

# **SERVICE MANUAL**

D I G I T A L   C A M E R A

## ***PowerShot G10***



**- English Edition -**

**GENERAL DESCRIPTION  
OF PRODUCT**

**TECHNICAL  
DESCRIPTION**

**DISASSEMBLY**

**ADJUSTMENT**

**DIAGRAMS**

**READ ME**

# *GENERAL DESCRIPTION OF PRODUCT*

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# 1. Overview

*As the successor model to the PowerShot G series PowerShot G9, which was Canon's ultimate compact digital camera, the PowerShot G10 incorporates a new 14.7-mega-pixel CCD, the new DIGIC 4 processor, and the long-anticipated wide-angle 28 mm 5x zoom lens for securing perfection in every detail as the flagship model.*



## 1-1 Summary of Main Features

Text highlighted in red: New features introduced with the PowerShot G10,

Text highlighted in blue: Differences from the PowerShot G9

### High Image Quality

- **DIGIC 4** imaging processor provides improved high image quality and functionality
- High-resolution **14.7-mega camera effective pixel CCD** supports prints up to A2 size
- **5x zoom lens with lens-shift type image stabilizer** significantly reduces camera shake
  - **28 – 140 mm** (35mm film equivalent), f/2.8 (W) – **f/4.5** (T)
- RAW mode capable of recording without loss of image quality
  - **Digital Photo Professional**, the same application software as for the EOS cameras
- **High ISO Auto**<sup>\*</sup> and high ISO-speed 1600 greatly reduce camera shake and subject blur
  - <sup>\*</sup> Automatically changes the ISO speed and shutter speed according as the subject movement when the camera detects any face (New motion detection technology)
- iSAPS technology enables high-speed AF and high-definition AE/AWB

### Full Featured

#### Shooting Features

##### <Still Images>

- Face detection function (Face detection technology)
  - Face Detect AF focuses on the faces in the scene
    - AF frame can be moved and fixed to a specified face
    - **Improved face detection and tracking performance**



- Face Detect AE also evaluates the brightness of faces in the scene when evaluating exposure
- Face Detect WB evaluates the color of the faces in the scene when adjusting the white balance
- Face Detect FE controls the flash output for optimum face brightness during flash photography
- Auto red-eye correction performs automatic correction for red-eye that occurs during flash photography
- FaceSelf-Timer detects faces in the scene and releases the shutter in response to the appearance of an additional face
- Servo AF continues to track the subject after pressing the shutter button halfway
  - If detecting the face in the scene, observing the face closely
- AF-Point Zoom allows to check the focus when pressing the shutter button halfway
  - An enlarged display of the face by means of face detection when Face Detect AF is on
- i-Contrast for shooting automatically controls the exposure and tone optimally for each scene
- AF frame size is selectable between 'Normal' or 'Small'
  - When 'Small' is selected for 9-point AiAF, the position of the whole AF frame can be moved
- Auto ISO shift raises the ISO speed to allow a shake free shutter speed
- Safety FE reduces the occurrence of highlight blowout during flash photography at close distances
- Two custom white balance positions allow two white balance settings
- AF mode allows selection of Single (at shooting) or Continuous (always on) AF
- Continuous shooting AF takes continuous shots while focusing on a moving subject
- Digital tele-converter easily allows telephoto photography as if a tele-converter is attached
- Real-time histogram displays the brightness distribution of the scene in real time during shooting
- Program shift allows changing the shutter speed and aperture value combinations while keeping the optimum exposure
- Safety shift automatically shifts the shutter speed or aperture value to obtain the optimum exposure
  - This function is available with just one push in the Manual shooting mode
- Focus bracketing/AE bracketing enables shooting while making fine adjustments to the focus and exposure
- Image Inspection Tool checks image focus during rec. review

## <Movies>

- Newly equipped MOV movie enables longer time recording to less capacity of memory card

## <Still Images, Movies>

- 26 shooting modes including ISO 3200
  - Sunset mode is added to scene mode
- Manual focus can adjust the focus depending on user's intention
- Safety MF controls fine focus tuning when pressing the shutter button halfway during manual focus photography
- Auto Category sets categories based on the shooting mode and the presence of faces in the scene
- My Colors enables customization of the colors in the scene during shooting

## Playback Features

### <Still Images>

- **i-Contrast for playback controls the exposure and tone in 3 levels for each image**
- Red-eye correction uses the face detection function to automatically correct red-eye that occurred during flash photography
- **Trimming centered around faces is possible** using the face detection function
- Recorded images can be resized to 1600 x 1200 pixels, 640 x 480 pixels, and 320 x 240 pixels
- Image Inspection Tool enables confirmation of the focus for playback images
- My Category allows sorting images into categories
- The Jump function enables instant jumping to and playback of specific images based on keywords or categories
- My Colors enables customization of the colors in the scene during playback
- Image ranges (first image and last image) can be selected for performing batch printing and erasing operations
- Transition adds fade-in and fade-out effects when switching between playback images

### <Still Images, Movies>

- Resume Playback starts playback from last viewed image (still image) or frame (movie)
- Automatic image rotation is linked to the camera's orientation (Intelligent Orientation Sensor)

## Printing Features

- Both PictBridge and Canon Direct Print supported
- **Print Order is available** by pressing the Print/Share button **during playback**
- **Recognizes DPOF files and changes to the print order screen when the camera is connected to a printer**

## Easy Operation

- **Exposure Compensation Dial for easily adjusting the exposure compensation**
- ISO Dial enables setting of the optimum ISO speed depending on the scene
- Control Dial enabling easy control of a various functions
- Playback button switches between shooting mode and playback mode by one-push operation
- **Remote switch** enables easy shutter release for photography using a tripod
- Bar-shaped exposure marker shows the difference between manual and automatic exposure settings
- Remote shooting enables shooting operation from a computer
- Transition to shooting mode by pressing the shutter button halfway during playback mode
- The shutter sound is synchronized with the actual shutter speed
- **My Menu that allows registering of five user-selected options from the shooting menu**
- Shortcuts can be assigned to the Print/Share button for improved ease of operation
- Selected ISO speed is displayed in 1/3 stop increments on the LCD monitor
  - ISO speed is displayed when pressing the shutter button halfway while Auto or High ISO Auto is selected
  - The raised ISO speed is displayed when using the Auto ISO shift
- Shutter speed and f/number are displayed on the LCD monitor when pressing the shutter button halfway during shooting
- Round number of total pixels are displayed together with the number of recording pixels (horizontal pixels x vertical pixels)
- Battery power displays in 3 levels on the LCD monitor

## Others

- Large size (3.0-inch type) LCD monitor with high-resolution (approx. 461,000 dots) and wide viewing angle (Pure Color LCD II)
  - High contrast and faithful color reproduction
  - Finished with the multiple coatings to prevent smudging, scratching, or reflection of light
- Sound recorder capable of up to two hours of audio recording
  - Manual adjustment of mic level possible (with level meter)
- Multi-colored UI
- UI display available in 26 languages\*  
\* Farsi is added
- Large capacity new battery NB-7L (1050 mAh)
- Hot shoe enables attaching of external flashes
- Tele-converter lens enables shooting of wide variety of scenes

## Design

- "The Field G" is the design keyword for this G series camera
  - Quality of material and compactness have been merged into the stylish G series design

## 1-2 Comparison of Main Features

• Highlighted table items indicate changes from the PowerShot G9. Text in red shows differences.  
Conditions may apply depending on items (for details, see 3-1 Product Specifications).

PowerShot G10			PowerShot G9			
Image Sensor		Camera Effective Pixels	Approx. 14.7 million pixels (CCD)		Approx. 12.1 million pixels (CCD)	
Lens	Focal Length (35mm film equivalent)		5x zoom: 28 (W) – 140 (T) mm		6x zoom: 35 (W) – 210 (T) mm	
	Focusing Range	Normal	50 cm (1.6 ft.) – infinity			
		Macro	1 – 50 cm (0.39 in. – 1.6 ft.) (W)			
		Super Macro	–			
Image Stabilizer (IS) System		Lens-shift type				
Imaging Processor			DIGIC 4		DIGIC III	
Viewfinder			Real-image optical zoom viewfinder (Dioptric adjustment available)			
LCD Monitor	Type	3.0-inch type, color LCD with wide viewing angle (Effective dots: Approx. 461,000 dots)		3.0-inch type, color LCD with wide viewing angle (Effective dots: Approx. 230,000 dots)		
	Features	Brightness adjustment (15 levels, Quick-bright LCD)				
Focus			Single, continuous AF (Face Detect <sup>*1,2</sup> / AiAF (9-point) <sup>*3</sup> / center / FlexiZone <sup>*3</sup> ) <sup>*1</sup> AF frame can be moved and fixed to specified face. <sup>*2</sup> If no face is detected, AiAF (9-points) are used. <sup>*3</sup> Normal or small sizes can be selected. Manual focus			
Metering System			Evaluative <sup>*1</sup> , Center-weighted average, Spot <sup>*2</sup> <sup>*1</sup> Control to incorporate facial brightness in Face Detect AF. <sup>*2</sup> Fixed to center / linked to the AF frame			
ISO Speed (Standard Output Sensitivity, Recommended Exposure Index)			Auto, High ISO Auto, ISO 80/100/200/400/800/1600			
White Balance			Auto <sup>*</sup> , Day Light, Cloudy, Tungsten, Fluorescent, Fluorescent H, Flash, Underwater, Custom1, Custom2 <sup>*</sup> The colors of faces are evaluated in Face Detect AF		Auto, Day Light, Cloudy, Tungsten, Fluorescent, Fluorescent H, Flash, Underwater, Custom1, Custom2	
Shutter Speeds			1/60 – 1/4000 sec. (Auto mode) 15 – 1/4000 sec. (Total shutter speed range)		1/60 – 1/2500 sec. 15 – 1/2500 sec. (Total shutter speed range)	
Aperture	Type	Iris type				
	f/number	f/2.8 – f/8.0 <sup>*</sup> (W), f/4.5 – f/8.0 <sup>*</sup> (T) <sup>*</sup> The f/number can be set to f/11 in Auto mode.		f/2.8 – f/8.0 <sup>*</sup> (W), f/4.8 – f/8.0 <sup>*</sup> (T) <sup>*</sup> The f/number can be set to f/11 in Auto mode.		
Flash	Range	Normal: 30 cm – 4.6 m (W), 50 cm – 2.8 m (T) (12 in. – 15 ft. (W), 1.6 – 9.2 ft. (T))		Normal: 30 cm – 4.0 m (W), 50 cm – 2.5 m (T) (12 in. – 13 ft. (W), 1.6 – 8.2 ft. (T))		
	Main Features (Differences)	–				
Shooting Specifications	Shooting Modes		Auto, P, Tv, Av, M, C1, C2, SCN <sup>*</sup> , Stitch Assist, Movie <sup>*</sup> <sup>*</sup> Portrait, Landscape, Night Scene, Sports, Night Snapshot, Kids & Pets, Indoor, Sunset, Foliage, Snow, Beach, Fireworks, Aquarium, Underwater, ISO 3200, Color Accent, Color Swap		Auto, P, Tv, Av, M, C1, C2, SCN <sup>*</sup> , Stitch Assist, Movie <sup>*</sup> <sup>*</sup> Portrait, Landscape, Night Scene, Sports, Night Snapshot, Kids & Pets, Indoor, Foliage, Snow, Beach, Fireworks, Aquarium, Underwater, ISO 3200, Color Accent, Color Swap	
	Digital Zoom		Still images/Movies: Approx. 4.0x (up to approx. 20x in combination with the optical zoom) Safety Zoom, Digital tele-converter		Still images/Movies: Approx. 4.0x (up to approx. 24x in combination with the optical zoom) Safety Zoom, Digital tele-converter	
	Main Features (Differences)		i-Contrast, Auto red-eye correction, AF-Point Zoom, FaceSelf-Timer		–	
	Continuous Shooting		Normal: Approx. 1.3 shots/sec., AF: Approx. 0.7 shots/sec., LV: Approx. 0.7 shots/sec.		Normal: Approx. 1.5 shots/sec., AF: Approx. 0.7 shots/sec., LV: Approx. 0.8 shots/sec.	
	Number of Images Shot (CIPA)		Approx. 400 images		Approx. 240 images	
Recording Specifications	Recording Media		SD memory card, SDHC memory card, MultiMediaCard, MMCplus card, HC MMCplus card			
	File Format		Design rule for camera file system, DPOF (Version 1.1) compliant			
	Data Type	Still Images	Exif 2.2 (JPEG), RAW (CR2 (Canon original))			
		Movies	MOV (Image data: H.264, Audio data: Linear PCM (Monaural))		AVI (Image data: Motion JPEG, Audio data: WAVE (Monaural))	
		Audio	Sound memos, sound recorder: WAVE (Monaural)			
	Number of Recording Pixels	Still Images	Large: 4416 x 3312, Medium 1: 3456 x 2592, Medium 2: 2592 x 1944, Medium 3: 1600 x 1200, Small: 640 x 480, Widescreen: 4416 x 2480		Large: 4000 x 3000, Medium 1: 3264 x 2248, Medium 2: 2592 x 1944, Medium 3: 1600 x 1200, Small: 640 x 480, Widescreen: 4000 x 2248	
		Movies	Standard, Color Accent, Color Swap: 640 x 480 (30 fps), 320 x 240 (30 fps) • Not compatible with AVI type		High Resolution: 1024 x 768 (15 fps) Standard, Color Accent, Color Swap: 640 x 480 (30 fps/30 fps LP) / 320 x 240 (30 fps) Compact: 160 x 120 (15 fps) Time Lapse: 640 x 480 (0.5/1 fps) <sup>*</sup> Plays back at 15 fps	
Others (Differences)		–				
Playback Spec.	Main Features (Differences)	Still Images	i-Contrast, Trimming		–	
	Movies	–				
Display Languages			26 languages (The models for Japanese market available with 2 languages (Japanese and English) only)		25 languages (The models for Japanese market available with 2 languages (Japanese and English) only)	
Interface			Digital input/output (Hi-Speed USB <sup>*1</sup> (MTP, PTP supported)) Audio and video output <sup>*2</sup> <sup>*1</sup> mini-B <sup>*2</sup> Ø3.5 mm jack			
Power Source			Battery Pack NB-7L AC Adapter Kit ACK-DC50		Battery Pack NB-2LH AC Adapter Kit ACK-DC20 Car Battery Charger CBC-NB2	
Dimensions (excluding protrusions)			109.1 x 77.7 x 45.9 mm (4.30 x 3.06 x 1.81 in.)		106.4 x 71.9 x 42.5 mm (4.19 x 2.83 x 1.67 in.)	
Weight (camera body only)			Approx. 350 g (12.3 oz.)		Approx. 320 g (11.3 oz.)	

## 2. Exterior

### 2-1 Exterior Photos



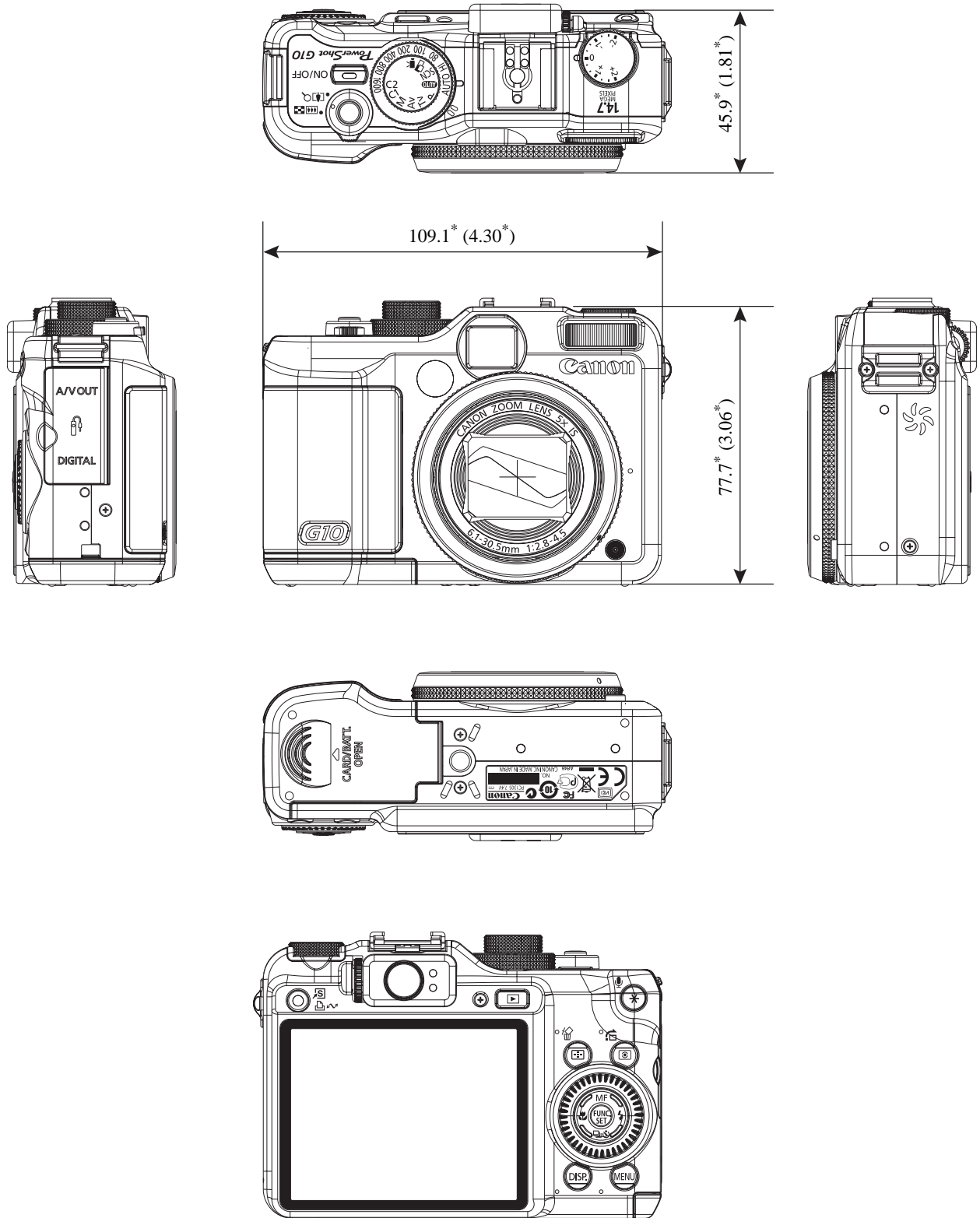
580EX II



TC-DC58D

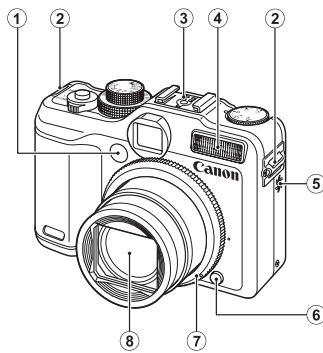
## 2-2 6-view Diagram

Unit : mm (inch)  
\*Nominal Dimensions



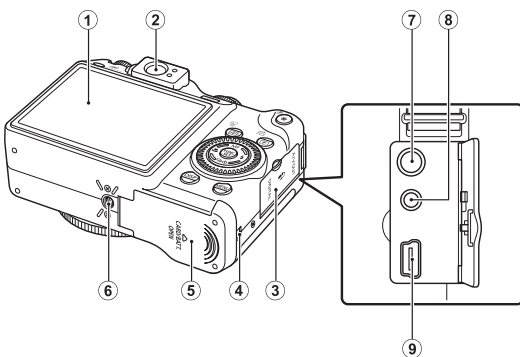
## 2-3 Nomenclature

Front View



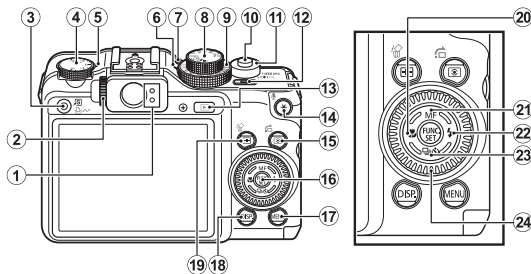
- ① Lamp (AF Assist Beam, Red-Eye Reduction Lamp, Self-Timer Lamp)
- ② Strap Mount
- ③ Hot Shoe
- ④ Flash
- ⑤ Speaker
- ⑥ Ring Release Button
- ⑦ Ring
- ⑧ Lens

Back View



- ① Screen (LCD Monitor)
- ② Viewfinder
- ③ Terminal Cover
- ④ DC Coupler Cable Cover
- ⑤ Memory Card/Battery Cover
- ⑥ Tripod Socket
- ⑦ A/V OUT (Audio/Video output) Terminal
- ⑧ Remote Control Terminal
- ⑨ DIGITAL Terminal

Operations



- ① Indicator
- ② Diopter Adjustment Dial
- ③ (Shortcut)/ (Print/Share) Button
- ④ Exposure Compensation Dial
- ⑤ Exposure Compensation Lamp
- ⑥ ISO Speed Lamp
- ⑦ Microphone
- ⑧ Mode Dial
- ⑨ ISO Speed Dial
- ⑩ Shutter Button
- ⑪ Zoom Lever
  - Shooting: (Wide Angle)/ (Telephoto)
  - Playback: (Index)/ (Magnify)
- ⑫ Power Switch/Power Lamp
- ⑬ (Playback) Button
- ⑭ (AE Lock/FE Lock)/ (Microphone) Button
- ⑮ (Metering)/ (Jump) Button
- ⑯ FUNC./SET (Function/Set) Button
- ⑰ MENU Button
- ⑱ DISP. (Display) Button
- ⑲ (AF Frame Selection)/ (Single Image Erase) Button
- ⑳ (Macro) Button/ Button
- ㉑ MF (Manual Focus)/ Button
- ㉒ (Flash)/ Button
- ㉓ (Continuous Shooting)/ (Self-timer)/ Button
- ㉔ Control Dial



## 3. Specifications

### 3-1 Product Specifications

**Note:** Description of the "Product Specifications" refers to "CIPA DCG-002-2007 Specification Guideline for Digital Cameras".

\*The measured data with no annotation is measured under normal temperature.

<b>Imaging Processor</b>	DIGIC 4
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#### Image Sensor

Type	CCD
Camera Effective Pixels	Approx. 14.7 million
Total Pixels	Approx. 15.0 million
Image Size	1/1.7-inch type
Aspect Ratio	4:3
Color Filter Type	Primary color (Bayer type)

#### Lens

Focal Length	6.1 (W) – 30.5 (T) mm (35mm film equivalent: 28 (W) – 140 (T) mm)
f/number (widest aperture)	f/2.8 (W) – f/4.5 (T)
Lens Construction	11 elements in 9 groups 1 double side aspherical lens
Zoom Magnification	5x
Image Stabilizer System	Lens-shift type
Effect	Approx. 4 steps

Focusing Range and Image Area (Image magnification ratios are 35mm film equivalent)

Shooting Mode		Max. Wide Angle		Max. Telephoto	
		Focusing Range* <sup>4</sup> (from the front of the lens)	Image Area at the Minimum Focusing Distance [Image Magnification]	Focusing Range* <sup>4</sup> (from the front of the lens)	Image Area at the Minimum Focusing Distance [Image Magnification]
Auto, P, Tv, Av, M, C1, C2, SCN* <sup>1</sup> , Stitch Assist, Movie	Normal	50 cm (1.6 ft.) – infinity	–	50 cm (1.6 ft.) – infinity	–
	With Tele-converter	–	–	55 cm (1.8 ft.) – infinity	132 x 99 mm (5.2 x 3.9 in.) [0.26x]
	Macro* <sup>2</sup>	1 – 50 cm (0.39 in. – 1.6 ft.)	32 x 23 mm (1.3 x 0.9 in.) [1.16x]	30 – 50 cm (12 in. – 1.6 ft.)	93 x 70 mm (3.7 x 2.8 in.) [0.37x]
	Manual Focus* <sup>3</sup>	1 cm (0.39 in.) – infinity	32 x 23 mm (1.3 x 0.9 in.) [1.16x]	30 cm (12 in.) – infinity	93 x 70 mm (3.7 x 2.8 in.) [0.37x]
Sports		1 m (3.3 ft.) – infinity	–	2 m (6.6 ft.) – infinity	–
Fireworks		Not disclosed	–	Not disclosed	–
Kids & Pets		1 m (3.3 ft.) – infinity	–	1 m (3.3 ft.) – infinity	–

\*<sup>1</sup>Excluding Sports, Fireworks, and Kids & Pets.

\*<sup>2</sup>Cannot be selected in Landscape.

\*<sup>3</sup>Cannot be selected in Stitch assist and Auto.

\*<sup>4</sup>From the front of the attached lens when the lens accessory is attached.



## Optical Viewfinder

Type	Real-image zoom viewfinder
Picture Coverage	Approx. 77% (representative value) <ul style="list-style-type: none"><li>• An eclipse of the viewfinder may occur depending on lens zoom position.</li></ul>
Eyepoint	15 mm (0.59 in.)
Dioptric Adjustment	-3.0 – +1.0 m <sup>-1</sup> (dpt)

<b>Electronic Viewfinder</b>	Not available
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## LCD Monitor

Type	TFT color (Pure Color LCD II)
Effective Dots	Approx. 461,000 dots
Display Size	3.0-inch type, with wide viewing angle
Aspect Ratio	4:3
Picture Coverage	100%
Brightness Adjustment	15 levels
Quick-bright LCD	Available
Variangle	Not available

## Focus Control

AF System	TTL autofocus / Manual focus <sup>*</sup> <sup>*</sup> Shooting standby only in movie mode.
Auto Focus	
AF Mode	Single / continuous
Servo AF	Available <ul style="list-style-type: none"><li>• Not selectable when "AF-point zoom" is on or "FaceSelf-Timer" is set.</li></ul>
AF Frame	Face Detect <sup>*1*2</sup> , AiAF (9-points), center, FlexiZone <sup>*1</sup> AF frame can be moved and fixed to specified face. <sup>*2</sup> If no face is detected, AiAF (9-points) are used.
AF-Point Zoom	Available <ul style="list-style-type: none"><li>• Not available in AiAF.</li></ul>
Size Select	Standard, Small <ul style="list-style-type: none"><li>• Available when AiAF (9-points) or FlexiZone is selected.</li></ul>
AF Lock	Available
AF-assist Beam	Available
Manual Focus	
MF-Point Zoom	Available
MF Indicator	Available (unit used to indicate distances selectable)
Focus Fine Tuning	Available
Safety MF	Available

## Exposure Control

Metering System	Evaluative <sup>*1</sup> , Center-weighted average, Spot <sup>*2</sup> <sup>*1</sup> Facial brightness is also evaluated in Face Detect AF. <sup>*2</sup> Fixed to center or linked to the AF frame.
Manual Exposure	Available <ul style="list-style-type: none"> <li>Level indicator display available.</li> </ul>
AE Lock	Available <ul style="list-style-type: none"> <li>Shooting standby only in movie mode.</li> </ul>
i-Contrast	Available
Exposure Compensation (Still images)	±2 stops in 1/3-stop increments
Exposure Shift (Movies)	±2 stops in 1/3-stop increments <ul style="list-style-type: none"> <li>Shooting standby only.</li> </ul>
Program Shift	Available <ul style="list-style-type: none"> <li>With assistant indicator by Av bar and Tv bar.</li> </ul>
Safety Shift	Available
ISO Speed (Standard Output Sensitivity, Recommended Exposure Index)	Auto <sup>*1</sup> , High ISO Auto <sup>*2</sup> , ISO 80/100/200/400/800/1600 <sup>*1</sup> Camera automatically sets the optimal speed according to shooting mode and subject brightness. <sup>*2</sup> Camera automatically sets the optimal speed according to shooting mode, subject brightness and subject movement, and camera shake. The ISO speed is set relatively higher than Auto.
Auto ISO Shift	On / Off
ND Filter (built-in) Insertion	Light intensity reduction: 3 stops (Intensity becomes 1/8 of actual Level)

## White Balance

Modes	Auto*, Day Light, Cloudy, Tungsten, Fluorescent, Fluorescent H, Flash, Underwater, Custom 1, Custom 2 <sup>*</sup> The colors of faces are evaluated in Face Detect AF.
-------	--

## Shutter, Aperture

Shutter Type

Aperture Type

Shutter Speeds

Mechanical shutter and electronic shutter

Iris type

1/60 – 1/4000 sec.

15 – 1/4000 sec. (Total shutter speed range.)

Shutter speeds vary depending on the shooting modes.

The following shutter speeds are available in Tv mode or M mode:

15, 13, 10, 8, 6, 5, 4, 3.2, 2.5, 2, 1.6, 1.3, 1, 0.8, 0.6, 0.5, 0.4, 0.3,

1/4, 1/5, 1/6, 1/8, 1/10, 1/13, 1/15, 1/20, 1/25, 1/30, 1/40, 1/50, 1/60, 1/80,

1/100, 1/125, 1/160, 1/200, 1/250, 1/320, 1/400, 1/500, 1/640, 1/800, 1/1000,

1/1250, 1/1600, 1/2000, 1/2500, 1/3200, 1/4000 (Unit: sec.)

Tv bar displayed in Av mode or M mode.

f/number

f/2.8 – f/8.0 (W) / f/4.5 – f/8.0\* (T)

\* The f/number can be set to f/11 when in Auto mode.

The following f/numbers are available in Av mode or M mode:

W: f/2.8, 3.2, 3.5, 4.0, 4.5, 5.0, 5.6, 6.3, 7.1, 8.0

T: f/4.5, 5.0, 5.6, 6.3, 7.1, 8.0

Av bar displayed in Tv mode or M mode.

Relationship between f/number and Shutter Speeds

Max. wide angle

f/number		f/2.8 – f/3.5	f/4.0 – f/5.0	f/5.6 – f/8.0*
Shutter Speed (sec.)	M / Tv mode	15 – 1/2000	15 – 1/2500	15 – 1/4000
	Av mode	15 – 1/2000	15 – 1/2500	15 – 1/4000

Max. telephoto

f/number		f/4.5 – f/5.6	f/6.3 – f/8.0
Shutter Speed (sec.)	M / Tv mode	15 – 1/2000	15 – 1/2500
	Av mode	15 – 1/2000	15 – 1/2500

<sup>\*</sup> The f/number can be set to f/11 when Auto mode.

## Flash

### <Built-in>

Flash Modes	Auto, on, off <ul style="list-style-type: none"><li>• Facial brightness is also evaluated in Face Detect AF.</li></ul>
Flash Range	30 cm – 4.6 m (W), 50 cm – 2.8 m (T) (12 in. – 15 ft. (W), 1.6 – 9.2 ft. (T)) <ul style="list-style-type: none"><li>• Brightness of image periphery may reduce depending on shooting distance.</li></ul>
Flash Synchro Shutter Speeds	1/500 sec. (Fastest synchronized speed)
Recycling Time (Full Flash)	10 sec. or less (battery voltage: 7.4 V)
Flash Output Compensation	±2 stops in 1/3-stop increments
Manual Flash Output Setting	3 steps
FE Lock	Available
Auto Red-eye Correction	Available
Red-eye Reduction	Available
Slow Synchro	Available
Second-curtain Synchro	Available
Safety FE	Available

### <External>

Recommended Flash and accessory	Canon Speedlite 220EX, 430EX II, 580EX II Transmitter ST-E2
Attachment Method	Hot shoe
Control Method	Mutual communications through Sync. contact
Flash Synchro Shutter Speeds	1/250 sec. (Maximum synchronized speed)
Recycling Time (Full Flash)	Depending on the attached speedlite
Flash Output Compensation	±2 stops in 1/3-stop increments
Manual Flash Output Setting	22 levels (580EX II) 19 levels (220EX, 430EX II)
Wireless Flash	Available <ul style="list-style-type: none"><li>• On/Off only.</li></ul>
FP Flash	Available
FE Lock	Available
Red-eye Reduction	Available
Slow Synchro	Available
Second-curtain Synchro	Available
Auto Zoom Control	Available
Safety FE	Available

### <Auxiliary>

Recommended Flash	High-Power Flash HF-DC1
Mounting Method	Mount with the supplied bracket
Trigger System	Detects the pre-flash and flash light from the camera's built-in flash

## Shooting Specifications

### <Still Images, Movies>

Shooting Modes	Auto, P, Tv, Av, M, C1, C2, SCN*, Stitch Assist, Movie <ul style="list-style-type: none"><li>* Portrait, Landscape, Night Scene, Sports, Night Snapshot, Kids &amp; Pets, Indoor, Sunset, Foliage, Snow, Beach, Fireworks, Aquarium, Underwater, ISO 3200, Color Accent, Color Swap</li></ul>
Movie Modes	Standard, Color Accent, Color Swap
Long Shutter Mode	Not available

Digital Zoom

Zoom Magnification

Focal Length  
(Optical x Digital)

Zoom Position  
(Optical x Digital)

Safety Zoom  
(Stop position:  
Optical x Digital)

Digital Tele-converter

i-Contrast

My Colors

Auto Category

Image Stabilizer

Modes

Converter Settings

Camera Start-up Time,  
Release Time Lag

Self-timer Shooting

Remote Shooting

Disp. Overlay

<Still Images>

Noise Reduction

Bracketing

Focus

AE

Rec. Review

Image Inspection Tool

Approx. 4.0x, up to approx. 20x in combination with the optical zoom

In still image mode, digital zoom is not available for the mode set to RAW or Widescreen.

28 (W) – 560 (T) mm (35mm film equivalent)

6.4x, 8.5x, 11x, 14x, 17x, 20x

Large	Medium 1	Medium 2	Medium 3	Small
5.0x	6.4x	8.5x	14x	20x

Maximum magnification without loss of image quality at the each recording pixel.

Approx. 1.7x, approx. 2.2x

Magnification	Focal length (35mm film equivalent)
1.7x	47.6 (W) – 238 (T) mm
2.2x	61.6 (W) – 308 (T) mm

Not available in movie mode.

Available

My Colors Off, Vivid, Neutral, Sepia, Black & White, Positive Film, Lighter Skin Tone, Darker Skin Tone, Vivid Blue, Vivid Green, Vivid Red, Custom Color\*

Adjustment of contrast, sharpness, saturation, red, green, blue and skin tone are available.

Saving original image is not available.

People, Scenery, Events

Category Set	Shooting Modes
People	Portrait, Night Snapshot, Kids & Pets
Scenery	Landscape, Night Scene, Foliage, Sunset
Events	Sports, Indoor, Snow, Beach, Fireworks, Aquarium, Underwater

When a face or faces have been detected by Face Detect AF, People is also selected regardless of the shooting mode.

Off, Continuous, Shoot Only, Panning

None / TC-DC58D

Mode	LCD Monitor	Camera Start-up Time*	Release Time Lag
Shooting	On	Approx. 1.2 sec.	0.1 sec. or less
	Off	Approx. 1.0 sec.	
Playback	On	Approx. 1.1 sec.	–

Under the conditions where the flash does not fire automatically.

Approx. 10-sec./approx. 2-sec. delay/custom\*<sup>1</sup>/FaceSelf-Timer\*<sup>2</sup>

\*<sup>1</sup>Shooting start time (0 – 10 sec. (in one-second increments), 15/20/30 sec.) and number of shots (1 – 10 shots (in one-shot increments)) can be specified.

\*<sup>2</sup>When number of detected faces increases, the shutter is released at 2 sec. delay. However no face is detected for 30 seconds or more, the shooting operation starts automatically.

Available (using supplied software)

Off, Grid lines, 3:2 Guide, Both

When shutter speed is set between 15 and 1.3 sec.

3 levels: Large, Medium, Small

Compensation value\* can be selected within a range between 1/3 – 2 stops in 1/3-stop increments

The exposure compensation setting can be adjusted higher or lower than the set exposure value.

Off, 2 – 10 sec. (in one-second increments), Hold

Magnification and image erasing are also available.

Available

Magnification, moving frame and image erasing are also available.

Night Display  
Shooting Interval

Available

LCD Monitor	Shooting Interval
On	Approx. 1.9 sec.
Off	Approx. 2.3 sec.

- Under the conditions where the flash does not fire automatically.

Continuous Shooting  
Mode Selection

Continuous shooting, continuous shooting AF, continuous shooting LV  
• Smooth continuous shooting not available on RAW mode.

Speed

Continuous shooting: Approx. 1.3 shots/sec.  
Continuous shooting AF: Approx. 0.7 shots/sec.  
Continuous shooting LV: Approx. 0.7 shots/sec.  
• Under the conditions where the flash does not fire automatically.

Number of Shots

<Low Level Format> Unit: shots

	Large (L)		
	SF	F	N
Speed Class 2	12	24	276
Speed Class 4	16	57	
Speed Class 6	27		

- : Smooth continuous shooting available (See the *Recording Capacity* for detailed values)  
• Even after exceeding the number of shots shown above, continuous shooting is available when the shutter button is still pressed. However, the shooting speeds will decrease.

Interval Shooting  
Shutter release at vertical position (Other than Shutter button)

Not available  
Not available

<Movies>

Modes

Standard, Color Accent, Color Swap

## Audio Specifications

Audio Functions

Movie sound, sound memos (also available during rec. review), sound recorder

Quantization Bit Rate/  
Sampling Rate

		Quantization Bit Rate	Sampling Rate
Movie Sound	Standard, Color Accent, Color Swap	16 bits	44.100 kHz
Sound Memos		16 bits	11.025 kHz
Sound Recorder		16 bits	44.100 kHz/22.050 kHz/11.025 kHz

Input Level Adjustment

Auto, Manual

Input Level Indicator

-40 – 0 dB / Not available

Wind Filter

Available

Microphone, Speaker

Available

## Recording Specifications

<Still Images, Movies>

Recording Media

SD memory card, SDHC memory card, MultiMediaCard, MMC*plus* card, HC MMC*plus* card

Format

Normal format, low level format

File Format

Design rule for camera file system, DPOF (Version 1.1) compliant

Data Type

Still images: Exif 2.2 (JPEG) / RAW (CR2)\*

\* Digital Photo Professional (DPP) is used for RAW development.

Movies: MOV (Image data: H.264; Audio data: Linear PCM (monaural))

Sound memos, sound recorder: WAVE (monaural)

## Folder Settings Management

### Capacity

Max. 900

- Up to 2,000 files can be stored per folder.

### Customization

Create New Folder (on next shooting), Auto Create\*

- \* Off, or user-specified time per day, month, day of the week.

## <Still Images>

### Color Space

Standard (sRGB)

### Compression

Superfine, fine, normal

### Number of Recording Pixels

Unit: pixels

Large	4416 x 3312
Medium 1	3456 x 2592
Medium 2	2592 x 1944
Medium 3	1600 x 1200
Small	640 x 480
Widescreen	4416 x 2480

## Recording Capacity

Unit: images

	Large (L)			Medium 1 (M1)			Medium 2 (M2)			Medium 3 (M3)			Small (S)			Widescreen (W)			RAW	
	SF	F	N	SF	F	N	SF	F	N	SF	F	N	SF	F	N	SF	F	N	RAW	+JPG
File Size (KB)	6348	3759	1797	3888	2302	1100	2503	1395	695	1002	558	278	249	150	84	4753	2814	1345	18793	22552
2 GB	306	516	1059	499	841	1707	767	1365	2672	1862	3235	6146	6830	10245	15368	409	690	1396	94	79
8 GB	1227	2063	4234	1996	3364	6822	3069	5457	10679	7442	12927	24562	27291	40937	61406	1637	2759	5581	378	318

- The approximate number of recordable images on memory cards of other than the above can be calculated by using the above figures as a reference and extrapolating accordingly.

## <Movies>

### Recording Pixels, Frame Rate

	Recording Pixels	Frame Rate
Standard, Color Accent, Color Swap	640 x 480	30 fps
	320 x 240	30 fps

### Maximum Recording Length per Clip

Standard, Color Accent, Color Swap: Continuous recording is possible until the file size reaches 4 GB\*

- \* Even if the file size has not reached 4 GB, the recording stops when the recording time reaches one hour. For lesser capacity memory cards than 4 GB, the recording stops when the card becomes full or the recording time reaches one hour.

### <Low Level Format>

	Standard, Color Accent, Color Swap	
	640 x 480	320 x 240
	30 fps	30 fps
Speed Class 2		
Speed Class 4		
Speed Class 6		

- : Continuous recording is possible until the file size reaches 4 GB, the memory card becomes full, or the recording time reaches one hour.

## Recording Time

### <Low Level Format>

	Standard, Color Accent, Color Swap	
	640 x 480	320 x 240
	30 fps	30 fps
Movie size (KB/sec.)	1316	394
2 GB	23 min. 49 sec.	1 hr. 13 min. 10 sec.
8 GB	1 hr. 35 min. 11 sec.	4 hrs. 52 min. 24 sec.

- The approximate recording time on memory cards other than the above can be calculated by using the above figures as a reference and extrapolating accordingly.

## <Audio>

### Recording Time

Sound Memos

Up to 1 minute recording length per image

Sound Recorder

Up to 2 hours recording length per clip

	11.025 kHz	22.050 kHz	44.100 kHz
Data size (KB/sec.)	22	44	88
2 GB	25 hrs. 22 min. 35 sec.	12 hrs. 41 min. 18 sec.	6 hrs. 20 min. 39 sec.
8 GB	101 hrs. 23 min. 47 sec.	50 hrs. 41 min. 53 sec.	25 hrs. 20 min. 57 sec.

- The approximate recording time on memory cards other than the above can be calculated by using the above figures as a reference and extrapolating accordingly.

## Playback Specifications

### <Still Images, Movies>

Easy

Not available

Auto Rotate (Automatic vertical/horizontal detection)

Available (owing to the Intelligent Orientation Sensor)

- Images are displayed vertically or horizontally according to the camera's shooting position. For movie playback, the direction depends on the camera's position at the start of shooting.
- The setting for playback is linked to the setting chosen for shooting.

Resume Playback

Last seen, Last shot

- Movie playback will resume from the last frame displayed, when playback is interrupted partway through in the prior viewing session.

### <Still Images>

Maximum Playback Pixels

5616 x 3744

Playback Modes

Single, index (9 images), Magnification (Approx. 2x – 10x)

Rotate

Rotates each image to 90 degrees or 270 degrees

- Both the LCD monitor and video output play back the image according to settings.

RAW Playback (CR2 data type)

Not Available

- JPEG image recorded simultaneously can be played back.

Red-eye Correction

Available

i-Contrast

Available

Trimming

Available

Resize

Available

- Recording pixels after "Resize"  
1600 x 1200, 640 x 480 or 320 x 240 pixels.
- Not available for images shot in Widescreen and RAW.

My Colors

Vivid, Neutral, Sepia, Black & White, Positive Film, Lighter Skin Tone, Darker Skin Tone, Vivid Blue, Vivid Green, Vivid Red

My Category

Select (People, Scenery, Events, Category 1 – 3, To Do), Select Range (First image and Last image)

- Functions that can be carried out by category: image search, erase, protect, slide show, print.

Jump

Top of the specified Shot Date, My Category\*, Folder, Movie, 10 images, 100 images

- \* The images which do not belong any categories can be selected.
- Playback with a selected search key.
- Jumps to the next set of nine images during index playback.

Image Inspection Tool

Available

- Magnification, moving frame and image erasing are also available.
- Face detection function is activated.

Histogram

Available

Overexposure Warning

Available

## Slide Show

Playback interval 3 – 10 sec., 15 sec., 30 sec.

Repeat Available

Playlist All Images, Date, My Category, Folder, Movies, Stills, Custom 1 – 3  
• Only images with DPOF setting can be played back as slide show.

Transition Effects Single image playback: 3 types (using buttons: 2 types / using control dial: 1 type)  
Slide show: 3 types

## <Movies>

Playback Functions Normal playback<sup>\*1</sup>, slow motion<sup>\*2</sup>, pause, first frame, last frame, next frame, and previous frame selectable. Fast forward and fast rewind are available.

• Display playback position and shooting time.

<sup>\*1</sup> System requirements for playing back the movie on the computer are shown in the table below.

<sup>\*2</sup> 5 speed levels including normal-playback speed, without sound.

	CPU	Clock Frequency	RAM
	VGA	VGA	VGA
Windows	Core2 DUO or above	1.66 GHz or above	1 GB or above
Macintosh	Core DUO or above	1.66 GHz or above	1 GB or above

Editing Unwanted portions can be deleted (See *Erasing Modes*.)

Editing Unit 1-sec. increments

## Printing Specifications

Direct Print PictBridge, Canon Direct Print, Bubble Jet Direct

DPOF (Version 1.1)

Print Specification Select images & quantity for printing\*, Select range, Select by date, Select by category, Select by folder, Select all images

• Up to a total of 998 images can be specified.

\* Up to 99 prints of one image can be specified (other options except 'Select images & Qty.' allow only one print per image).

Print Settings Print Type (standard, index, both), Date, File No.

• [Clear DPOF data] can be selected.

## Erasing Specifications

Erasing Modes Select image, Select range, Select by date, Select by category, Select by folder, Select all images

• The image data in the memory card stored with the design rule for camera file systems format can be erased. (However, protected images can not be erased.)

• Erasing a portion of a movie (in one-second increments) available using the movie editing function.

Protect (camera) Select image, Select range, Select by date, Select by category, Select by folder, Select all images

• Prevents still images (including sound memos) and movies protected on camera (specify at playback) from being deleted.

Protect (SD memory card/SDHC memory card) Prevents writing and erasing any data recorded on the SD memory card and SDHC memory card

## Interface

Digital Interface Hi-Speed USB (mini-B connector (female))

Communication Settings MTP, PTP

Analogue Audio Output Monaural (φ 3.5 mm jack: Unified type for audio and video output)

Analogue Video Output NTSC or PAL (φ 3.5 mm jack: Unified type for audio and video output)



## Others

Display Languages	26 languages* (English, German, French, Dutch, Danish, Finnish, Italian, Norwegian, Swedish, Spanish, Simplified Chinese, Russian, Portuguese, Greek, Polish, Czech, Hungarian, Turkish, Traditional Chinese, Korean, Thai, Arabic, Romanian, Ukrainian, Farsi and Japanese) * The models for Japanese market available with 2 languages (Japanese and English) only.																					
Battery Level Indicator	3 steps • Blinks when battery charge is low.																					
My Camera																						
Selectable Items	Start-up image* <sup>1</sup> , start-up sound, operation sound, self-timer sound, shutter sound* <sup>2</sup> <sup>*1</sup> Dedicated for the PowerShot G10. <sup>*2</sup> Synchronized with the actual shutter speed.																					
Number of Choices	3 choices (Off is also selectable.) 1: Canon original images and sounds (Cannot be customized) 2: Canon original images and sounds (Cannot be customized) 3: Customizable by the user* * The simulated shutter sound of Canon F1 is registered to the 1st option and Canon T90 is registered to the 2nd option as a factory default. * Canon original contents are registered to the 3rd option as a factory default.																					
Registerable Data	Images and sounds recorded with the camera Images and sounds in the supplied software Images and sounds downloaded from the online service (Canon Image Gateway*) * Only available in Japan and Europe.																					
Specifications	<table><tr><th>Item</th><th colspan="3">Specifications</th></tr><tr><td>Start-up image</td><td colspan="3">320 x 240 pixels, JPEG file with 4:2:0 or 4:2:2, aspect ratio of 4:3, 20 KB or less</td></tr><tr><td>Start-up sound</td><td rowspan="4">WAVE (monaural) 8 bit</td><td>11 kHz: 1.0 sec. or less</td><td>8 kHz: 1.3 sec. or less</td></tr><tr><td>Operation sound</td><td>11 kHz: 0.3 sec. or less</td><td>8 kHz: 0.4 sec. or less</td></tr><tr><td>Self-timer sound</td><td>11 kHz: 2.0 sec. or less</td><td>8 kHz: 2.0 sec. or less</td></tr><tr><td>Shutter sound</td><td>11 kHz: 0.3 sec. or less</td><td>8 kHz: 0.4 sec. or less</td></tr></table>	Item	Specifications			Start-up image	320 x 240 pixels, JPEG file with 4:2:0 or 4:2:2, aspect ratio of 4:3, 20 KB or less			Start-up sound	WAVE (monaural) 8 bit	11 kHz: 1.0 sec. or less	8 kHz: 1.3 sec. or less	Operation sound	11 kHz: 0.3 sec. or less	8 kHz: 0.4 sec. or less	Self-timer sound	11 kHz: 2.0 sec. or less	8 kHz: 2.0 sec. or less	Shutter sound	11 kHz: 0.3 sec. or less	8 kHz: 0.4 sec. or less
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Start-up image	320 x 240 pixels, JPEG file with 4:2:0 or 4:2:2, aspect ratio of 4:3, 20 KB or less																					
Start-up sound	WAVE (monaural) 8 bit	11 kHz: 1.0 sec. or less	8 kHz: 1.3 sec. or less																			
Operation sound		11 kHz: 0.3 sec. or less	8 kHz: 0.4 sec. or less																			
Self-timer sound		11 kHz: 2.0 sec. or less	8 kHz: 2.0 sec. or less																			
Shutter sound		11 kHz: 0.3 sec. or less	8 kHz: 0.4 sec. or less																			
My Menu	Available Can be registered five items in the Rec. Menu after selection.																					
Lens Retraction Timing	0 sec. (immediately), 1 min. later																					
Date Function																						
Date Stamp	Not available																					
Date Settings	Available up to the year 2037																					
Date Style	Year/month/day, month/day/year or day/month/year																					
Clock Display																						
Display Items	Vertical position: hour/minute/second and year/month/day Horizontal position: hour/minute/second • Also available during playback.																					
Display Time	0 – 10 sec. (in one-second increments), 20/30 sec., 1/2/3 min.																					
Display Colors	4 colors																					
World Time Display	Home city (region) and destination city (region) can be selected from 32 choices • Daylight saving time setting is available.																					
Direct Transfer	All Images, New Images, DPOF Trans. Images*, Select & Transfer, Wallpaper * Only images with check-marks applied by the DPOF function can be transferred.																					
Mute	Available (including warning sound*) * Except when trying to open the battery cover while the indicator is blinking green.																					
Volume	5 levels (Start-up Vol., Operation Vol., Self-timer Vol., Shutter Vol., Playback Vol.)																					
Shortcut Settings	Not assigned (default), ND filter, White balance, Custom white balance 1 (Acquisition of white data), Custom white balance 2 (Acquisition of white data), Auto red-eye correction, Digital tele-converter, i-Contrast, AF lock, Display off																					
Reset of All Settings	Available																					
Wireless Controller	Not available																					

Remote Switch

Available

## Power Supplies

Primary Batteries

Not available

Secondary Batteries

Battery Pack NB-7L (Lithium-ion rechargeable battery)

AC Adapter

Compact Power Adapter CA-PS700

Car Battery Adapter

Not available

Sub-battery

MS lithium secondary battery MS614

Charging Time

Approx. 4 hours (charged from main battery)

Duration

Approx. 3 weeks (after the sub-battery is fully charged and the main battery is removed.)

Battery Capacity

Number of Images Shot

CIPA Standard compliant (LCD monitor On)	Canon Standard (LCD monitor Off)
Approx. 400 shots	Approx. 1000 shots

Playback Time

Approx. 10 hours

Power Saving Function

Auto Power Down (when in idle)

Shooting mode: Approx. 3 min. later

Playback mode: Approx. 5 min. later

Connection to printer: Approx. 5 min. later

During slide show/connection to computer: The power saving function does not activate

Display Off

10/20/30 sec., 1/2/3 min.

- The Intelligent Orientation Sensor detects the camera being moved and recovers from the display-off function.

## Camera Specifications

Operating Temperatures

0 – 40°C (32 – 104°F)

Operating Humidity

10 – 90%

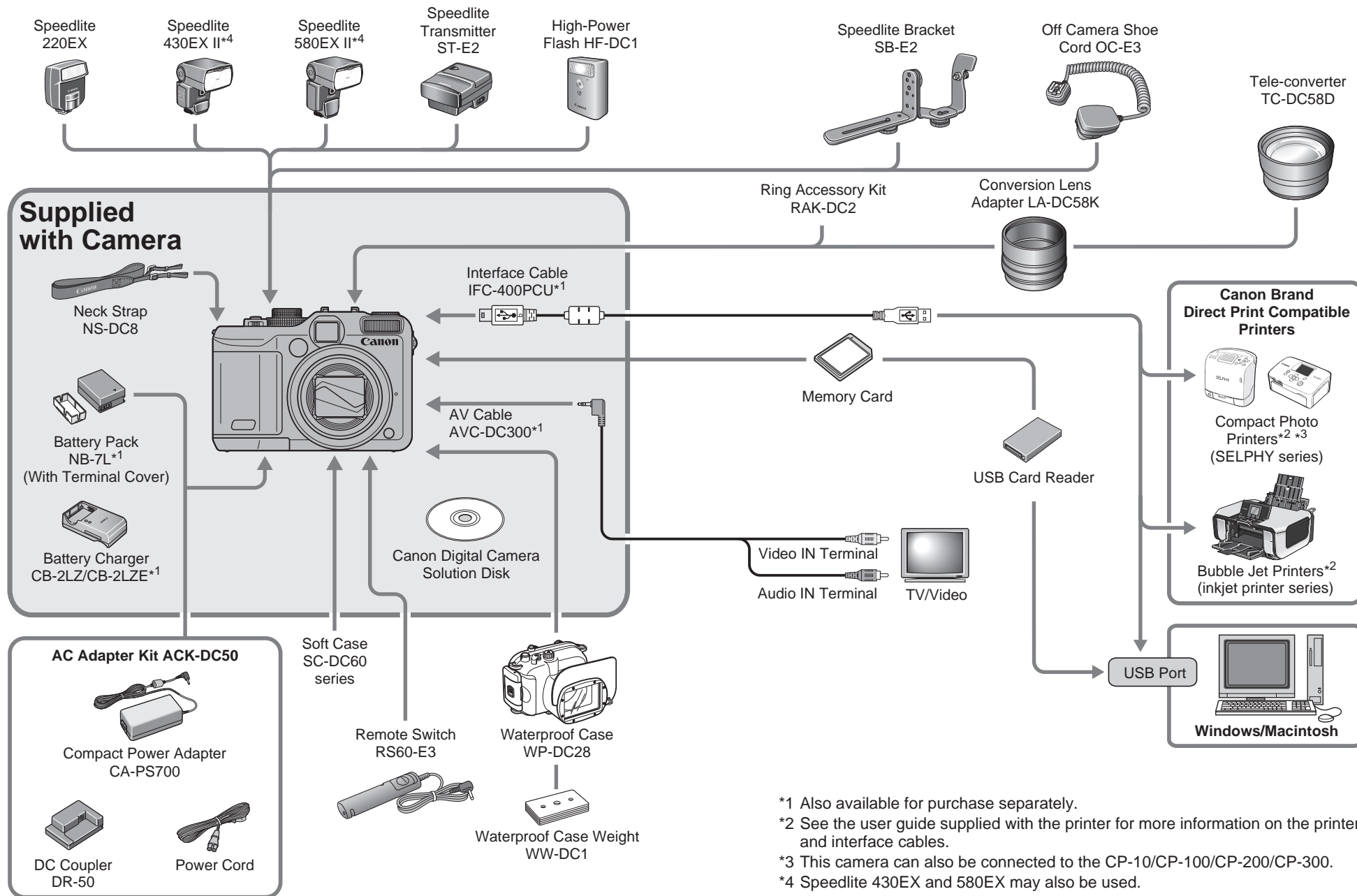
Dimensions (excluding protrusions)

109.1 x 77.7 x 45.9 mm (4.30 x 3.06 x 1.81 in.)

Weight (camera body only)

Approx. 350 g (12.3 oz.)

## 3-2 System Diagram



### 3-3 Shooting/Setting Features List

	C1	C2	M	Av	Tv	P	Auto	Portrait	Land- scape	Sports	High- speed	Reli- able	Indoor	Night- scene	Sunset	Foliage	Shore	Beach	Fireworks	Aquarium	Under- water	ISO (3200)	ISO (12800)	ISO (25600)	ISO (51200)	ISO (102400)	ISO (204800)	ISO (409600)	ISO (819200)	ISO (1638400)	ISO (3276800)	ISO (6553600)	ISO (13107200)	ISO (26214400)	ISO (52428800)	ISO (104857600)	ISO (209715200)	ISO (419430400)	ISO (838860800)	ISO (1677721600)	ISO (3355443200)	ISO (6710886400)	ISO (13421772800)	ISO (26843545600)	ISO (53687091200)	ISO (107374182400)	ISO (214748364800)	ISO (429496729600)	ISO (858993459200)	ISO (1717986918400)	ISO (3435973836800)	ISO (6871947673600)	ISO (13743895347200)	ISO (27487790694400)	ISO (54975581388800)	ISO (109951162777600)	ISO (219902325555200)	ISO (439804651110400)	ISO (879609302220800)	ISO (1759218604441600)	ISO (3518437208883200)	ISO (7036874417766400)	ISO (14073748835532800)	ISO (28147497671065600)	ISO (56294995342131200)	ISO (112589990684262400)	ISO (225179981368524800)	ISO (450359962737049600)	ISO (900719925474099200)	ISO (1801439850948198400)	ISO (3602879701896396800)	ISO (7205759403792793600)	ISO (14411518807585587200)	ISO (28823037615171174400)	ISO (57646075230342348800)	ISO (115292150460684697600)	ISO (230584300921369395200)	ISO (461168601842738790400)	ISO (922337203685477580800)	ISO (1844674407370955161600)	ISO (3689348814741910323200)	ISO (7378697629483820646400)	ISO (14757395258967641292800)	ISO (29514790517935282585600)	ISO (59029581035870565171200)	ISO (118059162071741130342400)	ISO (236118324143482260684800)	ISO (472236648286964521369600)	ISO (944473296573929042739200)	ISO (1888946593147858085478400)	ISO (3777893186295716170956800)	ISO (7555786372591432341913600)	ISO (15111572745182864683827200)	ISO (30223145490365729367654400)	ISO (60446290980731458735308800)	ISO (120892581961462917470617600)	ISO (241785163922925834941235200)	ISO (483570327845851669882470400)	ISO (967140655691703339764940800)	ISO (1934281311383406679529881600)	ISO (3868562622766813359059763200)	ISO (7737125245533626718119526400)	ISO (15474250491067253436239052800)	ISO (30948500982134506872478105600)	ISO (61897001964269013744956211200)	ISO (123794003928538027489912422400)	ISO (247588007857076054979824844800)	ISO (495176015714152109959649689600)	ISO (990352031428304219919299379200)	ISO (1980704062856608439838598758400)	ISO (3961408125713216879677197516800)	ISO (7922816251426433759354395033600)	ISO (15845632502852867518708790067200)	ISO (31691265005705735037417580134400)	ISO (63382530011411470074835160268800)	ISO (126765060022822940149670320537600)	ISO (253530120045645880299340641075200)	ISO (507060240091291760598681282150400)	ISO (1014120480182583521197362564300800)	ISO (2028240960365167042394725128601600)	ISO (4056481920730334084789450257203200)	ISO (8112963841460668169578900514406400)	ISO (16225927682921336339157801028812800)	ISO (32451855365842672678315602057625600)	ISO (64903710731685345356631204115251200)	ISO (129807421463370690713262408230502400)	ISO (259614842926741381426524816461004800)	ISO (519229685853482762853049632922009600)	ISO (1038459371706965525706099265844019200)	ISO (2076918743413931051412198531688038400)	ISO (4153837486827862102824397063376076800)	ISO (8307674973655724205648794126752153600)	ISO (16615349947311448411297588253504307200)	ISO (33230699894622896822595176507008614400)	ISO (66461399789245793645190353014017228800)	ISO (132922799578491587290380706028034457600)	ISO (265845599156983174580761412056068915200)	ISO (531691198313966349161522824112137830400)	ISO (1063382396627932698323045648224275660800)	ISO (2126764793255865396646091296448551321600)	ISO (4253529586511730793292182592897102643200)	ISO (8507059173023461586584365185794205286400)	ISO (17014118346046923173168730371588410572800)	ISO (34028236692093846346337460743176821145600)	ISO (68056473384187692692674921486353642291200)	ISO (136112946768375385385349842972707284582400)	ISO (272225893536750770770699685945414569164800)	ISO (544451787073501541541399371890829138329600)	ISO (1088903574147003083082798743781658276659200)	ISO (2177807148294006166165597487563316553318400)	ISO (4355614296588012332331194975126633106636800)	ISO (8711228593176024664662389950253266213273600)	ISO (17422457186352049329324779900506532426547200)	ISO (34844914372704098658649559801013064853094400)	ISO (69689828745408197317299119602026129706188800)	ISO (139379657490816394634598239204052259412377600)	ISO (278759314981632789269196478408104518824755200)	ISO (557518629963265578538392956816209037649510400)	ISO (1115037259926531157076785913632418075299020800)	ISO (2230074519853062314153571827264836150598041600)	ISO (4460149039706124628307143654529672301196083200)	ISO (8920298079412249256614287309059344602392166400)	ISO (17840596158824498513228574618118689204784332800)	ISO (35681192317648997026457149236237378409568665600)	ISO (71362384635297994052914298472474756819137331200)	ISO (142724769270595988105828596944949513638274662400)	ISO (285449538541191976211657193889899027276549324800)	ISO (570899077082383952423314387779798054553098649600)	ISO (1141798154164767904846628775559596109106197299200)	ISO (2283596308329535809693257551119192218212394598400)	ISO (4567192616659071619386515102238384436424789196800)	ISO (9134385233318143238773030204476768872849578393600)	ISO (18268770466636286477546060408953537745699156787200)	ISO (36537540933272572955092120817907075491398313574400)	ISO (73075081866545145910184241635814150982796627148800)	ISO (146150163733090291820368483271628301965593254297600)	ISO (292300327466180583640736966543256603931186508595200)	ISO (584600654932361167281473933086513207862373017190400)	ISO (1169201309864722334562947866173026415724746034380800)	ISO (2338402619729444669125895732346052831449492068761600)	ISO (4676805239458889338251791464692105662898984137523200)	ISO (9353610478917778676503582929384211325797968275046400)	ISO (18707220957835557353007165858768422651595936550092800)	ISO (37414441915671114706014331717536845303191873100185600)	ISO (74828883831342229412028663435073690606383746200371200)	ISO (149657767662684458824057326870147381212767492400742400)	ISO (299315535325368917648114653740294762425534984801484800)	ISO (598631070650737835296229307480589524851069969602969600)	ISO (1197262141301475670592458614961179049702139939205939200)	ISO (2394524282602951341184917229922358099404279878411878400)	ISO (4789048565205902682369834459844716198808559756823756800)	ISO (9578097130411805364739668919689432397617119513647513600)	ISO (19156194260823610729479337839378864795234239027295027200)	ISO (38312388521647221458958675678757729590468478054590054400)	ISO (76624777043294442917917351357515459180936956109180108800)	ISO (153249554086588885835834702715030918361873912218360217600)	ISO (306499108173177771671669405430061836723747824436720435200)	ISO (612998216346355543343338810860123673447495648873440870400)	ISO (1225996432692711086686677621720247346894991297746881740800)	ISO (2451992865385422173373355243440494693789982595493763481600)	ISO (4903985730770844346746710486880989387579965190987526963200)	ISO (9807971461541688693493420973761978775159930381975053926400)	ISO (19615942923083377386986841947523957550319860763950107852800)	ISO (3923188584616675477397368389504791510063972152790021574400)	ISO (7846377169233350954794736779009583020127944305580043148800)	ISO (15692754338466701909589473558019166040255888611160086297600)	ISO (3138550867693340381917894711603833208051177722232017254400)	ISO (6277101735386680763835789423207666416102355444464034508800)	ISO (12554203470773361527671578846415332832204710888928069017600)	ISO (25108406941546723055343157692830665664409421777856138035200)	ISO (50216813883093446110686315385661331328818843555712276070400)	ISO (100433627766186892221372630771322662657637687111424552140800)	ISO (200867255532373784442745261542645325315275374222849104281600)	ISO (401734511064747568885490523085290650630550748445698208563200)	ISO (803469022129495137770981046170581301261101496891396417126400)	ISO (1606938044258990275541962092341162602522202993782792834252800)	ISO (3213876088517980551083924184682325205044405987565585668505600)	ISO (6427752177035961102167848369364650410088811975131171337011200)	ISO (12855504354071922204335696738729300820177623950262342674022400)	ISO (25711008708143844408671393477458601640355247900524685348044800)	ISO (51422017416287688817342786954917203280710495801049370696089600)	ISO (102844034832575377634685573909834406561420991602098741392179200)	ISO (205688069665150755269371147819668813122841983204197482784358400)	ISO (411376139330301510538742295639337626245683966408394965568716800)	ISO (822752278660603021077484591278675252491367932816789931137433600)	ISO (1645504557321206042154969182557350504982735865633579862274867200)	ISO (3291009114642412084309938365114701009965471731267159724549734400)	ISO (6582018229284824168619876730229402019930943462534319449099468800)	ISO (13164036458569648337239753460458804039861886925068638898198937600)	ISO (26328072917139296674479506920917608079723773850137277796397875200)	ISO (52656145834278593348959013841835216159447547700274555592795750400)	ISO (105312291668557186697918027683670432318895095400549111185591500800)	ISO (210624583337114373395836055367340864637790190801098222371183001600)	ISO (421249166674228746791672110734681729275580381602196444742366003200)	ISO (842498333348457493583344221469363458551160763204392889484732006400)	ISO (1684996666696914987166688442938726917102321526408785778969464012800)	ISO (3369993333393829974333376885877453834204643052817571557938928025600)	ISO (6739986666787659948666753771754907668409286105635143115877856051200)	ISO (13479973333575319897333507543509815336818572211270286231755712102400)	ISO (26959946667150639794667015087019630673637144422540572463511424204800)	ISO (53919893334301279589334030174039261347274288845081144927022848409600)	ISO (107839786668602559178668060348078522694548577690162289854045696819200)	ISO (215679573337205118357336120696157045389097155380324579708091393638400)	ISO (431359146674410236714672241392314090778194310760649159416182787276800)	ISO (862718293348820473429344482784628181556388621521298318832365574553600)	ISO (1725436586697640946858688965569256363112777243042596637664731149107200)	ISO (3450873173395281893717377931138512726225554486085193275329462298214400)	ISO (6901746346790563787434755862277025452451108972170386550658924596428800)	ISO (13803492693581127574869511724554050904902217944340773101317849192857600)	ISO (27606985387162255149739023449108101809804435888681546202635698385715200)	ISO (55213970774324510299478046898216203619608871777363092405271396771430400)	ISO (110427941548649020598956093796432407239217743554726184810542793542860800)	ISO (220855883097298041197912187592864814478435487109452369621085587085721600)	ISO (441711766194596082395824375185729628956870974218904739242171174171443200)	ISO (883423532389192164791648750371459257913741948437809478484342348342886400)	ISO (1766847064778384329583297500742918515827483896875618956968684696685772800)	ISO (3533694129556768659166595001485837031654967793751237913937369393371545600)	ISO (7067388259113537318333190002971674063309935587502475827874738786743091200)	ISO (14134776518227074636666380005943348126619871175004951655749477573486182400)	ISO (28269553036454149273332760011886696253239742350009903311498955146972364800)	ISO (56539106072908298546665520023773392506479484700019806622997910293944729600)	ISO (113078212145816597093331040047546785012958969400039613245995820587889459200)	ISO (226156424291633194186662080095093570025917938800079226491991641175778918400)	ISO (452312848583266388373324160190187140051835877600158452983983282351557836800)	ISO (904625697166532776746648320380374280103671755200316905967966564703115673600)	ISO (1809251394333065553493296640760748560207343510400633811935933129406231347200)	ISO (361
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## 3-4 Direct Print

### 3-4-1 Print Features of Direct Print


#### • Printing with SELPHY CP Series Printers

The product name of the camera and the printer that has been described in the table is Japanese names. However, the product not sold in Japan has described an overseas name.

Product Name	CP730 / 720 / 710 / 530 / 520 / 510 / 500 / 400 CP330 / 220, CP-300 / 200 / 100 / 10	CP750 / 740	CP600, ES1	ES2 / 20, CP770 / 760
PowerShot G3 / G2 PowerShot S45 / S40 / S30 PowerShot A40 / A30 / A20 / A10 / A200 / A100 IXY DIGITAL 320 / 300a / 200a / 300 / 200	①			
PowerShot Pro1 PowerShot G5 PowerShot S1 IS / S50 PowerShot A80 / A70 / A60 / A300 IXY DIGITAL 400 / L / 30	④			
PowerShot G6 PowerShot S70 / S60 PowerShot A95 / A85 / A75 / A520 / A510 / A400 / A310 IXY DIGITAL 500 / A50 / L <sup>2</sup> / 50 / 40 / 30a	②			
IXY DIGITAL 700 / 600 / 60 / 55 / L <sup>3</sup> / WIRELESS PowerShot A620 / A610 / A410	⑤			
PowerShot S3 IS / S2 IS / S80 PowerShot A700 / A540 / A530 / A430 / A420 IXY DIGITAL 800 IS / 80 / 70	③ / (⑥: When connecting with PictBridge)			
PowerShot G7 PowerShot A710 IS / A640 / A630 IXY DIGITAL 1000 / 800 IS / L <sup>4</sup> Cameras released in 2007 / Cameras released in 2008	③ / (⑦: When connecting with PictBridge)			



#### Canon Direct Print features

 Canon Direct Print features		①	②	③	
Easy Print	Single Image Print	○	○	○	
	Setting the Number of Copies <sup>*1</sup>	○	○	○	
	Setting the Print Style	Standard <sup>*2</sup>	○	○	○
		Multiple <sup>*3</sup>	○	○	○
		ID Photo Print	×	○	○
		Borderless / Bordered	○	○	○
		Date	○	○	○
	Setting the Print Area (Trimming)	○ <sup>*4</sup>	○	○	
Movie Print	Sequence-frame	×	○	○	
	Single-frame	×	×	○	
Printing with DPOF Print Settings	Several Selected Images Print	○	○	○	
	All Image Print	○	○	○	
	Setting the Number of Copies <sup>*1</sup>	○	○	○	
	Selecting the Print Type	Standard	○	○	○
		Index	○	○	○
		Both (Standard + Index)	○	○	○
	Date and File Number Print	Date <sup>*5</sup>	○	○	○
		File Number <sup>*6</sup>	○	○	○
	Setting the Print Style	Standard <sup>*2</sup>	○	○	○
		Multiple <sup>*3</sup>	○	○	○
Borderless / Bordered		○	○	○ <sup>*7</sup>	

[NOTE]

<sup>\*1</sup> 1 to 99 copies can be set per image.

<sup>\*2</sup> Prints one image per page.

<sup>\*3</sup> Prints eight copies of the same image on one page. This option can only be selected when printing on credit card size paper. When the print style is set to [Multiple], images are printed without any date or border.

<sup>\*4</sup> In PowerShot A20/A10 and IXY DIGITAL 300/200, trimming is not possible.

In PowerShot A60/A40/A30/A200/A100 and IXY DIGITAL 300a/200a, you can select the print area from the top-/center-/bottom-aligned. Depending on a paper size and aspect ratio of the image, the print area may be aligned to the left or right. However, the print area can be set, when the print style is [Borderless] and [Multiple].

<sup>\*5</sup> When the print type is set to [Index], the [Date] cannot be printed.

<sup>\*6</sup> When the print type is set to [Standard], the [File Number] cannot be printed.

<sup>\*7</sup> Communication setting with the printers (CP750/740/730/720/710/520/510) needs to be changed to PictBridge for full-sized borderless printing on wide-size paper.



#### PictBridge features

		④	⑤	⑥	⑦
Easy Print	Single Image Print	○	○	○	○
	Date and File Number Print	Date	○	○	○
		File Number	×	○	○
	Setting the Print Effect	Auto <sup>*1</sup> (On/Off)	○	○	○
		★ VIVID / NR / VIVID+NR	×	×	×
		★ Face brightness adjustment	×	×	×
		★ Red-eye1 correction <sup>*2</sup>	×	×	×
		★ Red-eye2 correction <sup>*3</sup>	×	×	×
	Setting the Number of Copies <sup>*4</sup>	○	○	○	○
	Setting the Print Area (Trimming)	○	○	○	○
	Setting the Paper Size <sup>*5</sup>	○	○	○	○
	Setting the Paper Type <sup>*6</sup>	○	○	○	○
	Setting the Layout	Borderless / Bordered	○	○	○
		N-up <sup>*7</sup>	×	○	○
		Fixed Sixe <sup>*8</sup>	×	○	○
		★ ID Photo Print	×	○	○
		★ 20 image index with shooting information	×	×	×
		★ Contact-sheet type 35 image index	×	×	×
Printing with DPOF Print Settings	Movie Print	Print with the shooting information	×	×	×
		★ Sequence-frame	×	○	○
	Several Selected Images Print	Single-frame <sup>*9</sup>	×	×	○
		○	○	○	○
	All Image Print	○	○	○	○
	Selecting the Print Type	Standard	○	○	○
		Index	○	○	○
		Both (Standard + Index)	○	○	○
	Date and File Number Print	Date <sup>*10</sup>	○	○	○
		File Number <sup>*10</sup>	×	○	○
	Setting the Print Effect	Auto <sup>*1</sup> (On/Off)	○	○	○
		★ VIVID / NR / VIVID+NR	×	×	×
		★ Face brightness adjustment	×	×	×
		★ Red-eye1 correction <sup>*2</sup>	×	×	×
		★ Red-eye2 correction <sup>*3</sup>	×	×	×
	Setting the Number of Copies <sup>*4</sup>	○	○	○	○
	Setting the Paper Size <sup>*5</sup>	○	○	○	○
	Setting the Paper Type <sup>*6</sup>	○	○	○	○
	Setting the Layout	Borderless / Bordered	○	○	○
		N-up <sup>*7</sup>	×	○	○
		Fixed Sixe <sup>*8</sup>	×	○	○
		★ ID Photo Print	×	×	×
		★ 20 image index with shooting information	×	×	×
		★ Contact-sheet type 35 image index	×	×	×

[NOTE]

<sup>\*1</sup> Uses the camera's shooting information to optimize the image data.

<sup>\*2</sup> Red-eye correction only.

<sup>\*3</sup> Red-eye + NR + Face brightness adjustment.

<sup>\*4</sup> 1 to 99 copies can be set per image.

<sup>\*5</sup> For the usable paper size, refer to the printer user guide.

<sup>\*6</sup> Default only.

<sup>\*7</sup> Prints 2, 4 or (8) images on a single sheet of paper. (8 can only be selected when printing on credit card size paper.)

<sup>\*8</sup> Prints by specifying the print size of the image on a sheet of paper. For the paper size and the print size, refer to the direct print user guide.

<sup>\*9</sup> Only available with cameras supporting Movie Print (in single frames) function.

<sup>\*10</sup> When the print type is set to [Index], the [Date] and [File Number] cannot be set at the same time.

## • Printing with Canon Bubble Jet Printers (inkjet printer series/SELPHY DS series)

The product name of the camera and the printer that has been described in the table is Japanese names. However, the product not sold in Japan has described an overseas name.

Product Name	PIXUS 470PD / 450 / 50i / BJ 895PD / 535PD / F890PD	PIXUS MP390 / MP375R / MP370 / PIXUS 475PD / 455i / 80i	PIXUS 865R / 860i / 560i	PIXUS MP900 / MP990 / 9900i / 990i / 960i / 900PD / SELPHY DS700	PIXUS MP790 / MP770 / MP750 / PIXUS P8600 / P8100 / P7100 / P6100 / P4100 / P4100R / P3100 / P200 / P90 / P90V / P500	PIXUS IP4200	PIXUS MP500 / MP170 / MP530 / MP450 / MP150 / P6220D / P6210D / PIXUS min220 / SELPHY DS810	PIXUS MP950 / MP930 / MP800 / MP800R / PIXUS P7500 / IP6600D / IP5200 / IP5200R	PIXUS IP6700D / IP6320D / IP6310D	PIXUS ix5000 / ix4000 / PIXUS IP4300 / IP3500 / IP3300	PIXUS MP510 / MP460 / MP180 / MP160	PIXUS Pro9500 / Pro9000	PIXUS MX7600 / MX650 / PIXUS MP970 / 960 / 810 / 610 / 600 / 520 / 470 / MX700 / 310 / 300 / MP800R / P5300 / P4500 / PIXUS IP100 / PIXUS min360 / 320 / 260	MP220 / 210	
PowerShot G3 / G2 PowerShot S45 / S40 / S30 IXY DIGITAL 320 / 300a / 200a										Bubble Jet Direct is not available					
PowerShot Pro1 PowerShot G6 / G5 PowerShot S1 IS / S70 / S60 / S50 PowerShot A95 / A85 / A80 / A75 / A70 / A60 / A400 / A310 / A300 IXY DIGITAL 500 / 450 / 400 / L / 30a / 30 PowerShot A520 / A510 IXY DIGITAL L <sup>2</sup> / 50 / 40 PowerShot S2 IS IXY DIGITAL 600 / 55 PowerShot S3 IS / S80 PowerShot A700 / A620 / A610 / A540 / A530 / A430 / A420 / A410 IXY DIGITAL 800 IS / 700 / L <sup>3</sup> / 80 / 70 / 60 / WIRELESS PowerShot G7 PowerShot A710 IS / A640 / A630 IXY DIGITAL 1000 / 900 IS / L <sup>4</sup> Cameras released in 2007 Cameras released in 2008 1st half															
	①	②	③	④	⑤	⑥	⑦	⑧	⑨		⑦	⑧	⑨	⑩	⑪

### Bubble Jet Direct features

Easy Print	Single Image Print	○
	Setting the Number of Copies <sup>*1</sup>	○
	Setting the Print Style	○
	Paper Size <sup>*2</sup> Borderless / Bordered Date	○ ○ ○
Printing with DPOF Print Settings	Setting the Print Area (Trimming)	○ <sup>*3</sup>
	Several Selected Images Print	○
	All Image Print	○
	Setting the Number of Copies <sup>*1</sup>	○
	Selecting the Print Type	○
	Standard Index Both (Standard + Index)	○ ○ ○
	Date and File Number Print	○
	Date File Number	○ ×
	Setting the Print Style	○
	Borderless / Bordered	○

[NOTE]

<sup>\*1</sup> 1 to 99 copies can be set per image.

<sup>\*2</sup> For the usable paper size, refer to the printer user guide.

<sup>\*3</sup> In PowerShot A60 and IXY DIGITAL 300a/200a, you can select the print area from Top/Center/Bottom. Depending on a paper size and aspect ratio of the image, the print area may be aligned to the left or right. However, the print area can be set when the print style is [Borderless].

### PictBridge features

		★ : Canon proprietary feature										
Easy Print	Single Image Print	○	○	○	○	○	○	○	○	○	○	○
	Date and File Number Print	○	○	○	○	○	○	○	○	○	○	○
	File Number	×	×	×	×	×	×	×	×	×	×	×
	Auto <sup>*1</sup> (On/Off)	○	○	○	○	○	○	○	○	○	○	○
	★ VIVID / NR / VIVID+NR	×	△ <sup>*2</sup>	○	○	○	○	○	○	○	○	○
	★ Face brightness adjustment	×	×	×	×	×	×	×	×	×	×	×
	★ Red-eye1 correction <sup>*3</sup>	×	×	×	×	×	×	×	×	×	×	×
	★ Red-eye2 correction <sup>*4</sup>	×	×	×	×	×	×	×	×	×	×	×
	Setting the Number of Copies <sup>*5</sup>	○	○	○	○	○	○	○	○	○	○	○
	Setting the Print Area (Trimming)	○	○	○	○	○	○	○	○	○	○	○
	Selecting the Paper Size <sup>*6</sup>	○	○	○	○	○	○	○	○	○	○	○
	Selecting the Paper Type <sup>*7</sup>	○	○	○	○	○	○	○	○	○	○	○
	Setting the Layout	○	○	○	○	○	○	○	○	○	○	○
	Borderless / Bordered	○	○	○	○	○	○	○	○	○	○	○
Printing with DPOF Print Settings	N-up <sup>*8</sup>	×	×	×	×	×	×	×	×	×	×	×
	Fixed Sixe <sup>*10</sup>	×	×	×	×	×	×	×	×	×	×	×
	★ ID Photo Print	×	×	×	×	×	×	×	×	×	×	×
	★ 20 image index with shooting information <sup>*11</sup>	×	×	×	×	×	×	×	×	×	×	×
	★ Contact-sheet type 35 image index <sup>*12</sup>	×	×	×	×	×	×	×	×	×	×	×
	Print with the shooting information <sup>*13</sup>	×	×	×	×	×	×	×	×	×	×	×
	★ Sequence-frame	×	×	×	×	×	×	×	×	×	×	×
	Single-frame <sup>*14</sup>	○	○	○	○	○	○	○	○	○	○	○
	Several Selected Images Print	○	○	○	○	○	○	○	○	○	○	○
	All Image Print	○	○	○	○	○	○	○	○	○	○	○
	Selecting the Print Type	○	○	○	○	○	○	○	○	○	○	○
	Standard Index Both (Standard + Index)	○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○
	Date and File Number Print	○	○	○	○	○	○	○	○	○	○	○
	Date <sup>*15</sup> File Number <sup>*15</sup> <sup>*16</sup>	○ ×	○ ×	○ ×	○ ×	○ ×	○ ×	○ ×	○ ×	○ ×	○ ×	○ ×
Printing with DPOF Print Settings	Auto <sup>*1</sup> (On/Off)	○	○	○	○	○	○	○	○	○	○	○
	★ VIVID / NR / VIVID+NR	×	△ <sup>*2</sup>	○	○	○	○	○	○	○	○	○
	★ Face brightness adjustment	×	×	×	×	×	×	×	×	×	×	×
	★ Red-eye1 correction <sup>*3</sup>	×	×	×	×	×	×	×	×	×	×	×
	★ Red-eye2 correction <sup>*4</sup>	×	×	×	×	×	×	×	×	×	×	×
	Setting the Number of Copies <sup>*5</sup>	○	○	○	○	○	○	○	○	○	○	○
	Selecting the Paper Size <sup>*6</sup>	○	○	○	○	○	○	○	○	○	○	○
	Selecting the Paper Type <sup>*7</sup>	○	○	○	○	○	○	○	○	○	○	○
	Setting the Layout	○	○	○	○	○	○	○	○	○	○	○
	Borderless / Bordered	○	○	○	○	○	○	○	○	○	○	○
	N-up <sup>*8</sup>	×	×	×	×	×	×	×	×	×	×	×
	Fixed Sixe <sup>*10</sup>	×	×	×	×	×	×	×	×	×	×	×
	★ ID Photo Print	×	×	×	×	×	×	×	×	×	×	×
	★ 20 image index with shooting information <sup>*11</sup>	×	×	×	×	×	×	×	×	×	×	×
	★ Contact-sheet type 35 image index <sup>*12</sup>	×	×	×	×	×	×	×	×	×	×	×
	Print with the shooting information <sup>*13</sup>	×	×	×	×	×	×	×	×	×	×	×

[NOTE]

<sup>\*1</sup> Uses the camera's shooting information to optimize the image data.

<sup>\*2</sup> VIVID only.

<sup>\*3</sup> Red-eye correction only.

<sup>\*4</sup> Red-eye + NR + Face brightness adjustment.

<sup>\*5</sup> 1 to 99 copies can be set per image.

<sup>\*6</sup> For the usable paper size, refer to the printer user guide.

<sup>\*7</sup> For the usable paper type, refer to the printer user guide.

<sup>\*8</sup> Prints 2, 4, 9 or 16 images on a single sheet of paper. The number of images that can be arranged on a single sheet of paper is different depending on the printer and the paper size. Then, refer to the print user guide.

<sup>\*9</sup> Not available when connecting with the PIXUS Pro9500 printer.

<sup>\*10</sup> Prints by specifying the print size of the image on a sheet of paper. For the paper size and the print size, refer to the direct print user guide.

<sup>\*11</sup> Only available with cameras supporting 20 image index layout with shooting information.

<sup>\*12</sup> Only available with cameras supporting contact-sheet type 35 image index layout.

<sup>\*13</sup> Not available when printing without borders.

<sup>\*14</sup> [Single-frame] is only possible, when the camera corresponds to the Movie print (Single-frame).

<sup>\*15</sup> When the print type is set to [Index], the [Date] and [File Number] cannot be set at the same time.

<sup>\*16</sup> When the print type is set to [Standard], the [File Number] cannot be printed.

### 3-4-2 The Connection between Digital Cameras and Printers

The connection between Canon digital cameras (PowerShot series and IXY series) and printers shows in Table 1.

<div><div>Digital Cameras</div><div>Printers</div></div>		Canon Direct Print / Bubble Jet Direct / PictBridge support			Canon Direct Print / Bubble Jet Direct support	Canon Direct Print support
		Cameras released in 2006, 2007 and <b>2008</b>	Cameras released in 2003 and 2005 (Except for PS A520/A510) PS Pro1/S1 IS	Cameras released in 2004 (Except for PS Pro1/S1 IS) PS A520/A510	PS G3/G2/S45/S40/S30, ID 320/300a/200a	PS A40/A30/A20/A10/A200/A100, ID 300/200
CP series (Canon Direct Print support)	CP-10 CP-100	Canon Direct Print				
CP series (Canon Direct Print, PictBridge support)	CP-200/300 CP220/330					
SELPHY CP series/ ES series (Canon Direct Print, PictBridge support)	CP750/740/ 730/720/710/ 530/520/510/ 500/400					
	ES2/ES1/ ES20, CP600/ 770/760	PictBridge				
inkjet printer series (Bubble Jet Direct support)						-
inkjet printer series (Bubble Jet Direct, PictBridge support)		PictBridge			Bubble Jet Direct	-
SELPHY DS series (Bubble Jet Direct, PictBridge support)						-
Other manufacturer's Printer (PictBridge support)						

• IXY (ID) is the name for Japanese market.

• The supporting digital cameras and printers are included by improvement of the version of the firmware.

• For SLR digital cameras and video cameras, refer to their SERVICE MANUAL.

\* It is possible to change printer connection to PictBridge with the camera. However, the change is unnecessary, except when full-sized borderless printing on wide-size paper with CP770/760/750/740/730/720/710/530/520/510.

Table 1 The connection between Digital Cameras and Printers



## 3-5 Playback Compatibility

### 3-5-1 Still Images

			Cameras for playback (except SLR cameras)								
			CF card				SD		SD/MMC*	SD/SDHC/MMC* (MMCplus: TX1 only)	SD/MMC/SDHC/ MMCplus/ HC MMCplus
			ID 400/320/300a/300/200a/200, IXY DIGITAL PS S20/S10 PS A70/A60/A40/A30/A20/A10/A300/A200/A100	PS G3/G2/G1 PS Pro90 IS PS S50/S45/S40/S30	PS Pro1 PS G6/G5 PS S70/S60	ID 500/450 PS S1 IS PS A95/A85/A80/A75/A310	ID 30 ID 600/55/50/40/30a/L <sup>2</sup> /L PS S2 IS PS A400	ID 800 IS/700/80/70/60/L <sup>3</sup> /WIRELESS PS S80/A700/A620/A610/A540/A530/A520/A510/A430/A420/A410	ID 1000/900 IS/810 IS/90/10/L <sup>4</sup> PS G7/S3 IS/S5 IS/TX1 PS A710 IS/A640/A630/A570 IS/A560/A550/A460/A450	PS G10 ID 3000 IS/2000 IS/920 IS/910 IS/820 IS/95 IS/25 IS/20 IS PS G9/SX100 IS/SX110 IS/SX10 IS PS A1000 IS/A2000 IS/E1/A720 IS/A650 IS/A590 IS/A580/A470	
Cameras for shooting (except SLR cameras)	CF	ID 500/450/400/320/300a/300/200a/200, IXY DIGITAL PS S1 IS/S20/S10 PS A95/A85/A80/A75/A70/A60/A40/A30/A20/A10/A310/A300/A200/A100	○	○	○	○	□	□	□	□	□
		PS G6/G5/G3/G2/G1 PS Pro90 IS PS S70/S60/S50/S45/S40/S30	○*1	○	○	○*1	□*1	□*1	□	□	□
		PS Pro1	○*1*2	○*2	○	○*1	□*1*2	□*1	□	□	□
	SD	ID 600/55/50/40/30a/30/L <sup>2</sup> /L PS S2 IS PS A400	□	□	□	□	○	○	○	○	○
		SD/MMC*	ID 800 IS/700/80/70/60/L <sup>3</sup> /WIRELESS PS A700/A620/A610/A540/A530/A520/A510/A430/A420/A410	□	□	□	□	○	○	○	○
	PS S80		□*2	□*2	□	□	○*3	○*3	○	○	○
	SD/SDHC/ MMC* (MMCplus: TX1 only)	ID 900 IS/90/10/L <sup>4</sup> PS S3 IS/TX1 PS A710 IS/A570 IS/A560/A550/A460/A450	□*4	□*4	□*4	□*4	○*4	○*4	○*4	○	○
		ID 1000/810 IS PS G7/S5 IS PS A640/A630	□*2*4	□*2*4	□*4	□*4	○*3*4	○*3*4	○*4	○	○
	SD/SDHC/ MMC* / MMCplus/ HC MMCplus	PS G10 ID 3000 IS/2000 IS/920 IS/910 IS/820 IS/95 IS/25 IS/20 IS PS G9/SX100 IS/SX110 IS/SX10 IS PS A1000 IS/A2000 IS/E1/A720 IS/A650 IS/A590 IS/A580/A470	□*2*4*5	□*2*4*5	□*4*5	□*4*5	○*2*3*4*5	○*3*4*5	○*4*5	○*5	○
PS G9/G10 RAW image		×	×	×	×	×	×	×	×	○*6	

PS : PowerShot

ID : IXY DIGITAL (The model names of IXY are for Japanese market)

○ : Playback available

□ : Playback available when interchange of memory cards

×

\*1 Thumbnail is displayed for RAW image

\*2 JPEG file can be played-back up to 3200 x 2400 pixels (Thumbnail displays when more than 3200 x 2400 pixels)

\*3 Images recorded in the MultiMediaCard may not be played-back.

\*4 Images recorded in the SDHC memory card can not be played-back.

\*5 Images recorded in the HC MMCplus card can not be played-back.

\*6 JPEG image is played-back accompanied for display.

\* MultiMediaCard



### 3-5-2 Movies

			Cameras for playback															
			CFcard					SD		SD/MMC*		SD/SDHC/MMC* (MMCplus: TX1 only)				SD/MMC/SDHC/MMCplus/ HC MMCplus		
			IXY DIGITAL PS S20/S10 PS A20/A10	PS G2/G1 PS Pro90 IS PS S40/S30	ID 300a/300/ 200a/200 PS A40/A30/ A200/A100	PS Pro1/G6/G5/G3 PS S70/S60/S50/S45 ID 500/450/400/320 PS A95/A85/A80/ A75/A70/A60/ A310/A300	PS S1 IS	ID 30a/30/ L <sup>2</sup> /L PS 400	ID 600/ 55/50/40 PS S2 IS	PS A520/ A510	ID 800 IS/700/80/ 70/60/L <sup>3</sup> / WIRELESS PS S80 PS A700/A620/ A610/A540/A530/ A430/A420/A410	PS S3 IS PS A710 IS/ A640/ A630/A550/ A460/A450	ID 1000/ 900 IS/L <sup>4</sup> PS G7	ID 90/10 PS TX1/ A570 IS/ A560	ID 810 IS PS S5 IS	ID 2000 IS/910 IS/ 820 IS/95 IS/25 IS/ 20 IS PS G9/SX100IS/ SX110 IS PS A1000 IS/A2000 IS/ E1/A720 IS/A650 IS/ A590 IS/A580/A470	PS G10 ID 3000 IS/ 920 IS PS SX10 IS	
Cameras for shooting	CF	PS G2/G1, PS Pro90 IS, PS S40/S30	×	○	○ <sup>*1</sup>	○	○	□	□	□	□	□	□	□	□	×		
		ID 300a/300/200a/200 PS A40/A30/A200/A100	×	○ <sup>*1</sup>	○	○	○	□	□	□	□	□	□	□	□	×		
		ID 500/450/400/320 PS Pro1/G6/G5/G3/S70/S60/S50/S45 PS A95/A85/A80/A75/A70/A60/A310/A300	×	○ <sup>*1</sup>	○ <sup>*1</sup>	○	○	□	□	□	□	□	□	□	□	×		
		PS S1 IS	×	×	×	×	○	×	□	×	□	□	□	□	□	×		
		ID 30a/30/L <sup>2</sup> /L PS 400	×	□ <sup>*1</sup>	□ <sup>*1</sup>	□	□	○	○	○	○	○	○	○	○	×		
	SD	ID 600/55/50/40	×	×	×	×	□	×	○	×	○	○	○	○	○	×		
		PS S2 IS	×	×	×	×	×	×	×	×	○	○	○	○	○	×		
		PS A520/A510	×	□ <sup>*1</sup>	□ <sup>*1</sup>	□	□	○ <sup>*2</sup>	○ <sup>*2</sup>	○	○	○	○	○	○	×		
	SD MMC*	ID 800 IS/700/80/70/60/L <sup>3</sup> /WIRELESS PS S80 (except XGA) PS A700/A620/A610/A540/A530/A430/A420/A410	×	×	×	×	□	×	○ <sup>*2</sup>	×	○	○	○	○	○	×		
		PS S80 (XGA)	×	×	×	×	×	×	×	×	○	○	○	○	○	×		
		PS S3 IS (except 320 x 240, 60fps) PS A710 IS/A640/A630/A550/A460/A450	×	×	×	×	□ <sup>*5</sup>	×	○ <sup>*2*5</sup>	×	○ <sup>*5</sup>	○	○	○	○	×		
	SD/SDHC/ MMC* (MMCplus: TX1 only)	PS S3 IS (except 320 x 240, 60fps)	×	×	×	×	□ <sup>*5</sup>	×	×	×	○ <sup>*5</sup>	○	○	○	○	×		
		PS S3 IS (320 x 240, 60fps)	×	×	×	×	×	×	×	×	×	○	○	○	○	×		
		ID 1000/900 IS/810 IS <sup>*3</sup> /90 <sup>*3</sup> /10 <sup>*3</sup> /L <sup>4</sup> PS G7/S5 IS/TX1 <sup>*4</sup> , PS A570 IS/A560	×	×	×	×	×	×	×	×	×	×	○	○	○	×		
		PS TX1 (1280 x 720)	×	×	×	×	×	×	×	×	×	×	×	○	×	×		
		ID 810 IS/90/10 (Time Lapse)	×	×	×	×	×	×	×	×	×	×	×	○	○	×		
		ID 2000 IS/910 IS/820 IS/95 IS/25 IS/20 IS PS G9/SX100 IS/SX110 IS PS A1000 IS/A2000 IS/E1/A720 IS/A650 IS/A590 IS/A580/A470	×	×	×	×	×	×	×	×	×	×	○ <sup>*6</sup>	○ <sup>*6</sup>	○ <sup>*6</sup>	○	×	
	SD/SDHC/ MMC/ MMCplus/ HC MMCplus	ID 820 IS/95 IS/25 IS/20 IS (Time Lapse) ID 2000 IS/910 IS, PS G9 (Time Lapse)	×	×	×	×	×	×	×	×	×	×	×	○ <sup>*6</sup>	○ <sup>*6</sup>	○	×	
		PS G10 PS SX10 IS ID 3000 IS/920 IS	×	×	×	×	×	×	×	×	×	×	×	×	×	×	○	

PS : PowerShot

ID : IXY DIGITAL (The model names of IXY are for Japanese market)

○ : Playback available

□ : Playback available when interchanging of memory cards

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<sup>\*1</sup> Playback not available when file size or recording time exceeds each limit.

<sup>\*2</sup> Images recorded in the MultiMediaCard (MMC) may not be played-back.

<sup>\*3</sup> Except Time Lapse Movie

<sup>\*4</sup> Except 1280 x 720

<sup>\*5</sup> Images recorded in the SDHC memory card can not be played-back.

<sup>\*6</sup> Images recorded in the HC MMCplus card can not be played-back.

\* MultiMediaCard

### 3-6 List of Accessory and Its Compatibility

#### 3-6-1 Camera

##### PowerShot G Series, S Series, SX(\*\*) Series, Pro Series

	G10	SX10 IS	G9 G7	S5 IS S3 IS S2 IS	S80	G6	S70 S60	S1 IS	Pro1	PS G5 PS G3	S50 S45 S40 S30	G2	Pro 90 IS	G1
<Battery>														
NB-2L/2LH	-	-	O	-	O	-	O	-	-	-	O	-	-	-
BP-511/511A	-	-	-	-	-	O	-	-	O	O	-	O	O	O
BP-512/514	-	-	-	-	-	O	-	-	O	O	-	O	-	-
NB4-100/NB4-200	-	O	-	O	-	-	-	O	-	-	-	-	-	-
NB4-300	-	O	-	O	-	-	-	O	-	-	-	-	-	-
NB-7L	O	-	-	-	-	-	-	-	-	-	-	-	-	-
<Adapter/Charger>														
ACK700	-	-	-	-	-	-	O	-	-	-	O	-	-	-
ACK-DC20	-	-	O	-	O	-	-	-	-	-	-	-	-	-
ACK-DC50	O	-	-	-	-	-	-	-	-	-	-	-	-	-
CA-PS700 (N)	O	O	O	O	-	-	-	O	-	-	-	-	-	-
CA-560	-	-	-	-	-	O	-	-	O	O	-	O	O	O
CA-570 + CG-560/570	-	-	-	-	-	O	-	-	O	O	-	O	O	O
CR-560	-	-	-	-	-	O	-	-	O	O	-	O	O	O
CB-5L/CG-580	-	-	-	-	-	O	-	-	O	O	-	O	O	O
CB-2LT/CB-2LTE	-	-	-	-	-	-	O	-	-	-	O	-	-	-
CB-2LW/2LWE	-	-	O	-	O	-	-	-	-	-	-	-	-	-
CB-3AH(CBK-100)	-	O	-	O	-	-	-	O	-	-	-	-	-	-
CB-4AH(CBK4-200)	-	O	-	O	-	-	-	O	-	-	-	-	-	-
CBC-NB2	-	-	O	-	O	-	O	-	-	-	O	-	-	-
CB-5AH(CBK4-300)	-	O	-	O	-	-	-	O	-	-	-	-	-	-
CB-2LZ/CB-2LZE	O	-	-	-	-	-	-	-	-	-	-	-	-	-
<DC Coupler>														
DR-700	-	-	-	-	-	-	O	-	-	-	O	-	-	-
DR-20	-	-	O	-	O	-	-	-	-	-	-	-	-	-
DR-50	O	-	-	-	-	-	-	-	-	-	-	-	-	-
<Lens Accessory>														
WC-DC58	-	-	-	-	-	-	-	-	-	-	-	O	O	O
WC-DC58N	-	-	-	-	-	O	-	-	-	O	-	-	-	-
WC-DC52A	-	-	-	-	-	-	-	O	-	-	-	-	-	-
WC-DC58A	-	-	-	O	-	-	-	-	-	-	-	-	-	-
WC-DC58B	-	-	O	-	-	-	-	-	-	-	-	-	-	-
WC-DC10	-	-	-	-	O	-	-	-	-	-	-	-	-	-
TC-DC52B	-	-	-	-	-	-	-	O	-	-	-	-	-	-
TC-DC58	-	-	-	-	-	-	-	-	-	-	-	O	-	O
TC-DC58N	-	-	-	-	-	O	-	-	-	O	-	-	-	-
TC-DC58A	-	-	-	-	-	-	-	-	O	-	-	-	-	-
TC-DC58B	-	-	-	O	-	-	-	-	-	-	-	-	-	-
TC-DC58C	-	-	O	-	-	-	-	-	-	-	-	-	-	-
TC-DC58D	O	-	-	-	-	-	-	-	-	-	-	-	-	-
TC-DC10	-	-	-	-	O	-	O	-	-	-	-	-	-	-
250D 58mm	-	-	-	-	-	O	-	-	-	O	-	O	-	O
500D 52mm	-	-	-	-	-	-	-	O	-	-	-	-	-	-
500D 58mm	-	-	-	O	-	-	-	-	O	-	-	-	O	-
LA-DC52E	-	-	-	-	-	-	-	O	-	-	-	-	-	-
LA-DC58	-	-	-	-	-	-	-	-	-	-	-	O	-	O
LA-DC58B	-	-	-	-	-	-	-	-	-	O	-	-	-	-
LA-DC58C	-	-	-	-	-	-	-	-	O	-	-	-	-	-
LA-DC58D	-	-	-	-	-	O	-	-	-	-	-	-	-	-
LA-DC58E	-	-	-	O	-	-	-	-	-	-	-	-	-	-
LA-DC58H	-	-	O	-	-	-	-	-	-	-	-	-	-	-
LA-DC58K	O	-	-	-	-	-	-	-	-	-	-	-	-	-
LA-DC10	-	-	-	-	-	-	O	-	-	-	-	-	-	-
LA-DC20	-	-	-	-	O	-	-	-	-	-	-	-	-	-
FA-DC58A	-	-	-	-	-	-	-	-	O	-	-	-	-	-
LH-DC58	-	-	-	-	-	-	-	-	-	-	-	-	O	-
LH-DC10	-	-	-	-	-	-	-	-	O	-	-	-	-	-
LH-DC20	-	-	-	-	-	-	-	O	-	-	-	-	-	-
LH-DC30	-	-	-	-	-	O	-	-	-	-	-	-	-	-
LH-DC40	-	-	-	O	-	-	-	-	-	-	-	-	-	-
LH-DC50	-	O	-	-	-	-	-	-	-	-	-	-	-	-
LAH-DC20	-	-	-	O	O	-	-	-	-	-	-	-	-	-
LAH-DC10	-	-	-	-	-	-	-	O	-	-	-	-	-	-

	G10	SX10 IS	G9 G7	S5 IS S3 IS S2 IS	S80	G6	S70 S60	S1 IS	Pro1	PS G5 PS G3	S50 S45 S40 S30	G2	Pro 90 IS	G1
RAK-DC1	-	-	O	-	-	-	-	-	-	-	-	-	-	-
RAK-DC2	0	-	-	-	-	-	-	-	-	-	-	-	-	-
<Speedlite>														
220EX	0	O	O	0 (S5 IS)	-	O	-	-	O	O	-	O	O	O
380EX	-	-	-	-	-	O	-	-	O	O	-	O	O	O
420EX	-	-	-	-	-	O	-	-	O	O	-	O	O	O
430EX(áU)	0	O	O	0 (S5 IS)	-	-	-	-	-	-	-	-	-	-
550EX	-	-	-	-	-	O	-	-	O	O	-	O	O	O
580EX	0	O	O	0 (S5 IS)	-	O	-	-	-	-	-	-	-	-
580EX II	0	O	O	O	-	O	-	-	-	-	-	-	-	-
(MR-14EX)	0	-	-	0 (S5 IS)	-	O	-	-	O	O	-	O	-	-
(MT-24EX)	0	-	-	0 (S5 IS)	-	O	-	-	O	O	-	-	-	-
HF-DC1	0	-	O	O	O	O	O	O	O	O	O	O	O	O
<Wireless Remote Control Unit>														
WL-DC100	-	-	-	-	-	O	O	O	O	O	-	O	O	O
WL-DC300	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS-60E3	0	-	-	-	-	-	-	-	-	-	-	-	-	-
<Cables and Others>														
AVC-DC100	-	-	-	-	-	-	-	-	-	O	O	O	O	O
AVC-DC300	0	-	O	-	O	O	O	O	O	-	-	-	-	-
STV-250N	-	O	-	O	-	-	-	-	-	-	-	-	-	-
IFC-200MC	-	-	-	-	-	-	-	-	-	-	-	-	O	O
IFC-200PCS	-	-	-	-	-	-	-	-	-	-	-	-	O	O
IFC-200PCU	-	-	-	-	-	-	-	-	-	-	-	O	O	O
IFC-300PCU	-	-	-	-	-	-	-	-	-	O	O	-	-	-
IFC-400PCU	0	O	O	O	O	O	O	O	O	-	-	-	-	-
AD-PC98	-	-	-	-	-	-	-	-	-	-	-	-	O	O
DIF-100	0	O	O	O	O	O	O	O	O	O	O	-	-	-
DIF-200	-	-	-	-	-	-	-	-	-	-	-	O	-	-
DIF-B100	0	O	O	O	O	O	O	O	O	O	O	-	-	-
DIF-B250	-	-	-	-	-	-	-	-	-	-	-	O	-	-
<All Weather Case/Waterproof Case/Waterproof Case Weight>														
WP-DC300	-	-	-	-	-	-	-	-	-	-	O	-	-	-
WP-DC20	-	-	-	-	-	-	-	O	-	-	-	-	-	-
WP-DC40	-	-	-	-	-	-	O	-	-	-	-	-	-	-
WP-DC1	-	-	-	-	O	-	-	-	-	-	-	-	-	-
WP-DC11	-	-	O (G7)	-	-	-	-	-	-	-	-	-	-	-
WP-DC21	-	-	O (G9)	-	-	-	-	-	-	-	-	-	-	-
WP-DC28	0	-	-	-	-	-	-	-	-	-	-	-	-	-
WW-DC1	0	-	O	-	O	-	O	O	-	-	O	-	-	-

## 4 Accessory Specifications

### 4-1 New Accessories

#### 4-1-1 Waterproof Case WP-DC28

- Specifications

Maximum Depth	40 m (130 ft.) (Meets JIS Protection class 8)
Waterproofing	Seal, O-ring, etc.
Main Materials (employed materials)	Polycarbonate (body, etc.), ABS (controls), clear plate glass (lens window), acrylic (diffusion plate), stainless steel (springs, etc.), EPDM <sup>*1</sup> (seal), etc.
Controls	All buttons and controls • Printing operation with the Print/Share button is not available.
Supplied Accessories	Neck strap, wrist strap, and silicon grease
Remarks	Double-paned glass lens window (with anti-reflection coating on both sides), diffusion plate (detachable)
Camera Operating Temperatures	0 – 40°C (32 – 104°F)
Dimensions (excluding protrusions)	150.0 x 106.3 x 116.6 mm (5.91 x 4.19 x 4.59 in.)
Volume	Approx. 1105 cm <sup>3</sup> (37.4 fl oz. (US)) <sup>*2</sup>
Weight	Approx. 460 g (16.2 oz.) (Waterproof Case only <sup>*2</sup> ) Approx. 860 g (30.3 oz.) (Waterproof Case <sup>*2</sup> and camera body <sup>*3</sup> )
Number of Separately Sold Waterproof Case Weights (WW-DC1) Recommended for Mounting	4 weights

<sup>\*1</sup> A type of synthetic rubber

<sup>\*2</sup> Including diffusion plate

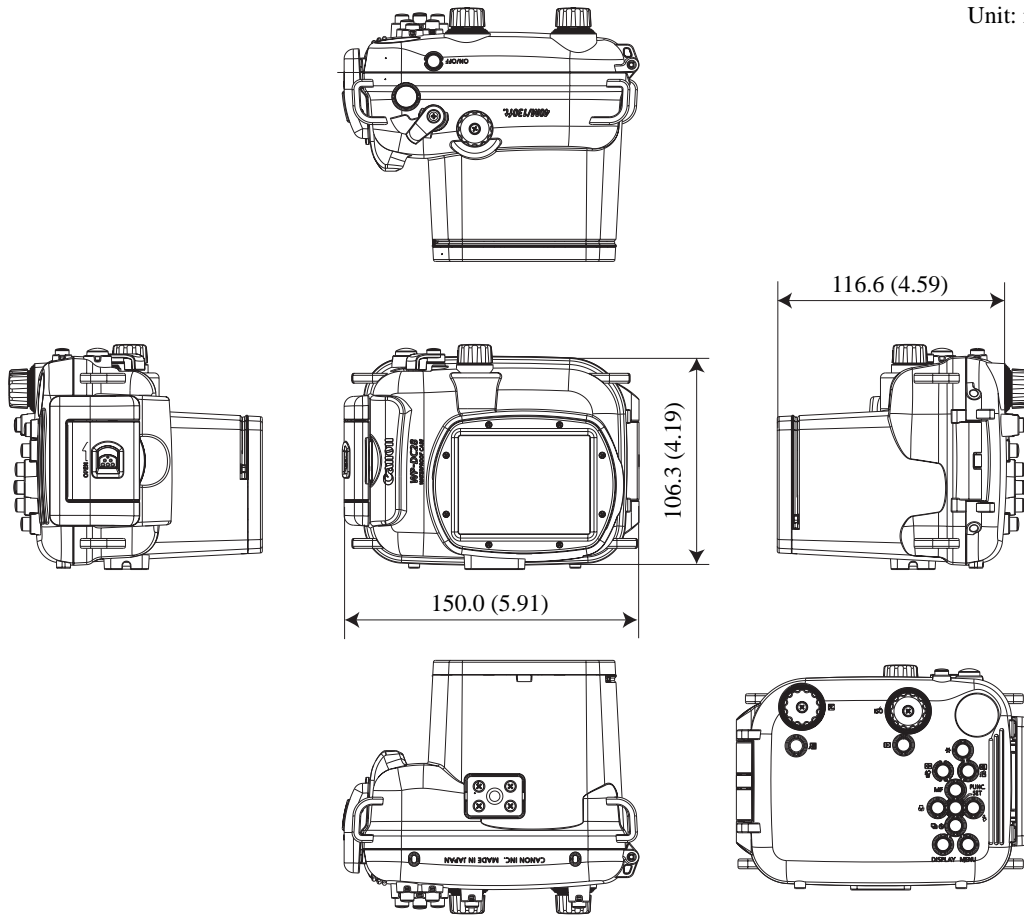
<sup>\*3</sup> Including battery and memory card

- Exterior Photo



• Exterior

Unit: mm (inch)



#### 4-1-2 AC Adapter Kit ACK-DC50

- Compact Power Adapter CA-PS700

Rated Input	100 – 240 V AC (50/60 Hz) 35 VA (100 V) – 45 VA (240 V) 0.38 A (100 V) – 0.2 A (240 V)
Rated Output	DC 7.4 V, 2.0 A
Operating Temperatures	0 – 40°C (32 – 104°F)
Dimensions	112.0 x 29.0 x 45.0 mm (4.41 x 1.14 x 1.77 in.)
Weight	Approx. 185 g (6.53 oz.) (excluding power cord)

- There is CA-PS700N on the inscription plate.
- DC Coupler DR-50

#### 4-1-3 Battery Charger

CB-2LZ (Japan/Americas)/CB-2LZE (Europe/Asia/Oceania)

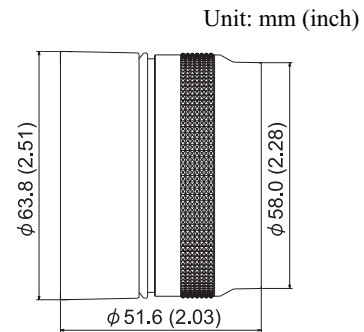
	CB-2LZ	CB-2LZE
Rated Input	AC 100 – 240 V (50/60 Hz) 14 VA (100 V) – 19.2 VA (240 V), 0.14 A (100 V) – 0.08 A (240 V)	
Rated Output	DC 8.4 V/0.7 A	
Charging Time	Approx. 2 hours 20 minutes (when charging the NB-7L)	
Charge Indicator	Charging: Lights orange, Charging complete: Lights green (2-indicator system)	
Operating Temperatures	0 – 40°C (32 – 104°F)	
Dimensions	92.5 x 27.0 x 62.0 mm (3.64 x 1.06 x 2.44 in.)	
Weight	Approx. 92 g (Approx. 3.2 oz.)	Approx. 85 g (Approx. 3.0 oz.) (excluding the power cord)

#### 4-1-4 Battery Pack NB-7L

Format	Lithium-ion rechargeable battery pack
Nominal voltage	DC 7.4V
Nominal capacity	1050 mAh (min.)
Charge/discharge times	Approx. 300 times
Operating temperature	0 – 40°C
Size	32.5 x 45.4 x 17.7 mm (1.28 x 1.79 x 0.70 in.)
Weight	Approx. 47 g (Approx. 1.7 oz.)

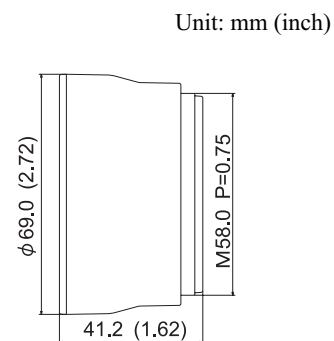
#### 4-1-5 Conversion Lens Adapter LA-DC58K

Camera mount	Bayonet type
Thread Diameter	58 mm
Max. Diameter x Length	φ63.8* x 51.6* mm (φ2.51 x 2.03 in.)
Weight	Approx. 30 g (1.06 oz.)



#### 4-1-6 Tele-converter TC-DC58D

Magnification	1.4x
Lens Construction	4 elements in 3 groups
Thread Diameter • Conversion Lens Adapter LA-DC52G is required when attaching.	58 mm
Max. Diameter x Length	φ69.0* x 41.2* mm (φ2.72 x 1.62 in.)
Weight	Approx. 140g (4.94 oz.)



#### 4-1-7 Ring Accessory Kit RAK-DC2

- The exterior view is omitted.

### 4-2 Main Unchanged Accessories

#### 4-2-1 AV Cable AVC-DC300

- The exterior view is omitted.

# *TECHNICAL DESCRIPTION*

---

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# 1. Functions of each unit

## 1.1 MAIN PCB ASS'Y

- 1) Driving the CCD Sensor.
- 2) Conversion of the image signal from the analog signal to the digital signal.
- 3) Controlling the power supply and the system by DIGIC IV. (Refer to Sections 2.1 and 2.2.)
- 4) Image processing, and reading and writing the image signal to and from the Memory card using DIGIC IV. (Refer to Section 2.2.2.)
- 5) Video signal output to the LCD panel using DIGIC IV.
- 6) Amplification of the video output, microphone input/audio output signals.
- 7) Controlling the optical unit motor.
- 8) Power supply drive (DC/DC converter).
- 9) Battery control circuit.

## 1.2 JOG DIAL UNIT

- 1) Function Buttons of rear side.
- 2) Control Dial

## 1.3 TOP COVER UNIT (TOP FPC ASS'Y)

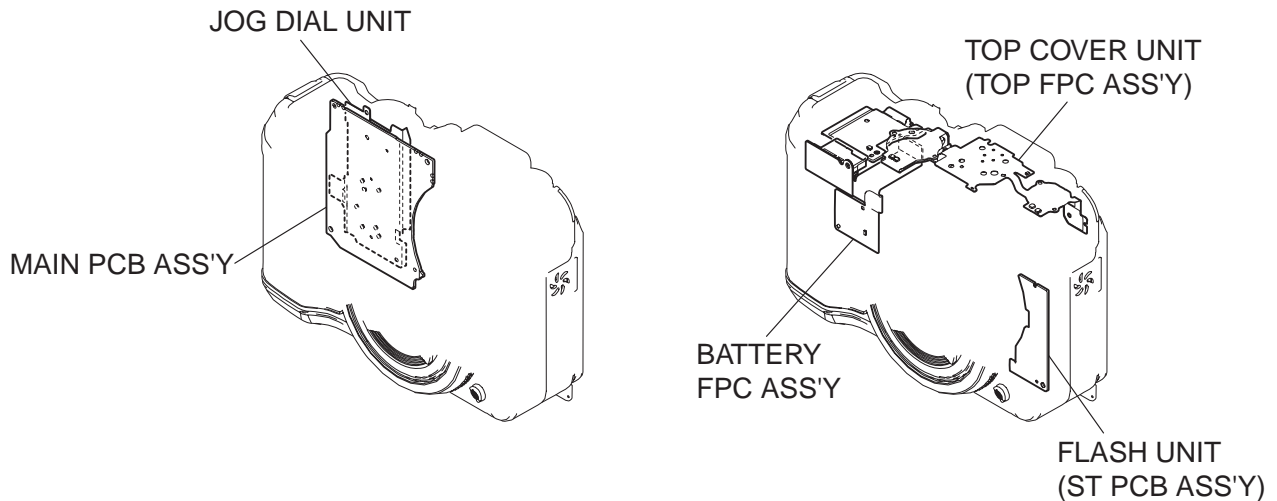
- 1) LED's for Power and Mode and ISO.
- 2) Mode, ISO and Power button and Zoom lever and Exposere Dial and Release lever.

## 1.4 FLASH UNIT (ST PCB ASS'Y)

- 1) Flash drive and flash condenser charging circuit for the flash.
- 2) Audio Signal Relay.

## 1.5 BATTERY FPC ASS'Y

- 1) Fuse



**Fig. 1 CIRCUIT BOARD LOCATION**

## 2. Troubleshooting

### 2.1 When an Error Code is Displayed

[Remedy]

- Check for any abnormalities in the mounting of probable faulty parts or connector connections referring to the table below.
- Try replacing probable faulty parts referring to the below.

[NOTE]

- The error code is displayed on the LCD Monitor.
- Adjustments must be performed after the part has been replaced. For details, see the “Adjustments” chapter.

Error Code	Name	Occurrence Conditions	Cause and Probable Faulty Part
E01	AE TIME OUT	AE processing does not end within the specified time.	MAIN PCB ASS'Y
E02	AF TIME OUT	AF processing does not end within the specified time.	MAIN PCB ASS'Y
			OPTICAL UNIT
		The focus lens is not driven.	MAIN PCB ASS'Y
E03	EF TIME OUT	Auto Flash Control does not end within the specified time.	MAIN PCB ASS'Y
			OPTICAL UNIT
E04	AWB TIME OUT	AWB processing does not end within the specified time.	MAIN PCB ASS'Y
E09	JPEG DMA TIME OUT	JPEG processing does not end within the specified time.	MAIN PCB ASS'Y
E10	JPEG IC ERROR	JPEG compression processing does not end within the specified time.	MAIN PCB ASS'Y
E14	UNKNOWN	When an error of unknown cause occurs.	UNKNOWN
E16	IMAGING TIME OUT	When communication between CPU and peripheral IC is not completed within the specified time during recording using EVF or after completion of recording.	MAIN PCB ASS'Y
E23	MEMORY CARD NO SPACE	When the Memory Card becomes full during writing of photographed images to Memory Card, writing is repeatedly performed with the JPEG compression ratio successively increased to reduce the size of the image file until it can be successfully written to Memory Card. This error occurs when writing of the JPEG image file fails after 10 times.	MAIN PCB ASS'Y
E24	POWER ON ERROR	The power of the imaging circuit on the MAIN PCB ASS'Y is not detected.	MAIN PCB ASS'Y
E26	CAPTURE TIME OUT	Writing of the photographed image to SDRAM does not end within the specified time.	MAIN PCB ASS'Y
E27	MEMORY WRITE TIME OVER	Data from the buffer was not written to the memory card within the specified time.	MEMORY CARD
E32	ISError	When IS-CPU or DIGIC does not work correctly. (Breakdown of hardware (communication line))	MAIN PCB ASS'Y
E41	USB Error	Communication between DIGIC and USB communication IC failed. (Target: Models after DIGIC IV.)	MAIN PCB ASS'Y
E52	QUICK REVIEW ERROR	Review of the photographed image failed.	MAIN PCB ASS'Y

## 2.2 When a Problem Occurs

[Remedy]

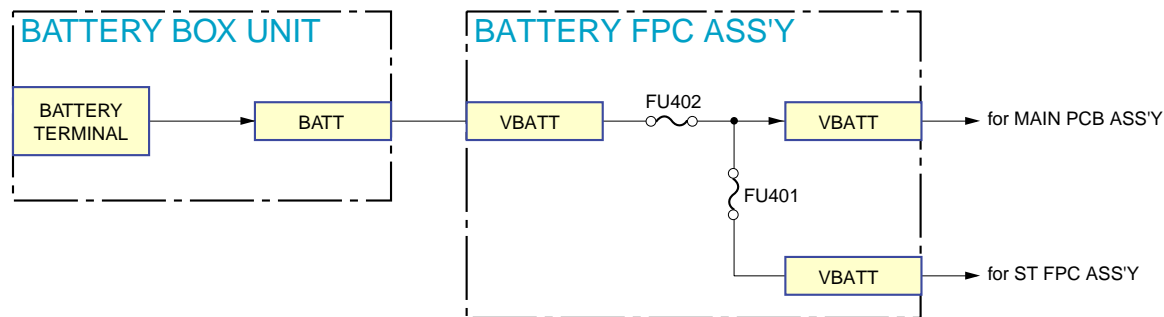
- Check for any abnormalities in the mounting of probable faulty parts or connector connections referring to the table below.
- Try replacing probable faulty parts referring to the table below.

[NOTE]

- Adjustments must be performed after the part has been replaced. For details, see the “Adjustments” chapter.

Problem (when an error code is not displayed)	Defect position	Reference
The camera does not work.	MAIN PCB ASS'Y	
	TOP COVER UNIT	
	BATTERY FPC ASS'Y	FU402 (BATTERY)
The image is not displayed on the LCD Monitor.	MAIN PCB ASS'Y	
	LCD UNIT	
The photograph image is abnormal.	OPTICAL UNIT	
	MAIN PCB ASS'Y	
The zoom does not function.	OPTICAL UNIT	
	MAIN PCB ASS'Y	
	TOP COVER UNIT	
The Built-in Flash does not fire.	FLASH UNIT	
	MAIN PCB ASS'Y	
	BATTERY FPC ASS'Y	FU401 (FLASH)
Video output is strange.	MAIN PCB ASS'Y	
Communications with the personal computer is not possible.	MAIN PCB ASS'Y	
The Memory card is not recognized.	Memory CARD	
	MAIN PCB ASS'Y	
Buttons/The Mode dial do not work.	JOG DIAL UNIT	
	TOP COVER UNIT	
	MAIN PCB ASS'Y	

2.3 FUSE  
2.3.1 DIAGRAM

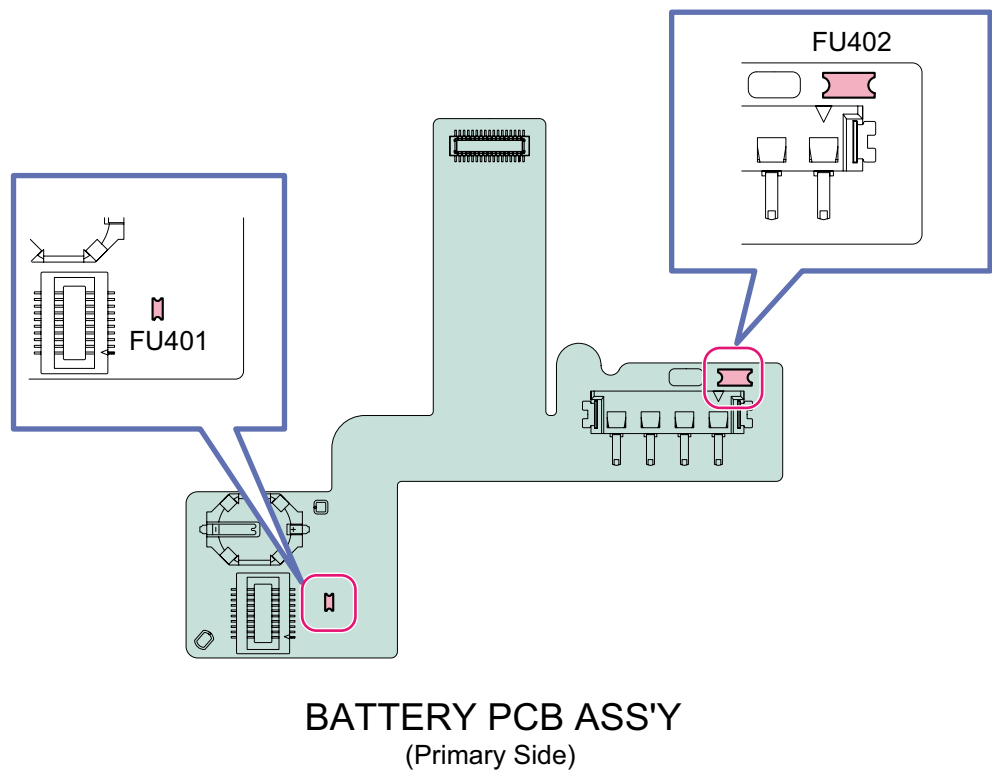


This product uses two fuses.

2.3.2 List of Fuses

FUSE	PARTS NO.	Mounted board	Remarks
FU401	VD7-2241-251	BATTERY FPC ASS'Y	Fuse for Flash Line
FU402	VD7-3962-001	BATTERY FPC ASS'Y	Fuse for the battery Line

2.3.3 Position of the Fuse



# *DISASSEMBLY*

---

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See [www.dtsc.ca.gov/hazardouswaste/perchlorate/](http://www.dtsc.ca.gov/hazardouswaste/perchlorate/) for details.



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# 1. Before Starting the Repair Work

Be sure to read the following precautions before starting the repair work.

## 1.1 Precautions on Flash High Voltage Circuit

When separating the FRONT ST CHASSIS, be sure to discharge the MAIN CAPACITOR.

\* Discharging resistor: 1 k $\Omega$ , approx. 5 W. (See Fig.1)

### CAUTION:

Because this is a high-voltage circuit, be careful to avoid electric shock and short-circuits with other components.

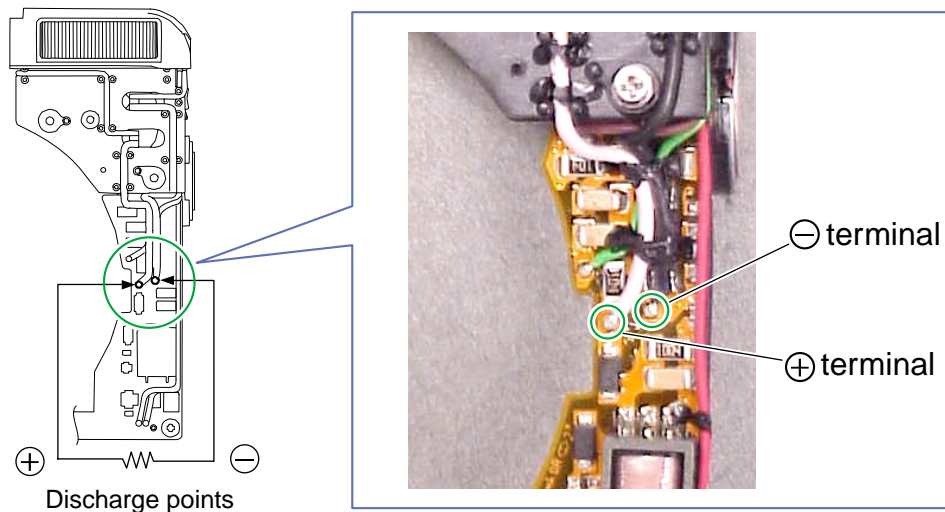


Fig. 1 Precautions on Flash High Voltage Circuit

## 1.2 List of Tools

The following tools are used for re-assembling during service.

(1) List of tools

New	Name of tools	Part No.	Remarks
	Screwdriver (Commercially Available)		
	Tweezers (Commercially Available)		

## 1.3 List of Supplies

The following supplies are used for re-assembling during service.

(1) List of supplies

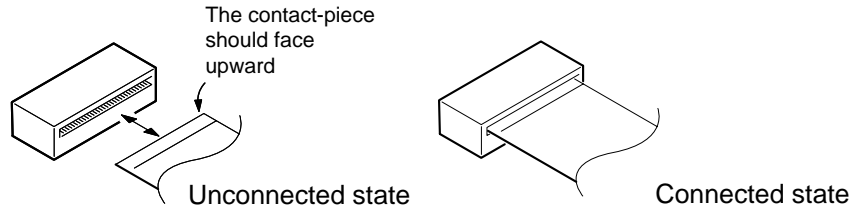
New	Name of supplies	Part No.	Remarks
	DIABOND No.1663G BLACK	CY9-8129-000	Bond (200ml)
	THREE BOND 1401C	CY9-8011-000	200g
	ADHESIVE TAPE SONY T4000	CY4-6012-000	Double-sided Tape (0.15mm × 6mm × 50m roll)



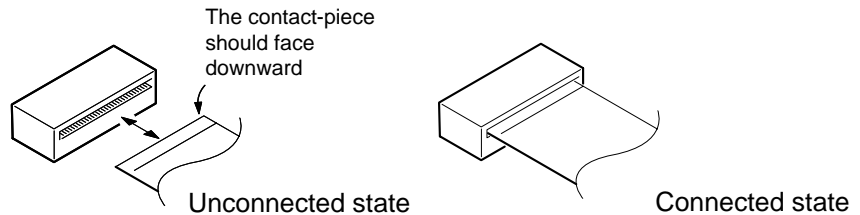
## 1.4 Connectors for FPC Board

This product uses six types of connectors for the FPC board.

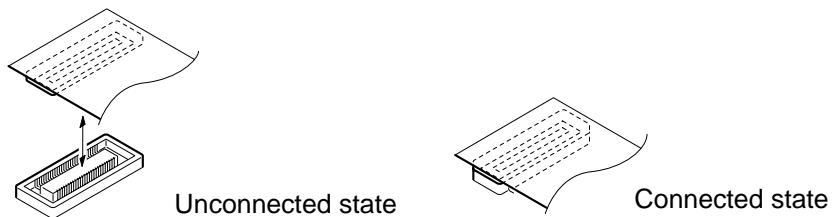
### ① Type A



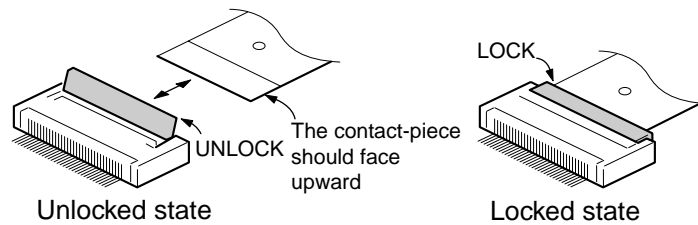
### ② Type B



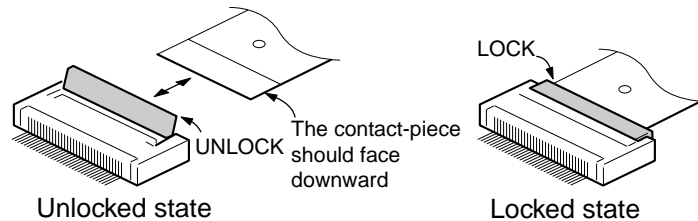
### ③ Type C



### ④ Type D



### ⑤ Type E



### ⑥ Type F

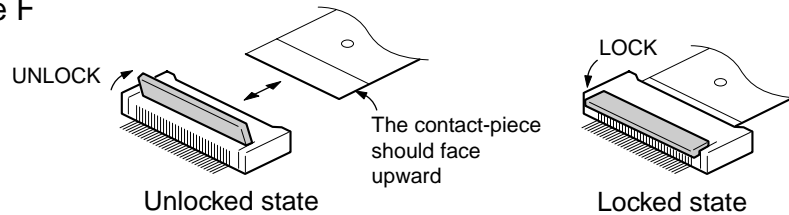


Fig. 2 Connectors for FPC board

### CAUTIONS:

1. For Type D, Type E and Type F connectors, make sure to set them to the unlocked state before removing and inserting FPC board. After FPC board is inserted, set them to the locked state.
2. The FPC board is equipped with holes as shown. Use them for removal and insertion by inserting the tweezers into them as required.

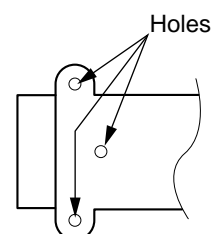


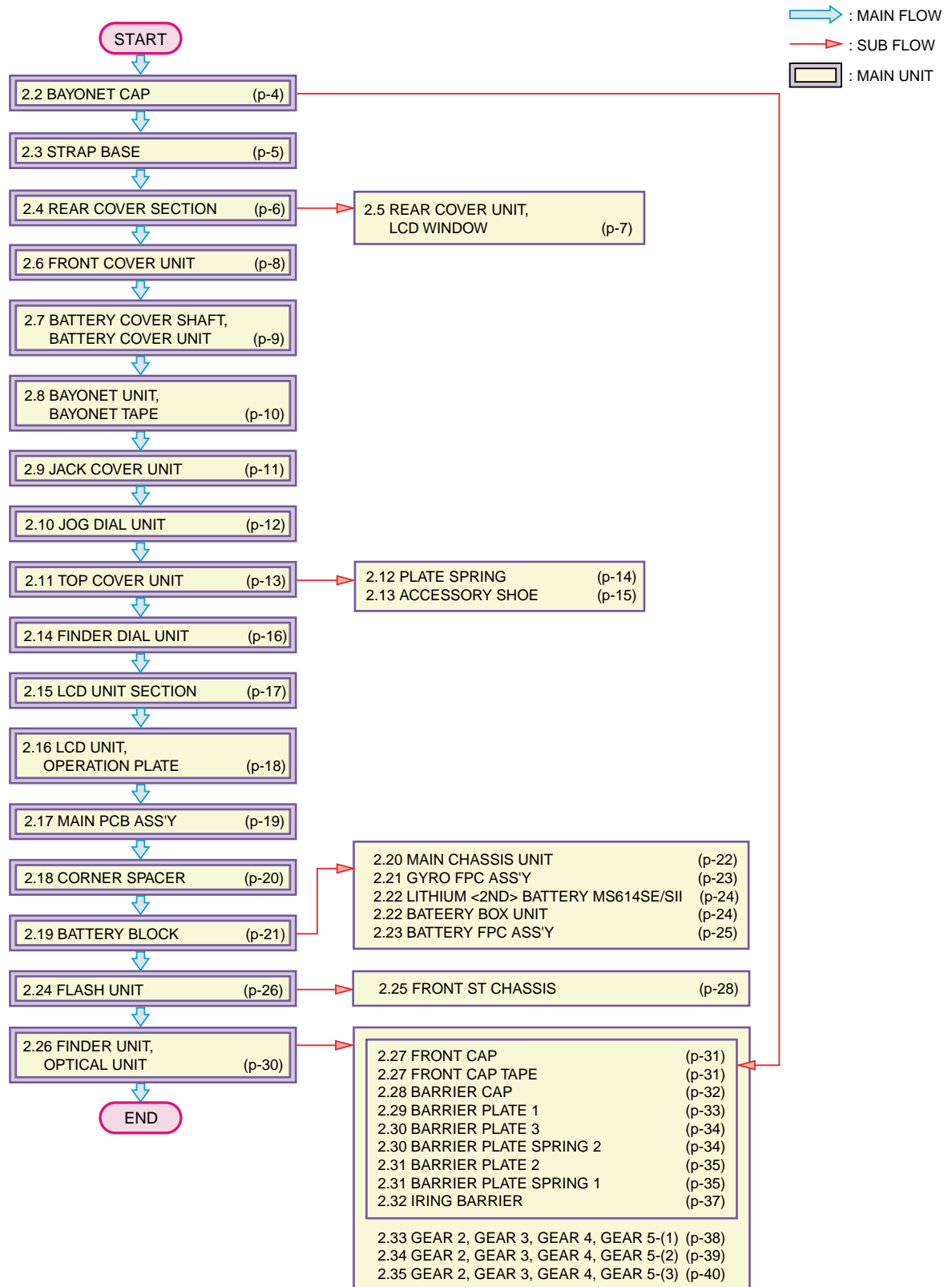
Fig. 3 Holes for removal

## 2. Disassembly

### 2.1 Procedure

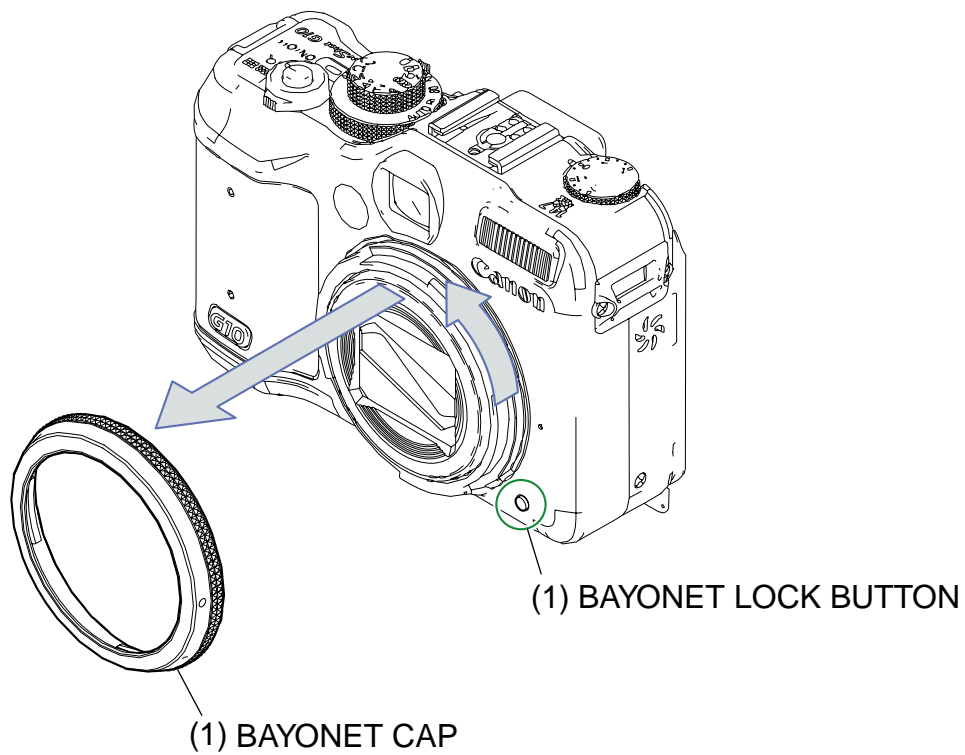
The following flowchart shows the disassembly procedure for PowerShot G10.

Reverse the disassembly procedure to reassemble it. \* The pages to refer to are shown in parentheses ( ).



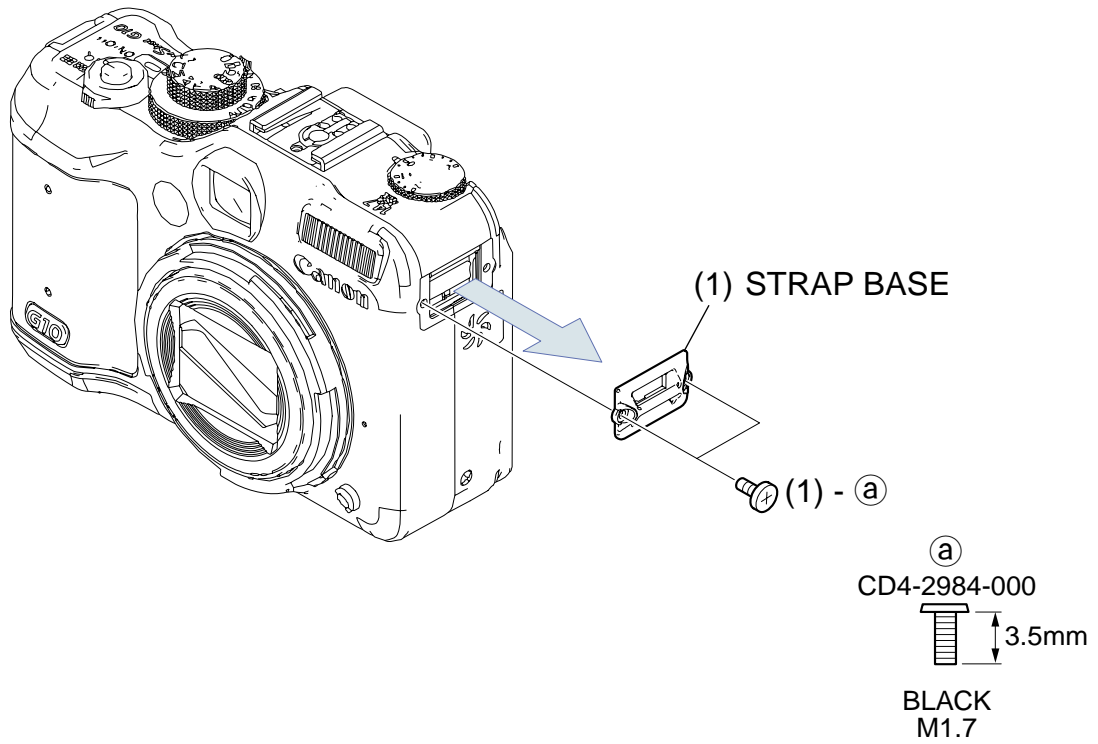
## 2.2 BAYONET CAP

- (1) Rotate the BAYONET CAP in the direction of the arrow while pressing the BAYONET LOCK BUTTON, and then remove it.



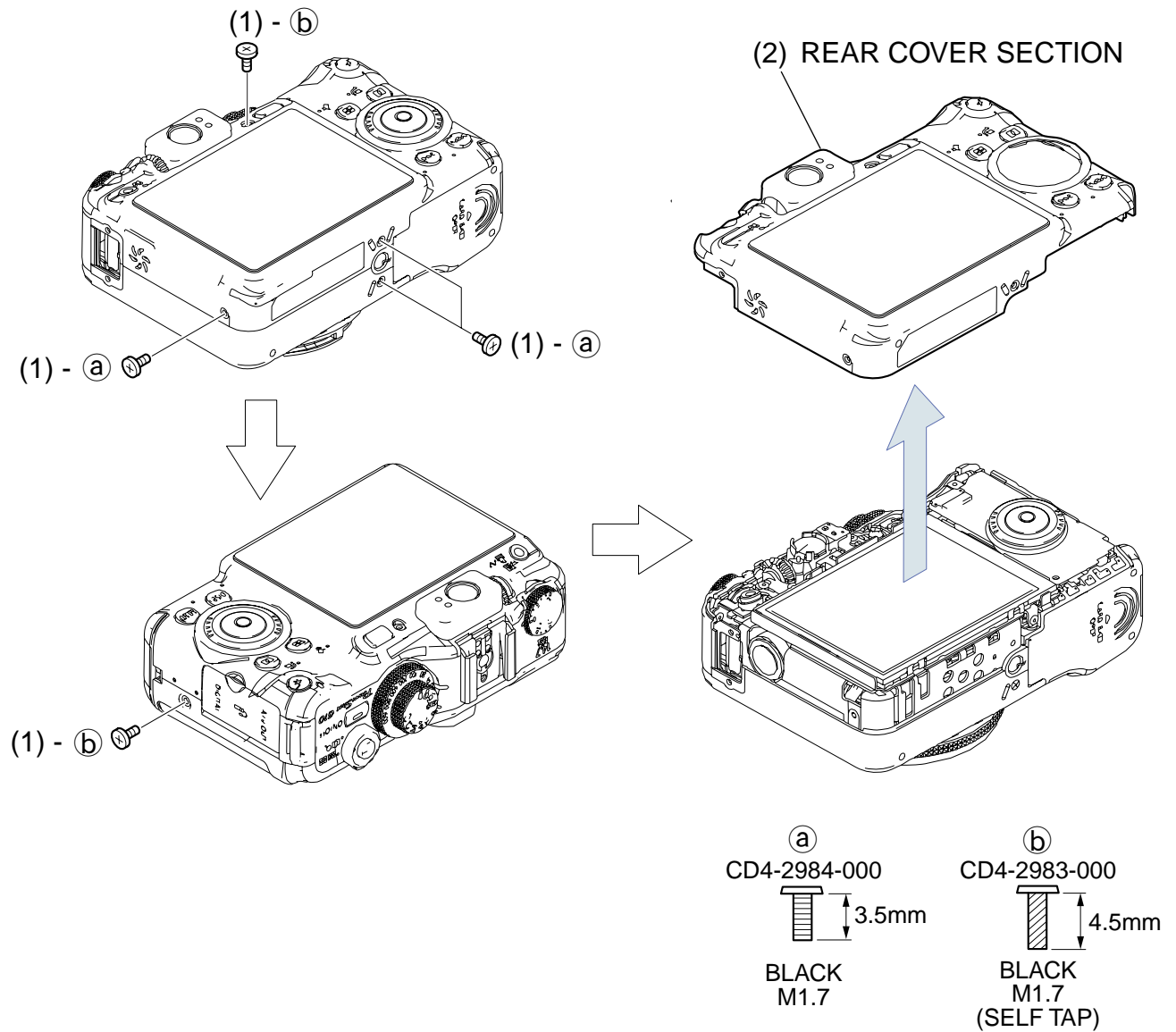
## 2.3 STRAP BASE

- (1) Remove two screws (a) × 2 and remove the STRAP BASE.



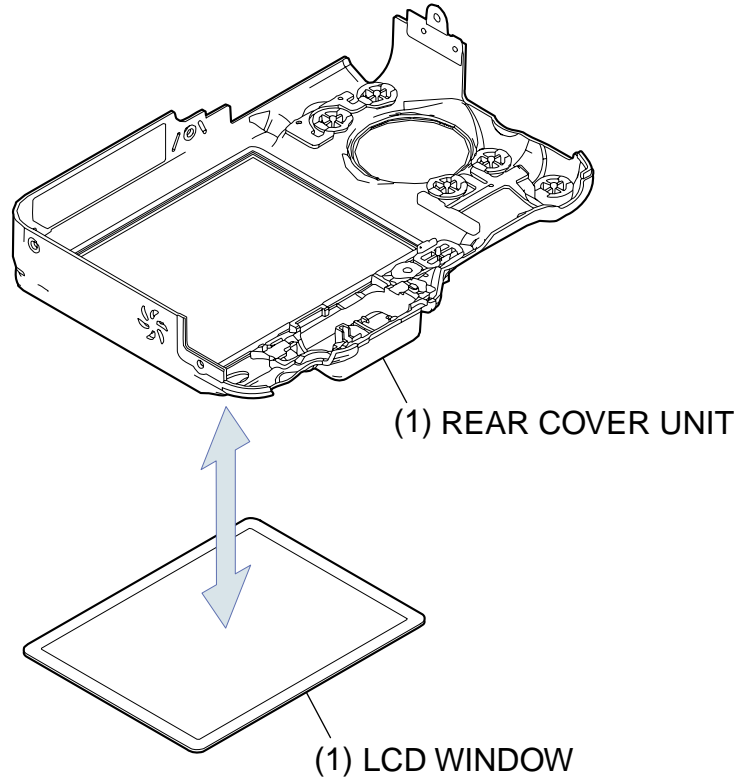
## 2.4 REAR COVER SECTION

- (1) Remove five screws ((a) × 3, (b) × 2).
- (2) Remove the REAR COVER SECTION.



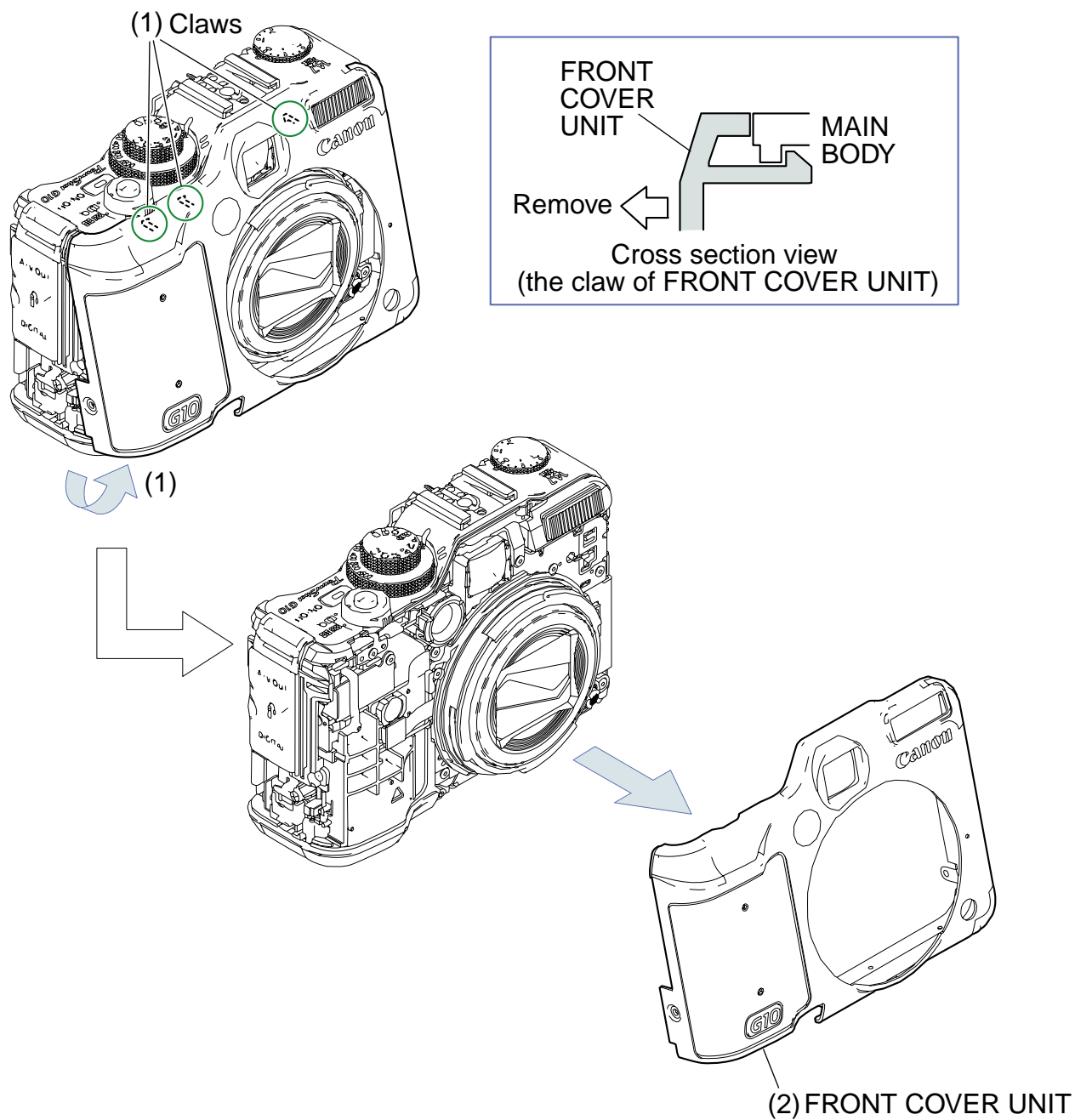
## 2.5 REAR COVER UNIT, LCD WINDOW

- (1) Separate the LCD WINDOW from the REAR COVER UNIT.



## 2.6 FRONT COVER UNIT

- (1) Raise the bottom of the FRONT COVER UNIT, and remove the three claws.
- (2) Remove the FRONT COVER UNIT.

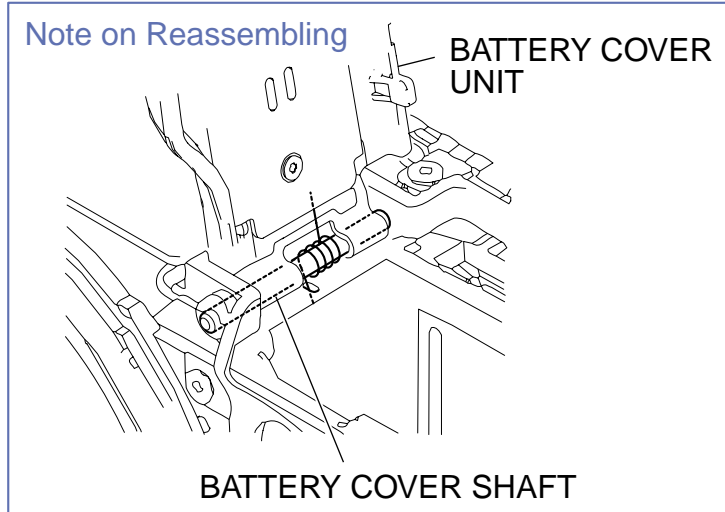
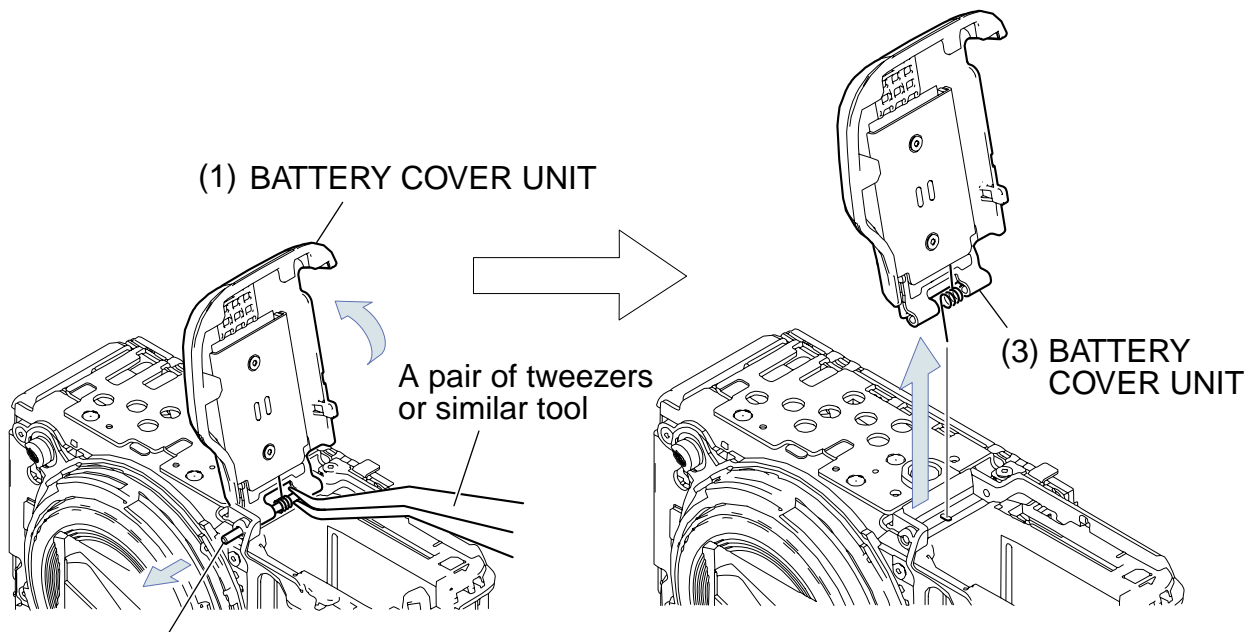


## 2.7 BATTERY COVER SHAFT, BATTERY COVER UNIT

- (1) Open the BATTERY COVER UNIT.
- (2) Using a pair of tweezers or similar tool, remove the BATTERY COVER SHAFT in the direction of the arrow.
- (3) Remove the BATTERY COVER UNIT.

<Note on Reassembling>

Install the BATTERY COVER UNIT as shown in the figure.



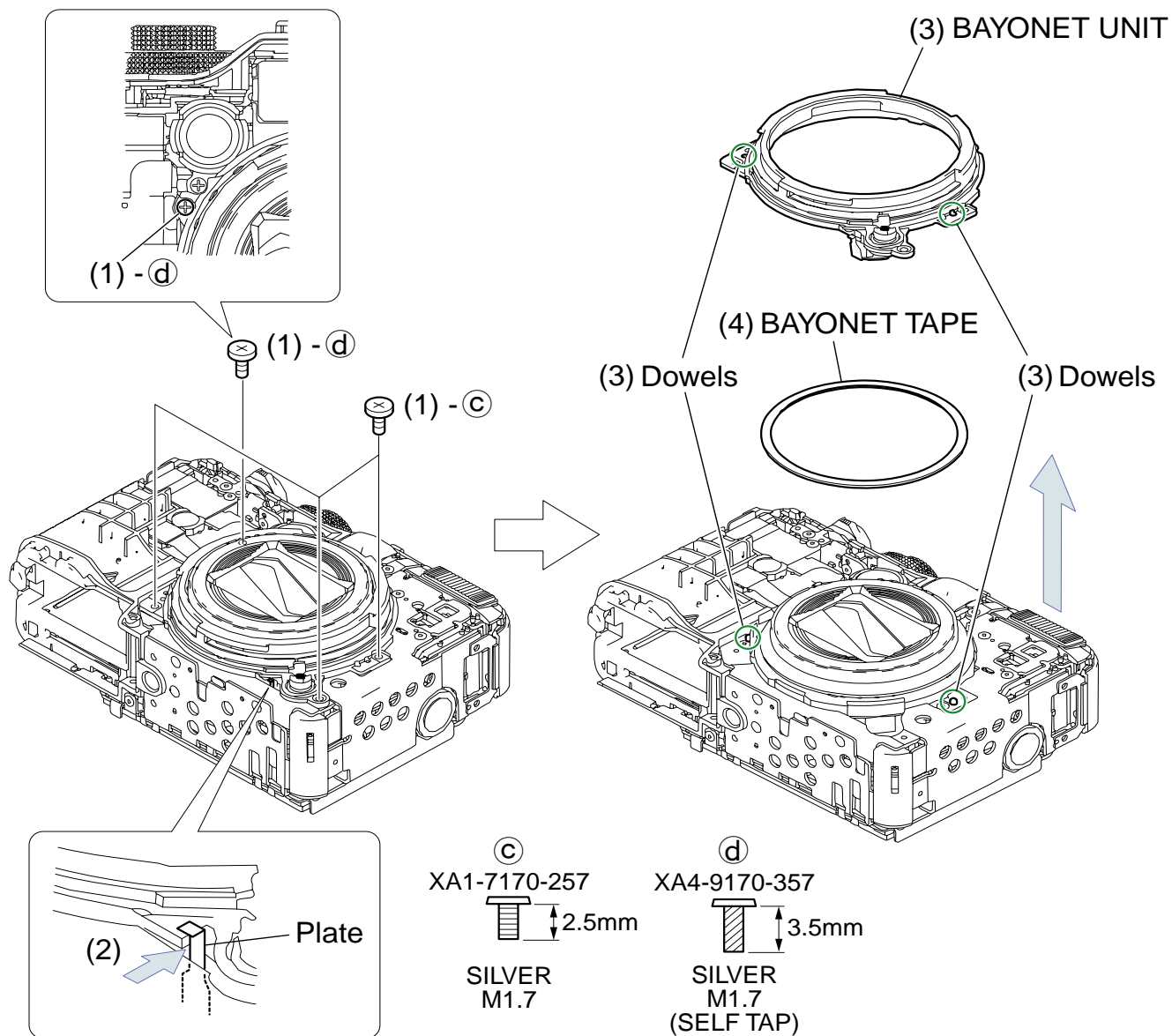


## 2.8 BAYONET UNIT, BAYONET TAPE

- (1) Remove four screws ((c) × 3, (d) × 1).
- (2) Push the plate in the direction of the arrow.
- (3) Disengage the two dowels, and remove the BAYONET UNIT.
- (4) Remove the BAYONET TAPE.

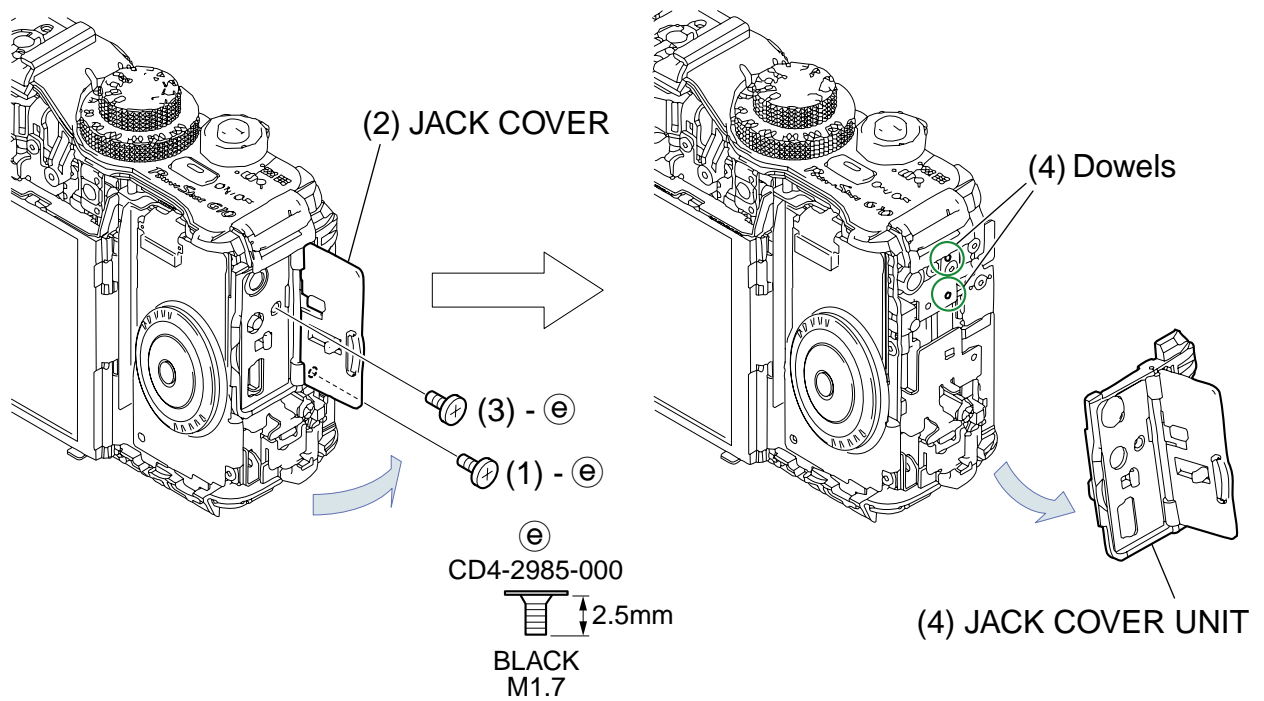
<Note on Disassembling>

Be careful not to drop the BAYONET TAPE.



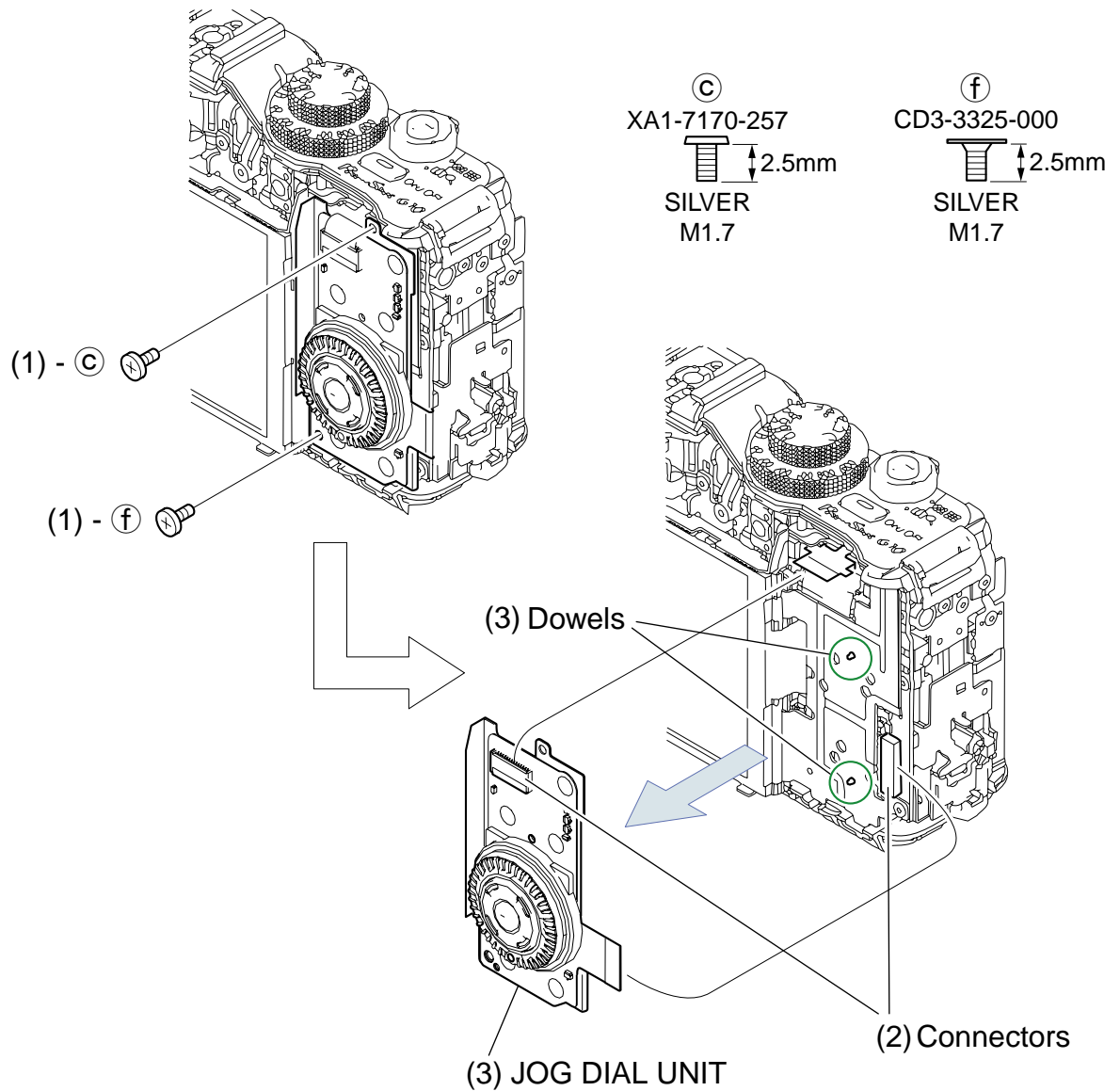
## 2.9 JACK COVER UNIT

- (1) Remove the screw (Ⓜ × 1).
- (2) Open the JACK COVER.
- (3) Remove the screw (Ⓜ × 1).
- (4) Disengage two dowels, and remove the JACK COVER UNIT in the direction of the arrow.



## 2.10 JOG DIAL UNIT

- (1) Remove two screws (Ⓒ × 1, Ⓕ × 1).
- (2) Disengage the two connectors.
- (3) Disengage the two dowels, and remove the JOG DIAL UNIT.

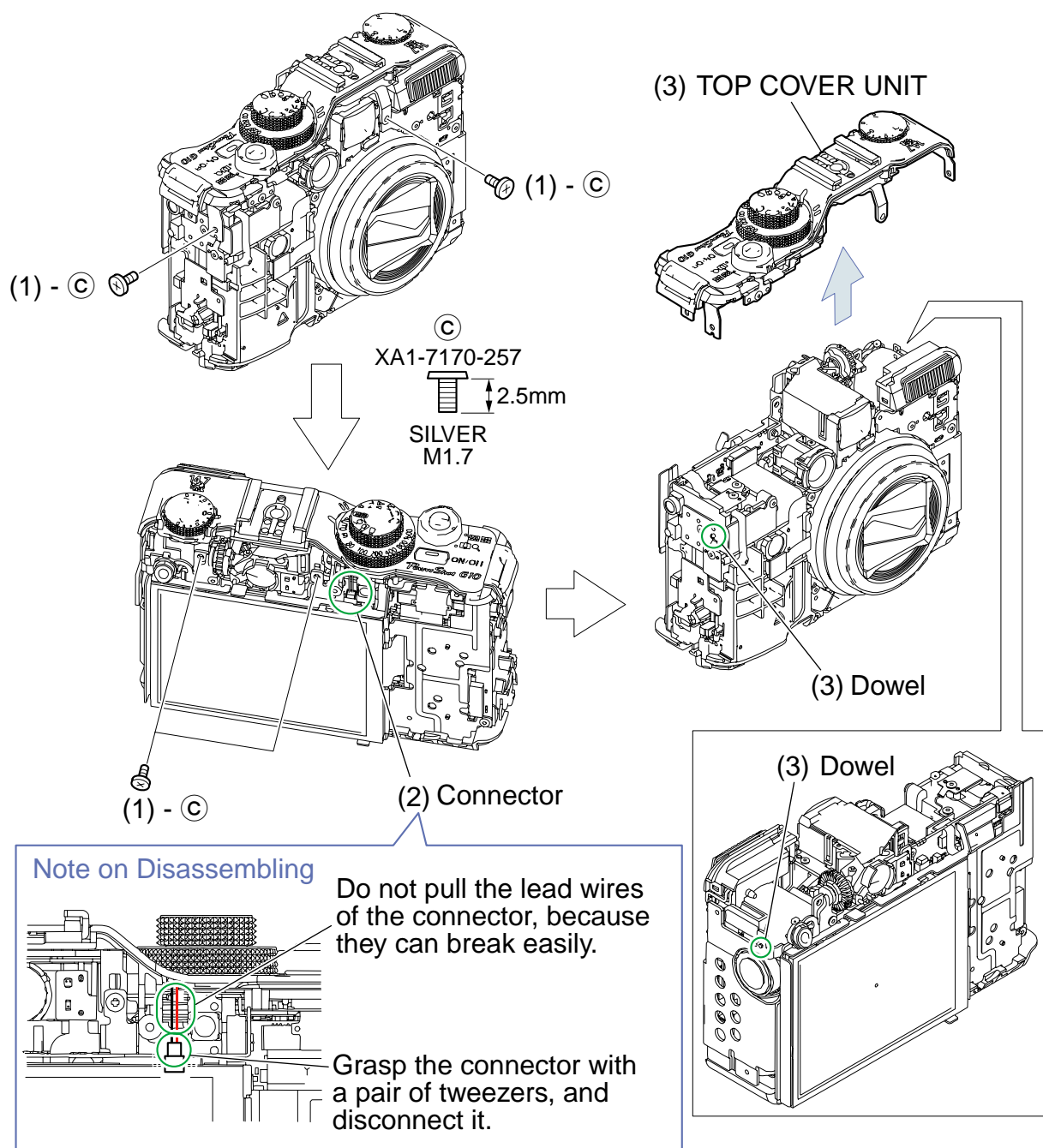


## 2.11 TOP COVER UNIT

- (1) Remove four screws ((C) × 4).
- (2) Disconnect the connector.
- (3) Disengage the two dowels, and remove the TOP COVER UNIT.

### <Note on Disassembling>

Do not pull the lead wires of the connector, because they can break easily.  
Grasp the connector with a pair of tweezers, and disconnect it.



## 2.12 PLATE SPRING

- (1) Using a pair of tweezers or similar tool, remove the PLATE SPRING.

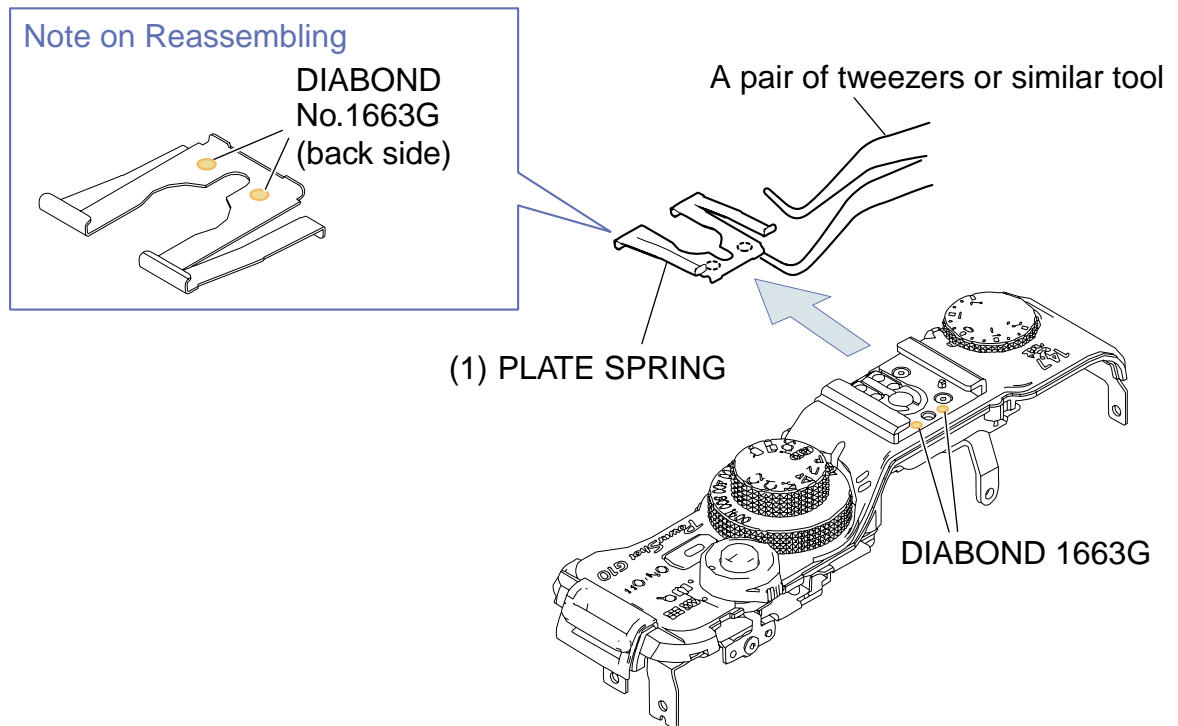
<Note on Disassembling>

The DIABOND is applied on the PLATE SPRING.

Moistening those areas with ethyl alcohol helps to remove the PLATE SPRING.

<Note on Reassembling>

Apply the DIABOND No.1663G to the positions shown in the figure.

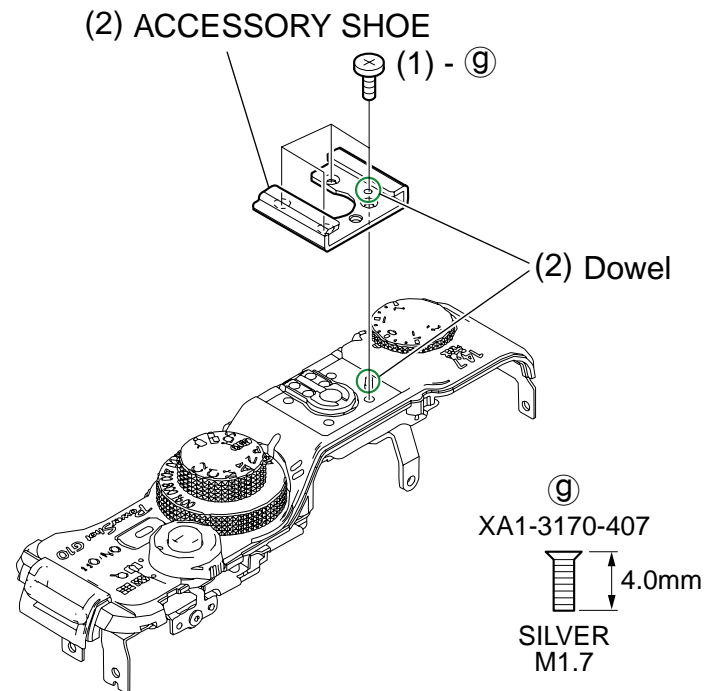
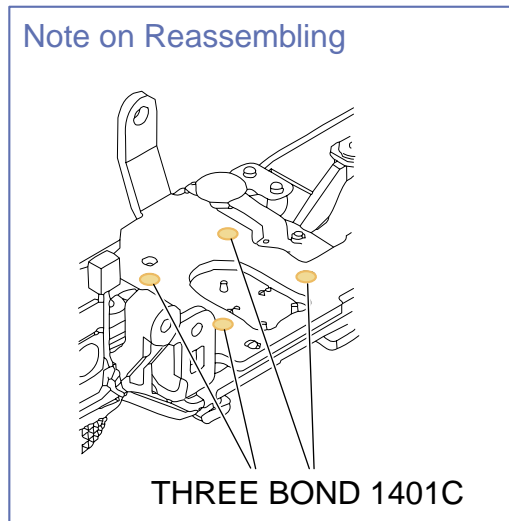


## 2.13 ACCESSORY SHOE

- (1) Remove four screws ((9) × 4).
- (2) Disengage the dowel, and remove the ACCESSORY SHOE.

<Note on Reassembling>

After tightening the screws ((9) × 4), apply the THREE BOND 1401C to positions shown in the figure.



## 2.14 FINDER DIAL UNIT

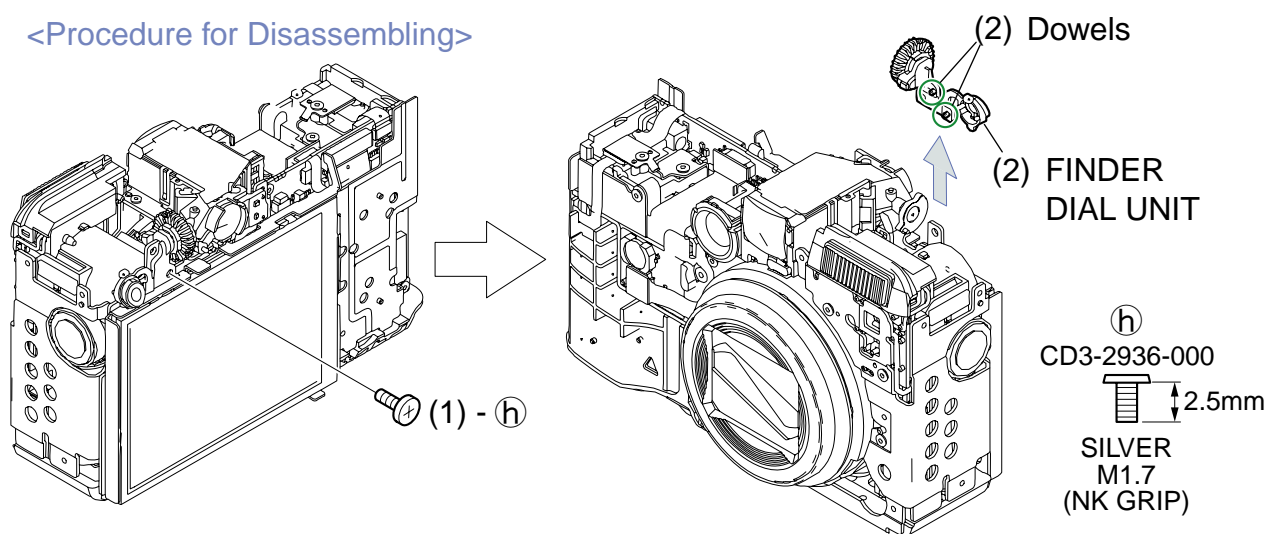
(Procedure for Disassembling)

- (1) Remove the screw (h) × 1).
- (2) Disengage the two dowels, and remove the FINDER DIAL UNIT.

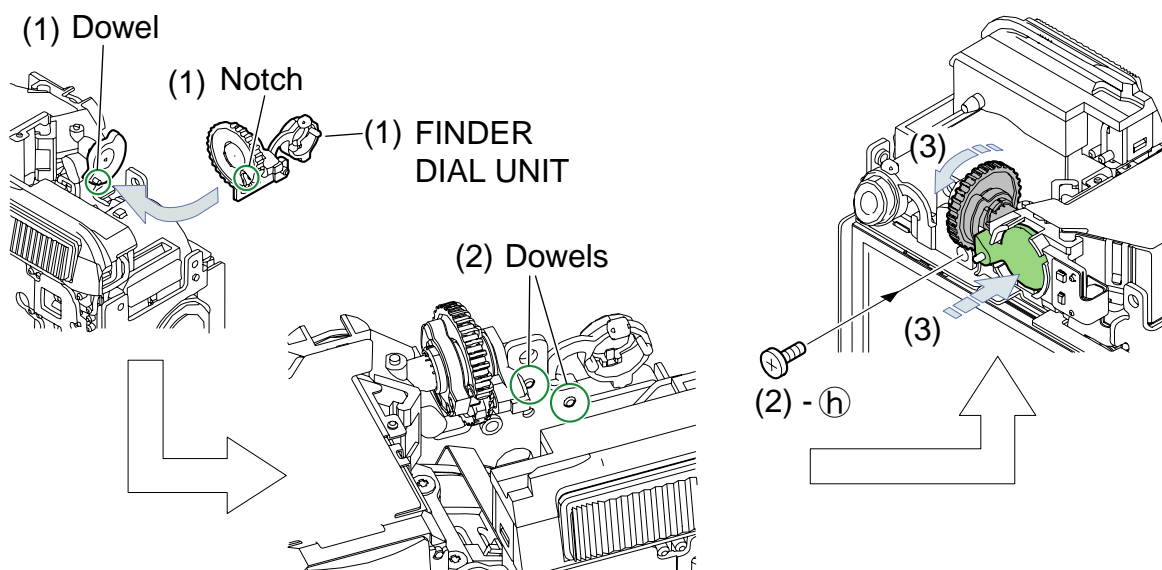
(Procedure for Reassembling)

- (1) Set the dial position of the FINDER DIAL UNIT by aligning the dowel with the notch.
- (2) Engage two dowels and check each dowel is in the correct position. And after that, tighten the screw (h) × 1).
- (3) Check that the operations are performed correctly by rotating the dial.

### <Procedure for Disassembling>



### <Procedure for Reassembling>





## 2.15 LCD UNIT SECTION

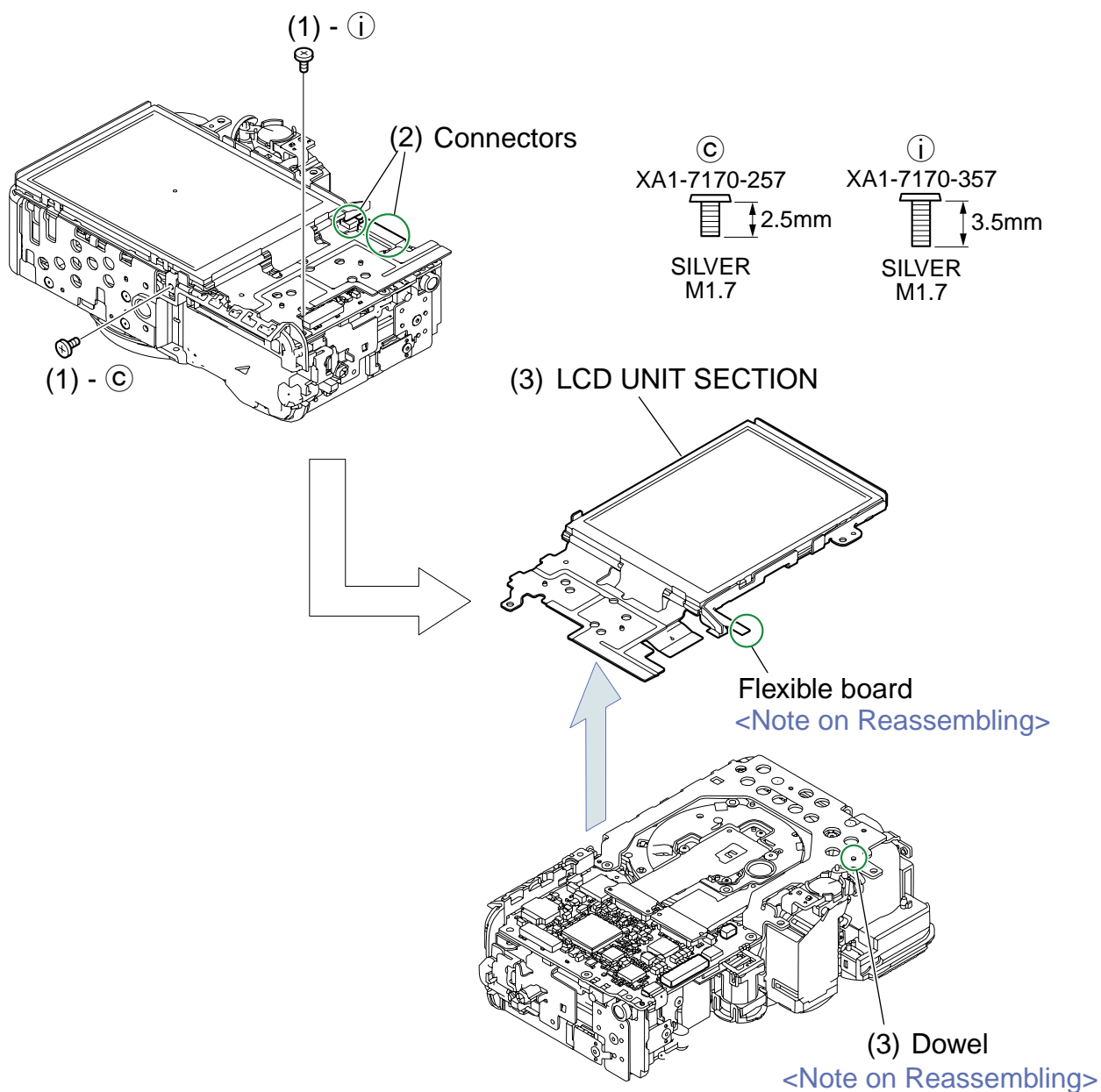
- (1) Remove two screws ((C) × 1, (i) × 1).
- (2) Disconnect the two connectors.
- (3) Disengage the dowel, and remove the LCD UNIT SECTION.

### <Note on Reassembling>

Be careful not to forget to engage the dowel.

Make sure to handle the flexible board with a pair of tweezers only at the area circled in the diagram, because it is thin and easy to damage.

After connecting the flexible board, be sure that it is inserted firmly into the connector.



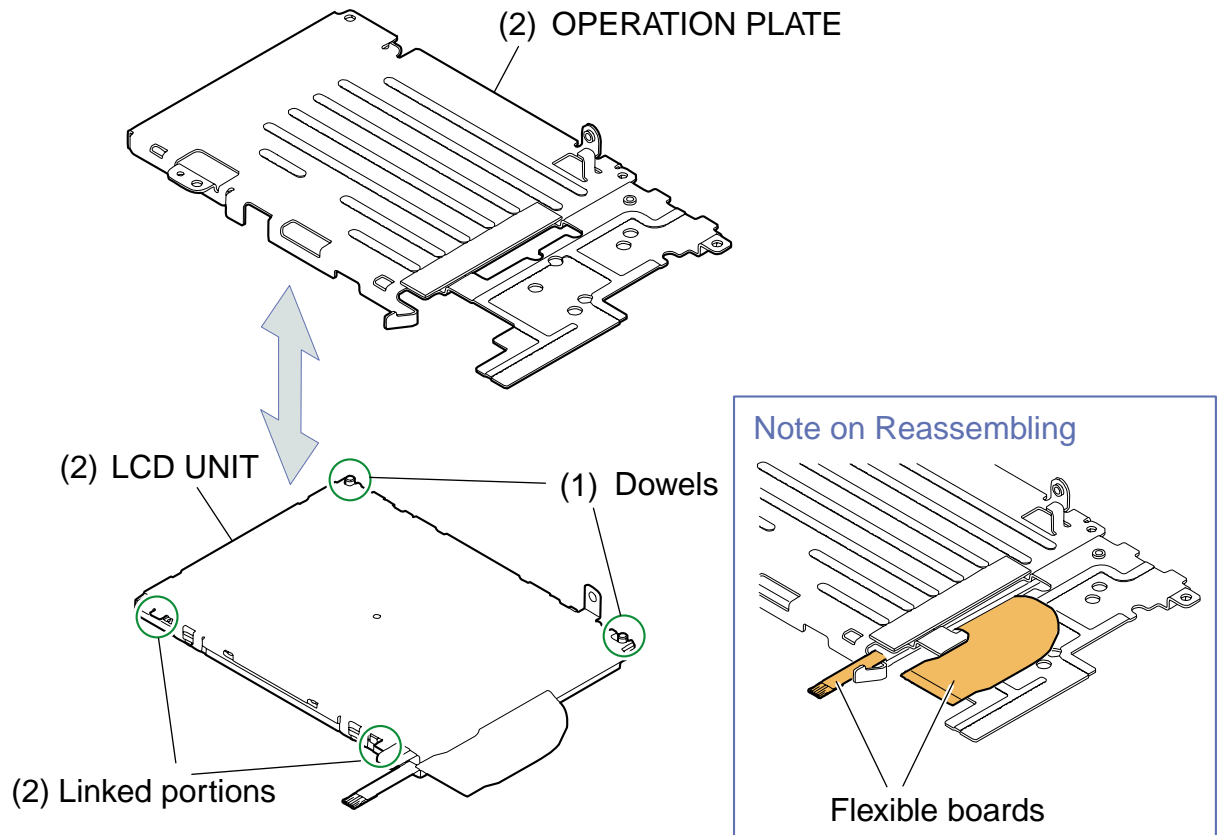


## 2.16 LCD UNIT, OPERATION PLATE

- (1) Disengage the two dowels.
- (2) Undo the two linked portions, and separate the LCD UNIT from the OPERATION PLATE.

<Note on Reassembling>

Route the flexible board as shown in the figure.

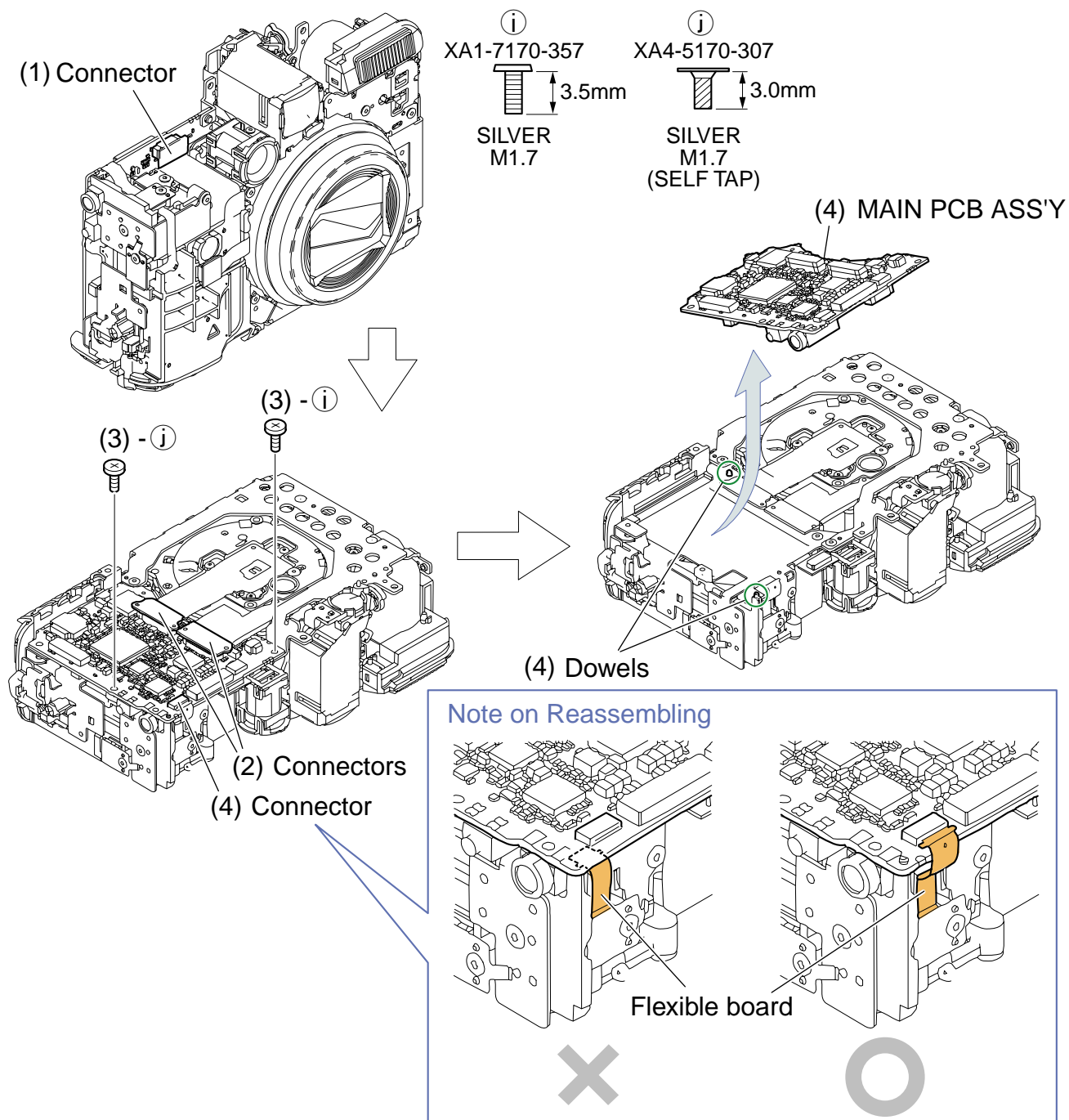


## 2.17 MAIN PCB ASS'Y

- (1) Disconnect the connector.
- (2) Disconnect the two connectors.
- (3) Remove two screws ((i) × 1, (j) × 1).
- (4) Disengage the two dowels, and disconnect the connector. Then remove the MAIN PCB ASS'Y.

<Note on Reassembling>

Be careful not to catch the flexible board under the MAIN PCB ASS'Y.

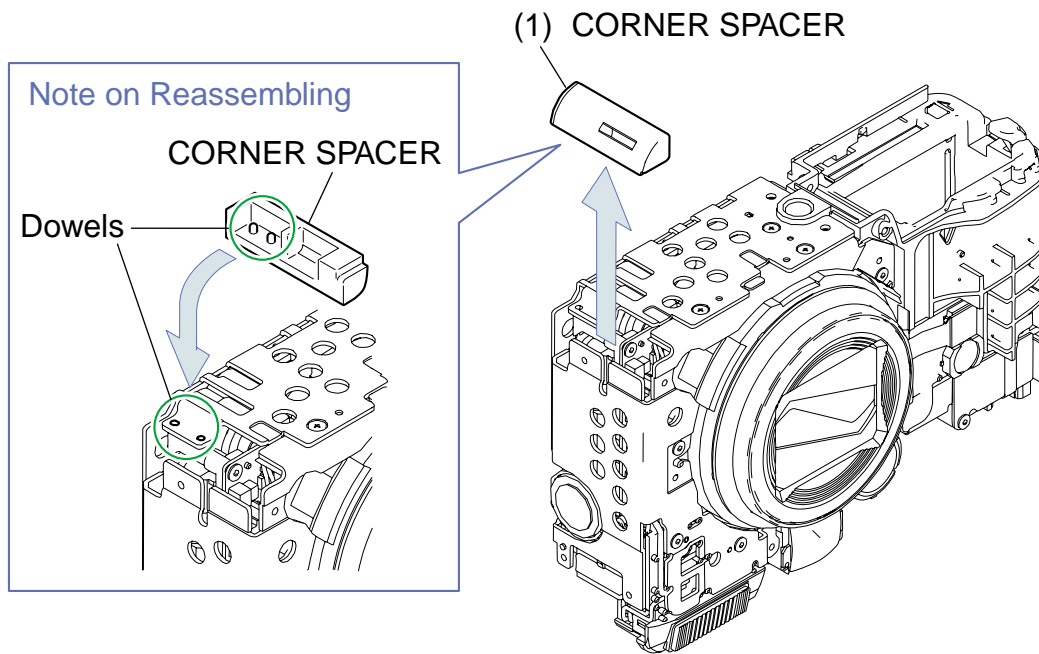


## 2.18 CORNER SPACER

- (1) Remove the CORNER SPACER.

<Note on Reassembling>

Align two dowels and install the CORNER SPACER.

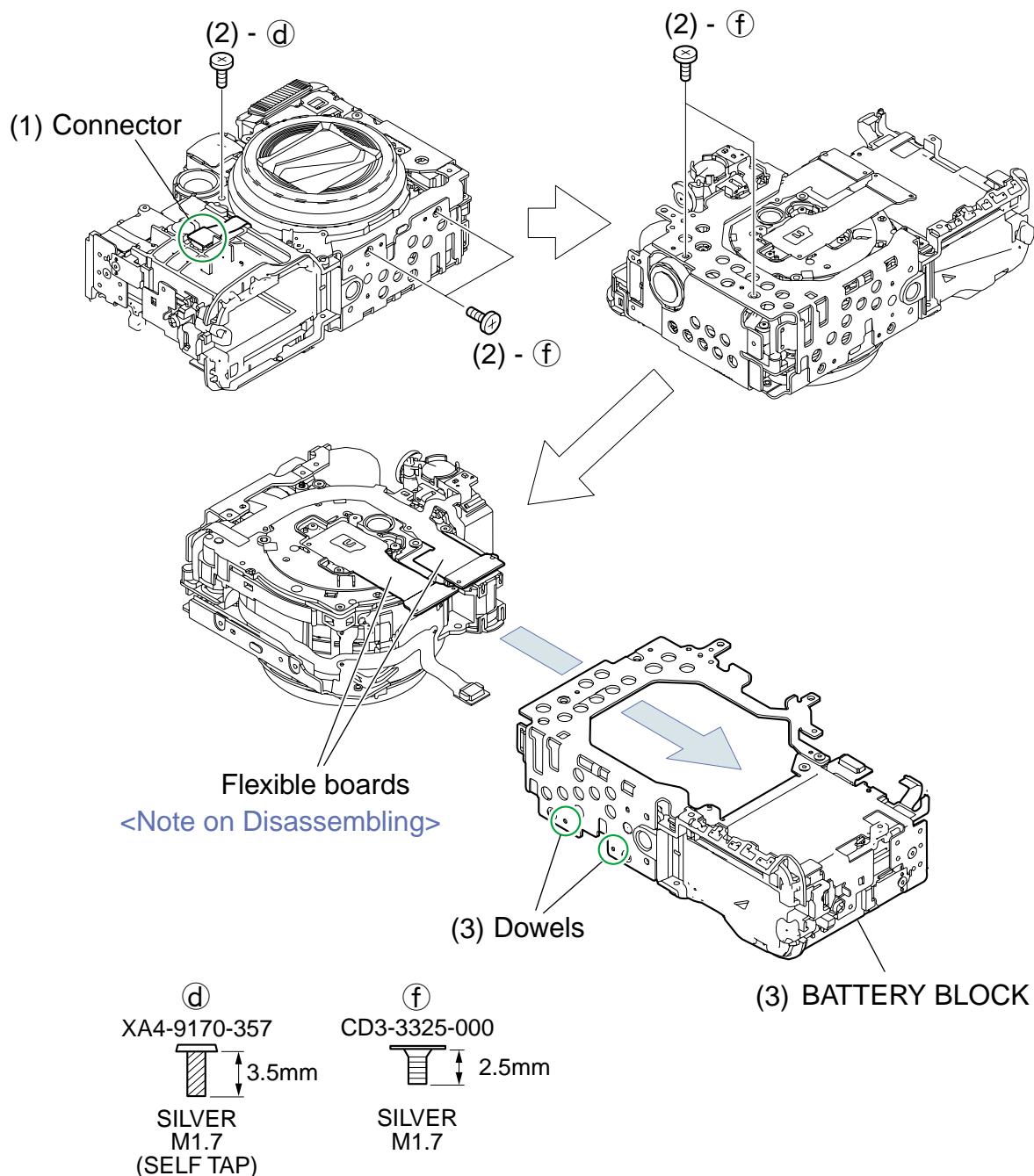


## 2.19 BATTERY BLOCK

- (1) Disconnect the connector.
- (2) Remove five screws (Ⓓ × 1, Ⓕ × 4).
- (3) Disengage the two dowels, and remove the BATTERY BLOCK.

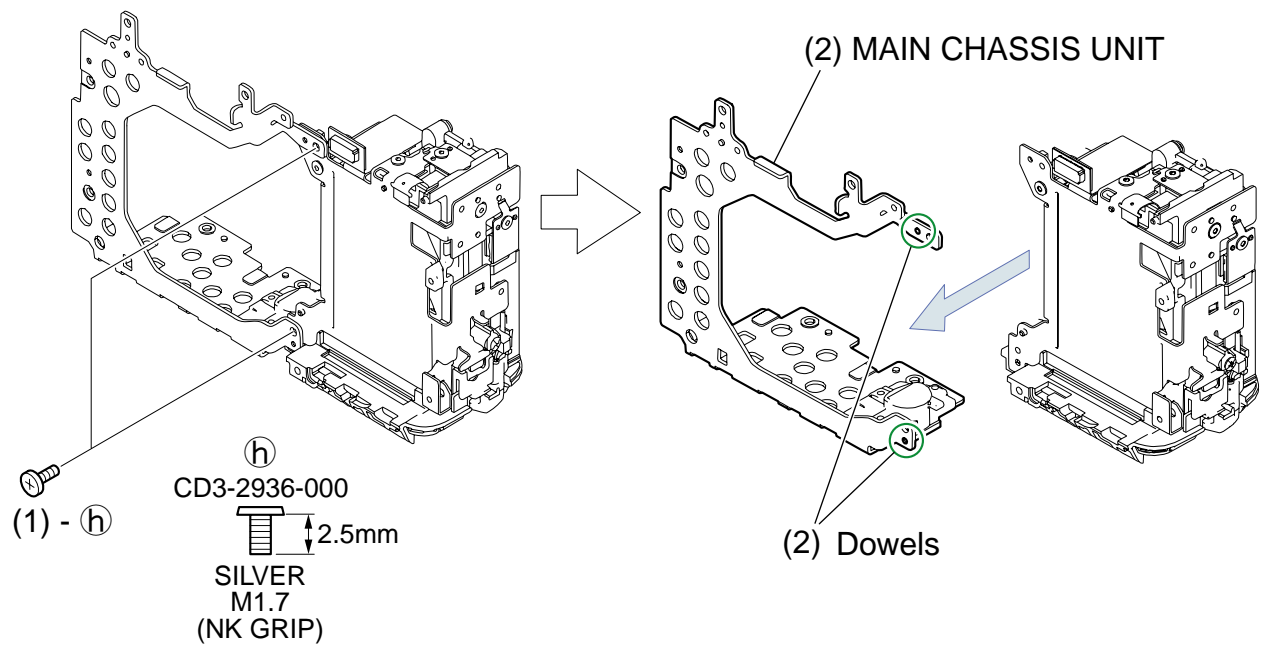
<Note on Disassembling>

Be careful not to get caught on the flexible boards.



## 2.20 MAIN CHASSIS UNIT

- (1) Remove two screws ((h) × 2).
- (2) Disengage the two dowels, and remove the MAIN CHASSIS UNIT.

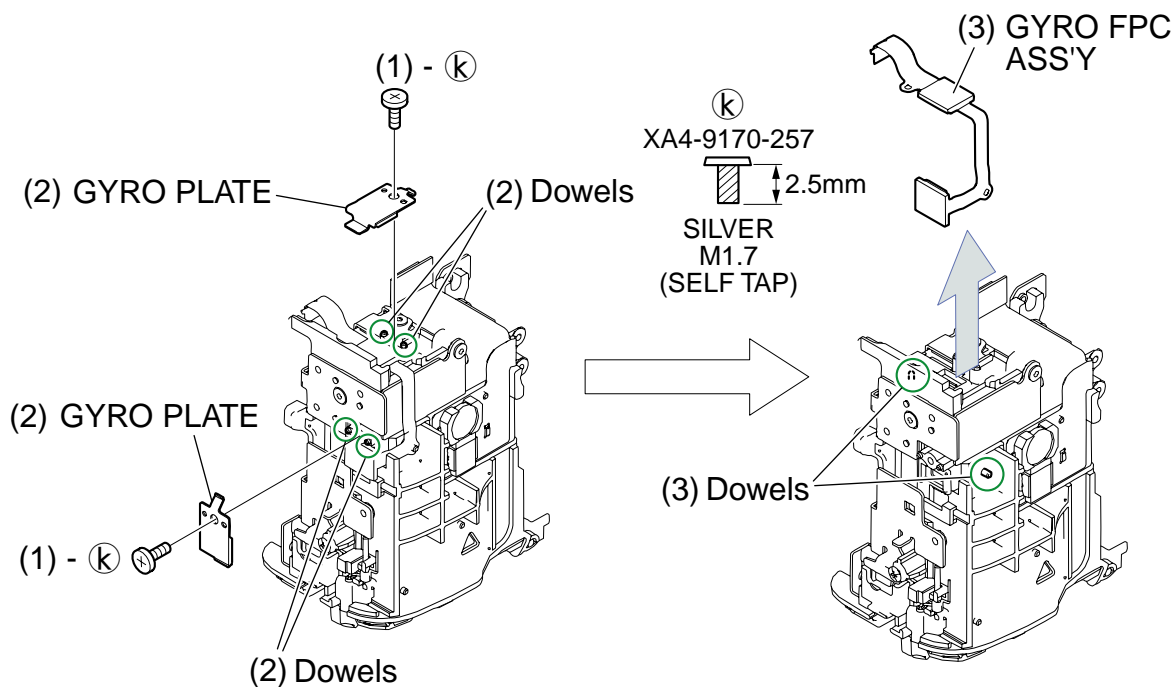


## 2.21 GYRO FPC ASS'Y

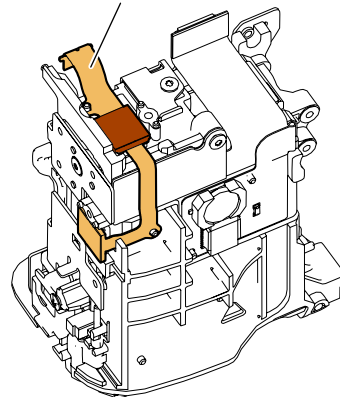
- (1) Remove two screws ((k) × 2).
- (2) Disengage the four dowels, and remove the two GYRO PLATES.
- (3) Disengage the two dowels, and remove the GYRO FPC ASS'Y.

<Note on Reassembling>

Install the GYRO FPC ASS'Y as shown in the figure.



Note on Reassembling  
GYRO FPC ASS'Y

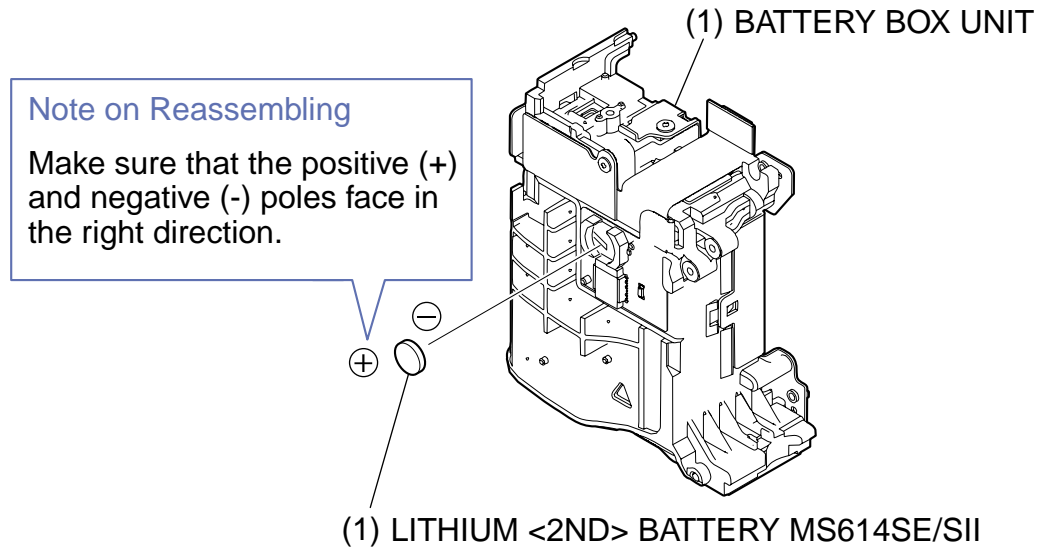


## 2.22 LITHIUM <2ND> BATTERY MS614SE/SII, BATTERY BOX UNIT

- (1) Separate the LITHIUM <2ND> BATTERY MS614SE/SII from the BATTERY BOX UNIT.

<Note on Reassembling>

Make sure that the positive (+) and negative (-) poles face in the right direction.



## 2.23 BATTERY FPC ASS'Y

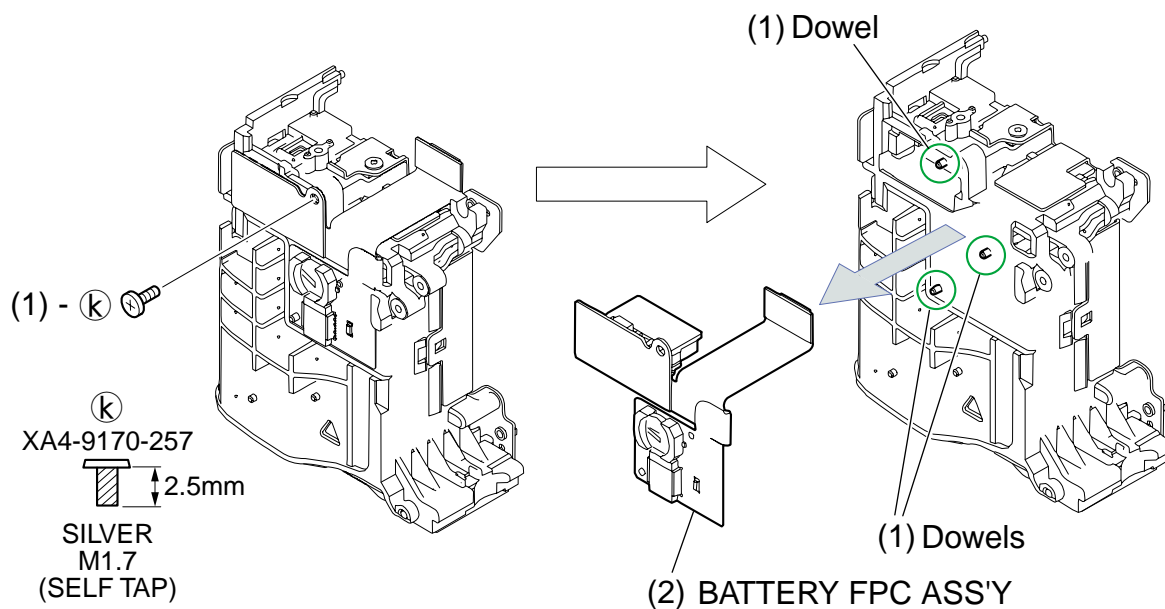
- (1) Remove the screw (Ⓚ × 1).
- (2) Disengage the three dowels, and peel off the BATTERY FPC ASS'Y.

### <Note on Disassembling>

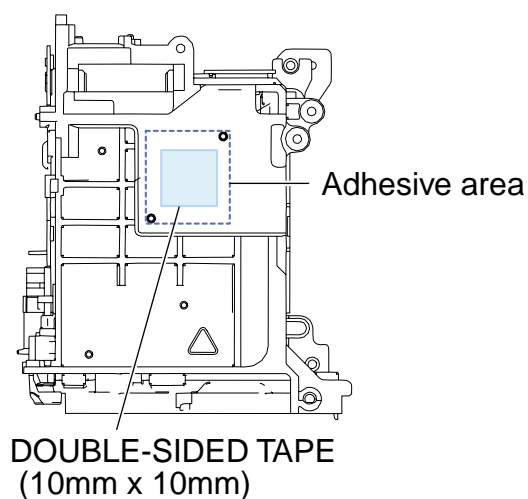
The adhesion of the DOUBLE-SIDED TAPE used to attach the BATTERY FPC ASS'Y is very strong. Therefore, when peeling the BATTERY FPC ASS'Y, do it very carefully so that the flexible board is not ripped.

### <Note on Reassembling>

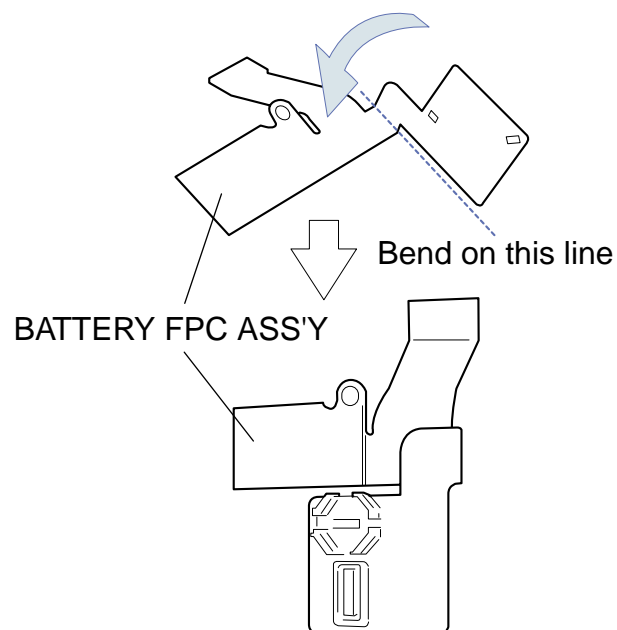
- (1) Attach the DOUBLE-SIDED TAPE (10mm × 10mm) to the position shown in the figure.
- (2) Fold the BATTERY FPC ASS'Y and attach it as shown in the figure.



### Note on Reassembling (1)



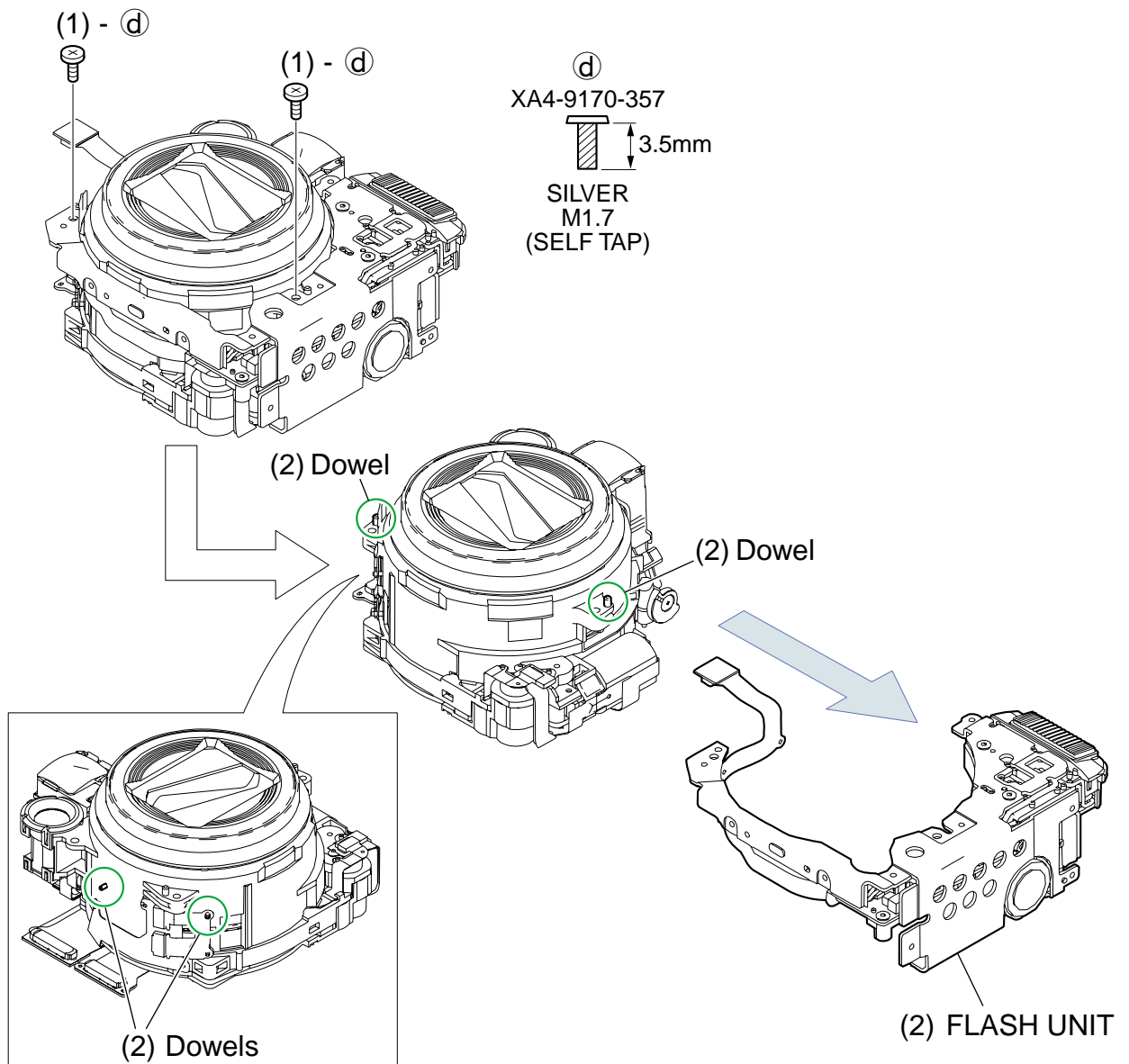
### Note on Reassembling (2)





## 2.24 FLASH UNIT

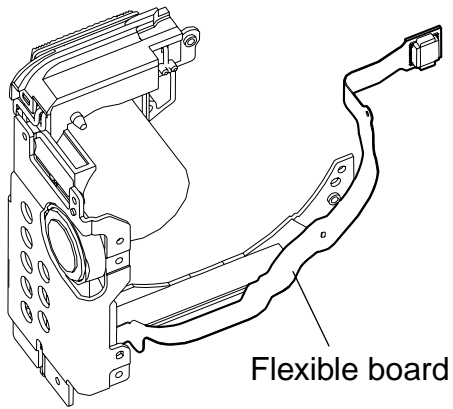
- (1) Remove two screws (d × 2).
- (2) Disengage the four dowels, and remove the FLASH UNIT.



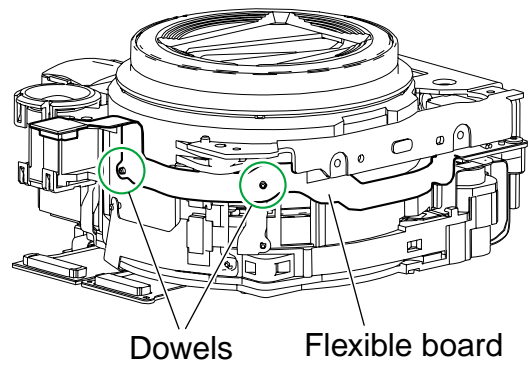
<Note on Reassembling>

- (1) Be careful not to cut the flexible board.
- (2) Engage the two dowels, and install the flexible board as shown in the figure.

Note on Reassembling (1)

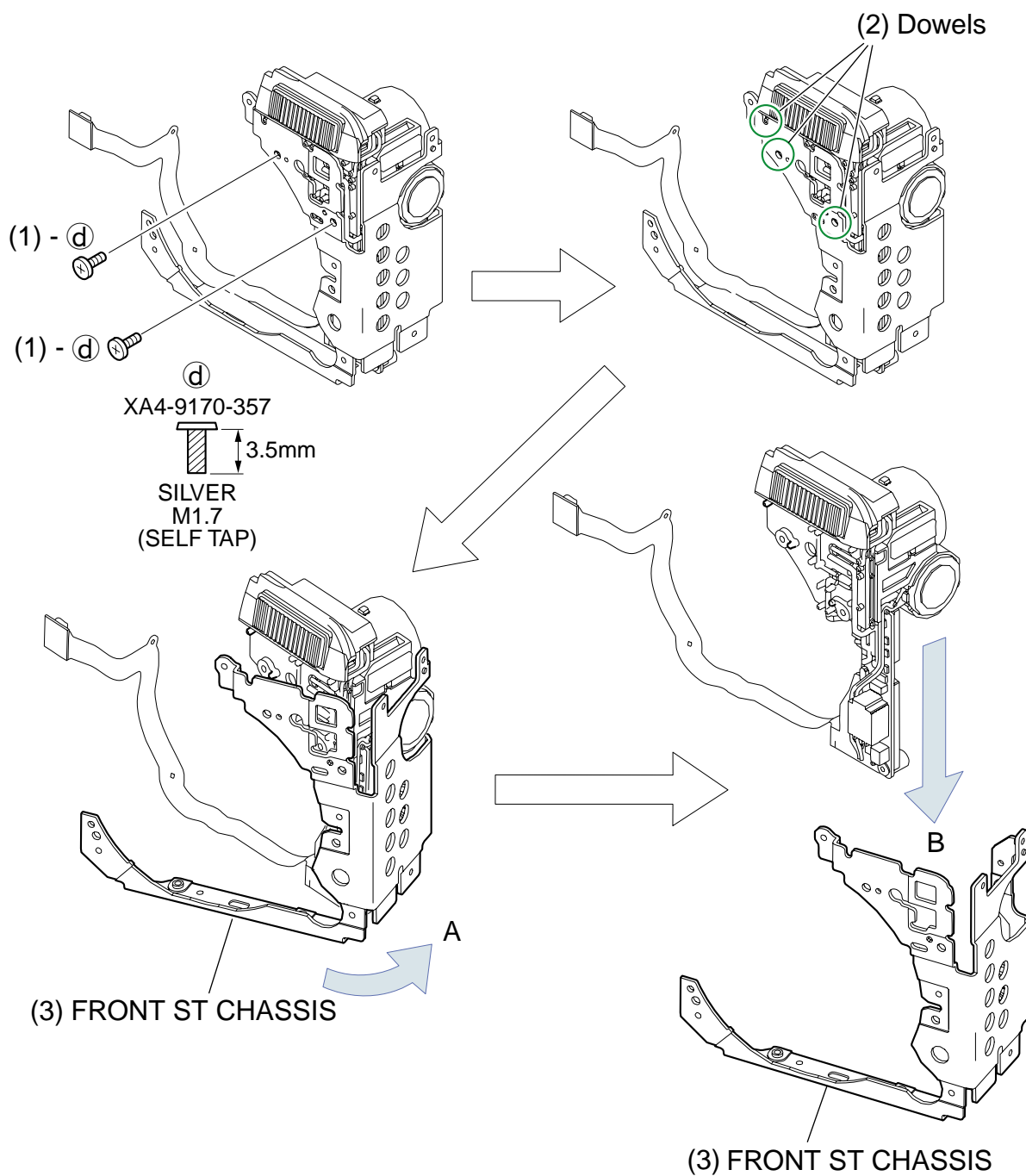


Note on Reassembling (2)



## 2.25 FRONT ST CHASSIS

- (1) Remove two screws (d × 2).
- (2) Disengage the three dowels.
- (3) Rotate the FRONT ST CHASSIS in the direction of the arrow A, and remove it in the direction of the arrow B.



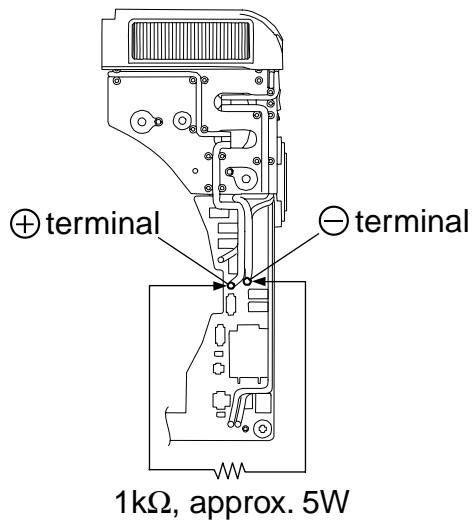
Note: After separating the FRONT ST CHASSIS, discharge the MAIN CAPACITOR.

(Because this is a high-voltage circuit, be careful to avoid electric shock and short-circuits with other components.)

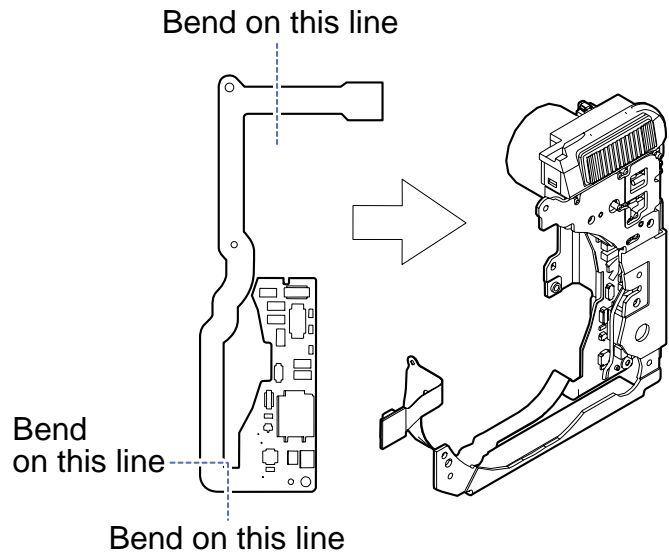
<Note on Reassembling>

Fold the flexible board and install it as shown in the figure.

#### Note (Discharge)



#### Note on Reassembling

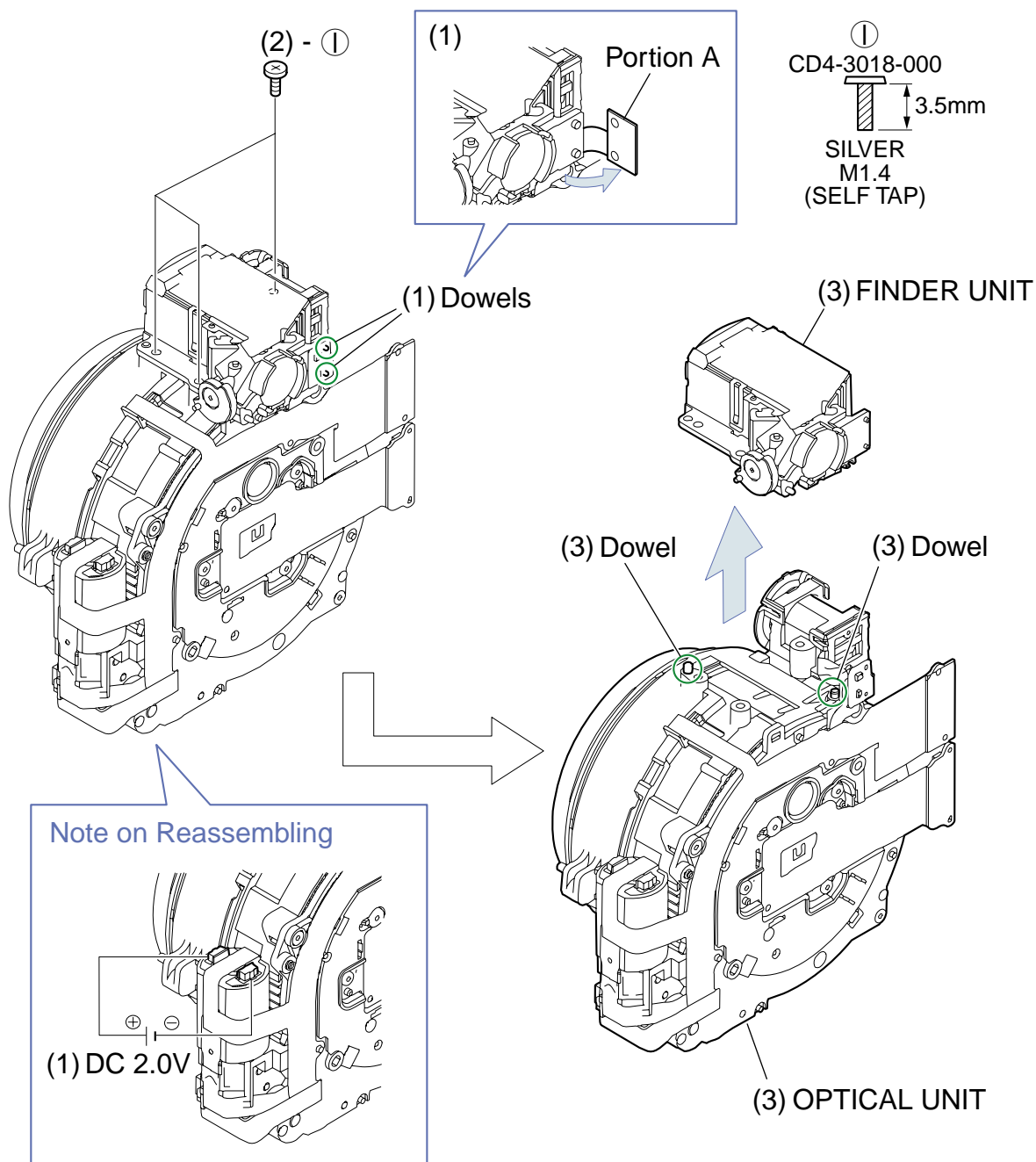


## 2.26 FINDER UNIT, OPTICAL UNIT

- (1) Disengage the two dowels, and remove the portion A.
- (2) Remove three screws (① × 3).
- (3) Disengage the two dowels, and separate the FINDER UNIT from the OPTICAL UNIT.

### <Note on Reassembling>

Apply voltage (DC 2.0V) across the motor terminal to drive the motor until the motor stops and the barrel goes back to the retracted position, and then install the FINDER UNIT to the OPTICAL UNIT.



## 2.27 FRONT CAP, FRONT CAP TAPE

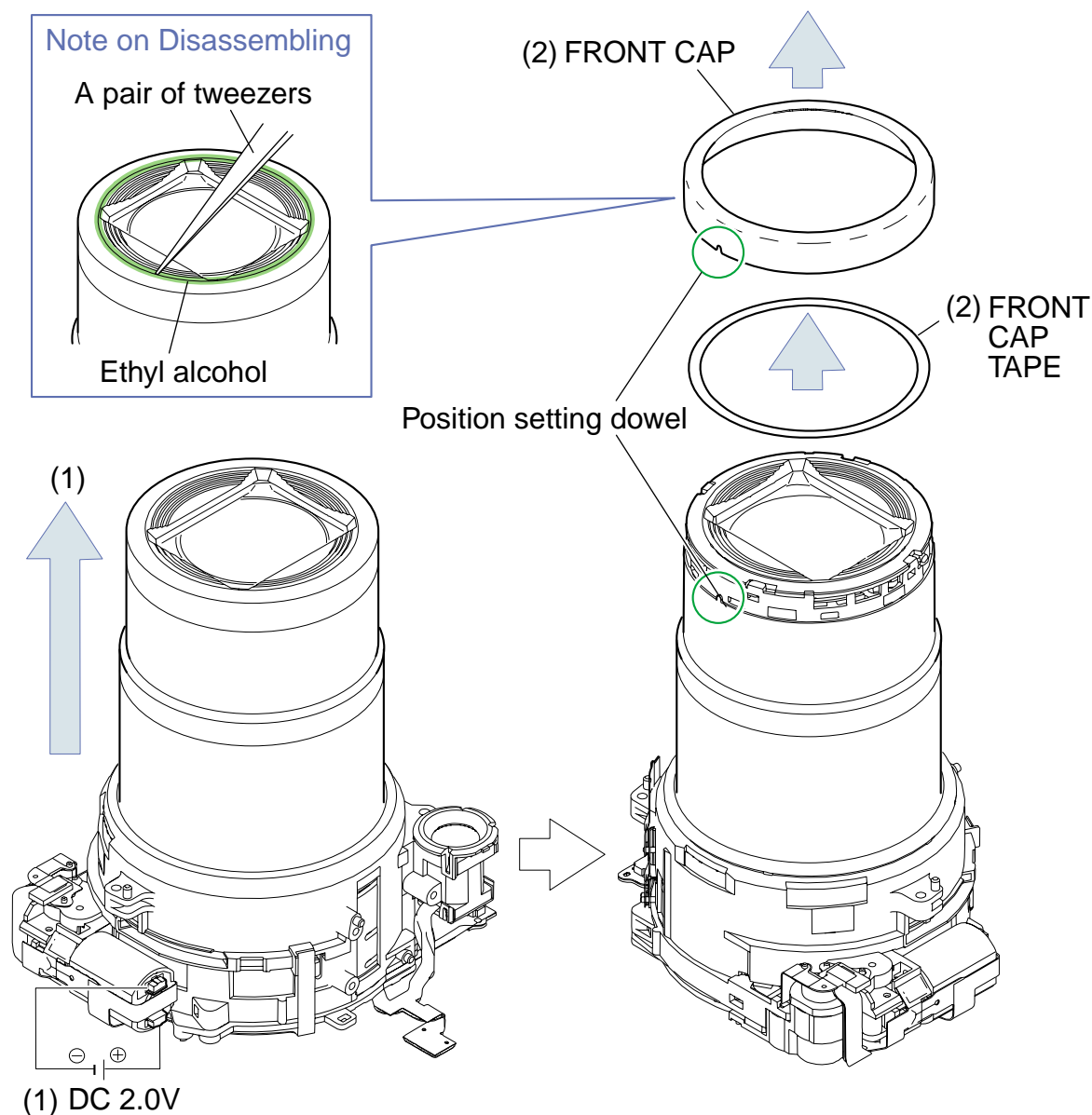
- (1) Apply the voltage (DC 2.0V) across the motor terminal to drive the motor until the motor stops and the barrel comes fully out.
- (2) Remove the FRONT CAP which is attached to the FRONT CAP TAPE.

<Note on Disassembling>

Apply ethyl alcohol to the position shown in the figure, and remove the FRONT CAP with a pair of tweezers.

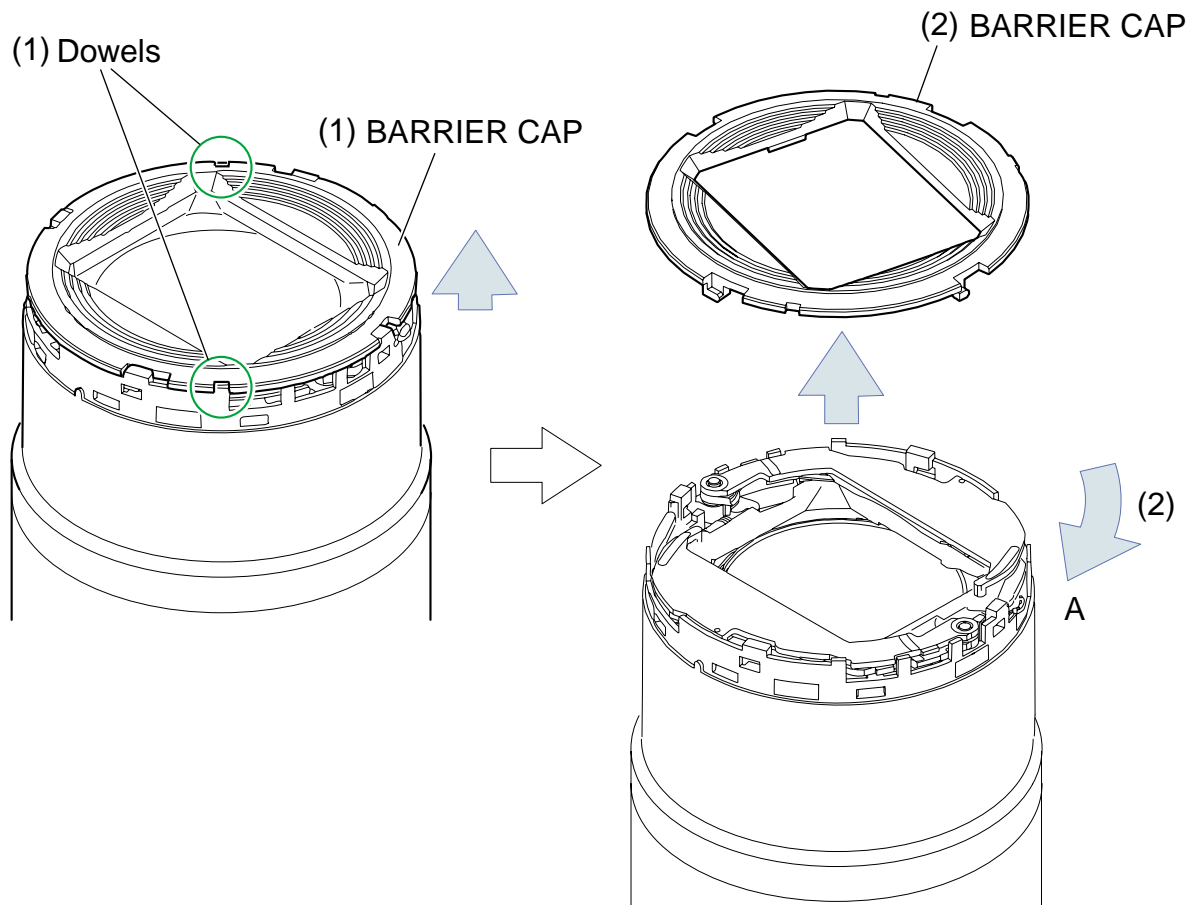
<Note on Reassembling>

Install the FRONT CAP so that the position-setting dowels can be aligned as shown in the figure.



## 2.28 BARRIER CAP

- (1) Disengage the two dowels one by one, and raise the BARRIER CAP.
- (2) Rotate the BARRIER CAP in the direction of the arrow A, and remove it.



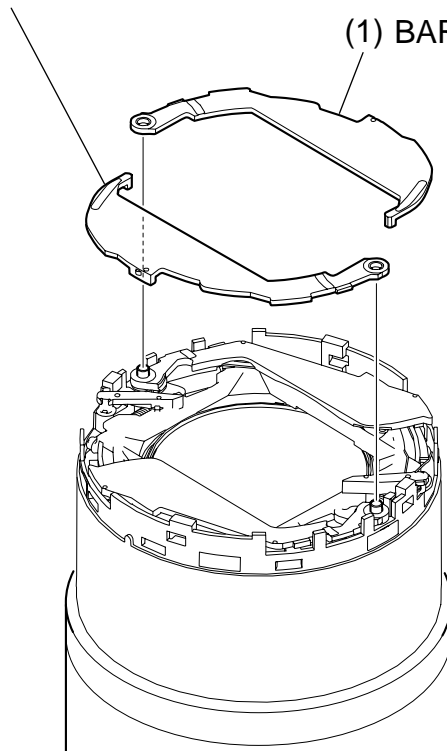
## 2.29 BARRIER PLATE 1

- (1) Remove the BARRIER PLATE 1 (2 pieces).

<Note on Reassembling>

Install the BARRIER PLATE 1 (2 pieces) so that the BARRIER PLATE 3 (2 pieces) is aligned with the positions shown in the figure.

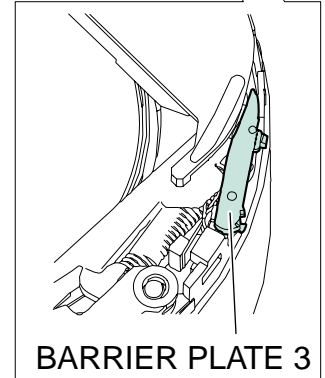
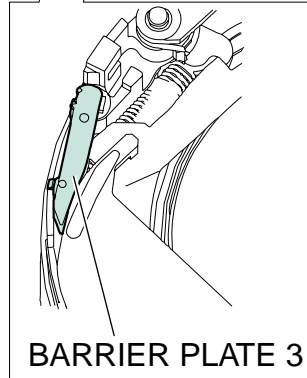
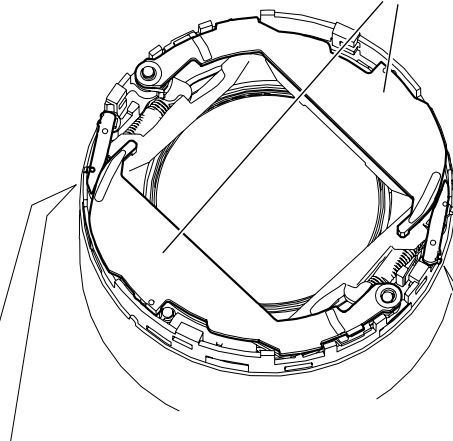
- (1) BARRIER PLATE 1



- (1) BARRIER PLATE 1

### Note on Reassembling

BARRIER PLATE 1



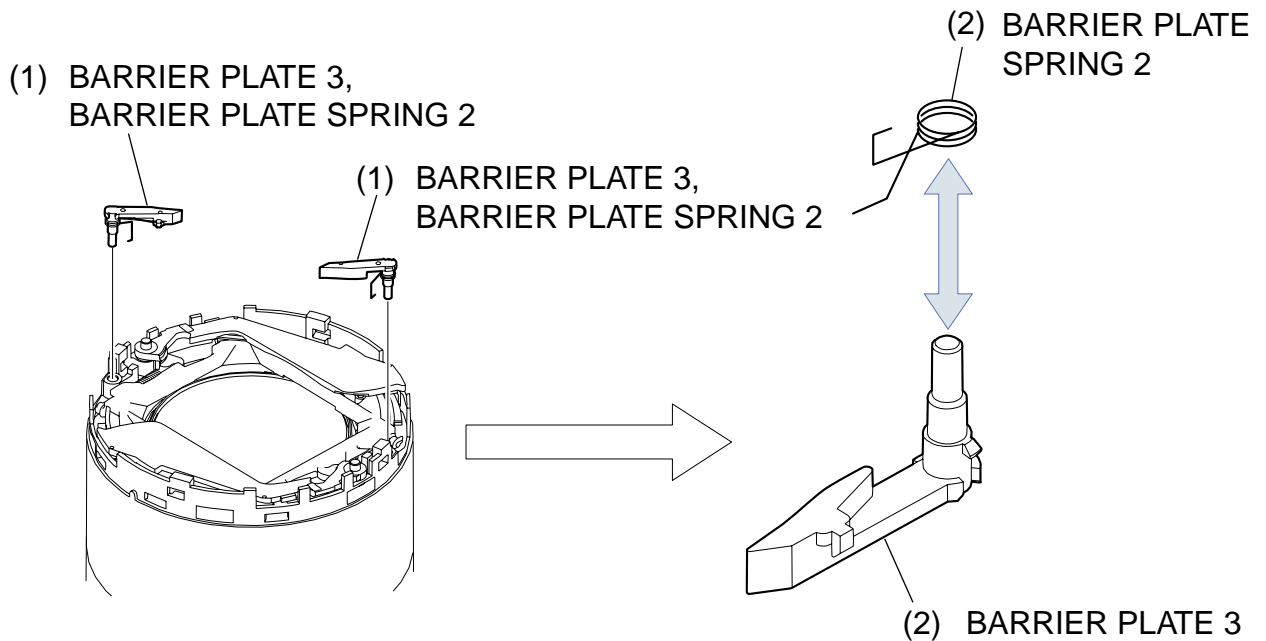


## 2.30 BARRIER PLATE 3, BARRIER PLATE SPRING 2

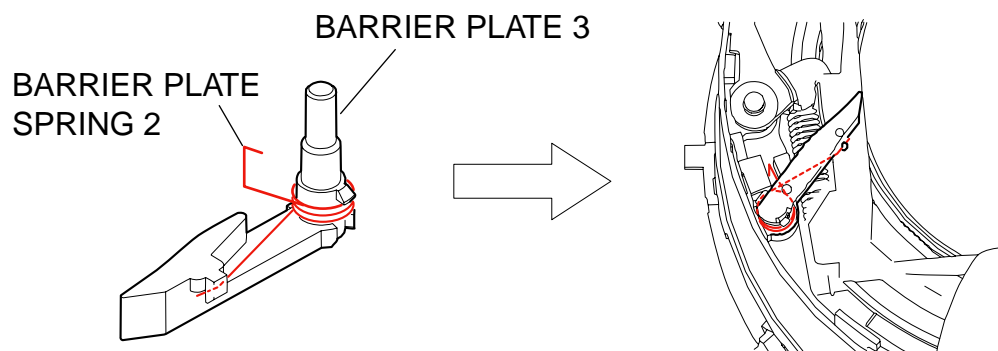
- (1) Remove the BARRIER PLATE 3 and BARRIER PLATE SPRING 2 together as an assembled unit.
- (2) Separate the BARRIER PLATE SPRING 2 from the BARRIER PLATE 3.

<Note on Reassembling>

Install the BARRIER PLATE 3 and BARRIER PLATE SPRING 2 as shown in the figure.

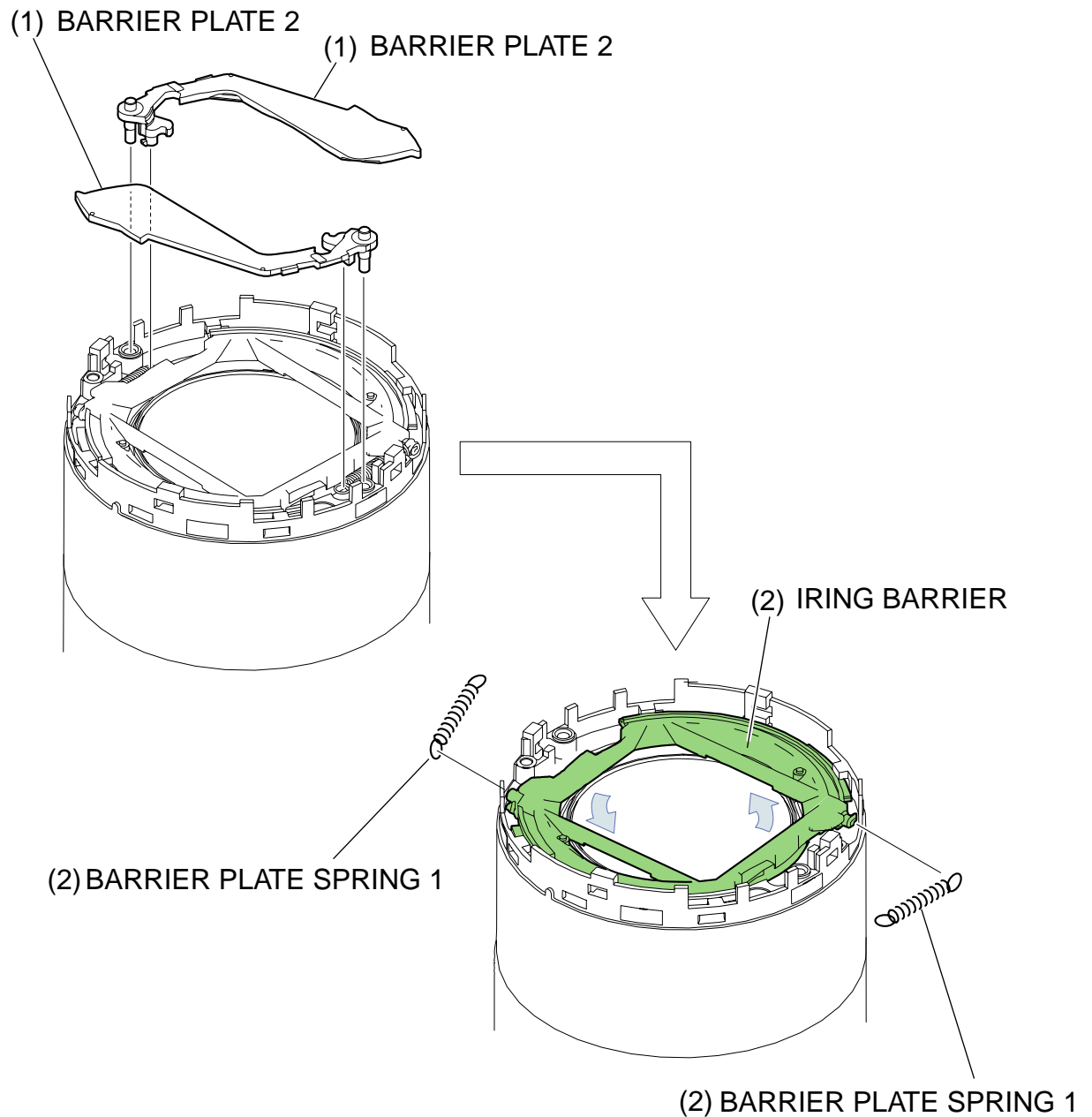


### Note on Reassembling



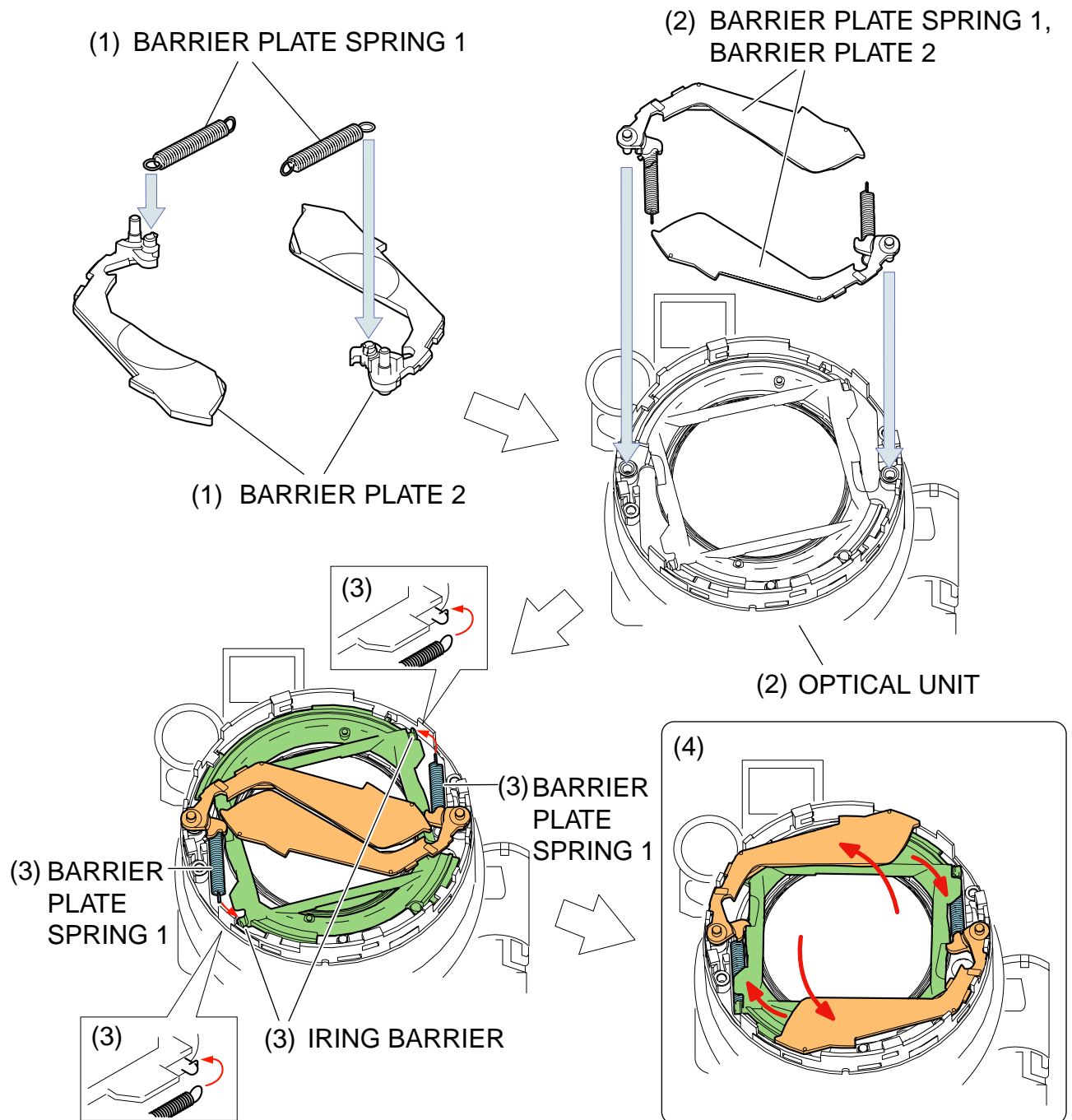
## 2.31 BARRIER PLATE 2, BARRIER PLATE SPRING 1

- ① Procedure for Disassembling
  - (1) Remove the BARRIER PLATE 2 (2 pieces).
  - (2) Rotate the IRING BARRIER in the direction of the arrow slightly and remove the BARRIER PLATE SPRING 1 (2 pieces).



② Procedure for Reassembling

- (1) Install the BARRIER PLATE SPRING 1 to the BARRIER PLATE 2.
- (2) Install the BARRIER PLATE SPRING 1 and BARRIER PLATE 2 together as an assembled unit to the OPTICAL UNIT.
- (3) Hook the other side of the BARRIER PLATE SPRING 1 to the projection of the IRING BARRIER.
- (4) Confirm that each part can slide as shown in the figure.

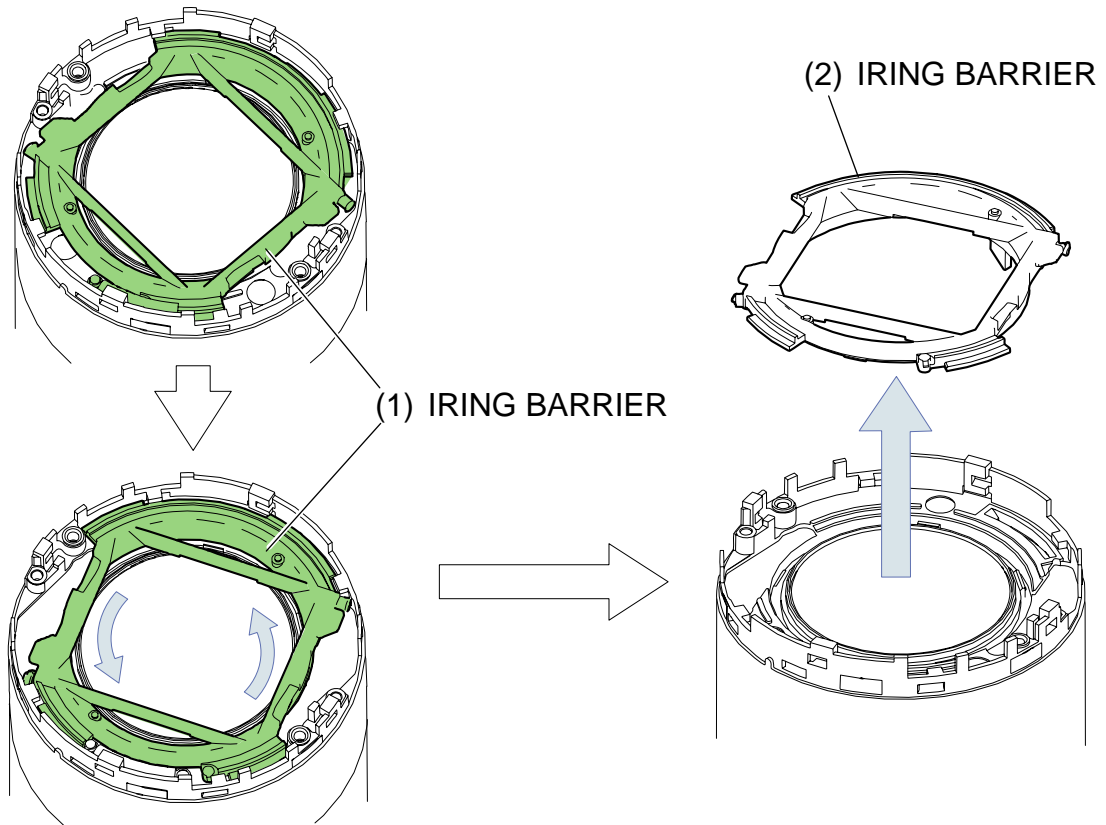


## 2.32 IRING BARRIER

- (1) Rotate the IRING BARRIER in the direction of the arrow.
- (2) Remove the IRING BARRIER.

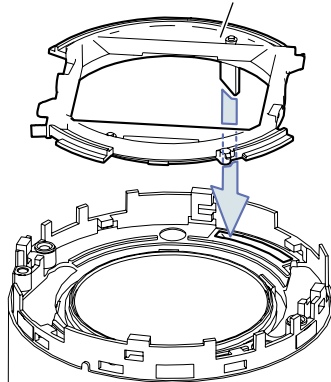
<Note on Reassembling>

Install the IRING BARRIER as shown in the figure.



### Note on Reassembling

#### IRING BARRIER

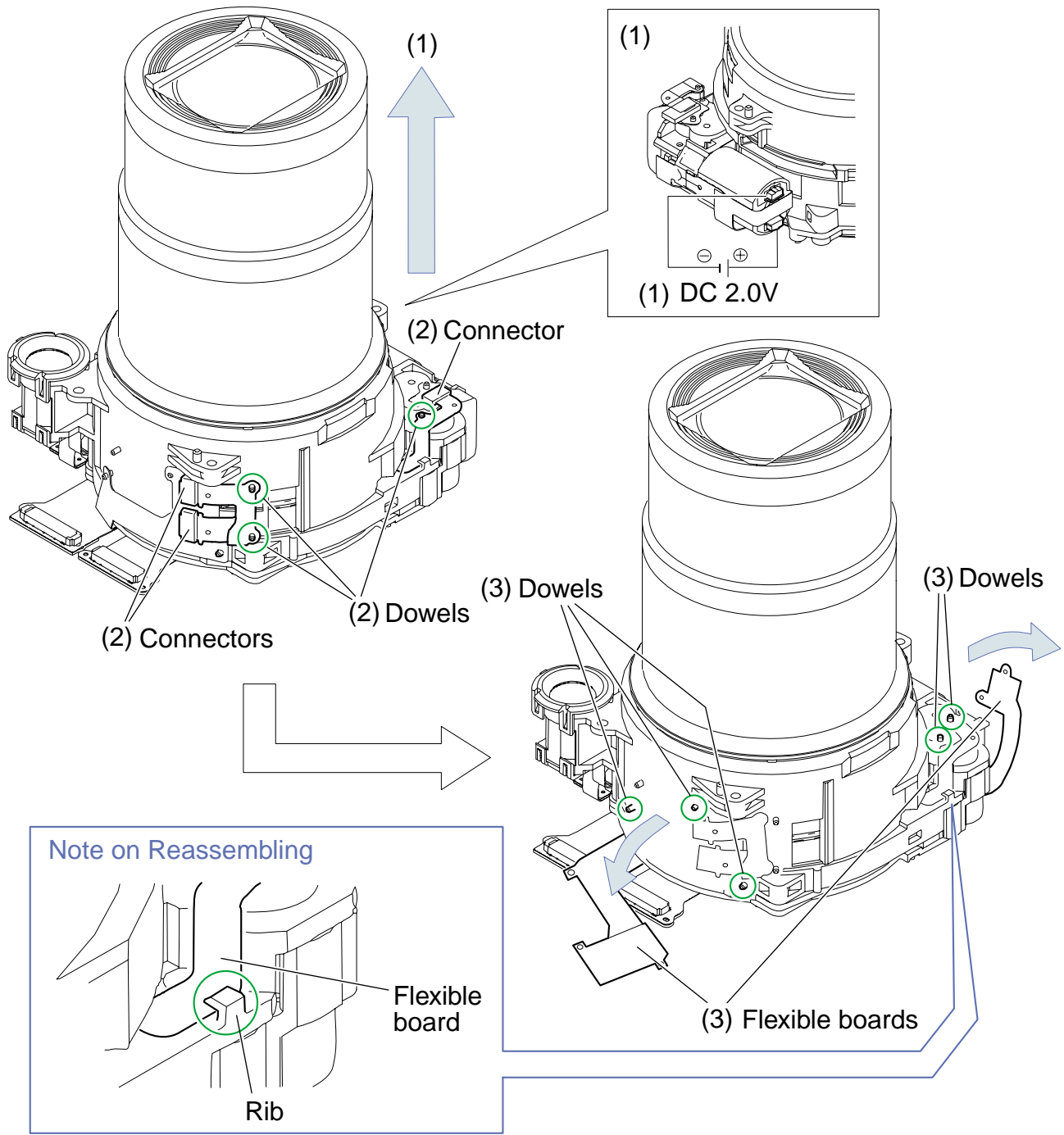


### 2.33 GEAR 2, GEAR 3, GEAR 4, GEAR 5 - (1)

- (1) Apply the voltage (DC2.0V) across the motor terminal to drive the motor until the motor stops and the barrel comes fully out.
- (2) Disengage the three dowels, and disconnect the three connectors.
- (3) Disengage the five dowels, and remove the flexible boards.

<Note on Reassembling>

Pass the flexible board inside the rib as shown in the figure.

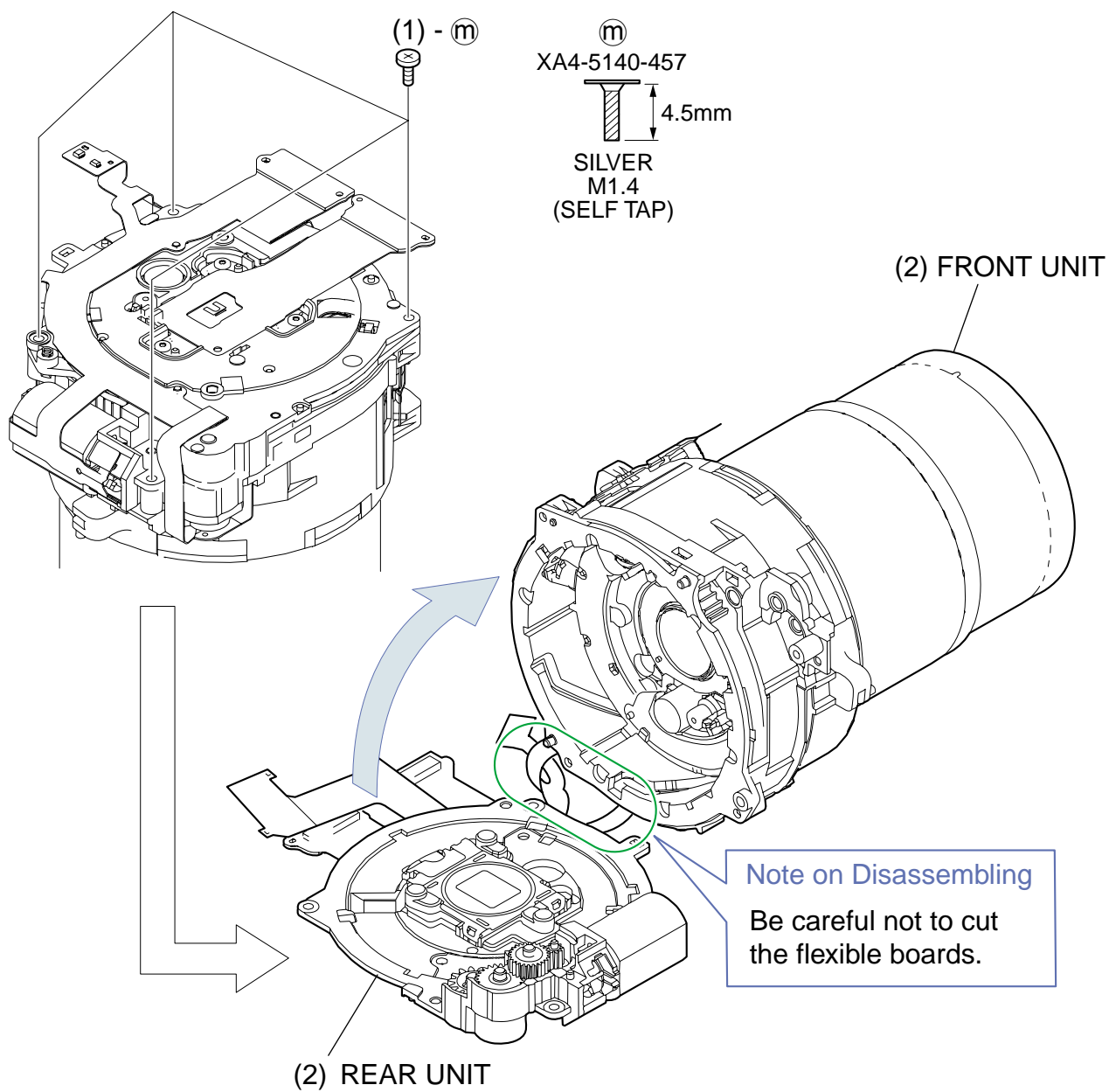


## 2.34 GEAR 2, GEAR 3, GEAR 4, GEAR 5 - (2)

- (1) Remove four screws (Ⓜ × 4).
- (2) Separate the FRONT UNIT from the REAR UNIT.

<Note on Disassembling>

Be careful not to cut the flexible boards.



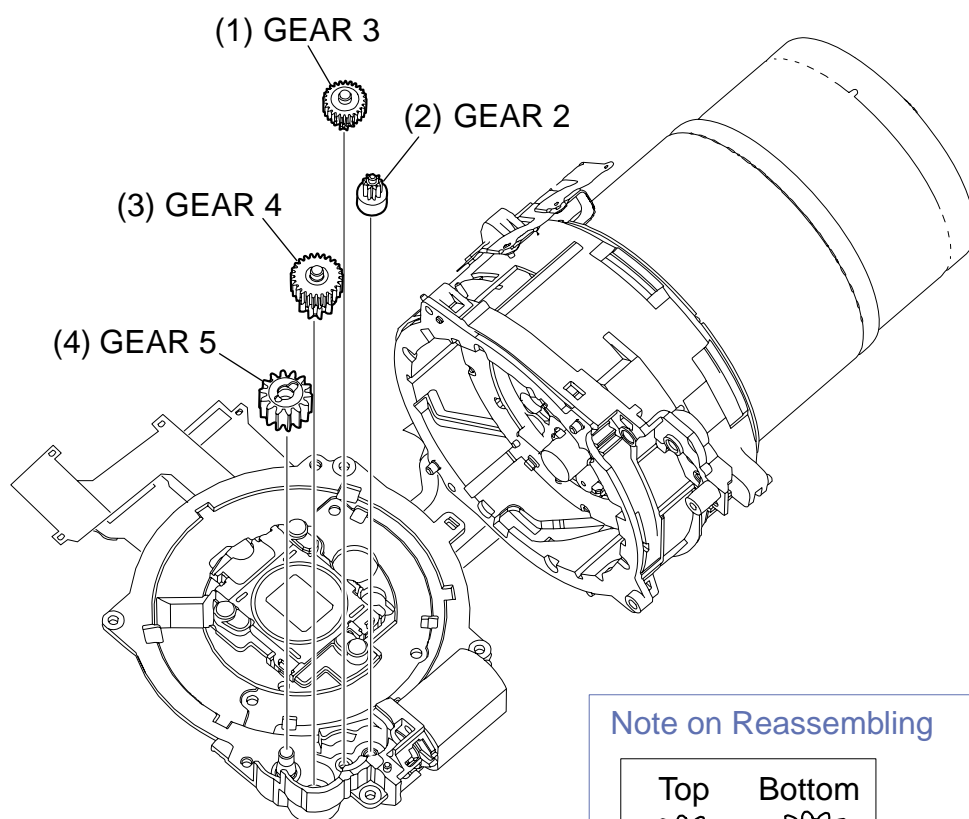
## 2.35 GEAR 2, GEAR 3, GEAR 4, GEAR 5-(3)

- (1) Remove GEAR 3.
- (2) Remove GEAR 2.
- (3) Remove GEAR 4.
- (4) Remove GEAR 5.

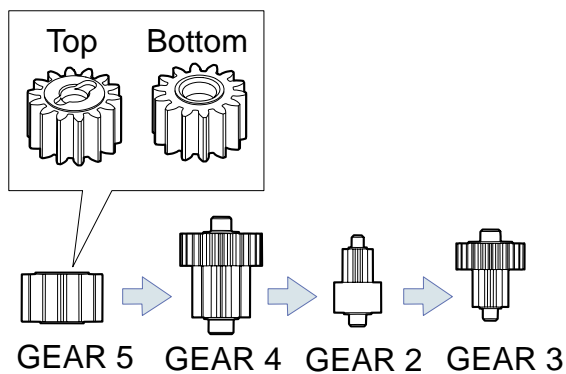
### <Note on Reassembling>

When assembling, install GEAR 5, GEAR 4, GEAR 2 and GEAR 3 in that order.

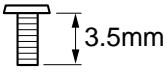
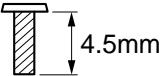
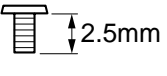
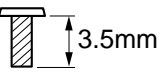
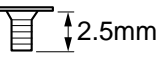
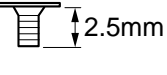
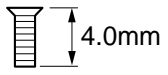
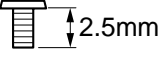
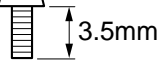
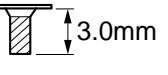
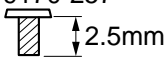
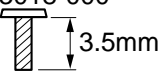
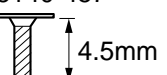
The four GEARS constitute a set of GEARS. When replacing the GEAR, replace all of the four GEARS as a set.



### Note on Reassembling



## 2.36 Screw List

<p>Ⓐ</p> <p>CD4-2984-000</p>  <p>BLACK M1.7</p>	<p>Ⓑ</p> <p>CD4-2983-000</p>  <p>BLACK M1.7 (SELF TAP)</p>	<p>Ⓒ</p> <p>XA1-7170-257</p>  <p>SILVER M1.7</p>	<p>Ⓓ</p> <p>XA4-9170-357</p>  <p>SILVER M1.7 (SELF TAP)</p>	<p>Ⓔ</p> <p>CD4-2985-000</p>  <p>BLACK M1.7</p>
<p>Ⓕ</p> <p>CD3-3325-000</p>  <p>SILVER M1.7</p>	<p>Ⓖ</p> <p>XA1-3170-407</p>  <p>SILVER M1.7</p>	<p>Ⓗ</p> <p>CD3-2936-000</p>  <p>SILVER M1.7 (NK GRIP)</p>	<p>Ⓘ</p> <p>XA1-7170-357</p>  <p>SILVER M1.7</p>	<p>Ⓙ</p> <p>XA4-5170-307</p>  <p>SILVER M1.7 (SELF TAP)</p>
<p>Ⓚ</p> <p>XA4-9170-257</p>  <p>SILVER M1.7 (SELF TAP)</p>	<p>Ⓛ</p> <p>CD4-3018-000</p>  <p>SILVER M1.4 (SELF TAP)</p>	<p>Ⓜ</p> <p>XA4-5140-457</p>  <p>SILVER M1.4 (SELF TAP)</p>		



# *ADJUSTMENT*

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# 1. Replacement Parts and Adjustment Items

PowerShot G10 requires electrical adjustments when certain parts are replaced.  
The table below indicates the adjustments required for the respective part replacements.  
For all other parts not listed below, no electrical adjustments are necessary after replacement.

Adjustment Items Replacement Part	IS 1 Adjustment	IS 2 Adjustment	Optical Unit Adjustment	CCD Adjustment	Pixel Dot Adjustment	Shading Adjustment	Imaging Process Adjustment	Color Adjustment	LCD Adjustment	Flash Adjustment
OPTICAL UNIT	● #1		● #2	● #3	● #4	● #5	● #6	● #7		● #8
FLASH UNIT										●
MAIN PCB ASS'Y	○	●	○	●	○	○	○	○	○	○
LCD UNIT									●	

- : Adjustment is necessary after replacement.  
○ : Adjustment is necessary after replacement.  
(Adjustment is not necessary, only if the adjustment data has been saved and then transferred after the part is replaced.)  
Blank: Adjustment is unnecessary.

\*When OPTICAL UNIT is replaced, adjust certainly at the procedure as below.

- #1. IS 1 Adjustment  
↓  
#2. Optical Unit Adjustment  
↓  
#3. CCD Adjustment  
↓  
#4. Pixel Dot Adjustment  
↓  
#5. Shading Adjustment  
↓  
#6. Imaging Process Adjustment  
↓  
#7. Color Adjustment  
↓  
#8. Flash Adjustment  
↓

## 2. Adjustment Tools

The following tools are required for electrical adjustment.

DESCRIPTION	PARTS NO.	REMARKS
PC/AT-Compatible Machine (Windows 2000/XP pre-installed Model, USB port)	—	Local purchase
SERVICE MANUAL	—	Download
ADJUSTMENT SOFTWARE	—	Download
DC Security Tool	—	Download (common to all models)
DC Runtime	—	Download (common to all models)
Canon DCP Connect	—	Download (common to all models)
TWAIN Driver 2008 2H	—	Download (common to products launched in 2H 2008)
Compact Power Adapter CA-PS700	—	Enclosed in “AC Adapter Kit ACK-DC50”
AC Cable	—	Enclosed in “AC Adapter Kit ACK-DC50”
DC Coupler DR-50	—	Enclosed in “AC Adapter Kit ACK-DC50”
INTERFACE CABLE IFC-400PCU	—	Enclosed in Merchandise
Brightness Box	CY9-1566-100/200 <sup>*2</sup>	
COLLIMATER IS AUTO ADJUSTMENT	CY9-1600-000	For 100 - 240V
Color Viewer (5500°K)	CY9-1562-100/200 <sup>*2</sup>	
Color Bar Chart	DY9-2002-000	
18% Gray Chart	CY9-1563-000	
AF Chart (1)	CY9-1598-000	<sup>*3</sup>
IS Chart (1)	—	<sup>*3</sup>
Infinity Collimator	CY9-1569-100/200 <sup>*2</sup>	
W-10 Filter <sup>*1</sup>	CY9-1556-000	
C-12 Filter	CY9-1555-000	
FL-W Filter	CY9-1557-000	
ND-4 Filter	CY9-1553-000	
Light-Shielding Cloth (500 × 500 mm or larger)	—	Local purchase
Tripod	—	Local purchase
Reference Camera	—	Merchandise
DIGITAL CAMERA SolutionDisk	—	Enclosed in Merchandise

<sup>\*1</sup> 2pcs. required.

<sup>\*2</sup> -100 : 100~120V, -200 : 200~240V

<sup>\*3</sup> The file containing “How to print out” and Chart for print-out is in folder of the Adjustment Software.

## 3. Before Starting Electrical Adjustments

### 3.1 Removing the Security Lock

Install the DC Security Tool on the PC to remove the security lock.

- \* If the security lock is not removed, DC Runtime and adjustment software will not start.

### 3.2 USB Driver Installation

Install the USB Driver for Adjustment in the CD-ROM to PC.

- Windows 2000 .... TWAIN Driver 2008 2H
- Windows XP ..... None

("This Adjustment Software" is impossible when the RS-232C TWAIN driver is used.)

### 3.3 Canon DCP Connect Installation

After downloading and extracting Adjustment Software, double-click Setup.exe (\\Canon DCP Connect\\Setup.exe) to install it.

### 3.4 DC Runtime Installation

1. After downloading and extracting DC Runtime, double-click Setup.exe to install it.

### 3.5 Adjustment Software Installation

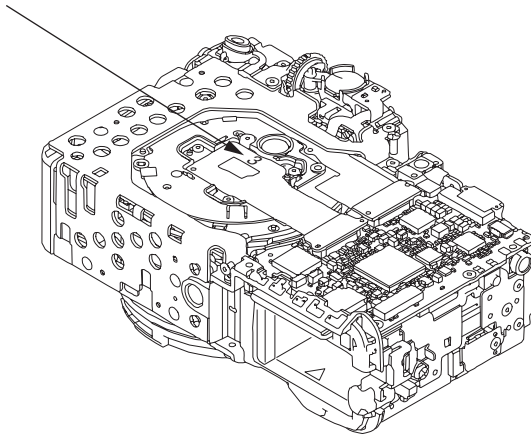
1. After downloading Adjustment Software, extract it into an arbitrary location.

- \* Do not extract it into a long path (255 characters or more) or into a path containing any character other than the one-byte alphabetical characters.

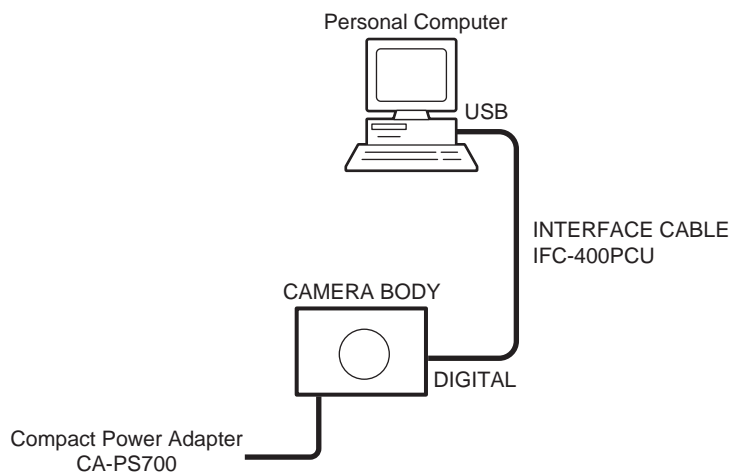
## 3.6 Preparation

Before starting up the Adjustment Software, follow the preparatory steps below:

1. Obtain all the tools necessary for the adjustment.
2. For the IS 1 Adjustment jot down the data written on the Optical Unit Flex. You will need it later.



3. Connect the Camera to the Power Source with the AC Adapter Kit ACK-DC50 (CA-PS700, AC Cable).
4. Set the Replay Mode on the camera.
5. Connect the Camera's Digital terminal to the PC's USB Port with INTERFACE CABLE IFC-400PCU.



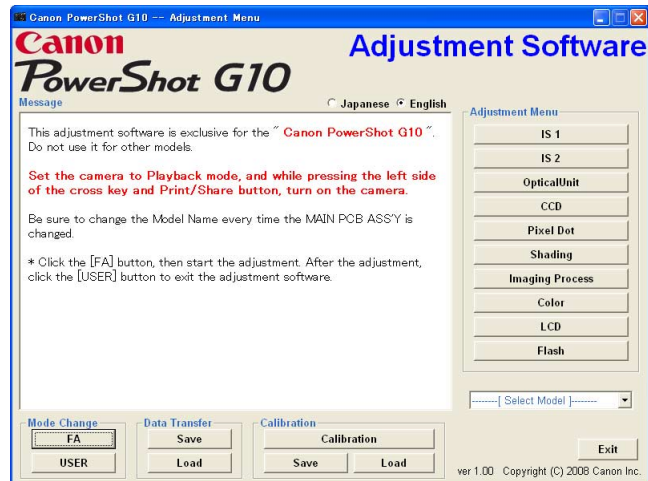
6. Turn on the camera while pressing the left side of the cross key and the Print/Share button.  
Note: Perform the preparation in the following order otherwise the camera won't work properly.

## 3.7 Starting up the Adjustment Software

After completing the preparatory steps, double-click PowerShotG10.exe in the folder where the Adjustment Software is extracted. (The Adjustment Software starts up.)

## 3.8 Menu Window

When you start the adjustment software, the following menu window will appear.



## 3.9 How to Use the Adjustment Software

### ■ Start-up of Camera Watch

This camera requires Camera Watch for the communication with PC. Start up Camera Watch by selecting Start > Program > Canon Utilities > Camera DCP connect > Camera Watch.

### ■ Mode change <Mode Change>

This camera uses normally PTP for communication with PC. Because calibration and adjustment become impossible depending on the condition of PTP, select the DCP of the PTP before starting calibration and adjustment.

- “FA” button : This button is used to change the mode from the PTP to the DCP.
  - \* Before starting calibration and adjustment, be sure to set the FA mode.
- “USER” button : This button is used to change the mode from the DCP to the PTP.
  - \* When calibration and adjustment are completed, be sure to change the mode to the USER mode before quitting the software.

### ■ Model Name Change <Select Model>

Model Name can be changed. Language, Date Style and Video Type are also changed to initial settings that are compatible with Model Name.

- \* Be sure to change Model Name every time MAIN PCB ASS’Y is changed.

### ■ Select Language

Select either “English” or “Japanese” on top of the Menu Window message to switch over the user interface language.

### ■ Adjustment Menu/Calibration

For starting, click the button related with calibration/adjustment.

- \* Whenever you use your light source for the adjustment for the first time, be sure to click the “Calibration” Button.

### ■ Quitting the Adjustment Software

Click the “Exit” button.

### ■ Camera Data Saving and Loading <Data Transfer>

- “Save” button : This button saves all adjustment data stored on the camera in text format.
- “Load” button : This button loads all adjustment data saved in text format to the camera.

### ■ Calibration Data Saving and Loading <Calibration>

- “Save” button : This button saves the calibration data.
- “Load” button : This button loads the saved calibration data to the adjustment software and reflects it.

### ■ Notes

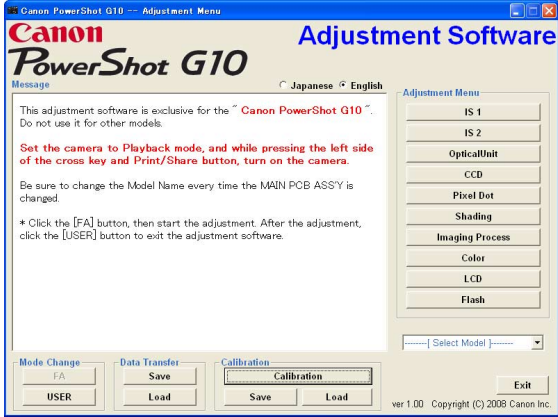

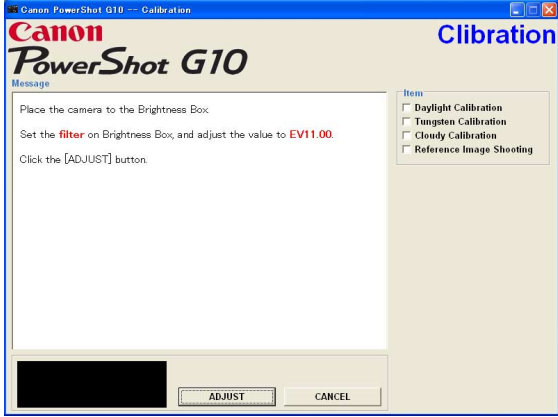
- ✧ When using this adjustment software, the camera needs to be restarted for every adjustment item.
- ✧ If the adjustment fails, a message indicating the failure will appear on each product. If this happens, do the adjustment again.
- ✧ The Adjustment Software is dedicated only to Canon Digital Camera PowerShot G10. Never use it for any other camera.
- ✧ Operating System of PC should be either Windows 2000 or Windows XP. At the same time, a PC should be equipped with the USB terminal.
- \* Operations on the other Operating Systems such as Windows95, 98, Windows Vista and others are not guaranteed.

## 4. Calibration

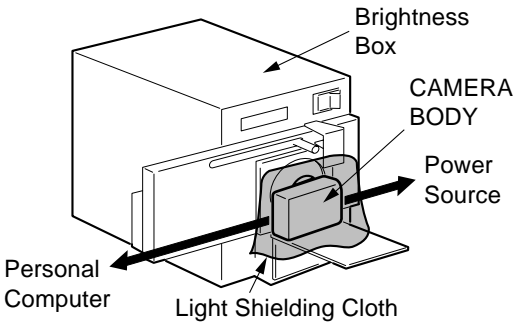
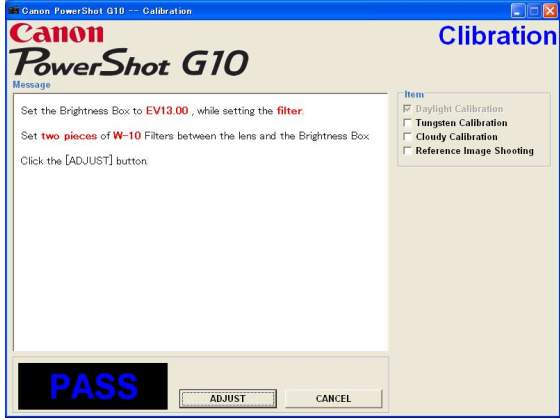
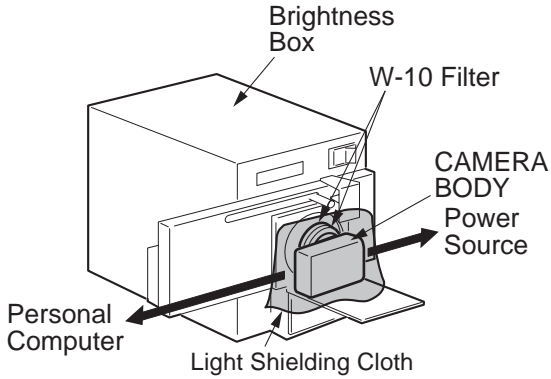
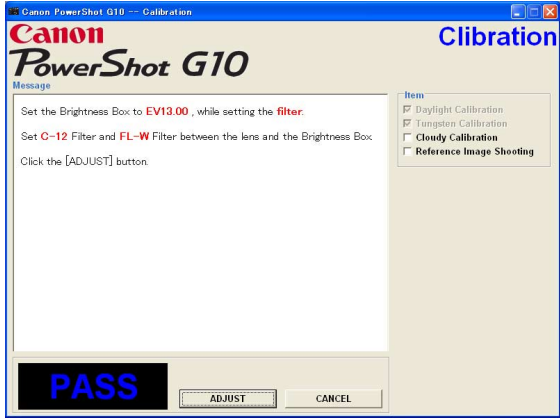
### 4.1 Calibration

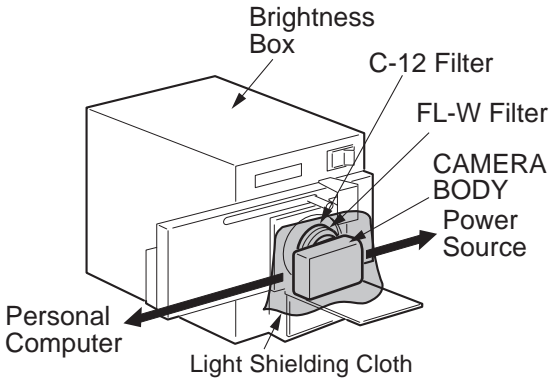
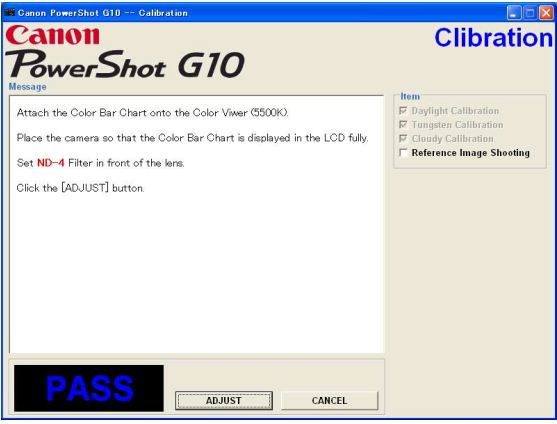
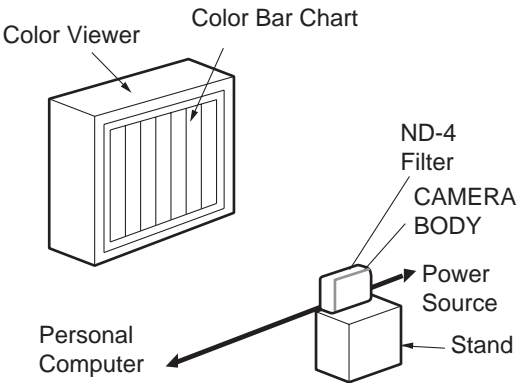
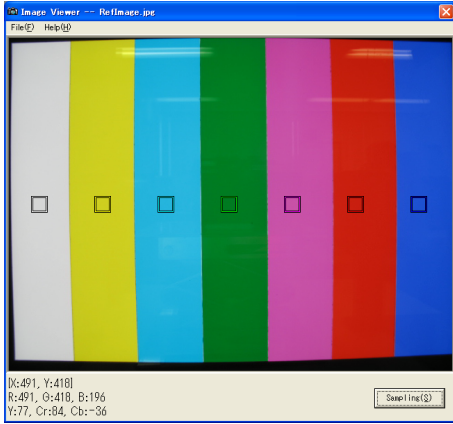
#### ■ Tools Used

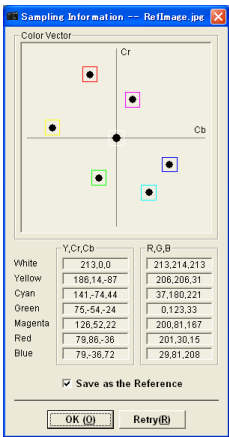
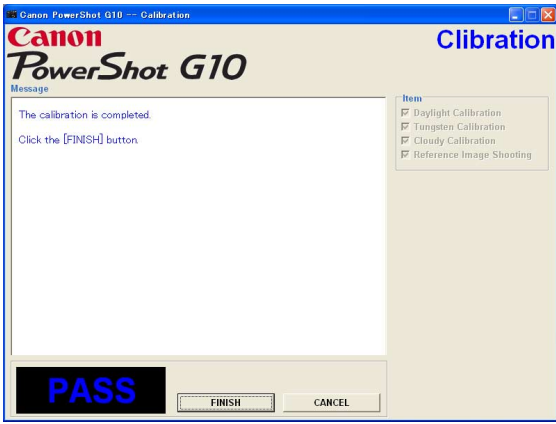
- Personal Computer
- SERVICE MANUAL
- ADJUSTMENT SOFTWARE
- Compact Power Adapter CA-PS700
- AC Cable
- DC Coupler DR-50
- INTERFACE CABLE IFC-400PCU
- Brightness Box
- Color Viewer (5500 °K)
- Color Bar Chart
- W-10 Filter (2pcs.)
- C-12 Filter
- FL-W Filter
- ND-4 Filter
- Light-Shielding Cloth (500 × 500 or larger)
- Reference Camera

1	Click the “Calibration” button.	
2	<ol style="list-style-type: none"> <li>1. When the message on the right appears, check that the reference camera (Merchandise) is connected to the computer.</li> <li>2. Click the “OK” button.</li> </ol>	
3	When the message on the right appears, go to 4.	



4	<ol style="list-style-type: none"> <li>1. Set the Filter of the Brightness Box, and place the camera so that the lens is set against the light source surface of the Brightness Box.</li> <li>2. Cover the camera with a light-shielding cloth so that no light enters the camera except from the Brightness Box.</li> <li>3. Set the Brightness Box to the value displayed in the message.</li> <li>4. Click the “ADJUST” button.</li> </ol>	
5	When the message on the right appears, go to 6.	
6	<ol style="list-style-type: none"> <li>1. Attach the two W-10 Filters between the Lens and the Brightness Box. Place the camera so that the lens is set against the light source surface of the Brightness Box.</li> <li>2. Cover the camera with a light-shielding cloth so that no light enters the camera except from the Brightness Box.</li> <li>3. Set the Brightness Box to the value displayed on the message.</li> <li>4. Click the “ADJUST” button.</li> </ol>	
7	When the message on the right appears, go to 8.	

8	<ol style="list-style-type: none"> <li>1. Remove the two W-10 Filters.</li> <li>2. Attach the C-12 and FL-W Filter between the Lens and the Brightness Box. Place the camera so that the lens is set against the light source surface of the Brightness Box.</li> <li>3. Cover the camera with a light-shielding cloth so that no light enters the camera except from the Brightness Box.</li> <li>4. Set the Brightness Box to the value displayed on the message.</li> <li>5. Click the “ADJUST” button.</li> </ol>	
9	<p>When the message on the right appears go to 10.</p>	
10	<ol style="list-style-type: none"> <li>1. Attach the Color Bar Chart to the Color Viewer.</li> <li>2. Remove the C-12 and FL-W Filter.</li> <li>3. Place the camera so that the Viewing image of the color bar chart is the full of LCD with the ND-4 Filter attached.</li> <li>4. Click the “ADJUST” button.</li> </ol>	
11	<ol style="list-style-type: none"> <li>1. Shift a frame on the displayed screen with a mouse to choose a color of color bar.</li> <li>2. Click the “Sampling” button.</li> </ol>	

12	<p>Check “Save as the Reference”, and click the “OK” button to store the data.</p>	 <table border="1"> <thead> <tr> <th></th> <th>Y,Cr,Cb</th> <th>R,G,B</th> </tr> </thead> <tbody> <tr> <td>White</td> <td>213.0,0</td> <td>213,214,213</td> </tr> <tr> <td>Yellow</td> <td>188,14,-87</td> <td>206,206,31</td> </tr> <tr> <td>Cyan</td> <td>141,-74,44</td> <td>37,180,221</td> </tr> <tr> <td>Green</td> <td>75,-54,-24</td> <td>0,123,33</td> </tr> <tr> <td>Magenta</td> <td>126,52,22</td> <td>200,81,167</td> </tr> <tr> <td>Red</td> <td>79,86,-36</td> <td>201,30,15</td> </tr> <tr> <td>Blue</td> <td>79,-36,72</td> <td>29,81,208</td> </tr> </tbody> </table>		Y,Cr,Cb	R,G,B	White	213.0,0	213,214,213	Yellow	188,14,-87	206,206,31	Cyan	141,-74,44	37,180,221	Green	75,-54,-24	0,123,33	Magenta	126,52,22	200,81,167	Red	79,86,-36	201,30,15	Blue	79,-36,72	29,81,208
	Y,Cr,Cb	R,G,B																								
White	213.0,0	213,214,213																								
Yellow	188,14,-87	206,206,31																								
Cyan	141,-74,44	37,180,221																								
Green	75,-54,-24	0,123,33																								
Magenta	126,52,22	200,81,167																								
Red	79,86,-36	201,30,15																								
Blue	79,-36,72	29,81,208																								
13	<p>When the message on the right appears, click the “FINISH” button. (This ends the “Calibration”.)</p>																									

# 5. Adjustment Procedure

## 5.1 IS 1 Adjustment

### 5.1.1 Auto Adjustment

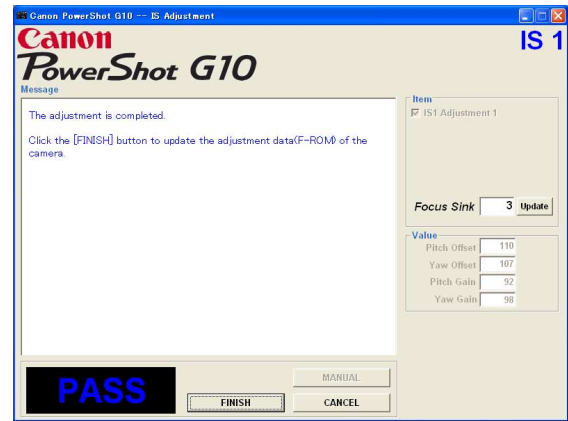
#### ■ Tools Used

- Personal Computer
- SERVICE MANUAL
- ADJUSTMENT SOFTWARE
- Compact Power Adapter CA-PS700
- AC Cable
- DC Coupler DR-50
- INTERFACE CABLE IFC-400PCU

- COLLIMATER IS AUTO ADJUSTMENT

1	Click the “IS 1” button.	
2	<ol style="list-style-type: none"> <li>1. When the message on the right appears, enter the value written on the Optical Unit Flex in the Focus Sink text box, and then click the “Update” button.</li> <li>2. After the update is complete, proceed to step 3.</li> </ol>	
3	<ol style="list-style-type: none"> <li>1. Set the camera so that it faces the lens of the collimator. <ul style="list-style-type: none"> <li>* The lens attached to the camera moves during the adjustment, so be sure to leave about a distance of 1 cm between the camera lens and the collimator lens.</li> </ul> </li> <li>2. Adjust the height of the camera and the collimator so that the LED point light source is at the center of the camera's LCD.</li> <li>3. Click the “ADJUST” button.</li> </ol>	

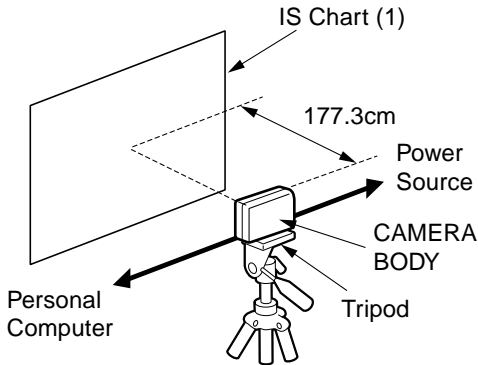
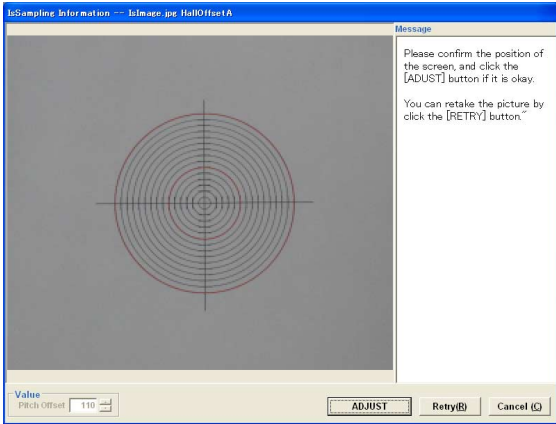
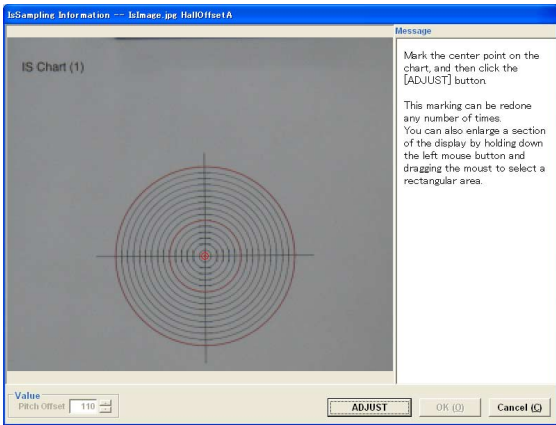
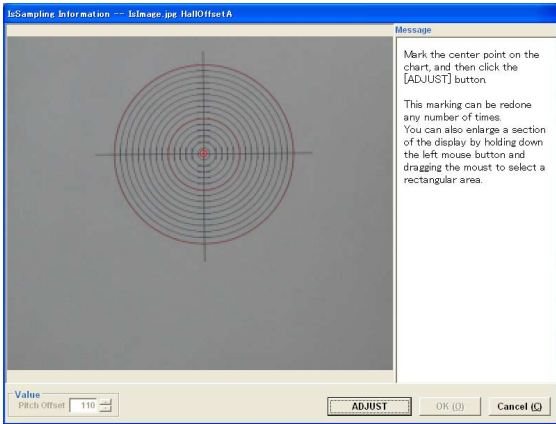
- 4 When the message on the right appears, click the “FINISH” button.  
(This ends the IS 1 adjustment.)

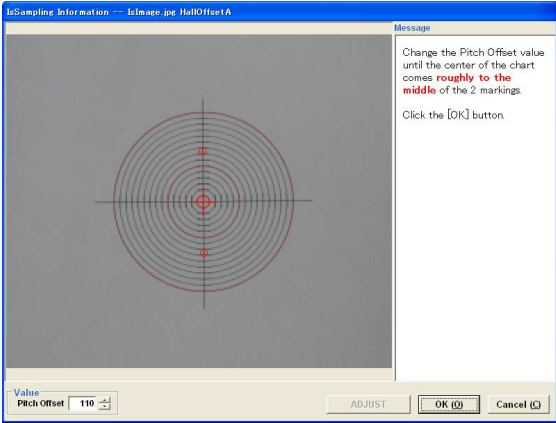

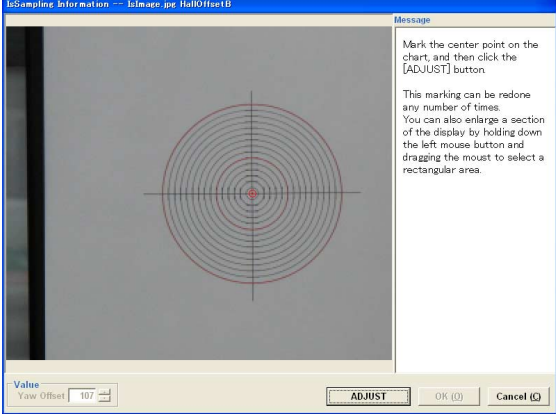
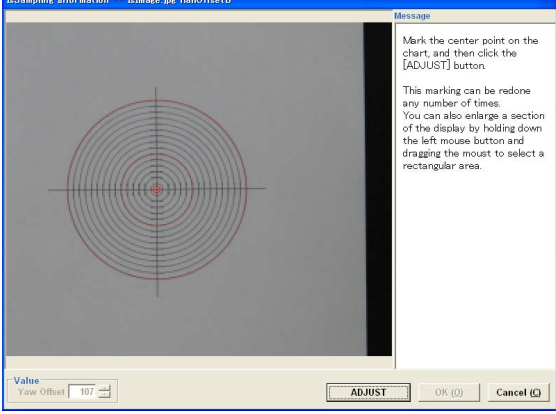


## 5.1.2 Manual Adjustment

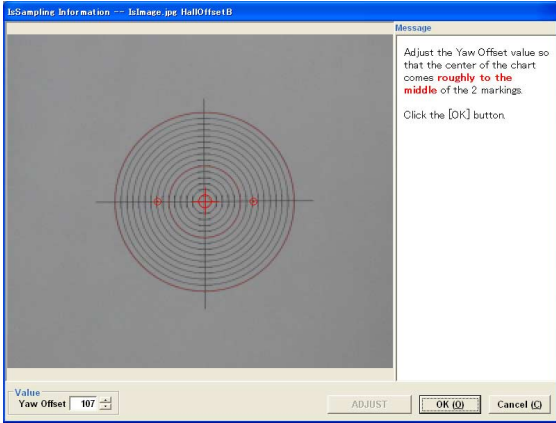
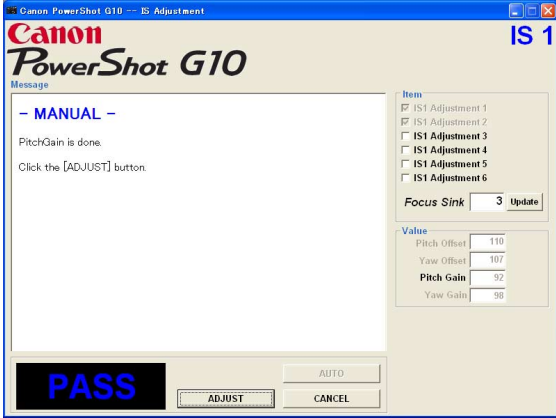
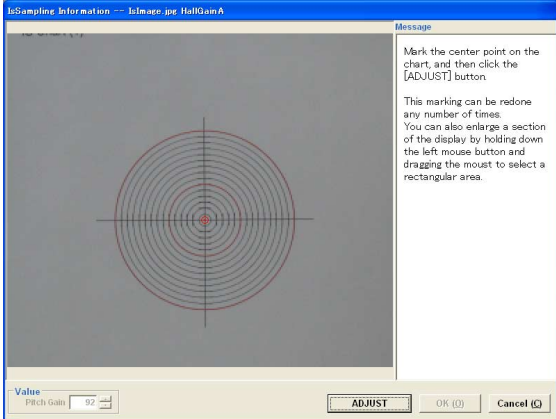
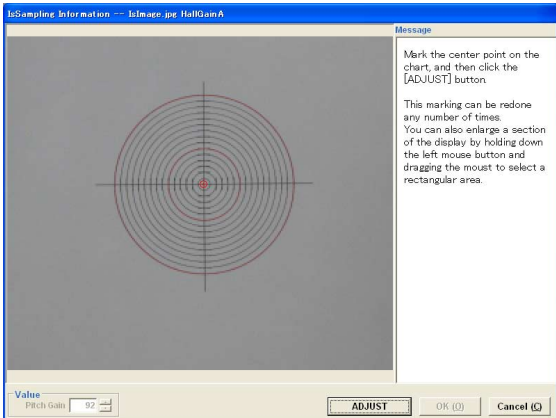
- Tools Used
  - Personal Computer
  - SERVICE MANUAL
  - ADJUSTMENT SOFTWARE
  - Compact Power Adapter CA-PS700
  - AC Cable
  - DC Coupler DR-50
  - INTERFACE CABLE IFC-400PCU
- IS Chart (1)
- Tripod

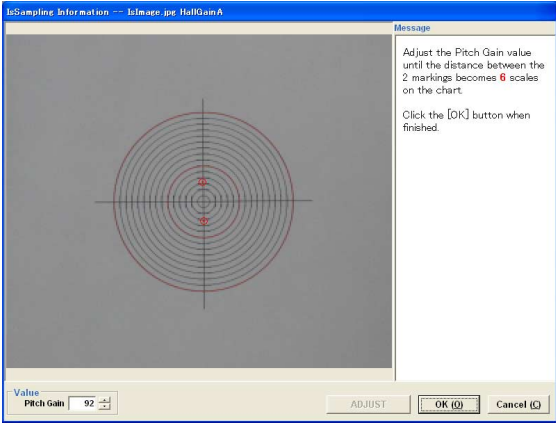
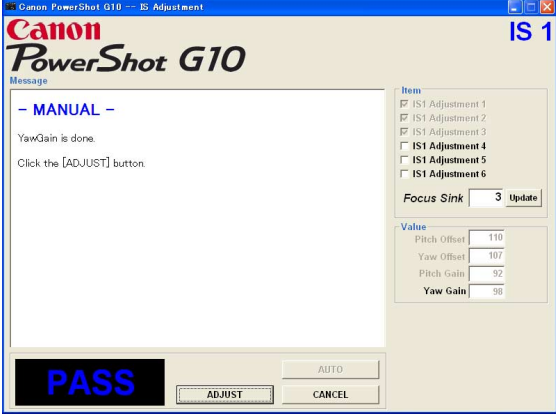
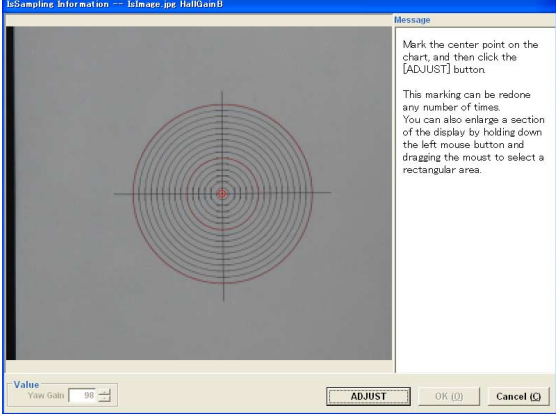
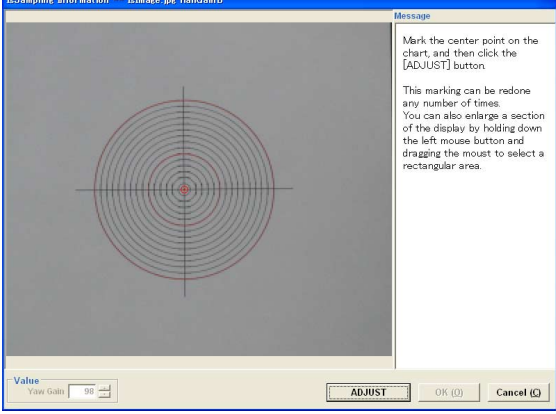
1	Click the “IS 1” button.	
2	When the message on the right appears, click the “MANUAL” button.	
3	<ol style="list-style-type: none"> <li>1. When the message on the right appears, enter the value written on the Optical Unit Flex in the Focus Sink text box, and then click the “Update” button.</li> <li>2. After the update is complete, proceed to step 4.</li> </ol>	

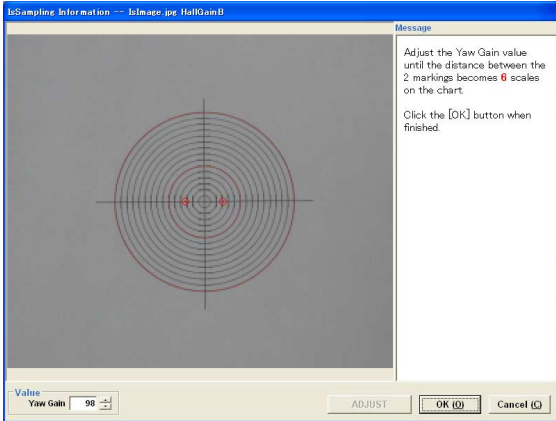
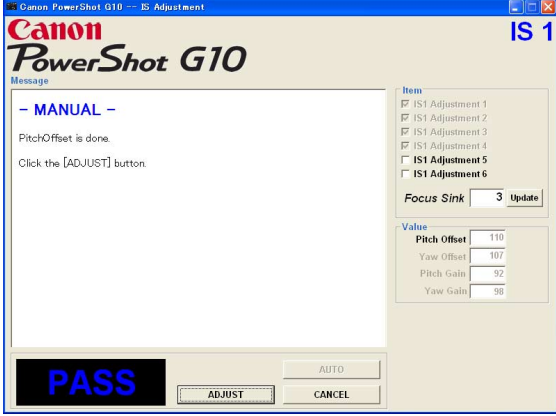
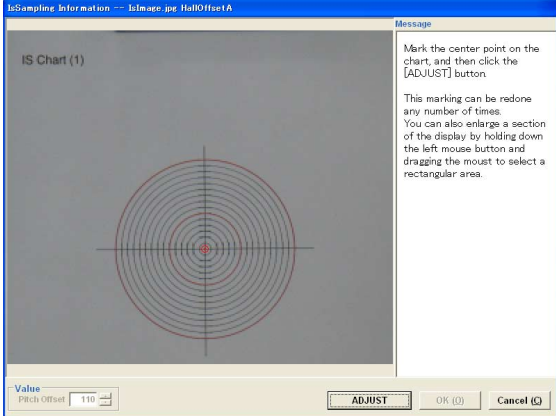
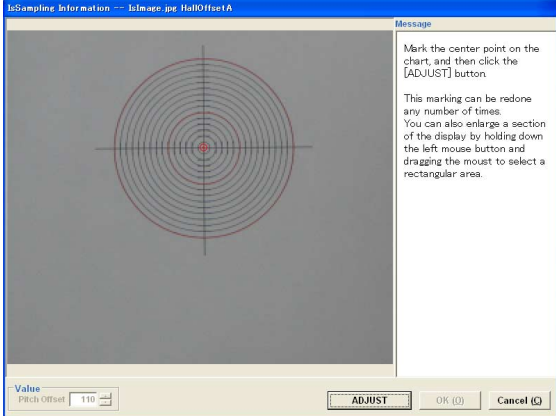
4	<p>1. Set the IS Chart (1) 177.3cm away from the front of the camera finder. Adjust the position of the camera so that the center of the IS Chart (1) is displayed in the center of the LCD.</p> <p>2. Click the “ADJUST” button.</p>	 <p>IS Chart (1)</p> <p>177.3cm</p> <p>Power Source</p> <p>CAMERA BODY</p> <p>Tripod</p> <p>Personal Computer</p>
5	<p>Check if the chart appears in the center on the PC monitor and there is no problem, click the “ADJUST” button.</p>	 <p>ISSampling Information -- IsImage.jpg HallOffsetA</p> <p>Message</p> <p>Please confirm the position of the screen, and click the [ADJUST] button if it is okay. You can retake the picture by click the [RETRY] button.</p> <p>Value</p> <p>Pitch Offset 110</p> <p>ADJUST Retry(R) Cancel (C)</p>
6	<p>Mark the center of the chart on the Monitor and click the “ADJUST” button.</p>	 <p>ISSampling Information -- IsImage.jpg HallOffsetA</p> <p>Message</p> <p>Mark the center point on the chart, and then click the [ADJUST] button. This marking can be redone any number of times. You can also enlarge a section of the display by holding down the left mouse button and dragging the mouse to select a rectangular area.</p> <p>Value</p> <p>Pitch Offset 110</p> <p>ADJUST OK (O) Cancel (C)</p>
7	<p>Mark the center of the chart on the Monitor and click the “ADJUST” button.</p>	 <p>ISSampling Information -- IsImage.jpg HallOffsetA</p> <p>Message</p> <p>Mark the center point on the chart, and then click the [ADJUST] button. This marking can be redone any number of times. You can also enlarge a section of the display by holding down the left mouse button and dragging the mouse to select a rectangular area.</p> <p>Value</p> <p>Pitch Offset 110</p> <p>ADJUST OK (O) Cancel (C)</p>

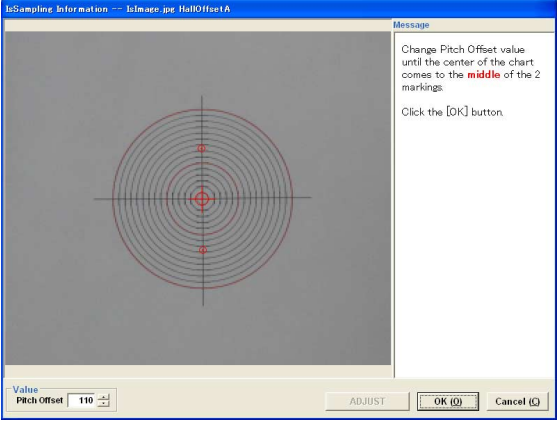

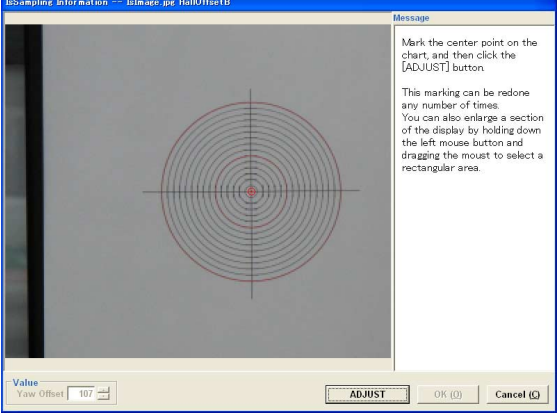
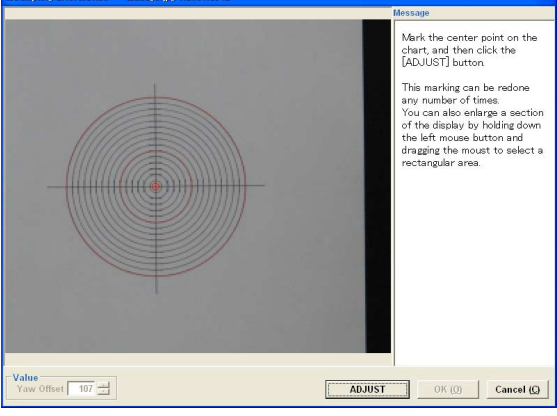
8	<p>If the center of the chart is roughly in the middle of the 2 markings, click the “OK” button. Otherwise, change the value of “Pitch Offset”, click the “ADJUST” button and redo the adjustment.</p> <p>* This step sets the tentative offset value in order to perform the Pitch Gain adjustment.</p>	
9	<p>When the message on the right appears, click the “ADJUST” button.</p>	
10	<p>Mark the center of the chart on the Monitor and click the “ADJUST” button.</p>	
11	<p>Mark the center of the chart on the Monitor and click the “ADJUST” button.</p>	

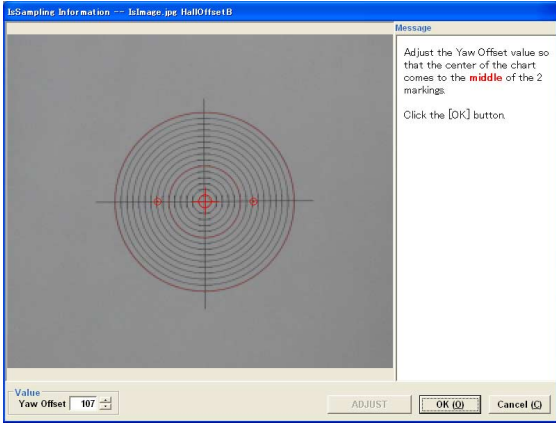
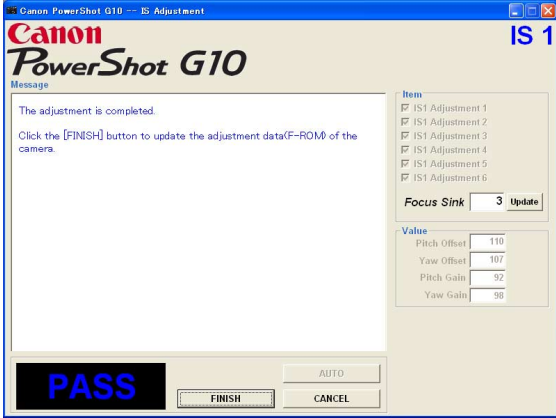


12	<p>If the center of the chart is roughly in the middle of the 2 markings, click the “OK” button. Otherwise, change the value of “Yaw Offset”, click the “ADJUST” button and redo the adjustment.</p> <p>* This step sets the tentative offset value in order to perform the Yaw Gain adjustment.</p>	
13	<p>When the message on the right appears, click the “ADJUST” button.</p>	
14	<p>Mark the center of the chart on the Monitor and click the “ADJUST” button.</p>	
15	<p>Mark the center of the chart on the Monitor and click the “ADJUST” button.</p>	

16	<p>If the distance between the 2 markings is 6 scales on the chart, click the “OK” button.</p> <p>Otherwise, change the value of “Pitch Gain” until the distance between the 2 markings becomes 6 scales on chart, click the “ADJUST” button and repeat the steps 13 to 15.</p>	
17	<p>When the message on the right appears, click the “ADJUST” button.</p>	
18	<p>Mark the center of the chart on the Monitor and click the “ADJUST” button.</p>	
19	<p>Mark the center of the chart on the Monitor and click the “ADJUST” button.</p>	

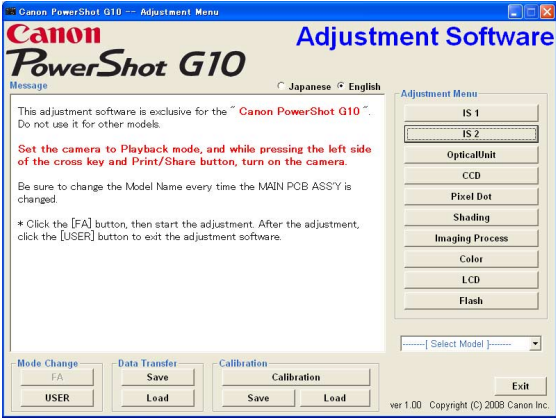
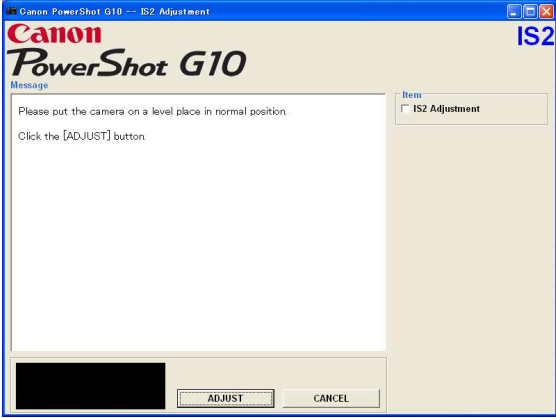
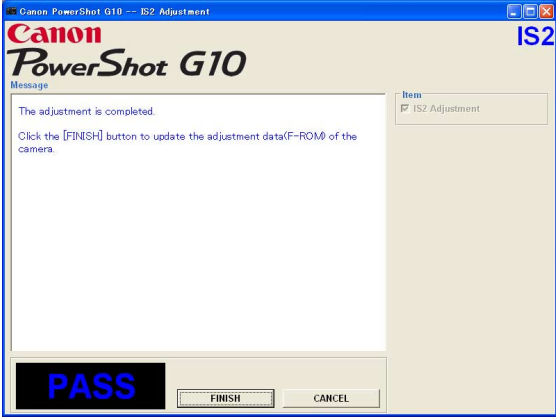
20	<p>If the distance between the 2 markings is 6 scales on the chart, click the “OK” button.</p> <p>Otherwise, change the value of “Yaw Gain” until the distance between the 2 markings becomes 6 scales on chart, click the “ADJUST” button and repeat the steps 17 to 19.</p>	
21	<p>When the message on the right appears, click the “ADJUST” button.</p>	
22	<p>Mark the center of the chart on the Monitor and click the “ADJUST” button.</p>	
23	<p>Mark the center of the chart on the Monitor and click the “ADJUST” button.</p>	

24	<p>If the center of the chart is roughly in the middle of the 2 markings, click the “OK” button. Otherwise, change the value of “Pitch Offset”, click the “ADJUST” button and redo the adjustment.</p>	
25	<p>When the message on the right appears, click the “ADJUST” button.</p>	
26	<p>Mark the center of the chart on the Monitor and click the “ADJUST” button.</p>	
27	<p>Mark the center of the chart on the Monitor and click the “ADJUST” button.</p>	

28	<p>If the center of the chart is roughly in the middle of the 2 markings, click the “OK” button. Otherwise, change the value of “Yaw Offset”, click the “ADJUST” button and redo the adjustment.</p>	 <p>The screenshot shows a window titled 'IsSample Information -- IsImage.jpg Hal00Hes1B'. It features a target chart with concentric circles and a central crosshair. A message box on the right contains the text: 'Adjust the Yaw Offset value so that the center of the chart comes to the middle of the 2 markings. Click the [OK] button.' At the bottom, there is a 'Value' section with 'Yaw Offset' set to 107, and buttons for 'ADJUST', 'OK (O)', and 'Cancel (C)'.</p>
29	<p>When the message on the right appears, click the “FINISH” button. (This ends the IS 1 adjustment.)</p>	 <p>The screenshot shows the 'Canon PowerShot G10' IS Adjustment window. A message box states: 'The adjustment is completed. Click the [FINISH] button to update the adjustment data(F-ROM) of the camera.' On the right, there is a list of items for adjustment, all of which are checked: 'IS1 Adjustment 1', 'IS1 Adjustment 2', 'IS1 Adjustment 3', 'IS1 Adjustment 4', 'IS1 Adjustment 5', and 'IS1 Adjustment 6'. Below this list is a 'Focus Sink' value of 3 with an 'Update' button. At the bottom, there is a large blue 'PASS' button, and 'FINISH' and 'CANCEL' buttons.</p>

## 5.2 IS 2 Adjustment

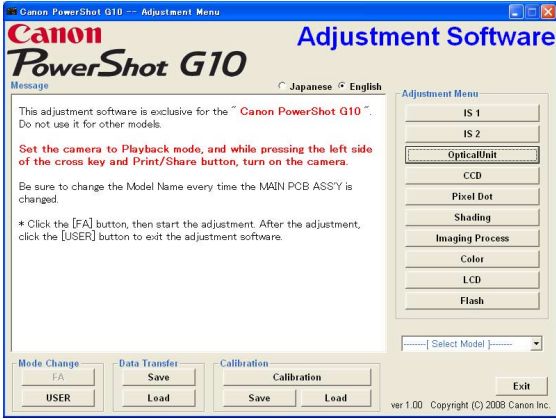
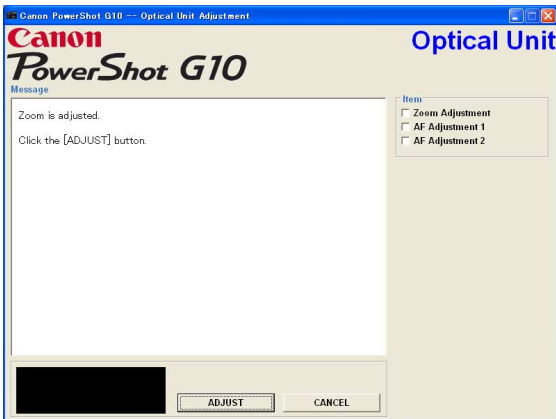
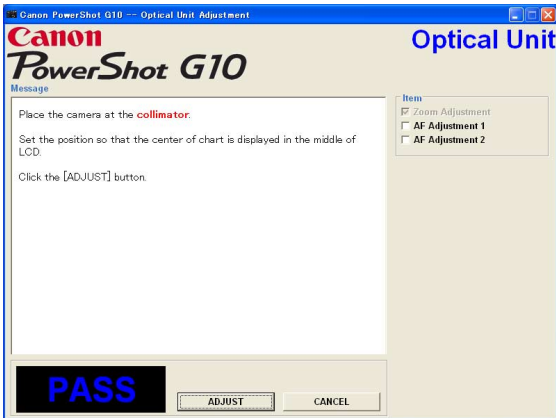
- Tools Used
- Personal Computer
- SERVICE MANUAL
- ADJUSTMENT SOFTWARE
- Compact Power Adapter CA-PS700
- AC Cable
- DC Coupler DR-50
- INTERFACE CABLE IFC-400PCU

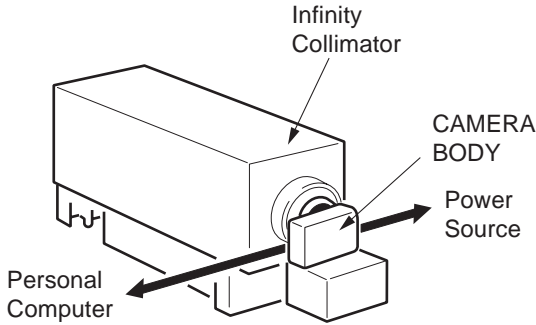
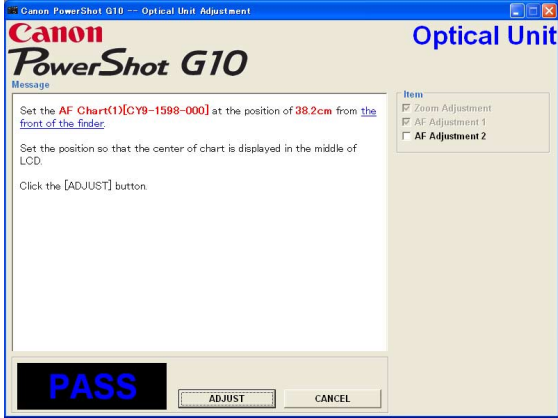
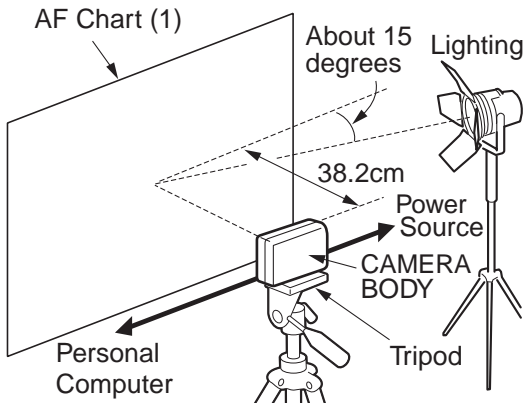
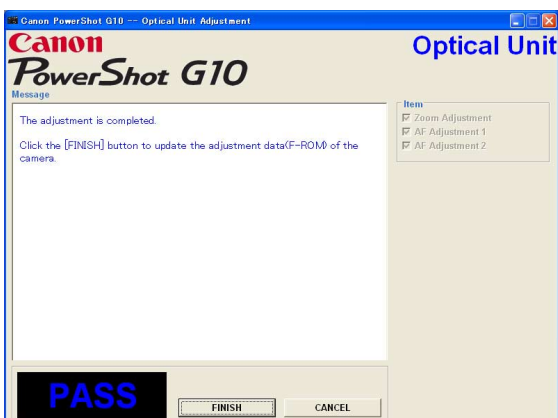
1	Click the “IS 2” button.	
2	When the message on the right appears, click the “ADJUST” button.	
3	When the message on the right appears, click the “FINISH” button. (This ends the IS 2 adjustment.)	

## 5.3 Optical Unit Adjustment

### ■ Tools Used

- Personal Computer
- SERVICE MANUAL
- ADJUSTMENT SOFTWARE
- Compact Power Adapter CA-PS700
- AC Cable
- DC Coupler DR-50
- INTERFACE CABLE IFC-400PCU
- AF Chart (1)
- Infinity Collimator
- Tripod

1	Click the “Optical Unit” button.	
2	When the message on the right appears, click the “ADJUST” button.	
3	When the message on the right appears, go to 4.	

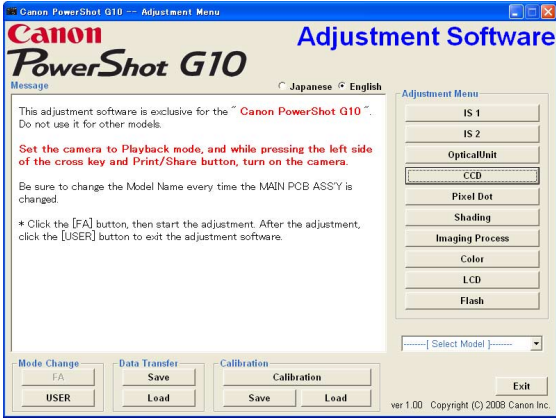
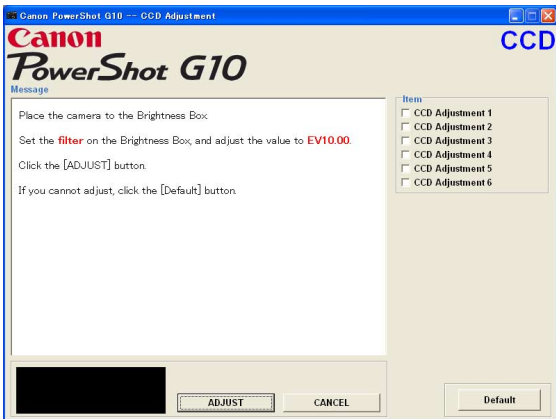
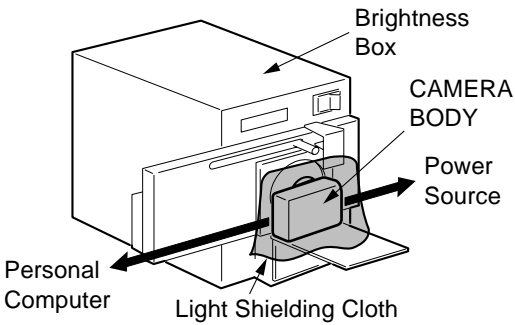
4	<ol style="list-style-type: none"> <li>1. Place the camera at the infinity collimator.</li> <li>2. Adjust the position of the camera finely so that the center of the chart is aligned with the center of the LCD screen.</li> <li>3. Click the “ADJUST” button.</li> </ol>	
5	<p>When the message on the right appears, go to 6.</p>	
6	<ol style="list-style-type: none"> <li>1. Set the AF Chart (1) (CY9-1598-000) at 38.2cm away from the front of the camera finder. <ul style="list-style-type: none"> <li>* Set the AF Chart (1) (CY9-1598-000) on a plain color wall or equivalent.</li> <li>* Adjust the light so that the brightness of the chart will be about EV9.0. The ray of the light should come in at a narrow angle as seen from the chart.</li> </ul> </li> <li>2. Adjust the position of the camera finely so that the center of the chart is aligned with the center of the LCD screen.</li> <li>3. Click the “ADJUST” button.</li> </ol>	
7	<p>When the message on the right appears, click the “FINISH” button. (This ends the “Optical Unit” Adjustment.)</p>	

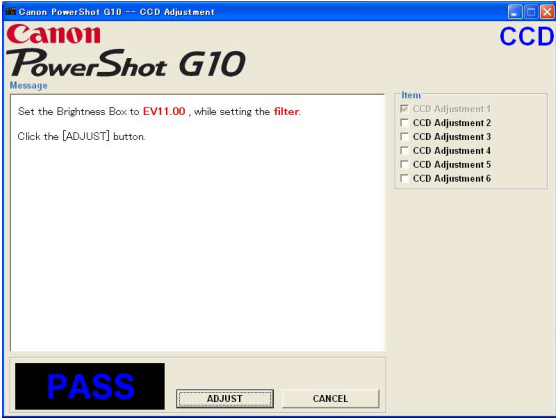
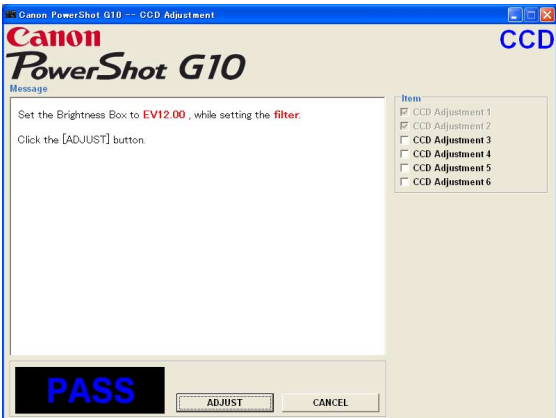
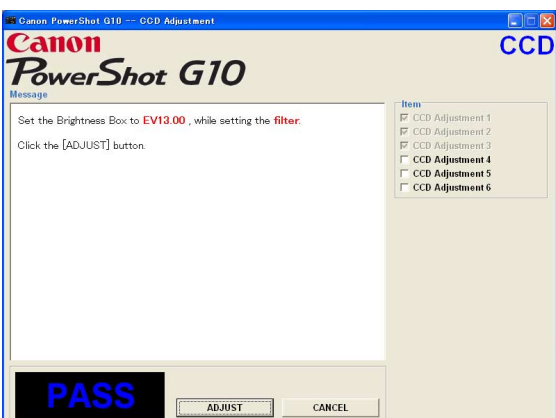




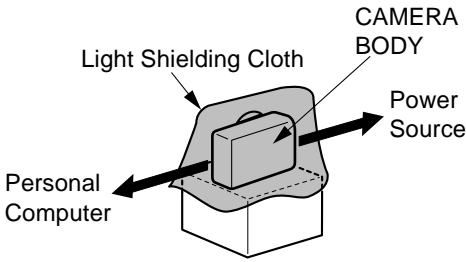
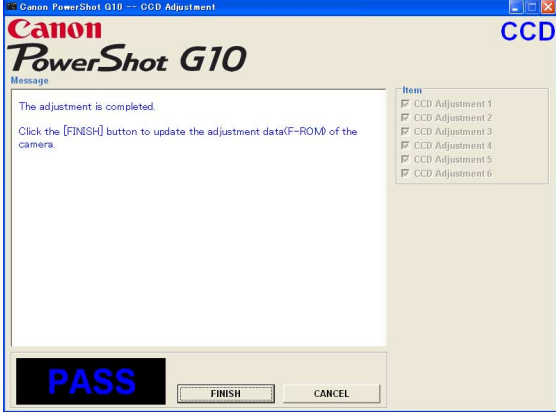
## 5.4 CCD Adjustment

### ■ Tools Used

- Personal Computer
- SERVICE MANUAL
- ADJUSTMENT SOFTWARE
- Compact Power Adapter CA-PS700
- AC Cable
- DC Coupler DR-50
- INTERFACE CABLE IFC-400PCU
- Brightness Box
- Light-Shielding Cloth

1	Click the “CCD” button.	
2	When the message on the right appears, go to 3.	
3	<ol style="list-style-type: none"> <li>1. Set the filter of the Brightness Box and place the camera so that lens is set against the light source surface of the Brightness Box.</li> <li>2. Cover the camera with a light-Shielding Cloth so that no light enters the camera except from the Brightness Box.</li> <li>3. Set the Brightness Box to the value displayed on the message.</li> <li>4. Click the “ADJUST” button.</li> </ol> <p>* When the adjustment does not work, click the “Default” button.</p>	


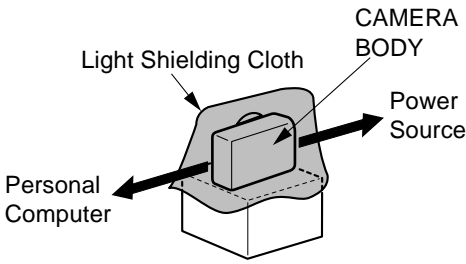
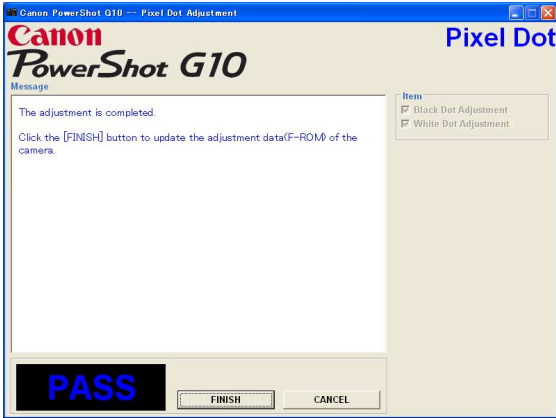
4	<ol style="list-style-type: none"> <li>1. When the message on the right appears, Set the Brightness Box to the value displayed on the message.</li> <li>2. Click the “ADJUST” button.</li> </ol>	
5	<ol style="list-style-type: none"> <li>1. When the message on the right appears, Set the Brightness Box to the value displayed on the message.</li> <li>2. Click the “ADJUST” button.</li> </ol>	
6	<ol style="list-style-type: none"> <li>1. When the message on the right appears, Set the Brightness Box to the value displayed on the message.</li> <li>2. Click the “ADJUST” button.</li> </ol>	
7	<ol style="list-style-type: none"> <li>1. When the message on the right appears, Set the Brightness Box to the value displayed on the message.</li> <li>2. Click the “ADJUST” button.</li> </ol>	

8	When the message on the right appears, go to 9.	
9	<ol style="list-style-type: none"> <li>1. Cover the camera with the Light-Shielding Cloth so that the no light reaches the CCD.</li> <li>2. Click the “ADJUST” button.</li> </ol>	
10	When the message on the right appears, click the “FINISH” button. (This ends the “CCD” Adjustment.)	

## 5.5 Pixel Dot Adjustment

- Tools Used
  - Personal Computer
  - SERVICE MANUAL
  - ADJUSTMENT SOFTWARE
  - Compact Power Adapter CA-PS700
  - AC Cable
  - DC Coupler DR-50
  - INTERFACE CABLE IFC-400PCU
- Brightness Box
- Light-Shielding Cloth

1	Click the “Pixel Dot” button.	
2	<p>When the message on the right appears, go to 3.</p> <p>* In this adjustment, the temperature inside the camera needs to be above a certain temperature. If the internal temperature is below this certain temperature, the camera will repeat zooming operations to raise the temperature. An error will occur if this adjustment is performed before the temperature reaches this standard temperature. Perform the adjustment again in such a case.</p>	
3	<ol style="list-style-type: none"> <li>1. Set the Filter of the Brightness Box, and place the camera so that the lens is set against the light source surface of the Brightness Box.</li> <li>2. Cover the camera with a light-shielding cloth so that no light enters the camera except from the Brightness Box.</li> <li>3. Set the Brightness Box to the value displayed on the message.</li> <li>4. Click the “ADJUST” button.</li> </ol>	

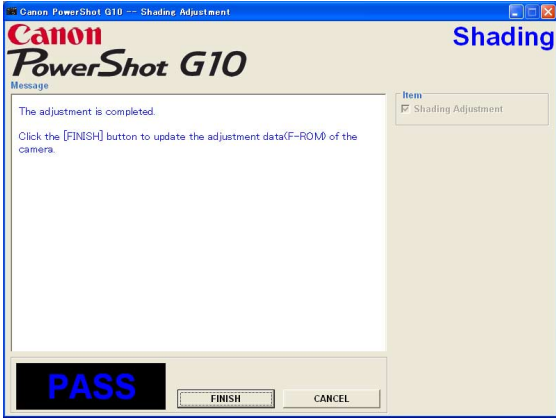
4	When the message on the right appears, go to 5.	
5	<ol style="list-style-type: none"> <li>1. Cover the camera with the Light-Shielding Cloth so that the no light reaches the CCD.</li> <li>2. Click the “ADJUST” button.</li> </ol>	
6	When the message on the right appears, click the “FINISH” button. (This ends the “Pixel Dot” Adjustment.)	

## 5.6 Shading Adjustment

### ■ Tools Used

- Personal Computer
- SERVICE MANUAL
- ADJUSTMENT SOFTWARE
- Compact Power Adapter CA-PS700
- AC Cable
- DC Coupler DR-50
- INTERFACE CABLE IFC-400PCU
- Brightness Box
- Light-Shielding Cloth

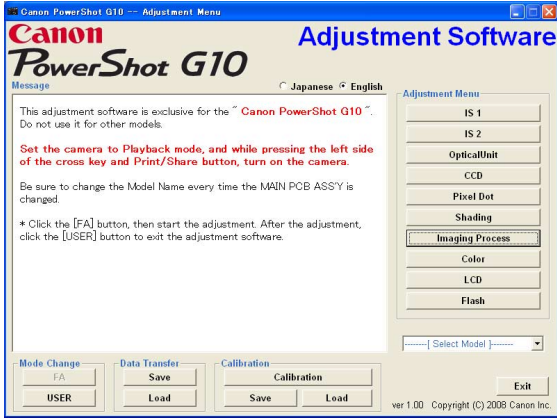
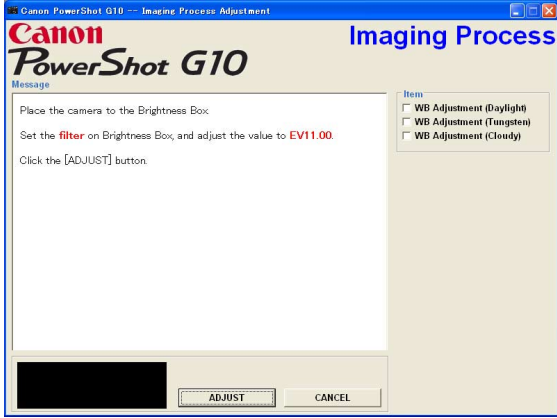
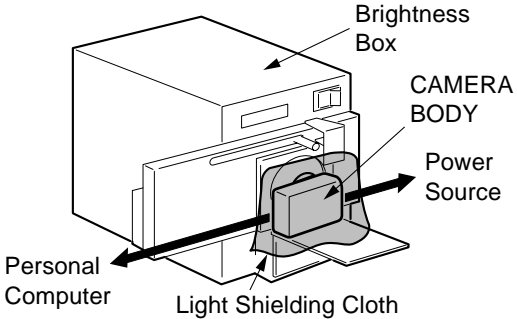
1	Click the “Shading” button.	
2	When the message on the right appears, go to 3.	
3	<ol style="list-style-type: none"> <li>1. Do not set the filter of the Brightness Box and place the camera so that lens is set about 3mm interval from the light source surface of the Brightness Box.</li> <li>2. Cover the camera with a light-Shielding Cloth so that no light enters the camera except from the Brightness Box.</li> <li>3. Set the Brightness Box to the value displayed on the message.</li> <li>4. Click the “ADJUST” button.</li> </ol>	

4	<p>When the message on the right appears, click the “FINISH” button. (This ends the “Shading” Adjustment.)</p>	
---	--	--

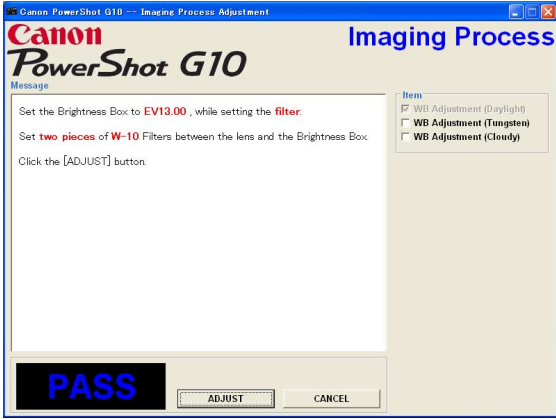
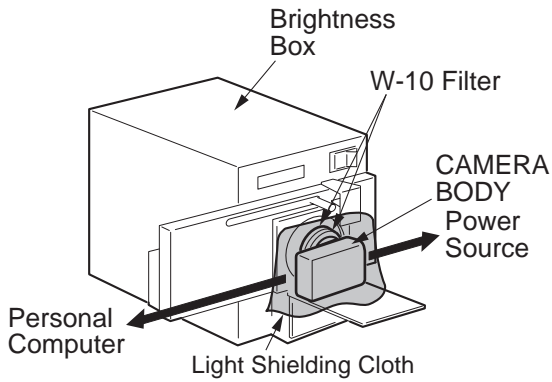
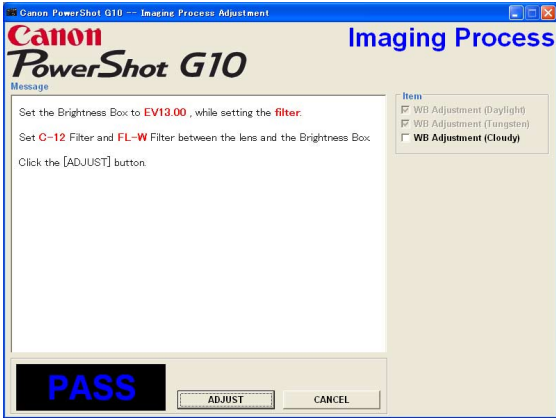
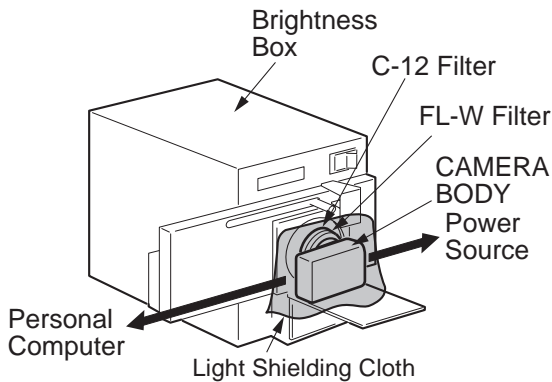
## 5.7 Imaging Process Adjustment

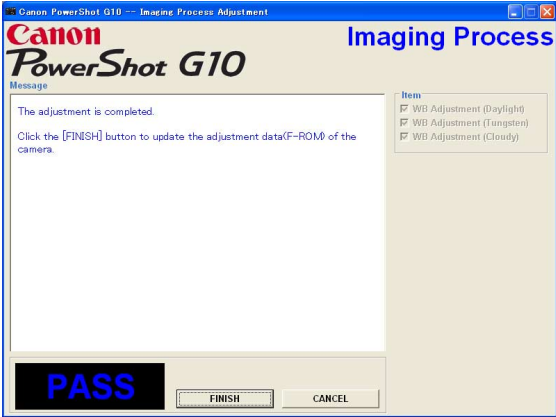
### ■ Tools Used

- Personal Computer
- SERVICE MANUAL
- ADJUSTMENT SOFTWARE
- Compact Power Adapter CA-PS700
- AC Cable
- DC Coupler DR-50
- INTERFACE CABLE IFC-400PCU
- Brightness Box
- W-10 Filter (2pcs.)
- C-12 Filter
- FL-W Filter
- Light-Shielding Cloth

1	Click the “Imaging Process” button.	
2	When the message on the right appears, go to 3.	
3	<ol style="list-style-type: none"> <li>1. Set the Filter of the Brightness Box, and place the camera so that the lens is set against the light source of the Brightness Box.</li> <li>2. Cover the camera with a light-shielding cloth so that no light enters the camera except from the Brightness Box.</li> <li>3. Set the Brightness Box to the value displayed on the message.</li> <li>4. Click the “ADJUST” button.</li> </ol>	



4	<p>When the message on the right appears, go to 5.</p>	
5	<ol style="list-style-type: none"> <li>1. Attach the two W-10 Filters between the Lens and the Brightness Box. Place the camera so that the lens is set against the light source surface of the Brightness Box.</li> <li>2. Cover the camera with a light-shielding cloth so that no light enters the camera except from the Brightness Box.</li> <li>3. Set the Brightness Box to the value displayed on the message.</li> <li>4. Click the “ADJUST” button.</li> </ol>	
6	<p>When the message on the right appears, go to 7.</p>	
7	<ol style="list-style-type: none"> <li>1. Remove the W-10 Filters.</li> <li>2. Attach the C-12 and FL-W Filter between the Lens and the Brightness Box. Place the camera so that the lens is set against the light source surface of the Brightness Box.</li> <li>3. Cover the camera with a light-shielding cloth so that no light enters the camera except from the Brightness Box.</li> <li>4. Set the Brightness Box to the value displayed on the message.</li> <li>5. Click the “ADJUST” button.</li> </ol>	

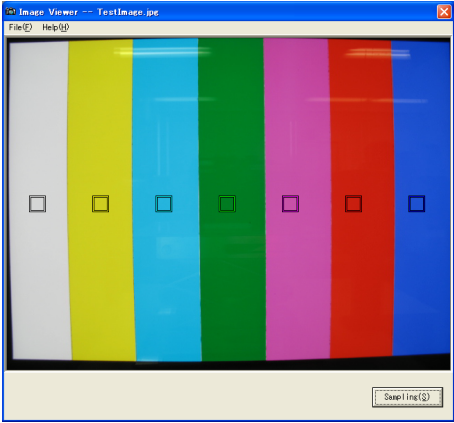
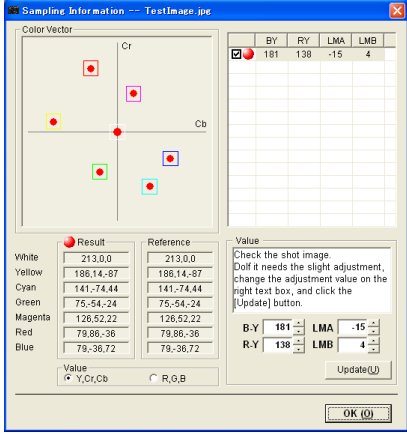
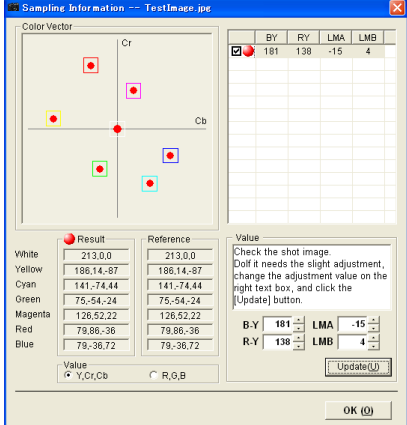
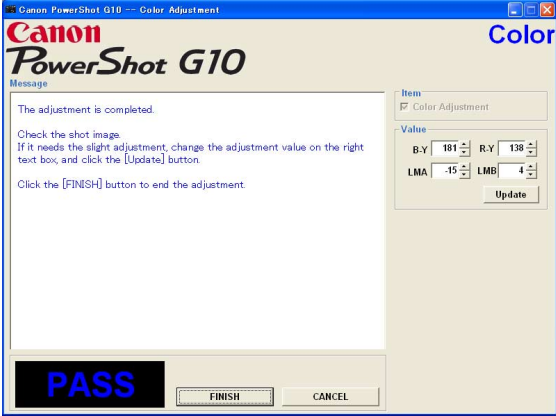
8	<p>When the message on the right appears, click the “FINISH” button. (This ends the “Imaging Process” Adjustment.)</p>	
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# 5.8 Color Adjustment

- Tools Used
- Color AdjustmentPersonal Computer
  - SERVICE MANUAL
  - ADJUSTMENT SOFTWARE
  - Compact Power Adapter CA-PS700
  - AC Cable
  - DC Coupler DR-50
  - INTERFACE CABLE IFC-400PCU

- Color Viewer (5500 °K)
  - Color Bar Chart
  - ND-4 Filter

1	Click the “Color” button.	
2	When the message on the right appears, go to 3.	
3	<div>1. Attach the Color Bar Chart to the Color Viewer.</div> <div>2. Place the camera so that the Viewing image of the color bar chart is the full of LCD with the ND-4 Filter attached.</div> <div>3. Click the “ADJUST” button.</div>	

4	<ol style="list-style-type: none"> <li>Shift a frame on the displayed screen with a mouse to choose a color of color bar.</li> <li>Click the “Sampling” button.</li> </ol>	
5	<p>Measure the yellow and red colors, and if they are both within the specifications, click the “OK” button, and then proceed to step 7.</p> <p>* Specification  Ave_Cr = Reference Camera <math>\pm</math> 10  Ave_Cb = Reference Camera <math>\pm</math> 10</p>	
6	<ol style="list-style-type: none"> <li>Confirm to see that the image on the PC monitor satisfies the specifications.</li> <li>If the image on the PC monitor does not satisfy the specifications, change the data using UP, DOWN button or change the data directly by typing the data in the text box. Then click the “Update” button.</li> </ol> <p>If these data are within specifications, click the “OK” button.</p>	
7	<p>When the message on the right appears, click the “FINISH” button.  (This ends the “Color” Adjustment.)</p>	

## 5.9 LCD Adjustment

### ■ Tools Used

- Personal Computer
- SERVICE MANUAL
- ADJUSTMENT SOFTWARE
- Compact Power Adapter CA-PS700
- AC Cable
- DC Coupler DR-50
- INTERFACE CABLE IFC-400PCU
- Reference Camera
- DIGITAL CAMERA SolutionDisk

### ■ Preparation

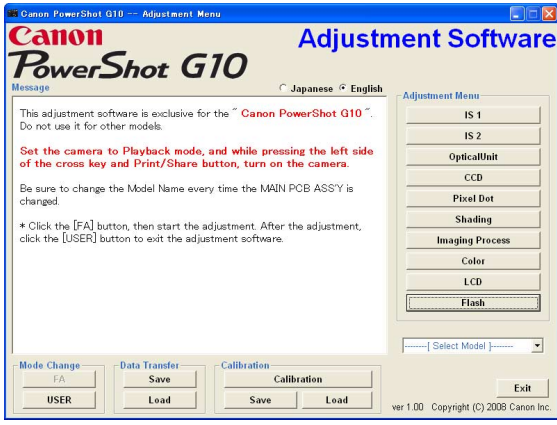

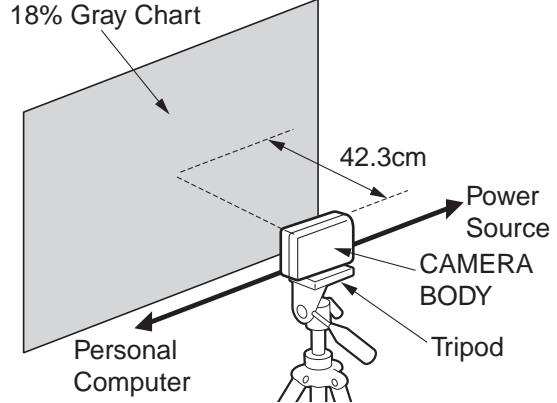
1. Insert the blank Memory Card into the reference camera.
2. Connect the reference camera with the PC.
3. Add the “Gray.jpeg” image to the Memory Card of the reference camera using Zoom Browser EX.  
(Gray.jpg is in the folder of Adjustment Software downloaded.)
4. Finish the ZoomBrowser EX.
5. Disconnect the reference camera from the PC, and display the “Gray.jpg” image in PLAY mode.

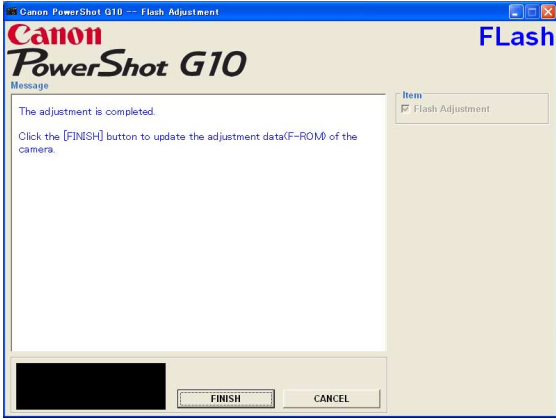
1	Click the “LCD” button.	
2	<ol style="list-style-type: none"> <li>1. Compare the image with that of the reference camera. If it has a different color tint, adjust it by repeating clicking the Yellow/Blue button and the “Update” button alternately.</li> <li>2. Click the “FINISH” button. (This ends the “LCD” Adjustment.)</li> </ol>	

## 5.10 Flash Adjustment

### ■ Tools Used

- Personal Computer
- SERVICE MANUAL
- ADJUSTMENT SOFTWARE
- Compact Power Adapter CA-PS700
- AC Cable
- DC Coupler DR-50
- INTERFACE CABLE IFC-400PCU
- 18% Gray Chart
- Tripod

1	Click the “Flash” button.	
2	When the message on the right appears, go to 3.	
3	<ol style="list-style-type: none"> <li>1. Set the 18% Gray Chart at 42.3cm away from the front of the camera finder.</li> <li>2. Make the room as dark as a darkroom.</li> <li>3. Click the “ADJUST” button.</li> </ol>	

4	<p>When the message on the right appears, click the “FINISH” button. (This ends the “Flash” Adjustment.)</p>	
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## 5.11 Checking of sound recording/output

It is not required to adjust the recording/output (volume etc.) of sound. Check the camera if the sound is recorded/play-backed properly.



## DIAGRAMS

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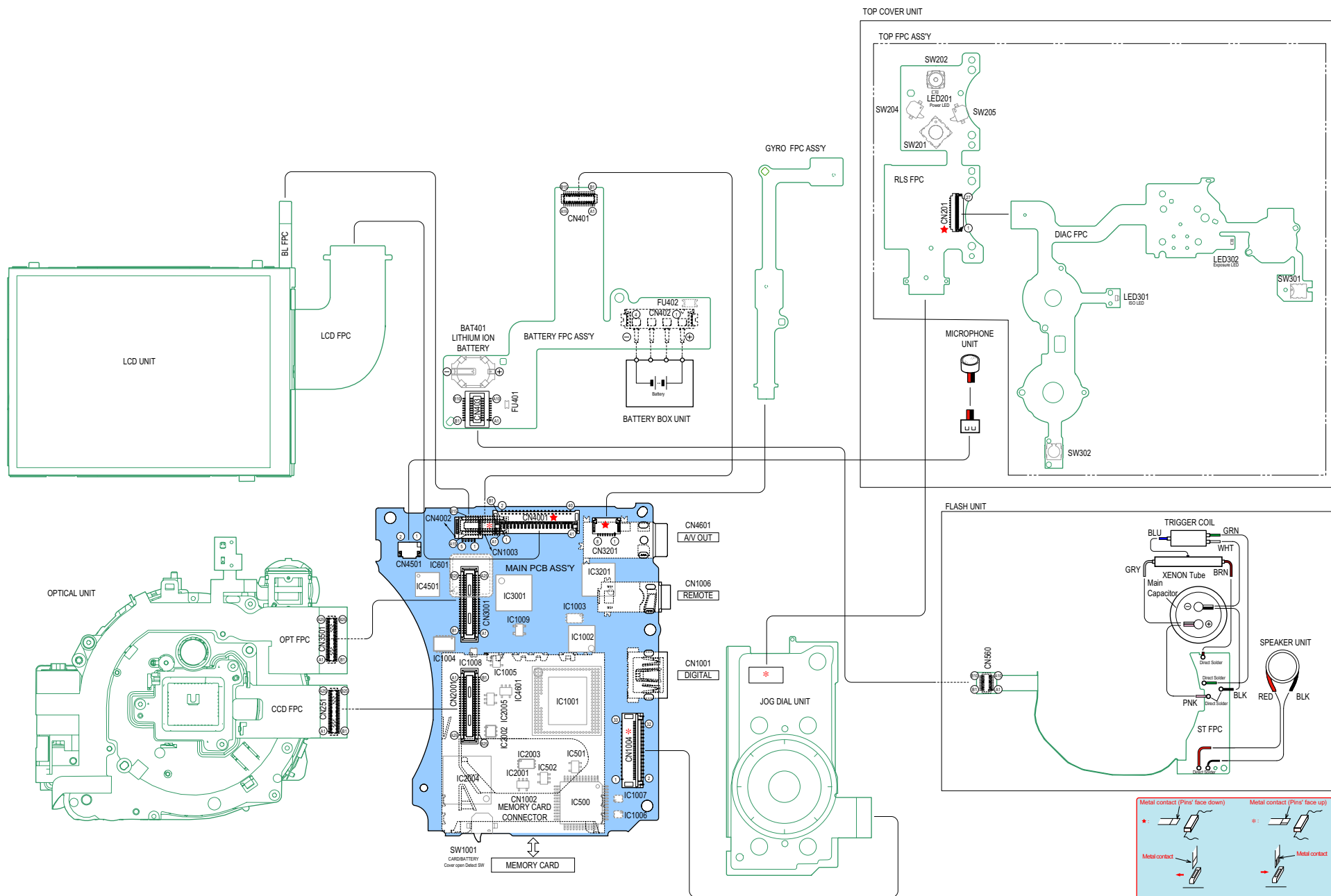
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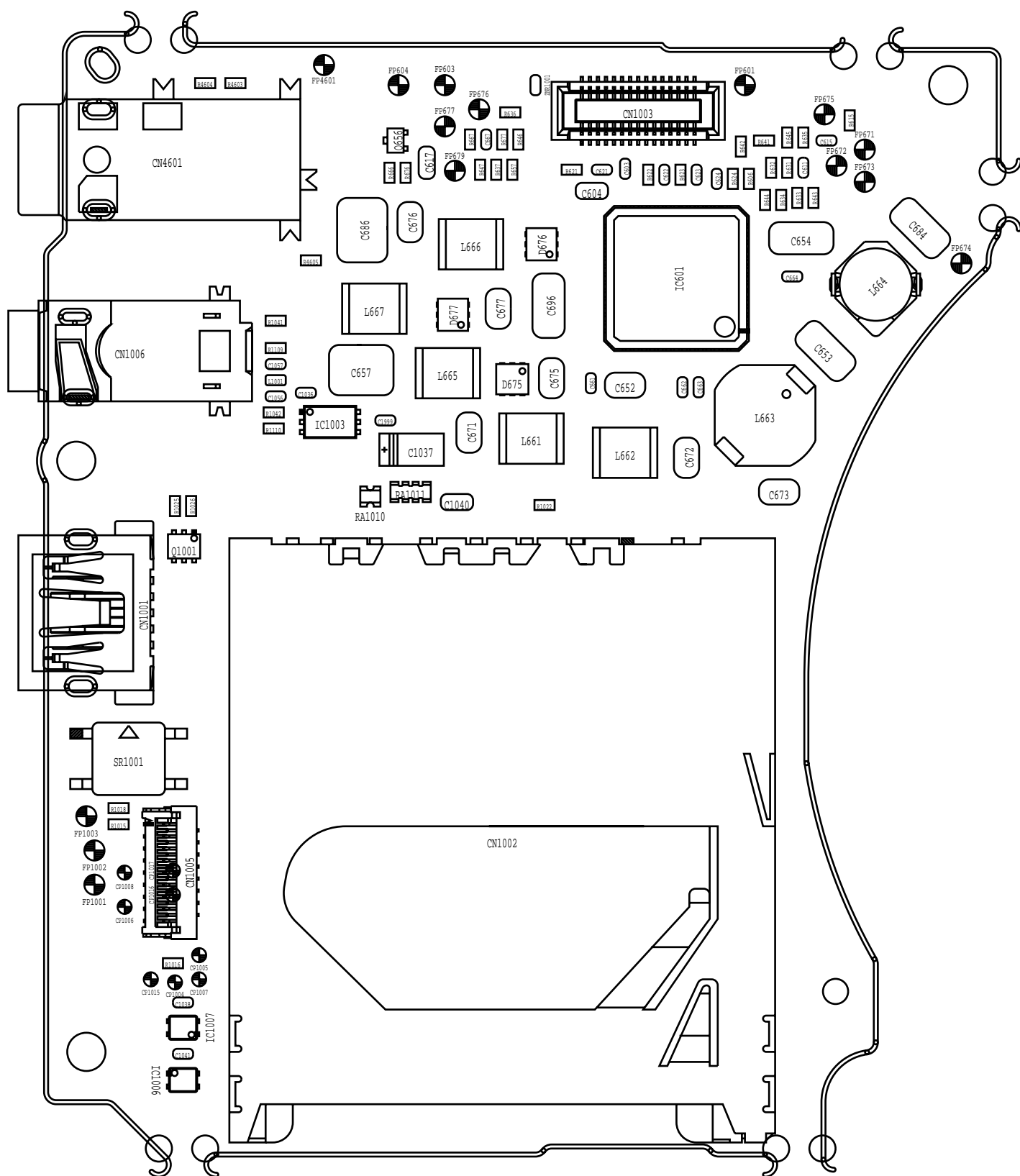
1. INTERCONNECTION DIAGRAM
2. PCB DIAGRAMS
  - 2.1 MAIN PCB ASS'Y (Primary Side)
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  - 2.3 ST FPC ASS'Y (Primary Side)
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  - 2.8 GY FPC ASS'Y (Primary Side)
  - 2.9 DIAC FPC ASS'Y (Primary Side)
  - 2.10 RLS FPC ASS'Y (Primary Side)
  - 2.11 BATT FPC ASS'Y (Primary Side)

# 1. INTERCONNECTION DIAGRAM



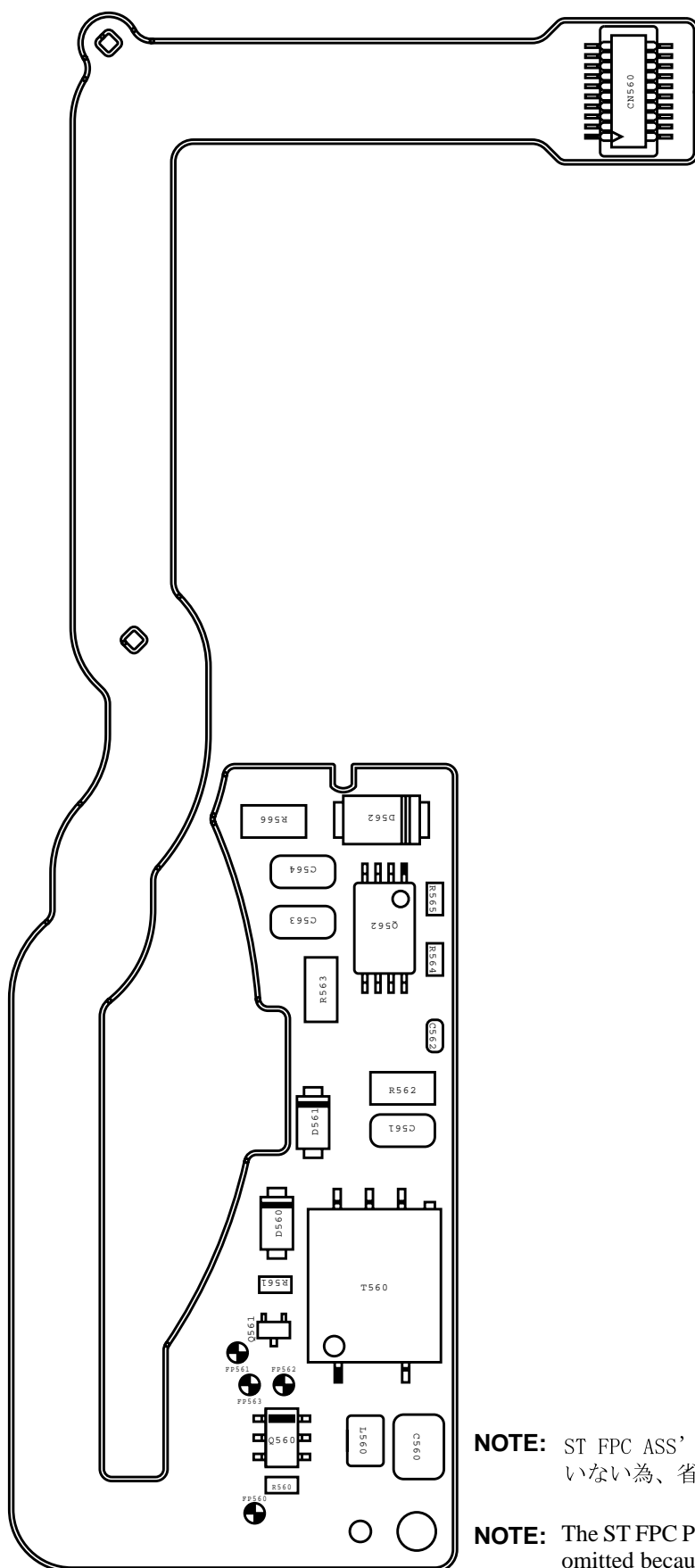
## 2. PCB DIAGRAMS

### 2.1 MAIN PCB ASS'Y (Primary Side)





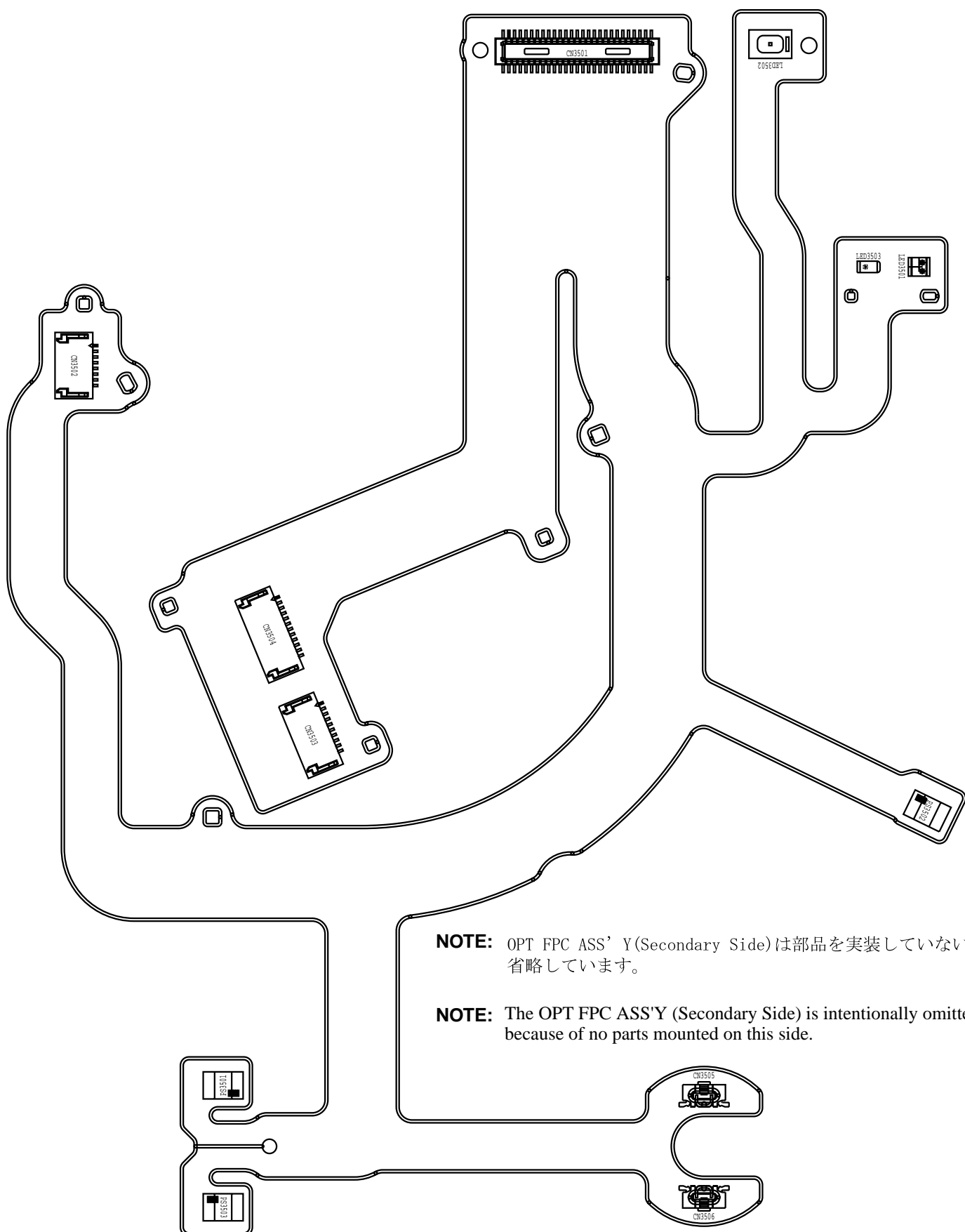
## 2.3 ST FPC ASS'Y (Primary Side)



**NOTE:** ST FPC ASS'Y (Secondary Side)は部品を実装していない為、省略しています。

**NOTE:** The ST FPC PCB ASS'Y (Secondary Side) is intentionally omitted because of no parts mounted on this side.

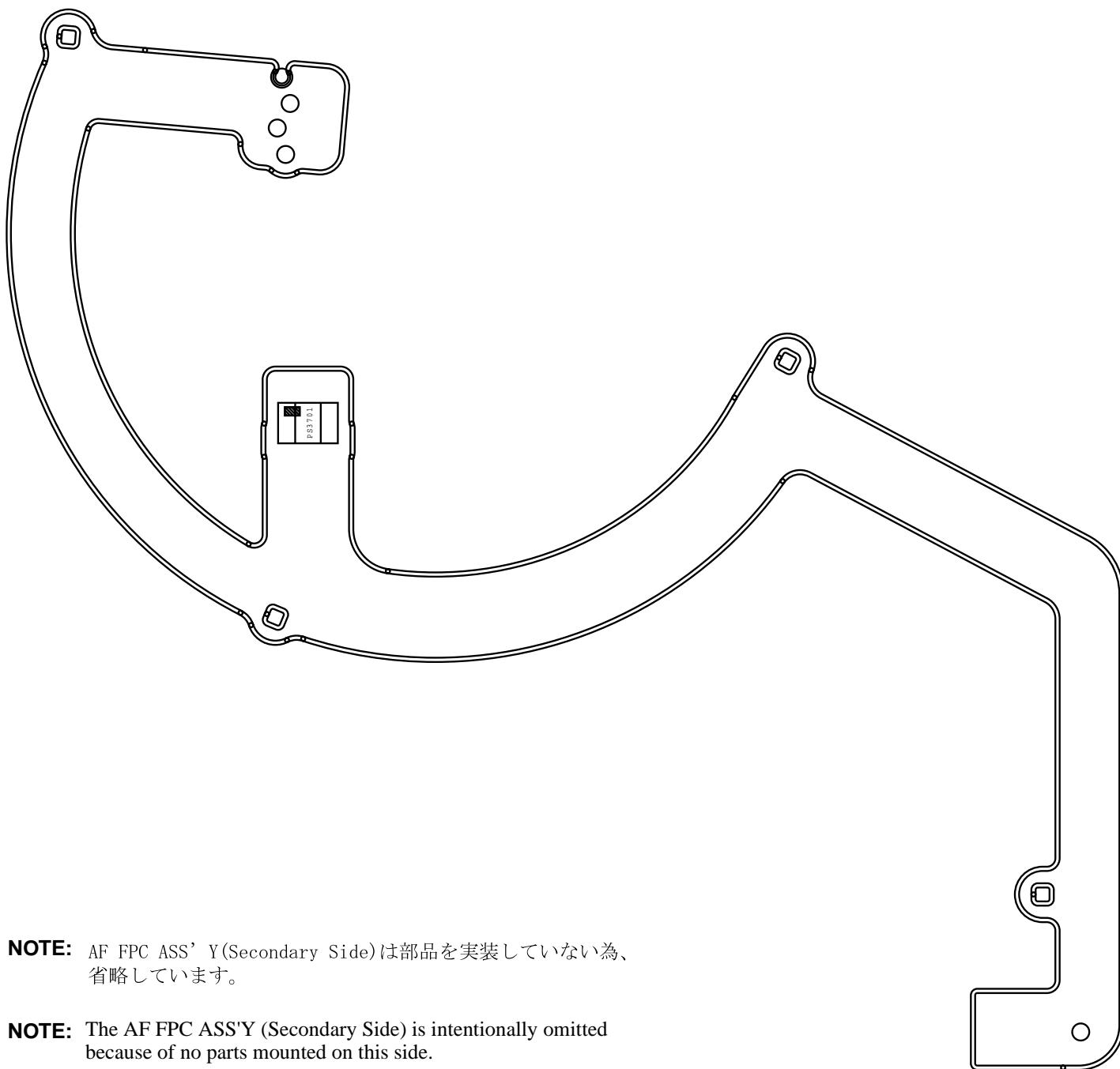
## 2.4 OPT FPC ASS'Y (Primary Side)



**NOTE:** OPT FPC ASS' Y(Secondary Side)は部品を実装していない為、省略しています。

**NOTE:** The OPT FPC ASS'Y (Secondary Side) is intentionally omitted because of no parts mounted on this side.

## 2.5 AF FPC ASS'Y (Primary Side)

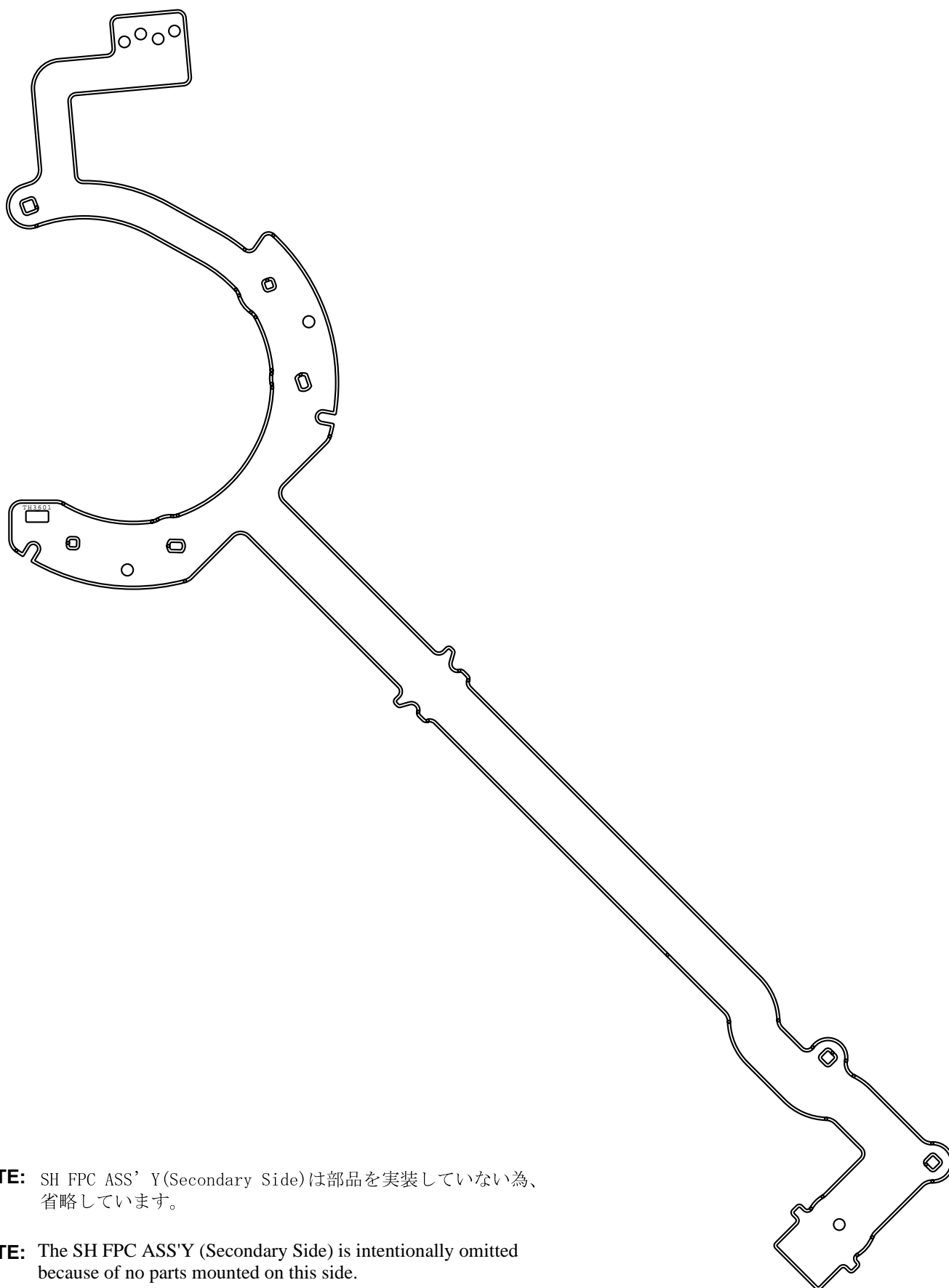


**NOTE:** AF FPC ASS'Y (Secondary Side)は部品を実装していない為、省略しています。

**NOTE:** The AF FPC ASS'Y (Secondary Side) is intentionally omitted because of no parts mounted on this side.



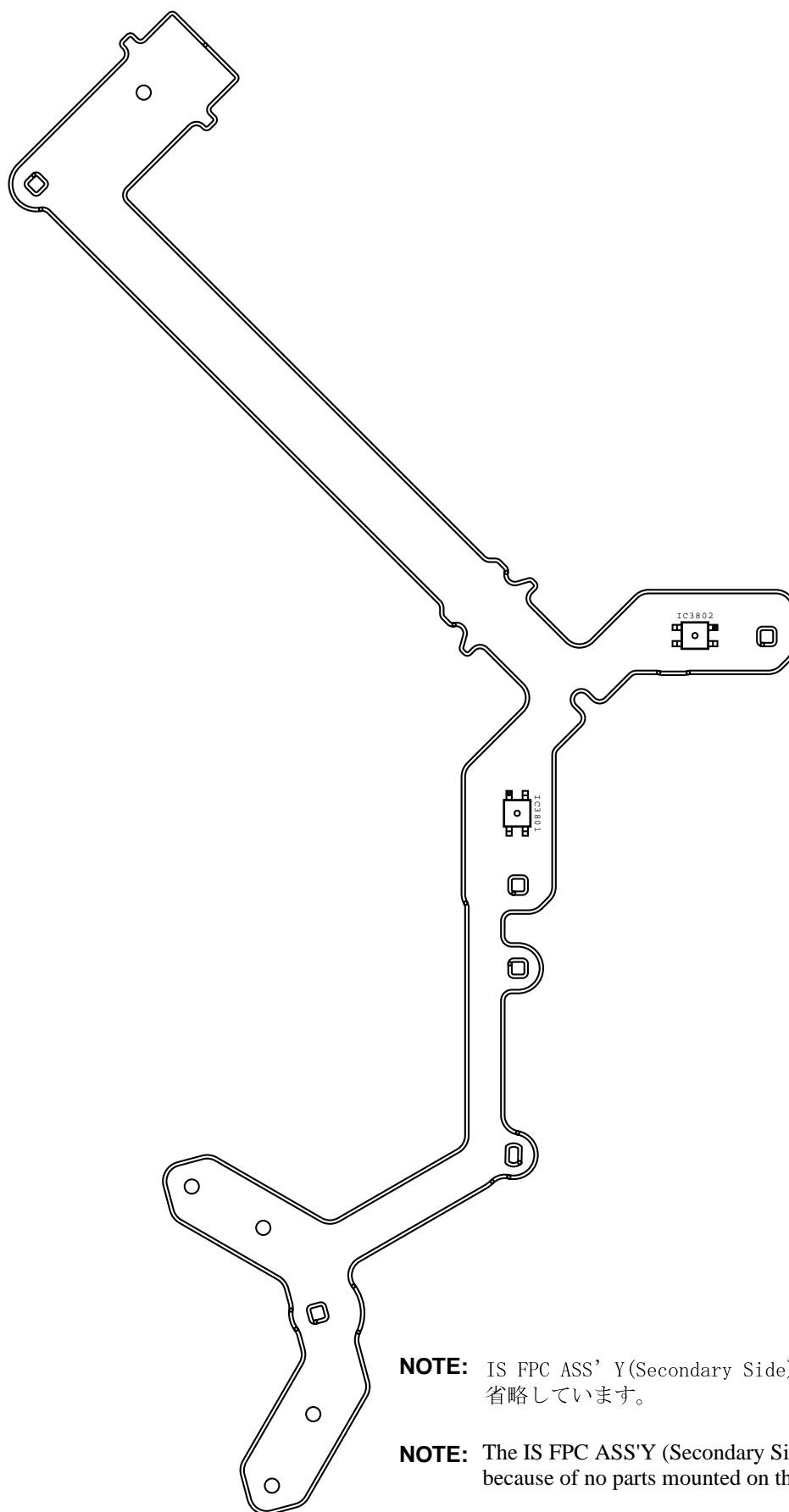
## 2.6 SH FPC ASS'Y (Primary Side)



**NOTE:** SH FPC ASS'Y (Secondary Side)は部品を実装していない為、省略しています。

**NOTE:** The SH FPC ASS'Y (Secondary Side) is intentionally omitted because of no parts mounted on this side.

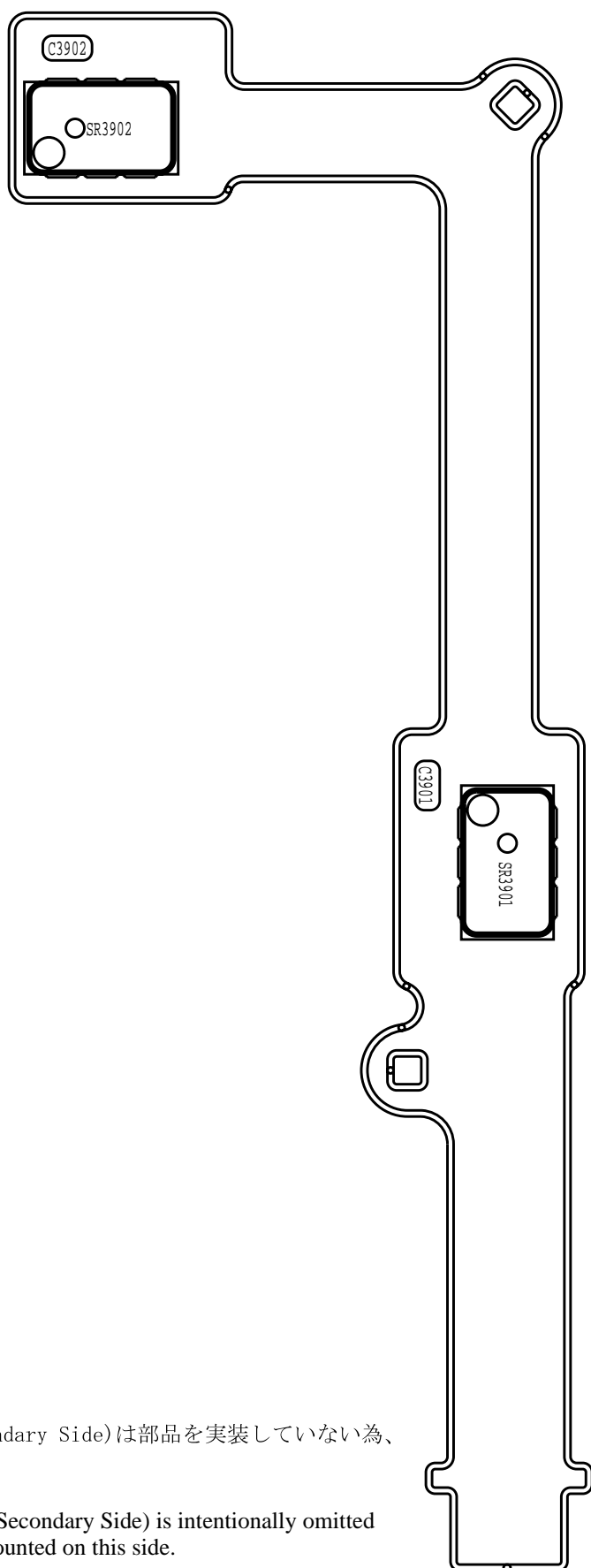
## 2.7 IS FPC ASS'Y (Primary Side)



**NOTE:** IS FPC ASS'Y (Secondary Side)は部品を実装していない為、省略しています。

**NOTE:** The IS FPC ASS'Y (Secondary Side) is intentionally omitted because of no parts mounted on this side.

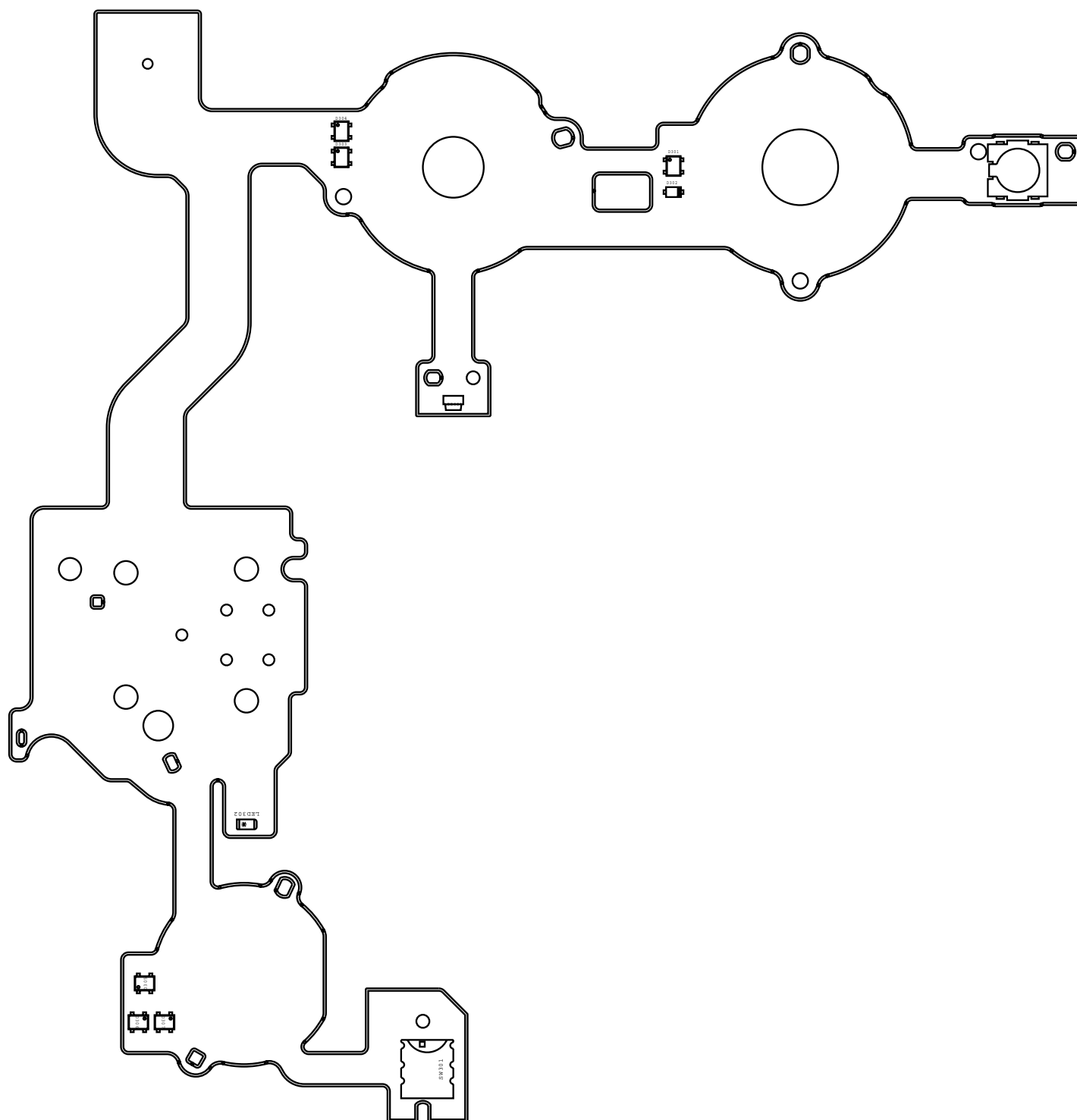
## 2.8 GY FPC ASS'Y (Primary Side)



**NOTE:** GY FPC ASS'Y (Secondary Side)は部品を実装していない為、省略しています。

**NOTE:** The GY FPC ASS'Y (Secondary Side) is intentionally omitted because of no parts mounted on this side.

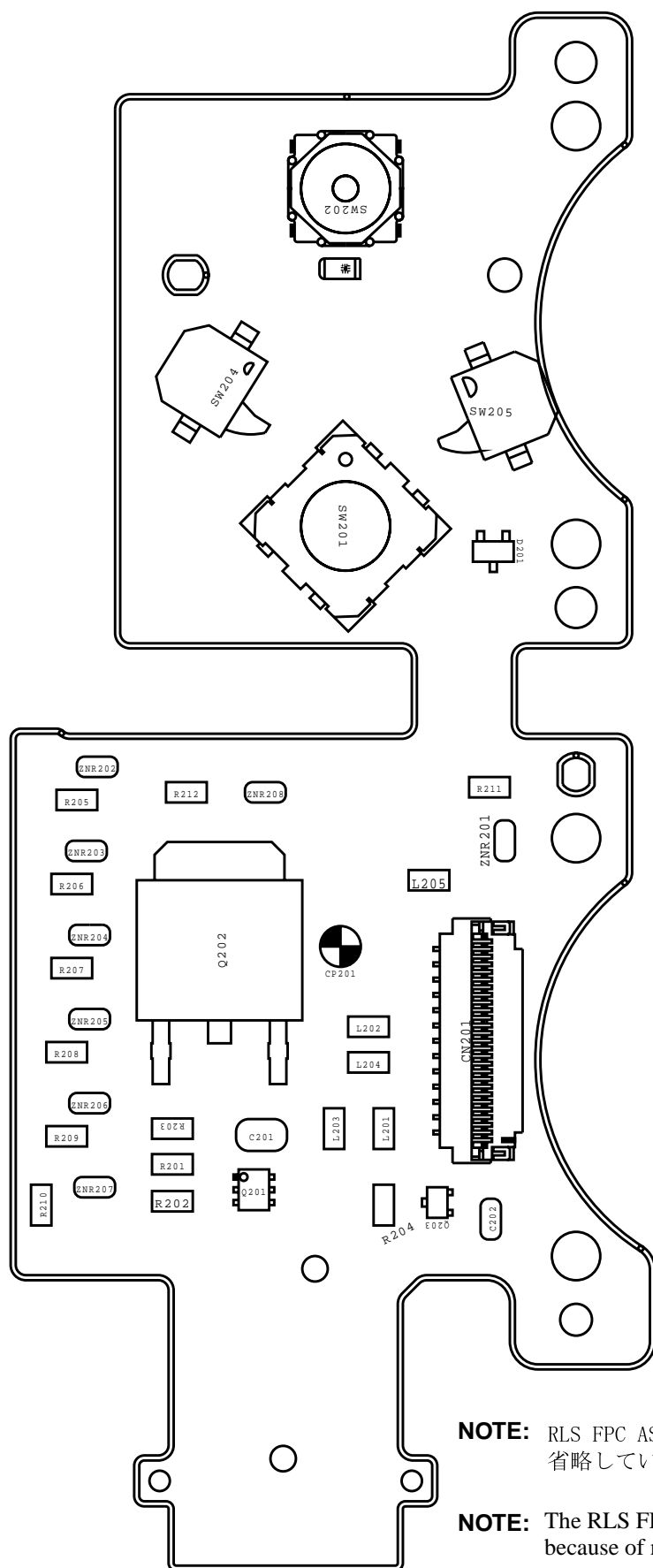
## 2.9 DIAC FPC ASS'Y (Primary Side)



**NOTE:** DIAC FPC ASS'Y (Secondary Side)は部品を実装していない為、省略しています。

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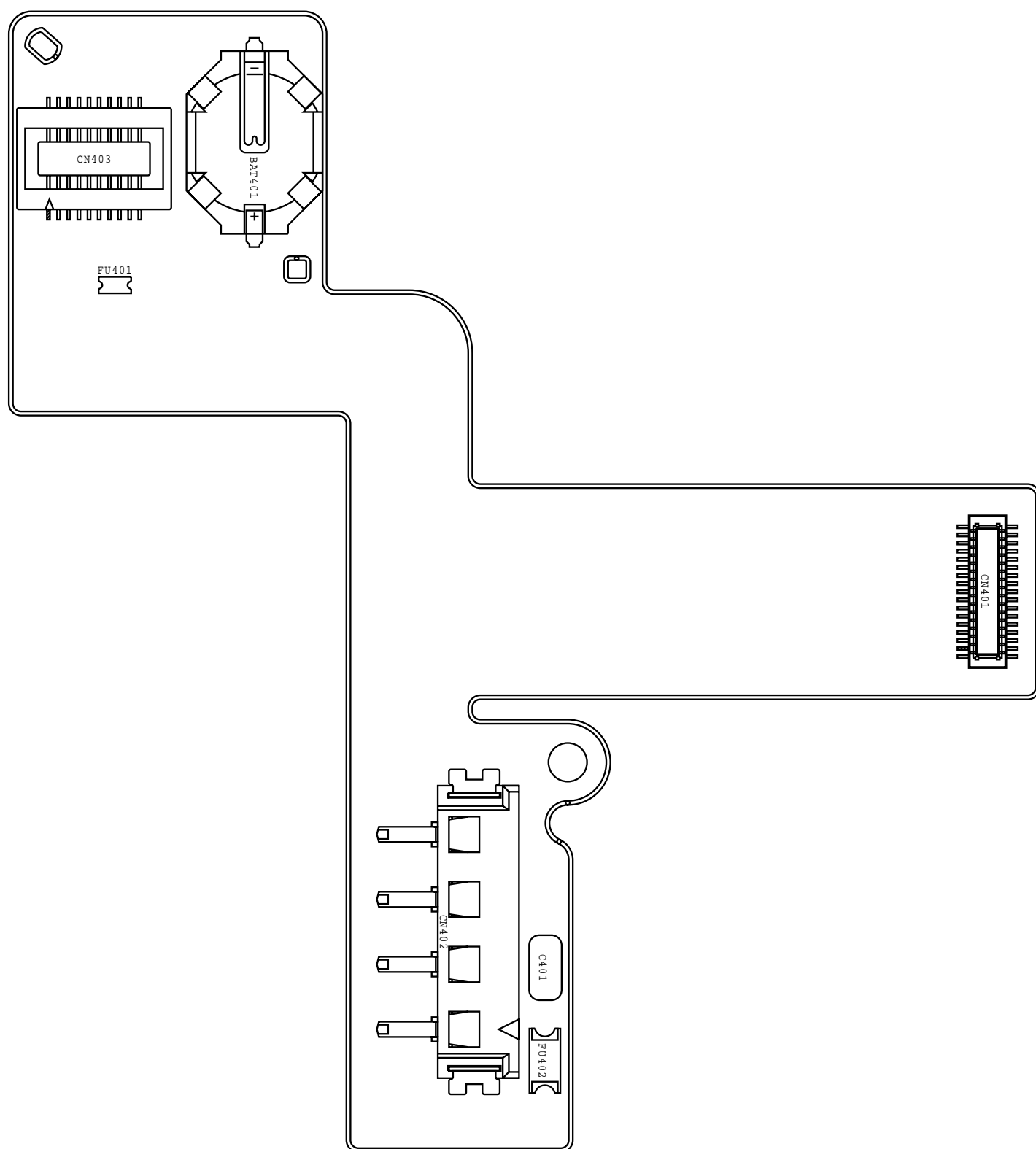
## 2.10 RLS FPC ASS'Y (Primary Side)



**NOTE:** RLS FPC ASS'Y (Secondary Side)は部品を実装していない為、省略しています。

**NOTE:** The RLS FPC ASS'Y (Secondary Side) is intentionally omitted because of no parts mounted on this side.

## 2.11 BATT FPC ASS'Y (Primary Side)



**NOTE:** BATT FPC ASS'Y (Secondary Side) は部品を実装していない為、省略しています。

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Adobe Acrobat Reader (Adobe Reader) 4.0 or above

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