

作成承認印

配布許可印

**Nikon****D7000**

VBA29001

REPAIR MANUAL**Nikon** | **NIKON CORPORATION**
Tokyo, Japan

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Contents

Disassembly	D1
Warning	D1
1. External Appearance	D2
Battery cover unit	D2
External part	D2
Bottom cover unit	D3
2. Rear Cover	D4
Rear cover unit	D4
TFT monitor window	D5
Rear FPC unit	D5
Rear button	D7
Selector lock lever	D7
TFT monitor	D8
LV lever	D8
3. TOGO PCB/Image Sensor	D9
SD cover unit	D9
Discharge of main condenser	D9
Front cover unit	D10
Shield plate	D11
TOGO PCB unit	D12
Image sensor unit	D13
4. Top Cover	D15
I/F cover unit	D15
Grip cover unit	D16
Top cover unit	D16
LCD window	D18
SB PCB unit	D19
Command dial unit	D20
AF assist lamp unit	D21
Top LCD unit	D21
Power dial	D22
Shoe base	D24
SB lower case unit	D25
Top cover FPC unit	D28
Release mode dial lock button	D30
Eyelet	D30
5. Separation of Front Body from Rear Body	D31
6. Rear Body	D33
IF PCB unit	D33

Relay-PCB.....	D35
DCDC ISC PCB unit.....	D36
Connector PCB unit	D38
PD PCB unit	D40
GND plate/Shield plate	D40
Bottom base unit.....	D41
Main condenser unit.....	D42
Battery contact.....	D43
7. Front Body	D43
Shutter unit.....	D43
AF sensor unit	D45
8. Separation of Prism Box from Front Body	D46
Aperture control unit	D47
Connection-FPC	D48
AF-M lever unit.....	D48
MD PCB unit.....	D49
Mirror driving unit	D50
Horizontal lever/Vertical lever	D50
AF motor unit.....	D52
Bayonet.....	D53
Apertrue coupling ring unit	D54
Lens contact FPC unit	D55
Lens release button unit.....	D57
Mirror driving unit	D57
Mirror box unit	D58
9. Prixm Box	D59
Metering FPC unit.....	D59
Penta FPC unit.....	D59
LCD unit.....	D60
Screen BOX unit	D60
Eyepiece block unit	D61
Assembly/Adjustment	A1
1. Prism Box.....	A1
Eyepiece block unit	A1
Penta prism.....	A1
Screen BOX unit	A3
LCD unit.....	A3
Penta FPC unit.....	A4
Metering FPC unit.....	A5
2. Front Body	A6
Mirror box unit.....	A6

Mirror driving unit	A7
Lens release button unit.....	A8
Lens contact FPC unit	A9
Aperture coupling ring unit	A10
Bayonet.....	A12
Adjustment of aperture coupling ring	A13
AF motor unit.....	A14
Horizontal lever/Vertical lever	A15
Mirror driving unit	A17
MD PCB unit.....	A18
AF-M lever unit.....	A19
Connection-FPC	A19
Aperture control unit	A20
Height adjustment of AF coupling shaft	A21
Height adjustment of aperture lever	A21
3. Mounting of Prism Box on Front Body	A22
AF sensor unit	A23
Adjustment of AF-sensor mounting base.....	A24
Adjustment of main mirror and sub-mirror.....	A25
Shutter unit	A27
X-delay adjustment value.....	A28
4. Rear Body	A29
Battery contact.....	A29
Main condenser unit.....	A30
Bottom base unit.....	A31
Shield plate/GND plate	A32
PD PCB unit.....	A33
Connector PCB unit	A34
DCDC ISC PCB unit.....	A36
Relay-PCB.....	A38
IF PCB unit.....	A39
5. Mounting of Front Body on Rear Body.....	A42
Inspection and adjustment of flange-back (body-back)	A44
6. Top Cover.....	A45
Eyelet.....	A45
Release mode dial lock button	A45
Drip-proof sponge	A46
Top cover FPC unit	A48
SB lower case unit.....	A50
Shoe base.....	A55
Power dial.....	A55

Top LCD unit	A57
AF assist lamp unit.....	A58
Command dial unit.....	A59
SB PCB unit	A59
LCD window	A61
Top cover unit.....	A61
Grip cover unit	A63
I/F cover unit	A64
7. Rear Cover	A65
LV lever	A65
TFT monitor	A65
Selector lock lever.....	A66
Rear button	A66
Rear FPC unit.....	A67
TFT monitor window	A68
8. Image Sensor/TOGO PCB.....	A69
Image sensor unit	A69
TOGO PCB unit	A70
How to connect camera and PC	A72
How to install inspection and adjustment software for camera body (except imaging)	A72
Inspection and adjustment for AE-CCD positioning.....	A72
Inspection and adjustment of parallax.....	A76
Shield plate.....	A84
9. External Appearance	A85
Front cover unit	A85
SD cover unit.....	A86
Rear cover unit	A86

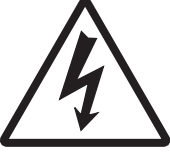
Necessary inspection and adjustment of camera body (except imaging) when parts are replacedA88

Firmware update	A88
Inspection and adjustment for AE accuracy.....	A88
X-delay adjustment	A89
Inspection and adjustment for AF accuracy	A90
Inspection and adjustment of X-position	A91
Confirmation of data	A94
Switch information monitor.....	A94
Inspection of sequence operation.....	A94
Inspection of sequence error	A94
CPU version, number of release times.....	A94
Inspection of LCD light-up.....	A94
Inspection of motor operation.....	A94

Reset of compensated AF defocus amount	A94
Rewriting of offset value of AF adj. lens	A94
Bottom cover unit	A95
External part	A96
Battery cover unit	A96
Necessary inspection and adjustment of imaging when parts are replaced.....	A97
Image adjustment 1	A98
Image adjustment 2	A98
Image adjustment 3	A98
Image adjustment 4	A99
Image adjustment 5	A101
White (hot/bright) pixel compensation against dark background	A101
Inspection and adjustment of shutter via shot image	A101
Inspection and adjustment of gradient sensor	A101
Obtaining of reference value	A102
Inspection and adjustment of TFT	A103
Factory default setting	A103
Confirmation of data	A103
Version no. /Serial no.	A103
Inspection and adjustment of "∞ (infinity)" focus	A104
Measurement of consumption current value	A104
Operation check of image sensor cleaning	A106
Charts	C1
Size of D7000 parallax chart	C1
Size of D7000 X-chart	C1
Size of D7000 Y-chart	C2
D7000 Parallax chart	C3
D7000 X-chart	C4
D7000 Y-chart	C5
Gradient-sensor chart	C6
Inspection standards	R1
Wiring	E1
Mounting Drawing	E2
FUSE arrangement.....	E3
Tool list.....	T4
Screw sheet	S1

Disassembly

Warning

 WARNING	
	● There are high voltage parts inside. Be careful of this electric shock, when you remove the cover. ● You must discharge the main condenser according to the instruction of this repair manual after you remove the cover.

Caution:

- ① In disassembly/(re)assembly, be sure to use conductive mat (J5033) and wrist strap (J5033-5) in order to protect electric parts from static electricity.
- ② Before disassembling, be sure to remove batteries or AC power cord.
- ③ In disassembling, be sure to memorize the processing state of wires and FPCs, screws to be fixed and their types, etc.
- ④ The low-pass filter of the image CCD PCB is easily damaged. Handle it very carefully.

ref. In this manual, the application of grease and adhesive is indicated by coloring

CFD-409Z

EDB0011

(grease: yellow/adhesive: red) or J-number.

Note:

- ① What are used in this manual may differ from the actual products in forms, etc.

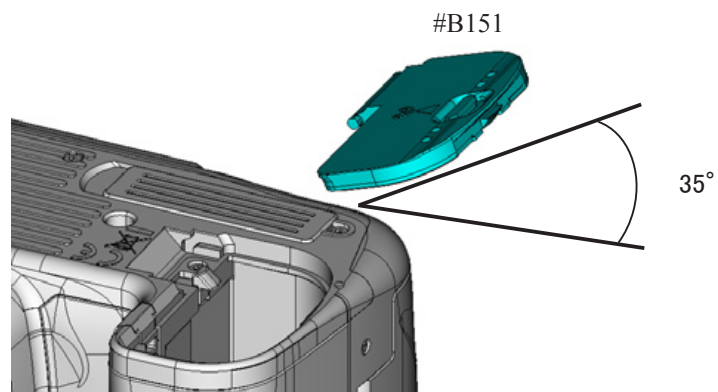
Points to notice for Lead-free solder products

- Lead-free solder is used for this product.
- For soldering work, the special solder and soldering iron are required.
- Do not mix the lead-free solder with the conventional solder.
- Use the special soldering iron respectively for lead-free solder and lead solder. They cannot be used in common.

1. External Appearance

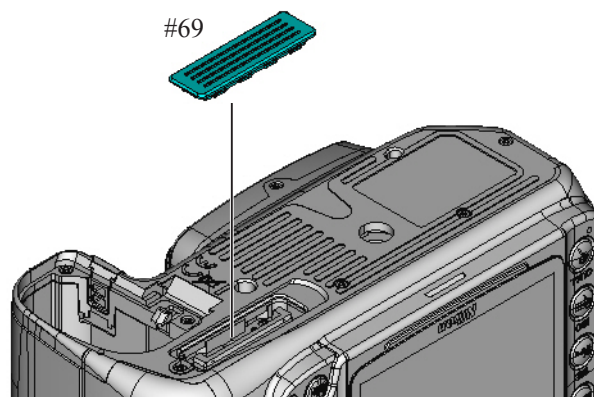
Battery cover unit

- Remove the battery cover unit (#B151) at the below angle.

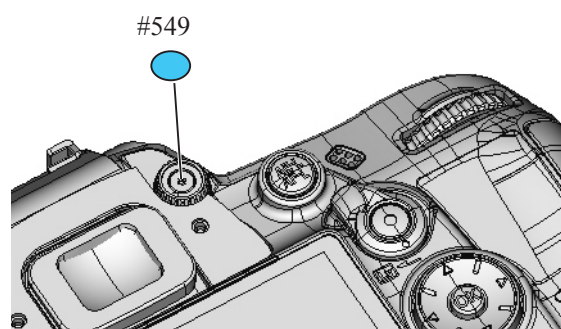


External part

- Remove the power back contact cover (#69).

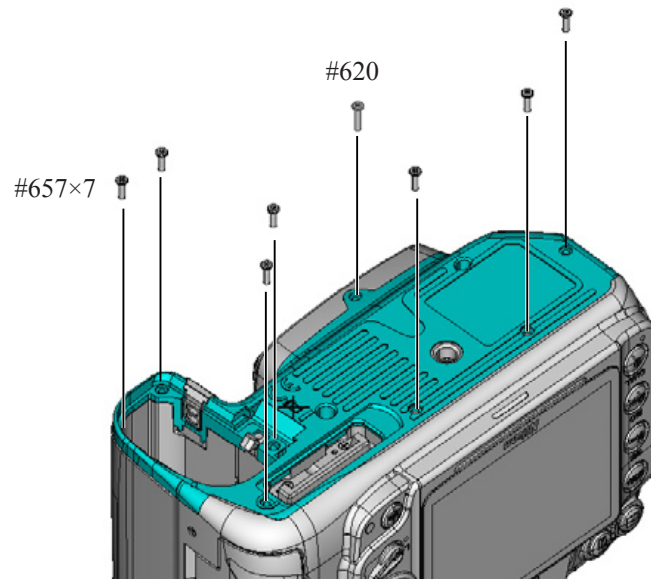


- Remove the cover (#549).

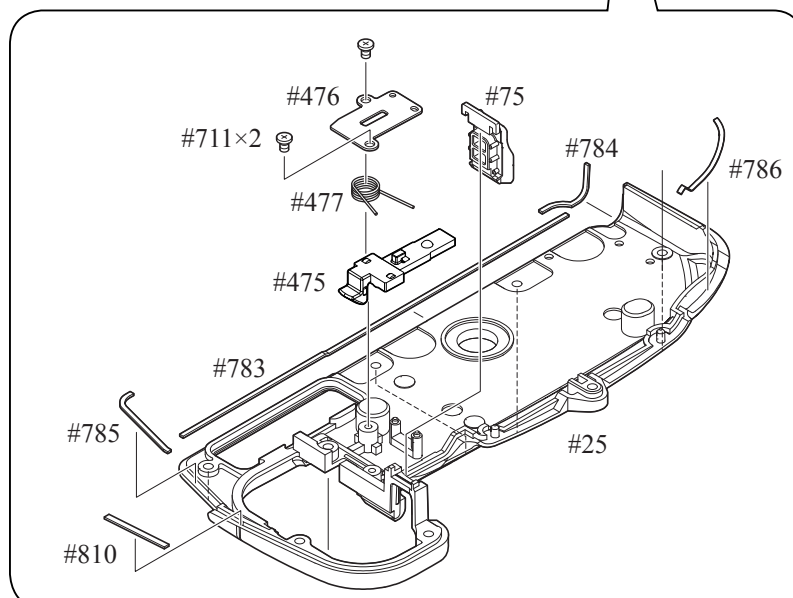
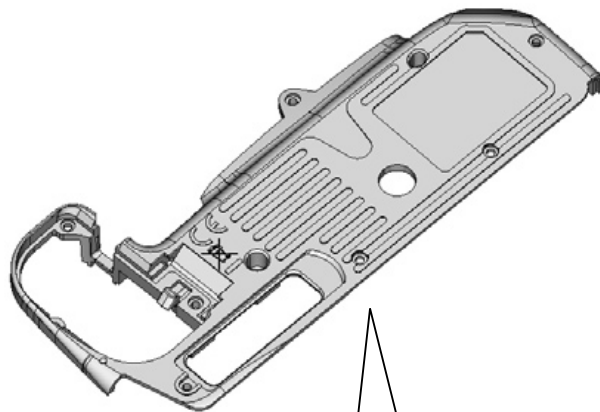


Bottom cover unit

- Take out the screw (#620).
- Take out the seven screws (#657).
- Remove the bottom cover unit.



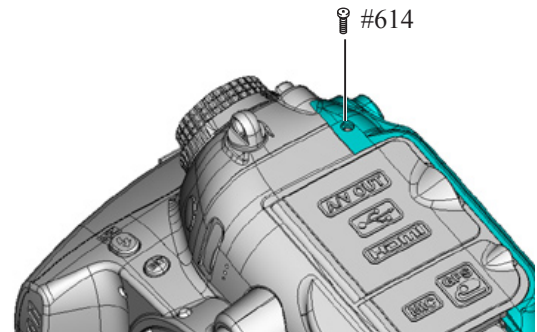
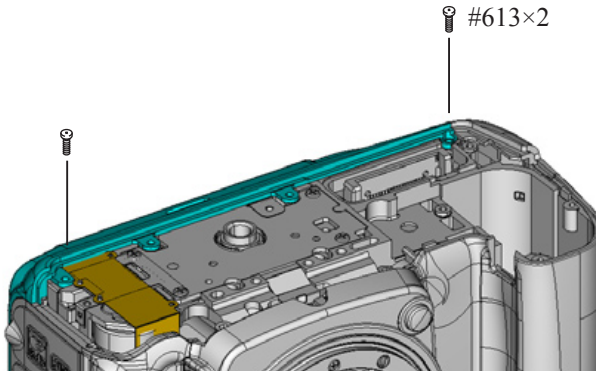
Bottom cover unit



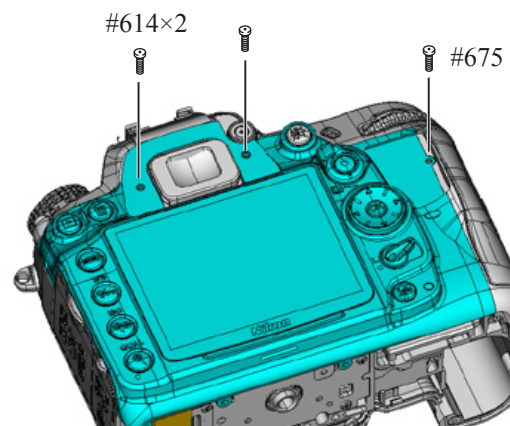
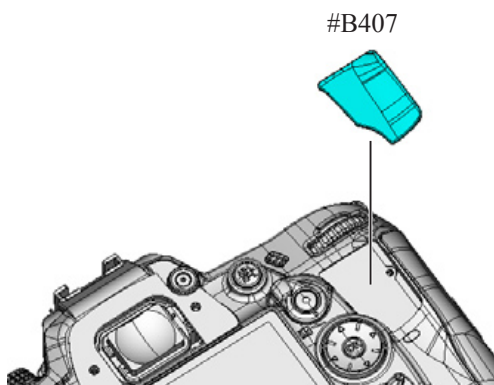
2. Rear Cover

Rear cover unit

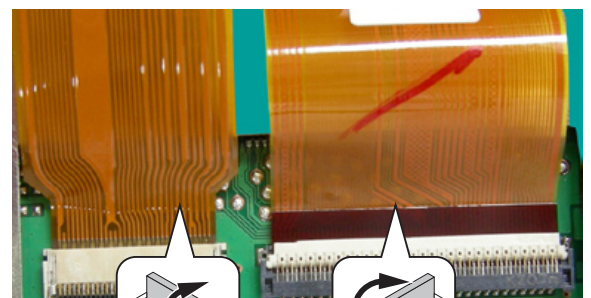
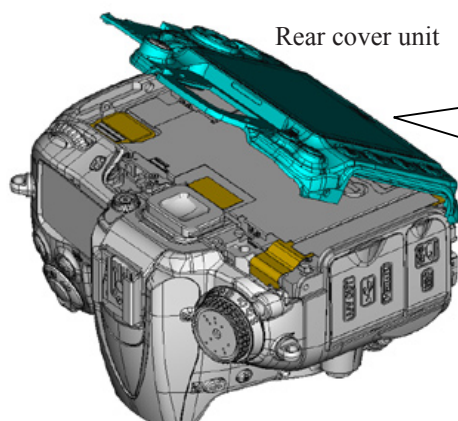
- Take out the two screws (#613).
- Take out the screw (#614).



- Peel off the rear rubber unit (#B407).
- Take out the two screws (#614).
- Take out the screw (#675).

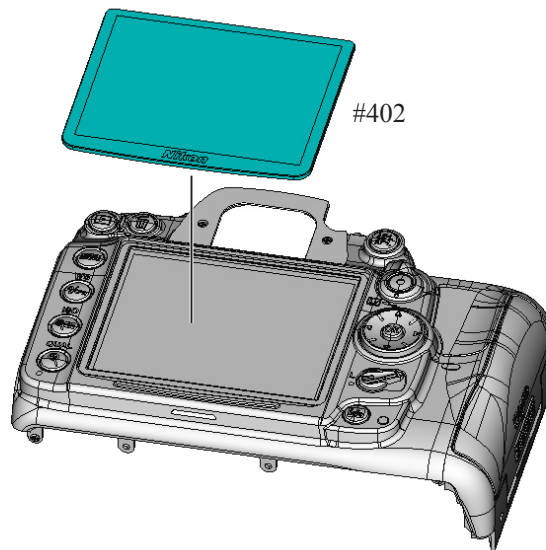


- Lift the rear cover unit.
- Disconnect the two FPCs.



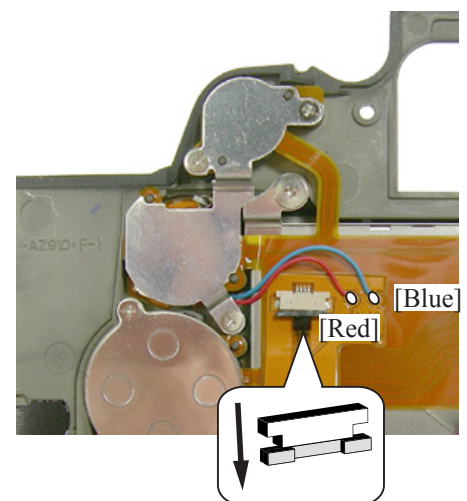
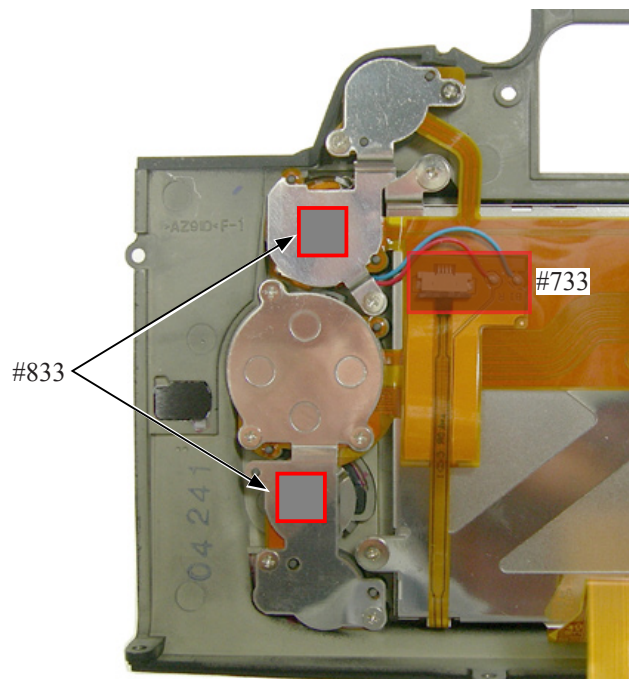
TFT monitor window

- Remove the TFT monitor window (#402).



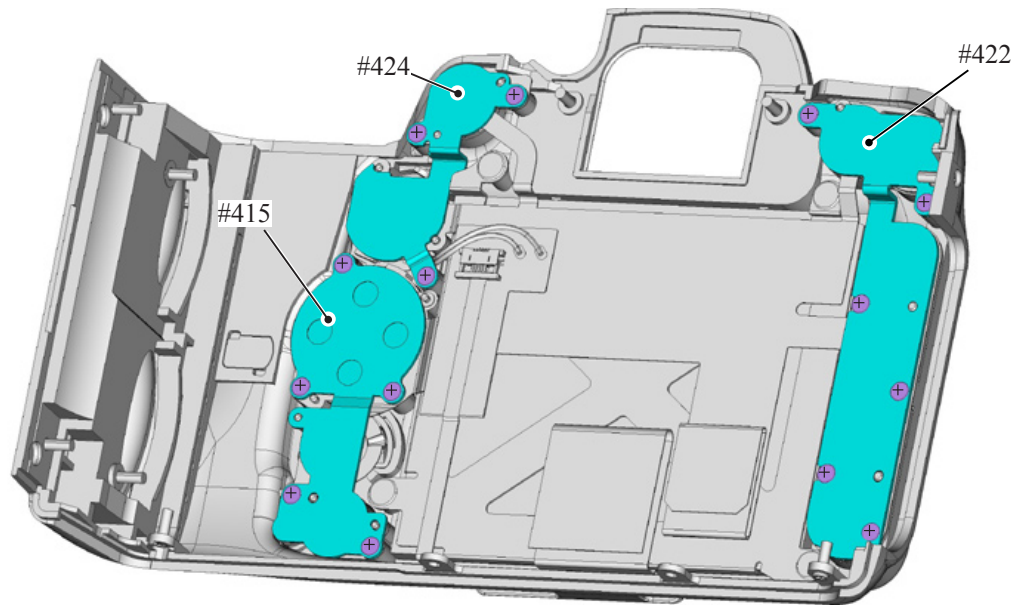
Rear FPC unit

- Peel off the tape (#733).
- Peel off the two gaskets (#833).
- Unsolder the two wires.
- Disconnect the FPC.

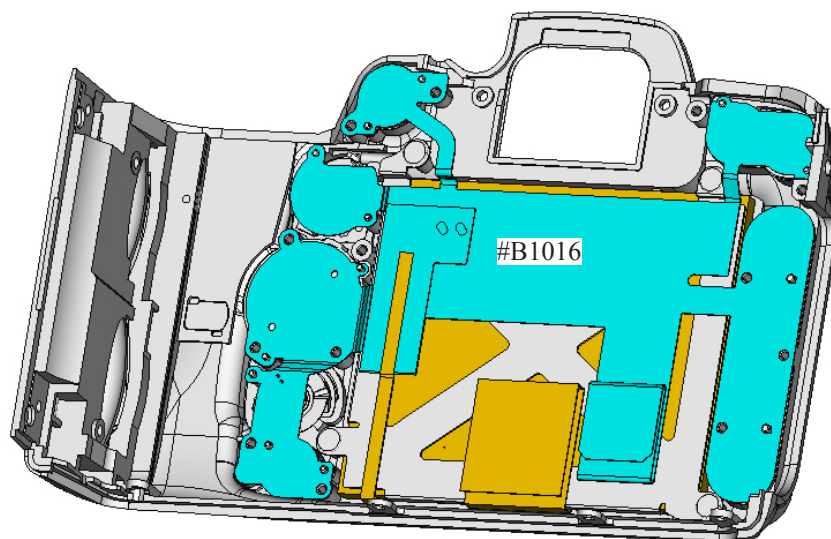


- Take out the fourteen screws (#675).
- Remove the each retainer plate (#415, #422, and #424).

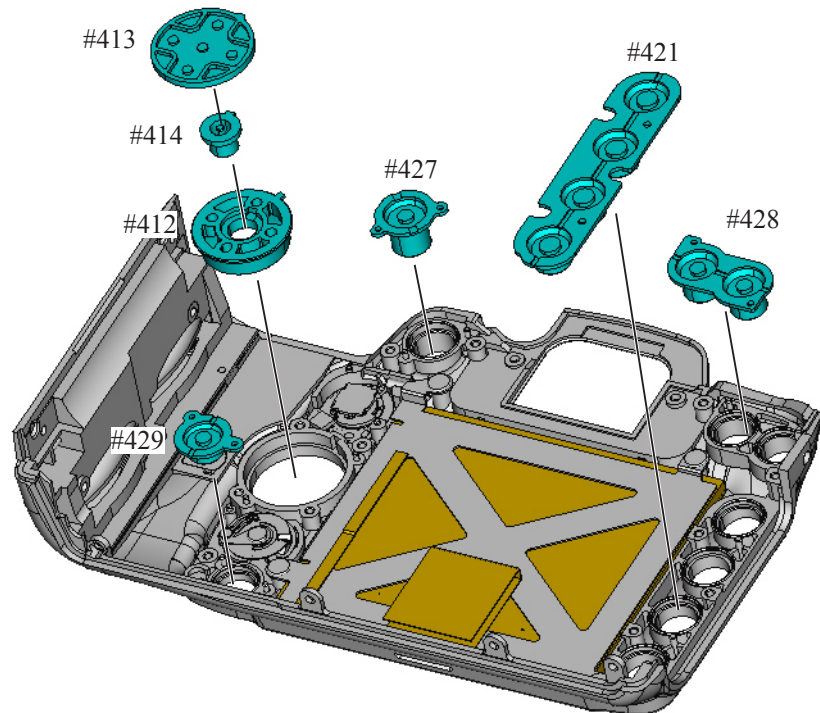
⊕ = #675×14



- Remove the rear FPC unit (#B1016).

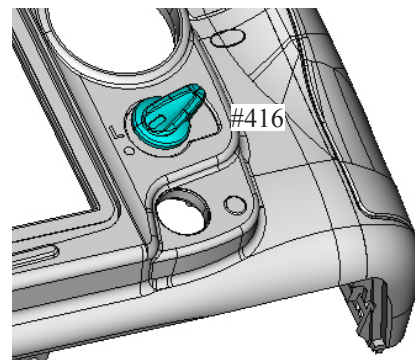
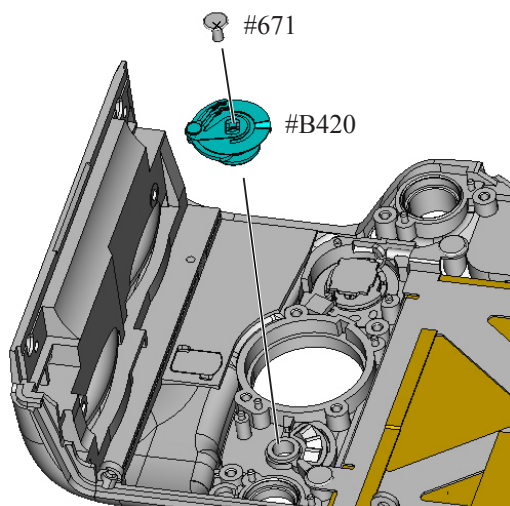


Rear button



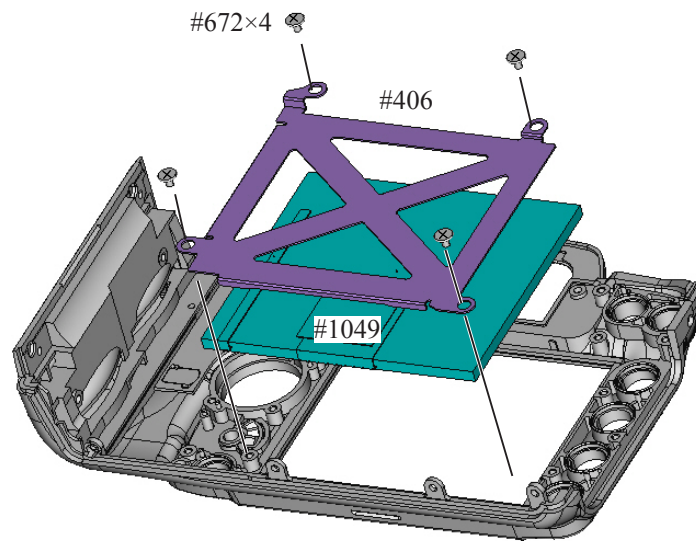
Selector lock lever

- Take out the screw (#671).
- Remove the selector SW unit (#B420).
- Remove the selector lock lever (#416).



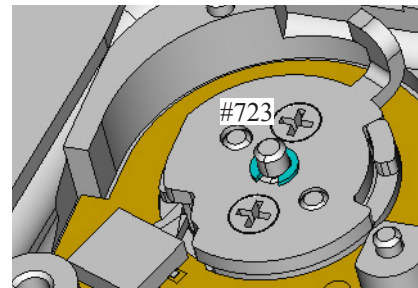
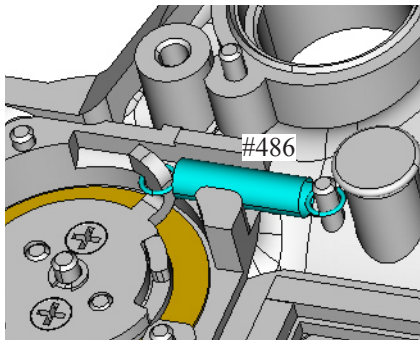
TFT monitor

- Take out the four screws (#672).
- Remove the retainer plate (#406) and TFT monitor (#1049).

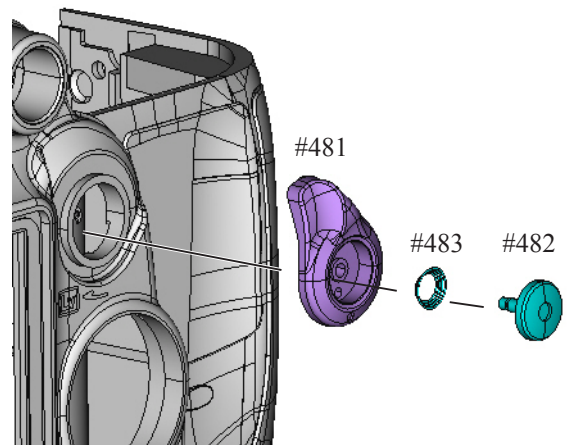
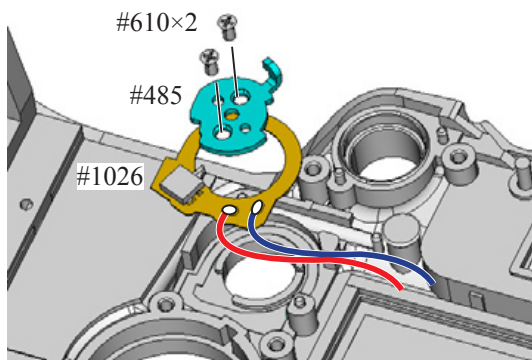


LV lever

- Remove the spring (#486).
- Remove the E-ring (#723).



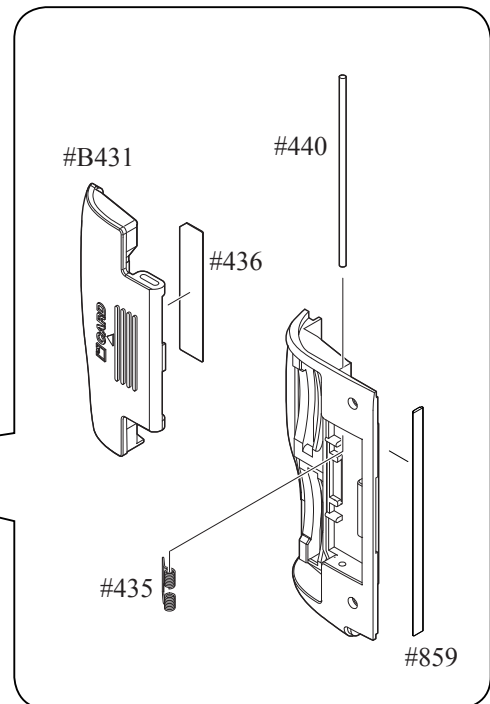
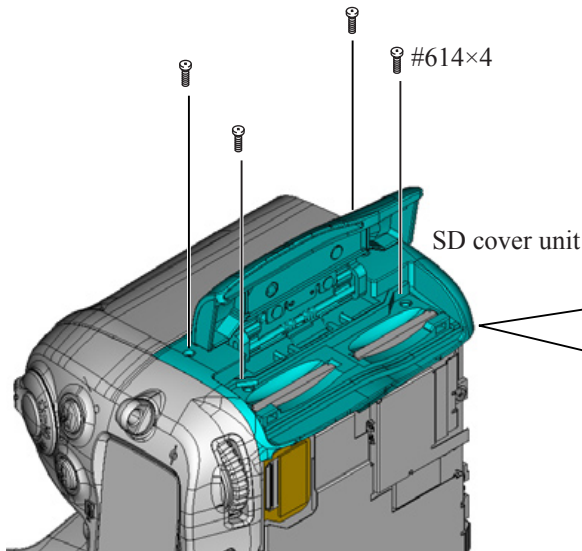
- Take out the two screws (#610).
- Remove the holder plate (#485) and live-view lever FPC unit (#1026).
- Remove the button (#482), spring (#483), LV lever (#481).



3. TOGO PCB/Image Sensor

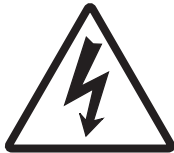
SD cover unit

- Open the SD cover.
- Take out the four screws (#614).
- Remove the SD cover unit.



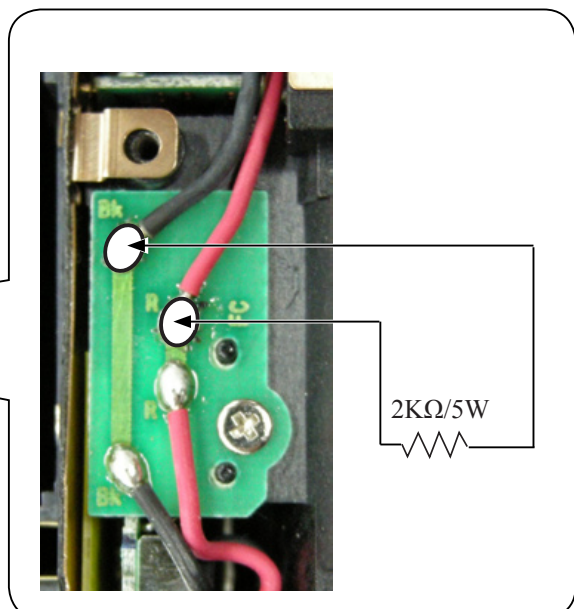
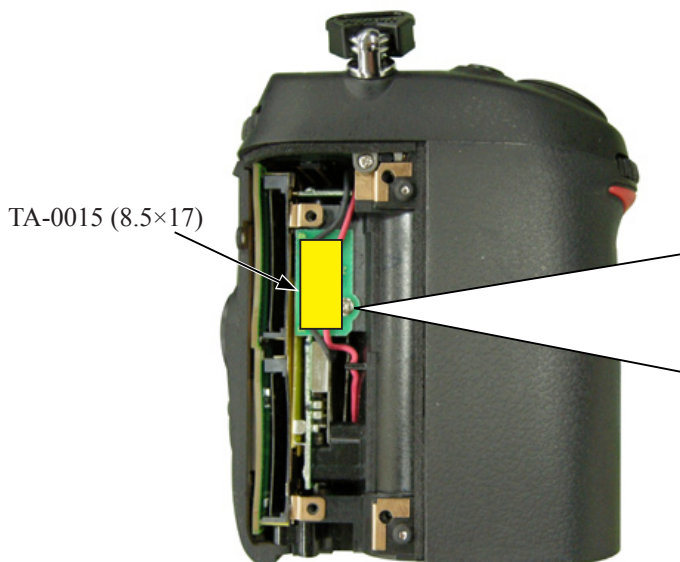
Discharge of main condenser

⚠ WARNING



- There are high voltage parts inside. Be careful of this electric shock, when you remove the cover.
- You must discharge the main condenser according to the instruction of this repair manual after you remove the cover.

- Peel off the tape [TA-0015 (8.5×17)].
- Discharge the main condenser.

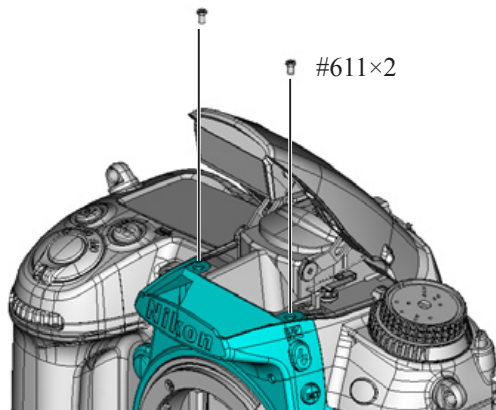


Front cover unit

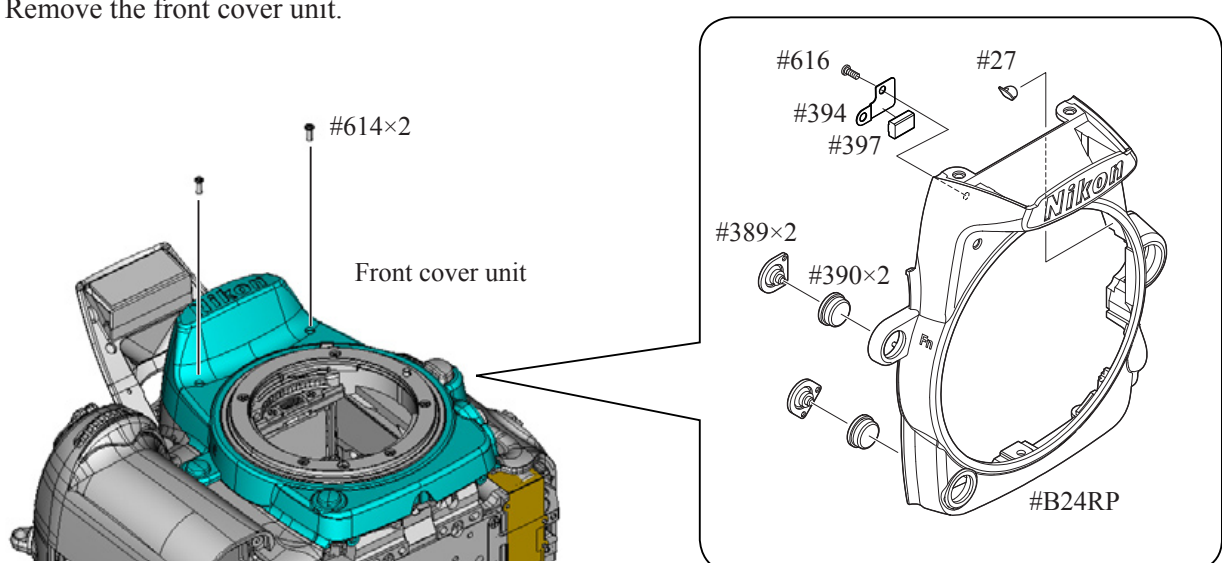
- Insert a lumirror sheet, etc, into the gap of the top cover pop-up section as below. Then raise the section by sliding the sheet in the direction of the arrow.



- Take out the two screws (#611).

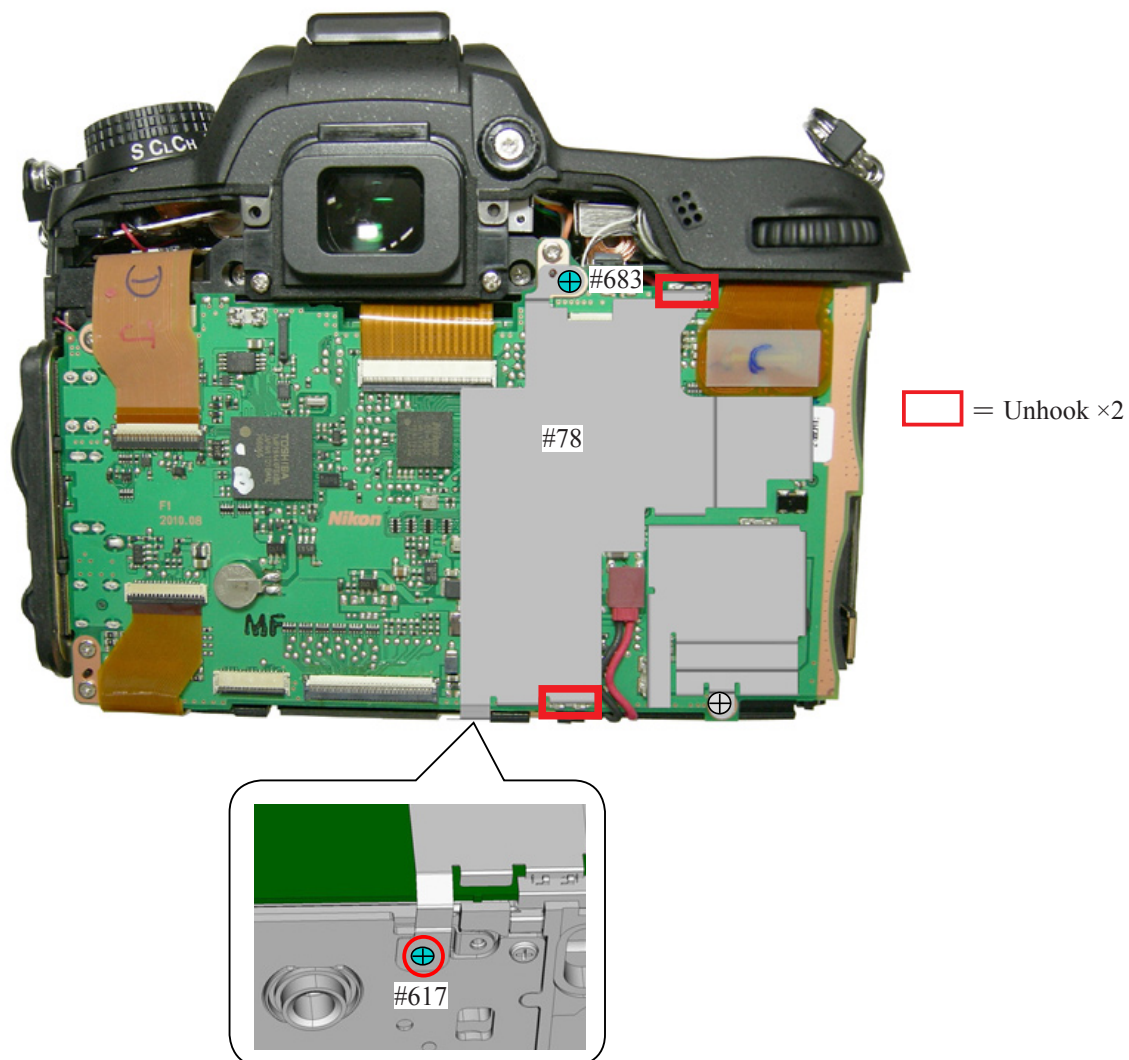


- Take out the two screws (#614).
- Remove the front cover unit.

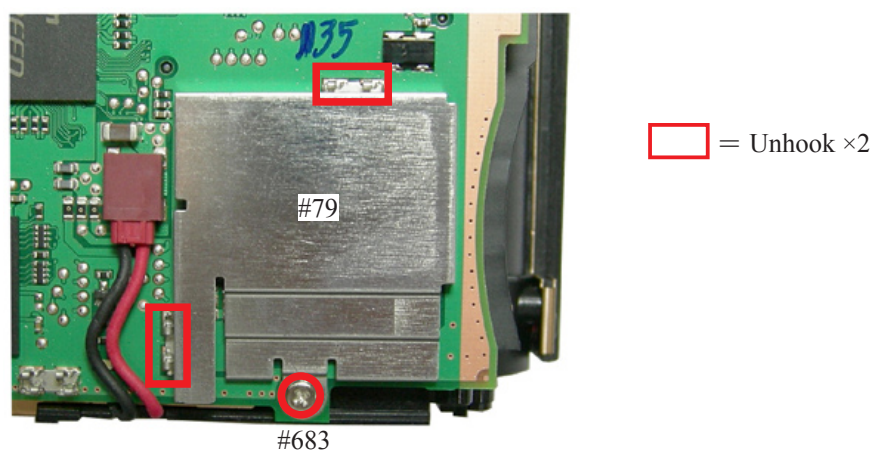


Shield plate

- Take out the screw (#683).
- Take out the screw (#617).
- Remove the shield plate (#78).

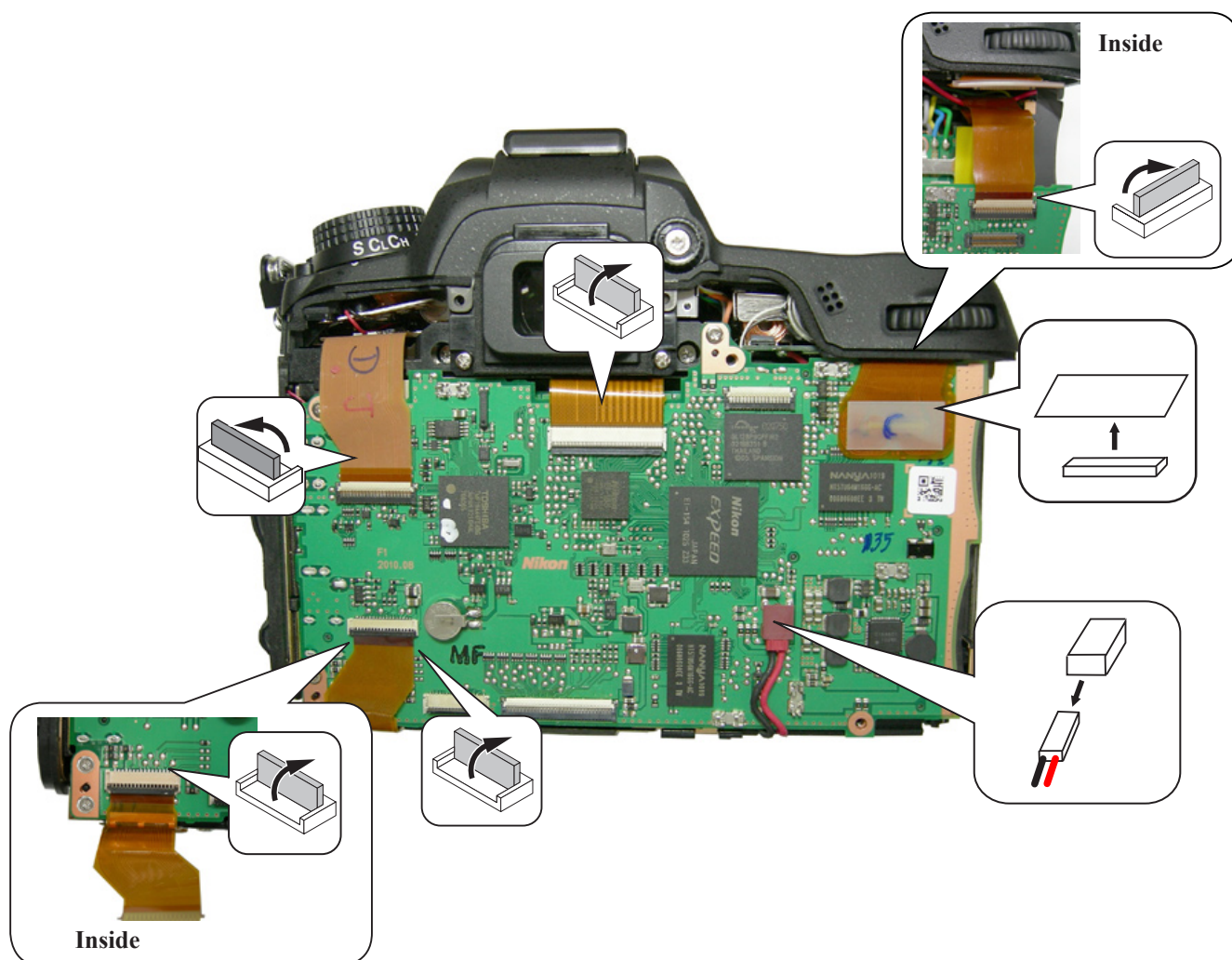


- Take out the screw (#683).
- Remove the shield plate (#79).

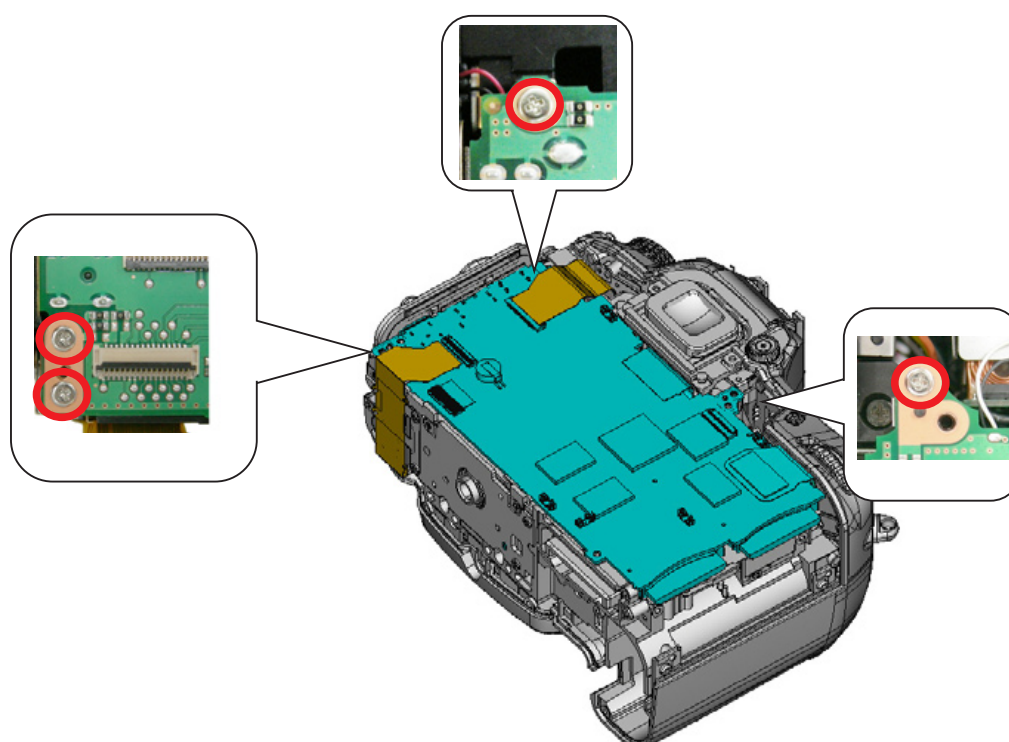


TOGO PCB unit

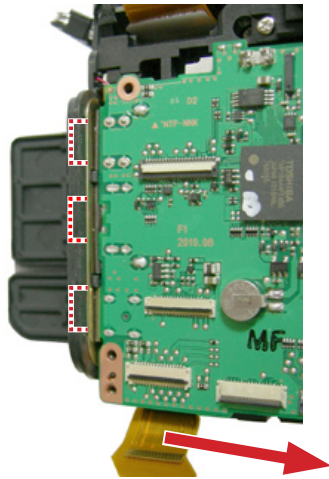
- Remove the six FPCs and the harness.



- Take out the four screws (#683).



- Remove the TOGO PCB unit (#B1001RP).



The three terminals are being assembled into the I/F cover unit, so remove [#B1001RP] by sliding it in the direction of the arrow.

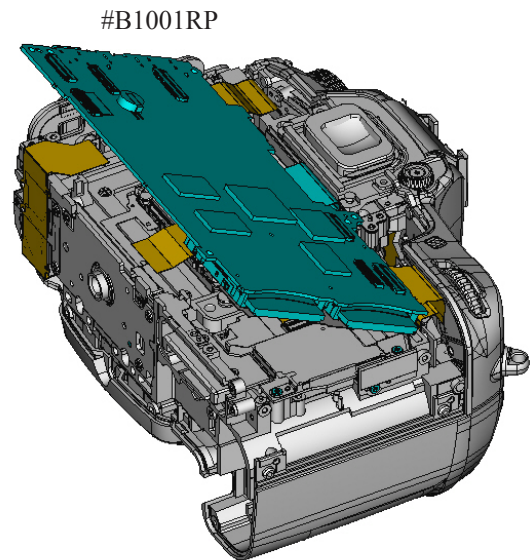
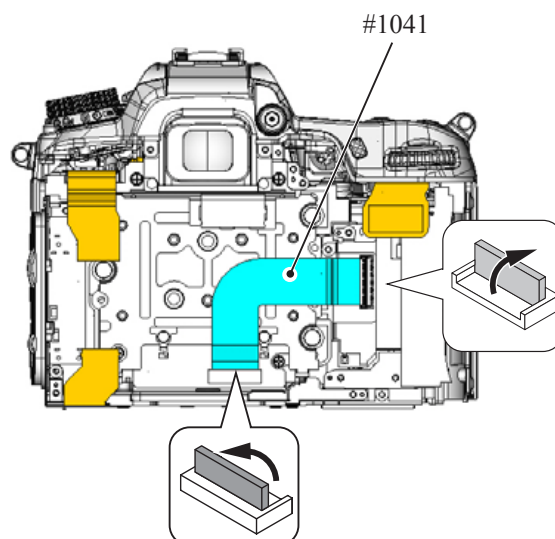
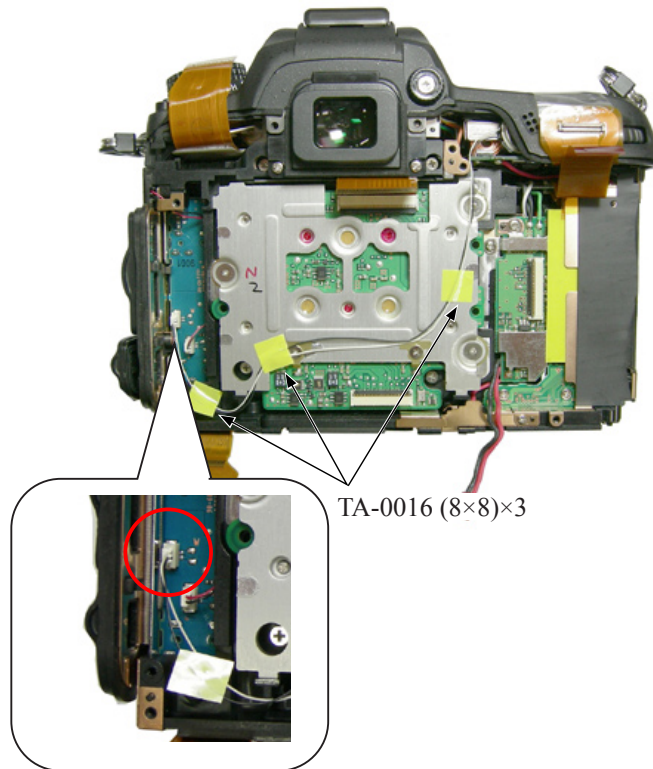


Image sensor unit

- Disconnect the both ends of the connection-FPC (#1041).

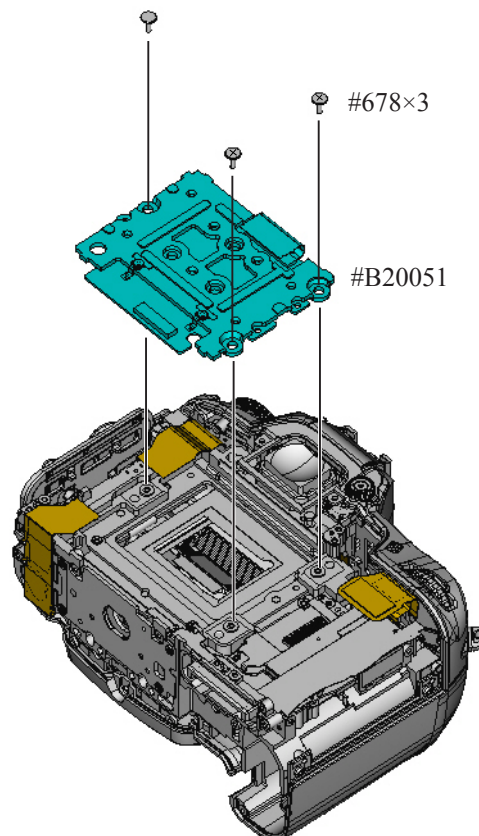


- Peel off the three pieces of the tape [TA-0016 (8×8)], and remove the harness.



- Take out the three screws (#678).
- Remove the image sensor unit (#B20051).

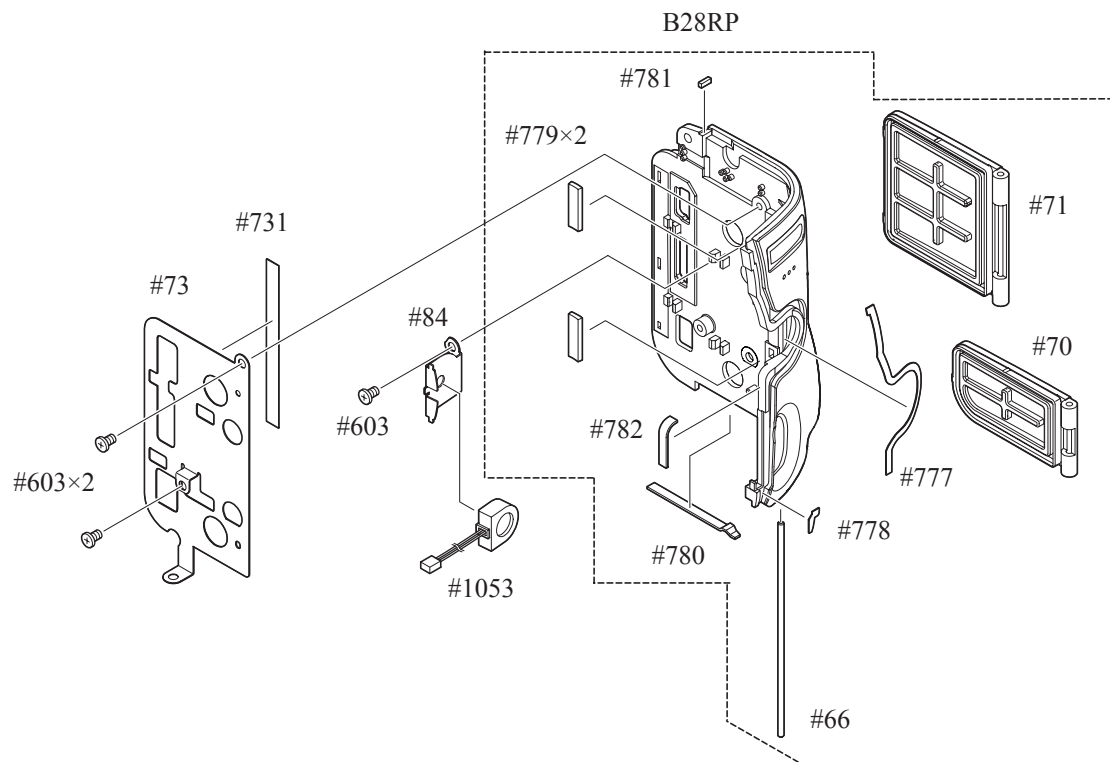
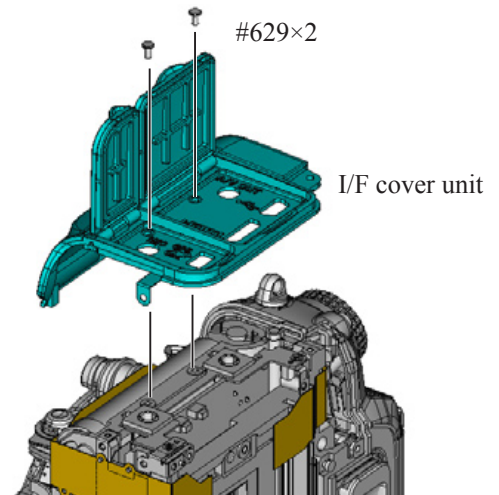
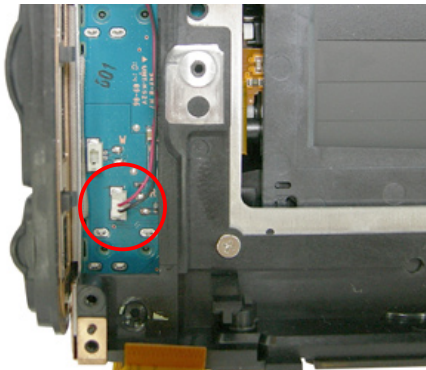
Caution: Some bodies have the washers that are already put on the mounting surface of the image sensor unit.



4. Top Cover

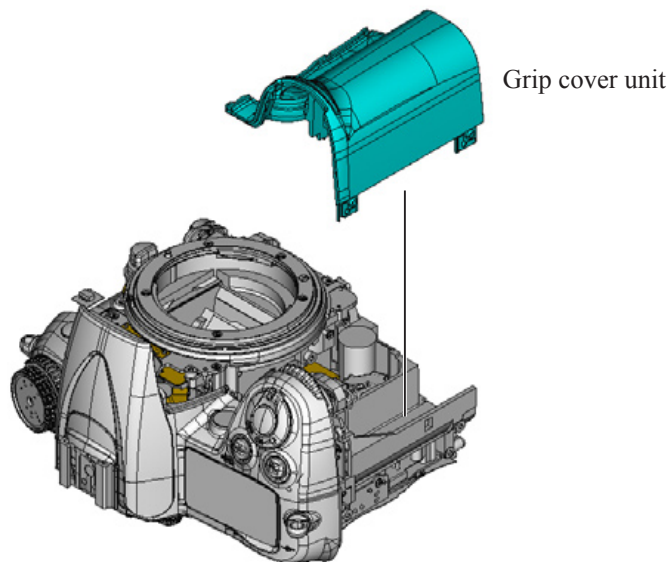
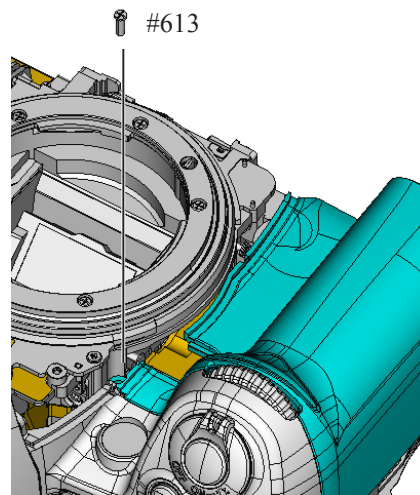
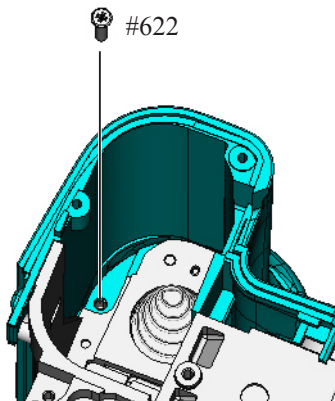
I/F cover unit

- Remove the harness.
- Take out the two screws (#629).
- Remove the I/F cover unit.



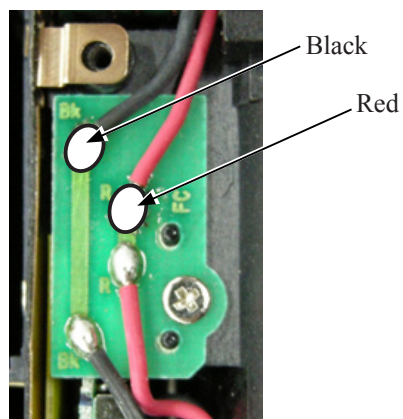
Grip cover unit

- Take out the each screw (#622 and #613).
- Remove the grip cover unit.

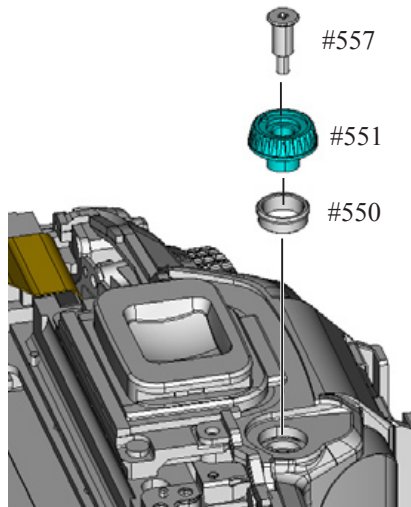


Top cover unit

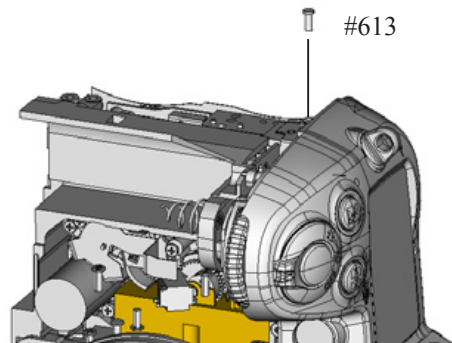
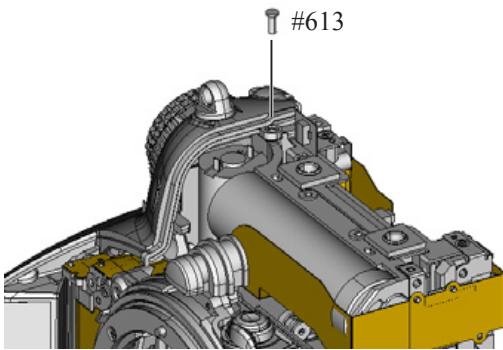
- Unsolder the two wires.



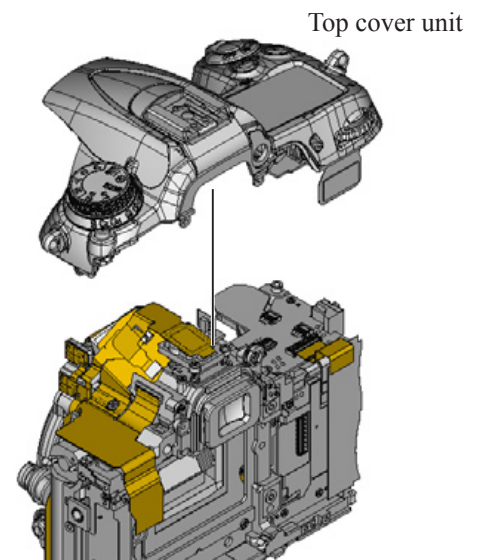
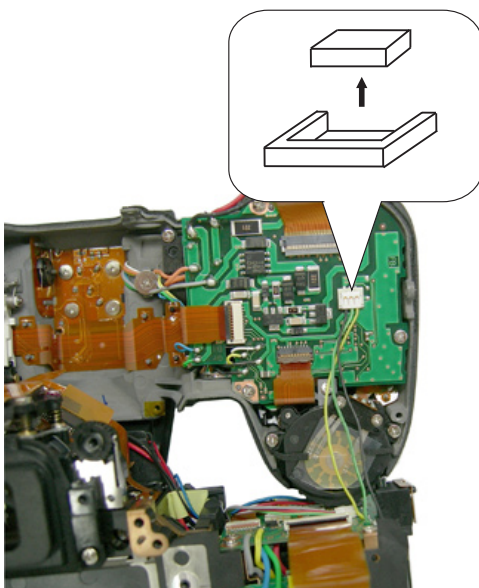
- Take out the screw (#557).
- Remove the diopter adjustment knob (#551) and roller (#550).



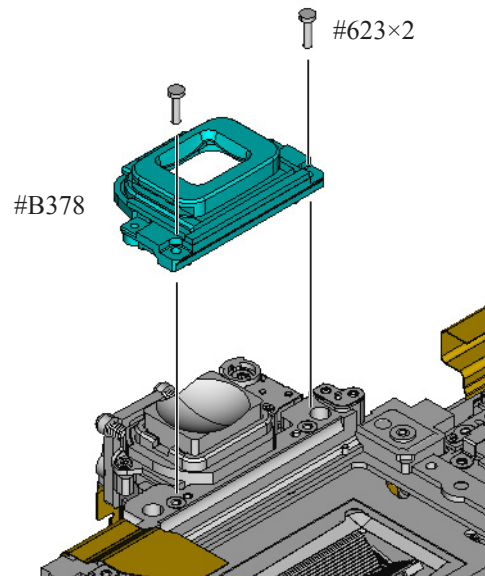
- Take out the two screws (#613).



- Lift the top cover unit and remove the harness.
- Remove the top cover unit.

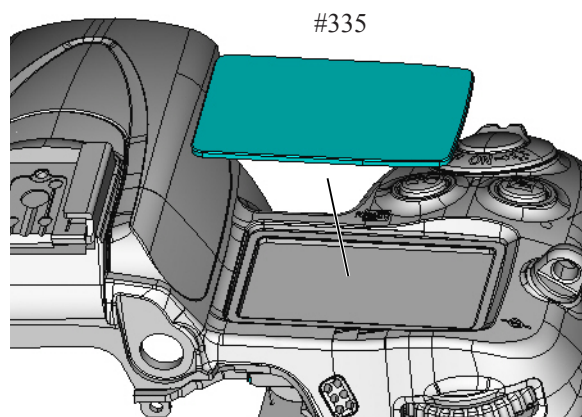


- Take out the two screws (#623).
- Remove the eyepiece mold unit (#B378).



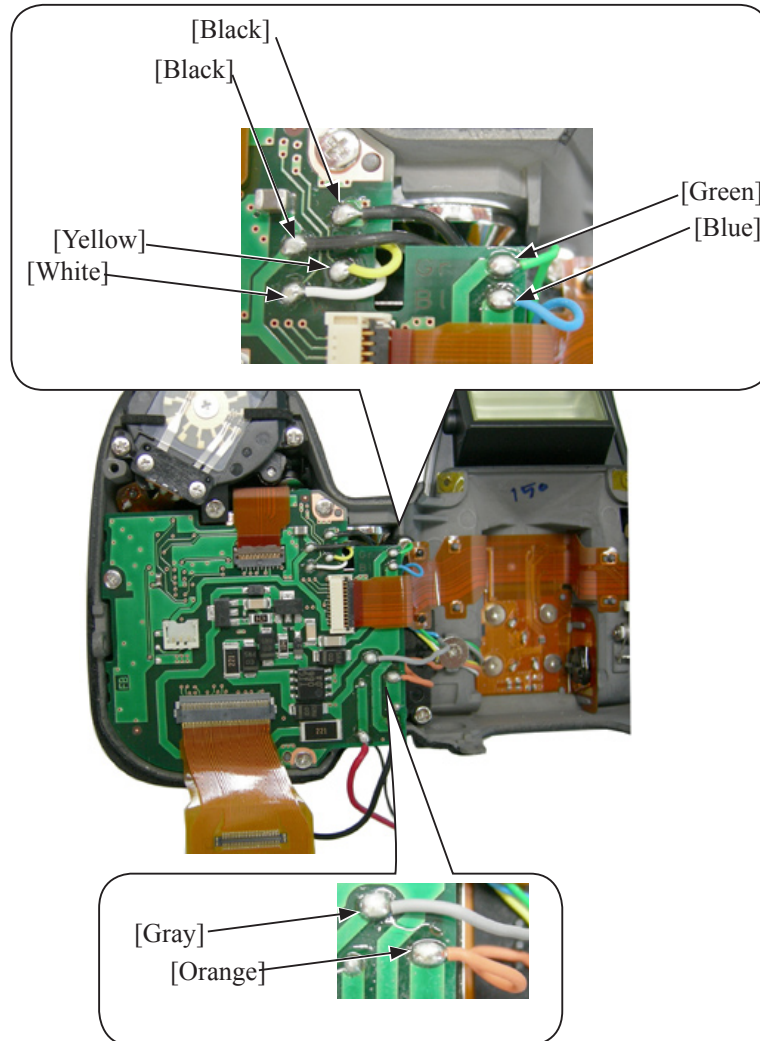
LCD window

- Remove the (external) LCD window (#335).

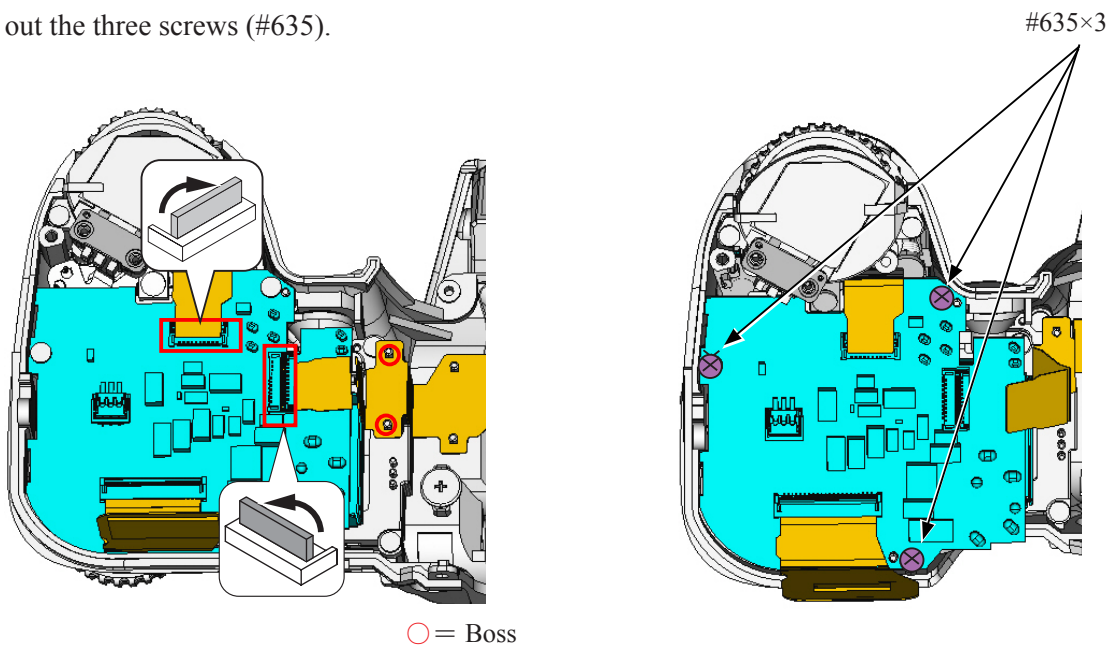


SB PCB unit

- Unsolder the eight wires.

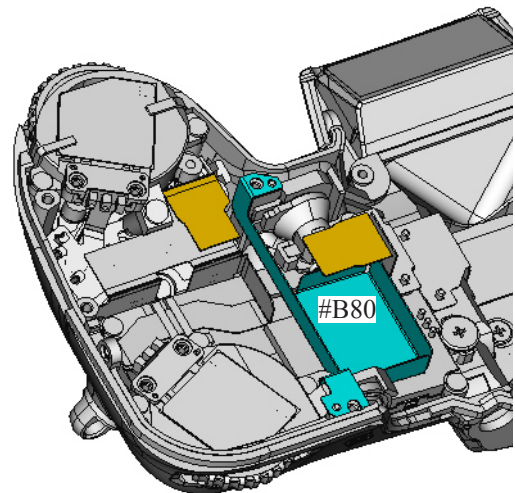
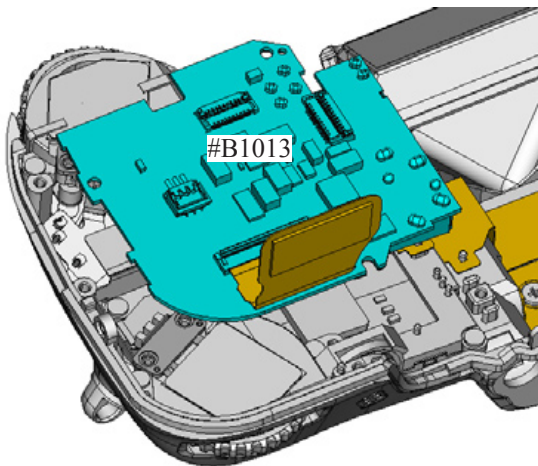


- Disconnect the two FPCs.
- Remove the top cover FPC by releasing from the bosses.
- Take out the three screws (#635).



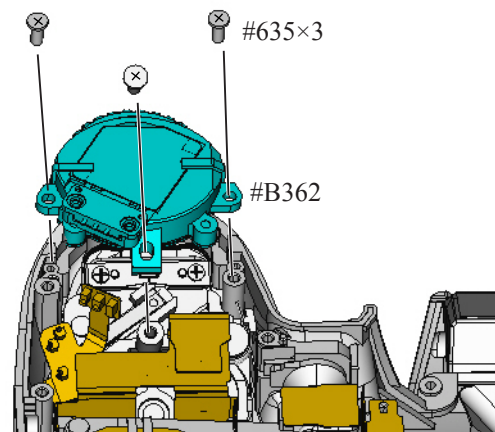
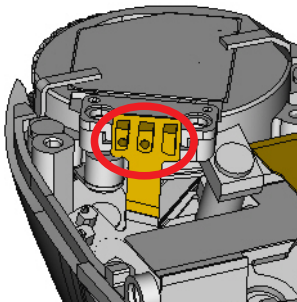
○ = Boss

- Remove the SB PCB unit (#B1013).
- Remove the SB shield plate unit (#B80).

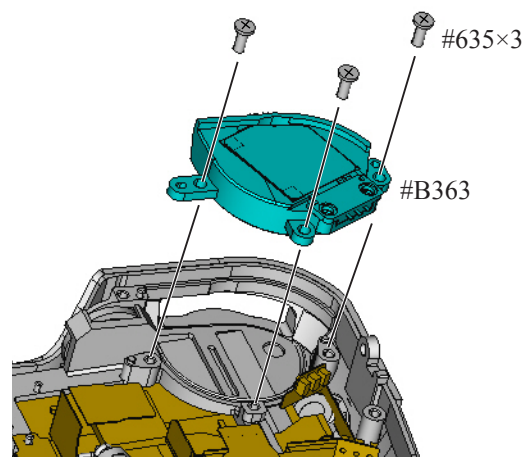
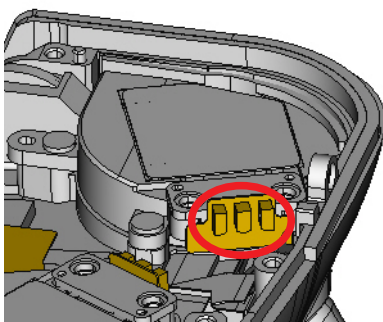


Command dial unit

- Unsolder the three contacts.
- Take out the three screws (#635), and remove the front command dial unit (#B362).

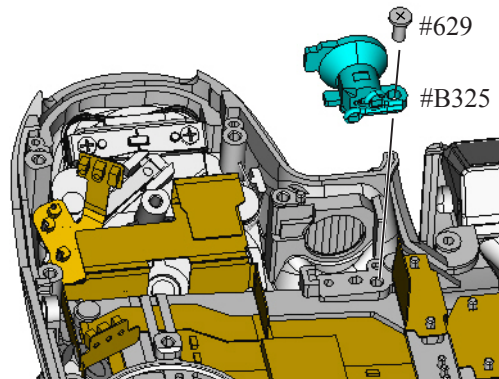


- Unsolder the three contacts.
- Take out the three screws (#635), and remove the rear command dial unit (#B363).



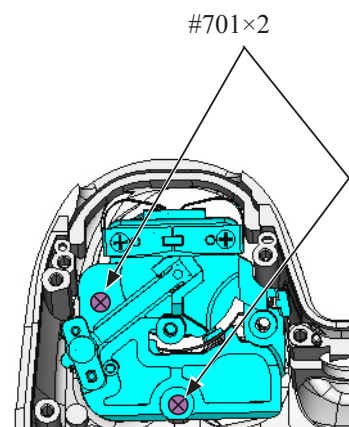
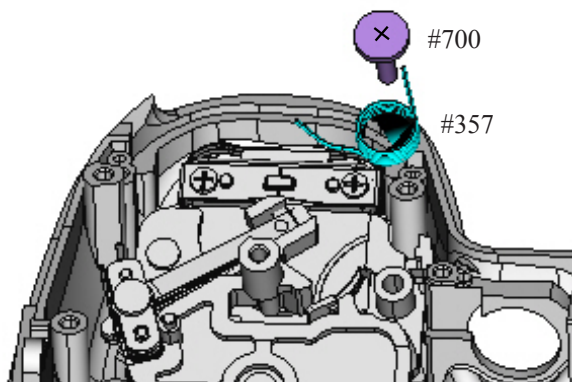
AF assist lamp unit

- Take out the screw (#629).
- Remove the AF assist lamp unit (#B325).

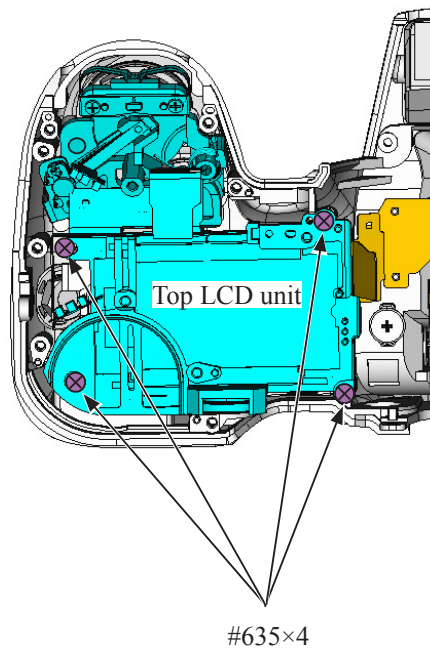


Top LCD unit

- Take out the screw (#700).
- Remove the spring (#357).
- Take out the two screws (#701).

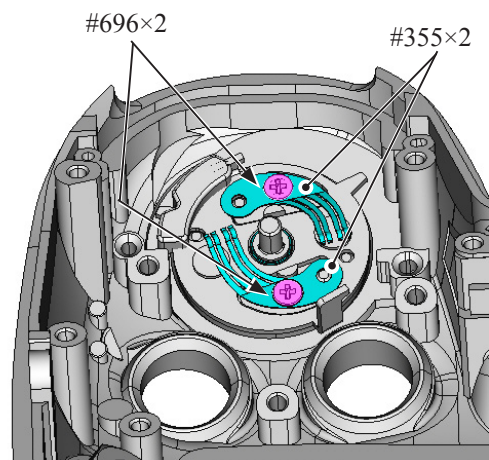
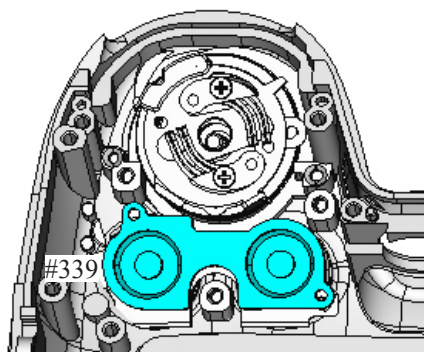


- Take out the four screws (#635).
- Remove the top LCD unit.

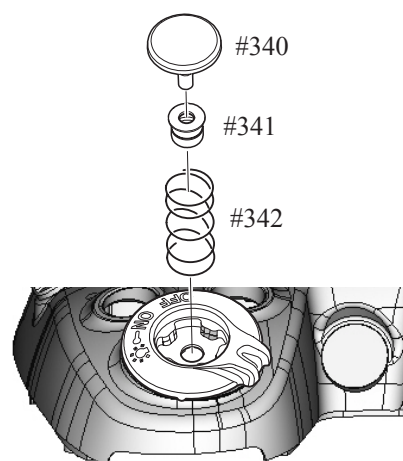
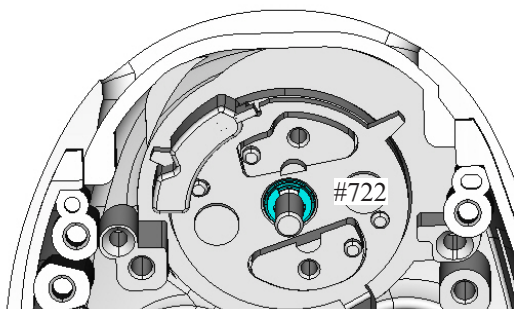


Power dial

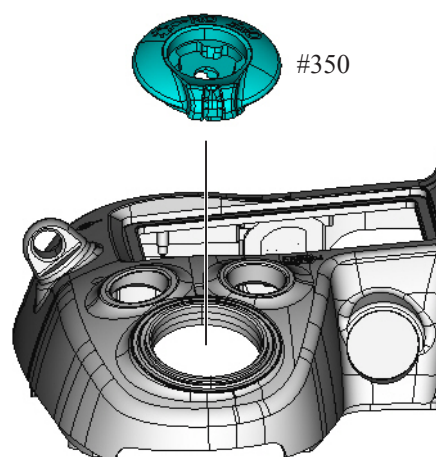
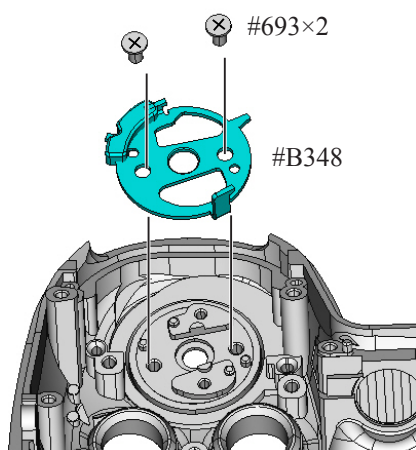
- Remove the button (#339).
- Take out the two screws (#696).
- Remove the two ON-OFF SW brushes (#355).



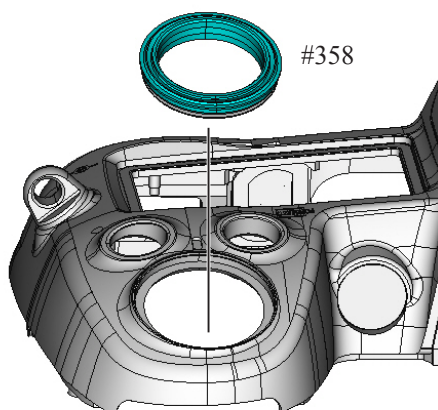
- Remove the E-ring (#722).
- Remove the button (#340), rubber (#341), and spring (#342).



- Take out the two screws (#693).
- Remove the click plate unit (#B348).
- Remove the power dial (#350).

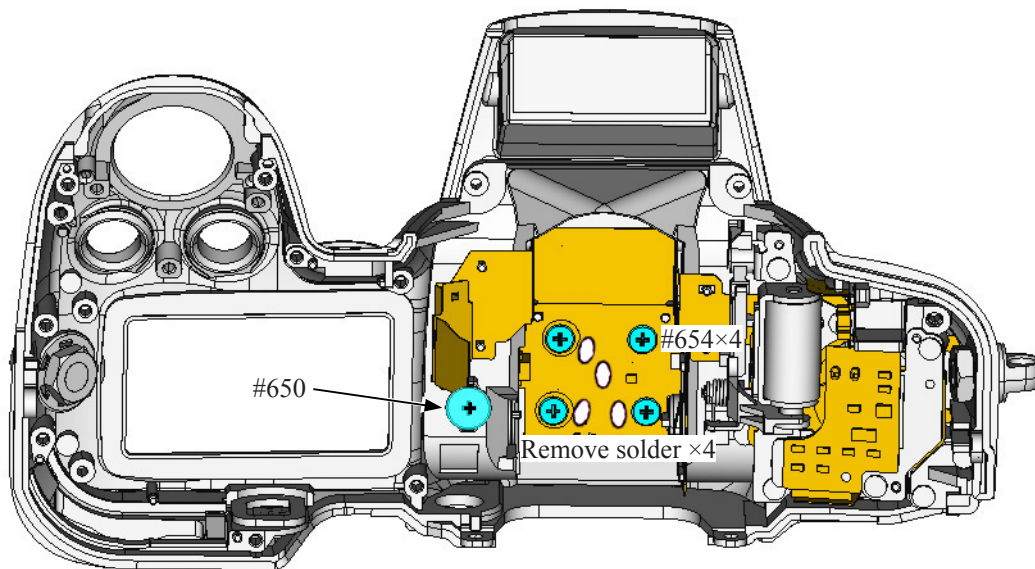


- Remove the roller (#358).

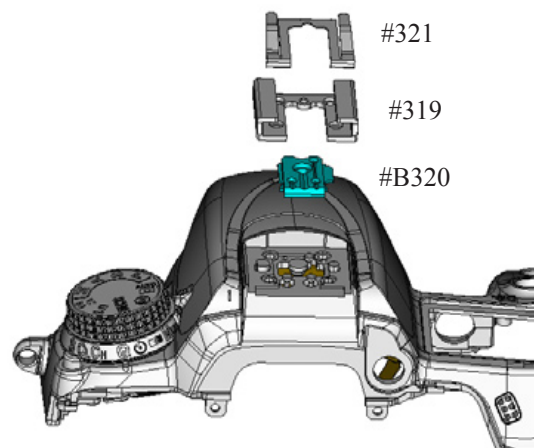


Shoe base

- Take out the screw (#650).
- Take out the four screws (#654).
- Unsolder the four contacts.

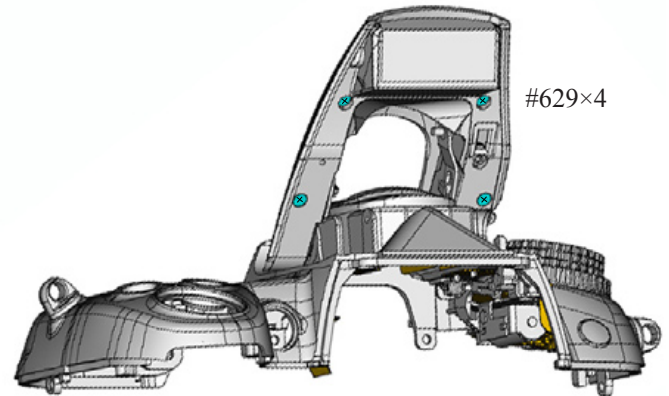
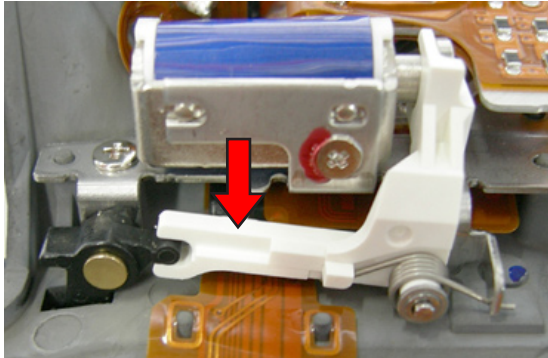


- Remove the hot shoe spring (#321), shot shoe (#319), and hot shoe mold unit (#B320).

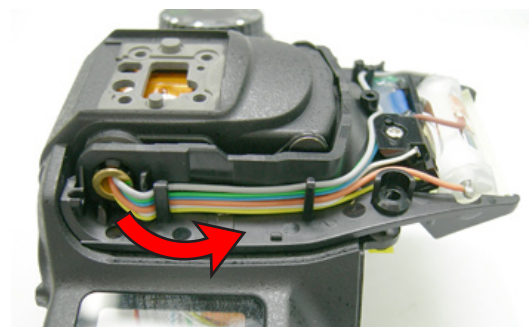
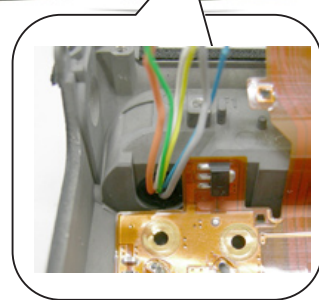
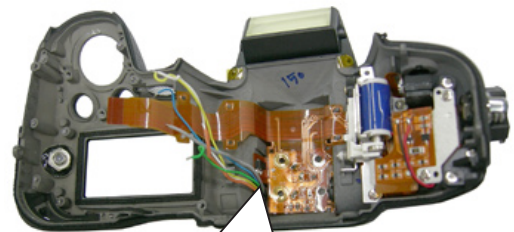
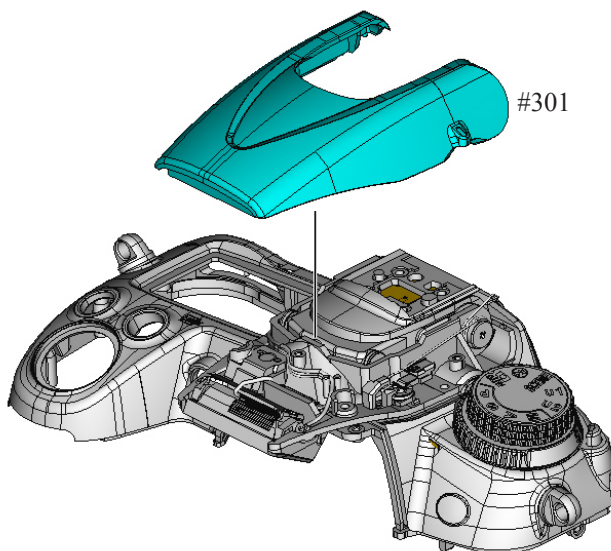


SB lower case unit

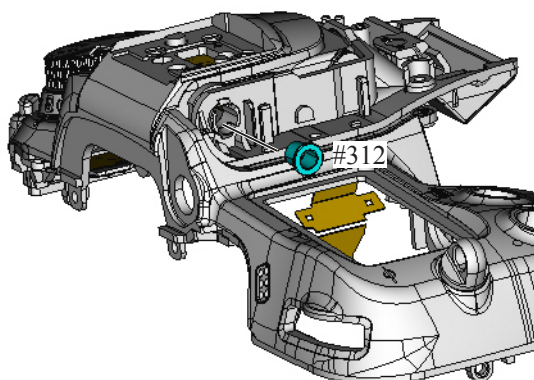
- Push the lever in the direction of the arrow, and raise the SB (flash unit) as below.
- Take out the four screws (#629).



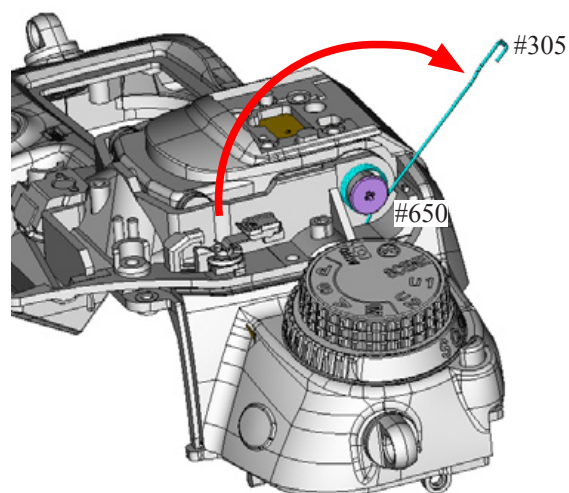
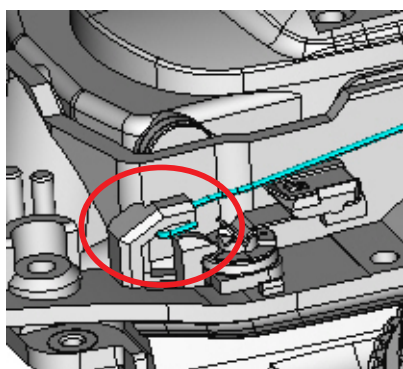
- Remove the SB upper cover (#301).
- Pull the wires out from the hole.



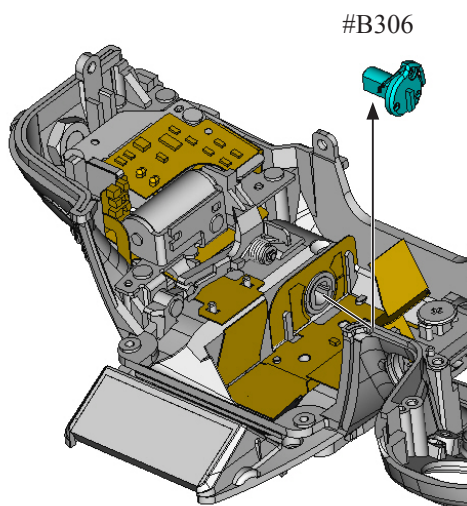
- Remove the roller (#312).



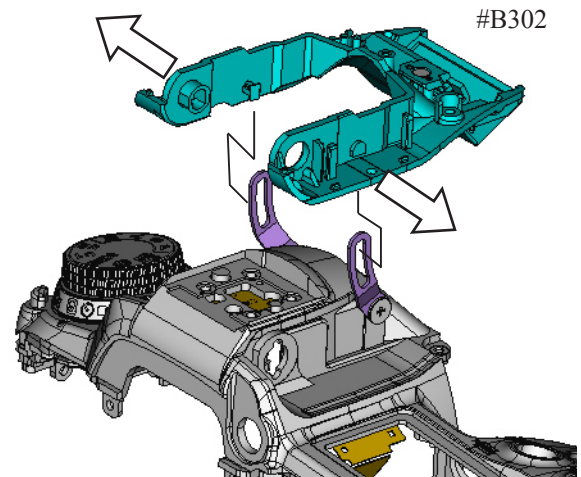
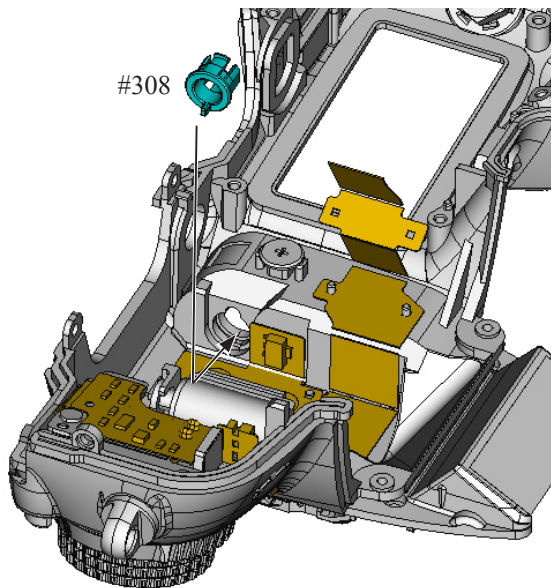
- Unhook the spring (#305).
- Take out the screw (#650), and remove the spring (#305).



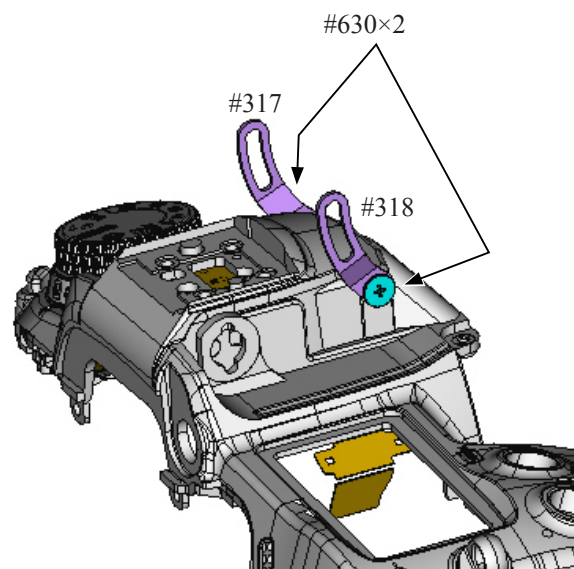
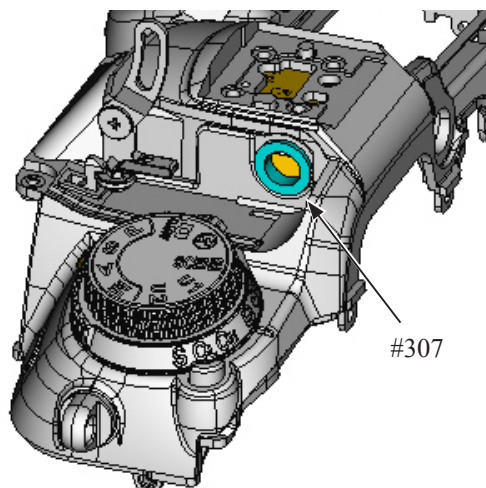
- Remove the SB rotating shaft (#B306).



- Remove the collar (#308).
- Spread the SB lower cover unit (#B302) as indicated by the arrows, and remove it.

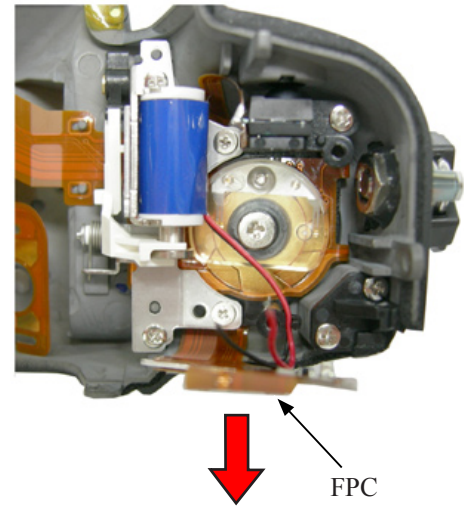
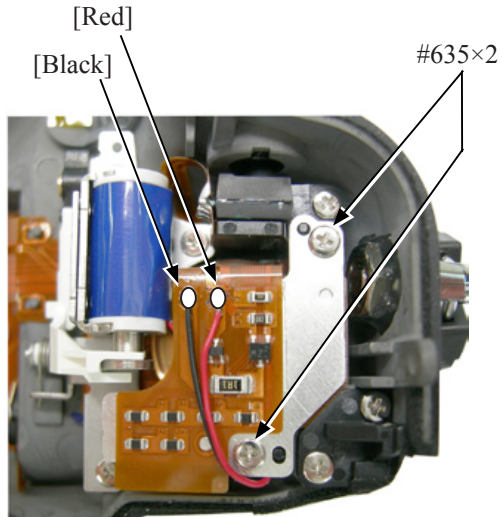


- Remove the collar (#307).
- Take out the screw (#630), and remove the flash pop-up arm (#317).
- Take out the screw (#630), and remove the flash pop-up arm (#318).

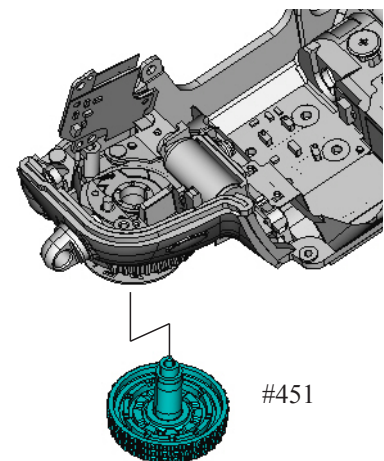
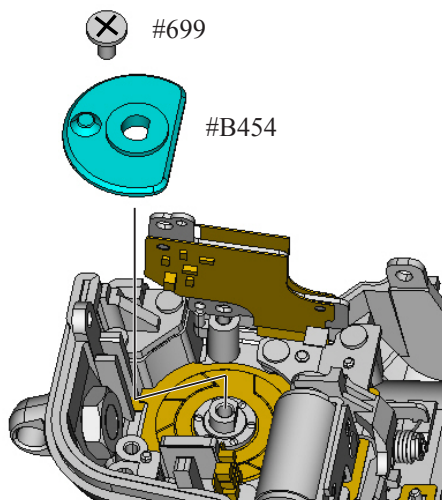


Top cover FPC unit

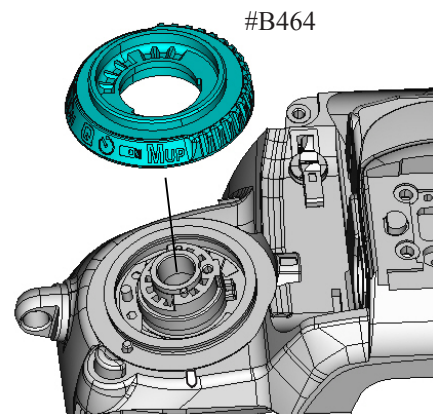
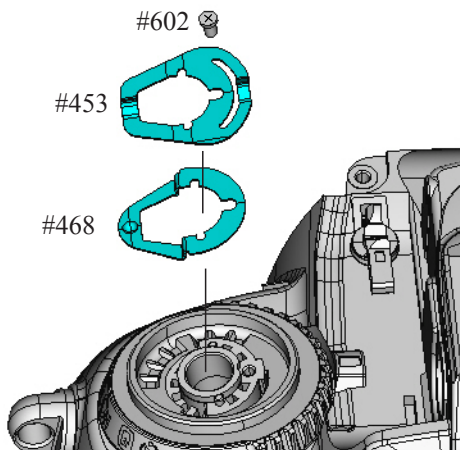
- Unsolder the two wires.
- Take out the two screws (#635).
- Pull up the FPC in the direction of the arrow.



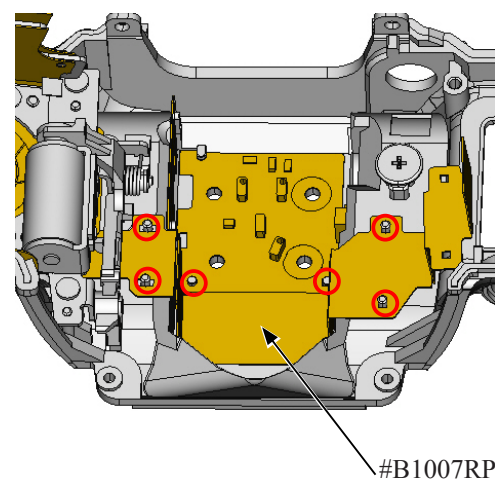
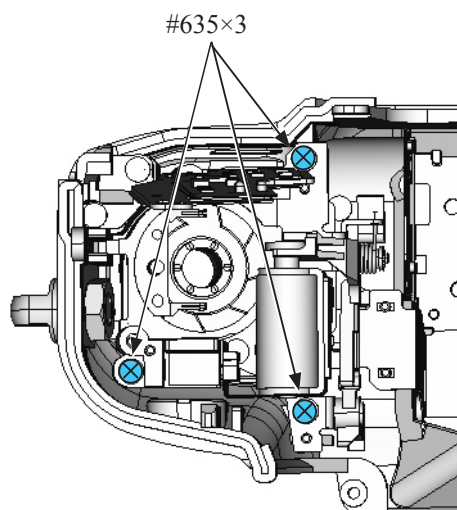
- Take out the screw (#699).
- Remove the contact brush unit (#B454).
- Remove the mode dial (#451).



- Take out the screw (#602).
- Remove the each click spring (#453 and #468).
- Remove the release mode dial unit (#B464).



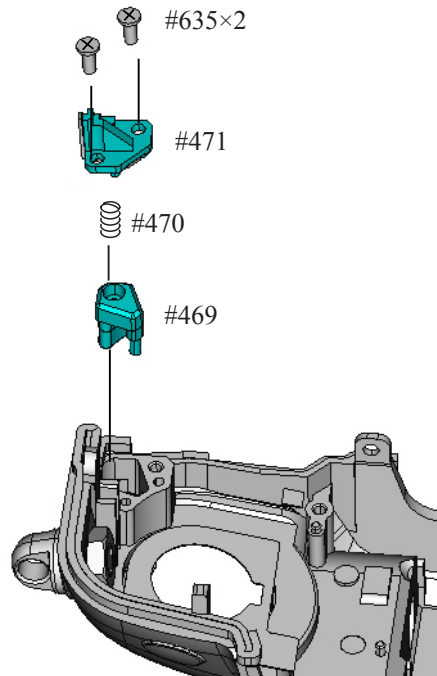
- Take out the three screws (#635).
- Remove the top cover FPC unit (#B1007RP).



○ = Boss

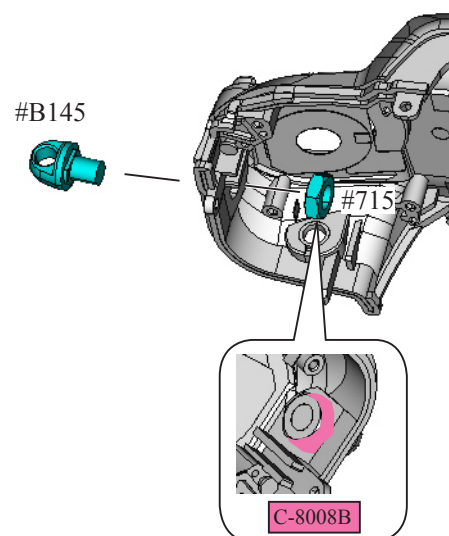
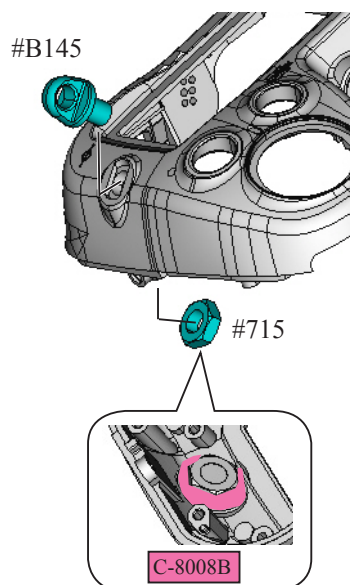
Release mode dial lock button

- Take out the two screws (#635), and remove the dial lock base unit (#471).
- Remove the spring (#470) and button (#469).



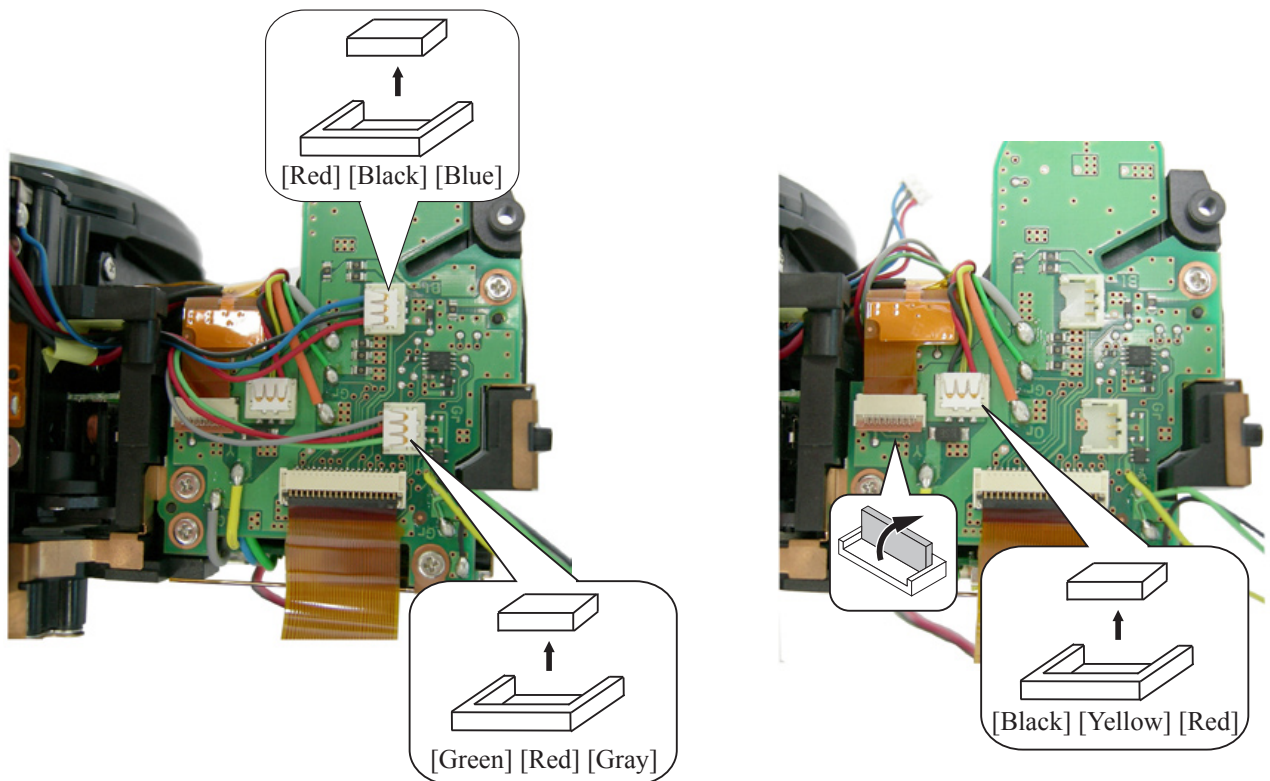
Eyelet

- Remove the adhesive (C-8008B) that is attached to the two nuts (#715).
- Remove the two nuts (#715).
- Remove the two eyelets (#B145).

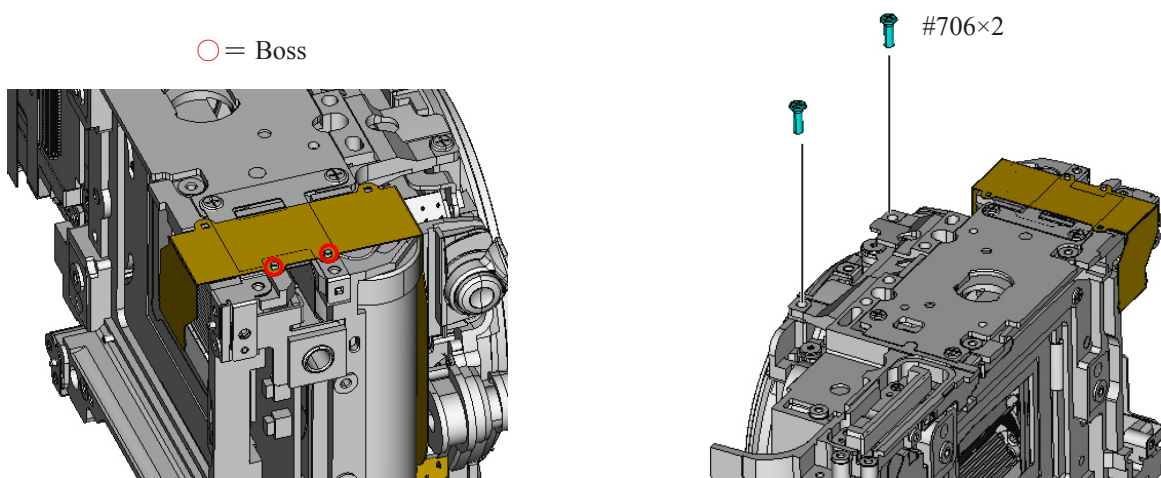


5. Separation of Front Body from Rear Body

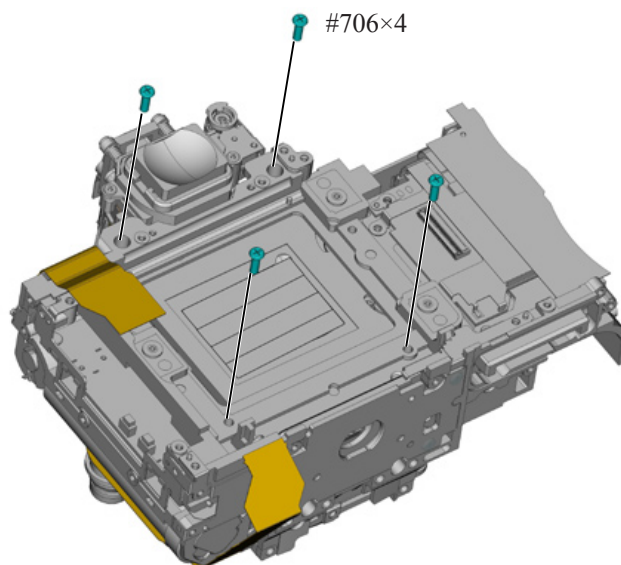
- Remove the three harnesses.
- Disconnect the FPC.



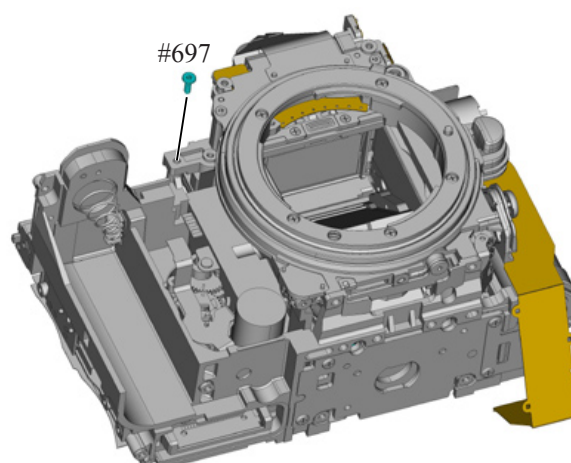
- Release the FPC from the bosses.
- Take out the two screws (#706).



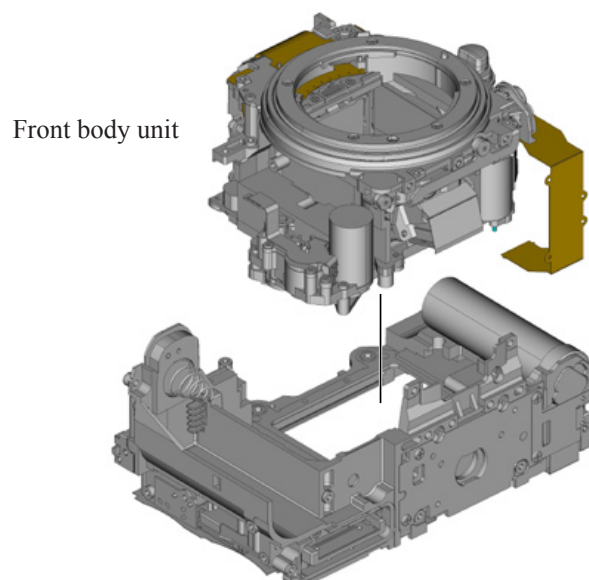
- Take out the four screws (#706).



- Take out the screw (#697).



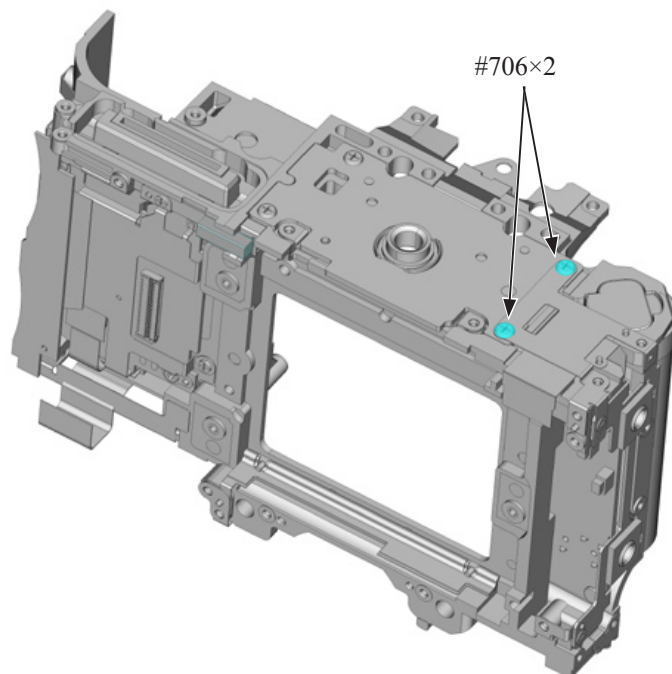
- Remove the front body unit.



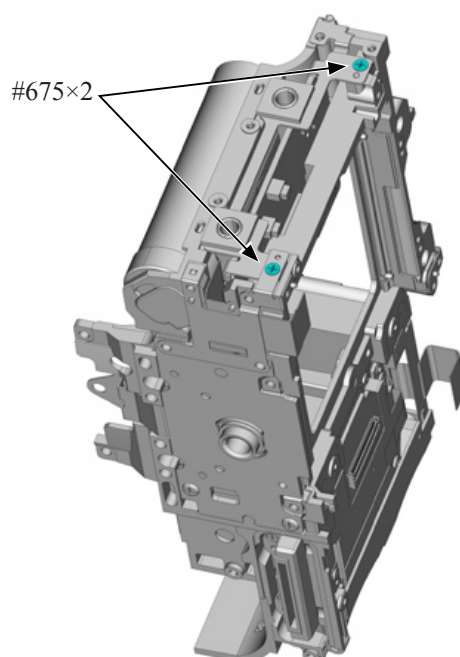
6. Rear Body

IF PCB unit

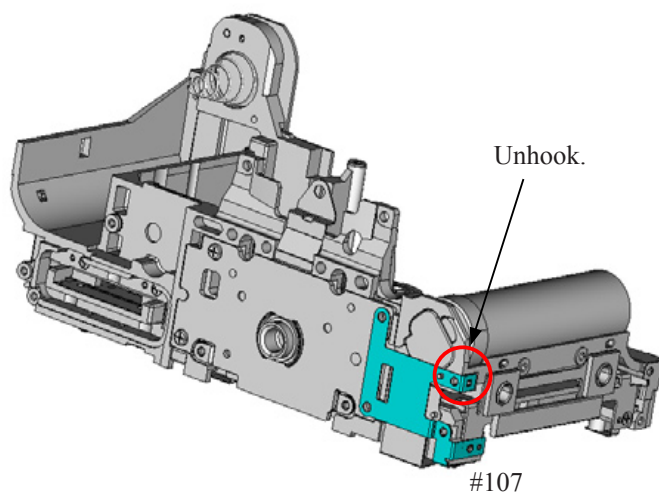
- Take out the two screws (#706).



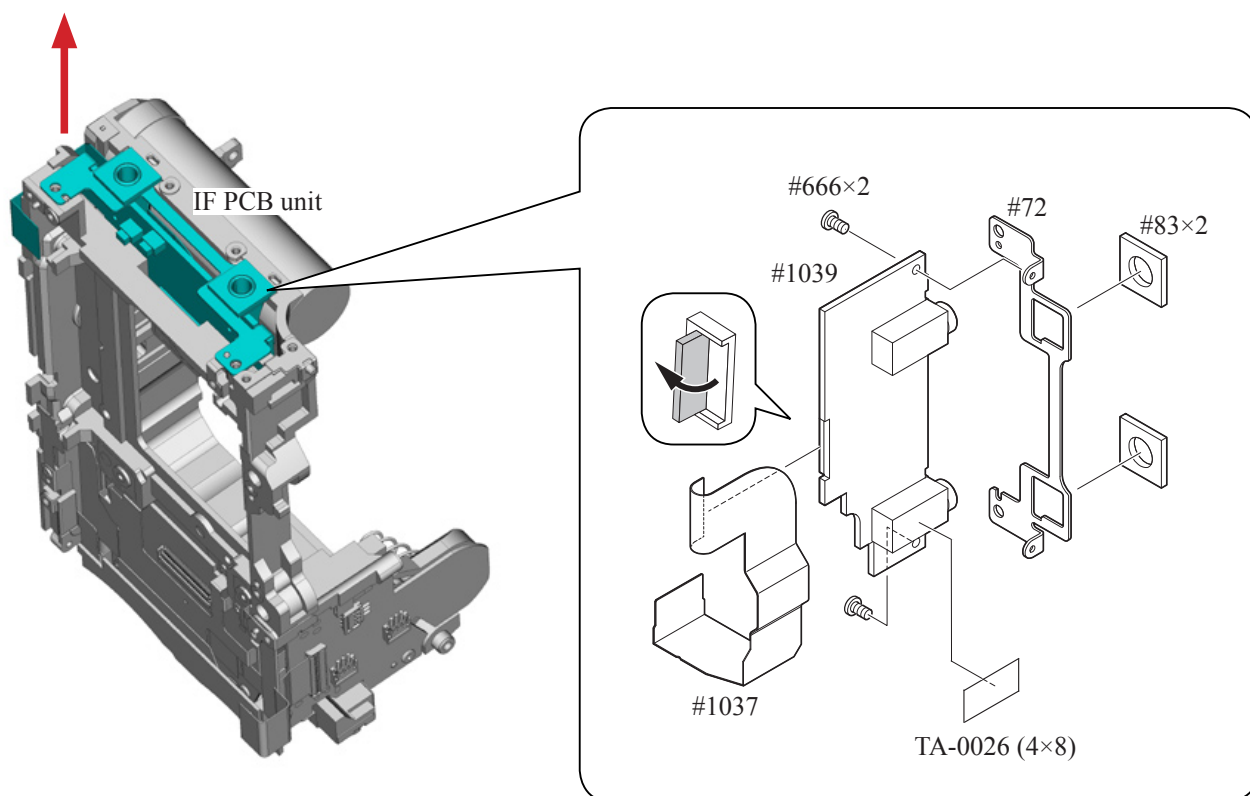
- Take out the two screws (#675).



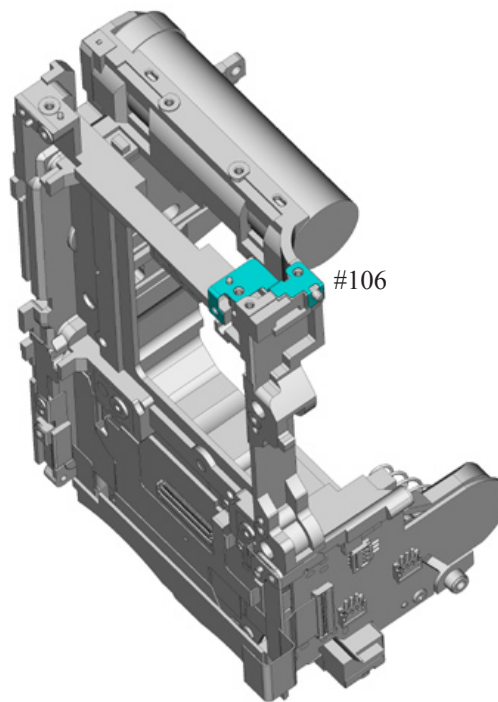
- Remove the GND plate (#107).



- Remove the IF PCB unit.

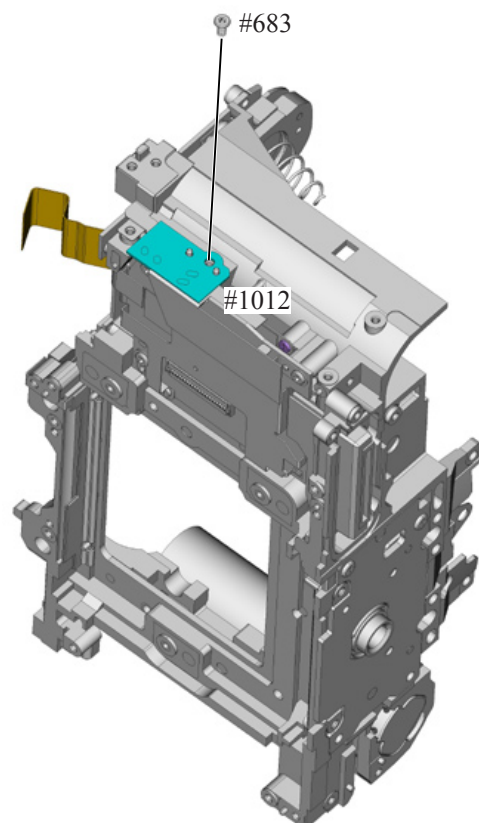
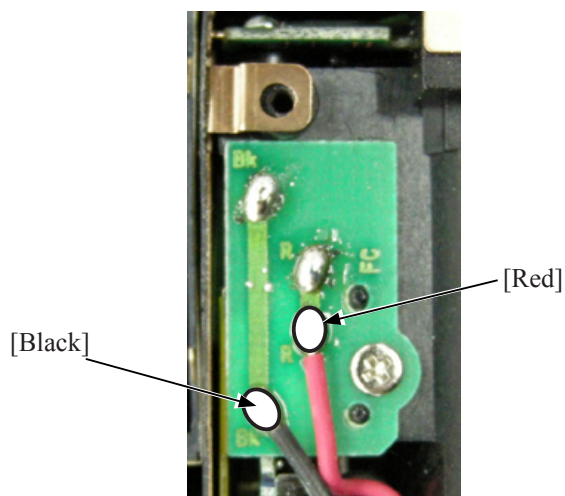


- Remove the GND plate (#106).



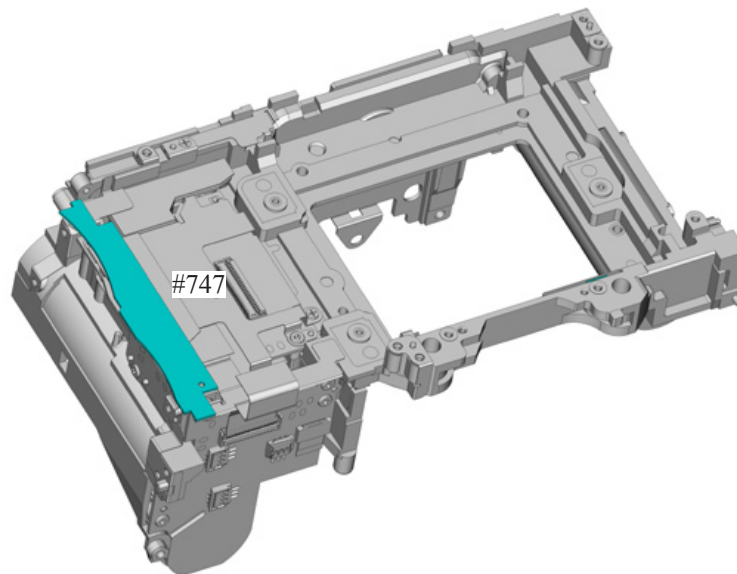
Relay-PCB

- Unsolder the two wires.
- Take out the screw (#683).
- Remove the relay-PCB (#1012).

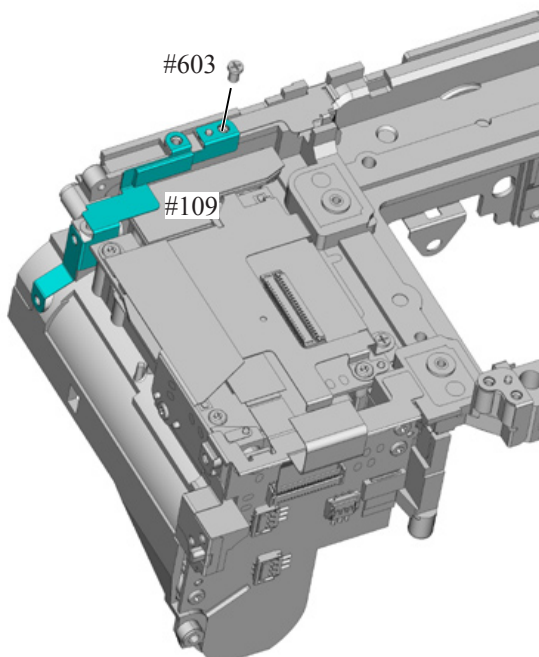


DCDC ISC PCB unit

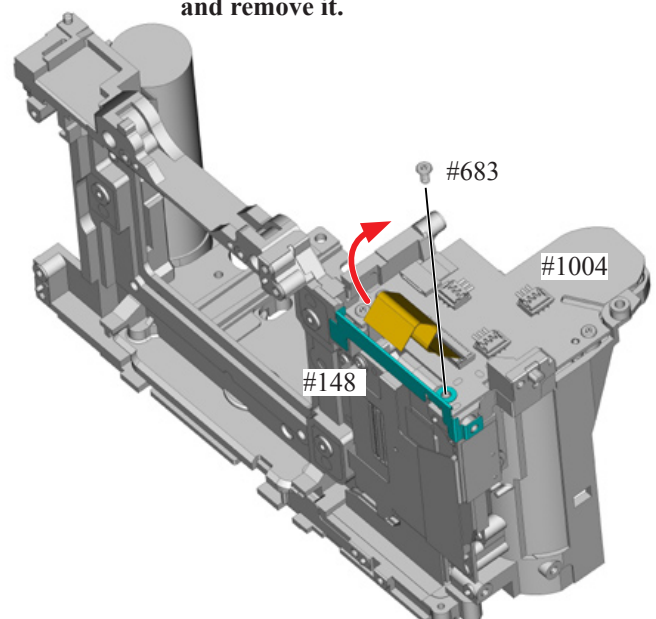
- Peel off the tape (#747).



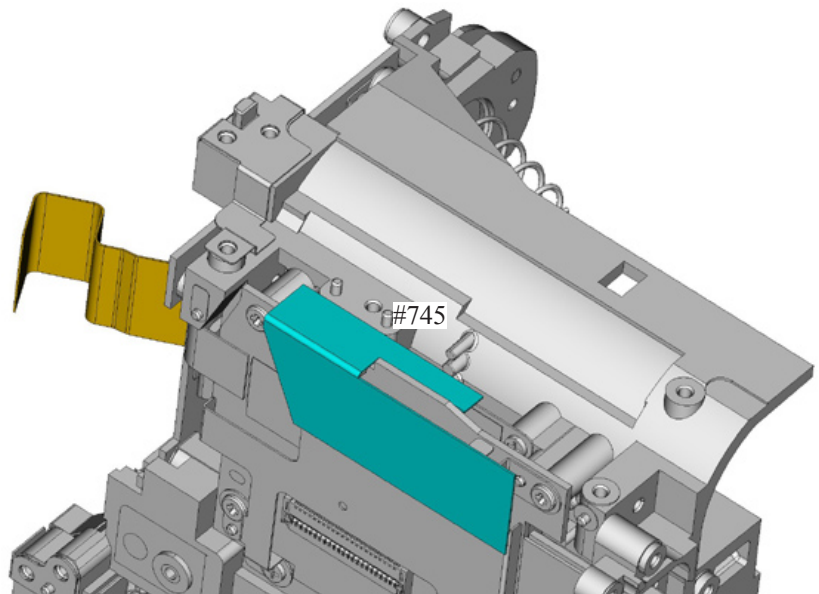
- Take out the screw (#603).
- Remove the GND plate (#109).
- Take out the screw (#683).
- Remove the GND plate (#148).



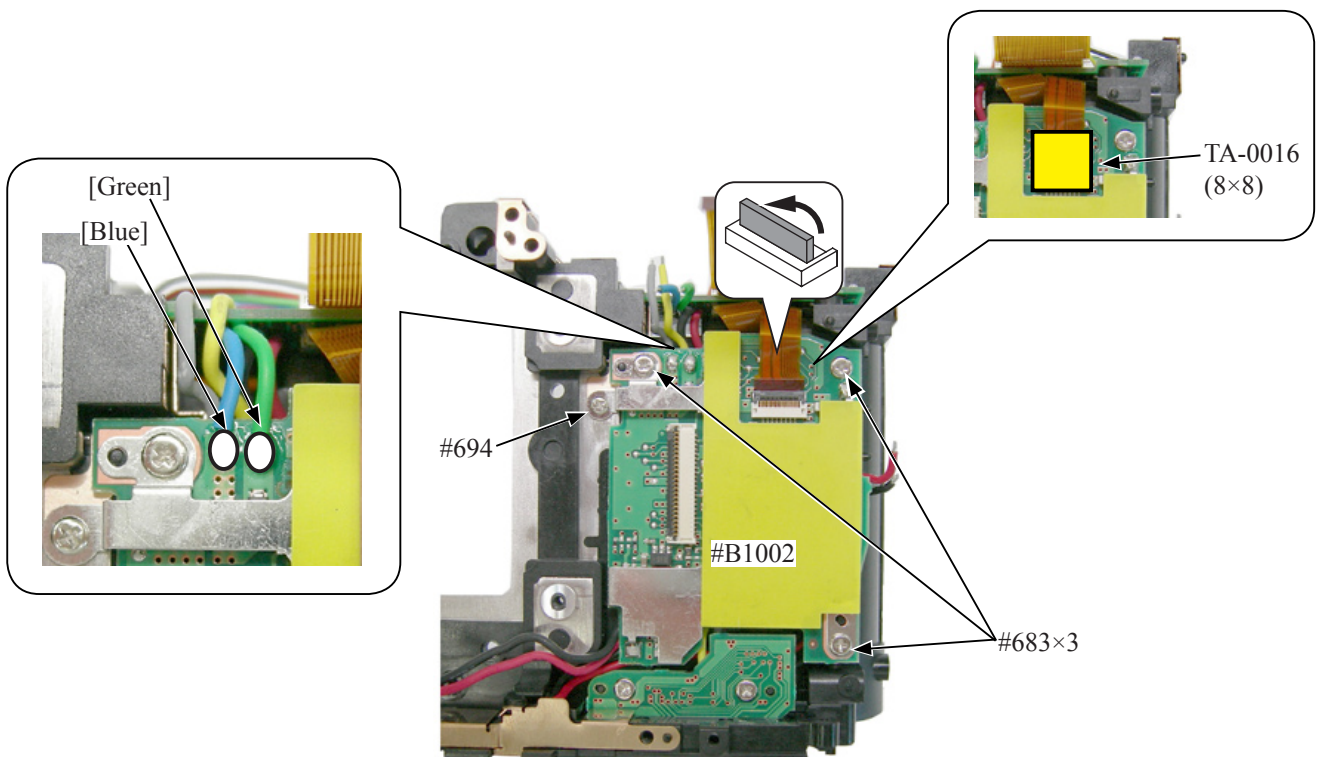
**Slacken the FPC of the PD PCB (#1004)
and remove it.**



- Peel off the sheet (#745).

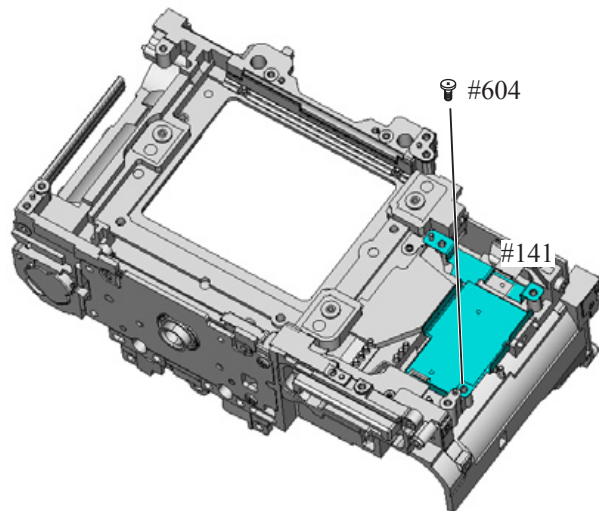


- Unsolder the two wires.
- Peel off the tape [TA-0016 (8×8)].
- Disconnect the FPC.
- Take out the one screw (#694) and three screws (#683).
- Remove the DCDC ISC PCB unit (#B1002).

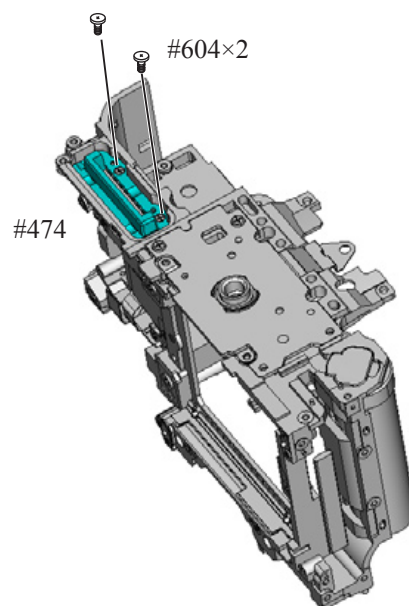


Connector PCB unit

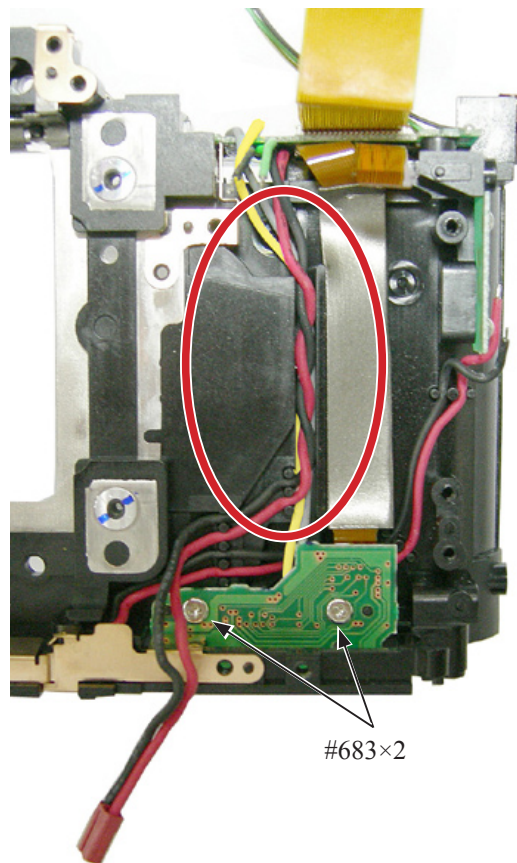
- Take out the screw (#604).
- Remove the GND plate (#141).



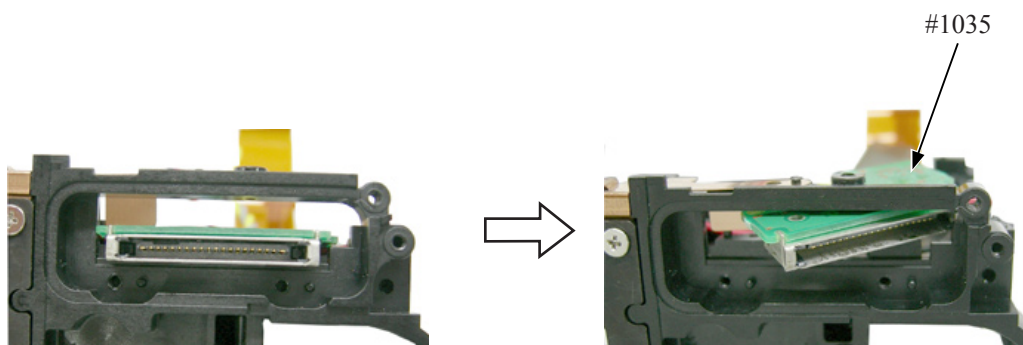
- Take out the two screws (#604).
- Remove the battery pack connector cover (#474).



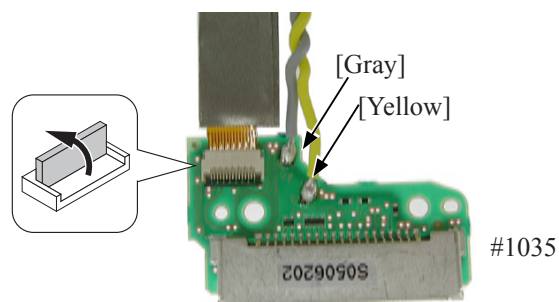
- Take out the two screws (#683).
- Pull out the arranged wires.



- Remove the connector PCB unit (#1035) by sliding it.

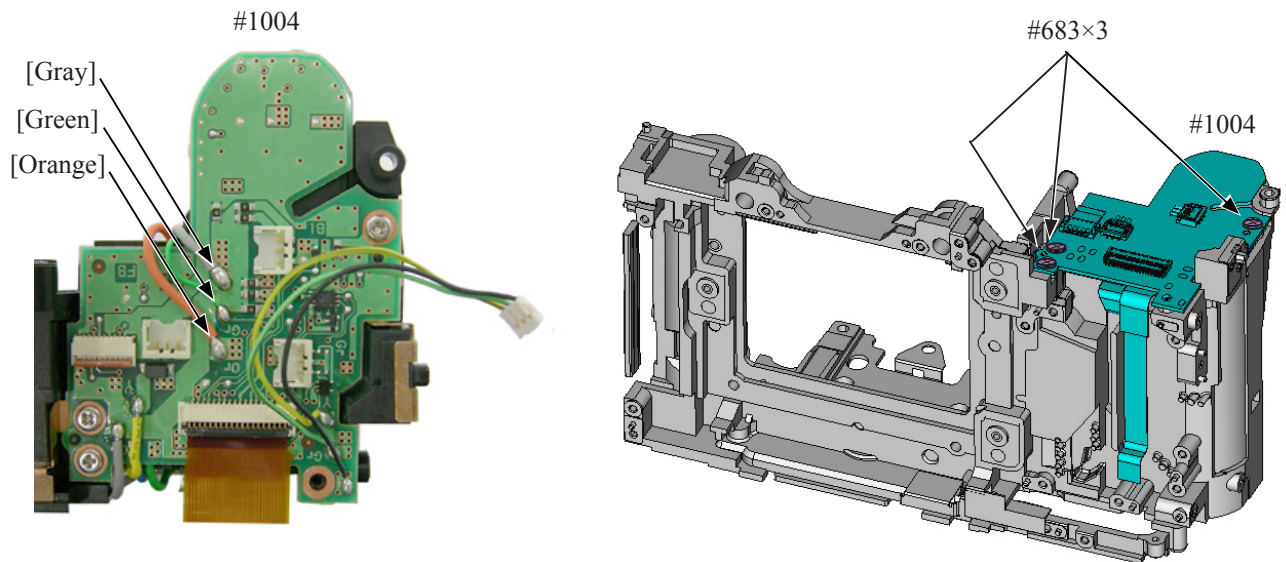


- Unsolder the two wires.
- Disconnect the FPC.



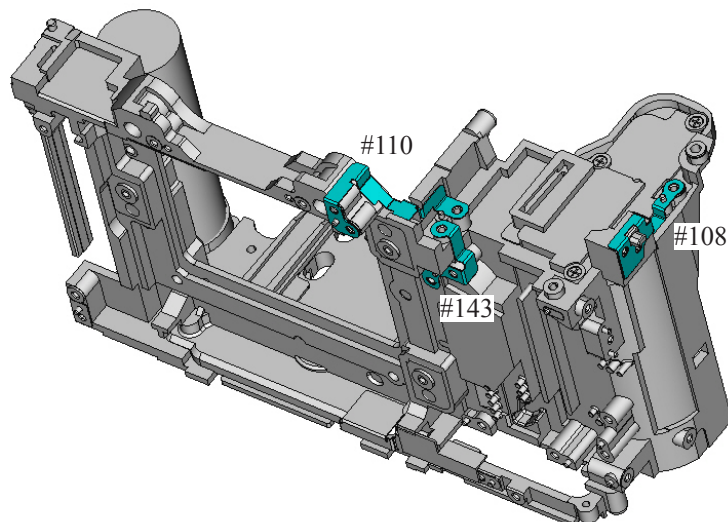
PD PCB unit

- Unsolder the three wires.
- Take out the three screws (#683).
- Remove the PD PCB unit (#1004).

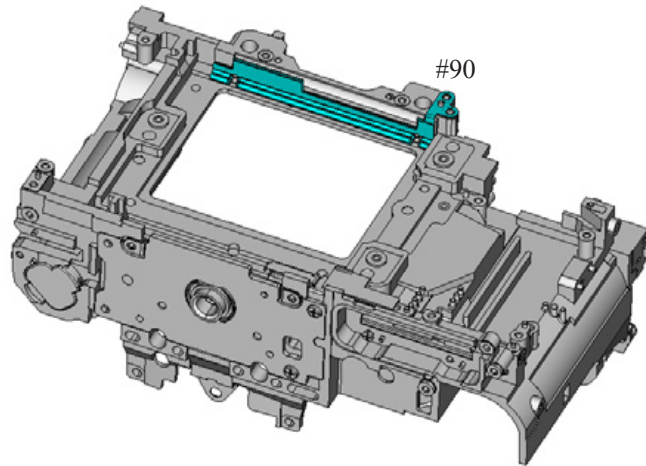


GND plate/Shield plate

- Remove the each GND plate (#110, #143, and #108).

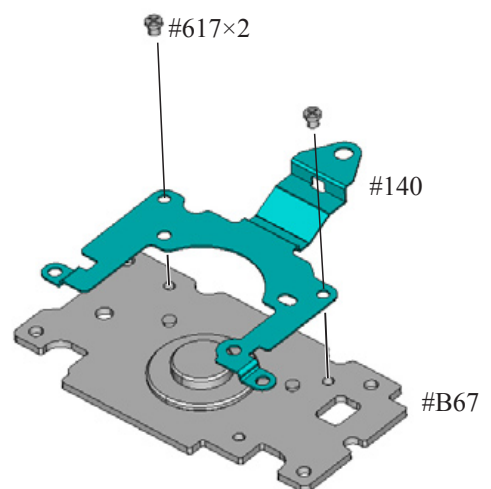
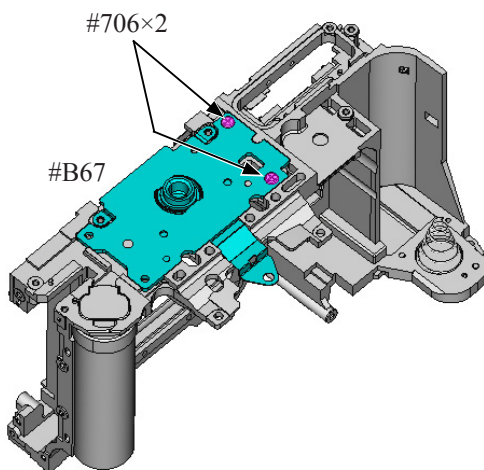


- Remove the shield plate (#90).



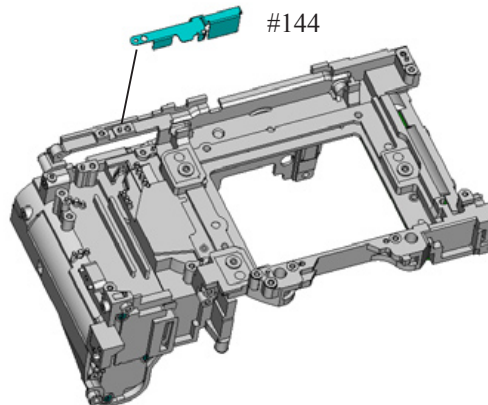
Bottom base unit

- Take out the two screws (#706).
- Remove the bottom base unit (#B67).
- Take out the two screws (#617).
- Remove the GND plate (#140).



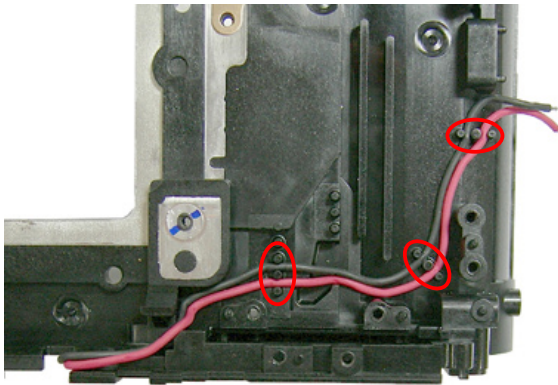
Main condenser unit

- Remove the GND plate (#144).

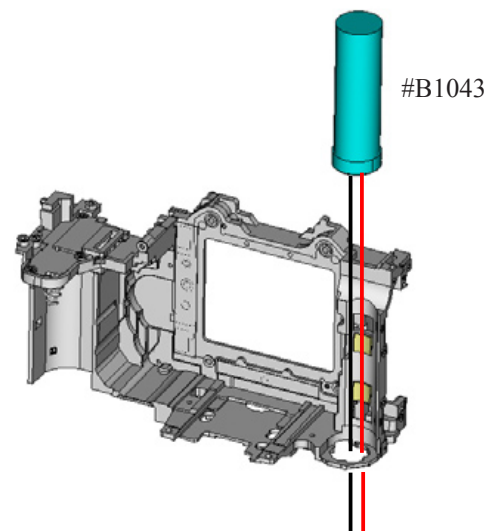
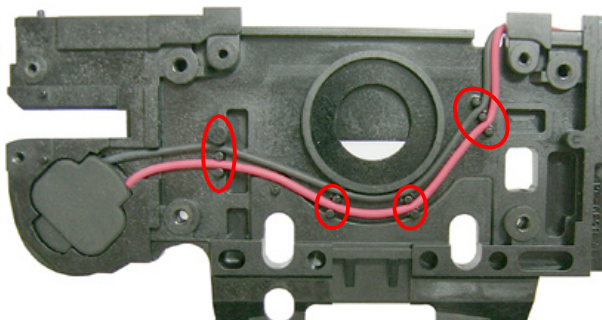


- Release the two wires from the guides.
- Remove the main condenser unit (#B1043).

○ = Guide

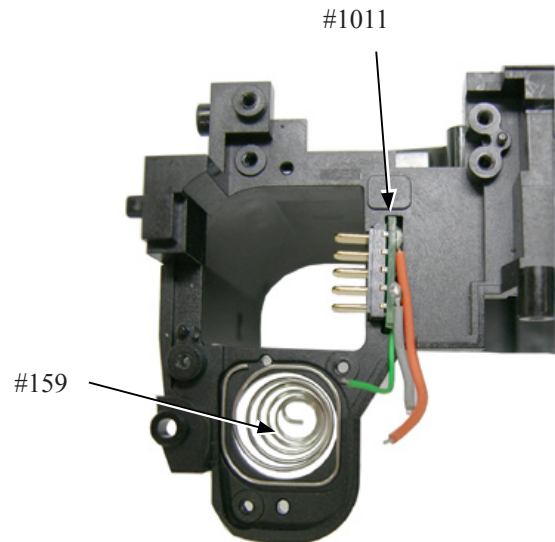
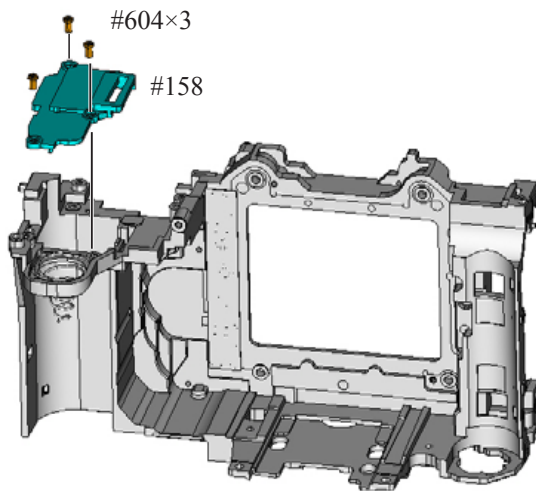


○ = Guide



Battery contact

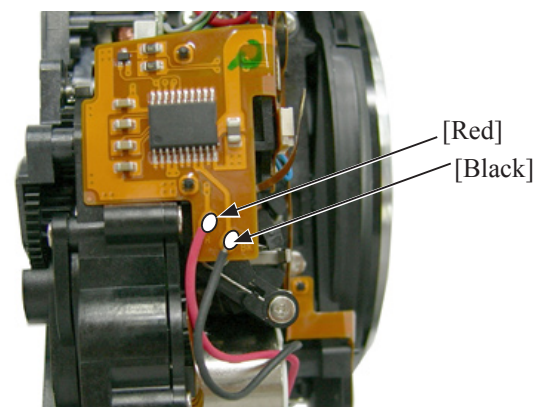
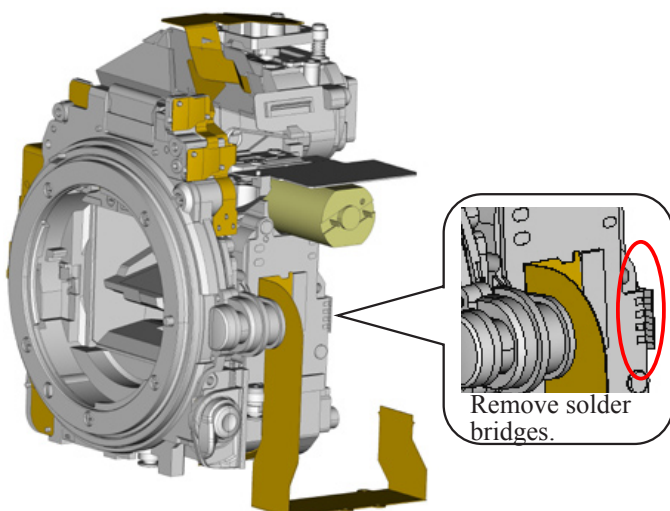
- Take out the three screws (#604).
- Remove the battery-eject-spring plate (#158).
- Remove the battery contact unit (#1011).
- Remove the battery-eject spring (#159).



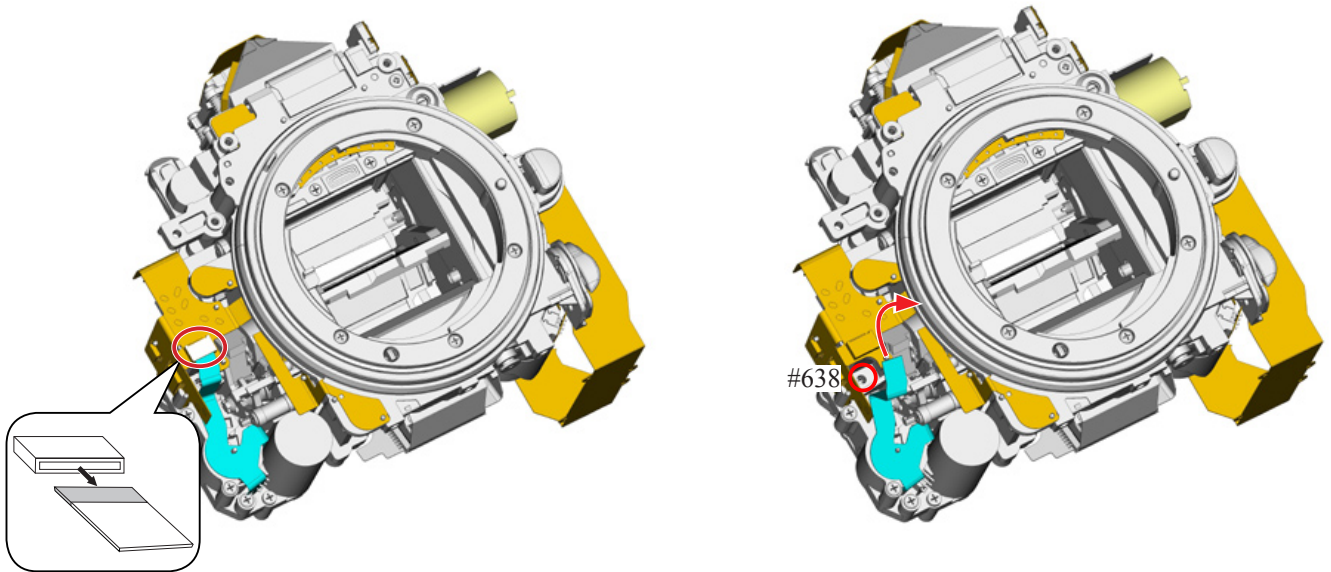
7. Front Body

Shutter unit

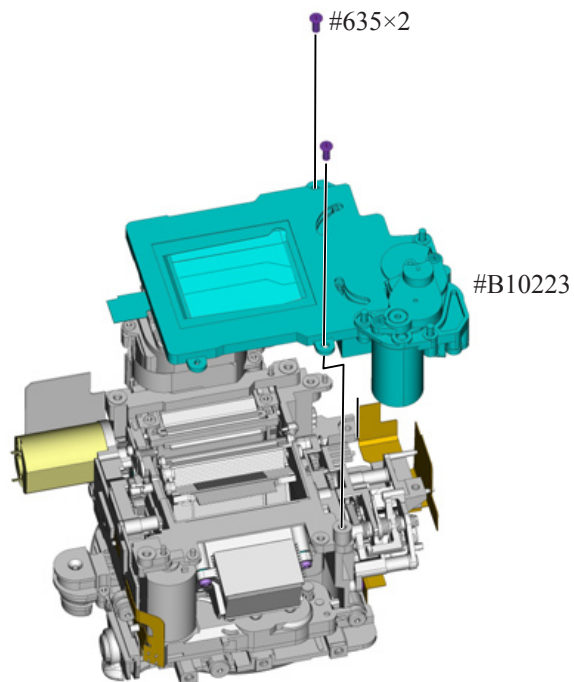
- Remove the solder bridges.
- Unsolder the two wires.



- Disconnect the FPC.
- Slacken the FPC, and take out the screw (#638).

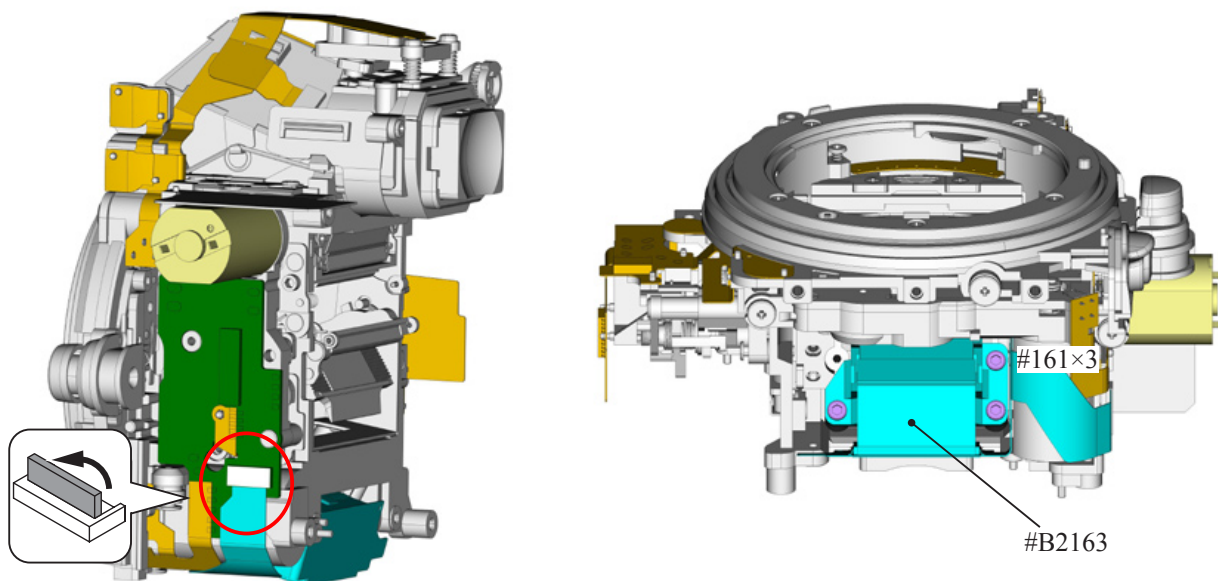


- Take out the two screws (#635).
- Remove the shutter unit (#B10223).

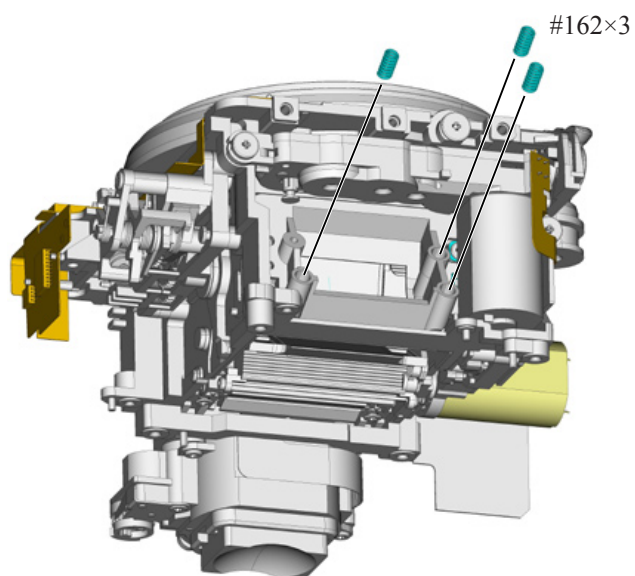


AF sensor unit

- Disconnect the FPC.
- Take out the three screws (#161).
- Remove the AF sensor unit (#B2163).

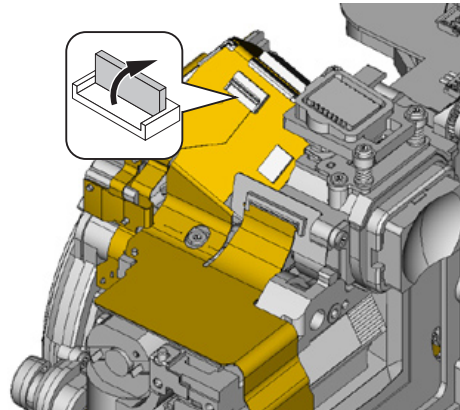
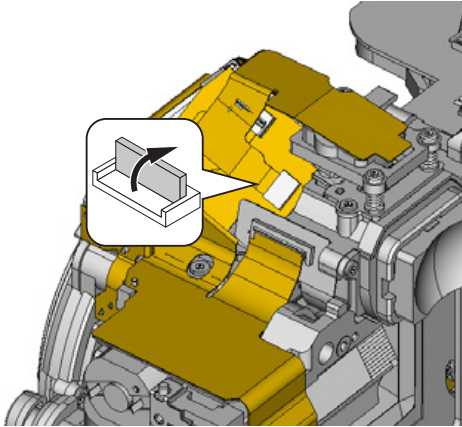


- Remove the three springs (#162).

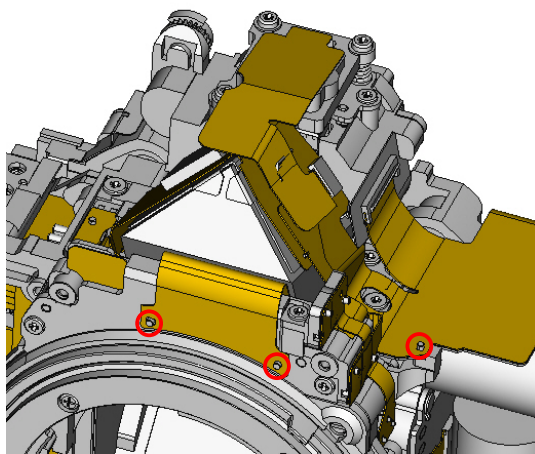


8. Separation of Prism Box from Front Body

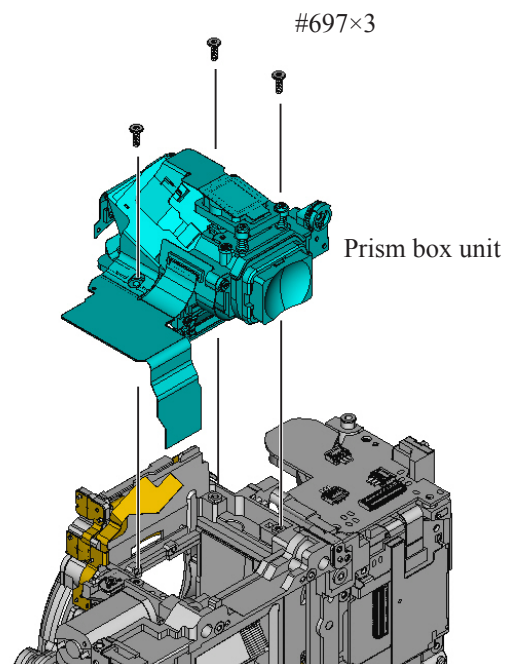
- Disconnect the two FPCs.



- Release the FPC from the bosses.
- Take out the three screws (#697).
- Remove the prism box unit.

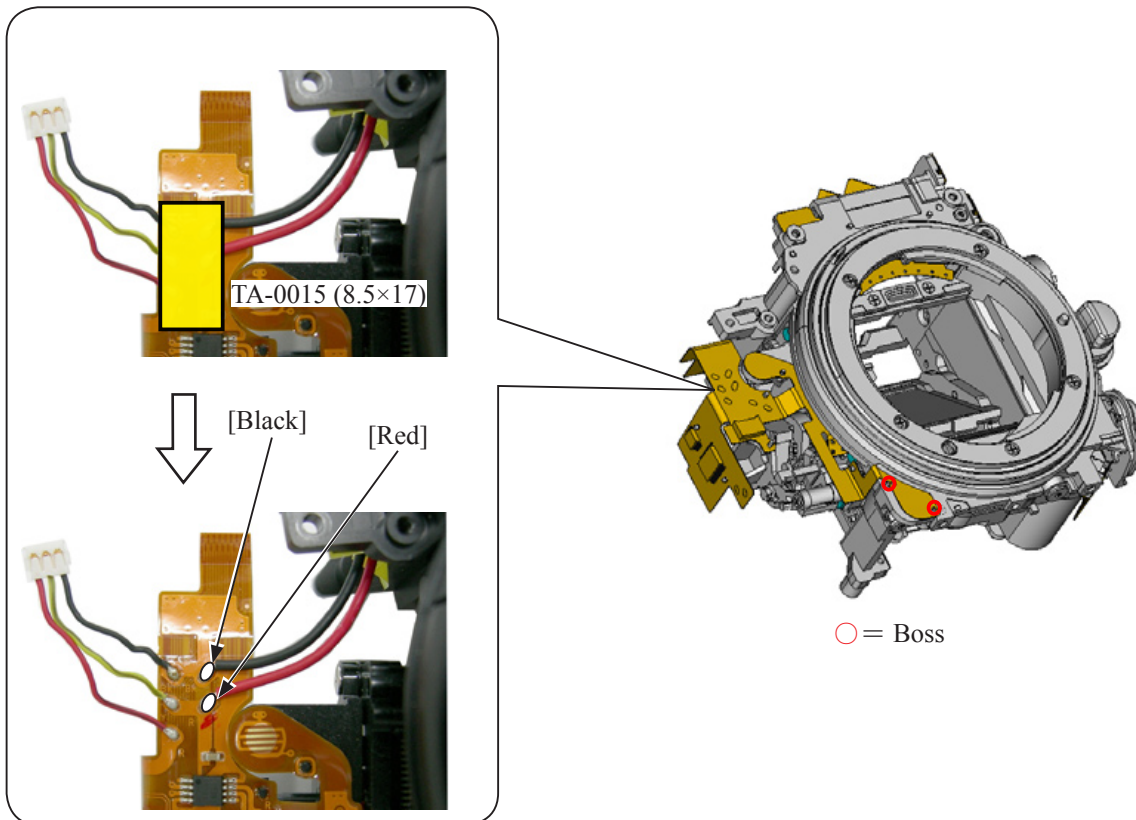


○ = Boss

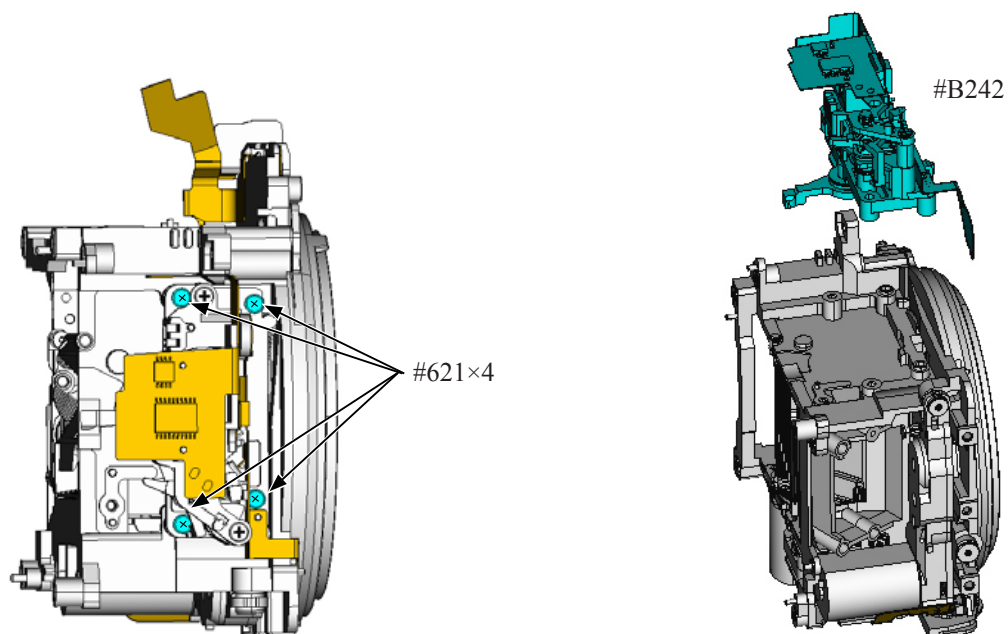


Aperture control unit

- Peel off the tape [TA-0015 (8.5×17)].
- Unsolder the two wires.
- Release the FPC from the bosses.

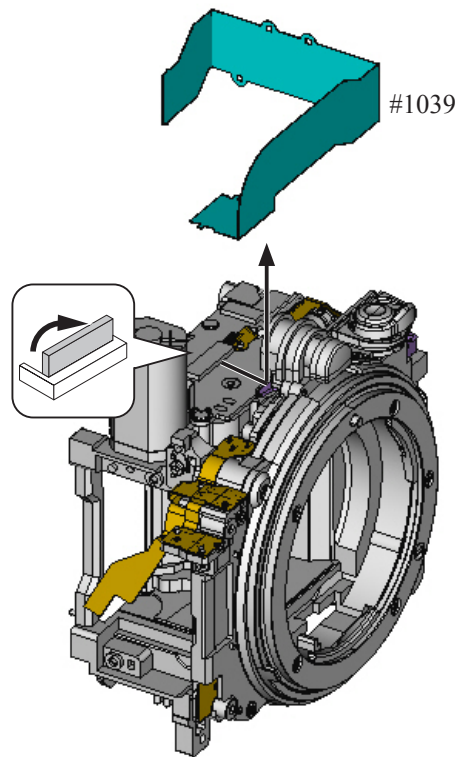


- Take out the four screws (#621).
- Remove the aperture control unit (#B242).



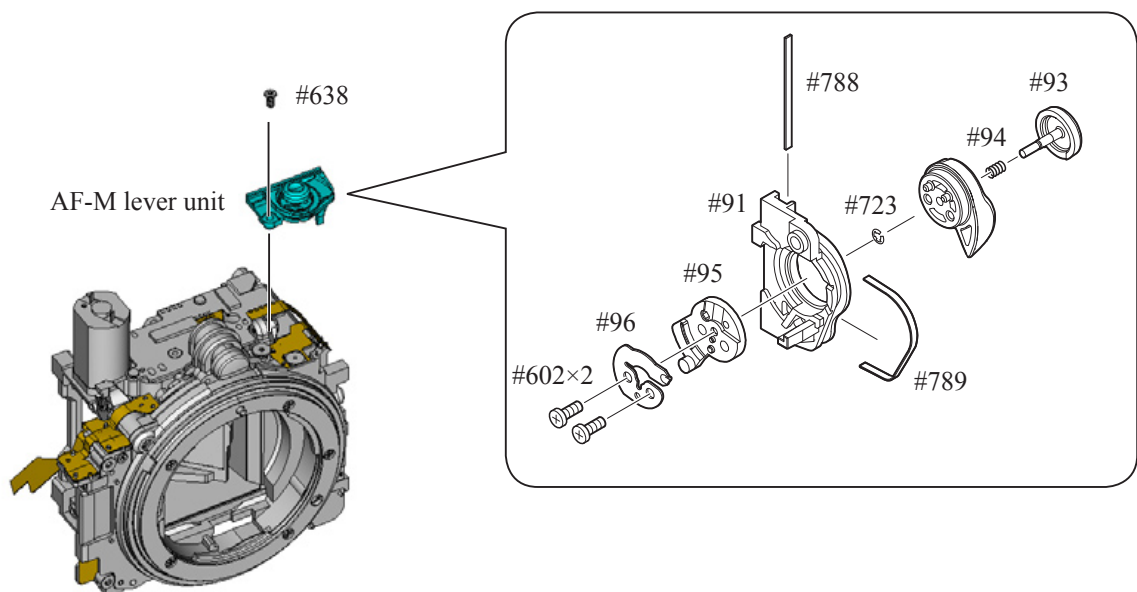
Connection-FPC

- Disconnect the conneciton-FPC (#1039).



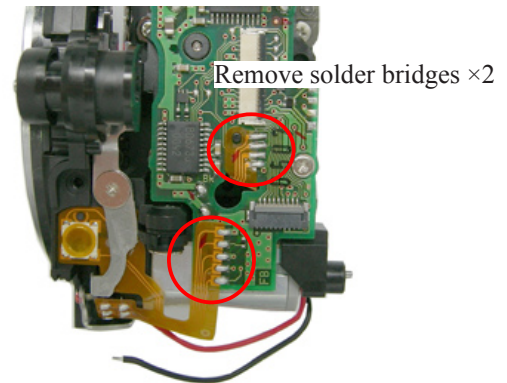
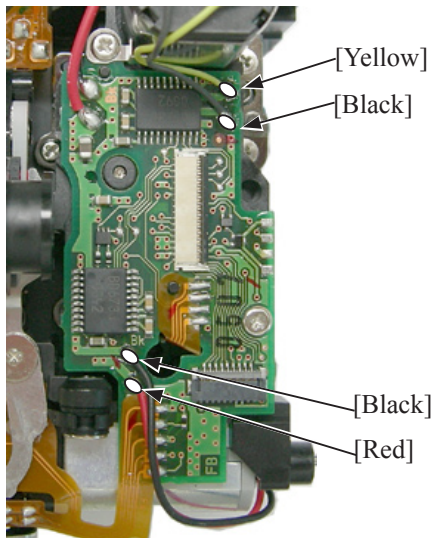
AF-M lever unit

- Take out the screw (#638).
- Remove the AF-M lever unit.

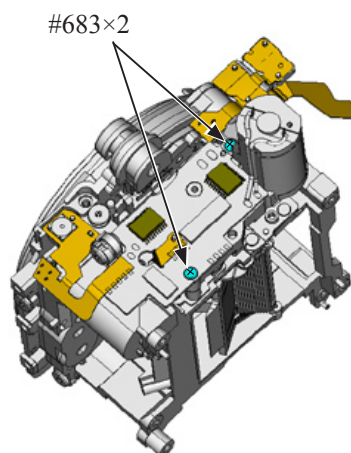


MD PCB unit

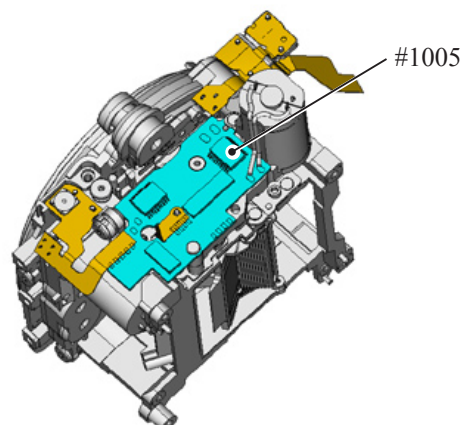
- Unsolder the four wires.
- Remove the solder bridges at two places.



- Take out the two screws (#683).

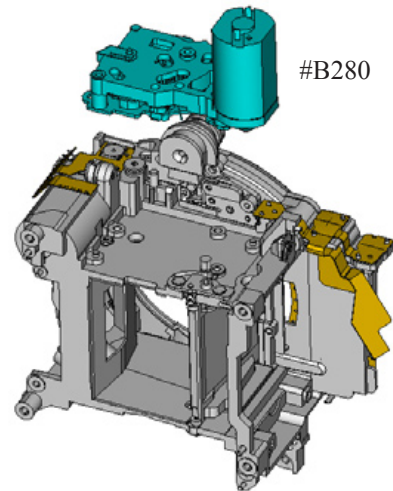
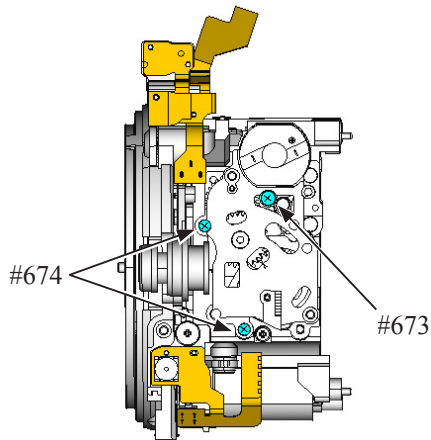


- Remove the MD PCB unit (#1005).



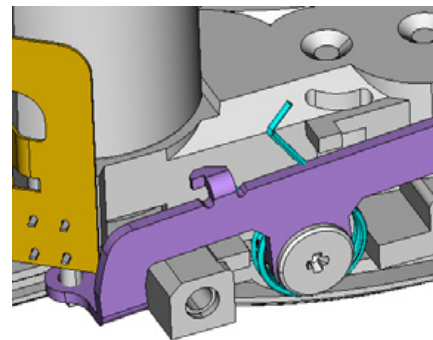
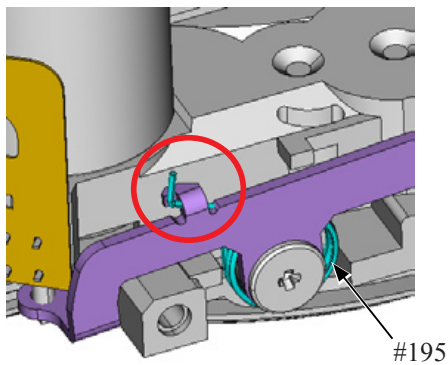
Mirror driving unit

- Take out the two screws (#674).
- Take out the screw (#673).
- Remove the mirror driving unit (#B280).

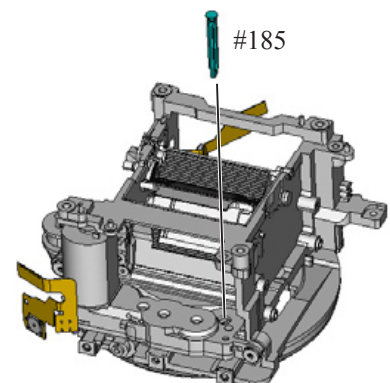
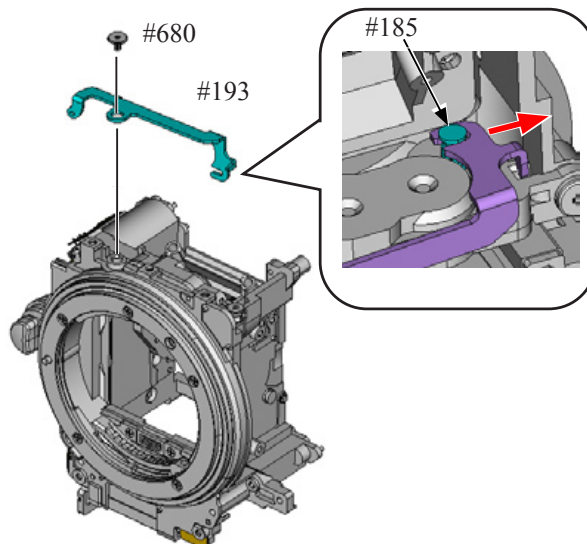


Horizontal lever/Vertical lever

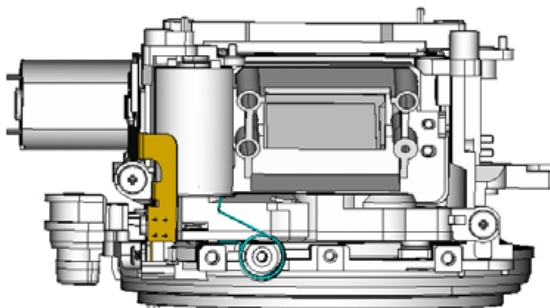
- Unhook the spring (#195).



- Take out the spring (#680).
- Remove the horizontal lever (#193) from the coupling shaft (#185).
- Remove the coupling shaft (#185).

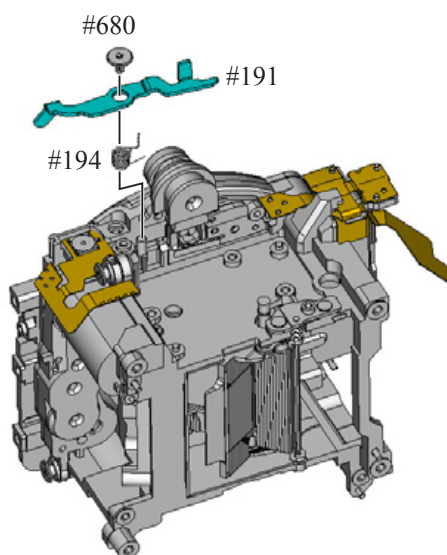


- Remove the spring (#195).



#195

- Take out the screw (#680).
- Remove the vertical lever (#191).
- Remove the spring (#194).



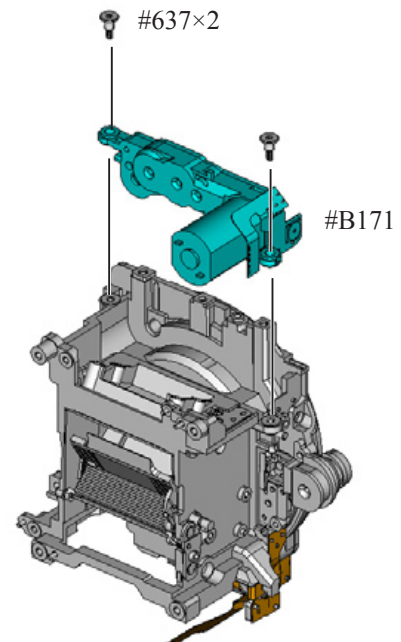
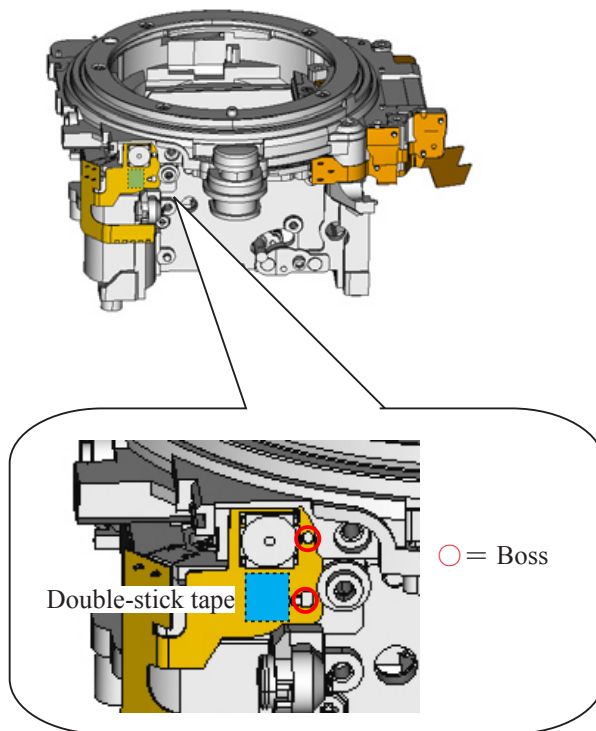
#680

#191

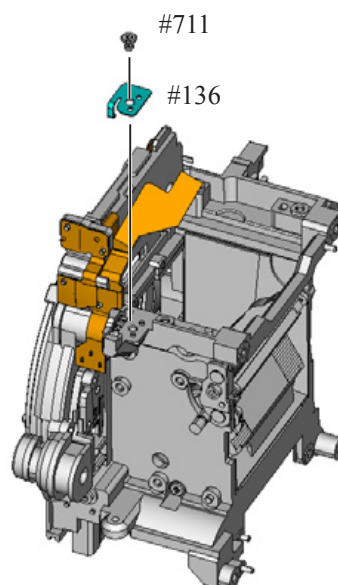
#194

AF motor unit

- Release the FPC from the bosses.
- Take out the two screws (#637).
- Remove the AF motor unit (#B171).

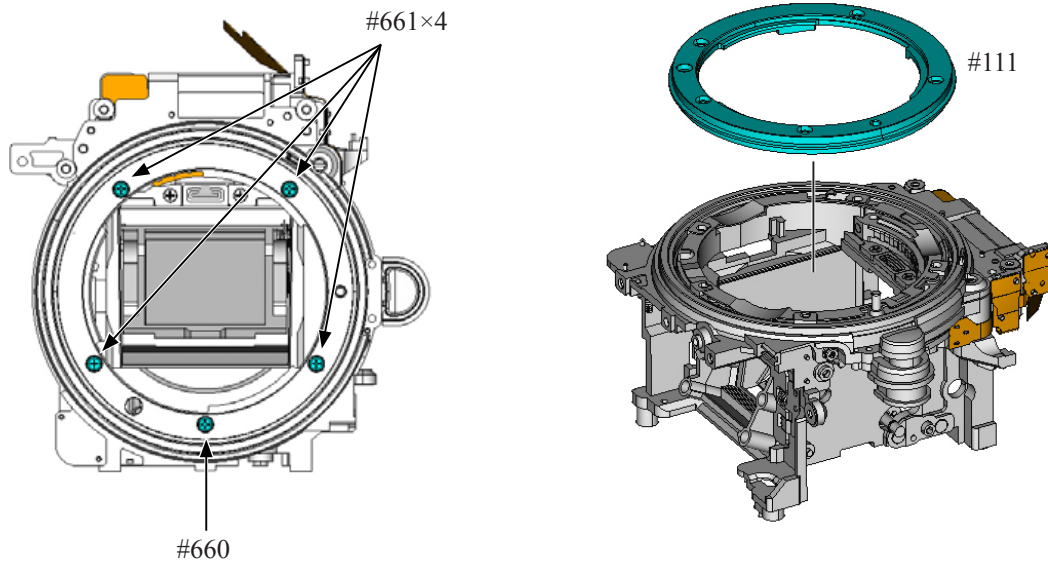


- Take out the screw (#711).
- Remove the gear stopper (#136).

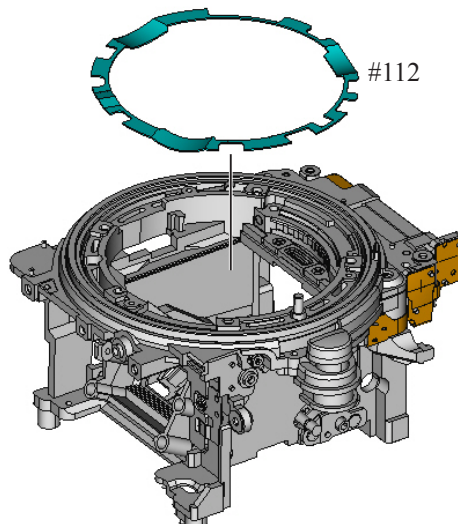


Bayonet

- Take out the four screws (#661).
- Take out the screw (#660).
- Remove the bayonet mount (#111).

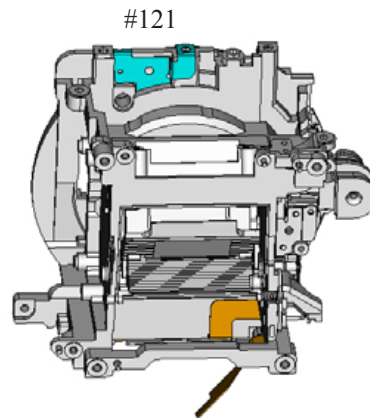
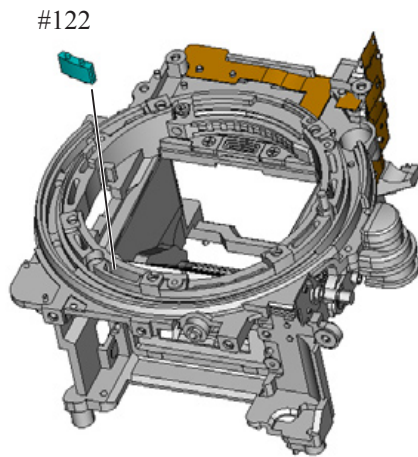


- Remove the bayonet spring (#112).

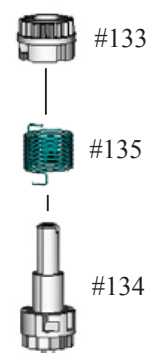
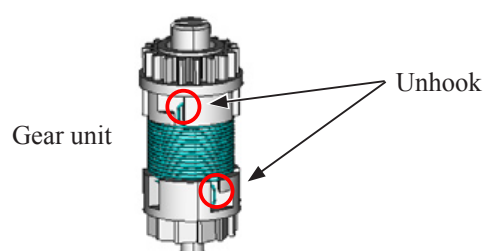
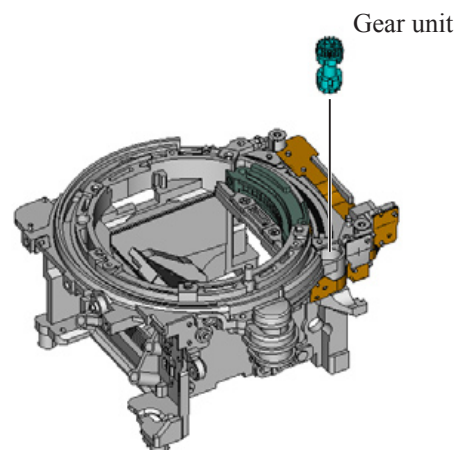
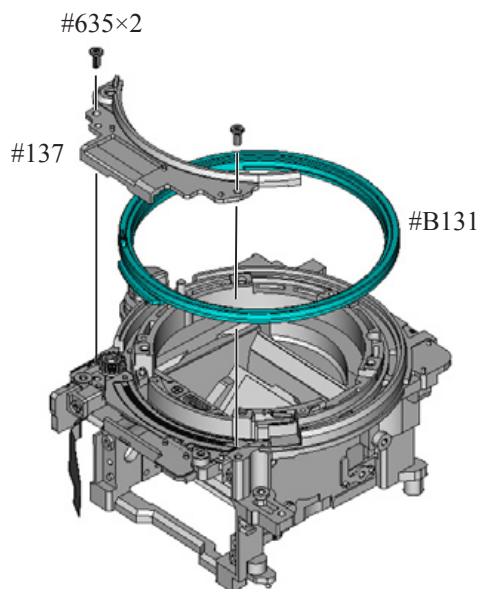


Apertrue coupling ring unit

- Remove the rubber (#122).
- Remove the GND plate (#121).

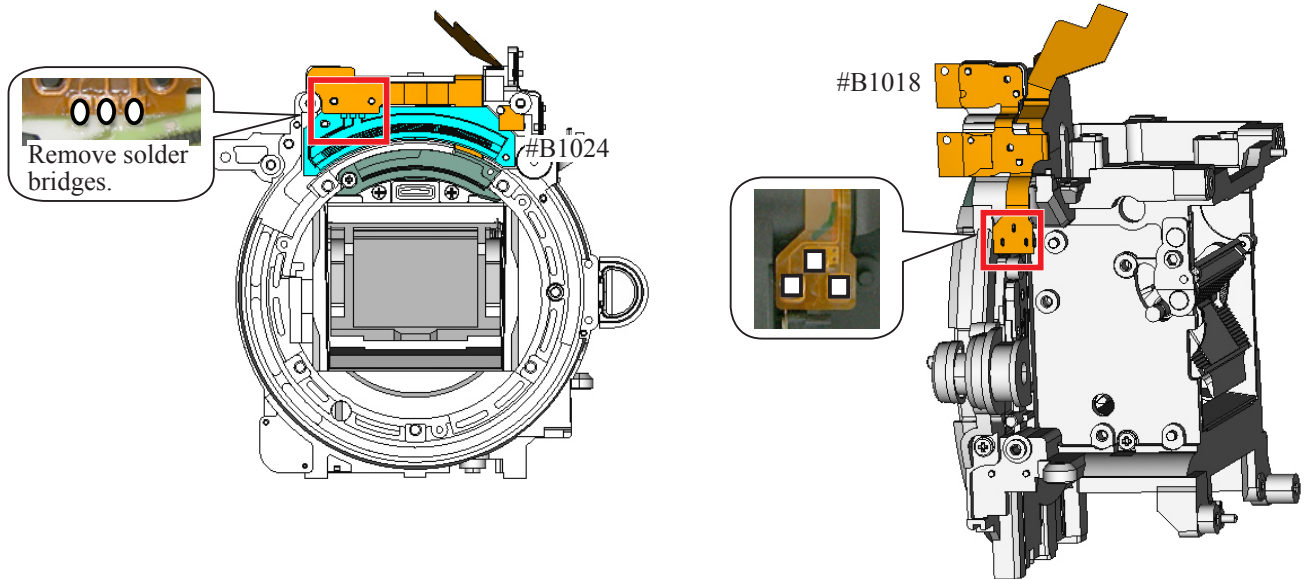


- Take out the two screws (#635).
- Remove the retainer plate (#137).
- Remove the aperture coupling ring unit (#B131).
- Remove the gear unit.

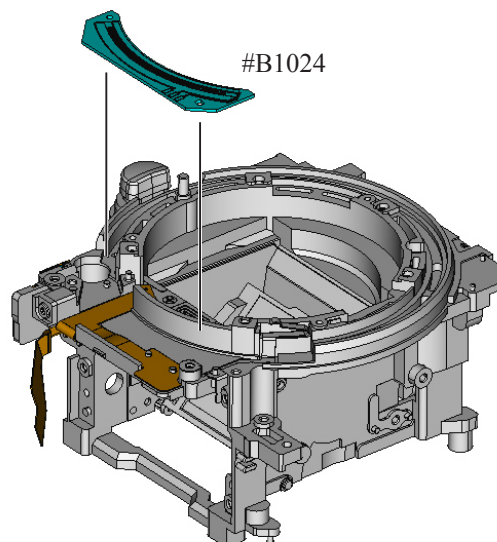


Lens contact FPC unit

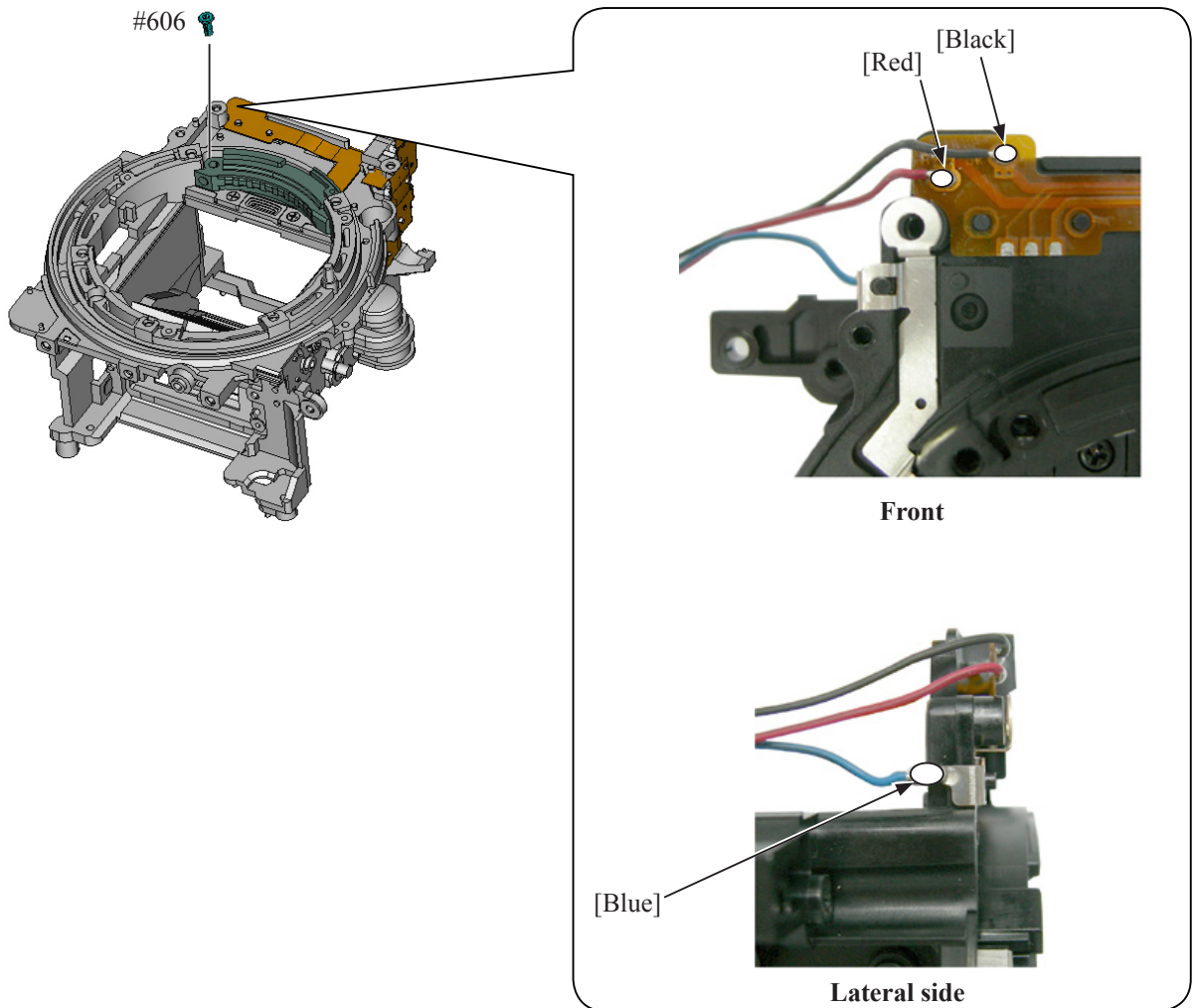
- Remove the solder bridges that joint the F-F0 PCB unit (#B1024).
- Unsolder the three contacts from the lens contact FPC unit (#B1018).



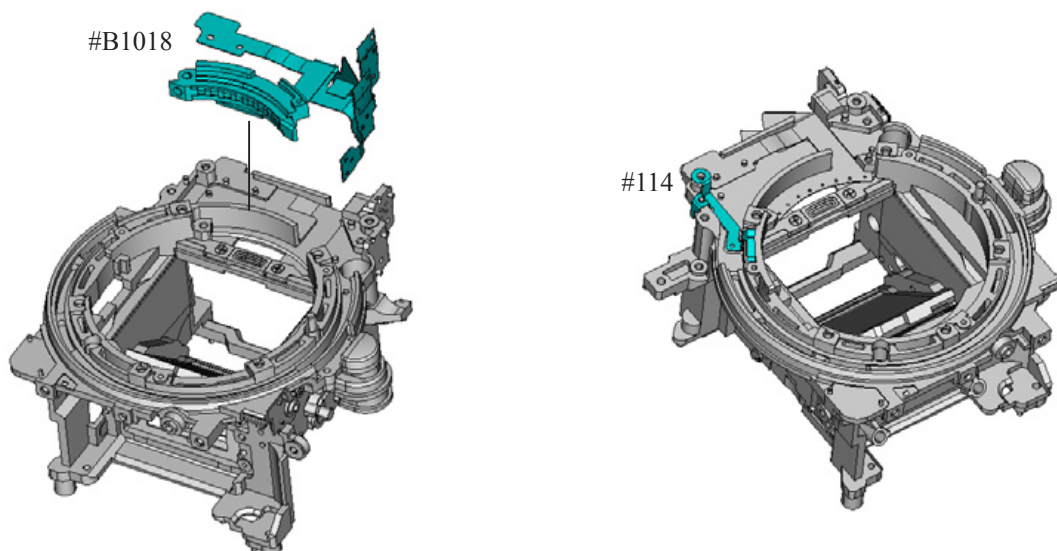
- Remove the F-F0 PCB unit (#B1024).



- Unsolder the three wires.
- Take out the screw (#606).

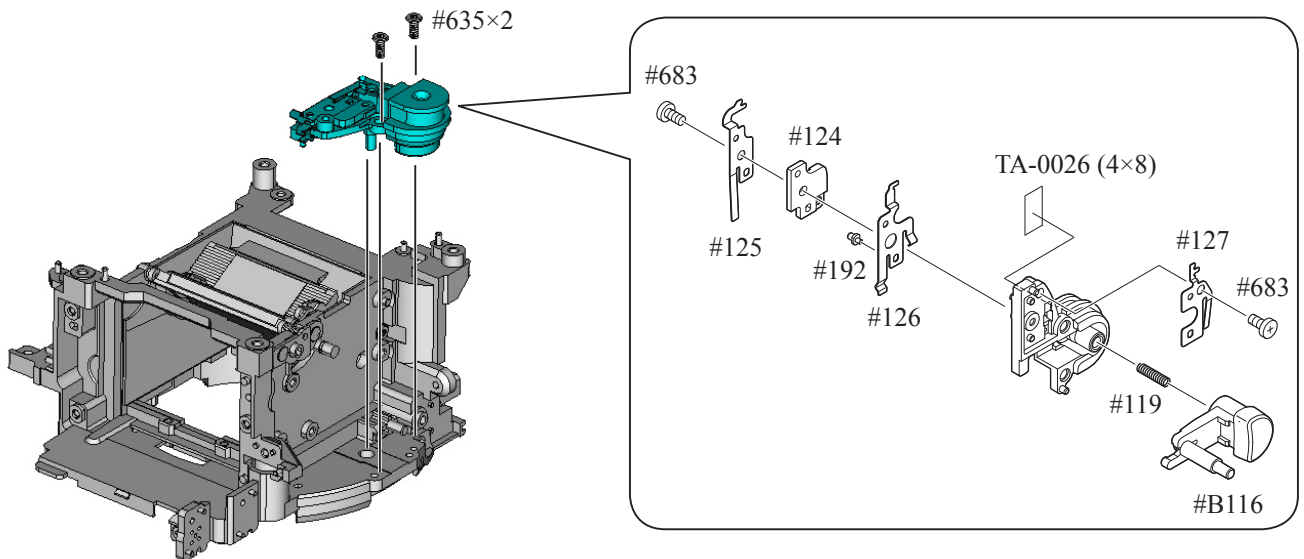


- Remove the lens contact FPC unit (#B1018).
- Remove the GND plate (#114).



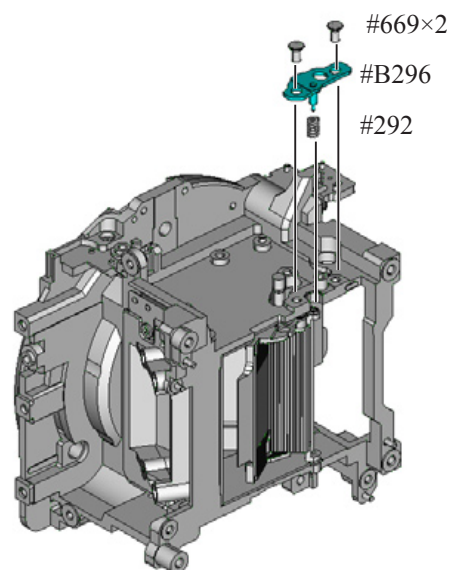
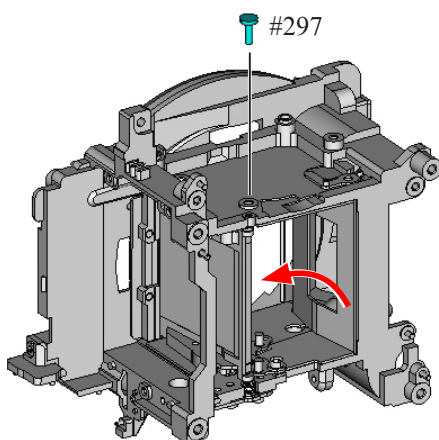
Lens release button unit

- Take out the two screws (#635).
- Remove the lens release button unit.

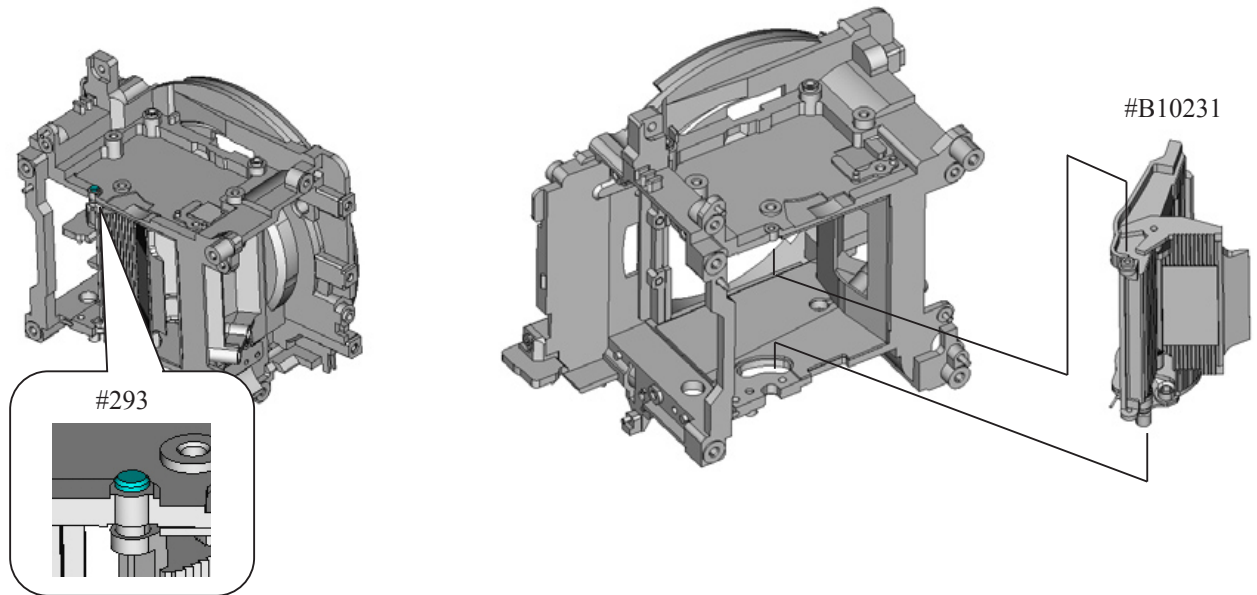


Mirror driving unit

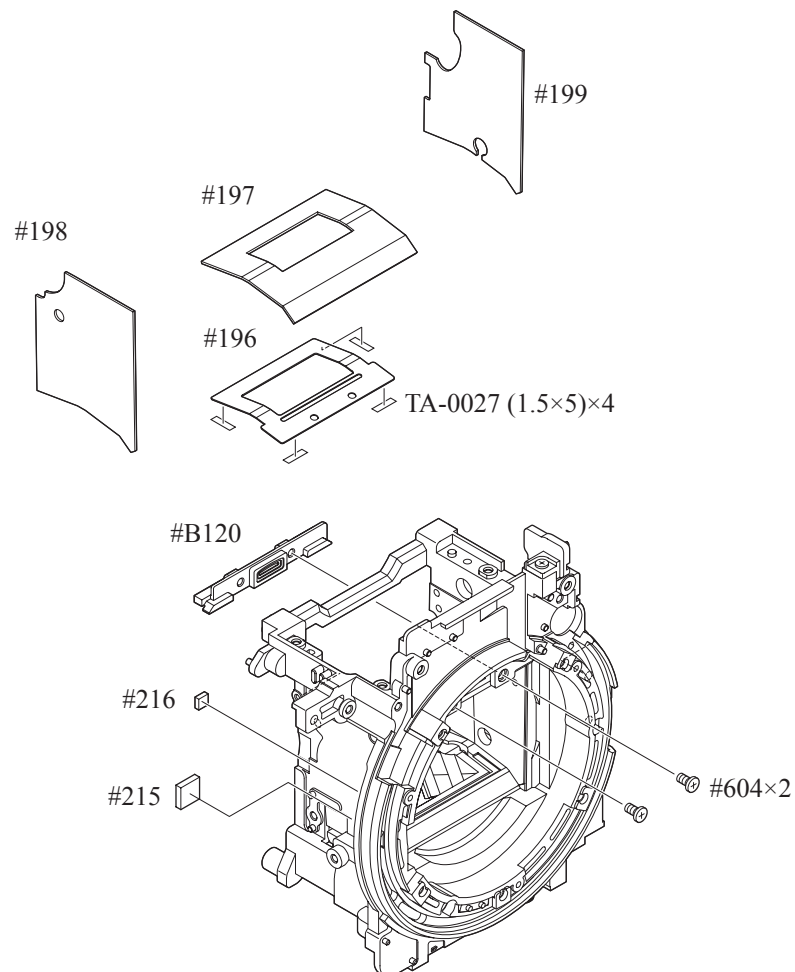
- Remove the adhesive (C-8008B) that is attached to the pin (#297).
- Raise the main mirror (to become mirror-up status), remove the pin (#297).
- Take out the two screws (#669).
- Remove the main mirror measuring unit (#B296) and spring (#292).



- Remove the adhesive (C-8008B) that is attached to the main mirror shaft (#293).
- Remove the main mirror shaft (#293).
- Remove the mirror unit (#B10231).



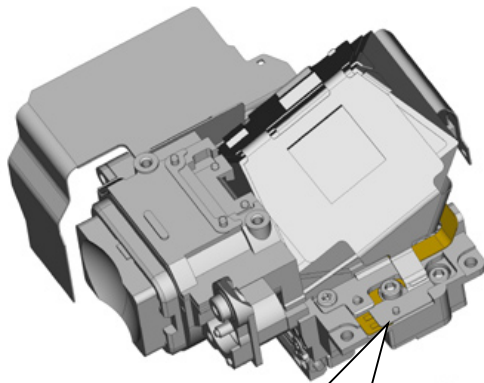
Mirror box unit



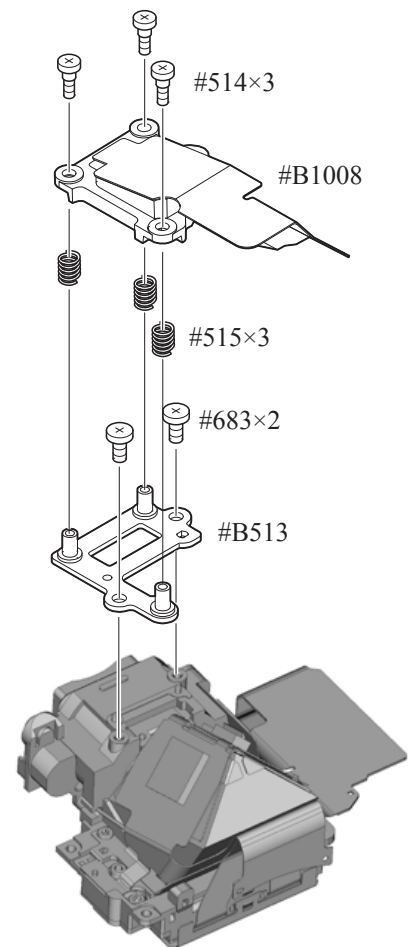
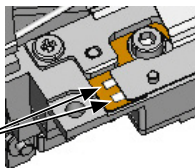
9. Prixm Box

Metering FPC unit

- Remove the solder bridges.
- Take out the three screws (#514).
- Remove the metering FPC unit (#B1008).
- Remove the three springs (#515).
- Take out the two screws (#683).
- Remove the light measuring base plate unit (#B513).

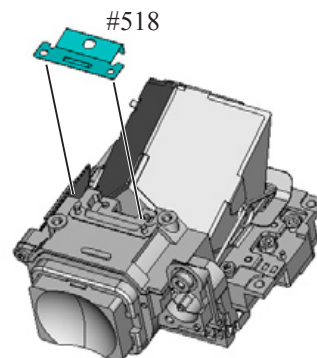
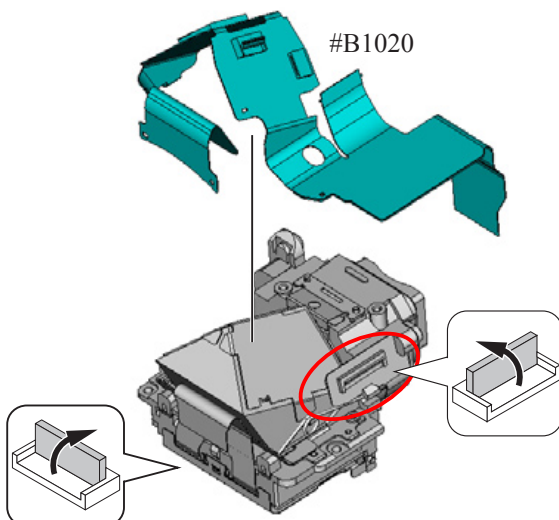


Remove solder bridges.



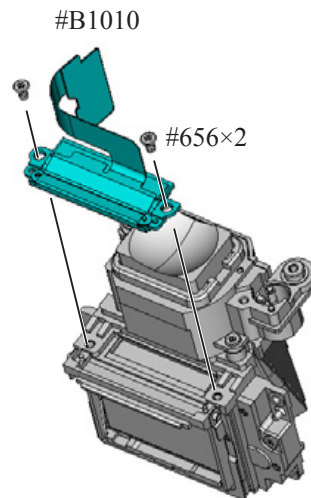
Penta FPC unit

- Disconnect the two FPCs.
- Remove the penta FPC unit (#B1020).
- Remove the metering aperture (#518).



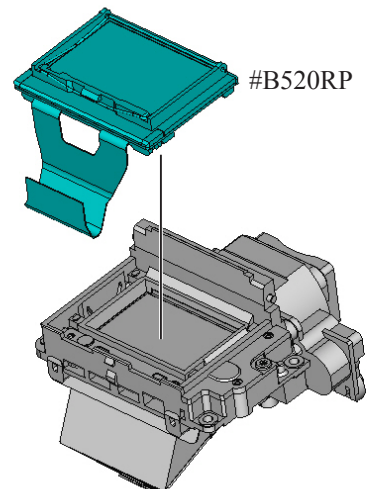
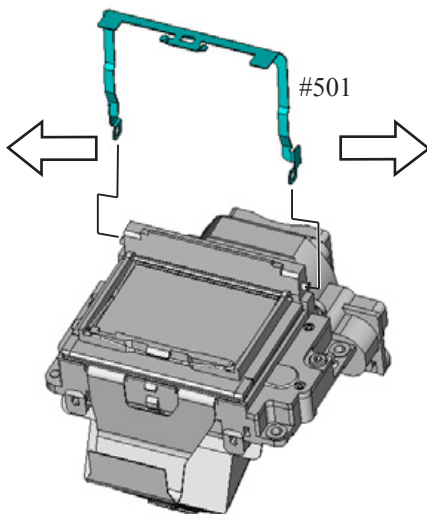
LCD unit

- Take out the two screws (#656).
- Remove the LCD unit (#B1010).

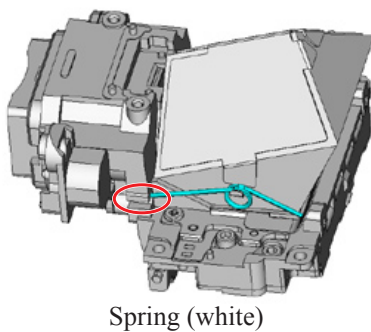


Screen BOX unit

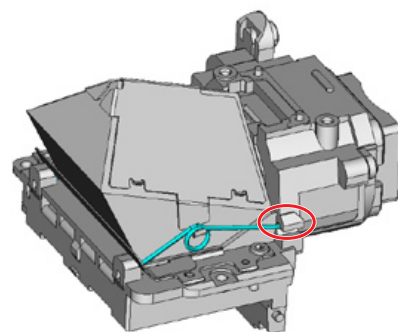
- Remove the spring (#501).
- Remove the screen BOX unit (#B520RP).



- Remove the spring (white) and spring (black).

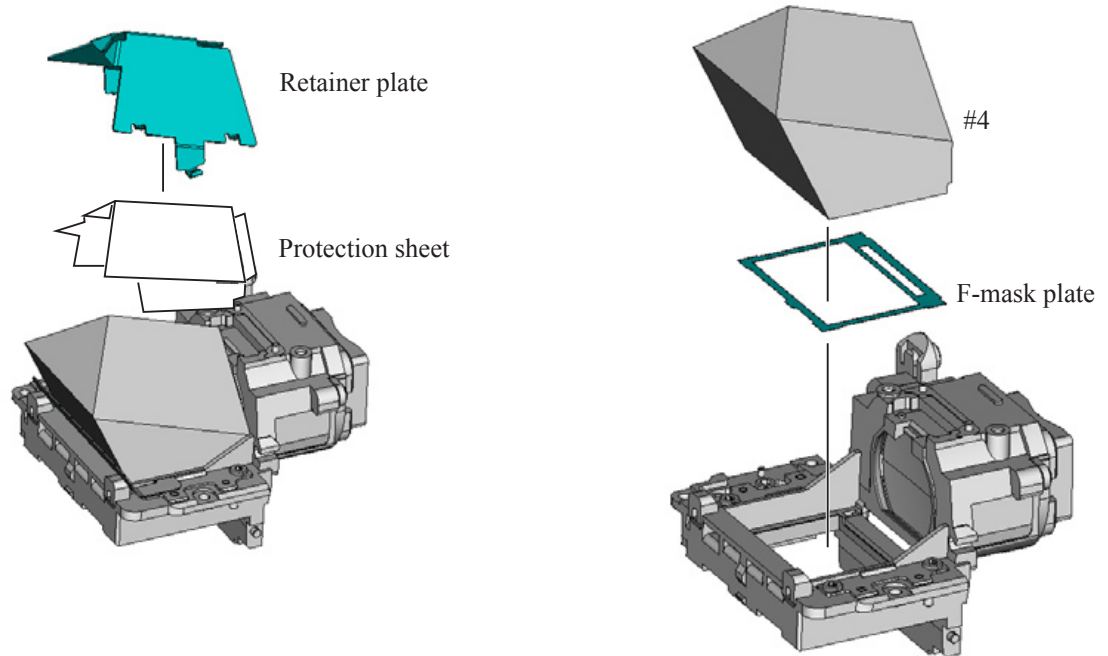


Spring (white)



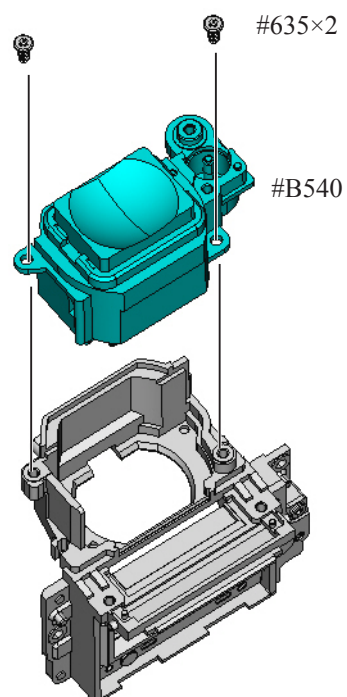
Spring (black)

- Remove the retainer plate.
- Remove the protection sheet.
- Remove the penta prism (#4).
- Remove the F-mask plate.



Eyepiece block unit

- Take out the two screws (#635).
- Remove the eyepiece block unit (#B540).

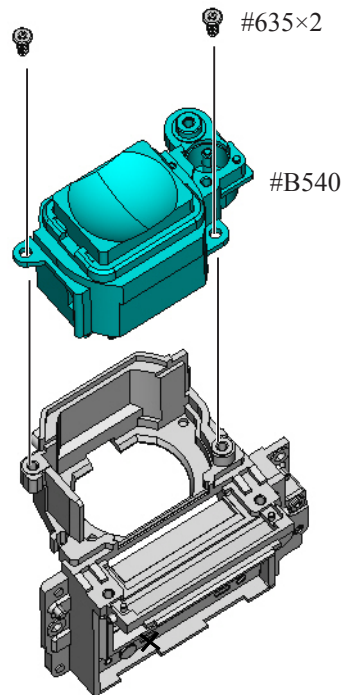


Assembly/Adjustment

1. Prism Box

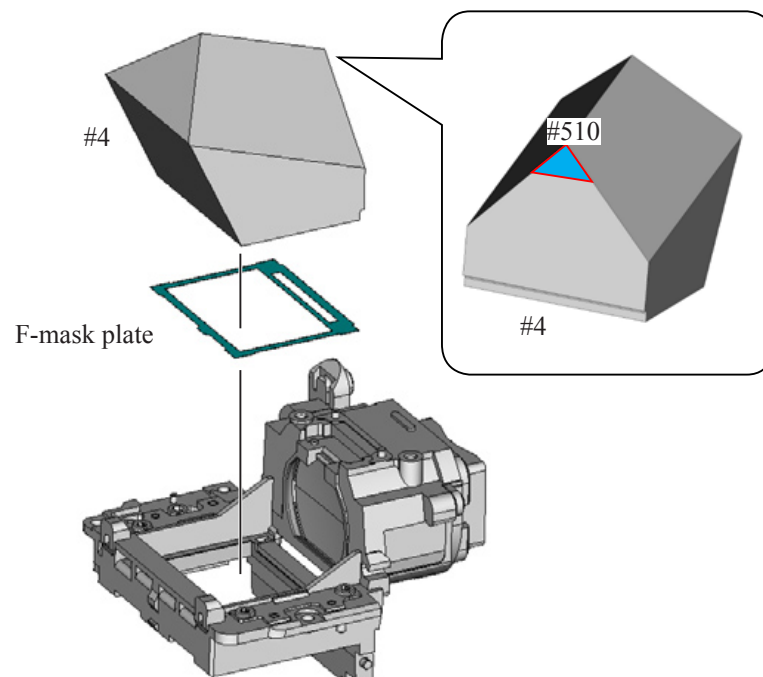
Eyepiece block unit

- Mount the eyepiece block unit (#B540).
- Tighten the two screws (#635).

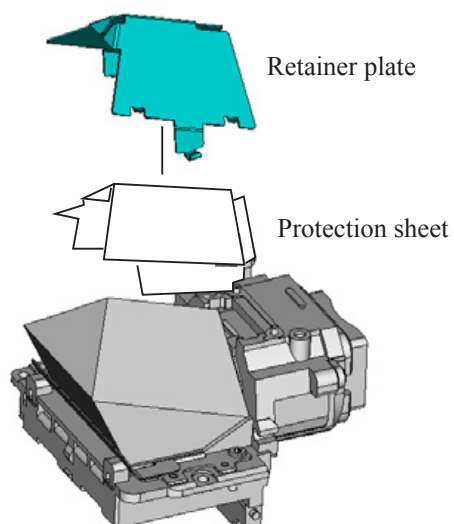


Penta prism

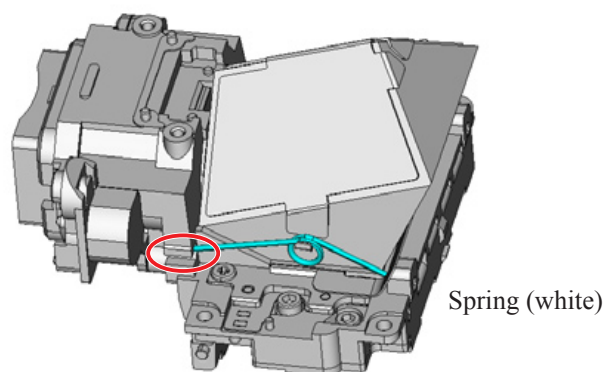
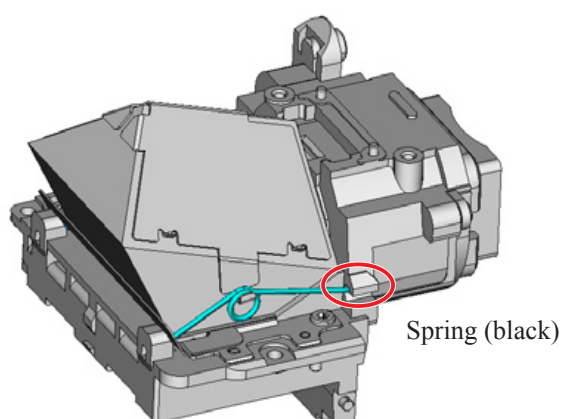
- Attach the tape (#510) to the penta prism (#4).
- Put the F-mask plate.
- Mount the penta prism (#4).



- Put the protection sheet.
- Mount the retainer plate.



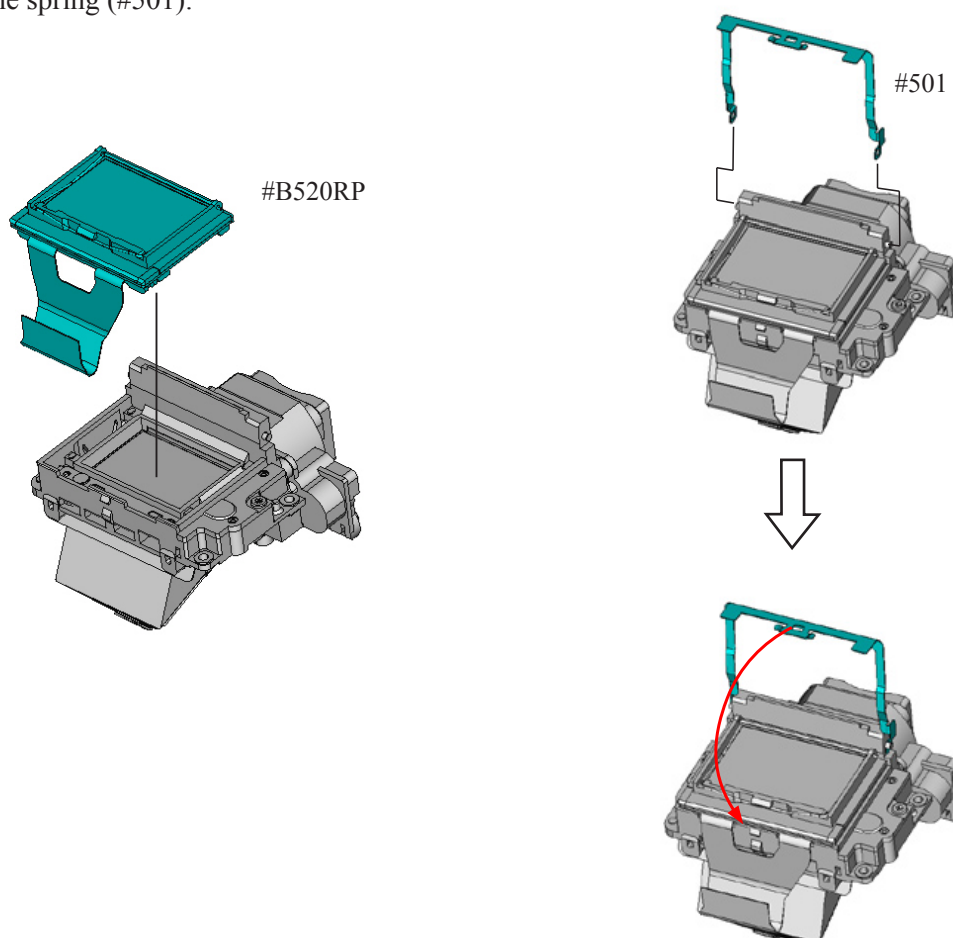
- Hook the spring (black) and spring (white).



○ = Hook

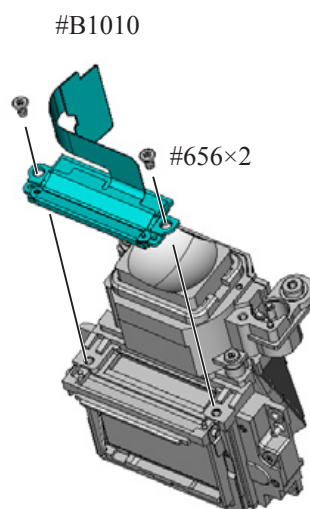
Screen BOX unit

- Mount the screen BOX unit (#B520RP).
- Attach the spring (#501).



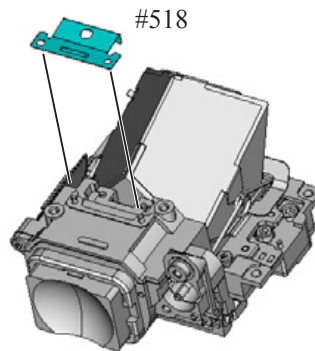
LCD unit

- Mount the LCD unit (#B1010).
- Tighten the two screws (#656).

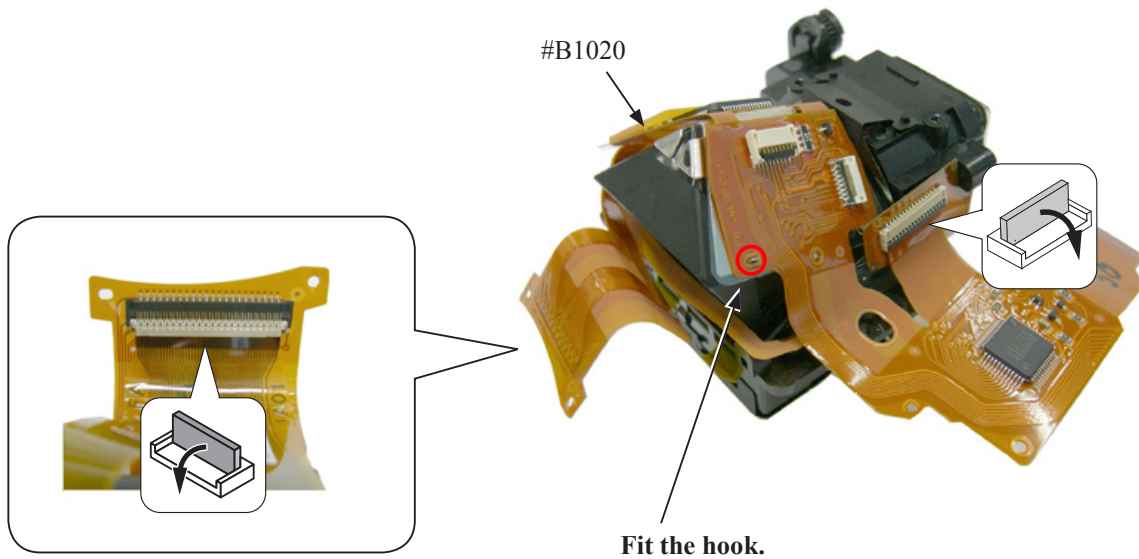


Penta FPC unit

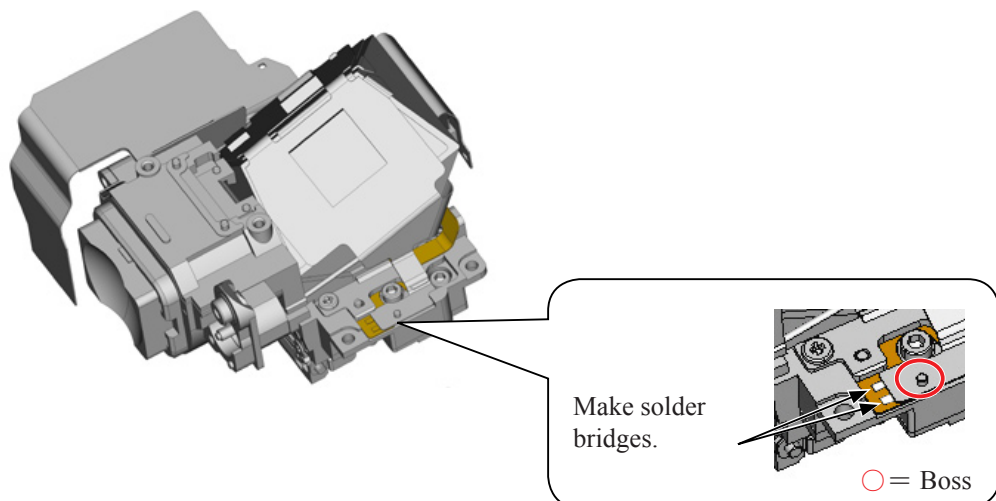
- Put the metering aperture (#518).



- Mount the penta FPC unit (#B1020).
- Connect the two FPCs.



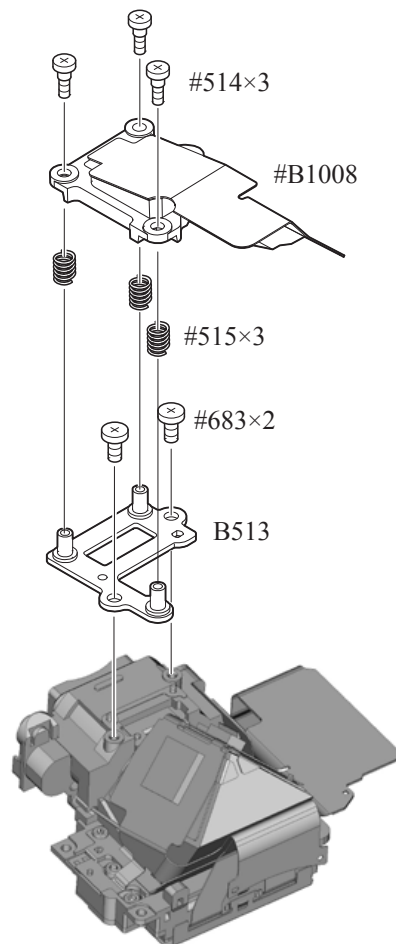
- Attach the FPC by fitting the boss in the hole.
- Make solder bridges.



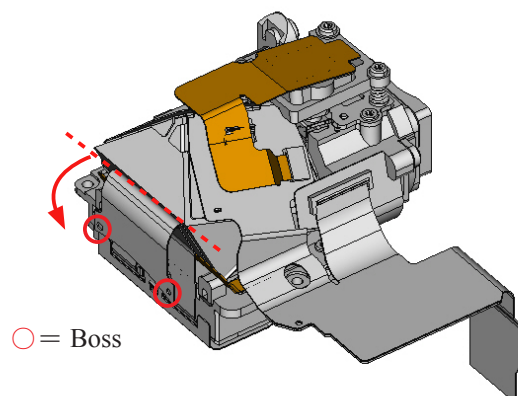
Metering FPC unit

- Mount the light measuring base plate unit (#B513).
- Tighten the two screws (#683).
- Attach the three springs (#515).
- Mount the metering FPC unit (#B1008).
- Tighten the three screws (#514).

After tightening the screws clockwise, give them two turns counterclockwise.



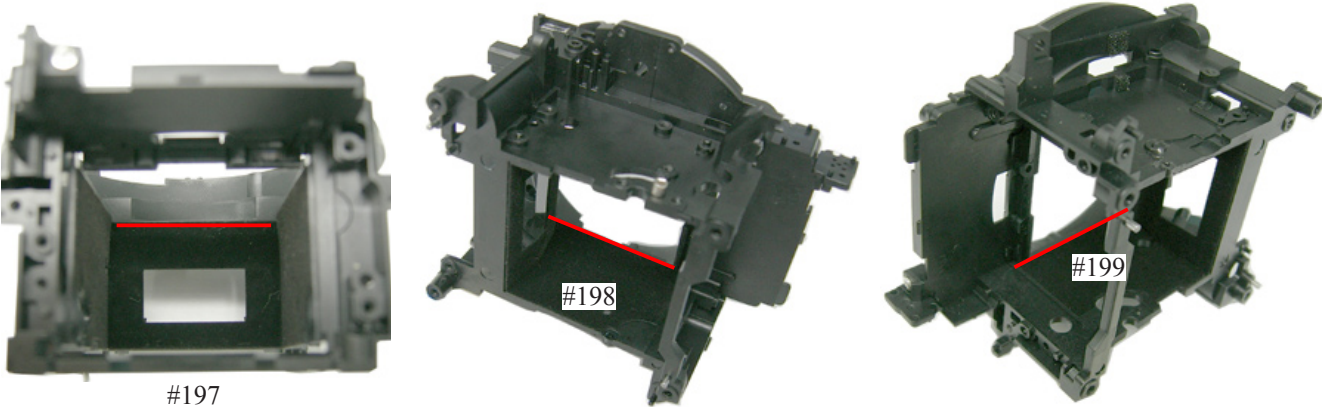
- Bend the FPC towards the direction of the arrow, and fit the bosses in the holes.



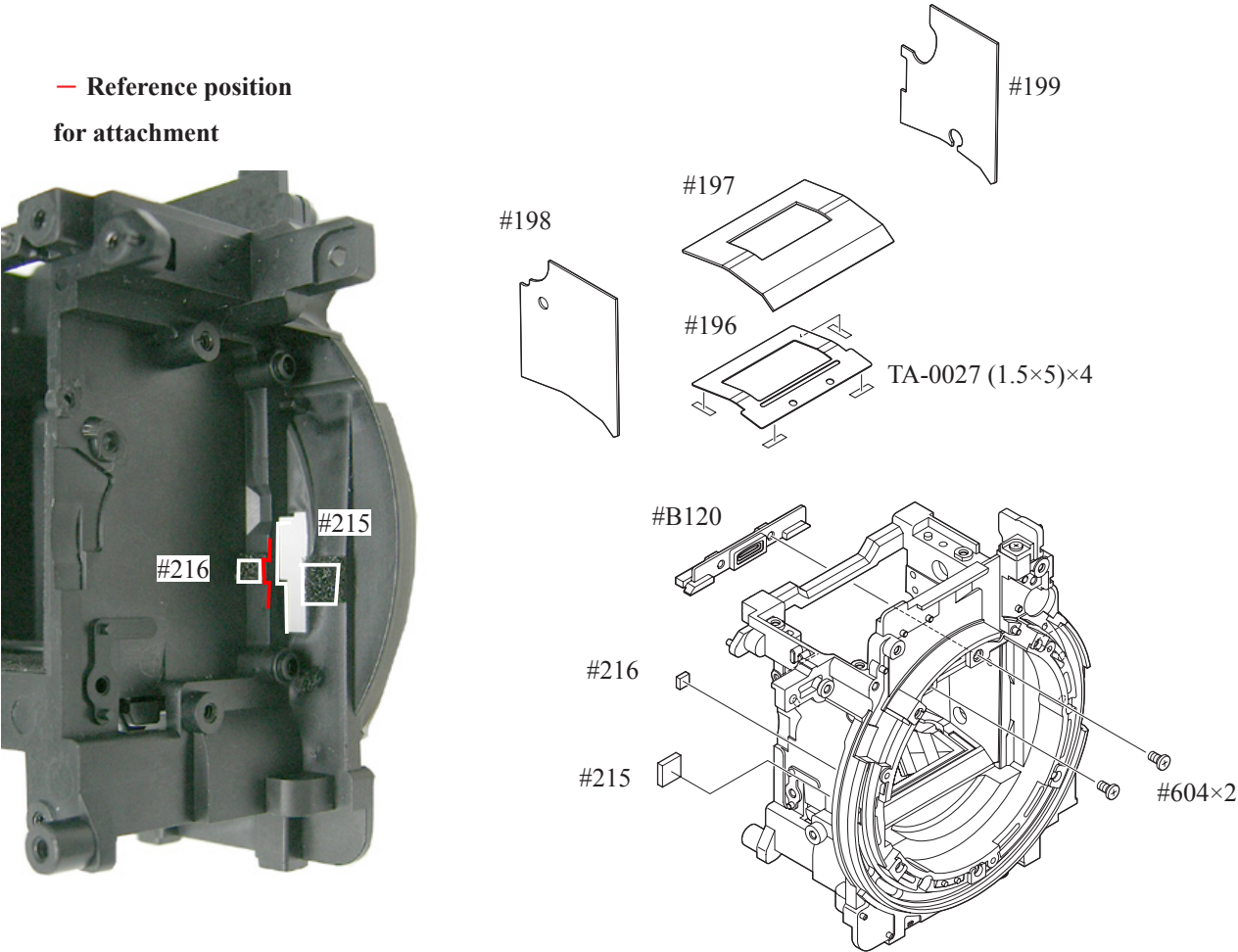
2. Front Body

Mirror box unit

— Reference position for attachment

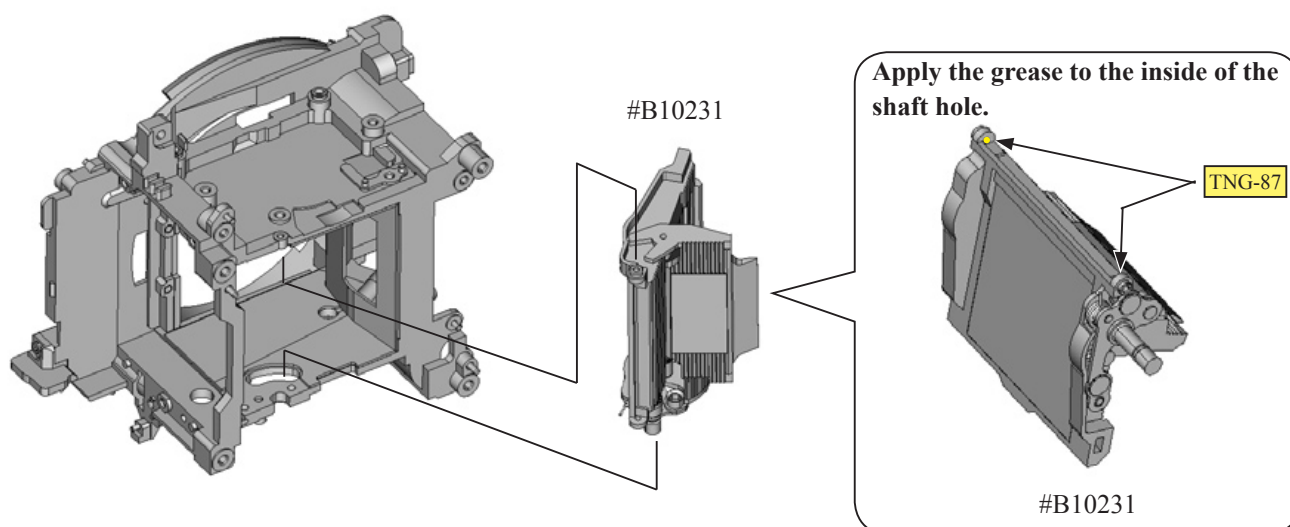


— Reference position
for attachment

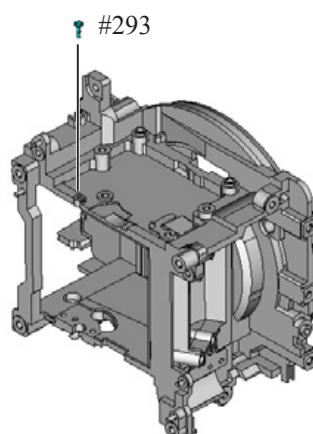


Mirror driving unit

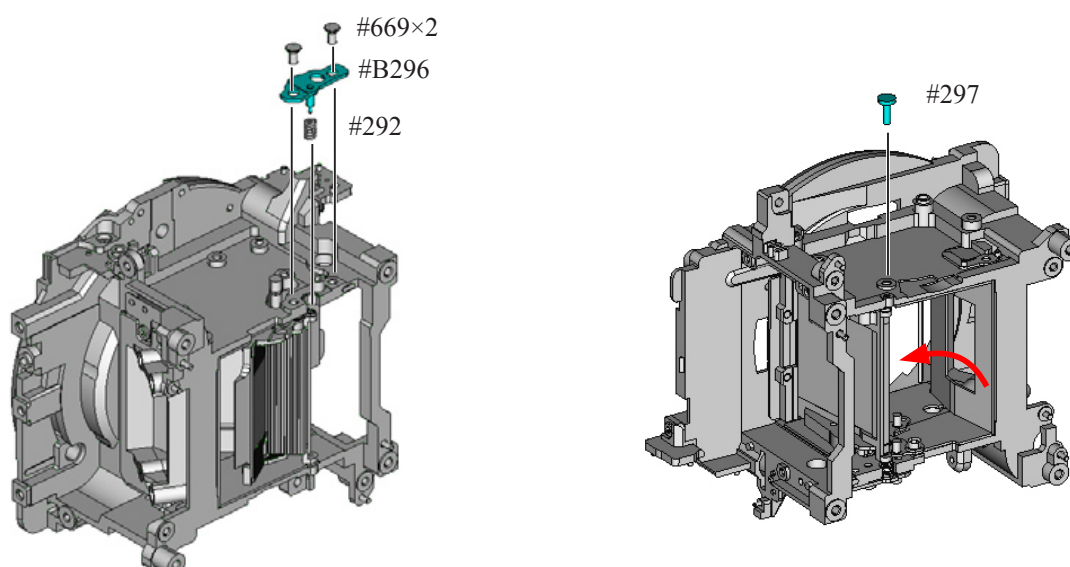
- Mount the mirror unit (#B10231).



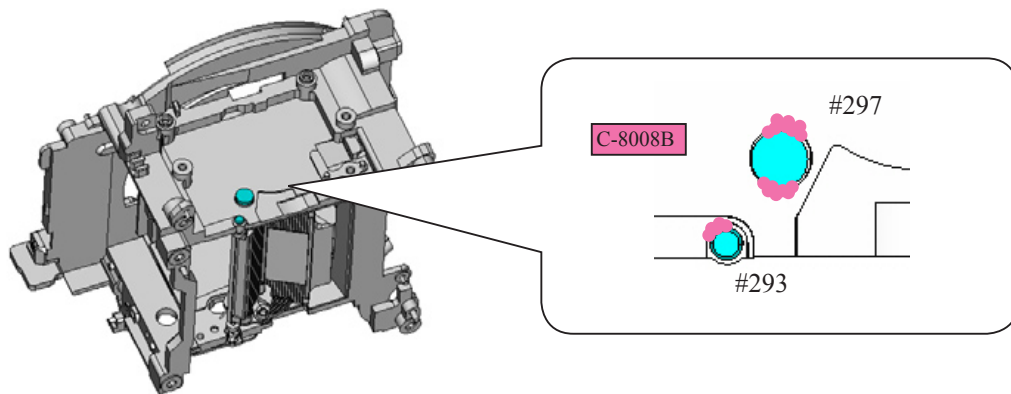
- Insert the main mirror shaft (#293).



- Attach the spring (#292) and main mirror measuring unit (#B296).
- Tighten the two screws (#669).
- Raise the main mirror (to become mirror-up status), and insert the pin (#297).

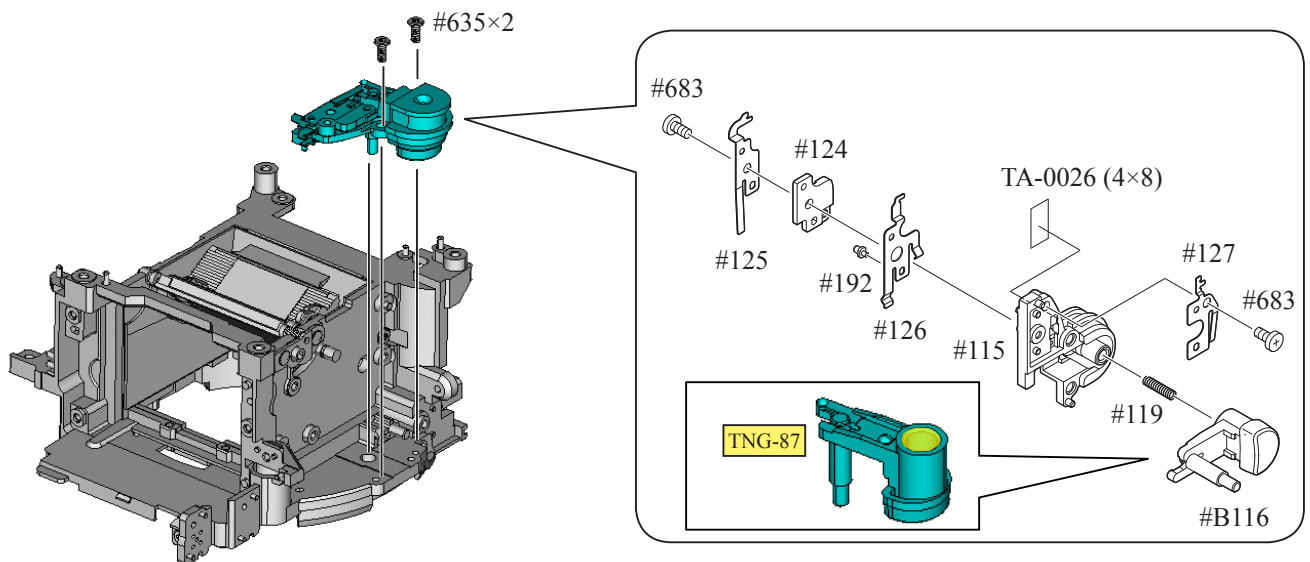


- Apply the adhesive (C-8008B) to the pin (#297) and main mirror shaft (#293).



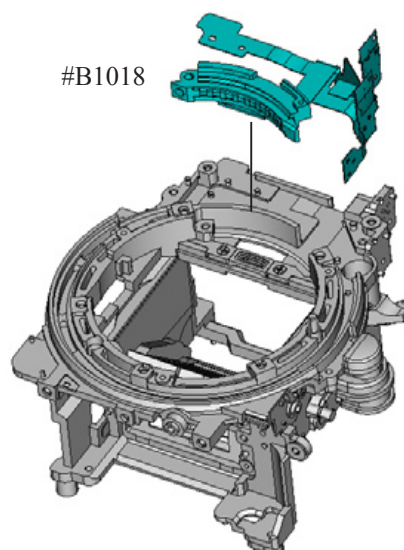
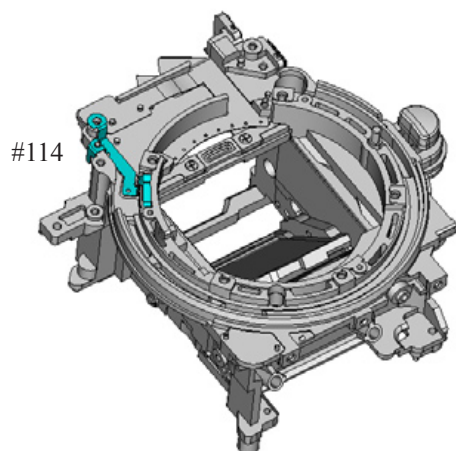
Lens release button unit

- Mount the lens release button unit.
- Tighten the two screws (#635).

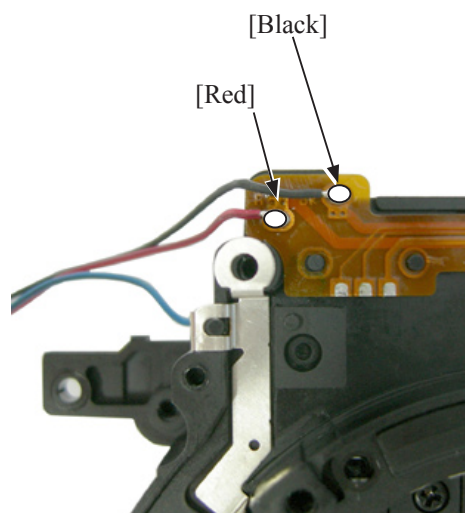
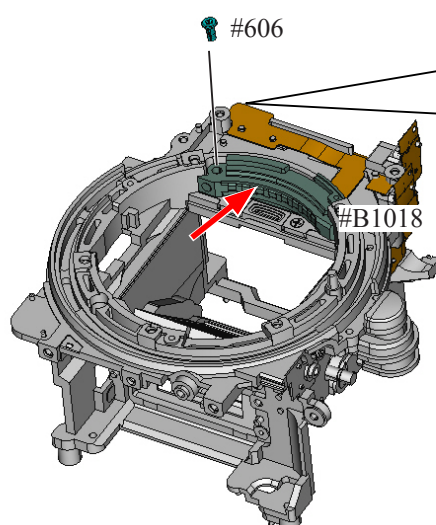


Lens contact FPC unit

- Mount the GND plate (#114).
- Mount the lens contact FPC unit (#B1018).

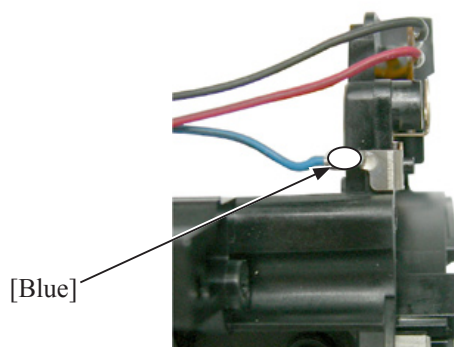
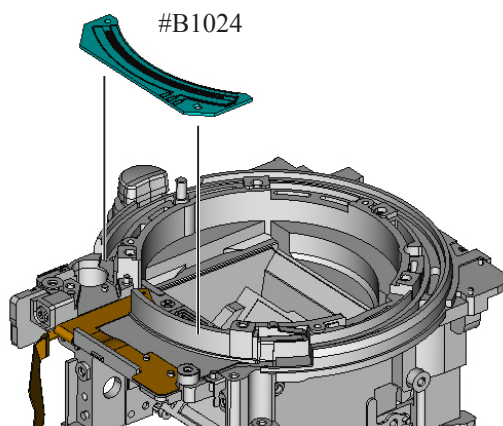


- Position the lens contact FPC unit (#B1018) in the direction of the arrow, and tighten the screw (#606).
- Solder the three wires.



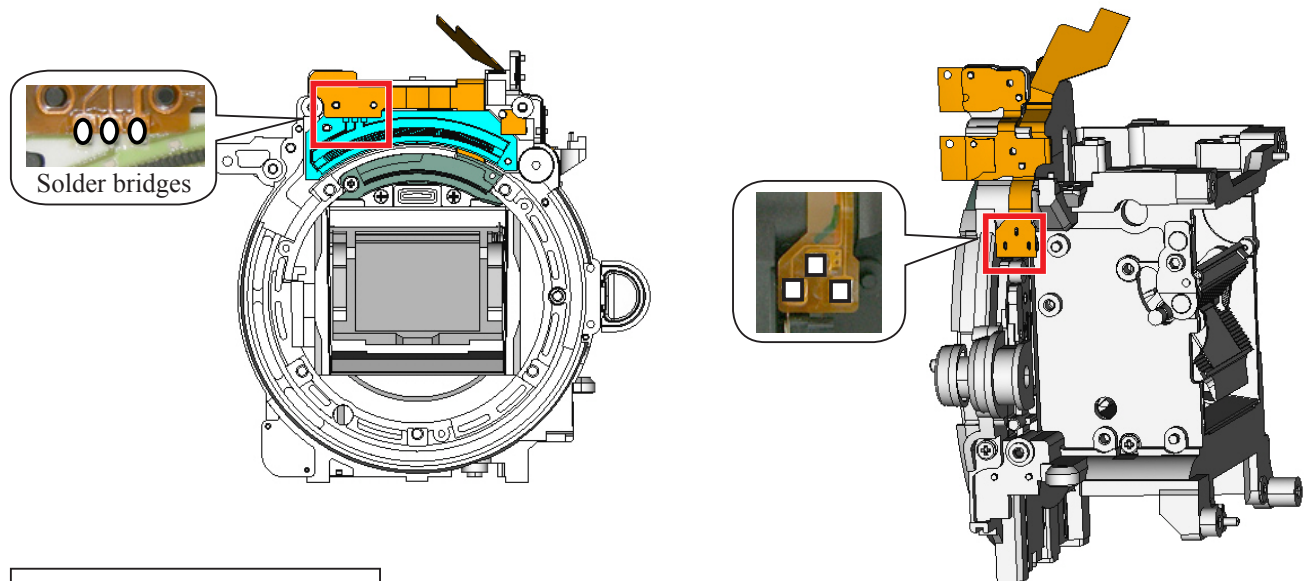
Front side

- Mount the F-F0 PCB unit (#B1024).



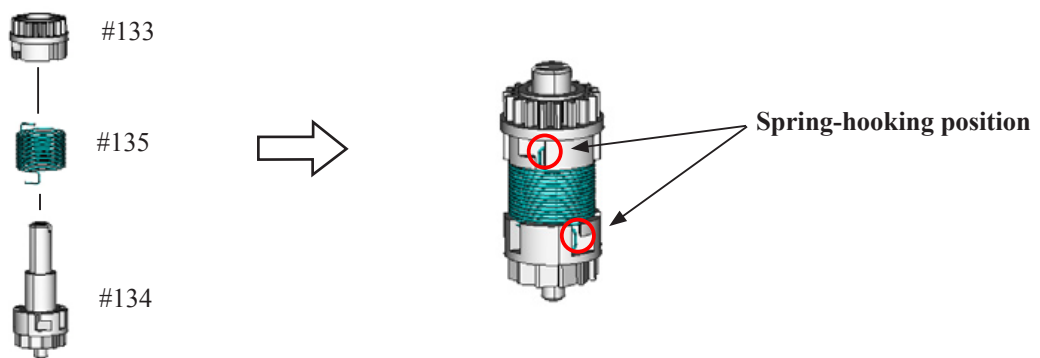
Lateral side

- Make solder bridges to joint the F-F0 PCB unit (#B1024).
- Solder the three contacts of the lens contact FPC unit (#B1018).

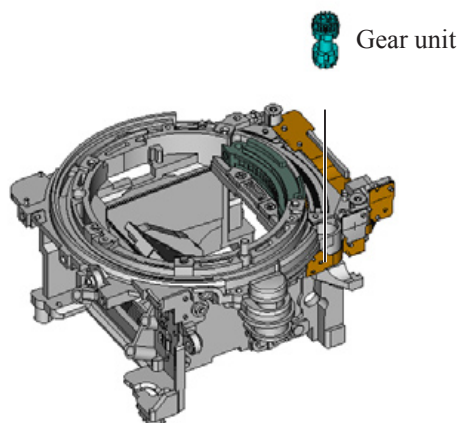


Aperture coupling ring unit

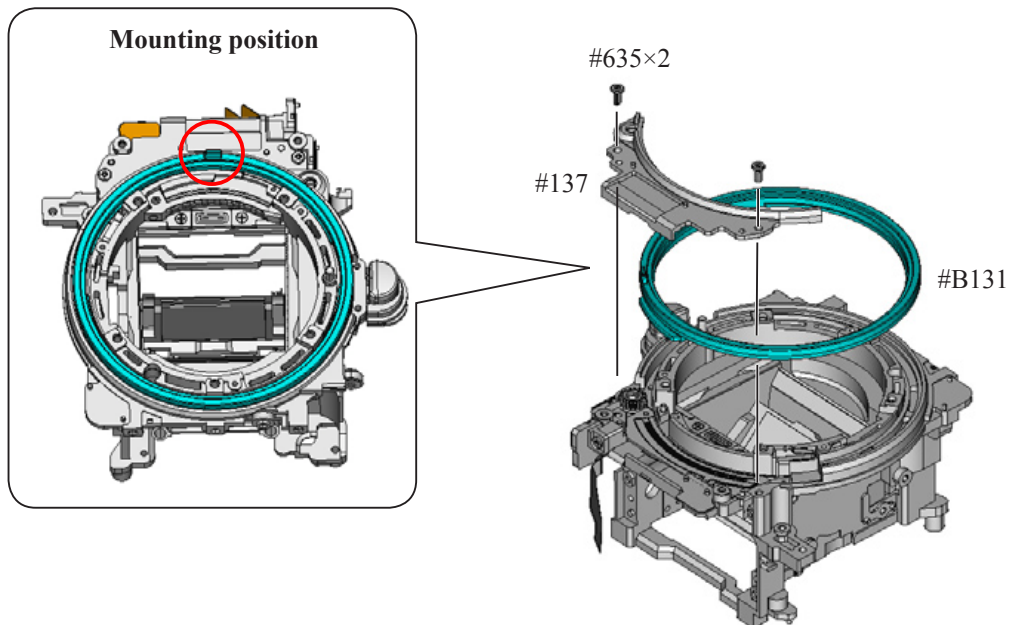
- Attach the spring (#135) to the gear (#134).
- Put the other gear (#133) on the above gear (#134).
- Hook the spring (#135) to the each gear (#134 and #133).



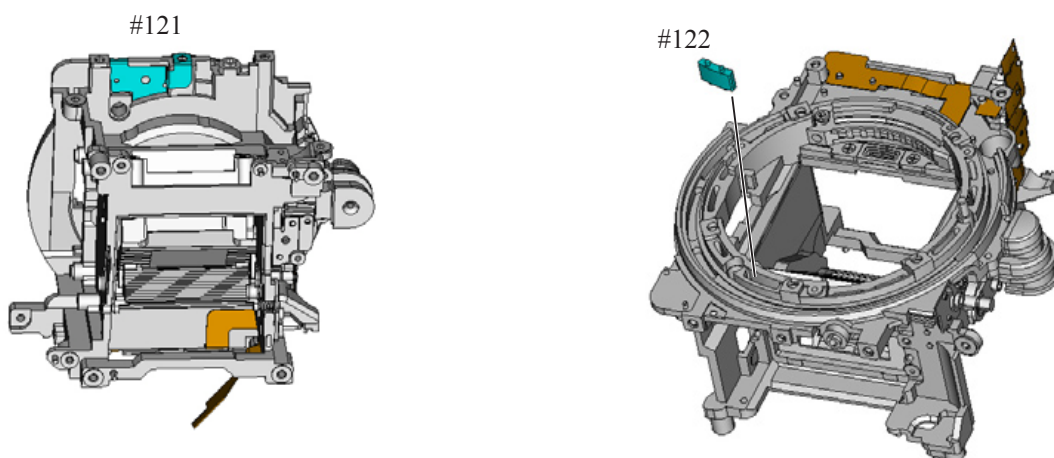
- Put the gear unit.



- Mount the aperture coupling ring unit (#B131).
- Mount the retainer plate (#137).
- Tighten the two screws (#635).

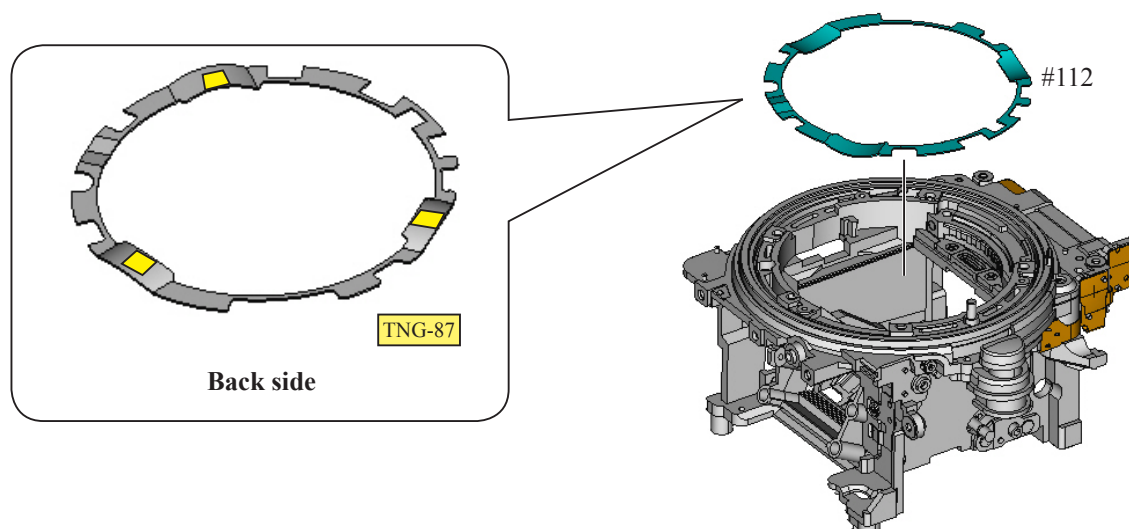


- Mount the GND plate (#121).
- Attach the rubber (#122).

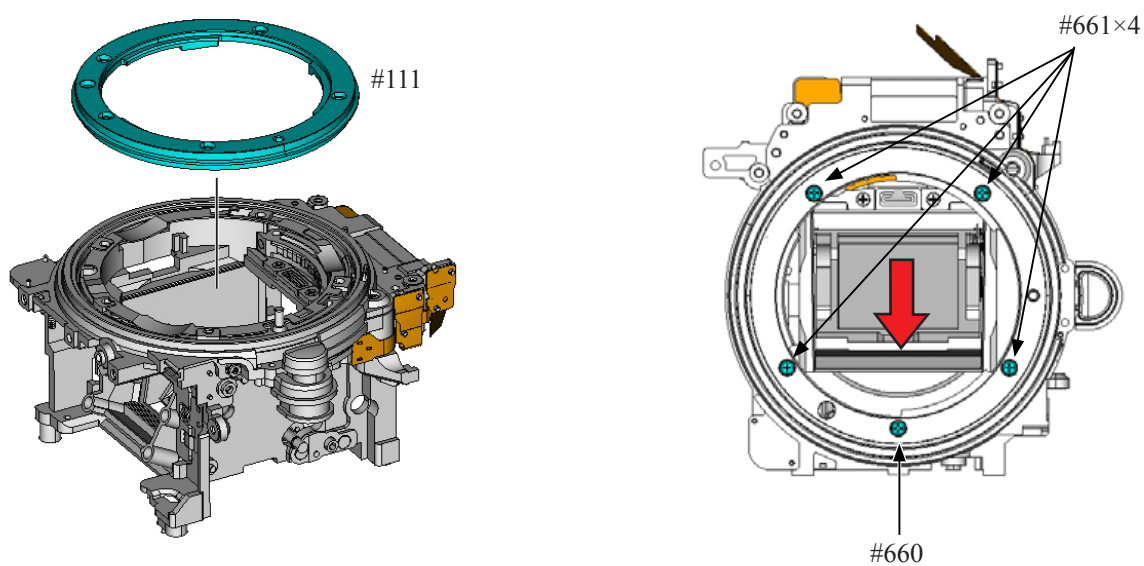


Bayonet

- Mount the bayonet spring (#112).

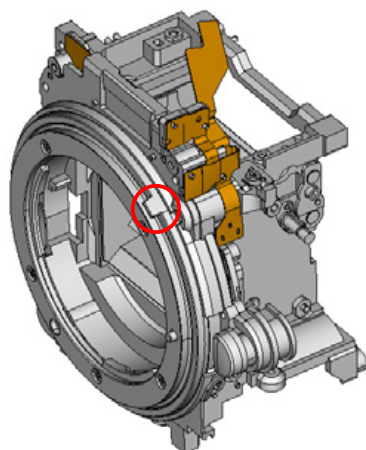


- Put the bayonet mount (#111).
- Position [#111] in the direction of the arrow, and tighten the screw (#660).
- Tighten the four screws (#661).

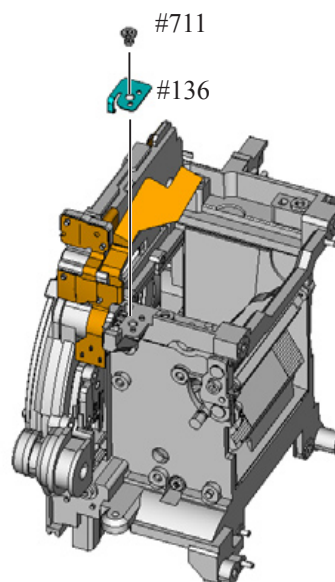


Adjustment of aperture coupling ring

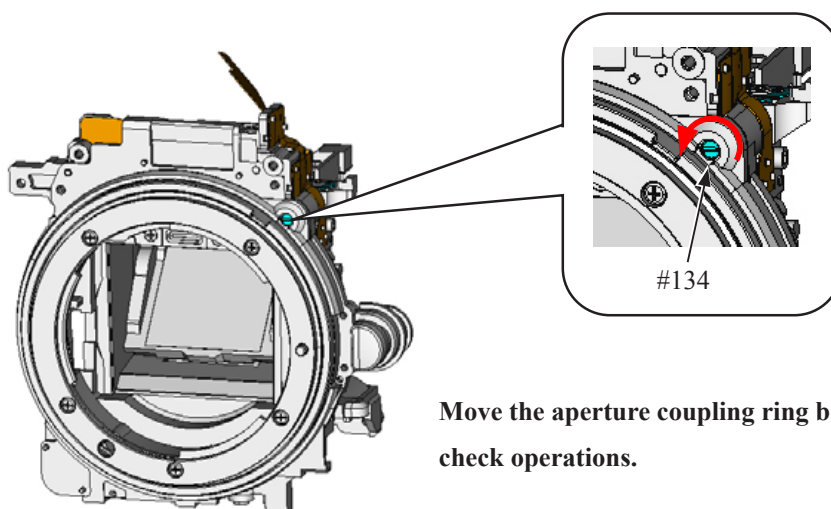
- Set the aperture coupling ring to the initial position.
- Attach the gear stopper (#136).
- Tighten the screw (#711).



Initial position



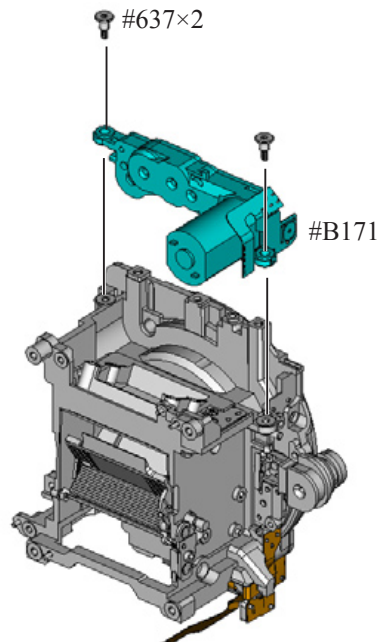
- Give the gear (#134) three turns in the direction of the arrow.



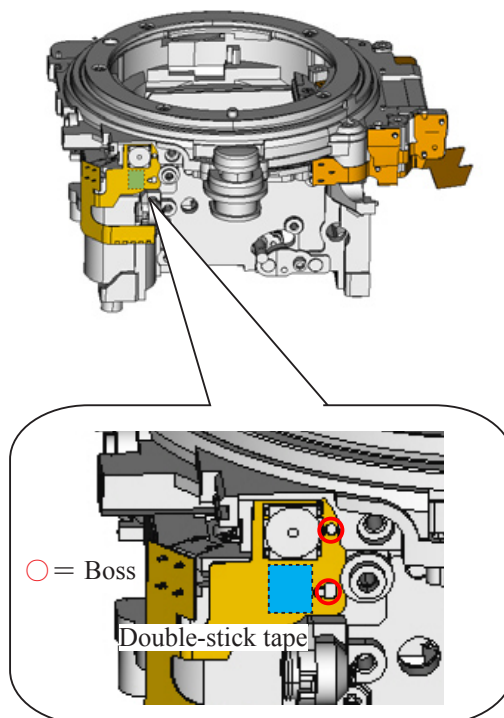
Move the aperture coupling ring back and forth slowly, and check operations.

AF motor unit

- Mount the AF motor unit (#B171).
- Tighten the two screws (#637).

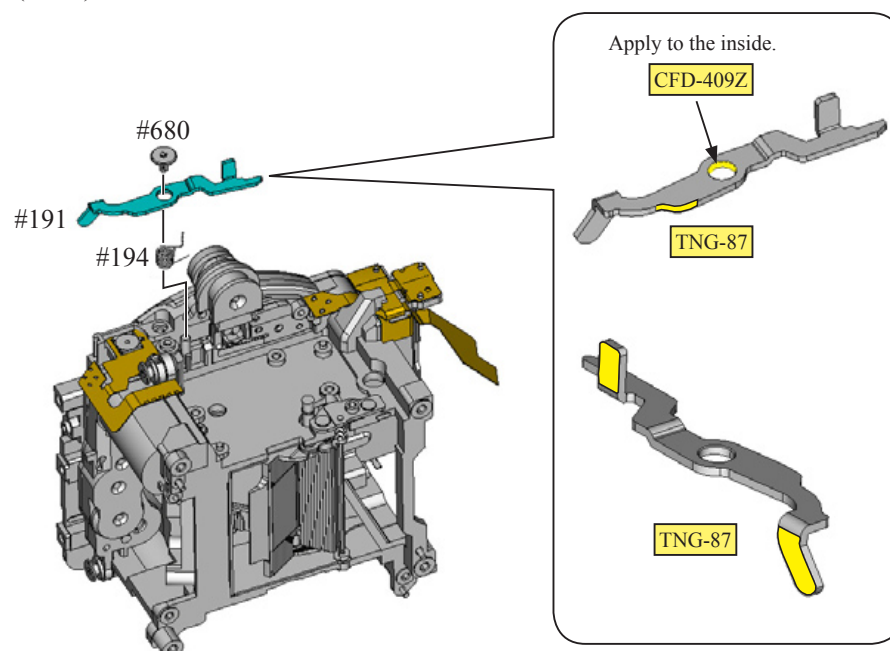


- Attach the FPC by fitting the bosses in the holes, and secure it with the double-stick tape.

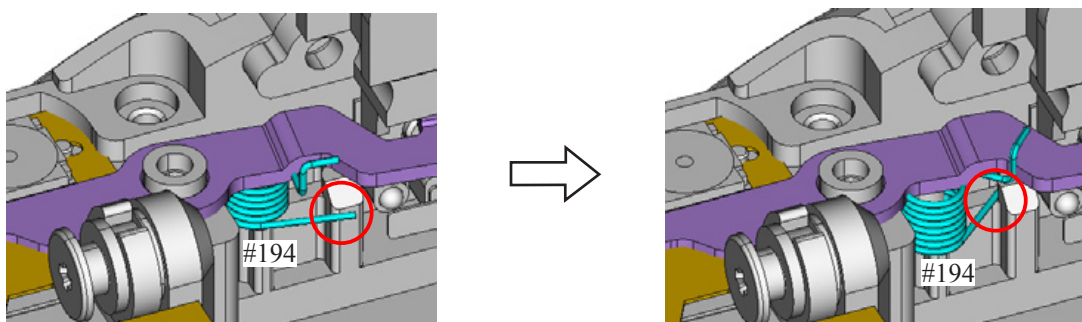


Horizontal lever/Vertical lever

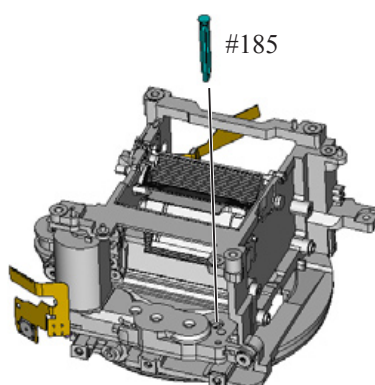
- Attach the spring (#194).
- Mount the vertical lever (#191).
- Tighten the screw (#680).



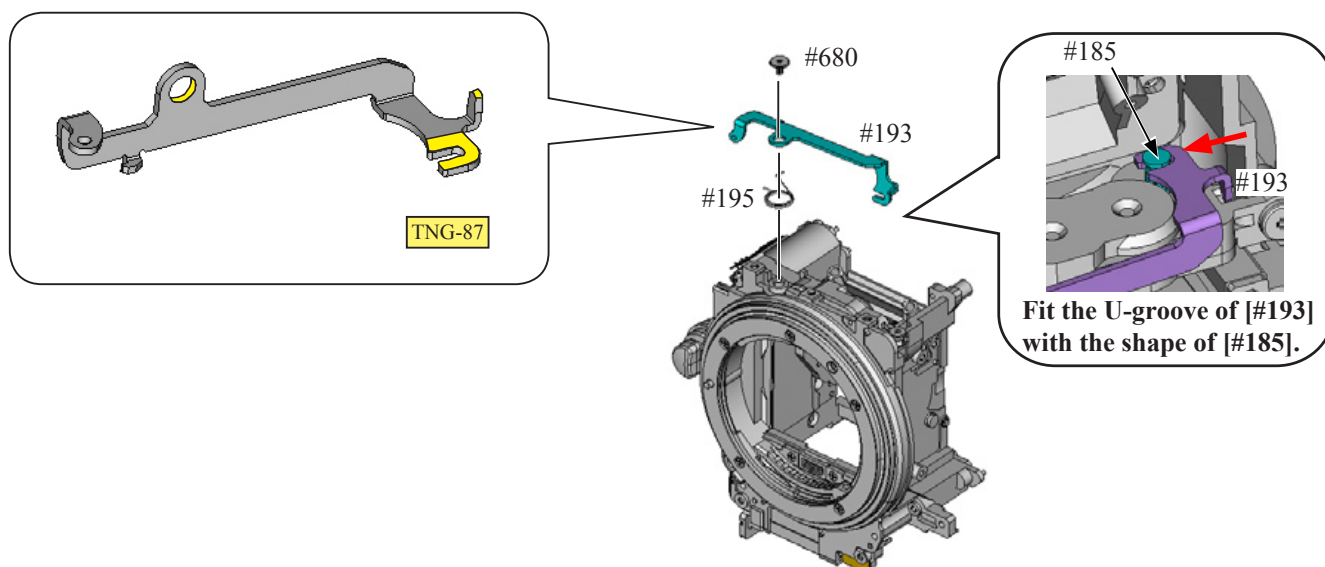
- Hook the spring (#194).



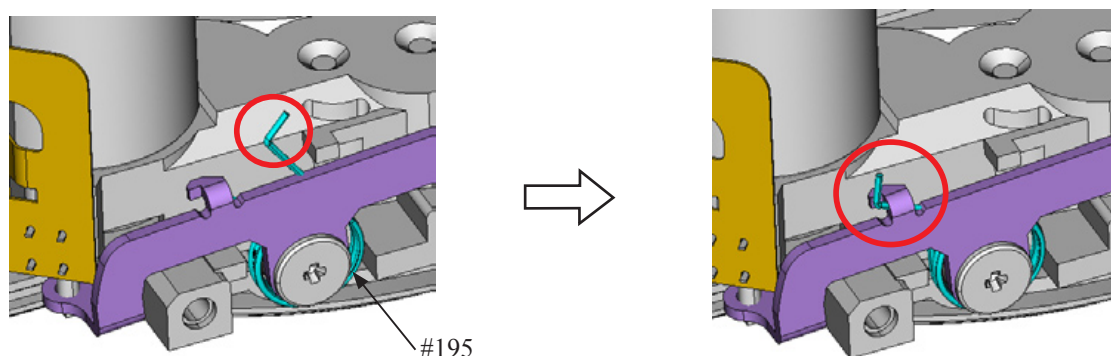
- Insert the coupling shaft (#185).



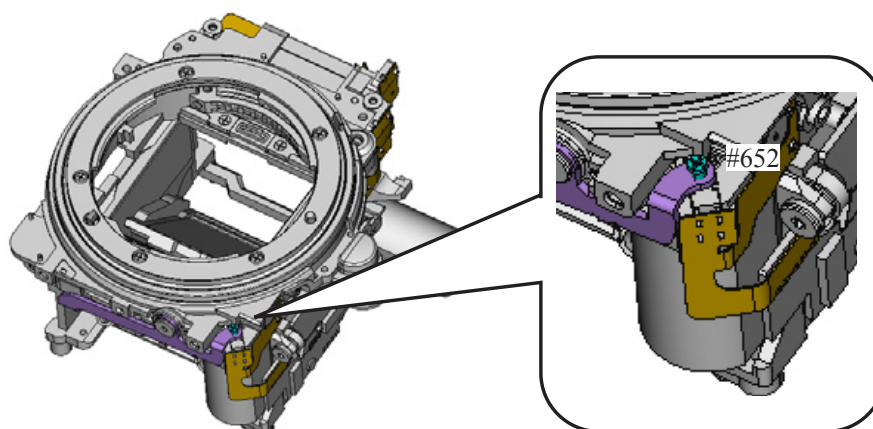
- Attach the spring (#195).
- Mount the horizontal lever (#193).
- Tighten the screw (#680).



- Hook the spring (#195).

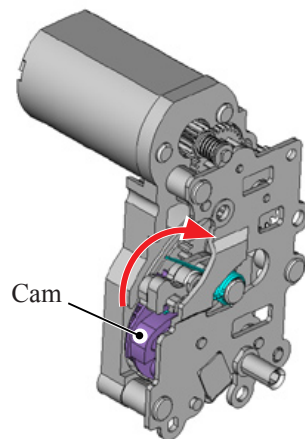


- Tighten the screw (#652).

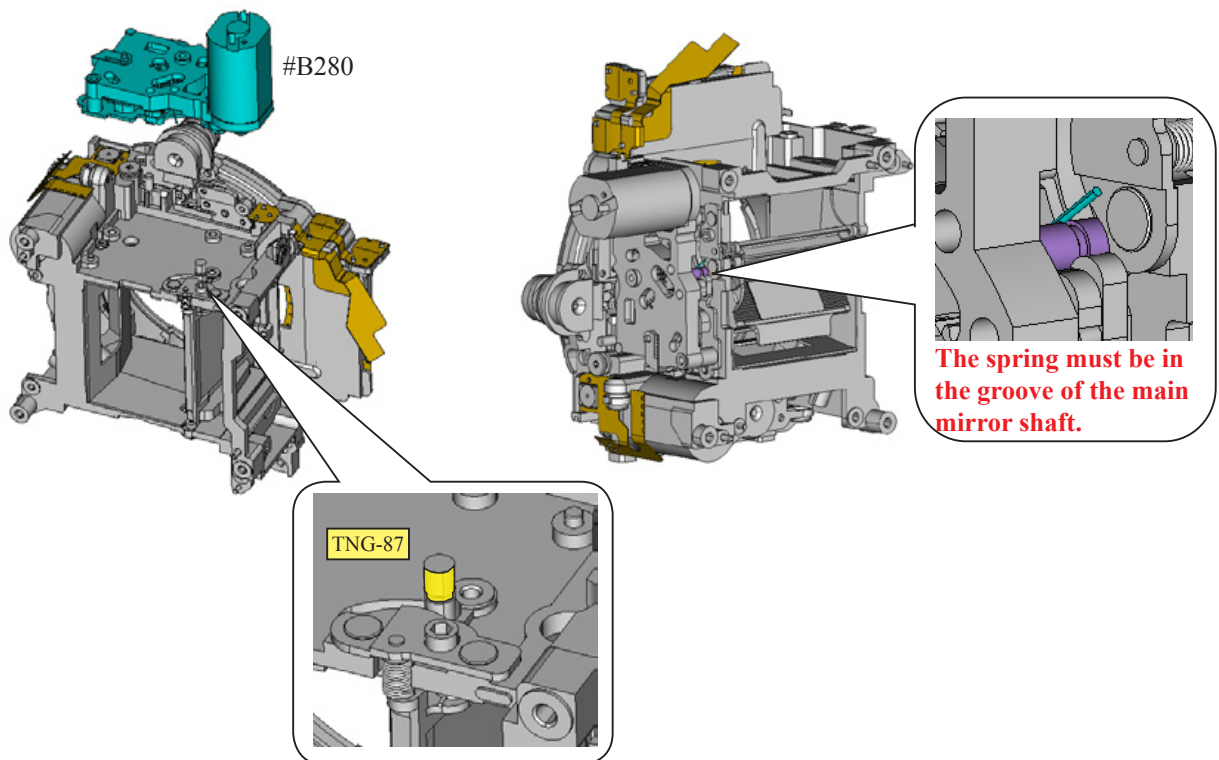


Mirror driving unit

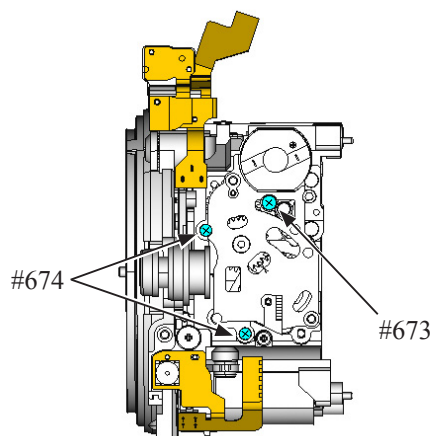
- Turn the cam all the way in the direction of the arrow.



- Raise the main mirror (to become mirror-up status), mount the mirror driving unit (#B280).

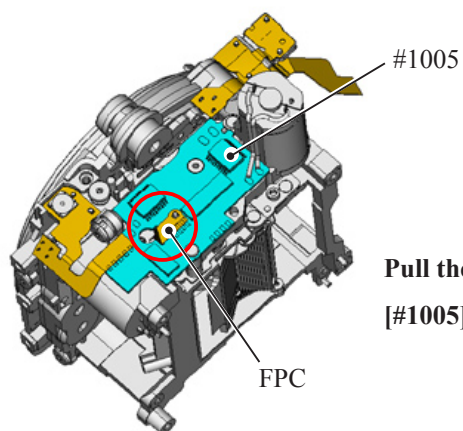


- Tighten the two screws (#674) and one screw (#673).



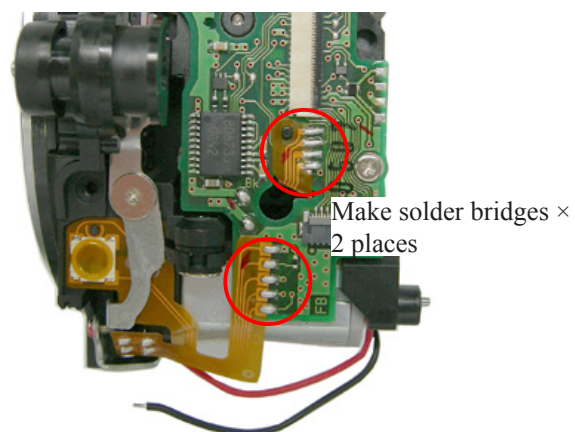
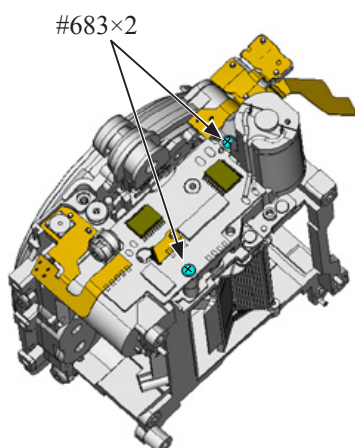
MD PCB unit

- Mount the MD PCB unit (#1005).

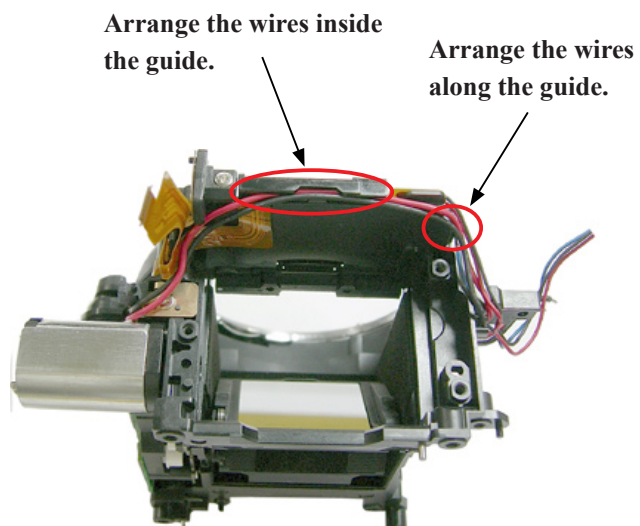
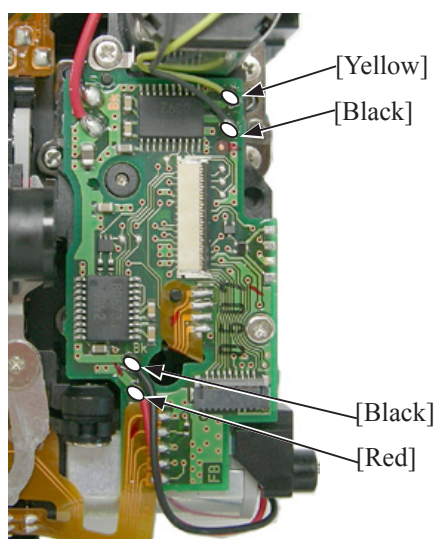


Pull the FPC out from the hole of [#1005].

- Tighten the two screws (#683).
- Make solder bridges at two places to joint the MD PCB unit (#1005).

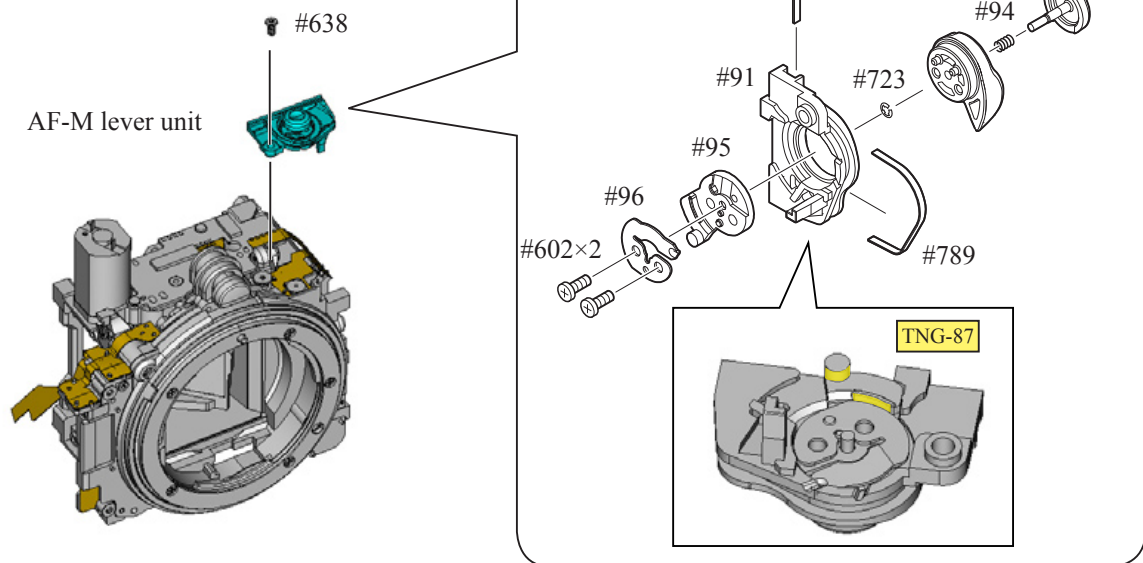


- Solder the four wires.
- Arrange the wires as shown in the below right picture.



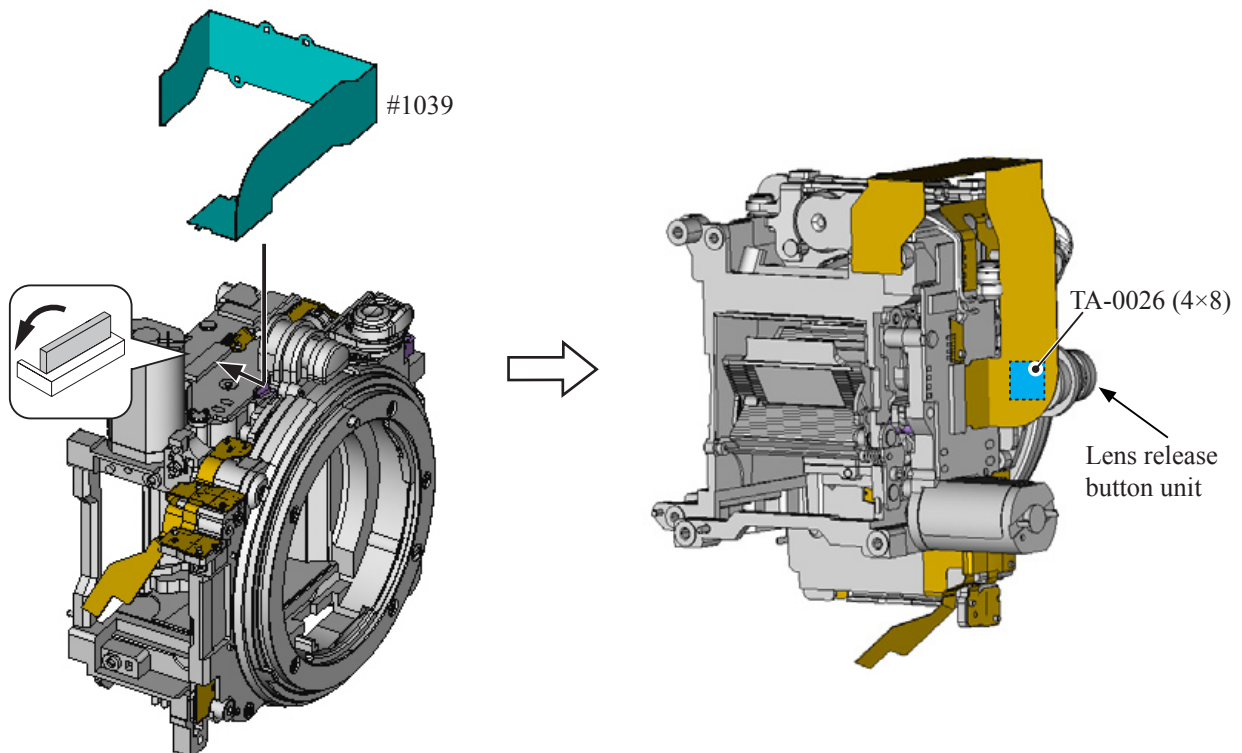
AF-M lever unit

- Mount the AF-M lever unit.
- Tighten the screw (#638).



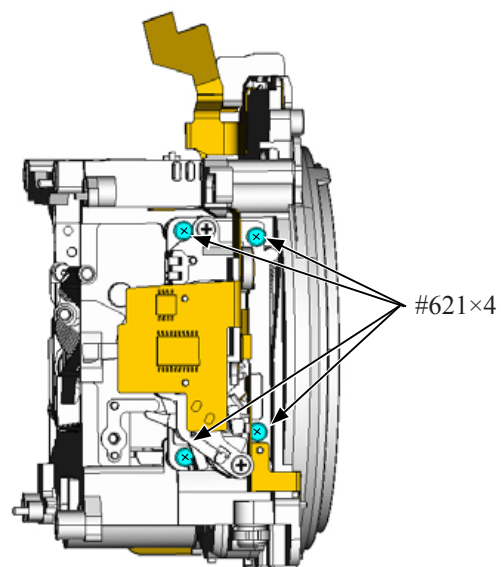
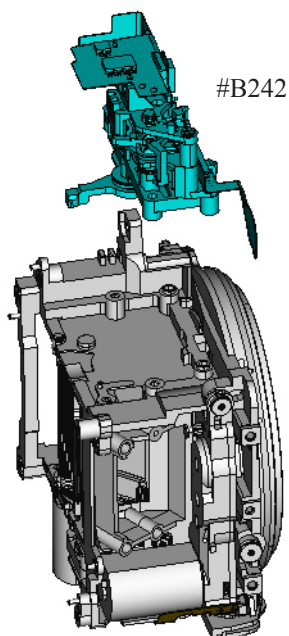
Connection-FPC

- Attach the connection-FPC (#1039).
- Secure [#1039] with the double-stick tape [TA-0026 (4×8)] of the lens release button unit.

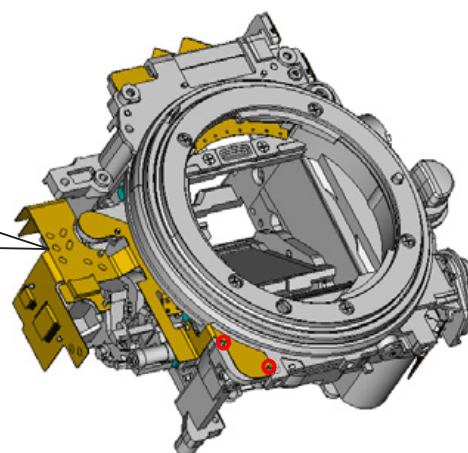
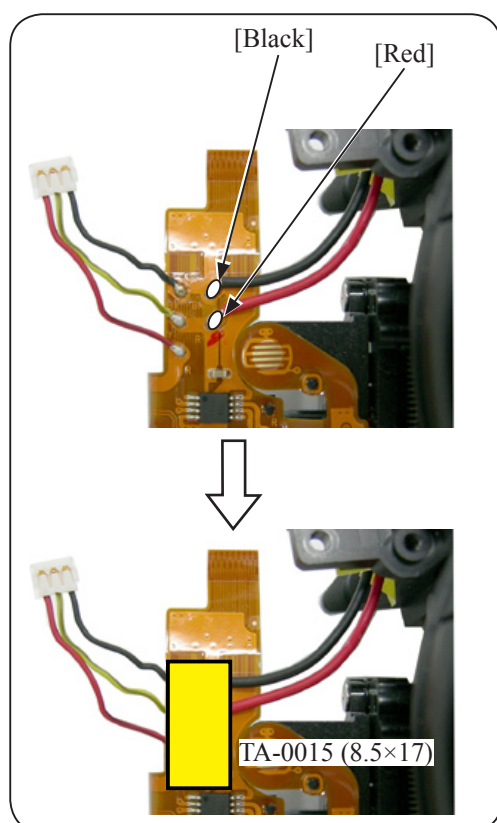


Aperture control unit

- Mount the aperture control unit (#B242).
- Tighten the four screws (#621).



- Attach the FPC by fitting the bosses in the holes.
- Solder the two wires.
- Attach the tape [TA-0015 (8.5×17)].



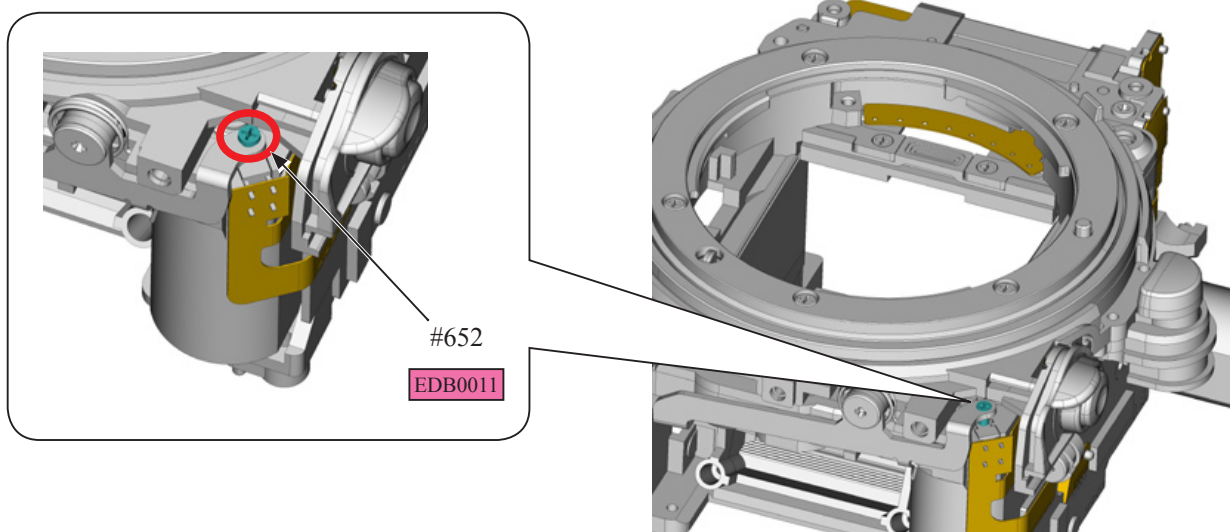
○ = Boss

Height adjustment of AF coupling shaft

- Refer to "Height adjustment of AF coupling shaft" of "D/SLR ADJUSTMENT Separate Volume ①" for details.

Standard: 1.7 ± 0.2 mm

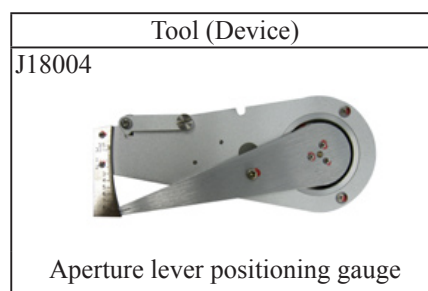
If the result does not meet the standard, turn the below adj. screw for the adjustment.



Height adjustment of aperture lever

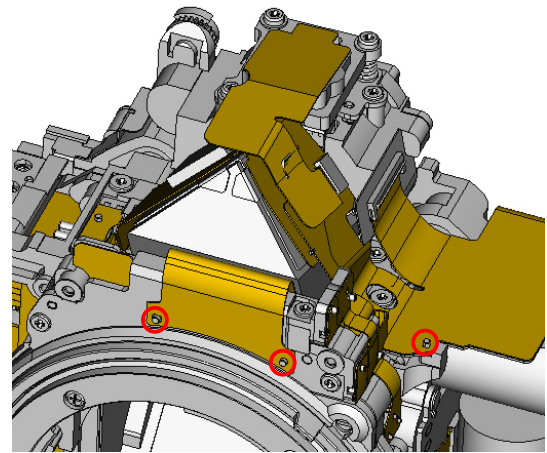
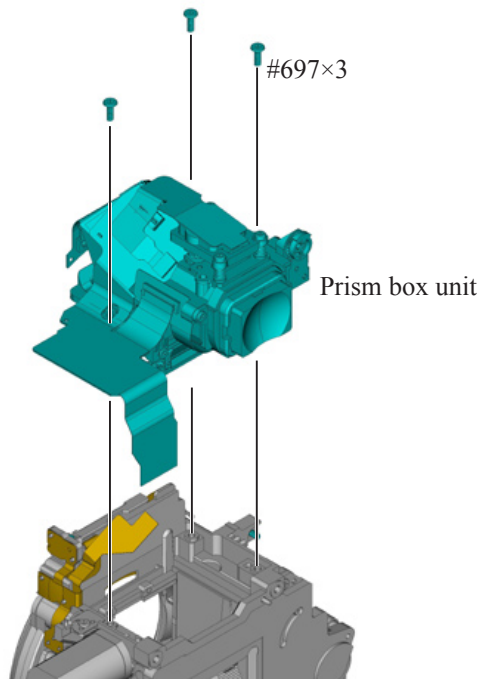
- Refer to "① Models WITHOUT adjusting mechanism of the aperture lever" of "Height adjustment of aperture lever" of D/SLR ADJUSTMENT Separate Volume ① for details.

Standard: 3.3 - 3.6 mm



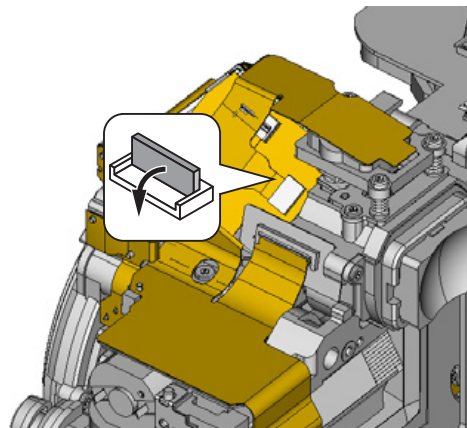
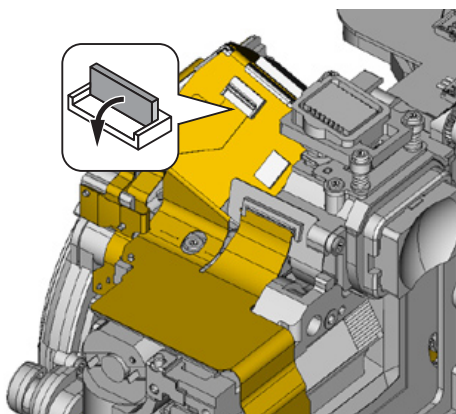
3. Mounting of Prism Box on Front Body

- Mount the prism box unit.
- Tighten the three screws (#697).
- Attach the FPC by fitting the bosses in the holes.



○ = Boss

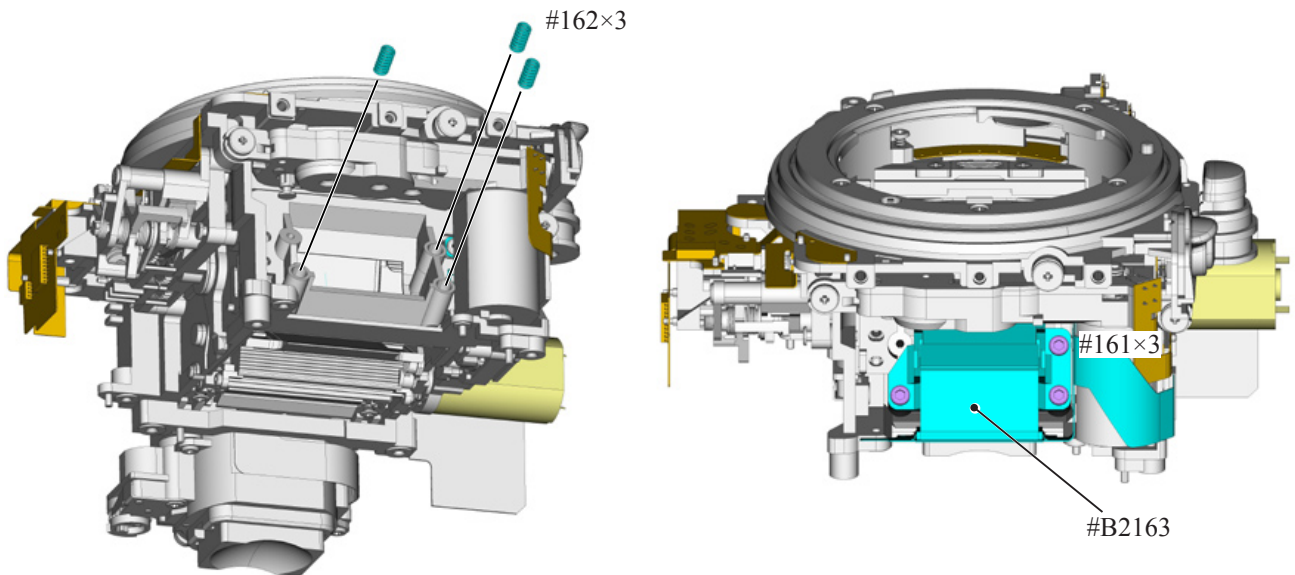
- Connect the two FPCs.



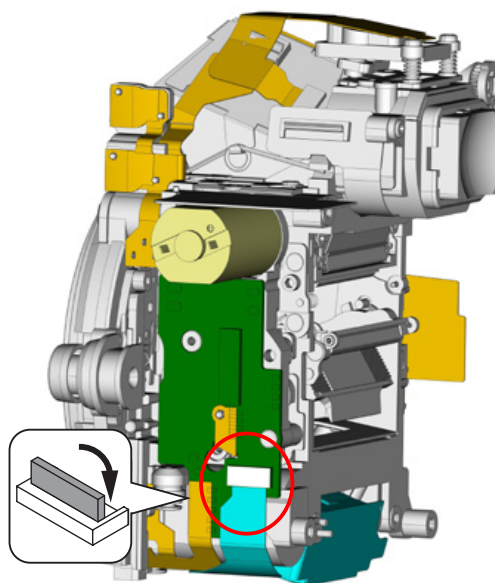
AF sensor unit

- Attach the three springs (#162).
- Mount the AF sensor unit (#B2163).
- With the hex. key ($\phi 1.5$ mm), tighten the three screws (#161).

After tightening the screws clockwise, give them 1.5-turn counterclockwise.



- Connect the FPC.



Adjustment of AF-sensor mounting base

Tool (Device) J63120

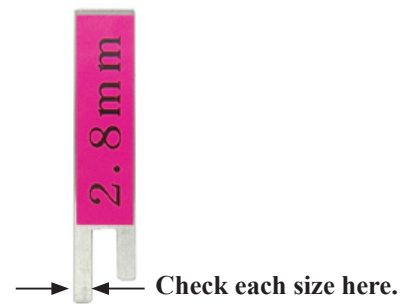
2.6 mm

2.7 mm

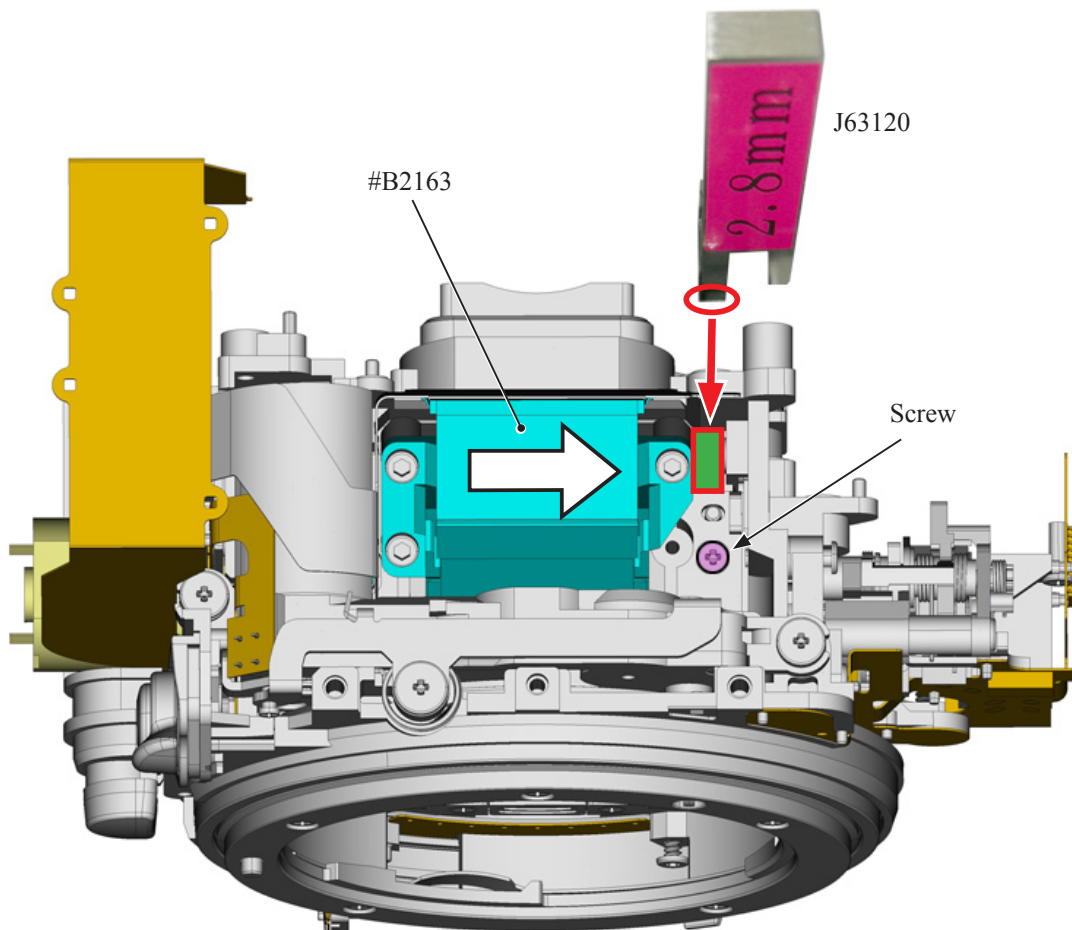
2.8 mm (reference)

2.9 mm

3.0 mm



- Loosen the screw.
- Insert the red-circled section of AF X-positioning tool (J63120) (2.8mm) into the below green-colored gap.
- Position the AF sensor unit (#B2163) in the direction of the arrow, and tighten the screw.

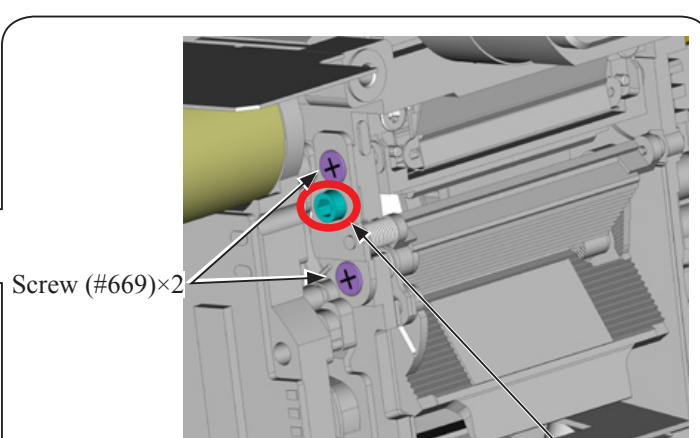
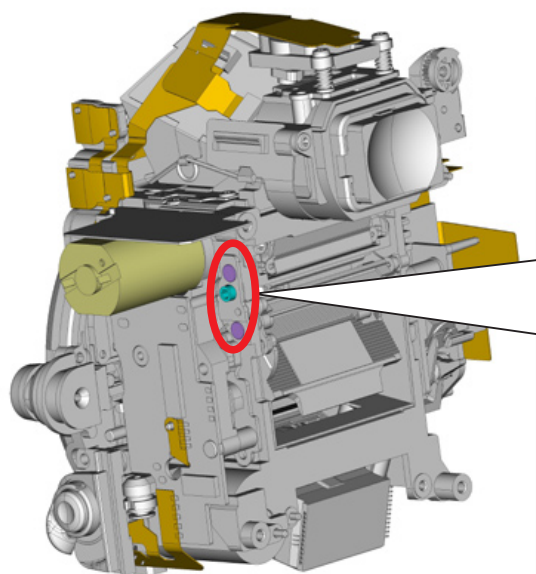


Adjustment of main mirror and sub-mirror

- Refer to "Angle adjustment of main mirror and sub-mirror" of D/SLR ADJUSTMENT Separate Volume ① for details.

Standard value of main mirror	
Up-down deviation	$0 \pm 5'$
Left-right deviation	$0 \pm 10'$

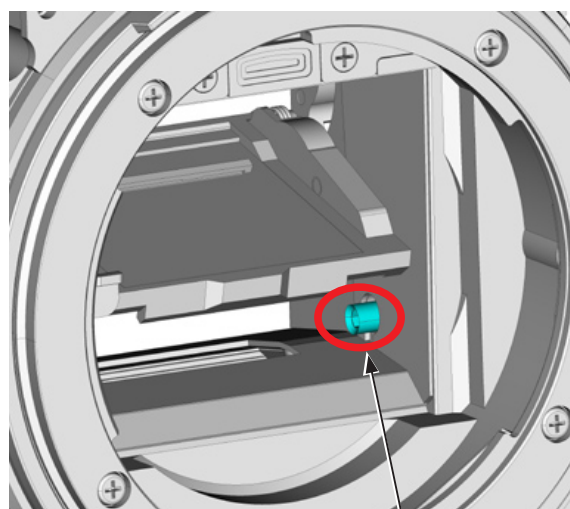
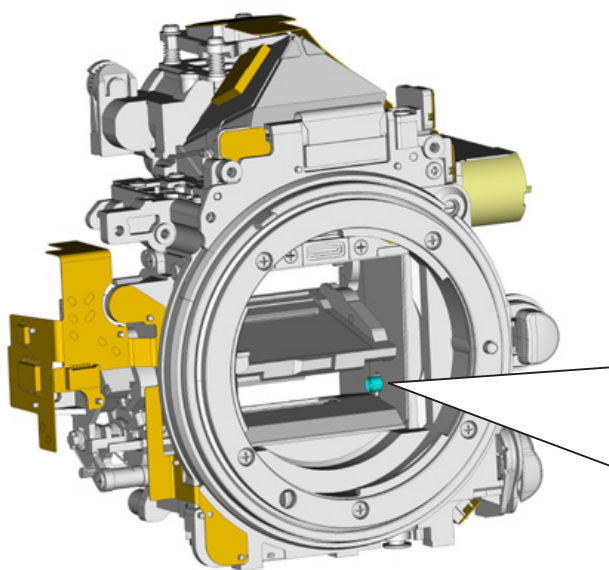
If the result does not meet the standard, make the adjustment by turning the below eccentric pin with the hex. key wrench ($\phi 1.5\text{mm}$).



Screw (#669)×2

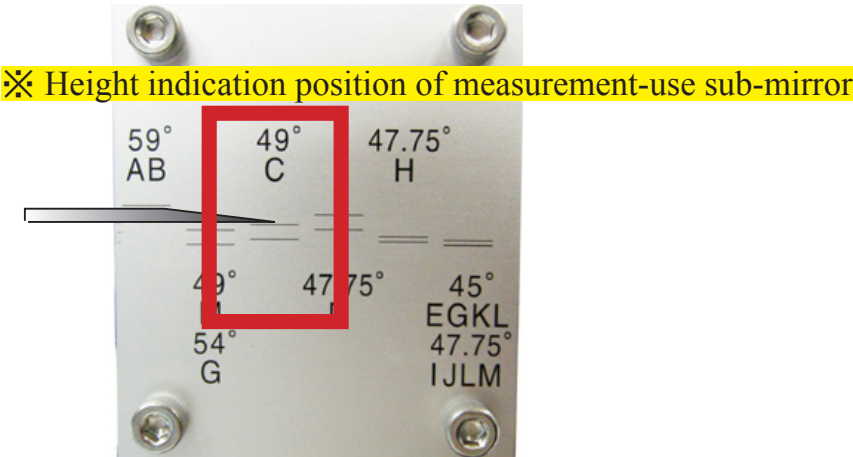
Eccentric pin for left-right adjustment of main mirror

Loosen the two screws (#669), and turn this eccentric pin for left-right adjustment of the main mirror.

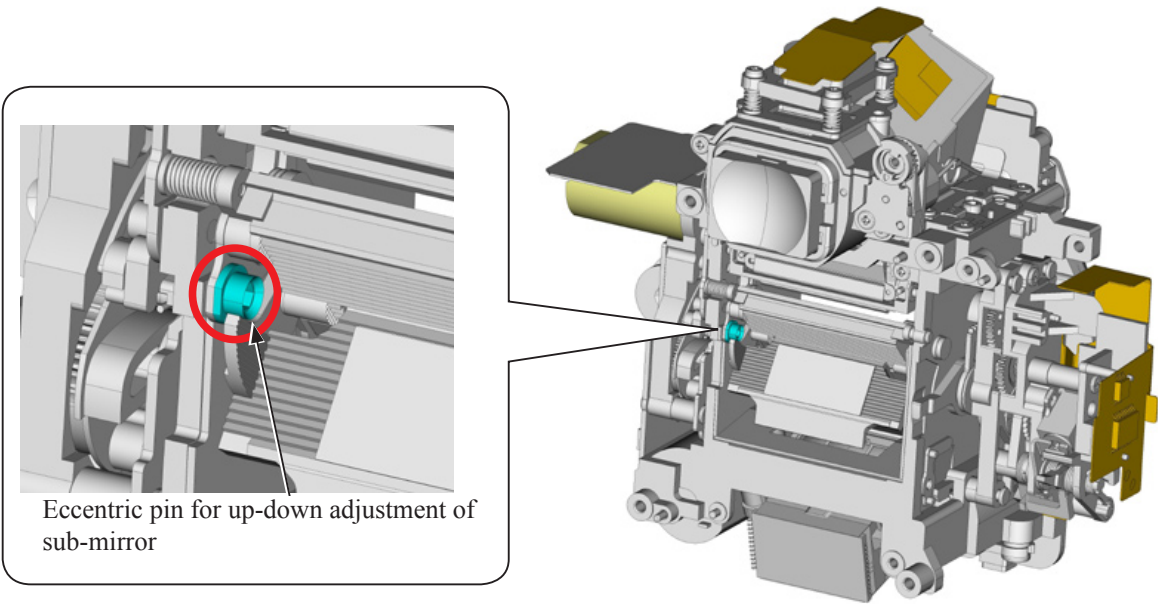


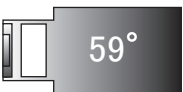
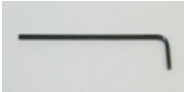
Eccentric pin for up-down adjustment of main mirror

Standard value of sub-mirror (59°angle [for D200/D300])	
Up-down deviation	0±5'
Left-right deviation	—



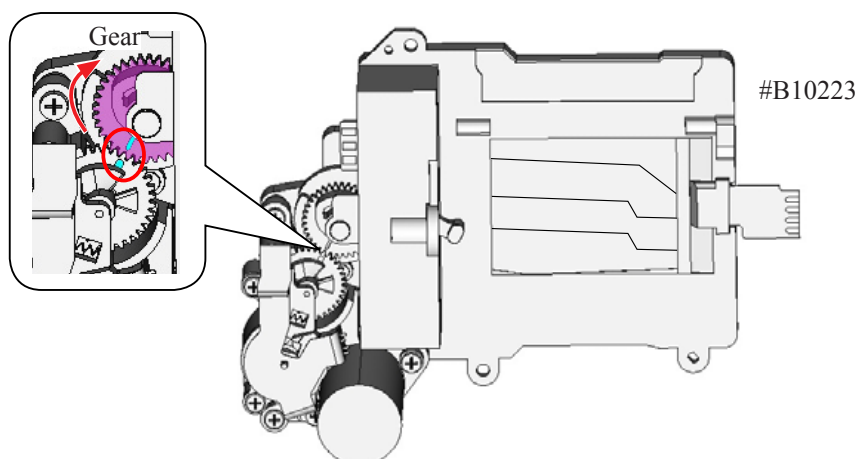
If the result does not meet the standard, make the adjustment by turning the below eccentric pin with the hex. key wrench (φ1.5mm).



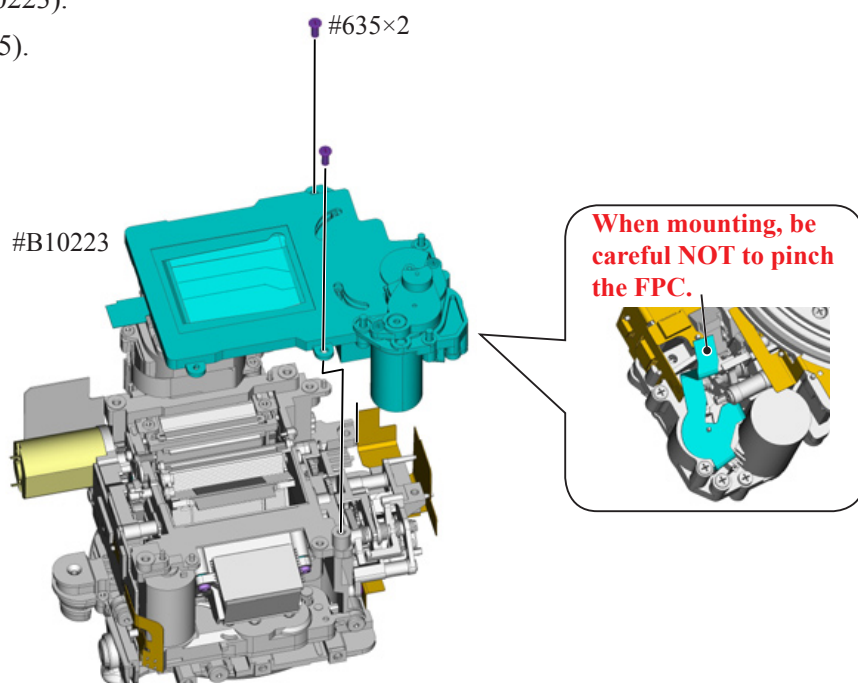
Tool (device)			
J19132  Main/Sub mirror angle inspection tool	J19132B  measurement-use mirror 59 ° (for D300/D200)	J18389  Reflection mirror	 Hex. key wrench (φ 1.5 mm)

Shutter unit

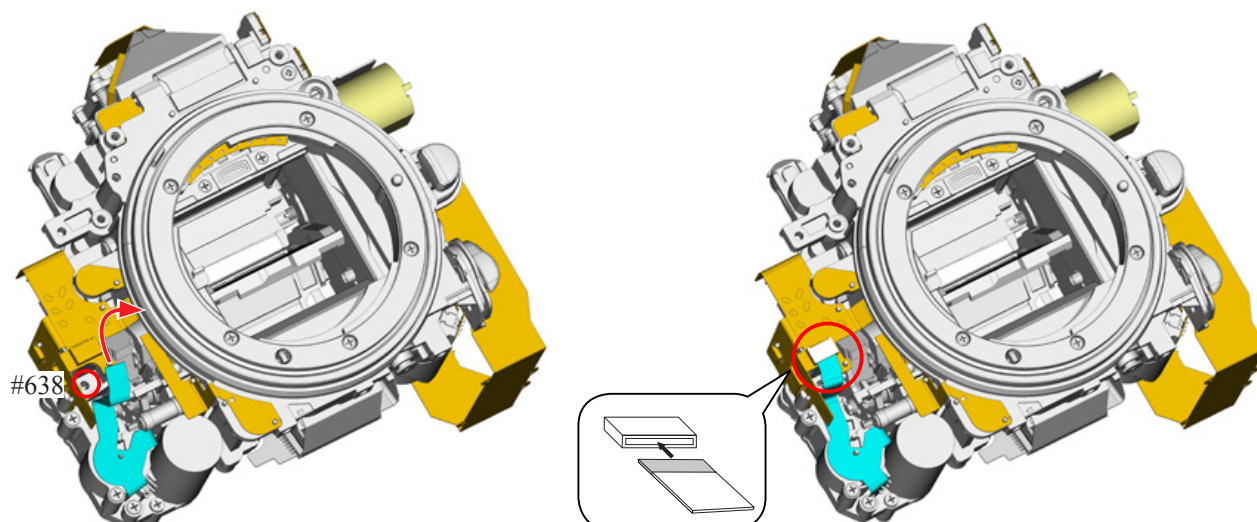
- Turn the gear in the direction of the arrow, and align the indexes.



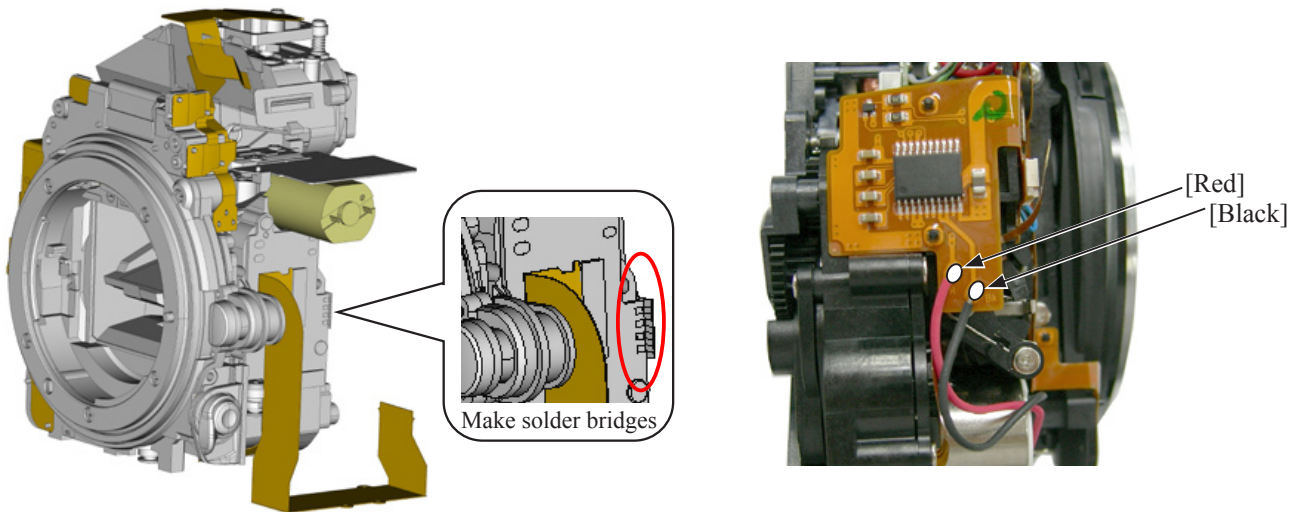
- Mount the shutter unit (#B10223).
- Tighten the two screws (#635).



- Slacken the FPC, and tighten the screw (#638).
- Connect the FPC.

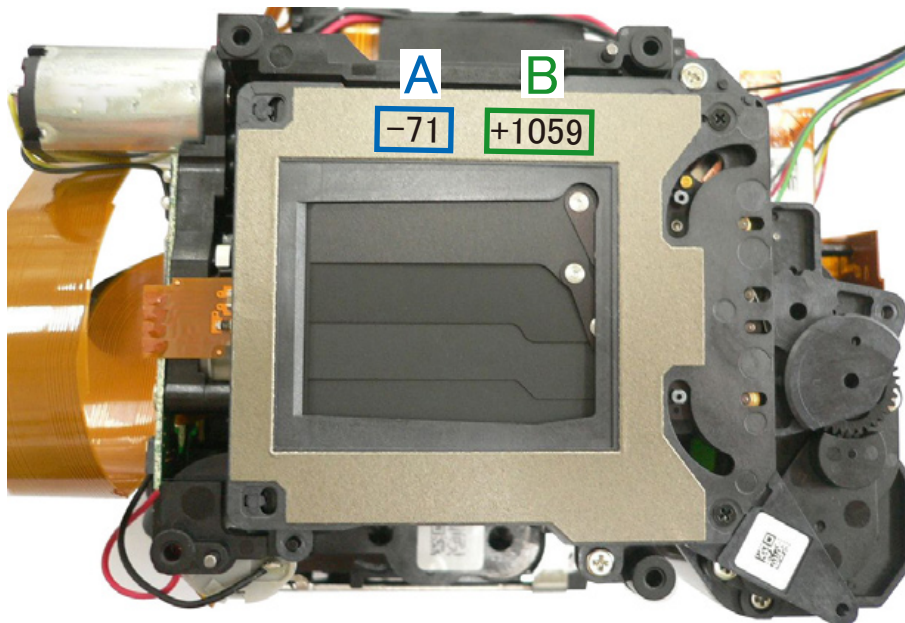


- Make solder bridges to joint the MD PCB unit (#1005).
- Solder the two wires.



X-delay adjustment value

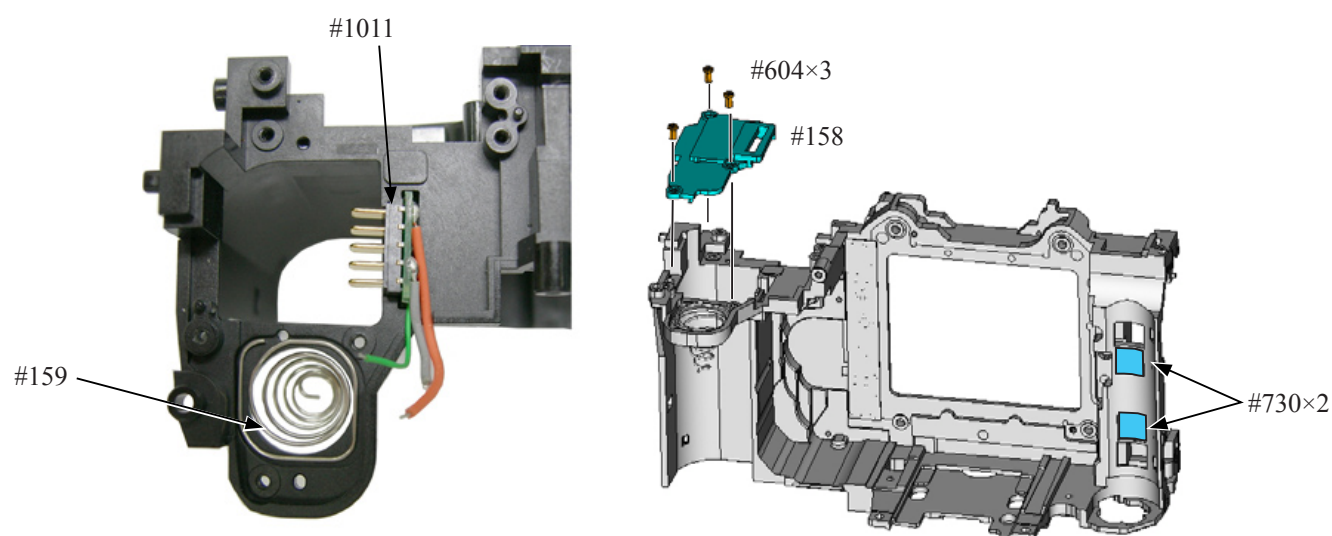
Take a note of the data (A/B value) that are imprinted on the shutter (see below), because they will be necessary to be input when the camera body (except imaging) adjustment is made.



4. Rear Body

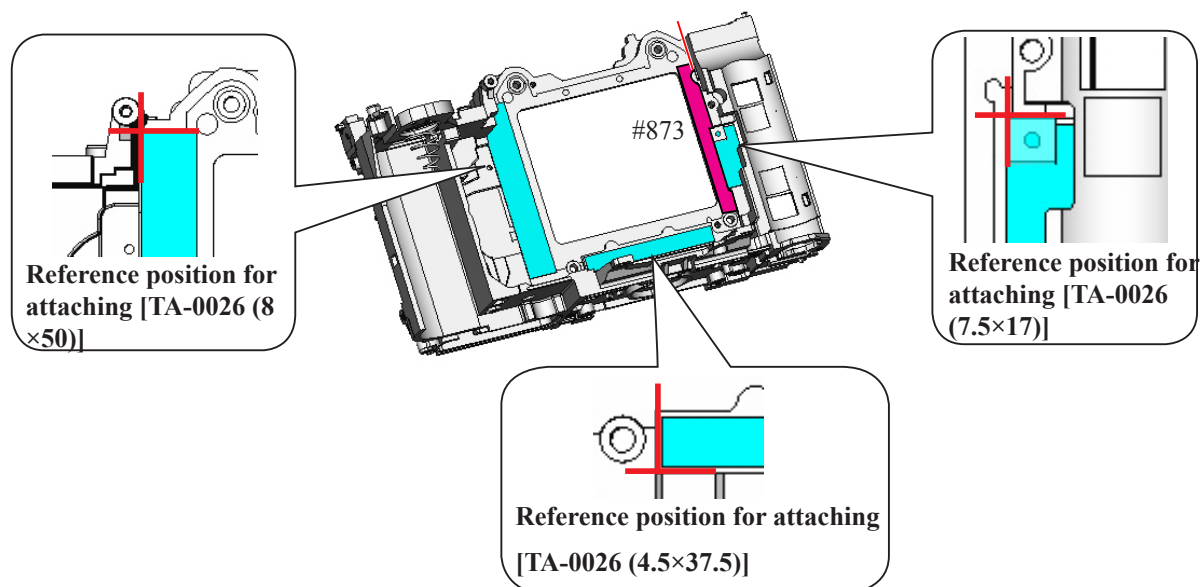
Battery contact

- Attach the battery-eject spring (#159).
- Mount the battery contact unit (#1011).
- Mount the battery-eject spring plate (#158).
- Tighten the three screws (#604).
- Attach the two pieces of the tape (#730).



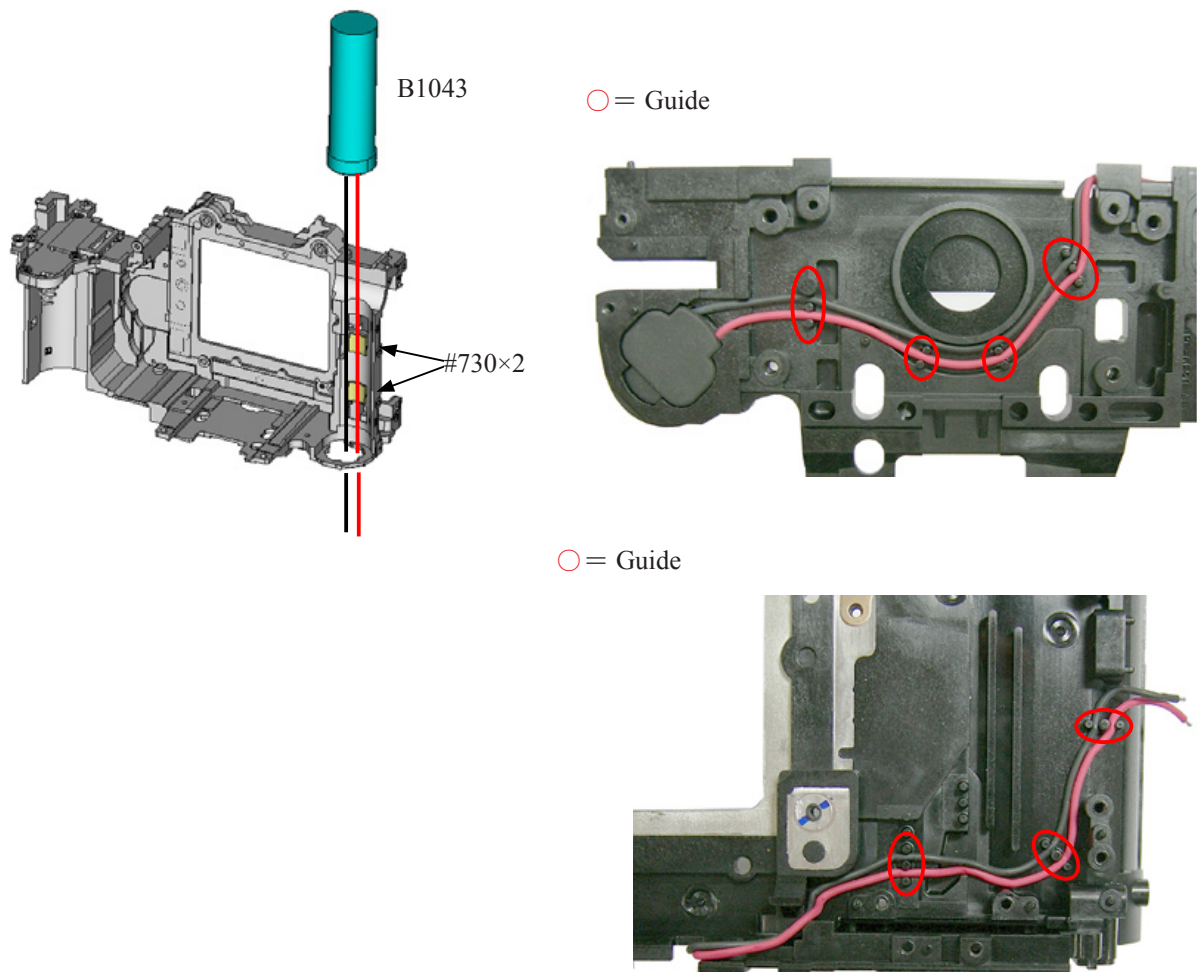
- Attach the each double-stick tape [TA-0026 (8×50), (7.5×17), and (4.5×37.5)].
- Attach the shield sheet (#873).

Reference position for attaching [#873]

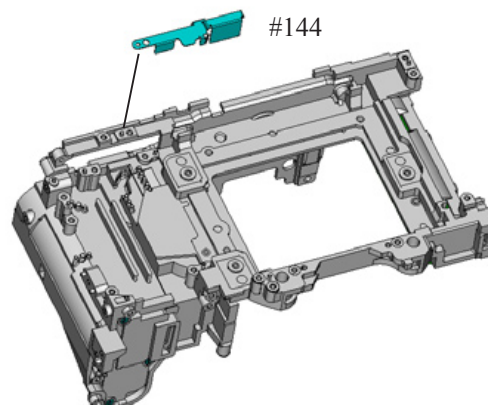


Main condenser unit

- Mount the main condenser unit (#B1043), and attach the two pieces of the double-stick tape (#730).
- Arrange the wires as below.

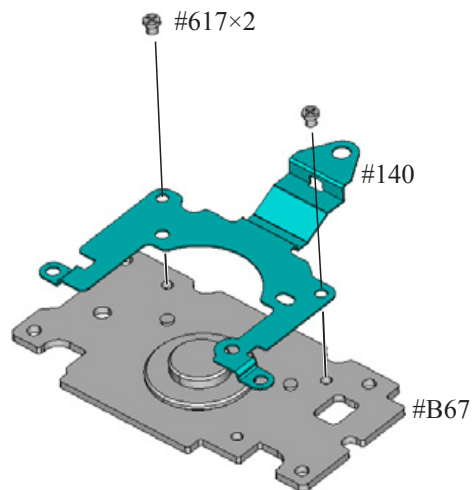


- Mount the GND plate (#144).

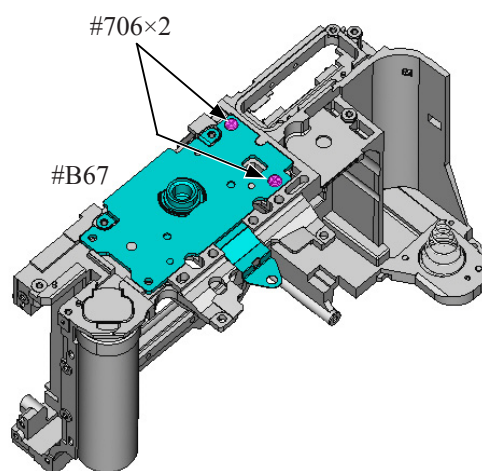


Bottom base unit

- Mount the GND plate (#140) on the bottom base unit (#B67).
- Tighten the two screws (#617).

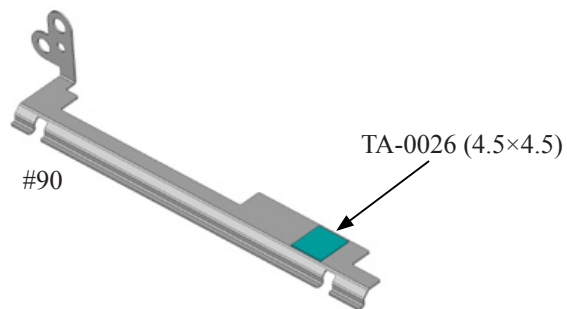


- Mount the bottom base unit (#B67).
- Tighten the two screws (#706).

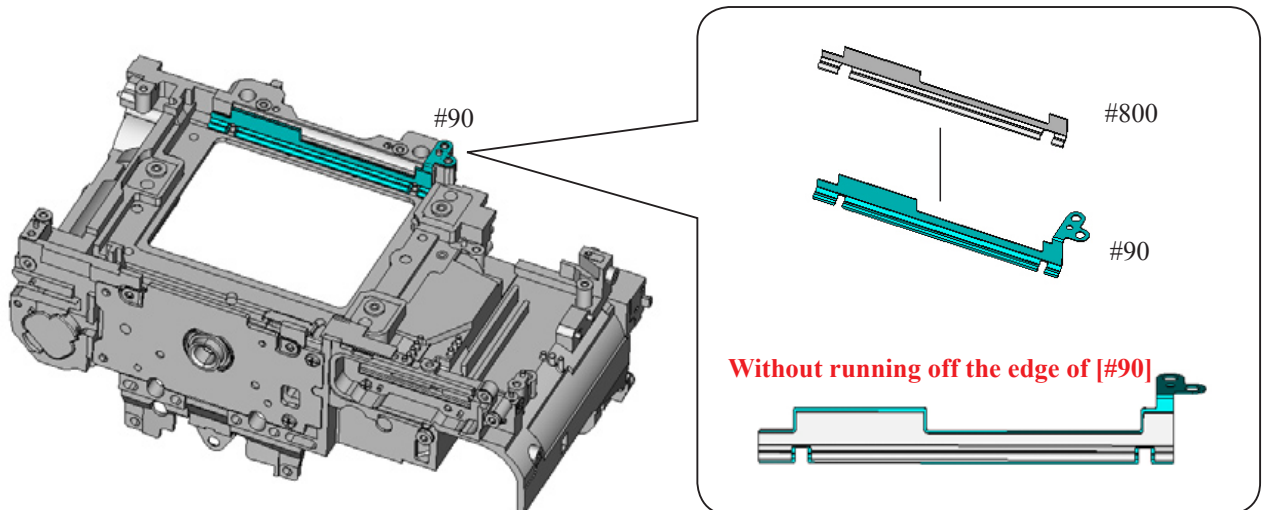


Shield plate/GND plate

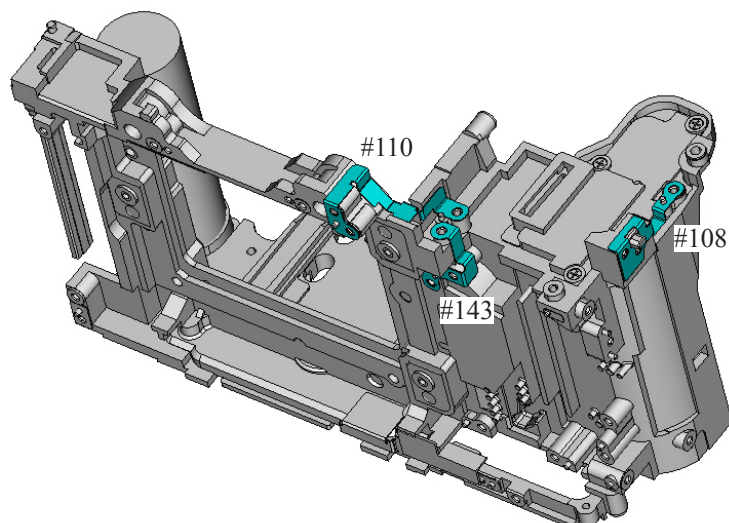
- Attach the tape [TA-0026 (4.5×4.5)] to the shield plate (#90).



- Attach the shield sheet (#800) to the shield plate (#90).
- Mount the shield plate (#90).

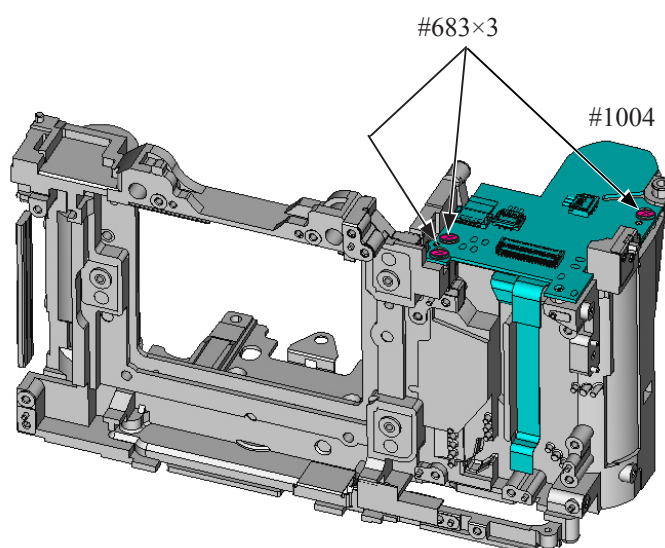


- Mount the each GND plate (#110, #143, and #108).

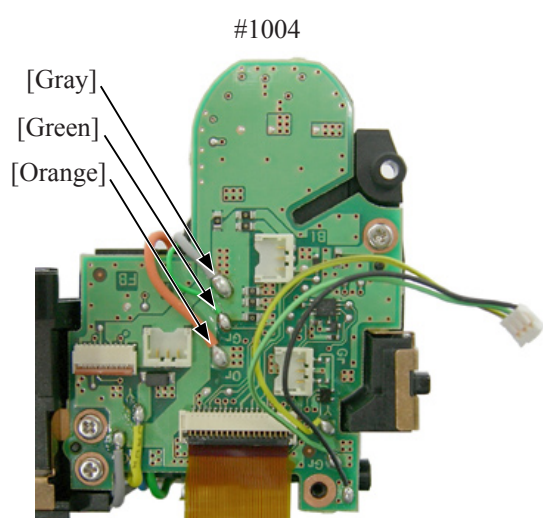


PD PCB unit

- Mount the PD PCB unit (#1004).
- Tighten the three screws (#683).

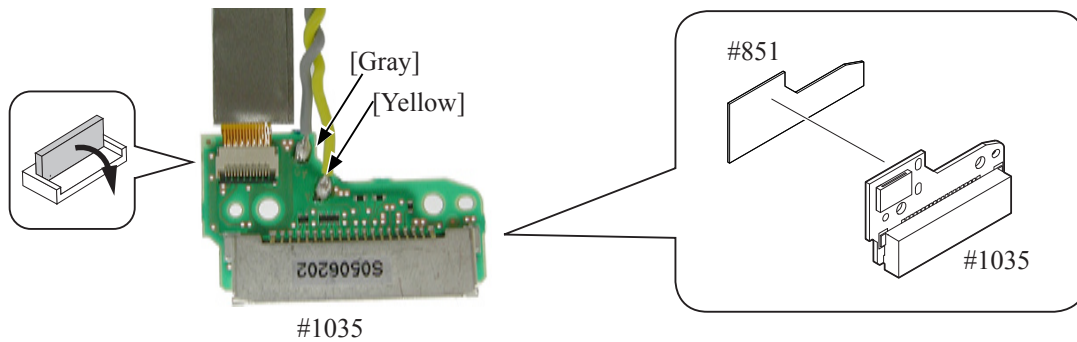


- Solder the three wires.

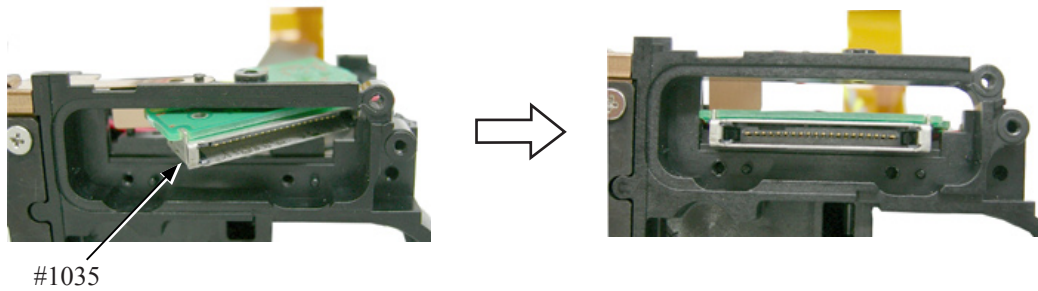


Connector PCB unit

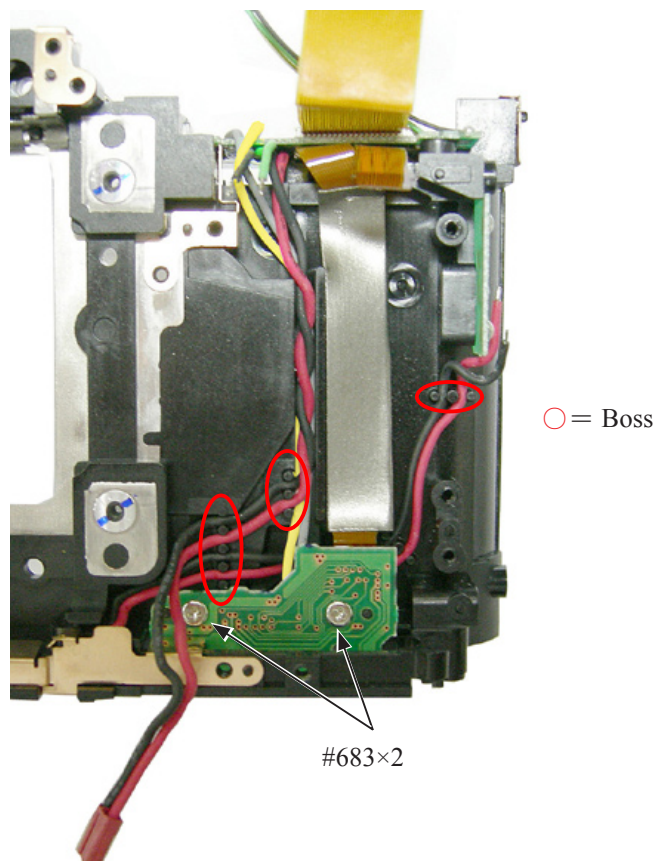
- Solder the two wires.
- Connect the FPC of the connector PCB unit (#1035).



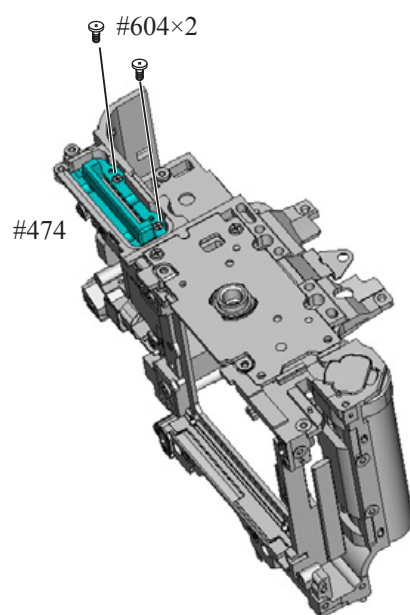
- Mount the connector PCB unit (#1035) by sliding it.



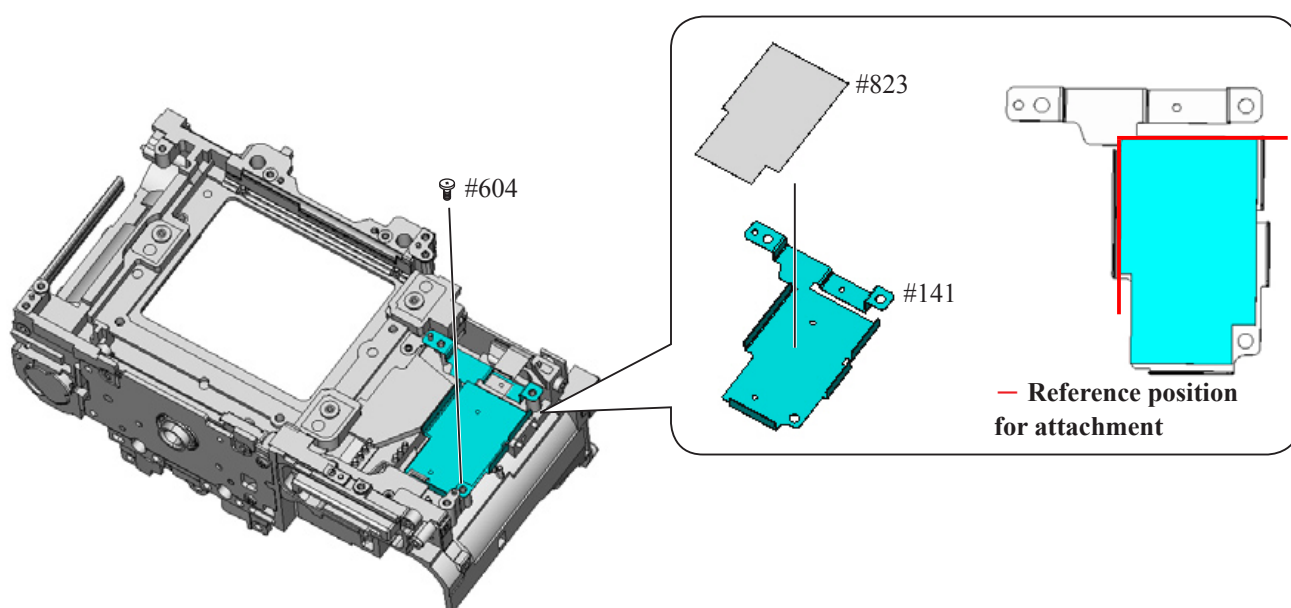
- Arrange the wires as below.
- Tighten the two screws (#683).



- Mount the battery pack connector cover (#474).
- Tighten two screws (#604).

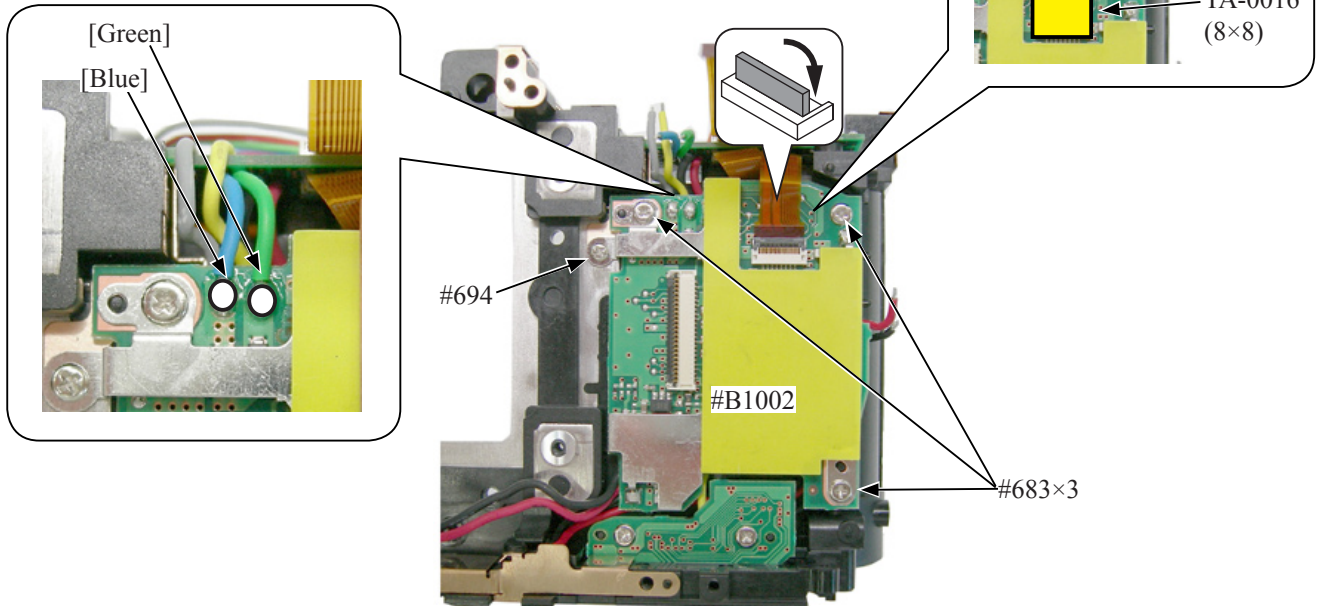


- Attach the tape (#823) to the GND plate (#141), and mount them.
- Tighten the screw (#604).

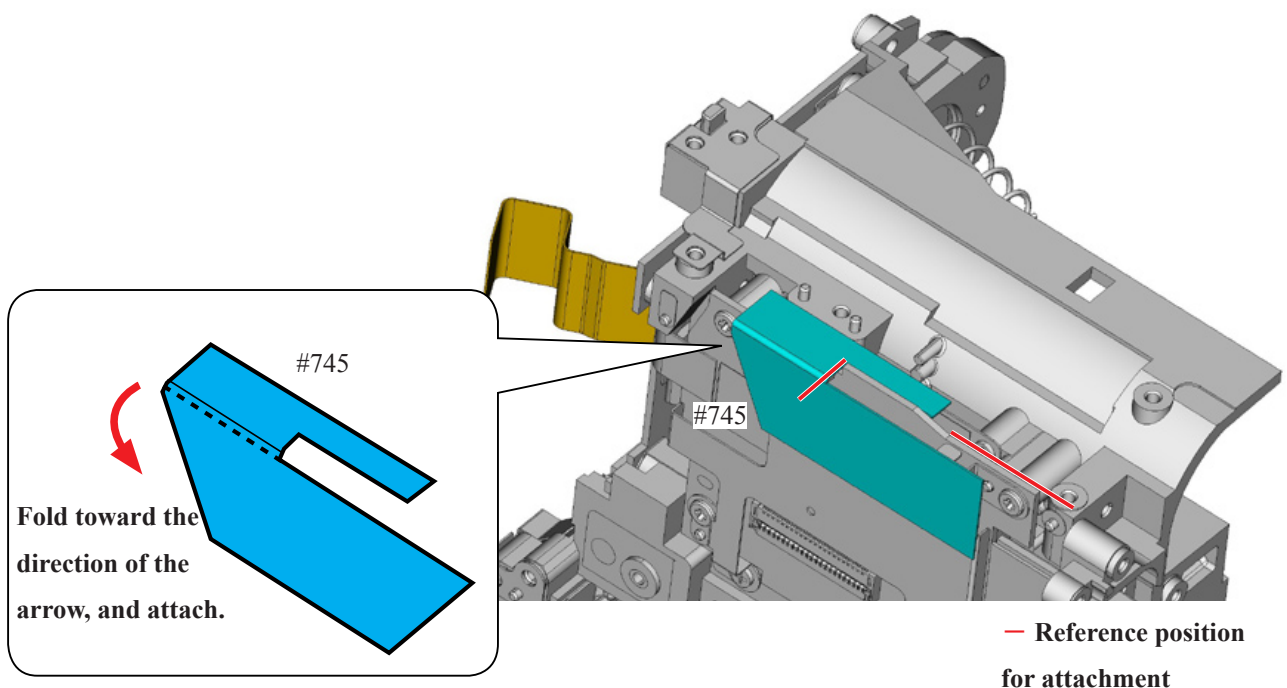


DCDC ISC PCB unit

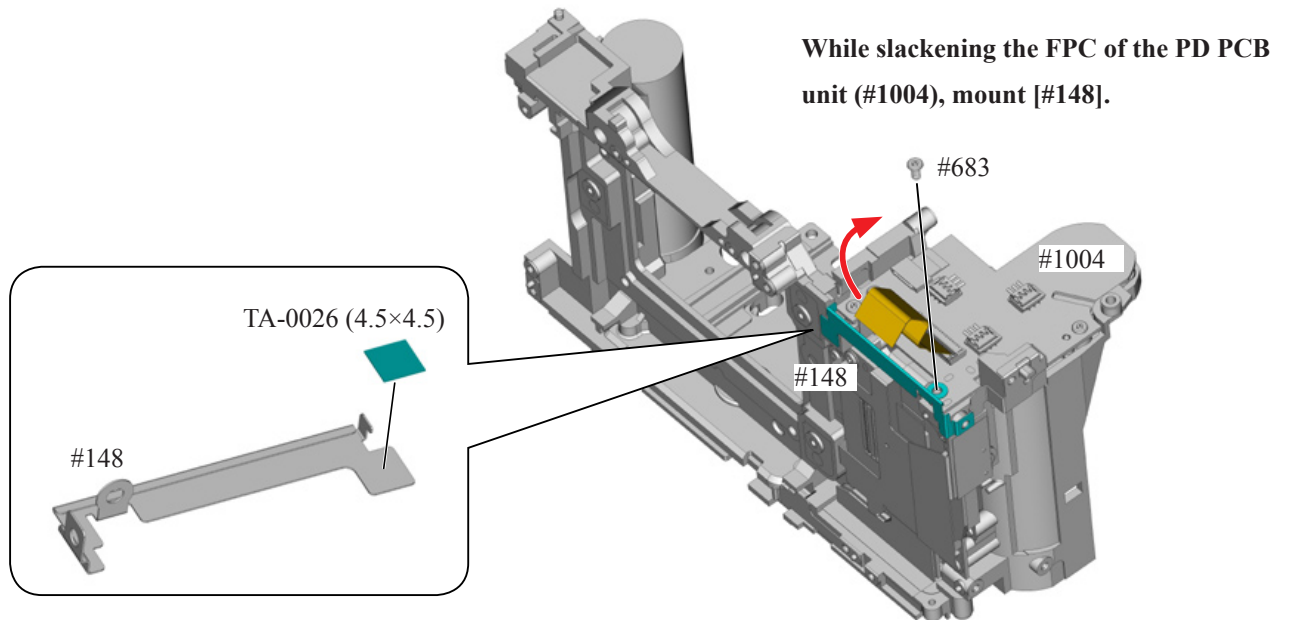
- Mount the DCDC ISC PCB unit (#B1002).
- Tighten the three screws (#683).
- Tighten the screw (#694).
- Connect the FPC.
- Attach the tape [TA-0016 (8×8)].
- Solder the two wires.



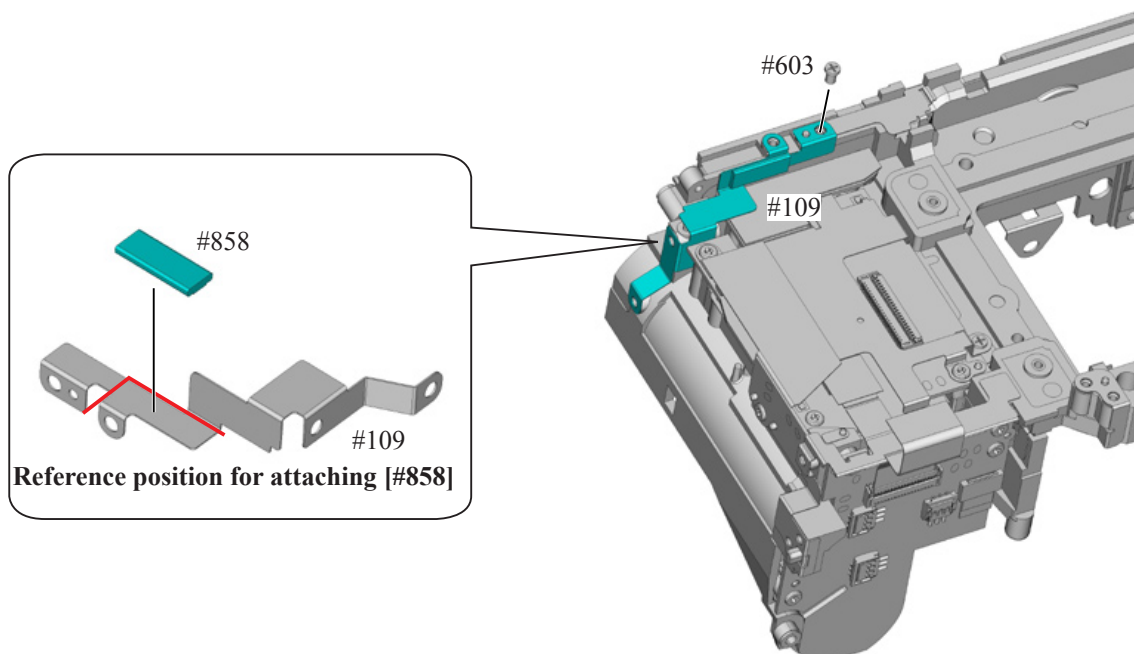
- Attach the sheet (#745).



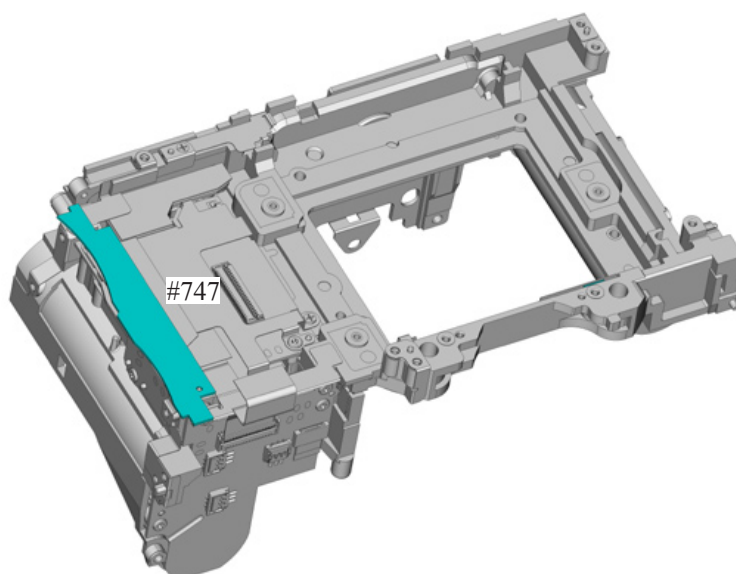
- Attach the double-stick tape [TA-0026 (4.5×4.5)] to the GND plate (#148).
- Mount the GND plate (#148).
- Tighten the screw (#683).



- Attach the gasket (#858) to the GND plate (#109).
- Mount the GND plate (#109).
- Tighten the screw (#603).

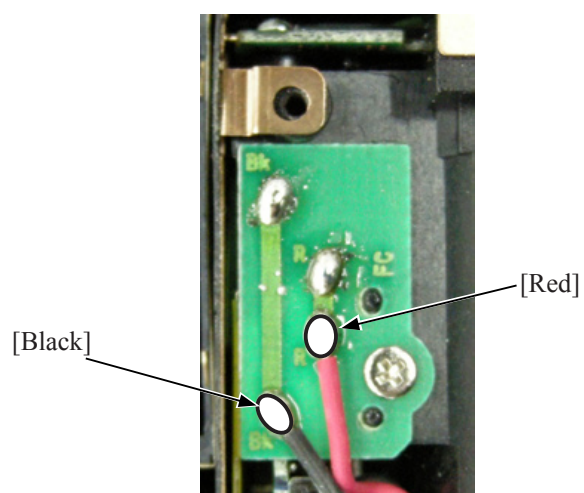
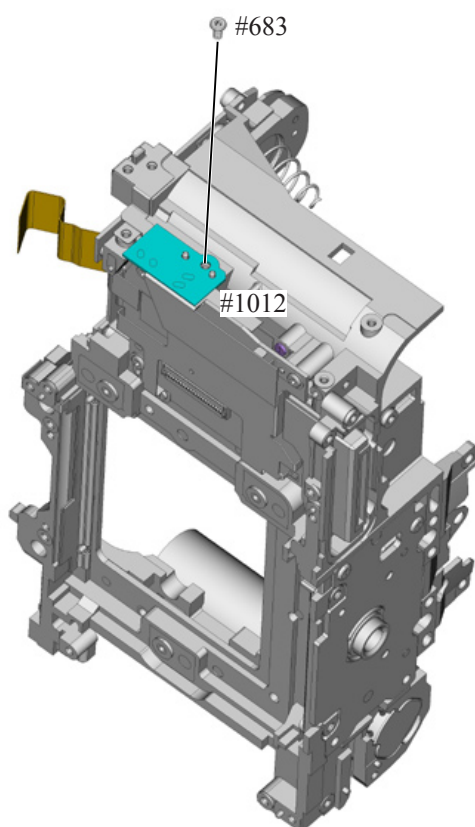


- Attach the tape (#747).



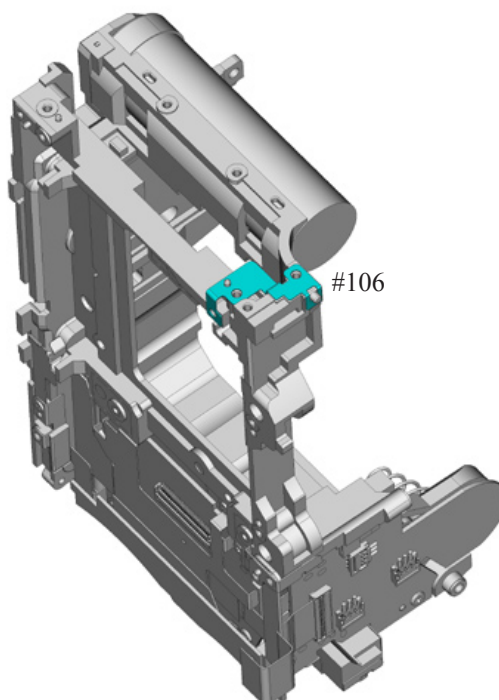
Relay-PCB

- Mount the relay-PCB (#1012).
- Tighten the screw (#683).
- Solder the two wires.

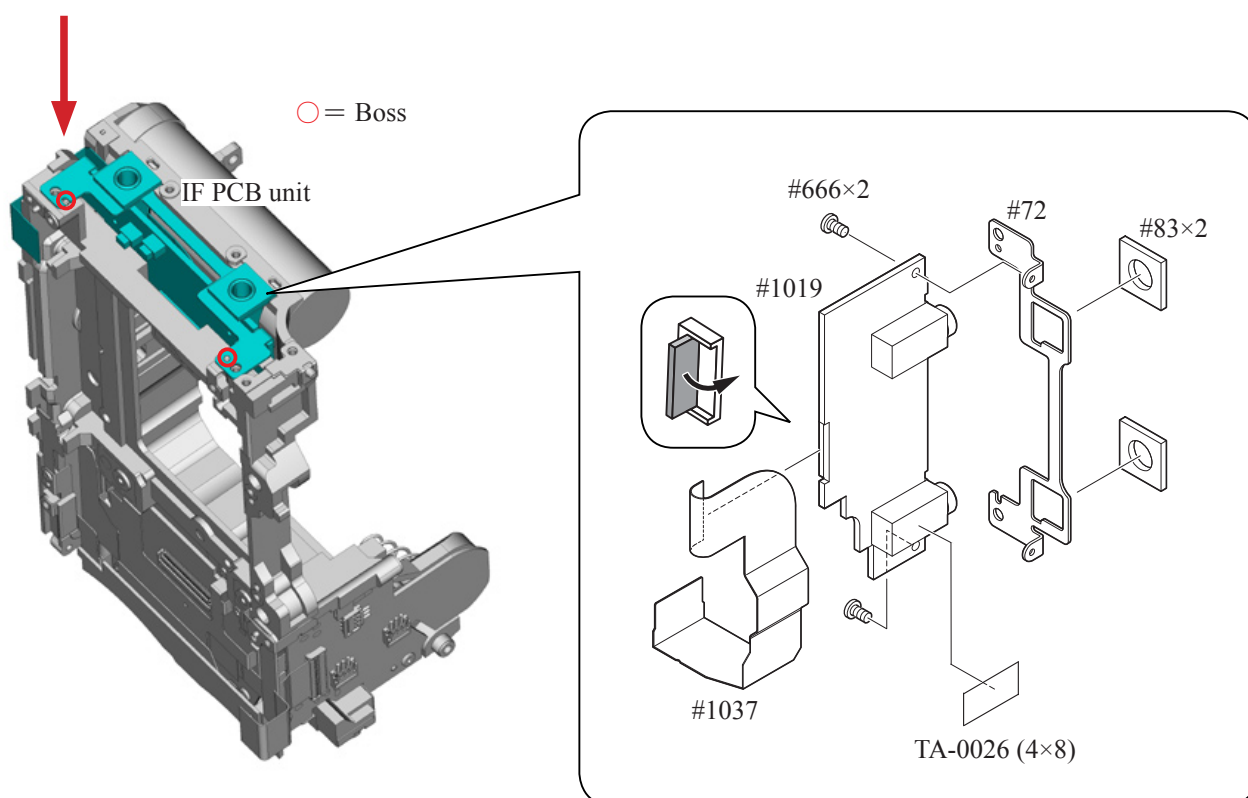


IF PCB unit

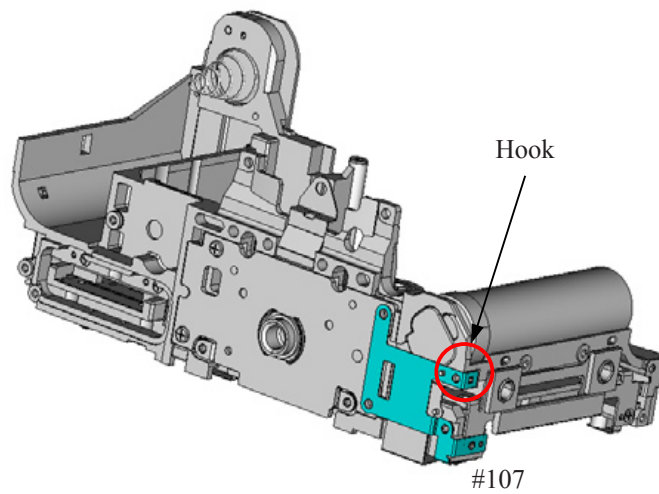
- Mount the GND plate (#106).



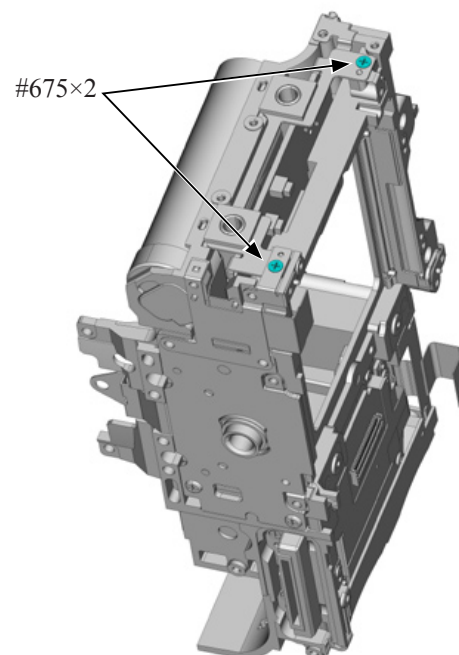
- Mount the IF PCB unit (#B1019).



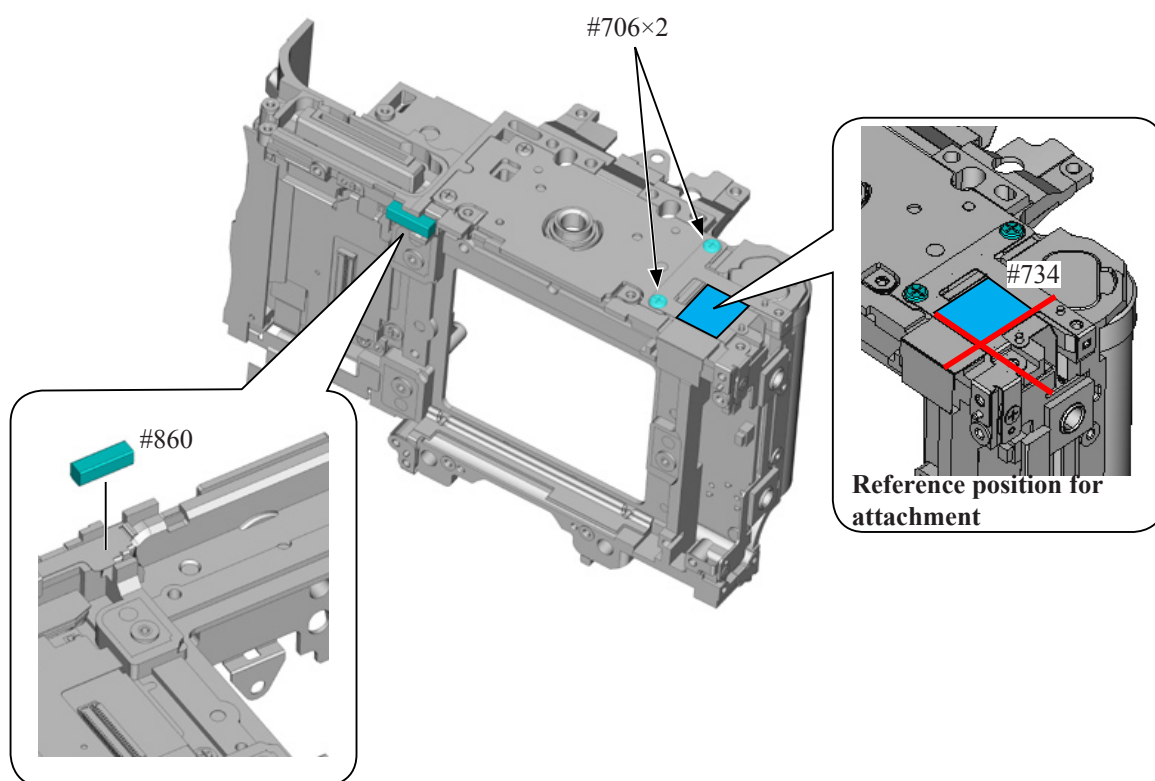
- Mount the GND plate (#107).



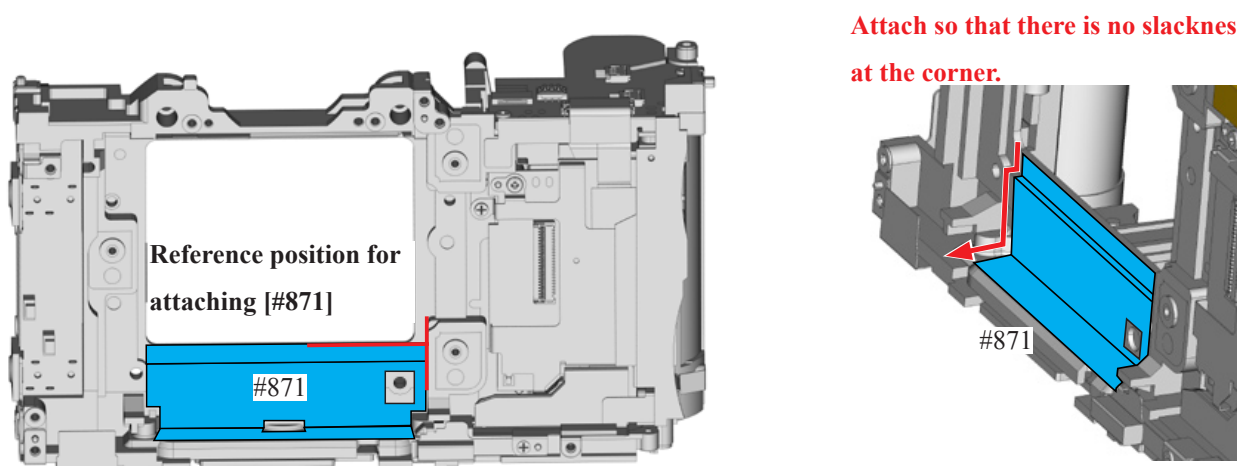
- Tighten the two screws (#675).



- Tighten the two screws (#706).
- Attach the double-stick tape (#734).
- Attach the gasket (#860).

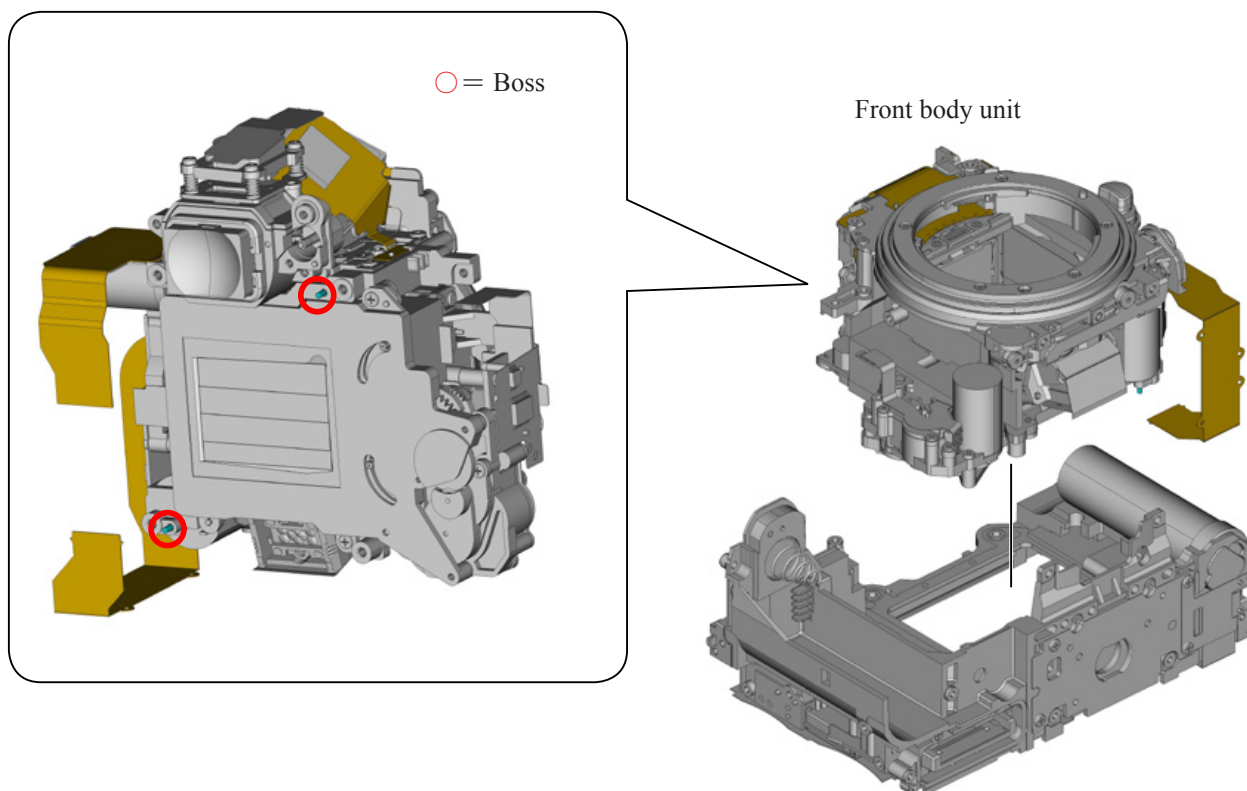


- Attach the shield sheet (#871).

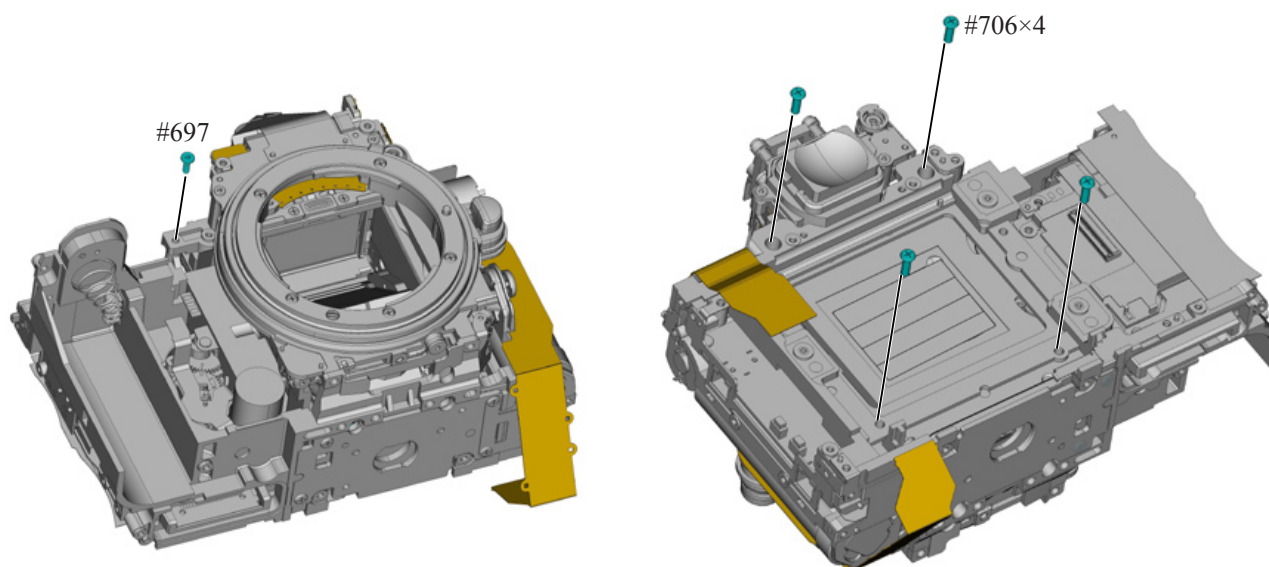


5. Mounting of Front Body on Rear Body

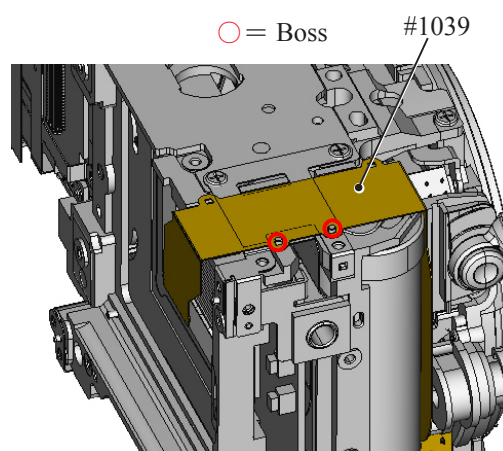
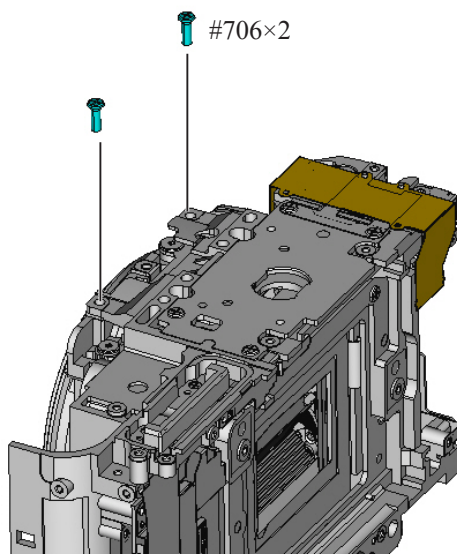
- Mount the front body unit.



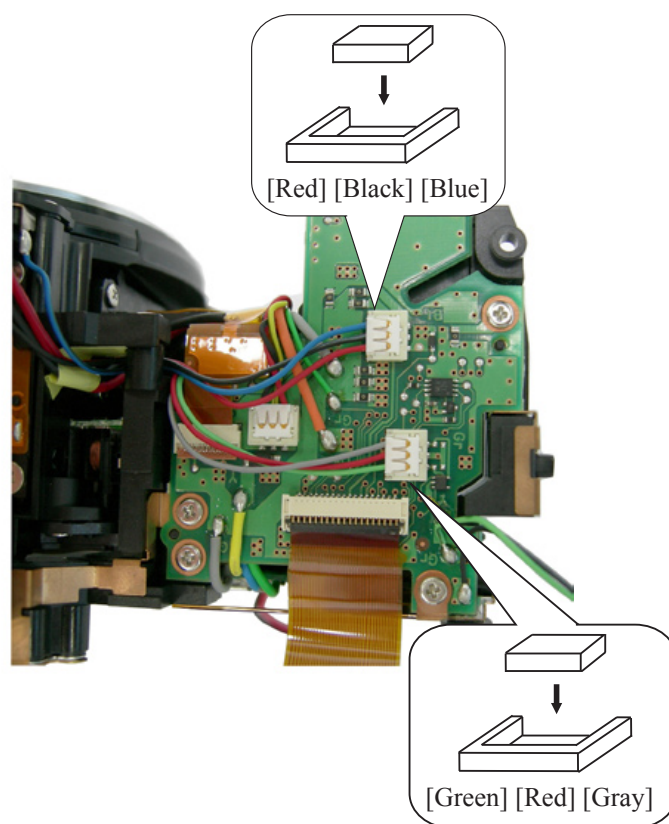
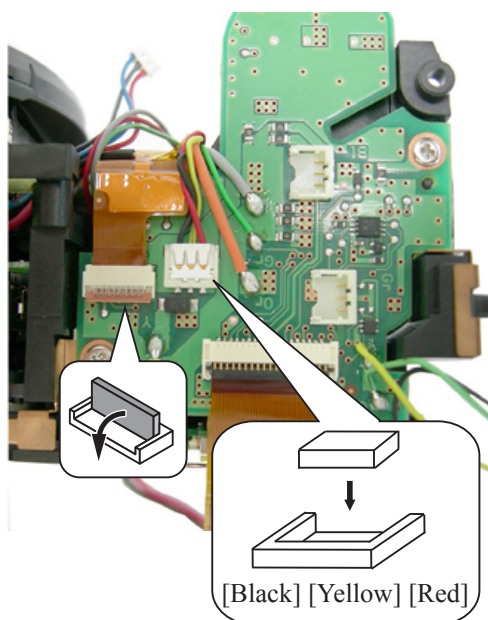
- Tighten the screw (#697).
- Tighten the four screws (#706).



- Tighten the two screws (#706).
- Attach the connection-FPC (#1039) by fitting the bosses.



- Connect the FPC.
- Connect the three harnesses.



- Refer to " ② Models WITH rear body" of "Inspection and adjustment of flange-back (body-back)" of D/SLR ADJUSTMENT Separate Volume ① for details.

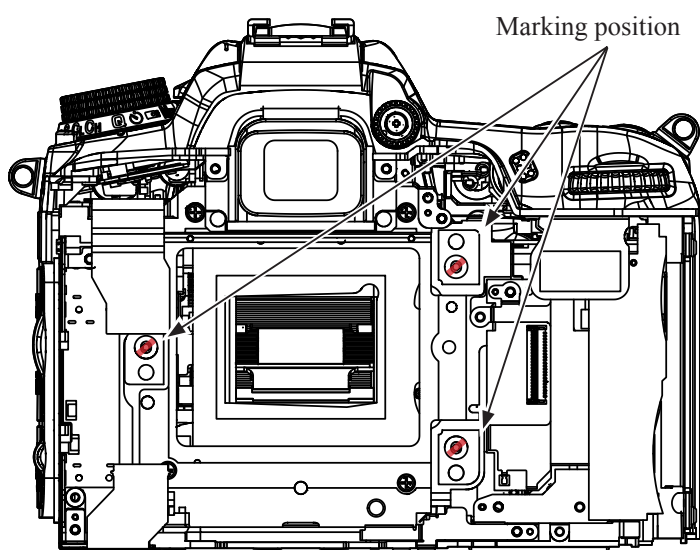
Rotational direction/divisions of scale: Turn the index circle by 17 divisions of scale in the direction of the arrow so that the needle is on "0.17 mm" position.

<Standard> (Body-back) distance: $48.5\text{mm}^{+0.025\text{mm}}_{-0.005\text{mm}}$ /parallelism: 0.015mm or less

Caution: For some bodies, the washers are already put (1) on the face of the camera-body for mounting the image sensor unit, and (2) on the attaching face of the image-sensor unit. In this case, there are marks at the following two types of marking position.

(1)The face of camera body for mounting the image sensor unit: To adjust the height of the camera body

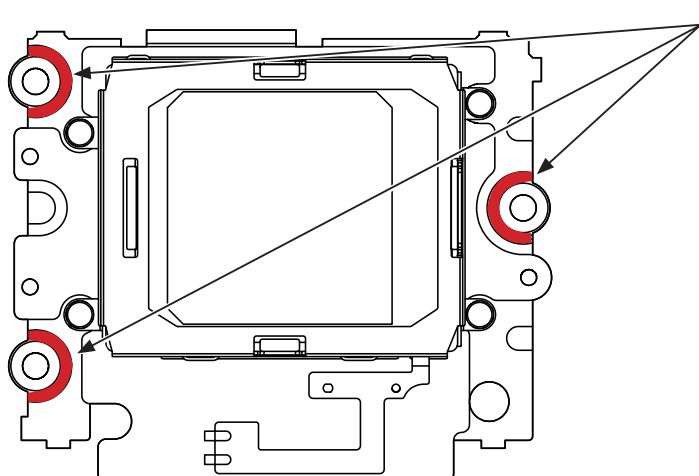
※ In case of disassembling/replacing the image sensor unit, put the washers back to the original positions.



Color of mark	Sub-No.	Part No.	Thickness of washer (mm)
Blue	63A	6K050-084	T = 0.02
Red	63B	6K050-085-1	T = 0.1
Green	63C	6K050-086	T = 0.06

(2)The attaching face of image sensor unit: To adjust the height of the image sensor unit

※ Remove the wahsers when the image sensor unit must be replaced.



Color of mark	Sub-No.	Part No.	Thickness of washer (mm)
Blue	63A	6K050-084	T=0.02
Red	63B	6K050-085-1	T=0.1
Green	63C	6K050-086	T=0.06

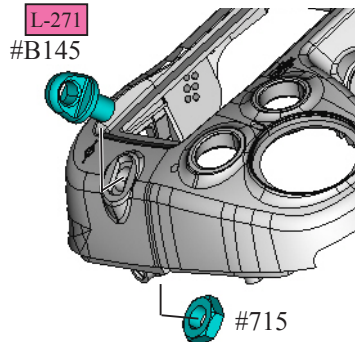
Tool (device)	
J19004-1  Dial indicator and stand	J18001-1  Body-back focus gauge

6. Top Cover

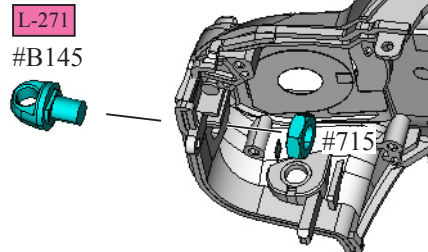
Eyelet

- Attach the two eyelets (#B145), and tighten the two nuts (#715).

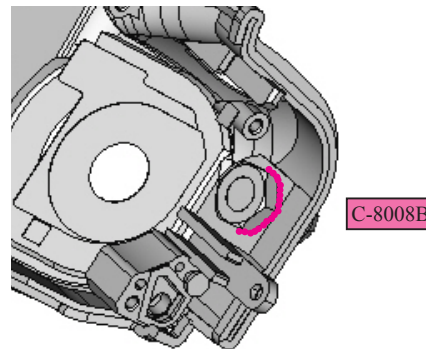
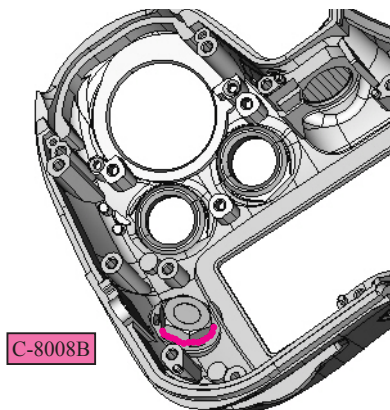
Threaded portion



Threaded portion

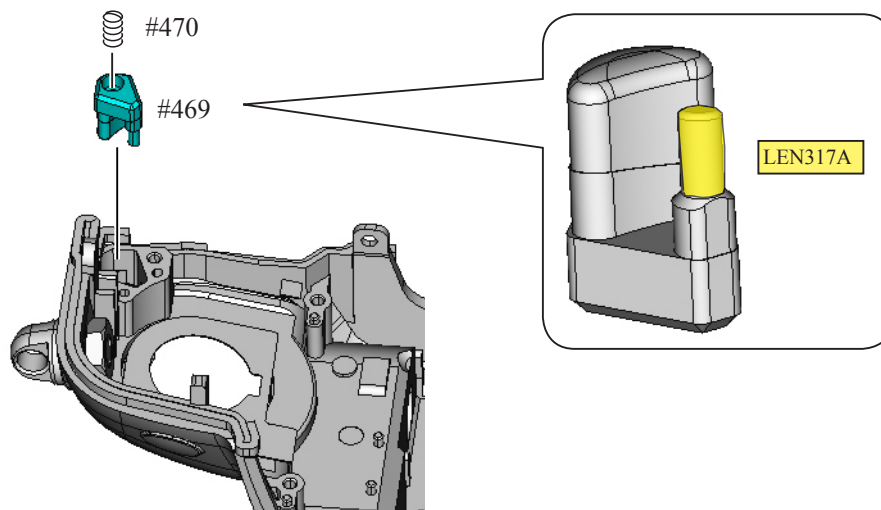


- Apply the adhesive (C-8008B) around the nut (#715) entirely.

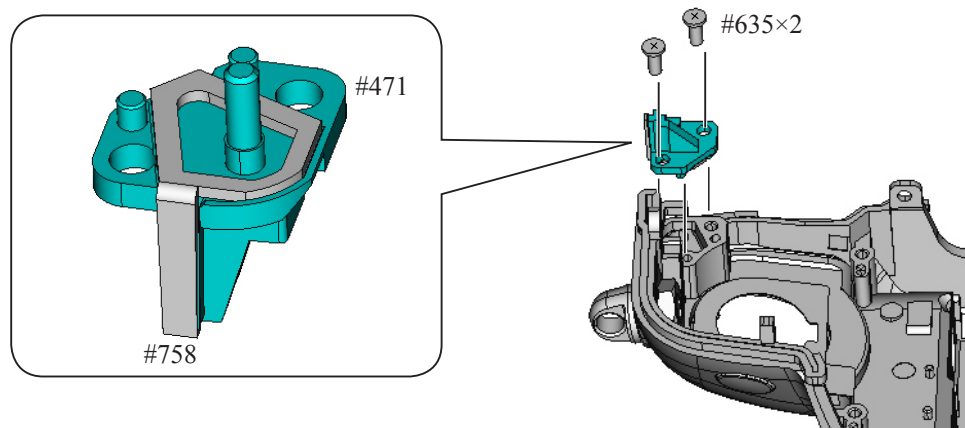


Release mode dial lock button

- Attach the button (#469) and spring (#470).

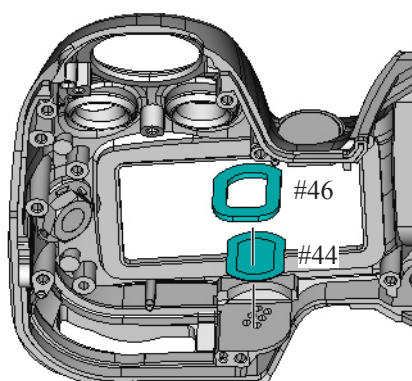


- Attach the sponge (#758) to the dial lock base unit (#471).
- Mount the dial lock base unit (#471).
- Tighten the two screws (#635).

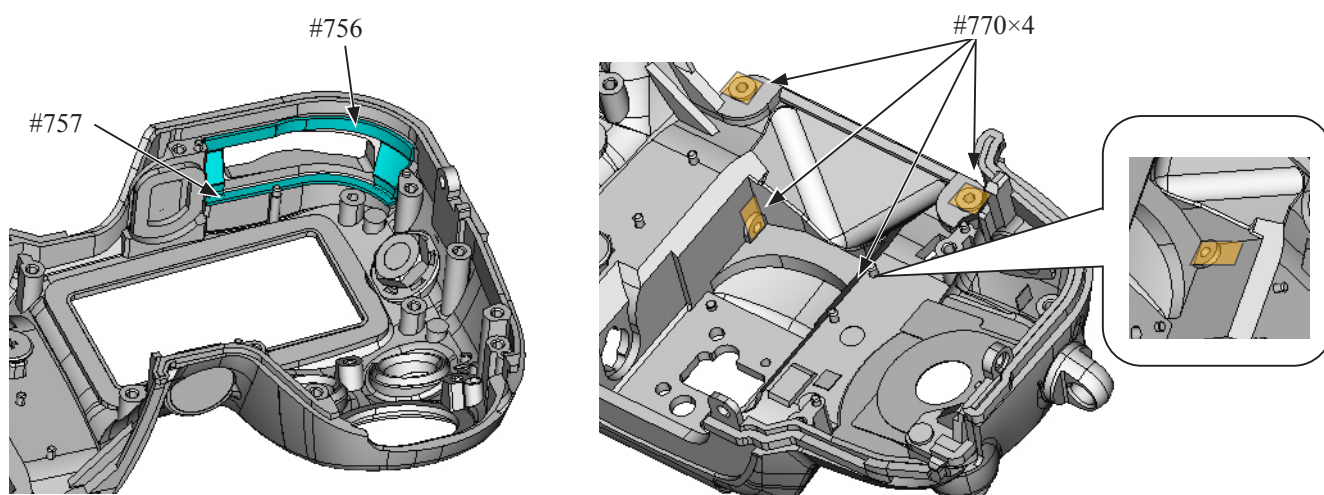


Drip-proof sponge

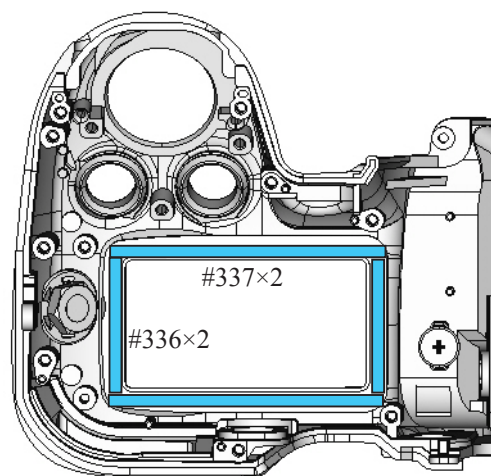
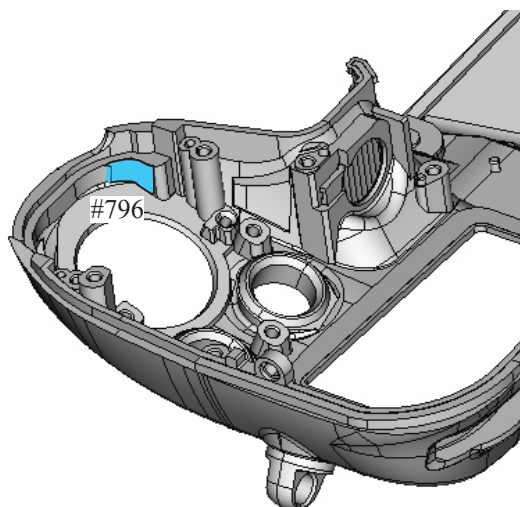
- Attach the sheet (#44) and sponge (#46).



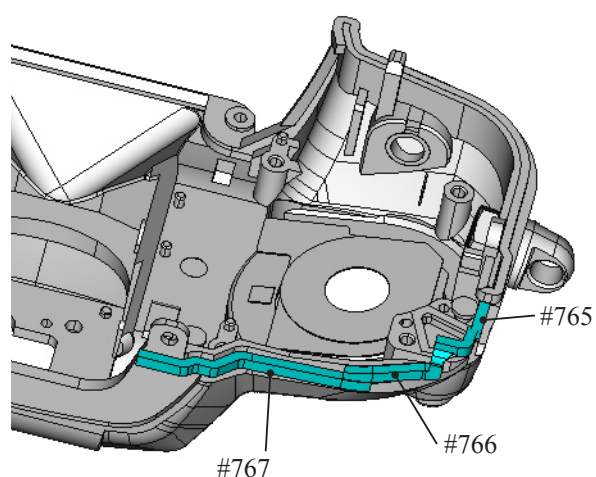
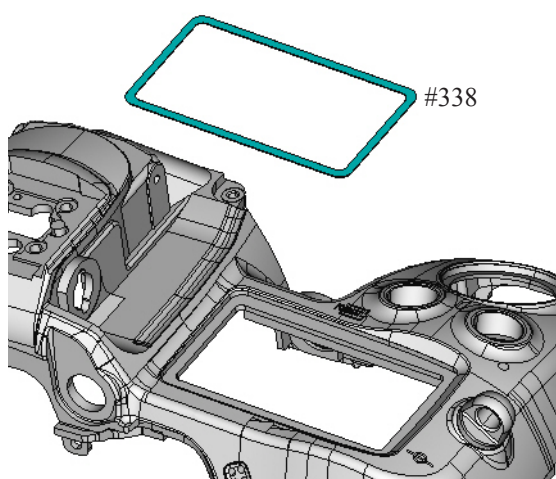
- Attach the each sponge (#757 and #756).
- Attach the four pieces of the tape (#770).



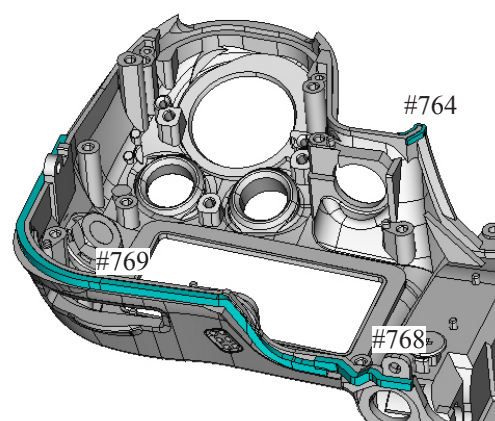
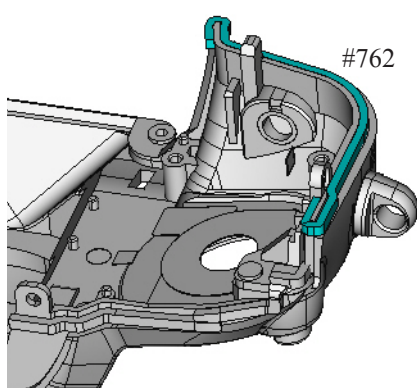
- Attach the sponge (#796).
- Attach the two sponges (#337).
- Attach the two sponges (#336).



- Attach the double-stick tape (#338).
- Attach the each sponge (#765, #766, and #767).

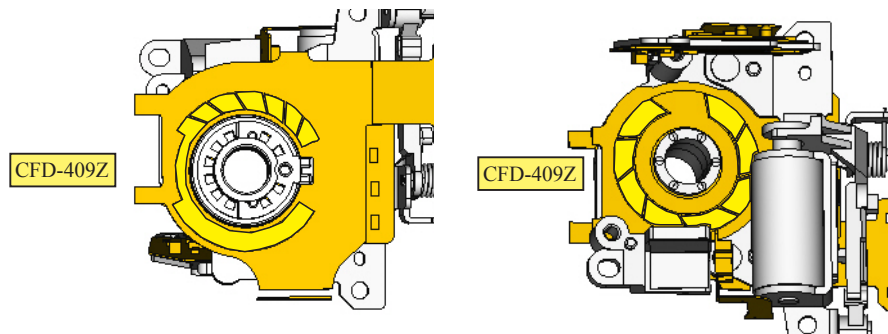


- Attach the sponge (#762).
- Attach the each sponge (#769 and #768).
- Attach the sponge (#764).

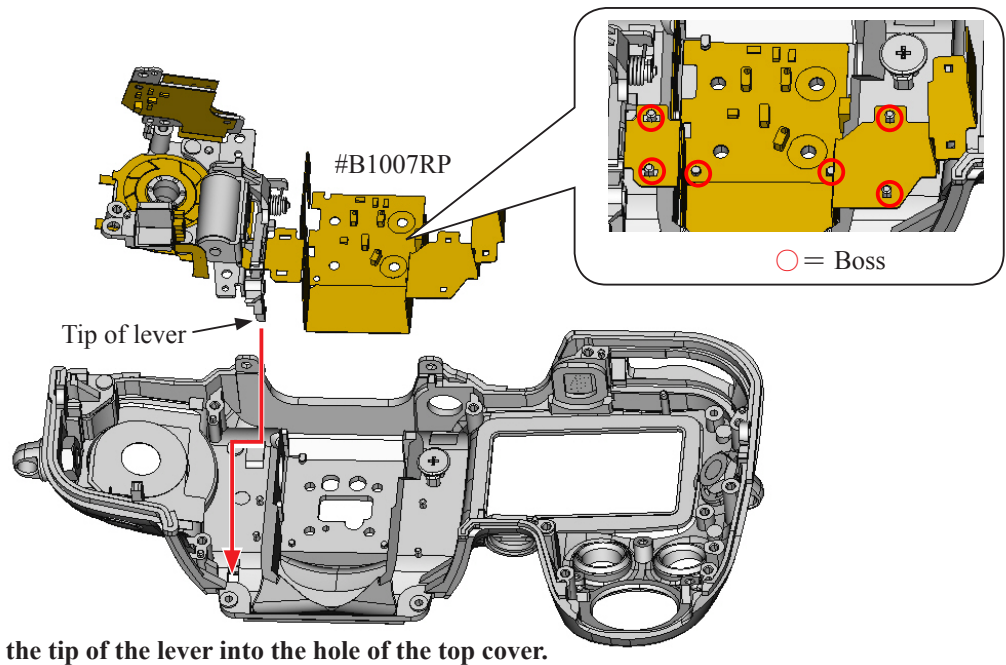


Top cover FPC unit

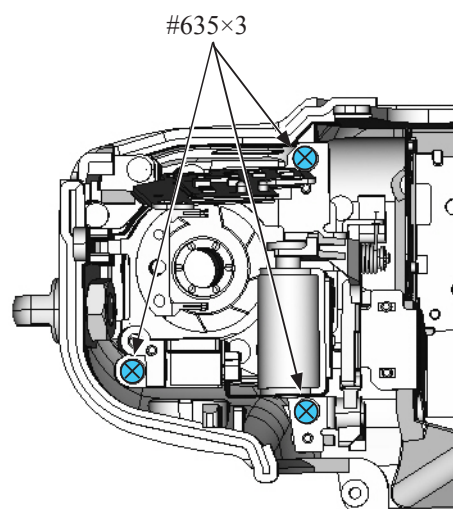
- Apply the grease (CFD-409Z) to the pattern surface of the top cover FPC unit (#B1007RP).



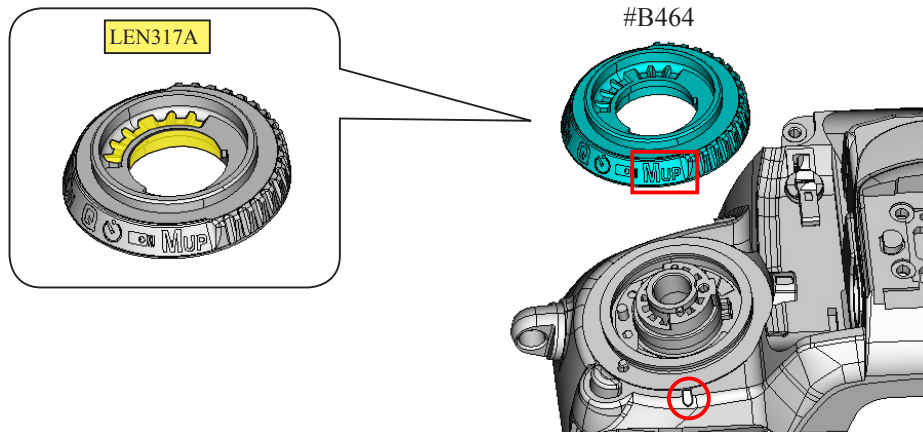
- Mount the top cover FPC unit (#B1007RP).



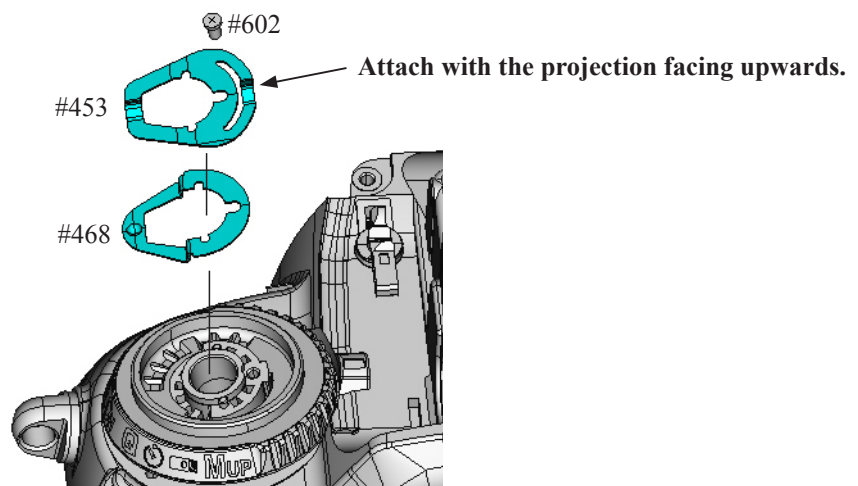
- Tighten the three screws (#635).



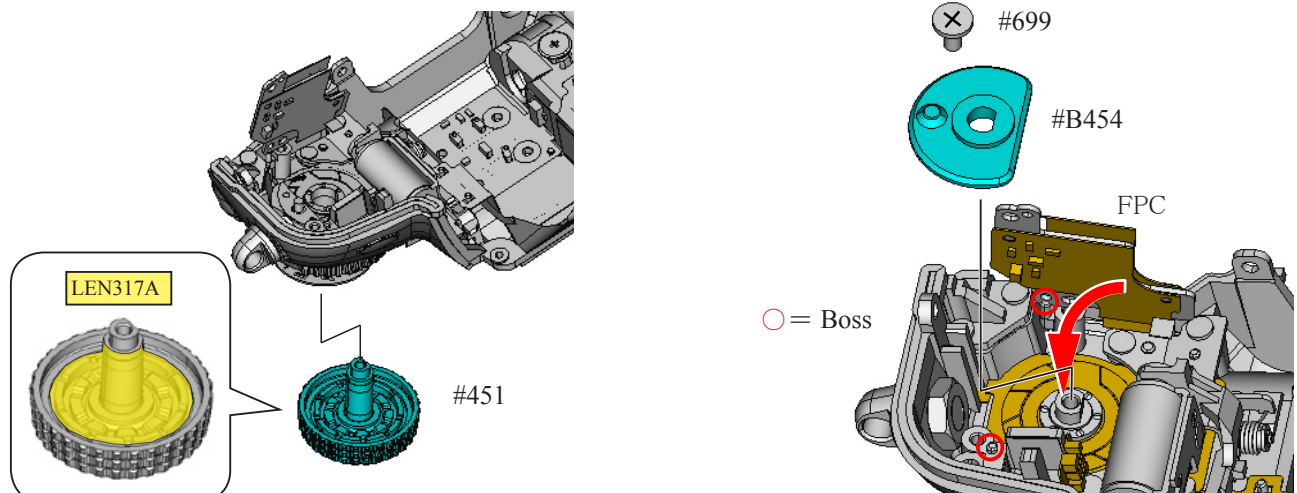
- Align "M_{UP}" of the release mode dial unit (#B464) with the index of the top cover, and mount it.



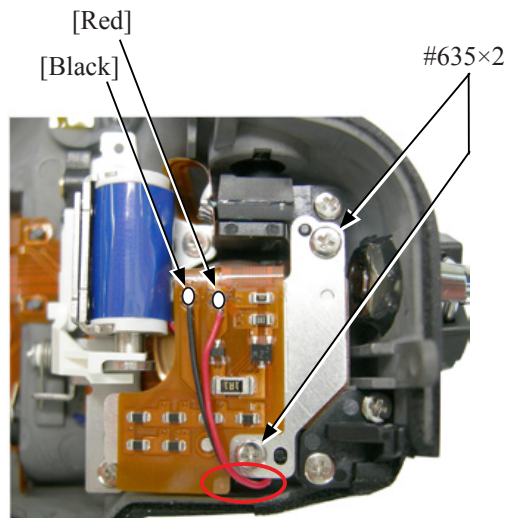
- Attach the each click spring (#468 and #453).
- Tighten the screw (#602).



- Mount the mode dial (#451).
- Mount the contact brush unit (#B454).
- Tighten the screw (#699).
- Attach the FPC by putting in the direction of the arrow.

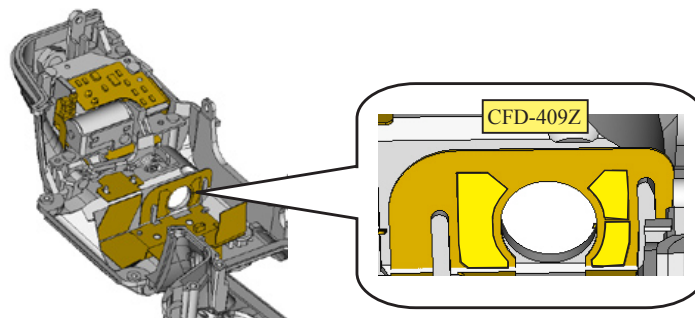


- Arrange the wires as below.
- Tighten the two screws (#635).
- Solder the two wires.

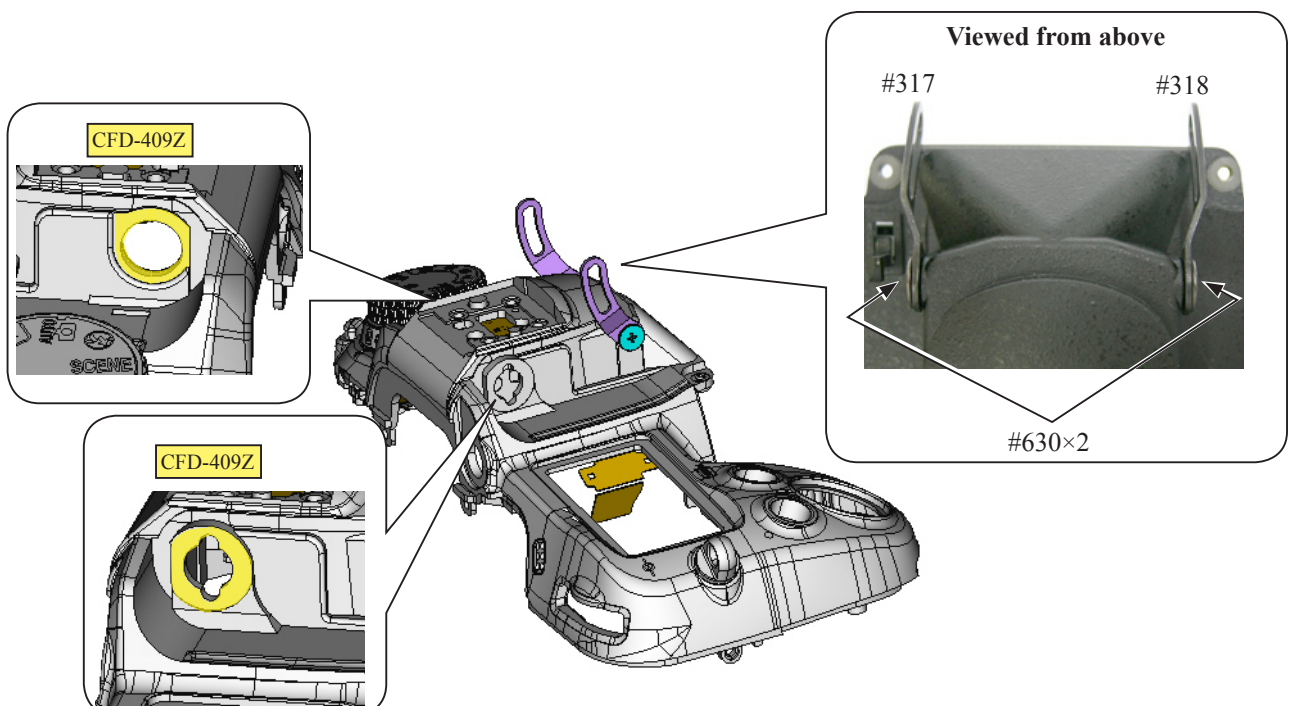


SB lower case unit

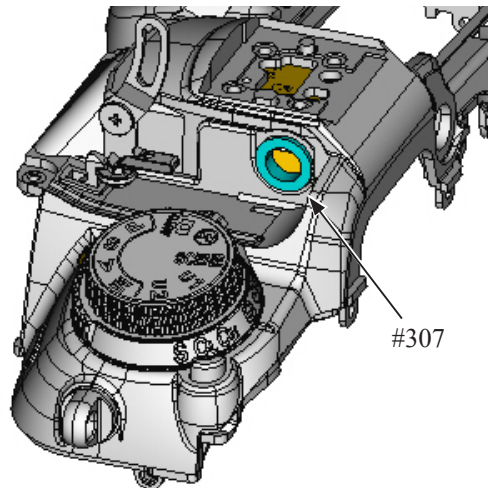
- Apply the grease (CFD-409Z) to the top cover FPC unit (#B1007).



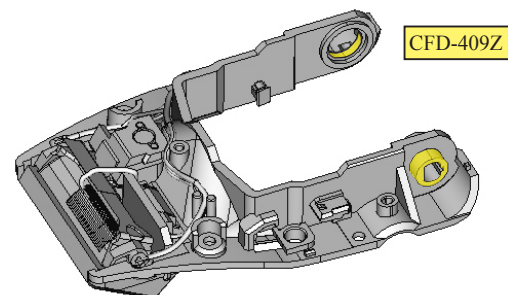
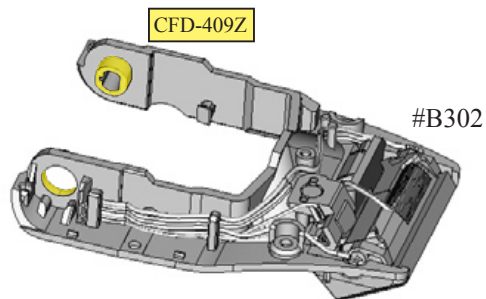
- Mount the each flash pop-up arm (#317 and #318), and tighten the two screws (#630).



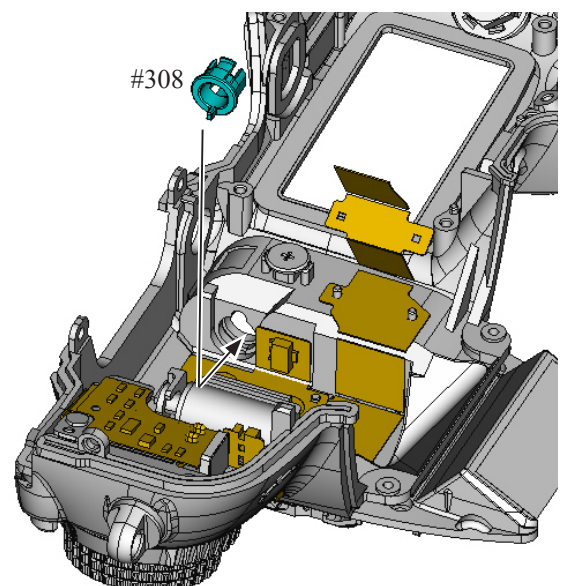
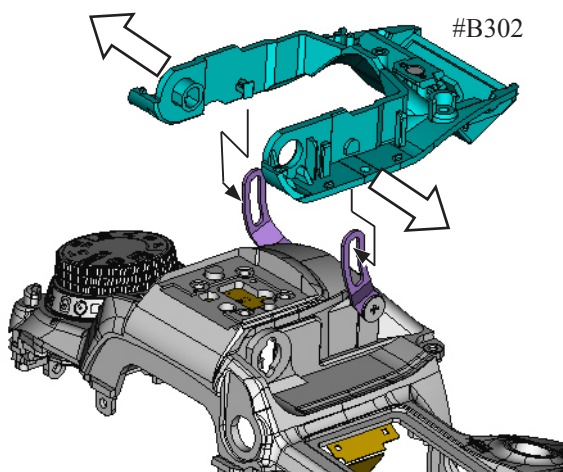
- Attach the collar (#307).



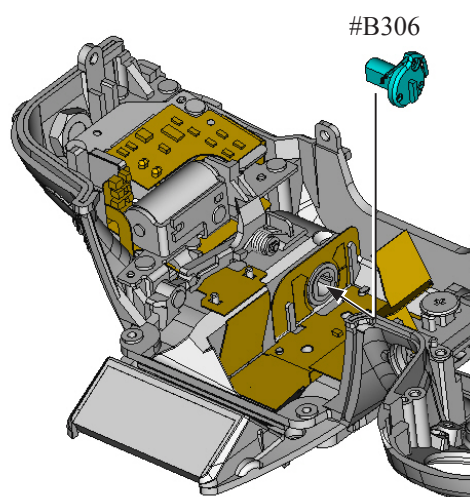
- Apply the grease (CFD-409Z) to the SB lower cover unit (#B302).



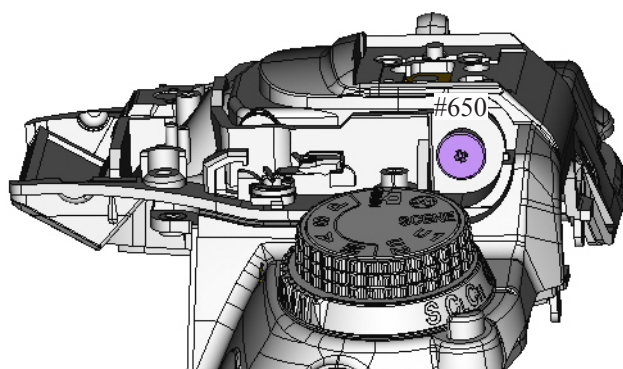
- Spread the SB lower cover unit (#B302) as indicated by the arrow, and mount it.
- Attach the collar (#308).



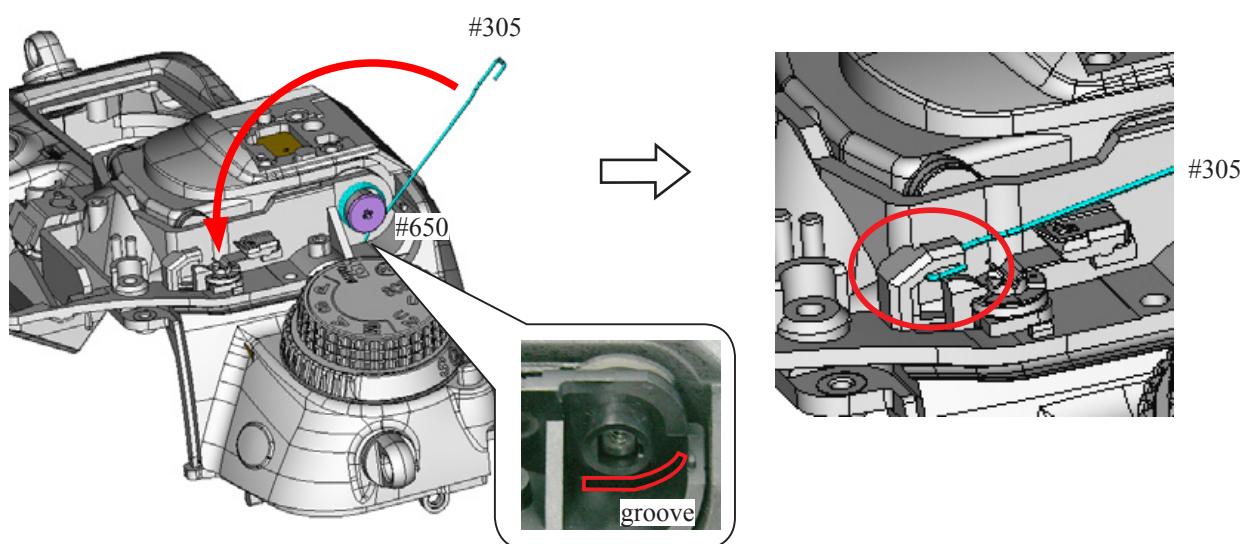
- Attach the SB rotating shaft (#B306).



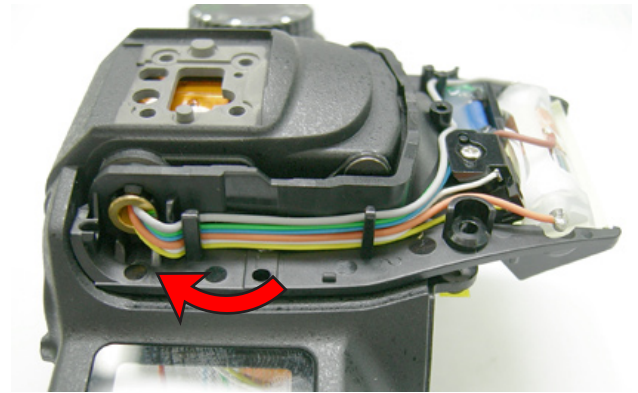
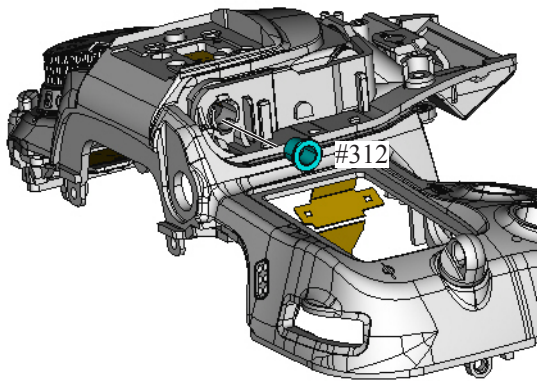
- Tighten the screw (#650).



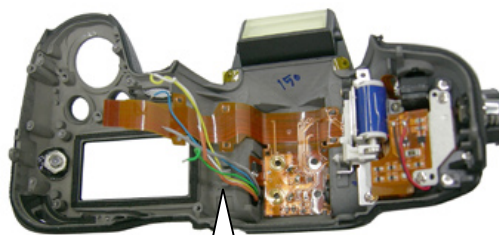
- Put the tip of the spring (#305) into the groove.
- Attach the spring (#305) by spreading it.
- Hook the spring (#305).



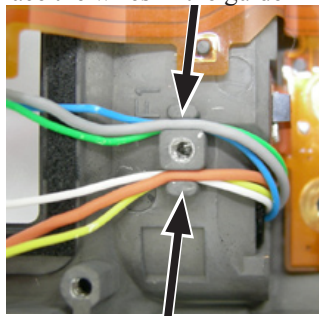
- Attach the roller (#312).
- Pass the wires through the hole, and arrange them as below.



- Arrange the wires as below, and tighten the screw (#650).

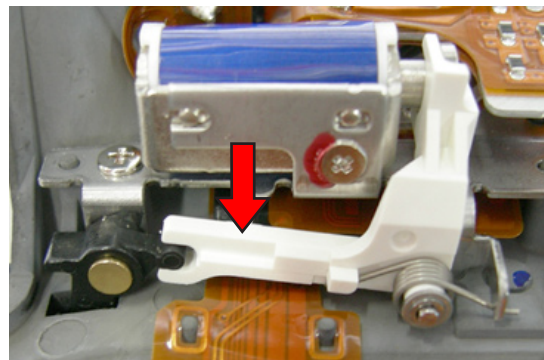
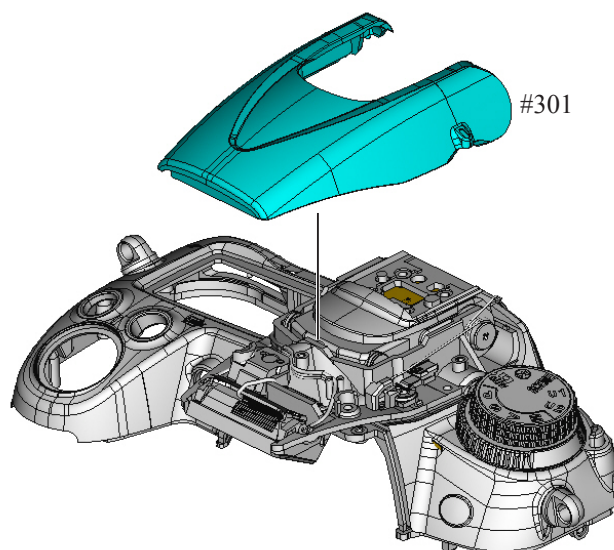


Place the wires in the guide in the following order: [Blue] [Green] [Gray]

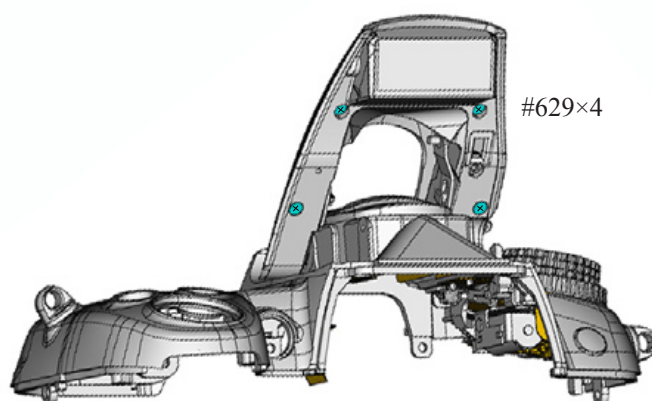


Place the wires between the guides in the following order: [Yellow]
[White] [Orange]

- Mount the SB upper cover (#301).
- Push the lever in the direction of the arrow to raise the SB (flash unit).

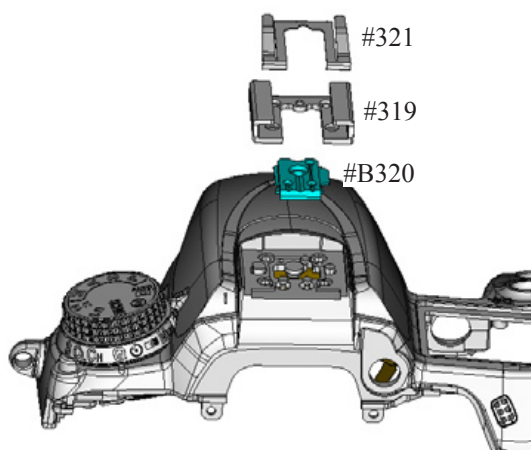


- Tighten the four screws (#629).

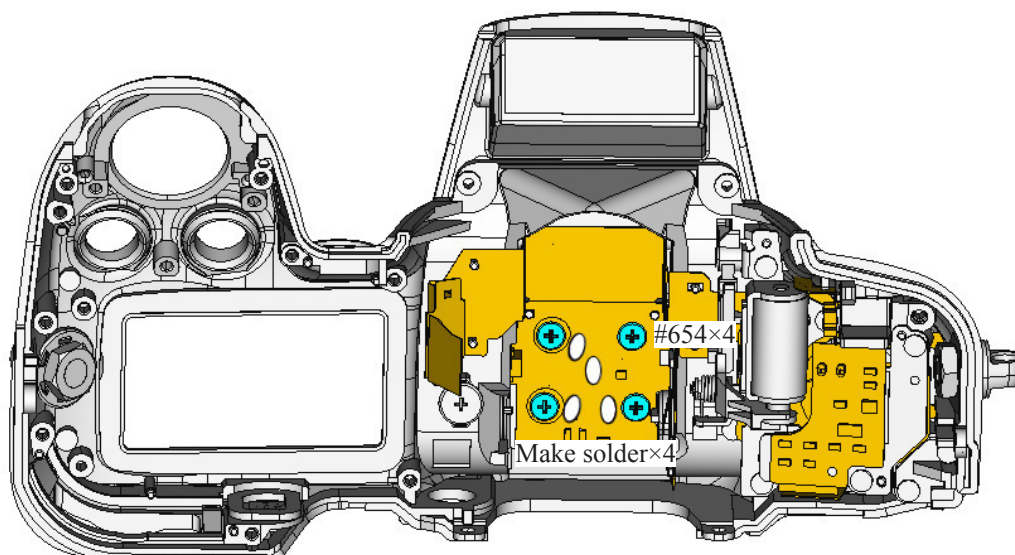


Shoe base

- Attach the hot shoe mold unit (#B320), hot shoe (#319), and hot shoe spring (#321).

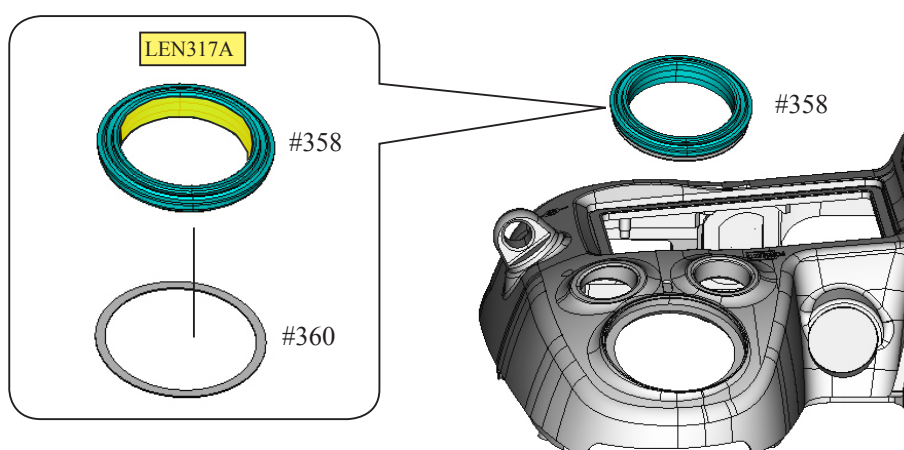


- Tighten the four screws (#654).
- Solder the four contacts.

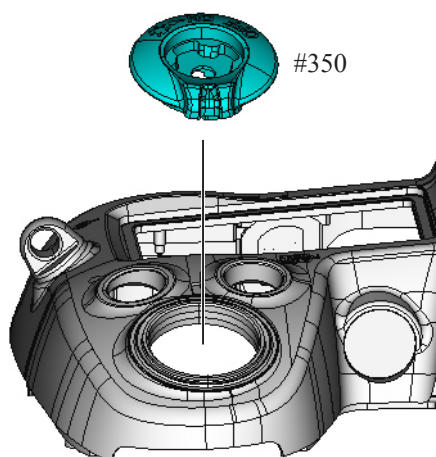


Power dial

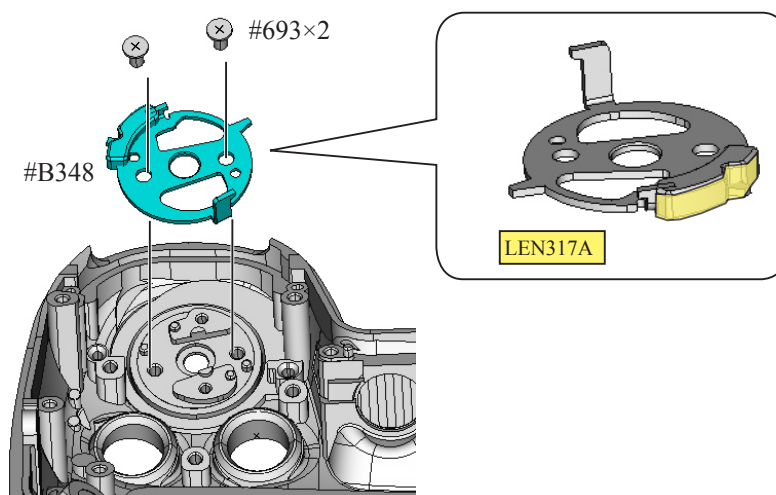
- Attach the double-stick tape (#360) to the roller (#358).
- Put the roller (#358).



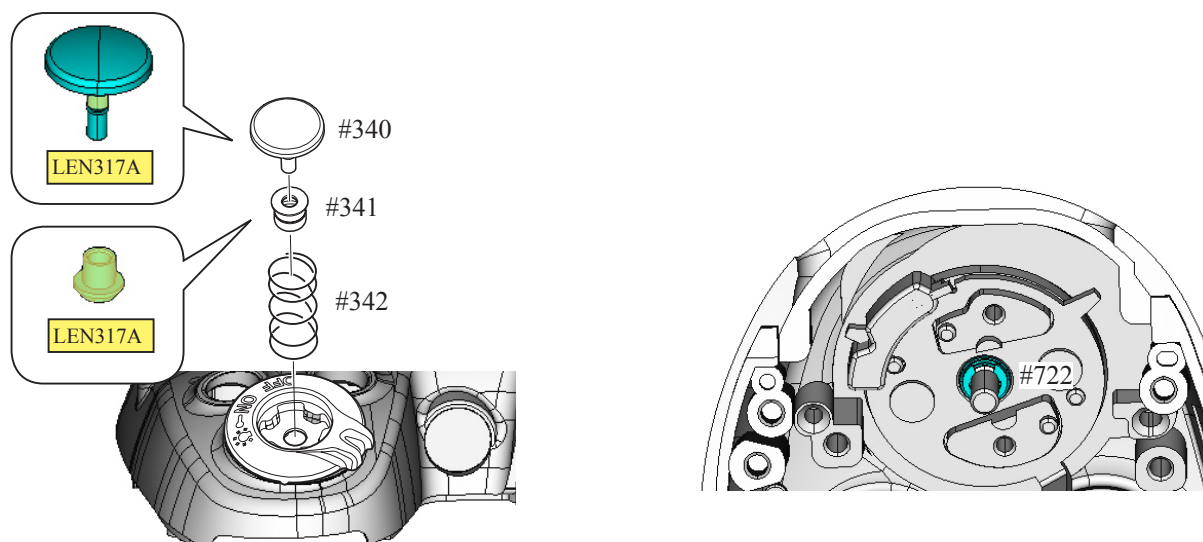
- Attach the power dial (#350).



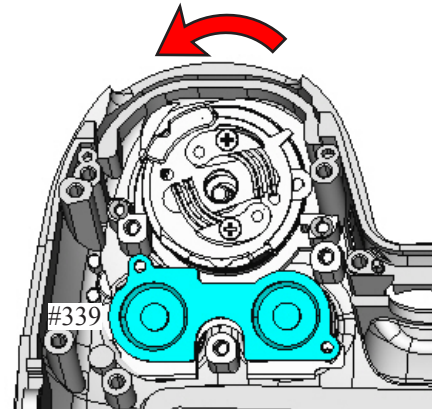
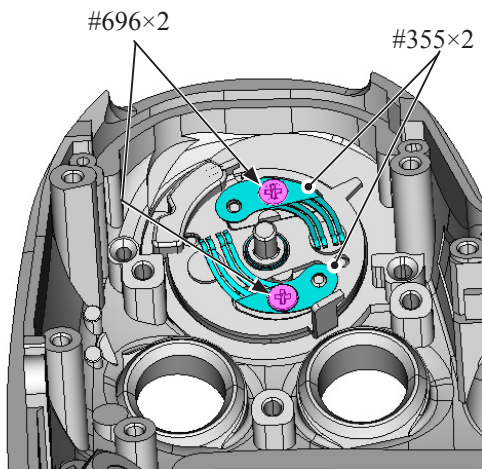
- Attach the click plate unit (#B348).
- Tighten the two screws (#693).



- Attach the button (#340), rubber (#341), and spring (#342).
- Attach the E-ring (#722).

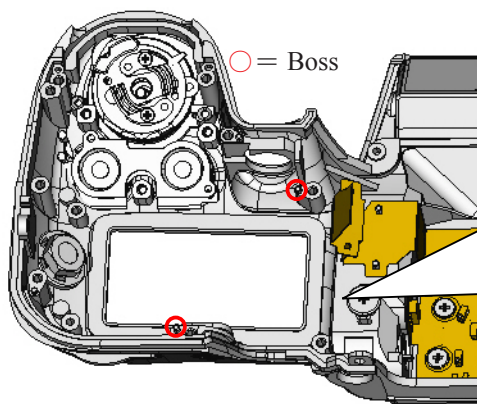


- Attach the two ON-OFF SW brushes (#355).
- Tighten the two screws (#696).
- Turn the power dial in the direction of the arrow.
- Attach the button (#339).

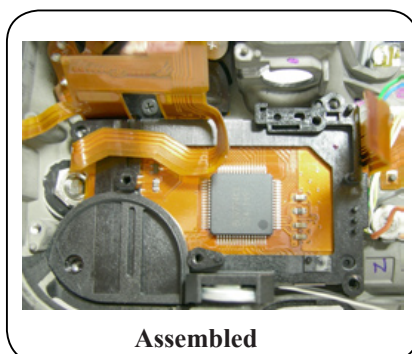
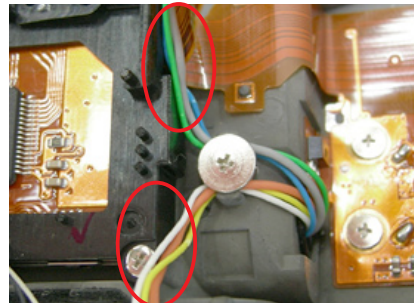


Top LCD unit

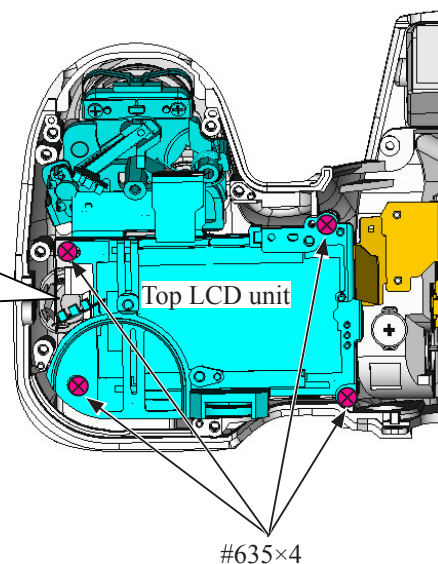
- Mount the top LCD unit.
- Tighten the four screws (#635).



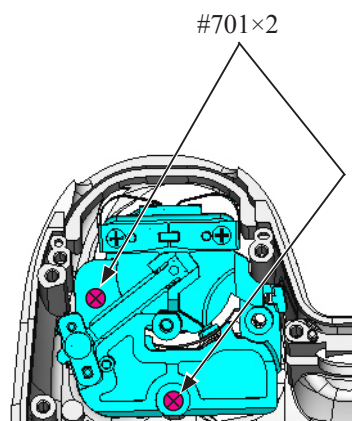
Be careful NOT to pinch the wires.



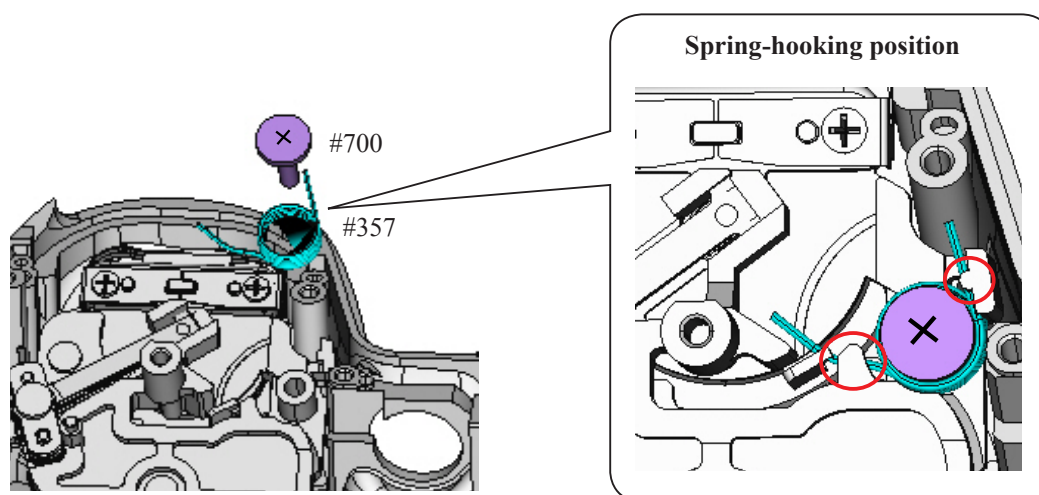
Assembled



- Tighten the two screws (#701).

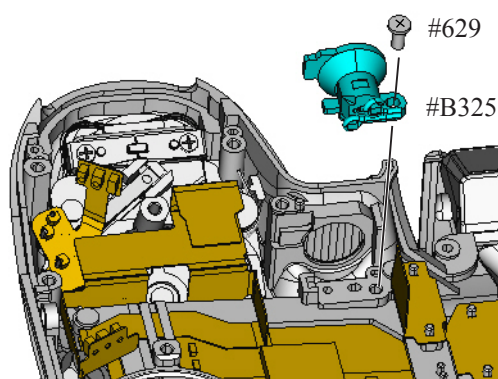


- Attach the spring (#357).
- Tighten the screw (#700).



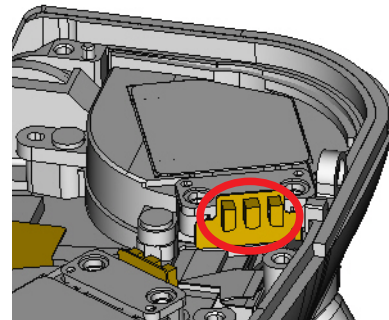
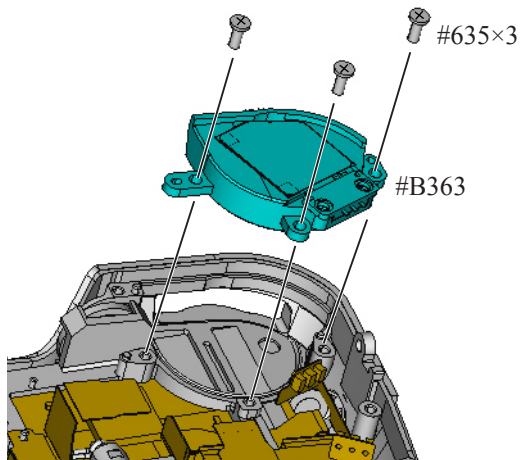
AF assist lamp unit

- Mount the AF assist lamp unit (#B325).
- Tighten the screw (#629).

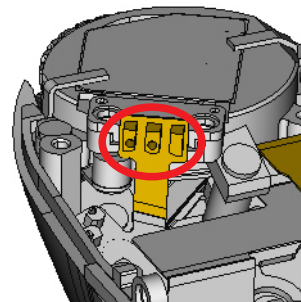
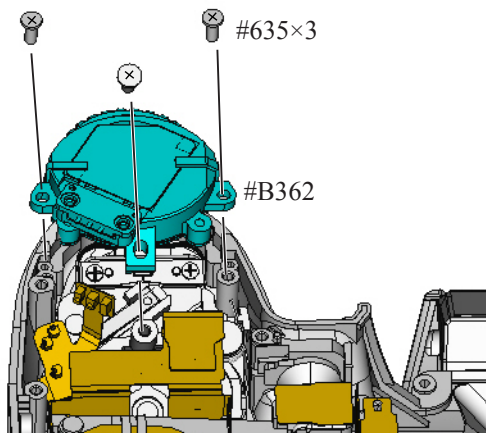


Command dial unit

- Mount the rear command dial unit (#B363), and tighten the three screws (#635).
- Solder the three contacts.

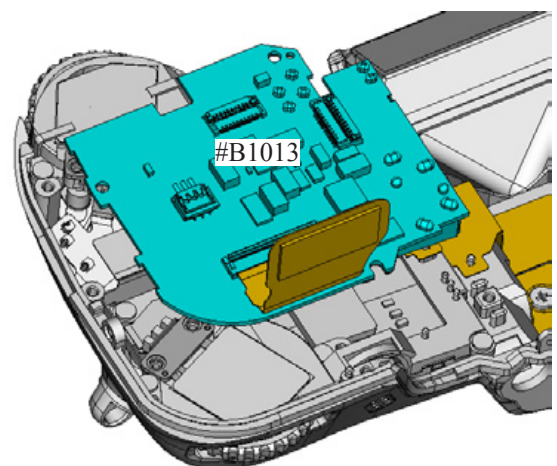
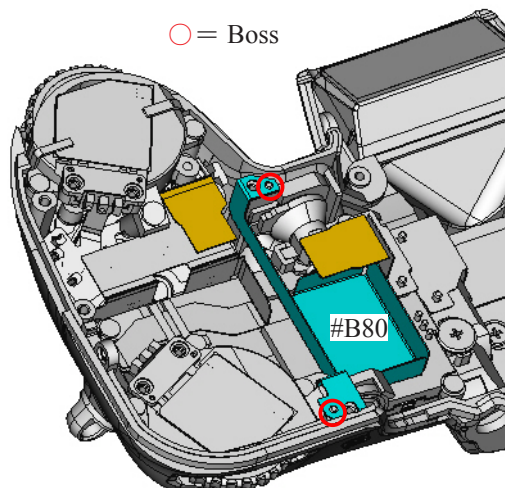


- Mount the front command dial unit (#B362), and tighten the three screws (#635).
- Solder the three contacts.

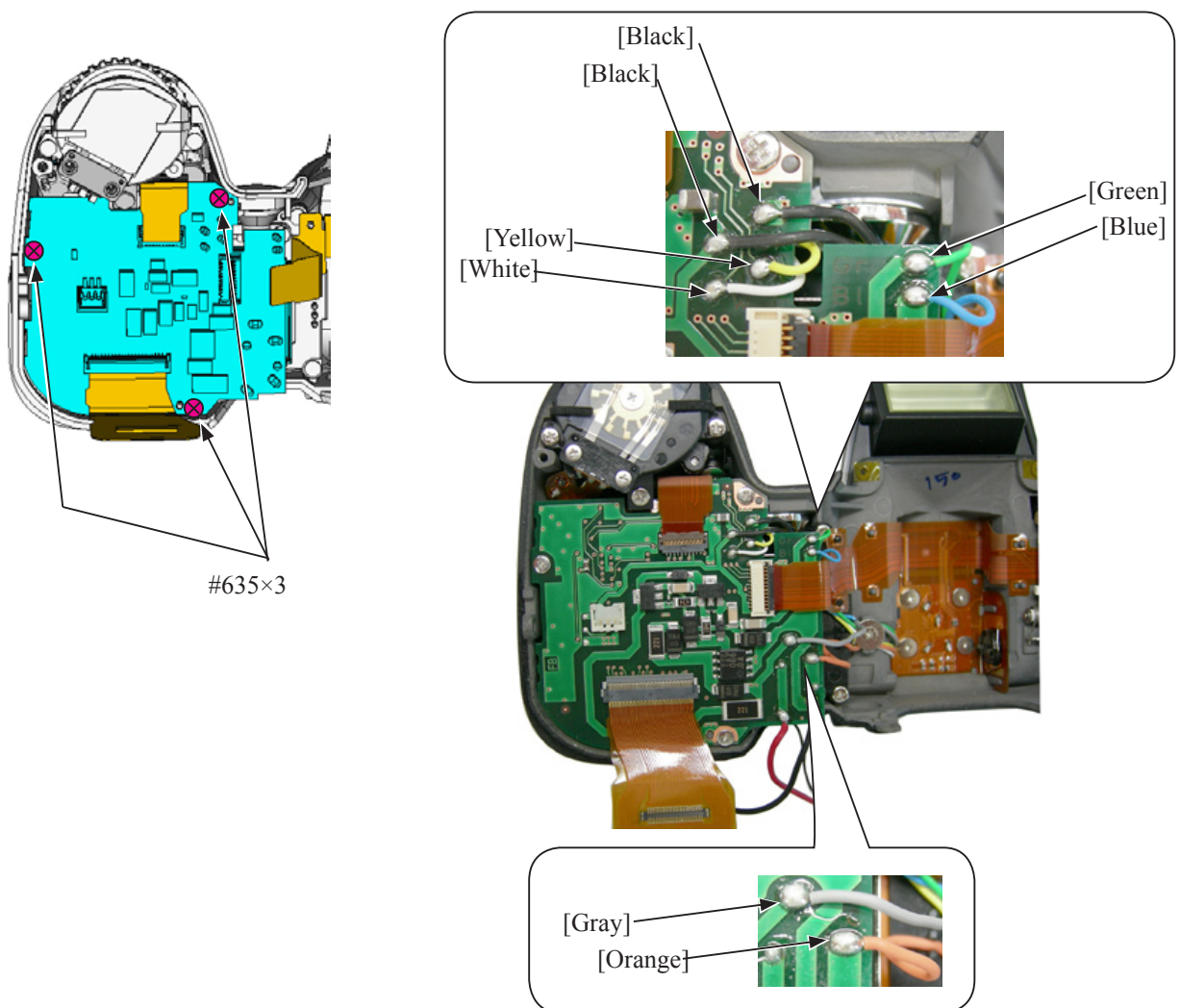


SB PCB unit

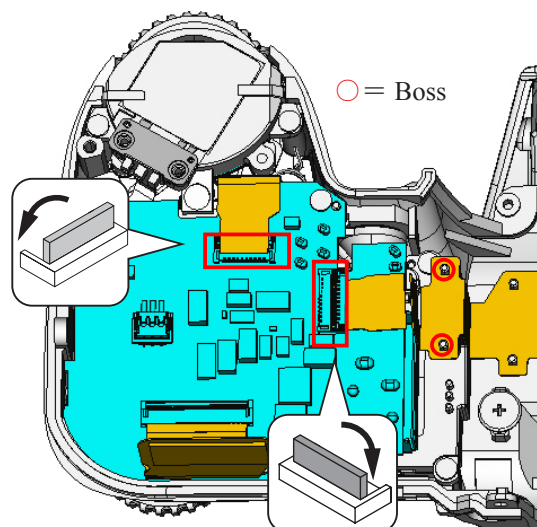
- Mount the SB shield plate unit (#B80).
- Mount the SB PCB unit (#B1013).



- Tighten the three screws (#635).
- Solder the eight wires.

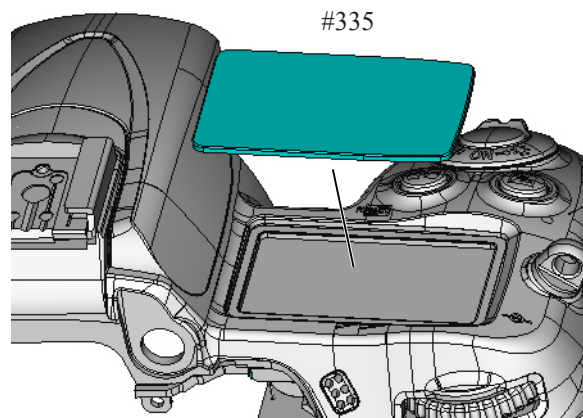


- Fit the bosses in the holes of the FPC.
- Connect the two FPCs.



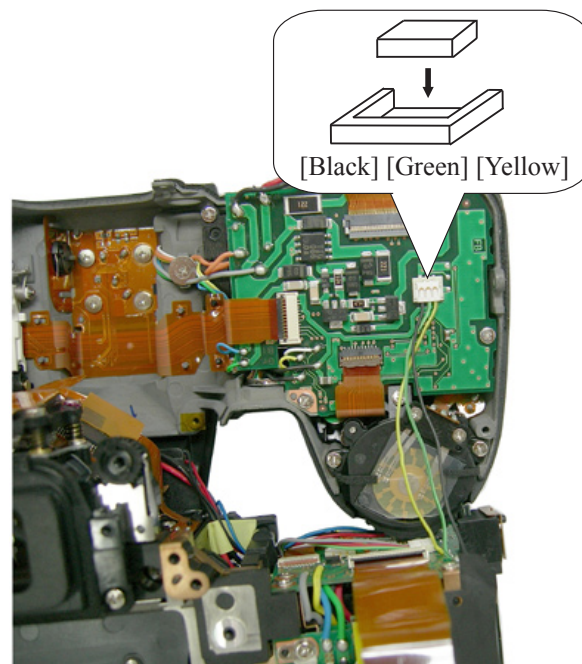
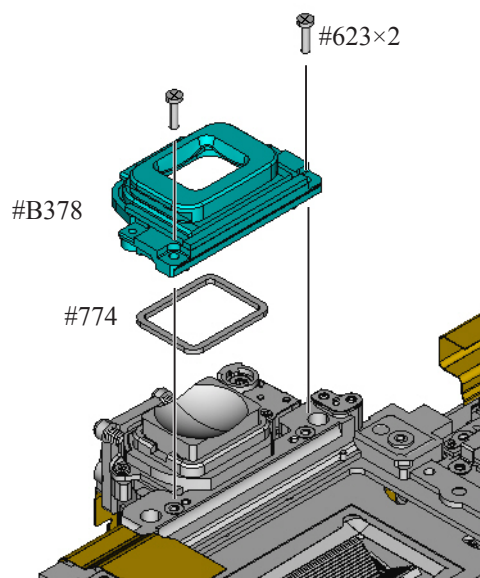
LCD window

- Mount the (external) LCD window (#335).

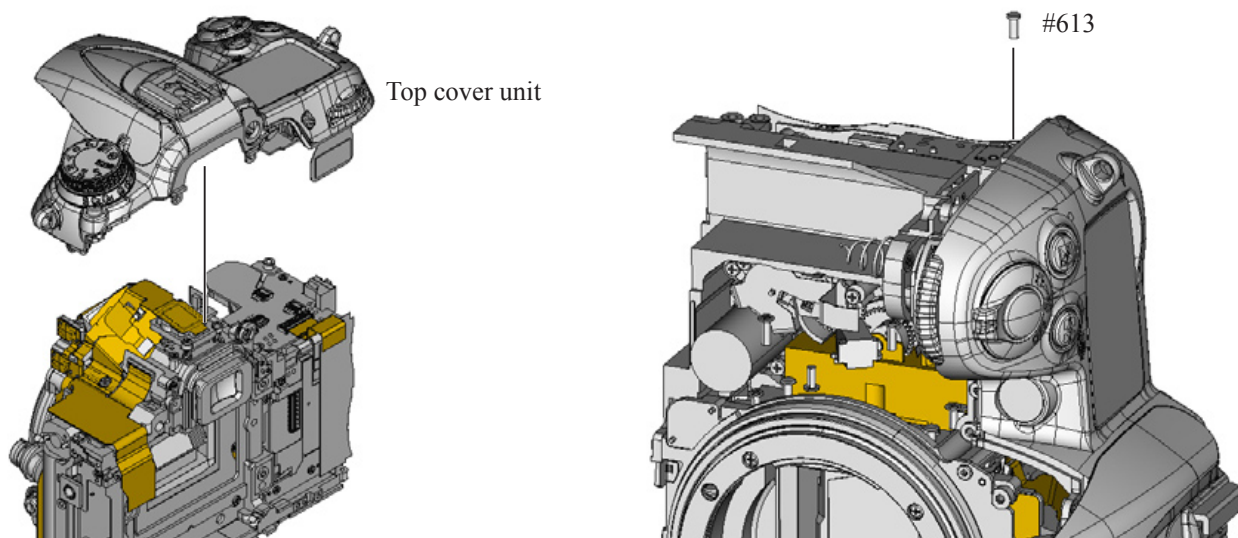


Top cover unit

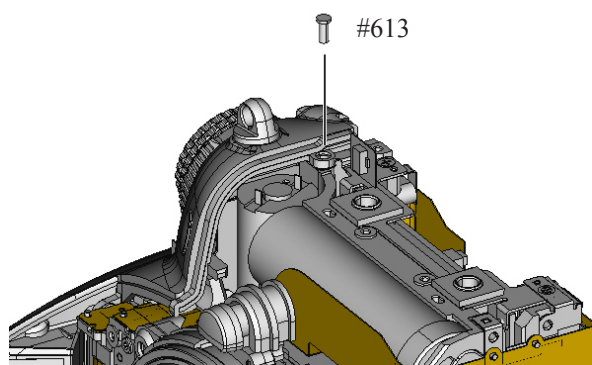
- Attach the sponge (#774) and mount the eyepiece mold unit (#B378).
- Tighten the two screws (#623).
- Connect the harness to the top cover unit.



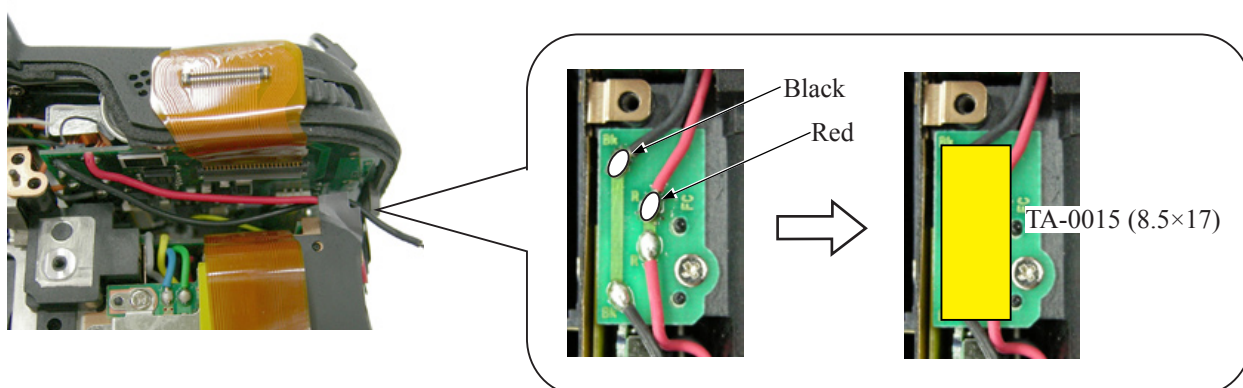
- Mount the top cover unit.
- Tighten the screw (#613).



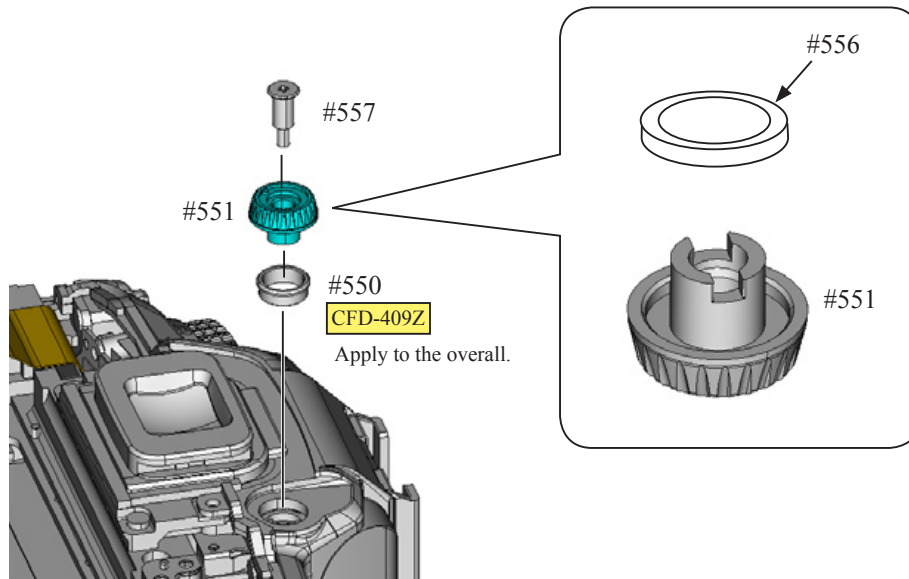
- Tighten the screw (#613).



- Solder the two wires.
- Attach the tape [TA-0015 (8.5×17)].

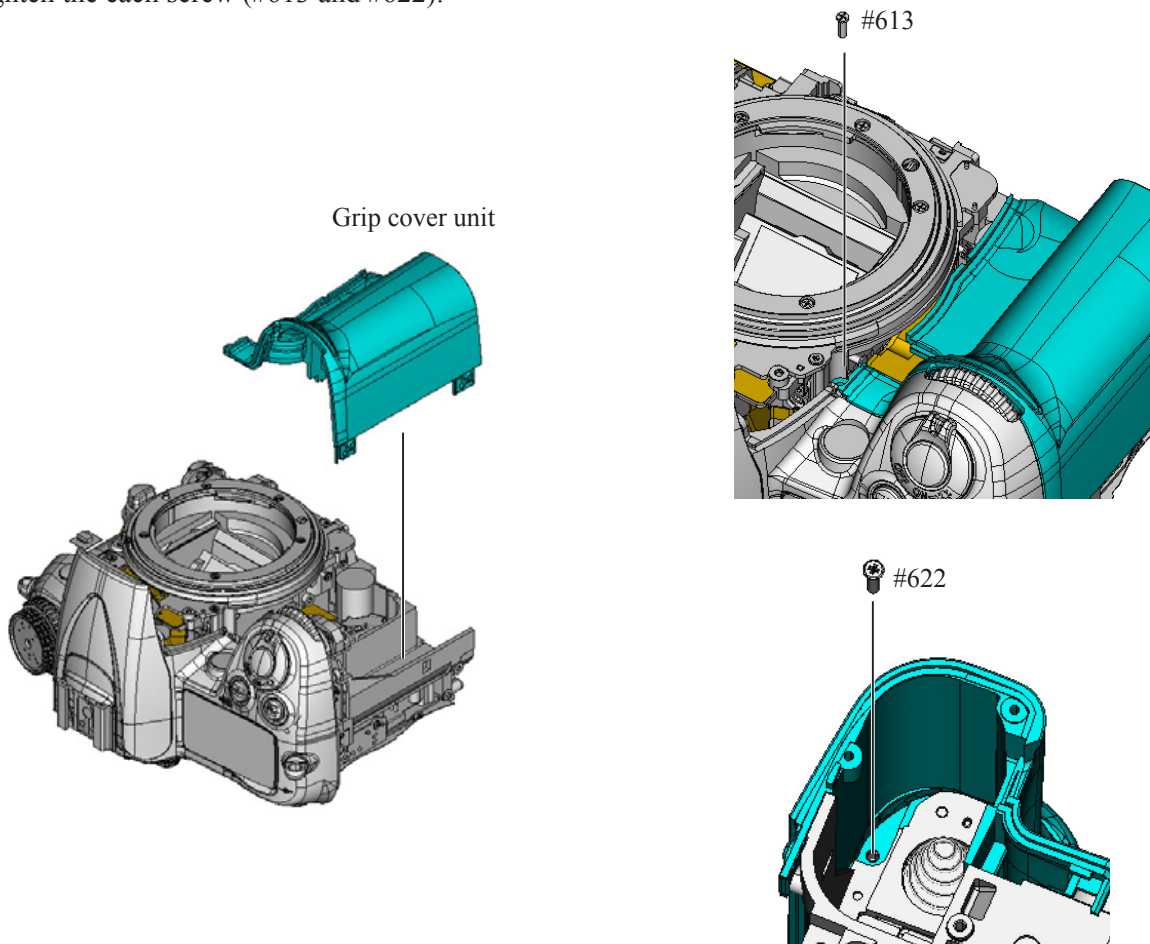


- Attach the sponge (#556) to the diopter adjustment knob (#551).
- Attach the roller (#550) and mount the above diopter knob (#551).
- Tighten the screws (#557).

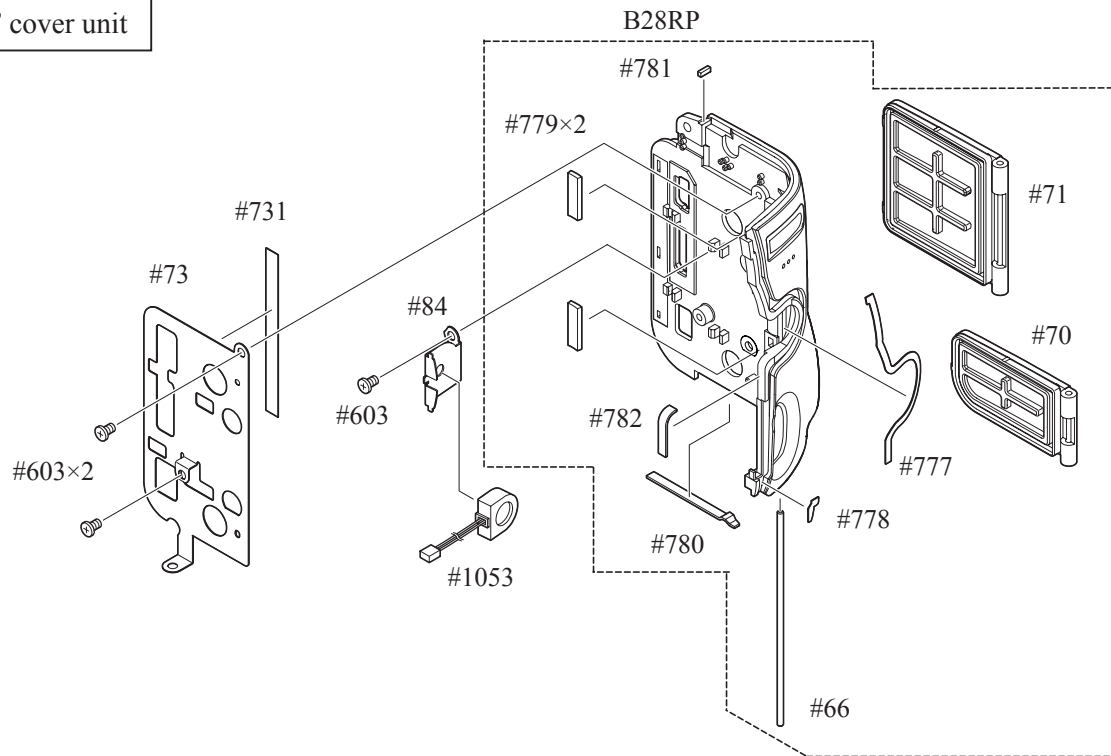


Grip cover unit

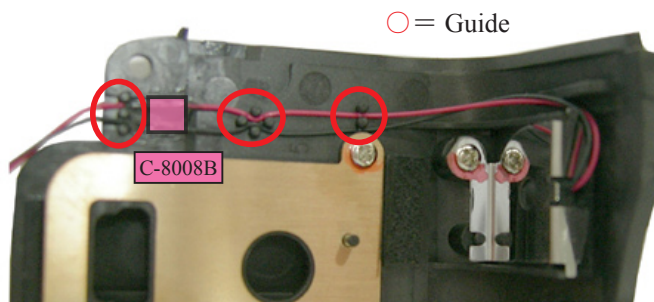
- Mount the grip cover unit.
- Tighten the each screw (#613 and #622).



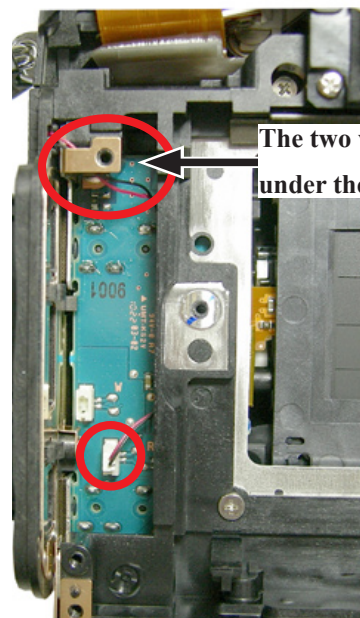
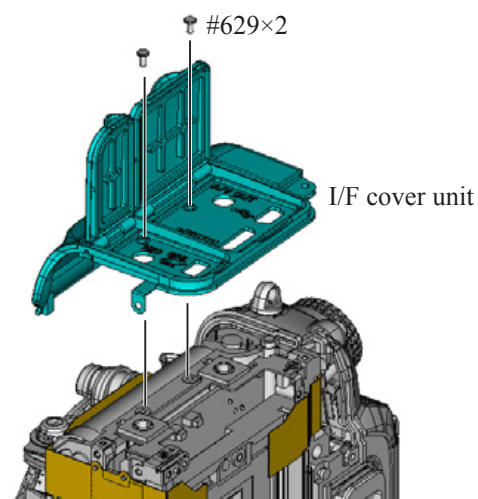
I/F cover unit



- Arrange the wires as below.
- Apply the adhesive (C-8008B), and fix the wires.



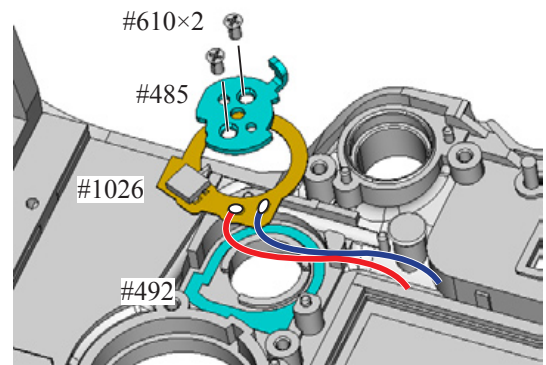
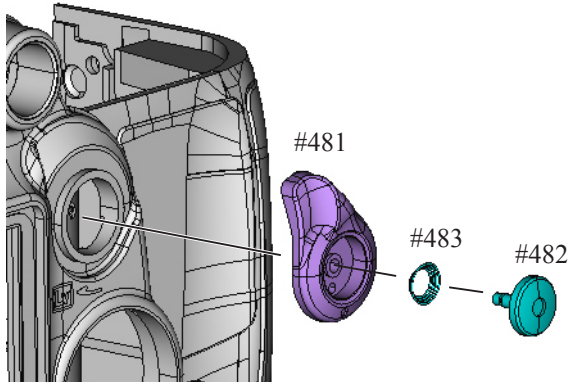
- Mount the I/F cover unit.
- Tighten the two screws (#629).
- Connect the harness.



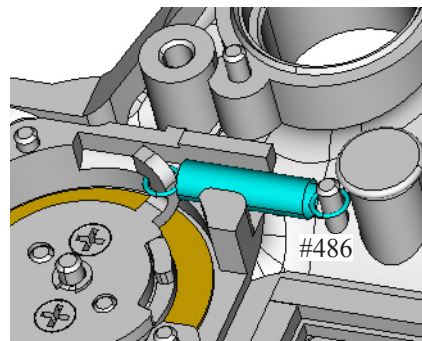
7. Rear Cover

LV lever

- Attach the LV lever (#481), spring (#483), and button (#482).
- Attach the double-stick tape (#492).
- Mount the live-view lever FPC unit (#1026), and holder plate (#485).
- Tighten the two screws (#610).

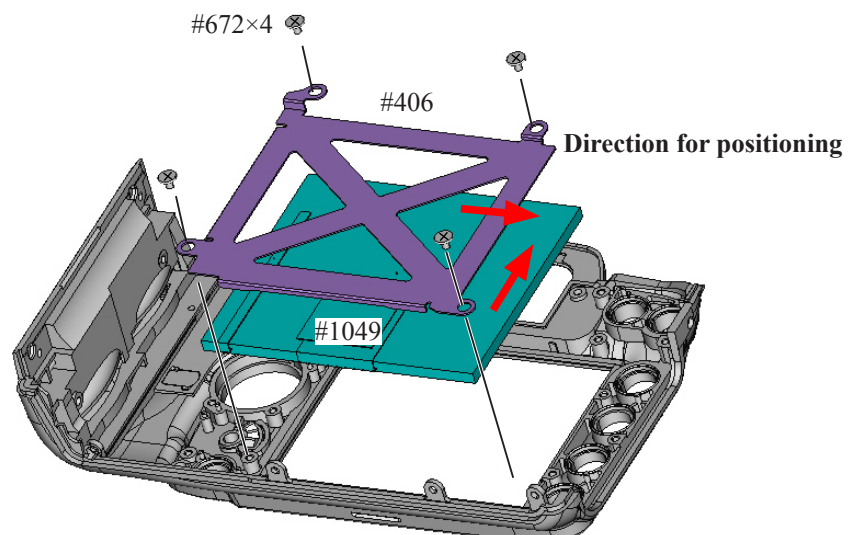


- Mount the E-ring (#723).
- Hook the spring (#486).



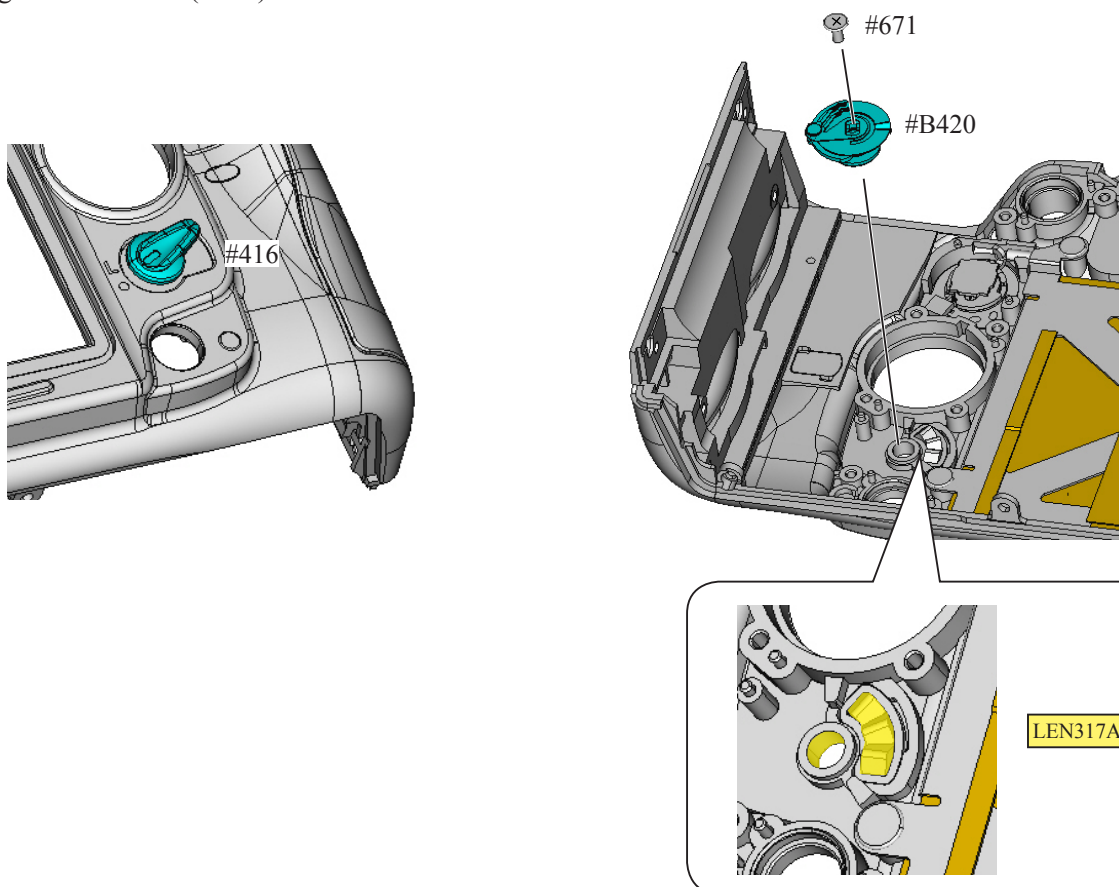
TFT monitor

- Mount the TFT monitor (#1049) and retainer plate (#406).
- Tighten the four screws (#672).

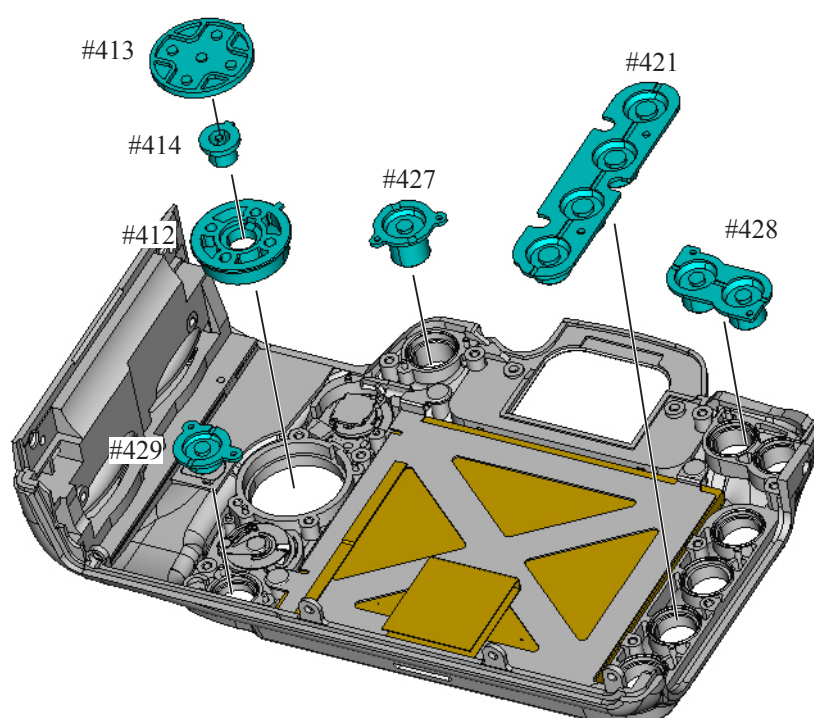


Selector lock lever

- Mount the selector lock lever (#416).
- Mount the selector SW unit (#B420).
- Tighten the screw (#671).

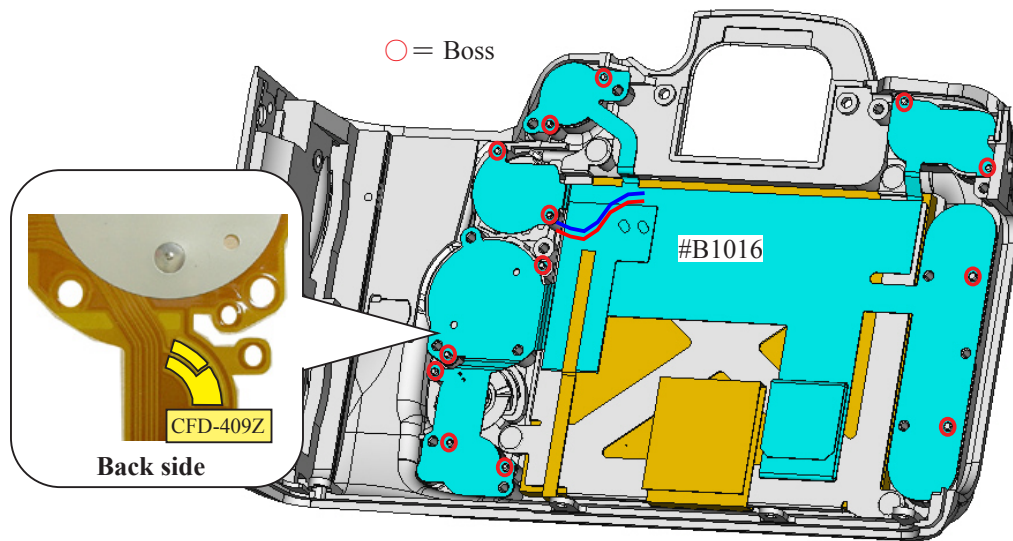


Rear button

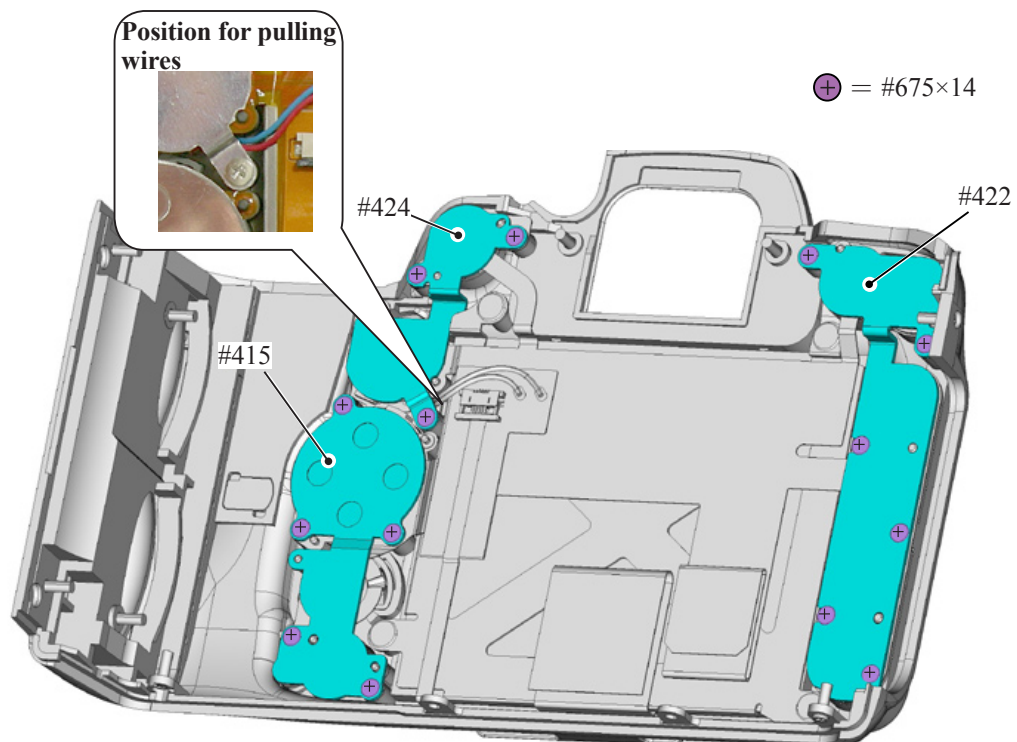


Rear FPC unit

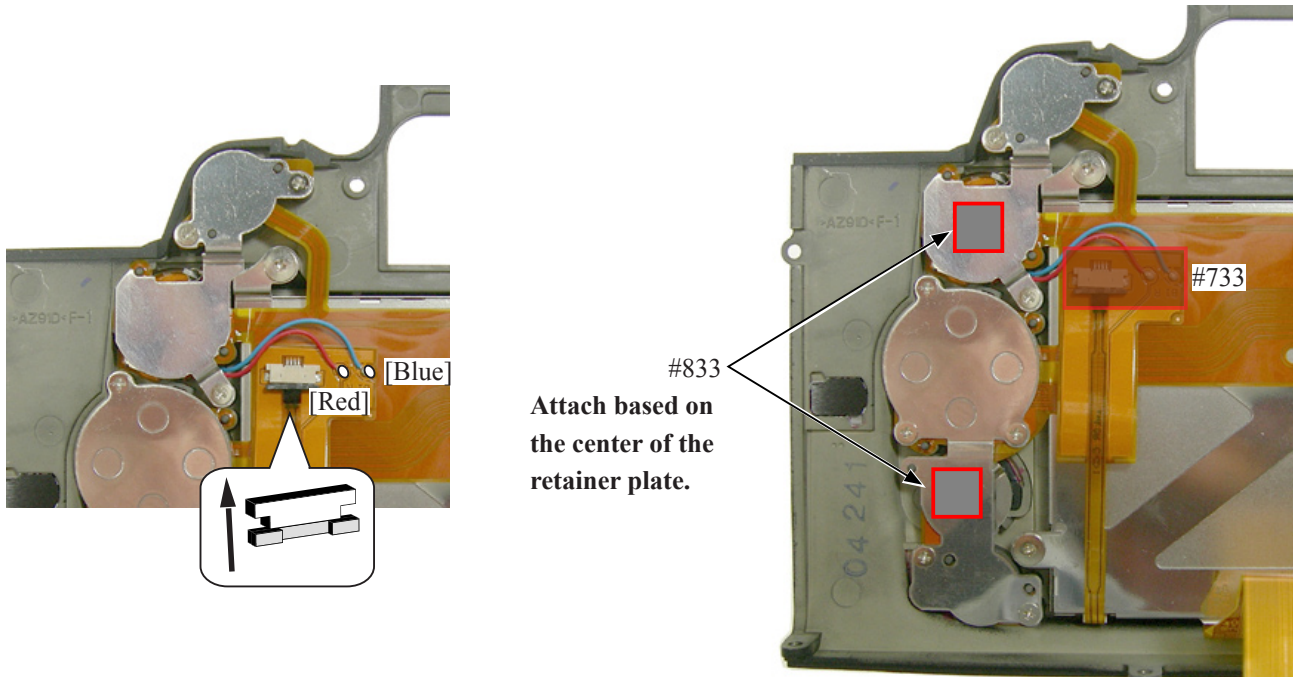
- Mount the rear FPC unit (#B1016).



- Mount the each retainer plate (#415, #422, and #424).
- Tighten the fourteen screws (#675).

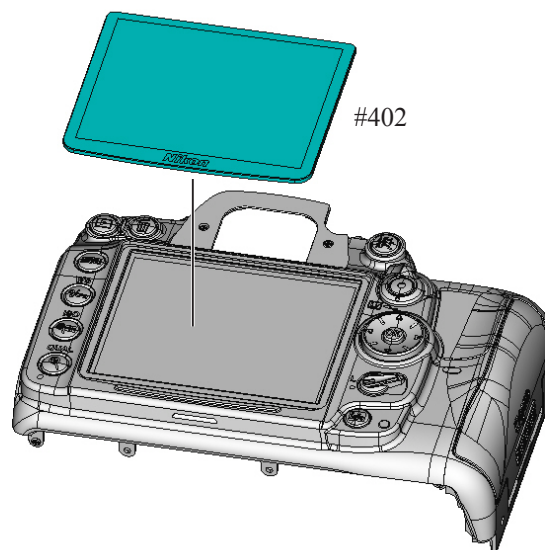


- Connect the FPC.
- Solder the two wires.
- Attach the tape (#733).
- Attach the two gaskets (#833).



TFT monitor window

- Attach the TFT monitor window (#402).

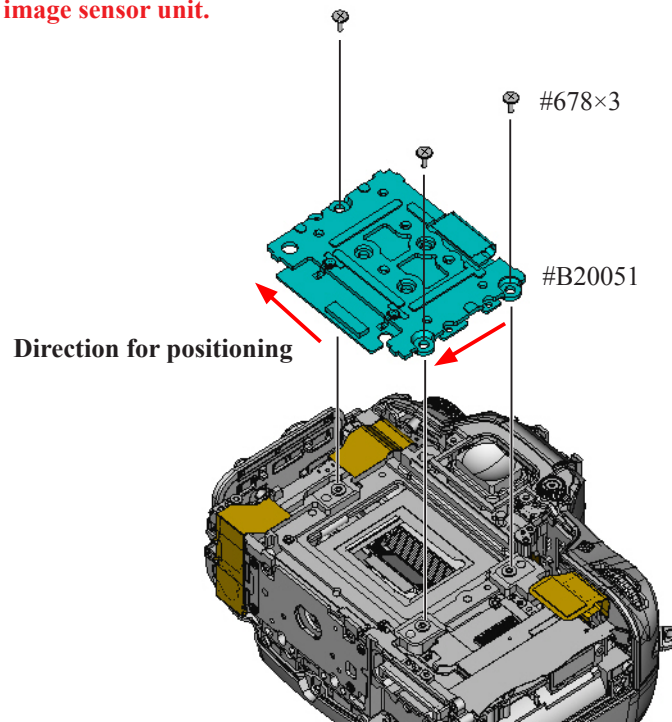


8. Image Sensor/TOGO PCB

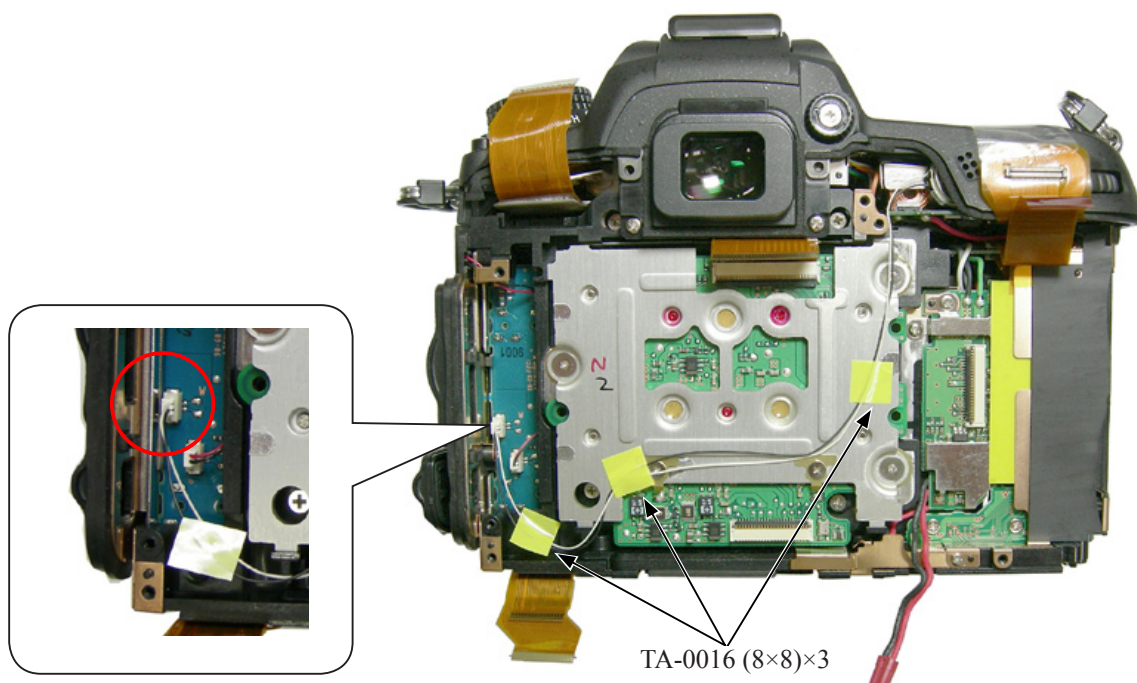
Image sensor unit

- Mount the image sensor unit (#B20051).
- Tighten the three screws (#678).

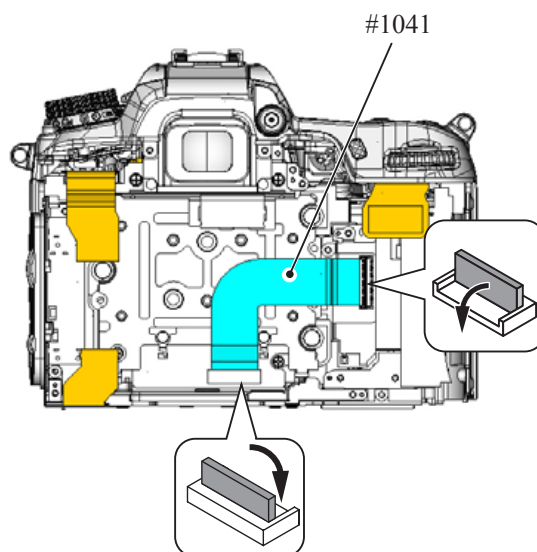
Caution: For some camera bodies, washers are already attached on the face that is for mounting the image sensor unit.



- Arrange the wires as below, and secure them with the three pieces of the tape [TA-0016 (8×8)].
- Connect the harness.

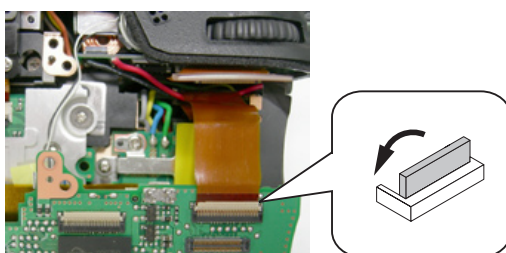


- Connect the connection-FPC (#1041).

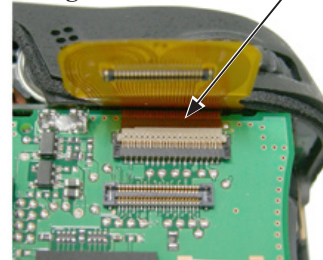


TOGO PCB unit

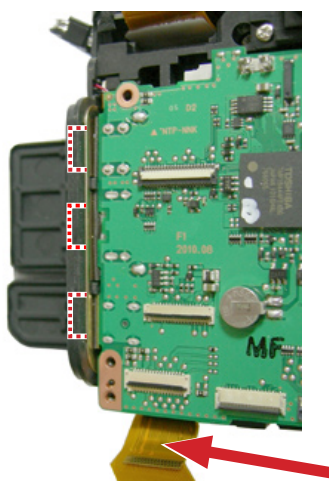
- Connect the FPC of the PD PCB unit.



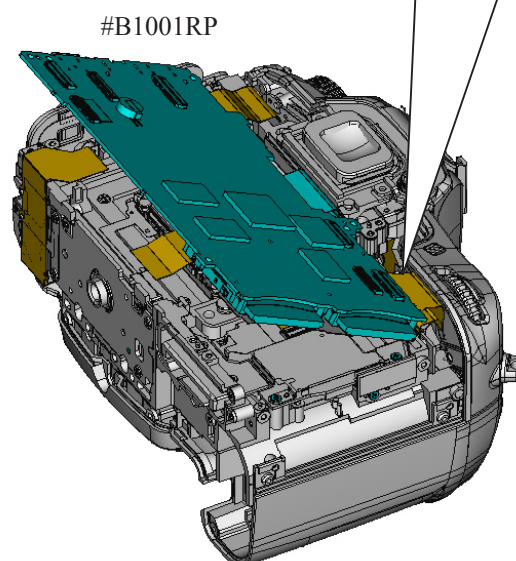
Put inside the TOGO PCB unit for arrangement.



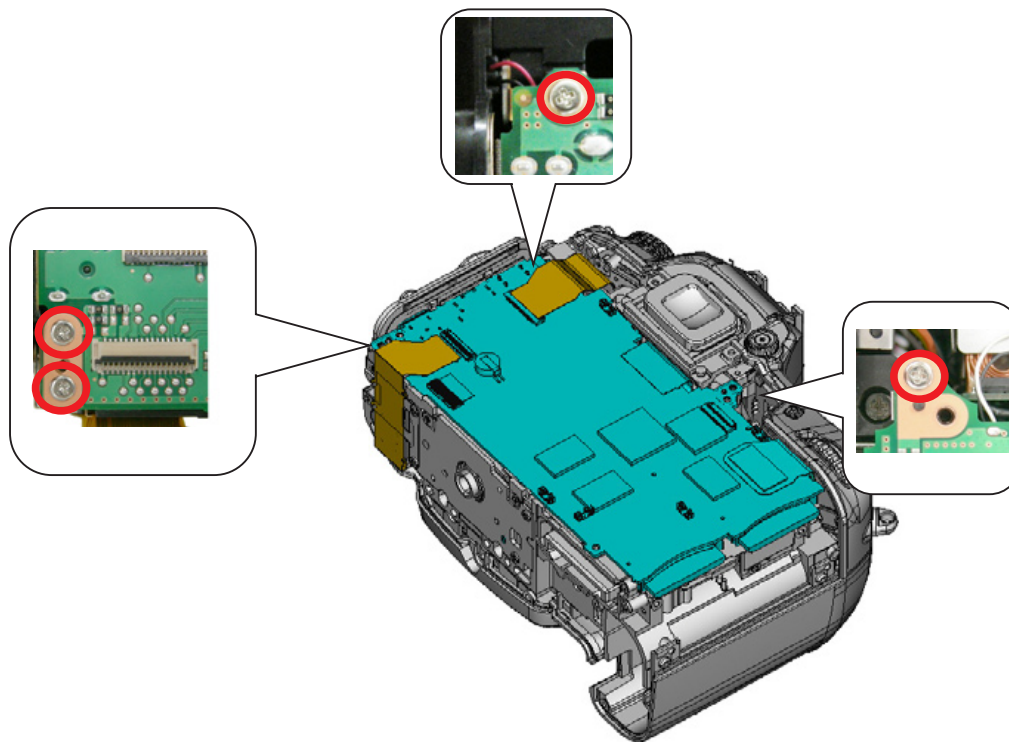
- Mount the TOGO PCB unit (#B1001RP).



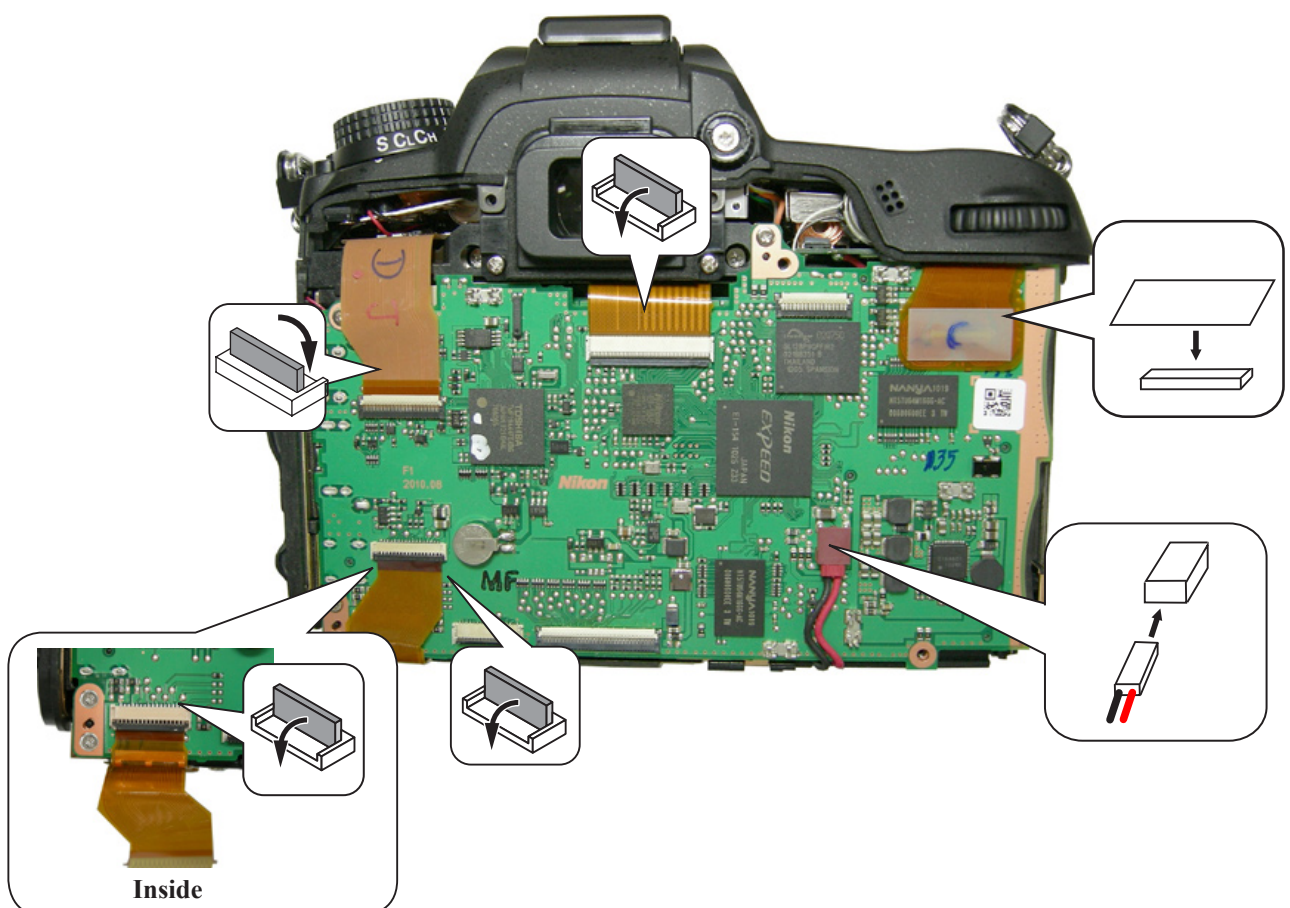
Mount by sliding towards the direction of the arrow and attach the three terminals first.



- Tighten the four screws (#683).



- Connect the five FPCs and harness.



How to connect camera and PC

- Refer to "How to connect camera and PC" of ADJUSTMENT Separate Volume ② for details.

How to install inspection and adjustment software for camera body (except imaging)

- Refer to "How to install inspection and adjustment software for camera body (except imaging)" of ADJUSTMENT Separate Volume ② for details.

Tool (Device)
J65155

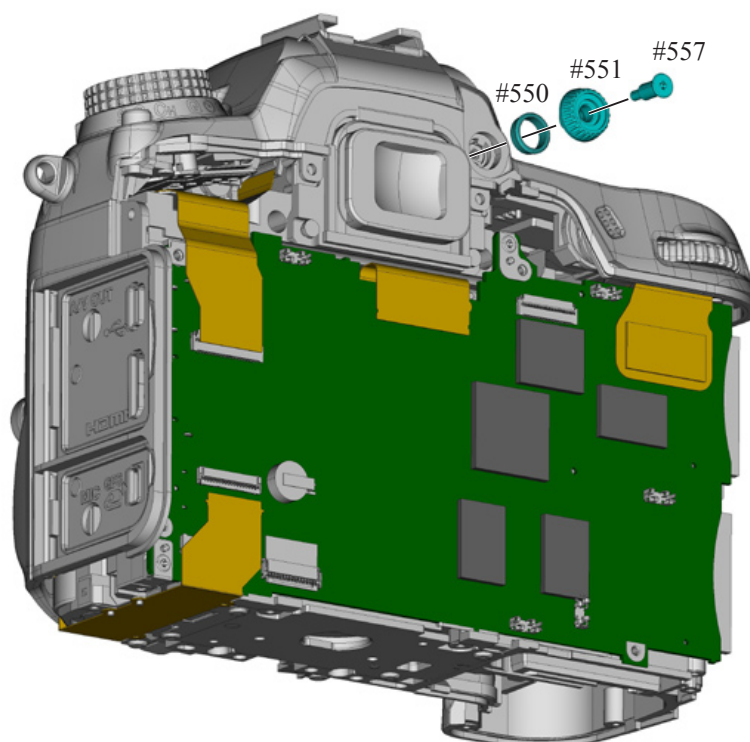
Adj. Soft For Camera Body

Inspection and adjustment for AE-CCD positioning

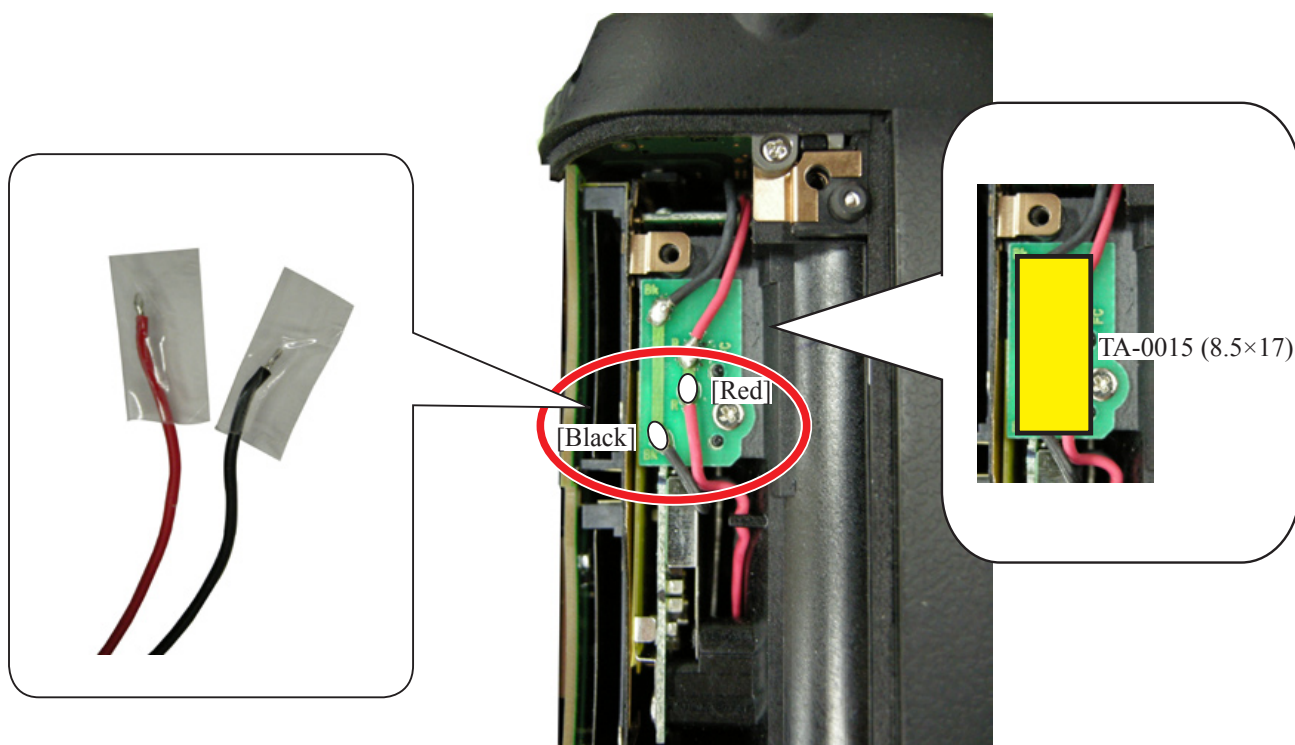
Caution 1: In case of running out of the secondary rechargeable battery of the TOGO PCB, communications with PC may become impossible. In this case, mount the rear cover and set the settings of "Time zone and date" on the menu.

Caution 2: Before the inspection and adjustment, set the shooting mode dial of the top cover unit to "P".

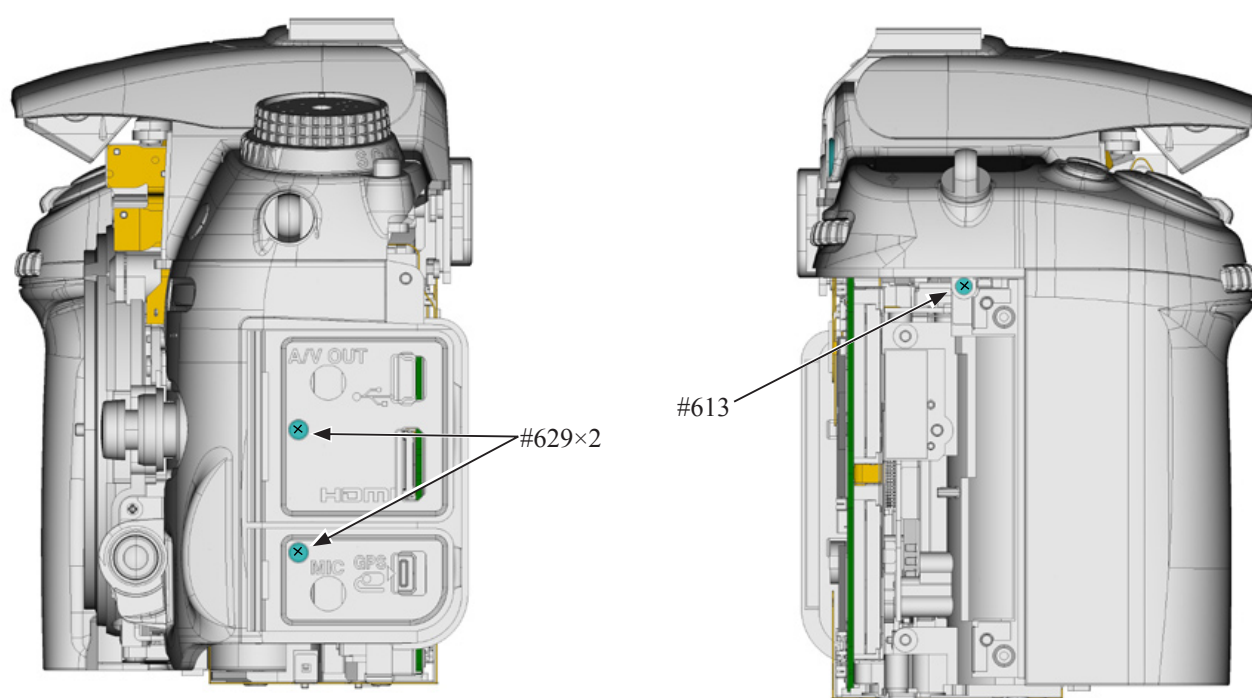
- Take out the screw (#557), diopter adjustment knob (#551), and roller (#550).



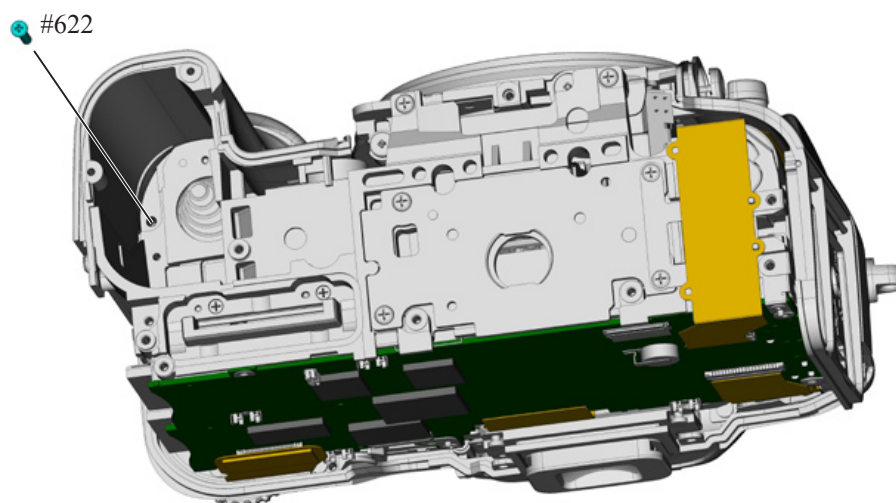
- Peel off the tape [TA-0015 (8.5×17)], and unsolder the two wires of the main condenser unit.
- In order to prevent short-circuit, insulate the two wires with the tape.



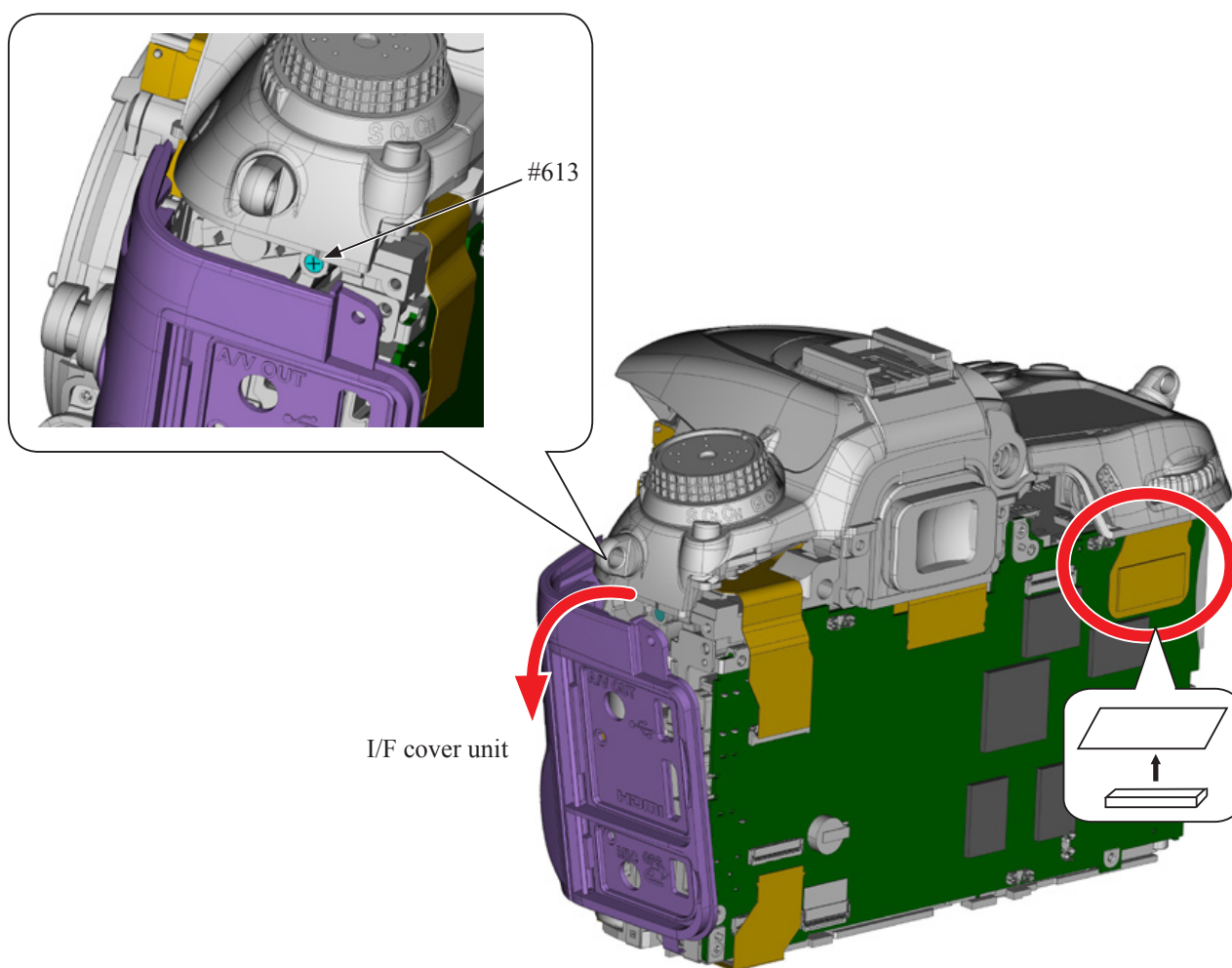
- Take out the two screws (#629) and one screw (#613).



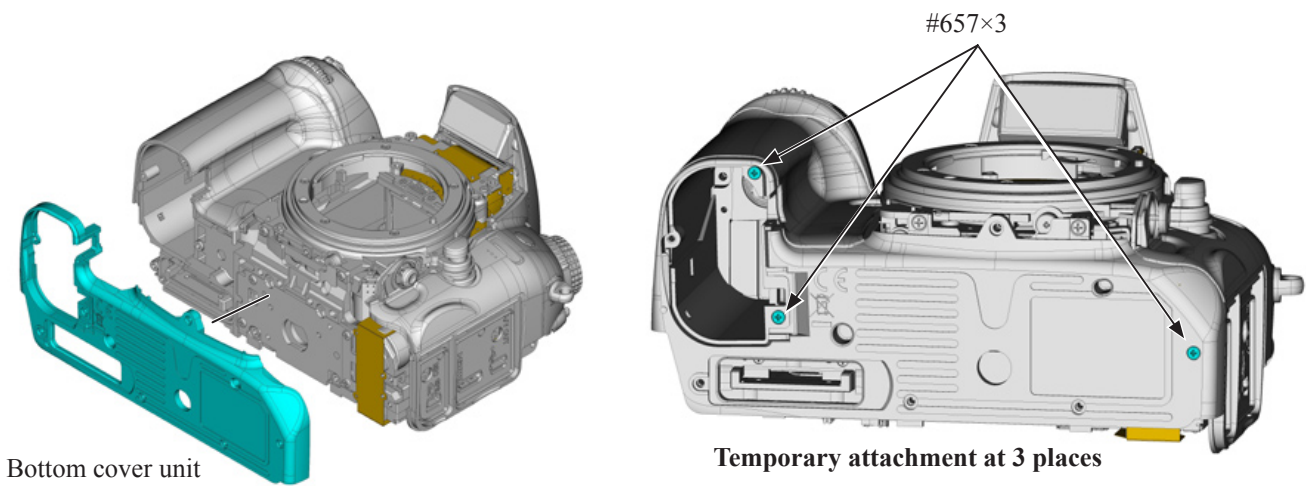
- Take out the screw (#622).



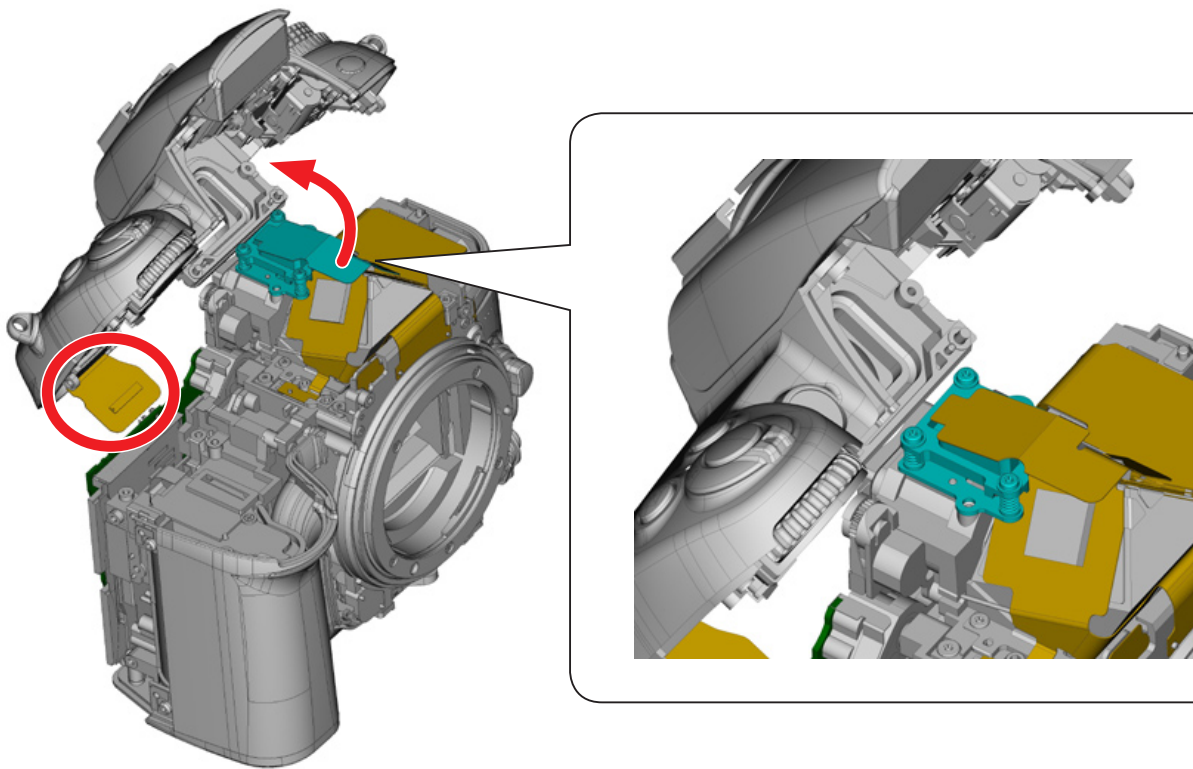
- Slacken the I/F cover unit by pulling in the direction of the arrow, and take out the screw (#613).
- Disconnect the FPC.

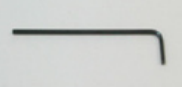


- Mount the bottom cover unit, and attach the three screws (#657) temporarily.



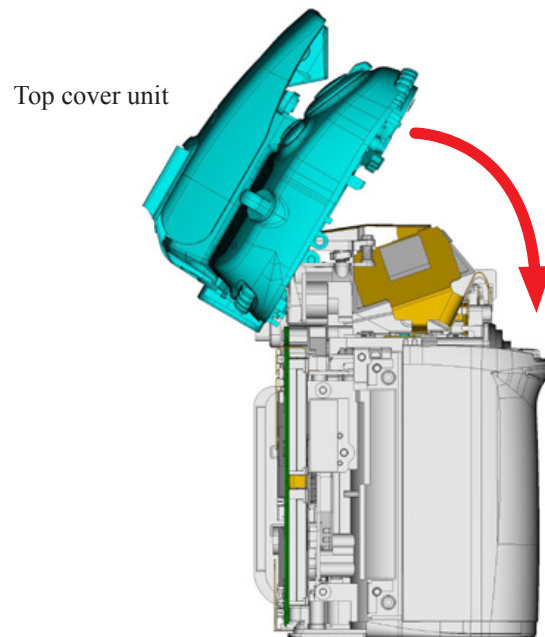
- Disconnect the FPC of the top cover unit.
 - With the top cover unit being pulled up as indicated by the arrow, make the inspection and adjustment for AE-CCD positioning.
- Be careful of connected FPCs and wiring.**
- Refer to "Inspection and adjustment for AE-CCD positioning" of D/SLR ADJUSTMENT Separate Volume ② for details.



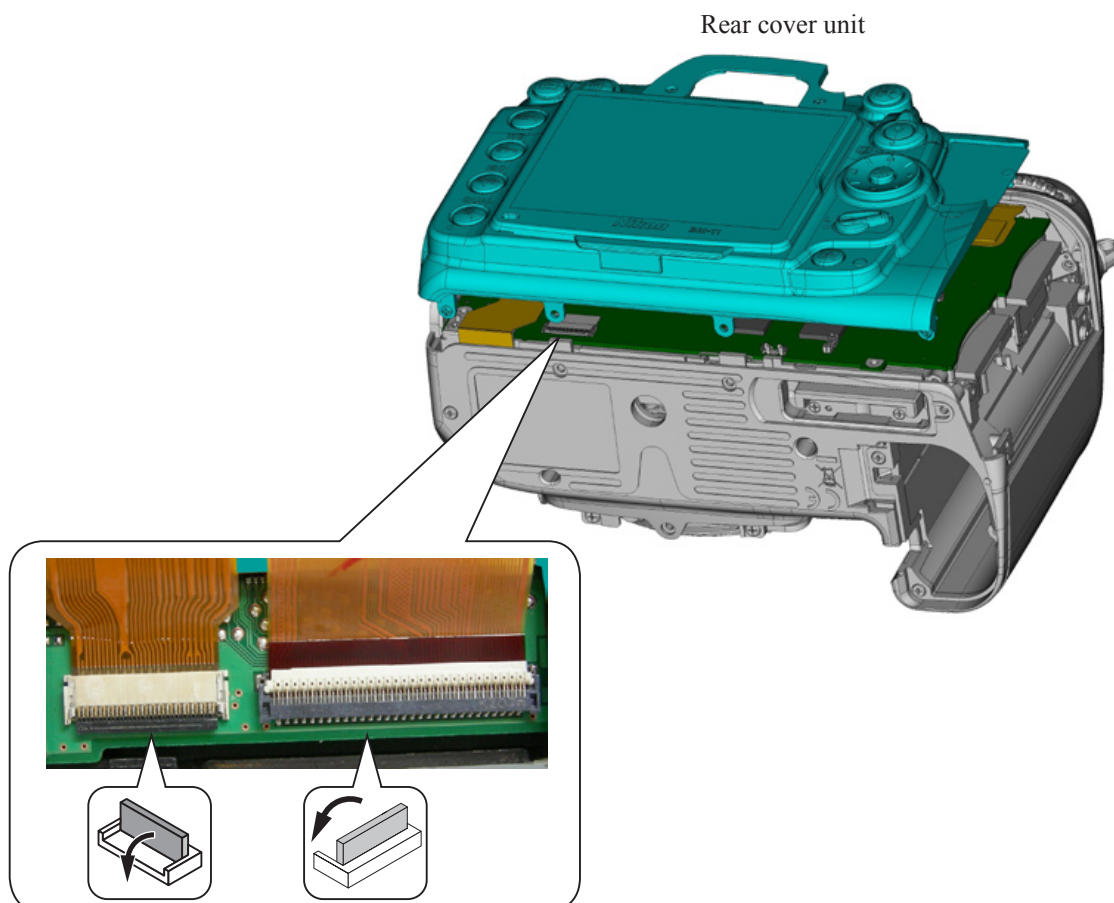
Tool (Device)						
J63119	J63070	J18267	J15443	J15444	Use Nikon comm. product.	
						
AE/CCD use chart board	Color viewer	Lens AF50/1.4D	2way level	2way stage	Power connector EP-5B	Hex. key wrench (φ1.5 mm)

Inspection and adjustment of parallax

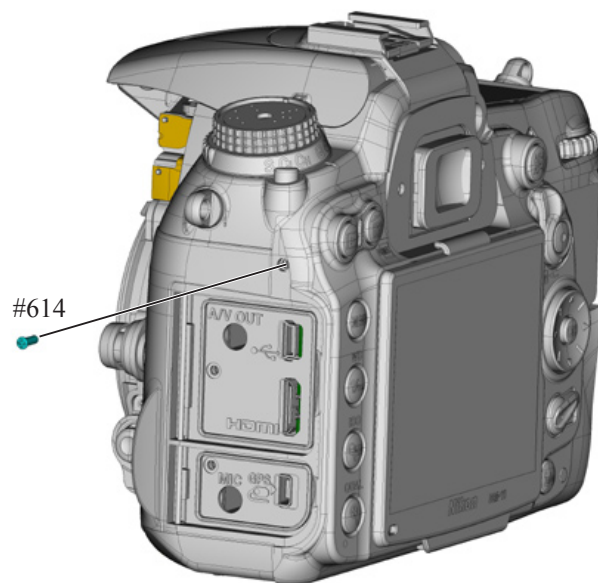
- Put the top cover unit back to the original position.



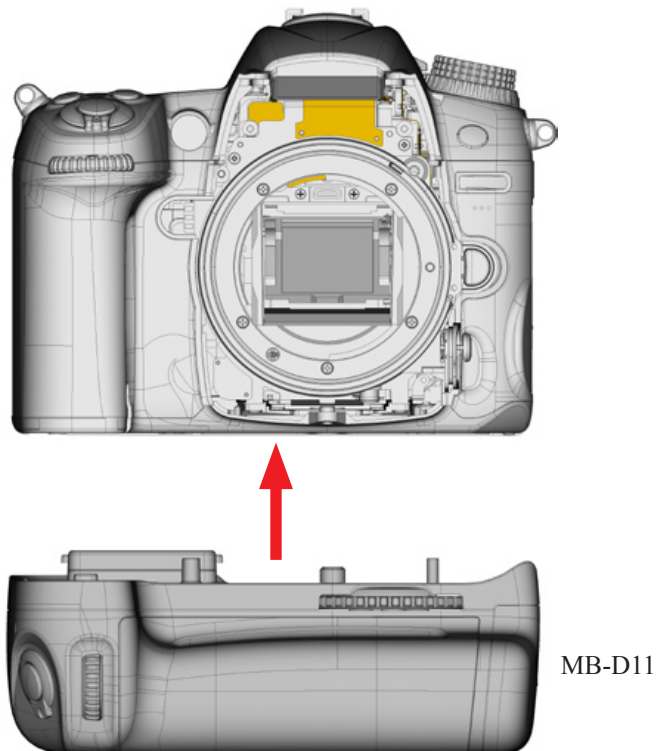
- With the rear cover unit being lifted, connect the two FPCs.
- Mount the rear cover unit.



- Attach the rear cover unit (#B401) temporarily with the screw (#614).



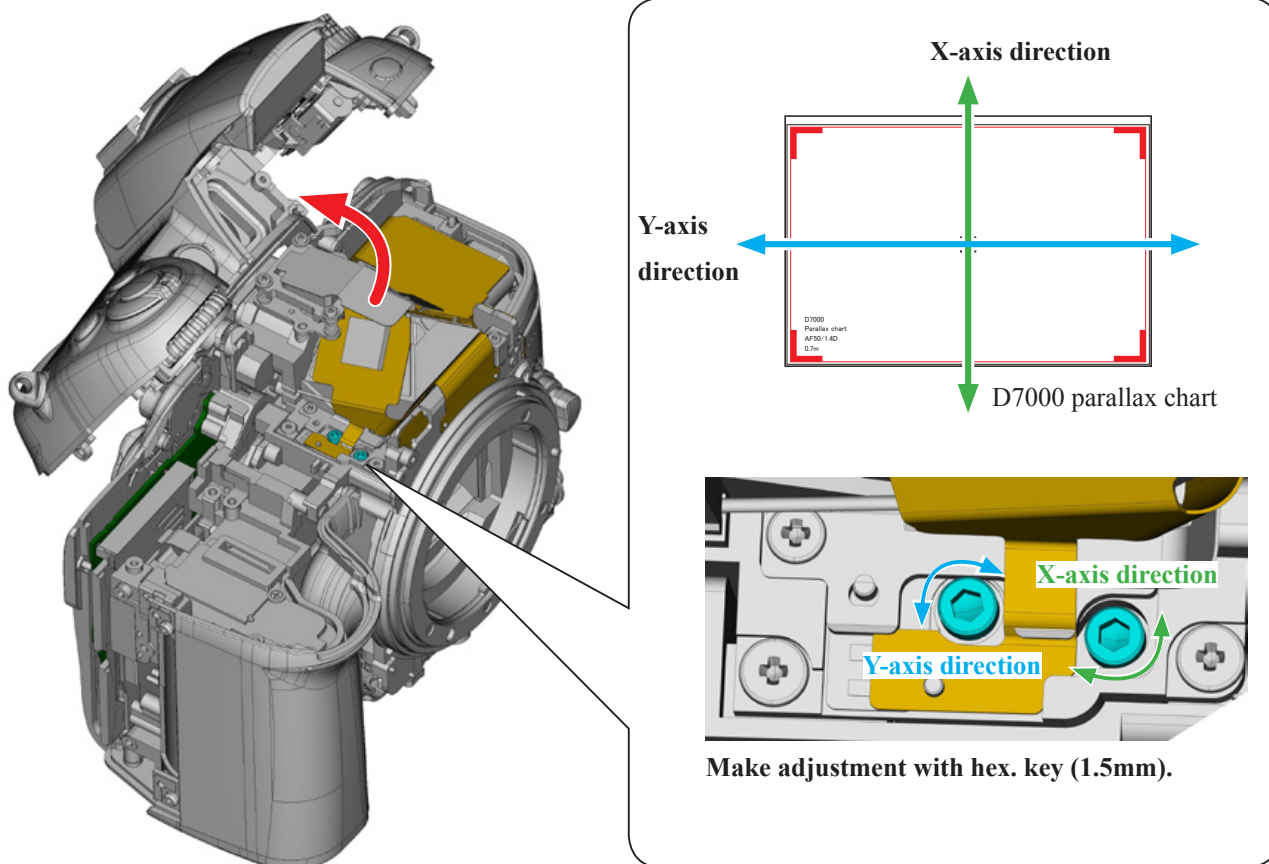
- Mount the MB-D11.



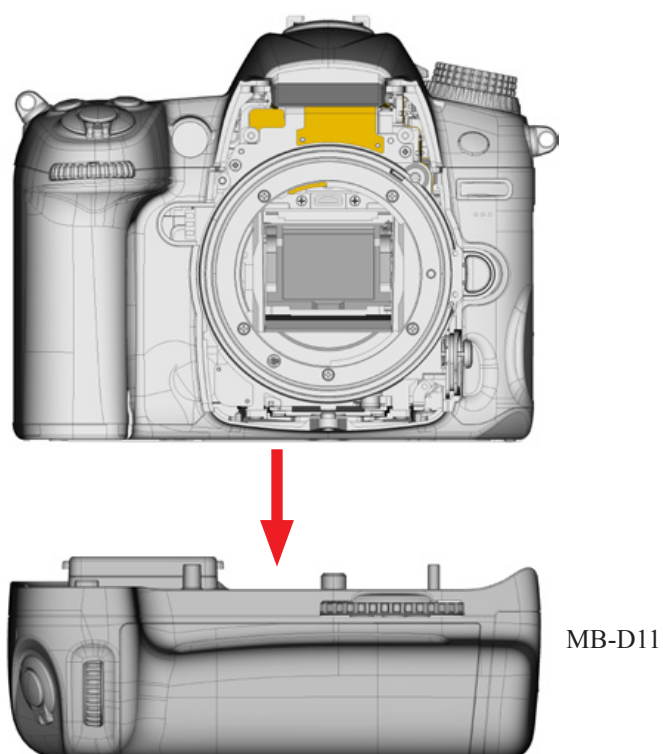
- Refer to "Inspection and adjustment of parallax" of D/SLR ADJUSTMENT Separate Volume ① for details.
- For shutter release, use the release button for vertical position of MB-D11.
- Set the distance between the D7000 parallax chart and the focal plane mark () to "0.7m", and set the focus ring of the lens to "0.7m".

- If the result does not meet the standard, make the adjustment with the top cover unit being lifted as indicated by the arrow.

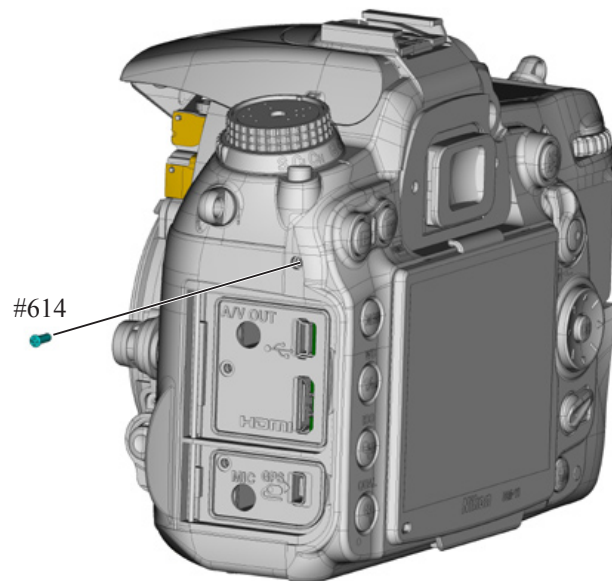
Be careful of the connected FPCs and wiring.



- After the adjustment, remove MB-D11.

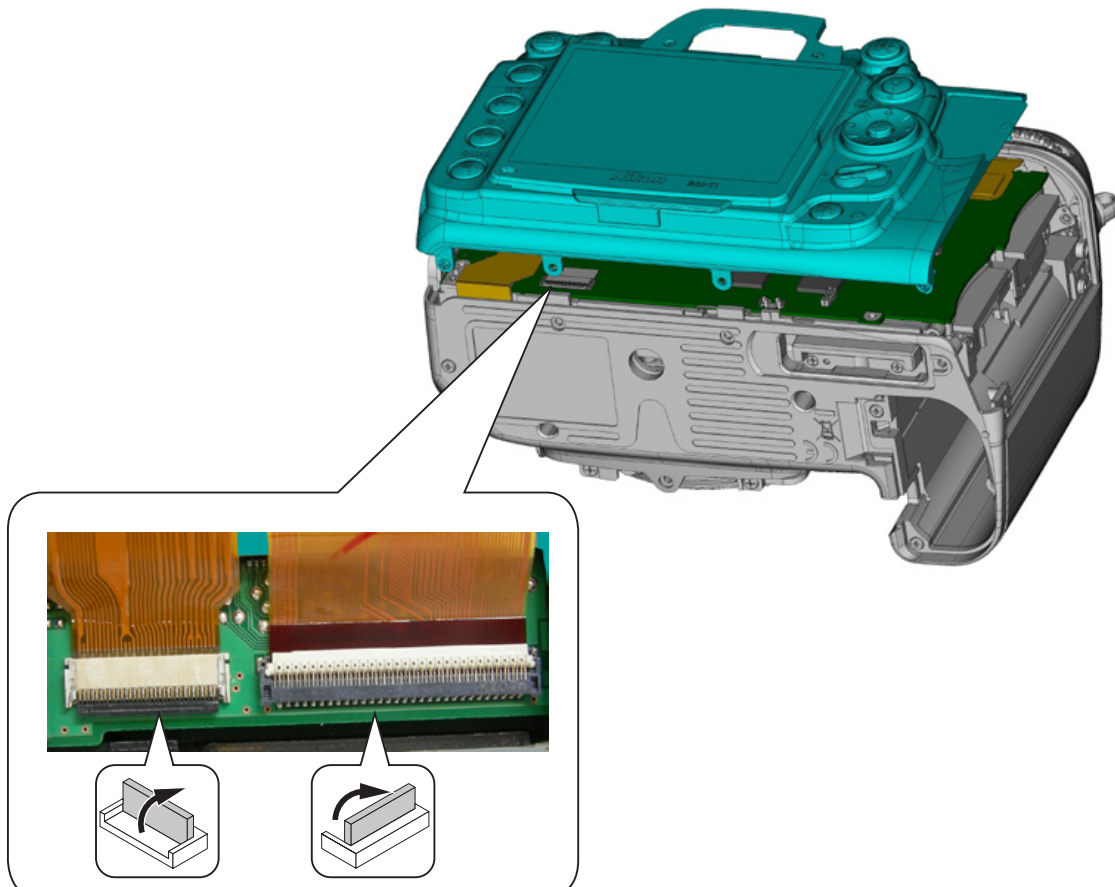


- Take out the screw (#614).

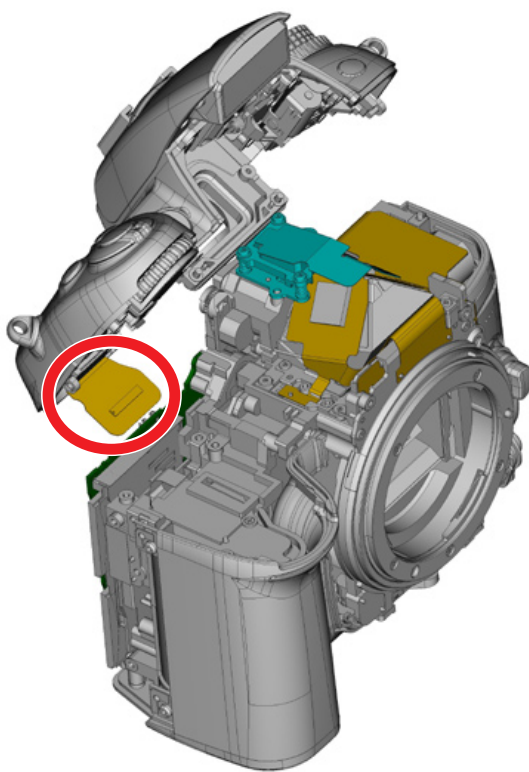


- Remove the rear cover unit.

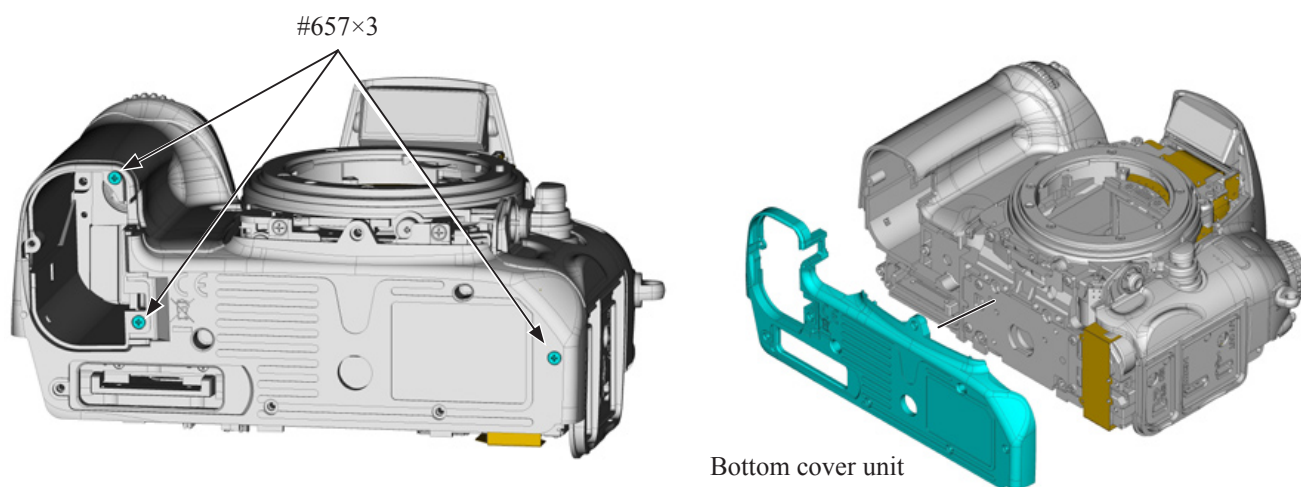
Rear cover unit



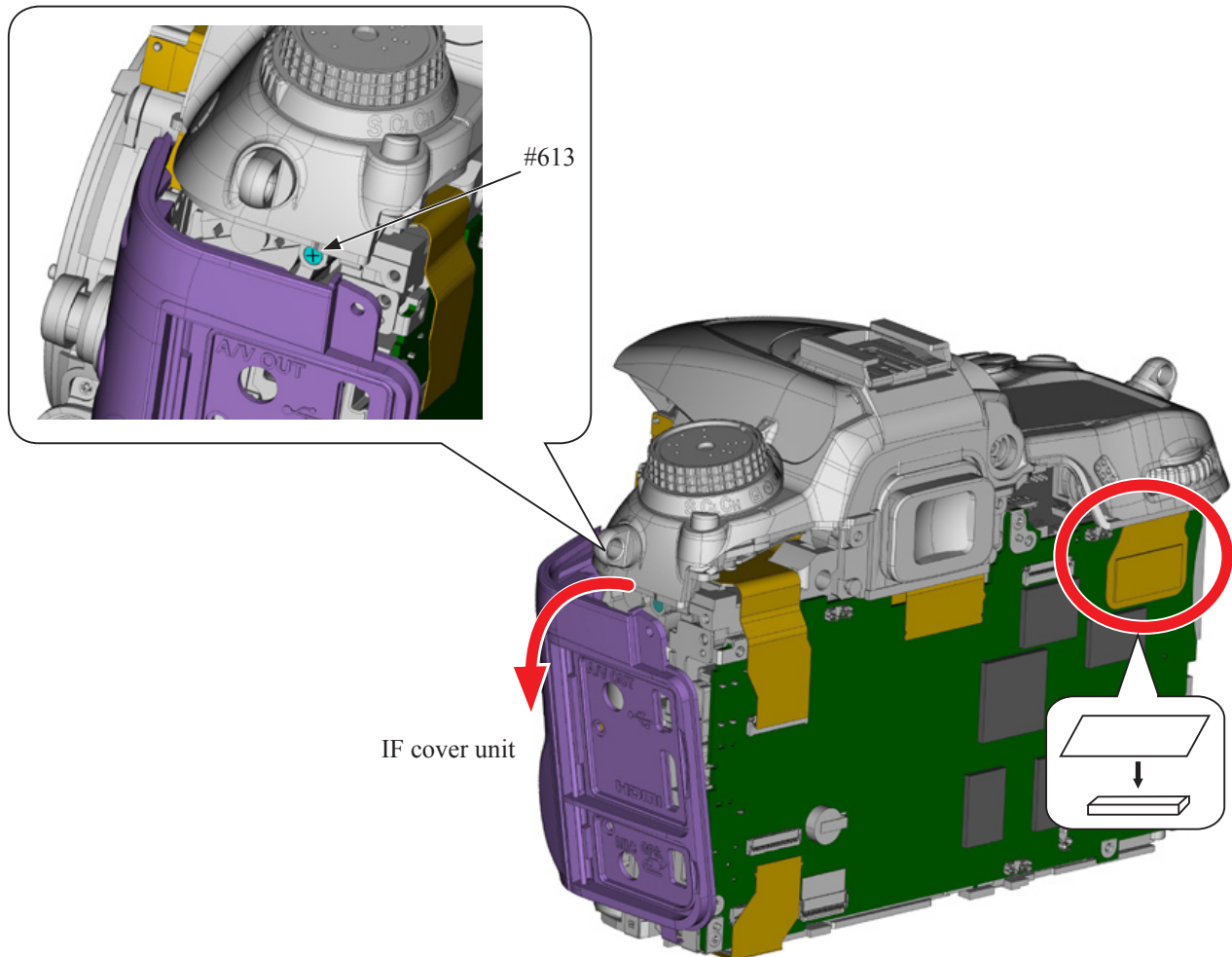
- Connect the FPC of the top cover unit.



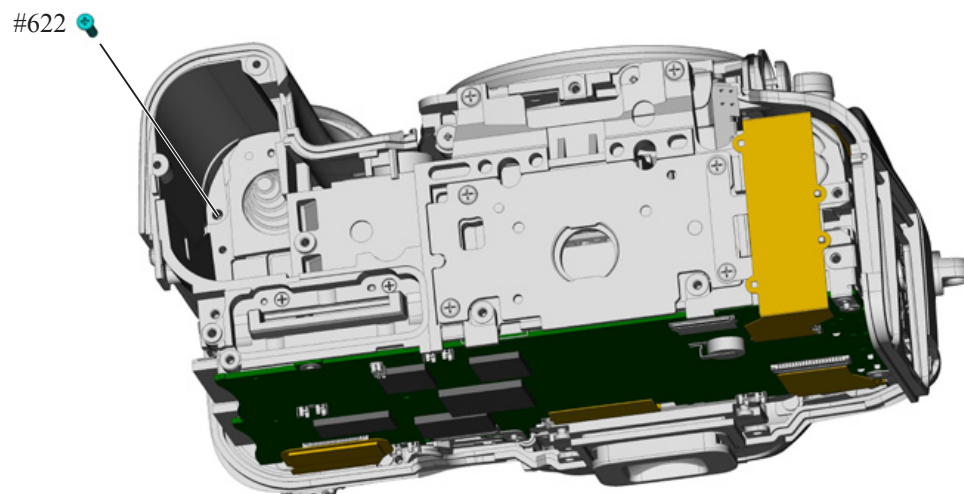
- Take out the three screws (#657), and remove the bottom cover unit.



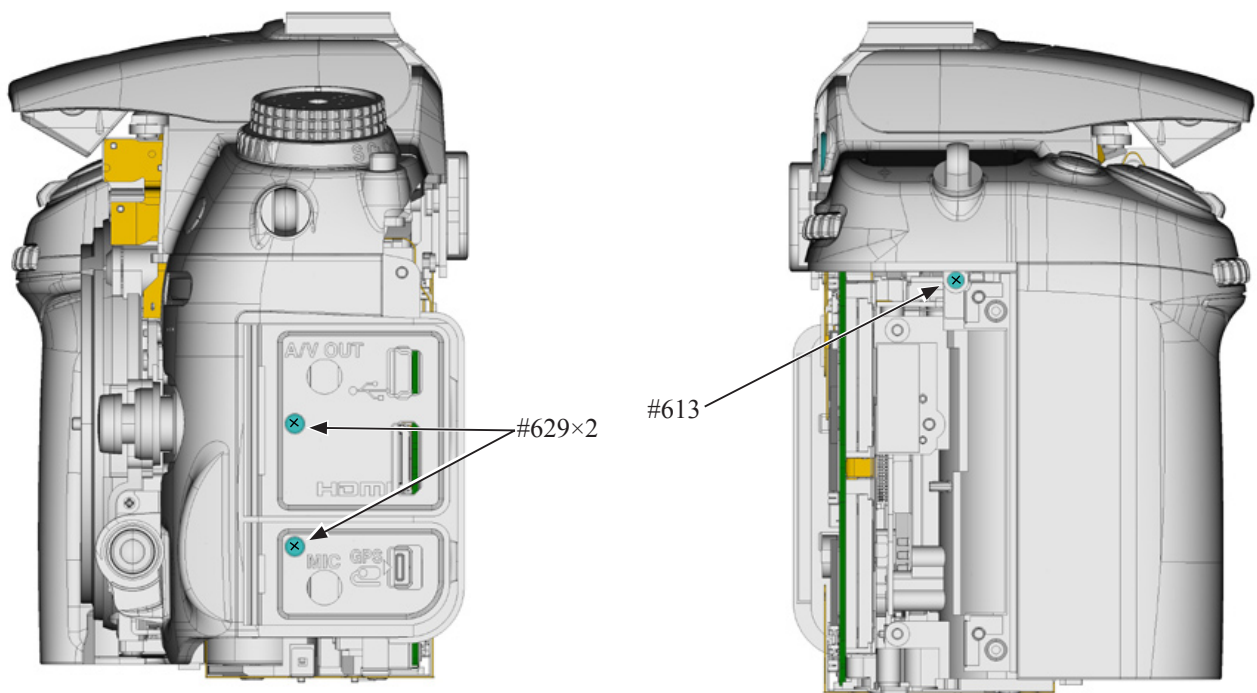
- Slacken the IF cover unit by pulling in the direction of the arrow, and tighten the screw (#613).
- Connect the FPC.



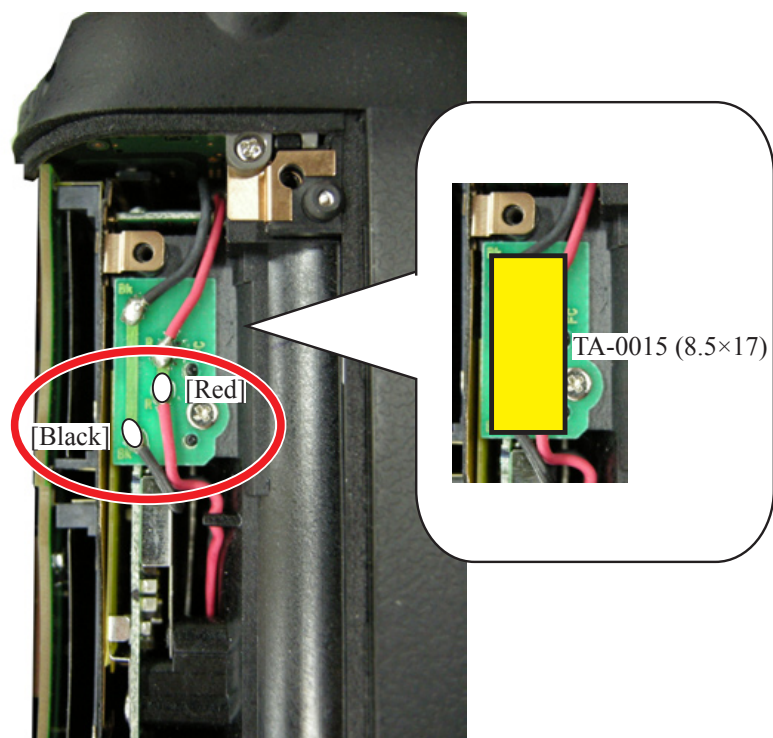
- Tighten the screw (#622).



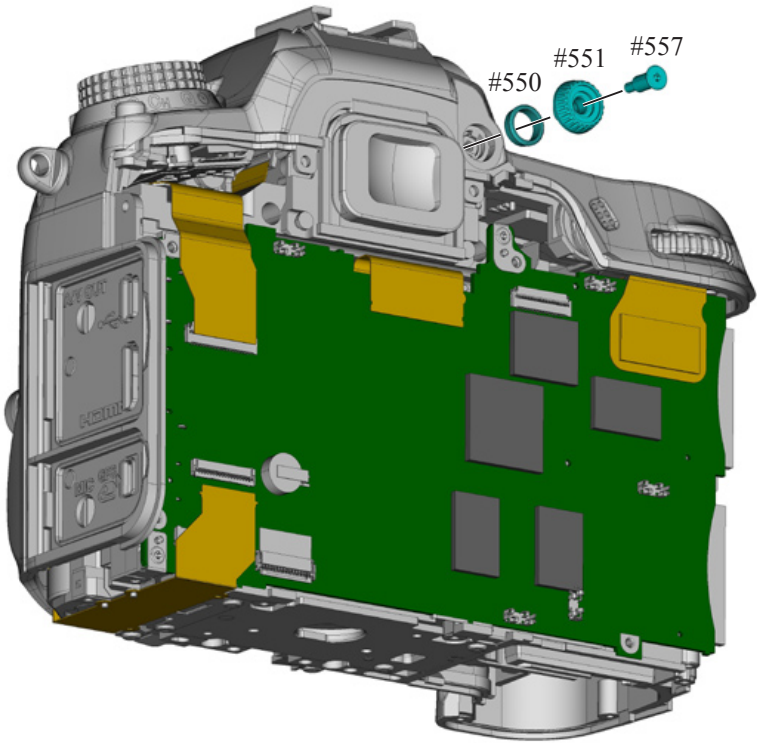
- Tighten the two screws (#629) and one screw (#613).



- Solder the two wires of the main condenser unit.
- Attach the tape [TA-0015 (8.5×17)].



- Attach the roller (#550) and diopter adjustment knob (#551), and tighten the screw (#557).

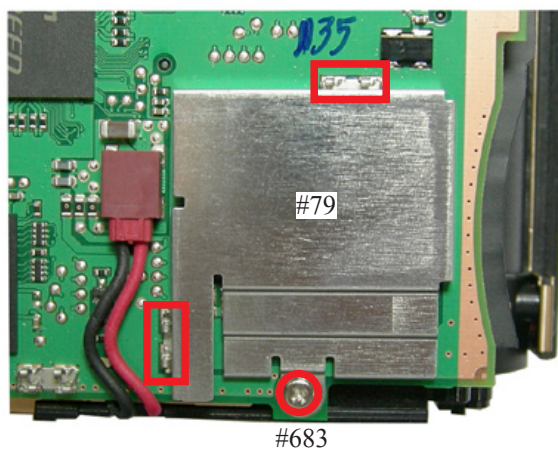


Tool (Device)						
	J18267  Lens AF50/1.4D	J15443  2way level	J15444  2way stage	Use Nikon comm. product.  Power connector EP-5B	 Hex. key wrench (φ1.5mm)	Use Nikon comm. product  MB-D11

※ Print out "parallax chart on Page C3" in A4 size without zooming in/out, and use them.

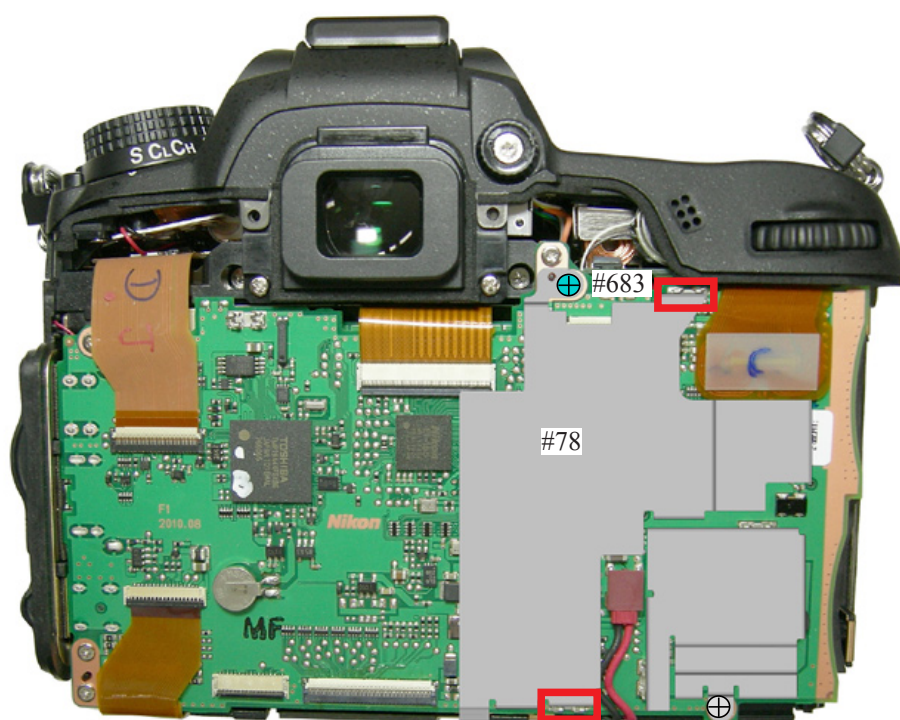
Shield plate

- Mount the shield plate (#79).
- Tighten the screw (#683).

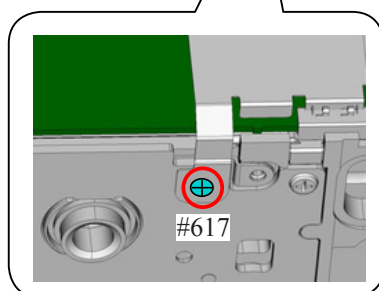


= Hook ×2

- Mount the shield plate (#78).
- Tighten the screw (#617).
- Tighten the screw (#683).



= Hook ×2

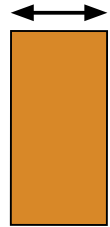


9. External Appearance

Front cover unit

- Insert a lumirror sheet, etc, into the gap of the top cover pop-up section as below. Then raise the section by sliding the sheet in the direction of the arrow.

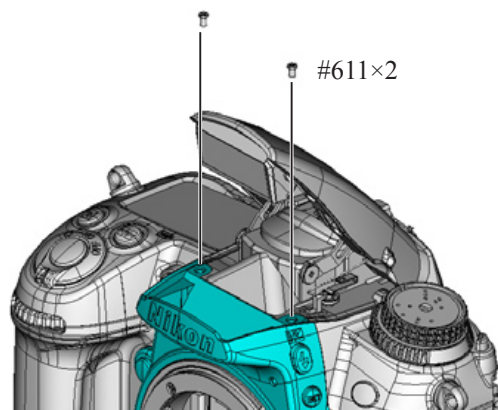
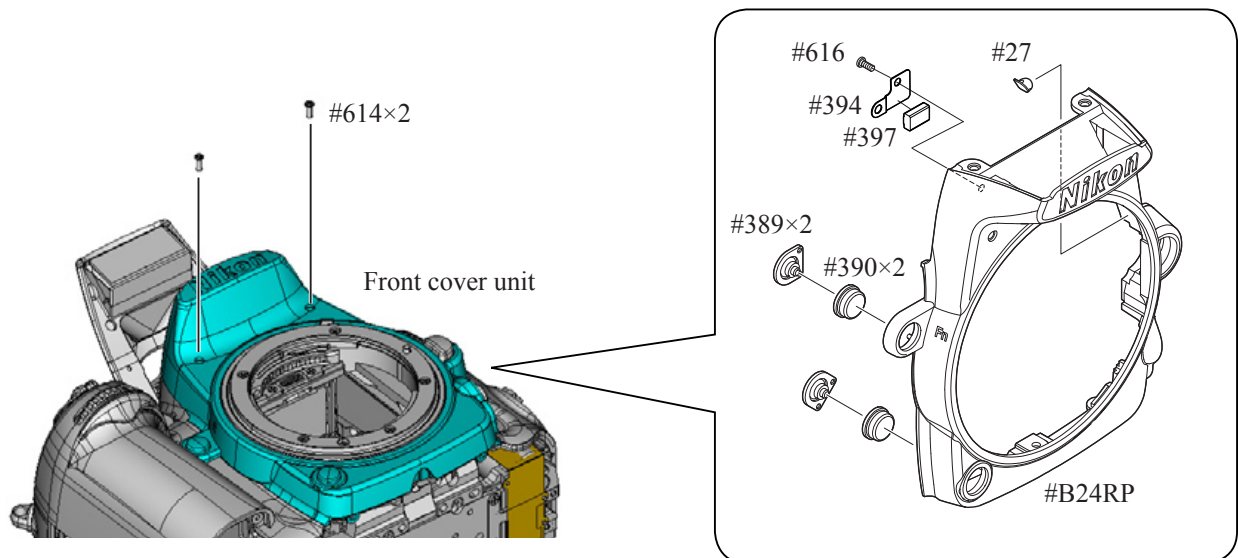
Approx. 2cm



Lumirror sheet



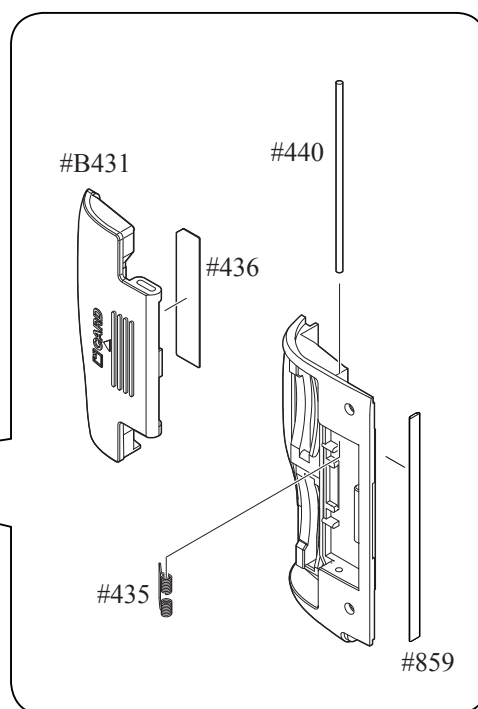
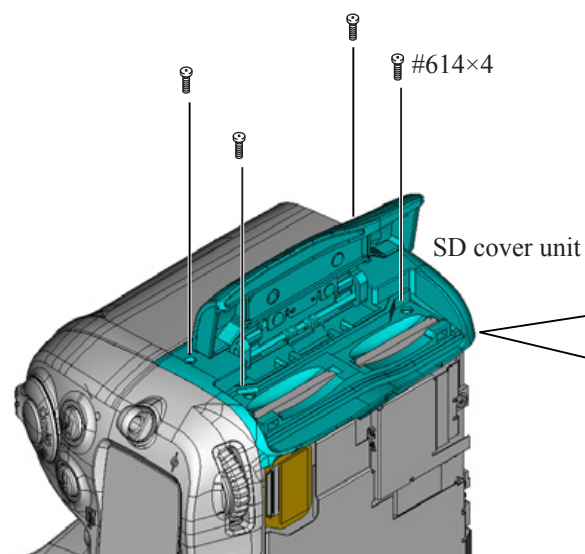
- Mount the front cover unit.
- Tighten the two screws (#614).
- Tighten the two screws (#611).



After mounting the front cover unit (#B24), check operations of the aperture coupling ring and each button.

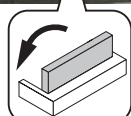
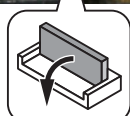
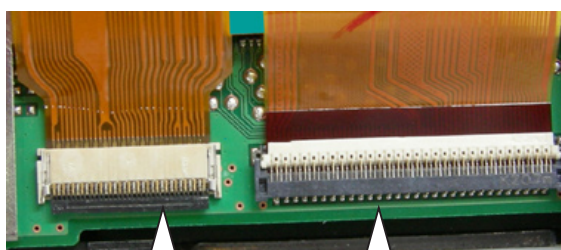
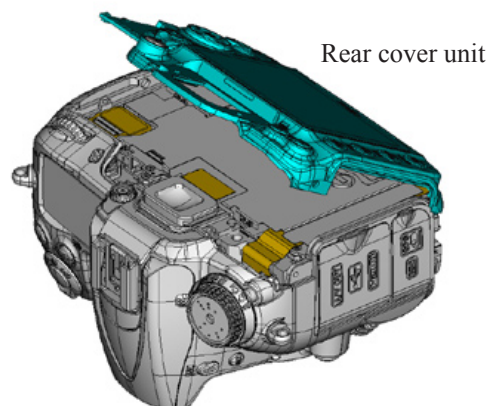
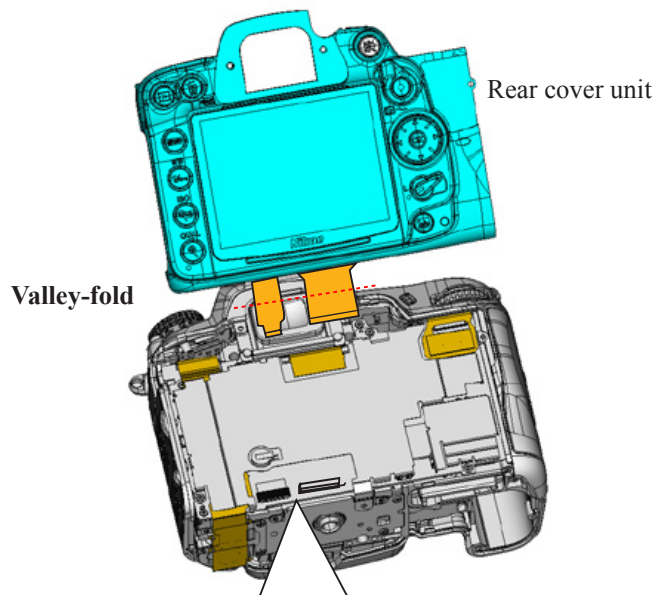
SD cover unit

- Mount the SD cover unit.
- Tighten the four screws (#614).

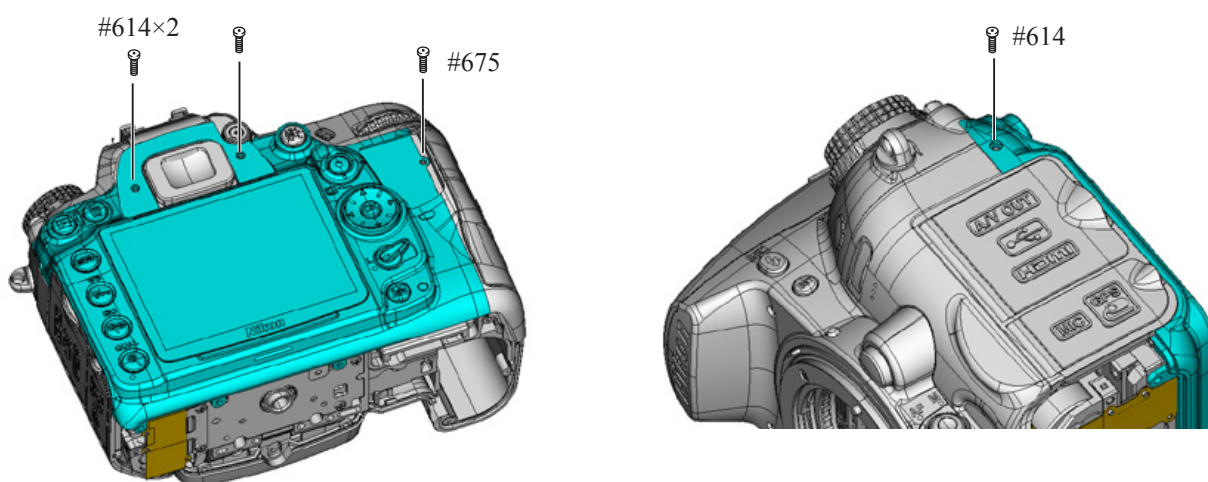


Rear cover unit

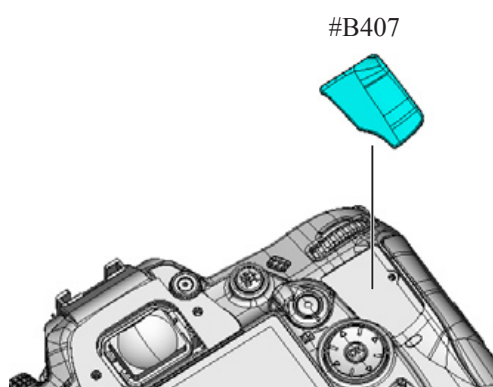
- Connect the two FPCs.
- Mount the rear cover unit.



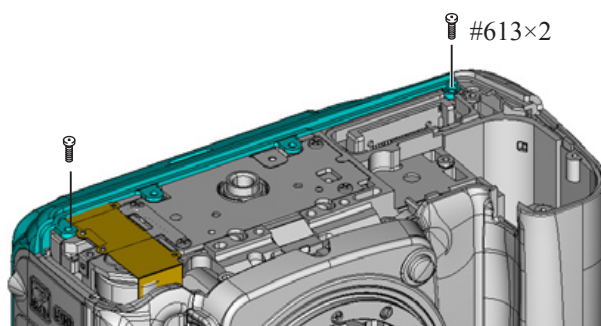
- Tighten the three screws (#614).
- Tighten the screw (#675).



- Attach the rear rubber unit (#B407).



- Tighten the two screws (#613).



Necessary inspection and adjustment of camera body (except imaging) when parts are replaced

- When the TOGO PCB unit has been replaced, be sure to update the firmware of MAIN/RISC versions and the compensation data on lens distortion before writing the initial values.
- During the inspections and adjustments, do NOT touch the discharging areas and the main condenser.

(○: Adj. △ : Insp. only)

	Writing of initial value	Insp. & adj. for AE CCD positioning	Insp. & adj. for AE accuracy	Insp. & adj. for aperture accuracy	Adj. of voltage of battery check function	Insp. & adj. of built-in SB flashlight qty	X-delay adj.	Insp. & adj. for AF accuracy
Shutter unit							○	
TOGO PCB unit	○	△	○	○	○	○	○	○
PD PCB unit					○			
SB PCB unit						○		
DC/DC ISC PCB unit					○			
SB lower cover unit						○		
AF sensor unit								○
Prism box unit		○	○					
Aperture control unit				○				
Metering FPC unit		○	○					
Front body unit		○	○	○				○

Firmware update

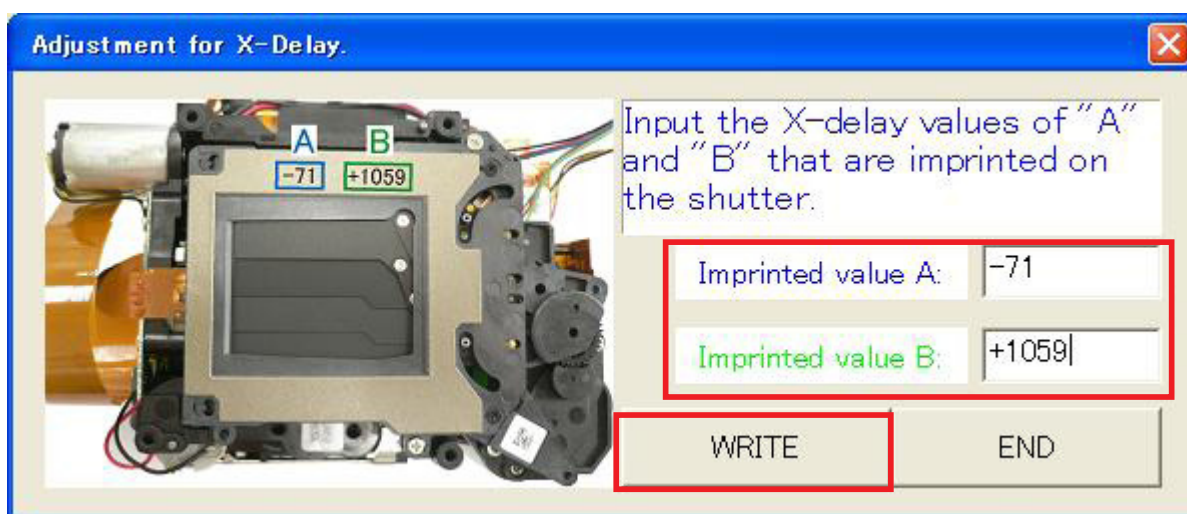
- Refer to "Firmware update" of ADJUSTMENT Separate Volume ② for details.

Inspection and adjustment for AE accuracy

- Refer to "① Inspection and adjustment for AE accuracy" of ADJUSTMENT Separate Volume ② for details.

X-delay adjustment

When the shutter unit or TOGO PCB unit has been replaced, input the delay-values that are imprinted on the shutter unit (see below).

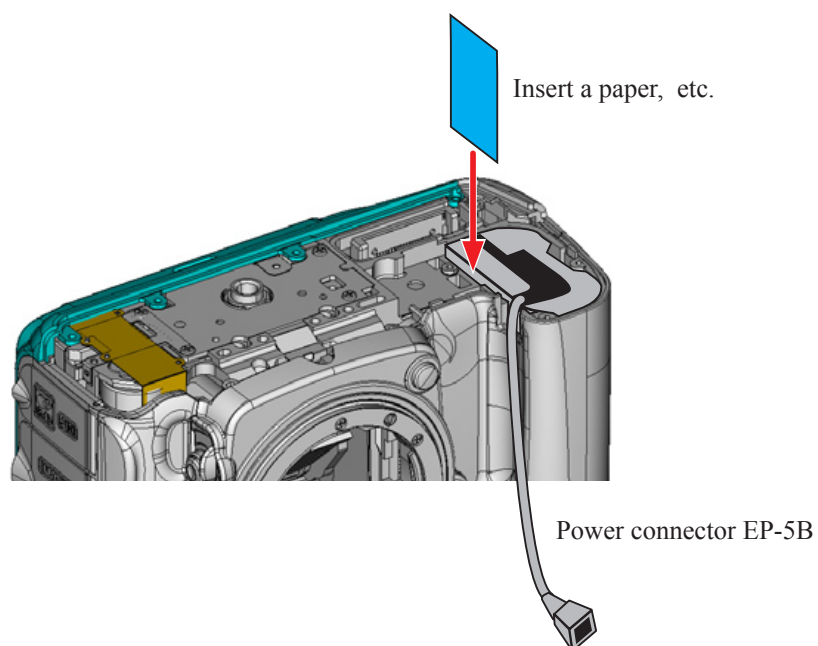


- Type in the X-delay values (A and B) that are imprinted on the shutter unit into the above each column. Then, click "Write" button.

Tool (Device)					
J19123  EF-1	RJ is unavailable.  EF-8000	J18267  Lens AF50/1.4D	J18498  Lens AF 28/2.8D	J18499  Lens AF-S VR 70-300/4.5-5.6	Use Nikon product.  Lens AF 70-300/4-5.6D
Shutter tester				70-300 mm lens	
 Power supply (10V 5A)	 Digital meter	 Flashmeter	 Power connector converted EP-5B	J18360  Standard reflector	
J63119  AE CCD use chart board	J15443  Two-way level	J15444  Two-way stage	J63070  Color viewer	Use Nikon product.  Power connector EP-5B	

Inspection and adjustment for AF accuracy

- Refer to "② Inspection and adjustment for AF accuracy" of ADJUSTMENT Separate Volume ② for details.
- Insert a paper, etc, into the battery box, in order to secure the power connector (EP-5B). Then, confirm that the power can be ON.



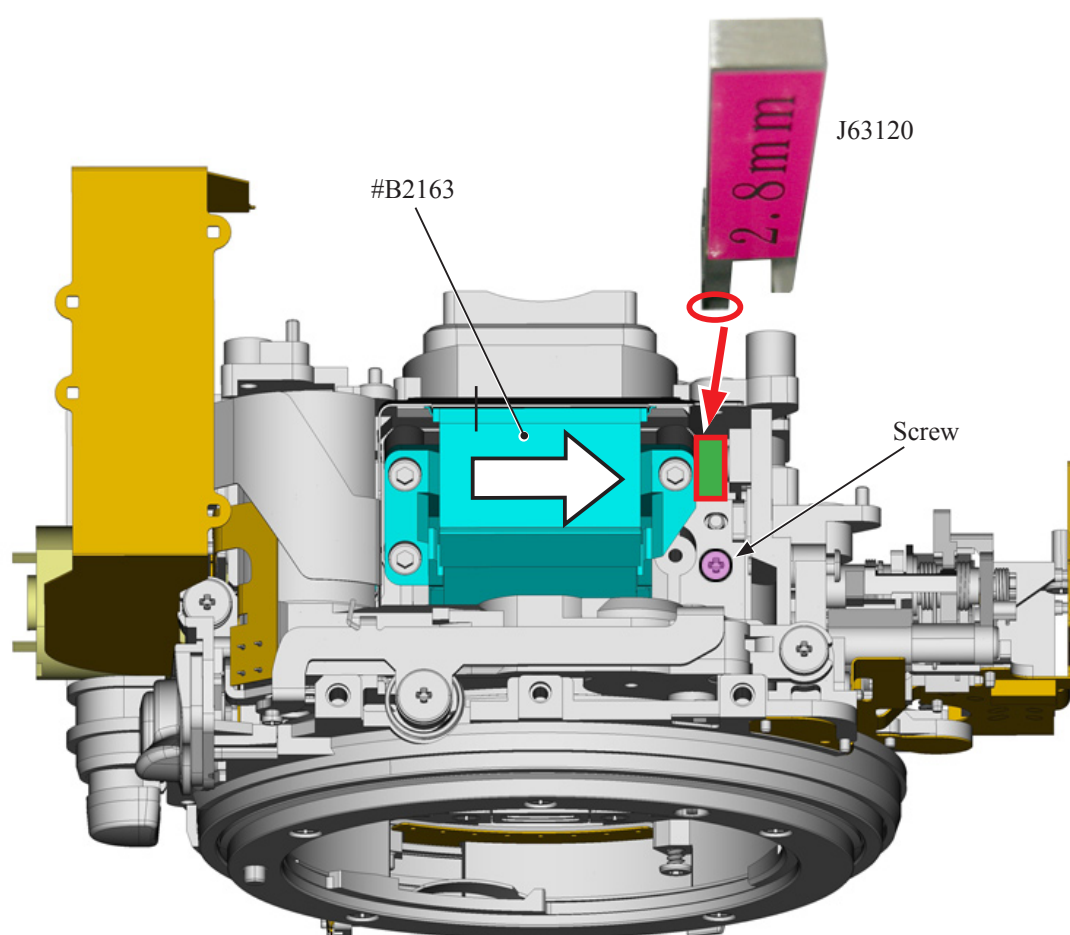
Inspection and adjustment of X-position

【Not up to standard】

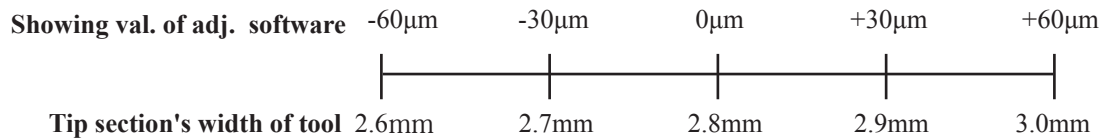
- With AF X-positioning tool (J63120), make the adjustment.

Steps

- ① Separate the front body from the rear body (by disassembling up to the stage on Page D32).
- ② Loosen the screw.
- ③ With reference to the next page, choose the AF X-positioning tool (J63120) whose red-circled section (see below) has the appropriate width.
- ④ Insert the tip section of the chosen AF X-positioning tool into the below (green-colored) gap.
- ⑤ Position the AF sensor unit (#B2163) in the direction of the arrow, and tighten the screw.
- ⑥ Mount the rear body, and restore to the former state.
- ⑦ Check the X-position.

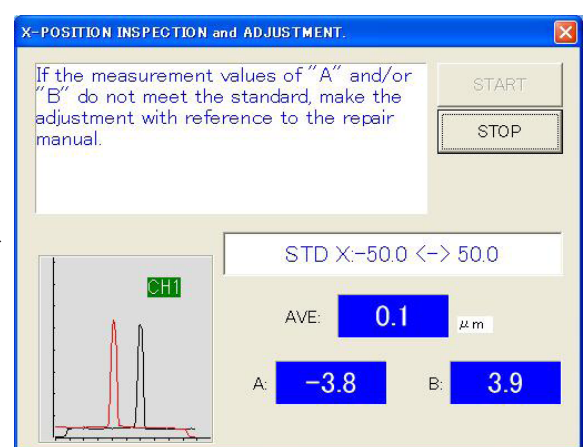
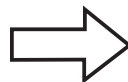
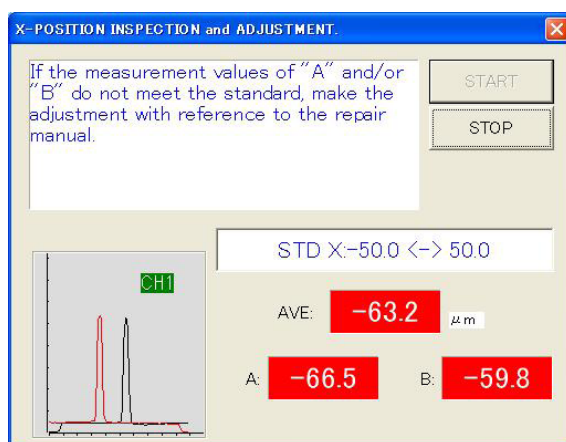


- Tip section's width of the tool, appropriate to the showing value of adj. software
Temporary standard in case the reference is 2.8 mm (0 μ m)

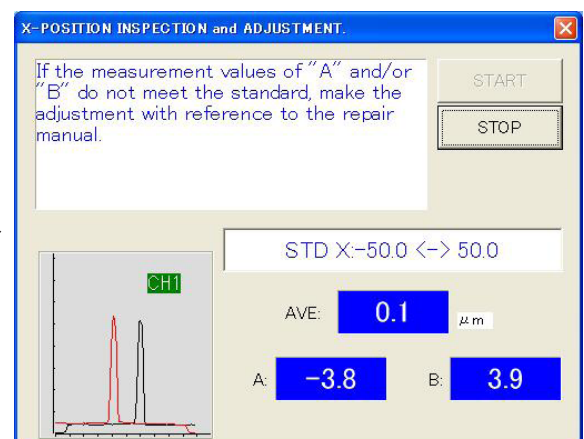
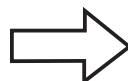
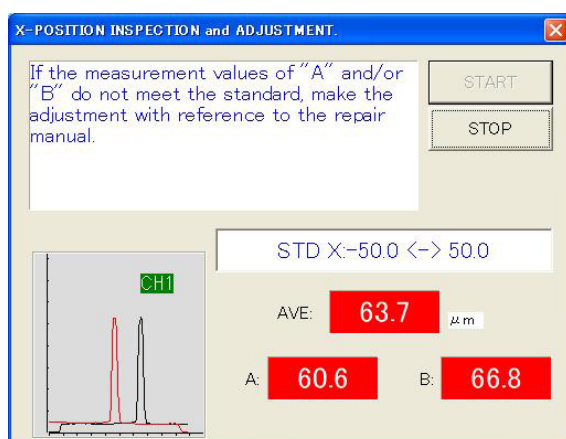


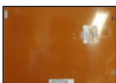
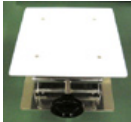
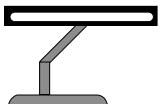
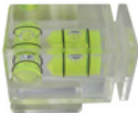
✂ As for some bodies, the reference (0 μ m) is not 2.8 mm, so this is just tentative criteria for judgement.

e.g. In case the value of the adjustment software shows "-60 μ m":
Use the tool with 2.6 mm in the width. (Narrow the gap.)



e.g. In case the value of the adjustment software shows "+60 μ m":
Use the tool with 3.0 mm in the width. (Widen the gap.)



Tool (Device)				
J18266  Z adjustment lens (for 1m)	J15259  AF adjusting tool	J15280  Lens holder	J18191  ND filter 8×	J15264  RJ AF illuminator box (J15264) is disused. For substitutes, refer to TIE-03045.
J15445  Multi-cam 4800DX AF chart	J15409  Chart board	J63070  Color viewer	J63068  Luminance meter (BM-3000)	J11374  Jack 200×200 mm
J19123  EF-1	RJ is unavailable.  EF-8000	J18230  YAW/PITCH adjustment tool	 Hex. Key wrench (φ1.5mm)	J63120  AF X-positioning tool
Shutter tester				
 Reference lens or sub-reference lens Af 50/1.4D	J19124  Z-light×2 *Equivalent fluorescent: flicker-less "Inverter" lighting.	J18393  Slant chart	J15443  2way level	J15444  2way stage
Use Nikon product.  Power connector EP-5B	 X & Y charts			

※ Print out "X & Y charts on Page C4 and C5" in A3 size without zooming in/out, and use them.

Confirmation of data

- Refer to " ③ Confirmation of data" of ADJUSTMENT Separate Volume ② for details.

Switch information monitor

- Refer to " ④ Switch information monitor" of ADJUSTMENT Separate Volume ② for details.

Inspection of sequence operation

- Refer to " ⑤ Inspection of sequence operation" of ADJUSTMENT Separate Volume ② for details.

Inspection of sequence error

- Refer to " ⑥ Inspection of sequence error" of ADJUSTMENT Separate Volume ② for details.

CPU version, number of release times

- Refer to " ⑦ CPU version, number of release times" of ADJUSTMENT Separate Volume ② for details.
- "Flash count" is also indicated on D7000.

Inspection of LCD light-up

- Refer to " ⑧ Inspection of LCD light-up" of ADJUSTMENT Separate Volume ② for details.

Inspection of motor operation

- Refer to " ⑨ Inspection of motor operation" of ADJUSTMENT Separate Volume ② for details.

Reset of compensated AF defocus amount

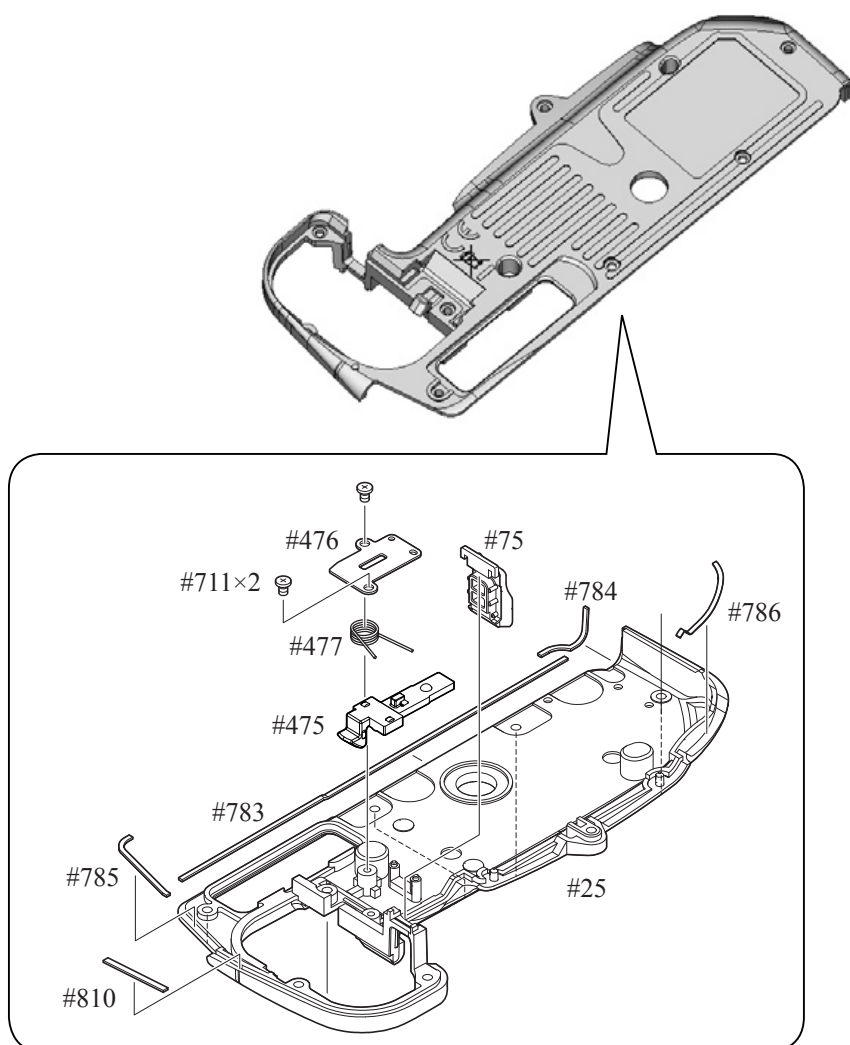
- Refer to " ⑪ Reset of compensated AF defocus amount" of ADJUSTMENT Separate Volume ② for details.

Rewriting of offset value of AF adj. lens

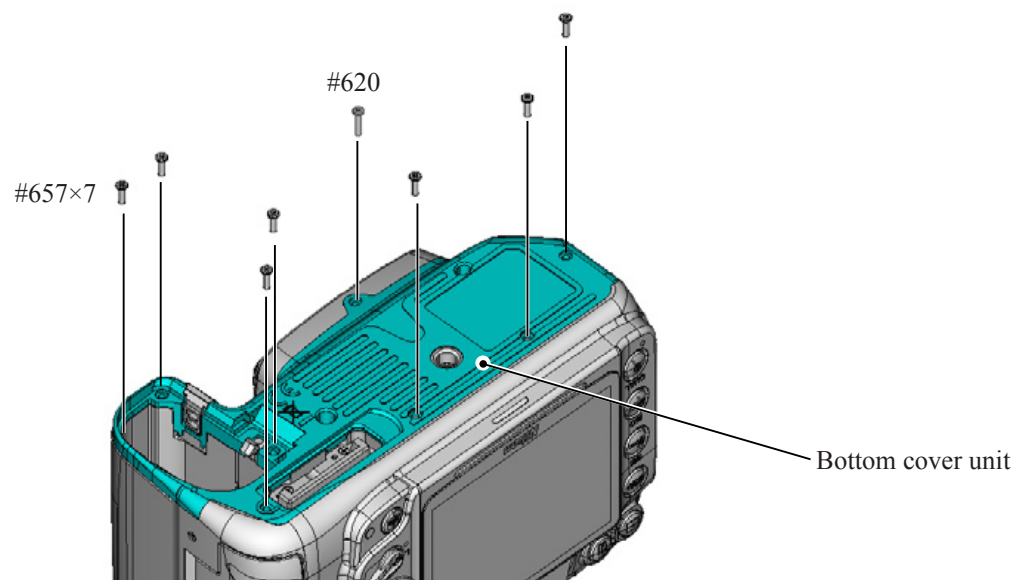
- Refer to " ⑫ Rewriting of offset value of AF adj. lens" of ADJUSTMENT Separate Volume ② for details.

Bottom cover unit

Bottom cover unit

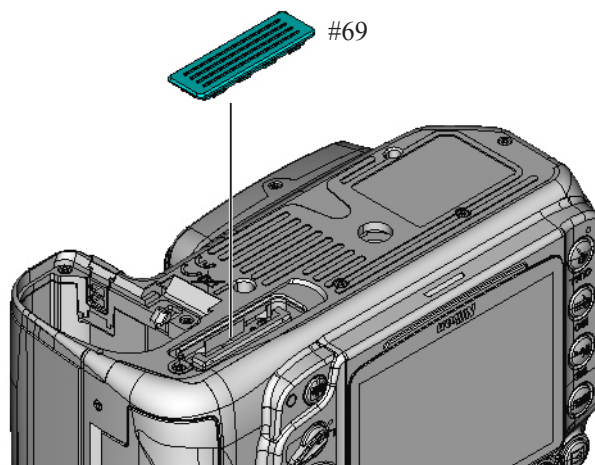
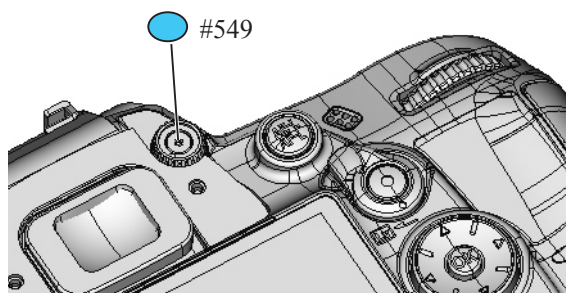


- Mount the bottom cover unit.
- Tighten the seven screws (#657).
- Tighten the screw (#620).



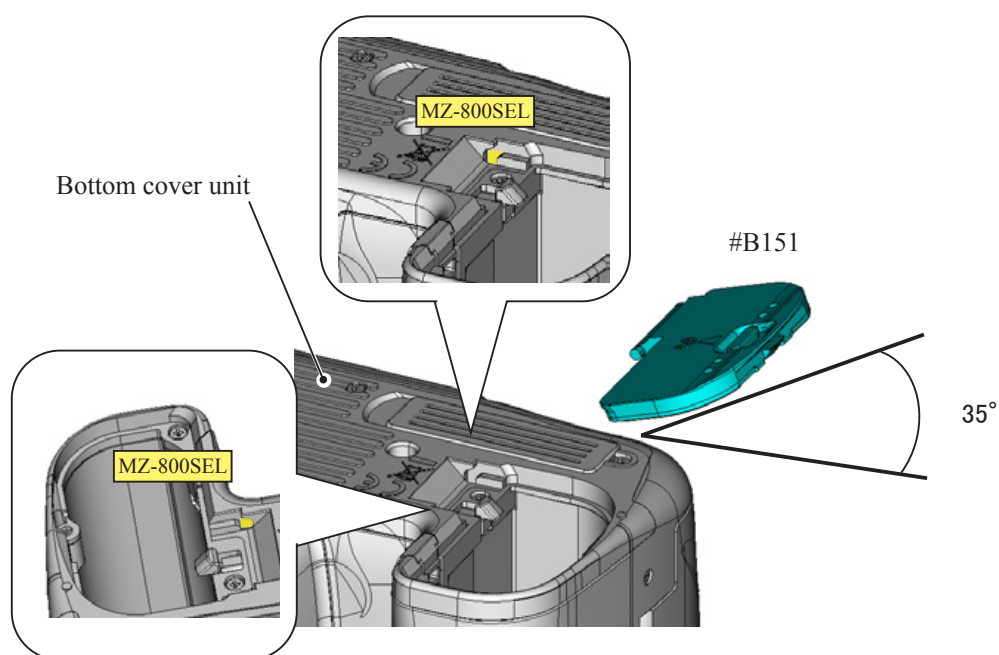
External part

- Attach the cover (#549).
- Attach the power back contact cover (#69).



Battery cover unit

- Mount the battery cover unit (#B151) at the below angle.



Necessary inspection and adjustment of imaging when parts are replaced

(○: Necessary △: Inspection only)

	Image adj. 1	Image adj. 2	Image adj. 3	Image adj. 4	Image adj. 5	White point compensation	Image shutter insp. & adj.	Insp. & adj. of gradient sensor	Insp. & adj. of TFT	Factory default setting	Ver.No/ Ser.No	ISC insp. *
Shutter unit							○					
TOGO PCB unit	○	○	○	○	○	○	○	○	○	○	○	
Image sensor unit	○	○	○	○	○	○	○					△
DC/DC ISC PCB unit												△
Prism box unit												
PD PCB unit												△
LCD monitor unit									○			
License sheet											○	

* In other cases than replacements of the parts, if users point out the problems, perform the image sensor cleaning operations/inspections.

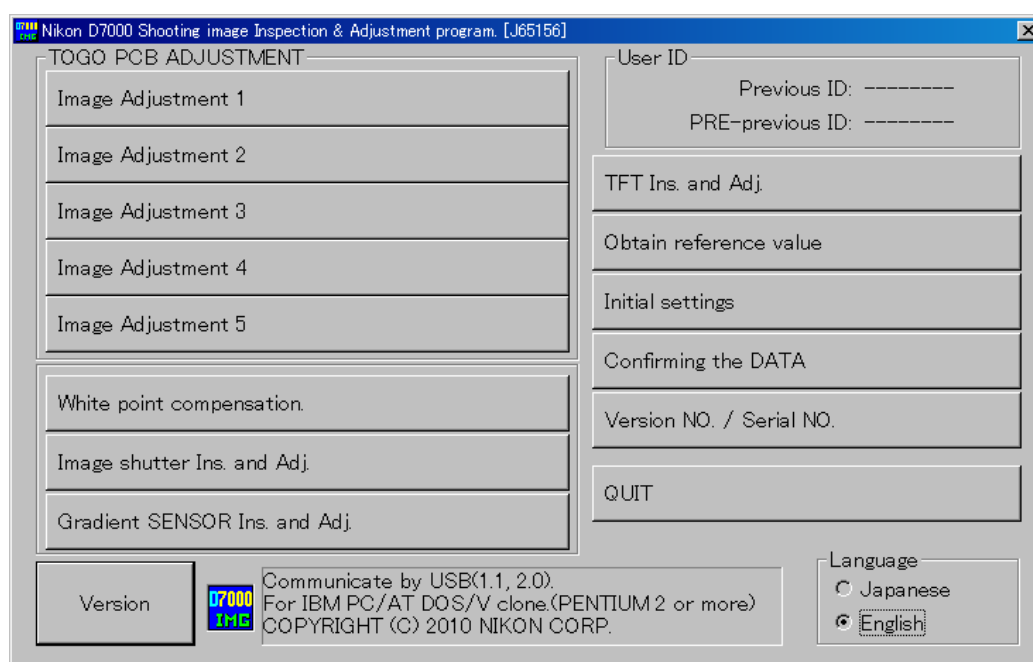


Image adjustment 1

- Adjustment item: Gr/Gb compensation adjustment (R/B filter)/Line crawl adjustment
- Refer to "Gr/Gb compensation adjustment (R/B filter)/Line crawl adjustment" of " ① Imaging adjustment" of ADJUSTMENT Separate Volume ③ for details.

Tool (Device)					
J61185 	J63070 	J63085 	J63086 	J63087 	J63068 
Imaging adj. tool lens	Color viewer	Filter SP1	Filter SP2	Filter SP3	Luminance meter (BM-3000)

Image adjustment 2

- Adjustment item: Sensitivity adjustment/Sensitivity ratio adjustment/Shading adjustment/Black (dead) pixel compensation
- Refer to "Sensitivity adjustment/Sensitivity ratio adjustment/Shading adjustment/Pixel defect compensation ① Black (dead) pixel compensation" of " ① Imaging adjustment" of ADJUSTMENT Separate Volume ③ for details.

Tool (Device)			
J63070 	J18191 	J61185 	J63068 
Color viewer	ND filter 8×	Imaging adj. tool lens	Luminance meter (BM-3000)

Image adjustment 3

- Adjustment item: Sensitivity ratio adjustment
- Refer to "Sensitivity ratio adjustment" of " ① Imaging adjustment" of ADJUSTMENT Separate Volume ③ for details.

Tool (Device)			
J19123	RJ is unavailable.	J61185	J63068
			
EF-1	EF-8000	Imaging adj. tool lens	Luminance meter (BM-3000)
Shutter tester			

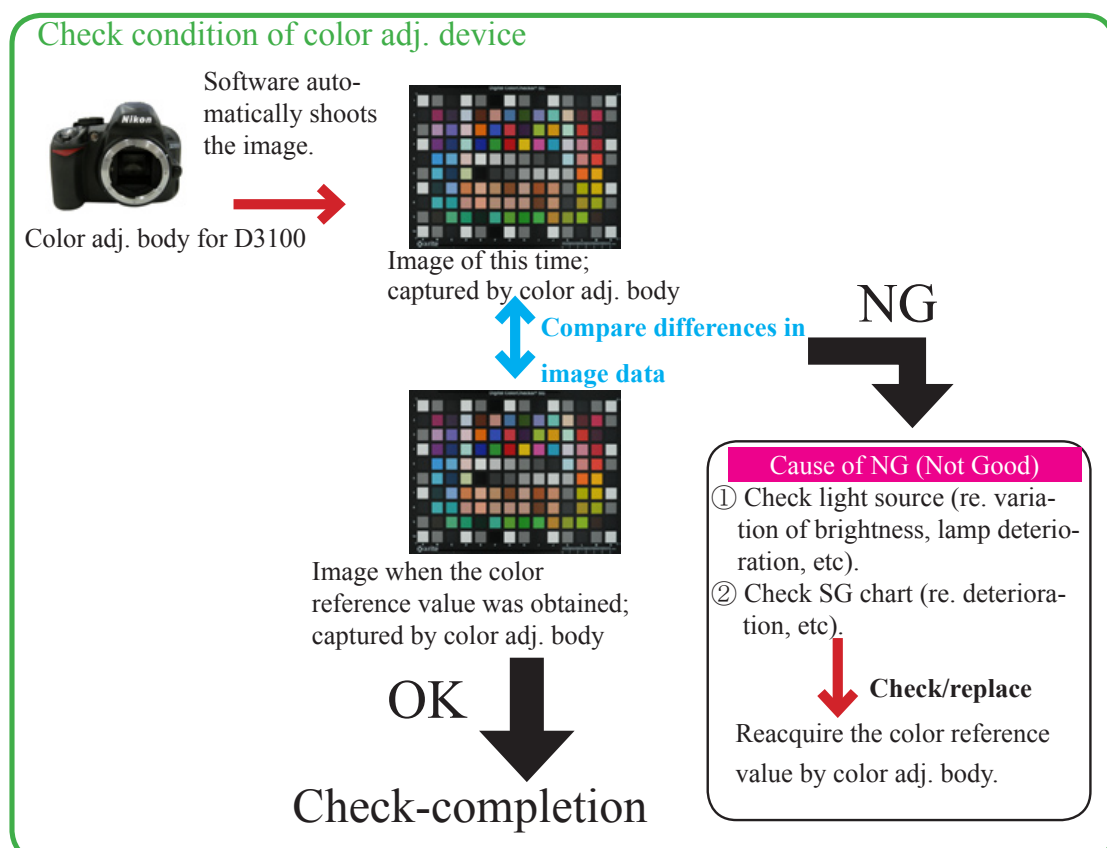
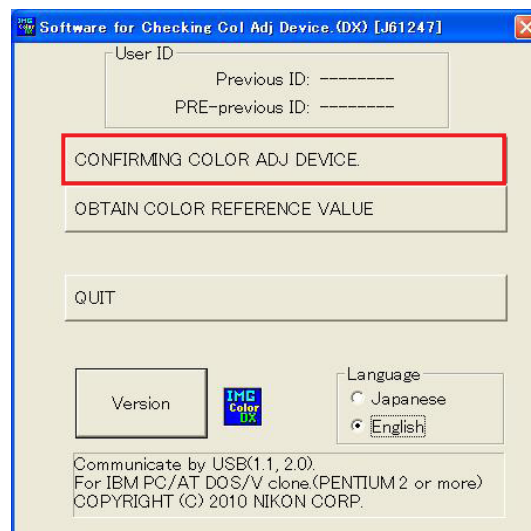
Image adjustment 4

- Adjustment item: Color adjustment
- Refer to "Color adjustment ① Preparation" of "① Imaging adjustment" of ADJUSTMENT Separate Volume ③ for details.

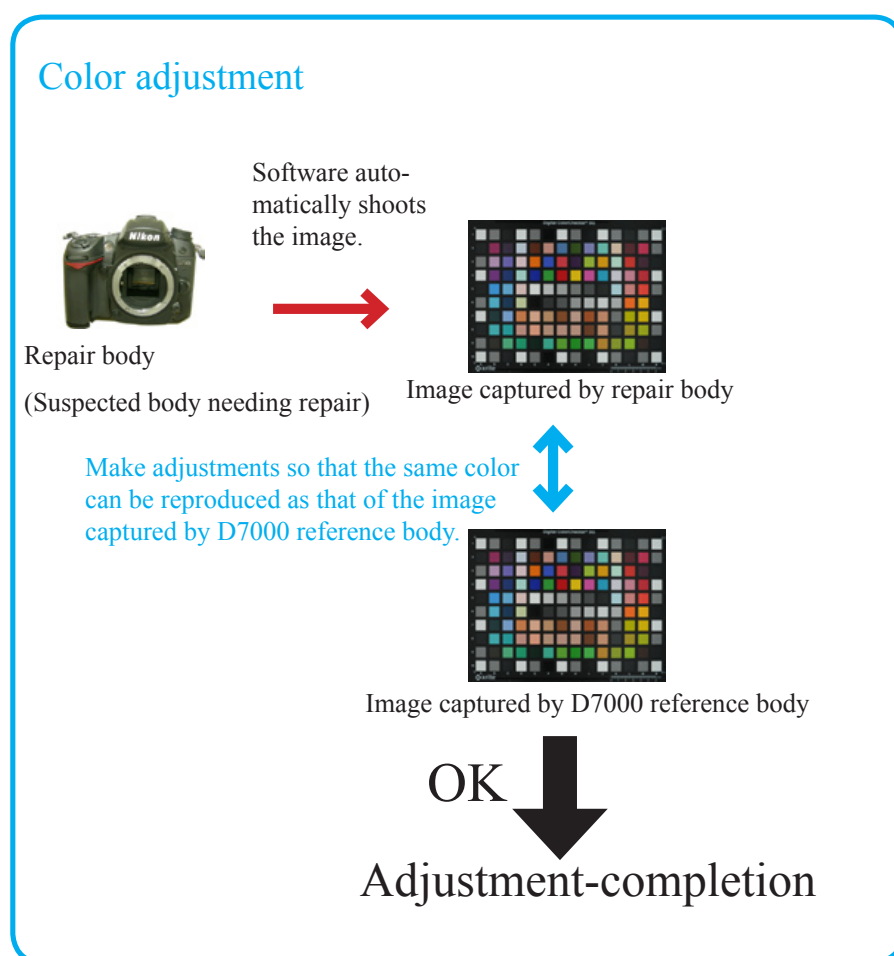
Steps

(1) With the color adj. body for D3100 (J61244) and software for checking color adj. device (DX)[J61247], check the conditions of the color adj. device and SG chart (such as variation of brightness, deterioration, etc, of lamp/SG chart).

- Click "Confirming color adj. device". Check the conditions of the color adj. device/SG chart.



(2) With the D7000 image inspection and adjustment software (J65156), make the adjustment.



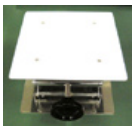
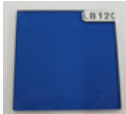
Tool (Device)			
J11374	J61244	J63112	J63113
			
Jack 200×200 mm	D3100 color adj. body	Color adjusting device	SG chart
J18498	J63066	J63114	J61247
			
Lens AF 28/2.8D	D1 filter holder	Filter LB120	Software for checking col. adj. device (DX)

Image adjustment 5

- Adjustment item: Adjustment of dark current
- Refer to "Adjustment of dark current" of "① Imaging adjustment" of ADJUSTMENT Separate Volume ③ for details.

White (hot/bright) pixel compensation against dark background

- Refer to "Pixel defect compensation ② White (hot/bright) pixel compensation" of "① Imaging adjustment" of ADJUSTMENT Separate Volume ③ for details.

Inspection and adjustment of shutter via shot image

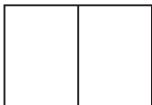
- Refer to "Inspection and adjustment of shutter via shot image" of "① Imaging adjustment" of ADJUSTMENT Separate Volume ③ for details.

Tool (Device)			
J19123	RJ is unavailable	J61185	J63068
			
EF-1	EF-8000	Imaging adj. tool lens	Luminance meter (BM-3000)
Shutter tester			

Inspection and adjustment of gradient sensor

- Refer to "② Inspection and adjustment of gradient sensor" of ADJUSTMENT Separate Volume ③ for details.

Standard: fm -1° to $+1^{\circ}$

Tool (Device)			
	J18267	J15443	J15444
Gradient-sensor chart	 Lens AF50/1.4D	 2way level	 2way stage

※ Print out "gradient-sensor chart on Page C6" in A3 size, and use it.

Obtaining of reference value

- Reference value to be obtained for: Sensitivity and Sensitivity ratio/Sensitivity ratio/color adjustment.
- Refer to "④ Obtaining of reference value" of ADJUSTMENT Separate Volume ③ for details.

※ Before obtaining reference values, be sure to check the color adj. device with the software for checking color adj. device (DX)[J61247].

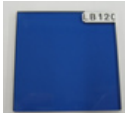
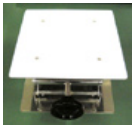
With the color adj. body for D3100 (J61244) and software for checking color adj. device (DX)[J61247], obtain the color reference values (for checking color adj. device).

- Start the software DX for checking color adj. device.



- Click "Obtain color reference value". By following the instructions of the software, obtain the color reference values.



Tool (Device)				
J61241  Tool body (Imaging reference body)	J61244  D3100 color adj. body	J63112  Color adjusting device	J63113  SG chart	J61247  Software for checking col. adj. device (DX)
J18498  Lens AF 28/2.8D	J63066  D1 Filter holder	J63114  Filter LB120	J11374  Jack 200×200 mm	J63068  Luminance meter (BM-3000)
J19123  EF-1 Shutter tester	RJ is unavailable.  EF-8000	J63070  Color viewer	J18191  ND filter 8×	J61185  Imaging adj. tool lens

Inspection and adjustment of TFT

- Refer to "③ Inspection and adjustment of TFT" of ADJUSTMENT Separate Volume ③ for details.

Factory default setting

- Refer to "⑤ Factory default setting" of ADJUSTMENT Separate Volume ③ for details.

Confirmation of data

- Refer to "⑥ Confirmation of data" of ADJUSTMENT Separate Volume ③ for details.

Version no. /Serial no.

- Refer to "⑦ Version number/Serial number" of ADJUSTMENT Separate Volume ③ for details.

Inspection and adjustment of " ∞ (infinity)" focus

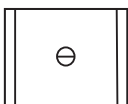
- Refer to "Inspection and adjustment of " ∞ (infinity)" focus" of D/SLR ADJUSTMENT Separate Volume ① for details.

Standard: fm -0.04 to +0.04 mm

+0.04 or more: Decrease washers (to be thinner)

-0.04 or less: Increase washers (to be thicker)

525A	1K602-832	Washer T = 0.1
525B	1K602-833	Washer T = 0.2
525C	1K602-840	Washer T = 0.15
525D	1K602-977	Washer T = 0.05

Tool (Device)		
J19001  Collimator f=600mm	J18010  Infinity standard lens 50/1.8	J18394  Infinity focus adjustment screen

Measurement of consumption current value
--

- Refer to "Measurement of consumption current value" of D/SLR ADJUSTMENT Separate Volume ① for details.

Standard:

Main SW/OFF (Any operational button is not pressed.) 200 μ A or less

Main SW/ON (Half-release timer: OFF)..... 200 μ A or less

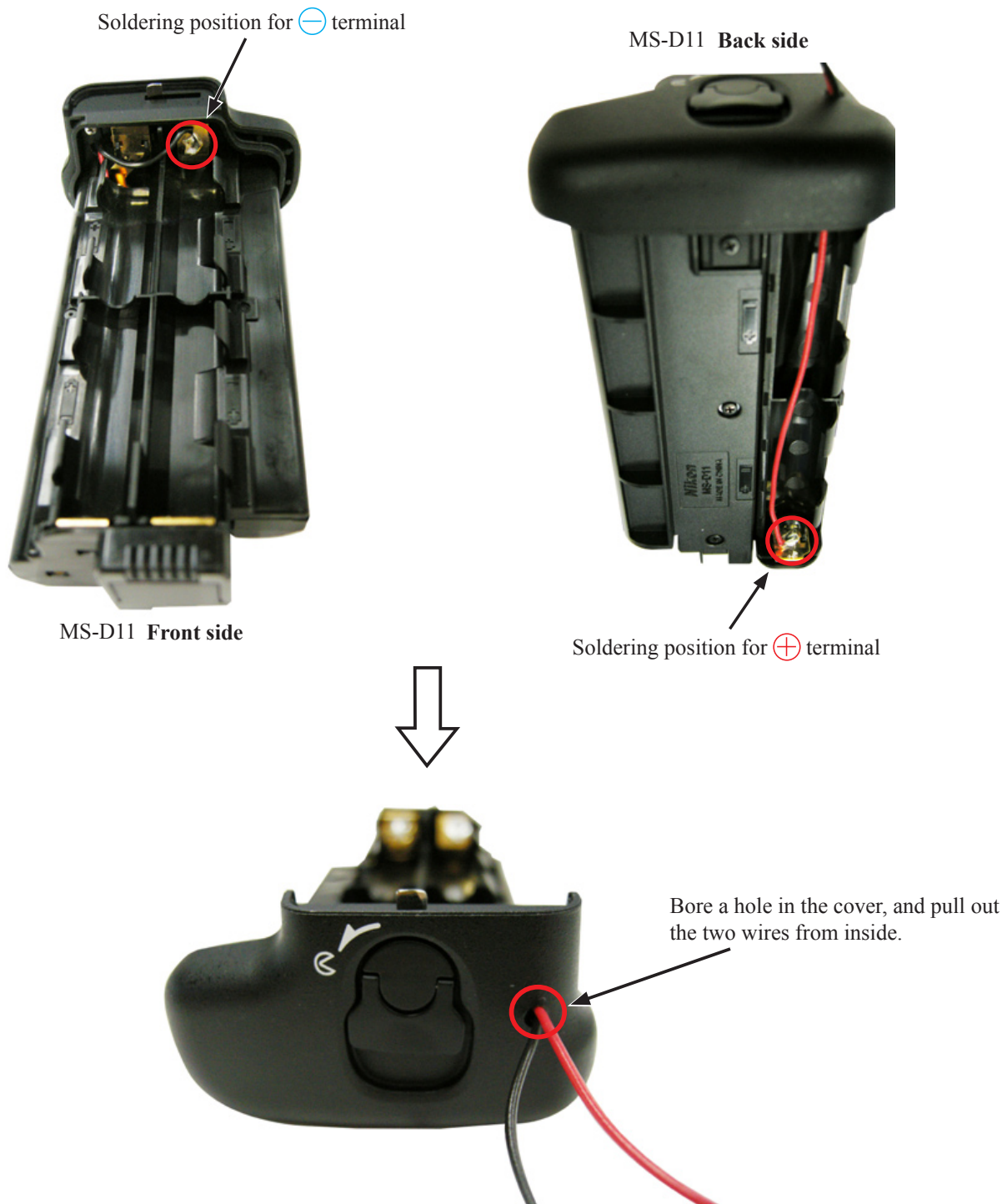
Main SW/ON (Half-release timer: ON)..... 210mA or less

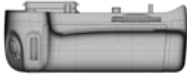
Main SW/ON (TFT monitor: ON) 310mA or less

During LV (live view) 690mA or less

During recording movie 720mA or less

• How to convert MS-D11



Tool (Device)			
			
Power supply (10V 5A)	Digital multi-meter	MB-D11	MS-D11 converted

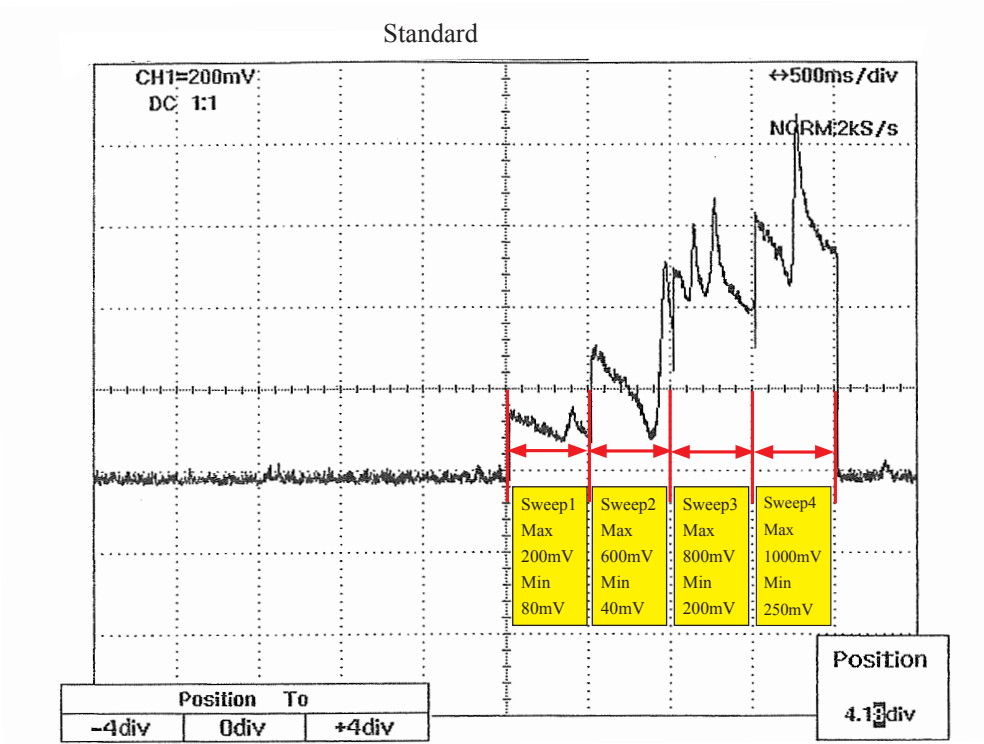
Operation check of image sensor cleaning

- Refer to "Operation check of image sensor cleaning" of D/SLR ADJUSTMENT Separate Volume ① for details.

Settings of oscilloscope
(YOKOGAWA-made DL1540)

INPUT	DC
TRIGGER MODE	AUTO
TRIGGER LEVEL	4.0V
TRIGGER SOURCE	CH1
TRIGGER TYPE	EDGE
CH POSITION	-4.00div
CH COUPLING	DC
PROBE	1:1
FILTER(Bandwidth)	FULL
FILTER(Smooth)	ON
TIME/DIV	500ms/div
V/DIV	200mv/div
CH1 OFFSET	Adjust position so that wavy line is easily visible.

Tool (Device)	
J61232  Current detector	 Power supply (10V 5A)
 3-output stabilized power supply	 Oscilloscope
Use Nikon comm.product.  Power connector EP-5B	



※ Set the sheet size to A4 by printer, and print this out without zooming in/out.

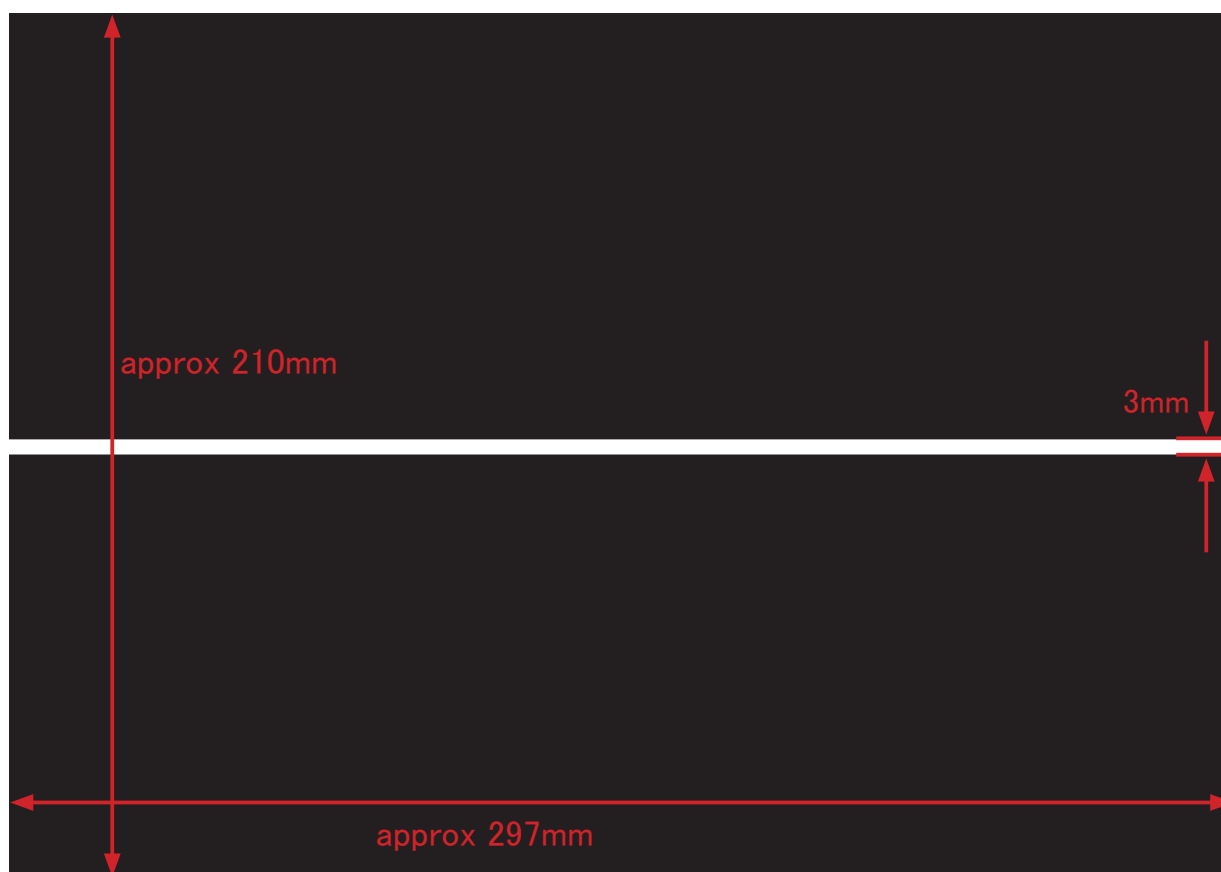


※ Set the sheet size to A3 by printer, and print this out without zooming in/out.



Size of D7000 Y-chart

※ ※ Set the sheet size to A3 by printer, and print out without zooming in/out.

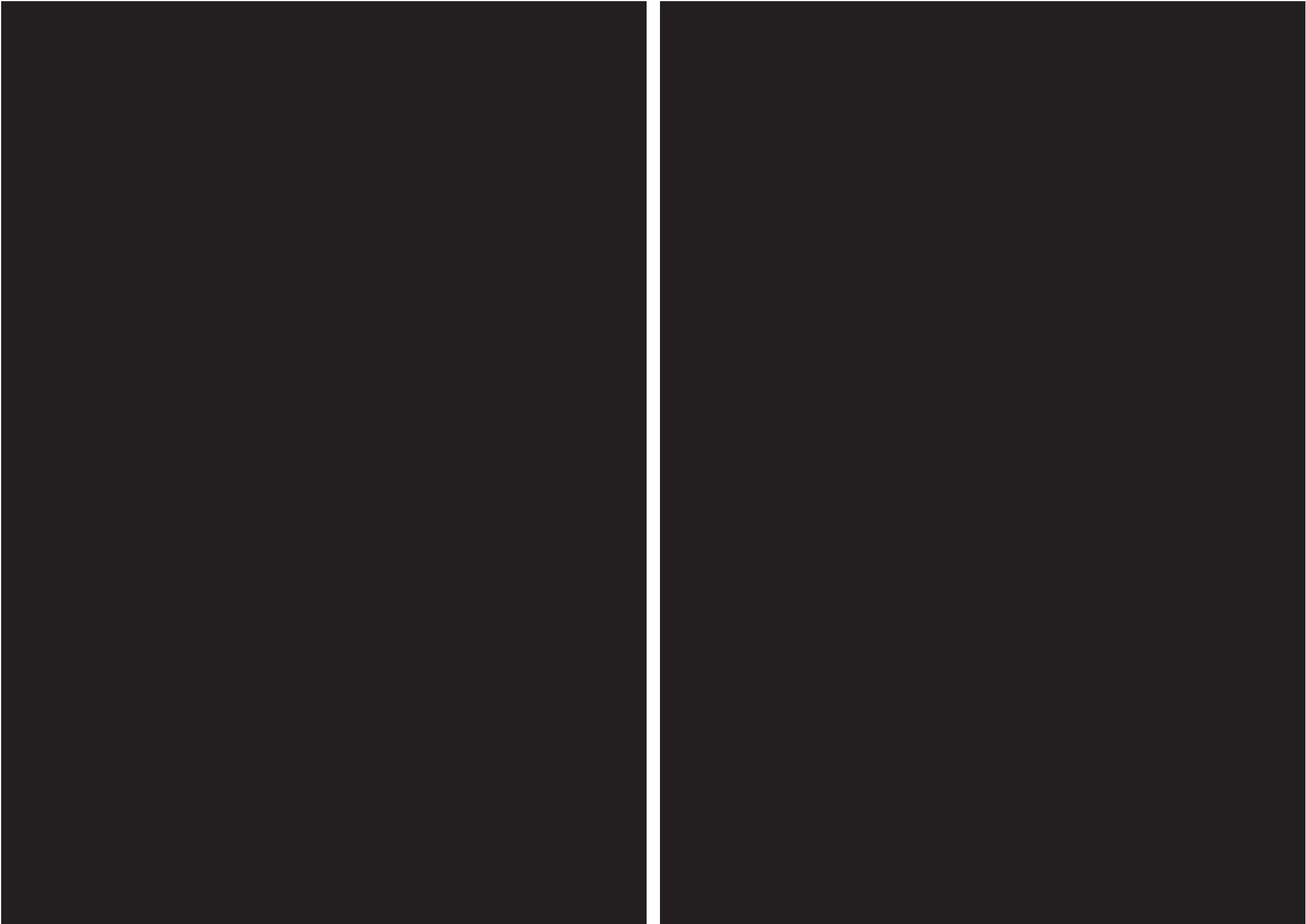


100%

98%



D7000
Parallax chart
AF50/1.4D
0.7m



D7000 Y-chart



Inspection standards

Items	Judgment standard	Remarks
External view		
Step (height in difference)	Top cover & apron: 0.2 mm or less Other parts than the above: 0.3 mm or less Moving parts: 0.5 mm or less	Visual check Digital micrometer
Gap	Top cover & Apron: 0.2 mm or less Top cover & rear cover: 0.45 mm or less Top cover & SB case: 0.5 mm or less Top cover & diopter adj. knob: 0.7 mm or less Other parts than the above: 0.3 mm or less Moving parts: 0.5 mm or less	Visual check Thickness gauge
Size / Force		
Shutter release button	Protrusion: 1.1 ± 0.2 mm Halfway-pressing force: 0.88 ± 0.15 N (90 ± 15 gf) Halfway-pressing stroke: 0.35 ± 0.1 mm Releasing force: 2.74 ± 0.5 N (280 ± 50 gf) Releasing stroke (from halfway-pressing position): 0.3 ± 0.1 mm Difference btwn half-pressing and releasing force: 1.86 ± 0.5 N (190 ± 50 gf/gram-force)	Digital micrometer Tension gauge
Aperture lever	3.4 height: 3.3 - 3.6 mm	3.4 height gauge Collimator
Main mirror	45° angle: Up-down $\pm 10'$ Right-left $\pm 25'$ Distortion: 6' or less Gap of up-mirror in mirror box: None	Main mirror tool Visual check Feeling in hand
Sub-mirror	59° up-down angle: Up-down $0 \pm 20'$ Distortion: 8' or less	Sub-mirror tool
∞ Infinity focus	$\pm 80 \mu\text{m}$	Collimator ∞ Focus lens

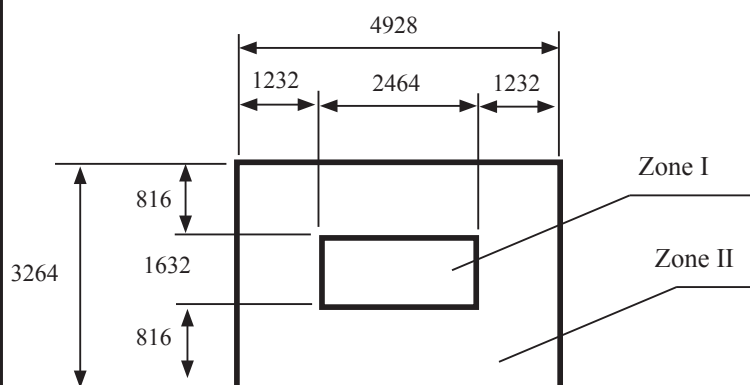
Items	Judgment standard	Remarks
AF accuracy	Yaw Center: ± 4 (fm -4 to +4) mrad Others than center: ± 12 (fm -12 to +12) mrad Pitch Center: ± 5 (fm -5 to +5) mrad Others than center: ± 11 (fm -11 to +11) mrad Def amount Vertical-horizontal difference (center): $0 \pm 45 \mu\text{m}$ AF defocus (focus position): $0 \pm 30 \mu\text{m}$	PC Special tool Luminance (light source) box
AF-assist illuminator Lighting level	Range fm 5.2 EV to 6.2 EV	AF50/1.4D Luminance (light source) box
Shutter accuracy		
Speed accuracy	"1/8000 sec." : ± 0.55 (fm -0.55 to +0.55) EV "1/4000 sec." : ± 0.35 (fm -0.35 to +0.35) EV Fm "1/2000 sec." to "30 sec." : ± 0.2 (fm -0.2 to +0.2) EV	Shutter speed tester AF50/1.4D
Variation	"1/8000 sec." : ± 0.45 (fm -0.45 to +0.45) EV "1/4000 sec." : ± 0.35 (fm -0.35 to +0.35) EV Fm "1/2000 sec." to "30 sec." : ± 0.25 (fm -0.25 to +0.25) EV	
Shutter curtain speed	Both front and rear curtains (up-down 16.6 mm or less): approx. 2.6 ms	
Shutter curtain bound	Black/white bound (within frame): None	
Synchronization	Time lag: Fm - 0.11 to 0.15 ms	
AE accuracy	LV16, ISO200, F2.8 : $\pm 0.60\text{EV}$ LV12, ISO200, F4 : $\pm 0.50\text{EV}$ LV6, ISO200, F8 : $\pm 0.50\text{EV}$	Shutter tester AF50/1.4D
Variation	0.3 EV or less	
AE mode difference	0.4 EV or less	
Metering mode difference	0.5 EV or less	
Variation in continuous shooting	0.5 EV or less	

Items	Judgment standard	Remarks
Viewfinder		
Parallax (Difference in center from the shot image/sensor)	Up-down: 0.15 mm or less Right-left: 0.15 mm or less	AF50/1.8D, F5.6; looking through viewfinder, make a mark of 4 corners of finder's field of view (FOV) on a paper and shoot pic. Measure a difference in center btwn the actual screen and the marked paper.
Finder field frame	Lens vignetting/distortion: No noticeable vignetting/distortion found Tilt: (right-left tilt relative to the bottom of finder field frame): 90°± 30° Relative angle to image sensor : 30' or less	Visual check With 0.2mm-or-less deviation of optical axis (from finder eyepiece optical axis), shoot based on the finder field frame, and measure the angle/tilt . AF50/1.8D, F5.6; align the bottom line of the finder's FOV with the chart line and shoot pic.; measure a tilt of the chart line of the pic.
Field of viewfinder (frame coverage)	In height and width: Range fm "100%+0% (100%)" to "100%-2% (98%)"	AF50/1.8D, F5.6; check the actual pic. with 3m-distance from object of shooting.
Eye point	"-1m ⁻¹ " corresponding position: 19.5 mm ± 10%	Vernier caliper Eye point tool
LCD indication position in viewfinder	Right-left position: No noticeable deviation found to one side or the other Tilt: ±1° (range fm - 1° to + 1°)	Visual check
Standby (idle)/consumption current	Main SW / OFF (Any operational button is not pressed.): 200 µA or less Main SW / ON (Half-release timer: OFF): 200 µA or less Main SW / ON (Half-release timer: ON): 210 mA or less Main SW / ON (TFT monitor ON): 310 mA or less During LV (Live View): 690 mA or less During recording movie: 720 mA or less	Power Source: 7.8V +0.3Ω Luminance: EV12 Lens: AF50/1.4D Measure by digital multi-meter. Exclude charging current for secondary rechargeable battery (full charging: 3 days)
Operating time/consumption current accumulated	Lens scanning Operating time: 1000 ms or less Consumption current accumulated: 500 mAsec or less Release without SD card Operating time: 180ms or less Consumption current accumulated: 200 mAsec or less	Power Source: 7.8V +0.3Ω Luminance: EV12 Lens: AF50/1.8 Measure by digital multi-meter.

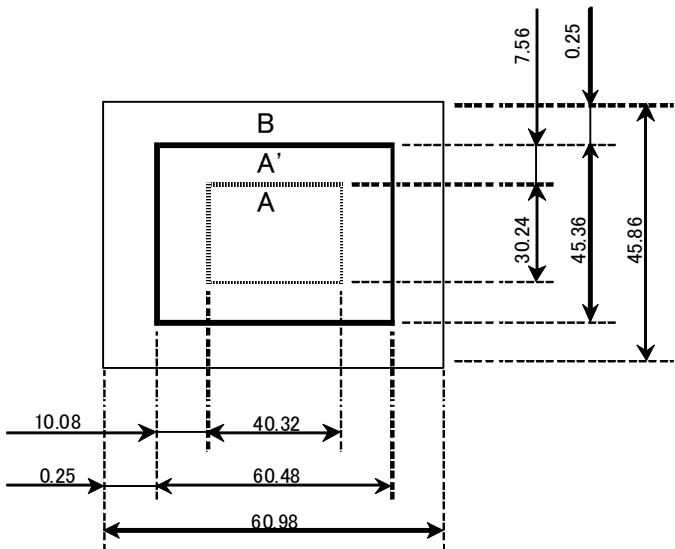
- R4 • D7000 -

Items	Judgment standard	Remarks																		
	General mode Room temperature: 670 frames or more 0°C : 620 frames or more	- Setting: ISO200, exposure mode: M, 1/250 sec., F16, AF-C, Continuous (shooting) mode: Single, luminance face: LV12, image quality: NORM, image size: L, white balance: A - Lens: AF-S DX 18-105/3.5-5.6 ED VR - Humidity: 20°C , 0°C < Operation > Repeat the following cycle: - Press halfway - Format card - Repeat the operation as shown in the below table. - When the number of shots remaining becomes 0, insert/remove card - Format card <table border="1"> <thead> <tr> <th>Operation</th><th>Shots captured even number of times</th><th>Shots captured odd number of times</th></tr> </thead> <tbody> <tr> <td>Press halfway</td><td>5 sec.</td><td>5 sec.</td></tr> <tr> <td>AF scan</td><td>Lens cycled from infinity to minimum range once</td><td>Lens cycled from infinity to minimum range once</td></tr> <tr> <td>Release shutter</td><td>WITHOUT firing built-in flash.</td><td>WITH fully firing built-in flash. (M-flash/FULL setting)</td></tr> <tr> <td>Indications playedback on LCD monitor</td><td>5 sec.</td><td>5 sec.</td></tr> <tr> <td>Wait until half-release timer becomes OFF</td><td>6 sec. WITHOUT flashing AF-assist illuminator.</td><td>6 sec. WITH flashing AF-assist illuminator.</td></tr> </tbody> </table>	Operation	Shots captured even number of times	Shots captured odd number of times	Press halfway	5 sec.	5 sec.	AF scan	Lens cycled from infinity to minimum range once	Lens cycled from infinity to minimum range once	Release shutter	WITHOUT firing built-in flash.	WITH fully firing built-in flash. (M-flash/FULL setting)	Indications playedback on LCD monitor	5 sec.	5 sec.	Wait until half-release timer becomes OFF	6 sec. WITHOUT flashing AF-assist illuminator.	6 sec. WITH flashing AF-assist illuminator.
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Indications playedback on LCD monitor	5 sec.	5 sec.																		
Wait until half-release timer becomes OFF	6 sec. WITHOUT flashing AF-assist illuminator.	6 sec. WITH flashing AF-assist illuminator.																		
Battery life during LV	Room temperature: 180 mins. or more 0°C : 165 mins. or more	- Setting: Factory default (Exposure mode: M, others: default settings, shooting luminance face: LV12) - Lens: AF-S VR 18-105/3.5-5.6G ED VR - Temperature: 23°C ± 2°C • Humidity: 50% ± 20% < Operation > Repeat the following cycle: - Start LV (live view) - AF lens scanning cycled once Keep 15 mins with LV activated. - Stop LV 15 min pause																		
Battery life during movie	Room temperature: 130 mins. or more 0°C : 120 mins. or more	- Setting: Factory default (Exposure mode: M, others: default settings, shooting luminance face: LV12) - Lens: AF-S VR 18-105/3.5-5.6G ED VR - Temperature: 23°C ± 2°C • Humidity: 50% ± 20% < Operation > Repeat the following cycle: - Start LV (live view) - AF lens scan cycled once - Start and record movie for 5 mins. - Stop recording and LV, 5 min pause - Delete movie file																		

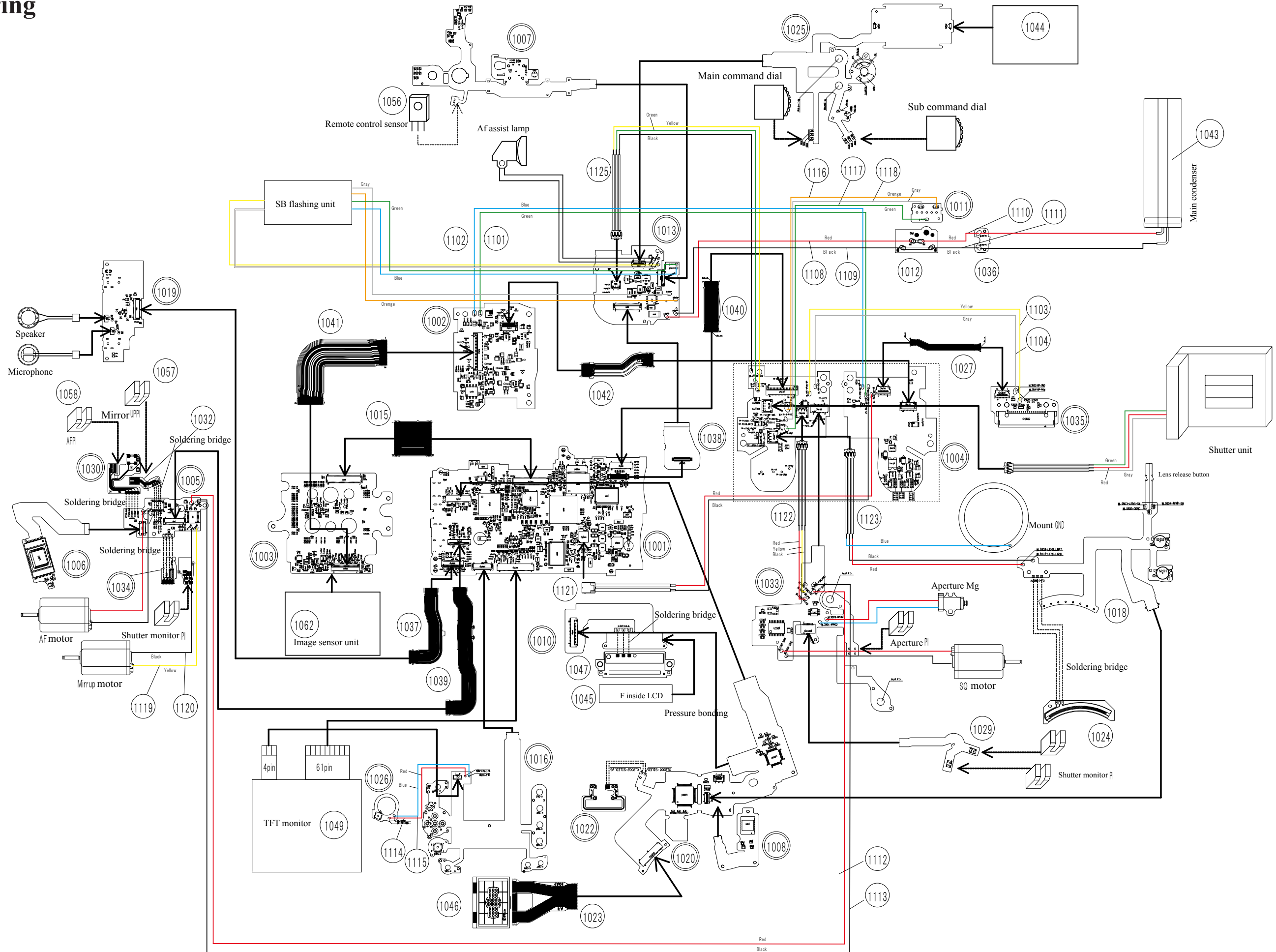
Items	Judgment standard	Remarks
Resolution	Take shots by matching the chart's vertical direction so that the horizontal width of the chart falls within picture angle. Adjust the speed so that brightness becomes $220 \pm 5\text{LSB}$ (8bit) at white part around the center of chart. Horizontal resolution 1700 TV lines or more Vertical resolution	AFS28-70mm / F2.8D 50mm/F5.6 AE: M mode Image quality: JPEG FINE Image size: L ISO100 TV resolution chart
Defective pixel: White/hot pixel against dark background	Visual check and evaluate on the rear LCD and monitor: No noticeable defective pixels found.	Lens cap Shutter speed: 1/30 AE: M mode Image quality: RAW, Image size: L Temperature: $25 \pm 2^\circ\text{C}$, $40^\circ\text{C} \pm 2^\circ\text{C}$ WB: Direct sunlight ISO100
Dust appearance	Compensate exposure so that the center of "500×500 pixel" image becomes 156-182LSB (8bit), compared to correct exposure. In zone II area in JPEG of "G shading" item, judge based on dust contrast, size, quantity, and distance between dusts. Allowable quantity: 10 dusts or less Size, maximum contrast: • 19 pixels or less, 11% or less • 23 pixels or less, 9% or less • 29 pixels or less, 7.5% or less Distance btwn dusts: 215 pixel or more separation	AF105mm / F2.8D F16 AE: M mode Image quality: JPEG FINE WB: Preset ISO100 Color viewer (5100K) Any shutter speed Image size: L



Items	Judgment standard	Remarks
TFT unit Point defect	Hot (bright) pixels: 3 or less ("Red" and "Green": 0 in "A" area, 1 or less in "B" area) 2 consecutive defective pixels must not be found. Dead (black) pixels: 3 or less (1 or less in "A" area) 2 consecutive defective pixels must not be found. Total of hot and dead pixels: 3 or less (1 or less in "A" area)	
Unevenness of luminance (linear/point- like)	A/A' area No noticeable unevenness found.	



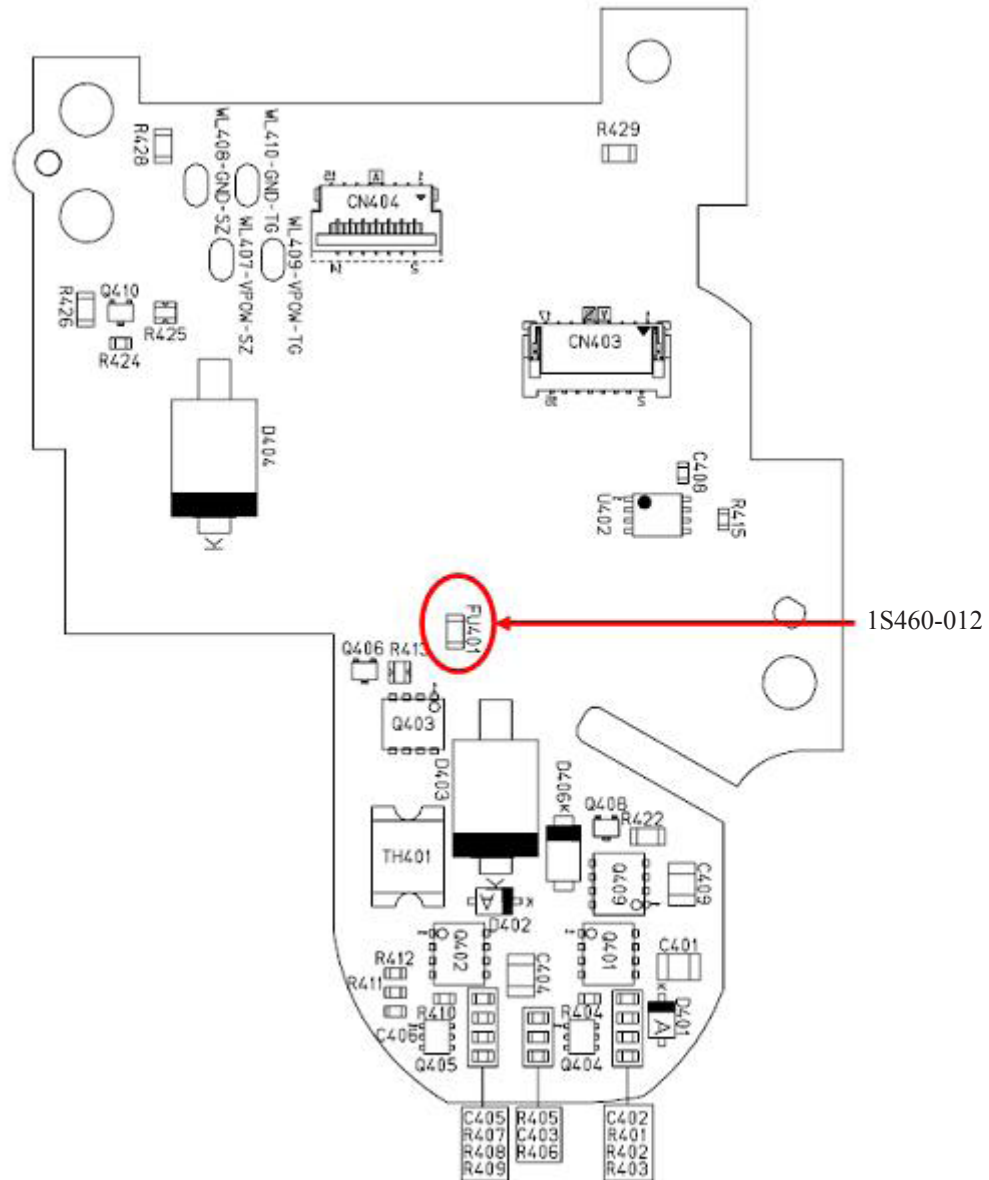
Wiring





FUSE arrangement

PD PCB UNIT (Back side)

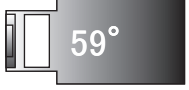


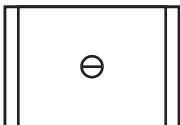
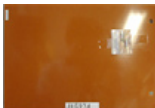
Phenomenon when FUSE has blown out

The power is turned on NOT by a rechargeable battery (EN-EL15)/ power connector (EP-5B), but by battery pack (MB-D11).

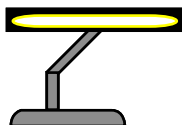
工具一覧表 Tool list

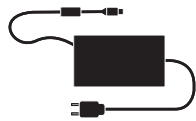
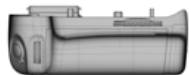
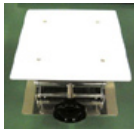
新規工具 New tool	工具番号 Tool No.	RJランク RJ rank	名 称 Name of tool	備 考 Others
	CFD-409Z 	A	サンコール CFD - 409Z SANKOL CFD-409Z	
	C-8008B 	A	セメダイン 8008 (黒) CEMEDINE 8008 (BLACK)	
	MZ-800SEL 	A	ドライサーフ MZ-800SEL DRYSURF MZ-800SEL	
	EDB0011 	A	ネジロック (赤) 1401C SCREWLOCK 1401C	
★	TNG-87 	A	サンコール TNG-87 SANKOL TNG-87	
	L-271 	A	ロックタイト L-271 LOCTITE L-271	
	LEN317A 	A	グリース LEN317A GREASE LEN317A	
		A	パーソナルコンピュータ PERSONAL COMPUTER	汎用品 USE MARKETED PRODUCT.
★	J65155 	A	カメラ部調整用ソフト ADJ. SOFT FOR CAMERA BODY	
★	J65156 	A	撮像部調整用ソフト ADJ. SOFT FOR IMAGING	
★	J61247 	A	色調整装置確認ソフト SOFT FOR COLOR ADJ DEVICE CHECK	

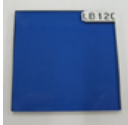
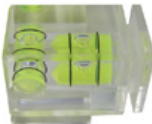
新規工具 New tool	工具番号 Tool No.	RJランク RJ rank	名 称 Name of tool	備 考 Others
	J63070 	A	カラービューア COLOR VIEWER	
	J19123  又は [OR] 廃番 RJNo.is not available 	A	シャッター試験機 EF-1 (CE) SHUTTER TESTER EF-1 (CE) 又は [OR] シャッター試験機 EF-8000 SHUTTER TESTER EF-8000	
	J63068 	A/S	輝度計 (BM-3000) LUMINANCE METER BM-3000	
		A	デジタルマルチメータ Digital meter	汎用品 USE MARKETED PRODUCT.
		A	安定化電源 (10 V 5 A) POWER SUPPLY (10V 5A)	汎用品 USE MARKETED PRODUCT.
	J18004 	A	絞りレバー高さ点検工具 APERTURE LEVER POSITIONING GAUGE	
	J18004-1 	S	J18004 用基準ゲージ REFERENCE GAUGE FOR J18004	
	J19132 	A	メイン・サブミラー角度検査機 MAIN/SUB MIRROR ANGLE INSPECTION TOOL	
	J19132G 	S	ミラー角度基準工具 (原器) MIRROR ANGLE REFERENCE TOOL (of ACCURACY OBTAINED)	
	J19132B 	A	59°測定用ミラー (D300/D200 対応) MEASUR. USE MIRROR 59(D300/D200)	FOR D200 D300

新規工具 New tool	工具番号 Tool No.	RJランク RJ rank	名 称 Name of tool	備 考 Others
	J18389 	A	反射ミラー REFLECTION MIRROR	FOR D90
		A	ヘクスキー (φ1.5mm) HEX. KEY WRENCH (φ1.5mm)	汎用品 USE MARKETED PRODUCT.
	J19004-1 	A	インジケータ及びスタンド DIAL INDICATOR AND STAND	
	J18001-1 	A	ボディバック出し工具 BODY-BACK FOCUS GAUGE	
	J19001 	A	∞合致コリメーターF=600mm INFINITY-FOCUS COLLIMATOR F=600mm	
	J18394 	A	無限合致調整用スクリーン INFINITY FOCUS ADJUSTMENT SCREEN	FOR D90
	J18010 	A/S	無限大合致基準レンズ50/1.8 INFINITY STANDARD LENS 50/1.8	
★	J63119 	A	AE CCD用チャートボード AE/CCD-USE CHART BOARD	
		A	USBケーブルUC-E4 USB CABLE UC-E4	製品転用 USE NIKON PRODUT
★	J15445 	A	マルチカム 4800DX AFチャート MULTI-CAM 4800DX AF CHART	
	J15409 	A	チャートボード CHART BOARD	

新規工具 New tool	工具番号 Tool No.	RJランク RJ rank	名 称 Name of tool	備 考 Others
	J15264 	A	RJ AF照明箱 (J15264 代用) TI-03045 RJ AF illuminator box (J15264) is disused. For substitutes refer to TIE03045.	払底品 OUT OF STOCK 代用工具 TI-03045 又は TIE-03045 参照 Substitute tool (ref. TIE-03045)
	J18191 	A	NDフィルター8× ND FILTER 8x	2 枚使用 USE TWO FILTERS.
	J18266 	A	AF調整用Zレンズ (1m用) ADJUSTMENT Z-LENS (FOR 1m)	
	J15259 	A	AF調整工具台 AF ADJUSTING TOOL	
	J15280 	A	Zレンズ用支持ホルダー LENS HOLDER	
	J18230 	A	YAW・PITCH工具 YAW/PITCH ADJUSTMENT TOOL	
★	J63120 	A	AF X 位置出し工具 AF X-POSITIONING TOOL	
	J18267 	A	AF50／1. 4D LENS AF50/1.4D	
	J18498 	A	AF28／2. 8D LENS AF28/2.8D	

新規工具 New tool	工具番号 Tool No.	RJランク RJ rank	名 称 Name of tool	備 考 Others
	J18499  又は [OR] 工具設定なし RJNo.is not available 	A	AF-SVR 70- 300／4. 5－5. 6 LENS AF-SVR70-300/4.5-5.6 又は [OR] AF 70- 300／4－5. 6D LENS AF70-300/4-5.6D	
	J19124 	A	Zライト、または相当品×2 Z-light or equivalent x 2 ※フリッカレス（インバーター） 蛍光灯器具 Z-light×2 ※ Equivalent fluorescent: Flicker-less “Inverter“ lighting.	
	J18393 	A	斜めチャート SLANT CHART	
	J61185 	A	撮像調整用工具レンズ IMAGING ADJ. TOOL LENS	
	J63085 	A	フィルター SP1 FILTER SP1	
	J63086 	A	フィルター SP2 FILTER SP2	
	J63087 	A	フィルター SP3 FILTER SP3	
★	J61246 	C	D7000 工具ボディ（撮像用基準ボディ） D7000 TOOL BODY (FOR IMAGING)	

新規工具 New tool	工具番号 Tool No.	RJランク RJ rank	名 称 Name of tool	備 考 Others
		A	ACアダプター EH-5 AC ADAPTER EH-5	製品転用 USE NIKON PRODUCT.
★		A	パワーコネクターEP-5B AC ADAPTER CONNECTOR EP-5B	製品転用 USE NIKON PRODUCT.
★		A	MB-D11 MB-D11	製品転用 USE NIKON PRODUCT
★		A	MS-D11 MS-D11	製品転用 USE NIKON PRODUCT.
	J18360 	A	基準反射布 Standard reflector 1.5M x 1.5M	
		A	フラッシュメーター Flash Meter	セコニック製 L-758D 推奨 (TI-07036 参照) SEKONIC-MADE L758D IS RECOMMENDED. (REF. TIE-07036)
		A	オシロスコープ OSCILLOSCOPE	汎用品 USE MARKETED PRODUCT.
		A	3出力安定化電源 3-OUTPUT STABILIZED POWER SUPPLY	汎用品 USE MARKETED PRODUCT.
	J61232 	A	電流検出治具 CURRENT DETECTOR	イメージセンサークリーニ ング機能搭載ボディ IMAGE SENSOR CLEANING FUNCTION BUILT-IN BODY
	J61244 	A	D3100 色調整ボディ COLOR ADJUSTMENT BODY FOR D3100	FOR D3100
	J11374 	D	ジャッキ 200 x 200 mm JACK 200x200mm	

新規工具 New tool	工具番号 Tool No.	RJランク RJ rank	名 称 Name of tool	備 考 Others
	J63114 	A	フィルターLB120 Filter LB120	
	J63066 	A	D1用フィルターホルダー FILTER HOLDER FOR D1	
	J63113 	A	SG チャート SG CHART	
	J63112 	A	色調整装置 COLOR ADJUSTING DEVICE	付属のフードを使用 USE SUPPLIED HOOD.
	J15443 	A	2 ウェイ水準器 2WAY LEVEL	
	J15444 	D	2 ウェイステージ 2WAY STAGE	

Screw sheet

VBA29001-R.3814.A

PARTS NAME	Bottom cover unit		Rear cover unit			Rear FPC unit	Selector lock lever	TFT monitor	LV lever	SD cover unit
DISASSEMBLY	D3		D4			D6	D7	D8	D8	D9
TYPE OF SCREW	#620	#657	#613	#614	#675	#675	#671	#672	#610	#614
QUANTITY	1	7	2	3	1	14	1	4	2	4
ASSEMBLY	A95		A87			A67	A66	A65	A65	A86

PARTS NAME	Front cover unit		Shield plate		TOGO PCB unit	Image sensor unit	I/F cover unit	Grip cover unit		Top cover unit		
DISASSEMBLY	D10		D11		D12	D14	D15	D16		D17		D18
TYPE OF SCREW	#611	#614	#683	#617	#683	#678	#629	#622	#613	#557	#613	#623
QUANTITY	2	2	2	1	4	3	2	1	1	1	2	2
ASSEMBLY	A85		A84		A71	A69	A64	A63		A63	A62	A61

PARTS NAME	SB PCB unit	Command dial unit	AF assist lamp unit	Top LCD unit			Power dial		Shoe base		SB lower case unit		
DISASSEMBLY	D19	D20	D21	D21		D22	D22	D23	D24		D25	D26	D27
TYPE OF SCREW	#635	#635	#629	#700	#701	#635	#696	#693	#650	#654	#629	#650	#630
QUANTITY	3	6	1	1	2	4	2	2	1	4	4	1	2
ASSEMBLY	A60	A59	A58	A58		A57	A57	A56	A53	A55	A54	A52	A50

PARTS NAME	Top cover FPC unit				Release mode dial lock button	Separation of Front Body from Rear Body			IF PCB unit		
DISASSEMBLY	D28		D29		D30	D31	D32		D33		
TYPE OF SCREW	#635	#699	#602	#635	#635	#706	#706	#697	#706	#675	
QUANTITY	2	1	1	3	2	2	4	1	2	2	
ASSEMBLY	A50	A49		A48	A46	A43	A42		A41	A40	

PARTS NAME	Relay-PCB	DCDC ISC PCB unit				Connector PCB unit		PD PCB unit	Bottom base unit	
DISASSEMBLY	D35	D36		D37		D38	D39	D40	D41	
TYPE OF SCREW	#683	#603	#683	#694	#683	#604	#683	#683	#706	#617
QUANTITY	1	1	1	1	3	3	2	3	2	2
ASSEMBLY	A38	A37		A36		A35	A34	A33	A31	

PARTS NAME	Battery contact	Shutter unit		AF sensor unit	Separation of Prism Box from Front Body	Aperture control unit	AF-M lever unit	MD PCB unit
DISASSEMBLY	D43	D44		D45	D46	D47	D48	D49
TYPE OF SCREW	#604	#638	#635	#161	#697	#621	#638	#683
QUANTITY	3	1	2	3	3	4	1	2
ASSEMBLY	A29	A27		A23	A22	A20	A19	A18

PARTS NAME	Mirror driving unit		Horizontal lever/Vertical lever		AF motor unit		Bayonet	Apertrue coupling ring unit	Lens contact FPC unit
DISASSEMBLY	D50		D50	D51	D52		D53	D54	D56
TYPE OF SCREW	#674	#673	#680	#680	#637	#711	#661	#660	#606
QUANTITY	2	1	1	1	2	1	4	1	1
ASSEMBLY	A17		A16	A15	A14	A13	A12	A11	A9

PARTS NAME	Lens release button unit	Mirror driving unit	Metering FPC unit		LCD unit	Eyepiece block unit
DISASSEMBLY	D57	D57	D59		D60	D61
TYPE OF SCREW	#635	#669	#514	#683	#656	#635
QUANTITY	2	2	3	2	2	2
ASSEMBLY	A8	A7	A5		A3	A1