

**REPLACING PAGE ADDENDUM**

***Filing Instructions:***

1. REMOVE FROM THE SECTION THE PAGES NUMBERED THE SAME AS THOSE ATTACHED TO THIS PINK SHEET.
2. INSERT THE ATTACHED PAGES INTO THE SECTION IN THEIR PLACE.
3. PLACE THIS PINK SHEET AHEAD OF PAGE 1 OF THE SECTION.

**RELAYS**  
**BF-, BG-, BJ-, AND BL-TYPES**  
**(MINIATURE WIRE-SPRING TYPES)**  
**REQUIREMENTS AND ADJUSTING PROCEDURES**

**1. GENERAL**

**1.001** This addendum supplements Section 040-507-701, Issue 3. The attached pages must be inserted in the section in accordance with the filing instructions above.

**1.002** This addendum is issued to revise Fig. 6.

**2. REQUIREMENTS**

The following change applies to Part 2 of the section:

- (a) Fig. 6—revised.

**Attached:**

**Page 3 dated June 1974, reissued**

**Page 4 dated June 1974, revised**

**2.04 Armature Travel** [Fig. 3(A)]: With the relay electrically operated, the armature travel measured at the gap between the armature backstop and the core shall not exceed 0.002 inch from the value (0.025) nor exceed 0.003 inch from the value (0.026, 0.036, or 0.042 inch) specified in the ARM TRVL column of the circuit requirements table.

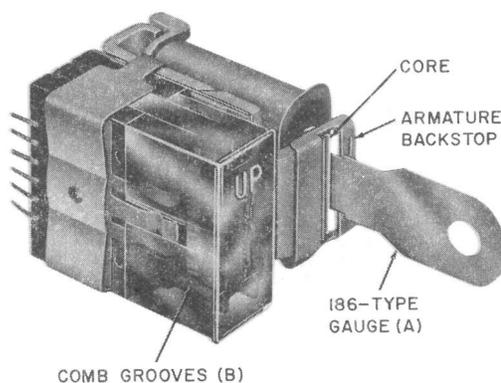
Use the 186-type gauge.

For a 0.025-inch armature travel, the requirement is considered met if a 0.023-inch (186F) gauge just enters the gap but a 0.028-inch (186B and 186E paired) gauge does not enter.

For a 0.026-inch armature travel, the requirement is considered met if a 0.023-inch (186F) gauge just enters the gap but a 0.030-inch (186G) gauge does not enter.

For a 0.036-inch armature travel, the requirement is considered met if a 0.033-inch (186H) gauge just enters the gap but a 0.040-inch (186J) gauge does not enter.

For a 0.042-inch armature travel, the requirement is considered met if a 0.039-inch (186B and 186H paired) just enters the gap but a 0.046-inch (186B and 186J paired) gauge does not enter.



**Fig. 3—Measuring Armature Travel With 186-Type Gauge**

**2.05 Armature Back Tension** Fig. 4(A)

**Note:** Before measuring back tension on BL-type relays, the core shall be demagnetized. Where the coil resistance is 116 ohms max,

94 ohms min, a soak current of  $-.175$  amps shall be applied to the relay coil and followed by a no-flux release current of  $+.0575$  amps. For coils with resistance other than indicated, contact your supervisor.

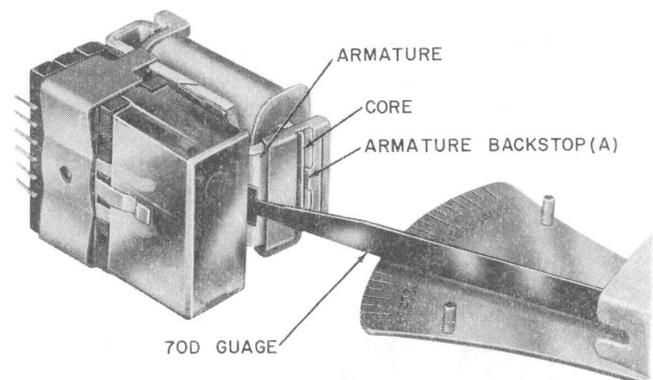
With the relay in the unoperated position, the armature backstop shall bear against the core with a pressure of:

**Test** Min 25 grams

**Readjust** Min 30 grams (See *Note*.)

**Note:** A maximum readjust requirement applies to the relay if specified in the circuit requirements table.

Use the 70D gauge, as shown in Fig. 4, applied at the center of the armature in front of the clamp plate shown in Fig. 5. Care shall be taken that the reed of the gauge does not touch the cover.

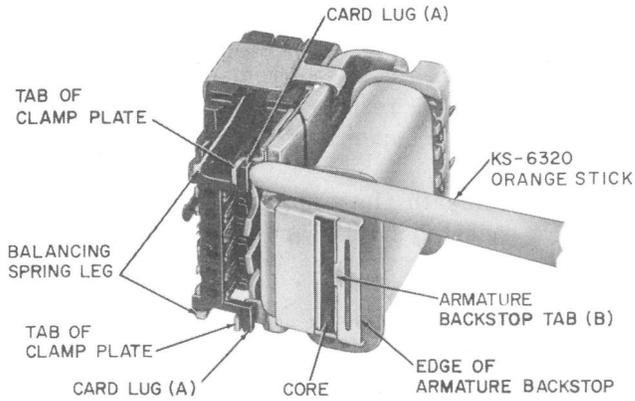


**Fig. 4—Measuring Armature Back Tension**

**2.06 Balancing Spring Tension** [Fig. 5(A) and (B)]: With the relay in the unoperated position, the combined tension of the balancing spring legs shall be sufficient to hold the card lugs against the outer tabs of the clamp plate and the armature backstop tab against the core.

Gauge the position of the card and armature backstop by eye and feel.

To check this requirement, electrically operate and release the relay. Using the KS-6320 orange stick, apply pressure to the edge of the armature backstop



**Fig. 5—Checking Balancing Spring**

toward the core (see Fig. 5) and then alternately to each card lug toward its associated clamp plate tab. The requirement is met if there is no observable movement of the armature backstop tab with respect to the core and no observable movement of either card lug with respect to its associated clamp plate tab.

**2.07 Movable Twin Spring Position [Fig. 3(B)]:**

The twin springs of movable pair shall be in the respective comb grooves associated with the position on the relay in which the springs are mounted.

Gauge by eye.

**2.08 Make and Break Contacts**

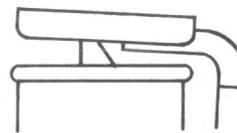
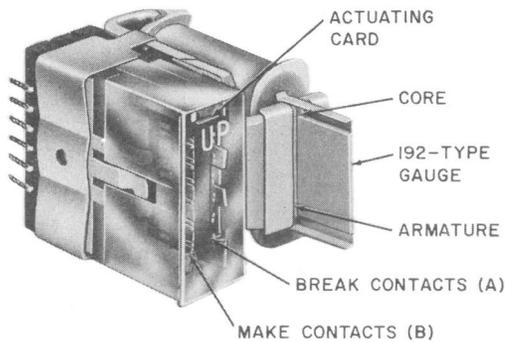
(a) Both contacts of the movable twin springs shall make with their associated single contact on the fixed spring in the electrically operated position of the relay for normally open contacts and in the unoperated position for normally closed contacts.

Gauge by eye and feel.

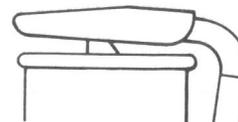
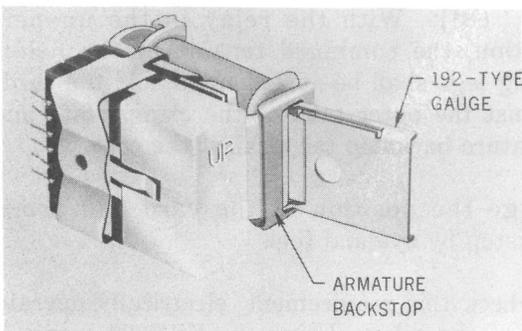
(b) With the relay electrically energized against a gauge of the thickness indicated below and inserted between the armature and core with the exception covered in Test (2), the following conditions shall be met (see Fig. 6).

(c) The requirement make contacts may be considered met if, when the gauges specified in (b) are used, the movable make contacts come to rest at the end of the armature stroke.

(d) The requirement for break contacts may be considered met if, when the gauges specified in (b) are used, the actuating card causes observable movement of the movable break contacts.



SHAPE OF ARMATURE BACKSTOP PRIOR TO 1973. SNAP 192 TYPE GAUGE SPRING LEGS OUTSIDE BACKSTOP WINDOW AS SHOWN AT LEFT.



SHAPE OF ARMATURE BACKSTOP SINCE 1973. SNAP 192 TYPE GAUGE SPRING LEGS INSIDE BACKSTOP WINDOW AS SHOWN AT LEFT.

**Fig. 6—Contact Gauging With 192-Type Gauge Between Armature and Core (Fully Operated)**