

SEPTEMBER 1962

NO. 1313

Servicing the

Kodak Motomatic 35F Camera



EASTMAN KODAK COMPANY
Apparatus Service Department
ROCHESTER 4, NEW YORK

SERVICE INSTRUCTIONS
KODAK MOTORMATIC 35F CAMERA

I. FILM TRANSPORT MECHANISM

SPECIFICATIONS

1. Rewind assembly (w/o film in camera) should:
 - a) Rotate freely in both directions.
 - b) Have detent action when flush with top housing.
 - c) Allow extension post to be withdrawn approximately 3/8" without disengaging lower section from its detent position.
2. After properly loading film in camera, further turning of wind-up knob should function as follows:
 - a) First two turns (approximately) should set shutter, advance film counter to #1 and wind-off strip. (Motor "whirring" noise will be evident during this operation only).
 - b) Next 5 1/2 turns (approximately) should wind motor fully and bring knob to a stop without any tendency to back-wind when hand pressure is released.
3. Depressing body release should trip shutter and actuate automatic film advance mechanism through one cycle as follows:
 - a) Advance film one frame and counter to next number (#2).
 - b) Set shutter.
4. Additional actuations of the body release must produce a total of at least 7 complete cycles (until film counter reads at least #8) without rewinding the motor.
5. Body release should operate smoothly.
6. Maximum counter dial error with respect to index mark should not exceed $\pm 1/3$ of a division.
7. Rewind release lever should, when held in direction of arrow:
 - a) Release spring tension of motor.
 - b) Disconnect take-up spool from drive mechanism.
 - c) Have spring tension sufficient to return it to end of recess when released.
8. Action of rewinding film through camera should be reasonably smooth.

NOTE: Rewinding film will also advance counter dial to figure 36; at this point the counter advance mechanism will skip.
9. Closing and latching back should depress the mechanism release sufficiently to allow counter check pawl to advance counter dial when film is advanced through camera. However, the mechanism slide release should not be depressed to a point where it can block the action of metering lever and prevent further film advance.
10. Opening camera back should allow the mechanism slide release to retract the counter check pawl and counter pawl from the counter dial drum and allow it to return to "E" position by spring action.
11. Pressure pad and film plate should not scratch film detrimentally in picture area.

SERVICE HINTS

The sequence of action, motor clutch, gear train, motor assembly and metering mechanism are identical with the later versions as used in the Motormatic 35 Camera. Service instructions covering these items can be located in Service Manual No. 1150 and A. S. R. I. No. 1187.

12. Disassembly - motor assembly from case

Identical with Motormatic except that one attaching screw is located in the battery recess.

13. Reassembly - motor assembly to case

- a) Identical to Motormatic except that battery cover must be inserted into base assembly before attaching assembly to case.
- b) Replace battery identification pull tab after assembly is positioned on case.

IV. HOUSING

SPECIFICATIONS

14. Back assembly should:

- a) Fit case without severe interference.
- b) Latch securely with a minimum of force.
- c) Be free of excessive looseness when latched.
- d) Open partially under film pad pressure when latch is released.

15. Back latch should:

- a) Hold back securely latched.
- b) Have sufficient spring tension so as to prevent accidental release during normal use.

16. Body release should have sufficient spring tension to return to its normal position after tripping shutter.

NOTE: Slight extra force will be required to trip shutter after depressing release approximately 3/4 of its travel.

17. Pressure pad and film plate should not scratch film detrimentally in picture area.

18. Speed dial should:

- a) Have detent action at each speed index mark.
- b) Rotate without undue force through its full travel with ASA setting up to 160.

19. ASA dial should:

- a) Rotate without undue force through its full travel (ASA 10 to 800) when center button is depressed.
- b) Lock securely at each number when center button is released.

NOTE: If it is impossible to rotate the speed dial or ASA dial through its entire travel, it is because of the interlocking of the two dials. A change in the setting of one dial will permit the other dial to be rotated.

20. Finder alignment should be within the tolerances as defined by special finder alignment chart (Tool #984). (Check only on complaints of finder error or replacement of major components of finder assembly).

21. Focus signal "CLOSE", "GROUP" and "SCENE" should appear in finder clearly and in proper relation to setting of focus scale at the three detent positions.

22. "FLASH" symbol should appear in finder when selector ring is set at the "DAYLIGHT" index, conversely it should appear clearly when set for flash operation.

23. Reflector cover should:

- a) Be retained securely in a closed position.
- b) Spring open fully when release button is actuated.
- c) Not require excessive force to close and latch.

24. Lamp socket should:
- Accept AG-1 lamps.
- NOTE: Pressing release button may be required to ease insertion of lamps.
- Release lamps when camera is tilted forward slightly and release button is actuated.
 - Have electrical continuity to shutter flash contacts.
25. Camera base should accept two N-size manganese alkaline batteries. (Battery bases in opposite direction).
26. Battery recess cover should:
- Be retained securely in a closed position by retainer screw.
 - Have retainer screw fitted with retainer.
27. Battery recess should be fitted with battery instruction tab.
28. Tripod socket should be threaded, (check visually).

SERVICE HINTS

Removal and replacement of the top housing assembly is identical with the previous model. Disassembly and reassembly of the Speed and ASA Scale is somewhat different from the original model. The following instructions cover the changes.

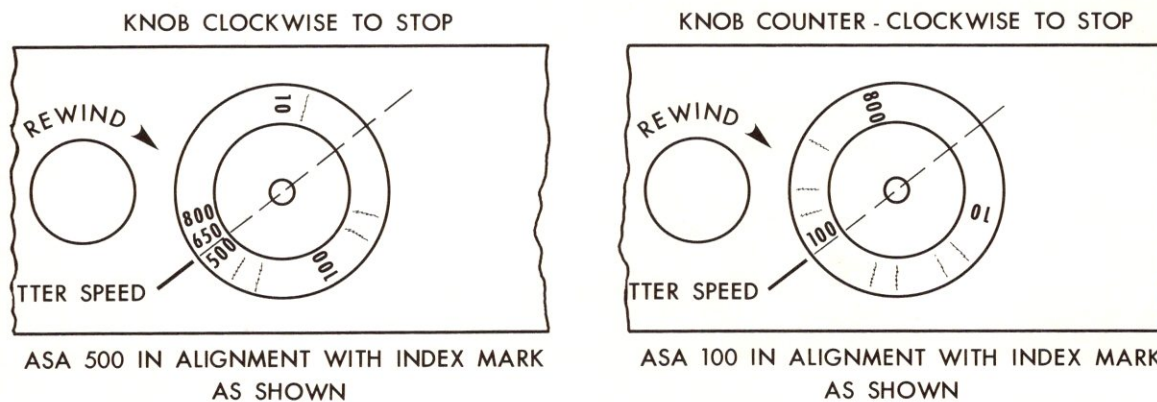
29. Speed and ASA Scale

29.1 Disassembly

- Remove top housing.
- Remove covering and plate of ASA button.
- Carefully drill off the section of the speed cam assembly retaining the knob.
- Remove speed scale and tension washer and push speed cam assembly out of top assembly.

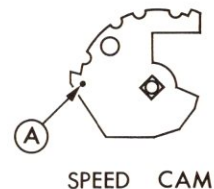
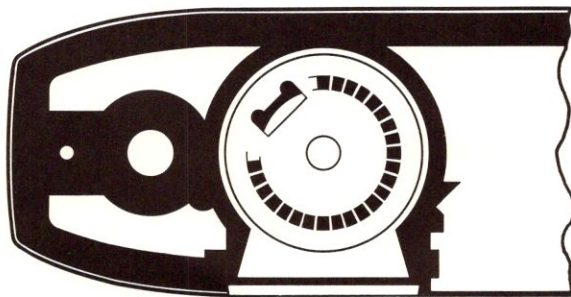
29.2 Reassembly

- ASA scale of knob assembly should be located as shown, (scale is cemented in place):



NOTE: If a new knob and scale assembly is fitted to top housing, the scale can be removed, then recemented after the knob has been assembled. This will eliminate a difficult orientation condition since the knob and drum can be staked in any position as long as the drum stop lug is not on the stop boss of the inner plastic housing.

- b) Insert a new speed cam assembly into housing, positioning it so that the pin (A) as shown is engaged in any one of the slots in the drum.



- c) Place the housing assembly on a suitable support, replace tension washer, speed scale and button. With a suitable rivet set, securely stake the button in position and replace insert.
d) Reassemble housing to case and check alignment of speed scale and index mark. Minor corrections can be made by holding knurled ring and carefully forcing scale into position.

30. Disassembly and Reassembly - top housing

The general method for this assembly is covered in Service Instructions for the Automatic 35F, No. 1312.

V. SHUTTER

SPECIFICATIONS

31. Speed (total):

1/40 second	-	28 to 34 milliseconds	1/125 second	-	9 to 13 milliseconds
1/80 second	-	13 to 18 milliseconds	1/250 second	-	4.5 to 9 milliseconds

32. Flash contact should occur just before shutter blades reach full aperture position. (Approximately 1/16" of blades showing in aperture). (Check at continental fitting).
33. Contact efficiency should be at least 75%. (Check at continental fitting).
34. Continental flash fitting should be secure and have electrical continuity to shutter flash contacts.
35. Selector ring should:
- a) Lock securely at the "Daylight" index.
 - b) Rotate smoothly through its full range when unlocked.
 - c) In the "Automatic Flash" position:
 1. Lock the focus scale securely at all flash guide number indexes.
 2. Actuate the "Flash" symbol in finder.
 3. Shift shutter to "Flash Speed" (1/40 sec.) regardless of the speed control setting.
36. Shutter when attached to camera should be set by action of film rotating the sprocket.
37. Minor corrections to body release mechanism should be made when necessary. Diaphragm blades should (with shutter set and index ring at daylight range), open and close fully without binds or hesitation when all light is excluded from meter cell and body release is depressed and released slowly.
38. Lens should be focused on an object 15 feet from film plane at full aperture. Permissible focus error is 1/3 the depth of field at full aperture. This is equivalent to approximately 1/16" on either side of stationary index mark.

39. Focus mount should:

- a) Rotate smoothly.
- b) Have detent action at the "CLOSE", "GROUP" and "SCENE" indexes and actuate the flag in finder to indicate these positions.
- c) Have sufficient spring tension to prevent accidental movement during normal use.

40. Lamp socket should have electrical continuity to shutter flash contacts.

SERVICE HINTS

41. Front lens

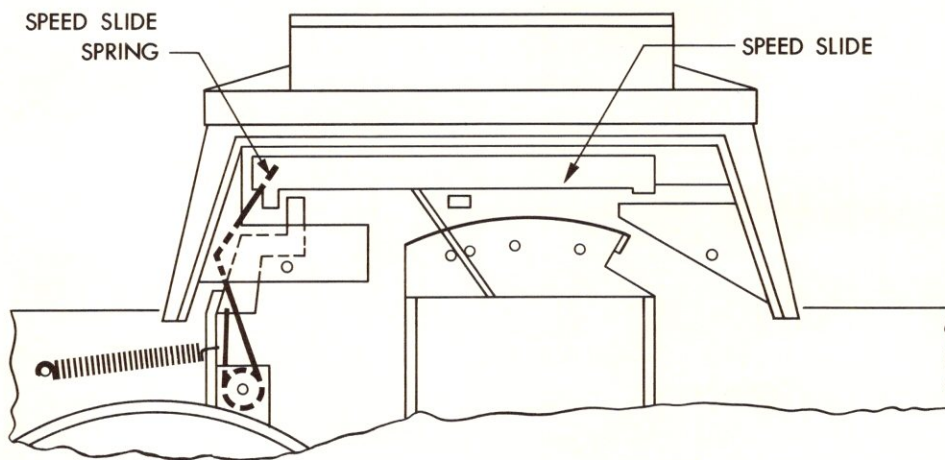
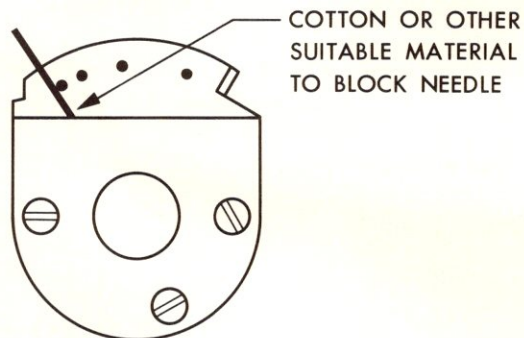
Disassembly and reassembly are identical to previous model.

42. Focusing instructions

Identical with Automatic 35F.

43. Disassembly - shutter from camera

- a) Remove top housing, diaphragm plate assembly and block meter needle in f/2.8 position (left end of travel) with a small piece of cotton or other suitable material as shown.
- b) Unhook speed slide spring from speed slide (see sketch).



- c) Remove shutter assembly, (see Service Instruction 38, for the Automatic 35F).

44. Reassembly - shutter to camera

Identical to Motomatic except that meter needle must be blocked in the f/2.8 position, Instruction 13 a. Speed slide spring and slide must be repositioned as shown in Instruction 13 b, after assembly.

45. Shutter repairs

Identical to Motomatic 35 except for the accessory flash connection.

VI. EXPOSURE METER

SPECIFICATIONS

46. Meter deflection:

Settings - Exposure Meter Tester (No. 991) - 100 volts
Camera - ASA 20 and "AUTO"

<u>Shutter Speed</u>	<u>Deflection</u>
1/40 second	f/8 ($\pm 1/2$ stop)
1/80 second	f/5.6 ($\pm 1/2$ stop)
1/125 second	f/5.6 to f/4
1/250 second	f/2.8 ($\pm 1/2$ stop)

47. With all light excluded from the photocell, some part of the meter needle should be on the first dot on the meter scale. (Visible only when f/scale is removed).

48. ASA dial should:

- a) Rotate without undue force through its full travel (ASA 10 to 800) when center button is depressed.
- b) Lock securely at each number when center button is released.

NOTE: If it is impossible to rotate the ASA dial through its entire range, it is because of the interlocking of the speed and ASA dial. A change in the setting of the speed dial will permit the other dial to be rotated.

SERVICE HINTS

Disassembly of the meter from the camera, adjustment of the meter needle for zero and for binds on the guide bars and reassembly of the meter to the camera are identical to the previous models.

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