

***Nikon***

# **FOCUSING UNIT AU-1**

フォーシングユニット AU-1

## **REPAIR MANUAL**

修理 指 針



**NIPPON KOGAKU K.K.**

Tokyo, Japan

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## 2. Lubricant and binding agent list 潤滑剤・接着剤一覧表

| LUBRICANTS 潤滑剤     |                                     |                     |                                       |             |
|--------------------|-------------------------------------|---------------------|---------------------------------------|-------------|
| Oil<br>油           | Usage<br>用途                         | Items number<br>番 号 | Items 商 品 名                           |             |
|                    |                                     |                     | Japanese 日 本                          | Remarks 備 考 |
| Liquid oil<br>液体油  | At a normal<br>temperature<br>常 温 用 | L 1212              | 日本石油<br>白スピンドル油 №.5                   |             |
|                    |                                     | L 1233              | シエル石油<br>トナオイル #33                    |             |
|                    |                                     | L 1309              | モービル石油<br>モービループ HD80-90              |             |
|                    |                                     | L 1314              | モービル石油<br>モービループ HD140                |             |
|                    |                                     |                     |                                       |             |
|                    | At a low<br>temperature<br>低 温 用    | L 2010              | ウイリアム・エフ・ナイ(木村産業)<br>アストロオイル          |             |
|                    |                                     | L 2113              | 三建化工<br>D. O. S                       |             |
|                    |                                     | L 2215              | エクリプス・パイオニア<br>エクリプス・パイオニア #10(ジャイロ油) |             |
|                    |                                     |                     |                                       |             |
|                    |                                     | L 3016              | 理研製油<br>スクワレル LA-10                   |             |
|                    |                                     | L 3025              | 理研製油<br>スクワレル M-1                     |             |
|                    |                                     | L 3034              | 理研製油<br>スクワレル M-2                     |             |
|                    |                                     | L 3044              | 理研製油<br>スクワレル M-5                     |             |
|                    |                                     | L 3047              | 理研製油<br>スクワレル H-1                     |             |
|                    |                                     |                     |                                       |             |
| Grease oil<br>グリース | At a normal<br>temperature<br>常 温 用 | G 5201              | 社 内 調 合                               |             |
|                    |                                     | G 5204              | 社 内 調 合                               |             |
|                    |                                     | G 5214              | 社 内 調 合                               |             |
|                    |                                     |                     |                                       |             |
|                    |                                     | G 6053              | 日本鉱油<br>パーマルブ H1003                   |             |
|                    |                                     | G 6252              | 出光興産<br>ダフニコロネックス 2                   |             |
|                    |                                     | G 6372              | シエル石油<br>シエルアルバニア 2                   |             |
|                    |                                     | G 6414              | 杉浦研究所<br>光学用グリース Z-2                  |             |
|                    |                                     | G 6433              | 杉浦研究所<br>光学用グリース X-2                  |             |
|                    |                                     |                     |                                       |             |
|                    |                                     | G 7821              | 丸善石油<br>リマックス 2                       |             |
|                    |                                     |                     |                                       |             |
|                    |                                     | G 8681              | ロックレー(大東商事)<br>リキモリオート LM-81          |             |
|                    |                                     |                     |                                       |             |
|                    | At a low<br>temperature<br>低 温 用    | G 7100              | 理研製油<br>スクワグリース L-2                   |             |
|                    |                                     | G 7811              | 日本鉱油<br>フォートルブ 024                    |             |
|                    |                                     | G 7812              | 日本鉱油<br>フォートルブ 025                    |             |
|                    |                                     | G 7813              | 社 内 調 合                               |             |
|                    |                                     | G 7814              | 協同油脂<br>マルテンブPS №.1                   |             |
|                    |                                     | G 7815              | 協同油脂<br>マルテンブPS №.2                   |             |
|                    |                                     | G 7833              | 東レシリコーン<br>シリコーンSH, 33(F)グリース         |             |
|                    |                                     | G 7848              | 日本石油<br>ユニテンブグリース                     |             |
|                    |                                     | G 7854              | 日本鉱油<br>パーマルブ C-1                     |             |
|                    |                                     | G 7855              | 日本鉱油<br>パーマルブ C-2                     |             |
|                    |                                     |                     |                                       |             |

|  |
|--|
|  |
|--|

|    |       |                                           |
|----|-------|-------------------------------------------|
| ⊕  | ----- | Cross recessed head screw                 |
| ⊖  | ----- | Slotted head screw                        |
| P  | ----- | Oval countersink head screw               |
| Q  | ----- | Flat head screw                           |
| R  | ----- | Pan head screw, flat fillister head screw |
| S  | ----- | Round head screw                          |
| T  | ----- | Truss head screw                          |
| U  | ----- | Set screw                                 |
| US | ----- | Set screw (cone point)                    |

2 R-4

- Length
- Shape of screw head
- Thread size

(1),(3) -----1st class, 3rd class  
(S) -----Special screw  
d -----Diameter of the material  
T P -----Taper pin  
S P -----Straight pin

- -----Can be supplied individually
- △ -----Not supplied individually but only as subassembly
- △-----Supplied either as part or subassembly
- × -----Not considered as repair part
- ※ -----Should be sent to the factory if the repair is needed
- ☐ -----Delivered as a product from the sales department  
(i.e., not supplied as repair part)

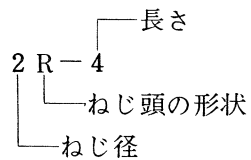
|             |       |                             |
|-------------|-------|-----------------------------|
| P-10001     | ----- | Part number used in common  |
| D-2222      | ----- | Part number in stock        |
| 49F1001     | ----- | Technical data sheet number |
| -1×100/1000 | ----- | Starting order              |
| Rev.        | ----- | Revision                    |
| Add.        | ----- | Addition                    |
| Dis.        | ----- | Discontinuation             |
| #1—#3       | ----- | Relative parts number       |

| LUBRICANTS 潤滑油                                                                                         |                                                            |                                            |                                |             |
|--------------------------------------------------------------------------------------------------------|------------------------------------------------------------|--------------------------------------------|--------------------------------|-------------|
| Oil<br>油                                                                                               | Usage<br>用 途                                               | Items number<br>番 号                        | Items 商 品 名                    |             |
|                                                                                                        |                                                            |                                            | Japanese 日 本                   | Remarks 備 考 |
| Grease oil<br>グリース                                                                                     | At a low<br>temperature<br>低 温 用                           | G 7856                                     | 日本鉱油<br>パーマルブ C-3              |             |
|                                                                                                        |                                                            | G 7862                                     | 日本鉱油<br>パーマルブ F-2              |             |
|                                                                                                        |                                                            | G 7866                                     | 日本鉱油<br>フォートルブ 023             |             |
|                                                                                                        |                                                            | G 7870                                     | モービル石油<br>モービルグリース 27          |             |
|                                                                                                        |                                                            |                                            |                                |             |
|                                                                                                        |                                                            | G 8181                                     | 社 内 調 合                        |             |
|                                                                                                        |                                                            | G 8610                                     | ロックレー(大東商事)<br>リキモリペースター LM-83 |             |
|                                                                                                        |                                                            | G 8613                                     | ロックレー(大東商事)<br>リキモリパウダー LM-13  |             |
|                                                                                                        |                                                            |                                            |                                |             |
|                                                                                                        |                                                            |                                            |                                |             |
|                                                                                                        |                                                            |                                            |                                |             |
|                                                                                                        |                                                            |                                            |                                |             |
| BINDING AGENTS 接着剤                                                                                     |                                                            |                                            |                                |             |
| Usage<br>用 途                                                                                           | Items number<br>番 号                                        | Items 商 品 名                                |                                |             |
|                                                                                                        |                                                            | Japanese 日 本                               | Remarks 備 考                    |             |
| For leather or<br>rubber goods.<br>皮類, ゴム類                                                             | # 330                                                      | スミボンド VA-1000                              |                                |             |
|                                                                                                        | # 501                                                      | ブライオボンド #30                                |                                |             |
| For make metal<br>goods together<br>with metal<br>goods or glass<br>with metal<br><br>一般金属相互<br>ガラスと金属 | # 616                                                      | セメダインスーパー (家庭用)<br>セメダイン#1500 (工業用)        |                                |             |
|                                                                                                        | # 621                                                      | セメダイン#1565                                 |                                |             |
|                                                                                                        | # 631                                                      | アラルダイト AT 1                                |                                |             |
|                                                                                                        | # 634                                                      | 主剤 アラルダイト AY 101<br>硬化剤 ハードナー HY 951       |                                |             |
|                                                                                                        |                                                            | #645HB, #645HE                             | DM K 5                         |             |
|                                                                                                        | For temporary<br>adhesion in<br>the process<br><br>工程上の仮止め | # 201                                      | セラック オレンジ色, レモン色可              |             |
| # 350                                                                                                  |                                                            | ねじロック                                      |                                |             |
| # 410                                                                                                  |                                                            | ロックタイト (B/M黄, ST/L 赤<br>SC/L 紫, N/L 青, D 橙 |                                |             |
| # 921                                                                                                  |                                                            | アロンアルファ # 201                              |                                |             |
| # 922                                                                                                  |                                                            | アロンアルファ # 202                              |                                |             |
| For replenishment<br><br>充填を主とする接着                                                                     |                                                            | # 503                                      | ウェザーバンシーラー                     |             |
|                                                                                                        | # 506                                                      | スリーボンド No.4                                |                                |             |
|                                                                                                        | # 508                                                      | シラシール 3DW                                  |                                |             |
|                                                                                                        | # 512                                                      | シラシール FSXS-1548                            |                                |             |
|                                                                                                        | #646HB, #646HE                                             | DM D 6                                     |                                |             |
|                                                                                                        | #647HB, #647HE                                             | DM K 3                                     |                                |             |
|                                                                                                        |                                                            |                                            |                                |             |
|                                                                                                        |                                                            |                                            |                                |             |

## 記 号 説 明

### 1. 名 称 欄

|    |       |             |
|----|-------|-------------|
| ⊕  | ----- | 十字穴付ねじ      |
| ⊖  | ----- | スリワリ付ねじ     |
| P  | ----- | 丸サラ頭ねじ      |
| Q  | ----- | サラ頭ねじ       |
| R  | ----- | ナベ頭ねじ, 平頭ねじ |
| S  | ----- | 丸頭ねじ        |
| T  | ----- | トラス頭ねじ      |
| U  | ----- | 止めねじ        |
| US | ----- | 止めねじ (とがり先) |



|         |       |         |
|---------|-------|---------|
| (1),(3) | ----- | 1種, 3種  |
| (S)     | ----- | 特殊ねじ    |
| d       | ----- | 線 径     |
| TP      | ----- | テーパープイン |
| SP      | ----- | ストレートピン |

### 2. 販売区分欄

|    |       |                                |
|----|-------|--------------------------------|
| ○  | ----- | 単独部品として販売するもの                  |
| △  | ----- | 部組品でなければ販売しないもの                |
| ○△ | ----- | 単独部品でも部組品でも販売するもの              |
| ×  | ----- | 修理部品とは考えないもの                   |
| ※  | ----- | 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 |
| ☐  | ----- | 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

|             |       |          |
|-------------|-------|----------|
| P-10001     | ----- | 共通部品番号   |
| D-2222      | ----- | 貯蔵品番号    |
| 49F 1001    | ----- | 製品技術資料番号 |
| ~1×101/1000 | ----- | 実施オーダー   |
| Rev.        | ----- | 訂 正      |
| Add.        | ----- | 追 加      |
| Dis.        | ----- | 廃 止      |
| #1- #3      | ----- | 関係部品番号   |

### 3. Specifications

Maximum extension ..... 52.5mm

Distance scale

|                |                 |       |
|----------------|-----------------|-------|
| For 400 .....  | $\infty$ - 5.5m | 18ft  |
| For 600 .....  | $\infty$ - 11m  | 40ft  |
| For 800 .....  | $\infty$ - 20m  | 70ft  |
| For 1200 ..... | $\infty$ - 50m  | 150ft |

Focusing ..... Straight movement with focusing lever

Aperture scale ..... f/4.5 - f/22

Aperture diaphragm ..... Automatic

Metering system ..... Stop-down method used

Tripod socket ..... Rotatable with click stop at every 90°

Filter ..... 52mm in dia., inserted from the side

Lens mount ..... Nikon F mount

Dimensions ..... 101mm dia.(max.) × 313mm length(total)

Weight ..... 2.4kg

### 3. 主 要 諸 元

最大繰り出し量 ----- 52.5 mm

距 離 目 盛

|        |                     |        |
|--------|---------------------|--------|
| 400 用  | $\infty \sim 5.5$ m | 18 ft  |
| 600 用  | $\infty \sim 11$ m  | 40 ft  |
| 800 用  | $\infty \sim 20$ m  | 70 ft  |
| 1200 用 | $\infty \sim 50$ m  | 150 ft |

フォーカシング ----- 直進ヘリコイド，操作棒付き

絞 り 目 盛 -----  $f/4.5 \sim f/22$

絞 り 方 式 ----- 自動絞り

測 光 方 式 ----- 絞り込み測光

三 脚 座 ----- 回転式 (90 毎クリックストップ付き)

フ ィ ル タ ー ----- フィルターわく差込式 (52 mm フィルター使用)

マ ウ ン ト ----- ニコンFマウント

大 き さ ----- 101 mm (最大径) × 313 (全長)

重 量 ----- 2.4 kg

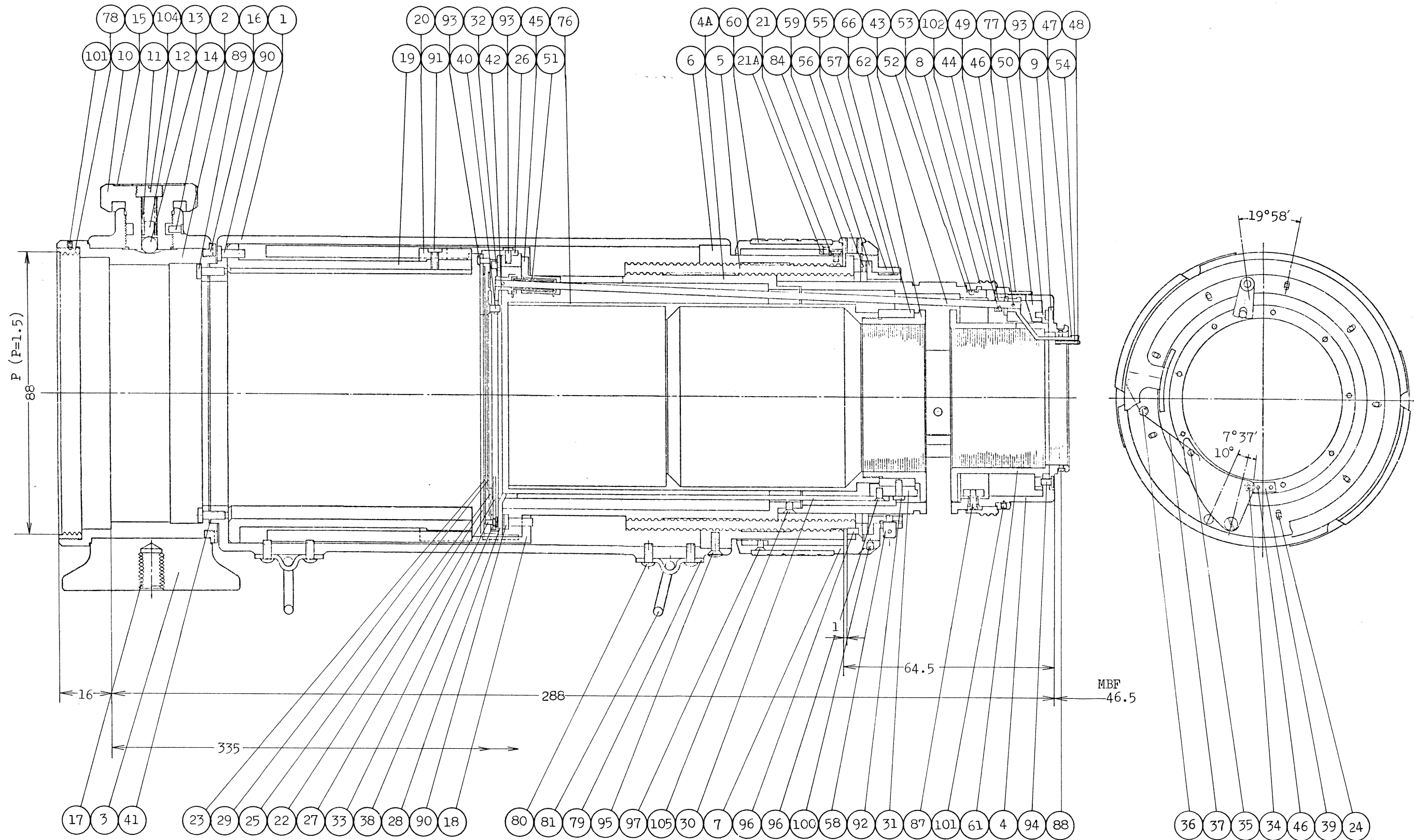


Fig. 2

4. Constraction of the lens    組 立 図

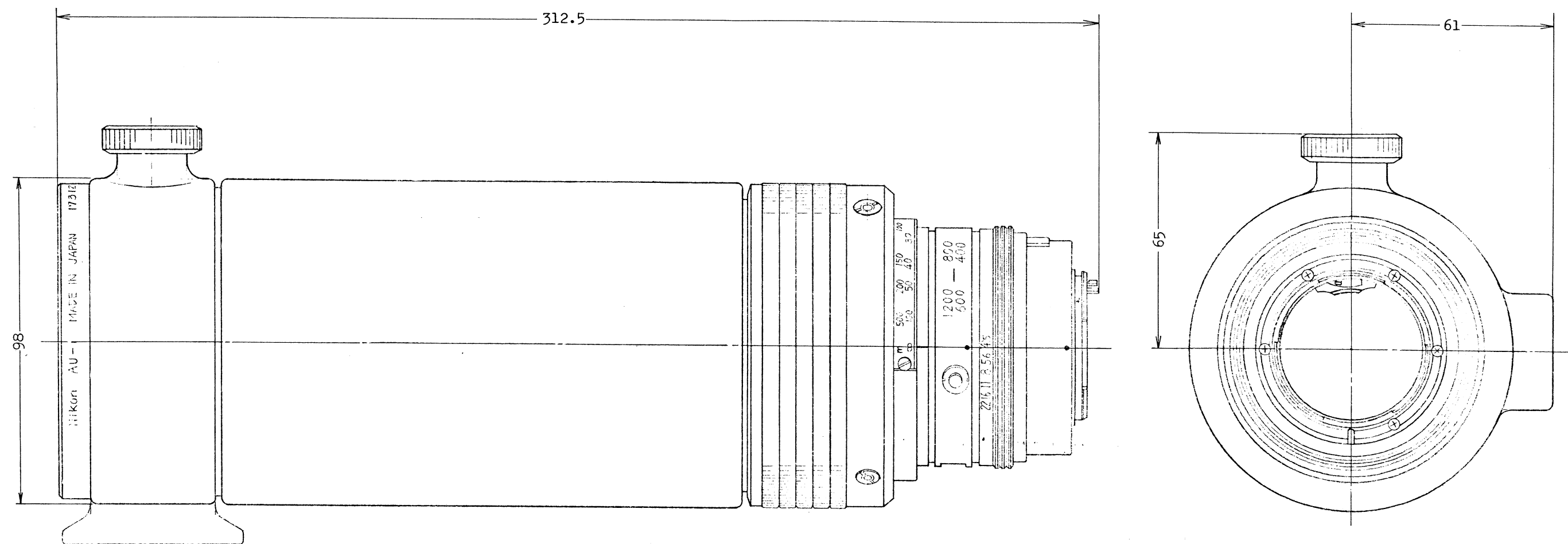


Fig. 1

## 5. Lubricant and binding agent chart 接着, 給油図

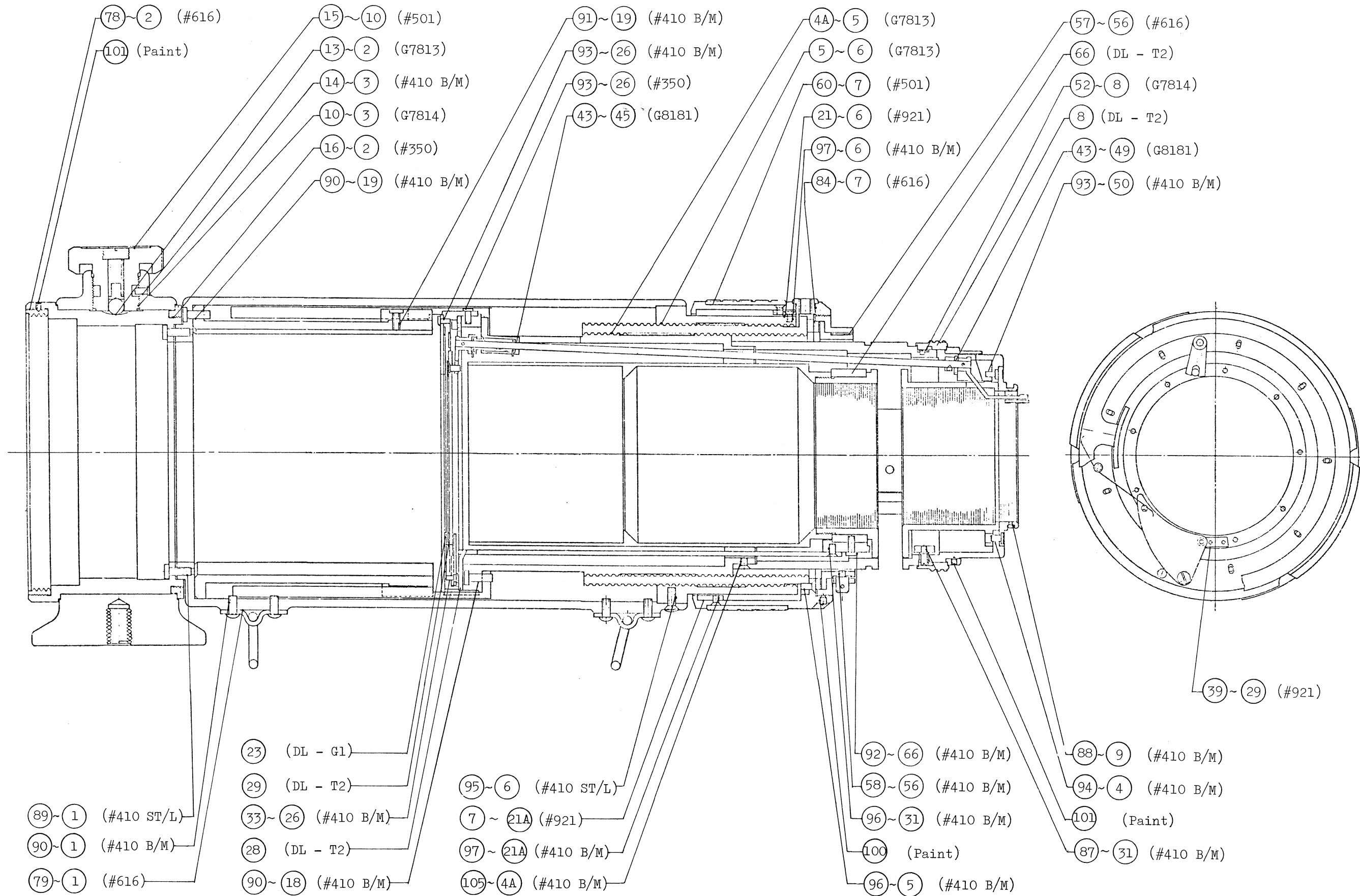


Fig. 3

# 6. Repairing procedure list

| Procedure<br><br>Part to be repaired |                                                      | Disassembling processes<br>(Reverse this sequence for reassembly) |   |   |   |   |   |  |  |  |  |  |  | Assembling points |   |   |   |  |  | After repair check |   |   |   |   |   |   |   |  |
|--------------------------------------|------------------------------------------------------|-------------------------------------------------------------------|---|---|---|---|---|--|--|--|--|--|--|-------------------|---|---|---|--|--|--------------------|---|---|---|---|---|---|---|--|
|                                      |                                                      | 1                                                                 | 2 | 3 | 4 | 5 | 6 |  |  |  |  |  |  | 1                 | 2 | 3 |   |  |  |                    | 1 | 2 | 3 | 4 | 5 | 6 | 7 |  |
| 1                                    | Focusing ring (#7)                                   |                                                                   | ⇒ |   |   |   |   |  |  |  |  |  |  |                   |   | ○ |   |  |  |                    |   |   |   |   |   |   |   |  |
| 2                                    | Diaphragm ring (#8)                                  |                                                                   |   |   | ⇒ |   |   |  |  |  |  |  |  |                   | ○ |   |   |  |  |                    |   | ○ |   |   |   |   |   |  |
| 3                                    | Bayonet (#9)                                         |                                                                   |   |   |   | ⇒ |   |  |  |  |  |  |  |                   | ○ | ○ |   |  |  |                    |   |   |   | ○ |   |   |   |  |
| 4                                    | Diaphragm blade                                      | ⇒                                                                 |   | ⇒ |   |   |   |  |  |  |  |  |  |                   | ○ | ○ |   |  |  |                    |   | ○ | ○ |   | ○ | ○ | ○ |  |
| 5                                    | Diaphragm actuating lever<br>Diaphragm actuating rod | ⇒                                                                 |   | ⇒ |   | ⇒ | ⇒ |  |  |  |  |  |  |                   | ○ | ○ |   |  |  |                    |   | ○ | ○ |   | ○ | ○ | ○ |  |
| 6                                    | Helicoid straight movement key                       | ⇒                                                                 |   | ⇒ |   |   |   |  |  |  |  |  |  |                   | ○ |   | ○ |  |  |                    |   |   | ○ | ○ |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |
|                                      |                                                      |                                                                   |   |   |   |   |   |  |  |  |  |  |  |                   |   |   |   |  |  |                    |   |   |   |   |   |   |   |  |

6. 事故別分解手順と一覧表

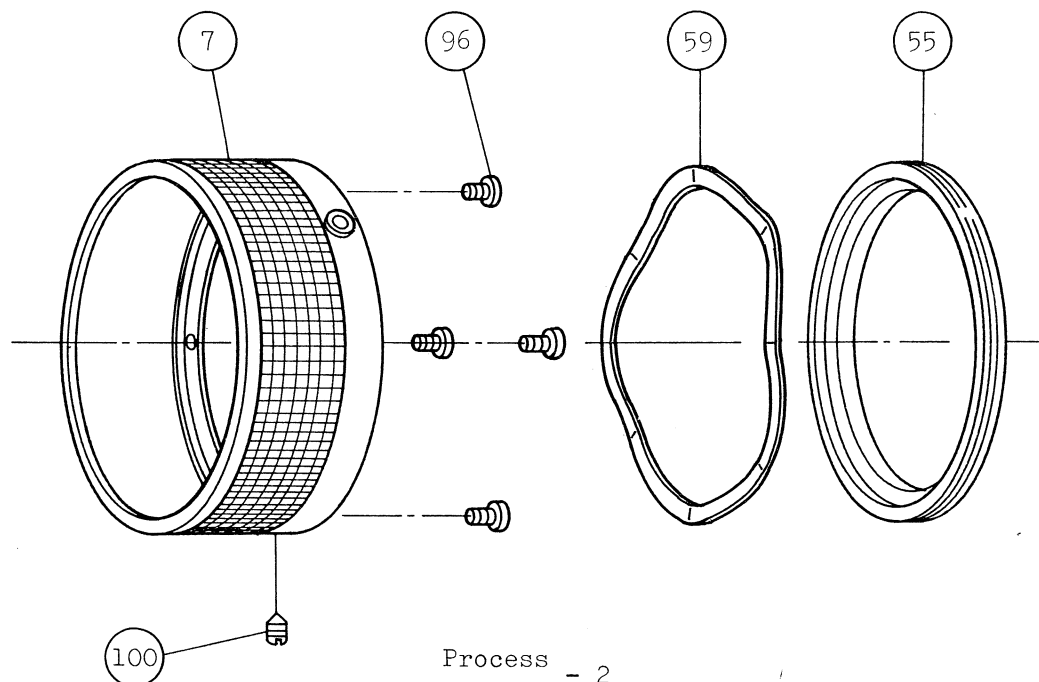
| 作業項目<br>事故箇所 |            | 分解手順 |   |    |   |    |   | 組立要点 |   |   |   |  |  | 修理後のチェック |  |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |
|--------------|------------|------|---|----|---|----|---|------|---|---|---|--|--|----------|--|---|---|---|---|---|---|---|---|--|--|--|--|--|--|--|
|              |            | 1    | 2 | 3  | 4 | 5  | 6 |      | 1 | 2 | 3 |  |  |          |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |   |  |  |  |  |  |  |  |
| 1            | 距離リング（＃7）  | →    |   |    |   |    |   |      |   | ○ |   |  |  |          |  |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |
| 2            | 絞りリング（＃8）  |      |   | →  |   |    |   |      | ○ |   |   |  |  |          |  |   | ○ |   |   |   |   |   |   |  |  |  |  |  |  |  |
| 3            | パヨネット（＃9）  |      |   |    | → |    |   |      | ○ | ○ |   |  |  |          |  |   |   |   |   | ○ |   |   |   |  |  |  |  |  |  |  |
| 4            | 絞り羽根       | →    |   | →  |   |    |   |      | ○ | ○ |   |  |  |          |  |   | ○ | ○ |   |   | ○ | ○ | ○ |  |  |  |  |  |  |  |
| 5            | 絞りレバー，軸    | →    |   | →  |   | →  | → |      | ○ | ○ |   |  |  |          |  |   | ○ | ○ |   |   | ○ | ○ | ○ |  |  |  |  |  |  |  |
| 6            | ヘリコイド，直進キー | →    |   | →  |   |    |   |      | ○ |   | ○ |  |  |          |  |   |   |   | ○ | ○ |   |   |   |  |  |  |  |  |  |  |
|              |            |      |   |    |   |    |   |      |   |   |   |  |  |          |  |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |
|              |            |      |   |    |   |    |   |      |   |   |   |  |  |          |  |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |
|              |            |      |   |    |   |    |   |      |   |   |   |  |  |          |  |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |
|              |            |      |   |    |   |    |   |      |   |   |   |  |  |          |  |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |
|              |            |      |   |    |   |    |   |      |   |   |   |  |  |          |  |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |
|              |            |      |   |    |   |    |   |      |   |   |   |  |  |          |  |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |
|              |            |      |   |    |   |    |   |      |   |   |   |  |  |          |  |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |
|              |            |      |   |    |   |    |   |      |   |   |   |  |  |          |  |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |
|              |            |      |   |    |   |    |   |      |   |   |   |  |  |          |  |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |
|              |            |      |   |    |   |    |   |      |   |   |   |  |  |          |  |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |
| 参 照 頁        |            | 12   |   | 13 |   | 15 |   | 17   |   |   |   |  |  |          |  |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |

20FA8K - R.2025.A

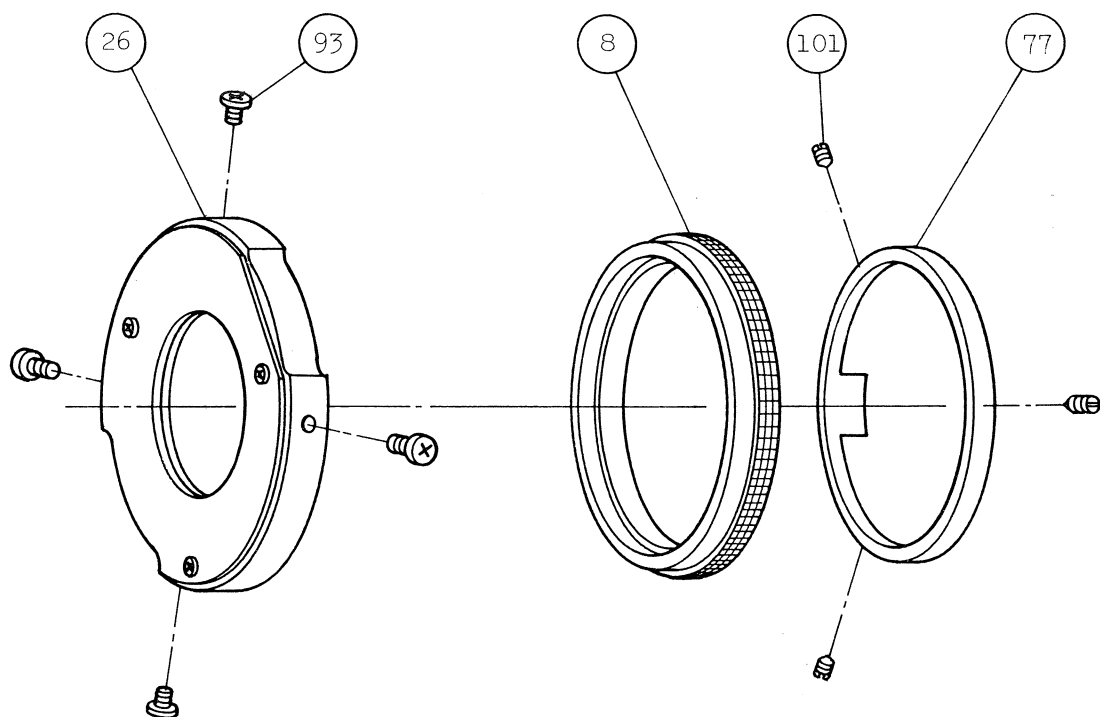
Process - 1  
分解手順

After unscrewing #95 separate the tripod socket block from the focusing one.

#95を外して、三脚座関係とヘリコイド関係に二分する。

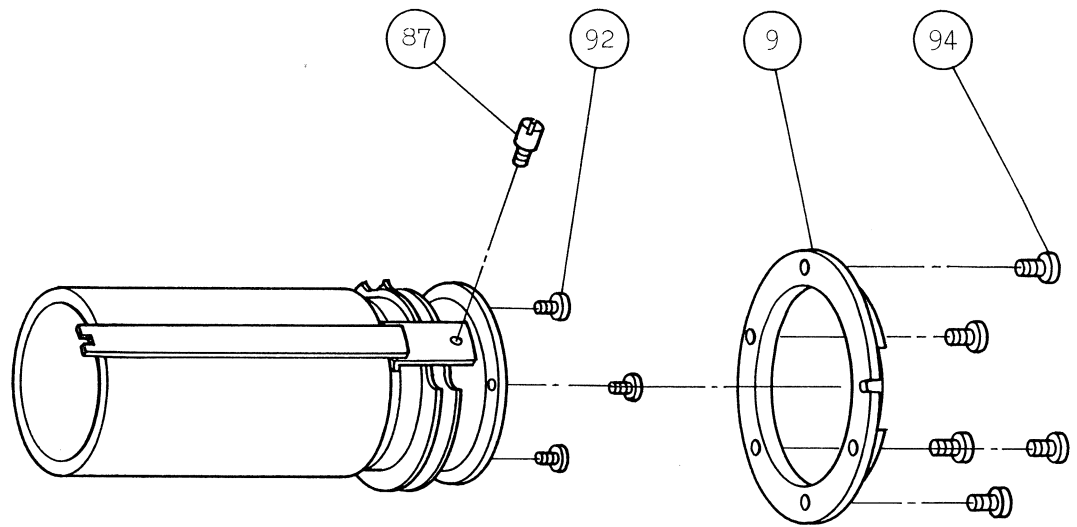


Process - 2  
分解手順

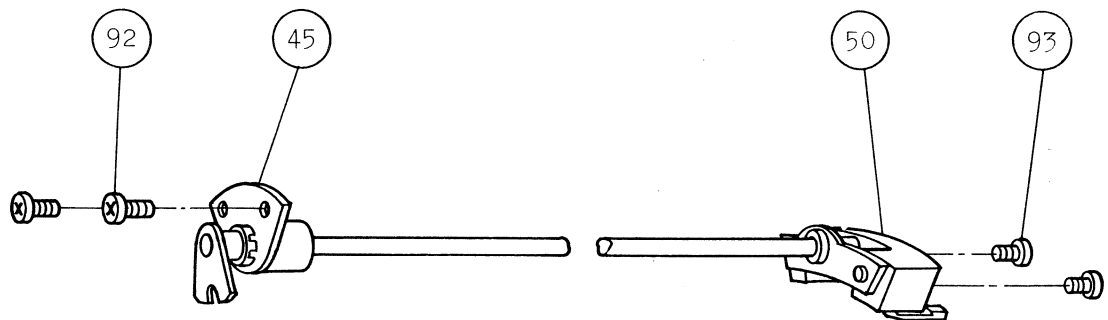


Process - 3  
分解手順

Process - 4  
分解手順

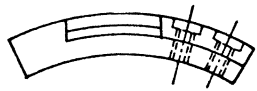
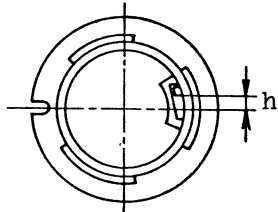


Process - 5  
分解手順

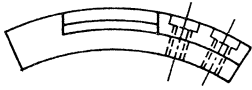
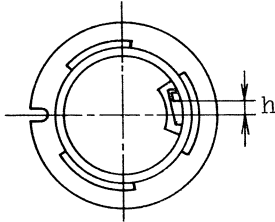


Process - 6  
分解手順

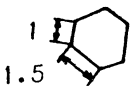
8. Assembling points

|   | Item                                                                                                                                 | Points                                                                                                                                                                                                                             |
|---|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | <p>Removing key looseness of straight movement</p>  | <p>Adjust the position of key stop #20 against key container #19.</p>                                                                                                                                                              |
| 2 | <p>Height of diaphragm actuating lever (#47)</p>    | <p>Setting the diaphragm ring to any f-number except f/4.5 push up the diaphragm actuating lever. File off the lever down to the prescribed height <math>h \rightarrow</math> where the aperture diameter corresponds to f/4.5</p> |
| 3 | <p>Adjustment of thrust surface against the lens barrel</p>                                                                          | <p>By means of thickness of washer #41. If not sufficient, file off infinity stop #21.</p>                                                                                                                                         |

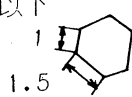
# 8. 組立要点

|   | 項 目                                                                                               | 要 点                                                                  |
|---|---------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| 1 | ヘリコイド直進キーガタ<br>  | キー（＃18）をキー受け（＃19）とキー用こま（＃20）にてはさんで調節する                               |
| 2 | 絞りレバー（＃47）高さ<br> | 絞りリングは F4.5 以外に合わせておき、絞りレバーを押し上げ、絞り径が F4.5 の径になる位置で高さhが出るように絞りレバーを削る |
| 3 | レンズ胴付け位置の調整                                                                                       | ワッシャー（＃41）にて行う<br>調整しきれない場合は距離制限コマ（＃21）を削って行う                        |

9. After repair check

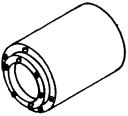
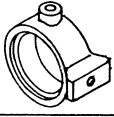
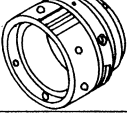
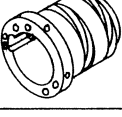
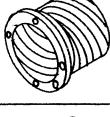
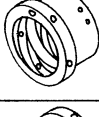
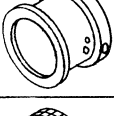
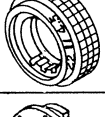
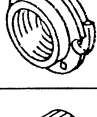
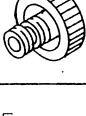
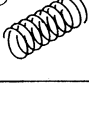
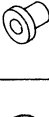
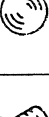
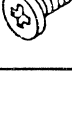
|                  | Check point                               | Checking method                                                          | Checking standard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |       |       |       |   |    |    |    |         |       |       |       |       |       |       |                  |      |       |       |       |       |      |         |       |       |       |       |       |      |
|------------------|-------------------------------------------|--------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-------|---|----|----|----|---------|-------|-------|-------|-------|-------|-------|------------------|------|-------|-------|-------|-------|------|---------|-------|-------|-------|-------|-------|------|
| 1                | Sharp of the aperture diaphragm           | With eyes or projector                                                   | Ratio between two neighboring sides:<br>Within 1 :1.5<br>                                                                                                                                                                                                                                                                                                                                                                                      |       |       |       |   |    |    |    |         |       |       |       |       |       |       |                  |      |       |       |       |       |      |         |       |       |       |       |       |      |
| 2                | Diameter of the opening                   | Projector                                                                | Diameter of the opening as below:<br><table border="1" data-bbox="483 756 1278 1033"><tr><td>f/</td><td>4.5</td><td>5.6</td><td>8</td><td>11</td><td>16</td><td>22</td></tr><tr><td>Maximum</td><td>51.72</td><td>43.80</td><td>31.25</td><td>22.25</td><td>16.12</td><td>11.05</td></tr><tr><td>Prescribed value</td><td>50.0</td><td>39.42</td><td>27.84</td><td>19.62</td><td>13.82</td><td>9.74</td></tr><tr><td>Minimum</td><td>48.39</td><td>34.76</td><td>24.80</td><td>16.35</td><td>11.85</td><td>8.12</td></tr></table> | f/    | 4.5   | 5.6   | 8 | 11 | 16 | 22 | Maximum | 51.72 | 43.80 | 31.25 | 22.25 | 16.12 | 11.05 | Prescribed value | 50.0 | 39.42 | 27.84 | 19.62 | 13.82 | 9.74 | Minimum | 48.39 | 34.76 | 24.80 | 16.35 | 11.85 | 8.12 |
| f/               | 4.5                                       | 5.6                                                                      | 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 11    | 16    | 22    |   |    |    |    |         |       |       |       |       |       |       |                  |      |       |       |       |       |      |         |       |       |       |       |       |      |
| Maximum          | 51.72                                     | 43.80                                                                    | 31.25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 22.25 | 16.12 | 11.05 |   |    |    |    |         |       |       |       |       |       |       |                  |      |       |       |       |       |      |         |       |       |       |       |       |      |
| Prescribed value | 50.0                                      | 39.42                                                                    | 27.84                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 19.62 | 13.82 | 9.74  |   |    |    |    |         |       |       |       |       |       |       |                  |      |       |       |       |       |      |         |       |       |       |       |       |      |
| Minimum          | 48.39                                     | 34.76                                                                    | 24.80                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 16.35 | 11.85 | 8.12  |   |    |    |    |         |       |       |       |       |       |       |                  |      |       |       |       |       |      |         |       |       |       |       |       |      |
| 3                | Play (in the axial direction) of helicoid | Dial gauge                                                               | Within 0.06mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |       |       |       |   |    |    |    |         |       |       |       |       |       |       |                  |      |       |       |       |       |      |         |       |       |       |       |       |      |
| 4                | Play of straight movement key             | Feeling with finger                                                      | Not considerable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |       |       |       |   |    |    |    |         |       |       |       |       |       |       |                  |      |       |       |       |       |      |         |       |       |       |       |       |      |
| 5                | Diaphragm lever<br>Height of the lever    | Assembling angular gauge                                                 | According to the gauge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |       |       |   |    |    |    |         |       |       |       |       |       |       |                  |      |       |       |       |       |      |         |       |       |       |       |       |      |
| 6                | Weight of diaphragm actuating lever       | Spring balance                                                           | Within 80g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |       |       |       |   |    |    |    |         |       |       |       |       |       |       |                  |      |       |       |       |       |      |         |       |       |       |       |       |      |
| 7                | Operation of the diaphragm                | Be sure of the correct operation after assembling in the standard camera | Be sure of positive stop-down operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |       |       |       |   |    |    |    |         |       |       |       |       |       |       |                  |      |       |       |       |       |      |         |       |       |       |       |       |      |

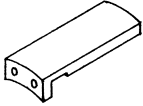
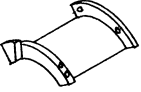
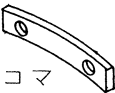
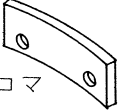
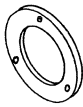
## 9. 修理後のチェック

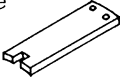
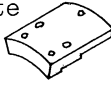
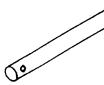
|        | チェック項目                                                                                                                                                                                                                                                                                                                                                                                                                                   | チェック方法             | チェック規準                                                                                                |       |       |       |        |     |     |   |    |    |    |       |       |       |       |       |       |       |       |      |       |       |       |       |      |       |       |       |       |       |       |      |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------------------------|-------|-------|-------|--------|-----|-----|---|----|----|----|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|------|
| 1      | 絞り形状                                                                                                                                                                                                                                                                                                                                                                                                                                     | 目 視, 投影器           | 辺長比 1 : 1.5 以下<br> |       |       |       |        |     |     |   |    |    |    |       |       |       |       |       |       |       |       |      |       |       |       |       |      |       |       |       |       |       |       |      |
| 2      | 絞り径                                                                                                                                                                                                                                                                                                                                                                                                                                      | 投影器                | 下 記                                                                                                   |       |       |       |        |     |     |   |    |    |    |       |       |       |       |       |       |       |       |      |       |       |       |       |      |       |       |       |       |       |       |      |
|        | <table><tr><td>F ナンバー</td><td>4.5</td><td>5.6</td><td>8</td><td>11</td><td>16</td><td>22</td></tr><tr><td>最 大 値</td><td>51.72</td><td>43.80</td><td>31.25</td><td>22.25</td><td>16.12</td><td>11.05</td></tr><tr><td>設 計 値</td><td>50.0</td><td>39.42</td><td>27.84</td><td>19.62</td><td>13.82</td><td>9.74</td></tr><tr><td>最 小 値</td><td>48.39</td><td>34.76</td><td>24.80</td><td>16.35</td><td>11.85</td><td>8.12</td></tr></table> |                    |                                                                                                       |       |       |       | F ナンバー | 4.5 | 5.6 | 8 | 11 | 16 | 22 | 最 大 値 | 51.72 | 43.80 | 31.25 | 22.25 | 16.12 | 11.05 | 設 計 値 | 50.0 | 39.42 | 27.84 | 19.62 | 13.82 | 9.74 | 最 小 値 | 48.39 | 34.76 | 24.80 | 16.35 | 11.85 | 8.12 |
| F ナンバー | 4.5                                                                                                                                                                                                                                                                                                                                                                                                                                      | 5.6                | 8                                                                                                     | 11    | 16    | 22    |        |     |     |   |    |    |    |       |       |       |       |       |       |       |       |      |       |       |       |       |      |       |       |       |       |       |       |      |
| 最 大 値  | 51.72                                                                                                                                                                                                                                                                                                                                                                                                                                    | 43.80              | 31.25                                                                                                 | 22.25 | 16.12 | 11.05 |        |     |     |   |    |    |    |       |       |       |       |       |       |       |       |      |       |       |       |       |      |       |       |       |       |       |       |      |
| 設 計 値  | 50.0                                                                                                                                                                                                                                                                                                                                                                                                                                     | 39.42              | 27.84                                                                                                 | 19.62 | 13.82 | 9.74  |        |     |     |   |    |    |    |       |       |       |       |       |       |       |       |      |       |       |       |       |      |       |       |       |       |       |       |      |
| 最 小 値  | 48.39                                                                                                                                                                                                                                                                                                                                                                                                                                    | 34.76              | 24.80                                                                                                 | 16.35 | 11.85 | 8.12  |        |     |     |   |    |    |    |       |       |       |       |       |       |       |       |      |       |       |       |       |      |       |       |       |       |       |       |      |
| 3      | ヘリコイドがた (軸方向)                                                                                                                                                                                                                                                                                                                                                                                                                            | ダイヤルゲージ            | 0.06 mm以内                                                                                             |       |       |       |        |     |     |   |    |    |    |       |       |       |       |       |       |       |       |      |       |       |       |       |      |       |       |       |       |       |       |      |
| 4      | ヘリコイド直進キーガタ                                                                                                                                                                                                                                                                                                                                                                                                                              | 手 感                | 著しくないこと                                                                                               |       |       |       |        |     |     |   |    |    |    |       |       |       |       |       |       |       |       |      |       |       |       |       |      |       |       |       |       |       |       |      |
| 5      | 絞りレバー高さ                                                                                                                                                                                                                                                                                                                                                                                                                                  | 組立角度ゲージ            | ゲージによる                                                                                                |       |       |       |        |     |     |   |    |    |    |       |       |       |       |       |       |       |       |      |       |       |       |       |      |       |       |       |       |       |       |      |
| 6      | 絞りレバー重さ                                                                                                                                                                                                                                                                                                                                                                                                                                  | スプリングバランス          | 80g以下                                                                                                 |       |       |       |        |     |     |   |    |    |    |       |       |       |       |       |       |       |       |      |       |       |       |       |      |       |       |       |       |       |       |      |
| 7      | 絞り作動                                                                                                                                                                                                                                                                                                                                                                                                                                     | 基準カメラに取付け絞り作動を確認する | 確実に絞られること                                                                                             |       |       |       |        |     |     |   |    |    |    |       |       |       |       |       |       |       |       |      |       |       |       |       |      |       |       |       |       |       |       |      |

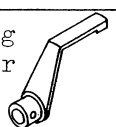
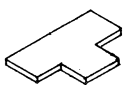
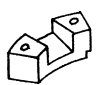
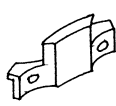
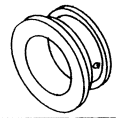
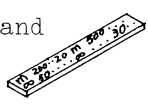
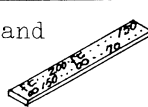
PARTS LIST

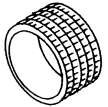
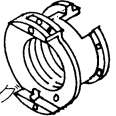
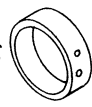
部 品 表

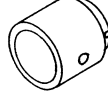
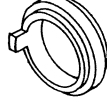
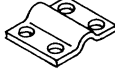
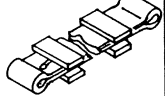
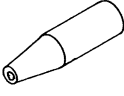
| Part No.<br>部品番号 | Name and Shape<br>名称 および 形状                                                                                            | Pcs. per Unit<br>1台分個数 | Reference Subassembly No.<br>参照部組品番号 | Reference Fig. No.<br>参照図番 | Term of Sale<br>販売区分 | Remarks<br>備考            |
|------------------|------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------------------|----------------------------|----------------------|--------------------------|
| 1                | Connecting tube<br>中間筒                | 1                      | B3                                   | 2                          | △                    |                          |
| 2                | Rotating tube<br>回転筒                  | 1                      | W                                    | 2                          | △                    |                          |
| 3                | Tripod mounting frame<br>三脚座          | 1                      | W1                                   | 2                          | △                    |                          |
| 4                | Index ring<br>指標リング                   | 1                      |                                      | 2                          | ○                    |                          |
| 4A               | Inside helicoid screw<br>雄リード         | 1                      | B                                    | 2                          | △                    |                          |
| 5                | Intermediate helicoid screw<br>中間リード  | 1                      | B                                    | 2                          | △                    |                          |
| 6                | Outside helicoid screw<br>雌リード       | 1                      | B                                    | 2                          | △                    |                          |
| 7                | Focusing ring<br>距離リング              | 1                      | G                                    | 2                          | △                    |                          |
| 8                | Diaphragm ring<br>絞りリング             | 1                      |                                      | 2                          | ○                    |                          |
| 9                | Bayonet<br>バヨネット                    | 1                      |                                      | 2                          | ○                    | 20FA8-<br>#9             |
| 10               | Clamp knob<br>クランプつまみ               | 1                      |                                      | 2                          | ○                    |                          |
| 11               | Click spring d=0.55<br>クリックばね       | 1                      |                                      | 2                          | ○                    | P-11508<br>20FA8-<br>#11 |
| 12               | Plunger<br>プランジャー                   | 1                      |                                      | 2                          | ○                    | P-18023<br>20FA8-<br>#12 |
| 13               | Steel ball 3/16"<br>スチールボール         | 1                      |                                      | 2                          | ○                    | P-12101<br>20FA8-<br>#13 |
| 14               | Screw ⊕ 2R-3.5 (1)<br>小ねじ           | 1                      |                                      | 2                          | ○                    |                          |

| Part No.<br>部品番号 | Name and Shape<br>名称 および 形状                                                                                                    | Pcs. per<br>Unit<br>1台分個数 | Reference<br>Subassembly No.<br>参照部組品番号 | Reference<br>Fig. No.<br>参照図番 | Term of<br>Sale<br>販売区分 | Remarks<br>備考            |
|------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------------------------------|-------------------------------|-------------------------|--------------------------|
| 15               | Vinyl leatherette<br>擬 革                      | 1                         |                                         | 2                             | ○                       |                          |
| 16               | #3 Retaining ring<br>押えリング                    | 1                         |                                         | 2                             | ○                       |                          |
| 17               | Helicert<br>ヘリサートねじ                           | 1                         | W1                                      | 2                             | △                       | 20FA8-<br>#96            |
| 18               | Key<br>キー                                     | 2                         |                                         | 2                             | ○                       |                          |
| 19               | Key container<br>キー受け                         | 2                         |                                         | 2                             | ○                       |                          |
| 20               | Key stop<br>キー用こま                             | 2                         |                                         | 2                             | ○                       |                          |
| 21               | Infinity stop<br>ヘリコイド回転制限コマ                 | 1                         |                                         | 2                             | ○                       |                          |
| 21A              | Infinity stop<br>ヘリコイド回転制限コマ                | 2                         | G                                       | 2                             | △                       |                          |
| 22               | Diaphragm blade<br>cover plate<br>絞りばねカバー板  | 1                         | A                                       | 2                             | △                       |                          |
| 23               | Diaphragm blade<br>絞り羽根                     | 9                         | A A1                                    | 2                             | △                       | 20FA8-<br>#23            |
| 24               | Blade rivet<br>ダ ボ                          | 18                        | A A1                                    | 2                             | △                       | P-11006<br>20FA8-<br>#24 |
| 25               | #29 retaining plate<br>#29 押え板              | 1                         | A                                       | 2                             | △                       | 20FA8-<br>#25            |
| 26               | Blade mounting ring<br>羽根室                  | 1                         | A                                       | 2                             | △                       |                          |
| 27               | Diaphragm cam<br>絞りカム                       | 1                         | A A3                                    | 2                             | △                       | 20FA8-<br>#27            |
| 28               | Cam set lever ring<br>カムセットリング              | 1                         | A A4                                    | 2                             | △                       |                          |

| Part No.<br>部品番号 | Name and Shape<br>名称 および 形状                                                                                          | Pcs. per<br>Unit<br>1台分個数 | Reference<br>Subassembly No.<br>参照部組品番号 | Reference<br>Fig. No.<br>参照図番 | Term of<br>Sale<br>販売区分 | Remarks<br>備考            |
|------------------|----------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------------------------------|-------------------------------|-------------------------|--------------------------|
| 29               | Blade actuating ring<br>矢 車         | 1                         | A A2                                    | 2                             | △                       |                          |
| 30               | Cam acutaing plate<br>カム作動板         | 1                         |                                         | 2                             | ○                       |                          |
| 31               | Cam actuating plate<br>カム作動板        | 1                         |                                         | 2                             | ○                       |                          |
| 32               | Cam pin<br>カムピン                     | 1                         | A A4                                    | 2                             | △                       | P-11002<br>20FA8-<br>#32 |
| 33               | Shoulder screw<br>カム用軸              | 1                         | A                                       | 2                             | ○△                      | 20FA8-<br>#33            |
| 34               | Stop pin<br>矢車回転制限ピン                | 1                         | A A3                                    | 2                             | △                       | 20FA8-<br>#34            |
| 35               | Spring retaining pin<br>ばね掛けピン     | 1                         | A A3                                    | 2                             | △                       | 20FA8-<br>#35            |
| 36               | Spring retaining screw<br>ばね掛けねじ  | 1                         | A                                       | 2                             | ○△                      | 20FA8-<br>#36            |
| 37               | Cam spring d=0.26<br>カム用ばね        | 1                         | A                                       | 2                             | ○△                      | 20FA8-<br>#37            |
| 38               | Washer<br>ワッシャー                   | 1                         | A                                       | 2                             | ○△                      | 20FA8-<br>#38            |
| 39               | Stop plate<br>絞りストッパー             | 1                         | A A2                                    | 2                             | △                       | 20FA8-<br>#39            |
| 40               | Coupling pin<br>カップリングピン          | 1                         | A A2                                    | 2                             | △                       | 20FA8-<br>#40            |
| 41               | Washer<br>ワッシャー                   | 2                         |                                         | 2                             | ○                       |                          |
| 42               | Coupling lever<br>カップリングレバー       | 1                         | B1                                      | 2                             | △                       | 20FA8-<br>#42            |
| 43               | Transmission shaft<br>伝達軸         | 1                         | B1                                      | 2                             | △                       | 20FA8-<br>#43            |

| Part No.<br>部品番号 | Name and Shape<br>名称 および 形状                                                                                          | Pcs. per Unit<br>1台分個数 | Reference Subassembly No.<br>参照部組品番号 | Reference Fig. No.<br>参照図番 | Term of Sale<br>販売区分 | Remarks<br>備考            |
|------------------|----------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------------------|----------------------------|----------------------|--------------------------|
| 44               | Collar<br>カラー                       | 1                      | B1                                   | 2                          | △                    | 20FA8-<br>#44            |
| 45               | Front bearing<br>前側軸受               | 1                      | B1                                   | 2                          | △                    |                          |
| 46               | Taper pin<br>テーパピン                  | 4                      | A A2 × 2                             | 2                          | △                    | P-11018                  |
|                  |                                                                                                                      |                        | B1 × 2                               | 2                          | △                    | 20FA8-<br>#57            |
| 47               | Diaphragm actuating lever<br>絞りレバー  | 1                      | B1                                   | 2                          | △                    | 20FA8-<br>#47            |
| 48               | Light baffle<br>反射防止布               | 1                      | I                                    | 2                          | △                    | 20FA8-<br>#48            |
| 49               | Lear bearing<br>後側軸受                | 1                      | B1                                   | 2                          | △                    | 20FA8-<br>#49            |
| 50               | Bearing washer<br>軸受取付座            | 1                      |                                      | 2                          | ○                    | 20FA8-<br>#50            |
| 51               | Spring d=0.32<br>ばね               | 1                      | B1                                   | 2                          | △                    | 20FA8-<br>#51            |
| 52               | Click spring<br>クリックばね            | 1                      |                                      | 2                          | ○                    | P-11525<br>20FA8-<br>#20 |
| 53               | Screw ⊖1.4R-1 (S)<br>小ねじ (特)      | 2                      |                                      | 2                          | ○                    | P-10002<br>20FA8-<br>#21 |
| 54               | Lever protection<br>レバー保護         | 1                      | I                                    | 2                          | △                    | 20FA8-<br>#54            |
| 55               | Mount ring<br>保持リング               | 1                      |                                      | 2                          | ○                    |                          |
| 56               | Scale ring<br>目盛取付リング             | 1                      | K1 K2                                | 2                          | △                    |                          |
| 57A              | Distance scale band<br>距離目盛板      | 1                      | K1                                   | 2                          | △                    |                          |
| 57B              | Distance scale band<br>距離目盛板      | 1                      | K2                                   | 2                          | △                    |                          |

| Part No.<br>部品番号 | Name and Shape<br>名称 および 形状                                                                                                   | Pcs. per<br>Unit<br>1台分個数 | Reference<br>Subassembly No.<br>参照部組品番号 | Reference<br>Fig. No.<br>参照図番 | Term of<br>Sale<br>販売区分 | Remarks<br>備考 |
|------------------|-------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------------------------------|-------------------------------|-------------------------|---------------|
| 58               | Knob<br>つまみ                                  | 1                         |                                         | 2                             | ○                       |               |
| 59               | Wave washer<br>ウェーブワッシャー                     | 1                         |                                         | 2                             | ○                       |               |
| 60               | Rubber ring<br>ゴムリング                         | 1                         |                                         | 2                             | ○                       |               |
| 61               | Filter mount ring<br>フィルター保持リング              | 1                         |                                         | 2                             | ○                       |               |
| 62               | #66 bearing<br>軸受                            | 1                         |                                         | 2                             | ○                       |               |
| 63               | Filter retainer<br>フィルターホルダー                 | 2                         |                                         | 2                             | ○                       |               |
| 64               | Plate spring<br>板ばね                         | 1                         | N1                                      | 2                             | △                       |               |
| 65               | Pin<br>落ち込みピン                              | 1                         | N1                                      | 2                             | △                       |               |
| 66               | Diaphragm<br>transmission ring<br>絞り伝達リング  | 1                         |                                         | 2                             | ○                       |               |
| 67               | Filter mount lever<br>フィルター<br>着脱レバー       | 1                         | N2                                      | 2                             | △                       |               |
| 68               | Spring d=0.6<br>ばね                         | 1                         |                                         | 2                             | ○                       |               |
| 69               | Lever shaft<br>レバー用軸                       | 1                         |                                         | 2                             | ○                       |               |
| 70               | Lock pin<br>ロックピン                          | 1                         | N2                                      | 2                             | △                       |               |
| 71               | Bush<br>ブッシュ                               | 1                         |                                         | 2                             | ○                       |               |
| 72               | Button<br>ボタン                              | 1                         |                                         | 2                             | ○                       |               |

| Part No.<br>部品番号 | Name and Shape<br>名称 および 形状                                                                                        | Pcs. per Unit<br>1台分個数 | Reference Subassembly No.<br>参照部組品番号 | Reference Fig. No.<br>参照図番 | Term of Sale<br>販売区分 | Remarks<br>備考   |
|------------------|--------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------------------|----------------------------|----------------------|-----------------|
| 73               | E ring E-13<br>Eリング               | 1                      |                                      | 2                          | ○                    |                 |
| 74               | Spring d=0.3<br>ばね                | 1                      |                                      | 2                          | ○                    |                 |
| 75               | Cam spring pin<br>カム用ばね掛け         | 1                      | N2                                   | 2                          | △                    |                 |
| 76               | Light baffle tube<br>シャ光筒         | 1                      |                                      | 2                          | ○                    |                 |
| 77               | Cover ring<br>カバーリング              | 1                      |                                      | 2                          | ○                    |                 |
| 78               | Mount ring<br>マウントリング             | 1                      | W                                    | 2                          | △                    |                 |
| 79               | Strap retainer<br>負革座            | 2                      | B3                                   | 2                          | △                    | 20FA8-<br>#73   |
| 80               | Screw + 3R-5 (S)<br>小ねじ         | 8                      | B3                                   | 2                          | △                    | 20FA8-<br>#75-1 |
| 81               | Ring<br>つりリング                   | 2                      | B3                                   | 2                          | △                    | 20FA8-<br>#77   |
| 82               | Button<br>ボタン                   | 1                      | R                                    | 2                          | △                    | 20FA8-<br>#82   |
| 83               | Strap<br>負革                     | 1                      | R                                    | 2                          | △                    | 20FA8-<br>#81   |
| 84               | Focusing ring plate<br>距離リング用座  | 2                      | G                                    | 2                          | △                    |                 |
| 85               | Operating bar<br>操作棒            | 1                      | H                                    | 2                          | △                    |                 |
| 86               | Mount screw<br>取付ねじ             | 1                      | H                                    | 2                          | △                    |                 |
| 87               | Diaphragm set pin<br>絞りセットピン    | 1                      |                                      | 2                          | ○                    |                 |

| Part No.<br>部品番号 | Name and Shape<br>名称および形状                                                                                             | Pcs. per Unit<br>1台分個数 | Reference Subassembly No.<br>参照部組品番号 | Reference Fig. No.<br>参照図番 | Term of Sale<br>販売区分 | Remarks<br>備考            |
|------------------|-----------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------------------|----------------------------|----------------------|--------------------------|
| 88               | Screw ⊕ 1.4R-1.3 (S)<br>小ねじ (特)      | 1                      |                                      | 2                          | ○                    | P-10030<br>20FA8-<br>#55 |
| 89               | Screw ⊕ 2.6R-7 (3)<br>小ねじ            | 6                      |                                      | 2                          | ○                    |                          |
| 90               | Screw ⊕ 2.6R-7 (3)<br>小ねじ            | 8                      |                                      | 2                          | ○                    |                          |
| 91               | Screw ⊕ 2.6R-5 (3)<br>小ねじ            | 4                      |                                      | 2                          | ○                    |                          |
| 92               | Screw ⊕ 2R-5 (3)<br>小ねじ              | 9                      |                                      | 2                          | ○                    |                          |
| 93               | Screw ⊕ 1.7R-3 (3)<br>小ねじ            | 11                     | A × 3                                | 2                          | △                    |                          |
|                  |                                                                                                                       |                        | 2                                    | 2                          | ○                    |                          |
| 94               | Screw ⊕ 2R-3 (S)<br>小ねじ (特)         | 5                      |                                      | 2                          | ○                    | P-10205                  |
| 95               | Screw ⊕ 2.6P-7 (3)<br>小ねじ          | 6                      |                                      | 2                          | ○                    |                          |
| 96               | Screw ⊕ 2Q-4 (3)<br>小ねじ            | 6                      |                                      | 2                          | ○                    |                          |
| 97               | Screw ⊕ 1.7Q-3 (3)<br>小ねじ          | 6                      | G × 4                                | 2                          | △                    |                          |
|                  |                                                                                                                       |                        | 2                                    | 2                          | ○                    |                          |
| 98               | Screw ⊕ 1.4Q-2.5 (1)<br>小ねじ        | 2                      |                                      | 2                          | ○                    |                          |
| 99               | Screw ⊕ 1.4Q-2.5 (1)<br>小ねじ        | 3                      | A                                    | 2                          | ○△                   |                          |
| 100              | Set screw<br>⊖ 2US-3<br>セットねじ      | 1                      |                                      | 2                          | ○                    |                          |
| 101              | Set screw<br>⊖ 1.4US-2.5<br>セットねじ  | 4                      | W × 1                                | 2                          | △                    |                          |
|                  |                                                                                                                       |                        | 3                                    | 2                          | ○                    |                          |
| 102              | Set screw<br>⊖ 1.4US-1.5<br>セットねじ  | 1                      | B1                                   | 2                          | ○△                   |                          |

[illegible]

## Subassembly list

## 部組品一覧表

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| No. of Subassembly<br>部組品番号 | Name<br>名 称                                 | Pcs. per Unit<br>1台分個数 | No. of Constituent parts<br>構成部品番号              | Reference Fig. No.<br>参照図番 備 考 | Remarks |
|-----------------------------|---------------------------------------------|------------------------|-------------------------------------------------|--------------------------------|---------|
| A                           | Diaphragm blade casing<br>羽根室部              | 1                      | A1×9,A2,A3,A4,22,25,26,33<br>36,37,38,93×3,99×3 | 2                              |         |
| A1                          | Diaphragm blade<br>絞り羽根                     | 9                      | 23×9,24×18                                      | 2                              |         |
| A2                          | Blade actuating ring<br>矢 車                 | 1                      | 29,39,40,46×2                                   | 2                              |         |
| A3                          | Cam lever<br>カム用レバー部                        | 1                      | 27,34,35                                        | 2                              |         |
| A4                          | Diaphragm set ring<br>絞りセットリング部             | 1                      | 28,32                                           | 2                              |         |
| B                           | Helicoid<br>ヘリコイド部                          | 1                      | 4A,5,6                                          | 2                              |         |
| B1                          | Diaphragm actuating ring<br>絞り作動レバー 部       | 1                      | 42,43,44,45,46×2,47,49,51<br>102                | 2                              |         |
| B3                          | Lens casing outer ring<br>外筒部               | 1                      | 1,79×2,80×8,81×2                                | 2                              |         |
| G                           | Focusing ring<br>距離リング                      | 1                      | 7,21A×2,84×2,97×4                               | 2                              |         |
| H                           | Focusing ring release handle<br>距離リング作動ハンドル | 1                      | 85,86                                           | 2                              |         |
| I                           | Rear cover ring<br>後部保護リング                  | 1                      | 48,54                                           | 2                              |         |
| K1                          | Focusing mount ring<br>距離目盛取付リング            | 1                      | 56,57A                                          | 2                              |         |
| K2                          | Focusing mount ring<br>距離目盛取付リング            | 1                      | 56,57B                                          | 2                              |         |
| N1                          | Pin<br>落ち込みピン                               | 1                      | 64,65                                           | 2                              |         |

## 部組品一覽表

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