

## SELECTORS

### 60BA, 60BC, 60BP, 60BR, 66A, D-151294, AND D-175279

#### 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 No. 60BA, 60BC, 60BP, 60BR, 66A, D-151294, and D-175279 selectors. It also covers approved procedures for replacing these parts.

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 the No. 60BA, 60BC, 60BP, 60BR, 66A, D-151294, and D-175279 selectors. No attempt shall be made to replace parts not designated. Part 2 also contains explanatory figures showing the different parts. This information is called Piece-part Data.

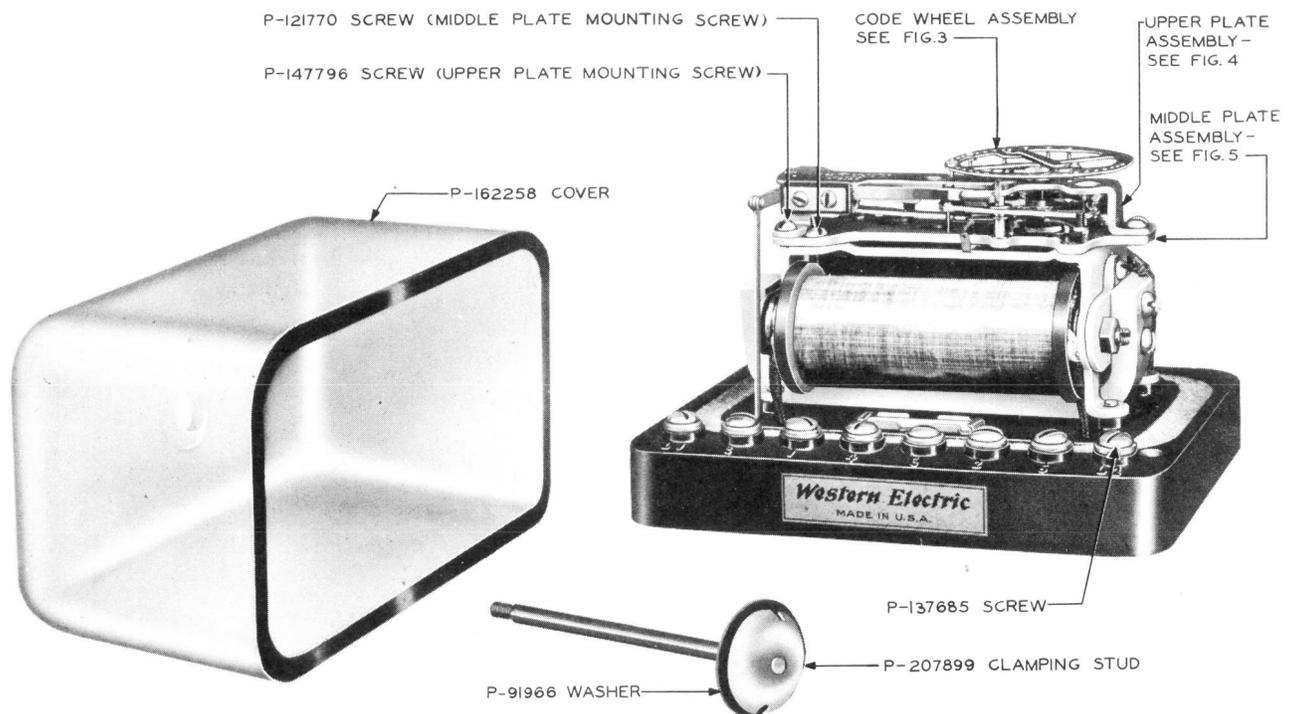
1.03 Part 3 of this section covers the approved procedures for the replacement

of the parts covered in 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 relation to the other parts of the selector. The piece-part numbers of the various parts are given together with their corresponding names as listed by the Western Electric Company Merchandise Department. Where these names differ from those in general use in the field, the latter names, in some cases, are shown in parentheses.

2.02 When ordering piece parts for replacement purposes, give both the number and the name of the piece part, for example, P-146148 Armature. Do not refer to the BSP number or any information shown in parentheses following the piece-part numbers.



NOTE - THE NOS. 66A AND D-175279 SELECTORS ARE THE SAME AS THE SELECTORS SHOWN ABOVE EXCEPT THEY HAVE TWO RINGING POSITION TERMINALS AND ARE DESIGNED FOR PLUG-IN CONNECTION BY MEANS OF A JACK ON THE UNDERSIDE OF THE BASE AS SHOWN IN FIG. 2.

Fig. 1 - No. 60BA, 60BC, 60BP, 60BR, and D-151294 Selectors (See Note)

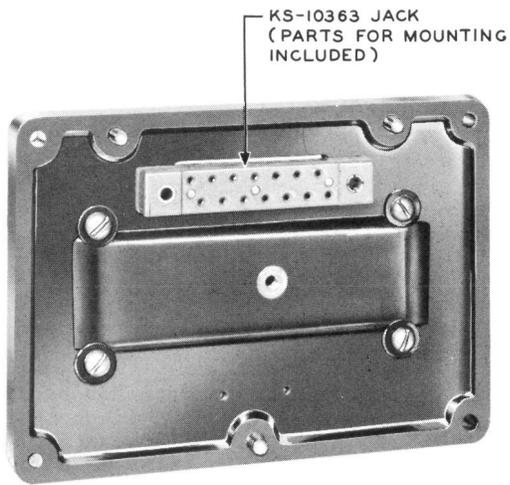


Fig. 2 - No. 66A and D-175279 Selectors - Base

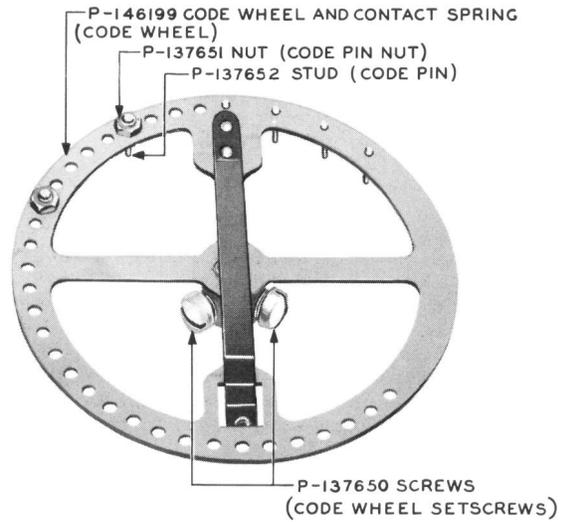


Fig. 3 - Code Wheel Assembly

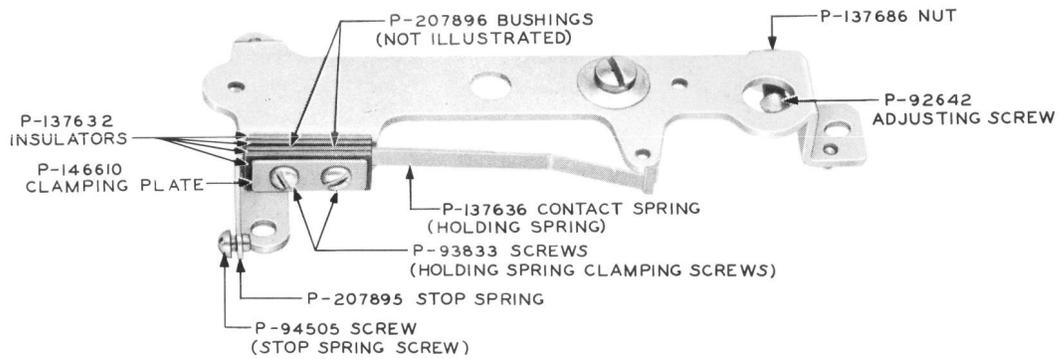
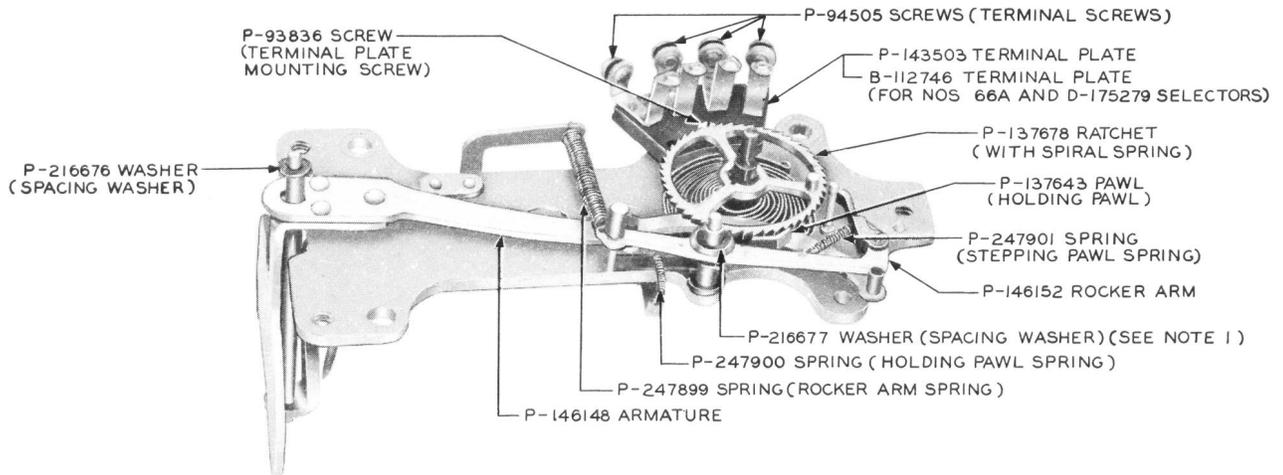


Fig. 4 - Upper Plate Assembly



NOTE 1- FOR ILLUSTRATION PURPOSES, THIS WASHER IS NOT SHOWN IN ITS PROPER POSITION. IT SHOULD BE LOCATED BETWEEN THE ROCKER ARM AND THE HOLDING PAWL.

Fig. 5 - Middle Plate Assembly

### 3. REPLACEMENT PROCEDURES

#### 3.01 List of Tools

| Code or Spec No. | Description  |
|------------------|--|
| 144              | Combination Screwdriver and Wrench                   |
| 145.             | Adjusting Hook                                       |
| 417A             | 1/4- and 3/8-inch Hex. Open Double-end Flat Wrench   |
| 418A             | 5/16- and 7/32-inch Hex. Open Double-end Flat Wrench |
| 485A             | Smooth Jaw Pliers                                    |
| KS-6320          | Orange Stick   |
| KS-6854          | 3-1/2-inch Screwdriver                               |
| KS-8511          | Tweezers   |
| -                | 3-inch H Cabinet Screwdriver                         |

3.02 Before making any replacement of the parts of a selector, remove the associated circuit from service in accordance with the approved procedures.

3.03 At the time of making a replacement of parts, clean the selector, when necessary, in accordance with Section 026-700-701. After making any replacement of parts of a selector, the part or parts replaced and other parts whose adjustment may have been disturbed by the replacing operations shall be checked and, if necessary, readjusted to meet the requirements of Section 026-700-701.

3.04 After replacing any part, lubricate it, if necessary, as outlined in Section 026-700-701.

3.05 No replacement procedures are specified for screws and other parts when the replacement procedure consists of a simple operation.

3.06 To replace the majority of parts, it will be necessary to remove the selector from the equipment and remove the cover. To remove the cover, unscrew the clamping stud with the fingers.

3.07 Stepping Pawl Spring: (See Fig. 5) - Remove the old spring using the KS-8511 tweezers. Hook one end of the new spring into the hole and over the lower edge of the stepping pawl. Hook the other end of the spring into the hole on the rocker arm provided for this purpose. In installing the spring, avoid stretching it excessively, to prevent reducing the tension.

3.08 Terminal Plate: (See Fig. 5) - Remove the terminal screws with the KS-6854 screwdriver noting the position of the wires. Remove the terminal plate mounting screw with the KS-6854 screwdriver and remove the terminal plate. Insert the terminal plate mounting screw into the hole in the new terminal plate and mount the terminal plate on the selector. Assemble the terminal screws in position and insert the terminal lugs of the wires under the heads of these screws. Tighten the screws securely.

3.09 Code Pins: (See Fig. 1 and 3) - Manually rotate the code wheel to a position where the code pins are made accessible. Insert the KS-6320 orange stick between one side of the armature and the associated pole piece to hold the code wheel in this position. Mark or otherwise note the position of the code pin being replaced. Engage the code pin with the wrench portion of the No. 145

## SECTION 026-700-801

tool. Engage the code pin nut with the wrench portion of the No. 144 tool. Remove the nut and the code pin. Substitute the new part and tighten securely.

**3.10 Code Wheel:** (See Fig. 1 and 3) - Rotate the code wheel manually so that the code wheel setscrews are in an accessible position. Holding the code wheel in this position, loosen the setscrews with the screwdriver portion of the No. 144 tool or the KS-6854 screwdriver. Lift the code wheel off the ratchet shaft. Remove the setscrews from the old code wheel and assemble them in the new code wheel. Remove the code pins and nuts from the old code wheel in accordance with 3.09 and assemble them on the new code wheel. Place the code wheel on the shaft and, before tightening the setscrews, position the code wheel as covered in Section 026-700-701.

**3.11 Holding Spring and Stop Spring:** (See Fig. 4) - Remove the holding spring clamping screws with the 3-inch H cabinet screwdriver. Disassemble the pile-up, noting the position of the parts. In order to replace the stop spring, it will be necessary to loosen or, in the D-175279 or No. 66A selector, remove the stop spring screw with

the KS-6854 screwdriver. Inspect the insulators and bushings and replace these parts if necessary. Replace the holding spring and/or stop spring. Reassemble the pile-up, tightening the holding spring clamping screws and the stop spring screw securely.

**3.12 Adjusting Screw:** (See Fig. 4, 5, and 6) - Loosen the stop spring screw or, in the D-175279 or No. 66A selector, remove this screw. Remove the code wheel in accordance with 3.10. Remove the three upper plate mounting screws with the 3-inch H cabinet screwdriver. Using a screwdriver blade, gently pry around the portions of the upper plate that rest on the middle plate, to facilitate removing the upper plate. With the fingers, raise the upper plate straight up, taking care not to disturb the parts assembled between it and the middle plate. If necessary, apply a downward pressure on the ratchet shaft, to avoid raising the ratchet and damaging the spiral spring, until the shaft is free of the upper bearing. Remove the adjusting screw nut with the No. 417A wrench. Engage the slot of the adjusting screw with the KS-6854 screwdriver and turn the screw clockwise until the screwdriver is prevented from engaging the screw slot. Remove the screw

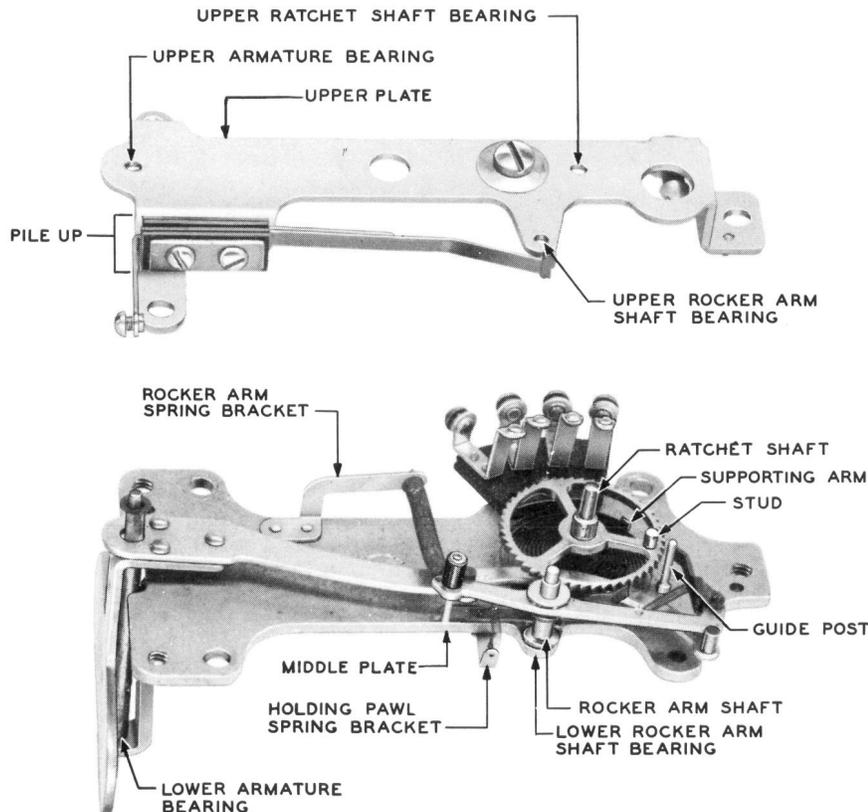


Fig. 6 - Designation of Parts

the rest of the way with the fingers. Assemble the new adjusting screw so that the slotted end projects approximately 3/16 inch from the face of the mounting position. Assemble the adjusting screw nut on the adjusting screw and tighten it with the No. 417A wrench. To reassemble the upper plate, rotate the ratchet, so as to tension the spiral spring, approximately one turn counterclockwise to a position where the stud on the ratchet is nearest to the rocker arm shaft. Holding the ratchet in this position, place the upper plate on the selector taking care that the shafts enter the associated upper bearings. Release the ratchet and reassemble the upper plate mounting screws, tightening them securely. Reassemble the code wheel in accordance with 3.10 and tighten the stop spring screw.

**3.13 Rocker Arm:** (See Fig. 5 and 6) - Remove the code wheel and the upper plate from the selector in accordance with 3.10 and 3.12, respectively. With the KS-8511 tweezers, detach the rocker arm spring from the rocker arm, taking care to avoid stretching the spring excessively. Raise the rocker arm from the selector, leaving the holding pawl on the middle plate, noting the presence and position, if any, of spacing washers used for the holding pawl. Remove the stepping pawl spring from the old rocker arm and assemble it on the new part in accordance with 3.07. Set the new rocker arm in position on the selector, making sure that the shaft is correctly assembled in the holding pawl and lower bearing and the stepping pawl is on the outside of the guide post. Spacing washers for the holding pawl and the new rocker arm will not be required if the end play requirement of Section 026-700-701 is met. Attach the rocker arm spring to the rocker arm, locate the ratchet so as to tension the spiral spring in accordance with 3.12, and reassemble the upper plate, code wheel, and other parts removed for this replacement, tightening the screws securely.

**3.14 Armature:** (See Fig. 5 and 6) - Remove the code wheel and the upper plate from the selector in accordance with 3.10 and 3.12, respectively. Note the presence and position, if any, of spacing washers. Without detaching the rocker arm spring, raise the rocker arm out of position, leaving the holding pawl on the middle plate, and place it on the terminal plate side of the selector. Raise the ratchet shaft out of the lower bearing and place the ratchet wheel off to the terminal plate side avoiding excessive distortion of the spiral spring. Raise the armature straight up from the selector. Place the new armature in the selector, placing the armature shaft in the lower armature bearing. Spacing washers for the new armature will not

be required if the end play requirement of Section 026-700-701 is met. Replace the ratchet shaft in its lower bearing. Locate the ratchet so as to tension the spiral spring in accordance with 3.12. Reassemble the rocker arm, upper plate, code wheel, and other parts removed for this replacement, tightening the screws securely.

**3.15 Holding Pawl:** (See Fig. 5 and 6) - Remove the code wheel and the upper plate from the selector in accordance with 3.10 and 3.12, respectively. Note the presence and position, if any, of spacing washers. Without detaching the rocker arm spring, raise the rocker arm out of position and place it on the terminal plate side of the selector. Detach the holding pawl spring from the holding pawl with the KS-8511 tweezers and remove the holding pawl. Substitute the new holding pawl, attaching the spring to it. Set the holding pawl in position over the rocker arm shaft lower bearing and replace the rocker arm. Spacing washers for the new holding pawl will not be required if the end play requirement of Section 026-700-701 is met. Locate the ratchet so as to tension the spiral spring in accordance with 3.12. Reassemble the upper plate, code wheel, and other parts removed for this replacement, tightening the screws securely.

**3.16 Ratchet:** (See Fig. 5 and 6) - Remove the code wheel and the upper plate from the selector in accordance with 3.10 and 3.12, respectively. Note the presence and position, if any, of spacing washers. Without detaching the rocker arm spring, raise the rocker arm out of position and place it on the terminal plate side of the selector. Without detaching the holding pawl spring, place the holding pawl so it is suspended from the holding pawl spring bracket and rests on the adjacent coil. Raise the ratchet shaft out of the lower bearing and place the ratchet wheel off to the side away from the supporting arm. Remove the armature. Grasp the spiral spring near the soldered connection with the No. 485A pliers, unsolder the spiral spring from the supporting arm, and remove the ratchet. With the new ratchet placed away to the side from the supporting arm, solder the outer end of the spiral spring of the new ratchet to the supporting arm. Care should be exercised not to distort the spiral spring excessively. Reassemble the armature and place the ratchet shaft in the lower bearing. Spacing washers for the new ratchet will not be required if the end play requirement of Section 026-700-701 is met. Reassemble the holding pawl and rocker arm. Locate the ratchet so as to tension the spiral spring in accordance with 3.12. Reassemble the upper plate, code wheel, and other parts removed for this replacement, tightening the screws securely.

## SECTION 026-700-801

3.17 KS-10363 Jack of No. 66A and D-175279  
Selectors Only: (See Fig. 2) - To re-  
place this jack, take care to mark or other-  
wise record the positions of the wires on the  
terminals of the jack. Unsolder the wires in  
the outer row first, grasping each wire being  
unsoldered with the No. 485A pliers. Then  
unsolder the wires from the inner row of ter-  
minals. Remove the nuts which mount the  
jack with the 5/16-inch end of the No. 418A  
wrench and remove the lockwashers. Remove

the jack from the selector base and install  
the new jack, placing the lockwashers and the  
nuts on the studs, and tightening the nuts  
securely with the wrench. Solder the wires  
on the inner row of terminals first, using  
the pliers to place the wires in the terminals  
and to hold the wires while being soldered.  
Solder the wires on the outer row of termi-  
nals in the same manner. Exercise care in  
soldering to prevent damaging the gasket that  
is cemented to the base.