

**BELL SYSTEM PRACTICES**  
**Teletypewriter and Data Stations**

**SECTION P34.630**  
**Issue 2, May, 1961**  
**AT&TCo Standard**

## **28 DISTRIBUTOR**

### **REQUIREMENTS AND ADJUSTMENTS**

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## 1. GENERAL

- 1.01 This section contains the requirements and adjusting procedures for the maintenance of the 28 distributor.
- 1.02 This section is reissued to change the title, to transfer the assembly and disassembly and lubrication procedures to new sections, and to bring the requirements up to date.
- 1.03 In this section, left or right, front or rear, and top or bottom apply to the apparatus in its normal operating position as viewed from the front.
- 1.04 A listing of other Bell System Practices associated with this section is shown in Part 3.

## 2. REQUIREMENTS AND ADJUSTMENTS

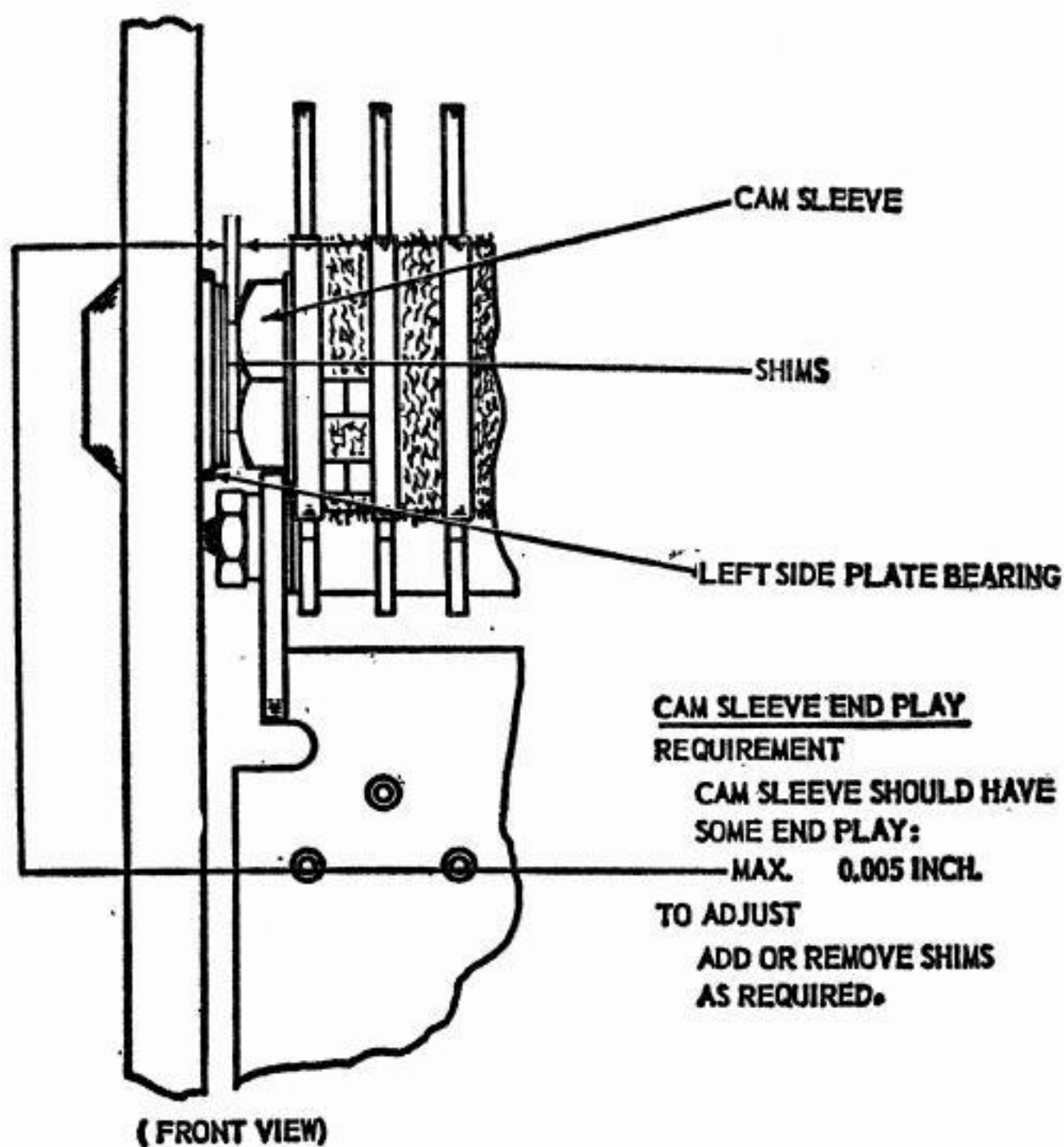
- 2.01 The following figures show the adjusting tolerances, positions of moving parts, and spring tensions. The illustrations are arranged so that the adjustments are in the sequence that would be followed if a complete readjustment of the unit were being made. Where a drawing shows interrelated parts, the sequence that should be followed in checking the requirements and making the adjustments shown on that page is indicated by the letters (A), (B), (C), etc.

## 2.02 Mainshaft Mechanism

### NOTE:

TO FACILITATE ITS ADJUSTMENT, UNIT SHOULD BE REMOVED FROM BASE.

THE FOLLOWING ADJUSTMENTS APPLY FOR 60, 75 AND 100 WORD PER MINUTE OPERATION UNLESS IT IS STATED OTHERWISE IN SPECIFIC ADJUSTING INSTRUCTIONS.



## 2.03 Clutch Trip Magnet Mechanism

(A)

### CLUTCH LATCH LEVER SPRING

#### REQUIREMENT

LATCH LEVER RESTING AGAINST LUG ON CLUTCH DISK.

MIN. 1 OZ.—MAX. 2 OZS.

TO START LATCH LEVER MOVING.

(B)

### CLUTCH TRIP LEVER SPRING

#### TO CHECK

DISENGAGE CLUTCH. PULL ARMATURE FORWARD AGAINST POLE PIECES TO UNLATCH TRIP LEVER. HOLD ARMATURE AGAINST POLE PIECES AND MEASURE TENSION.

#### REQUIREMENT

MIN. 5 OZS.—MAX. 8 OZS.

TO START LEVER MOVING.

(C)

### MAGNET BRACKET

#### REQUIREMENT

ARMATURE SPRING UNHOOKED, MAGNETS ENERGIZED.

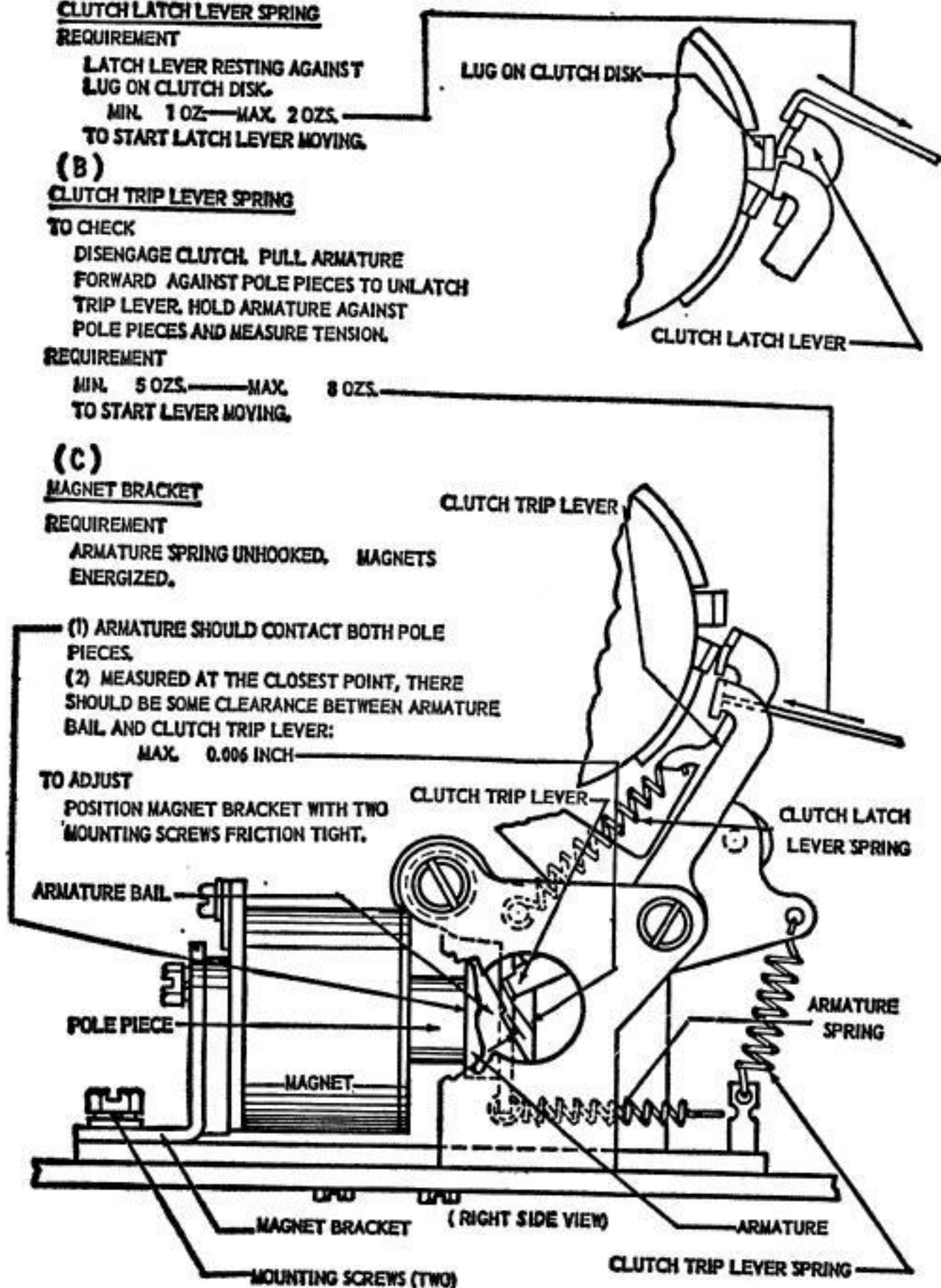
(1) ARMATURE SHOULD CONTACT BOTH POLE PIECES.

(2) MEASURED AT THE CLOSEST POINT, THERE SHOULD BE SOME CLEARANCE BETWEEN ARMATURE BAIL AND CLUTCH TRIP LEVER:

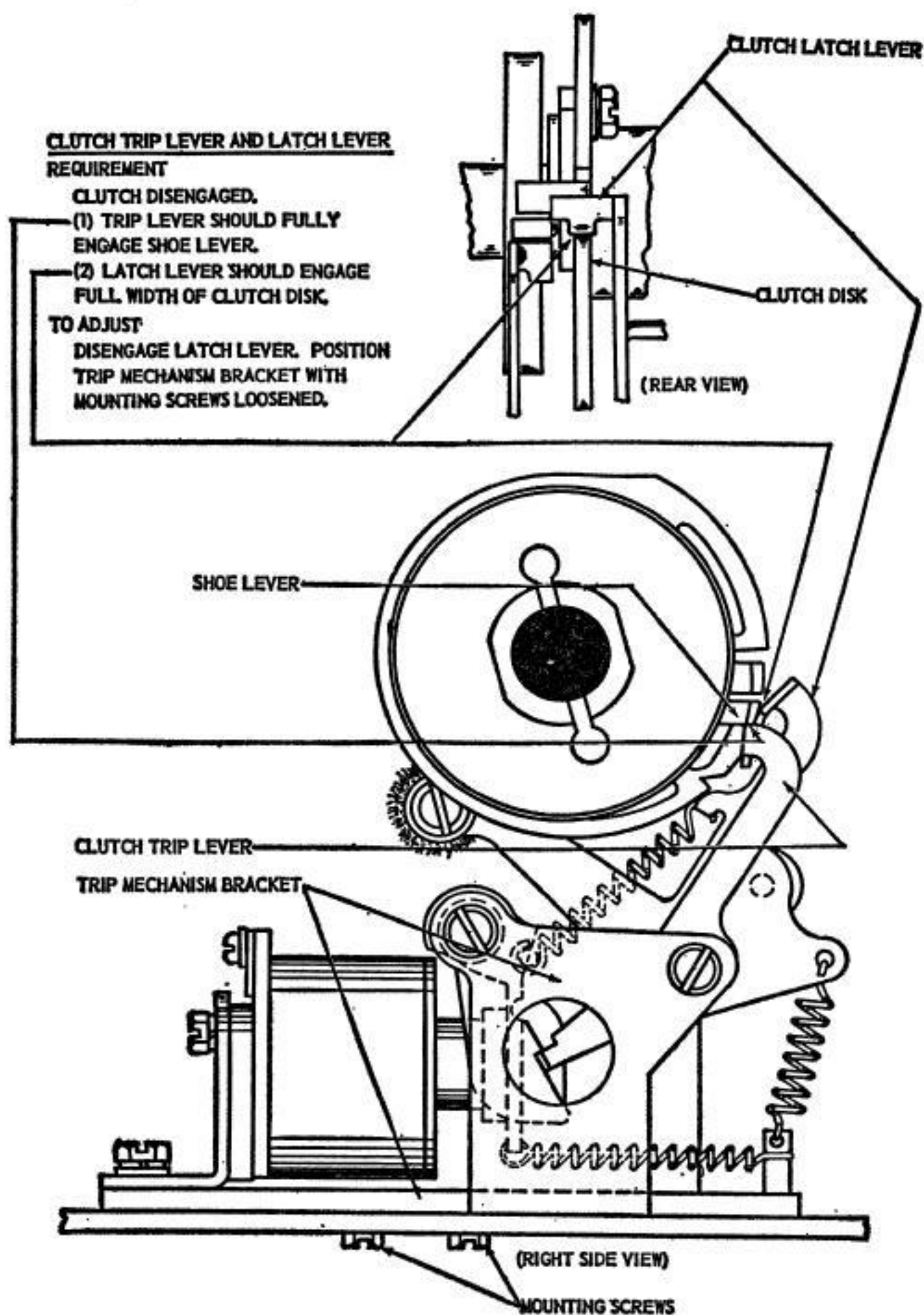
MAX. 0.006 INCH

#### TO ADJUST

POSITION MAGNET BRACKET WITH TWO MOUNTING SCREWS FRICTION TIGHT.



## 2.04 Clutch Trip Magnet Mechanism





## 2.05 Clutch Trip Magnet Mechanism

(A)

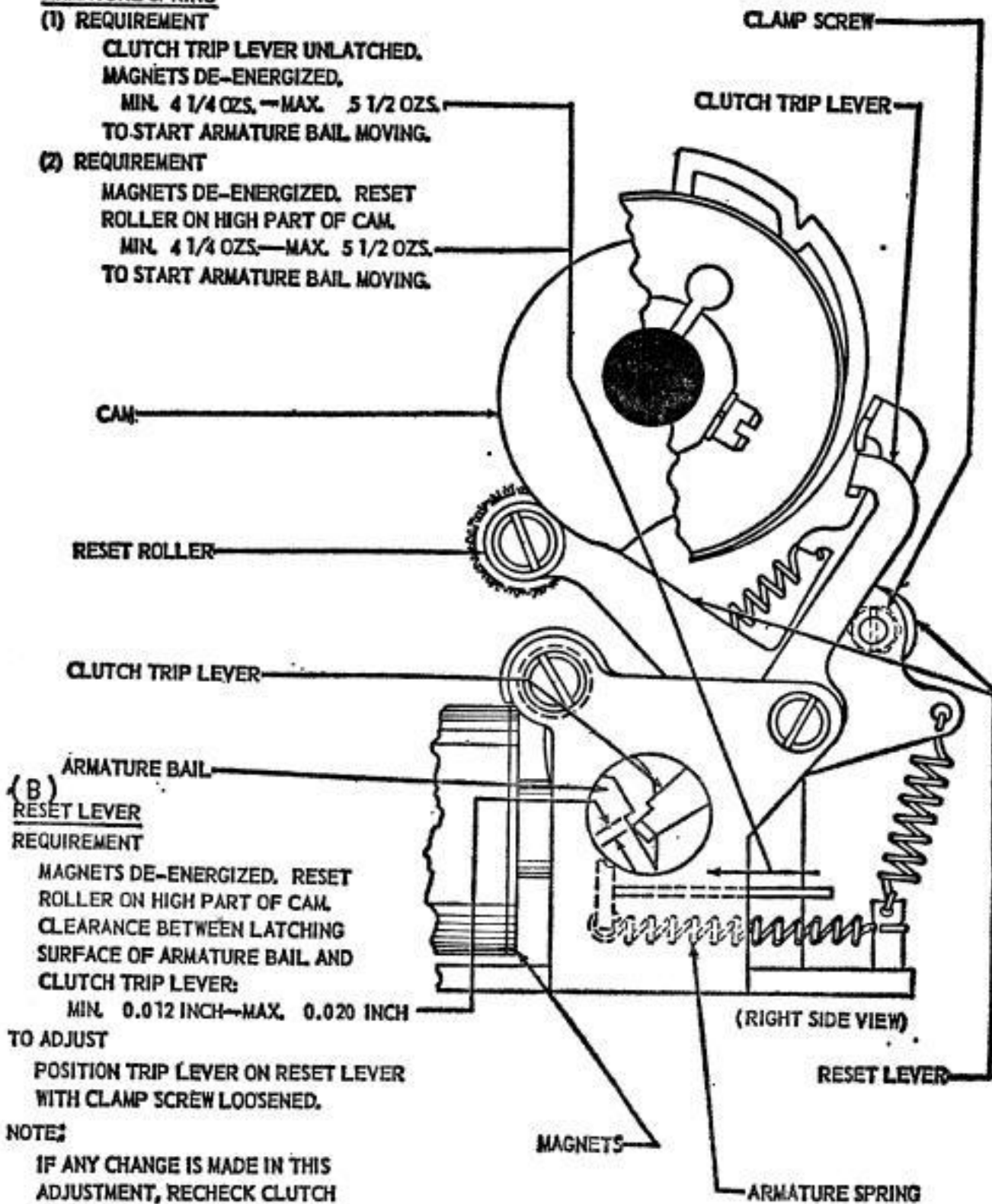
### ARMATURE SPRING

#### (1) REQUIREMENT

CLUTCH TRIP LEVER UNLATCHED,  
MAGNETS DE-ENERGIZED,  
MIN. 4 1/4 OZS.—MAX. 5 1/2 OZS.  
TO START ARMATURE BAIL MOVING.

#### (2) REQUIREMENT

MAGNETS DE-ENERGIZED, RESET  
ROLLER ON HIGH PART OF CAM,  
MIN. 4 1/4 OZS.—MAX. 5 1/2 OZS.  
TO START ARMATURE BAIL MOVING.



(B)  
RESET LEVER

#### REQUIREMENT

MAGNETS DE-ENERGIZED, RESET  
ROLLER ON HIGH PART OF CAM,  
CLEARANCE BETWEEN LATCHING  
SURFACE OF ARMATURE BAIL, AND  
CLUTCH TRIP LEVER:  
MIN. 0.012 INCH—MAX. 0.020 INCH

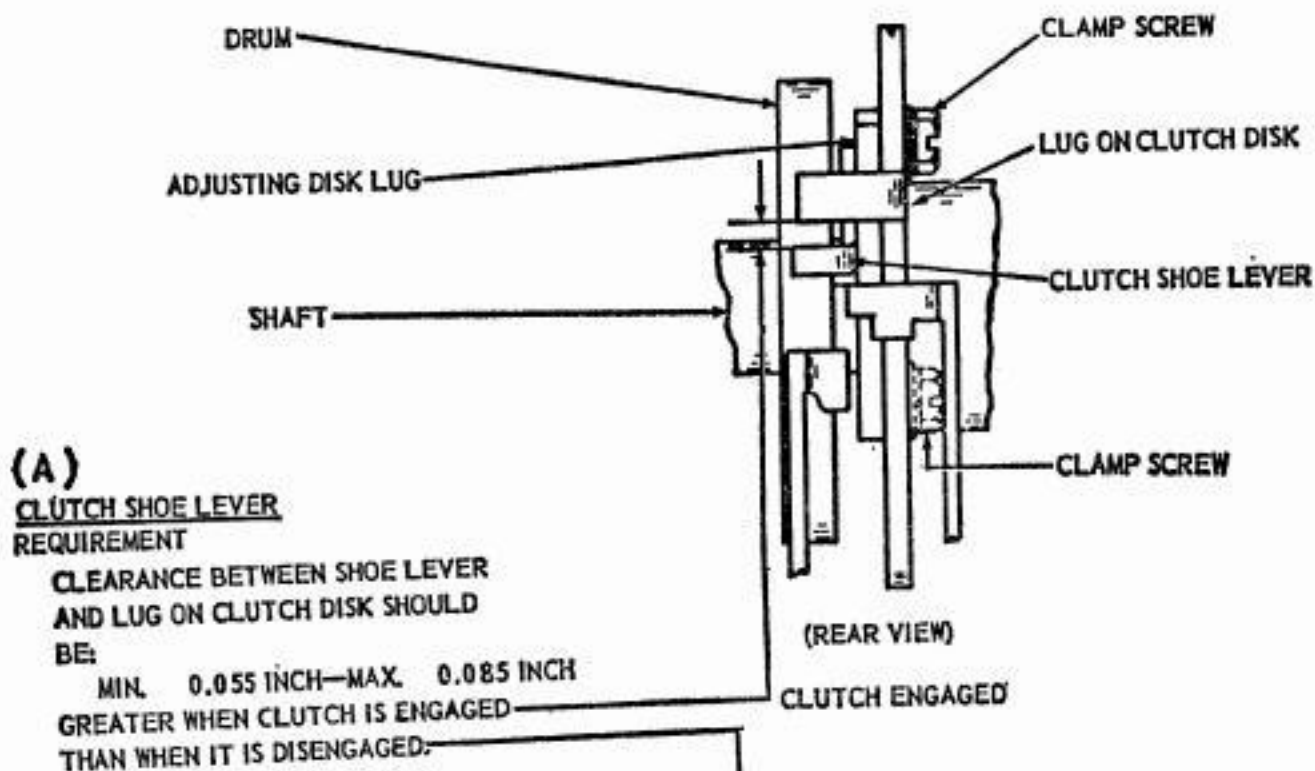
#### TO ADJUST

POSITION TRIP LEVER ON RESET LEVER  
WITH CLAMP SCREW LOOSENED.

#### NOTE:

IF ANY CHANGE IS MADE IN THIS  
ADJUSTMENT, RECHECK CLUTCH  
TRIP LEVER AND LATCH LEVER  
ADJUSTMENT.

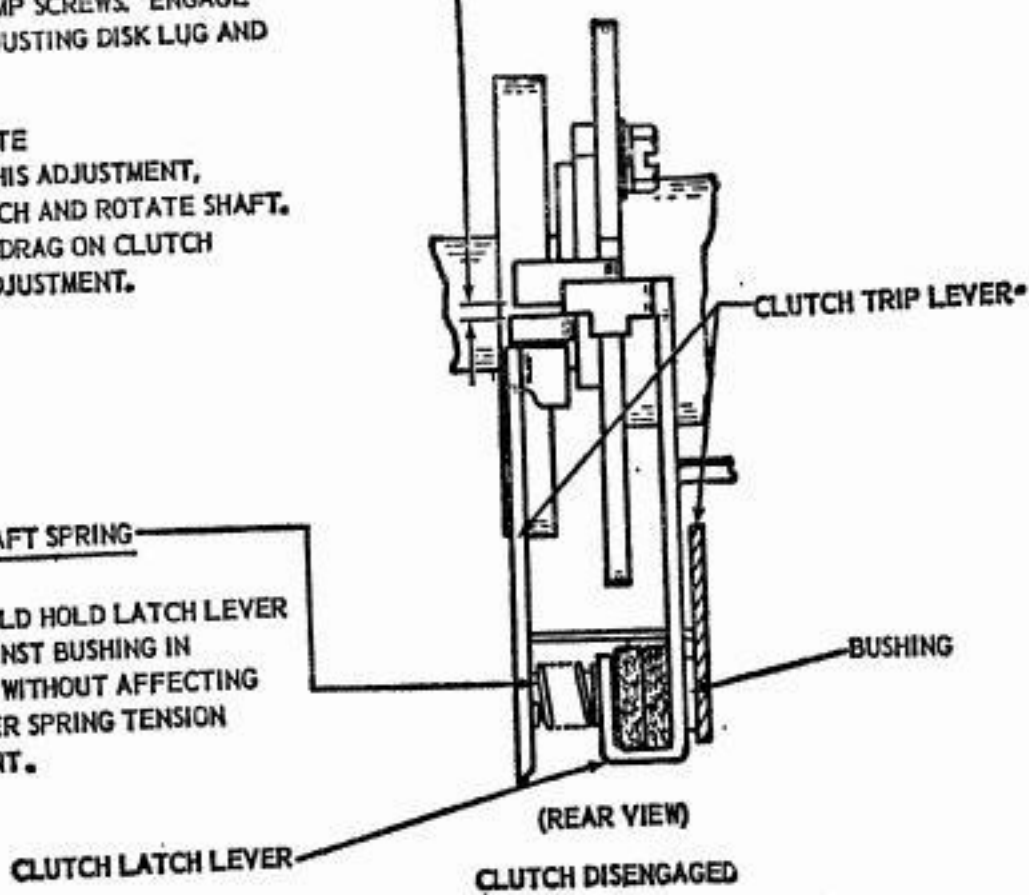
## 2.06 Clutch and Trip Mechanism



TO ADJUST  
 LOOSEN TWO CLAMP SCREWS. ENGAGE  
 A WRENCH ON ADJUSTING DISK LUG AND  
 ROTATE DISK.

**NOTE**  
 AFTER MAKING THIS ADJUSTMENT,  
 DISENGAGE CLUTCH AND ROTATE SHAFT.  
 IF THERE IS ANY DRAG ON CLUTCH  
 DRUM, REFINES ADJUSTMENT.

**(B)**  
**TRIP LEVER SHAFT SPRING**  
**REQUIREMENT**  
 SPRING SHOULD HOLD LATCH LEVER  
 FIRMLY AGAINST BUSHING IN  
 TRIP LEVER WITHOUT AFFECTING  
 LATCH LEVER SPRING TENSION  
 REQUIREMENT.



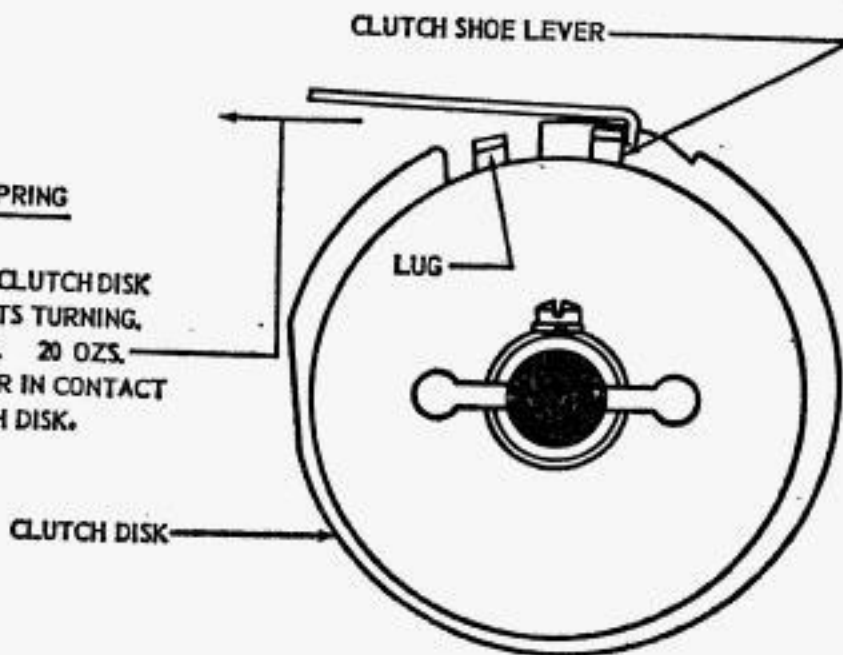
## 2.07 Clutch

(A)

### CLUTCH SHOE LEVER SPRING

#### REQUIREMENT

CLUTCH ENGAGED. CLUTCH DISK HELD TO PREVENT ITS TURNING.  
MIN. 16 OZS.—MAX. 20 OZS.  
TO PULL SHOE LEVER IN CONTACT WITH LUG ON CLUTCH DISK.

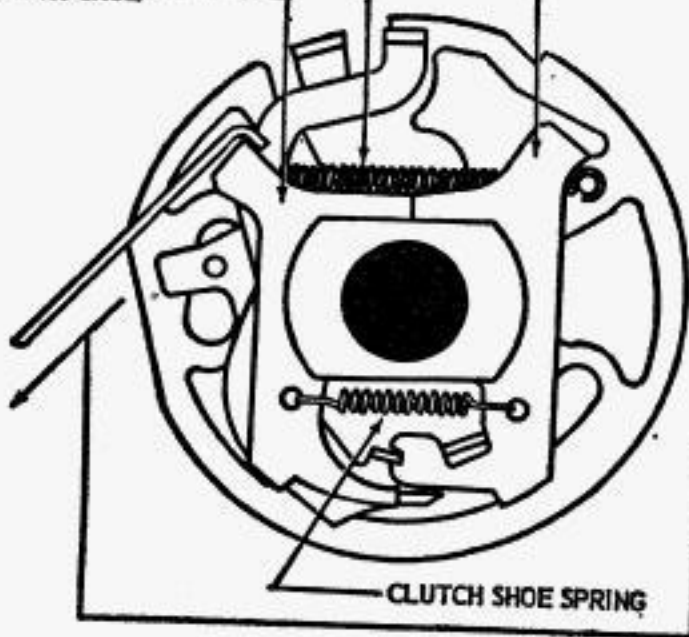


(RIGHT SIDE VIEW)

CLUTCH SHOE LEVER SPRING

PRIMARY SHOE

SECONDARY SHOE



(RIGHT SIDE VIEW)

#### NOTE

AS IT REQUIRES REMOVAL OF CLUTCH FROM SHAFT, THIS SPRING TENSION SHOULD NOT BE CHECKED UNLESS THERE IS GOOD REASON TO SUSPECT THAT IT WILL NOT MEET ITS REQUIREMENT.

(B)

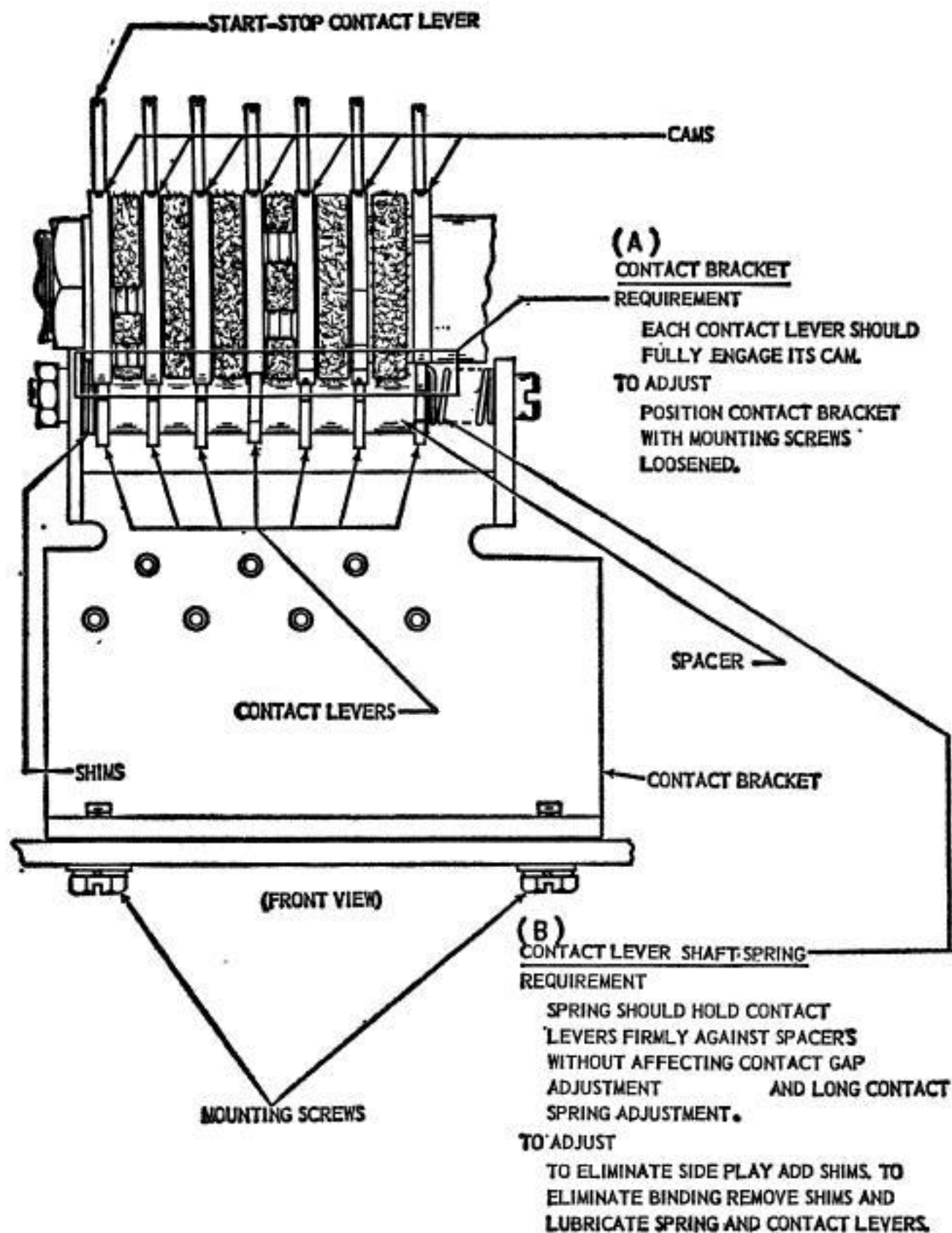
### CLUTCH SHOE SPRING

#### REQUIREMENT

CLUTCH DRUM REMOVED.  
MIN. 3 OZS.—MAX. 5 OZS.  
TO START PRIMARY SHOE MOVING AWAY FROM SECONDARY SHOE.



## 2.08 Contact Mechanism



## 2.09 Contact Mechanism

**NOTE**

THESE ADJUSTMENTS SHOULD BE MADE FOR EACH OF THE CONTACTS ON THE DISTRIBUTOR.

**(A)**

**CONTACT GAP AND SHORT CONTACT SPRING**

**(1) REQUIREMENT**

SHORT CONTACT SPRING SHOULD REST AGAINST ITS STOP SCREW WITH PRESSURE OF:

MIN. 4 OZS. — MAX. 8 OZS.

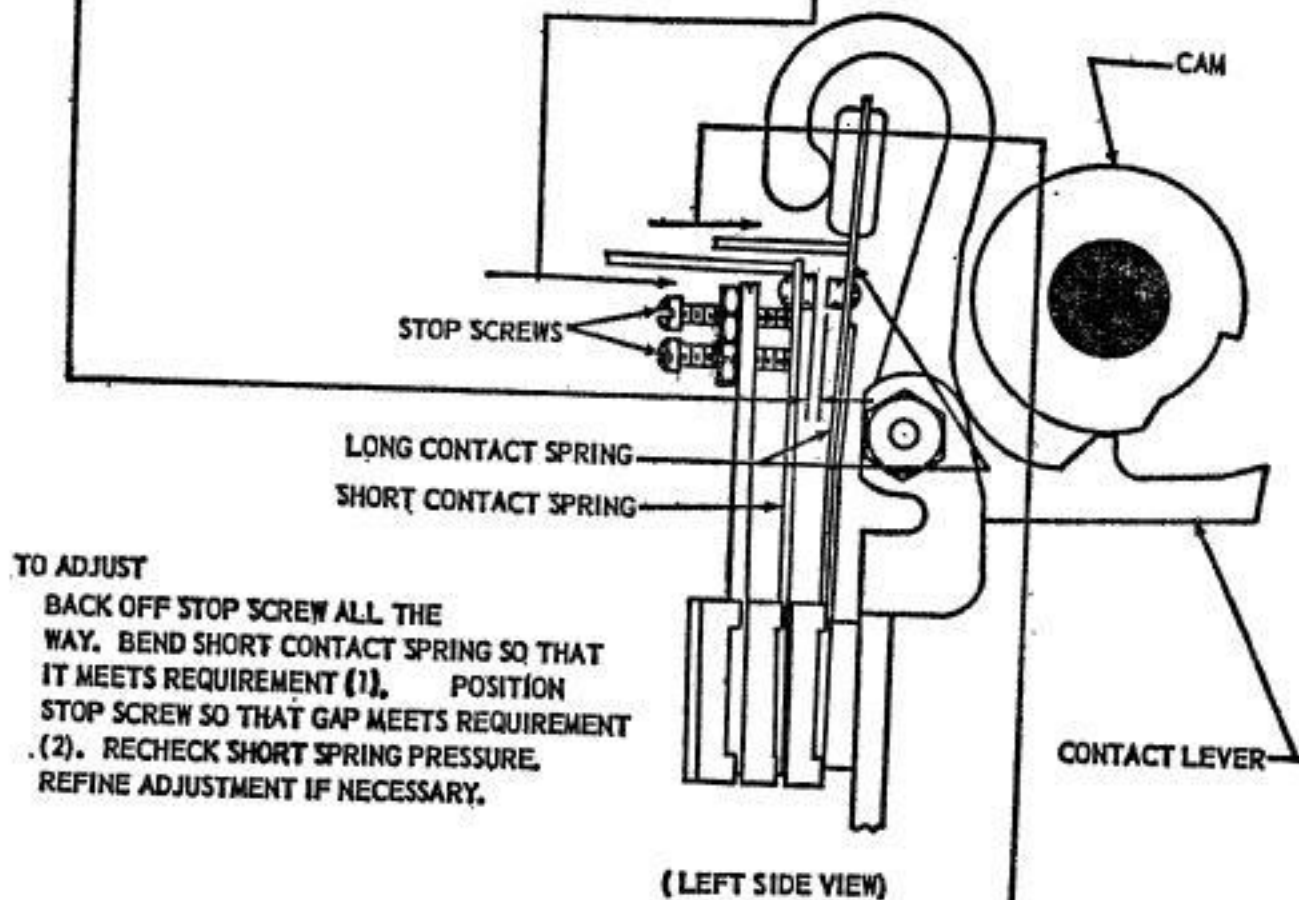
**(2) REQUIREMENT**

CONTACT LEVER ON HIGH PART OF CAM. ASSOCIATED CONTACT GAP SHOULD BE:

MIN. 0.017 INCH — MAX. 0.023 INCH

START-STOP CONTACT GAP SHOULD BE:

MIN. 0.015 INCH — MAX. 0.025 INCH



**TO ADJUST**

BACK OFF STOP SCREW ALL THE WAY. BEND SHORT CONTACT SPRING SO THAT IT MEETS REQUIREMENT (1). POSITION STOP SCREW SO THAT GAP MEETS REQUIREMENT (2). RECHECK SHORT SPRING PRESSURE. REFINE ADJUSTMENT IF NECESSARY.

**(B)**

**LONG CONTACT SPRING (PRELIMINARY - CONTINUED ON NEXT PAGE).**

**REQUIREMENT**

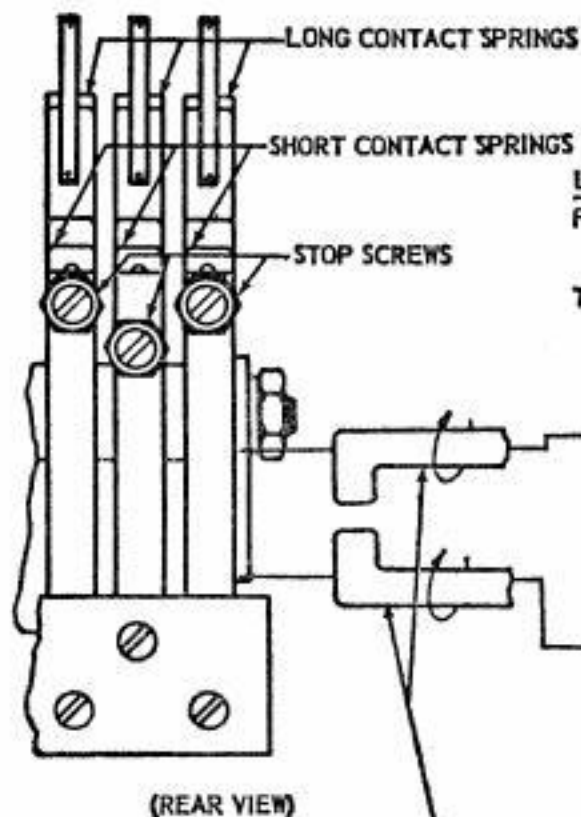
CONTACT LEVER ON HIGH PART OF CAM,  
7 OZS.

TO START SPRING MOVING.

## 2.10 Contact Mechanism

### NOTE

THESE ADJUSTMENTS SHOULD BE MADE FOR EACH OF THE CONTACTS ON THE DISTRIBUTOR.



LONG CONTACT SPRING (PRELIMINARY - CONTINUED FROM PRECEDING PAGE).

### TO ADJUST

BACK OFF STOP SCREW ALL THE WAY. ROTATE CAM SLEEVE UNTIL ASSOCIATED CONTACT LEVER IS ON LOW PART OF CAM, FACE REAR OF UNIT.

(1) TO INCREASE SPRING PRESSURE: FROM RIGHT SIDE, INSERT CONTACT SPRING BENDER WITH PROJECTION DOWNWARD BETWEEN CONTACT BRACKET AND SPRING STIFFENER. ROTATE SPRING BENDER CLOCKWISE TO BEND SPRING AND SPRING STIFFENER.

(2) TO DECREASE SPRING PRESSURE: FROM RIGHT SIDE, INSERT SPRING BENDER WITH PROJECTION UPWARD BETWEEN LONG AND SHORT CONTACT SPRINGS. ROTATE SPRING BENDER CLOCKWISE, TO BEND SPRING AND SPRING STIFFENER.

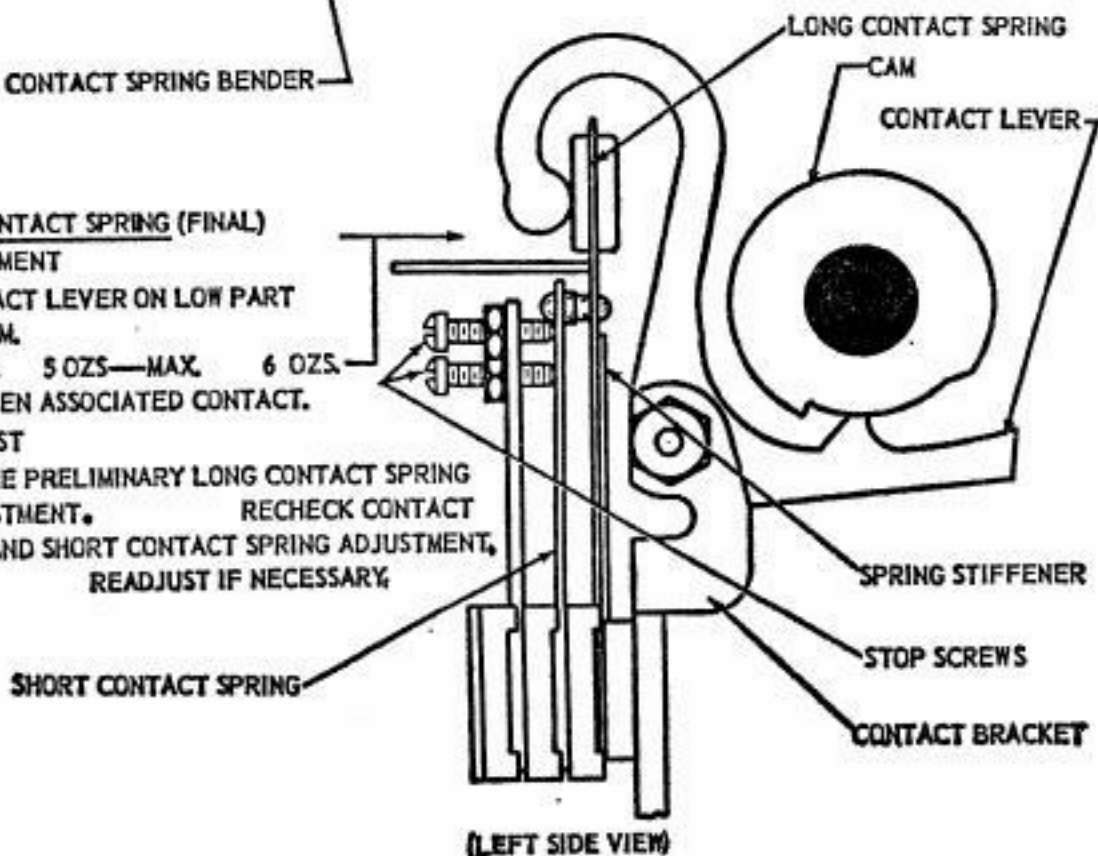
### (B) LONG CONTACT SPRING (FINAL) REQUIREMENT

CONTACT LEVER ON LOW PART OF CAM.

MIN. 5 OZS.—MAX. 6 OZS. TO OPEN ASSOCIATED CONTACT.

### TO ADJUST

REFINE PRELIMINARY LONG CONTACT SPRING ADJUSTMENT. RECHECK CONTACT GAP AND SHORT CONTACT SPRING ADJUSTMENT, READJUST IF NECESSARY.



### 3. ASSOCIATED BELL SYSTEM PRACTICES

3.01 The following Bell System Practices provide additional information that may be required in connection with this section.

<u>Subject</u>	<u>Section</u>
Teletypewriter Apparatus, General Requirements and Procedures	P30.012
Teletypewriter Apparatus, Lubrication, General Requirements	P30.011
Teletypewriter Apparatus, Disassembly, General Requirements	P30.013
Teletypewriter Apparatus, Preparation of Apparatus for Installation	P33.014
Teletypewriter Tools and Maintenance Supplies	P30.301
Alphabetical Index of 28-type Equipment, Bell System Practices and Associated 28 ASR Station Drawings	P34.001