

DECEMBER 1959

NO. 965

Servicing the

WESTERN N. Y. CAMERA
635 HERTEL AVE.
BUFFALO 7, N. Y.

KODAK AUTOMATIC 35 CAMERA

EASTMAN KODAK COMPANY
Apparatus Service Department
ROCHESTER 4, N. Y.

SERVICE INSTRUCTIONS
KODAK AUTOMATIC 35 CAMERA

F I L M T R A N S P O R T

SPECIFICATIONS

1. Film Transport Specifications listed in SERVICE MANUAL NO. 635 for the SIGNET 30 and 50 CAMERAS will apply to this camera, since the mechanism is similar and operates in the same manner.

SERVICE HINTS

2. Disassembly and Reassembly

Servicing the film wind mechanism is also similar to the Signet 30 and 50 Cameras. If it is necessary to remove this mechanism for repairs, the shutter should be set before disassembly and set again before reassembly.

3. Modifications

Early models have the bottom panel screws (at each end of bottom panel) concealed by the covering. These can be removed by locating and making two small cuts in the covering directly over the screws. Late model screws can then be fitted to retain the panel.

Late models (above serial number 35777) have been modified by the addition of a film rewind signal window in the bottom panel. The feature can be added to early models if requested by replacement of the bottom panel and fitting the ruby window and new covering. This will change the serial number of the camera since the new covering is imprinted with serial numbers. No alteration of the mechanism is required other than touching up the brass stud to make it more visible through the window.

H O U S I N G

SPECIFICATIONS

4. All Housing Specifications listed in Service Manual No. 635 for the Signet 30 and 50 Cameras will apply to this camera. In addition, the following specifications will apply:
5. The signal "MAN" should be visible in the finder at all times except when the green pointer is at "AUTOMATIC".
6. The green pointer should remain locked in the "AUTOMATIC" position until released by the lock button and actuated by the knurled wheel.
7. The knurled wheel should actuate the green pointer through its entire range without binds or hesitation.
8. The lock button should be free of binds and should return by spring action of the lock lever.
9. The exposure index knob should rotate the ASA dial from #10 to #160 and have tension sufficient to prevent accidental movement during normal use.

SERVICE HINTS

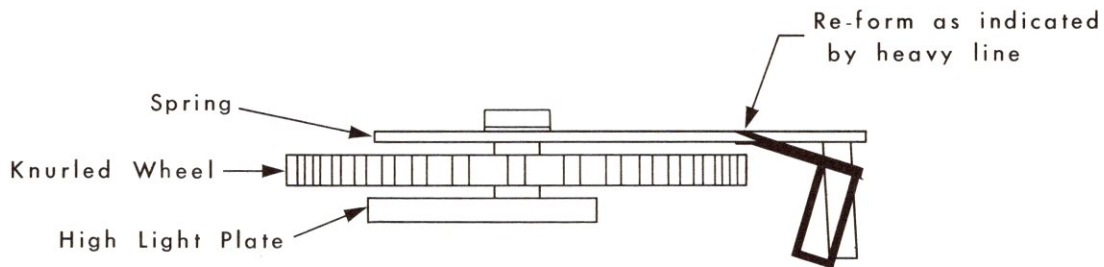
10. Disassembly - Top Housing

- a) Open back, insert suitable tool in rewind post and rotate knob counterclockwise.
- b) Rotate take-up spool to position flattened side toward back latch, and remove top right retaining screw (short).
- c) Remove top left retaining screw (long) and lift housing assembly.

H O U S I N G (Continued)

11. Manual Exposure Control Lever Binds

- a) Remove top housing (Instruction 10).
- b) Re-form manual lever actuator spring as shown:



CROSS SECTION
OF
MANUAL LEVER CONTROL

12. Frayed Carrying Straps

Remove burr on bottom of high light plate at carrying strap slot.

NOTE: It is recommended that all cameras below approximately serial number 10,000 should have this burr removed when received for service for any reason.

S H U T T E R

SPECIFICATIONS

13. Speed (total time):

- 1/40 second - 24 to 30 milliseconds
1/80 second - 11 to 14 milliseconds

14. Flash contact should occur just before shutter blades reach full aperture position (approximately 1/16" of the blades still showing).

15. Contact efficiency should be at least 75%.

16. Speed control should have detent action.

SERVICE HINTS

17. To set shutter without film in camera, rotate sprocket one revolution from index mark.

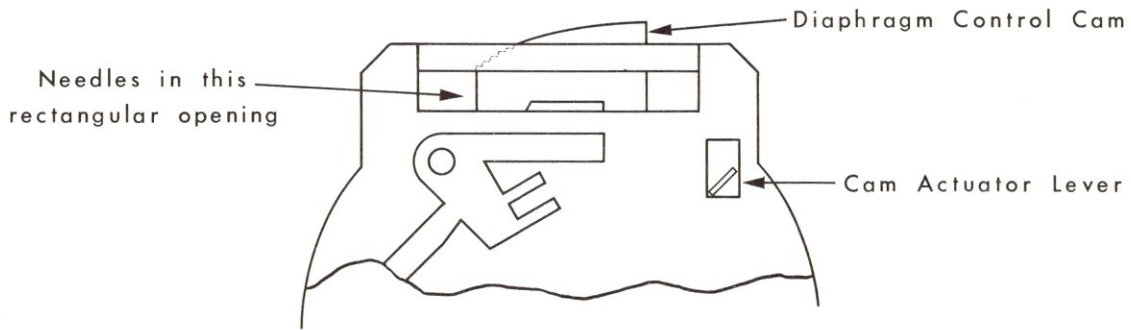
18. Disassembly - Front (with shutter) from Case

- a) Set shutter. (Rotate sprocket.)
- b) Set manual exposure control lever to extreme left side in curved window.
- c) Remove diaphragm and speed index cover plate and index plate.
- d) Remove switch block screw.
- e) Open camera back and remove two shutter retaining screws.
- f) Carefully separate front from case.

S H U T T E R (Continued)

19. Reassembly - Front (with shutter) to Case

- Set shutter (long curved lever in shutter).
- Set manual exposure control lever to extreme left.
- Rotate sprocket to position shutter setting lever (part of film wind mechanism) at extreme right side of its travel.
- Install front assembly, making sure the manual set lever needle and meter needle are entered in the rectangular opening at the top left side of the shutter assembly.



Rear View of Mount and Shutter Mechanism

- With a suitable tool, depress diaphragm control cam to position cam actuator lever above lug on body release lever, then depress body release slightly to allow front to drop into position.

20. Disassembly - Shutter Assembly from Front Mount

- Disassemble as in Instruction 18.
- Remove front lens and mount assembly, rotate mount to 2.5 ft. position, loosen screws slightly and rotate mount only to "Inf", tighten one screw and then repeat the operations until the mount is free.
- Remove the three screws around negative lens mount and separate front mount and rings from shutter mechanism.

21. Reassembly - Shutter Assembly to Front Mount

- Engage upper stud of meter cam plate in fork of cam actuator lever.
- Insert shutter mechanism in mount, replace speed ring, detent spring and position speed ring on mount.
- Replace name plate so that cut-out section fits over rib at top of mount.
- Replace negative lens mount, clamping ring, focus mount detent spring, and the three screws.
- Use care in tightening the screws, to avoid binding meter cam assembly.
- When adjusted properly for cam movement, seal the screws with any suitable cement.

22. Disassembly - Shutter Plates (diaphragm & blades)

- Disassemble as in Instruction 18 and 20.
- The diaphragm and mechanism plates can be separated in the same manner as in the Pony II Shutter.

23. Focusing Instructions for Ground Glass

- Set manual exposure control to extreme left of curved window.
- Rotate sprocket one revolution from index mark, depress and hold body release.
- Then rotate sprocket until shutter blades are fully open, hold sprocket in this position and slip a suitable wedge between case and bottom of sprocket to prevent closing of shutter blades.
- Ground glass focusing plane: .007" back of back frame. Use subject at 15 feet.

S H U T T E R (Continued)

24. Lens

The lens is assembled as shown, the negative element being symmetrical:



Front Lens and Mount

Strongest Convex surface
toward front



Negative Lens

Either concave
surface toward front



Rear Lens

Strongest Convex
surface toward rear

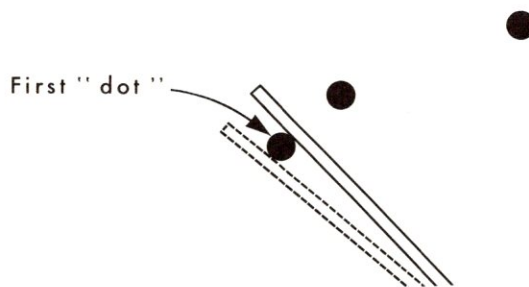
E X P O S U R E C O N T R O L

SPECIFICATIONS

25. Signal "MAN" should be visible in finder at all times except when green pointer is at "AUTOMATIC".
26. Green pointer should remain locked in automatic position until released by lock button and actuated by knurled wheel.
27. Knurled wheel should actuate green pointer through its entire range without binds or hesitation.
28. Lock button should be free of binds and should return by spring action of lock lever.
29. Exposure index knob should rotate ASA dial from #10 to #160 smoothly and have tension sufficient to prevent accidental movement during normal use.
30. When speed ring is moved from 1/40 to 1/80 second, meter deflection is reduced one-half by the connection of a resistance into the circuit.

NOTE: The effect on meter should be a shift in the needle so that the same EV number is indicated on the scale at either speed under the same light condition.

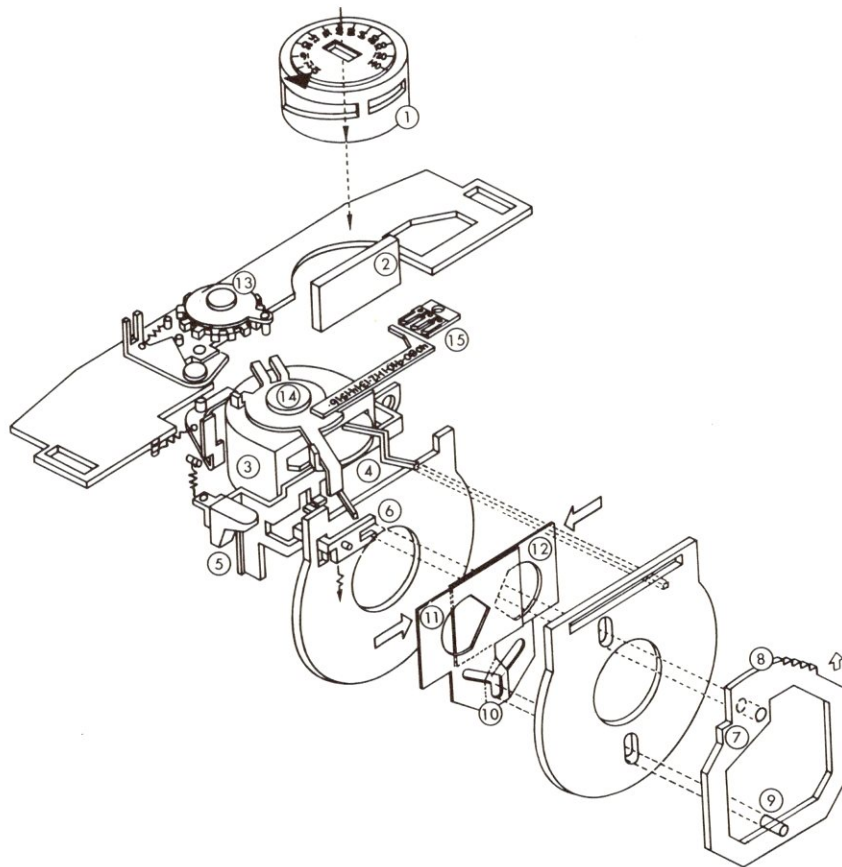
31. With all light excluded from photocell, meter needle should be aligned with first dot on scale (within the limits shown):



32. With the camera positioned in front of a "test light source" (see Instruction 37), the light meter should indicate an exposure of EV 10 to 11 at both speeds when the ASA dial is set at #10.

EXPOSURE CONTROL (Continued)

33. Schematic of Meter and Shutter Mechanism



Automatic Control

The automatic exposure control system of this camera is somewhat similar to the Kodak Starmatic Camera in that no actual mechanical work is performed by the meter; it simply tells the mechanical parts how far to move.

The slotted drum (1) admits light to the photocell (2) which reads the overall scene brightness and converts it to electrical current to operate the meter (3). The meter needle (4) is deflected in proportion to the light, and its position limits the rise of the frame (7).

When the body release (5) is depressed, a spring lifts the yoke (6) and the frame (7) until the cam (8) touches the meter needle (4). At the same time, the pin (9) moves up with the frame in the diaphragm blade slot (10) and draws the blades (11) and (12) open. Further actuation of the body release (5) then releases the shutter.

Manual Control

The manual control operates in a similar manner. When the manual control (14) is set by rotation of the knurled wheel (13) the manual control needle (instead of the meter needle) stops the cam (8) on the frame (7) as the body release is depressed. Further actuation then releases the shutter as before.

EXPOSURE CONTROL (Continued)

34. Disassembly - Meter from Case

a) Remove the following:

1. Top housing (Instruction 10).
2. Hanger plate assembly.
3. Plate and window assembly and index plate.
4. Switch block screw.
5. Photocell baffle plate screw.
6. Meter retaining screws.

b) Set manual control needle to extreme left and carefully lift meter assembly up and to the rear.

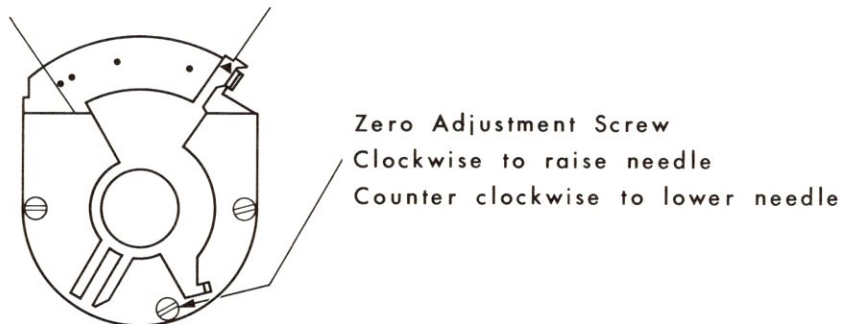
35. Reassembly - Meter to Case

Reverse the order of disassembly

36. Adjustments

a) Zero adjustment:

With all light excluded from the photocell, zero the meter as shown:

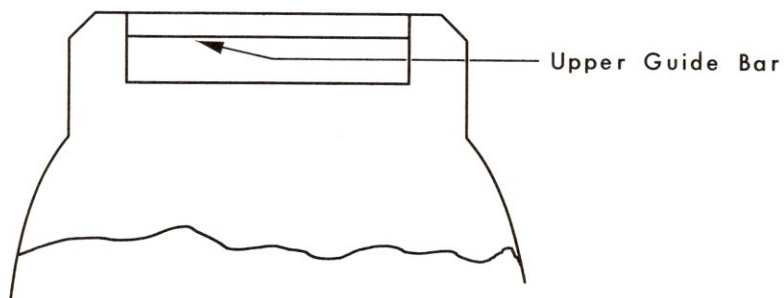


b) Meter Needle Adjustment

Slight corrections in exposure indication (see Instruction 32) can be made by rotating meter assembly in case.

Care should be used in this adjustment since too much rotation in either direction (more than 1/2 stop) may affect size of diaphragm opening or cause complete blockage of the cam assembly by the manual control needle.

c) Diaphragm Control



Accurate control of diaphragm opening depends upon frame assembly (under spring tension) pushing either manual lever or meter needle against upper guide bar. Both should operate close to the guide but without touching it.

EXPOSURE CONTROL (Continued)

d) Diaphragm Opening Adjustments

There is no control of diaphragm sizes other than by deflection of the meter needle or the position of the manual control needle. Forming of the needles either to the right or left to control the diaphragm sizes is not recommended. Under normal conditions, the opening of the diaphragm blades at 1/80 second at EV-13.5 and 15.5 should be approximately the same size for the manual and meter needles. The following table lists the tolerances for these EV numbers:

1/80 second	-	EV 13.5	-	.105" to .145"	across flats
1/80 second	-	EV 15.5	-	.050" to .075"	" "

Measurement of diaphragm sizes will require removal of front lens and center (negative) lens.

No other repairs to the meters are recommended since the meter will be handled on an exchange basis by the Apparatus Parts Service, Eastman Kodak Company, Rochester, New York.

37. Light Source

The light source should be of the proper intensity to indicate an EV of $10 \frac{1}{2}$ at ASA 10.

Kodak