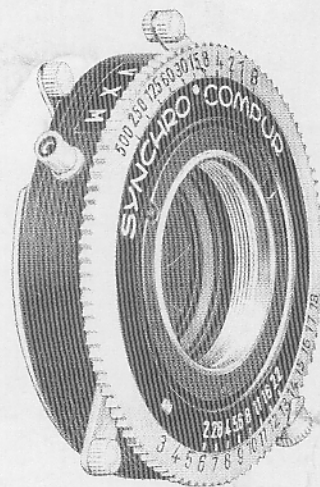


SYNCHRO-COMPUR SHUTTER

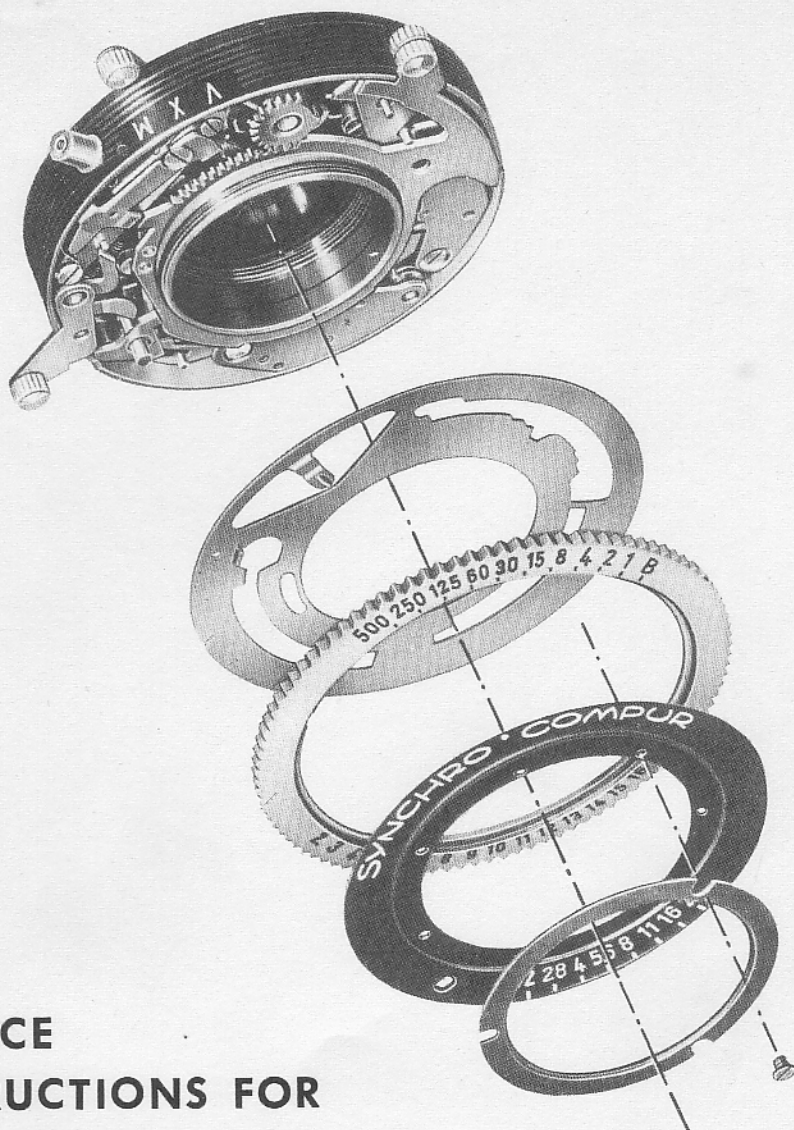


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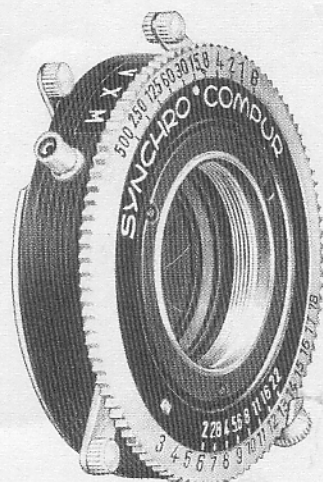


SERVICE
INSTRUCTIONS FOR

SYNCHRO-COMPUR SHUTTER

SERIES 1110-000

MARCH 1967



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SECTION 1 - INTRODUCTION

1-1. PURPOSE

Detailed instructions for disassembling, cleaning, lubricating, and reassembling the Synchro-Compur shutter of the Rollei camera are given in this manual. All information contained in Sections 1 through 5 pertains to the 1110-000 shutter. Special information on the 1110-010 and 1110-019 shutters is provided in Sections 6 and 7. Instructions for adjusting various components of the shutter during the reassembling process are listed in Section 5. See Section 8 for a complete replaceable parts list.

1-2. SHUTTER DESCRIPTION

The Synchro-Compur shutter, used with the Rollei camera, provides shutter speeds from 1 second to 1/500 of a second, as well as B (Bulb). This shutter is synchronized for flash and includes built-in delayed action.



Figure 1-1. Synchro-Compur 1110-000 Shutter

SECTION 2 - PRINCIPLES OF OPERATION

2-1. GENERAL

Before disassembling and repairing the Compur shutter, the technician should familiarize himself with the functions of the shutter and cocking procedure. Refer to Figures 2-1 and 2-2 during explanation of the drive and cocking.

2-2. EXPLANATION OF FUNCTIONS

The following is an explanation of functions of the drive:

1. Opening tooth with edge.
2. Working edge for locking lever.
3. Closing tooth with ridge.
4. Braking latch with ridge and stop lip.

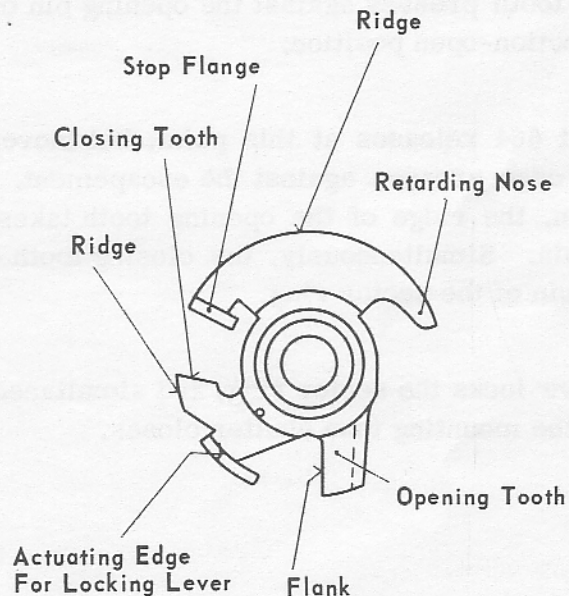


Figure 2-1. Drive

2-3. DESCRIPTION OF COCKING MECHANISM

The following describes the function of the cocking procedure. Refer to the Figures 3-1 through 3-10. These diagrams show the physical location of the components and the component part number.

- A. Cocking Ring. Cocking ring 528 activates cocking pinion 517; in turn, the cocking pinion activates drive 514. (Also refer to Figure 2-1)
 - 1. Function: The closing tooth releases sector ring 202. The sector ring is held then only by sector ring closing spring 249 (pin for sector ring closing spring). The opening tooth and ridge press opening pin downward. After the opening pin has been passed, it returns to the normal position. The locking lever simultaneously arrests the drive.
- B. Setting Ring Position X: The latch of setting ring presses M-cam check lever 696 out of the way of sector ring 202 and supports M-contact lever 612.
- C. Release Function: The release locking lever releases drive 514. The opening tooth presses against the opening pin of sector ring 202. This is a direction-open position.

M-detent 664 releases at this point, but moves without function. The braking edge presses against the escapement. During the escapement operation, the ridge of the opening tooth takes over the support of the sector pin. Simultaneously, the closing tooth of drive 514 returns the closing pin of the sector ring.

The drive locks the sector ring, and simultaneously, the stop lip of the stop on the mounting tube shutter closes.

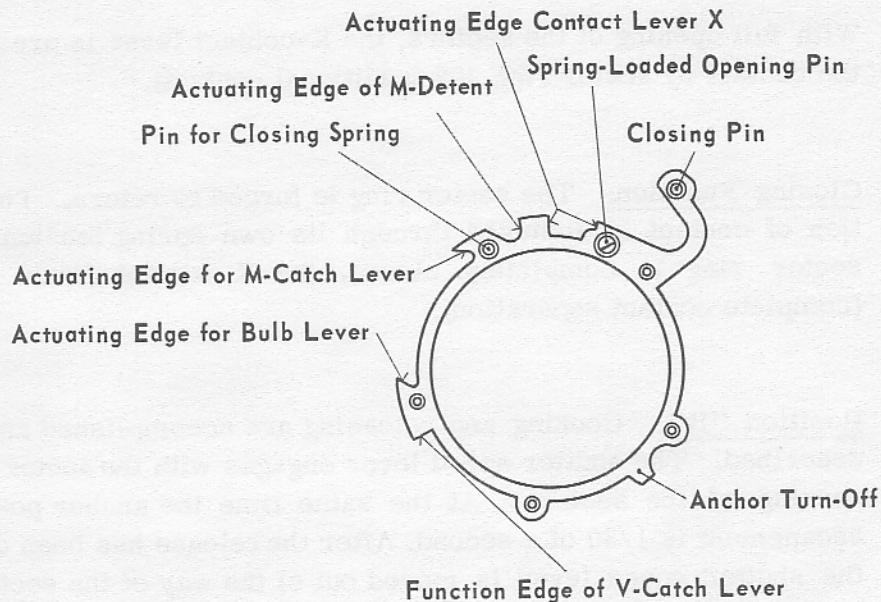


Figure 2-2. Sector Ring

- D. Function X-Contact: X-contact lever 615 rests on M-contact lever 614. Release is the same as before. The working edge of the sector ring retracts the X-contact lever in the opening position of the sectors. (Contact is made.) Closing function is the same as previously described. The sector ring returns and the X-contact lever returns by its own (spring) force. This interrupts contact.

With the complete closing of the sector ring, the X-contact lever is retracted (complete separation of contact).

- E. Setting Ring Position M-Contact: The M-cam check lever loses its support from the setting ring flange and falls in the way of sector ring 202. Simultaneously, the M-contact lever loses its support. The release function is as previously described above. The sector ring releases the M-detent lock. M-cam check lever 696 holds the sector ring. Simultaneously, the X-contact lever loses its support on the sector ring

(contact is made); the M-detent is released and presses the M-cam check lever out of the way of the sector ring. At the same time, the M-contact lever is being pressed out of function. The retracting force of the X-contact lever spring is now effective.

With full opening of the sectors, the X-contact lever is pressed against the contact by sector ring 202 (additional contact).

- F. Closing Function: The sector ring is forced to return. The interruption of contact is achieved through its own spring tension. When the sector ring is completely closed, the X-contact lever is returned (complete contact separation).
- G. Position "B": Cocking and releasing are accomplished as previously described. The shutter speed lever engages with the sector ring at full opening of the sectors. At the same time the anchor position of the escapement is $1/30$ of a second. After the release has been deactivated, the shutter speed lever is moved out of the way of the sector ring and the shutter closes.
- H. Self-Timer Mechanism: Turn setting ring in V position. The self-timer mechanism is being tensioned by the pin of the setting ring (cocking spring). The V-detent lever 421 is moved in the way of the sector ring 202 by the spring of cocking ring 528. During this movement, M-detent lever 635 is moved out of the way of the sector ring. M-contact lever 612 is supported by M-cam check lever 696. The M-cam check lever holds the setting ring flange with its back.
- I. Release Function of the Self-Timer Mechanism: When released, drive 514 turns sector ring 202 in the V-detent position. M-detent 635 runs without function against the M-cam check lever which, in turn, releases the ratchet of the setting ring. The setting ring returns to the X position. Tension releases the V-lock. The self-timer mechanism runs, and the V-link pulls the V-detent lever out of the way of the sector ring. The shutter opening is the same as the X-contact position.