

35 TRANSMITTER DISTRIBUTOR

ADJUSTMENTS

CONTENTS	PAGE	CONTENTS	PAGE
1. GENERAL	1-2	Tape out contact assembly	9 ←
2. ADJUSTMENTS	3-22	Tape out contact bracket	9
Armature bail spring	18	Tape out sensing pin	10 ←
Cover plate detent spring	19	Tape out sensing pin spring	9
Clutch latch lever spring	5	Tight tape intermediate arm	11
Clutch magnet	18	Tight tape intermediate arm spring	11
Clutch shoe lever	5	Tight tape start stop contact spring	11
Clutch shoe lever spring	4	Transfer bail stabilizer	16 ←
Clutch shoe spring	4	Transfer lever spring	14
Clutch trip lever	5	Transmitter distributor gear	20
Clutch trip lever spring	5	3. VARIABLE FEATURES	23-26 ←
Control lever detent spring	12 ←	Cam follower spring	23
Depressor bail torsion spring	10	Rubout sensing mechanism	26
Feed pawl	14	Timing bail spring	26
Feed pawl spring	14	Timing contact bracket	23
Feed ratchet detent spring	12 ←	Timing contact requirements (strobe)	24-25
Feed wheel detent	13	Timing contact spring	23
Intermediate tape out bail spring ..	10	Timing contact swinger	23 ←
Locking bail spring	15	1. GENERAL	
Main bail	15	1.01 This section is reissued to include Part 3, Variable Features, and to add recent engineering changes.	
Main bail latch spring	18	1.02 This section contains the requirements and adjusting procedures for the mainte- nance of the 35 Transmitter Distributor.	
Main bail spring	12	1.03 The adjustment of the 35 Transmitter Distributor is arranged in a sequence that would be followed if a complete readjustment of the unit were undertaken.	
Main bail trip lever	12	1.04 After an adjustment has been completed, be sure to tighten nuts or screws that may have been loosened.	
Removing cover plate	3	1.05 The covers may be removed for inspec- tion and minor repair of the unit; how- ever, when more extensive maintenance is to be undertaken, it is recommended that the unit be	
Removing front panel	3		
Removing tape guide plate	3		
Removing top plate	3		
Removing transmitter distributor assembly	3		
Replacing and positioning cover plate	8		
Replacing and positioning tape guide plate	7		
Replacing and positioning top plate ..	8		
Sensing finger spring	13		
Signal contact	17		
Signal contact link spring	17		
Signal contact spring	17		
Signal pulse refinement (strobe) ...	21-22 ←		
Stabilizer spring	16		
Start-stop switch bracket	11		
Tape guide	6		
Tape lid	6		
Tape lid release plunger spring ...	19		
Tape lid spring	19		

SECTION 574-225-700

disconnected from its source of power as a safety precaution.

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

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

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

1.09 The spring tensions given in this bulletin are indications (not exact values) and should be checked with proper spring scales in

the position indicated. Springs which do not meet the requirement and for which no adjusting procedure is given should be replaced by new springs.

1.10 References made to left or right, up or down, front or rear, etc., apply to the unit in its normal operating position as viewed from the operator's position.

1.11 Where reference is made to a LETTERS combination, select the RUBOUT code. If reference is made to a BLANKS combination, select the SPACE code.

1.12 When a requirement calls for the clutch to be disengaged, the clutch shoe lever must be fully latched between its trip lever and latch lever so that the clutch shoes release their tension on the clutch drum. To accomplish this, rotate the main shaft by hand until the clutch reaches its stop position, then apply a screwdriver to the cam disk stop lug and push the disk in its normal direction of shaft rotation until the latch lever seats in its notch in the disk.

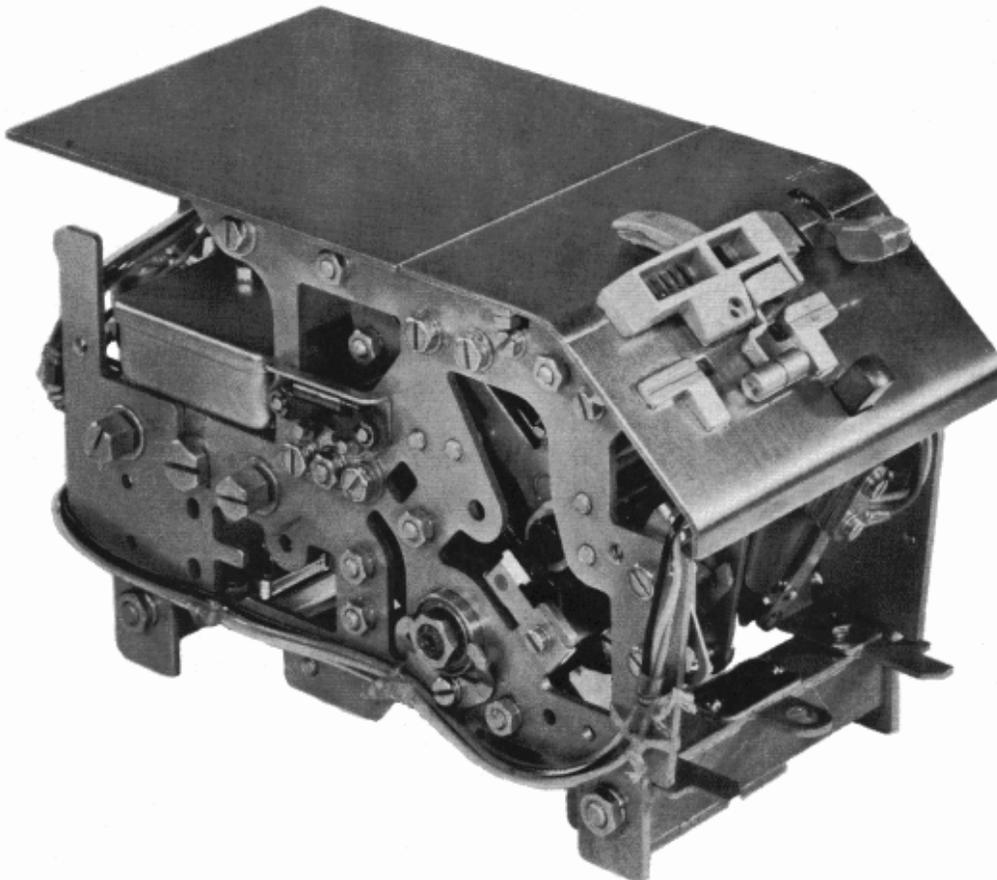


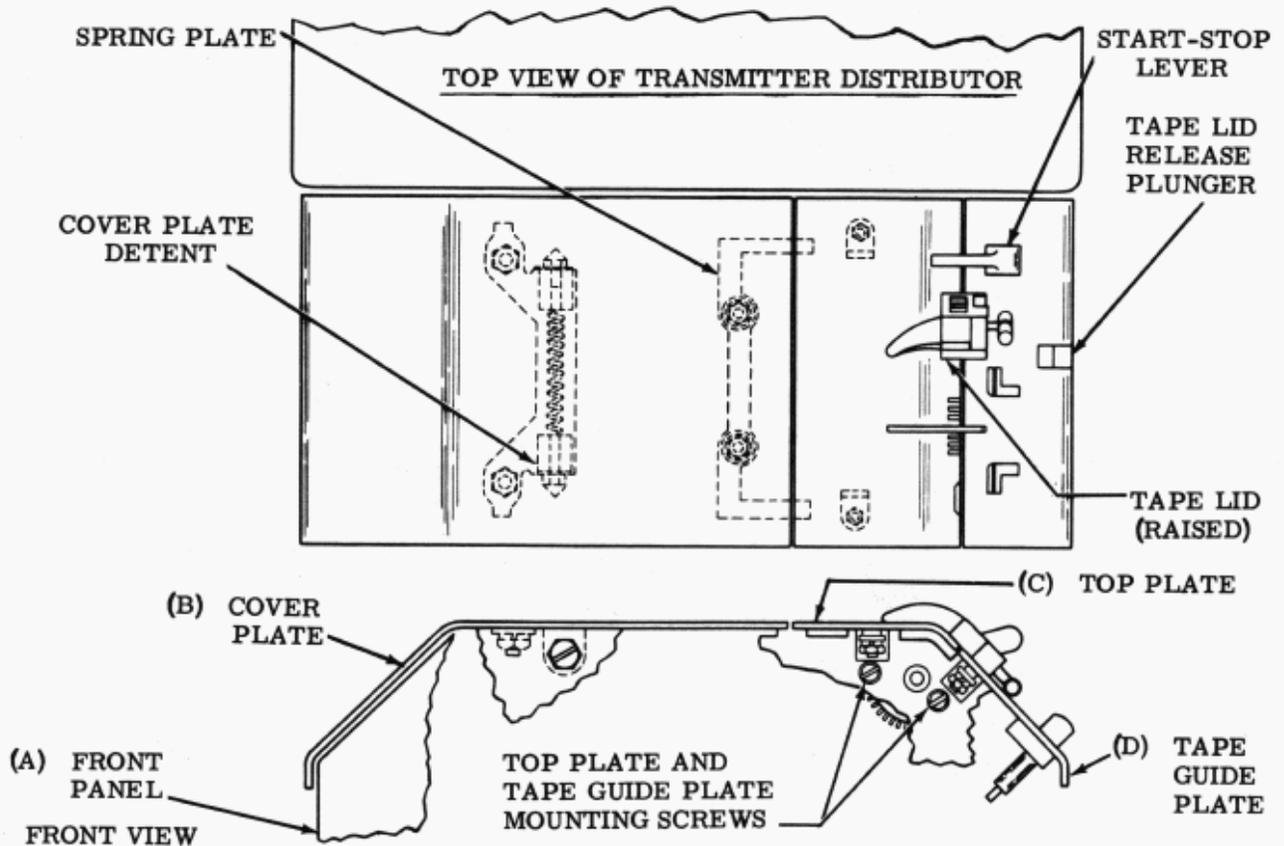
Figure 1 - 35 Transmitter Distributor (Right Front View)

2. ADJUSTMENTS

2.01 Cover Assemblies

INSTRUCTIONS FOR

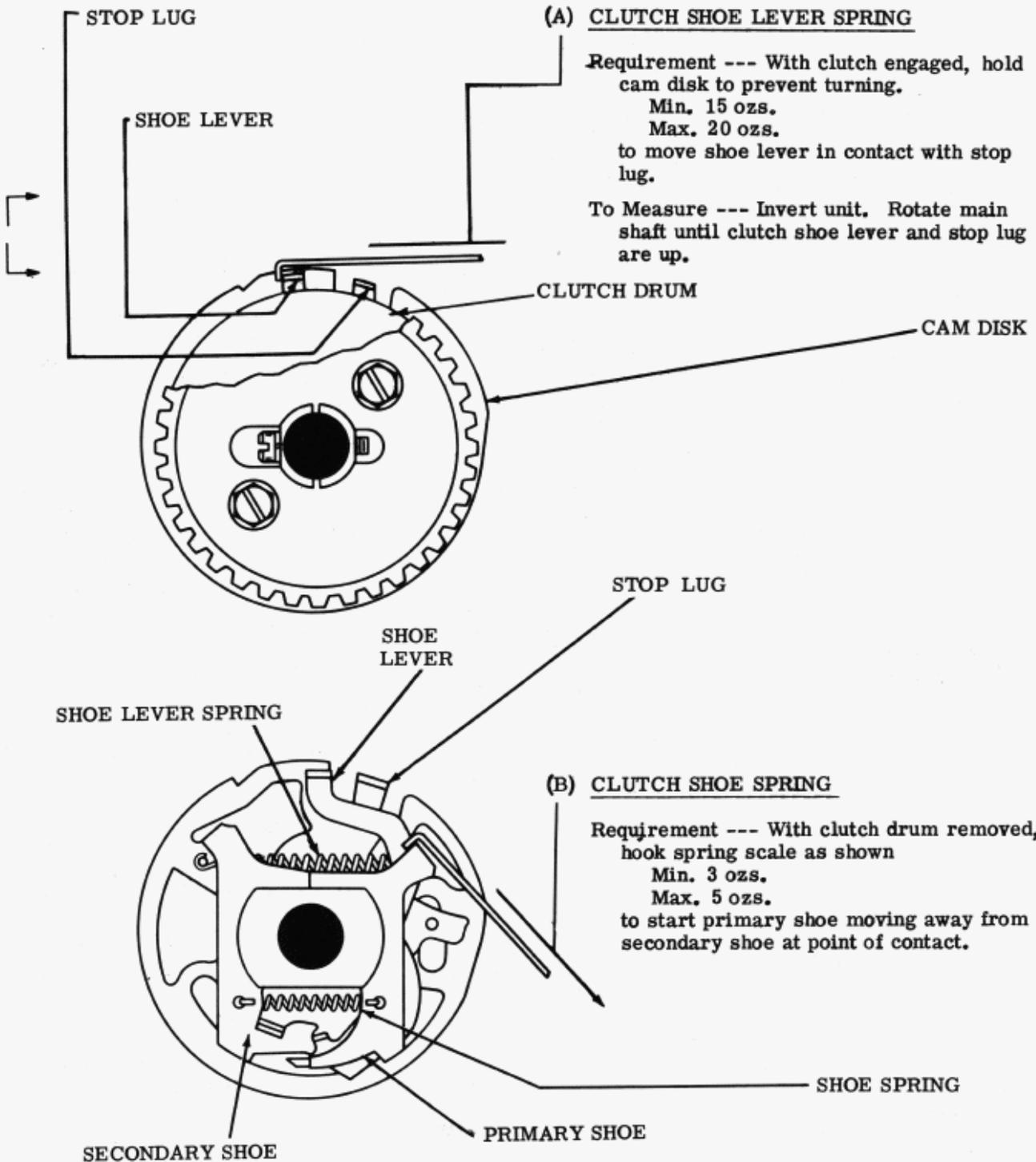
- (A) REMOVING FRONT PANEL --- Pull outward on lower right and left rear corner of front panel and slide panel toward the front. Replace in reverse order.
- (B) REMOVING COVER PLATE --- Lift left end of cover plate to disengage detents then slide plate toward the left to disengage spring plate. Replace in reverse order.
- (C) REMOVING TOP PLATE --- With front and rear mounting screws loosened (do not disturb mounting nuts) and tape lid raised, lift plate upward. Refer to 2.04 when replacing the plate.
- (D) REMOVING TAPE GUIDE PLATE --- With front and rear mounting screws loosened (do not disturb mounting nuts) and tape lid raised, lift plate upward. Refer to 2.05 when replacing the plate.
- (E) REMOVING TRANSMITTER DISTRIBUTOR ASSEMBLY --- Remove right and left mounting screws attached to base and lift assembly upward to disengage main shaft gear. Transmitter is equipped with plug that mates with connector in base. After unit is plugged in, insert mounting screws (3). Check alignment of main shaft gear with driving gear.



2.02 Clutch Mechanism

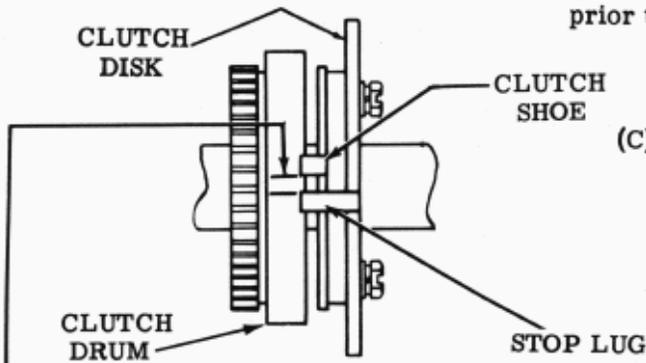
Note 1 --- Requirements (A) & (B) are adjusted at the factory and should not be disturbed unless associated mechanisms have been removed for servicing or there is reason to believe that the requirements are not met.

Note 2 --- Remove transmitter distributor from its base prior to adjustment. See 2.01 Note (E).



2.03 Clutch Trip Mechanism

Note---Remove transmitter distributor from its base prior to adjustment. See 2.01 Note (E).



(B) CLUTCH SHOE LEVER

Requirement --- Clearance as shown should be

Min. 0.055 inch

Max. 0.085 inch

greater with clutch engaged * than with clutch disengaged.

* (Pull shoe lever with force of 32 ozs. and release slowly to engage clutch shoes).

To Adjust --- With clutch disk clamping screws loosened, place wrench over stop lug and move disk.

CAUTION --- Make sure that drum does not drag on shoes when clutch is disengaged and drum is rotated in its normal direction. Refine above adjustment to correct shoe drag.

(C) CLUTCH LATCH LEVER SPRING

Requirement

Clutch engaged and rotated until latch lever is on low part of disk

Min. 3 ozs.

Max. 5-1/2 ozs. to start latch moving.

MAIN BAIL
(FRONT VIEW)

(A) CLUTCH TRIP LEVER

Requirement

(Remove cover plate see 2.01).
With clutch disk stop lug opposite clutch trip lever, clearance between inner surface of lug and lever

(1) Play taken up to make clearance maximum

Min. 0.012 inch

Max. 0.025 inch

To Adjust --- Loosen clamp nut on clutch trip bail eccentric (friction tight) and rotate eccentric to its lowest point. Position eccentric to meet requirement.

(2) Play taken up to make clearance minimum.

Some clearance.

To Adjust --- Refine requirement (1).

CLAMP NUT

CLUTCH TRIP BAIL
ECCENTRIC POST

CLUTCH TRIP LEVER

CLUTCH LATCH LEVER

(D) CLUTCH TRIP LEVER SPRING

Requirement --- With clutch engaged

Min. 7 ozs.

Max. 10-1/2 ozs.

to start clutch trip lever moving.

2.04 Tape Guide Plate

(A) TAPE LID

Requirement --- (Remove top & tape guide plates, lubricate prior to adjustment.)

(1) Preliminary:

With tape lid held against notch in tape guide plate

A Feed wheel groove in tape lid should align with slot in plate.

B Hole in tape lid for tape-out pin should align with hole in plate. (Gauge by eye)

C Clearance between pivot shoulder and tape lid

Min. Some

Max. 0.010 inch

To Adjust --- With tape lid bracket mounting nuts (2) loosened (insert tip of TP170283 gauge through slot and into groove of lid), position tape lid bracket. Re-tighten nuts.

(2) Tape lid front bearing surface, A, should touch tape guide plate. Clearance, B, measured at fin of tape which is in line with rear tape guide (see Note 2).

Min. 0.010 inch

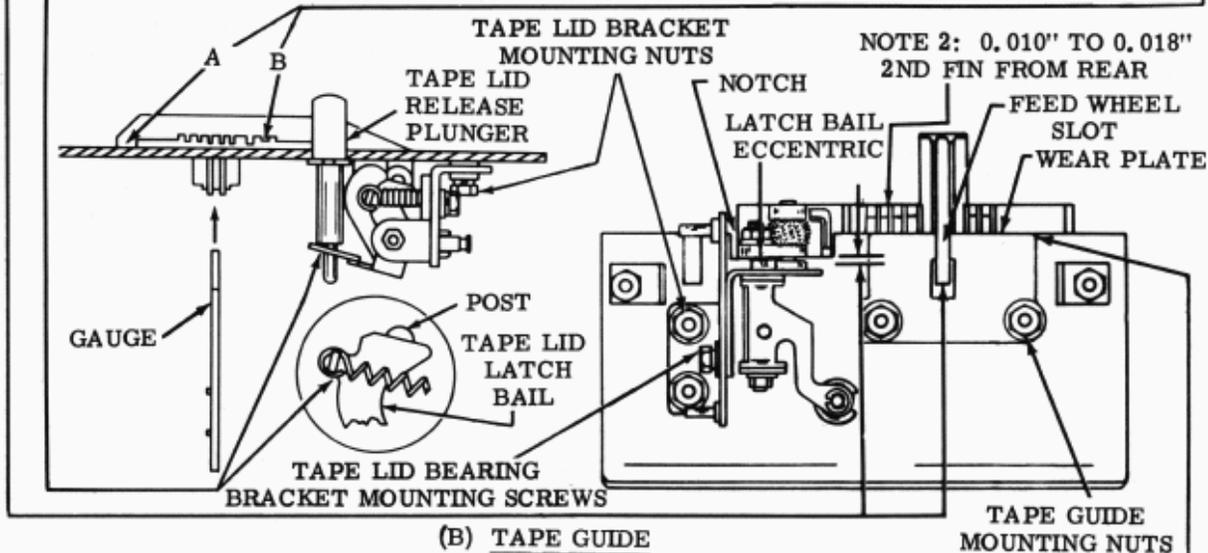
Max. 0.018 inch

Note 1 --- When both plates are assembled on unit, left edge of lid may touch top plate and some change in this clearance may be expected.

To Adjust --- With tape lid bearing bracket mounting screws friction tight and tape lid pressed against tape guide plate, position bearing bracket. Recheck Requirement #1.

(3) Release plunger should have some end play when lid is latched against tape guide plate.

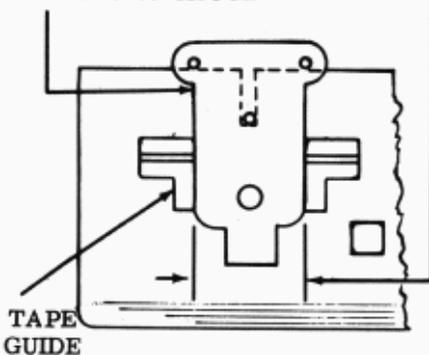
To Adjust --- With eccentric mounting post lock nut friction tight and tape lid raised, rotate high part of eccentric toward tape guide plate. Close lid and rotate eccentric toward bracket until latch just falls under flat on post. Recheck by depressing plunger --- With lid held down, tip of latch should clear post as plunger is operated.



(B) TAPE GUIDE

TAPE GUIDE MOUNTING NUTS

TP170283 GAUGE



TAPE GUIDE

Requirements --- With tape gauge positioned as shown

1. Clearance between right and left tape guide and gauge.

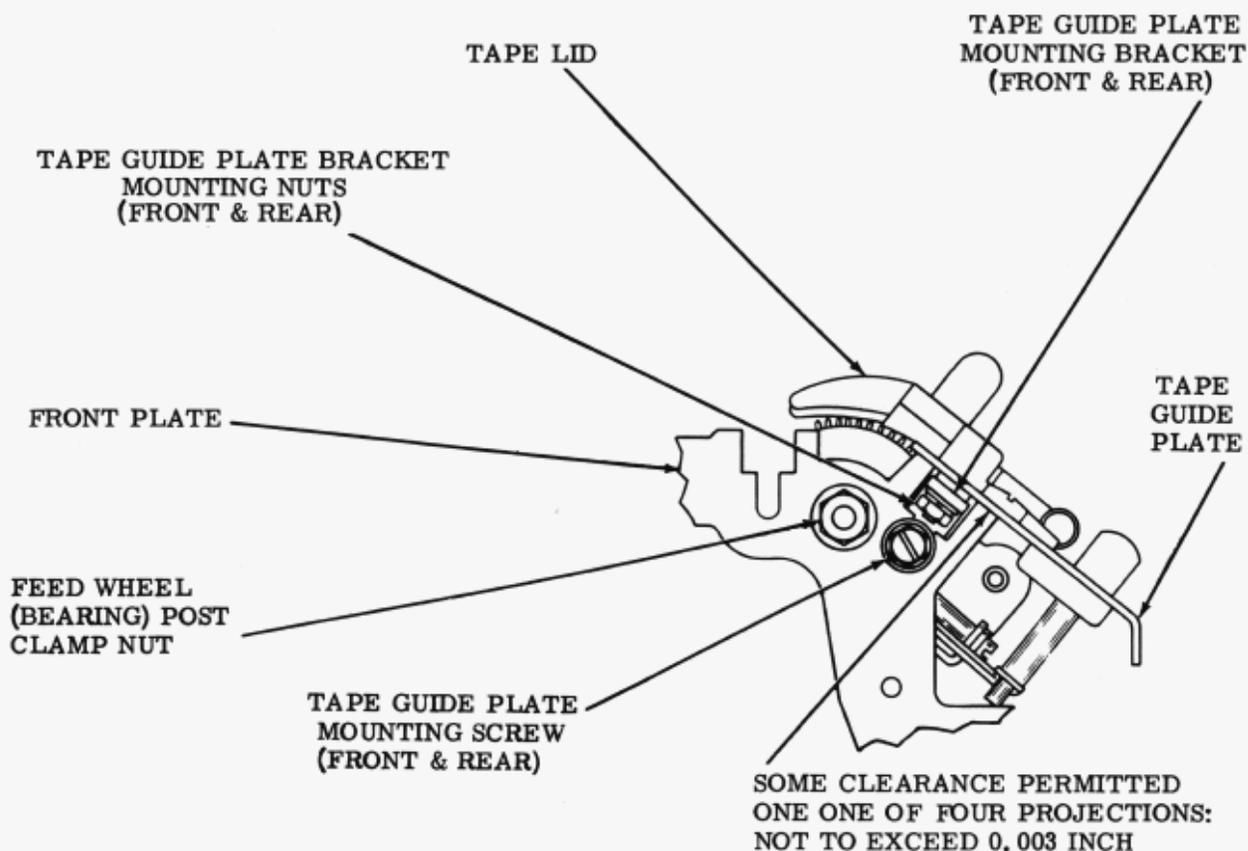
Min. Some

Max. 0.003 inch

2. Edge of wear plate should be flush with edge of tape guide plate.

To Adjust --- With each tape guide mounting nut friction tight, move wear plate upward until it overhangs edge of tape guide plate. Place gauge in position and move gauge and wear plate downward until both studs engage edge of tape guide plate to align common edge. Hold gauge and wear plate and position each guide. (Gauge may touch but not bind.) The tape should not ride on the side of either tape guide.

2.05 Tape Guide Mounting Plate

INSTRUCTIONS FOR REPLACING AND POSITIONING TAPE GUIDE PLATE**Requirements**

- (1) Shoulder of feed wheel post should not interfere with top plate or tape guide plate mounting brackets.

To Adjust --- See Note 1. With (feed wheel) bearing post clamp nut friction tight, position the post.

- (2) Tape guide plate should rest firmly against at least three projections of front and rear plate.

To Adjust --- See Note 1. With clamp nut that secures tape guide plate mounting bracket (front & rear) friction tight, trip clutch and rotate shaft until sensing pins are in their uppermost position. With tape lid raised and start stop lever in run position, press guide plate into position while guiding mounting screws into notch of front and rear plate. Engage tip of tape out pin with hole in tape guide plate.

- (3) Outer edge of front and rear mounting bracket should be located flush with shoulder of mounting stud so that edge of tape guide plate projects over front and rear plate by an equal amount. (Gauge by eye.) See 2.17.

To Adjust --- Move tape plate toward the front or rear. Tighten nuts only after top plate (2.06) is adjusted.

Note 1 --- Position tape-out sensing pin stop arm (see 2.08) in its lowest position and hold start-stop bail extension from ratchet wheel.

2.06 Top Plate and Cover Plate Mounting

INSTRUCTIONS FOR REPLACING AND POSITIONING TOP PLATE

Loosen nuts (friction tight) that secure mounting screws to plate. Press top plate into position while guiding top plate mounting screws into notch of front and rear plate. Position each sensing pin in its slot. Make sure that top plate seats firmly against projections of front and rear plate. (3 projections should engage) and tight tape arm extension is under top plate.

Requirements

1. Mating edge of top plate should be flush to 0.003 under flush with edge of tape guide plate (within area of tape lid) when plate engages at least 5 projections.

To Adjust --- Position top plate, tighten mounting screws and then tighten nuts that secure tape guide plate mounting brackets (2.05).

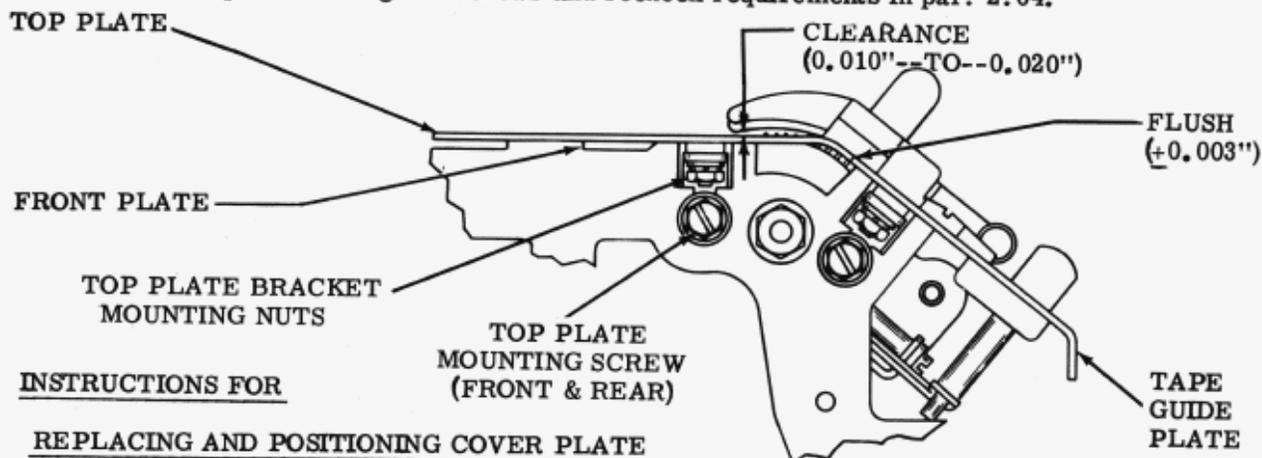
2. Feed wheel slot should align with slot in tape guide plate so that feed wheel rotates freely with detents and feed pawl disengaged (freewheeling).

To Adjust --- Position top plate toward front or rear to align slot.

3. Clearance between projection of tape lid and top plate (tape lid latched)

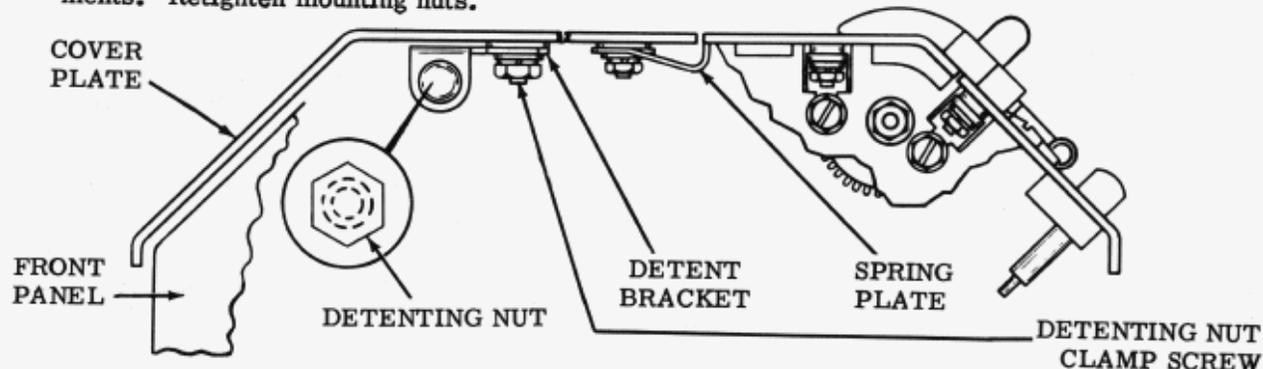
Min. 0.010 inch	Min. 0.010 inch
Max. 0.020 inch at curved portion	Max. 0.018 inch at flat portion

To Adjust --- if necessary, loosen tape lid bearing bracket mounting screws (see 2.04) and position tape lid. Retighten screws and recheck requirements in par. 2.04.

INSTRUCTIONS FORREPLACING AND POSITIONING COVER PLATERequirement

1. Right edge of cover plate should be held flush against left edge of top plate by the cover plate detents.
2. Cover plate should rest against at least three of the four projections (front and rear plate).
3. Front edge of cover plate and top plate should align.

To Adjust --- With detenting nut clamp screw (front & rear plate) friction tight, move clamp screws to their extreme lower right position then tighten screws. Loosen detent bracket and spring plate mounting nuts. Place cover on unit and position horizontally to meet the requirements. Retighten mounting nuts.



2.07 Tape-Out Contact Assembly

(A) TAPE-OUT CONTACT ASSEMBLY

Requirement --- (Cover plate and top plate removed; start-stop switch in stop position; removal of tape guide plate optional). With tape-out spring bracket friction tight, move bracket downward until tape-out pin extension clears insulated portion of contact swinger.

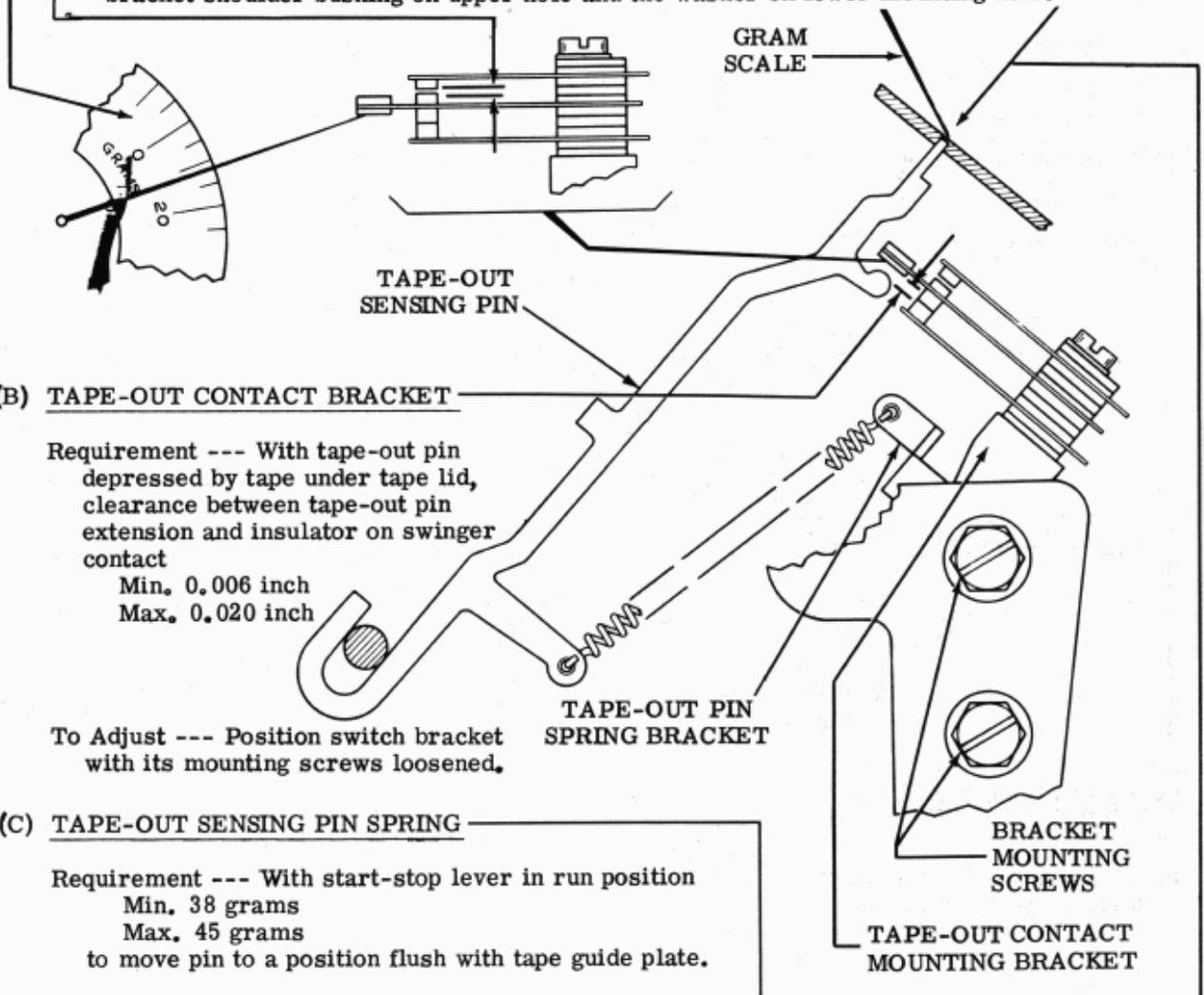
1. With gram scale applied as shown. Min. 8 grams
Max. 15 grams
to separate normally closed contacts.

To Adjust --- Remove bail spring and contact assembly. Form the contact swinger with the TP110445 spring bender.

2. Clearance between normally closed contacts. Min. 0.008 inch
Max. 0.015 inch

To Adjust --- Form upper contact spring using the TP110445 spring bender.

Note --- Replace contact assembly with swinger over tape-out pin extension. Place spring bracket shoulder bushing on upper hole and the washer on lower mounting hole.



(B) TAPE-OUT CONTACT BRACKET

Requirement --- With tape-out pin depressed by tape under tape lid, clearance between tape-out pin extension and insulator on swinger contact

- Min. 0.006 inch
- Max. 0.020 inch

To Adjust --- Position switch bracket with its mounting screws loosened.

(C) TAPE-OUT SENSING PIN SPRING

Requirement --- With start-stop lever in run position
Min. 38 grams
Max. 45 grams
to move pin to a position flush with tape guide plate.

To Adjust
With contact bracket lower mounting screw loosened position the spring bracket.

2.08 Tape-Out Sensing Pin

(A) TAPE-OUT SENSING PIN

Requirement

1. With start-stop lever in free wheeling or stop position, tip of tape-out pin should be flush to 0.010 inch under flush below top surface of tape guide plate.

To Adjust --- Place start-stop lever in stop position. With stop arm clamp screw friction tight, position the stop arm.

2. With start-stop lever in run position, clearance as shown should be at least 0.055 inch.

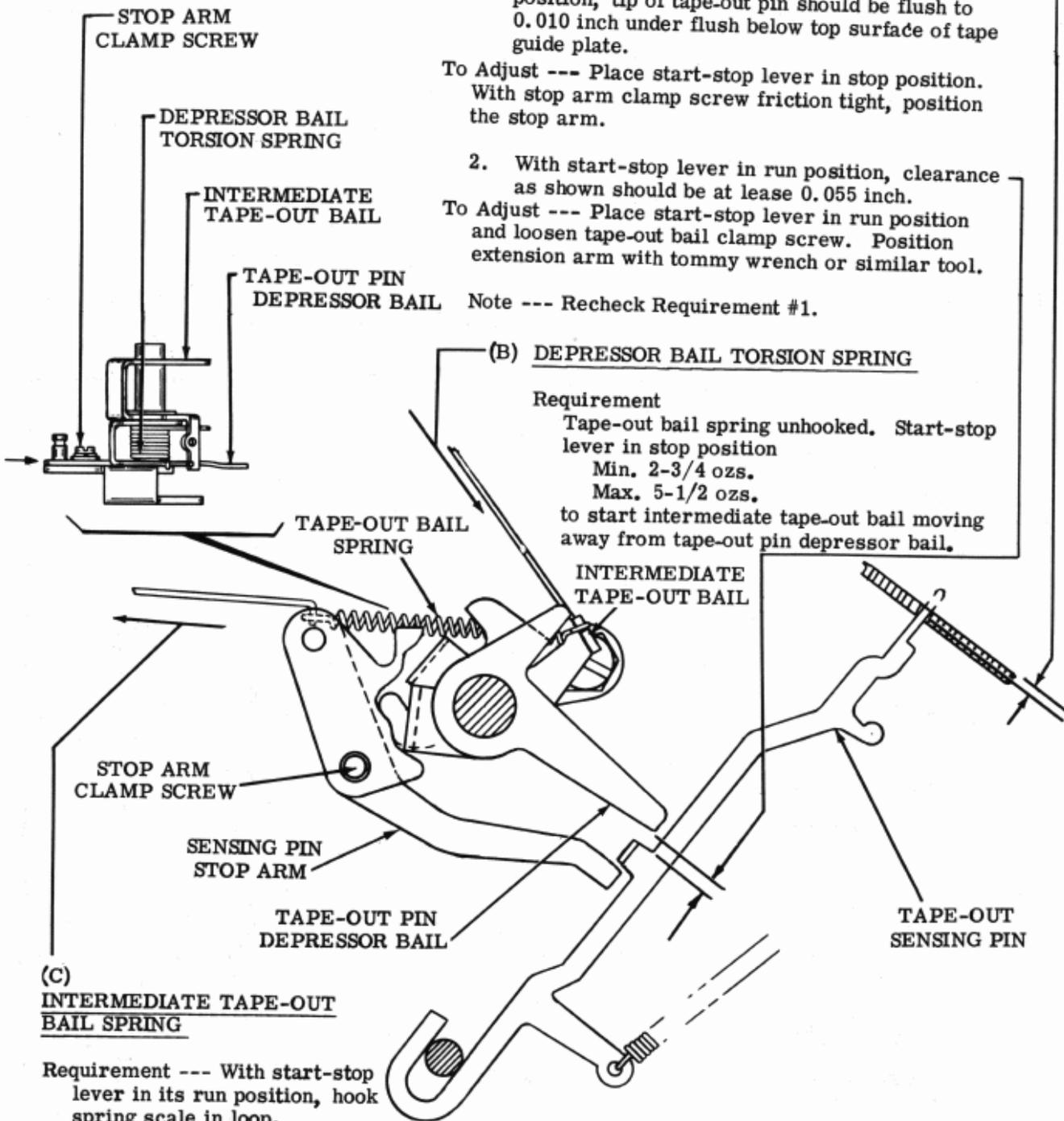
To Adjust --- Place start-stop lever in run position and loosen tape-out bail clamp screw. Position extension arm with tommy wrench or similar tool.

Note --- Recheck Requirement #1.

(B) DEPRESSOR BAIL TORSION SPRING

Requirement

Tape-out bail spring unhooked. Start-stop lever in stop position
 Min. 2-3/4 ozs.
 Max. 5-1/2 ozs.
 to start intermediate tape-out bail moving away from tape-out pin depressor bail.



(C) INTERMEDIATE TAPE-OUT BAIL SPRING

Requirement --- With start-stop lever in its run position, hook spring scale in loop.

Min. 3 ozs.

Max. 5 ozs.

to pull spring to its installed length.

2.09 Start-Stop Switch Assembly

(A) START-STOP SWITCH BRACKET

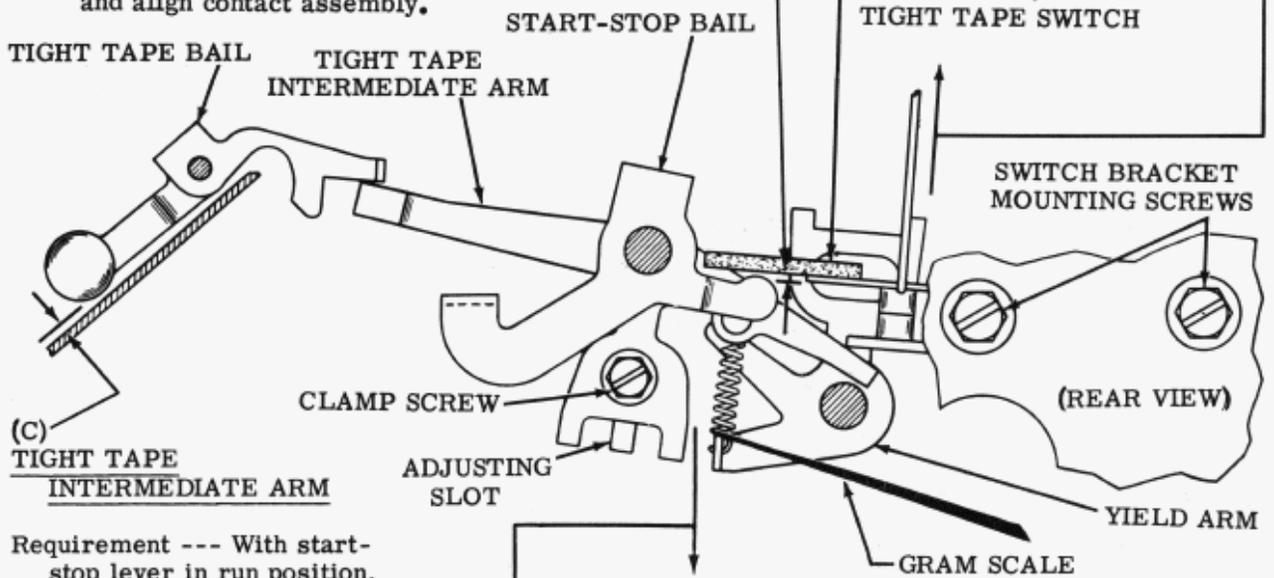
Requirements (Clutch disengaged)

1. With start-stop lever in run position and clutch in its disengaged position, clearance between start-stop bail extension and insulator on start-stop switch swinger
 Min. 0.006 inch
 Max. 0.015 inch

To Adjust --- With switch bracket mounting screws loosened, position the bracket.

2. Start-stop bail extension should fully engage insulated portion of switch swinger.

To Adjust --- Loosen contact pile-up mounting screws and align contact assembly.

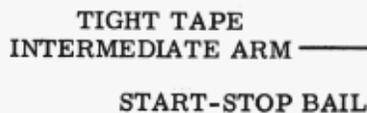


(C) TIGHT TAPE INTERMEDIATE ARM

Requirement --- With start-stop lever in run position, tight tape start-stop contacts should function as follows:

1. Remain closed when tight tape bail is raised 0.045 inch.
2. Open as bail is raised to height of 0.075 inch.

To Adjust --- With tight tape intermediate arm clamp screw loosened, position the arm at its adjusting slot.



(B) TIGHT TAPE START-STOP CONTACT SPRING

Requirement --- With start-stop lever in run position
 Min. 3 ozs.
 Max. 4 ozs.
 to separate contacts.

To Adjust --- Form swinger with TP110445 spring bender.

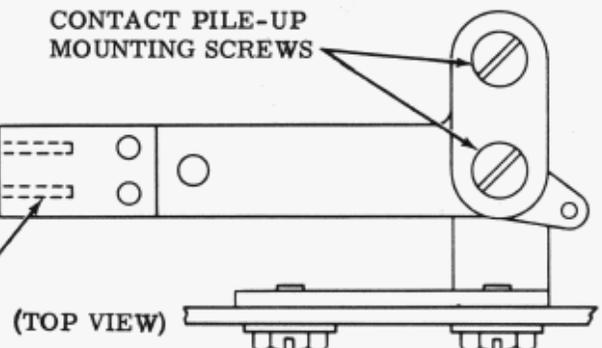
Note --- Recheck requirements (A) & (C).

START-STOP;
 TIGHT TAPE SWITCH

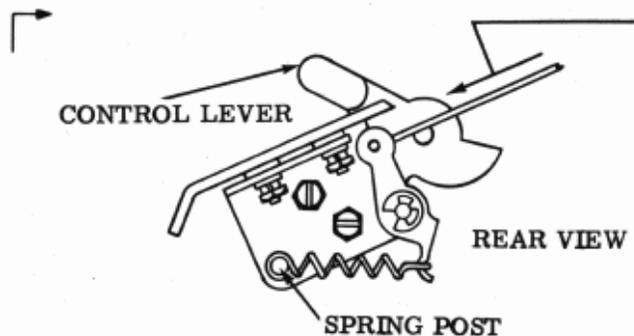
(D) TIGHT TAPE INTERMEDIATE ARM SPRING

Requirement --- With start-stop lever in run position,
 Min. 20 grams (3/4 ozs.)
 Max. 40 grams (1-1/2 ozs.)
 to start intermediate arm moving away from its yield arm.

CONTACT PILE-UP
 MOUNTING SCREWS



2.10 Main Bail Assembly



(C) CONTROL LEVER DETENT SPRING
(Not on relay controlled unit)

Requirement --- Control lever in run position
Min. 14 ozs.
Max. 22 ozs.
to start detent bail moving away from control lever detent.

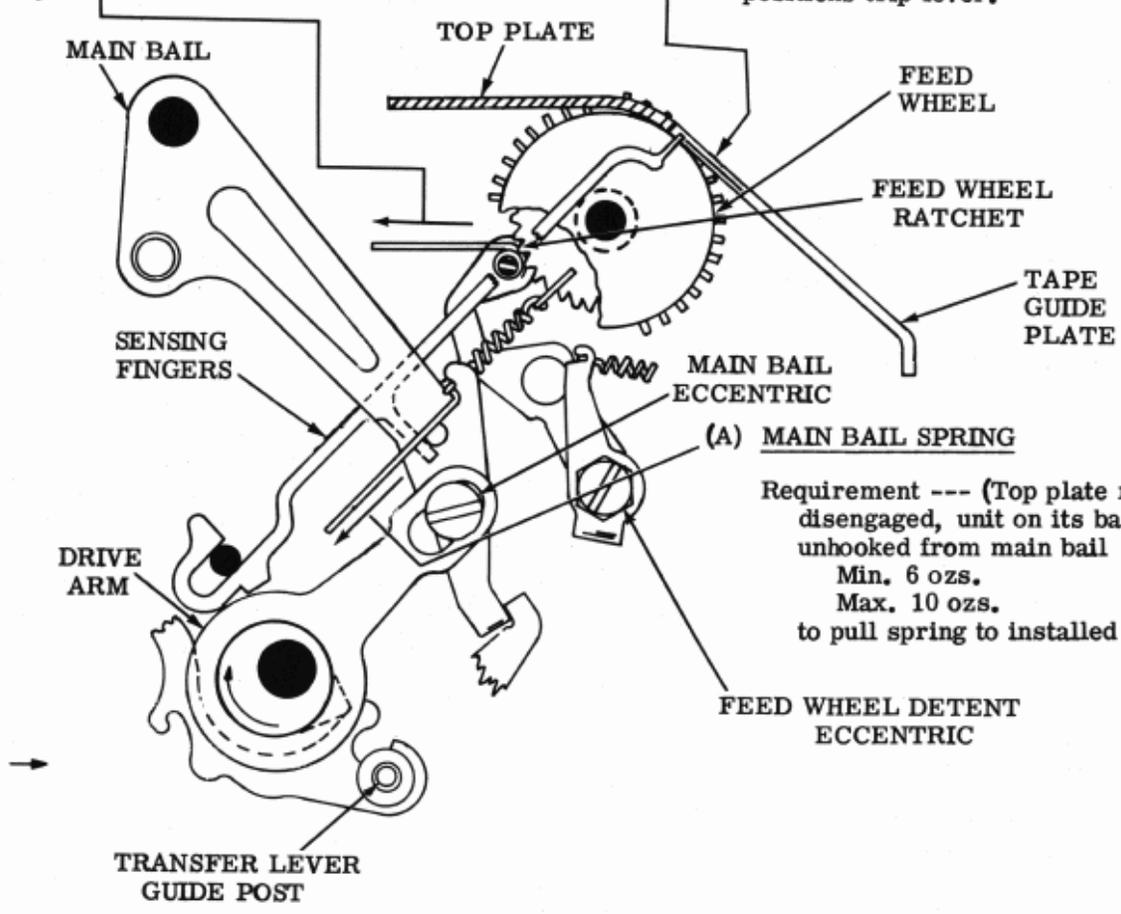
(B) FEED RATCHET DETENT SPRING

Requirement --- With mainshaft in stop position and feed pawl held away from its ratchet.
Min. 8 ozs.
Max. 13 ozs.
to start roller moving away from ratchet.

(D) MAIN BAIL TRIP LEVER

Requirement --- (Replace top plate)
Unit in stop position, clearance between tip of highest sensing pin and top surface of tape guide plate should be flush to 0.005 inch below.

To Adjust
Loosen front and rear transfer lever guide post nuts and rotate post so that its eccentric positions trip lever.



(A) MAIN BAIL SPRING

Requirement --- (Top plate removed) clutch disengaged, unit on its back. Spring unhooked from main bail
Min. 6 ozs.
Max. 10 ozs.
to pull spring to installed length.

2.11 Code Sensing Fingers

(A) SENSING FINGER SPRING

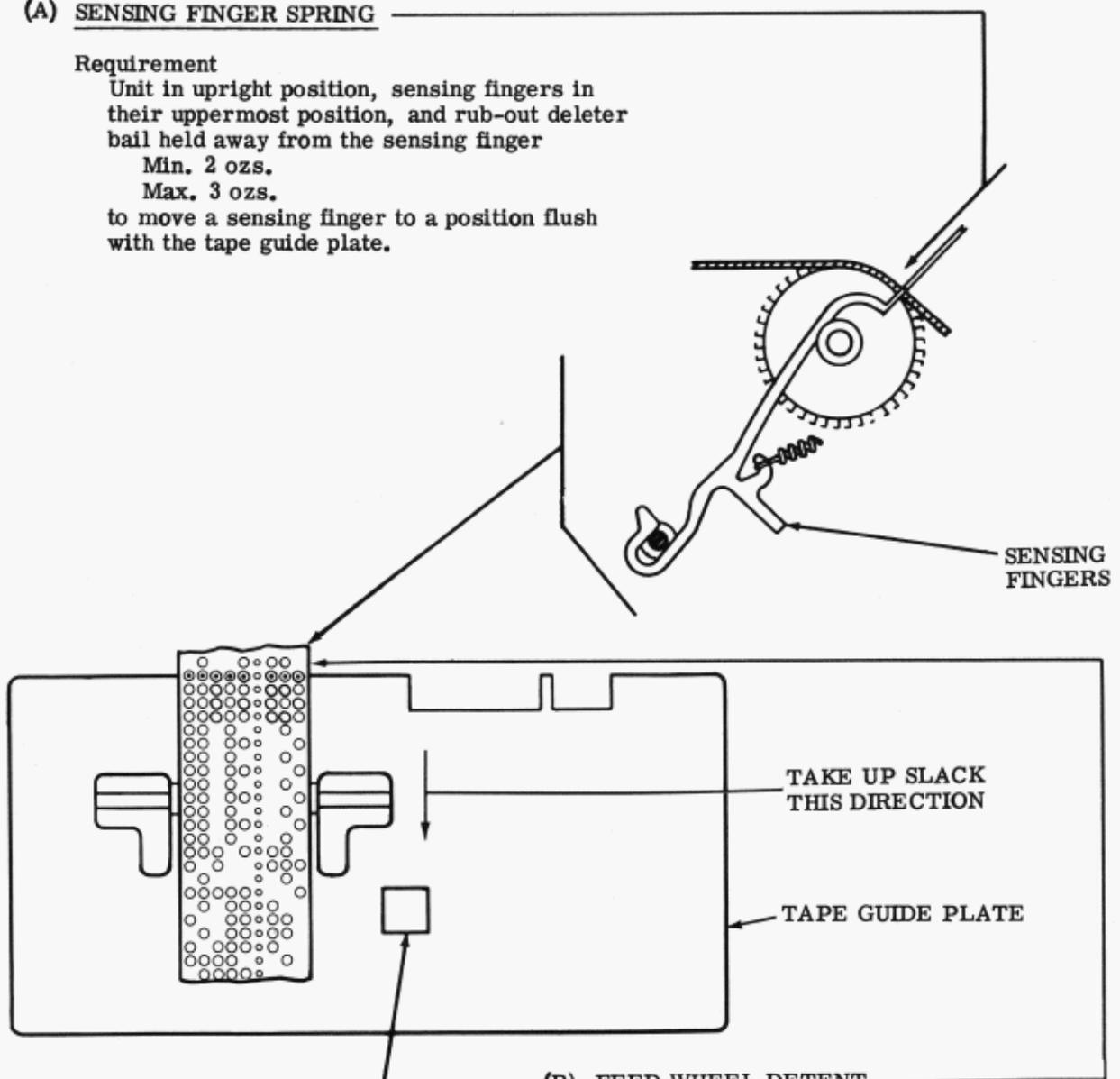
Requirement

Unit in upright position, sensing fingers in their uppermost position, and rub-out deleter ball held away from the sensing finger

Min. 2 ozs.

Max. 3 ozs.

to move a sensing finger to a position flush with the tape guide plate.



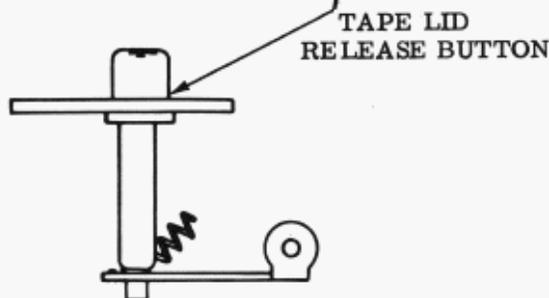
(B) FEED WHEEL DETENT

Requirement

With tape lid raised, sensing fingers down, high part of feed wheel detent eccentric toward the right, letters perforated tape between tape guides, and play in tape taken lightly toward the right. Tip of each sensing finger should be centrally located in the code holes.

To Adjust

Hold feed pawl away and rotate the feed wheel detent eccentric screw. See figure on page 12.



2.12 Feed Pawl Mechanism

(A) FEED PAWL

Requirement --- (Top plate removed) - With high part of eccentric toward the right and sensing fingers in their lowermost position, clearance between feed pawl and ratchet tooth just engaged.

Min. Some

Max. 0.003 inch

To Adjust --- With eccentric screw lock nut loosened, position the screw. Recheck requirement at four positions of ratchet approximately 90 degrees apart.

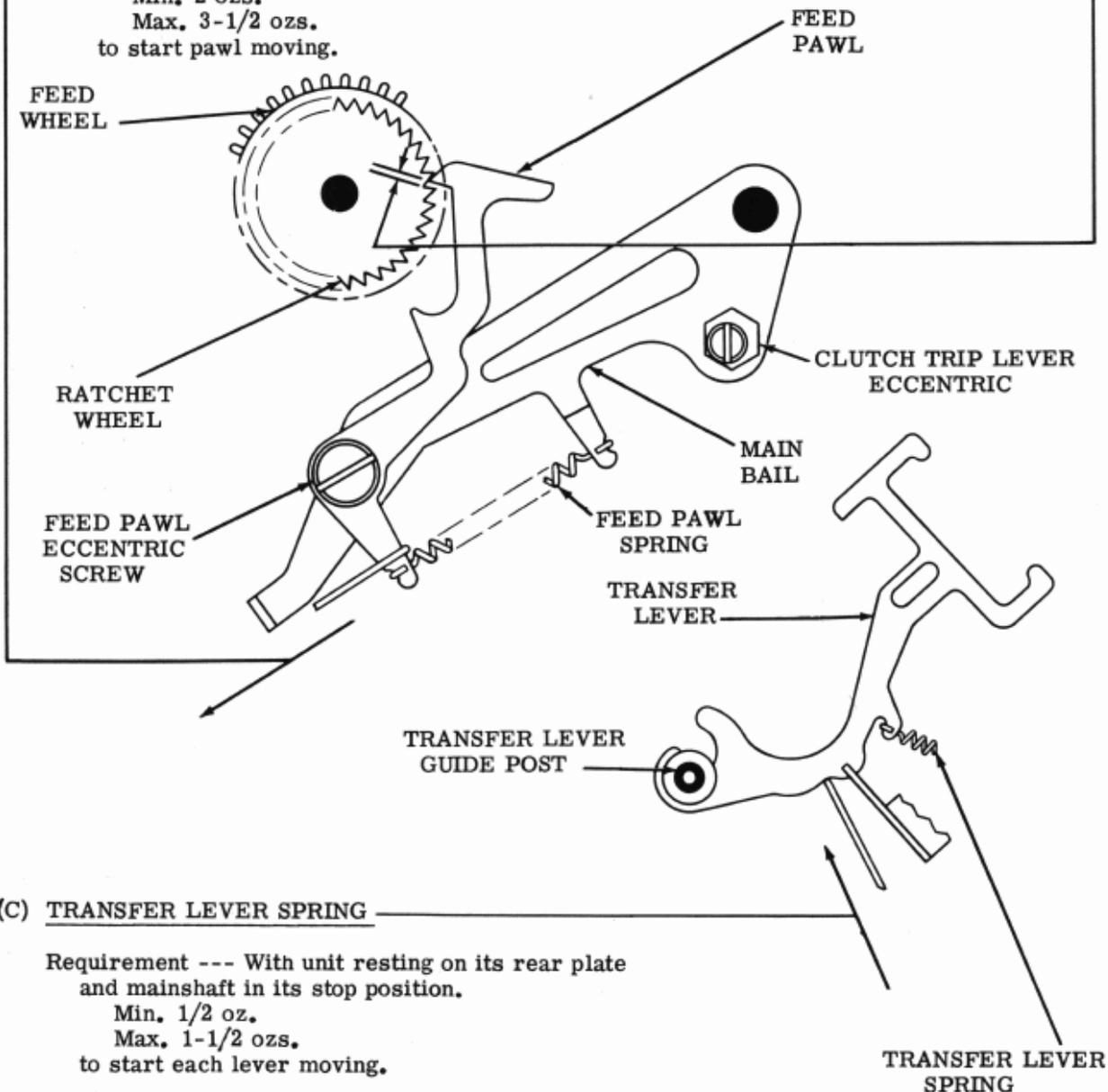
(B) FEED PAWL SPRING

Requirement --- With unit tilted toward the left and mainshaft in its stop position.

Min. 2 ozs.

Max. 3-1/2 ozs.

to start pawl moving.



(C) TRANSFER LEVER SPRING

Requirement --- With unit resting on its rear plate and mainshaft in its stop position.

Min. 1/2 oz.

Max. 1-1/2 ozs.

to start each lever moving.

2.13 Main Bail Trip Assembly

(A) MAIN BAIL

Requirement (Replace top plate)

1. Main bail in lowest position, horizontal clearance between main bail arm and main bail trip lever should be

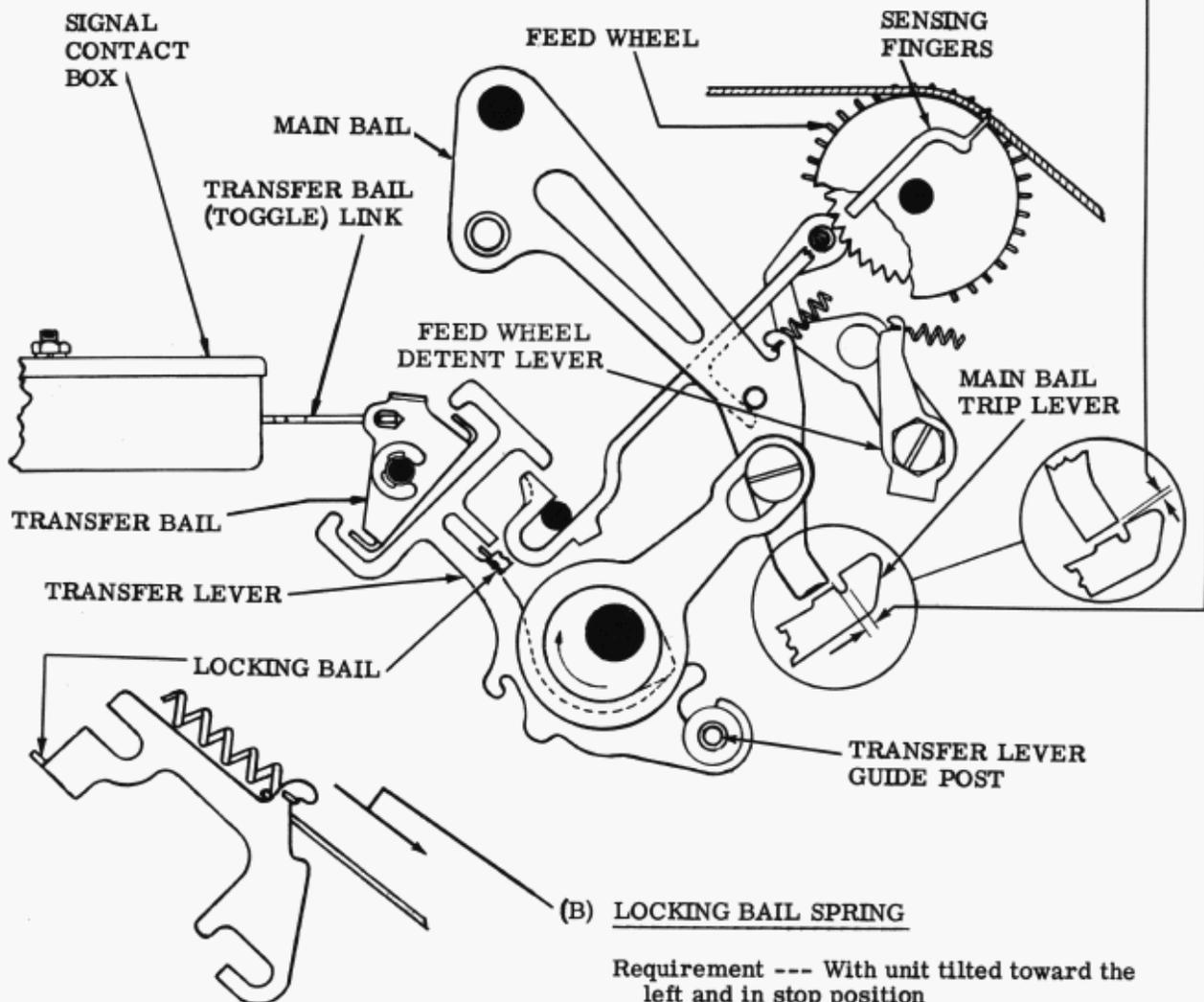
Min. Some
Max. 0.015 inch

2. Main bail in lowest position and clutch magnet operated, clearance between vertical surfaces should be

Min. 0.005 inch

To Adjust

Position main bail eccentric with nut on eccentric screw loosened. Check and refine, if necessary, main bail trip lever adjustment (see 2.10).



Requirement --- With unit tilted toward the left and in stop position

Min. 10 ozs.

Max. 14 ozs.

to start ball moving.

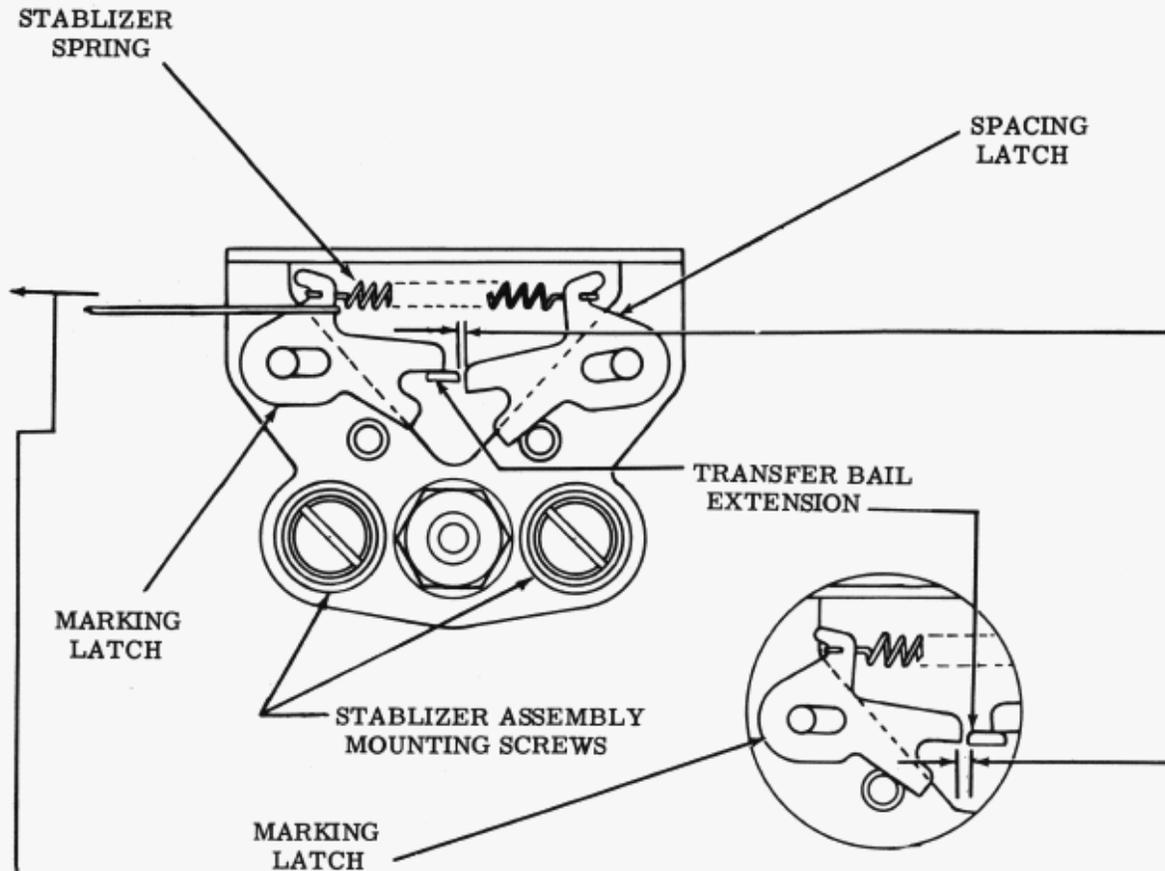
2.14 Transfer Bail Stabilizer

(A) TRANSFER BAIL STABILIZER

- Requirement --- (1) With a RUBOUT combination selected, rotate mainshaft until #3 transfer lever is on high part of its cam. Check clearance between side of transfer bail extension and its latch. (2) Repeat above procedure with a SPACE combination selected and check the clearance on other latch. Clearance in MARKING and SPACING position should be equal within 0.002 inch.

To Adjust --- With stabilizer assembly mounting screws friction tight, position the assembly.

Note --- Latches should drop in place as other transfer levers cam the transfer bail. Where possible, use a signal checking device to refine this adjustment following signal contact adjustment (2.15).



(B) STABILIZER SPRING

Requirement --- With unit upright and mainshaft in stop position
Min. 2-1/2 ozs.
Max. 5 ozs.
to start stabilizer latch moving.

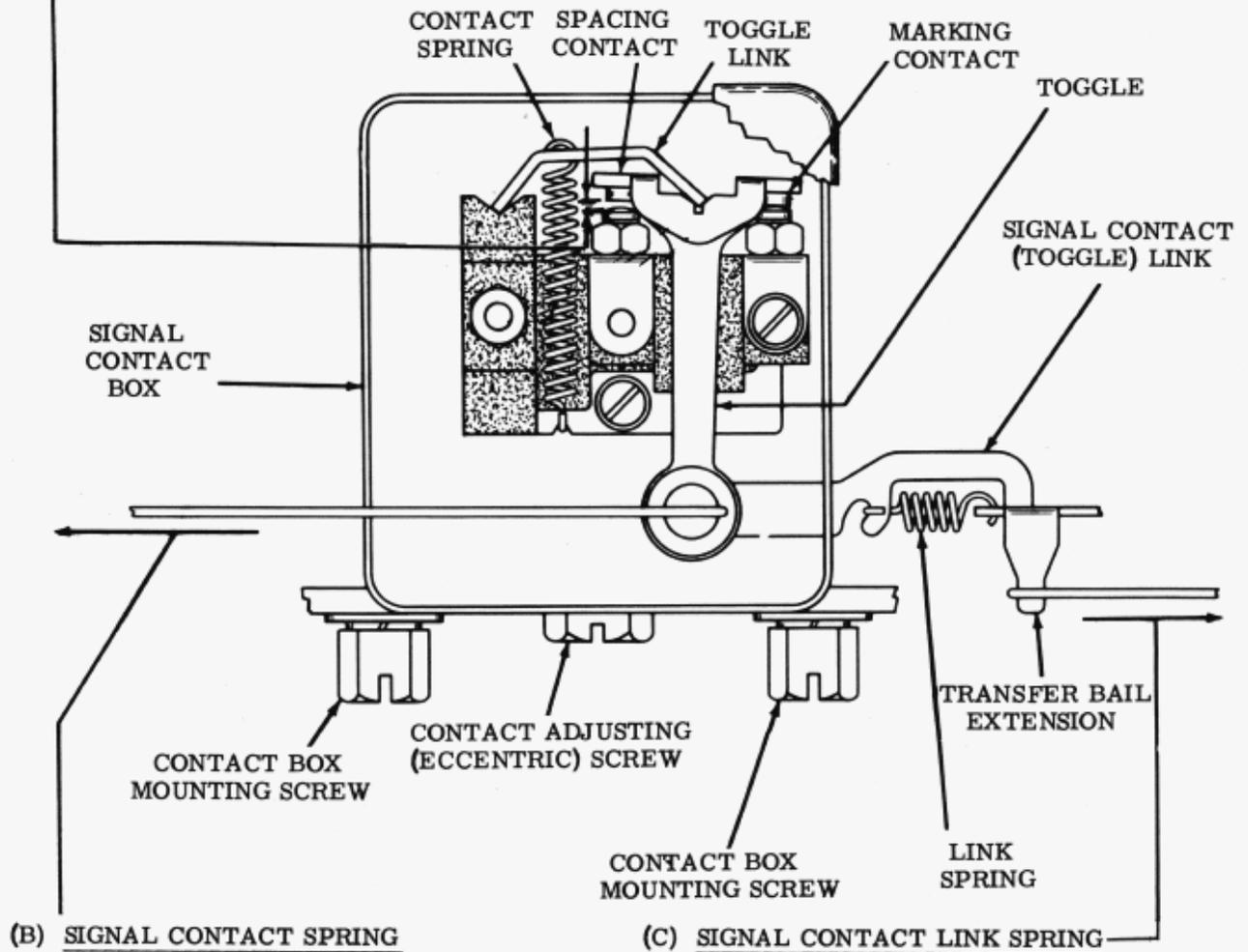
2.15 Signal Contact Assembly

(A) SIGNAL CONTACT

Requirement --- (Cover plate and contact box cover removed). Contact gap in the MARKING position and the SPACING position should be equal when clearance between respective contacts is maximum. (Engage clutch and rotate mainshaft slowly.)

To Adjust --- With contact box mounting screws friction tight, position box with its eccentric.

Note --- Use test set such as DXD where possible to refine adjustment. Refer to 2.19.

(B) SIGNAL CONTACT SPRING

Requirement

With mainshaft in stop position and cover of contact box removed, unhook toggle link spring and move transfer bail to spacing position (right)

Min. 2 ozs.

Max. 3-1/2 ozs.

to open spacing contacts (left).

(C) SIGNAL CONTACT LINK SPRING

Requirement - With mainshaft in stop position and stabilizer spring unhooked, move latches away from transfer bail extension (2.14).

Hold toggle firmly against contacts.

Min. 6 ozs.

Max. 12 ozs.

to start transfer bail extension moving.

2.16 Clutch Trip Magnet Assembly

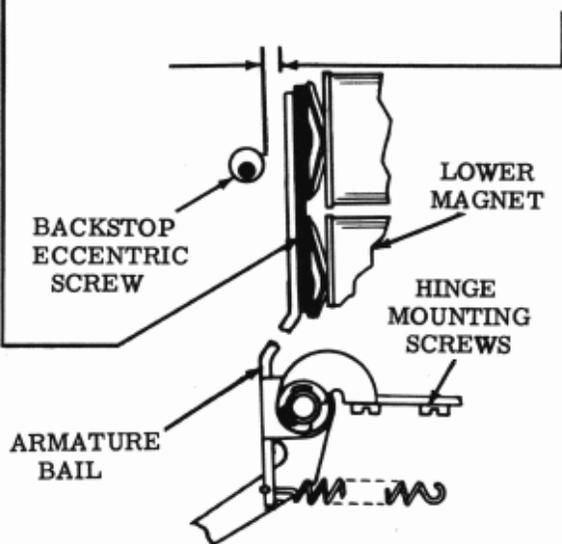
(A) CLUTCH MAGNET

Requirement

1. With armature in its energized position, the armature should contact the core of the magnet farthest away from the armature hinge. Clearance between armature and core nearest armature hinge

Min. Some
Max. 0.004 inch
at point of least clearance.

To Adjust --- With magnet assembly mounting screws removed, lift assembly from unit. Invert assembly, loosen hinge bracket mounting screws and position bracket.



2. With armature in its energized position and high part of backstop eccentric upward, clearance between armature bail and backstop
Min. 0.045 inch
Max. 0.055 inch

To Adjust --- Loosen backstop clamp nut and position the eccentric.

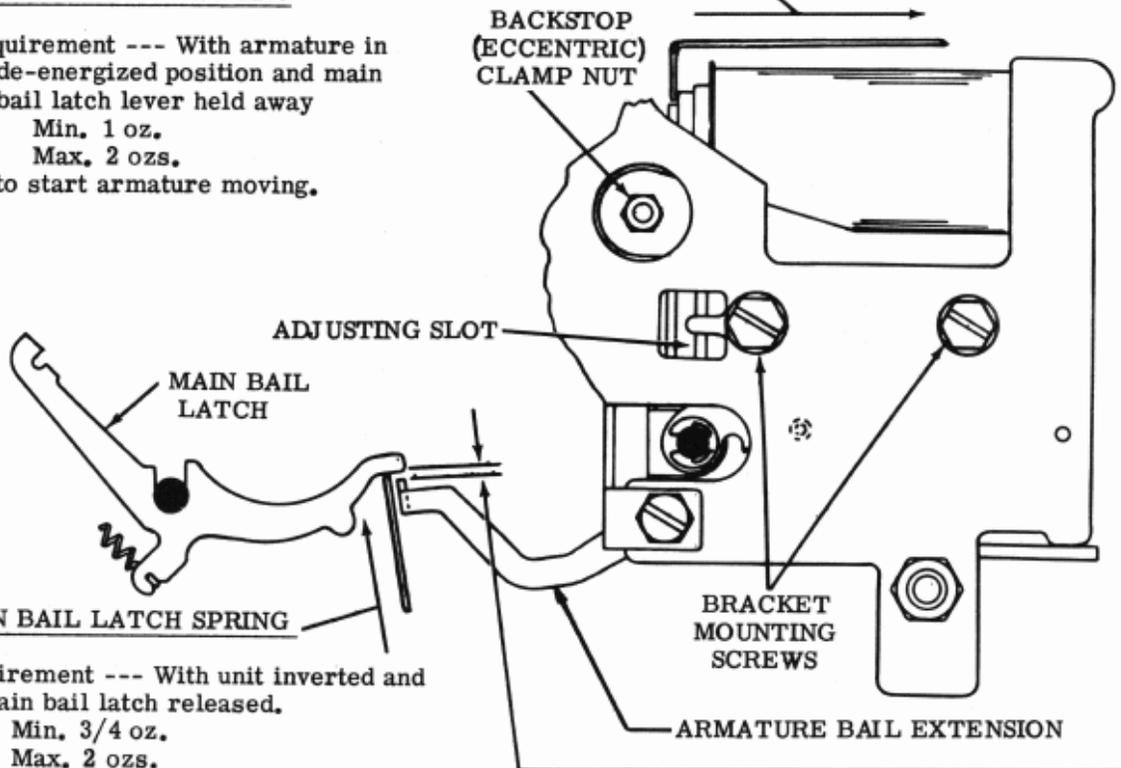
3. With magnet assembly replaced and clutch disengaged, clearance between end of armature bail extension and main bail latch
Min. 0.007 inch
Max. 0.015 inch

To Adjust --- With bracket mounting screws friction tight, move assembly to its lowermost position then position bracket by its adjusting slot. Refine requirements if necessary.

(B) ARMATURE BAIL SPRING

- Requirement --- With armature in de-energized position and main bail latch lever held away

Min. 1 oz.
Max. 2 ozs.
to start armature moving.

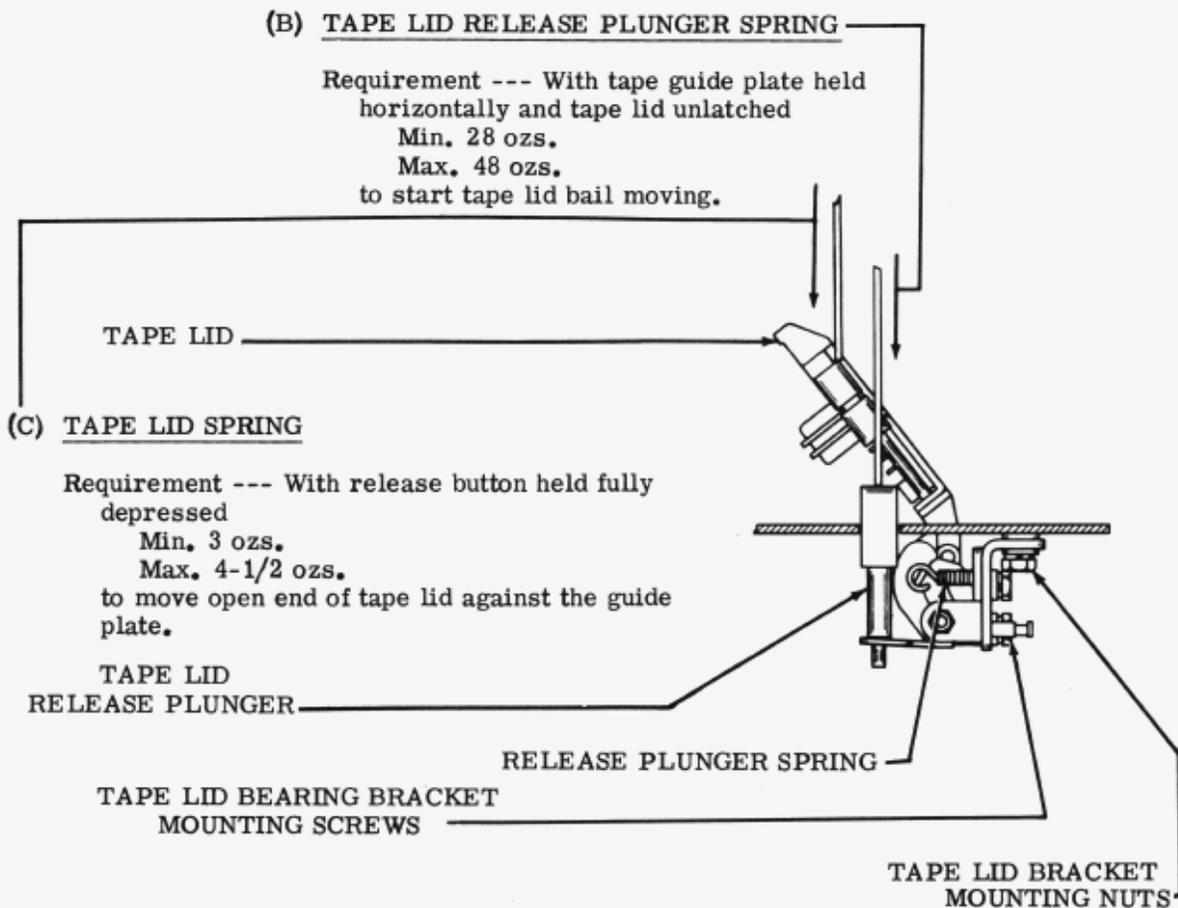
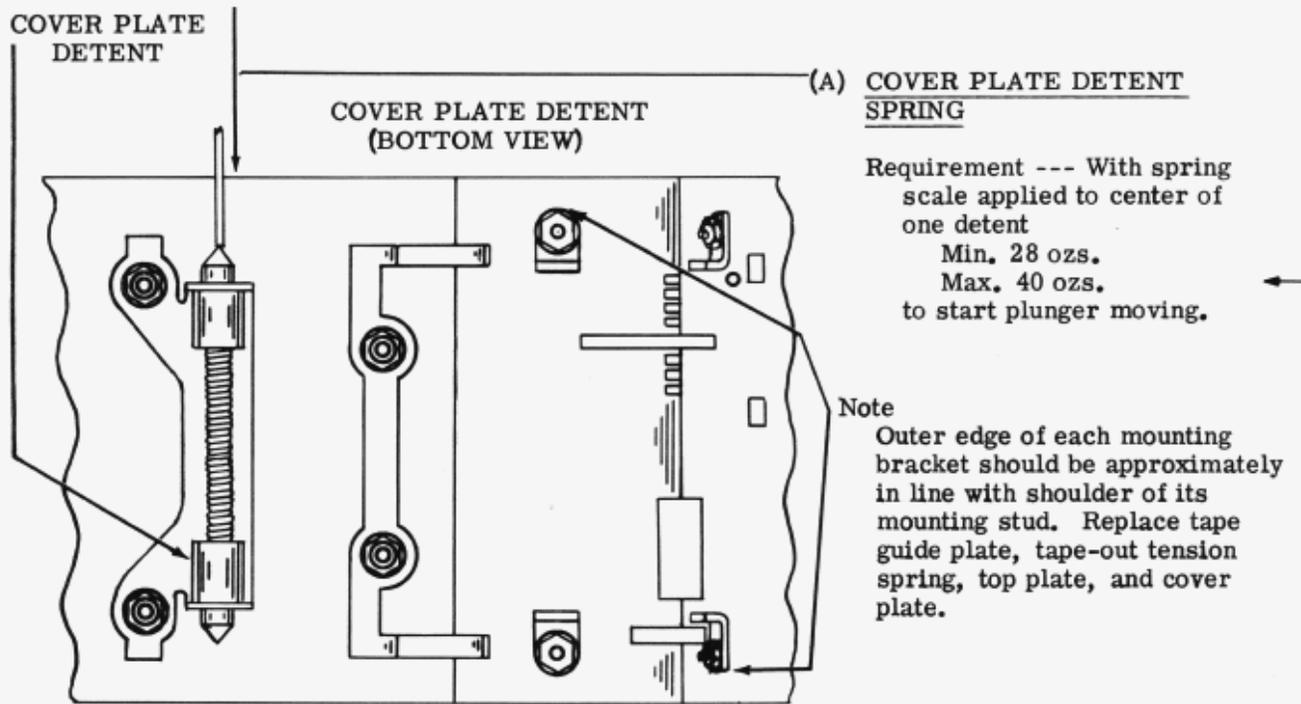


(C) MAIN BAIL LATCH SPRING

- Requirement --- With unit inverted and main bail latch released,

Min. 3/4 oz.
Max. 2 ozs.
to start main bail latch moving.

2.17 Tape Lid Assembly

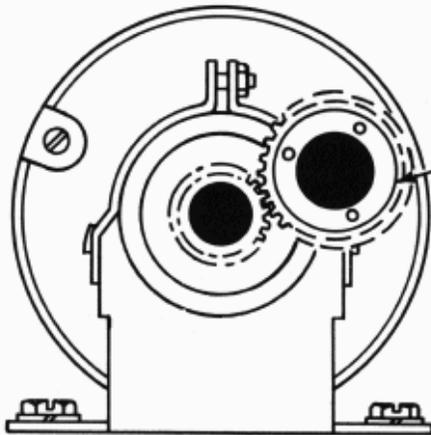


2.18 Transmitter Distributor Gear

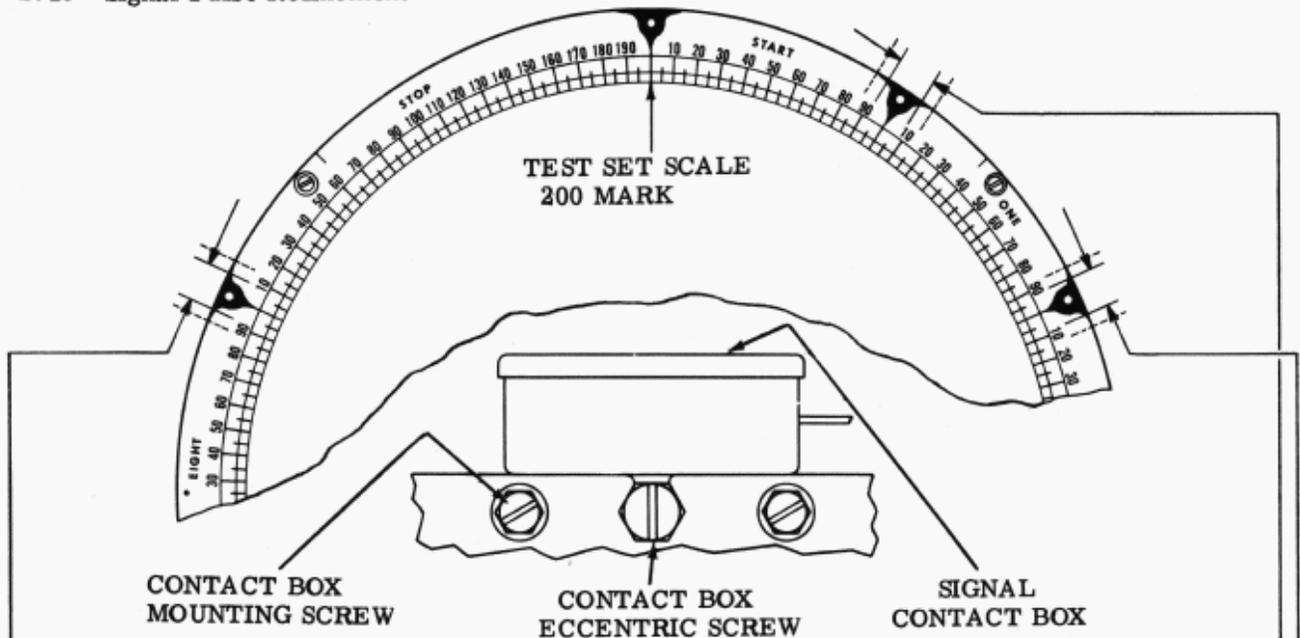
TRANSMITTER DISTRIBUTOR GEAR

Requirement --- There should be only a perceptible amount of backlash between the intermediate drive gear and transmitter distributor gear.

To Adjust --- With transmitter distributor mounting screws (3) loosened, position the unit on base.



2.19 Signal Pulse Refinement



SIGNAL PULSE REFINEMENT - FINAL ADJUSTMENT WITH DXD OR STROBE
 (11.0 Unit Code - Speeds up to and including 100 WPM)

Procedure. --- Plug signal distortion test set into signal line to view pulse image generated by the marking and spacing contacts. Synchronize signal generator with DXD so that end of stop pulse image aligns with the 200 mark on DXD scale when both units are operated at same speed and transmission is continuous.

NOTE 1 --- Figures appearing in () in par. 2.19 and 2.20 are relaxed requirements for transmitter distributor sets used in circuits that employ a signal regenerator.

NOTE 2 --- End of stop pulse image should not vary from the 200 mark by more than one scale division. If a greater variation occurs, move the scale until the variations extend equally on either side of the 200 mark.

1. Requirement

- a. Each marking code pulse should start no later than the 8th (12th) mark of the pulse under observation and start no earlier than 92nd (88th) mark of the previous pulse.
- b. Each marking code pulse should end no earlier than the 92nd (88th) mark of the pulse under observation and no later than the 8th (12th) mark of the following pulse.
- c. Each marking code pulse may have one break provided the break is not over three divisions wide and provided the break occurs only at the end of the code pulse image between the 92nd (88th) mark and the end of the image.
- d. The stop pulse should start no earlier than the 92nd (88th) mark of the last intelligence pulse and start no later than the 8th (12th) mark of the stop position.
- e. The stop image should not change in length or position, when viewed on DXD, to exceed one division while changing from R to Y selection (or equivalent codes). If necessary, reorient 200 mark on stop scale with end of stop pulse image.

2.20 Signal Pulse Refinement Continued

To Adjust --- With signal contact box mounting screws friction tight, rotate the eccentric (right or left). Tighten mounting screws and recheck adjustment.

2. Requirement

When the spacing contact of the signal generator is wired the spacing contact should meet the following requirements:

- a. Each spacing code pulse should start no later than the 8th (12th) mark of the pulse under observation and start no earlier than the 92nd (88th) mark of the previous pulse.
- b. Each spacing pulse should end no earlier than the 92nd (88th) mark of the pulse under observation and end no later than the 8th (12th) mark of the following pulse.
- c. Each spacing pulse may have one break provided the break is not over three divisions wide and provided the break occurs only at the end of the code pulse image between the 92nd (88th) mark and the end of the image.
- d. The start pulse should start no earlier than the 192nd (188th) mark of the stop pulse and start no later than the 8th (12th) mark of the start pulse. The start pulse should end no earlier than the 92nd (88th) mark of the start pulse and end no later than the 8th (12th) mark of the number one pulse.

To Adjust --- Same as above - Recheck marking contact if a spacing adjustment is made.

NOTE 3 --- If the signal requirements cannot be met, refine transmitter distributor gear adjustment (2.18) and stabilizer adjustment (2.14) with signal viewed on DXD.

CAUTION: USE CARE WHEN SERVICING SIGNAL GENERATORS EQUIPPED WITH GOLD CONTACTS. CLEAN THESE CONTACTS BY PASSING A STRIP OF BOND PAPER BETWEEN THEM. CLEANING OR BURNISHING BY OTHER METHODS MAY REMOVE THE THIN GOLD FILM.

USE PROPER PROCEDURE DURING TEST AND ADJUSTMENT OF THE SIGNAL GENERATOR TO AVOID PITTING OR CHIPPING THE CONTACTS. CONTACTS SO DAMAGED MAY PRODUCE BREAKS AND UNACCEPTABLE OPERATION IN LOW LEVEL CIRCUIT APPLICATIONS.

TEST EQUIPMENT USED SHOULD OPERATE ON NON-INDUCTIVE 20 MA AT 40 VDC OR LESS. HIGHER VOLTAGES CAN BE USED, BUT WITH A DROP IN CURRENT TO KEEP THE ENERGY ACROSS THE CONTACTS IN THE SAME ORDER OF MAGNITUDE. LOW LEVEL NON-INDUCTIVE TEST EQUIPMENT IS ESPECIALLY NECESSARY IN WORKING WITH UNITS NOT EQUIPPED WITH ARC SUPPRESSORS.

3. VARIABLE FEATURES

3.01 Timing Contact Mechanism

(C) TIMING CONTACT SPRING

Requirement

Min. 5 ozs.

Max. 8 ozs.

to move spring from stiffener.

To Adjust

Remove contact bracket assembly, loosen contact pileup mounting screws and bend contact spring with bender (TP110445). Retighten pileup mounting screws and check. Replace contact bracket assembly. Refine adjustments (A) and (B), if necessary.

MOUNTING SCREWS

CONTACT BRACKET

(D) CAM FOLLOWER SPRING

Requirement

With unit in stop position and contact spring held away

Min. 2 ozs.

Max. 4 ozs.

STIFFENER

SPRING

CONTACT SPRING

SWINGER

CAM

(B) TIMING CONTACT SWINGER(A) TIMING CONTACT BRACKET

Requirement

1. With follower on low part of cam contacts should be closed when nylon pad is raised 0.006 inch and open when pad is raised 0.010 inch.
2. With follower on any peak of cam, contact gap should be

Min. 0.003 inch

on units prior to serial No. 42200

Min. 0.015 inch

To Adjust

Place unit in stop position. Adjust contact bracket by means of screwdriver lug, visible through hole in rear plate, with bracket mounting screws loosened.

Requirement

With contact closed

Min. 2 ozs.

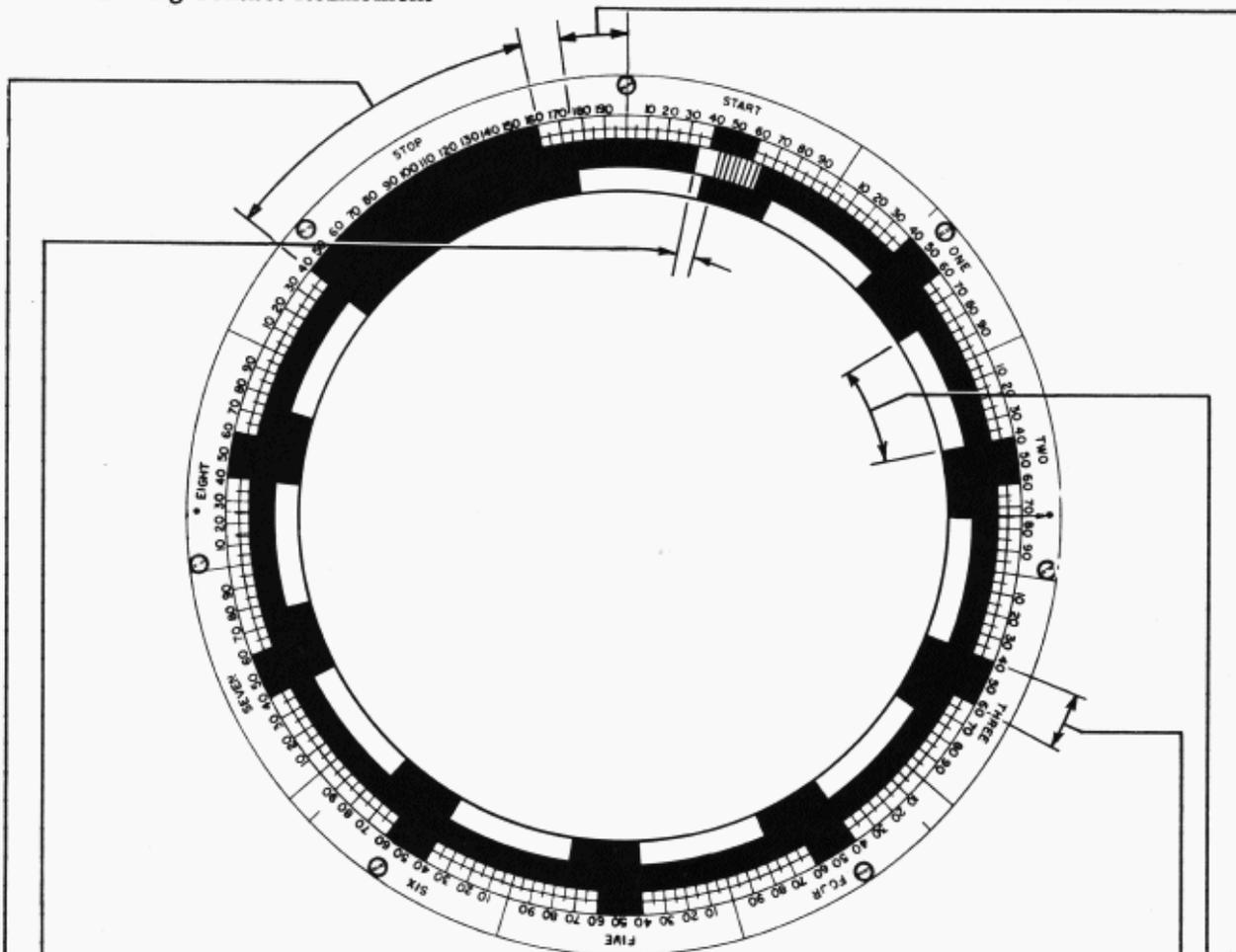
Max. 3 ozs.

to just separate contacts

To Adjust

Bend swinger with spring bender TP110445.

3.02 Timing Contact Refinement

TIMING CONTACT REQUIREMENTS

1. Zero the test set as previously described (2.19).
2. The light image of the timing contacts should meet the following requirements for speeds up to and including 100 WPM.
 - a. Open for a minimum of 20 divisions between the 25 division and 75 division points of each 100 division pulse.
 - b. Open for a minimum of 120 divisions between the 25 division and 175 division points of the stop pulse.
 - c. The close to open transitions should be in multiples of 100 divisions ± 5 divisions from the close to open transition of the start pulse.
 - d. There should be no contact break between the 0 division point and the close to open transition point and no contact break between the 75 division point and 100 division point of each pulse. There should be no contact break between 175 division point and the 200 division point of the stop pulse.
 - e. Check and refine, if necessary, adjustment (A) in par. 3.01.

3.03 Timing Contact Refinement Continued

- e. The timing contacts should be open in the rest position of the transmitter distributor.

To adjust, loosen the two timing contact bracket mounting screws until they are friction tight. Position the timing contact assembly by means of the screw driver lug on the bracket visible through a hole in the rear plate so that the requirements are met. Tighten the screws and recheck the image on the DXD stroboscope.

3.04 Rubout Sensing Mechanism

(A) RUBOUT SENSING MECHANISM

Requirement

With DELETE (rubout) selection set up and timing bail on low part of its cam, the start-stop contact gap should be

Min. 0.018 inch

Max. 0.025 inch

Use light thumb pressure to hold bail against its cam when checking gap.

To Adjust

Position the timing arm on the yield arm with its clamp screw friction tight.

