35 TAPE PRINTER

ADJUSTMENTS

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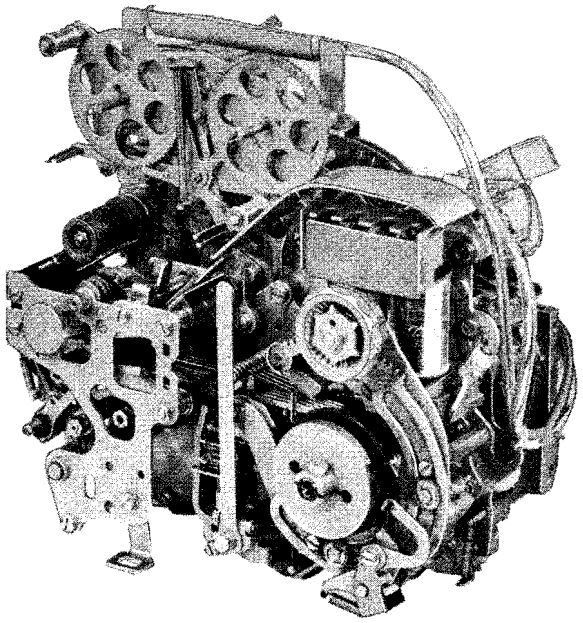


Figure 1 - Typical Tape Printer (Left Front View)

1. GENERAL

1.01 This section is reissued to add engineering changes and incorporate information on the late-design selector and print suppression mechanisms. Arrows in the margins indicate changes and additions.

1.02 Reference to left or right, front or rear and up or down refer to the apparatus in its normal operating position, as viewed from the front with the selector mechanism to the right and the punch mechanism to the left. It is assumed that the elements depicted in illustrations in this section are being viewed from a position in front of the equipment, unless the illustrations are specifically labeled otherwise. In the illustrations, pivot points are shown by circles or ellipses that are solid black to indicate fixed points and cross-hatched to indicate floating points.

1.03 Tools required to make the adjustments and test the spring tensions are listed in the appropriate section. Spring tensions given in this section are indications, not exact values, and should be checked with the correct scale applied in the positions shown in the drawings.

1.04 The unit is in its unoperated, or stop, condition when it is not under power. It is in its idling condition when it is under power

and clutches are disengaged (steady marking condition of signal line). The unit is in the letters condition when the typewheel rack is in its upper position (the numerals appear on the top half of the typewheel). The unit is in the figures condition when the typewheel rack is in its lower position (the letters appear on the top half of the typewheel).

CAUTION: APPARATUS SHOULD NOT BE SEPARATED FROM ITS PROTECTIVE HOUSING UNLESS POWER IS DISCONNECTED. WHERE OPERATION OF THE EQUIPMENT IS REQUIRED AFTER IT HAS BEEN SEPARATED FROM ITS PROTECTIVE HOUSING, APPROPRIATE PRECAUTIONARY MEASURES SHOULD BE TAKEN TO PREVENT ACCIDENTS.

1.05 When a requirement calls for a clutch to be DISENGAGED, the clutch shoe lever must be fully latched between its trip lever (or stop arm) and latch lever. The main shaft will then turn freely without the clutch shoes dragging. When the clutch is ENGAGED, the shoe lever and cam disk stop lug are moved apart, and the clutch shoes are wedged against the drum so that the clutch turns with the shaft.

Note: If the shaft is turned by hand, the clutch will not fully disengage upon reaching its stop position. Where a procedure calls for disengagement, rotate the clutch to its stop position, apply a screwdriver to the cam disk stop lug and turn the disk in the normal direction of shaft rotation until the latch lever seats in its notch in the disk.

1.06 To manually operate the 35 tape printer proceed as follows:

(a) Attach the armature clip to the selector magnet armature by carefully putting the flat formed end of the armature clip over the top of the armature between the pole pieces and then hooking the projection under the edge of the armature. The spring tension of the armature clip will hold the selector armature in the marking (attracted) position.

(b) While holding the selector magnet attracted by means of the armature clip, manually rotate the main shaft in a counterclockwise direction until all the clutches are brought to their disengaged position.

(c) Fully disengage the clutches in accordance with 1.02, Note.

(d) Release the selector magnet armature momentarily to permit the selector clutch to engage.

(e) Rotate the main shaft slowly until all the push levers have fallen to the left of their selecting levers.

(f) Strip the push levers from their selector levers if they are spacing in the code combination of the character or function that is being selected. Allow the push levers to move to the right. The push levers and selector levers move in succession, starting with the inner lever no. 1, to the outer lever no. 8.

(g) Continue to rotate the main shaft until all operations initiated by the selector action clear through the unit.

1.07 Parts dismantled to facilitate checking or readjustment should be reassembled after the operation is completed. If a part mounted on shims is to be dismantled, the number of shims used at each mounting screw should be noted so that the same shim pile-ups can be replaced when the part is remounted. When parts removed are replaced, related adjustments which may have been affected should be checked.

1.08 Parts that are worn to the extent that they can no longer be made to meet the specified requirements by authorized adjustments or which are worn to the extent that it seems probable that early further wear might cause a loss of adjustment should be replaced by new parts. Springs which do not meet the requirements and for which there are no adjusting procedures should be discarded and replaced by new springs.

1.09 All contact points should meet squarely. Smaller points should fall wholly 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. Avoid sharp kinks or bends in the contact springs.

Note: Keep all electrical contacts free of oil and grease.

1.10 Where a 35 tape printer is used as a component of a receive-only or a send-receive set, it is mounted on a base or keyboard base. Refer to the applicable sections for additional adjustment requirements.

2. BASIC UNIT

2.01 The following figures show the adjusting tolerances, position of parts and spring tensions. The illustrations are arranged so that the adjustments are in the sequence that would be followed if a complete readjustment of the apparatus were being made. In some cases, where an illustration shows interrelated parts, the sequence that should be followed in checking the requirements and making the adjustments is indicated by the letters (A), (B), (C), etc.

2.02 Selector and Function Mechanism

NOTE:
FOR GEAR MESH ADJUSTMENT, REFER TO APPLICABLE SECTIONS COVERING BASE OR KEYBOARD MOUNTING FACILITY.

(A) CLUTCH SHOE LEVER

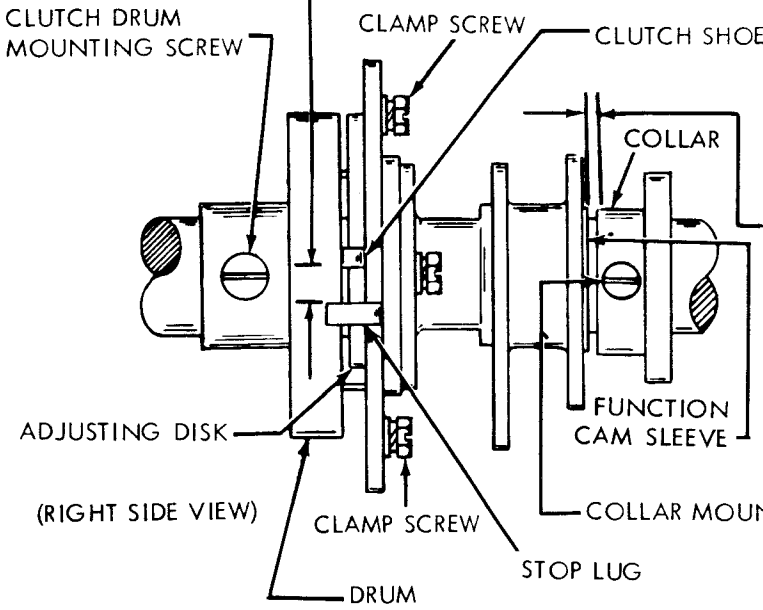
NOTE:
THIS ADJUSTMENT SHOULD BE MADE FOR BOTH SELECTING AND FUNCTION CLUTCHES.

TO CHECK
(1) DISENGAGE CLUTCH. MEASURE CLEARANCE.
(2) ALIGN HEAD OF CLUTCH DRUM MOUNTING SCREW WITH STOP LUG. ENGAGE CLUTCH. MANUALLY PRESS SHOE LEVER AND STOP LUG TOGETHER AND ALLOW TO SNAP APART. MEASURE CLEARANCE.

REQUIREMENT
CLEARANCE BETWEEN SHOE LEVER AND STOP LUG:
MIN. 0.055 INCH---MAX. 0.085 INCH
GREATER WHEN CLUTCH ENGAGED (2) THAN WHEN DISENGAGED (1).

TO ADJUST
ENGAGE WRENCH OR SCREWDRIVER WITH LUG ON ADJUSTING DISK. ROTATE DISK WITH CLAMP SCREWS LOOSENED.

NOTE: AFTER MAKING ADJUSTMENT, DISENGAGE CLUTCH. REMOVE DRUM MOUNTING SCREW. ROTATE DRUM IN NORMAL DIRECTION AND CHECK TO SEE IF IT DRAGS ON SHOE. IF IT DOES REFINE ADJUSTMENT.



(B)
FUNCTION CLUTCH DRUM END PLAY

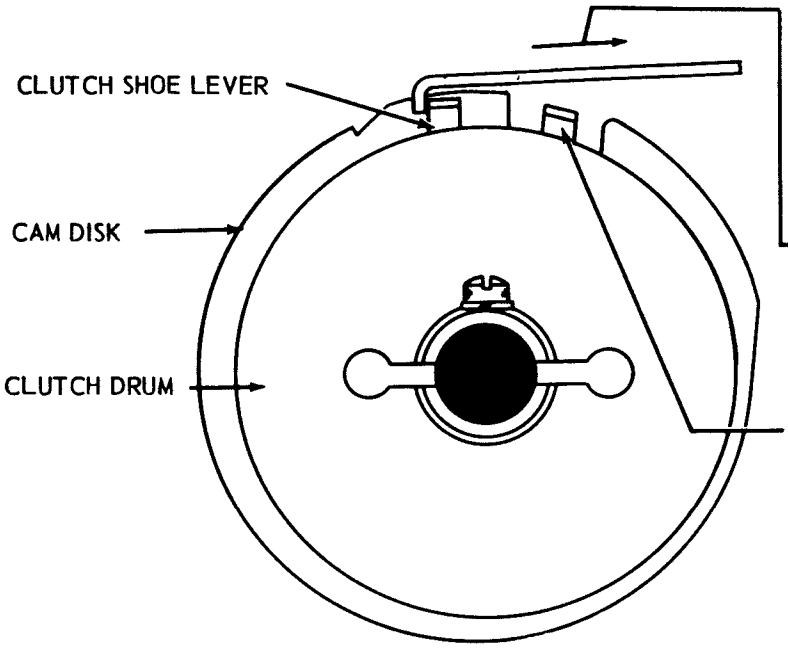
REQUIREMENT
WITH FUNCTION CLUTCH DISENGAGED:
MIN. SOME --- MAX. 0.015 INCH WHEN PLAY IS TAKEN UP TO MAKE CLEARANCE MAX.

TO ADJUST
WITH ITS MOUNTING SCREW LOOSENED, MOVE DRUM TO EXTREME FRONT POSITION. TIGHTEN DRUM MOUNTING SCREW. POSITION COLLAR WITH MOUNTING SCREW LOOSENED.

(RIGHT SIDE VIEW)

2.03 Selector and Function Mechanism (Cont.)

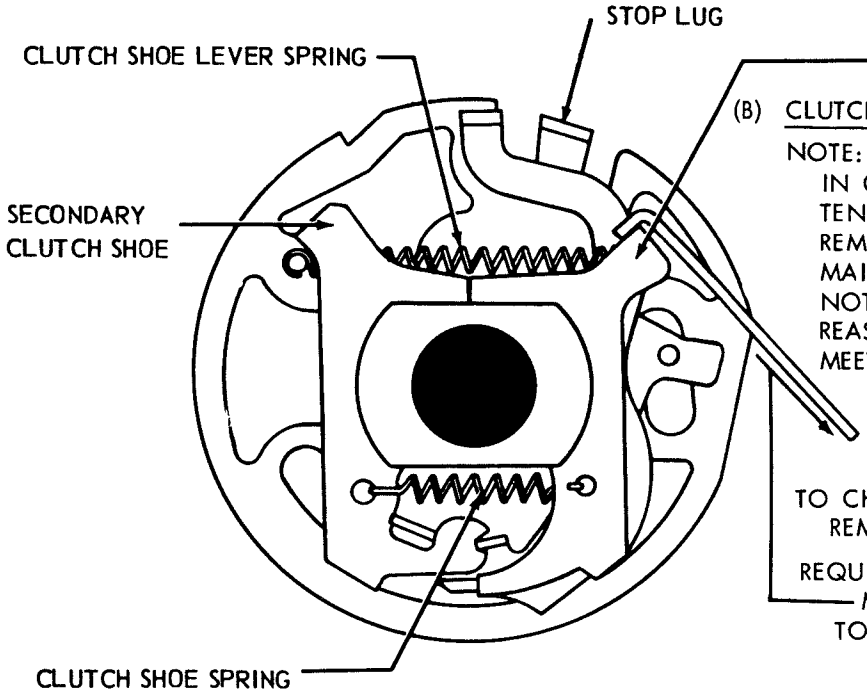
NOTE:
THESE SPRING TENSIONS APPLY TO BOTH CLUTCHES.



(A)
CLUTCH SHOE LEVER SPRING

TO CHECK
ENGAGE CLUTCH. HOLD CAM DISK TO PREVENT ITS TURNING.

REQUIREMENT
MIN. 15 OZS.----MAX. 20 OZS. TO PULL SHOE LEVER IN CONTACT WITH STOP LUG.



(B) CLUTCH SHOE SPRING

NOTE:
IN ORDER TO CHECK THIS SPRING TENSION, IT IS NECESSARY TO REMOVE THE CLUTCH FROM THE MAIN SHAFT. THEREFORE, IT SHOULD NOT BE CHECKED UNLESS THERE IS REASON TO BELIEVE IT WILL NOT MEET ITS REQUIREMENT.

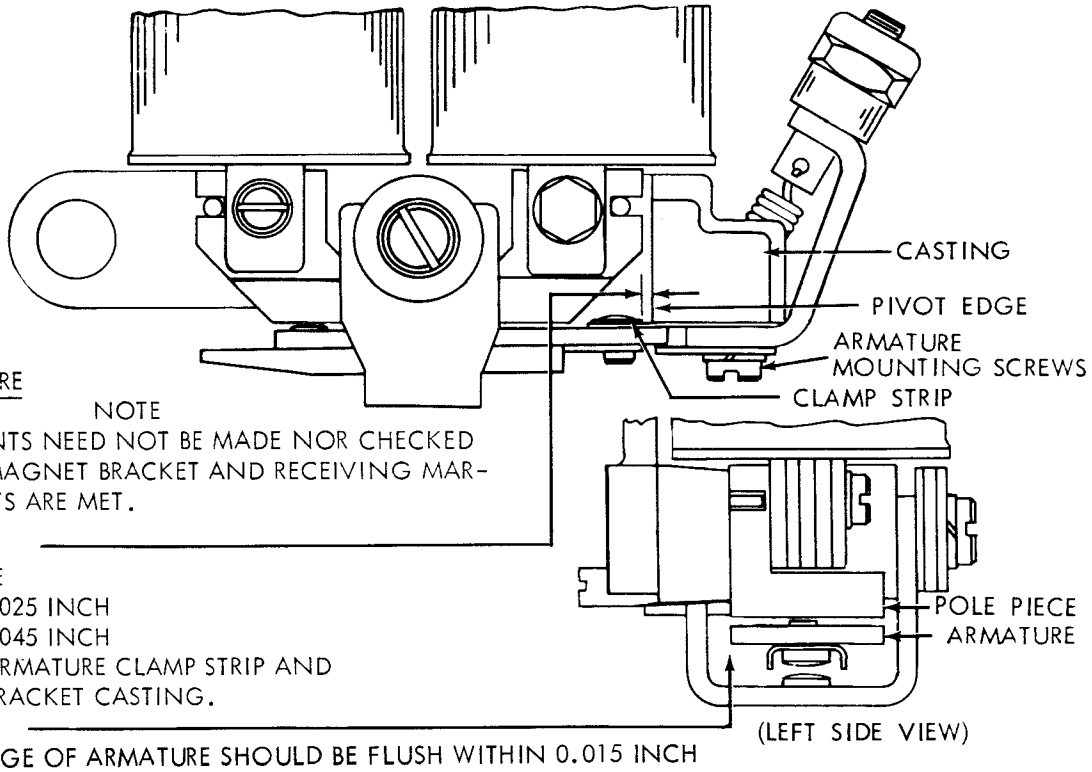
TO CHECK
REMOVE CLUTCH FROM DRUM.

REQUIREMENT
MIN. 3 OZS.------MAX. 5 OZS. TO START PRIMARY SHOE MOVING.

2.04 Selector Mechanism

NOTE

TO FACILITATE MAKING THE FOLLOWING ADJUSTMENTS, REMOVE THE RANGE FINDER ASSEMBLY AND SELECTOR MAGNET ASSEMBLY. TO INSURE BETTER OPERATION, PULL A PIECE OF BOND PAPER BETWEEN THE ARMATURE AND THE POLE PIECES TO REMOVE ANY OIL OR FOREIGN MATTER THAT MAY BE PRESENT. MAKE CERTAIN THAT NO LINT OR PIECES OF PAPER REMAIN BETWEEN THE POLE PIECES AND THE ARMATURE.



SELECTOR ARMATURE

NOTE

THESE REQUIREMENTS NEED NOT BE MADE NOR CHECKED IF THE SELECTOR MAGNET BRACKET AND RECEIVING MARGIN REQUIREMENTS ARE MET.

(1) REQUIREMENT

CLEARANCE

MIN. 0.025 INCH

MAX. 0.045 INCH

BETWEEN ARMATURE CLAMP STRIP AND MAGNET BRACKET CASTING.

(2) REQUIREMENT

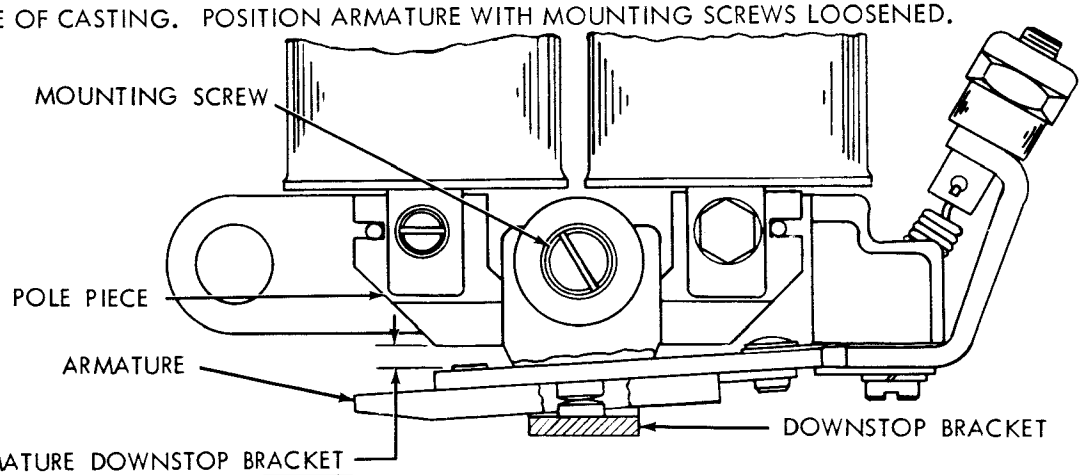
OUTER EDGE OF ARMATURE SHOULD BE FLUSH WITHIN 0.015 INCH WITH OUTER EDGE OF POLE PIECES.

(3) REQUIREMENT

START LEVER SHALL DROP FREELY INTO ARMATURE EXTENSION SLOT.

TO ADJUST

POSITION ARMATURE SPRING ADJUSTING NUT TO HOLD ARMATURE FIRMLY AGAINST PIVOT EDGE OF CASTING. POSITION ARMATURE WITH MOUNTING SCREWS LOOSENED.



SELECTOR ARMATURE DOWNSTOP BRACKET

REQUIREMENT

REMOVE OIL SHIELD. WITH MAGNET DE-ENERGIZED, LOCK LEVERS ON HIGH PART OF THEIR CAM, AND ARMATURE RESTING AGAINST ITS DOWNSTOP, CLEARANCE BETWEEN END OF ARMATURE AND LEFT EDGE OF LEFT POLE PIECE

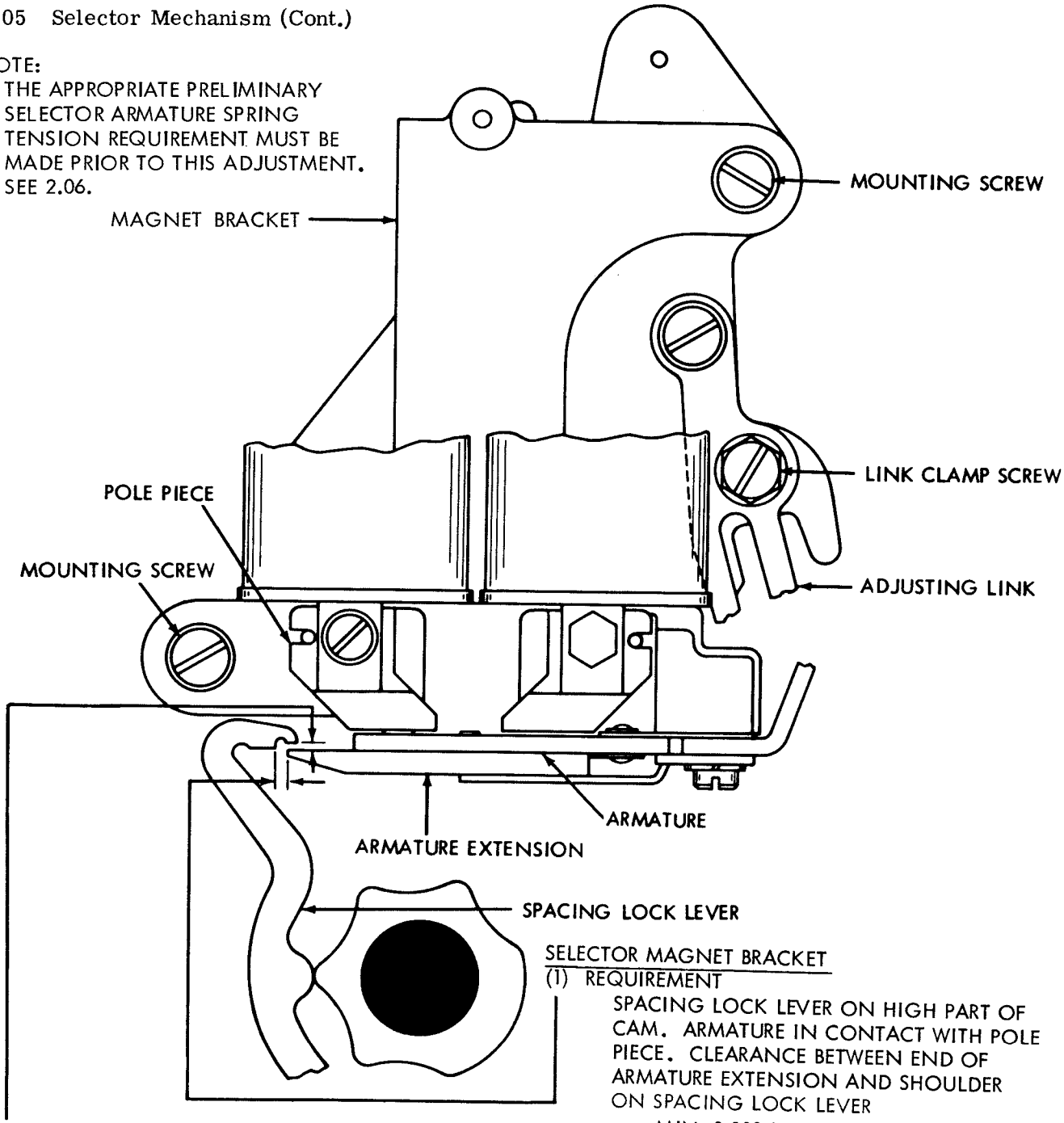
MIN. 0.025 INCH MAX. 0.030 INCH.

TO ADJUST

POSITION DOWNSTOP BRACKET WITH MOUNTING SCREW LOOSENED. REPLACE OIL SHIELD AND CHECK OIL SHIELD ADJUSTMENT.

2.05 Selector Mechanism (Cont.)

NOTE:
THE APPROPRIATE PRELIMINARY SELECTOR ARMATURE SPRING TENSION REQUIREMENT MUST BE MADE PRIOR TO THIS ADJUSTMENT. SEE 2.06.



SELECTOR MAGNET BRACKET

(1) REQUIREMENT

SPACING LOCK LEVER ON HIGH PART OF CAM. ARMATURE IN CONTACT WITH POLE PIECE. CLEARANCE BETWEEN END OF ARMATURE EXTENSION AND SHOULDER ON SPACING LOCK LEVER

MIN. 0.020 INCH
MAX. 0.035 INCH

TO ADJUST

LOOSEN TWO MAGNET BRACKET MOUNTING SCREWS AND ADJUSTING LINK CLAMP SCREW. POSITION MAGNET BRACKET BY MEANS OF ADJUSTING LINK AND TIGHTEN LINK CLAMP SCREW ONLY.

(2) REQUIREMENT

SPACING LOCK LEVER ON HIGH PART OF CAM. ARMATURE IN CONTACT WITH POLE PIECE. SOME CLEARANCE BETWEEN UPPER SURFACE OF ARMATURE EXTENSION AND LOWER SURFACE OF SPACING LOCK LEVER WHEN LOCK LEVER IS HELD DOWNWARD.
MAX. 0.003 INCH

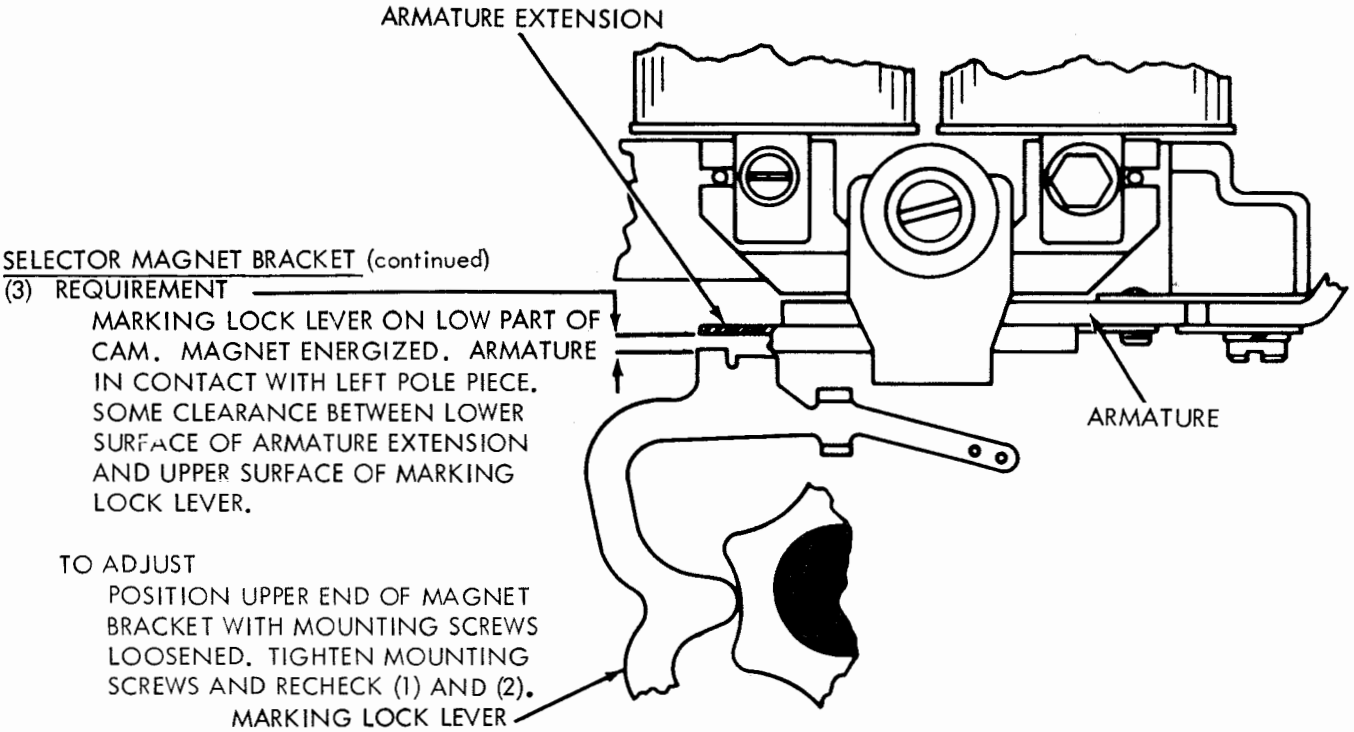
TO ADJUST

POSITION UPPER END OF MAGNET BRACKET. TIGHTEN TWO MAGNET BRACKET MOUNTING SCREWS. RECHECK REQUIREMENT (1).

NOTE
SEE FOLLOWING PAGE
FOR REQUIREMENT (3).

2.06 Selector Mechanism (Cont.)

NOTE: SEE PRECEDING PAGE FOR SELECTOR MAGNET BRACKET ADJUSTMENTS (1) AND (2).



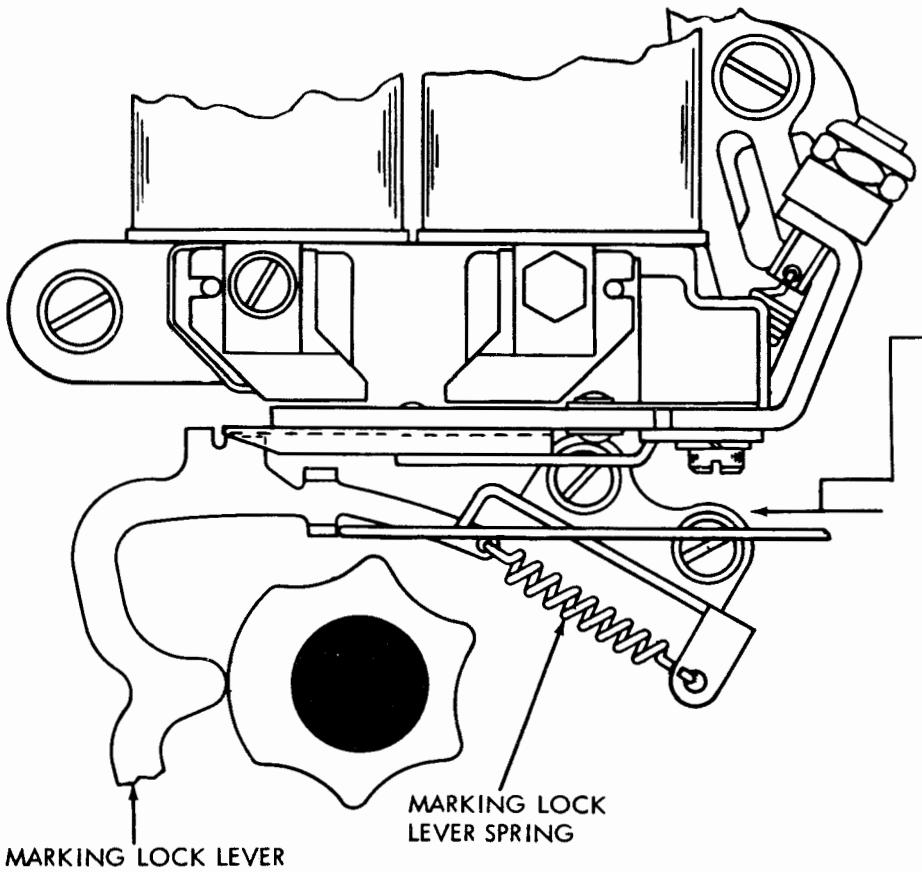
SELECTOR MAGNET BRACKET (continued)

(3) REQUIREMENT

MARKING LOCK LEVER ON LOW PART OF CAM. MAGNET ENERGIZED. ARMATURE IN CONTACT WITH LEFT POLE PIECE. SOME CLEARANCE BETWEEN LOWER SURFACE OF ARMATURE EXTENSION AND UPPER SURFACE OF MARKING LOCK LEVER.

TO ADJUST

POSITION UPPER END OF MAGNET BRACKET WITH MOUNTING SCREWS LOOSENED. TIGHTEN MOUNTING SCREWS AND RECHECK (1) AND (2).



MARKING LOCK LEVER SPRING

REQUIREMENT

RUBOUT COMBINATION (12345678) SELECTED. MAIN SHAFT ROTATED UNTIL SELECTOR CLUTCH IS DISENGAGED. PUSH SCALE APPLIED TO LOWER EXTENSION OF LOCK LEVER.

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

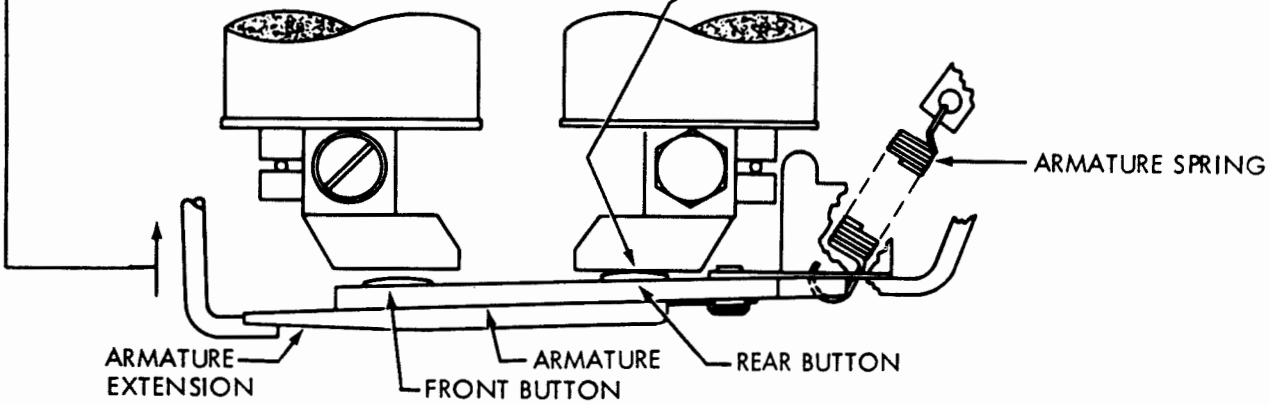
TO START LEVER MOVING.

2.07 Selector Mechanism (Cont.)

SELECTOR ARMATURE SPRING
(FOR UNITS EMPLOYING SELECTOR ARMATURE WITH TWO ANTI-FREEZE BUTTONS ONLY).
REQUIREMENT (PRELIMINARY)
WITH LOCKING LEVERS AND START LEVER ON HIGH PART OF THEIR CAMS, SCALE APPLIED AS NEARLY VERTICAL AS POSSIBLE UNDER END OF ARMATURE EXTENSION. IT SHALL REQUIRE APPROXIMATELY THE FOLLOWING TENSIONS TO MOVE THE REAR ANTI-FREEZE BUTTON AGAINST THE MAGNET CORE:

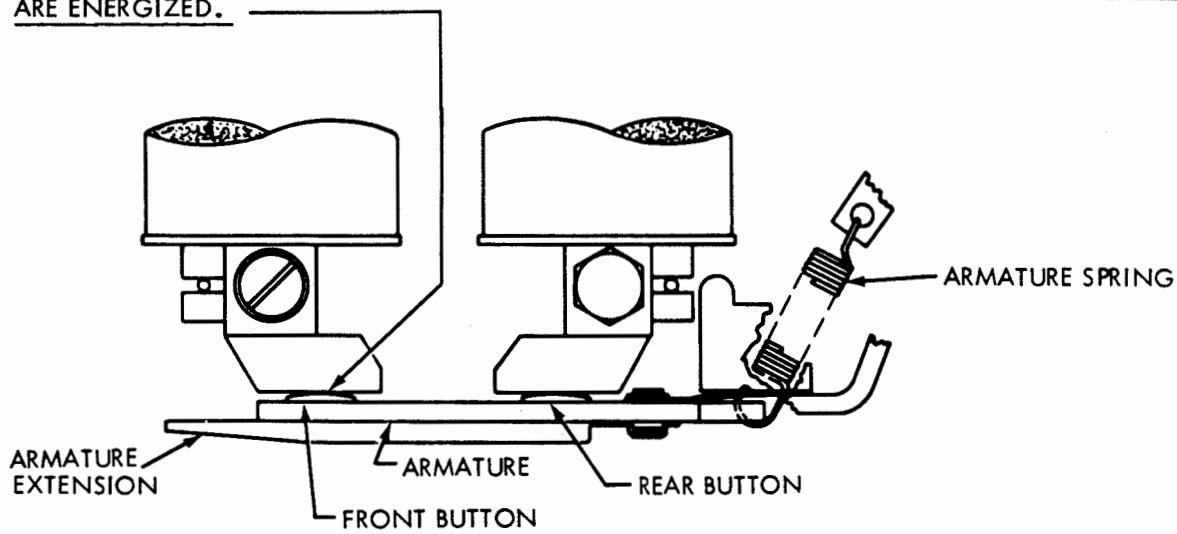
0.060 AMPERE - APPROXIMATELY 3/4 OZ.
0.500 AMPERE - APPROXIMATELY 1-1/8 OZS.

TO ADJUST
POSITION ADJUSTING NUT.



(SEE SELECTOR RECEIVING MARGIN ADJUSTMENT)

SELECTOR ARMATURE SPRING
REQUIREMENT (FINAL)
WHEN A DISTORTION TEST SET IS AVAILABLE, THE SELECTOR ARMATURE SPRING TENSION SHOULD BE REFINED, IF NECESSARY, TO OBTAIN SATISFACTORY RECEIVING MARGINS. THE FRONT ANTI-FREEZE BUTTON MUST CONTACT THE MAGNET CORE WHEN THE MAGNET COILS ARE ENERGIZED.



REQUIREMENT (FINAL)
SEE SELECTOR RECEIVING MARGIN ADJUSTMENT (PARAGRAPH 2.14)

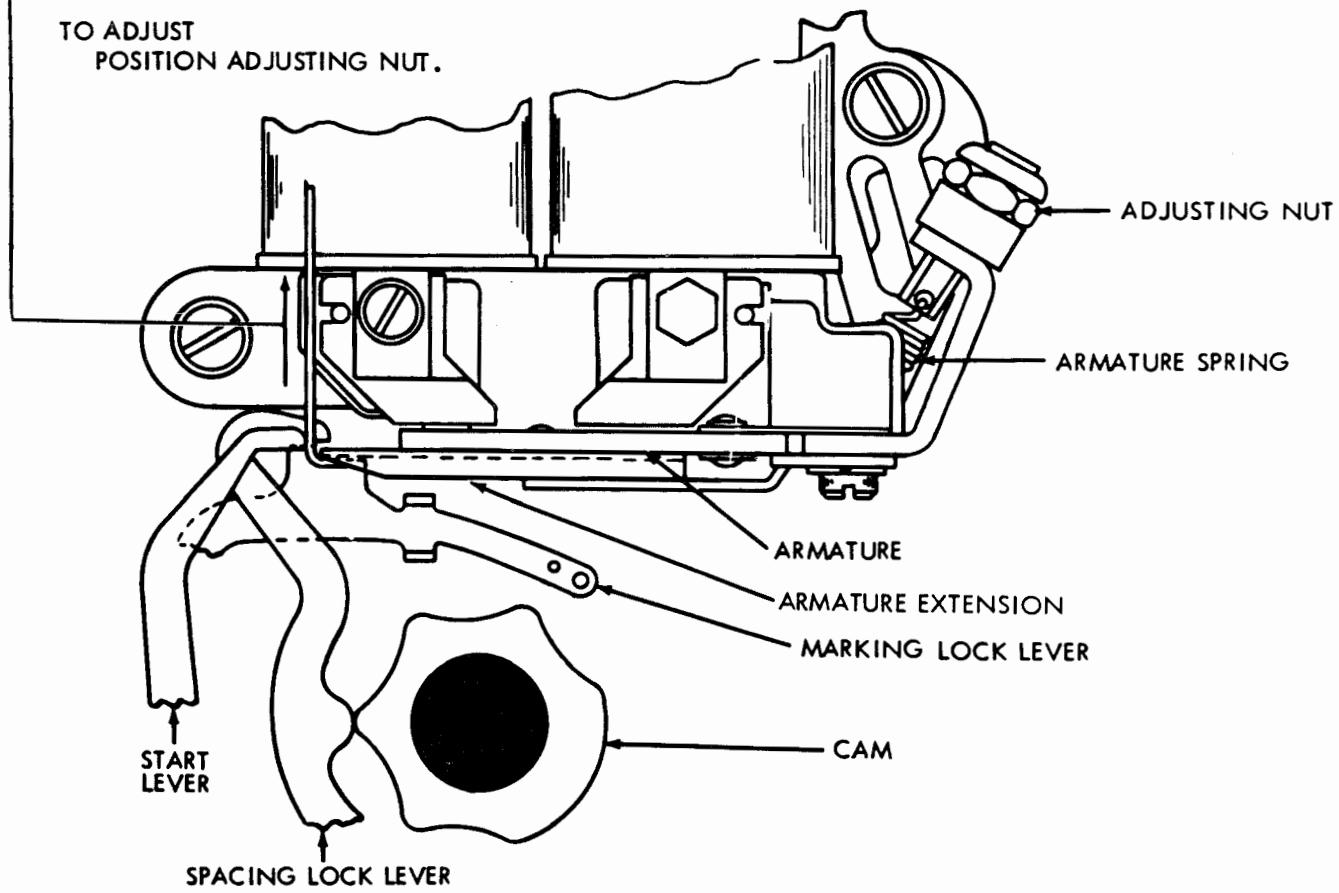
2.08 Selector Mechanism (Cont.)

SELECTOR ARMATURE SPRING
(FOR UNITS EMPLOYING SELECTOR ARMATURE WITH SINGLE ANTI-FREEZE BUTTON ONLY).
REQUIREMENT (PRELIMINARY)
WITH LOCKING LEVERS AND START LEVER ON HIGH PART OF THEIR CAMS, SCALE APPLIED AS NEARLY VERTICAL AS POSSIBLE UNDER END OF ARMATURE EXTENSION. IT SHALL REQUIRE THE FOLLOWING TENSIONS TO MOVE ARMATURE TO MARKING POSITION:

0.060 AMPERE - MIN. 2-1/2 OZS. --- MAX. 3 OZS.
0.500 AMPERE - MIN. 4-1/2 OZS. --- MAX. 5-1/2 OZS.

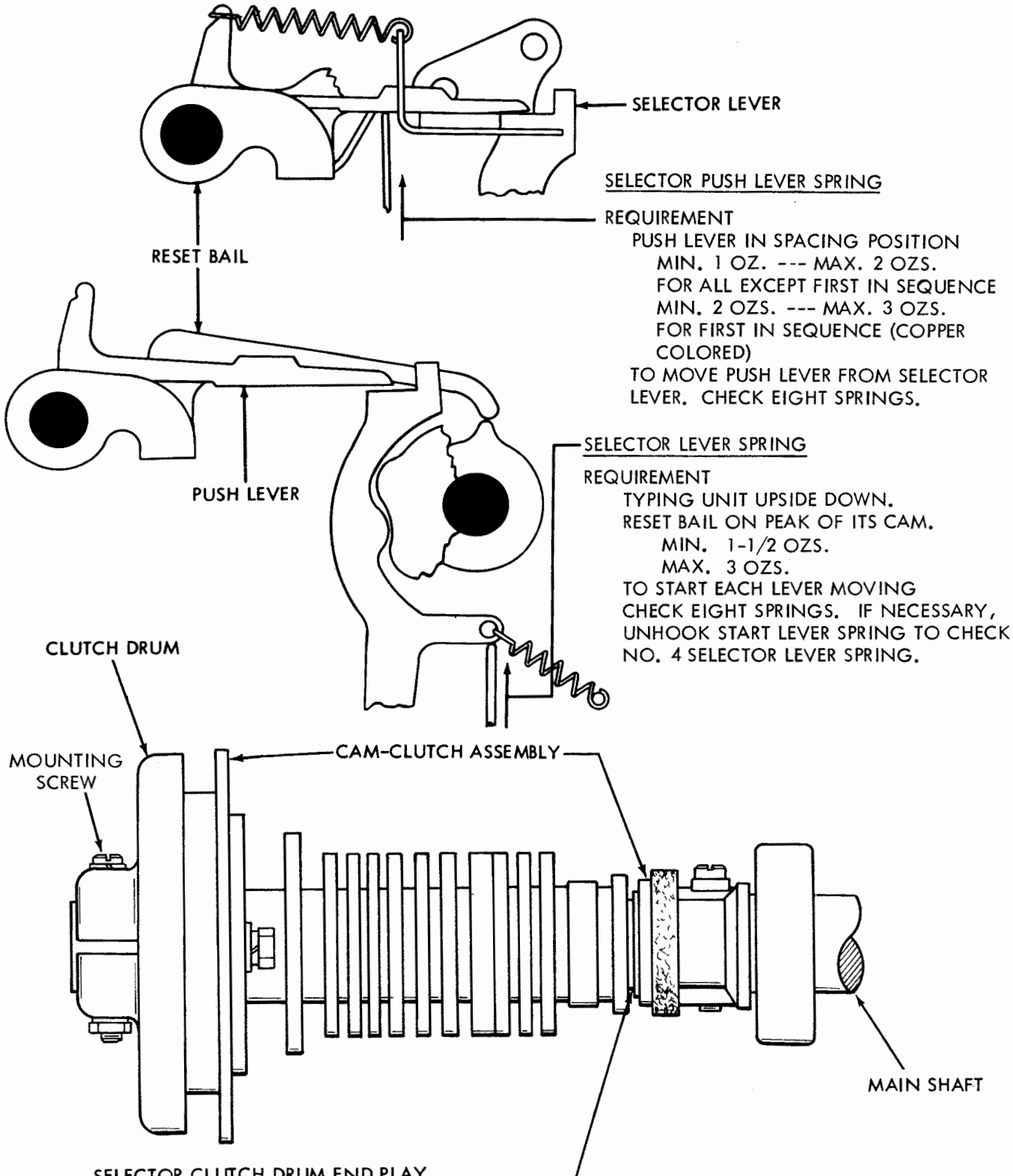
NOTE

THIS SPRING CAN BE ADJUSTED FOR MAXIMUM SELECTOR PERFORMANCE ONLY WHEN PRINTER IS CONNECTED TO THE SPECIFIC CIRCUIT OVER WHICH IT IS TO OPERATE UNDER SERVICE CONDITIONS. SINCE THERE ARE SEVERAL OPERATING SPEEDS AND SINCE CIRCUITS VARY WIDELY, IT IS IMPOSSIBLE TO ADJUST SPRING FOR MAXIMUM PERFORMANCE AT THE FACTORY. THE FOREGOING SPRING TENSION REQUIREMENT IS GIVEN TO PERMIT OPERATION PRIOR TO MEASUREMENT OF RECEIVING MARGINS. READJUSTMENT MADE TO OBTAIN SATISFACTORY RECEIVING MARGIN SHOULD NOT BE DISTURBED IN ORDER TO MEET REQUIREMENTS OF THIS ADJUSTMENT.



REQUIREMENT (FINAL)
SEE SELECTOR RECEIVING MARGIN ADJUSTMENT (PARAGRAPH 2.12)

2.09 Selector Mechanism (Cont.)



SELECTOR PUSH LEVER SPRING

REQUIREMENT

PUSH LEVER IN SPACING POSITION
MIN. 1 OZ. --- MAX. 2 OZS.
FOR ALL EXCEPT FIRST IN SEQUENCE
MIN. 2 OZS. --- MAX. 3 OZS.
FOR FIRST IN SEQUENCE (COPPER COLORED)
TO MOVE PUSH LEVER FROM SELECTOR LEVER. CHECK EIGHT SPRINGS.

SELECTOR LEVER SPRING

REQUIREMENT

TYPING UNIT UPSIDE DOWN.
RESET BAIL ON PEAK OF ITS CAM.
MIN. 1-1/2 OZS.
MAX. 3 OZS.
TO START EACH LEVER MOVING
CHECK EIGHT SPRINGS. IF NECESSARY, UNHOOK START LEVER SPRING TO CHECK NO. 4 SELECTOR LEVER SPRING.

SELECTOR CLUTCH DRUM END PLAY

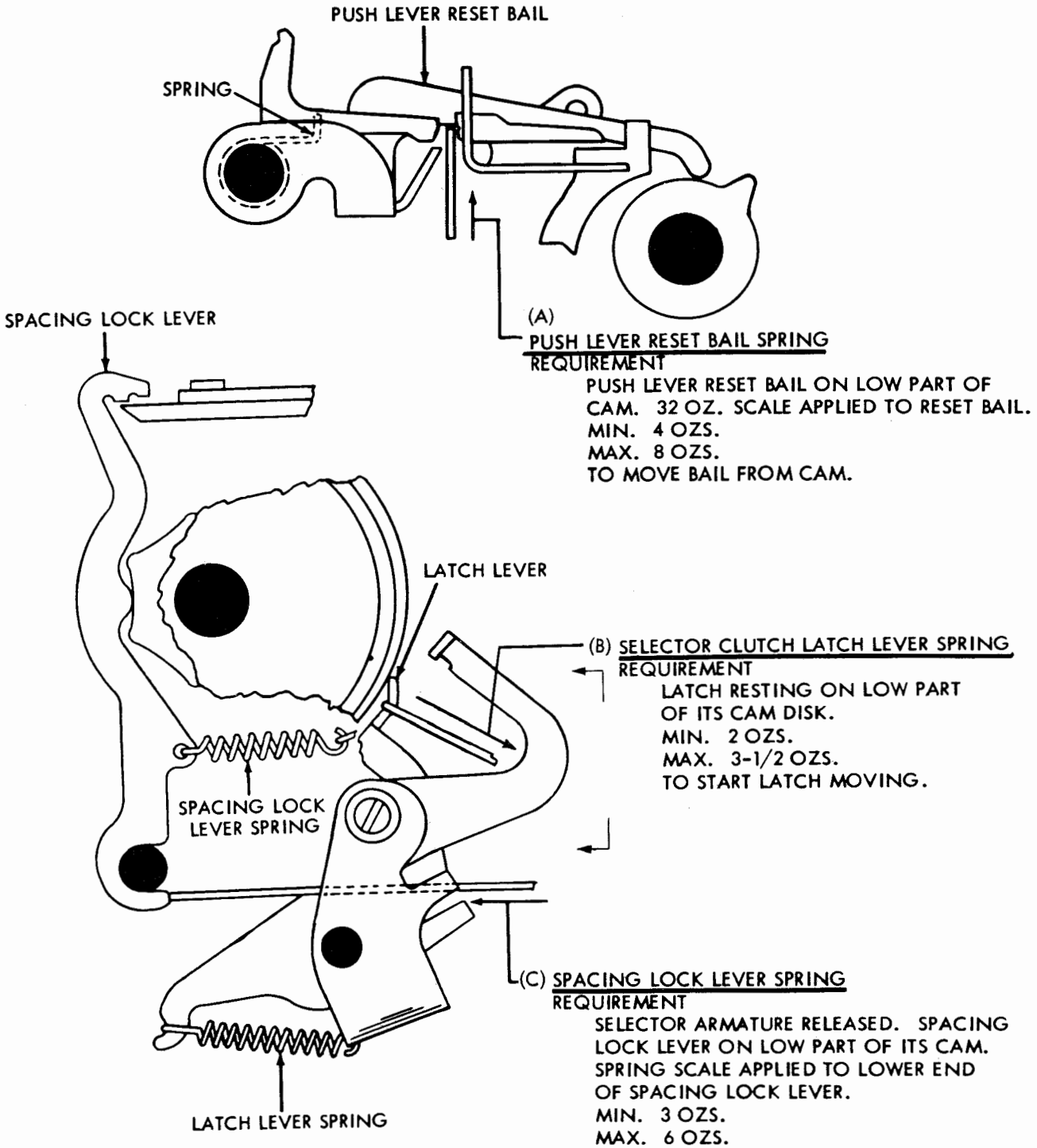
REQUIREMENT

CLUTCH LATCHED IN STOP POSITION. CAM ASSEMBLY SHOULD HAVE SOME END PLAY, NOT MORE THAN 0.010 INCH.

TO ADJUST

POSITION CLUTCH DRUM ON MAIN SHAFT WITH MOUNTING SCREW LOOSENED.

2.10 Selector Mechanism (Cont.)



2.11 Selector Mechanism (Cont.)

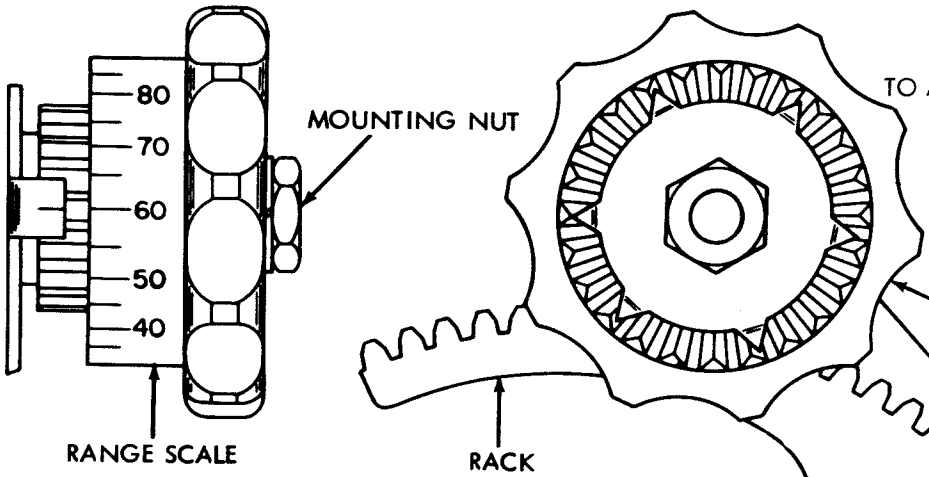
(A) RANGE FINDER KNOB PHASING

REQUIREMENT

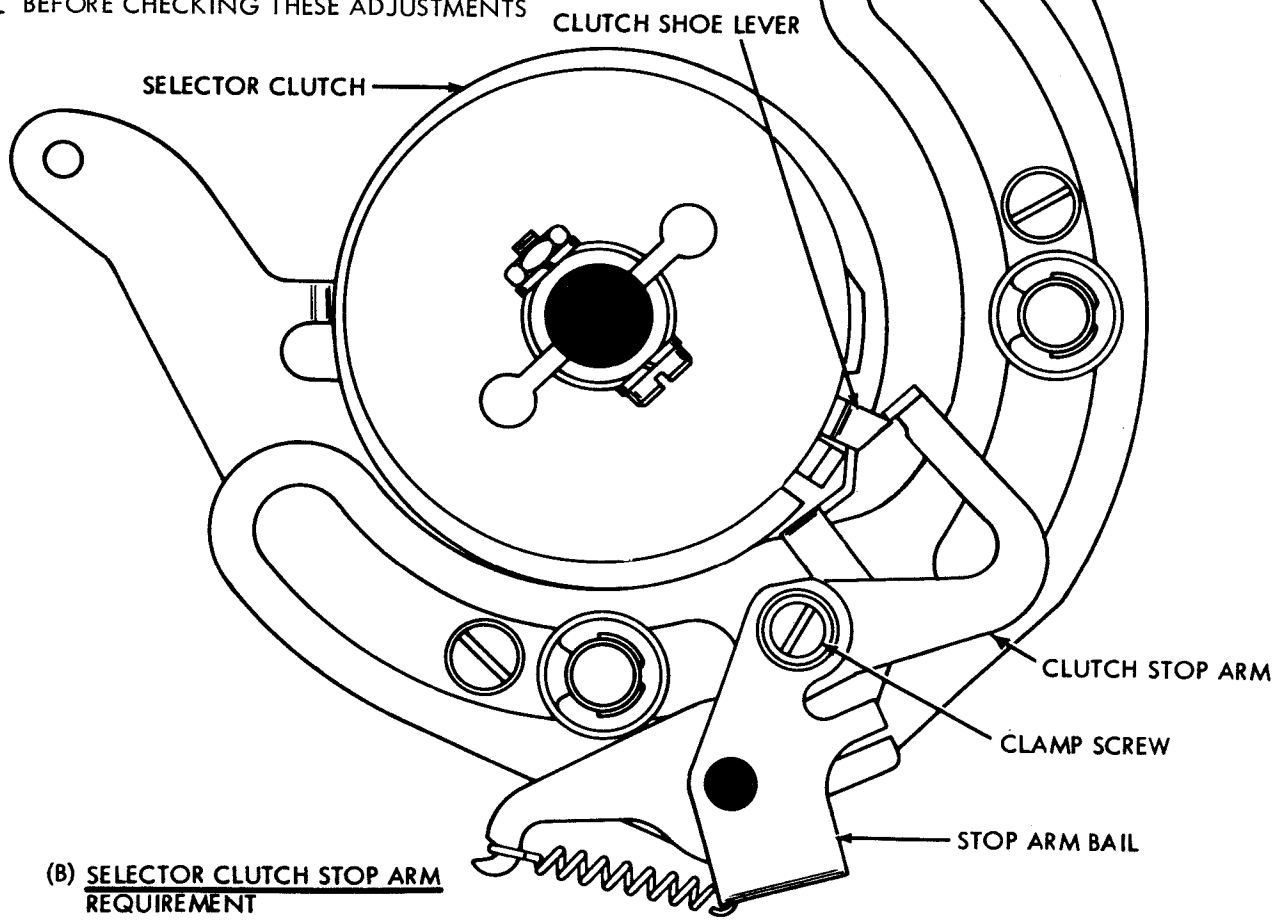
WITH RANGE FINDER KNOB TURNED TO EITHER END OF RACK, ZERO MARK ON SCALE SHOULD BE IN LINE WITH SCRIBED LINE ON RANGE FINDER PLATE ± 3 POINTS.

TO ADJUST

REMOVE MOUNTING NUT, DISENGAGE KNOB FROM RACK AND POSITION KNOB. RE-ENGAGE KNOB WITH RACK AND REPLACE MOUNTING NUT.



NOTE: REPLACE RANGE FINDER AND SELECTOR MAGNET ASSEMBLY BEFORE CHECKING THESE ADJUSTMENTS



(B) SELECTOR CLUTCH STOP ARM

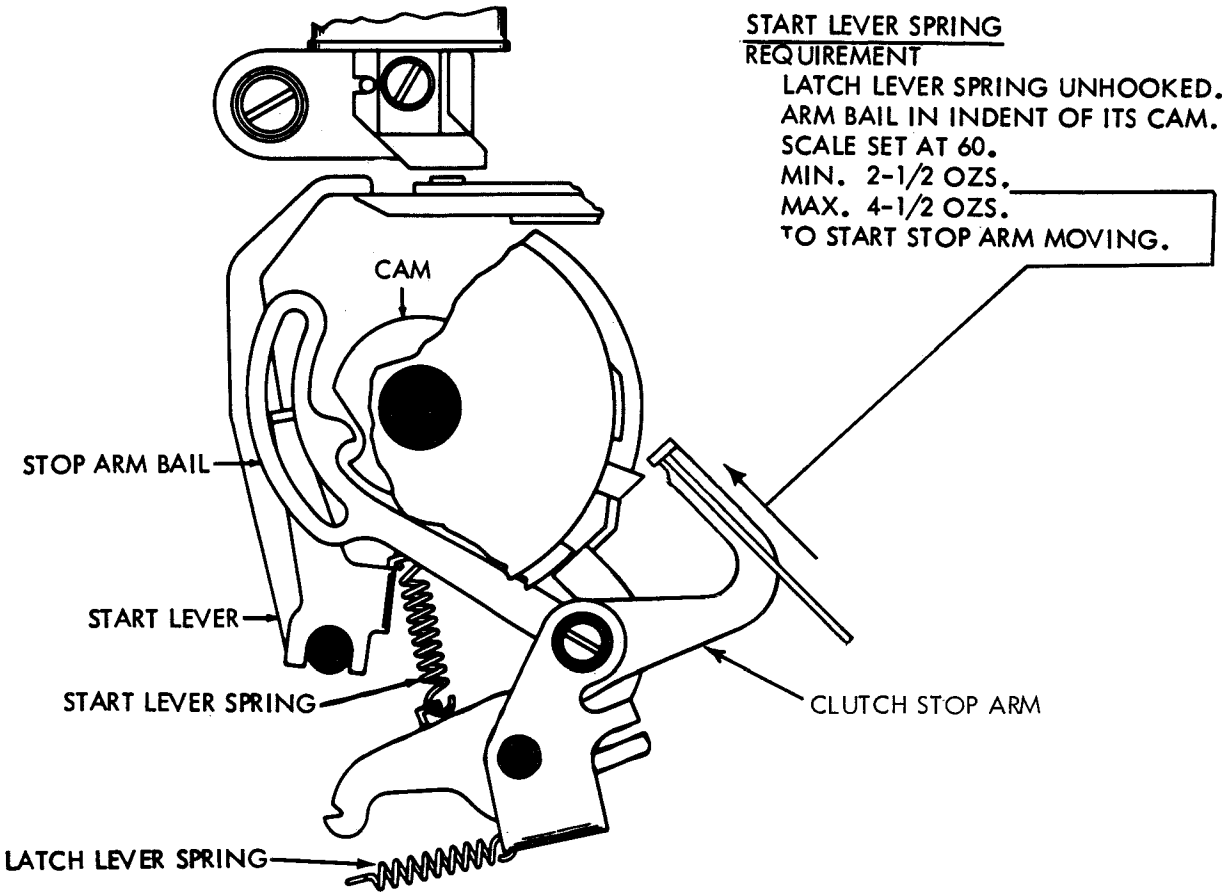
REQUIREMENT

RANGE SCALE SET AT 60. SELECTOR CLUTCH DISENGAGED. ARMATURE IN MARKING POSITION. CLUTCH STOP ARM SHOULD ENGAGE CLUTCH SHOE LEVER BY APPROXIMATELY FULL THICKNESS OF STOP ARM.

TO ADJUST

POSITION STOP ARM ON STOP ARM BAIL WITH CLAMP SCREW LOOSENED.

2.12 Selector Mechanism (Cont.)



SELECTOR RECEIVING MARGIN

REQUIREMENT (FOR UNITS EMPLOYING ARMATURE WITH ONE ANTI-FREEZE BUTTON)
WHEN A SIGNAL DISTORTION TEST SET IS USED FOR DETERMINING THE RECEIVING MARGINS OF THE SELECTOR, AND WHERE THE CONDITION OF THE COMPONENTS IS EQUIVALENT TO THAT OF NEW EQUIPMENT, THE RANGE AND DISTORTION TOLERANCES BELOW SHOULD BE MET.

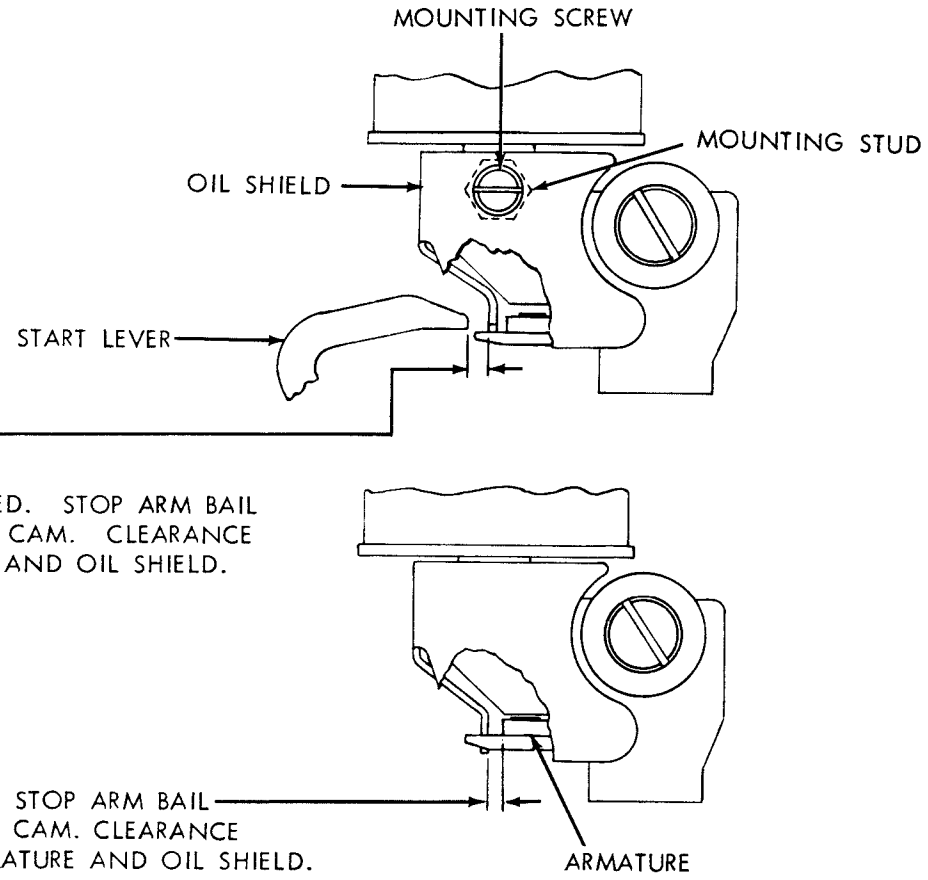
REQUIREMENT (FOR UNITS EMPLOYING ARMATURE WITH TWO ANTI-FREEZE BUTTONS)
WHEN A DISTORTION TEST SET IS AVAILABLE, THE SELECTOR ARMATURE SPRING TENSION SHOULD BE REFINED, IF NECESSARY, TO OBTAIN SATISFACTORY RECEIVING MARGINS. THE FRONT ANTI-FREEZE BUTTON MUST CONTACT THE MAGNET CORE WHEN THE MAGNET COILS ARE ENERGIZED.

TO ADJUST: REFINE THE SELECTOR ARMATURE SPRING ADJUSTMENT

SELECTOR RECEIVING MARGIN MINIMUM REQUIREMENTS

CURRENT	SPEED IN W.P.M.	POINTS RANGE WITH ZERO DISTORTION	PERCENTAGE OF MARKING AND SPACING BIAS	END DISTORTION TOLERATED WITH SCALE AT BIAS OPTIMUM SETTING
0.500 AMP (WINDINGS SERIES)	100	72	38	35

2.13 Selector Mechanism (Cont.)



OIL SHIELD

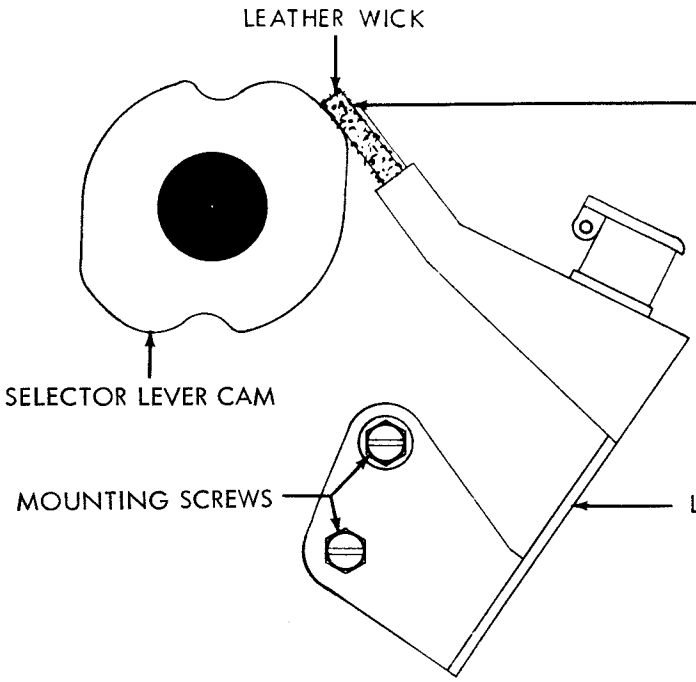
REQUIREMENT

(1) MAGNET DE-ENERGIZED. STOP ARM BAIL ON LOW PART OF ITS CAM. CLEARANCE BETWEEN START LEVER AND OIL SHIELD. MIN. 0.020 INCH

(2) MAGNET ENERGIZED. STOP ARM BAIL ON HIGH PART OF ITS CAM. CLEARANCE BETWEEN END OF ARMATURE AND OIL SHIELD. MIN. 0.010 INCH

TO ADJUST

POSITION SHIELD WITH MOUNTING SCREW LOOSENED. MAKE SURE OIL SHIELD MOUNTING STUD IS SECURE BEFORE MAKING ADJUSTMENT.



SELECTOR CAM LUBRICATOR

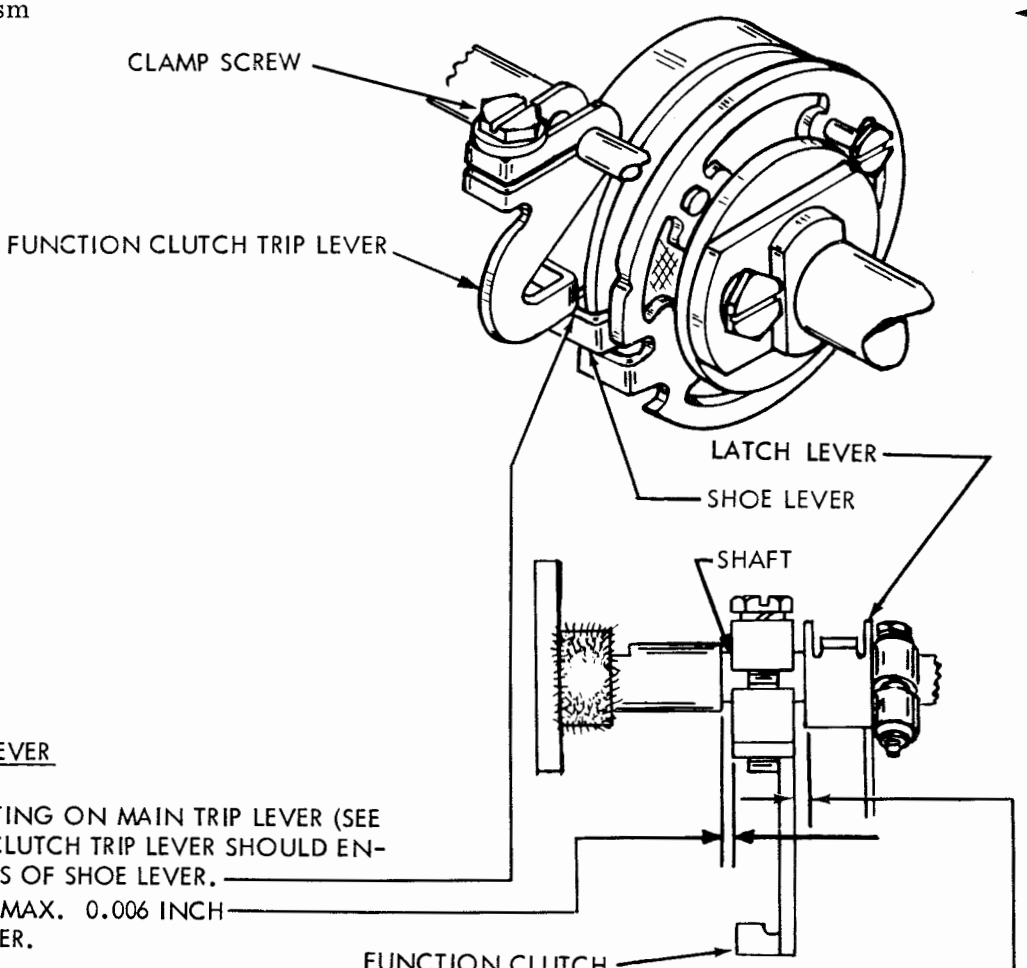
REQUIREMENT

HIGH PART OF SELECTOR LEVER CAMS SHOULD CONTACT LEATHER WICK BUT SHOULD NOT DEFLECT WICK MORE THAN 1/32 INCH GAUGED VISUALLY.

TO ADJUST

POSITION LUBRICATOR ASSEMBLY AROUND LOWER SCREW WITH MOUNTING SCREWS LOOSENED.

2.14 Function Mechanism



(RIGHT SIDE VIEWS)

(A)

FUNCTION CLUTCH TRIP LEVER

REQUIREMENT

(1) WITH RELEASE RESTING ON MAIN TRIP LEVER (SEE BELOW), FUNCTION CLUTCH TRIP LEVER SHOULD ENGAGE FULL THICKNESS OF SHOE LEVER.

(2) MIN. SOME----MAX. 0.006 INCH END PLAY IN TRIP LEVER.

TO ADJUST

POSITION TRIP LEVER ON ITS SHAFT WITH CLAMP SCREW LOOSENED.

(B)

RESET ARM

TO CHECK

TRIP FUNCTION CLUTCH AND POSITION MAIN SHAFT SO THAT RESET ARM IS HELD IN ITS HIGHEST POSITION BY CAM PIN.

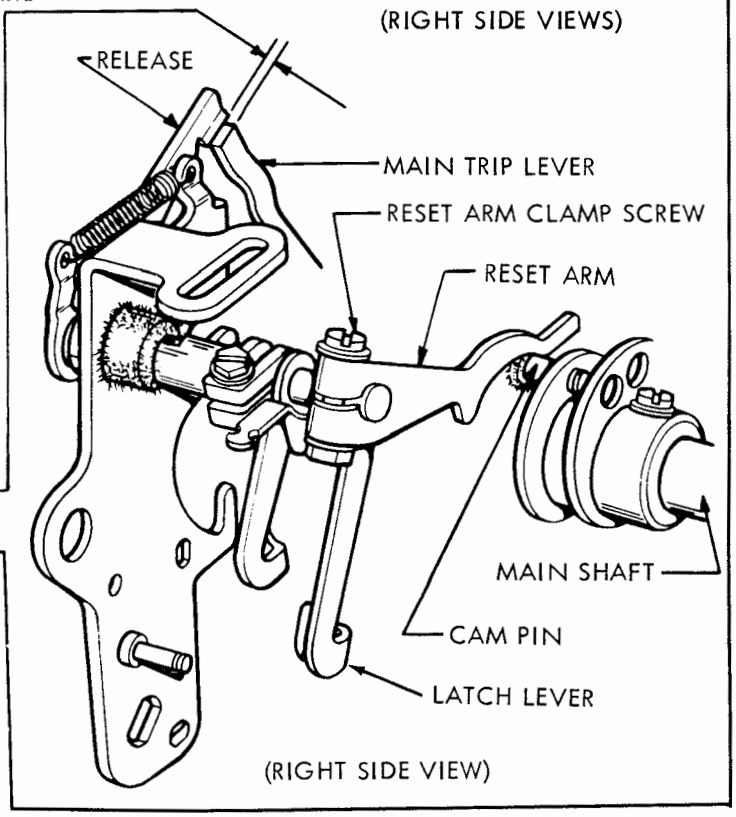
REQUIREMENT

(1) CLEARANCE BETWEEN RELEASE AND MAIN TRIP LEVER:
MIN. 0.010 INCH----MAX. 0.030 INCH

(2) LATCH LEVER END PLAY:
MIN. SOME----MAX. 0.010 INCH

TO ADJUST

POSITION RESET ARM WITH CLAMP SCREW LOOSENED.



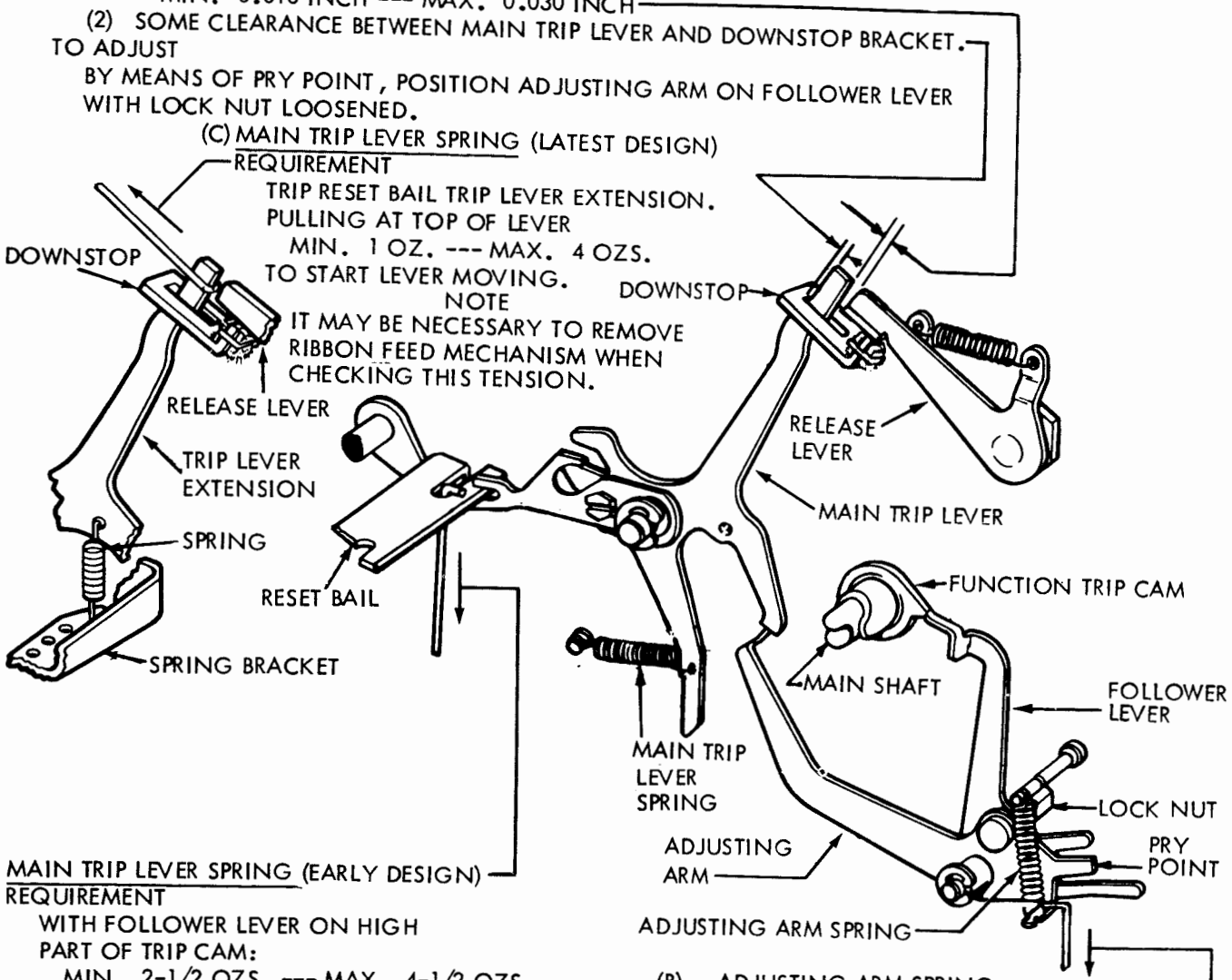
(RIGHT SIDE VIEW)

2.15 Function Mechanism (Cont.)

NOTE: FOR UNITS EQUIPPED WITH AUTOMATIC NON-INTERFERING RUBOUT TAPE FEED-OUT MECHANISM, SUBSTITUTE ADJUSTMENT IN VARIABLE FEATURES, PART 3.

(A) FOLLOWER LEVER
REQUIREMENT
WITH FOLLOWER LEVER ON HIGH PART OF CAM:
(1) CLEARANCE BETWEEN RELEASE AND MAIN TRIP LEVER:
MIN. 0.010 INCH --- MAX. 0.030 INCH
(2) SOME CLEARANCE BETWEEN MAIN TRIP LEVER AND DOWNSTOP BRACKET.
TO ADJUST
BY MEANS OF PRY POINT, POSITION ADJUSTING ARM ON FOLLOWER LEVER WITH LOCK NUT LOOSENED.

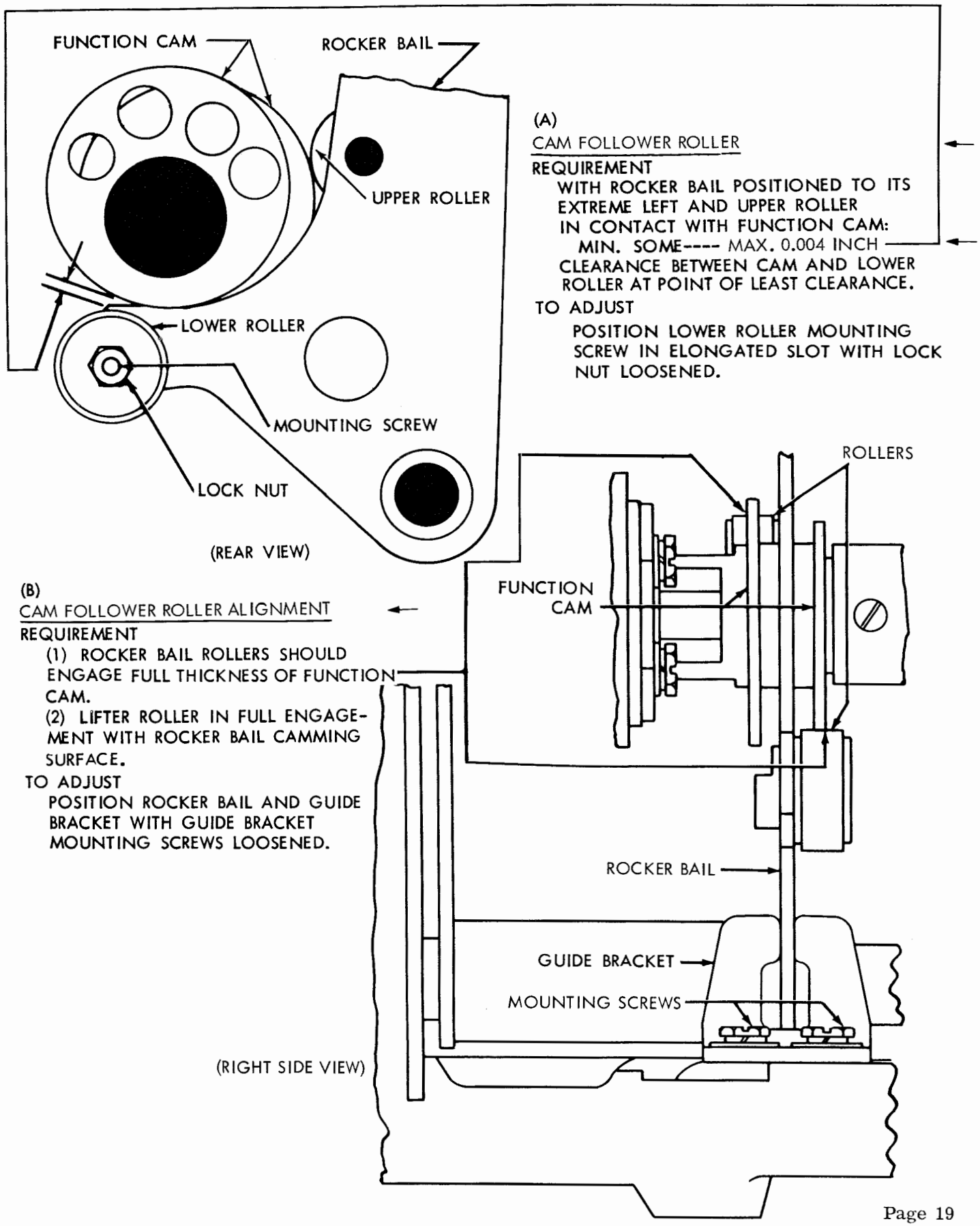
(C) MAIN TRIP LEVER SPRING (LATEST DESIGN)
REQUIREMENT
TRIP RESET BAIL TRIP LEVER EXTENSION.
PULLING AT TOP OF LEVER
MIN. 1 OZ. --- MAX. 4 OZS.
TO START LEVER MOVING.
NOTE
IT MAY BE NECESSARY TO REMOVE RIBBON FEED MECHANISM WHEN CHECKING THIS TENSION.



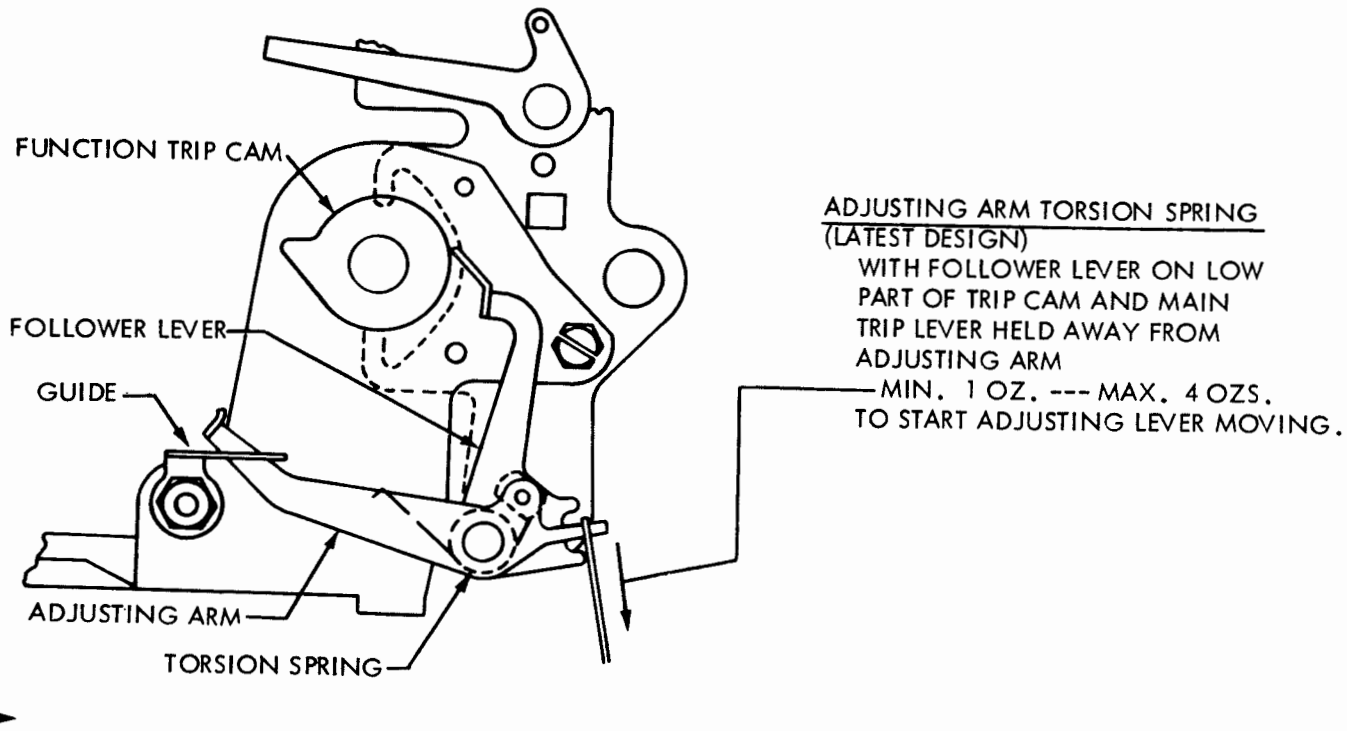
MAIN TRIP LEVER SPRING (EARLY DESIGN)
REQUIREMENT
WITH FOLLOWER LEVER ON HIGH PART OF TRIP CAM:
MIN. 2-1/2 OZS. --- MAX. 4-1/2 OZS.
TO START TRIP LEVER MOVING.

(B) ADJUSTING ARM SPRING
REQUIREMENT (EARLY DESIGN)
WITH FOLLOWER LEVER ON HIGH PART OF TRIP CAM AND MAIN TRIP LEVER HELD AWAY FROM ADJUSTING ARM:
MIN. 2-1/2 OZS. --- MAX. 4 OZS.
TO START ADJUSTING LEVER MOVING.

2.16 Function Mechanism (Cont.)



2.17 Function Mechanism (Cont.)



2.18 Punch Mechanism

PERFORATOR POSITION (PRELIMINARY)

REQUIREMENT

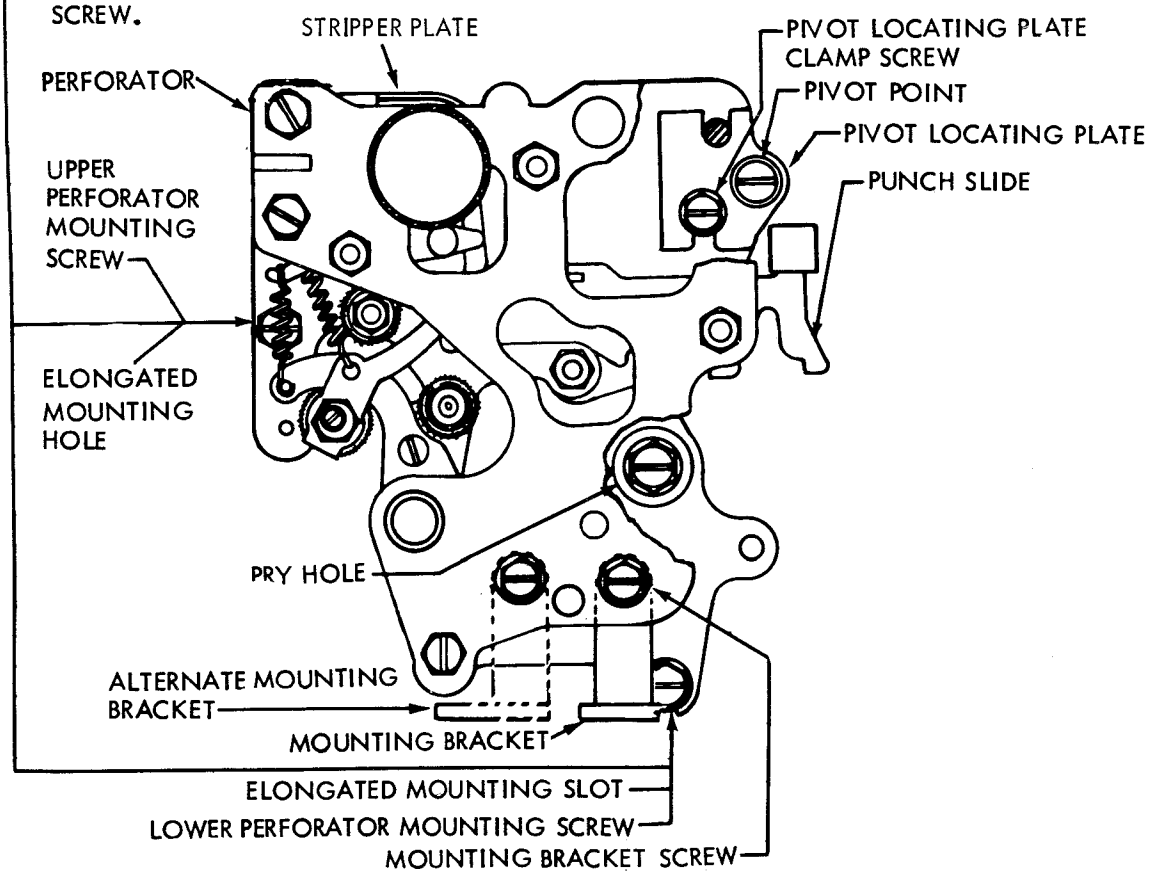
THE PERFORATOR MECHANISM MOUNTING SCREW BENEATH PUNCH BLOCK AND MOUNTING SCREW AT LOWER EDGE OF PERFORATOR MECHANISM BACKPLATE SHALL BE LOCATED CENTRALLY WITHIN THEIR RESPECTIVE MOUNTING HOLES.

NOTE

THE MOUNTING HOLES ARE OVERSIZE TO FACILITATE USE OF PERFORATOR MECHANISM ON THE TYPING REPERFORATOR

TO ADJUST

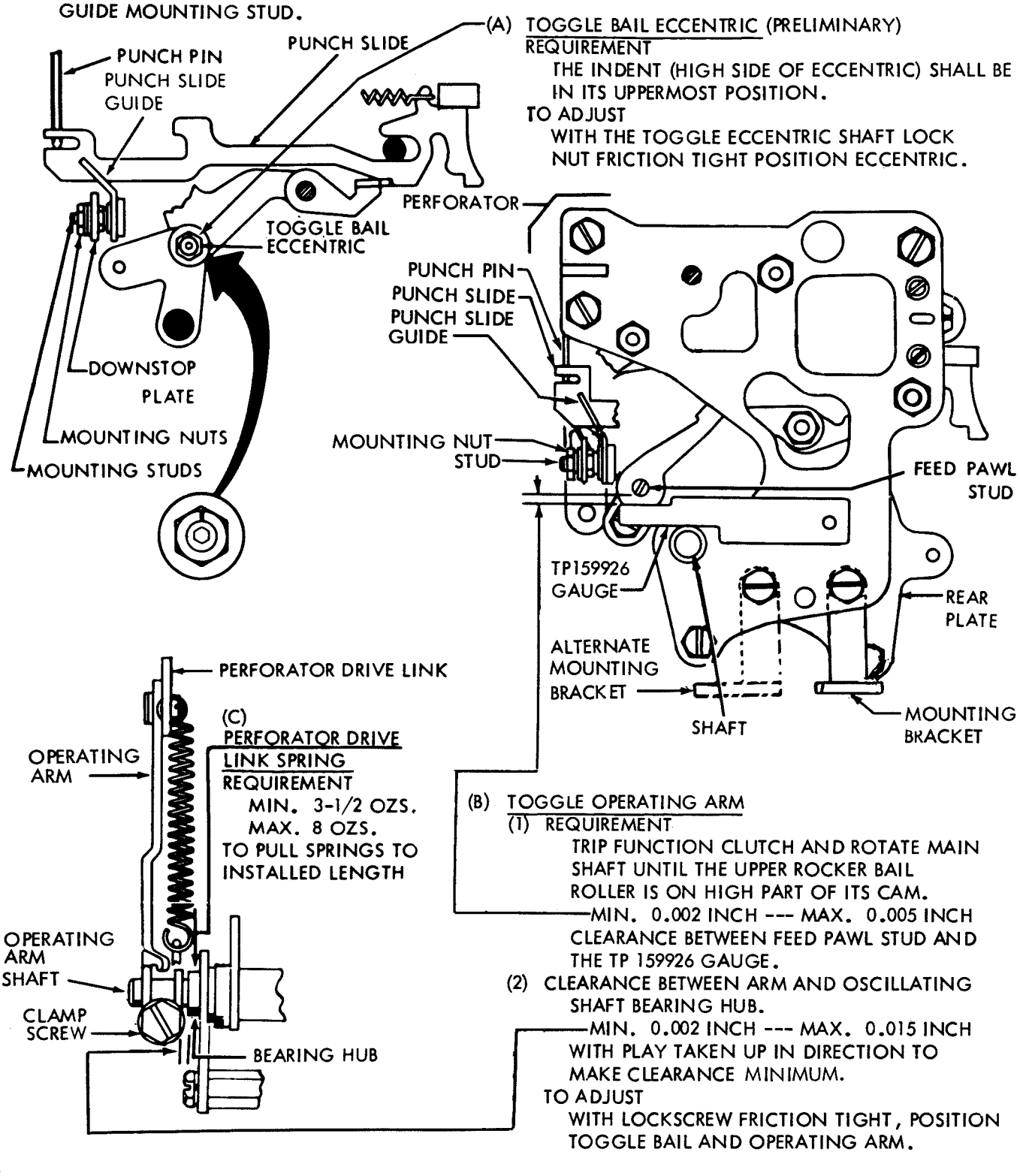
REMOVE MOUNTING SCREW AT THE LOWER EDGE OF PERFORATOR MECHANISM BACKPLATE, WITH THE TWO REMAINING BACKPLATE MOUNTING SCREWS AND MOUNTING BRACKET SCREW FRICTION TIGHT, POSITION PERFORATOR MECHANISM SO THAT THE TAPPED HOLE OF THE FRAME IS CENTRALLY LOCATED (AS GAUGED BY EYE) WITHIN LARGE BODY HOLE OF PUNCH MECHANISM BACKPLATE. TIGHTEN THE TWO BACKPLATE MOUNTING SCREWS AND RECHECK TO SEE THAT REQUIREMENT IS MET. REPLACE AND TIGHTEN THE LOWER BACKPLATE MOUNTING SCREW. TIGHTEN THE BRACKET MOUNTING SCREW.



2.19 Punch Mechanism (Cont.)

NOTE

BEFORE PROCEEDING WITH THE PUNCH MECHANISM ADJUSTMENTS, CHECK THE ROCKER BAIL LOWER ROLLER ADJUSTMENT AND LOOSEN THE PUNCH SLIDE DOWNSTOP MOUNTING NUT AND GUIDE MOUNTING STUD.



(A) TOGGLE BAIL ECCENTRIC (PRELIMINARY)

REQUIREMENT

THE INDENT (HIGH SIDE OF ECCENTRIC) SHALL BE IN ITS UPPERMOST POSITION.

TO ADJUST

WITH THE TOGGLE ECCENTRIC SHAFT LOCK NUT FRICTION TIGHT POSITION ECCENTRIC.

(C) PERFORATOR DRIVE LINK SPRING

REQUIREMENT

MIN. 3-1/2 OZS.
MAX. 8 OZS.
TO PULL SPRINGS TO INSTALLED LENGTH

(B) TOGGLE OPERATING ARM

(1) REQUIREMENT

TRIP FUNCTION CLUTCH AND ROTATE MAIN SHAFT UNTIL THE UPPER ROCKER BAIL ROLLER IS ON HIGH PART OF ITS CAM.

MIN. 0.002 INCH --- MAX. 0.005 INCH CLEARANCE BETWEEN FEED PAWL STUD AND THE TP 159926 GAUGE.

(2) CLEARANCE BETWEEN ARM AND OSCILLATING SHAFT BEARING HUB.

MIN. 0.002 INCH --- MAX. 0.015 INCH WITH PLAY TAKEN UP IN DIRECTION TO MAKE CLEARANCE MINIMUM.

TO ADJUST

WITH LOCKSCREW FRICTION TIGHT, POSITION TOGGLE BAIL AND OPERATING ARM.

2.20 Punch Mechanism (Cont.)

PUNCH SLIDE DOWNSTOP POSITION

REQUIREMENT

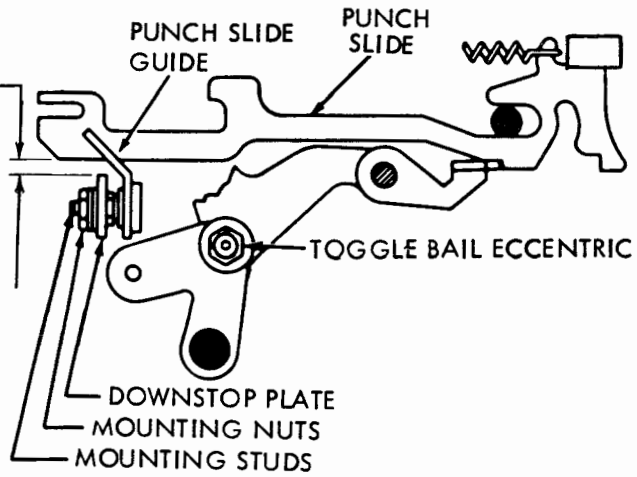
WITH FUNCTION CLUTCH DISENGAGED AND LATCHED. PLAY TAKEN UP TOWARD THE TOP, CLEARANCE BETWEEN BOTH THE FRONT AND REAR PUNCH SLIDES AND THE DOWNSTOP PLATE MIN. SOME --- MAX. 0.008 INCH ALL OTHER PUNCH SLIDES SHALL HAVE SOME CLEARANCE.

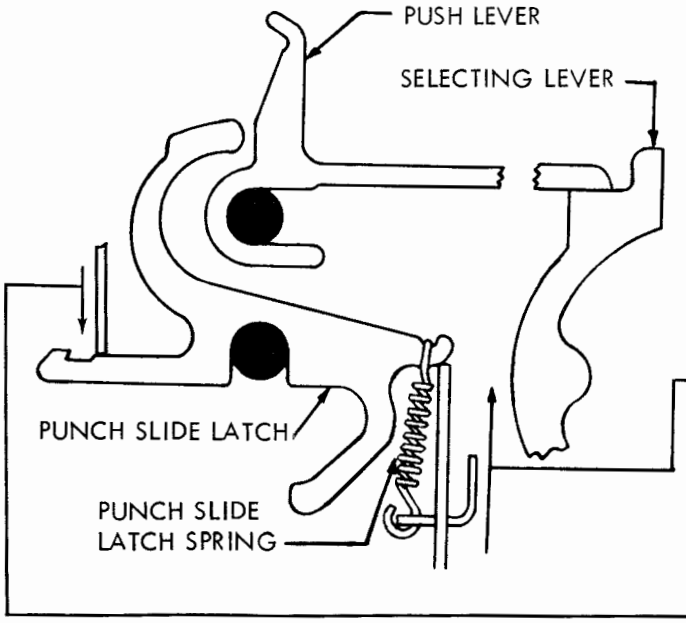
NOTE

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

TO ADJUST

WITH UNIT IN STOP POSITION, LOOSEN THE TWO DOWNSTOP PLATE MOUNTING LOCK NUTS AND LOCATE THE DOWNSTOP PLATE TO MEET THE REQUIREMENT.





PUNCH SLIDE LATCH SPRINGS

TO CHECK

SELECT RUBOUT CODE COMBINATION (12345678). POSITION ROCKER BAIL TO EXTREME LEFT. STRIP PUSH LEVERS FROM SELECTING LEVERS.

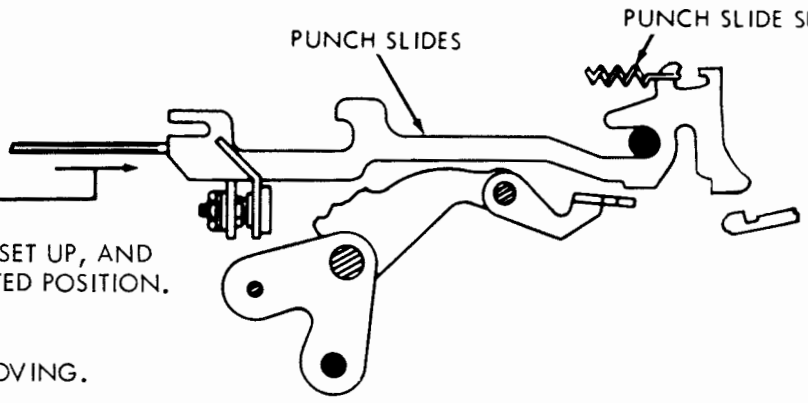
REQUIREMENT

FOR ONE-SHAFT UNIT

MIN. 1 OZ.
MAX. 3 OZS.
TO START LATCH MOVING.

FOR TWO-SHAFT UNIT

MIN. 3/4 OZS.
MAX. 2 OZS.
TO START LATCH MOVING.



PUNCH SLIDE SPRING

REQUIREMENT

RUBOUT COMBINATION SET UP, AND PUNCH SLIDES IN SELECTED POSITION.

MIN. 2-1/4 OZS.
MAX. 3-1/4 OZS.
TO START EACH SLIDE MOVING.

2.21 Punch Mechanism (Cont.)

PERFORATOR POSITION----FINAL

(1) TO CHECK

SELECT RUBOUT CODE COMBINATION (12345678). ROTATE UNTIL FUNCTION CLUTCH TRIPS WITH PUNCH LEVERS IN EXTREME LEFT-HAND POSITION.

REQUIREMENT

CLEARANCE BETWEEN PUNCH SLIDE AND PUNCH SLIDE LATCH:
MIN. 0.015 INCH----MAX. 0.045 INCH
AT SLIDE WHERE CLEARANCE IS LEAST.

TO ADJUST

LOOSEN PERFORATOR MOUNTING SCREWS, ADJUSTING CLAMP LOCK SCREW, ADJUSTING CLAMP PIVOT SCREW AND ANCHOR BRACKET SCREW UNTIL FRICTION TIGHT. PLACE TIP OF SCREW DRIVER BETWEEN SCREW AND RIM OF PRY HOLE AND PRY PERFORATOR UP OR DOWN. TIGHTEN ONLY ADJUSTING CLAMP LOCK SCREW.

(2) TO CHECK

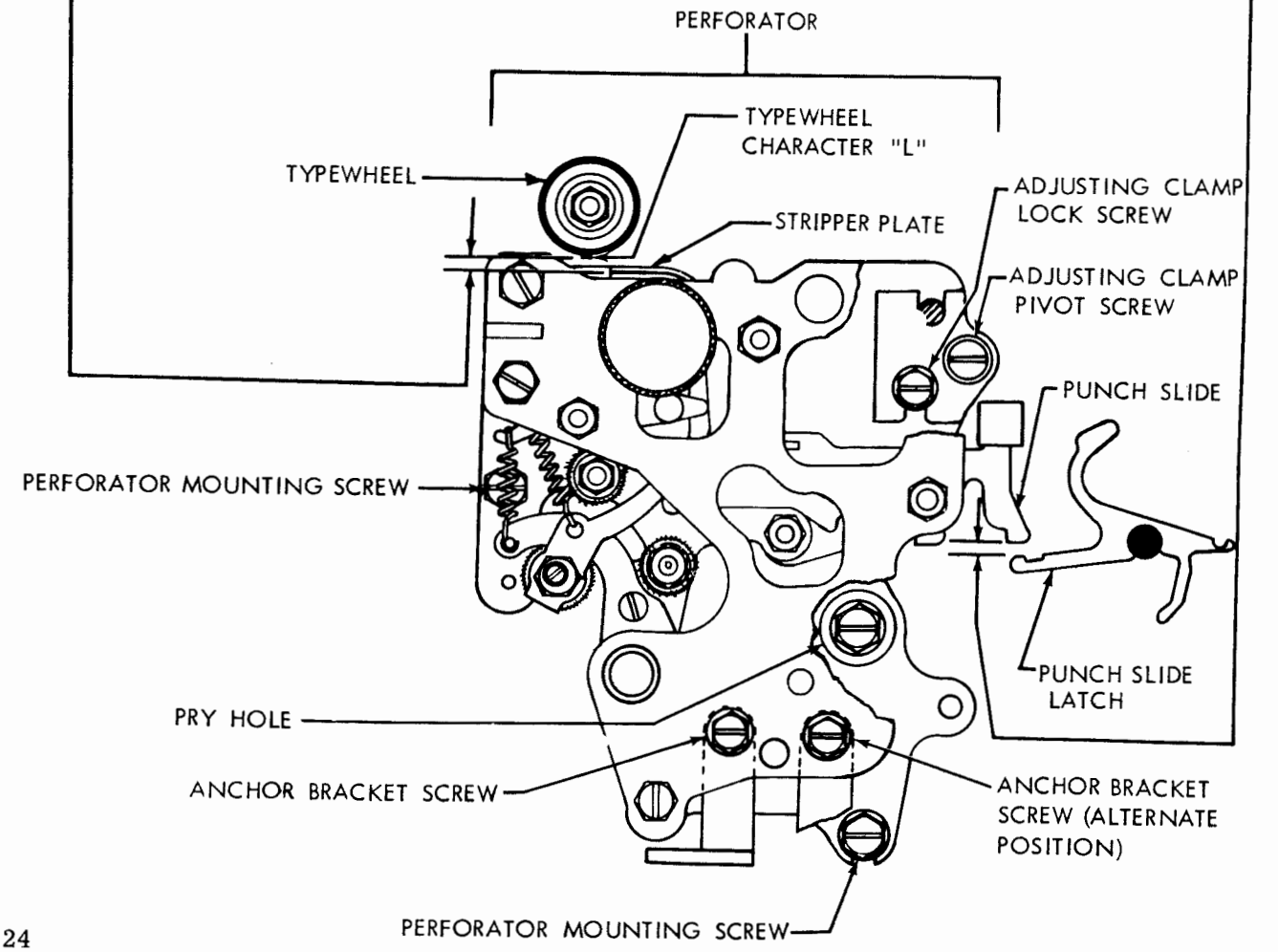
SELECT "L" CODE COMBINATION (--34--78). TRIP FUNCTION CLUTCH AND MOVE ROCKER BAIL TO EXTREME LEFT.

REQUIREMENT

CLEARANCE BETWEEN STRIPPER PLATE AND TYPEWHEEL CHARACTER "L":
MIN. 0.075 INCH----MAX. 0.085 INCH

TO ADJUST

REMOVE RIBBON FROM CARRIER. POSITION PERFORATOR WITH TWO MOUNTING SCREWS, ADJUSTING CLAMP PIVOT SCREW AND ANCHOR BRACKET SCREW LOOSENED. CHECK RESET BAIL TRIP LEVER REQUIREMENT FOR SOME CLEARANCE AND ADJUST IF NECESSARY.



2.22 Punch Mechanism (Cont.)

RESET BAIL TRIP LEVER

REQUIREMENT

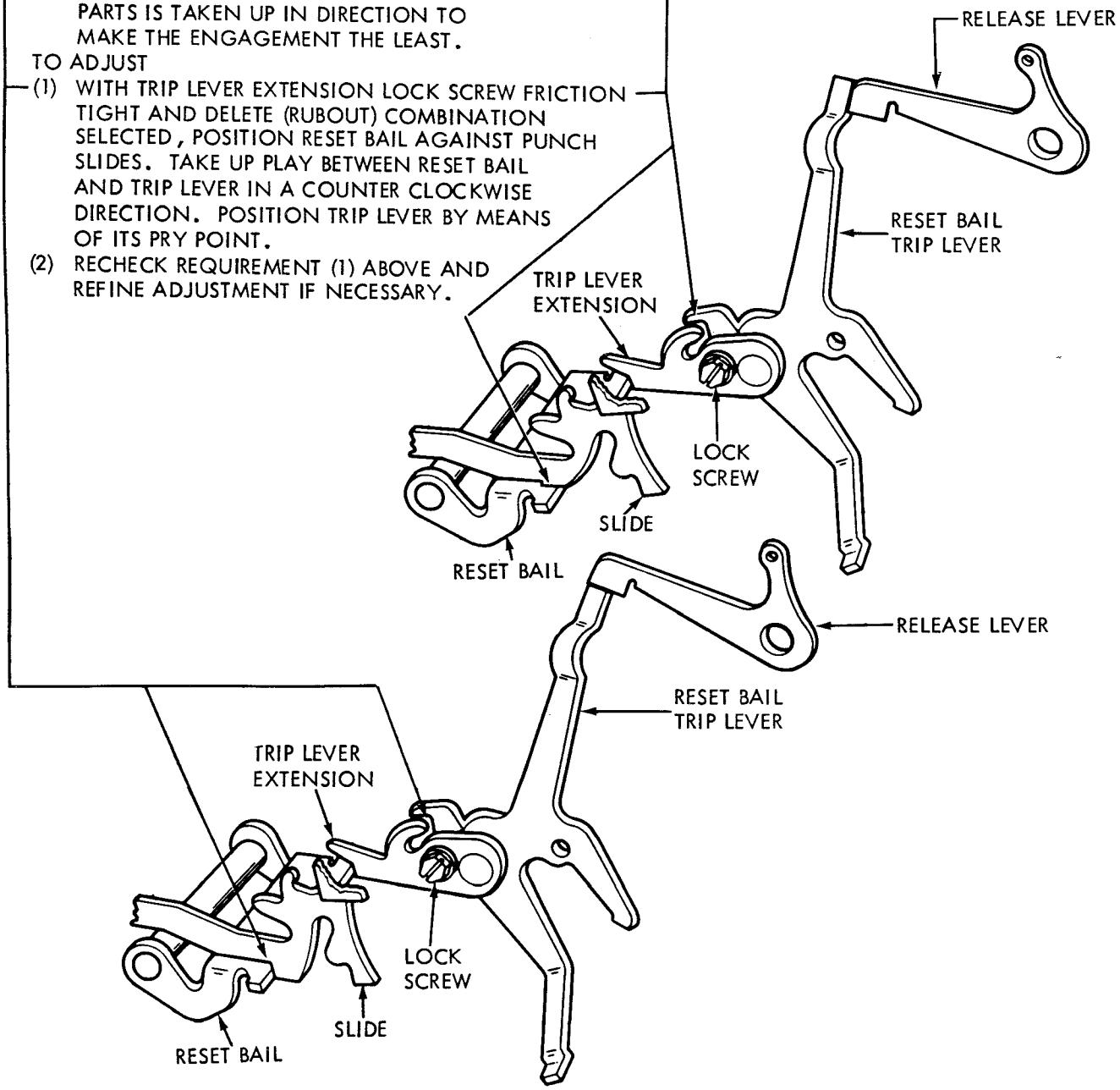
(1) MANUALLY SELECT AN ALL SPACING COMBINATION. MANUALLY ROTATE RESET BAIL TRIP LEVER. THE PUNCH SLIDE RESET BAIL SHALL TRIP BEFORE THE FUNCTION CLUTCH IS TRIPPED.

(2) WITH FUNCTION AND SELECTOR CLUTCHES DISENGAGED 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 DELETE (RUBOUT) 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.



2.23 Punch Mechanism (Cont.)

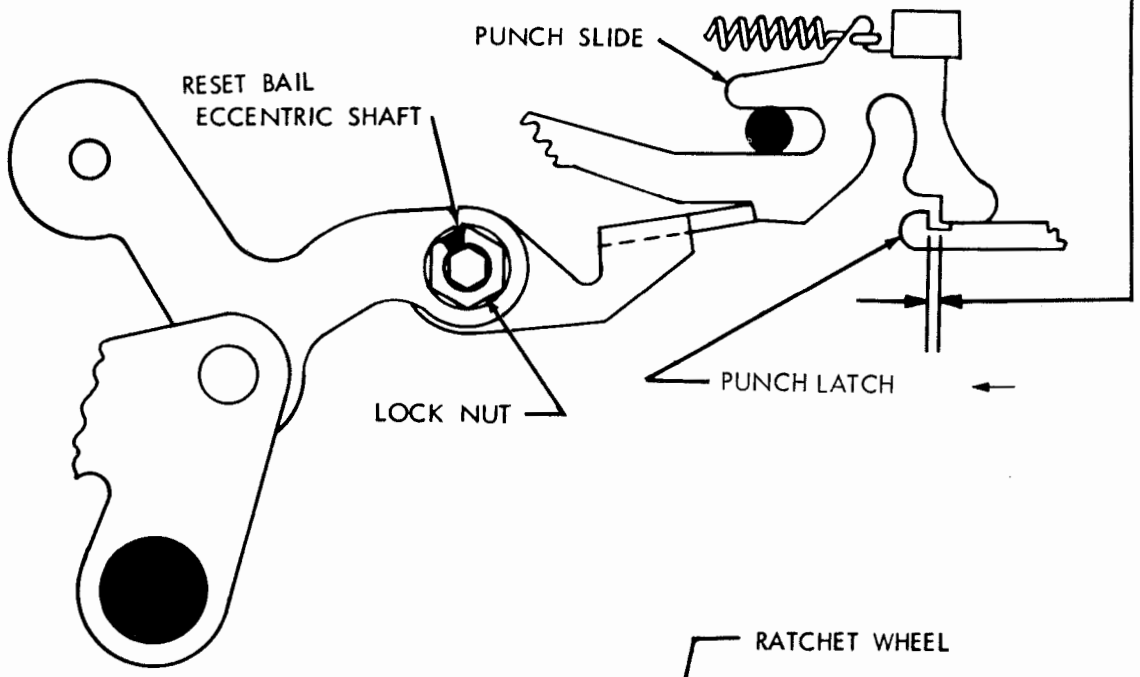
(A) PUNCH SLIDE RESET BAIL

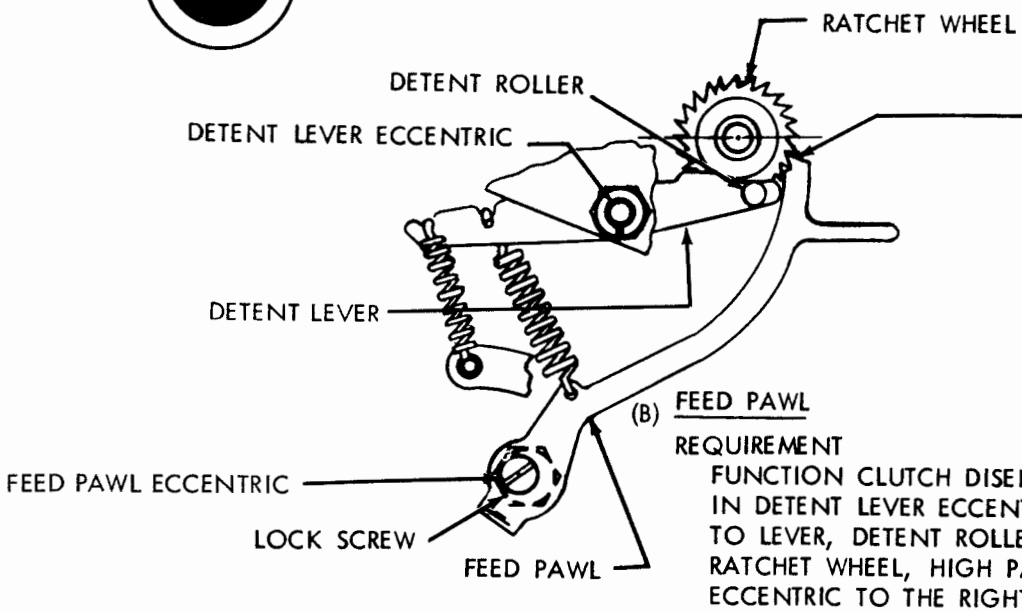
REQUIREMENT

WITH FUNCTION CLUTCH DISENGAGED:
MIN. 0.005 INCH----MAX. 0.015 INCH
BETWEEN PUNCH SLIDE AND PUNCH SLIDE LATCH.

TO ADJUST

ROTATE THE RESET BAIL ECCENTRIC SHAFT WITH ITS LOCK NUT LOOSENED.
KEEP THE INDENTATION IN THE ECCENTRIC ABOVE CENTER OF SHAFT.





(B) FEED PAWL

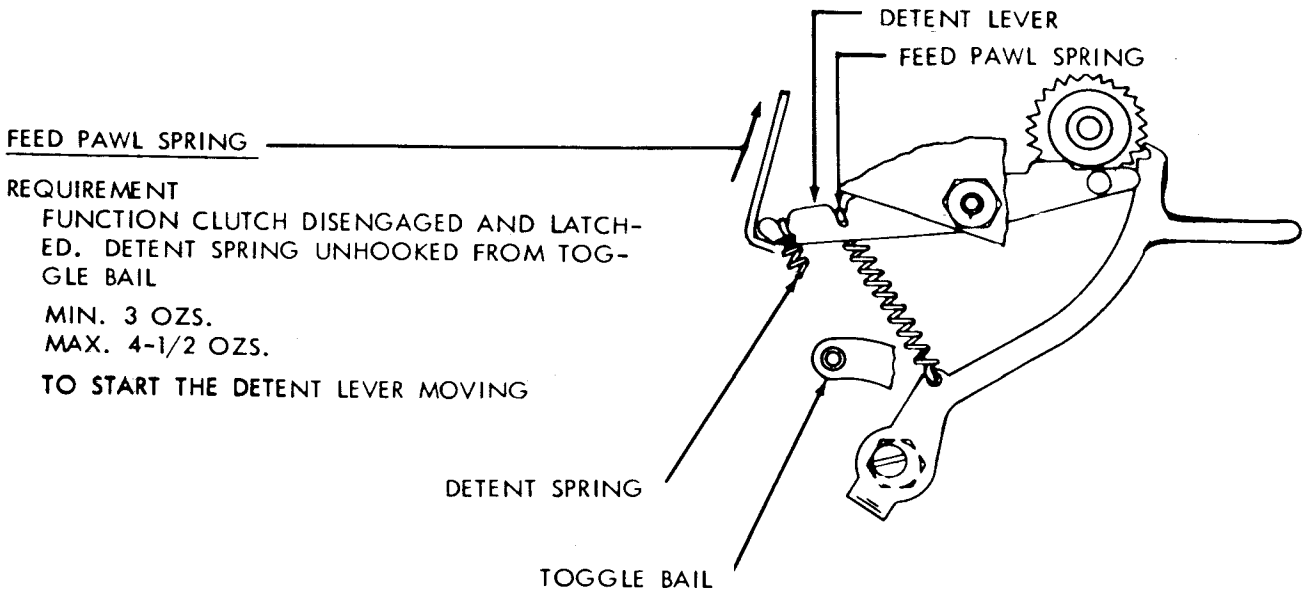
REQUIREMENT

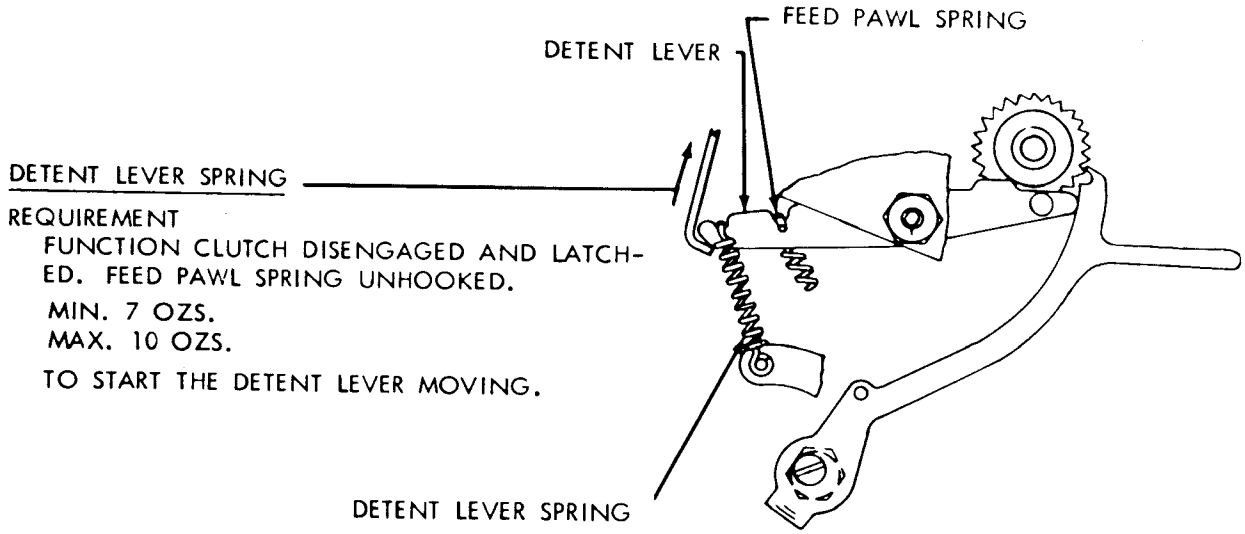
FUNCTION CLUTCH DISENGAGED, INDENTATION IN DETENT LEVER ECCENTRIC AT RIGHT ANGLE TO LEVER, DETENT ROLLER IN CONTACT WITH RATCHET WHEEL, HIGH PART OF FEED PAWL ECCENTRIC TO THE RIGHT OF ITS LOCK SCREW: THE FEED PAWL SHOULD ENGAGE THE FIRST TOOTH BELOW A HORIZONTAL CENTERLINE THROUGH THE RATCHET WHEEL WITH NO PERCEPTIBLE CLEARANCE.

TO ADJUST

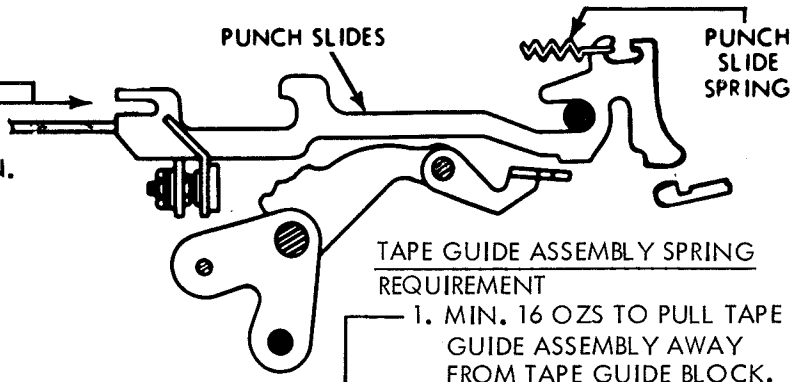
ROTATE THE FEED PAWL ECCENTRIC WITH LOCK SCREW LOOSENED.

2.24 Punch Mechanism (Cont.)



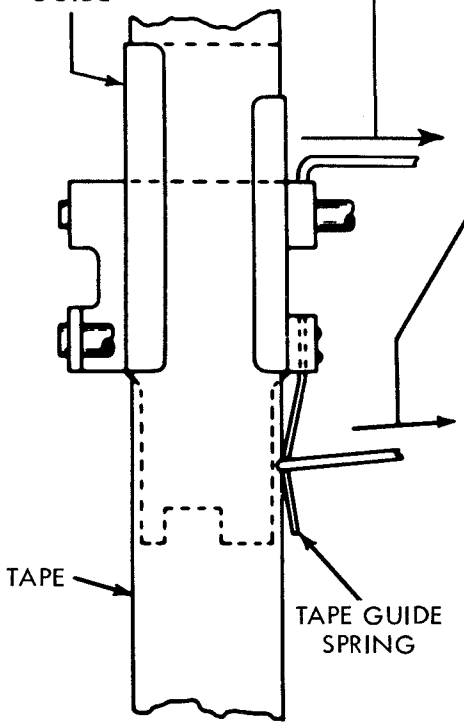


2.25 Punch Mechanism (Cont.)



PUNCH SLIDE SPRING
REQUIREMENT
RUBOUT COMBINATION SET UP, AND PUNCH SLIDES IN SELECTED POSITION.
MIN. 2-1/4 OZS.
MAX. 3-1/4 OZS.
TO START EACH SLIDE MOVING.

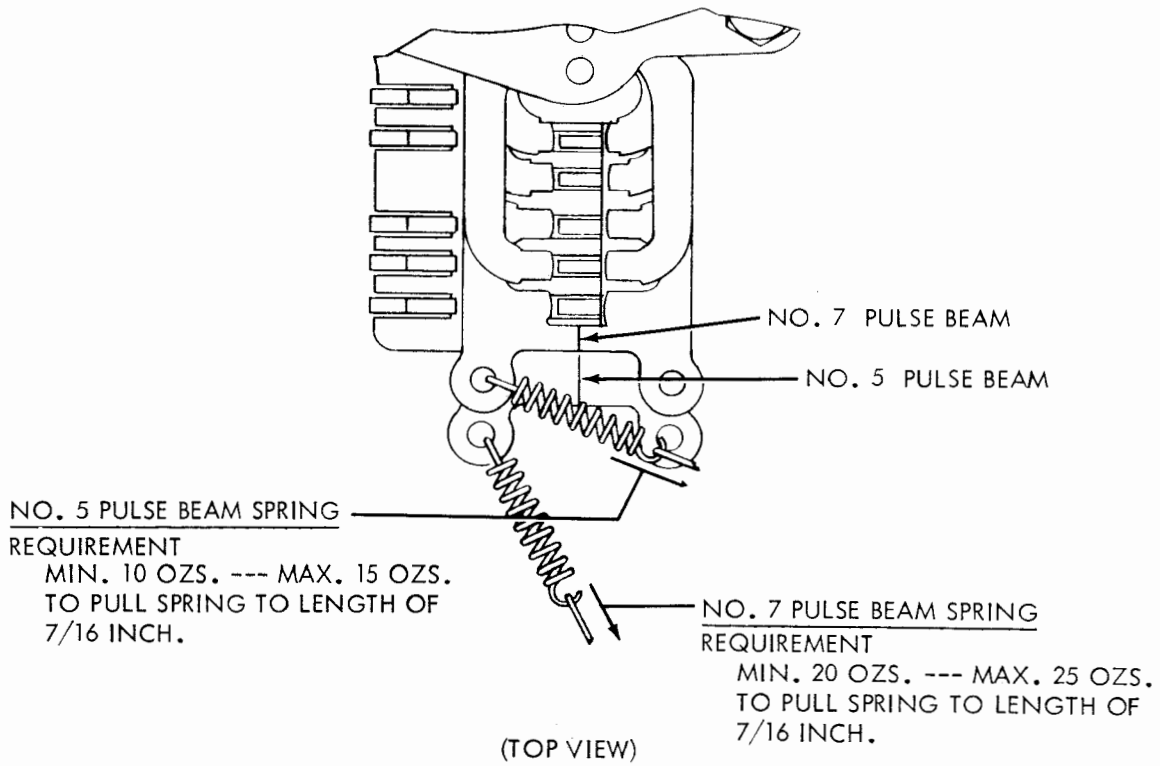
TAPE GUIDE ASSEMBLY SPRING
REQUIREMENT
1. MIN. 16 OZS TO PULL TAPE GUIDE ASSEMBLY AWAY FROM TAPE GUIDE BLOCK.
2. TAPE GUIDE ASSEMBLY SHOULD MOVE FREELY ON SHAFT.
TO ADJUST
POSITION MOUNTING POST.



TAPE GUIDE SPRING
REQUIREMENT
WITH SELECTOR AND FUNCTION CLUTCHES DISENGAGED AND LATCHED, TAPE THREADED THROUGH PUNCH MECHANISM, 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.

NOTE
IT IS NECESSARY TO REMOVE SEVERAL PARTS, ON UNITS EQUIPPED WITH BACK SPACE MECHANISM. IN ORDER TO CHECK THIS SPRING TENSION. IT SHOULD NOT BE CHECKED UNLESS THERE IS GOOD REASON TO BELIEVE THAT REQUIREMENTS ARE NOT MET.

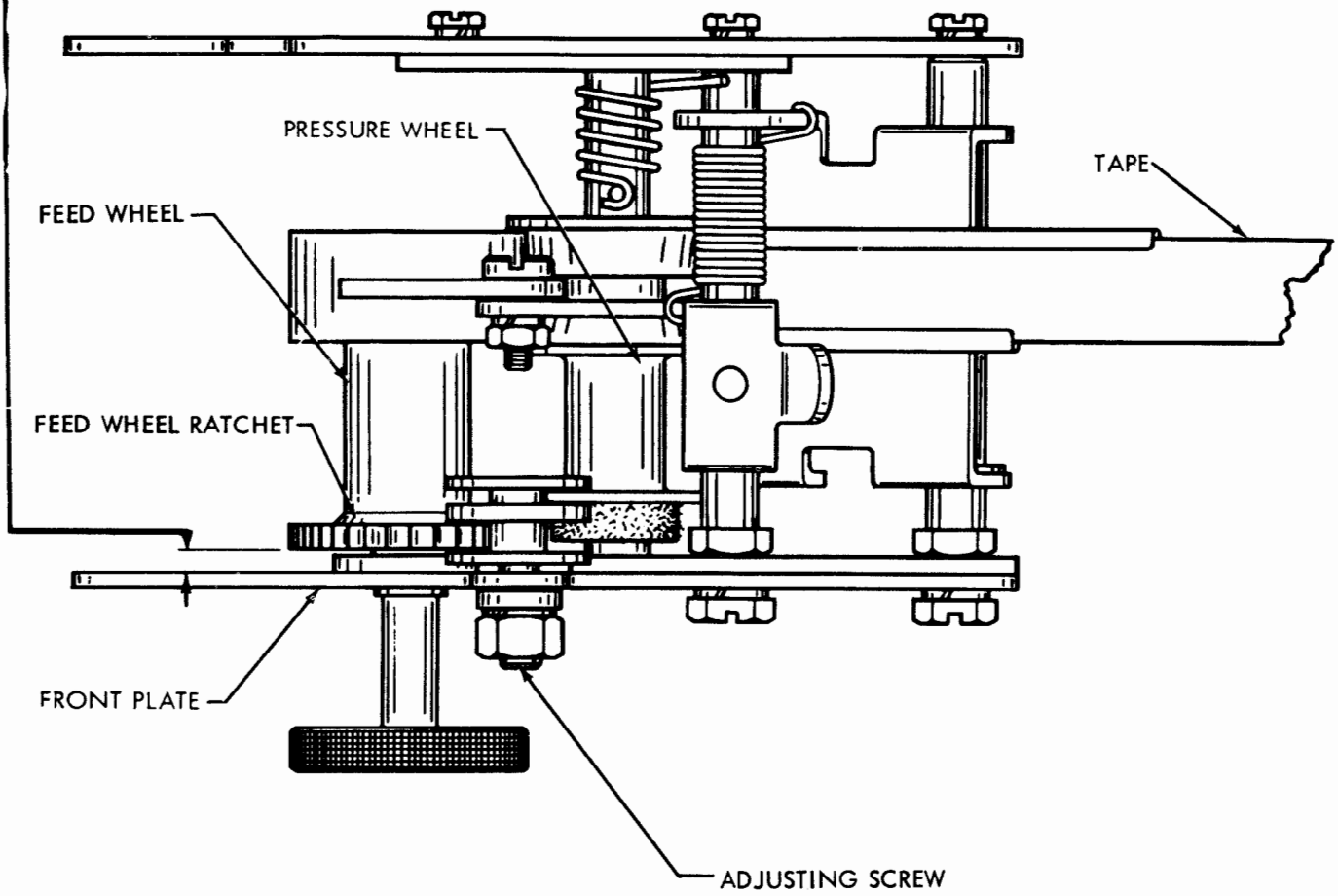
2.26 Typing Mechanism



2.27 Tape Feed Mechanism

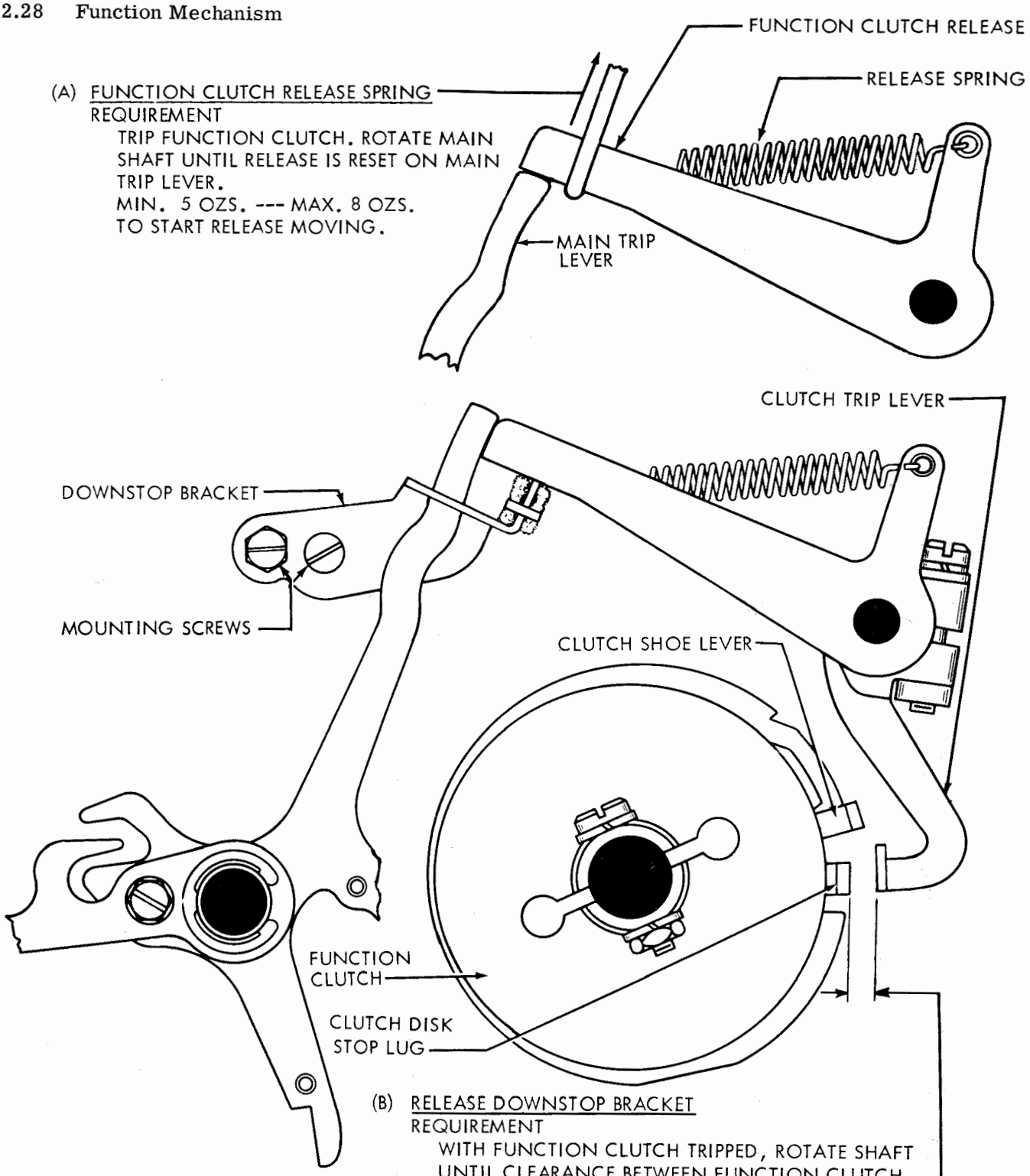
FEED WHEEL
REQUIREMENT (PRELIMINARY)
(1) CLEARANCE BETWEEN FEED WHEEL RATCHET AND FRONT PLATE:
MIN. 0.085 --- MAX. 0.095 INCH
(2) (FINAL)
PRINTING CENTRALLY LOCATED ON TAPE
TO ADJUST
TURN ADJUSTING SCREW WITH LOCK NUT LOOSENED.

TAPE GUIDE
REQUIREMENT
THE TAPE SHALL "RUN" IN THE CENTER OF TAPE GUIDE (GAGE BY EYE).
TO ADJUST
WITH MOUNTING NUTS FRICTION TIGHT, POSITION TAPE GUIDE WITH ROLLER UP OR DOWN TO MEET REQUIREMENT.



SPECIAL REQUIREMENT
IF THE TAPE PRINTER IS USED ON A TYPING REPERFORATOR SINGLE OR DOUBLE PLATE BASE, A TAPE REEL WILL HAVE TO BE USED TO ACCOMMODATE THE 3/8 INCH TAPE. THIS TAPE REEL CONSISTS OF A DISC W/HUB AND A DISC W/NUT.

2.28 Function Mechanism



(A) FUNCTION CLUTCH RELEASE SPRING

REQUIREMENT

TRIP FUNCTION CLUTCH. ROTATE MAIN SHAFT UNTIL RELEASE IS RESET ON MAIN TRIP LEVER.
MIN. 5 OZS. --- MAX. 8 OZS.
TO START RELEASE MOVING.

(B) RELEASE DOWNSTOP BRACKET

REQUIREMENT

WITH FUNCTION CLUTCH TRIPPED, ROTATE SHAFT UNTIL CLEARANCE BETWEEN FUNCTION CLUTCH DISK STOP LUG AND CLUTCH STOP LEVER IS AT A MINIMUM. RELEASE RESTING AGAINST DOWN-STOP BRACKET. CLEARANCE BETWEEN FUNCTION CLUTCH DISK STOP LUG AND STOP LEVER:
MIN. 0.002 INCH --- MAX. 0.045 INCH

TO ADJUST

REMOVE TAPE GUIDE. WITH DOWNSTOP BRACKET MOUNTING SCREWS FRICTION TIGHT POSITION BRACKET.

2.29 Typing Mechanism

(A) PUSH BAR OPERATING BLADE (PRELIMINARY)

TO CHECK

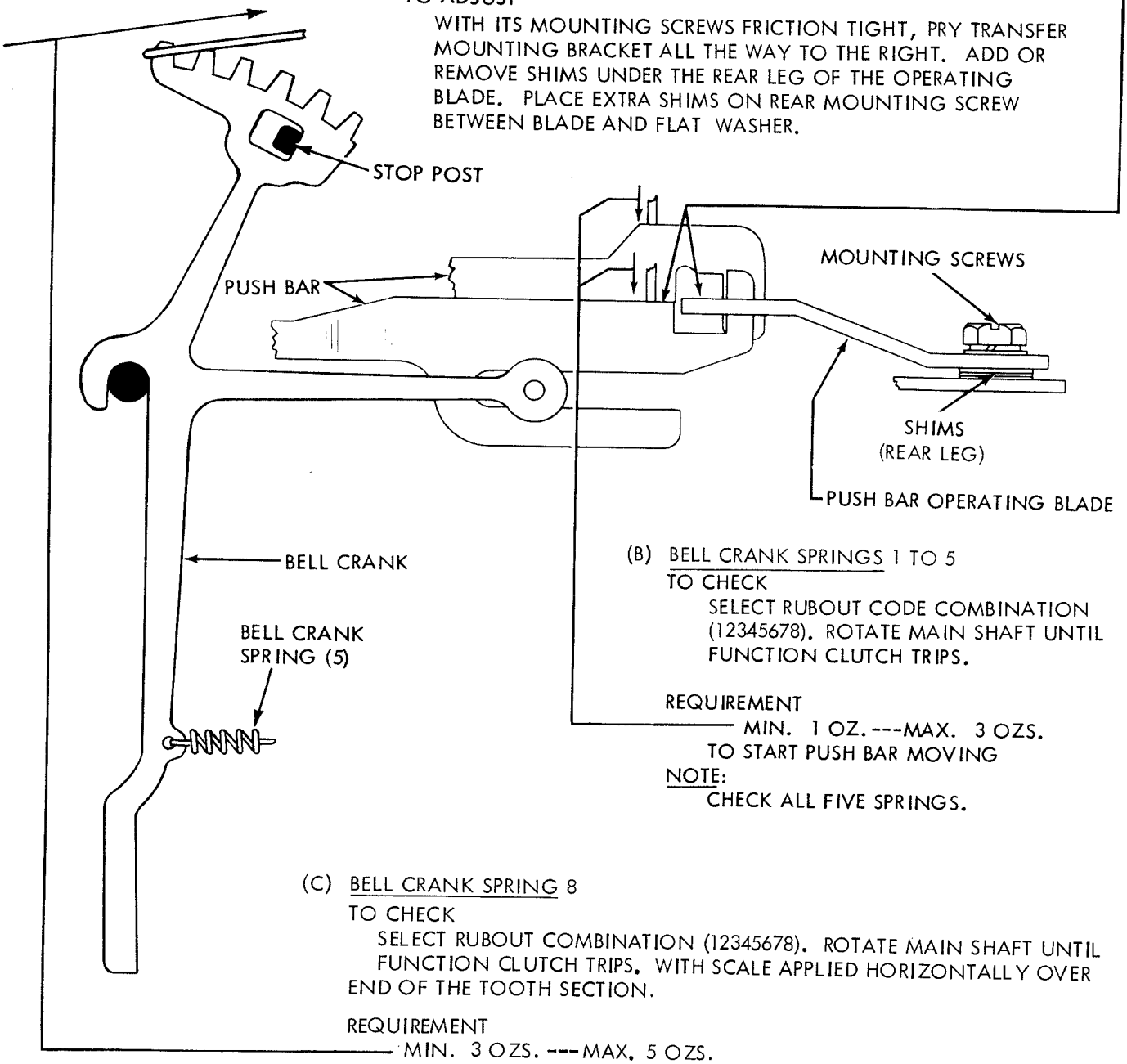
MANUALLY SELECT RUBOUT CODE COMBINATION (12345678). ROTATE MAIN SHAFT UNTIL FUNCTION CLUTCH TRIPS. HOLD NO. 2 AND 3 BELL CRANKS AGAINST STOP POST.

REQUIREMENT

OPERATING BLADE PARALLEL TO (NOT NECESSARILY FLUSH WITH) NO. 2 AND 3 PUSH BARS.

TO ADJUST

WITH ITS MOUNTING SCREWS FRICTION TIGHT, PRY TRANSFER MOUNTING BRACKET ALL THE WAY TO THE RIGHT. ADD OR REMOVE SHIMS UNDER THE REAR LEG OF THE OPERATING BLADE. PLACE EXTRA SHIMS ON REAR MOUNTING SCREW BETWEEN BLADE AND FLAT WASHER.



(B) BELL CRANK SPRINGS 1 TO 5

TO CHECK

SELECT RUBOUT CODE COMBINATION (12345678). ROTATE MAIN SHAFT UNTIL FUNCTION CLUTCH TRIPS.

REQUIREMENT

MIN. 1 OZ.---MAX. 3 OZS. TO START PUSH BAR MOVING

NOTE:

CHECK ALL FIVE SPRINGS.

(C) BELL CRANK SPRING 8

TO CHECK

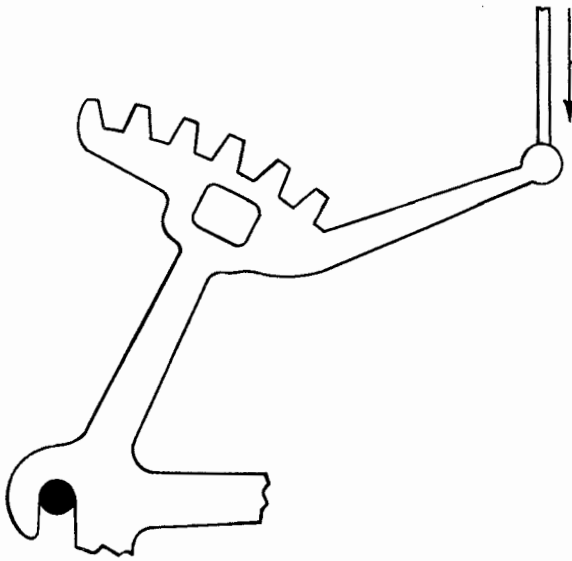
SELECT RUBOUT COMBINATION (12345678). ROTATE MAIN SHAFT UNTIL FUNCTION CLUTCH TRIPS. WITH SCALE APPLIED HORIZONTALLY OVER END OF THE TOOTH SECTION.

REQUIREMENT

MIN. 3 OZS. ---MAX. 5 OZS. TO START BELL CRANK MOVING.

NOTE: THIS ADJUSTMENT IS COMPLETED ON THE FOLLOWING PAGE.

2.30 Typing Mechanism (Cont.)



(D) BELL CRANK SPRINGS 6 AND 7

TO CHECK

SELECT RUBOUT COMBINATION (12345678). ROTATE MAIN SHAFT UNTIL FUNCTION CLUTCH TRIPS.

(1) REQUIREMENT (BELL CRANK SPRING 6)
WITH SCALE APPLIED VERTICALLY TO BALL END OF BELL CRANK CONTACT OPERATING ARM.
MIN. 2 OZS. --- MAX. 4 OZS.
TO START BELL CRANK MOVING

(2) REQUIREMENT (BELL CRANK SPRING 7)
WITH SEVEN-PULSE BEAM SPRING REMOVED AND SCALE APPLIED VERTICALLY TO BALL END OF BELL CRANK OPERATING ARM.
MIN. 3 OZS. --- MAX. 6 OZS.
TO START BELL CRANK MOVING.

PUSH BAR OPERATING BLADE (FINAL)

(1) TO CHECK

MANUALLY SELECT RUBOUT CODE COMBINATION (12345678). ROTATE MAIN SHAFT UNTIL FUNCTION CLUTCH TRIPS. MANUALLY SEAT PUSH BARS IN DETENTED POSITION. IN BAR WHICH IS NEAREST LEFT EDGE OF BLADE, TAKE UP PLAY TO LEFT AND REAR, AND THEN RELEASE.

REQUIREMENT

CLEARANCE BETWEEN BAR AND LEFT EDGE OF BLADE:
MIN. 0.015 INCH --- MAX. 0.030 INCH

(2) REQUIREMENT

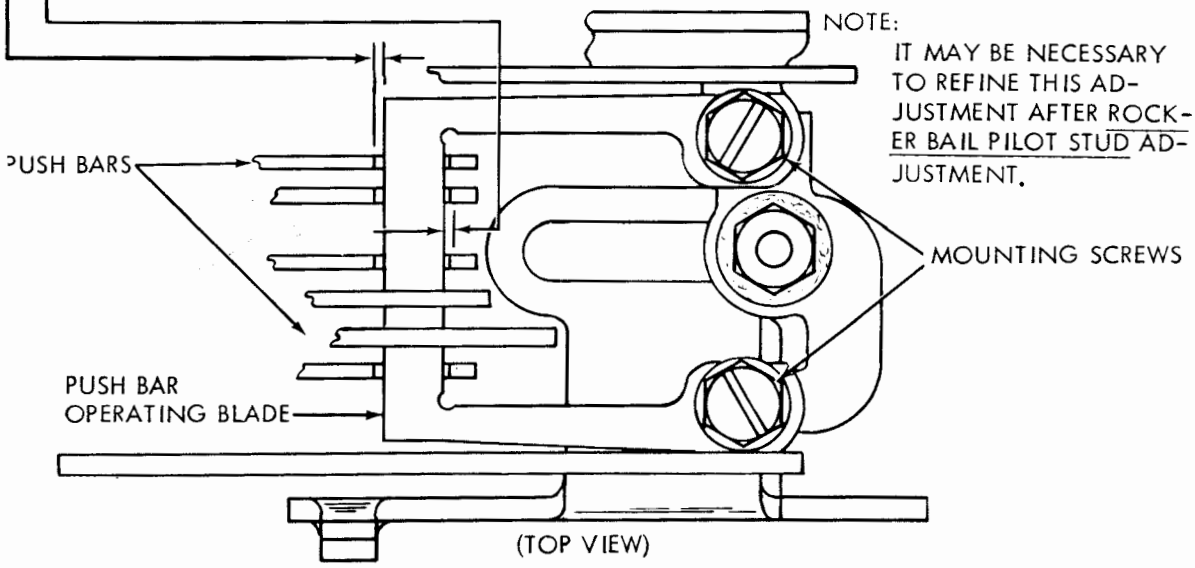
SOME CLEARANCE BETWEEN RIGHT EDGE OF BLADE AND PUSH BARS WHEN PLAY IN BARS HAS BEEN TAKEN UP TO RIGHT AND RELEASED.

(3) REQUIREMENT

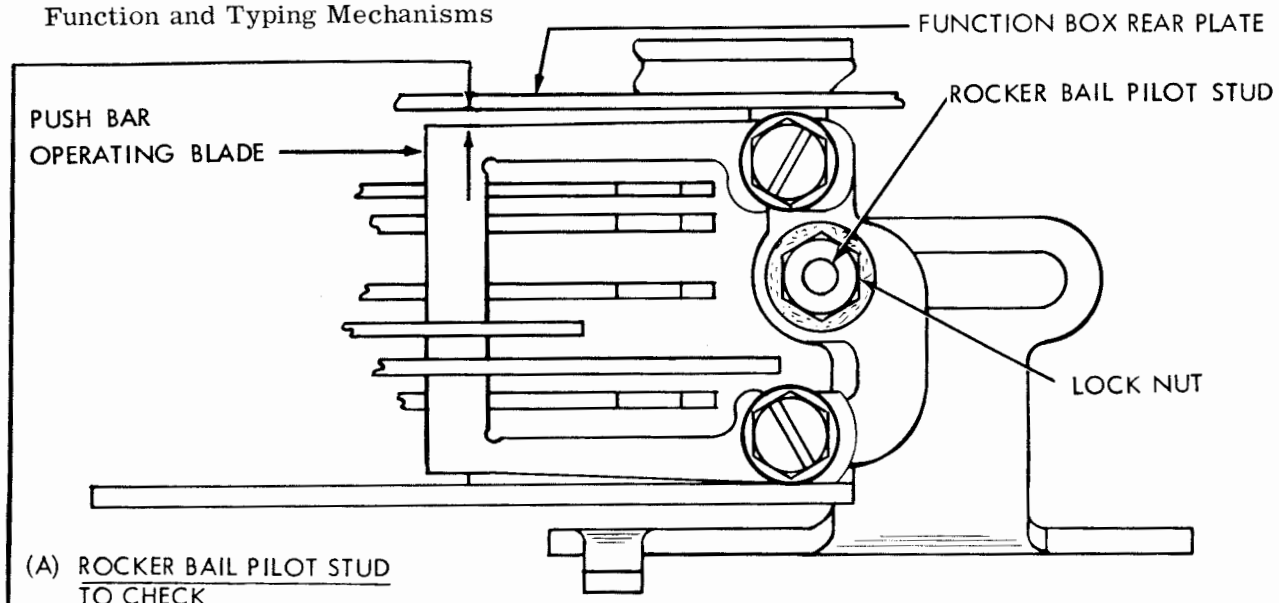
WITH UNIT IN STOP POSITION, SOME CLEARANCE BETWEEN RIGHT EDGE OF BLADE AND BARS WHEN PLAY IN BARS HAS BEEN TAKEN UP TO RIGHT AND RELEASED.

TO ADJUST

WITH MOUNTING SCREWS LOOSENED, POSITION OPERATING BLADE IN ELONGATED HOLES.



2.31 Function and Typing Mechanisms



(TOP VIEW)

(A) ROCKER BAIL PILOT STUD

TO CHECK

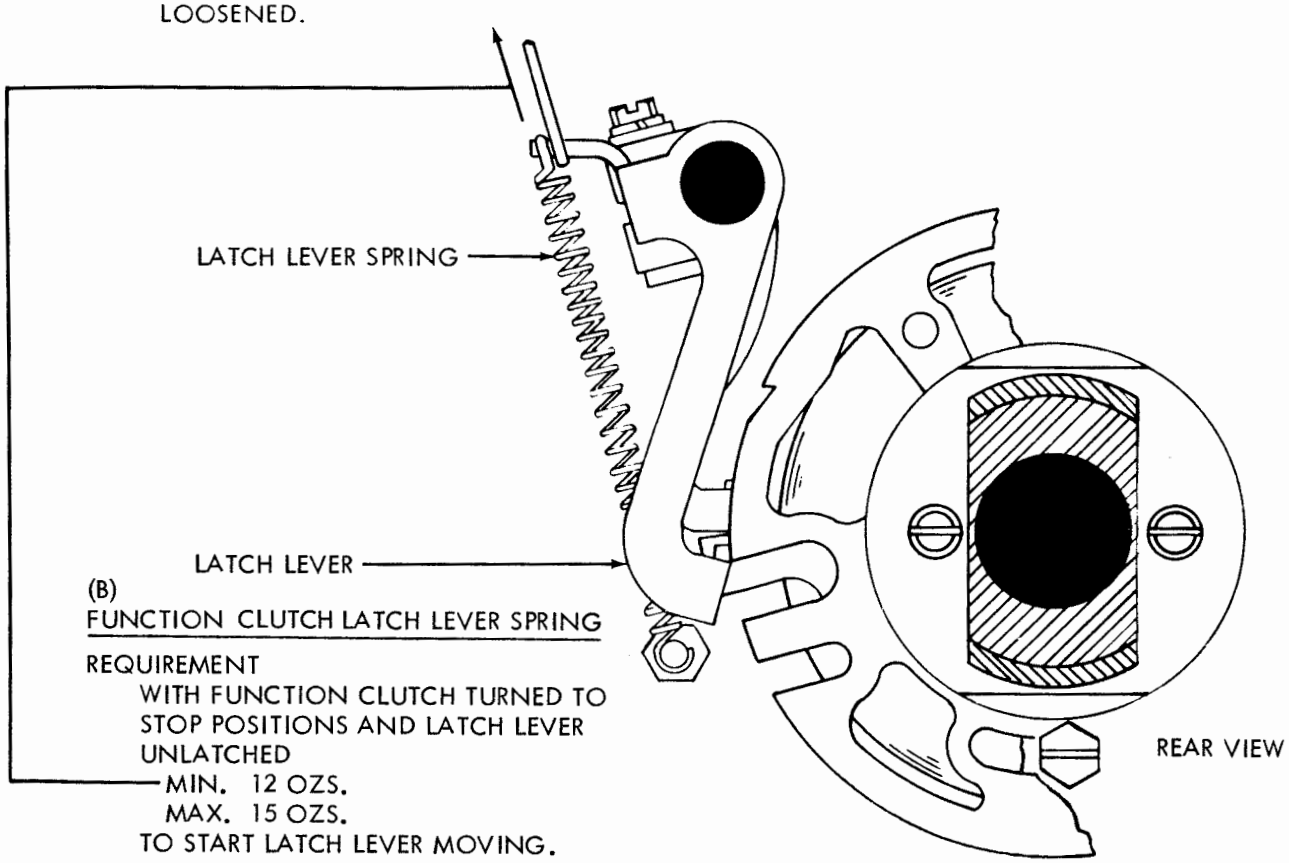
SELECT SPACE COMBINATION. POSITION ROCKER BAIL THROUGH A COMPLETE CYCLE TO INSURE THE CLEARANCE IS A MINIMUM.

REQUIREMENT

CLEARANCE BETWEEN FUNCTION BOX REAR PLATE AND PUSH BAR OPERATING BLADE:
MIN. 0.005 INCH ---- MAX. 0.020 INCH
AT A POINT IN THE CYCLE WHERE PLAY IS TAKEN UP TO MAKE CLEARANCE MINIMUM.

TO ADJUST

POSITION ROCKER BAIL PILOT STUD IN ELONGATED HOLE WITH LOCK NUT LOOSENED.



REAR VIEW

(B)
FUNCTION CLUTCH LATCH LEVER SPRING

REQUIREMENT

WITH FUNCTION CLUTCH TURNED TO STOP POSITIONS AND LATCH LEVER UNLATCHED
MIN. 12 OZS.
MAX. 15 OZS.
TO START LATCH LEVER MOVING.

2.32 Typing Mechanism

FUNCTION BOX

REQUIREMENT

WITH LETTERS (RUBOUT) PUSH BAR TO EXTREME RIGHT AND FULLY DETENTED, RUBOUT CODE (12345678) SELECTED, PUNCH SLIDES DISENGAGED AND FUNCTION CLUTCHED TRIPPED. ELIMINATE PLAY IN DOWNWARD DIRECTION, THEN RELEASE. KEEP OPERATING BLADE PARALLEL WITH NO. 2 AND NO. 3 PUSH BARS AND TAKE-UP FUNCTION BOX PLAY IN A CLOCKWISE DIRECTION. THE TOP OF THE OPERATING BLADE SHALL BE

MIN. FLUSH --- MAX. 0.020 INCH

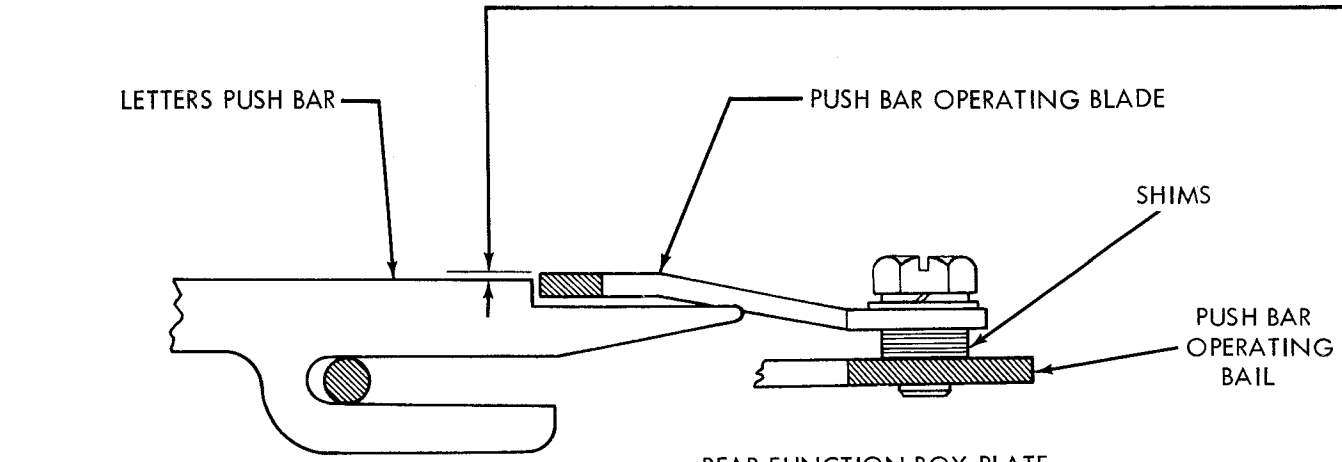
ABOVE TOP RUBOUT PUSH BARS.

TO ADJUST

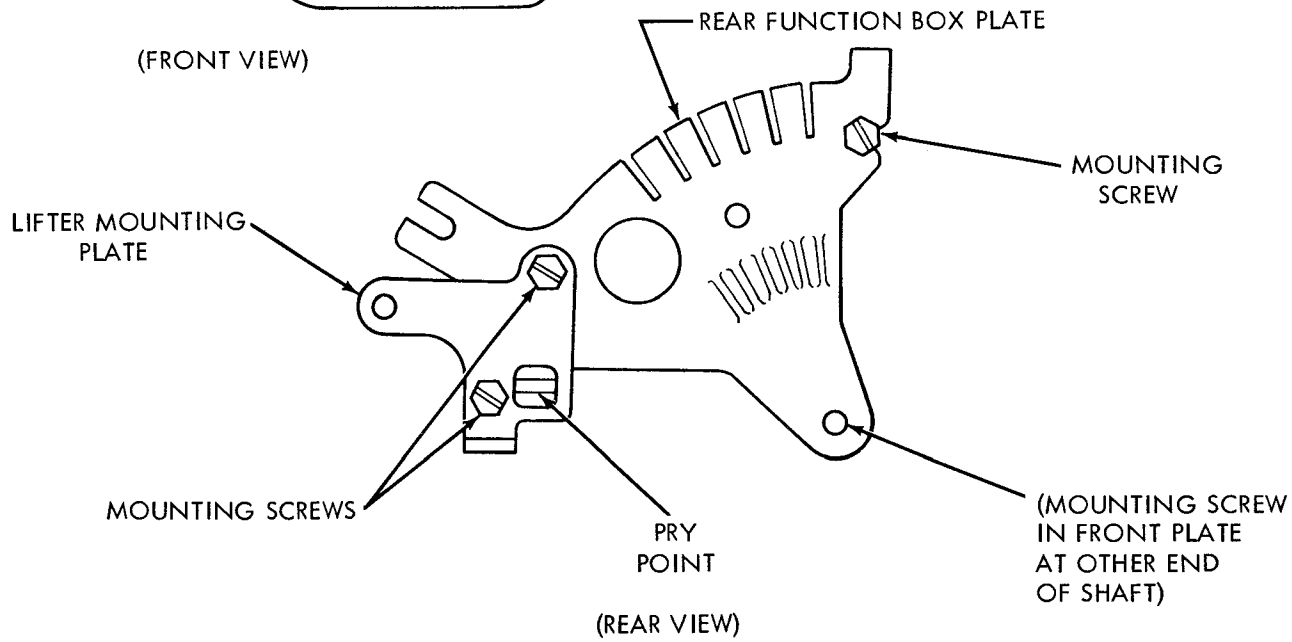
(1) LOOSEN TWO SCREWS MOUNTING FUNCTION BOX TO FRONT PLATE SPACER POSTS
(2) USING PRY POINT, ROTATE ENTIRE FUNCTION BOX.
(3) TAKE UP SPACER POST PLAY TO RIGHT AND TIGHTEN SCREWS.

TO CHECK

(1) FUNCTION BOX SHALL BE FREE TO ROTATE AT LEAST 0.010 INCH IN ITS MOUNTING AS MEASURED AT LIFTER MOUNTING PLATE SHOULDER SCREWS.
(2) SELECT ALL MARKING CODE COMBINATIONS, TRIP FUNCTION CLUTCH AND CHECK FOR FREE MOVEMENT OF FUNCTION BOX PLATE.

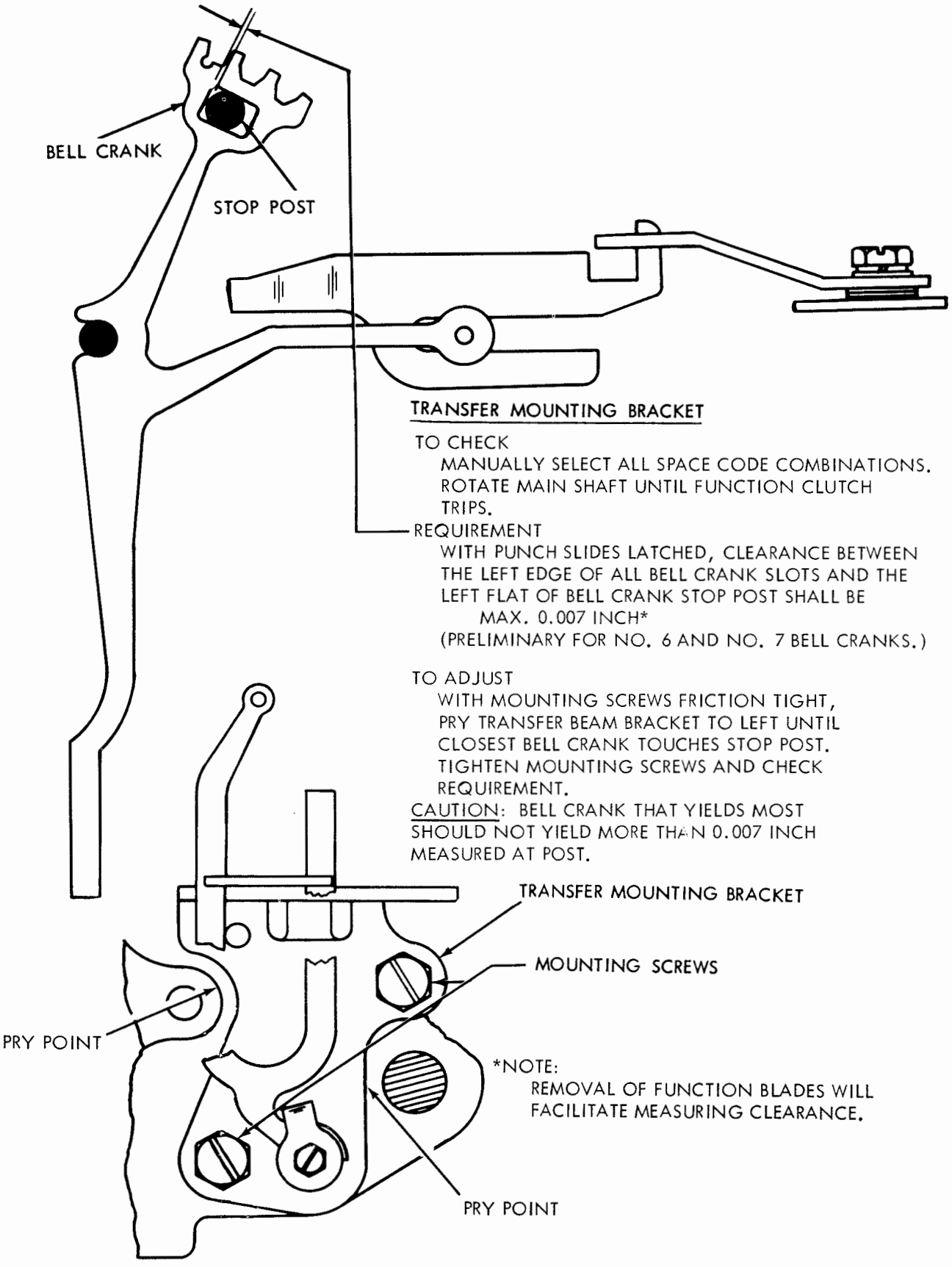


(FRONT VIEW)



(REAR VIEW)

2.33 Typing Mechanism (Cont.)



2.34 Ribbon Shift and Print Suppression Mechanism

NOTE: REFER TO VARIABLE FEATURES (PART 3) FOR ADDITIONAL ADJUSTMENTS APPLYING TO PRINT SUPPRESSION ONLY.

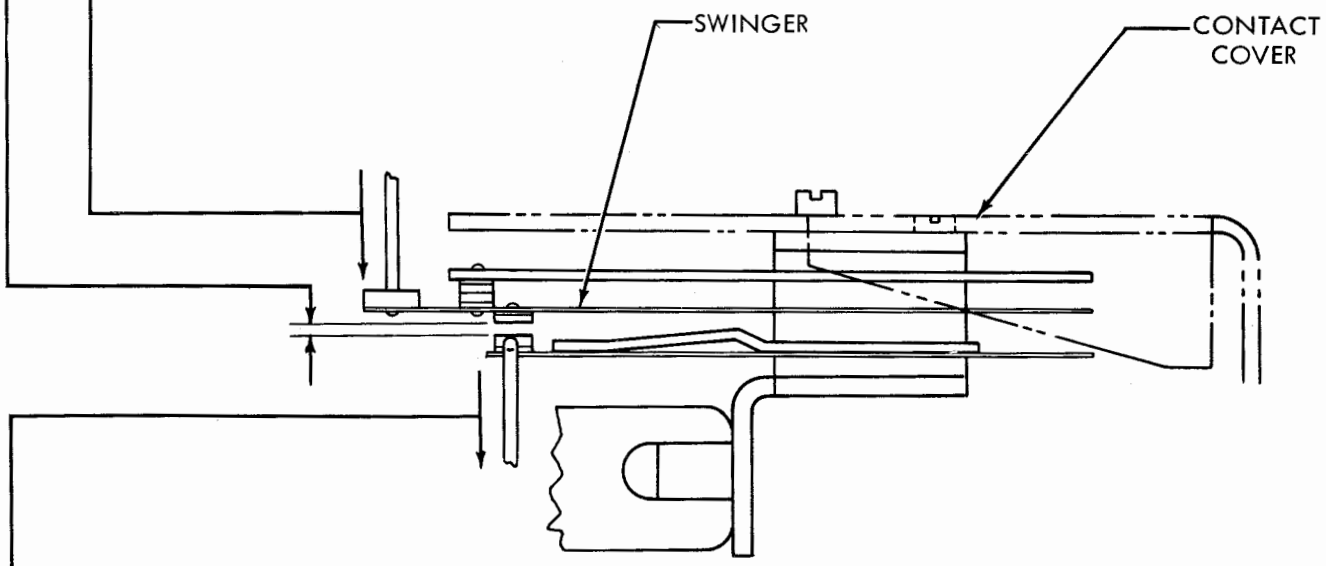
RIBBON SHIFT AND PRINT SUPPRESSION CONTACTS

REQUIREMENT

DISCONNECT ALL POWER FROM UNIT. REMOVE CONTACT ASSEMBLY FROM FUNCTION BOX.

(1) CLEARANCE BETWEEN SWINGER CONTACT POINTS AND NORMALLY OPEN CONTACT POINTS SHALL BE MIN. 0.015 INCH---MAX. 0.020 INCH.

(2) IT SHALL TAKE MIN. 2 OZS. ---MAX. 3 OZS. TO START SWINGER MOVING

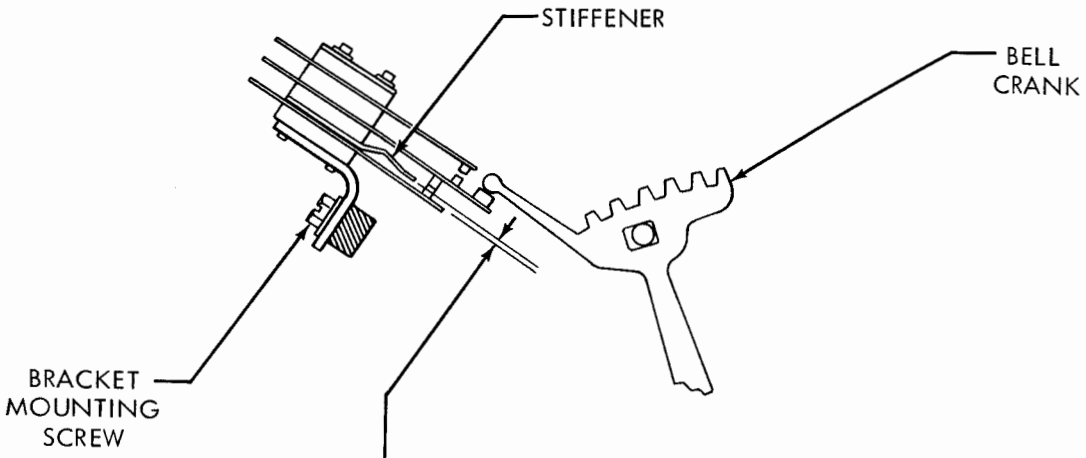


(3) IT SHALL TAKE MIN. 2 OZS. ---MAX. 3 OZS. TO START NORMALLY OPEN CONTACT MOVING.

TO ADJUST

REMOVE COVER AND REPLACE COVER SCREWS. BEND CONTACTS WITH CONTACT ADJUSTING TOOL.

2.35 Ribbon Shift and Print Suppression Mechanism (Cont.)



RIBBON SHIFT AND PRINT SUPPRESSION CONTACT POSITION

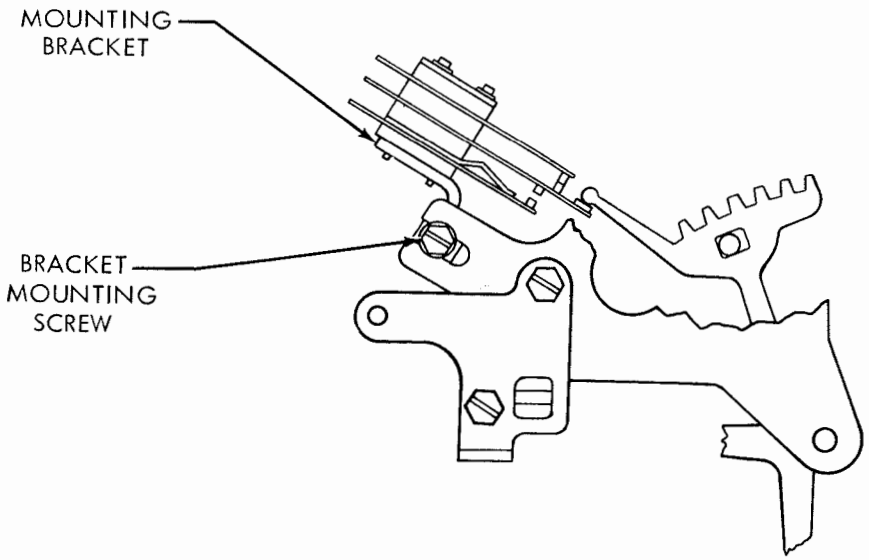
REQUIREMENT

MANUALLY SELECT ALL SPACING COMBINATION (--------) AND TRIP FUNCTION CLUTCH. TAKE UP FUNCTION BOX PLAY IN CLOCKWISE DIRECTION.

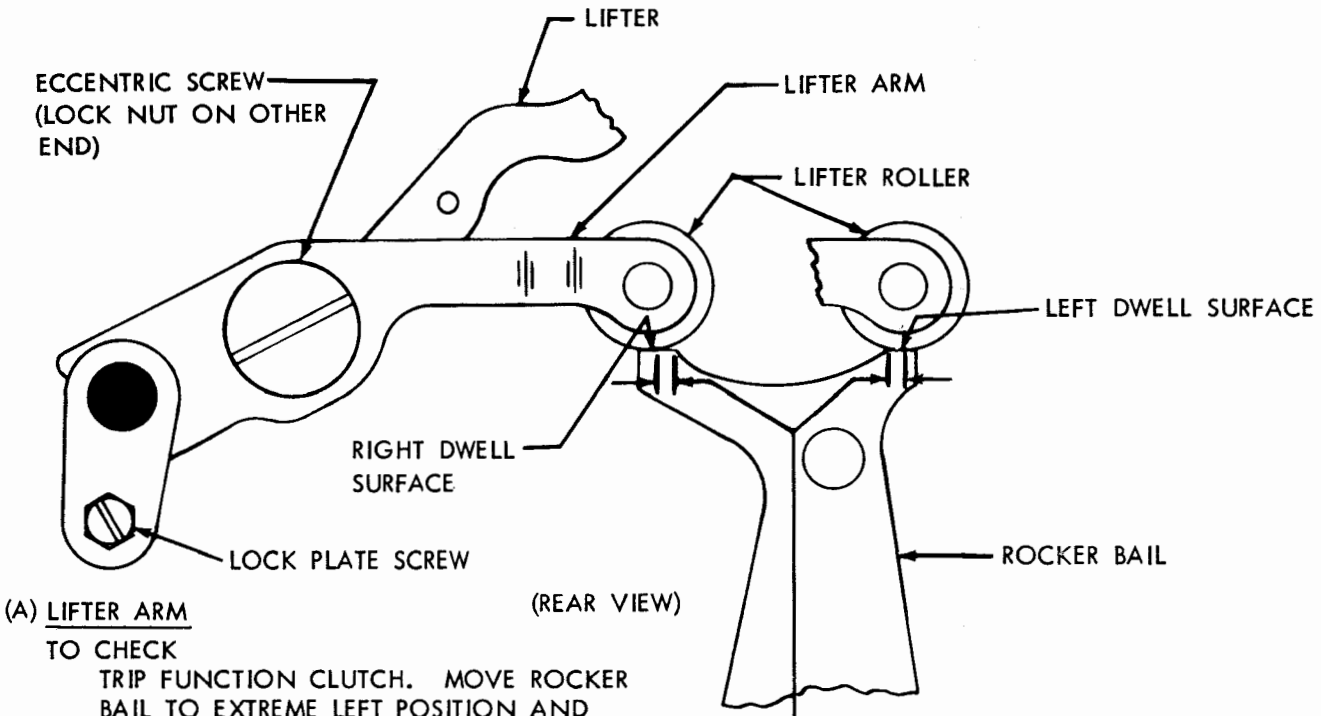
MIN. SOME---MAX. 0.004 INCH CLEARANCE BETWEEN SPACING CONTACT AND STIFFENER.

TO ADJUST

POSITION CONTACT MOUNTING BRACKET WITH ITS MOUNTING SCREWS LOOSENED.



2.36 Typing Mechanism



(A) LIFTER ARM

TO CHECK

TRIP FUNCTION CLUTCH. MOVE ROCKER BAIL TO EXTREME LEFT POSITION AND OBSERVE TRAVEL OF LIFTER ROLLER ON RIGHT DWELL SURFACE. MOVE ROCKER BAIL TO EXTREME RIGHT POSITION AND OBSERVE TRAVEL OF ROLLER ON LEFT DWELL SURFACE.

REQUIREMENT

APPROXIMATELY EQUAL TRAVEL ON EACH DWELL SURFACE.

TO ADJUST

LOOSEN LOCK PLATE SCREW UNTIL FRICTION TIGHT. WITH ECCENTRIC SCREW LOCK NUT FRICTION TIGHT, POSITION LIFTER ARM ON LIFTER. TIGHTEN LOCK PLATE SCREW. DO NOT TIGHTEN LOCK NUT.

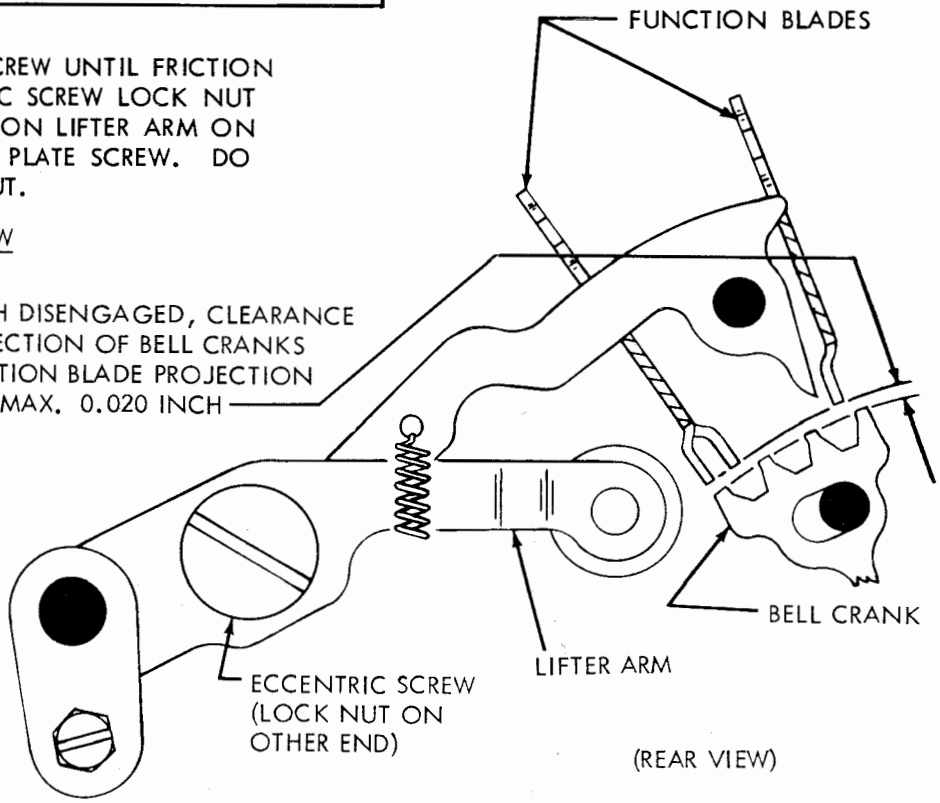
(B) LIFTER ARM ECCENTRIC SCREW

REQUIREMENT

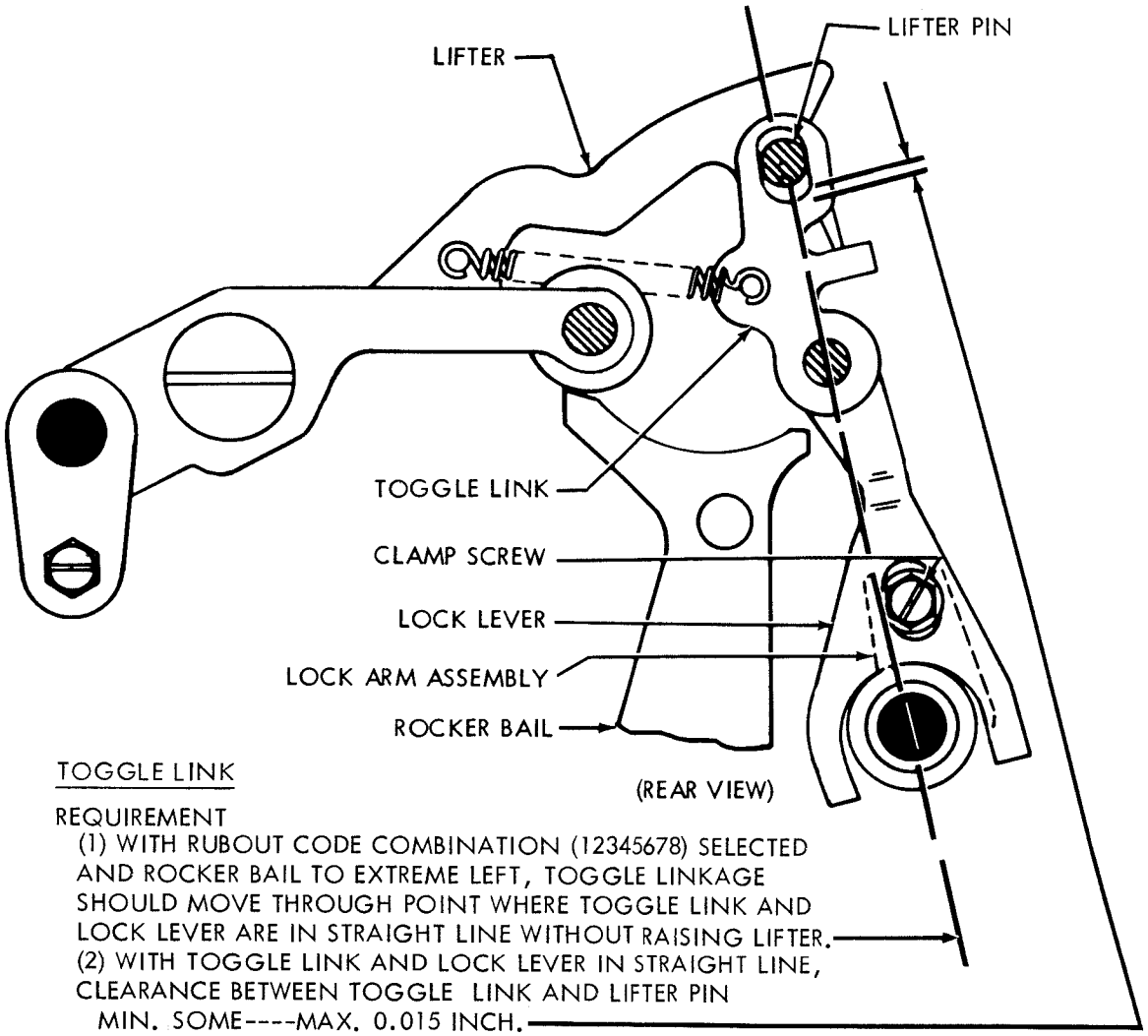
WITH FUNCTION CLUTCH DISENGAGED, CLEARANCE BETWEEN CLOSEST PROJECTION OF BELL CRANKS AND ASSOCIATED FUNCTION BLADE PROJECTION MIN. 0.008 INCH----MAX. 0.020 INCH

TO ADJUST

POSITION LIFTER ARM ECCENTRIC SCREW WITH LOCK NUT LOOSENED.



2.37 Typing Mechanism (Cont.)



TOGGLE LINK

REQUIREMENT

(1) WITH RUBOUT CODE COMBINATION (12345678) SELECTED AND ROCKER BAIL TO EXTREME LEFT, TOGGLE LINKAGE SHOULD MOVE THROUGH POINT WHERE TOGGLE LINK AND LOCK LEVER ARE IN STRAIGHT LINE WITHOUT RAISING LIFTER.

(2) WITH TOGGLE LINK AND LOCK LEVER IN STRAIGHT LINE, CLEARANCE BETWEEN TOGGLE LINK AND LIFTER PIN MIN. SOME----MAX. 0.015 INCH.

TO ADJUST

POSITION LOCK LEVER ON LOCK ARM ASSEMBLY WITH CLAMP SCREW FRICTION TIGHT.

NOTE

TO AVOID INTERFERENCE WITH LOCK LEVER, IT MAY BE NECESSARY TO MOVE HIGH PART OF CORRECTING DRIVE LINK ECCENTRIC BEARING ABOVE HORIZONTAL CENTER LINE.

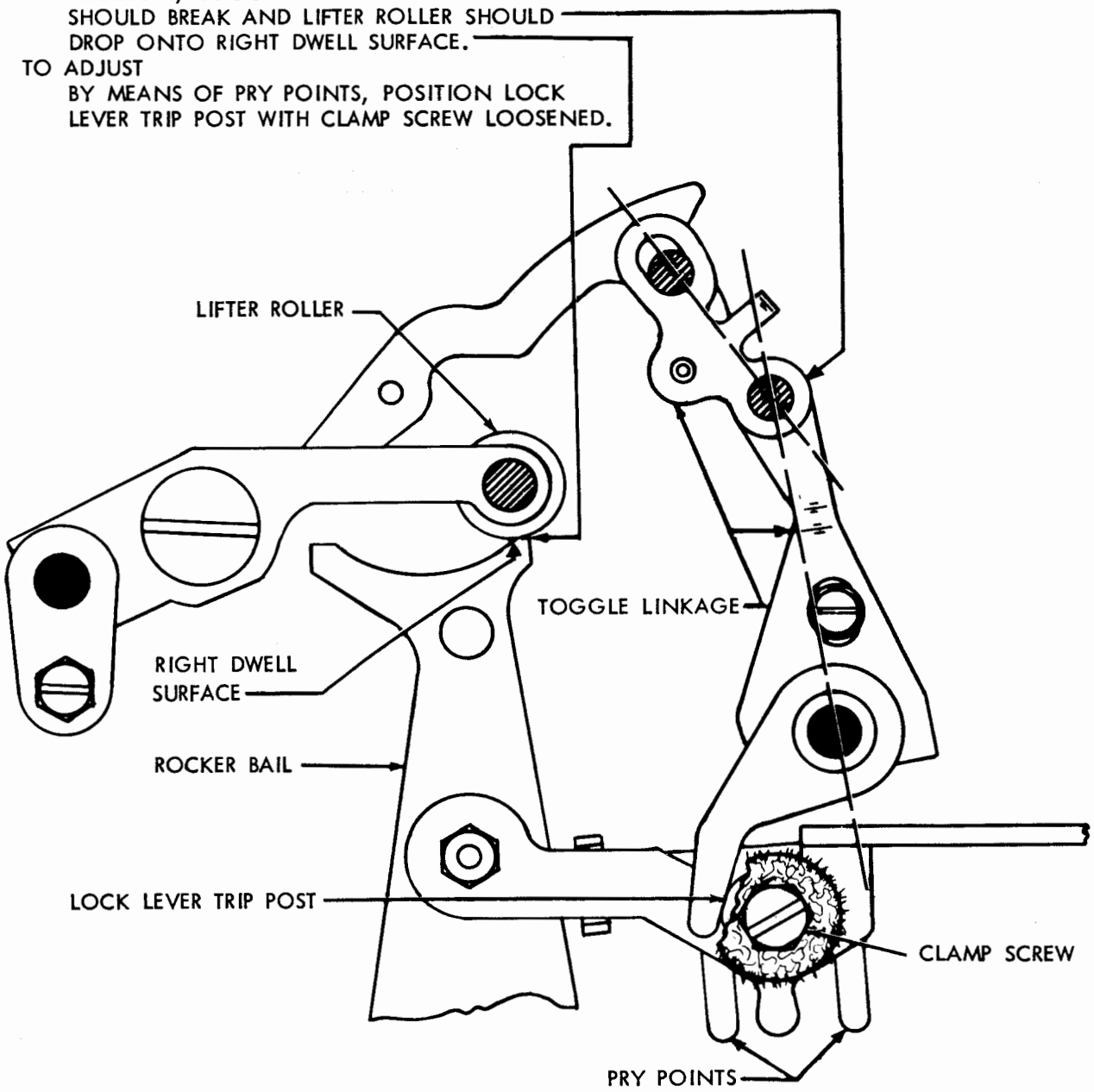
2.38 Typing Mechanism (Cont.)

NOTE:
PRELIMINARY WHEN NO
FUNCTION BLADES ARE USED.

TOGGLE TRIP ARM

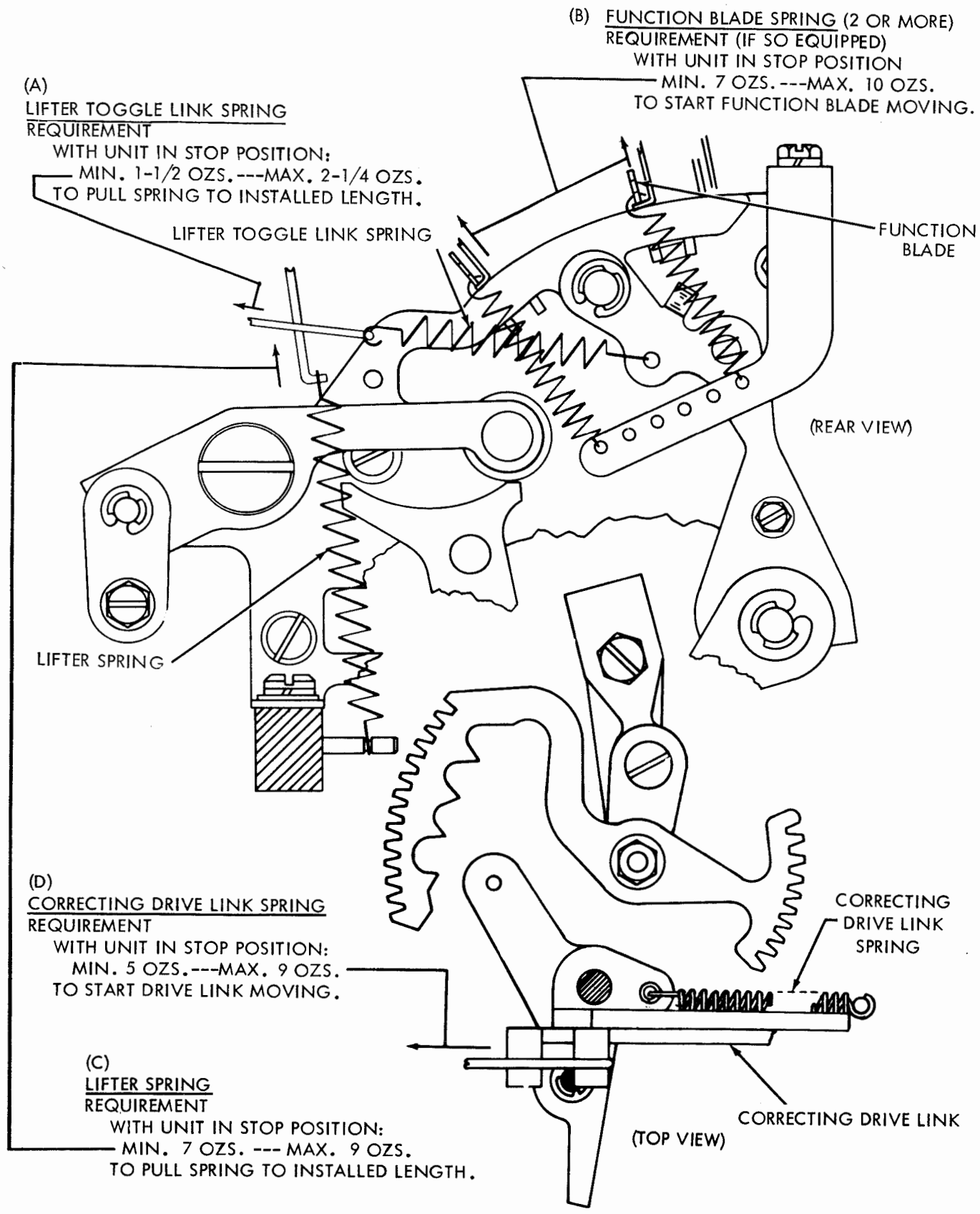
REQUIREMENT
AS ROCKER BAIL APPROACHES EXTREME RIGHT POSITION, TOGGLE LINKAGE SHOULD BREAK AND LIFTER ROLLER SHOULD DROP ONTO RIGHT DWELL SURFACE.

TO ADJUST
BY MEANS OF PRY POINTS, POSITION LOCK LEVER TRIP POST WITH CLAMP SCREW LOOSENED.



(REAR VIEW)

2.39 Typing Mechanism (Cont.)



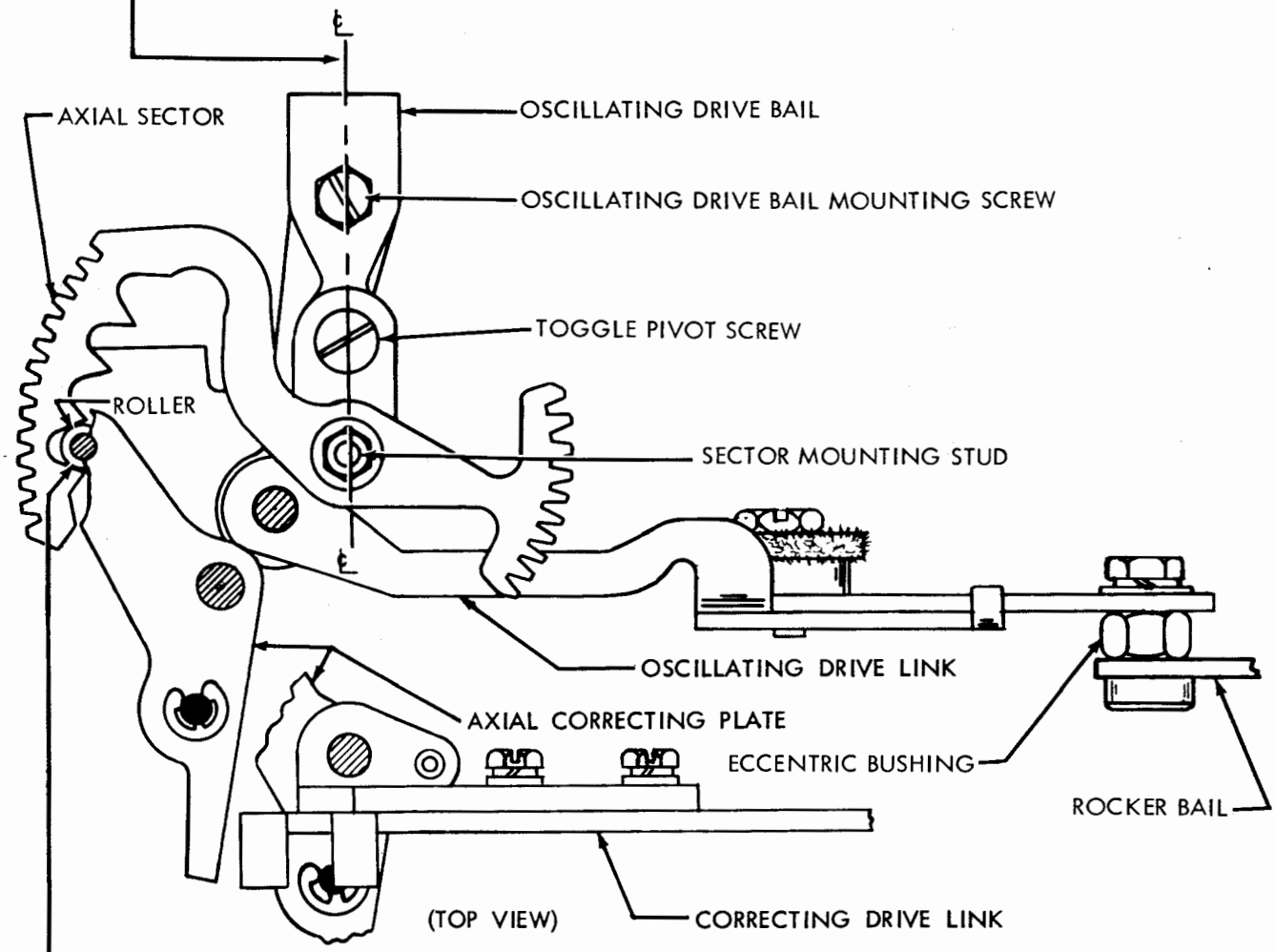
2.40 Typing Mechanism (Cont.)

(A) OSCILLATING DRIVE LINK

TO CHECK
POSITION ROCKER BAIL TO ITS EXTREME LEFT.

REQUIREMENT
SECTOR MOUNTING STUD, TOGGLE PIVOT SCREW AND OSCILLATING DRIVE BAIL MOUNTING SCREW SHOULD APPROXIMATELY LINE UP.

TO ADJUST
POSITION OSCILLATING DRIVE LINK BY MEANS OF ITS ECCENTRIC BUSHING.



(B)

AXIAL CORRECTOR (NON-YIELDING)

TO CHECK
MANUALLY SELECT ALL SPACING CODE COMBINATION. ROTATE MAIN SHAFT UNTIL ROCKER BAIL IS TO EXTREME LEFT.

REQUIREMENT
ROLLER ON AXIAL CORRECTING PLATE SEATED FIRMLY IN CENTER OF FIRST NOTCH OF AXIAL SECTOR.

TO ADJUST
(1) LOOSEN DRIVE LINK ADJUSTING SCREWS. FIRMLY SEAT AXIAL CORRECTOR ROLLER INTO FIRST NOTCH OF SECTOR BY MANUALLY APPLYING AND HOLDING THIS POSITION FOR NEXT PART OF ADJUSTMENT.
(2) APPLY MANUAL PRESSURE ON DRIVE LINK TO BOTTOM ITS SLOT AGAINST ROCKER BAIL BUSHING.
(3) MAINTAIN PRESSURE AT THESE TWO PLACES. TIGHTEN ADJUSTING SCREWS.

2.41 Typing Mechanism (Cont.)

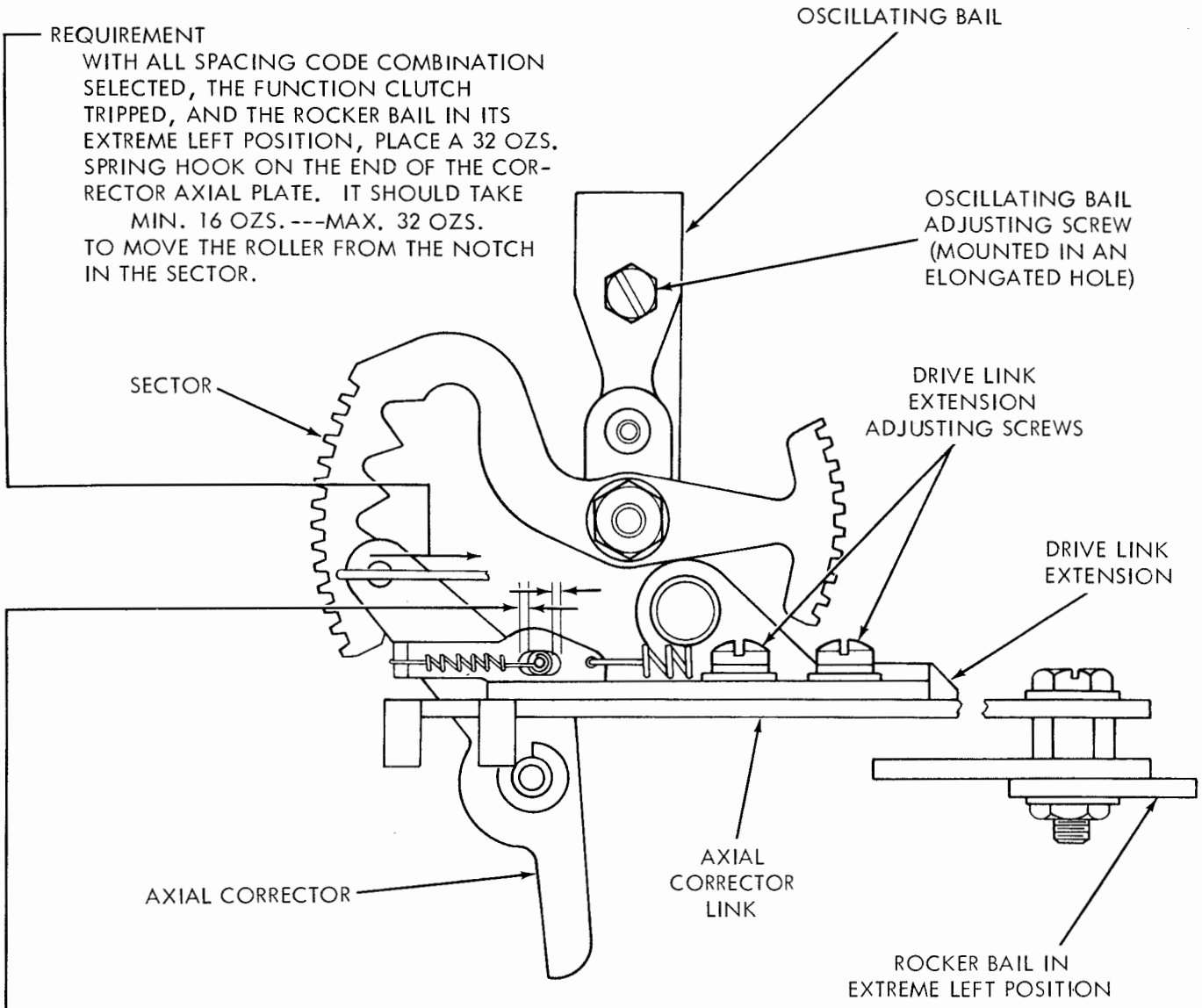
CORRECTOR DRIVE LINK (YIELDING) EXTENSION SPRING TENSION

REQUIREMENT

WITH ALL SPACING CODE COMBINATION SELECTED, THE FUNCTION CLUTCH TRIPPED, AND THE ROCKER BAIL IN ITS EXTREME LEFT POSITION, PLACE A 32 OZS. SPRING HOOK ON THE END OF THE CORRECTOR AXIAL PLATE. IT SHOULD TAKE

MIN. 16 OZS. ---MAX. 32 OZS.

TO MOVE THE ROLLER FROM THE NOTCH IN THE SECTOR.



AXIAL CORRECTOR (YIELDING)

REQUIREMENT

WITH ALL SPACING CODE COMBINATION SELECTED, FUNCTION CLUTCH TRIPPED AND ROCKER BAIL IN ITS EXTREME LEFT POSITION, THE AXIAL CORRECTOR ROLLER SHOULD SEAT IN THE FIRST SECTOR NOTCH AND THERE SHOULD BE

MIN. 0.005 INCH

BETWEEN THE ENDS OF THE SLOT AND THE SPRING POST. CHECK BOTH SIDES AND CHECK SEATING IN FOURTH NOTCH (LETTERS SELECTION). TURN THE RETAINING RING THAT FASTENS THE DRIVE LINK EXTENSION TO THE CORRECTOR PLATE TO CHECK THE MINIMUM REQUIREMENT.

TO ADJUST

LOOSEN TWO DRIVE LINK ADJUSTING SCREWS. POSITION DRIVE LINK TO MEET THE REQUIREMENT AND RETIGHTEN THE SCREWS.

2.42 Typing Mechanism (Cont.)

(A) AXIAL SECTOR ALIGNMENT

REQUIREMENT

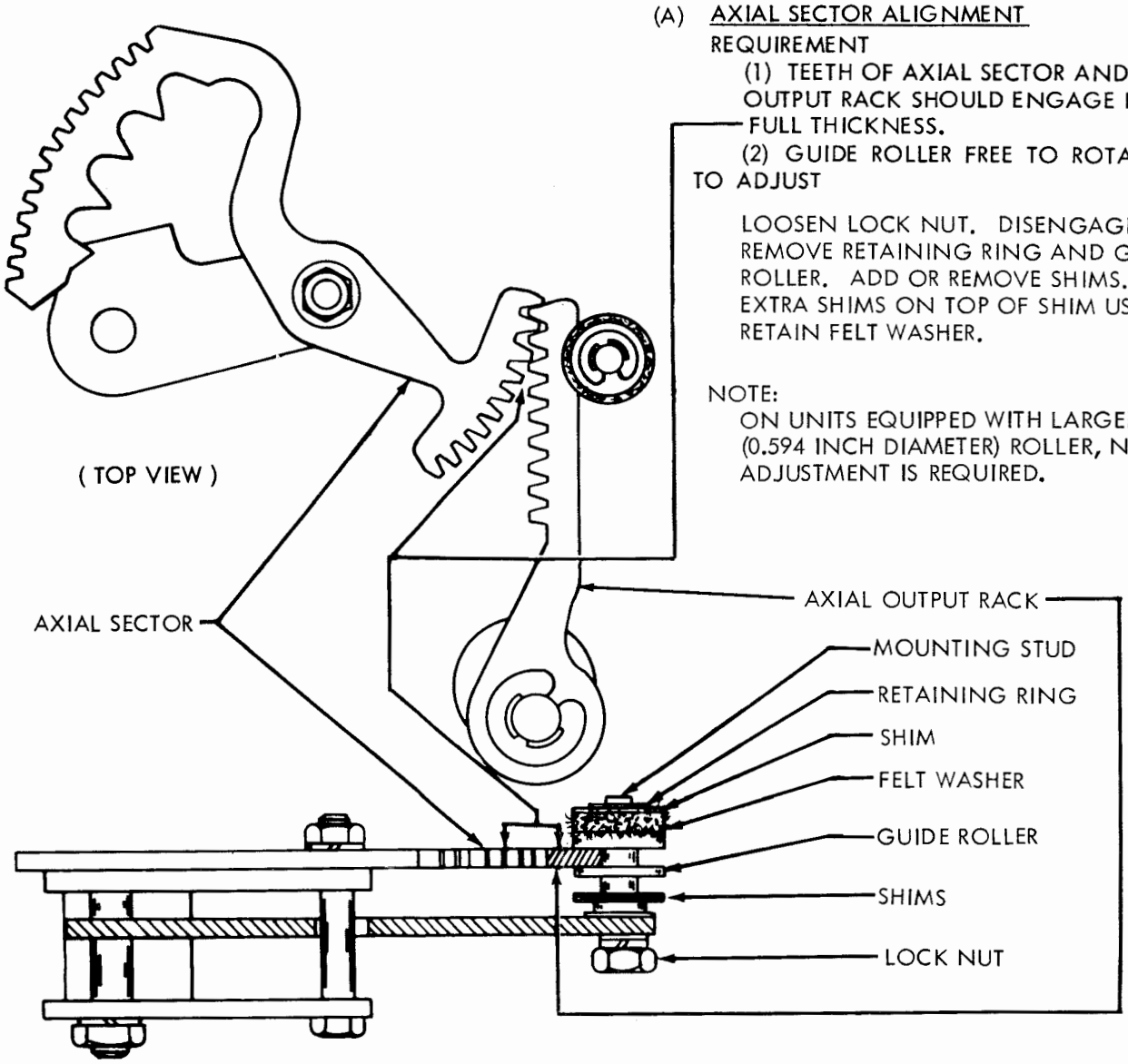
(1) TEETH OF AXIAL SECTOR AND AXIAL OUTPUT RACK SHOULD ENGAGE BY THEIR FULL THICKNESS.

(2) GUIDE ROLLER FREE TO ROTATE.

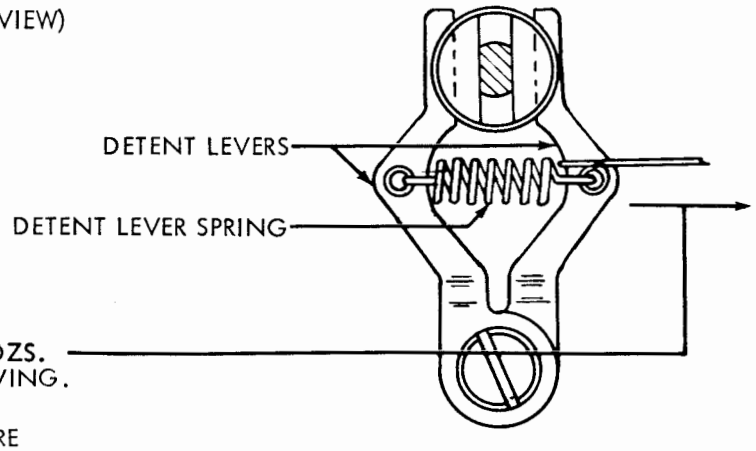
TO ADJUST

LOOSEN LOCK NUT. DISENGAGE RACK. REMOVE RETAINING RING AND GUIDE ROLLER. ADD OR REMOVE SHIMS. PLACE EXTRA SHIMS ON TOP OF SHIM USED TO RETAIN FELT WASHER.

NOTE:
ON UNITS EQUIPPED WITH LARGER (0.594 INCH DIAMETER) ROLLER, NO ADJUSTMENT IS REQUIRED.



(FRONT VIEW)



(TOP VIEW OF SPRINGS ON AXIAL POSITIONING MECHANISM)

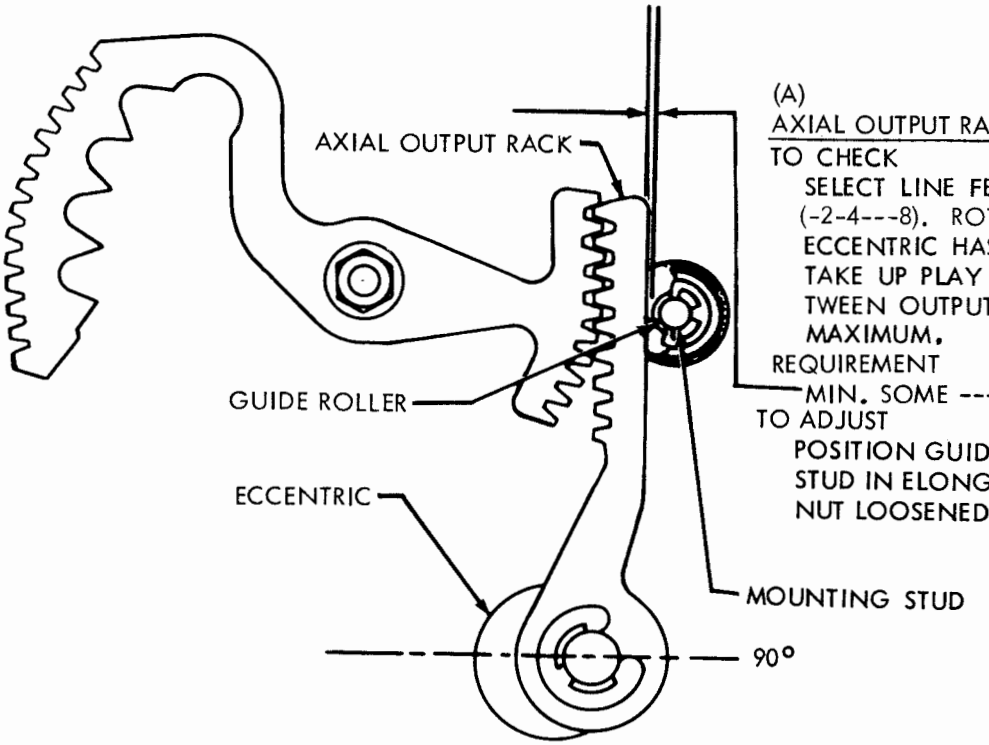
(B) ECCENTRIC SHAFT

DETENT LEVER SPRINGS (6)

MIN. 7 OZS.---MAX. 10 OZS.
TO START DETENT LEVER MOVING.

NOTE:
CHECK ALL 6 SPRINGS. THERE ARE TWO ON THE AXIAL POSITIONING MECHANISM AND FOUR ON THE ROTARY POSITIONING MECHANISM.

2.43 Typing Mechanism (Cont.)



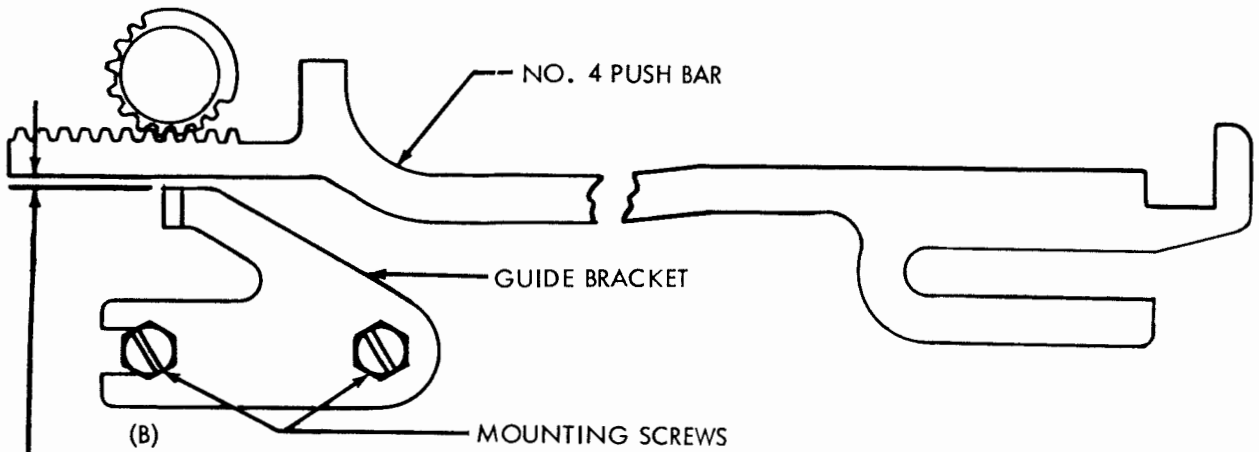
(A)
AXIAL OUTPUT RACK GUIDE ROLLER

TO CHECK
SELECT LINE FEED CODE COMBINATION (-2-4---8). ROTATE MAIN SHAFT UNTIL ECCENTRIC HAS ROTATED 90 DEGREES. TAKE UP PLAY TO MAKE CLEARANCE BETWEEN OUTPUT RACK AND GUIDE ROLLER MAXIMUM.

REQUIREMENT
MIN. SOME --- MAX. 0.008 INCH

TO ADJUST
POSITION GUIDE ROLLER MOUNTING STUD IN ELONGATED HOLE WITH LOCK NUT LOOSENED.

(TOP VIEW)



(B)
PUSH BAR GUIDE BRACKET

TO CHECK
MANUALLY SELECT CARRIAGE RETURN CODE COMBINATION (1-34---8). ROTATE MAIN SHAFT SO THAT NO. 4 PUSH BAR MOVES THROUGH COMPLETE RANGE OF TRAVEL.

REQUIREMENT
WHEN PLAY IS TAKEN UP TO MAKE CLEARANCE MAXIMUM:
MIN. SOME ----MAX. 0.008 INCH
BETWEEN NO. 4 PUSH BAR AND GUIDE BRACKET THROUGHOUT COMPLETE TRAVEL OF BAR.

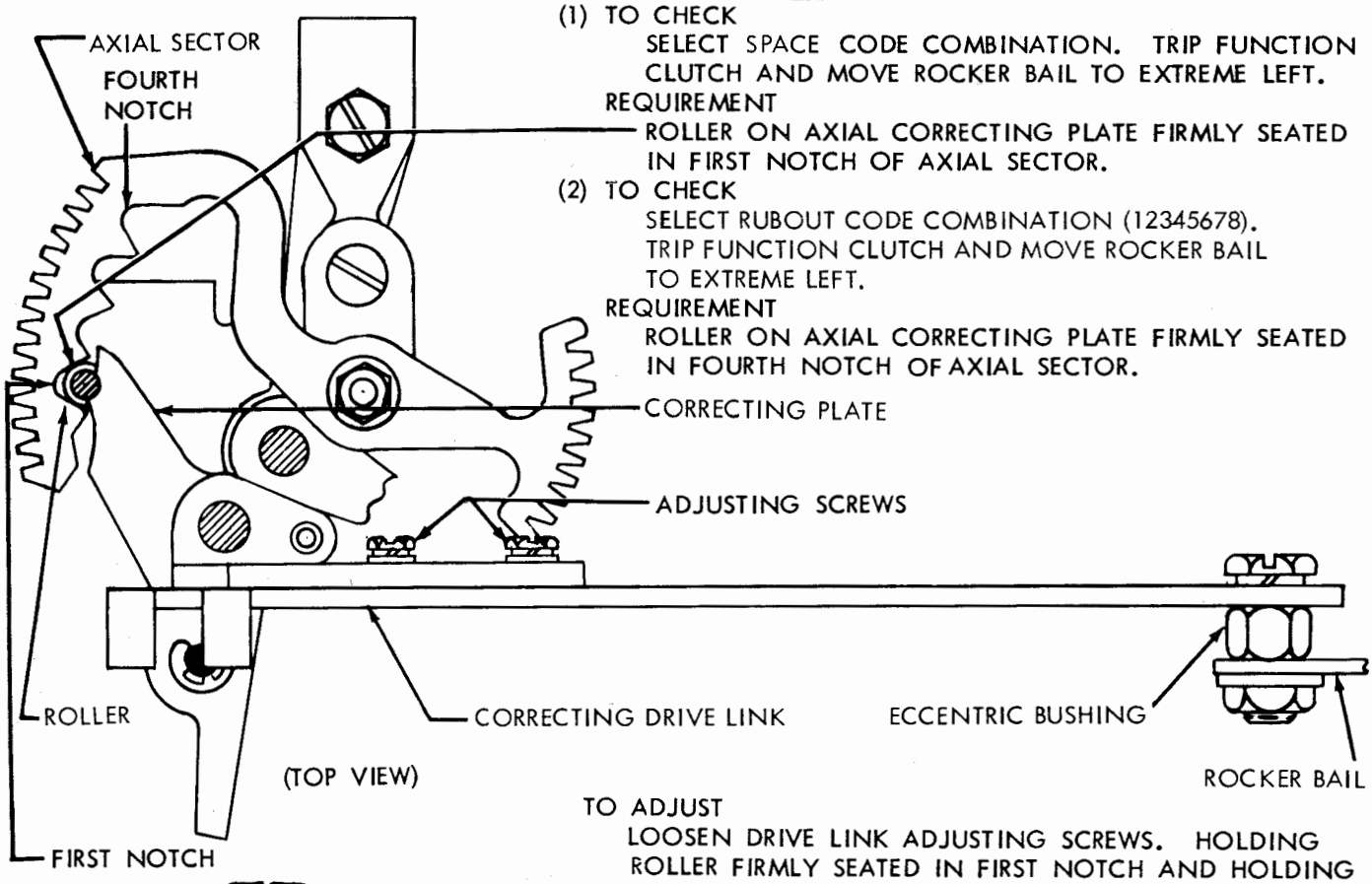
TO ADJUST
POSITION GUIDE BRACKET WITH MOUNTING SCREWS LOOSENED.

2.44 Typing Mechanism (Cont.)

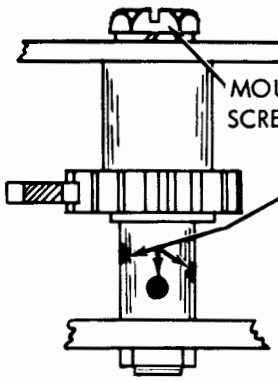
(A) CORRECTING DRIVE LINK

(1) TO CHECK
SELECT SPACE CODE COMBINATION. TRIP FUNCTION CLUTCH AND MOVE ROCKER BAIL TO EXTREME LEFT.
REQUIREMENT
ROLLER ON AXIAL CORRECTING PLATE FIRMLY SEATED IN FIRST NOTCH OF AXIAL SECTOR.

(2) TO CHECK
SELECT RUBOUT CODE COMBINATION (12345678). TRIP FUNCTION CLUTCH AND MOVE ROCKER BAIL TO EXTREME LEFT.
REQUIREMENT
ROLLER ON AXIAL CORRECTING PLATE FIRMLY SEATED IN FOURTH NOTCH OF AXIAL SECTOR.



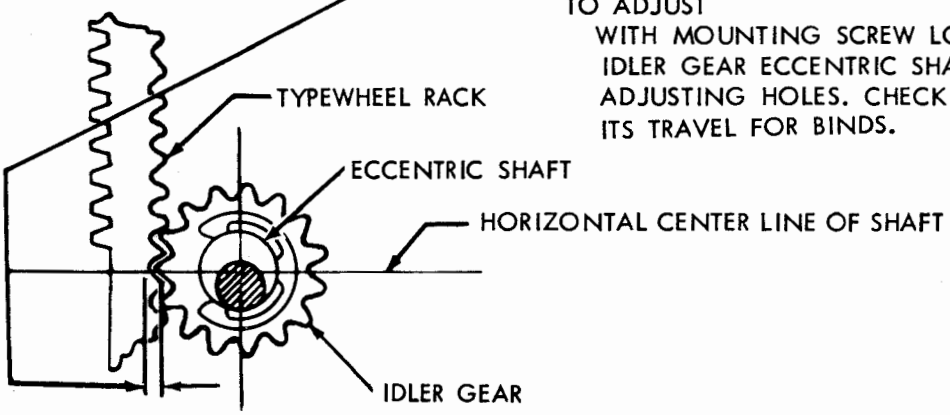
TO ADJUST
LOOSEN DRIVE LINK ADJUSTING SCREWS. HOLDING ROLLER FIRMLY SEATED IN FIRST NOTCH AND HOLDING DRIVE LINK DOWN (BOTTOMED) AGAINST BUSHING, TIGHTEN ADJUSTING SCREWS.



(B) IDLER GEAR ECCENTRIC SHAFT

REQUIREMENT
WITH UNIT IN RUBOUT CONDITION AND FUNCTION CLUTCH DISENGAGED:
MIN. SOME ---- MAX. 0.015 INCH
CLEARANCE BETWEEN TYPEWHEEL RACK TOOTH AND IDLER GEAR TOOTH.

TO ADJUST
WITH MOUNTING SCREW LOOSENED, POSITION IDLER GEAR ECCENTRIC SHAFT BY MEANS OF THREE ADJUSTING HOLES. CHECK RACK THROUGHOUT ITS TRAVEL FOR BINDS.



2.45 Typing Mechanism (Cont.)

ROTARY CORRECTING LEVER

(1) TO CHECK

LOOSEN CORRECTING CLAMP ADJUSTING SCREW. WITH UNIT IN FIGURES CONDITION SELECT "X" CODE COMBINATION (---45-78). TRIP FUNCTION CLUTCH AND POSITION ROCKER BAIL TO EXTREME LEFT. MANUALLY SEAT ROTARY CORRECTING LEVER IN TYPEWHEEL RACK.

REQUIREMENT

SECOND TOOTH FROM TOP OF RACK SEATED BETWEEN LOBES OF CORRECTING LEVER.

TO ADJUST

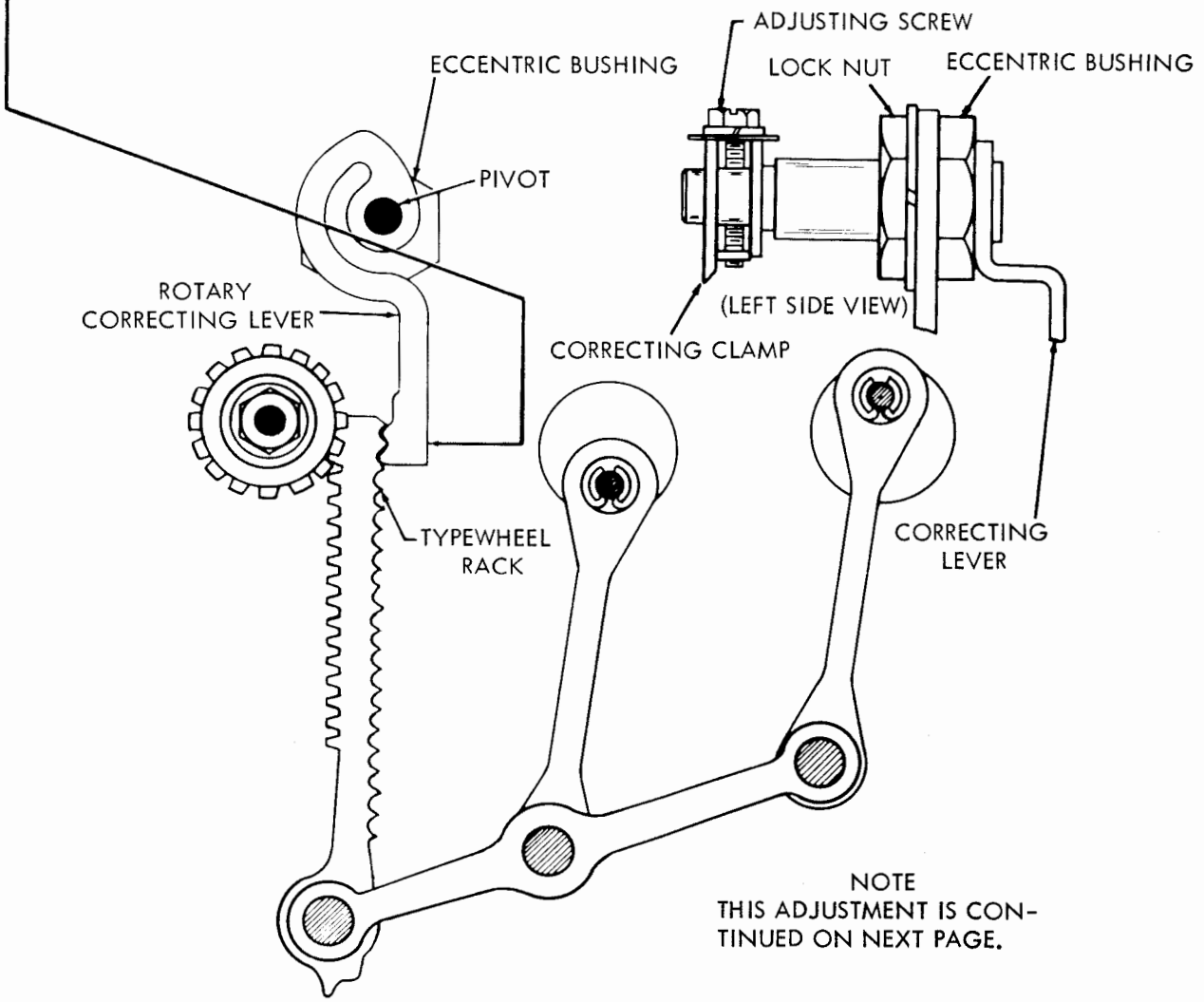
LOOSEN ECCENTRIC BUSHING LOCK NUT. WITH CLAMP ADJUSTING SCREW LOOSENED AND CORRECTING LEVER PIVOT TO RIGHT OF CENTER LINE, POSITION CORRECTING LEVER. TIGHTEN BUSHING LOCK NUT. DO NOT TIGHTEN CLAMP ADJUSTING SCREW AT THIS TIME.

(2) TO CHECK

IN A MANNER SIMILAR TO THAT DESCRIBED ABOVE, CHECK ENGAGEMENT OF FIFTH TOOTH (--34--78), NINTH TOOTH (---4---8) AND SIXTEENTH TOOTH (--3-5--8).

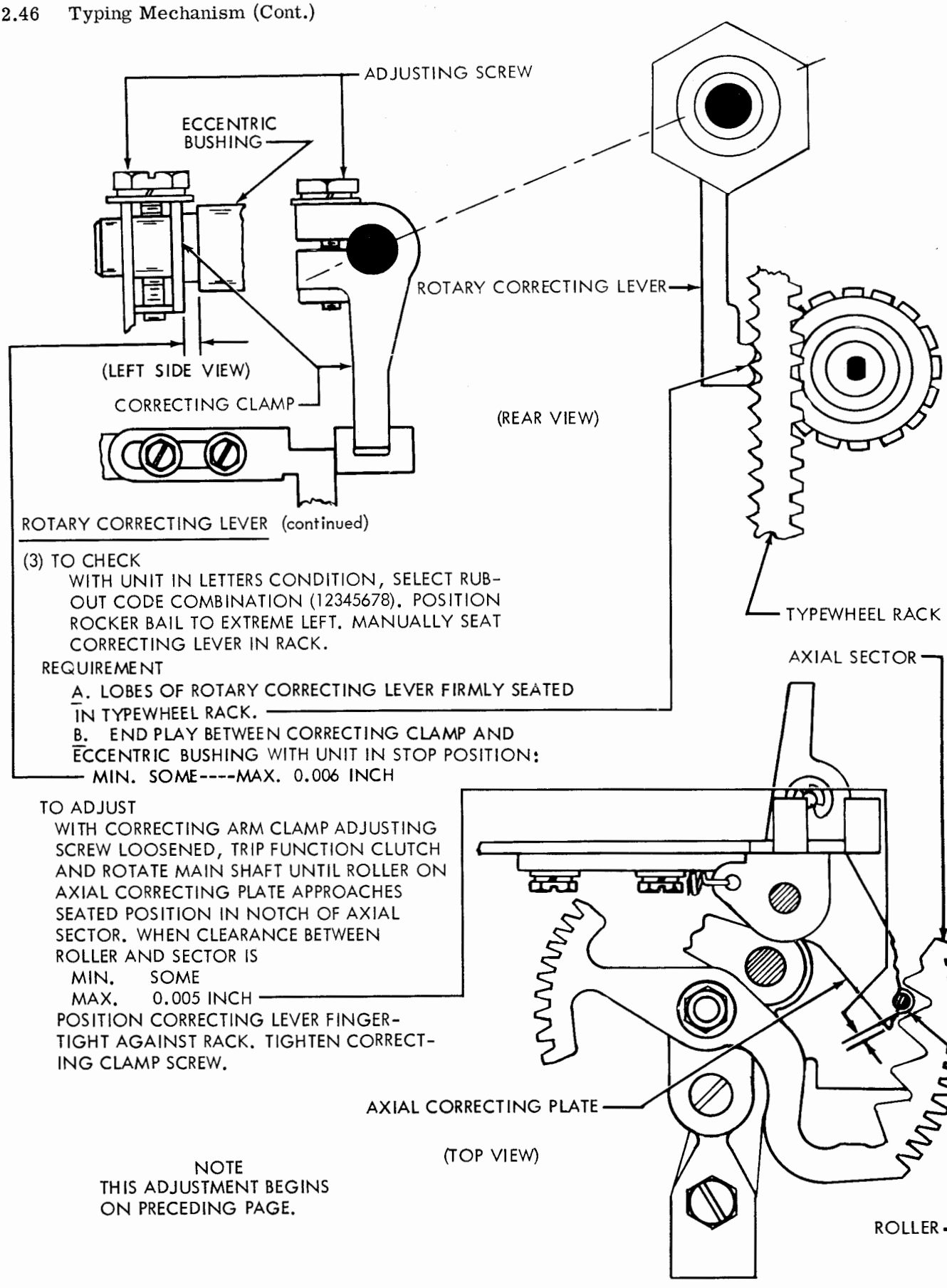
TO ADJUST

REFINE ADJUSTMENT UNDER (1) ABOVE.



NOTE
THIS ADJUSTMENT IS CONTINUED ON NEXT PAGE.

2.46 Typing Mechanism (Cont.)



ROTARY CORRECTING LEVER (continued)

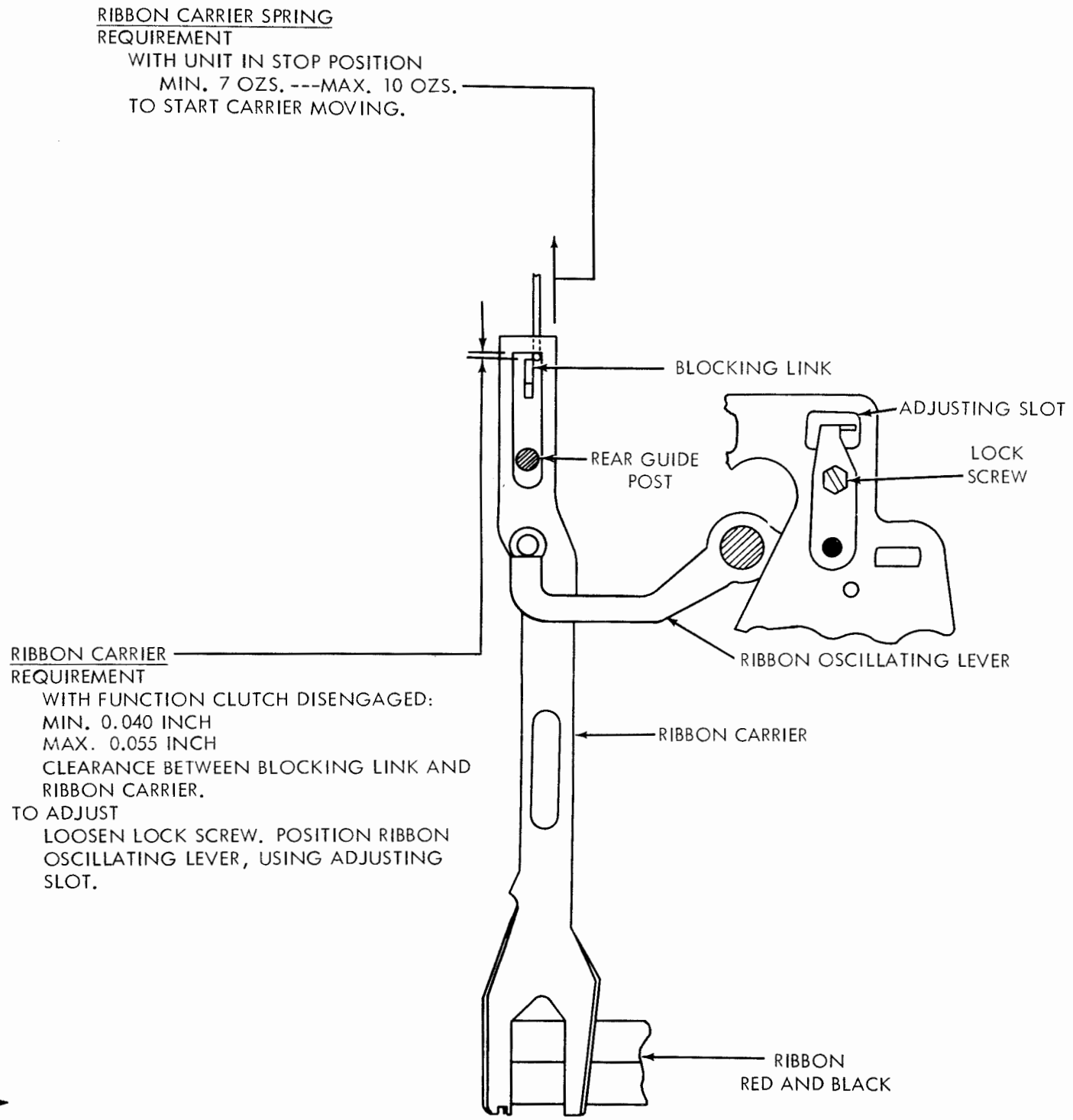
(3) TO CHECK
WITH UNIT IN LETTERS CONDITION, SELECT RUB-OUT CODE COMBINATION (12345678). POSITION ROCKER BAIL TO EXTREME LEFT. MANUALLY SEAT CORRECTING LEVER IN RACK.

REQUIREMENT
A. LOBES OF ROTARY CORRECTING LEVER FIRMLY SEATED IN TYPEWHEEL RACK.
B. END PLAY BETWEEN CORRECTING CLAMP AND ECCENTRIC BUSHING WITH UNIT IN STOP POSITION:
MIN. SOME----MAX. 0.006 INCH

TO ADJUST
WITH CORRECTING ARM CLAMP ADJUSTING SCREW LOOSENED, TRIP FUNCTION CLUTCH AND ROTATE MAIN SHAFT UNTIL ROLLER ON AXIAL CORRECTING PLATE APPROACHES SEATED POSITION IN NOTCH OF AXIAL SECTOR. WHEN CLEARANCE BETWEEN ROLLER AND SECTOR IS
MIN. SOME
MAX. 0.005 INCH
POSITION CORRECTING LEVER FINGER-TIGHT AGAINST RACK. TIGHTEN CORRECTING CLAMP SCREW.

NOTE
THIS ADJUSTMENT BEGINS ON PRECEDING PAGE.

2.47 Ribbon Shift and Print Suppression Mechanism

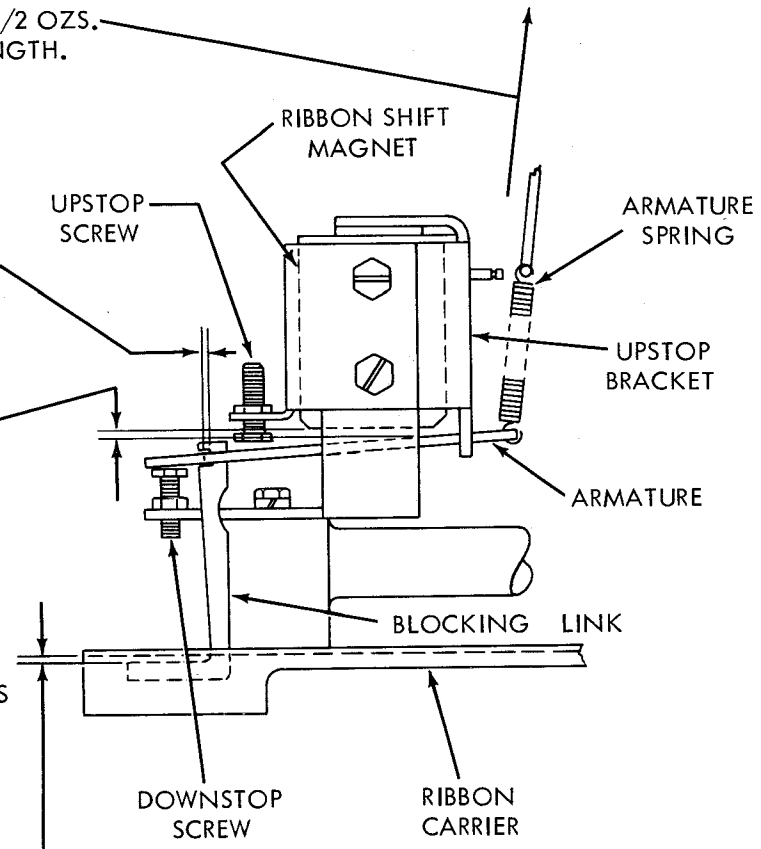


2.48 Ribbon Shift and Print Suppression Mechanism (Cont.)

NOTE: REFER TO VARIABLE FEATURES (PART 3) FOR ADDITIONAL PRINT SUPPRESSION ADJUSTMENTS.

ARMATURE SPRING

REQUIREMENT
WITH SPRING DISCONNECTED
MIN. 3-1/2 OZS. ---MAX. 4-1/2 OZS.
WHEN PULLED TO INSTALLED LENGTH.



(B) ARMATURE AIR GAP

REQUIREMENT
WITH ARMATURE ON DOWNSTOP SCREW
MIN. 0.015 INCH---MAX. 0.020 INCH
CLEARANCE BETWEEN MAGNET CORE AND ARMATURE AT CLOSEST POINT AND
MIN. SOME---MAX. 1/32 INCH
CLEARANCE BETWEEN REAR OF ARMATURE SLOT AND BLOCKING LINK AS GAGED BY EYE.

TO ADJUST
POSITION MAGNET BRACKET WITH SCREWS LOOSENED. CHECK FOR BINDS.

NOTE: SEE ARMATURE UPSTOP ADJUSTMENT (PARAGRAPH 2.53).

(A) ARMATURE DOWNSTOP

REQUIREMENT
WITH ROCKER BAIL IN EXTREME LEFT POSITION AND RIBBON CARRIER BIASED DOWNWARD (*UPWARD)
MIN. SOME---MAX. 0.005 INCH
(*MIN. SOME---MAX. 0.008 INCH)
CLEARANCE BETWEEN TOP SURFACE OF BLOCKING LINK AND LOWER SURFACE OF RIBBON CARRIER

TO ADJUST
POSITION ARMATURE DOWNSTOP SCREW WITH LOCK NUT LOOSENED.

*FOR UNITS WITH LAST CHARACTER VISIBILITY FEATURE.

2.49 Ribbon Shift and Print Suppression Mechanism (Cont.)

NOTE: REFER TO VARIABLE FEATURES (PART 3) FOR ADDITIONAL PRINT SUPPRESSION ADJUSTMENTS.

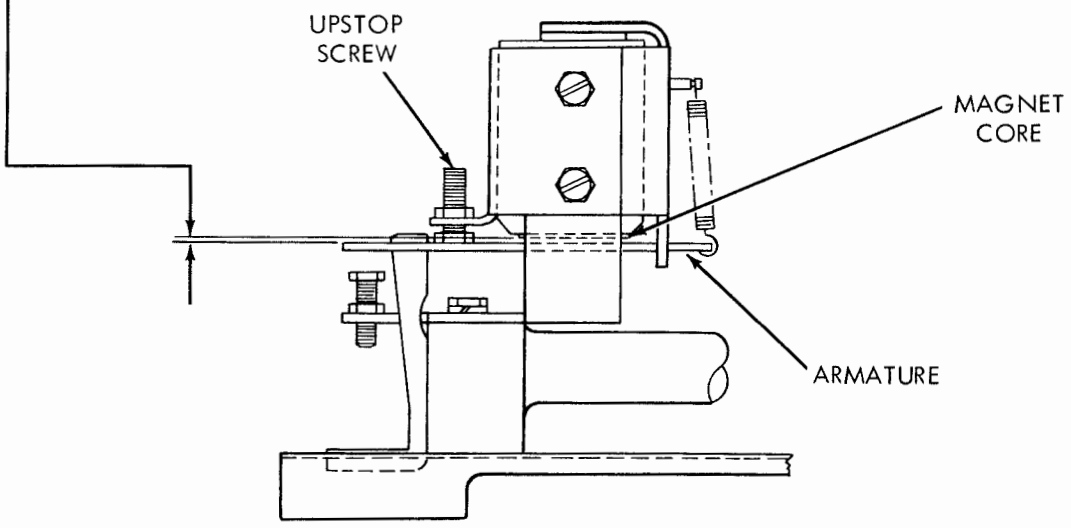
NOTE: THIS ADJUSTMENT IS TO BE PRECEDED BY ARMATURE DOWNSTOP AND ARMATURE AIR GAP ADJUSTMENTS (PARAGRAPH 2.48).

ARMATURE UPSTOP

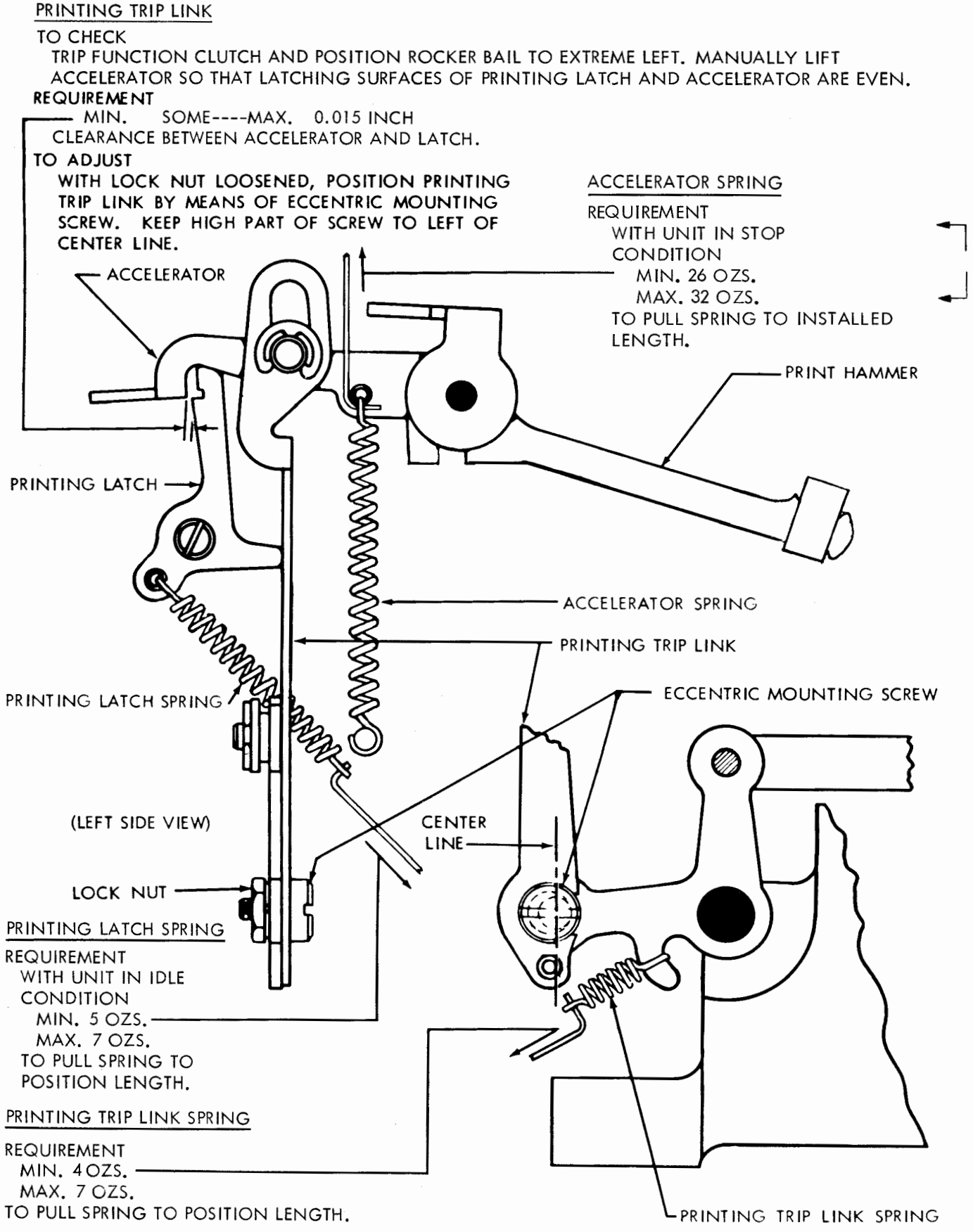
REQUIREMENT
WITH ARMATURE HELD AGAINST UPSTOP SCREW (MAGNET IS NOT TO BE ENERGIZED)
MIN. 0.004 INCH---MAX. 0.007 INCH
(* MIN. 0.005 INCH---MAX. 0.010 INCH)
CLEARANCE BETWEEN MAGNET CORE AND ARMATURE AT CLOSEST POINT.

TO ADJUST
POSITION UPSTOP SCREW WITH LOCK NUT LOOSENED.

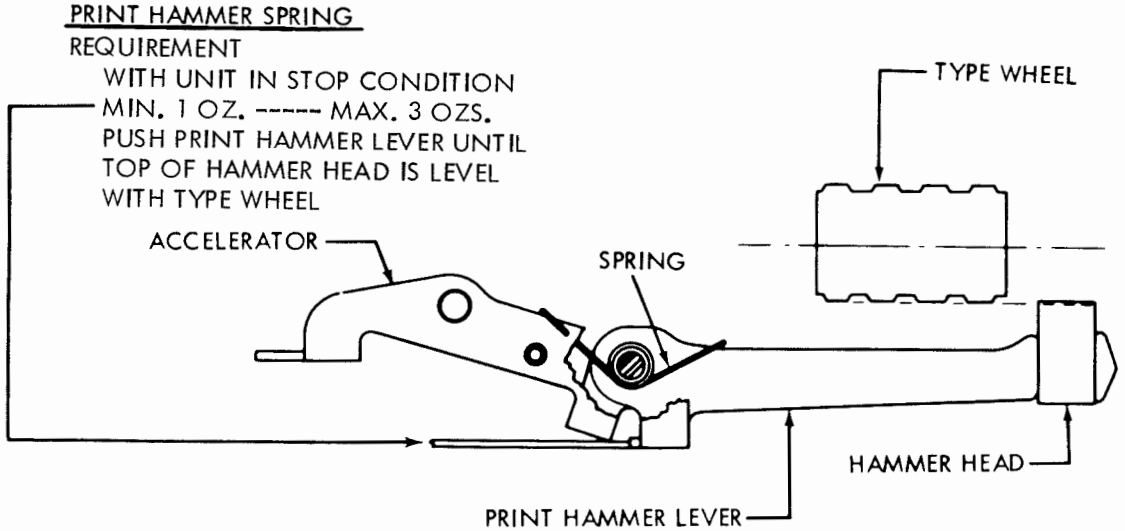
* FOR UNITS WITH LAST CHARACTER VISIBILITY FEATURE.



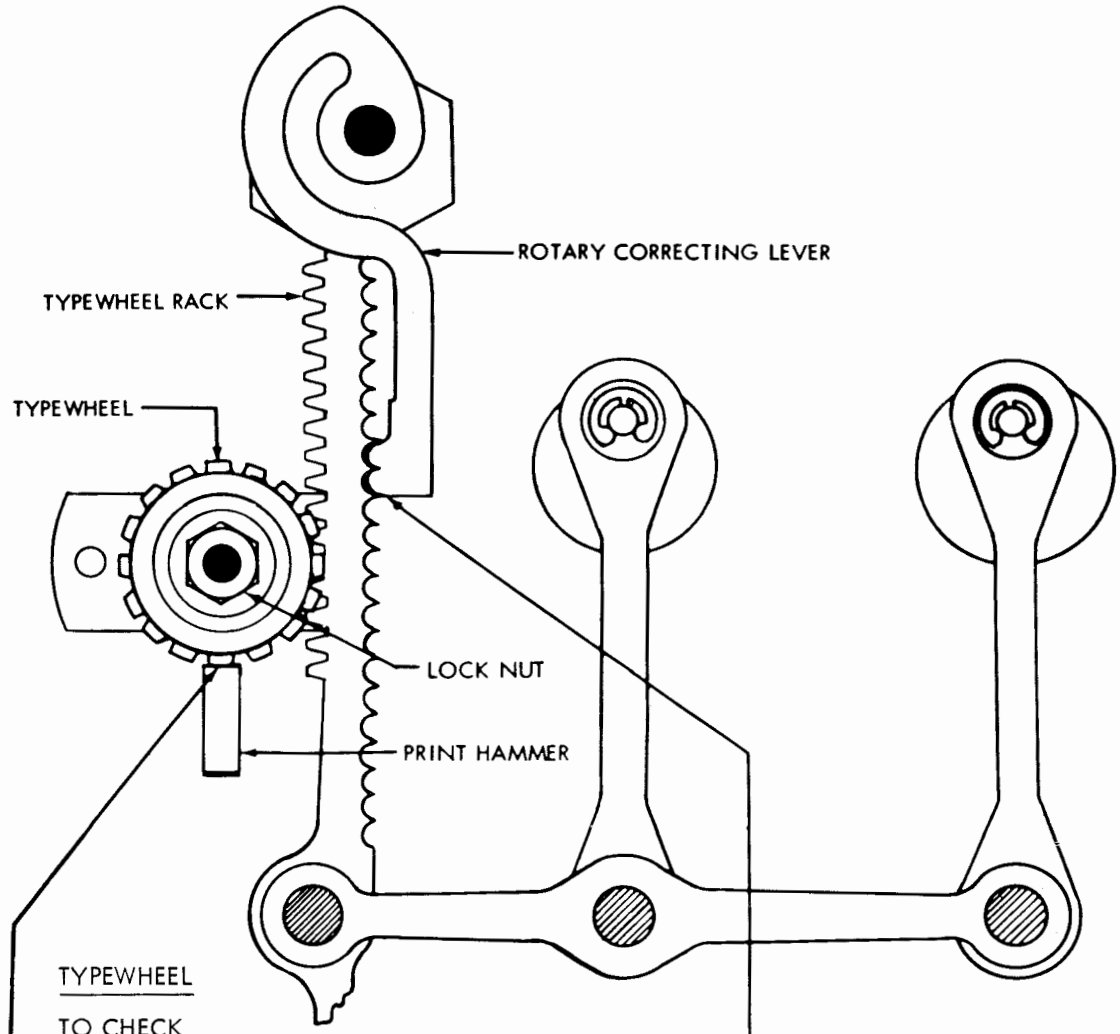
2.50 Typing Mechanism



2.51 Typing Mechanism (Cont.)



2.52 Typing Mechanism (Cont.)



TYPEWHEEL

TO CHECK
SELECT "M" CODE COMBINATION (--345--8). PLACE ROCKER BAIL TO EXTREME LEFT. CORRECTING LEVER SHOULD BE FIRMLY SEATED IN TYPEWHEEL RACK.

REQUIREMENT
TYPEWHEEL ALIGNED SO THAT FULL CHARACTER IS PRINTED UNIFORMLY AND 6-1/2 CODE HOLE SPACES BEHIND ITS PERFORATED CODE HOLE.

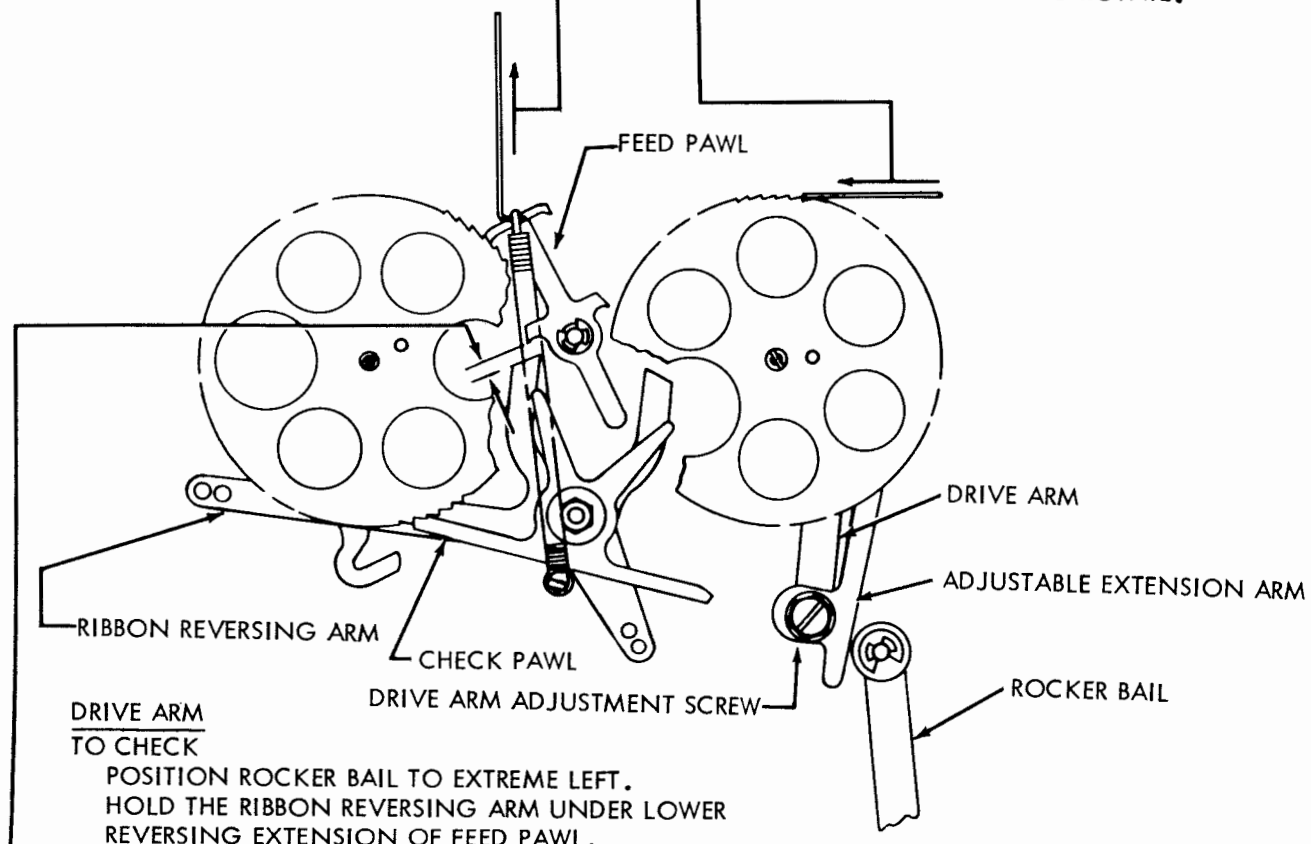
TO ADJUST
POSITION TYPEWHEEL WITH LOCK NUT LOOSENED. CHECK PRINTING BY MANUALLY LIFTING ACCELERATOR TO LATCHED POSITION AND RELEASING IT.

NOTE
FOR BEST RESULTS, IT MAY BE NECESSARY TO MAKE PRINT HAMMER ADJUSTMENT AND THEN REFINE THIS ADJUSTMENT.

2.53 Typing Mechanism (Cont.)

FEED PAWL SPRING
REQUIREMENT
WITH ROCKER BAIL TO EXTREME RIGHT:
MIN. 4 OZS. --- MAX. 6 OZS.
TO PULL FEED PAWL SPRING TO
INSTALLED LENGTH.

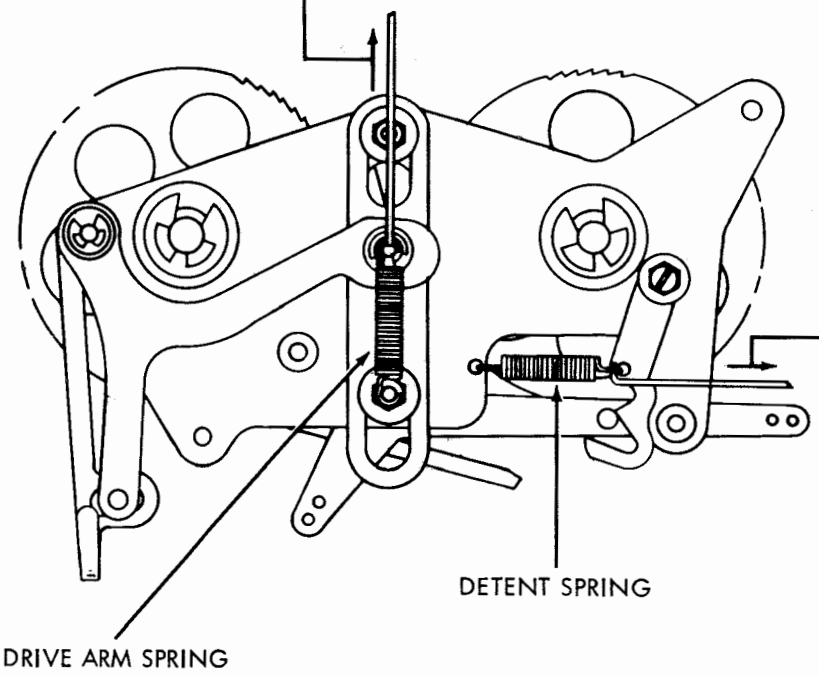
RATCHET WHEEL TORQUE SPRING
REQUIREMENT
MIN. 1 OZS. --- MAX. 3 OZS.
APPLIED TANGENTIALLY TO THE RATCHET
WHEEL TO START IT TO ROTATE.



DRIVE ARM
TO CHECK
POSITION ROCKER BAIL TO EXTREME LEFT.
HOLD THE RIBBON REVERSING ARM UNDER LOWER
REVERSING EXTENSION OF FEED PAWL.
REQUIREMENT
(1) CLEARANCE BETWEEN BLOCKING EDGE OF
RIBBON REVERSE ARM AND REVERSING
EXTENSION OF FEED PAWL:
MIN. SOME
(2) CLEARANCE SHALL NOT BE SO GREAT AS
TO ALLOW FEED PAWL TO FEED MORE
THAN TWO TEETH AT A TIME.
(3) FEED PAWL DETENTED IN BOTH ITS RIGHT
AND LEFT POSITION.
TO ADJUST
POSITION DRIVE ARM ADJUSTABLE EXTENSION
LEVER WITH ITS MOUNTING SCREW LOOSENED.

2.54 Typing Mechanism (Cont.) ←

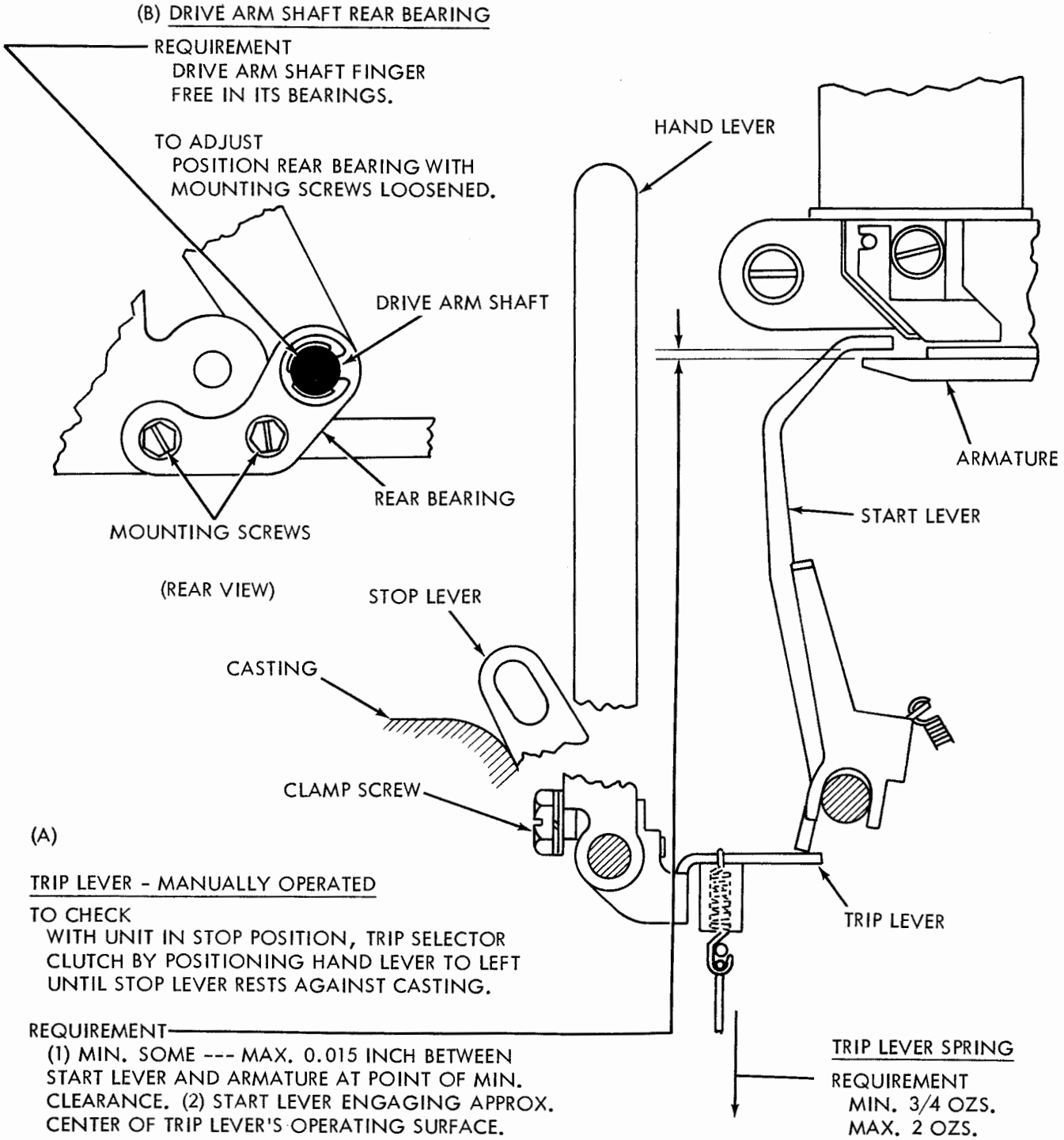
DRIVE ARM SPRING
REQUIREMENT
WITH ROCKER BAIL TO EXTREME RIGHT
MIN. 9 OZS. --- MAX. 14 OZS.
TO PULL DRIVE ARM SPRING TO
INSTALLED LENGTH.



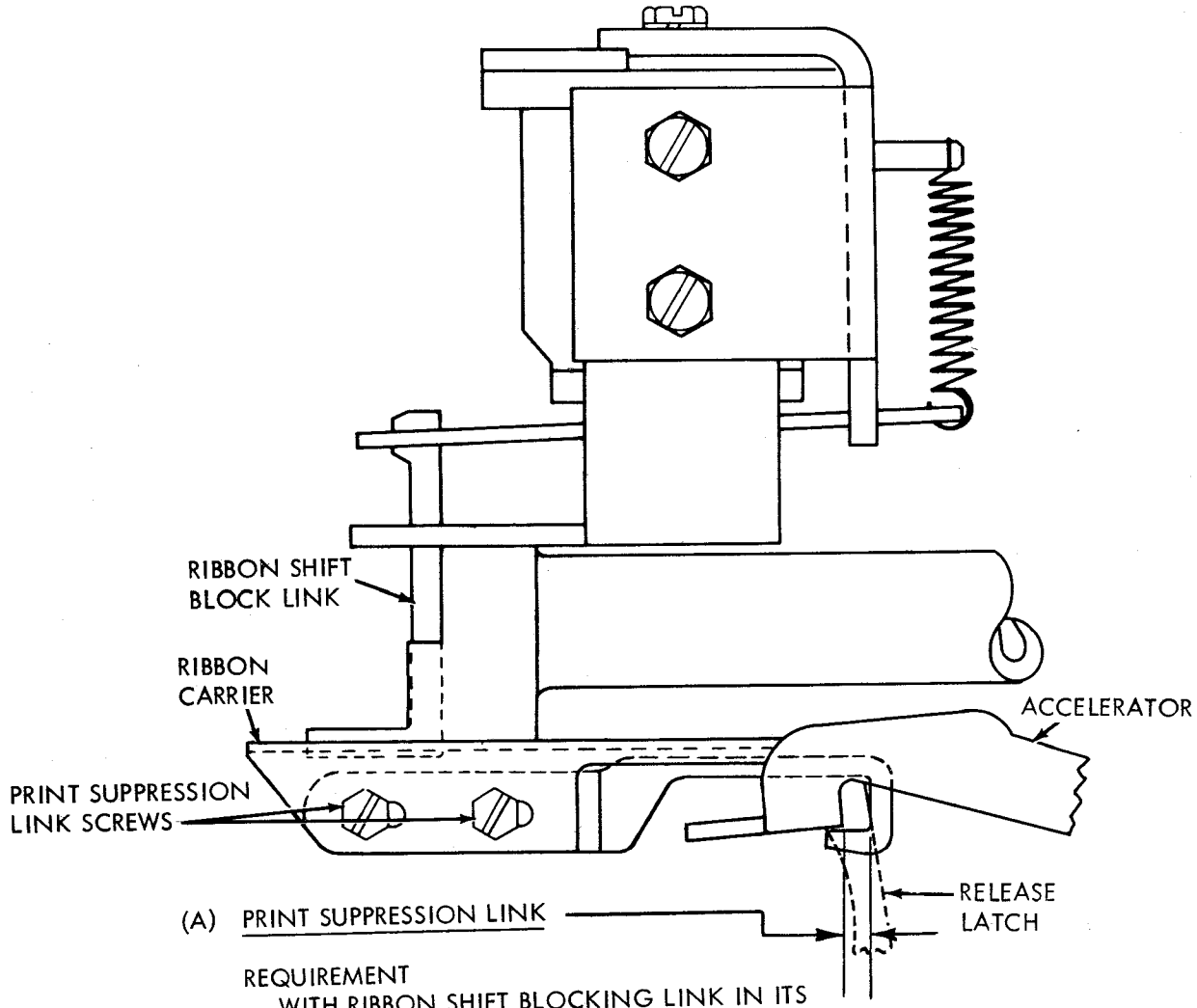
DETENT SPRING
REQUIREMENT
WITH REVERSING ARM IN ITS EXTREME
RIGHT OR LEFT POSITION:
MIN. 2 OZS. --- MAX. 4 OZS.
TO PULL DETENT SPRING TO ITS
INSTALLED LENGTH.

3. VARIABLE FEATURES

3.01 Manual Interfering Rubout Tape Feed-Out Mechanism



3.02 Print Suppression Mechanism



(A) PRINT SUPPRESSION LINK

REQUIREMENT

WITH RIBBON SHIFT BLOCKING LINK IN ITS BLOCKING POSITION AND ACCELERATOR LATCHED THERE SHOULD BE

MIN. 0.065 INCH---MAX. 0.095 INCH

CLEARANCE BETWEEN ACCELERATOR LEVER AND PRINT SUPPRESSION LINK.

TO ADJUST

REMOVE ACCELERATOR LATCH LEVER SPRING, TRIP FUNCTION CLUTCH, AND ROTATE MAIN SHAFT UNTIL ROCKER BAIL IS IN EXTREME LEFT POSITION. WITH SCREWS LOOSENED POSITION PRINT SUPPRESSION LINK HORIZONTALLY AND UPWARD AGAINST RIBBON CARRIER TO MEET REQUIREMENT.

NOTE: REFER TO PART 2 FOR PRELIMINARY ADJUSTMENTS IN COMMON WITH RIBBON SHIFT ADJUSTMENTS IN ALL UNITS.