

PHOTOGRAPHING MESSAGE REGISTERS USING KS-20900 L1 MESSAGE REGISTER CAMERA

1. GENERAL

1.01 This section covers the method of photographing message registers using the KS-20900 L1 message register camera.

1.02 The KS-20900 L1 message register camera (Fig. 1) consists of a KS-20900 L10 hood fitted with a KS-20900 L11 electronic flash and a KS-20900 L12 camera equipped with a KS-20900 L14 wide angle lens. The KS-20900 L1 camera is approximately 16-1/2 inches wide, 13 inches high, 21 inches deep, and weighs approximately 9 pounds.

1.03 The KS-20900 L12 camera is a 35-millimeter camera designed to photograph message registers on KS-19555 L1 or L2 film. The camera has fixed shutter speed which is synchronized with the flash tube.

1.04 The KS-20900 L12 camera is fitted with a KS-20900 L14 lens that is set and fixed for focus and aperture by the manufacturer. The lens is covered by a polarizing filter that is set at 90 degrees to the polarizing filter on the electronic flash. The polarizing filter on the lens should not be removed because the rotation is set by the manufacturer.

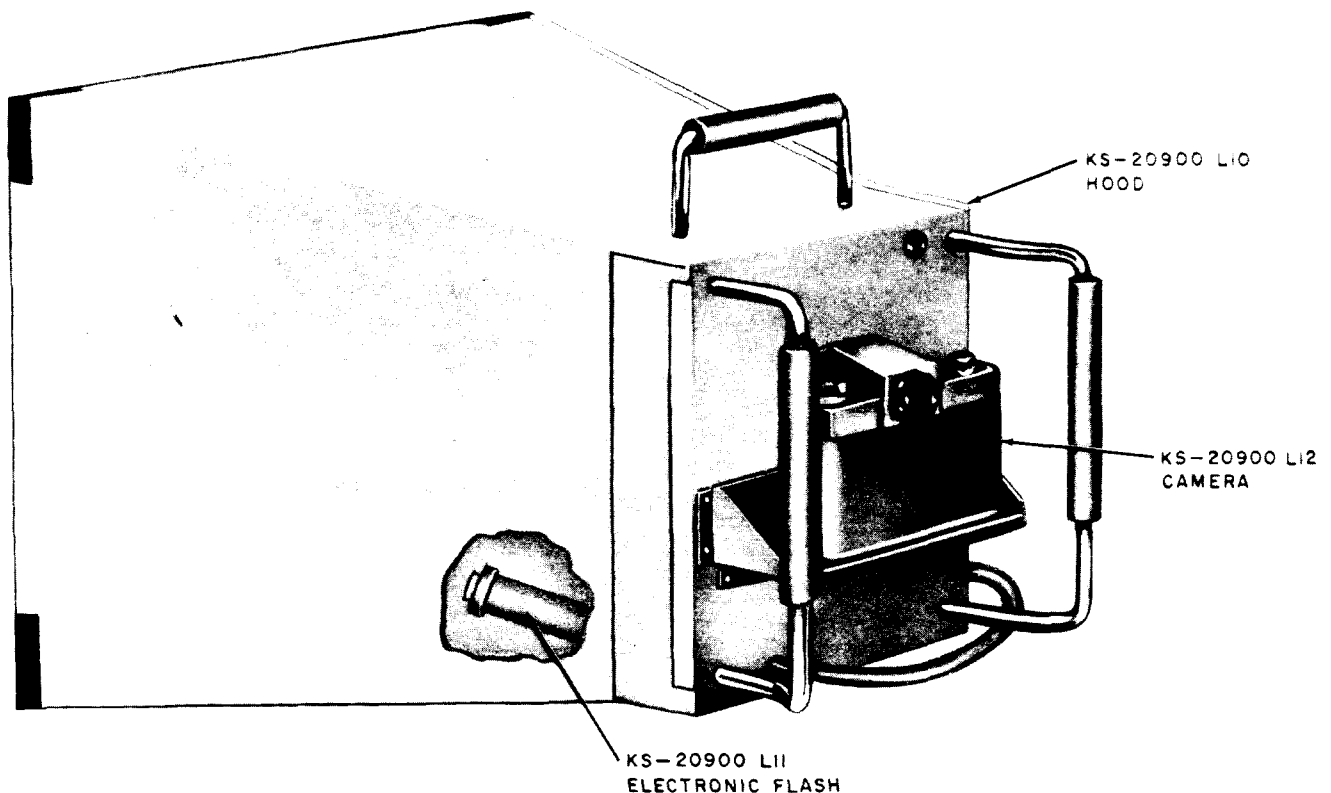


Fig. 1—KS-20900 L1 Message Register Camera

Caution: No attempt should be made to change the camera aperture speed or focus settings since this could seriously damage the camera.

1.05 The KS-20900 L12 camera will photograph a bank of 100 registers with a single exposure. This permits 2000 registers to be photographed on a roll of KS-19555 L1 film or 3600 registers on a roll of KS-19555 L2 film. Banks of registers may be photographed at approximately 5-second intervals. The time between exposures is determined by the recharging time of the capacitor in the electronic flash.

1.06 The KS-20900 L10 hood (Fig. 1) is equipped with a handgrip on each side and one at the top. The side grips enable the operator to hold the camera from the rear, and the top grip is used to hold the camera from the side when limited aisle space does not permit the operator to stand behind the camera. The hood is approximately 16-1/2 inches wide, 13 inches high, and 21 inches deep.

1.07 A KS-20900 L15 carrying case (Fig. 2) is provided to house the camera. The camera and lens are stored in a polystyrene case and placed in a polyurethane lined box in the bottom of the case.

2. APPARATUS AND MATERIALS

CODE OR SPEC NO.

DESCRIPTION

APPARATUS

KS-20900	L1 Camera
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TOOLS

—	5-Inch E Screwdriver
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MATERIALS

KS-14666	Cloth
KS-19555	L1 or L2 Film
—	Isopropyl Alcohol (Rubbing Type)

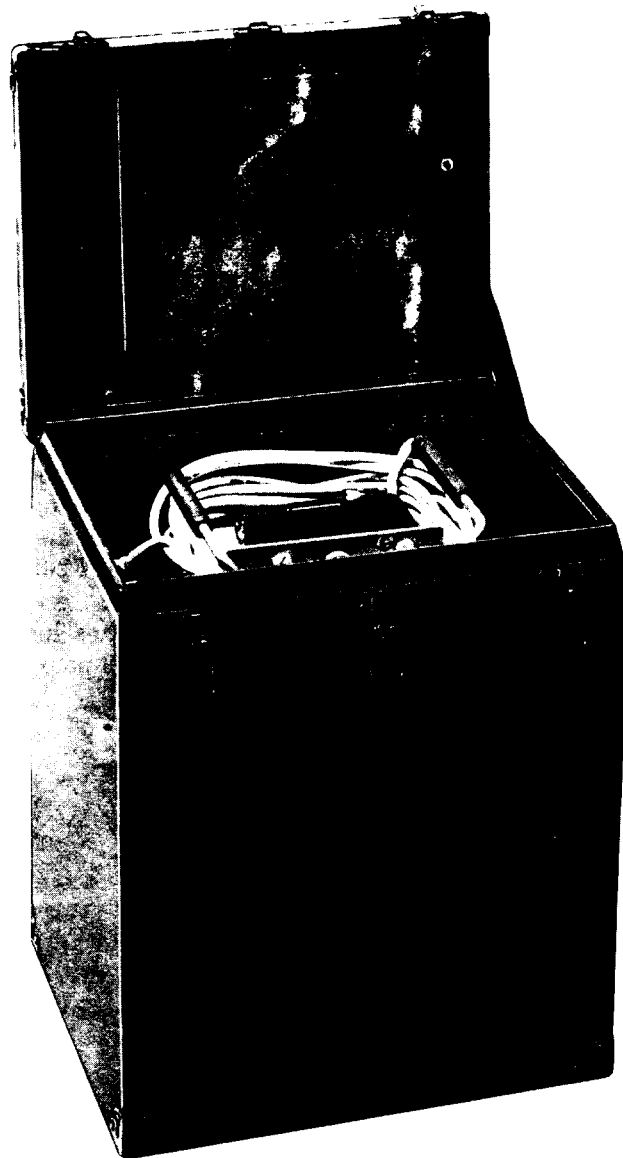


Fig. 2—KS-20900 L15 Carrying Case

— Lens Paper, Eimer and Amend
No. 11-996 or equivalent (obtain
locally)

3. PREPARATION OF CAMERA

GENERAL

3.01 Remove the camera from the carrying case as follows: Unlatch and swing back the cover. Lift the hood from the case and gently set it on the floor or any convenient safe resting

place near where it will be used. Remove the camera from the camera box in the bottom of the carrying case. Position the camera on the camera shelf, forward, against the two camera stops (Fig. 1). Secure the camera to the shelf with the camera hold down screw located in the bottom of the camera body.

3.02 Prepare a designation strip 7/8 inch by 2 inches and print the pertinent information with india or printers ink. The characters should be at least 3/16-inch high. Slip the designation strip in the holder at the inside bottom end of the hood with the lettering facing the camera lens and right side up (Fig. 3).

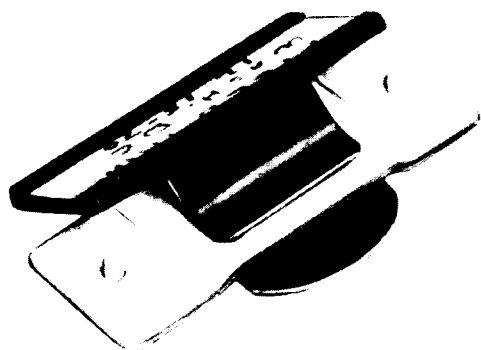


Fig. 3—Designation Strip Mounted in Holder

LOADING THE CAMERA

3.03 Place the camera on a solid surface in the same position it was removed from the case. Push-turn, in the direction of the arrow (Fig. 4), the back cover release button located on the bottom left side of the camera body. The back cover will release and spring up.

Note: Do not press the back cover at this time or it will not spring up. Open the cover all the way. Pull out the rewind knob (Fig. 6), located on the top left of the camera, as far as it will come.

3.04 Using a 20- or 36-exposure cassette, load the camera as follows:

- (a) Remove the cassette of film from its package. (If the exposed film is to be forwarded for

processing, retain the packaging material for rewinding the cassette). Orient the cassette as shown in Fig. 5. Insert the film leader in any convenient slot in the right hand take-up spool and push the film toward the right of the inner spool until about 1/2 inch of the leader protrudes from any adjoining slot. Making sure the perforated edge of the film is resting against the adjacent lower flange, push the advance lever to wrap the film around the take-up spool until it laps over the protruding end of the leader and locks the film onto the spool (Fig. 6). Now draw enough film from the cartridge to permit the cartridge to drop in the nest on the left of the body.

- (b) Push down the rewind knob to engage the key on the cartridge. It may be necessary to rotate the knob slightly so the slot in the rewind knob engages the key of the cartridge.

- (c) Holding the cassette so that the film exit slot faces directly toward the take-up spool, turn the rewind knob to take up any slack in the film.

- (d) Push the shutter release button and carefully advance the film using the advance lever. Be sure the film perforations are engaging the sprocket teeth.

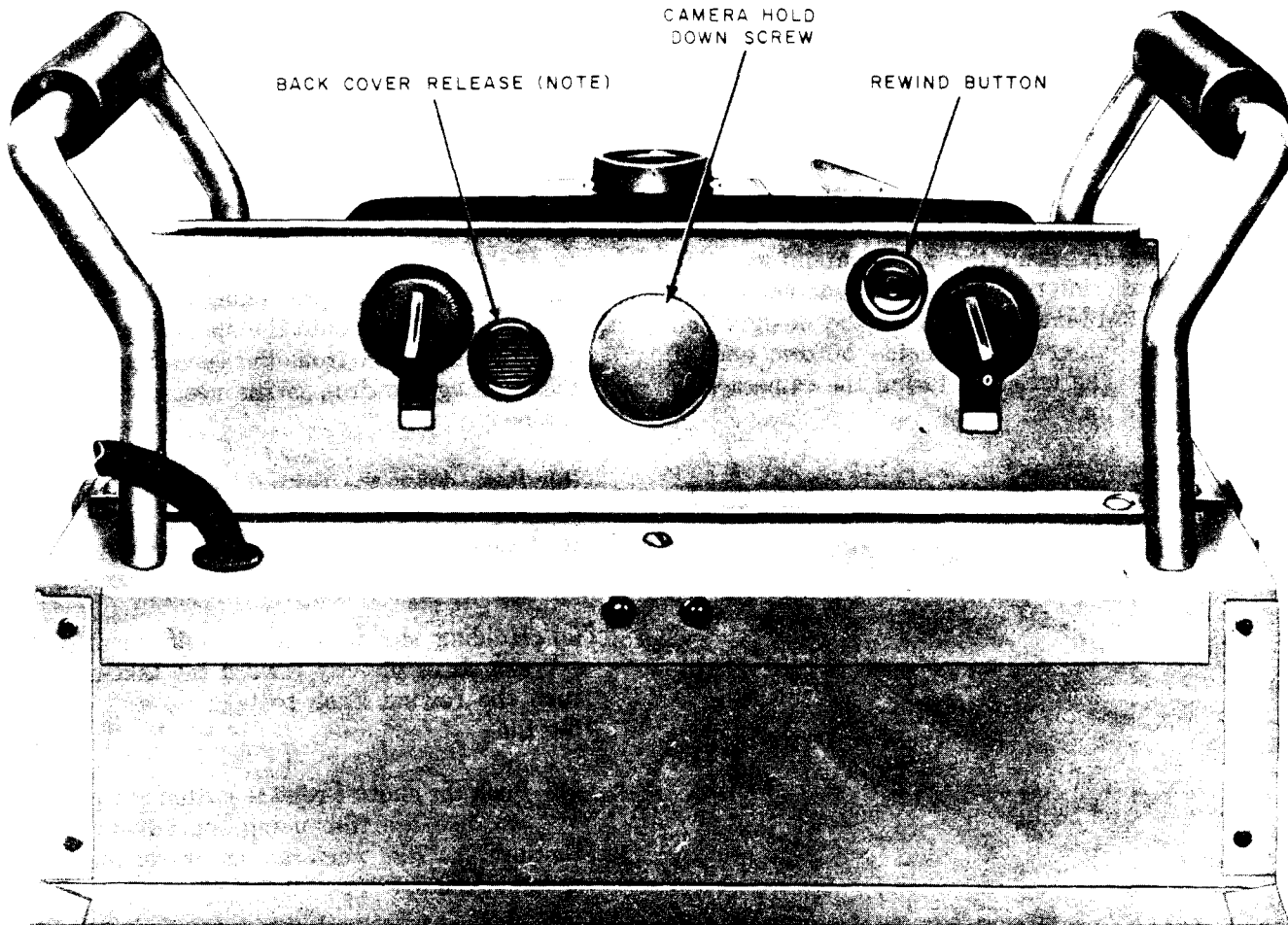
- (e) Close the camera back being sure that the cover is latched securely.

- (f) Alternately, push the shutter release and advance the film until the exposure counter indicates 1. If the rewind knob is turning counterclockwise, the film is advancing properly.

- (g) Always stroke the film advance lever until it makes a full stop. It is not necessary to reach the film stop in one stroke. The film advance lever may be moved a number of short strokes until a firm stop is encountered.

EXPOSURE COUNTER

3.05 The camera is equipped with an automatic exposure counter (Fig. 7) which indicates the number of exposures taken. A red colored numeral "20" or "36" indicates the number of exposures taken on a roll of 20- or 36-exposure film, respectively, when the film is completely exposed. When the back cover of the camera is



NOTE:

BACK COVER RELEASE MAY BE LOCATED ON LEFT SIDE OF CAMERA
(AS VIEWED FROM BACK) AS AN OPTION

Fig. 4—Back Cover Release and Rewind Button

opened, the exposure counter automatically resets to the starting-mark (white dot index).

CAMERA, POWER CORD, AND ELECTRONIC FLASH

3.06 Insert the plug of the power cord into the proper 115-volt ac receptacle. A red neon lamp located on the electronic flash will light when the power is on and the camera is ready for successive pictures. The red lamp may be viewed through the "peep hole" (Fig. 1) of the hood.

4. PHOTOGRAPHING MESSAGE REGISTERS

GENERAL

4.01 In order to obtain photographs of maximum readability the following procedures should be observed before photographing message registers.

- (a) Check that the identifying markings on the register caps are correct and distinct and that the caps are firmly seated.

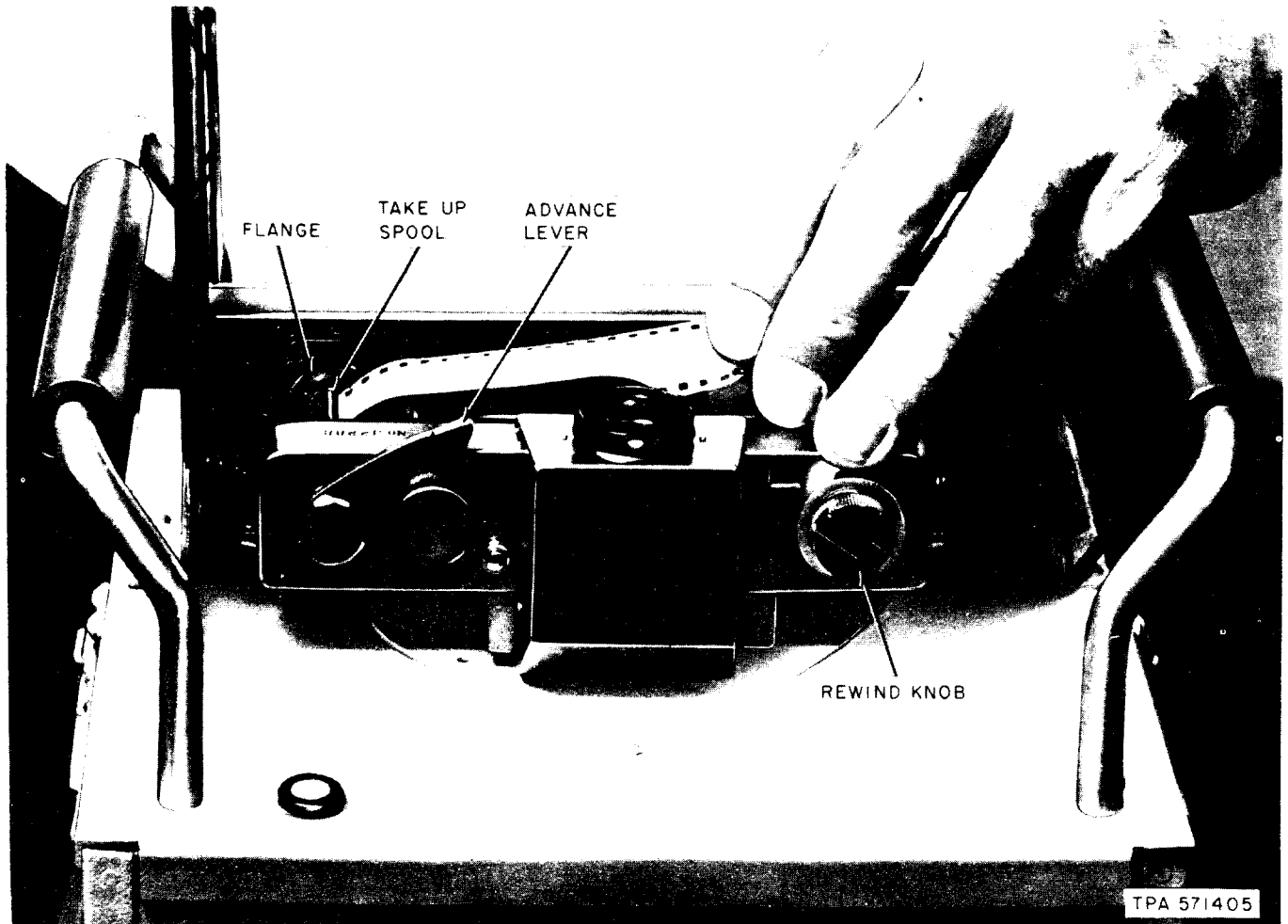


Fig. 5—Inserting Film into the Take-up Spool

- (b) Check that the registers are firmly mounted in the correct positions.
- (c) Make sure the numerals on the number wheel are clear and distinct. If necessary, clean the number wheels as covered in Section 069-360-801.

TAKING THE PHOTOGRAPHS

4.02 Take the photographs as follows:

- (a) Lift the camera and place it against the registers to be photographed by inserting the top two guides over the two corner registers to be included in the photograph and gently tip the hood until the lower side guides are astride

the lower two registers to be included in the photograph (Fig. 8).

- (b) Make sure the electronic flash red lamp is on and then actuate the shutter release. The flash will be visible through the peep hole located in the back cover plate of the hood. After each flash, the red lamp will extinguish for about 5 seconds until the capacitor in the flash unit recharges.

- (c) Repeat Steps (a) and (b) above until the required number of registers are photographed or the film is exhausted.

Note: If the advance lever does not move easily, the exposure counter should be checked for the number of exposures taken. If the

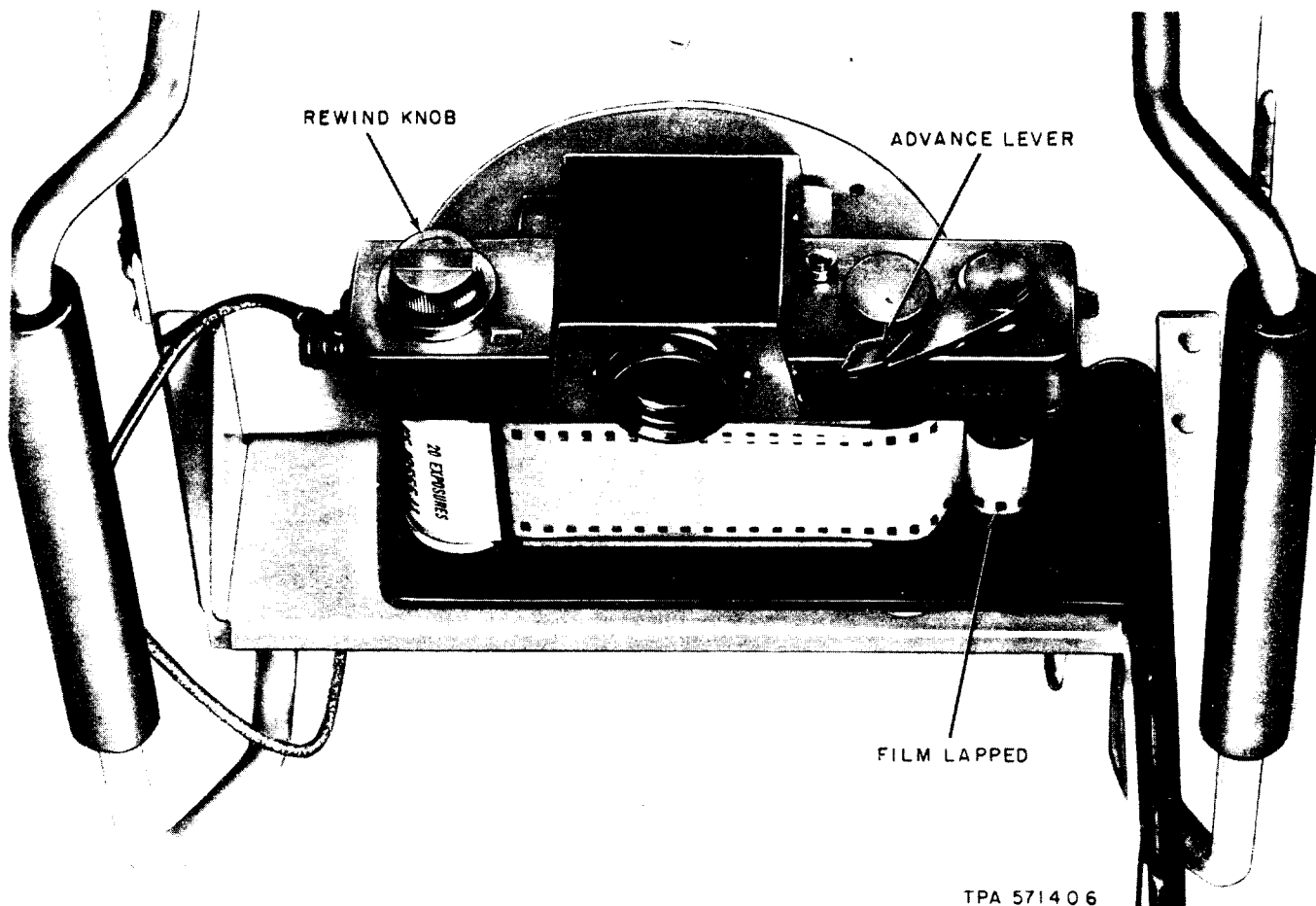


Fig. 6—Cassette of Film Loaded in Camera

exposure counter indicates all the film has been exposed, proceed to unload the camera as specified in Part 5.

5. UNLOADING THE CAMERA

5.01 Unload the camera as follows:

- (a) Set the camera on a hard surface.
- (b) Depress the rewind button located on the bottom and right side of the camera (Fig. 4).
- (c) Unfold the rewind crank from its storage position on the top and left side of the camera (Fig. 7). Revolve it clockwise in the direction of the arrow. The rewind shaft will slowly float up for easier rewinding action as it is turned. Continue to revolve the rewind crank to rewind the exposed film into its cartridge.

Rewind smoothly and at an even speed until the tension lessens as the film disengages from the take-up spool—then stop.

Caution: *Erratic or too rapid rewinding, under certain atmospheric conditions, can cause static electricity marks on the film.*

- (d) Open the back cover as described in 3.04.
- (e) Pull up the rewind knob and remove the cartridge.
- (f) Kink the leader (to signify the film has been exposed) and place the film in its original packing for full protection until the film is developed.

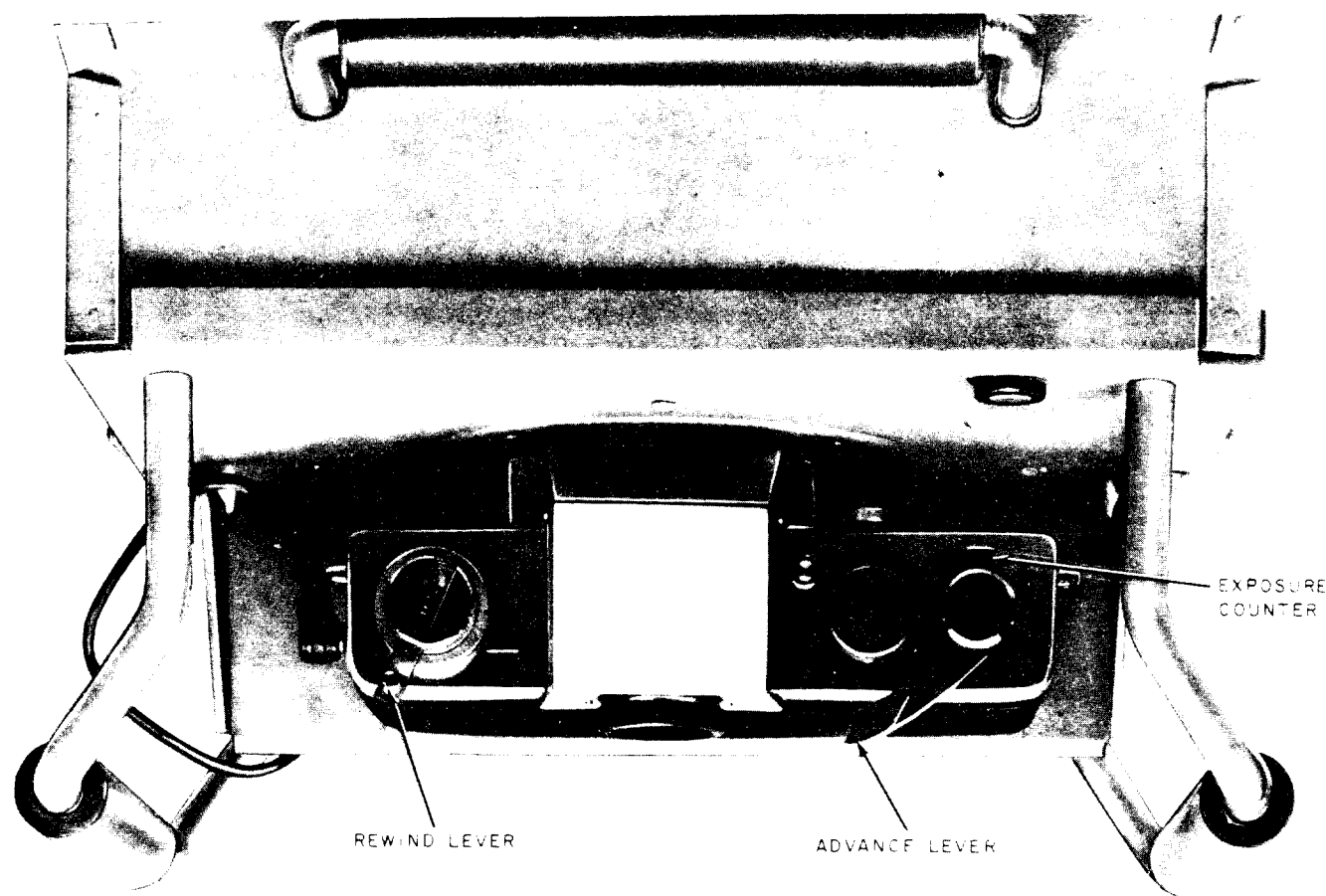


Fig. 7—Rewind Lever, Advance Lever, and Exposure Counter

6. PROCESSING THE KS-19555 FILM

6.01 To obtain maximum readability, traffic register films must be given special, high-contrast development. Refer to Section 030-302-301 for the special processing required for KS-19555 film.

7. CLEANING

Caution: *Make sure the ac power cord is not plugged into any outlet. Cock the camera and release the shutter to discharge the flash unit.*

7.01 *Inside the Hood* (as required): Wipe the inside surface of the hood with a clean KS-14666 cloth slightly dampened with water.

7.02 *Polarizing Filters* (as required): Clean the polarizing filter on the electronic flash and the polarizing filter on the camera lens with a clean KS-14666 cloth slightly dampened with alcohol.

8. MAINTENANCE

8.01 If the camera should need repairing other than replacement of the KS-20900 L11 electronic flash, return the camera to the manufacturer.

8.02 A replacement electronic flash may be ordered from Charles Beseler Company, East Orange, New Jersey, as follows:

KS-20900 L11 Electronic Flash

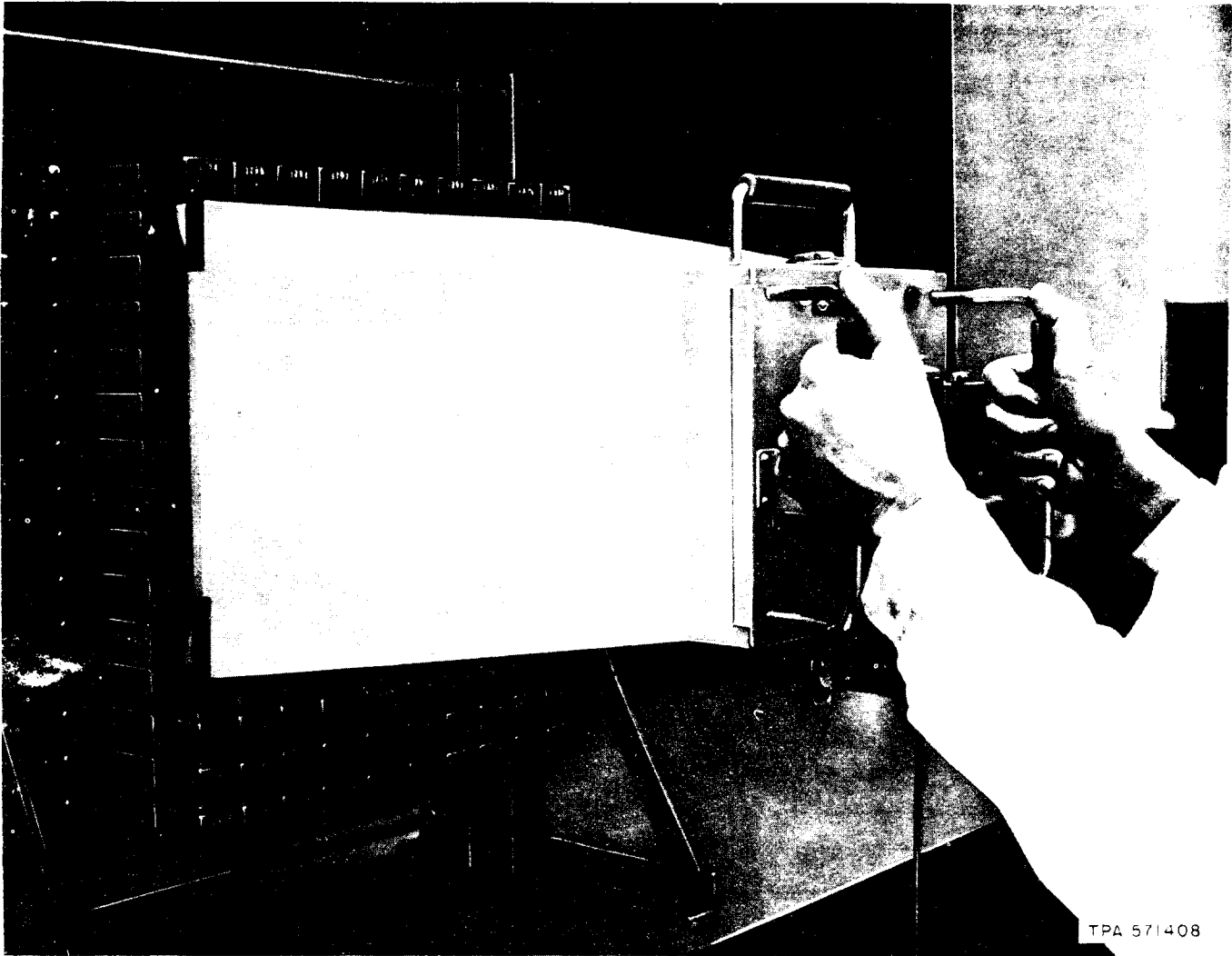


Fig. 8—Photographing Traffic Registers

8.03 Replace the electronic flash according to the procedure given below:

Caution: *Make sure the ac power cord is not plugged into any outlet. Cock the camera and release the shutter to discharge the flash unit.*

- (a) Remove the three screws that hold the back plate to the hood and retain.
- (b) Carefully separate the back plate and camera from the hood.
- (c) Remove the flash cord plug from the side of the electronic flash.
- (d) Remove the plug retainer from the left top side of the camera by removing the screw and washer. Retain the screw, washer, and retainer.
- (e) Remove the flash cord plug from the camera.
- (f) Remove the two cover deflector clamp screws and retain.
- (g) Remove the cover plate and polarizing filter from the flash unit.
- (h) Remove the old electronic flash.

Caution: Avoid placing fingerprints on either the flash unit lens or the polarizing filter. Fingerprints may be removed from these areas by using a clean KS-14666 cloth slightly dampened with alcohol.

flash unit. Make sure the sides of the flash unit are aligned with the edges of the bracket and that the plug socket is properly positioned at the provided hole.

- (i) Substitute the new electronic flash and install in the reverse order of removal of the old