

## TELEPHONE SETS 354, 356, AND 357 TYPES MAINTENANCE

### 1. GENERAL

1.01 This section covers requirements and procedures for the maintenance of the 354, 356, and 357 wall combined type telephone sets. This section includes information formerly contained in Sections C32.578 and C63.432, Issues 1.

1.02 The maintenance of handsets, dials, ringers, and other components of the 500 series telephone sets shall be in accordance with the sections dealing with these apparatus items.

1.03 Refer to Section C32.509, Telephone Sets—354, 356, and 357 Types—Description and Installation, for the combination of apparatus used with these sets.

### 2. REQUIREMENTS AND PROCEDURES

#### General

2.01 When the telephone set is dirty, clean the external surfaces, and remove loose dirt from the interior in accordance with information contained in Section C30.012, Station Sets—Cleaning.

2.02 Make a careful visual inspection of the exterior and interior of the set for obvious defects, such as loose, displaced, or broken parts, obstruction of moving parts, or the presence of foreign matter that may interfere in some way with the proper operation of the set. Determine if any such defect is causing trouble, then proceed with maintenance procedures.

#### 3. SWITCHHOOK

3.01 The hook shall move freely throughout its entire travel without binding or squeaking. To eliminate binding or squeaking proceed as follows:

- (1) Remove the two switch assembly mounting screws, the helical spring and associated screw, the pin, and disassemble the switch assembly and hook from the housing.
- (2) Clean the bearing holes in bracket and hook with a piece of KS-2423 cloth.
- (3) Clean the bearing pin with a clean dry cloth. If the pin is bent or rusted replace it.
- (4) If cam binds, replace switch assembly.
- (5) Reassemble the switchhook assembly, hook, bearing pin, helical spring, and associated screw to the housing. Care should be taken to be sure that the undercut in the bearing pin is assembled so that the screw for the helical spring engages with the undercut.

3.02 When the handset is slowly lowered into place on the hook, the hook shall move downward and come to a positive stop. When the handset is removed from the hook, the hook shall move upward and come to a positive stop.

#### Switch Contacts

3.03 Contact alignment, operating spring and spring finger alignment, and operating spring tension shall be the same as the comparable requirements for other telephone set mountings in Sections C32.575 and C63.408, Telephone Set Mountings—H-Type and Associated Plunger Switch Assemblies—Maintenance.

3.04 Looseness of the separators (studs) in operating springs 2 and 3 (see Fig. 1) is not objectionable provided they are not loose enough to rock.

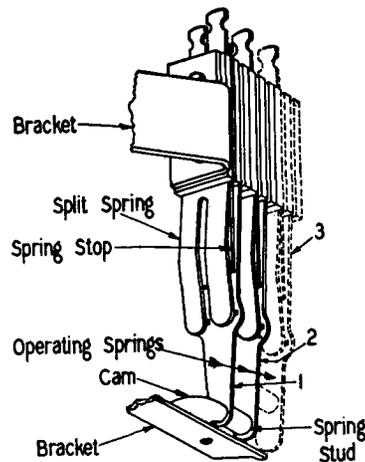


Fig. 1

3.05 **Contact Sequence:** Observe that the contact sequence is such that the contacts on spring 2 close before the contacts on spring 1. In addition, on spring assemblies with three operating springs, observe that the contacts on springs 2 and 3 close before the contacts on spring 1. The contacts on spring 1 shall have a separation of approximately 1/64 inch after the other contacts have closed. Gauge by eye.

3.06 **Contact Follow:** With the hook in the upper stop position observe that all contacts remain closed when the 0.030 inch portion of the 126C gauge or equivalent is inserted between the cam and spring 1. Insert the side of the gauge between the end of the spring and the end of the cam and be sure that the gauge lies flat against the spring.

3.07 **Contact Separation:** When the hook is fully depressed, the air gap between all contact pairs which make contact when the hook is in the upper stop position shall not be less than 0.035 inch. Check with the 0.051 inch and 0.020 inch portions (combined to give a thickness of 0.035 inch) of the 126A and 126B gauges respectively or equivalent.

3.08 **Spring Clearance:** When the hook is in the lower stop position, there shall be a separation of not less than 1/64 inch between each operating spring and the adjacent contact spring with which it is not intended to make contact. Gauge by eye.

3.09 **Spring Adjusting:** In general, spring adjustments are required rather infrequently. **No spring adjustments should be made on the contact springs.** If any adjustment is made on the springs recheck the whole series of spring requirements (i.e., 3.03 to 3.08 inclusive). If springs are kinked they should not be straightened as removal of kinks tends to weaken the springs. If the contact spring replacement is required, either the entire spring pile-up and bracket assembly should be replaced or, if convenient, the set may be replaced.

3.10 **Contact Cleaning:** The spring contacts shall be cleaned by burnishing with a No. 265C tool.

## SECTION C32.522

### 4. OVERALL SET

4.01 **Vacuum Tubes:** The 426A vacuum tube with bracket assembly P-348078 may be used to replace the 333A, 313A, 372AA, and 405A vacuum tubes and their brackets in the 356-type telephone sets.

4.02 All screws on terminal strips, induction coil, dial, and other component items shall be tight. Check with the proper size screwdriver.

4.03 Before assembling the base to the housing, see that interior wiring, cord conductors, and station wires are arranged so that they will not interfere with the operation of the ringer, ringer gongs, dial, or switch assembly. When assembling the housing to the base, see that the housing fits flush with the housing before tightening the two assembly screws, and then tighten the screws securely.

4.04 **Station Testing:** When the foregoing procedures have been completed make a test of the station according to standard practices.