GENERAL DESCRIPTION, THEORY, ADJUSTMENTS AND LUBRICATION FOR MODEL 28 MINIATURIZED MULTI-MAGNET REPERFORATOR LARP

SECTION 1

GENERAL DESCRIPTION

1. GENERAL

a. The Model 28 Multi-Magnet Reperforators may be self contained motor driven units or may be operated by cross shafts on a keyboard base. These units are electro-mechanical devices used for reproducing perforated message tape in response to code impulses received on multi-wire signal paths from a transmitting unit.

b. The multi-magnet reperforator is designed to operate at a speed of 1200 operations (200 words) per minute on a five level basis. The design permits conversion to provide six, seven, or eight level operation if required.

2. DESCRIPTION

a. The multi-magnet reperforator consists of a reperforator unit. It incorporates the electrical and mechanical features necessary to perform the following functions:

(1) Translate code signals into mechanical action for controlling the code combinations of the tape being perforated.

(2) Perforate and feed the tape in timed relation to a distributor.

(3) Power backspace to delete any errors perforated (LARP801 only).

b. Magnet Current

(1) The code magnets operate on a signal line current of 0.065 ampere at 115 volts d.c.

(2) The function magnet operates on local circuits of 0.100 ampere at 115 volts d.c.

c. Power Supply Requirements

Power requirements for the synchronous motor are as foll

(1) Input voltage: 115 volts a.c. plus or minus 10 pe

(2) Phase: Single phase

(3) Frequency: 60 cycles plus or minus 0.75 per cent.

(4) Input current:

Starting: 9.0 amps
Running: 1.85 amps

(5) Power factor: 0.30

(6) Wattage: 65 watts.

SECTION 2

THEORY OF OPERATION

1. GENERAL

This section covers the ordering principles and circuit descriptions of the multi-magnet reperforator. It consists of a reperforator unit and a motor unit. Each element of the code is applied to an individual magnet. A function magnet is also provided. Each code magnet and the function magnet are connected to a distributor by individual circuits.

2. REPERFORATOR UNIT

a. General - The reperforator unit consists essentially of a main shaft, a bank of code magnets, a perforating mechanism, and a function mechanism.

NOTE

Pivot points are indicated on line drawings by solid black circles or ellipses.

b. Main Shaft

(1) The main shaft (Figure 2-5) is mounted horizontally by two bearings on the main casting of the reperforator unit. Between the bearings on the shaft are located a function clutch and various cams.

(2) The clutch on the main shaft, when tripped, drives the function anism through one cycle of operation and immediately disengages.

(a) Figure 2-4 shows a typical two stop clutch disengaged. Dis- occurs when lug B on the shoe lever and the cam disk stop lug A are gether. The shoe lever pivots clockwise about its ear C which otch in the upper portion of the secondary shoe. Shoe lever the right. The shoe springs contract and pull the two shoes

toward each other and away from the serrated drum surface. The drum continues to rotate but the mechanism attached to the cam disk does not.

(b) Figure 2-3 shows the same clutch engaged. Engagement occurs when the cam disk and lug B on the shoe lever are released. The shoe lever spring immediately contracts. The shoe lever pivots counterclockwise about shoe lever ear C under the influence of the shoe lever spring. It overcomes the tension of the shoe springs and moves the shoe springs and moves the shoe lever ear D to the left. This forces the primary shoe against the serrated drum surface at E. The counterclockwise rotation of the drum drives the primary shoe downward and so makes further contact with the drum at F. The movement of the primary shoe in the direction of the drum is transferred to the secondary shoe at G which causes the secondary shoe to bear against the drum at H. The revolving drum drives the secondary shoe upward to make contact with the drum at I as well as H. A force component is developed at I in a horizontal direction but is transferred to lug J on the clutch adjusting cam disk which causes the cam disk to rotate with the drum. The associated mechanism attached to the cam disk then rotates with the drum.

(3) Cam Assembly

(a) The cam assembly (Figure 2-5) is attached to the clutch cam disk and consists of two rocker bail cams and a reset disk. Each of the two cams and the disk perform their function in 180 degrees of rotation and are coordinated with the two stop positions of the clutch. The rocker bail cam actuates a rocker bail (Figure 2-6) from which motion is extended to the perforator. A cam shoe adjacent to the reset disk initiates resetting action for the function mechanism each 180 degrees of rotation.

c. Selecting Mechanism

The code magnets receive code impulses on a multi-wire basis from a distributor within the system. When a code magnet attracts its armature in response to a code impulse, the armature trips a punch slide latch (Figure 2-7) by means of push rods. The latch is held in the tripped position until the function mechanism operates whereupon the unlatched punch slide and punch pin are selected. A power retraction bail insures return of armatures.

d. Function Mechanism

(1) When the function magnet is energized by a pulse from the di utor, its armature releases a function trip lever which is clamped to a trip shaft (Figure 2-8). The function trip lever is drawn toward the m its spring and causes a lower trip lever on the opposite end of the shaft to actuate a main trip lever. The main trip lever has a res

lever attached to it as a forward extension (Figure 2-9). The forked end of the reset bail trip lever moves downward and thereby depresses the punch slide reset bail. Depression of the punch slide reset bail permits any punch slide that has been unlatched (due to energizing of its associated code magnet by a code impulse) to advance its respective punch pin. Punch slides identified with code magnets that are not energized will be retained in the unselected position by their latches.

(2) The main trip lever, in its counterclockwise movement, trips a release attached to a clutch trip shaft (Figure 2-9). Tension exerted by the release spring rotates the shaft and causes a clutch trip lever which is clamped to the mid-portion of the shaft to release the clutch. A lower reset arm is clamped to the mid-portion of the function trip shaft. A trip lever reset cam is clamped to the inner end of the clutch trip shaft. As the cam assembly rotates, a shoe on the reset disk depresses the lower reset lever to reset the function trip lever on the function magnet armature. Immediately following, another shoe (diameterically opposite on the reset disk) raises the release sufficiently to permit the release to reset on the main trip lever. A clutch latch lever is suspended freely on the clutch trip shaft. Its spring causes it to ride the clutch cam disk. The contour of the cam disk is such as to permit the latch to engage a shoulder on the disk at the point of clutch disengagement.

NOTE

When rotating the motor by hand, the clutch will not fully disengage upon reaching the stop position. It will be necessary therefore, to apply pressure to the cam disk in the direction of rotation to permit the latch lever to seat and secure full disengagement. This will also be true on starting the motor under power if the clutch has been tripped during the off period. When the motor is operating under power the momentum of the rotating clutch insures full disengagement.

e. Perforating Mechanism

Action of the rocker bail cams during rotation causes the rocker bail (Figure 2-6) to apply longitudional motion to a drive link. The drive link connects with a rocker arm which is clamped to a toggle bail shaft in the perforating assembly. As the toggle bail (Figure 2-7) rocks, toggle links attached to the front and rear of the bail apply vertical motion to a punch slide and horizontal motion to a punch slide reset bail. At the start of the perforating cycle, the punch slide reset bail withdraws from the shoulders of punch slides and permits any slides that have been selected in response to pulses to extend over the top of the punch slide post. These selected slides are carried upward by the post to force the punch pins through the tape. Punch slides are retained in the unselected position by their latches on the post. Toward the end of the perforating cycle, the punch slides its lower position. The punch slides reset bail restores

the punch slides to the unselected position and retains them there against the tension of their springs.

f. Tape Feeding

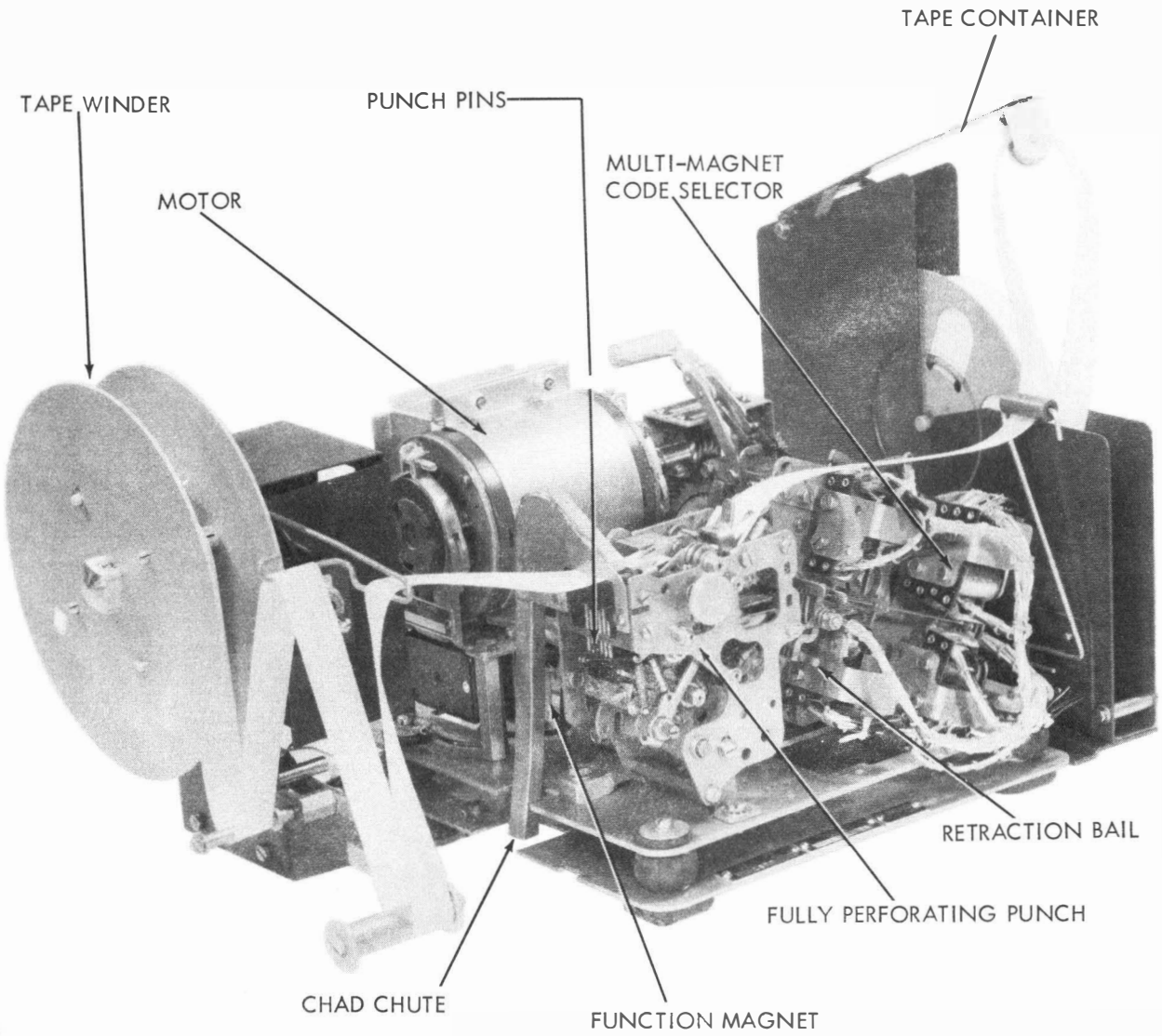
The tape emerges from a container and changes direction at two points before entering a tape guide on approaching the perforation mechanism. From the tape guide, the tape passes between a feed wheel and a die wheel (Figure 2-7). A tape shoe holds the tape in contact with the feed wheel from where it passes into the die block for code perforation. A feed pawl attached to the toggle bail acts upon a ratchet wheel at one end of the feed wheel shaft and advances the tape subsequent to the perforation of each code combination. A detent (with roller) attached to the outer assembly plate rides the ratchet wheel and insures uniform spacing of the perforations.

g. Magnet Release Contact

A release contact is located on a bracket directly above the inner main shaft bearing. It breaks the circuit to the selector magnets and the function magnet immediately after the start of the function cycle. The contact is caused to break by the action of a contact bail which rides a rocker bail cam.

h. Auxiliary Contacts

The No. 1 and No. 2 Auxiliary Contacts, located underneath the Magnet Release Contact, each are pulsed twice during each revolution of the perforator shaft. They are used in conjunction with the logic circuitry of the Automatic Line Switching System. No. 1 Auxiliary Contact closes a circuit to the stepping switches employed in the preparation of tape. No. 2 Auxiliary Contact breaks a circuit to the clutch magnet and selector magnets which was prepared by Auxiliary Contacts on the keyboard.



SELF-CONTAINED MULTI-MAGNET REPERFORATOR - LESS COVER

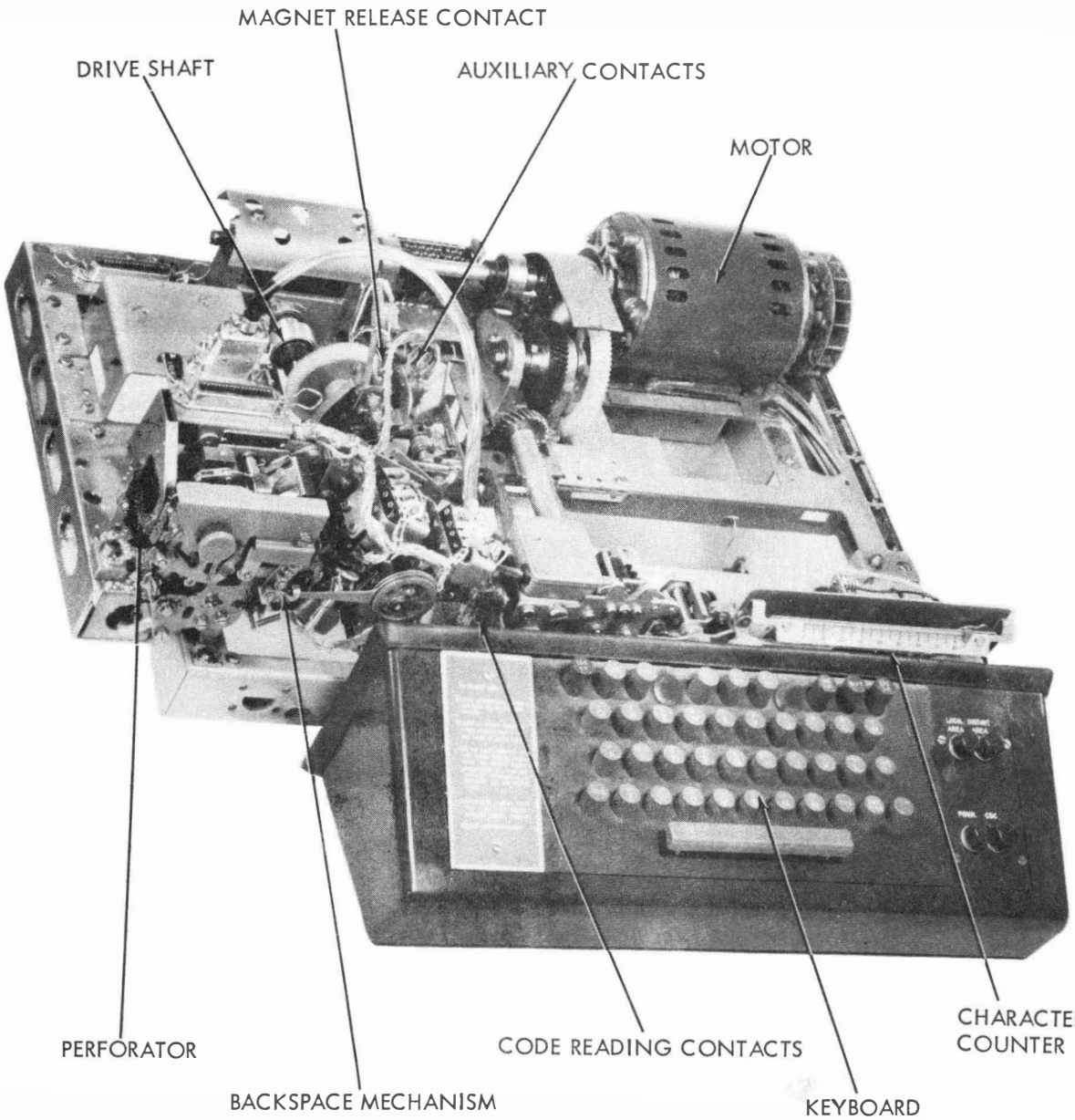


FIGURE 2-2. MULTI-MAGNET REPERFORATOR ON

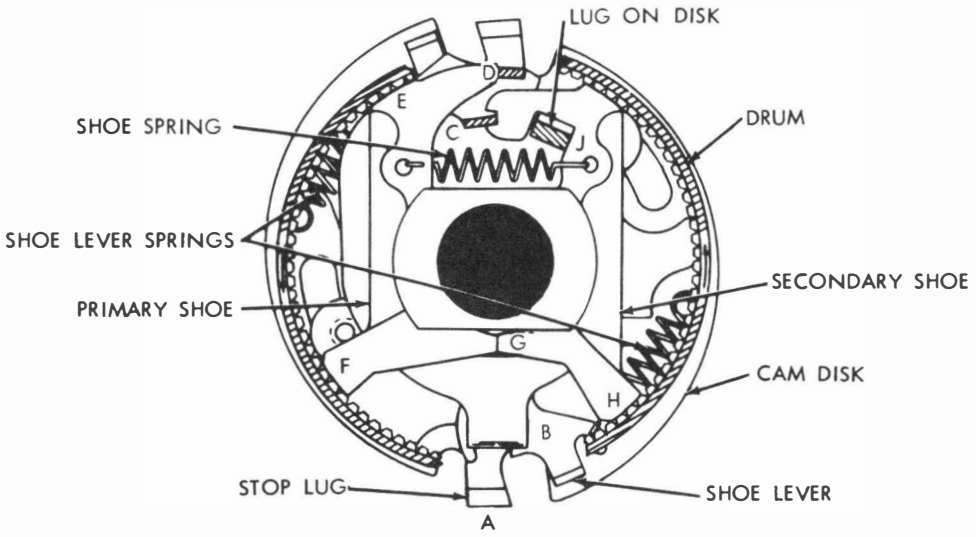


FIGURE 2-3 CLUTCH ENGAGED

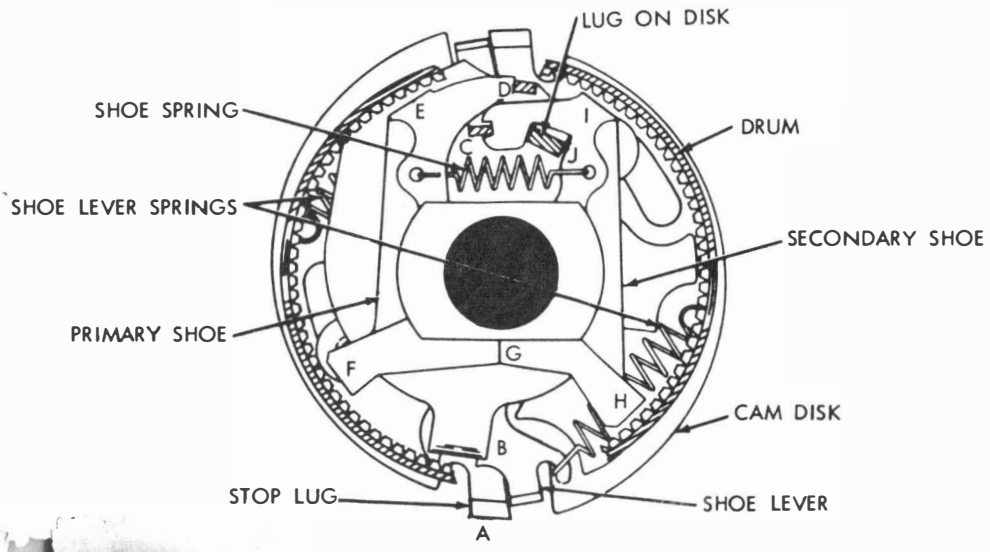


FIGURE 2-4 CLUTCH DISENGAGED

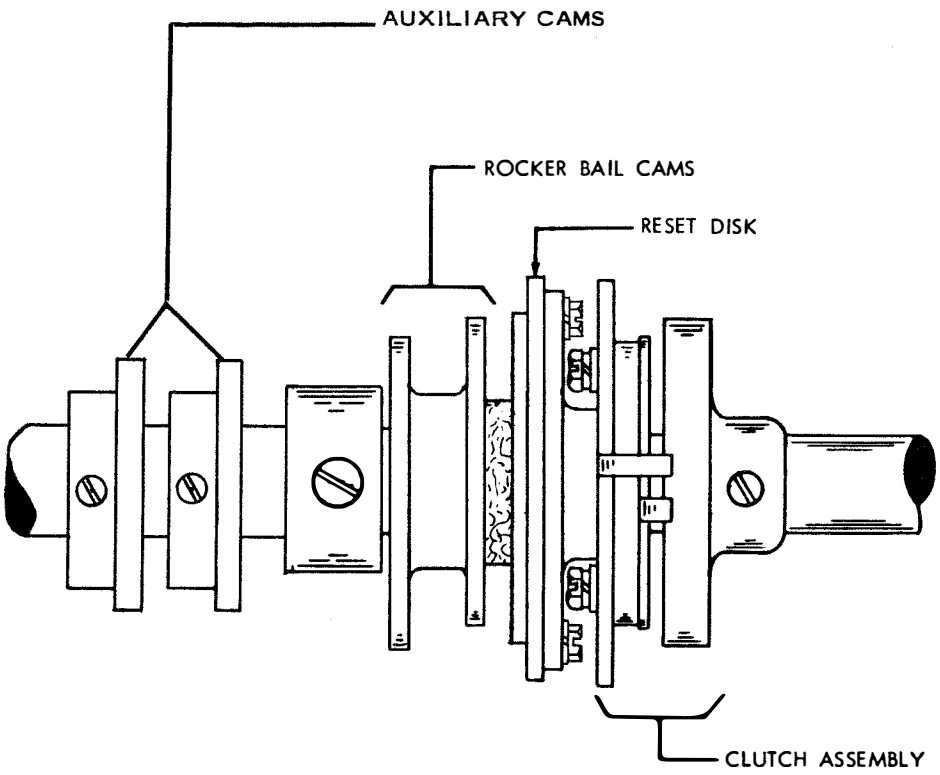


FIGURE 2-5 MAIN SHAFT

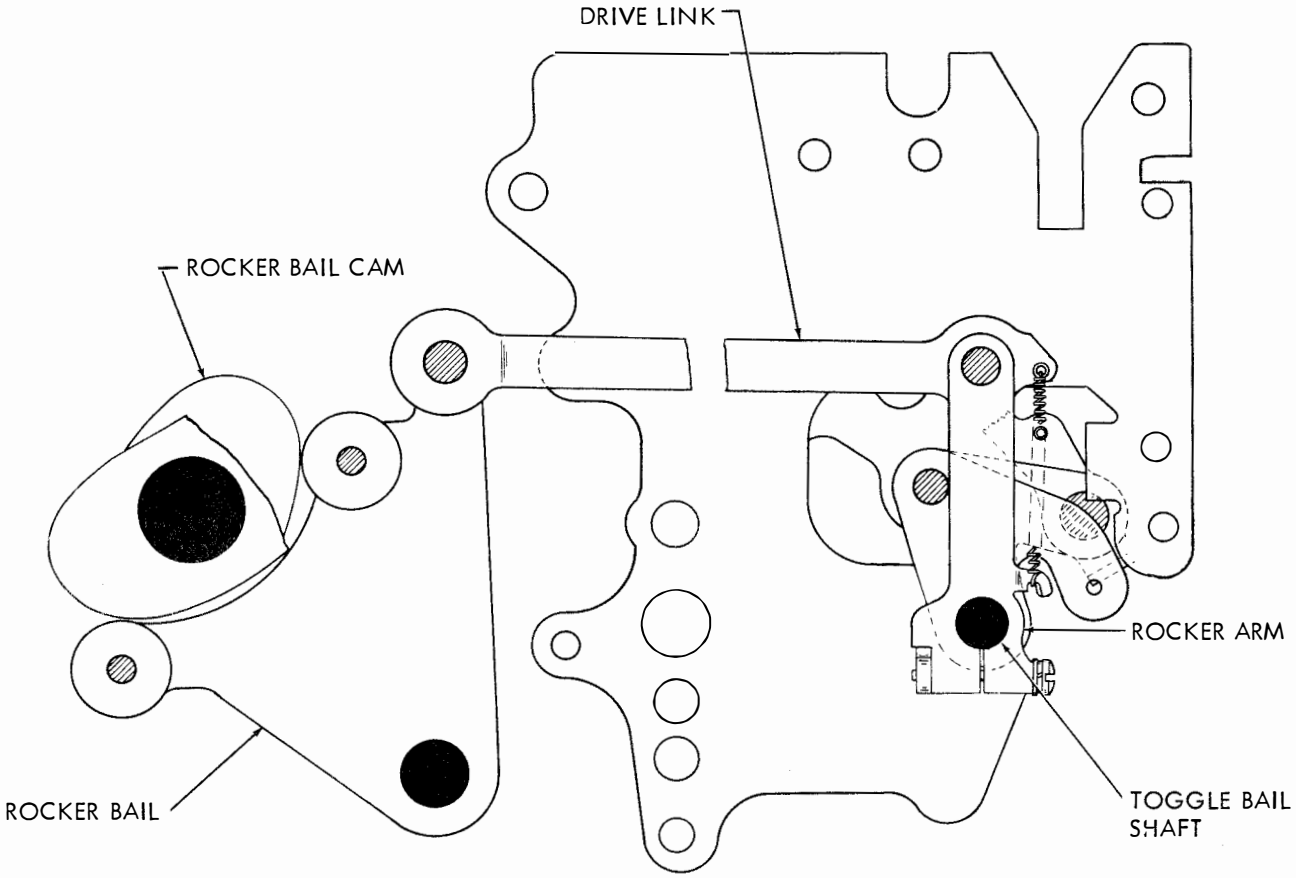


FIGURE 2-6. ROCKER BAIL CONNECTIONS

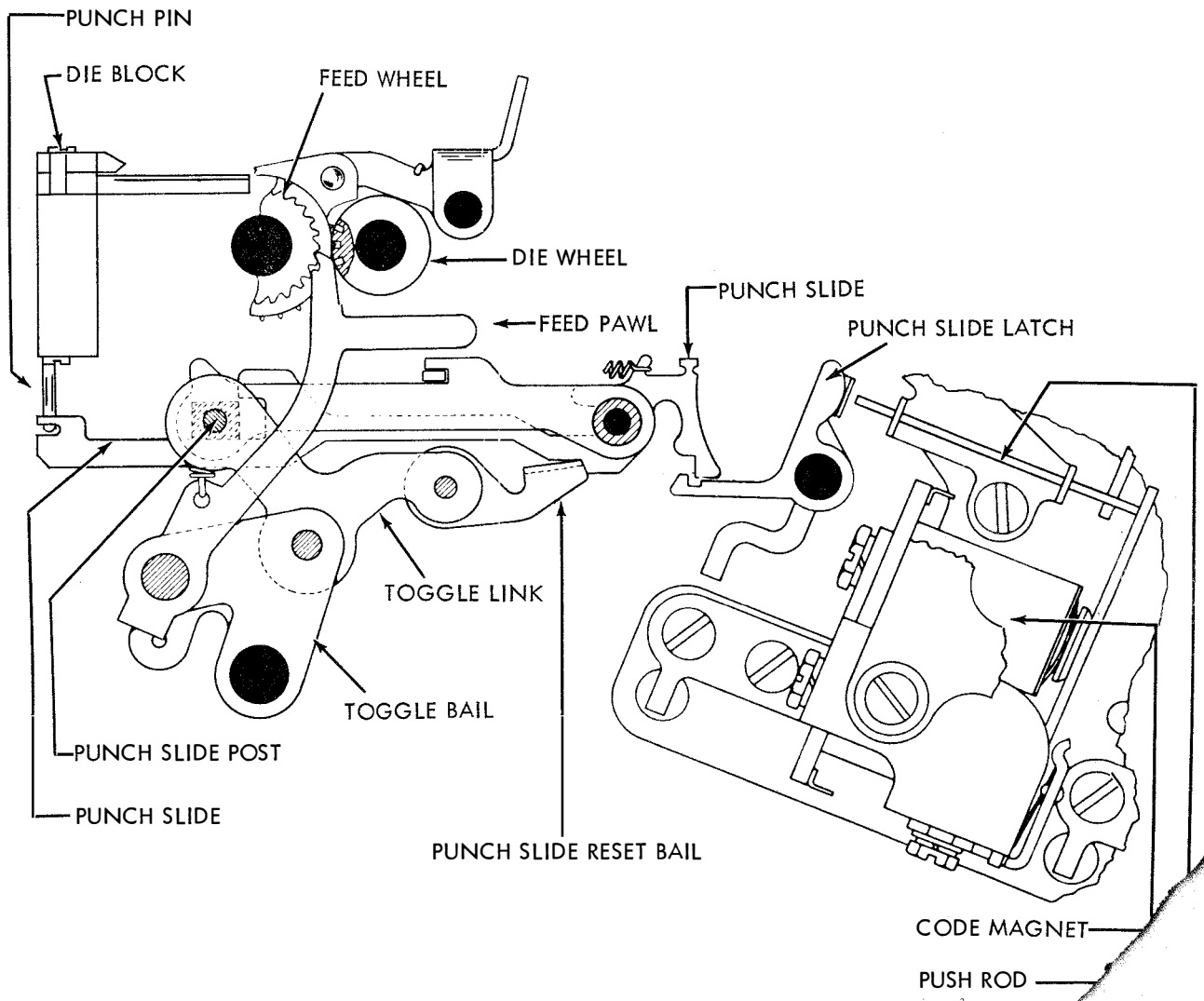


FIGURE 2-7. PUNCH AND MULTIMAGNET SELECTOR

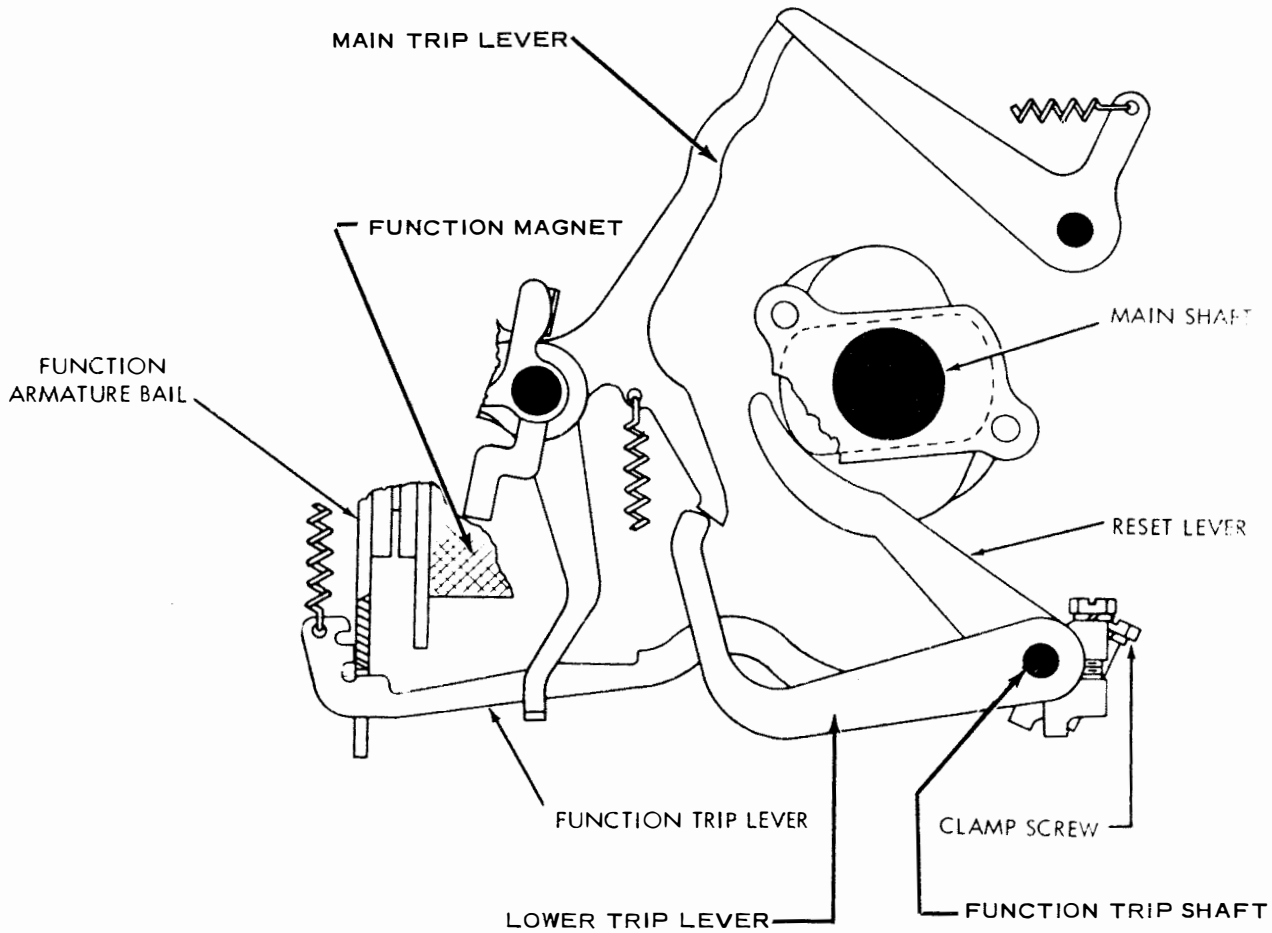
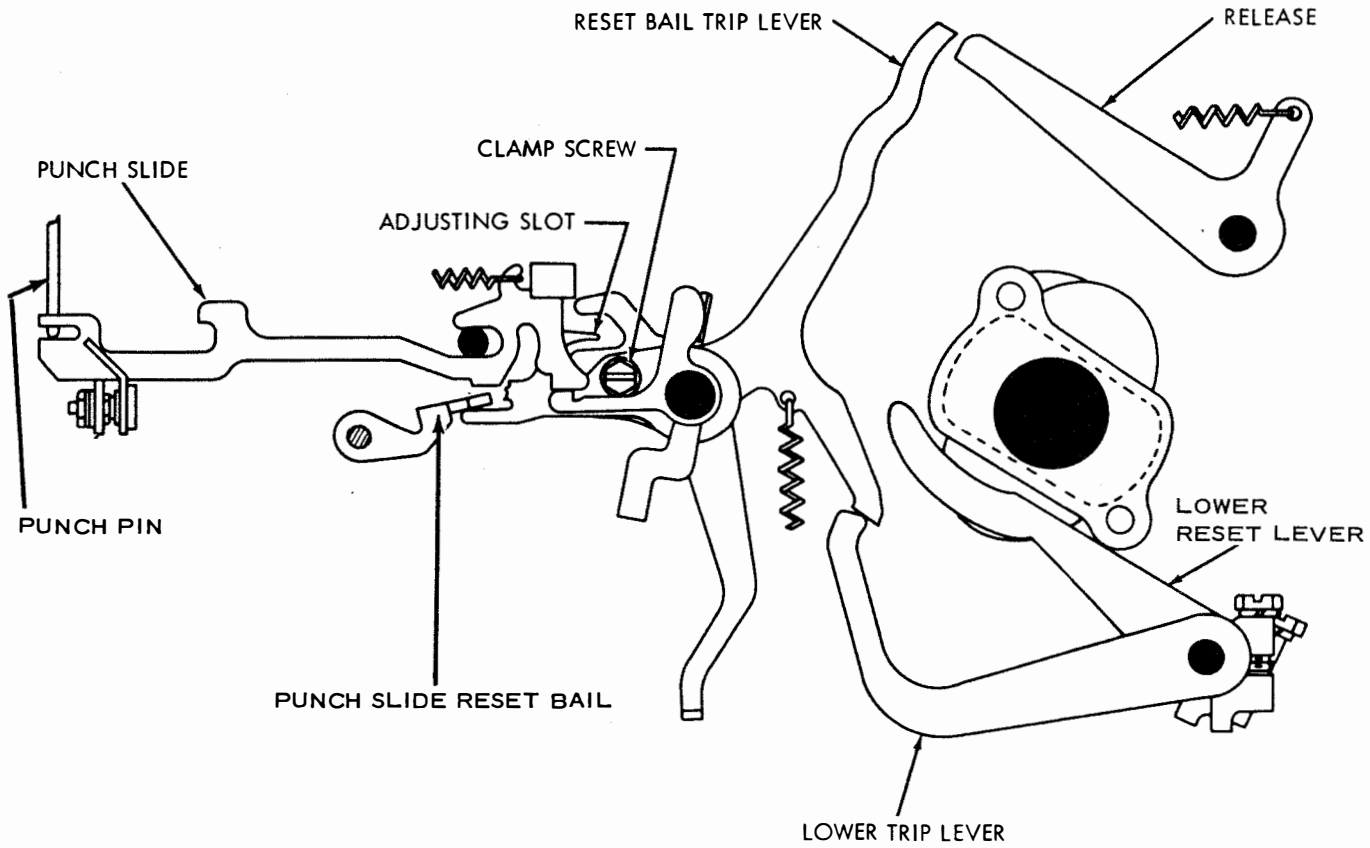


FIGURE 2-8 FUNCTION MECHANISM



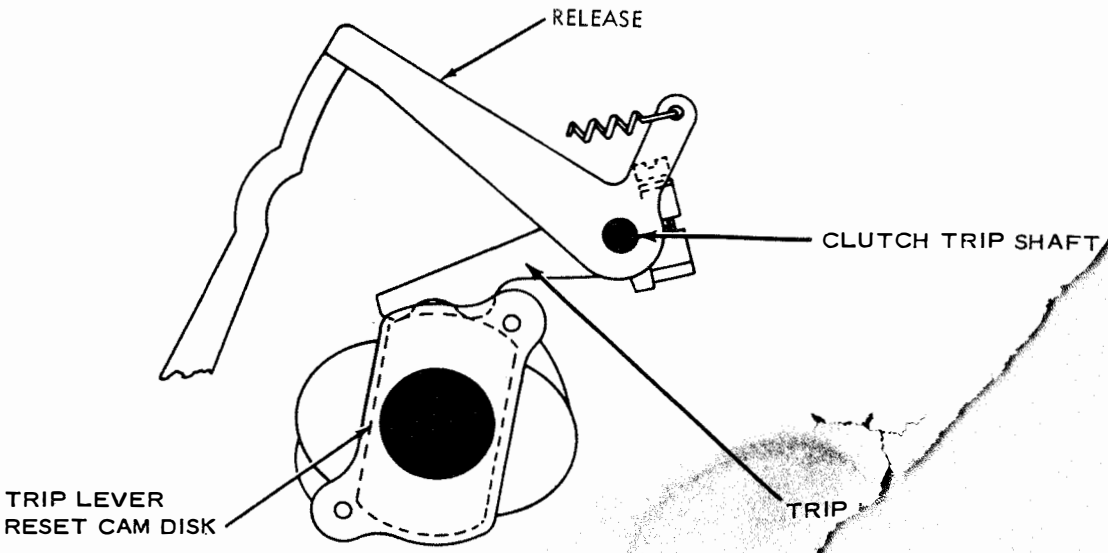


FIGURE 2-9 FUNCTION MECHAN

SECTION 3

ADJUSTMENTS

1. GENERAL

a. The adjustments of the multi-magnet reperforator are arranged in a sequence that should be followed if a complete readjustment of the unit were undertaken.

b. After an adjustment has been completed, be sure to tighten any nuts or screws that may have been loosened.

c. Tools and spring scales required to perform the adjustments are listed in Teletype Bulletin 1124B but are not supplied as part of the equipment.

d. The adjusting illustrations, in addition to indicating the adjusting tolerances, positions of moving parts, and spring tensions, also show the angle at which the scale should be applied when measuring spring tensions.

e. From time to time the requirements and procedures for the various adjustments may change. For this reason, the text of the adjustment in the latest issue should be read through before proceeding to make any readjustment.

f. If a part that is mounted on shims is removed, the number of shims used at each of its mounting screws should be noted so that the same shim pile-ups can be replaced when the part is remounted.

g. If parts or assemblies are removed to facilitate readjustments and subsequently replaced, recheck any adjustment that may have been affected by the removal of these parts or assemblies.

h. The spring tensions given in this bulletin are indications not exact values and should be checked with proper spring scales in the position indicated. Springs which do not meet the requirement and for which no adjusting procedure is given should be replaced by new springs.

NOTE

When rotating the main shaft of the reperforator by hand, the clutch does not fully DISENGAGE upon reaching its stop positions. In order to relieve the drag on the clutch and permit the main shaft to rotate freely, apply pressure on a lug of the clutch disk with a screw driver to cause it to engage its latch lever and thus DISENGAGE the internal expansion clutch to prevent the clutch shoes from dragging on the clutch drum.

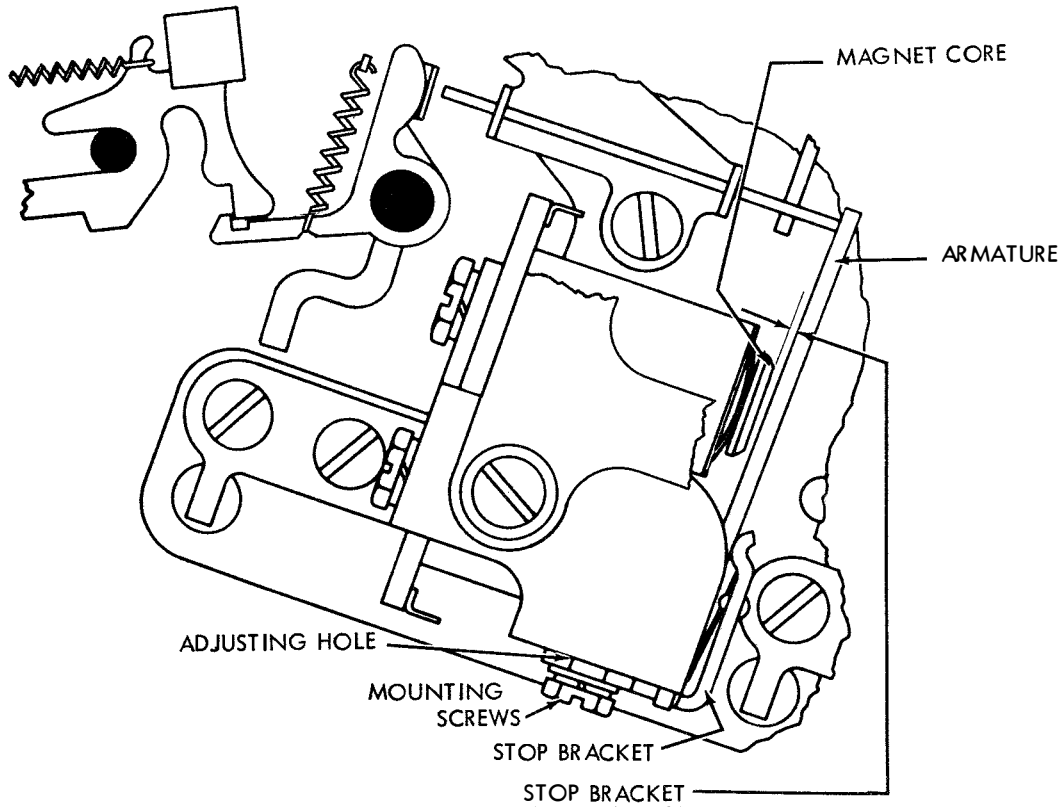
i. References made to "Left" or "Right", "Up" or "Down", "Front" or "Rear", etc. apply to the unit in its normal operating position as viewed from the operator's position in front of the unit opposite the motor and terminal blocks.

j. When the requirement calls for the clutch to be DISENGAGED the clutch shoe lever must be fully latched between its trip lever and latch lever so that the clutch shoes release their tension on the clutch drum. When ENGAGED the clutch shoe lever is unlatched and the clutch shoes are wedged firmly against the clutch drum.

k. All contact points should meet squarely. Smaller contact points should fall wholly within the circumference of its mating larger contact. Contacts having the same diameter should not be out of alignment more than 25 per cent of the contact diameter. Avoid sharp kinks or bends in the contact springs.

2. CODE SELECTOR MECHANISM

NOTE
BEFORE MAKING THESE ADJUSTMENTS THE PUNCH POSITION ADJUSTMENT (FIGURE 3-19) SHOULD BE MADE.



REQUIREMENT

WITH CODE MAGNET DEENERGIZED AND CLUTCH DISENGAGED. ARMATURE HELD AGAINST ITS STOP BRACKET. CLEARANCE BETWEEN ARMATURE AND CORE OF MAGNET NEAREST THE FREE END OF ARMATURE
MIN. 0.015 INCH
MAX. 0.030 INCH

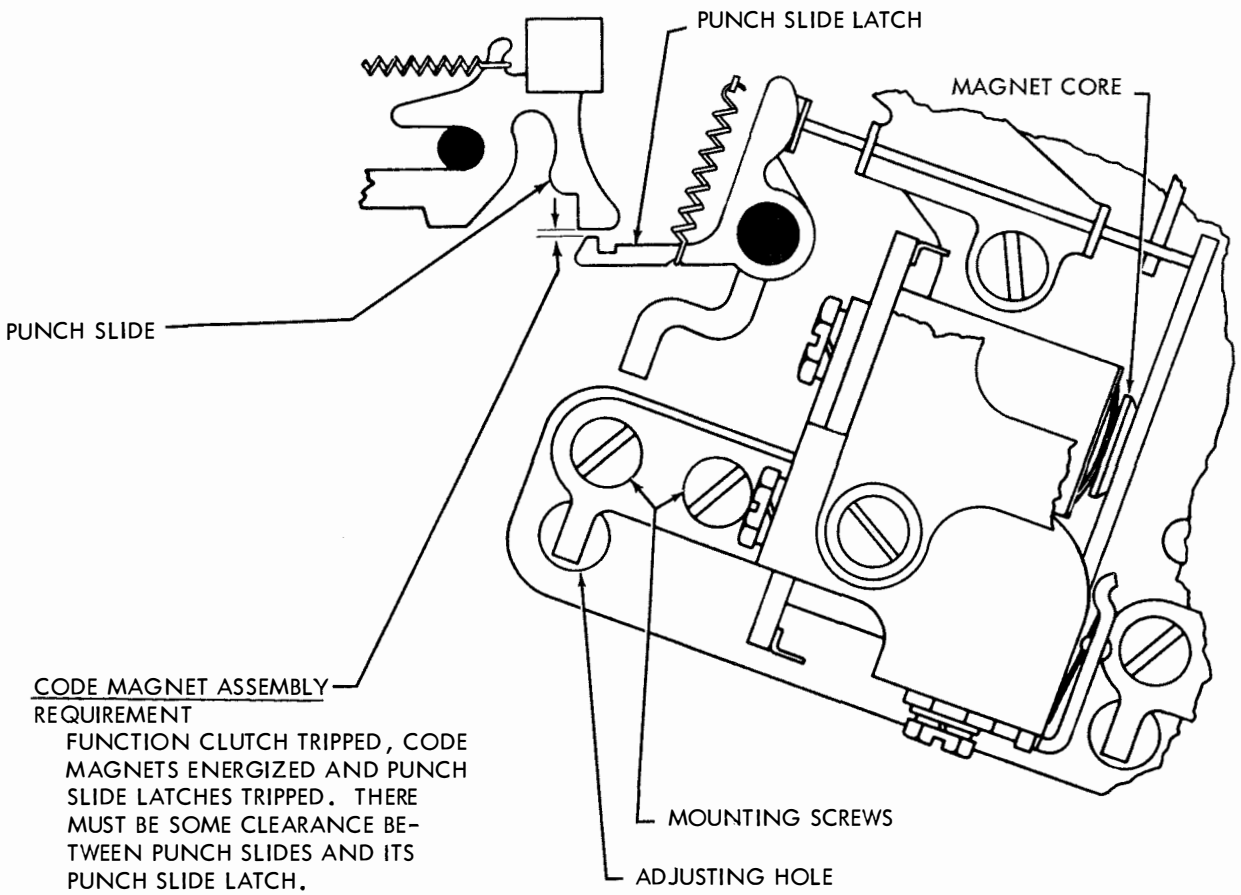
TO ADJUST

POSITION THE ARMATURE STOP BRACKET BY MEANS OF ITS ADJUSTING HOLE WITH ITS MOUNTING SCREWS LOOSENED.

NOTE

AFTER MAKING THE CODE MAGNET ASSEMBLY ADJUSTMENT RECHECK THE ABOVE REQUIREMENT.

FIGURE 3-1. MULTI-MAGNET SELECTOR



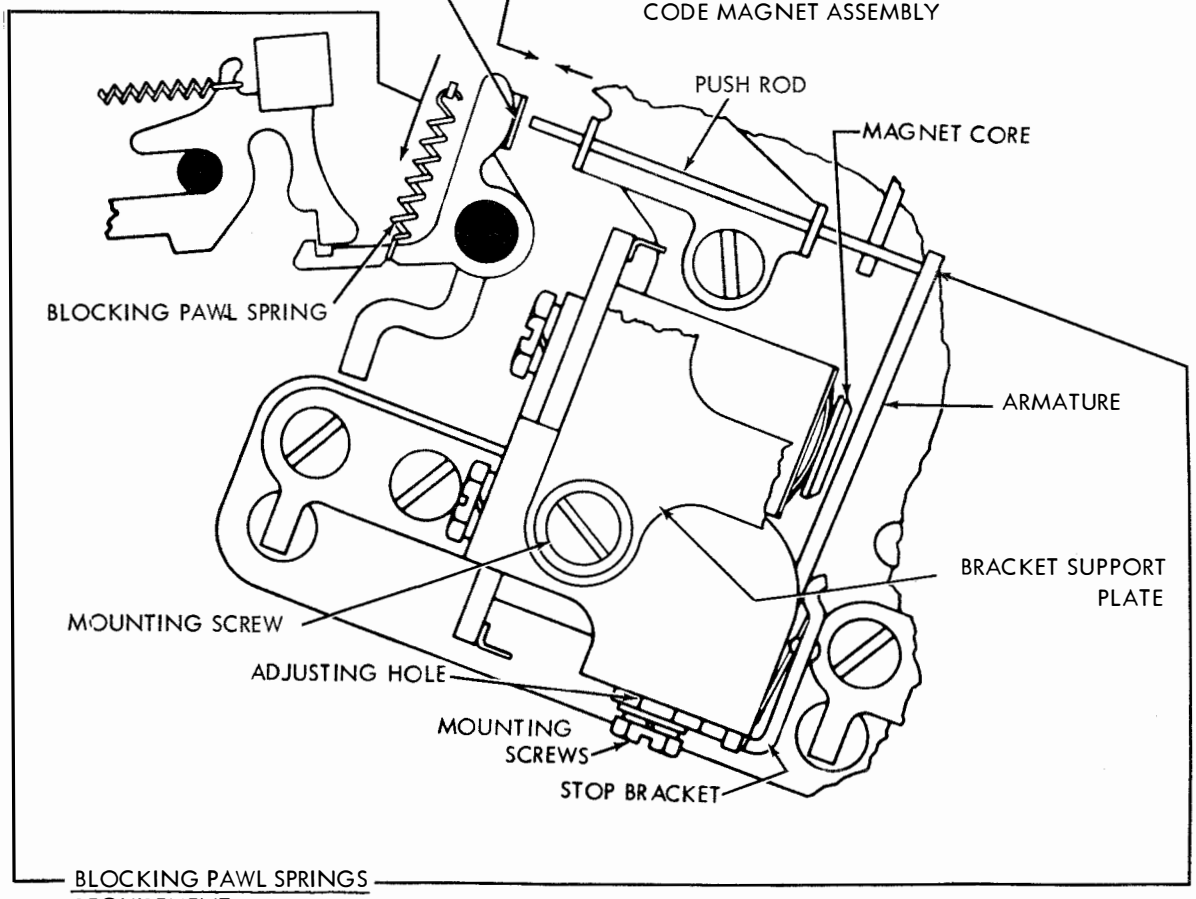
SEE FIGURE 3-3.

FIGURE 3-2. MULTI-MAGNET SELECTOR

CODE MAGNET ASSEMBLY (CONTINUED)

(2) REQUIREMENT
FUNCTION CLUTCH DISENGAGED AND LATCHED. CODE MAGNETS DEENERGIZED AND ARMATURES HELD AGAINST THEIR STOP BRACKETS, CLEARANCE BETWEEN EACH PUSH ROD AND ITS PUNCH SLIDE LATCH EXTENSION
MIN. SOME

TO ADJUST
LOOSEN THE MAGNET BRACKET SUPPORT PLATE MOUNTING SCREW AND TWO MAGNET BRACKET MOUNTING SCREWS. POSITION CODE MAGNET ASSEMBLY



BLOCKING PAWL SPRINGS

REQUIREMENT
CLUTCH DISENGAGED AND LATCHED.
PUSH ON ARMATURES IN LINE WITH PUSH RODS.
MIN. 1-1/2 OZS.
MAX. 3 OZS.
TO START BLOCKING PAWL MOVING.

FIGURE 3-3. MULTI-MAGNET SELECTOR

3. FUNCTION MECHANISM

NOTE

IN ORDER TO CHECK THIS ADJUSTMENT IT IS NECESSARY TO REMOVE THE FUNCTION MAGNET ASSEMBLY. THEREFORE IT SHOULD NOT BE CHECKED UNLESS THERE IS GOOD REASON TO BELIEVE THAT IT DOES NOT MEET ITS REQUIREMENT.

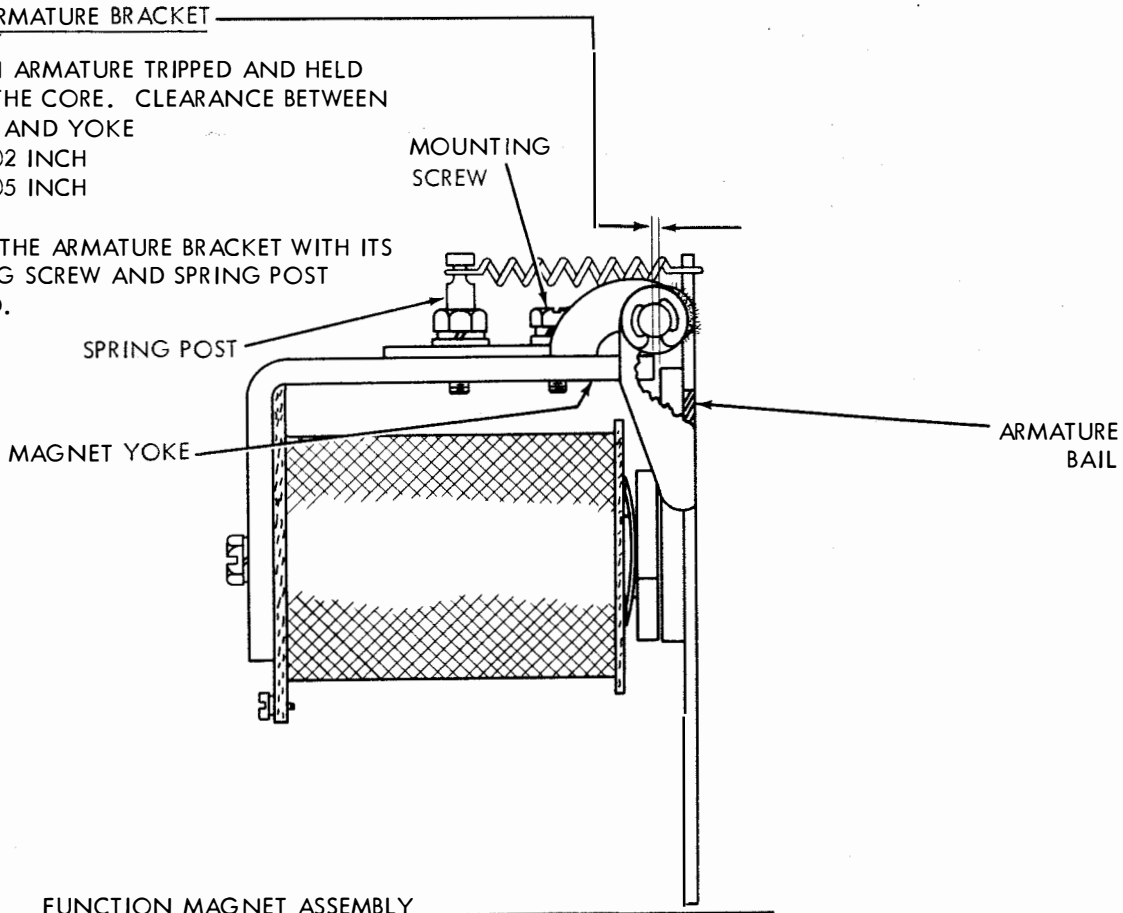
FUNCTION ARMATURE BRACKET

REQUIREMENT

FUNCTION ARMATURE TRIPPED AND HELD AGAINST THE CORE. CLEARANCE BETWEEN ARMATURE AND YOKE
MIN. 0.002 INCH
MAX. 0.005 INCH

TO ADJUST

POSITION THE ARMATURE BRACKET WITH ITS MOUNTING SCREW AND SPRING POST LOOSENED.



FUNCTION MAGNET ASSEMBLY

REQUIREMENT

FUNCTION CLUTCH DISENGAGED, ARMATURE TRIPPED AND HELD AGAINST MAGNET CORE. CLEARANCE BETWEEN THE FUNCTION TRIP LEVER AND THE ARMATURE BAIL
MIN. SOME
MAX. 0.005 INCH

TO ADJUST

POSITION THE MAGNET ASSEMBLY BY MEANS OF ITS PRY POINT WITH THE TWO MOUNTING SCREWS LOOSENED.

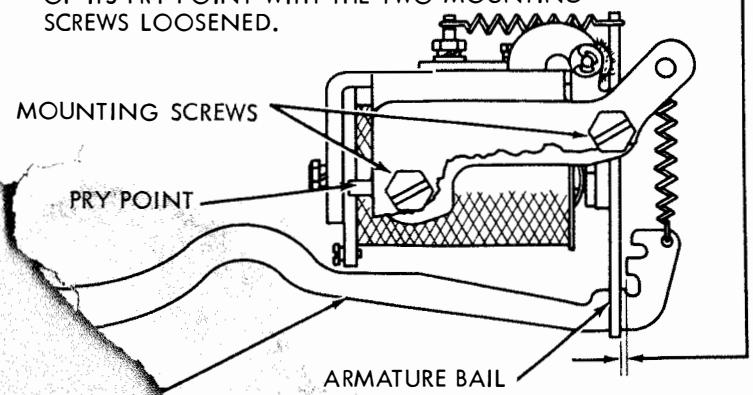
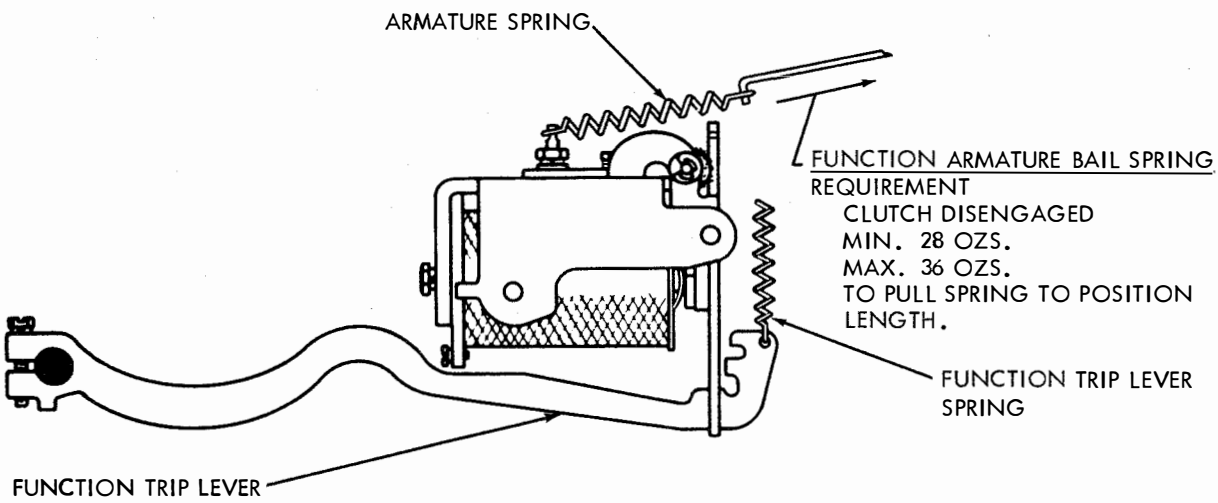


FIGURE 3-4. FUNCTION MAGNET ASSEMBLY



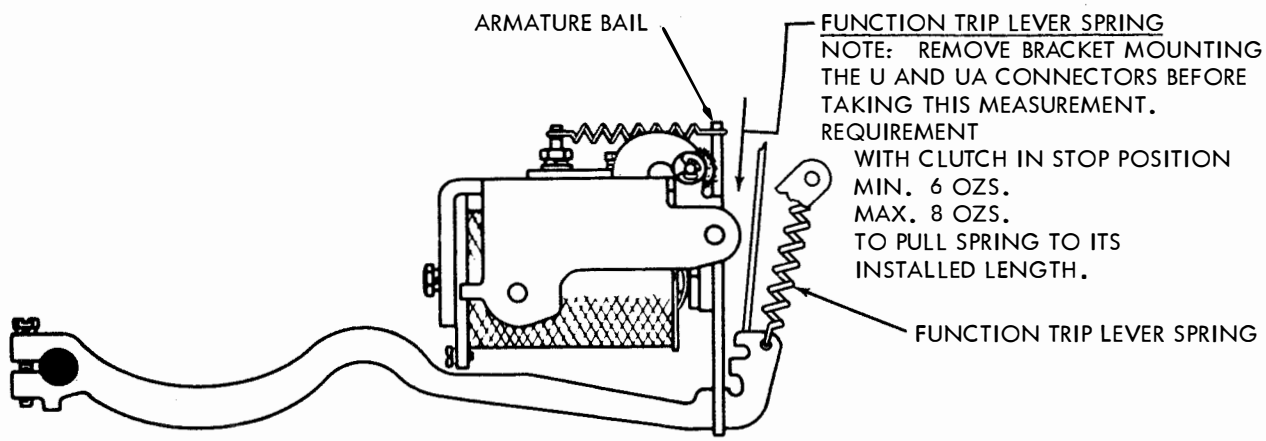
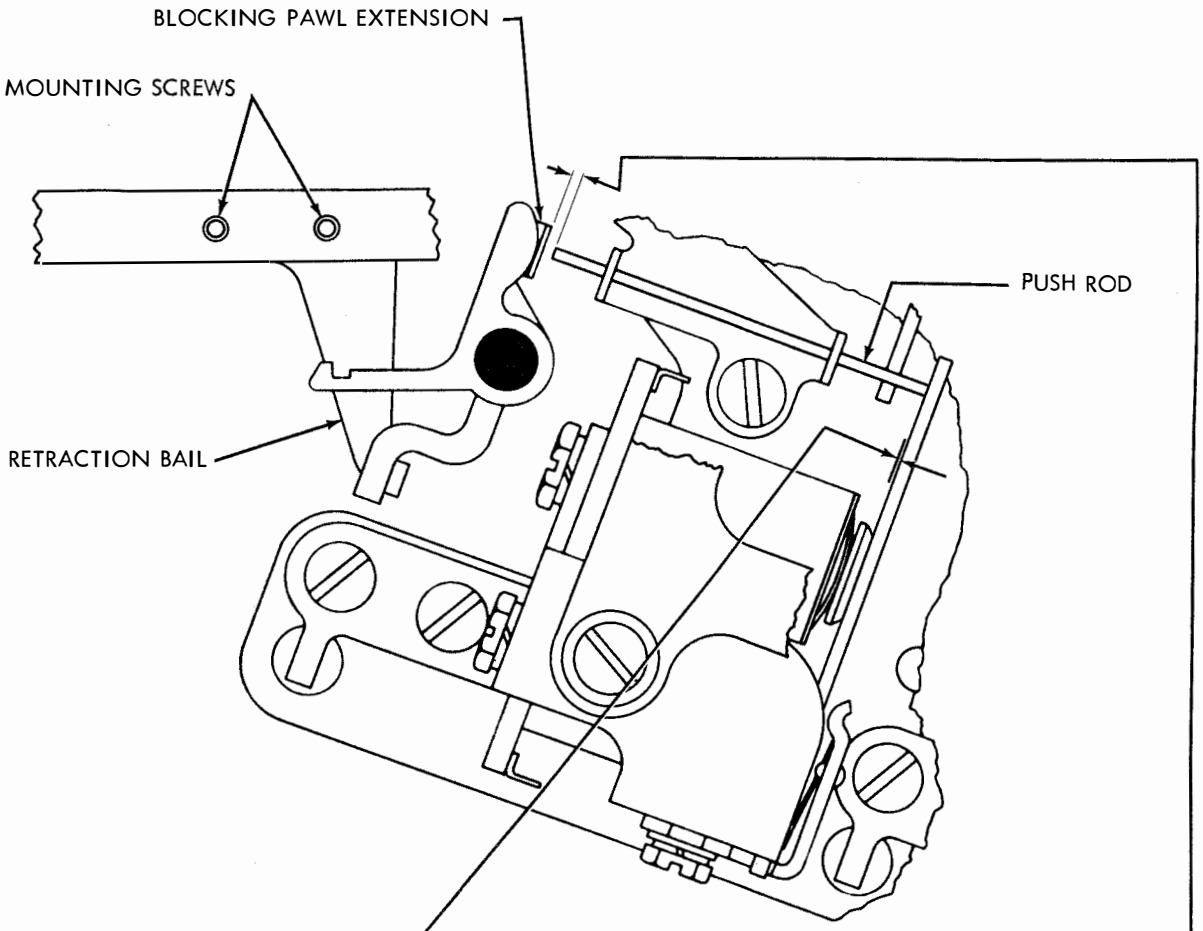


FIGURE 3-5. FUNCTION MAGNET ASSEMBLY



POWER RETRACTION

(1) REQUIREMENT

WITH THE CLUTCH TRIPPED, CODE MAGNET AGAINST STOP BRACKET AND THE MAIN SHAFT ROTATED UNTIL THE POWER RETRACTION BAIL IS IN ITS EXTREME LEFT POSITION. THERE MUST BE SOME CLEARANCE BETWEEN UPPER END OF BLOCKING PAWL EXTENSION AND PUSH RODS.

(2) REQUIREMENT

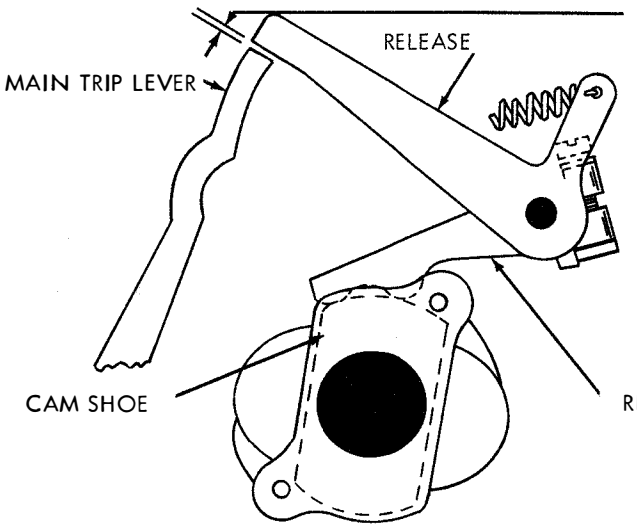
MANUALLY MOVE CODE MAGNET ARMATURE TOWARDS MAGNET CORE UNTIL PUSH ROD IS AGAINST ITS BLOCKING PAWL EXTENSION AND LOWER PART OF BLOCKING PAWL EXTENSION IS AGAINST RETRACTION BAIL.

MIN. .002 INCH BETWEEN ARMATURE AND ITS CORE.

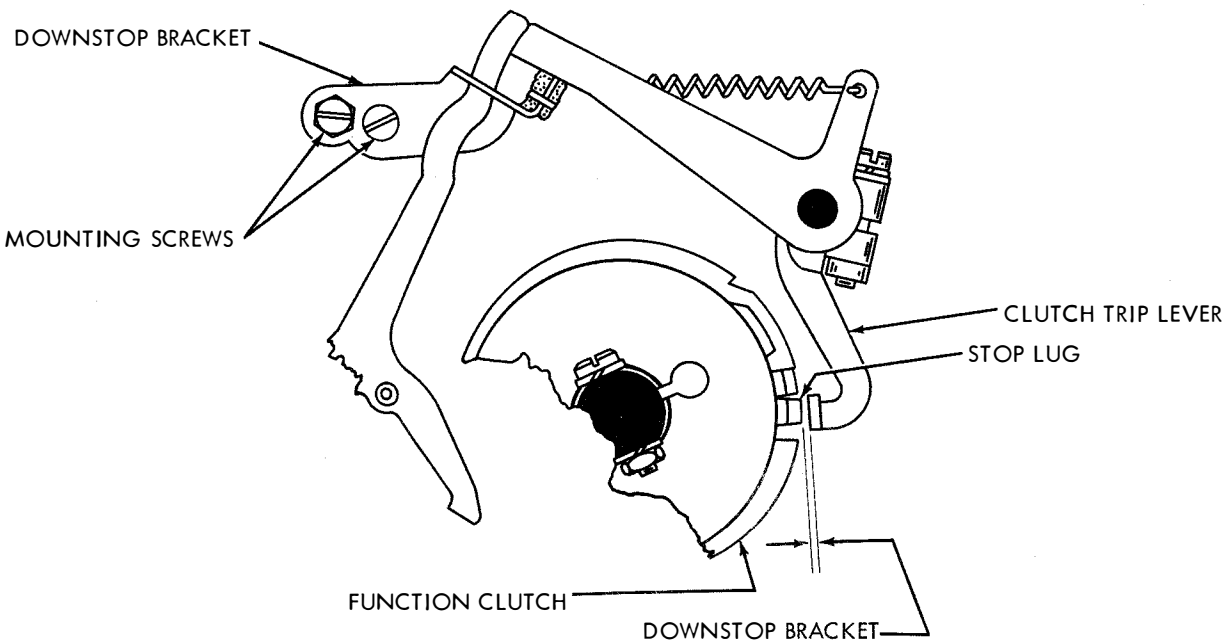
TO ADJUST

POSITION THE POWER RETRACTION BAIL WITH ITS MOUNTING SCREWS LOOSENED. READJUST STOP BRACKET IF NECESSARY.

FIGURE 3-6. POWER RETRACTION BAIL

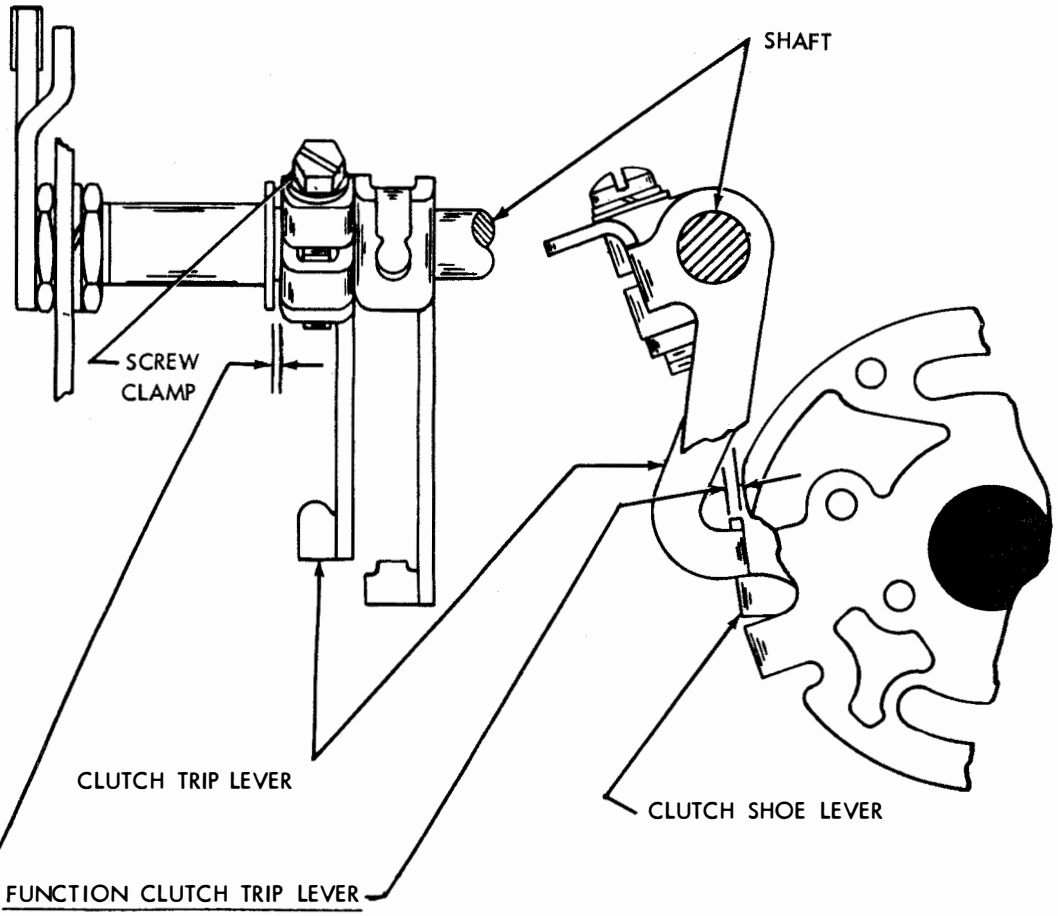


RESET LEVER (UPPER)
REQUIREMENT
ROCKER BAIL IN EXTREME LEFT POSITION. FUNCTION CLUTCH LATCH LEVER SPRING REMOVED AND UPPER RESET LEVER ON CAM SHOE. CLEARANCE BETWEEN MAIN TRIP LEVER AND RELEASE LEVER.
MIN. .005 INCH
MAX..020 INCH
TO ADJUST
WITH RESET LEVER CLAMP SCREW LOOSENED POSITION RELEASE LEVER TO MEET REQUIREMENT.



REQUIREMENT
WITH FUNCTION CLUTCH TRIPPED, CLUTCH TRIP LEVER RESTING AGAINST ITS DOWNSTOP, AND MAIN SHAFT ROTATED UNTIL THE CLUTCH DISK STOP LUG IS OPPOSITE THE CLUTCH TRIP LEVER. CLEARANCE BETWEEN CLUTCH TRIP LEVER AND STOP LUG AT STOP WITH LEAST CLEARANCE
MIN. .002 INCH
MAX. .045 INCH
TO ADJUST
POSITION THE DOWNSTOP BRACKET BY MEANS OF ITS ADJUSTING SLOT WITH ITS MOUNTING SCREWS LOOSENED.

FIGURE 3-7. CLUTCH TRIP MECHANISM



FUNCTION CLUTCH TRIP LEVER

(1) REQUIREMENT

THE FUNCTION CLUTCH TRIP LEVER SHOULD ENGAGE THE CLUTCH SHOE LEVER BY THE FULL THICKNESS OF THE SHOE LEVER.

(2) REQUIREMENT

THE END PLAY IN THE SHAFT SHOULD BE
MIN. SOME
MAX. 0.006 INCH

TO ADJUST

WITH THE RELEASE LEVER RESTING ON THE MAIN TRIP LEVER, POSITION THE TRIP LEVER ON ITS SHAFT WITH ITS CLAMP SCREW LOOSENED.

NOTE

CHECK AT STOP NEXT TO NOTCH IN ADJUSTING DISK

FIGURE 3-8. CLUTCH TRIP MECHANISM

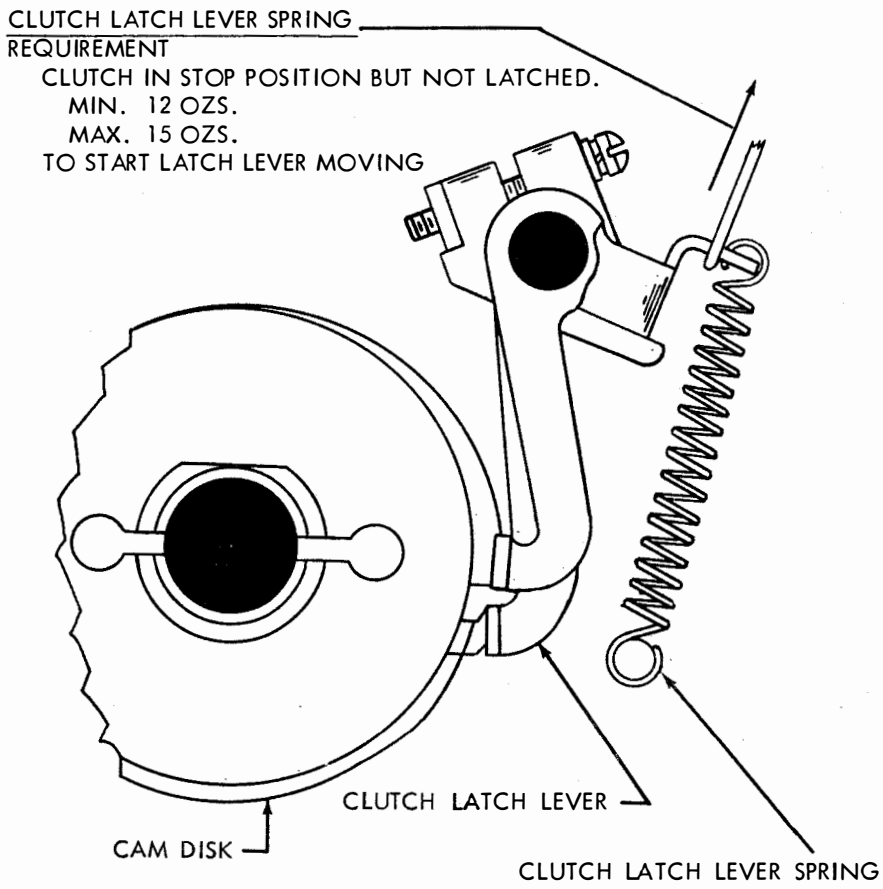


FIGURE 3-9. CLUTCH LATCH LEVER SPRING

CLUTCH DRUM

NOTE: FOR UNITS EQUIPPED WITH 173203 BEARING SLEEVE

REQUIREMENT

FUNCTION CLUTCH DISENGAGED AND PLAY TAKEN UP FOR MAX. MIN. SOME --- MAX. .020 INCH BETWEEN CAM SLEEVE AND COLLAR.

TO ADJUST

WITH ITS MOUNTING SCREWS LOOSENED POSITION DRUM TO EXTREME FRONT POSITION. TIGHTEN SCREW. WITH ITS MOUNTING SCREW LOOSENED POSITION COLLAR. TIGHTEN SCREW.

CLUTCH DRUM

NOTE: FOR UNITS EQUIPPED WITH 173806 BEARING SLEEVE.

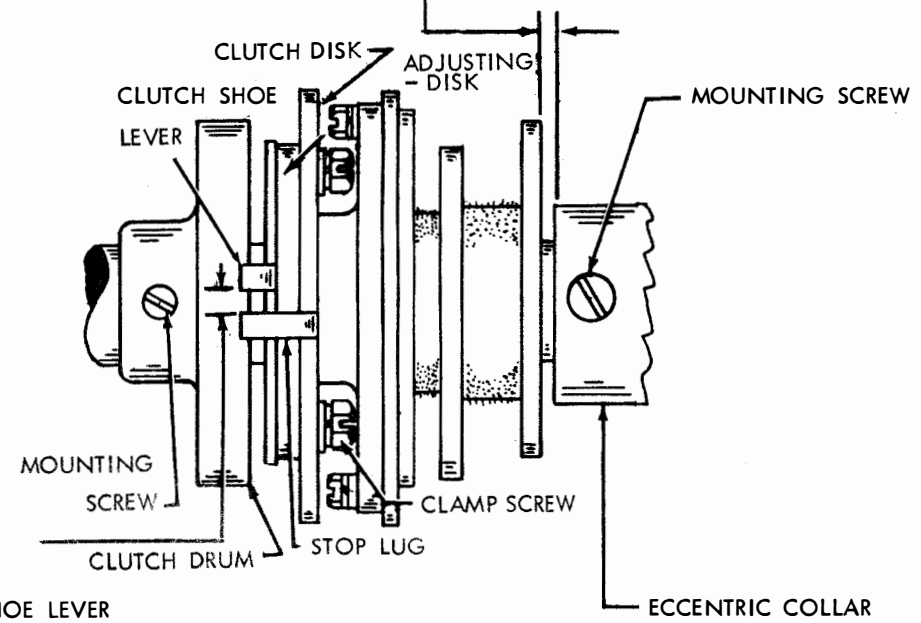
REQUIREMENT

(1) WITH FUNCTION CLUTCH DISENGAGED THERE SHALL BE SOME END PLAY BETWEEN FUNCTION CAM SLEEVE AND CLUTCH DRUM.

(2) WITH MAXIMUM AMOUNT OF END PLAY TRIP FUNCTION CLUTCH. THE CLUTCH SHOE SHOULD FULLY ENGAGE CLUTCH DRUM SURFACE.

TO ADJUST

WITH CLUTCH DRUM MOUNTING SCREW LOOSENED POSITION CLUTCH DRUM TO MEET REQUIREMENTS.



CLUTCH SHOE LEVER

REQUIREMENT

GAP BETWEEN CLUTCH SHOE LEVER AND ITS STOP LUG SHOULD BE 0.055 INCH TO 0.085 INCH GREATER WHEN CLUTCH IS ENGAGED THAN WHEN THE CLUTCH IS DISENGAGED.

TO CHECK

DISENGAGE THE CLUTCH AND MEASURE THE GAP. TRIP THE CLUTCH AND ROTATE IT ONE REVOLUTION. AGAIN MEASURE THE GAP WITH THE CLUTCH THUS ENGAGED.

NOTE

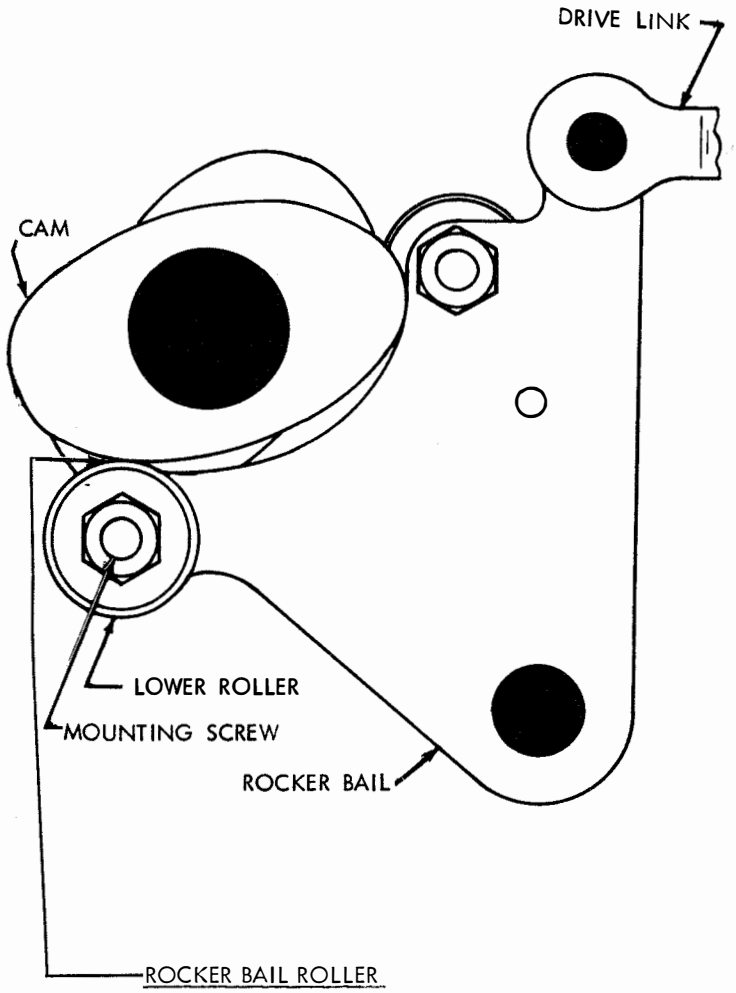
CHECK AT STOP LUG NEXT TO NOTCH IN ADJUSTING DISK

THE TWO CLAMP SCREWS ON TCH DISK. ENGAGE A WRENCH DRIVER ON THE LUG ON THE DISK AND ROTATE THE DISK.

NOTE

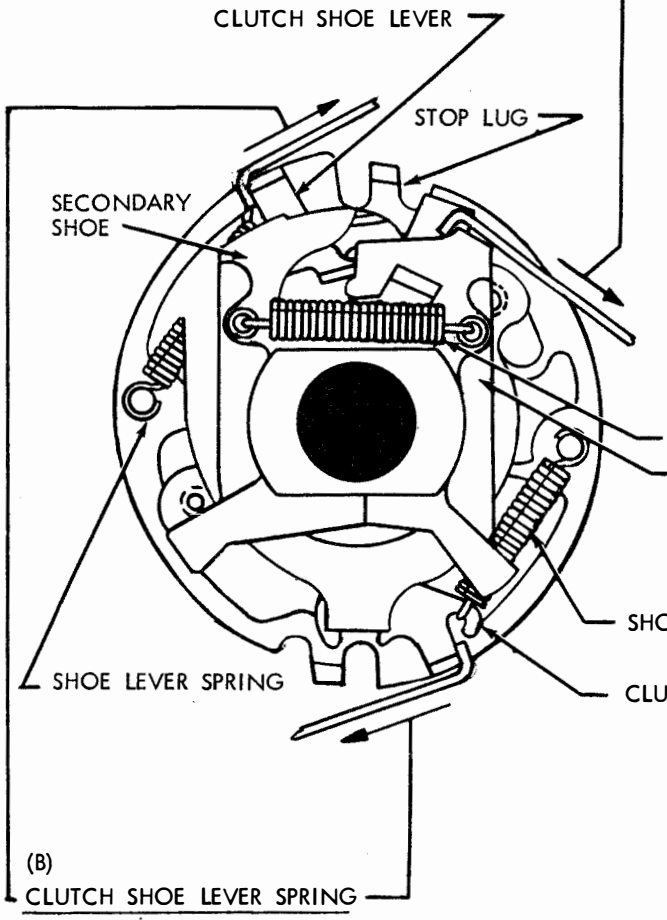
AFTER THE ABOVE ADJUSTMENT IS MADE, DISENGAGE THE CLUTCH, REMOVE THE DRUM MOUNTING SCREW AND ROTATE THE DRUM IN ITS NORMAL DIRECTION OF ROTATION TO MAKE CERTAIN THAT IT DOES NOT DRAG ON THE SHOE.

FIGURE 3-10. MAIN SHAFT



ROCKER BAIL ROLLER
REQUIREMENT
GAUGED AT BOTH STOPS OF TWO STOP CLUTCH
MIN. SOME
MAX. .005 INCH
CLEARANCE BETWEEN ROLLER AND CAM AT POINT WHERE CLEARANCE IS LEAST.
TO ADJUST
WITH ITS MOUNTING SCREW LOOSENED POSITION LOWER ROLLER.

FIGURE 3-11. ROCKER BAIL



(A)

CLUTCH SHOE SPRING

NOTE

IN ORDER TO CHECK THE TENSION OF THESE SPRINGS, IT IS NECESSARY TO REMOVE THE CLUTCH FROM THE MAIN SHAFT; THEREFORE THEY SHOULD NOT BE CHECKED UNLESS THERE IS GOOD REASON TO BELIEVE THAT THEY DO NOT MEET THE REQUIREMENTS

REQUIREMENT

CLUTCH DRUM REMOVED. SPRING SCALE APPLIED TO PRIMARY SHOE AT A TANGENT TO THE FRICTION SURFACE

MIN. 3 OZS.
MAX. 5 OZS.

TO START THE PRIMARY SHOE MOVING AWAY FROM THE SECONDARY SHOE AT THE POINT OF CONTACT.

(B)

CLUTCH SHOE LEVER SPRING

REQUIREMENT

CLUTCH ENGAGED, CAM DISK HELD TO PREVENT TURNING. SPRING SCALE PULLED AT TANGENT TO CLUTCH.

MIN. 16 OZS.
MAX. 22 OZS.

TO MOVE SHOE LEVER IN CONTACT WITH STOP LUG.

FIGURE 3-12. CLUTCH MECHANISM

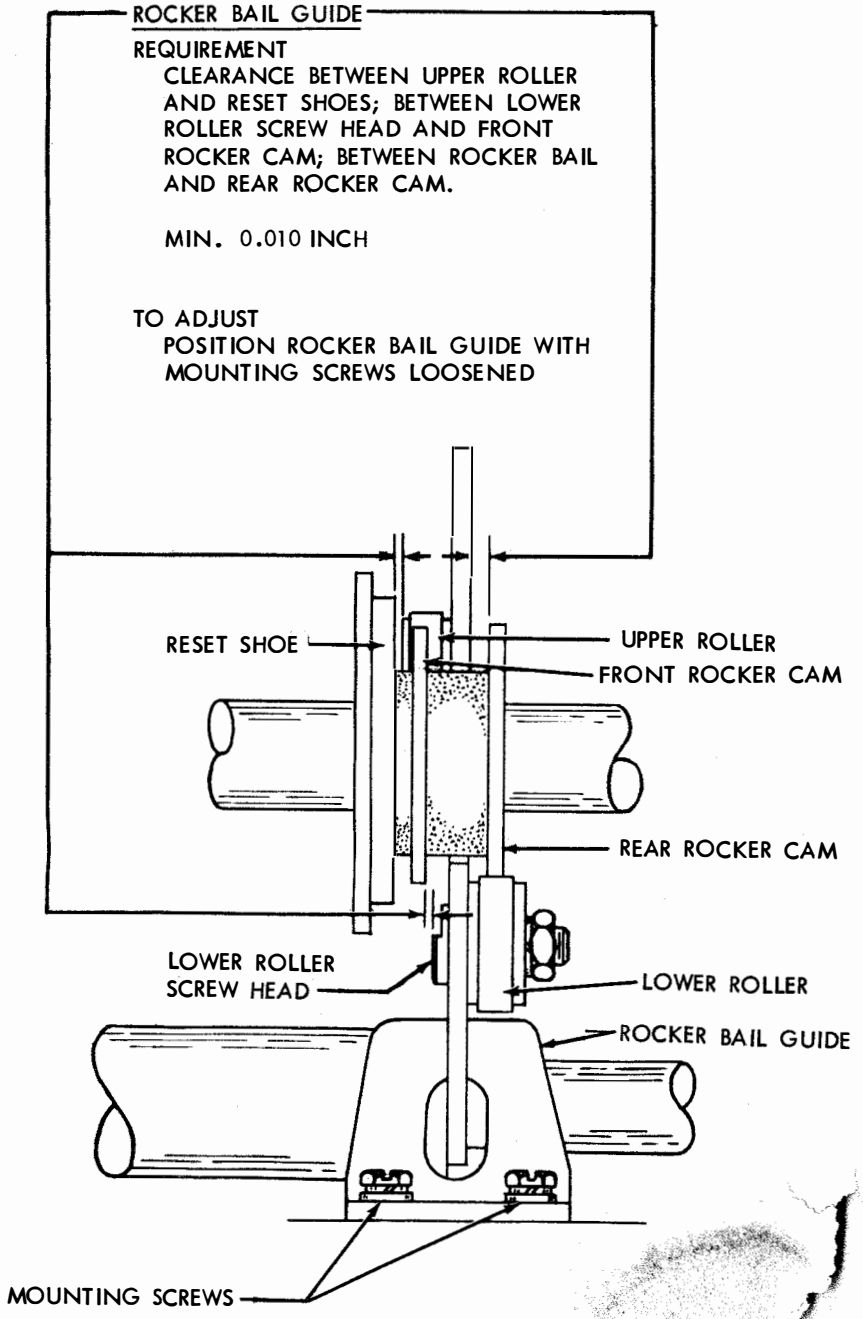


FIGURE 3-13. ROCKER BAIL GUIDE

FUNCTION TRIP LEVER
REQUIREMENT
FUNCTION ARMATURE TRIPPED AFTER THE FUNCTION CLUTCH HAS BEEN SET IN DISENGAGED POSITION. THE MAIN TRIP LEVER SHOULD CLEAR THE RELEASE
MIN. 0.010 INCH
MAX. 0.020 INCH
TO ADJUST
HOLD THE FUNCTION TRIP LEVER AGAINST ARMATURE BAIL. PRESS UPWARD ON LOWER TRIP LEVER. POSITION LOWER TRIP LEVER AND ITS SHAFT WITH THE FUNCTION TRIP LEVER CLAMP SCREW LOOSENED. PROVIDE SOME TO -0.005 INCH END PLAY IN SHAFT

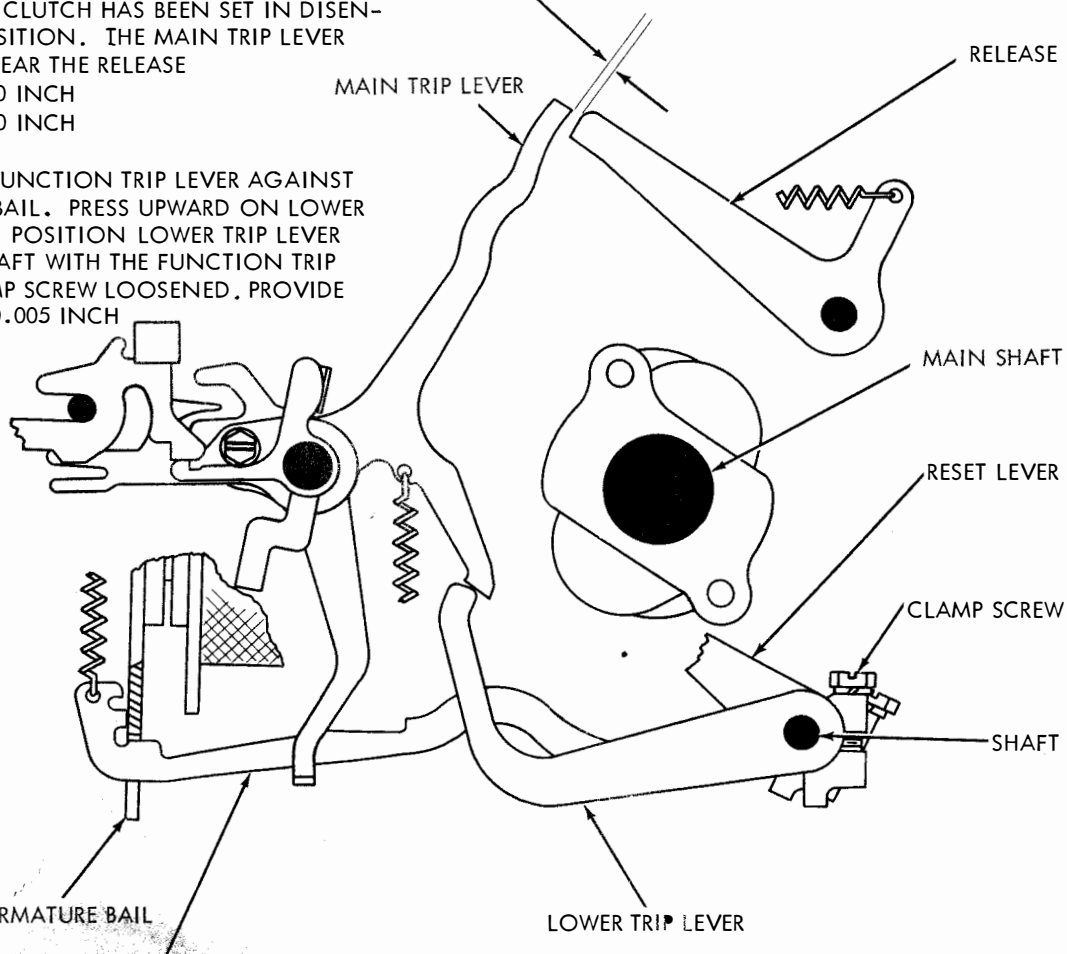
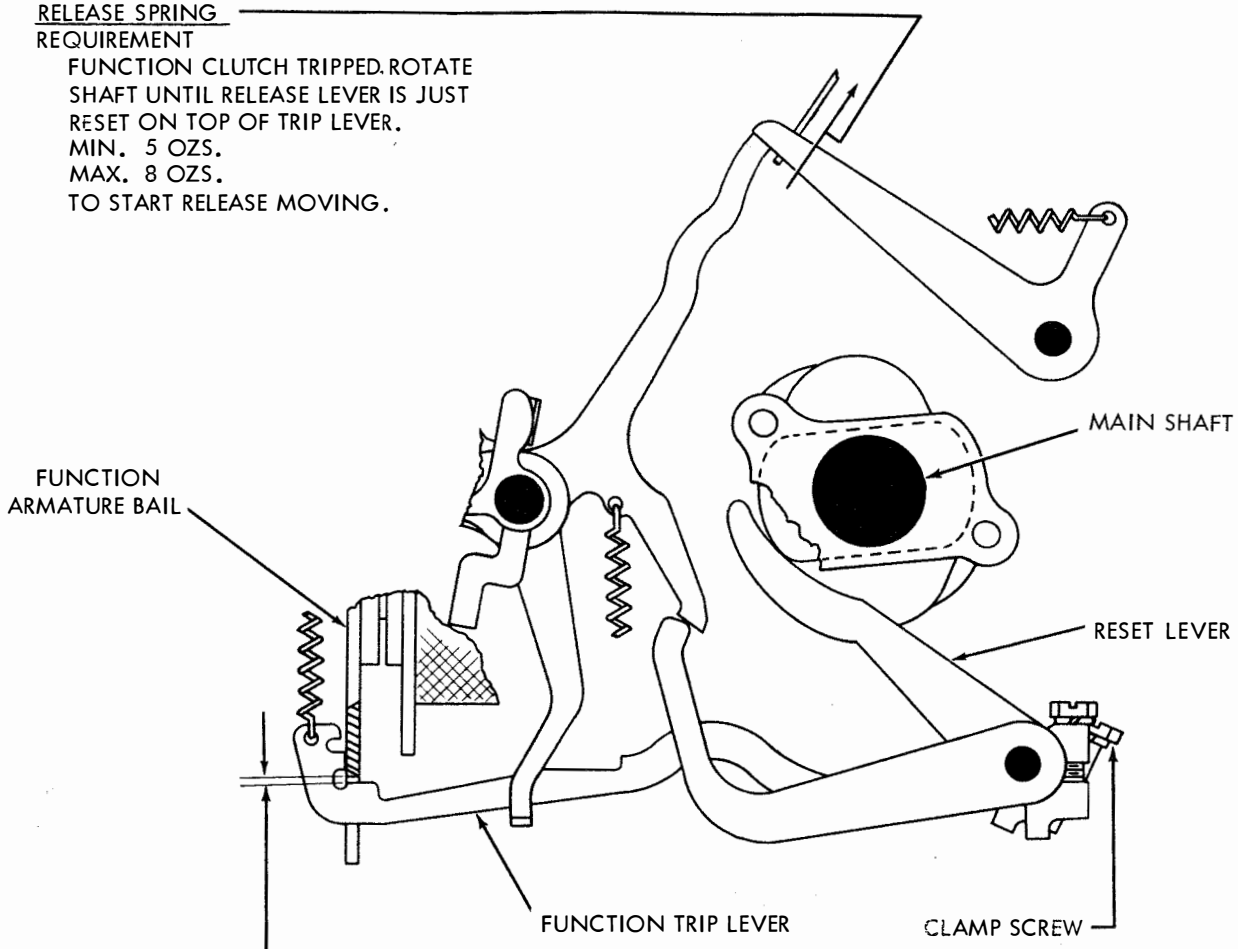


FIGURE 3-14. CLUTCH RESET MECHANISM

RELEASE SPRING
REQUIREMENT
FUNCTION CLUTCH TRIPPED. ROTATE SHAFT UNTIL RELEASE LEVER IS JUST RESET ON TOP OF TRIP LEVER.
MIN. 5 OZS.
MAX. 8 OZS.
TO START RELEASE MOVING.



RESET LEVER (LOWER)
REQUIREMENT
FUNCTION ARMATURE TRIPPED. SHAFT ROTATED UNTIL RESET LEVER IS AT END POINT OF CAM SHOE. CLEARANCE BETWEEN ARMATURE BAIL AND FUNCTION TRIP LEVER.
MIN. SOME
MAX. 0.015 INCH
TO ADJUST
WITH RESET LEVER CLAMP SCREW LOOSENED, PLACE THE RESET LEVER CENTRALLY ON A CAM SHOE. HOLD THE RESET LEVER AGAINST THE CAM SHOE AND POSITION THE FUNCTION TRIP LEVER AND SHAFT. CHECK ON BOTH SHOES AND ADJUST TO THE SHOE THAT PROVIDES THE LESSER CLEARANCE.

NOTE

RECHECK THE FUNCTION TRIP LEVER ADJUSTMENT AND REFINE BOTH ADJUSTMENTS IF NECESSARY

FIGURE 3-15. CLUTCH RESET MECHANISM

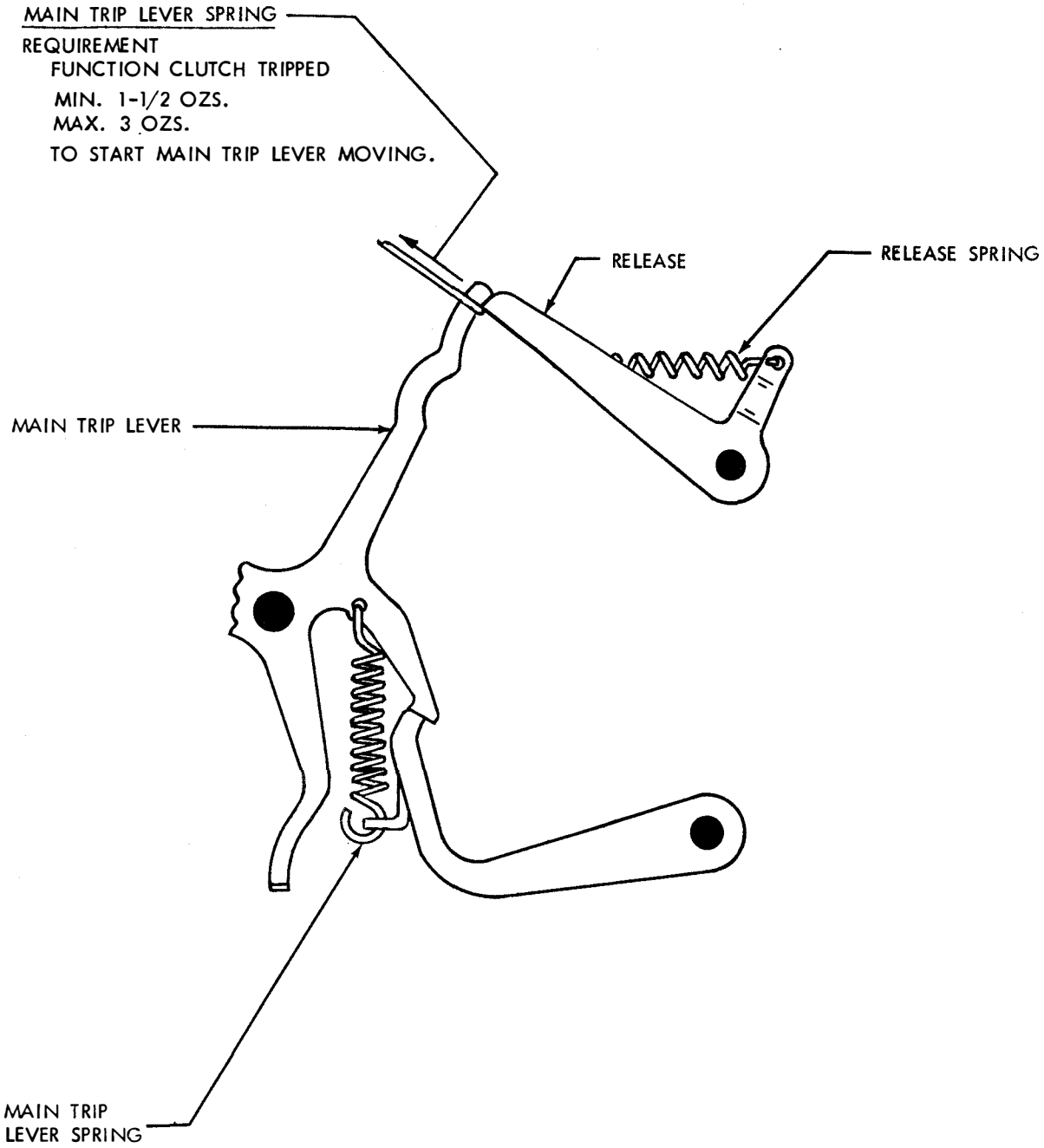
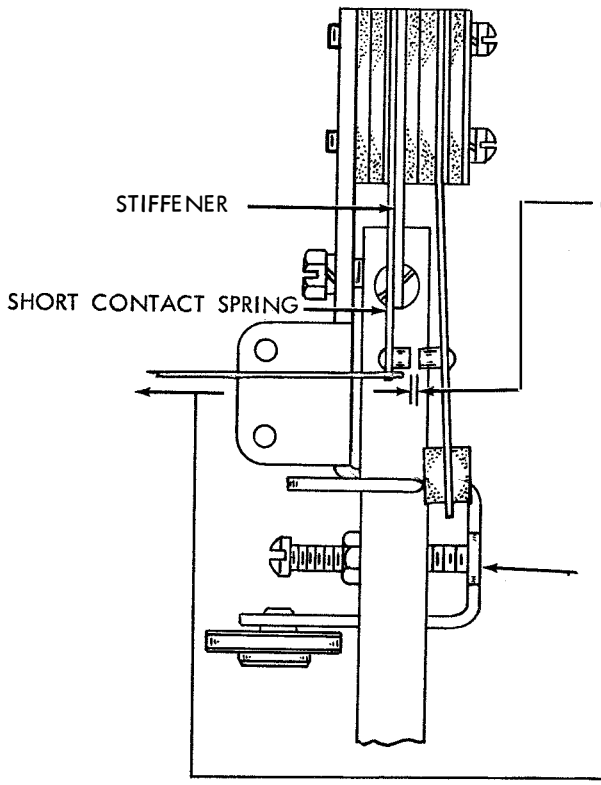


FIGURE 3-16. TRIP LEVER SPRING



(A)

MAGNET RELEASE CONTACT GAP

(1) REQUIREMENT

CLUTCH DISENGAGED AND LATCHED THERE SHOULD BE
NO GAP
BETWEEN THE CONTACTS

(2) REQUIREMENT

CONTACT BAIL ROLLER ON THE HIGH PART OF ITS CAM THE CONTACT GAP SHOULD BE

	LARP801	OTHER
MIN.	0.040 INCH	0.020 INCH
MAX.	0.055 INCH	0.040 INCH

TO ADJUST

BEND THE SHORT CONTACT SPRING WITH ITS STIFFENER AND ALSO THE LONG CONTACT SPRING IF NECESSARY.

(C)

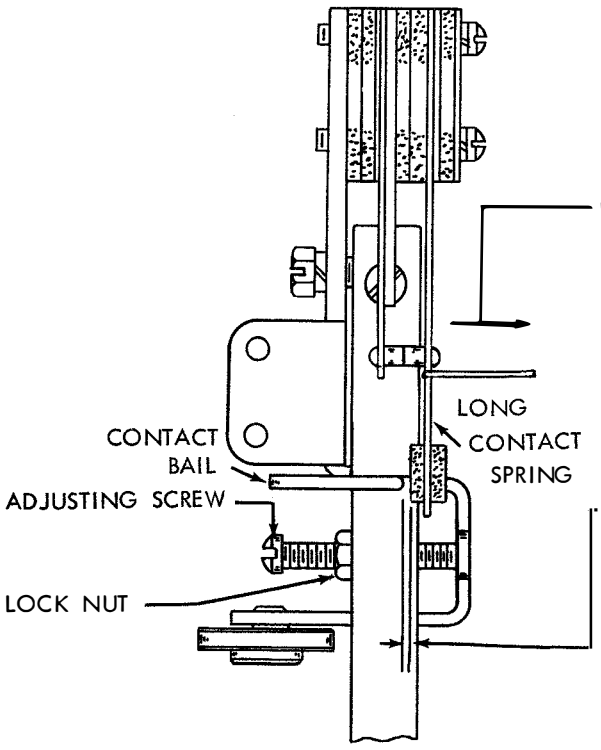
MAGNET RELEASE CONTACT SPRINGS

(1) REQUIREMENT

CONTACT BAIL ROLLER ON HIGH PART OF CAM
SPRING SCALE HOOKED TO SHORT SPRING AT CONTACT POINT

MIN. 1-1/2 OZS.
MAX. 3 OZS.

TO MOVE SHORT CONTACT SPRING AWAY FROM ITS STIFFENER



(2) REQUIREMENT

CLUTCH DISENGAGED AND LATCHED. SPRING SCALE HOOKED AT CONTACT POINT OF LONG CONTACT.
MIN. 3 OZS.
MAX. 6 OZS.
TO OPEN CONTACTS

TO ADJUST

BEND CONTACT SPRINGS. RECHECK CONTACT GAPS.

(B)

MAGNET RELEASE CONTACT BAIL

REQUIREMENT

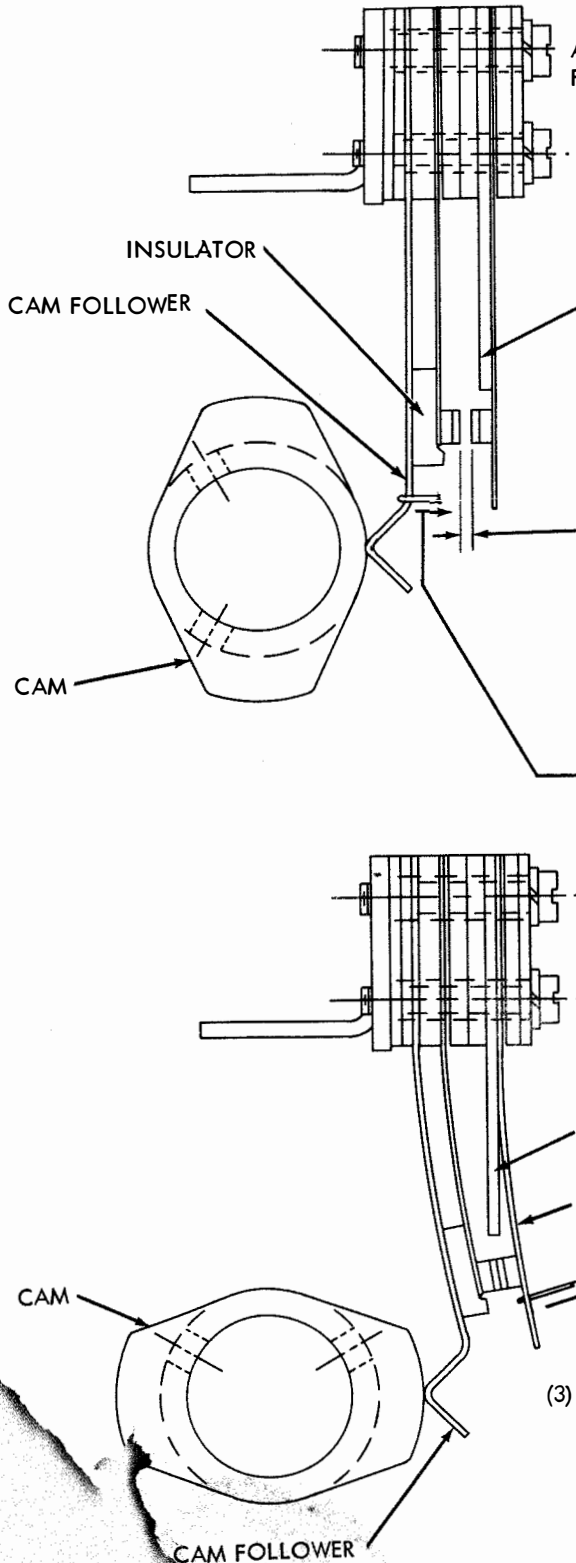
WITH CLUTCH DISENGAGED AND LATCHED CLEARANCE BETWEEN END OF BAIL AND INSULATOR ON LONG SPRING.

	LARP801	OTHER
MIN.	0.010 INCH	0.00
MAX.	0.015 INCH	0.01

TO ADJUST

ROTATE ADJUSTING SCREW

FIGURE 3-17 MAGNET RELEASE CONTACT



NOTE
ADJUSTING INFORMATION ADJACENT TO THE FOLLOWING FOUR ILLUSTRATIONS APPLY ONLY TO THE LARP801.

NOTE
BEFORE ADJUSTING, MOVE THE CONTACT ASSEMBLY BRACKET TO EXTREME RIGHT POSITION (VIEWED FROM KEYBOARD SIDE OF UNIT).

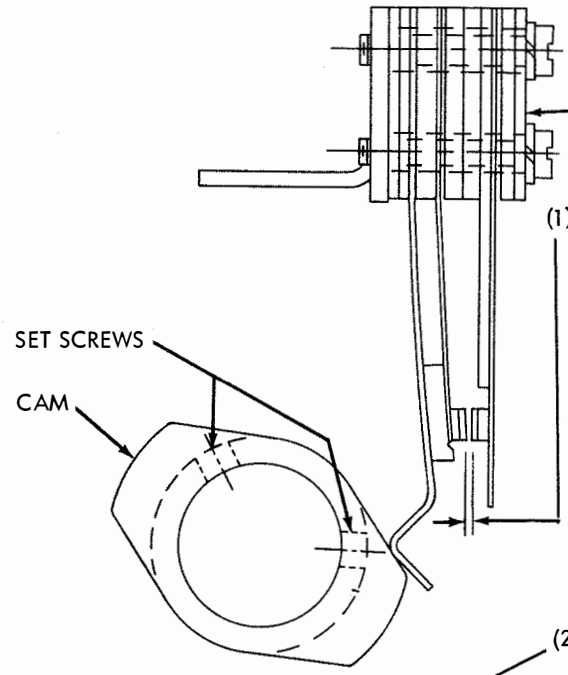
AUXILIARY CONTACT (TWO CONTACT ASSEMBLIES)

(1) REQUIREMENT
WITH THE CAM FOLLOWER ON THE LOWEST PART OF ITS CAM THE CONTACT GAP SHOULD BE
MIN. 0.040 INCH
MAX. 0.045 INCH
TO ADJUST
FORM THE BACKSTOP OF THE RIGHT HAND LEAF.

(2) REQUIREMENT
WITH CAM FOLLOWER ON LOWEST PART OF CAM, INSULATOR MUST TOUCH CAM FOLLOWER WITH A FORCE REQUIRING
MIN. 1 OZ.
MAX. 4 OZS.
TO PULL THE CAM FOLLOWER AWAY FROM THE CAM.
TO ADJUST
BEND THE CAM FOLLOWER AND/OR THE CONTACT SPRING.

(3) REQUIREMENT
WITH CAM FOLLOWER ON THE HIGH PART OF ITS CAM.
MIN. 4-1/2 OZS.
MAX. 5-1/2 OZS.
TO JUST OPEN THE CONTACT
TO ADJUST
FORM THE CONTACT SPRING NEXT TO THE BACKSTOP.
RECHECK PREVIOUS ADJUSTMENT

FIGURE 3-18. AUXILIARY CONTACTS



AUXILIARY CAM

(1) REQUIREMENT

WITH THE FUNCTION CLUTCH DISENGAGED AND LATCHED THE CONTACT GAP OF NO. 1 (REAR) AUXILIARY CONTACT SHOULD BE
MIN. 0.015 INCH
MAX. 0.020 INCH

TO ADJUST

POSITION NO. 1 CAM WITH SET SCREWS FRICTION TIGHT. CENTER CAM ON CAM FOLLOWER. TIGHTEN THE SET SCREW FARTHEST FROM THE FLAT OF THE SHAFT FIRST.

NOTE

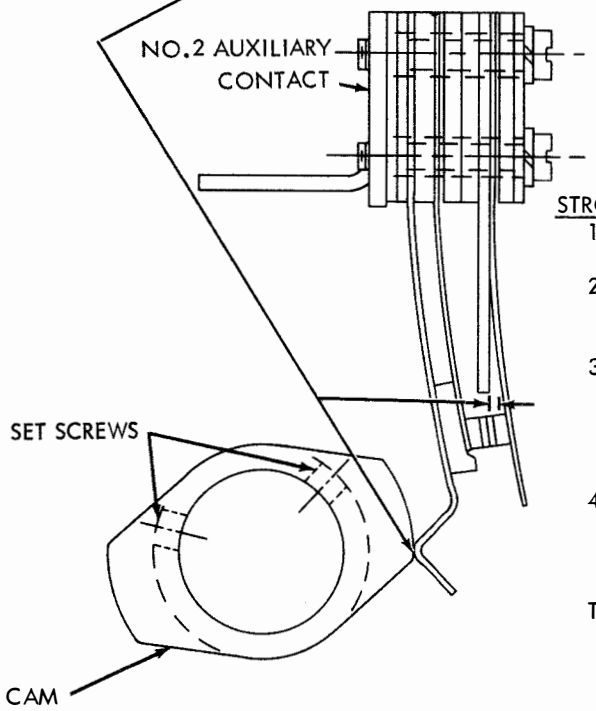
IT MAY BE NECESSARY TO ROTATE THE CAM 180° TO FACILITATE TIGHTENING THE SET SCREWS.

(2) REQUIREMENT

WITH THE FUNCTION CLUTCH DISENGAGED AND LATCHED, THE CAM FOLLOWER OF NO.2 AUXILIARY CONTACT SHOULD REST ON THE HIGH PART OF ITS CAM AT THE DROP-OFF POINT AND HAVE A CLEARANCE OF 0.005 INCH MINIMUM BETWEEN THE CONTACT SPRING AND ITS STIFFENER.

TO ADJUST

POSITION THE CAM WITH ITS SET SCREWS FRICTION TIGHT. POSITION CAM NEAR CENTER OF CAM FOLLOWER. TIGHTEN THE SET SCREW FARTHEST FROM THE FLAT ON THE SHAFT FIRST. IT MAY BE NECESSARY TO ROTATE THE CAM 180° TO FACILITATE TIGHTENING THE SCREWS.



STROBOSCOPE REQUIREMENTS:

1. THE MAGNET RELEASE CONTACT MUST BE OPEN FOR A MINIMUM OF 22 MILLISECONDS.
2. THE AUXILIARY NO. 1 CONTACT AND AUXILIARY 2 CONTACT MUST BE CLOSED FOR A MINIMUM OF 30 MILLISECONDS.
3. THE AUXILIARY NO. 2 CONTACT MUST BE OPEN 7 DIVISIONS MINIMUM (AT 100 WPM) BEFORE THE MAGNET RELEASE CONTACT OPENS.
   NOTE: CONTACT MUST BE CLOSED WHEN CLUTCH IS DISENGAGED AND LATCHED.
4. THE AUXILIARY NO. 1 CONTACT MUST BE OPEN 20 MILLISECONDS MINIMUM BEFORE THE AUXILIARY NO. 2 CONTACT CLOSES.

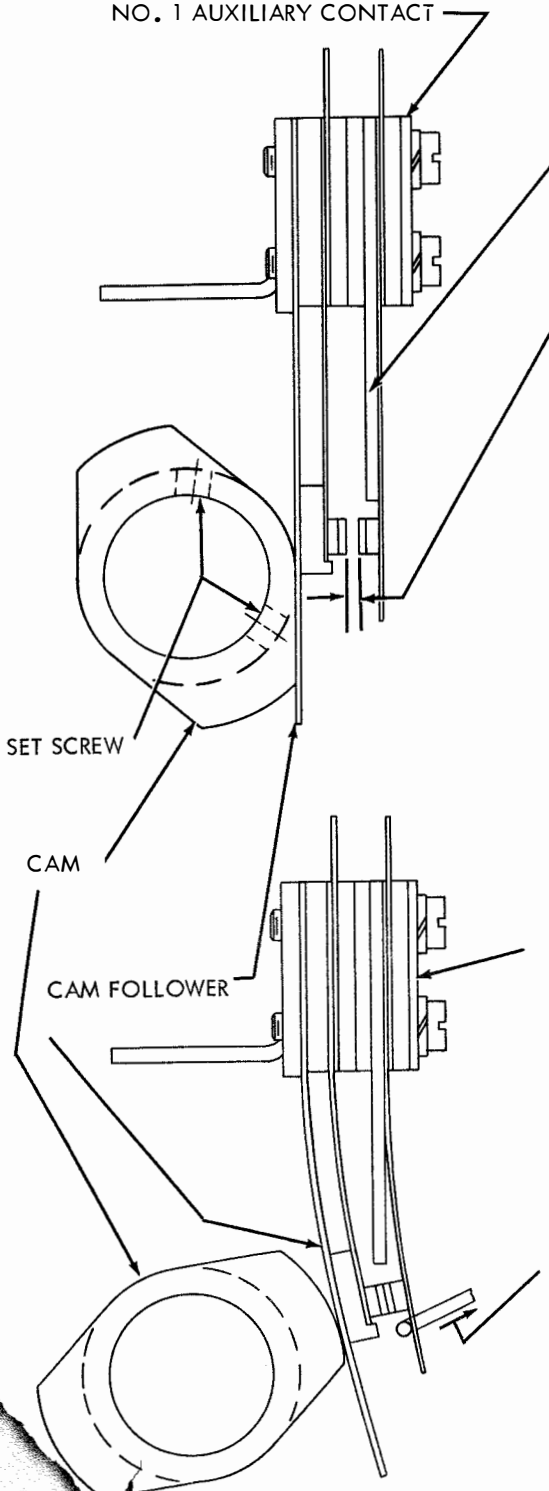
TO ADJUST

IF NECESSARY REFINE ADJUSTMENTS TO MEE THESE REQUIREMENTS.

FIGURE 3-19. AUXILIARY CONTACTS

NOTE

THE CONTACT ADJUSTMENTS ON THIS PAGE APPLY TO UNITS OTHER THAN LARP801.



AUXILIARY CONTACTS (TWO CONTACT ASSEMBLIES)
REQUIREMENT
WITH THE CAM FOLLOWER ON THE LOWEST PART OF ITS CAM, THE CONTACT GAP SHOULD BE
MIN. 0.015 INCH
MAX. 0.020 INCH
TO ADJUST
FORM THE BACKSTOP OF THE RIGHT HAND LEAF.

AUXILIARY CAM NO. 1
REQUIREMENT
WITH CLUTCH DISENGAGED AND LATCHED, THE FLAT PORTION OF THE NO. 1 AUXILIARY CAM (REAR) SHOULD BE PARALLEL TO THE CAM FOLLOWER WITH THE CONTACT GAP FULLY OPEN.
TO ADJUST
ROTATE THE CAM WITH ITS SET SCREWS LOOSENED UNTIL PARALLEL TO THE CAM FOLLOWER. POSITION AND SLIDE CONTACT ASSEMBLY UNTIL CAM FOLLOWER TOUCHES FLAT SIDE OF CAM. TIGHTEN ALL SCREWS.

AUXILIARY CAM NO. 2 (FARTHEST FROM DRIVE GEAR)
(1) REQUIREMENT
WITH CLUTCH DISENGAGED AND LATCHED NO. 2 CONTACT CAM FOLLOWER SHOULD BE ON HIGH PART OF CAM NEAR DROP OFF POINT.
TO ADJUST
ROTATE CAM WITH ITS SET SCREWS LOOSENED.
(2) REQUIREMENT
WITH CAM FOLLOWER ON HIGHEST PART OF ITS CAM
MIN. 4-1/2 OZS.
MAX. 5-1/2 OZS.
TO JUST OPEN THE CONTACTS
TO ADJUST
FORM THE CONTACT SPRING NEXT TO THE BACK-STOP. RECHECK THE CONTACT GAP

FIGURE 3-20. AUXILIARY CONTACTS

4. PUNCH MECHANISM

PUNCH POSITION

REQUIREMENT

PUNCH MOUNTING SCREWS CENTRALLY LOCATED IN OVERSIZE MOUNTING HOLES. PUNCH SLIDE LATCHES SHALL BE VISUALLY HORIZONTAL WHEN ENGAGED WITH THE PUNCH SLIDES.

TO ADJUST

LOOSEN THE MOUNTING SCREW AT THE LOWER EDGE OF THE PUNCH MECHANISM BACK PLATE. REMAINING BACK PLATE MOUNTING SCREWS AND ANCHOR BRACKET MOUNTING SCREW FRICTION TIGHT. PUNCH SLIDES IN RESET CONDITION. MEET REQUIREMENT. TIGHTEN ALL SCREWS.

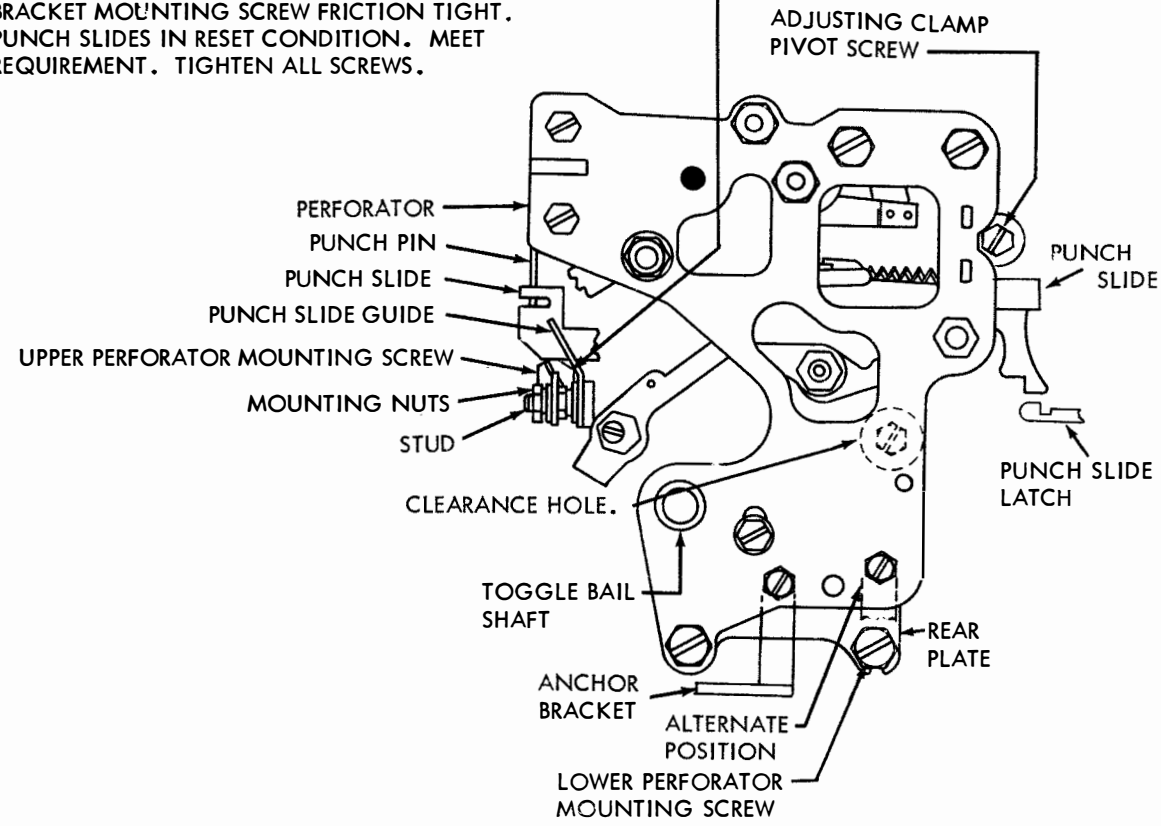


FIGURE 3-21. PUNCH MECHANISM

(C)

PUNCH SLIDE DOWNSTOP POSITION

REQUIREMENT

FUNCTION CLUTCH DISENGAGED AND LATCHED PLAY IN THE PUNCH SLIDES TAKEN UP TOWARD THE TOP, CLEARANCE BETWEEN FRONT AND REAR PUNCH SLIDE AND DOWNSTOP PLATE
MIN. SOME
MAX. 0.008 INCH
ALL OTHER SLIDES SHOULD HAVE SOME CLEARANCE

TO ADJUST

POSITION DOWNSTOP PLATE WITH ITS MOUNTING LOCK NUTS LOOSENED.

(B)

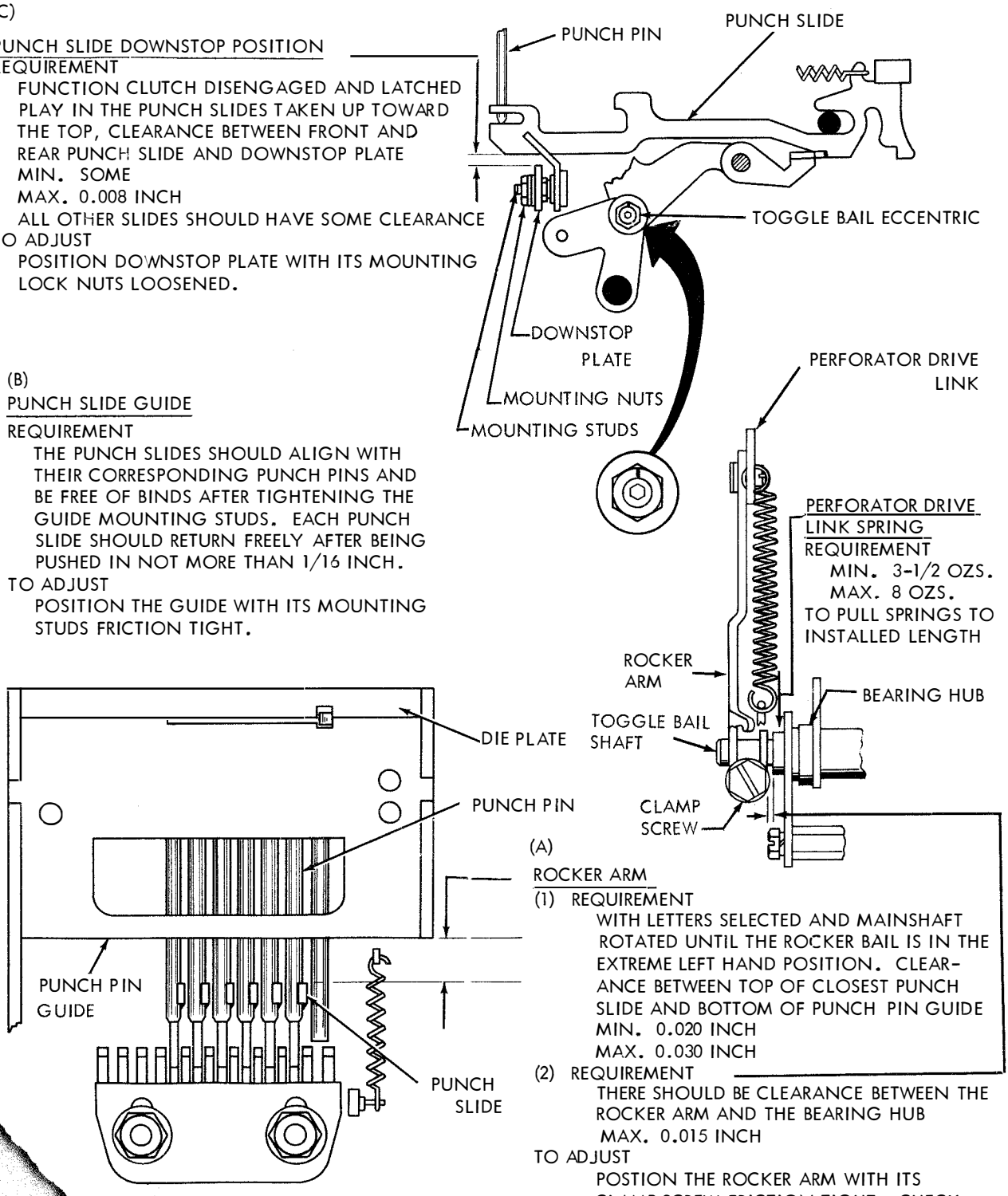
PUNCH SLIDE GUIDE

REQUIREMENT

THE PUNCH SLIDES SHOULD ALIGN WITH THEIR CORRESPONDING PUNCH PINS AND BE FREE OF BINDS AFTER TIGHTENING THE GUIDE MOUNTING STUDS. EACH PUNCH SLIDE SHOULD RETURN FREELY AFTER BEING PUSHED IN NOT MORE THAN 1/16 INCH.

TO ADJUST

POSITION THE GUIDE WITH ITS MOUNTING STUDS FRICTION TIGHT.



(A)

ROCKER ARM

(1) REQUIREMENT

WITH LETTERS SELECTED AND MAINSHAFT ROTATED UNTIL THE ROCKER BAIL IS IN THE EXTREME LEFT HAND POSITION. CLEARANCE BETWEEN TOP OF CLOSEST PUNCH SLIDE AND BOTTOM OF PUNCH PIN GUIDE
MIN. 0.020 INCH
MAX. 0.030 INCH

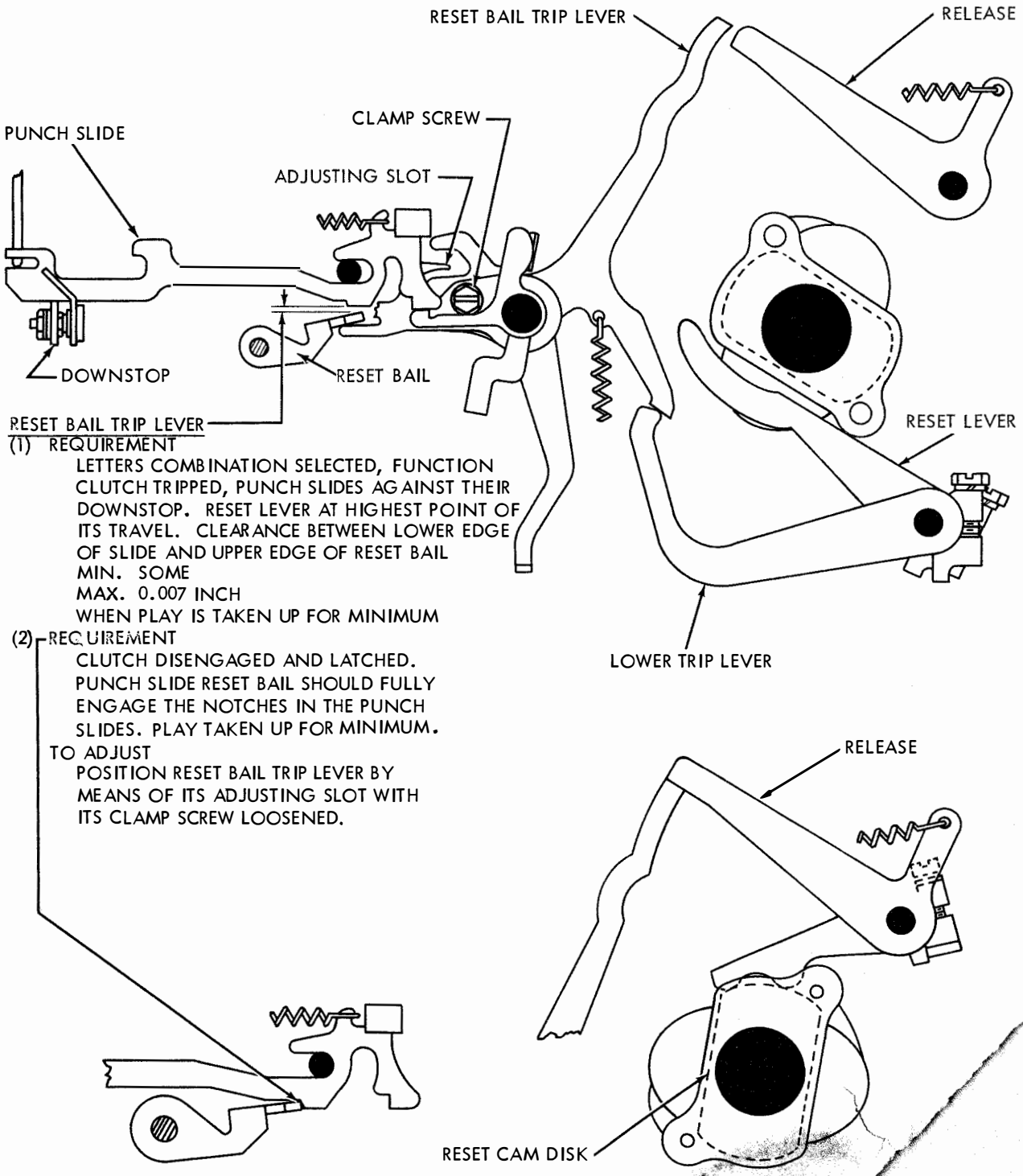
(2) REQUIREMENT

THERE SHOULD BE CLEARANCE BETWEEN THE ROCKER ARM AND THE BEARING HUB
MAX. 0.015 INCH

TO ADJUST

POSTION THE ROCKER ARM WITH ITS CLAMP SCREW FRICTION TIGHT. CHECK TO SEE THAT THE TOGGLE BAIL SHAFT HAS AT LEAST 0.002 INCH END PLAY.

FIGURE 3-22. PUNCH SLIDE MECHANISM



RESET BAIL TRIP LEVER

(1) REQUIREMENT

LETTERS COMBINATION SELECTED, FUNCTION CLUTCH TRIPPED, PUNCH SLIDES AGAINST THEIR DOWNSTOP. RESET LEVER AT HIGHEST POINT OF ITS TRAVEL. CLEARANCE BETWEEN LOWER EDGE OF SLIDE AND UPPER EDGE OF RESET BAIL

MIN. SOME

MAX. 0.007 INCH

WHEN PLAY IS TAKEN UP FOR MINIMUM

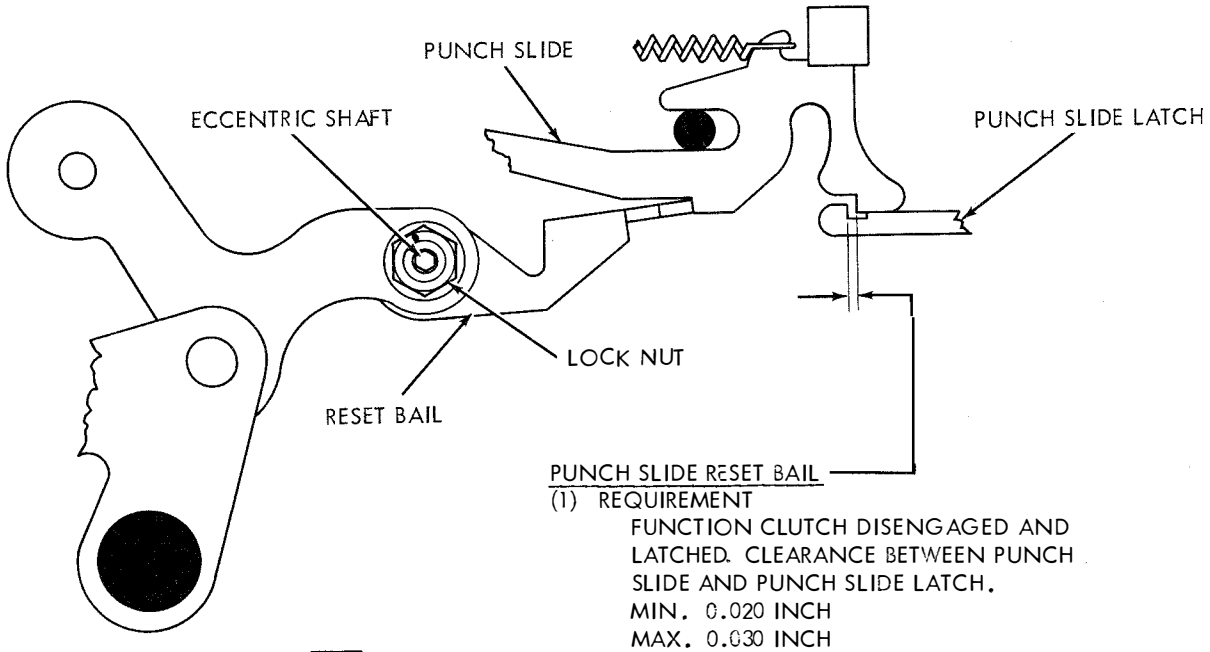
(2) REQUIREMENT

CLUTCH DISENGAGED AND LATCHED. PUNCH SLIDE RESET BAIL SHOULD FULLY ENGAGE THE NOTCHES IN THE PUNCH SLIDES. PLAY TAKEN UP FOR MINIMUM.

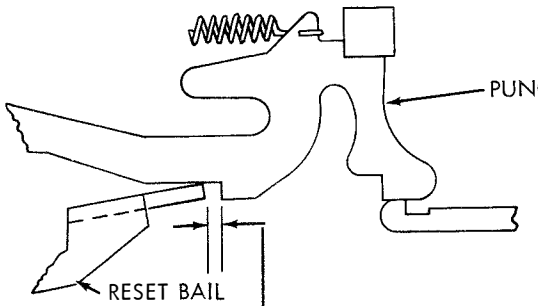
TO ADJUST

POSITION RESET BAIL TRIP LEVER BY MEANS OF ITS ADJUSTING SLOT WITH ITS CLAMP SCREW LOOSENED.

FIGURE 3-23. RESET BAIL TRIP LEVER



PUNCH SLIDE RESET BAIL
(1) REQUIREMENT
FUNCTION CLUTCH DISENGAGED AND LATCHED. CLEARANCE BETWEEN PUNCH SLIDE AND PUNCH SLIDE LATCH.
MIN. 0.020 INCH
MAX. 0.030 INCH
FOR THE SLIDE WITH LEAST CLEARANCE.



(2) REQUIREMENT
RESET BAIL IN ITS EXTREME LEFT HAND POSITION AND LATCHED UP. CLEARANCE BETWEEN RESET BAIL AND NOTCH IN SELECTED PUNCH SLIDE
MIN. SOME
TO ADJUST
ROTATE THE RESET BAIL ECCENTRIC WITH ITS LOCK NUT LOOSENED. KEEP HIGH PART OF ECCENTRIC ABOVE HORIZONTAL CENTERLINE.

FEED PAWL
REQUIREMENT
FUNCTION CLUTCH DISENGAGED, INDENTATION IN DETENT LEVER ECCENTRIC AT RIGHT ANGLE TO LEVER, DETENT ROLLER IN CONTACT WITH RATCHET WHEEL, HIGH PART OF FEED PAWL ECCENTRIC TO THE RIGHT OF ITS LOCK SCREW, THE FEED PAWL SHOULD ENGAGE THE FIRST TOOTH BELOW A HORIZONTAL CENTERLINE THROUGH THE RATCHET WHEEL WITH

NO PERCEPTIBLE CLEARANCE

TO ADJUST
ROTATE THE FEED PAWL ECCENTRIC

NOTE
THIS ADJUSTMENT IS RELATED TO FEED HOLE SPACING AND THE TWO ADJUSTMENTS MUST BE MADE AT THE SAME TIME.

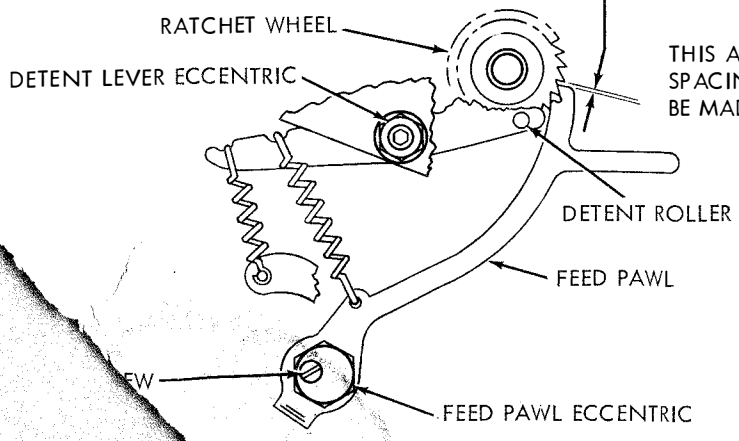
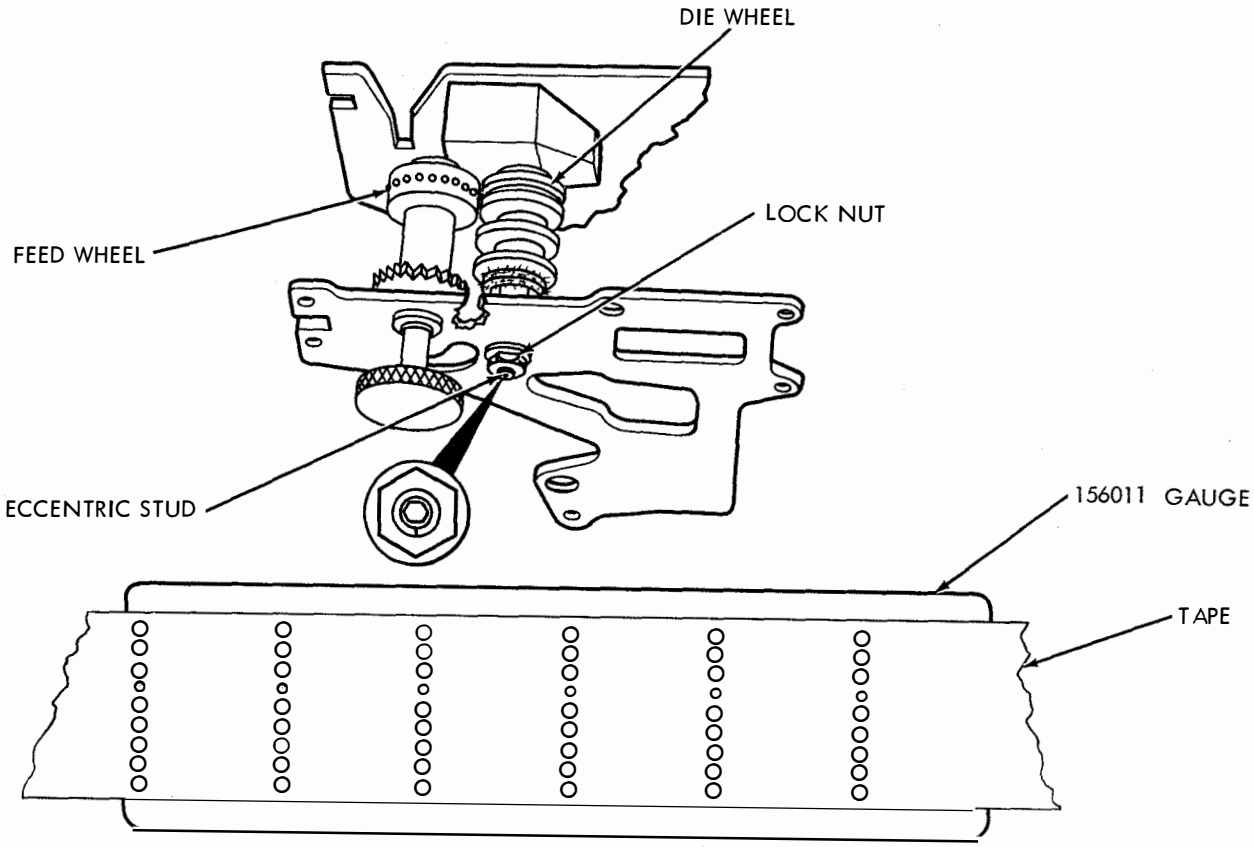


FIGURE 3-24. PUNCH RESET BAIL AND TAPE FEED MECHANISM

NOTE
BEFORE PROCEEDING WITH THE FOLLOWING ADJUSTMENT CHECK BOTH TAPE GUIDE SPRING TENSION (FIGURE 3-24)



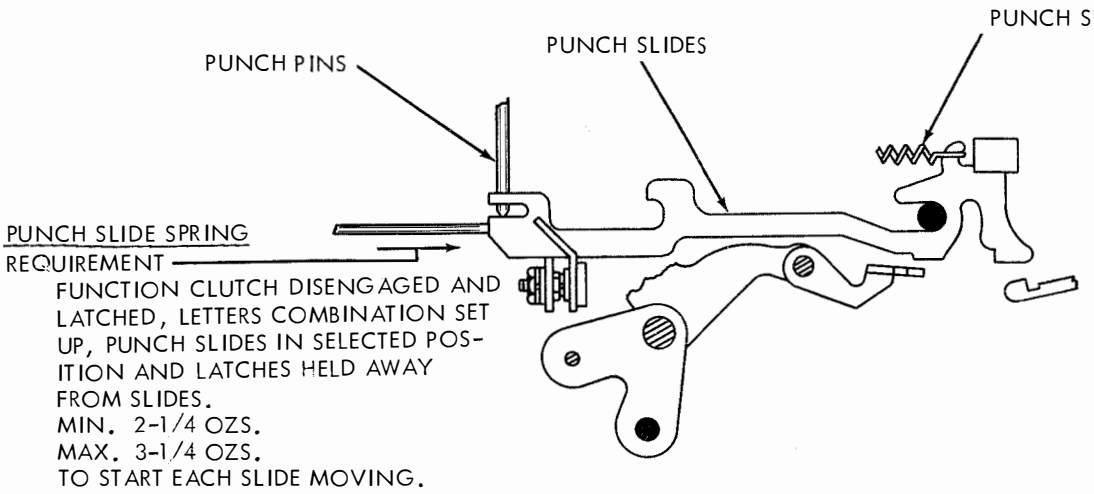
FEED HOLE SPACING (FINAL)

(1) REQUIREMENT
WITH THE TAPE SHOE, FEED PAWL, AND DETENT LEVER HELD AWAY, THE FEED WHEEL SHOULD ROTATE FREELY.

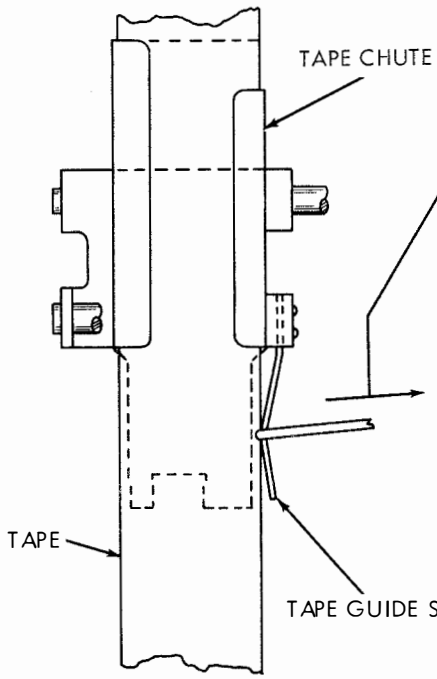
(2) REQUIREMENT
THERE SHOULD BE 10 CHARACTERS PER INCH.

TO ADJUST
ROTATE THE ECCENTRIC STUD TOWARD THE FEED WHEEL TO DECREASE THE CHARACTERS PER INCH AND ROTATE THE ECCENTRIC STUD AWAY FROM THE FEED WHEEL TO INCREASE THE CHARACTERS PER INCH. RECHECK FOR FREENESS.

FIGURE 3-25. FEED HOLE SPACING

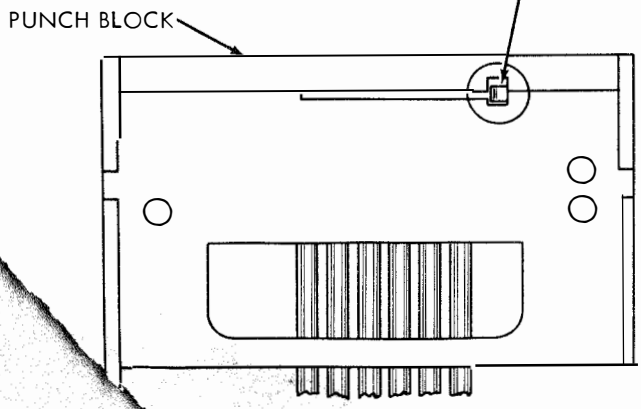


PUNCH SLIDE SPRING
REQUIREMENT
FUNCTION CLUTCH DISENGAGED AND LATCHED, LETTERS COMBINATION SET UP, PUNCH SLIDES IN SELECTED POSITION AND LATCHES HELD AWAY FROM SLIDES.
MIN. 2-1/4 OZS.
MAX. 3-1/4 OZS.
TO START EACH SLIDE MOVING.



TAPE GUIDE SPRING (TAPE CHUTE)
REQUIREMENT
CLUTCH DISENGAGED AND TAPE THREADED THROUGH THE PUNCH ASSEMBLY, IT SHOULD REQUIRE
MIN. 1-1/4 OZS.
MAX. 2-1/4 OZS.
TO JUST MOVE THE SPRING AWAY FROM THE TAPE.
TO ADJUST
BEND THE SPRING

TAPE GUIDE SPRING (PUNCH BLOCK)
(1) REQUIREMENT
WITH TAPE REMOVED FROM THE PUNCH BLOCK THE TAPE GUIDE SPRING SHOULD REST AGAINST THE CLEARANCE SLOT IN THE BLOCK IN A SYMETRICAL MANNER.
(2) REQUIREMENT
WITH TAPE IN THE PUNCH BLOCK AND THE REPERFORATOR OPERATING UNDER POWER, THE SPRING SHOULD NOT DISTORT THE EDGE OF THE TAPE.
TO ADJUST
BEND THE SPRING AND POSITION IT WITH ITS MOUNTING SCREW LOOSENED.



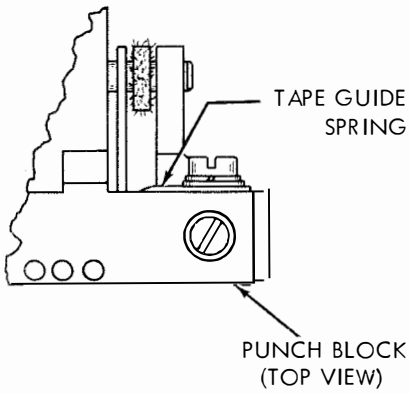
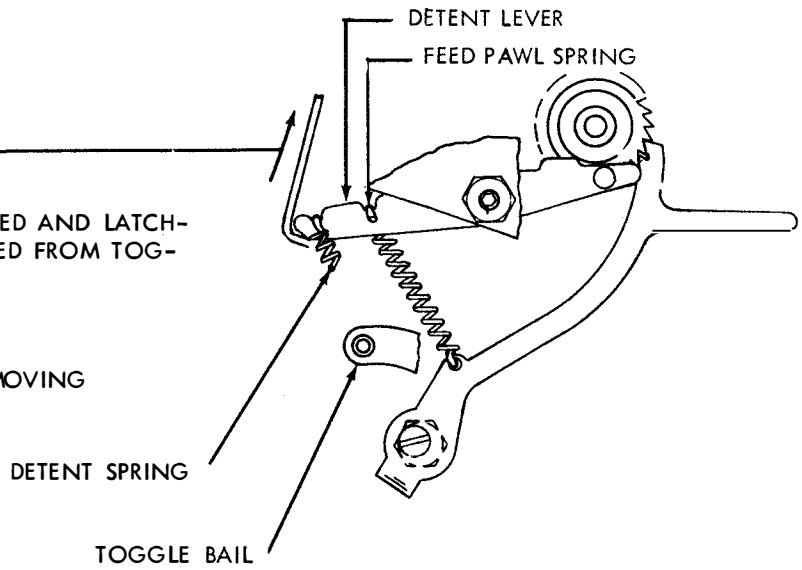
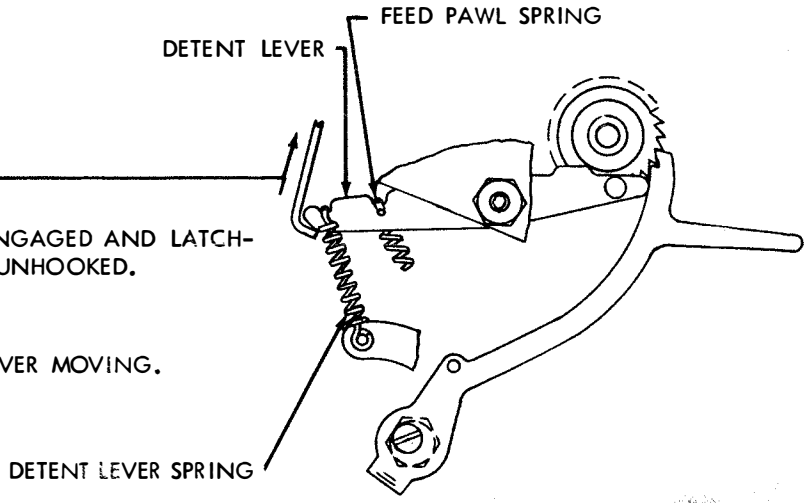


FIGURE 3-26. TAPE GUIDE SPRING



(A)
FEED PAWL SPRING

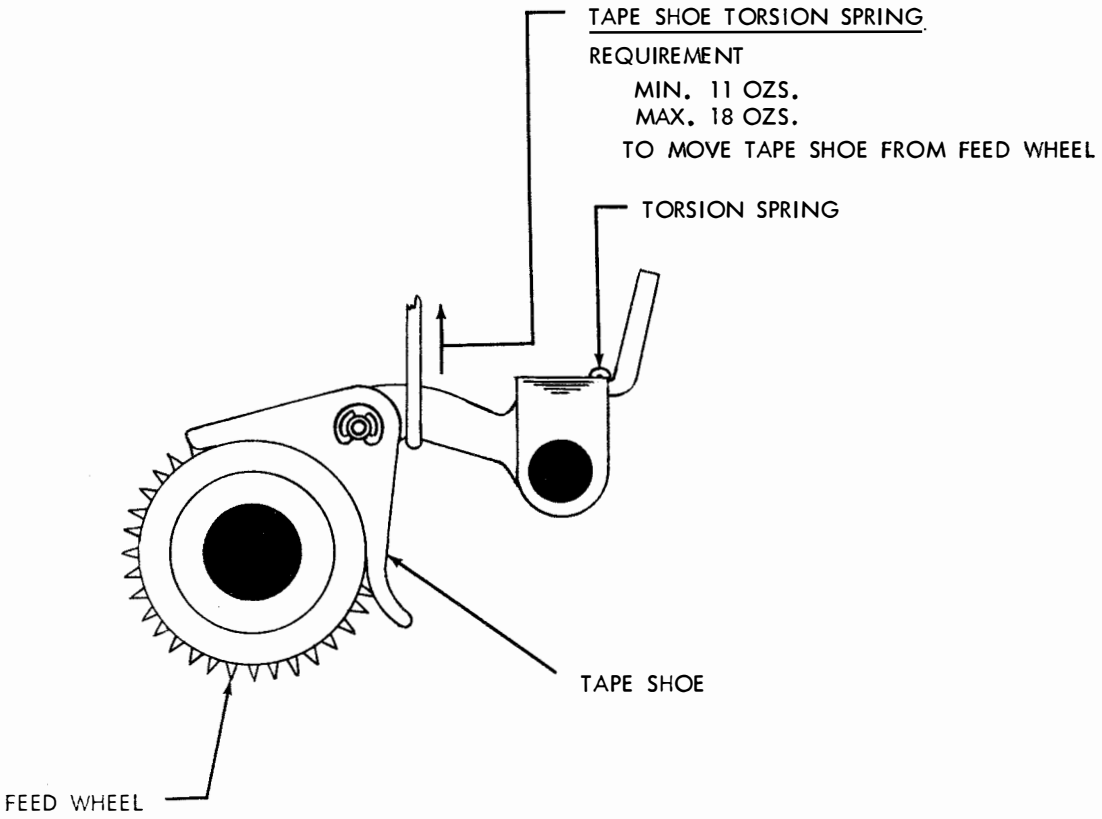
REQUIREMENT
FUNCTION CLUTCH DISENGAGED AND LATCHED. DETENT SPRING UNHOOKED FROM TOGGLE BAIL
MIN. 3 OZS.
MAX. 4-1/2 OZS.
TO START THE DETENT LEVER MOVING



(B)
DETENT LEVER SPRING

REQUIREMENT
FUNCTION CLUTCH DISENGAGED AND LATCHED. FEED PAWL SPRING UNHOOKED.
MIN. 7 OZS.
MAX. 10 OZS.
TO START THE DETENT LEVER MOVING.

FIGURE 3-27. TAPE FEED MECHANISM



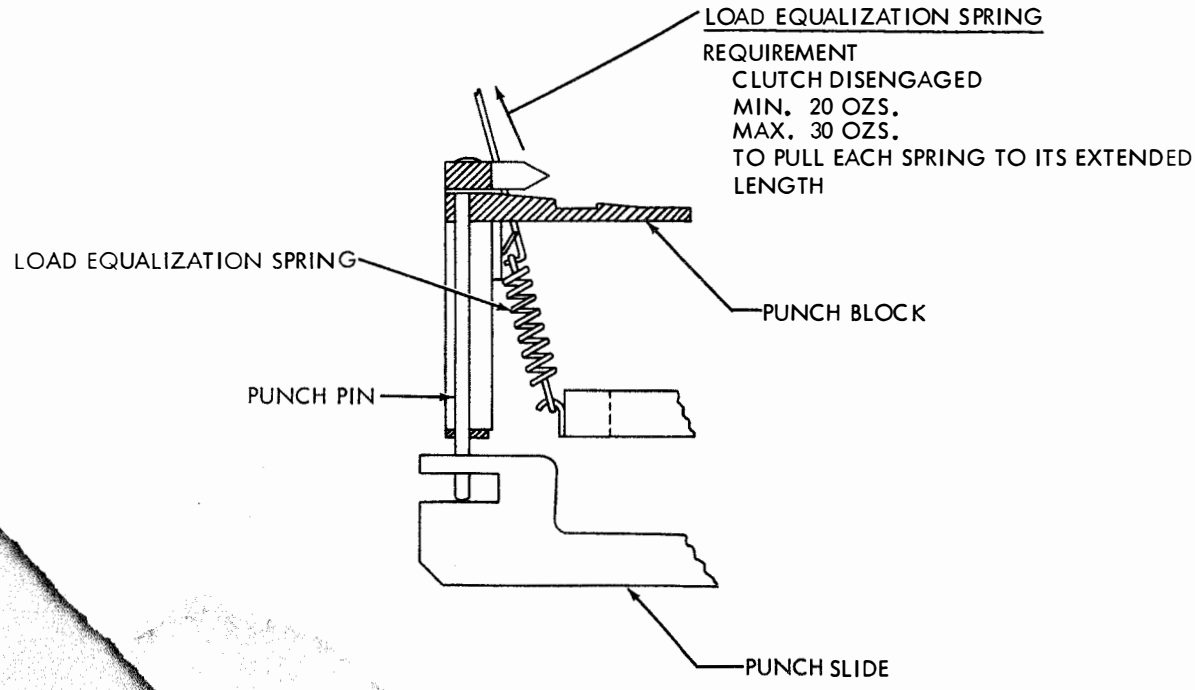
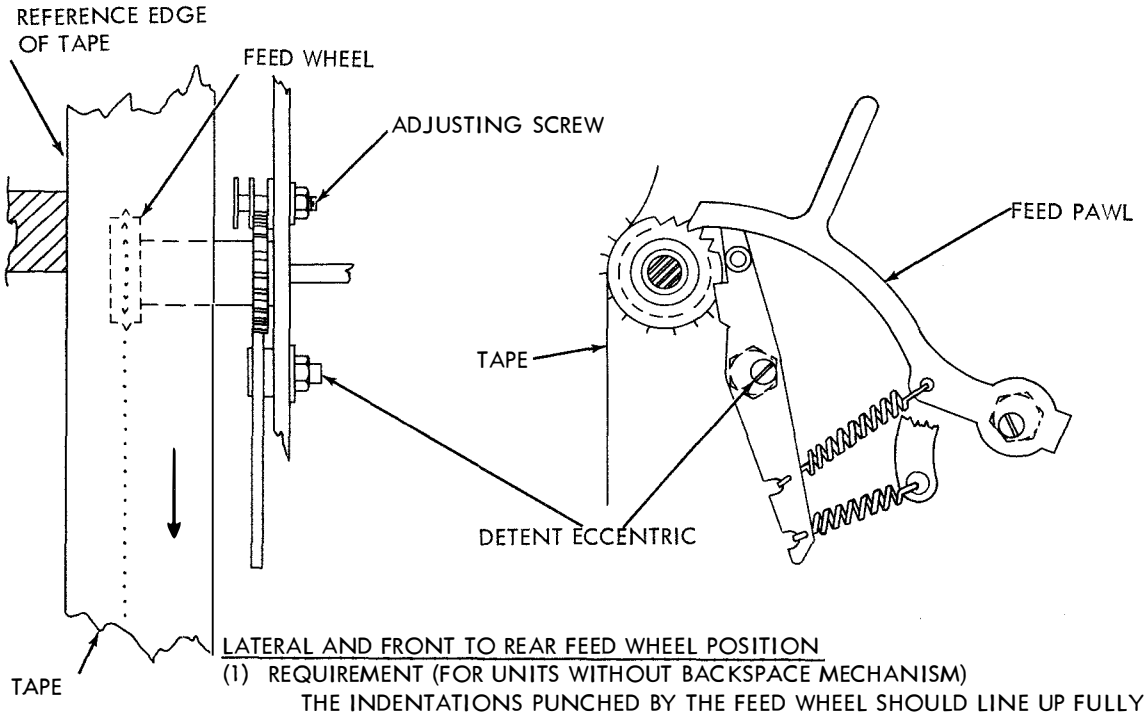


FIGURE 3-28. FEED WHEEL



LATERAL AND FRONT TO REAR FEED WHEEL POSITION

(1) REQUIREMENT (FOR UNITS WITHOUT BACKSPACE MECHANISM)
THE INDENTATIONS PUNCHED BY THE FEED WHEEL SHOULD LINE UP FULLY WITHIN THE PUNCHED FEED HOLES.

(2) REQUIREMENT (FOR UNITS WITH BACKSPACE MECHANISM AND 164851 FEED WHEEL)
THE INDENTATIONS PUNCHED BY THE FEED WHEEL SHOULD BE CENTRALLY LOCATED BETWEEN THE PUNCHED FEED HOLES (GAUGED BY EYE) AND ON SAME HORIZONTAL CENTERLINE. THE UNIT MUST BACKSPACE THE TAPE AT LEAST 30 CHARACTERS WITHOUT LOSING ITS POINT OF REGISTRATION.

TO CHECK
PERFORATE 6 INCHES OF LETTERS TAPE AND ROTATE FEED WHEEL 2 MORE INCHES. FOLD TAPE IN HALF. CHECK CODE HOLES IN TOP HALF WITH THOSE IN BOTTOM HALF. PERFORATE 6 INCHES OF RY TAPE. BACK SPACE 30 CHARACTERS. REPERFORATOR WITH RUB-OUT CHARACTERS. CODE HOLES MUST COINCIDE EXCEPT FOR FIRST TWO CHARACTERS WHICH MAY BE ELONGATED MAX. 0.010 INCH.

TO ADJUST (LATERALLY)
ROTATE THE DETENT ECCENTRIC CLOCKWISE TO MOVE THE FEED WHEEL PERFORATION TOWARD THE LEADING EDGE OF THE FEED HOLE AND ROTATE THE ECCENTRIC COUNTER-CLOCKWISE TO MOVE THE PERFORATION TOWARD THE TRAILING EDGE OF THE FEED HOLE. TIGHTEN THE LOCK NUT. REFINE THE FEED PAWL ADJUSTMENT IF NECESSARY.

TO ADJUST (FRONT TO REAR)
LOOSEN THE LOCK NUT ON THE ADJUSTING SCREW AND ROTATE THE SCREW COUNTER-CLOCKWISE TO MOVE THE INDENTATIONS IN THE TAPE AWAY FROM THE REFERENCE EDGE (REAR) OF THE TAPE. TO MOVE THE INDENTATIONS IN THE TAPE TOWARD THE REFERENCE EDGE OF THE TAPE, ROTATE THE ADJUSTING SCREW CLOCKWISE. REFINE THE DETENT ADJUSTMENT IF NECESSARY.

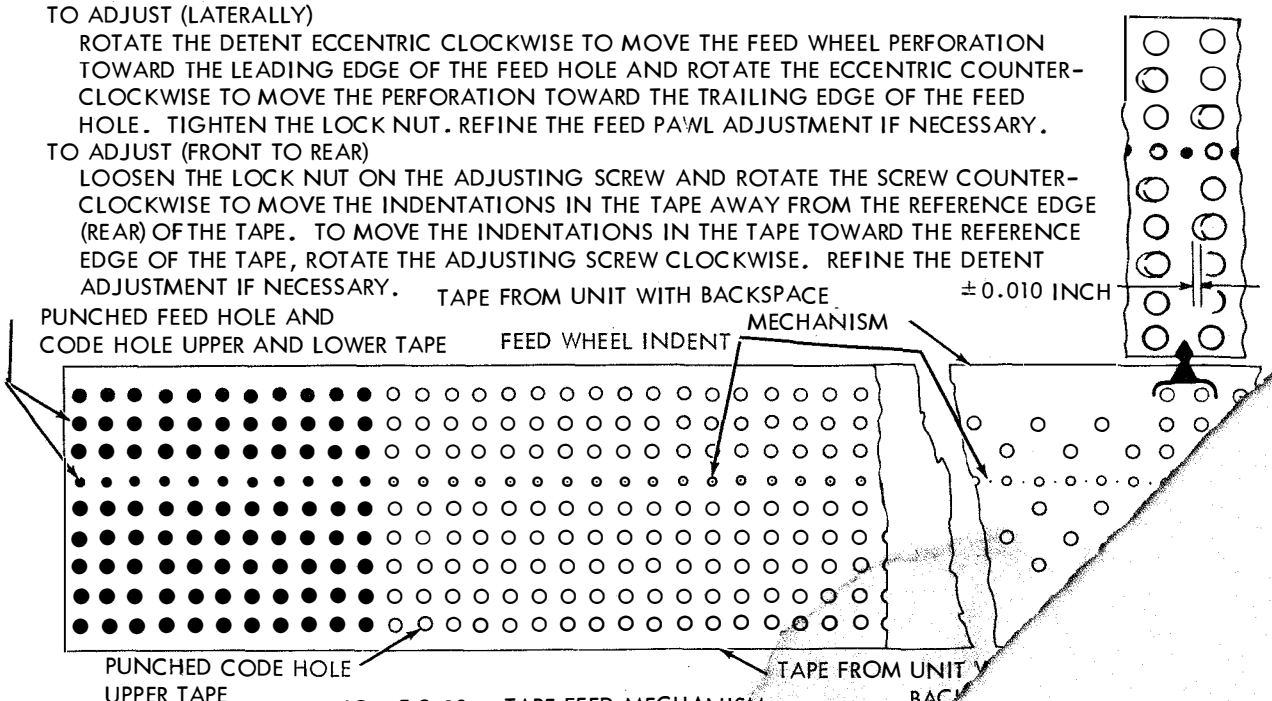
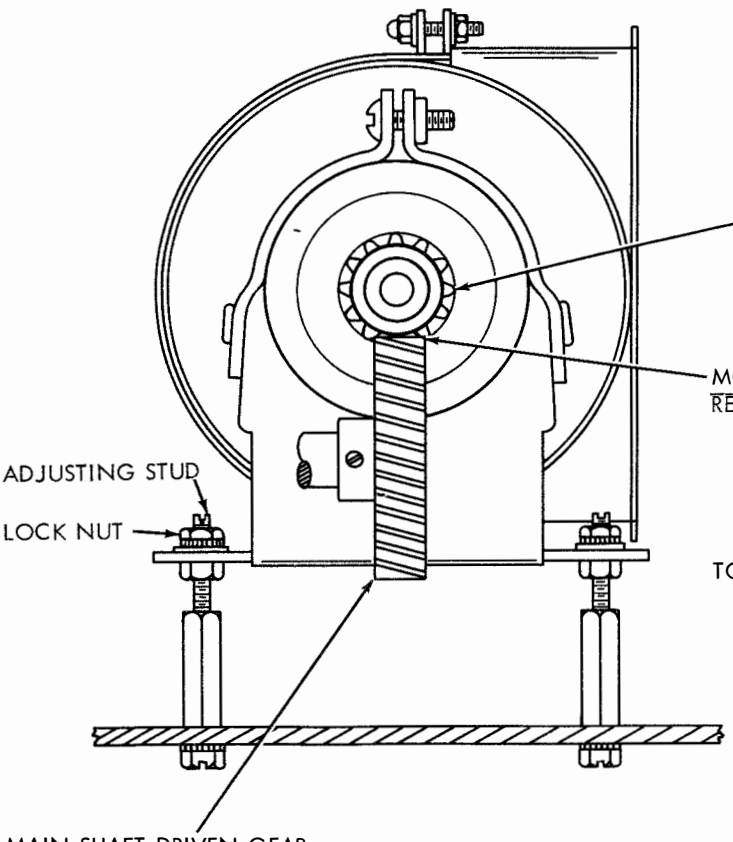


FIGURE 3-29. TAPE FEED MECHANISM

5. MOTOR (SELF CONTAINED UNITS ONLY)



MOTOR GEAR

REQUIREMENT

THERE SHOULD BE A BARELY PERCEPTIBLE AMOUNT OF BACKLASH BETWEEN THE MOTOR DRIVE GEAR AND THE MAIN SHAFT DRIVEN GEAR AT THE POINT WHERE BACKLASH IS LEAST

TO ADJUST

RAISE OR LOWER THE GEAR END OF THE MOTOR BY MEANS OF THE ADJUSTING STUDS WITH THEIR LOCK NUTS LOOSENED.

(2) REQUIREMENT

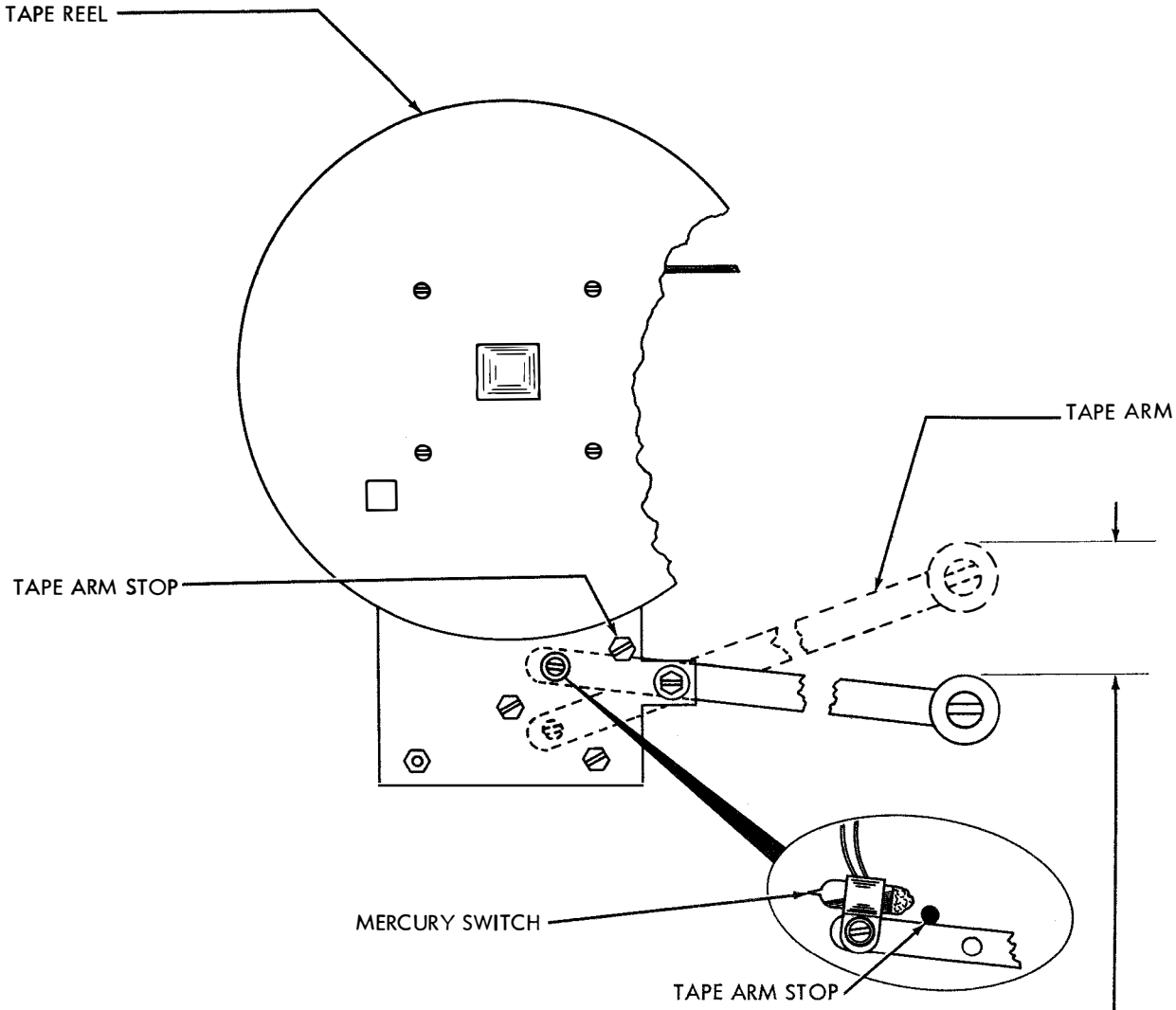
THE NOJSE LEVEL EMANATING FROM THE MOTOR AND MAIN SHAFT GEARS SHOULD BE A MINIMUM.

TO ADJUST

POSITION THE UNIT WITH ITS THREE BASE MOUNTING SCREWS AND THE SCREW WHICH MOUNTS THE FRONT OF THE PUNCH MECHANISM TO THE BASE PLATE LOOSENED. TIGHTEN SCREWS AND RECHECK MOTOR GEAR BACKLASH.

FIGURE 3-30. MOTOR GEAR

6. TAPE WINDER



REQUIREMENT

WITH UNIT RESTING IN A LEVEL POSITION, POWER ON AND TAPE WINDER MOTOR RUNNING THE MERCURY SWITCH SHOULD BREAK THE CIRCUIT TO THE MOTOR WHEN THE TAPE ARM IS
MIN. 1 INCH
MAX. 1-1/2 INCH
FROM ITS BOTTOM POSITION

TO ADJUST

POSITION MERCURY SWITCH WITH ITS CLAM
SCREW LOOSENED. SCREW MAY BE REACH
WITH SCREWDRIVER THROUGH HOLE IN

FIGURE 3-31. TAPE WINDER SWITCH

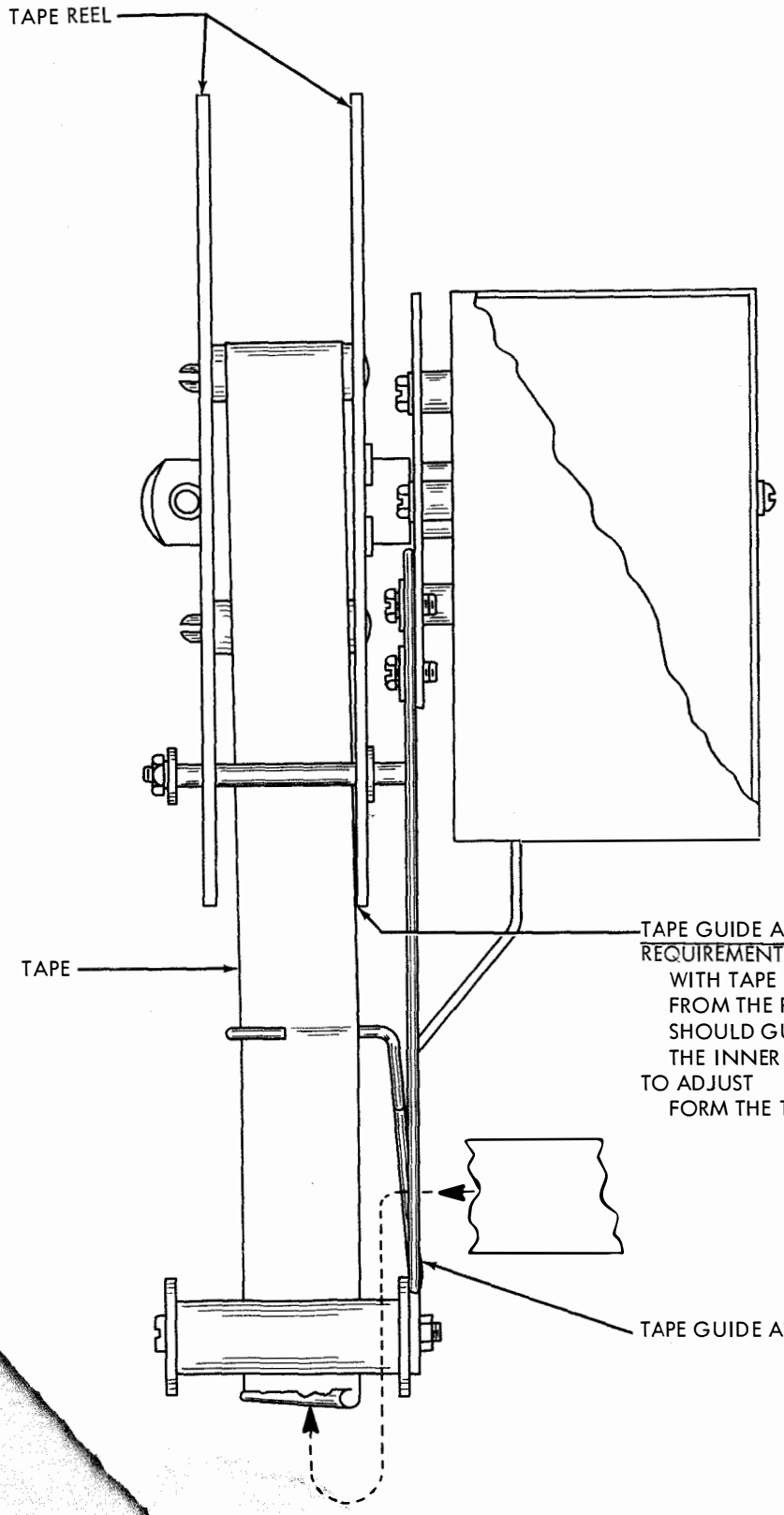


FIGURE 3-32. TAPE GUIDE ARM

7. TAPE CONTAINER

(A) TAPE-OUT LEVER

REQUIREMENT

TAPE-OUT LEVER SHOULD BE ABLE TO PUSH BOTH SWITCH LEVERS AWAY FROM SWITCH ACTUATORS BUT SHOULD NOT BE ABLE TO LIFT WOOD FILLER WITH DEPLETED TAPE ROLL OUT OF SLOTS IN TAPE CONTAINER.

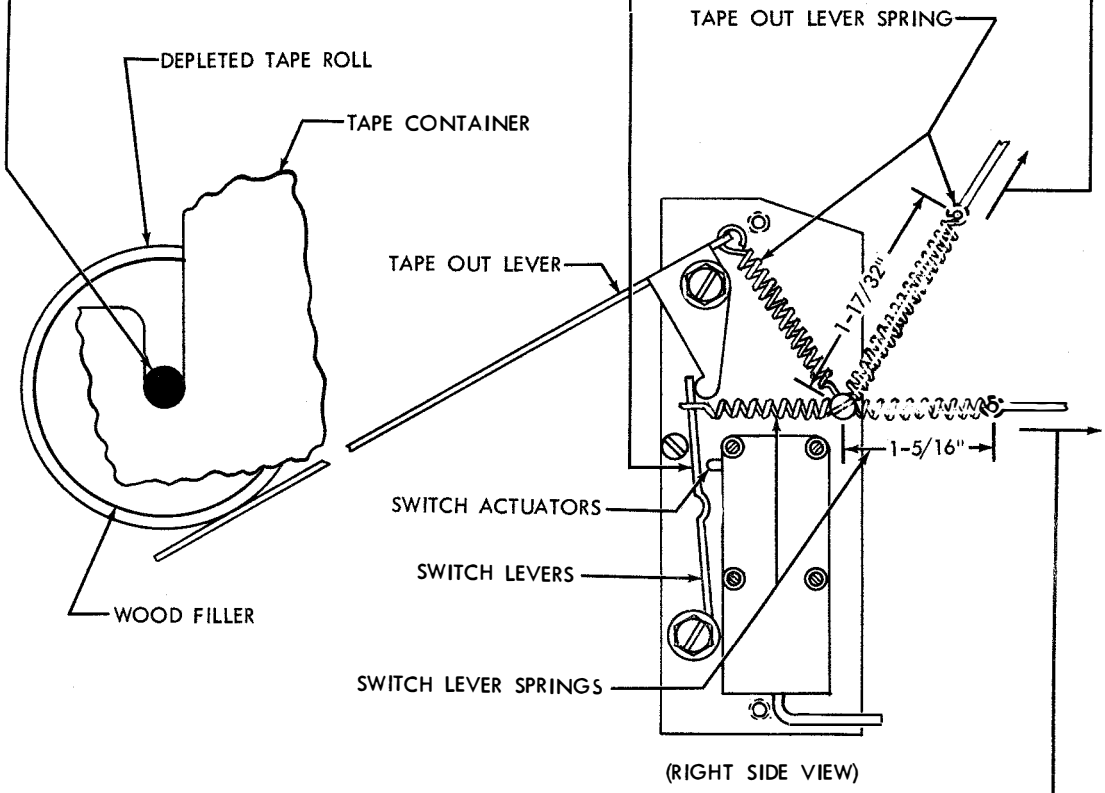
TO ADJUST

IF REQUIREMENT IS NOT MET, CHECK TAPE OUT LEVER AND SWITCH LEVER SPRING TENSIONS (BELOW).

(B) TAPE-OUT LEVER SPRING

REQUIREMENT

MIN. 6 OZS. ---- MAX. 8 OZS. TO PULL SPRING TO LENGTH OF 1 17/32 INCHES.



(RIGHT SIDE VIEW)

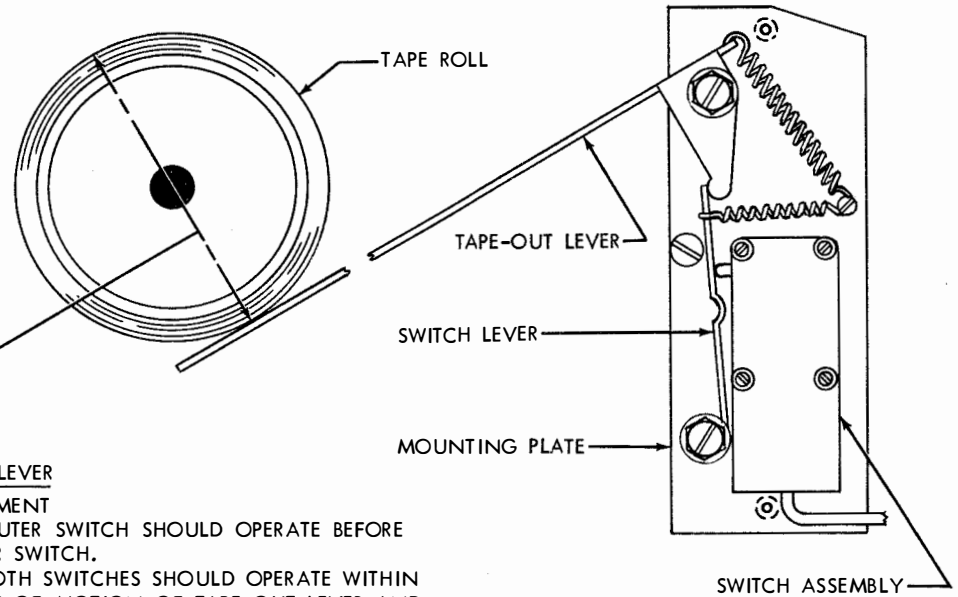
(C) SWITCH LEVER SPRINGS (2)

REQUIREMENT

MIN. 1 3/4 OZS. ---- MAX. 2 1/4 OZS. TO PULL SPRING TO LENGTH OF 1 5/16 INCHES.

FIGURE 3-33 TAPE-OUT MECHANISM

NOTE:
THE INNER ELEMENTS ARE THESE NEARER THE MOUNTING PLATE; THE OUTER ELEMENTS, THOSE FARTHER FROM THE MOUNTING PLATE.



(RIGHT SIDE VIEW)

SWITCH LEVER

REQUIREMENT
(1) OUTER SWITCH SHOULD OPERATE BEFORE INNER SWITCH.
(2) BOTH SWITCHES SHOULD OPERATE WITHIN LIMITS OF MOTION OF TAPE-OUT LEVER AND WHEN DIAMETER OF TAPE ROLL IS:
MIN. 2-5/16 INCHES----MAX. 2-7/16 INCHES WHEN USING A 2-INCH DIAMETER CORE OR
MIN. 1-5/16 INCHES -- MAX. 1-7/16 INCHES WHEN USING A 1-INCH DIAMETER CORE.

TO ADJUST
BEND OUTER SWITCH LEVER TOWARD SWITCH ASSEMBLY.

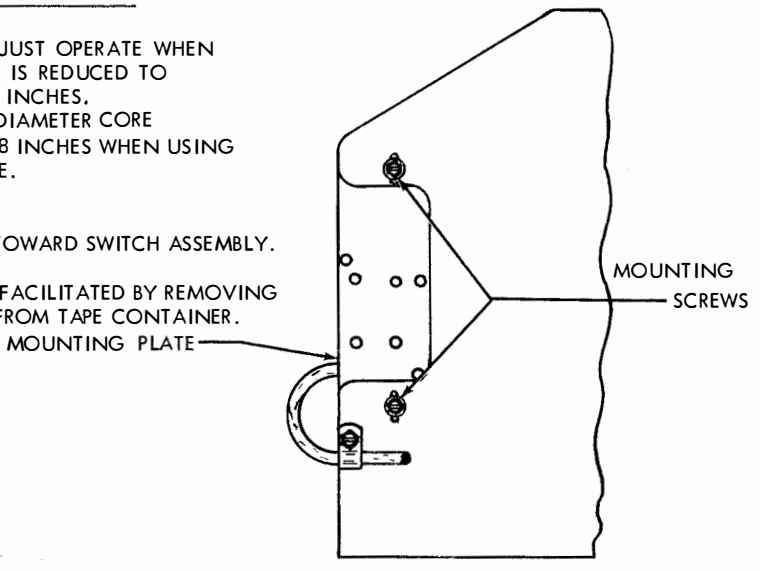
NOTE:
ADJUSTMENT CAN BE FACILITATED BY REMOVING SWITCH MECHANISM FROM TAPE CONTAINER.

SWITCH MECHANISM MOUNTING PLATE

REQUIREMENT
OUTER SWITCH SHOULD JUST OPERATE WHEN DIAMETER OF TAPE ROLL IS REDUCED TO APPROXIMATELY 2-3/8 INCHES. WHEN USING A 2-INCH DIAMETER CORE OR APPROXIMATELY 1-3/8 INCHES WHEN USING A 1-INCH DIAMETER CORE.

TO ADJUST
BEND OUTER SWITCH TOWARD SWITCH ASSEMBLY.

NOTE:
ADJUSTMENT CAN BE FACILITATED BY REMOVING SWITCH MECHANISM FROM TAPE CONTAINER.



(LEFT SIDE VIEW)

FIGURE 3-34 TAPE-OUT MECHANISM

SECTION 4 - LUBRICATION

1. GENERAL - The perforator transmitter should be lubricated as directed in this section. The figures indicate points to be lubricated and the kind and quantity of lubricant to be used. Lubricate the reperforator just prior to placing it in service. After a few weeks in service, relubricate to make certain that all points receive lubrication. The following lubrication schedule should be followed thereafter:

2. LUBRICATING INTERVAL

OPERATING SPEED	LUBRICATING INTERVAL
60 WPM	3000 hrs. or 1 year*
75 WPM	2400 hrs. or 9 months*
100 WPM	1500 hrs. or 6 months*
150 WPM	1000 hrs. or 6 months*
200 WPM	750 hrs. or 3 months*

3. LUBRICATING POINTS (General)

3.01 Use Teletype KS7470 Oil at all locations where the use of oil is indicated. Use KS7471 Grease on all surfaces where grease is indicated, except the motor bearings. Apply two drops of KS7470 Oil to motor bearings every four months. If the motor is disassembled at any time, repack the bearings with KS7471 Grease.

3.02 All spring wicks and felt oilers should be saturated. The friction surfaces of all moving parts should be thoroughly lubricated. Over lubrication, however, which will permit oil or grease to drop or be thrown on other parts, should be avoided. Special care must be taken to prevent any oil or grease from getting between the electrical contacts.

3.03 Apply a thick film of grease to all gears.

3.04 Apply oil to all cams, including the camming surfaces of each clutch disk.

3.05 The photographs show the paragraph numbers referring to particular line drawings of mechanisms and where these mechanisms are located on the unit. Parts in the line drawings are shown in an upright position unless otherwise specified.

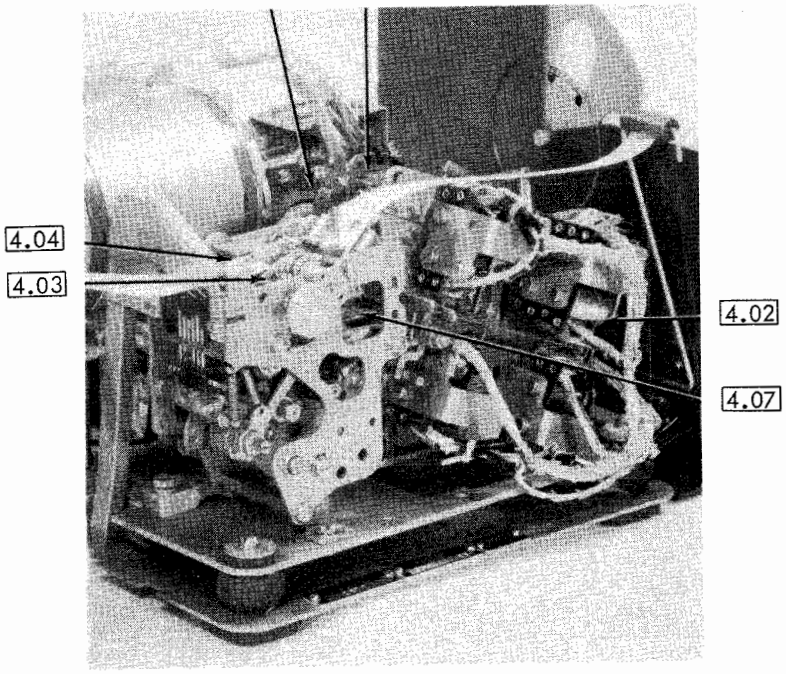
3.06 The illustration symbols indicate the following lubrication direction

O	Apply 1 drop of oil
O2	Apply 2 drops of oil
O3	Apply 3 drops of oil, etc.
G	Apply thin film of grease
SAT	Saturate (felt oilers, washers, wicks) with

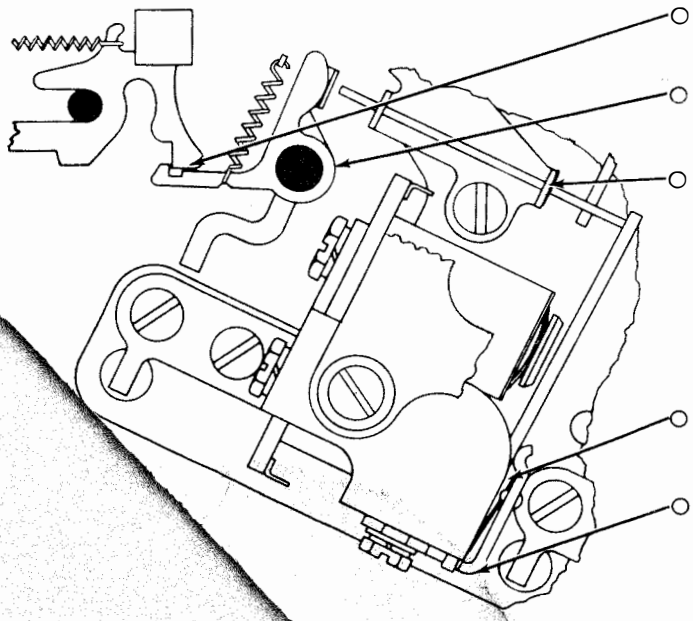
*Whichever occurs first.

4. REPERFORATOR

4.01 MULTI-MAGNET REPERFORATOR

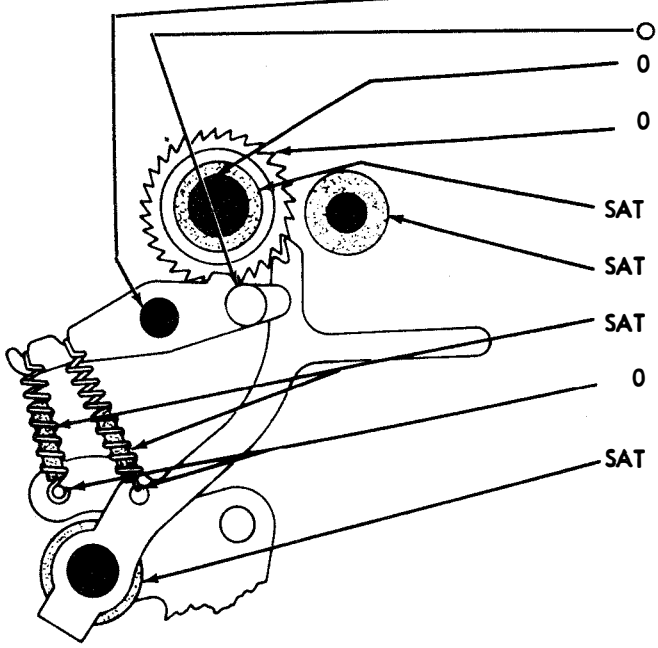


4.02 MULTI-MAGNET CODE SELECTOR



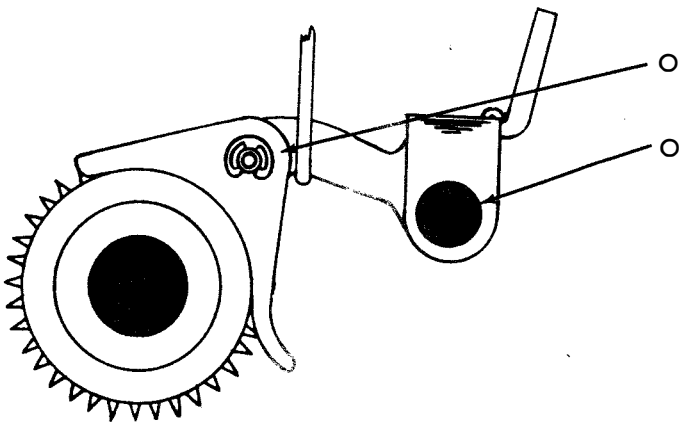
ENGAGING SURFACE	PUNCH SLIDE LATCH
PIVOT	PUNCH SLIDE LATCH
CONTACT	PUSH ROD
BRACKET SPRING	CODE ARMATURE
PIVOT	CODE ARMATURE

4.03 FEED WHEEL MECHANISM



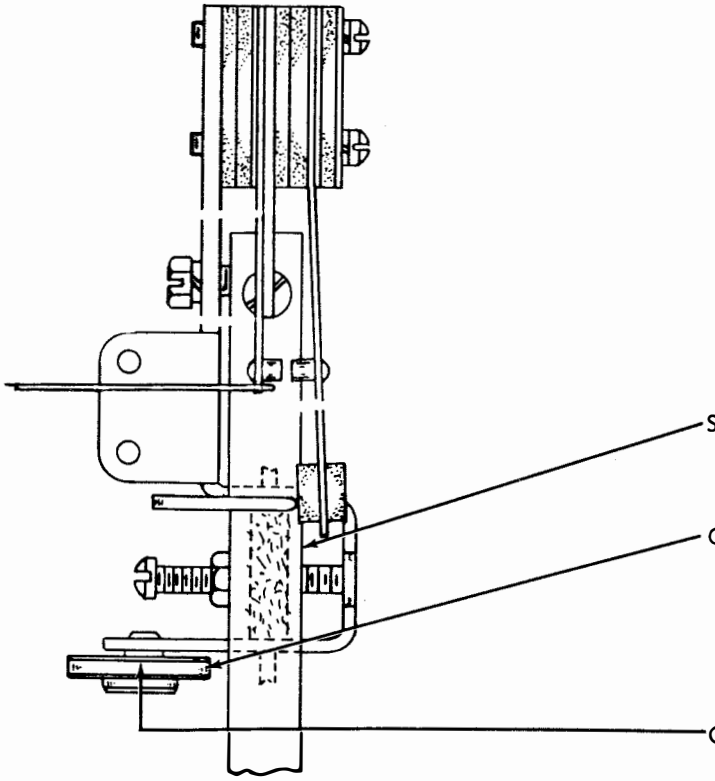
O	PIVOT	DETENT LEVER
O	PIVOT	DETENT ROLLER
0	BEARING SURFACE	FEED WHEEL KNOB
0	RATCHET TEETH	FEED WHEEL
SAT	FELT WASHER	FEED WHEEL
SAT	FELT WASHER	DIE WHEEL
SAT	FELT WICKS (2)	SPRING WICKS
0	HOOKS-EACH END (2 SPRINGS)	SPRING
SAT	FELT WASHER	FEED PAWL

4.04 TAPE SHOE ARM MECHANISM

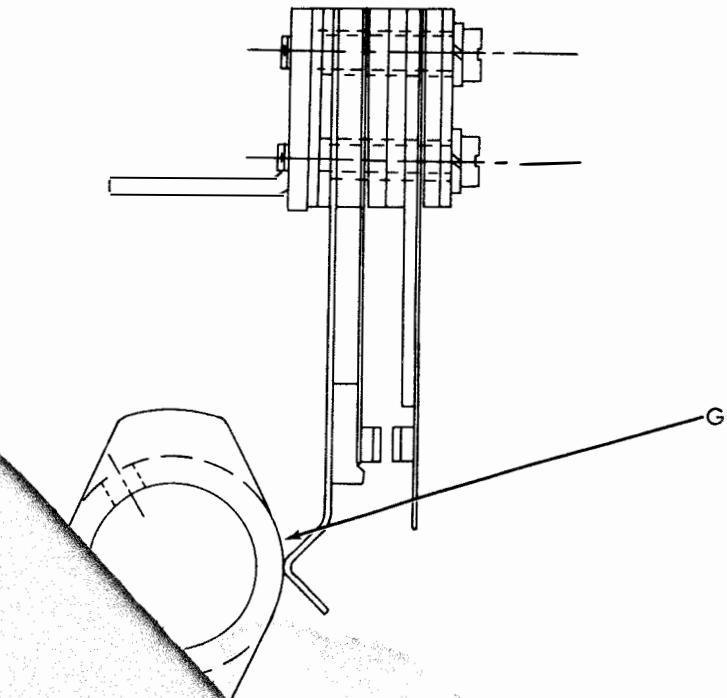


O	PIVOT	TAPE SHOE
O	PIVOT	TAPE SHOE ARM

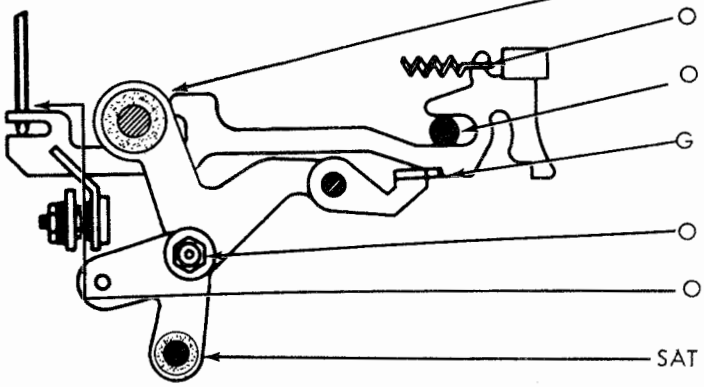
4.05 MAGNET RELEASE CONTACT BAIL ASSEMBLY



4.06 AUXILIARY CONTACTS

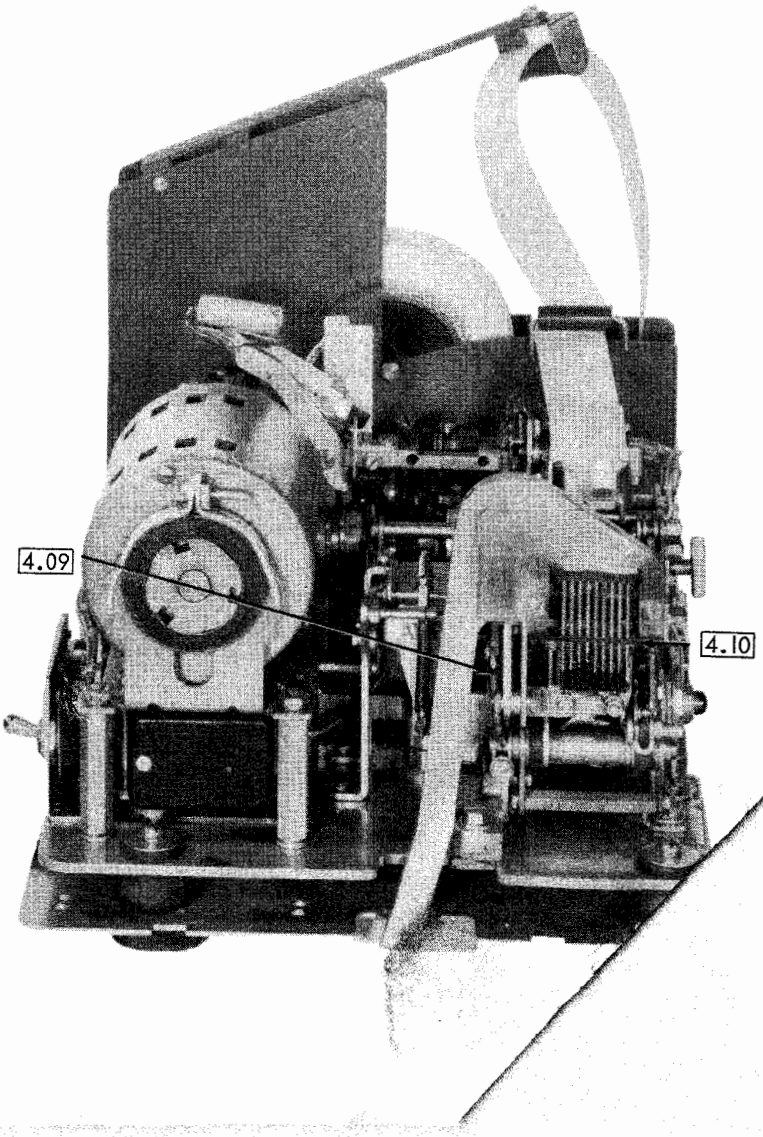


4.07 PUNCH SLIDE MECHANISM

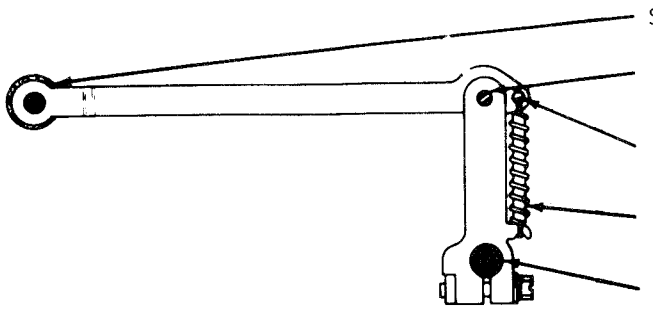


SAT	FELT WASHER (2)	TOGGLE LINKS
O	HOOKS	PUNCH SLIDE SPRING
O	ENGAGING SURFACE	PUNCH SLIDE POST
G	ENGAGING SURFACE	RESET BAIL
O	BEARING	TOGGLE BAIL
O	ENGAGING SURFACE	PUNCH SLIDE GUIDE
SAT	FELT WASHERS (2)	TOGGLE LINKS

4.08 PUNCH MECHANISM

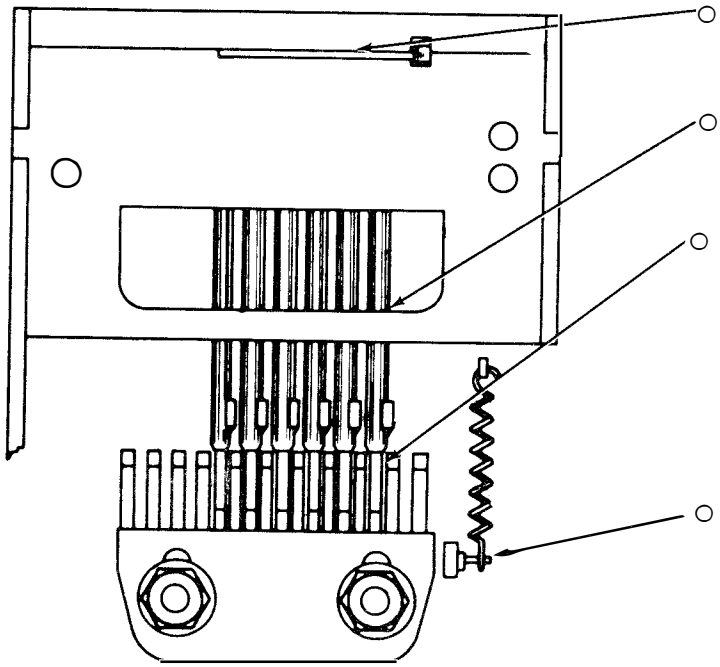


4.09 ROCKER ARM MECHANISM



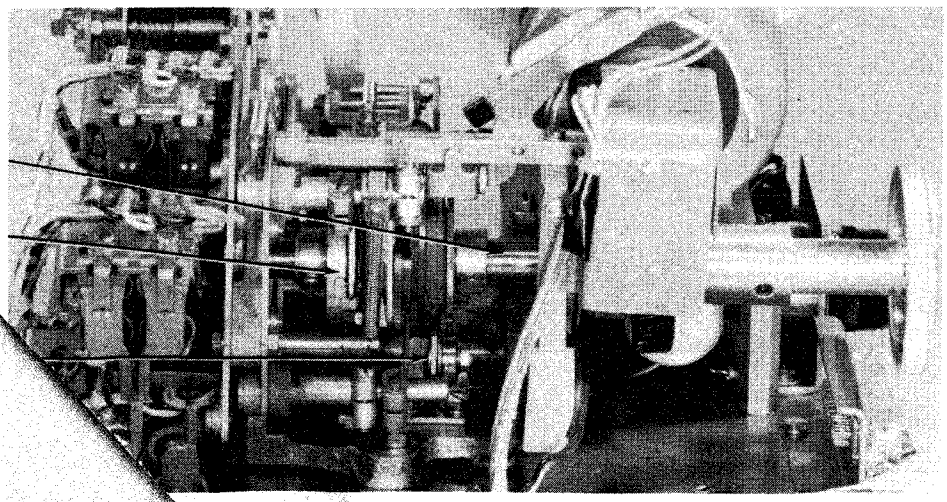
SAT	FELT WASHER	DRIVE LINK
O	ENGAGING SUR - FACE	ROCKER ARM
O	HOOKS - EACH END	SPRING
SAT	FELT WICK	SPRING WICK
O	BEARING SURFACE	ROCKER ARM

4.10 PUNCH MECHANISM



O	SLIDING SURFACE (6)	PUNCH PIN UPPER GUIDE
O	SLIDING SURFACE (6)	PUNCH PIN LOWER GUIDE
O	SLIDING SURFACE (5)	PUNCH SLIDE GUIDE
O	SPRING	RETRACTOR SPRING

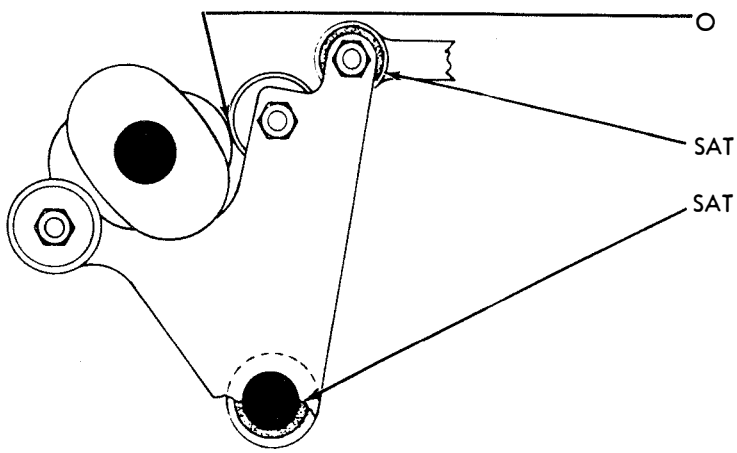
4.11 MAIN SHAFT ASSEMBLY



4-14

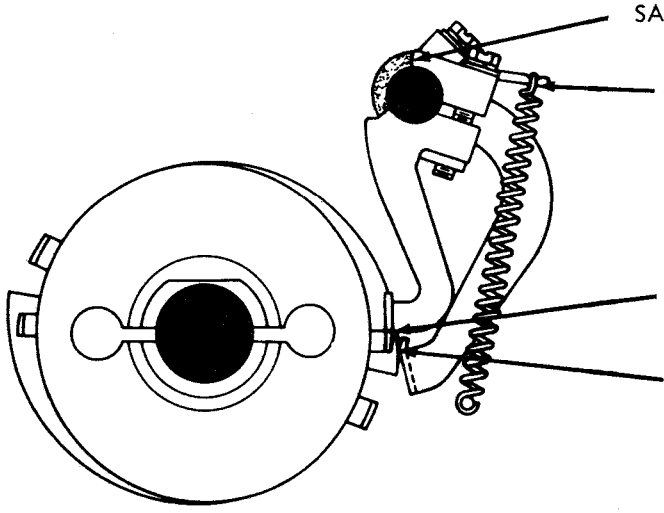
4-13

4-12 ROCKER BAIL MECHANISM



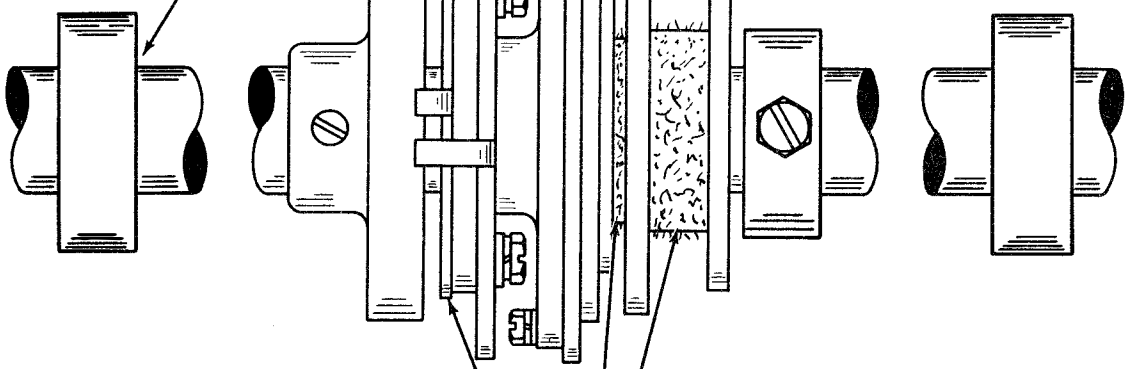
O	PIVOT	ROLLER
SAT	FELT WASHER	ROCKER BAIL
SAT	FELT WICK (USE OIL HOLE)	ROCKER BAIL

4-13 PERFORTOR CLUTCH MECHANISM



SAT	FELT WASHER	CLUTCH LATCH LEVER
O	HOOKS - EACH END	SPRING
O	LATCHING SURFACE	CLUTCH TRIP LEVER
O	LATCHING SURFACE	CLUTCH LATCH LEVER

4-14 MAIN SHAFT ASSEMBLY



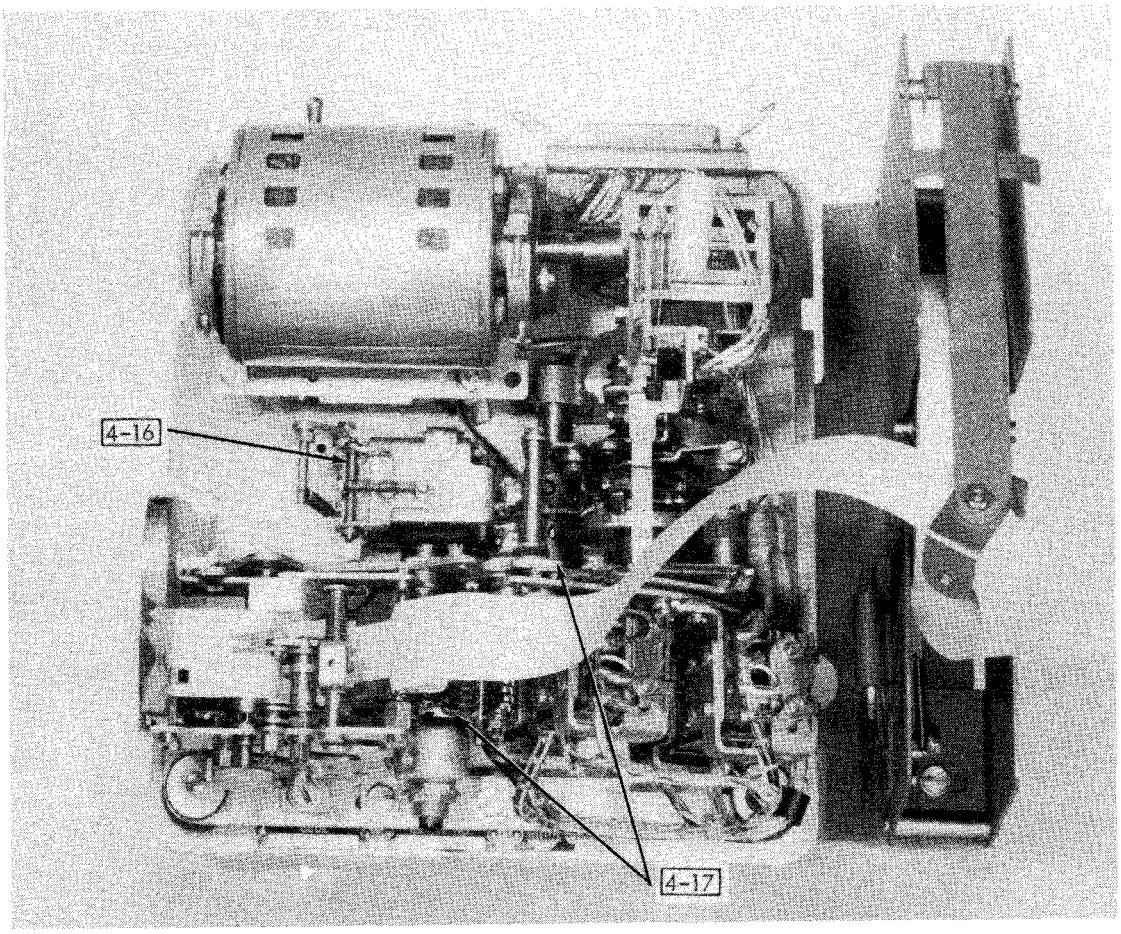
O4 BEARING (2) — MAIN SHAFT

G CAMMING SURFACE — CAM ASSEMBLY

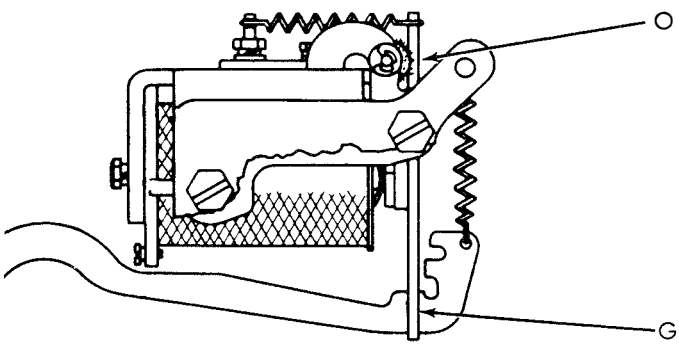
SAT FELT WICK — RESET CAM

O INTERNAL MECHANISM — PERFORATOR CLUTCH

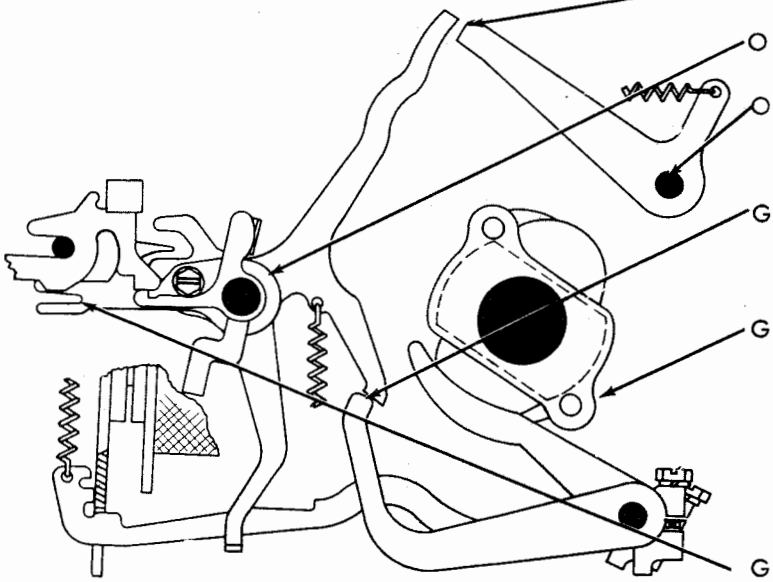
4-15 FUNCTION MECHANISM



4-16 FUNCTION MAGNET MECHANISM



4-17 FUNCTION MECHANISM



G	ENGAGING SURFACE	RELEASE LEVER
O	PIVOT	MAIN TRIP LEVER
O	PIVOT	RELEASE
G	ENGAGING SURFACE	LOWER TRIP LEVER
G	SHOE	RESET CAM
G	FORK	RESET BAIL TRIP-LEVER FORK