

28 DISTRIBUTOR
REQUIREMENTS AND ADJUSTMENTS

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| Clutch shoe spring | 5 | 1. GENERAL |
| Clutch stop arm | 3 | 1.01 This section contains the requirements and adjustments for the 28 distributor. This section and the teletypewriter general requirements and adjustments section give the complete requirements and adjusting procedures for the maintenance of the 28 distributor. |
| Clutch trip armature air gap | 2 | 1.02 This section is reissued to include the adjustment requirements for the contact timing measurements for the later design 28 distributor. |
| Clutch trip lever | 2 | 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. |
| Clutch trip lever spring | 6 | 1.04 In this section the 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 distributor 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. |
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2. REQUIREMENTS AND ADJUSTMENTS

A. 28 Distributor Late Design

2.01 Clutch Trip Armature Mechanism

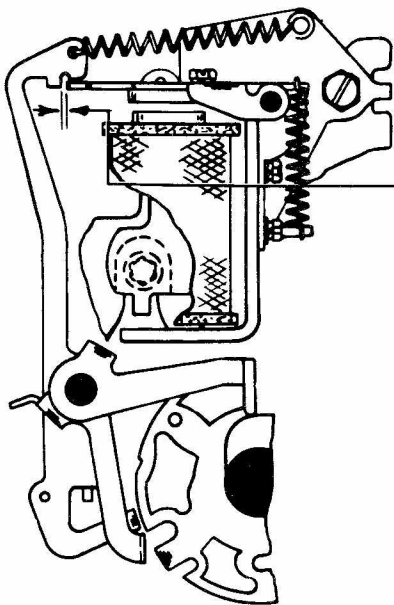
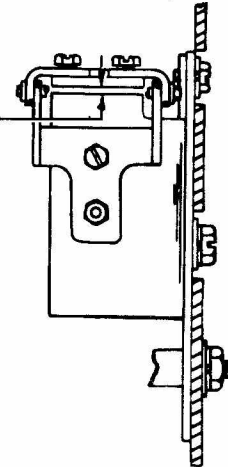
CLUTCH TRIP ARMATURE AIR GAP

REQUIREMENT

AIR GAP BETWEEN ARMATURE AND MAGNET ASSEMBLY BRACKET
MIN. 0.004 INCH --- MAX. 0.008 INCH
WHEN ARMATURE IS HELD FLUSH AGAINST MAGNET CORE.

TO ADJUST

REMOVE ARMATURE EXTENSION SPRING, LOOSEN SPRING POST
AND HINGE MOUNTING SCREW AND POSITION HINGE.



CLUTCH TRIP LEVER

REQUIREMENT

CLEARANCE BETWEEN ARMATURE EXTENSION LEVER
AND LATCHING SURFACES OF CLUTCH TRIP LEVER
MIN. 0.020 INCH --- MAX. 0.030 INCH
WHEN CLUTCH TRIP LEVER IS ON HIGH PART OF CAM.

TO ADJUST

LOOSEN PLATE ADJUSTING SCREW AND PLATE
MOUNTING SCREW. INSERT SCREWDRIVER IN SLOT
ADJACENT TO ADJUSTING SCREW AND POSITION
PLATE FOR REQUIRED CLEARANCE.

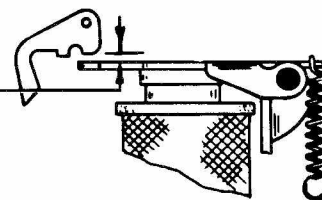
ARMATURE EXTENSION

REQUIREMENT

CLEARANCE BETWEEN ARMATURE EXTENSION LEVER AND CLUTCH
TRIP LEVER
MIN. 0.030 INCH --- MAX. 0.040 INCH
WHEN CLUTCH TRIP LEVER IS ON HIGH PART OF CAM AND
ARMATURE IS FLUSH AGAINST CORE (PLAY TAKEN UP WITH SPRING).

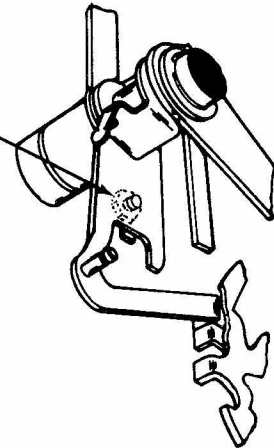
TO ADJUST

LOOSEN BRACKET MOUNTING SCREW AND BRACKET ADJUSTING
SCREW AND INSERT SCREWDRIVER INTO SLOT BELOW ADJUSTING
SCREW, AND ADJUST BRACKET.



2.02 Clutch Stop Arm, Shoe Lever, and Cam Follower Guide

CLUTCH TRIP CLAMPING SCREW



CLUTCH STOP ARM

REQUIREMENT

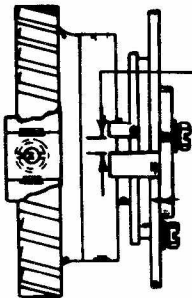
WITH CLUTCH TRIP LEVER IN LATCHED POSITION, CLUTCH LEVER SHALL FULLY ENGAGE CLUTCH SHOE LEVER.

TO ADJUST

WITH CLUTCH IN STOP POSITION, LOOSEN CLUTCH TRIP CLAMPING SCREW AND ADJUST CLUTCH STOP LEVER TO OBTAIN FULL BITE WITH CLUTCH SHOE LEVER.

NOTE: WHEN ARMATURE IS IN ATTRACTED POSITION, CLUTCH STOP ARM SHALL CLEAR STOP LEVER AND STOP LUG BY AT LEAST SOME CLEARANCE.

CLUTCH SHOE LEVER



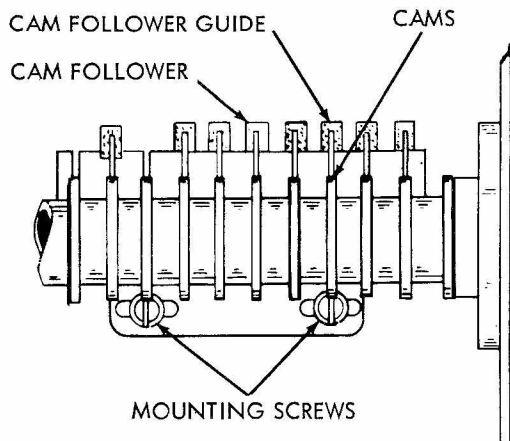
REQUIREMENT

CLEARANCE BETWEEN CLUTCH SHOE LEVER AND EXTENSION SHALL BE MIN. 0.055 INCH --- MAX. 0.085 INCH GREATER WHEN CLUTCH IS ENGAGED THAN WHEN DISENGAGED.

TO ADJUST

LOOSEN TWO CLAMP SCREWS IN CLUTCH DISK. ROTATE ADJUSTING DISK TO OBTAIN PROPER CLEARANCE.

NOTE: AFTER ABOVE ADJUSTMENT IS MADE, DISENGAGE CLUTCH AND ROTATE DRUM IN NORMAL ROTATION TO MAKE CERTAIN IT DOES NOT DRAG ON SHOES. IF DRUM DRAGS, REFINE ADJUSTMENT.



CAM FOLLOWER GUIDE

REQUIREMENT

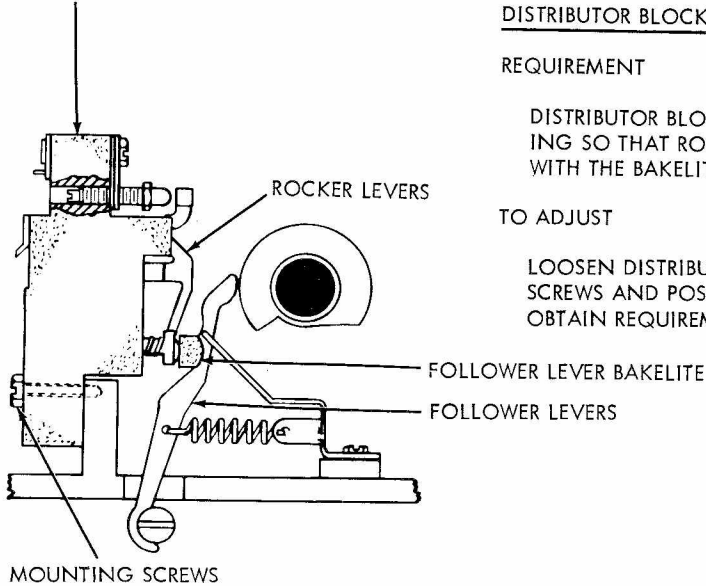
CAM FOLLOWER GUIDE ORIENTED SO CENTER CAM FOLLOWER IS FULLY ON CAM WHEN FOLLOWER IS MOVED SIDWAYS IN GUIDE SLOT. OTHERS MUST HAVE AT LEAST 75% BITE WHEN MOVED IN EITHER DIRECTION, AND BE FREE IN THEIR GUIDE SLOTS.

TO ADJUST

POSITION CAM FOLLOWER GUIDE WITH ITS MOUNTING SCREWS LOOSENED. AFTER TIGHTENING, CHECK FOR FREENESS.

2.03 Distributor Block Assembly, Contact Gap, and Clutch-shoe Lever Spring

DISTRIBUTOR BLOCK ASSEMBLY



DISTRIBUTOR BLOCK ASSEMBLY

REQUIREMENT

DISTRIBUTOR BLOCK ASSEMBLY POSITIONED ON CASTING SO THAT ROCKER LEVERS ARE FULLY ENGAGED WITH THE BAKELITE ON THE FOLLOWER LEVERS.

TO ADJUST

LOOSEN DISTRIBUTOR BLOCK ASSEMBLY MOUNTING SCREWS AND POSITION BLOCK LEFT OR RIGHT TO OBTAIN REQUIREMENT.

DISTRIBUTOR CONTACT GAP

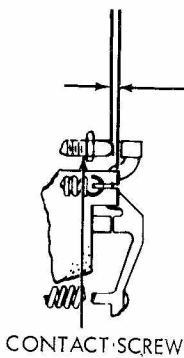
REQUIREMENT

CONTACT GAP SHALL BE MIN. 0.020 INCH --- MAX. 0.030 INCH WITH CAM FOLLOWER LEVER ON HIGH PART OF CAM.

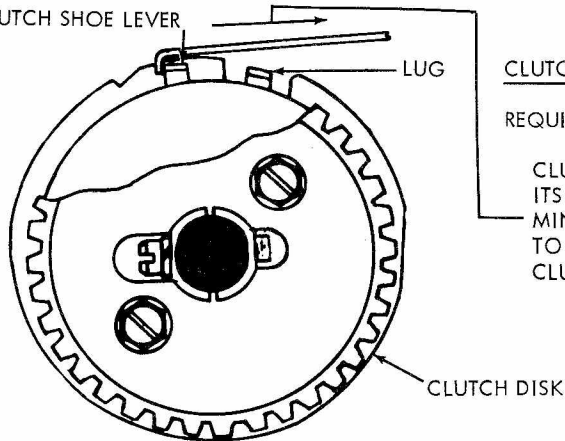
TO ADJUST

TURN CONTACT SCREW AT SOCKET END UNTIL DESIRED GAP IS OBTAINED. CHECK ALL CONTACT GAPS.

NOTE: POSITION FOLLOWER ON HIGH PART OF CAM BY TRIPPING CLUTCH MANUALLY AND ROTATING DISTRIBUTOR SHAFT.



CLUTCH SHOE LEVER



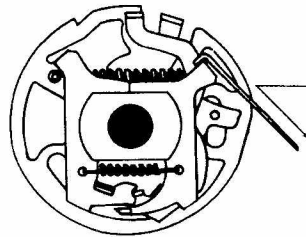
CLUTCH SHOE LEVER SPRING

REQUIREMENT

CLUTCH ENGAGED. CLUTCH DISK HELD TO PREVENT ITS TURNING
MIN. 15 OZS. --- MAX. 20 OZS.
TO PULL SHOE LEVER IN CONTACT WITH LUG ON CLUTCH DISK.

2.04 Clutch Shoe and Distributor Cam Follower Springs

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

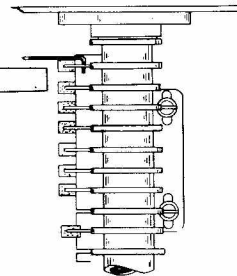


CLUTCH SHOE SPRING

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

DISTRIBUTOR CAM FOLLOWER SPRING

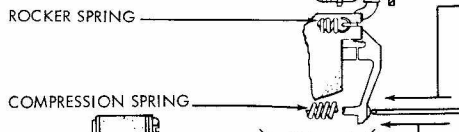
REQUIREMENT
 DISTRIBUTOR BLOCK REMOVED
 MIN. 1/2 OZ. --- MAX. 1-1/2 OZS
 TO START CAM FOLLOWER LEVER MOVING WHEN
 LEVER IS ON HIGH PART OF CAM.



2.05 Distributor Rocker and Compression Springs

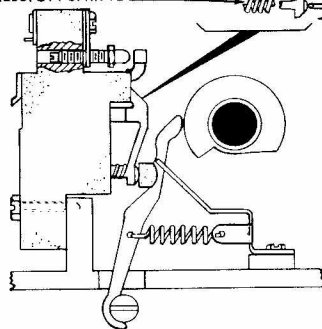
DISTRIBUTOR ROCKER SPRING

REQUIREMENT
 WITH COMPRESSION SPRINGS REMOVED AND
 CONTACTS INITIALLY ADJUSTED SO CONTACT
 SURFACE IS APPROXIMATELY 1/32 INCH BELOW
 OUTER SURFACE OF CONTACT BLOCK
 MIN. 3 OZS. --- MAX. 4 OZS.
 TO SEPARATE CONTACTS.



DISTRIBUTOR ROCKER COMPRESSION SPRING

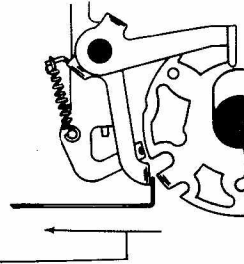
REQUIREMENT
 WITH COMPRESSION SPRINGS INSTALLED
 MIN. 6-1/2 OZS. --- MAX. 9-1/2 OZS.
 TO JUST SEPARATE CONTACTS.



2.06 Clutch Latch Lever, Trip Lever, and Magnet Armature Bail Springs

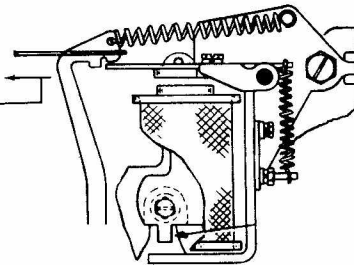
CLUTCH LATCH LEVER SPRING

REQUIREMENT
CLUTCH LATCH LEVER ON LOW OF CLUTCH DISK (BUT NOT LATCHED)
MIN. 2-1/2 OZS. --- MAX. 4-1/2 OZS.
TO START LATCH LEVER MOVING.



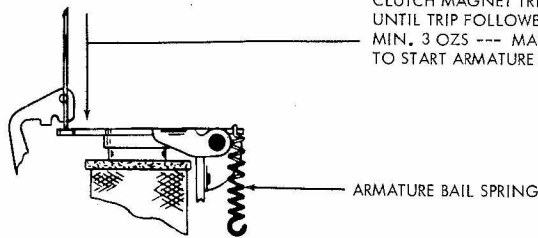
CLUTCH TRIP LEVER SPRING

REQUIREMENT
CLUTCH TRIPPED AND ARMATURE HELD AGAINST MAGNET CORE
MIN. 2 OZS. --- MAX. 3-1/2 OZS.
TO START TRIP LEVER MOVING.



CLUTCH MAGNET ARMATURE BAIL SPRING

REQUIREMENT
CLUTCH MAGNET TRIPPED AND SHAFT ROTATED MANUALLY
UNTIL TRIP FOLLOWER IS ON HIGH PART OF CAM
MIN. 3 OZS --- MAX. 4-1/2 OZS.
TO START ARMATURE EXTENSION LEVER MOVING.

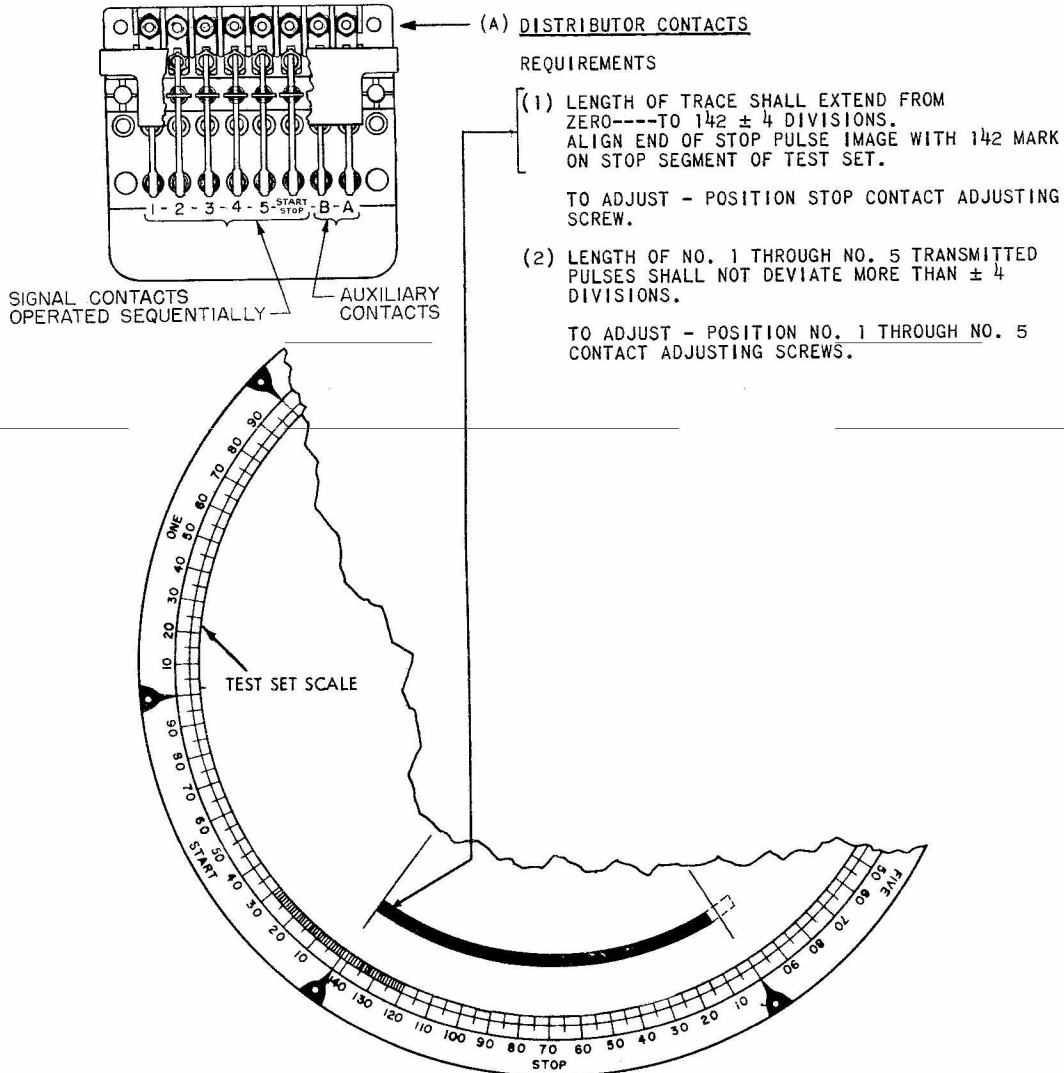


2.07 Gears:

- (a) Requirement: The gears shall be aligned and there shall be a barely perceptible backlash between the gears at their closest point.
- (b) To Adjust: Position the unit by loosening the four mounting screws located on top of the U-shaped bracket.

2.08 Distributor Timing Contact Measurements

THE FOLLOWING TESTS REQUIRE THE USE OF A 1A TELETYPEWRITER TEST SET. TESTS SHALL BE MADE WITH THE TEST SET CONNECTED TO THE OUTPUT OF THE DISTRIBUTOR CONTACTS WITH THE TEST SET OPERATING AT THE SAME SPEED AS THE DISTRIBUTOR.

(B) DISTRIBUTOR AUXILIARY CONTACTS

REQUIREMENT

WITH TEST SET CONNECTED TO AUXILIARY CONTACT "A" OR CONTACT "B", ALIGN END OF STOP PULSE IMAGE WITH 142 MARK ON STOP SEGMENT OF TEST SET SCALE.

CONTACT "A" SHALL CLOSE AT 32 ± 15 DIVISIONS IN START PULSE SEGMENT OF TEST SET SCALE AND OPEN AT 29 ± 15 DIVISIONS IN STOP PULSE SEGMENT OF TEST SET SCALE.

CONTACT "B" SHALL CLOSE AT 25 ± 15 DIVISIONS IN NO. 1 PULSE SEGMENT OF TEST SET SCALE AND OPEN AT 75 ± 15 DIVISIONS IN NO. 5 PULSE SEGMENT OF TEST SET SCALE.

TO ADJUST - POSITION CONTACT ADJUSTING SCREWS.

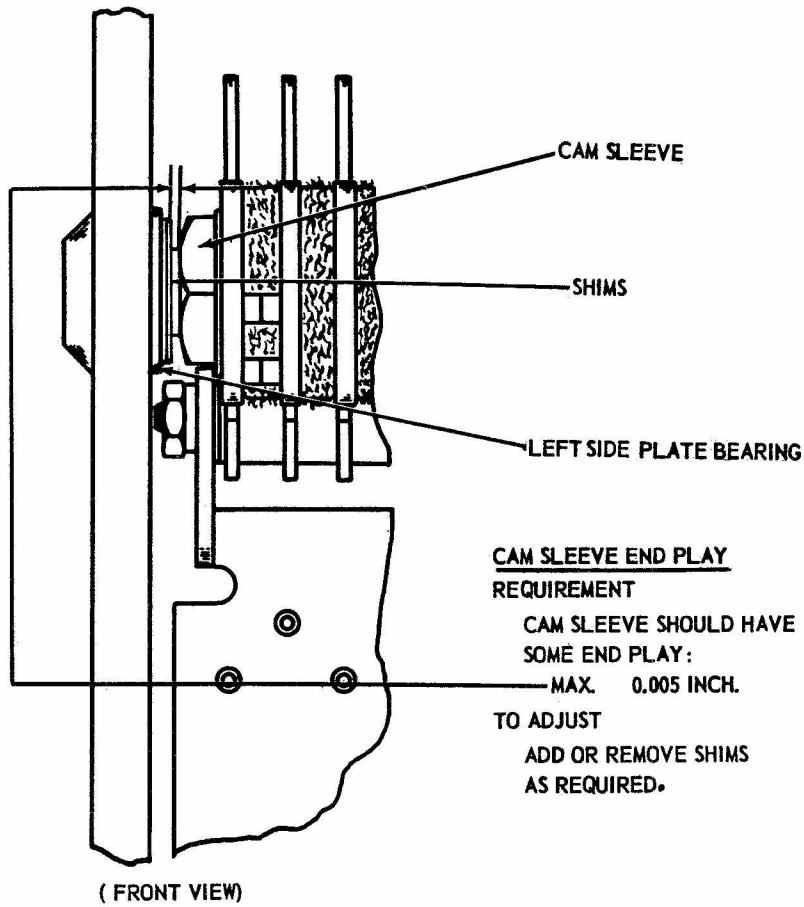
B. 28 Distributor Early Design

2.09 Mainshaft Mechanism

NOTE:

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

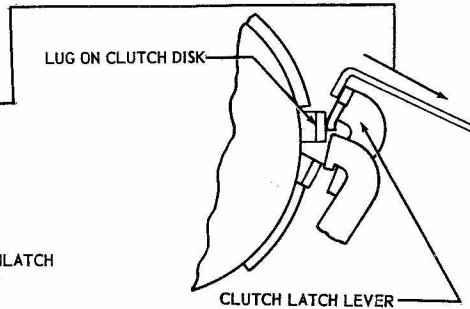
THE FOLLOWING ADJUSTMENTS APPLY FOR 60, 75 AND 100 WORD PER MINUTE OPERATION UNLESS IT IS STATED OTHERWISE IN SPECIFIC ADJUSTING INSTRUCTIONS.



2.10 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.

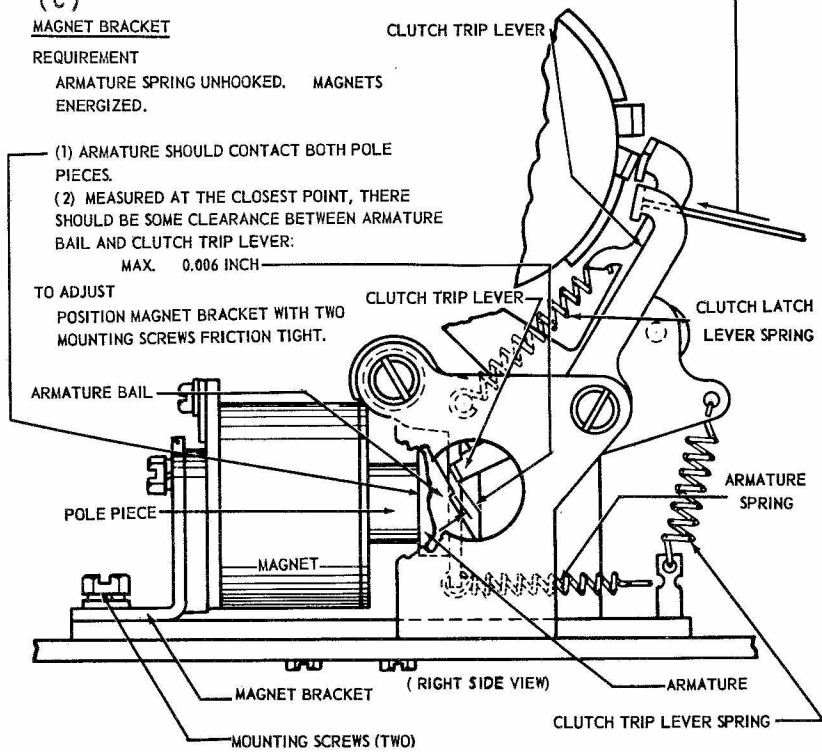
REQUIREMENT
MIN. 5 OZS.—MAX. 8 OZS.
TO START LEVER MOVING.

(C)
MAGNET BRACKET

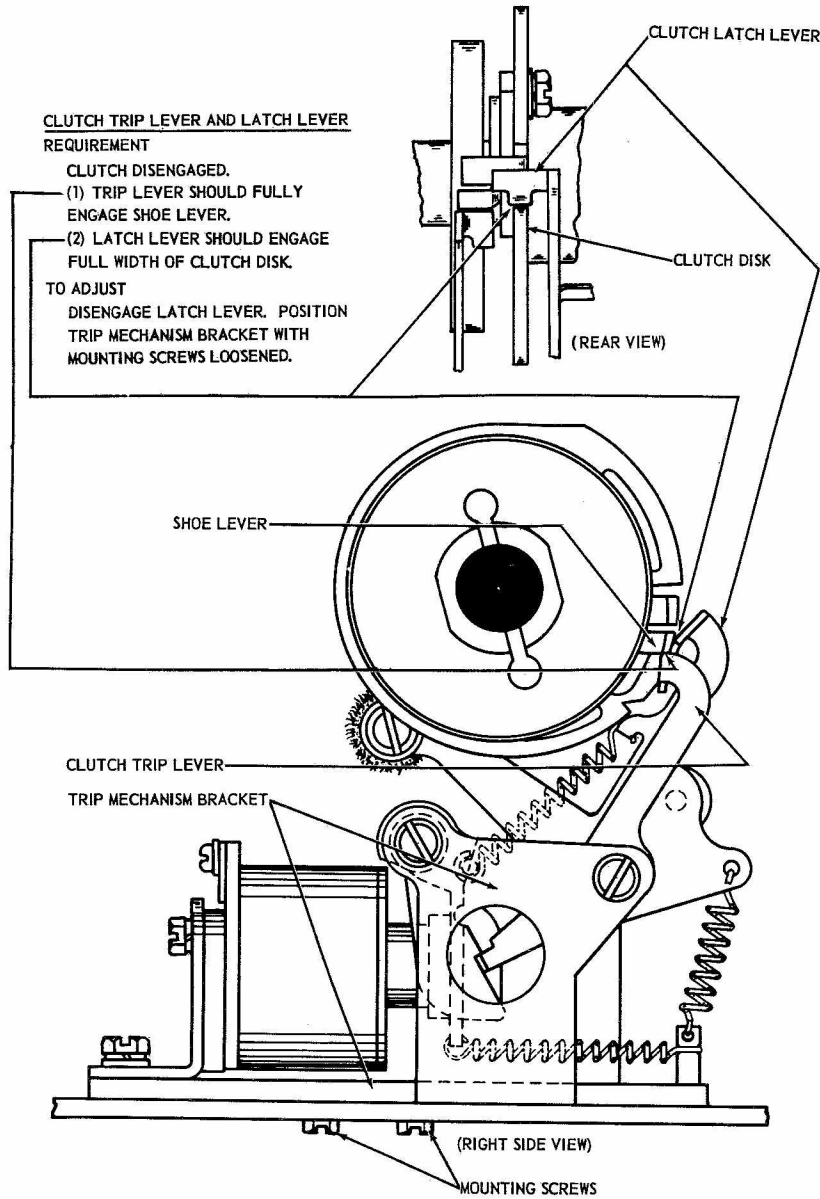
REQUIREMENT
ARMATURE SPRING UNHOOKED. MAGNETS
ENERGIZED.

- (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.



2.10 Clutch Trip Magnet Mechanism (Cont)



(A)

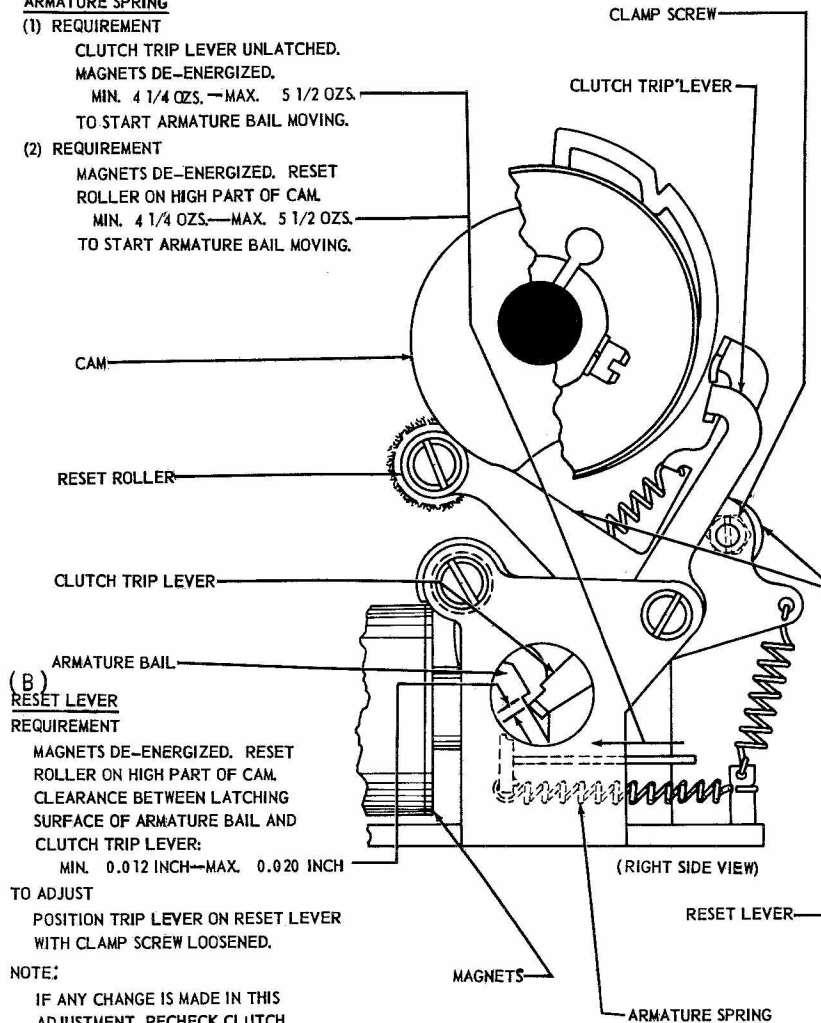
ARMATURE SPRING

(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

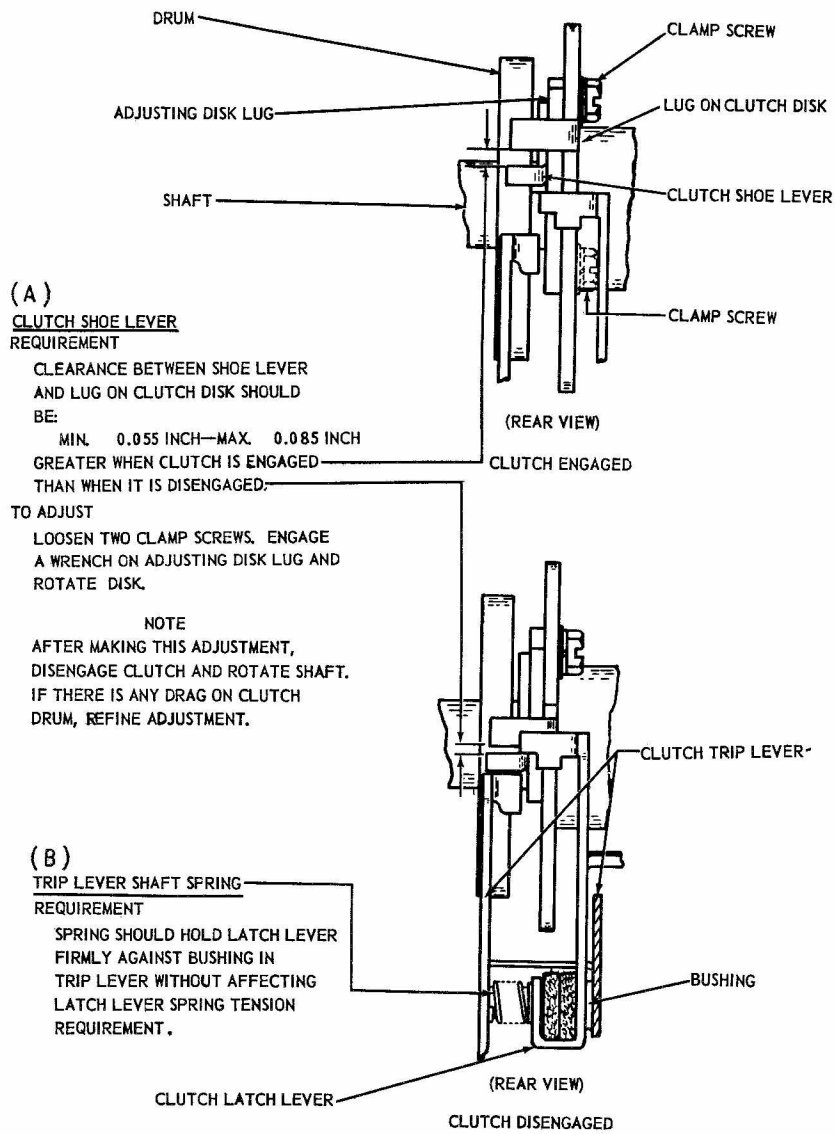
TO ADJUST

POSITION TRIP LEVER ON RESET LEVER
WITH CLAMP SCREW LOOSENED.

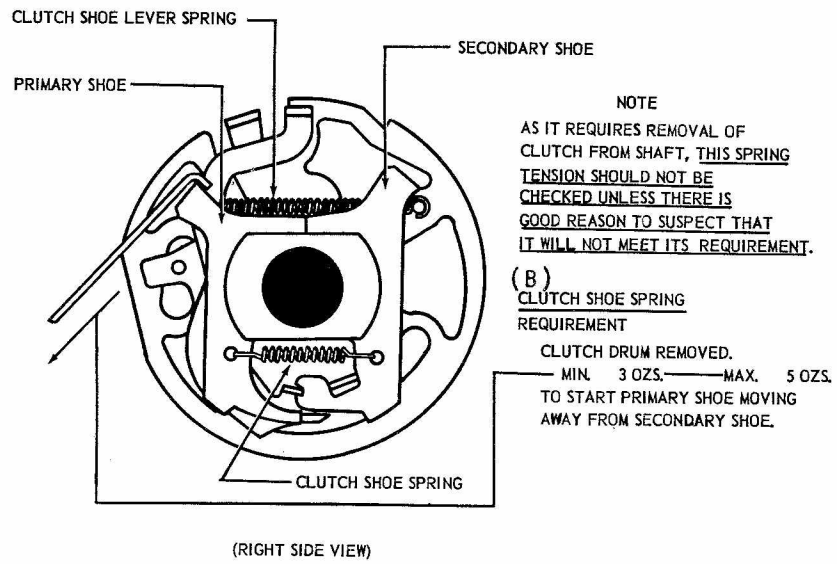
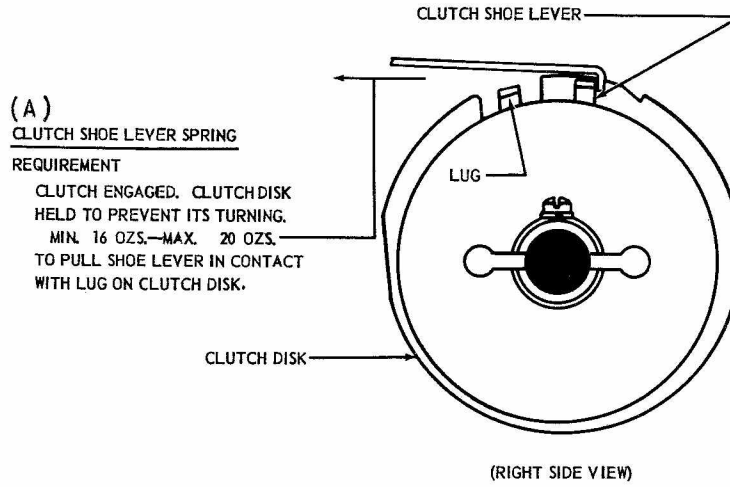
NOTE:

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

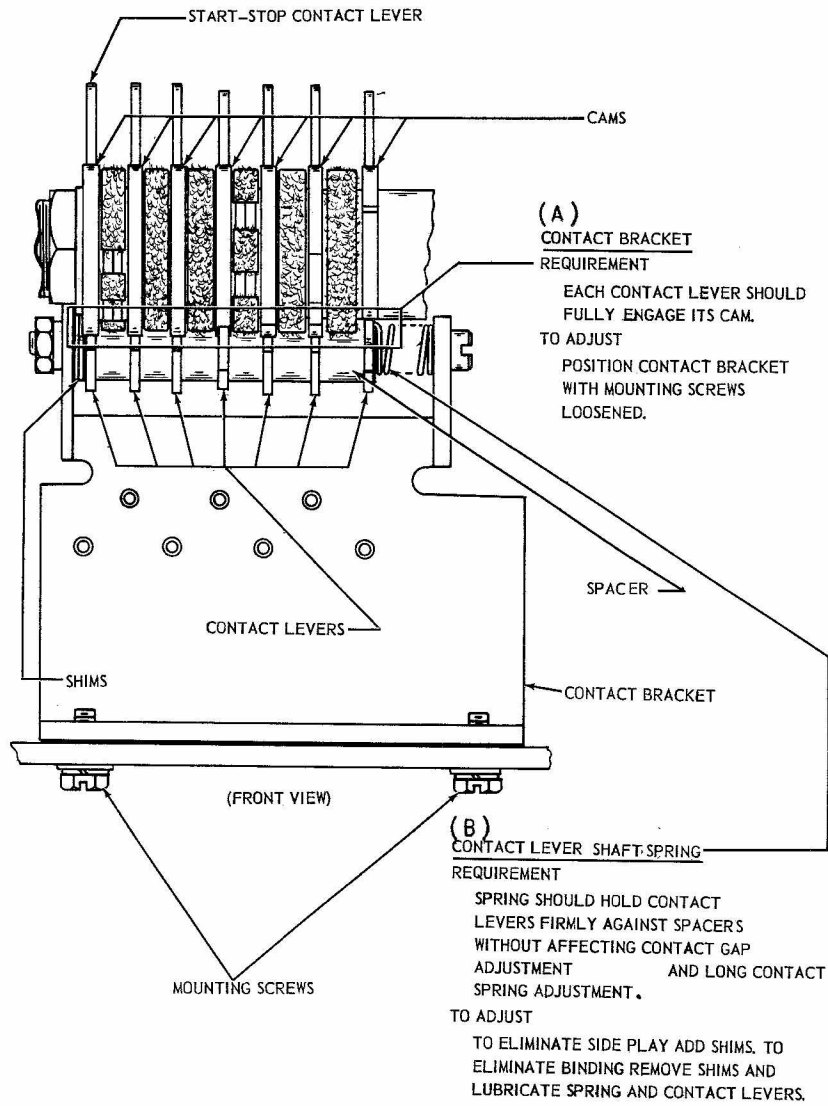
2.11 Clutch and Trip Mechanism



2.12 Clutch



2.13 Contact Mechanism

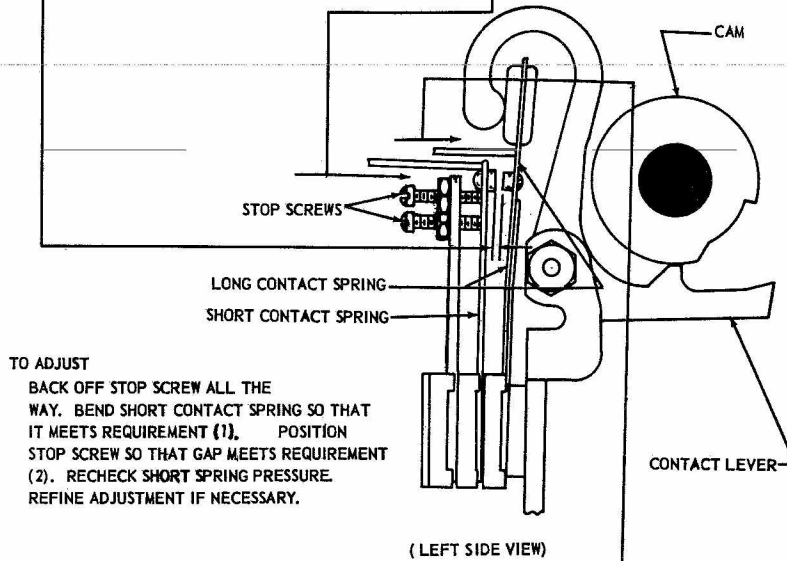


NOTE
 THESE ADJUSTMENTS SHOULD BE MADE FOR EACH
 OF THE CONTACTS ON THE DISTRIBUTOR.

(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



(B)
LONG CONTACT SPRING (PRELIMINARY - CONTINUED ON NEXT PAGE).
 REQUIREMENT
 CONTACT LEVER ON HIGH PART OF CAM.
 7 OZS.
 TO START SPRING MOVING.

2.13 Contact Mechanism (Cont)

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

