

INTERRUPTERS

157 TYPE

PIECE-PART DATA AND REPLACEMENT PROCEDURES

1. GENERAL

1.01 This section covers the information necessary for ordering parts to be used in the maintenance of 157 type interrupters. It also covers approved procedures for replacing these parts. It is reissued to cover piece part data for spring assembly clamping strips and the new "A" cam roller and spring assembly, and to add procedures for the removal of pits from the cams. Detailed reasons for reissue will be found at the end of the parts affected.

1.02 Part 2 of this section covers the piece part numbers and the corresponding names of the parts which it is practicable to replace in the field in the maintenance of 157 type interrupters. No attempt should be made to replace parts not designated. Part 2 also contains explanatory figures showing the different parts. This information is called "Piece Part Data".

1.03 Part 3 of this section covers the approved procedures for the replacement of the parts covered under Part 2. This information is called "Replacement Procedures".

2. PIECE PART DATA

2.01 The figures included in this part show the various piece parts in their proper

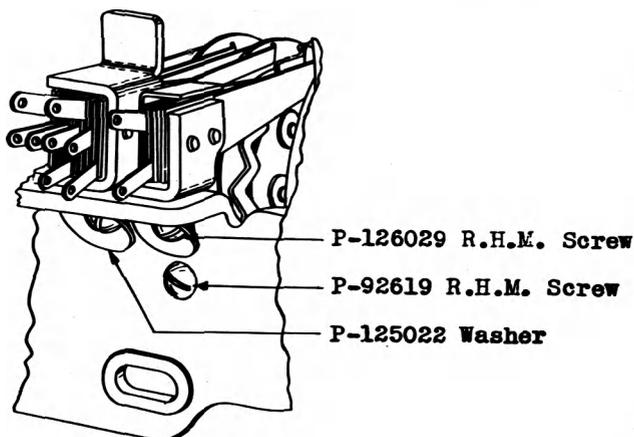


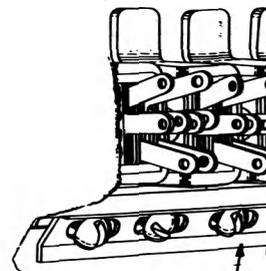
Fig. 1

relation to other parts of the interrupter and the piece part numbers of the various parts together with their corresponding names.

2.02 The notes underneath the figures should be read carefully as in some cases they contain information which is essential to correct ordering of parts.

2.03 When ordering piece parts for replacement purposes both the number and the name of the piece part should be given. For example: "P-143326 Pointer".

2.04 The following figures show the variable piece parts as well as the parts which are common to these interrupters.



P-173131 Contact
Spring Clamping Strip

Fig. 2

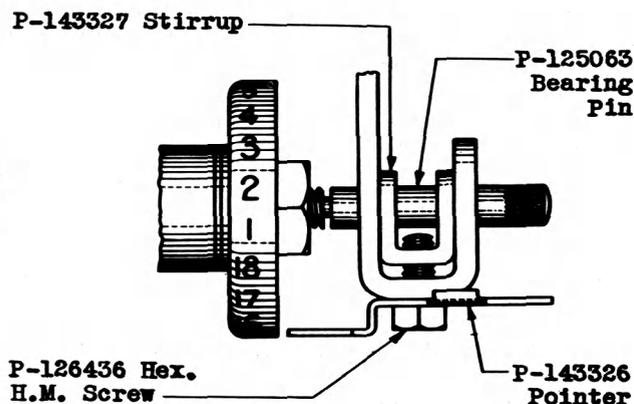


Fig. 3

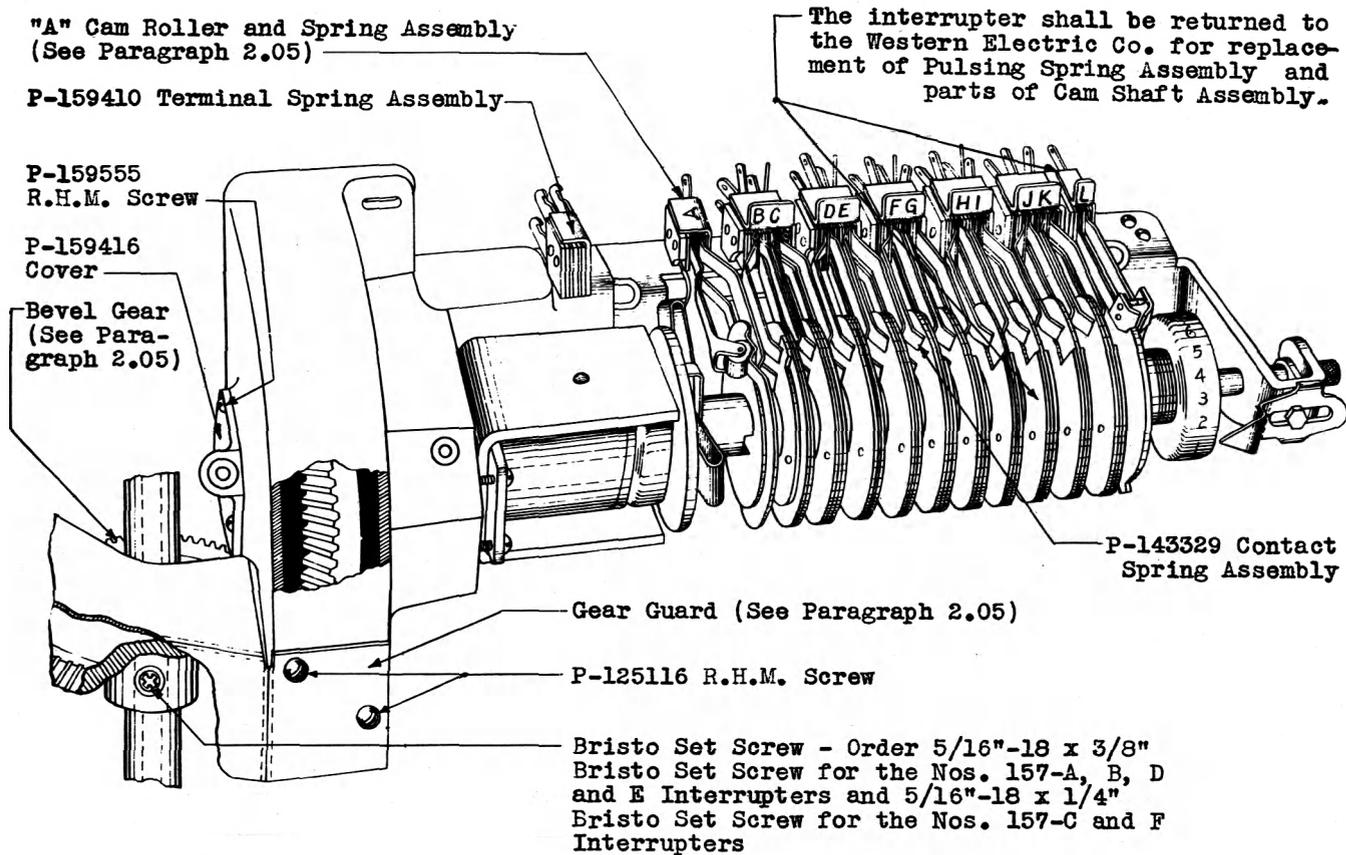


Fig. 4

2.05 The following is a list of numbers and corresponding names of Piece Parts which are not common to all Interrupters.

Inter-rupter	Bevel Gear	Gear Guard	"A" Cam Roller and Spring Assembly
157-A	P-159435	P-159420	P-173762
157-B	P-159433	P-159420	P-173762
157-C	Det. 4 per A-131649	P-159420	Det.13 per A-131649 (left hand) Det.14 per A-131649 (right hand)
157-D	P-159435	P-159420	P-172762
157-E	P-159433	P-159420	P-143331
157-F	Det. 4 per A-131649	P-173139	Det.13 per A-131649 (left hand) Det.14 per A-131649 (right hand)

REASON FOR REISSUE - CHANGES IN PIECE PART DATA

1. To add piece part data covering contact spring clamping strips (Fig. 2).

2. To add piece part data for the No. 157-F interrupter.

3. To revise the piece part data for "A" cam roller and spring assembly.

3. REPLACEMENT PROCEDURES

3.001 List of Tools and Materials

Code No.	Description
<u>Tools</u>	
295	Wrench - 5/16" Bristo Set Screw
433-A	Motor Floor Stand and Swivel Yoke
434-A	Motor Ladder Bracket
KS-5402	1/8 H.P. Motor
KS-6263	Wrench - 9/32" Hex. Socket
KS-6822	Arkansas Grinding Stone
KS-6851	Flexible Shaft
KS-6852	Handpiece

<u>Code No.</u>	<u>Description</u>
-	Bell System Regular Screw-driver - 4" per A.T.&T. Co. Drawing 46-X-34
-	Bell System Uninked Stamp Pad (2 Req'd.)

Materials

KS-2423	Cloth
KS-6232	Oil

3.002 Before making any replacement of the parts of an interrupter, remove the fuses from the associated circuit or circuits.

3.003 After making any replacement of parts, check the interrupter and where necessary, readjust to meet the requirements specified in the section covering the apparatus requirements and adjusting procedures for this apparatus.

3.01 Stirrup Set Screw
Pointer
Bearing Pin
Stirrup

(1) To replace any of these parts, loosen the stirrup set screw with the 4" regular screw-driver or with the KS-6263 wrench depending on whether the set screw has a slotted or a hexagonal head. Remove the defective part and replace it with a new one.

(2) When removing or replacing a stirrup set screw, bearing pin or a stirrup, support the cam shaft assembly with the hand.

(3) After replacing the defective part, tighten the stirrup set screw.

3.02 Contact Spring Clamping Strip
Contact Spring Assembly
"A" Cam Roller and Spring Assembly
Terminal Spring Assembly

(1) Contact Spring Clamping Strip To replace a contact spring clamping strip, remove all of the screws which hold the contact spring assemblies in place, taking care not to shift the position of the assemblies. Put the contact spring clamping strip and the screws in place and securely tighten the screws.

(2) Contact Spring Assembly To replace a contact spring assembly, unsolder the wires attached to the assembly to be replaced. Hold the assembly and remove the screw and the washer, where used, from the rear of the interrupter frame with the 4" regular screw-driver. Remove the

assembly from the front of the frame.

(3) Spread the springs of the new spring assembly slightly and slip them in place on the cams by pushing the assembly towards the back of the frame. The assembly will come to rest at the proper place when the rear of the frame is reached.

(4) Fasten the assembly in place from the rear with the screw and washer, if provided. Center the spring assembly laterally and tighten the mounting screw securely.

(5) Solder the wires on the spring terminals and stamp letters on the new spring assembly corresponding to those on the one removed.

(6) "A" Cam Roller and Spring Assembly Unsolder the wires at the spring terminals and remove the two mounting screws with the 4" regular screw-driver. Then remove the assembly from the front of the frame.

(7) Put the assembly in place as covered in (3) and (4) and tighten both mounting screws. Then proceed as in (5).

(8) Terminal Spring Assembly To replace this assembly, unsolder the wires attached to it. Hold the assembly and remove the screw and washer, if provided, from the rear of the frame with the 4" regular screw-driver. Remove the assembly from the front of the frame.

(9) Place the assembly in position from the front of the frame and fasten with the screw and washer, if provided. Tighten the screw and solder the wires on the spring terminals.

3.03 Drive Shaft Gear

(1) To remove the drive shaft gear, loosen and remove the drive shaft bearings as required to permit the removal of the gear.

(2) Loosen the Bristo Set screws with the No. 295 wrench and remove the gear.

(3) After replacing the part, align the shaft and bearings in accordance with the section covering apparatus requirements and adjusting procedures for vertical drive shafts and associated apparatus. Adjust the position of the gear in accordance with the section covering the apparatus requirements and adjusting procedures for this apparatus.

3.04 Cam Pit Removal

(1) To remove pits from the cams, proceed as follows:

(2) Assemble the cam pit grinding equipment as follows: Pull out the threaded coupling, which is inside of the flexible shaft on the motor end, and screw the flexible shaft onto the motor shaft. With the fingers, turn the coupling and motor shaft to a position such that it is possible to insert one of the 1/8" pins (furnished with the equipment) through the hole into the end piece of the motor to lock the motor shaft from rotating. By means of the other 1/8" pin, tighten the coupling. Remove the 1/8" pins and, with the fingers, screw the knurled casing coupling onto the motor. Connect the KS-6852 hand piece to the other end of the flexible shaft, being sure that the split end piece of the flexible shaft properly engages the hand piece shaft. The motor may be set on the No. 433-A motor floor stand, or it may be mounted on a rolling ladder by means of the No. 434-A motor ladder bracket. In either of these methods, the motor must be placed in a position such that, when the grinding operation is in progress, there will be no sharp bends or kinks in the flexible shaft. Connect the drive motor plug to a receptacle in the lighting circuit.

(3) Place a KS-6822 grinding wheel in the chuck so that it bottoms. Insert one of the 1/8" pins through the hole in the side of the hand piece to prevent the chuck from turning and tighten the chuck by means of the wrench, which is provided with the hand piece for this purpose.

(4) Start and stop the drive motor and ascertain that the grinding wheel rotates smoothly and that none of the parts bind. Should any of the parts appear to require cleaning, lubrication or adjusting, refer to the section covering portable motor equipment for base metal contact maintenance.

(5) Oil the surface of the grinding wheel while rotating, by drawing it over

the Bell System uninked stamp pad which has been saturated with KS-6232 oil, and then drawing the grinding wheel over the other pad, which is clean and dry in order to remove the excess oil. In place of the stamp pads, it will be satisfactory to use several thickness of KS-2423 cloth part of which is saturated with KS-6232 oil. If KS-2423 cloth is used, the edges must be securely fastened so that the cloth cannot wind around the grinding wheel. (Draw the grinding wheel over the pad in a line parallel with the spindle of the grinding wheel and not sideways.) Hold the shaft of the rotating grinding wheel in line with the pit and stroke across the pit, starting about 1/16" from one edge of the pit and stopping about 1/16" from the other edge of the pit. Always move the grinding wheel over the pit in the same direction while the grinding is taking place.

(6) As soon as the grinding surface of the wheel has become covered with metal grindings and dirt, clean it, while rotating, by drawing its grinding surface over the pad which has been saturated with KS-6232 oil as covered in (5). When clean, remove the excess oil from the surface of the rotating wheel by drawing it over the pad which is clean and dry.

(7) Continue the grinding operation, cleaning the grinding wheel at intervals as required, till the bottom of the pit is reached.

REASON FOR REISSUE - CHANGES IN REPLACEMENT PROCEDURES

1. To revise the list of tools and materials (3.001).
2. To add procedures for replacing contact spring mounting strips (3.02).
3. To add procedures covering cam pit removal (3.04).