

PHOTOGRAPHING MESSAGE REGISTERS USING ELECTRICALLY OPERATED KS-7703 AND KS-8320 CAMERAS

1. GENERAL

1.01 This section covers the method of photographing line message registers using the camera and auxiliary equipment per KS-7703 and KS-8320.

1.02 This section is reissued to incorporate material from the addendum in its proper location.

1.03 *Designation Cards:* In order that each photograph of message registers shall bear identifying information, which usually consists of the central office name, the date of exposure and the photographer's initials, a designation card is inserted in the light hood before each series of photographs is taken. This card should be so prepared that the necessary information will show clearly on the film. The overall dimensions are 3-3/4" x 11/32". One method of producing good results is to use a card of light brown color with a surface similar to ordinary wrapping paper and have the characters applied in India ink or printer's ink. Photostatic negatives or Van Dyke negatives also produce good results in which case the photographer's initials can be applied with a white ink. The ink used should be such that it does not readily flake off. The characters should preferably not be smaller than 3/16" in height. The last 1/4" at each end should be left blank since the holding lugs cover these portions.

1.04 *Rephotographing in Case of Doubt:* If any doubt arises as to whether the exposures on a completed film are satisfactory, the entire group of 1000 registers should be rephotographed without awaiting the results of development. As there are usually one or two more exposures on each film than are required to photograph a complete group of 1000 registers, any exposure during which the camera may have slipped or which might be unsatisfactory for any

other reason, should be repeated before proceeding to photograph the next block of registers in order that the readings will be in consecutive order as covered in 4.01. Similarly, if it is suspected that any block may have been missed, photograph that block before removing the film from the camera. Although films should not be used unnecessarily, it should be borne in mind that the readings are of such importance that if there is any reason to believe that satisfactory photographs may not have been obtained, the person photographing should not hesitate to substitute a new film and rephotograph the group. All such extra rolls should be marked "defective" and forwarded with the regular films for development.

1.05 Any indistinct register markings, broken, cracked or dirty register windows, etc, noted during photographing should be reported to the proper supervisor. Any conditions which might adversely affect the results obtained, that can be easily cared for by the photographer before an exposure is made, should be corrected. For instance, any loose caps noted should be fully seated on the registers.

1.06 *Storing and Handling of Films:* It is important that films be stored where they will not be injured by heat or dampness. When loading the camera or removing and sealing exposed rolls of film, avoid working in a strong light, such as close to a window on a bright day. Make sure that the exposure date marked on the film has not been reached.

1.07 Associated with the motor control rheostat in the camera per KS-8320 is a small resistance element which is strapped out on all cameras originally. If the camera is used with a d-c source of power, it will be necessary to remove this strap.

2. APPARATUS

- 2.01 Camera and Resistance Unit per KS-7703 and KS-8520.
- 2.02 Rolls of Film per KS-7583 as required.
- 2.03 Designation Strips as required.

3. PREPARATION

- 3.01 It is assumed that the camera has previously been inspected to see that the lenses are clean, adjustments are correct, etc. The requirements are covered in a separate section. When repairs or adjustments seem necessary, the matter should be taken up with the supervisor.
- 3.02 Remove the camera from its carrying case by means of the carrying strap and place it on a table or other suitable safe support.
- 3.03 **Designation Card:** Prepare the designation card, if this has not already been done, (see 1.02), and slip it in position in the card holder inside the lower edge of the light

hood. The bottom edge of the card should be against the bottom of the hood.

- 3.04 Tilt the camera so that it rests on the lower edge of the hood and the motor guard bracket.

3.05 **Connections:** Connect the resistance unit to the camera by means of the 3-conductor polarized cord and plug. Lock the plug in place by a slight clockwise twist. Then insert the associated 2-conductor plug into a power service appliance outlet. If the resistance unit is arranged for use with either an a-c or a d-c power supply, see that the toggle switch on the resistance unit is properly set for the power service available. When these connections are made, the pilot lamp located in the light hood, should light.

Note 1: The camera per KS-8320 has no external resistance unit so that the only connection which need be made is to the power service appliance outlet by means of the cord and plug provided.

- 3.06 **Warming Up:** Operate the toggle switch on the left side of the camera and note that the signal lamp lights. This lamp is located

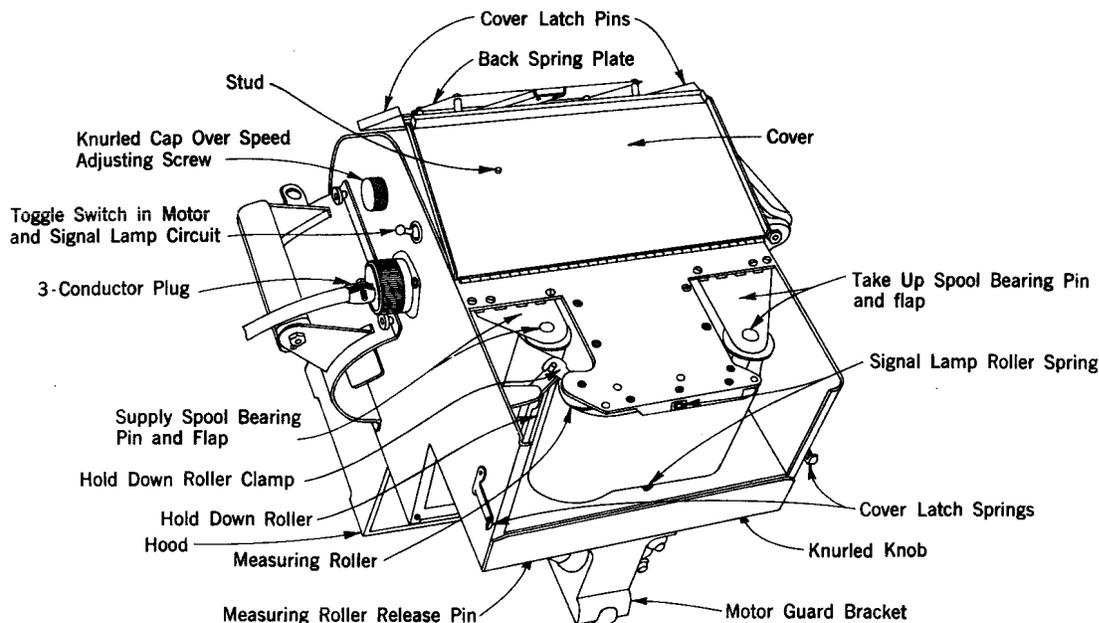


Fig. 1 - Rear View of Message Register Camera With Cover Open Loading the Camera With Film

under the red window in the cover at the rear of the camera near the right handle. Depress the starting switch which is located at the top of this handle. Hold the starting switch operated for approximately three minutes, during which the mechanism will be operated through some 40 cycles. This operation removes any stiffness from the lubricants, particularly that used in the rear reduction unit, and brings the motor approximately to the temperature for which it is adjusted to run at the proper speed.

Note 1: If at any time photographing is interrupted for a period of more than 1/2 hour, this warming up operation should be repeated before photographing is continued.

Note 2: When the motor is run without a film in the camera, such as during the warming up period, the driving mechanism may "overthrow" and the motor operate continuously with the starting switch released. In this case, operate the toggle switch to its off-position. This should be done only at the end of a cycle of operation, however.

Note 3: The warming up process described in this paragraph is not necessary with the camera per KS-8320. After making the connection to the power supply but before loading the camera depress the starting switch and allow the camera to operate through 5 to 10 cycles to see that it is operating properly.

3.07 See that the toggle switch on the left side of the camera is in the "off" position so that the signal lamp is out and no potential is standing on the lower spring contacts in the loading chamber.

3.08 Release the latches at the bottom of the camera and fold the back cover all the way up until it rests on top of the camera. Move the hold down roller clamp to the right and swing the hold down roller fully to the left. (See Fig. 1.) Lift the spool bearing flap to an upright position and remove the empty spool, if present, from the film chamber on the supply side, i.e., on the left.

3.09 Break the seal of a fresh roll of film taking care that the outer paper does not loosen sufficiently to permit light to reach the sensitized paper beneath. Unroll approximately

three inches of the paper leader. Remove the seal completely and exercise care that no part of it remains on the leader or in the camera.

3.10 Holding the unrolled length of leader taut and keeping it between the measuring roller and the hold down roller, place the full film spool in the supply film chamber on the left. Slide it down into the chamber until the slotted end of the spool seats upon the pin at the bottom; meanwhile, the leader on the spool should be held in such a way that its lower edge comes inside of the three guides at the base of the chamber. Uneven feeding resulting from the improper placing of the spool or film may cause false operation of the red signal lamp or tearing of the film.

3.11 Lower the hinged bearing flap until the pin seats in the hole of the spool head. Swing the hold down roller over to hold the leader against the measuring roller and secure it in place by sliding the hold down roller clamp to the left.

3.12 Depress the measuring roller release pin, which is located on the outside of the camera beneath the lower bearing of the measuring roller. While the measuring roller is thus released pull the leader until approximately 8 inches of the paper has been unrolled.

3.13 Using an empty spool, which is in good condition, and while holding it with the slotted end down, insert the tapered end of the leader into the wider side of the slot through the center of the spool. Pull the leader into the slot until there is about 1/4 inch clearance between each edge of the paper and the slot. Then holding the spool and paper so that the roll wind smoothly without any tendency to climb either of the flanges, turn the spool in a counter-clockwise direction until the tapered portion of the leader is covered by paper of the full width.

3.14 Raise the take up spool bearing flap and insert the spool into the right hand film chamber. Properly seat the lower end of the spool on the drive pin, turning the knurled knob if necessary to bring the slot of the spool and the drive pin into alignment. Then lower the flap until its pin enters the hole in the spool head and, while pressing on the flap, turn the

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knurled knob on the under side of the camera until the slack in the leader has been taken up. The knurled knob will not turn easily, as some effort is required to overcome the friction of the spring driving belt.

3.15 With both spool bearing flaps properly seated, fold the cover down and see that the spring latch on each side seats over its cover pin. Unless each of the spool bearing flaps is properly seated, the cover will not close easily. A small stud provided on the cover keeps the hold down roller clamp in proper relation to the measuring roller during operation of the camera.

3.16 Operate the toggle switch on the left side of the camera. The signal lamp should not light. If the lamp lights however, turn the knurled knob to wind up any slack in the leader. This should cause the lamp to be extinguished. If the lamp remains lighted; it indicates that the camera is not in adjustment or that the film has not been properly inserted. If the camera is opened to check the position of the film, the film should be discarded if it is found in such a position that any of the sensitized paper may have been exposed.

3.17 Depress and hold the measuring roller release pin and operate the starting switch for the motor to advance the film until the red signal lamp lights and goes out. Then release the measuring roller release pin and operate the starting switch for one exposure cycle. Disregard any momentary flicker of the signal lamp.

4. PHOTOGRAPHING

4.01 Registers should, in general, be photographed in numerical order in blocks of 25 registers per exposure and 1000 registers per film, i.e., where a full regularly numbered thousand registers are to be photographed, the first exposure should be made of the block bounded by registers 0, 4, 80 and 84 and the 40th exposure that bounded by registers 915, 919, 995 and 999.

4.02 While photographing, the carrying strap of the camera should be placed around the neck of the user. This ensures that the camera will not be dropped and facilitates handling.

4.03 Bring the camera into position for an exposure by so inserting the projecting guides of the light hood that the vertical guide rests against the left sides of the covers of the left row of message registers in the block about to be photographed, while the horizontal guides rest on the tops of the upper row of registers in the block. Slight pressure should be exerted downward and toward the right and there should also be sufficient pressure to hold the camera securely against the bottom and right-hand rows of registers.

4.04 While the camera is held steadily in position depress the starting switch and hold it operated until the illuminating lamps light. After these lamps go out, move the camera to the position for the next exposure.

4.05 When the camera is in proper position and the winding of the film has been completed, again depress the starting switch to photograph the next block of registers following those taken in 4.04.

4.06 Continue the procedures of 4.04 and 4.05 until the photographing of the entire group of 1000 registers has been completed or the end of the film is reached (see note below). Just before reaching the end of the film, the signal lamp lights to indicate the last exposure. Upon taking the last exposure on the film, the signal lamp is extinguished.

Note: If more than one exposure is required to complete the group, after the red lamp lights at the end of the roll, rephotograph the entire group of 1000 registers on another film. The replaced film should be marked "defective" and forwarded with the other films for development.

4.07 After a group of 1000 registers has been photographed, any additional exposures required to complete the film should be made with the camera directed away from any source of light, such as a lamp or window to avoid possible "fogging" of previous exposures.

4.08 After the last exposure has been made on the film, hold the starting switch down until the signal lamp lights and remains lighted throughout at least three successive cycles or until the motor indicates by its increased speed that the film is entirely wound. The signal lamp

may light for about two cycles, just after the last exposure, in the case of certain films intended for use with a different model camera as well as with the KS-7703 camera. This lighting of the signal lamp should be disregarded.

4.09 Under some conditions the film may stick and prevent proper winding because of curling at the point where the film and paper trailer are joined together. To make sure that this condition does not exist, operate the starting switch, after the film is supposedly completely wound, and check that the knurled knob rotates. If it does not rotate, depress the measuring roller release pin and turn the knurled knob by hand, turning hard if necessary. Then again depress the starting switch until the film is completely wound.

4.10 When the film has been completely wound, operate the toggle switch on the left side of the camera to its "off" position, open the load-

ing chamber cover and remove the exposed film, exercising care to avoid any unrolling of the film or loosening of the paper trailer as this might permit the film to become light struck.

4.11 If the trailer is loose, roll the film to ensure that it is properly tight. Then fold under about one inch of the tip of the tapered end of the trailer and seal the roll securely with the paper sticker found near the end of the trailer. Folding the end under facilitates breaking the seal in the developing room.

5. REPORTS

5.01 The required records should be entered on the proper form and, together with the films, forwarded in accordance with local instructions.