

35 "CARDATA"* FEEDER (EPCF)

INSTALLATION

CONTENTS	PAGE
1. GENERAL	1
2. INSTALLATION	1
3. OPERATING TESTS	7
OPERATING TEST PROCEDURES . . .	8

1. GENERAL

1.01 This section provides installation procedures for the 35 "CARDATA" feeder (edge punched card feeder) (Figure 1). The feeder is a self-contained unit, complete with cover having a capacity of 250 edge punched cards.

1.02 References to left or right, top or bottom, and front or rear apply to the set in its normal position as viewed from the front.

1.03 If necessary, refer to the appropriate disassembly and reassembly section for removal of cover and any internal mechanisms associated with the feeder (Figures 3 and 4). For any further information regarding location of parts refer to the exploded views in the appropriate parts section.

1.04 Special care should be taken to avoid accident if the feeder is to be operated when it is separated from its housing (Figure 2). Special care should also be taken to avoid electrical shock when working near polarized electrolytic capacitors.

CAUTION: POWER SHOULD BE DISCONNECTED. WHERE PROCEDURES CALL FOR POWER TO BE CONNECTED, APPROPRIATE PRECAUTIONARY MEASURES SHOULD BE TAKEN TO AVOID ACCIDENT.

*Trademark of Teletype Corporation

1.05 When mechanisms and parts, such as the cover (Figure 4), are removed, set them aside in some location where they will not get damaged and where they will not be a hazard to personnel around the area.

1.06 Refer to maintenance tools section 570-005-800TC for information covering standard tools.

1.07 The card reader and feeder combination is not intended for application in unattended installations. An operator should be on hand to assure proper feeding of cards.

2. INSTALLATION

Space Requirements and Weight

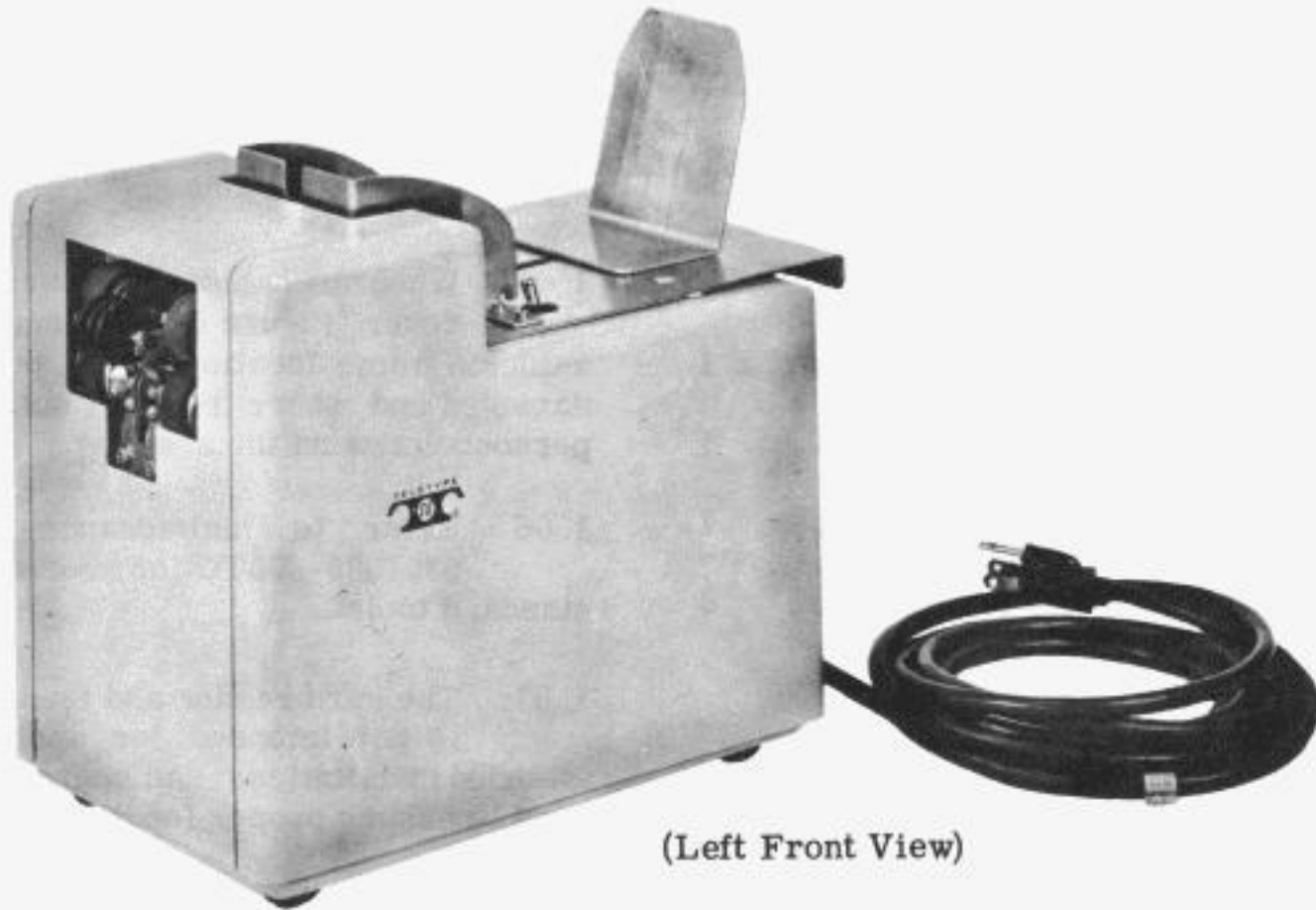
2.01 The overall sizes and weight of the feeder are approximately:

Height 11-1/4 inches
Width 11 inches
Depth 7-1/2 inches
Weight 20 pounds

Unpacking

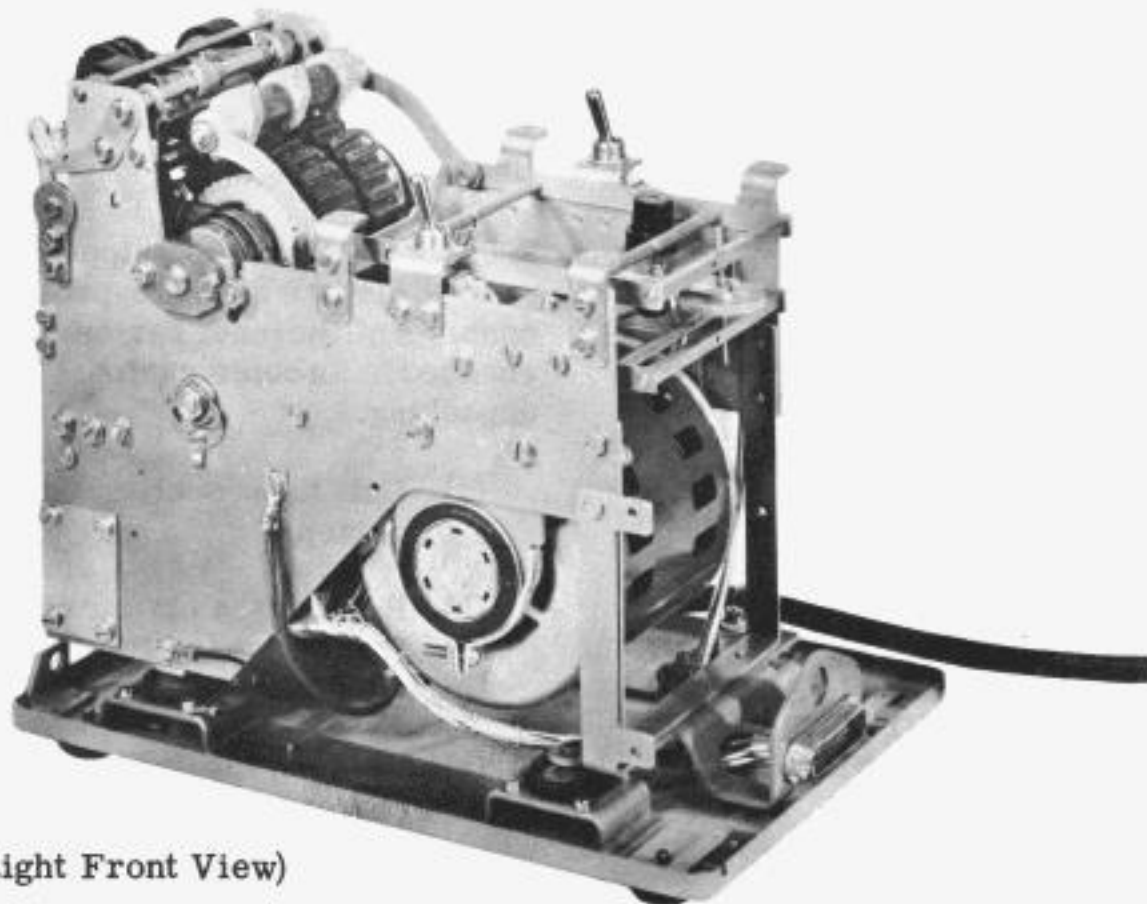
2.02 The feeder is shipped completely assembled as a single package. This package consists of the inner carton containing the feeder encased in an outer carton. Exercise care when unpacking.

- (a) Cut tape sealing upper flaps of outer carton.
- (b) Remove the plastic corner packing detail from each of the four corners between the inner and outer cartons.
- (c) Remove the inner carton from the outer carton.
- (d) Cut tape sealing upper flaps of inner carton.



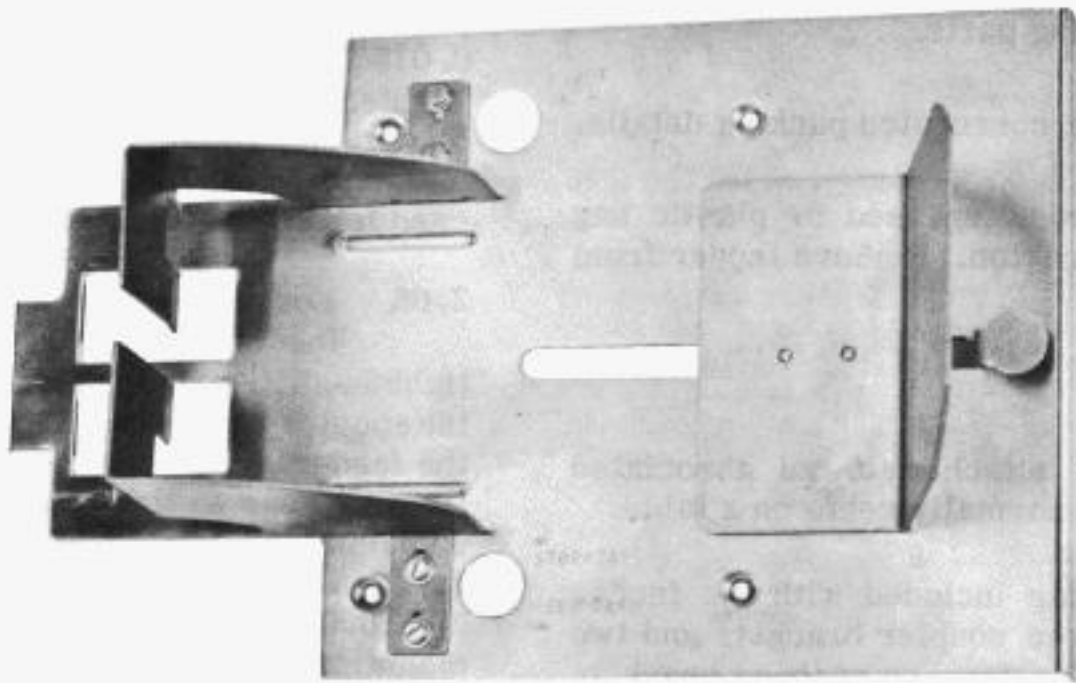
(Left Front View)

Figure 1 - Edge Punched Card Feeder



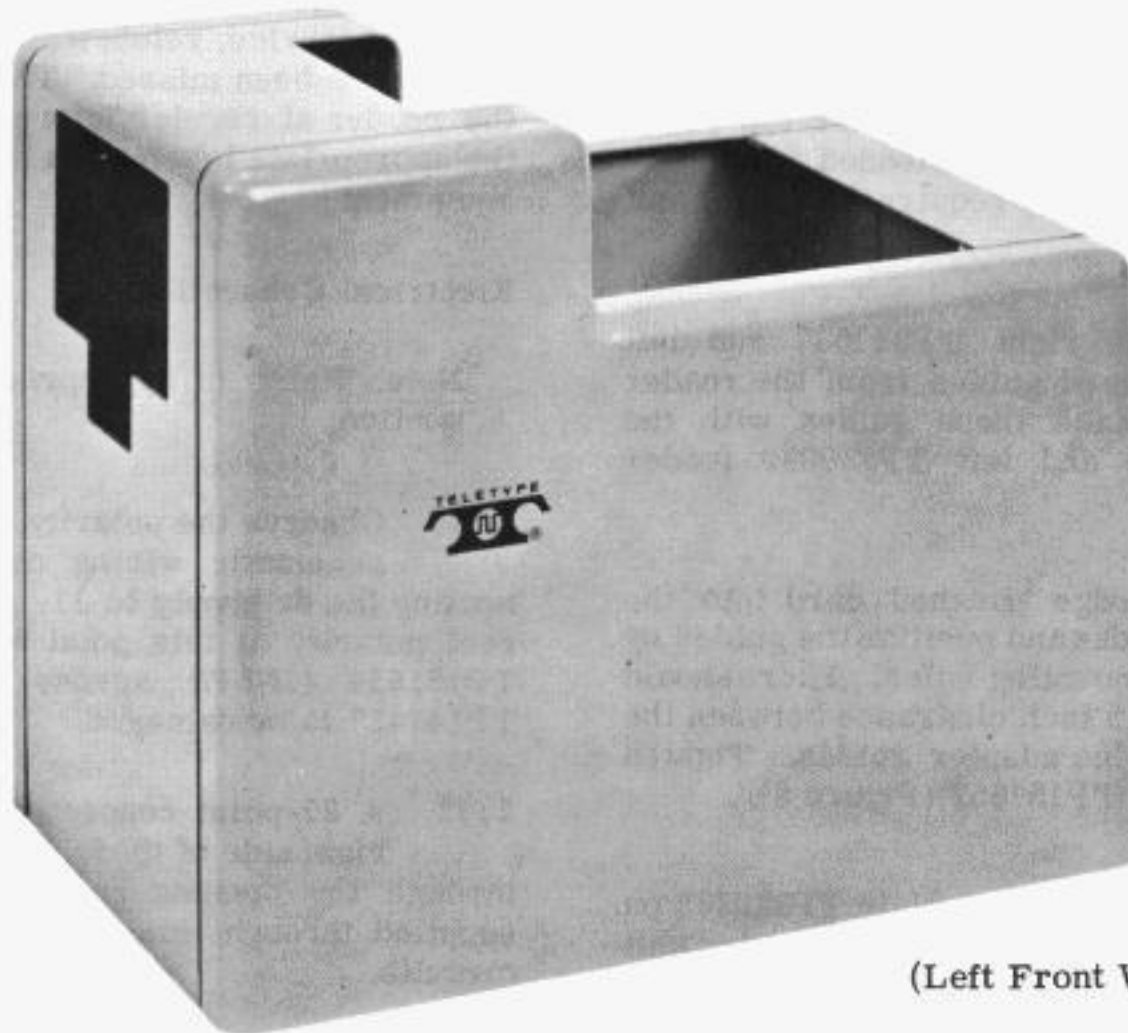
(Right Front View)

Figure 2 - Edge Punched Card Feeder - Top Plate and Cover Removed



(Top View)

Figure 3 - Edge Punched Card Feeder Top Plate



(Left Front View)

Figure 4 - Edge Punched Card Feeder Cover

- (e) Remove the wiring diagrams and cloth bag containing parts.
- (f) Remove the corrugated packing details.
- (g) Remove feeder encased in plastic bag from inner carton. Remove feeder from plastic bag.

Mounting

- 2.03 The feeder attached to an associated reader unit normally rests on a table.
- 2.04 The cloth bag included with the feeder contains three coupler brackets and two adapter guides. The purpose of these brackets is to facilitate and preserve the initial alignment of the feeder and the card reader. Once alignment is accomplished, the reader and feeder may be separated for servicing and put back into position without the need for realignment.
- 2.05 The two coupler brackets TP320102 and TP320103 attach to the feeder base pan TP320093 with four screws TP151632, lock-washers TP2191, and washers TP7002 (Figure 5).
- 2.06 The two card feeder adapter guides TP320099 and TP320100 replace the present guides on the card reader top plate. These supplied guides are intended for use in installations which do not require the feeder unit (Figure 7).
 - (a) Remove the right TP321617 and left TP321619 card guides from the reader top plate. Replace these guides with the right TP320100 and left TP320099 feeder adapter guides.
 - (b) Insert an edge punched card into the adapter guides and position the guides by means of their mounting holes. There should be some to 0.015 inch clearance between the card edges and the adapter guides. Tighten the four screws TP151657 (Figure 8).
- 2.07 With the card support plate TP320163 on the top plate TP320162 of the feeder unit moved to its extreme left on its adjusting slot, place an edge punched card between the right TP320165 and left TP320166 guides. Loosen the four mounting screws on the guides and position them so that the card is centrally located with

respect to the separator stones TP320120. To prevent the card from binding, allow some to 0.015 inch clearance at the edges of the card. Tighten mounting screws (Figure 9). With the feeder energized, move the card support plate on the top plate to the right until smooth single card feeding is attained.

2.08 Loosen the screws TP151632 on the feeder connector TP320101 to friction tightness (Figure 6). Place the card reader onto the coupler brackets TP320102 and TP320103 of the feeder. Position the card reader toward the front or rear so that the ejector spindle rollers TP320068 of the feeder are centrally located between the ends of the feeder adapter guides TP320099 and TP320100 (Figure 7). Tighten the mounting screws TP151632.

2.09 Loosen the four screws mounting the coupler brackets TP320102 and TP320103 onto the feeder base pan TP320093. Place the coupler brackets at the center of their adjustment range and retighten the mounting screws.

Lubrication

2.10 Lubricate the feeder before placing it into service or prior to storage. After a short period of service, relubricate it to make sure no areas have been missed. Thereafter, lubricate the reader at regular intervals as indicated in the appropriate lubrication section covering the equipment.

Electrical Connections

Note: Refer to appropriate wiring diagram section.

2.11 Observe the polarity, as indicated on the schematic wiring diagram, when connecting the dc supply to J1-15 and J1-2. Incorrect polarity at this point will cause the diode TP181654 (1N647) across the feeder relay TP147437 to be damaged.

2.12 A 25-point connector is mounted on the right side of the feeder and is accessible through the opening in the cover. Power is supplied through this connector to the control circuits.

2.13 The ac power for the motor and clutch solenoid is brought into the feeder through a separate power cord.

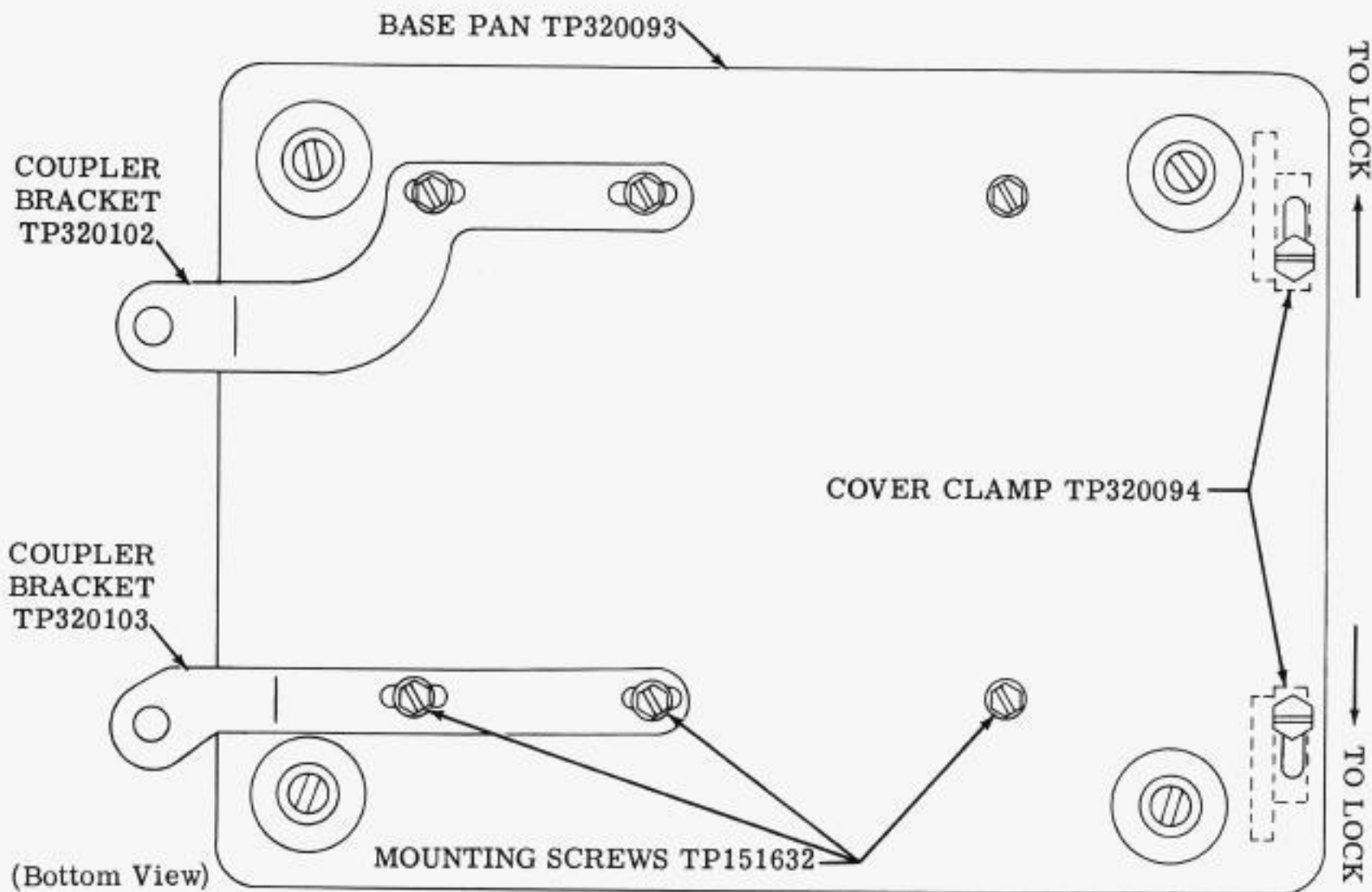


Figure 5 - Feeder Base Pan and Coupler Brackets

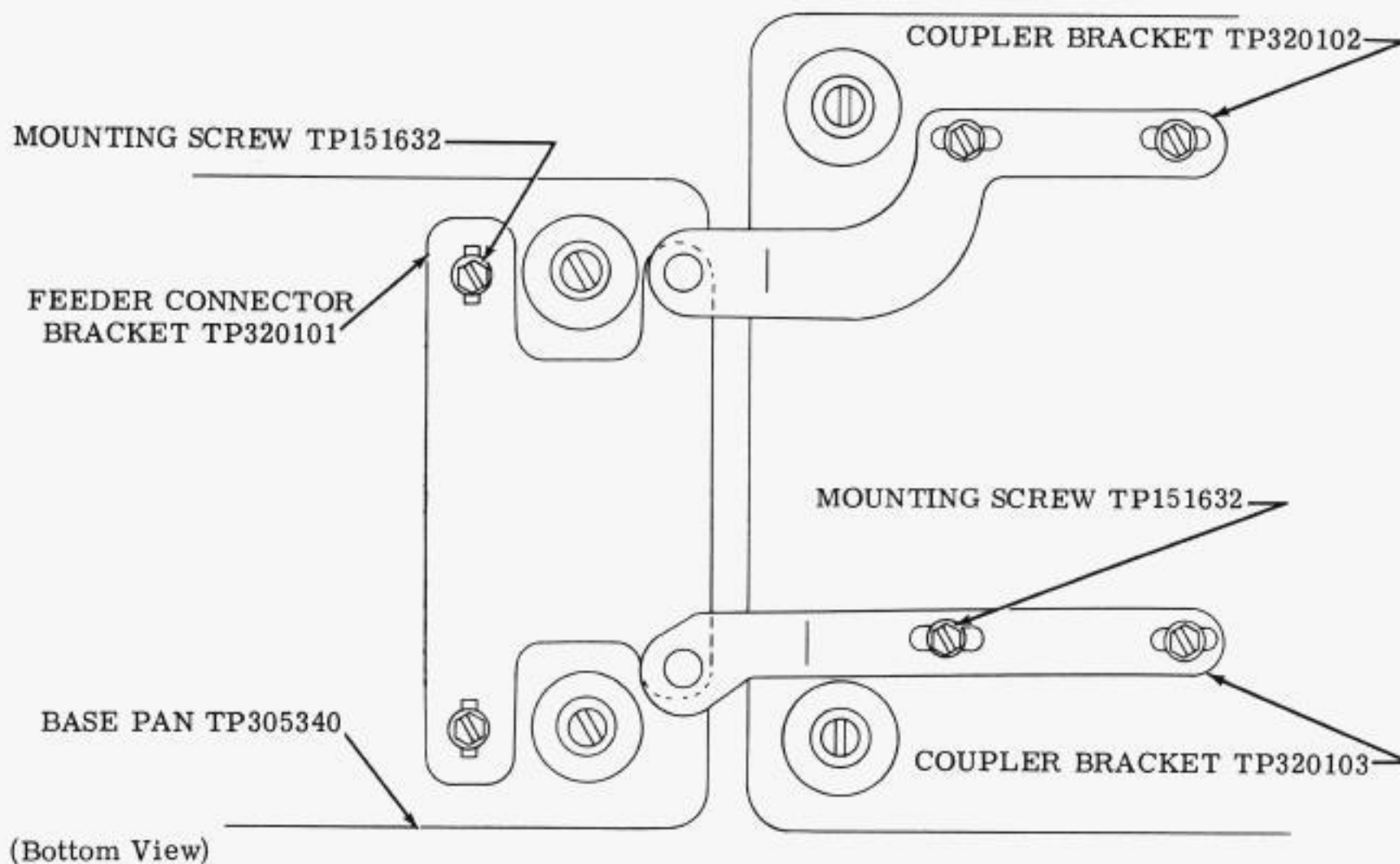


Figure 6 - Reader and Feeder Base Pans and Coupler Brackets

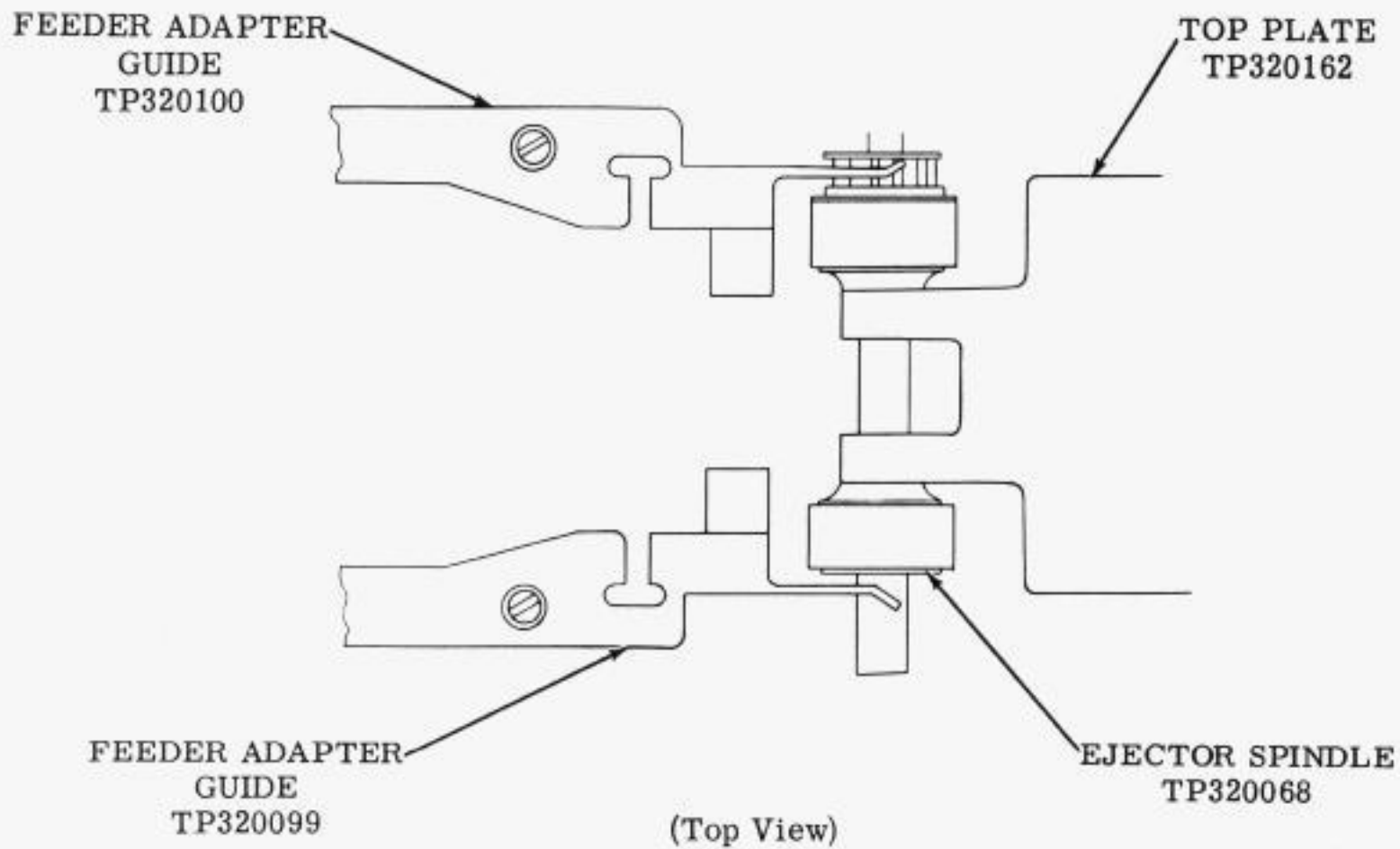


Figure 7 - Feeder Ejector Spindle and Adapter Guides

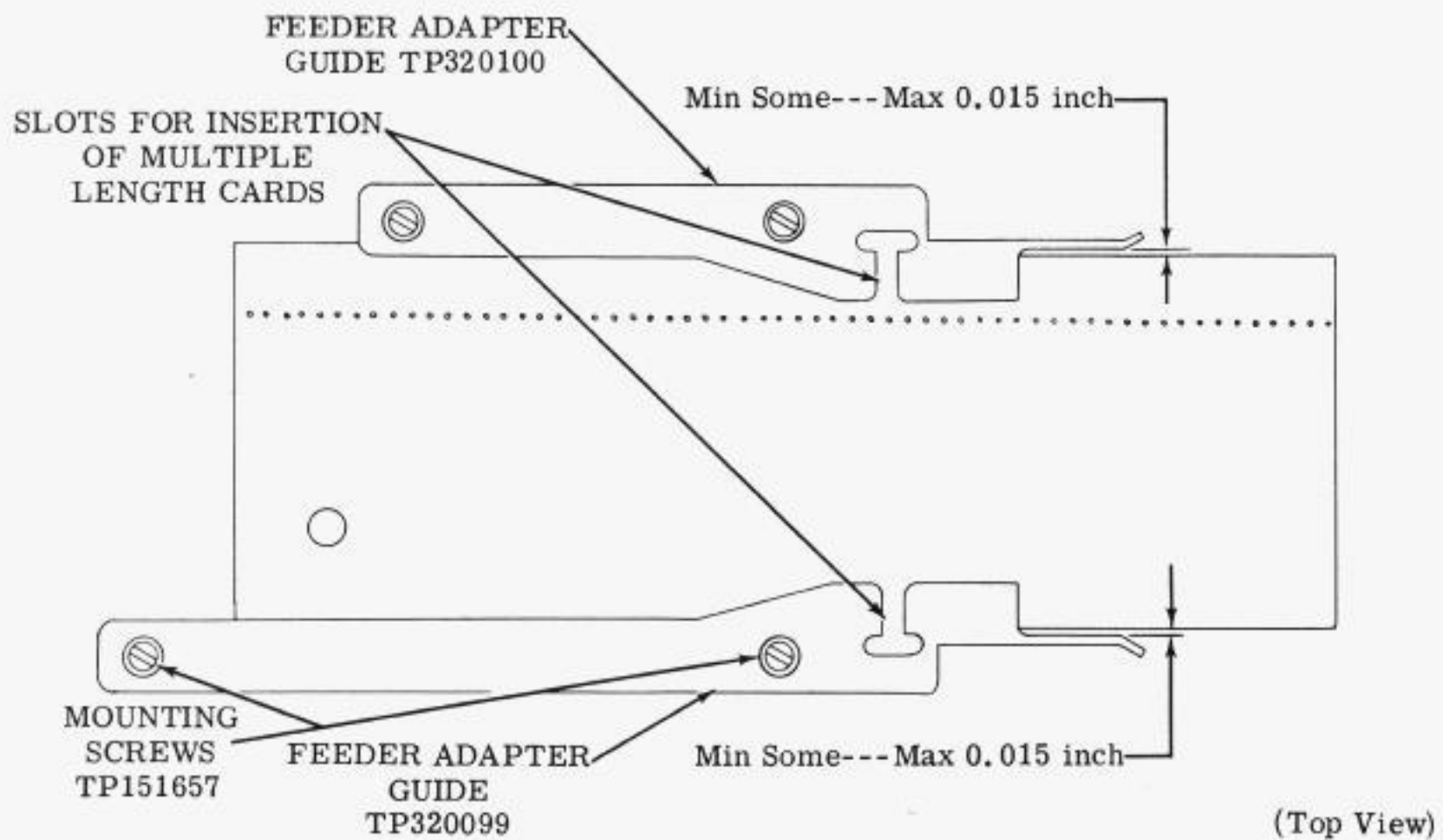


Figure 8 - Feeder Adapter Guides Mounted on Reader Unit

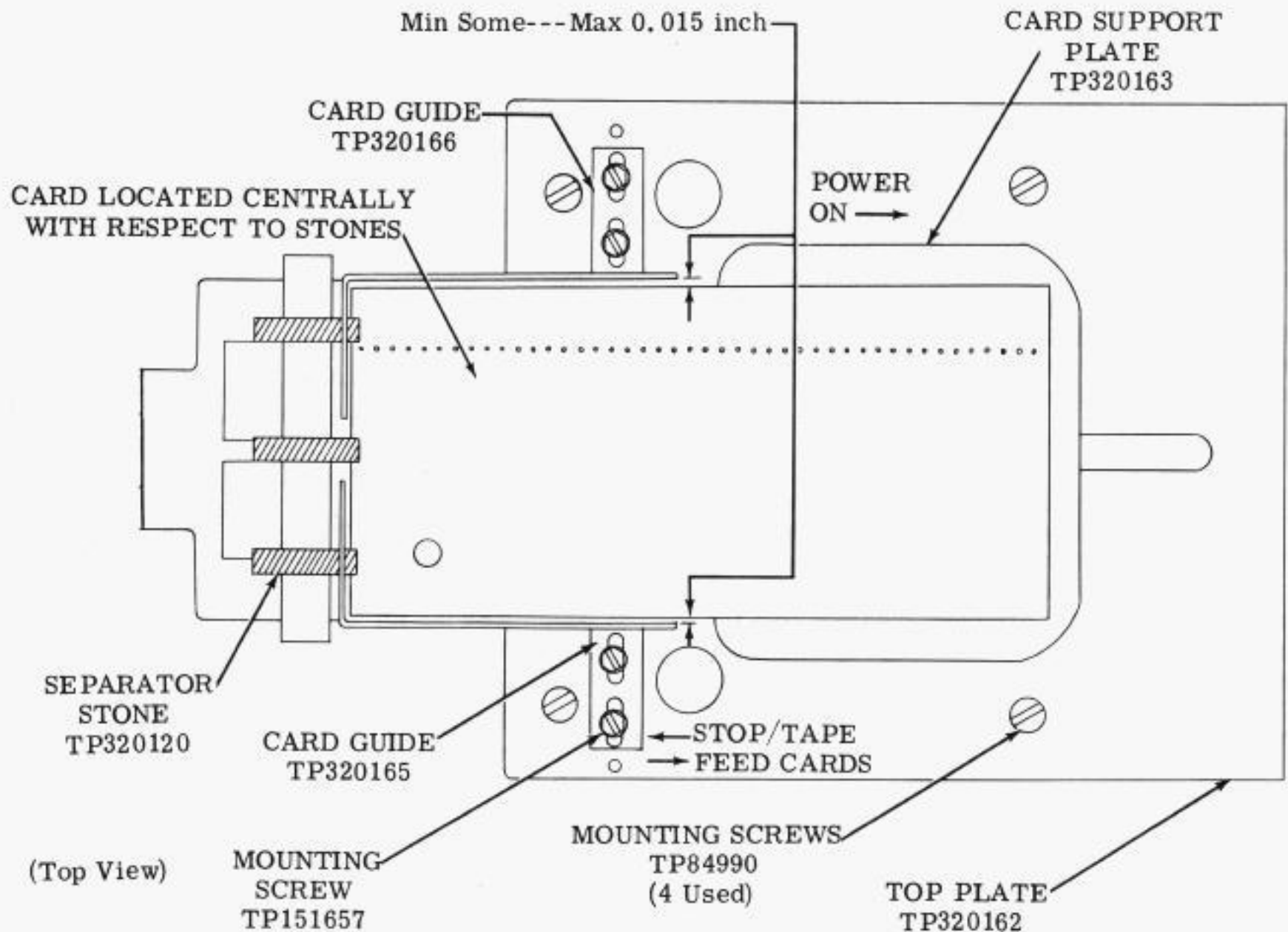


Figure 9 - Feeder Top and Card Support Plate and Card Guides

2.14 Two external manual controls are provided for operator's use:

- (a) The POWER ON switch.
- (b) The FEED CARDS-STOP/TAPE switch.

2.15 A number of internal circuit elements control the starting and stopping of the feed mechanism as well as the detection of double cards. These controls are described in the appropriate section.

3. OPERATING TESTS

Operating Speeds

3.01 The speed of the feed rollers is reduced by means of gears, so that the insertion speed of the edge punched card is approximately 12 inches per second.

Electrical Requirements

3.02 The feeder is able to operate under normally encountered environmental conditions when supplied with 115 volts ac $\pm 10\%$, 60 hertz.

3.03 The feeder motor is protected with a thermal cutout device which can be reset. It is accessible when the feed deck is removed. The thermal cutout is located directly above the motor assembly. The 1/40 horsepower motor furnishes the driving force for the feeder. This motor is a nonsynchronous type with a speed of 1725/1425 revolutions per minute. A 1/2 ampere SL-BL fuse protects the clutch stop solenoid.

OPERATING TEST PROCEDURES

Operating Checks

3.04 Place the feeder on a test circuit with a reader unit known to be in good operating condition before performing the test procedures below. Close the circuits in the power and control lines and exercise the feeder for at least fifteen minutes. This is done by running a stack of prepunched cards through the feeder. This allows the equipment to reach a normal operating condition and allows the installer to determine if all connections have been properly completed before testing. The equipment performance in conjunction with test procedures will help to isolate any equipment troubles.

Card-In Switch

3.05 This step is concerned with causing the card to be inserted the correct distance in the card reader by the feeder. The feeder is controlled by the card-in contact on the card reader. When a card has been inserted into the reader a given distance, its leading edge will cam down the card-in actuator arm and break the card-in contact. This is the signal for the feeder relay to fall out and cause feeding to stop. The object then is to position the actuator arm so that the card is driven firmly against the card stop (Figures 10 and 11). Remove the cover from the card reader. With the feeder and the card reader running, place a card in the feeder. By holding down on the STOP switch on the card reader top plate, a card may be inserted into the reader without the lid solenoid causing the sensing to start. By this means it is easy to determine if the drive of the feeder is sufficient to cause the card to move against the card stop. If the card is not completely up to the card stop, or if it is overdriven so as to damage the card, it will be necessary to proceed as follows:

- (a) If the feeder is shutting off early, loosen the nut TP3598 of the eccentric TP305219 and position the actuating arm TP305227 to the left so that the card-in contact breaks later. This will allow the card to be further into the reader when the feeder shutoff occurs. Keep the eccentric in the lower-left quadrant.
- (b) If the feeder is driving the card into the card stop TP321621 and tearing or otherwise damaging the card, move the actuating arm TP305227 to the right by means of the eccentric TP305219. This will cause the card-in contact to break earlier and advance the feeder shutoff. Run several cards through the feeder to assure consistent feeding.

(c) If some adjustment is still required to refine the insertion of the card, loosen the four mounting screws TP151631 on the feeder coupling brackets TP320102 and TP320103. Move the card reader right or left in relation to the feeder to attain the greatest accuracy of insertion. Tighten the mounting screws.

(d) If the eccentric TP305219 was moved, it will be necessary to check the reader card-in contact adjustments as outlined in the appropriate section.

Separator Stones

3.16 The separator stones must be adjusted to a height which will minimize the possibility of more than one card at a time being pulled from the card stack.

- (a) By rotating the knurled wheel TP320125, adjust the separator stones TP320115 so that the bottoms of the separator stones are flush with the top of the feed roller TP320070 (Figure 12).
- (b) With a stack of cards in the feeder, allow feeding to occur. The cards should be inserted one at a time into the card reader without excessive operation of the double card detector. Adjust the separator stones until single insertion is accomplished. Too low a stone setting will accelerate wear of the cards.
- (c) Replace cover on the card reader unit.

Card Width Adjustment

3.07 The feeder unit will accept cards with widths of 3 inches to 3-1/2 inches. Two sets of tapped holes, in the top plate TP320162, are provided for mounting each card guide (TP320165 and TP320166). When feeding the 3-1/2 inch widths, use the outermost holes to mount the card guides. The innermost holes are used when the narrower cards are being fed. Refer to GUIDE adjustment in the appropriate section.

Feeding Multiple Length Cards

3.08 Multiple length cards may be fed into the card reader while it is attached to the feeder unit. Slots are provided in the feeder adapter guides TP320099 and TP320100 for this purpose (Figure 8).

- (a) To feed a multiple length card, the FEED CARDS-STOP/TAPE switch on the feeder is placed in the STOP/TAPE position. Hold

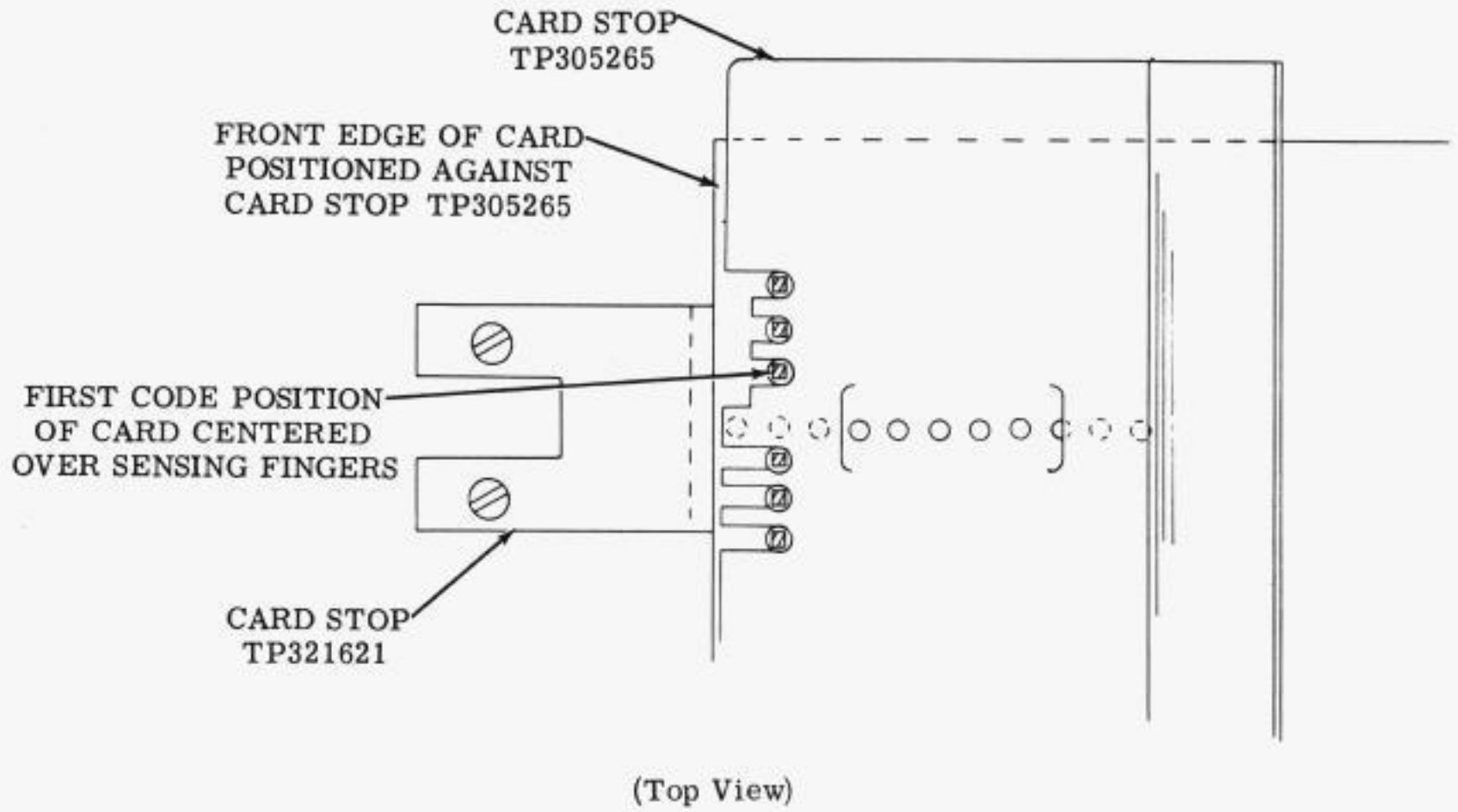


Figure 10 - Reader Stop Plate

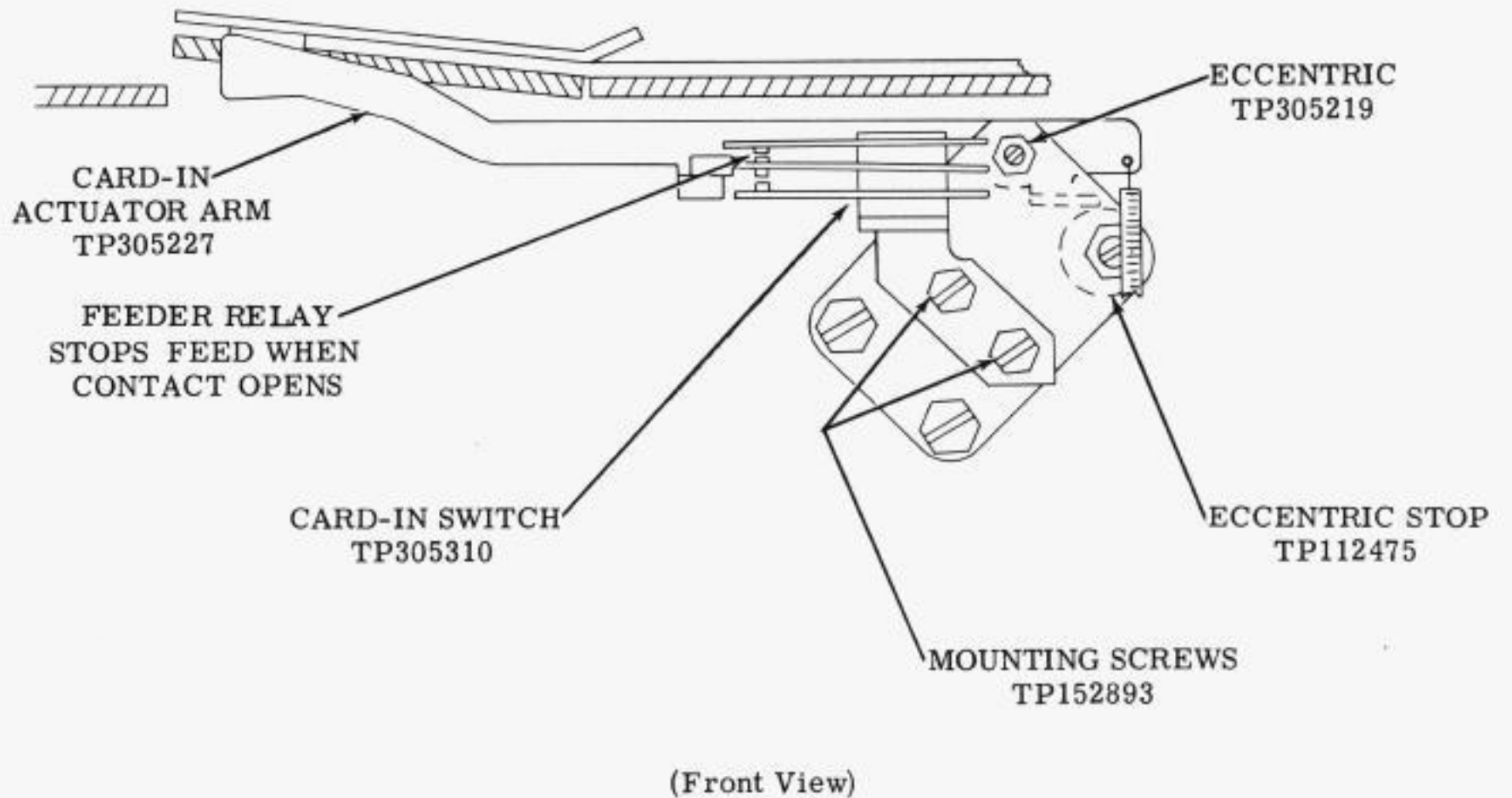


Figure 11 - Reader Card-In Contact Mechanisms

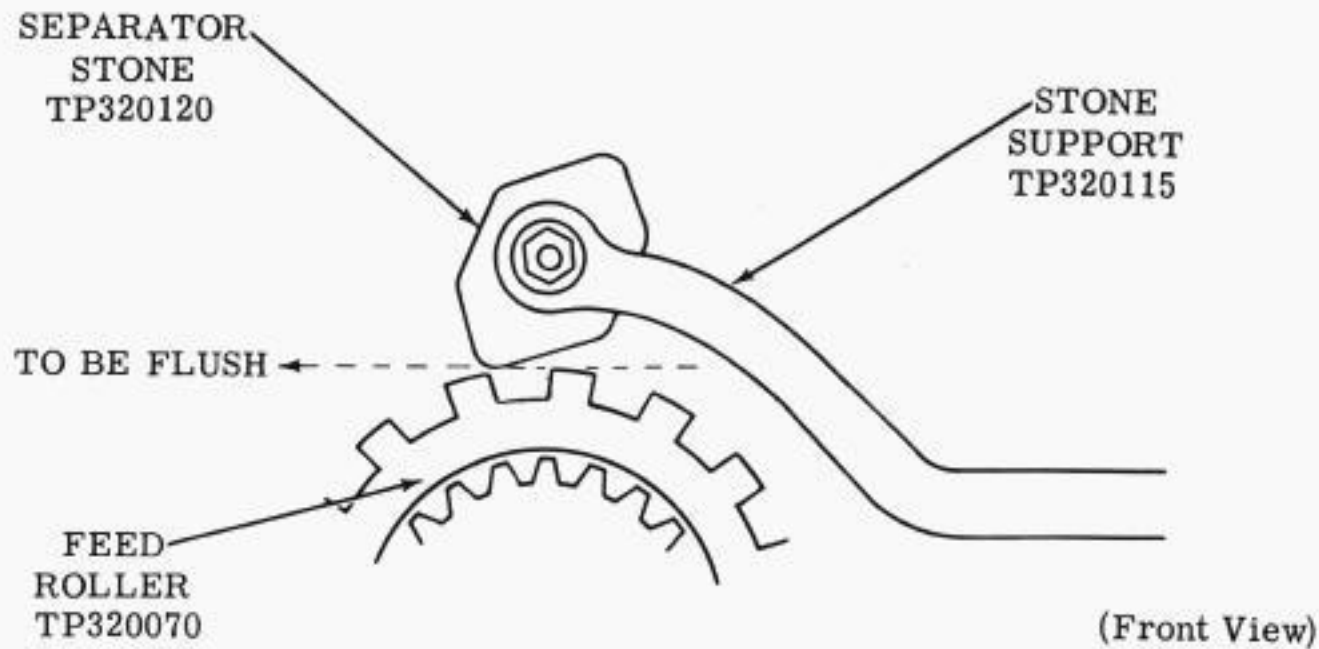


Figure 12 - Feeder Separator Stones

the STOP switch button on the card reader top plate depressed and insert the card into the slots on the adapter guides. Push the card fully into the card reader against the card stop and release the STOP switch button on the card reader. Reading and ejection of the multiple cards will then begin.

(b) Upon completion of the above operation, returning the FEED CARDS-STOP/TAPE toggle to the FEED CARDS position will cause single card feeding to resume.

Reading Paper Tape

3.09 Paper tape may be read in a card reader while it is attached to the feeder unit by placing the FEED CARDS-STOP/TAPE

toggle switch on the feeder top plate into the STOP/TAPE position. Place the TAPE CARD lever on the card reader top plate in the TAPE position. Tape may then be threaded into the card reader. The reader then becomes conditioned to read the tape.

Removing Power from the Feeder

3.10 If the power to the feeder unit is removed, insertion of a card will occur as the feeder comes to a stop. Before the power to the feeder is turned off, all cards should be removed from the feeder unit.