

INSPECTION OF RELAYS AND RELAY CONTACTS
ASSOCIATED WITH INTERRUPTERS, ALARMS, AND
CIRCUITS USED IN STEP-BY-STEP, KEY PULSING,
AUTOMATIC TICKETING, AND CROSSBAR SYSTEMS

1. GENERAL

1.01 This Section replaces Section A299.042, Issue

B. It covers the inspection of relays and relay contacts associated with interrupters, alarms, and circuits used in step-by-step, key pulsing, automatic ticketing, and crossbar types of systems. It is re-issued to include the inspection of relays associated with crossbar equipment and to generally revise the text.

1.02 Due to the extremely heavy usage received by the relays described in Paragraph 1.01, the contacts are subject to appreciable wear with a consequent loss of contact follow. The purpose of these inspections, therefore, is to detect these conditions in order that they may be corrected before failures occur in the circuits involved.

1.03 These inspections should be made during periods of light traffic. If there is an approved method, the circuits involved should be removed from service while these inspections are being made. Bar type interrupters need not be made inoperative for the purposes of these inspections.

1.04 When checking the relays for spring contact follow, contact separation, contact sequence, and stud gap, it is not intended that an attempt be made to actually check the gauging of the springs but rather, by manual operation of relay armatures and visual observation, to detect adjustment irregularities which may be considered unreliable. Relays on which such irregularities are found shall be checked for proper spring gauging and current flow requirements as covered in associated circuit requirement tables and the A400 Division.

1.05 Where relay contacts have eroded to the extent that proper spring adjustment cannot be obtained, new contacts shall be welded on the relay springs. Relays equipped with springs on which contacts cannot be welded shall be replaced.

1.06 The inside of relay covers and casings shall be cleaned with an impregnated cloth at the time the associated relays are inspected.

1.07 After the relays have been inspected or readjusted as described in this Section, an operation test of the circuit involved shall be made to insure satisfactory operation.

1.08 Relays included in these inspections are as follows:

- (A) Interrupter and associated relays used in 30, 60, and 120 IPM interrupter circuits.
- (B) Relays associated with common timing circuits.
- (C) Alarm relays on line finder, selector and connector shelves.
- (D) Alarm relays associated with primary, secondary, and out-trunk switch circuits.
- (E) Relays associated with various trunk and alarm circuits.
- (F) Relays associated with key pulsing senders.
- (G) Relays associated with automatic ticketing senders and identifiers.
- (H) Interrupters and relays associated with the senders, markers, and other units of common equipment used in crossbar systems.

1.09 Item (E) includes all relays associated with coin box trunks, one and two-party message rate trunk circuits, C.L.R. trunk circuits, time service trunk circuits, etc. Also included are all relays associated with circuits that are not specifically covered under items (A) to (D) but which receive heavy usage and are considered sufficiently important to require periodic inspections.

1.10 Contact protection networks have been provided in a number of circuits of recent development such as senders, markers, and identifiers and may be applied to circuits of earlier design. In circuits so equipped, erosion of contacts may be considerably retarded and therefore the application of this inspection procedure to these circuits may be decreased in frequency or eliminated altogether if experience so indicates.

2. APPARATUS

2.01 One No. 510C tool equipped with a W2BL cord and a No. 561 type lucite tip.

BOOK NO. 2267A
OFFICE

SECTION A299.042

2.02 One D-98064 impregnated polishing cloth.

2.03 One KS-6320 orange stick.

3. METHOD

3.01 Manually operate each relay by applying a KS-6320 orange stick to the armature and observe the relay contacts using a No. 510C tool with a No. 561 lucite tip. Note that each break and make contact has noticeable follow. Exercise care when using the orange stick in this manner to insure that the armature of the relay is not distorted in its operated position.

3.02 Check each contact for excessive wear and improper alignment and closely observe for a tendency of worn contacts to lock. When viewing re-

lay contacts and springs through the lens of the 510C tool, consideration shall be given to the magnification power of the lens which is about 2-1/2 times.

3.03 Check each relay armature for excessive bearing wear.

3.04 Observe each set of interrupter springs as it is operated. Note that each break or make contact has noticeable follow. Check each contact for excessive wear and improper alignment and closely observe for a tendency of worn contacts to lock.

4. REPORTS

4.01 The required record of this inspection shall be entered on the proper form.