

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

(3000.000-)



REPAIR MANUAL

Nikon | NIKON CORPORATION
Tokyo, Japan

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〔 1 〕 仕 様

焦 点 距 離 :	3 5 ~ 1 0 5 m m
最 大 口 径 比 :	1 : 3.5 ~ 4.5
レ ン ズ 構 成 :	1 2 群 1 6 枚
画 角 :	6 2 ° ~ 2 3 ° 2 0 ′
距 離 目 盛 :	∞ ~ 1.4 m, 5 f t (併記)
焦点距離目盛 :	3 5, 5 0, 7 0, 1 0 5
ズーミング :	直進式
フォーカシング :	回転式 (回転角 7 3 ° 2 4 ′)
絞 り 目 盛 :	3.5, 5.6, 8, 1 1, 1 6, 2 2 (f/4 はクリックストップのみ)
絞 り 方 式 :	自動絞り (最小絞りロック可能)
測 光 方 式 :	開放測光
マ ウ ン ト :	ニコン F マウント
アタッチメントサイズ :	5 2 m m (P = 0. 7 5)
大 き さ :	φ 7 0 m m (最大径) × 9 5.5 m m (全長)
重 量 :	5 1 0 g
マクロ方式 :	ズームリングをワイド端にて回転させて行う。

[2] S p e c i f i c a t i o n s

Focal length: 35~105mm

Maximum aperture: 1 : 3.5 ~ 4.5

Lens construction: 16 elements 12 groups

Picture angle : 62° ~ 23° 20'

Distance scale: ∞ ~1.4m, 5ft

Focal length scale: 35, 50, 70, 105

Focus/zoom control: Via two independent control rings

Focusing: Rotating angle

Aperture scale: 3.5, 5.6, 8, 11, 16, 22

Diaphragm: Fully automatic
Minimum aperture exposure measurement

Metering: Full-aperture exposure measurement

Mount: Nikon F mount

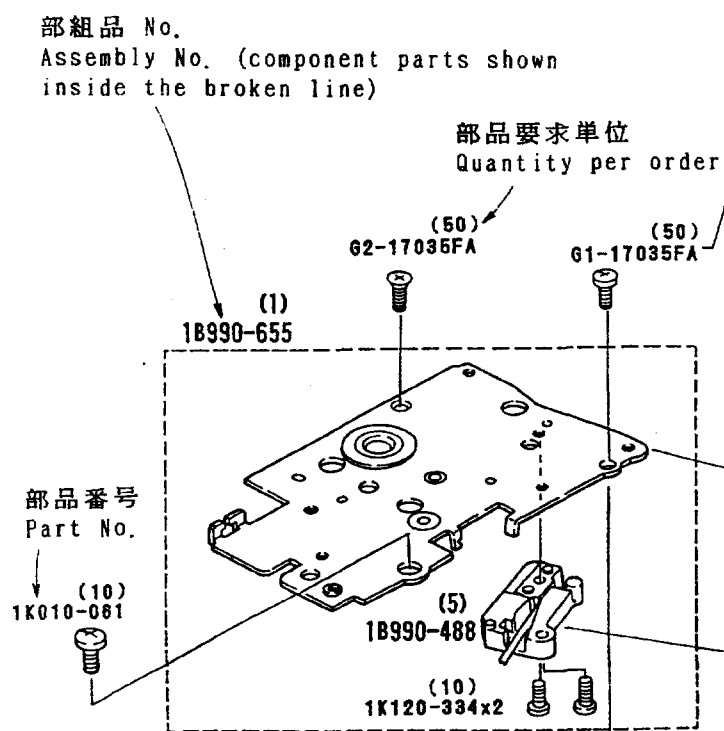
Attachment size: 52mm (P=0.75mm)

Dimensions: ϕ 70mm (dia.) $\times$ 95.5mm (long)

Weight: 510g

Macro focusing function: Push macro button while turning the zoom ring from the 35mm setting; maximum reproduction ratio is 1:4

展開図の見方 How to use explosion drawings



項目 Part Classification	販売区分 Term of Supply	記号 Mark
破線外で部番の入っているもの Part with Part No., shown outside the broken line	単部品で要求できるもの Available as individual part	○
破線外で部番のないもの Part without Part No., shown outside the broken line	修理部品と考えないもの Not available as repair part	×
破線内で部番のないもの Part without Part No., shown inside the broken line.	部組品でなければ要求できないもの Available only as assembly.	△
破線内で部番の入っているもの Part with Part No., shown inside the broken line	単部品でも部組品でも要求できるもの Available as assembly or individually	○△

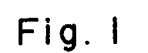


Fig. 1

〔 3 〕 部品表 Parts List

AF 35~105/3.5~4.5

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部品番号 Part No.	補助番号 Ckt No.	名 称 Name	1台分 個 数 Pcs. Per Unit	部組品番号 Assembly	参照 図番 Fig. No.	販売区分 Term of Delivery	備 考 Remarks	要求単位 Q'ty per order
1K003-022	108	十字穴小ネジ Screw	2		1. 3	○		5
*1K010-089	103	小ネジ Screw	2		1. 3	○		10
1K110-284	37	ゴムリング Ruuber ring	1		1. 2	○		5
1K110-285	54	ゴムリング Ruuber ring	1		1. 2	○		5
*1K115-806	96	テープ Tape	2		1. 2	×	TA-0001	
1K116-593	69	ファイセーム Flock paper	1		1. 3	○		5
1K116-594	74	ファイセーム Flock paper	2		1. 3	○		5
1K116-595	75	ガイド環 φ4.5 Guide ring	0-4	18999-411	1. 2	○△		5
1K116-596	75	ガイド環 φ4.49 Guide ring	0-4	18999-412	1. 2	○△		5
1K116-597	75	ガイド環 φ4.48 Guide ring	0-4	18999-413	1. 2	○△		5
1K116-598	75	ガイド環 φ4.51 Guide ring	0-4	18999-414	1. 2	○△		5
1K116-599	98	テープ Tape	1		1. 2	×	TA-0001	

部品表 Parts List

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部品番号 Part No.	補助番号 Ckt No.	名 称 Name	1台分 個 数 Pcs. Per Unit	部組品番号 Assembly	参照 図番 Fig. No.	販売区分 Term of Delivery	備 考 Remarks	要求単位 Q'ty per order
*1K120-002-1 (1K120-002)	120	小ネジ Screw	3		1. 2	○		10
*1K120-003	114	小ネジ Screw	3		1. 2	○		10
*1K120-015	111	小ネジ Screw	2	1B314-134-1	1. 2	○△		10
			2		3. 4	○		
*1K120-042	128	小ネジ Screw	4		1. 2 3	○		10
*1K120-063	110	小ネジ Screw	2		1. 3	○		5
*1K120-093	122	小ネジ Screw	2		1. 3 4	○		10
*1K120-129	106	小ネジ Screw	1		1. 3	○		10
*1K120-155	115	小ネジ Screw	3		1. 2 3. 4	○		10
*1K120-258	113	小ネジ Screw	1		1. 3	○		10
*1K120-265 <i>OLD</i>	105	小ネジ Screw	2		1. 2	○	<i>9228</i>	10
1K120-325	136	小ネジ Screw	1		1. 2	○		5
1K120-354	141	小ネジ Screw	2		1. 3	○		10
1K123-001	119	小ネジ Screw	1		1. 2	○		10
1K123-134	132	小ネジ Screw	0-2		1. 2	○		5
1K123-135	132	小ネジ Screw	0-2		1. 2	○		5
1K123-136	132	小ネジ Screw	0-2		1. 2	○		5
1K120-360	105	小ネジ Screw	2		1. 2	○	RP-9228	5

部品表 Parts List

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部品番号 Part No.	補助番号 Ckt No.	名 称 Name	1台分 個 数 Pcs. Per Unit	部組品番号 Assembly	参照 図番 Fig. No.	販売区分 Term of Delivery	備 考 Remarks	要求単位 Q'ty per order
*1K123-137	132	小ネジ Screw	0-2		1. 2	○		5
*1K123-138	132	小ネジ Screw	0-2		1. 2	○		5
*1K123-139	132	小ネジ Screw	0-2		1. 2	○		5
1K123-167	99	小ネジ Screw	3		1. 2	○		5
*1K126-051	107	小ネジ Screw	1		1. 3	○		10
1K126-101	83	小ネジ Screw	2		1. 2	○		5
*1K130-294	89	小ネジ Screw	1		1. 3 4	○		5
*1K130-299	90	小ネジ Screw	1		1. 4	○		5
1K130-361	59	小ネジ Screw	1		1. 2	○		10
1K130-362	73	小ネジ Screw	4		1. 2	○		10
*1K160-316	95	座金 Washer t=0.15	0-1		1. 2	○		5
*1K160-317	95	座金 Washer t=0.2	0-1		1. 2	○		5
*1K160-318	95	座金 Washer t=0.25	0-1		1. 2	○		5
*1K160-326	95	座金 Washer t=0.1	0-1		1. 2	○		5
*1K160-327	95	座金 Washer t=0.05	0-1		1. 2	○		5
*1K160-671	104	座金 Washer t=0.2	1		1. 3	○		5

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部品番号 Part No.	補助番号 Ckt No.	名 称 Name	1台分 個 数 Pcs. Per Unit	部組品番号 Assembly	参照 図番 Fig. No.	販売区分 Term of Delivery	備 考 Remarks	要求単位 Q'ty per order
1K160-830	140	座金 Washer	t=0.5 1		1. 2	○		5
*1K160-831	97	座金 Washer	t=0.05 0-1		1. 2	○		5
*1K160-832	97	座金 Washer	t=0.06 0-1		1. 2	○		5
*1K160-833	97	座金 Washer	t=0.07 0-1		1. 2	○		5
*1K160-834	97	座金 Washer	t=0.08 0-1		1. 2	○		5
*1K160-835	97	座金 Washer	t=0.09 0-1		1. 2	○		5
*1K160-836	97	座金 Washer	t=0.1 0-1		1. 2	○		5
*1K160-837	97	座金 Washer	t=0.2 0-1		1. 2	○		5
*1K160-838	97	座金 Washer	t=0.3 0-1		1. 2	○		5
*1K160-839	97	座金 Washer	t=0.5 0-1		1. 2	○		5
1K161-080	97	座金 Washer	t=0.5 0-1		1. 2	○		5
*1K208-097	80	EE ロックボタン EE lock button	1		1. 3	○		5
1K208-101	127	ボタン Button	1		1. 3	○		5
*1K225-077-1	86	引張バネ Spring	1		1. 2	○		5
*1K230-372	91	バネ Spring	1		1. 4	○		5
1K240-020-1 (1K240-020)	36	板バネ Leaf spring	0-1		1. 2	○		5

部品表 Parts List

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部品番号 Part No.	補助番号 Ckt No.	名 称 Name	1台分 個 数 Pcs. Per Unit	部組品番号 Assembly	参照 図番 Fig. No.	販売区分 Term of Delivery	備 考 Remarks	要求単位 Q'ty per order
*1K240-021-1 (1K240-021)	36	板バネ Leaf spring	0-1		1. 3	○		5
*1K240-188-1 (1K240-188)	36	板バネ Leaf spring	0-1		1. 3	○		5
*1K240-416-1 (1K240-416)	58	板バネ Leaf spring	2		1. 2	○		5
*1K240-555	137	板バネ Leaf spring	1		1. 3	○		5
*1K240-563	81	板バネ Leaf spring	1		1. 3	○		5
*1K240-578-1 (1K240-578)	87	板バネ Leaf spring	1		1. 3	○		5
1K240-579	126	板バネ Leaf spring	1		1. 3	○		5
1K240-794	82	板バネ Leaf spring	1		1. 2	○		5
1K277-079	63	平歯車 Gear	1		1. 2	○		5
*1K300-069	21	絞りカム Aperture cam	1		1. 3 4	○		5
1K314-321	57	曲げレバー Lever	1		1. 2	○		5
1K330-020	88	ブッシュ Bush	2		1. 2	○		5
1K400-275	38	フィルター取付け環 Filter ring	1		1. 2	○		1
1K404-105	30	バヨネット Bayonet mount	1		1. 2	○		1
追加 ADD	1K160-776	95	座金 Washer	0-1		1. 2	○	5
追加 ADD	1K160-777	95	座金 Washer	0-1		1. 2	○	5
追加 ADD	1K160-778	95	座金 Washer	0-1		1. 2	○	5

部品表 Parts List

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部品番号 Part No.	補助番号 Ckt No.	名 称 Name	1台分 個 数 Pcs. Per Unit	部組品番号 Assembly	参照 図番 Fig. No.	販売区分 Term of Delivery	備 考 Remarks	要求単位 Q'ty per order
1K437-172	22	キー Key	2		1. 2	○		5
1K437-173	68	曲板 Bent plate	1		1. 2	○		5
1K437-174	72	曲板 Bent plate	1		1. 2	○		5
1K437-175	131	曲板 Bent plate	1		1. 2	○		5
1K475-405	25	ズーム目盛環 Zoom index ring	1		1. 2	○		1
1K475-406	26	距離環 Focus ring	1		1. 2	○		1
1K475-407	28	絞り環 Aperture ring	1		1. 2	○		1
1K500-593-1	46	G12-G16 レンズ室組 G12-G16 lens housing	1		1. 2	○		1
1K500-594-2 (1K500-594)	85	G9-G12 レンズ室組 G9-G12 lens housing	1		1. 2	○		1
1K515-112	44	G10, G11 分離環 G10, G11 space ring	1		1. 2	○		5
1K520-452-2 (1K520-452)	40	G1 押さえ環 G1 retaining ring	1		1. 2	○		1
1K520-453-2 (1K520-453)	41	G3 押さえ環 G3 retaining ring	1		1. 2	○		1
1K500-455-2 (1K520-455)	45	G11 押さえ環 G11 retaining ring	1		1. 2	○		1
1K520-456-1 (1K520-456)	47	G12 押さえ環 G12 retaining ring	1		1. 2	○		1
1K520-457-2 (1K520-457)	48	G15, G16 押さえ環 G15, G16 retaining ring	1		1. 2	○		1
1K520-803	43	G4 押さえ環 G4 retaining ring	1		1. 2	○		1

部品表 Parts List

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部品番号 Part No.	補助番号 Ckt No.	名 称 Name	1台分 個 数 Pcs. Per Unit	部組品番号 Assembly	参照 図番 Fig. No.	販売区分 Term of Delivery	備 考 Remarks	要求単位 Q'ty per order
1K535-320	52	ズーム環 Zoom ring	1		1. 2	○		1
*1K540-133	39	後部保護環 Rear cover ring	1		1. 2	○		1
1K572-131	33	絞り作動板 Blade actuating plate	1		1. 2	○		5
*1K600-705	94	平板 Plate	1		1. 3	○		5
1K600-750	139	平板 Plate	2		1. 2	○		5
*1K610-807	93	曲板 Bent plate	1		1. 3 4	○		5
1K611-067	66	曲板 Bent plate	1		1. 3	○		5
1K611-068	135	曲板 Bent plate	1		1. 3	○		5
1K630-528	62	丸環 Ring	1		1. 2	○		1
*1K640-654	121	丸環 Ring	1		1. 2	○		1
1K640-818	27	社名環 Name ring	1		1. 2	○		1
1K640-819	29	マウント 固定リング Fixed ring	1		1. 3 4	○		5
1K640-821	60	丸環 Ring	1		1. 2	○		1
1K640-822	79	丸環 Ring	1		1. 3	○		5
1K640-823	133	丸環 Ring	1		1. 2	○		1

部品表 Parts List

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部品番号 Part No.	補助番号 Ckt No.	名 称 Name	1台分 個 数 Pcs. Per Unit	部組品番号 Assembly	参照 図番 Fig. No.	販売区分 Term of Delivery	備 考 Remarks	要求単位 Q'ty per order
1K680-879	67	曲板 Bent plate	1		1. 2	○		5
A1-17025FB	112	小ネジ Screw	3		1. 2	○		10
A2-17030FA	123	小ネジ Screw	3		1. 2	○		10
A2-17035FA	125	小ネジ Screw	1		1. 2	○		10
B1-17025FA	124	小ネジ Screw	2		1. 3	○		50
B1-17030FA	116	小ネジ Screw	4		1. 2	○		10
B2-17028FA	118	小ネジ Screw	1		1. 2	○		10
G1-17040FD	117	小ネジ Screw	3		1. 2	○		10
H1-17045FA	129	小ネジ Screw	2		1. 3	○		10

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部組品表 Assembly List

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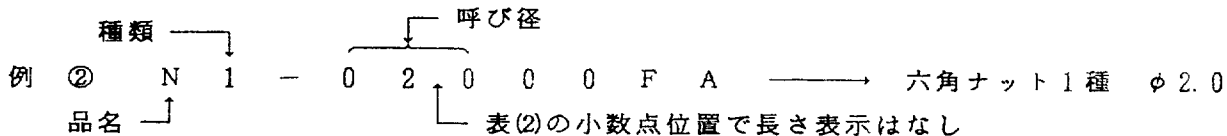
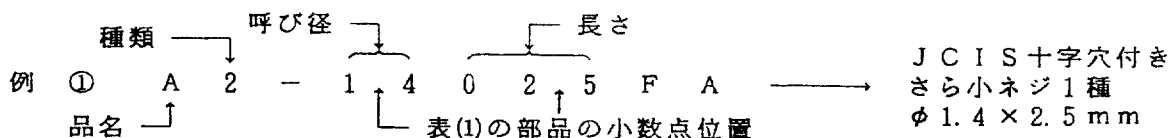
部組番号 Part No.	補助番号 Ckt No.	名 称 Name	1台分 個 数 Pcs. Per Unit	構成組品番号 Constituent Parts	参照 図番 Fig. No.	備 考 Remarks	要求単位 Q'ty per order
1B001-774	B7	G1-G3 レンズ室組 G1-G3 Lens housing	1		1. 2		1
1B001-775	B10	ヘリコイド環 組 Helicoid unit	1		1. 2		1
1B001-998	B4	ブラシ部 組 Brush unit	1		1. 2		5
1B060-368	B11	FPC 組 * FPC unit	1		1. 2		
1B100-375-1 (1B100-375)	Z42	G7, G8 レンズ室 組 G7, G8 Lens housing unit	1		1. 2		1
1B240-063	B5	ブラシ部 組 Brush unit	1		1. 2		1
1B260-072	B6	歯車 組 Gear unit	1		1. 2		5
1B314-134-1 (1B314-134)	B62	絞りレバー 組 Lever unit	1		1. 2		1
1B535-137	B9	ヘリコイド 組 Helicoid unit	1		1. 2		1
1B570-036-4 (1B570-036)	B12	絞り羽根 Aperture blade	7		1. 2		10
1B574-067	B13	羽根基板 Blade mounting plate	1		1. 2		1
B999-411 B999-412 B999-413 B999-414	B75	ガイド環 Guide ring	0-4		1. 2		5
B999-415 B999-416 B999-417 B999-418	B70	ガイド環 Guide ring	0-2		1. 2		5
1G017-031		G5, G6 レンズ G5, G6 lens	1				1
1G026-014-2		G15, G16 レンズ G15, G16 lens	1				1
1G027-020-2 (1G027-020)		G12, G13 レンズ G12, G13 lens	1				1

記号説明

MARKS IN THE PARTS LIST

(1) 機械標準品

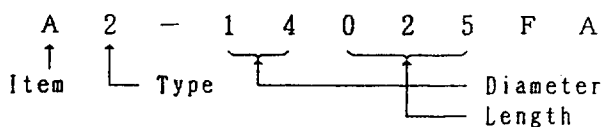
下の表に示す機械標準品の部品番号は品名、種類、呼び径、長さを示しています。



(1) Standard mechanical parts

Reference Number in the Parts List

A. Screw • Pin



B. Nut • Washer • Snap ring

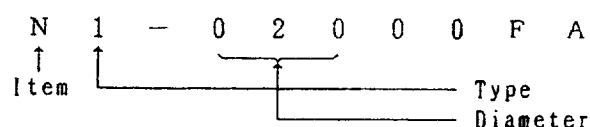


表 1

品 名 I t e m		種 類 T y p e		品 名 I t e m		種 類 T y p e	
J C I S 十字穴付き小ねじ 1 種 Cross-point screw 1	A	な べ Pan	1	すりわり付き止めねじ Splitted set screw	K	丸先 Round point	1
		さ ら Countersunk	2			とがり先 Cone point	2
		丸さら Oval	3			くぼみ先 Half point	3
J C I S 十字穴付き小ねじ 3 種 Cross-point screw 3	B	な べ Pan	1	六角穴付き止めねじ Hexagon socket head set screw	L	とがり先 Cone point	2
		さ ら Countersunk	2			くぼみ先 Half point	3
		丸さら Oval	3			平先 Normal	4
十字穴付き小ねじ Cross-point screw	C	な べ Pan	1	六角穴付きボルト Hexagon socket head bolt	M		1
		さ ら Countersunk	2			M2, M2.6	2
		丸さら Oval	3	平行ピン Straight pin	P		1
		トラス Trus	4			ステンレス Stainless steel	5
十字穴付きタップタイ タイトねじ B 型 Cross-point tapped screw B	F	な べ Pan	1	テーパーピン Taper pin			2
十字穴付きタップタイ タイトねじ B 型 1 種 Cross-point tapped screw B1		さ ら Countersunk	2	スプリングピン Spring cotter		一般用 Normal	3
					軽荷重用 Light	4	
表 2							
				品 名 I t e m		種 類 T y p e	
	G	な べ Pan	1	六角ナット Hexagon nut	K	1 種 Type 1	1
		さ ら Countersunk	2			1 種 Type 3	3
			丸さら Oval	3	平座金 Washer	R	小形丸
十字穴付きタップタイ タイトねじ B 型 3 種 Cross-point tapped screw B3	H	な べ Pan	1	ばね座金 Spring washer			みがき丸
		さ ら Countersunk	2				5
			丸さら Oval	3	E 型 止め環 E-snap ring	S	E 型 Type E
					G 型 Type G		2
					GS 型 Type GS		3

(2) 販売区分欄 The term of sale colum

記号 Mark	説明 Explanation	
○	Can be Supplied individually	単独部品として販売するもの
△	Not supplied individually but only as subassembly.	部組品でなければ販売しないもの
○△	Supplied either as part or subassembly	単独部品でも部組品でも販売するもの
×	Not considered as repair part	修理部品と考えないもの
※	Should be sent to the factory if the repair needed.	単体では交換できないので、組む場合に工場での加工が必要なもの
☒	Delivered as a product from the sales department (i.e., not supplied as repair part)	商品として販売店で販売しているもの (修理部品扱いはしない)

(3) 備考欄 The remarks colum

P-601M	Part number used in common	共通部品番号
(Blue × 125mm)	Lead wire (color × length)	コードの色と長さ
53P-2013 (FM-780028)	Technical information ref. number (number in parenthesis; English edition)	製品技術資料No ()内は英文
(2.1 × 3.8 × 0.07)	Washer (internal diameter × external diameter × thickness)	ワッシャー (内径 × 外径 × 厚さ)
(Black)	Black-finished parts	黒部品
(d=0.2)	Diameter of wire	線型=0.2
(t= 1)	Thickness	厚さ=1
Rev.	Revision	訂正
Add.	Addition	追加
Dis.	Discontinuation	廃止
OLD	Parts of the intial design	旧部品
◆	Limited part	R P 限定出庫部品
RP-9001	Repair part information No.	R P 情報 No.
R1... D1..., W1... C1..., Q1..., P1...	Abbreviation for electronic part	電気部品記号
TA-0003	Number (TA-****) are order numbers of adhesive tape. (For the order of adhesive tape, the number 1K***-*** is not use).	接着テープ要求部番 (1K***-*** では部品要求できません。)
W-0056BE	Number (W-0056BE) are order numbers of Lead wire. (For the order of Lead wire, the number 1K***-*** is not use).	リードワイヤ要求部番 (1S***-*** では部品要求できません。)

* VERSATILE PART

* 既出部品

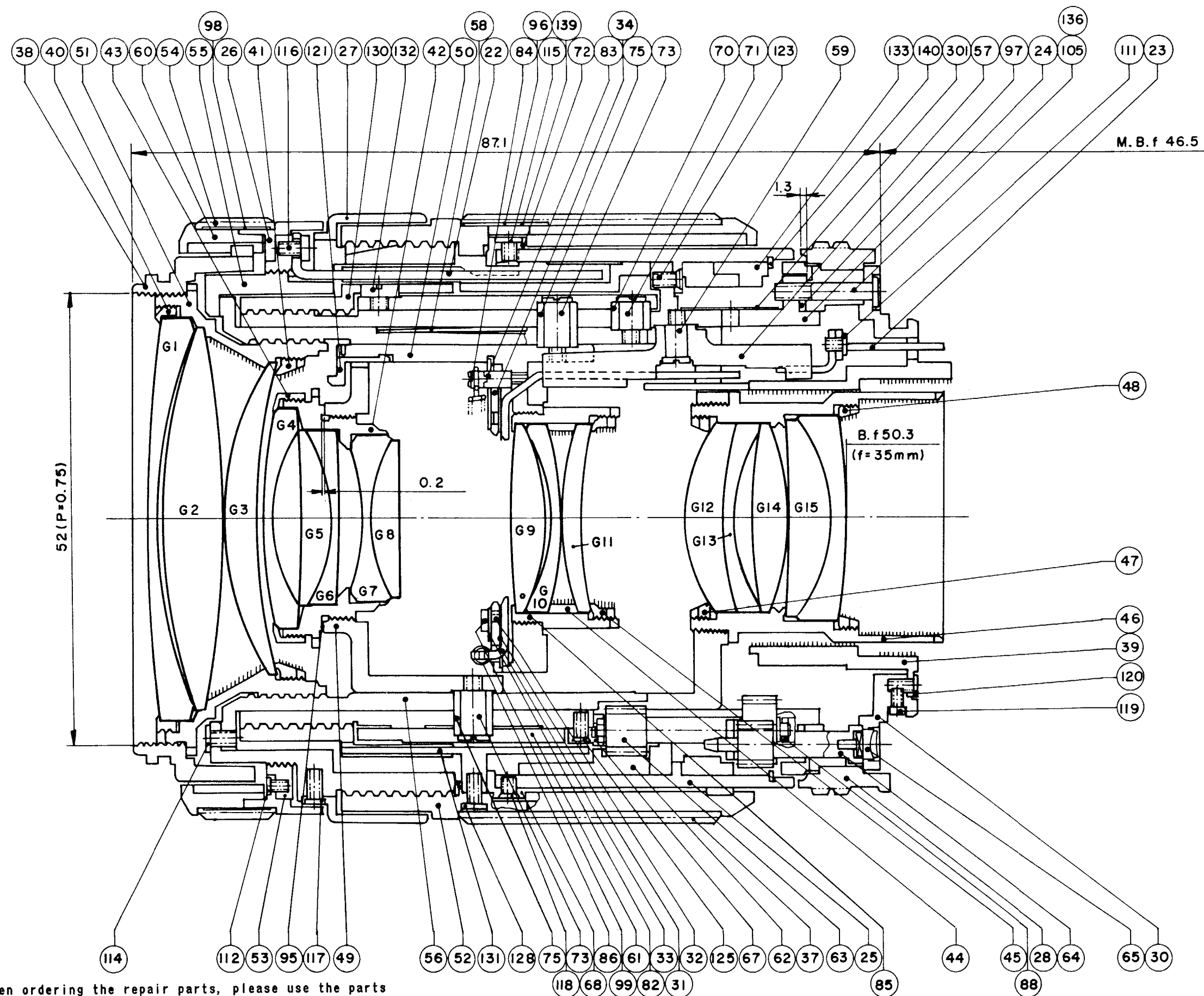
Apart maked with this pentagonal symblo is used commonly in the arcitecture of other products. That is called "VERSATILE PART". Note that every part, bearing new part number of eleven places, will turn into a VERSATILE PART when it is used in the design of future product.

〔 4 〕 部品对照表 Parts Reference Table

補助番号 Auxiliary No.	部品番号 Part Number	補助番号 Auxiliary No.	部品番号 Part Number	補助番号 Auxiliary No.	部品番号 Part Number
G1	1G254-020-2	40	1K520-452-2	75	1K116-595
G2	1G111-014-1	41	1K520-453-2		1K116-596
G3	1G154-035-1	42	1K500-592-1		1K116-597
G4	1G244-015-2	43	1K520-803		1K116-598
G5	1G144-009	44	1K515-112		
G6	1G244-016	45	1K520-455-2	76	1K680-880
G7	1G201-008-6	46	1K500-593-1	77	1K240-796
G8	1G103-020-2	47	1K520-456-1	78	1K314-265-1
G9	1G104-028	48	1K520-457-2	79	1K640-822
G10	1G250-018-1	49	1K630-526	80	1K208-097
G11	1G155-022-1	50	1K630-527	81	1K240-563
G12	1G153-019-1	51	1K535-319	82	1K240-794
G13	1G251-011-1	52	1K535-320	83	1K126-101
G14	1G107-023-1	53	1K640-820	84	1K371-666
G15	1G145-011	54	1K110-285	85	1K500-594-2
G16	1G244-017-2	55	1K535-321	86	1K225-077-1
		56	1K535-322	87	1K240-578-1
		57	1K314-321	88	1K330-020
21	1K300-069	58	1K240-416-1	89	1K130-294
22	1K437-172	59	1K130-361	90	1K130-299
23	1K610-805	60	1K640-821	91	1K230-372
24	1K535-318	61	1K302-043	92	1K370-003
25	1K475-405	62	1K630-528	93	1K610-807
26	1K475-406	63	1K277-029	94	1K600-705
27	1K640-818	64	1K260-368	95	1K160-316
28	1K475-407	65	1K370-988-1		1K160-317
29	1K640-819	66	1K611-067		1K160-318
30	1K404-105	67	1K680-879		1K160-326
31	1K570-042	68	1K437-173		1K160-327
32	1K370-004-2	69	1K116-593	96	1K115-806
33	1K572-131	70	1K117-322		
34	1K574-147		1K117-323		
36	1K240-020-1		1K117-324		
	1K240-021-1		1K117-325		
	1K240-188-1	71	1K130-332-1		
37	1K110-284	72	1K437-174		
38	1K400-275	73	1K130-362		
39	1K540-133	74	1K116-594		

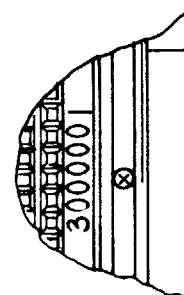
部品对照表 Parts Reference Table

補助番号 Auxiliary No.	部品番号 Part Number	補助番号 Auxiliary No.	部品番号 Part Number	補助番号 Auxiliary No.	部品番号 Part Number
97	1K160-831	127	1K208-101	B1	1B100-375-1
	1K160-832	128	1K120-042	B2	1B314-134-1
	1K160-833	129	H1-17045FA	B4	1B001-998
	1K160-834	130	1K535-323	B5	1B240-063
	1K160-835	131	1K437-175	B6	1B260-072
	1K160-836	132	1K123-134	B7	1B001-774
	1K160-837		1K123-135	B9	1B535-137
	1K160-838		1K123-136	B10	1B001-775
	1K160-839		1K123-137	B11	1B060-368
	1K161-080		1K123-138	B12	1B570-036-4
98	1K116-599		1K123-139	B13	1B574-067
99	1K123-167	133	1K640-823	B62	1B314-134-1
100	1K680-643-1	134	1K681-367	B70	1B999-415
101	1K680-651-1	135	1K611-068		1B999-416
102	1K240-469-1	136	1K120-325		1B999-417
103	1K010-089	137	1K240-555		1B999-418
104	1K160-671	138	1K240-556	B75	1B999-411
105	1K120-265	139	1K600-750		1B999-412
106	1K120-129	140	1K160-830		1B999-413
107	1K126-051	141	1K120-354		1B999-414
108	1K003-022				
109	1K116-368				
110	1K120-063			Z42	1B100-375-1
111	1K120-015				
112	A1-17025FB			L1	1G017-031
113	1K120-258			L3	1G027-020-2
114	1K120-003			L4	1G026-014-2
115	1K120-155				
116	B1-17030FA				
117	G1-17040FD				
118	B2-17028FA				
119	1K123-001				
120	1K120-002-1				
121	1K640-654				
122	1K120-093				
123	A2-17030FA				
124	B1-17025FA				
125	A2-17035FA				
126	1K240-579				



注) 部品対照表、組立図、接着給油図には部品要求出来る番号と要求出来ない番号と記載されています。部品要求の際は、部品表で確認の上、要求して下さい。部品表に記載されていない部番は部品要求出来ません。

Fig. 2



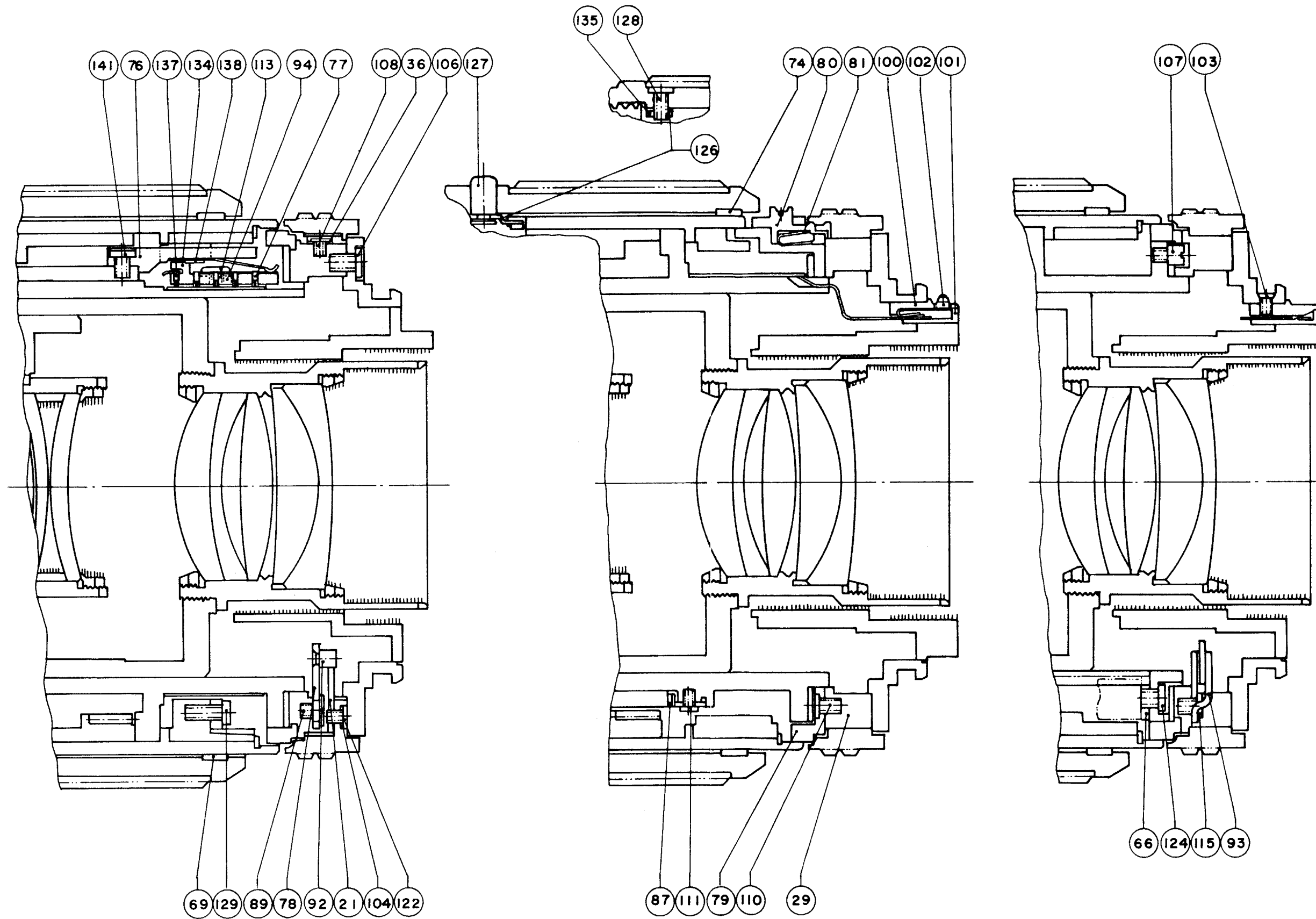


Fig. 3

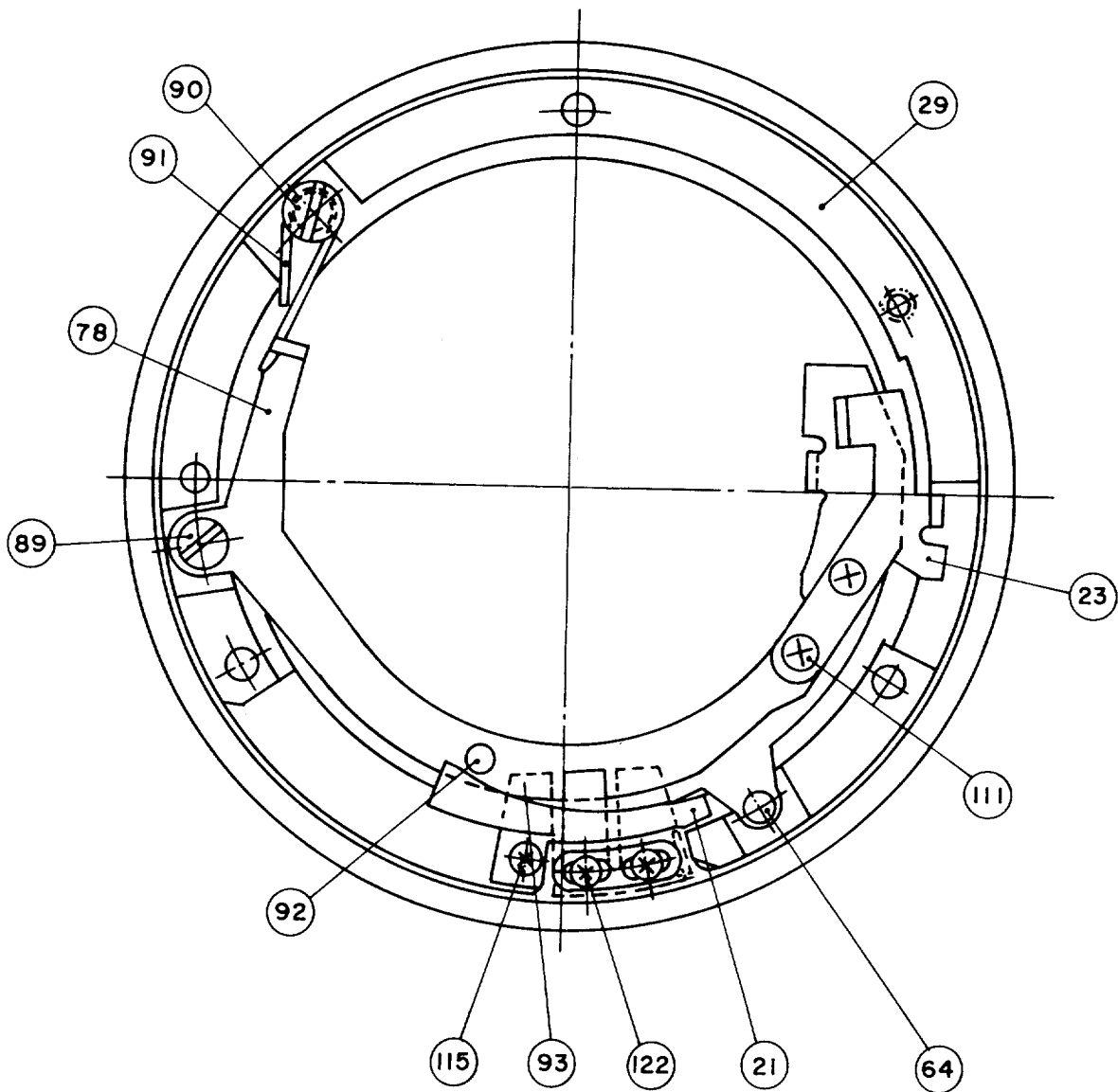
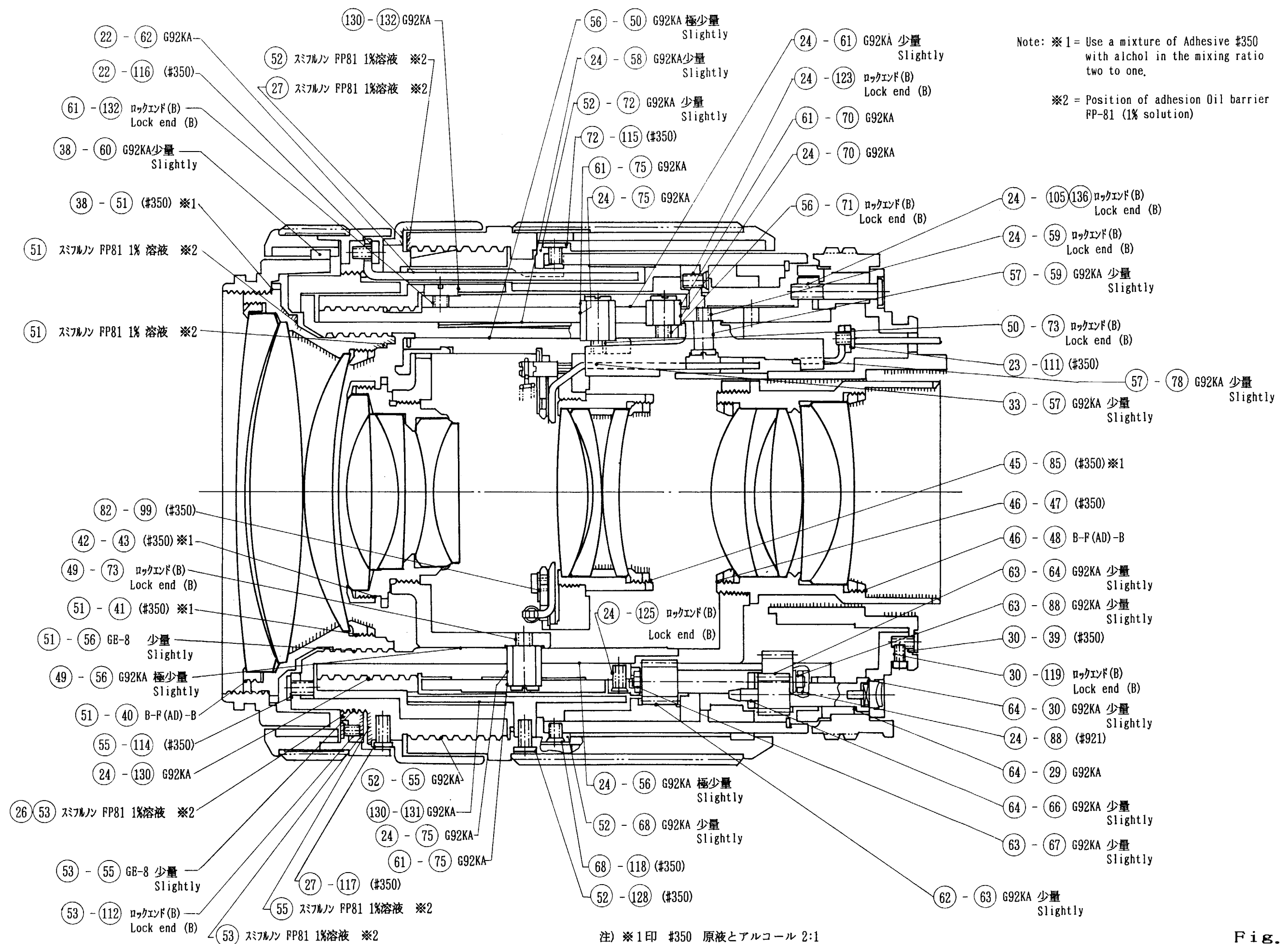


Fig. 4



注) ※1印 #350 原液とアルコール 2:1
の混合液使用のこと。

※2印 スミフルノン PP-81 1% 溶液

Fig. 5

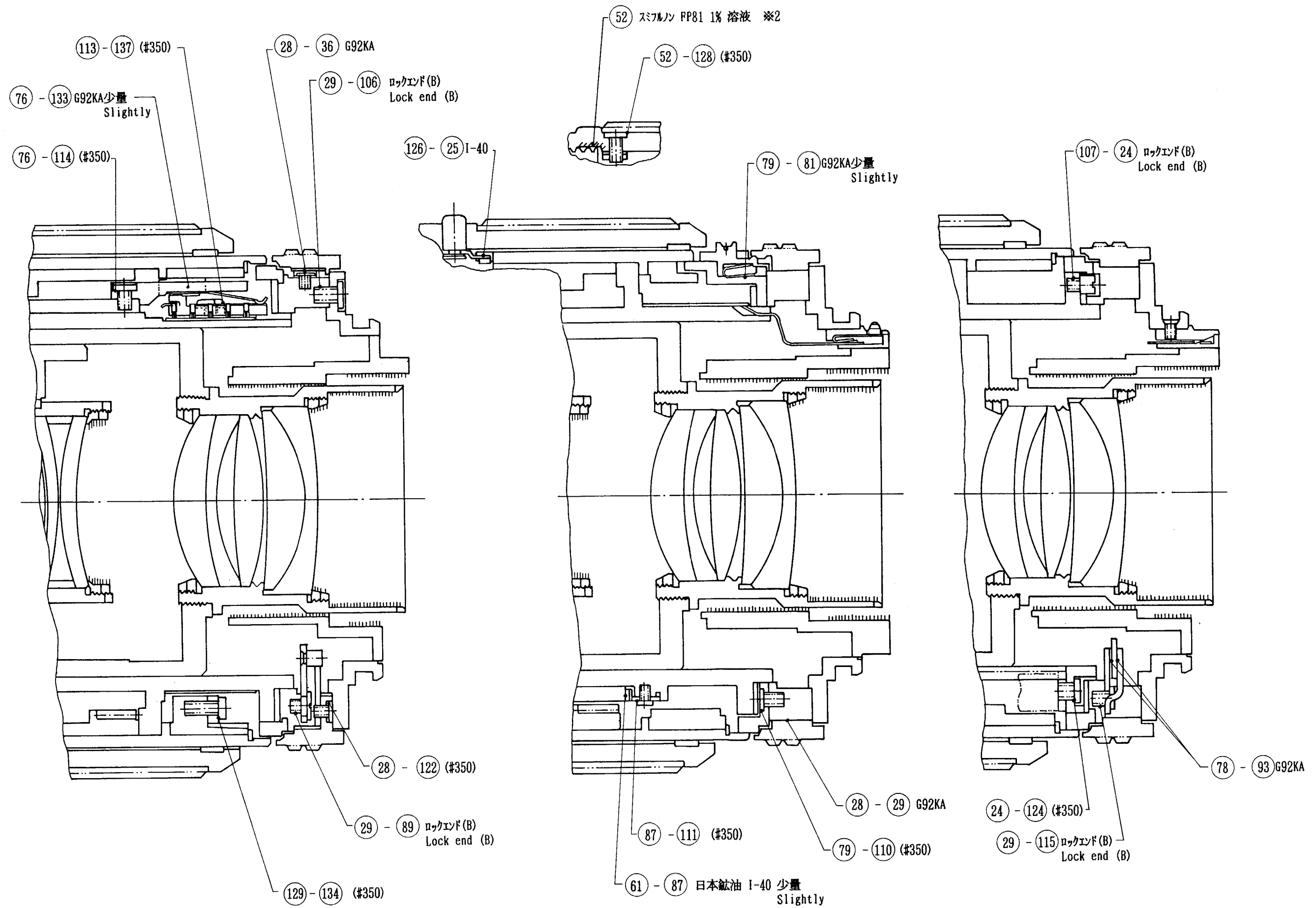


Fig. 6

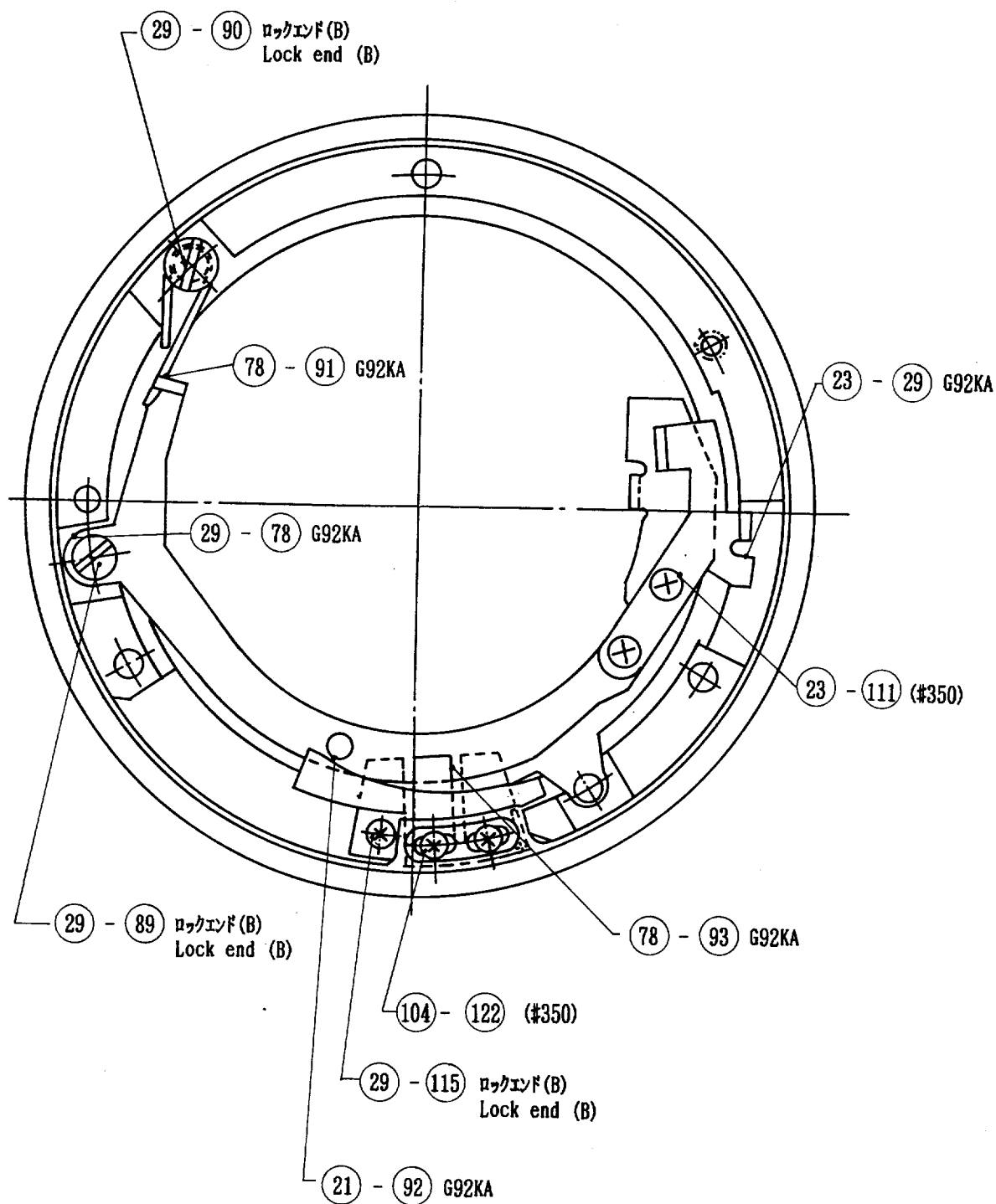


Fig. 7

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

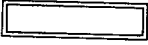


DISASSEMBLING/ASSEMBLING/ADJUSTMENT

Nikon | NIKON CORPORATION
Tokyo, Japan

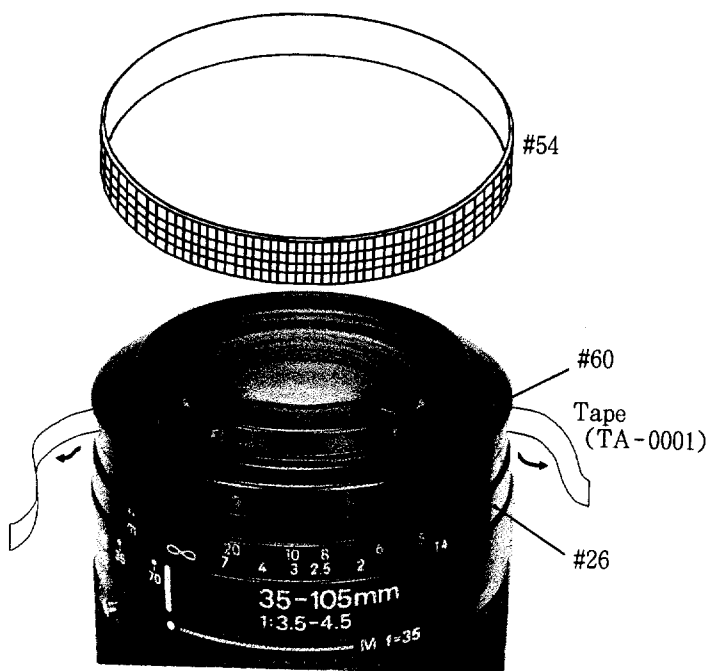
Printed in Japan

[7] DISASSEMBLING / ASSEMBLING / ADJUSTMENT

- Note:** ① The tone of pictures may be different from actual one. Make sure of the shape of parts when disassembling and assembling.
- ② The mark ∇ shows the position of index.
- ③ Screw with a dot are tap-tight screws.
- ④  : Disassembling / assembling
 : Adjustment
 : Additional work
- ⑤ All screws mentioned in this publication are right-handed screws unless otherwise mentioned. Rotate screws counter-clockwise to unfasten, and clockwise to fasten.

1. DISASSEMBLING

RING #60

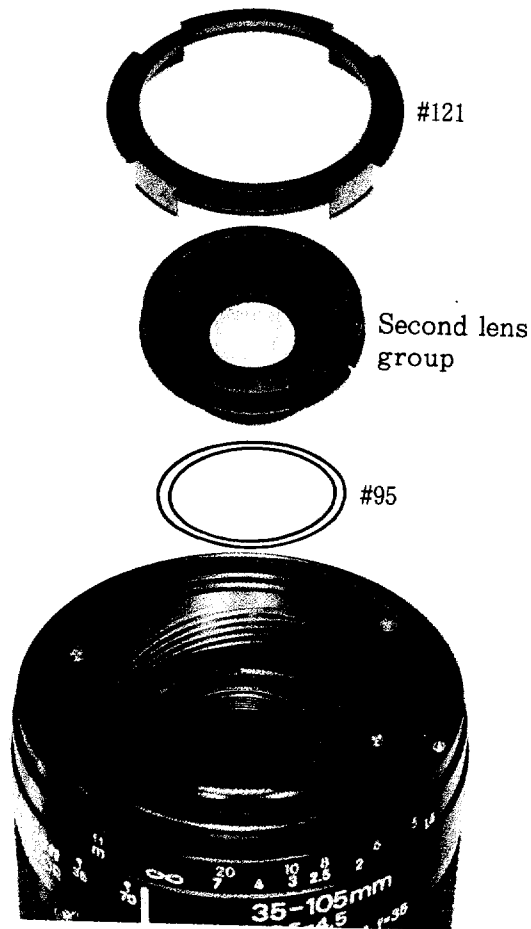


- ① Remove rubber ring #54.
- ② Peel off the tape (TA-0001) to remove driving ring #60.

FIRST LENS GROUP

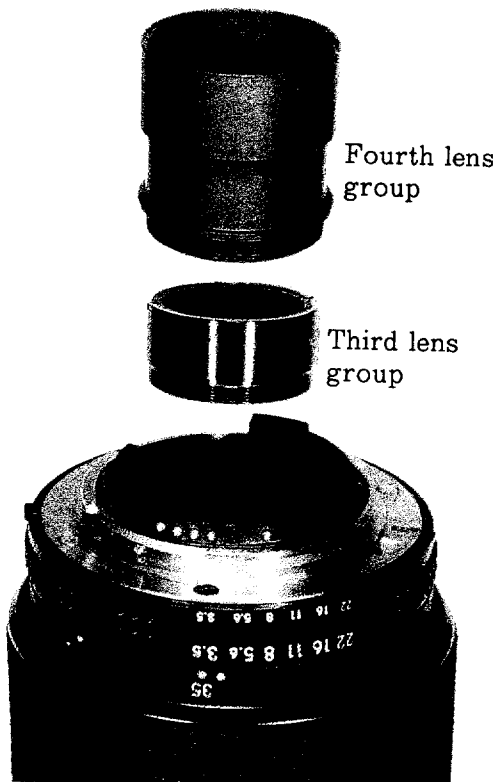


SECOND LENS GROUP



- ① Remove part #121. (This part is easily removed due to the fitting attachment.)
- ② Dismount the second lens group to remove washer #95.

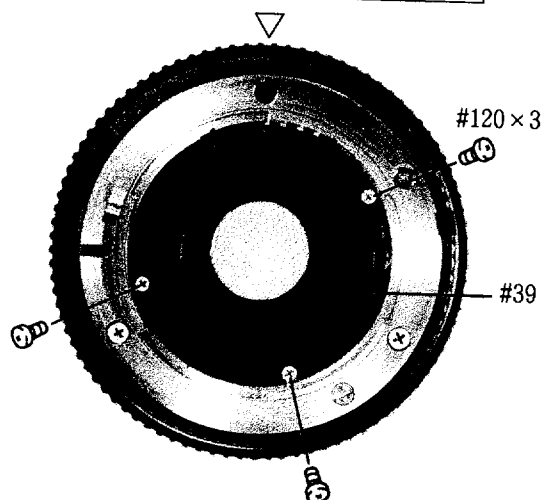
THIRD, FOURTH LENS GROUP



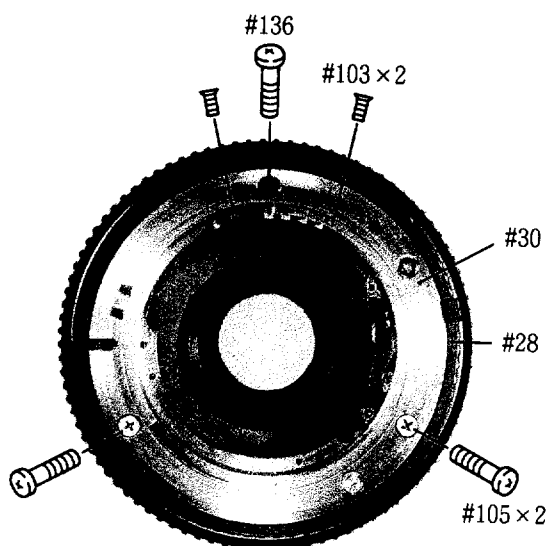
Dismount the fourth lens group and the third lens group in order.

Note: Because the third lens group is seated deeply in the rear, take special care not to damage it during removal.

REAR COVER RING #39

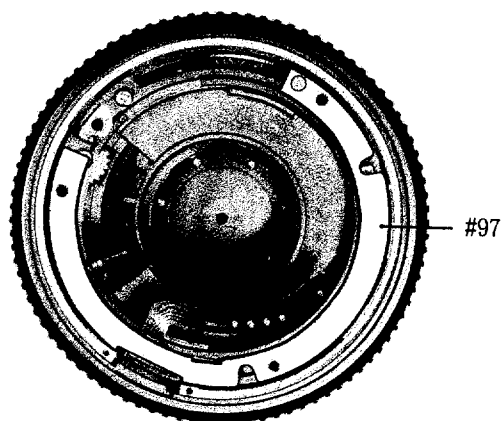


BAYONET MOUNT GROUP (#30, #28)



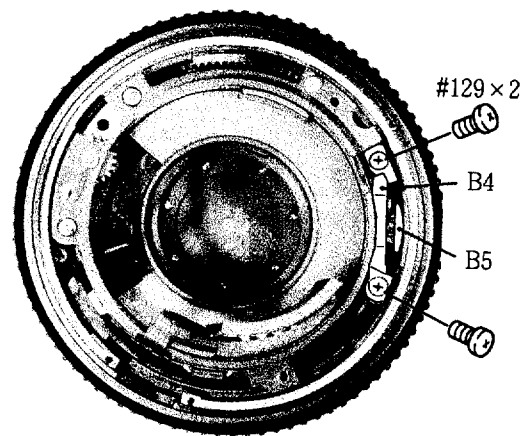
① Undo screws, #136, #105 x 2, #103 x 2.

② Dismount the bayonet mount group and aperture lever group as a set.



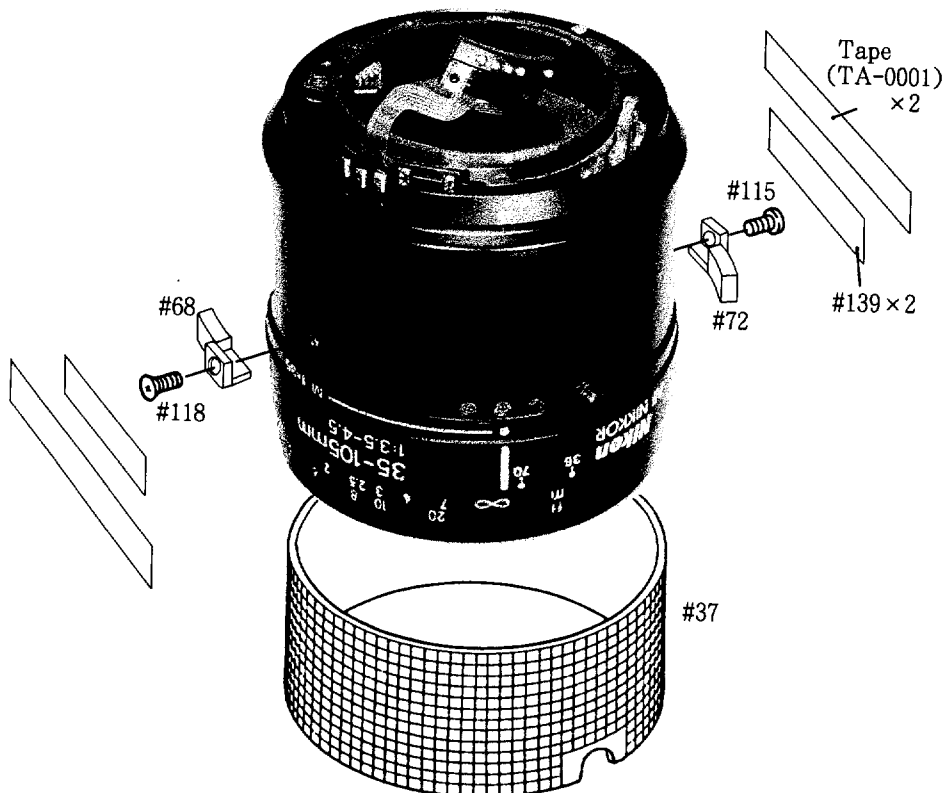
③ Remove washer #97.

ENCODER BRUSH B4



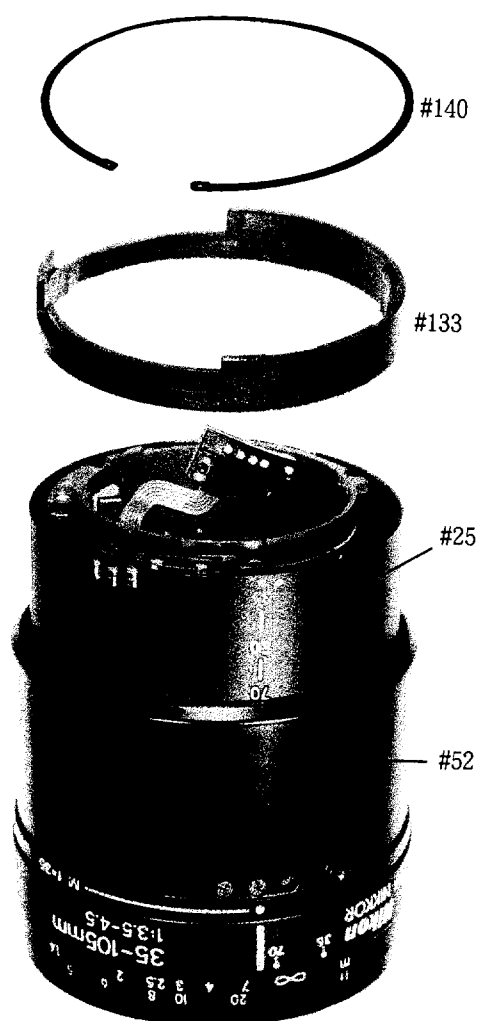
Note: Do not bend the encoder brush B4 and the brush unit B5.

ZOOM INDEX RING #25



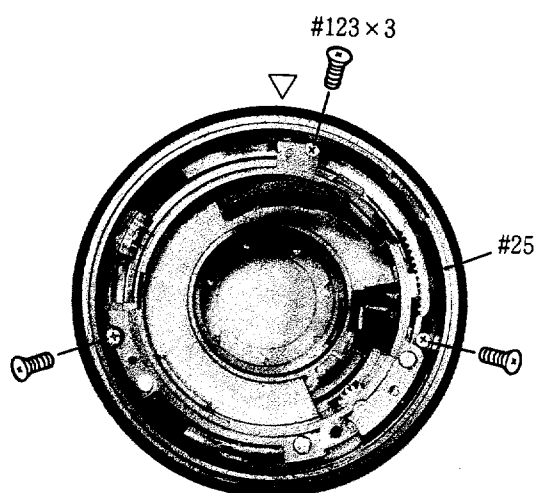
① Remove rubber ring #37, then peel off the tape (TA-0001) x 2 and the part #139 x 2.

② Undo screws #118 and #115 to remove parts #68 and #72.



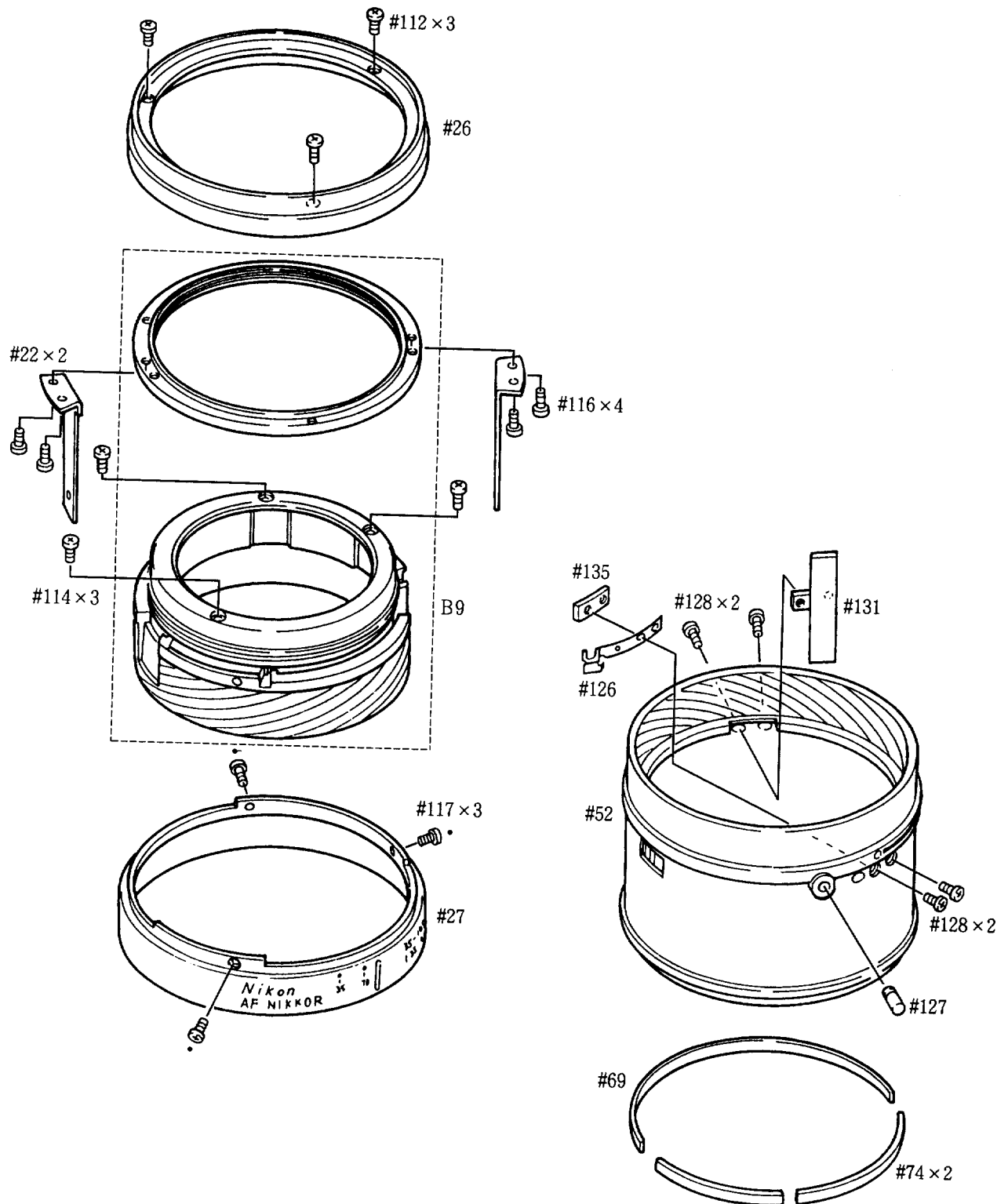
③ Remove washer #140.

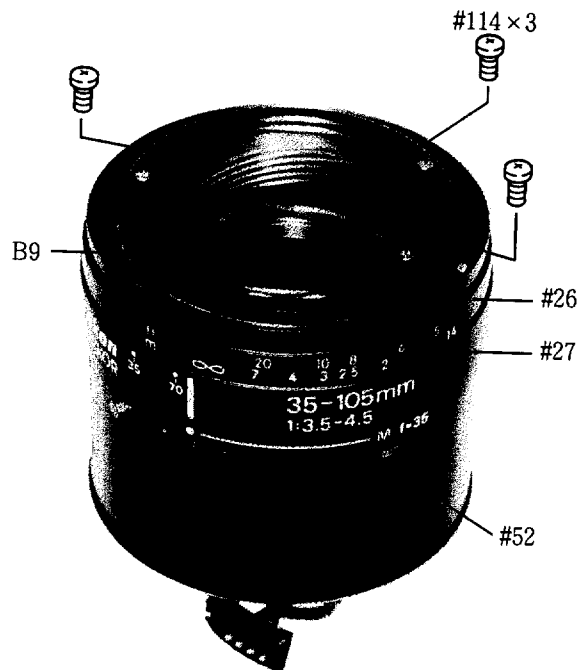
④ Set the focal length on zoom ring #52 to 70, then remove ring #133.
(When the focal length is set to 70mm, ring #133 is easily removed.)



⑤ Undo screws #123 x 3 to remove zoom index ring #25.

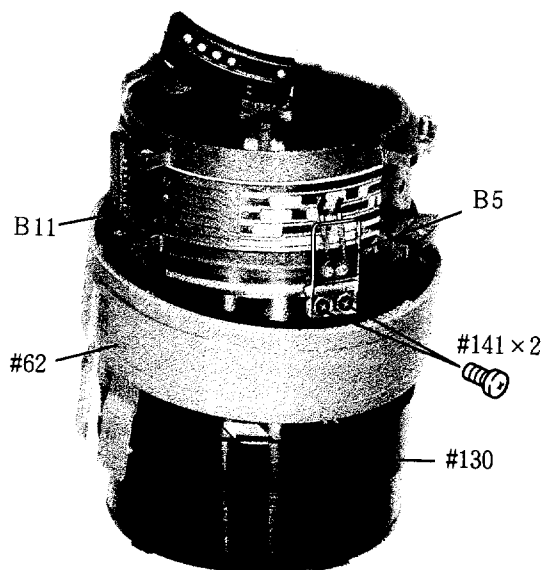
OUTER PART GROUP (#52, #27, #26, B9)





Generally, undoing screws #114×3 enables you to dismount the whole outer part group as an assembly part.

BRUSH UNIT B5, FPC UNIT B11

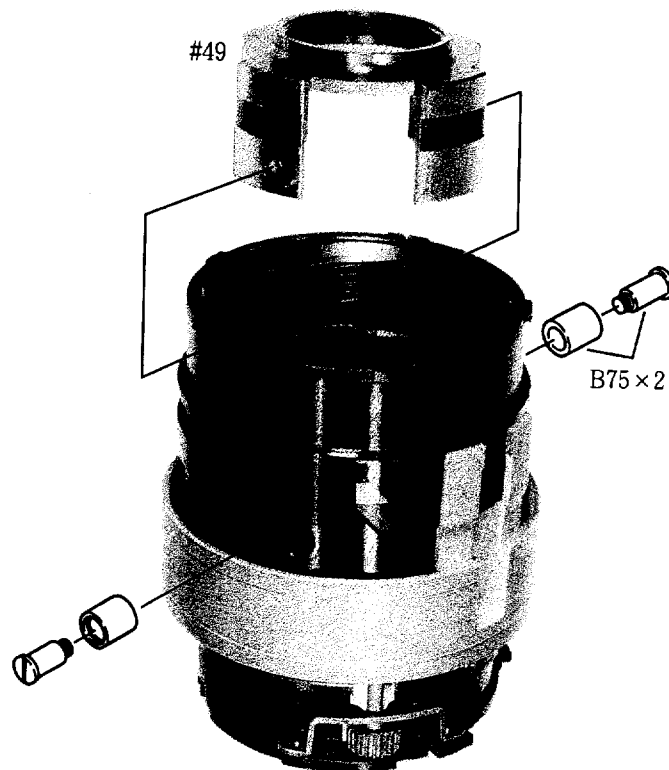


① Rotate the helicoid ring, without removing it, and incline part #62 as the figure on the left shows.

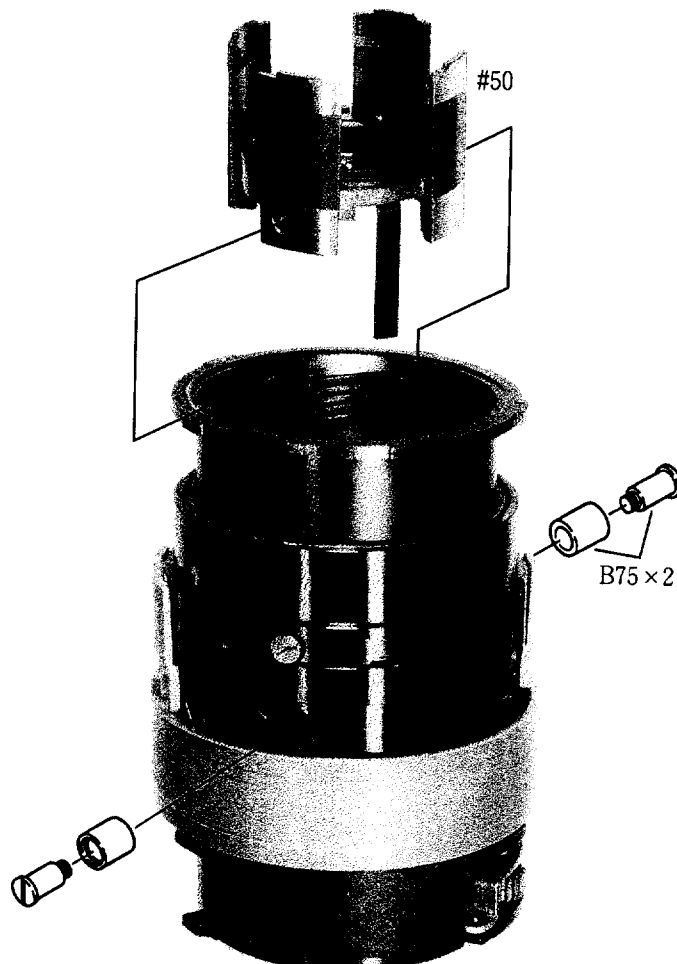
② Undo screws #141×2 to dismount the brush unit B5.

* It is not necessary to remove the FPC unit except for part replacement.

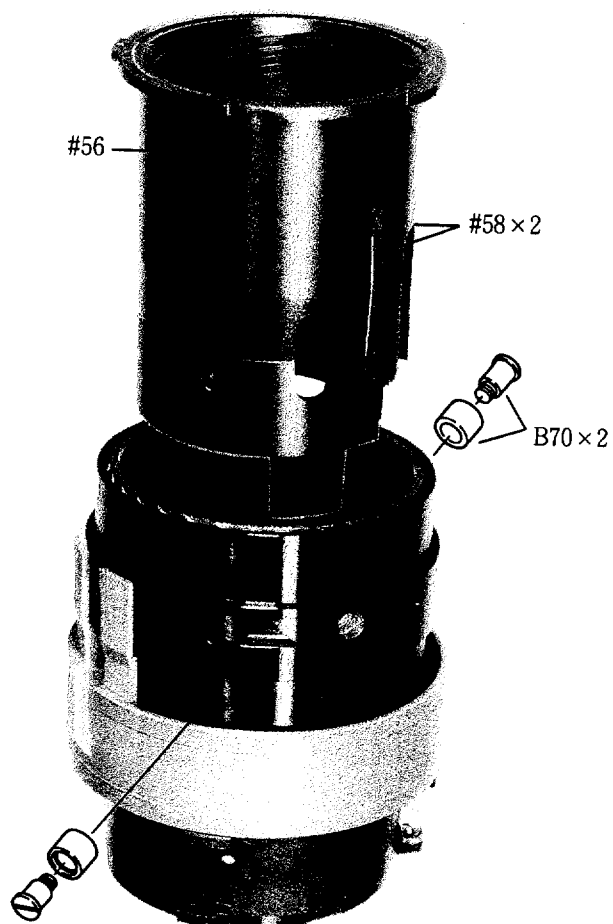
SECOND LENS GROUP SLIDING FRAME



APERTURE BLADE HOUSING GROUP

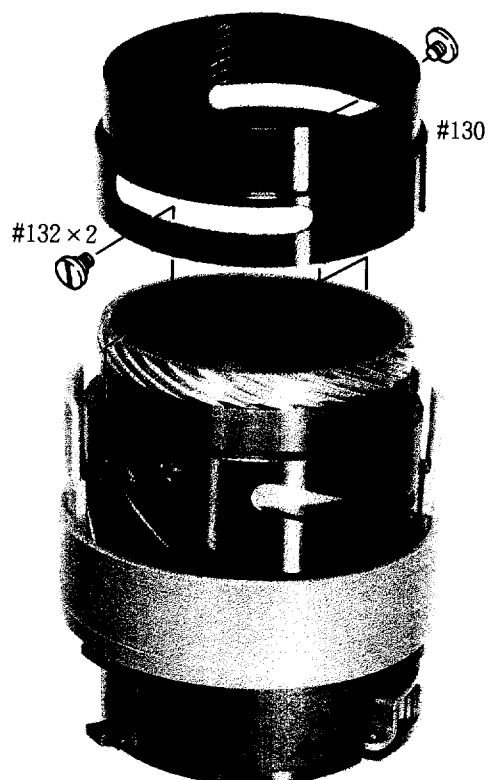


LEAD RING #56

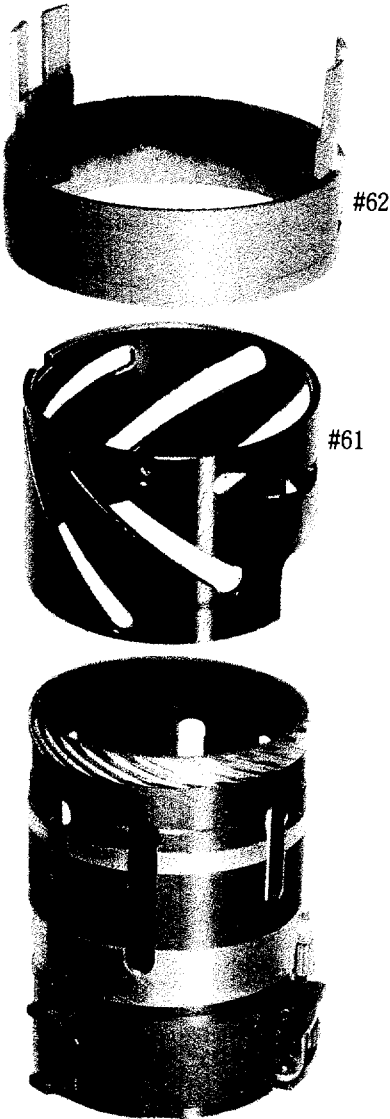


To remove leaf springs #58 x 2,
first remove the lead ring #56.

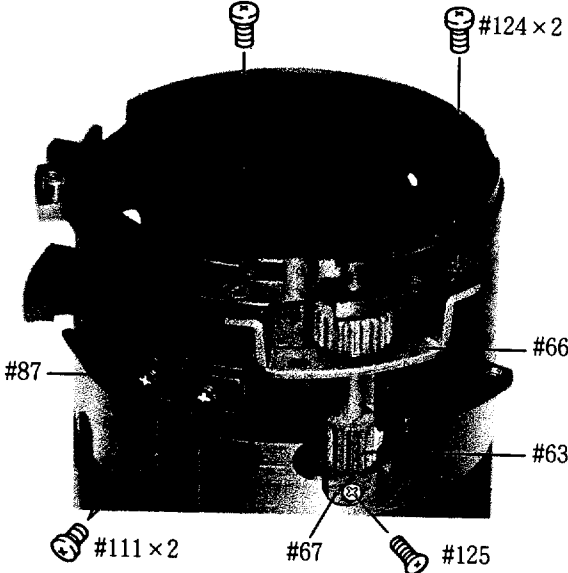
HELICOID RING #130



SEGMENT GEAR #62, CAM RING #61

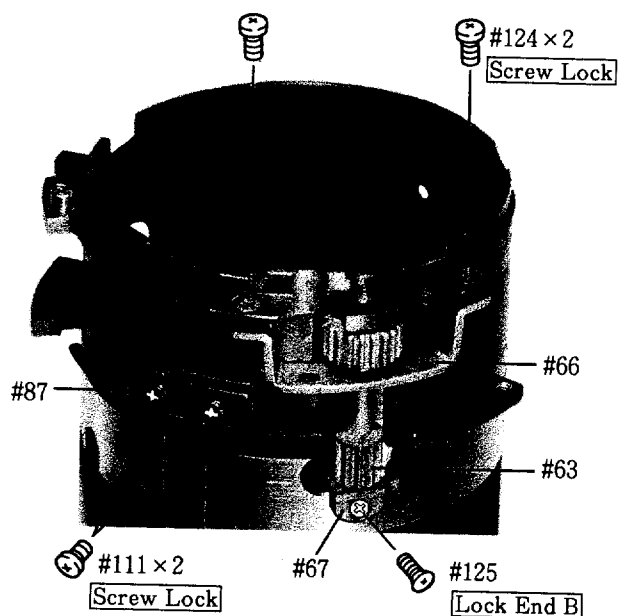


AF GEAR GROUP, LEAF SPRING #87



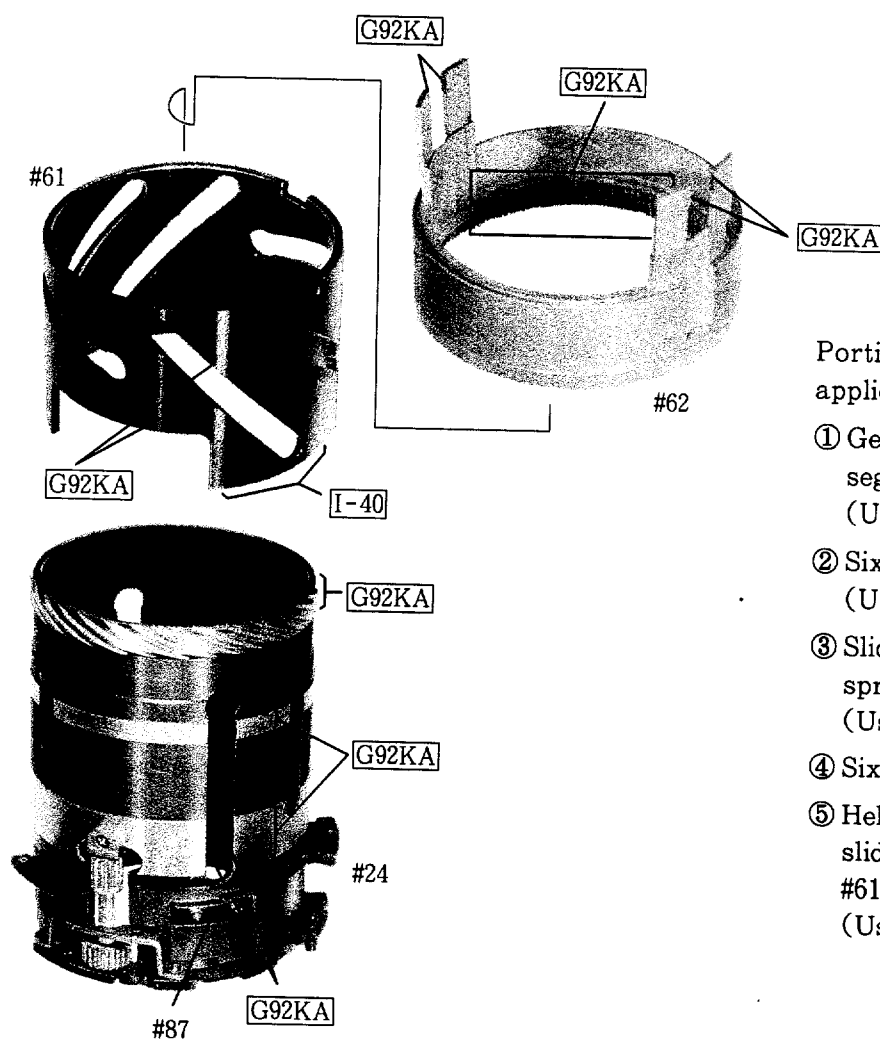
2. ASSEMBLING / ADJUSTMENT

AF GEAR GROUP, LEAF SPRING #87



Portion where grease should be applied:
Shaft and gear of AF gear #63.
(Use G92KA)

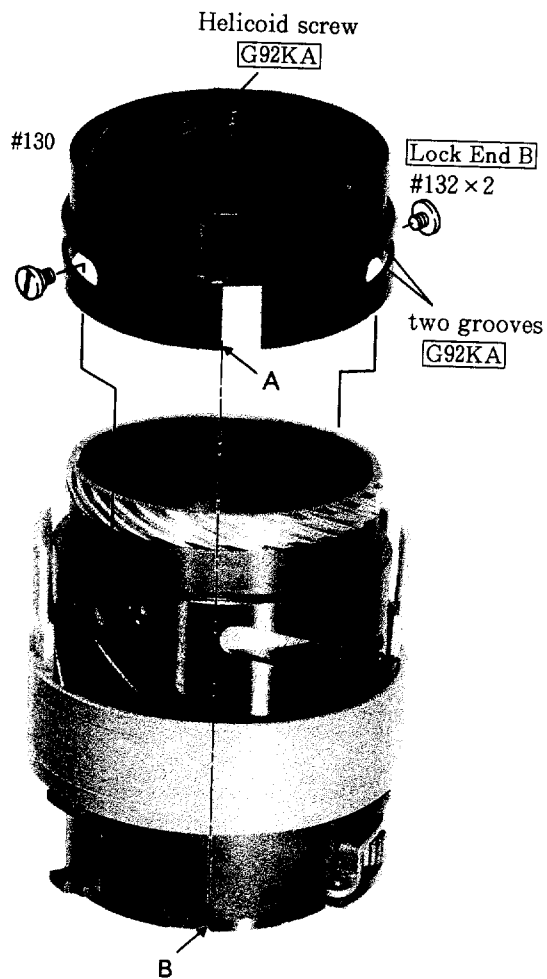
SEGMENT GEAR #62, CAM RING #61



Portions where grease should be applied:

- ① Gear and two key grooves of segment gear #62.
(Use G92KA)
- ② Six cam grooves of cam ring #61.
(Use G92KA)
- ③ Sliding surface between leaf spring #87 and cam ring #61.
(Use I-40)
- ④ Six straight grooves of part #24.
- ⑤ Helicoid screw of part #24 and sliding surface between cam ring #61 and the part #24.
(Use G92KA)

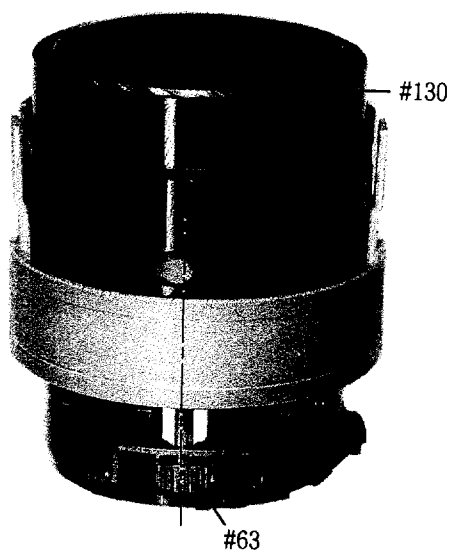
HELICOID RING #130



Mounting procedures:

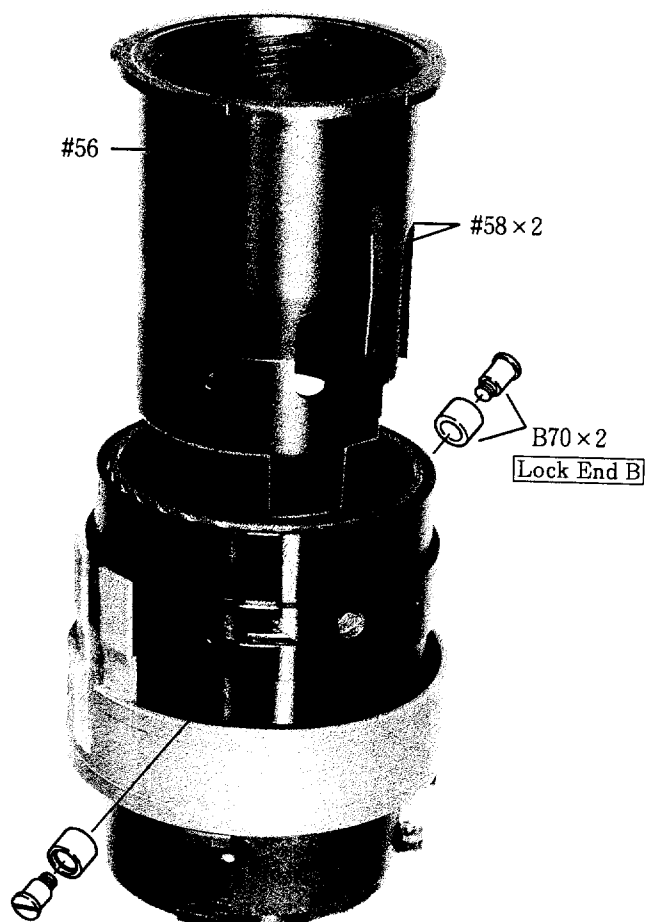
- ① Align portion A of helicoid ring #130 with portion B of the main body to mount.
- ② Fasten screws #132 x 2.

Note: Use screws #132 x 2 which cause no backlash between helicoid ring #130 and the main body.



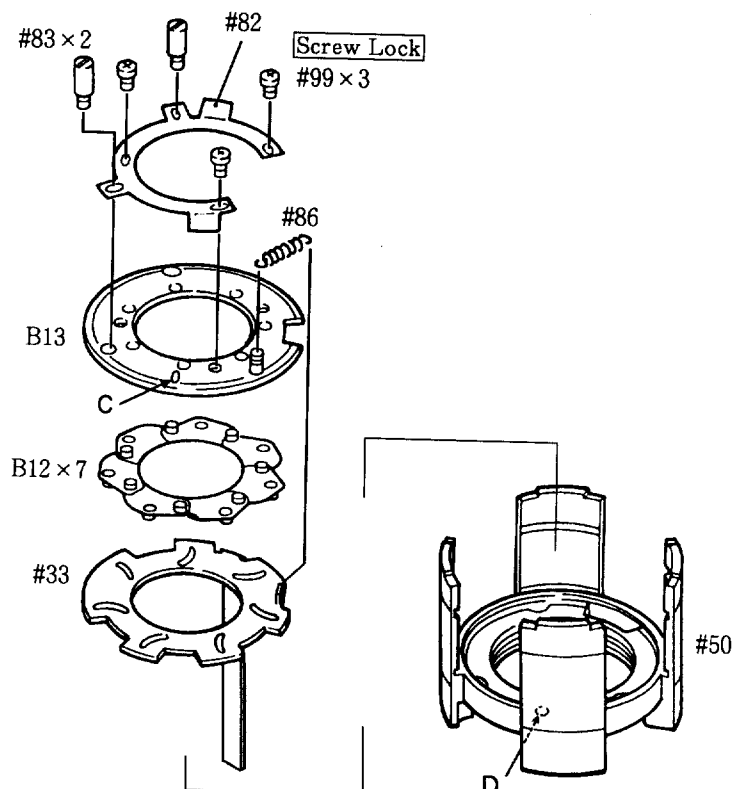
Inspection: When helicoid ring #130 is mounted, the notch of part #130 and AF gear #63 should be positioned as shown in the picture.

LEAD RING #56



Mount lead ring #56 with leaf springs #58 x 2.

APERTURE BLADE GROUP



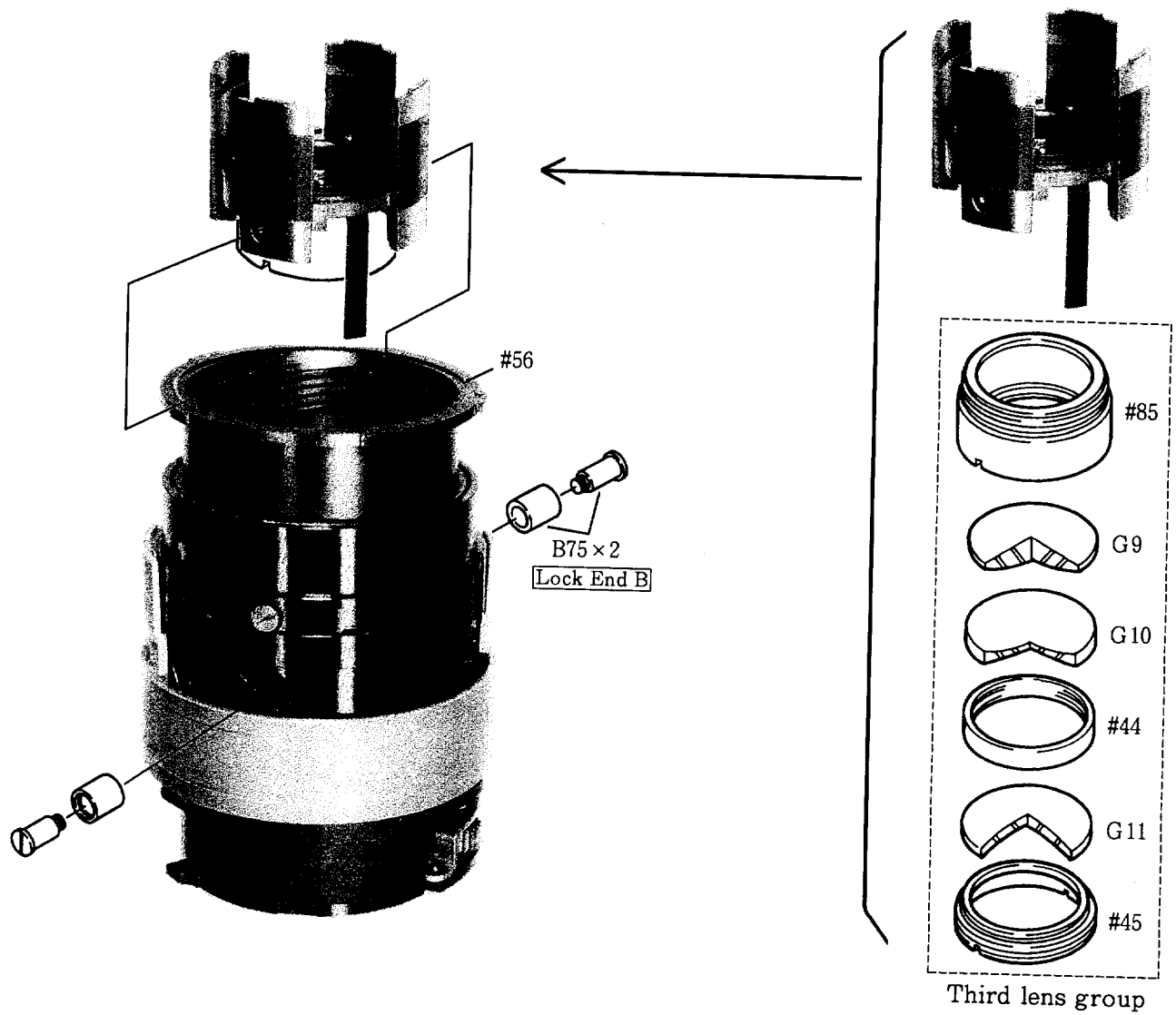
① Mount parts #33, B12 x 7 and B13 as a set on part #50 as shown in the figure. Then secure them with leaf spring #82.

② Align hole C of B13 with hole D of part #50, using a positioning bar (φ1.6 drill, etc.).

③ Fasten screws #83 x 2 and #99 x 3. Cement screws #99 x 3 with Screw Lock.

Inspection: Check operation of aperture blade by snapping actuating plate #33.

APERTURE BLADE HOUSING GROUP, THIRD LENS GROUP

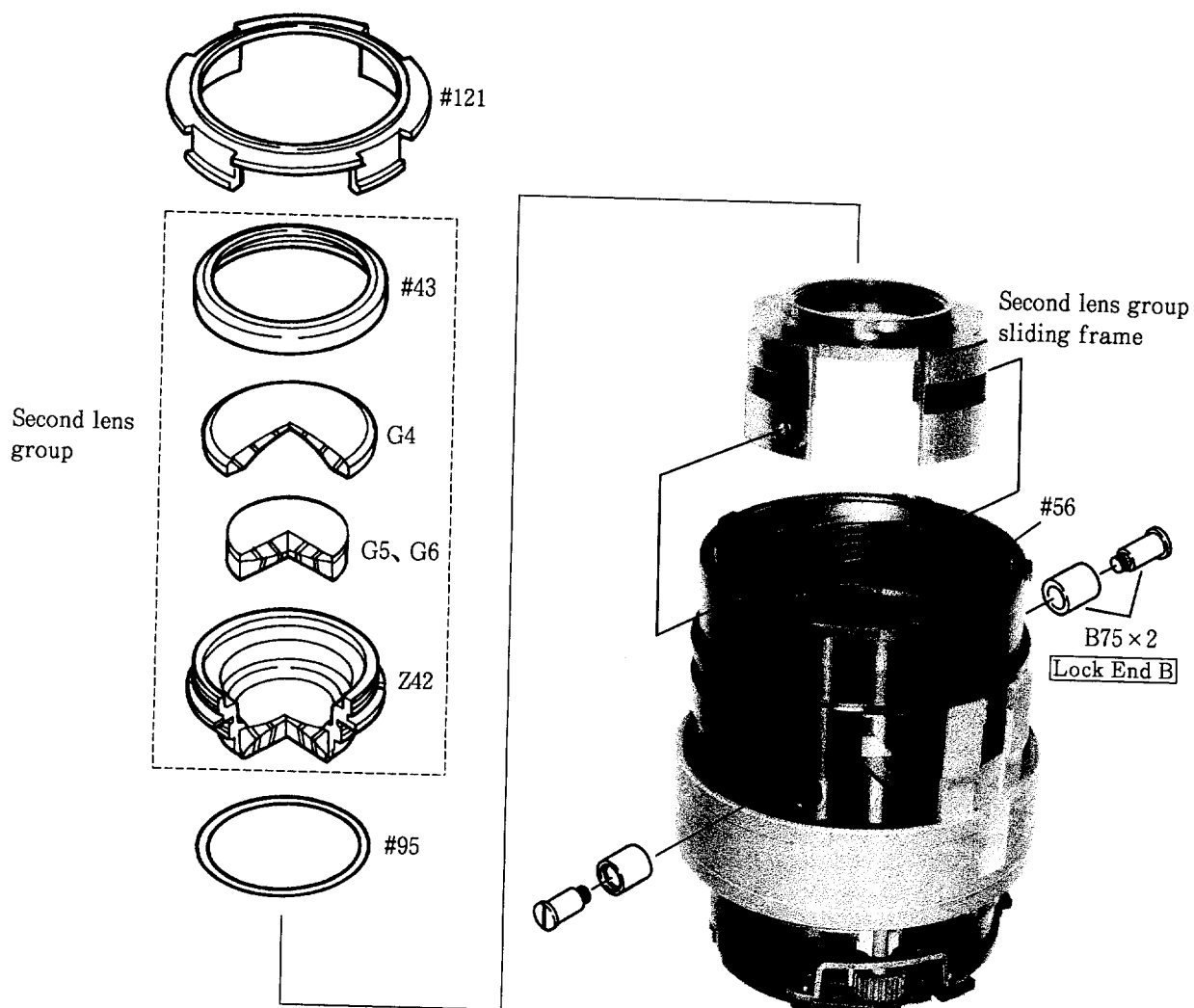


① Clean the third lens group and attach it to aperture blade housing group.

② Mount the aperture blade housing group on the main body as shown in the above picture.

Inspection: Check operation by sliding part #56 up and down.

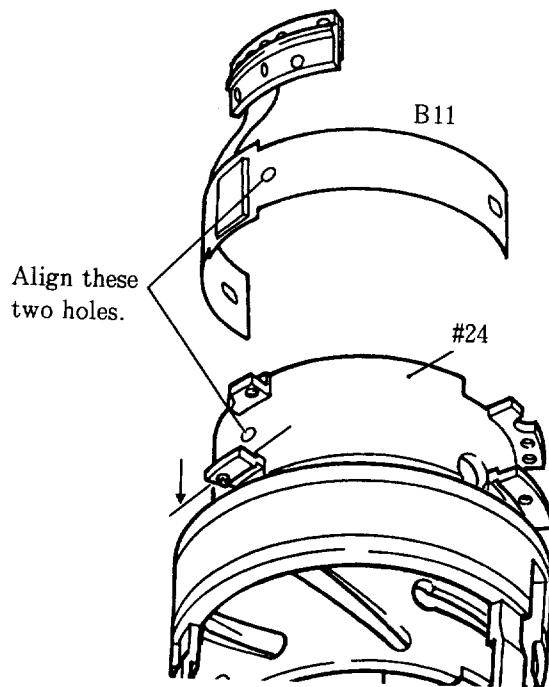
SECOND LENS GROUP SLIDING FRAME, SECOND LENS GROUP



- ① Clean second lens group, then attach it onto the second lens group sliding frame with washer #95.
- ② Mount the assembly part (second lens group and sliding frame) on the position as shown in the above picture, then attach part #121 onto it.

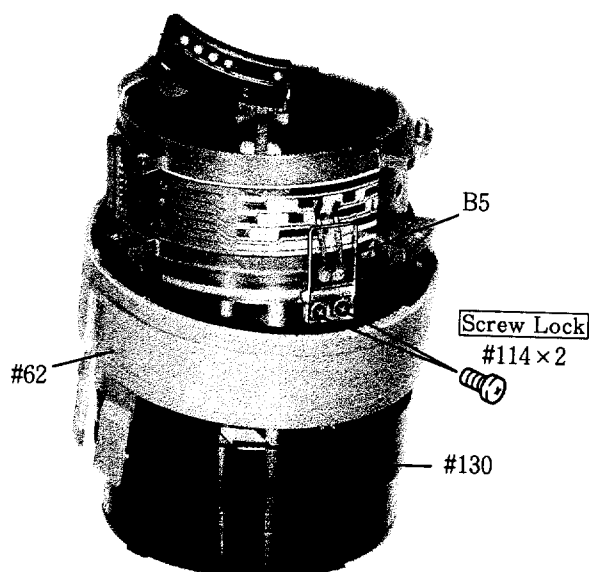
Inspection: Check operation of the second lens group by moving part #56 up and down.

FPC UNIT B11



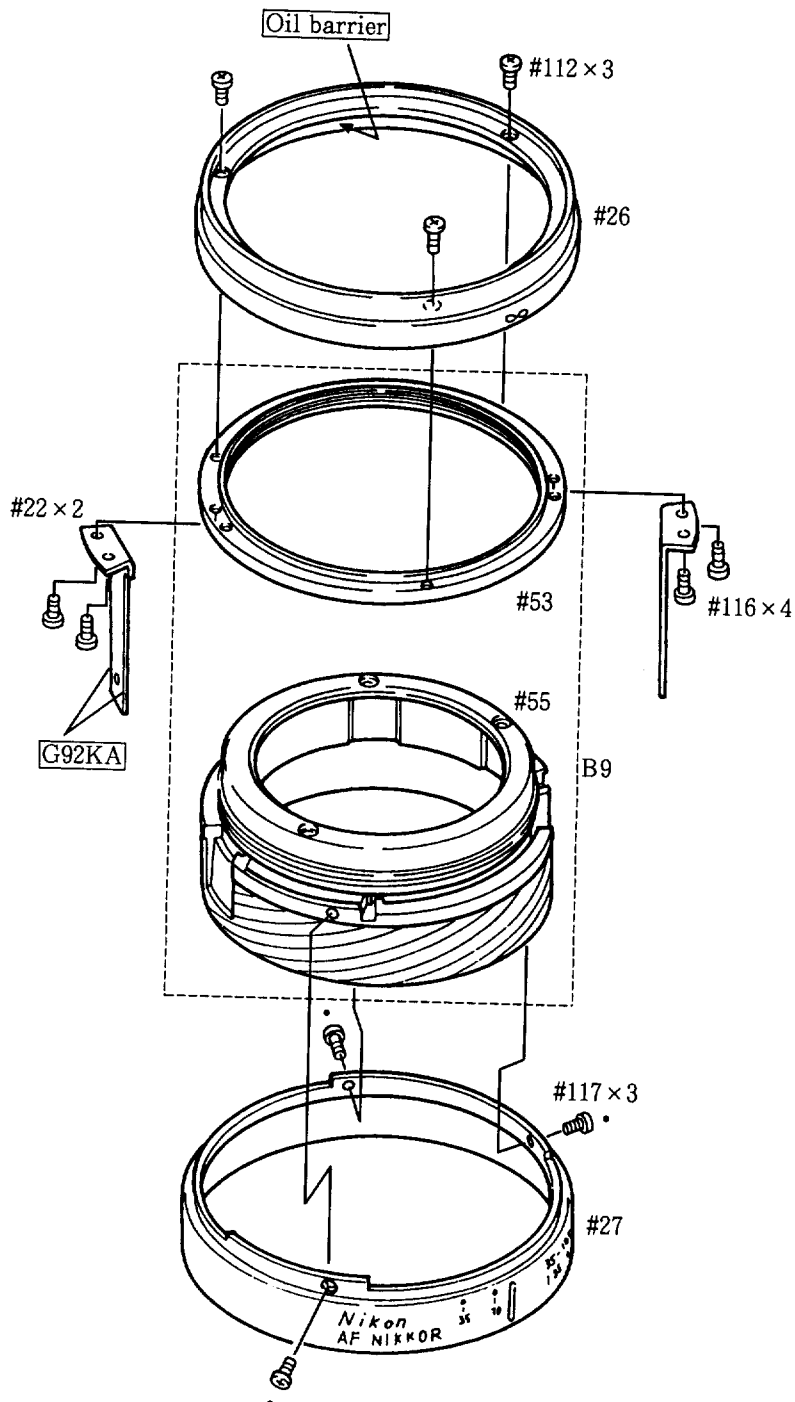
- ① Clean the mount surface (for FPC unit B11) of part #24.
- ② Slide the FPC unit B11 over part #24 in the direction of the arrow until the holes on them coincide accurately. Then, attach the FPC unit to part #24.

BRUSH UNIT B5



- ① Incline part #62 as shown in the picture by rotating helicoid ring #130 without detaching it.
- ② Fasten screws #114 x 2 and detach brush unit B5.

FOCUS RING #26, NAME RING #27, HELICOID UNIT B9



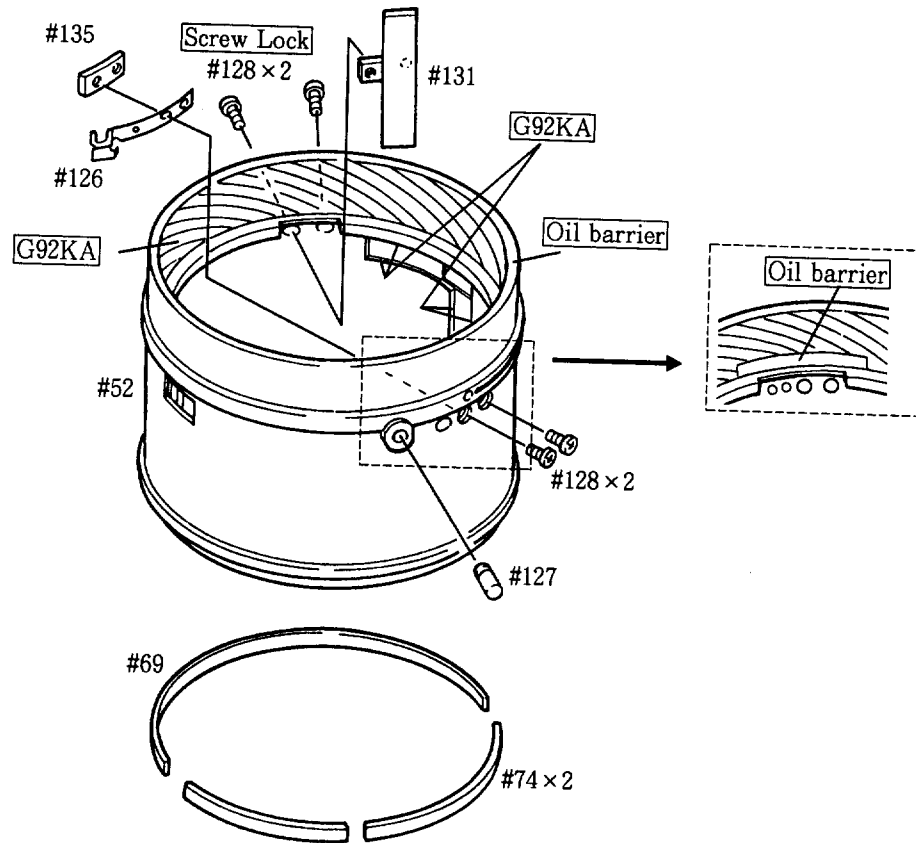
Portions where grease should be applied:

- ① Both sides of keys #22×2.
(Use G92KA)
- ② Apply oil barrier to entire inside of focus ring #26.

Attaching procedures:

- ① Screw to join part #53 into part #55. (Screw in part #53 fully, then unscrew it by half turn.)
- ② Fasten screws #116×4 to secure keys #22×2 to part #55.
- ③ Fasten screws #117×3 to attach name ring #27 to part B9.
- ④ Fasten screws #112×3 to attach focus ring #26 to part B9.

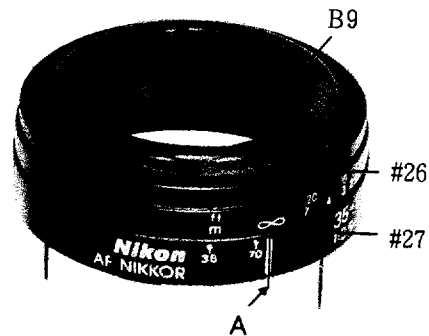
ZOOM RING #52



Portions where grease should be applied:

- ① Whole helicoid screw of part #52 and key grooves on the interior surface of the part #52. (Use G92KA)
- ② Apply oil barrier to upper edge of part #52 and the smooth area of the interior surface of the portion as shown by dotted line.

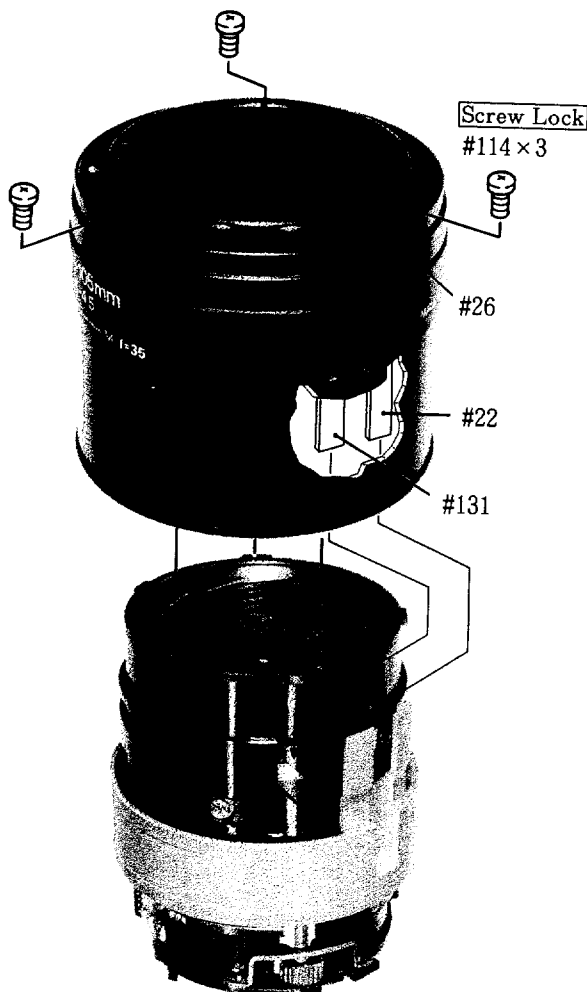
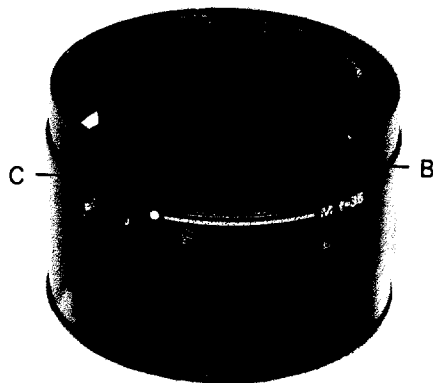
OUTER PART GROUP (#52, #27, #26, B9)



Join the assembly of parts #26, #27 and B9 to part #52 aligning index A on part #27 with 「M」 on part #52.

Inspection: Once mounted, make sure the index A is accurately aligned with C.

Note: Even a slight mis-alignment in mounting may result in a large discrepancy between A and C.

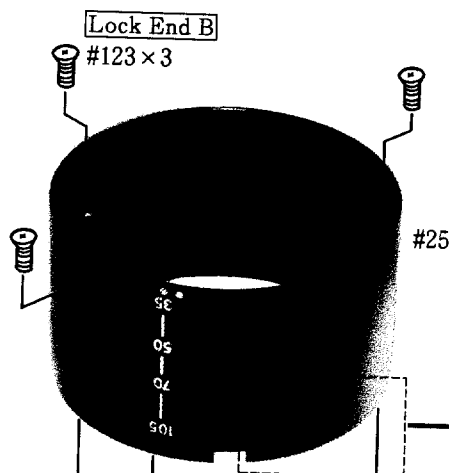


① Rotate focus ring #26 and attach keys #22 and #131 to the position as shown in the picture.

② Fasten screws #114×3 and secure them with Screw Lock.

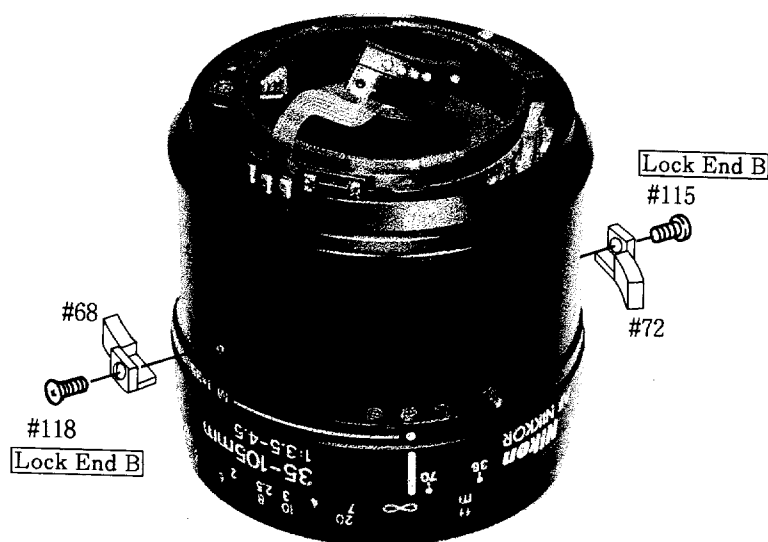
Inspection: Once mounted, check operation by rotating the focusing ring #26.

ZOOM INDEX RING #25

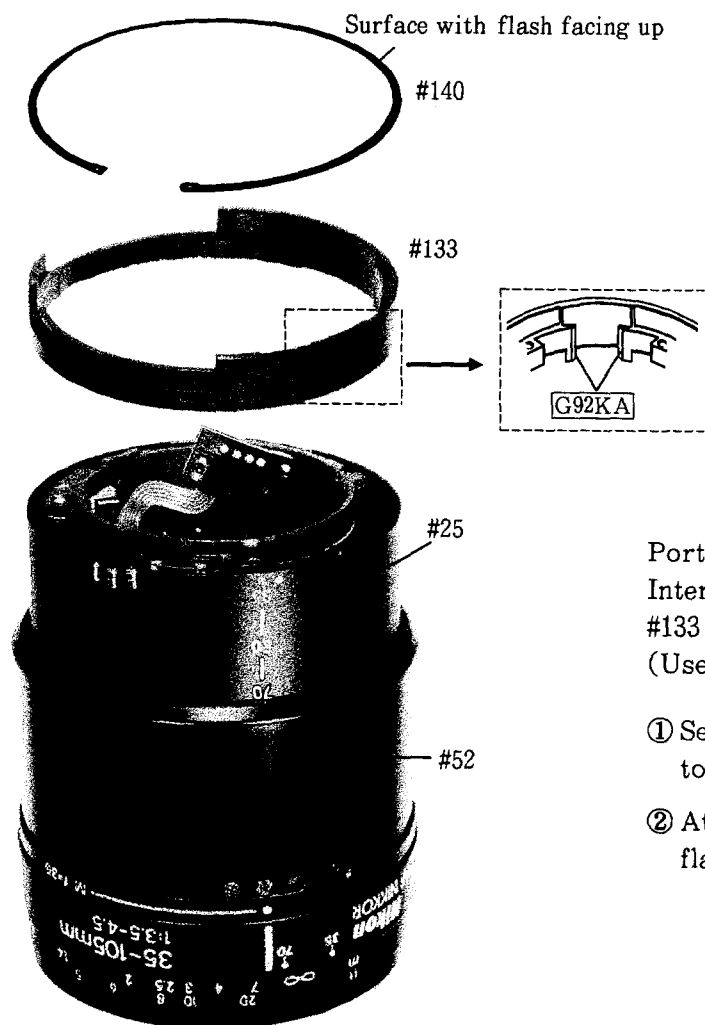


Portion where grease should be applied:

Interior surface of the portion of part #25 shown by the dotted line.
(Use I-40)



Fasten screw #118 (flat counter head screw) to secure part #68.
Then, fasten screw #115 (round head screw) to secure part #72.



Portion where grease should be applied:
Interior surface of the portion of part
#133 as shown by the dotted line.
(Use G92KA)

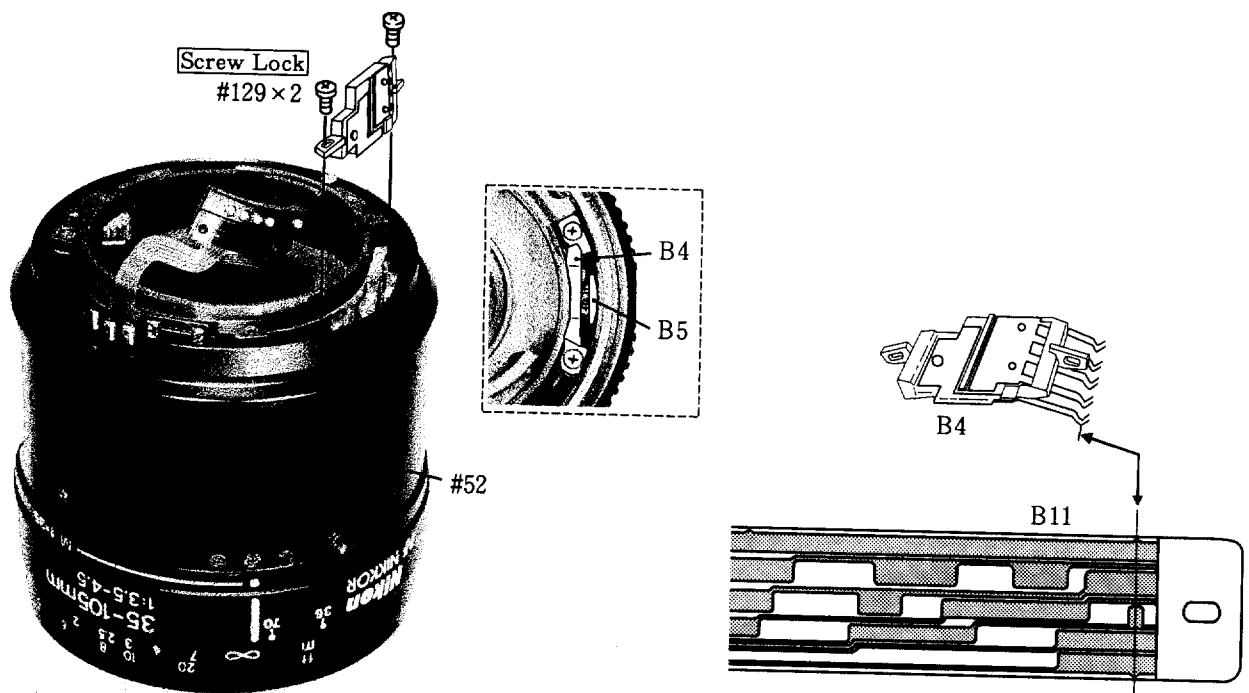
- ① Set the focal length on zoom ring #52 to 70mm and attach ring #133.
- ② Attach washer #140. (Surface with flash facing up.)

ADJUSTMENT OF ENCODER BRUSH POSITION

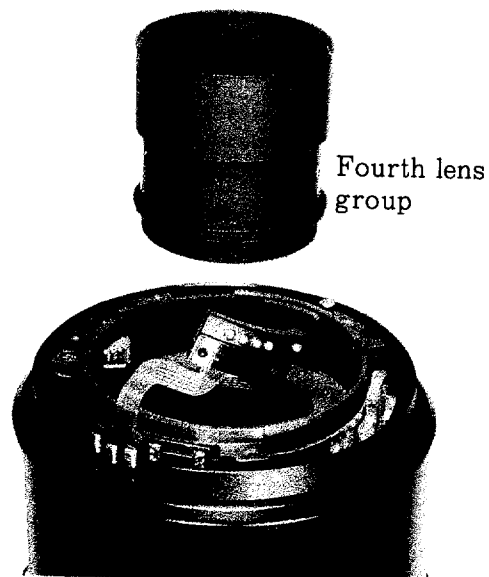
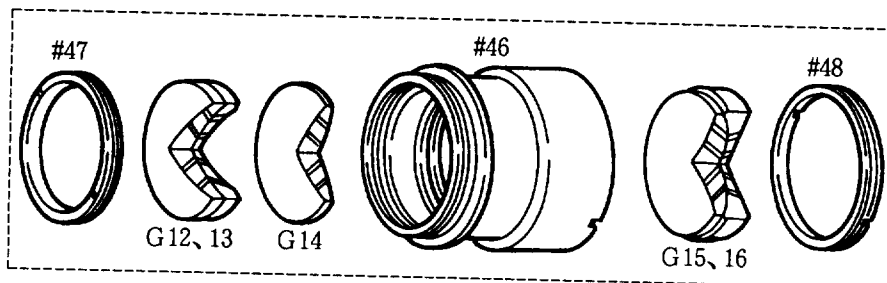
◆ Refer to the pictures and figures on the following pages.

- ① Clean encoder brush B4 and circuit patterns.
- ② Fasten screws #129×2 temporarily to secure encoder brush B4.
- ③ Attach zoom ring to the Wide (35mm) stopper.
- ④ Move brush B4 to the position where it is in contact with the line shown in the figure.
- ⑤ Move the zoom ring from Wide to Tele several times to check whether the brush comes into contact to the indicated position at Wide stopper.
- ⑥ Fasten the screws #129×2 permanently and secure them with Screw Lock.

Note: Be sure not to bend encoder brush B4 and the brush of brush unit B5.

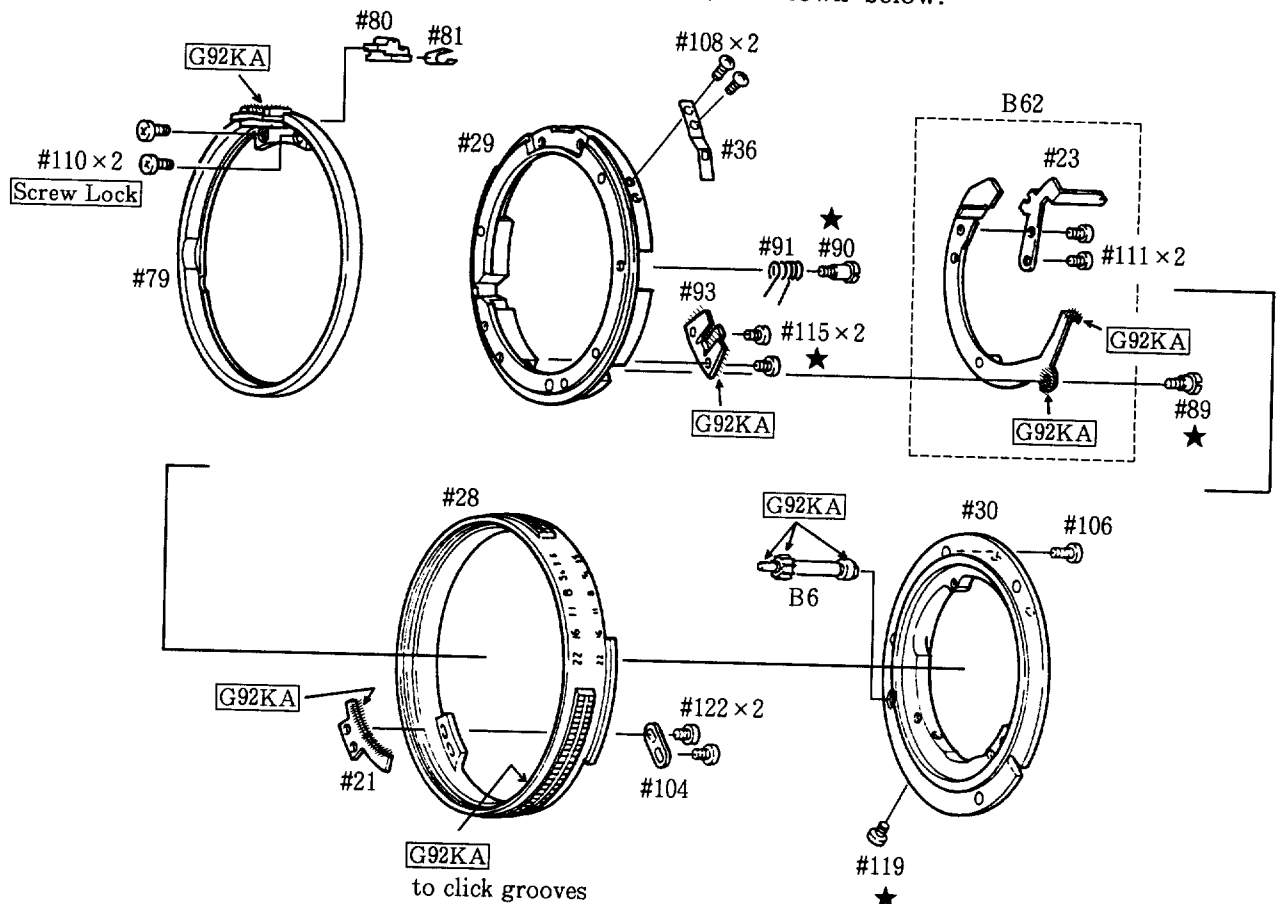


FOURTH LENS GROUP



BAYONET MOUNT GROUP

Use Lock End B for the screws marked with ★ as shown below.

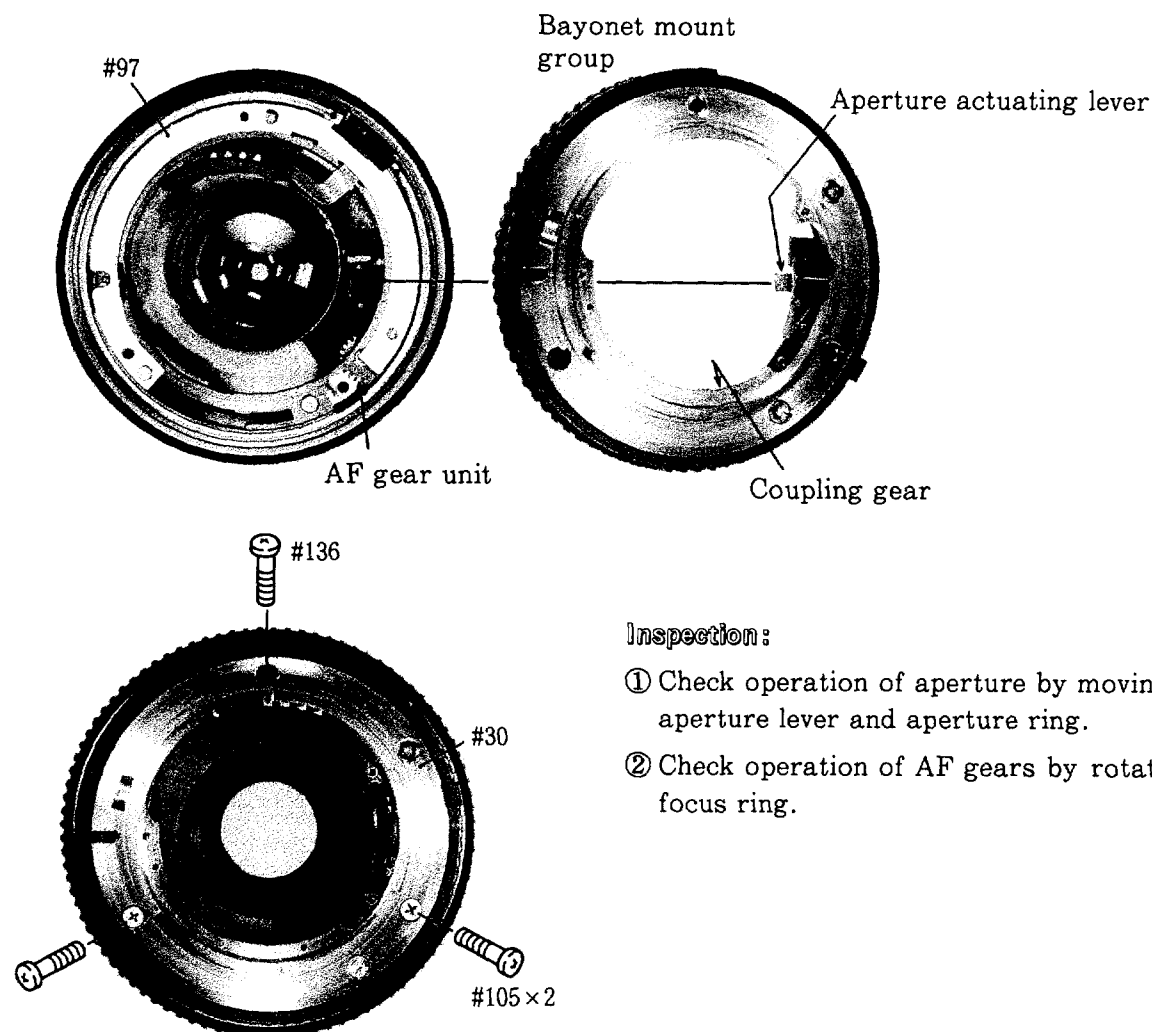


MOUNTING BAYONET MOUNT GROUP

◆ Refer to the pictures shown on the following page.

- ① Attach washer #97 for B.f adjustment. Place a thin washer between thick washers when several washers are available.
- ② Insert the aperture actuating lever as indicated in the picture on the next page, and mount the bayonet mount group by aligning the coupling gear with the AF gear unit.

Reference: If it is hard to mount the bayonet mount group, remove the bayonet mount #30 to make it easier.

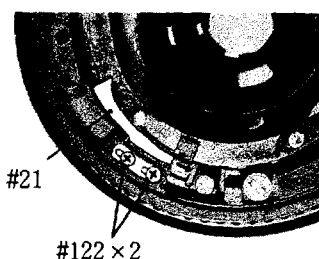


Inspection:

- ① Check operation of aperture by moving aperture lever and aperture ring.
- ② Check operation of AF gears by rotating focus ring.

ADJUSTMENT OF APERTURE OPENING

- ① Remove the bayonet mount #30 only.
 - ② Unfasten screws #122×2 and move part #21 to adjust the aperture diameter. As a guide to adjustment, the full aperture (f/3.5) should be the same size as the inside diameter of part #33. (The inside diameter of part #33 is 17.6mm, 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.
 - ③ After adjustment, secure screws #122×2 using Screw Lock.
- Refer to the next page if the aperture diameter is still out of the permissible range after having adjusted it in the way described above.**

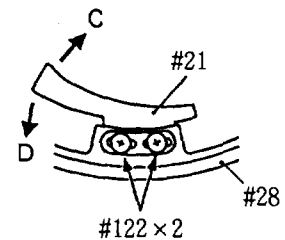


Aperture setting	Inscribed circle diameter (mm)	Tolerance (mm)
3.5	17.60	18.66 ~ 16.66
4	15.19	16.41 ~ 14.04
5.6	10.56	11.85 ~ 9.41
8	7.44	8.35 ~ 6.63
11	5.26	6.13 ~ 4.51
16	3.72	4.34 ~ 3.19
22	2.63	3.07 ~ 2.25

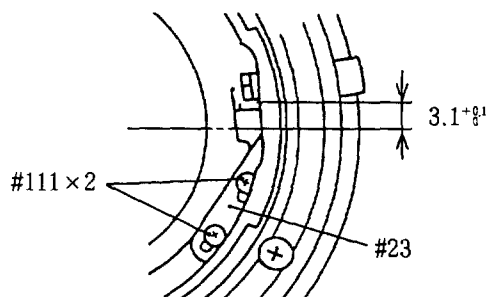
If the aperture diameter is out of the rated value even when part #21 has been moved, The cam plate #21 is mounted in the wrong position. Take the following procedures.

- ① When the full aperture is within the rated value and it becomes larger than the rated value as it moves toward minimum aperture, move the cam plate #21 toward C.
- ② When the full aperture is within the rated value and it becomes smaller than the rated value as it moves toward minimum aperture, move the cam plate #21 toward D.

Note: When actions ① and ② are performed, move part #21 right and left so that all aperture diameters come within rated values. Do not rotate the cam plate #21 when fastening screws #122×2 which secure the cam plate #21.



ADJUSTMENT OF APERTURE LEVER #23 POSITION



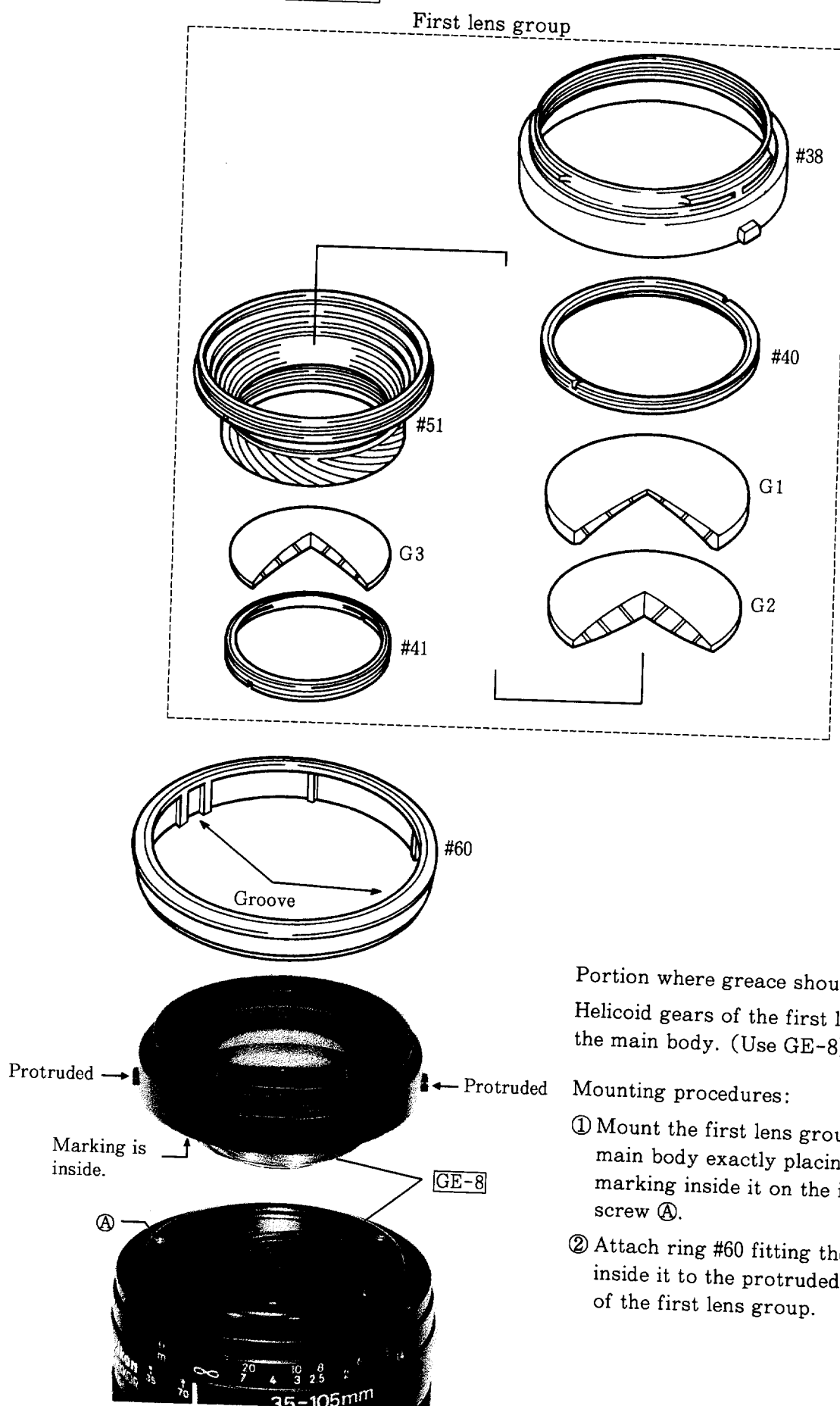
Unfasten screws #111×2 to adjust the position of the aperture lever #23 so that it comes into the rated value of $3.1^{+0.1}$ to bring the aperture diameter within rated value at full aperture.

Together with this, adjust the horizontal position so that it does not come in contact with the bayonet mount and rear cover ring.

After adjustment, fix screws #111×2 using Screw Lock.

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

FIRST LENS GROUP



ADJUSTMENT OF SHIFT FOCUS (TELE AND WIDE)

- (1) Align the ∞ mark on focus ring to index and secure the ring with adhesive tape.
Set aperture to full aperture.
- (2) Read the value on both Wide and Tele sides respectively.
- (3) Rotate the first lens group at Wide side so that the value of Wide side comes close to that of Tele side.
- (4) Repeat the items (2) and (3) above until the value of Wide side becomes 0.1mm over the value of Tele side.
- (5) Secure the focus ring and ring #60 with adhesive tape (TA-0001) .

ADJUSTMENT OF SHIFT FOCUS (INTERMEDIATE)

If the focus shifts greatly (beyond the range of -0.06 to $+0.1$ mm) in the intermediate area when zooming from Tele to Wide, adjust the shift of focus in the following procedure:

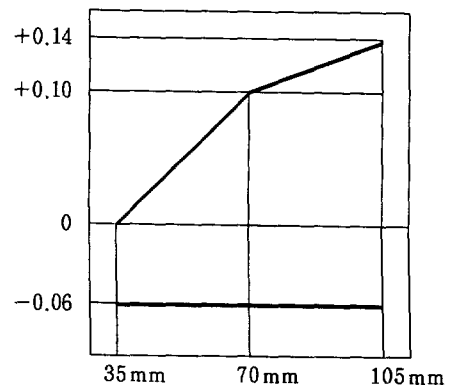
- (1) Adjust the shift of focus by modifying the thickness of washer #95 of the second lens group.
- (2) Adjustment of shift of focus is necessary if the thickness of washer #95 has been changed, for focus on both Tele and Wide shift (Particularly shift of focus on Wide side is greater)

* The thickness of washer is regularly adjusted between 0.3 and 0.5mm.

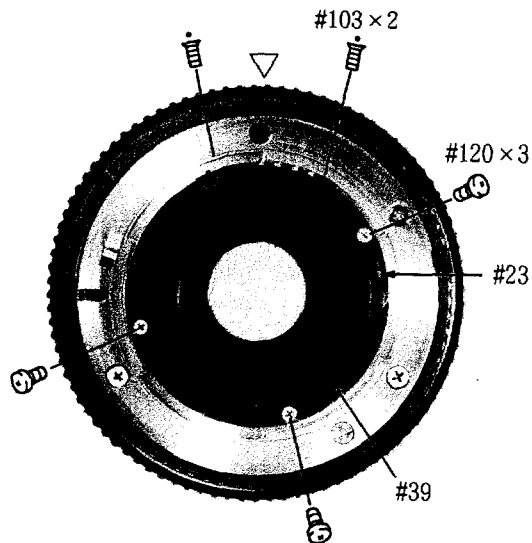
ADJUSTMENT OF BACK FOCUS

- (1) Align the ∞ mark on focus ring to index and secure with adhesive tape.
Set aperture to full aperture.
- (2) Read value at Tele side. If the value is above the standard, increase the thickness of the washer, otherwise decrease it.
- (3) Confirm that the value is within the standard range.

Focal length	Standard (mm)
W (35mm)	$-0.06 \sim 0$
M (70mm)	$-0.06 \sim +0.10$
T (105mm)	$-0.06 \sim +0.14$



REAR COVER RING #39

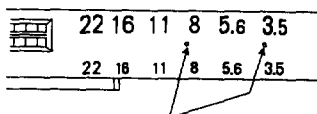


- Mount the rear cover ring #39 so that it becomes the full aperture stopper (the height of the aperture lever is $3.1^{+0.1}_{-0}$ mm) of the aperture lever #23.

COVER PLATE #139, RUBBER RING #37, #54

Secure cover plate #139 using adhesive tape (TA-0001) so that the plate covers the hole of zoom ring #52. After attaching rubber rings #37 and #54, inspect and clean each part of the main body.

ATTACHING METER COUPLING SHOE



Make holes on these two concave portions.

- (1) Remove aperture ring #28.
- (2) Make two holes $\phi 1.1$ in the concave portions of aperture ring #28.
- (3) Attach meter coupling shoe.

Meter coupling shoe	1K404-029	×1
Screw	1K010-002-1	×2

- (4) Assembling.