TM 11-6720-247-35

TECHNICAL MANUAL

DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE MANUAL

INCLUDING REPAIR PARTS AND SPECIAL TOOLS LISTS

CAMERA SET, STILL PICTURE KS-98A AND KS-98B

HEADQUARTERS, DEPARTMENT OF THE ARMY
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TECHNICAL MANUAL
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HEADQUARTERS
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ILLUSTRATIONS

CHAPTER 1

INTRODUCTION

1-1. Scope

a. This manual covers direct support, general support, and depot maintenance for Camera Set, Still Picture KS-98A and KS-98B. It includes instructions appropriate to direct and general support and depot maintenance for troubleshooting, testing, adjusting, and repairing the equipment and replacing specific parts. It also lists tools, materials, and test equipment for direct and general support and depot maintenance.

b. The complete technical manual for this equipment includes TM 11-6720-247-12.

NOTE

For applicable forms and records, refer to TM 11-6720-247-12.

1-2. Reporting of equipment Publications Improvements

Reporting of errors, omissions and recommendations for improving this manual by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to DA Publications) and forwarded direct to Commanding General, US Army Electronics Command, ATTN: AMSEL-MA-SNV, Fort Monmouth, NJ 07703.

1-3. Indexes of Publication

a. DA Pam 310-4. Refer to latest issue of DA Pam 310-4 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

b. DA Pam 310-7. Refer to DA Pam 310-7 to determine whether there are Modification Work Orders (MWO's) pertaining to the equipment.

CHAPTER 2

FUNCTIONING

Section I. MECHANICAL FUNCTIONING

2-1. Camera Body

The camera body includes three major subelements: adapter back, focusing mechanism and rangefinder. All are built about a camera body which permits the assembled body to accommodate lenses ranging from 58-mm to ***180-mm*** focal length on a 2 1/4 ***x*** 2 3/4 format.

a. The rigid adapter back is permanently attached to the spacer. Interchangeable film holders or adapters are attached to the camera body through the back plate locking mechanism (para 2-4).

b. The focusing mechanism consists of a focusing ring focusing guide and an infinity stop. The mechanic21 design of the focusing guide establishes the axial rigidity of the focusing ring. Three mating lugs in the focusing ring and the focusing guide permit attachment of the lens barrel and prevent rotation of the lens on axis as the focusing ring is rotated through its range of approximately 100º. The limit of rotation is established by a fixed mechanical stop and an adjustable infinity stop pin, thereby fixing the distance to the focal plane of the camera unit. Manual rotation of the focusing ring translates outward or inward movement to the lens barrel.

c. The rangefinder/viewfinder (fig. 2-l) is coupled to the lens barrel by means of a cam follower lever, rangefinder cam and infinity stop pin. When changing lenses the coupling operation must be performed. With the focusing ring rotated to its infinity position, plunger A acting through lever A moves the spring-loaded shaft and lever B out of the locked position, freeing plunger B. Downward pressure on plunger B releases the clutch allowing the cam follower lever and main lever follower to assume the infinity position against the rangefinder cam in the lens and barrel. At the same time, the main lever moves into a contact position with the main lever follower. As the main lever adjusts, its pivoting movement rotates the mirror shaft causing the moveable mirror to change its angle in the viewing path.

NOTE

Depending upon the focal length of the lens, the main lever can be pushed into the infinity position by the main lever follower rather than being free to move against the follower.

When plunger B is released and the focusing ring moved off infinity, pressure against plunger A is released. Lever B is also released and allows it to be returned to its locked position beneath the stop collar on plunger B. Lever B is constantly pressed against plunger B to prevent any change in the infinity setting until the lens and barrel is changed.

d. Parallax correction (figs. 2-2 and 2-3) in the rangefinder/viewfinder is accomplished from the primary movement of the cam follower lever against the rangefinder cam after the system has been coupled. As the focusing ring is rotated, the pin on the cam follower lever follows the curve of the rangefinder cam causing the interlocked follower lever to pivot and move the main lever. A flange on the parallax coupling lever contacts the edge of the main lever and pivots as the main lever is driven. One end of the mask actuator is located through a slot in the upper arm of the parallax coupling lever. As the lever is actuated, motion is translated to the mask actuator causing the position of the mask to shift upward. Springloading of the mask actuator constantly presses the mask downward against the arm of the mask actuator insuring positive mask positioning.

e. The lens and barrel can not be removed from the camera body unless it is deliberately unlocked (fig. 2-4). The focusing ring is rotated to the unlocked position. Pressure on the lens release button exerts direct force on the pivoted leaf spring and cam follower lever. This pivots

the cam follower lever out of contact with the rangefinder cam and simultaneously withdraws the lock plunger from the focusing ring bearing. The focusing ring is uncoupled for final movement to the align4 position (of drive pins and guide lugs) and the lens and barrel can be removed from the camera body.

2-2. Film Holders, RH/10 and

The RH/10 and RH/20 roll film holders consist of three functional components : dark slide, frame and cover assembly and carriage complete.

a. The dark slide is held in place by friction between the slide and the channels in the frame and cover. With dark slide properly inserted, a loaded holder can be removed from the camera body without risk of exposing the film.

b. The frame and cover assembly provides the light-tight closure for the film carriage. Film flattening rollers cemented into ‘the frame in a parallel position, rotate from the friction of the film being drawn through the film plane and prevent the film from buckling while in the film plane position. The cover is attached to the frame

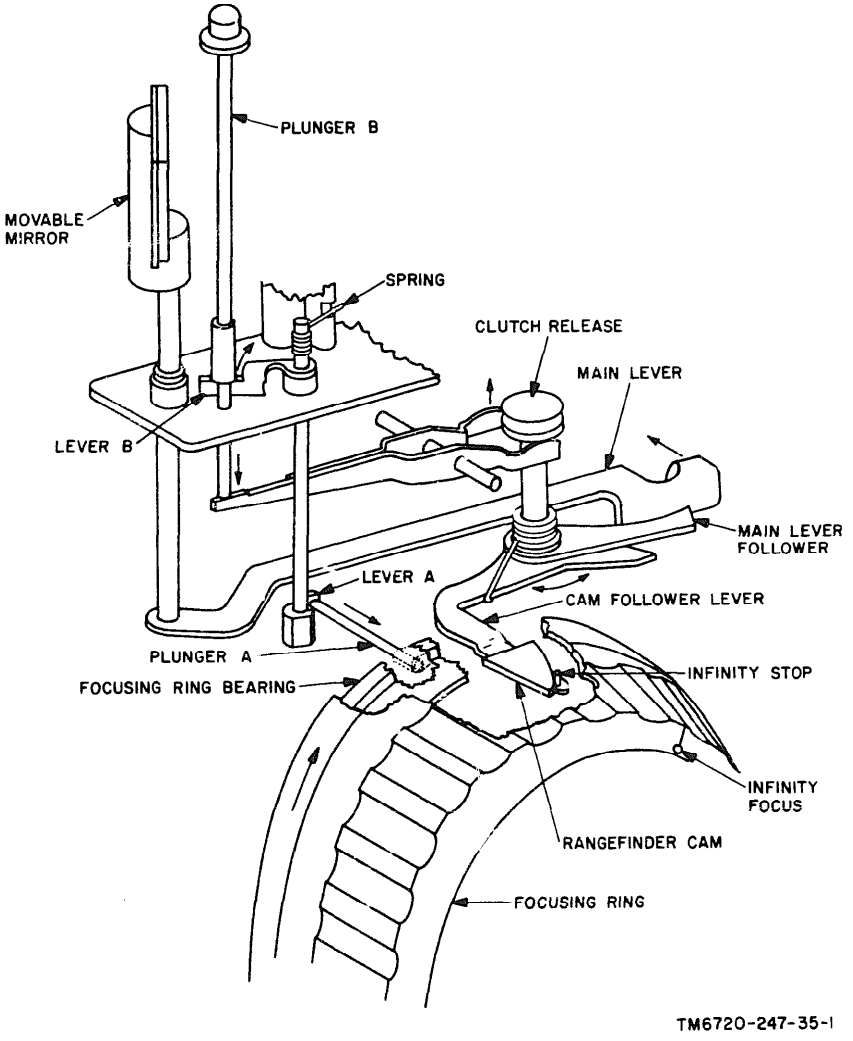

Figure 2-l. Rangefinder/viewfinder infinity coupling, schematic diagram.

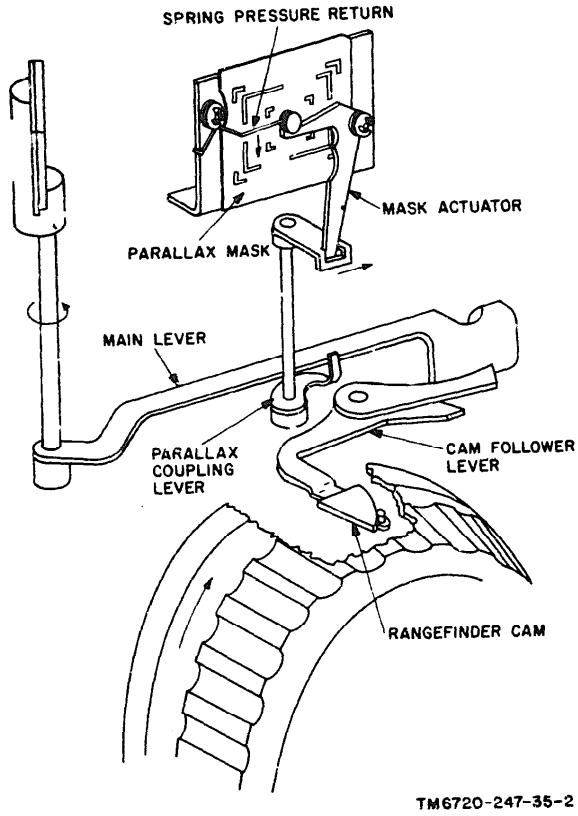

Figure 2-2. Rangefinder/viewfinder parallax correction, schematic diagram.

by means of a piano-type hinge which pivots on an upset straight pin. The locking mechanism is discussed in paragraph 2-4.

c. The carriage complete (fig. 2-5) is the mechanism for transporting film from the supply to the take up spool through the exposure path. The film advance lever is keyed to the take-up spool. As the film advance lever is actuated one full stroke, the ring gear is rotated in the direction of the lever advance stroke. Two opposing planet pinions within the ring gear are driven in the' opposite direction and in turn, drive the sun pinion in the direction of the film advance lever movement. The planed- gear carrier, lock ratchet and film advance pinion are rotated in the same direction as the film advance lever. The spooling key (not shown) is also rotated in. the same direction, causing the take-up spool to rotate. The springloader planet gear carrier acts as a clutch causing the free return of the film advance lever upon completion of the stroke. An intermediate gear is driven by the film advance pinion and in turn drives the counter gear. On the intermediate gear shaft is a spring-loaded lock lever. In the locked position the lever engages a tooth in the lock ratchet and prevents movement of the film advance lever until it is manually moved to the unlocked position. This is a pivoted movement of the lock' lever which causes the leaf spring on the underside of the lock lever (see inset) to enter a tooth on the metering cam which prevents the spring-loaded lever from reengaging the

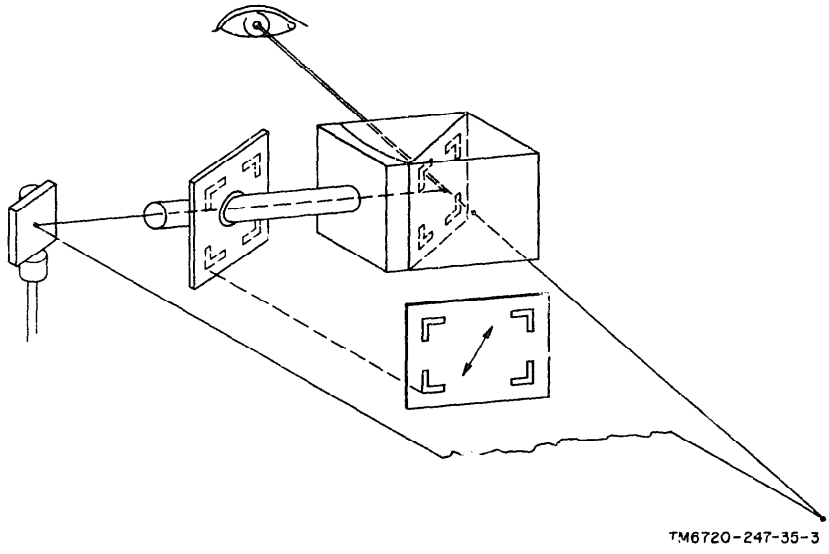

Figure 2-3. Optical *schematic diagram.*

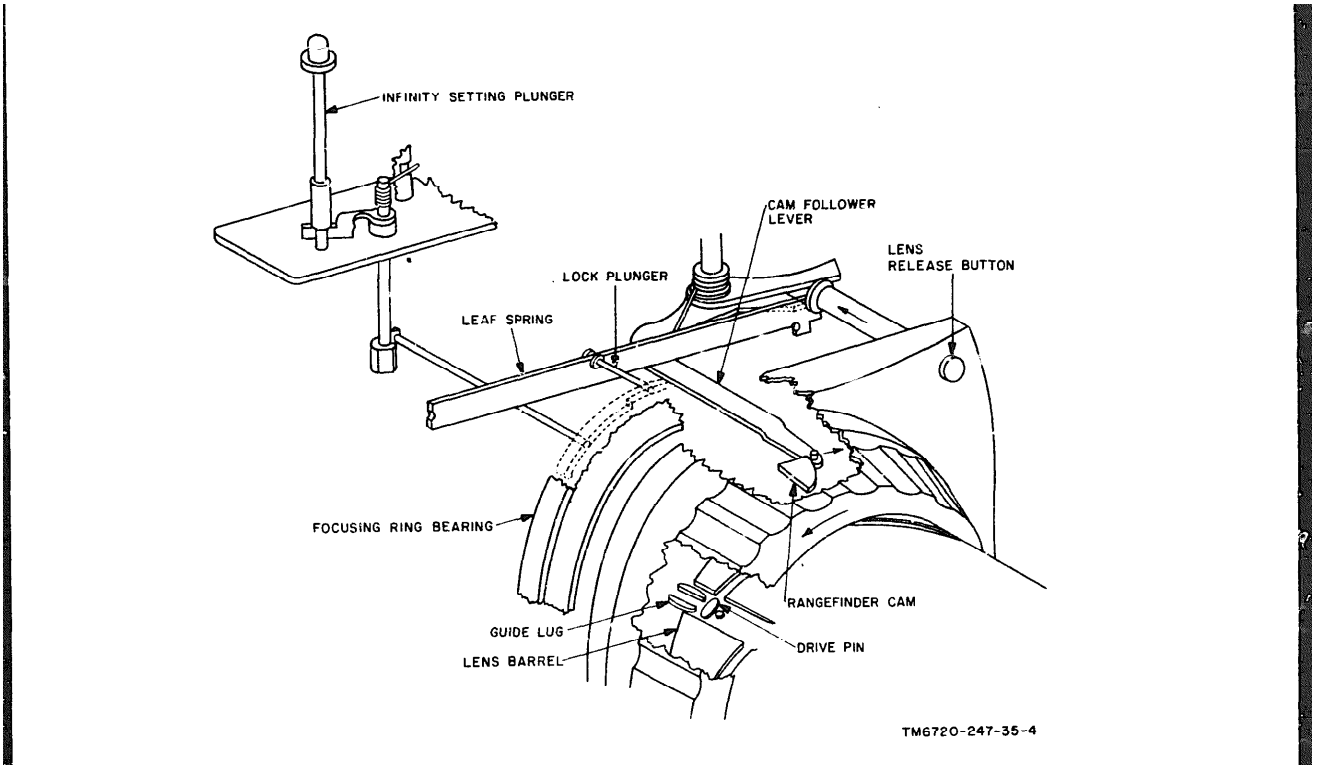

Figure 2-4. ***Lens*** and ***barrel removal,*** schematic ***diagram.***

cam. The pivoting action of the lock lever also causes it to disengage the lock ratchet which frees the mechanism for further film advance. Riding against the underside shoulder of the metering cam is the counter engaging lever. Two projections on the shoulder engage the spring-loaded counter engaging lever in sequence as the lever is being pressed against the shoulder through its spring load. As a projection is engaged, this "locks" the cam and exposure dial and prevents rotation of both upon completion of the last exposure. When the counter engaging lever is in the locked or idle position the metering cam is also aligned to hold the lock lever in the idle position and provide free movement of the film advance lever. The counter mechanism can be reactivated only by manually turning the counter dial to the "start" position. From the "start" reset of the exposure dial, the geometry of the metering cam still acts to retard the lock lever and provide free movement of the film advance lever. From "start" to first exposure position the mechanism is in the idle mode which provides for leader take-up but does not lock. First exposure position automatically resets all mechanisms.

d. Because of the manufacturers' difference in spooling PO and 20 exposure film-one has backing paper the other does not-it is necessary to provide additional drag on 20 exposure film to prevent it from buckling during too fast film advance. This is accomplished by adding a leader takeup gear, an idler pinion and a brake spring to the gear train (fig. 2-5 inset). In all other respects the 20 and 20 exposure carriages are identical.

2-3. Film Holder,

The RH/50 roll holder has the same basic components as the roll holders previously described-dark slide, frame and cover assembly, and carriage. Other than physical size, the main difference exists in the mechanism within the carriage which transports film from the supply cassette through the film path into the take up cassette (fig. 2-6).

a. When advancing film, the film advance lever is manually actuated which loads the film advance lever spring which returns the film advance lever to its normal position when external pres-

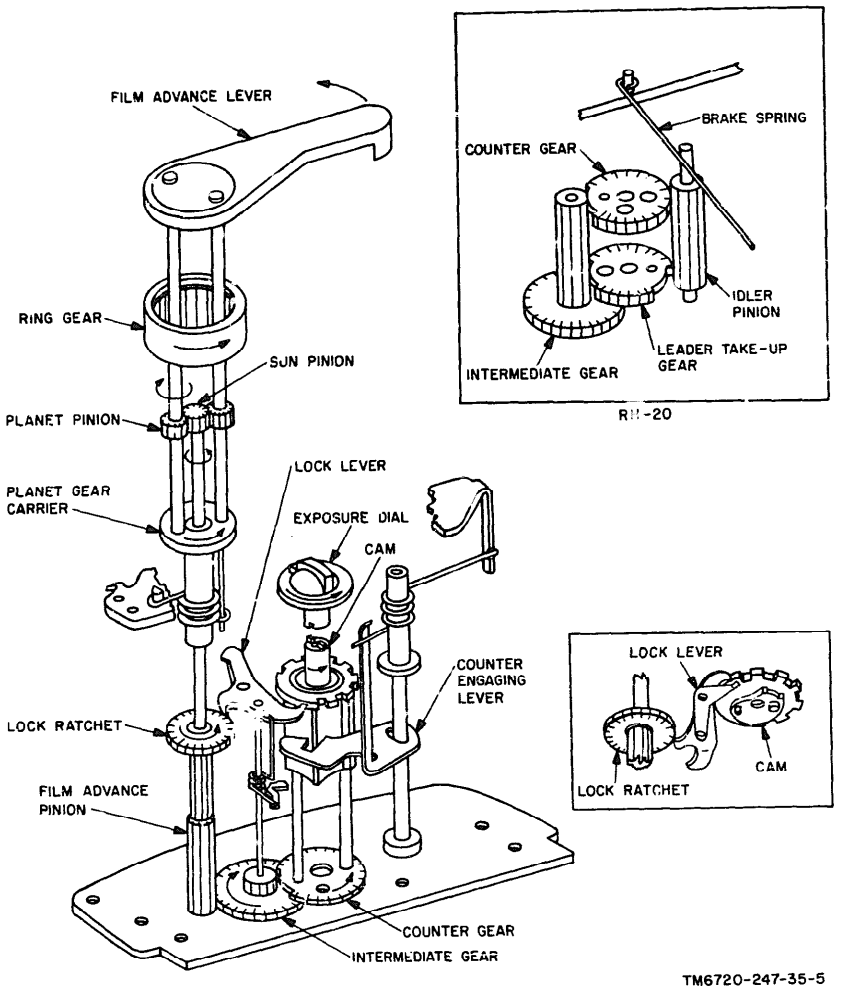

Figure 2-5. RH/10 anti RH/20 mechanism in idle position, schematic diagram.

sure on the lever is removed. A main gear on the lever hub is driven in the same direction as the action of the advance lever. in turn, the main gear drives the intermediate gear and the drive roller gear. The drive roller gear is attached to the main shaft of the film drive roller which causes the film drive roller to rotate at a synchronized rate. The rotating film drive roller "pushes" the film into the cassette and assists in spooling in the take-up cassette. The intermediate gear meshes with the take up gear on the film take-up shaft. A winding key at the end of the shaft is rotated as the take-up gear is driven by the intermediate gear. The key enters the take-up spool inside the cassette and rotates the spool in the take-up direction. The net effect of the "pushing" action of the roller and the "pulling" action of the spool causes minimum tension on the film with maximum positive spooling. A clutch spring on the take-up shaft constantly presses the take-up gear into the take-up direction and prevents any back lash on the winding key caused by the tension within the spooled film. A gear train brake located on the counter gear shaft provides the drag needed in the gear train to prevent too rapid film advance. A pin on the counter gear engages a tooth on the exposure dial and advances the dial one exposure mark each time the film advance lever is actuated. The exposure dial pawl, in contact with the toothed segment of the exposure dial, prevents backward movement of the dial.

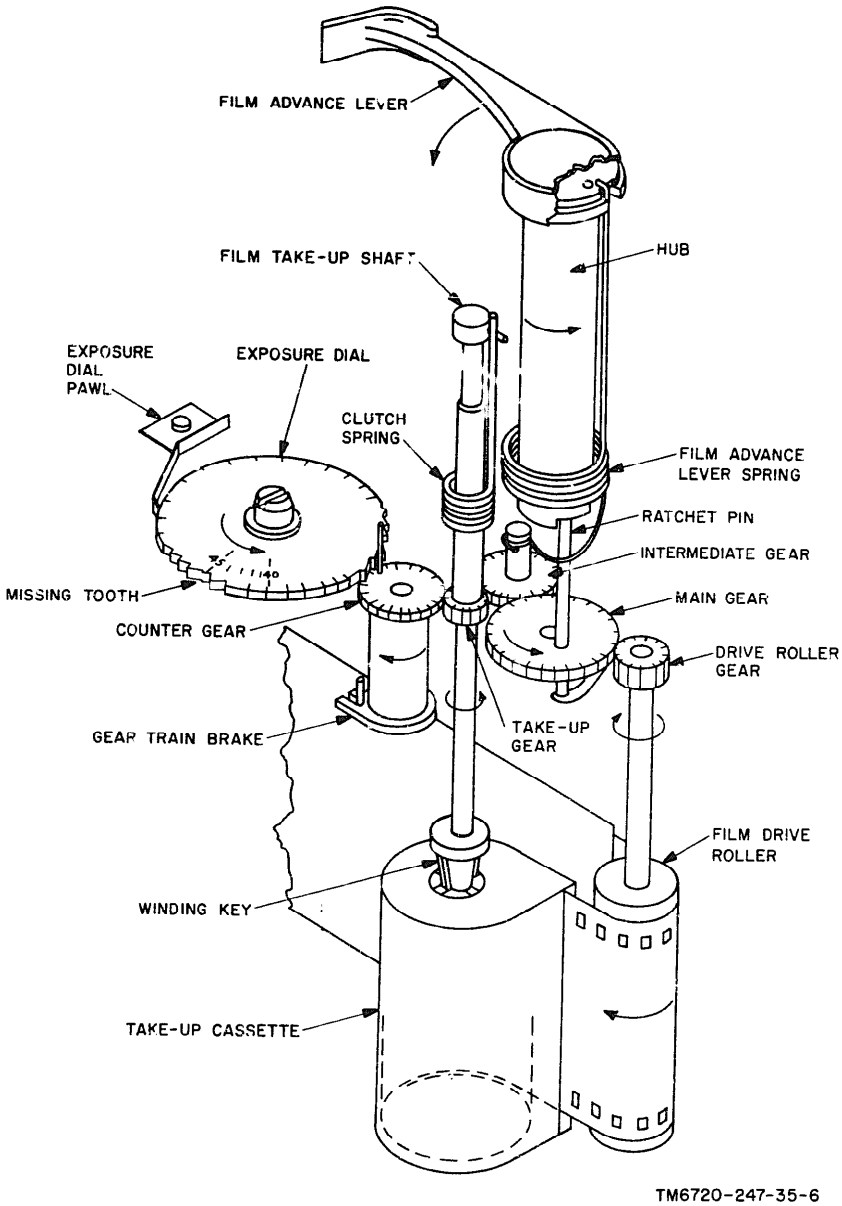

Figure 2-6. RH/50 mechanism in film advance position, schematic diagram.

b. A film running indicator is an extension of the main shaft on the supply roller. The friction between the film and the roller as the film is drawn past the roller causes the indicator roller main shaft to rotate.

c. The carriage is hinged at the bottom plate to permit insertion and removal of the cassettes. A lock mechanism (para 2-4) prevents the hinged base of the carriage from opening accidentally.

2-4. **Locking controls**

Two basic types of locking controls are used on components of the camera set. They serve the following purposes: attachment of components to the camera body, temporary prevention of movement in otherwise movable parts, locking of closures to prevent accidental opening.

a. Friction type locks depend upon frictional force created between two contacting surfaces. The primary frictional force can be increased by increasing the pressure of one member against the second member through application of an external pressure source.

b. Latching type locks depend upon the coupling of a latch member to its mating lock member. The positive action of the latch in the closed position depends upon springloading the latch to press it against its mating part. External force must be applied to overcome the spring tension holding the members in positive contact.

c. Lock chart.

Component	*Where used*	*Type*
Camera body	Lens release	Latch
	infinity setting **button**	Latch
	Back lock (2)	Latch
	Cable release	Latch
RH/10 and RH/20 film holders	Lever advance release	Latch
	Carriage cover release	Latch
RH/50 film holder	Carriage cover release	Latch
	Carriage bottom plate	Latch
Adapter back	Slidelock	Friction
Camera handle	Position Lock	Friction
Flashgun	Mounting Lock	Latch

Section II. LENS AND SHUTTER

2-5. General

The between-the-lens shutter is mounted on a circular lensboard which is secured to a lens barrel, When the true focal length of the lens has been measured, the distance scales are engraved on the barrel and a cam is fitted inside the barrel. Once assembled, the lens and barrel cannot be interchanged for repair without completely refitting the components. The assembled combination of lens and fitted barrel is completely interchangeable with any camera body. The basic function of the shutter is to provide a means for cocking or tensioning the shutter blades and releasing them to permit entry of light at the film plane, The secondary functions of shutter speed, bulb (open shutter), flash synchronization, diaphragm opening, self-timing and press focus are preselection features significant only between the basic shutter cocking and release operations. This section will consider only the mechanical elements of the shutter; the optical elements will not be discussed.

2-6. Shutter Cocking (fig. 2-7)

Clockwise movement of the cocking lever, which is part of the cocking ring, rotates the ring, Gear teeth on the ring engage the cocking ring pinion driving it against a tab on the drive. The drive contacts the bridge to the shutter release latch and latches in the cocked position. The cocking mechanism is under tension from the springs attached to the cocking ring and to the drive.

2-7. Shutter Release (fig. 2-8)

When the release lever is pressed an area on the lever contacts a tab on the bridge and pivots the bridge out of contact with the spring loaded drive. As the drive is being pressed to its “rest” position by-the spring, a tab on the drive contacts a pin on the blade control ring driving it in a counterclockwise direction. Pivot studs on the blade control ring in contact with the travel slots on the shutter leaf blades cause the blades to swing open, and as the blade control ring reaches its limit of rotation and returns, the blades swing closed. The shutter blade derives its swinging motion from its sandwiches position between the shutter leaf plate (fig. 2-9) and diaphragm plate. A stud on the leaf fits into a corresponding hole on the leaf plate. A slot in the leaf fits over a corresponding stud on the ring. As one member moves and the second member remains stationary, the blade is pivoted outward and inward to open and close.

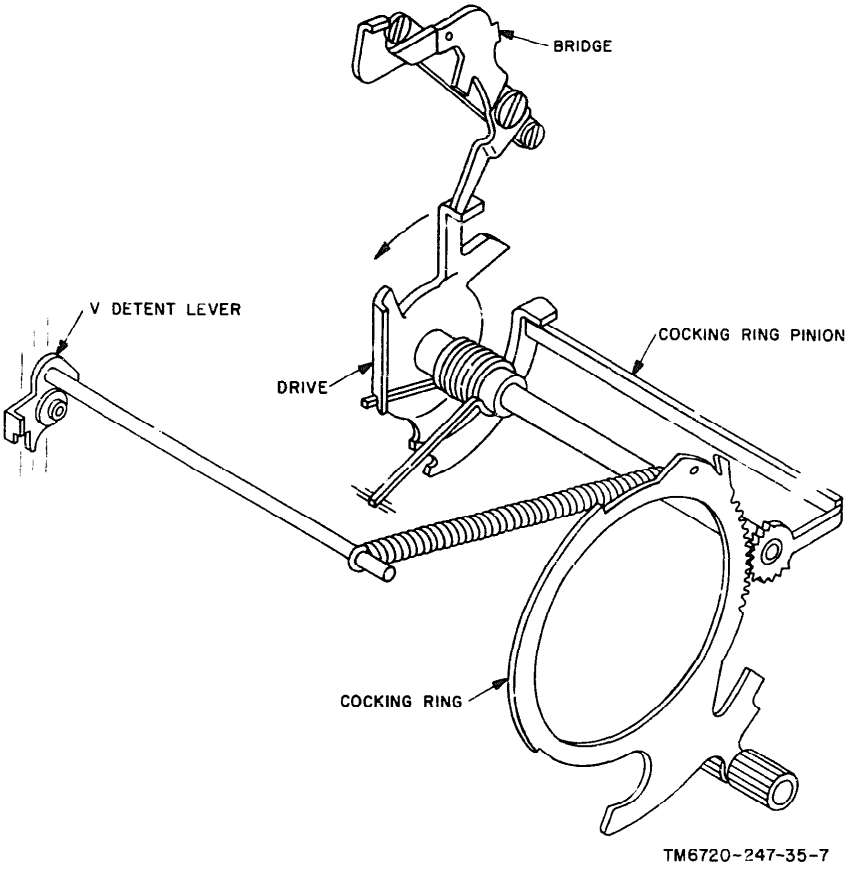

Figure 2-7. Shutter cocking mechanism, schematic diagram.

2-8. Press Focus (fig. 2-9)

NOTE

While the camera set has no equipment which would require the operator to use this feature of the shutter, its mechanical elements must be considered.

With the shutter cocked, depressing the press focus lever rotates the shutter leaf plate in a clockwise direction. Limit of rotation is controlled by the pivoted movement of the drive slot in the blade opening lever as the lever is manually moved. Returning the lever to the closed position reverses the movement of the leaf plate and causes the shutter blades to close. Action of the shutter blades is the same as described in paragraph 2-7 above except that the leaf plate is the driven member and the blade control ring remains stationary.

2-9. Speed Variations (fig. 2-10)

Speed of the shutter is controlled through an escapement mechanism. Action of the mechanism is determined when the speed setting ring is rotated to the desired speed which sets up the retarding contact points within the escapement. When the cocked shutter is tripped the drive is released. This opens the shutter blades (para 2-7). The blades remain open until the escapement gear train has run down and releases the drive. Escapement delay can be introduced at point B, C or D or in combination, or as in the case of maximum shutter speed, bypassed entirely. Slowest shutter speed utilizes the delaying action of the entire escapement gear train.

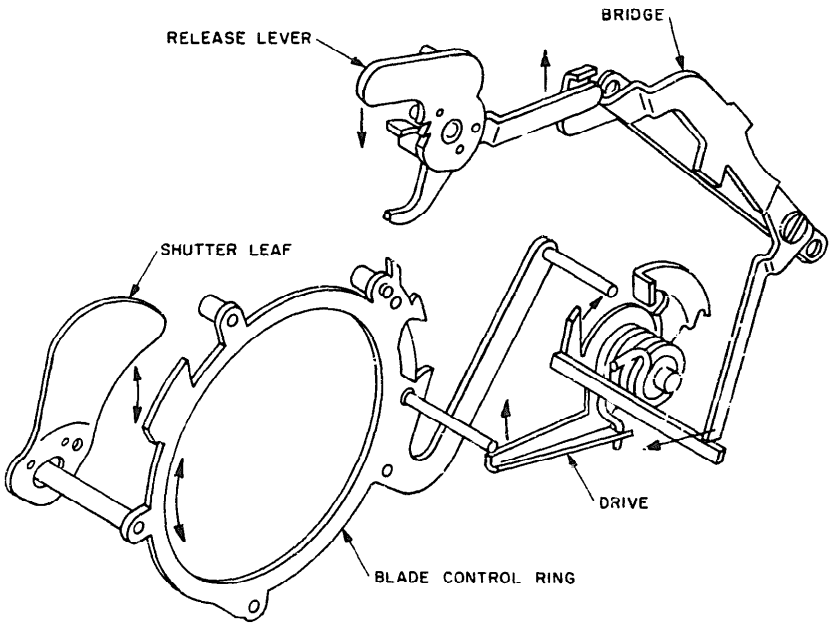

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Figure 2-8. ***Shutter release mechanism, schematic diagram.***

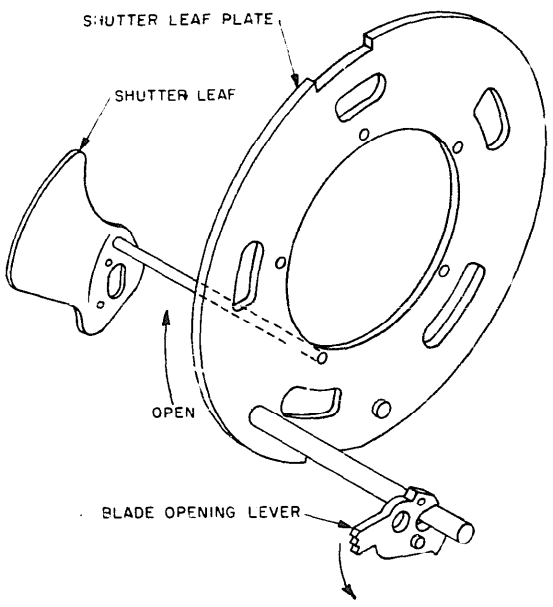

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Figure 2-9. Press focus mechanism, schematic diagram.

2-10. Synchronization
(fig. 2-11)

When the cocking ring is actuated (shutter cocked) post A on the cocking ring contacts a lever on the M detent and cocks the sync mechanism. As the shutter is released tab B on the blade control ring contacts the M detent lock lever and is prevented from further movement. At the same time flash contact is made and shutter delay through M and X contact levers is started by releasing the action of the M detent and introducing the delaying action of the spur and escapement gears (17 ms) (fig. 2-10). Upon completion of the escapement travel the M detent lock lever (fig. 2-11) is released and the blade control ring is free to complete its movement and fully open the shutter blades. In the X sync mode tab B on the blade control ring bypasses the M sync mechanism and contacts the sync lever directly. At point of contact the shutter blades are ***in*** the fully open position.

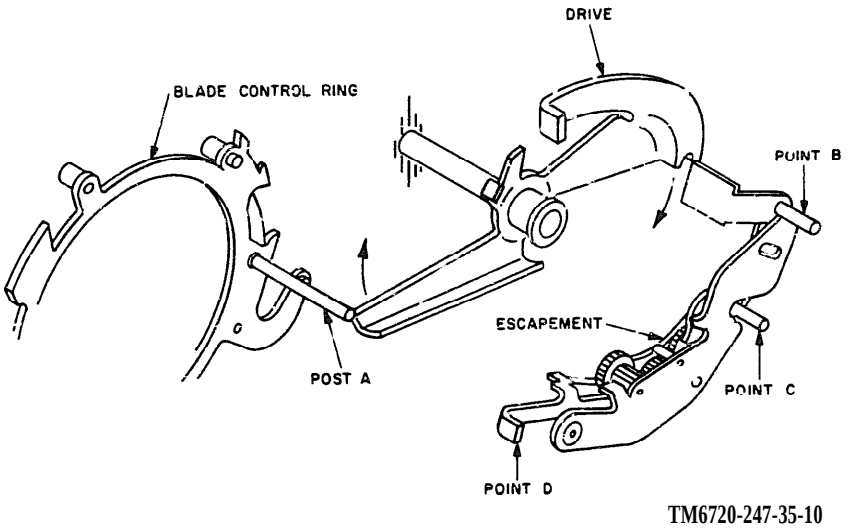


Figure 2-10. Shutter speed setting, schematic diagram.

2-11. Bulb

When the speed setting ring (fig. 2-13) is set to the bulb position (B on scale) the slotted cam ring (fig. 2-12) is positioned as shown, with the release lock post A is in contact with the slotted cam ring at the widest end of the slot. When the cocked shutter is tripped and held in the tripped position the shutter blades are re-

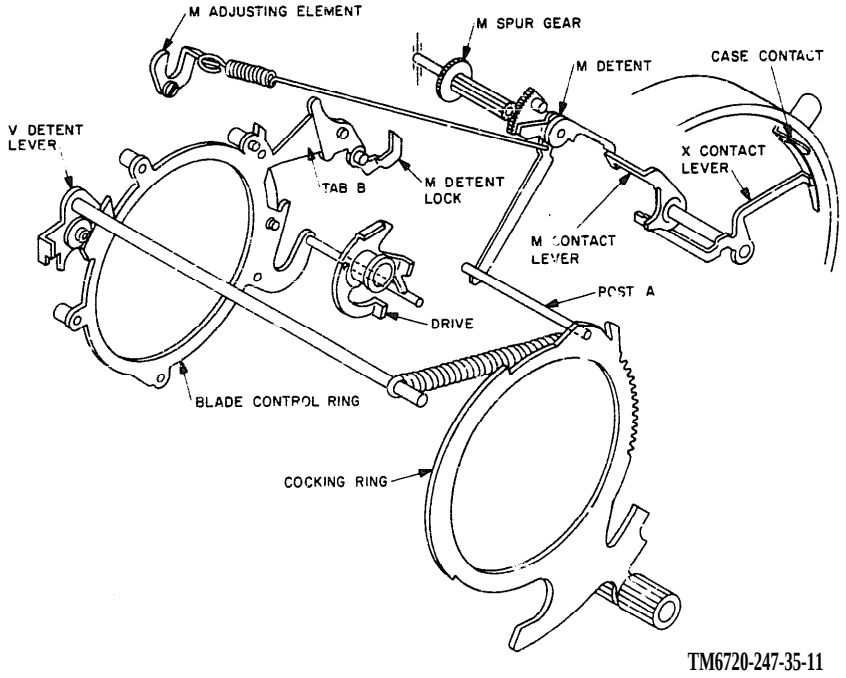


Figure 2-11. Synchronization, schematic diagram.

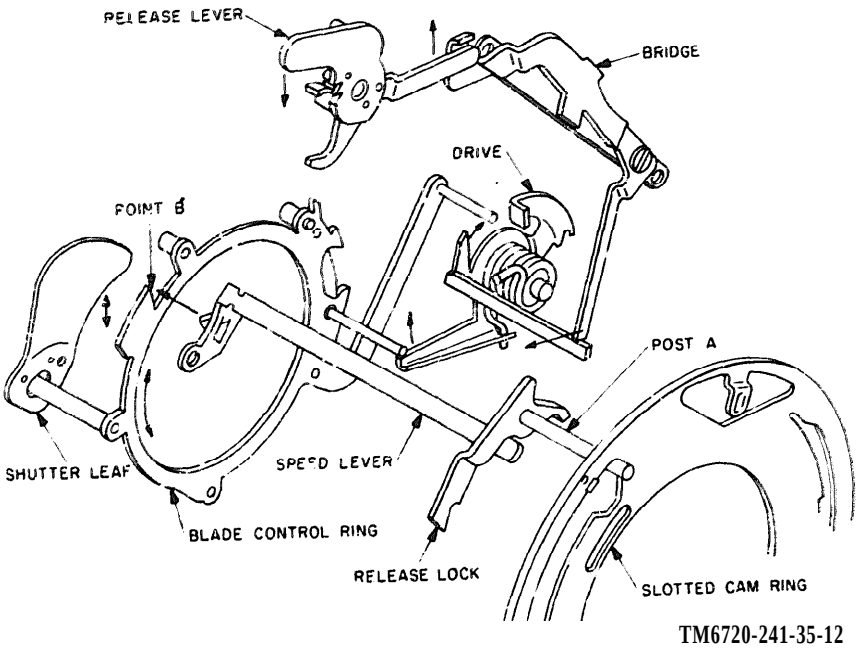


Figure 2-12. Bulb position, schematic ***diagram.***

leased as in normal shutter operation. After the shutter opens, the prepositioned release lock allows the speed lever to escape and latch against the blade control ring at point B. This retards the control ring and prevents further rotation needed to close the shutter blades. So long as the release lever is held down the locking action is continued. Releasing the lever releases the speed lever and allows the blade ring to complete its rotation to close the shutter blades.

2-12. Self Timing
(fig. 2-13)

To use self-timing the shutter must be cocked. Movement of the MXV lever to the V position on the shutter cocks the self timer gear train through the linkage of Post A to the slotted cocking lever on the self-timer gear train. A locking lever on the train positions against the cocking ring and prevents the self-timer train from running until the shutter is released. The V detent lever, is moved in contact with the blade control ring to prevent the ring from rotating when the shutter is released. Release of the shutter moves the locking lever on the gear train and allows the gear train to run down (8-12 seconds). The V detent and speed lever disengage the blade control ring and allow the shutter to operate normally at any exposure time setting. At the self-timing position only X sync can be used for flash; M sync is automatically excluded.

2-13. Diaphragm Setting

Setting the diaphragm opening is entirely a manual operation and does not involve any of the moving mechanisms in the operation of the shutter. A stud on the diaphragm leaf rides in a slot in the diaphragm plate. The leaf is sandwiched between the top and bottom diaphragm plates, one plate having a stud which enters a hole in the leaf. A pin in the lower diaphragm plate extends through a slot in the shutter ease and through the diaphragm setting ring. Manual movement of the lever attached to the setting ring opens and closes the diaphragm. A detent action against the setting ring provides positive setting at any f-stop number and prevents accidental movement off the stop.

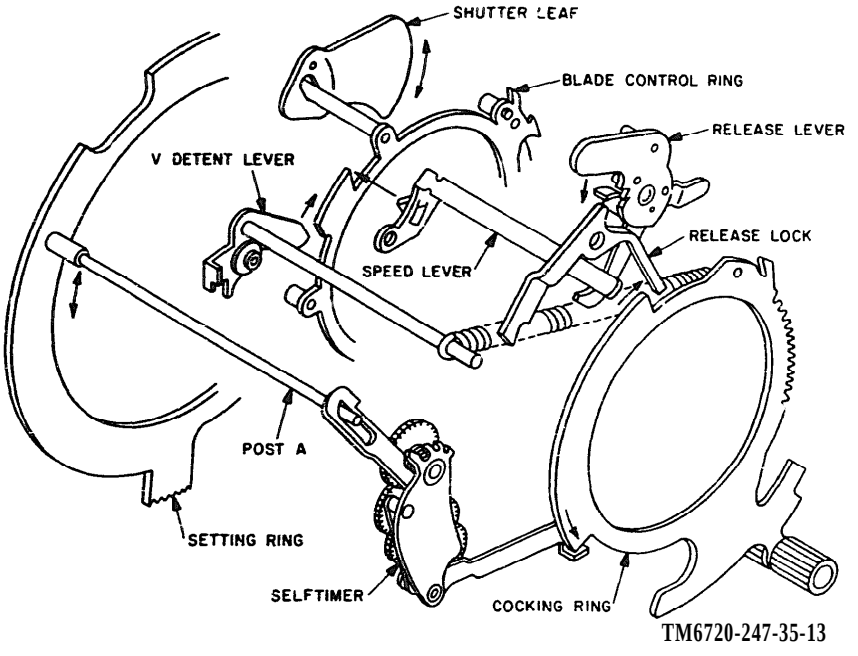


Figure 2-13. Selftimer operation, schematic diagram.

CHAPTER 3

DIRECT AND GENERAL SUPPORT MAINTENANCE

Section I. GENERAL TROUBLESHOOTING INFORMATION

3-1. General Instructions

a. Troubleshooting at direct support (DS) and general support (GS) includes all techniques outlined in Operator and Organizational Maintenance Manual TM 11-6720-247-12. The direct support and general support maintenance procedures are not complete in themselves but supplement the procedures described in organizational maintenance. The systematic troubleshooting procedures, which begin with the operational and sectionalization checks performed at an organizational maintenance category, must be completed by further localization and isolation techniques.

b. Troubleshooting may he performed while the equipment is operating or, if necessary, after the equipment (or part of it) has been removed from service. When trouble occurs observation will usually disclose the component or the specific assembly or part that is causing trouble. This type of troubleshooting is usually performed at the organizational level while the equipment is in operation. Troubleshooting at the direct and general support and depot maintenance categories is usually performed with the component removed from the equipment with which it is normally associated. Paragraph 3-2 described the systematic procedures to be followed which will enable maintenance personnel to isolate the cause of the trouble and correct the fault.

3-2. Organization of Troubleshooting Procedures

a. The first step in servicing defective equipment is to sectionalize the fault. Sectionalization means tracing the fault to the major component. Refer to TM 11-6720-247-12 for sectionalizing procedures. The second step is to localize the fault. Localizing means tracing the fault to a defective section of the component. The third step, isolation, means tracing the fault to a defective replaceable part or parts. Some faults, such as malfunctions of the lens and shutter assembly, can be isolated by sight, touch, hearing or if necessary, by detailed mechanical and/or optical tests.

b. Information relevant to localizing and isolating troubles in the camera body, the various carriages for the film holders, and the lens and shutter assembly is presented in section II. in most cases, particularly with the camera-body and the carriages, the trouble will be isolated to a particular area of the component at the organizational category of maintenance.

3-3. Tools, Test Equipment and Materials Required

a. Tools and Test Equipment

(1) Tool Kit, Photographic Repair TK 109/GS (FSN 5180-856-9653).

(2) Tool Kit, Photographic Repair TK 77/GS (FSN 5180-752-9068).

(3) Screwdriver, Torque (FSN 5120-937-*7064).*

(4) Rear Eyepiece (FSN 6720-930-6229).

(5) Master Barrel and Dial Indicator (FSN 6720-937-6801).

(6) Focusing Bench, Spring Clip and Plug Assembly (FSN 6720-937-6803).

(7) Drill Bushing (FSN 5110-037-7400).

(8) Burr, Dental (FSN 3455-937-9334).

(9) Spot Drill (FSN 5110-832-5054).

(10) Time interval Meter (Multimeter) TS-*352* B/U.

b. Materials

(1) Trichlorethylene (FSN 6810-754-2813)

(2) Glyptol (FSN 8040-772-7261)

(3) Molykote type Z, or equivalent

(4) Lubricating Oil, General Purpose (FED VV-L-820)

(5) Unitemp Grease (ANG 25-AM2)

(6) FS-1290 Grease

(7) DC-44 Grease

(8) Wax, Paraffin, Technical (FSN 9160-285-2044)

(9) Sealant, Grade E

(10) Adhesive, EC847, or equivalent

(11) Adhesive, EC1357, or equivalent

(12) Crystal Clear Krylon No. 1303

(13) Lint Free Cloth, (FSN 8305-170-5062)

(14) Camels-Hair Brush (FSN 8020-245-4509)

(15) Lens Tissue (FSN 6640-393-2090)

(16) Lens Cleaner (FSN 8040-264-3853)

Section II. TROUBLESHOOTING CHART

3-4. Camera Body Troubleshooting

a. General. Usually, the general area of trouble will be obvious as a deviation from normal action (such as controls that are out of adjustment). Use the **chart *(b*** below) as a guide in isolating the trouble in the camera body.

b. Camera Body Troubleshooting Chart.

Item	*Symptom*	*Probable trouble*	*Corrcction*
1	Double image _	Mirror on mirror mount out of adjustment.	Adjust the mirror adjustment set screw (para 4-14q).
2	Cannot focus accurately at infinity.	Infinity setting set screw out of adjustment.	Adjust set screw (para 4-14p).
3	Parallax mechanism not functioning properly.	Framing lever assembly out of adjustme..:.	Adjust framing lever assembly (para 4-14r).
4	Infinity setting (clutch release) button can be depressed at any distance setting.	Clutch release latch out of adjustment.	Adjust clutch release latch (para 4-14n).
5	Picture out of focus _ _	a. Camera body stack height out of adjustment.	a. Correct stack height (para 4-14m).
		b. Broken lug on focusing ring . . - - -	***b.*** Replace focusing ring (para 4-15).
6	Loose lens barrel in axial travel	Broken or ***worn*** lug ***on*** lens barrel guide (2, fig. 4-5).	Replace worn lens barrel guide. NOTE This repair can be made without removing the lens mount support complete (fir 4-1) from the camera body. Follow the applicable procedures (para 4-2d) for removal of the focusing ring, (para 4-6) for removal of the lens barrel guide, (para 4-10) for assembling the lens barrel guide and adjustment of the lens mount support complete and (para *4-14l* through 4-14m) for installation of the focusing ring.

3-5. RH/10, RH/20, and RH/50 Carriage Troubleshooting

a. General. Most troubles will be obvious and can be localized during operation of the equipment. Use chart ***(b, c,*** and ***d)*** below as a guide in isolating trouble with the specific carriage involved.

b. RH/10 Carriage Complete Troubleshooting Chart.

Item	*Symptom*	*Probable trouble*	*Correction*
1	Film does not transport _ -	Defective advance mechanism . _ _ _	Repair or replace defective advance mechanism components.
2	Counter dial inoperative .	Defective counter driving mechanism	Repair or replace defective counter driving mechanism components (fig. ***5-2).***

Item	symptom	Probable trouble	Correction
3	Film winds through without stopping on numbers.	Lock lever spring (12, fig. S-2) broken or unhooked.	Rehook or replace spring.
4	Skipped frames on film	a. Defective cam (19, fig. S-2)	Replace cam.
		b. Defective counter engaging lever (15, fig. 5-2).	Replace lever.
5	Film advance lever binds before completing full swing.	Top Plate Assembly (5, fig. 5-2) out of alignment.	Loosen screws (2.3 and realign (para 5-15h).

c. RH/20 Carriage Complete Troubleshooting Chart.

Item	Symptom	Probable troublc	Correction
1	Film does not transport	Defective advance mechanism	Repair or replace defective advance mechanism components.
2	Counter dial inoperative	Defective counter driving mechanism	Repair or replace defective counter driving mechanism components (fig. 5-5).
3	Film winds through without stopping on numbers.	Lock lever spring (13, fig. 6-5) broken or unhooked.	Rehook or replace spring.
4	Skipped frames on film	a. Defective cam (22, fig. 5-5)	Replace cam.
		b. Defective counter engaging lever (16, fig. 5-5).	Replace lever.
5	Film advance lever binds before completing full swing.	Top Plate assembly (5, fig. 5-5) out of alignment.	Loosen screws (2, 3 and 4) and realign (para 5-15h) .

d. RH/50 Carriage Complete Troubleshooting Chart.

Item	*Symptom*	*Probable trouble*	
1	Film does not transport	Defective advance mechanism	Repair or replace defective advance mechanism components.
2	Exposure counter dial inoperative.	Defective counter driving mechanism	Repair or replace defective counter driving mechanism components.
3	Exposure counter dial free wheels in either direction.	Exposure counter dial paw1 (32, fig. 5-7) bent or broken.	Bend to correct shape or replace.
4	Film advance lever binds before completing full stroke or does not return.	Film advance lever spring (26, fig. 5-7) unhooked or broken.	Rehook or replace spring.

3-6. Lens and Shutter Troubleshooting

a. General. If the shutter operates erratically, a complete operational test is required to determine the extent of shutter malfunction. The operational test consists of operating the shutter with the controls set to various positions (TM 11-6720-247-12). Procedures for checking shutter speeds and synchronism mechanism are given in chapter 7.

b. Shutter Mechanism Troubleshooting Chart

Item	Symptom	Probable troublc	Correction
1	Sluggish blade action	Dirty or worn blade control ring assembly.	Clean or replace worn blade control ring assembly (19, fig. 6-S).
2	Loose or disengaged shutter leaves.	Loose case screws	Disassemble and refit shutter leaf assemblies (22, 23, and 24, fig. 6-5).
3	Stiff diaphragm movement	a. Broken stud on diaphragm leaf assembly.	Replace diaphragm leaf assembly (3, fig. 6-6).
		b. Loose blade cover screws	Disassemble and refit diaphragm leaf assembly (3, fig. 6-6).
4	Sluggish shutter movement	a. Broken cocking ring spring	a. Replace cocking ring, spring (2, fig. 6-3).
		b. Dirty or defective escapement assembly.	b. Clean or replace escapement assembly (5, fig. 6-3).
		o. Damaged M detent assembly	c. Replace M detent assembly (16, fig. 6-4).
		d. Damaged M spur gear assembly	d. Replace M spur gear assembly (17, fig. 6-4).
5	Synchronizer inoperative	a. Damaged M detent assembly	a. Replace M detent assembly (16, fig. 6-4).
		b. Damaged M spur gear assembly	b. Replace M spur gear assembly (17, fig. 6-4).

Item	symptom	Probable trouble	Correction
		c. Defective bridge assembly	c. Replace bridge assembly (10, fig. 6-4).
		d. Broken X contact lever assembly	d. Replace X contact lever assembly (11, fig. 6-4).
6	Shutter goes through on bulb setting.	Defective speed lever	Replace speed lever (3, fig. 6-5).
7	Electrical shorts	Defective X contact lever assembly	Replace X contact lever assembly (11, fig. 6-4).
8	Sluggish self-timer action	Dirty or defective self-timer assembly.	Clean or replace self-timer assembly (6, fig. 6-4).

CHAPTER 4

DISASSEMBLY AND REASSEMBLY OF CAMERA BODY

Section I. DISASSEMBLY

4-1. Consideration Before Disassembly

Before attempting to disassemble the camera body, sectionalize the trouble (TM 11-6720-247-12) to the subassembly that is at fault. Make sure tools and test equipment are available to do the repair or adjustment. If tools and test equipment are not available, the component must be referred to a higher category for repair or test. Disassemble the camera body only as far as necessary to reach a defective part. Perform the complete disassembly given in the following paragraphs when it is necessary to cover complete cleaning, lubrication and major overhauling of the camera body.

4-2. Removal of Camera Body Components (fig. 4-1

CAUTION

The threads of many screws used in the camera body assembly have been coated with a sealant. Softer, the sealant by applying heat to the screw head with a pencil-type soldering iron before removing the screw.

a. If necessary, detach rubber eye shield (1). (The eye shield is not shown in the illustration.)

b. Remove two slide straps (2) and neck strap ***(3).***

c. Remove the compound (black lacquer stick) covering the infinity setting setscrew (4) and remove ***setscrew.***

NOTE

In repair requiring only adjustment of the infinity setting .et screw (4), it is not necessary to remove the compound. Use a jewelers screwdriver, locating the head of the screw through the compound, and adjust set screw.

d. Remove one focusing ring set screw (5). If the focusing ring (6) is not going to be replaced, insert a colored lead through screw h focusing ring and color code the spot-d located directly underneath. Remove tw ing set screws (6) and lift off the focu If it is necessary to replace the focu refer to paragraph 4-16.

e. Remove any combination of 0.002 flat washers (7) or 0.004 inch thick fla (8) that have been used.

f. Remove two long machine screws short machine screws (10) ; remove 1 assembly (11) with two base plate spn attached. Remove two base plate springs

g. Remove four machine screws (13 the mounting plate assembly (14) mount support complete (15). The disas the mounting plate assembly is covert 11-6720-247-12. Refer to the procedu in paragraph 1-3 for disassembly of mount support complete.

CAUTION

When removing the lens mount su complete (15), lift the bottom of support out first. Do not bump th lower arm on the rangefinder asse ***(37).***

h. Remove three set screws (16), (top and one from each side and re front cover assembly (17). Refer to 1 given in paragraph 4-4 for disasseml front cover.

i. Remove three set screws (18), one top and one from each side, and rel cover assembly (19).

j. Remove one swivel stud ***(20),*** one : swivel (21) and one spring washer each side of camera body.

k. Remove one machine screw (23) side of camera body and lift off top

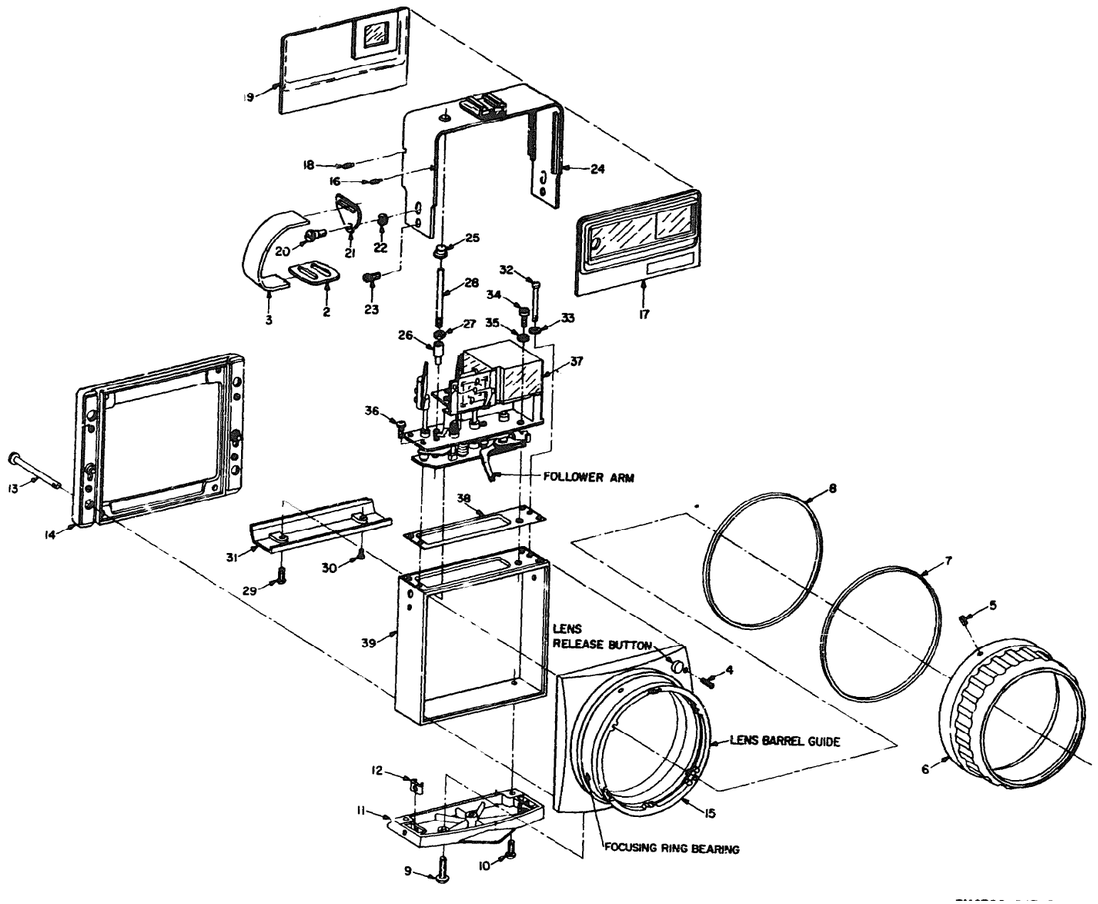


Figure 4-1. Camera body ***complete, exploded view.***

1. Eye shield (not shown) (1MP1)
2. Slide strap (1MP2)
3. Neck strap (1MP3)
4. Set screw (1H1)
5. Set screw (1H2)
6. Focusing ring (1MP4) (1MP5) (1MP6) (1MP7)
7. Flat washer (0.002 inch thick) (1H3)
8. Flat washer (0.004 inch thick) (1H4)
9. Machine screw (long) (1H5)
10. Machine screw (short) (1H6)
11. Base plate assembly (1A1)
12. Base plate spring (1MP8)
13. Machine screw (1H7)
14. Mounting plate assembly (1A2)
15. Lens mount support complete (1A3)
16. Set screw (1H8)
17. Front cover assembly (1A4)
18. Set screw (1H9)
19. Rear cover assembly (1A5)
20. Swivel stud (1H10)
21. Neck strap swivel (1MP9)
22. Spring washer (1H11)
23. Machine screw (1H12)
24. Top cover assembly (1A6)
25. Clutch release button (1MP10)
26. Clutch release tip (1MP11)
27. Machine nut (1H13)
28. Clutch release rod (1MP12)
29. Machine screw (long) (1H14)
30. Machine screw (short) (1H15)
31. Bottom cover (1MP13)
32. Machine screw (1H16)
33. Flat washer (1H17)
34. Machine screw (1H18)
35. Flat washer (1H19)
36. Machine screw (1H20)
37. Rangefinder assembly (1A7)
38. Body gasket (1MP14)
39. Camera body (1MP15)

Figure 4-1-Continued

sembly (24). Remove clutch release button (25) and clutch release: rod (28) with the clutch tip (26) and machine nut (27) attached. Remove clutch tip and machine nut.

l. Remove one long machine screw (29) and one short machine screw (30) and lift off bottom cover (31).

m. Remove two rear machine screws (32) and any quantity of flat washers (33) that may have been used, one machine screw (34) and any quantity of flat washers (35) that may have been used. Remove two machine screws (36) and carefully lift out rangefinder assembly (37). Remove body gasket (38) from the camera body (39).

NOTE

The rangefinder assembly (37) should not be removed from the camera body unless it is necessary to replace the entire rangefinder assembly. All authorized repairs and adjustments can be accomplished with the rangefinder mounted on the camera body (para 4-5).

4-3. lens Mount Support Complete, Disassembly (fig. 4-2)

a. Remove infinity stop pin (1).

b. Remove machine screw (2) and lens release arm spring (3).

c. Remove retaining ring (4), flat washer (5) and lift off lens release arm (6).

d. Remove lens release pin (9) with flat washer (7) and retaining ring (8) attached. Remove washer and retaining ring.

e. Unscrew lens release button (10) ; remove button and lens release plunger (11).

f. Remove six machine screws (12) ; remove lens barrel sleeve complete (13) and light baffle (14) from lens barrel support assembly (15). Refer to procedures given in paragraph 3-6 for disassembly of lens barrel sleeve assembly (13).

4-4. Front Cover Assembly, Disassembly (fig. 4-3)

a. Bend six tabs on front frame (1) and remove front frame. Discard front frame and use a new frame in reassembly.

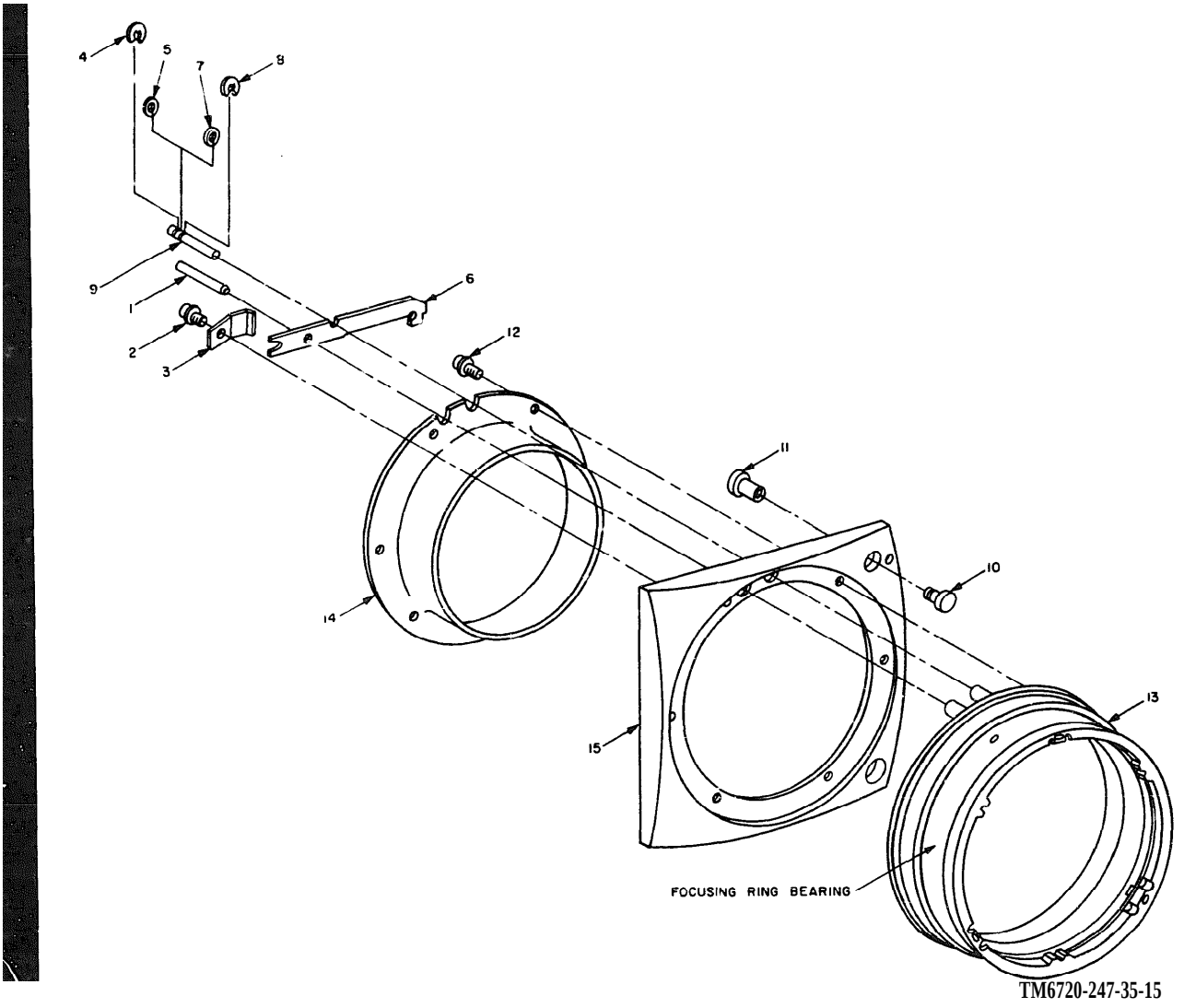
b. Remove front window (2) and front frame gasket (3).

c. If necessary, remove the cemented framing mask screen (4) from front cover (5). If framing mask screen is removed, discard and use a new screen in reassembly. Refer to procedure given in paragraph 4-12 for reassembly.

4-5. Rangefinder Assembly, Disassembly (fig. 4-4)

NOTE

The following repairs can be made with the rangefinder assembly mounted on the camera body. (Figure 4-4 shows the rangefinder assembly off the camera body for clarity.) Only those component parts of the rangefinder illustrated are authorized for repair or replacement. A rangefinder requiring repair beyond that covered in the following paragraph should be returned to the manufacturer. An exchange rangefinder will be re-



Infinity stop pin (lA3MP1)
2. Machine screw w/lock washer (1A3Hl)
3. Lens release arm spring (1A3MP3)
4. Retaining Ring (1A3H2)
5. Flat washer (1A3H3)
6. Lens release arm (1A3MP3)
7. Flat washer (1A3H4)
8. Retaining ring (1A3H5)
9. Lens release pin (1A3MP4)
10. Lens release button (1A3MP5)
11. Lens release plunger (1A3MP6)
12. Machine screw w/lock washer (1A3H6)
13. Lens barrel sleeve complete (1A3A1)
14. Light baffle (1A3MP7)
15. Lens barrel support assembly (1A3A2)

Figure 4-2. Lena mount support complete, exploded view.

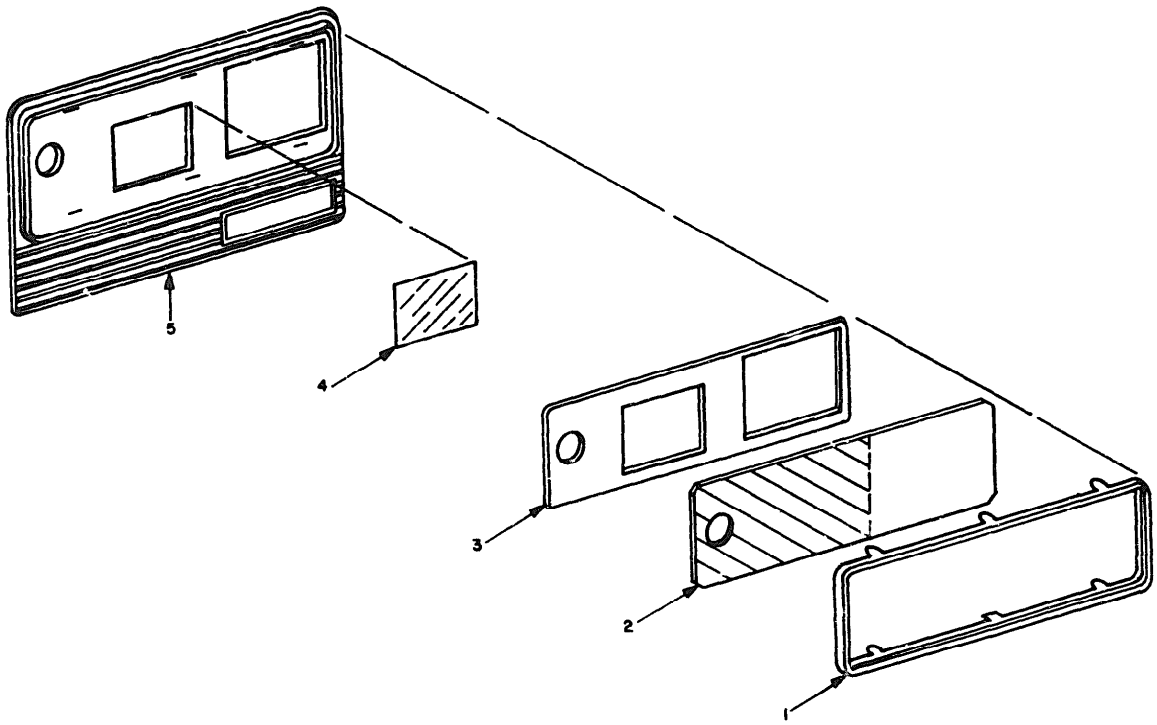
turned with all critical adjustments completed and ready for installation in the camera body.

a. Remove mirror adjustment set screw (1).

b. Remove machine screw (2) and lift mirror mount assembly (3) from its mounting post,

c. Remove the cemented light shield guide (4). Slide light shield (5) out through the hole in framing mirror assembly (8). Remove sealing ring (6) from light path tube on the prism assembly.

d. Remove two machine screws (7) and lift off framing mirror assembly (8).



TM6790-247-35-16

1. Front frame (1A4MP1)
2. Front window (1A4MP2)
3. Front frame gasket (1A4MP3)
4. Framing mask screen (1A4MP4)
5. Front cover (1A4MP5)

Figure 4-3. Front cover assembly, exploded view.

e. Remove machine screw (9) and lift off framing mask complete (10). If it is necessary to disassemble the framing mask complete (10) proceed as follows :

(1) Remove retaining ring (11) from stud A on the framing mask bracket assembly (20) and remove mask spring (12).

(2) Remove retaining ring (13), two flat washers (14), framing mask crank (15) and flat washer (16) from bracket stud B.

(3) Remove one retaining ring (17) from each of the two bracket studs C; lift off the mask assembly (18) and remove two flat washers (19).

NOTE

The set screw (21) securing the framing lever assembly and machine ***screw*** (22) decuring the clutch release latch assembly should not be removed.

f. Refer to procedure given in paragraph 4-11 for reassembly.

4-6. Lens Barrel Sleeve Complete, Disassembly

(fig. 4-5)

a. Remove six machine screws (1) from six outer holes in the lens barrel guide (2) and remove guide. Discard the six machine screws and use new screws in reassembly.

b. Remove three (jack) machine screws (3) from three center holes in the lens barrel sleeve assembly (5).

c. Remove focusing ring bearing (4) from the lens barrel sleeve assembly (5). Refer to procedure in paragraph 4-10 for reassembly.

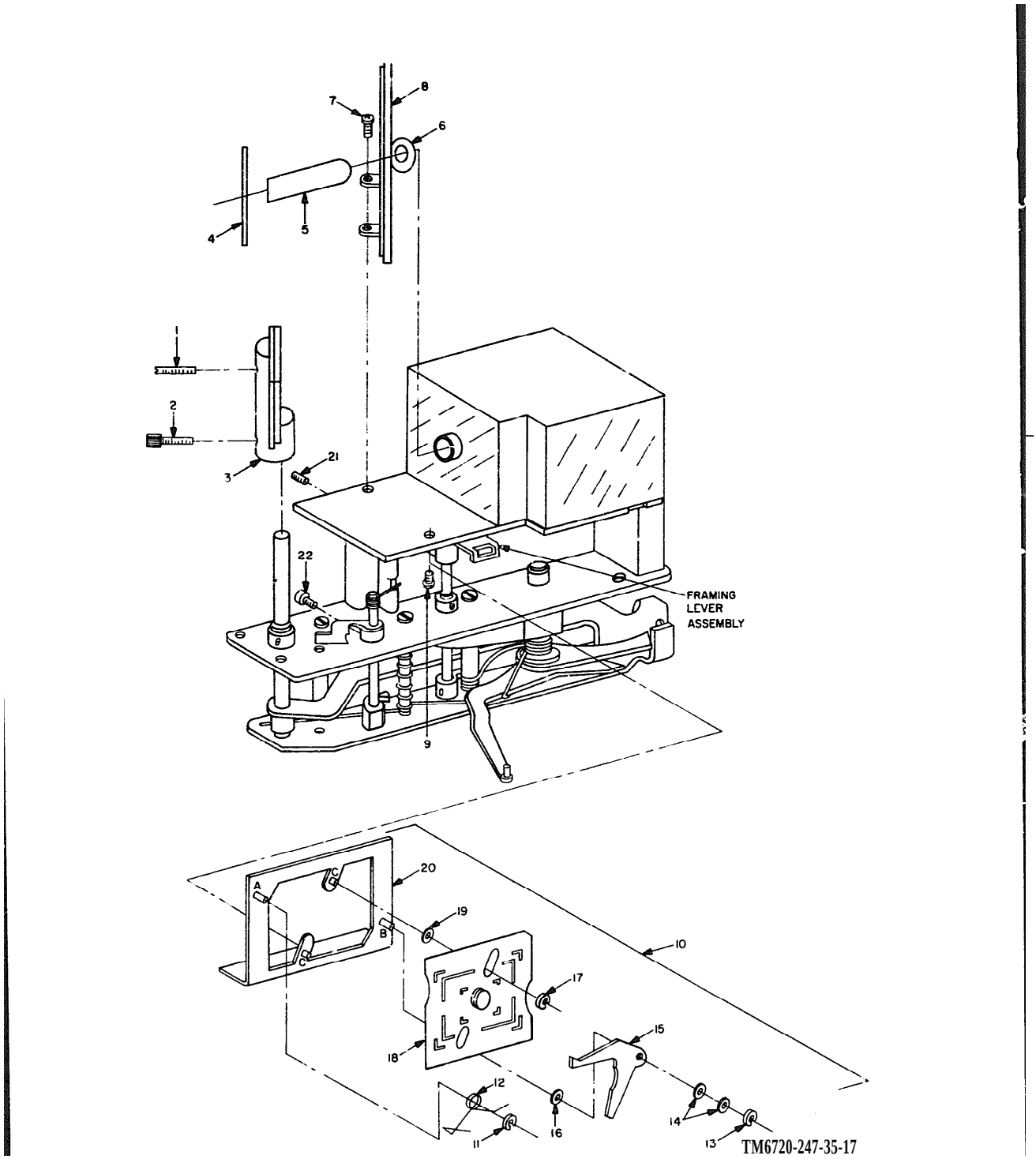
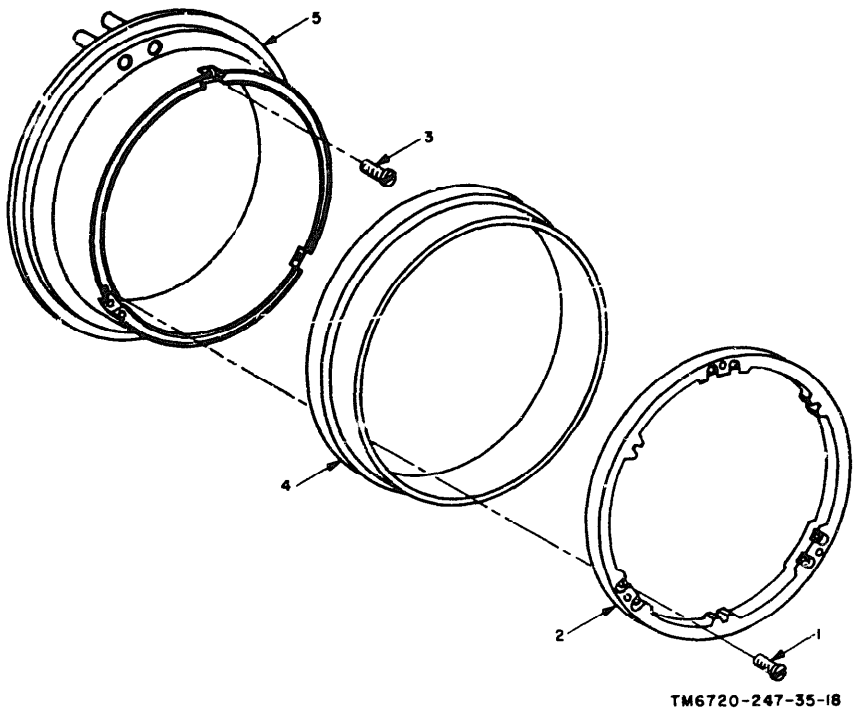


Figure 4-4. Rangefinder assembly, partial exploded view.

1. Set screw (1A7H1)
2. Machine screw (1A7H2)
3. Mirror mount assembly (1A7A1)
4. Light shield guide (1A7MP1)
5. Light shield (1A7MP2)
6. Sealing ring (1A7MP3)
7. Machine screw (1A7H3)
8. Framing mirror assembly (1A7A2)
9. Machine screw (1A7H4)
10. Framing mask complete (1A7A3)
11. Retaining ring (1A7A3H1)
12. Mask spring (1A7A3MP1)
13. Retaining ring (1A7A3H2)
14. Flat washer (1A7A3H3)
15. Framing crank (1A7A3MP2)
16. Flat washer (1A7A3H4)
17. Retaining ring (1A7A3H5)
18. Mask assembly (1A7A3A1)
19. Flat washer (1A7A3H6)
20. Framing mask bracket assembly (1A7A3A2)
21. Set screw
22. Machine screw

Figure 4-4 Coutinued



1. Machine screw (1A3A1H1)
2 Lens barrel guide (1A3A1MP1)
3 Machine screw (jack screw) (1A3A1H2)
4. Focusing ring bearing (1A3A1MP2)
5. Lens barrel sleeve assembly (1A3A1Al)

Figure 4-5. Lens barrel sleeve complete, exploded view.

Section II. REPAIR, CLEANING AND LUBRICATION

4-7. Repair

Repair to the camera body will consist of replacement of worn or damaged components or making adjustments to the rangefinder assembly or to the focusing mechanism. In normal repairs, only disassemble the camera body asr as necessary to reach a defective part, testing asassembly procedure as in section I and reassembly procedures in section III as needed. Observe the critical adjustments that must be made when installing a component in the camera body.

4-8. Cleaning Disassembled Parts

WARNING

Prolonged breathing of cleaning compound is dangerous. Make sure adequate ventilation is provided when using. Cleaning compound is flamable; do not use near flame. Avoid contact with the skin; wash off any that spills on the hands.

a. Clean the unpainted metal parts with clean-

ing compound; use a clean, lint free cloth or a gentle blast of compressed air to dry.

b. Wipe painted metal parts with a soft, clean, lint free cloth moistened with cleaning compound. Thoroughly dry with lint free cloth.

e. Clean plastic parts with a damp cloth and mild soap and water. Dry thoroughly with a soft lint free cloth.

d. Clean the mirrors and other glass surfaces with lens tissue. Use lens cleaner for stubborn stains and dry with lens tissue.

b. Lubrication Points.

Fig. No.	Item	Remarks	Lubrication
4-5	Focusing ring bearing (4)	a. Apply a light film of lubricant to inside diameter and wipe until all traces of lubricant have disappeared. *b.* Apply a light film of lubricant to outside diameter and it bottom of groove.	DC-44

4-9. . **Lubrication**

CAUTION

Do not vary the lubrication requirements given below. Excessive or incorrect lubrication, ***or*** use of lubricants other than those specified, could cause malfunction within the camera body mechanisms.

a. General. All parts of the camera body that require lubrication are called out in the reassembly instructions. Use a small brush to apply grease.

Section III. REASSEMBLY AND ADJUSTMENTS

4-10. Lens Barrel Sleeve Complete, Reassembly (fig. 4-5)

a. Apply a light film of lubricant (DC-44) to inside diameter, rear outside diameter and bottom of groove in the focusing ring bearing (4). Wipe inside diameter, until all traces of the lubricant have disappeared.

b. Apply sealant (Loctite Grade E) to threads of three machine screws (jack screws) (3) and thread a screw into each of the three center holes in the lens barrel sleeve assembly (5). Screws should home lightly against sleeve assembly.

c. Position lens barrel guide (2) over focusing ring bearing (4) and locate each of the outer guide holes with mating holes in the lens barrel sleeve assembly (5). Insert three 0.008 inch shims at the edges between the lens barrel guide (2), and focusing ring bearing (4) adjacent to each of three (jack) machine screws (3). Apply sealant (Loctite Grade E) to threads of six machine screws (I). Thread six machine screws into six outer holes in the lens barrel guide. Tighten all machine screws using a torque screwdriver with 5-inch ounces of applied torque. Remove the three 0.008 inch shims. Insert the torque screwdriver through each of the three center holes in lens barrel guide and back off three machine screws (jack screws) (3) until torque ***measures*** 5 inch-ounces. The focusing ring bearing should turn with a smooth drag and with no irregular binding. Refer to procedure given in paragraph 4-13 for assembling the lens barrel sleeve complete to the lens mount support complete.

4-11, Rangefinder Assembly, Reassembly (fig. 4-4)

a. If it was necessary to disassemble the framing mask complete (10) proceed as follows :

(1) Assemble one flat washer (19) to each of the two studs C on framing mask bracket assembly (26). Assemble mask assembly (18) over the two studs and secure with two retaining rings (17).

(2) On the bracket stud B, assemble ***flat*** washer (16) and framing crank (15) locating the pointed portion of the crank behind the mask stud as shown (fig. 4-6). Assemble two flat washers (14, fig. 4-4) and secure with retaining ring (13).

(3) On the bracket stud A, assemble mask spring (12) and position spring as shown (fig. 4-6). Secure mask spring with retaining ring (11, fig. 4-1).

(4) Operate the framing crank back and forth. The mask should travel up and down without binding.

b. Position framing mask complete (10) with long portion of the framing crank extending through the slot in the framing lever assembly and the bracket portion located under its mounting hole in the rangefinder assembly. Secure framing mask assembly with machine screw (9). The framing lever assembly must be adjusted, refer to paragraph 4-14r.

c. Apply sealant (ZV-903) to threads of two machine screws (7). Position framing mirror assembly (8) over its two mounting holes in the rangefinder assembly and secure with two machine screws (7).

d. Slide sealing ring (6) over the light path tube on the prism assembly. Insert light shield (5) through hole in framing mirror assembly, and over the light path tube and seat tightly against sealing ring. The exposed angle of the light shield must be parallel with the back surface of the framing mirror assembly. Apply three small dabs of adhesive (EC-347) to outer diameter of the light shield at top center, left side and bottom center of oval. Reactivate the adhesive coating on the back of the light shield guide (4) with cleaning compound. Assemble light shield guide to back of framing mirror assembly so that no light leak occurs at the point where light shield passes through the light shield guide.

e. Assemble mirror mount assembly (3) on its mounting post and secure with machine screw (2). Assemble mirror adjustment set screw (1). The mirror mount and mirror will be adjusted in paragraph 4-14p.

4-12. Front Cover Assembly, Reassembly (fig. 4-3)

a. If it is necessary to replace the framing mask screen (4), proceed as follows:

(1) Peal paper backing from new framing mask screen.

(2) Position screen in opening in front cover (5) and press firmly in place.

(3) Turn front cover over and spray framing mask screen (adhesive side) with crystal clear Krylon No. 1303.

NOTE

If screen buckles after spraying, heat under an electric light bulb to attain uniform flatness.

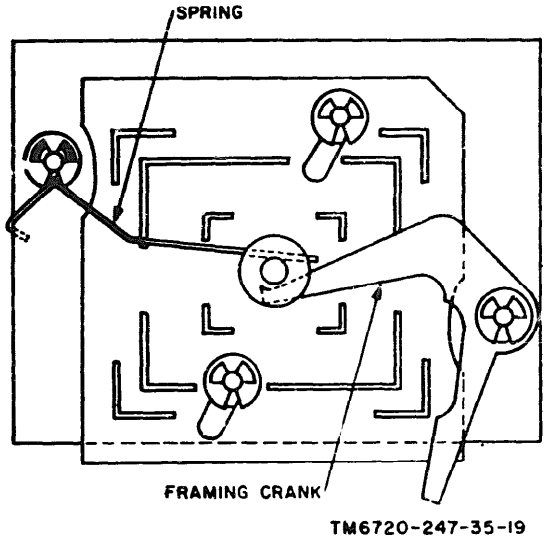


Figure 4-6. Framing musk complete, showing crank and spring positions.

b. Position front frame gasket (3) and front window (2) in front cover.

c. Position a new front frame (1) over the assembled cover with the short tab on the bottom. Bend three lower tabs downward, the two upper tabs (over the screen and over square window opening) upward, and one tab over the circular window opening downward. Refer to paragraph 4-14t for installation of the front cover assembly to the camera body.

4-13. lens Mount Support Complete, Reassembly

a. Position light baffle (14) on rear of lens barrel support assembly (15) and lens barrel sleeve complete (13) on front of lens barrel support assembly and secure with six machine screws (12).

b. Insert lens release plunger (11) through its mounting hole on lens barrel support assembly. Apply sealant (ZV-903) to threads of lens release button (10), and thread button into plunger.

c. Assemble retaining ring (8) on inner groove of lens release pin (9) and assemble flat washer (‘7) over retaining ring. Insert long end of release pin through the bearing nearest the lens

release plunger (11). Insert infinity stop pin (1), chamfered end down, through opposite bearing. Rotate the focusing bearing on barrel sleeve assembly (13) to make sure both‘ pins bottom in the groove of focusing ring bearing.

d. Position lens release arm (6) over lens release pin and infinity stop pin with straight edge of release arm facing up, tab portion partially over lens release plunger (11) and the elongated slot around stud in the lens barrel support assembly (15).

e. Place flat washer (5) over protruding lens release pin (9) and assemble retaining ring (4) on outer groove of pin.

f. Assemble lens release arm spring (3) to the lens barrel support assembly (15) and secure with machine screw (2). Refer to paragraph 4-14h for installation of the lens mount support to the camera body.

4-14. Installation of Camera Body Components (fig. 4-1)

a. Assemble body gasket (38), adhesive side down, on top of camera body (39). Holes in gasket should align to holes in camera body.

b. Position rangefinder assembly (37) on camera body. Apply sealant (ZV-903) to threads of two machine screws (36), one machine screw (34) and two machine screws (32). Thread each screw partway into their respective mounting holes. Adjust rangefinder assembly to locate the top plate on the rangefinder parallel to the front edge of the camera body to within 0.004 inch. Tighten screws.

CAUTION

Machine screw (34) and two machine screws (32) must not protrude through camera body more than 0.005 inch. Use flat washers (35 and 33) as required, to maintain this dimension.

c. Apply sealant (ZV-903) to threads of short machine screw (30) and long machine screw (29). Position bottom cover (31) over two mating holes in the rangefinder and secure cover with short machine screw (30) on left side and long machine screw (29) on right side. Use torque screwdriver (FSN 5120-937-7064) to tighten screws, applying 5 inch-ounces of torque.

d. Thread machine nut (27) approximately halfway up on threads on clutch release rod (28) and thread clutch release tip (26) up to machine nut.

e. Insert clutch release button (25) through its mounting hole in top cover assembly (24) and insert the plain end of the assembled clutch release rod into hole in clutch release button and hold in place. Assemble top cover assembly on camera body, at the same time locating the clutch release tip into its mounting hole in the rangefinder assembly.

f. Apply sealant (ZV-903) to threads of two machine screws (23). Insert each screw through the lower elongated hole on two sides of the top cover assembly and thread screws partway into camera body. Apply sealant (ZV-903) to threads of two swivel studs (20). Over each of the upper elengated holes on two sides of top cover assembly, assemble spring washer (22), convex surface facing out, and neck strap swivel (21). Insert swivel stud through neck strap swivel and spring washer, and thread swivel stud partway into the camera body Position rear cover assembly (19) and front cover assembly (17) under top cover assembly and adjust top cover assembly to seat it down against the rear and front cover assemblies. Tighten two machine screws (23) and two swivel studs (20). Remove front and rear cover assemblies for rangefinder tests. Covers will be installed finally in a later procedure.

g. Adjust the clutch release tip (26) by unscrewing tip until tip end just touches the rangefinder clutch release lever located directly under the tip mounting hole. Tighten machine nut (27) down against the tip. The clutch release tip and clutch release rod should have between 0.005 inch to 0.010 inch free play in the idle position.

h. Apply sealant (ZV-903) to threads of four machine screws (13). Position lens mount support complete (15) and mounting plate assembIy (14) squarely on camera body. Secure with four machine screws (13).

CAUTION

Do not overtighten machine screws (13).

i. Assemble one base plate spring (12) in each side of base plate assembly (11) with spring openings facing each other. Apply sealant (ZV-903) to threads of two short machine screws (10) and to threads of two long machine screws (9). Position base plate assembly on camera body with two rear holes aligned with two mating holes in camera body and two front holes aligned

with two mating holes in lens mount support complete. Secure base plate assembly with two short machine screws (10) threaded into the rear holes and two long machine screws (9) threaded into the front holes.

j. Rotate focusing ring bearing fully counterclockwise. Press down on lens release button and continue rotating bearing counterclockwise until it stops (lens release position). If bearing cannot be rotated in the lens release position, proceed as follows :

(1) Remove lens mount support complete (15, para 4-2g).

(2) Bend lens release arm (6, fig. 4-2) outward, at a point between the lens release pin (9) and the infinity stop pin (1).

(3) Install lens mount support complete as in step ***h*** above.

k. With focusing ring bearing in lens release position, insert master barrel and dial indicator over three guide lugs on the lens barrel guide. Check the rangefinder follower arm to make sure it clears the master cam on the master barrel. If the follower arm does not clear master cam, proceed as follows :

(1) Remove lens mount support complete (15, fig. 4-1, para 4-2g).

(2) Bend tab on lens release arm (6, fig. 4-2) toward the lens release plunger (11).

(3) Install lens mount support complete as in step ***h*** above.

l. Turn focusing ring bearing clockwise as far as it will go. Assemble focusing ring (6, fig. 4-l) over the focusing ring bearing with three holes in focusing ring in exact alignment with three spot drilled holes in focusing ring bearing. Make sure color coded spot-drilled hole (color coded in disassembly) is included in this alignment. The index mark on the focusing ring should locate toward the lens release button. Secure the focusing ring temporarily with three set ***screws (5).*** The flat washers (7 and 8) should not be assembled at this time.

m. Check camera body for stack height as follows :

NOTE

Each time the mounting plate assembly (14) or a component of the focusing mechanism is removed from the camera body, the stack height must be checked.

(1) Insert plug gauge assembly into hole in the mounting plate on the focusing bench and secure the gauge with spring clip, The plug gauge and spring clip are components of the focusing bench.

(2) Mount camera body on the focusing bench.

(3) Attach the long depth pin snugly into the master barrel and dial indicator. Use the thinker gauge block and a clean surface plate and set the dial indicator to 0.000 inch. The depth pin and gauge block are components of the master barrel and dial indicator.

(4) Turn focusing ring (6) all the way counterclockwise. Press down on lens release button and continue turning focusing ring counterclockwise until it stops. Align three lugs on focusing ring with three lugs on lens barrel guide. Insert ‘master barrel and dial indicator into the camera body, matching red dot on the lens barrel with red dot on the focusing ring. Turn focusing ring all the way clockwise (infinity position). The master barrel dial indicator should read between plus 0.0015 inch minus 0.001 inch.

(5) If the stack height is less than the required tolerance remove three focusing ring set screws (5) and focusing ring. Add 0.002 inch flat washers (7) and 0.004 inch flat washers (8) as required, until stacked height is within the specified tolerance.

(6) When correct stack height has been established; apply sealant (ZV-903) to threads of three focusing ring set screws a) and install the focusing ring as in step l above.

n. Adjust the clutch release latch assembly (fig. 4-4) as follows :

(1) Turn focusing ring (6, fig. 4-l) to the infinity setting position and observe the movement of the clutch release latch assembly. When the focusing ring is in the infinity position the clutch release latch assembly must clear the large diameter of the clutch release tip as shown’ in position 1 (fig. 4-7). Turn focusing ring off the infinity position. The clutch release latch assembly must locate under the large diameter of the, clutch release tip as shown in position 2.

(2) If clutch release latch adjustment is necessary turn the focusing ring to the infinity setting position. Back off machine screw; locate the clutch release assembly in position 1 and apply sealant (ZV-903) to threads of machine screw. Tighten screw with a torque screw driver applying 45 to 55 inch ounces of torque.

o. Thread infinity setting set screw (4, fig. 4-l) into its mounting hole.

p. Adjust rangefinder infinity setting as follows :

(1) Insert front cover assembly (17) under top cover assembly (24). If necessary, hold cover in place with tape. Attach the rear eyepiece to rear of top cover assembly.

(2) Mount master barrel and dial indicator in camera body and mount the camera body on the focusing bench.

(3) Turn focusing ring to infinity setting position.

(4) Press down on the infinity (clutch) release button. Loosen machine screw (2, fig. 4-4) and rotate mirror mount assembly (3) until image appears normal at infinity. Apply sealant (ZV-903) to threads of machine screw and tighten.

(5) Turn infinity setting set screw (4, fig. 4-l) until a sharp image is obtained. Replace the compound (black lacquer stick) in hole over set screw.

q. Adjust for double image as follows :

(1) Insert the front cover assembly (17) under the top cover assembly (24). If necessary, hold cover in place with tape. Attach the eyeshield (TM 11-6720-247-12) to rear of the top cover assembly

(2) Mount the master barrel and dial indicator in camera body and mount the camera body on the focusing bench.

(3) Loosen the mirror adjustment set screw (1, fig. 4-4) and apply sealant (ZV-903) to threads of set screw. Double image correction is made by turning the set screw. Follow directions on the focusing target for adjustment.

r. Make parallax adjustment as follows:

(1) Insert the front cover assembly (17, fig. 4-1) under the top cover assembly (24). If necessary, hold cover in place with tape. Attach the eyeshield to rear of the top cover assembly.

(2) Mount the master barrel and dial indicator in the camera body and mount the camera body on the focusing bench and follow the directions on the focusing target.

(3) If adjustment is necessary, loosen set screw (21, fig. 4-4) and adjust the framing lever assembly--up to shorten travel and down to increase travel. Rotate to shift travel. Apply sealant (ZV-903) to threads set screw and tighten.

s. Apply sealant (ZV-903) to threads of three set screws (18, fig. 4-l). Position the rear cover assembly (19) under the top cover assembly (24) and secure with three set screws.

t. Apply sealant (ZV-903) to threads of three set screws (16). Position the front cover assembly (17) under the top cover assembly (24) and secure with three set screws.

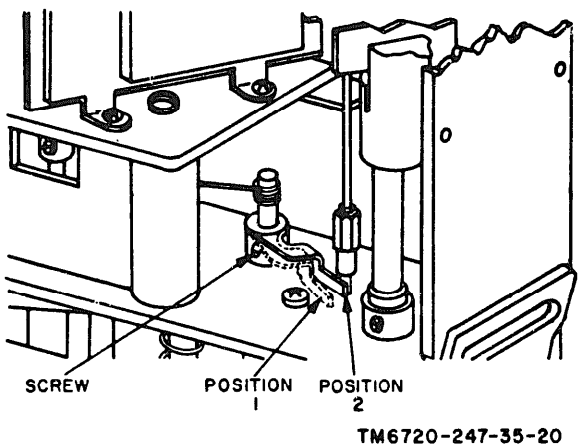


Figure 4-7. Clutch release latch position

4-15. Replacement Focusing Ring Installation

a. Remove damaged focusing ring (6, fig. 4-l) secured by three set screws (5).

b. Count the number of spot drilled holes in the focusing ring bearing and select the correct replacement focusing ring as shown below.

3	FSN 6720-937-6220
6	FSN 6720-937-6204
9	FSN 6720-937-6215
more than 9	Replace the focusing ring bearing and use focusing ring FSN 6720-937-6205.

c. Remove base plate assembly (11) secured by two long machine screws (9) and two short machine screws (10).

d. Insert the plug gauge assembly into the hole in the mouting plate on the focusing bench and secure the plug gauge with the spring clip. The plug gauge and spring clip are components of the

focusing bench. Mount the camera body on the focusing bench.

e. Thread three drill bushings part way into each of the three holes in the focusing ring.

f. Turn the focusing ring bearing clockwise until it stops (infinity position).

g. Use a clockwise motion and assemble the focusing ring over the focusing ring bearing.

CAUTION

If the focusing ring is accidentally turned in a counterclockwise direction, repeat from step, above.

h. Attach the long depth pin snugly into the master barrel and dial indicator. Use the thicker gauge block and a clean surface plate and set the dial indicator to 0.000 inch.

i. Depress the lens release button and insert the master barrel and dial indicator into the camera body. Press **the** focusing ring snugly towards the back of the camera body and slowly turn the focusing ring clockwise until the dial indicator is 0.002 inch past zero. If dial indicator reading exceeds 0.002, do not turn the focusing ring back. Remove the ring; return to step f above and repeat procedure.

j. When correct reading has been obtained, tighten the three drill bushings in the focusing ring down against the focusing ring bearing. Use spot drill and spot drill three holes through the drill bushings.

k. Remove the master barrel and indicator. Remove three drill bushings, one at a time, assembling one set screw (5) after removing each drill bushing.

l. Check stack height (para 3-14m).

m. Insert the master barrel and dial indicator into the camera body and turn the focusing ring to the infinity position. Using a sharp prick punch, spot the center of the red dot location in line with infinity index on the master barrel. Remove the master barrel.

n. Using spot drill, finger drill the index dot. Fill dot with compound (red lacquer stick).

o. Use a machinist's square and align square approximately 1/64 inch off center of the infinity dot. Use dental burr mounted in a small hand grinder and cut an index line. Fill index line with compound (white lacquer stick).

CHAPTER 5

DISASSEMBLY AND REASSEMBLY OF THE RH/10, RH/20 AND RH/50 ROLL FILM CARRIAGES

Section I. DISASSEMBLY

5-1. Consideration Before **Disassembly**

Disassemble the RH/10, RH/20 and RH/50 film carriages only as far as necessary to reach a defective part, Follow the complete disassembly procedures given in the following paragraphs when major overhaul is necessary. Complete cleaning (para 5-11) and lubrication (para 5-12) should be performed as part of the major overhaul.

NOTE

The disassembly and repairs to the outer cover and frame assemblies for the RH/10, RH/20 and RH/50 roll film holders are covered in TM 11-6720-247-12. Only the disassembly, repair and reassembly of the KH/10, RH/20 and RH/50 carriages are covered in this chapter.

5-2. Carriage Complete, RH/10 Disassembly (Stage 1) (fig. 5-1)

a. Remove two machine screws (l), film advance lever cap (2) and film advance lever (3).

b. Remove two planet pinions (4) and ring gear (5).

c. Remove sun pinion (6).

CAUTION

The sun pinion (6) has a left hand thread and must be turned in a clockwise direction to remove.

move planet gear' carrier assembly (7) and film advance lever spring (8).

5-3. Carriage Complete RH/10, Disassembly (Stage 2) (fig. 5-2)

a. Loosen machine screw (21) just enough to disengage the keyway on the bottom of the exposure dial (1) from the key on the top surface of cam (19). Hold the machine screw in place and turn the exposure dial counterclockwise; remove dial. Apply a piece of tape over the head of the machine screw to hold screw in place until other components, mounted on the screw, are removed later in disassembly.

b. Remove one each self threading screws (2, 3 and 4) and lift off the top plate assembly (6).

c. From tabs A and B on the bearing plate assembly (9), disengage lock lever spring (12) and engaging lever spring (13).

d. Remove machine screw (6) and spacer (7). If necessary, remove the nonreverse paw1 spring (8).

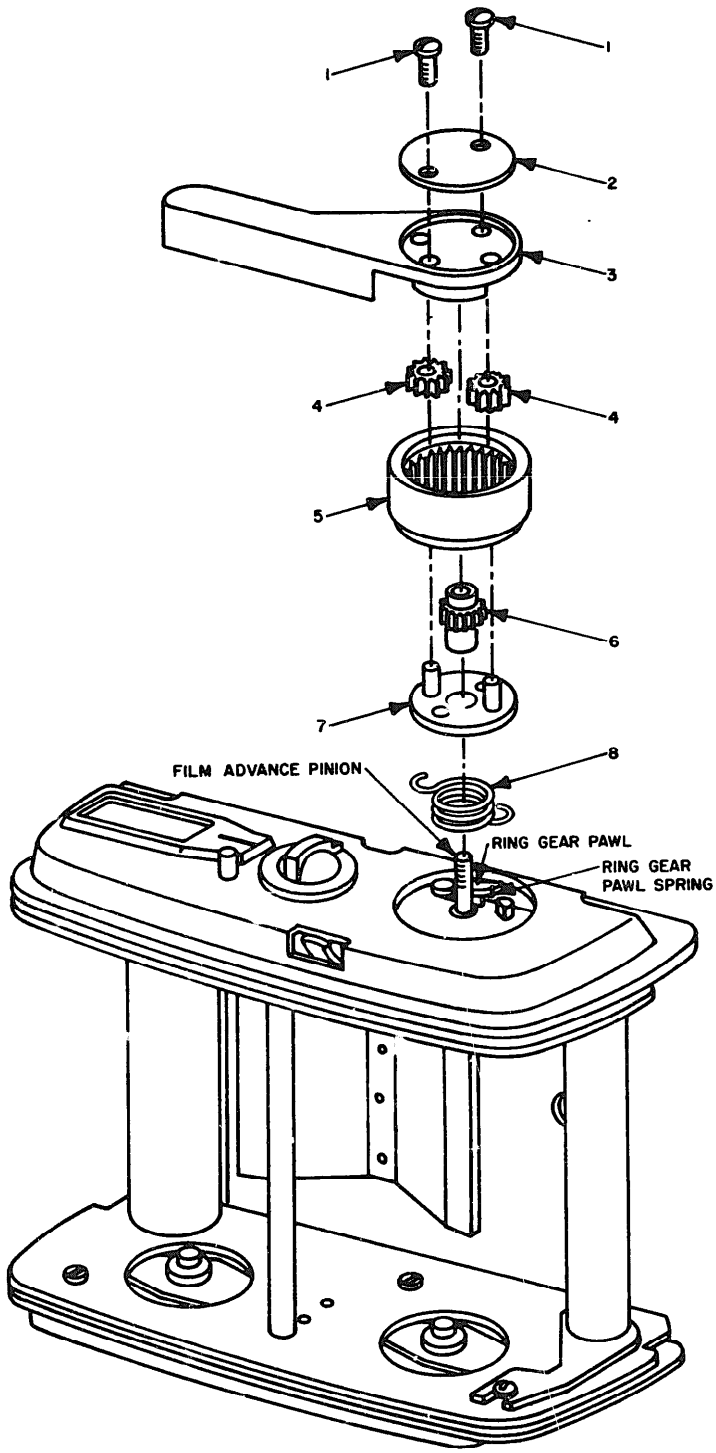
e. Loosen the spool bearing (17) just enough to disengage it from its threaded mounting in the bearing plate assembly (9). Hold spool bearing in place and carefully lift off the bearing plate assembly. Apply a piece of tape over the head of the spool bearing to hold bearing in place until other components, mounted on bearings, are removed later in disassembly. If necessary, remove the ring gear paw1 spring (10).

f. Remove lock lever assembly (11) and lock lever spring (12) mounted on the intermediate pinion (22).

g. Remove engaging lever spring (13), engaging lever bearing (14), counter engaging lever (15) and spacer (16) mounted on the spool bearing (17 j. Remove tape from spool bearing and remove bearing and flat washer (18).

h. Remove cam (19) and counter gear (20). Remove tape from machine screw (21) and remove screw.

i. Remove intermediate pinion (22) and intermediate gear (23).



1. Machine screw (4A3H1)
2. Film advance lever cap (4A3MP1)
3. Film advance lever (4A3MP2)
4. Planet pinion (4A3MP3)
5. Ring gear (4A3MP4)
6. Sun pinion (4A3MP5)
7. Planet gear carrier assembly (4A3A1)
8. Film advance lever spring (4A3MP6)

Figure 5-1. RH/10 carriage complete, disassembly (stage, 1), exploded view.

j. Remove flat washer (24), lock ratchet (25) and flat washer (26) mounted on the film advance pinion (30).

k. Remove winding key (27), (small) flat washer (28), (large) flat washer (29) and film advance pinion (30).

CAUTION

The winding key (27) has left hand threads and must be turned in a clockwise direction to remove.

5-4. Carriage Complete RH/10, Disassembly (Stage 3) (fig. 5-3)

a. Remove self threading screw (1), lower guide (2), upper guide (3) and film roller (4).

b. Remove three self threading screws (5) and bottom plate (6).

c. Remove film roller (8) from the carriage assembly (7).

CAUTION

When removing film roller (8), spread the carriage gently to avoid distortion.

5-5. Carriage Complete RH/20, Disassembly (Stage 1) (fig. 5-4)

a. Remove two machine screws (I), film advance lever cap (2) and film advance lever (3).

b. Remove two planet pinions (4) and ring gear (5).

c. Remove sun pinion (6).

The sun pinion (6) has left hand threads and must be turned in a clockwise direction to remove.

d. Remove planet gear carrier assembly (7) and film advance lever spring (8).

5-6. Carriage Complete RH/20, Disassembly (Stage 2) (fig. 5-5)

a. Loosen machine screw (25) just enough to disengage the keyway on the bottom of the exposure dial (1) from the key on the top surface of cam (22). Hold the machine screw in place and turn the exposure dial counterclockwise; remove dial. Apply a piece of tape over the head of the machine screw to hold screw in place until other components, mounted on the screw, are removed later in disassembly.

b. Remove one each self threading screws (2, 3 and 4) and lift off the top plate assembly (5).

c. Disengage the brake spring (11) from hole in the counter engaging lever (16). Disengage the lock lever spring (13) and engaging lever spring (14) from tabs A and B on the bearing plate assembly (9).

d. Remove machine screw (6) and spacer (7). If necessary, remove the nonreverse paw1 spring (8).

e. Loosen the spool bearing (20) just enough to disengage it from its threaded mounting hole in the bearing plate assembly (9). Hold the spool bearing in place and carefully lift off the bearing plate assembly with the brake spring (11) attached. Apply a piece of tape over the head of the spool bearing to hold bearing in place until other components, mounted on the bearing, are removed later in disassembly. Remove the brake spring from the stud on bearing place assembly. If necessary, remove the ring gear paw1 spring (10) from the bearing plate assembly.

f. Remove the lock lever assembly (12) and lock lever spring (13) mounted on the intermediate pinion (27).

g. Remove the engaging lever spring (14), engaging lever bearing (15), counter engaging lever (16), spacer (17), idler pinion (18) and support (19). Remove tape securing the spool bearing (20) ; remove bearing and flat washer (21).

h. Remove cam (22), counter gear (23) and leader take-up gear (24). Remove tape from machine screw (25) and remove screw.

i. Remove flat washer (26), intermediate pinion (27) and intermediate gear (28).

j. Remove flat washer (29), lock ratchet (30) and flat washer (31) mounted on film advance pinion (35).

k. Remove winding key (32), (small) flat washer (33), (large) flat washer (34) and film advance pinion (35).

CAUTION

The winding key (32) has left hand threads and must be turned in a clockwise direction to remove,

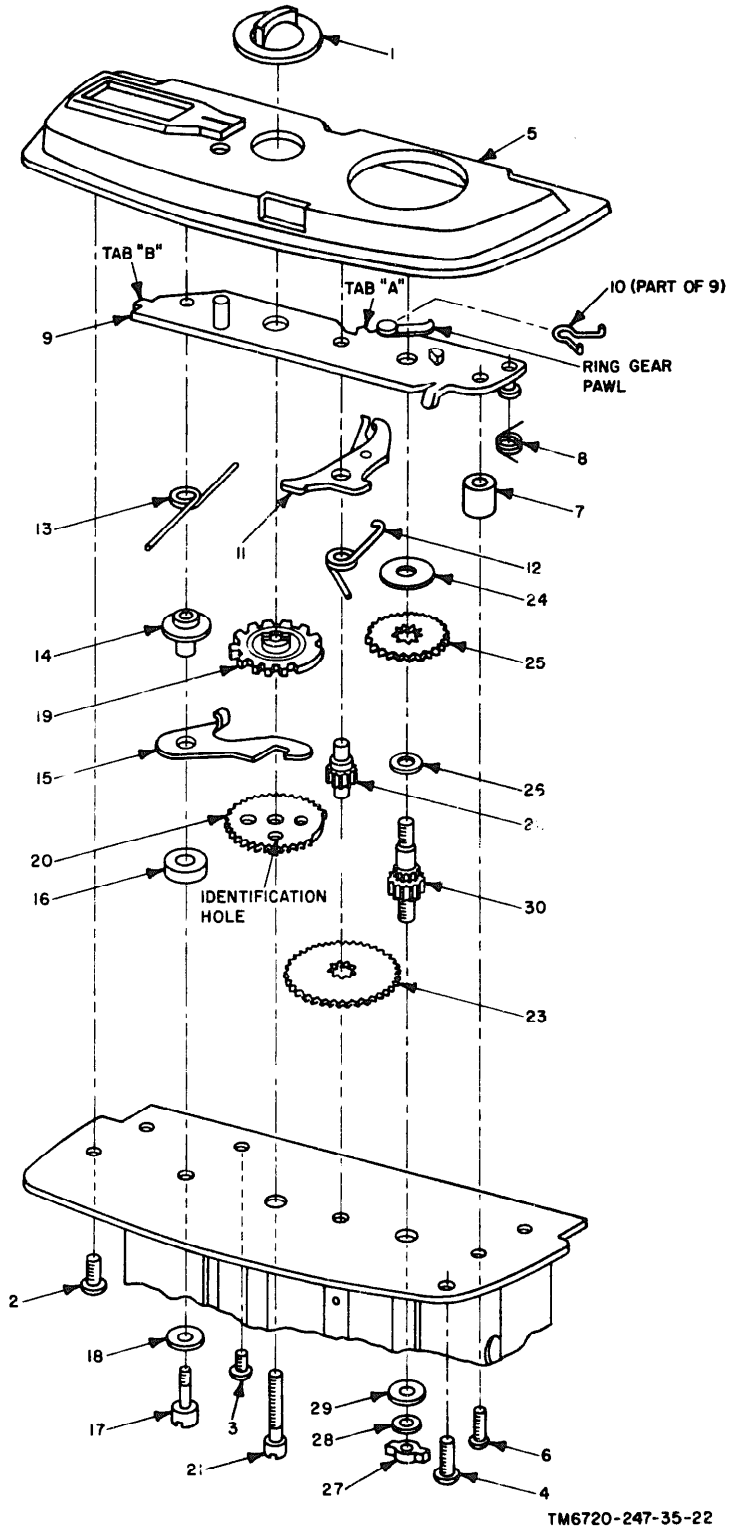
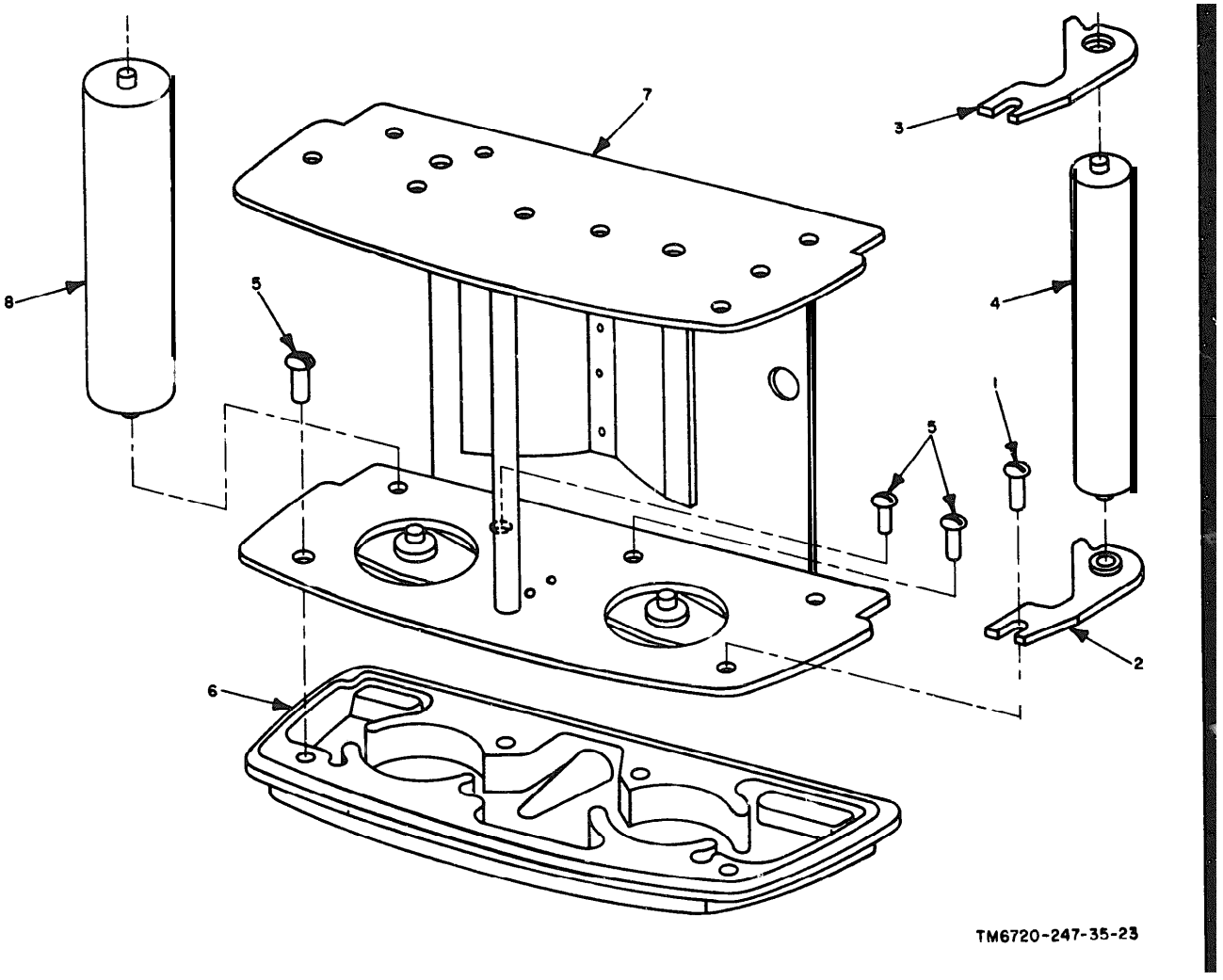


Figure 5-2. RH/10 Carriage complete, disassembly (stage 2) exploded view.

1. Exposure dial (4A3MP7)
2. Self threading screw (4A3H2)
3. Self threading screw (4A3H3)
4. Self threading screw (4A3H4)
5. Top plate assembly (4A3A2)
6. Machine screw (4A3H5)
7. Spacer (4A3MP8)
8. Non reverse paw1 spring (4A3MP9)
9. Bearing plate assembly (4A3A3)
10. Ring gear paw1 spring (part of 9) (4A3A3MPl)
11. Lock lever assembly (4A3A4)
12. Lock lever spring (4A3MP10)
13. Engaging lever spring (4A3MP11)
14. Engaging lever bearing (4A3MP12)
15. Counter engaging lever (4A3MPl3)
16. Spacer (4A3MP14)
17. Spool bearing (4A3MP15)
18. Flat washer (4A3H6)
19. Cam (4A3MP16)
20. Counter gear (4A3MP17)
21. Machine screw (4A3H7)
22. Intermediate pinion (4A3MP18)
23. Intermediate gear (4A3MP19)
24. Flat washer (4A3H8)
25. Lock ratchet (4A3MP20)
26. Flat washer (4A3H9)
27. Winding key (4A3MP22)
28. Flat washer (4A3H10)
29. Flat washer (4A3H11)
30. Film advance pinion (4A3MP21)

Figure 5-2-Continued.



1. Self threading screws (4A3H12)
2. Lower guide (4A3MP23)
3. Upper guide (4A3MP24)
4. Film roller (4A3MP25)
5. Self threading screw (4A3H13)
6. Bottom plate (4A3MP26)
7. Carriage assembly (4A3A4)
8. Film roller (part of 7) (4A3A4Al)

Figure 5-3. RH/l0 carriage complete, disassembly (stage 2), exploded view.

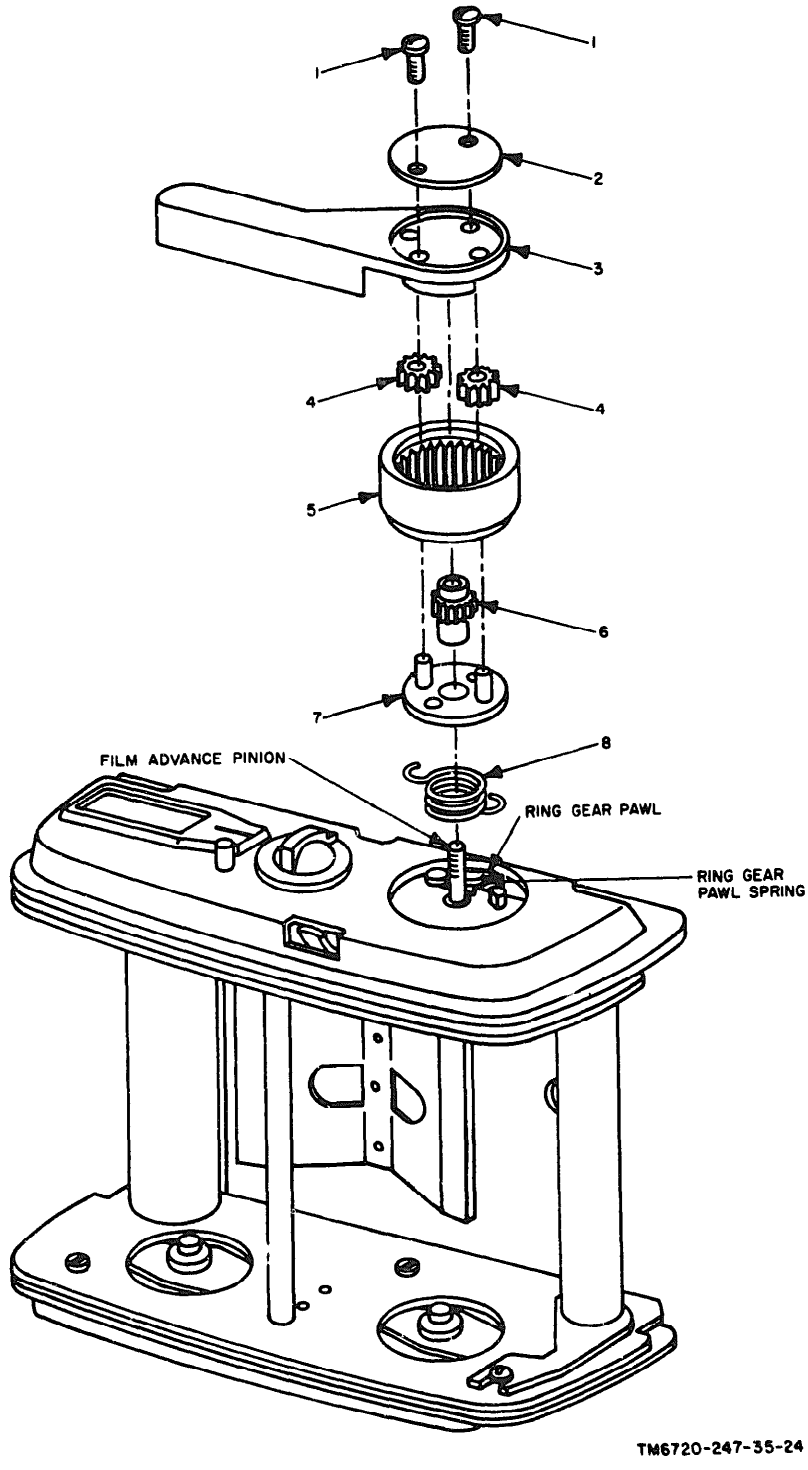


Figure 5-4. RH/20 carriage complete, disassembly (stage 1), exploded view.

1. Machine screw (5A3H1)
2. Film advance lever cap (5A3MP1)
3. Film advance lever (5A3MP2)
4. Planet pinion (5A3MP3)
5. Ring gear (5A3MP4)
6. Sun pinion (5A3MP5)
7. Planet gear carrier assembly (5A3A1)
8. Film advance lever spring (5A3MP6)

Figure 5-4-Continued.

5-7. Carriage Complete RH/20, Disassembly (Stage 3) (fig. 5-6)

a. Remove self threading screw (1), lower guide (2), upper guide (3) and film roller (4).

b. Remove three self-threading screws (5) and bottom plate (6).

c. Remove two spring washers (8) and film roller assembly (9) from the carriage assembly (7).

CAUTION

When removing film roller assembly (9), spread the carriage gently to avoid distortion.

5-8. Carriage Complete RH/50, Disassembly (Stage 1) (fig. 5-7)

a. Remove medallion (1) cemented in the recess on the film advance lever (3), remove two machine screws (2) and lift off the film advance lever.

b. Remove four thread-forming screws (4) and lift off the top cover assembly (5). If necessary, remove lever cushion (6) and two windows (7) cemented to the top cover.

c. Remove the exposure counter dial assembly (8).

d. Remove two set screws (9) and the drive roller gear (10).

e. Remove winding key (11), flat washer (12), film takeup shaft assembly (13), clutch spring (14), take-up gear (15) and bearing (16).

CAUTION

The winding key (11) has left hand threads and must be turned in a clockwise direction to remove.

f. Remove retaining ring (17), spring washer (18) and the intermediate gear (19).

g. Remove retaining ring (20), counter gear assembly (21) and the gear train brake (22).

h. Remove retaining ring (23), flat washer or washers (24) if used, hub (25), film advance lever spring (26), ratchet pin (27) and the main gear assembly (28).

i. Remove retaining ring (29) and spool spindle (30).

j. Remove thread forming screw (31) and exposure counter dial paw1 (32).

5-9. Carriage Complete RH/50, Disassembly (Stage 2) (fig. 5-8)

a. Remove support (1) and lift off the gear plate assembly (2).

b. Remove film drive roller assembly (3) and the film idler roller assembly (4).

c. Remove four self threading screws (6) and bottom cover (6).

d. Remove latch assembly (7) and latch spring (8) from the lower plate assembly (9).

e. If necessary, remove cushion (10) cemented to the carriage assembly (11).

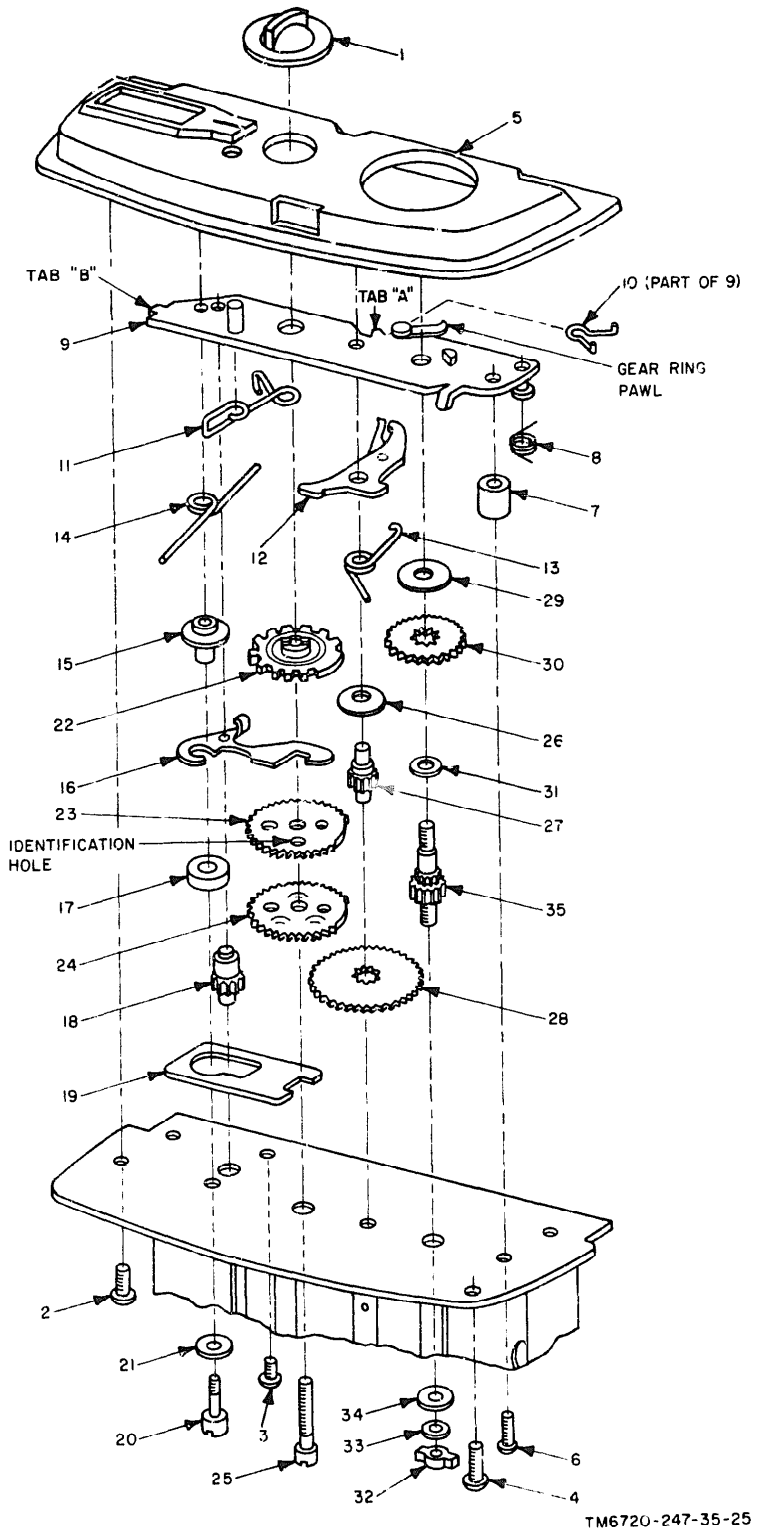
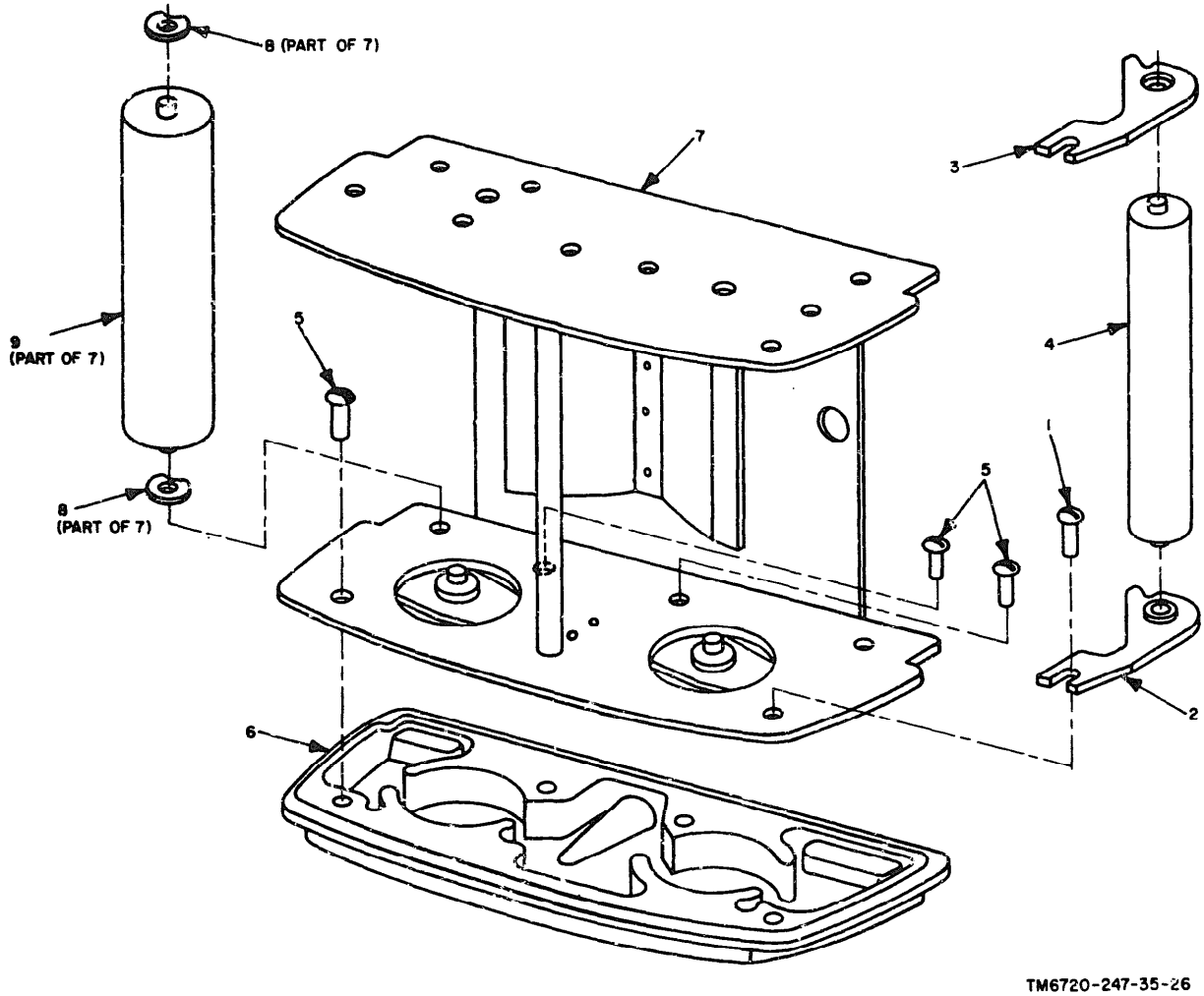


Figure 5-5. RH/20 Carriage complete disassembly (stage 2) exploded view.

1. Exposure dial (5A3MP7)
2. Self threading screw (5A3H2)
3. Self threading screw (5A3H3)
4. Self threading screw (5A3H4)
5. Top plate assembly (5A3A2)
6. Machine screw (5A3H5)
7. Spacer (5A3MP8)
8. Non reverse pawl spring (5A3MP9)
9. Bearing plate assembly (5A3A3)
10. Ring gear pawl spring (part of 9) (5A3A3MP1)
11. Brake spring (5A3MP10)
12. Lock lever assembly (5A3A4)
13. Lock lever spring (5A3MP11)
14. Engaging lever spring (5A3MP12)
15. Engaging lever bearing (5A3MP13)
16. Counter engaging lever (5A3MP14)
17. Spacer (5A3MP15)
18. Idler pinion (5A3MP16)
19. Support (5A3MP17)
20. Spool bearing (5A3MP18)
21. Flat washer (5A3H6)
22. Cam (5A3MP19)
23. Counter gear (5A3MP20)
24. Leader take-up gear (5A3MP21)
25. Machine screw (5A3H7)
26. Flat washer (5A3H8)
27. Intermediate pinion (5A3MP22)
28. Intermediate gear (5A3MP23)
29. Flat washer (5A3H9)
30. Lock ratchet (5A3MP24)
31. Flat washer (5A3H10)
32. Winding key (5A3MP26)
33. Flat washer (5A3H11)
34. Flat washer (5A3H12)
35. Film advance pinion (5A3MP25)

Figure 5-5. -Continued.



1. Self threading screw
2. Lower guide
3. Upper guide
4. Film roller
5. Self threading screw
6. Bottom plate
7. Carriage assembly
8. Spring washer (part of 7)
9. Film roller assembly (part of 7)

Figure 5-6. RH/20 carriage complete, disassembly (stage *3), exploded view.*

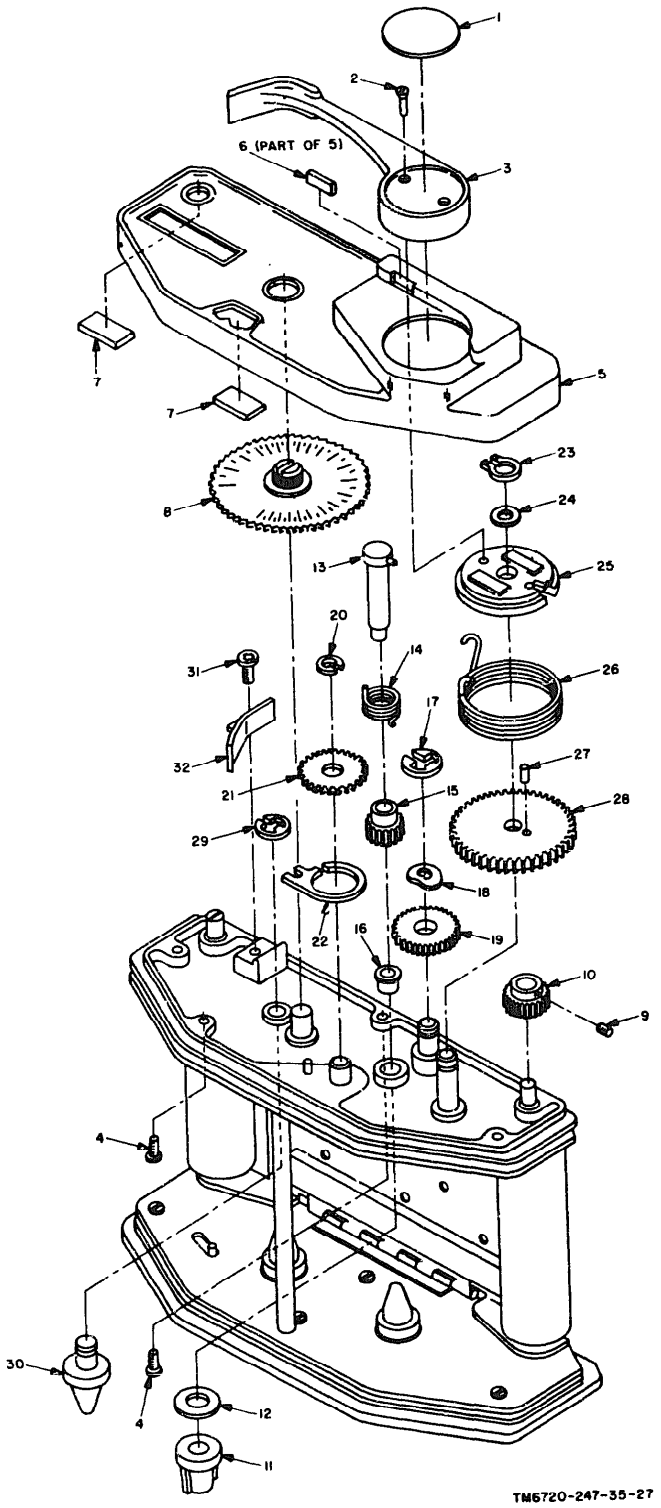


Figure 5-7. RH/50 Carriage complete, disassembly (stage 1), exploded view.

1. Medallion (6A3MP1)
2. Machine screw (6A3H1)
3. Film advance lever (6A3MP2)
4. Thread-forming screw (6A3H2)
5. Top cover assembly (6A3A1)
6. Lever cushion (part of 5) (6A3A1MP2)
7. Window (part of 5) (6A3A1MP3)
8. Exposure counter dial assembly (6A3A2)
9. Set screw (6A3H3)
10. Drive roller gear (6A3MP3)
11. Winding key (6A3MP4)
12. Flat washer (6A3H4)
13. Film take-up shaft assembly (6A3A3)
14. Clutch spring (6A3MP5)
15. Take-up gear (6A3MP6)
16. Bearing (6A3MP7)
17. Retaining ring (6A3H5)
18. Spring washer (6A3H6)
19. Intermediate gear (6A3MP8)
20. Retaining ring (6A3H7)
21. Counter gear assembly (6A3A4)
22. Gear train brake (6A3MP9)
23. Retaining ring (6A3H8)
24. Flat washer (6A3H9)
25. Hub (6A3MP10)
26. Film advance lever spring (6A3MP11)
27. Ratchet pin (6A3MP12)
28. Main gear assembly (6A3A5)
29. Retaining ring (6A3H10)
30. Spool spindle (6A3MP13)
31. Thread forming screw (6A3H11)
32. Exposure counter dial pawl (6A3MP14)

Figure 5-7-Continued.

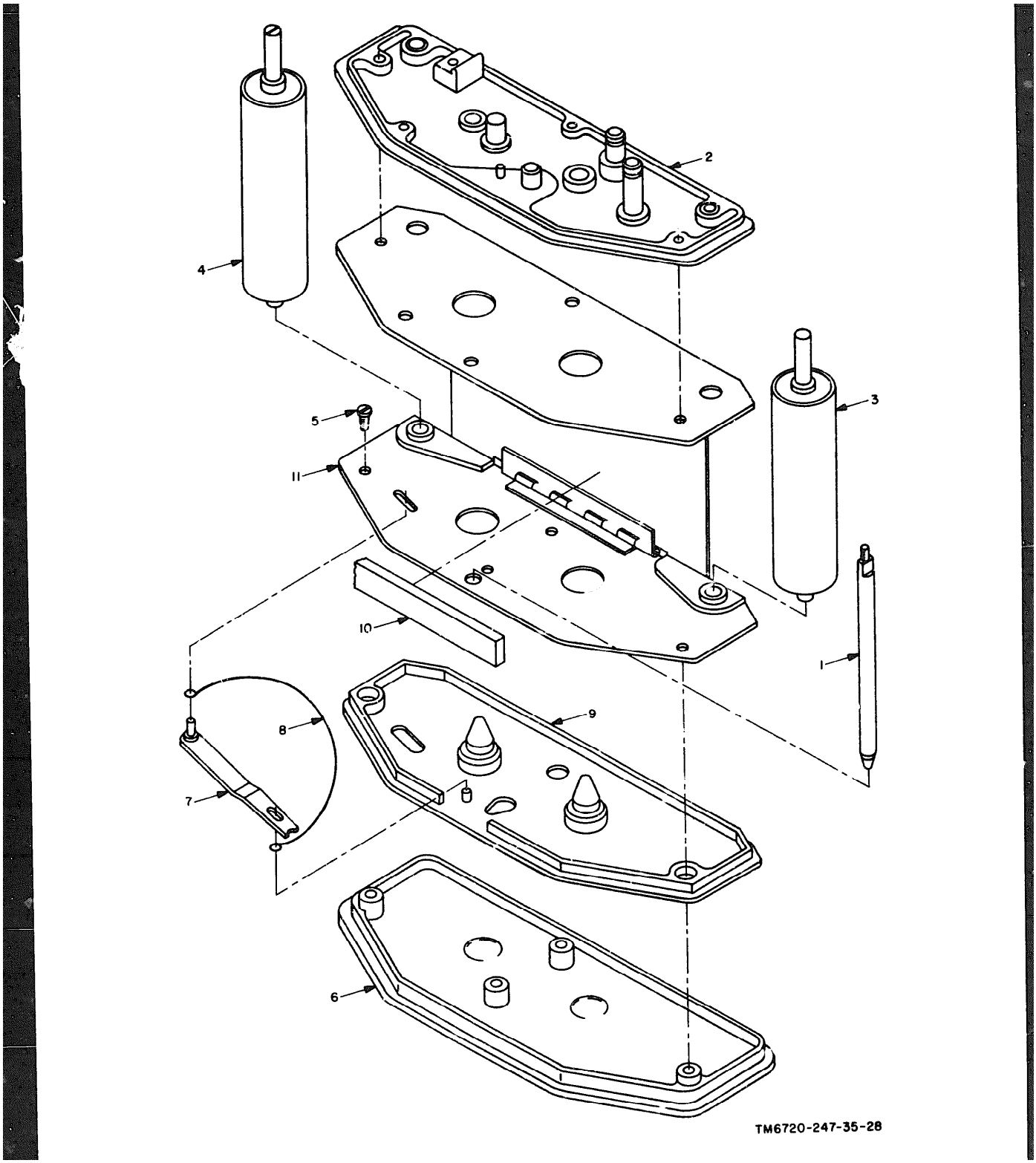


Figure 5-8. RH/50 carriage complete, disassembly (stage 2), exploded view.

1. Support (6A3MP15)
2. Gear plate assembly (6A3A7)
3. Film drive roller assembly (6A3A7)
4. Film idler roller assembly (6A3A8)
5. Self threading screw (6A3H12)
6. Bottom cover (6A3MP16)
7. Latch assembly (6A3A9)
8. Latch spring (6A3MP17)
9. Lower plate assembly (6A3A10)
10. Cushion (6A3MP18)
11. Carriage assembly 6A3A11)

Figure 5-8-Continued.

Section II. REPAIR, CLEANING AND LUBRICATION

5-10. Repair

Repair of the RH 10, RH/20 and RH/50 roll film carriages will consist of replacing parts damaged or worn to the extent that simple repair cannot be made. Inspect the components of the mechanism **for** burns. **If** necessary, remove burrs or replace the part.

5-11. Cleaning Disassembled Parts

Clean the disassembled parts of the RH/10, RH/ **20** and RH/50 carriages as follows:

WARNING

Prolonged breathing of cleaning compound is dangerous; make sure adequate ventilation is provided. Cleaning compound is flamable; do not use near flame. Avoid contact with the skin: wash off any that spills on the hands.

a. Clean the unpainted metal mechanical parts with cleaning compound. Dry the cleaned parts thoroughly; use a clean lint free cloth or a gentle blast of compressed air. When cleaning parts of the carriage mechanism such as gears and levers use a small brush moistened with the cleaning compound to clean the parts thoroughly.

b. Wipe painted metal parts with a soft, lint free cloth moistened with cleaning compound. Thoroughly dry the cleaned parts with a dry lint free cloth.

c. Clean plastic parts with a damp cloth and mild soap and water. Dry thoroughly with a soft, lint free cloth.

5-12. Lubrication

CAUTION

Do not vary the lubrication requirements given below. Excessive or incorrect lubrication, or use of lubricants other than those specified, could cause malfunction within the mechanism.

a. General. All parts of the RH/10, RH/20 and the RH/50 carriages requiring lubrication are specified in the reassembly instructions for the specific carriage involved. Where oil (FED VV-L-820) is specified, apply one drop with a small wire and wipe the oiled surface with a lint free cloth. Use a small brush to apply grease.

b. RH/10 and RH/20 Lubrication Points.

Fig. No.	*Item*	*Remarks*	*Lubrication*
8, 5-3	Film roller	Apply a thin film of lubricant to each bearing end.	FED VV-L-820
9, 5-6	Film roller assembly		
4, 5-3	Film roller	Apply a thin film of lubricant to each bearing	FED VV-L-820
4, 5-6			
30, 5-2	Film advance pinion	Apply a thin film of lubricant to bearing diameters.	Unitemp ANG 25-AM2
35, 5-5			
23, 5-2	Intermediate gear	Apply a thin film of lubricant to rounded side of teeth.	Unitemp ANG 25-AM2
28, 5-5			
19, 5-2	Cam	Apply a thin film of lubricant to the bottom cam surface.	Unitemp ANG 25-AM2
22, 5-5			
20, 5-2	Counter gear	Apply a thin film of lubricant to rounded side of teeth.	Unitemp ANG 25-AM2
18, 5-5	Idler pinion	Apply a thin film of lubricant to pinion teeth.	Unitemp ANG 25-AM2
7, 5-1	Planet gear carrier assembly	Apply a thin film of lubricant to outside diameter and center hole.	Unitemp ANG 25-AM2
7, 5-4			
6, 5-1	Sun pinion	Apply a thin film of lubricant to pinion teeth.	Unitemp ANG 25-AM2
6, 5-4			
5, 5-1	Ring gear	Apply a thin film of lubricant to bearing surfaces.	Unitemp ANG 25-AM2
5, 5-4			
4, 5-1	Planet pinion	Apply a thin film of lubricant to pinion teeth.	Unitemp ANG 25-AM2
4, 5-4			

c. RH/50 Lubrication Points.

Fig. No.	Item	Remarks	Lubrication
2, 5-8	Gear plate assembly	Apply a light film of lubricant to bearing surfaces.	FS-1290
7, 5-8	Latch assembly	Apply a light film of lubricant to contact sliding surfaces.	FS-1290
4, 5	Film idler roller assembly	Apply a light film of lubricant to bearing surfaces.	FS-1290
3, 5-8	Film drive roller assembly	Apply a light film of lubricant to bearing surfaces.	FS-1290
59, 5-7	Spool spindle	Apply a light film of lubricant to bearing surfaces.	FS-1290
28, 5-7	Main gear Asasembly	Apply a light film of lubricant to bearing surfaces.	FS-1290
		Apply a light film of lubricant to gear teeth after other mating gears have been assembled.	DC-44
25, 5-7	Hub	Apply a light film of lubricant to bearing surfaces.	FS-1290
22, 5-7	Gear train brake	Apply a light film to inside diameter	Paraffin
19, 5-7	Intermediate gear	Apply a light film of lubricant to bearing surfaces.	FS-1290
		Apply a light film of lubricant to gear teeth after other mating gears have been assembled.	DC-44
16, 5-7	Bearing	Apply a light film of lubricant to inside diameter.	FS-1290
14, 5-7	Clutch spring	Apply a light film of lubricant to inside diameter.	DC-44
15, 5-7	Take-up gear	Apply a light film of lubricant to outside hub diameter.	FS-1290
		Apply a light film of lubricant to gear teeth after mating gears have been assembled.	DC-44
10, 5-7	Drive roller gear	Apply a light film of lubricant to bearing surfaces.	FS-1290
		Apply a light film of lubricant to gear teeth after mating gears have been assembled.	DC-44
8, 5-7	Exposure counter dial assembly.	Apply a thin film of lubricant to bearing surfaces.	FS-1290

Section III. REASSEMBLY

5-13. Carriage Complete RH/10, Reassembly (Stage 1)

a. Apply a thin film of oil (FED VV-L-820) to each bearing end of film roller (8) and insert roller into its top and bottom mounting holes in the carriage assembly (7). Roller must rotate freely after assembly.

CAUTION

When assembling film roller (8), spread the carriage assembly gently to avoid distortion.

b. Assemble 'bottom plate (6) and secure with three self threading screws (6).

NOTE

The film roller (4), upper guide (3), lower guide (2) and self threading screw (1) will be assembled in Stage 3.

5-14. Carriage Complete Reassembly (Stage 2) (fig. 5-2)

a. Apply a thin film of lubricant (ANG-25-AM2) to bearing diameters of the film advance pinion (30) and position pinion into its mounting hole. Assemble large flat washer (29), small flat washer (28) to bottom of pinion and secure with winding key (27).

CAUTION

The winding key (27) has left hand threads and must be turned in a counter-clockwise direction to assemble.

b. Assemble flat washer (26). lock ratchet (25) and Hat washer (24) on film advance pinion (30).

CAUTION

When assembling the lock ratchet (25), rounded side of teeth must face downward.

c. Apply a thin film of lubricant (ANG 25-AM2) to rounded side of teeth on the intermediate gear ***(23).*** Position gear over its mounting hole **so** that a tooth in the gear is in mesh with a tooth on the film advance pinion (30). Insert the short end of the intermediate pinion (22) through hole in the intermediate gear and into its mounting hole in the carriage.

CAUTION

When assembling the intermediate gear (23) rounded side of teeth must face downward.

d. Insert machine screw (21) through hole in carriage and apply a piece of tape over the head of screw to hold screw in place. Apply a thin film of lubricant (ANG 25-AM2) to rounded side of teeth on the counter gear (20). Assemble the counter gear over the machine screw with blank segment on gear facing the intermediate pinion (22) and the identification hole dressed perpendicular to the rear surface of the carriage. Apply a thin film of lubricant (ANG 25-AM2) to bottom surface of cam (19) and assemble cam, locating the large and small studs on bottom of cam into mating holes in the counter gear (20). Cam must seat flat on the counter gear.

CAUTION

When assembling the counter pear (20) rounded side of teeth must face downward.

e. Assemble flat washer (18) on spool bearing (17) ; insert spool bearing through hole in carriage. Apply a piece of tape over the head of bearing to hold bearing in place, Assemble spacer (16), counter engaging lever (15), engaging lever bearing (14) and engaging lever spring (13). Short shank of spring must face downward and locate against the tab **on** counter engaging lever.

f. Attach the hook end of the lock lever spring (12) onto side of lock lever assembly (11). Assemble lock lever assembly (with lock lever spring attached) over the intermediate pinion (22). Position the lock lever to locate the spring portion of the lever under cam (19) and the lever portion on the blank surface of the cam.

g. If removed, assemble ring gear paw1 spring (10) under the ring gear pawl. The two formed ends of the spring should locate on the rear side of the pawl.

h. Carefully position the hearing plate assembly (9) over the carriage mechanism. Check the lock lever spring (12), making sure the hook end engages the lock lever assembly (11). Remove tape securing spool bearing (17) and thread bearing into its mounting hole in the bearing plate assembly. If removed, thread the nonreverse paw1 spring (8) over stud on bottom side of the bearing plate assembly. Wind the bottom shank of the nonreverse paw1 spring in a counterclockwise direction until it forces the nonreverse pawl, riveted to the bottom side of the bearing plate assembly, to locate against the lock ratchet (25). Continue winding the bottom shank of the spring until it is pointing outward; slide spacer (7) in place. Apply downward pressure on bearing plate assembly to retain spacer. Release the spring and secure spacer by inserting machine screw (6) up through hole in carriage, through spacer, and thread screw into its tapped hole in bearing plate assembly.

i. With the short shank of the engaging lever spring (13) against the tab on counter engaging lever (15), wind long shank of spring in a clockwise direction and locate it behind tab B on the bearing plate assembly (9). Use a paper clip with a small hook on the end to wind the straight shank of the lock lever spring (12) in a counterclockwise direction and locate it behind tab A on the bearing plate assembly.

j. Position the top plate assembly (5) over the bearing plate assembly (9). Remove tape securing machine screw (21) ; hold screw in place. Thread the exposure dial (1) onto machine screw until keyway on dial is opposite the key on cam (19) and the letter S on dial is near the index mark on the top plate assembly. Tighten machine screw.

NOTE

The top plate assembly (5) will be secured in stage 3.

5-15. Carriage Completion RH/10, Reassembly (Stage 3) (fig. 5-1)

a. Position the ring gear paw1 and ring gear paw1 spring away from the film advance pinion. Assemble the film advance lever spring (8) over

the film advance pinion with bottom loop of the spring over the milled stud on the bearing plate assembly.

b. Apply a thin film of lubricant (ANG 25-AM2) to outside diameter and center hole of the planet gear carrier assembly (7), position the carrier assembly on the film advance pinion with the large stud on the bottom of the carrier assembly located in the upper loop of the film advance lever spring (8).

c. Apply a thin film of lubricant (ANG 25-AM2) to teeth of the sun pinion (6) and thread pinion onto the film advance pinion.

CAUTION

The sun pinion (6) has left hand threads and must be turned in a counterclockwise direction to assembly.

d. Apply a thin film of lubricant (ANG 25-AM2) to the bearing diameter of the ring gear (5). Use a paper clip or a small tool to push the ring gear paw1 clockwise under the planet gear carrier assembly (7) and hold in place. Use a small tool inserted through the inside diameter of the ring gear; insert the tool through screw hole in the carrier assembly and hold the ring gear paw1 toward the film advance pinion. While holding the pawl, slide the ring gear down over the tool; seat the ring gear in place and withdraw the tool. The ring gear paw1 and the ring gear paw1 spring should locate within the ring gear as shown in figure 5-9.

e. Apply a thin film of lubricant (ANG 25-AM2) to teeth of two planet pinions (4, fig. 5-l) and assemble a pinion to each of the two posts on the planet gear carrier assembly (7).

f. Assemble film advance lever (3), film advance lever cap (2) and secure with two machine screws (1) .

g. Apply a thin film of oil (FED VV-L-820) to each bearing end of film roller (4, fig. 5-3). Assemble upper and lower guides (3 and 2) with flanged edges of holes toward the roller. Position the film roller and guides in carriage so that the film roller (4) is 0.002 to 0.010 inches behind the pressure plate surface of the carriage. Assemble self-threading screw (1) and tighten. **As**semble self-threading screw (4, fig. 5-2) just enough to hold the upper guide in place. Assemble self threading screws (2 and 3). Do not tighten screws.

h. Operate the carriage mechanism thru several simulated "exposures" to allow for self alignment of the gears, bearing plate and top plate assembly. If binding occurs, apply pressure at either end of the top plate assembly and shift it slightly until smooth operation is obtained. When smooth operation of the carriage mechanism has been obtained hold the top plate assembly in position and tighten self threading screws (2, 3 and 4). Apply a small drop of sealant (2V903) around the heads of screws and to screw notches of the upper and lower guides.

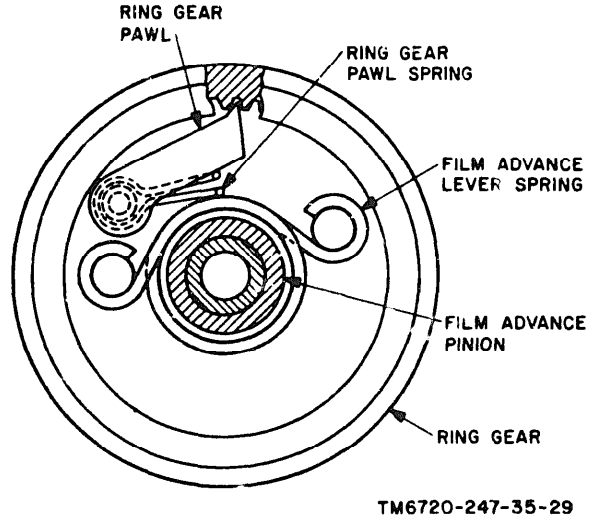


Figure 5-9. Ring gear paw1 and ring gear pawl spring position.

5-16. Carriage Complete Reassembly (Stage 1)

5 - 6)

a. Apply a thin film of oil (FED VV-L-820) to each bearing end of film roller assembly (9). Place one spring washer (8) over each bearing end of roller and insert roller into its top and bottom mounting holes in the carriage assembly (7). Roller must turn with a slight drag.

CAUTION

When assembling film roller assembly (9), spread the carriage assembly gently to avoid distortion.

b. Assemble bottom plate (6) and secure with three self threading screws (5).

N O T

The film roller (4), upper guide (3), lower guide (2) and self threading screw (1) will be assembled in stage 3.

5-17. Carriage Complete RH/20, Reassembly (Stage 2) (fig. 5-5).

a. Apply a thin film of lubricant (ANG 25--AM2) to bearing diameters of the film advance pinion (35) and position pinion into its mounting hole. Assemble large flat washer (34), small flat washer (33) to bottom of pinion and secure with winding key (32).

CAUTION

The winding key (32) has left hand threads and must be turned in a counter-clockwise direction to assemble.

b. Assemble flat washer (31), lock ratchet (30) and flat washer (29) on film advance pinion (35).

CAUTION

When assembling the lock ratchet (30) rounded side of teeth must face downward.

c. Apply a thin film of lubricant (ANG 25-AM2) to rounded side of teeth on the intermediate gear (28). Position gear over its mounting hole so that a gear tooth is in mesh with a tooth on the film advance pinion (35). Insert the short end of the intermediate pinion (27) through hole in the intermediate gear and into its mounting hole in the carriage. Assemble flat washer (26) over long end of intermediate pinion.

CAUTION

When assembling the intermediate gear (28) rounded side of teeth must face downward.

d. Insert machine screw (25) through hole in carriage and apply a piece of tape over the head of screw to hold screw in place.

e. Assemble flat washer (21) on spool bearing (20). Apply a piece of tape over head of bearing to hold bearing in place.

f. Apply a thin film of lubricant (ANG 25-AM2) to top surface of support (19). Assemble support over spool bearing and position support on carriage.

g. Assemble leader take-up gear (24) over machine screw (25) with the three dimples on gear facing upward and the smaller blank segment of gear facing the intermediate pinion (27).

h. Assemble counter gear (23) over leader take-up gear (24) with blank segment on counter gear facing the intermediate pinion (27) and the identification hole on the gear located in the 5 o'clock position. Hold the leader take-up gear in position and rotate the counter gear in a clockwise direction exposing the first four teeth on the leader take-up gear. The first tooth on the counter gear will locate directly over the fifth tooth on the leader take-up gear and the identification hole on the counter gear will locate the the 7 o'clock position.

i. Assemble cam (22) over counter gear (23), locating the large and small studs on the bottom side of cam into mating holes in counter gear.

CAUTION

When assembling the cam (22), be careful not to change the position of the leader take-up gear or the counter gear. Cam must seat flat on the counter gear.

j. Apply a thin film of lubricant (ANG 25-AM2) on teeth of idler pinion (18) and insert the short end of pinion into its mounting hole; mesh tooth in pinion with a tooth on the leader take-up gear (24) and a tooth on the counter gear (23).

k. Assemble spacer (17), counter engaging lever (16), engaging lever bearing (15) and engaging lever spring (14). Short shank of spring should face downward and locate against tab on counter engaging lever.

l. Attack the hook end of the lock lever spring (13) onto side of lock lever assembly (12). Assemble lock lever assembly, with lock lever spring attached, over the intermediate pinion (27). Position the lock lever to locate the spring portion of the lever under cam (22) and the lever portion of the blank segment surface of the cam.

m. If the ring gear paw1 spring (10) was removed from the bearing plate assembly (9), assemble spring under the paw1 with the two formed ends of spring located on the rear side of the paw!.

n. Assemble the brake spring (11) over stud on bearing plate assembly (9). Carefully position the bearing plate assembly over the carriage mechanism. The free end of the brake spring must locate between the idler pinion (18) and cam (22). Check the lock lever spring (13), making sure the hook end engages the lock lever assembly (12). Remove tape securing spool bearing (20) and thread bearing into its mounting hole in the bearing plate assembly. If removed, thread the non reverse paw1 spring (8) over stud on bottom side of the bearing plate assembly.

Wind the bottom shank of the nonreverse paw1 spring in a counterclockwise direction until it forces the nonreverse pawl, riveted to the bottom side of the bearing plate assembly, tightly against the lock ratchet (30). Continue winding the botcom shank of the spring until it is pointing cutward; slide spacer (7) in place. Apply downward pressure on bearing plate assembly to ***re***tain spacer. Release the spring and secure spacer by inserting machine screw (6) up through hole in carriage, through spacer, and thread screw into its tapped hole in the bearing plate assembly.

o. With the short shank of the engaging lever spring (14) against the tab on the counter engaging lever (16), wind the long shank of spring in a clockwise direction and locate it behind tab B on the bearing plate assembly (9). Hook the free end of brake spring (11) into the small hole in the counter engaging lever (16). Use a paper clip with a small hook on the end and wind the straight shank of the lock lever spring (13) in a counterclockwise direction and locate it behind tab A on the bearing plate assembly.

p. Position the top plate assembly (5) over the bearing plate assembly (9). Remove tape securing machine screw (25) ; hold screw in place. Thread the exposure dial (1) onto machine screw until keyway on dial is opposite the key on cam (22) and the letter S on dial is near the index mark on the top plate assembly. Tighten machine screw.

NOTE

The top plate assembly (5) will be secured in stage 3.

5-18. Carriage Complete RH/20, Reassembly (Stage 3) (fig. 5-4)

a. Position the ring gear paw1 and ring gear paw1 spring away from the film advance pinion. Assemble the film advance lever spring (8) over the film advance pinion with bottom loop of the spring over the milled stud on the bearing plate assembly.

b. Apply a thin film of lubricant (ANG 25-AM2) to outside diameter and center hole of the planet gear carrier assembly (7). Position the carrier assembly on the film advance pinion with the large stud on the bottom of the carrier assembly located in the upper loop of the film advance lever spring (8).

c. Apply a thin film of lubricant (ANG 25-AM2) to teeth of the sun pinion (6) and thread pinion onto the film advance pinion.

CAUTION

The sun pinion (6) has left hand threads and must be turned in a counterclockwise direction to assemble.

d. Apply a thin film of lubricant (ANG 25-AM2) to the bearing diameter of the ring gear (5). Use a paper clip or a small tool and push the ring gear pawl clockwise under the planet gear carrier assembly (7) and hold in place. Use a small tool inserted through the inside diameter of the ring gear; insert the tool through screw hole in the carrier assembly and hold the ring gear pawl toward the film advance pinion. While holding the pawl, slide the ring gear down over the tool; seat the ring gear in place and withdraw the tool. The ring gear pawl and the ring gear pawl spring should locate within the ring gear as shown in figure 5-9.

e. Apply a thin film of lubricant (ANG 25-AM2) to teeth of two planet pinions (4 fig. 5-4) and assemble a pinion to each of the two posts on the planet gear carrier assembly (7).

f. Assemble film advance lever (3), film advance lever cap (2) and secure with two machine screws (1) .

g. Apply a thin film of oil (FED VV-L-820) to each bearing end of film roller (4, fig. 5-6). Assemble upper and lower guides (3 and 2) with flanged edges of holes toward the roller. Position the film roller and guides in carriage so that the film roller (4) is 0.002 to 0.010 inches behind the pressure plate surface of the carriage. Assemble self-threading screw (1) and tighten. Assemble self-threading screw (4, fig. 5-5) just enough to hold the upper guide in place. Assemble self-threading screws (2 and 3). Do not tighten screws.

h. Operate the carriage mechanism through several simulated “exposures” to allow for self-alignment of the gears, bearing plate assembly and top plate assembly. If binding occurs, apply pressure at either end of the top plate assembly and shift it slightly until smooth operation is obtained, When smooth operation of the carriage mechanism has been obtained hold the top plate assembly in position and tighten self threading screws (2, 3 and 4). Apply a small drop of sealant (W-903) around the heads of screws and to screw notches of the upper and lower guided.

5-19. Carriage Complete RH/50, Reassembly (Stage 1) (fig. 5-8)

a. If removed, assemble cushion (10) on carriage assembly (11). Cushion should locate visually in the center and within 3/32 of an inch from edge of hinge.

b. Apply a thin film of lubricant (FS-1290) to sliding contact surfaces of latch assembly (7). Assemble the latch assembly and latch spring (8) on the lower plate assembly (9). One loop of the latch spring locates around the large diameter of the latch stud and the other loop of spring locates under the latch assembly and around the stud **on** the lower plate assembly.

c. Position the above assembly on the bottom cover (6). Position bottom of the carriage over the lower plate assembly (9) and secure with four self-threading screws (5). Apply sealant (ZV-903) to threads of screws before tightening. Latch should operate smoothly without excessive force and should snap into the locked position when released.

d. Apply a light film of lubricant (FS-1290) to bearing surfaces of the film idler roller assembly (4) and the film drive roller assembly (3) and assemble roller assemblies in carriage.

e. Apply a light film of lubricant (FS-1290) to bearing surfaces of gear plate assembly (2). Position gear plate assembly over top of carriage. Apply Loctite sealant grade E to 3/16 of the threads of support (1) and thread support into its threaded mounting hole in the gear plate assembly.

5-20. Carriage Complete RH/50, Reassembly (Stage 2) (fig. 5-7)

a. Assemble exposure counter dial (32) over boss on the gear plate assembly and secure with thread forming screw (31). Do not tighten screw as pawl will be adjusted in a later assembly procedure.

b. Apply a thin film of lubricant (FS-1290) to bearing surfaces of the spool spindle (30) ; insert spool spindle through its mounting hole and secure with retaining ring (29). Spool spindle must turn freely.

c. Apply a thin film of lubricant (FS-1290) to bearing surfaces of the main gear assembly (28). Assemble main gear assembly over its mounting post.

d. Insert ratchet pin (27) into its mounting hole in the main gear assembly with round end of pin seated in hole.

c. Apply a thin ‘film of lubricant (FS-1290) to bearing surfaces of hub (25). Assemble film advance lever spring (26) on hub with the spring hook in slot of hub. Assemble hub and spring over the main gear assembly with long edges of pads on hub parallel to the rear edge of the gear plate assembly. Hold the hub and rotate the main gear assembly (28) in a clockwise direction until it stops. Hub and gear must remain in this position. Assemble flat washer (24) and retaining ring (23).

f. Apply paraffin to inside diameter of gear train brake (22). Assemble brake onto the counter gear assembly (21). Assemble the counter gear and brake over post with stud on gear plate assembly engaged in the brake slot. Secure with retaining ring (20). Rotate the counter gear assembly to locate the index pin on the counter gear within 30º arc as shown in figure 5-10.

CAUTION

Do not allow lubricant to contact the interfaces of counter gear assembly and the brake.

g. Apply a light film of lubricant (FS-1290) to bearing surfaces of the intermediate gear (19 fig. 5-7). Assemble the intermediate gear and spring washer (18) over post and secure with retaining ring (17). A tooth on the intermediate gear must mesh with a tooth on the main gear assembly (28).

h. Apply a light film of lubricant (FS-1290) to inside diameter of bearing (16) and place bearing into its mounting hole. Apply a light film of lubricant (DC44) to outside hub diameter of the take up gear (15) and position gear over bearing. Apply a light film of lubricant (DC44) to inside diameter of clutch spring (14). Assemble clutch spring on hub of take up gear and position the take up gear (15) with a tooth on gear in mesh with a tooth on the counter gear assembly (21) and in mesh with a tooth on the intermediate gear (19). Make sure the position of the main gear assembly (28) and hub (25) are maintained as described in paragraph e above. Insert film take up shaft assembly through clutch spring, take-up gear and bearing (16). Apply sealant grade E to threads of film take up shaft assembly. Assemble flat washer (12) and secure with winding key (11) .

CAUTION

The winding key (11) has left hand threads and must be turned in a counterclockwise direction to assemble.

i. Hook the film advance lever spring (26) in groove of shaft mounting the intermediate gear (19).

j. Check the clutch torque at winding key, using torque screwdriver. Torque reading. must be within 8 to 16 inch-ounces.

k. Apply a light film of lubricant (FS-1290) to bearing surfaces of the drive roller gear (10). Assemble the drive roller gear to shaft of the film drive roller assembly allowing 0.008 to 0.020 inch end play on roller and secure with two set screws (9).

CAUTION

Do not turn the drive roller assembly counterclockwise.

l. Apply a light film of lubricant (DC-44) to gear teeth of the drive roller gear (10), take-up gear (15), intermediate gear (19) and the main gear assembly (28).

m. Apply a light film of lubricant (FS-1290) to bearing surfaces of the exposure counter dial assembly (8) and assemble dial on its mounting post. Dial must rotate in a counterclockwise direction under a torque force of 2 to 5 inch-ounces.

CAUTION

Do not turn dial in a clockwise direction.

n. Adjust the exposure counter dial paw1 (32) to engage the exposure counter dial assembly (8) at full depth of tooth and to align dial with pointer on the top cover assembly (5) within one graduate width. Tighten thread forming screw (31). Apply sealant (ZV903) to head of screw.

o. If it is necessary to replace a window (7) or the lever cushion (6) on the top cover assembly (5), use EC-847 and cement component in place. Position top cover assembly over the carriage mechanism and secure cover with four thread forming screws (4). Apply sealant (ZV903) to heads of screws.

p. Turn hub (25) counterclockwise approximately 180° against spring pressure until long edges of pads on hub are parallel to rear edge of the top cover. Position the film advance lever (3) over hub and secure with two machine screws (2).

NOTE

Each full stroke of the film advance lever (3) must rotate the drive roller assembly and the winding key (11). It must also start indexing the exposure counter dial assembly (8) between 3/4 and 7/8 of a full stroke.

q. Reactivate rear side of the medallion (1) with cleaning compound and press medallion into recess in the film advance lever.

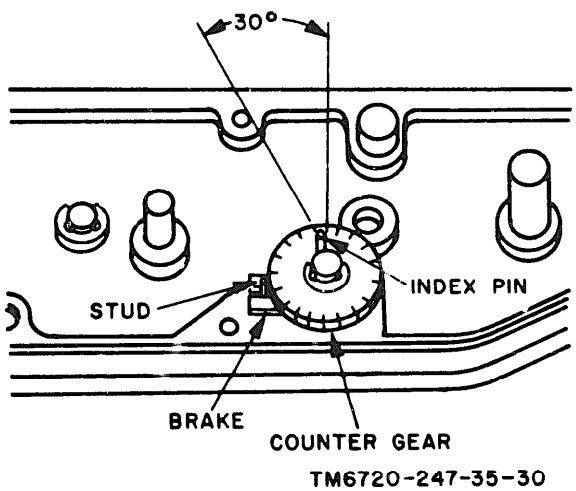


Figure 5-10. RH/50 Carriage, showing position of counter gear assembly.

CHAPTER 6

DISASSEMBLY AND REASSEMBLY OF LENS AND SHUTTER

Section I. DISASSEMBLY

6-1. Parts **Replacement Techniques**

When working on the lens and shutter assembly be careful to avoid damage to delicate parts. Do not attempt to force parts together or apart. Be careful when removing parts so that springs under tension do not fly out and get lost. When disassembling the shutter, group the associated parts arid arrange them in the order in which they are removed.

6-2. Consideration Before Disassembly

Disassemble the lens and shutter only as far as necessary to reach a defective part. Follow the complete disassembly procedures given in the following paragraphs when it is necessary to cover complete cleaning (para 6-l0), lubrication (para 6-11) and major overhaul of the lens and shutter.

6-3. Lens and Shutter, Disassembly (Stage 1) (fig. 6-l)

a. Remove lens cap (1) and barrel cap (2).

b. Remove machine screw (3), lock assembly (4) and any combination of flat washers (5) that may have been used.

c. Remove machine screw (6), socket (8) with shaft (7) attached, any combination of 0.010 inch. k shims (9) that may have been used and one 0.087 inch thick shim (10).

d. Remove screw-on ring (11) securing the shutter assembly (14) to the barrel complete (12) and remove any combination of 0.0030 inch thick shims (13), (not shown) that may have been used between the shutter assembly and the barrel complete.

6-4. Lens and Shutter, Disassembly (Stage 2) *(fig. 6-2)*

a. Remove front and rear lens elements (1 and 2), unscrewing each in a counterclockwise direction.

b. Use a small tool and pry out the front ring ***(3)***

c. Remove threaded ring screw (4). Remove threaded ring (5), unscrewing ring in a counterclockwise direction.

d. Remove cover plate (6), speed selector ring (7) and slotted ***cam*** ring (8).

e. Remove flash terminal screw (9) and flash terminal (10).

f. Remove two scale screws (11) and wrap-around scale strip (12).

6-5. Lens and Shutter, Disassembly (Stage 3) *(fig. 6-3)*

a. Disengage the cocking ring spring (2) from the V detent lever stud and lift off the cocking ring assembly (1) with the cocking ring spring attached. If necessary remove the cocking ring spring.

b. Remove one long escapement screw (3) one short escapement screw (4) and lift off the escapement assembly (5).

CAUTION

Do not disassemble the escapement assembly (5).

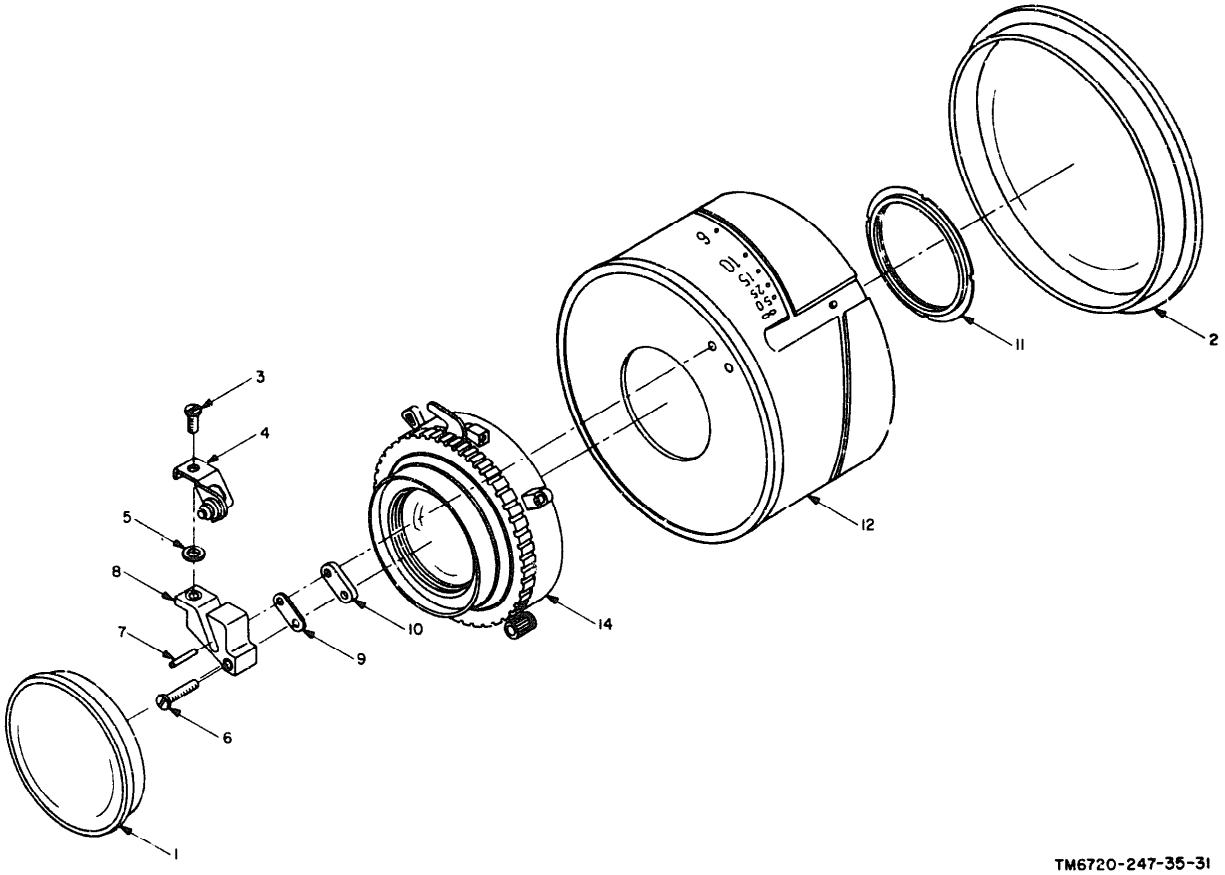
c. Remove cocking ring pinion assembly (6), drive spring (7) and the drive (8).

d. Remove stop screw (9) and stop (10).

6-6. **and Shutter, Disassembly** (Stage 4) (fig. 6-4)

a. Remove release lock assembly (1) with release lock spring (2) attached.

b. Remove release lever assembly (3) with release lever spring (4) attached.



1. Lens cap (3MP1)
2. Barrel cap (3MP2)
3. Machine screw (3H1)
4. Lock assembly (3A1)
5. Flat washer (3H2)
6. Machine screw (3H3)
7. Shaft (3MP4)
8. Socket (3MP3)
9. Shim (3H4)
10. Shim (3H5)
11. Screw-on ring (3MP5)
12. Barrel complete (3A2)
13. Shim (not shown) (3H6)
14. Shutter Assembly (3A3)

Figure 6-l. Lens and shutter, disassembly (stage 1), exploded view.

c. Remove selftimer screw (5) and selftimer assembly (6).

CAUTION

Do not disassemble the selftimer assembly (6).

d. Disengage locking lever spring (9). Remove the (plain) bridge screw (7) and the (shoulder) bridge screw (8) with locking lever spring (9) attached, and lift off the bridge assembly (10).

e. Remove X contact lever assembly (11), M contact lever assembly (12) with M contact lever spring (13) attached.

f. Remove M detent spring (14), cocking lock spring (15) and M detent assembly (16).

Figure 6-8. Continued.

1. Front lens element (3A3A1)
2. Rear lens element (3A3A2)
3. Front ring (3A3MP3)
4. Threaded ring screw (3A3H3)
5. Threaded ring (3A3MP4)
6. Cover plate (3A3MP5)
7. Speed selector ring (3A3MP6)
8. Slotted cam ring (3A3MP7)
9. Flash terminal screw (3A3H1)
10. Flash terminal (3A3MP1)
11. Scale screw (3A3H2)
12. Wrap-around scale strip (3A3MP2)

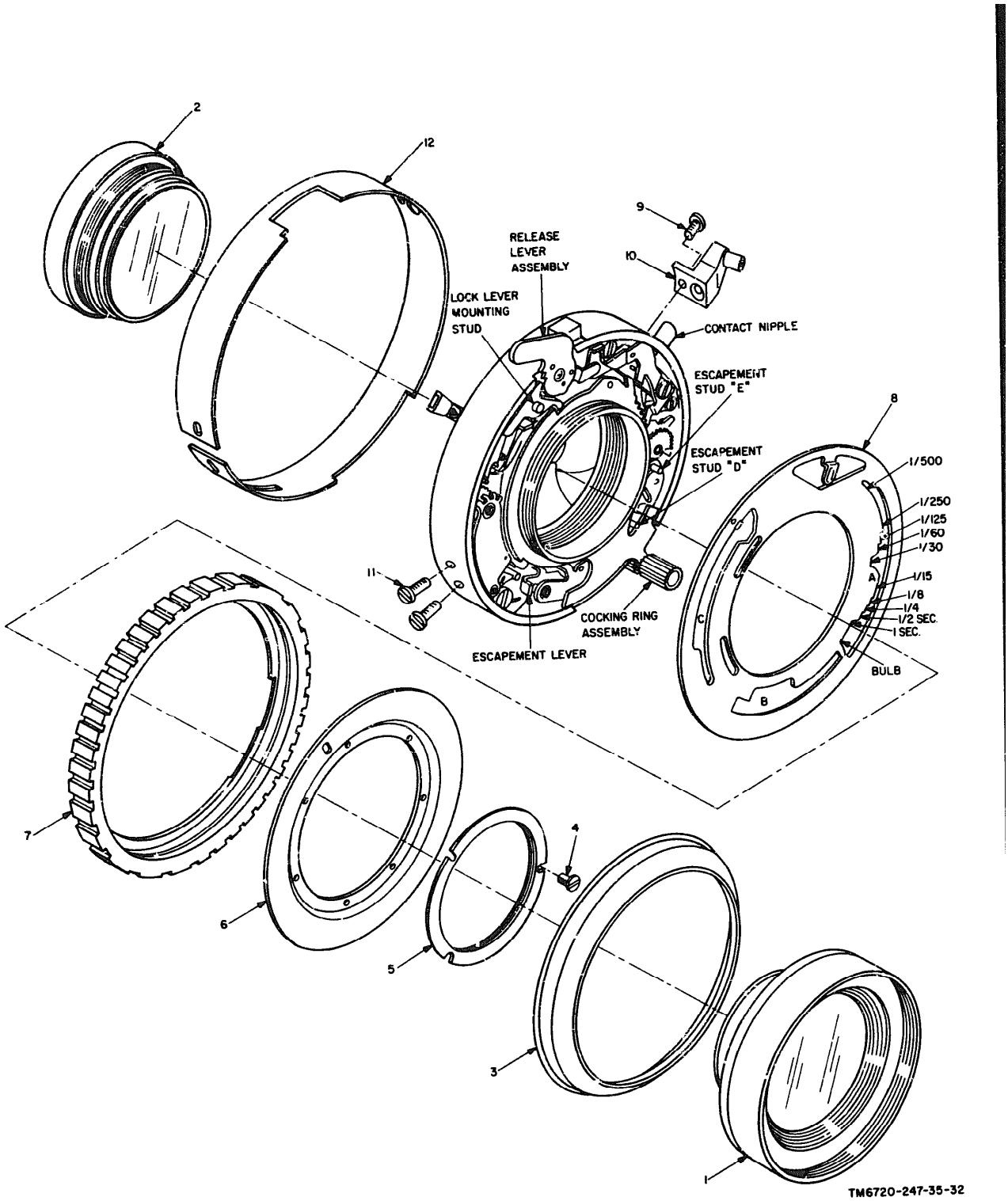
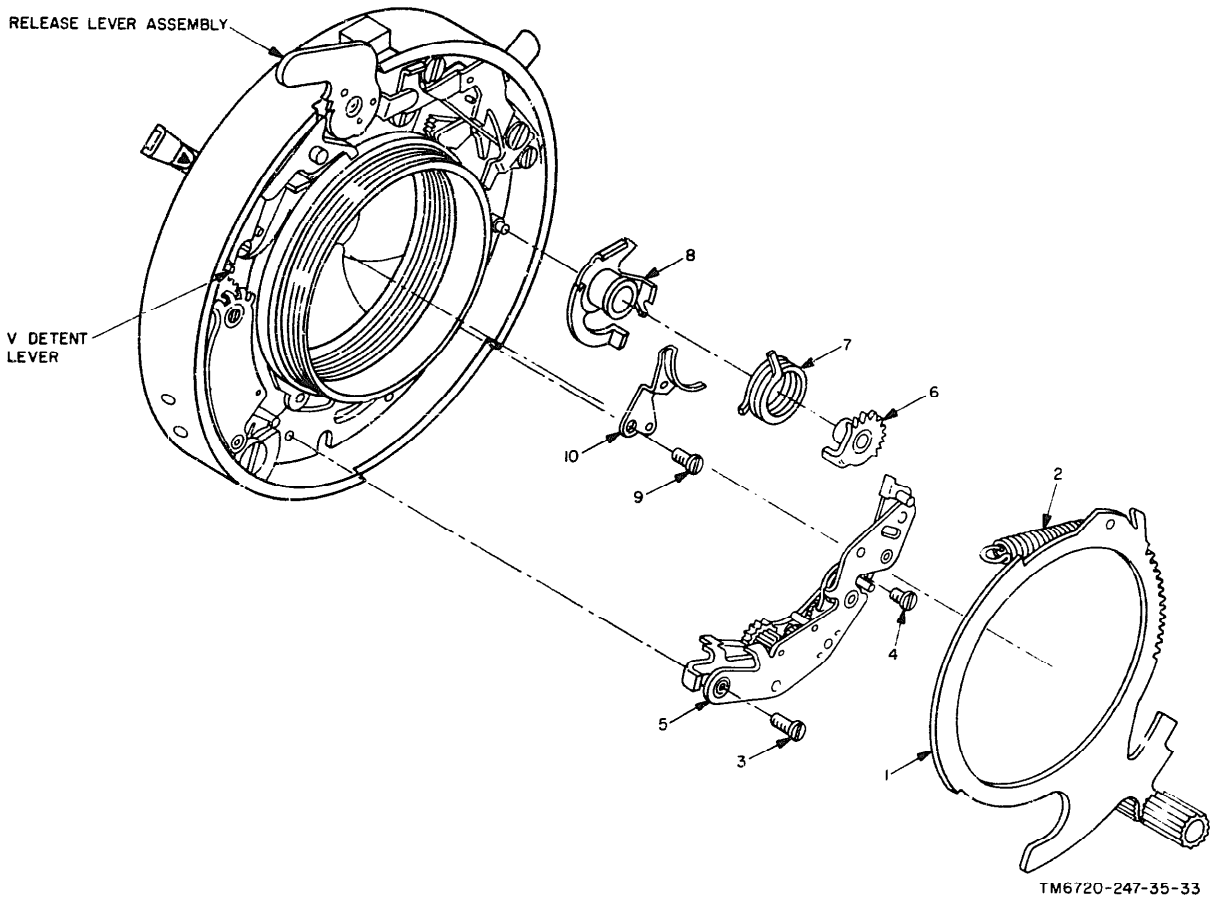


Figure 6-2. Lens and shutter, disassembly (stage 2), exploded view.



1. Cocking ring assembly (3A3A3)
2. Cocking ring spring (part of 1) (3A3A3MP1)
3. Escapement screw (long) (3A3H4)
4. Escapement screw (short) (3A3H5)
5. Escapement assembly (3A3A4)
6. Cocking ring pinion assembly (3A3A5)
7. Drive spring (3A3MP8)
8. Drive (3A3MP9)
9. Stop screw (3A3H6)
10. Stop (3A3MP10)

Figure 6-3. ***Lens and shutter, disassembly (stage 3), exploded view.***

g. Remove M spur gear assembly (17).

h. Remove M detent lever spring (18).

i. Remove M adjusting screw (19) and M adjusting element (20).

6-7. Lens and Shutter, Disassembly, (Stage 5)

(fig. 6-5)

a. Remove speed lever screw (1) with setting ring spring (2) attached and remove the speed (bulb) lever (3).

b. Remove blade opening lever screw (4 blade opening lever spring (5), blade opening lever assembly (6) and leaf spring (‘7).

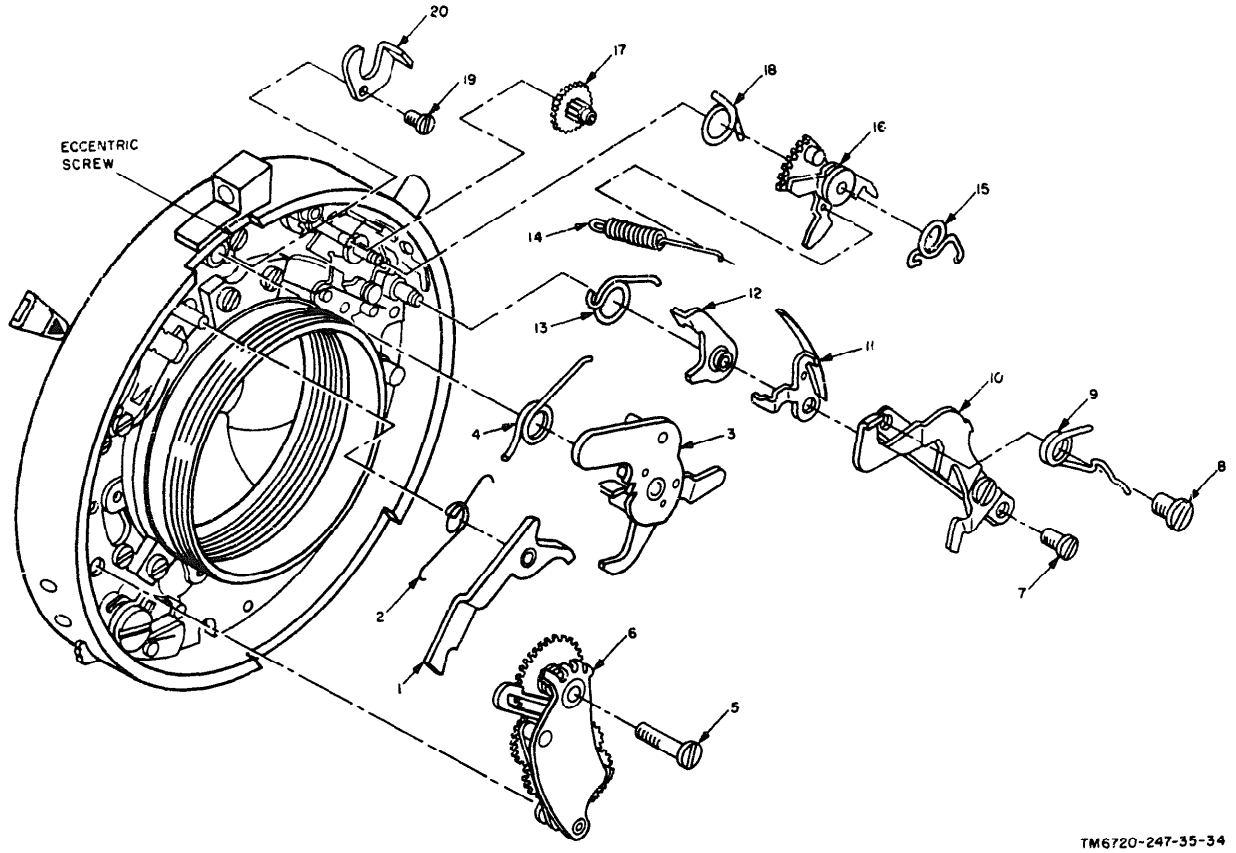
c. Remove blade ring closing spring (8).

d. Remove diaphragm ring knob screw (9) and diaphragm ring knob (10).

e. Remove three diaphragm ring screws (11) and diaphragm ring assembly (12).

f. Remove setting ring screws (13) and setting ring assembly (14).

g. To facilitate the removal of the base plate complete (16), shutter leaf assemblies (22, 23, and 24) and the shutter leaf opening plate assembly (21) proceed as follows :



1. Release lock assembly (3A3A6)
2. Release lock spring (3A3MP11)
3. Release lever assembly (3A3A7)
4. Release lever spring (3A3MP12)
5. Selftimer screw (3A3H7)
6. Selftimer assembly (3A3A8)
7. Bridge screw (plain) (3A3H8)
8. Bridge screw (shoulder) (3A3H9)
9. Locking lever spring (3A3MP13)
10. Bridge assembly (3A3A9)
11. X contact lever assembly (3A3A10)
12. M contact lever assembly (3A3A11)
13. M contact lever spring (3A3MP14)
14. M detent spring (3A3MP15)
15. Cocking lock spring (3A3MP16)
16. M detent assembly (3A3A12)
17. M spur gear assembly (3A3A13)
18. M detent lever spring (3A3MP17)
19. M adjusting element screw (3A3H10)
20. M adjusting element (3A3MP18)

Figure 6-4. Lens and shutter, disassembly (stage 4), exploded view.

(1) Place the shutter on a flat surface with the front of the shutter facing down.

(2) Remove five case screws (15) and carefully lift the shutter case up and away from the base plate complete.

h. Remove lower shutter leaf assembly (22) three shutter leaf assemblies (23) and upper shutter leaf assembly (22) and lift the shutter leaf plate assembly (21) from the base plate complete (16).

i. If it is necessary to disassemble the base plate complete (16), unscrew four mounting tube screws (17) and lift the mounting tube (18) and blade control ring assembly (19) from the base plate assembly (20).

6-8. lens and Shutter, Disassembly (Stage 6)

(fig. 6-6)

a. Remove four blade cover screws (1) and top diaphragm cover assembly (2).

b. Remove five diaphragm leaf assemblies (3) and lower diaphragm cover assembly (4).

c. If necessary, remove locating screw (5) from case assembly (6).

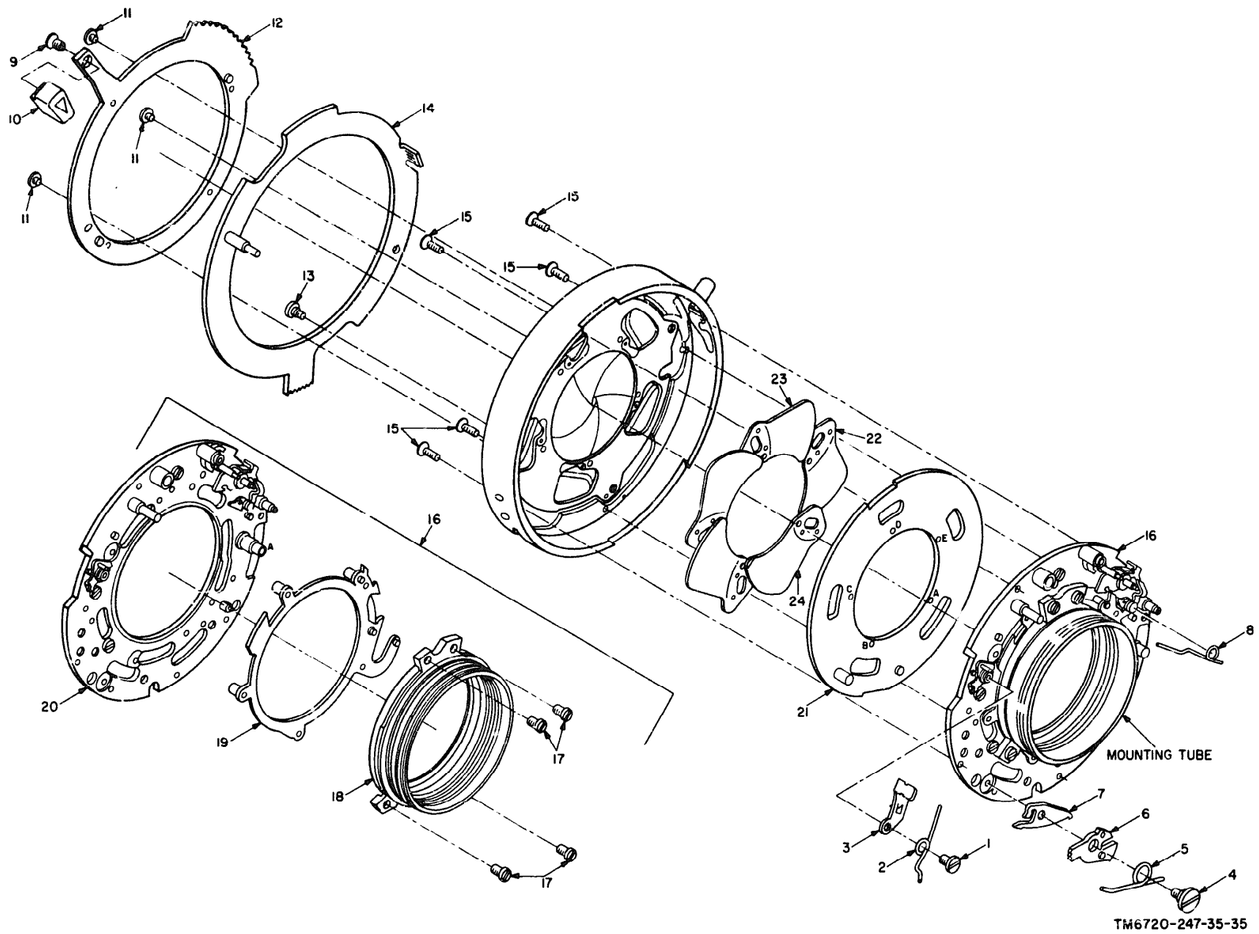
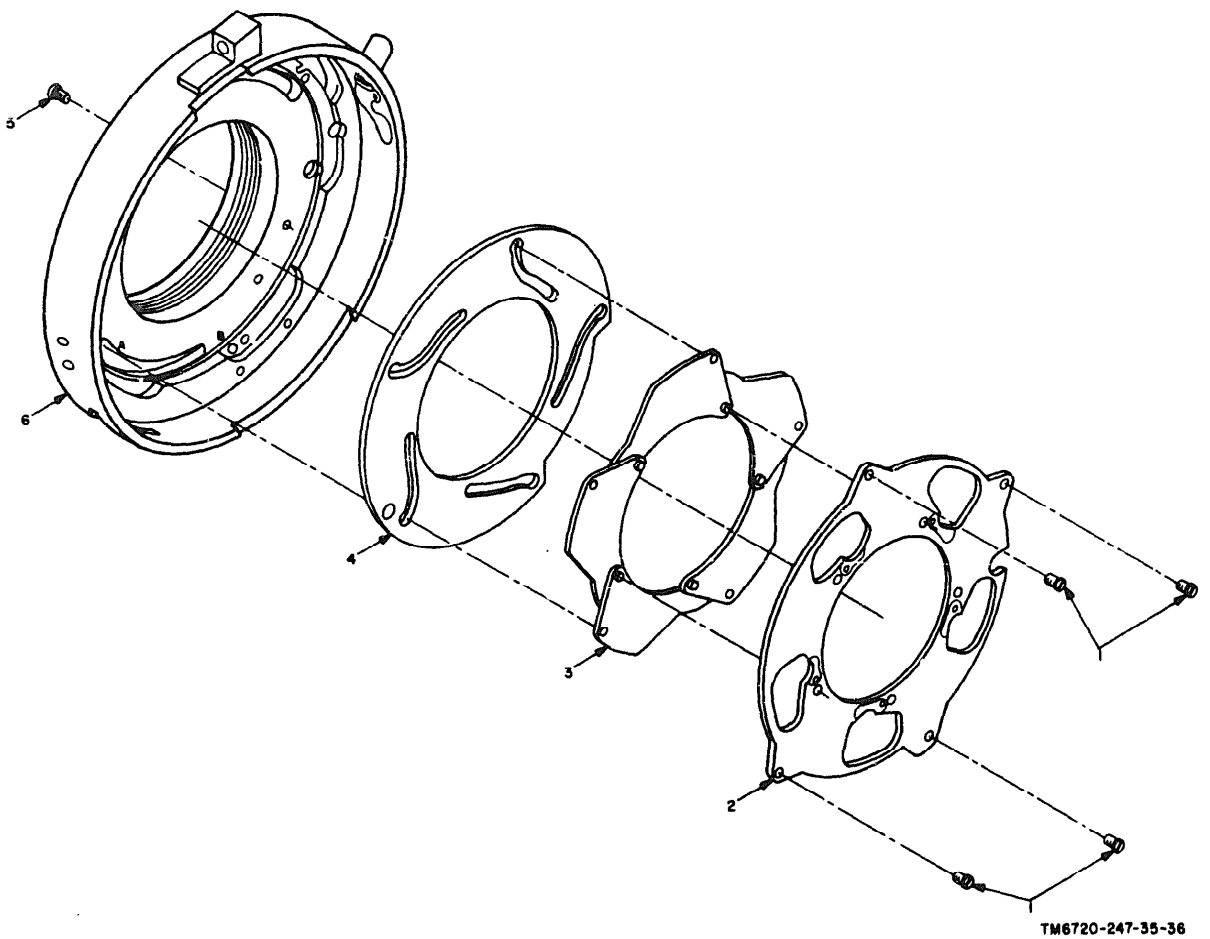


Figure* 6-5. *Lena and shutter, *disassembly* ***(stage 5), exploded view.***

1. Speed lever screw (3A3H11)
2. Setting ring spring (3A3MP20)
3. Speed lever (3A3MP19)
4. Blade opening lever screw (3A3H12)
5. Blade opening lever spring (3A3MP21)
6. Blade opening lever assembly (3A3A14)
7. Leaf spring (3A3MP22)
8. Blade ring closing spring (3A3MP23)
9. Diaphragm ring knob screw (3A3H13)
10. Diaphragm ring knob (3A3MP24)
11. Diaphragm ring screw (3A3H14)
12. Diaphragm control ring assembly (3A3A15)
13. Setting ring screw (3A3H15)
14. Setting ring assembly (3A3A16)
15. Case screw (3A3H16)
16. Base plate complete (3A3A17)
17. Mounting tube screw (part of 16) (3A3A17H1)
18. Mounting tube (part of 16) (3A3A17MP1)
19. Blade control ring assembly (part of 16) (3A3A17A1)
20. Base plate assembly (part of 16) (3A3A17A2)
21. Shutter leaf plate assembly (3A3A21)
22. Lower rear shutter leaf assembly (3A3A18)
23. Shutter leaf assembly (3A3A19)
24. Front shutter leaf assembly (3A3A20)

Figure 6-5- Continued.



1. Blade cover screw
2. Top diaphragm cover assembly
3. Diaphragm leaf assembly
4. Lower diaphragm cover assembly
5. Locating screw
6. Shutter case assembly

Figure 6-6. Lens and shutter, disassembly (stage 6), *exploded view.*

Section II. REPAIR, CLEANING AND LUBRICATION

6-9. Repair

Repair of the lens and shutter is done by straightening or bending, where original strength or function of parts is not impaired. Replace any parts that are worn or damaged to the extent they cannot be repaired as indicated in reassembly procedures.

6-10. Cleaning Disassembled Parts

Clean the disassembled parts of the lens and shutter assembly as follows :

WARNING

Prolonged breathing of cleaning compound is dangerous: make sure adequate ventilation is provided. Cleaning compound is flammable; do not use near flame. Avoid contact with skin; wash off any that spills on the hands.

a. Clean unpainted metal parts with cleaning compound, Dry the cleaned parts thoroughly; use a clean lint free cloth or a gentle blast of compressed air. When cleaning the parts of the shutter assembly, such as levers and gears, use a small brush moistened with the cleaning compound to clean the parts thoroughly.

b. Wipe painted metal parts with a soft, lint free cloth moistened with the cleaning compound. Thoroughly dry the cleaned parts with a clean, dry, lint free cloth.

6-11. Lubrication

CAUTION

Do not vary the lubrication requirements given below. Excessive or incorrect lubrication, or use of lubrication other than these specified could cause malfunction within the mechanism.

a. General. All parts of the shutter that require lubrication are specified in reassembly paragraphs. Where lubricant (Molykote type Z) is specified, use a small brush to apply the dry lubricant and another small clean brush or a gentle blast of compressed air to remove excessive lubrication. Use a small brush to apply Aircraft and Instrument grease.

b. Lubrication Points.

Fig. No.	*Item*	*Remarks*	Lubrication
19, 6-5	Blade control ring assembly	Apply a light film of lubricant to inside diameter and to front and rear surfaces.	Molykote type Z
12, 6-5	Diaphragm control ring assembly.	Apply a light film of lubricant to inside diameter.	Molykote type Z
8, 6-5	Blade ring closing spring _	Apply a light film of lubricant to long shank.	Aircraft and Instrument grease.
7, 6-5	Leaf spring _ _ _ _ _ _ _	Apply a light film of lubricant to raised tip	Molykote type Z
17, 6-4	M spur gear assembly _ .	Apply a light film of lubricant to all surf aces.	Molykote type Z
16, 6-4	M detent assembly .	Apply a light film of lubricant to all surfaces.	Molykote type Z
6, 6-4	Selftimer assembly	Apply a light film of lubricant to internal mechanism.	Molykote type Z
8, 6-3	Drive _ _ _ _ -- .	Apply a light film of lubricant to inside diameter of hole.	Molykote type Z
7, 6-3	Drive spring	Apply a light film of lubricant to inside diameter.	Molykote type **Z**
5, 6-3	Escapement assembly	Apply a light film of lubricant to internal mechanism.	Molykote type Z
6, 6-2	Cover plate _ _ _ _ _ _	Apply a light film of lubricant to raised dimples on rear surface.	Aircraft and Instrument grease.

Section III. REASSEMBLY

6-12. Lens and Shutter Reassembly (Stage 1) (fig. 6-6)

a. If removed, thread locating screw (6) into its mounting hole in rear of shutter case assembly (6).

b. Position Dower diaphragm cover assembly (4) in the shutter case assembly with stud on

cover assembly located in radial slot A. Rotate cover assembly in a clockwise direction as far as it will go (open position).

c. Start at any point and assemble one diaphragm leaf assembly (3) with the bottom stud on each diaphragm leaf engaged in one of the elongated slots in the lower diaphragm cover assembly (4). Working in a counterclockwise direction, assemble the second diaphragm leaf assembly over the first diaphragm leaf assembly with its stud engaged in the next elongated slot. Assemble the third, fourth and fifth diaphragm leaf assemblies in the same manner with one exception. The tip of the fifth diaphragm assembly is inserted under the first diaphragm leaf assembled.

CAUTION

Each diaphragm leaf assembly must lay flat.

d. Carefully position top diaphragm cover assembly (2) over the diaphragm leaf assemblies (3), locating the stud on the top diaphragm cover assembly into hole B in the shutter case. Press downward on the top diaphragm cover assembly and adjust each diaphragm leaf assembly to locate its top stud into its respective pivot hole in top diaphragm cover assembly. Secure top diaphragm cover assembly with four blade cover screws (1). Check diaphragm leaves for smooth closing and opening action

6-13. Lens and Shutter, Reassembly (Stage 2) (fig. 6-5)

a. If it was necessary to disassemble the base plate complete (16), proceed as follows :

(1) Apply a light film of lubricant (Molykote type Z) to inside diameter and to front and rear surfaces of blade control ring assembly (19). Position blade control ring assembly (19) on base plate assembly (20) with each of the five studs on the blade control ring located in a radial slot in the base plate assembly and the hook portion on the blade control ring located against stud A.

(2) Align four plain holes in mounting tube (18) with four mating tapped holes in base plate assembly and secure with four mounting tube screws (17).

b. Place base plate complete (16) on a flat surface with the mounting tube facing down. Position shutter leaf plate assembly (21) over base plate complete with five protruding studs on base plate each engaged in a radial slot. in shutter leaf plate assembly and long and short studs on bottom side of shutter plate assembly each engaged in a radial slot in the base plate complete.

CAUTION

Shutter leaf plate assembly must lay flat.

c. Rotate shutter leaf plate assembly (21) counterclockwise as far as it will go and assemble five shutter leaf assemblies on their respective posts on the shutter leaf opening plate assembly as follows :

(1) Upper (front) shutter leaf assembly (24) on post A with bend facing down.

(2) Three shutter leaf assemblies (23) on posts B, C and D.

(3) Lower (rear) shutter leaf assembly (22) on post E with bend facing up.

CAUTION

Shutter leaf assemblies must lay flat.

d. Position the shutter case, with diaphragm leaves previously assembled, over shutter leaves ; align five plain holes in shutter case with five mating threaded holes in base plate. Secure shutter case with five case screws (15).

e. Assemble setting ring assembly (14) with stud on setting ring engaged in the smaller of the two radial slots and the 90º bend down tab portion on the ring engaged in the outer radial slot. Secure setting ring assembly with setting ring screw (13). (Screw threads into case and catches edge of setting ring under head of screw.)

CAUTION

When seating tab portion on the setting ring into its slot, use care to avoid damage to riveted components on base plate assembly (20).

f. Apply a light film of lubricant (Molykote type Z) to inside of diaphragm control ring assembly (12). With diaphragm leaves in the open position, assemble diaphragm control ring assembly by inserting the ratchet under the ratchet spring riveted to the shutter case and engage the first tooth on the right side of ratchet into the V slot in the spring, and locating the small rectangular hole in diaphragm ring over the protruding stud on the lower diaphragm cover assembly (4, fig. 6-6). Secure diaphragm control ring with three diaphragm ring screws (11, fig.

6-S). (Screws thread into case and retain the ring behind the head of the screws.)

g. If removed, position diaphragm ring knob (10) over its mounting hole in the diaphragm control ring assembly (12) and secure knob with diaphragm ring knob screw (9).

h. Apply a light film of lubricant (Aircraft and Instrument grease) to long shank of blade closing spring (8). Assemble blade ring closing spring over M detent lock and stud and hook-up spring (fig. 6-7).

i. Apply light film of lubricant (Molykote type Z) on raised tip of leaf spring (7, fig. 6-5). With shutter leaves in the closed position, locate leaf spring over its mounting hole in base plate complete. Position blade opening lever assembly (6) over blade lever with the serrated lever portion of the blade lever extending through the slot in the shutter case and the large protruding stud on the shutter leaf plate assembly located in the center of the open end of the slot in lever. Assemble blade opening lever spring (5) and secure with blade opening lever screw (4). Hook-up blade opening lever spring (fig. 6-8).

i. Assemble speed lever (3, fig. 6-5) over V detent lever stud. Assemble setting ring spring (2) in peripheral groove in head of speed lever screw (1) and secure speed lever with speed lever screw. Hook-up setting ring spring (fig. 6-9).

6-14. Lens and Shutter, Reassembly (Stage 3) (fig. 6-4)

a. Locate M adjusting element (20) over its mounting hole and secure with M adjusting element screw (19).

b. Place M detent lever spring (18) over stud. Position detent lever spring (fig. 6-7).

c. Apply a light film of lubricant (Molykote type Z) to all surfaces of M spur gear assembly (17, fig. 6-4). Place M spur gear assembly on its mounting stud.

d. Apply a light film of lubricant (Molykote type Z) to all surfaces of M detent assembly (16). Assemble cocking lock spring (15) in groove of stud on the M detent assembly and assemble M detent assembly on its mounting stud. Hook loop end of M detent spring (14) over tab on M adjusting element (20). Position cocking lock spring and M detent spring (fig. 6-10).

e. Assemble M contact lever spring (13, fig. 6-4) on M contact lever assembly (12). Assemble M contact lever assembly on its mounting stud and position M contact lever spring (fig. 6-10). Assemble X contact lever assembly (11, fig. 6-4) over M contact lever assembly.

f. Assemble locking lever spring (9) on shoulder of bridge screw (8). Position bridge assembly (10) over its mounting holes and secure with two bridge screws (8 and 7). Position locking lever spring (fig. 6-9).

g. Apply a light film of lubricant to internal mechanism of the selftimer assembly (6, fig. 6-4). Position selftimer assembly (6) over its mounting hole and secure with selftimer screw (5).

h. Assemble release lever spring (4) to the release lever assembly (3). Assemble release lever assembly on its mounting stud and position release lever spring (fig. 6-9).

i. Assemble release lock spring (2, fig. 6-4) to release lock assembly (1). Assemble release lock assembly on its mounting stud and position release lock spring (fig. 6-9).

6-15. Lens and Shutter, Reassembly (Stage 4) (fig. 6-3)

a. Position stop (10) over its mounting hole and secure with stop screw (9).

b. Apply a light film of lubricant (Molykote type Z) to inside diameter of hole in the drive (8) and with shutter leaves in the closed position, assemble drive over its mounting stud with the upper tab on drive against the outer surface of stop. Apply a light film of lubricant (Molykote type Z) to inside diameter of the drive spring (7). Assemble drive spring over drive with short shank of spring facing down and located in the V slot on lower tab of drive. Wind drive spring approximately one half turn clockwise and locate the top shank of the spring against the inner curved surface of the stop.

c. Assemble cocking ring pinion assembly (6) over drive spring with tab on the cocking ring pinion assembly against the inside surface of the upper tab on the drive.

d. If cocking ring spring (2) was removed, hook one end of spring over stud on cocking ring assembly (1).

e. Hook the free end of cocking ring spring over V detent lever stud. With cocking ring

pinion assembly (6) against the upper tab on the drive as in step c above, mesh the first tooth on the cocking ring assembly with the first tooth on the cocking ring pinion assembly.

f. Cock the shutter by turning the cocking ring assembly clockwise. Disengage cocking ring spring from the V detent lever stud and lift off cocking ring assembly.

g. Apply a light film of lubricant (Molykote type Z) to internal mechanism of escapement assembly (5). Position escapement assembly over its two mounting holes and secure with one short escapement screw (4) and one long escapement screw (3). Release the shutter by pressing down on the release lever assembly.

h. Rehook the cocking ring spring (2) over the V detent lever stud and seat the cocking ring assembly (1) as in step e above.

6-16. ens and Shutter, Reassembly (Stage 5) (fig. 6-2)

a. Position engraved scale (12) around the outside of the shutter case and secure with two engraved scale screws (11).

b. Slide flash terminal (10) down over contact nipple and secure with flash terminal screw (9).

c. Position slotted cam ring (8) over the shutter mechanism with the escapement studs D and E located in radial slot A, tab on the escapement lever located in radial slot B and the lock lever mounting stud located in radial slot C.

d. Rotate slotted cam ring to locate the escapement stud D at the 1 second step. The escapement stud D should contact the 1 second step without binding. Rotate the slotted cam ring to locate the escapement stud E in the 1/500 second slot. The escapement stud E should enter the 1/500 second slot and travel the limits of the slot without binding. If the escapement studs D or E do not locate as specified, adjust the escapement assembly (5, fig. 6-3) as follows:

(1) Remove slotted cam ring (8, fig. 6-2).

(2) Loosen short escapement screw (4, fig. 6-3). Loosen long escapement screw (3) approximately one turn. Slide the end of the escapement assembly, nearest the short escapement screw forward or backward to reposition the escapement assembly. Tighten short and long escapement screws just enough to hold the escapement assembly in place.

(3) Assemble slotted cam ring as in step c above and check escapement assembly adjustment. When the escapement assembly has been correctly adjusted, tighten short and long escapement screws.

e. Position speed selector ring (7) over slotted cam ring with two tabs on slotted cam ring engaged in mating notches in speed selector ring.

f. Apply a light film of lubricant (Aircraft and Instrument grease) to raised dimples on rear surface of the cover plate (6). Position cover plate over the shutter mechanism with lock lever mounting stud located in the small elongated hole in the cover plate.

g. Screw threaded ring (5) firmly in place by turning ring in a clockwise direction and locating one of the notches on threaded ring over a threaded hole in cover plate. Secure threaded ring with threaded ring screw (4).

h. Position front ring (3) in opening and snap ring in place.

i. Thread rear and front lens elements (2 and 1) into the shutter.

i. Check shutter speeds as follows :

(1) Connect shutter to Berkley Time Interval Meter (para 7-6).

(2) Rotate the cocking ring assembly clockwise to cock the shutter.

(3) Set the MXV lever on the shutter to M position. Rotate the slotted cam ring (8) to locate escapement stud D at the 1/125 second step. Press down on the release lever assembly and observe reading. Reading should be within 6.35 to 9.62 milliseconds.

(4) If reading is not within the specified range disassemble to remove the slotted cam ring (8). Remove the release lock assembly, release lever assembly (para 6-4a and b). Loosen M adjusting element screw (19, fig. 6-4). If reading is over 9.62 milliseconds turn the riveted eccentric screw located in the slot of the M adjusting element (20) counterclockwise. If reading is below 6.35 milliseconds turn the eccentric screw clockwise. Tighten M adjusting screw. Assemble release lever assembly and release lock assembly (para 6-14h and i). Reassemble slotted cam ring (8, fig. 6-2) and complete reassembly as in c through i above.

6-17. Lens and Shutter, Reassembly (Stage 6) (fig. 6-l)

a. Position shutter assembly (14) to barrel complete (12) using any combination of 0.003

inch shims (13) (not shown), that had been used between the barrel and shutter. Secure shutter and barrel with screw-on ring (11).

b. Position one 0.087 inch shim (10) and any combination of 0.010 inch shims (9), if used, over two holes in front. of barrel complete. Assemble socket (8) with shaft (7) attached and secure with machine screw (6). Assemble any combination of flat washers (5), if used, position lock assembly and washers over the socket and ‘secure with machine screw (3).

c. Assemble barrel cap (2) and lens cap (1).

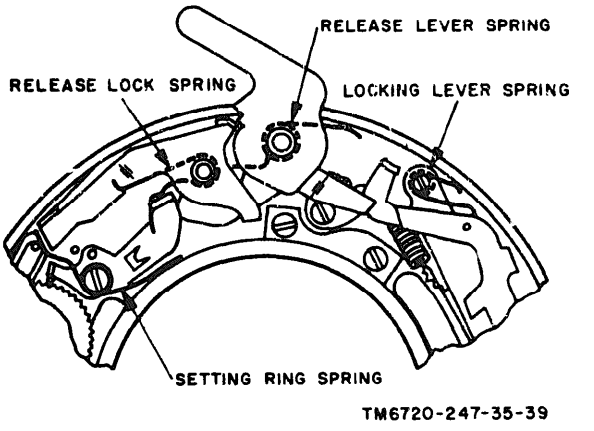


Figure 6-9. Shutter No. O, spring positions (3 of 4).

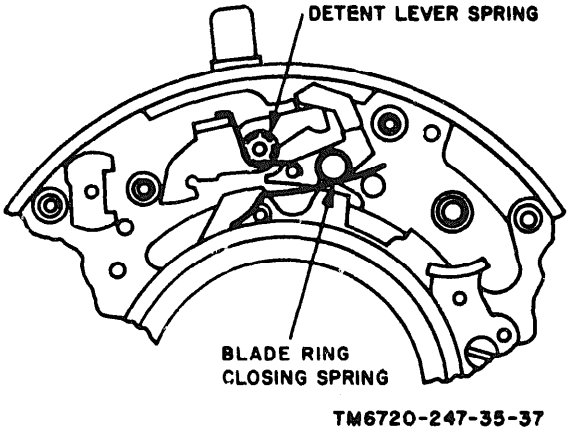


Figure 6-7. Shutter No. 0, spring positions (1 of 4).

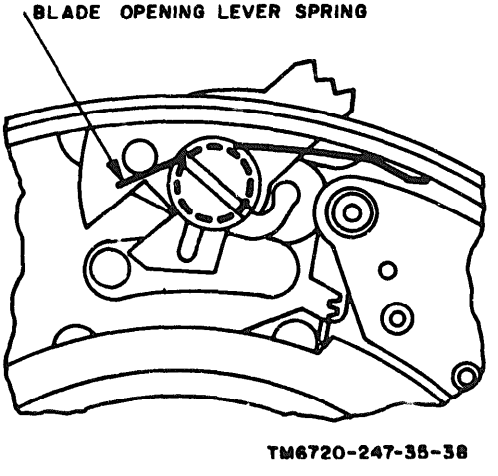


Figure 6-8. Shutter No. 0, spring positions (2 of 4).

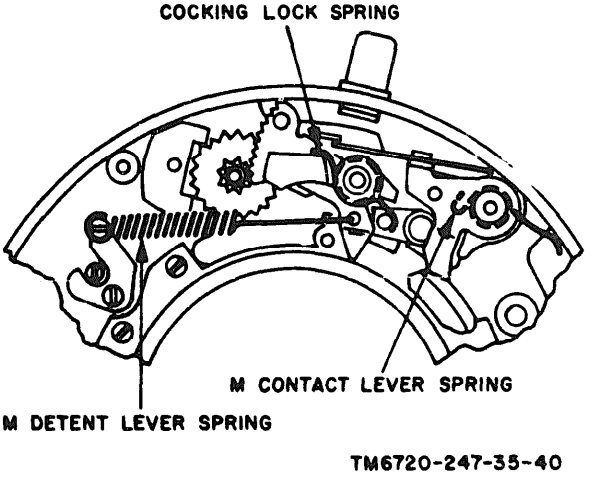


Figure 6-10. Shutter No. 0, spring positions (4 of 4).

CHAPTER 7

DEPOT MAINTENANCE

Section I. GENERAL

7-1. Depot Rebuild

Complete rebuild of Camera Set, Still Picture KS-98A and KS-98B and/or its individual components will be accomplished by depot maintenance facilities when authorized by Headquarters, Department of the Army. Rebuild action includes all repair, rebuild and replacement operations, necessary to make the equipment equivalent to new material and suitable for return to DA supply system stocks for reissue to using organizations. Detailed procedures for accomplishing the repairs and adjustments established in preceding portions of this manual, and such additional repair and rebuild operations as deemed necessary, will be established by the facility performing the work. Paragraphs 7-3 and 7-4 establish the requirements that must be met by rebuilt or repaired equipment before it is returned to DA supply system stock.

7-2. Depot Tools, Materials and Test Equipment Required

The tools, materials and test equipment given in paragraph 2-3 are required for depot maintenance. No special equipment or materials are needed to accomplish the tests specified in paragraph 7-5.

Section II. DEPOT OVERHAUL STANDARDS

7-3. Standards

The test outlined in paragraphs 7-7 through 7-10 are designed to measure the performance capability of a repaired equipment. Equipment that is to be returned to stock should meet the standards given in this test.

7-4. Applicable References

a. Repair Standards. Applicable procedures of the Army depots performing these tests and the general standards for repaired electronic equipment given in TB SIG 355-1, TB SIG 355-2 and TB SIG 355-3 form a part of the requirements for testing this equipment.

b. Technical Publications. The only technical publication applicable to these tests is TM 11-6720-247-12.

c. Modifications Work Orders. Perform all modification work orders pertaining to this equipment before making the test specified, DA Pam 310-7 lists all available MWO's.

7-5. Test Requirements

The test requirements for the depot overhaul standards are the same as the requirements described in chapters 3, 4 and 5 of TM 11-6720-247-12 for normal operating equipment. Equipment that is tested and meets the performance standards described in paragraphs 4-6, 4-6 and 5-6 through 5-7 of TM 11-6720-247-12 should be considered as having passed the depot overhaul standards for the camera set.

7-6. Shutter Speed Test

a. Test Equipment

(1) Berkley Time Interval Meter Mode1 7250U. Multimeter TS352B/U.

(2) Light source control and photo tube amplifier.

b. Test Connections and Conditions. All connections as shown in figure 7-1.

c. Procedure.

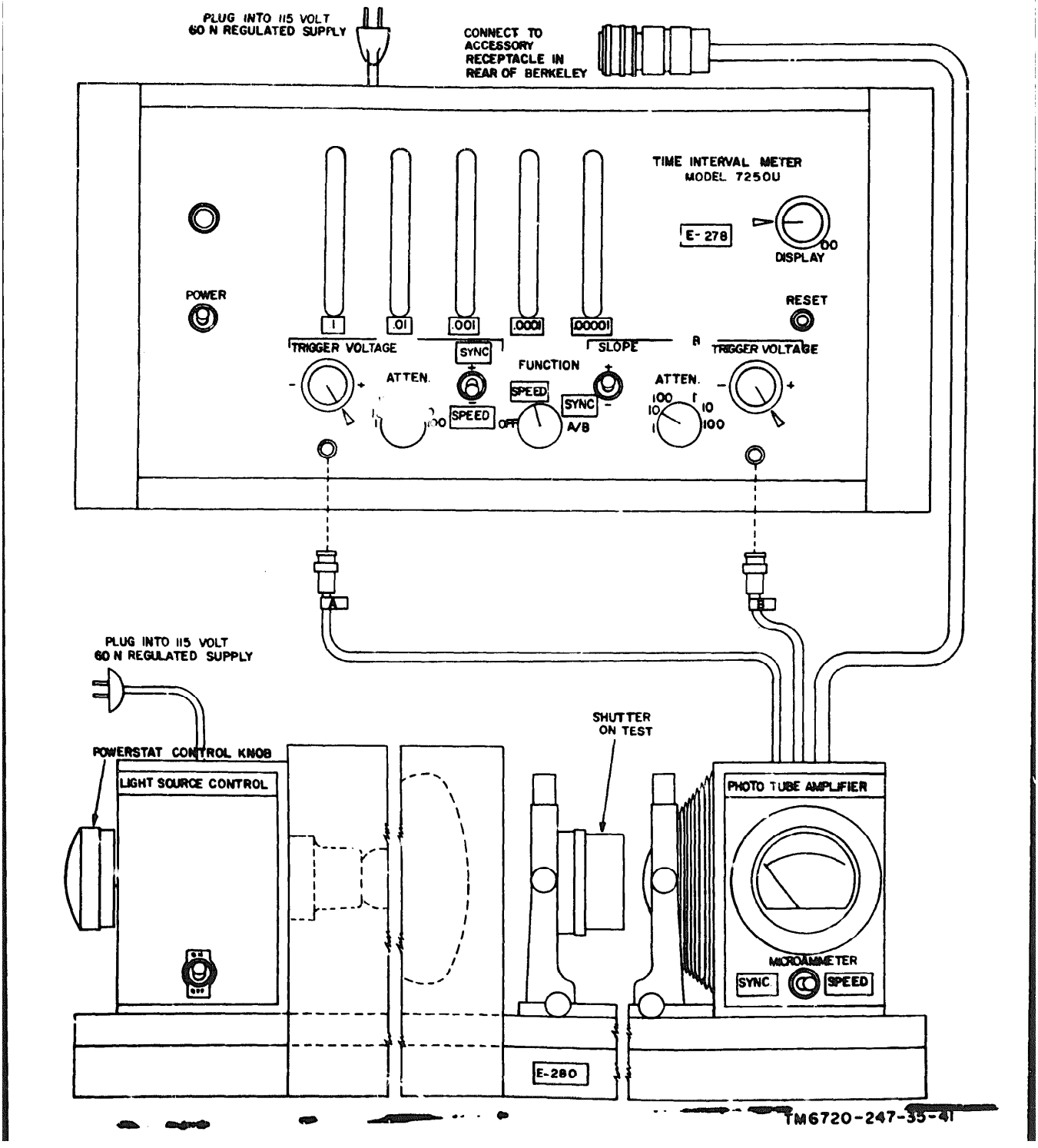


Figure 7-1. Shutter test setup.

Step No.	Control settings		Test procedure	Performance standard
	Test equipment	Equipment under test		
1	Set three sync or speed controls to speed. Set all other controls to positions shown in figure 7–1. Make all cord connections as shown in figure 7–1.	Set diaphragm indicator ring to largest aperture. Position press focus lever to open shutter blades.	*a.* Place shutter on tester. *b.* Operate powerstat control knob to point where meter counting lamps start running. Observe microammeter reading. *c.* Operate powerstat control knob to point where meter counting lamps stop running. Observe microammeter reading. *d.* Average two readings and multiply by two; operate powerstat control knob to point where microammeter reading corresponds with that number.	
2	Same as above	Close shutter blades and set shutter to desired speed.	Cock and trip shutter	Readings should be within tolerances indicated in chart (para 7–9).

7-7. Synchronization Delay Test

a. Test Equipment.

(1) Berkley Time Interval Meter Model 7250U.

(2) Light source control and photo tube amplifier.

b. Test Connections and Conditions. None.

c. Procedure.

Step No.	Control settings		Test procedure	Performance standard
	Test equipment	Equipment under test		
1	Set three sync or speed controls to sync. Set all other controls to positions shown in figure 7–1. Make all cord connections as shown in figure 7–1.	Set diaphragm indicator ring to largest aperture. Set sync lever to M to be checked.	*a.* Place shutter on tester. *b.* Repeat test procedures given in paragraph 7–6, step No. 1, *b*, *c*, and *d*. *c.* Attach shutter cord shutter and plug back of photo tube amplifier	
2	Same as above	Same as above	Cock and trip shutter	Reading should be within tolerances indicated in chart (para 7–10).

7-8. X Synchronization Test

a. Test Equipment. X sync contact delay tester (fig. 7-2).

b. Test Connections and Conditions. None.

c. Procedure.

Step No.	Control settings		Test procedure	Performance standard
	Test equipment	Equipment under test		
1	Set power switch to ON	*a.* Set shutter to highest shutter speed and largest diaphragm opening. *b.* Set sync lever to X. Plug tester cord to shutter prongs.	Cock and release shutter	Readings should be within tolerances indicated on chart (para 7–10).

7-9. Operational Ranges of Shutter Speed Settings

Speed setting	*Minimum (ms)*	*Maximum (ms)*
500	1.43	2.67
250	2.86	5.33
125	6.35	9.62
60	12.69	19.23
30	25.4	38.5
15	43.75	81.25
8	102	154
4	203	308
2	406	606
1	812	931

7-10. Operational Ranges of Synchronizer Delay Settings

Sync lever setting	*Minimum delay time (ms)*	*Maximum delay time (ms)*
M	16	20
X	−1	+1

Note. V self time position; delay same as X sync.

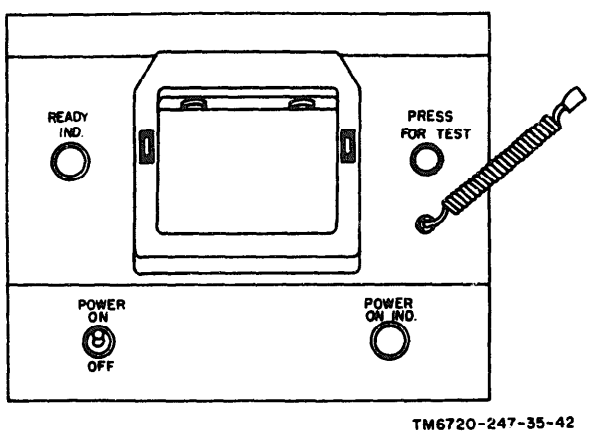


Figure 7-2. X sync tester.

APPENDIX A

REFERENCES

The following publications contain information applicable to the operation of the Camera System, Still Picture KS-98A and KS-98B:

DA Pam 310-4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (Types 7, 8, and 9), Supply Bulletins and Lubrication Orders.
DA Pam 310-7	U.S. Army Equipment Index of Modification Work Orders.
TB SIG 355-1	Depot Inspection Standard for Repaired Signal Equipment.
TB SIG 355-2	Depot Inspection Standard for Refinishing Repaired Signal Equipment.
TB SIG 365-3	Depot Inspection Standard for Moisture and Fungus Resistant Treatment.
TM 11-401	Elements of Signal Photography.
TM 11-6625-203-12	Operator and Organizational Maintenance: Multimeter AN/URM-105, Including Multimeter ME-77/U.
TM 38-750	The Army Maintenance Management System (TAMMS).

APPENDIX B

DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LIST

1. Scope

This appendix lists repair parts, test, and support equipment required for the performance of direct support, general support, and depot maintenance of the KS-98A and KS-98B.

2. General

This Repair Parts List is divided into the following sect ions :

a. Repair Parts--Section II. A list of repair parts authorized for the performance of maintenance at the direct support, general support, and depot level.

b. Special Tools, Test and Support Equipment -Section III. Not applicable.

c. Federal Stock Number and Reference Number Cross-Reference to Item Sequence Number. **Index** --Section IV. A list of Federal stock numbers in ascending numerical sequence followed by a list of reference numbers in ascending alpha-numerical sequence, cross-referenced to the item sequence number.

d. Reference Designation Cross-Reference to ***Item*** Sequence Number Index--Section V. A list of Reference Designations in ascending alpha-numerical sequence, cross-referenced to the item sequence number.

B-3. Explanation of Columns

The following, provides an explanation of columns in the tabular lists in section II.

a. Source, Maintenance, and Recoverability Codes (SMR), Column 1.

(1) Source code, indicates the selection status and source for listed item. Source codes used are :

Code	Explanation
P	Repair parts which are stocked in or supplied from the GSA/DSA, or Army supply system **and** authorized for USe at indicated maintenance categories.
P2	Repair parts which are procured and stocked for insurance purposes because the combat or military essentiality of the end item dictates that a minimum quantity be available in the supply system.
P9	Assigned to items which are NSA design controlled: Unique repair parts, special tools, test, measuring and diagnostic equipment, which are stocked and supplied by the Army COMSEC logistic system, and which are not subject to the provisions of AR 380-41.
P10	Assigned to items which are NSA design controlled: Special tools, test measuring and diagnostic equipment for COMSEC support, which are accountable under the provisions of AR 380-41, and which are stocked and supplied by the Army COMSEC logistic system.
M	Repair parts which are not procured or stocked, but are to be manufactured in indicated maintenance levels.
A	Assemblies which are not procured or stocked as such, but are made up of two or more units. Such component units carry individual stock numbers and descriptions, are procured and stocked separately, and can be assembled to form the required assembly at indicated maintenance categories.
X	Parts and assemblies which are not procured or stocked and the mortality of which normally is below that of the applicable end item or component. The failure of such part or assembly should result in retirement of the end item from the system.
Xl	Repair parts which are not procured or stocked. The requirement from such items will be filled by use of the next higher assembly or component.
x2	Repair parts which are not stocked. The indicated maintenance category requiring such repair parts will attempt to obtain same through cannibalization. Where such repair parts are not obtainable through cannibalization, requirement& will be requisitioned, with accompanying justification, through normal supply channels.
c	Repair parts authorized for local procurement. Where such repair parts are not obtainable from local procurement, requirements will requisitioned through normal supply channels accompanied by a supporting statement of non-availability from local procurement.

code	Explanation
G	Major assemblies that are procured with PEMA funds for initial issue only as exchange assemblies at DSU and GSU level. These assemblies will not he stocked above DS and GS level or returned to depot supply level.

(2) Maintenance code, indicates the lowest category of maintenance authorized to install the listed item. The maintenance level codes are:

Code	Explanation
o	Organizational maintenance
F	Direct support maintenance
H	General support maintenance
D	Depot maintenance

(3) Recoverability code, indicates whether unserviceable items should be returned for recovery or salvage. Items not coded are expendable. Recoverability codes are:

Code	Explanation
R	Repair parts and assemblies that are economically repairable at DSU and GSU activities and which normally are furnished by supply on an exchange basis.
S	Repair parts and assemblies that are economically repairable at DSU and GSU activities and which normally are furnished by supply on an exchange basis. When items are determined by a GSU to be uneconomically repairable, they will be evacuated to a depot for evaluation and analysis before final disposition.
T	High dollar value recoverable repair parts which are subject to special handling and are issued on an exchange basis. Such repair parts normally are repaired or overhauled at depot maintenance activities.
U	Repair parts specifically selected for salvage by reclamation units because of precious metal content, critical materials, or high dollar value reusable casings or castings.

b. Federal Stock Number, Column 2. This column indicates the Federal stock number assigned to the item and will be used for requisitioning purposes.

c. Description, Column 3. This column indicates the sequence number, indenture code, Federal item name and any additional description of the item required. The first entry in this column is the item sequence number of the listed item. A sequence number suffixed with the letter D shows the item as deleted. Second is the alpha letter indenture code. This code reflects the assembly breakdown: of the listed item. The indenture code is followed by the Federal item name and any additional description, a part number or other reference number, and the applicable five-digit Federal supply code for manufacturers in parentheses. On subsequent appearances of an item, the part number and Federal supply code is replaced by "SAME AS" (applicable sequence number).

d. Unit of Measure (U/M), Column 4. A two character alphabetic abbreviation indicating the amount or quantity of the item upon which the allowances are based, e.g., ft. and ea.

e. Quantity Incorporated in Unit, Column 5. This column indicates the quantity of the item used in the assembly. A "V" appearing in this column in lieu of a quantity indicates that a definite quantity cannot be indicated, e.g., shims, spacers, etc.

f. 30-Day DS/GS Maintenance Allowances, Columns 6 and 7.

NOTE

Allowances in GS column are for GS maintenance only.

(1) The allowance columns are divided into three subcolumns. Indicated in each subcolumn, opposite the first appearance of each item. is the total quantity of items authorized for the number of equipments supported. Subsequent appearances of the same item will have the letters "REF" in the applicable allowance columns. Items authorized for use as required but not for initial stockage are identified with an asterisk in the allowance column.

(2) The quantitative allowances for DS/GS levels of maintenance will represent initial stockage for a 30-day period for the number of equipments supported.

(3) Determination of the total quantity of parts required for maintenance of more than 100 of these equipments can be accomplished by converting the equipment quantity to a decimal factor by placing a decimal point before the next to last digit of the number to indicate hundredths, and multiplying the decimal factor by the parts quantity authorized in the 51-100 allowance column.

Example: authorized allowance for 51-100 equipments is 40; for 150 equipments multiply 40 by 1.50 or 60 parts required.

g. 1-Year Allowances Per 100 Equipments/ Contingency Planning Purposes, Column 8. This column indicates opposite the first appearance of each item the total quantity required for distribution and contingency planning purposes. The range of items indicates total quantities of all authorized items required to provide for adequate support of 100 equipments for one year.

h. Depot Maintenance Allowance Per 100 Equipments, Column 9. This column indicates opposite the first appearance of each item, the total quantity authorized for depot maintenance of 100 equipments. Subsequent appearances of the same item will have the letters "REF" in the allowance column. Items authorized for use as required but not for initial stockage are identified with an asterisk in the allowance column.

i. Illustration, Column 10. This column is divided as follows :

(1) Figure number, column 10a. Indicates the figure number of the illustration in which the item is shown.

(2) Item number, column 10b. Indicates the reference designation to reference the item in the illustration.

B-4. Special Information

a. Repair parts mortality is computed from failure rates derived from experience factors with the individual parts in a variety of equipments. Variations in the specific application and periods of use of electronics equipment, the fragility of electronic piece parts, plus intangible material and quality factors intrinsic to the manufacture of electronic parts, do not permit mortality to be based on hours of end item use. However, long periods of continuous use under adverse conditions are likely to increase repair parts mortality.

b. Split Coding such as AF, MD, PH, etc., found in the source column indicate parts which require manufacture, assembly, or stockage at a category higher than that authorized to install the item. For example, an item coded MD-O denotes the source of the item to be manufactured (M) at the depot level (D) and authorized for installation at the organizational level (0).

B-5. How to Locate Repair Parts

a. When Federal Stock Number or Reference Number is unknown:

(1) First, Find the illustration covering the assembly group to which the repair part belongs.

(2) Second. Identify the repair part on the illustration and note the complete reference designation used to call out the item.

(3) Third. Using the Reference Designation Cross-Reference to Item Sequence Number Index (section V), find the reference designation and note the item sequence number listed.

(4) Fourth. Locate the item sequence number in the Repair Parts List (section II).

b. When Federal Stock Number or Reference Number is known:

(1) First. Using the Federal Stock Number and Reference Number Cross-Reference to Item Sequence Number Index (section IV), find the pertinent Federal stock number or reference number and note the item sequence number listed.

(2) Second. Locate the item sequence number in the Repair Parts List (section II).

c. When Reference Designation is known :

(1) First. Using the Reference Designation Cross-Reference to Item Sequence Number Index (section V), find the reference designation and note the item sequence number listed.

(2) Second. Locate the item sequence number in the Repair Parts List (section II).

Code	Manufacturer
25734	Graflex Division Education And Training Group of the Singer Co., 3750 Monroe Ave., Rochester, NY 14603
78189	Illinois Tool Works, Inc. Shakeproof Division, St. Charles Road, Elgin, IL 60126
79136	Waldes Kohinoor, Inc., 47-16 Austel Place, Long Island City, NY 11101
80058	Joint Electronic Type Designation System

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS.	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALWPER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALWPER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
G--O-R	6720-089-9371	A001 A CAMERA SET, KS-98A: 41810G9, (25734) A	EA	1										
G--O-R	6720-880-5298	A002 A CAMERA SET, KS-98B: 41810G10; (25734) B	EA	1										
G--O-R	6720-937-2328	A003 B BODY CAMERA LE31A: 41801G1; (25734)	EA	1										1
X2-O	6760-410-7115	A004 C SHIELD, EYE: 39985P1; (25734)	EA	1										1MP1
P--O	6720-908-5666	A005 C SLIDE, STRAP: 41801P10; (25734)	EA	2	*	*	*	*	*	*	4	1	4-1	1MP
P--O	6720-908-6246	A006 C STRAP, NECK: 40069P1; (25734)	EA	1	*	*	*	*	*	*	4	1	4-1	1MP
X2-O		A007 C SCREW, SET: 171A3-8L; (25734)	EA	1									4-1	1H
P--H	6720-937-6205	A008 C RING, FOCUSING: 39933P5; (25734)	EA	1				*	*	*	4	1	4-1	1MP
P--H	6720-937-6220	A009 C RING, FOCUSING: 39933P6; (25734)	EA	1				*	*	*	4	1	4-1	1MP
P--H	6720-937-6204	A010 C RING, FOCUSING: 39933P7; (25734)	EA	1	*			*	*	*	4	1	4-1	1MP
P--H	6720-937-6215	A011 C RING, FOCUSING: 39933P8; (25734)	EA	1				*	*	*	4	1	4-1	1MP
P--H	5305-937-7531	A012 * SCREW, SET, SPL: 39957; (25734)	EA	3				*	*	1	8	3	4-1	1H
P--H		A013 C WASHER, FLAT: 40199P2; (25734)	EA	1				*	*	*	4	1	4-1	1H
P--H	6720-937-6242	A014 C WASHER, FLAT: 40199P1; (25734)	EA	1				*	*	*	4	1	4-1	1H
X2-H		A015 C PLATE ASSEMBLY, BASE: 40021G1; (25734)	EA	1									4-1	1A
X2-H		A016 * SCREW, MACHINE: 106C6R8J; (25734)	EA	2									4-1	1H
X2-H		A017 * SCREW, MACHINE: 106C6R6J; (25734)	EA	2									4-1	1H
X2-H		A018 C SPRING, BASE PLATE: 40162; (25734)	EA	2									4-1	1MP
X2-O		A019 C PLATE ASSEMBLY, MOUNTING: 41801G10; (25734)	EA	1									4-1	1A
X2-O		A020 * SCREW, SPECIAL: 39950P1; (25734)	EA	4									4-1	1H
P--O	6720-937-6954	A021 D LOCK ASSEMBLY: 41801G4; (25734)	EA	2	*	*	*	*	*	*	4	1		1A
P--O	5305-917-7012	A022 * SCREW, SPECIAL: 41801P5; (25734)	EA	4	*	*	*	*	*	*	8	2		1A
P--O	6720-937-6217	A023 D SPRING, DETENT: 39910P1; (25734)	EA	2	*	*	*	*	*	*	4	1		1A
X2-O		A024 D LINING, LOCK: 39909P1; (25734)	EA	2										1A
P--O	6720-937-6944	A025 D SPRING, LOCK: 39908; (25734)	EA	2	*	*	*	*	*	*	4	1		1A

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY OS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALWPER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALWPER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
XC-H		A0[illegible] D PLATE, MOUNTING: [illegible], (25734)	EA	1										1A4MP4
XD-H		A0[illegible] G SUPPORT COMPLETE: [illegible], (25734)	EA	1									4-1	1A4
F--H	[illegible]	A0[illegible] D PIN, INFINITE STOP: [illegible], (25734)	EA	1				•	•	•	4	1	4-2	1A4MP1
XC-H		A0[illegible] D SPRING, RELEASE ARM: [illegible], (25734)	EA	1									4-2	1A4MP2
F--H	[illegible]	A0[illegible] • SCREW, MACHINE: [illegible], (25734)	EA	1				•	•	•	4	1	4-2	1A4MP3
H--H	[illegible]	A0[illegible] D ARM, LENS RELEASE: [illegible], (25734)	EA	1				•	•	•	4	1	4-2	1A4MP4
H--H	[illegible]	A0[illegible] • RING, RETAINING: [illegible], (79136)	EA	1				•	•	•	4	1	4-2	1A4P5
XC-H		A0[illegible] • WASHER, FLAT: [illegible], (25734)	EA	1									4-2	1A4P6
XC-H		A0[illegible] D WASHER, FLAT: SAME AS A033	EA	1									4-2	1A4P7
P--H	[illegible]	A0[illegible] D RING, RETAINING: SAME AS A032	EA	1				REF	REF	REF	REF	REF	4-2	1A4P8
XC-H		A0[illegible] D PIN, LENS RELEASE: [illegible], (25734)	EA	1									4-2	1A4MP9
XC-H		A0[illegible] D BUTTON, RELEASE LENS: [illegible], (25734)	EA	1									4-2	1A4MP10
XC-H		A0[illegible] D PLUNGER, RELEASE: [illegible], (25734)	EA	1									4-2	1A4MP11
XD-H		A0[illegible] D SLEEVE, COMPLETE: [illegible], (25734)	EA	1									4-2	1A4A1
F--H	[illegible]	A0[illegible] • SCREW, MACHINE: SAME AS A040	EA	6				REF	REF	REF	REF	REF	4-2	1A4P10
P--H	[illegible]	A0[illegible] D GUIDE, BARREL: [illegible], (25734)	EA	1				•	•	•	4	1	4-2	1A4A1MP2
F--H	[illegible]	A0[illegible] • SCREW, MACHINE: [illegible], (25734)	EA	6				•	•	1	1	1	4-2	1A4A1H1
F--H	[illegible]	A0[illegible] D SCREW, MACHINE: SAME AS A042	EA	3				REF	REF	REF	REF	REF	4-2	1A4A1H2
P--H	[illegible]	A0[illegible] D BEARING: [illegible], (25734)	EA	1				•	•	•	4	1	4-2	1A4A1MP3
XC-H		A0[illegible] D SLEEVE ASSEMBLY: [illegible], (25734)	EA	1									4-5	1A4A1A1
XC-H		A0[illegible] D BAFFLE, LIGHT [illegible], (25734)	EA	1									4-2	1A4MP7
XD-H		A0[illegible] D SUPPORT ASSEMBLY: [illegible], (25734)	EA	1									4-2	1A4A2
F--	[illegible]	A0[illegible] D COVER ASSEMBLY, FRONT: [illegible], (25734)	EA	1	•	•	•	•	•	•	8	1	4-2	1A
P--	[illegible]	A0[illegible] • SCREW, PET: [illegible], (25734)	EA	3	•	•	1	•	•	1	8	1	4-2	1H5
XC-F		A0[illegible] D FRAME, FRONT: [illegible], (25734)	EA	1									4-2	1A4MP1

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE	USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(6) (b) 21-50	(6) (c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(7) (b) 21-50	(7) (c) 51-100	(8) 1 YR ALWPER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALWPER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(10) (b) ITEM NO. OR REFERENCE DESIGNATION
X1-F		[illegible] WINDOW, FRONT: 4608111; (25734)		EA	1									4-3	1A4MP2
X1-F		A0[illegible] GASKET: [illegible]; (25734)		EA	1									4-3	1A4MP3
X1-F		A0[illegible] SCREEN, FRAMING SCREEN: 40095; (25734)		EA	1									4-3	1A4MP4
X1-F		A0[illegible] COVER, FRONT: 4190114, (25734)		EA	1									4-3	1A4MP5
P--F	6720-[illegible]	A0[illegible] COVER ASSEMBLY, REAR: [illegible], (25734)		EA	1	•	•	1	•	•	1	6	[illegible]	4-1	1A5
P--O	5305-917-[illegible]	A0[illegible] • SCREW, SET: SAME AS A049		EA	3	REF	REF	REF	REF	REF	REF	REF	REF	4-1	1B9
X2-O		A0[illegible] SWIVEL, STRAP: 4150IP11; (25734)		EA	2									4-1	1MP9
X2-O		A058 • STUD, SWIVEL: 4150IP12; (25734)		EA	2									4-1	1B10
X2-O		A0[illegible] • WASHER, SPRING: 855-13-78; (78189)		EA	2									4-1	1B11
P--F	6720-909-649[illegible]	A0[illegible] COVER ASSEMBLY, TOP: [illegible]; (25734)		EA	1	•	•	•	•	•	•	4	1	4-1	1A6
P--O	5305-917-701.	A0[illegible] • SCREW, SPECIAL: SAME AS A0[illegible]		EA	2	REF	REF	REF	REF	REF	REF	REF	REF	4-1	1B12
P--F	6720-909-6[illegible]	A0[illegible] BUTTON: [illegible]		EA	1	•	•	•	•	•	•	4	1	4-1	1MP10
P--H	6720-054-53[illegible]	A0[illegible] [illegible], SHUTTER RELEASE: [illegible]		EA	1				•	•	•	4	1	4-1	1MP11
P--H		A0[illegible] NUT, MACHINE: [illegible]		EA	1				•	•	•	4	1	4-1	1B13
P--H	6720-[illegible]	A0[illegible] [illegible], RELEASE: [illegible], (25734)		EA	1				•	•	•	4	1	4-1	1MP12
X2-H		A0[illegible] COVER, BOTTOM: [illegible]		EA	1									4-1	1MP13
X2-H		A0[illegible] • SCREW, MACHINE: [illegible]		EA	1									4-1	1B14
X2-H		A0[illegible] • SCREW, MACHINE [illegible]		EA	1									4-1	1B15
X2-H		A0[illegible] RANGEFINDER ASSEMBLY: [illegible]; (25734)		EA	1									4-1	1A7
X1-H		A0[illegible] • SCREW, MACHINE: [illegible]		EA	2									4-1	1B16
X1-H		A0[illegible] • WASHER, FLAT: [illegible]; (25734)		EA	2									4-1	1B17
X1-H		A0[illegible] • SCREW, MACHINE: [illegible]; (25734)		EA	1									4-1	1B18
X1-H		A0[illegible] • WASHER, FLAT: SAME AS A071		EA	2									4-1	1B19
X1-H		A0[illegible] • SCREW, MACHINE: [illegible]		EA	2									4-1	1B[illegible]
X1-H		A0[illegible] SCREW, SET [illegible]		EA	1									4-[illegible]	1A7[illegible]

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
X1-H		A076 D MOUNT ASSEMBLY, MIRROR: 40037G2; (25734)	EA	1									4-4	1A7A1
X1-H		A077 * SCREW, MACHINE: 40182P3; (25734)	EA	1									4-4	1A7H2
X2-H		A078 D GUIDE, LIGHT SHIELD: 40083; (25734)	EA	1									4-4	1A7MP1
X2-H		A079 D SHIELD, LIGHT: 40084P1; (25734)	EA	1									4-4	1A7MP2
X1-H		A080 D RING, SEALING: S8-1549-6; (73608)	EA	1									4-4	1A7MP3
X2-H		A081 D MIRROR ASSEMBLY, FRAMING: 40049G1; (25734)	EA	1									4-4	1A7A2
X1-H		A082 * SCREW, MACHINE: SAME AS A067	EA	2									4-4	1A7H3
X2-H		A083 D MASK, COMPLETE: 40052G1; (25734)	EA	1									4-4	1A7A3
X1-H		A084 * SCREW, MACHINE: 40020; (25734)	EA	1									4-4	1A7H4
X1-H		A085 E SPRING, MASK: 40058; (25734)	EA	1									4-4	1A7A3MP1
X1-H		A086 * RING, RETAINING: SAME AS A032	EA	1									4-4	1A7A3H1
X1-H		A087 E CRANK, FRAMING: 40056P1; (25734)	EA	1									4-4	1A7A3MP2
X1-H		A088 * RING, RETAINING: SAME AS A032	EA	1									4-4	1A7A3H2
X1-H		A089 * WASHER, FLAT: 38473-2J; (25734)	EA	2									4-4	1A7A3H3
X1-H		A090 E WASHER, FLAT: 38500-6; (25734)	EA	1									4-4	1A7A3H4
X1-H		A091 E MASK ASSEMBLY: 40052G3; (25734)	EA	1									4-4	1A7A3A1
X1-H		A092 * RING, RETAINING: SAME AS A032	EA	2									4-4	1A7A3H5
X1-H		A093 E WASHER, FLAT: SAME AS A089	EA	2									4-4	1A7A3H6
X1-H		A094 E BRACKET ASSEMBLY: 40052G2; (25734)	EA	1									4-4	1A7A3A2
X1-H		A095 D B F SUBASSEMBLY: 0002; (25734)	EA	1										1A7A41
X2-H		A096 C GASKET: 40031P1; (25734)	EA	1									4-1	1MP14
X1-H		A097 C BODY, CAMERA: 39930P1; (25734)	EA	1									4-1	1MP15
G--O	6720-933-2524	A098 B ADAPTER, BACK: 41804S1; (25734)	EA	1										2
X1-O		A099 C SLIDELOCK, UP: 41804P7; (25734)	EA	1										2MP1
X1-O		A100 * SCREW, MACHINE: 41804P9; (25734)	EA	2										2H1

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFG. CODE — USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
X1-O		A101 C WASHER, FLAT: 30473-72H; (25734)	EA	2										2H2
X1-O		A102 C SPRING: 36065; (25734)	EA	2										2MP2
X1-O		A103 C WASHER, FLAT: 30473-28H; (25734)	EA	2										2H3
X1-O		A104 C SLIDELOCK, LOWER: 41804P8; (25734)	EA	1										2MP3
X1-O		A105 * SCREW, MACHINE: SAME AS A100	EA	2										2H4
X1-O		A106 C WASHER, FLAT: SAME AS A101	EA	2										2H5
X1-O		A107 C SPRING: SAME AS A102	EA	2										2MP4
X1-O		A108 C WASHER, FLAT: SAME AS A103	EA	2										2H6
X1-O		A109 C SEAL, LIGHT: 31722P8; (25734)	EA	2										2MP5
X1-O		A110 C BACK ASSEMBLY: 3991701, (25734)	EA	1										2A1
G--F-R	6760-935-3800	A111 B LENS, CAMERA, LE36A: 41802G4, (25734)	EA	1										3
P--O	6760-491-0641	A112 C CAP, LENS: 39647P3; (25734)	EA	1				*	*	*	4	1		3MP1
X2-F		A113 C CAP, BARREL: 39945P1; (25734)	EA	1									6-1	3MP2
X1-F		A114 C LOCK ASSEMBLY: 41802G9; (25734)	EA	1									6-1	3A1
X1-F		A115 * SCREW, MACHINE: 39911P3; (25734)	EA	1									6-1	3H1
X1-O		A116 C WASHER, FLAT: 40410; (25734)	EA	2									6-1	3H
X1-F		A117 C SOCKET: 40412P1; (25734)	EA	1									6-1	3MP3
X1-F		A118 * SHAFT: 35439P5; (25734)	EA	1									6-1	3MP4
X1-F		A119 * SCREW, MACHINE: 10001-9J; (25734)	EA	1									6-1	3H3
X1-F		A120 C SHIM, (0-010): 40411P2; (25734)	EA	2									6-1	3H4
X1-F		A121 C SHIM, (0.087) 40411P1; (25734)	EA	1									6-1	3H5
X1-F		A122 C BARREL, COMPLETE: 0003; (25734)	EA	1									6-1	3A2
X1-F		A123 * RING, SCREW-ON: 1204300001080; (25734)	EA	1									6-1	3MP5
X1-F		A124 C SHIM, (0.0030): 39984P2; (25734)	EA	2									6-1	3H6
X1-F		A125 C SHUTTER ASSEMBLY: 41802G4-34, (25734)	EA	1									6-1	3A3

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
XI-F		A126 D LENS, FRONT: 41802G4-24A; (25734)	EA	1									6-2	3A3A1
XI-F		A127 D LENS, REAR: 41802G4-24B, (25734)	EA	1									6-2	3A3A2
XI-F		A128 D TERMINAL, FLASF: 12101066460J3; (25734)	EA	1									6-2	3A3MP1
XI-F		A129 * SCREW, SPECIAL: 1402400002838I; (25734)	EA	1									6-2	3A3H1
XI-H		A130 D SCALE, ENGRAVED: 12103069154180; (25734)	EA	1									6-2	3A3MP2
XI-H		A131 * SCREW, SPECIAL: 12103005154280; (25734)	EA	2									6-2	3A3H2
XI-H		A132 D RING, FRONT: 12103005154080; (25734)	EA	1									6-2	3A3MP3
XI-H		A133 D RING, THREADED: 12103000054781; (25734)	EA	1									6-2	3A3MP4
XI-H		A134 * SCREW, SPECIAL: 11103000055882; (25734)	EA	1									6-2	3A3H3
XI-H		A135 D PLATE, COVER: 12103005154080; (25734)	EA	1									6-2	3A3MP5
XI-H		A136 D RING, SPEED SELECTOR: 12103069153980; (25734)	EA	1									6-2	3A3MP6
XI-H		A137 D RING, SLOTTED CAM: 12103000055281; (25734)	EA	1									6-2	3A3MP7
XI-H		A138 D RING ASSEMBLY, COCKING: 12101069152880; (25734)	EA	1									6-3	3A3A3
P--H	6720-937-8137	A139 D SPRING, COCKING RING: 12104000052180; (25734)	EA	1				*	*	*	4	1	6-3	3A3A3MP1
XI-H		A140 D ESCAPEMENT ASSEMBLY: 12101000030081; (25734)	EA	1									6-3	3A3A4
P--H	6720-937-6817	A141 * SCREW, SPECIAL, LONG: 11103000030481; (25734)	EA	1				*	*	*	4	1	6-3	3A3H4
P--H	6720-937-7055	A142 * SCREW, SPECIAL, SHORT: 11103000032381; (25734)	EA	1				*	*	*	4	1	6-3	3A3H5
P--H	6720-937-7593	A143 D PINION ASSEMBLY: 12101000051730; (25734)	EA	1				*	*	*	4	1	6-3	3A3A5
XI-H		A144 D SPRING, DRIVE: 12103000051581; (25734)	EA	1									6-3	3A3MP8
XI-H		A145 D DRIVE: 12101000051481; (25734)	EA	1									6-3	3A3MP9
P--H	6720-937-7591	A146 D STOP: 12103000029983; (25734)	EA	1				*	*	*	4	1	6-3	3A3MP10
XI-H		A147 * SCREW, SPECIAL: 11103000026082; (25734)	EA	1									6-3	3A3H6
XI-H		A148 D LOCK ASSEMBLY, RELEASE: 12101000066781; (25734)	EA	1									6-4	3A3A6
P--H	6720-937-8142	A149 D SPRING, RELEASE LOCK: 12103000051982; (25734)	EA	1				*	*	*	4	1	6-4	3A3MP11
XI-H		A150 D LEVER ASSEMBLY, RELEASE: 12101005150880; (25734)	EA	1									6-4	3A3A7

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 20-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
XI-H		A151 D SPRING, RELEASE LEVER: 12103000055981; (25734)	EA	1									6-4	3A3MP12
P--H	6720-937-6959	A152 D SELFTIMER ASSEMBLY: 11101000040081; (25734)	EA	1				*	*	*	4	1	6-4	3A3A8
P--H	6720-937-7050	A153 * SCREW, SPECIAL: 11103000041681; (25734)	EA	1				*	*	*	4	1	6-4	3A3H7
XI-H		A154 D BRIDGE ASSEMBLY: 12101000062180; (25734)	EA	1									6-4	3A3A9
XI-H		A155 * SCREW, SPECIAL, PLAIN: 11103000041881; (25734)	EA	1									6-4	3A3H8
P--H	6720-937-6811	A156 * SCREW, SPECIAL, SHOULDER: 11103000062081; (25734)	EA	1				*	*	*	4	1	6-4	3A3H9
P--H	6720-8141	A157 D SPRING, LOCKING, LEVER: 12103000067283; (25734)	EA	1				*	*	*	4	1	6-4	3A3MP13
P--H	6760-937-7414	A158 D LEVER ASSEMBLY, X CONTACT: 12101000061581; (25734)	EA	1				*	*	*	4	1	6-4	3A3A10
P--H	6720-937-6820	A159 D LEVER ASSEMBLY, M CONTACT: 11101000061282; (25734)	EA	1				*	*	*	4	1	6-4	3A3A11
XI-H		A160 D SPRING, M CONTACT LEVER: 12103000061480; (25734)	EA	1									6-4	3A3MP14
P--H	6720-937-8136	A161 D SPRING, M DETENT: 11103000064183; (25734)	EA	1				*	*	*	4	1	6-4	3A3MP15
P--H	5360-438-1948	A162 D SPRING, COCKING LOCK: 11104000064081; (25734)	EA	1				*	*	*	4	1	6-4	3A3MP16
XI-H		A163 D DETENT ASSEMBLY, M: 12101000063580; (25734)	EA	1									6-4	3A3A12
P--H	6720-937-7045	A164 D GEAR ASSEMBLY, M, SPUR: 11101000063281; (25734)	EA	1				*	*	*	4	1	6-4	3A3A13
P--H	6720-9.7-6828	A165 D SPRING, DETENT LEVER: 11103000061981; (25734)	EA	1				*	*	*	4	1	6-4	3A3MP17
P--H	6720-937-6820	A166 D ADJUSTING ELEMENT, M: 11103000061682; (25734)	EA	1				*	*	*	4	1	6-4	3A3MP18
P--H	6720-937-7342	A167 * SCREW, SPECIAL: 11103000061882; (25734)	EA	1				*	*	*	4	1	6-4	3A3H10
P--H	6760-937-7415	A168 D LEVER, SPEED: 12103000066981; (25734)	EA	1				*	*	*	4	1	6-5	3A3MP19
P--H	6720-937-7051	A169 * SCREW, SPECIAL: 11103000067181, (25734)	EA	1				*	*	*	4	1	6-5	3A3H11
P--H	6720-937-6338	A170 D SPRING, SETTING RING: 12103000015180; (25734)	EA	1				*	*	*	4	1	6-5	3A3MP20
XI-H		A171 D LEVER ASSEMBLY, BLADE OPENING: 12101060226280; (25734)	EA	1									6-5	3A3A14
XI-H		A172 * SCREW, SPECIAL: 12101005126380; (25734)	EA	1									6-5	3A3H12
P--H	6720-937-8138	A173 D SPRING, BLADE OPENING LEVER: 12103005126480; (25734)	EA	1				*	*	*	4	1	6-5	3A3MP21
XI-H		A174 D SPRING, LEAF: 12103005127080; (25734)	EA	1									6-5	3A3MP22
P--H	5360-438-1939	A175 D SPRING, BLADE RING CLOSING: 12103000024982; (25734)	EA	1				*	*	*	4	1	6-5	3A3MP23

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
XC-H		A176 D KNOB, DIAPHRAGM RING: 1210106911880, (25734)	EA	1									6-5	3A3MP24
XC-H		A177 * SCREW, SPECIAL: 1110400132180, (25734)	EA	1									6-5	3A3H13
XC-H		A178 D RING ASSEMBLY, DIAPHRAGM CONTROL: 1210106911088I, (25734)	EA	1									6-5	3A3A15
XC-H		A179 * SCREW, SPECIAL: 1110400001208S, (25734)	EA	3									6-5	3A3H14
XC-H		A180 D RING ASSEMBLY, SPTTING: 1210106911488I, (25734)	EA	1									6-5	3A3A16
P--H	6720-937-7700	A181 * SCREW, SPECIAL: 1210400101758O; (25734)	EA	1				*	*	*	4	1	6-5	3A3H15
XC-H		A182 D PLATE, COMPLETE BASE: 0004, (25734)	EA	1									6-5	3A3A17
XC-H		A183 * SCREW, SPECIAL: 1210400001098O; (25734)	EA	5									6-5	3A3H16
XC-H		A184 E TUBE, MOUNTING: 0005, (25734)	EA	1									6-5	3A3A17MP1
XC-H		A185 * SCREW, MACHINE: 1210300002618Z; (25734)	EA	4									6-5	3A3A17H1
XC-H		A186 E RING ASSEMBLY, BLADE CONTROL: 1210100002028Z, (25734)	EA	1									6-5	3A3A17A1
XC-H		A187 E PLATE ASSEMBLY, BASE: 0004, (25734)	EA	1									6-5	3A3A17A2
P--H	6760-484-5665	A188 E LEAF PLATE ASSEMBLY, LOWER: 1210100002678O; (25734)	EA	1				*	*	*	4	1	6-5	3A3A18
P--H	6760-484-6860	A189 D LEAF ASSEMBLY: 1210100002088Z, (25734)	EA	3				*	*	1	8	3	6-5	3A3A19
P--H	6760-484-5666	A190 D LEAF ASSEMBLY, FRONT: 1210100002688O, (25734)	EA	1				*	*	*	4	1	6-5	3A3A20
XC-H		A191 D PLATE ASSEMBLY: 1210100002258O, (25734)	EA	1									6-5	3A3A21
XC-H		A192 D COVER ASSEMBLY, TOP: 1210100001168Z, (25734)	EA	1									6-6	3A3A22
XC-H		A193 * SCREW, SPECIAL: 1210300001178O, (25734)	EA	4									6-6	3A3H17
XC-H		A194 D LEAF ASSEMBLY, DIAPHRAGM: 1210100001098Z, (25734)	EA	5									6-6	3A3A23
XC-H		A195 D COVER ASSEMBLY, LOWER: 1210100001068Z, (25734)	EA	1									6-6	3A3A24
XC-H		A196 D SCREW, SPECIAL: 1210300001182, (25734)	EA	1									6-6	3A3H18
XC-H		A197 D CASE ASSEMBLY, SHUTTER: 0007, (25734)	EA	1									6-6	3A3A25
[illegible]	[illegible]	A198 E ADAPTER, FILM, LEAF: 4180501, (25734)	EA	1										4
P--H	6730-937-4693	A199 F SLIDE, COMPLETE: 4190668, (25734)	EA	1	*	*	*	*	*	*	4	1		4A1
XC-H		A200 F SPOOL, TAKEUP: [illegible], (25734)	EA	1										4MP1

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP ENTGCY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
X1-C		A201 C COVER, COMPLETE: 0008; (25734)	EA	1										
X2-C		A202 D FRAME ASSEMBLY: 31841G13; (25734)	EA	1										
X2-C		A203 * PIN, STRAIGHT: 30172-30; (25734)	EA	1										
X1-C		A204 D COVER ASSEMBLY: 4180507; (25734)	EA	1										
X1-C		A205 E SPRING, PRESSURE: 31791; (25734)	EA	1										
X1-C		A206 * SCREW, SELF-THREAD: 30921-28L; (25734)	EA	2										
X1-C		A207 E SPRING, LATCH: 3381J; (25734)	EA	1										
P--C	6720-937-6225	A208 E SEAL, LIGHT: 31787P2; (25734)	EA	2	*	*	*	*	*	*	1	1		
X1-C		A209 E COVER SUBASSEMBLY 0009; (25734)	EA	1										
P--C	6720-937-8128	A210 C CARRIAGE, COMPLETE: 4180503; (25734)	EA	1	*	*	*	*	*	*	1	1		
X1-F		A211 D CAP, LEVER: 39613; (25734)	EA	1										
X1-F		A212 * SCREW, SPECIAL: 39622; (25734)	EA	2										
P--F	6720-908-3691	A213 D LEVER, FILM ADVANCE: 39619P1; (25734)	EA	1	*	*	1	*	*	1	1	1		
X1-F		A214 D PINION, PLANET: 39611P1; (25734)	EA	2										
X1-F		A215 D GEAR, RING: 39610P1; (25734)	EA	1										
X1-F		A216 D PINION, SUN: 39609P1; (25734)	EA	1										
X1-F		A217 D CARRIER ASSEMBLY: 39614G1; (25734)	EA	1										
X1-F		A218 D SPRING, ADVANCE LEVER: 39608P1; (25734)	EA	1										
X1-F		A219 D DIAL, EXPOSURE: 31828P4; (25734)	EA	1										
X2-F		A220 D PLATE ASSEMBLY, TOP: 39623G1, (25734)	EA	1										
X1-F		A221 * SCREW, SELF-THREAD: 33921-11L; (25734)	EA	1										
X2-F		A222 * SCREW, SELF-THREAD: 33921-11L; (25734)	EA	1										
X2-F		A223 * SCREW, SELF-THREAD: 33921-23L, (25734)	EA	1										
X1-F		A224 E PANEL, NOTATION 31888P1, (25734)	EA	1										
X1-F		A225 D SPACER: 31809, (25734)	EA	1										

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
XD-F		A226 • SCREW, MACHINE: 102-2-4L, (25734)	EA	1									5-2	4A3H5
XD-F		A227 D SPRING, PAWL: 89605, (25734)	EA	1									5-2	4A3MP9
XD-F		A228 D PLATE ASSEMBLY, BEARING: 41R6512, (25734)	EA	1									5-2	4A3A3
XD-F		A229 D SPRING, PAWL: 89620, (25734)	EA	1									5-2	4A3A3MP1
XD-F		A230 D LEVER ASSEMBLY, LOCK: 31R1702, (25734)	EA	1									5-2	4A3A4
XD-F		A231 D SPRING, LOCK, LEVER: 31R1691, (25734)	EA	1									5-2	4A3MP10
XD-F		A232 D SPRING, ENGAGE LEVER: 41R2[illegible], (25734)	EA	1									5-2	4A3MP11
XD-F		A233 D BEARING, LEVER: 41R2[illegible], (25734)	EA	1									5-2	4A3MP12
XD-F		A234 D LEVER, COUNTER: 41R3[illegible], (25734)	EA	1									5-2	4A3MP13
XD-F		A235 D SPACER: 41R3[illegible], (25734)	EA	1									5-2	4A3MP14
XD-F		A236 D BEARING, SPOOL: 41R3[illegible], (25734)	EA	1									5-2	4A3MP15
XD-F		A237 D WASHER, FLAT: 41R4[illegible], (25734)	EA	1										4A3H6
XD-F		A238 D CAM: 41R2[illegible], (25734)	EA	1									5-2	4A3MP16
XD-F		A239 D GEAR, COUNTER: 31R3[illegible], (25734)	EA	1									5-2	4A3MP17
XD-F		A240 D SCREW, SPECIAL: 41R3[illegible], (25734)	EA	1									5-2	4A3H7
XD-F		A241 D PINION, INTERMEDIATE: 41R4[illegible], (25734)	EA	1									5-2	4A3MP18
XD-F		A242 D GEAR, INTERMEDIATE: 41R4[illegible], (25734)	EA	1									5-2	4A3MP19
XD-F		A243 D WASHER, FLAT: 40627-1[illegible], (25734)	EA	1									5-2	4A3H8
XD-F		A244 D RATCHET, LOCK: 31R1[illegible], (25734)	EA	1									5-2	4A3MP20
XD-F		A245 D WASHER, FLAT: 90479-14, (25734)	EA	1									5-2	4A3H9
XD-F		A246 D PINION, FILM ADVANCE: 89607P1, (25734)	EA	1									5-2	4A3MP21
XD-F		A247 • KEY, WINDING: 41R1[illegible], (25734)	EA	1									5-2	4A3MP22
XD-F		A248 • WASHER, FLAT: 40627-1[illegible], (25734)	EA	1									5-2	4A3H10
XD-F		A249 • WASHER, FLAT: [illegible]	EA	1									5-2	4A3H11
XD-F		A250 D SCREW, SELF-TAPPING: [illegible]	EA	1									5-3	4A3H12

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
X1-F		A251 D GUIDE, LOWER: 39603P1; (25734)	EA	1									5-3	4A3MP23
X1-F		A252 D GUIDE, UPPER: 39603P2; (25734)	EA	1									5-3	4A3MP24
X1-F		A253 D ROLLER, FILM: 39604P1; (25734)	EA	1									5-3	4A3MP25
X1-F		A254 D PLATE, BOTTOM: 31804P1; (25734)	EA	1									5-3	4A3MP26
X1-F		A255 * SCREW, SELF-THREAD: SAME AS A221	EA	3									5-3	4A3H13
X1-F		A256 D CARRIAGE ASSEMBLY: 31796G1; (25734)	EA	1									5-3	4A3A4
X1-F		A257 E ROLLER, FILM: 33947P1; (25734)	EA	1									5-3	4A3A4MP1
C--0-B	6720-937-7605	A258 B ADAPTER, FILM LE35A: 41805G2, (25734)	EA	1										5
F--0		A259 C SLIDE, COMPLETE: SAME AS A199	EA	1	REF	REF	REF	REF	REF	REF	REF	REF		5A1
X1-0		A260 C SPOOL, TAKE-UP: SAME AS A200	EA	1										5MP1
X1-0		A261 C COVER, COMPLETE: 9010, (25734)	EA	1										5A2
X1-0		A262 D FRAME ASSEMBLY: 31831G15, (25734)	EA	1										5A2A1
X1-0		A263 * PIN, STRAIGHT: SAME AS A203	EA	1										5A2H1
X1-0		A264 D COVER ASSEMBLY: SAME AS A204	EA	1										5A2A2
X1-0		A265 E SPRING, PRESSURE: SAME AS A205	EA	1										5A2A2MP1
X1-0		A266 * SCREW, SELF-THREAD: SAME AS A206	EA	2										5A2A2H1
X1-0		A267 E SPRING, LATCH: SAME AS A207	EA	1										5A2A2MP2
F--0	6720-937-6225	A268 E SEAL, LIGHT: SAME AS A208	EA	2	REF	REF	REF	REF	REF	REF	REF	REF		5A2A2MP3
X1-0		A269 E COVER, SUBASSEMBLY: 9011, (25734)	EA	1										5A2A2A1
F--F	6720-937-7624	A270 D CARRIAGE, COMPLETE: 41806G1, (25734)	EA	1	*	*	*	*	*	*	4	1		5A3
X1-F		A271 I CAP, LEVER: SAME AS A211	EA	1									5-4	5A3MP1
X1-F		A272 * SCREW, SPECIAL: SAME AS A212	EA	2									5-4	5A3H1
F--F	6720-908-3891	A273 D LEVER, FILM ADVANCE: SAME AS A213	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	5-4	5A3MP2
X1-F		A274 I PINION, PLANET: SAME AS A214	EA	2									5-4	5A3MP3
X1-F		A275 D GEAR, RING: SAME AS A215	EA	1									5-4	5A3MP4

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
XD-F		A276 D PINION, SUN: SAME AS A216	EA	1									5-L	5A3MP5
XD-F		A277 D CARRIER ASSEMBLY: SAME AS A217	EA	1									5-4	5A3A1
XD-F		A278 D SPRING, ADVANCE LEVER: SAME AS A218	EA	1									5-4	5A3MP6
XD-F		A279 D DIAL, EXPOSURE: 40714P1; (25734)	EA	1									5-5	5A3MP7
XD-F		A280 D PLATE ASSEMBLY, TOP: SAME AS A220	EA	1									5-5	5A3A2
XD-F		A281 * SCREW, SELF-THREAD: SAME AS A221	EA	1									5-5	5A3H2
XD-F		A282 * SCREW, SELF-THREAD: SAME AS A223	EA	1									5-5	5A3H3
XD-F		A283 * SCREW, SELF-THREAD: SAME AS A223	EA	1									5-5	5A3H4
XD-F		A284 E PANEL, NOTATION: SAME AS A224	EA	1										5A3A2MP1
XD-F		A285 D SPACER: SAME AS A225	EA	1									5-5	5A3MP8
XD-F		A286 * SCREW, MACHINE: SAME AS A226	EA	1									5-5	5A3H5
XD-F		A287 D SPRING, PAWL: SAME AS A227	EA	1									5-5	5A3MP9
XD-F		A288 D PLATE ASSEMBLY, BEARING: SAME AS A228	EA	1									5-5	5A3A3
XD-F		A289 E SPRING, PAWL: SAME AS A229	EA	1									5-5	5A3A3MP1
XD-F		A290 D SPRING, BRAKE: 40712P1; (25734)	EA	1									5-5	5A3MP10
XD-F		A291 D LEVER ASSEMBLY, LOCK: SAME AS A230	EA	1									5-5	5A3A4
XD-F		A292 D SPRING, LOCK, LEVER: SAME AS A231	EA	1									5-5	5A3MP11
XD-F		A293 D SPRING, ENGAGE LEVER: SAME AS A232	EA	1									5-5	5A3MP12
XD-F		A294 D BEARING, LEVER: 40703, (25734)	EA	1										5A3MP13
XD-F		A295 D LEVER, COUNTER: 31893P2; (25734)	EA	1										5A3MP14
XD-F		A296 D SPACER: 40702, (25734)	EA	1										5A3MP15
XD-F		A297 D PINION, IDLER: 40705P1, (25734)	EA	1										5A3MP16
XD-F		A298 D SUPPORT: 40715, (25734)	EA	1										5A3MP17
XD-F		A299 D BEARING, SPOOL: SAME AS A236	EA	1										5A3MP18
XD-F		A300 * WASHER, FLAT: SAME AS A237	EA	1										5A3H6

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
X2-F		A301 D CAM: 31820P4; (25734)	EA	1									9-5	5A3MP19
X2-F		A302 D GEAR, COUNTER: 40706P1; (25734)	EA	1									9-5	5A3MP [illegible]
X1-F		A303 D GEAR, TAKEUP: 40707P1; (25734)	EA	1									9-5	[illegible]3MP[illegible]
X2-F		A304 * SCREW, MACHINE: 31834P3; (25734)	EA	1									9-5	[illegible]H7
X1-F		A305 * WASHER, FLAT: 38500-14H; (25734)	EA	1									9-5	5A3HH
X1-F		A306 D PINION, INTERMEDIATE: 40704P1; (25734)	EA	1									9-5	5A3MP22
X2-F		A307 D GEAR, INTERMEDIATE: 31815P2; (25734)	EA	1									9-5	5A3MP23
X1-F		A308 * WASHER, FLAT: SAME AS A243	EA	1									9-5	5A3H9
X2-F		A309 D RATCHET, LOCK: SAME AS A244	EA	1									9-5	5A3MP24
X1-F		A310 * WASHER, FLAT: SAME AS A245	EA	1									9-5	5A3H10
X2-F		A311 D PINION, FILM ADVANCE: SAME AS A246	EA	1									9-5	5A3MP25
X2-F		A312 * KEY, WINDING: SAME AS A247	EA	1									9-5	5A3MP26
X1-F		A313 * WASHER, FLAT: SAME AS A248	EA	1									9-5	5A3H11
X2-F		A314 * WASHER, FLAT: SAME AS A249	EA	1									9-5	5A3H12
X2-F		A315 D SCREW, SELF-THREAD: SAME AS A250	EA	1									9-5	5A3H[illegible]
X1-F		A316 D GUIDE, LOWER: SAME AS A251	EA	1									9-6	5A3MP27
X1-F		A317 D GUIDE, UPPER: SAME AS A252	EA	1									9-6	5A3MP[illegible]
X1-F		A318 D ROLLER, FILM: SAME AS A253	EA	1									[illegible]	5A3M[illegible]
X1-F		A319 D PLATE, BOTTOM: SAME AS A254	EA	1									[illegible]	[illegible]
X1-F		A320 * SCREW, SELF-THREAD: SAME AS A221	EA	3									[illegible]	[illegible]
X1-F		A321 D CARRIAGE ASSEMBLY: 3179B02; (25734)	EA	1										
[illegible]		A322 E WASHER, SPRING: 3502-05-32BR2, (78189)	EA	2									[illegible]	[illegible]
[illegible]		A323 E ROLLER ASSEMBLY: A07183; (25734)	EA	1									[illegible]	[illegible]
[illegible]	6720-926-5283	A324 D ADAPTER, FILM LP29: 4180302; (25734) B	EA	1										
[illegible]	6720-937-	A325 C SLIDE, COMPLETE: 4160303; (25734)	EA	1	*	*	*	*	*	*	4	1		6A1

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
		B	EA	2	•	•	•	•	•	•	4	1		4P1
		B	EA	1										A2
		B	EA	1										A2MP1
		B	EA	1										A2A1
		B	EA	4										A2A1H1
		B	EA	4										A2A1H2
		B	EA	1										A2A1MP1
		B	EA	1										A2A1A1
		B	EA	1										A2A2
		B	EA	1										A2H1
		B	EA	2										A2A2MP1
		B	EA	1										A2A2MP2
		B	EA	1										A2A2MP3
		B	EA	1										A2A2A1
		B	EA	1										A2A3
		B	EA	2										A2A3MP1
		B	EA	2										A2A3H1
		B	EA	2										A2A3MP2
		B	EA	1										A2A3MP3
		B	EA	1										A2A3MP4
		B	EA	1										A2A3A1
		B	EA	1										A3
		B	EA	1									5-7	A3MP1
		B	EA	1	•	•	•	•	•	•	4	1	5-7	A3MP2
		B	EA	2									5-7	A3H1

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE	USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
X2-F		A351 D COVER ASSEMBLY, TOP: 40894G1, (25734)	B	EA	1									5-7	6A3A1
X1-F		A352 • SCREW, THREAD-FORMING: 121-4-8L, (25734)	B	EA	4									5-7	6A3H2
X1-F		A353 F PANEL, NOTATION: s1P88P2, (25734)	B	EA	1										6A3A1MP1
X2-F		A354 E CUSHION, LEVER: 40343, (25734)	B	EA	1									5-7	6A3A1MP2
X1-F		A355 E WINDOW: 40895, (25734)	B	EA	1									5-7	6A3A1MP3
X1-F		A356 E COVER, TOP: 0016, (25734)	B	EA	1										6A3A1MP4
X1-F		A357 D DIAL ASSEMBLY: 41803G6, (25734)	B	EA	1									5-7	6A3A2
X2-F		A358 D GEAR, DRIVE ROLLER: 40392P1, (25734)	B	EA	1									5-7	6A3MP3
X1-F		A359 • SCREW, SET: 171F4-2, (25734)	B	EA	2									5-7	6A3H3
X2-F		A360 D SHAFT ASSEMBLY: 40877G1, (25734)	B	EA	1									5-7	6A3A3
X1-F		A361 • KEY, WINDING: 92573P1, (25734)	B	EA	1									5-7	6A3MP4
X1-F		A362 • WASHER, FLAT: SAME AS A249	B	EA	1									5-7	6A3H4
X1-F		A363 D SPRING, CLUTCH: 40886, (25734)	B	EA	1									5-7	6A3MP5
X1-F		A364 I GEAR, TAKEUP: 40887P1, (25734)	B	EA	1									5-7	6A3MP6
X1-F		A365 D BEARING: 3R813, (25734)	B	EA	1									5-7	6A3MP7
X2-F		A366 D GEAR, INTERMEDIATE: 40879P1, (25734)	B	EA	1									5-7	6A3MP8
X1-F		A367 • RING, RETAINING: MS35-21, 79136)	P	EA	1									5-7	6A3H5
X1-F		A368 • WASHER, SPRING: 30540-7, (25734)	B	EA	1									5-7	6A3H6
X2-F		A369 D GEAR ASSEMBLY, COUNTER: 40875G1, (25734)	B	EA	1									5-7	6A3A4
X1-F		A370 • RING, RETAINING: 5100-18, (79136)	B	EA	1									5-7	6A3H7
X1-F		A371 D BRAKE, GEAR TRAIN: 40888, (25734)	B	EA	1									5-7	6A3MP9
X1-F		A372 D HUB: 40884P1, (25734)	B	EA	1									5-7	6A3MP10
X1-F		A373 • RING, RETAINING: 5100-23, (79136)	B	EA	1									5-7	6A3H8
X1-F		A374 • WASHER, FLAT: 35473-29, (25734)	B	EA	1									5-7	6A3H9
X1-F		A375 D SPRING, LEVER: 40883P1, (25734)	B	EA	1									5-7	6A3MP11
X1-F		A376 D PIN, RATCHET: 40882, (25734)	B	EA	1									5-7	6A3MP12

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE	USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
XZ-F		A377 D GEAR ASSEMBLY, MAIN: 40363G1; (25734)	B	EA	1									5-7	6A3A5
XX-F		A378 D SPINDLE, SPOOL: 40354; (25734)	B	EA	1									5-7	6A3MP13
XX-F		A379 * RING, RETAINING: 5133-18; (79136)	B	EA	1									5-7	6A3H10
XZ-F		A380 D PAWL, DIAL: 40389P1; (25734)	B	EA	1									5-7	6A3MP14
XX-F		A381 * SCREW, THREAD-FORMING: 121-6B4; (25734)	B	EA	1									5-7	6A3H11
XX-F		A382 D PLATE ASSEMBLY, GEAR: 40365G1; (25734)	B	EA	1									5-8	6A3A6
XX-F		A383 * SUPPORT, BASE: 40391P1; (25734)	B	EA	1									5-8	6A3MP15
XZ-F		A384 D ROLLER ASSEMBLY, FILM DRIVE: 40360G1; (25734)	B	EA	1									5-8	6A3A7
XZ-F		A385 D ROLLER ASSEMBLY, FILM IDLER: 40360G2; (25734)	B	EA	1									5-8	6A3A8
XX-F		A386 D COVER, BOTTOM: 40358P1; (25734)	B	EA	1									5-8	6A3MP16
XX-F		A387 * SCREW, SELF-THREAD: SAME AS A221	B	EA	4									5-8	6A3H12
XZ-F		A388 D LATCH ASSEMBLY: 40355G1, (25734)	B	EA	1									5-8	6A3A9
XZ-F		A389 D SPRING, LATCH: 40359; (25734)	B	EA	1									5-8	6A3MP17
XX-F		A390 D PLATE ASSEMBLY, LOWER: 40352G1, (25734)	B	EA	1									5-8	6A3A10
XZ-F		A391 D CUSHION: 39474P4; (25734)	B	EA	1									5-8	6A3MP18
XX-F		A392 D CARRIAGE ASSEMBLY: 3017; (25734)	B	EA	1									5-8	6A3A11
C--0-F	6720-908-4677	A393 B HANDLE, COMPLETE: 41807G13; (25734)		EA	1										7
XX-0		A394 C SLIDE, STRAP: SAME AS A005		EA	1										7MP1
P---0	6720-910-2024	A395 C STRAP, NECK: 40069P2, (25734)		EA	1				•	•	•	4	1		7MP2
XX-0		A396 C BRACKET ASSEMBLY: 41807G8, (25734)		EA	1										7A1
XX-0		A397 * SCREW, SPECIAL: 41807P18; (25734)		EA	1										7A1H1
XX-0		A398 * WASHER, FLAT: 38500-4; (25734)		EA	1										7A1H2
XX-0		A399 * WASHER, FLAT: 38500-20; (25734)		EA	1										7A1H3
XX-0		A400 D BRACKET SUBASSEMBLY: 3018; (25734)		EA	1										7A1A1
XZ-0		A401 C SWIVEL, STRAP: SAME AS A007		EA	1										7MP3

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALLOW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALLOW PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P--		A402 • SCREW, SPECIAL: 41807P15; (25734)	EA	1										7A1
P--		A403 C WEDGE ASSEMBLY: 41807G10; (25734)	EA	1										7A2
P--		A404 C PLATE: 40131P1; (25734)	EA	1										7MP4
P--		A405 • SCREW, MACHINE: 10605-10J; (25734)	EA	4										7H2
P--		A406 C HANDLE ASSEMBLY: 41807G7, (25734)	EA	1										7A3
P--		A407 D SWIVEL, STRAP: SAME AS A05T	EA	1										7A3MP1
P--		A408 • SCREW, SPECIAL: 41807P14, (25734)	EA	1										7A3H1
P--		A409 D SCREW, MACHINE: 11005-8J; (25734)	EA	4										7A3H2
P--		A410 D SCREW, MACHINE: 11005-4J, (25734)	EA	2										7A3H3
P--		A411 D ANCHOR: 40134; (25734)	EA	2										7A3MP2
P--		A412 D NUT, HANDLE: 40159; (25734)	EA	1										7A3H4
P--		A413 D RETAINER: 40148; (25734)	EA	1										7A3MP3
P--	6760-060-0461	A414 D CABLE, RELEASE: 39995P3, (25734)	EA	1	•	•	•	•	•	•	4	1		7A3A1
P--		A415 D INSERT, MOUNTING: 40132P1, (25734)	EA	1										7A3MP4
P--		A416 D HANDLE, LEFT HALF: 40128P1; (25734)	EA	1										7A3MP5
P--		A417 D HANDLE, RIGHT HALF: 40128P2, (25734)	EA	1										7A3MP6
P--	6020-937-6238	A418 B SPORTSFINDER: 41817G1, (25734)	EA	1										8
P--		A419 C HUB ASSEMBLY, FRAME: 41829G1, (25734)	EA	1										8A1
P--		A420 C PEEPSIGHT ASSEMBLY: 41809G8, (25734)	EA	1										8A2
P--		A421 • SCREW, SPECIAL: 41828P1; (25734)	EA	1										8H1
P--		A422 C FOOT: 41818P1; (25734)	EA	1										8MP1
P--		A423 • SCREW, MACHINE: 100-3R61; (25734)	EA	2										8H2
P--		A424 C COVER: 41831P1; (25734)	EA	1										8MP2
P--		A425 C HUB ASSEMBLY: 41809P7; (25734)	EA	1										8A3
P--		A426 C SPACER: 41086-5; (25734)	EA	1										8MP3

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
PAO		A427 C SPACER: 40590-15; (25734)	EA	1										8MP4
PAO		A428 C SPRING: 41819P1; (25734)	EA	1										8MP5
PAO		A429 C BASE PLATE: 41827P1; (25734)	EA	1										8MP6
XAO	6720-937-6237	A430 B BRACKET SET, FLASH: 41812G3; (25734)	EA	1										9
PAO		A431 C CORD, CONNECTING: 40196P1; (25734)	EA	1										9MP1
XAO		A432 C BRACKET, COMPLETE: 41807G5; (25734)	EA	1										9A1
XAO-R	6760-998-6107	A433 B FLASHGUN, COMPLETE: 31812G1; (25734)	EA	1										11
PAO		A434 C REFLECTOR, COMPLETE: 41812G4; (25734)	EA	1										11A1
XAO		A435 D REFLECTOR ASSEMBLY: 41812P13; (25734)	EA	1										11A1A1
PAO		A436 D HEAD, COMPLETE: 41812G5; (25734)	EA	1										11A1A2
XAO		A437 C BRACKET, COMPLETE, LOWER: 30986G2; (25734)	EA	1										11A2
XAO		A438 C BRACKET, COMPLETE, UPPER: 30981G2; (25734)	EA	1										11A3
PAO		A439 C CASE, COMPLETE: 41812G2; (25734)	EA	1										11A4
PAO	6760-996-3355	A440 D CAP ASSEMBLY: 33780G3; (25734)	EA	1	•	•	•	•	•	•	•	1		11A4A1
XAO		A441 D RECEPTACLE, LAMP: 31084P1; (25734)	EA	1										11A4A1
PAO		A442 * SCREW, SPECIAL: 41812P14; (25734)	EA	1										11A4A1
XAO		A443 D SPRING, LOCKING RIGHT: 33878; (25734)	EA	1										11A4MP1
PAO		A444 D RING, LAMP LOCK: 31069; (25734)	EA	1										11A4MP2
PAO		A445 D OUTLET ASSEMBLY: 33849P1; (25734)	EA	1										11A4A2
PAO		A446 * SCREW, SELF-THREAD: MS21-[illegible] (25734)	EA	1										11A4B2
PAO		A447 * SCREW, THREAD-FORMING: 121-2-3L; (25734)	EA	1										11A4B3
PAO		A448 I LINER: 31054-P3; (25734)	EA	1										11A4MP3
PAO		A449 D CASE, BATTERY: 41812P2; (25734)	EA	1										11A4MP4
XAO	6760-818-1516	A450 B CASE ASSEMBLY: 41815G1; (25734)	EA	1										17
PAO		A451 C STRAP, CARRYING: 39072P2; (25734)	EA	1	•	•	•	•	•	•	4	1		17A1

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
XB-5		A452 C CASE [illegible]; (25734)	EA	1										1,A2
	6720-937-6229	A453 B EYEPIECE, REAR: ST6635; (25734)	EA	1										
	6720-937-6801	A454 B MASTER BARREL: ST6637; (25734)	EA	1										
	6720-937-7058	A455 B BENCH, FOCUSING: ST6639; (25734)	EA	1										
		A456 C TARGET: ST6638; (25734)	EA	1										
	5110-937-7108	A457 B BUSHING, DRILL: ST6641; (25734)	EA	3										
		A458 B DRILL, SPOT: SI6642; (25734)	EA	1										
		A459 B REAM, [illegible] 0019; (25734)	EA	3										
		A460 B SCREWDRIVER, DOA: ST6644P5; (25734)	EA	1										
		A461 B MULTIMETER: "S352BU; (88058)	EA	1										
		A462 B SCREWDRIVER, TOR: 217-38000; (25734)	EA	1										
		A463 B PUMP, DENTAL, 1-32: SM6644P4, (25734)	EA	1										

SECTION IV INDEX-FEDERAL STOCK NUMBER & REFERENCE NUMBER CROSS-REFERENCED TO ITEM SEQUENCE NUMBER (Continued)

FEDERAL STOCK NUMBER	ITEM SEQUENCE NUMBER	
REF NO.	MFG CO.	ITEM SEQ. NO.
11103000041681	25734	A153
11103000041981	25734	A155
11103000053882	25734	A134
11103000061682	25734	A166
11103000061882	25734	A167
11103000061981	25734	A165
11103000062081	25734	A156
11103000064183	25734	A161
11103000067181	25734	A169
11104000064C81	25734	A162
11104005182180	25734	A177
116-3R2B	25734	A068
116-3R3F	25734	A067
116-3R3B	25734	A082
116-4R3B	25734	A074
12043000010280	25734	A123
12043000011582	25734	A196
121-2-3L	25734	A447
121-4-8L	25734	A352
121-6R4	25734	A381
12101000010586	25734	A194
12101000010682	25734	A195
12101000011582	25734	A192
12101000020282	25734	A186
12101000020882	25734	A189
12[illegible]022580	25734	A191
1[illegible]01000026780	25734	A188
12101000026880	25734	A190
12101000030681	25734	A140
12101000041681	25734	A145
12101000051780	25734	A143
12101000061591	25734	A158
12101000062180	25734	A154
12101000063580	25734	A163
12101000066781	25734	A148
12101005114882	25734	A180
12101005126380	25734	A172
12101005150830	25734	A150

FEDERAL STOCK NUMBER	ITEM SEQUENCE NUMBER	
REF NO.	MFG CO.	ITEM SEQ. NO.
12101060226280	25734	A171
12101066460081	25734	A128
12101069114881	25734	A178
12101069[illegible]1880	25734	A176
12101069152880	25734	A138
12103000010980	25734	A183
12103000011780	25734	A193
12103000015180	25734	A170
12103000024982	25734	A175
12103000026182	25734	A185
12103000029983	25734	A146
12103000051581	25734	A144
12103000051982	25734	A149
12103000054781	25734	A133
12103000055281	25734	A137
12103000055961	25734	A151
12103000061482	25734	A160
12107000056981	25734	A168
12103000067283	25734	A157
12103001017580	25734	A181
12103005126480	25734	A173
12103005127080	25734	A174
12103005154080	25734	A135
12103005154280	25734	A131
12103005154480	25734	A132
12103069153980	25734	A136
12103069154180	25734	A130
12104000052180	25734	A139
14024000028381	25734	A129
171A2-5L	25734	A075
171A3-8L	25734	A007
171F4-2	25734	A359
200-1HB	25734	A064
251-8L	25734	A330
30172-30	25734	A203
30172-30	25734	A263
30172-30	25734	A335
30473-14	25734	A245

FEDERAL STOCK NUMBER	ITEM SEQUENCE NUMBER	
REF NO.	MFG CO.	ITEM SEQ. NO.
30473-14	25734	A310
30473-28H	25734	A103
30473-28H	25734	A108
30473-41	25734	A249
30473-41	25734	A314
30473-41	25734	A362
30473-72H	25734	A101
30473-72H	25734	A106
30540-7	25734	A368
30780P3	25734	A328
30921-28L	25734	A206
30921-28L	25734	A266
30921-33L	25734	A446
30981G2	25734	A438
30986G2	25734	A437
31054-3	25734	A448
31060	25734	A444
31084P1	25734	A441
31270-4B	25734	A030
31270-4B	25734	A040
31722P4	25734	A332
31722P8	25734	A109
31787P2	25734	A208
31787P2	25734	A268
31790P6	25734	A345
31791	25734	A205
31791	25734	A265
31798G1	25734	A256
31798G2	25734	A321
31804P1	25734	A254
31804P1	25734	A319
31809	25734	A225
31809	25734	A285
31811P1	25734	A247
31811P1	25734	A312
31812G1	25734	A433
31813P1	25734	A244
31813P1	25734	A309

SECTION IV INDEX-FEDERAL STOCK NUMBER & REFERENCE NUMBER CROSS-REFERENCED TO ITEM SEQUENCE NUMBER (Continued)

FEDERAL STOCK NUMBER	ITEM SEQUENCE NUMBER	
REF NO.	MFG CO.	ITEM SEQ. NO.
31814P1	25734	A241
31815P1	25734	A242
31815P2	25734	A307
31816P1	25734	A231
31816P1	25734	A292
31817	25734	A230
31817G2	25734	A291
31820P3	25734	A238
31820P4	25734	A301
31821P1	25734	A239
31822	25734	A233
31823P1	25734	A234
31823P2	25734	A295
31824	25734	A235
31825	25734	A232
31825	25734	A293
31826	25734	A236
31826	25734	A299
31828P3	25734	A219
31831G13	25734	A202
31831G15	25734	A262
31834P2	25734	A240
31834P3	25734	A304
31835	25734	A200
31835	25734	A260
31888P1	25734	A224
31888P1	25734	A284
31888P2	25734	A352
32673P1	25734	A361
33295P1	25734	A326
33780G3	25734	A440
33813	25734	A207
33813	25734	A267
33813	25734	A344
33849G1	25734	A445
33878	25734	A443
33921-1L	25734	A222
33921-1L	25734	A282
33921-13L	25734	A221
33921-13L	25734	A255
33921-13L	25734	A281
33921-13L	25734	A320
33921-13L	25734	A387
33921-20L	25734	A250
33921-20L	25734	A315
33921-23L	25734	A223
33921-23L	25734	A283
33921-8L	25734	A342
33947P1	25734	A257
3502-05-32BR2	78189	A322
3502-10-78	78189	A059
35439P5	25734	A118
35473-25	25734	A374
36065	25734	A102
36065	25734	A107
38473	25734	A089
38473-2J	25734	A093
38473-27	25734	A033
38473-27	25734	A034
38500-14H	25734	A305
38500-20	25734	A399
38500-4	25734	A398
38500-6	25734	A090
38813	25734	A365
39072P2	25734	A451
39474P4	25734	A391
39603P1	25734	A251
39603P1	25734	A316
39603P2	25734	A252
39603P2	25734	A317
39604P1	25734	A253
39604P1	25734	A318
39605	25734	A227
39605	25734	A287
39607P1	25734	A246
39607P1	25734	A311
39608P1	25734	A218
39608P1	25734	A278
39609P1	25734	A216
39609P1	25734	A276
39610P1	25734	A215
39610P1	25734	A275
39611P1	25734	A214
39611P1	25734	A274
39612P1	25734	A213
39612P1	25734	A273
39613	25734	A211
39613	25734	A271
39614G1	25734	A217
39614G1	25734	A277
39620	25734	A229
39620	25734	A289
39622	25734	A219
39622	25734	A279
39623G1	25734	A220
39623G1	25734	A280
39647P3	25734	A112
39901P1	25734	A026
39908	25734	A025
39909P1	25734	A024
39910P1	25734	A023
39911P3	25734	A115
39917G1	25734	A110
39930P1	25734	A097
39933P5	25734	A008
39933P6	25734	A009
39933P7	25734	A010
39933P8	25734	A011
39934P2	25734	A041
39937G3	25734	A039
39937G4	25734	A045
39938	25734	A042
39938	25734	A043
39940P2	25734	A044

SECTION IV INDEX-FEDERAL STOCK NUMBER & REFERENCE NUMBER CROSS-REFERENCED TO ITEM SEQUENCE NUMBER (Continued)

FEDERAL STOCK NUMBER	ITEM SEQUENCE NUMBER	
REF NO.	MFG CO.	ITEM SEQ. NO.
39942P1	25734	A046
39945P1	25734	A113
39950P1	25734	A020
39953	25734	A038
39954P1	25734	A031
39955	25734	A036
39957	25734	A012
39969	25734	A029
39984P2	25734	A124
39985P1	25734	A004
39995P3	25734	A414
40020	25734	A084
40021G1	25734	A015
40031P1	25734	A096
40036	25734	A063
40037G2	25734	A076
40043P1	25734	A066
40046P1	25734	A065
40049G1	25734	A081
40052G1	25734	A083
40052G2	25734	A094
40052G3	25734	A091
40056P1	25734	A087
40058	25734	A085
40066G1	25734	A055
40069P1	25734	A006
40069P2	25734	A395
40074	25734	A049
40074	25734	A056
40079P1	25734	A052
40080G3	25734	A069
40081P1	25734	A051
40083	25734	A078
40084P1	25734	A079
40085	25734	A053
40089	25734	A028
40128P1	25734	A416
40128P2	25734	A417

FEDERAL STOCK NUMBER	ITEM SEQUENCE NUMBER	
REF NO.	MFG CO.	ITEM SEQ. NO.
40131P1	25734	A404
40132P1	25734	A415
40134	25734	A411
40148	25734	A413
40159	25734	A412
40162	25734	A018
40182P2	25734	A072
40182P3	25734	A077
40196P1	25734	A431
40199P1	25734	A014
4019982	25734	A013
40331G1	25734	A334
40334P1	25734	A335
40340P11	25734	A343
40342	25734	A341
40343	25734	A354
40352G1	25734	A390
40354	25734	A378
40355G1	25734	A388
40358P1	25734	A386
40359	25734	A389
40360G1	25734	A384
40360G2	25734	A385
40363G1	25734	A377
40365G1	25734	A362
40375G1	25734	A369
40377G1	25734	A360
40379P1	25734	A366
40382	25734	A376
40383P1	25734	A375
40384P1	25734	A372
40386	25734	A363
40387P1	25734	A364
40388	25734	A371
40389P1	25734	A380
40390	25734	A331
40391P1	25734	A383
40392P1	25734	A358

FEDERAL STOCK NUMBER	ITEM SEQUENCE NUMBER	
REF NO.	MFG CO.	ITEM SEQ. NO.
40393G1	25734	A351
40395	25734	A355
40401P1	25734	A338
40401P2	25734	A337
40410	25734	A116
40411P1	25734	A121
40411P2	25734	A120
40412P1	25734	A117
40590-15	25734	A427
40627-13	25734	A071
40627-13	25734	A073
40627-15	25734	A243
40627-15	25734	A308
40627-16	25734	A248
40627-16	25734	A313
40702	25734	A296
40703	25734	A294
40704P1	25734	A306
40705P1	25734	A297
40706P1	25734	A302
40707P1	25734	A303
40712P1	25734	A290
40714P1	25734	A279
40715	25734	A298
40718G1	25734	A323
41086-5	25734	A426
41801G1	25734	A003
41801G10	25734	A019
41801G4	25734	A021
41801G5	25734	A048
41801G6	25734	A060
41801G7	25734	A047
41801P10	25734	A005
41801P10	25734	A394
41801P11	25734	A057
41801P11	25734	A401
41801P11	25734	A407
41801P12	25734	A058

SECTION IV INDEX-FEDERAL STOCK NUMBER & REFERENCE NUMBER CROSS-REFERENCED TO ITEM SEQUENCE NUMBER (Continued)

FEDERAL STOCK NUMBER	ITEM SEQUENCE NUMBER	
REF NO.	MFG CO.	ITEM SEQ. NO.
41801P14	25734	A054
41801P15	25734	A050
41801P5	25734	A022
41801P5	25734	A061
41801P8	25734	A037
41801P9	25734	A062
41802G4	25734	A111
41802G4-24	25734	A125
41802G4-24A	25734	A126
41802G4-24B	25734	A127
41802G9	25734	A114
41803G2	25734	A324
41803G3	25734	A325
41803G4	25734	A340
41803G5	25734	A347
41803G6	25734	A357
41803G7	25734	A329
41803P10	25734	A349
41803P9	25734	A348
41804G3	25734	A098
41804P7	25734	A099
41804P8	25734	A104
41804P9	25734	A100
41804P9	25734	A105
41805G1	25734	A198
41805G10	25734	A228
41805G10	25734	A288
41805G2	25734	A258
41805G3	25734	A210
41805G4	25734	A270
41805G7	25734	A204
41805G7	25734	A264
41806G8	25734	A199
41806G8	25734	A259
41807G10	25734	A403
41807G5	25734	A432
41807G7	25734	A406
41807G8	25734	A396

FEDERAL STOCK NUMBER	ITEM SEQUENCE NUMBER	
REF NO.	MFG CO.	ITEM SEQ. NO.
41807G13	25734	A393
41807P14	25734	A408
41807P15	25734	A402
41807P18	25734	A397
41809G8	25734	A420
41809P7	25734	A425
41810G10	25734	A002
41810G9	25734	A001
41812G2	25734	A439
41812G3	25734	A430
41812G4	25734	A434
41812G5	25734	A436
41812P13	25734	A435
41812P14	25734	A442
41812P2	25734	A449
41815G1	25734	A450
41815P3	25734	A452
41817G1	25734	A418
41818P1	25734	A422
41819P1	25734	A428
41827P1	25734	A429
41828P1	25734	A421
41829G1	25734	A419
41831P1	25734	A424
41846-1	25734	A237
41846-1	25734	A300
5100-21	79136	A373
5103-18	79136	A370
5133-18	79136	A379

FEDERAL STOCK NUMBER	ITEM SEQUENCE NUMBER	
REF NO.	MFG CO.	ITEM SEQ. NO.

SECTION V INDEX-REFERENCE DESIGNATION
CROSS-REFERENCE TO ITEM SEQUENCE NUMBER

REFERENCE DESIGNATION	ITEM SEQUENCE NUMBER
1	A003
1A1	A015
1A2	A019
1A2A1	A021
1A2H1	A022
1A2MP1	A023
1A2MP2	A024
1A2MP3	A025
1A2MP4	A026
1A3	A027
1A3A1	A039
1A3A1A1	A045
1A3A1H1	A042
1A3A1H2	A043
1A3A1MP1	A041
1A3A1MP2	A044
1A3A2	A047
1A3H1	A030
1A3H2	A032
1A3H3	A033
1A3H4	A034
1A3H5	A035
1A3H6	A040
1A3MP1	A028
1A3MP2	A029
1A3MP3	A031
1A3MP4	A036
1A3MP5	A037
1A3MP6	A038
1A3MP7	A046
1A4	A048
1A4MP1	A050
1A4MP2	A051
1A4MP3	A052
1A4MP4	A053
1A4MP5	A054
1A5	A055
1A6	A060
1A7	A069
1A7A1	A076
1A7A2	A081
1A7A3	A083
1A7A3A1	A091
1A7A3A2	A094
1A7A3H1	A086
1A7A3H2	A088
1A7A3H3	A089
1A7A3H4	A090
1A7A3H5	A092
1A7A3H6	A093
1A7A3MP1	A085
1A7A3MP2	A087
1A7A41	A095
1A7H1	A075
1A7H2	A077
1A7H3	A082
1A7H4	A084
1A7MP1	A078
1A7MP2	A079
1A7MP3	A080
1H1	A007
1H10	A058
1H11	A059
1H12	A061
1H13	A064
1H14	A067
1H15	A068
1H16	A070
1H17	A071
1H18	A072
1H19	A073
1H2	A012
1H20	A074
1H3	A013
1H4	A014
1H5	A016
1H6	A017
1H7	A020
1H8	A049
1H9	A056
1MP1	A004
1MP10	A062
1MP11	A063
1MP12	A065
1MP13	A066
1MP14	A096
1MP15	A097
1MP2	A005
1MP3	A006
1MP4	A008
1MP5	A009
1MP6	A010
1MP7	A011
1MP8	A018
1MP9	A057
11	A433
11A1	A434
11A1A1	A435
11A1A2	A436
11A2	A437
11A3	A438
11A4	A439
11A4A1	A440
11A4A2	A445
11A4H1	A442
11A4H2	A446
11A4H3	A447
11A4MP1	A443
11A4MP2	A444
11A4MP3	A448
11A4MP4	A449
11A4X1	A441
17	A450
17A1	A451

SECTION V INDEX-REFERENCE DESIGNATION
CROSS- REFERENCED TO ITEM SEQUENCE NUMBER (Continued)

REFERENCE DESIGNATION	ITEM SEQUENCE NUMBER
17A2	A452
2	A098
2A1	A110
2H1	A100
2H2	A101
2H3	A103
2H4	A105
2H5	A106
2H6	A108
2MP1	A099
2MP2	A102
2MP3	A104
2MP4	A107
2MP5	A109
3	A111
3A1	A114
3A2	A122
3A3	A125
3A3A1	A126
3A3A10	A158
3A3A11	A159
3A3A12	A163
3A3A13	A164
3A3A14	A171
3A3A15	A178
3A3A16	A180
3A3A17	A182
3A3A17A1	A186
3A3A17A2	A187
3A3A17H1	A185
3A3A17MP1	A184
3A3A18	A188
3A3A19	A189
3A3A2	A127
3A3A20	A190
3A3A21	A191
3A3A22	A192
3A3A23	A194
3A3A24	A195
3A3A25	A197
3A3A3	A138
3A3A3MP1	A139
3A3A4	A140
3A3A5	A143
3A3A6	A148
3A3A7	A150
3A3A8	A152
3A3A9	A154
3A3H1	A129
3A3H10	A167
3A3H11	A169
3A3H12	A172
3A3H13	A177
3A3H14	A179
3A3H15	A181
3A3H16	A183
3A3H17	A193
3A3H18	A196
3A3H2	A131
3A3H3	A134
3A3H4	A141
3A3H5	A142
3A3H6	A147
3A3H7	A153
3A3H8	A155
3A3H9	A156
3A3MP1	A128
3A3MP10	A146
3A3MP11	A149
3A3MP12	A151
3A3MP13	A157
3A3MP14	A160
3A3MP15	A161
3A3MP16	A162
3A3MP17	A165
3A3MP18	A166
3A3MP19	A168
3A3MP2	A130
3A3MP20	A170
3A3MP21	A173
3A3MP22	A174
3A3MP23	A175
3A3MP24	A176
3A3MP3	A132
3A3MP4	A133
3A3MP5	A135
3A3MP6	A136
3A3MP7	A137
3A3MP8	A144
3A3MP9	A145
3H1	A115
3H2	A116
3H3	A119
3H4	A120
3H5	A121
3H6	A124
3MP1	A112
3MP2	A113
3MP3	A117
3MP4	A118
3MP5	A123
4	A198
4A1	A199
4A2	A201
4A2A1	A202
4A2A2	A204
4A2A2A1	A209
4A2A2H1	A206
4A2A2MP1	A205
4A2A2MP2	A207
4A2A2MP3	A208
4A2H1	A203
4A3	A210
4A3A1	A211

SECTION V INDEX-REFERENCE DESIGNATION

CROSS-REFERENCE TO ITEM SEQUENCE NUMBER (Continued)

REFERENCE DESIGNATION	ITEM SEQUENCE NUMBER
4A3A2	A220
4A3A2MP1	A224
4A3A3	A228
4A3A3MP1	A229
4A3A4	A230
4A3A4	A256
4A3A4MP1	A257
4A3H1	A212
4A3H10	A248
4A3H11	A249
4A3H12	A250
4A3H13	A255
4A3H2	A221
4A3H3	A222
4A3H4	A223
4A3H5	A226
4A3H6	A237
4A3H7	A240
4A3H8	A243
4A3H9	A245
4A3MP1	A211
4A3MP10	A231
4A3MP11	A232
4A3MP12	A233
4A3MP13	A234
4A3MP14	A235
4A3MP15	A236
4A3MP16	A238
4A3MP17	A239
4A3MP18	A241
4A3MP19	A242
4A3MP2	A213
4A3MP20	A244
4A3MP21	A246
4A3MP22	A247
4A3MP23	A251
4A3MP24	A252
4A3MP25	A253
4A3MP26	A254
4A3MP3	A214
4A3MP4	A215
4A3MP5	A216
4A3MP6	A218
4A3MP7	A219
4A3MP8	A225
4A3MP9	A227
4MP1	A200
5	A258
5A1	A259
5A2	A261
5A2A1	A262
5A2A2	A264
5A2A2A1	A269
5A2A2H1	A266
5A2A2MP1	A265
5A2A2MP2	A267
5A2A2MP3	A268
5A2H1	A263
5A3	A270
5A3A1	A277
5A3A2	A280
5A3A2MP1	A284
5A3A3	A288
5A3A3MP1	A289
5A3A4	A291
5A3A5	A321
5A3A5A1	A323
5A3A5H1	A322
5A3H1	A272
5A3H10	A310
5A3H11	A313
5A3H12	A314
5A3H13	A315
5A3H14	A320
5A3H2	A281
5A3H3	A282
5A3H4	A283
5A3H5	A286
5A3H6	A300
5A3H7	A304
5A3H8	A305
5A3H9	A308
5A3MP1	A271
5A3MP10	A290
5A3MP11	A292
5A3MP12	A293
5A3MP13	A294
5A3MP14	A295
5A3MP15	A296
5A3MP16	A297
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5A3MP19	A301
5A3MP2	A273
5A3MP20	A302
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5A3MP22	A306
5A3MP23	A307
5A3MP24	A309
5A3MP25	A311
5A3MP26	A312
5A3MP27	A316
5A3MP28	A317
5A3MP29	A318
5A3MP3	A274
5A3MP30	A319
5A3MP4	A275
5A3MP5	A276
5A3MP6	A278
5A3MP7	A279
5A3MP8	A285
5A3MP9	A287
5MP1	A260
6	A324

SECTION V INDEX-REFERENCE DESIGNATION

CROSS-REFERENCED TO ITEM SEQUENCE NUMBER (Continued)

REFERENCE DESIGNATION	ITEM SEQUENCE NUMBER
6A1	A325
6A2	A327
6A2A1	A329
6A2A1A1	A333
6A2A1H1	A330
6A2A1H2	A331
6A2A1MP1	A332
6A2A2	A334
6A2A2A1	A339
6A2A2MP1	A336
6A2A2MP2	A337
6A2A2MP3	A338
6A2A3	A340
6A2A3A1	A346
6A2A3H1	A342
6A2A3MP	A341
6A2A3MP2	A343
6A2A3MP3	A344
6A2A3MP4	A345
6A2H1	A335
6A2MP1	A328
6A3	A347
6A3A1	A351
6A3A1MP1	A353
6A3A1MP2	A354
6A3A1MP3	A355
6A3A1MP4	A356
6A3A10	A390
6A3A11	A392
6A3A2	A357
6A3A3	A360
6A3A4	A369
6A3A5	A377
6A3A6	A382
6A3A7	A384
6A3A8	A385
6A3A9	A388
6A3H1	A350

REFERENCE DESIGNATION	ITEM SEQUENCE NUMBER
6A3H10	A379
6A3H11	A381
6A3H12	A387
6A3H2	A352
6A3H3	A359
6A3H4	A362
6A3H5	A367
6A3H6	A368
6A3H7	A370
6A3H8	A373
6A3H9	A374
6A3MP1	A348
6A3MP10	A372
6A3MP11	A375
6A3MP12	A376
6A3MP13	A378
6A3MP14	A380
6A3MP15	A383
6A3MP16	A386
6A3MP17	A389
6A3MP18	A391
6A3MP2	A349
6A3MP3	A358
6A3MP4	A361
6A3MP5	A363
6A3MP6	A364
6A3MP7	A365
6A3MP8	A366
6A3MP9	A371
6MP1	A326
7	A393
7A1	A396
7A1A1	A400
7A1H1	A397
7A1H2	A398
7A1H3	A399
7A2	A403
7A3	A406

REFERENCE DESIGNATION	ITEM SEQUENCE NUMBER
7A3A1	A414
7A3H1	A408
7A3H2	A409
7A3H3	A410
7A3H4	A412
7A3MP1	A407
7A3MP2	A411
7A3MP3	A413
7A3MP4	A415
7A3MP5	A416
7A3MP6	A417
7H1	A402
7H2	A405
7MP1	A394
7MP2	A395
7MP3	A401
7MP4	A404
8	A418
8A1	A419
8A2	A420
8A3	A425
8H1	A421
8H2	A423
8MP1	A422
8MP2	A424
8MP3	A426
8MP4	A427
8MP5	A428
8MP6	A429
9	A430
9A1	A432
9MP1	A431

SECTION IV INDEX-FEDERAL STOCK NUMBER & REFERENCE NUMBER CROSS-REFERENCE TO ITEM SEQUENCE NUMBER

FEDERAL STOCK NUMBER	ITEM SEQUENCE NUMBER
5110-937-7400	A457
5305-917-7010	A049
5305-917-7010	A056
5305-917-7012	A022
5305-917-7012	A052
5305-937-7531	A012
5315-917-7007	A026
5340-200-5222	A035
5360-438-1939	A175
5360-438-1948	A162
6625-553-0142	A461
6720-054-5334	A063
6720-089-9371	A001
6720-880-5298	A002
6720-908-3891	A213
6720-908-3891	A273
6720-908-4677	A393
6720-908-5666	A005
6720-908-5667	A055
6720-908-5712	A048
6720-908-6246	A006
6720-908-6258	A031
6720-909-8313	A062
6720-909-8397	A060
6720-910-2024	A395
6720-933-2524	A098
6720-933-2525	A055
6720-937-2328	A003
6720-937-6217	A023
6720-937-6220	A009
6720-937-9221	A042
6720-937-6221	A043
6720-937-6222	A041
6720-937-6223	A044
6720-937-6225	A208
6720-937-6225	A266
6720-937-6229	A453
6720-937-6237	A430
6720-937-6238	A418
6720-937-6242	A024
6720-937-6243	A030
6720-937-6243	A040
6720-937-6336	A170
6720-937-6801	A454
6720-937-6811	A156
6720-917-6817	A141
6720-937-6820	A159
6720-937-6822	A1[illegible]
6720-937-6823	A165
6720-937-6883	A199
6720-937-6944	A025
6720-937-6954	A021
6720-937-6959	A152
6720-937-6963	A380
6720-937-7042	A167
6720-937-7045	A164
6720-937-7050	A153
6720-937-7051	A169
6720-937-7055	A142
6720-937-7058	A455
6720-937-7591	A146
6720-937-7593	A143
6720-937-7605	A258
6720-937-7624	A270
6720-937-7700	A181
6720-937-8528	A210
6720-937-8136	A161
6720-937-8137	A139
6720-937-8138	A173
6720-937-8141	A157
6720-937-8142	A149
6760-018-4515	A450
6760-060-0461	A414
6760-410-7115	A004
6760-437-2493	A420
6760-457-2060	A349
6760-484-5864	A189
6760-484-5865	A188
6760-484-5866	A190
6760-491-0641	A112
6760-926-5283	A324
6760-935-3800	A111
6760-937-7414	A158
6760-937-7415	A168
6760-937-7605	A198
6760-996-3855	A440
6760-998-6107	A133

SECTION IV INDEX-FEDERAL STOCK NUMBER & REFERENCE NUMBER CROSS-REFERENCE
TO ITEM SEQUENCE NUMBER (Continued)

FEDERAL STOCK NUMBER		ITEM SEQUENCE NUMBER
REF NO.	MFG CO.	ITEM SEQ. NO.
0001	25734	A027
0002	25734	A095
0003	25734	A122
0004	25734	A182
0005	25734	A184
0006	25734	A187
0007	25734	A197
0008	25734	A201
0009	25734	A209
0010	25734	A261
0011	25734	A269
0012	25734	A327
0013	25734	A333
0014	25734	A339
0015	25734	A346
0016	25734	A356
0017	25734	A392
0018	25734	A400
0019	25734	A459
100-3R6L	25734	A423
100-4R6L	25734	A350
10001-9J	25734	A119
102-2-6L	25734	A226
102-2-6L	25734	A286
106-4R20R	25734	A070
106C5-[illegible]	25734	A405
106C6P6J	25734	A017
106C6R8J	25734	A016
110C5-4J	25734	A410
110C5-8J	25734	A409
111010000040081	25734	A152
111010000061282	25734	A159
111010000063281	25734	A164
111030000012083	25734	A179
111030000026082	25734	A147
111030000030481	25734	A141
111030000032381	25734	A142

FEDERAL STOCK NUMBER		ITEM SEQUENCE NUMBER
REF NO.	MFG CO.	ITEM SEQ. NO.
G17-36000	25734	A462
ST6635	25734	A453
ST6637	25734	A454
ST6638	25734	A456
ST6639	25734	A455
ST6641	25734	A457
ST6642	25734	A458
ST6644P4	25734	A463
ST6644P5	25734	A460
SB-1549-6	73608	A080
T8352BU	88058	A461
X5133-21	79136	A367
X5133-6	79136	A032
X5133-6	79136	A035
X5133-6	79136	A086
X5133-6	79136	A088
X5133-6	79136	A092

FEDERAL STOCK NUMBER	ITEM SEQUENCE NUMBER

INDEX

By Order of the Secretary of the Army:

W. C. WESTMORELAND,
General, United States Army,
Chief of Staff.

Official:

VERNE L. BOWERS,
Major General, United States Army,
The Adjutant General.

Distribution:

Active Army

USASA (2)
CNGB (1)
ACSC-E (2)
Dir of Trans (1)
CGE (1)
TSG (1)
CofSptS (1)
USAARENBD (2)
USAMB (10)
USACDC (2)
USACDC Agcy (1)
USAMC (1)
CONARC (5)
ARADCOM (2)
ARADCOM Rgn (2)
OS Maj Comd (4)
LOGCOMDS (5)
USAMICOM (4)
USATECOM (2)
USASTRATCOM (4)
USAESC (70)
MDW (1)
Armies (2)
Corps (2)
1st Cav Div (3)
Svc Colleges (2)
USASESS (5)
USAADS (2)
USAFAS (2)
USAARMS (2)
USAIS (2)
USAES (2)
USAINTS (3)
WRAMS (1)
USACDCEC (10)

USNG: None

USAR: None

For explanation of abbreviations used, see AR 310-50.

Instl (2) except
Fort Gordon (10)
Fort Huachuca (10)
Fort Carson (20)
Ft Richardson (USAECOM Ofc) (2)
WSMR (3)
Army Depot (2) except
LBAD (14)
SAAD (30)
TOAD (14)
LEAD (7)
NAAD (5)
SVAD (5)
ATAD (10)
Gen Dep (2)
Sig Sec Gen Dep (5)
Sig Dep (10)
Sig FLDMS (1)
ATS (1)
USAERDAA (2)
USAERDAW (5)
USACRREL (2)
MAAG (1)
USARMIS (1)
USAPA (5)
Units org under fol TOE:
(2 cys each unit)
11-39
11-96
11-95
11-117
11-158
11-500(AA-AC)
29-134

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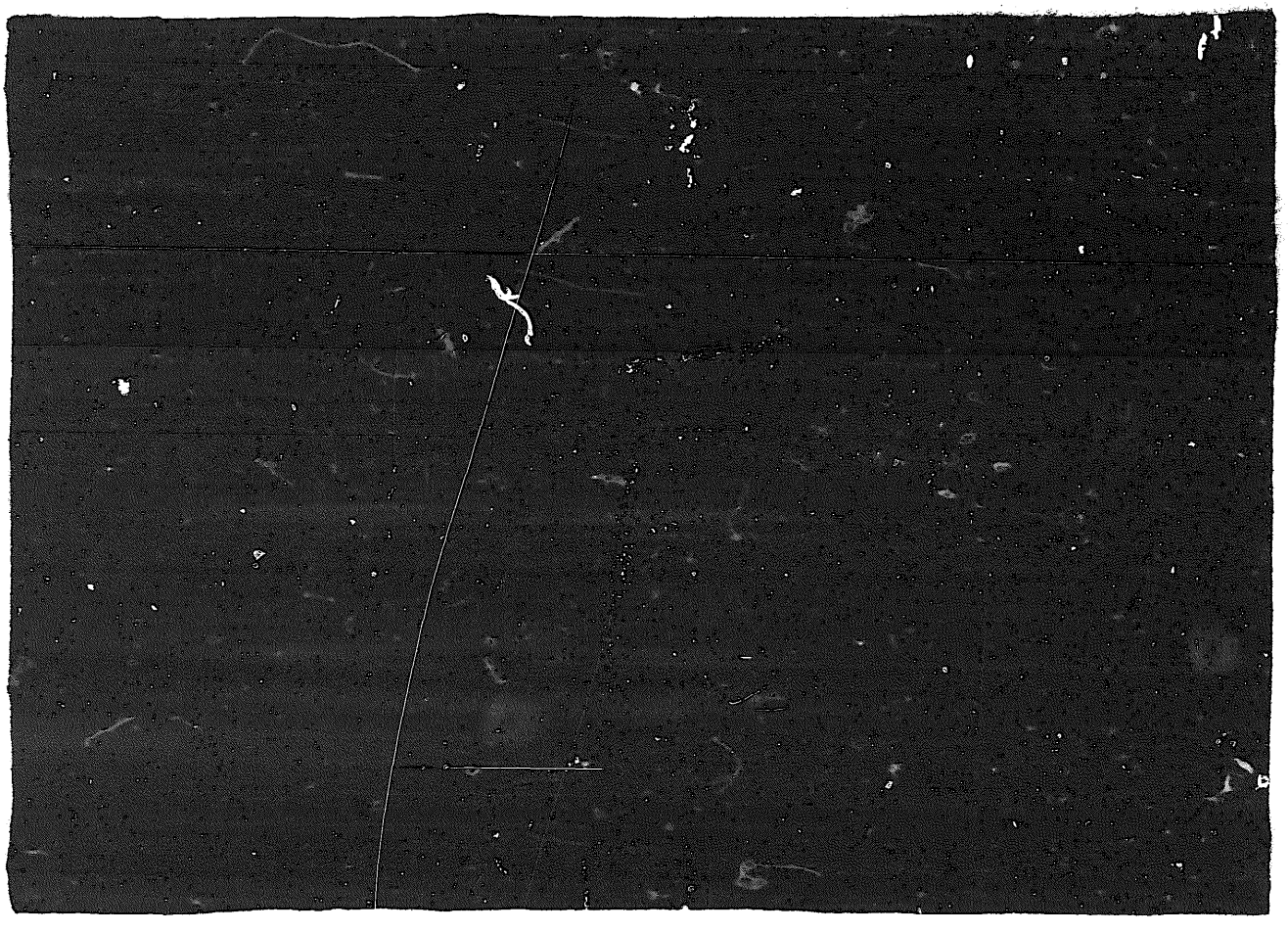
END

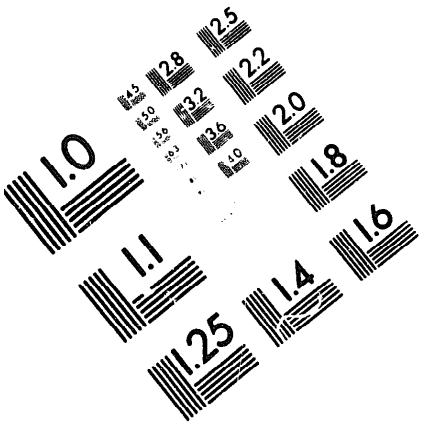
8-1-83

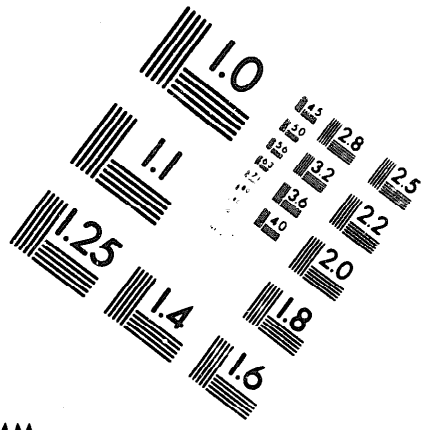
DATE



DEPARTMENT OF THE ARMY

MICROFORM
TEST TARGET





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1.5 mm (e= 1.09 mm)

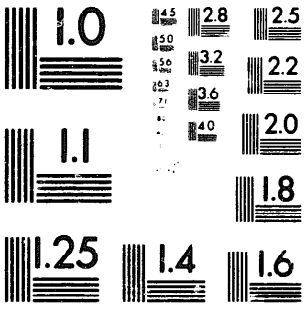
ABCDEFGHIJKLMNOPQRSTUVWXYZ1234567890
abcdefghijklmnopqrstuvwxyz$¢£/%#½¼¾—=+×&@*

2.0 mm (e= 1.37 mm)

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890$¢£/%#½¼¾—=+×&@*

2.5 mm (e= 1.77 mm)

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890$¢£/%#½¼¾—=+×&@*



1.0 mm (e= .81 mm)

ABCDEFGHIJKLMNOPQRSTUVWXYZ1234567890
abcdefghijklmnopqrstuvwxyz$¢£/%#½¼¾—=+×&@*

1.5 mm (e= 1.09 mm)

ABCDEFGHIJKLMNOPQRSTUVWXYZ1234567890
abcdefghijklmnopqrstuvwxyz$¢£/%#½¼¾—=+×&@*

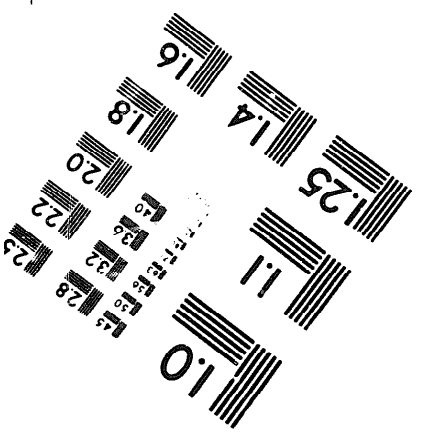
2.0 mm (e= 1.37 mm)

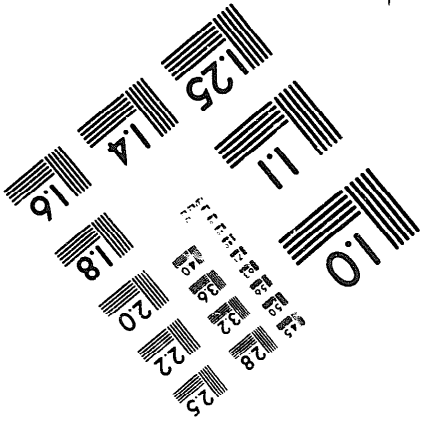
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890$¢£/%#½¼¾—=+×&@*

2.5 mm (e= 1.77 mm)

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890$¢£/%#½¼¾—=+×&@*

200 MM





250 MM