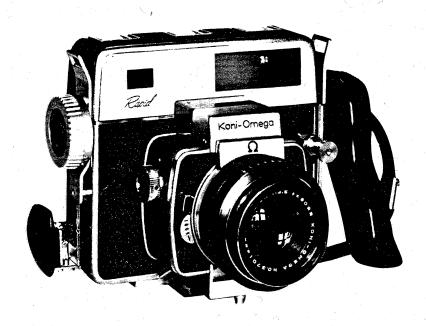
KONI-OMEGA

Repair Manual



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1. GENERAL DESCRIPTION OF THE KONI-RAPID OMEGA

Outlined below are the mechanisms and subassemblies incorporated in the KONI-Rapid Omega camera.

The KONI-Rapid Omega consists of the following subassemblies which can be removed:

Main body components

- 1) Lens mount (B3100)
- 2) Shutter release mechanism (B3200)
- 3) Focusing mechanism (B3300)
- 4) Light barrier mechanism (B3500)
- 5) Shutter cocking mechanism (B3600)
- 6) Rangefinder coupling mechanism (B3800)
- 7) Camera body exterior (B3700)
- 8) Rangefinder base, viewfinder (R1000 -- R5000)

Backlid components

- 1) Pressure plate side (M2000)
- 2) Film counter mechanism (M2000)

Lens Barrel components

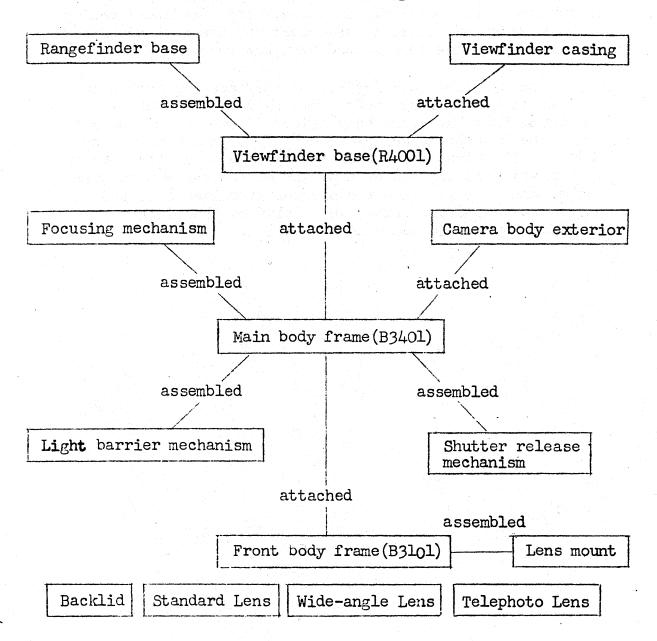
- 1) Lens barrel mechanism
- 2) Lens-shutter mechanism

The KONI-Rapid Omega is made up of five (5) die-cast portions, as follows, into which the various mechanisms are assembled:

- 1) Main body frame (B3401) contains the focusing, shutter release and light barrier mechanisms. The camera body exterior is attached after the related mechanisms have been duly coupled.
- 2) Front body frame (B3101) holds the lens mount and the shutter cocking mechanism.
- 3) Viewfinder base (R4001) holds the rangefinder coupling mechanism and the rangefinder base.

- 4) Viewfinder casing (R5001) contains the dust cover glass, the eyepiece lens and other parts.
- 5) Backlid frame (M2001) holds the pressure plate at the film-loading side and the film counter mechanism at the film take-up side.

Assembly process diagram



The various mechanisms and subassemblies are fitted to the main body frame (B3401) and are intercoupled. The backlid and lenses are removable.

With the lens of the camera facing the viewer, the shutter release mechanism is located in the righthand portion of the main body frame (B3401), beneath the shutter button. In the lefthand portion of the main body frame is the light barrier mechanism, while to the lower portion of the body frame is attached the linkages which couple the shutter cocking mechanism in the front body to the film take-up mechanism in the backlid. In between the viewfinder casing and the main body frame is assembled the die-cast viewfinder base, and coupling is effected with the focusing mechanism.

The focusing rack (B3311) of the focusing mechanism is secured to the front body frame by means of four(4) screws so that the front body slides in and out of the main body, the adjustment being effected by a pinion turned by a knob. The plunger lever of the backlid is in the form of a rack which is engaged by a pinion on the take-up spindle (subassembly 136). When the plunger is pulled out, the film is advanced one frame, and a claw on the plunger moves the film counter to the next indication.

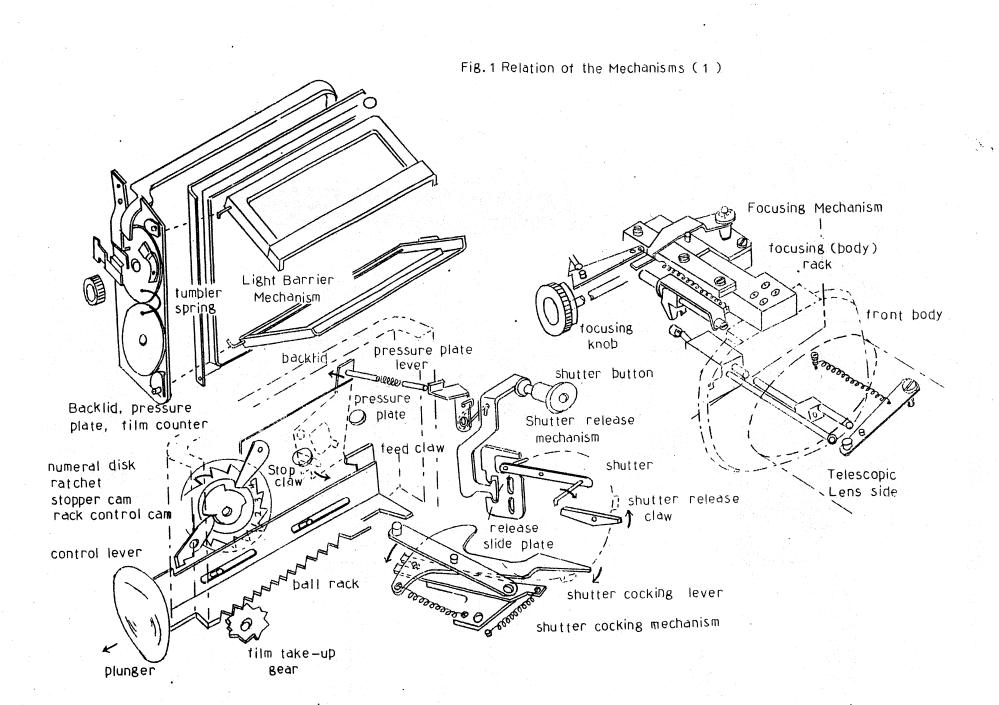
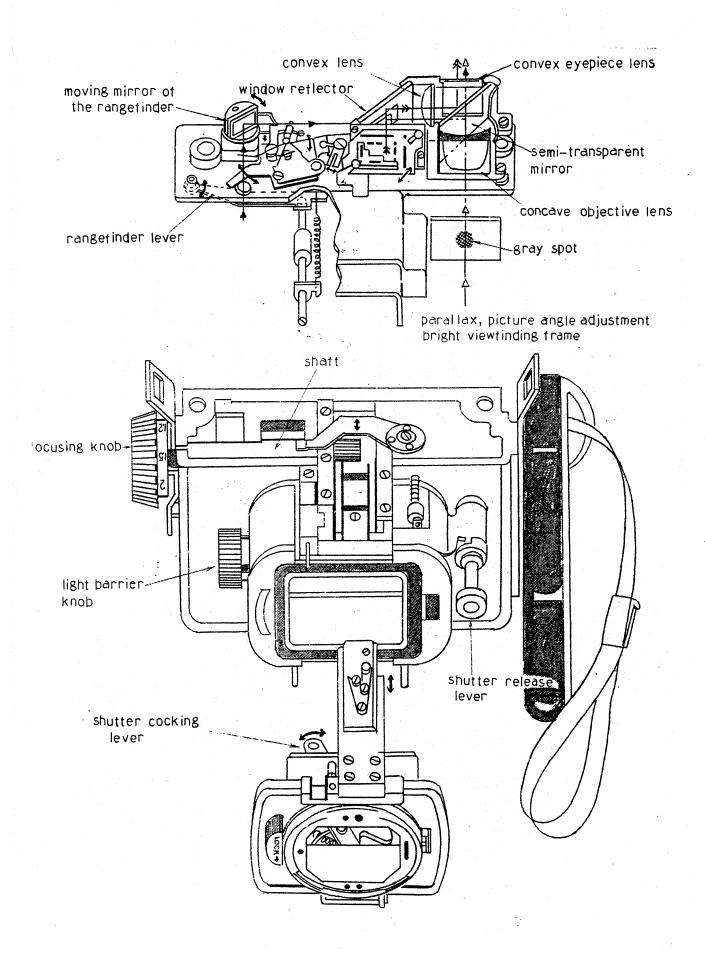


Fig. 2 Relation of the Mechanisms (2)



2. MECHANISM SUBASSEMBLIES REPAIR ITEMS

| e <u>jako en en e</u> | Item | Defect or malfunction |
|-----------------------|------------------------------|--|
| 2.1.1 | Front body lens mount | * Play of lens locked in mount * Lens will not lock in mount |
| 2.1.2 | Shutter release mechanism | * Shutter button action sluggish * Shutter not released |
| 2.1.3 | Focusing mechanism | * Focusing action sluggish * Flange back misfit * Front body misalignment * Play of front body during focusing * Excessive backlash of focusing knob |
| 2.1.4 | Light barrier mechanism | * Light barrier knob action irregular * Light barrier clashes when open, or permits passage of light when closed * Lock action failure |
| 2.1.5 | Shutter cocking mechanism | * Shutter cocking lever action faulty (loose, irregular) * Force insufficient to cock shutter |
| 2.1.6 | Rangefinder coupling mecha- | * Off infinity (∞) in conjunction with wide-angle lens * Failure to actuate rangefinder in conjunction with any of the lenses |
| 2.1.7 | Camera body exterior | |
| 2.1.8 | Rangefinder base, viewfinder | * Focusing images fail to merge laterally at infinity (oo) |

| | Item | Defect or malfunction |
|--------|----------------------|--|
| | | * Focusing images merge at infinity (∞) but are misaligned vertically * Parallax correction inaccurate |
| 2.1.9 | Backlid assembly | * Backlid fails to catch securely to main body * Looseness of slide plate for film spool * Uneven or skewed winding of film * Loose winding of exposed film * Film counter numerals dislocated * Plunger action faulty * Failure to lock at tenth exposure |
| 2.1.10 | Lens barrel assembly | * Inaccurate cross-coupling of telescopic lens * Faulty focusing of lens * Faulty action of shutter release — no release, action sluggish, action late * Irregular action of the aperture and shutterspeed rings |
| 2.1.11 | Other | |

2.2 METHOD OF REPAIR

2.2.1 Front body lens mount

| Trouble | Cause | Check | Remedy | Remarks |
|---|---|--|---|--|
| *Lens has play in mount (see Fig.D (3)(5) & (6)) | Looseness of screw of lens mount plate (L4107) | Check lens mount plate of lens assembly | Tighten screw | |
| | of bayonet spring(B3104) | Check shape of the spring | If deformed, replace with new spring | For emer- gency re- pair, correct bend of spring |
| | Looseness of body mount plate(B3102) | Check loose- ness of body side plate | Tighten holding screw | |
| *Lens will not lock in mount (see Fig. D (3)) | Defective positioning of body mount plate(B3102) | Check to see whether bayonet spring (B3104) has been screw- ed down with the bayonet wa- sher(B3105) properly inteposed | Parts B3104 and B3105 should fit snugly around the mount plate | |
| | Foreign mat- ter lodged inside bay- onet holding ring | Check for presence of sand or other foreign matter | Remove all foreign matter | • |

2.2.2 Shutter release mechanism

| Trouble | Cause | Check | Remedy | Remarks |
|--|--|--|--|--|
| *Shutter button action sluggish (see Fig. C (4)) die- cast frame of | Roughness of pressure plate push rod Scraping &c. of pressure plate actuating lever push rod B3212 scrape,&c. | body frame f | Replace with new push rod if defective If tip touches when push rod is moved, correct shape of tip by bending | |
| body | Presence of foreign matter between upper release plate(B3201) and lower plate(B3202) | Check for faulty action of mechanism between B3201 and B3202 | If no dust &c. is found, apply lubricant (Molycote G) to inner faces of B3201 and B3202 and intervening parts | Specified release force: Max. press-re needed on shutter button at release point Std. lens 2 kg Tele. lens 2 kg Wide. lens $2\frac{1}{2}$ kg |

| Trouble | Cause | Check | Remedy | Remarks |
|---------|--|-------|--------|---|
| | Maladjustment of shutter release point. off-cente screw release relea slide adjus plate | .se | | Set, after adjusting, with lacquer seal Slide plate is displaced vertically by rotation of eccentric screw |

2.2.3 Focusing mechanism

| action of focusing screws so ght, fit force sluggish rack holding that rack shims(B3313- movem | ified e for |
|--|---|
| smoothly between holding plates and body frame B3313-C B3314-C Smoothly without ding plates and body frame Lubricant: strigger around the stri | ment of at body: . 4 kg sured by ring balantied to ring wound focu- g knob) |

| Trouble | Cause | Check | Remedy | Remarks |
|--|--|--|---|--|
| (see Fig. B(22)(25)) | Maladjustment or defect of rack holding spring (B3315) | Check adjust- ment of sp- ring adjust- ment screw (B3317) | Thickness of rack holding spring is 0.9mm Std. 0.8 or 1.0 Supplementary springs of 0.1 0.05 and 0.03 are used. Choose correct tension, and obtain proper smoothness of action by adjusting B3317 (adjust screw) | Lubricant: Molycote G body frame slide sur- face rack hold- ing spr- ing B3315 adju- st screw B3317 rack |
| *Flange back misfit (infinity focusing not ob- tainable) (see Fig. B(30)) | Maladjustment of front body infinity adjustment fro bod | sions with specified flange back gage or other precision instruments rack ont infinity | Set focus- ing knob at infinity (∞) and adjust in- finity ad- justment so that dis- tance be- tween aper- ture plane and lens mount plane (body mount plate B3102) is 66.8 mm ± 0.05 mm | After adjust- ment set with lacquer seal |

| Trouble | Cause | Check | Remedy | Remarks |
|---|--|---|---|---------|
| *Backlash of focus- ing knob excessive | Wear of pin- ion spindle (B3302) | Check mesh- ing of rack, pinion and related parts | Replace worn parts, or adjust eccentricity of focusing knob bearing (B3303) | |

2.2.4 Light barrier mechanism

| Trouble | Cause | Check | Remedy | Remarks |
|--|--|--------------------------|---------|---------|
| *Barrier knob ac- tion irr- gular | Light barr- ier tumbler spring (B3520) detached or broken | Check sp- ring action | Replace | |
| | | | | |

| T | | T T | | <u> </u> |
|---|--|---|--|----------------------------|
| Trouble | Cause | Check | Remedy | Remarks |
| *Barriers clash when mov- ed, light leaks when closed | | Push barri- ers open to- ward lens. There must be adequate tension | Twist ends of formed springs (B3504-A & B) with pair of pliers and adjust tension in conjunction with revolving lugs(B3507-A & B) | light barri- ers close, |
| | | | B3507 B3507 adjust pliers | with |
| *Bayonet lock action faulty (see Fig. A (7)) | Defective action of bayonet lock spring | · · · · · · · · · · · · · · · · · · · | Adjust tip of bayonet lock spring so that it presses against body lock lever when lock stud engages spring contains at "lock at " | when |

2.2.5 Shutter cocking mechanism

| Trouble | Cause | Check | Remedy | Remarks |
|---|--|---|--|---------|
| of shutt- er cock- ing lever (B3601) (shutter cannot be cocked) | (B3609) de- tached | Remove bott- om cover (B3404-B) and check action of cocking lever return spring | If detached, set correct- ly in position. If deformed or broken, replace | |
| to cock | Escapement spring (B3617) detached or broken | Check condi- tion of spring | Re-set if detached, replace if defective | |

2.2.6 Rangefinder coupling mechanism

| Trouble | Cause | Check | Remedy | Remarks |
|---------|---|---|--------|-----------------------------|
| | Malfunction of the wide- angle coup- ling lever (B3807) | Wide-angle coupling is basic, so infinity indication will be off with other lenses eccentric screw (B3821) | | adjustment, with lacquer |

| Trouble | Cause | Check | Remedy | Remarks |
|---|---|--|---|---|
| *None of the lenses couples with ran- ge finder (see Fig.E) | l) Maladjust- ment of adjustment plates A & B(R2011, R2012) of the range- finder base | side coupling pin action for accuracy. If correct, use remedy (1) or (2) | (1) Adjust eccentric screw (R2016) R2011 R2012 B3801(eccentric screw) | all parts should make contact with each other as shown below co adjust screw(R2008) |
| B3801 | 2) Maladjus- tment of coupling mechanism between body and lens B3802-A | | (A) / (B) | justment screw (R2008) wide-angle coupling lever 2011/(3807) |

2.2.8 Rangefinder base, viewfinder

| Trouble | Cause | Check | Remedy | Remarks |
|---|---|--|--|--|
| *Lateral misalign- ment of focusing images (see Fig. E (22)) | Maladjustment of infinity-adjustment (R2008) | Check with collimeter. If not available, use triangulation base length chart | Turn infinity adjustment screw (R2008), check merging of images. Re-check image match with each lens in turn. Adjustment possible from outside by removing viewfinder casing (R5005) | Triangulation base length chart is graphical presentation of 90-mm base figures of the KONI- Omega range- finder |
| *Vertical misalign- ment of focusing images (see Fig. E (14)) | Maladjustment of paralle- lism of re- flector mirror axis (R2001) | Check with collimeter, or with distant object and triangulation base chart | Remove accessory clip on viewfinder casing above sideillumination window. Turn the adjusting screw of the reflector mirror axis | Specified accuracy of image align-ment: within one(1) second, both laterally and vertically |

| | Trouble | Cause | Check | Remedy | Remarks |
|--|--|---|---|---|---------|
| (| Parallax correction in-accurate see Fig. E (19)) | Maladjustment or failure of parallax compensation arm (R3008) | See whether bright frame of the view-finder shifts as focusing is changed | Adjust fork of parallax compensation arm (R3008) so that bright frame covers more than 85% of the real picture image at film gate | |
| en e | | | | R3008 target get regulate | |

2.2.9 Backlid assembly

| Trouble | Cause | Check | Remedy | Remarks |
|--|--|---|---|--------------|
| *Backlid fails to catch on main body | Looseness of spring (M2028) of tumbler mechanism | Check operat- ion of catch lever(M2046) | Secure spr- ing(M2028) by tighten- ing screw | Use adhesive |
| (see Fig. G(23)(25)) | | | | |

| Trouble | Cause | Check | Remedy | Remarks |
|--|---|------------------------------------|---|---------|
| of film spool slide | Failure of slide plate spring | Check spring action | Correct de- formation. Replace if broken | |
| plate | | | | |
| (see Fig. G(4)(5)) | | | | |
| *Film wound un- evenly or skewed (see Fig. G (27)) | Improper balancing of film guide spring (M2064) | Check strength and shape of spring | Adjust to the following dimensions: distance of upper side of roller from backlid base plane (plane of contact with body frame) | |

| *Loose winding of exposed film (see Fig. G (29)) *Dislocation of film numeral counter numerals (M2045) *Faulty plunger action (length of stroke unchanged) *Faulty possible (M2057) *Faulty possible (M2057) *Faulty plunger action (length of stroke unchanged) *Image spring tongue is shape not as follows: See whether spring tongue is erect as specified *Contact with backlid *M2076 12mm Contact with backlid *Remove backlid outer panel, reset numeral disk by loosening screws *Check when plunger is fully withdrawn set numeral disk by loosening screws *Check changing stroke of plunger action: 76.5 mm for lst to 3rd pictures, | | | | | |
|--|--|--|---|--|---|
| winding of exposed film (M2076) deformed or weakened (See Fig. G (29)) *Dislocation of film counter numerals (M2045) *Faulty plunger action (length of stroke unchanged) *Faulty poff stroke unchanged) winding (M2076) deformed or weakened (M2076) deformed or weakened (M2076) *Spring tongue is follows: *Check when plunger is fully contact with backlid *Check when plunger is fully withdrawn (M2045) *Check when plunger is fully withdrawn (M2045) *Check changing stroke of plunger action: Reset stopper spring if detached. Replace if damaged (M2057) 76.5 mm for lst to 3rd pictures, | Trouble | Cause | Check | Remedy | Remarks |
| *Dislocation of film counter numerals (M2045) *Faulty plunger action (length of stroke unchanged) *Defective fit of numeral film counter film (M2057) *Faulty plunger action (length of stroke unchanged) *Check when plunger is fully panel, reset numeral disk by loosening screws *Check changing stroke of plunger action: 76.5 mm for lst to 3rd pictures, | winding of expo- sed film | re spring (M2076) de- formed or | spring tongue is erect as | shape not as follows: | Contact with backlid should extend over 12 mm |
| *Dislocation of film counter numerals (M2045) *Faulty plunger action (length of stroke unchanged) *Defective fit of numeral disk when plunger is fully withdrawn withdrawn set numeral disk by loosening screws Check when plunger is fully withdrawn set numeral disk by loosening screws Check chan-ging stroke of plunger action: Reset stopper er spring if detached. Replace if damaged pictures, | G (29)) | | 12mm ↓ | M2076 | |
| tion of film numeral disk (M2045) *Faulty plunger action (length of stroke unchanged) tion of filt of numeral disk fully withdrawn set numeral disk by loosening screws *Check changing stroke of plunger action: action: Replace if damaged Check changing stroke of plunger action: Replace if damaged id outer panel, reset numeral disk by loosening screws Check changing stroke of plunger action: Replace if damaged | | | | | |
| plunger broken regu- ging stroke er spring if detached. (length of stroke unchang- ed) plunger ging stroke of plunger detached. Replace if damaged Replace if damaged | tion of film counter numerals (see Fig. | fit of numeral disk | plunger is fully | lid outer panel, re- set numeral disk by loosening | |
| Result: unequal intervals between pictures 4th to 6th, 61.8 mm for 7th to 10th | plunger action (length of stroke unchang- ed) Result: unequal intervals between | broken regu- lator lever spring (M2057) | ging stroke of plunger action: 76.5 mm for 1st to 3rd pictures, 70 mm for 4th to 6th, 61.8 mm for | er spring if detached. Replace if | |

| Trouble | Cause | Check | Remedy | Remarks |
|--|---|--|--|---------|
| *Failure to lock at 10th picture | Defective action of stop claw M2084 2) Insecure numeral disk axle 3) Loose spring M2074 | Check conta- ct of stop claw with stop cam (M2081) | Set stop claw on periphery of stop cam. Tighten M2061. Re-set spring M2074 | |
| *Film counter inactive | Drive rat- chet spring loose or damaged | Check drive action | Re-set spring or replace if damaged | |
| *Plunger lever action slug- gish | Rack slide damaged | Check for smoothness of slide action | Replace damaged part | |

2.2.10 Lens barrel assembly

| Trouble | Cause | Check | Remedy | Remarks |
|---|--|--|---|--|
| *Defective cross- coupling of tele- photo lens | Defective adjustment of coupling pin | Check for accuracy with speci-fied gage | Use specified gage for adjustment. For fine adjustments use eccentric screw | Two(2) gages used. See section on gages and measurements |
| | | eccentric screw T4210 | crew | |
| *Faulty focusing of lens | Defective adjustment of lens- side mount flanges | Check by fitting lens to properly adjusted camera body and observ- ing projec- ted image on ground glass screen (+0.2) | For the standard lens insert shim L4304 for obtaining proper focus. Shutter adjustment shim L4116 can be used. With telephoto lens, use T4303 washer. | Adjustment washers for lens mount. For all lenses t = 0.05 t = 0.1 t = 0.2 For shutter adjustment t = 0.5 t = 0.2 t = 0.3 t = 0.1 t = 0.05 |

| Trouble | Cause | Check | Remedy | Remarks |
|---|--|-------------------------------------|--------------------------------|---------|
| *Faulty action of shutter release | Looseness or deformation of release lever axle (W2507) | Check action for smooth- ness | Replace de- fective part | |
| *Irregular action of aper- ture and shutter- speed ring | Deformation of quick return spring W4123-c | | Replace de- fective part | |

3. DISMANTLING AND REASSEMBLING CAUTIONS

3.1 Lens mount

When fitting the camera body lens mount plate (B3102), see that the bayonet spring (B3104) and the bayonet washer (B3105) do not get caught in between. After completion of assembly, glue lightproofing braid around the periphery of the mount.

3.2 Shutter release mechanism

After adjusting to obtain the proper release point, apply lacquer seal to the head of the eccentric screw (B3204-B) to prevent loosening.

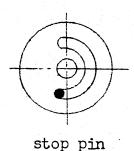
3.3 Focusing mechanism

After adjustment of the eccentric screw of the axle (B3303) of the focusing knob, do not fail to re-check the flanges of parallelism.

After dismantling of the main body and adjustment of focusing knob axle (B3033) apply lightproofing lacquer to all points vulnerable to leaks.

For reassembling after removal of pinion shaft B3302, use the ∞ position as guide for proper gear meshing.

The semicircular slot cut in the rear of the focusing knob B3301 is designed to take the stop pin. Assemble with the stop pin riding in the slot.



3.4 Dismantling procedure

The dismantling procedure for removal of the pinion shaft B3302 is first to remove B3307 the lock screw B3309. Next peel off upper portion of cover leather (B3721) as shown in the drawing, remove two (2) set screws and set screw B3303 of the focusing shaft bearing, and adjust by changing the eccentricity of B3303.

3.5 Rangefinder coupling mechanism base

When fitting the rangefinder coupling mechanism in the main body frame, see that the tip of the wide-angle coupling lever comes in between coupling lever B3801 and the stud set on the ratio lever R4005. The forked portion of B3802 should fit the grooved end of coupling pin B3803.

4. ADHESIVES AND LUBRICANTS SPECIFICATIONS

l Adhesives

| Name | Composition | Usage |
|-------------|--|---|
| PLIOBONE | Rubber base synthetic rubber and synthetic resin *solvent: acetone MEK amylacetate | Molded resin parts, light-proofing paper |
| SUNDYNE 640 | Rubber base Chloroprene rubber Phenol resin *solvent: toluol MEK | Camera exterior, cover leather, also for light- proofing paper |
| BOND E 2 | Epoxy base Main ingredient: Bond E2-2 Hardener: C1-1 | Rangefinder parts |

2 Lubricants

| Name | Composition | Usage |
|------------------------|--|-----------------------|
| MOLYCOTE G | Molybdenum disulfide and high-grade oil mixed in paste form | Drive mechanisms |
| HELICOID(FP) grease | Rodimol 33 40 Rodimol DOS 2 40 Molycote G 15 mixed into paste form | Racks, pinions, gears |

5. PRODUCT DIMENSIONS AND TOLERANCES

| 5.1 | KONI-OMEGA RAPID Main Body Parts | 28 |
|--|----------------------------------|----|
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5.1 KONI-Omega Rapid Main Body Parts Dimensions & Tolerances

5.1.1 Filmwind Mechanism

Film advance plunger stroke 1st to 3rd exposures . . . $76.5 \pm 0.2 \text{ mm}$ 4th to 6th exposures . . . $70.0 \pm 0.2 \text{ mm}$ 7th to 10th exposures . . . $61.8 \pm 0.2 \text{ mm}$

Film advance plunger friction force . . less than $3.5~\mathrm{kg}$

5.1.2 Shutter Release Mechanism

Force needed to operate shutter button (body) at shutter release point . . .

Standard lens . . less than 2 kg
Telephoto lens . . less than 2 kg
Wide-angle lens . . less than 2.5 kg

Shutter release point . . . 6.5 +1 mm from body release starting point

Pressure of pressure plate on film gate . . . not less than 500 g

With release button inactive, the pressure plate must be at least 0.7 mm distant from the film gate.

5.1.3 Focusing Mechanism

Force required on focusing knob to move front body (lens) assembly . . not more than 4 kg

Focusing knob backlash . . not more than 1 mm at periphery

With focusing knob set at ∞ , the distance from film gate to lens mount (flange back) should be 66.8 ±0.08 mm as measured by specified gage. Parallelism at fully extended position, as measured by specified gage, should be within 0.15 mm.

5.1.4 Lens Mount

Bayonet ring should work smoothly and accurately through specified are upon application of force of less than 2.5 kg

No play is permissible between lens and camera body in the direction perpendicular to the optical axis. Rotary play along periphery of the lens barrel should be less than 0.2 mm.

Rangefinder coupling pin should, at ∞ setting, protrude 3.2 ± 0.2 mm above the mount contact surface, while the supplementary coupling pin of the telephoto lens should protrude 3.7 \pm 0.2 mm.

Force required to actuate the body coupling mechanism should be less than 300 g at ∞ setting.

5.1.5 Range- Viewfinder

With focus adjustment set at ∞ (infinity) the range-finder focusing spot images should merge accurately at the center of the viewfinder field. Maximum permissible mismatch of spot images for standard, wide-angle and telephoto lenses is 2' in any direction with error in one direction only. Centering error should not exceed 1' in any direction.

With focus adjustment set at five (5) feet, the actual distance from camera to subject should be correct within ± 50 mm for the standard lens, and within ± 100 mm for the wide angle lens. For the telephoto lens, permissible error is ± 70 mm when focusing is set at 25 feet.

Viewfinder coverage of the subject, from infinity ∞) to close range (3.5 feet for standard lens, 12 feet for telephoto), should be not less than \$5 per cent of the actual image at the film gate, and should never stray beyond the limits of the film gate image.

5.1.6 Cther

All the above requirements should be fulfilled in a temperature range of from 0° to 45° C.

All mechanical movements should function in a temperature range of from -20° to 55° C, while normal performance should be obtained after two (2) hours at normal temperature (25 \pm 5° C) and humidity (65 \pm 5%).

5.2 Standard Lens

At ∞ setting the coupling pin should protrude 3.2 0.03 mm above the rear surface of the lens barrel (mounting plane) (see cut below)

There should be no play in the direction perpendicular to the optical axis, while maximum rotary play should be not more than 0.2mm at periphery.

Distance from film gate to flange . . . 66.6 \pm 0.0 mm Flatness of flange surface not more than 0.05 mm

Amount of lens movement . . . ∞ to 3.5 ft. 3.905 \pm 0.07mm

Projected image resolving power . . . more than 63 lines/mm at center more than 16 lines/mm near . periphery

Standard Lens Barrel Coupling Pin Dimensions

5.3 Wide-Angle Lens

Amount of lens movement . . . oo to 3.5 ft.

3.905 ± 0.07 mm

Projected image resolving

power . . more than 63 lines/mm

at center

more than 16 lines/mm

5.4 Telephoto Lens

Amount of lens movement . . . ∞ to 12 ft. 9.831 \pm 0.12mm

Projected image resolving

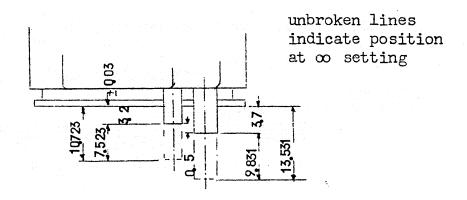
power . . . more than 50 lines/mm at center more than 12.5 lines/mm near periphery

near periphery

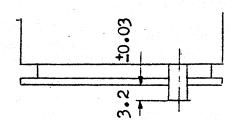
Telephoto lens coupling mechanism At ∞ setting the supplementary coupling pin should protrude 3.7 mm above the rear surface of the lens barrel (mounting plane), and when the height of the supplementary pin is 13.53 mm (equivalent to focus setting at 12 feet) the height of the main coupling pin should be 10.72 \pm 0.03mm (see cut below)

The acting force of the coupling pin should not be less than 350 g.

Telephoto Lens Barrel Coupling Pins Dimensions



Standard Lens Barrel Coupling Pins Dimensions



5.5 Backlid

The clutch should not slip when, with the spool attached to the filmwind spindle held firm, a force of 3 Kg. is applied to the plunger.

Pull force of the plunger, without film, should be from 250 to 400 g. Resistance of the film counter advance action should be less than 2 kg.

5.6 Other

Shutter cocking torque and shutter release resistance for the standard, telephoto and wide-angle lenses should be as follows:

cocking torque . . . less than 3.8 kg.cm release resistance . less than 0.2 kg.cm

Exposure time (shutter action duration) at both "M" and "X" settings should be in the following ranges:

| | Duration | Permissible Error |
|-----------------|-----------------------|-------------------|
| Maximum opening | 1 to 1/125 Sec. | +50 to -30% |
| | 1/250 to $1/500$ Sec. | +80 to -40% |

Action delay time: "M" setting: 16 +4 -3.5 milliseconds

"X" setting: 16 +0.5 milliseconds

Contact efficiency range:

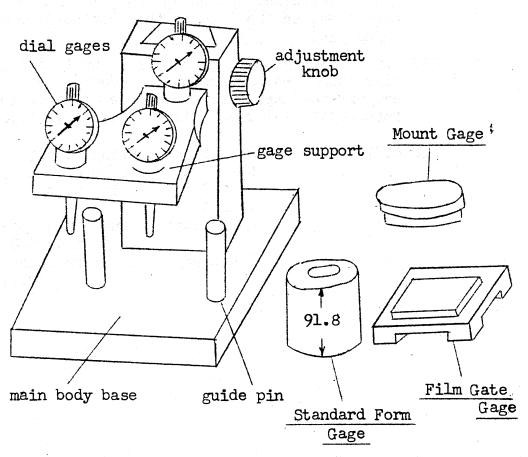
| Setting | Specified Duration | Contace Efficiency | |
|---------|--------------------|--------------------|--|
| uXu | 1 millisecond | not less than 70% | |
| nMn | 2.5 milliseconds | not less than 70% | |

6. GAGES AND MEASUREMENTS

| Special | Instruments: 1) | Flange back gages | |
|-------------|-----------------|--------------------------|------|
| | | Telephoto lens coupling | pin |
| ・ ・ ・ | | adjustment gages | |
| | 3) | Ground glass focusing so | reen |
| | | 1-meter collimeter | |

6.1 Flange back measurement instruments

| 1) Main body (vertical adjustment by rack and pinion) | 1 |
|---|---|
| 2) Dial gages (Peacock No. 47) | 3 |
| 3) Standard form gage (cylindrical, 91.8 ± 0.002 mm) | 1 |
| 4) Mount gage (bayonet receptacle) | 7 |
| | 7 |
| 5) Film gate side gage (picture frame form) |] |



Main Body with Gages

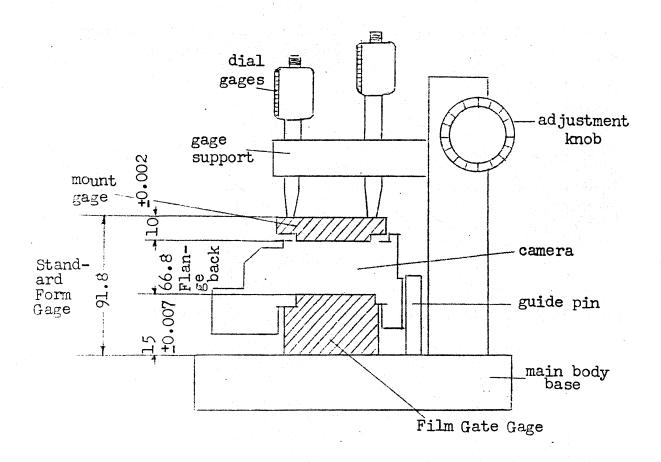
Measurement Procedure

- 1) Remove backlid and lens of camera to be checked
- 2) Move gage support upward by turning adjustment knob, enough to position standard form gage
- 3) Place standard form gage on base; lower gage support gently so that gage tips touch cross-section of the form gage lightly; slightly turn back adjustment knob and turn the form gage around its axis
- 4) After form gage has settled on the base, adjust the 3 dial gages to zero point; dial gages should not be touched thereafter
- 5) Move gage support upward by turning the adjustment knob (no stop is provided)
- 6) Attach to the camera the film gate and mount gages; set camera focus at ω; position camera, back down, on the base so that bottom touches guide pins
- 7) Lower the gage support gently so that dial gage tips touch the surface of the mount gage; compare readings with those obtained from the form gage (dial gage indications are in 1/100 mm)

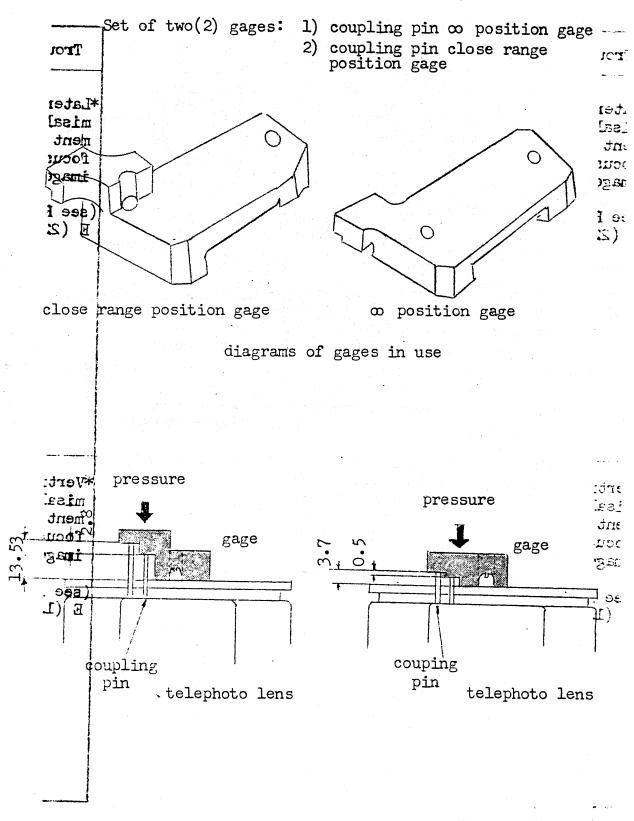
Specified values: with focus setting at ∞ , all three gages not more than 0.02 mm with focus setting at close range:

upper gages 1 and 2 not more than 0.05 mm

lower gage 3 not more than 0.15 mm



6.2 Telephoto Lens Coupling Pin Adjustment Gages



Measurement Procedure

- 1) Remove cover of coupling mechanism (unnecessary if merely for check)
- 2) Apply ∞ position gage to upper surface of the mount, matching main coupling pin with hole in the gage
- 3) Adjust eccentric screw D so that points A and C make contact with the gage surface; if contact cannot be established, loosen set screw B and move the shaft to make contacts, then tighten set screw. Shaft F should contact gage at G and stud at F. The telephoto lens coupling is now adjusted at co position
- 4) After ascertaining that ∞ setting has been obtained, with contacts estation gage blished at points A, C, F and G, apply the close range position gage and observe displacement of
- 5) With pressure applied to counter tension of spring H, check pins for precision of movement. All four contact points should be maintained, and the depressed position is that of the lens focused to closest range.

6.3 Ground Glass Focusing Screen

coupling pins

The ground glass focusing screen is 0.2mm closer to the lens than the plane of the camera film gate. This is to allow for the surface characteristics of roll film. Although the mechanical distance from flange back to film gate is 66.8 mm, the real image projected by the lens is formed at a distance of 66.6 mm.

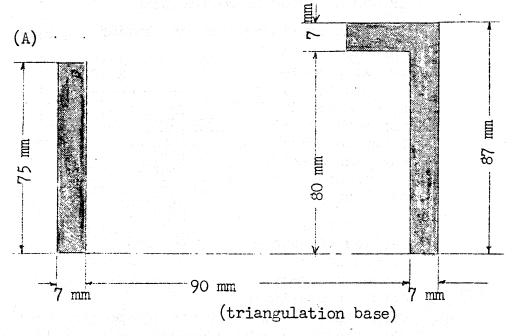
KONI-OMEGA Rapid ∞ setting check target (triangulation base = 90 mm)

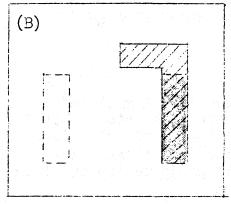
Rangefinder infinity (∞) setting check target

(A) Reproduce on a white sheet of paper the pattern shown, in black, the dimensions being as indicated. Attach this target to a wall, and from a distance of from 5 to 7 meters sight through the camera viewfinder.

(B) If, with the camera set at ∞ (infinity), the vertical lines merge into a single line, the camera is

correctly adjusted.





7. SUBASSEMBLIES AND PARTS LISTS

| Code | Subassembly Name | Parts Used |
|------|---|---|
| 101 | Main body | B3401, B3412, B3412-A B3415 |
| 102 | Bayonet securing ring | B3103, B3116, B3117, B3118, B3116-A |
| 103 | Shutter release lever | B3109, B3110, B3111, B3113-1, B3119 |
| 104 | Lower release base plate | B3201, B3211, B3210, B3210-A, B3210-B |
| 105 | Release lever | B3204, B3204-A, B3204-B B3205-A |
| 106 | Upper release base plate & pressure plate lever | B3202, B3205-B, B3207, B3212, B3212-A, B3220, B3221, B3212 |
| 107 | Shutter button | B3215, B3217, B3217-A |
| 108 | Pressure plate push rod | B3208, B3208-A, B3208-B, B3209 |
| 109 | Focusing rack | B3311, B3311-A, B3818, B3819, B3820, B3821, B3822 |
| 110 | Formed side cover | B3408, B3513-2, B3723 |
| 111 | Light barriers | B3415, B3121 |
| 112 | Light barrier subassembly | B3501, B3502, B3503, B3503-B, B3503-C, B3503-D, B3503-J, B3504-A, B3504-B, B3505 |

| , | | |
|------|--------------------------------------|--|
| Code | Subassembly Name | Parts Used |
| 113 | Light barrier working mechanism | B3506, B3507-A, B3507-B, B3508, B3509-A, B3509-B, B3510, B3511, B3512, B3515, B3516, B3517, B3519, B3521, B3531-1, |
| | | B3522 |
| 114 | Light barrier knob | B3513, B3513-1, B3514 |
| 115 | Shutter cocking mechanism base plate | B3610, B3614, B3607, B3606-A, B3616 |
| 116 | Shutter cocking lever mechanism | B3601, B3603, B3604, B3505, B3506, B3606-A B3607, B3608 |
| 117 | Strap eyelets | B3703, B3711, B3309 |
| 118 | Hand grip | B3701, B3704, B3705, B3705-1, B3705-2, B3705-3, B3708, B3709 |
| 119 | Wide angle lens coupling lever | B3806, B3807, B3807-A |
| 120 | Rangefinder coupling pin | B3801, B3802-B, B3803 |
| 121 | Rangefinder base | Rlool, Rloo2, Rloo3, Rloo4, Rloo5, Rloo7, Rloo8, Rloo9, Rlol0, Rlol1, Rlol2, Rlol3, Rlol4, Rlol5 |
| 122 | Swivel mirror | R2001, R2002, R2003, R2004 |
| 123 | Swivel mirror lever | R2006, R2007, R2008 |
| | | |

| Code | Subassembly Name | Parts Used |
|------|---------------------------------|--|
| 124 | Swivel mirroe lever | R2006, R2007, R2008 |
| 125 | Rangefinder coupling adjustment | R2011, R2013, R2015, R2014, R2012, R2017, R2019, R2018 |
| 126 | Ratio lever | R4005, R4006, R4007 |
| 127 | Viewfinder casing | R5001, R5002, R5003, R5004, R5005, R5006, R5007, R5008, R5009, R5010, R5011, R5012, R5013, R5014 |
| 128 | Protection cover | M2079; M2086, M2086-B, M2087, M2088, M2107, M2108 |
| 129 | Decorative trim | M2085, M2085-A, M2052 M2054, M2091, M2090, M2099 |
| 130 | Backlid die-casting | M2007, M2001, M2041, M2063, M2058, M2082 |
| 131 | Spool slide plate | M2004, M2005 |
| 132 | Spool support | M2003, M2006 |
| 133 | Film guide spring | M2064, M2065, M2066 |
| 134 | Backlid catch lever | M2048, M2049 |
| 135 | Key slot plate | M2022, M2019 |

| Code | Subassembly Name | Parts Used |
|------|--|---|
| 136 | Take-up spindle mechanism | M2009, M2011, M2013, M2015, M2016, M2017, M2010, M2014, M2012, M2018, M2021, M2094, M2023, M2022, M2019 |
| 137 | Pressure plate | M2025, M2067, M2031 M2029 |
| 138 | Numeral disk, cam, ratchet | M2044, M2045, M2059, M2081, M2100 |
| 139 | Stopper | M2081, M2083 |
| 140 | Pawl rack | M2032, M2038, M2070 M2039, M2051, M2105 |
| 141 | Lever knob | M2056, M2055, M2103 |
| 142 | Backlid catch knob | M2042, M2040, M2092 |
| 143 | Standard lens front- element and barrel | L1001, L1002, L1006, L1007 |
| 144 | Standard lens rear element and barrel | L1003, L1004, L1008, L1009 |
| 145 | Standard lens name plate | L4109, L4109-A, L4312 |
| 146 | Cocking pin lever | L4119, L4120-A, L4120-B, L4311 |
| 147 | Steel ball case | L4108, L4110, L4111, L4112, L4113, L4114, L4115, L4121, L4203, L4303, L4307 |

| Code | Subassembly Name | Parts Used |
|------|--|---|
| 148 | Mounting plate | L4107, L4125, L4304 |
| 149 | Release lever | L4201, L4202-A, L4202-B, L4204 |
| 150 | Shutter | L1015, L4116, L4123-D, L4306 |
| 151 | Aperture ring | L4122, L4123-1, L4123-2, L4123-A, L4123-B, L4123-C, L4308 |
| 152 | Lens hood | L4301, L4302 |
| 153 | Wide angle lens front element and barrel | W2001, W2002, W2007, W2008, W2011 |
| 154 | Wide angle lens rear element and barrel | W2004, W2005, W2006, W2009, W2010, W2012 |
| 155 | Shutter casing | W2502, W2510, W4116, W4205, W 4209 |
| 156 | Mounting plate | W2501, W4125 |
| 157 | Release lever | W2505, W2506, W2506-A, W2507 |
| 158 | Shutter | W2015, W4123-D, W4207 |
| 159 | Aperture ring | W4122, W4123-1, W4123-2, W4123-A, W4123-B, W4123-C, W4210 |
| 160 | Lens hood | W4201, W4202-1 |

| Code | Subassembly Name | Parts Used |
|-------|---|--|
| 161 | Telephoto lens front element and barrel | T3001, T3002, T3003, T3006, T3007, T3009, T3012 |
| 162 | Telephoto lens rear element and barrel | T3004, T3005, T3008, |
| 163 | Mounting plate | T4107, T4125, T4305 |
| 164 | Steel ball case | T4108, T4110, T4111, T4112, T4113, T4114, T4115, T4121, T4126, T4303, T4309, T4306 |
| 165 | Cocking pin lever | T4119, T4120-A, T4120-B |
| 166 | Shutter | T3015, T4123-D, T4116, T4308 |
| 167 | Aperture ring | T4122, T4123-1, T4123-2, T4123-A, T4123-B, T4123-C, T4310 |
| 168 | Release lever | T4201, T4202-A, T4202-B, T4203, T4204, T4311 |
| 169 | Lens hood | T4301, T4301-A, T4302, T3006-A |
| . 170 | Rangefimder coupling mechanism | T4205, T4206, T4207, T4208, T4209, T4210, T4211, T4212, T4213, T4214, T4215, T4216, T4217, T4218, T4219, T4220, T4221 |

8 Exploded view diagrams

Illustrated part Breakdown HOW TO MAKE THE BEST USE OF THIS LIST

This list will be at your service for way to assemble or disassemble KONI-OMEGA RAPID camera and also the way to place an order for the parts and/or sub-assembled parts you require.

In case of disassembling KONI-OMEGA RAPID camera: It is recommended that disassembling should made in accordance with the order of Figure A to K, and Figure Numbers of each drawing.

How to place an order for parts:
You are requested to indicate in your order sheet the name of camera model (KONI-OMEGA RAPID), parts number (Bxxxx) (Rxxxx) listed in the second column, and parts name described in the third or forth column of the list so that the correct parts could be delivered to you. No figure number is required.

How to place an order for assembled parts:
You are requested to indicate the name of camera model
(KONI-OMEGA RAPID), the assembled parts number of three
figures listed in the second column and also the assembled
parts name of the third or forth column of the list,
when you make the order sheet. No figure number is required.

Reference Note:

The following is the explanation to three kinds of figures described on the list.

- i) Bxxxx Parts Number
- ii) 2xxxx Parts Number of 5 figures
- iii) lxx Assembled Parts expressed by the number of 3 figures

i) Bxxxx

The series of number captioned above is for the parts excluding the ones previously called common parts such as pins, tacks and screws.

- ii) 2xxxx The number of 5 figures

 Pins, tacks and screws, etc. of KONI-OMEGA
 RAPID camera.
- iii) lxx The number of 3 figures

 The assembled parts are indicated with
 the number of 3 figures.

PINS, TACKS, and SCREWS, etc. of KONI-OMEGA RAPID Camera

CLAIM NO.2223

| Counter sunk head | Dimension | Material | Surface treat- | Num- bers | Summary Part |
|--|---|-------------------------------|-------------------|---------------|--|
| screws No. | Screw Screw Thick- thread head ness | | ment | | |
| # 1 # 2 | $1.4\% \times 2.5\% \times 2.7$ $1.7\% \times 3\% \times 3$ | BsBM " | Cr3 | 2 5 | B3505 3612(3) R1012 3106 |
| # 3 # 5 | 1.7 \emptyset × 3 \emptyset × 2.2 1.7 \emptyset × 3 \emptyset × 4.7 2 \emptyset × 3.5 \emptyset × 3 | u BsBM u | " Be | 1 1 1 | 3612 3202 3409 |
| # 7 # 8 # 9 | 2Ø × 3.5Ø × 3.5 2Ø × 3.5Ø × 4 2Ø × 3.5Ø × 5 | BsBM " | Cr3 Be | 1 2 1 | 3919 3119 3415 |
| # 11 # 12 | $20 \times 3.50 \times 10.5$ 2.30 × 4 0 × 3.2 | BsBM " | | 1 2 | 3510 3214 |
| #13 | 2.30 × 3.50 × 2.3 | n | Cr3 | 4 | 3409(1) 3408(3) |
| # 14 # 15 # 16 # 17 # 18 # 19 # 20 # 21 | 2.30 × 4 Ø × 7 2.60 × 4.50 × 5.5 2.60 × 4.50 × 7 30 × 5 Ø × 5 30 × 5 Ø × 9 40 × 7 Ø × 8 20 × 3.50 × 4.1 | u u u SuM2D BsBM1 | Be Cr3 " | 2 4 3 1 2 2 1 | 3704 3712 3102 3703 3703 3702 3311-A 3711 |

CLAIM NO.2223

| Flat fi- lister | I |)imentio | on | Wet emin] | Sur- face | Num- bers | Summary Part |
|-----------------------|-----------------|---------------|----------------|-----------|----------------|--------------|----------------------|
| head screws No. | Screw thread | Screw head | Thick- ness | Material | treat- ment | Dele | |
| # 1 | 1.4Ø × | 2.5Ø× | 3 | BsBM | Be | 2 | B3503-B |
| # 2 | 1.7Ø × | 3 Ø × | 2.5 | SuM | Ni3 | 1 | 3204 |
| | | | | | | | |
| # 5 | 2ø × | 3.5Ø× | 2.2 | BsBM | | 1 | 3506 |
| # 6 | 2Ø × | 3.5Ø× | 4 | | | 2 | 3410 |
| # 7 | 2ø × | 3.50 × | 5 | 11 | | 1 | 3309 |
| # 8 | 2ø × | 3.5Ø× | 5.5 | 11 | Ве | 2 | 3415 |
| # 9 | 2ø × | 3.5Ø× | 7 | SuM2D | Cr3 | 6 | 3313A(3) 3314A(3) |
| | | | | | | | |
| # 11 | 2.3Ø × | 4 Ø × | 5 | BsBM | Cr3 | 1 | 3305 |
| # 12 | 2.3Ø × | 4 Ø × | 5 | 11 | | 1 | |
| # 13 | 2.3Ø × | 4 Ø × | 9 | SuM2D | Cr3 | 4 | 3311 |

CLAIM NO.2223

| Oual fi- lister head | | Dimenţi | on | Material | Sur- face | Num- | Summary Part |
|--------------------------------------|--|------------------|----------------|------------------|--------------------------|-----------------------|--|
| screws No. | Screw thread | Screw head | Thick- ness | rator rai | treat- ment | | |
| # l | 1.7Ø× | 3 Ø x | 3.5 | BsBM | Cr ₃ Black | 2 | B3106 |
| # 3 # 4 | 2ø × 2ø × | 3.50 × 3.50 × | 4 4.2 | BsBM " | Cr Be | 3 1 | 3404 - B 3117 |
| Set screw | | | | | | | |
| # 1 | 2.30 × | 2.2 | | SuM | Ni3 | 2 | 3301-1 |
| # 3 # 4 | 3Ø × 2Ø × | 13 3.2 | | SuM " | Ni3 | 1 | 3301 3303 |
| Stud pin # 1 # 2 # 3 # 4 # 5 | 1.1Ø × 2Ø × 2Ø × 2Ø × 2Ø × | 10 5.5 12 | | SuSM "" "" | ×1 | 2 2 2 1 2 | 3501 3311 3703 3301 3311-A |
| Oual fi- llister head rivet | | | | | | | |
| # 1 | 1ø× | 1.7ø× | 2 | BsBM | | 4 | 3522 |
| Pan set | | | | | Black | | |
| # 1 | 2ø × 3ø × | 6 | | SuM2D | Cr Ni3 | 1 | 3101 3301 |

Standard lens Screw

CLAIM NO.3210

| Counter sunk head | Dimension | Material | Surface | Num- | Summary |
|--------------------------------------|--|------------|-----------------------|-------------|-------------------------|
| screws No. | Screw Screw Thick- thread head ness | | treat- ment | bers | Part |
| # 1 # 2 # 3 | 2Ø × 3.5Ø × 2.6 2Ø × 3.5Ø × 3.2 2Ø × 3.5Ø × 4 | BsBM " | Be " | 4 8 2 | L4115 L4107 L4109 |
| # 5 | 1.4ø × 2.5ø × 3 | BsBM | Ве | 3 | L4124 |
| | | | | | |
| Flat fi- llister head screw | | | | | |
| # 2 | 1.40 × 2.50 × 2 | BsBM | | 4 | L4123 C L4123 D |
| # 5 # 6 # 7 | 1.70 × 2.50 × 2.5 1.70 × 3 Ø × 4 20 × 3.50 × 2.8 | BsBM "" | Cr ₃ Be | 2 3 2 | L4121 L4302 L4121 |
| # 8 | 1.70 ×30 ×1.5 | tt | Ве | 2 | L4115, 4310 |

Wide-angle lens Screw

CLAIM NO.3600

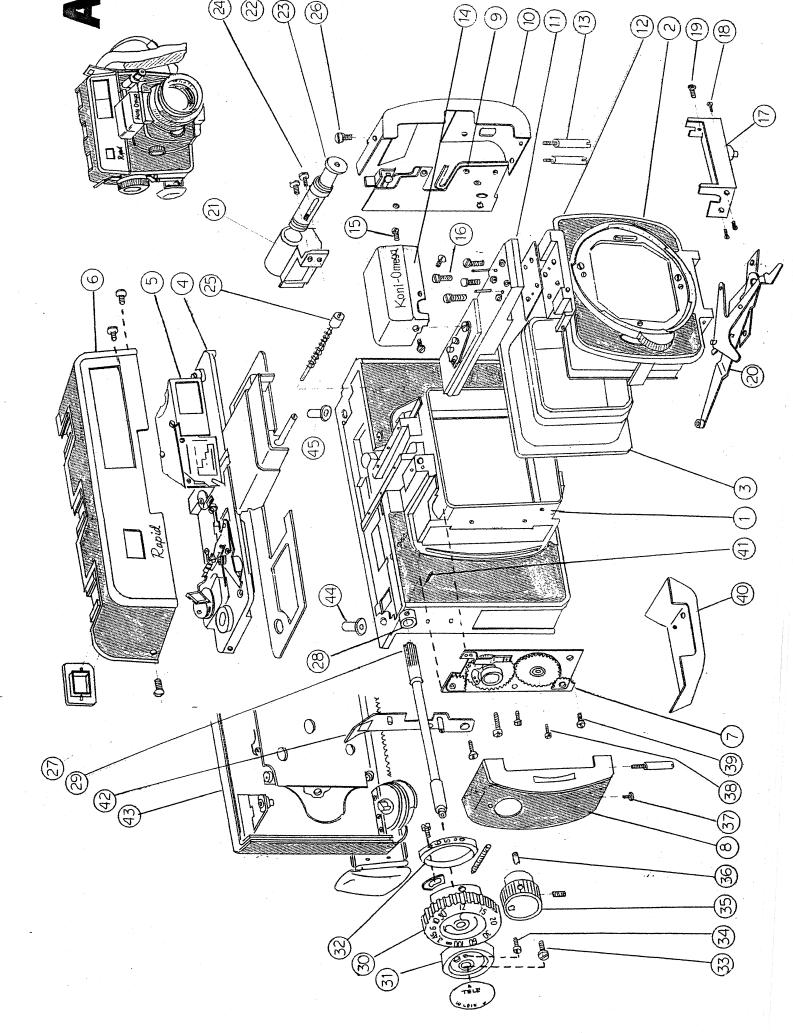
| Counter sunk | Di | mention | | Material | Surface treat- | Num- bers | Summary Part |
|--------------------------------------|-----------------|---------------|----------------|----------|-------------------|--------------|------------------|
| head screws No. | Screw thread | Screw head | Thick- ness | | ment | | |
| | | | | | | | |
| # 2 | 2Ø × | 3.50 × | 2.3 | BsBM | Ве | 4 | 2501 |
| # 2 # 3 | 1.4Ø× | 2 Ø × | 1.2 | n | × l | 2 | 4205 |
| | | | | | | | |
| Flat fi- llister head screw | | | | | | | |
| # 2 | 1.4Ø × | 2.5Ø × | 2 | BsBM | | 4 | 4123-C 4123-D |
| # 4 | 1.4Ø × | 2.5Ø × | 3.4 | SuM | Ni3 | 2 | 2505 |
| # 5 | 1.4Ø × | 2.50 × | 2.5 | BsBM | × 8 | 3 | 4124 |

Telephoto lens Screw

| CLAIM N | 10. | 3601 |
|---------|-----|------|
|---------|-----|------|

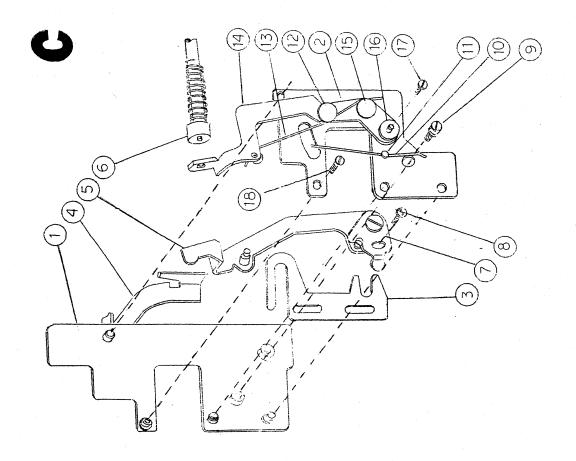
| Counter sunk head screws No. | D: Screw thread | imention Screw head | | Material | Surface treat- ment | Num- bers | Summar Part |
|--|-----------------------|--------------------------------------|--|------------------|---------------------------|--------------|------------------------------|
| # 1 # 2 # 3 # 4 | 2ø × 2ø × | 2.5Ø × 3.5Ø × 3.5Ø × 3.5Ø × | 2 3.2 | BsBM "" "" | Cr3 Be | 6 4 4 2 | 4126 4115 4107 4205 |
| Flat fi- llister head screw | | | | | | | |
| # 2 | 1.4Ø× | 2.5Ø × | 2 | BsBM | | 4 | 41.23 - D |
| # 5 # 6 # 7 | 1.7Ø× 2Ø× 1.4Ø× | 3.5Ø× | 2.8 | BsBM 11 | cr ₃ | 2 3 3 | 4121 4121 4124 |
| Oual fi- llister head screw | | | | | | | |
| # 1 | 1.7Ø× | 2.5Ø × | 2 | BsBM | Cr ₃ | 4 | 4206 |
| Flat round- head rivet | | | and the second s | | | | |
| # 1 | 2ø × | 3.5∅× | 2.5. | SuM | Ni3 | 3 | 4119 |

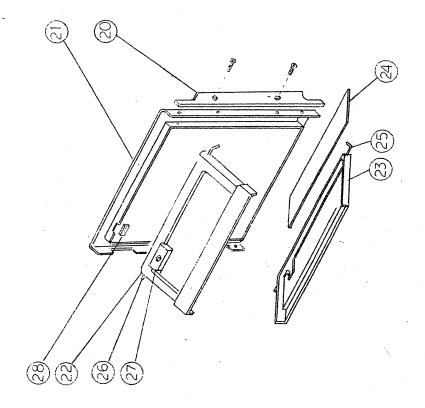
| Fig. No. | Subassembly or Part No. | Nomenclature | Fig. No. | Subassembly or Part No. | Nomenclature |
|----------|-------------------------|---------------------------|----------|---|------------------------------|
| A-1 | 101 | Main body | A-32 | B3301-1 | Index ring |
| A-2 | B3101 | Front body | A-33 | 20007 | $2.3 \% \times 7$ |
| A-3 | B3215 | Light barrier frame | | | # 14 flathead screw |
| A-4 | R4001 | Viewfinder base | A-34 | 20008 | 2 Ø × 3.5 |
| A-5 | 121 | Rangefinder base | R-74 | 20000 | # 7 flathead screw |
| A-6 | 127 | Viewfinder casing | | Dorl o | 1 |
| A-7 | 113 | Light barrier mechanism | A-35 | B3513 | Light barrier knob |
| A-8 | B3408 | Formed side cover | A-36 | B3514 | Knob set screw |
| Λ-9 | 106 | Release base plate | A-37 | 20009 | 2.3 Ø × 2.3 |
| A-10 | B3409 | Release side formed cover | | | ★13 countersunk screw |
| A-11 | 109 | Focusing rack | A-38 | 20010 | $2 \% \times 3.5$ |
| A-12 | B3311-B | Rack shim plate | | | ₹ 7 countersunk screw |
| A-13 | B3405 | Cover holding pin | A-39 | 20011 | $2 \% \times 3$ |
| Λ-14 | B3106 | Cover | | | # 5 flathead screw |
| A-15 | 20001 | Small flathead screw | A-40 | B3404-B | Fixed bottom cover |
| A-16 | 20002 | Small flathead screw | A-41 | 20012 | $14 \% \times 2.7$ |
| A-17 | B3612 | Bottom cover | | 20022 | # 1 pointed screw |
| A-18 | 20003 | Countersunk screw | A-42 | B3703 | Strap eyelet |
| A-19 | 20004 | Countersunk screw | A-43 | M2001 | Backlid |
| A-20 | 116 | Shutter cocking mechanism | A-44 | B3403-2 | Rangefinder base guide |
| A-21 | B3214 | Shutter button frame | | | (right) |
| A-22 | B3215 | Shutter button slide tube | A-45 | B3403-1 | Rangefinder base guide |
| A-23 | B3217 | Shutter button | | | (left) |
| A-24 | 20005 | 2.3 Ø × 3.2 | | | |
| A- 24 | 2000) | # 13 countersunk screw | | * · · · · · · · · · · · · · · · · · · · | |
| A-25 | B3208-A | Pressure plate force | | | |
| A-27 | D)200-A | adjustment rod | | | |
| | | | | | |
| A-26 | 20006 | $2.3 \% \times 3.2$ | | | |
| | | # 13 countersunk screw | | | |
| A-27 | B3402 | Camera body, viewfinder | 1 | | |
| | | matching plate | | | |
| A-28 | B3303 | Focusing knob shaft | | | |
| N-20 | ליכלת | bearing | | | |
| | | | | | |
| A-29 | B3302 | Focusing knob shaft | ii . | | |



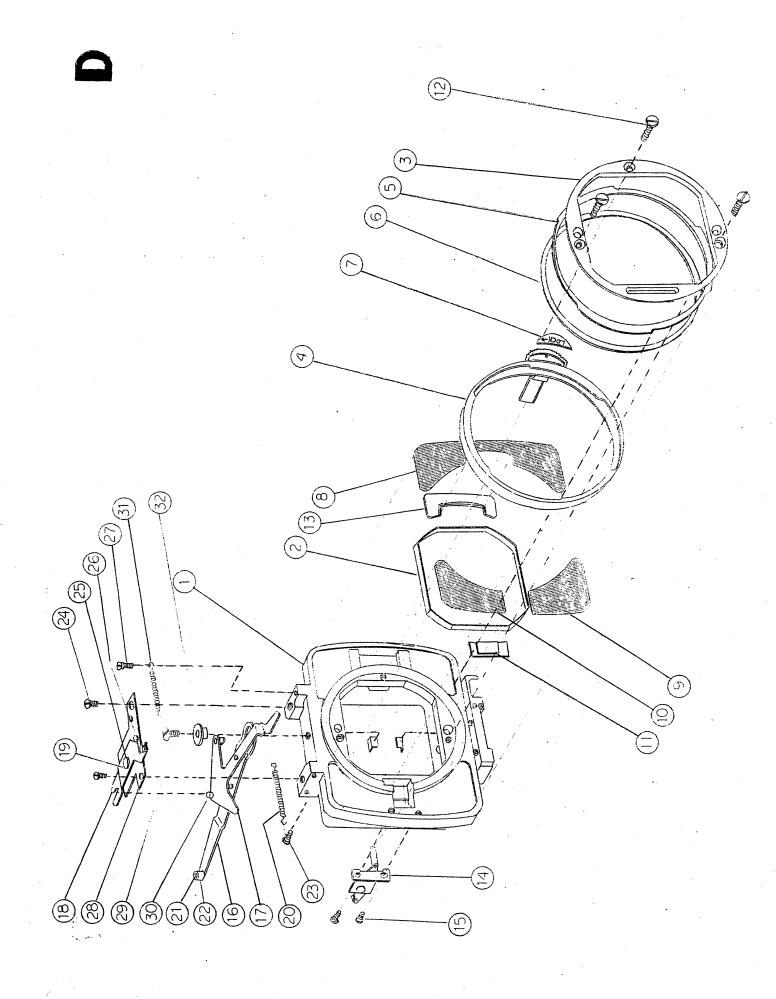
| Fig. No. | Subassembly or Part No. | Nomenclature | Fig. No. | Subassembly or Part No. | Nomenclature |
|--------------------------|----------------------------------|--|---------------------------------------|---|---|
| B-1 B-2 B-3 | B3401 B3303 20013 | Main body die-cast frame Focusing knob shaft bearing 1.4 Ø x 2.7 # 1 pointed screw | B-23 B-24 | B3317 B3823 | Rack holding spring screw Telephoto coupling pin set screw |
| B-4 B-5 | B3302 B3301-1 | Focusing knob shaft Index ring | B-25 B-26 | B3317 20019 | Rack holding spring screw $2 \not 0 \times 5 \not = 9$ flathead screw |
| B-6 B-7 B-8 B-9 | B3305 B3301 20014 20015 | o adjustment plate Focusing knob 1.7 Ø × 2.2 ₱.3 pointed screw 1.4 Ø × 2.7 ₱ 1 pointed screw | B-27 B-28 B-29 B-30 B-31 | B3805 119 B3805-A B3809 20020 | Coupling lever shaft Wide angle lens coupling E spring collar lever Telephoto index pin 1.7 Ø × 4.7 # 4 pointed screw |
| B-10 | 20016 | 2 Ø × 10.5 # 11 flathead screw | B-32 | B3308 | Focusing knob collar |
| B-11 B-12 B-13 | 109 B3306 20017 | Focusing rack Focusing knob stopper 2.3 Ø × 7 # 14 flathead screw | B-33 | В3303 | Coupling pin |
| B-14 | B3307 | Interchangeable lens indication | | | |
| B -1 5 | 20018 | 2 Ø × 3.5 # 7 flathead screw | | 1 (a) | |
| B - 16 | B3313-B | Focusing rack holding plate (large) | | | |
| B-17 | B3313-A | Focusing rack holding seat (large) | | | |
| B-18 | B3313 -C | Focusing rack holding shim | | · 1 | |
| B - 19 | B3313-D | Focusing rack holding plate | | | |
| B-20 | B3314-A | Focusing rack holding seat (small) | | | |
| B-21 | B3314-C | Focusing rack holding shim | | | |
| B-22 | B3315 | Focusing rack holding | · · · · · · · · · · · · · · · · · · · | · · · · · · · · · · · · · · · · · · · | |

| Fig. No. | Subassembly or Part No. | Nomenclature |
|---|--|---|
| C-1 -C-2 C-3 C-4 C-5 C-6 C-7 C-8 | 104 106 B3203 B3523 105 108 B3504-A 20020 | Lower release base plate Upper release base plate Release slide plate Safety bar Release lever Pressure plate push rod Formed spring A 1.7 0 × 3 ‡ 2 flathead screw |
| C - 9 | B3206 | Base plate mounting screw |
| C-10 C-11 | B3207 B3205-A | Release lever return spring Release lever return spring stud A |
| C -1 2 | B3205-B | Release lever return spring stud B |
| - C-13 C-14 | B3221 B3212 | Pressure plate spring Pressure plate actuating lever |
| C-15 | B3205 - B | Release lever return spring stud B |
| C -1 6 | B3212 | Pressure plate actuating lever pivot |
| C-17 | 20021 | 1.7 $\emptyset \times 4.7 \# 4$ countersunk screw |
| C - 18 | 20021-A | #4Flat head screw |
| C-20 C-21 C-22 C-23 C-24 | B3505 B3501 B3502 B3503 B3503-D | Light barrier hinge plate Light barrier frame Light barrier (upper) Light barrier (lower) Light barrier reflections prevention paper (lower) |
| C-25 C-26 C-27 C-28 | B3504-B B3504-A B3503-B B3503-J | Light barrier spring B Light barrier spring A Light barrier spring catch Light seal |

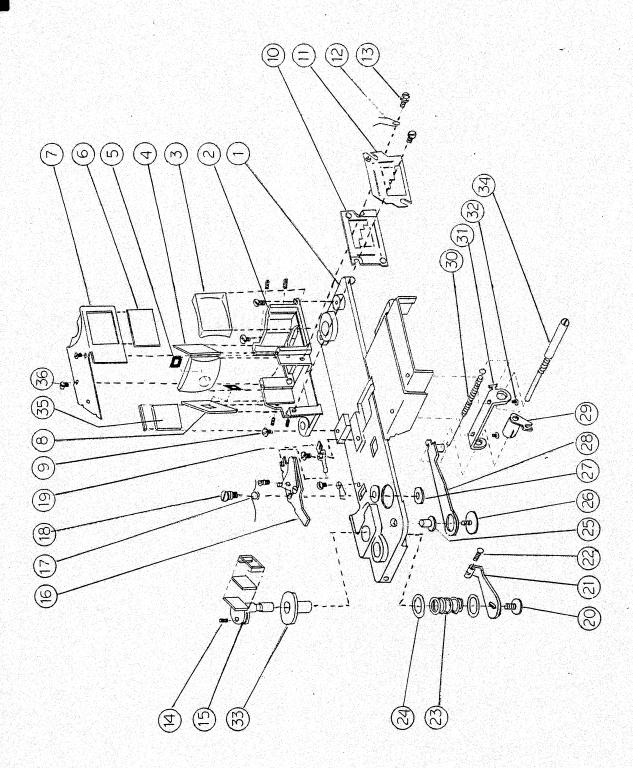




| Fig. No. | Subassembly or Part No. | Nomenclature |
|--|---|---|
| D-1 D-2 D-3 D-4 D-5 D-6 D-7 D-8 | B3101 B3101-A B3102 102 B3104 B3105 B3118 B3725 | Front body Front body light seal Body lens mounting plate Bayonet securing ring Bayonet spring Bayonet collar Bayonet sign plate Front body covering leather (left) |
| D-9 | B3726-A | Front body covering leather (right A) |
| D - 10 | В3726-В | Front body covering leather (right B) |
| D-11 D-12 | B3115 20023 | Release mechanism cover 2.6 Ø × 7 # 16 countersunk screw |
| D-13 D-14 D-15 | B3112 B3119 20024 | Release mechanism upper lid Shutter button link pivot 2 Ø x 4 # 8 countersunk screw |
| D-16 D-17 D-18 D-19 D-20 D-21 D-22 D-23 D-24 D-25 D-26 D-27 D-28 D-29 | B3601 B3605 B3614 B3614 B3617 B3603 B3604 B3619 B3611 B3606 B3606-A B3615 B3610 | Set lever A Set lever B Set lever C Set lever C Escapement spring Roller pivot Roller Set lever return spring catch Base plate holding screw Stud A Stud B Spring catch Cocking mechanism base plate 3 Ø × 5 # 17 |
| D-30 D-31 | В360 7 В3609 | countersunk screw Stud C Set lever return spring |
| D-32 | B3602 | Countersunk collar |



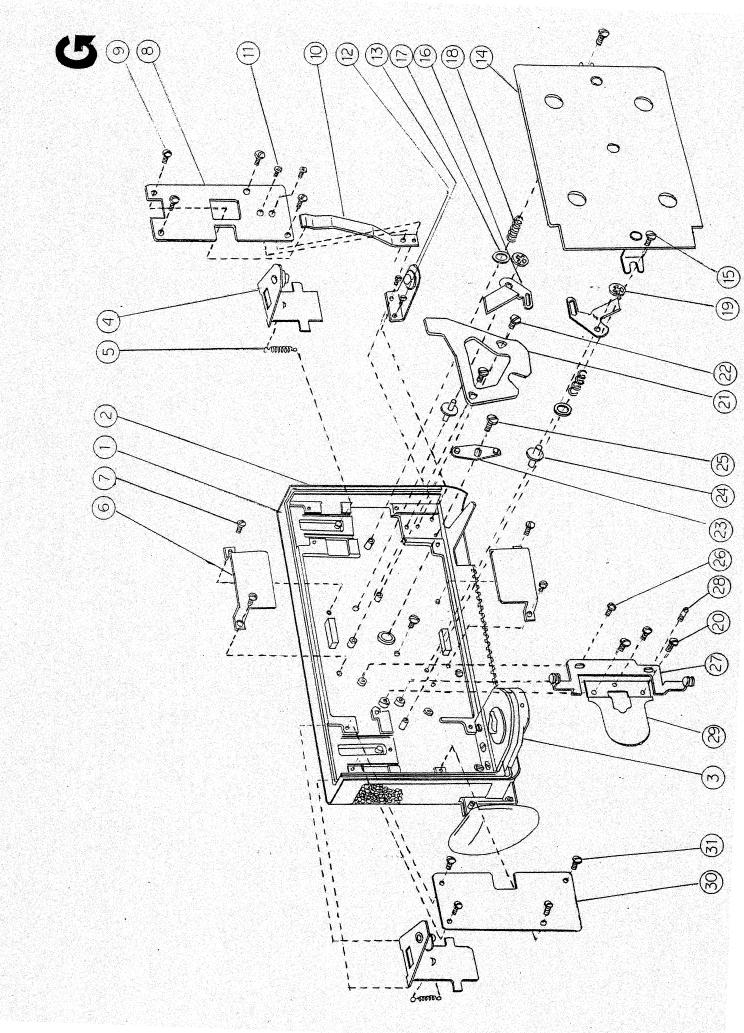
| E | | |
|---|--|--|
| Fig. No. | Subassembly or Part No. | Nomenclature |
| E-1 E-2 E-3 E-5 E-6 E-7 E-8 E-10 E-11 E-12 E-13 E-15 E-16 | R4001 121 R1002 R1003 R1007 R1013 R1012 R1008 R1014 R3002 R3003 R3006 R3005 R2004 122 125 | Viewfinder base plate Rangefinder base Viewfinder lens Semitransparent mirror Masking paper Color filter Rangefinder housing Target mirror Mounting screw Fixed target Movable target Target spring Spring catch Mirror Swiveling mirror Rangefinder coupling adjustment |
| E-17 E-18 E-19 | R2019 R2017 R3008 | Adjustment plate spring Lever pivot Parallax compensation coupling |
| E-20 | R1015 | End screw |
| E-21 E-22 E-23 | 124 R2008 R2020 | Swivel mirror lever o adjustment screw Swivel mirror friction spring |
| E-24 E-25 E-26 E-27 | R2022 R4003 R2007 R2018 | Washer Ratio lever pivot Mirror lever holding screw Holding nut |
| E-28 | 126 | Ratio lever |
| E-29 | 3802 - B | Coupling arm B |
| E-30 | R4010 | Tension spring |
| E-31 E-32 | R4009 R4012 | Rod guide plate Rod guide plate mounting screw |
| E-33 E-34 E-35 E-36 | R2021 3801 R1004 R5013 | Swivel mirror holder Rangefinder coupling pin Eyepiece lens Housing holding screw |



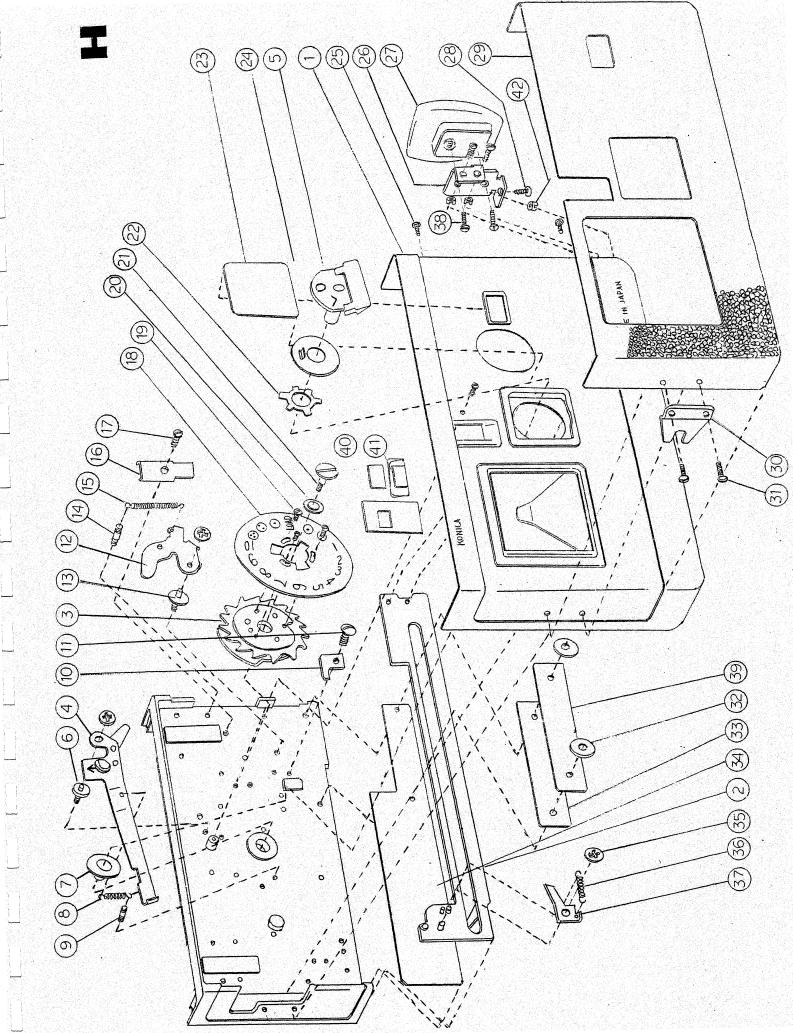
| r | | |
|---------------|-------------------------|----------------------------------|
| Fig. No. | Subassembly or Part No. | Nomenclature |
| F-1 | В3727 | Viewfinder cover leather (upper) |
| F-2 | В3730 | Viewfinder cover leather (rear) |
| F - 3 | R5001 | Viewfinder casing |
| F - 4 | R5002 | Accessory clip |
| F-5 | R 5003 | Accessory clip spring |
| F - 6 | R5004 | Accessory clip stopper |
| F-7 | R5006 | Front window frame |
| F-8 | R5007 | Dust cover glass |
| F-9 | R5008 | Eyepiece frame |
| F-10 | R5005 | Ornament screw |
| F-11 | R5009 | Viewfinder casing screw |
| F - 12 | R5010 | Accessory clip holding screw |
| F - 13 | R5012 | Wedge piece (small) |
| F-14 | R5011 | Wedge piece (large) |
| F-15 | R 5014 | Eyepiece light seal |

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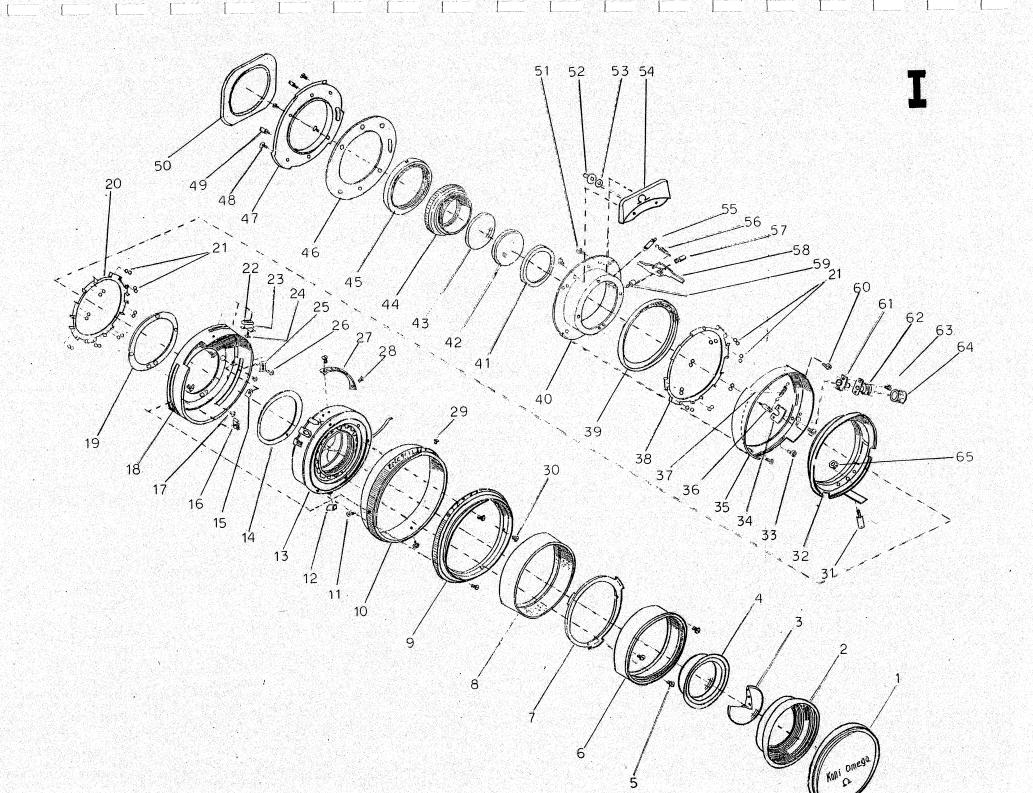
| G | | |
|----------|-------------------------|---------------------------------|
| Fig. No. | Subassembly or Part No. | Nomenclature |
| G-1 | M2001 | Backlid die-cast frame |
| G-2 | 130 | Backlid die-casting |
| G-3 | 136 | Take-up spindle mechanism |
| G-4 | 131 | Spool slide plate |
| G-5 | M2074 | Spool slide plate spring |
| G-6 | M2069 | Backlid catch lever guide plate |
| G-7 | M2093 | Countersunk roundhead screw |
| G-8 | M2002 | Spool slide plate cover |
| G-9 | M2093 | Countersunk roundhead screw |
| G-10 | M2072 | Formed flat spring |
| G-11 | M2096 | Small flathead screw |
| G-12 | 132 | Spool support |
| G-13 | M2097 | Small countersunk screw |
| G-14 | 137 - | Pressure plate |
| G-15 | M2028 | Pressure plate mounting screw |
| G-16 | M2046 | Backlid catch lever |
| G-17 | M2031 | Pressure plate mounting washer |
| G-18 | M2027 | Pressure plate spring |
| G-19 | M2005 | Spool stud |
| G-20 | M2093 | Countersunk roundhead screw |
| G-21 | M2047 | Pressure plate lever |
| G-22 | M2048 | Backlid catch lever |
| G-23 | M2048 | Backlid catch lever |
| G-24 | M2050 | Catch lever pivot |
| G-25 | M2028 | Pressure plate mounting screw |
| G-26 | м2093 | Flat roundhead screw |
| G-27 | M2064 | Film guide spring |
| G-28 | M2093 | Flat roundhead screw |
| G-29 | M2076 | Film holding spring |
| G-30 | M2008 | Slide plate cover |
| G-31 | M2093 | Flat roundhead screw |



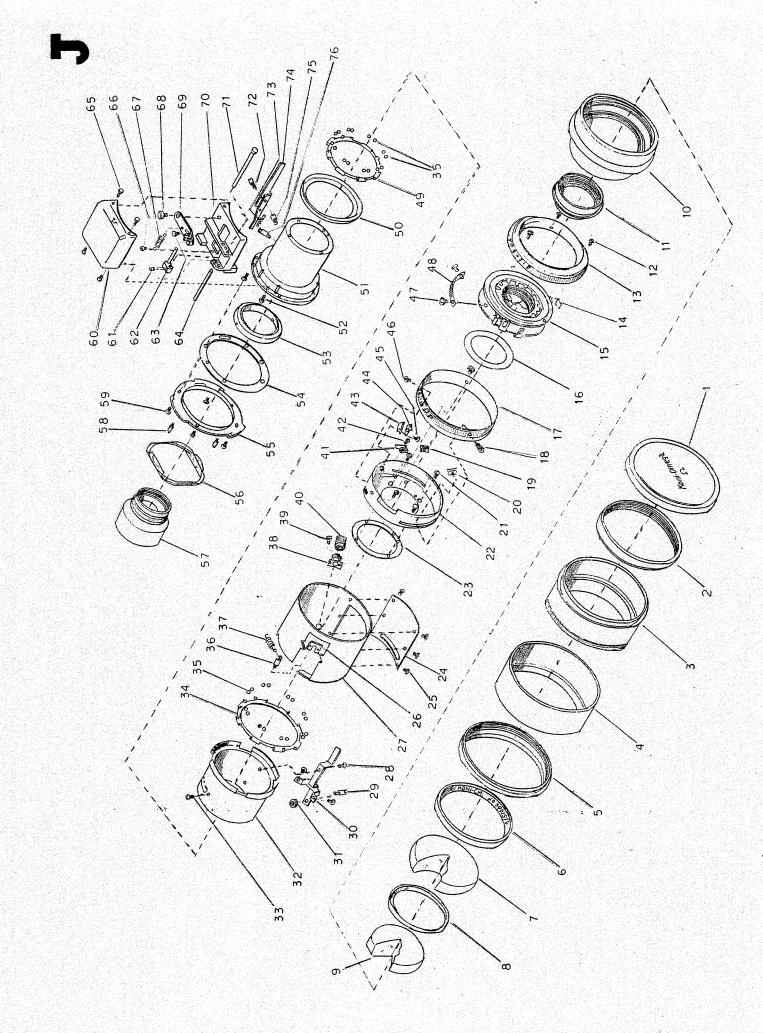
| Fig. No. | Subassembly or Part No. | Nomenclature | Fig. No. | Subassembly or Part No. | Nomenclature |
|--------------|-------------------------|--|---------------|-------------------------|-----------------------------|
| H - l | 129 | Decorative trim | H -3 2 | M2036 | Rack guide pin |
| H-2 | 140 | Pawl rack | H-33 | M2034 | Seat |
| н-3 | 138 | Numeral disk, cam, ratchet | H-34 | M2035 | Rack slide plate |
| H - 4 | 139 | Stopper | H-35 | M2111 | Spring stopper |
| H-5 | 142 | Backlid catch knob | H-36 | M2071 | Pawl spring |
| н-6 | M2082 | Stopper pivot | H-37 | M2038 | Pawl |
| H-7 | M2041 | Backlid lock shaft bushing | н-38 | M2038 | Small countersunk roundhead |
| н-8 | M2074 | Slide plate spring | | | screw |
| н-9 | M2073 | Spring catch | H-39 | M2033 | Spring tension |
| H-10 | M2043 | Pawl rack stopper | H-40 | M2121 | Film window holding piece |
| H-11 | M2028 | Pressure plate support screw | H-41 | M2091 | Film window |
| H-12 | M2057 | Regulating lever | H-42 | M2114 | Side piece securing collar |
| H-13 | M2058 | Regulating lever pivot | | | |
| H-14 | M2070 | Spring catch | | | |
| H-15 | M2074 | Slide plate spring | | | |
| H-16 | M2116 | Regulating lever stabilizer | | | |
| H-17 | M2113 | Small roundhead screw | | | |
| H-18 | M2045 | Numeral disk | | | |
| H-19 | M2112 | Numeral disk set screw | | | |
| H-20 | M2062 | Numeral disk axle washer | | | |
| H-21 | M2061 | Numeral disk pivot | | | |
| H-22 | M2078 | Lock knob spring | | | |
| H-23 | M2085 | Ornament plate | | | |
| H-24 | M2077 | Lock knob base plate | | | |
| H-25 | M2098 | Small countersunk screw | | | |
| н-26 | M2055 | Side piece | | | |
| H-27 | M2056 | Film advance lever knob | | | |
| H-28 | M2104 | Small countersunk round- head screw | | | |
| H-29 | M2090 | Cover leather | | | |
| H-30 | M2060 | Guide plate | | 1. 15 (1) | |
| H-31 | м2095 | Small countersunk round- head screw | | | |



| I-1 I-2 | L4309 | Standard lens | | | |
|--------------|----------|---------------------------|---------------|----------------|------------------------------------|
| | | lens cap | I-36 I-37 | L4117 L4118 | Spring catch stud Return spring |
| | L1001 | Front clamp | I-38 | L4111 | Steel ball spacer (small) |
| I-3 | L1006 | No. 1 lens | I-39 | L4110 | Steel ball casing |
| I-4 | L4002 | Front middle frame | I-40 | L4108 | Lens barrel tube |
| I-5 | 20023 | # 9 flat head screw | I-41 | L1003 | Rear clamp |
| I-6 | L4302 | Front ring | 1 | L1007 | |
| I-7 | L4313 | Lens hood seat | I-42 | L1008 | No.2, 3 lens |
| Ī-8 | L4301 | Built-in lens hood | | | |
| Ī-9 | L4124 | Shutter speed ring | I-43 | L1009 | No.4 lens |
| ī-10 | L4122 | Aperture ring | I-44 | L1004 | Rear frame |
| I-11 | L4308 | Aperture ring lock screw | I-45 | L1015 | Set ring for lens shutter |
| Ī-12 | L4308 | Set mark plate | I-46 | L4304 | Mount adjustment |
| I-13 | L1015 | Standard lens shutter | I-47 | L4107 | Lens mount plate |
| I-14 | L4116 | Shutter adjustment | I-48 | 3210 | # 2 counter sunk screw |
| I-15 | L4123(2) | Aperture ring guide (2) | I-49 | L4125 | Body guide pin |
| ī-16 | L4123(1) | Aperture ring guide (1) | I-50 | L4305 | Mount plate light seal |
| Ī-17 | 20024 | # 8 flat head screw | I-51 | 20029 | # 3 flat head screw |
| I-18 | L4115 | Shutter casing | I-52 | L4109(A) | Standard lens coupling p |
| I-19 | L4303 | Lens barrel adjustment | I-53 | L4312 | Coupling pin collar |
| I-20 | L4114 | Steel ball spacer (large) | I-54 | L4109 | Name plate |
| I-21 | L4112 | Steel ball spacer | I-55 | L4203 | Release return spring stu |
| I-22 | L4123(B) | Aperture ring guide (B) | I-56 | L4204 | Release return spring |
| I-23 | L4123(C) | Aperture click stop | I-57 | L4202(B) | Release shaft (upper) |
| * ~ | ,,,, | spring (C) | I-58 | L4201 | Shutter release lever |
| I-24 | 20025 | # 2 flat head screw | I-59 | L4202(A) | Release shaft (lower) |
| I-25 | L4310 | Seat ring | I - 60 | 20030 | # 7 flat head screw |
| I-26 | 20026 | # 8 flat head screw | I - 61 | L1015 | Synchroflash plug piece |
| I-27 | L4123(D) | Aperture ring plate (D) | I-62 | L4121 | Synchroflash plug piece |
| I-28 | 20027 | # 2 flat head screw | I-63 | 20031 | # 7 flat head screw |
| I-29 | L4308 | Aperture ring lock screw | I-64 | L4121(B) | Synchroflash plug nut |
| I-30 | 20028 | # 5 counter sunk screw | I-65 | L4120(B) | Nut |
| I-31 | L4120(A) | Cocking pin | | | |
| I-32 | L4113 | Steel ball casing | | | . in a |
| I-33 | L4307 | # 7 flat head screw | | | |
| | L4121(C) | Synchro plug plate | | | |
| I-34 I-35 | L4121 | Outside tube | | | |



| Fig. No. | Subassembly or Part No. | Nomenclature | Fig. No. | Subassembly or Part No. | Nomenclature |
|---------------|-------------------------|--------------------------|---------------|-------------------------|---|
| J-1 | J4203 | Telephoto lens | J-39 | 20035 | # 5 flat head screw |
| | | lens cap | J - 40 | J4121-B | Synchroflash plug nut |
| J - 2 | J3006-A | Filter screw | J-41 | J4306 | Release holder |
| J-3 | J4301 | Lens hood inner tube | J-42 | 20036-B | # 2 flat head screw |
| J-4 | J4301-A | Lens hood outer tube | J-43 | J4123-B | Aperture ring guide (B) |
| J-5 | J4302 | Lens hood mounting ring | J-44 | J4123-C | Aperture ring spring |
| J-6 | J3009 | Engraved ring | J-45 | 20037 | # 2 flat head screw |
| J-7 | J3001 | No.1 lens | J-46 | J4310 | Aperture ring lock screw |
| J-8 | J3010 | No.2 lens clamp ring | J-47 | 20038 | # 2 flat head screw |
| J-9 | J3003 | No.2 lens | J - 48 | J4123-D | Aperture click stop plate |
| J-10 | J3006 | Lens barrel | J-49 | J4111 | Steel ball spacer (large) |
| J-11 | J3007 | No.3 lens clamp ring | J-50 | J4110 | Steel ball casing |
| J-12 | 20032 | # 7 flat head screw | J-51 | J4108 | Lens barrel tube |
| J-13 | J4124 | Engraved ring | J-52 | 3601 | # 4 counter sunk screw |
| J-14 | J4308 | Set mark plate | J-53 | J3011 | No.5 lens clamp ring |
| J-15 | J3015 | Telephoto lens shutter | J-54 | J4305 | Mount adjustment |
| J-16 | J4116 | Shutter adjustment | J-55 | J4107 | Lens mount plate |
| J-17 | J4122 | Aperture ring | J-56 | J4304 | Mount light seal |
| J-18 | J4123-A | Aperture actuating screw | J-57 | J3008 | No.4 lens lens barrel |
| J - 19 | J4123-2 | Aperture ring guide (2) | J-58 | J4125 | Camera body guide pin |
| J-20 | J4123-1 | Aperture ring guide (1) | J-59 | 20039 | # 3 counter sunk screw |
| J-21 | 20033 | # 2 counter sunk screw | J-60 | J4206 | Coupling pin cover |
| J-22 | J4115 | Shutter casing | J-61 | J4221 | Set screw |
| J-23 | J4303 | Lens barrel adjustment | J-62 | J4212 | Coupling shaft seat |
| J-24 | J4124 | Outer tube cover | J-63 | J4219 | Lock screw |
| J-25 | 20034 | # 1 counter sunk screw | J-64 | J4213 | Coupling shaft (short) |
| J-26 | J4121-C | Aperture ring guide | J-65 | 20040 | # 1 round flat head screw |
| J-27 | J4121 | Lens barrel outer tube | J-66 | J4216 | Return spring pin |
| J-28 | 20035 | # 1 round flat rivet | J-67 | J4215 | Ratio lever return spring |
| J-29 | J4120-A | Cocking pin | J-68 | J4209 | Ratio lever lock screw |
| J-30 | J4119 | Cocking lever | J-69 | J4207 | Ratio lever |
| J-31 | J4120-B | Nut | J-70 | J4205 | RF coupling pin casing |
| J-32 | J4113 | Steel ball casing (2) | J-71 | J4214 | Coupling shaft (long) |
| J-33 | 20035 - B | # 5 flat head screw | J-72 | J4202-B | Release pivot (upper) |
| J-34 | J4114 | Steel ball spacer(large) | J-73 | J4204 | Release return spring |
| J-35 | J4112 | Steel ball | J-74 | J4204 J4210 | Shutter release lever |
| J-36 | J4117 | Spring catch stud | | | Release pivot (lower) |
| J-37 | J4118 | Return spring | J-75 | J4202-A | 이 불통하는 경기를 모으면 가게 되었다면 사람들이 모르면 국민들이 들어진다. 그렇게 되었으면 하는 것이 되었다면 하는데 이번 그렇게 되었다면 하는데 가게 되었다면 하는데 되었다. |
| J-38 | J4121-A | Synchroflash plug piece | J-76 | J4203 | Release return spring stud |



| Fig. No. | Subassembly or Part No. | Nomenclature | Fig No. | Subassembly or Part No. | Nomenclature |
|-------------|-------------------------|---------------------------|---------|----------------------------------|---|
| K-1 | W4203-1 | Wide-angle lens | K-37 | W2506 | Release lever |
| İ | | lens cap | K-38 | 20047 | # 2 counter sunk screw |
| K-2 | W2007 | No.1 lens clamp ring | K-39 | W4125 | Body guide pin |
| к-3 | W2001 | No.1 lens | K-40 | W2015 | Set ring for lens shutter |
| K-4 | W2011 | Front lens lens barrel | K-41 | W4208 | Mount plate light seal |
| | W2002 | No.2 lens | K-42 | W2009 | No 3 lens clamp ring |
| K-5 | W2002 W2003 | No.3 lens | | W2004 | No 4 lens |
| · · · · · · | | | K-43 | W2005 | No.5 lens |
| K-6 | W2008 | No.2 lens clamp ring | | | · I · 7 · 6 · 6 · 6 · 6 · 6 · 6 · 6 · 6 · 6 |
| K-7 | W4201 | Lens hood inner tube | K-44 | M5015 | Rear lens lens barrel |
| K-8 | W4201-1 | Lens hood outer tube | K-45 | M2006 | No6 lens |
| K-9 | 20041 | # 5 flat head screw | K-46 | W2010 | No.6 lens clamp ring |
| K-10 | W4124 | Shutter speed ring | | | |
| K-ll | W4207 | Set mark | | | |
| K-12 | W2015 | Wide-angle lens shutter | | | |
| K-13 | W4116 | Shutter adjustment | | | |
| K-14 | 20042 | # 2 flat head screw | | | |
| K-15 | W4123-D | Aperture click-stop plate | | | |
| K-16 | W4122 | Aperture ring | | | |
| K-17 | W4210 | Aperture ring lock screw | | | |
| K-18 | W2502 | Shutter casing | | Facility of the same of the same | |
| K-19 | L4121-C | Aperture ring guide | | | |
| K-20 | 20043 | # 4 flat head screw | | | |
| K-21 | W2505 | Release pivot plate | | | |
| K-22 | W2501 | Lens mount plate | | | |
| K-23 | W4123-1 | Aperture ring guide (1) | | | |
| K-24 | W4123-2 | Aperture ring guide (2) | | | |
| K-25 | W4210 | Aperture ring lock screw | | | |
| K-26 | 20044 | # 2 flat head screw | | | |
| K-27 | W4123-C | Aperture ring spring | | | |
| K-28 | W4123-B | Aperture ring guide | | | |
| K-29 | W4121-B | Synchroflash plug nut | | | |
| K+30 | 20045 | # 5 flat head screw | | | |
| K-31 | W4121-A | Synchroflash plug piece | | 1 | |
| K-32 | W2015 | Synchroflash plug piece | | | |
| K-33 | 20046 | # 3 counter sunk screw | | | |
| K-34 | W4205 | Release limit plate | | | |
| K-35 | W2506-A | Release lever A | | | |
| K-36 | W2507 | Release lever pivot | 1 | | |

