	4	SA	
11	AD97-22794A	ASSY MODE DIAL A	1	SNA	
12	AD97-22795A	ASSY MODE DIAL B	1	SNA	
13	AD61-05383A	PLATE MODE DIAL	2	SNA	
14	6003-001630	SCREW-TAPTYPE (M1.4 X L3.5 / BLK)	4	SA	
15	AD97-22796A	ASSY POP-UP	1	SA	
16	AD61-05678A	HINGE SHAFT A	1	SNA	
17	6044-001137	E-RING	1	SA	
18	AD64-03723A	KNOB SLIDE B	1	SNA	
19	AD64-03722A	KNOB SLIDE A	1	SNA	
20	AD64-03710A	KNOB FLASH	1	SNA	
21	AD61-05794A	SPRING CS(FLASH BUTTON)	1	SNA	
22	AD66-01044A	DAMPER POP-UP	1	SA	
23	AD61-05675A	PLATE GUIDE POP-UP	2	SA	
24	6003-001661	SCREW-TAPTYPE (M1.4 X L2 / NI)	2	SA	
25	AD66-01034A	WHEEL COMMAND DIAL	1	SNA	
26	6003-001630	SCREW-TAPTYPE (M1.4 X L3.5 / BLK)	1	SA	
27	AD97-22790A	ASSY TOP F-PCB	1	SA	
28	3001-002718	SPEAKER	1	SA	
29	AD63-06955A	CUSHION MIC	2	SA	
30	3003-001183	ASSY MIC	2	SA	
31	6003-001630	SCREW-TAPTYPE (M1.4 X L3.5 / BLK)	3	SA	
32	AD61-05771A	SPRING ECT-LINK	1	SA	
33	AD63-06940A	COVER-ENCLOSURE	1	SA	
34	AD97-22793A	ASSY COVER-TOP_SUB	1	SA	

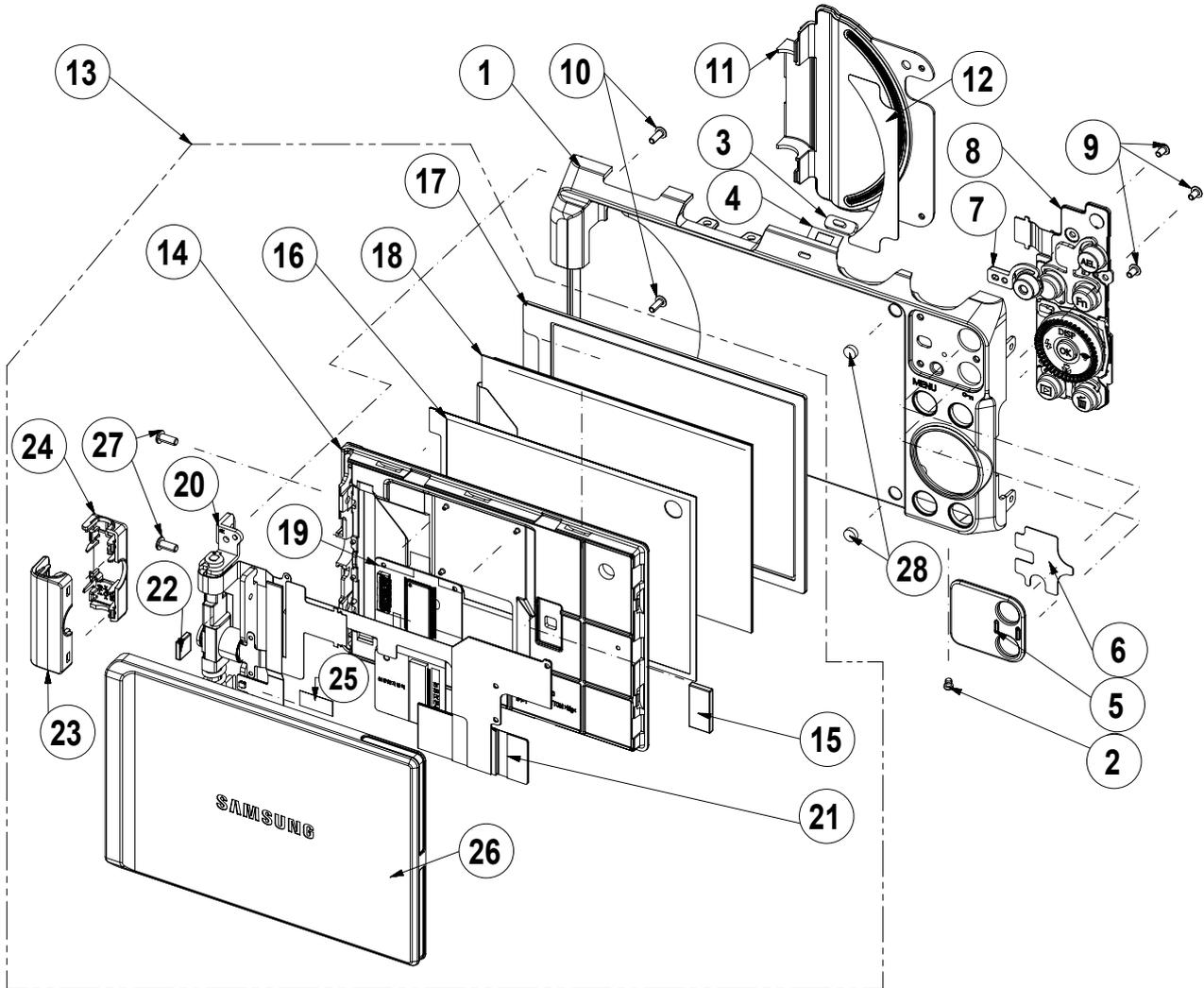
9-6 ASSY POP-UP



Parts	Parts No.	Description	Qty	Available	Remark
ASSY POP-UP	AD97-22796A	ASSY POPUP_BK	1	SA	

Loc. No.	Parts No.	Description	Qty	Available	Remark
1	AD63-06941A	COVER POPUP FRONT	1	SNA	
2	AD66-01015A	LINK POPUP UPPER	1	SNA	
3	AD61-05681A	SPRING ETC FLASH	1	SNA	
4	AD66-01028A	LINK POPUP LOWER	1	SNA	
5	AD61-05678A	SHAFT HINGE A	1	SA	
6	6044-001137	E-RING	1	SA	
7	AD61-05679A	SHAFT HINGE B	1	SNA	
8	6044-001137	E-RING	1	SA	
9	AD97-17178A	ASSY FLASH MODULE	1	SNA	
10	3302-001820	POP-UP MAGNET	1	SA	
11	AD63-06942A	COVER POPUP BACK	1	SNA	
12	6003-001660	TAP 1.4*30 NI PLT (H=2.5)	1	SA	
13	AD63-06960A	TSHEET COVER STROBO	1	SNA	
14	AD63-06943A	COVER STROBO	1	SNA	

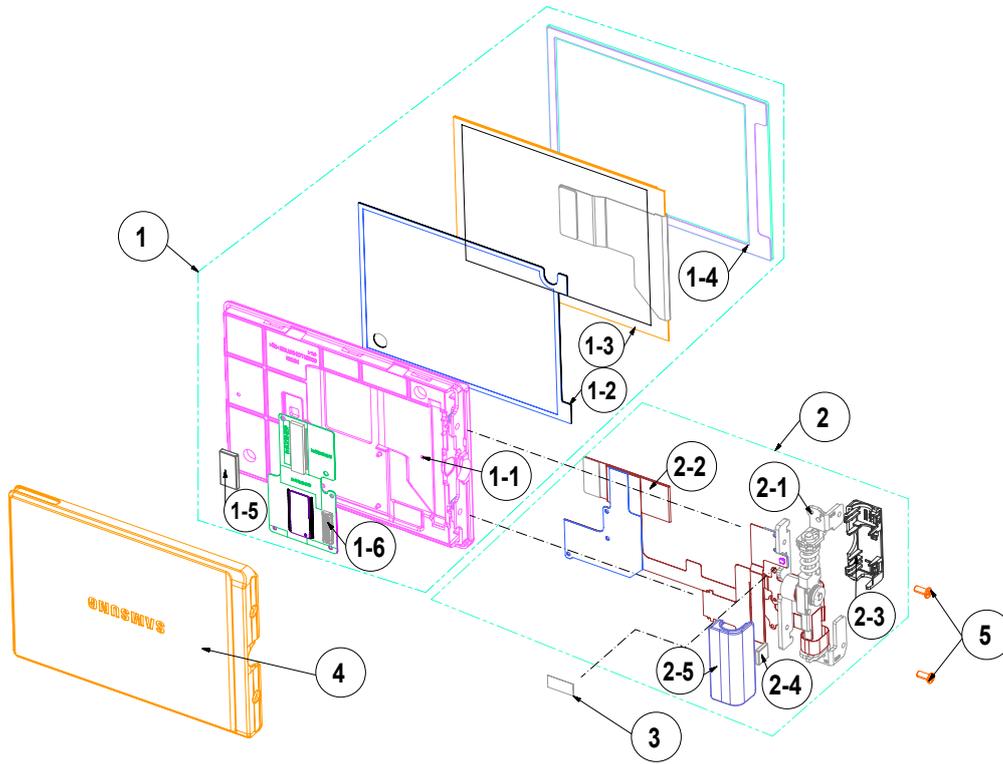
9-7 ASSY COVER BACK



Parts	Parts No.	Description	Qty	Available	Remark
ASSY COVER BACK	AD97-22788A	ASSY COVER BACK-BK	1	SNA	

Loc. No.	Parts No.	Description	Qty	Available	Remark
1	AD63-06966A	COVER BACK	1	SNA	
2	AD67-02523A	RUBBER LAG	2	SNA	
3	AD64-03717A	WINDOW REAR ACCESS	1	SNA	
4	AD63-04974A	T SHEET WINDOW REAR ACCESS	1	SNA	
5	AD63-06948A	COVER GRIP BACK	1	SNA	
6	AD63-06961A	T SHEET GRIP BACK	1	SNA	
7	AD64-03716A	BUTTON REC	1	SA	
8	AD92-01920A	ASSY PCB KEY	1	SA	
9	6001-002165	SCREW-MACHINE (M1.4 X L2 / NI)	3	SA	
10	6001-002152	SCREW-MACHINE (M1.4 X L4 / BLK)	2	SA	
11	AD63-06947A	COVER ROTATE INNER	2	SA	
12	AD63-06962A	T SHEET BACK COVER INNER	1	SA	
13	AD97-22791A	ASSY-OLED_HINGE-BK	1	SNA	
14	AD63-06786A	COVER LCD BOTTOM	1	SNA	
15	AD61-05692A	MAGNET LCD	1	SNA	
16	AD63-07113A	CUSHION AMOLED	1	SNA	
17	AD64-03761A	WINDOW OLED	1	SNA	
18	AD07-00166A	OLED ASSY	1	SNA	
19	AD92-01917A	FPCB OLED INTERFACE	1	SNA	
20	AD97-22437A	ASSY-HINGE	1	SNA	
21	AD92-01915A	FPCB HINGE EXTEND	1	SNA	
22	AD61-05691A	MAGNET ROTATION	1	SNA	
23	AD63-06754B	COVER-HINGE TOP EX2F-BK	1	SNA	
24	AD63-06755B	COVER-HINGE BOTTOM-EX2F BK	1	SNA	
25	AD63-07074A	SHEET-MR	1	SNA	
26	AD63-06757B	COVER-LCD TOP EX2F_BK	1	SA	
27	6001-002316	SCREW-MACHINE (M1.7 X L4 / BLK)	2	SA	
28	AD63-06921A	CUSHION DAMPER	2	SNA	

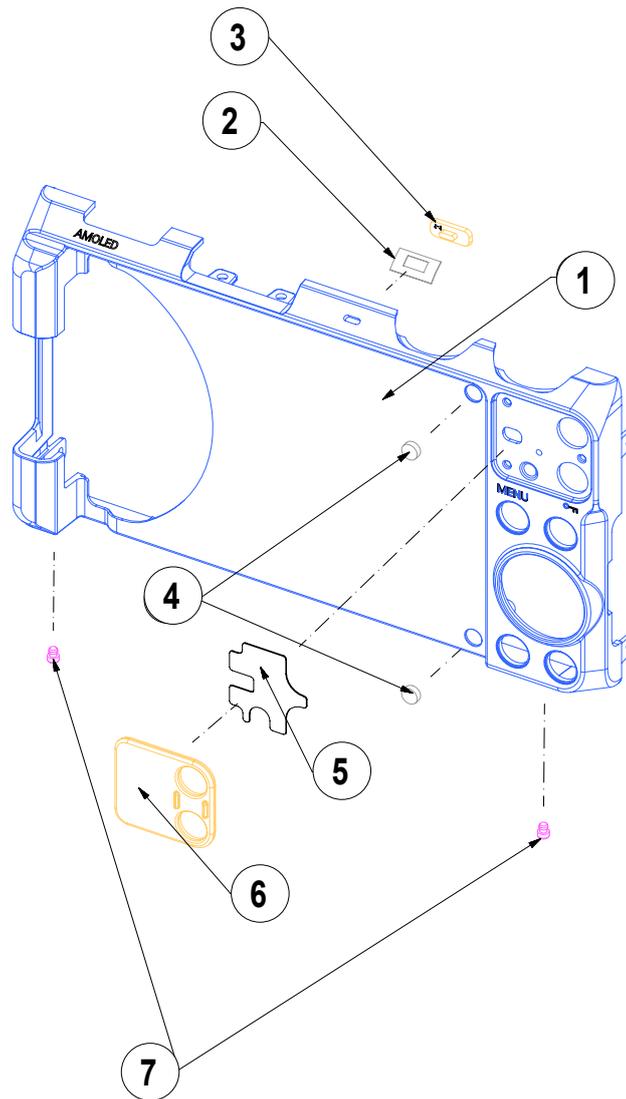
9-8 ASSY OLED HINGE



Parts	Parts No.	Description	Qty	Available	Remark
ASSY OLED HING	AD97-22791A	ASSY-OLED_HINGE-BK	1	SNA	

Loc. No.	Parts No.	Description	Qty	Available	Remark
1	AD97-22804A	ASSY-OLED COVER-BK	1	SA	
1-1	AD63-06786A	COVER-LCD BOTTOM	1	SNA	
1-2	AD63-07113A	CUSHION-AMOLED	1	SNA	
1-3	AD07-00166A	OLED AM	1	SNA	
1-4	AD64-03761A	WINDOW-OLED	1	SNA	
1-5	AD61-05692A	MAGNET-LCD	1	SNA	
1-6	AD92-01917A	ASSY PCB KEY	1	SNA	
2	AD97-22803A	ASSY-HINGE COVER-BK	1	SA	
2-1	AD97-22437A	ASSY HINGE	1	SNA	
2-2	AD92-01915A	ASSY PCB KEY	1	SNA	
2-3	AD63-06755B	COVER-HINGE BOTTOM	1	SNA	
2-4	AD61-05691A	MAGNET-RATATION	1	SNA	
2-5	AD63-06754B	COVER-HINGE TOP	1	SNA	
3	AD63-07074A	SHEET-MR	1	SNA	
4	AD63-06757B	COVER-LCD TOP	1	SA	
5	6001-001291	SCREW-MACHINE (M1.7 X L4 / BLK)	2	SA	

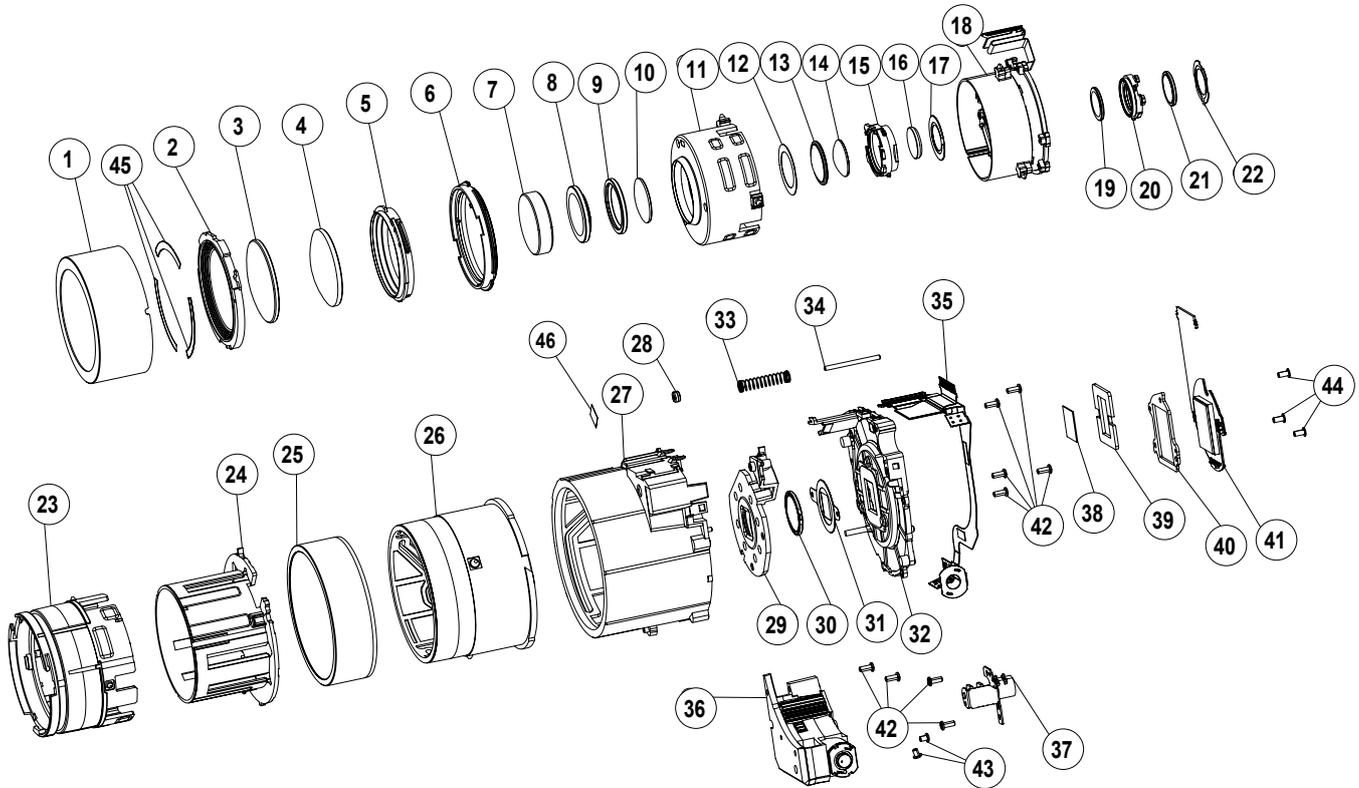
9-9 ASSY COVER BACK-SUB



Parts	Parts No.	Description	Qty	Available	Remark
ASSY COVER BACK-SUB	AD97-22888A	ASSY COVER BACK-SUB	1	SA	

Loc. No.	Parts No.	Description	Qty	Available	Remark
1	AD63-06966A	COVER-BACK	1	SNA	
2	AD63-04974A	T/SHEET-REAR ACCESS	1	SNA	
3	AD64-03717A	WINDOW-REAR ACCE3SS	1	SNA	
4	AD63-07184A	CUSHION-DAMPER	2	SNA	
5	AD63-06961A	T/SHEET-GRIP BACK	1	SNA	
6	AD63-06948A	COVER-GRIP BACK	1	SNA	
7	AD67-02523A	RUBBER-LEG	2	SNA	

9-10 ASSY BARREL



Parts	Parts No.	Description	Qty	Available	Remark
ASSY BARREL	AD97-22219A	ASSY BARREL CCD	1	SNA	

Parts No.	Description	Available	Remark
AD97-22218A	ASSY BARREL ; B8-EX2	SA	All the Parts Except for Loc. No. 38, 39, 40, 41 and 44
AD97-22207A	ASSY SUB BARREL-2ND;D8-EX2	SA	Loc. No. 7, 8, 9, 10, 11
AD97-22211A	ASSY SUB BARREL-SLIP RING;D8-EX2	SA	Loc. No. 3,4,5,6
AD97-22212A	ASSY SUB BARREL-SHUTTER OIS;D8-EX2	SA	Loc. No. 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22
AD97-22216A	ASSY SUB BARREL-LENS BASE;D8-EX2	SA	Loc. No. 29, 30, 31, 32, 33, 34, 35, 37, 42, 45
AD97-22217A	ASSY SUB BARREL-BARREL BASE;D8-EX2	SA	Loc. No. 23, 24, 25, 26, 27
AD97-22899A	ASSY SUB BARREL-COVER	SA	Loc. No. 2, 45

Loc. No.	Parts No.	Description	Qty	Available	Remark
1	AD64-03646A	DECO RING-ZOOM RING	1	SA	
2	AD67-02451A	BARREL-COVER-1ST	1	SA	
3	AD67-02457A	LENS SP LENS-G1	1	SNA	
4	AD67-02458A	LENS SP LENS-G2	1	SNA	
5	AD67-02441A	BARREL-1ST	1	SNA	
6	AD67-02450A	BARREL-SLIP RING	1	SNA	
7	AD97-22723A	LENS ASP-G3	1	SNA	
8	AD67-02459A	LENS SP LENS-G4	1	SNA	
9	AD01-00013A	SPACER-2ND	1	SNA	
10	AD67-02461A	LENS SP LENS-G5	1	SNA	
11	AD67-02442A	BARREL-2ND	1	SNA	
12	AD63-06768A	SHEET-MASK_G6	1	SNA	
13	AD97-22724A	LENS ASP-G6	1	SNA	
14	AD67-02460A	LENS SP LENS-G7	1	SNA	
15	AD67-02443A	BARREL-3RD-A	1	SNA	
16	AD67-02463A	LENS SP LENS-G8	1	SNA	
17	AD63-06783A	SHEET-MASK_G8	1	SNA	
18	AD97-22127A	ASSY SHUTTER-D8-EX2	1	SNA	
19	AD67-02462A	LENS SP LENS-G9	1	SNA	
20	AD67-02444A	BARREL-3RD-B	1	SNA	
21	AD97-22725A	LENS ASP-G10_D8	1	SNA	
22	AD63-06769A	SHEET-MASK_G10	1	SNA	
23	AD67-02449A	BARREL-ZOOM RING	1	SNA	
24	AD67-02446A	BARREL-GUIDE	1	SNA	
25	AD64-03645A	DECO RING-CAM	1	SNA	
26	AD67-02447A	BARREL-CAM	1	SNA	
27	AD67-02448A	BARREL-BASE	1	SNA	
28	AD67-02453A	BARREL-DECENTER RING	1	SA	
29	AD67-02445A	BARREL-4TH	1	SNA	
30	AD67-02454A	LENS-G11	1	SNA	
31	AD63-07092A	SHEET-MASK_G11	1	SNA	
32	AD61-05637A	BASE-LENS	1	SNA	
33	6107-003263	SPRING-CS	1	SNA	
34	AD66-01003A	SHAFT-AF GUIDE	1	SNA	
35	AD94-00328A	ASSY SMD INSERT	1	SNA	
36	AD97-22125A	ASSY ZOOM	1	SA	
37	AD97-22126A	ASSY MOTOR AF	1	SNA	
38	AD63-03625A	CUSHION-IR CUT FILTER	1	SA	
39	AD63-06844A	CUSHION-IR	1	SA	
40	AD61-05640A	PLATE CMOS HOLDER	1	SNA	
41	AD92-01961A	ASSY PCB FPC-EX2F_CIS	1	SA	
42	6003-001630	SCREW-TAPTYPE (M1.4 X L3.5 / BLK)	9	SA	
43	6003-001288	SCREW-TAPTYPE (M1.4 X L2 / BLK)	2	SA	
44	6003-001633	SCREW-TAPTYPE (M1.4 X L3 / BLK)	3	SA	
45	AD63-07161A	T/SHEET-COVER	3	SNA	
46	AD63-04521A	T/SH EET-SHUTTER	1	SNA	



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

This service manual is a property of Samsung Electronics Co.,Ltd.
Any unauthorized or attempted unauthorized use of this service
manual is strictly prohibited and may be punishable under applicable
international and/or domestic law.

© 2012 SAMSUNG Electronics Co.,Ltd
All rights reserved.

Printed in Korea July, 2012
Code No: EC-EX2F