POWER DRIVEN ROTARY SELECTORS
TOGETHER WITH ASSOCIATED BANKS

1. GENERAL

1.01 This addendum covers a change in the requirement covering alignment of tips of rotor brushes, a change in the requirement covering toeing of bridging brushes and also covers requirements for feeder brushes having the prongs bent in the opposite directions (balanced type). It supplements Section A468.004, Issue 1-D, and replaces Addendum A468.004, Issue 1-B. It is reissued to add requirements for feeder brushes having the prongs bent in opposite directions and to revise the requirement covering toeing of bridging brushes. Detailed reasons for reissue will be found at the end of the parts effected.

2. REQUIREMENTS

2.01 The following requirements replace requirements 2.21, 2.23, 2.24 and 2.27 of Section A468.004, Issue 1-D.

2.21 Alignment of Tips of Rotor Brushes

(a) Fig. 1 (A) - The trailing edges or tips of all non-bridging brush members shall be in approximate (within .010") alignment with a plane passing longitudinally through the rotor shaft. Gauge by eye.

(b) Fig. 1 (B) - The trailing edges or tips of the bridging brush members shall be advanced in the direction of normal rotation beyond the plane referred to in (a) as follows:

202-E and 203 type selectors - Min. .010", Max. .020"
202-C and 202-D selectors - Min. 1/32", Max. 3/64"
207 and 208 type selectors - Min. .000", Max. .010"

Gauge by eye.

2.23 Feeder Brush Position Each feeder brush shall meet the requirements listed in the following table for the particular type of feeder brushes involved:

Bank Feeder Brushes			Detachable Feeder Brushes	
Single Piece Type Per Fig. 2	Single Piece Type Per Fig. 3	Two Piece Type Per Fig. 4	Single Piece Type Per Fig. 2	Single Piece Type Per Fig. 3
(a)			(a)	
(b)	(b)	(b)	(b)	(b)
			(c)	(c)
(d)	(d)	(d)	(d)	(d)
(e)	(e)	(e)		
(f)	(f)	(f)	(f)	(f)
			(g)	(g)
			(h)	(h)

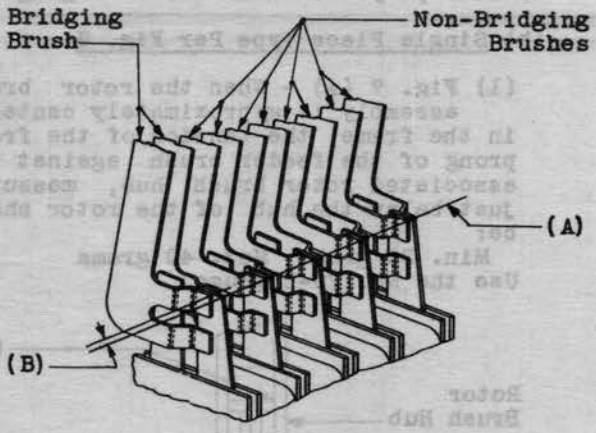

Fig. 1

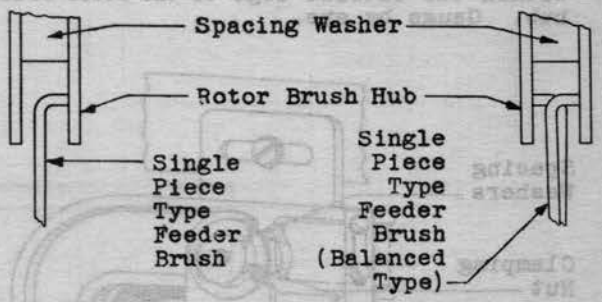

Fig. 2 Fig. 3

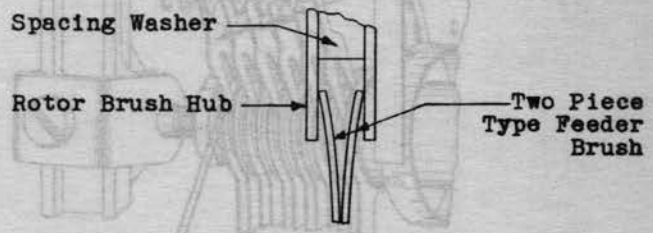

Fig. 4

2.23 (Continued)

(a) Fig. 5 (A) - When the feeder brush is pushed away from the rotor with pressure applied on the center line of the feeder brush and close to the crotch, the two prongs shall leave the rotor at the same time. Gauge by eye.

(b) Fig. 5 (B) - The prongs of the feeder brush shall not interfere with the spacing washers on the rotor at any point in the revolution of the rotor. Gauge by eye.

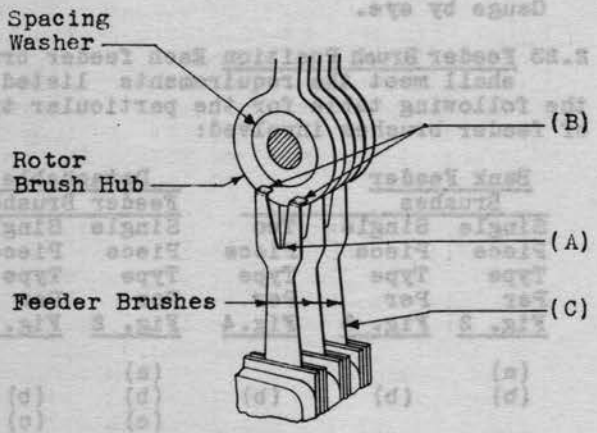

Fig. 5

(c) Fig. 6 (A) - The points of contact between the feeder brushes and the rotor brush hub shall be
Min. 1/64"
within the outside edge of the rotor brush hub. Gauge by eye.

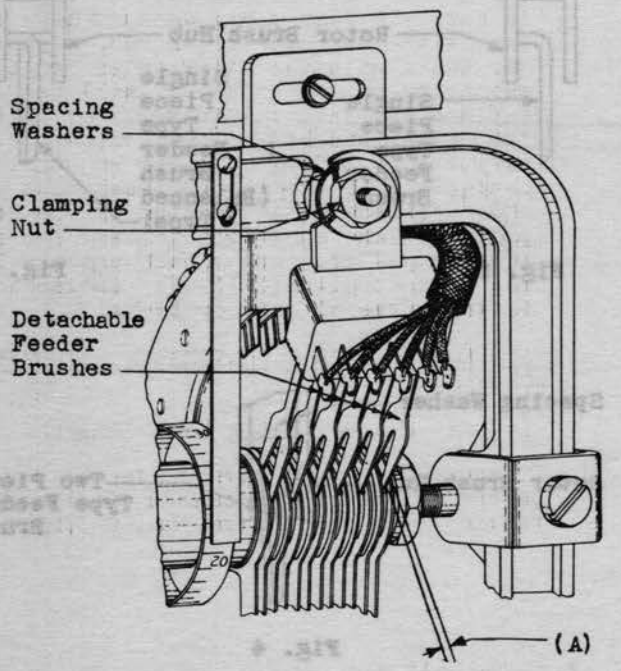

Fig. 6

(d) Except where otherwise specified, there shall be an appreciable clearance (Min. .005") between all parts of the feeder and rotor brushes except contacting surfaces thereon. Gauge by eye.

(e) Fig. 5 (C) - That part of the bank feeder brush over which the rotor brushes pass shall be in alignment with the bank terminals within .010". Gauge by eye.

(f) The contacting surfaces of the feeder brushes shall make contact with and be parallel to the face of the rotor brush hub throughout the revolution of the rotor brush hub. Gauge by eye.

(g) When one end of the non-bridging rotor brushes is contacting the feeder brushes sufficiently to cause the rotor brushes to begin to separate, the brushes on the opposite end of the rotor shall not be in contact with the bank terminals. Gauge by eye.

(h) With one end of the rotor brushes resting on the 5th row of bank terminals, the center line of that part of the feeder brush over which the rotor brush passes shall line up with the junction of the associated pair of rotor brush springs within .010". The feeder brushes are .014" thick. Gauge by eye.

2.24 Feeder Brush Tension

(a) Fig. 5 (A) - Single Piece Type Per Fig. 2 The tension of each feeder brush against the associated rotor brush hub measured at a point on the center line of the feeder brush and close to the crotch shall be:
Test - Min. 65 grams, Max. 90 grams
Readjust - Min. 70 grams, Max. 90 grams
This requirement shall be checked with the rotor in its normal position with respect to side play. Use the No. 70-E gauge.

(b) Single Piece Type Per Fig. 3

(1) Fig. 7 (A) - When the rotor brush assembly is approximately centered in the frame, the tension of the front prong of the feeder brush against the associated rotor brush hub, measured just below the hub of the rotor shall be:
Min. 25 grams, Max. 40 grams
Use the No. 70-D gauge.

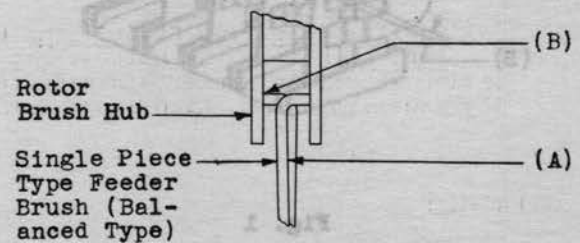

Fig. 7

2.24 (Continued)

(2) Fig. 7 (B) - The rear prong shall make contact with the rotor brush hub. Gauge by eye and by feel.

2.27 Toeing of Bridging Brushes - Fig. 8 (A) When the bridging rotor brush is not contacting with the feeder brush or bank terminals, both pairs of trailing edges or tips of the brush shall "toe out" but the maximum separation between each pair of tips shall not exceed .010". Gauge by eye.

NOTE: At least one, but not necessarily both pairs of contacting surfaces of the brush shall make contact with each other. Gauge by eye.

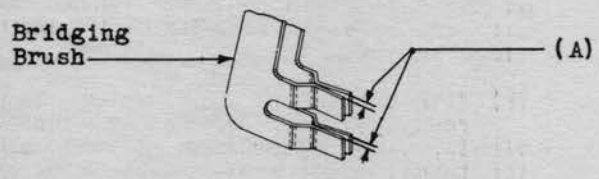

Fig. 8

REASON FOR REISSUE - CHANGES IN REQUIREMENTS

1. To add requirements for feeder brush having the prongs bent in opposite directions (balanced type) (2.23 and 2.24). (Information for W. E. Co. covered by CO-127525 and CO-127526.)

2. To revise the requirement covering toeing of bridging brushes (2.27).

3. ADJUSTING PROCEDURES

3.001 Additional Tools

Code No.	Description
Tools	
456-A	Adjuster

3.01 The following procedure replaces procedure 3.22-3.26, (8) and (9) of Section A468.004, Issue 1-D.

3.24 Feeder Brush Tension (Rq.2.24)

(8) Single Piece Type Feeder Brushes Per Fig. 2 Rotate the selector to a position where the feeder brushes are readily accessible and also where the rotor brushes are not in contact with the feeder brushes. Make sure that the rotor brush assembly is in the center of the frame. Use the KS-6320 orange stick for checking the tension of the No. 1 brush, as the No. 70-E gauge is not suitable. If necessary to adjust the brush, place the No. 363 adjuster close to the base of the brush and apply a turning motion. Take care not to distort the brush, and make sure that that part of the bank feeder brush over which the rotor brush passes is not out of alignment with the first row of bank terminals by more than the specified amount. If necessary, readjust with the KS-6015 duck-bill pliers. When using the duck-bill pliers, grasp the brush above the point at which the rotor brushes make contact and move the pliers toward the top, at the same time giving them a twisting motion in the direction of the desired tension.

(9) Single Piece Type Feeder Brushes Per Fig. 3 Rotate the selector to a position where the feeder brushes are readily accessible and also where the rotor brushes are not in contact with the feeder brushes. Make sure that the rotor brush assembly is in the center of the frame. To check the tension of the front prong, apply the No. 70-D gauge directly beneath the offset portion of the prong and in a direction tending to lift the prong away from the rotor brush hub. Check that the rear prong is making contact with the rotor brush hub with the KS-6320 orange stick. Use the No. 38-B lamp socket equipped with a suitable lamp in making this check. If necessary to adjust the brush, apply the No. 363 adjuster to the front prong just above the crotch and adjust as required. In case the rear prong does not make contact with the rotor brush hub, turn the No. 456-A adjuster sideways so that the embossing on the adjuster will not interfere and insert this adjuster between the feeder brushes. Adjust the rear prong with the No. 456-A adjuster so that it contacts with the rotor brush hub and then recheck the tension of the front prong. Make an effort to have approximately equal pressure on each prong. This may be accomplished if the feeder brush is kept free of bows or kinks.

REASON FOR REISSUE - CHANGES IN ADJUSTING PROCEDURES

1. To list the No. 456-A tool (3.001).

2. To add a procedure covering feeder brushes having the prongs bent in opposite directions (balanced type) (3.22-3.26).

APPROVED:

Bell Telephone Laboratories, Inc. FAC 3-15-33
Department of Development and Research GWK 3-15-33