INC
JAA74851－R.3370.A

作成承認印	配布許可印
ニコンカメラサービス部 GM	

AF Zoom-Nikkor 35-105mm f/3.5-4.5 D

REPAIR MANUAL
修　理　指　針

Nikon | NIKON CORPORATION
Tokyo, Japan

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組 立 図 Constrcution of the Lens

INC

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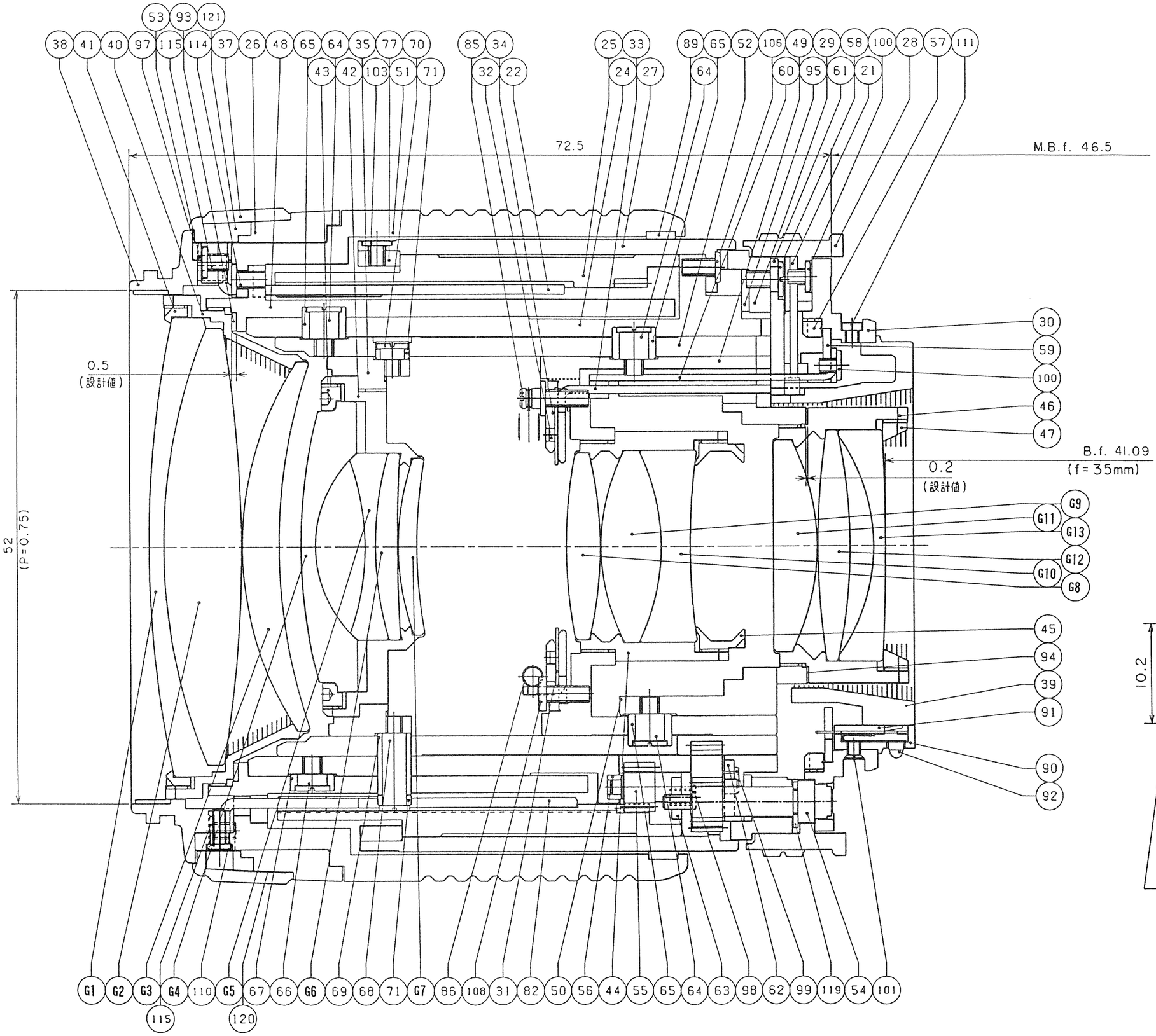

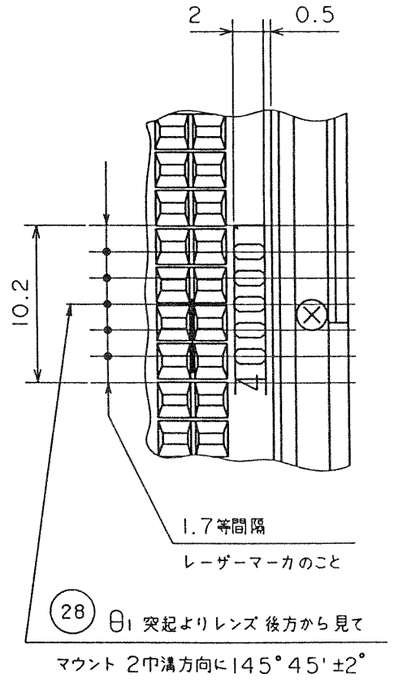

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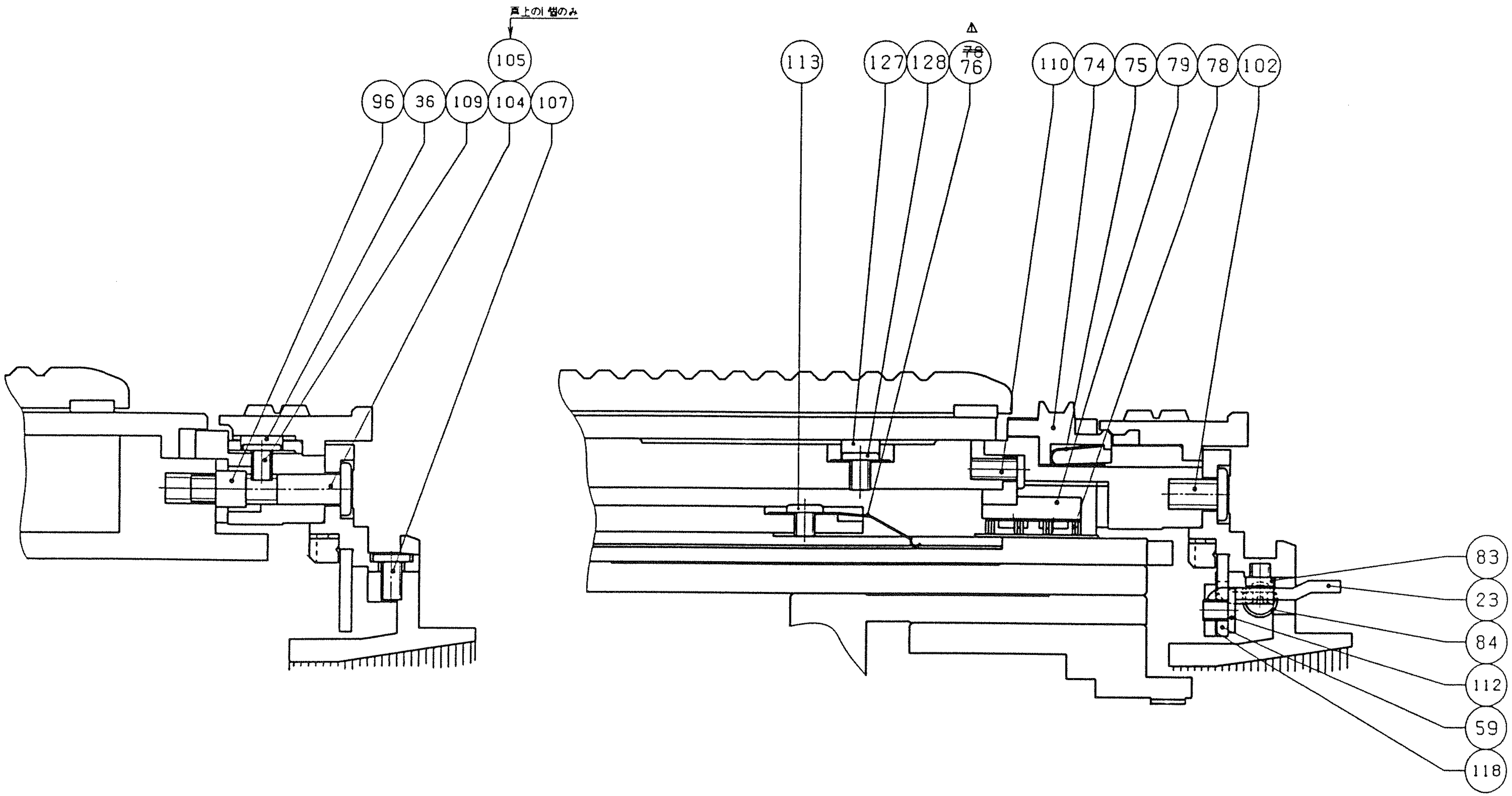
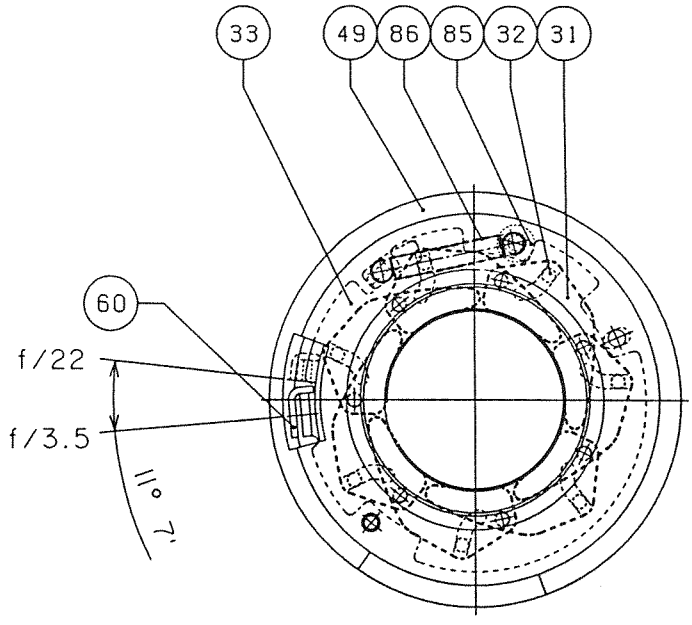
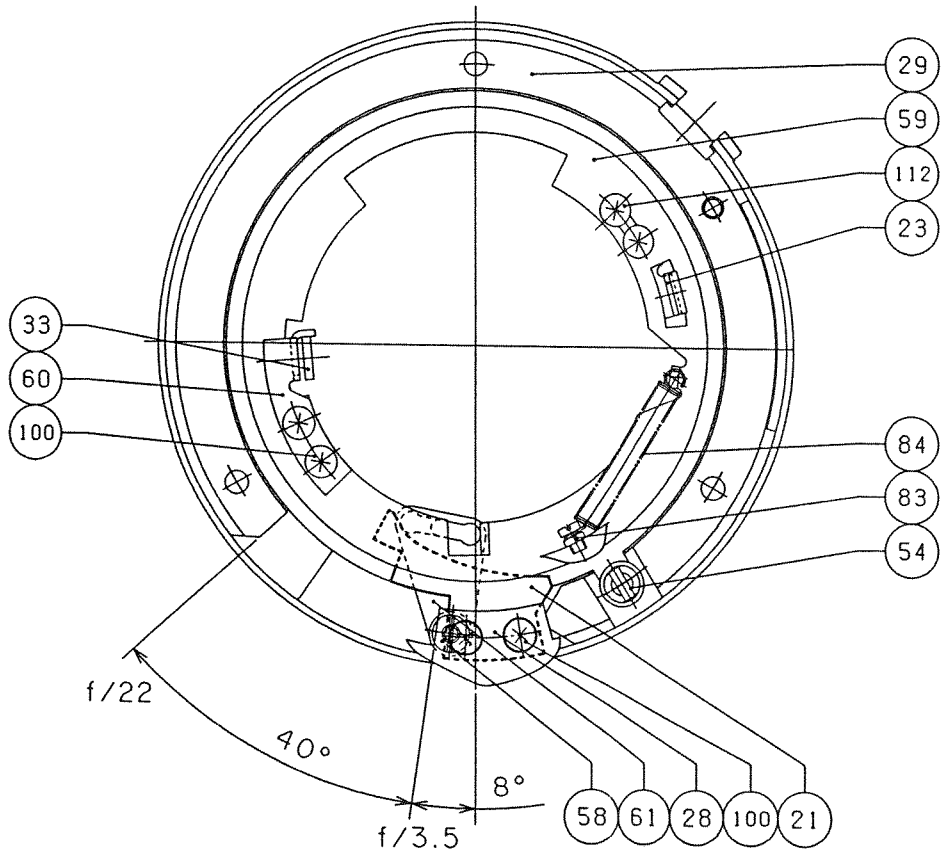


— F 2 · AF 35-105/3.3-4.5D —

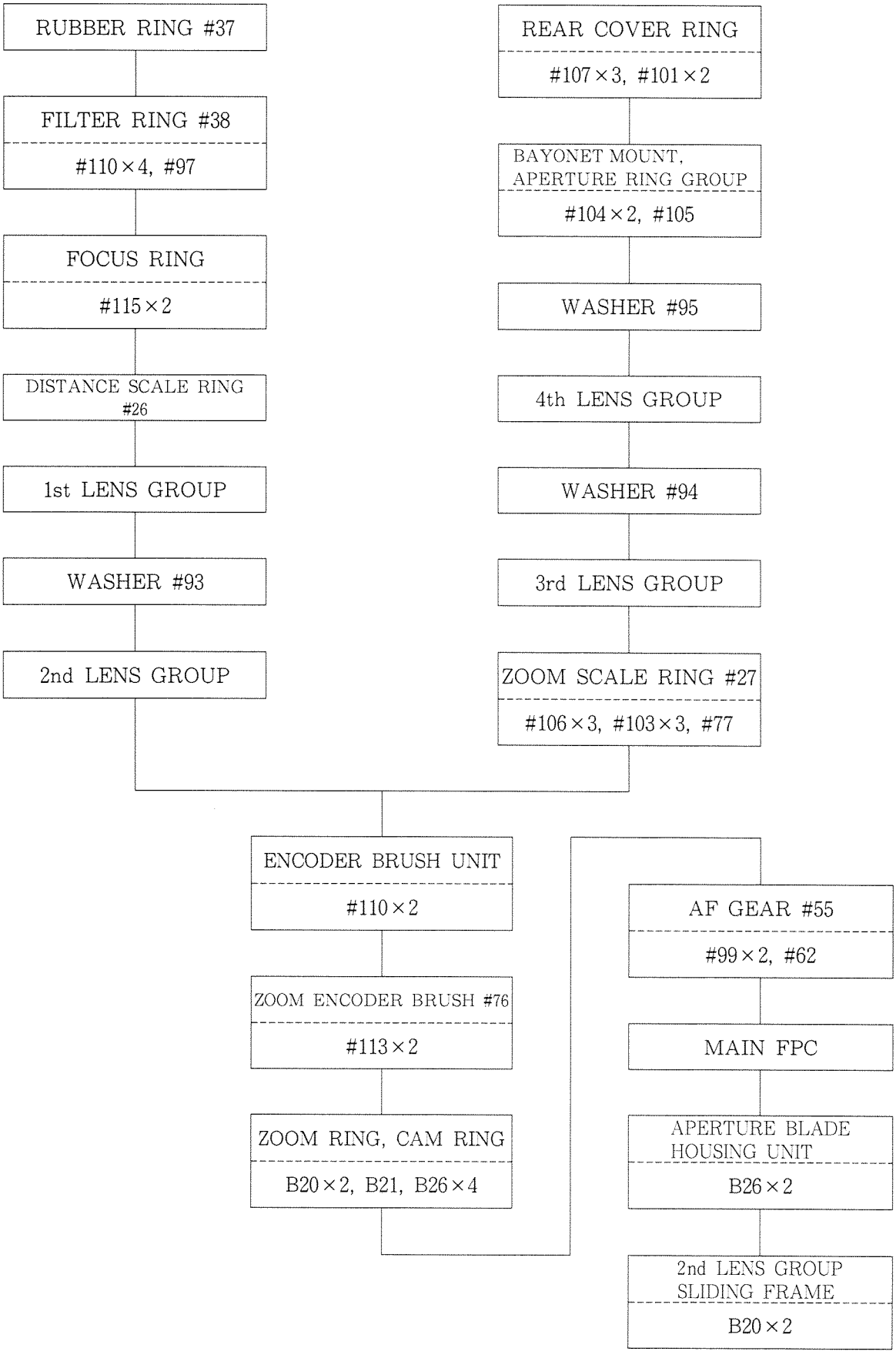
JAA74851 - R. 3370. A


33
49
86
85
32
31
60
f/22
f/3.5
11°


29
59
112
23
33
60
100
84
83
54
f/22
40°
8°
f/3.5
58
61
28
100
21

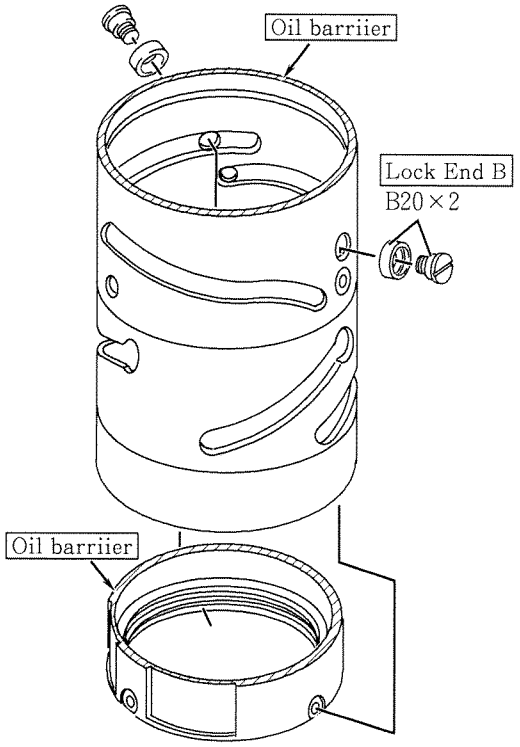
DISASSEMBLING／ASSEMBLING／ADJUSTMENT

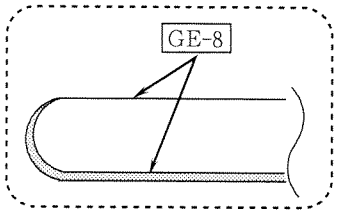
1. DISASSEMBLING PROCEDURE



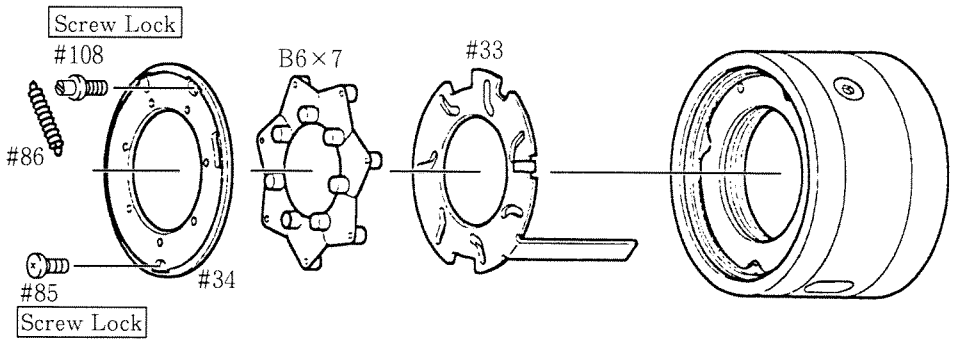
2. ASSEMBLING／ADJUSTMENT

CAM RING, 2nd LENS GROUP SLIDING FRAME

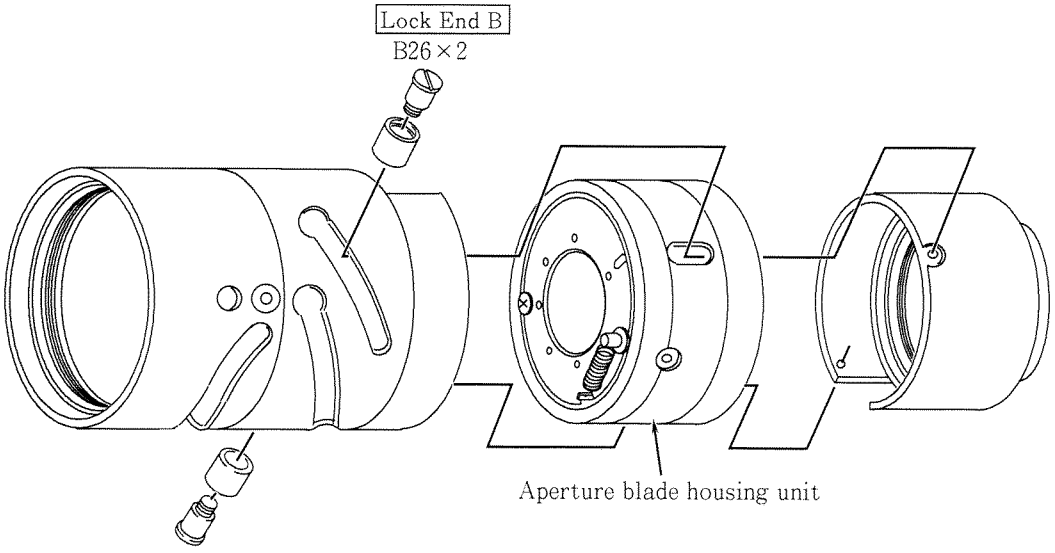




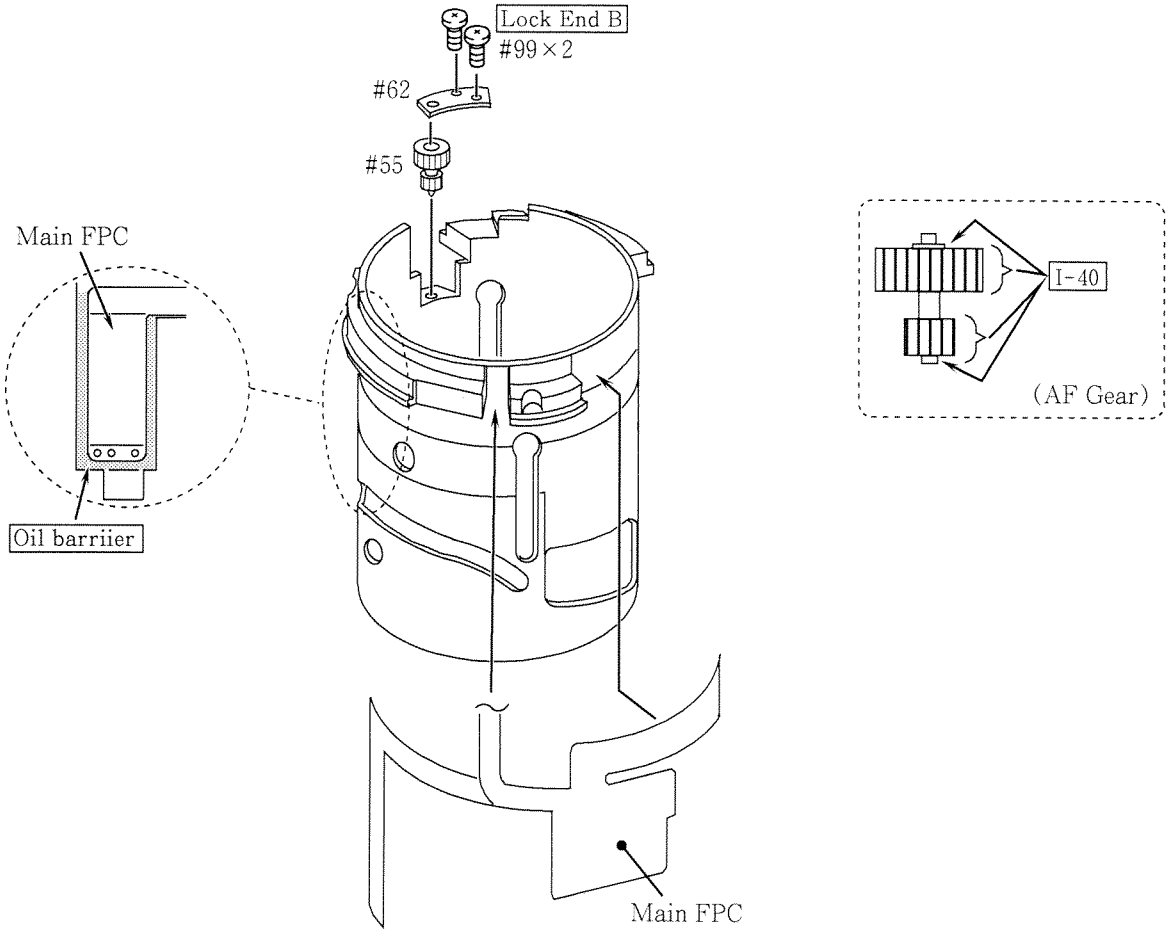
APERTURE BLADE GROUP



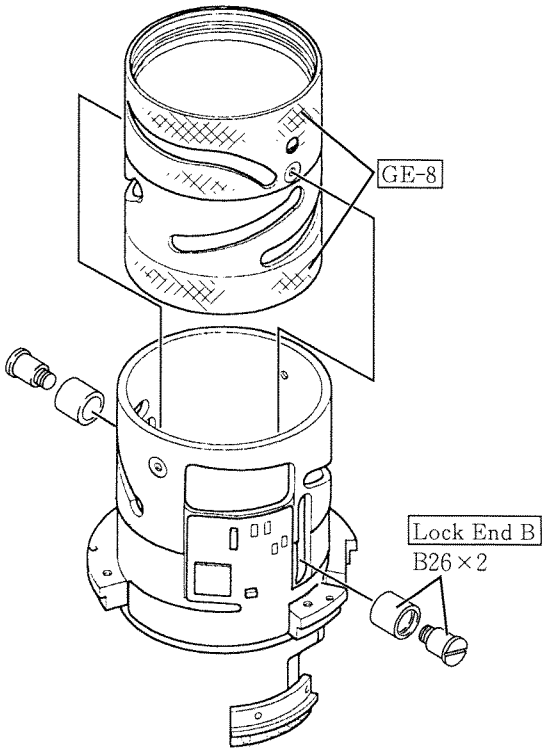
APERTURE BLADE HOUSING UNIT



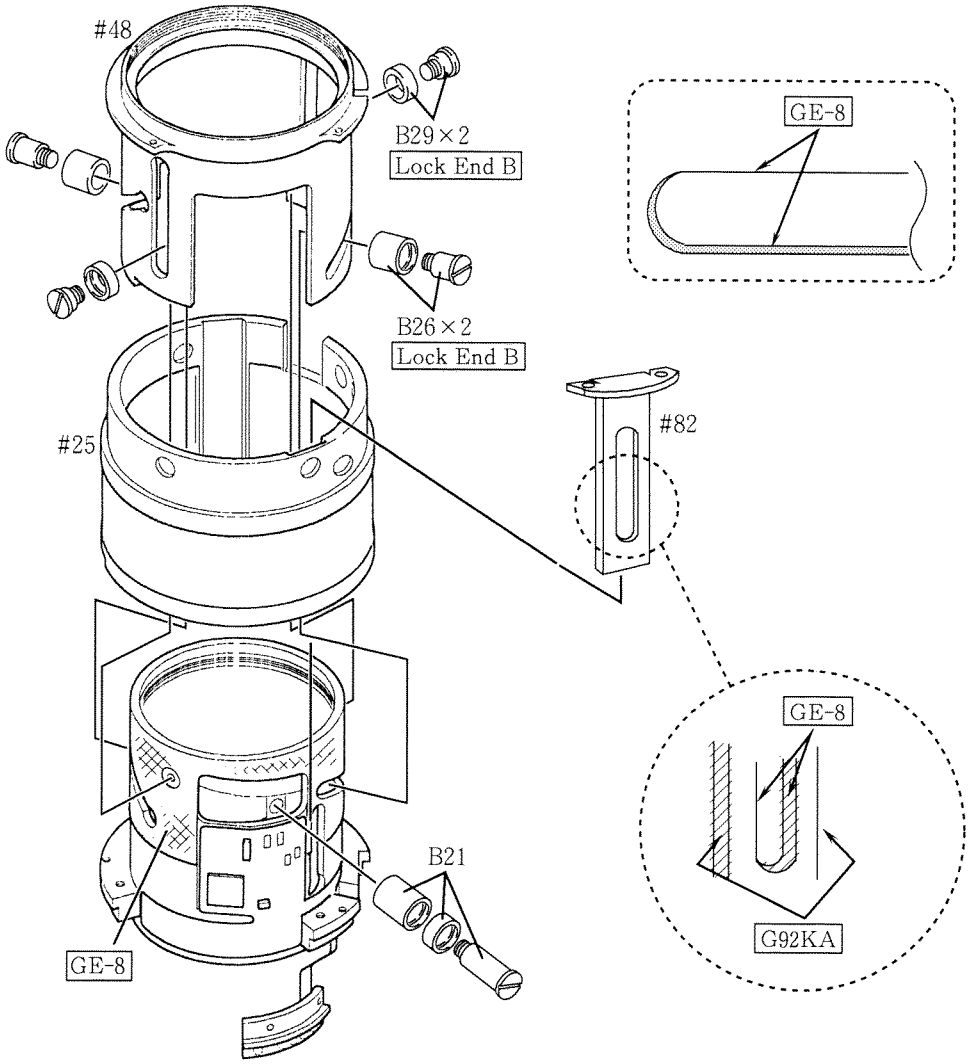
MAIN FPC, AF GEAR



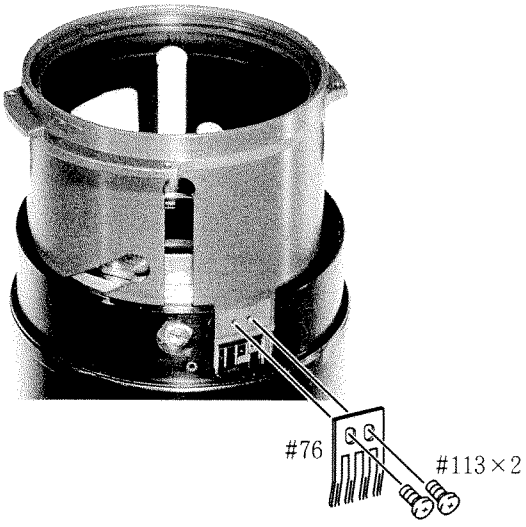
CAM RING GROUP



ZOOM RING

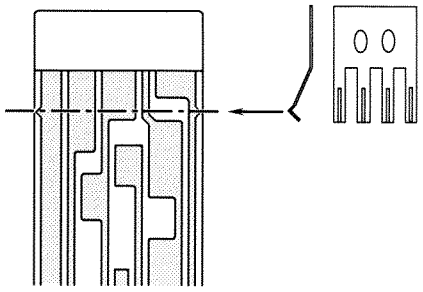


ADJUSTMENT OF ZOOM ENCODER BRUSH POSITION



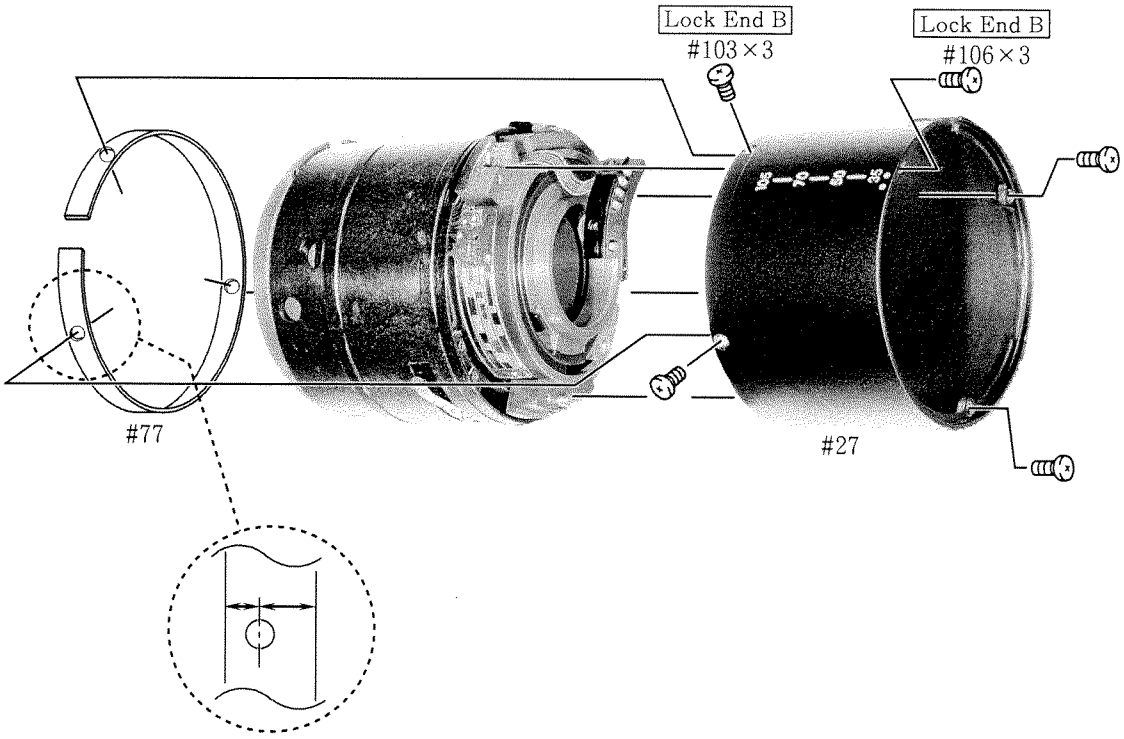
① Unfasten screws #113×2 and let the brush tip come into contact with the line as shown in the figure.

② Fasten screws #113×2 and turn the zoom ring several times to check the location of the brush.

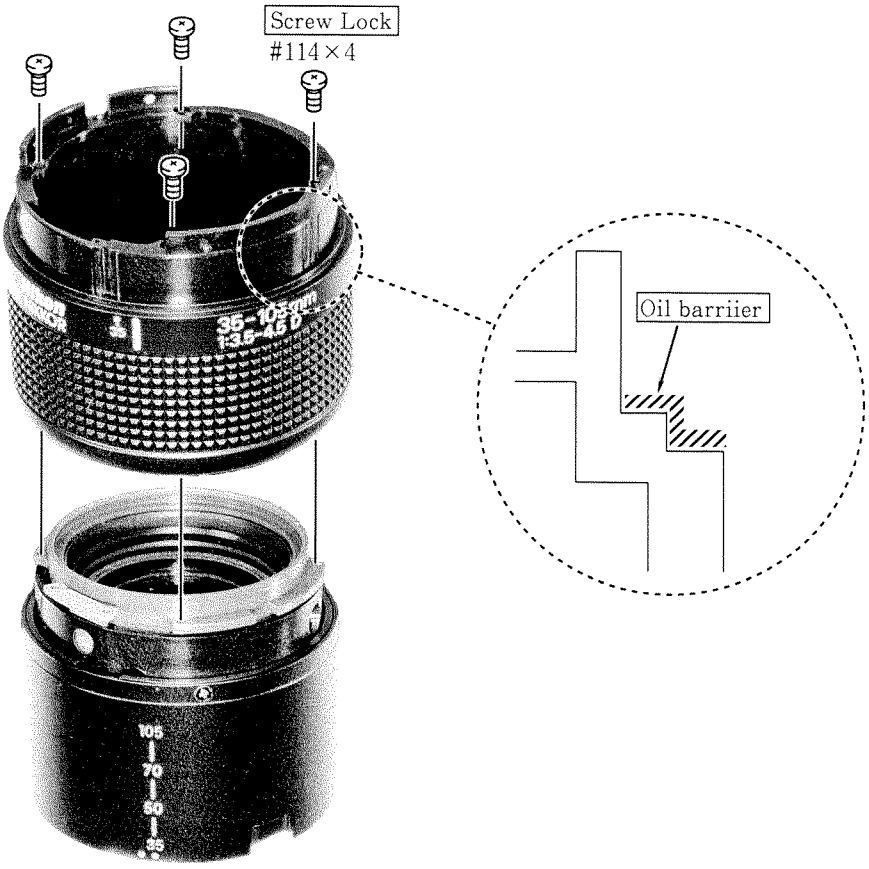


③ Secure screws #113×2 using Screw Lock.

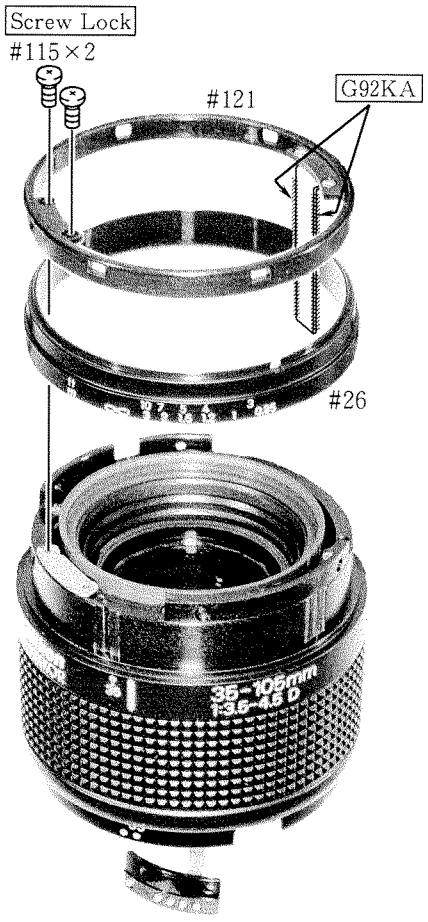
ZOOM SCALE RING



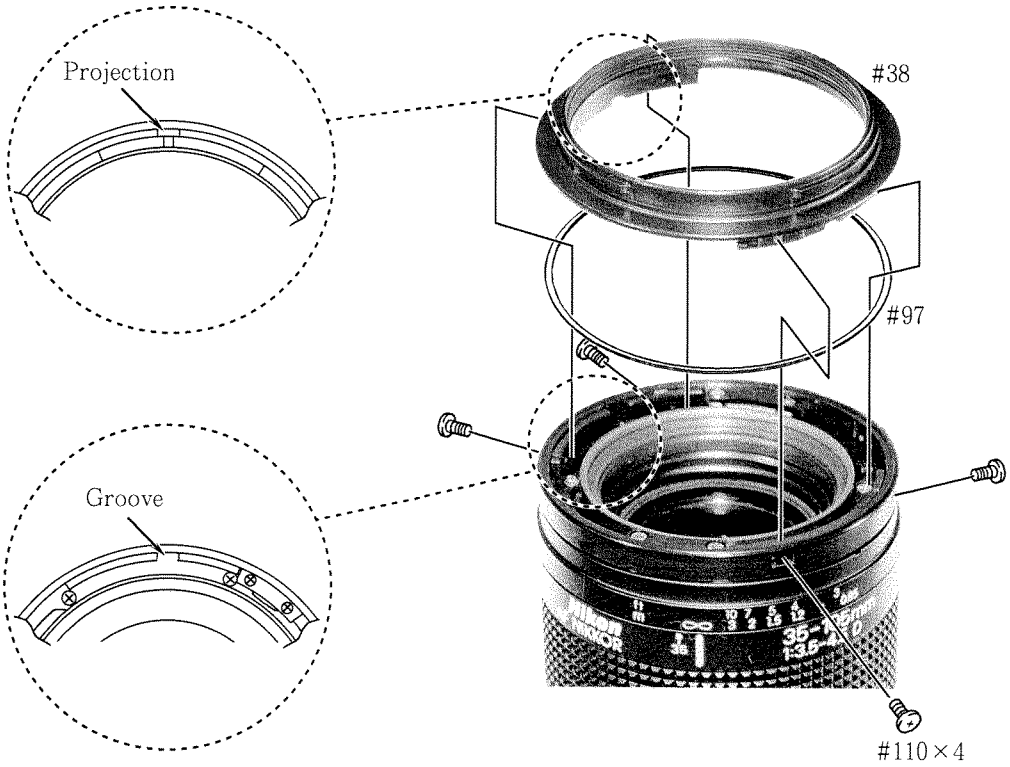
NAME RING



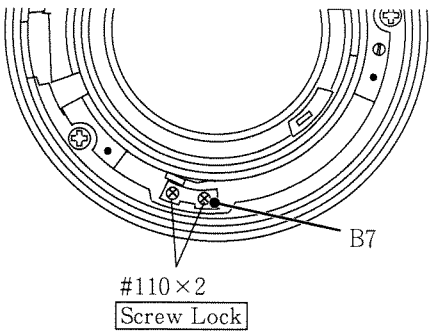
FOCUS RING, DISTANCE SCALE RING



FILTER RING

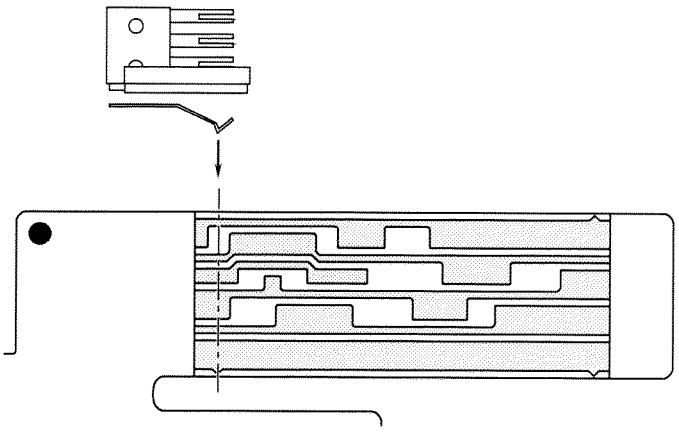


ADJUSTMENT OF ENCODER BRUSH POSITION



① Attach focus ring to the infinity stopper.

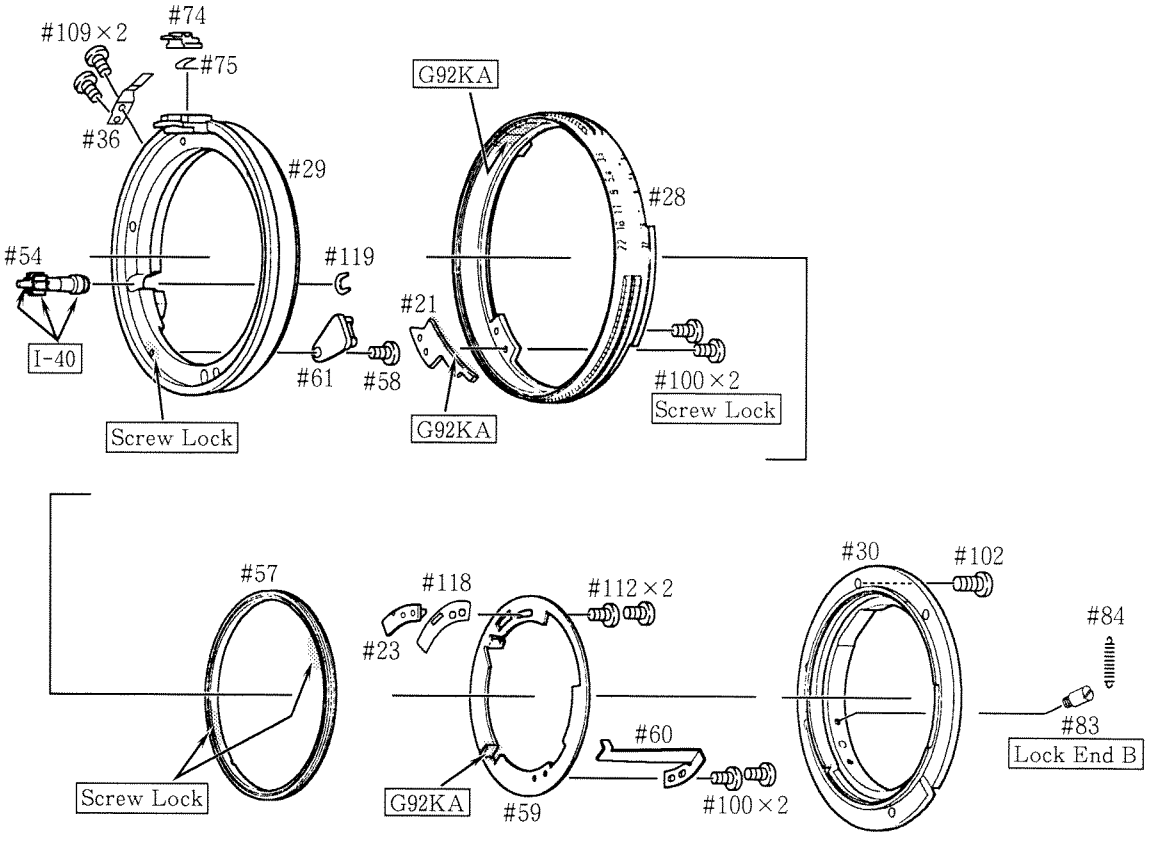
② Unfasten screws #110×2 and let the brush tip come into contact with the line as shown in the figure.



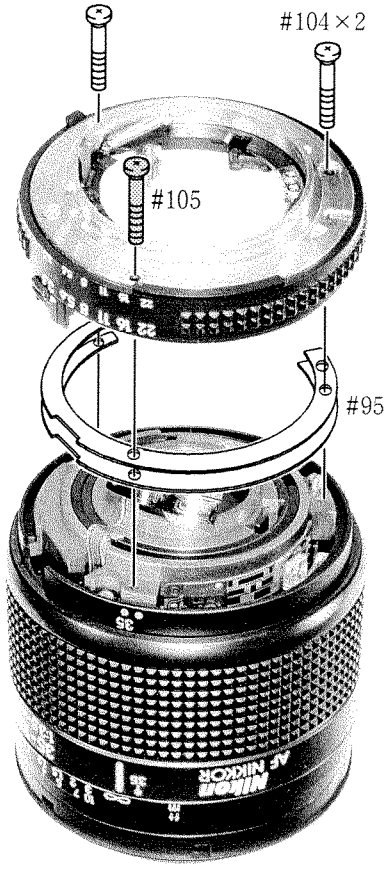
③ Fasten screws #110×2 and turn the focus ring several times to check the location of the brush.

④ Secure screws #110×2 using Screw Lock.

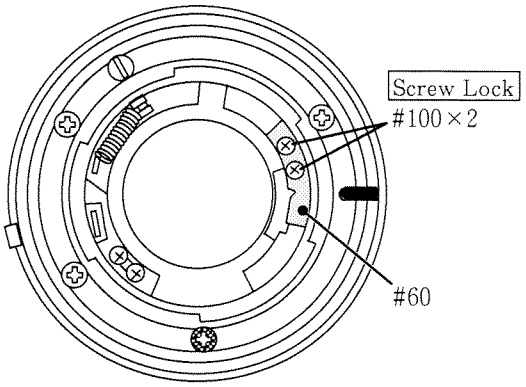
BAYONET MOUNT GROUP



MOUNTING BAYONET MOUNT GROUP



ADJUSTMENT OF APERTURE OPENING



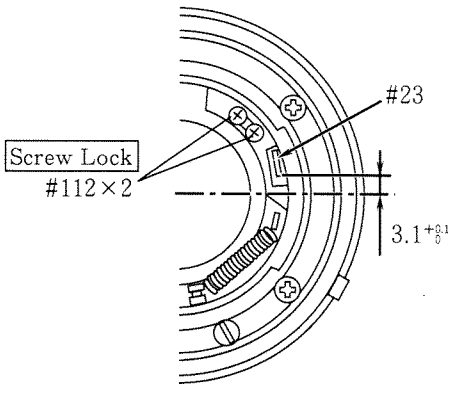
① Unfasten screws #100×2 and move part #60 to adjust the aperture diameter.
As a guide to adjustment, the full aperture (f/3.5) should be the same size as the inside aperture of part #33.

- Aperture diameter should be within the allowable range when the diaphragm ring is rotated forward and backward.
- Aperture lever should be within the allowable range when the aperture lever is snapped by your finger.

② After adjustment, secure screws #100×2 using Screw Lock.

Aperture setting	Inscribed circle diameter (mm)	Toleance (mm)
3.5	16.60	17.60 ～ 15.71
4	14.57	15.74 ～ 13.49
5.6	10.17	11.42 ～ 9.06
8	7.16	8.04 ～ 6.38
11	5.06	5.90 ～ 4.33
16	3.58	4.17 ～ 3.07
22	2.53	2.95 ～ 2.17

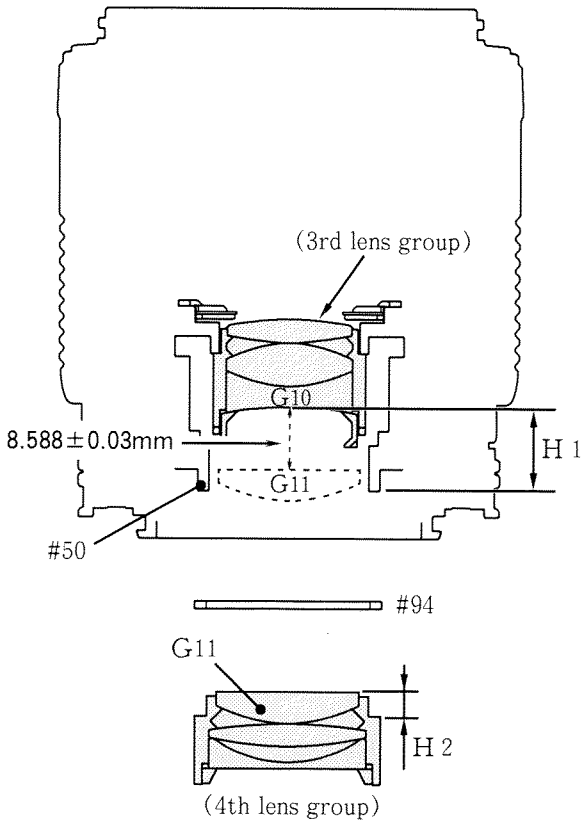
ADJUSTMENT OF APERTURE LEVER POSITION



Unfasten screws #112×2 to adjust the position of the aperture lever #23 so that it comes into the rated value of $3.1^{+0.1}_{0}$ to bring the aperture diameter whitin rated value at full aperture.
After adjustment, fix screws #112×2 using Screw Lock.

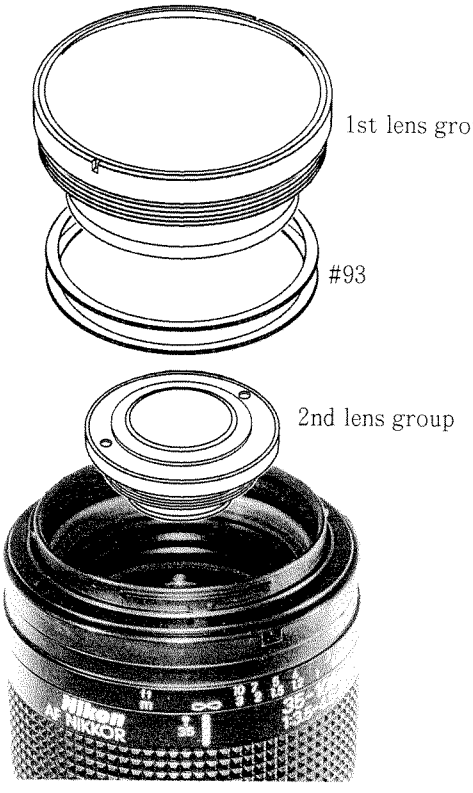
Reference : When adjusting the rated value of $3.1^{+0.1}_{0}$, set the aperture ring to f/3.5 and mount the tool J18004-1 on the bayonet mount. If becomes much easier to adjust if you mount the aperture lever #23 based on the groove of the tool as a reference.

ADJUSTMENT OF DISTANCE AMONG G10 AND G11 LENS

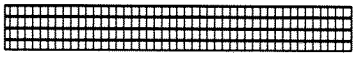


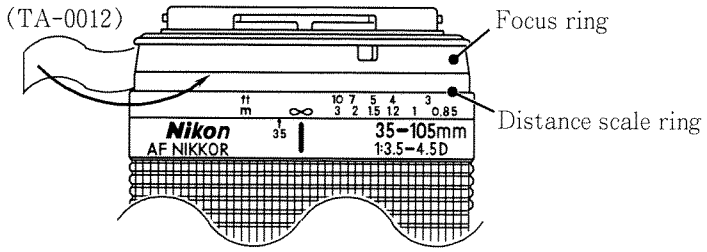
① Mount the 3rd lens group and attach zoom ring to the wide stopper.
② Set the lens on the measuring stand with the bayonet mount facing up.
③ Measure the length (H1) from G10 lens to the 4th lens group mounting surface of #50 using the digital micrometer.
④ Measure the length (H2) from G11 lens to the mounting surface of the 4th lens group using the digital micrometer.
⑤ Calculate the following equation. (Unit: mm)
8.588 − (H1−H2) = Thickness of washer #94
⑥ Decrease the thickness of washer #94 so that the value becomes equal to the value listed above.
⑦ Mount the washer #94 and the 4th lens group.

1st AND 2nd LENS GROUP



RUBBER RING #37





1. Attach focus ring to infinity stopper.
2. Align the ∞ mark on focus ring to index.
3. Secure focus ring and distance scale ring with adhesive tape (TA-0012). Wrap the adhesive tape one round.
4. Attach the rubber ring #37.

ADJUSTMENT OF SHIFE FOCUS (TELE AND WIDE)

1. Align the ∞ mark on focus ring to index. Set aperture to full aperture.
2. Read the value on both Wide and Tele sides respectively.
3. Calculate the following equation.

$$(A-B) \div 1.83 = C$$

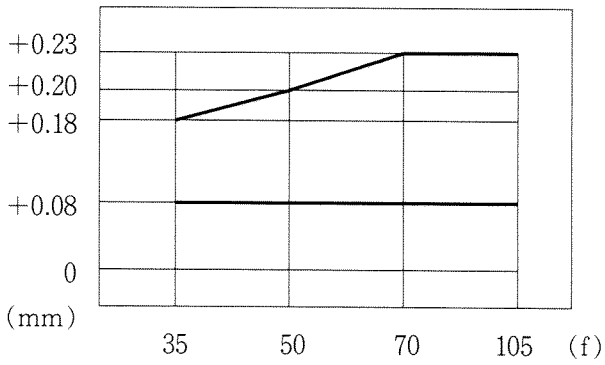
A = Value of Tele side (mm)
B = Value of Wide side (mm)
C = Amount (mm) of adjustment of 1st lens group washer #93

4. Adjust the thickness of washer #93 by the value C calculated from the above equation.
   If the value C is positive, thicken the washer by the value, and if negative, thin the washer.
   Note : Insert thin washer between thick washers when mounting washer #93.
   (Refer to page L10.)

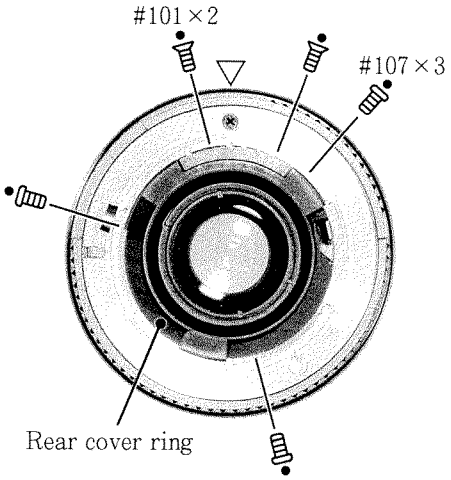
ADJUSTMENT OF BACK FOCUS

1. Align the ∞ mark on focus ring to index. Set aperture to full aperture.
2. Readout values at either Wide or Tele side.
3. Remove the aperture ring.
4. If the value is above the standard, increase the thickness of the washer, otherwise decrease it.
5. Confirm that the value is within the standard range.
   (Refer to page L8.)

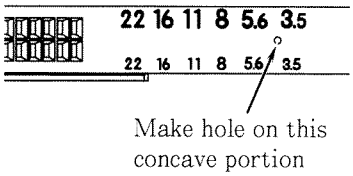
Focal lenght (f)	Standard (mm)
35mm	+0.08 ～ +0.18
50mm	+0.08 ～ +0.20
70mm	+0.08 ～ +0.23
105mm	+0.08 ～ +0.23



REAR COVER RING



ATTACHING METER COUPLING SHOE



(1) Take out aperture ring #28.

(2) Make a hole (ϕ1.1) at the concave portion of aperture ring. Mount meter coupling shoe on the aperture ring and make another hole (ϕ1.1) based on the hole of meter coupling shoe.

Meter coupling shoe	1K406 - 011	×1
Screw	1K010 - 002 - 1	×2
	Change the length of screw from 2.5mm to 2.2mm.	

(3) Mount meter coupling shoe.

Note : Exposure becomes underexposure by approximately 1/5 EV if the lens is mounted on a camera which is designed to set a full aperture F value with a meter coupling shoe.

(4) Assembling.

INSPECTION OF ENCODER SIGNAL

※ Use an F90 (N90) camera body and checking & adjustment programs for F90／N90 to display encoder signal on the computer monitor when making an inspection.

Inspection method

- Start the checking & adjustment programs for F90／N90 and select " E. Checking of AF lens communication ". Make inspection according to instructions as shown on the display.

- Encoder signals should be as described in the table below when the zoom and distance scale are set to specified positions.

Zoom ring / Distance scale position	f＝35mm			f＝50mm			f＝70mm			f＝105mm		
	Encoder signal											
	1	2	3	1	2	3	1	2	3	1	2	3
Most infinity position	52h	D8h	D1h	52h	D8h	F2h	52h	D8h	F9h	52h	D8h	5Ah
3m										52h	71h	5Ah
2m										52h	D9h	5Ah
Most close distance position										52h	7Bh	5Ah

◎ If encoder signal values are different from those shown in the table, following causes moust be considered.
Distance brush is mounted in the wrong position, distance brush or FPC is defective, encoder patterns on the FPC are contaminated, or the FPC is fixed in the wrong position.