作成承認印	配布許可印
ニコン 映像カンパニー 品質保証部 GM	サービス 計画課 M

D3 VBA18001

REPAIR MANUAL

Nikon | NIKON CORPORATION
Tokyo, Japan

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1.Front body

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Precautions for disassembly/(re)assembly

Notes :

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, AC power cord, and battery for clock (CR1616).

③ In disassembling, be sure to memorize the processing state of wires and FPC, screws to be fixed and their types, etc.

④ The low-pass filter of the image PCB is easily damaged. Handle it very carefully.

⑤ In the chapter of Disassembly, sometimes a large assembly unit is removed. In case such a unit is further disassembled, refer to the exploded technical drawings.

⑥ In Disassembly/(re)assembly chapters, the sponge and tape are not mentioned. In case parts are replaced, be sure to attach the sponge/tape by referring to the exploded technical drawings.

⑦ All wires are special parts (supporting UL), so be sure to use specified wires.

⑧ NK is indicated in this manual when NK screw is used. Usually the same "NK" screw can be used approx. up to three times. (NK screw = Loose-proofing screw to which the adhesive is already applied and firmly fixed when screwed in.)

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 up lead-free solder with traditional solder.
・ Use the special soldering iron respectively for lead-free solder and lead solder. They cannot be used in common.

Disassembly

1. External units and Imaging-related PCBs

Note : When "Separating Front and Rear bodies", "Disassembling Image PCB", and "Disassembling Bayonet", be sure to perform "Reset of AF defocus compensation amount" by the adjustment software after reassembly.

External rubber

・ Remove the grip rubber (#B60), apron lower rubber (#B66), and connector side rubber (#B61).

#B61

#65

#62

#B66

#B60

Battery cover unit\others

#B804

#804

#808 #B806

#810

#809

#811

Adhesive: Super X

#805

#1533×2

#B282

#813

#1600×2

#815

#830

#814

#1549×4
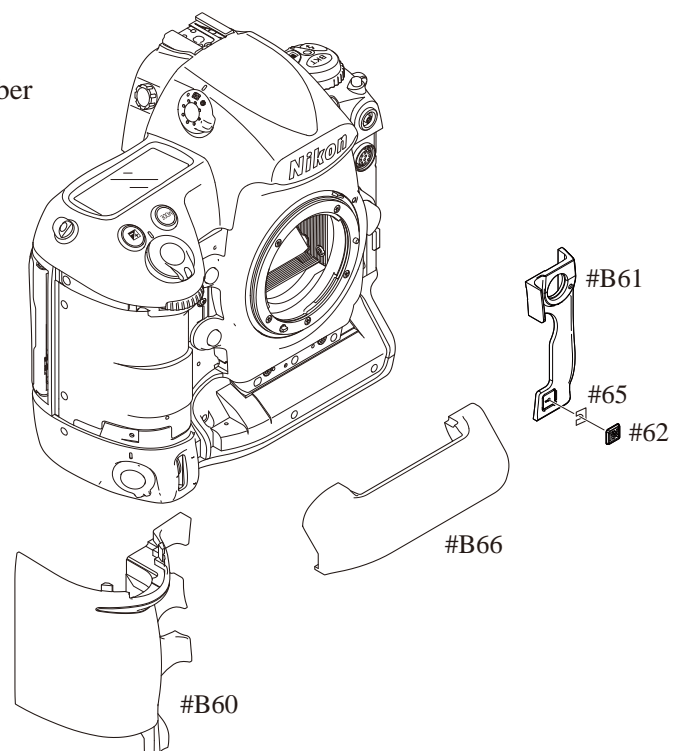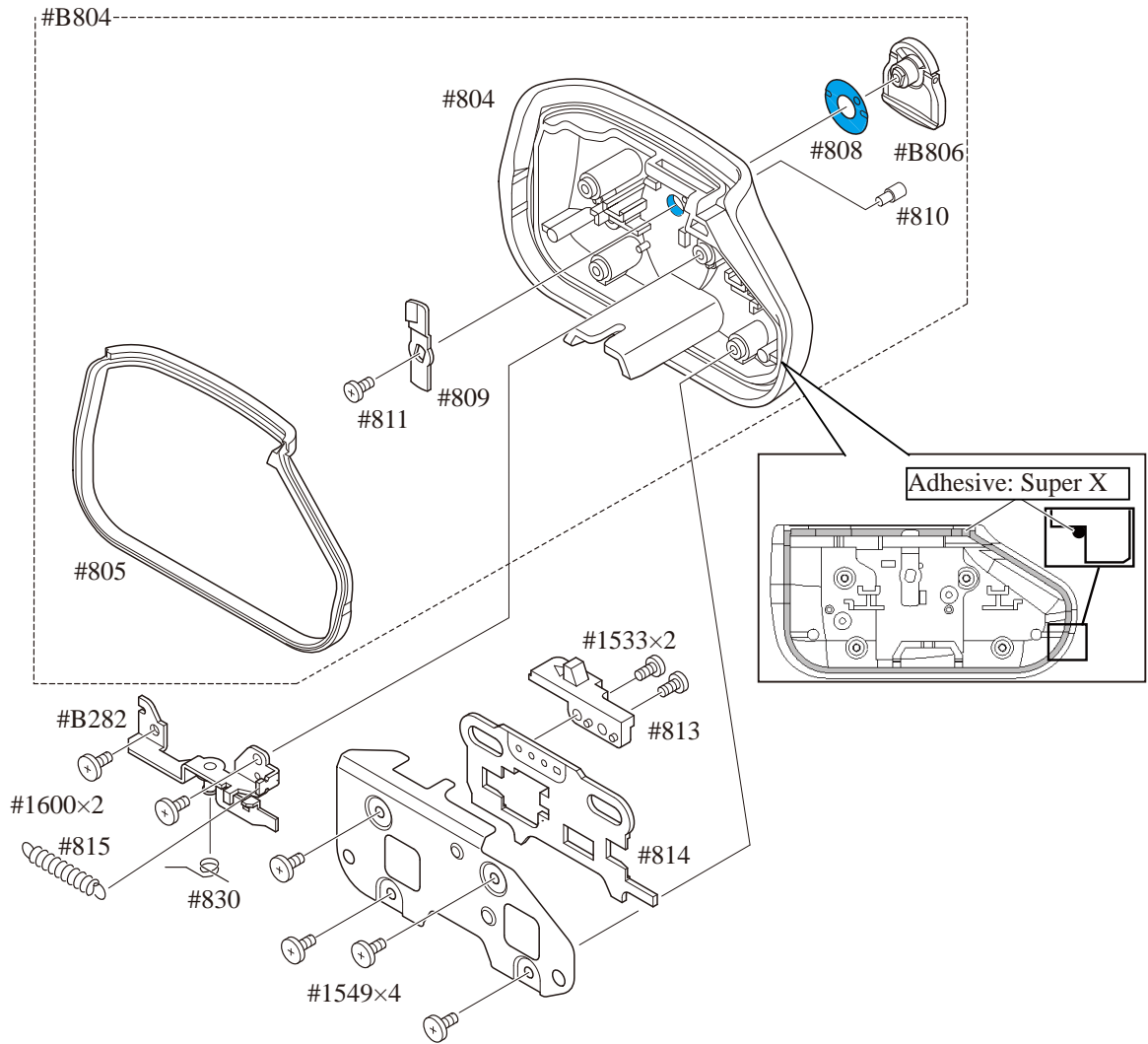
Bottom cover section

・Take out the three screws (#1512) and three screws (#1516).

・Remove the bottom cover unit and FPC.

※ Be careful of the connection-FPC when removing.

#1516×3

#1512×3

－ D 2 ・ D3 －
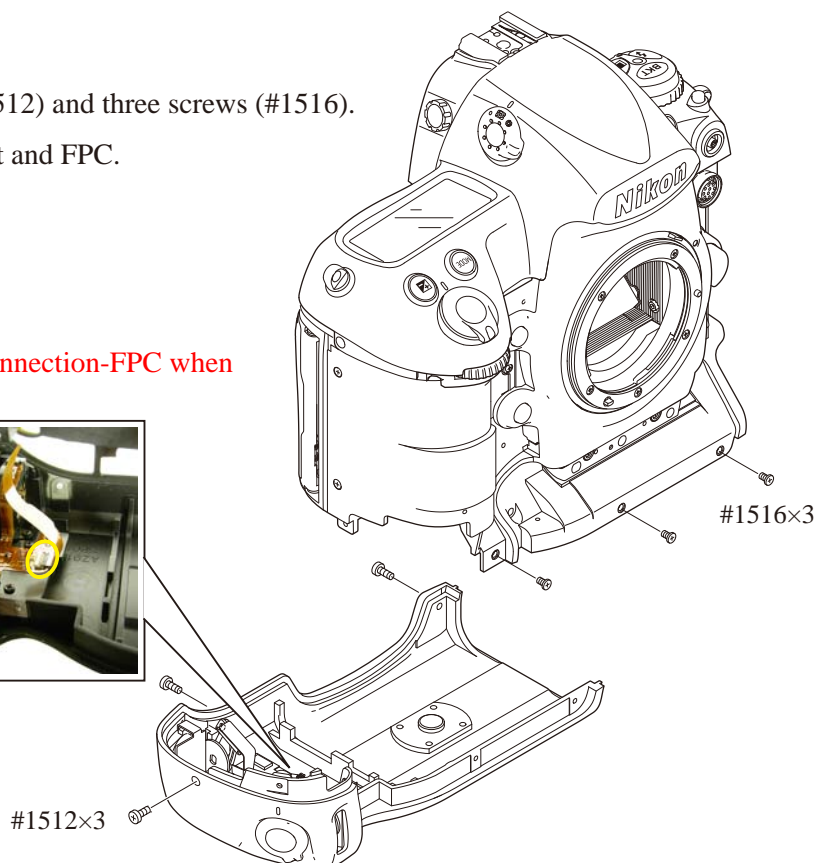
Vertical main-command dial\Vertical sub-command dial\others

#918   #1546
#1570
#B910   #926
                                             #1567×3
                                                        #1567×2

                            #932   #1567×2   #B923
                                        #1604
                            #933   #1591
                                                   #925
                            #921   #912   #25

#B28

#27

#903
#911
#733
#734
#901

#1598×4   #936

#937
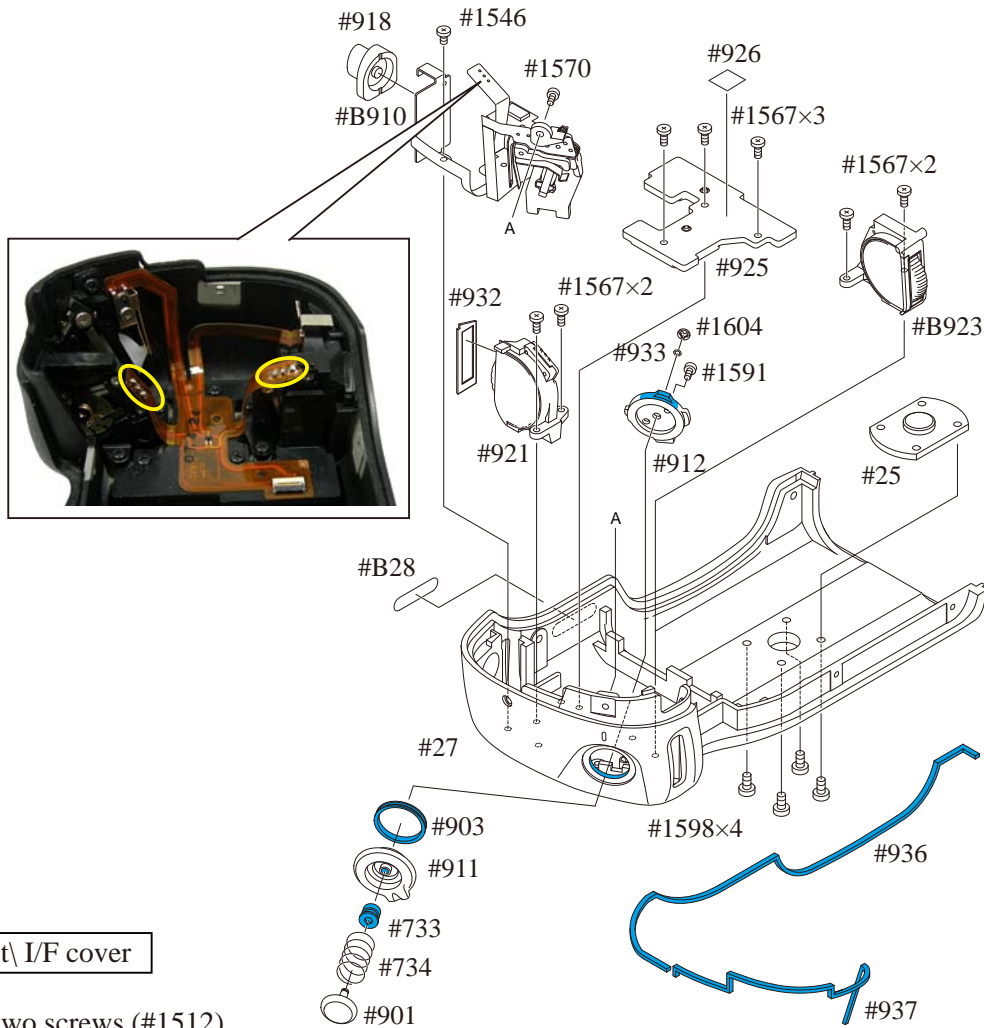
Rear cover unit\ I/F cover

・ Take out the two screws (#1512)
  and two screws (#1524).

・ Detach the rear cover unit, and
  remove the three FPCs.

Rear cover unit

#1524×2
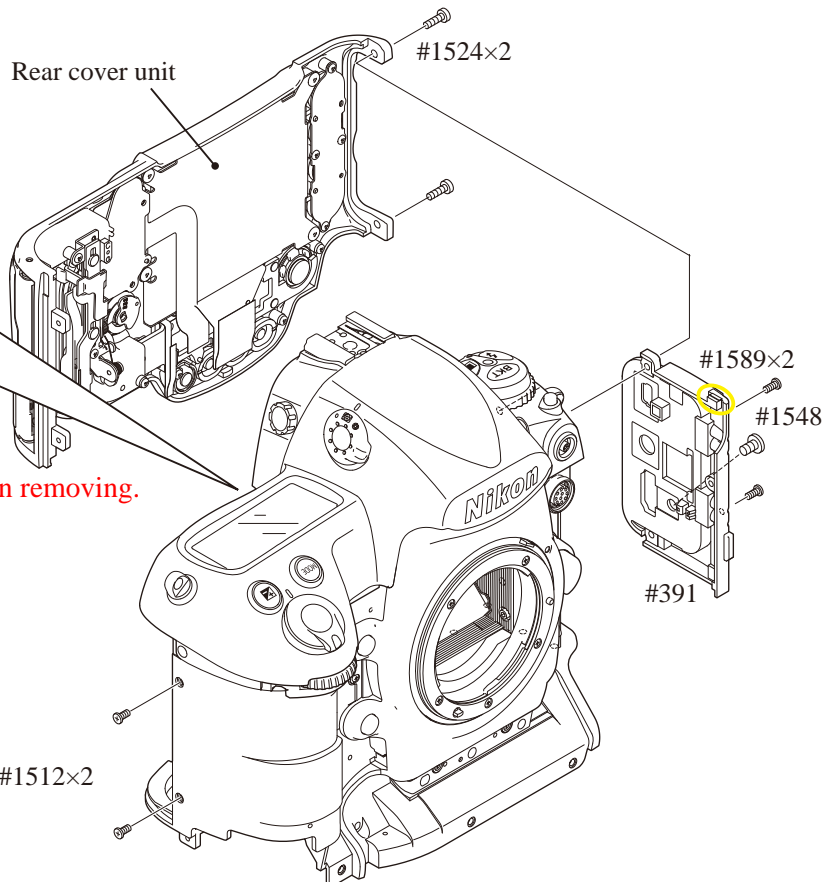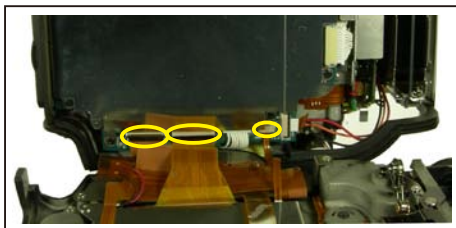
※ Be careful of the connection-FPC when removing.

・ Take out the two screws (#1589) and
  one screw (#1548).

・ Remove the IF cover (#391).

※ The convex portion is placed under
the top cover, so remove the I/F block
unit by pulling its lower side.
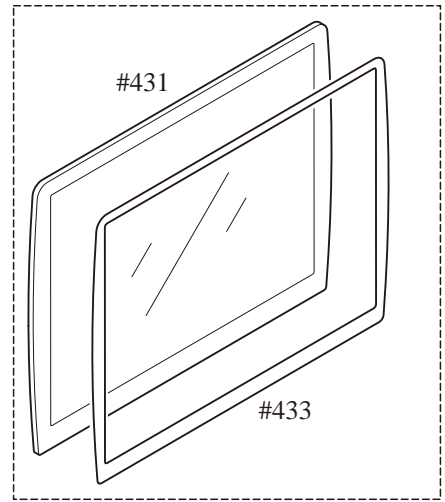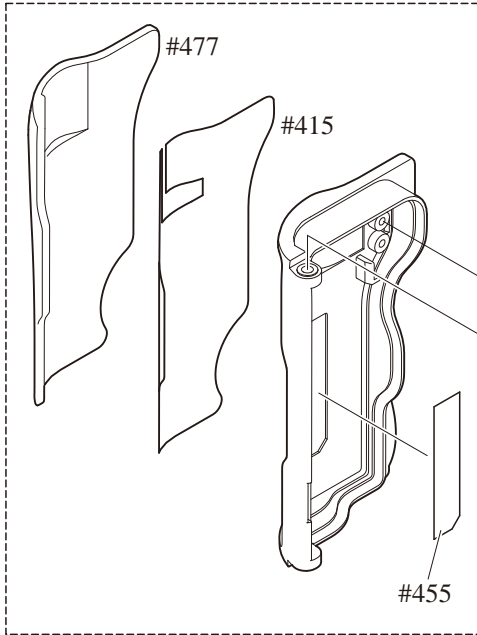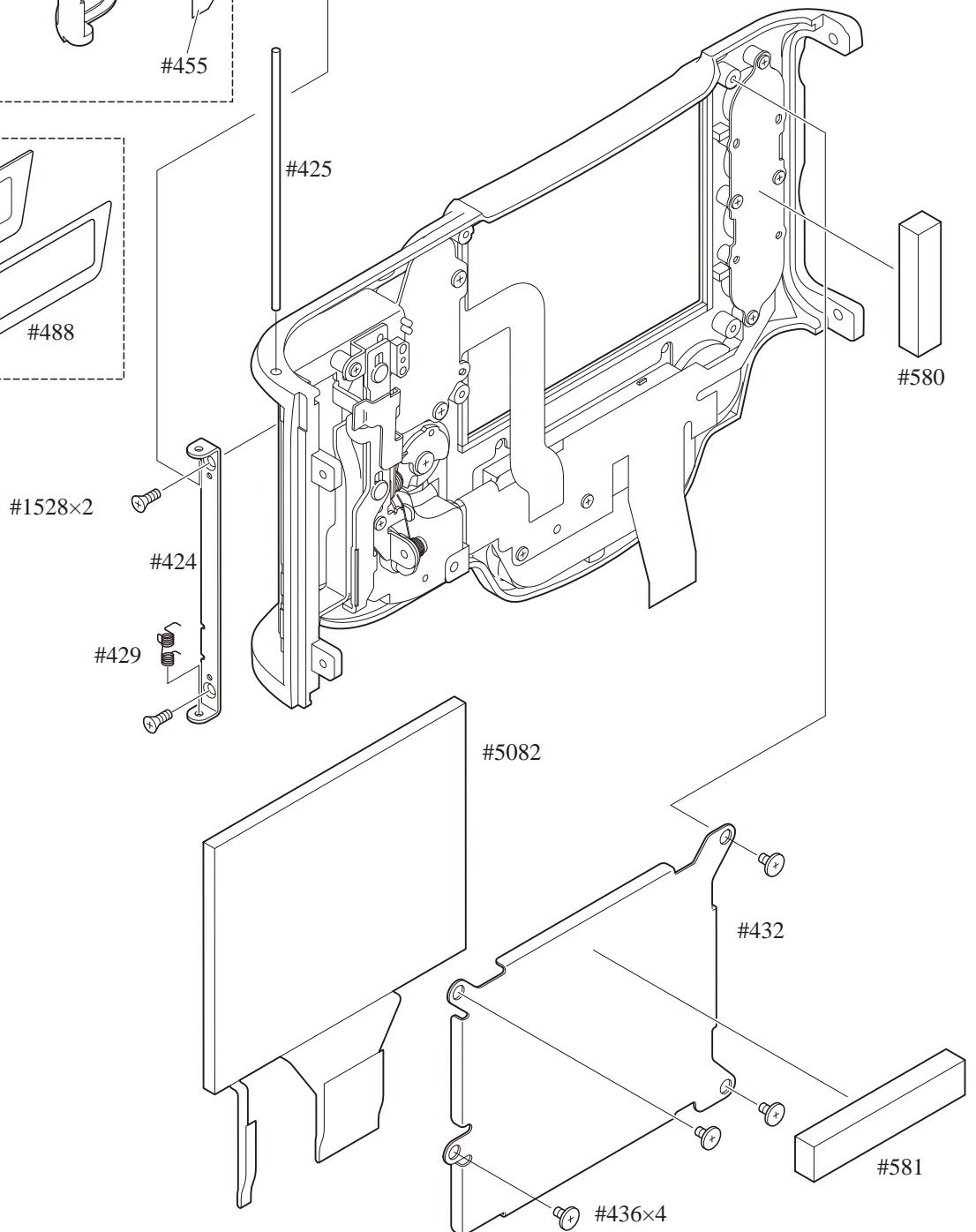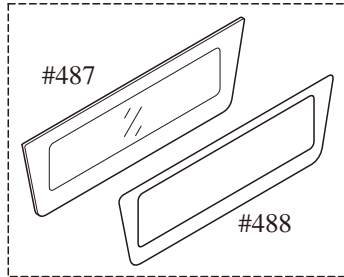
#1512×2

#1589×2

#1548

#391

CF cover section\ TFT monitor\ others

#B423

#477

#415

#431

#433

#427

#1532×2

#B487

#487

#488

#455

#425

#580

#1528×2

#424

#429

#5082

#432

#436×4

#581

Microphone\ Speaker\ rear LED\ others

#453

#476

#1522×2

#B428

#437

#1546×2

#455

A

#464

#B5101

#B5102

#456

#1603

#457

#1590×2

#B439

A

#461

#1590×4

#5087

#B5033

#413

#1593

#570

#1590

#B478

#420

#1590×3

#458

Selector button unit \ Selector FPC\ others

#452

#468

#434×2

#435×2

#463

#480

#475

#494×2

#493×2

#430

#426

#460

#469

#B482

#484

#485

#1593×3

#5034

#B467

#470

#422

#1589×3
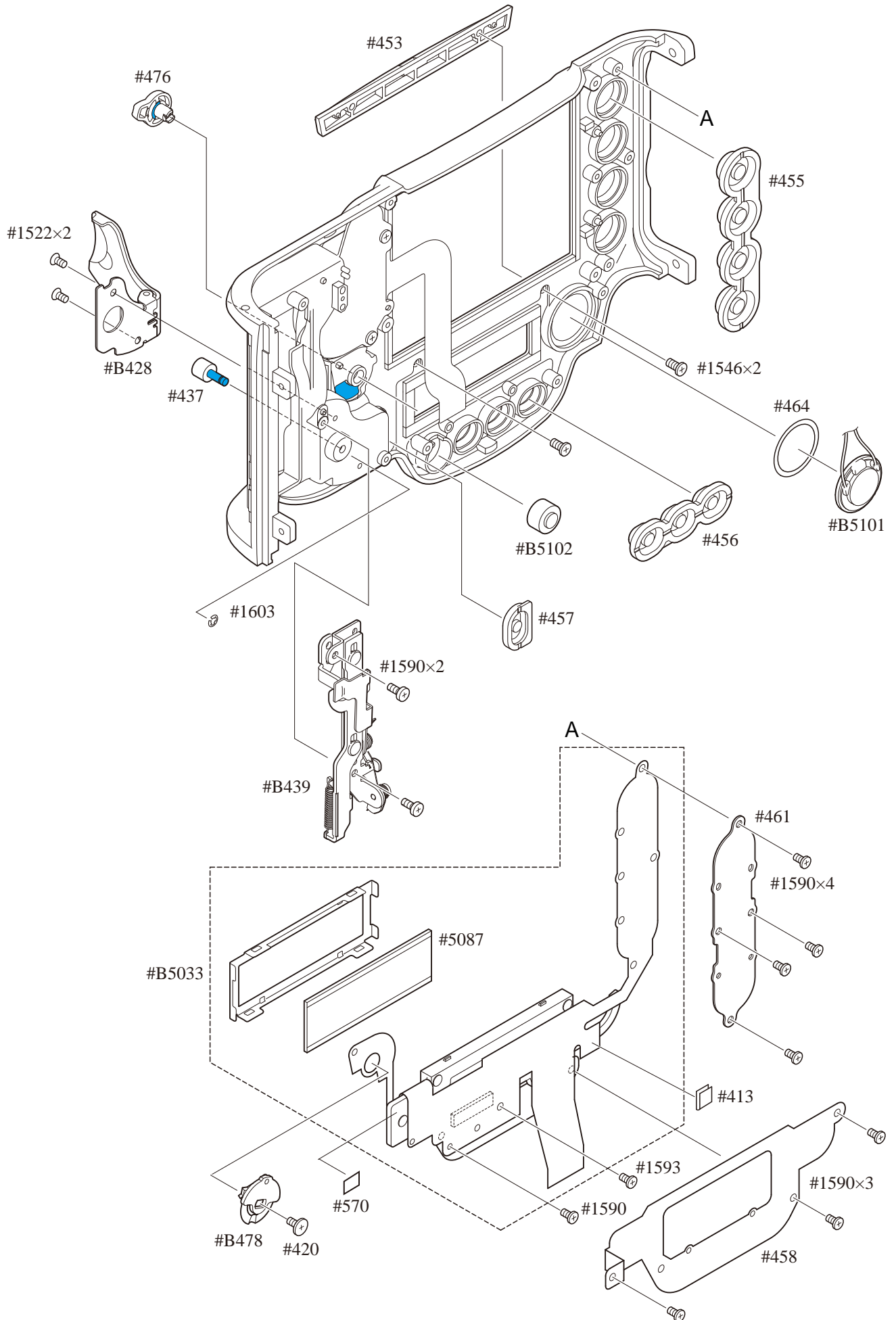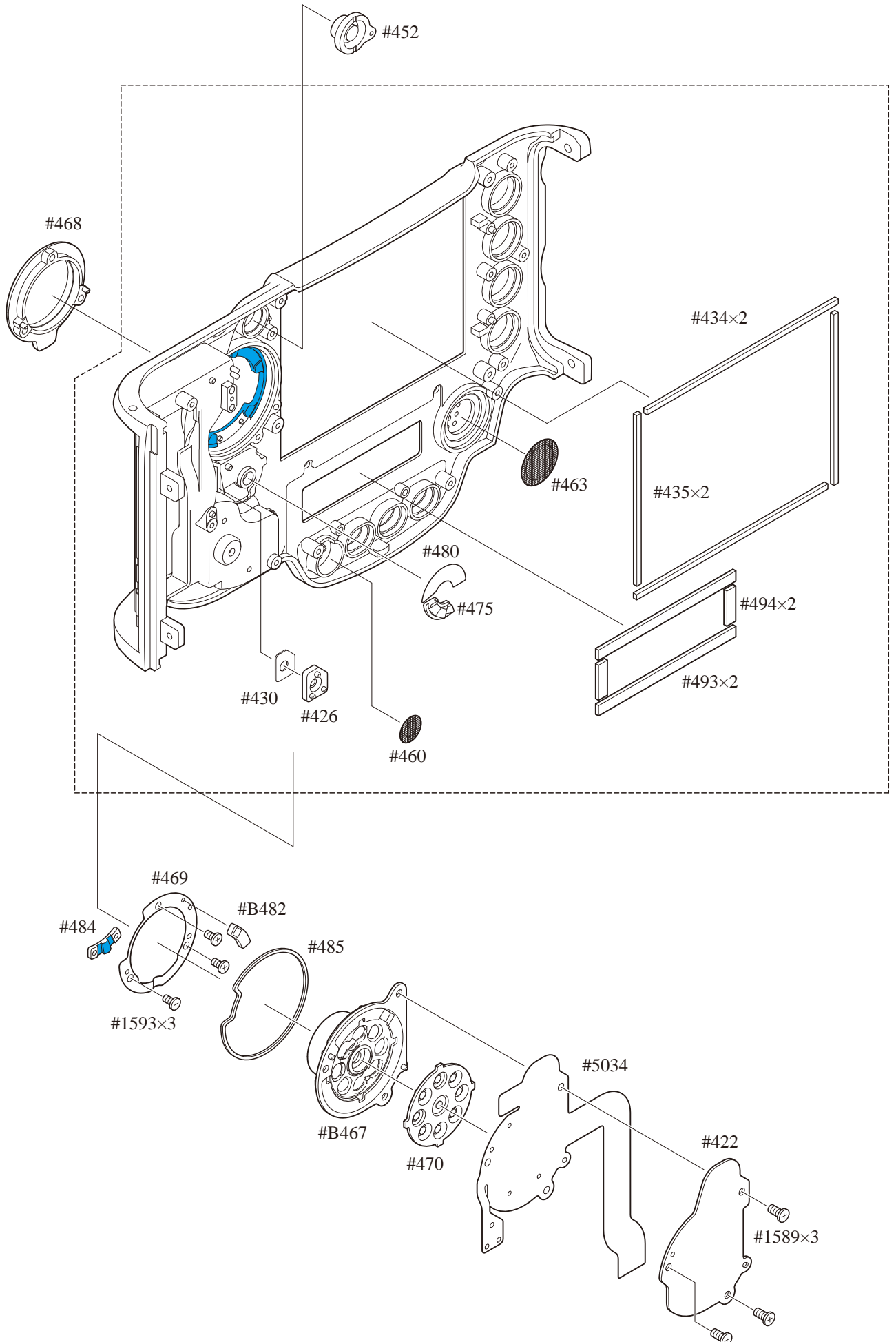
Shield plate/CF PCB

・Take out the five screws (#1533).

・Remove the shield plate (#B531).

Caution: Be careful NOT to deform the shield plate, because it is assembled in the two shield locks.

・Take out the two screws (#1530), and remove the plate (#70).

・Remove the connection-FPC (#5049).

・Take out the two screws (#1532), and remove the CF PCB
   (#5023).

FPC #5049

Shield lock

#1530

#70

#1532×2

Shield plate
#531

CF PCB
#5023

#1533×5

#1530
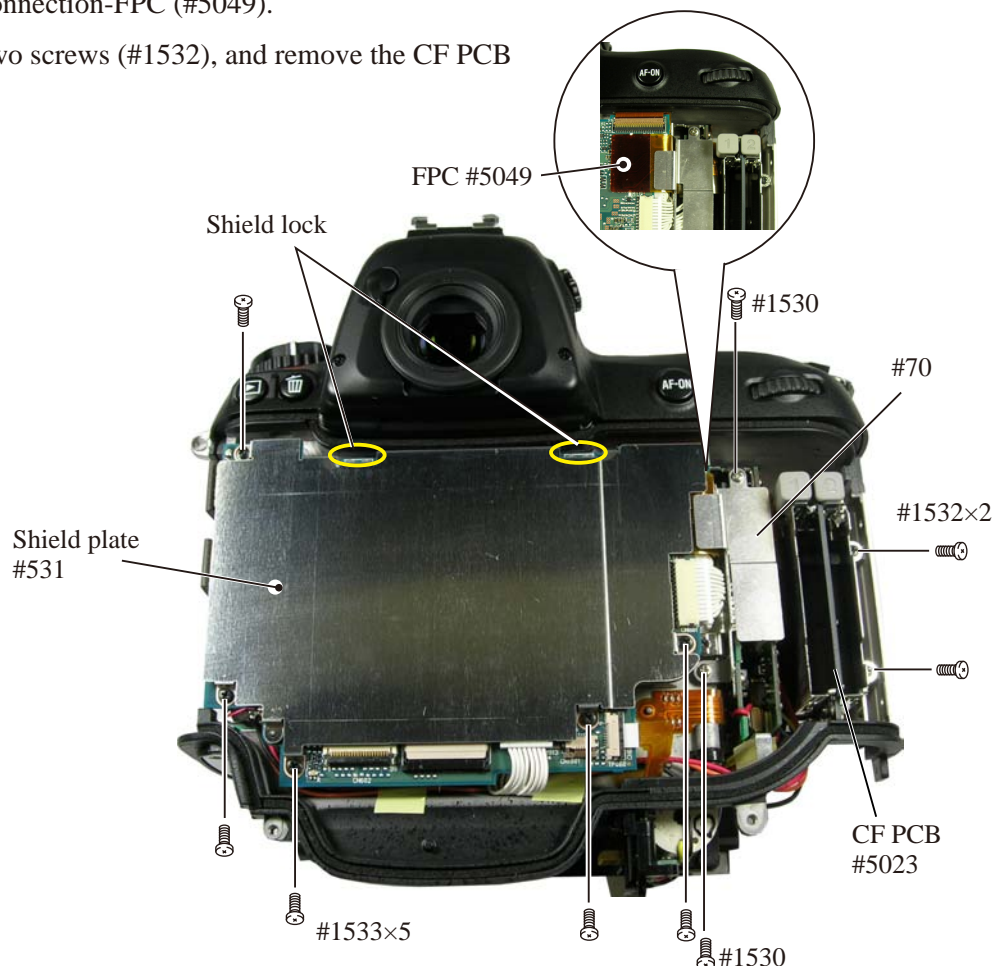
DG-PCB

・Take out the screw (#1533).

・Remove the four harnesses, three FPCs,
   and battery box wire.

・Remove the DG-PCB unit (#B5022RP).

・Take out the two screws (#1536).

・Remove battery box unit (#818).
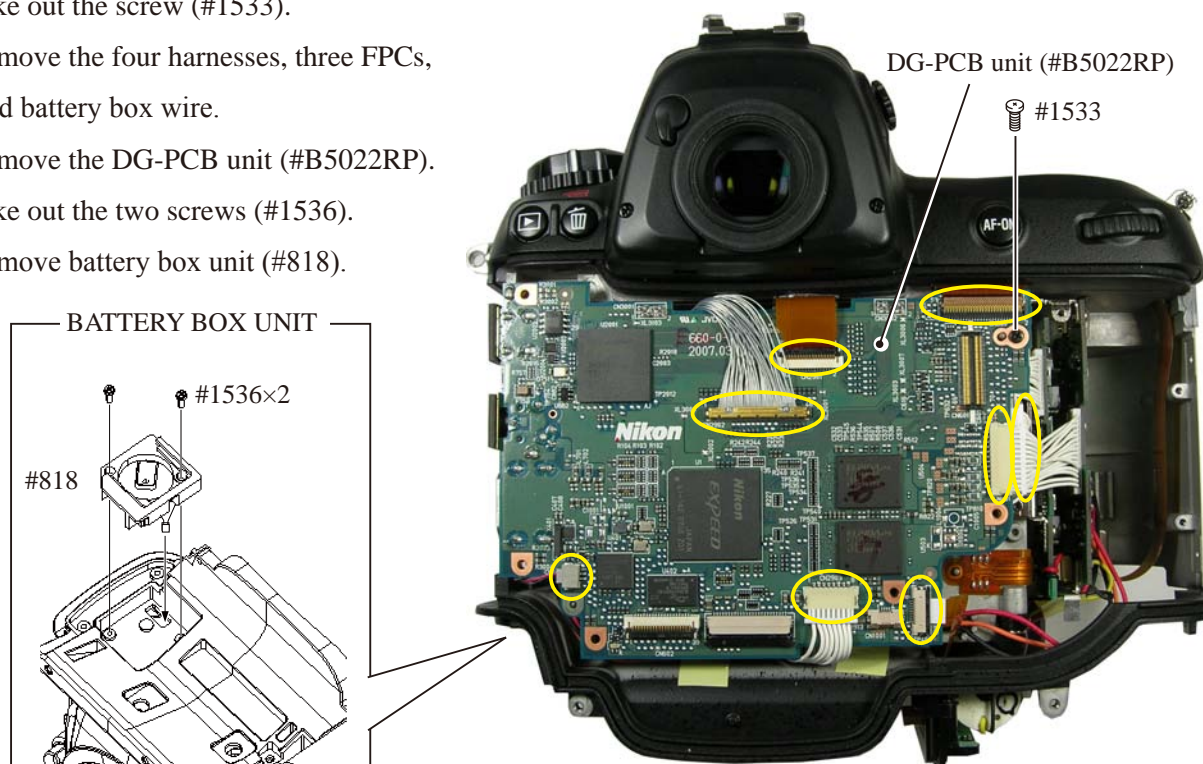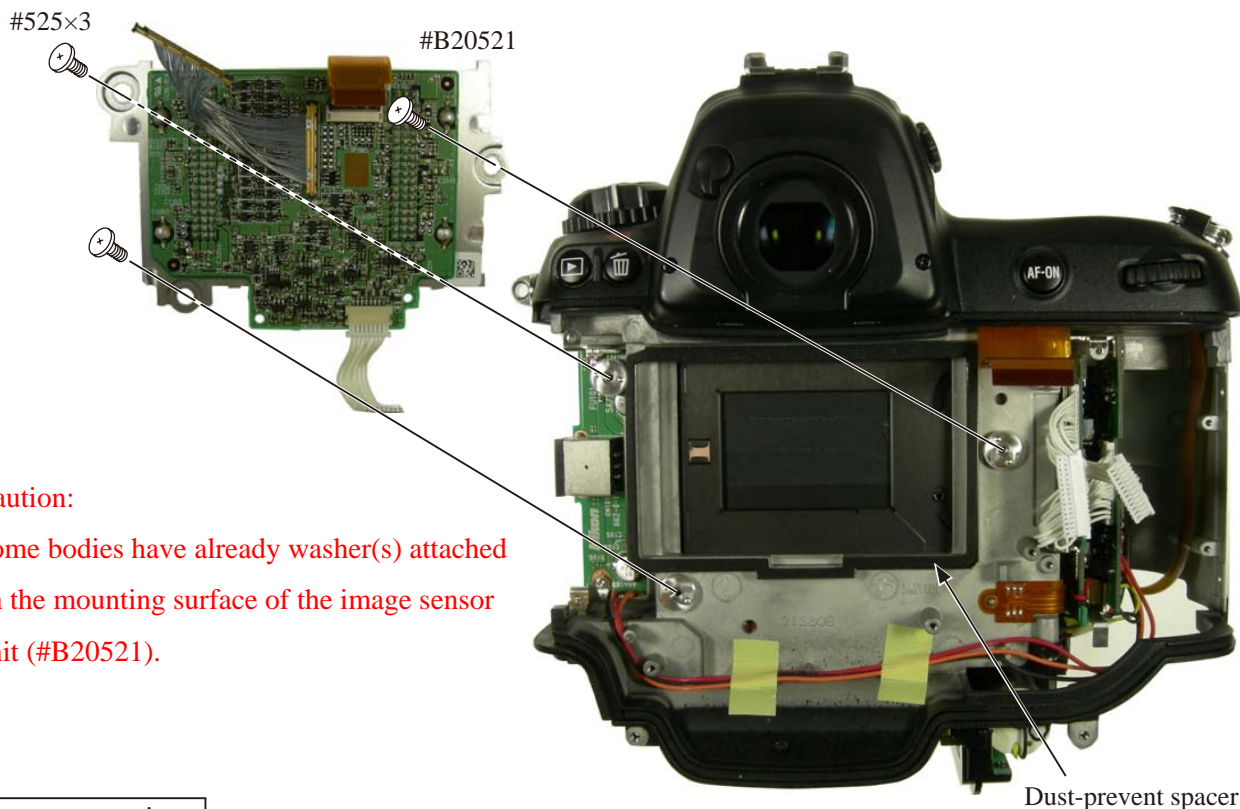
DG-PCB unit (#B5022RP)

#1533

BATTERY BOX UNIT

#1536×2

#818

Image sensor unit

#525×3

#B20521

Caution:

Some bodies have already washer(s) attached on the mounting surface of the image sensor unit (#B20521).

Dust-prevent spacer

Top cover section

#1137×2

Eyepiece block unit (#B1137)

#1519
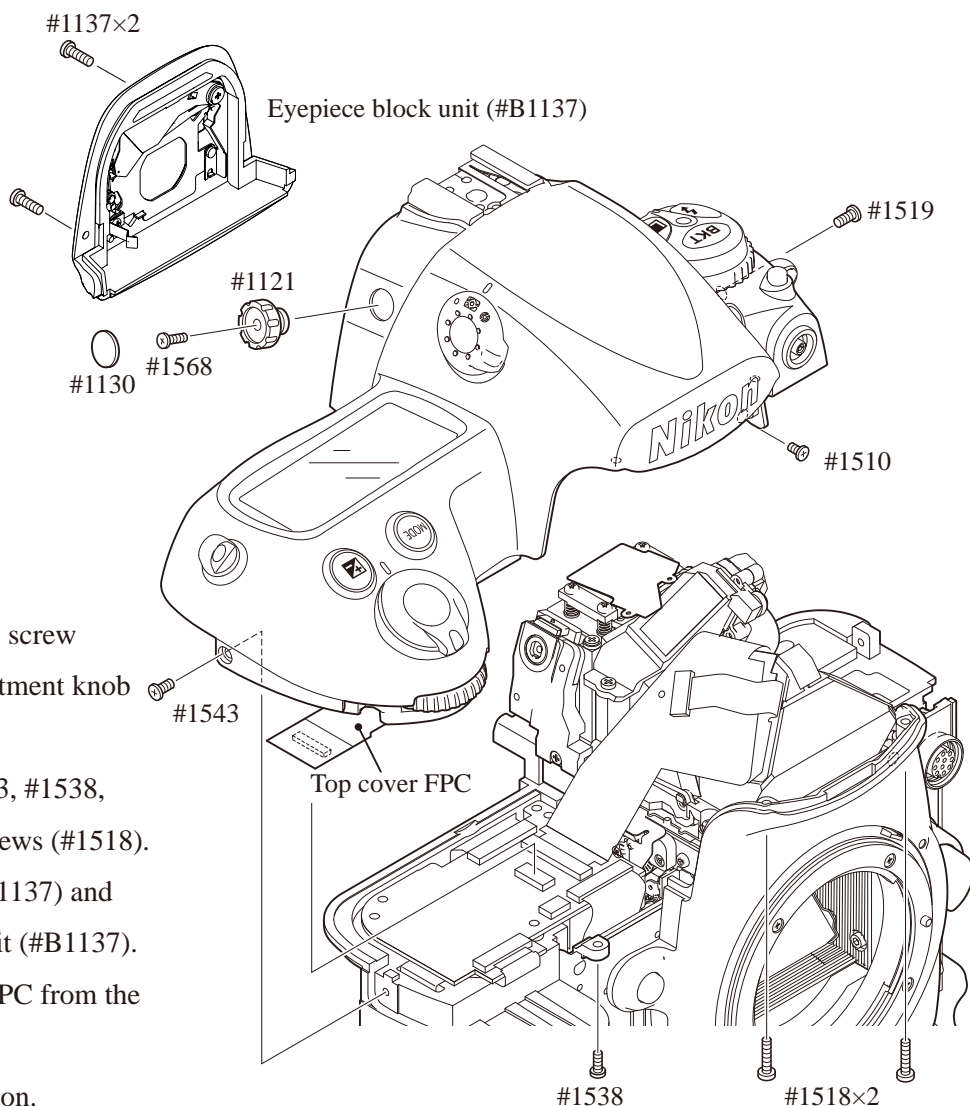
#1121

#1568

#1130

#1510

・Remove the cover (#1130), screw (#1568), and diopter adjustment knob (#1121).

#1543

Top cover FPC

・Take out each screw (#1543, #1538, #1519, #1510) and two screws (#1518).

・Take out the two screws (#1137) and remove eyepiece block unit (#B1137).

・Disconnect the top cover FPC from the connector.

・Remove the top cover section.

#1538

#1518×2

2.Top Cover

Sponge/Rubber

#981

#982

#984

#1195

#985

#983
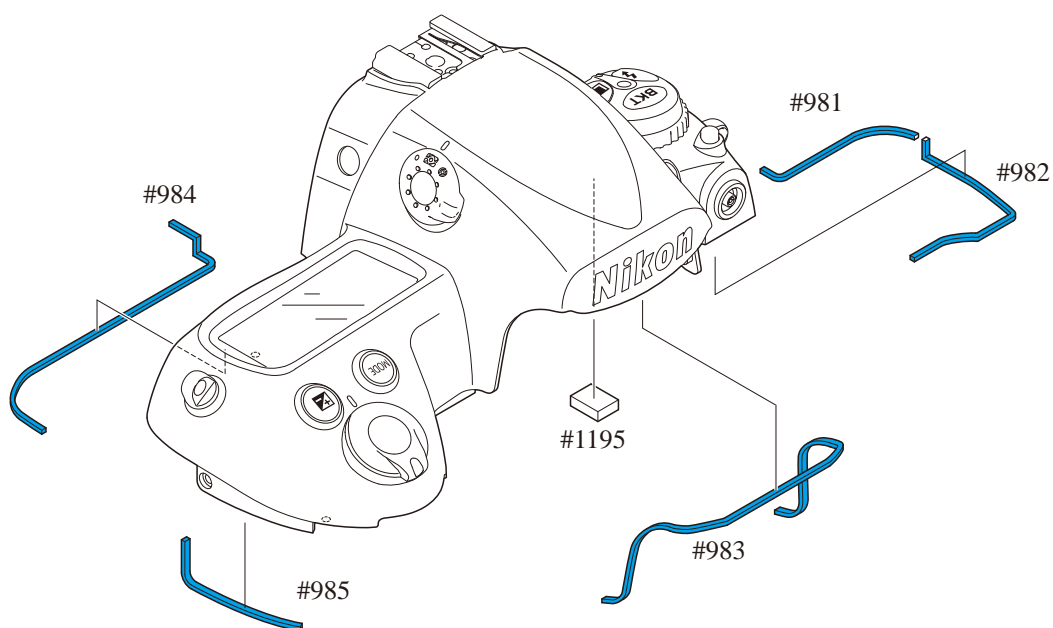
Release-SW FPC / Main command dial unit / Sub-command dial unit

・ Remove the three soldering bridges each at three places, and nine soldering bridges.

・ Remove the release-SW FPC (#5044).

・ Take out the two screws (#1569), and remove the sub-command dial unit (#B725).

・ Take out the two screws (#1558), and remove the main command dial unit (#B726).

Main command dial unit (#B726)

#1558×2

Soldering bridge×9

Soldering bridge×3

Release-SW FPC (#5044)

Soldering bridge×3

Soldering bridge×3

#1569×2

Sub-command dial unit (#B725)
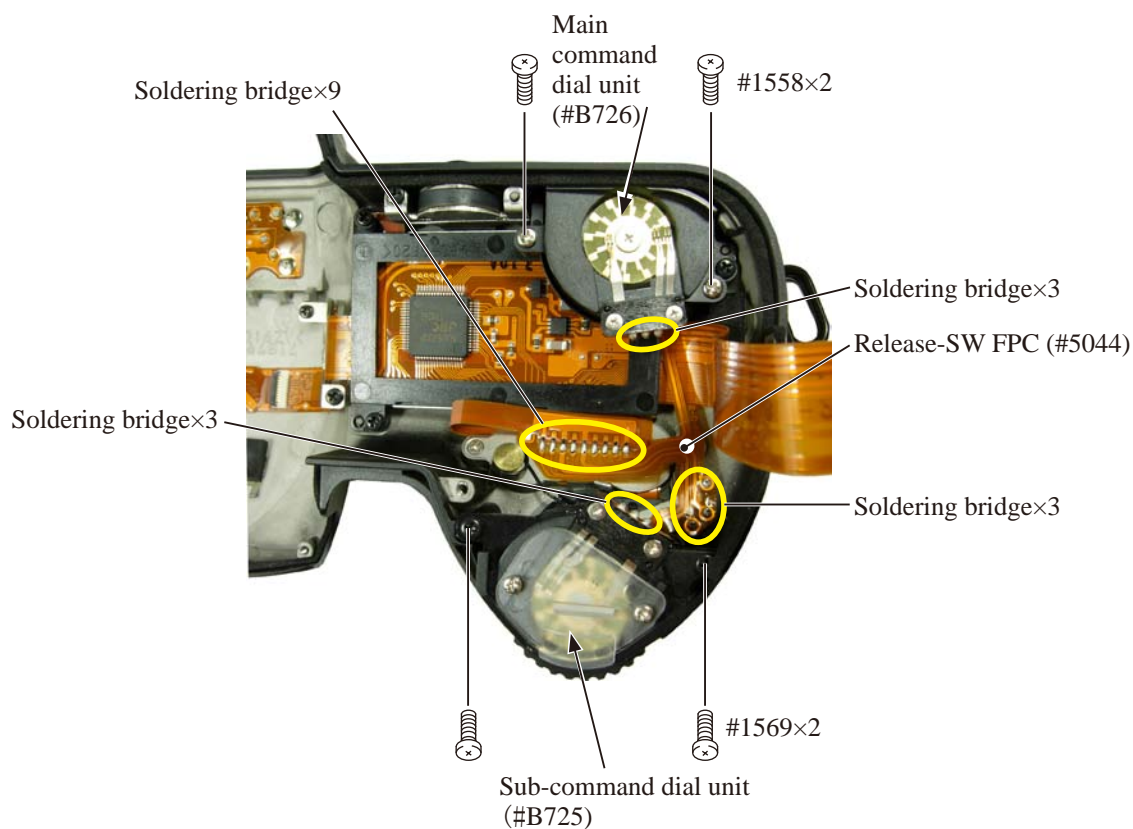
Top LCD section

・Remove the spring (#750).

・Take out the screw (#1575), and remove the release-SW unit (#B740).

・Take out the two screws (#1569), and remove the power-SW mold unit (#B747).

・Take out the three screws (#1554), and remove the button base (#B731).

・Take out the two screws (#1564), and remove the FPC fixed plate (#790).

・Take out the three screws (#1569), and remove the top LCD section (#703 mold).

Release-SW unit (#B740)

Power-SW mold unit (#B747)

Spring#750

#1569×2

#1575

#1564×2

Button base
(#B731)

#1569×3

#1554×3

Top LCD section

#B701

#702

#791

#B785

#790

#797

#704

#730

#5085

#744

#706×2

#B731

#753

#705

#B747

#5086

TA-0026

#5002

#798

#764

#796

#703

Power SW base section

#732
#733
#734
#742
#743

#1557×2
#1604
#1554×3
#748
#B745
#1578

Metering mode dial section

#789
#781
#787
#784
#788
#782
#783
#792
#B780
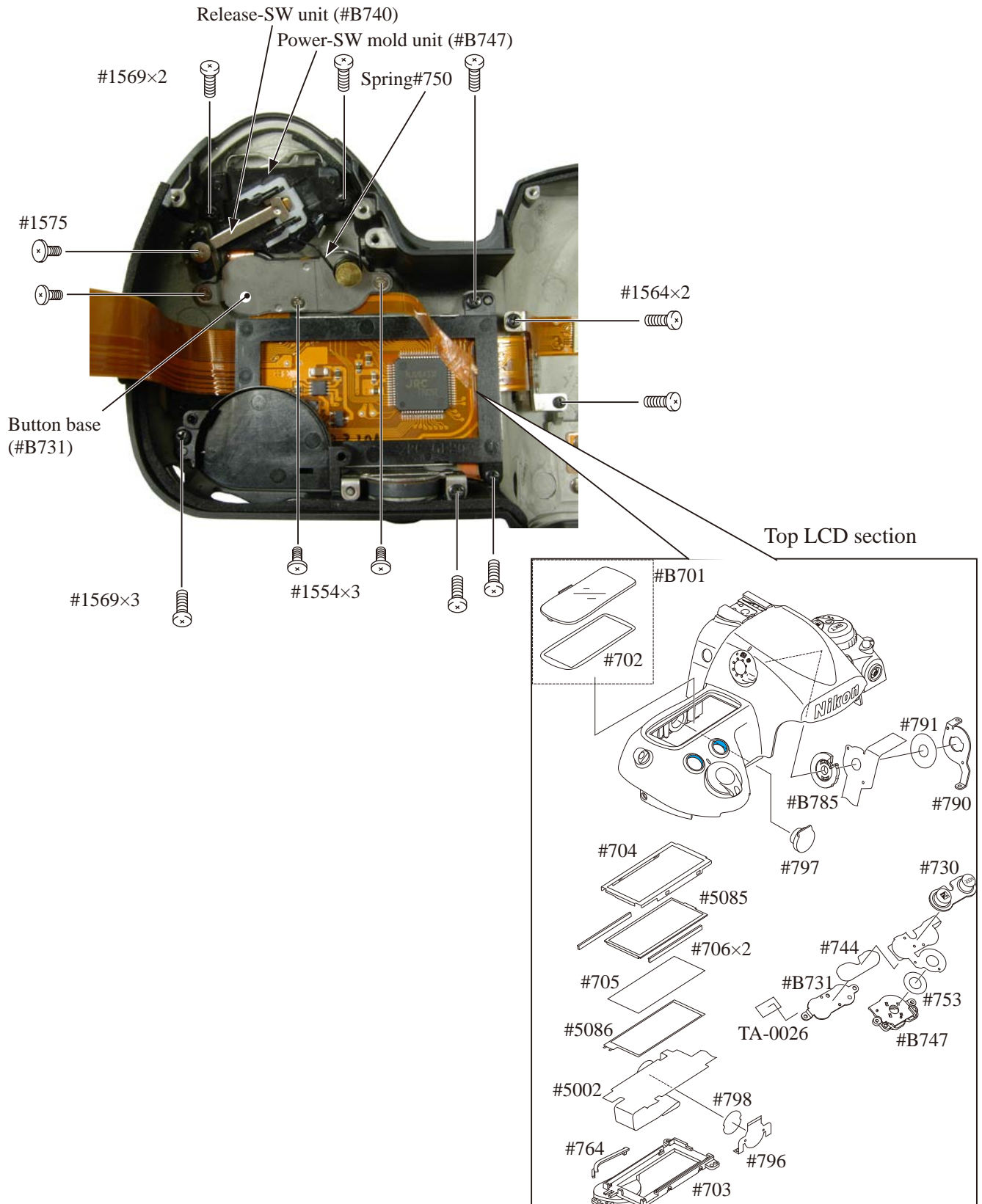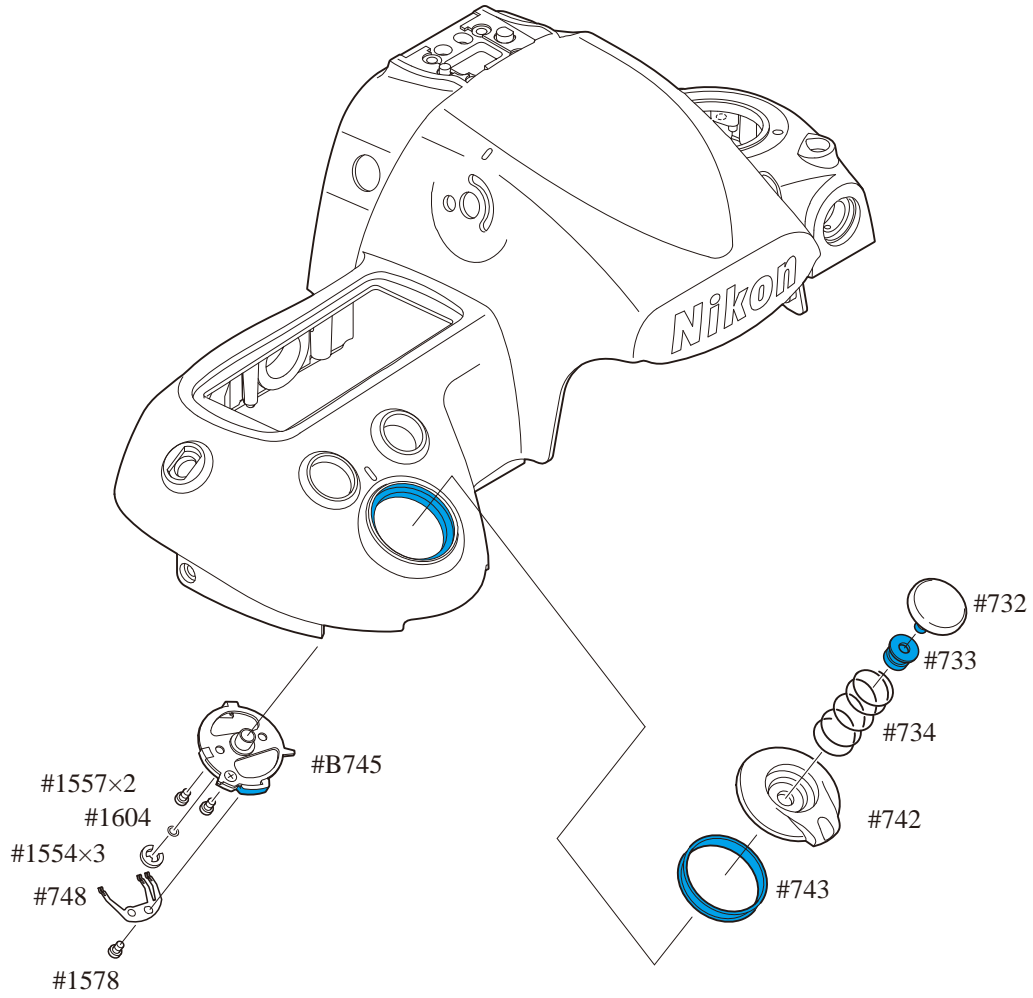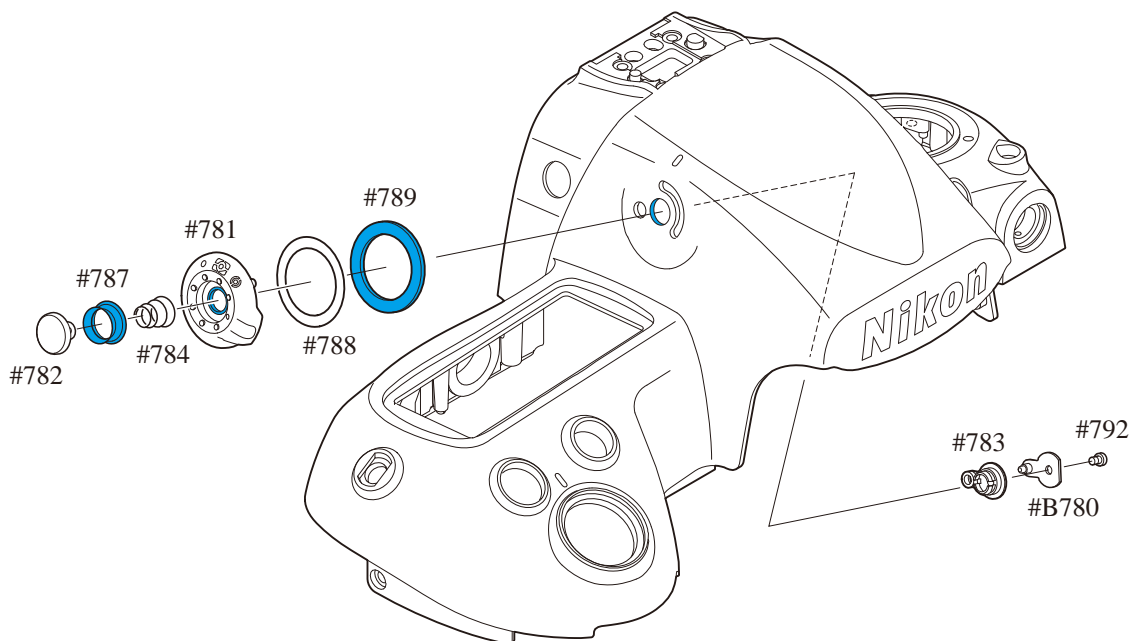
Self-timer section

Self-timer section

- Take out the three screws (#1569), and remove the self-timer section.
- Remove the four soldering bridges.

#1569×3

#508
#509
#510
#5035
#519

Black: Self-tiemer LED
Red: Self-timer LED

Soldering bridge×4

Yellow: Synchro-terminal

Function mode dial section

#502
#501
#5043
#516
#520
#503
#1582×2
#504
#507
#511
#1550
#512

#1568

#1568
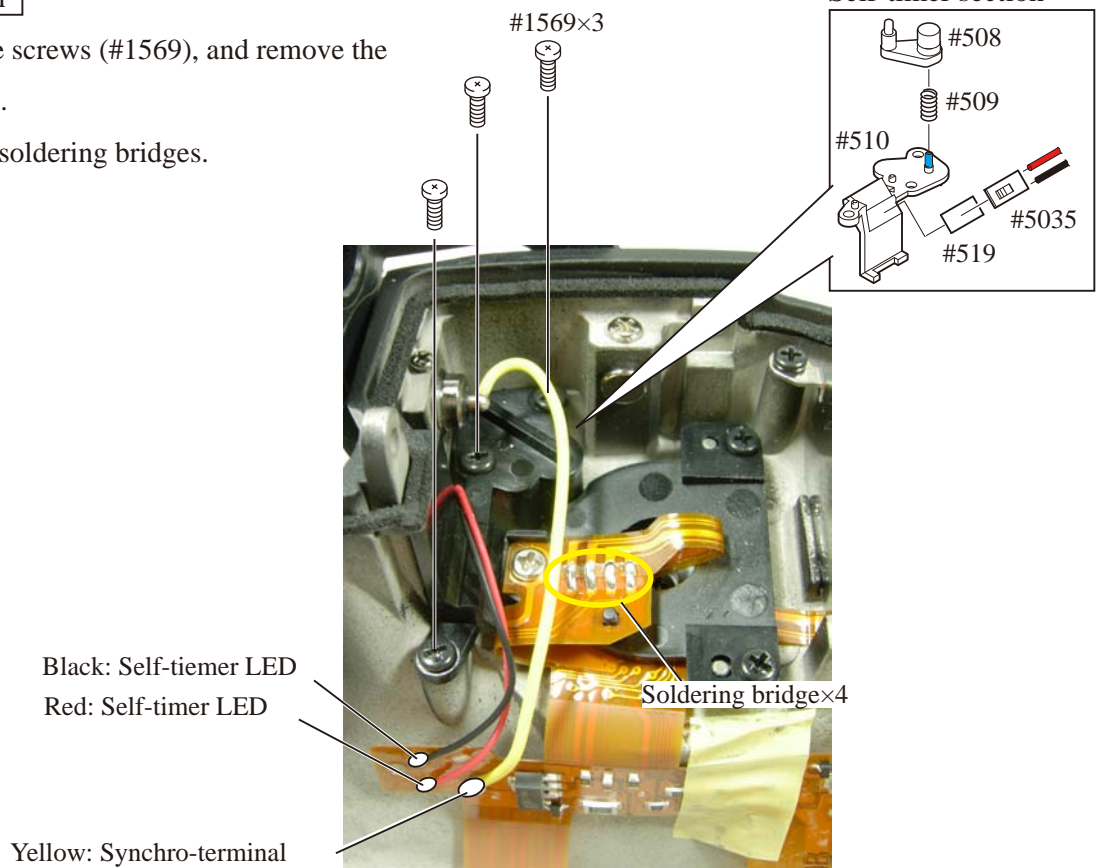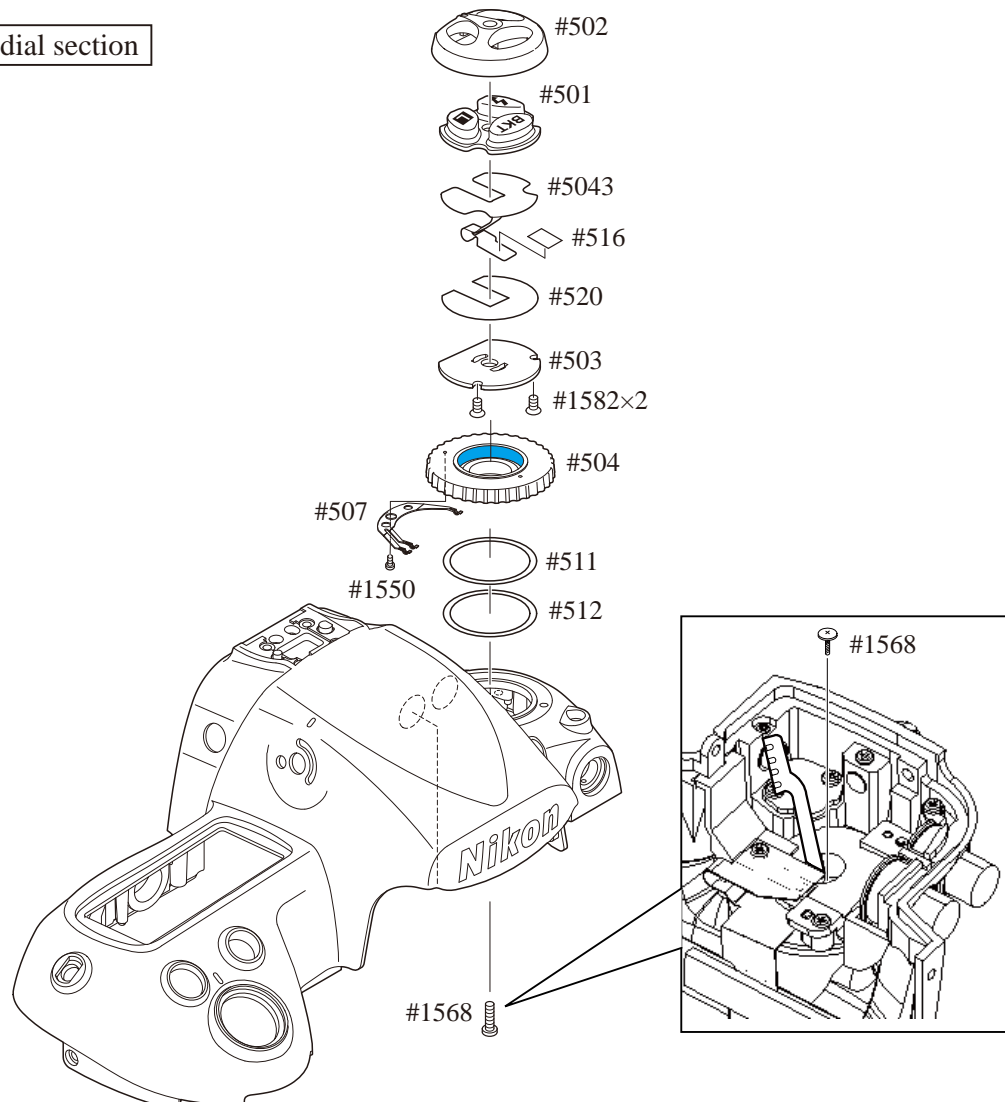
Mode dial FPC

・Take out the two screws (#1569) and one screw (#1556), then remove the dial base (#505).

・Take out the screw (#1564), and remove the FPC retainer plate (#506).

・Remove the four solders.

・Take out the three screws (#776), and remove the mode dial-FPC (#5003).

#1564 #1569×2 #TA-0005 Solder ×4
#506 #513

Dial base (#505) #1556 Mode dial-FPC (#5003) #776×3

Hot shoe/others

#773
#771
#B772
#B44
#192
#6036
#B43
#1501
#1585
#50
#1631
#776
#751
#768
#766×2
#765×2

Eyepiece cover section

#1149   #1137

#1201

#1105   #B1141

#1152   #1145

#1202×2   #1144

#1147

#1146

#1151   #1604   #1206   #1551
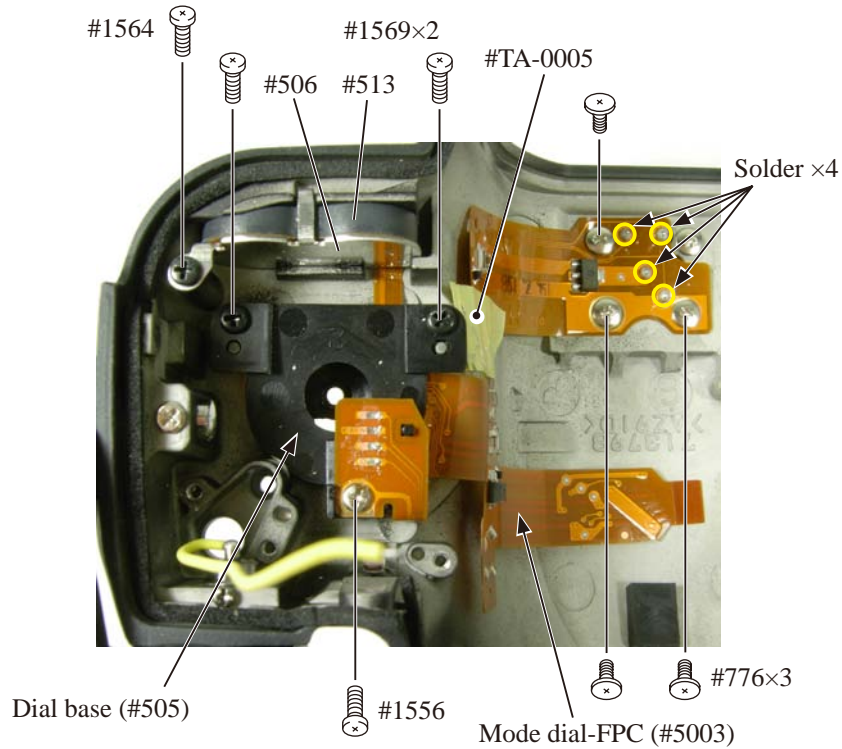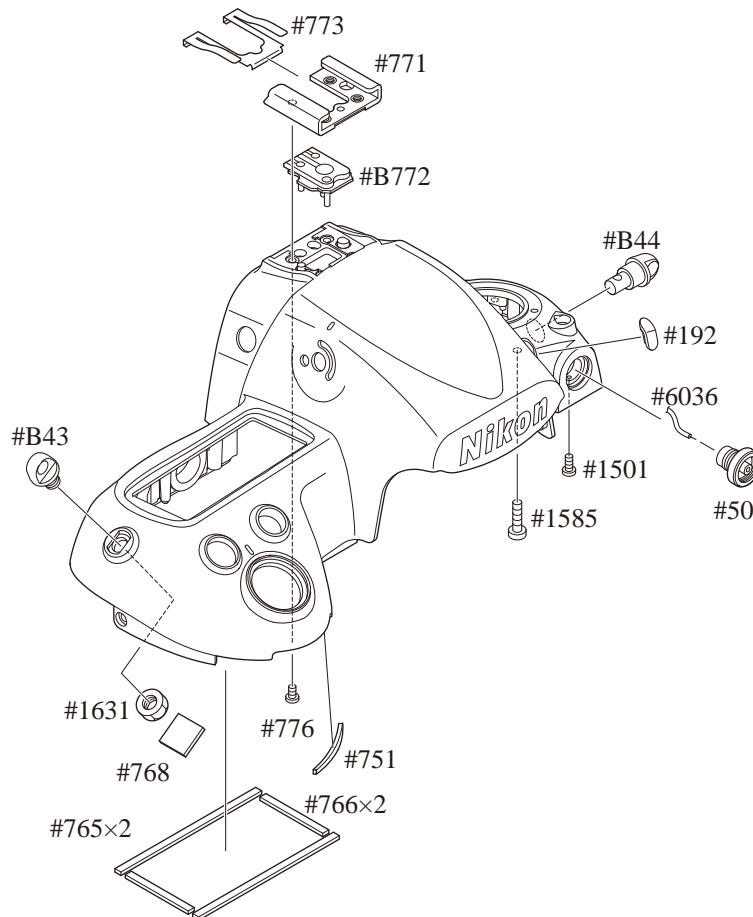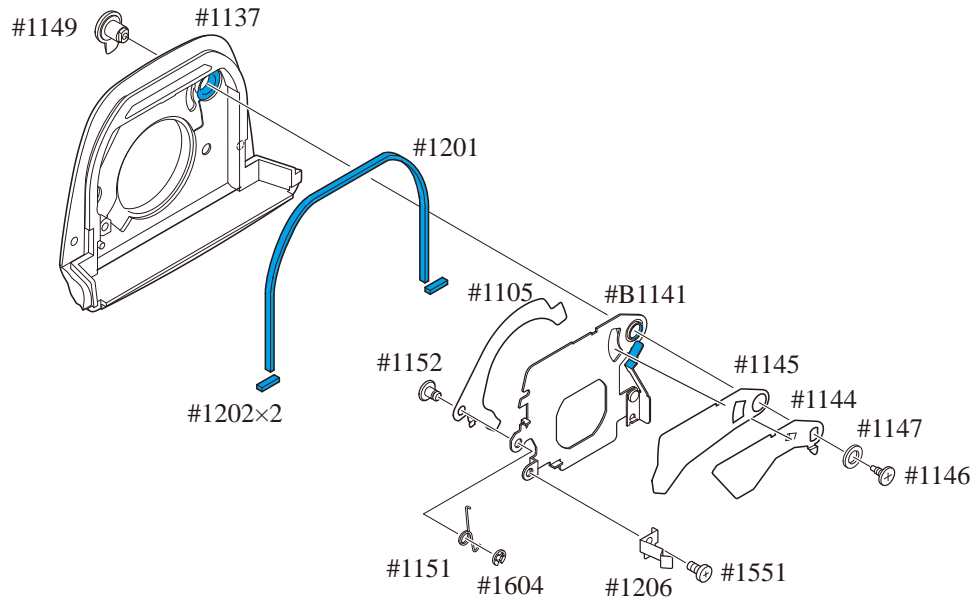
3. Separate Front and Rear bodies

Metering FPC unit

・Remove the two FPCs from each connector.

#1133×3
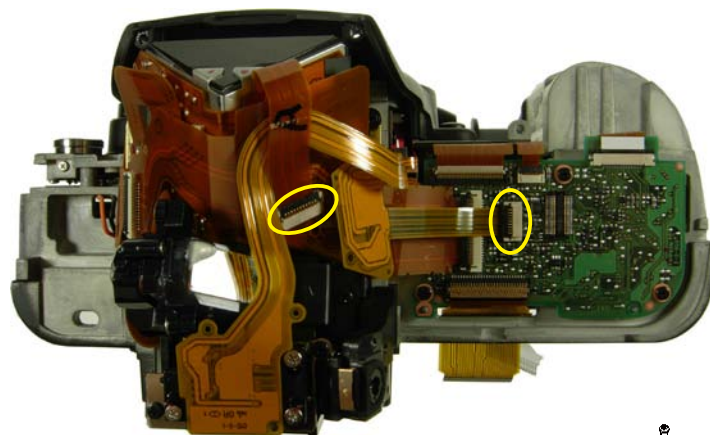
・Take out the three screws (#1133).

・Remove the Metering FPC unit (#B25005).

・Remove the three springs (#1134).

#B25005

#1134×3
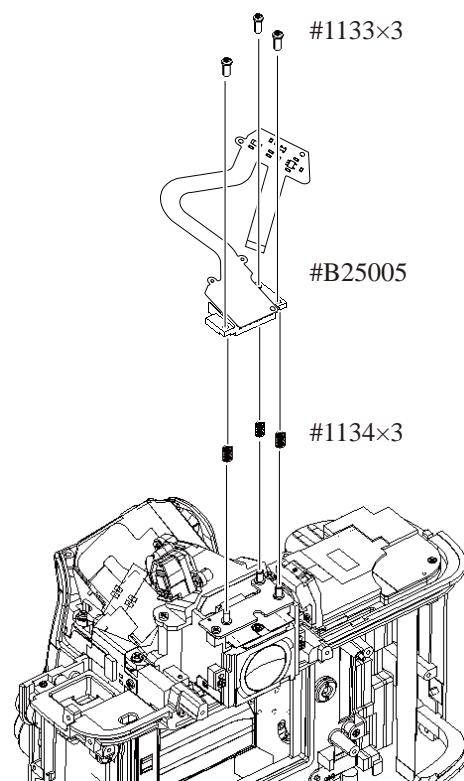
Connection-FPC unit

・Unsolder the two wires (that are connected from DC-IN PCB unit).

・Disconnect the connection-FPC from the connector.

BLACK: DC-IN PCB unit
ORANGE: DC-IN PCB unit

Connection-FPC unit
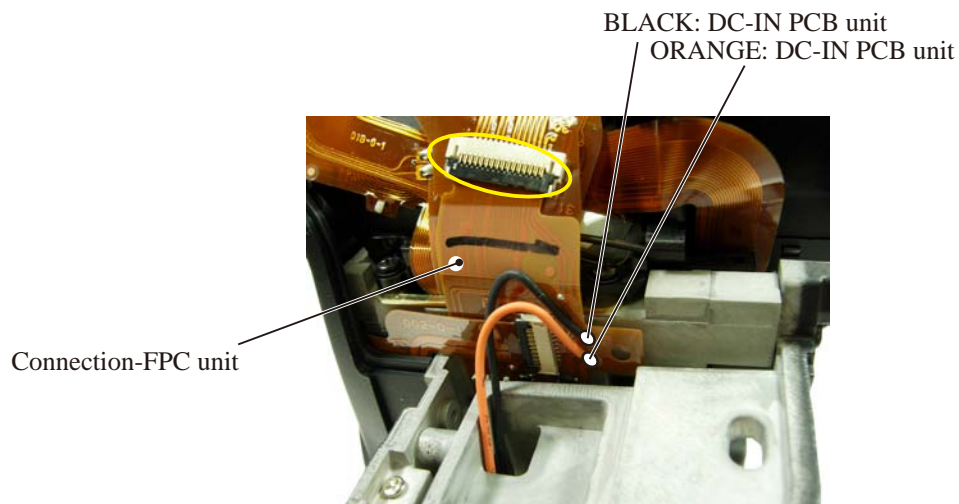
Main PCB unit

・Disconnect the four FPCs from each connector.

・Take out the three screws (#1532).

・Remove the main PCB (#5001).

#1532×3

Main PCB #5001

#5030
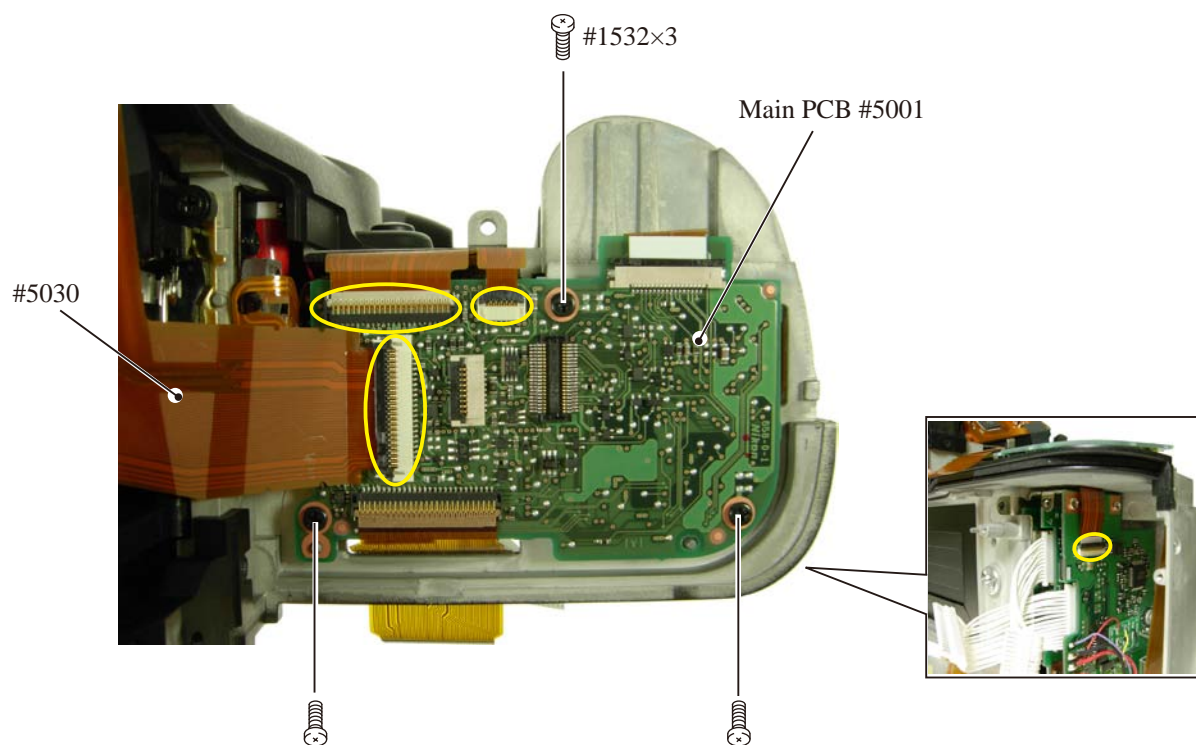
Separation of Front body from Back body

・Take out the two screws (#1534), five screws (#1514), and two screws (#1579).

・Remove the front body .

#1534×2

#1514×5

#1579×2
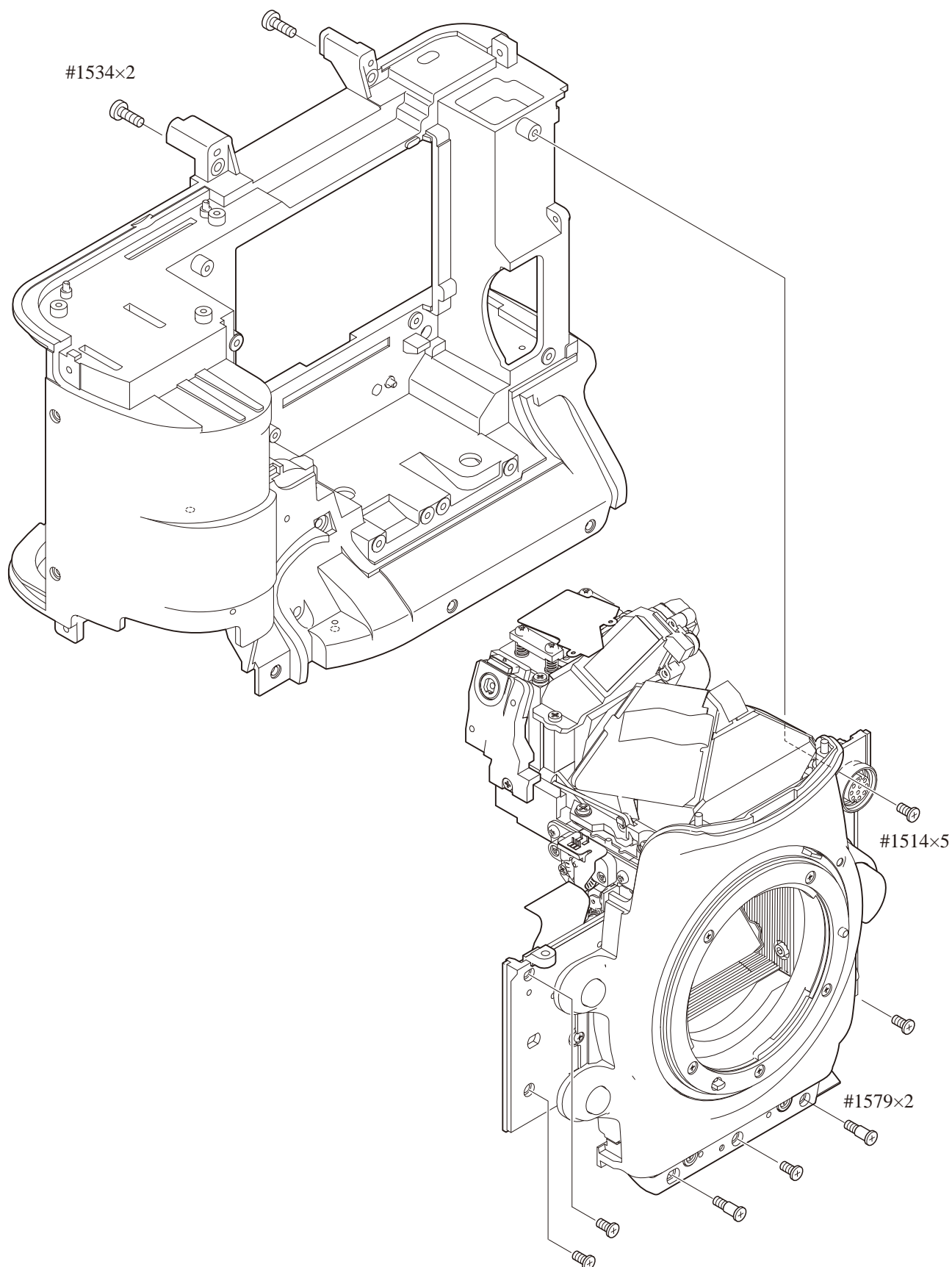
4. Rear Body

DC/DC 2

・Unsolder the eight wires that are connected as shown in the right picture.

Orange:DC/IN PCB section   Red:DC/IN PCB section
Black:DC/IN PCB section   Brown: Battery contact base-unit section
Yellow: Charge base-plate unit   Blue: Battery contact base-unit section
Black: Charge base-plate unit   Violet: Battery contact
                                    base-unit section
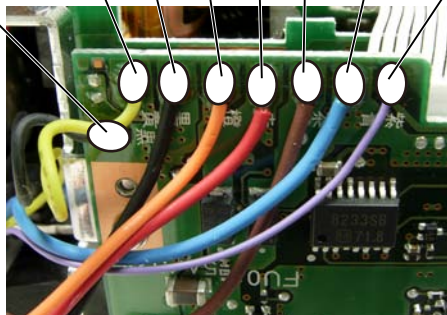
Battery contact unit

・Take out the two screws (#1538) and one screw (#928).
・Remove the battery contact base-unit section.

#1538×2

#928

Battery contact section   #1568×2

Battery contact section

#801

#1565×2

#803

#B5053
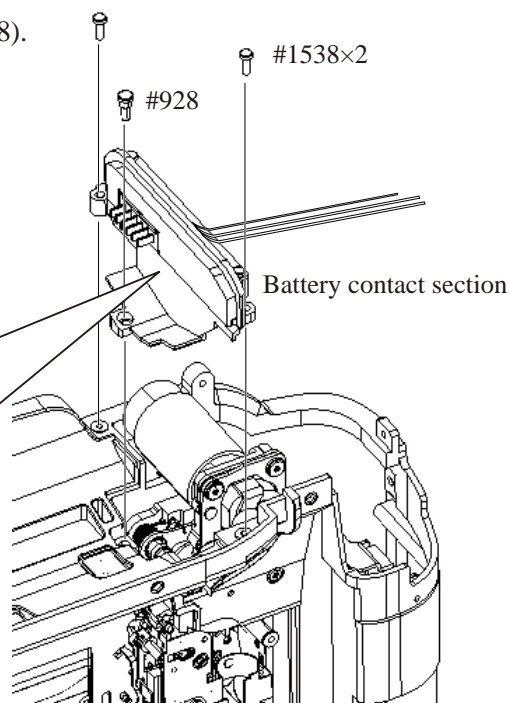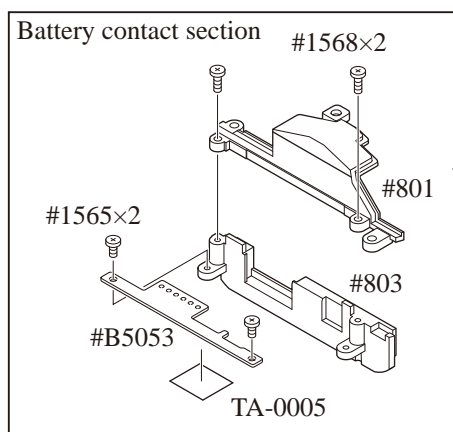
TA-0005

DC-IN PCB section

・Peel off the two pieces of the tape (TA-0005).
・Remove the wire by releasing from the boss.

TA-0005×2

Boss

Wire

Boss
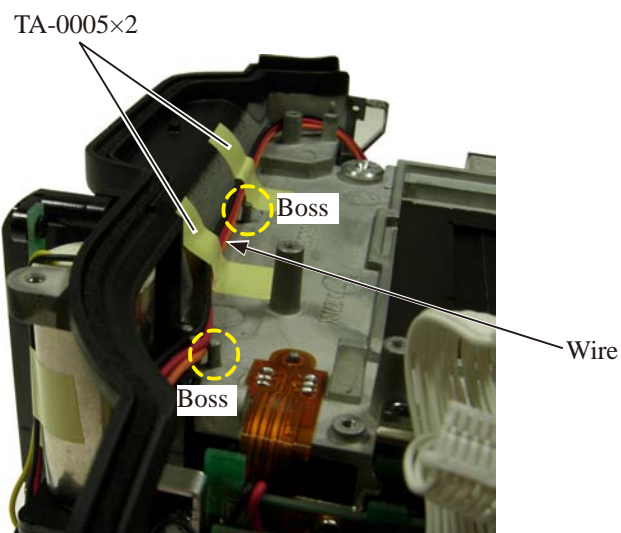
・Take out the screw (#1532) and the two screws (#1523).

・Remove the DC-IN PCB section.

#1532

#1523×2

DC/IN PCB section

#396

#1530×3

DC-IN PCB
#5024
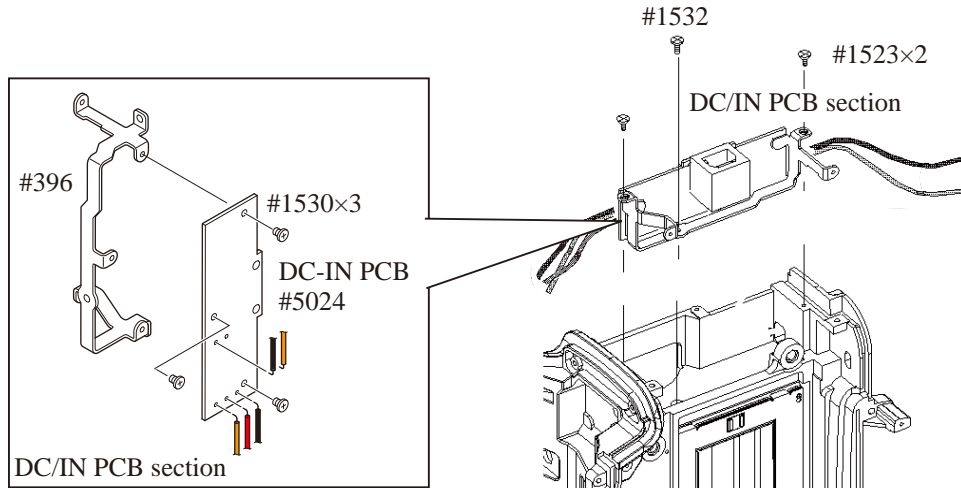
DC/IN PCB section

DC/DC PCB section

・Take out one screw (#1532) and two screws (#1523).

・Remove the DC/DC PCB section.

DC/DC PCB section

#6001

#6002

#1530×2

#68

#5019

#1530

#5020

FU01

#6048

#1530×3

#6020

#5115

#69

#6021

#1540

#565

#1523×2

#1532

DC/DC PCB section
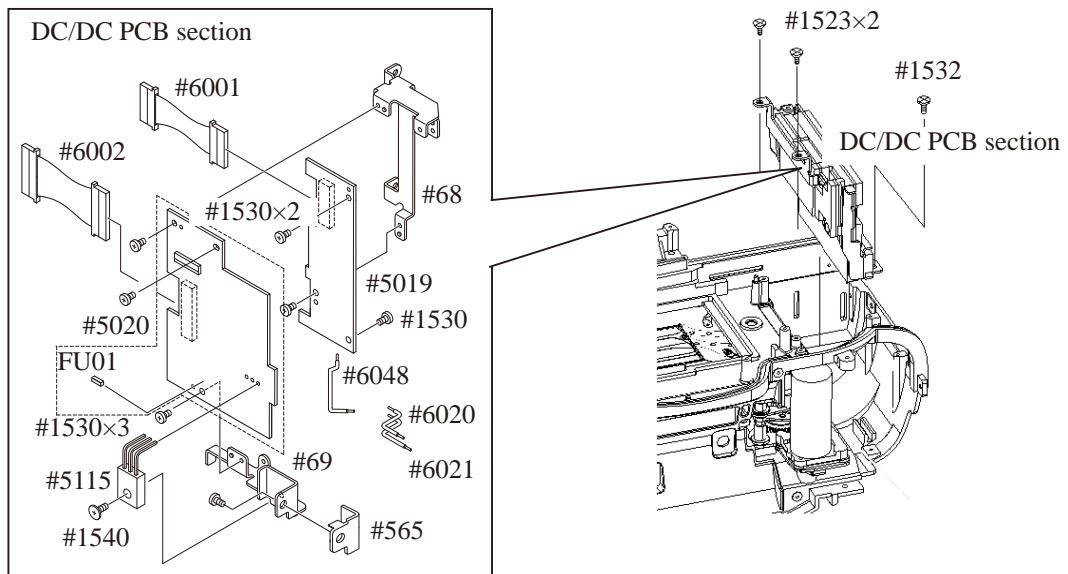
Charge base unit

・Remove the six soldering bridges.

・Remove the FPC by releasing from the boss.

FPC
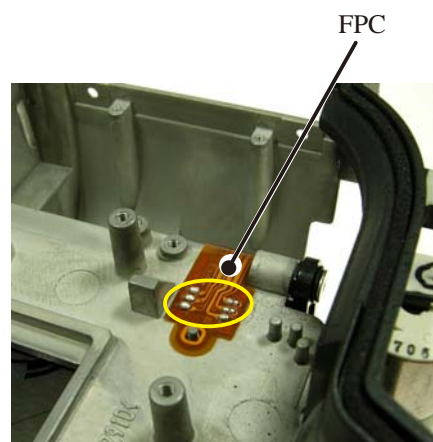
・Take out one screw (#1710) and two screws (#1709).

・Take out the screw (#1706).

・Remove the charge base-plate unit (#B10620).

Charge base-plate unit #B10620

#1567

#B665

#624 × 3

#622

#B602

#1705 × 3

#1710

#1709×2

#1706

#B10620
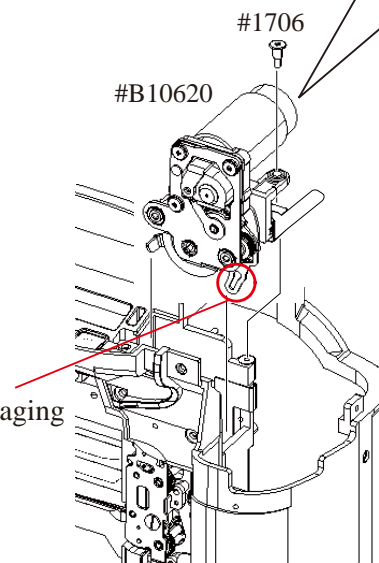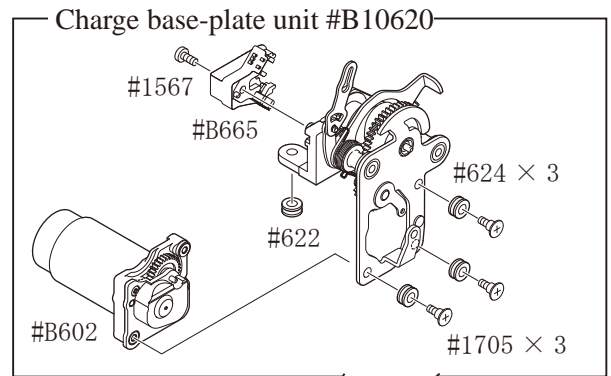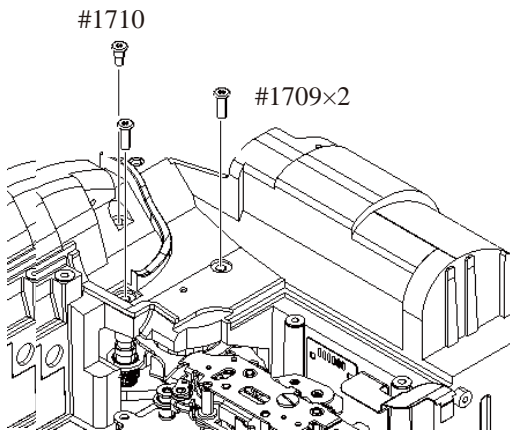
Remove the charge lever section by disengaging from the convex portion of the shutter.

Shutter unit

・Remove the six and four soldering bridges each.

Soldering bridge ×6

Soldering bridge ×4

Boss
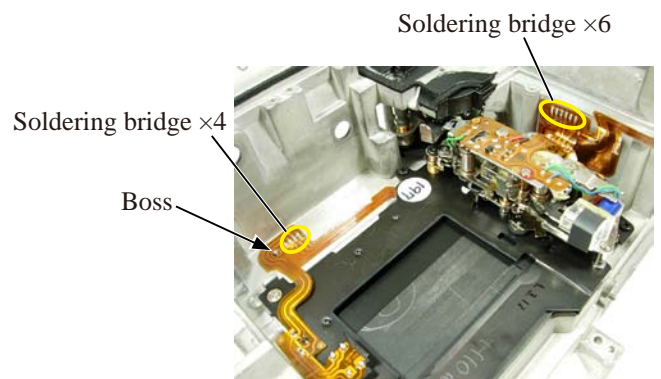
・Take out the two screws (#1509) and one screw (#1505).

・Remove the shutter unit (#B12001).

#1509×2   #1505

#B12001

Rear body

#552

#556

#555

#574

#567

#576

#554

#399

#575

#586

#570

#573

#553

#572

#557

#558

#551

#552

#559

#571

#5055

#569

#570

#568

- D 20 · D3 -
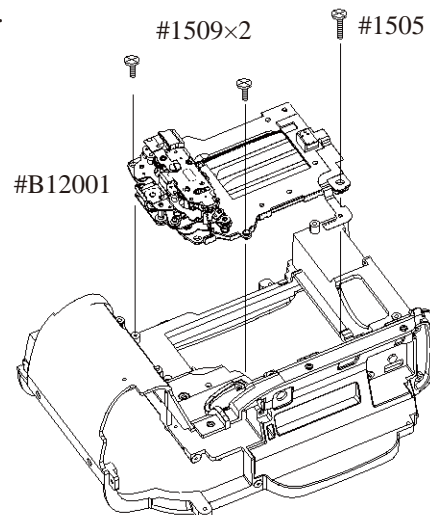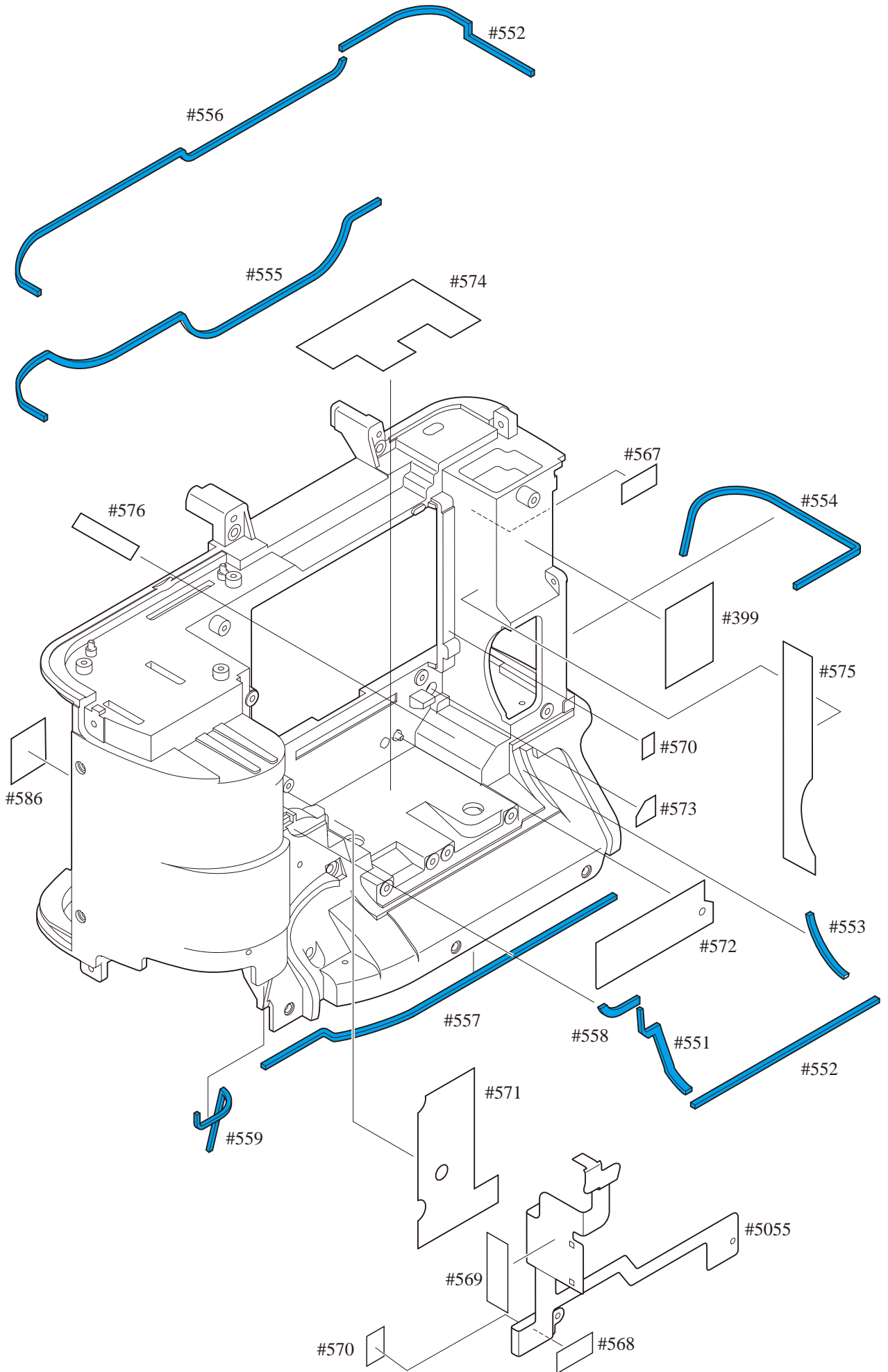
5. Front Body

P-BOX section

・Take out the screw (#1189).

・Remove the diopter adjustment unit (#B1122).

・Take out the four screws (#1188).

・Remove the P-BOX section.

・Remove the washers (#1180 and #1181).

P-BOX section

#1188×4

#1180

#1181

#B1122

#1189

SI holder\ Penta-prism box unit\ Lower display prism\ others

・Remove the four soldering bridges.

・Remove the FPC from the connector.

・Remove the parts in numeric order from ① to ④ .

Connector   Soldering bridge×4

#1567×2

#B11171①

#1219×2

A

#218

#B15007

#1567×2

#1167

#1168

#1169

#B5007

#1170

Hook

#1567×2

#5091

#5092

②

#1162

B

#5090③

#1728

#1163

#218

#1547×2

#1567×2

#1185×2

#1193

#3016④

#1190

#1200

A

#1117

#1164

B

Penta-prism\ focusing screen\ others

#1114

#1565×2

#B11131

#1194

#1111

#1204

#1109

#1113

#1205

#3004

#1212

#1563×3

#1112

#1120

#1116

#1213

#1610×2

#B1119

#1115A,B×3

#B3005

#B1118

#B5094

#1215

#1107

#1108

#1217

#3017

#1191

#1192

#1105

#1110×2

#1203

#1106

#3003

#B1102

#1551

Connection-FPC

・Unsolder the seven wires (that are connected as below).

・Remove the four soldering bridges.

・Remove nine each of soldering bridges at two places.

・Take out the screw (#1503).

・Remove the remote terminal FPC (#5032).

・Take out the screws (#1525 and #1565).

・Disconnect the FPC from the connector.

・Remove the connection-FPC (#5031).

Soldering bridge ×9   Soldering bridge ×9

#1503

#5032

FPC   #5031   #1525

Black: Lens release SW unit
Orange: Lens release SW unit
Orange: AF mode change base plate unit
Green: AF mode change base plate unit
Yellow: AF mode change base plate unit
Red: AF driving base plate unit
Black: AF driving base plate unit

Soldering bridge×4

#1565
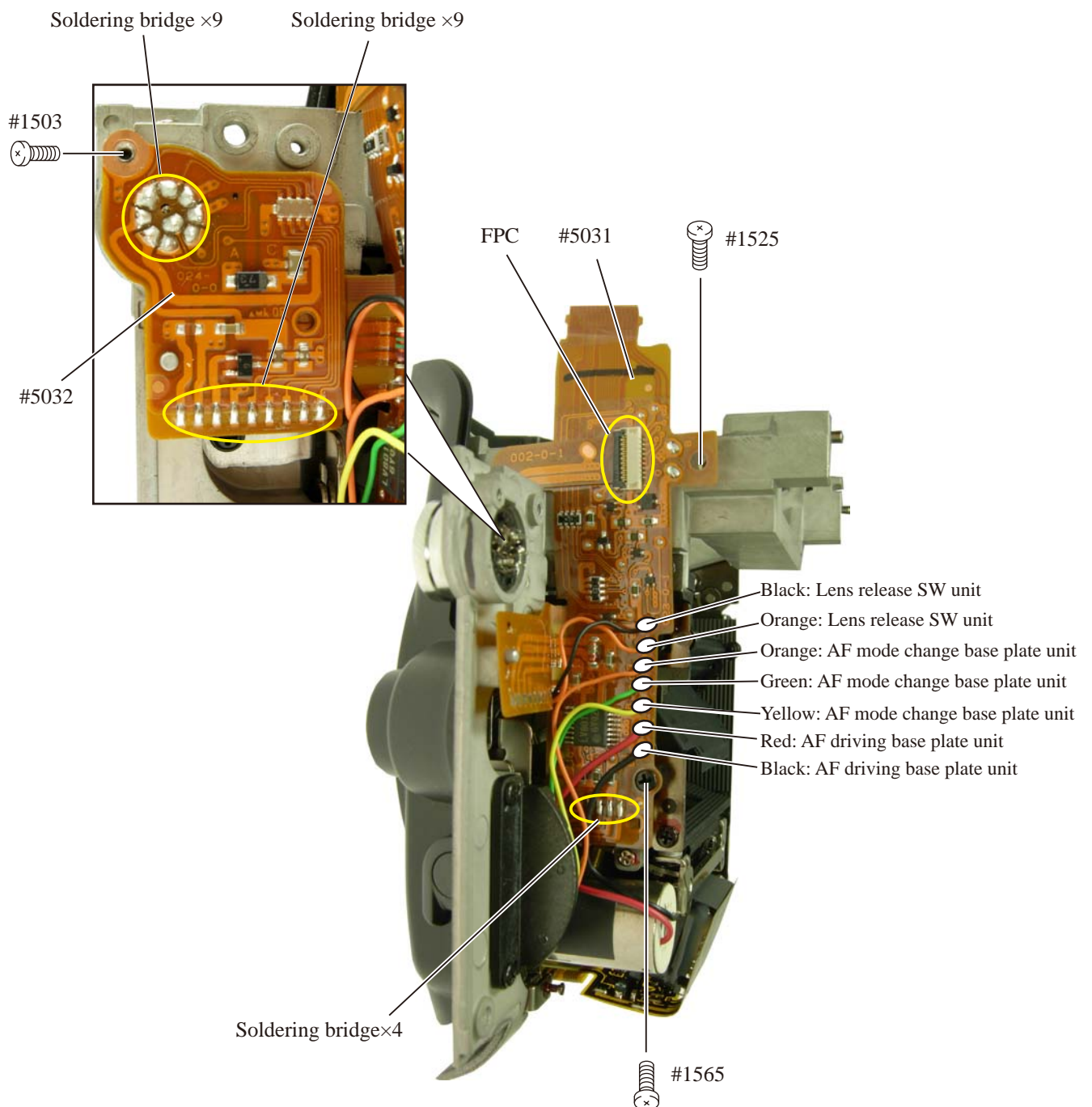
AF sensor unit

・Take out the screw (#1532).

・Remove the mold (#281).

・Take out the screw (#1588).

・Remove the plate (#282).

△ (Revision) <u>Front body FPC</u>

・Disconnect the ~~TTL FPC~~ from the connector.

・Take out the screw (#1588).

・Remove the plate (#283).

・Remove the E-ring (#298).

・Remove the [#294].

・Take out the two screws (#295).

・Remove the two washers (#300).

・Remove the AF sensor unit (#B3004).

・Remove the two springs (#296) and one spring (#293).

・Remove the spring (#304).

・Take out one screw (#303) and three screws (#1526).

・Remove the AF sensor base plate (#B10297).

#1532

#281

#B10297

A

#303

#1526×3

#293

#294

#298

#296×2

#304

#B3004

#300×2

#295×2

#1588×2

#282

#283

#284

A

△ (Revision) <u>Front body FPC</u>

~~TTL FPC~~

サービス
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Dec. 28. 2007
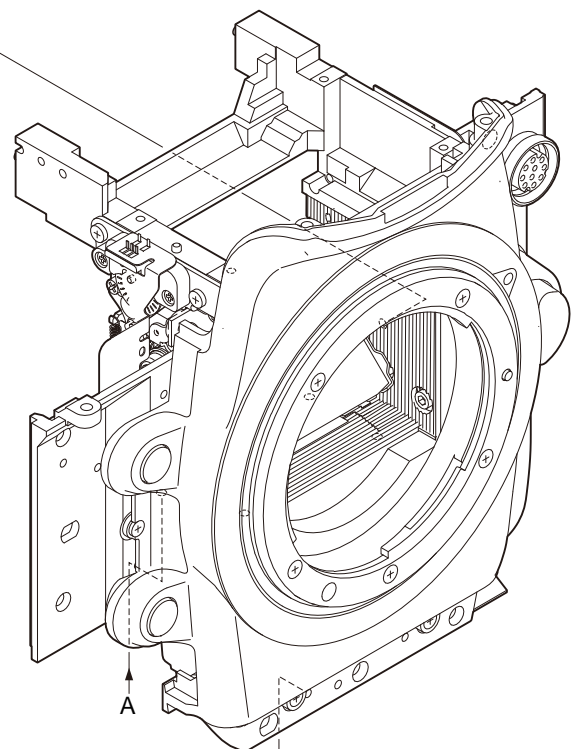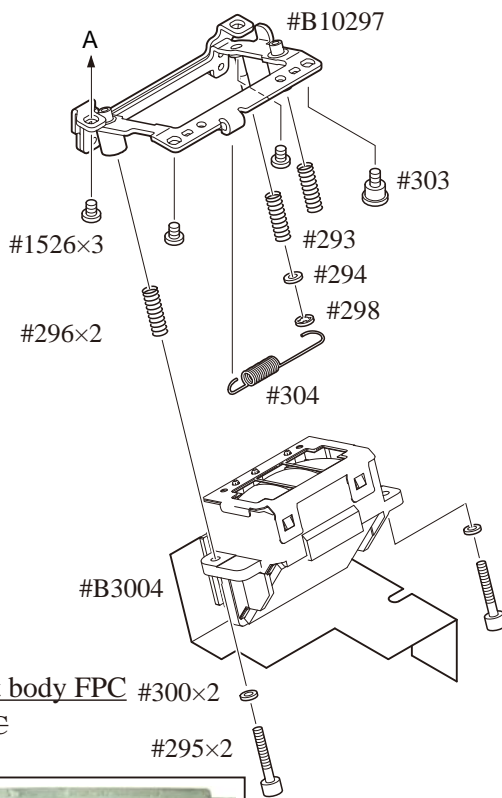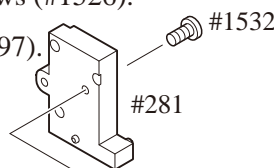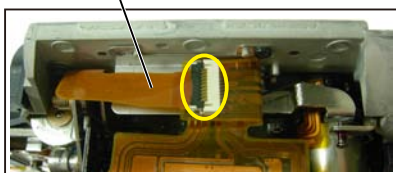
AF horizontal lever unit

・Remove the spring (#354).

#354
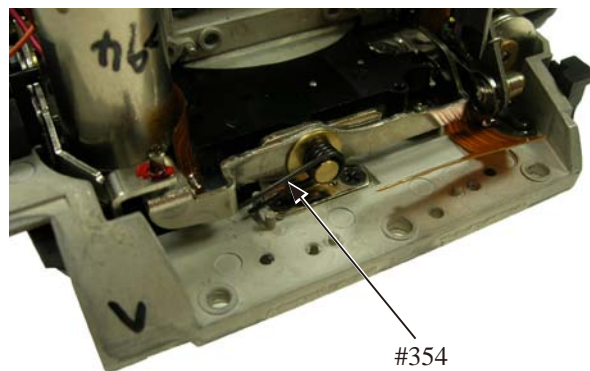
・Take out the two screws (#1521).

・Remove the AF coupling shaft (#351) and AF horizontal

lever unit (#B355).

#1521×2

#351 #B355
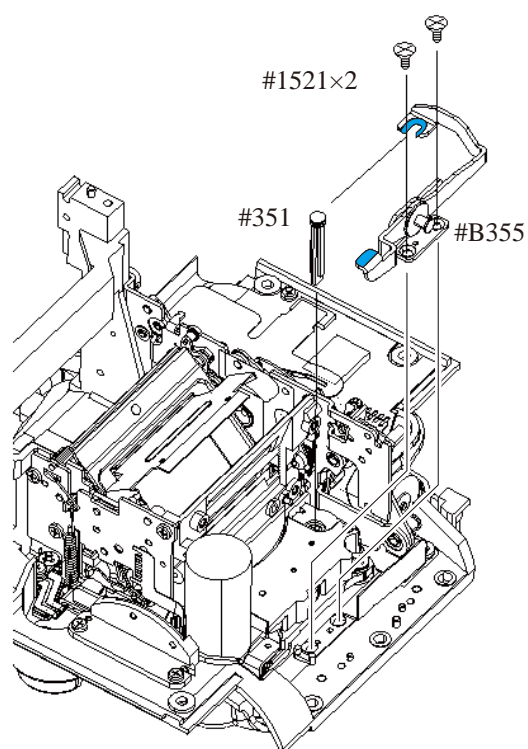
AF driving base unit

・Take out the two screws (#1581).

・Remove the AF driving base unit (#B10311).

#1581×2

#B10311
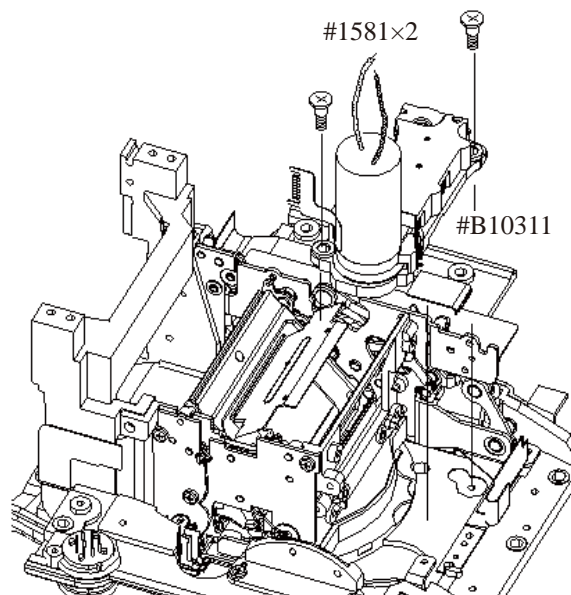
I/L base-plate section

・Remove the four soldering bridges.

・Disconnect the FPC from the connector.

Soldering bridge ×4

・Take out the two screws (#1542).

・Take out the four screws (#1533).

・Remove the I/L base-plate section.

#1533×4

#1542×2

I/L base-plate section

I/L base-plate section

#B10231

#47

#B20204

#262

#221

#217×2

#205

#B10071

#1510
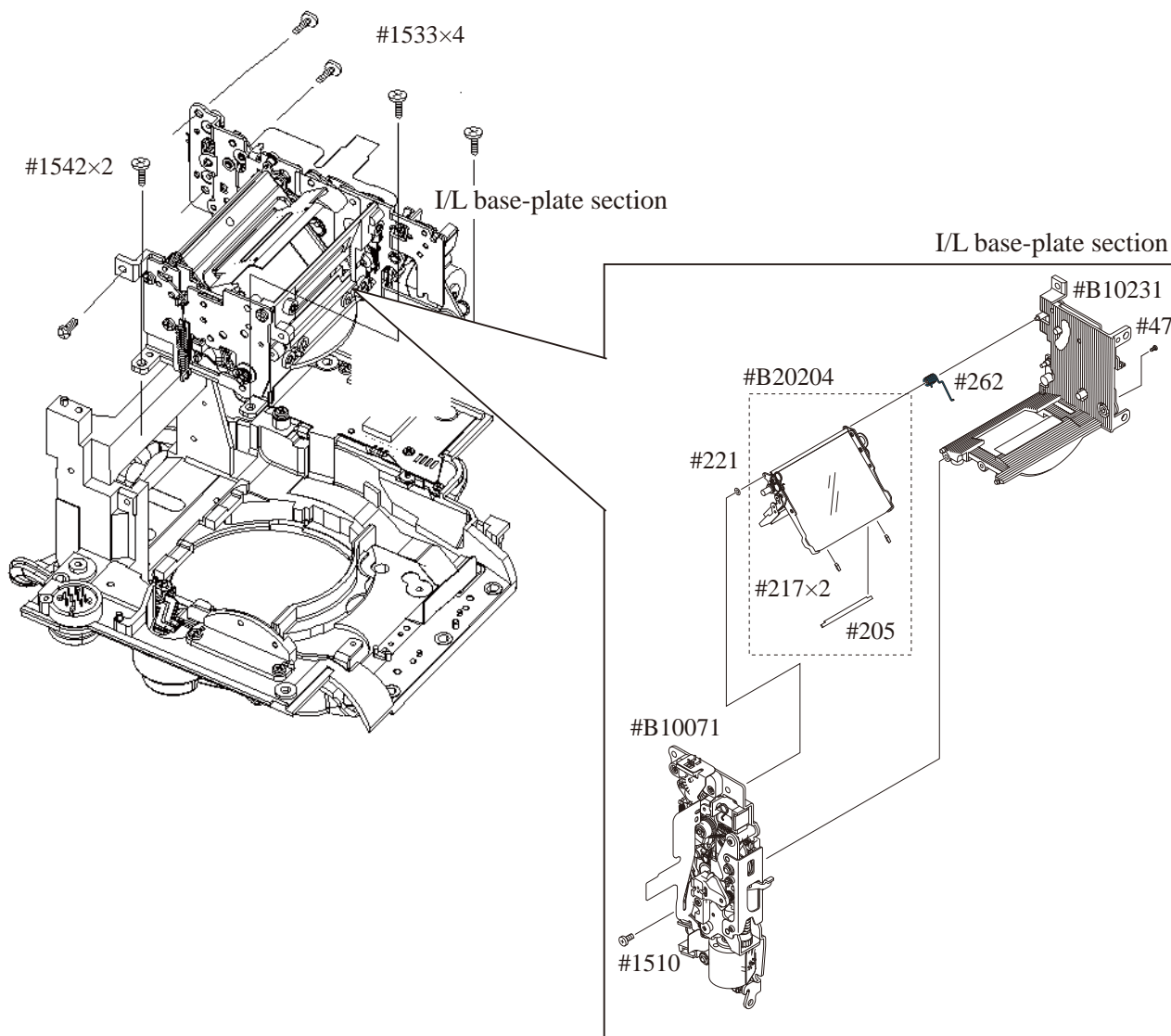
△ (Revision) Front body FPC

⎯TTL FPC⎯

・Remove the three soldering bridges.

・Take out the screw (#1601) and two screws (#1508).

・Remove the ⎯TTL FPC⎯ (#5009).

△ (Revision) Front body FPC

#1508×2   Soldering bridge ×3

⎯TTL FPC⎯#5009
△ (Revision) Front body FPC

#1601
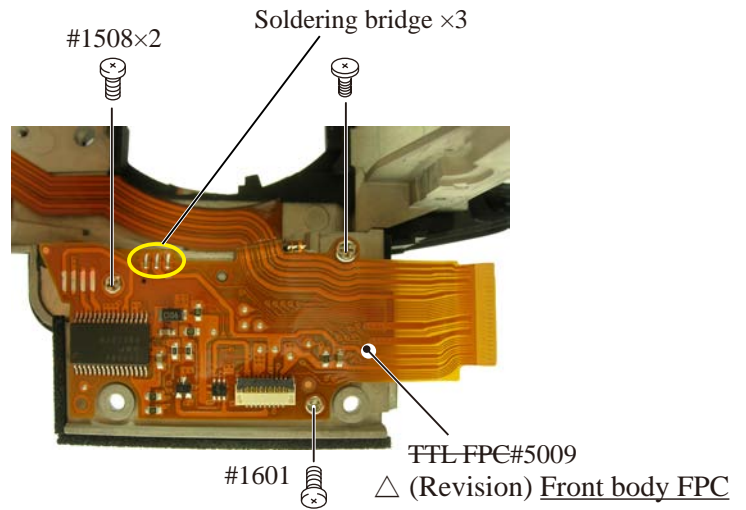
Function FPC

・Take out the three screws (#1580).

・Remove [#99] and [#100].

・Remove the function FPC (#5013).

#1580×3

#279

#99

#100

#5013
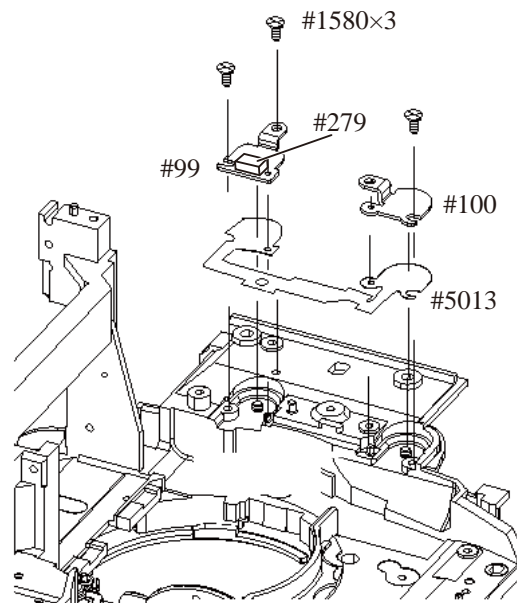
Lens release SW unit

・Take out the screw (#1539).

・Remove the lens release SW unit (#B10378).

#1539

#B10378
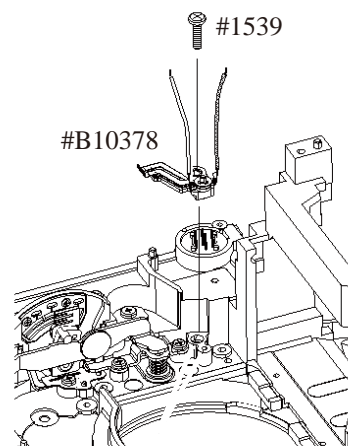
Lens release button

・Take out the screw (#379).

・Remove the lens release button (#376) and [#380].

#376

#380

#379
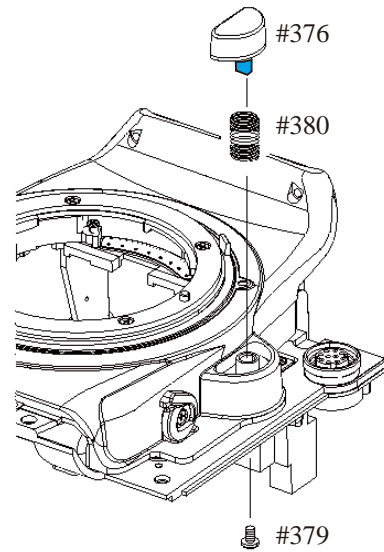
AF mode lever

・Remove the cover (#B388).

・Take out the screw (#1596).

・Remove the AF mode lever (#383).

#B388

#1596

#383
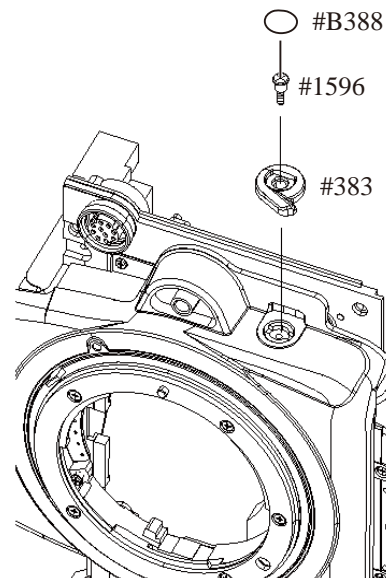
AF vertical lever unit

・Take out the two screws (#1532).

・Remove the AF vertical lever unit (#B356).

#1532×2

#B356
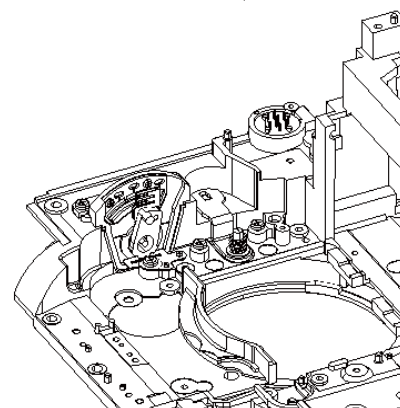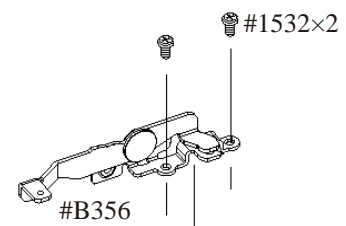
Lens release unit

・Remove the AF mode change unit (#B384).

・Remove the spring (#374).

・Remove the lens release unit (#B371).

#374

#B371

AF mode change unit
#B384
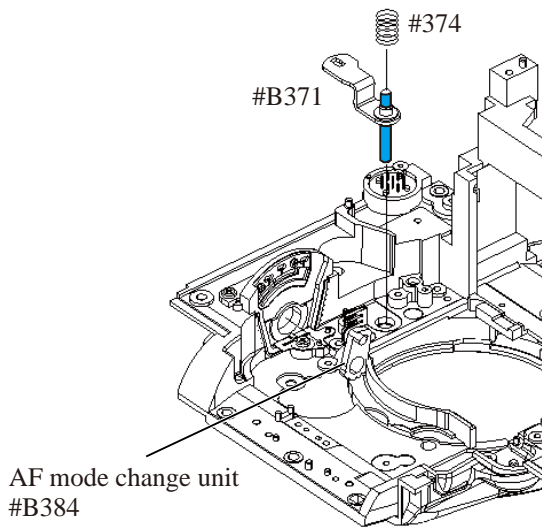
plate

・Take out the screw (#1532).

・Remove the plate (#385).

#1532

#385
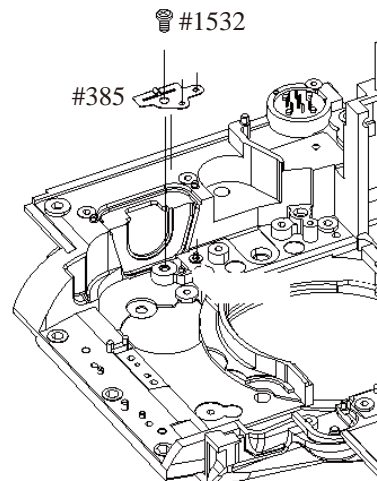
AF mode change base unit

・Take out the two screws (#1533).

・Remove the AF mode change base unit (#B390).

#1533×2

#B390

Apron\ Aperture coupling ring unit\ Bayonet mount

#407

#410×2

#22

#1508×4

#406

#B404

#402

#401

#1572×4

#1573
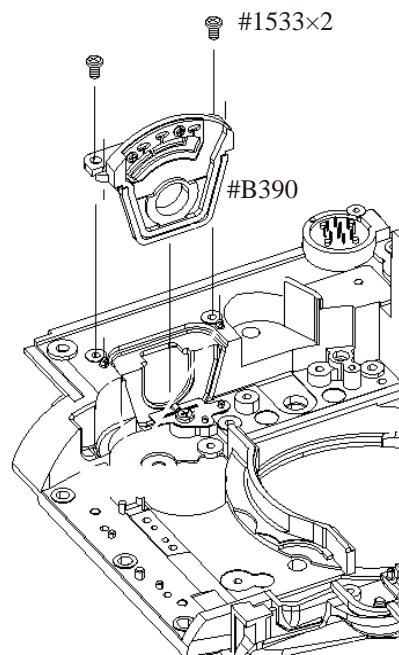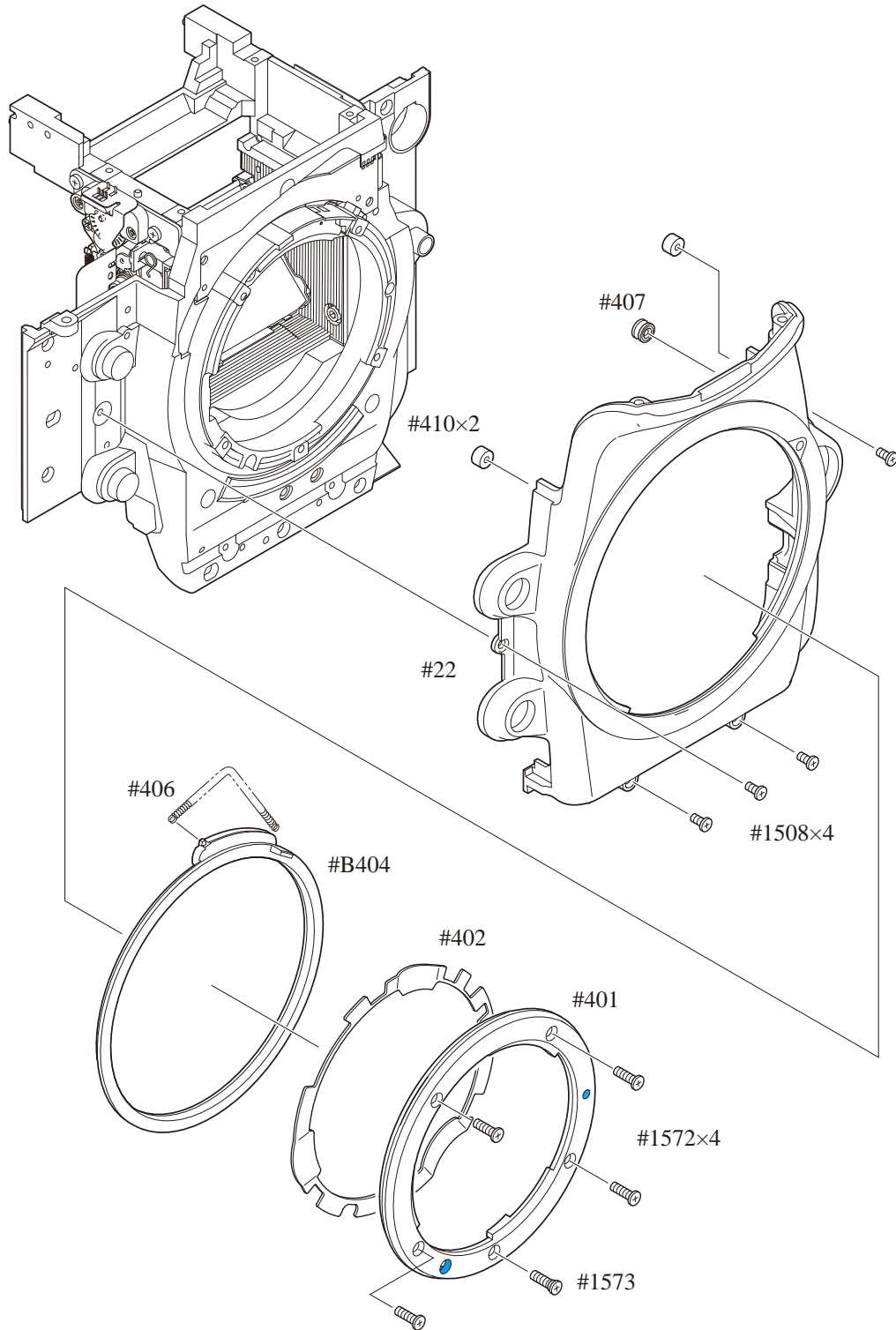
F-F0 plate

・Remove the three soldering bridges.

・Remove the F-F0 plate (#5046).

#5046

#409
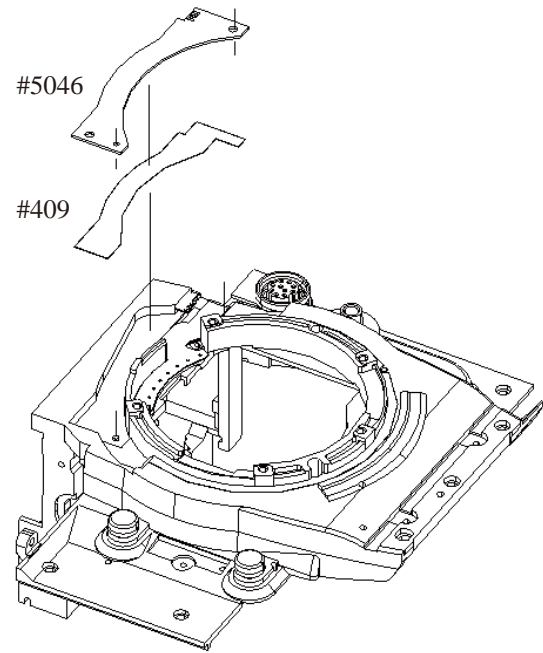
Lens contact unit

・Take out the screw (#1510).

・Remove the lens contacts unit (#B10411).

#1510

#B10411

#408

#412
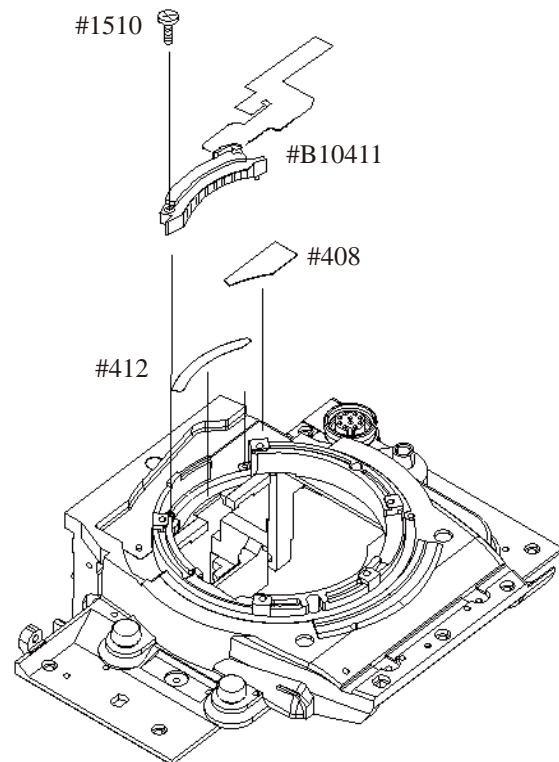
Remote connector

・Take out the screw (#47).

・Remove the remote connector (#41).

#41

#47

Preview button\ others

#1651×2

#1604×2

#206×2

#97×2

#96×2
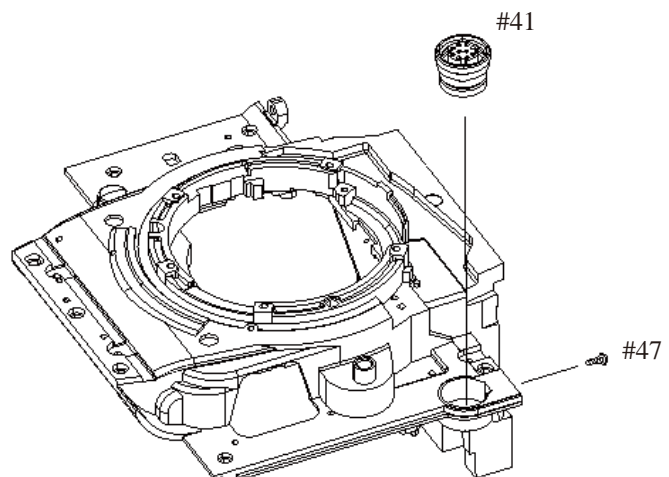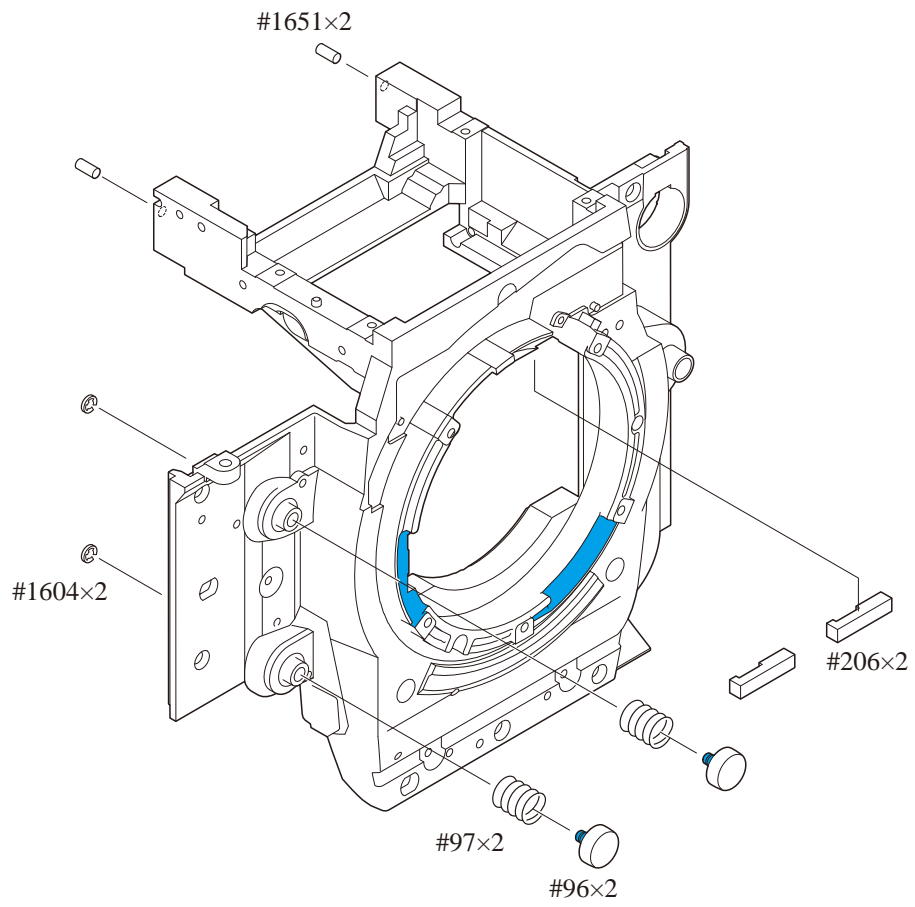
Assembly/ Adjustment

・ NOTE: For undescribed tapes and sponges here in"Assembly", refer to PARTS LIST.

1. Front body

Preview button\ others

Back side

#1651×2

Oil barrier:NKS-401H

Oil barrier:NKS-401H

#1604×2

#206×2

Grease:G-92KA
※ Apply to the shaft.

#97×2

#96×2
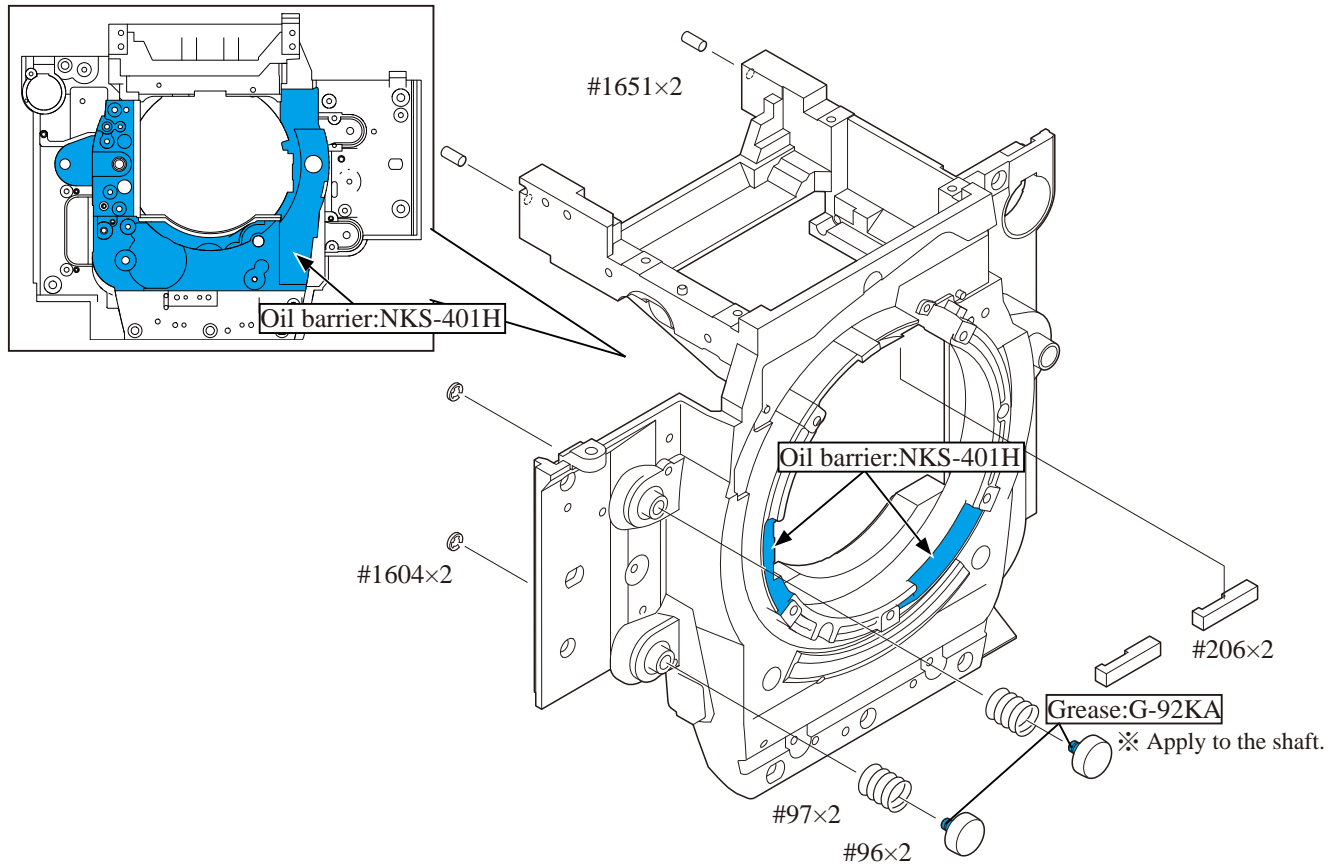
Remote connector

・ Put the remote connector (#41).

・ Tighten the screw (#47).

Assembling position

Concave×3

Convex

#41

#47

Adhesive: Loctite
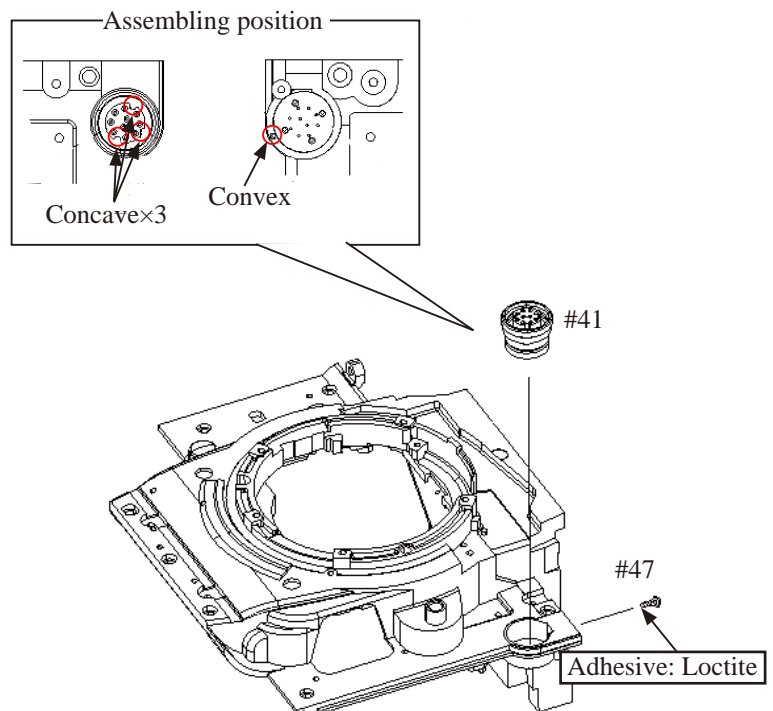
Lens contact unit

・Put the lens contact unit (#B10411) by positioning it
in the direction of the arrow.

・Tighten the screw (#1510).

#1510

#B10411

Positioning

#408

#412
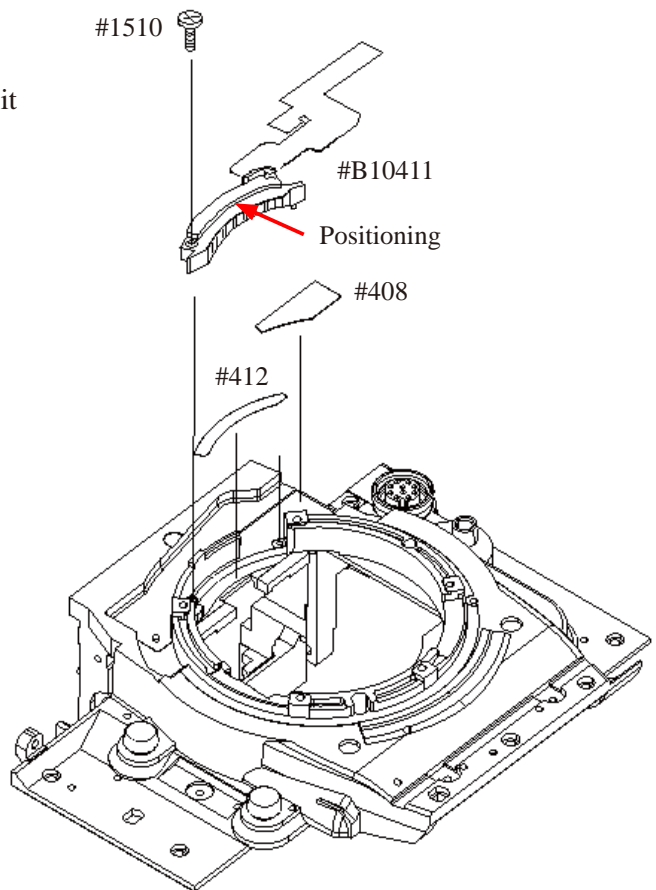
F-F0 plate

・Put the F-F0 plate (#5046).

・Make three soldering bridges.

Soldering bridge ×3

#5046

#409

Apron\ Aperture coupling ring unit\ Bayonet mount

#407

#410×2

#22

#1508×4

#406

#B404

Turn counterclockwise a little.

#402

#401

Oil barrier:NKS-401H

#1572×4
NK

#1573

Oil barrier:NKS-401H

※ Apply to rear surface.

Grease:G485

Inside
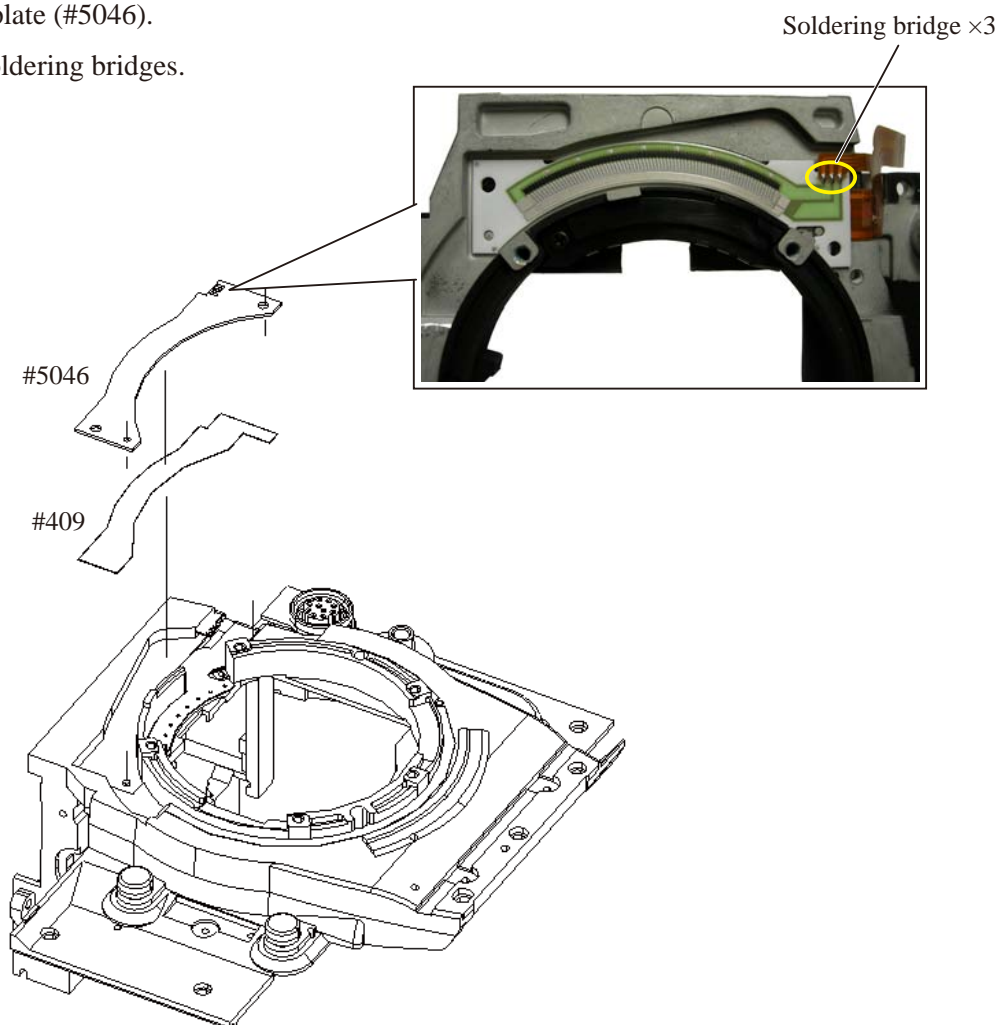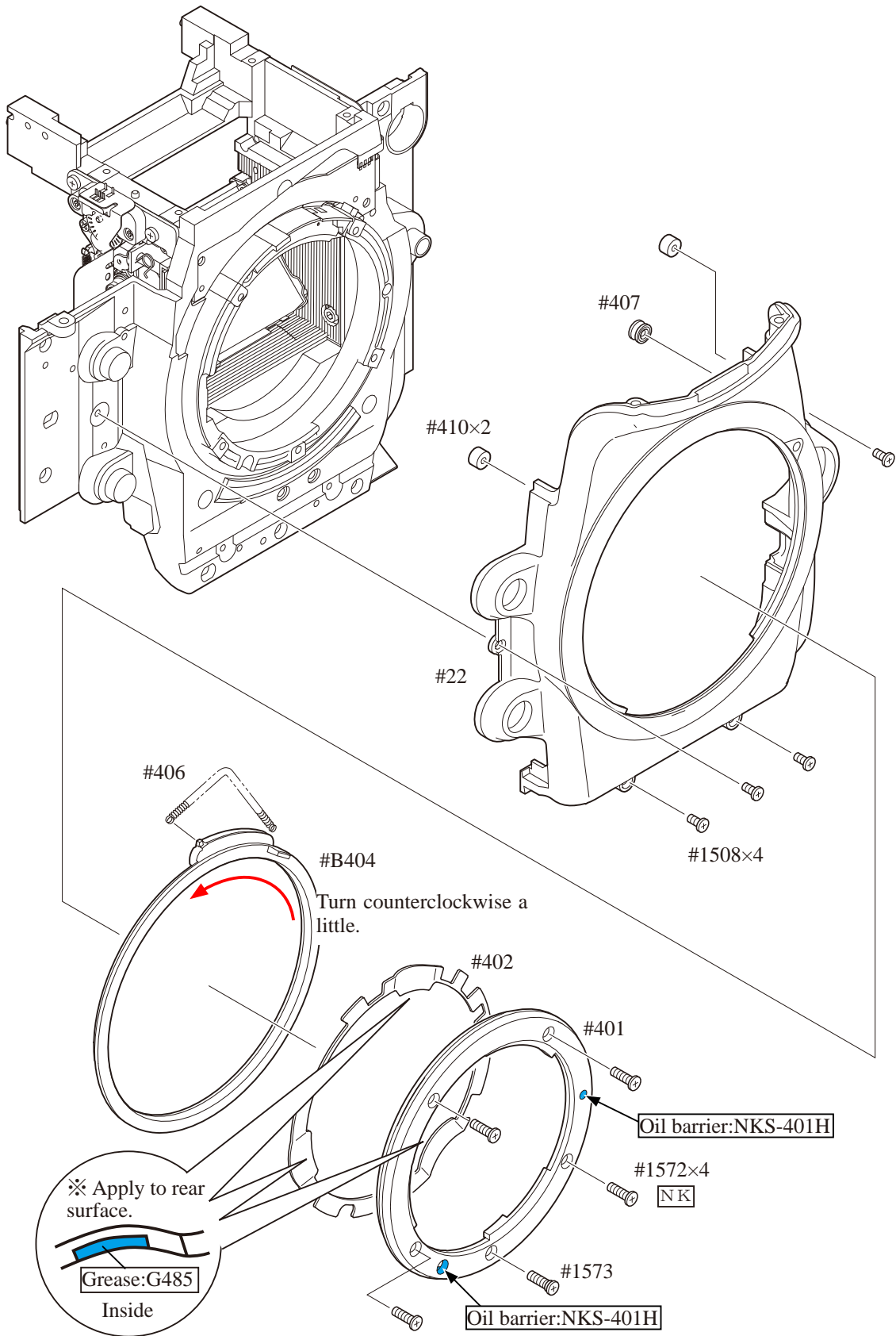
AF mode change base unit

・Put the AF mode change base unit (#B390).

・Tighten two screws (#1532).

#1532×2

#B390

Bosses×2
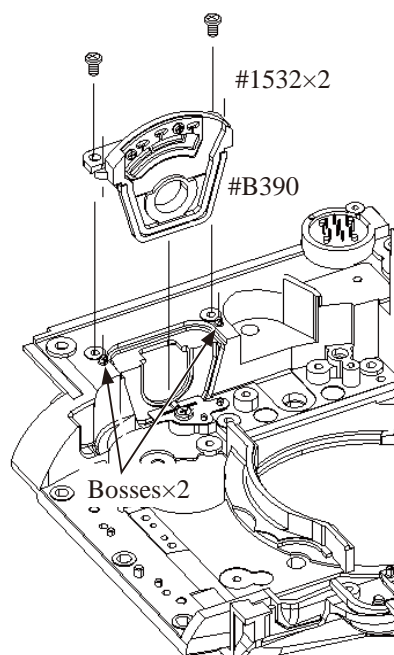
Plate

・Attach the plate (#385).

・Tighten the screw (#1532).

#1532

#385

Grease : G-92KA
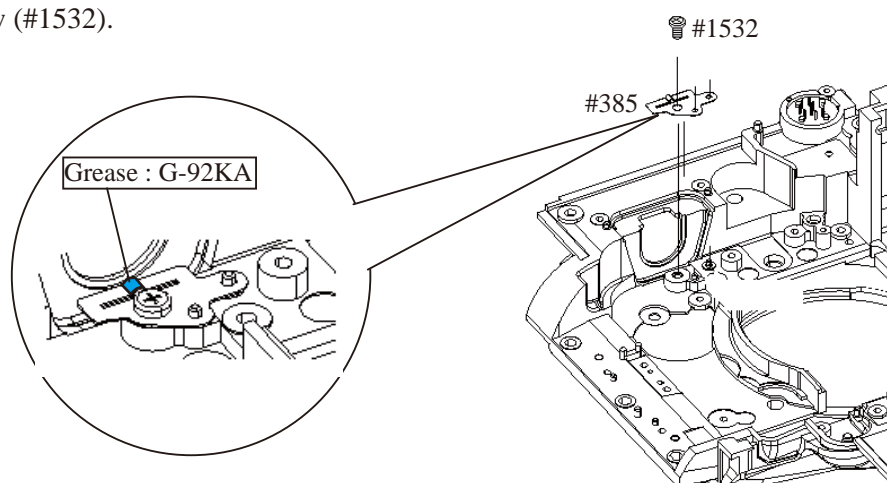
Lens release unit

・Put the lens release unit (#B371).

・Attach the spring (#374).

・Put the AF mode change unit (#B384).

Grease : G-92KA

#374

#B371

Grease : DN-352

#B384
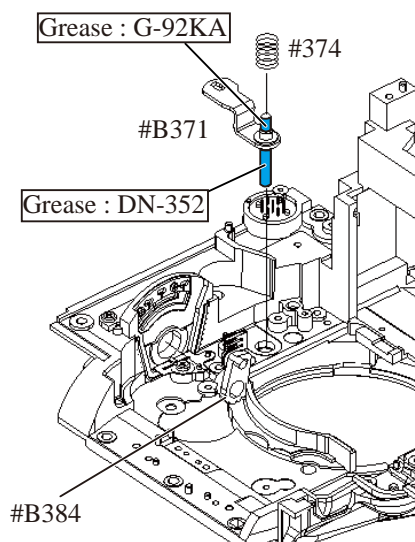
AF vertical lever unit

・Mount the AF vertical lever unit (#B356).

・Tighten two screws (#1532).

Grease : G-92KA

#1532×2

Grease : G-92KA

#B356

Grease : G-92KA
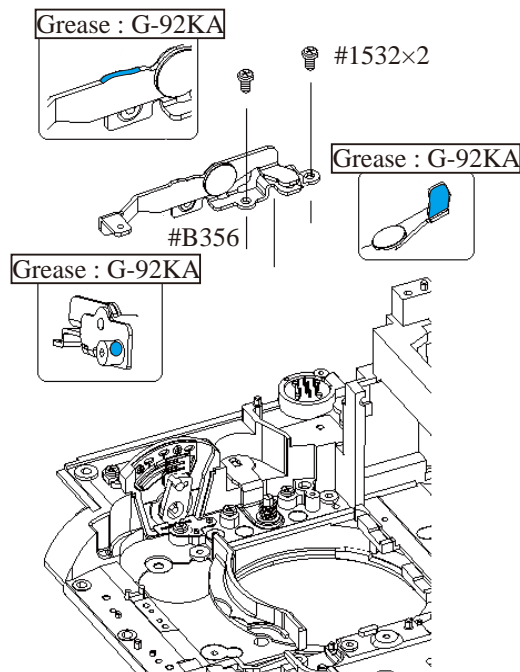
AF mode lever

・Put the AF mode lever (#383).

・Tighten the screw (#1596).

・Attach the cover (#B388).

#B388

#1596

#383
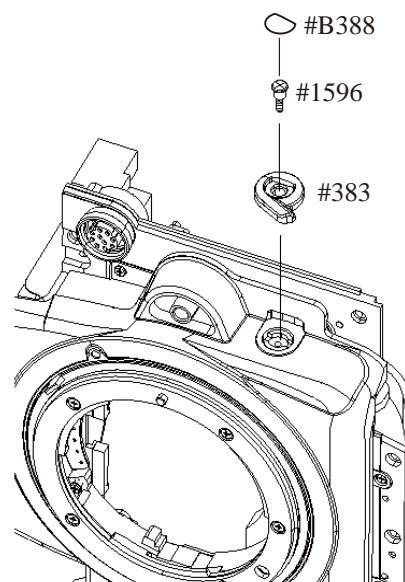
Lens release button

・Attach the spring (#380) and lens release button (#376).

・Tighten the screw (#379).

#376

Grease : G-92KA

#380

Adhesive: Loctite

#379
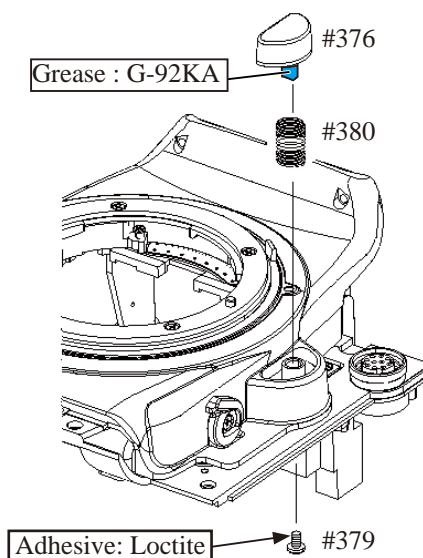
Lens release SW unit

・Mount the lens release SW unit (#B10378)

  by fitting in the concave portion.

・Tighten the screw (#1539).

#1539

#B10378

Concave portion
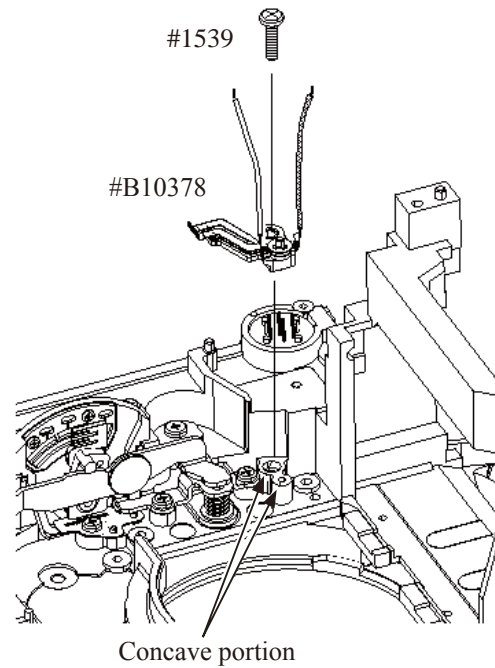
Function FPC

・Put the function FPC (#5013).

・Put the plate (#99) and plate (#100).

・Tighten three screws (#1580).

#1580×3

#279

#99

#100

Fold FPC
and fit in the
boss.

#5013
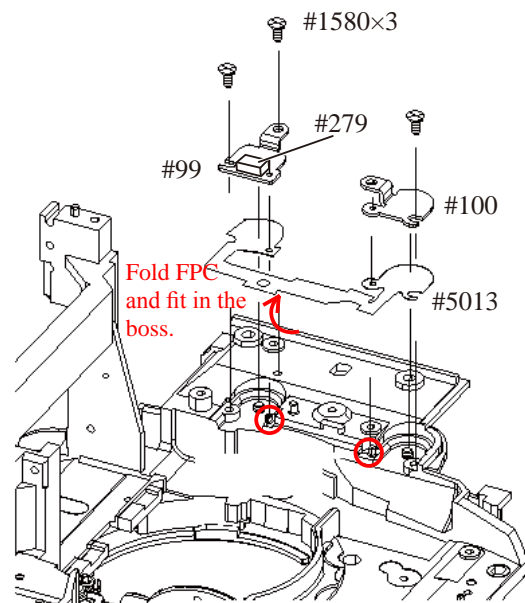
△ (Revision) Front body FPC

TTL FPC

△ (Revision) Front body FPC

・Mount the TTL FPC (#5009).

・Tighten two screws (#1508) and one screw (#1601).

・Make three soldering bridges.

Soldering bridge ×3

#1508×2

△ (Revision)
Front body FPC
TTL FPC
#5009

#1601

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I/L base-plate section

#1533×4

#1542×2
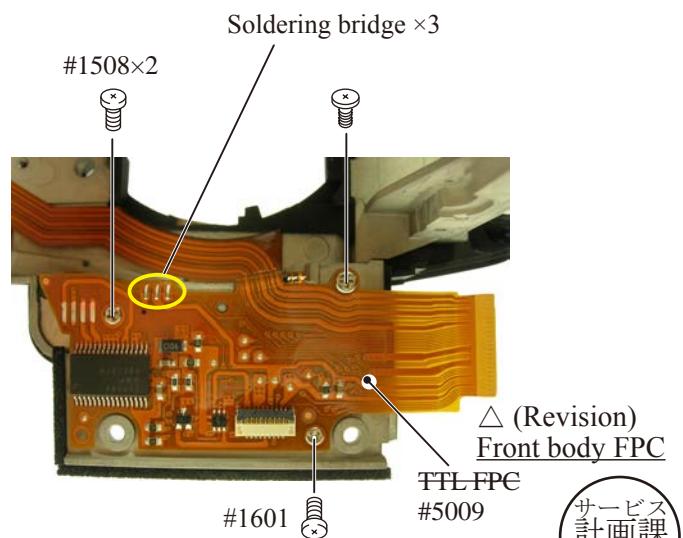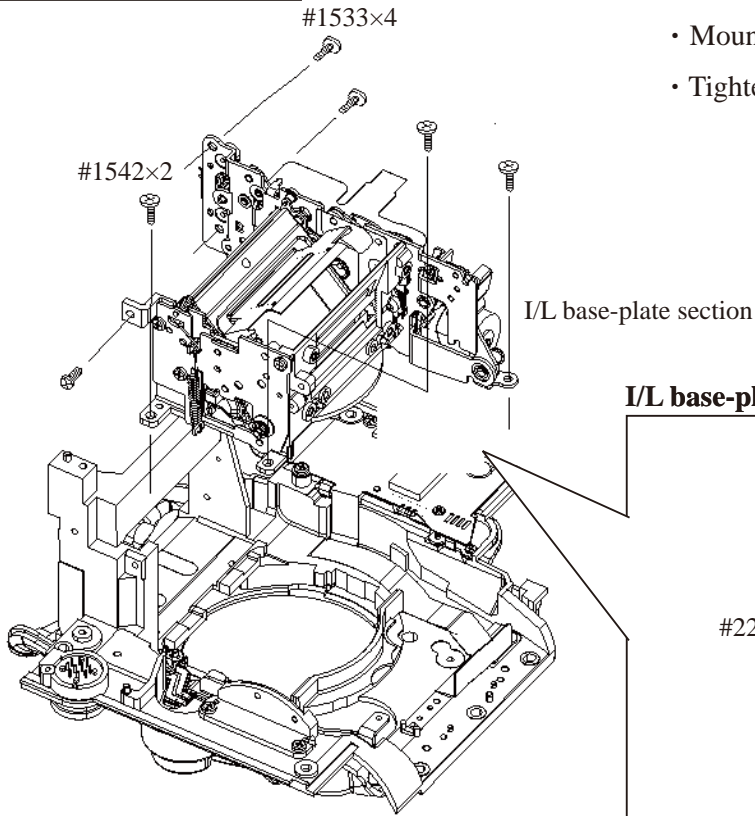
・Mount the I/L base-plate section.

・Tighten four screws (#1533) and two screws (#1542).
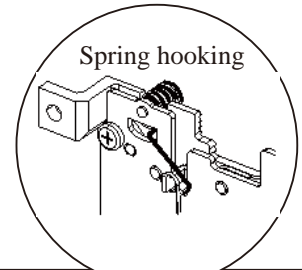
Spring hooking

I/L base-plate section

I/L base-plate section

#B10231

Grease:L2113
※ Dipping

#47

#B20204

#262

#221

#217×2

#205

Grease : G-92KA

#B10071

Grease: NK-A7420

#1510

Grease : G-92KA   Grease: NK-A7420
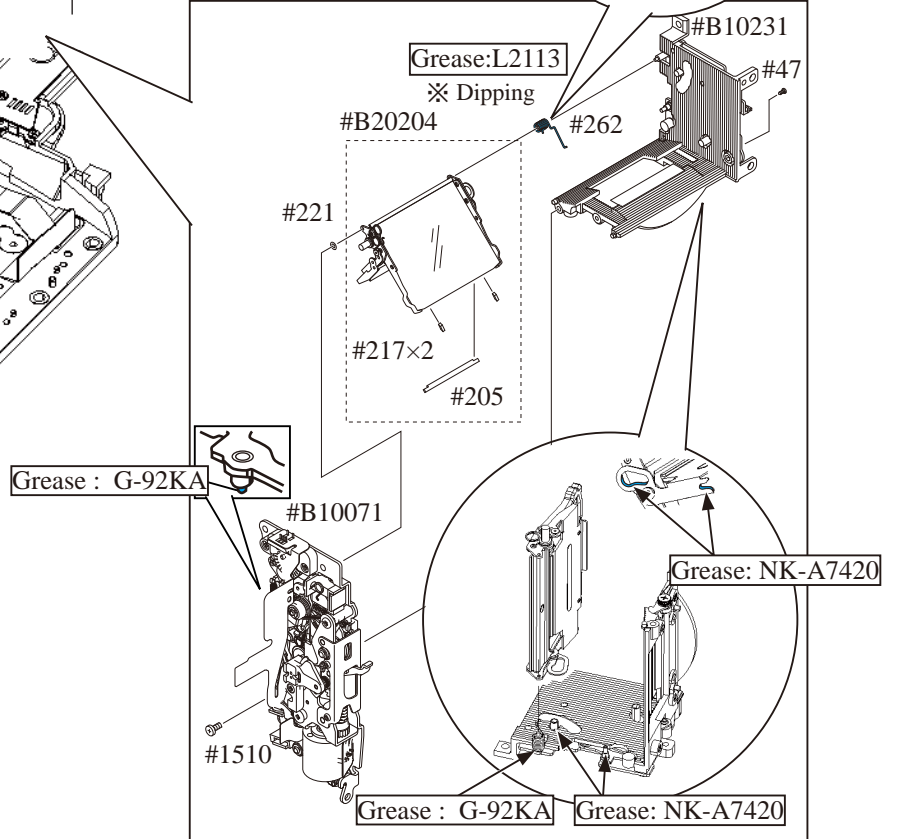
・Connect the FPC to the connector.

・Make four soldering bridges.

Soldering bridge ×4
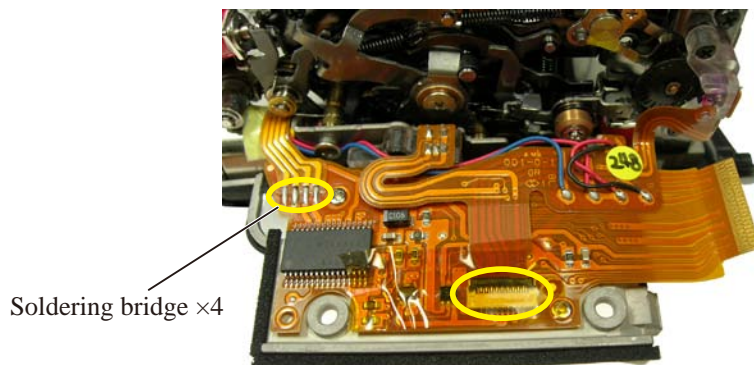
AF driving base unit

・Mount the AF driving base plate unit (#B10311).

・Tighten two screws (#1581).

#1581×2

#B10311
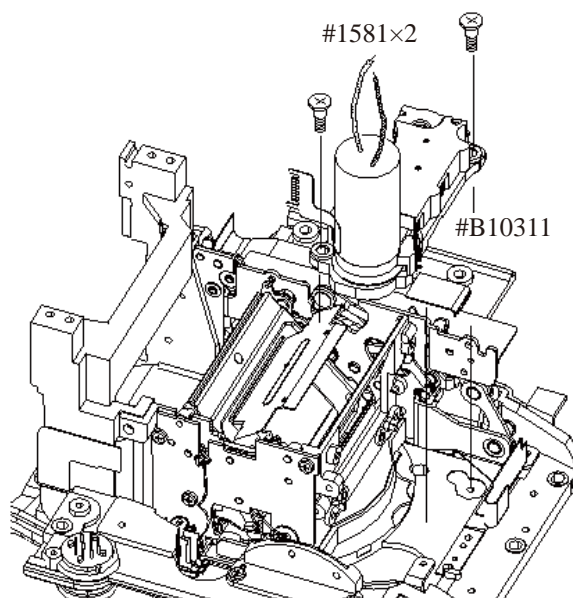
AF horizontal lever unit

・Mount the AF horizontal lever unit (#355).

・Put the AF coupling shaft (#351).

・Tighten two screws (#1521).

#1521×2

Grease : G-92KA

#351   #355
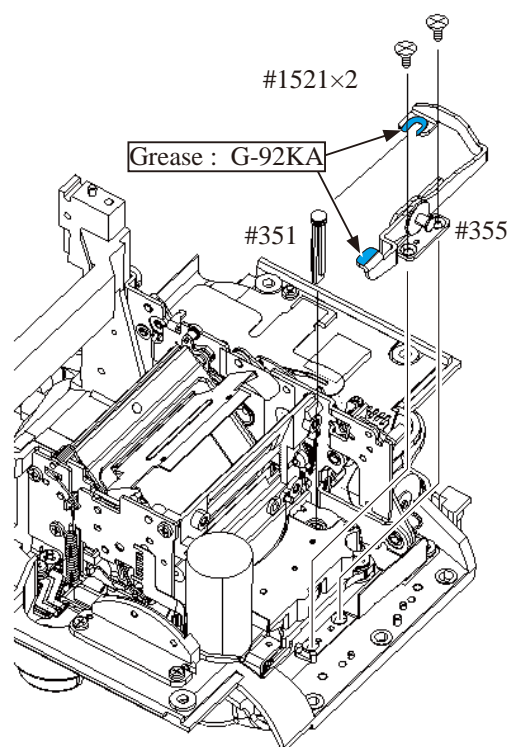
・Attach the spring (#354).

#354
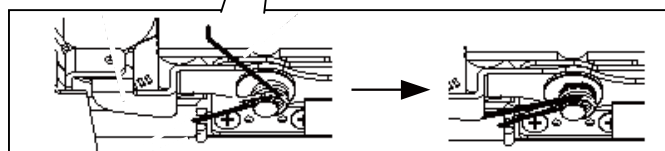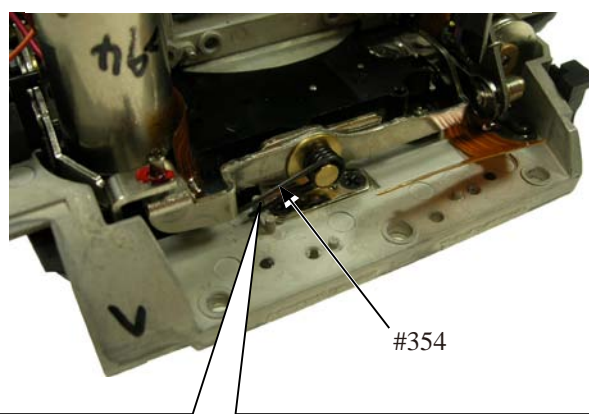
Height adjustment of AF coupling shaft

1.7±0.2mm

Bayonet face   Lens release pin

Lens release pin

#351

Screw #1597   AFTER adjustment, apply

Adhesive: Screwlock
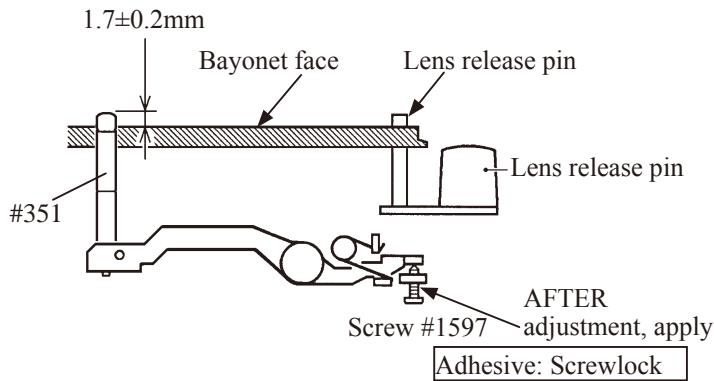
① Set the AF mode lever (#383) to "S".

   After pressing the lens release button a few

   times, measure the height of the AF coupling

   ring shaft (#351).

② Adjust the height of the AF coupling ring shaft

   by the screw (#1597).

③ When the height of the lens release pin becomes

   0.4mm, check if the AF coupling ring shaft does

   NOT protrude from the bayonet face.

④ After the adjustment, fix the screw (#1597) with

   the screwlock.

Height adjustment of Aperture lever

△ (Addition)

1. Lower ① part for charging.
2. Push ② all the way to end toward the mount-side.
3. Measure the height of the aperture lever by using the
   tool (J18004).

Standard: $3.4 \begin{smallmatrix} +0.1 \\ -0.05 \end{smallmatrix}$ mm

In case the value is out of standard, make the adjustment
by turning the adjustable screw.

△ (Revision)

Adjustable screw

②

①

I base-plate unit #B10071

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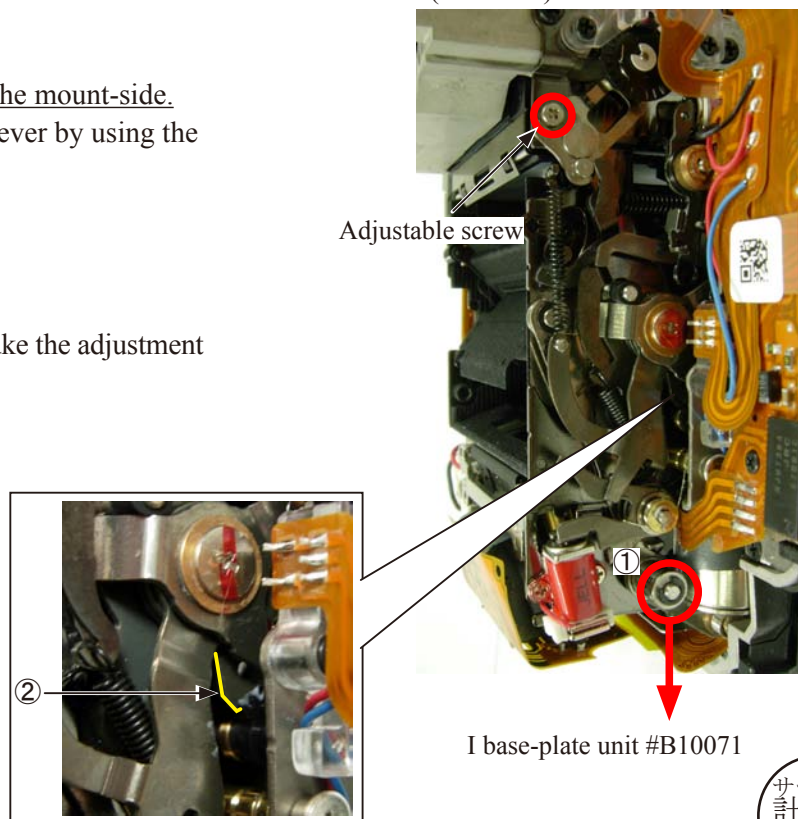
AF sensor unit

・Mount the AF sensor base plate (#B10297).

・Tighten one screw (#303) and three screws (#1526).

・Attach the spring (#304).

・Put two springs (#296) and one spring (#293) to surround each post.

・Mount the AF sensor unit (#B3004).

・Put two washers (#300).

・Turn two screws (#295) lightly all the way to the end, then give them three turns counterclockwise.

・Put the washer (#294).

・Put the E ring (#298).

・Attach the plate (#283).

・Tighten the screw (#1588).

△ (Revision) Front body FPC

・Connect the ~~TTL FPC~~ to the connector.

・Attach the plate (#282).

・Tighten the screw (#1588).

・Attach the mold (#281).

・Tighten the screw (#1532).

#1532

#281

A

#B10297

#303

#1526×3

#293

#294

#298

#296×2

#304 spring
hooking position

#304

#303

#B3004

#300×2

△ (Revision) Front body FPC
~~TTL FPC~~

#295×2

#1588×2

#282

#284

#283

A

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計画課
M
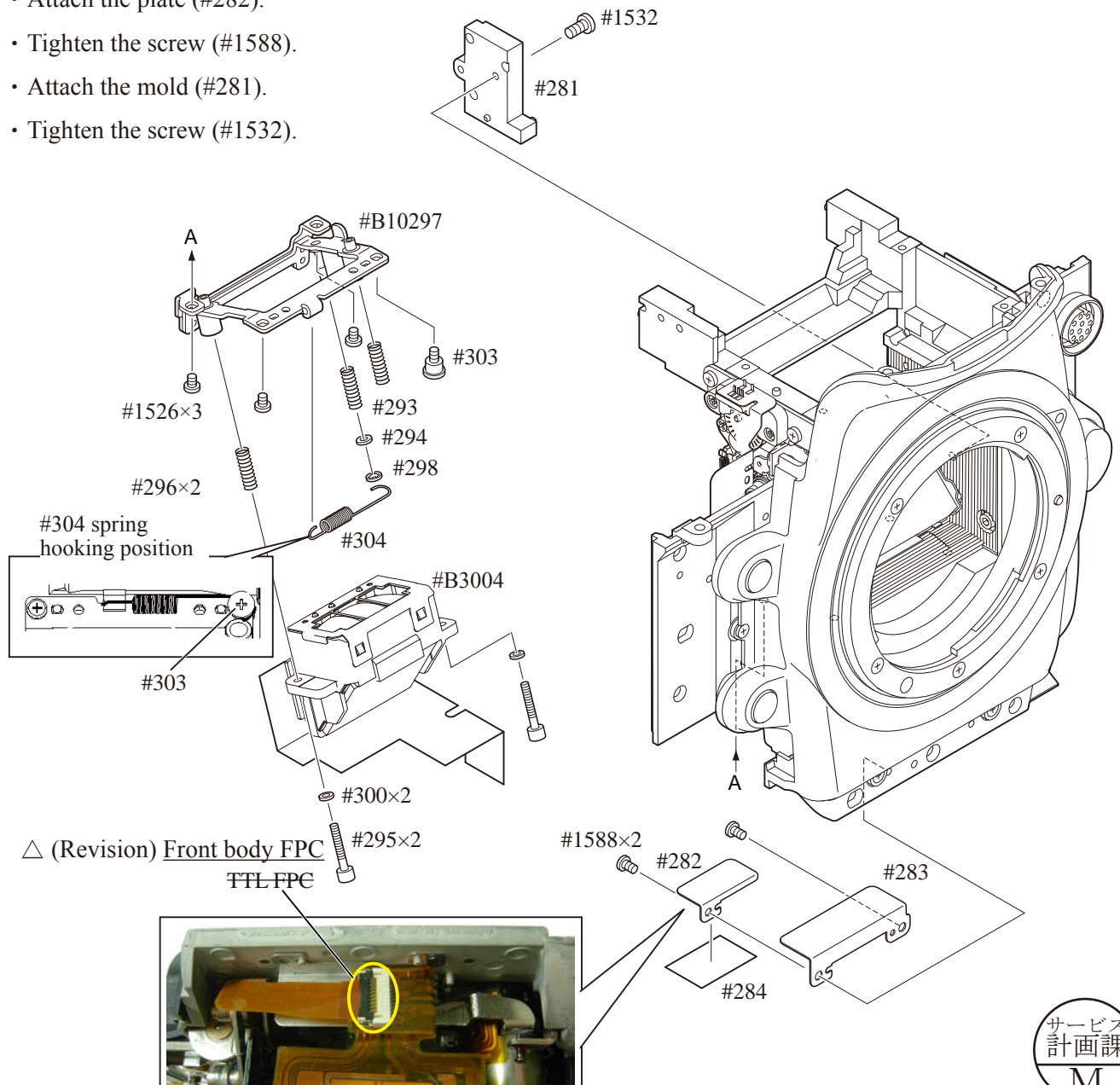
Connection-FPC

・Attach the connection-FPC (#5031).

・Tighten the screws (#1525 and #1565).

・Connect the FPC to the connector.

・Attach the remote terminal FPC (#5032).

・Tighten the screw (#1503).

・Make nine each of soldering bridges at two places.

・Make four soldering bridges.

・Solder seven wires.

Soldering bridge × 9   Soldering bridge × 9

#1503

#5032

FPC   #5031   #1525

Black: Lens release SW unit
Orange: Lens release SW unit
Orange:AF mode change base unit
Green:AF mode change base unit
Yellow:AF mode change base unit
Red:AF driving base plate unit
Black:AF driving base plate

Soldering bridge × 4

#1565

Penta-prism\ focusing screen\ others

#1114

#1565×2

Grease:MZ-800SEL

#B11131

#1194 #1111

Grease:DN-352

#1204

#1109

#1113

#1205

#3004

#1212

Back side

Positioning

#1213

#1563×3

#1120

#1116

#1112

#1610×2

#B1119

#B1118

#1115A,B×3

#B3005

Grease:G-92KA

#B5094

#1215

#1107

#1108

Grease:DN-352

#1217

#3017

#1191

#1192

#1105

Adhesive: Quick drying glue

#1110×2

#1203

#3003

#1106

#B1102

#1551

SI holder\ Penta-prism box unit\ Lower display prism\ others

・Assemble in numeric order from ① to ④ .

・Connect the FPC to the connector.

・Make four soldering bridges.

connector Soldering bridge × 4

#1567×2

#B11171 ④

#1219×2

A

#218

#B15007

#1567×2

#1167

#B5007

#1168

#1169

#1170

Hook

#1567×2

#5091

#5092

③

#1162

#5090 ②

#1728

B

#1163

#218

#1547×2

#1567×2

#1185×2

#1193

#3016 ①

#1190

#1200

A

#1164

#1117

B

P-BOX section

・Put the washers (#1181 and #1180).

・Mount the P-BOX section and tighten four screws (#1188).

・Mount the diopter adjustment base unit (#B1122).

・Tighten the screw (#1189).

#1188×4

P-BOX section

#1180

#1181

#B1122

#1189
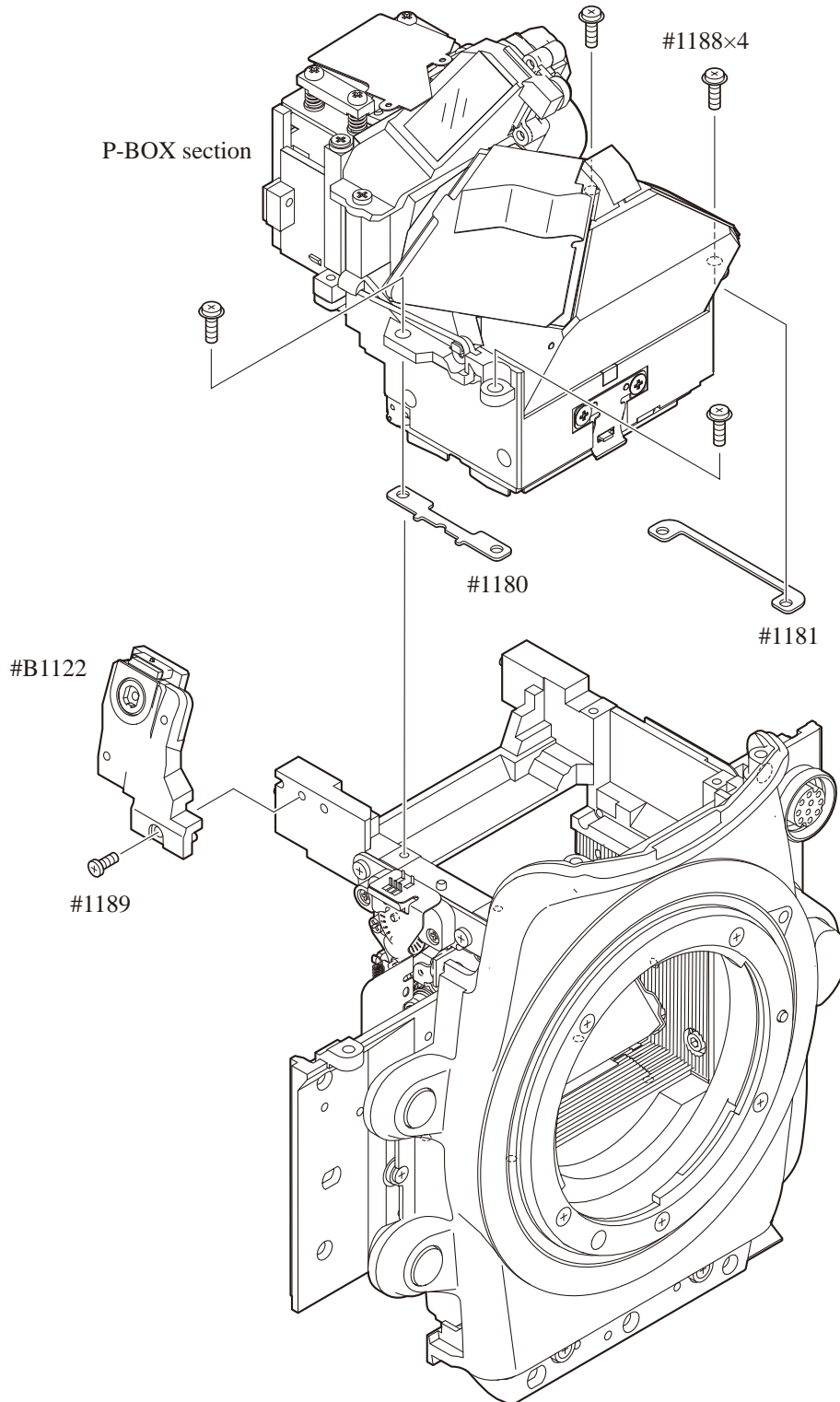
| Angle adjustment of Main mirror and Sub-mirror |

※ Procedure: Follow the operating instructions of the tool for main/sub mirror angle-inspection (J19132).

・Main mirror 45° adjustment

Caution: Before and after the adjustment, check the accuracy by moving the main mirror up- and downwards a few times.

① Check for the right-left deviation

In case the result is out of standard, loose the screws of "Fig.1" and make the adjustment by moving the main mirror-shaft base plate.

② Check for the up-down deviation.

In case the result is out of standard, make the adjustment by turning the eccentric pin for the main mirror of "Fig.2".

・Sub-mirror 54° adjustment

Caution: Before and after the adjustment, check the accuracy by moving the main mirror up-and downwards a few times. Confirm that the two-pronged part of the sub-mirror firmly fits in the eccentric pin.

① Check for the up-down deviation

In case the result is out of standard, make the adjustment by turning the eccentric pin for the sub-mirror of "Fig.2".

< Device >

1. For Main mirror adjustment

① Mirror angle inspection tool

② 45° angle mirror tool

③ Hexagonal wrench (φ1.5mm)

2. For sub-mirror adjustment

① Mirror angle inspection tool

② Hexagonal wrench (φ1.5mm)

① Mirror angle-inspection tool

Fixation screw
Main mirror-shaft base plate
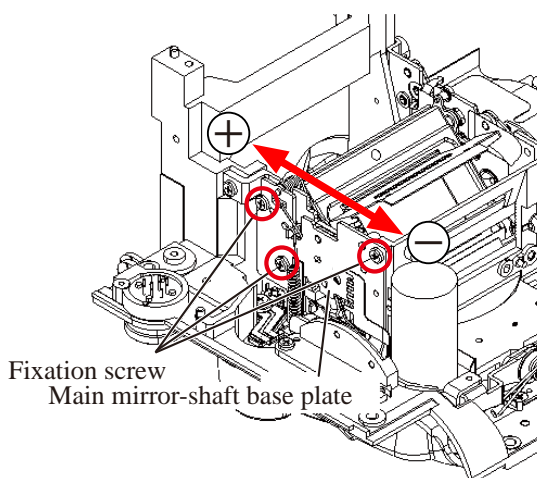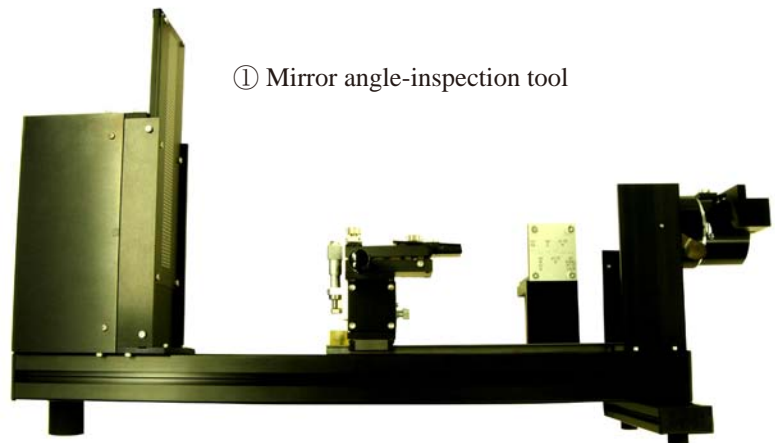
Fig.1

Eccentric pin for the sub-mirror

Eccentric pin for the main mirror
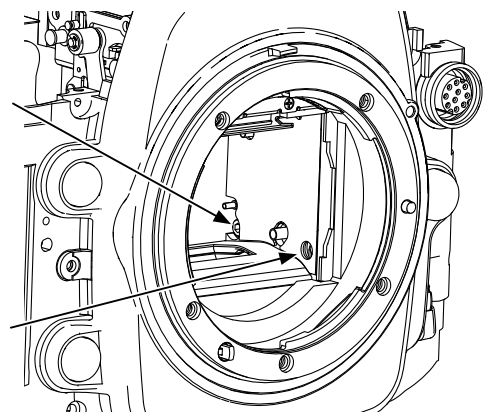
Fig.2

		Main mirror	Sub mirror
< Standard value >	Left-right deviation	0±10′or less	-
	Up-down deviation	±5′or less	-5±5′
	Distortion	5′or less	6′or less

∞ Infinity focus inspection & adjustment

・Replace the finder screen with the infinity focus adjustment screen (J63099), and use the reference lens (J18010) then read the value. In case it is out of standard, increase or decrease washers for adjustments.

Caution: For the replacement, put [J63099] with the silver spacers upward, which are attached on both sides.

J18010   Reference line   "0" position

⊖   ⊕

±2.5 scale markings
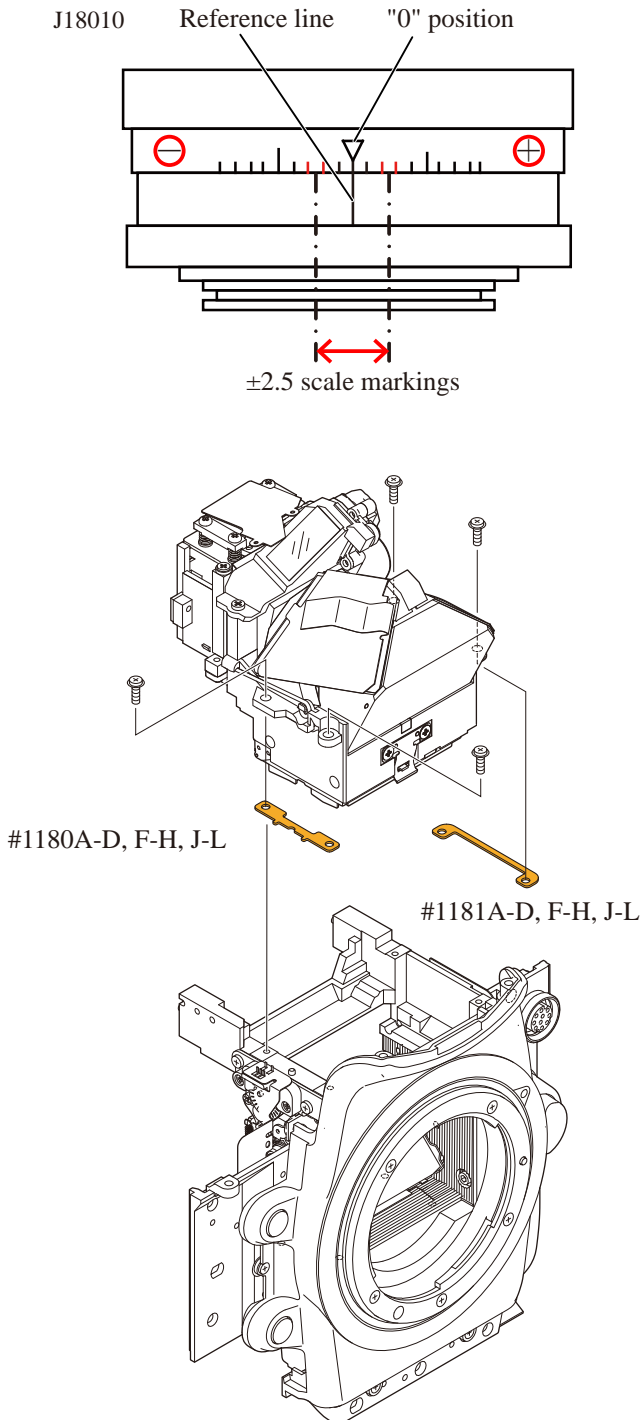
Standard: ±0.025mm

("mm" scales in "0.01mm" increments)

1180A	1K603-125	washer T=0.05
1180B	1K603-126	washer T=0.06
1180C	1K603-127	washer T=0.07
1180D	1K603-128	washer T=0.08
1180F	1K603-129	washer T=0.2
1180G	1K603-130	washer T=0.3
1180H	1K603-131	washer T=0.4
1180J	1K603-132	washer T=0.5
1180K	1K603-133	washer T=0.6
1180L	1K603-134	washer T=0.7
1181A	1K603-135	washer T=0.05
1181B	1K603-136	washer T=0.06
1181C	1K603-137	washer T=0.07
1181D	1K603-138	washer T=0.08
1181F	1K603-139	washer T=0.2
1181G	1K603-140	washer T=0.3
1181H	1K603-141	washer T=0.4
1181J	1K603-142	washer T=0.5
1181K	1K603-143	washer T=0.6
1181L	1K603-144	washer T=0.7

#1180A-D, F-H, J-L

#1181A-D, F-H, J-L

2. Rear body

Oil barrier:NKS-401H

#552
#556
#555
#574
#567
Oil barrier:NKS-401H
#554
#576
#399
#575
#586
#570
#573
#553
#572
#557
#558
Oil barrier:NKS-401H
#551
#552
Oil barrier:NKS-401H
#559
#571
#5055
#569
#570
#568
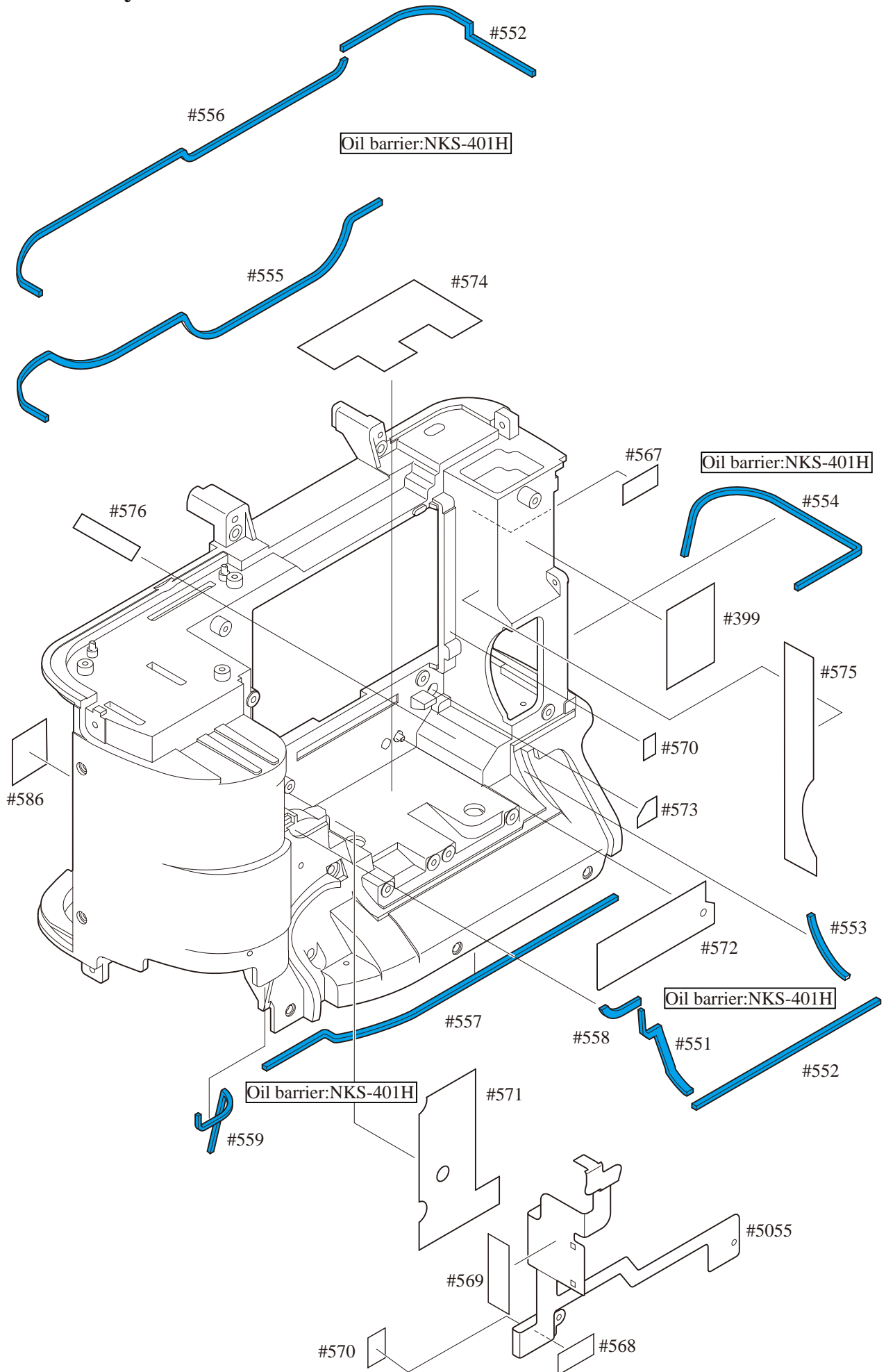
Shutter unit

・Mount the shutter unit (#B12001) in the direction for positioning.

・Tighten two screws (#1509) and one screw (#1505).

#1509×2   #1505

Positioning

#B12001
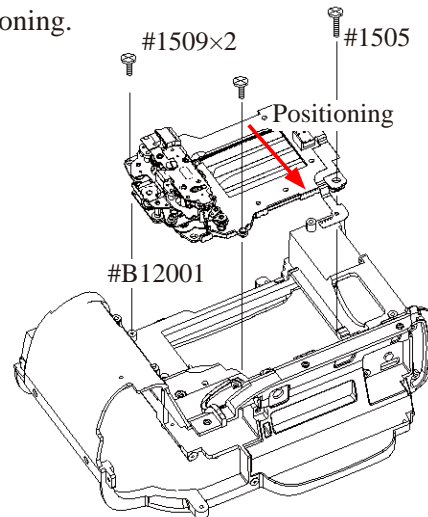
・Fit the FPC with the boss.

・Make six soldering bridges and four soldering bridges.

Soldering bridge × 6

Soldering bridge × 4

Boss

Charge base unit

Charge base unit (#B10620)

#1706

#B10620

#1567

#B665

#624×3

#622

#B602

#1705×3

Grease: G92-KA

Mount the charge lever by engaging
with the convex portion of the shutter.

#1710

#1709×2
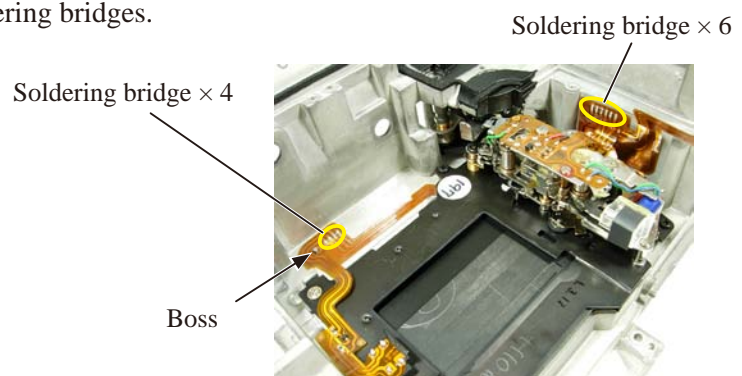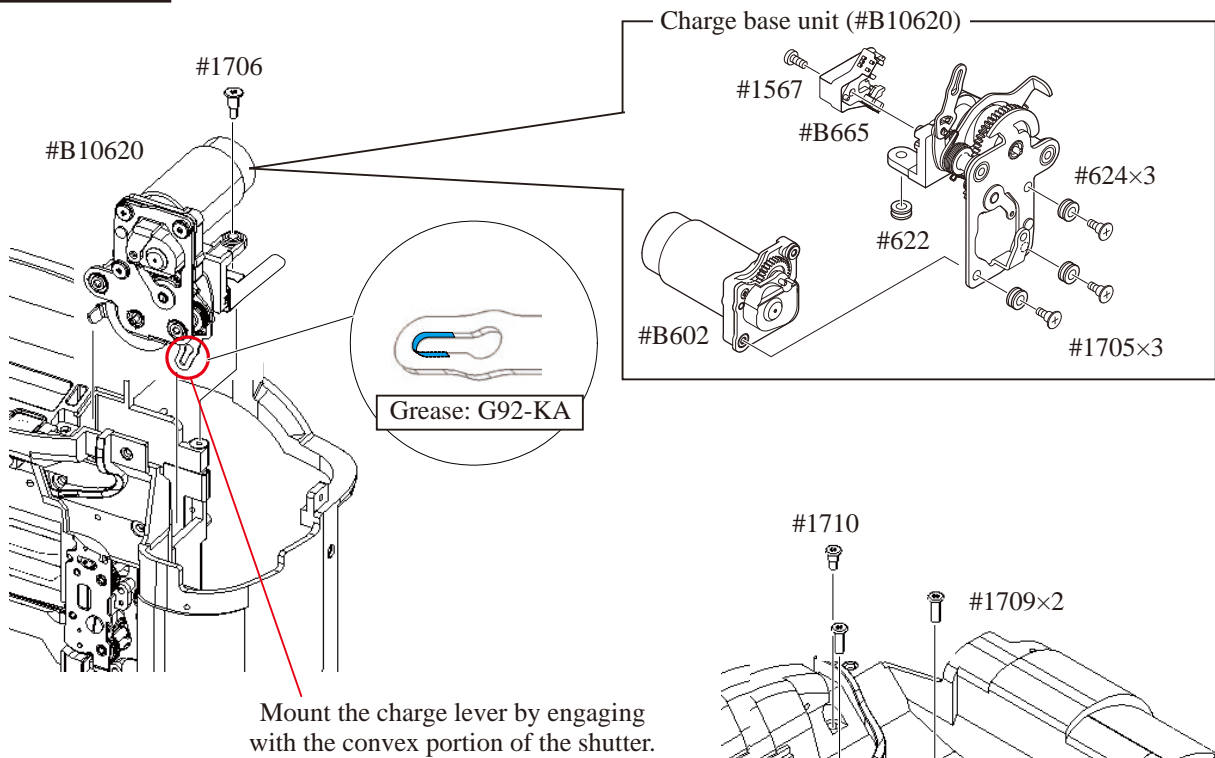
・Mount the charge base plate unit (#B10620).

・Tighten the screw (#1706).

・Tighten one screw (#1710) and two screws

  (#1709).

・Fit the FPC of the DI unit with the boss.

・Make six soldering bridges.

Soldering bridge × 6

FPC of the DI unit

Boss
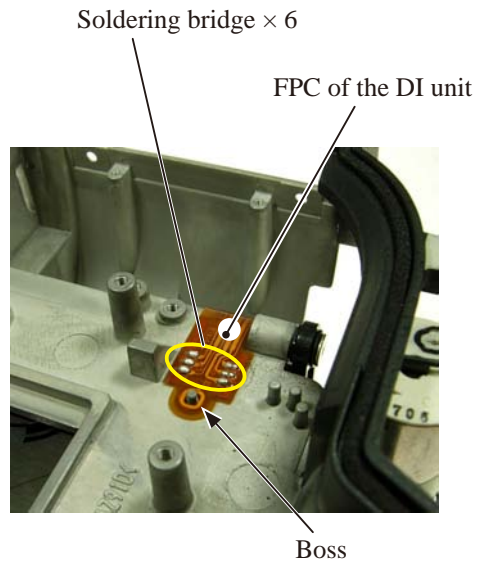
DC/DC PCB section

・Mount the DC/DC PCB section.

・Tighten one screw (#1532) and two screws (#1523).

DC/DC PCB section

#6001
#6002
#1530×2
#68
#5019
#5020
#1530
FU01
#6048
#1530×3
#6020
#5115
#69
#6021
#1540
#565

#1523×2
#1532
DC/DC PCB section
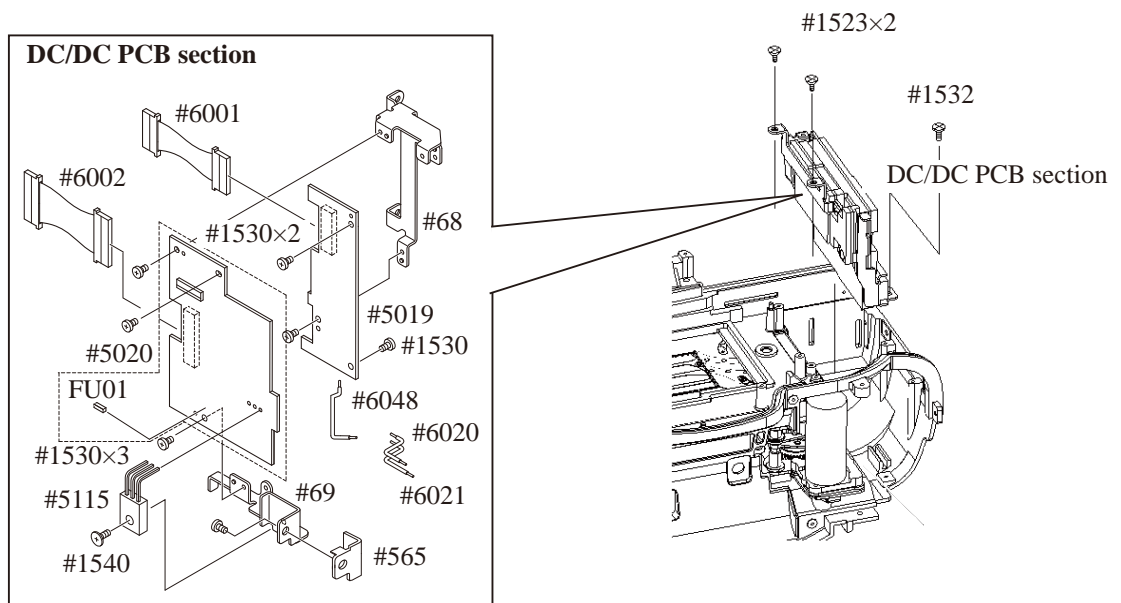
In case of blowout of fuse, the replacement of ″FU01″ of DC/DC2 (#5020) only will suffice.

DC/DC2 (#5020)

FU01
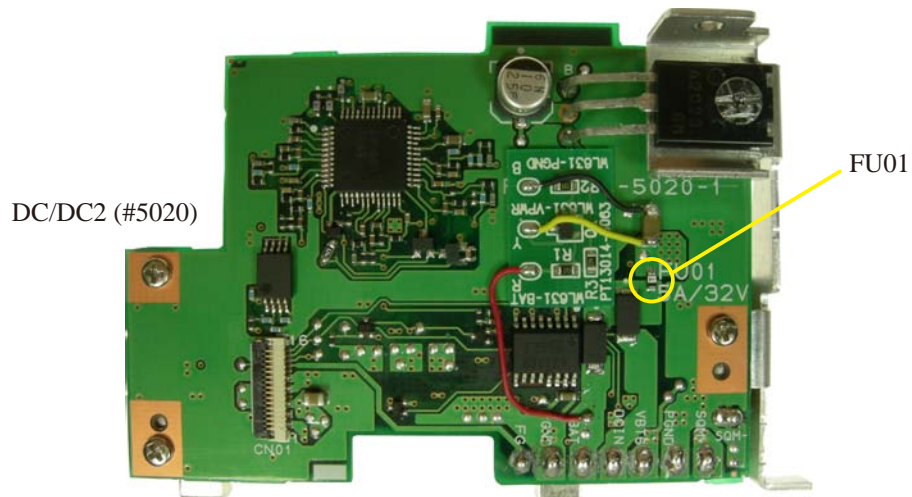
DC-IN PCB section

・Mount the DC-IN PCB section.

・Tighten one screw (#1532) and two screws (#1523).

#1532

#1523×2

DC/IN PCB section

#396

#1530×3

DC/IN PCB
#5024

DC/IN PCB section

Pass the wire through the hole.

TA-0005×2 (10×20)
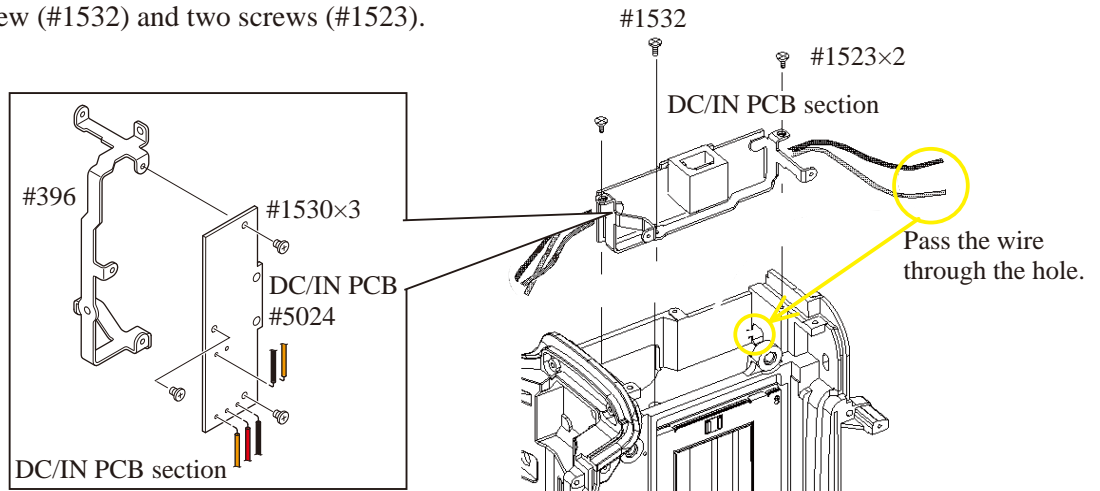
・Arrange the wires between the bosses.

・Attach two pieces of the tape (TA-0005×2).

Boss

Wire

Boss
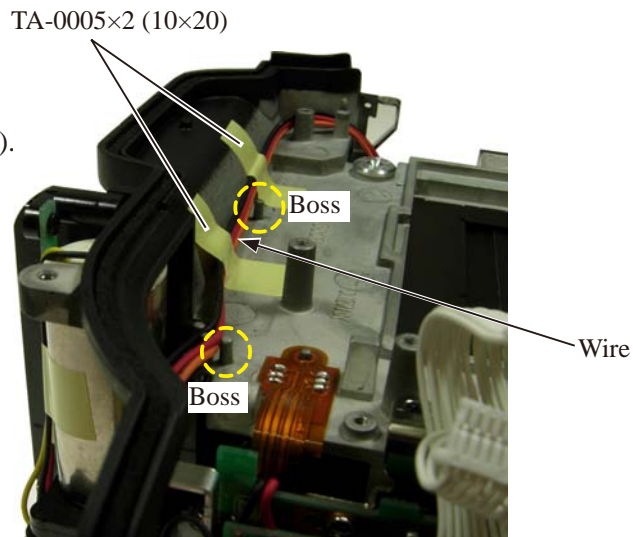
Battery contact unit

・Mount the battery contact base unit section.

・Tighten two screws (#1538) and one screw (#928).

#1538×2

#928

Battery contact section   #1568×2

Battery contact section

#801

#1565×2

#803

#B5053

TA-0005
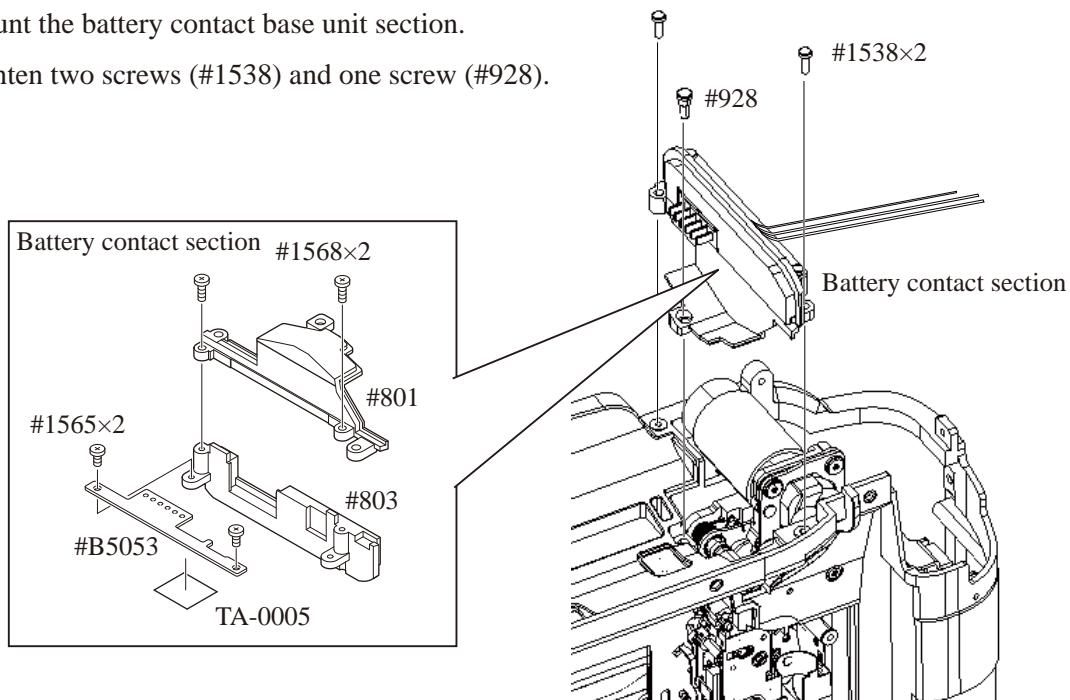
DC/DC 2

・Solder eight wires.

Orange:DC/IN PCB section　　Red:DC/IN PCB section
Black:DC/IN PCB section　　Brown: Battery contact base unit section
Yellow: Charge base plate unit　　Blue: Battery contact base unit section
Black: Charge base plate unit　　Violet: Battery contact base unit section

3.Mount Front body section on Rear body section

#1534×2
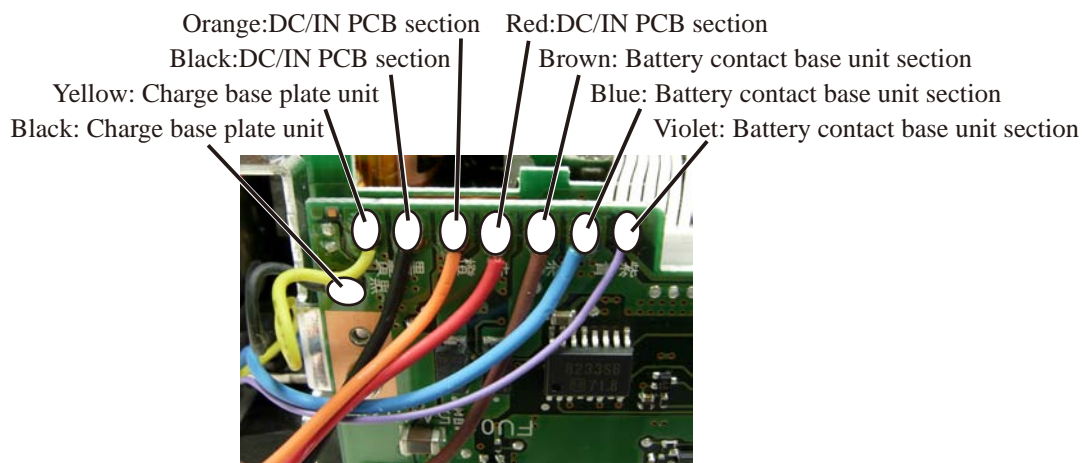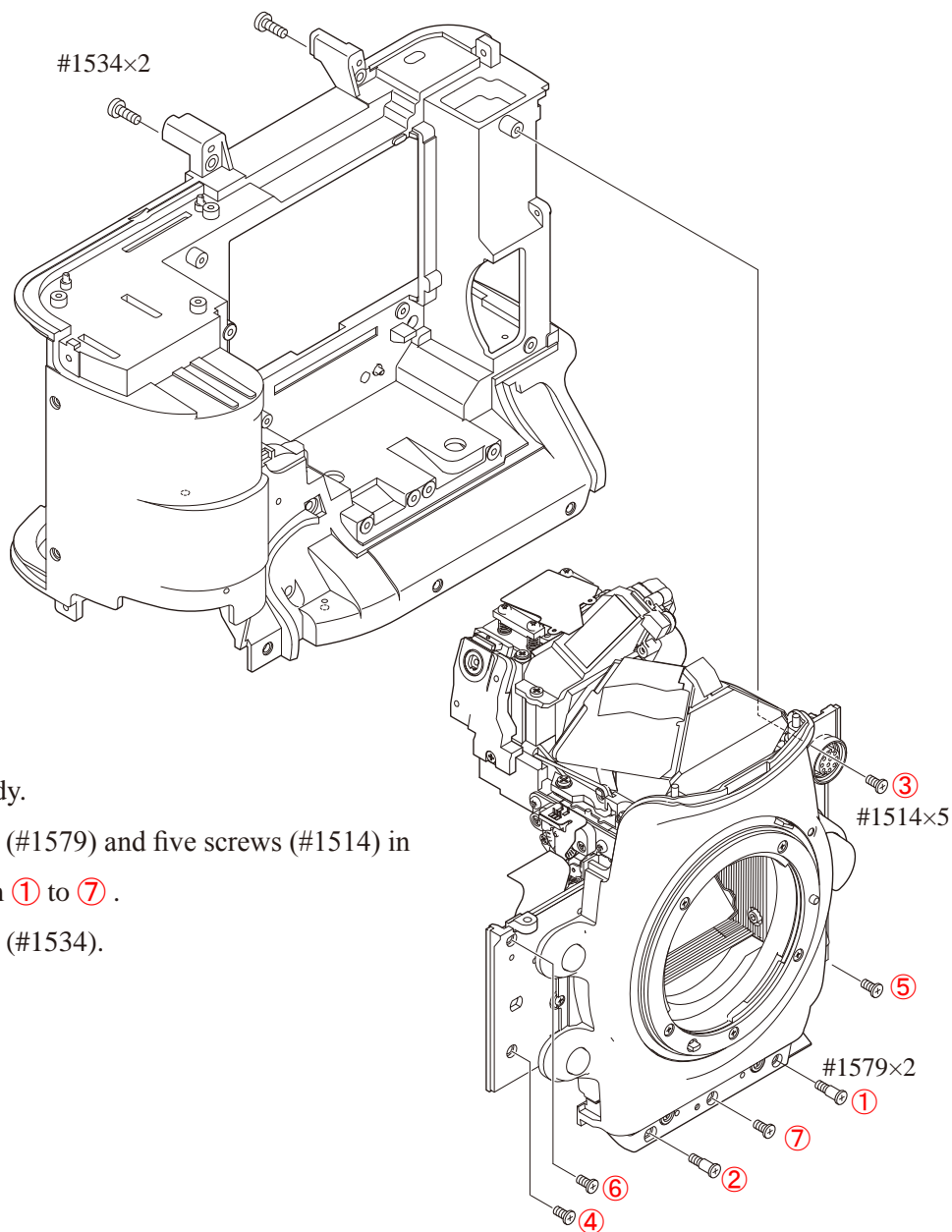
・Mount the front body.

・Tighten two screws (#1579) and five screws (#1514) in
  numeric order from ① to ⑦ .

・Tighten two screws (#1534).

#1514×5

③

⑤

#1579×2

①

⑦

②

⑥

④

Inspection and Adjustment of Body back

【"0" positioning of Dial gauge】

① Put the tool (J18001-1) on the surface plate.

② Turn the index circle in the direction of the arrow by three scale markings.

　　　This is "0" position of D3.
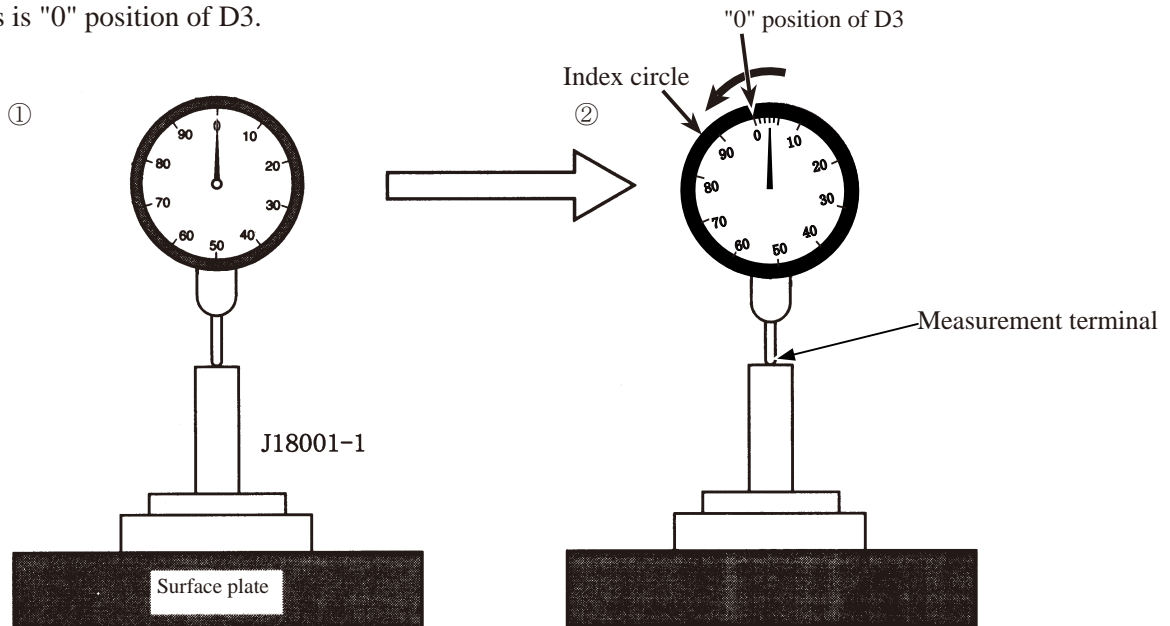
【How to measure】

・ Measure six places from the bayonet face to the image PCB attaching face.

　　Standard: 48.64±0.015mm / Parallelism: 0.015mm or less

・ In case it is out of standard, make an adjustment by putting the washer on the contact surface between the front body and rear body.
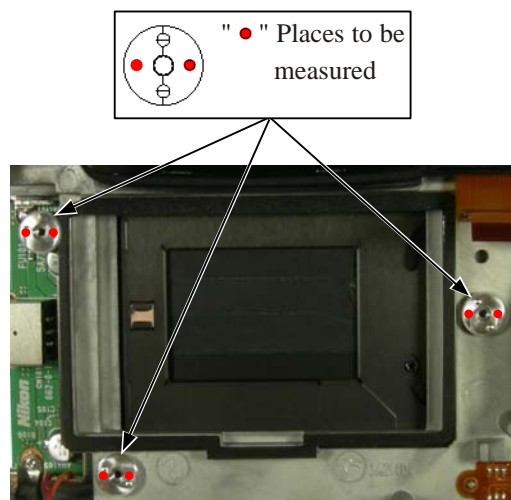
Note: For some bodies, the washer(s) is/are already put on the attaching face of the image sensor unit. There is a red mark indication at the following two positions.
　　　1. Indication: on the attaching face of the camera body side
　　　　　Purpose : To adjust the height of the camera body
　　　2. Indication: on the attaching face of the image sensor unit side
　　　　　Purpose : To adjust the height of the image sensor unit
Therefore, in case of the above 1. and when the camera body is disassembled or the image sensor is replaced, put the washer(s) at the original position. In case of the above 2. and when the image sensor unit is replaced, remove the washer.(s)

Main PCB unit

・Mount the main PCB (#5001).

・Tighten three screws (#1532).

・Connect the four FPCs to each connector.

#1532×3

Main PCB #5001

#1133×3

#B25005

#1134×3
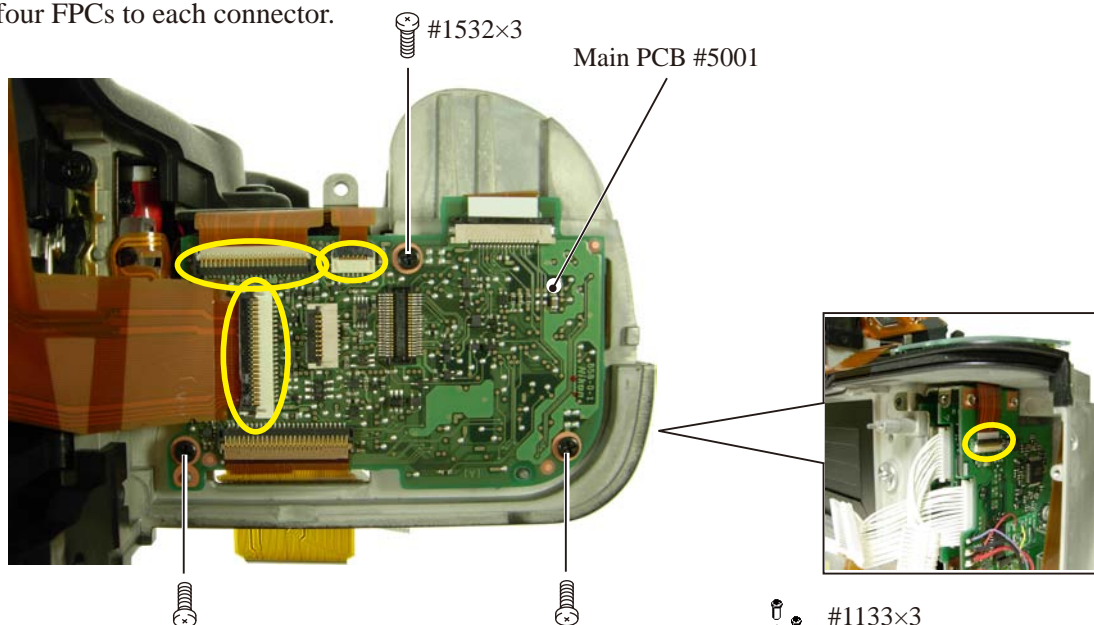
Metering FPC unit

・Put three springs (#1134).

・Mount the Metering FPC unit (#B25005).

・Turn the three screws (#1133) all the way softly to the end,

and give them three counterclockwise turns.
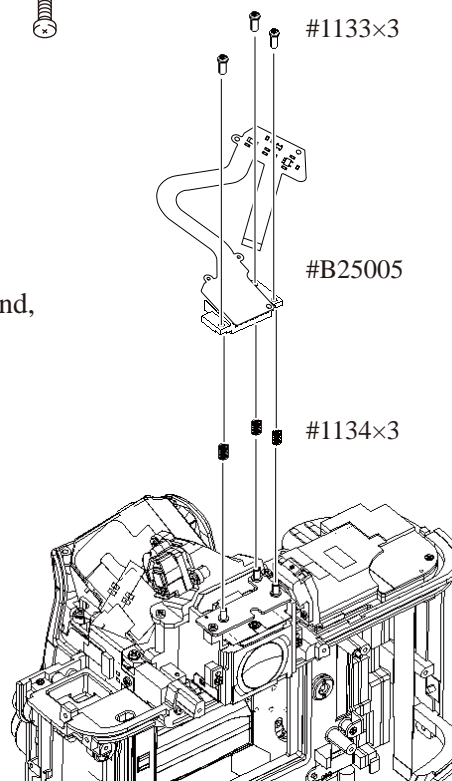
・Arrange the Metering FPC (#B25005) as below.

・Connect the two FPCs to each connector.
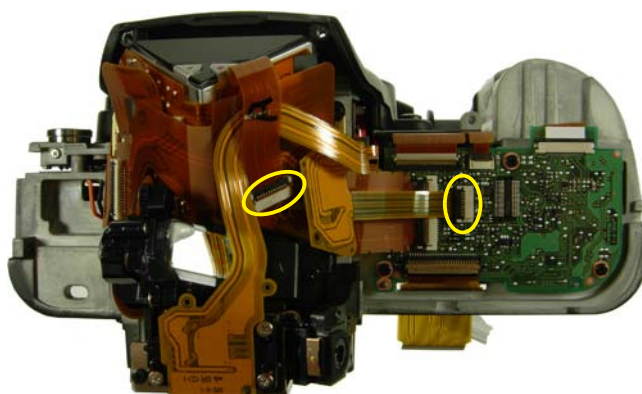
Inspection and Adjustment of Camera body's accuracy (other than Imaging-related)
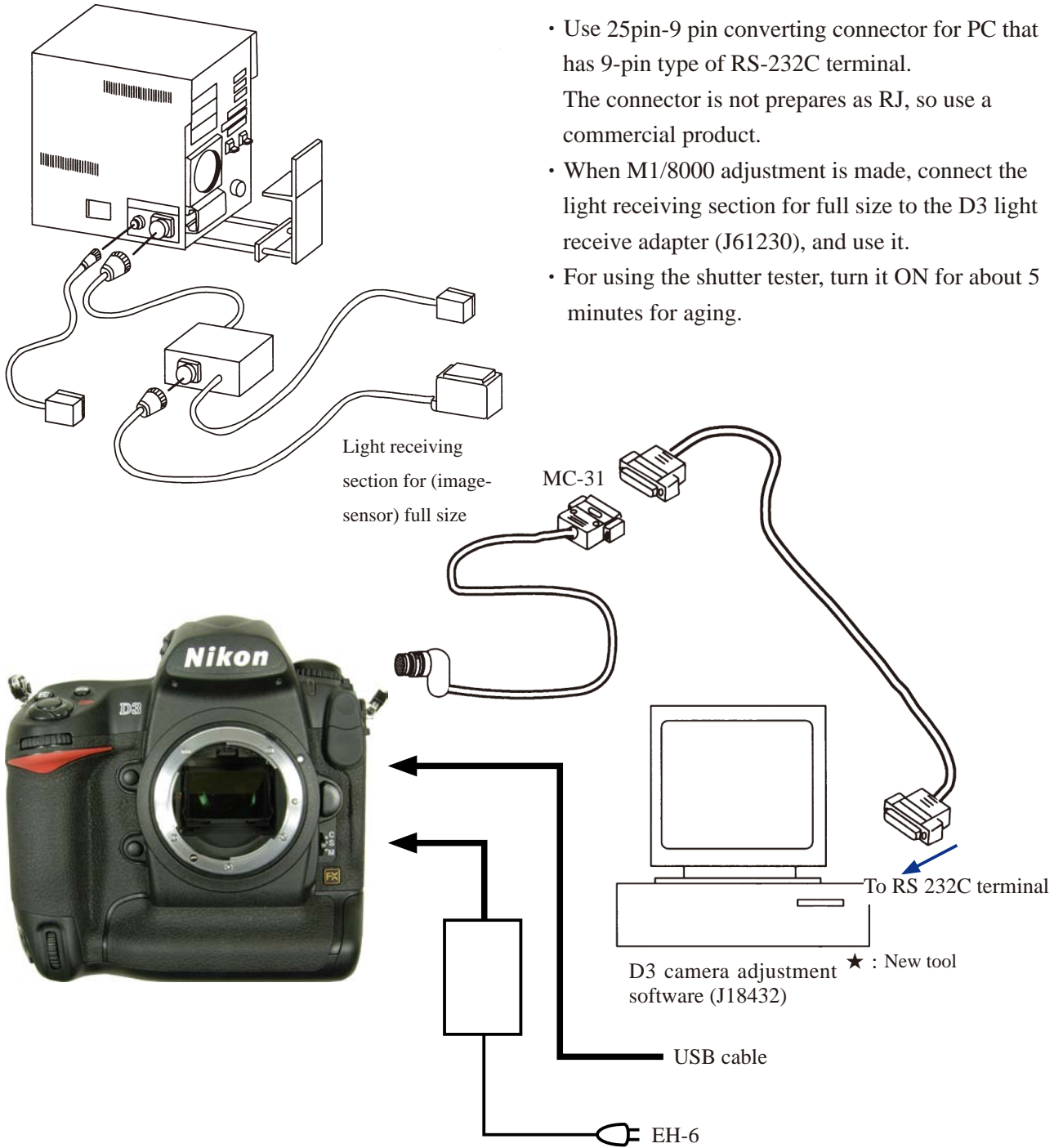
・Use 25pin-9 pin converting connector for PC that
 has 9-pin type of RS-232C terminal.
 The connector is not prepares as RJ, so use a
 commercial product.
・When M1/8000 adjustment is made, connect the
 light receiving section for full size to the D3 light
 receive adapter (J61230), and use it.
・For using the shutter tester, turn it ON for about 5
 minutes for aging.

Light receiving
section for (image-
sensor) full size

MC-31

To RS 232C terminal

D3 camera adjustment
software (J18432)   ★ : New tool

USB cable

EH-6

★ : New tool   ★ : New tool

AF50/1.4D   AF28/2.8D   AF70-300/4-5.6D   J63097   D3 light receive adapter (J61230)
                                       AF-SVR70-300/4.5-5.6
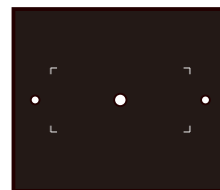
Camera body AE adjustment (other than imaging-related)

| AE inspection and adjustment |

① Inspection & adjustment of AE CCD positioning (ref. Page A31）

② AE accuracy inspection & adjustment

Inspect and adjust by using the following types of lens (AF50/1.4D, AF28/2.8D, AF70-300/4-5.6D or AF-SVR70-300/4.5-5.6).

Caution:

AE accuracy is not inspected by using the exposure value of the shutter tester, which was the conventional method. The metering value is displayed on PC screen.

③ Aperture accuracy inspection & adjustment

Remove the lens when adjusted.

Caution: The aperture pulse number is displayed on PC screen for inspecting aperture.

④ M1/8000 accuracy inspection & adjustment

⑤ Monitor adjustment

Inspection and adjust via USB with the DG-PCB and top cover(temporarily assembled) being mounted.

⑥ AE sensor inspection & adjustment

Caution: Set the metering mode to " Matrix metering" .

Install of USB driver

For using the adjustment software, connect the camera via USB and install USB driver. For "Windows2000", install the driver that is supplied with the software, while "WindowsXP", installing the driver is not necessary because the OS already incorporates the driver.

Before connecting the camera and PC, set USB to "PTP".

（Setup menu → USB → PTP）

This inspection and adjustment software runs on Windows.

Install the software by following the below procedure.

<Operating environment>

Check the following operating environment which is required for installing this program on PC.

PC	IBM PC/AT compatible
OS	Windows XP Professional Edition, Windows XP Home Edition, Windows2000 Professional Edition, Windows Vista
CPU	Pentium II 300MHz ～
RAM (memory)	256 MB or more
HD	6MB-or-more free disk space is required when installing
Monitor resolution	1024 × 768 pixels or more
Interface	RS232C, USB interface (V1.1, 2.0)

As long as the above hardware requirements are met, any PC such as desktop or laptop, etc is available.

< Cautions for starting program >

When starting this program, close all the other applications.

If some other applications are running, this program may not be activated.

< Procedure for installation >

1.Because this is the self-extracting file, decompress the file before installing, and follow the next procedure.

Execute the up-to-date "SetFolder.EXE". The folder will be created automatically as shown in

"C:\DeskTopLauncher\D-SLR\D3".
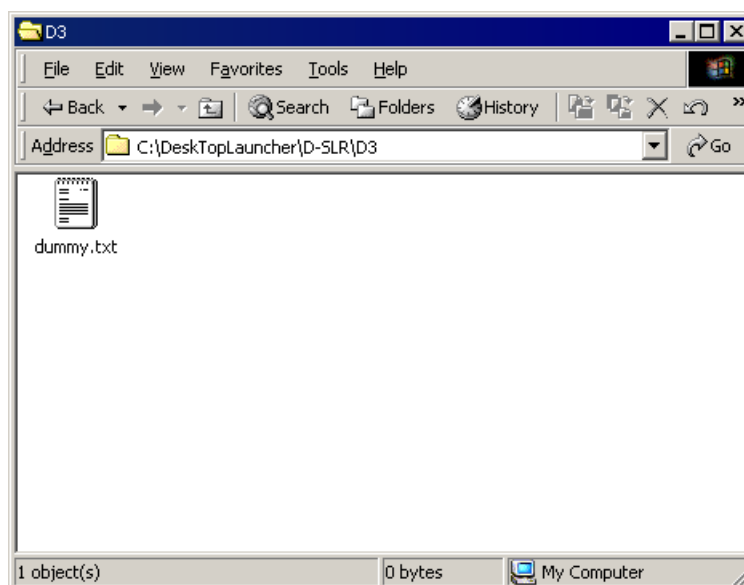
2. Paste the file (D3SOFT.EXE) in the created folder.
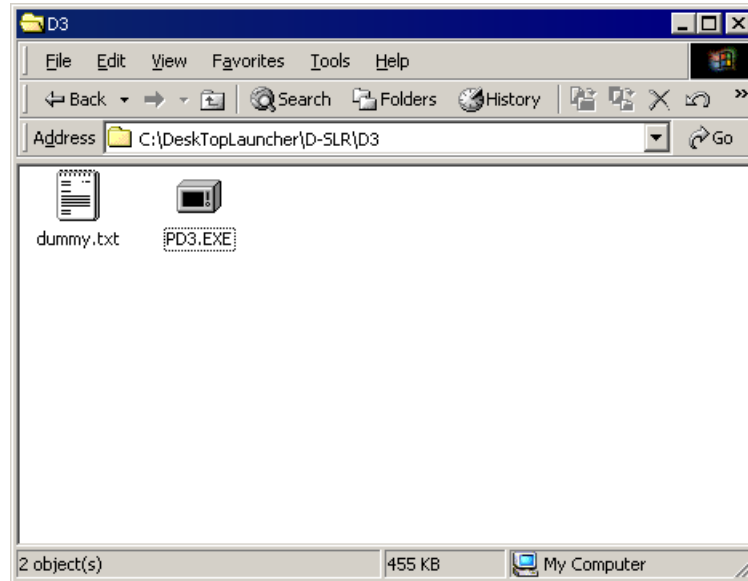
3. Double-click on the pasted file to display the following screen.

Press the OK button, then decompression starts.
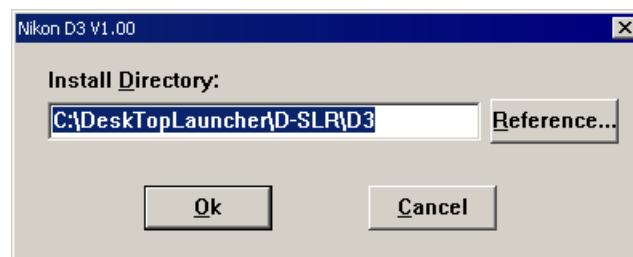
4. When the decompression of file is finished, the file (D3.exe) is created.
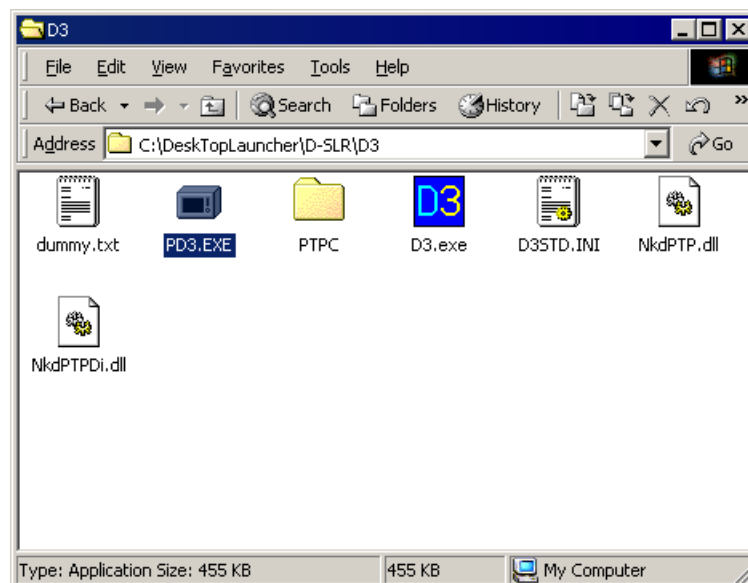
5. The install is completed.

[Procedure for installing USB driver]

If this program is used by the USB interface, installing the USB driver is necessary.
But **if OS is "Windows XP", the driver is already incorporated so it is not necessary to install it.**
1. Set the USB of camera to "PTP".

   (SETUP menu → USB setting → PTP)
2. Connect the camera and PC by USB cable.

   Turn camera ON.

3. "Add New Hardware Wizard" is displayed, then "4." screen appears automatically.

Found New Hardware

NIKON DSC D3

4.   Click "Yes".

Digital Signature Not Found

The Microsoft digital signature affirms that software has been tested with Windows and that the software has not been altered since it was tested.

The software you are about to install does not contain a Microsoft digital signature. Therefore, there is no guarantee that this software works correctly with Windows.

Nikon DSLR camera

If you want to search for Microsoft digitally signed software, visit the Windows Update Web site at http://windowsupdate.microsoft.com to see if one is available.

Do you want to continue the installation?

| Yes | No | More Info |

5.   Click "Reference". Select "C:\DeskTopLauncher\D-SLR\D3\PTPC " of C drive, and click "OK".

Files Needed

The file 'NKCAMUSD.dll' on Camera Control Pro CD-ROM is needed.

OK

Cancel

Type the path where the file is located, and then click OK.

Copy files from:

C:\DeskTopLauncher\D-SLR\D3\PTPC   Browse...
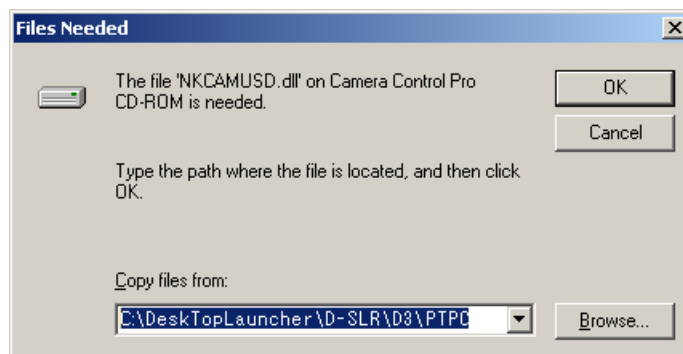
6. Reboot the PC and the install is completed.

<Start-up of Program>

1.Start "D3.EXE". The following screen will appear, so click "OK".
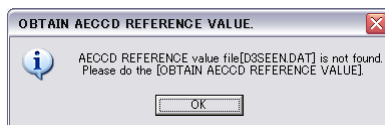
2.Clicking "OK" starts the program.
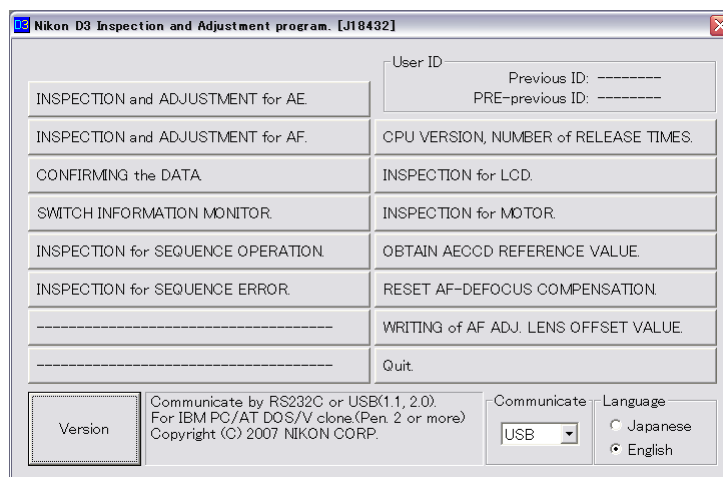
3.To display in Japanese, select the radio button "JAPANESE" in "LANGUAGE" in the lower right-hand corner of the screen.
However, this is not properly viewed in the English OS.

4.To finish the program, press the "Close (×)" button in the right-hand corner of the screen or "QUIT.".

Adjustments on PC required when parts are replaced

Camera body (other than Imaging-related)

	Writing of fixed value	AE CCD positioning	AE accuracy	Aperture accuracy	Shutter M1/8000	Shutter Monitor	AE sensor ＊3 inspection & adjustment	AF accuracy
Shutter unit					○	○		
＊1 Main PCB △ (Addition) ＊4	○	＊2 △	○	○	○	○	○	○
AF sensor unit								○
DC/DC1								
DC/DC2								
Metering FPC unit △ (Addition) ＊4		○	○				○	
I base plate				○				

＊1: Whenever the main PCB is replaced, update the firmware after "writing of fixed value", and then perform "writing of fixed value" again.

＊2: Make the inspection.

＊3: Whenever "AE sensor inspection and adjustment" is made, assemble up to the stage of DG-PCB unit, and make the inspection and adjustment via USB.

~~Caution when Parallax/SI adjustment is necessary:~~
~~First of all, perform "writing of fixed value", and make "Shutter M1/8000 adjustment" followed by "Shutter monitor adjustment". And then, make "Parallax/SI adjustment" and perform "AE CCD positioning".~~

△ (Revision)

＊4: In case of replacing the Main PCB and needing the adjustment of parallax/SI and CCD positioning, perform "writing of fixed value", and make "Shutter M1/8000 adjustment" followed by "Shutter monitor adjustment". And then, make "Parallax/SI adjustment" and perform "AE CCD positioning".

サービス
計画課
M

Adjustment of AE CCD positioning

＊ Under the environment where the AE-CCD positioning is adjusted, use the reference body and confirm results.
・ In case the measured value is out of standard, check whether there is no deviation of the focus area positioning.
・ In case the measured value is out of standard, change the environment of measurements. (e.g. setting place/direction,
    room brightness, etc)

Procedure

① Make temporary assembly of the bottom cover with four screws.

② Mount "AF50/1.4D" on the camera, and fix them on the tripod horizontally.

③ Connect the camera and PC via cable MC-31 or USB cable.

④ Connect the AC adapter EH-6.
    Caution:Be careful NOT to cause a short-circuit at uncovered portions.

⑤ Attach the AE-CCD positioning tool (J63097) to the color viewer (J63070), and turn power ON.

⑥ Keep a 0.7-m distance between the front face of the AE-CCD positioning tool and the reference surface of
    the camera. Set the camera AF to manual, and rotate the focus ring to set to "0.7 m".

⑦ Start up the inspection and adjustment software for D3, and select "Inspection and Adjustment for AE CCD
    POSITION" then "Set Camera for AE CCD POSITION" to lighten the focus area.
    Looking through the viewfinder, move the camera so that the focus areas of the camera are with the
    outer frames of the AE-CCD positioning tool. (ref. PC screen)
    ＊ Set the camera and AE-CCD positioning tool horizontally.

⑧ Select "Inspection and Adjustment for AE CCD POSITION".
    ＊ Cover the camera with a black cloth, etc, when measured.

⑨ By following the instructions on PC, adjust the position of AE-CCD with the screws (a and b).

⑩ After confirming that the tilt is within standard, fix the three screws with the screwlock.

AE-CCD positioning tool
(J63097)

Attaching surface of the imaging-PCB

AF50/1.4D

approx. 0.7 m

Color viewer (J63070)

Y-axis direction (b)

tightening

X-axis direction (a)

tightening

X-axis direction

(a) loosening

Y-axis direction (b)

loosening
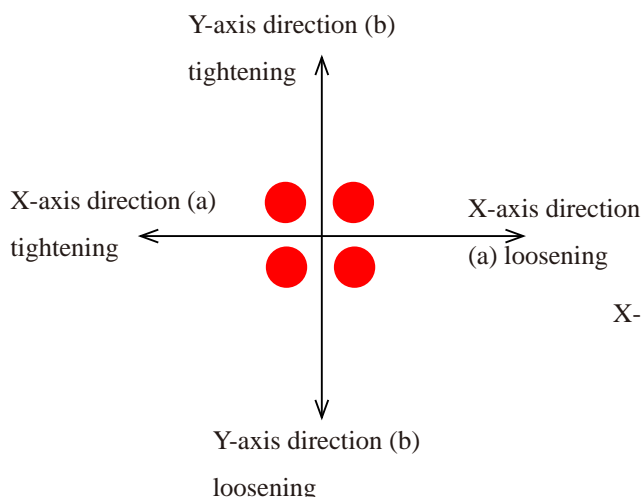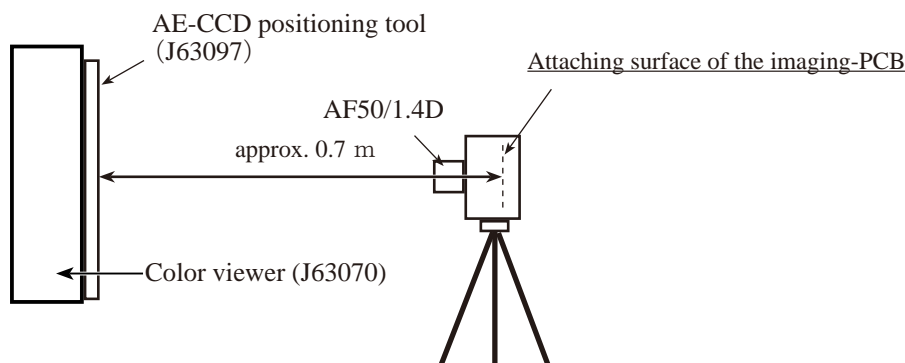
Reference   →   Reference screw
X-axis direction   →   a: Screw
Y-axis direction   →   b: Screw

Y-axis
direction

Screw b

Reference

X-axis direction
Screw a
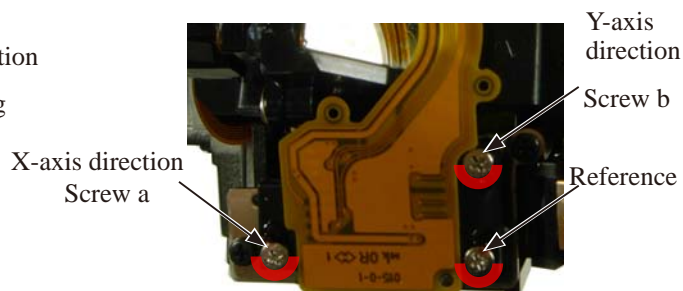
4.Top cover

Hot shoe / others

#773
#771
Adhesive:silicone347B
#B772
#B44
Adhesive: Cemedain 8008
#192
Adhesive: Loctite
#6036
#B43
#1501
#50
Adhesive: Loctite
#1585
Adhesive: Loctite
Adhesive: Loctite
#1631
#776
#768
#751
#765×2
#766×2
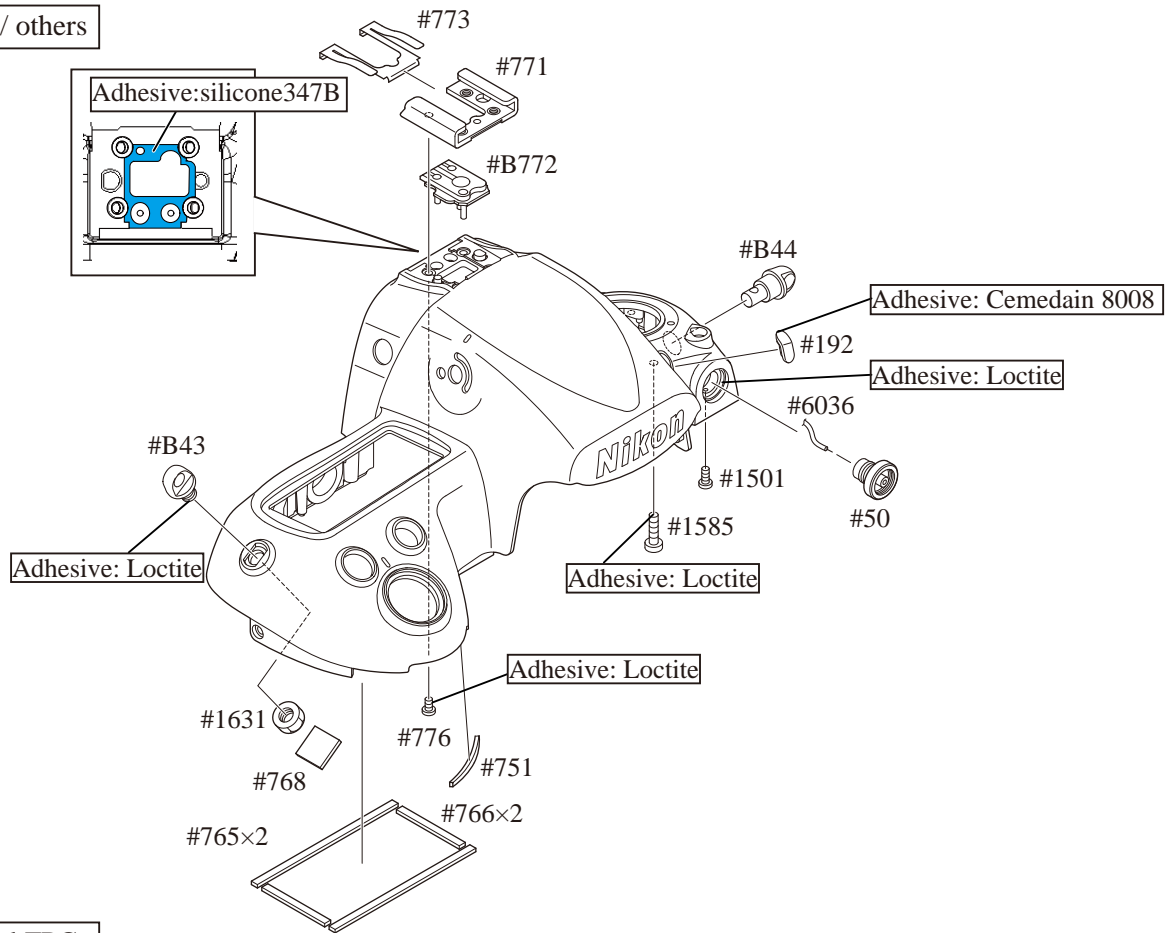
Mode dial FPC

・Attach the mode dial FPC (#5003), and tighten three screws (#776).

・Make the four solder joints.

・Put the FPC retainer plate (#506), and tighten the screw (#1564).

・Put the dial base plate (#505), and tighten two screws (#1569) and one screw (#1556).

#1564
#1569×2
#TA-0005
(10×20)
Adhesive: Loctite
#506 #513
Solder×4

Dial base plate (#505)
#1556
#776×3
Adhesive: Loctite
Mode dial FPC (#5003)

Function mode dial section

#502
#501
#5043
#516
#520
#503
#1582×2

Grease:G-92KA

#504
#507
#1550
#511
#512

#1568

#1568

Self-timer section

#508
※ Dipping
#509
#510
Grease:G-92KA
#5035
#519
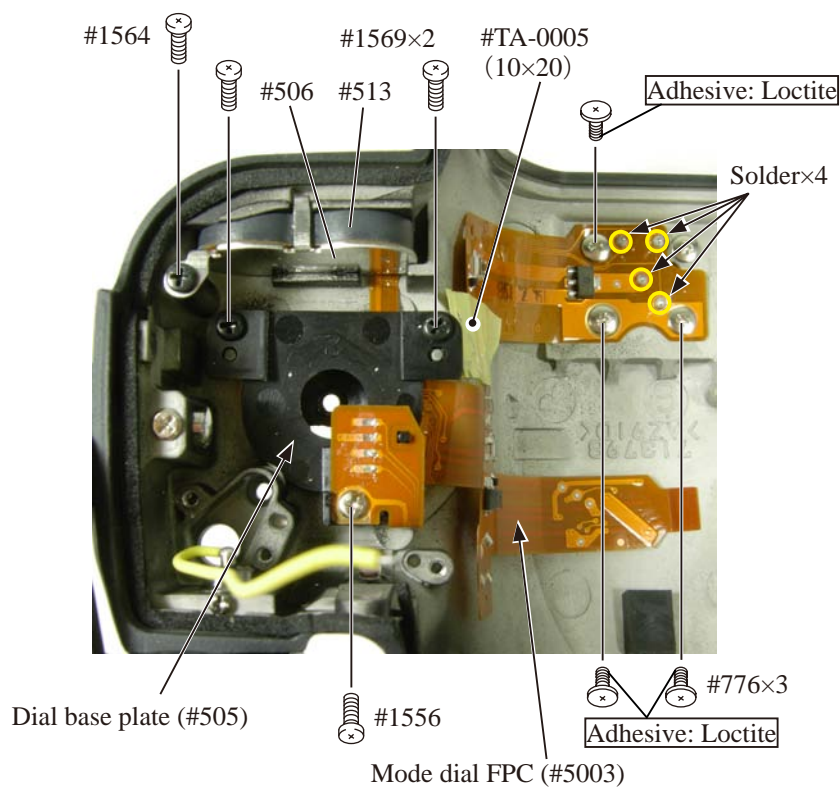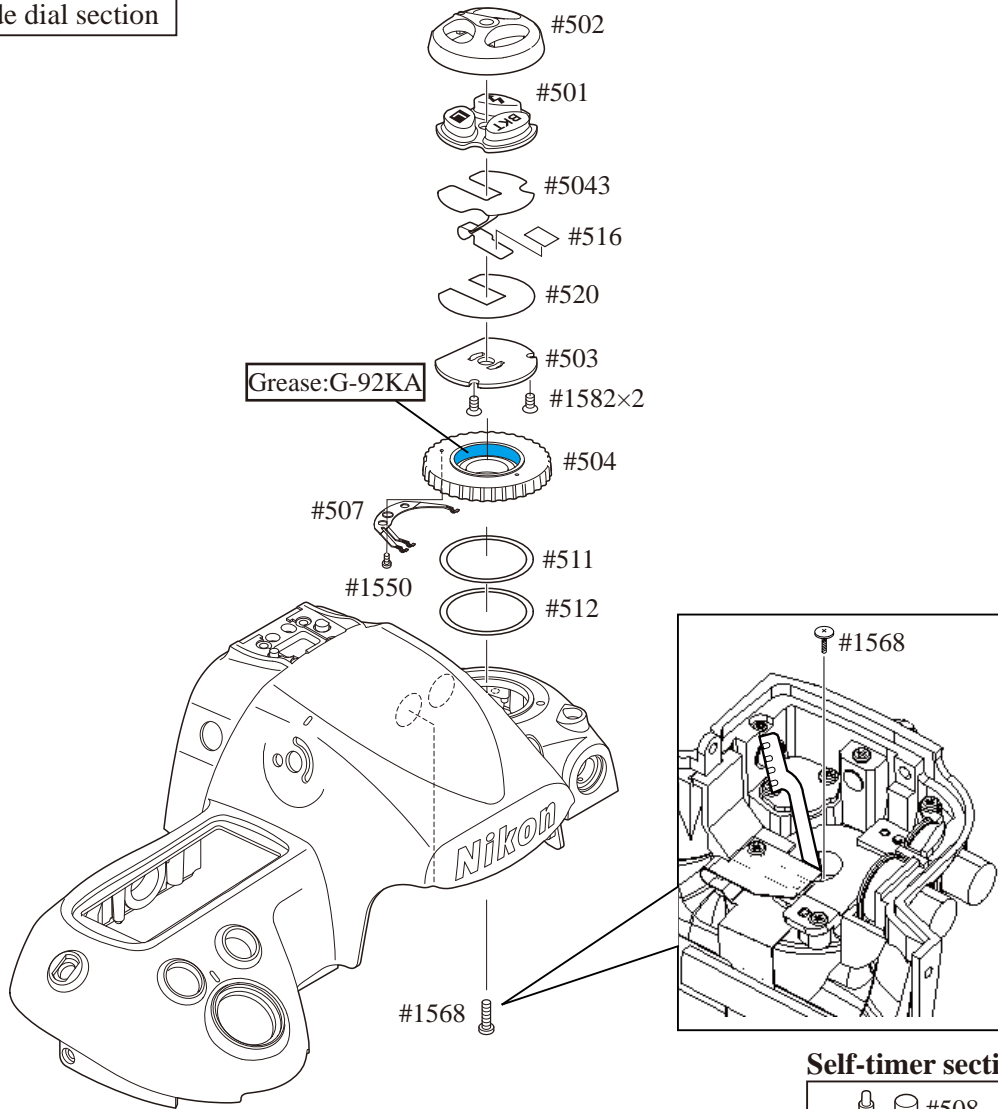
Self-timer section

・Assemble the self-timer section and tighten three screws
　(#1569).

・Solder the three wires.

・Make the four soldering bridges.

#1569×3

Black:Self-timer LED
Red: Self-timer LED

Soldering bridge×4

Yellow:Synchro-terminal

Metering mode dial section

Grease:G-92KA

Oil barrier:NKS-401H

Grease:CFD-409Z

#787

#782   #784   #781   #788   #789

Oil barrier:NKS-401H

#783   #792

#B780

Power SW base section

Grease:CFD-409Z

Grease:G-92KA   #732

#733

Grease:G-92KA

#734

#B745

#1557×2

#1604

Grease:G-92KA

#1554×3

#748

#743   #742

Grease:G-92KA

#1578

Grease:G-92KA
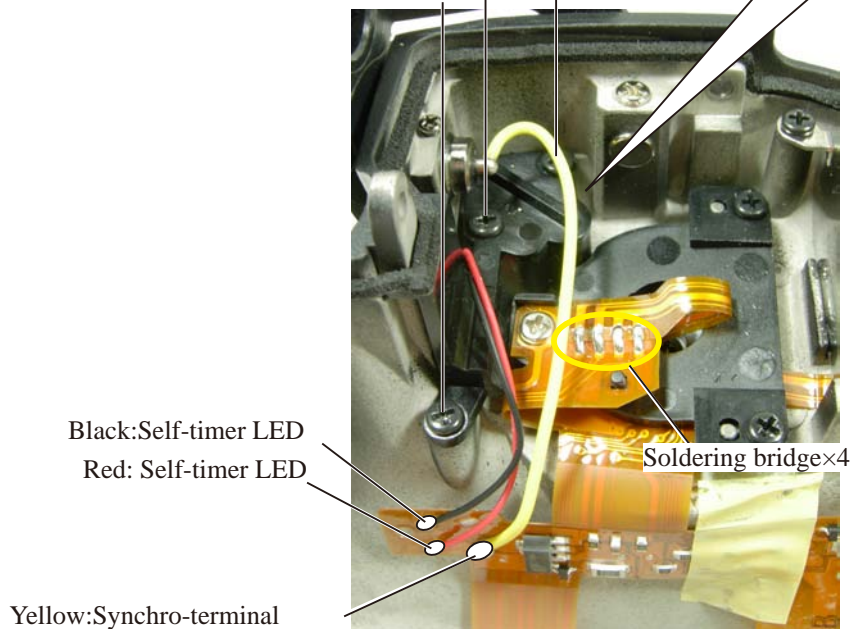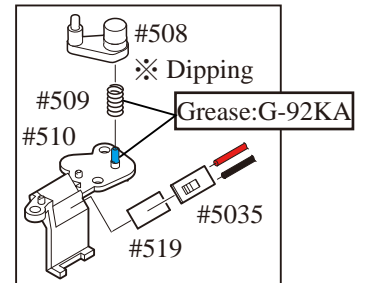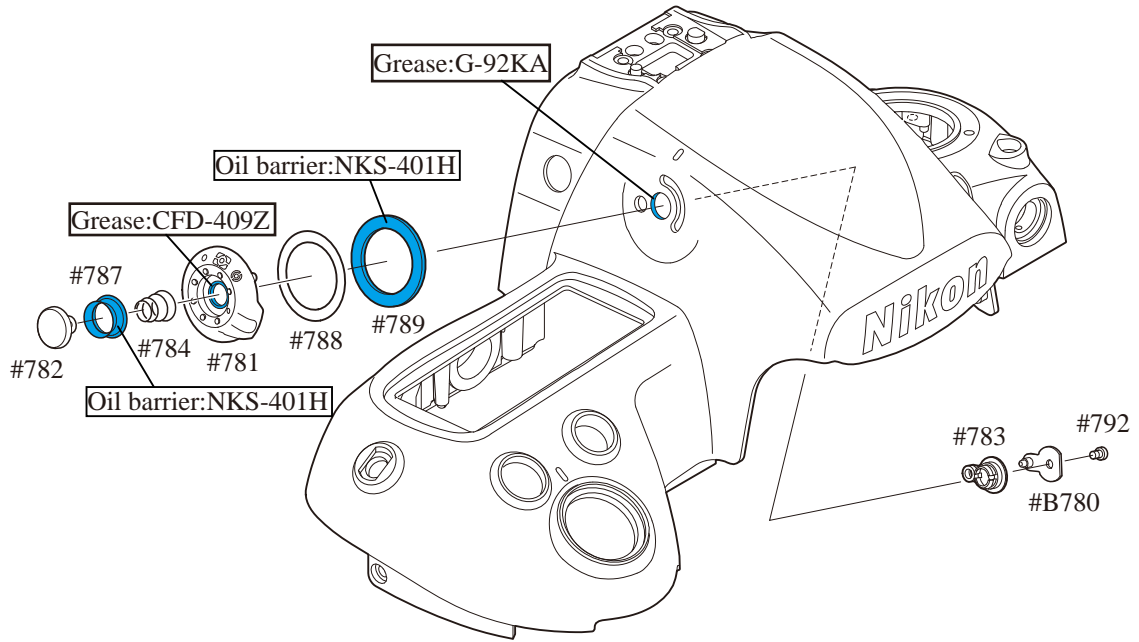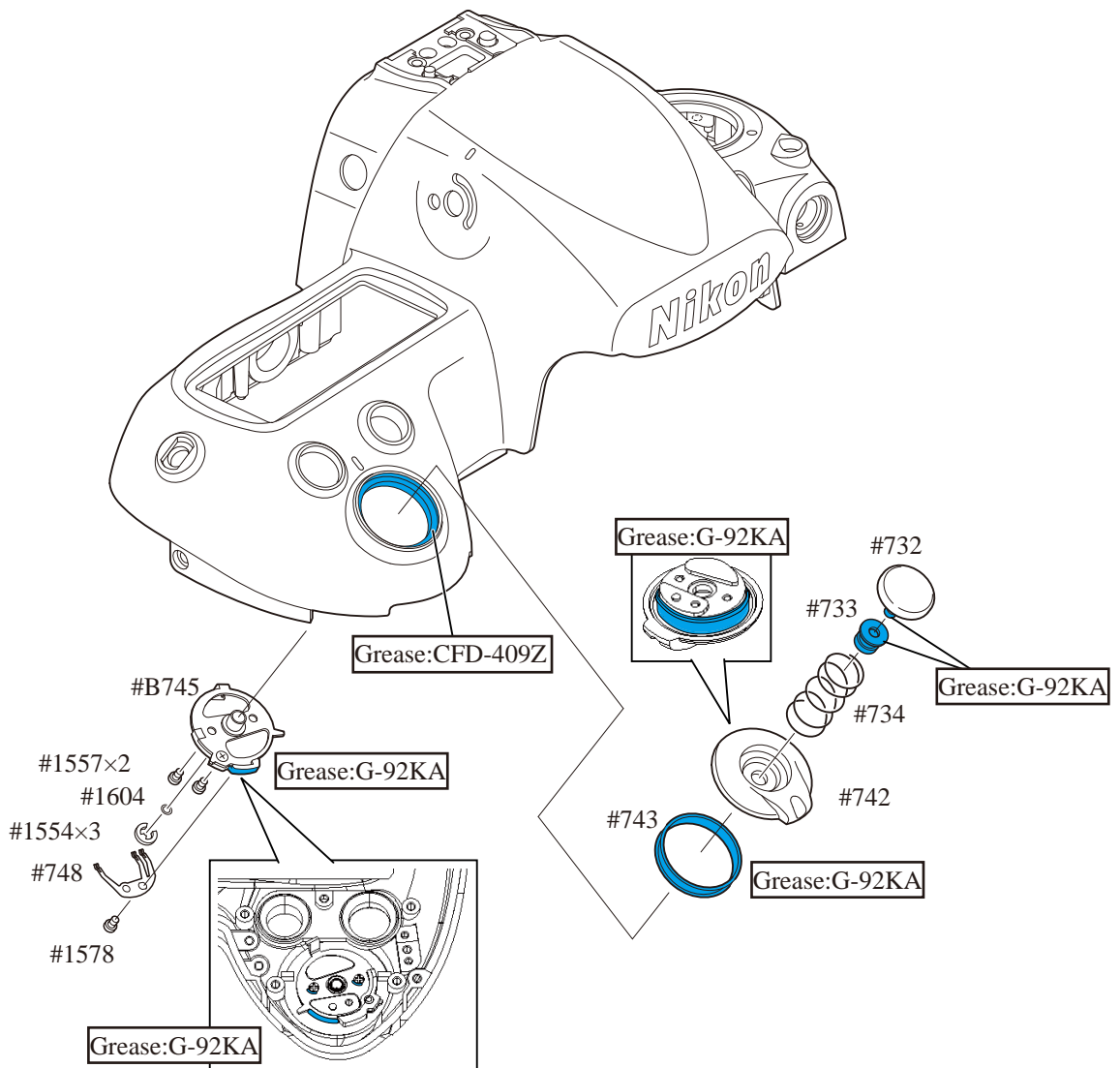
Top LCD section

・Mount the Top LCD section (#703 mold) and tighten three screws (#1569) and one screw (#1564).

・Assemble the FPC fixed plate (#790), and tighten two screws (#1564).

・Mount the button base (#B731), and tighten three screws (#1554).

・Mount the power SW mold unit (#B747), and tighten two screws (#1569).

・Mount the release SW unit (#B740), and tighten the screw (#1575).

・Attach the spring (#750).

Position for hooking spring (#750)

Release SW unit (#B740)

Power SW mold unit (#B747)

#1569×2

Spring (#750)

#1575

#1564×2

Button base plate #B731

#1569×3

#1554×3

#1564

Oil barrier:NKS-401H

Grease: CFD-409Z

Top LCD section

#B701

#702

#791

#B785

#790

#797

#730

#704

#5085

#706×2

#744

#705

#B731

#753

#5086

TA-0026 (6×12)

#B747

#5002

#798

#764

#796

Grease:G-92KA

#703
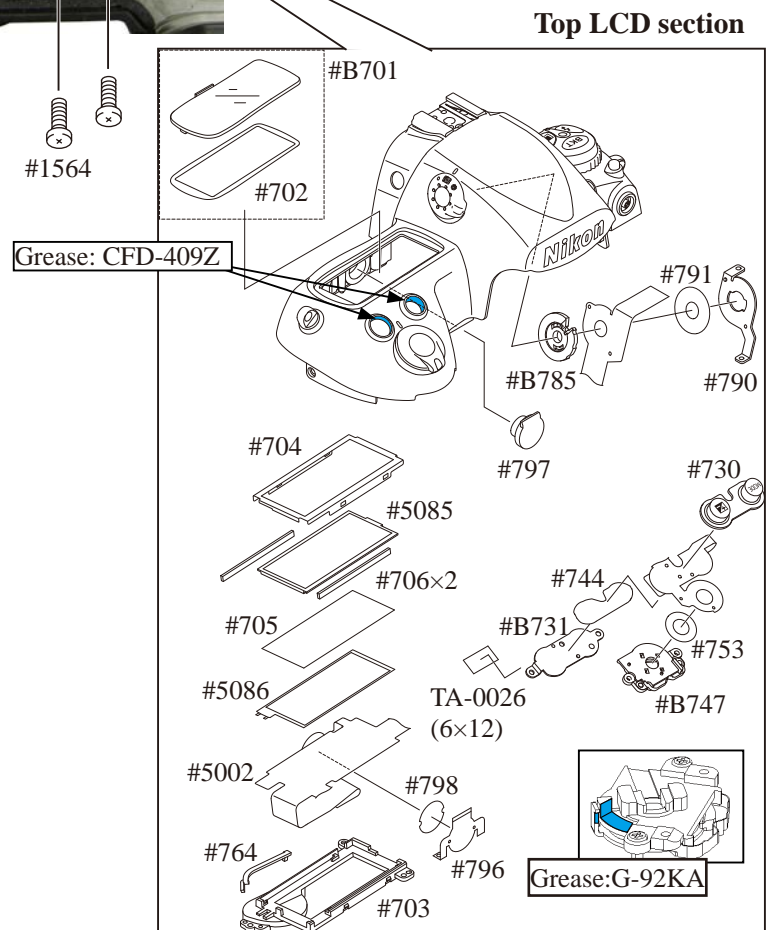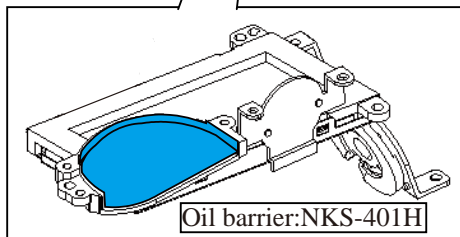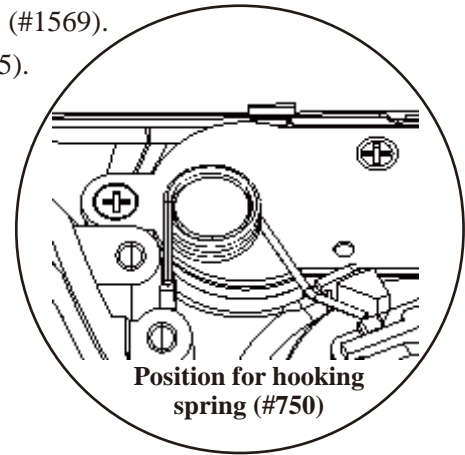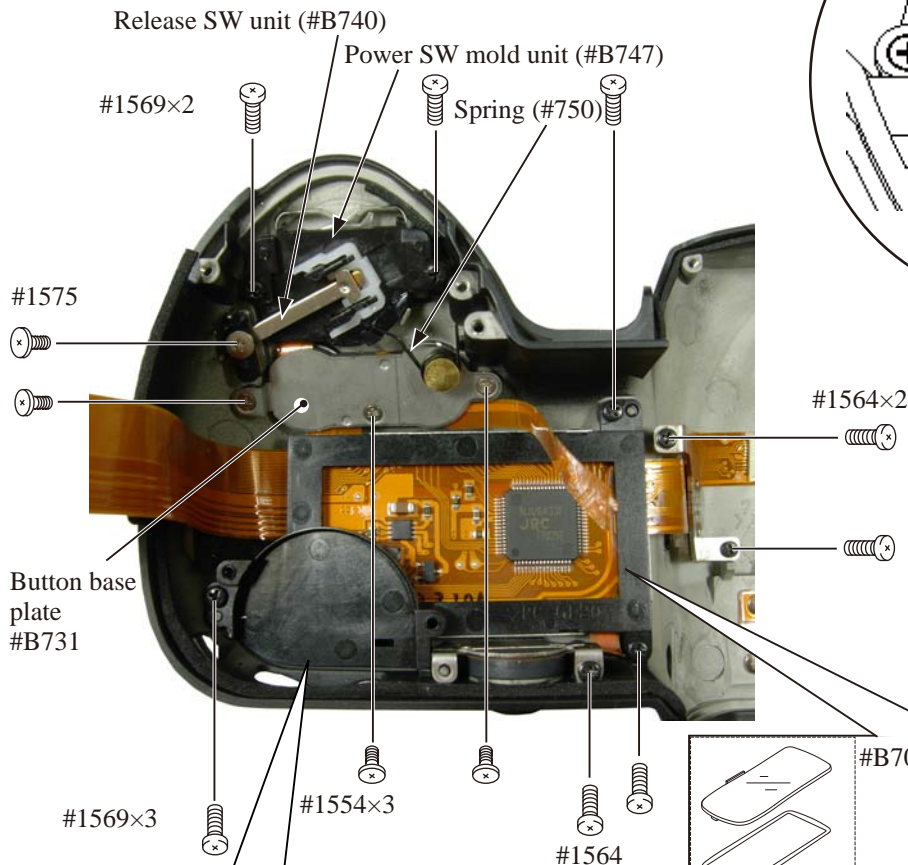
| Release-SW FPC / Main command dial unit/ Sub-command dial unit |

・ Mount the main command dial unit (#B726), and tighten two screws (#1558).

・ Mount the sub-command dial unit (#B725), and tighten two screws (#1569).

・ Attach the release-SW FPC (#5044).

・ Make three soldering bridges each at three places and nine soldering bridges as below.

Main command dial unit (#B726)

#1558×2

Soldering bridge×9

Soldering bridge×3

Release-SW FPC (#5044)

Soldering bridge×3

Soldering bridge×3

#1569×2

Sub-command dial unit (#B725)

| Sponge / Rubber |

#981

#982

#984

Nikon

Oil barrier:NKS-401H

#1195

#983

#985

Eyepiece cover section

#1149
#1137
Oil barrier:OS-30MEL
#1201
Grease:G-92KA
#1105
Grease:DN-352
#1145
#1144
#1152
#1147
#1202×2
#1146
Oil barrier:OS-30MEL
#B1141
#1151
#1604
#1206
#1551
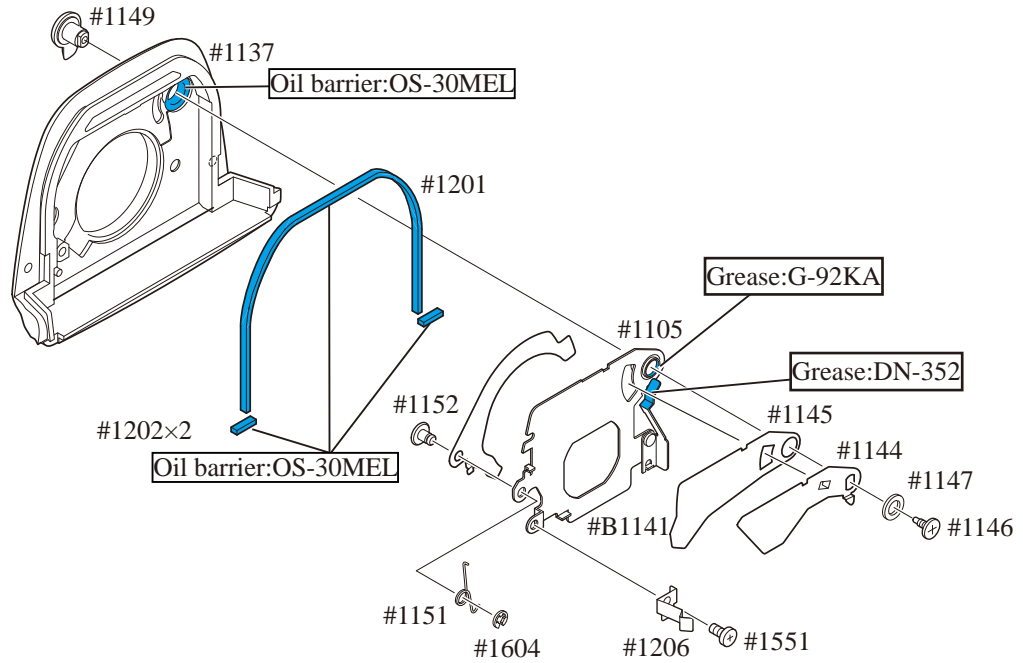
Temporary assembly of Top cover section

Assemble the top cover section temporarily when the parallax / SI adjustments are made.

・Connect the FPC of the top cover to the connector.

・Mount the top cover section.

・Tighten the screws (#1543 and #1519).
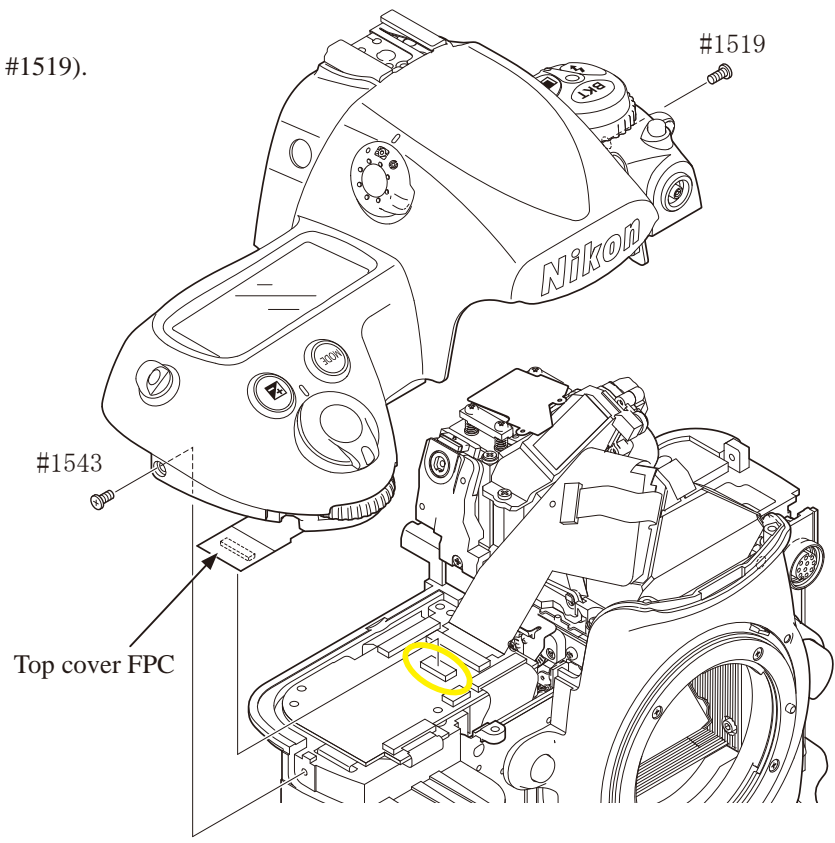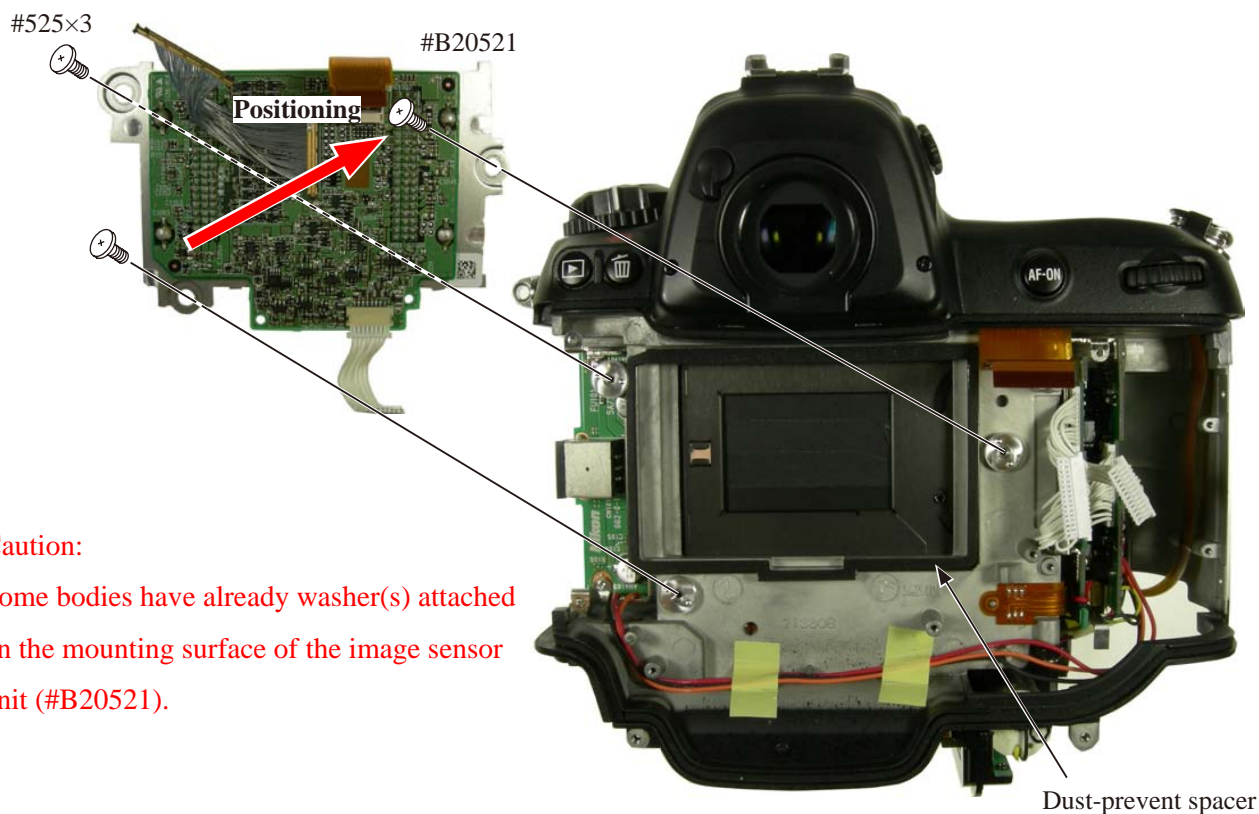
#1519

#1543

Top cover FPC

Image sensor unit

#525×3

#B20521

Positioning

Caution:

Some bodies have already washer(s) attached

on the mounting surface of the image sensor

unit (#B20521).

Dust-prevent spacer

DG-PCB

・ Put the backup battery box (#818).

・ Mount the DG PCB unit (#B5022RP).

・ Connect the battery box wire to the connector.

・ Connect four harnesses, and three FPCs to

  each connector.

・ Tighten the screw (#1533).

DG PCB unit （#B5022RP)

#1533

Battery box unit

#1536×2

#818
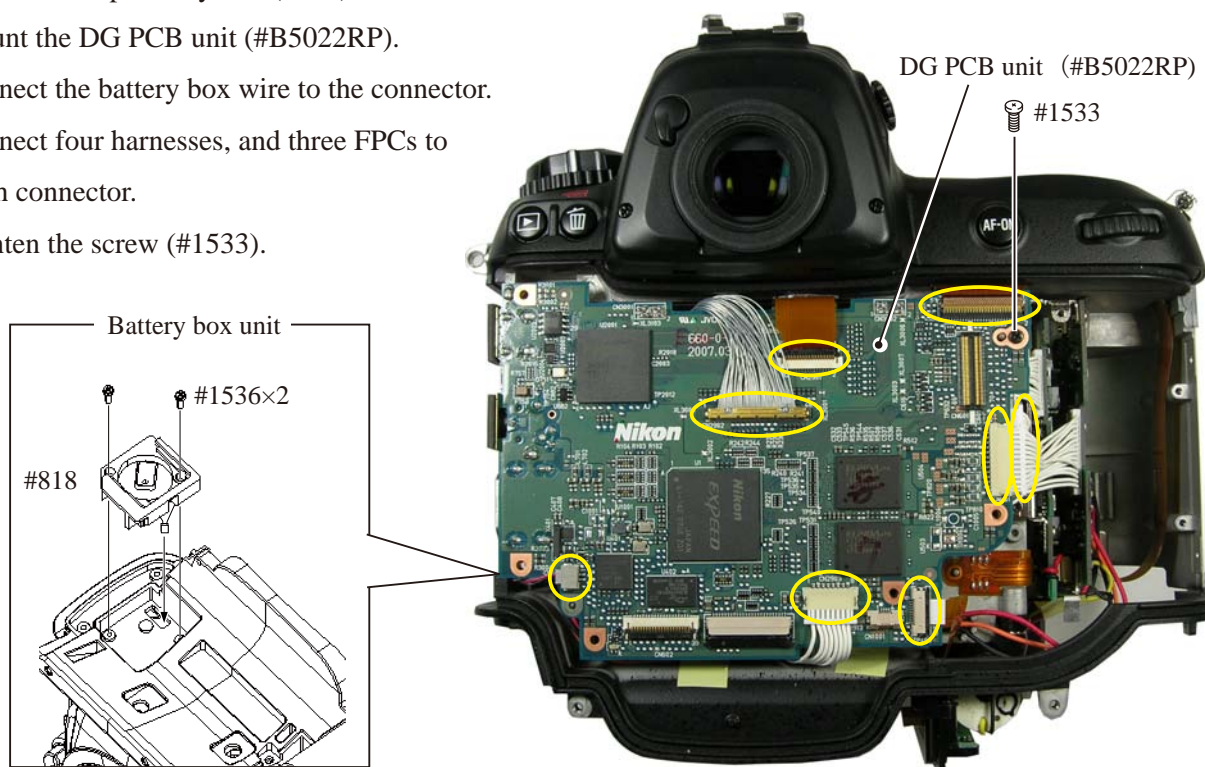
Shield plate\ CF PCB

・Mount the CF PCB (#5023).

・Tighten two screws (#1532).

・Connect the connection-FPC (#5049) to the connector.

・Mount the plate (#70).

・Tighten two screws (#1530).

・Mount the shield plate (#B531).

・Tighten five screws (#1533).

#5049

Shield lock

#1530

#70

#1532×2

Shield plate
#B531

CF PCB
#5023

#1533×5

#1530

Selector button unit\ Selector FPC\ others

#452

#468

#434×2

Grease:DN-352

#463

#435×2

#480

#475

#494×2

#430

#426

#493×2

#460

Adhesive: Quick drying glue

#469

#B482

#484

#485

#1593×3

Grease: G-92KA

#5034

#B467

#422

#470

#1589×3

Microphone\ Speaker\ Rear LED\ others

#453

#476

Grease: G-92KA

#1522×2

#B428

#437

Grease: G-92KA
※ Apply to the shaft.

Oil barrier: OS-30MEL
※ Apply to #B428 attaching position

Grease: G-92KA

#1603

#B439

A

#455

#1546×2

#464

#B5101

Oil barrier:NKS-401H

#B5102

#456

#457

#1590×2

A

#461

#1590×4

#B5033

#5087

#413

#1593

#1590×3

#570

#1590

#B478

#420

#458

CF cover section\ TFT monitor\ others

#B423

#477

#415

#455

Grease: G-92KA

#427

#1532×2

#431

#433

#B487

#487

#488

#425

#580

#1528×2

#424

#429

#5082

#432

#581

#436×4

Rear cover unit\ I/F cover

・Mount the I/F cover (#391).

・Tighten two screws (#1589) and one screw (#1548).

・Connect three FPCs to each connector.

・Mount the rear cover unit.

・Tighten two screws (#1512) and two screws (#1524).

Rear cover unit

#1524×2

#1589×2

#1548

#391

#1512×2
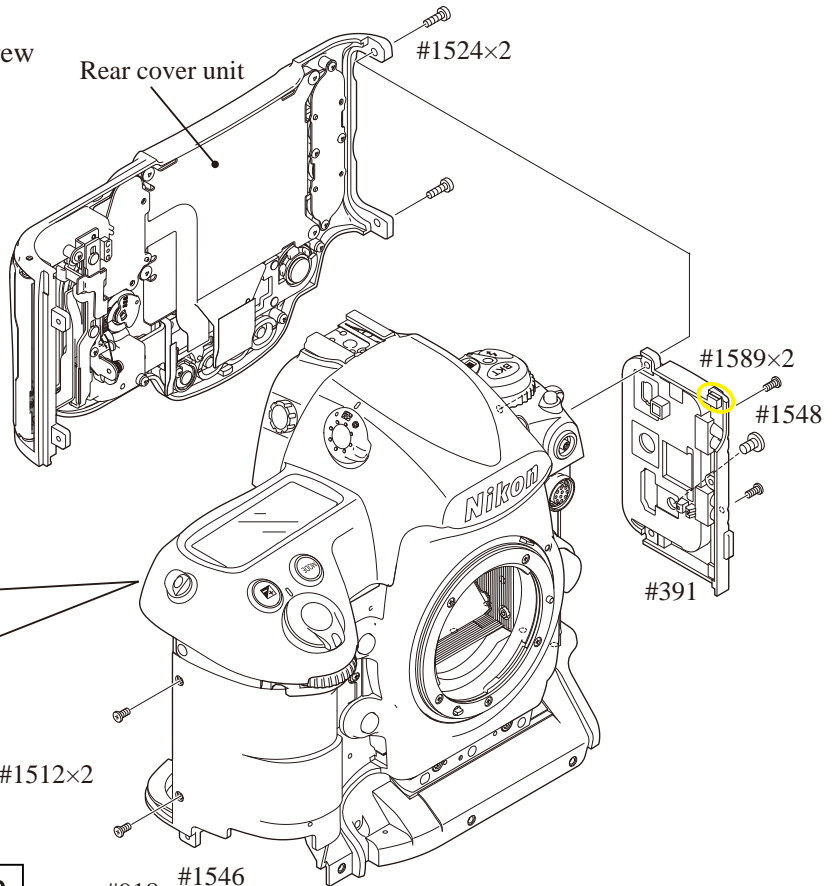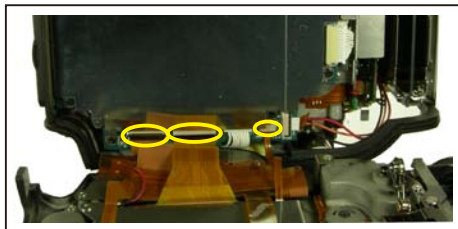
Vertical main command dial\ Vertical sub command dial\ others

Bended part must be put in the concave portion.

#918   #1546

#1570

#926

#1567×3

#1567×2

#B910

A

#925

#932   #1567×2

#1604

#933   #1591

Grease: G-92KA

#B923

#B921

#912

#25

#B28

A

Index

Align with "L".

#27

※ Dipping
Grease: G-92KA

#903

#911

#733

Grease: G-92KA

#1598×4

#936

#734

#901

Oil barrier : OS-30MEL

#937

- A 43 ・ D3 -
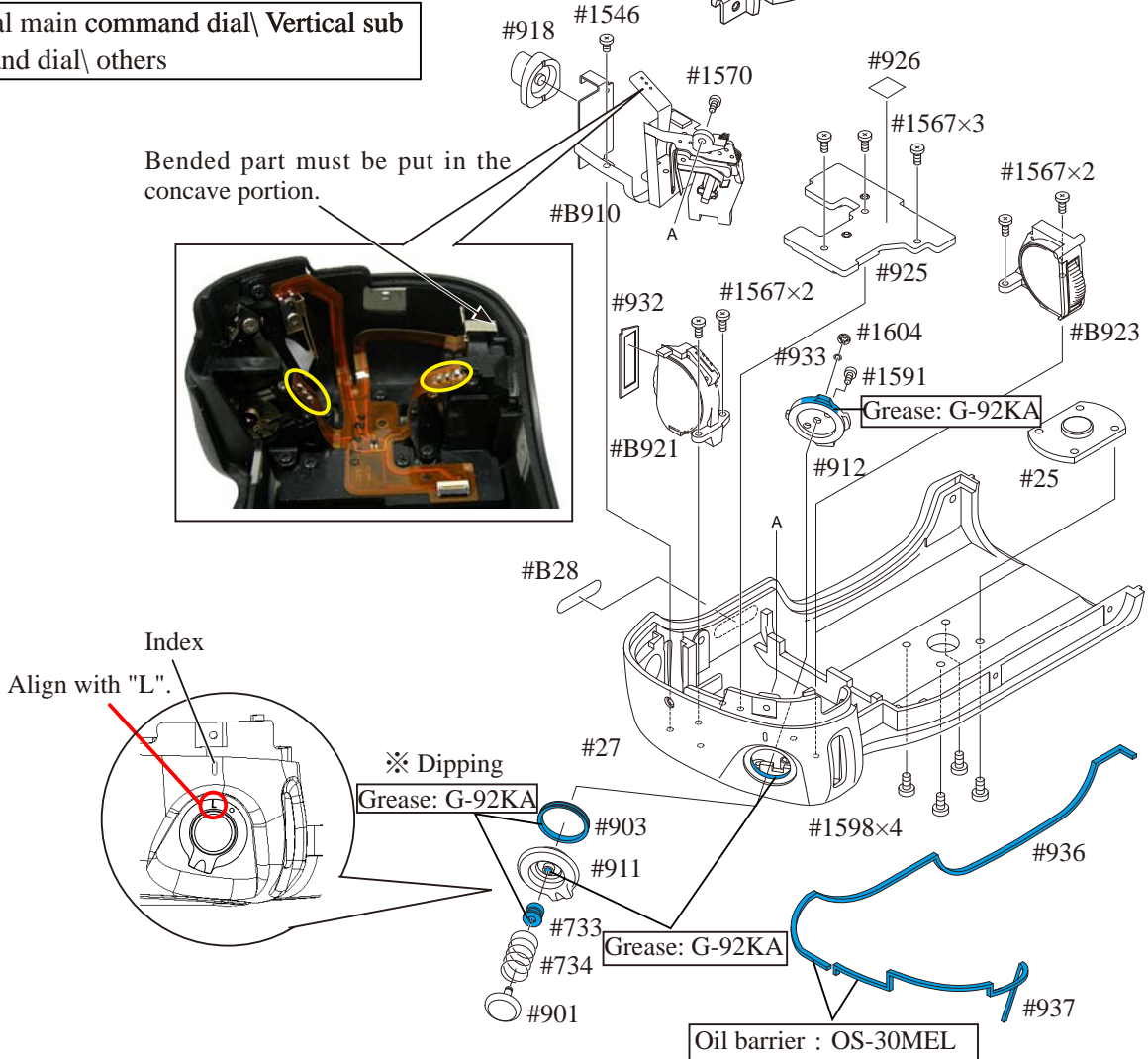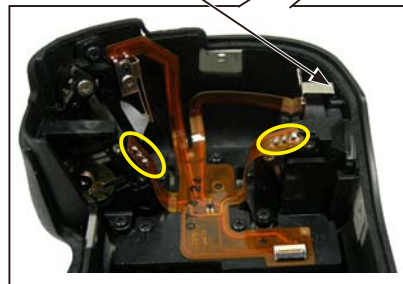
Bottom cover section

・Connect the FPC to the connector.

・Set the bottom cover unit.

・Tighten three screws (#1512) and three screws (#1516).

※ Be careful of the connection-FPC when connecting.

#1516×3

#1512×3
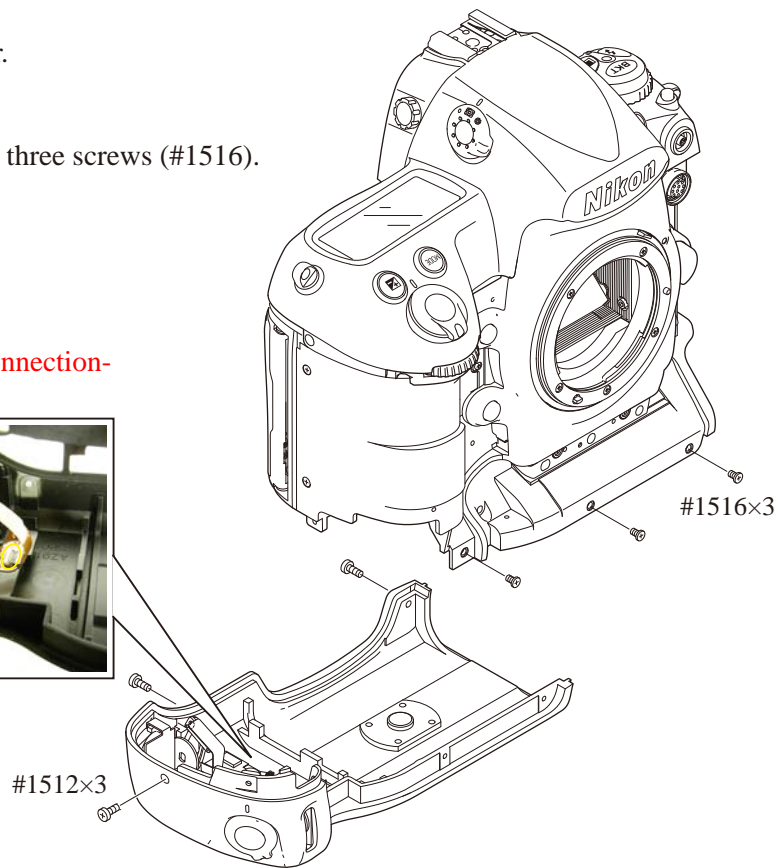
Battery cover unit\ others

#B804

Grease:CFD409Z
※ Dipping

#804

#808 #B806

#810

Grease: G-92KA

Grease:
G-92KA

#811 #809

#805

Adhesive: Super X

#1533×2

#813

#B282

#1600×2

#815

#830

#814

#1549×4

Grease:CFD409Z

Apply to the overall inside surfaces of the holes.
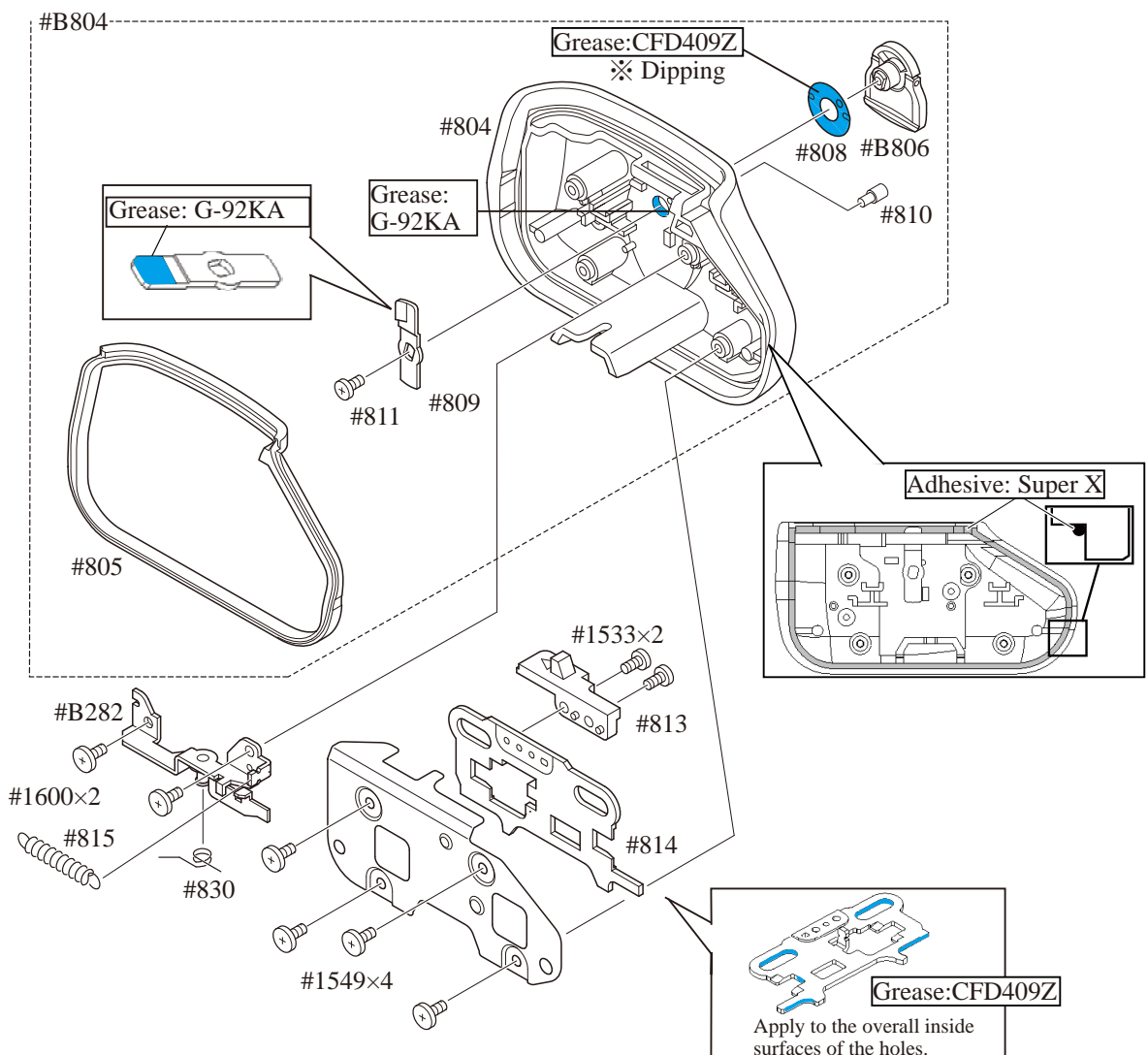
| Parallax inspection and adjustment |

Caution : When "Separate Penta-Prism box from Front body" is performed, be sure to make this adjustment.

Procedure

① Make a temporary assembly of the bottom cover.

② Insert the battery into the camera, and set the exposure mode to "P".

③ Turn the power SW to OFF, and remove the battery.

④ Remove the FPC of the top cover, then remove the top cover from the body.

Caution: At this moment, if the FPC of the top cover is removed with the battery being inserted, the power

transistor, etc, of the DC/DC2 may be burned out.

⑤ Attach the parallax/SI chart for D3 (J63102) on the wall, etc.

⑥ Insert the CF card and battery into the camera, and mount the lens (AF 50/1.4D).

⑦ Position the camera body 70 cm-distance away from the parallax-inspection chart for D3 (J63102) by using

the tripod, etc.

⑧ Set the optical axis of lens to come in the center of the chart.

⑨ Take a shot of the chart by vertical-shooting shutter button, and display it on the TFT monitor to fine adjust

the camera position so that all four sides of the 98 % chart frame can appear on the monitor.

⑩ Look through the viewfinder. In order to meet the standard, the clearance between the 100 % frame and 98

% frame of all four sides must be seen.

【Out-of-standard case】

⑪ Remove the battery.

⑫ Remove the two FPCs. Loosen the four screws of the prism box, then move the prism box so that the four

sides in the viewing field of the finder come in between the 100% chart frame and 98% chart frame.

⑬ Tighten the loosened four screws.

⑭ Check the angle of view of the viewfinder.

⑮ Connect the removed FPC.   Insert the battery into the camera, and take a shot of the chart again by the

vertical-shooting release button. Confirm that the camera body does not move.

⑯ If it moves, make the adjustment from the procedure of ⑧ .
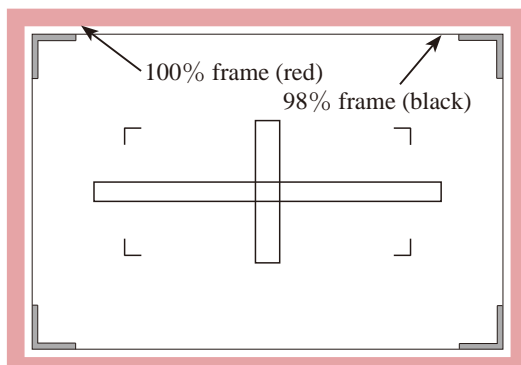
Parallax / SI chart for D3 (J63102)
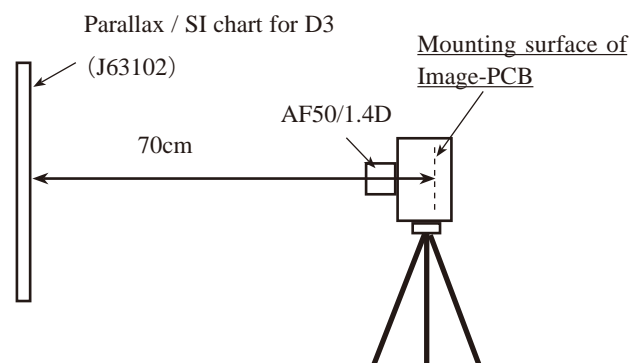
Position adjustment of SI (super impose) unit

Caution: Whenever the SI unit is removed, be sure to make this adjustment.

Procedure

① Insert the battery into the body, and press the shutter release button for vertical shooting halfway.

② While half-release timer is working, looking through the viewfinder, press the multi-selector button of the rear cover from right to left or up and down, in order to check lighting condition of each focus frame.

③ Prepare settings as shown on Page A38, and looking through the viewfinder, adjust so that the clearance between the 100 % frame and 98 % frame of all four sides can be seen.

④ Based on the procedure of ② , light the center focus frame and adjust it so as to be positioned in the central frame of the parallax/SI chart for D3. Then tighten the two adjustable screws.

⑤ Confirm that the central focus area is in the chart frame, and adhere the area to be jointed.

100% frame (red)

98% frame (black)

Focus frame in center of Viewfinder

Parallax / SI chart for D3 (J63102)

Parallax / SI chart for D3

(J63102)

Mounting surface of Image-PCB

AF50/1.4D

70cm

Adjustable screw   Adjustable screw

Adhesive:Quick drying glue

Joint
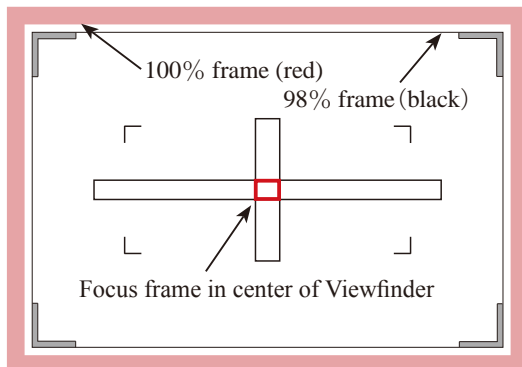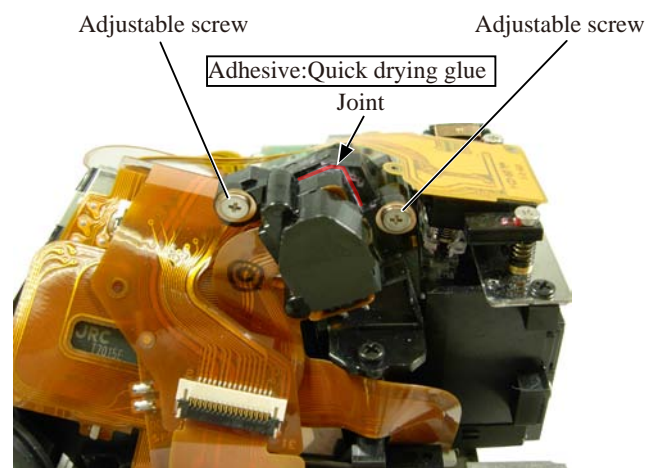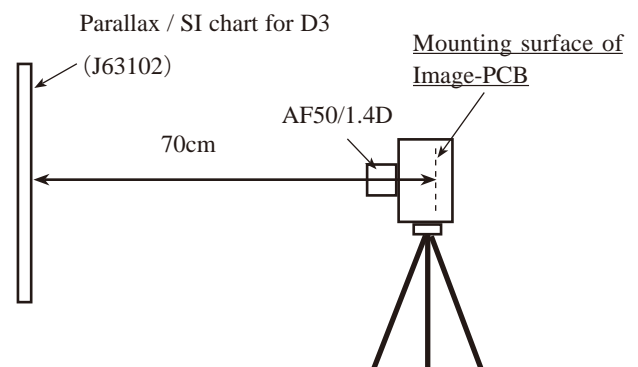
Camera body AF adjustment (other than imaging-related)

| AF inspection and adjustment |

Caution: When using the adjustment software for the first time, prepare three cameras of D3 and measure by "WRITING of AF ADJ. LENS OFFSET VALUE" on the main menu.

① AF accuracy inspection & adjustment (Make the overall adjustment.)

《J15259》 AF adjusting tool, 《J15264》 Chart illuminator for AF, 《J18266》 AF adjustment lens

《J15271》 Adapter for tripod, 《J15280》 Lens holder for F4

《J15407》 AF chart   Caution：《J18415》 "AF accuracy measuring chart (D40)" is not available.

《J15409》 J15407-use chart board

1. YAW, PITCH inspection & adjustment ①

2. X-position inspection & adjustment

3. YAW, PITCH inspection & adjustment ②

4. XY inspection adjustment

5. LARK adjustment

6. AF shift adjustment

XY Inspection and Adjustment

Caution : Before this adjustment, be sure to make the parallax inspection & adjustment and the position adjustment of SI unit.Whenever the AF sensor unit is disassembled/replaced or the penta-prism unit is disassembled or the mirror angle is adjusted, be sure to make this adjustment.

Mount the front body on the rear body temporarily with six screws.

Connect the three FPCs.

Connect the RS232C (MC31 cable) and AC adapter to the body, and make the YAW/PITCH adjustment ① .

Using the XY chart and following the instructions about the XY adjustment of the adjustment software, make the following adjustment.

【Procedure】

1 . Set the X chart.

2 . Read the degree of rotation of the X-adjustment screw by the X-position inspection & adjustment.

3 . Remove the front body, and loosen the four screws that fix the mounting plate.

4 . Turn the X-adjustment screw through the degree of rotation which was read by ② , then, apply the screwlock to this screw.

5 . Tighten the four screws to fix the mounting plate.

6 . Mount the front body on the rear body temporarily. Repeat the procedure from 2 . to 5 . until the result becomes within standard. (Usually, the result meets the standard only once.)

7 . When the adjustment is completed at 6 ., make the YAW/PITCH inspection & adjustment ② .

8 . Make the XY inspection and adjustment.

9 . Make the LARK adjustment.

#1526×3
Mounting plate fixing screw

#303 Mounting plate fixing screw

Adhesive:screwlock
X-adjustment screw
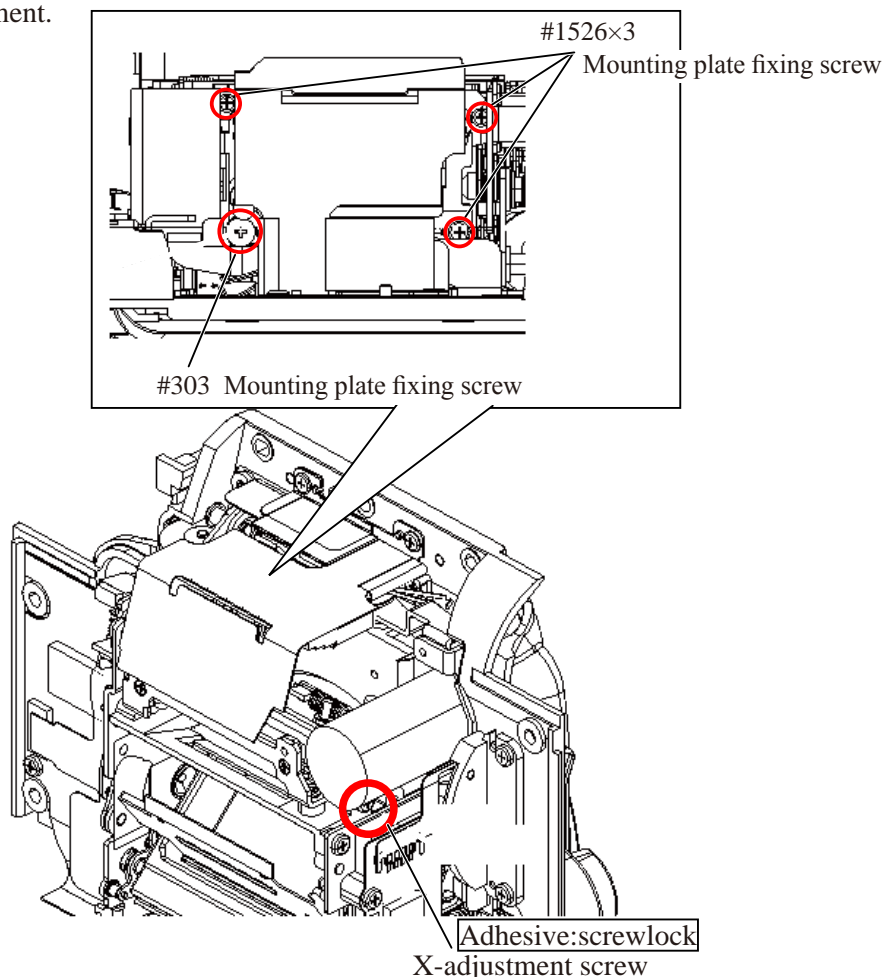
Connection-FPC unit

・Connect the connection-FPC to the connector.

・Solder the two wires (that are connected from
  DC/IN).

Black:DC/IN
Orange:DC/IN

Connection-FPC

Top cover section

#1137×2
Eyepiece block unit (#B1137)
#1519
#1121
#1568
#1130
#1510
#1543
Top cover FPC
#1538
#1518×2
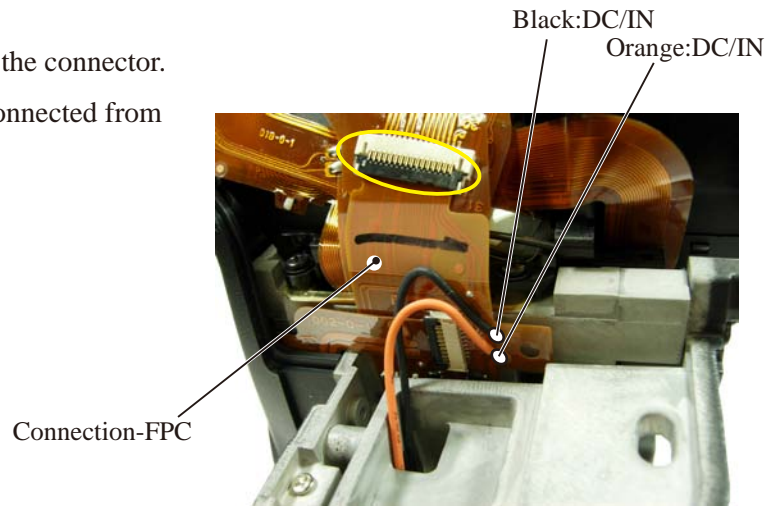
・Mount the eyepiece block unit
  (#B1137).
・Connect the top cover FPC to the
  connector.
・Tighten each screw (#1543,
  #1538, #1519, and #1510), two
  screws (#1518), and two screws
  (#1137).
・Put the diopter adjustment knob
  (#1121).
・Tighten the screw (#1568).
・Attach the diopter adjustment
  knob cover (#1130).
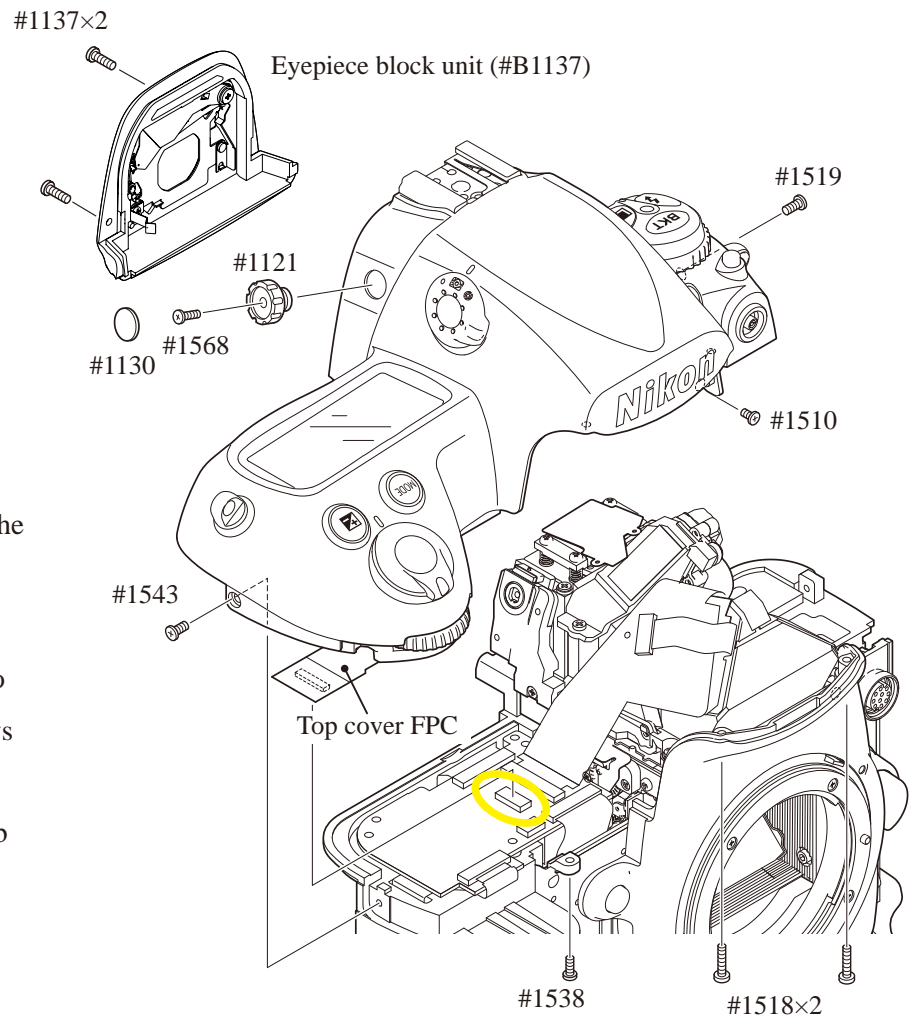
External rubber

・Attach the grip rubber (#B60), apron lower rubber (#B66), and connector side rubber (#B61).

#B61

#65

#62

#B66

#B60
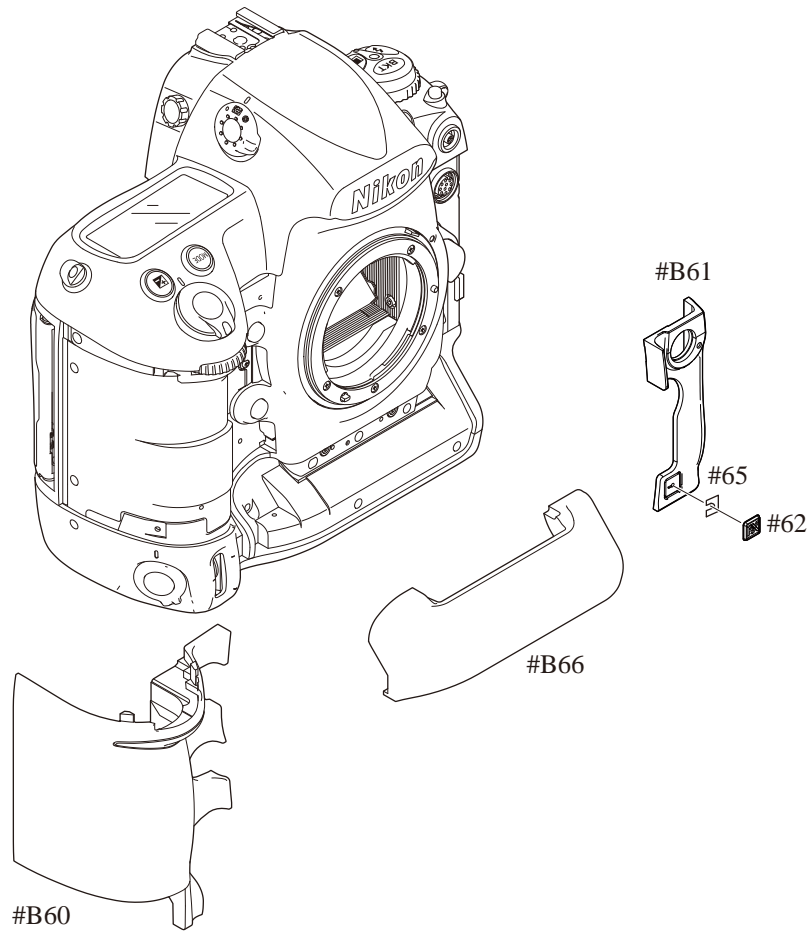
Shooting-image Adjustment

1. Summary

When the D3 shooting image-related and listed parts on Page A52 are replaced, be sure to make this adjustment by the shooting image adjustment software for D3 (J65106).

Get the reference values beforehand by using the reference body, then make this adjustment.

Make all of the adjustment items in numeric order. They are programmed to perform continuously, so when one item is completed, the software automatically moves on to the next item.

If the adjustment is interrupted by "NG", the adjustment item can be restarted halfway from the "NG" item, and the adjustment of items which ended with "OK" have been completed.

2. Adjustment software function

(1) Gain difference adjustment among channels

(2) Stitching adjustment

(3) "Sensitivity" adjustment

(4) Shading adjustment

(5) Gr/Gb compensation adjustment (R/B filter) / Line crawl adjustment

(6) "Sensitivity ratio" adjustment

(7) "Sensitivity" / "Sensitivity ratio" adjustment

(8) Pixel defect compensation - black point

(9) Pixel defect compensation - white point

Tilted sensor inspection & adjustment

TFT adjustment

Obtain reference value

Initial settings (factory default settings)

Confirm data

Version No./ Serial No.

※ When the adjustments from (3),(6), and (7) are made, get the reference values beforehand by using the (D3) reference body, then perform the adjustments.

3. Hardware requirements

    OS :   Windows2000, WindowsXP, Windows VISTA
                Japanese or English OS
    PC : CPU   Pentium Ⅱ or more
                Memory   256MB or more
                USB1.1 or 2.0
    Screen size: 1024×768 pixels or more

4. How to set up

Create "C:\DeskTopLauncher\D-SLR\D3IMGIMG" folder is created in the hard disc of PC, so copy "PD3IMG. EXE".   This file is an self-extracting file, so decompress it in the created folder.

※ Be sure to copy the above file in the same directory.   Note that the adjustment can not be made except in the above folder.

Image-related

	Serial no. input *3	QR code input *3	Gain diff. adj. among Channels	Stitch-ing adj.	Sensi-tivity adj.	Shad-ing adj.	Gr/Gb comp. adj.	Sensi tivi ty ratio	Sensi-tivity/Sensi-tivi-ty ratio adj.	Pixel defect comp. Black	Pixel defect comp. White	Tilt sensor ins.adj.	TFT-adj.	Factory default setting	Ver. No/ Ser. No
Main PCB															
DC/DC1															
DC/DC2															
AE FPC unit															
*1,*2 DG-PCB	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	
Image sensor unit *2		◯	◯	◯	◯	◯	◯	◯	◯	◯	◯				
LCD monitor													◯		
License sheet															◯

*1. When the DG-PCB unit is replaced, be sure to update the firmware before adjusting Image-related section.

*2. When the DG-PCB unit or the image sensor holder unit is replaced, take a picture of the QR code area before assembly. Then when the adjustment is made, read the QR code with the barcode reader based on the image adjustment software, and input the data.

*3. There is no menu screen, but when "Gain difference adjustment among channels" is performed, the serial number and QR code data can be input by selecting whether to replace the PCB/base plate or not.

Required device and conditions

※ AC adapter EH-6 and USB cable (mini B type) UC-E4 are used for all adjustments so they are not particularly mentioned in the list.

※ For 5100K color viewer, ex-model viewer (J63049) is also available.

※ For color viewer/shutter tester, use luminance meter MB-3000 (J63068).

	Item		Required device/condition					
			Color viewer【J63070】	Shutter tester【J19123】	Tool lens（fixed aperture)【J61185】	ND filter (using commercial product)【J18191】【J18358】	Color filter【J63085】【J63086】【J63087】	Others
1	Gain dif. adj.among channels		LV13	-	F5.6	ND4×2	-	
2	Stitching adjustment		-	LV12	F1.4 F8	-	-	
3	Sensitivity adj.	ISO200-800	LV13	-	F5.6	ND8×2	-	
		ISO900-6400	LV13	-	F5.6	ND8×2 ND4×1	-	
4	Shading adjustment		-	LV12	F8	-	-	
5	Gr/Gb compensation adjustment		LV13	-	F5.6	-	SP1 (B) SP3 (R)	
6	Sensitivity ratio adjustment		-	LV9	F5.6	-	-	
7	Sensitivity/sensitivity ratio adjustment		LV13	-	F5.6	-	-	
8	Pixel defect compensation	Black	LV13	-	F5.6	-	-	
9		White	-	-	-	-	-	Body cap or lens cap, Environmental temperature approx. 20 - 25℃
10	Tilt sensor inspection and adjustment		-	-	-	-	-	F50/1.4D lens, Tilted sensor checking chart
11	TFT adjustment		None					
12	Obtain reference value		Same as 3 (ISO200), 6, 7					
13	Initial settings (factory default settings)		None					
14	Confirm adjusting data		None					
15	Version No./ Serial No.		None					

● Writing of the image sensor unique data

Based on the procedure of the image adjustment software, read the shot QR code on the playbacked screen with two-dimensional barcode reader and write the image sensor-unique data into the DG-PCB. Set the settings of the two-dimensional barcode reader. (ref. Page 58)

※ BEFORE assembly, take a picture, with a digital camera, of the QR code that is attached to the FPC of the image sensor holder unit.

・When the image sensor holder unit is replaced, or the DG-PCB unit and the image sensor holder unit are replaced, take a picture of the QR code of the image sensor of RP.

・When the DG-PCB unit is replaced, take a picture of the QR code of the image sensor holder unit that is attached to the body.

【Shooting condition】

Compact digital camera is used:

- ・Quality: FINE
- ・Size: 3M
- ・Shooting mode:BSS
- ・AF mode: Closeup mode
- ・SB mode: Flash cancel
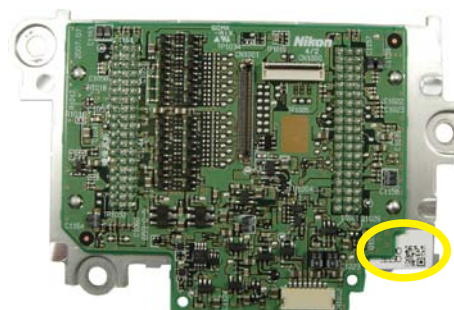
【How to confirm】

＊ Perform "QrReader (J65096)". Play back the image of the shot QR code, and confirm that reading of the QR code on the playback screen can be read out with two-dimensional barcode reader. (Page A58- 60)

(1) Gain difference adjustment among Channels

Camera is faced to the color viewer (LV13 equiv.) with ND filter (-4 steps) being put between them. Change the adjustment gain value to even out variation among channels.

However, when the below PCB(s) is/(are) replaced, follow each instruction before this and subsequent adjustment.

・When the DG-PCB is replaced:

Input the serial number of the body.

・When the DG-PCB or image-PCB is replaced:

With the QR barcode reader, read the bracket number of the image-PCB, and write the corresponding data into the DG-PCB. The data will be added every two weeks (e.g. "D3_0001.csv", "D3_0002.csv"...; "0001", "0002" means file number).

(2) Stitching adjustment

When the image pickup device is created, the stepper performs multi-zone exposure to create it, and this adjustment is made so as to even up a difference among zones. Using the shutter tester (L12), the adjustment is made with the tool lenses (F1.4 and F8).
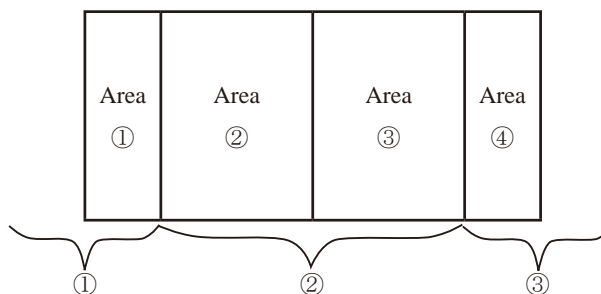
(3) Sensitivity adjustment

Under condition of ISO200 and ISO800, the camera is faced to the color viewer (LV13 equiv.) with ND filter (-6 steps) being put between them. Using the tool lens (F5.6), the adjustment is made by changing the ampgain so that G output can fall in the standard range. The gain value is adjusted so that the G output average value (Average of Gr/Gb) of (425×425 pixels), which was deviated from the center by 425 pixels, can reach the target output level. By this sensitivity adjustment, the gain difference adjustment among channels is automatically made.

Next, under condition of ISO6400, the camera is faced to the color viewer (LV13 equiv.) with ND filter (-8 steps) being put between them. Using the tool lens (F5.6), perform the same adjustment as the above.

(4) Shading adjustment

Using the shutter tester (LV12) and the tool lens (F8), the adjustment of white balance distribution is made for 3 areas [Area ① : Central 2128×1416-pixel area; Area ② : All the divided areas except ③ -areas after dividing (4266×2842-pixels) into (29×25-pixels); Area ③ ; 4 corners of (4×6-pixels) after dividing (4266×2842-pixel) into (29×25-pixels)].
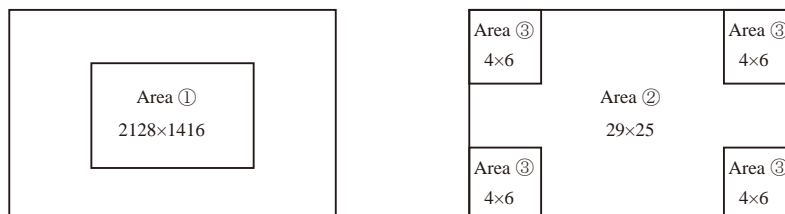
(5) Gr/Gb compensation adjustment (R/B filter) - Line crawl adjustment

Using the tool lens (F5/6), the camera is faced to the color viewer (LV13 equiv.) with SP3 (R filter) or SP1 (B filter) being put between them, and the adjustment is made so that the difference in G output average between B-G line and G-R line when the whole screen is divided in areas, can fall in the standard range.

(6)Sensitivity ratio adjustment

Using the shutter tester (LV9 equiv.) and tool lens (F5.6), the adjustment is made so that the R/G, B/G output becomes the same as the output ratio of the sensitivity ratio reference value that was calculated by the reference body. The adjustment is made only under the condition of ISO200, and the average value of (425 pixels × 425 pixels) which was deviated from the center by 425 pixels is used.

(7) Sensitivity/sensitivity ratio inspection
△ (Revision) <u>color viewer</u>
Using the ~~shutter tester~~ (LV13 equiv.) and tool lens (F5.6), inspect whether a difference from the reference body is in the range of standards.

(8) Pixel defect compensation - black point
△ (Revision) <u>color viewer</u>
Using the ~~shutter tester~~ (LV13 equiv.) and tool lens (F5.6), pictures are taken. When pixels of which the output level is under specified value are detected, the coordinates of the detected pixels are additionally written as pixel defect compensation data.

(9) Pixel defect compensation - white point

Pictures are taken on the blackout surface (against dark background). In case the pixel output is found to be beyond the standard value, the detected pixel coordinates are additionally written as the pixel defect compensation data.

(10) Tilted sensor inspection & adjustment

This checks whether the indications of the virtual horizon display of the camera match the shot image, and make necessary adjustments.

SETUP

① Place the tilted sensor checking chart.

   [Enlarge a A4 (size) chart of the repair manual with a copier to become A3 (size), and use it.]

② Attach the AF50/1.4D lens to the camera. Set AF mode to "M", focus ring to "0.7m".

③ Set the camera in front of the chart approx. 0.7m-distance away.

④ Check the virtual horizon display, and place the camera at the horizontal position.

   Make the inspection by start button, while make the adjustment by adjustment button.

Tilted sensor checking chart

Mounting surface of Image-PCB

AF50/1.4D

approx. 0.7 m
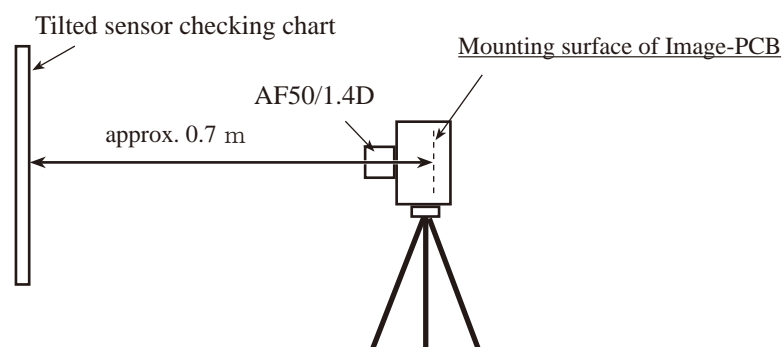
(11) TFT adjustment

Flickering, color and luminance of TFT are adjusted.

※ Whenever the DG-PCB or TFT monitor are replaced, be sure to perform "WRITING THE TFT FIXED VALUE."

Hue adjustment

Usually default value is set and adjustment is not necessary.

If some problem is found with hue by visual check, adjust and correct it by "+/-" button.

Brightness adjustment

Usually default value is set and adjustment is not necessary.

If some problem is found with brightness by visual check, adjust and correct it by "+/-" button.

(12) Obtain reference value
・Sensitivity reference value calculation

On condition of ISO200, using the tool lens (F5.6), the reference body is faced to the color viewer (LV13 equiv.) with the ND filter (-6 step) being put between them. Then, the G output average value of (425 pixels × 425 pixels), which was deviated from the center by 425 pixels, is stored in the D3BSD.DAT file as the sensitivity reference value.

・Sensitivity ratio reference value calculation

Using the tool lens (F5.6), the reference body is faced to the shutter tester (LV 9 equiv.). Then, the sensitivity ratio reference value GR and GB are calculated and stored in the D3BSD.DAT file, based on the G/R/B output average of (425 pixels × 425 pixels), which is deviated from the center by 425 pixels.

・Sensitivity/sensitivity ratio reference value calculation

Using the tool lens (F5.6), the reference body is faced to the color viewer (LV 13 equiv.). Then, measure the level of sensitivity and sensitivity ratio, and the result is stored in the D3BSD.DAT file.

It is necessary to calculate the reference values in order to prevent the color temperature fluctuation caused by the shutter tester or color viewer's changes over time from affecting the results of the shooting image adjustment. By using the reference body, calculate the reference values once in about every 3 months, when either of the fluorescent of the color viewer or tool lens (F5.6) or ND filter (ND8X2) is replaced.

(13) Initial settings (Factory default settings)
This restores factory default settings. Select the language and video mode. Because this setting of RP DG-PCB is blank, be sure to set the initial default setting when the DG-PCB is replaced.

(14) Confirm data
Saving/restoring of the system fixed values, image register, TFT register, EEPROM1, 2, 3.
The functions of saving/restoring each data is for sending backup data to Service Planning for analysis, if some problem occurs.

(15) Version No./ Serial No.
RISC firmware version and serial number are indicated. Serial number can be written.
※ Whenever the license sheet is replaced, be sure to input the serial number.

Setting of two-dimensional barcode reader

・Insert the two-dimensional barcode reader
  into the USB terminal.
・Read the bar codes shown below.

Reference:

To avoid reading errors, use a masking sheet of the left picture, which is supplied with a two dimensional barcode reader.

Barcode	Label
~ D E F A L T .	全ディフォルト
~ T E R M I D .	ターミナル ID 設定開始
~ K 1 K	
~ K 3 K	USB バーチャル COM インターフェイス
~ K 0 K	
~ M N U S A V .	ターミナル ID 設定終了

・After the reading, the dialog box that shows the new hardware is recognized will be displayed.
・Click "Next".
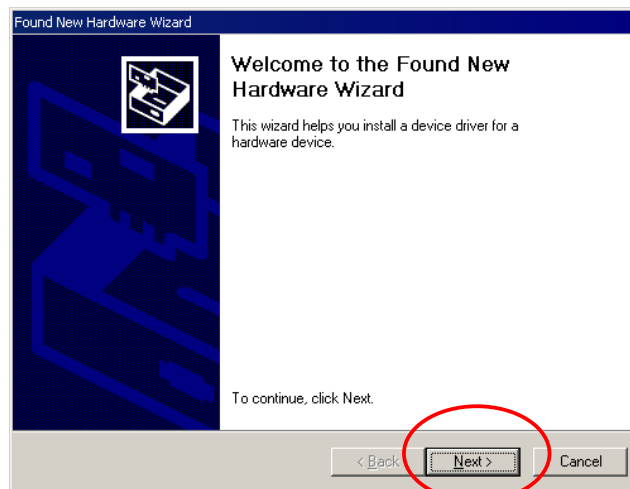
・Insert the CD-ROM which is supplied with a two-dimensional barcode reader into the PC.
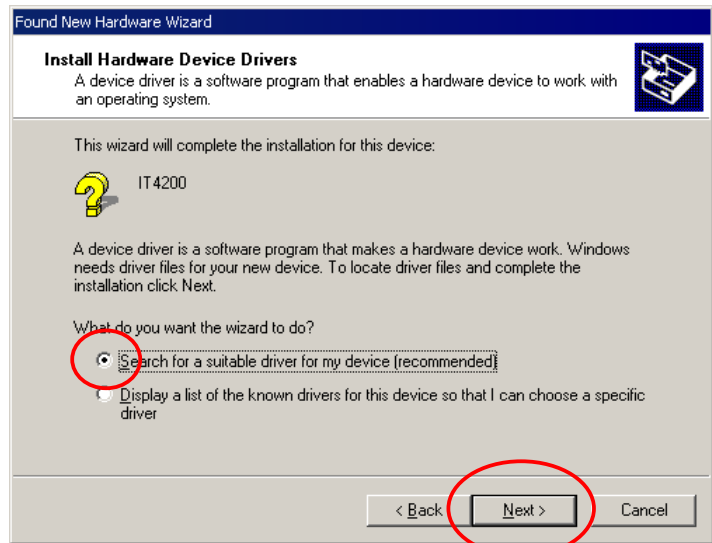
・Insert the CD-ROM which is attached
to the two-dimensional bar code reader
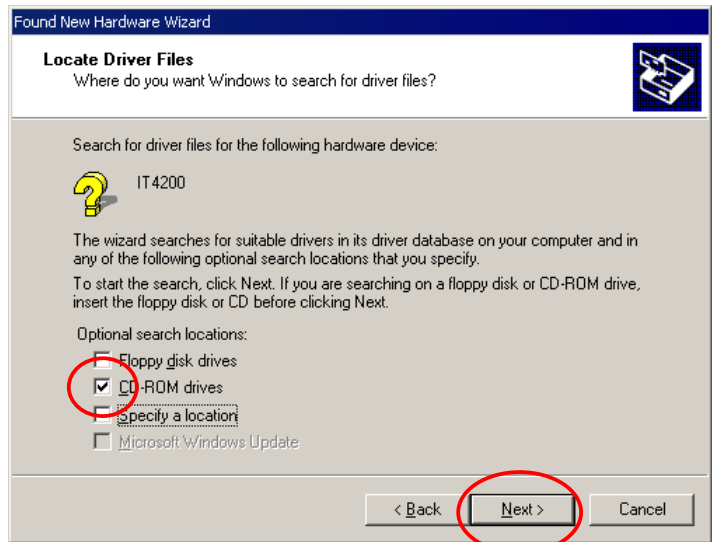
・Click "Finish" and take out the CD-ROM from the PC.
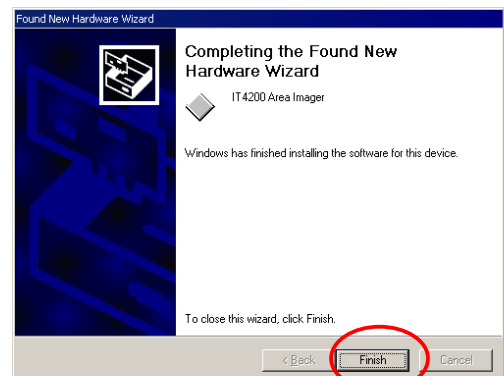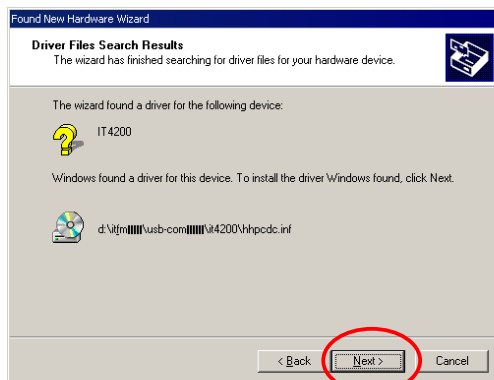
・Open **"Device Manager"** and confirm the port setting.

Click the right mouse button on **"My Computer"**. Then, select the items in the following order:

[Properties] → [Hardware] → [Device Manager].

Note:The port setting differs depending on the PC environment.

e.g. Setting to COM4

COM number differs depending on the PC environment.

・Set the same port as confirmed by the device manager.

INC
VBA18001-R.2719.A

上カバー
TOP COVER

前ボディー
FRONT BODY

D3 実体配線図
D3 WIRING

— E1・D3 —

後ボディー
REAR BODY

CONNECTED WITH
SOLDERING BRIDGE
半田ブリッジ接続
5011

5055
CONNECTED WITH
SOLDERING BRIDGE
半田ブリッジ接続

5110
シーケンスPI2
SEQUENCE PI2

5056
SEQUENCE PI1
シーケンスPI1

5110

シャッター
モニターPR
5111 SHUTTER MONITOR PR

半田ブリッジ接続
CONNECTED WITH
SOLDERING BRIDGE

5010

SHUTTER UNIT
シャッターユニット
Red
Black OPENING CURTAIN Mg
先幕Mg
Green X接点SW
X CONTACT SW
Blue 後幕Mg
CLOSING CURTAIN Mg
5047
CHASSIS GND
シャーシーGND

CONNECTED WITH THIS CONNECTOR(LOWER CONTACT) コネクタ接続(下接点)
FROM #5009(FRONT PLATE FPC) #5009(前板FPC)から

CONNECTED WITH THIS CONNECTOR(BOARD TO BOARD)
コネクタ接続(Board to Board)

#5002(上カバーFPC1)からFROM #5002(TOP COVER FPC1)

FROM #5005
(METERING FPC)
#5005(測光FPC)から
コネクタ接続(下接点)

#5030(接続FPC1)から
FROM #5030
(CONNECTED FPC1)
CONNECTED WITH
THIS CONNECTOR
(LOWER CONTACT)

5001

CONNECTED WITH
THIS CONNECTOR
(LOWER CONTACT)

コネクタ接続(下接点)

CONNECTED WITH
THIS CONNECTOR
(LOWER CONTACT)
5047

5050
コネクタ接続(下接点)

5065

6005

CONNECTED WITH
THIS CONNECTOR
(LOWER CONTACT)
コネクタ接続(下接点)

IMAGE SENSOR ELEMENT
5081 撮像素子

5021

BACK SIDE:PARTS LOCATION'S DIAGRAM
FACE SIDE:PARTS LOCATION'S DIAGRAM

CONNECTED WITH
THIS CONNECTOR
コネクタ接続

5022

CONNECTED WITH
THIS CONNECTOR
コネクタ接続

CONNECTED WITH
THIS CONNECTOR
(Board to Board)
コネクタ接続
(Board to Board)

5049

コネクタ接続(下接点)

5023

CONNECTED WITH
THIS CONNECTOR
(LOWER CONTACT)

CONNECTED WITH
THIS CONNECTOR
コネクタ接続

6001

6002

5019

CONNECTED WITH
THIS CONNECTOR
(LOWER CONTACT)
5059

CONNECTED WITH
THIS CONNECTOR
(UPPER CONTACT)

CONNECTED WITH
THIS CONNECTOR

BATTERY BOX
電池ボックス
ボタン電池
BUTTON BATTERY
5103

裏面 Black
Red
REVERSE SIDE
6004

6003

5020

5048
コネクタ接続

CONNECTED WITH
THIS CONNECTOR

CONNECTED WITH
THIS CONNECTOR
(LOWER CONTACT)
コネクタ接続

5033
CONNECTED WITH
SOLDERING BRIDGE
⚠ 半田ブリッジ接続

CONNECTED WITH
THIS CONNECTOR
(UPPER CONTACT)
コネクタ接続(上接点)

5034

縦位置メインコマンドダイヤル
VERTICAL POSITION
MAIN COMMAND DIAL

CONNECTED WITH
THIS CONNECTOR
(LOWER CONTACT)
コネクタ接続(下接点)

5045

縦位置サブコマンドダイヤル
VERTICAL POSITION
SUB COMMAND DIAL

TO #5031(CONNECTED FPC2)
#5031(接続FPC2)へ

6021 6020

5101
スピーカ
SPEKER
Red
Black

CONNECTED WITH
ZEBRA PRESSURE
WELDING
ゼブラ圧接接続

5102
マイクロホン
MICROPHONE

CONNECTED WITH
SOLDERING BRIDGE
半田ブリッジ接続

5087

5088

5082

6019 6018

5024

5053

POWER TR
パワーTR
シーケンスモーター
5115

SEQUENCE MOTOR
SEQUENCE MOTOR

6013
6011 6012

6015

6016 6017

－ E2・D3 －

Main PCB (Surface)
メイン基板 (表)

Additional page
追加ページ

Jan. 25. 2008

Main PCB (Reverse)
メイン基板 (裏)

Additional page
追加ページ

Jan. 25. 2008

DG PCB (Surface)

ＤＧ基板（表）

Additional page
追加ページ

サービス
計画課
M

Jan. 25. 2008

DG PCB (Reverse)

ＤＧ基板（裏）

Additional page
追加ページ

サービス
計画課
M

Jan. 25. 2008

CF PCB (Surface)
ＣＦ基板（表）

CF PCB (Reverse)
ＣＦ基板（裏）

(Reverse)
（裏）

(Surface)
（表）

DC-IN PCB
ＤＣ－ＩＮ基板

Additional page
追加ページ

サービス
計画課
M

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CN1

1 BAT	2 BAT	3 Rx/Tx	4 DGND	5 GND	6 GND

BATTERY CONTACT PCB (Reverse)
電池接点基板（裏）

Additional page
追加ページ

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M
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UPPER LCD FPC (Surface)
上ＬＣＤ ＦＰＣ（表）

Additional page
追加ページ

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MODE DIAL FPC (Surface)
モードダイヤルＦＰＣ（表）

- E 12 ・ D3 -

(Reverse)
（裏）
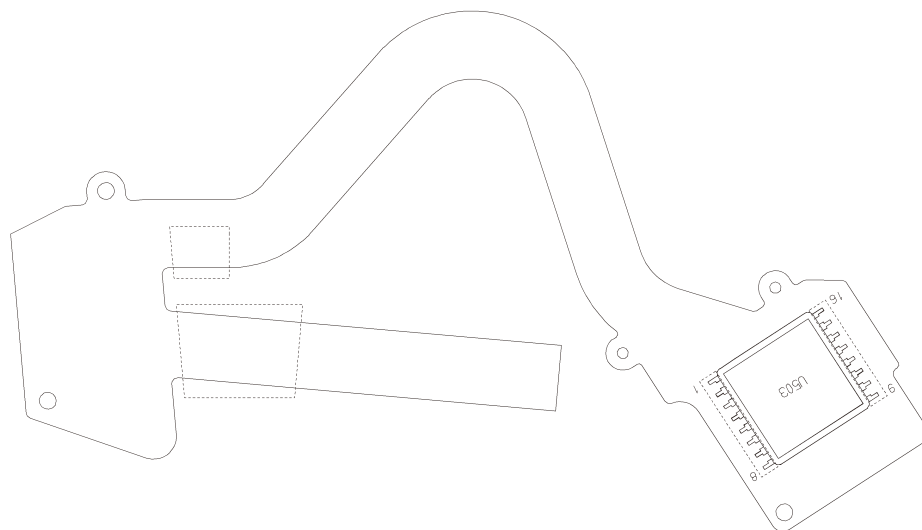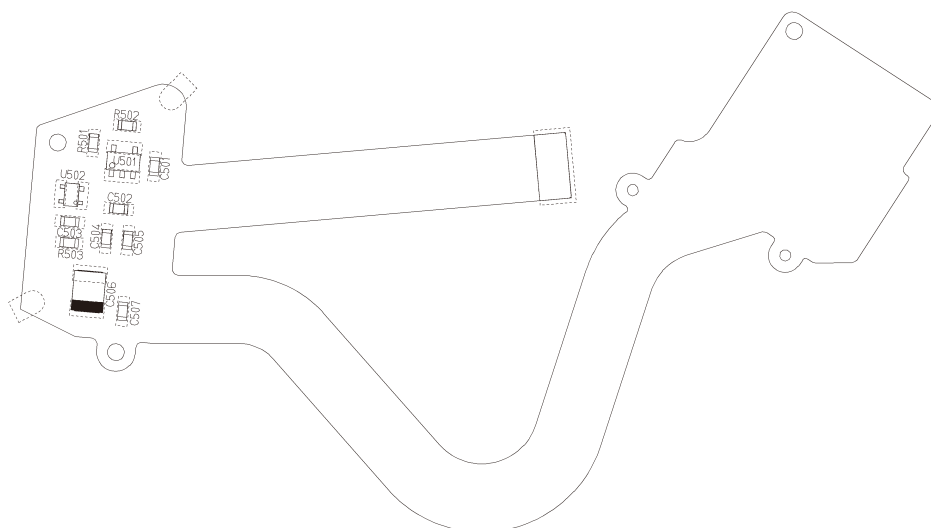
(Surface)
（表）

METERING FPC
測光ＦＰＣ
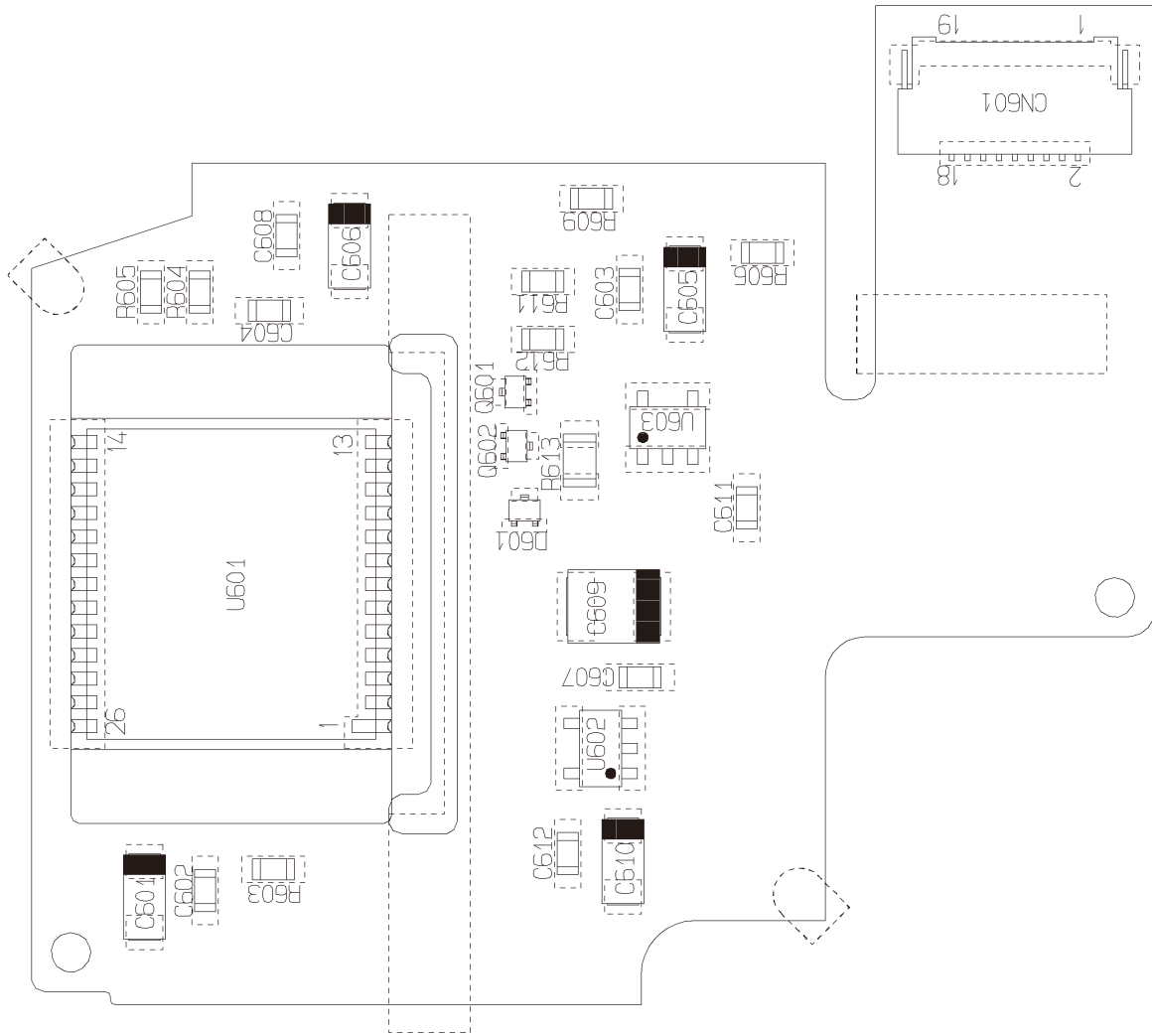
Jan. 25. 2008

AF SENSOR FPC (Surface)
ＡＦセンサーＦＰＣ（表）
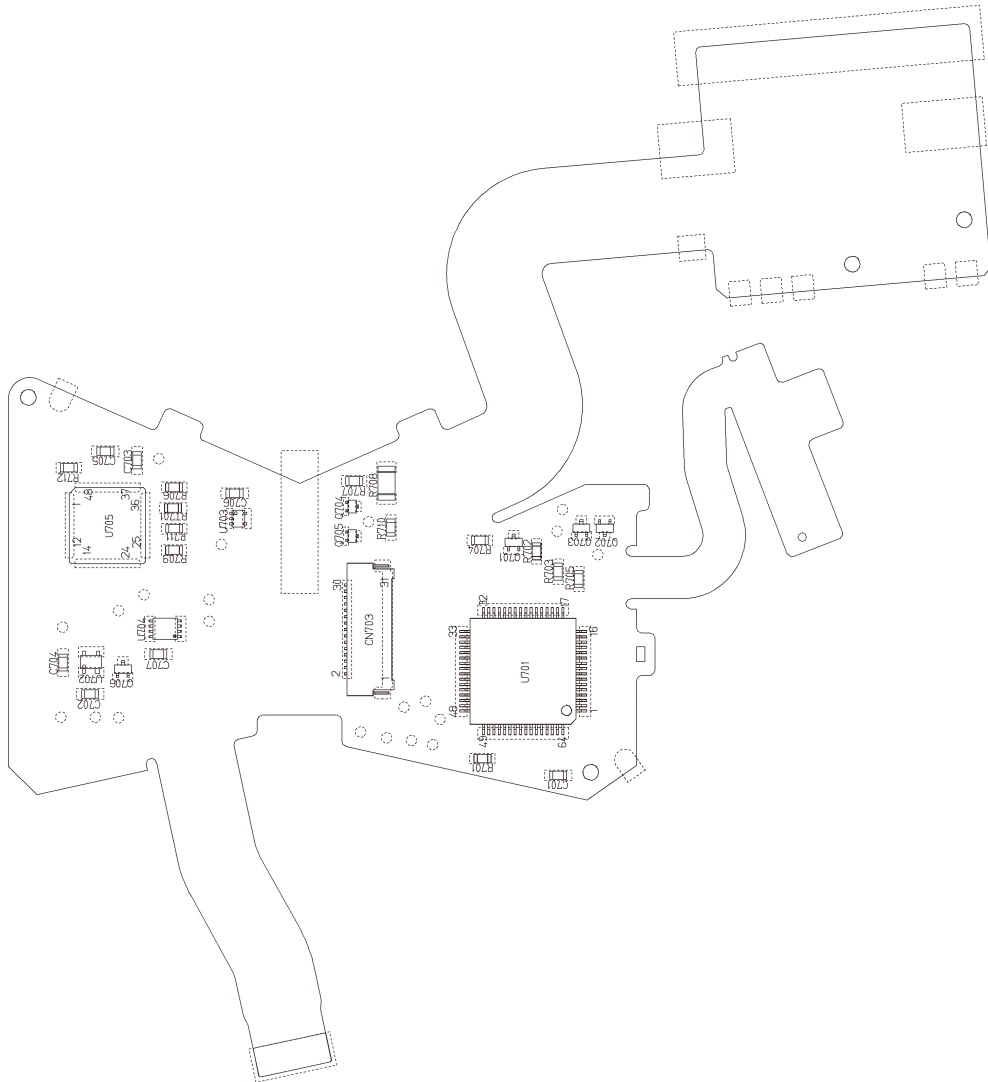
PENTA PRISM FPC (Surface)
ペンタプリズムＦＰＣ（表）

- E 15 ・ D3 -
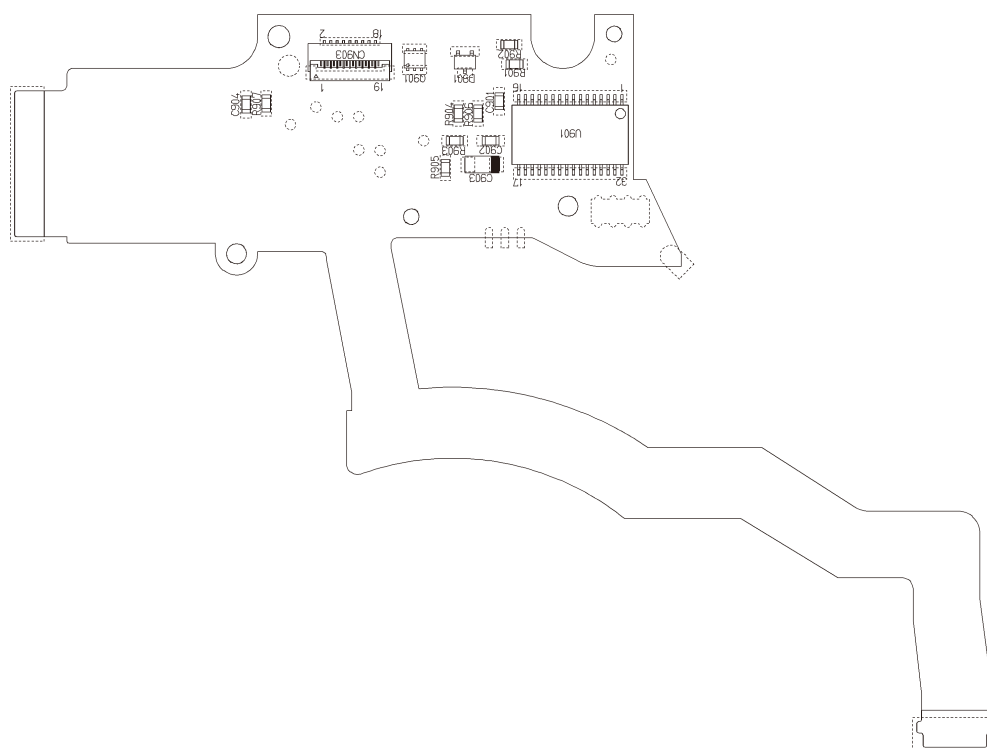
Jan. 25. 2008

FRONT BODY FPC (Surface)
前ボディＦＰＣ（表）

サービス
計画課
M
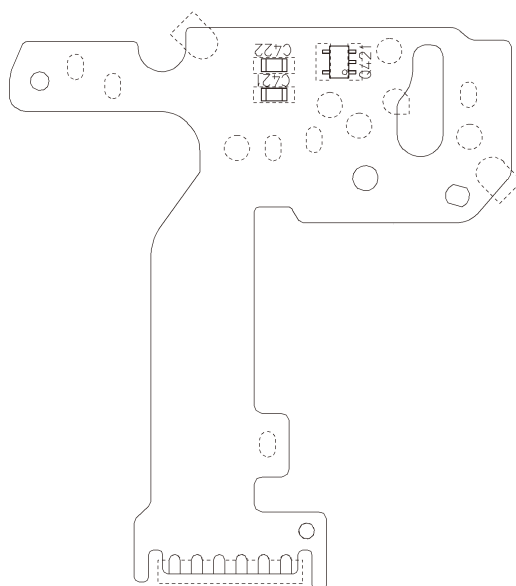
SHUTTER FPC (Surface)
シャッターＦＰＣ（表）

サービス
計画課
M
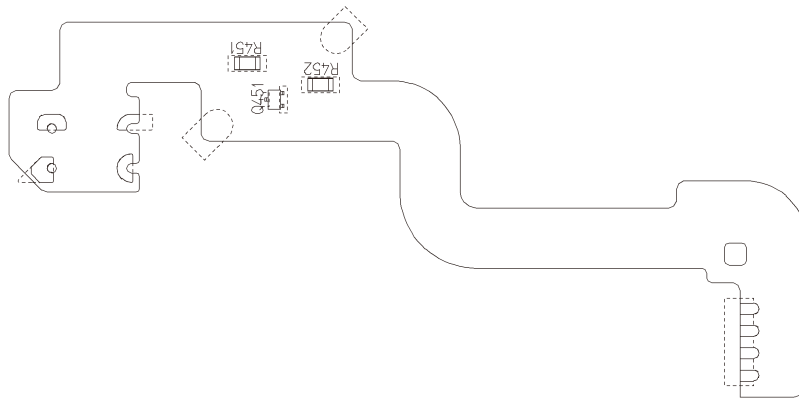
Jan. 25. 2008

SHUTTER MONITOR FPC (Surface)
シャッターモニターＦＰＣ（表）

Additional page
追加ページ

Jan. 25. 2008
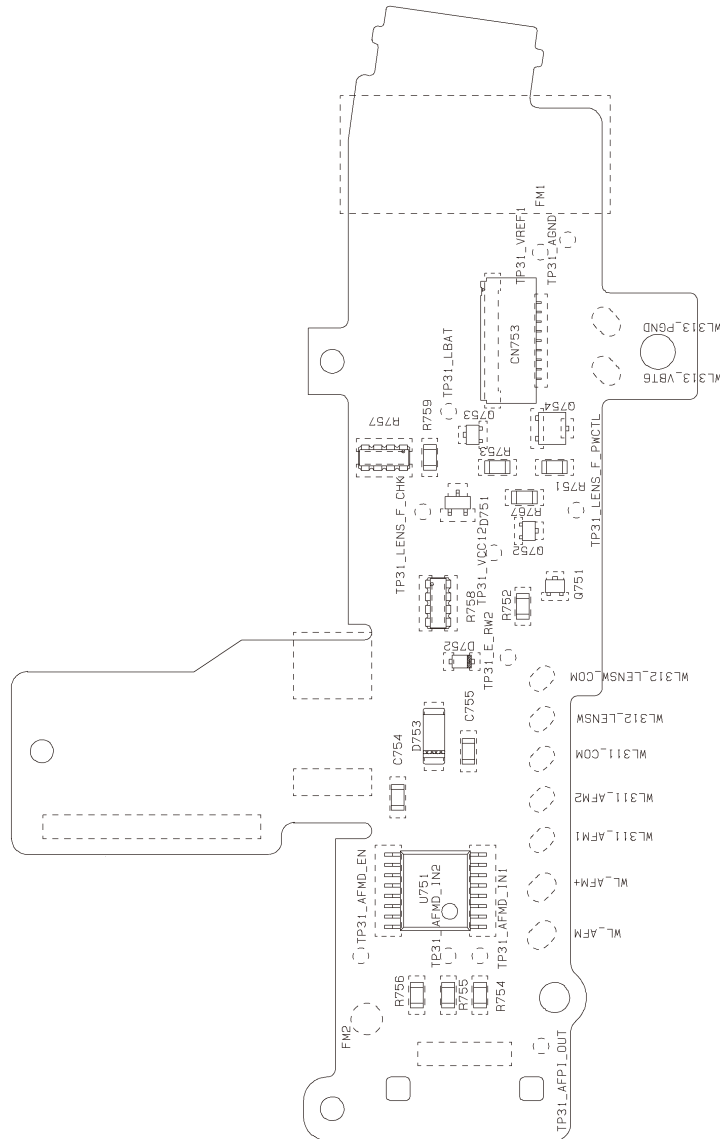
CONNECTION FPC (Surface)
接続ＦＰＣ（表）

Additional page
追加ページ

F772
F774
F771
D772
F773
C771
D771
R771
FM1
FM2
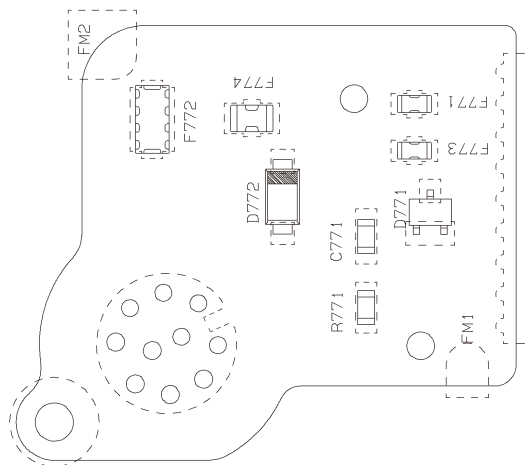
REMOTE TERMINAL FPC (Surface)

リモートターミナルＦＰＣ（表）

- E 20 ・ D3 -

サービス
計画課
M

Jan. 25. 2008
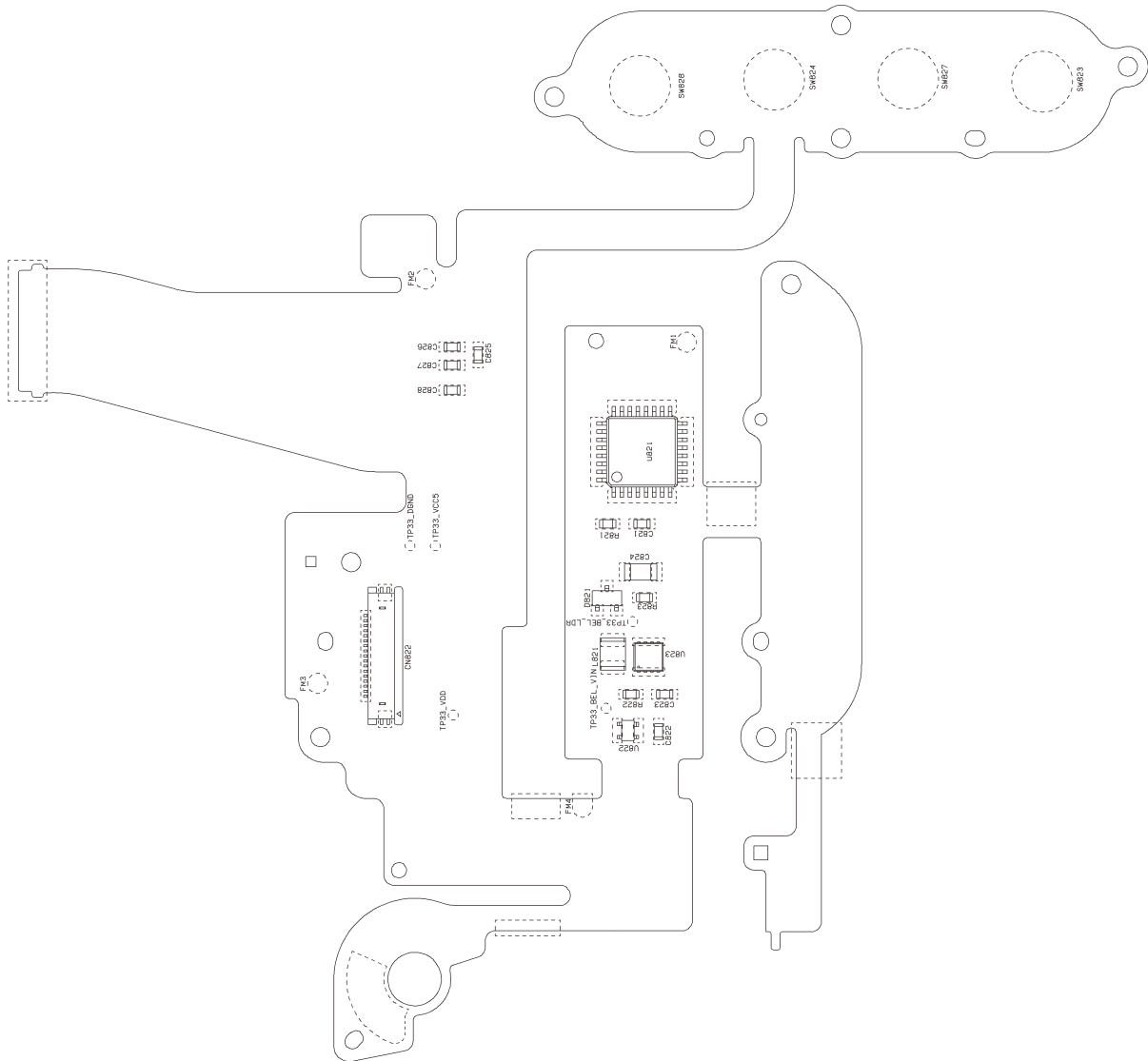
REAR FPC (Surface)
背面ＦＰＣ（表）

Additional page
追加ページ

サービス
計画課
M

Jan. 25. 2008

FM2

D861

CN861

FM1
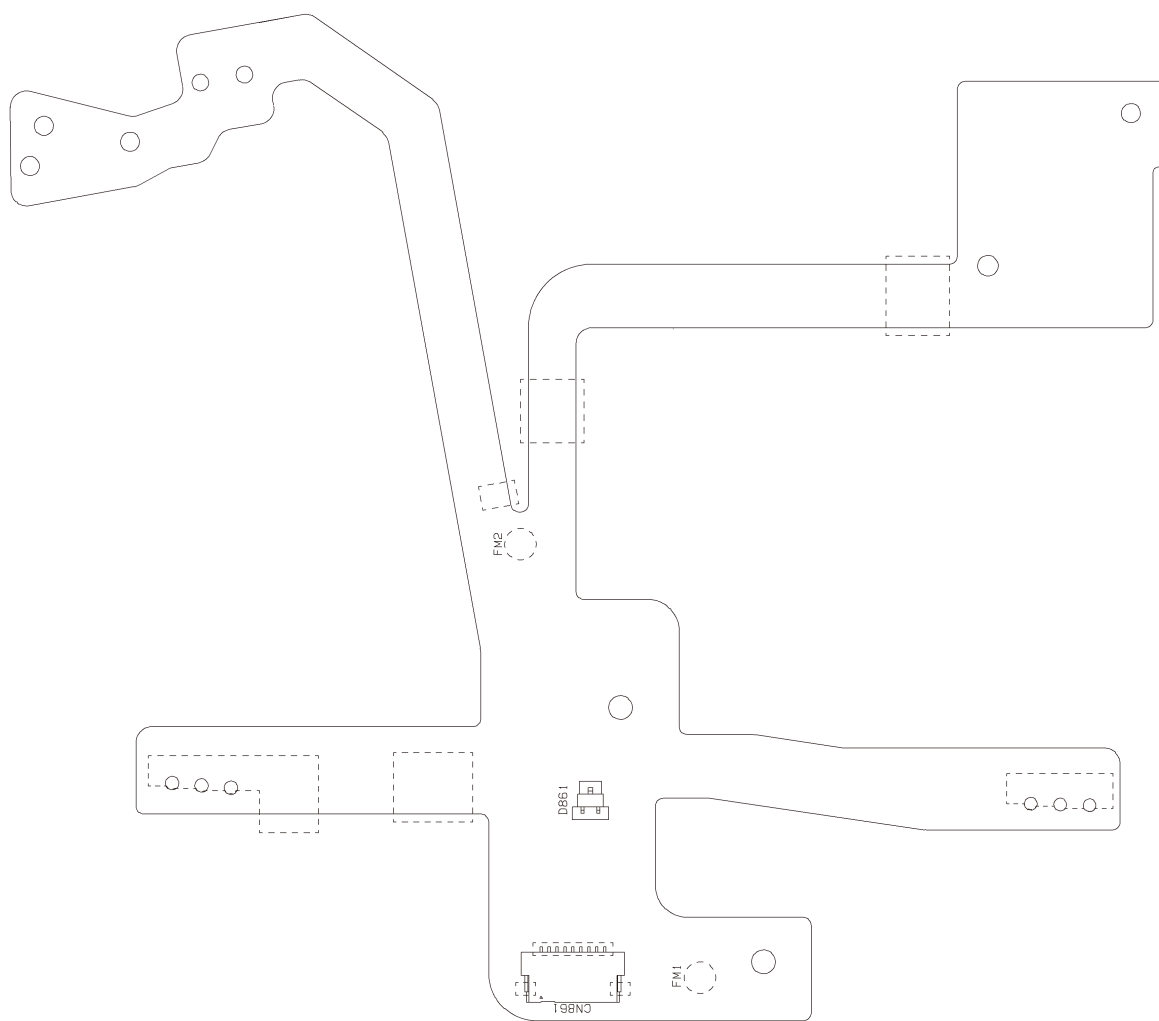
VERTICAL FPC (Surface)
縦位置ＦＰＣ（表）

Additional page
追加ページ

Jan. 25. 2008

(Reverse)
（裏）

(Surface)
（表）

DC/DC 1

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Additional page
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－ E 23 ・ D3 －

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(Reverse)
（裏）

(Surface)
（表）

DC/DC 2

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Inspection standards

Items	Judgment standard	Remarks
External view		
Step (height difference)	Btwn top cover & apron: 0.2 mm or less Other parts: 0.3 mm or less Moving parts: 0.5 mm or less	Visual check Digital micrometer

Gap	Btwn Top cover & Apron: 0.2 mm or less
	Around card lid/card lid-release lock button
	    Vertically: 0.6 mm or less
	    Horizontally: 0.5 mm or less
	Btwn Top display panel window (surrounding) & Top cover:
	    0.45 mm or less
	At lower part of Sub-command dial at regular position:
	    0.8 mm ± 0.3 mm
	Btwn Eyepiece mold & Rear cover: 0.4 mm or less
	Other parts: 0.3 mm or less
	Moving parts: 0.5 mm or less	

Size / Force		
Shutter release button	Protrusion: 1.1 ± 0.2 mm Halfway pressing force: 80 ± 15g Halfway pressing stroke: 0.35 ± 0.1 mm Releasing force: 275±50g Releasing stroke: 0.25 ± 0.1 mm (Half-release pressing ON) Extra stroke after releasing button: 0.4 mm or more Difference btwn Half-releasing and Full pressing force: 195 ± 50g	Digital micrometer Tension gauge
Shutter release button for vertical shooting	Protrusion: 0.9 ± 0.2 mm Halfway pressing force: 80 ± 15 g Halfway pressing stroke: 0.35 ± 0.1 mm Releasing force: 275 ± 50 g Releasing stroke: 0.25 ± 0.1 mm (Half-release pressing ON) Extra stroke after releasing button: 0.4 mm or more Difference btwn Half-releasing and Full pressing force: 195 ± 50 g	
Aperture lever	3.4 height: 3.4 $^{+0.1\,mm}_{-0.05\,mm}$	3.4 height gauge
Main mirror	45° angle: Up-down ±20' Right-left ±25' Distortion: 6' or less Clearance for up-mirror in mirror box: None Play: 0.2 mm or less	Collimator Main mirror tool Visual check Feeling in hand
Sub-mirror	54 ° angle: Up-down -5'$^{+10'}_{-25'}$	Sub-mirror tool
∞ Infinity focus	Distortion: 8' or less ±45 μm	
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Items	Judgment standard	Remarks

AF alignment
 	
  Yaw
 	
  Pitch
	
	Center : ± 4 mrad
	Others: ± 10 mrad
	
	Center : ± 5 mrad
	Others: ± 11 mrad
		PC
		Special tool
		Brightness box

AF-assist illuminator Lighting level	 Range from EV5.2 to 6.2	AF50/1.4D Brightness box

AE accuracy
  AE shooting output
  value
  (A mode)
 	
  AE shooting output
  value
  (S mode)
	BV10 F2.8 Dispersion ± 0.65 EV
	BV8 F2.8 Dispersion ± 0.65 EV
	BV6 F4 Dispersion ± 0.6 EV
	BV5 F5.6 Dispersion ± 0.55 EV
	BV0 F8 Dispersion ± 0.55 EV
	
	BV10 1/8000 Dispersion ± 0.65 EV
	BV8 1/2000 Dispersion ± 0.65 EV
	BV6 1/250 Dispersion ± 0.6 EV
	BV5 1/60 Dispersion ± 0.55 EV
	BV0 1" Dispersion ± 0.55 EV
	
	Difference in AE mode: 0.4 EV
	Difference in Metering mode: 0.3 EV
	
	Data spread in continuous shooting: 0.5 EV
		AF50/1.4D（∞）
		"A" light source
		  brightness box
		< Judge under
		  conditions of
		  ISO200, Center
		  weighted metering
		  (φ 12 mm), RAW
		  data "G" (200*200
		  pixels）>

Shutter accuracy
  Speed accuracy
 	
  Dispersion
 	
  Shutter curtain speed
 	
  Shutter curtain bound
 	
  Synchronization
	1/8000 ～ 1/2000 0.55EV
	(1/2000) ～ 1/125 0.35EV
	(1/125) ～ 30 sec. 0.2EV
	
	1/8000 ～ 1/2000 0.5EV or less
	(1/2000) ～ 1/125 0.35EV or less
	(1/125) ～ 30 sec. 0.3EV or less
	
	Both front and rear curtains (up-down 21 mm or less):
	2.45 ms or less
	
	Black/white bound (within frame): None
	
	Time lag: (21 mm-frame): -0.1 ～ 0.4 ms
		Shutter speed tester

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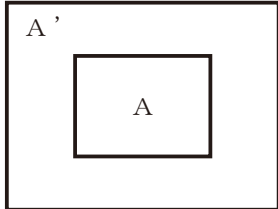
Items	Judgment standard	Remarks
Viewfinder		
Inner LCD lower panel window position	Up-down position: 1.3 - 1.9a from Finder field frame (a = window width) Tilt: 1 ° or less	Visual check
Inner LCD right panel window position	Right-left position: **1.0 - 1.6a from Finder field frame** (a = window width) Tilt: 1° or less	
Finder field frame	Lens vignetting/distortion: No outstanding vignetting/distortion Tilt: (based on Bottom cover): 20' or less Relative angle to image sensor: 30' or less	AF50/1.4D, F5.6 Looking through viewfinder, measure a tilt of indication line (parallel to the bottom) from the bottom line of the frame.
Field of viewfinder (frame coverage)	In height and width: $100^{+0\%}_{-2\%}$	
Parallax (Difference of center from the shot image/ sensor)	Up-down: 0.2 mm or less Right-left: 0.2 mm or less	AF50/1.4D, F5.6 Mark a line indicating the field of viewfinder and take a picture. Then, measure a difference (tilt) between the marked indication line and actual shot.
Eye point	Distance to eyepiece protective glass: (In case of "- 1 m $^{-1}$"): 16.2 - 19.8mm (18 mm ± 10%)	Vernier caliper Eye point tool
Screen misalignment	Tilt: 30' or less	E screen B screen Special chart
Sequence Release time lag	AF-M: 47 ms or less AF-C: 47 ms or less Release with a one push: 210 ms or less Release when vibration reduction lens attached: : 100 ms or less Pre-flash release: 100 ms or less	Oscilloscope Constant-voltage power source Power tool EV9 AF-S VR70-200ED, F2.8G AF-M, AE-A, AMP SB-800 (Multi-sensor balanced fill- flash) Focused state Measure the time taken from releasing the shutter to switching ON for X-signal.

Items	Judgment standard	Remarks
Standby (idle) / consumed current	Main SW / OFF: 200 μA or less (Do NOT press any operational buttons.) Main SW / ON (Half-release timer: OFF): 250 μA or less Main SW / ON (Half-release timer: ON): 250 m A or less Main SW / ON (Illumination: ON): 280 mA or less Main SW / ON (TFT ON): 300 mA or less Main SW / ON (Live view ON): 1200 mA or less	Constant-voltage power source Battery tool Ammeter AF50/1.4 EV12

Operation time / consumption current accumulated	Lens scan
	  AF50/1.4D Operation time: 850 ms or less
	        Consumption current accumulated: 450 mAsec or less
	  AF28-70/3.3-4.5D Operation time: 1100 ms or less
	        Consumption current accumulated: 550 mAsec or less
	
	  AF80-200/2.8D Operation time: 1200 ms or less
	        Consumption current accumulated: 700 mAsec or less
	
	Preview Operation time: 90 ms or less
	      Consumption current accumulated: 120 mAsec or less
	
	Release without memory card
	      Operation time: 220 ms or less
	      Consumption current accumulated: 300 mAsec
		Constant voltage power source
		Battery tool
		Special tool
		Oscilloscope
		LV12

Rush current	Shooting operation: 8.1 A or less	Constant voltage power source Battery tool Special tool Oscilloscope LV12
Clock accuracy	Difference par month: ±30 seconds (20℃)	Wave clock
BC level	Level 5 5 lights up Charge remaining: 81 ～ 100 % Level 4 4 lights up Charge remaining: 61 ～ 80 % Level 3 3 lights up Charge remaining: 41 ～ 60 % Level 2 2 lights up Charge remaining: 21 ～ 40 % Level 1 1 light up Charge remaining: 1 ～ 20 % Level 0 1 light blinking Charge remaining: 0%	Check the level in the LCD control panel on top of camera or TFT battery information Communication-capable battery tool
Bulb battery life	When special Li-ion is used: 3 and a half hours or more	Clock Remote wire

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Items	Judgment standard	Remarks

Battery life
 	
EN-EL4a
	Professional mode
	   Room temperature: 3700 frames or more
	   0℃ 3300 frames or more
	AF-S70-200/2.8 VR OFF, AF-C, Release mode dial: Ch, M1/250 F5.6, AF scan reciprocating motion 3 times →Halfway press 3 sec. → Release 6 times → TFT monitor 5 sec.→ Half-release timer OFF (repeat)
	
	CIPA mode
	   23±2℃ 3400 frames or more
	   Lens AF-S24-70/2.8G
	Setting: Factory default setting, Release mode: S, Metering mode: Multi, Focus mode: AF-S, AF scan reciprocating motion once → Release once → Card recording → If no. of exposures remaining is 0, format card → Rear panel: Turn out light, Half-release timer OFF
		Card used: Sundisk
		  Extreme Ⅲ 2GB
		Battery used:
		EN-EL4a

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Items	Judgment standard	Remarks
Image-related Appropriate level	Judgment method **When RAW recorded:** Within the area of 425 pixels x 425 pixels which was away from the center of screen to the right by 425 pixels, calculate the average of G-14 bit data. **When JPEG recorded:** Within the area of 425 pixels x 425 pixels which was away from the center of screen to the right by 425 pixels, calculate the average of Y-8 bit data. Standard RAW (14bit) Lo 1 3428±200 (±0.1EV) Lo 0.7 2717±160 (±0.1EV) Lo 0.5 2421±145 (±0.1EV) Lo 0.3 2158±130 (±0.1EV) ISO 200~ISO6400 1714±100 (±0.1EV) [TIFF, JPEG] ・Standard Lo 1, Lo 0.7, Lo 0.5, Lo 0.3, ISO200~6400 134~144 ・Neutral Lo 1, Lo 0.7, Lo 0.5, Lo 0.3, ISO200~6400 131~140 ・Vivid Lo 1, Lo 0.7, Lo 0.5, Lo 0.3, ISO200~6400 132~144	AF50mm/F1.4D (CPU built-in metering reference lens) F5.6 Lo 1 1/15 LV10+ND2 Lo 0.7 1/20 LV10+ND2 Lo 0.3 1/25 LV10+ND2 ISO200 1/30 LV10+ND2 ISO250 1/20 LV10+ND4 ISO320 1/25 LV10+ND4 ISO400 1/30 LV10+ND4 ISO500 1/20 LV10+ND8 ISO640 1/25 LV10+ND8 ISO800 1/30 LV10+ND8 ISO1000 1/20 LV10+ND16 ISO1250 1/25 LV10+ND16 ISO1600 1/30 LV10+ND16 ISO2000 1/20 LV10+ND32 ISO2500 1/25 LV10+ND32 ISO3200 1/30 LV10+ND32 ISO4000 1/20 LV10+ND64 ISO5000 1/25 LV10+ND64 ISO6400 1/30 LV10+ND64 AE: M mode Distance from object: Closely contact Focal length: Infinity Image size: L, M, S WB: Preset (for every sensitivity)
Resolution	Judgment method When TIFF/JPEG recorded: Take a shot of the chart by matching the central 1/2 screen with the vertical angle of view. Adjust the speed so that brightness becomes 220 ± 5 LSB (8bit) at white part about the center of chart. Standard When TIFF recorded: Horizontal resolution Vertical resolution 1900 TV lines or more When JPEG recorded: Horizontal resolution Vertical resolution 1800 TV lines or more	AFS80-200 mm/F2.8D 105 mm F5.6 AE: M mode Image size: L ISO200
Pixel defects: White pixel against dark background	Judgment method Judge the level of white pixels Standard When TIFF/JPEG recorded: At 25℃ : 30 LSB or less At 40℃ : 60 LSB or less	Lens cap Shutter speed: 1/30 AE: M mode Image size: L WB: Direct sunlight Temperature: 25±2℃ , 40$^{+5}_{-0}$ ℃ ISO200

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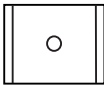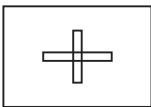| Items	Judgment standard	Remarks
Dusts in shot image	<u>Judgment method</u> Compensate exposure so that the center of "425×425 pixel" image becomes 156 - 187 LSB, compared to correct exposure. Judge based on dust contrast, size, quantity, and distance btwn dusts, of the zone area II, when recorded in JPEG of "G shading" item. <u>Standard</u> ・Point defect In case of contrast (9% or less) and size (φ18 pixels or less): 10 defects or less ・Pixel defect Contrast: 15% or less Size: φ6 pixel or less	AF105mm/F2.8D F16 AE: M mode Image quality: JPEG FINE WB: Preset ISO200

TFT unit Point defect	Luminescent pixels: None
	Black pixels: 2 or less (None in "A" section)
	   There must not be 2 consecutive defective pixels.
	Total defect pixels: 2 or less
	※ "A" area = 19.08 × 25.44 mm
	   "A'" area = 38.16 × 50.88 mm (excluding "A")
	   (The size in height and width is measured by aligning the center of the monitor.)	

Backlight life	5000 hours or more (at less than 40℃)	

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工具・ＴＯＯＬＳ

工具番号 Tool No.	名　称 Name of tool	備　考 Others
CFD409Z	サンコール　ＣＦＤ４０９Ｚ SANKOL CFD409Z	ＡＸ－１１５使用可 AX-115 IS AVAILABLE
C-8008B	セメダイン　８００８（黒） CEMEDAIN 8008（BLACK）	
★ DOS	ＤＯＳ　２００ｇ DOS（200g）	
★ D-N352	ハナール　ＤＮ－３５２　１ｋｇ HANARL DN-352 1kg	
EDB0011	ネジロック（赤）１４０１Ｃ SCREW LOCK 1401C	
J15259	ＡＦ調整工具台 AF ADJUSTING TOOL	
J15280	Ｚレンズ用支持ホルダー LENS HOLDER	
J15264	高周波タイプ蛍光灯器具 ILLUMINATION BOX FOR AF ADJUSTMENT	
J15407	マルチカム２０００　ＡＦチャート MULTI CAM 2000 AF CHART	FOR D2SERIESE
J15409	チャートボード CHART BOARD	FOR D2SERIES, D40
J18001-1	ボディバック出し工具 BODY BACK FOCUS GAUGE	
J18004	絞りレバー高さ点検工具 APERTURE LEVER POSITIONING GAUGE	
J18010	無限大合致基準レンズ５０／１.８ INFINITY STANDARD LENS 50/1.8	払底品 OUT OF STOCK

工具番号 Tool No.	名　称 Name of tool	備　考 Others
J18191	ＮＤフィルター８× ND FILTER 8X	２枚使用 IT USES BY TWO PIECES.
J18230	ＹＡＷ・ＰＩＴＣＨ工具 YAW・PITCH ADJUSTMENT TOOL	FOR F5, F100, F90, F90X,D-SLR
J18266	ＡＦ調整用Ｚレンズ（１ｍ用） Z ADJUSTMENT LENS（FOR 1m）	FOR F5, F100, D-SLR
J18267	ＡＦ５０／１．４Ｄ LENS AF50/1.4D	
J18358	ＮＤフィルター４× ND FILTER 4X	２枚使用 IT USES BY TWO PIECES.
★ J18432	カメラ部調整用ソフト ADJ. SOFT FOR CAMERA	
J19001	∞合致コリメーターＦ＝６００ｍｍ COLLIMATOR F=600mm	
J19004-1	インジケータ及びスタンド DIAL INDICATOR AND STAND	
J19123	シャッター試験機　ＥＦ－１（ＣＥ） SHUTTER TESTER EF-1(CE)	共立電機製 KYORITSU ELECTRIC EF-8000 USABLE
J19132	メイン・サブミラー角度検査機 MAIN/SUB MIRROR ANGLE INSPECTION TOOL	FOR D300, ETC
J61185	撮像関係調整用レンズ D1 STANDARD LENS	FOR D-SLR
J61222	二次元バーコードリーダー TWO-DIMENSIONAL BARCODE READER	FOR S10 ETC
J61223	ライティングルーペ LIGHTING LOUPE	FOR D-SLR

工具番号 Tool No.		名　称 Name of tool	備　考 Others
★ J61229		Ｄ３工具ボディ（撮像用基準ボディ） D3 TOOL BODY	D3 TOOL BODY
★ J61230		Ｄ３用　ＡＥ受光部アダプター D3 LIGHT RECEIVE ADAPTER	FOR EF-1(EF-8000)
J63068		輝度計（ＢＭ－３０００） LUMINANCE METER BM-3000	
J63070		カラービューア COLOR VIEWER	
J63085		フィルター　ＳＰ１ FILTER SP1	FOR D2H, D70, D70s, D50, D200, D80, D40
J63087		フィルター　ＳＰ３ FILTER SP3	FOR D2H, D70, D70s, D50, D200, D80, D40
★ J63097		Ｄ３用ＡＥ　ＣＣＤ用チャートボード AE/CCD USE CHART BOARD FOR D3	
★ J63098		Ｄ３用ＡＦ　Ｘ－Ｙチャート AF X-Y CHART FOR D3	
★ J63099		Ｄ３用合致スクリーン FOCUS SCREEN FOR D3	
★ J63102		Ｄ３用視差・ＳＩチャート PARALLAX/SI CHART FOR D3	
★ J63104		Ｄ３　４５度メインミラー工具 45 DEG ANGLE MAIN-MIRROR TOOL FOR D3	
J65096		ＱＲリーダーソフト QR READER SOFTWARE	FOR S10 ETC
★ J65106		撮像調整用ソフト ADJ. SOFT WARE FOR IMAGING	

工具番号 Tool No.	名　称 Name of tool	備　考 Others
★ KE347B	シリコン　３４７Ｂ SILICONE	
★ NKS-401H	サンコール　ＮＫＳ－４０１Ｈ　１ｋｇ SANKOL NKS-401H 1kg	
	アロンアルファ QUICK DRYING GLUE	汎用品 RJ IS NOT AVAILABLE
	ＡＣアダプター　ＥＨ－６ AC ADAPTER EH-6	製品転用 RJ IS NOT AVAILABLE
	ＵＳＢケーブル　ＵＣ－Ｅ４ USB CABLE UC-E4	製品転用 RJ IS NOT AVAILABLE
	パーソナルコンピュータ PERSONAL COMPUTER	汎用品 RJ IS NOT AVAILABLE
	ヘクスキー（φ１.５ｍｍ） HEX. KEY WRENCH（φ1.5mm）	汎用品 RJ IS NOT AVAILABLE
	ＡＦ２８／２.８Ｄ LENS AF28/2.8D	製品転用 RJ IS NOT AVAILABLE
	AF70-300/4-5.6D OR AF-SVR70-300/4.5-5.6 LENS AF70-300/4-5.6D OR LENS AF-SVR70-300/4.5-5.6	製品転用 RJ IS NOT AVAILABLE