

**RELAYS**  
**206, 227, 231 AND 239 TYPES**  
**REQUIREMENTS**  
**(CONDENSED SECTION FOR 040-228-701)**

**1. REQUIREMENTS (Also See Section 020-012-Z11)**

- 1.01 Cover Clearance:** Cover shall not touch adjacent apparatus.
- 1.02 Cover Cap:** The outer end of 239 type relay cover plate shall be approximately  $1/16''$  above a line as shown in Fig. 101.

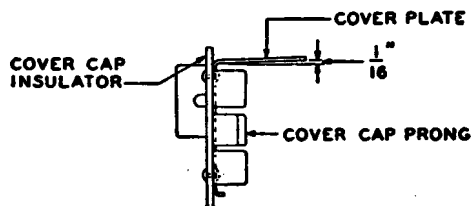


Fig. 101 - Cover Cap - 239 Type Relay

**1.03 Flexible Contact Spring Alignment**

- (a) **Flexible Contact Springs Riveted to Armature** - Fig. 102 (A): Springs tips shall be approximately flat, shall bear upon each other at the top and bottom edges and shall make at least a line contact for at least 25% of the  $3/16''$  width.
- (b) **Flexible Contact Springs Welded to Armature:** Springs shall bear upon each other on at least one point and shall not have more than a  $.002''$  gap at any point across the front edges.

- 1.04 Biasing Spring Position** - Fig. 103 (A): Straight portion of biasing spring shall rest approximately flat against armature. Satisfactory if top end rests on armature and clearance, if any, at bottom edge of armature is max.  $.020''$ . Coil portion of spring shall clear armature and soldering lug.

- 1.05 Armature and Spool Clearance:** Armature shall clear inside of spool.

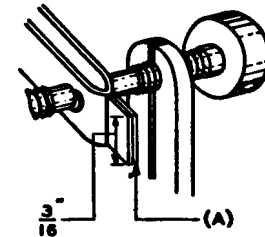


Fig. 102 - Flexible Contact Spring Alignment

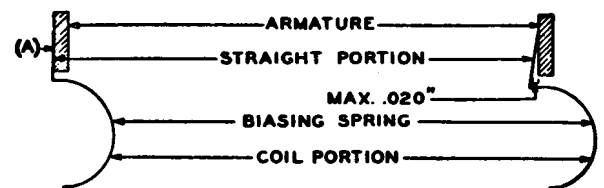


Fig. 103 - Allowable Variation in Biasing Spring Position

- 1.06 Contact Travel** - Fig. 104 (A): Min.  $.004''$ , max.  $.006''$ . Check travel on each contact screw. A difference indicates buildup on contact on side of armature having smaller travel. Remove buildup. 74D gauge.

- 1.07 Contact Make** - (Chatterless armatures): Relay electrically operated on soak current and a  $.0015''$  gauge inserted between the pole-piece screw and associated armature stop pin on the side to which the armature is operated, contacts shall make. 92R gauge.

- 1.08 Magnetic Balance:** (Applies only to relays with solid armatures).

- (a) **231 and 239 Type and 206FA to 206GY Inc.:** After operating on soak current armature shall stick to each contact with min. 1 gram - max. 3 grams pressure. If no soak is specified or relay is permanently bridged by condenser use test operate current and waive minimum pressure requirement. 70F gauge.

- (b) *206A to 206CY Relays Inc.:* As covered in (a) except min. sticking pressure 5 grams — max. 7 grams.

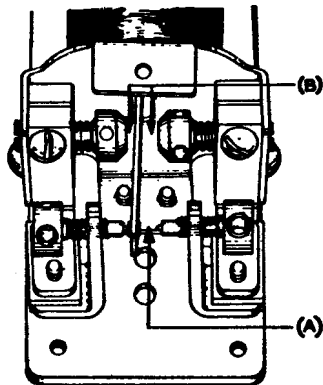


Fig. 104 - 231 Type Relay

1.09 *Magnetic Air-Gap* — Fig. 104 (B)

- (a) *Relays Equipped with Chatterless Armatures:*

<u>TYPE OF RELAY</u>	<u>MAGNETIC AIR-GAP</u>
206	Max. .010"
231	Max. .018"
239	Max. .018"

92A or 92D gauge and check between armature and either pole piece with armature against opposite pole piece.

- (b) *227 Type Relays Equipped with Solid Armature:* Max. .010". 92A gauge.

1.10 *Electrical Requirements:* Meet requirements with cover and cap in place. Requirement may be waived on chatterless armatures.