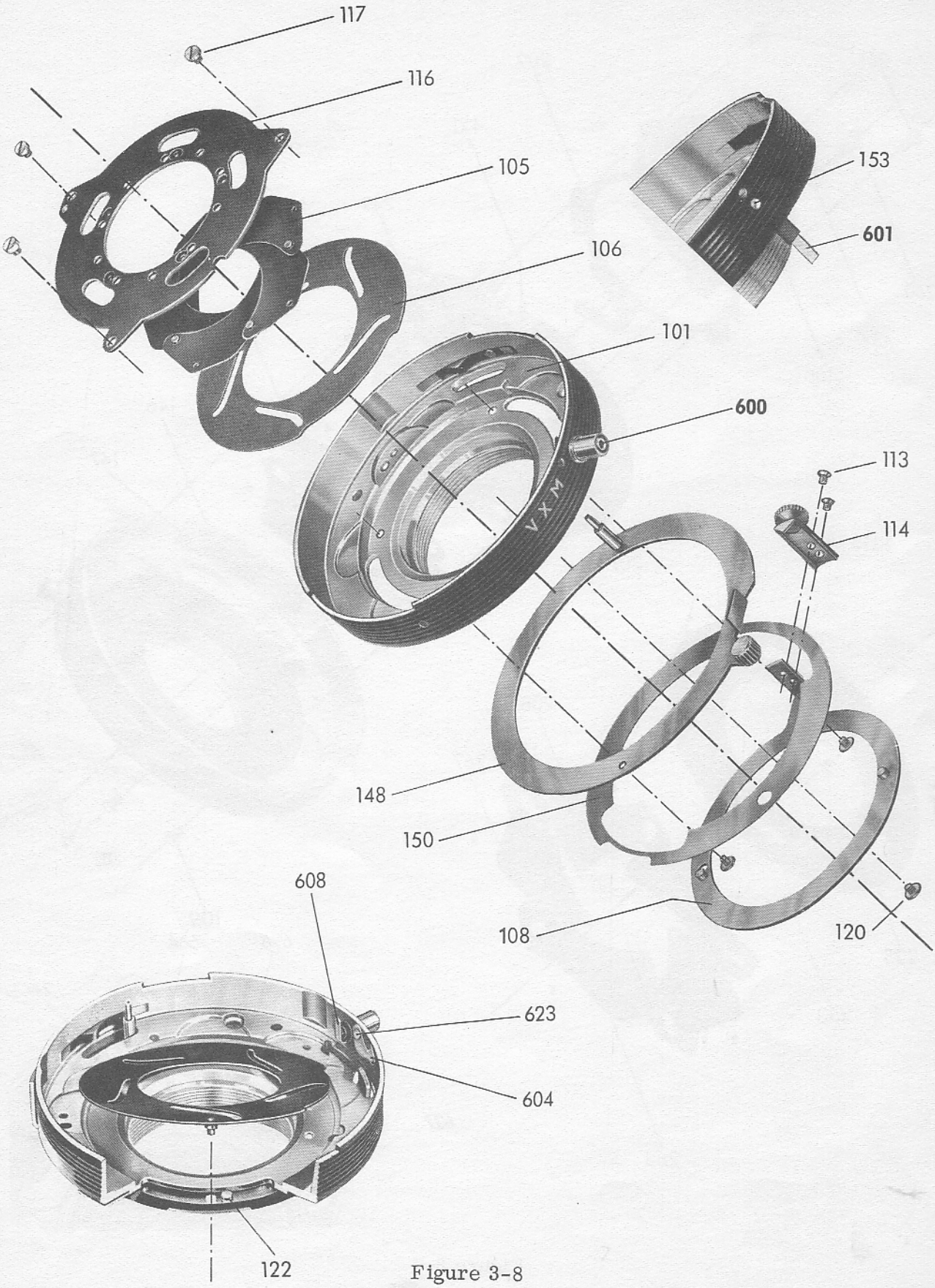
117
116
105
106
153
601
101
600
113
114
148
150
608
623
604
108
120
122

Figure 3-8

SECTION 4 - MAINTENANCE

4-1. GENERAL

This section provides correct procedures for cleaning and lubricating the disassembled components of the Compur shutter. Before reassembly, each component should be thoroughly cleaned, lubricated, and any defective components replaced. A complete replaceable parts list is provided in Section 8. It is recommended that an adequate quantity of replaceable parts be kept on hand for exchange purposes.

4-2. CLEANING THE SHUTTER

Remove parts or assemblies from the shutter for cleaning. Rinse them in clean, grease-free trichloroethylene or perchloroethylene. Do not wash any components in white gasoline or similar cleansing agents.

Do not disassemble the escapement and self-timer mechanisms for cleaning. Since the summer of 1965, they have been coded with a colored dot which indicates that the manufacturer has treated each with a thin film of oil, visible only with a microscope.

When polishing and burnishing certain parts where friction occurs, remember that a certain amount of friction is necessary for the well balanced field of forces.

Before reassembling components in the shutter, be positive they are completely dry and relubricated according to the lubricating instructions.

Never wet-cleanse enameled parts, parts with filled engravings, or the mounted f-scale. Use a soft chamois leather or brush.

4-3. LUBRICATING INSTRUCTIONS

The 1110 Compur shutter requires minimum lubrication both during the assembly process and after repair and its return to circulation. Some components are permanently lubricated and sealed by the manufacturer and should not be disturbed.

The necessary lubricants termed A and C on the Lubrication Schedule on the following pages can be ordered from Honeywell. Only by using lubricants A and C can proper functioning of the shutter be insured.

Lubrication Schedule 1110, Figures 4-1 and 4-2, provide both the points to be serviced and the required lubricant to use. Apply a thin film of the prescribed lubricant to a glass plate, then use a fine brush or foam rubber swab to apply the lubricant at the required points.

After cleansing components, use Lubricant A to service the following parts not listed in the Lubrication Schedule:

1. Base plate 201: All shafts, bearing bushes and other parts riveted in position.

2. Escapement 300 and Self-timer 400: All bearings. The tooth flanks of bright brass gear wheels should also be lubricated slightly; gear wheels and pinions having a grey lustre have been lubricated by a special process during manufacture and don't need subsequent lubrication.

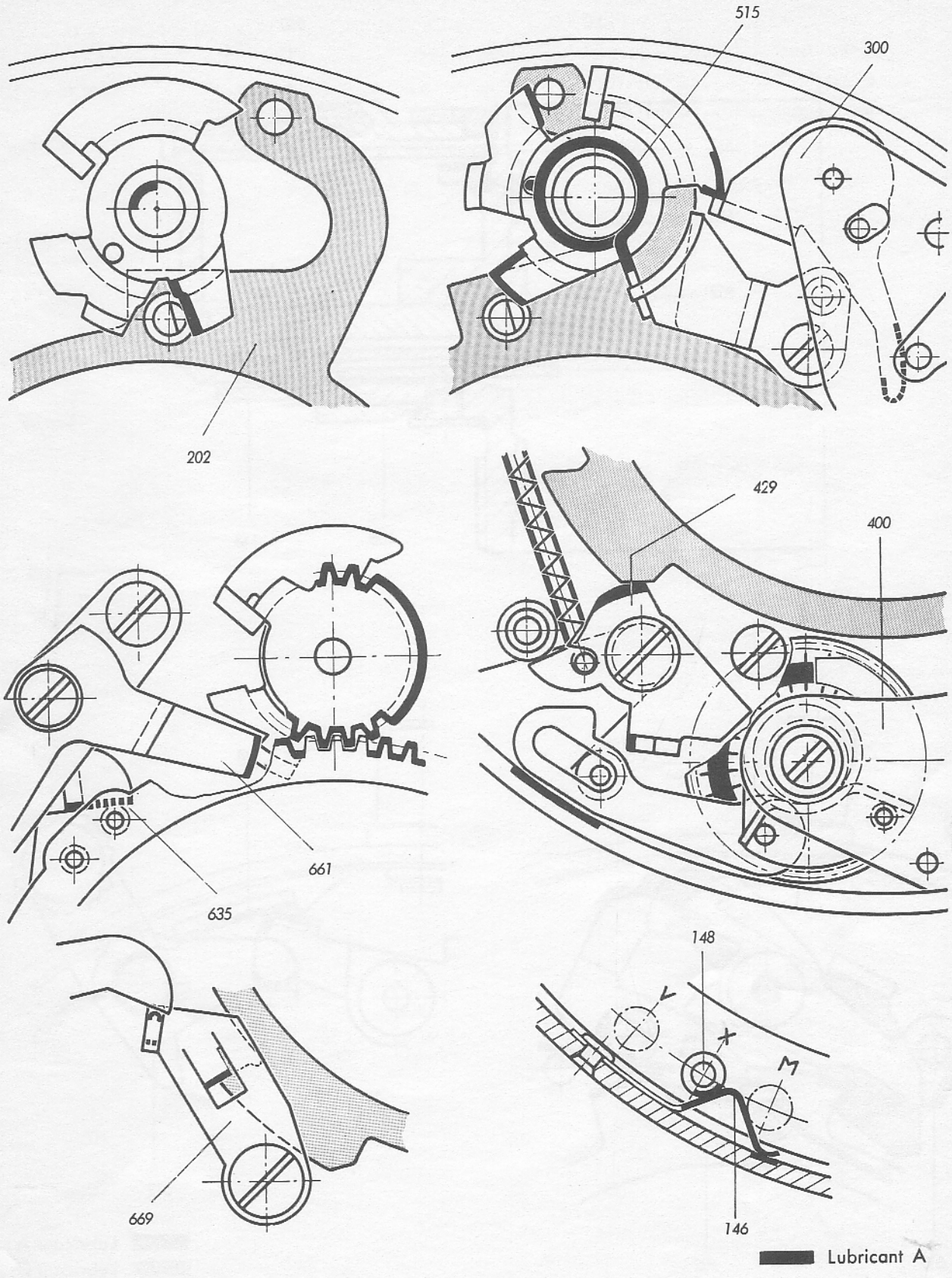

Figure 4-1

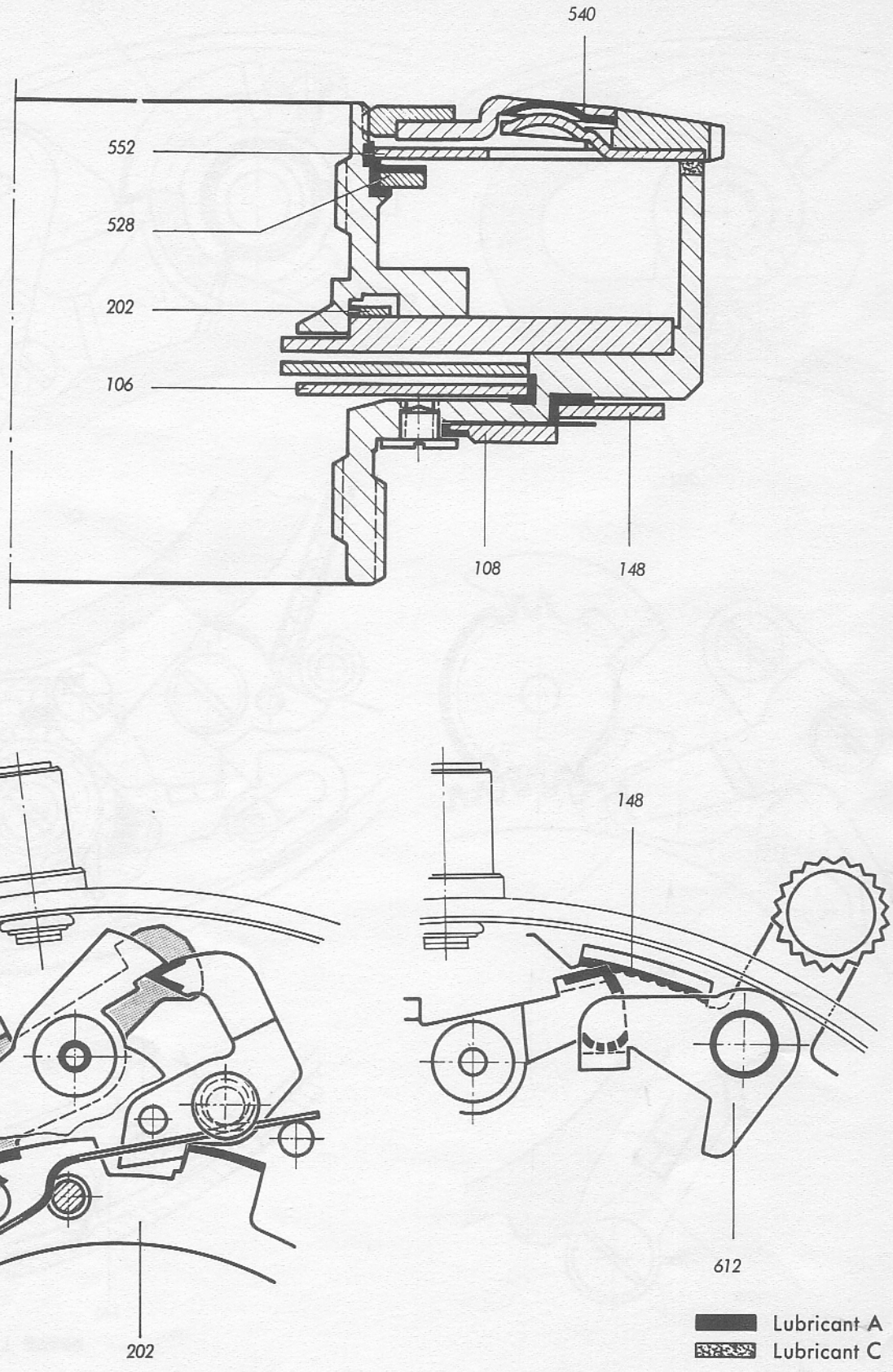
540
552
528
202
106
108
148
148
612
635
202
Lubricant A
Lubricant C

Figure 4-2

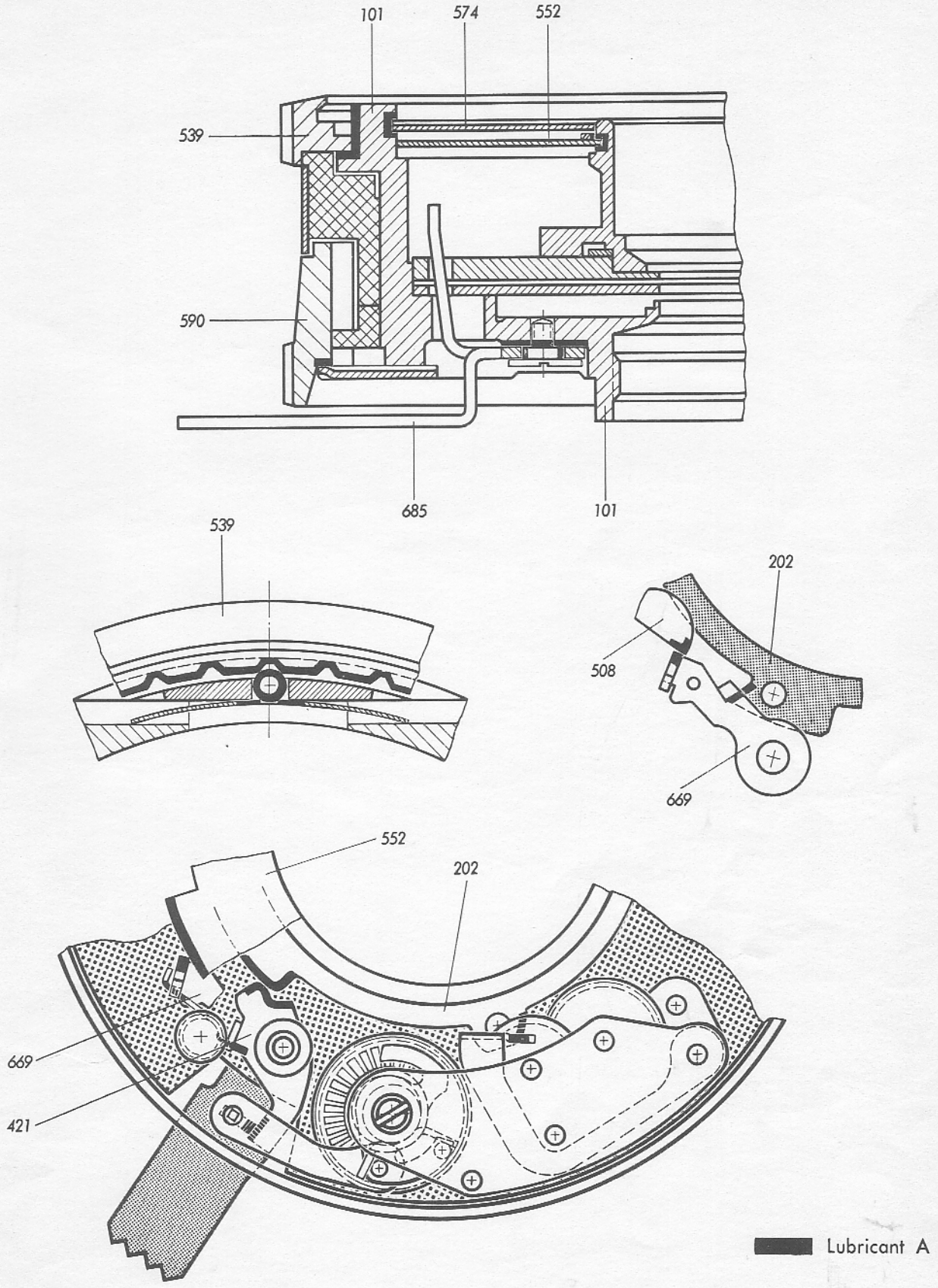
101
574
552
539
590
685
101
539
202
508
669
552
202
669
421
Lubricant A

Figure 4-3

SECTION 5 - ASSEMBLY AND ADJUSTMENT

5-1. GENERAL

This section lists procedures, in the proper numerical order, for assembling the Compur shutter. Before attempting the reassembly process, check each component carefully for thorough cleansing, lubricating, and possible defect. All replaceable component parts are listed in Section 8. Paragraph 5-3 of this section gives detailed instructions for properly adjusting various individual components at the time of reassembly. Refer to Figures 3-1 through 3-8 to identify the components, the component number and proper placement of the components during reassembly.

5-2. ASSEMBLY SEQUENCE

The following paragraphs describe, in numerical order, the proper reassembly sequence for the Compur shutter:

1. Beginning opposite the locator pin, put five diaphragm blades on sector cover 116, and continue counterclockwise. The first diaphragm blade 105 must be lifted over the last diaphragm blade.

2. Align diaphragm blades 105 to the inner diameter of the sector cover 116.

3. Put diaphragm cover 106 on diaphragm blades 105. All five rivets have to engage in guide slots.

   NOTE: Cut-out of diaphragm cover and blade cover have to match.

4. Lubricate slightly the surface of the housing and shoulder for the diaphragm cover, and the lift spring of the setting pin.

5. Housing 101 with positioning hole, and locator pin of sector cover must be mated. Carefully rotate the housing, including assembly jig, approximately 180^{o}. Install sector cover 116 with three screws 117.

6. Check diaphragm 106 by opening and closing the diaphragm.

7. Put base plate 201 on the assembly jig. Lubricate the inner diameter of sector ring 202 lightly with Molycote. Lubricate working edges for M-cam check lever, shutter speed lever 669, and self-timer check lever.

8. Install sector ring 202. Swivel all levers aside and place mounting tube 204 on base place with wide lip in the direction of drive bushing. Place stop 299 on wide lip and fasten with long screw 260. Stop has to touch mounting tube. Fasten and secure remaining two screws 261.

9. Check operation of sector ring.

10. Remove base plate 201 from assembly jig. Bring sector ring 202 into an open position and turn around 180°. Install sectors 208 counter-clockwise starting at drive bushing.

11. Place housing with cutout for setting ring pin in correct position over base place and secure with 3 casing screws 109.

12. Check operation of sector ring 202.

13. Install new sector ring closing spring 249.

NOTE

A new main spring, closing spring, and for the 1210 shutter, a new plastic M-detent lever (made of Delrin) must be installed with each new repair.

14. Check operation of sector ring closing spring 249.

15. Place spring 619 for M-cam check lever with long arm behind lip of M-cam check lever and short arm behind rivet of M-detent lock 664.

16. Check M-cam check lever 696 and M-detent lock 664.

17. Install M-spur gear 632, unlubricated.

18. Install M-detent 635. Lubricate place of function of M-detent lock 664 and hook spring 641 into position.

19. Check operation of M-detent and lock as well as proper release.

20. Place M-contact lever with lip between M-detent lock. Place tension spring behind housing wall and slide on shaft.

21. Install X-contact lever 615. Tension M-detent 635 and install bridge 621.

Note: Upper lever must fall by its own weight.

Screw on shoulder screw in direction of M-spur gear.

22. Install locking lever spring 672. Long arm goes in slot of locking gear, small arm rests against housing wall.

23. Check operation of locking lever 672.

24. Install shutter speed lever 669. Install screw 671 with spring 151. Short arm of spring goes behind self-timer check lever. Large end of spring goes behind shutter speed lever 669.

25. Install self-timer mechanism. Place V-link before V-detent lever 421 and fasten with screw 416.

26. Install escapement 300 and hold by the touch of a finger. Swivel out anchor plate and fasten with two screws 304 and 323.

27. Lubricate drive 514.

28. Install drive 514; turn clockwise to stop. Install drive spring 515. Small end goes in hole of drive, long end goes over stop.

NOTE: Upper spring end must not protrude.

29. Install release 508. Tension spring rests against housing.

30. Lightly lubricate the inner diameter of setting ring 148 and teeth. Place setting ring 148 on housing. Pin lies behind spring of shutter speed lever 669. Place setting ring disc 150 in position. Do NOT lubricate the inner diameter of diaphragm ring 108. Fasten diaphragm ring with three screws 120.

31. Check click stop, setting ring and smooth movement of diaphragm ring.

32. Lubricate inner diameter of cocking ring 528, teeth, and pawl pin. Lubricate the mounting tube 204 position where spring of cocking ring touches. Hook on eyelet of spring and install cocking ring.

33. Lubricate teeth and shaft of cocking pinion 517. Install cocking pinion in gap of first tooth of cocking ring.

34. Install V-release lock 667 and place spring against release pin.

35. Lightly lubricate the inner diameter of slotted cam ring 552 and install without play.

NOTE: V-detent lever must be swiveled aside.

36. Place exposure setting ring 539 in position (affix with slotted cam ring 552). Lightly lubricate with Molycote and plane surface of exposure setting ring for the cover plate 540.

37. Lubricate ratchet-teeth of cover plate 540 with an anti-corrosion lubricant. Place cover plate 540 into position and screw on threaded ring 547. Secure with retaining screw 538.

38. Check that all components are functioning properly.

5-3. ADJUSTMENT OF INDIVIDUAL COMPONENTS

The following describes in detail the procedures for proper adjustment and, in turn, proper functioning of the various components of the shutter.

NOTE

Proper adjustment of the individual components must be made when the parts are reassembled in the correct order.

Do not attempt to adjust any part or group of parts after the shutter has been completely re-assembled.