INC
JAA33251－R.3387.A

作成承認印	配布許可印
ニコンカメラサービス部 GM	

AF Nikkor 85mm f/1.4 D

Ai-s

REPAIR MANUAL
修　理　指　針

Nikon | NIKON CORPORATION
Tokyo, Japan

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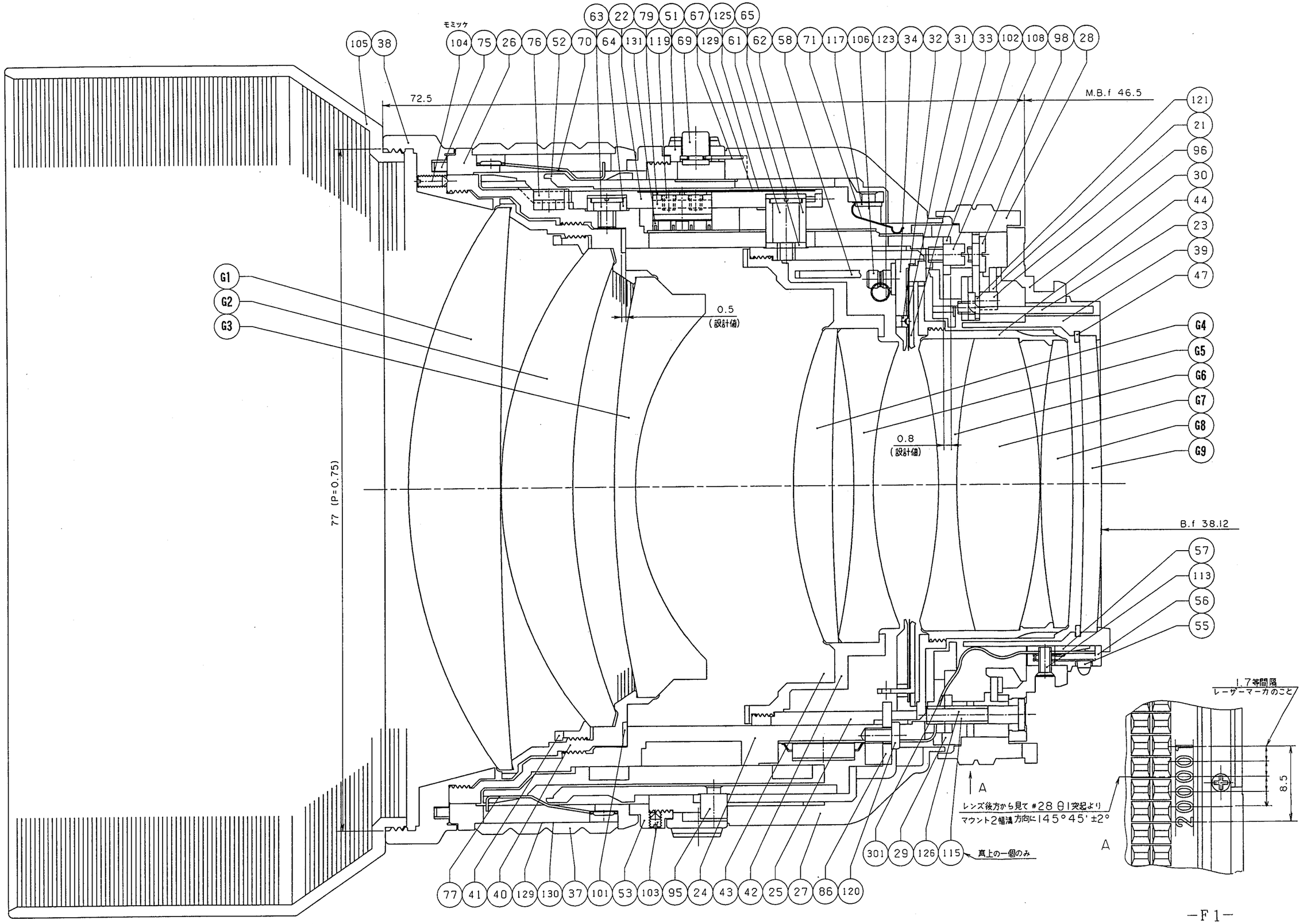
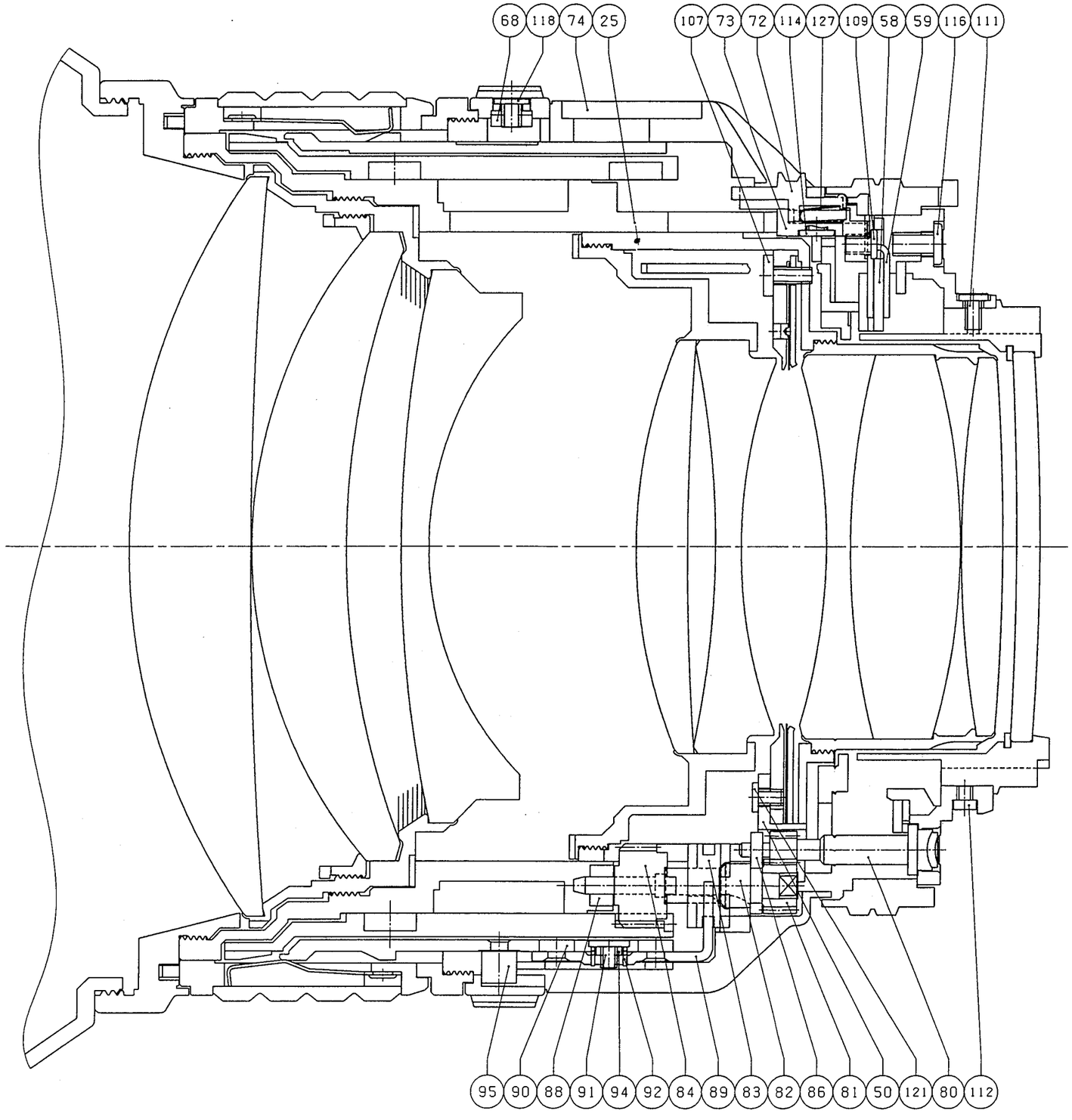
組立図 Constrcution of the Lens

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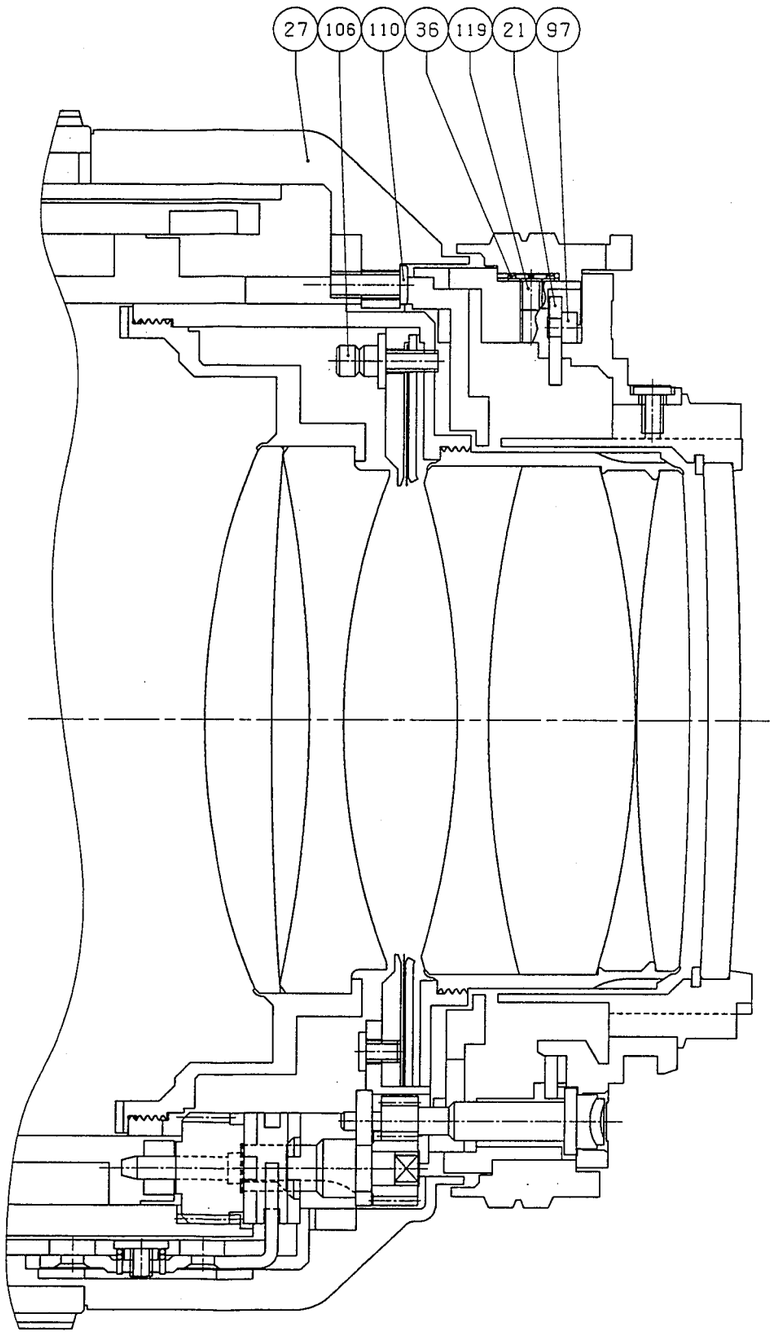
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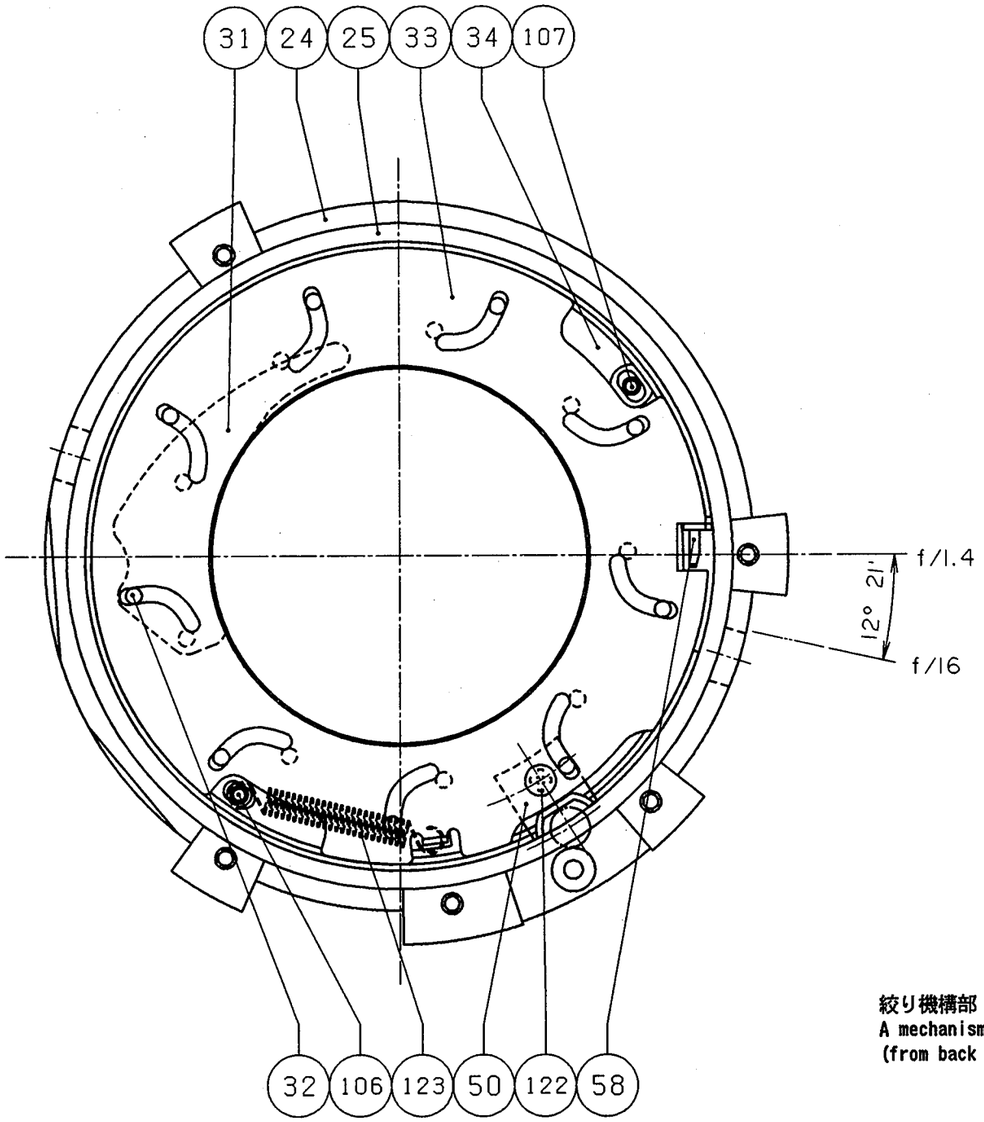
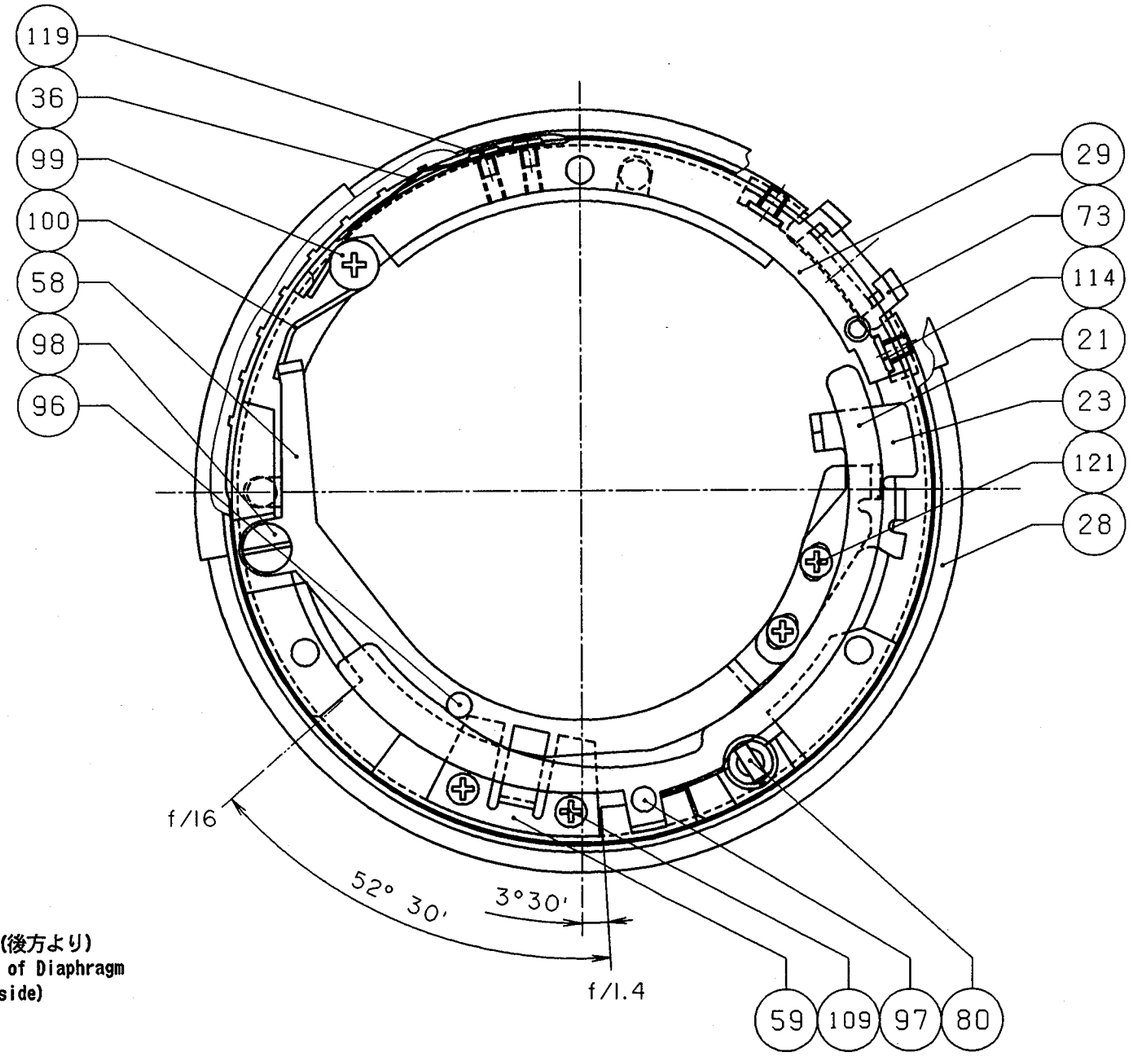
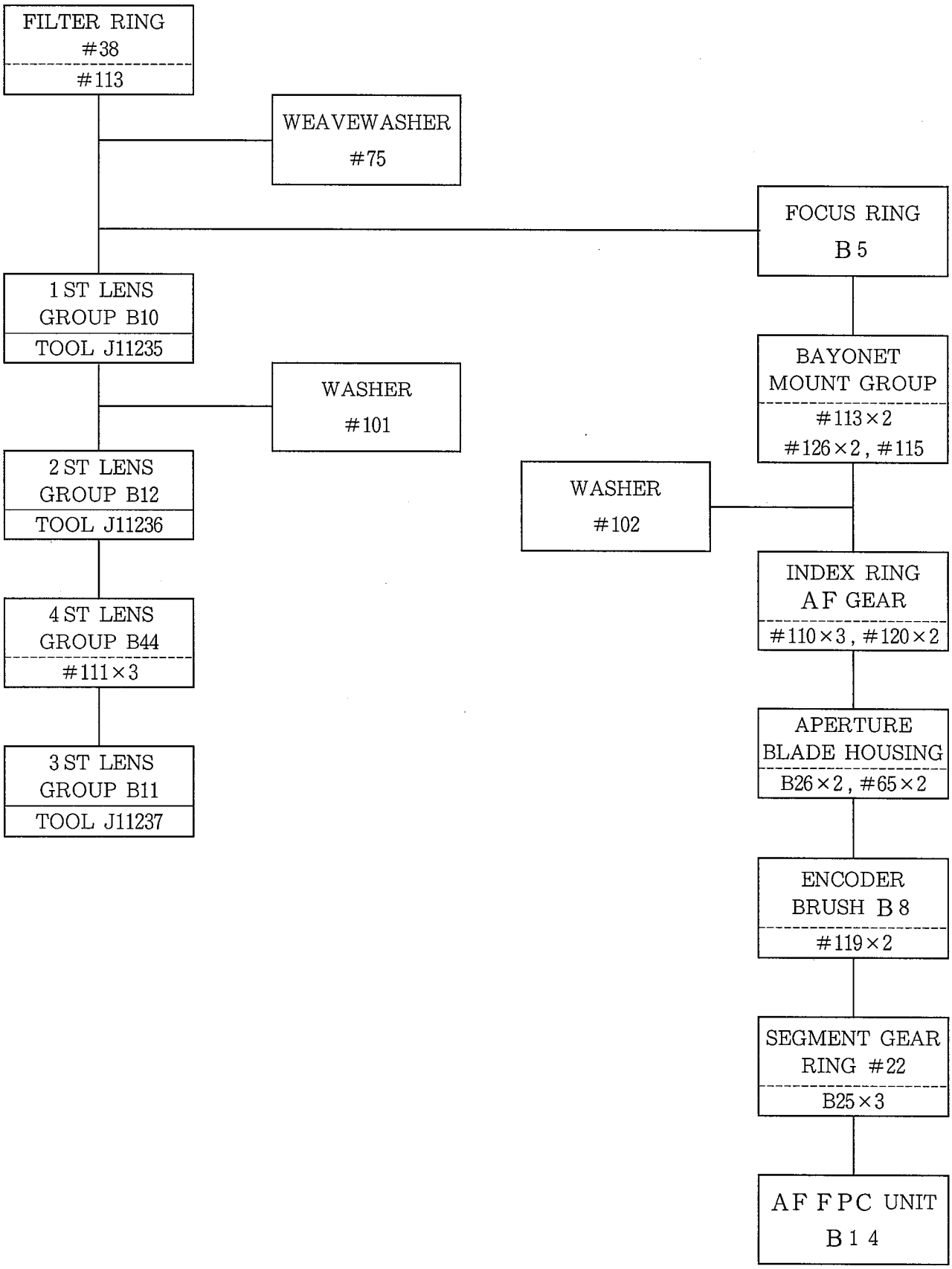




絞り機構部（後方より）
A mechanism of Diaphragm
(from back side)

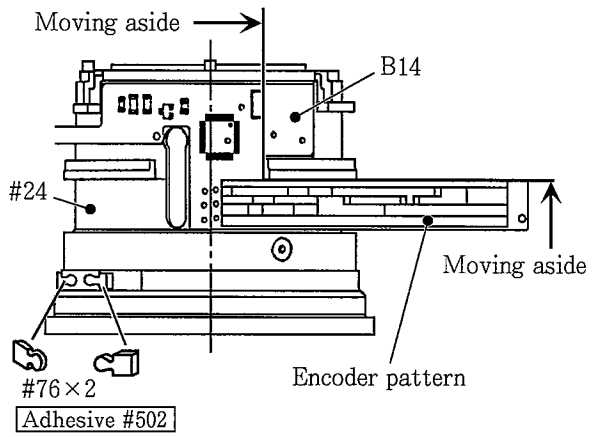
DISASSEMBLING／ASSEMBLING／ADJUSTMENT

1. DISASSEMBLING PROCEDURE CHART



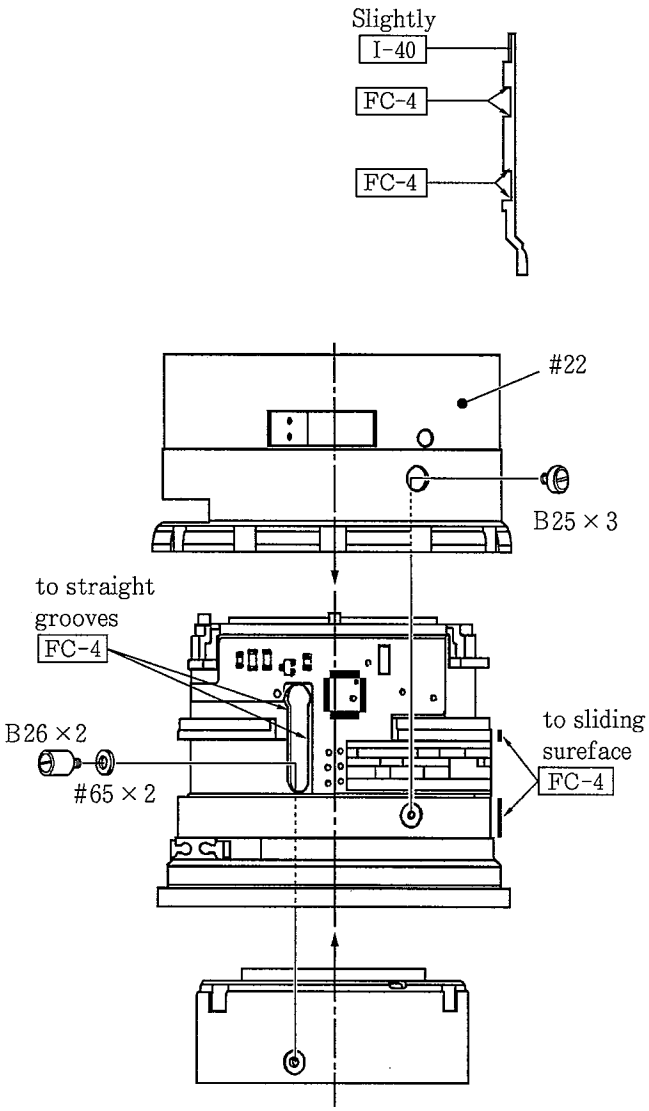
2. ASSEMBLING／ADJUSTMENT

AF FPC UNIT B14・FOCUS RING STOPPER #76



● Attach the AF FPC unit B14 on #24 by moving it aside as shown in the figure.

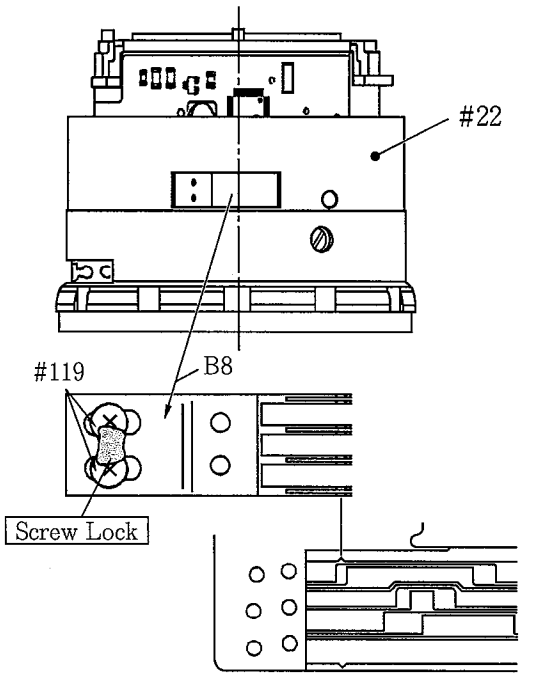
SEGMENT GEAR RING#22・APERTURE BLADE HOUSING GROUP



Inspection:

Check operation by rotating the segment gear ring #22.

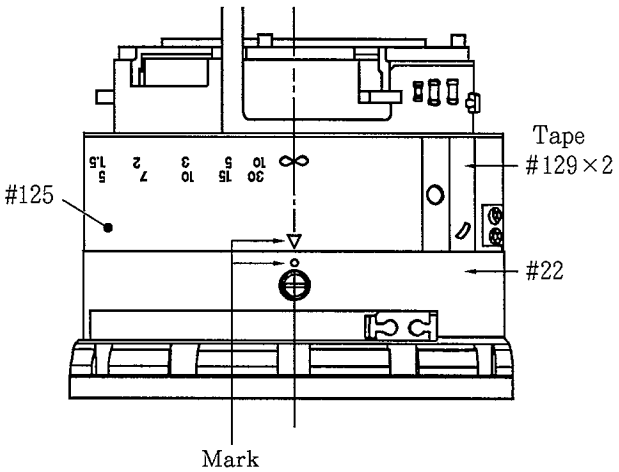
ENCODER BRUSH UNIT B8



Encoder circuit patterns

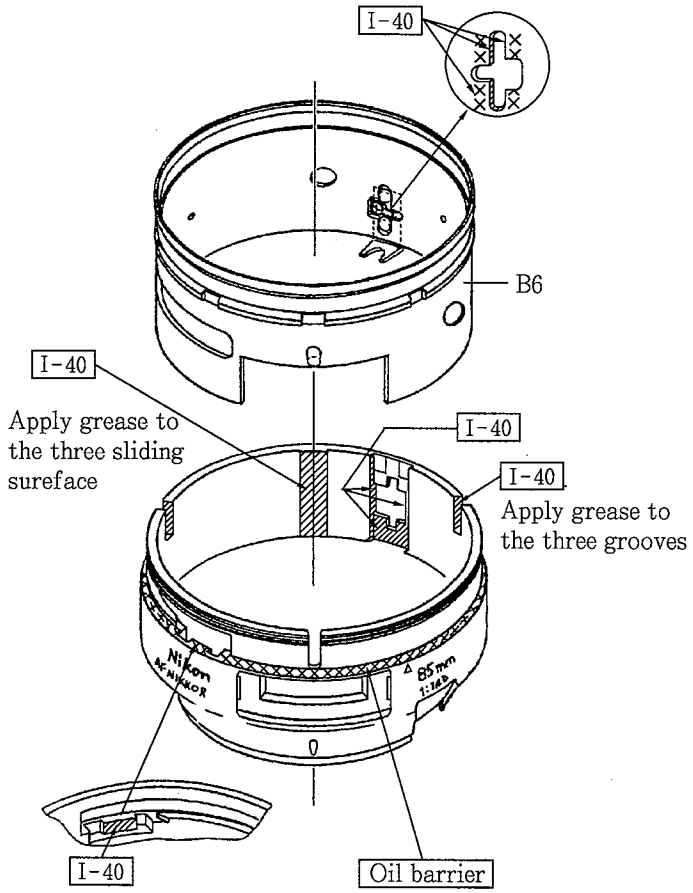
- Adjustment of encoder brush B8 position
  ① Set the segment gear ring #22 to infinity.
  ② Mount parts B8 and let the brush tip come into contact with the line as ahown in the figure.
  ③ Fasten screws #119×2 and turn the #22 several times to check the location of the brush.
  ④ Secure screws #119×2 using Screw Lock.

DISTANCE INDEX SEAT #125

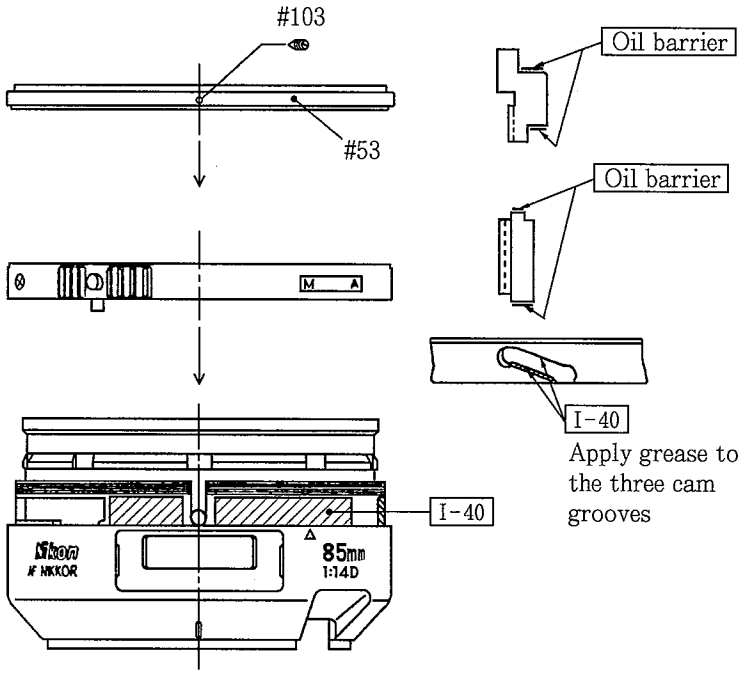


- Align the mark " ▽ " on the index seat #125 with the mark " ○ " on the segment gear ring #22 to cement together.
  (Refer to the figure below.)

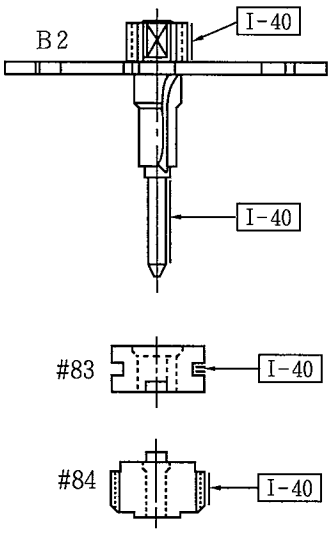
A－M RING GROUP B6

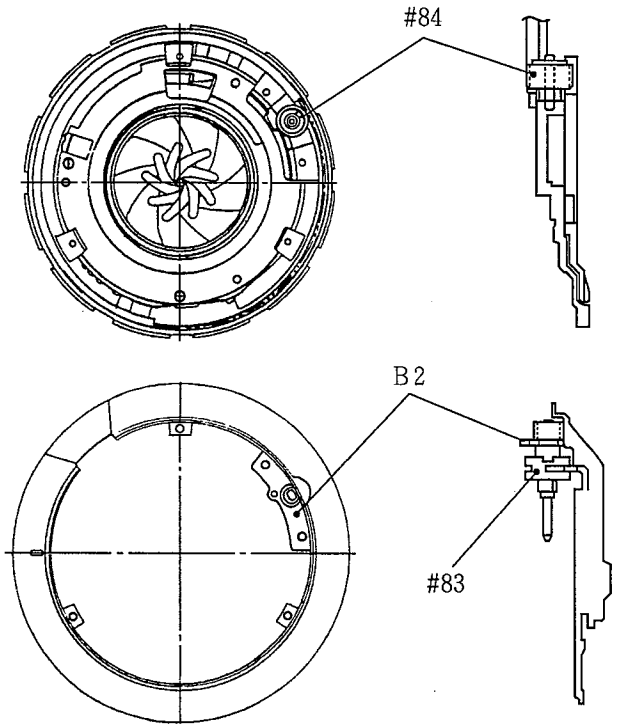


A－M RING

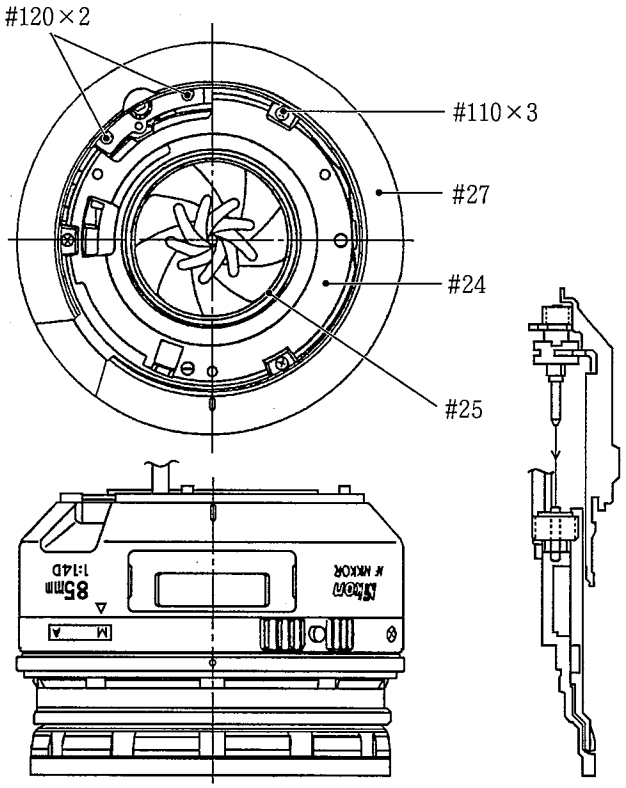


CLUTCH GEAR



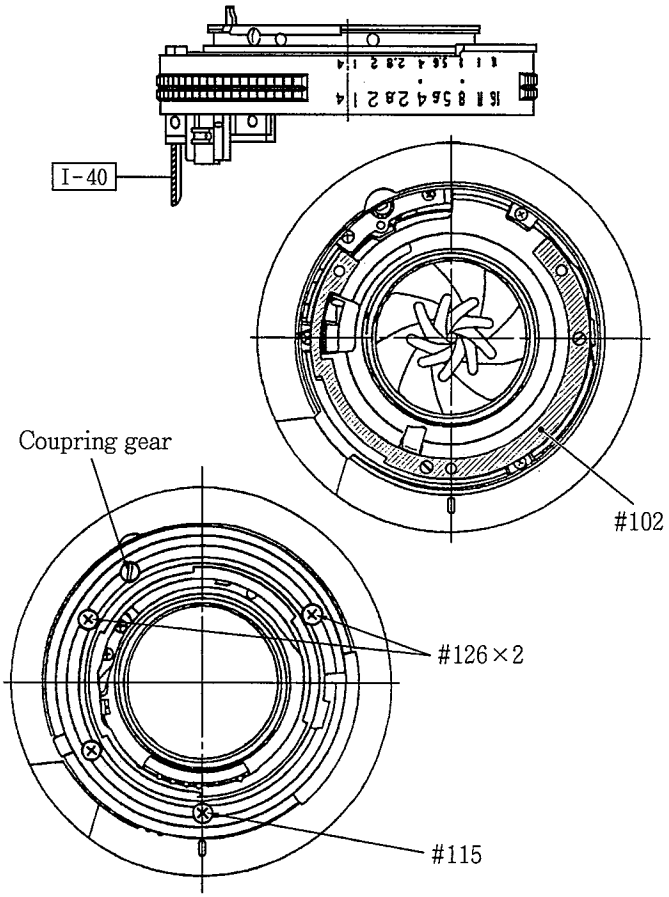


INDEX RING



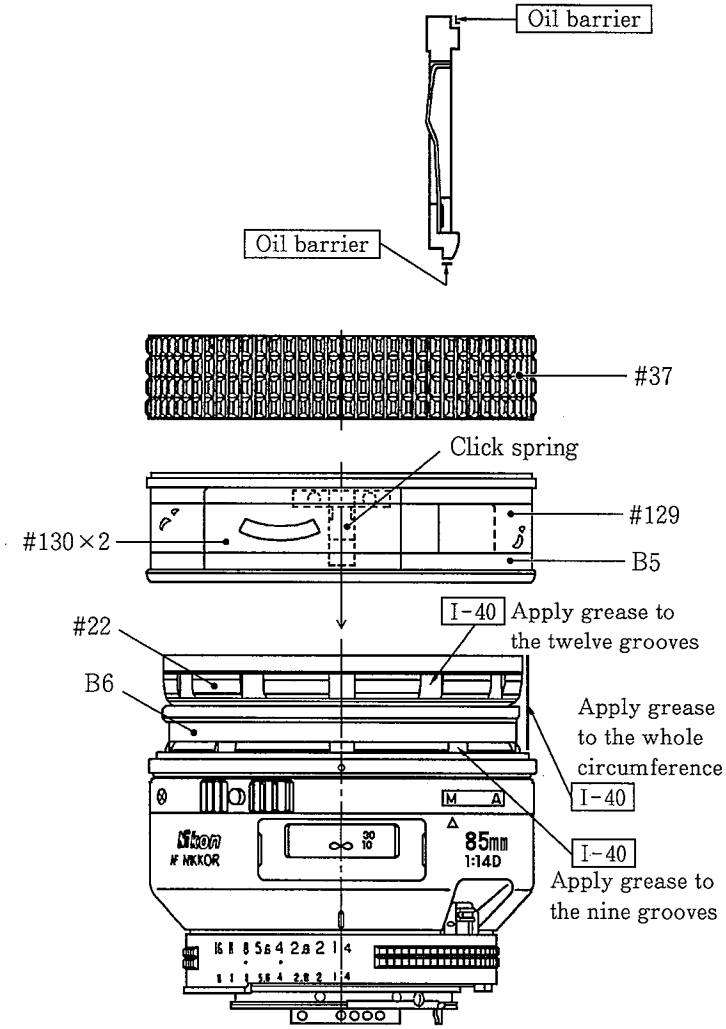
● Make sure that index ring (#27) and lead ring (#24) are assembled correctly, then tighten the screws (#110×3, #120×2). Move down the aperture blade housing group by turning the focusing ring to make a space for confirmation of assembling.

BAYONET MOUNT GROUP



● Put a washer (#102--standard thickness 0.8mm) below bayonet mount.

FOCUS RING B5



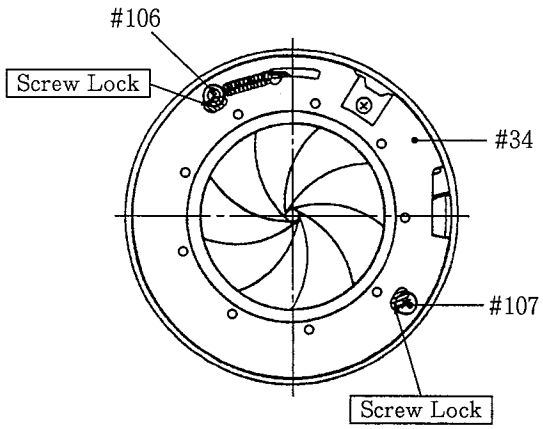
●Setting A-M ring to "A", attach focus ring.

Inspection : After setting A-M ring to "M", check to see if click spring fits in click groove of #22 and B6.

ADJUSTMENT OF APERTURE OPENING

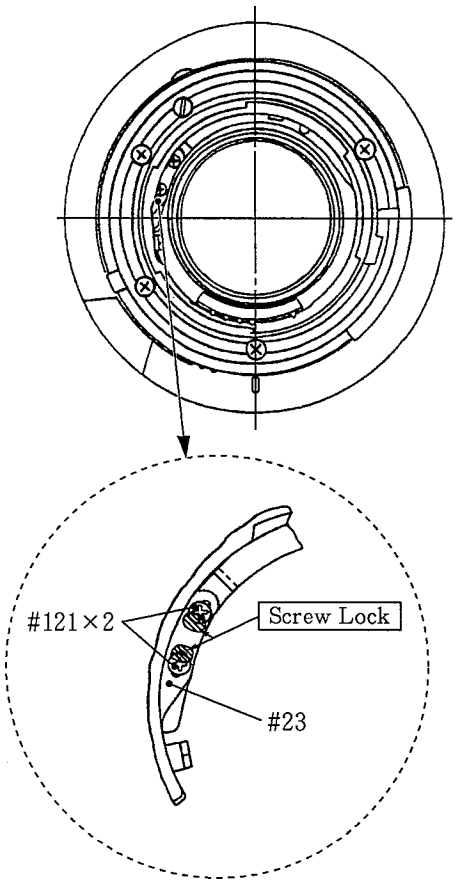
Unfasten screws #106 , #107 and move part #34 to adjust the aperture diameter. As a guide to adjustment, the full aperture (f／1.4) should be the same size as the inside diameter of part #33. (The inside diameter of part #33 is 30. 40mm , the same as that of inscribed circle diameter.)

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



Aperture setting	Inscribed circle diameter (mm)	Toleance (mm)
1.4	30.40	31.80 ～ 29.75
2	21.29	22.99 ～ 19.71
2.8	14.88	16.07 ～ 13.78
4	10.46	11.30 ～ 9.68
5.6	7.37	8.27 ～ 6.57
8	5.21	5.85 ～ 4.64
11	3.68	4.29 ～ 3.15
16	2.60	3.03 ～ 2.23

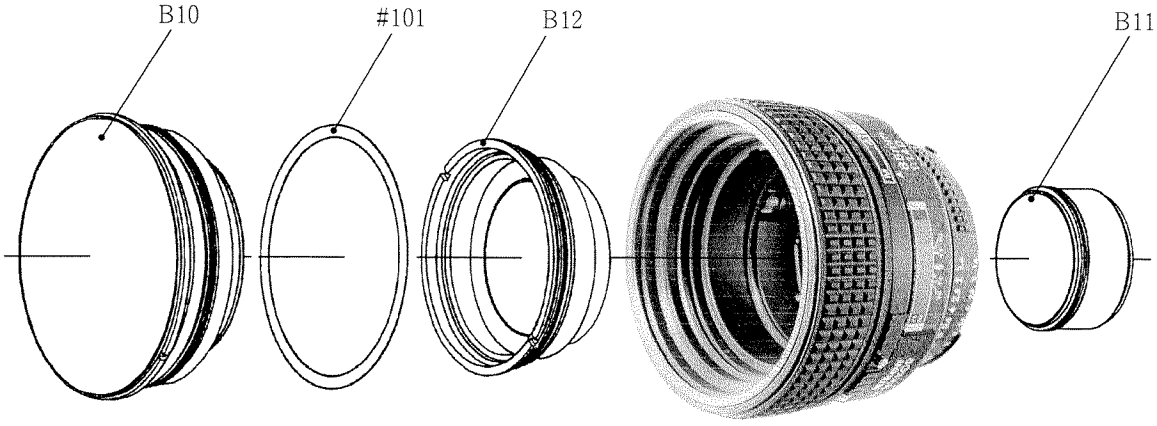
ADJUSTMENT OF APERTURE LEVER POSITION



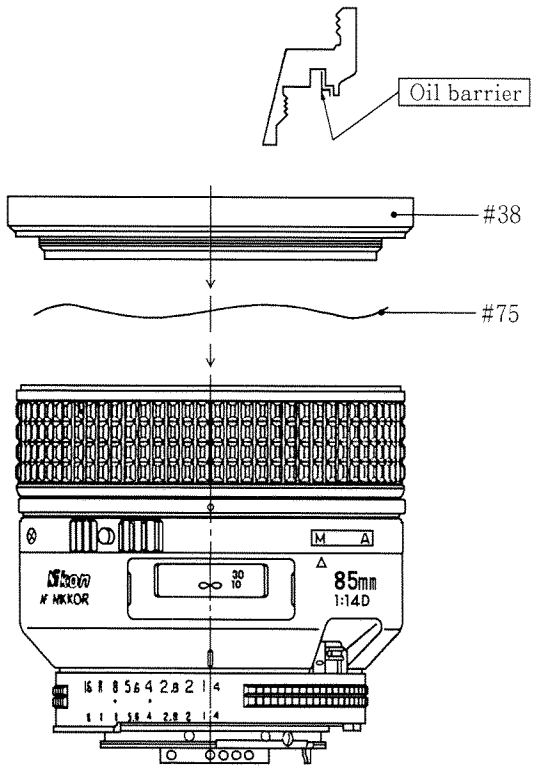
① Unfasten screws #121×2 to adjust the position of the aperture lever #23 so that it comes into the rated value of $3.1^{+0.1}_{0}$ to bring the aperture diameter whitin rated value at full aperture.
Together with this, adjust the horizontal position so that it does not come in contact with the bayonet mount and rear cover ring.

② After adjustment , fix screws #121×2 usng Screw Lock.

LENS HOUSING GROUP



FILTER RING



ADJUSTMENT OF BACK FOCUS

① Set the focusing ring to infinity (∞), and aperture to full aperture (f 1.4).

② Readout M. B. F values.

③ Adjust the thickness of washer #102 by the difference between the standard value and the value read out.

- If the difference is positive : Make washer thicker.
- If the difference is negative : Make washer thinner.

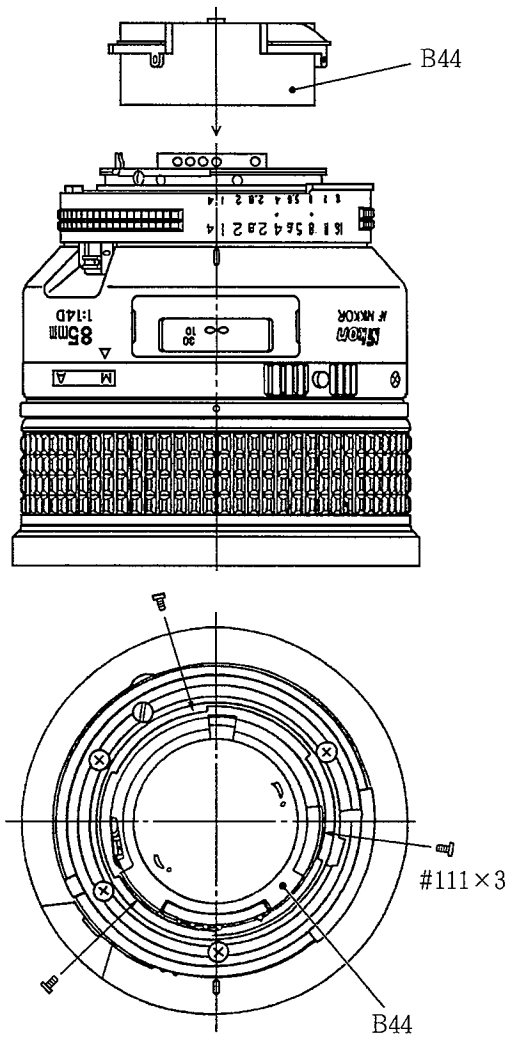
④ Check to see if the value is within the range of standard values.

⑤ Check to see if the focusing corresponds to infinity (∞) using a collimator.

Note : When you adjust infinity without 4th lens group (B44), add 0.013mm to the following standard value.

Standard value : ＋0．04 ～ ＋0．10 mm

4th LENS GROUP B44



INSPECTION OF ENCODER SIGNAL

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

INSPECTION METHOD

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

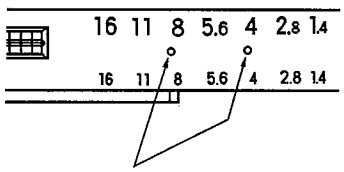
＊Encoder signal should be as described in the table below when the distance scale are to specified positions.

◎If encoder signal values are different from those shown in the table, following causes must be considered.

Encoder brush is mounted in the wrong position , brush or FPC is defective, encoder patterns on the FPC are contaminated, or the FPC is fixed in the position.

Distance scale position	Encoder signal		
	1	2	3
Most infinity position	96h	82h	94h
1.5m	96h	BDh	94h
Most close distance position	96h	C6h	94h

ATTACHING METER COUPLING SHOE



Make holes on these two concave portions.

① Take out aperture ring #28.

② Make to holes ϕ1.1 on the concave portion of aperture ring.

③ Attach meter coupling shoe.

Meter coupling shoe	1K406－029	×1
Screw	1K010－002－1	×2

④ Assembling.