

28 AND 35 MULTIMAGNET NONTYPING REPERFORATOR

ADJUSTMENTS

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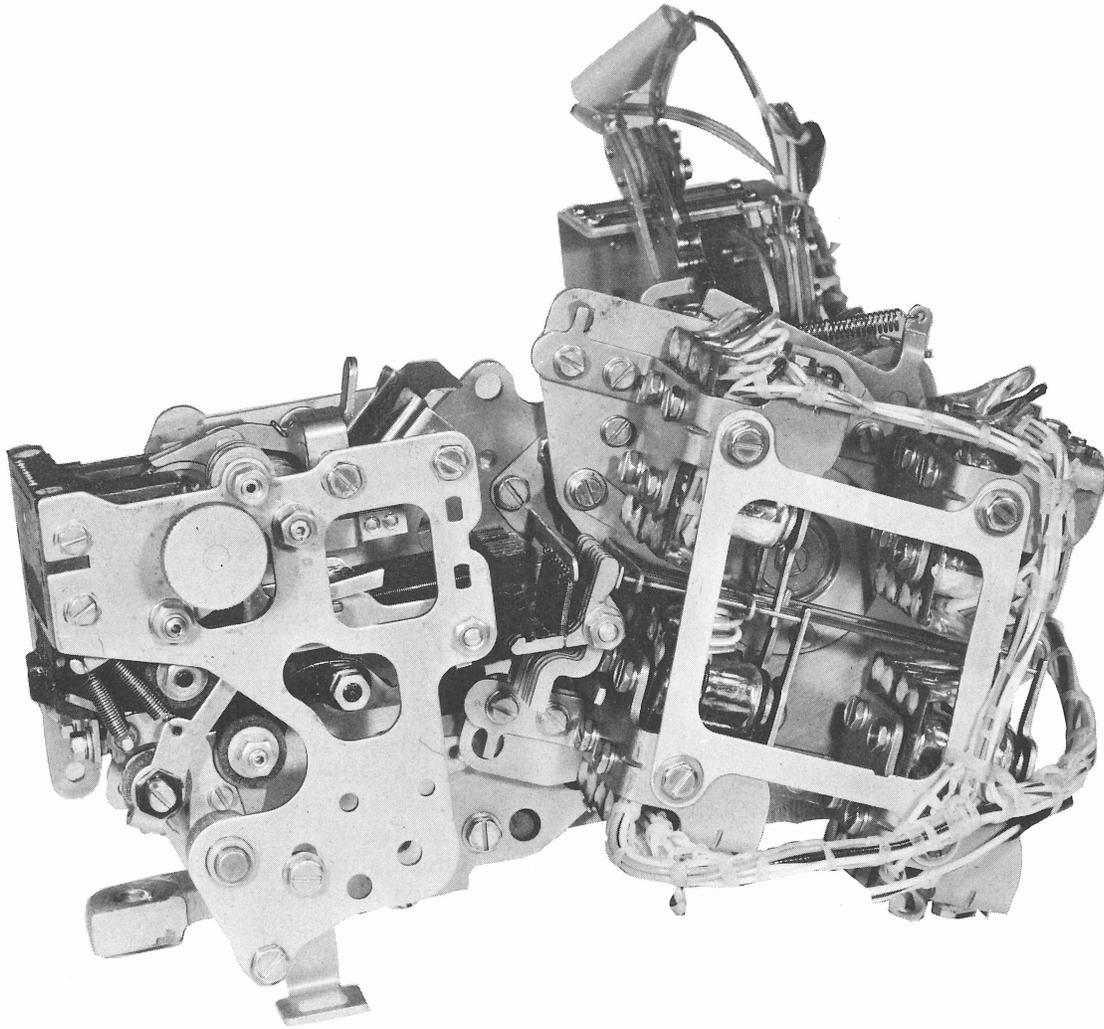


Figure 1 - Parallel Input Tape Punch

## 1. GENERAL

1.01 This section, which provides adjustment information for the multimagnet non-typing reperforator, has been revised and reissued to update this information. The code selector mechanism adjustments subsection contains line drawings and added adjustment values for the one-coil magnets. The function mechanism subsections are revised to differentiate between adjustments covering the self-contained units and others, and to include stroboscope requirements. In the punch mechanism subsection, some terminology has been changed to aid consistency; some adjustments have been changed and added, and six pages of adjustment information have been included to cover use of chadless tape. Since this is a general revision, marginal arrows are omitted.

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

1.03 It is assumed that the elements depicted in the illustrations are being viewed from a position in front of the equipment, unless the illustrations are specifically labeled otherwise. In the line drawings, pivot points are shown by circles that are solid black. References in the text to left or right designate the viewer's left or right as he faces the front of the unit.

1.04 In the adjustments and spring tensions covered in this section, location of clearances, position of parts and point and angle of scale applications are illustrated by drawings. Requirements and adjustment procedures are set forth in the texts that accompany the drawings. A procedure should be read all the way through before making the adjustment or testing the spring tension.

1.05 Tools required to make the adjustments and test the spring tensions are not supplied with the equipment. If parts are removed, all adjustments, which the removal of these parts might facilitate, should be made before the parts are replaced. Unless it is specifically stated to the contrary, after an adjustment has been made all nuts and screws that were loosened should be tightened.

1.06 The spring tensions given in this bulletin are indications, not exact values, and should be checked with Teletype scales in the positions shown in the drawings. Springs, which do not meet the requirements and for which there are no adjusting procedures, should be discarded and replaced with new springs.

1.07 All contact points should meet squarely. Smaller points should fall within the circumference of larger mating points. Points that are the same size should not be out of alignment more than 25 per cent of the point diameter.

Note: When rotating the main shaft 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 screwdriver to cause it to engage its latchlever and thus disengage the internal expansion clutch to prevent the clutch shoes from dragging on the clutch drum.

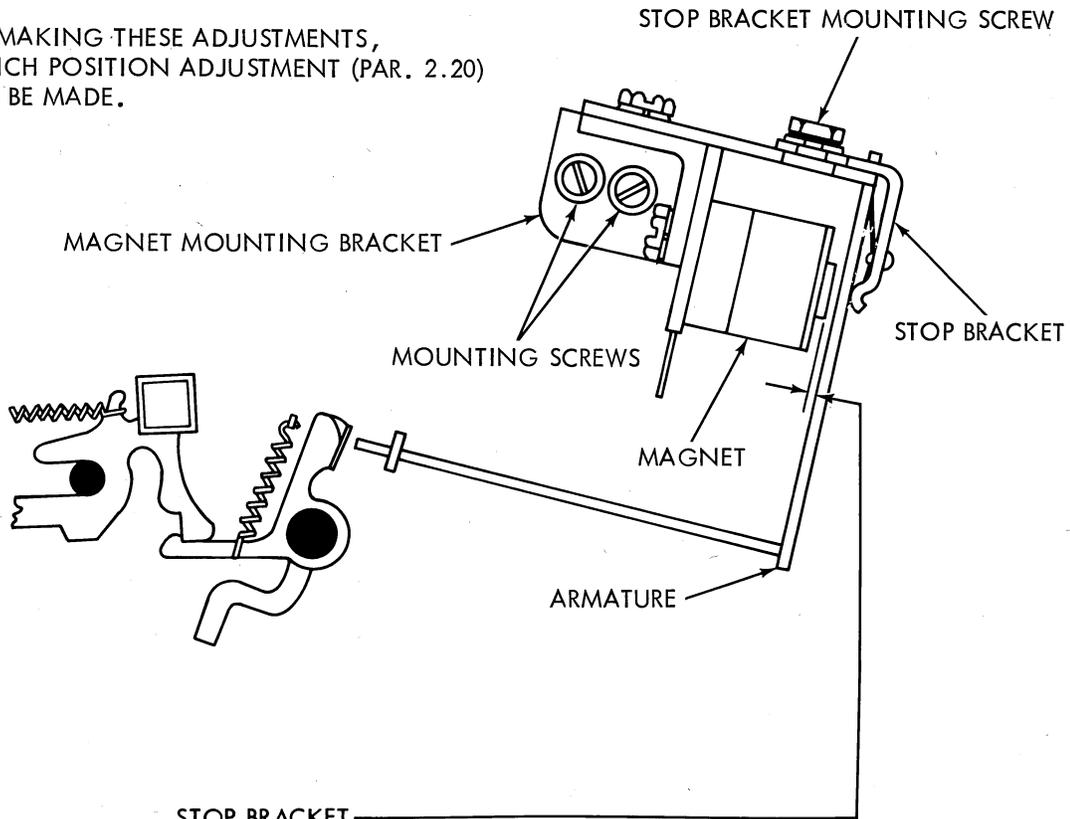
1.08 When the requirement calls for the clutch to be disengaged the clutch shoe lever must be fully latched between its trip lever and latchlever so that the clutch shoes release their tension on the clutch drum. When engaged the clutch shoe lever is unlatched and the clutch shoes are wedged firmly against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

2. ADJUSTMENTS

2.01 Code Selector Mechanism

NOTE

BEFORE MAKING THESE ADJUSTMENTS, THE PUNCH POSITION ADJUSTMENT (PAR. 2.20) SHOULD BE MADE.



STOP BRACKET  
REQUIREMENT

WITH CODE MAGNET DE-ENERGIZED AND CLUTCH DISENGAGED. ARMATURE HELD AGAINST ITS STOP BRACKET. CLEARANCE BETWEEN ARMATURE AND CORE OF MAGNET NEAREST THE FREE END OF ARMATURE

<u>ONE-COIL MAGNET</u>	<u>TWO-COIL MAGNET</u>
MIN. 0.008 INCH	MIN. 0.015 INCH
MAX. 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.

2.02 Code Selector Mechanism (Continued)

SELECTOR PLATE (PRELIMINARY)

REQUIREMENT

FUNCTION CLUTCH DISENGAGED AND LATCHED. CODE MAGNETS DE-ENERGIZED AND ARMATURES HELD AGAINST THEIR STOP BRACKETS, CLEARANCE BETWEEN EACH PUSH ROD AND ITS PUNCH BLOCKING PAWL EXTENSION

<u>ONE-COIL MAGNET</u>	<u>TWO-COIL MAGNET</u>
------------------------	------------------------

MIN. SOME

MIN. SOME

MAX. 0.010 INCH

TO ADJUST

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

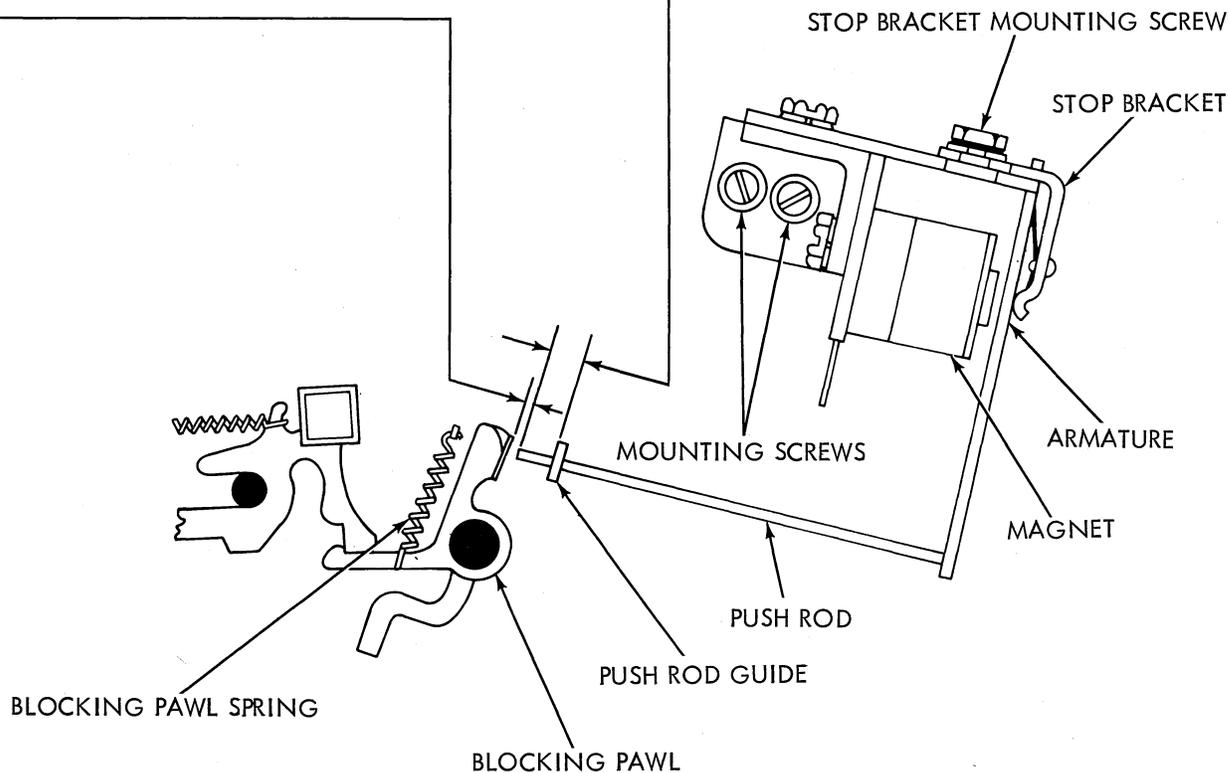
MAGNET CASTING ASSEMBLY

REQUIREMENT

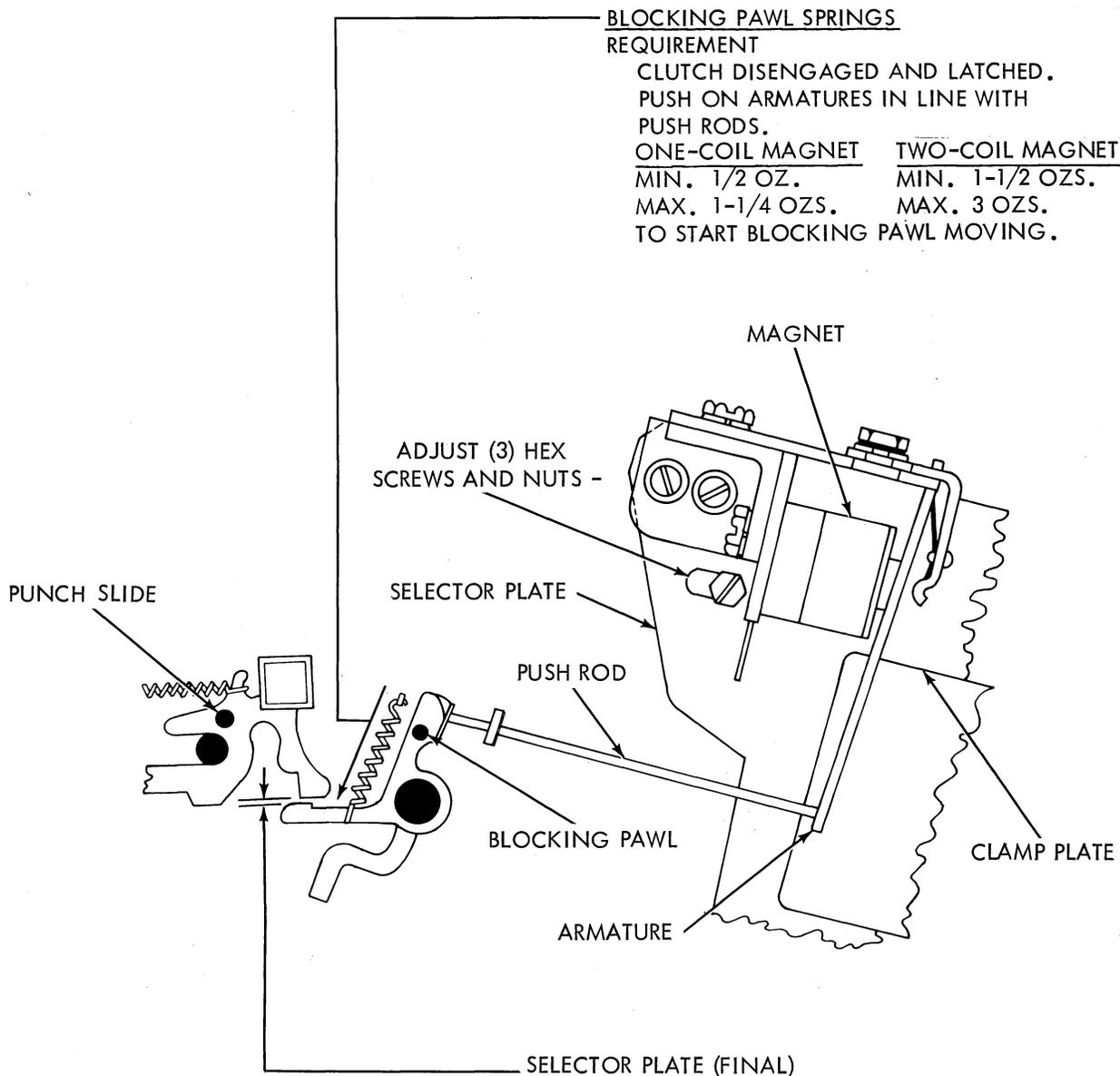
WITH ARMATURES AGAINST THEIR RESPECTIVE STOP BRACKETS PUSH RODS SHALL EXTEND ABOUT 1/8 INCH TO LEFT OF PUSH ROD GUIDE AND BE IN LINE WITH EACH OTHER WITHIN 0.005 INCH.

TO ADJUST

POSITION MAGNET CASTING ASSEMBLY BY MEANS OF ITS ELONGATED MOUNTING HOLES.



2.03 Code Selector Mechanism (Continued)



BLOCKING PAWL SPRINGS  
 REQUIREMENT  
 CLUTCH DISENGAGED AND LATCHED.  
 PUSH ON ARMATURES IN LINE WITH  
 PUSH RODS.  

<u>ONE-COIL MAGNET</u>	<u>TWO-COIL MAGNET</u>
MIN. 1/2 OZ.	MIN. 1-1/2 OZS.
MAX. 1-1/4 OZS.	MAX. 3 OZS.

 TO START BLOCKING PAWL MOVING.

SELECTOR PLATE (FINAL)  
 REQUIREMENT  
 FUNCTION CLUTCH TRIPPED, CODE  
 MAGNETS ENERGIZED AND PUNCH  
 SLIDE LATCHES TRIPPED. THERE  
 MUST BE SOME CLEARANCE BETWEEN  
 EACH PUNCH SLIDE AND ITS BLOCK-  
 ING PAWL.  
 TO ADJUST  
 LOOSEN (3) SELECTOR PLATE  
 MOUNTING SCREWS AND NUTS.  
 POSITION SELECTOR PLATE BY  
 PRYING ON EITHER SIDE OF  
 CLAMP PLATE. TIGHTEN MOUNTING  
 SCREWS AND NUTS.

2.04 Function Mechanism

NOTE

FUNCTION ARMATURE BRACKET

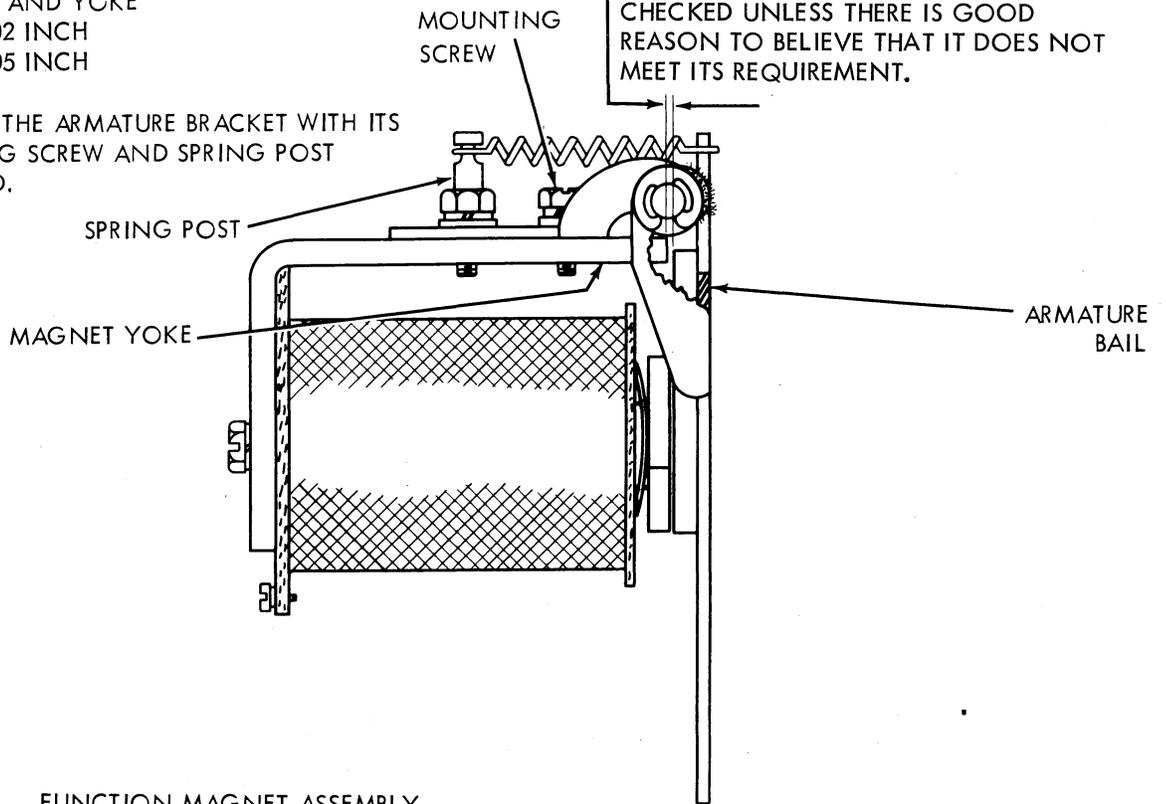
REQUIREMENT

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.

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.



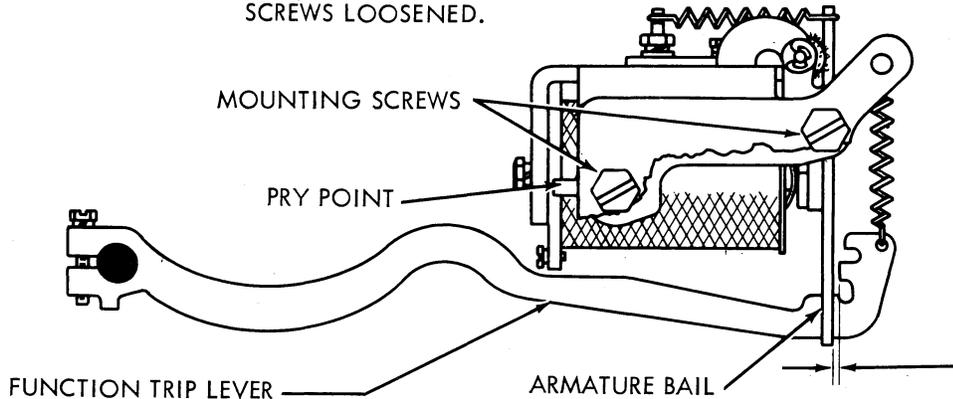
FUNCTION MAGNET ASSEMBLY

REQUIREMENT

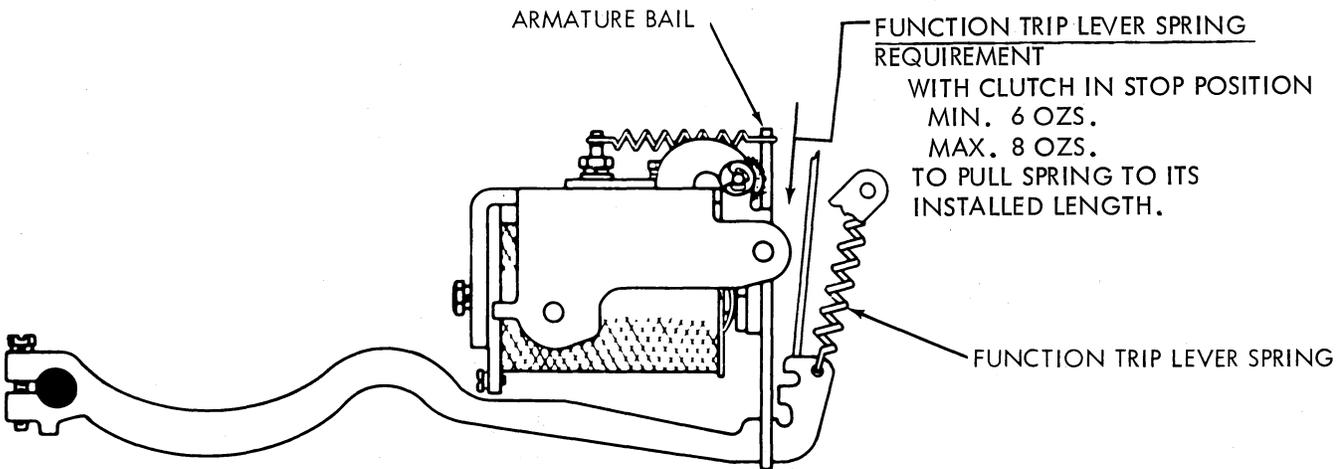
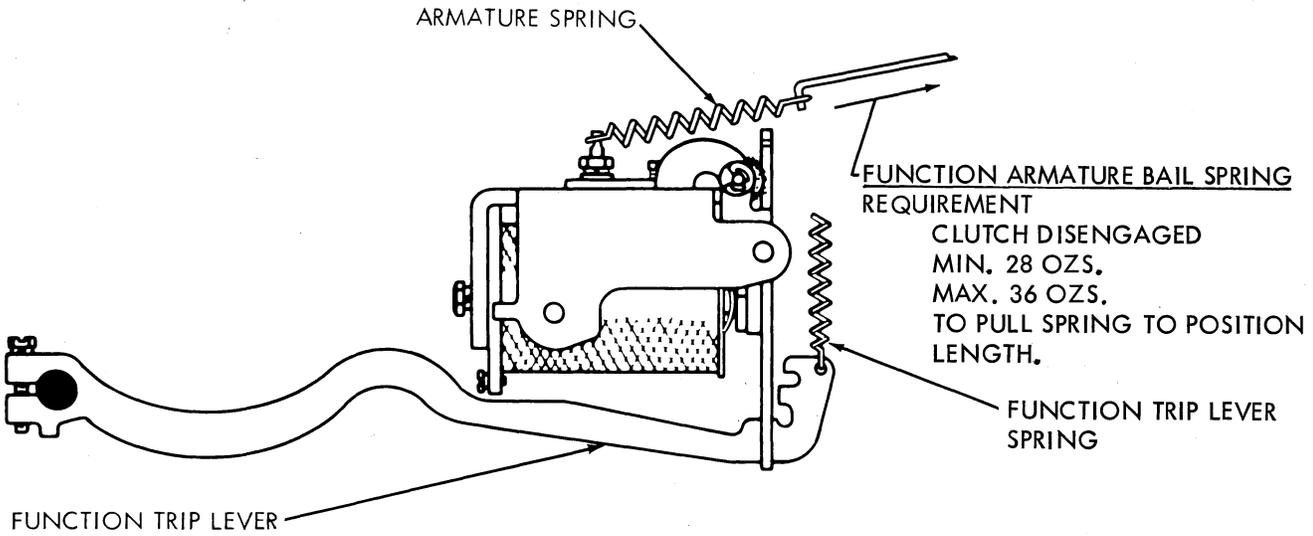
FUNCTION CLUTCH DISENGAGED, ARMATURE TRIPPED AND HELD AGAINST MAGNET CORE. CLEARANCE BETWEEN THE FUNCTION TRIP LEVER AND THE ARMATURE BAIL  
 MIN. SOME  
 MAX. 0.010 INCH

TO ADJUST

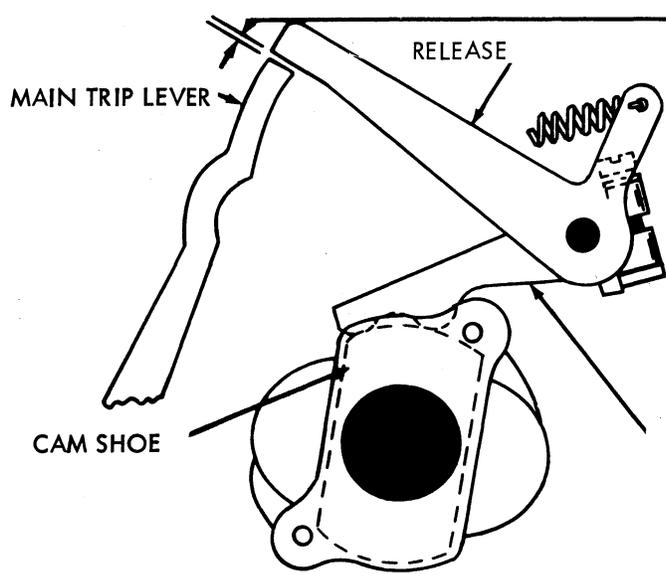
POSITION THE MAGNET ASSEMBLY BY MEANS OF ITS PRY POINT WITH THE TWO MOUNTING SCREWS LOOSENED.



2.05 Function Mechanism (Continued)



2.06 Function Mechanism (Continued)



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.

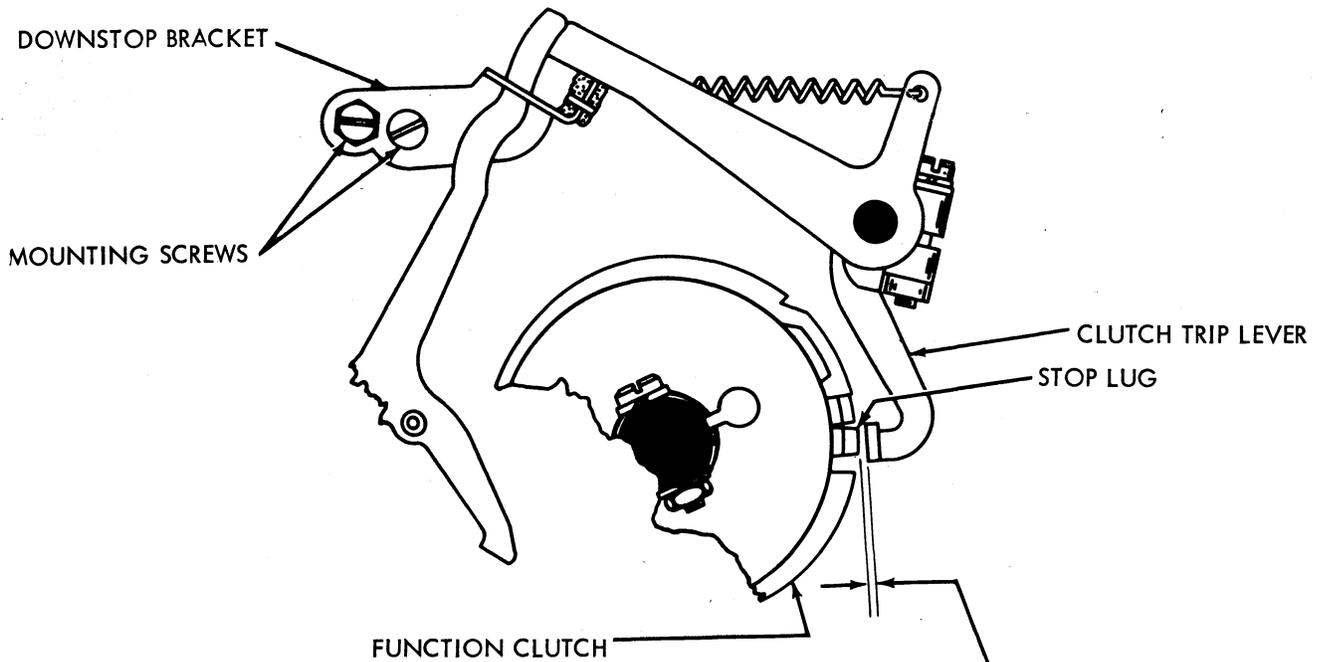
MIN. 0.005 INCH

MAX. 0.020 INCH

TO ADJUST

WITH RESET LEVER CLAMP SCREW LOOSENED

POSITION RELEASE LEVER TO MEET REQUIREMENT.



DOWNSTOP BRACKET

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

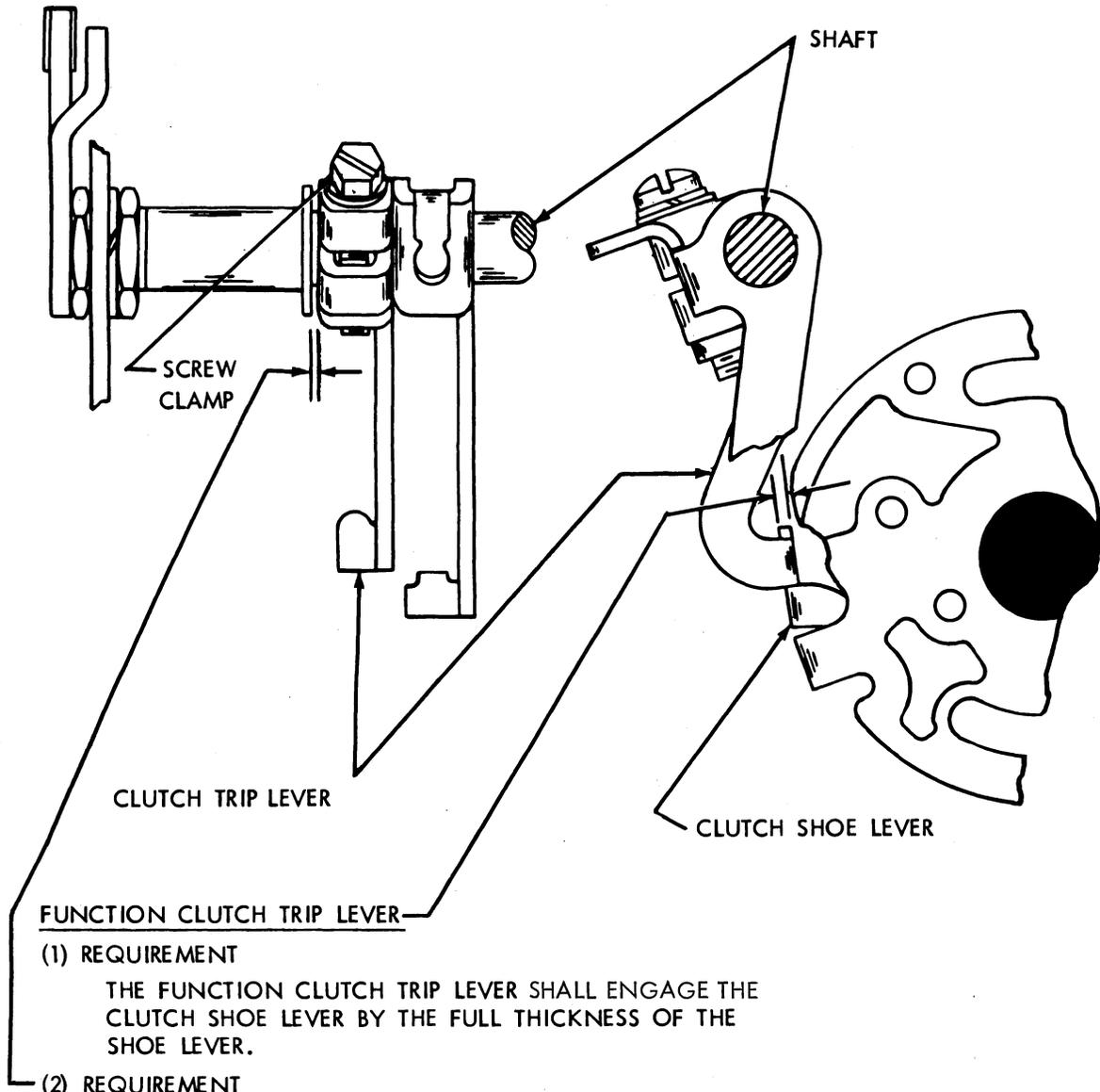
MIN. 0.002 INCH

MAX. 0.045 INCH

TO ADJUST

POSITION THE DOWNSTOP BRACKET BY MEANS OF ITS ADJUSTING SLOT WITH ITS MOUNTING SCREWS LOOSENED.

2.07 Function Mechanism (Continued)



FUNCTION CLUTCH TRIP LEVER

(1) REQUIREMENT

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

(2) REQUIREMENT

THE END PLAY IN THE SHAFT SHALL 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.

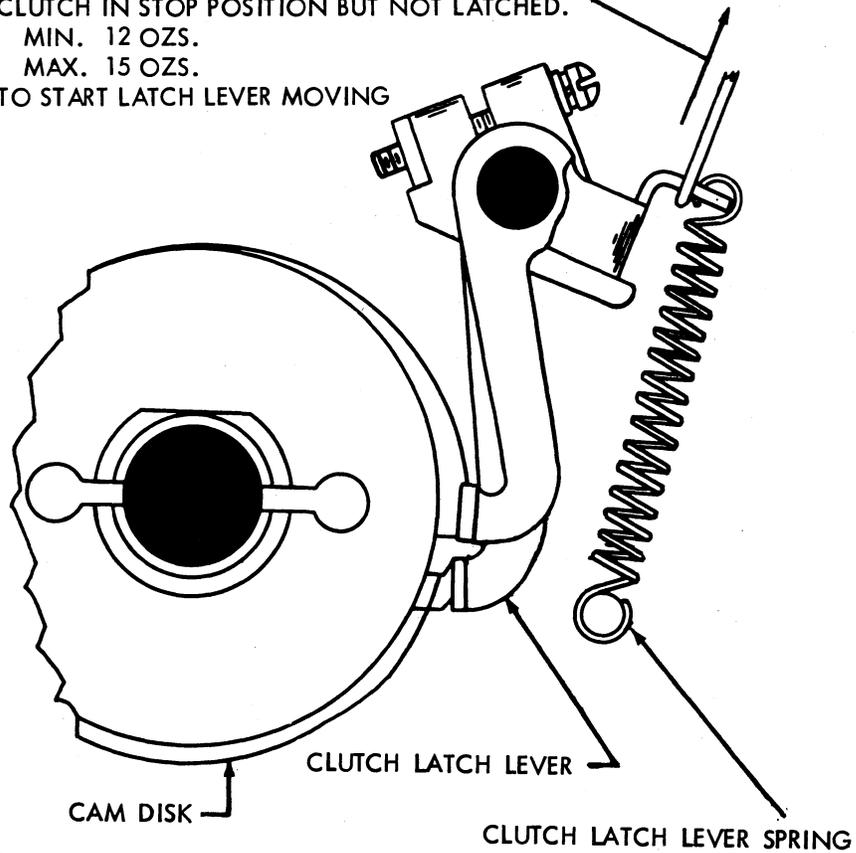
NOTE

CHECK AT STOP NEXT TO NOTCH IN ADJUSTING DISK

2.08 Function Mechanism (Continued)

CLUTCH LATCH LEVER SPRING  
REQUIREMENT

CLUTCH IN STOP POSITION BUT NOT LATCHED.  
MIN. 12 OZS.  
MAX. 15 OZS.  
TO START LATCH LEVER MOVING



2.09 Function Mechanism (Continued)

CLUTCH DRUM

NOTE: FOR UNITS EQUIPPED WITH TP173203 BEARING SLEEVE.

REQUIREMENT

FUNCTION CLUTCH DISENGAGED AND PLAY TAKEN UP FOR MAX. MIN. SOME --- MAX. 0.020 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 TP173806 BEARING SLEEVE.

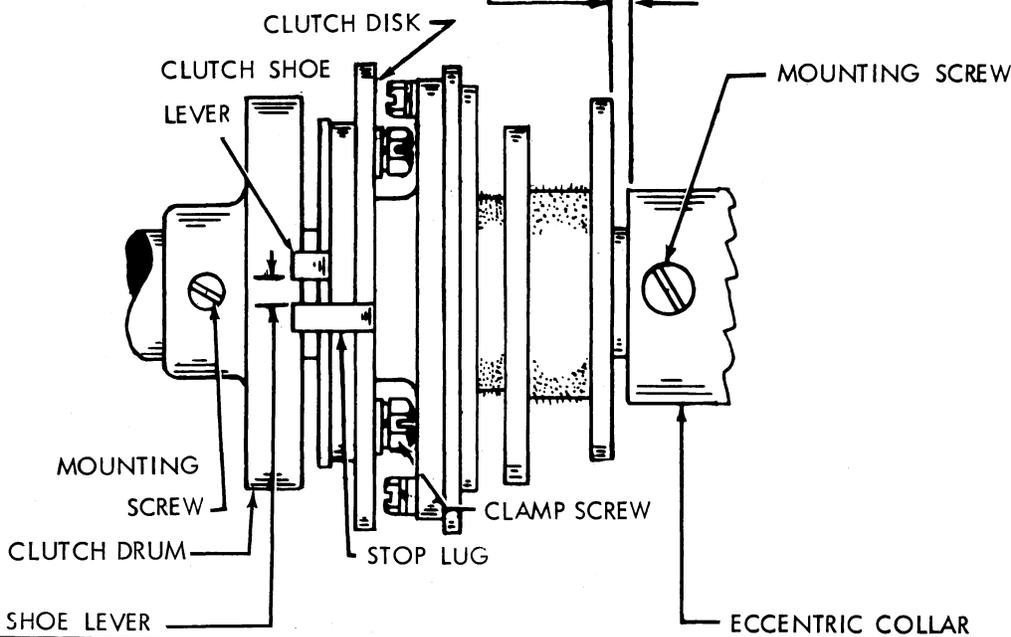
REQUIREMENT

(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.



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

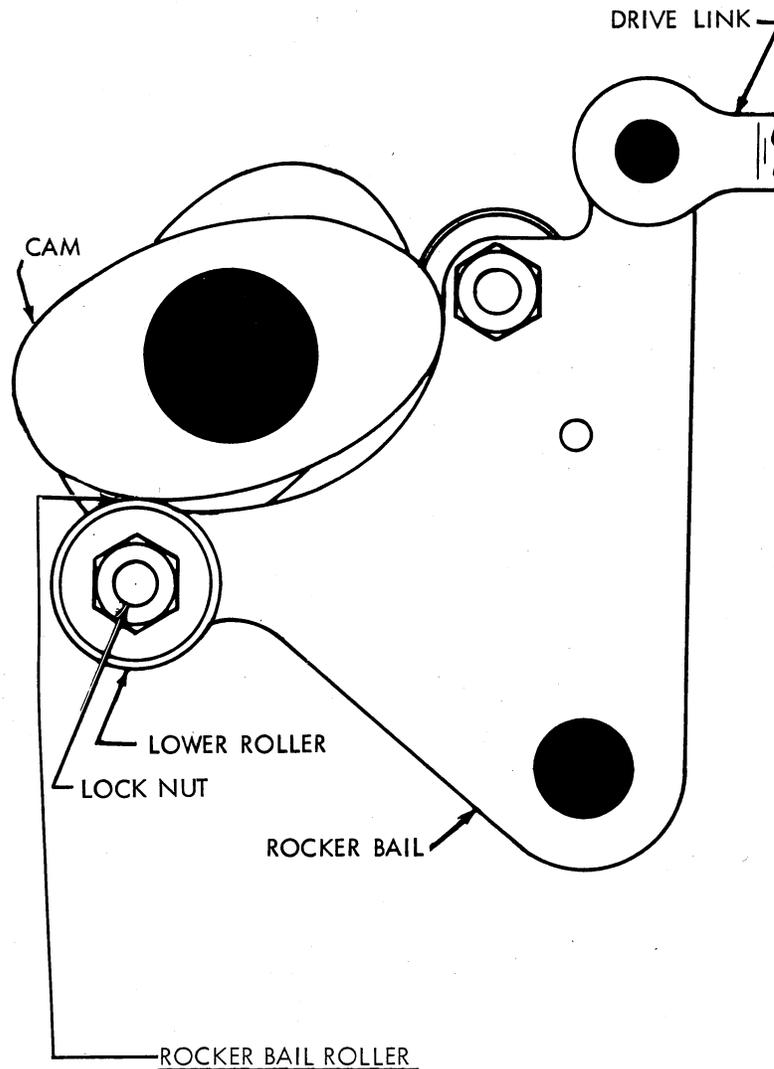
TO ADJUST

LOOSEN THE TWO CLAMP SCREWS ON THE CLUTCH DISK. ENGAGE A WRENCH OR SCREWDRIVER ON THE LUG ON THE ADJUSTING 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.

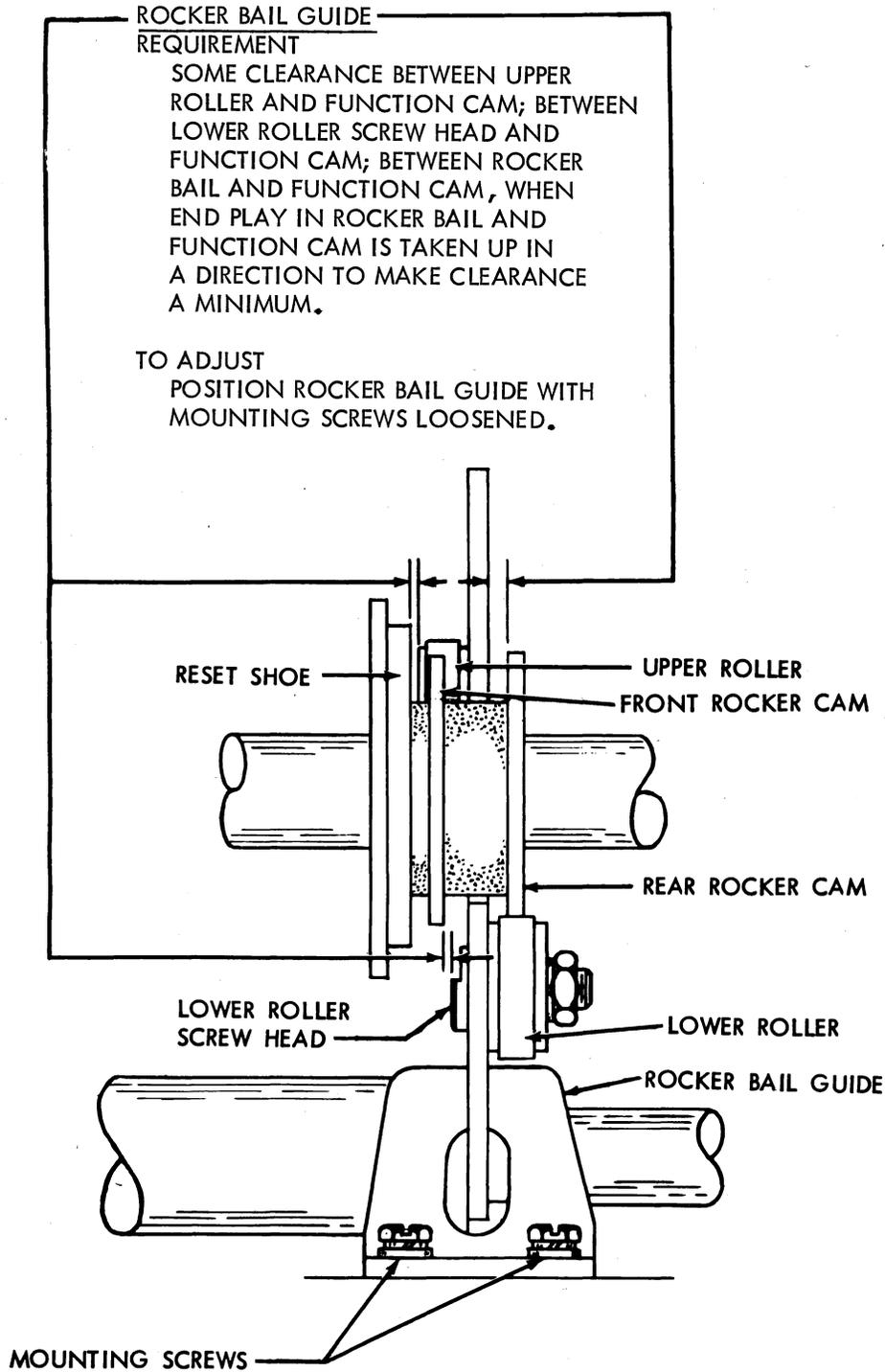
2.10 Function Mechanism (Continued)



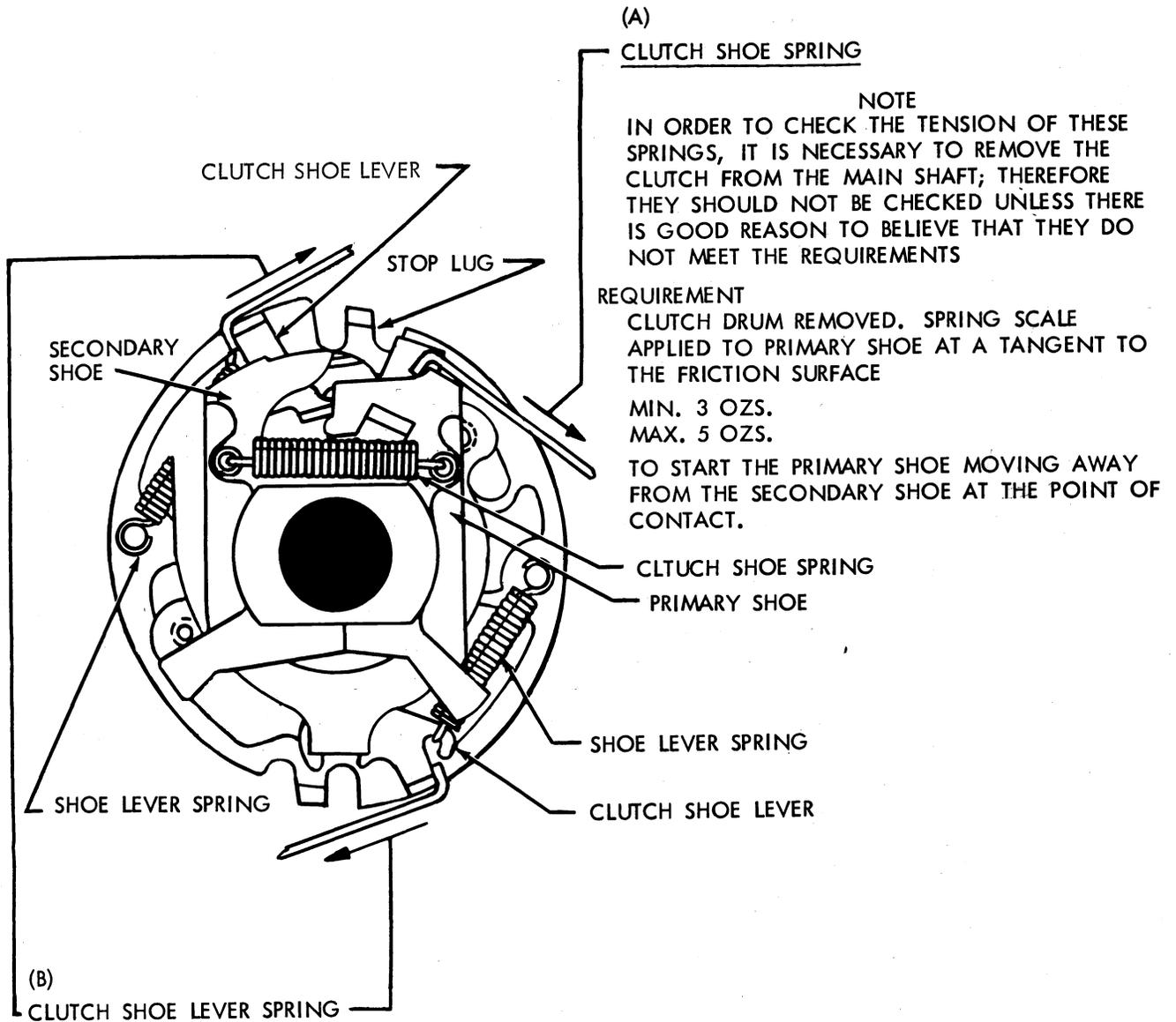
ROCKER BAIL ROLLER  
REQUIREMENT

GAUGED AT BOTH STOPS OF  
TWO STOP CLUTCH  
MIN. SOME  
MAX. 0.005 INCH  
CLEARANCE BETWEEN ROLLER  
AND CAM AT POINT WHERE  
CLEARANCE IS LEAST.  
TO ADJUST  
WITH ITS LOCK NUT  
LOOSENED POSITION LOWER  
ROLLER.

2.11 Function Mechanism (Continued)



2.12 Function Mechanism (Continued)



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.

2.13 Function Mechanism (Continued)

FUNCTION TRIP LEVER

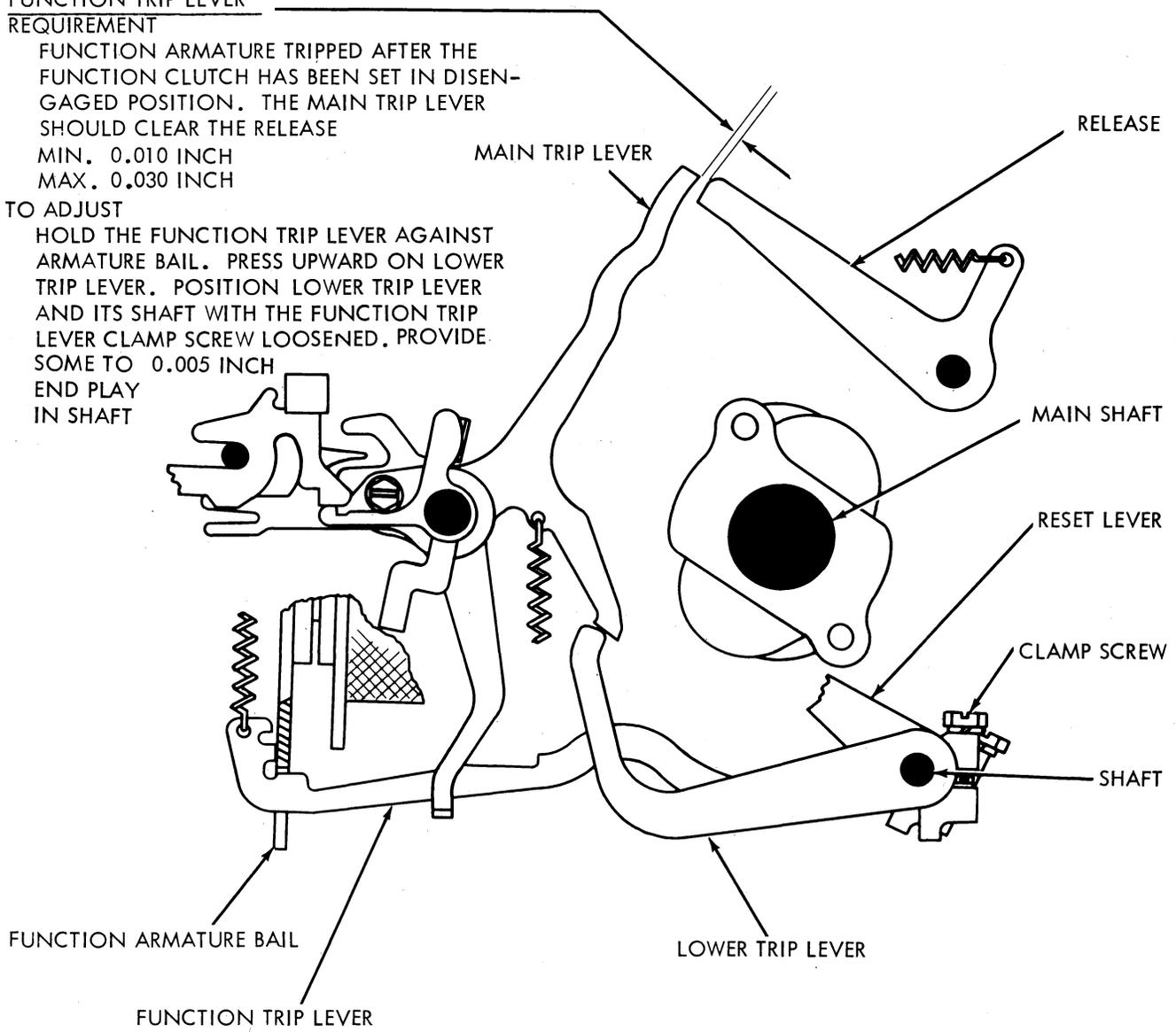
REQUIREMENT

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. 0.030 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



## 2.14 Function Mechanism (Continued)

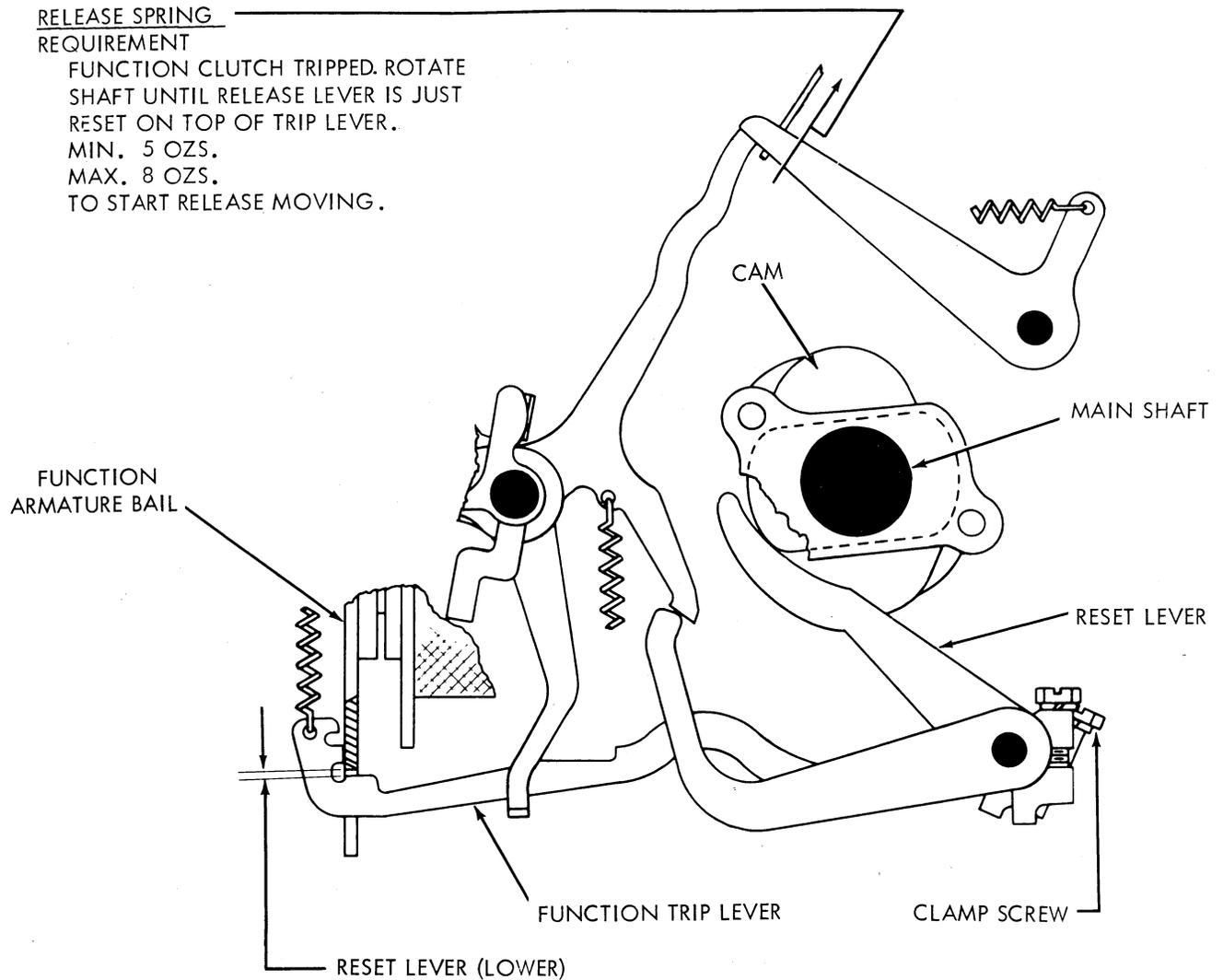
RELEASE SPRINGREQUIREMENT

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 RO-  
TATED UNTIL RESET LEVER IS AT END POINT  
OF CAM SHOE. CLEARANCE BETWEEN AR-  
MATURE BAIL AND FUNCTION TRIP LEVER.

MIN. SOME

MAX. 0.020 INCH

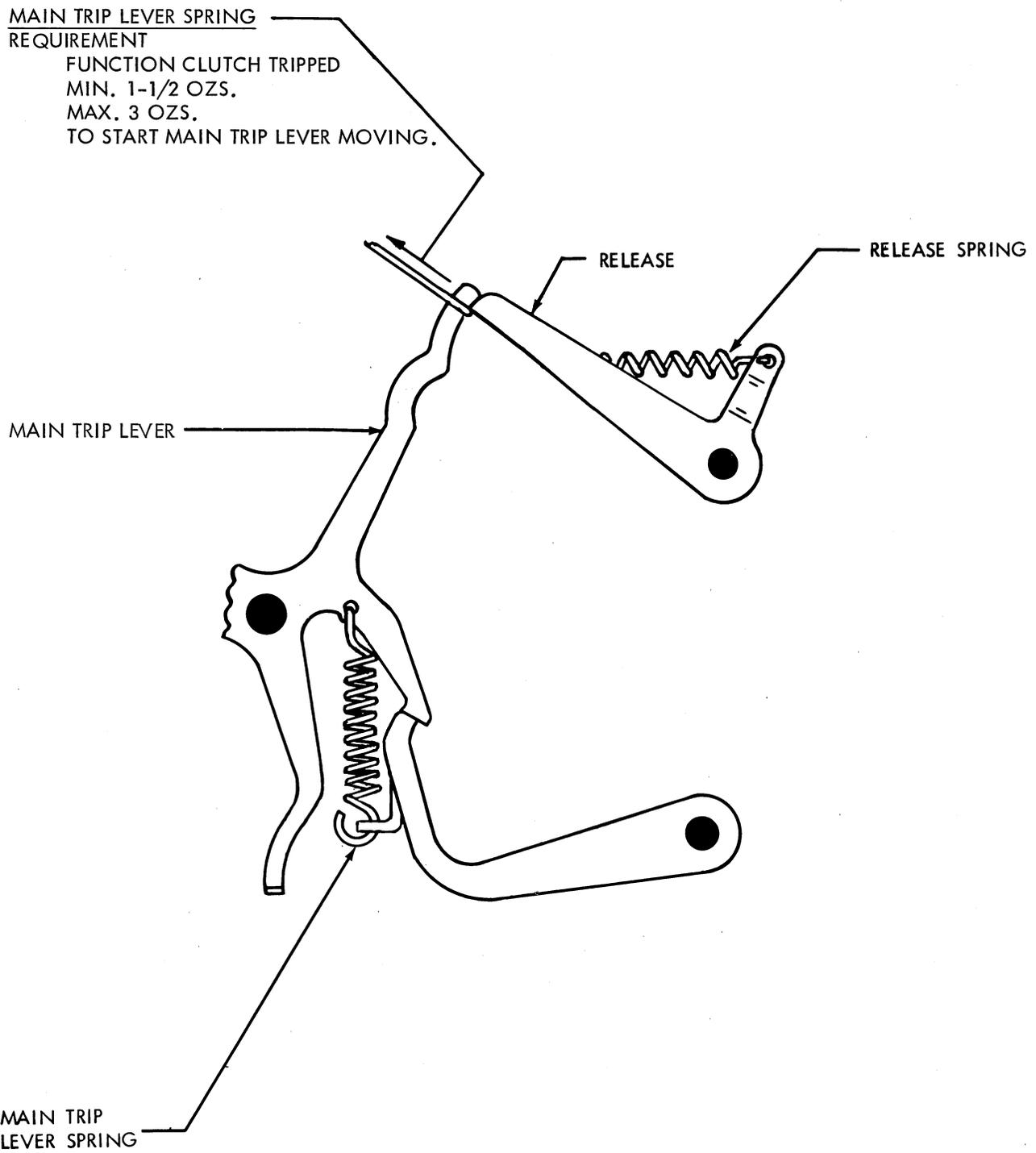
TO ADJUST

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

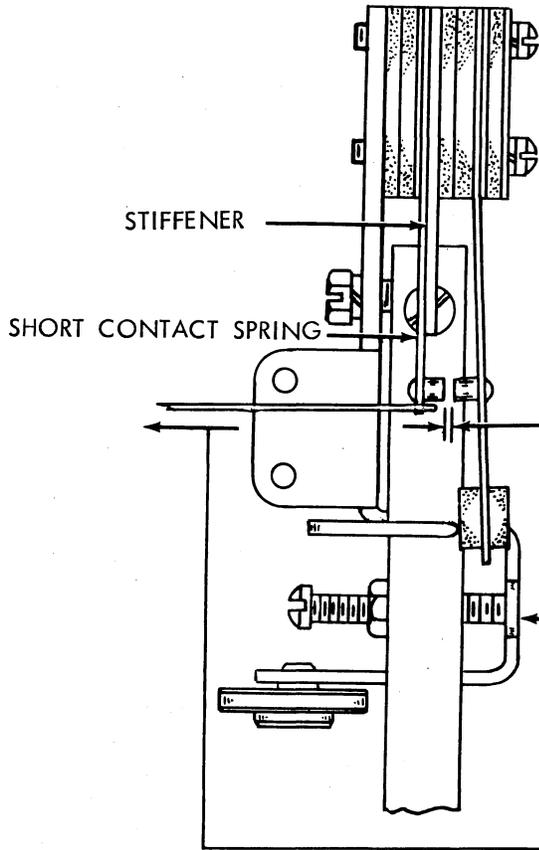
RECHECK THE FUNCTION TRIP LEVER AD-  
JUSTMENT AND REFINE BOTH ADJUST-  
MENTS IF NECESSARY

2.15 Function Mechanism (Continued)



2.16 Function Mechanism (Continued)

(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 SELF-CONTAINED

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

TO ADJUST

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

CONTACT BAIL

(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

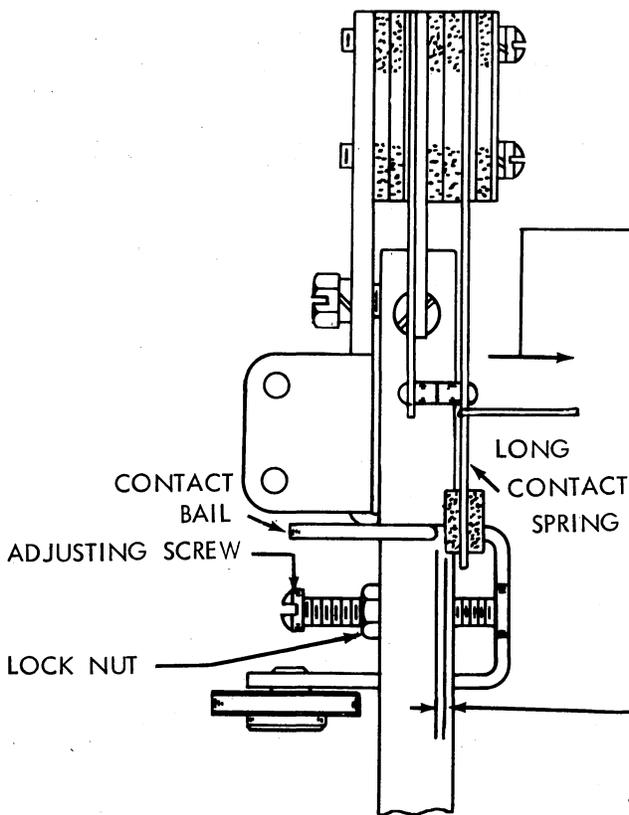
REQUIREMENT

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

SELF-CONTAINED	MIN.	SOME	OTHER	MIN.	0.005 INCH
MAX.	0.010 INCH	MAX.	0.015 INCH		

TO ADJUST

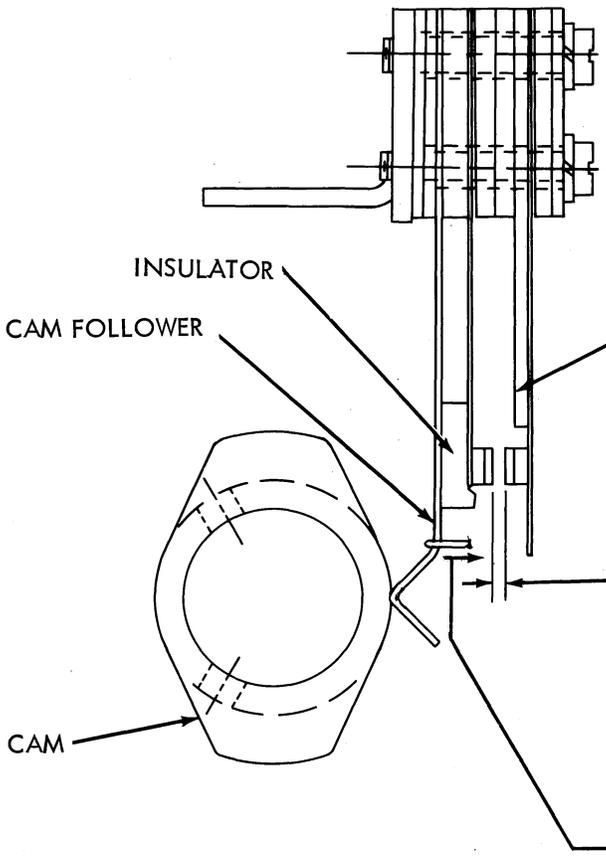
ROTATE ADJUSTING SCREW.



2.17 Function Mechanism (Continued)

NOTE  
ADJUSTING INFORMATION ADJACENT TO THE FOLLOWING  
FOUR ILLUSTRATIONS APPLY TO OTHER THAN SELF-  
CONTAINED UNITS.

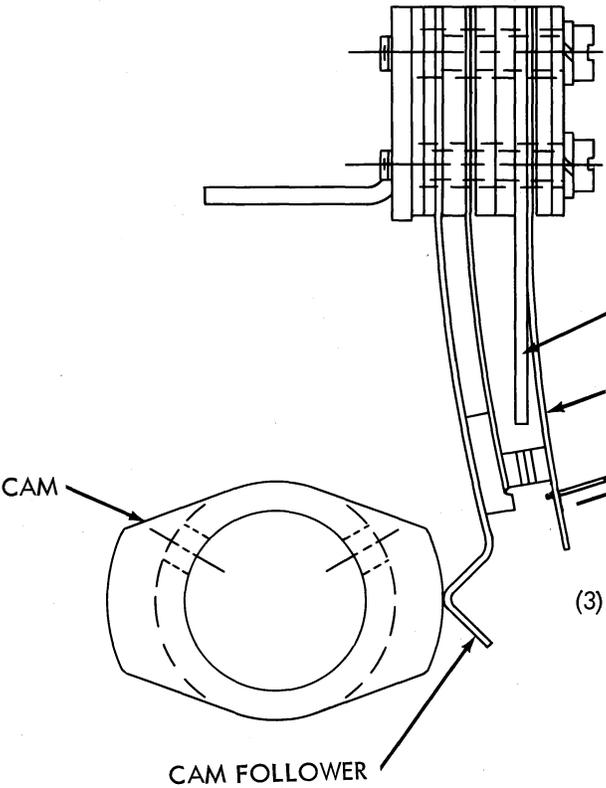
NOTE  
BEFORE ADJUSTING, MOVE THE CONTACT ASSEMBLY  
BRACKET TO EXTREME RIGHT POSITION (VIEWED  
FROM KEYBOARD SIDE OF UNIT).



AUXILIARY CONTACT (TWO CONTACT ASSEMBLIES)

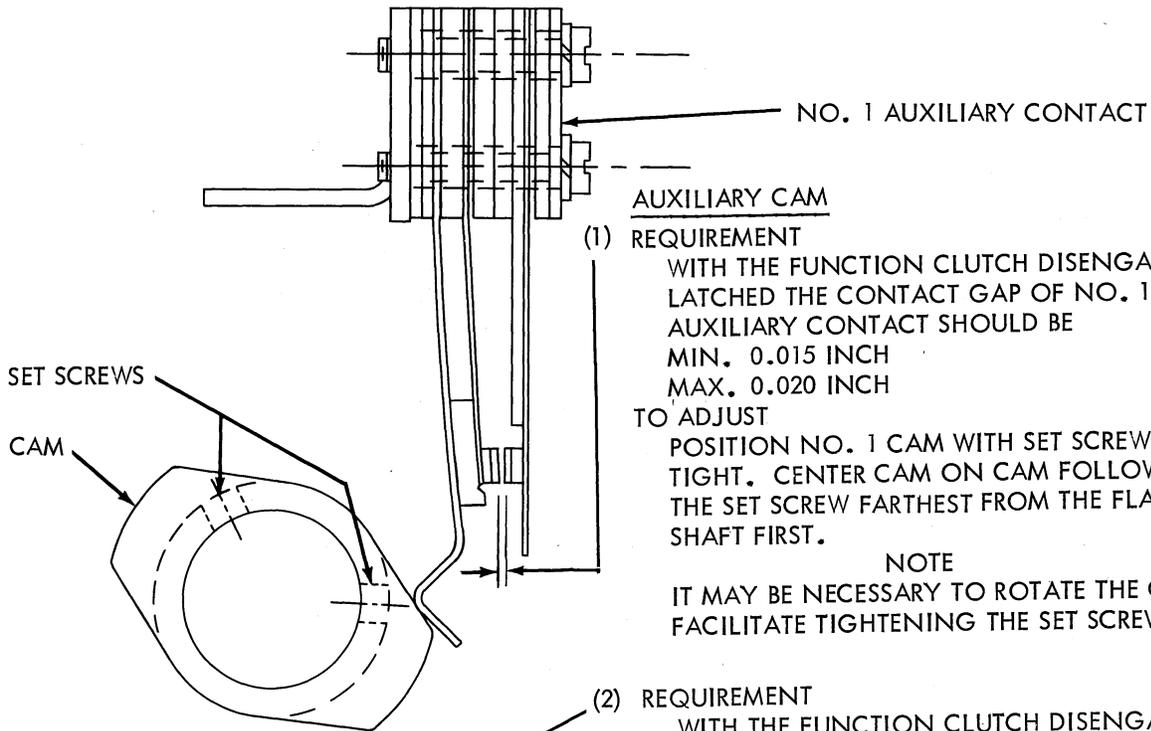
(1) REQUIREMENT  
WITH THE CAM FOLLOWER ON THE LOWEST PART  
OF ITS CAM THE CONTACT GAP SHOULD BE  
MIN. 0.040 INCH  
MAX. 0.045 INCH  
TO ADJUST  
FORM THE BACKSTOP OF THE RIGHT HAND LEAF.

(2) REQUIREMENT  
WITH CAM FOLLOWER ON LOWEST PART OF  
CAM, INSULATOR MUST TOUCH CAM FOL-  
LOWER 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.



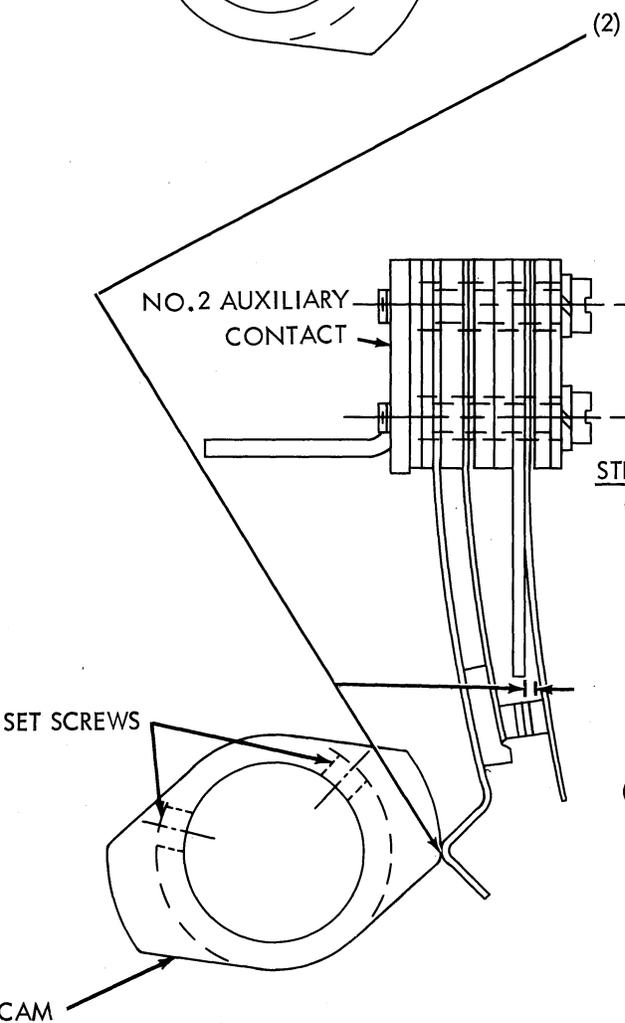
(3) REQUIREMENT  
WITH CAM FOLLOWER ON THE HIGH PART OF ITS CAM.  
MIN. 4-1/2 OZS.  
MAX. 5-1/2 OZS.  
TO JUST OPEN THE CONTACT  
TO ADJUST  
FORM THE CONTACT SPRING NEXT TO THE BACKSTOP.  
RECHECK PREVIOUS ADJUSTMENT

2.18 Function Mechanism (Continued)



(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:

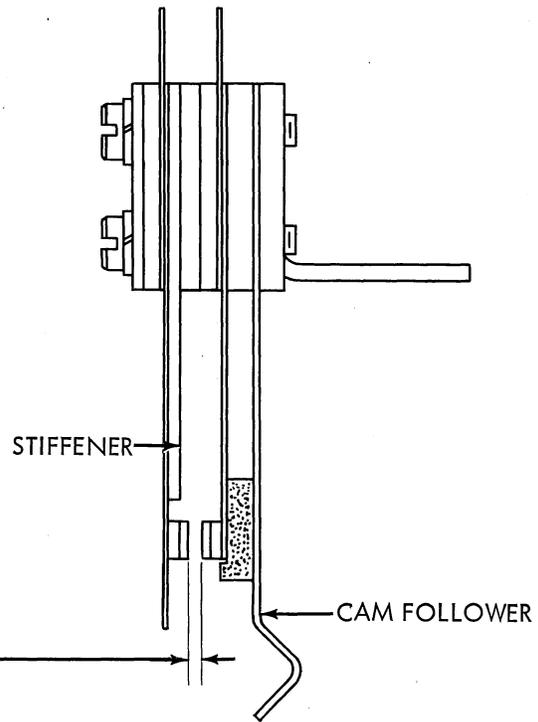
- (1) THE MAGNET RELEASE CONTACT MUST BE OPEN FOR A MINIMUM OF 22 MILLISECONDS.
- (2) THE AUXILIARY NO. 1 CONTACT AND AUXILIARY 2 CONTACT MUST BE CLOSED FOR A MINIMUM OF 30 MILLISECONDS.
- (3) THE AUXILIARY NO. 2 CONTACT MUST BE OPEN 7 DIVISIONS MINIMUM ( AT 100 WPM ) BEFORE THE MAGNET RELEASE CONTACT 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 CLOSSES.

TO ADJUST  
 IF NECESSARY REFINE ADJUSTMENTS TO MEET THESE REQUIREMENTS.

2.19 Function Mechanism (Continued)

NOTE

THE CONTACT ADJUSTMENTS ON THIS PAGE  
APPLY TO SELF-CONTAINED UNITS.



AUXILIARY CONTACTS

(1) REQUIREMENT

WHEN CAM FOLLOWER IS NOT IN CONTACT  
WITH CAM THE CONTACT GAP SHOULD BE

MIN. 0.015 INCH

MAX. 0.025 INCH

(2) REQUIREMENT

TO PULL CONTACT AWAY FROM ITS STIFFENER

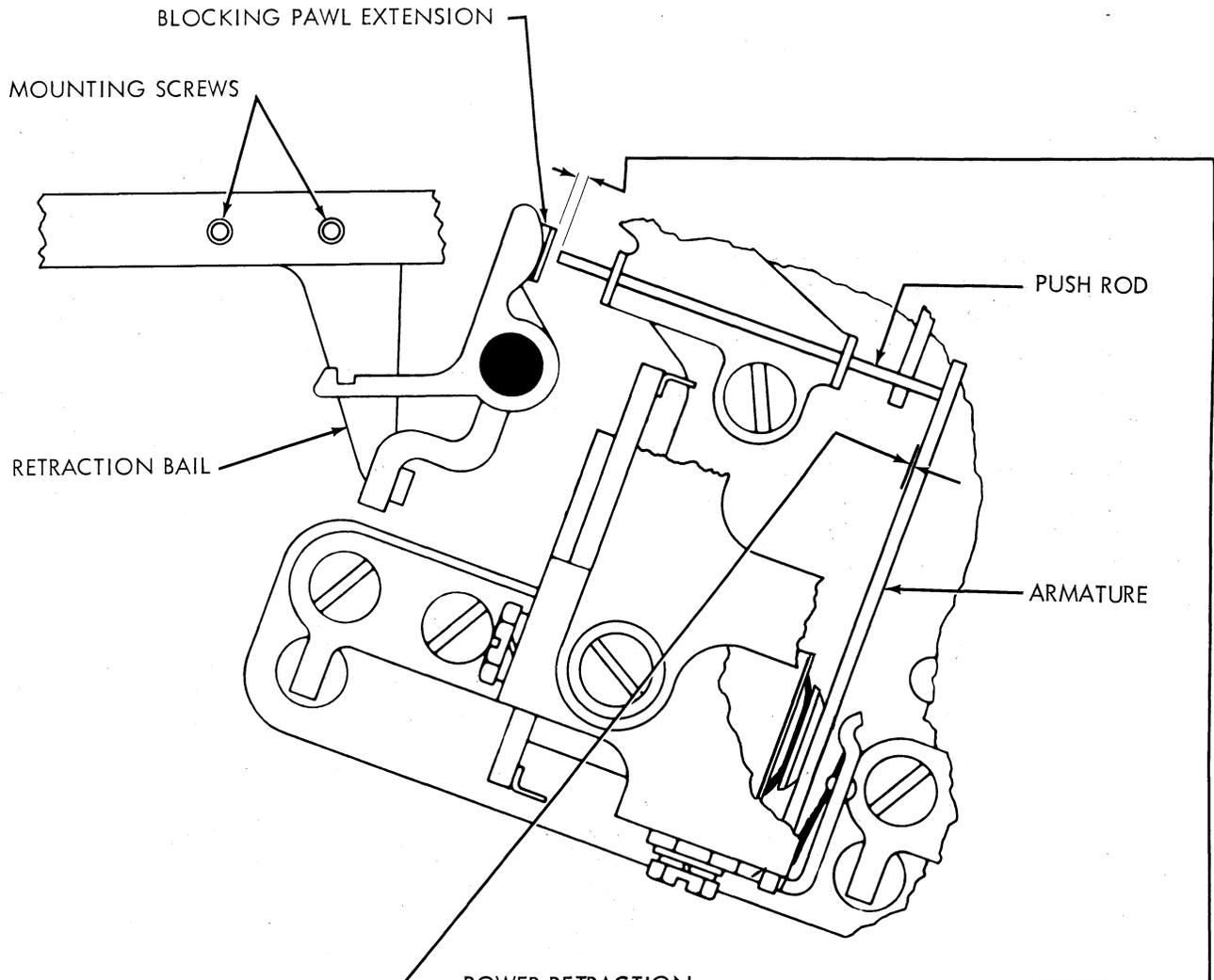
MIN. 2-1/2 OZS.

MAX. 5 OZS.

TO ADJUST

BEND CONTACT STIFFENER

## 2.20 Punch Mechanism

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. 0.002 INCH

BETWEEN ARMATURE AND ITS CORE.

## TO ADJUST

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

2.21 Punch Mechanism (Continued)

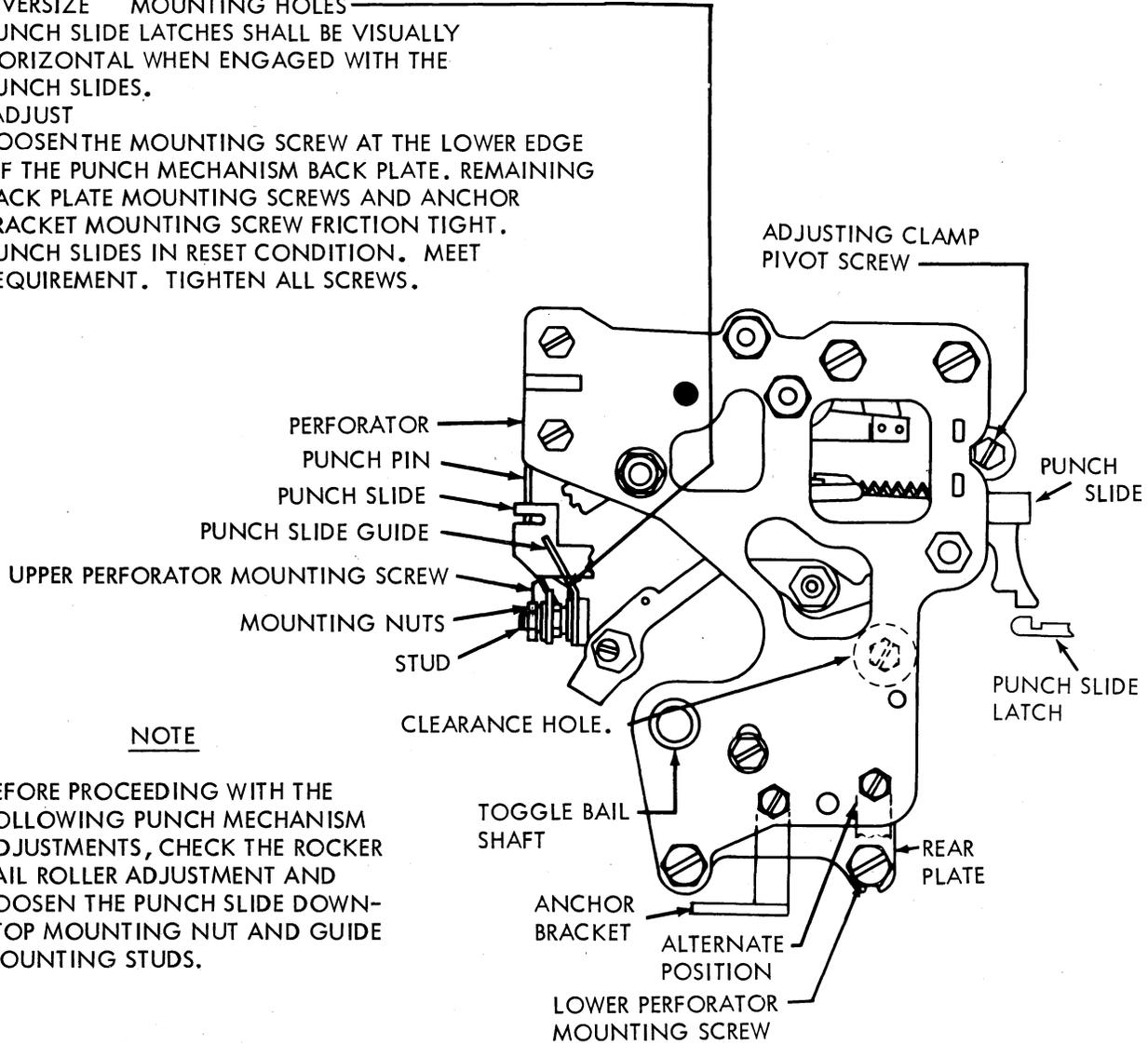
PUNCH POSITION  
REQUIREMENT

PUNCH MOUNTING SCREWS CENTRALLY LOCATED IN  
OVERSIZE MOUNTING HOLES

PUNCH SLIDE LATCHES SHALL BE VISUALLY  
HORIZONTAL WHEN ENGAGED WITH THE  
PUNCH SLIDES.

TO ADJUST

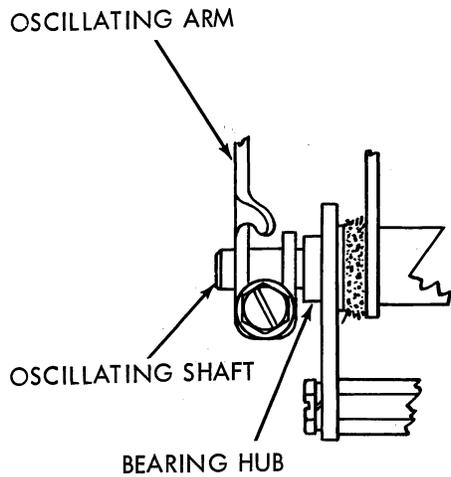
LOOSEN THE MOUNTING SCREW AT THE LOWER EDGE  
OF THE PUNCH MECHANISM BACK PLATE. REMAINING  
BACK PLATE MOUNTING SCREWS AND ANCHOR  
BRACKET MOUNTING SCREW FRICTION TIGHT.  
PUNCH SLIDES IN RESET CONDITION. MEET  
REQUIREMENT. TIGHTEN ALL SCREWS.



NOTE

BEFORE PROCEEDING WITH THE  
FOLLOWING PUNCH MECHANISM  
ADJUSTMENTS, CHECK THE ROCKER  
BAIL ROLLER ADJUSTMENT AND  
LOOSEN THE PUNCH SLIDE DOWN-  
STOP MOUNTING NUT AND GUIDE  
MOUNTING STUDS.

2.22 Punch Mechanism (Continued)



(A)  
TOGGLE BAIL ECCENTRIC - PRELIMINARY

REQUIREMENT

INDENT (HIGH SIDE OF ECCENTRIC) SHALL BE IN ITS UPPER MOST POSITION.

TO ADJUST

LOOSEN TOGGLE ECCENTRIC SHAFT LOCK NUT AND POSITION ECCENTRIC TO MEET REQUIREMENT.

(B)  
TOGGLE OPERATING ARM

(1) REQUIREMENT

UPPER ROCKER BAIL ROLLER ON HIGH PART OF ITS CAM. CLEARANCE BETWEEN FEED PAWL STUD AND 159926 GAUGE.

MIN. SOME

MAX. 0.009 INCH

(2) REQUIREMENT

PLAY TAKEN UP IN DIRECTION TO MAKE CLEARANCE MAXIMUM.

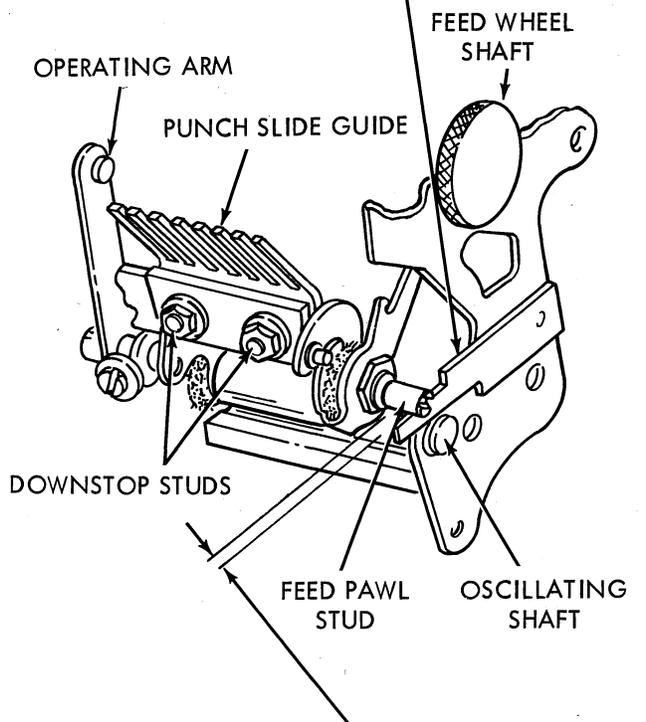
MIN. 0.002 INCH

MAX. 0.015 INCH

BETWEEN ARM AND OSCILLATING SHAFT BEARING HUB.

TO ADJUST

LOOSEN CLAMP SCREW AND POSITION TOGGLE BAIL AND OPERATING ARM. TIGHTEN SCREW.



(C)  
PUNCH PIN PENETRATION

(1) REQUIREMENT

MARKING COMBINATION SELECTED, FUNCTION CLUTCH ENGAGED AND 159926 GAUGE IN POSITION, ROTATE MAIN SHAFT UNTIL ALL PUNCH PINS ARE INTO OR ABOVE TAPE APERTURE IN PUNCH BLOCK.

MIN. 0.050 INCH

CLEARANCE BETWEEN FEED PAWL STUD AND GAUGE.

(2) REQUIREMENT

MARKING COMBINATION SELECTED, FUNCTION CLUTCH ENGAGED AND 159926 GAUGE IN POSITION, ROTATE MAIN SHAFT UNTIL ALL PUNCH PINS HAVE CLEARED THE TAPE APERTURE IN PUNCH BLOCK.

MAX. 0.080 INCH

CLEARANCE BETWEEN FEED PAWL STUD AND GAUGE.

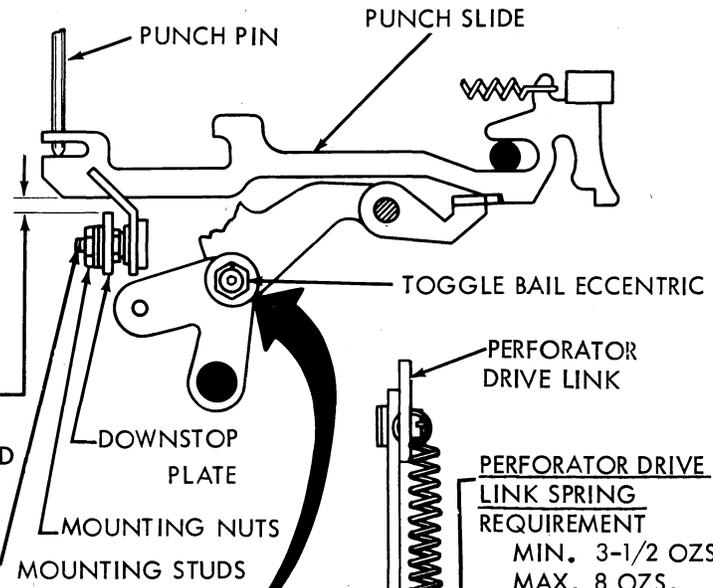
TO ADJUST

REFINE TOGGLE BAIL ECCENTRIC ADJUSTMENT. KEEP INDENT TO THE RIGHT OF A VERTICAL CENTER LINE THROUGH SHAFT.

2.23 Punch Mechanism (Continued)

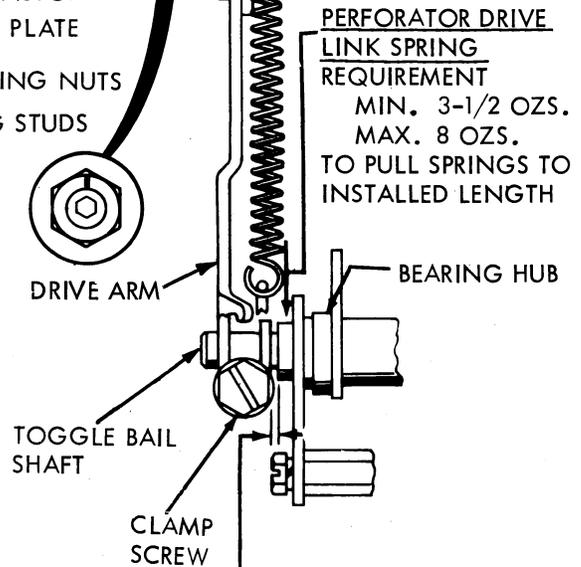
(D)  
PUNCH SLIDE GUIDE

**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.



(E)  
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.

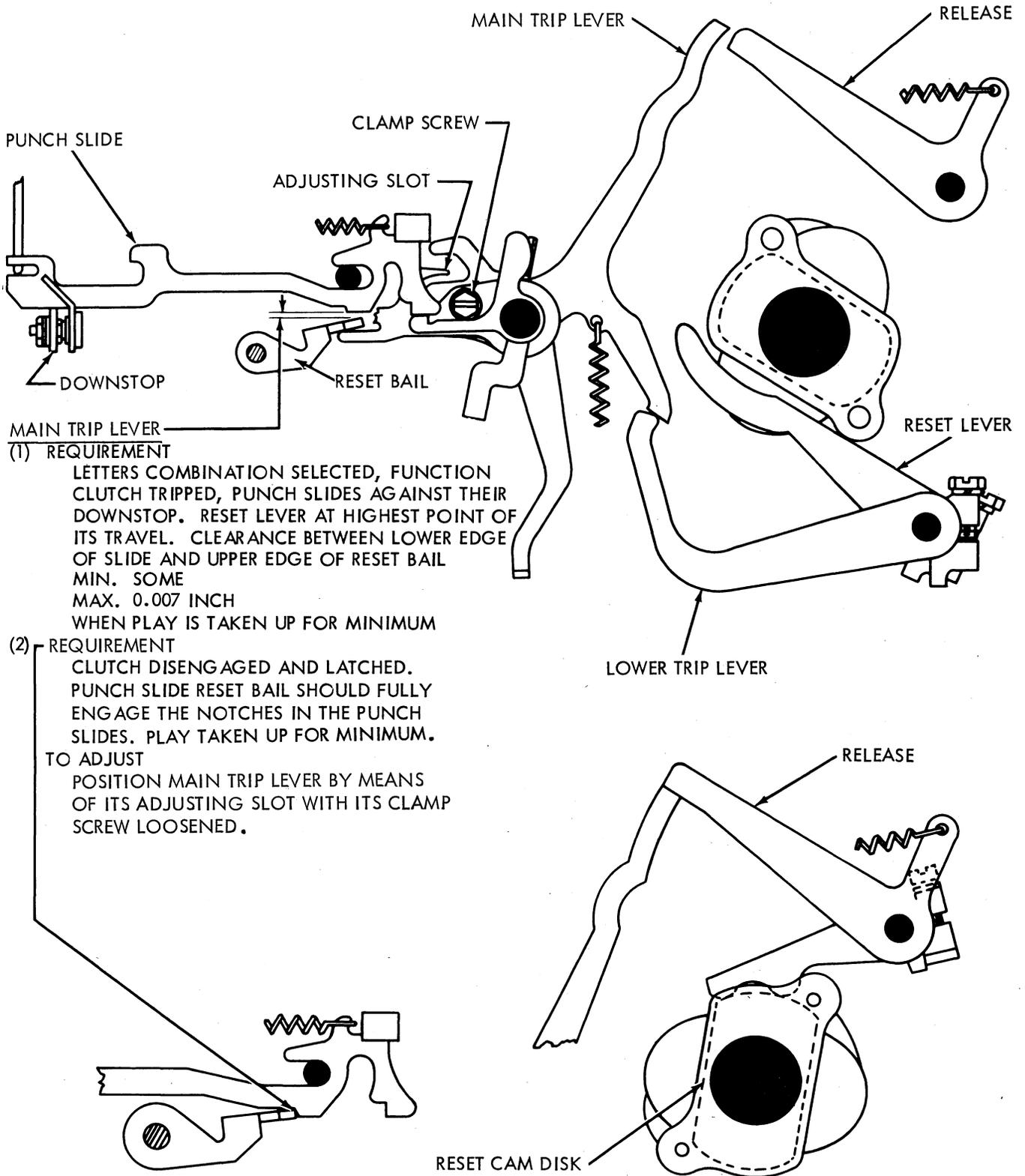


(F)  
ROCKER ARM

- (1) **REQUIREMENT**  
UNIT OPERATING UNDER POWER. MARKING COMBINATION SELECTED. CODE AND FEED HOLES FULLY PERFORATED.
- (2) **REQUIREMENT**  
UNIT MANUALLY OPERATED. MARKING COMBINATION SELECTED. NO TAPE BUCKLE BETWEEN FEED WHEEL AND PUNCH BLOCK.
- (3) **REQUIREMENT**  
CLEARANCE BETWEEN ROCKER ARM AND BEARING HUB:  
MAX. 0.015 INCH

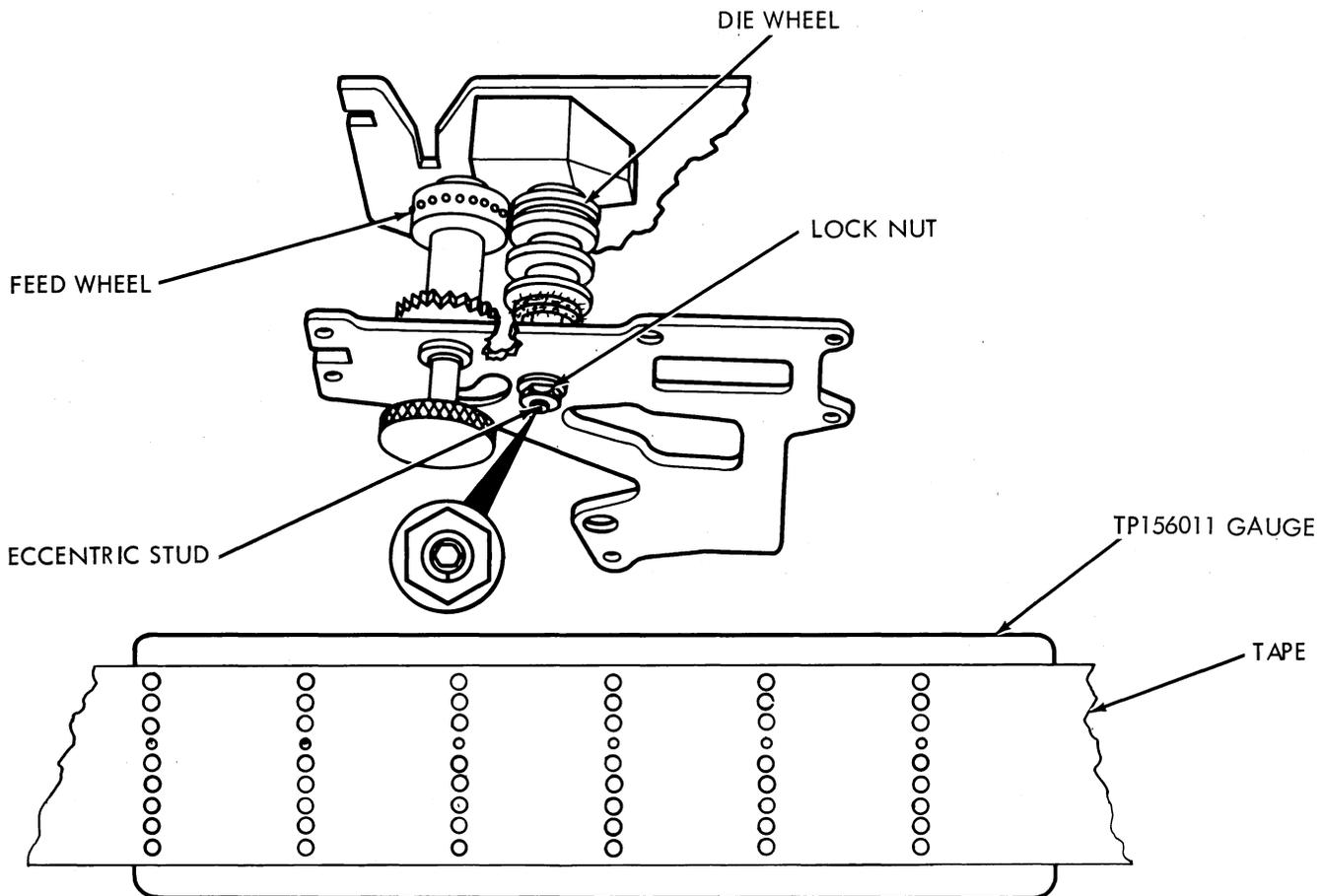
**TO ADJUST**  
POSITION ROCKER ARM WITH ITS CLAMP SCREW FRICTION TIGHT. CHECK TO SEE THAT TOGGLE BAIL SHAFT HAS AT LEAST 0.002 INCH END PLAY.

2.24 Punch Mechanism (Continued)



2.25 Punch Mechanism (Continued)

NOTE  
BEFORE PROCEEDING WITH THE FOLLOWING  
ADJUSTMENT CHECK BOTH TAPE GUIDE SPRING  
TENSIONS (PAR. 2.27)



NOTE: BEFORE PROCEEDING WITH THE FOLLOWING ADJUSTMENTS, CHECK THE PUNCH BLOCK BIAS SPRING ADJUSTMENT, TAPE CHUTE BIAS SPRING ADJUSTMENT AND THE LOAD EQUALIZATION SPRING ADJUSTMENT.

FEED HOLE SPACING

REQUIREMENT

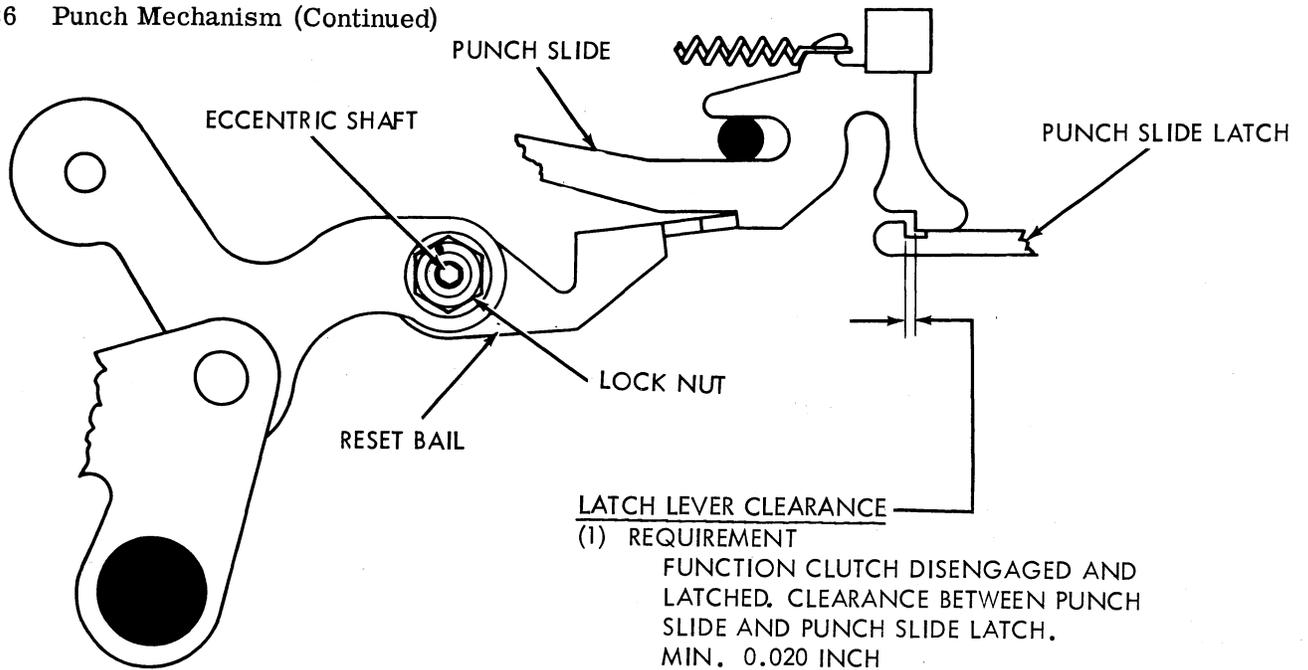
- (1) WITH TAPE SHOE HELD AWAY FROM FEED WHEEL, FEED PAWL AND DETENT DISENGAGED AND TAPE REMOVED FROM THE PUNCH MECHANISM, FEED WHEEL SHALL ROTATE FREELY. CHECK THROUGH 3 OR 4 ROTATIONS.
- (2) PERFORATE SIX SERIES OF NINE BLANK COMBINATIONS FOLLOWED BY ONE LETTERS COMBINATION. PLACE TAPE OVER SMOOTH SIDE OF TP156011 TAPE GAUGE SO THAT FIRST NUMBER TWO CODE HOLE IN TAPE IS CONCENTRIC WITH FIRST (0.072) HOLE IN TAPE GAUGE. THE NEXT FOUR 0.072 DIAMETER HOLES IN TAPE GAUGE SHALL BE VISIBLE THROUGH THE NUMBER TWO CODE HOLES IN THE TAPE AND THE LAST (SIXTH) NUMBER TWO CODE HOLE SHALL BE ENTIRELY WITHIN THE 0.086 DIAMETER HOLE OF TAPE GAUGE.

CAUTION: WITH TAPE REMOVED FROM PUNCH MECHANISM, BE SURE DIE WHEEL DOES NOT BIND.

TO ADJUST

LOOSEN DIE WHEEL ECCENTRIC STUD LOCK NUT AND POSITION STUD TO MEET REQUIREMENTS, KEEPING INDENT ON ECCENTRIC STUD BELOW HORIZONTAL CENTER LINE OF STUD. MOVING INDENT TOWARDS FEED WHEEL WILL DECREASE SPACING AND AWAY FROM FEED WHEEL WILL INCREASE SPACING. TIGHTEN LOCK NUT.

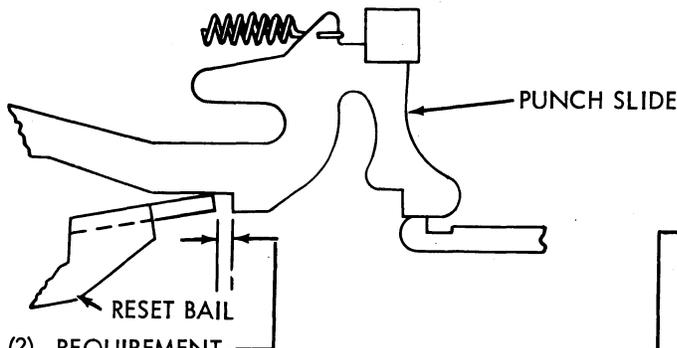
2.26 Punch Mechanism (Continued)



LATCH LEVER CLEARANCE

(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

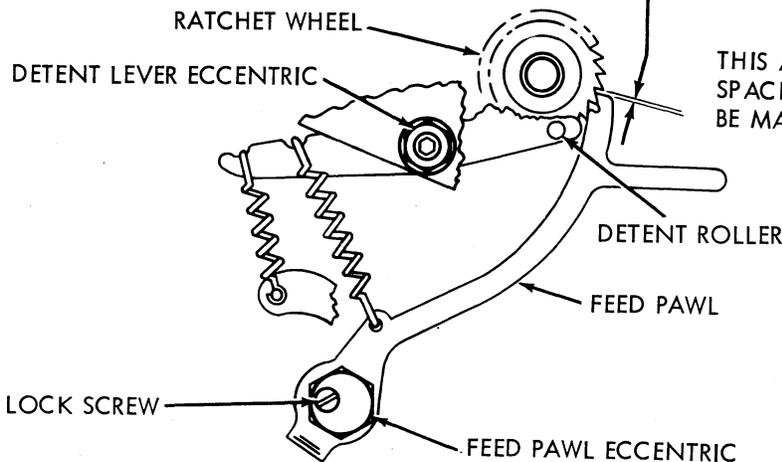
RESET BAIL IN ITS EXTREME LEFT HAND POSITION AND LATCHED UP. CLEARANCE BETWEEN RESET BAIL AND NOTCH IN SELECTED PUNCH SLIDE  
 MIN. SOME  
 TO ADJUST  
 ROTATE THE RESET BAIL ECCENTRIC WITH ITS LOCK NUT LOOSENED. KEEP HIGH PART OF ECCENTRIC ABOVE HORIZONTAL CENTERLINE.

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

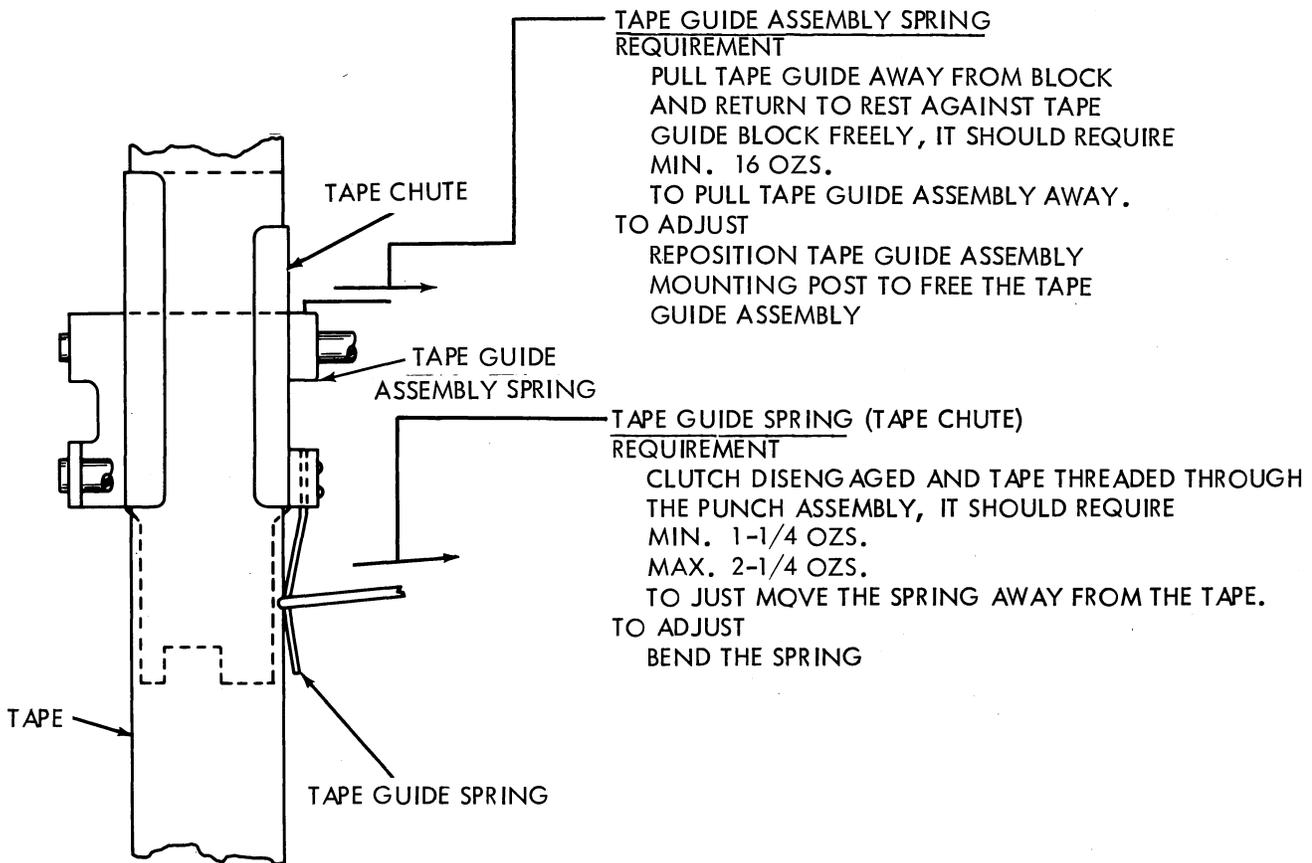
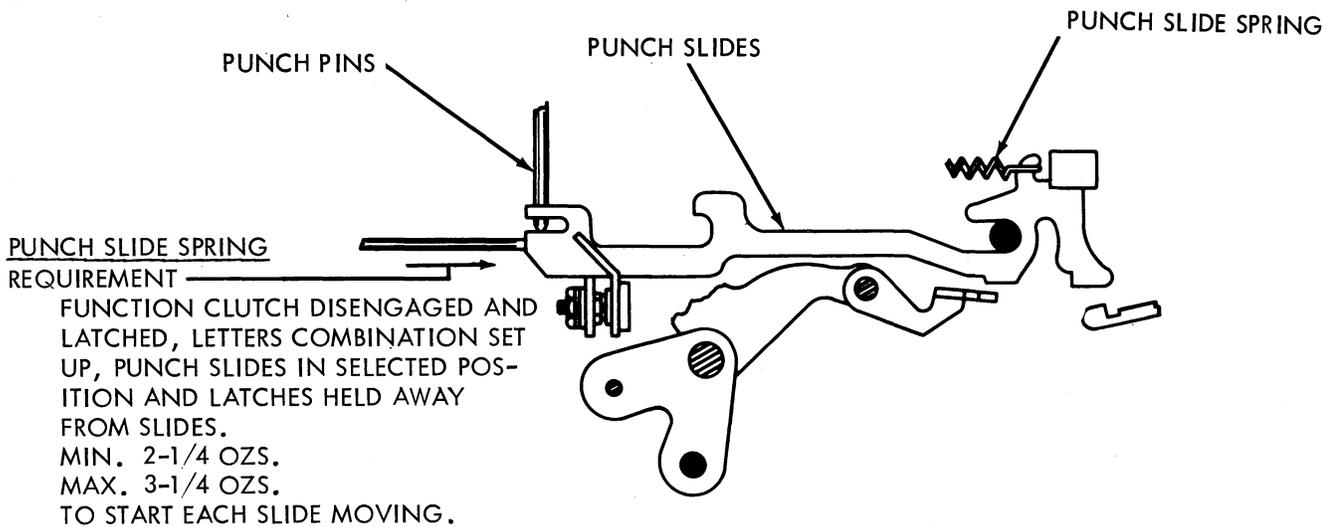
ROTATE THE FEED PAWL ECCENTRIC TO MEET REQUIREMENT



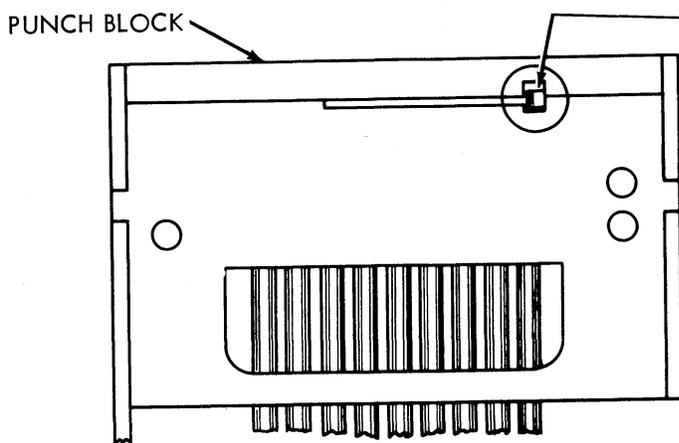
NOTE

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

2.27 Punch Mechanism (Continued)



2.28 Punch Mechanism (Continued)



TAPE GUIDE SPRING (PUNCH BLOCK)

(1) REQUIREMENT

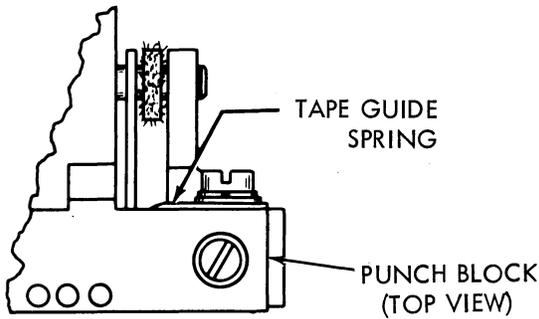
WITH TAPE REMOVED FROM THE PUNCH BLOCK THE TAPE GUIDE SPRING SHOULD REST AGAINST THE CLEARANCE SLOT IN THE BLOCK IN A SYMMETRICAL MANNER.

(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.



TAPE GUIDE SPRING

PUNCH BLOCK (TOP VIEW)

FEED PAWL SPRING

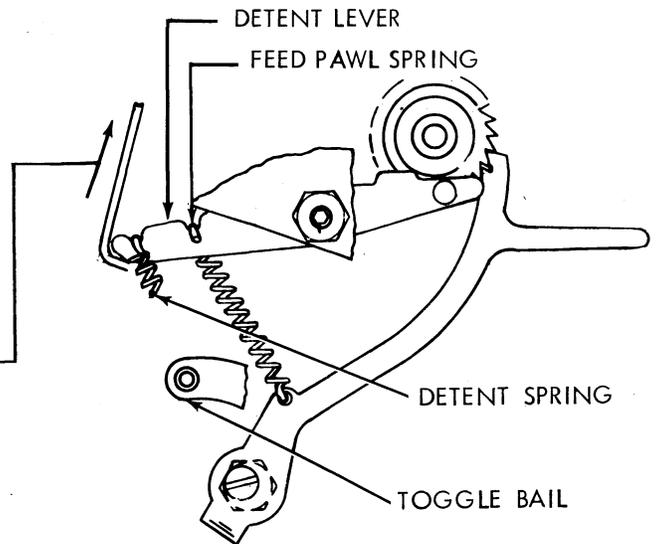
REQUIREMENT

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



DETENT LEVER

FEED PAWL SPRING

DETENT SPRING

TOGGLE BAIL

DETENT LEVER SPRING

REQUIREMENT

FUNCTION CLUTCH DISENGAGED AND LATCHED. FEED PAWL SPRING UNHOOKED.

MIN. 7 OZS.

MAX. 10 OZS.

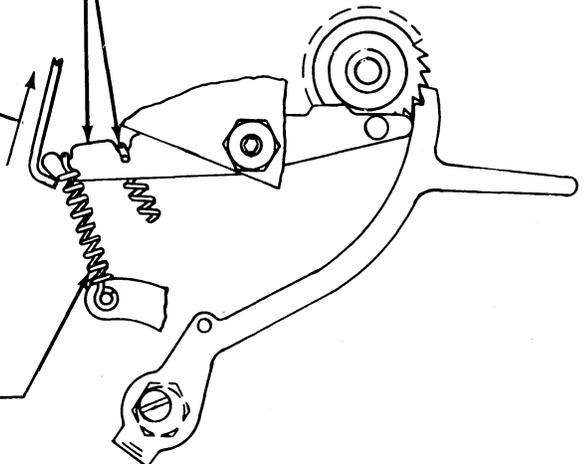
TO START THE DETENT LEVER MOVING.

DETENT LEVER SPRING

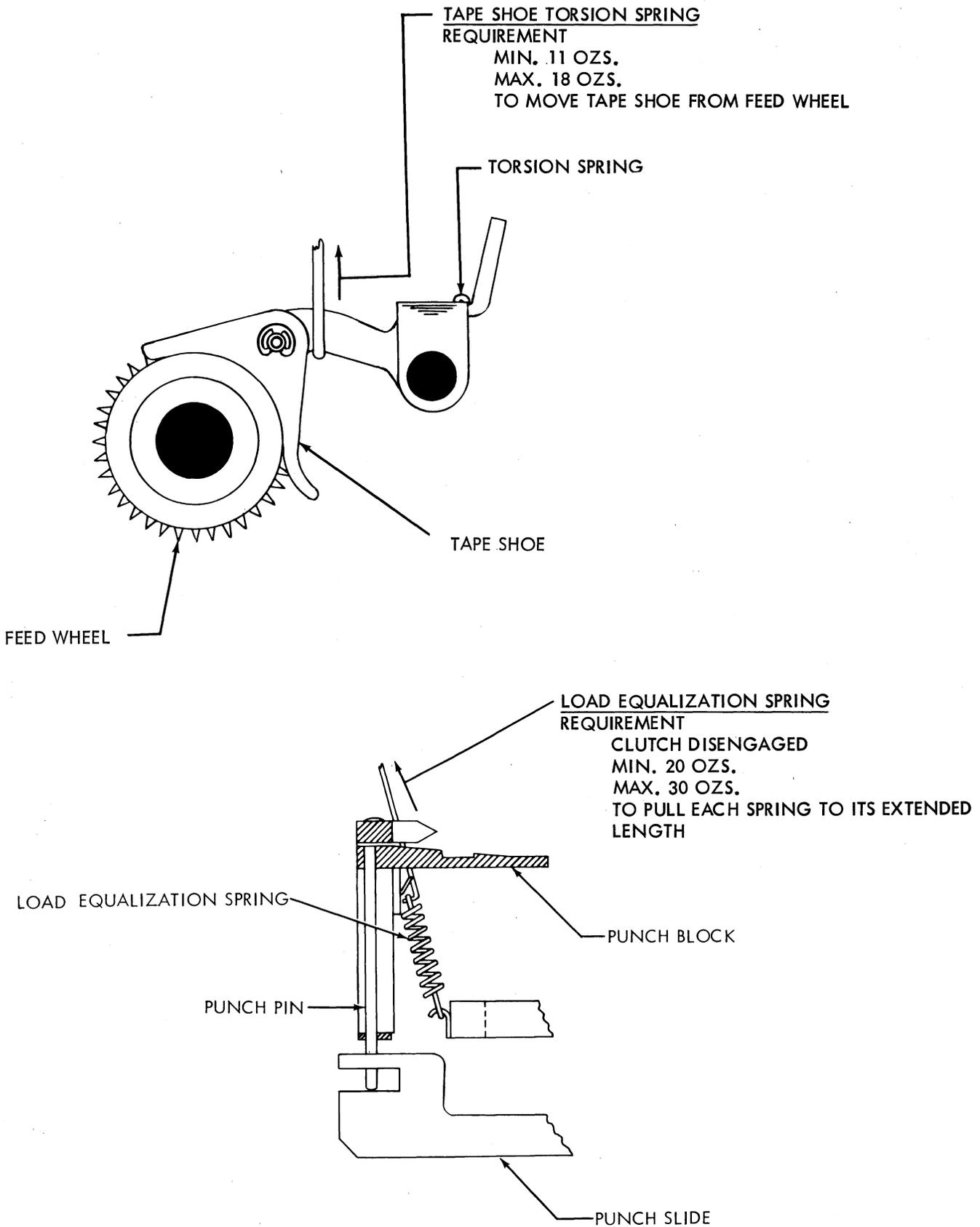
FEED PAWL SPRING

DETENT LEVER

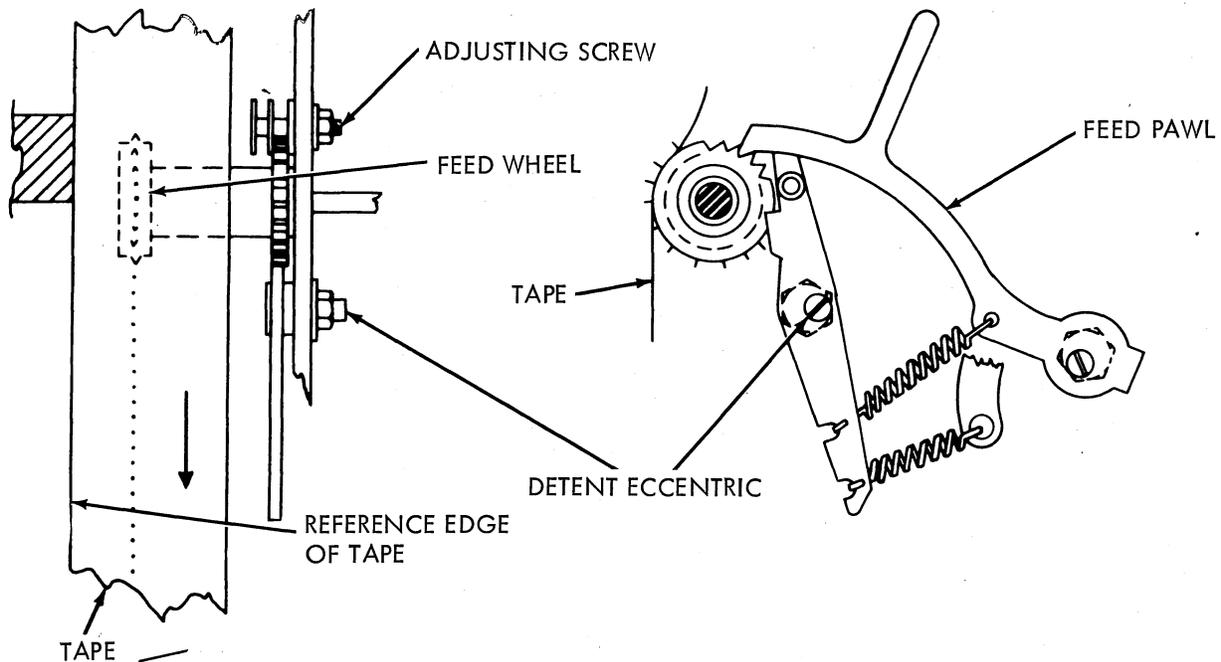
DETENT LEVER SPRING



2.29 Punch Mechanism (Continued)



## 2. 30 Punch Mechanism (Continued)



#### LATERAL AND FRONT TO REAR FEED WHEEL POSITION REQUIREMENT

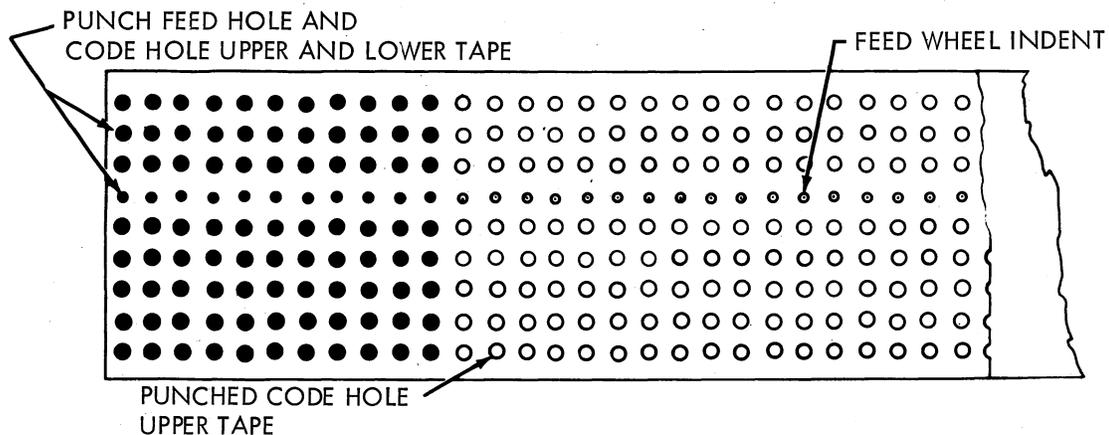
WITH MACHINE OPERATING UNDER POWER, OBTAIN A 6 INCH TAPE SAMPLE CONSISTING OF A SERIES OF MARKING PERFORATIONS. WITHOUT TEARING OFF THE TAPE, ROTATE FEED WHEEL TO OBTAIN 2 MORE INCHES OF TAPE WITHOUT PERFORATIONS. FOLD TAPE SAMPLES IN HALF (RESULTING IN 4 INCH TAPE) SO CODE HOLES IN UPPER HALF OF TAPE MATCHES CODE HOLES IN LOWER HALF OF TAPE. INDENTATIONS CAUSED BY FEED WHEEL MUST LINE UP FULLY WITHIN PUNCHED FEED HOLES.

#### TO ADJUST (LATERALLY)

WITH ITS LOCK NUT LOOSENED, ROTATE DETENT ECCENTRIC CLOCKWISE TO MOVE FEED WHEEL PERFORATIONS TOWARD THE LEADING EDGE OF THE FEED HOLE AND ROTATE DETENT ECCENTRIC COUNTERCLOCKWISE TO MOVE THE FEED WHEEL PERFORATIONS TOWARD THE TRAILING EDGE OF THE FEED HOLE. TIGHTEN DETENT ECCENTRIC LOCK NUT. REFINE THE FEED PAWL ADJUSTMENT IF NECESSARY.

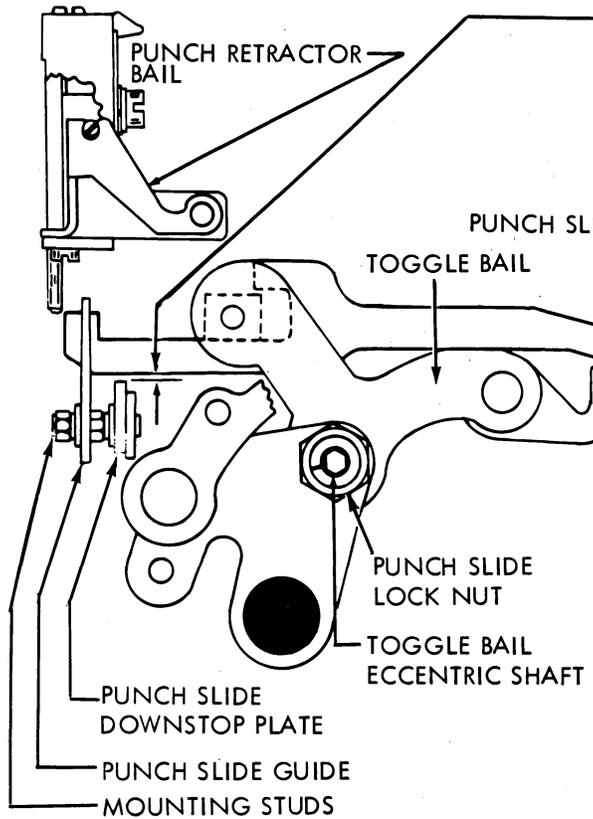
#### TO ADJUST (FRONT TO REAR)

LOOSEN THE LOCK NUT ON THE ADJUSTING SCREW. ROTATE THE SCREW COUNTERCLOCKWISE 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. TIGHTEN LOCK NUT. REFINE THE DETENT ADJUSTMENT IF NECESSARY.



2.31 Punch Mechanism (Continued)

NOTE: THE ADJUSTMENTS ON THIS PAGE APPLY ONLY TO CHADLESS TAPE MECHANISM.



PUNCH SLIDE DOWNSTOP POSITION

REQUIREMENT

FUNCTION CLUTCH DISENGAGED. UP AND DOWN PLAY AT LEFT END OF PUNCH SLIDES TAKEN UP TOWARD TOP, CLEARANCE BETWEEN FRONT AND REAR PUNCH SLIDES AND THEIR DOWNSTOP PLATE.

MIN. SOME --- MAX. 0.008 INCH  
 ALL OTHER PUNCHES SHOULD HAVE SOME CLEARANCE.

TO ADJUST

REMOVE PUNCH SLIDE GUIDE, LOOSEN DOWNSTOP PLATE MOUNTING STUDS AND POSITION THE DOWNSTOP PLATE. TIGHTEN STUDS AND REPLACE GUIDE SO THAT PUNCH SLIDES ALIGN WITH PUNCH PINS (AS GAUGED BY EYE).

NOTE: TO CHECK FOR SOME CLEARANCE PLACE UNIT IN THE STOP POSITION, TRIP FUNCTION TRIP MECHANISM AND LATCHES, THE PUNCH SLIDES SHALL MOVE FREELY TO THEIR OPERATED POSITION.

PUNCH PIN PENETRATION

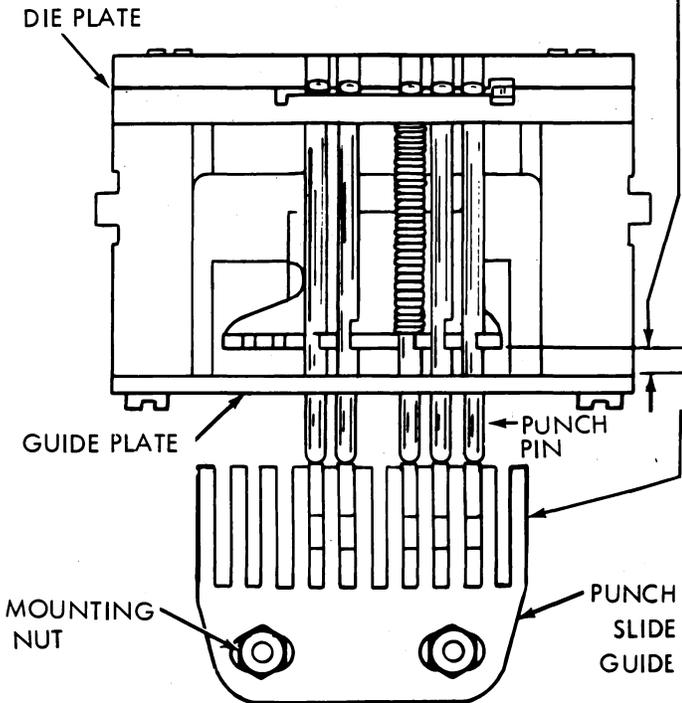
REQUIREMENT

LETTERS MANUALLY SELECTED, CLUTCH ENGAGED AND ROTATED UNTIL PUNCH PINS HAVE TRAVELED MAXIMUM DISTANCE INTO THE DIE PLATE, CLEARANCE BETWEEN LOWER EDGE OF PUNCH RETRACTOR BAIL AND UPPER SIDE OF GUIDE PLATE (MEASURED AT LEFT EDGE OF PUNCH PINS WHERE CLEARANCE IS LEAST). THE CODE PUNCHES SHOULD PUNCH A FULL LID WITH A MINIMUM AMOUNT OF TEAR. (REFINE ADJUSTMENT).

MIN. 0.060 INCH --- MAX. 0.075 INCH

TO ADJUST

ROTATE THE TOGGLE BAIL ECCENTRIC SHAFT WITH ITS LOCK NUT LOOSENED. KEEP THE INDENTATION IN THE ECCENTRIC SHAFT TO THE LEFT OF A VERTICAL CENTER LINE THROUGH THE SHAFT.



PUNCH SLIDE GUIDE POSITION

REQUIREMENT

LETTERS SELECTED. FUNCTION CLUTCH ENGAGED AND ROTATED UNTIL THE PUNCH SLIDES JUST TOUCH THE PUNCH PINS. THE PUNCH SLIDES SHOULD ALIGN CENTRALLY WITH THEIR RESPECTIVE PUNCH PINS (GAUGED BY EYE).

TO ADJUST

POSITION THE PUNCH SLIDE GUIDE WITH ITS MOUNTING NUTS LOOSENED.

2.32 Punch Mechanism (Continued)

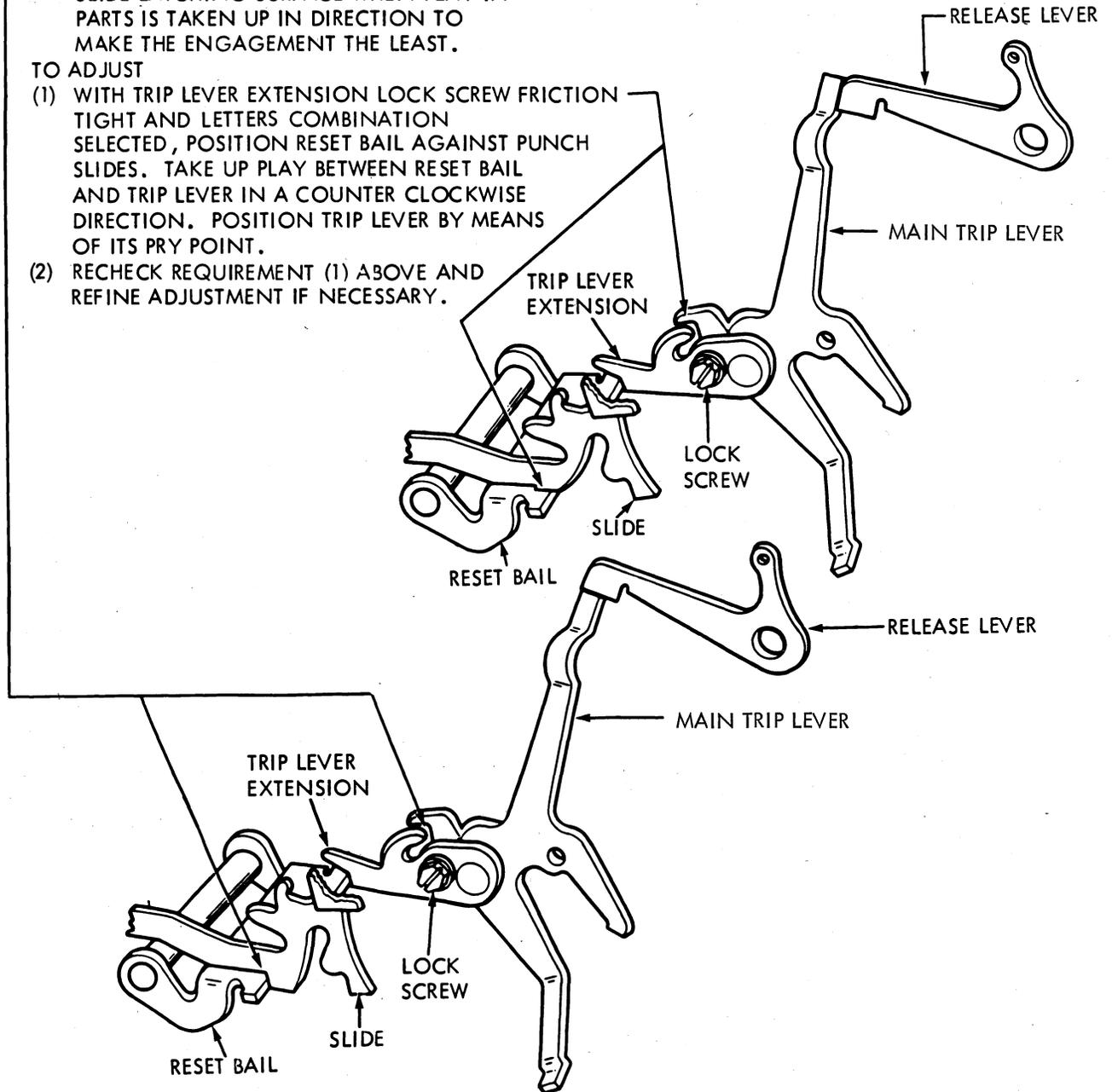
MAIN TRIP LEVER  
REQUIREMENT

- (1) MANUALLY SELECT BLANK COMBINATION. MANUALLY ROTATE RESET BAIL TRIP LEVER. THE PUNCH SLIDE RESET BAIL SHALL TRIP BEFORE THE FUNCTION CLUTCH IS TRIPPED.
- (2) WITH FUNCTION AND SELECTOR CLUTCHES DIS-ENGAGED AND LATCHED, THE PUNCH SLIDE RESET BAIL SHALL FULLY ENGAGE THE PUNCH SLIDE LATCHING SURFACE WHEN PLAY IN PARTS IS TAKEN UP IN DIRECTION TO MAKE THE ENGAGEMENT THE LEAST.

TO ADJUST

- (1) WITH TRIP LEVER EXTENSION LOCK SCREW FRICTION TIGHT AND LETTERS COMBINATION SELECTED, POSITION RESET BAIL AGAINST PUNCH SLIDES. TAKE UP PLAY BETWEEN RESET BAIL AND TRIP LEVER IN A COUNTER CLOCKWISE DIRECTION. POSITION TRIP LEVER BY MEANS OF ITS PRY POINT.
- (2) RECHECK REQUIREMENT (1) ABOVE AND REFINE ADJUSTMENT IF NECESSARY.

NOTE: THE ADJUSTMENTS ON THIS PAGE APPLY ONLY TO THE CHADLESS TAPE MECHANISM.



2.33 Punch Mechanism (Continued)

NOTE: THE ADJUSTMENTS ON THIS PAGE APPLY ONLY TO CHADLESS TAPE MECHANISM.

**LATCH LEVER CLEARANCE REQUIREMENT**

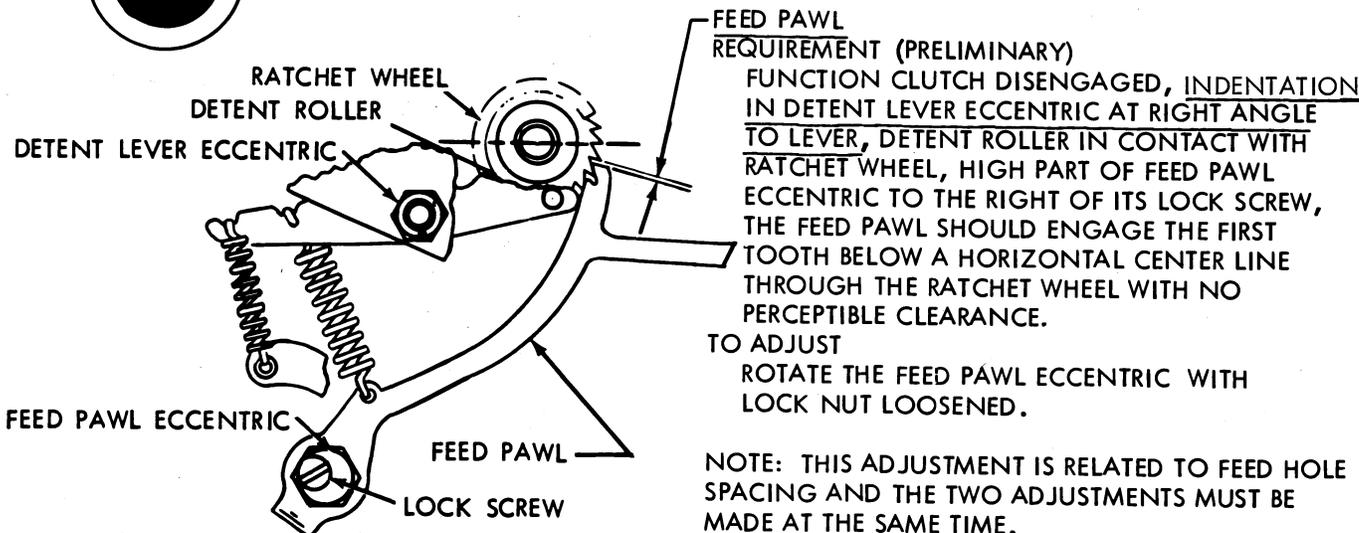
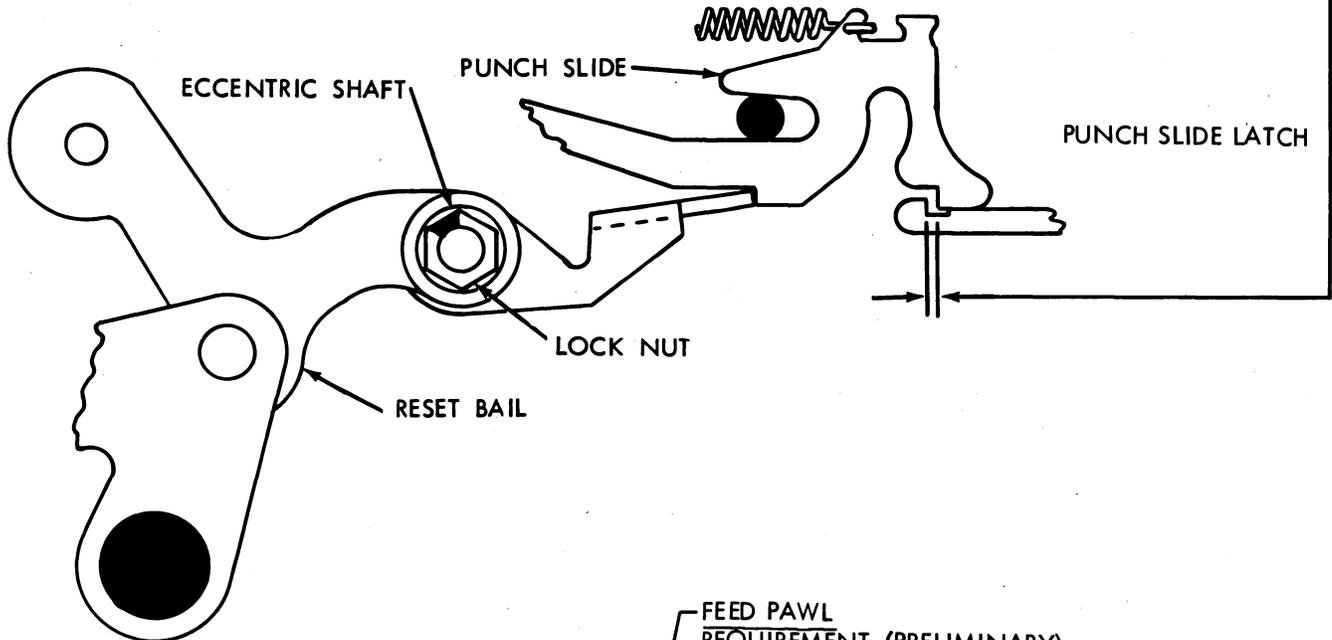
WITH "BLANK" COMBINATION SELECTED, THE FUNCTION CLUTCH DISENGAGED AND LATCHED. CLEARANCE BETWEEN THE PUNCH SLIDE AND ITS ASSOCIATED LATCH LEVER.

MIN. 0.005 INCH  
MAX. 0.025 INCH

FOR THE SLIDE HAVING THE LEAST CLEARANCE.

TO ADJUST

LOOSEN THE LOCK NUT ON THE RESET BAIL ECCENTRIC SHAFT AND POSITION THE RESET BAIL BY ROTATING THE ECCENTRIC SHAFT TO MEET THE REQUIREMENT: THE INDENT SHALL BE KEPT ABOVE THE HORIZONTAL CENTER LINE OF THE ECCENTRIC.



**FEED PAWL REQUIREMENT (PRELIMINARY)**  
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 CENTER LINE THROUGH THE RATCHET WHEEL WITH NO PERCEPTIBLE CLEARANCE.

TO ADJUST  
ROTATE THE FEED PAWL ECCENTRIC WITH LOCK NUT LOOSENED.

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

2.34 Punch Mechanism (Continued)

NOTE: THE ADJUSTMENTS ON THIS PAGE APPLY ONLY TO CHADLESS TAPE MECHANISM.

FEED HOLE SPACING (PRELIMINARY)  
REQUIREMENT

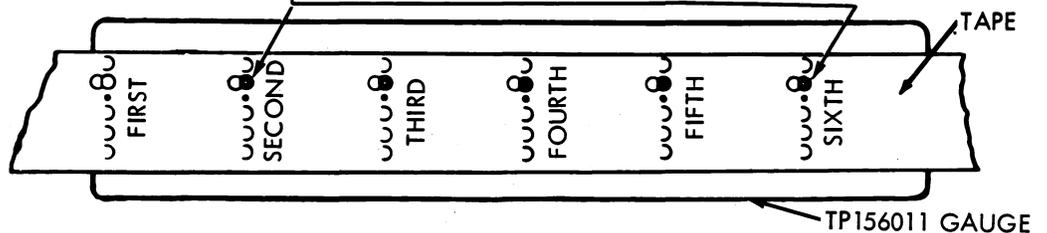
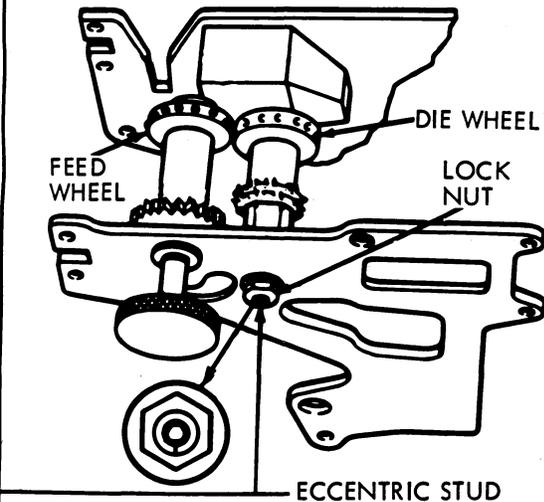
THE INDENT OF DIE WHEEL ECCENTRIC STUD SHALL BE POINTING DOWNWARD.  
TO ADJUST  
POSITION DIE WHEEL ECCENTRIC STUD WITH LOCK NUT LOOSENED.

NOTE

BEFORE PROCEEDING WITH THE FOLLOWING ADJUSTMENTS, CHECK BOTH TAPE GUIDE  
SPRING TENSIONS.

FEED HOLE SPACING (FINAL)  
REQUIREMENT

- (1) WITH TAPE SHOE BLOCKED AWAY FROM THE FEED WHEEL, THE FEED PAWL AND DETENT DISENGAGED, AND TAPE REMOVED FROM THE PUNCH MECHANISM, THE FEED WHEEL SHALL ROTATE FREELY. (CHECK THROUGH 3 OR 4 ROTATIONS).
- (2) PERFORATE SIX SERIES OF (9) "BLANK" COMBINATIONS FOLLOWED BY (1) "LETTERS" COMBINATION. OPEN CHADS SO CODE HOLES ARE VISIBLE. PLACE TAPE OVER SMOOTH SIDE OF THE TP156011 TAPE GAUGE SO CIRCULAR PORTION OF THE FIRST NUMBER TWO CODE HOLE IN TAPE IS CONCENTRIC WITH THE FIRST (0.072) HOLE OF TAPE GAUGE. (SEE NOTE). THE NEXT FOUR 0.072 HOLES IN TAPE GAUGE SHALL BE VISIBLE THROUGH THE NUMBER TWO CODE HOLES IN TAPE AND CIRCULAR PORTION OF THE LAST (SIXTH) NUMBER TWO CODE HOLE IN TAPE SHALL BE ENTIRELY WITHIN THE 0.086 DIA. HOLE OF TAPE GAUGE.



NOTE: THE FIRST FIVE HOLES IN GAUGE ARE THE SAME SIZE AS CODE HOLES IN TAPE (0.072 INCH DIAMETER) BUT THE SIXTH HOLE IN GAUGE IS LARGER THAN THE FIRST FIVE (0.086 INCH DIAMETER). THIS ARRANGEMENT ALLOWS  $\pm 0.007$  INCH VARIATION IN FIVE (5) INCHES.

TO ADJUST

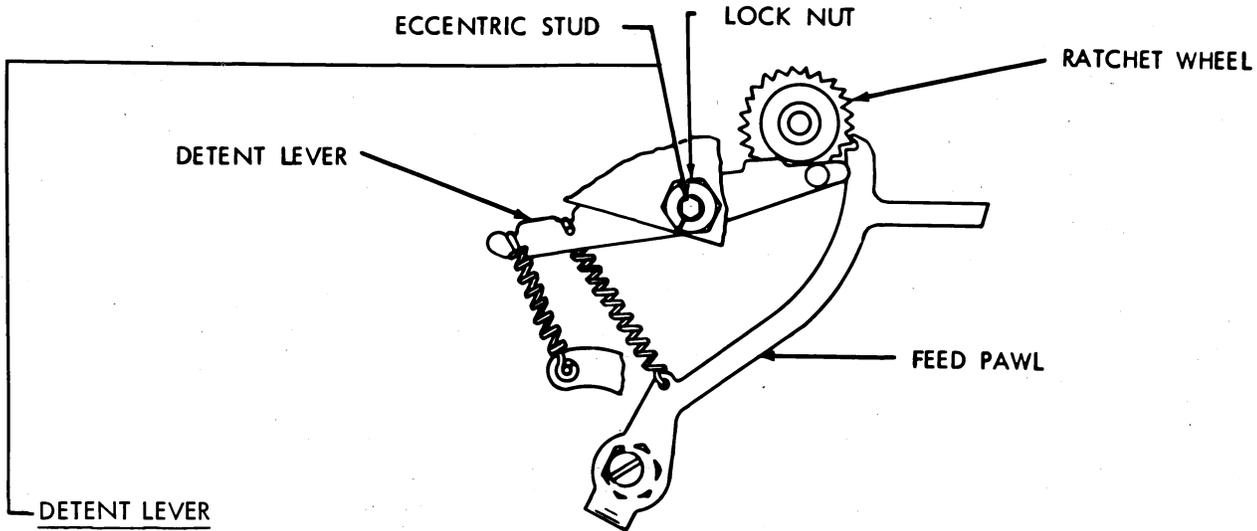
- (1) WITH TAPE REMOVED FROM PUNCH MECHANISM, LOOSEN DIE WHEEL ECCENTRIC STUD LOCK NUT AND ADJUST DIE WHEEL SO THAT IT JUST BINDS ON FEED WHEEL, BACK OFF ECCENTRIC SO DIE WHEEL IS JUST FREE (CHECK FREENESS THROUGH 3 OR 4 ROTATIONS). KEEP INDENT OF ECCENTRIC STUD BELOW THE HORIZONTAL CENTER LINE OF STUD.
- (2) CHECK TEN CHARACTERS PER INCH REQUIREMENT AND REFINE FEED WHEEL DIE WHEEL CLEARANCE ADJUSTMENT TO MEET THE REQUIREMENT BY MOVING INDENT OF DIE WHEEL ECCENTRIC STUD TOWARD FEED WHEEL TO DECREASE CHARACTER SPACING AND AWAY FROM FEED WHEEL TO INCREASE THE CHARACTER SPACING.

CAUTION: WITH THE TAPE REMOVED FROM THE PUNCH MECHANISM, BE SURE THE DIE WHEEL DOES NOT BIND.

- (3) WITH THE TAPE SHOE AWAY FROM THE FEED WHEEL, THE FEED PAWL AND DETENT DISENGAGED, AND THE TAPE REMOVED FROM THE PUNCH MECHANISM, THE FEED WHEEL SHALL ROTATE FREELY. FAILURE TO MEET THIS REQUIREMENT INDICATES THE DIE WHEEL ECCENTRIC HAS BEEN OVER-ADJUSTED. TO MEET THIS REQUIREMENT, REFINE THE ADJUSTMENT.

2.35 Punch Mechanism (Continued)

NOTE: THE ADJUSTMENTS ON THIS PAGE APPLY ONLY TO CHADLESS TAPE MECHANISM.



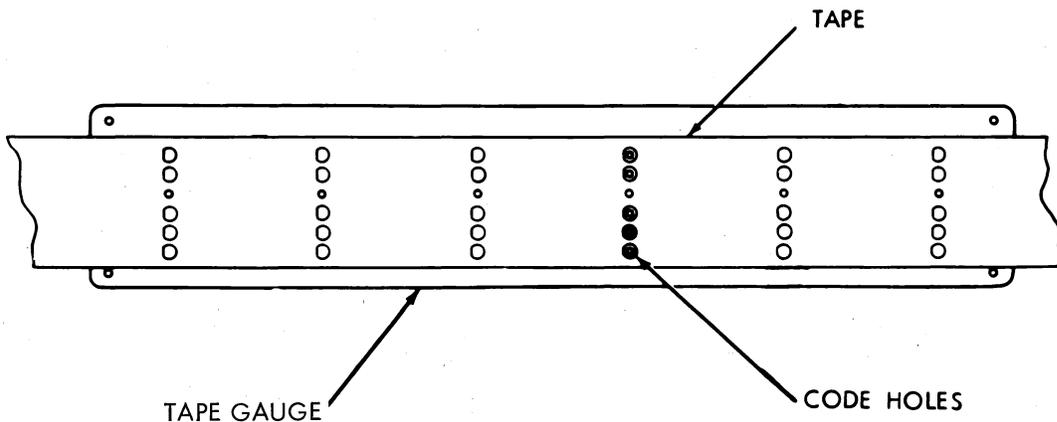
REQUIREMENT

A PIECE OF TAPE CONTAINING NINE FEED HOLES FOLLOWED BY A LETTERS COMBINATION PERFORATED ON THE PERFORATOR MUST CONFORM TO THE TP156011 TAPE GAUGE. THE LATERAL CENTERLINE THROUGH THE CODE HOLES IN THE TAPE SHOULD COINCIDE WITH A LATERAL CENTERLINE THROUGH THE HOLES IN THE GAUGE.

TO ADJUST

ROTATE THE DETENT ECCENTRIC CLOCKWISE TO MOVE THE FEED HOLES TOWARD THE HINGED EDGE OF THE CODE HOLES AND COUNTERCLOCKWISE TO MOVE THE FEED HOLES TOWARD THE TRAILING EDGE OF THE CODE HOLES. TIGHTEN THE ECCENTRIC LOCK NUT AND REFINES THE FEED PAWL ADJUSTMENT.

RECHECK FEED PAWL ADJUSTMENT.



2.36 Punch Mechanism (Continued)

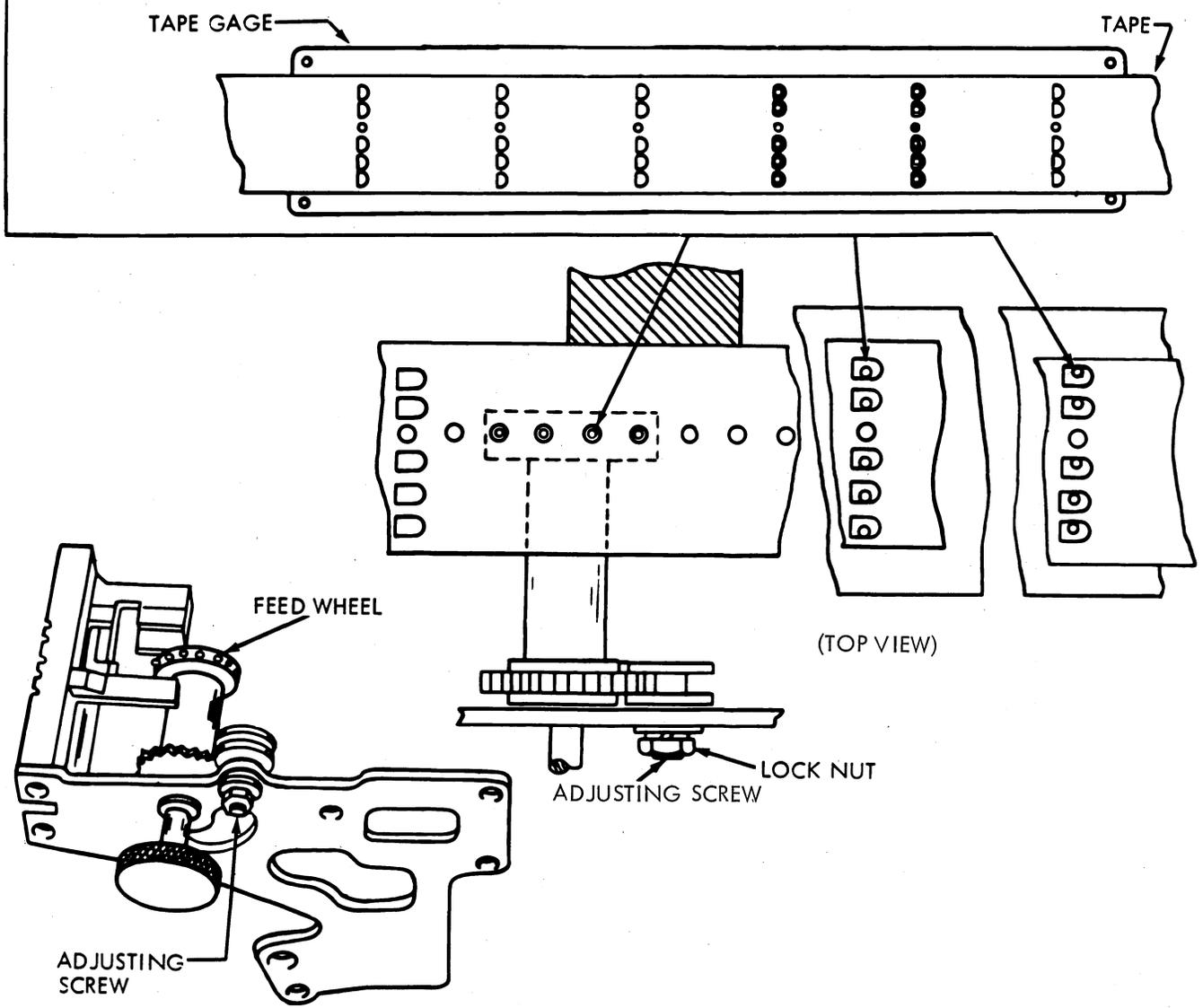
FEED HOLE LATERAL ALIGNMENT  
REQUIREMENT

WITH MACHINE OPERATING UNDER POWER, OBTAIN A TAPE CONSISTING OF A SERIES OF NINE "BLANKS" FOLLOWED BY A "LETTERS" COMBINATION. OPEN CHADS SO CODE HOLES ARE VISIBLE AND PLACE TAPE OVER THE TP156011 TAPE GAUGE WITH "LETTERS" COMBINATION FEED HOLES ENGAGING FEED PINS. THE LARGE HOLES IN GAUGE ARE THE SAME DIAMETER AS THE CIRCULAR PORTION OF CODE HOLES IN TAPE. THE SMALL HOLES IN GAUGE SERVE AS A GUIDE FOR GAUGING. THE CIRCULAR PORTION OF CODE HOLES IN TAPE SHALL BE CONCENTRIC WITH HOLES IN TAPE GAUGE.

TO ADJUST

LOOSEN ADJUSTING SCREW LOCK NUT AND POSITION ADJUSTING SCREW. TO MOVE HOLES OF GAUGE AWAY FROM REFERENCE EDGE OF TAPE, MOVE FEED WHEEL TOWARDS FRONT PLATE OF PUNCH MECHANISM BY ROTATING ADJUSTING SCREW COUNTER CLOCKWISE. TO MOVE HOLES OF GAUGE TOWARD THE REFERENCE EDGE OF TAPE, MOVE FEED WHEEL TOWARD BACKPLATE OF PUNCH MECHANISM BY ROTATING ADJUSTING SCREW CLOCKWISE. TIGHTEN THE LOCK NUT. REFINE DETENT ADJUSTMENT TO ALIGN LATERAL CENTER LINES OF CODE HOLES AND FEED HOLE IF REQUIRED.

NOTE: THE ADJUSTMENTS ON THIS PAGE APPLY ONLY TO CHADLESS TAPE MECHANISM.



2.37 Verifying Reader Mechanism

NOTE  
ALL ADJUSTMENTS SHOULD BE MADE WITH THE  
LEFT COVER PLATE REMOVED

(A) TAPE LID

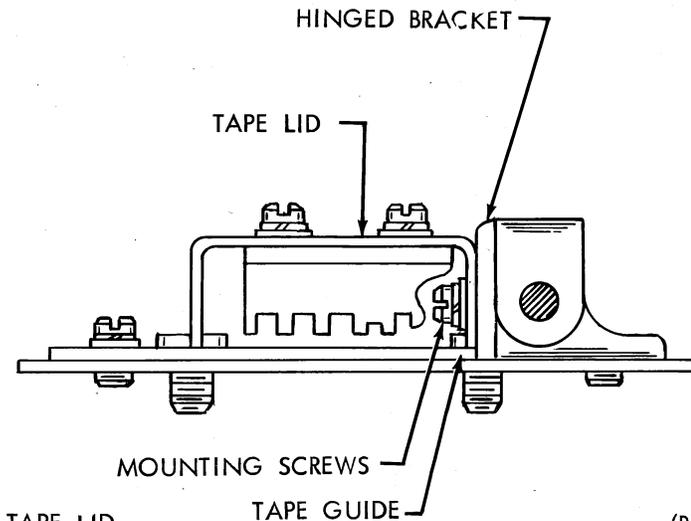
REQUIREMENT

WITH THE TAPE LID HELD DEPRESSED AGAINST  
THE TOP PLATE, THE LID SHOULD

TOUCH THE GUIDE AT BOTH BEARING POINTS

TO ADJUST

LOOSEN TWO SCREWS WHICH SECURE THE  
TAPE LID TO THE HINGED BRACKET. HOLD  
THE TAPE LID DEPRESSED AND TIGHTEN THE  
SCREWS.



(B) TAPE LID CLEARANCE

REQUIREMENT

WITH TAPE LID HELD CLOSED, THE LATCH  
SHOULD MOVE FREELY OVER THE LATCHING  
SURFACE WITH

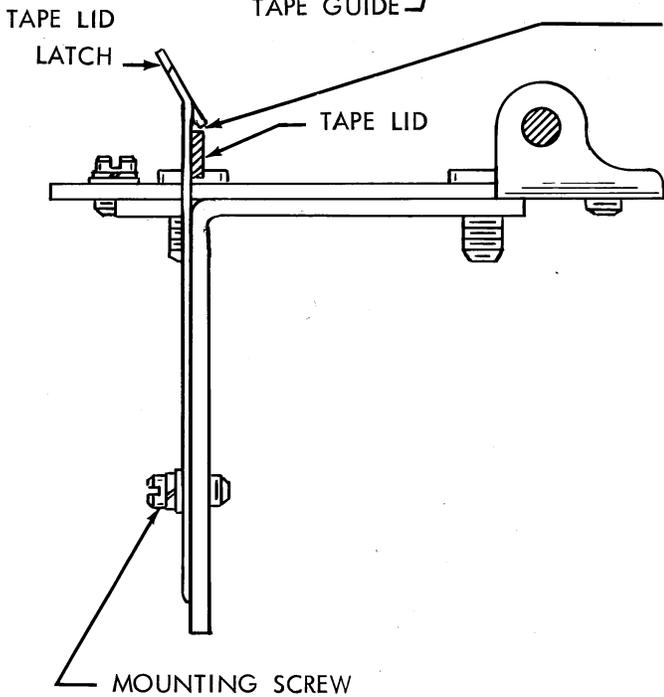
MINIMUM CLEARANCE

TO ADJUST

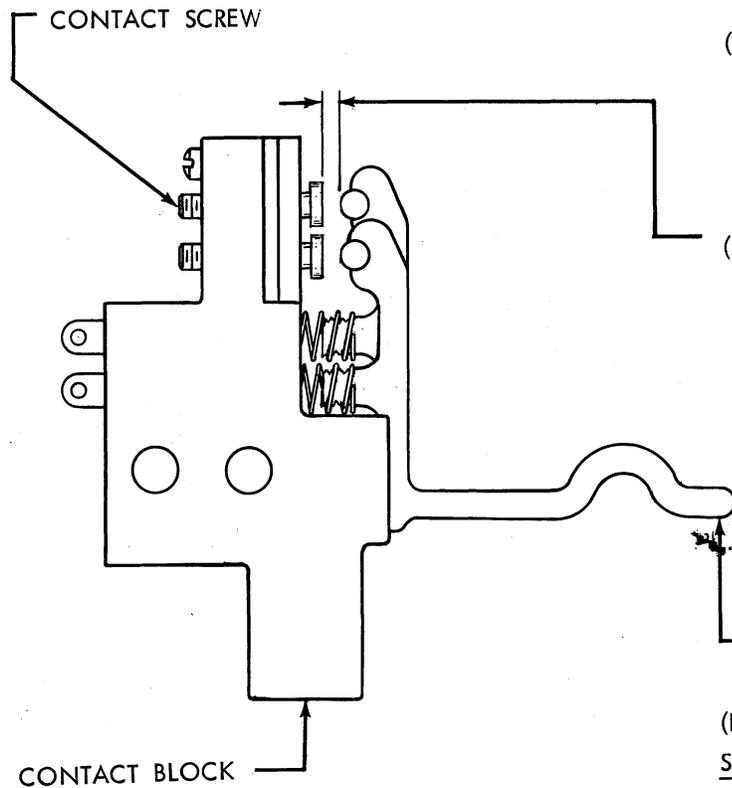
POSITION THE TAPE LID LATCH WITH ITS  
MOUNTING SCREW LOOSENED.

NOTE

IT MAY BE NECESSARY TO OPERATE  
THE MECHANISM TO GAIN ACCESS  
TO THE SCREW.



2.38 Verifying Reader Mechanism (Continued)



(A)  
VERIFYING CONTACT LEVER (PRELIMINARY)

- (1) REQUIREMENT  
ALL VERIFYING CONTACT LEVERS SHOULD BE POSITIONED PERPENDICULAR TO THE CONTACT BLOCK

TO ADJUST  
ROTATE THE CONTACT SCREWS.

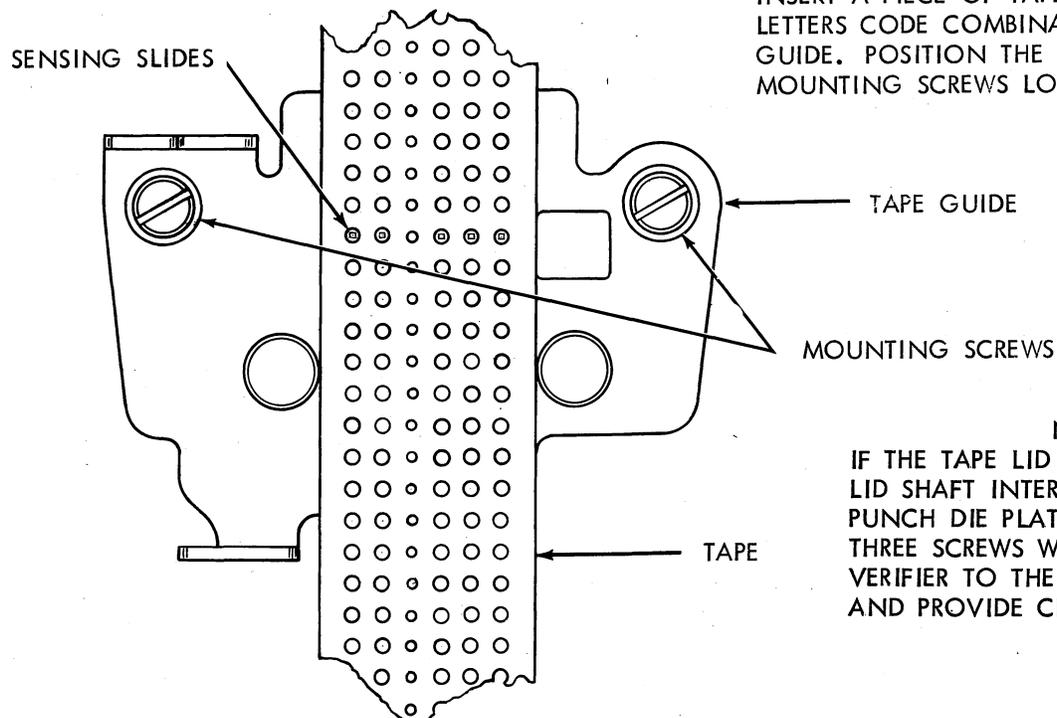
- (2) REQUIREMENT  
CLUTCH LATCHED IN STOP POSITION  
CLEARANCE BETWEEN CONTACT LEVER AND CONTACT SCREW  
APPROXIMATELY 0.065 INCH

TO ADJUST  
ROTATE THE CONTACT SCREWS WITH TP104457 WRENCH

(B)  
SENSING SLIDE ALIGNMENT

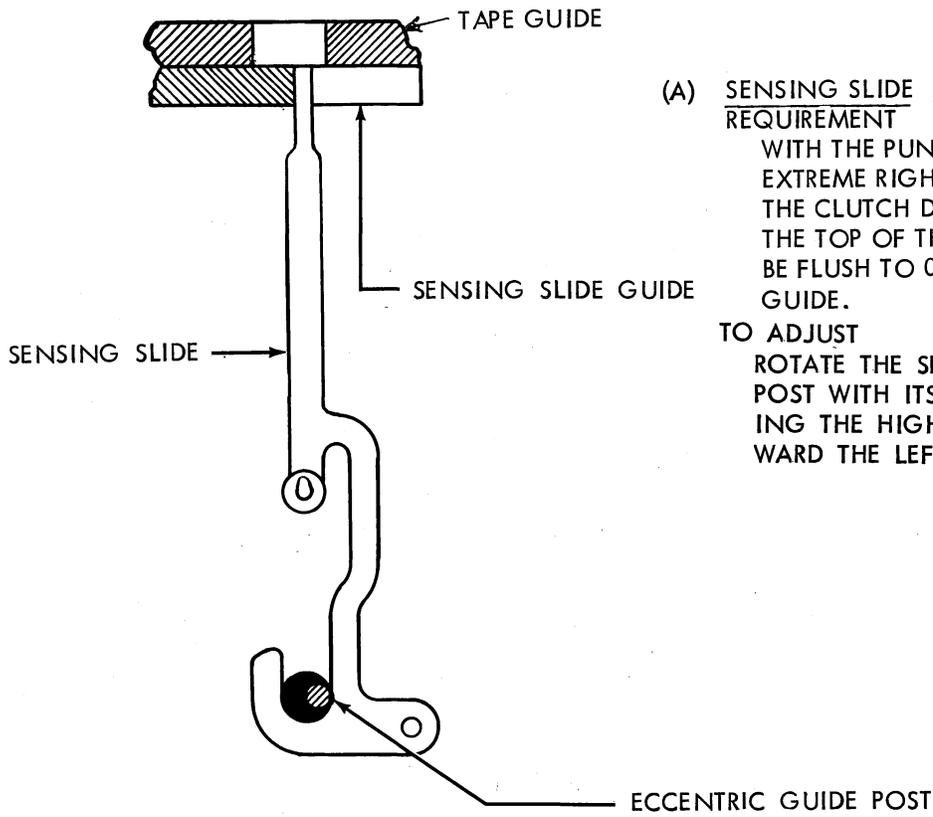
- REQUIREMENT  
THE SENSING SLIDES SHOULD PASS APPROXIMATELY THROUGH THE CENTER OF THE CODE HOLES IN A PERFORATED TAPE

TO ADJUST  
INSERT A PIECE OF TAPE, PERFORATED WITH LETTERS CODE COMBINATION, IN THE TAPE GUIDE. POSITION THE TAPE GUIDE WITH ITS MOUNTING SCREWS LOOSENED.



NOTE  
IF THE TAPE LID AND/ OR THE TAPE LID SHAFT INTERFERE WITH THE PUNCH DIE PLATE, LOOSEN THE THREE SCREWS WHICH ATTACH THE VERIFIER TO THE PUNCH ASSEMBLY AND PROVIDE CLEARANCE

2.39 Verifying Reader Mechanism (Continued)

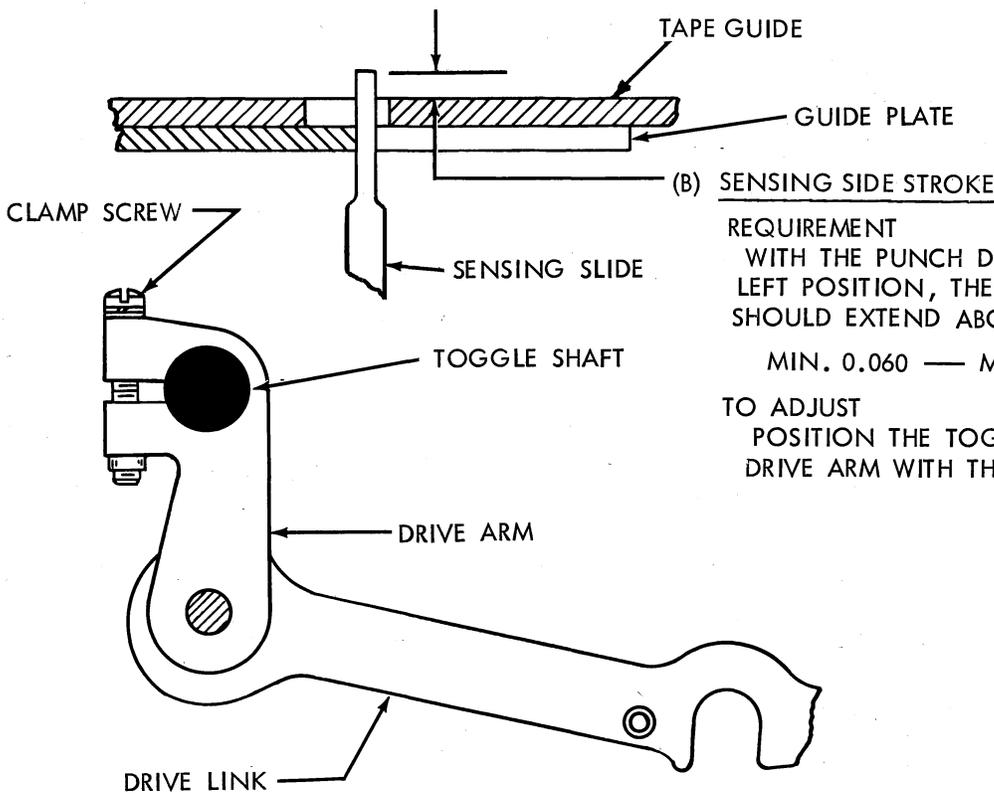


(A) SENSING SLIDE REQUIREMENT

WITH THE PUNCH DRIVE LINK IN ITS EXTREME RIGHTHAND POSITION AND THE CLUTCH DISENGAGED AND LATCHED, THE TOP OF THE HIGHEST PIN SHOULD BE FLUSH TO 0.005 BELOW THE TAPE GUIDE.

TO ADJUST

ROTATE THE SENSING SLIDE ECCENTRIC GUIDE POST WITH ITS LOCK NUT LOOSENED, KEEPING THE HIGH PART OF THE ECCENTRIC TOWARD THE LEFT



(B) SENSING SIDE STROKE REQUIREMENT

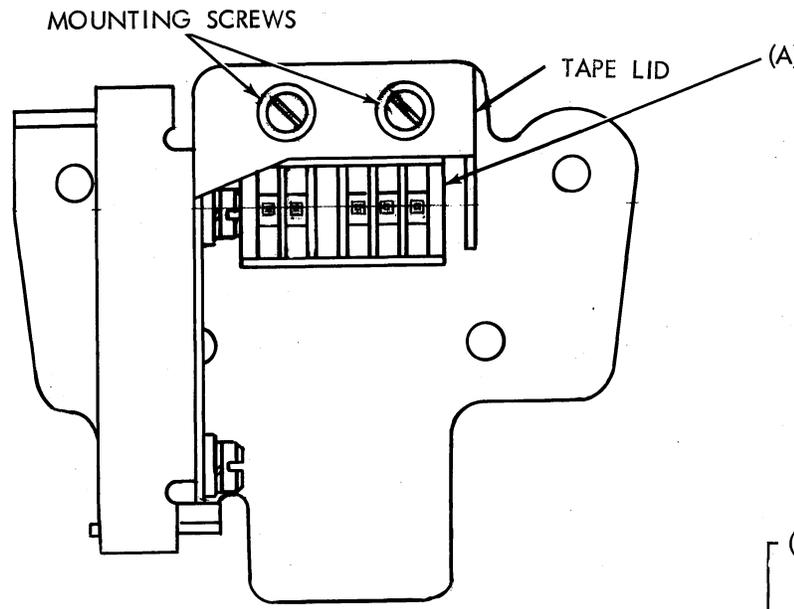
WITH THE PUNCH DRIVE LINK IN ITS EXTREME LEFT POSITION, THE HIGHEST SENSING SLIDES SHOULD EXTEND ABOVE TOP OF GUIDE

MIN. 0.060 — MAX. 0.070 INCH

TO ADJUST

POSITION THE TOGGLE SHAFT IN THE VERIFIER DRIVE ARM WITH THE CLAMP SCREW LOOSENED.

2.40 Verifying Reader Mechanism (Continued)



(A) TAPE LID PLATE

REQUIREMENT

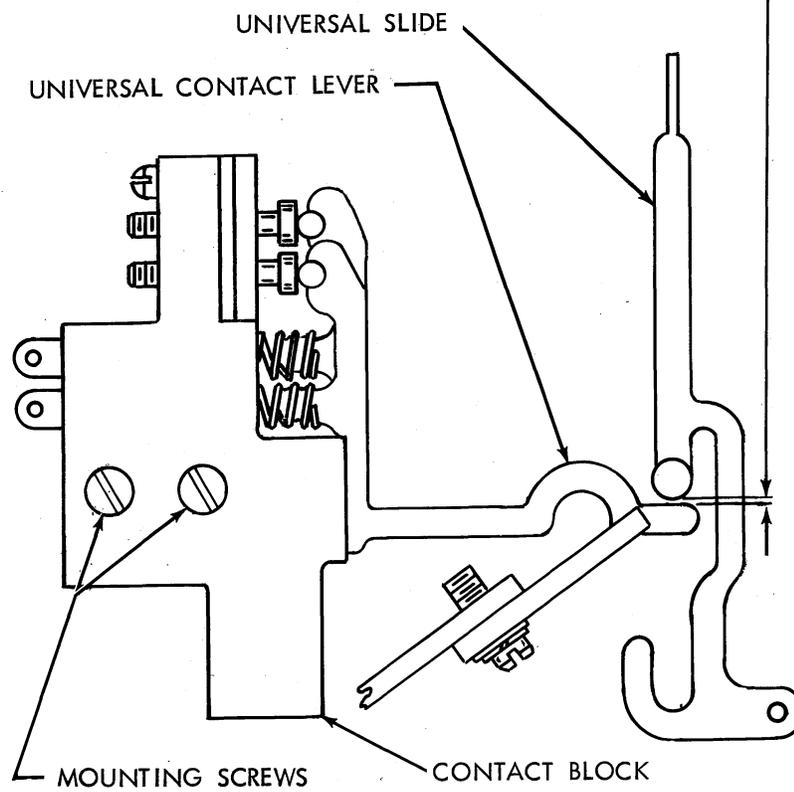
WITH THE TAPE LID LATCHED, THE SENSING SLIDES SHOULD BE ON THE

APPROXIMATE CENTERLINE

OF THE SLOTS IN THE TAPE LID PLATE

TO ADJUST

POSITION THE TAPE LID PLATE WITH ITS MOUNTING SCREWS LOOSENED.



(B) UNIVERSAL CONTACT LEVER (PRELIMINARY)

REQUIREMENT

WHEN SENSING SLIDES ARE IN THEIR UPPERMOST POSITION, THE CLEARANCE BETWEEN END OF UNIVERSAL CONTACT LEVER AND ITS SLIDE

MIN. SOME

MAX. 0.010 INCH

TO ADJUST

POSITION CONTACT BLOCK WITH ITS MOUNTING SCREWS LOOSENED.

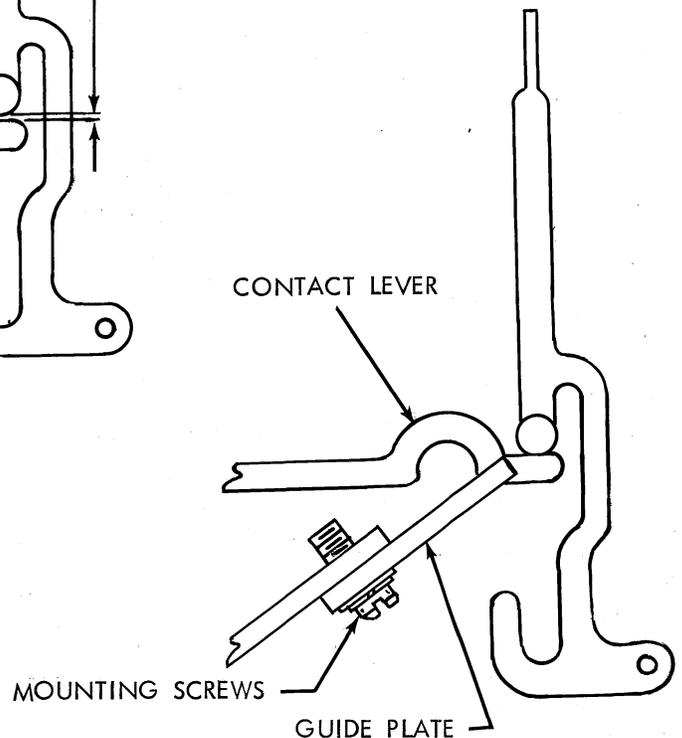
(C) CONTACT LEVER GUIDE PLATE

REQUIREMENT

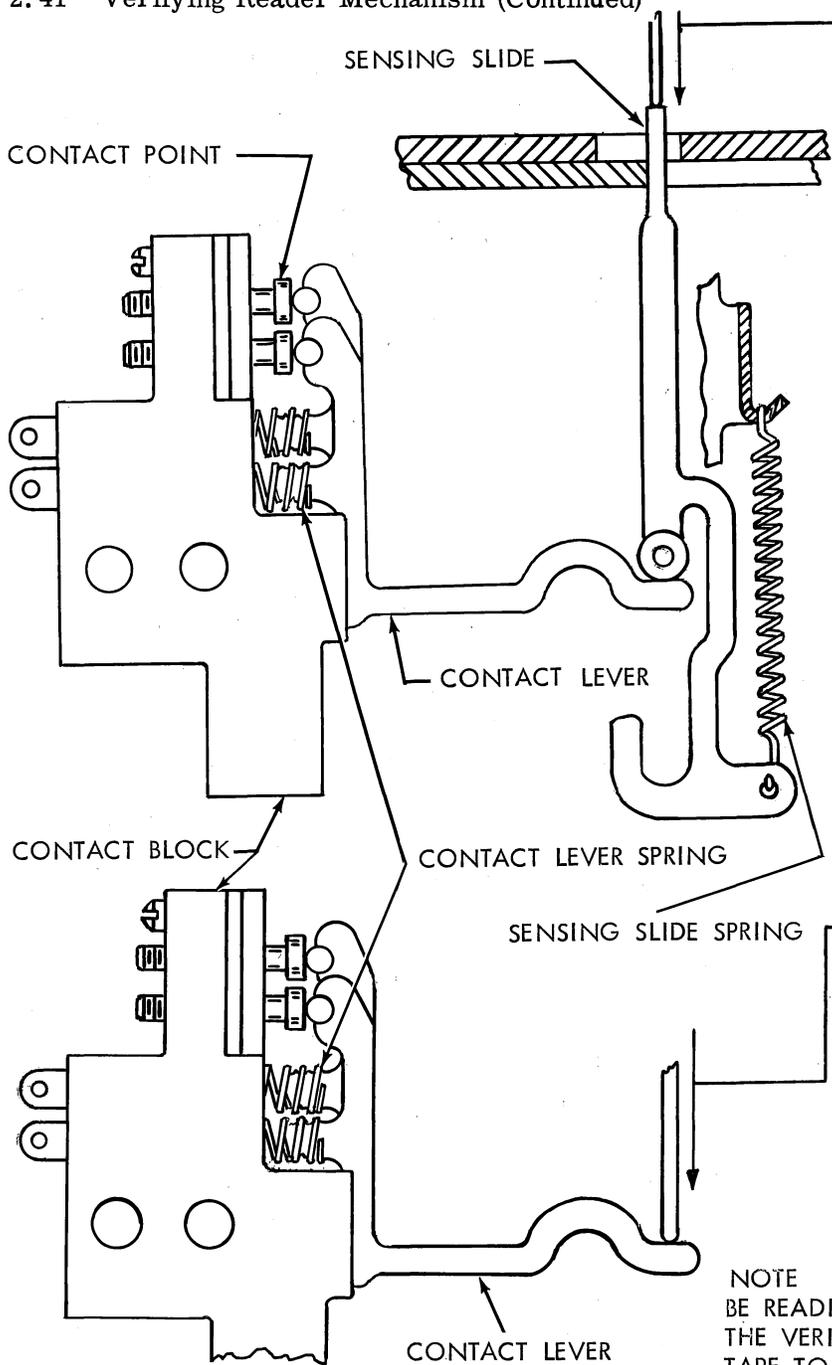
THE VERIFIER CONTACT LEVERS SHOULD MOVE FREELY WITHIN THEIR GUIDE PLATE

TO ADJUST

POSITION THE GUIDE PLATE WITH ITS MOUNTING SCREWS LOOSENED.



2.41 Verifying Reader Mechanism (Continued)



SENSING SLIDE SPRING

REQUIREMENT

SENSING SLIDES AT POINT OF HIGHEST TRAVEL. SPRING SCALE APPLIED DOWNWARD TO SLIDE.

MIN. 3 OZS.  
MAX. 4 OZS.

TO START CONTACT LEVER MOVING AWAY FROM CONTACT POINT.

NOTE

THIS CHECK SHOULD NOT BE MADE UNLESS THERE IS GOOD REASON TO BELIEVE THAT THE SPRING DOES NOT MEET ITS REQUIREMENTS.

IF THE ABOVE REQUIREMENT IS NOT MET, HOLD CONTACT LEVER AWAY FROM CONTACT POINT AND CHECK ONLY THE SENSING SLIDE SPRING. IT SHOULD REQUIRE

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

TO START SLIDE DOWNWARD.

IF THIS REQUIREMENT IS NOT MET, REPLACE THE SENSING SLIDE SPRING. IF IT IS MET, CHECK THE CONTACT LEVER SPRING AS FOLLOWS:

REMOVE CONTACT BLOCK AND APPLY SPRING SCALE TO END OF CONTACT LEVER. IT SHOULD REQUIRE

MIN. 1 1/2 OZS.  
MAX. 2 1/2 OZS.

TO START CONTACT LEVER MOVING. REPLACE SPRING IF NECESSARY.

NOTE

IF THIS CHECK IS MADE, RECHECK THE CONTACT LEVER ADJUSTMENT.

NOTE

BE READING THE LETTERS CODE COMBINATION THE VERIFYING READER SHOULD ACTUALLY TAPE TO ADJUST CONTACT GAP PROPERLY.

CONTACT GAP (FINAL)

REQUIREMENT

THE UNIVERSAL CONTACTS SHOULD CLOSE AFTER READING CONTACTS HAVE CLOSED AND SHOULD OPEN BEFORE THE CODE READING CONTACTS OPEN.

TO CHECK

USE A 100 WPM TYPE DISTORTION TEST SET WITH A 200 WPM TYPE SCALE. VIEW THE SHORTER SIGNALS FOR EACH CONTACT. THE UNIVERSAL CONTACT CLOSURE SHOULD BE 120 — 20 UNITS ON THE 7.42 CODE ARRANGEMENT. THE CODE READING CONTACTS SHOULD BE 155 — 15 UNITS.

TO ADJUST

TURN THE RESPECTIVE CONTACT SCREW.