SEQUENCE SWITCHES
PROCEDURE FOR SPLITTING SPRINGS

1. GENERAL

1.01 This section covers procedures for splitting the contact springs of A and B type Sequence switches by means of the D-98678 spring splitting pliers. The procedure covered herein is approved for use on 18 position sequence switches only.

1.02 This section is reissued to incorporate material from the addendum in its proper location.

2. TOOLS AND MATERIALS

CODE NO.	DESCRIPTION
TOOLS	
—	D-98678 Spring Splitting Pliers
—	Carson Newton Co., Bellville, N.J. File No. 50
MATERIALS	
—	D-98063 or KS-2423 Cloth
—	KS-6232 Oil
—	Piece of 1/32″ Sheet Fiber Approx. 2-1/2″ by 10″ (RM-591863 or equivalent)
—	KS-7860 Petroleum Spirits

3. PROCEDURE FOR SPLITTING CONTACT SPRINGS

3.01 ***Preparation of Sequence Switch:*** Make all circuits associated with the sequence switch on which the springs are to be split busy according to the approved methods before the work is started. Remove the fuses supplying signaling talking and ringing current to the circuit. Remove the cam shaft assembly from the sequence switch as covered in the section of this division covering piece-part data and replacement procedures for A and B type sequence switches. To prevent the metal trimmings from becoming lodged in the parts of other apparatus, make up a tray from a piece of 1/32″ sheet fiber about 2-1/2″ by 10″. Bend the fiber up along its entire length so that the bend will be about 1/2″ in from one edge. Loosely wrap the tray with D-98063 cloth and set this tray on the sequence switch directly below the one on which the springs are being split so that the bent up edge is toward the workman.

3.02 ***Cleaning and Care of D-98678 Spring Splitting Pliers:*** Before the D-98678 spring splitting pliers are used and whenever they accumulate foreign matter or the cutting edges become dirty when in use, flush the cutting end of the pliers by dipping the end into a mixture composed of 95% by volume of petroleum spirits and 5% KS-6232 oil and applying a stirring motion. Take care to confine the application of the cleaning fluid to the end portion of the pliers in order to avoid removing the oil from the bearings of the pliers. Wipe off the excess cleaning mixture with a D-98063 cloth. This treatment will improve the cutting action of the pliers and prevent the formation of rust. Substitute a fresh supply of the petroleum spirits and oil mixture when that being used becomes dirty. When in use, keep the bearings of the pliers well lubricated with KS-6232 oil.

3.03 ***Sequence of Operations:*** The work will be facilitated if the operations are carried out in the following order:

(1) Split all of the inner (lower) springs which are to be split. On each individual spring assembly, split the two springs nearer the center of the nest before the two outside springs.

(2) Give the split springs a preliminary adjustment, using the outer (upper) non-split springs as a guide in lining up the split springs.

(3) Split the outer (upper) springs in the same order as outlined for the lower springs.

(4) Adjust the outer springs so that they will line up with the lower springs.

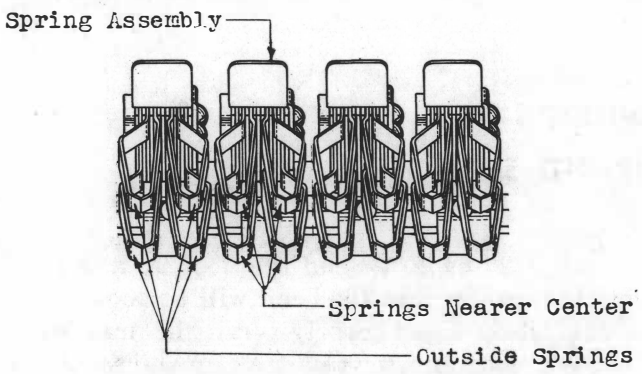

Fig. 1 – Spring Assemblies

(5) Remove burrs from the contacting surfaces of the springs.

(6) Reassemble the cam shaft assembly in the sequence switch and complete the readjustment of the springs.

Splitting Springs

3.04 With the jaws of the D-98678 pliers completely open, with a sidewise motion move one spring away from its adjacent spring by means of the tip of the guide of the pliers. Make sure that the tip of the spring to be split rests on that side of the guide which forms one side of the hole in the end of the pliers and start the spring into the hole. Do not force the spring into the pliers if resistance to its entrance is felt because this is an indication that the pliers are being held at an incorrect angle or that an adjacent spring is interfering with the pliers. Hold the pliers horizontally and carefully push them towards the back of the sequence switch frame as far as possible as shown in Fig. 2 without forcing and until the tip of the spring bottoms. Grip the pliers firmly near the outer end of the handles taking care not to allow them to move away from the sequence switch. Hold the pliers horizontally to avoid twisting the spring and take care not to apply upward or downward pressure against the spring. Then press the pliers firmly together. Open the pliers and remove them from the spring.

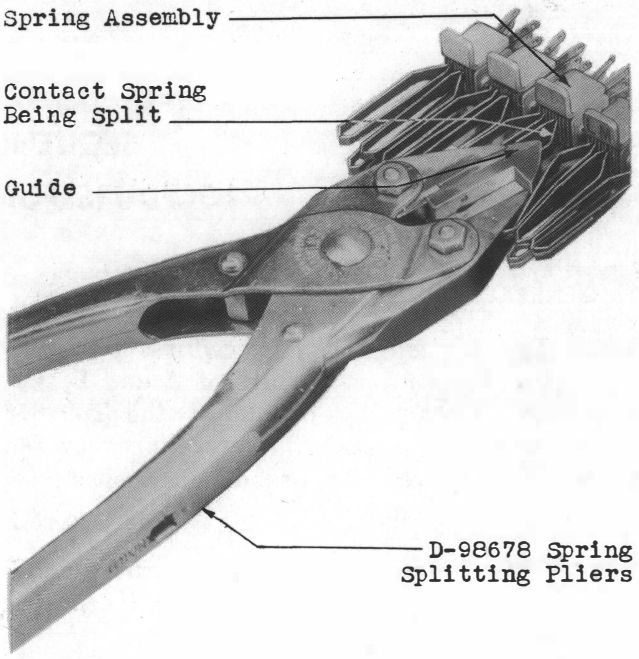

Fig. 2 – Method of Splitting Contact Springs

3.05 After splitting all springs on the switch which are to be split and making the preliminary adjustments as covered in 3.03, remove the burrs from the contacting surfaces of the springs with the No. 50 file. To do this, place the file between the springs so that the end with the hole through it is away from the sequence switch and so that the 4 springs associated with a cam contact the cutting edges of the file. Move the file in and out a few times without completely withdrawing the file. The file cuts as it is being drawn away from the switch and with a new file 3 or 4 cutting strokes will be sufficient. Remove the file and proceed to the other springs.

3.06 Reassemble the cam shaft in the sequence switch as covered in the section of this division covering piece-part data and replacement procedures for A and B type sequence switches. Check all springs and readjust them as required to meet the tension and position requirements specified in the section covering A and B type sequence switches.