

KEYS

547-, 552-, 576-, 579-, 582-, 583-, 585-, 592-, 596-, 597-, 614-, 615-, 624-, 625-, 630-, 648-, 649-, AND 650-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 the keys enumerated above. It also covers the approved procedures for replacing these parts.

1.02 This section is reissued to include the KS-21234 lamp caps.

1.03 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 keys covered by this section. No attempt should be made to replace parts not designated. Part 2 also contains explanatory figures showing these different parts.

1.04 Part 3 of this section covers the approved procedures for the replacement of the parts covered in Part 2.

2. PIECE-PART DATA

2.01 The figures included in this part show the various parts in relation to other parts of the key. The piece-part numbers are given with the names of the parts 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 parts for replacement purposes, give both the piece-part number and the name of the part; for example, P44A621 Plunger Rod. Do not refer to the section number or to any information shown in parentheses following the piece-part number.

2.03 Information enclosed by parentheses () is not ordering information. This information may be references to notes, parts referred to in other portions of the section and not considered replaceable, or part names in general use in the field if these names differ from those assigned by the manufacturer.

2.04 The KS-20221 designation cards, used in the 624-, 625-, 630-, and 650-type keys, are available in five list numbers with arrangement of characters as shown below. The characters are to be specified on the order.

KS-20221 L1—A blank card

KS-20221 L2—Arranged for a single row of characters

KS-20221 L3—Arranged for a double row of characters

KS-20221 L4—Arranged for one character on each of three edges

KS-20221 L5—To be used for miscellaneous designations only.

2.05 ♦The KS-21234 lamp cap is a thin wall, molded nylon part. This single piece translucent red, yellow, or white cap has a reflection free-top surface in which designations are deep hot stamped. This lamp cap may be used on the 624, 625, 630, and 650 keys in lieu of the standard retainer, lens, and designation card used in Fig. 18 through 25. The 374B tool is used in removing lamp caps.

2.06 The KS-21234 lamp caps may be ordered as individual parts or as a set of parts for certain applications. Color and characters to be hot stamped must be specified on the order.

KS-21234 L1—Has a blank face

KS-21234 L2—Has one row of characters

KS-21234 L3—Has two rows of characters

KS-21234 L4—A set of 89 lamp caps with predetermined colors and characters to equip each operator position of the 100B and 100C TSP

KS-21234 L5—Miscellaneous designations not part of a standard font and which must be specified in the order

KS-21234 L6—A set of 112 lamp caps with predetermined colors and characters to equip most operator positions of the 100A TSP

KS-21234 L7—A set of 37 lamp caps for the central intercept bureau (CIB) position No. 3A (A.I.S.)

KS-21234 L8—A set of 37 lamp caps for the operator number identification (ONI) position No. 4A (A.I.S.)

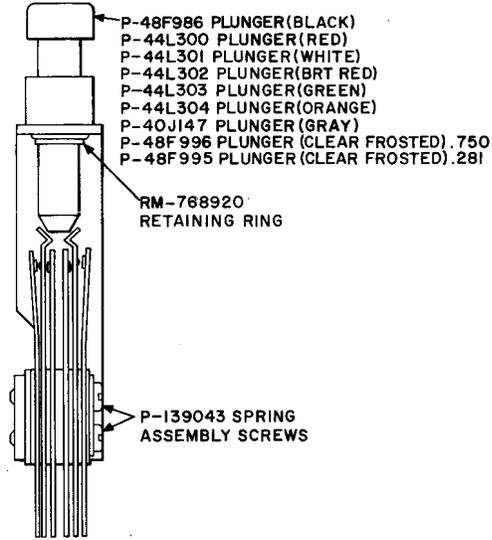


Fig. 2—547-Type Key Equipped With One-Piece Plunger

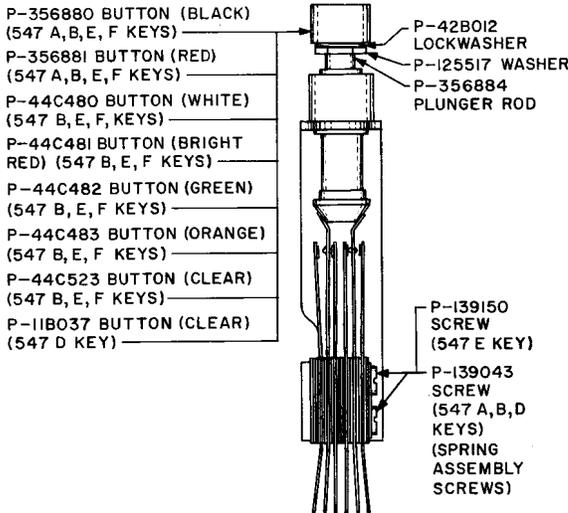


Fig. 1—547-Type Key Equipped With 3-Piece Plunger (547B Illustrated)

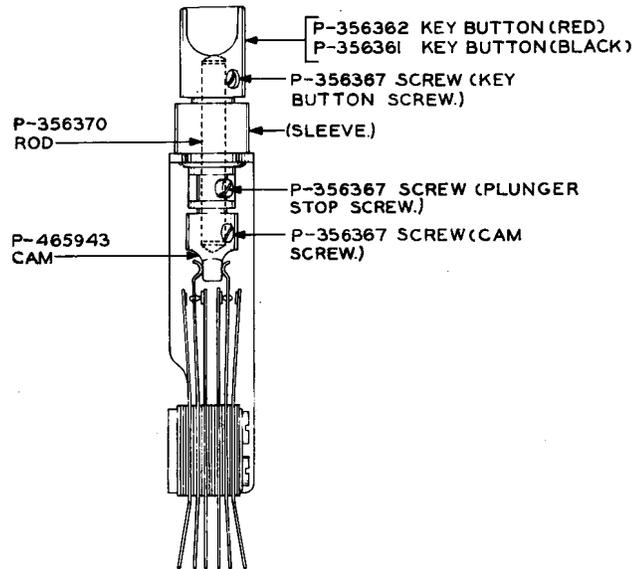


Fig. 3—552A, B, C, D, G, and H Keys Equipped With 3-Piece Plunger (552A Illustrated)

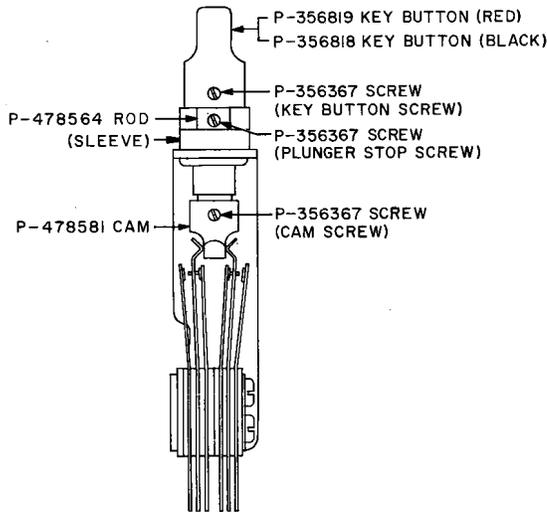


Fig. 4—552E Key Equipped With 3-Piece Plunger

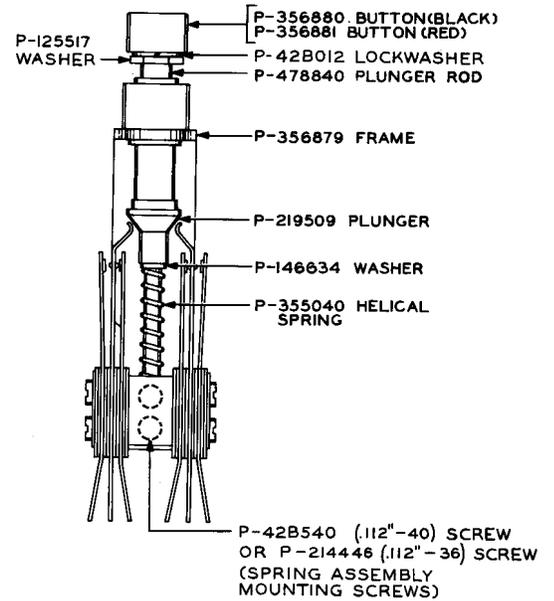


Fig. 6—576-Type Key Equipped With 3-Piece Plunger

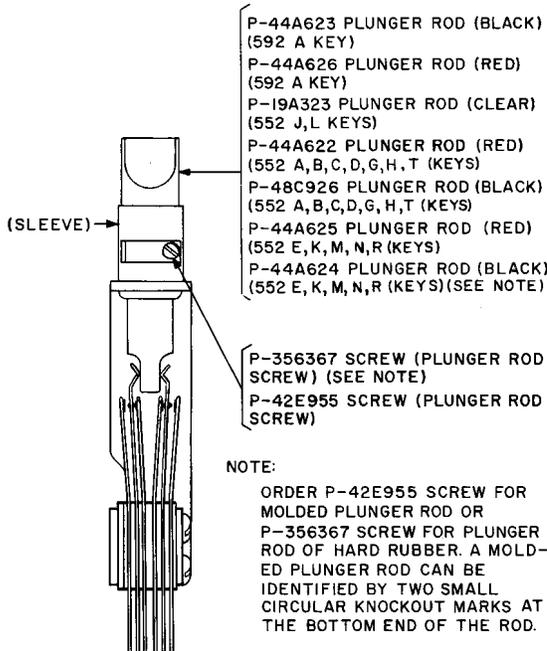


Fig. 5—552-Type Key Equipped With One-Piece Plunger and 529-Type Key (552A Illustrated)

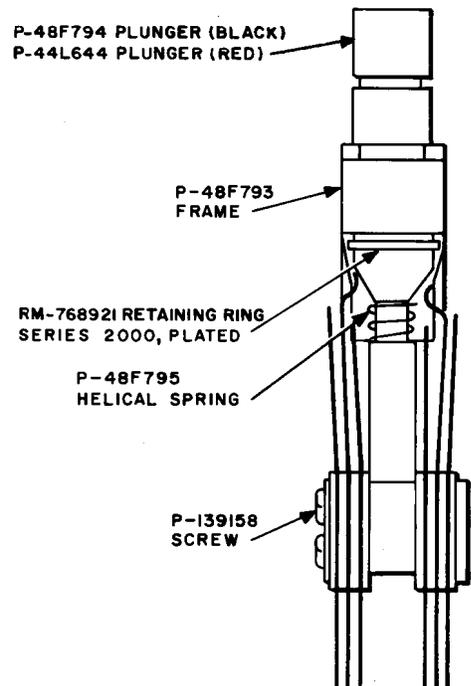


Fig. 7—576-Type Key Equipped With One-Piece Plunger

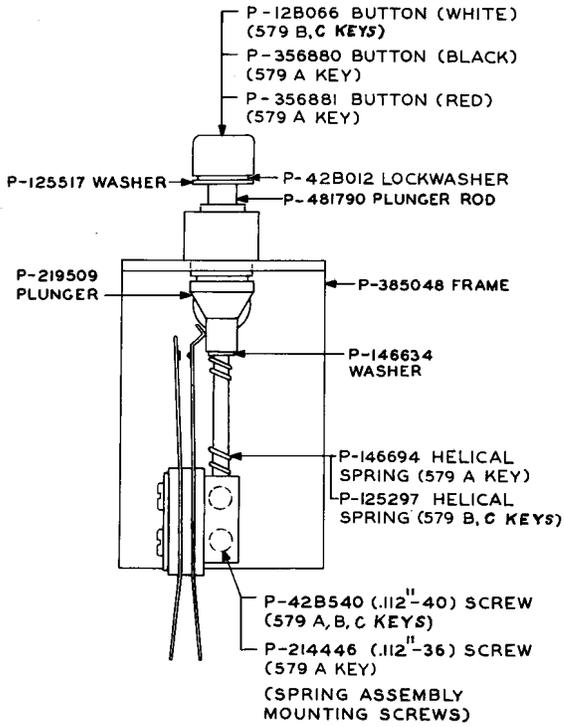


Fig. 8—579-Type Key

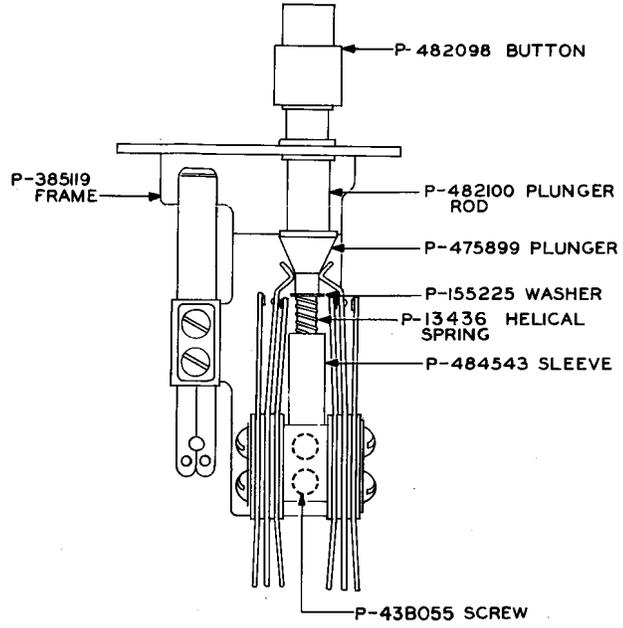


Fig. 10—583-Type Key

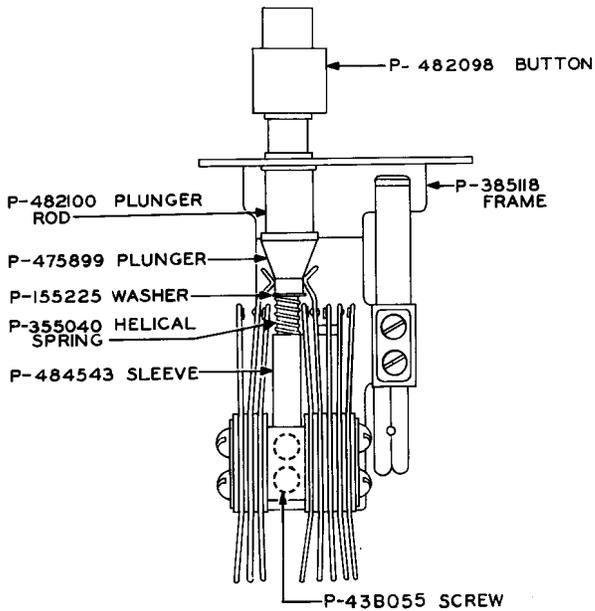


Fig. 9—582-Type Key

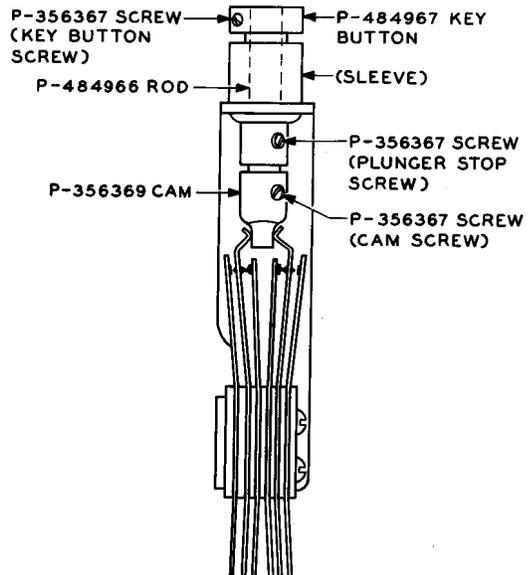


Fig. 11—585-Type Key Equipped With 3-Piece Plunger

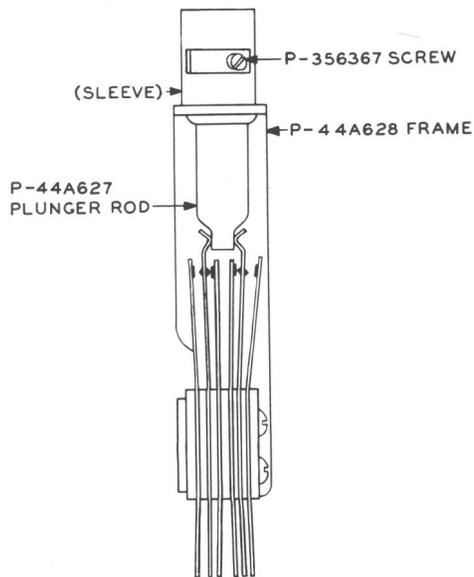


Fig. 12—585-Type Key Equipped With One-Piece Plunger

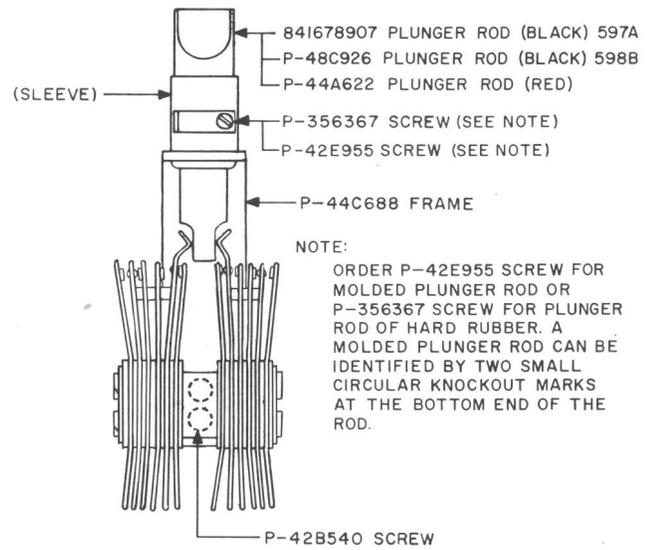


Fig. 13—596-Type Key

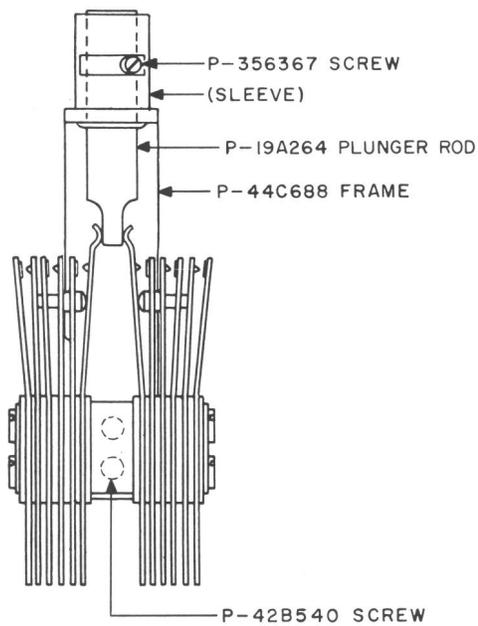


Fig. 14—597-Type Key

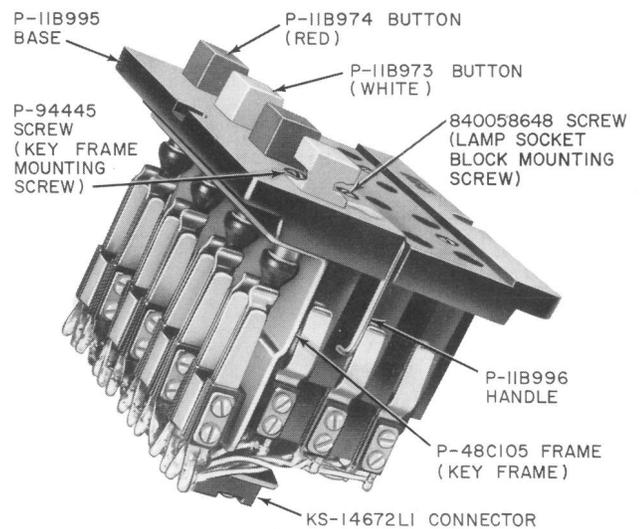


Fig. 15—614A-Type Key

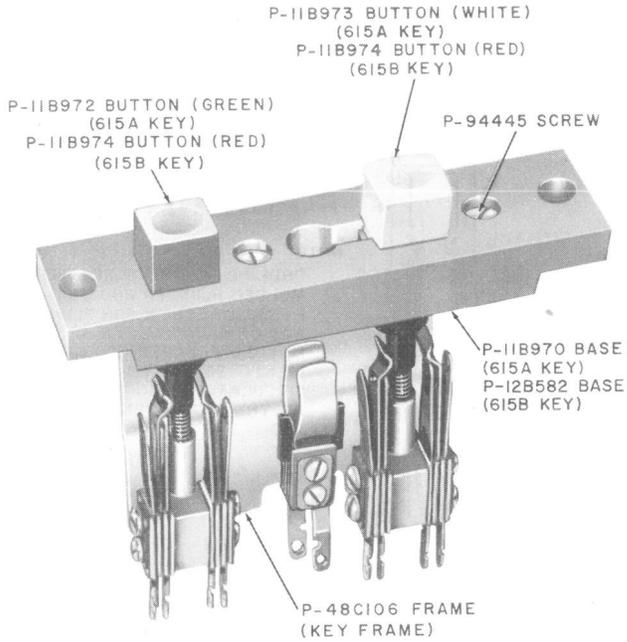
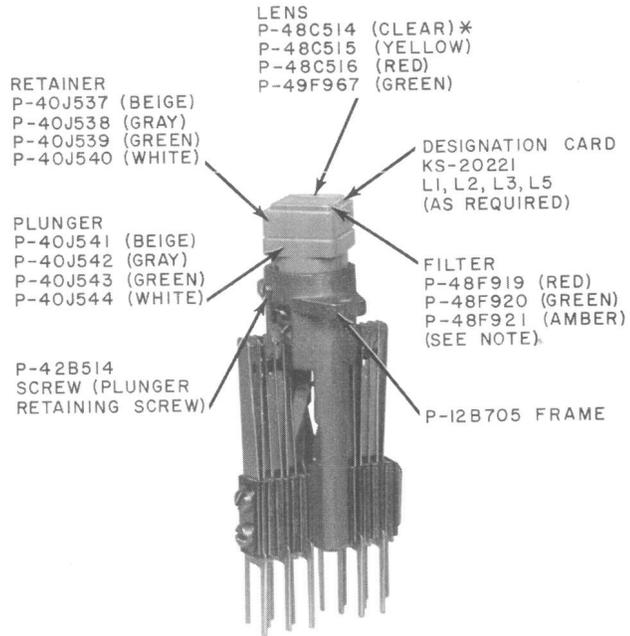


Fig. 16—615-Type Key



NOTE:
USED UNDER DESIGNATION CARD IF A COLORED
SIGNAL IS REQUIRED ONLY WHEN LAMP IS ON.

* CLEAR WILL BE FURNISHED UNLESS
OTHERWISE SPECIFIED.

Fig. 18—624-Type Key (624N Shown)

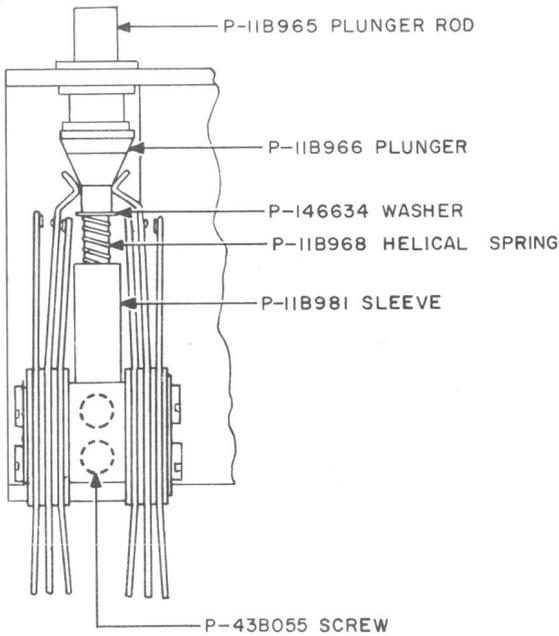
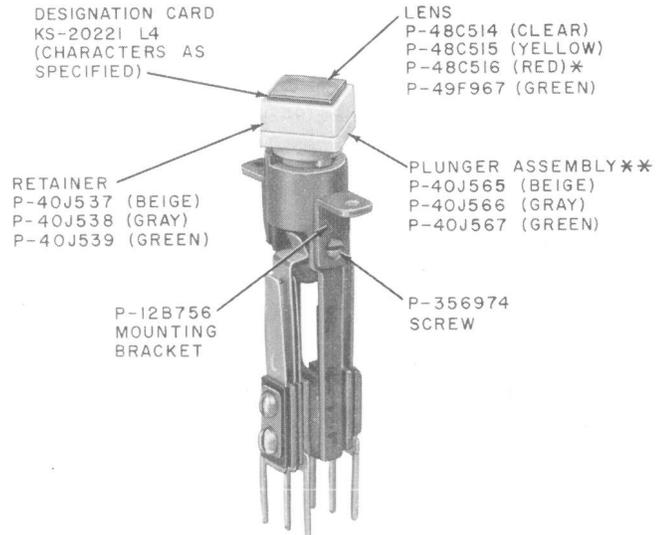
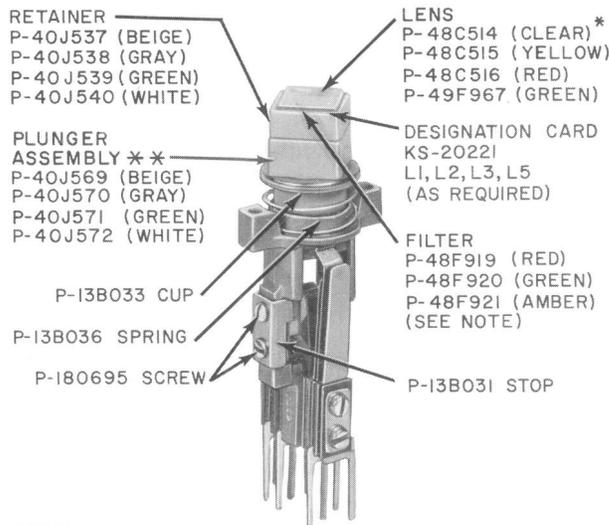


Fig. 17—Key Unit Assembly Used On 614- and
615-Type Keys



* RED WILL BE FURNISHED UNLESS
OTHERWISE SPECIFIED
** INCLUDES RETAINER AND LENS

Fig. 19—625-Type Key



RETAINER
P-40J537 (BEIGE)
P-40J538 (GRAY)
P-40J539 (GREEN)
P-40J540 (WHITE)

LENS
P-48C514 (CLEAR)*
P-48C515 (YELLOW)
P-48C516 (RED)
P-49F967 (GREEN)

DESIGNATION CARD
KS-20221
L1, L2, L3, L5
(AS REQUIRED)

PLUNGER ASSEMBLY**
P-40J569 (BEIGE)
P-40J570 (GRAY)
P-40J571 (GREEN)
P-40J572 (WHITE)

P-13B033 CUP

P-13B036 SPRING

P-180695 SCREW

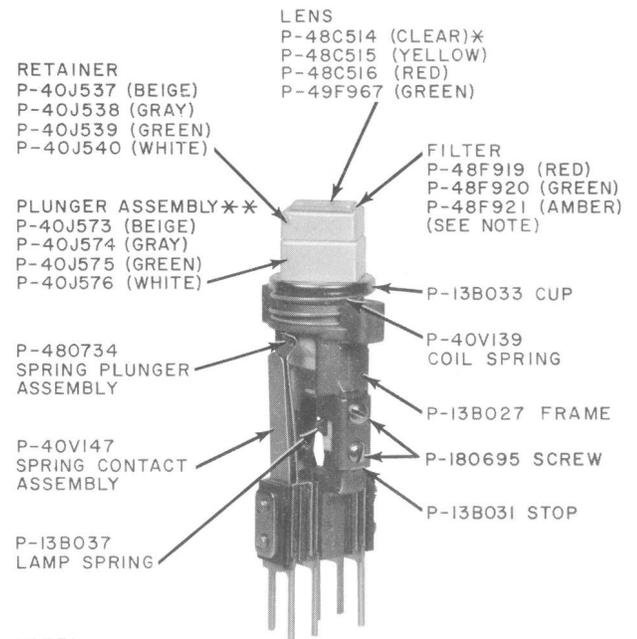
P-13B031 STOP

FILTER
P-48F919 (RED)
P-48F920 (GREEN)
P-48F921 (AMBER)
(SEE NOTE)

NOTE:
USED UNDER DESIGNATION CARD IF A COLORED SIGNAL IS REQUIRED ONLY WHEN LAMP IS ON.

* CLEAR WILL BE FURNISHED UNLESS OTHERWISE SPECIFIED.
** INCLUDES RETAINER AND LENS

Fig. 20—630-Type Key (630A Shown)



LENS
P-48C514 (CLEAR)*
P-48C515 (YELLOW)
P-48C516 (RED)
P-49F967 (GREEN)

RETAINER
P-40J537 (BEIGE)
P-40J538 (GRAY)
P-40J539 (GREEN)
P-40J540 (WHITE)

PLUNGER ASSEMBLY**
P-40J573 (BEIGE)
P-40J574 (GRAY)
P-40J575 (GREEN)
P-40J576 (WHITE)

FILTER
P-48F919 (RED)
P-48F920 (GREEN)
P-48F921 (AMBER)
(SEE NOTE)

P-13B033 CUP

P-480734 SPRING PLUNGER ASSEMBLY

P-40V139 COIL SPRING

P-13B027 FRAME

P-180695 SCREW

P-13B031 STOP

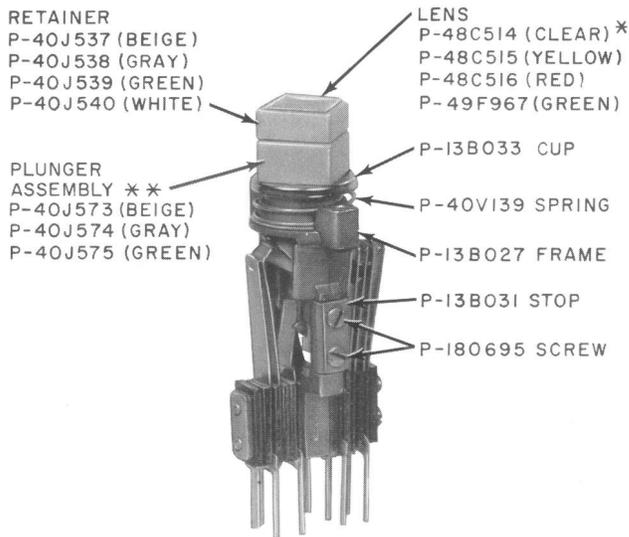
P-40V147 SPRING CONTACT ASSEMBLY

P-13B037 LAMP SPRING

NOTE:
USED UNDER DESIGNATION CARD IF A COLORED SIGNAL IS REQUIRED ONLY WHEN LAMP IS ON.

* CLEAR WILL BE FURNISHED UNLESS OTHERWISE SPECIFIED.
** INCLUDES RETAINER AND LENS.

Fig. 22—630AB4 Key



RETAINER
P-40J537 (BEIGE)
P-40J538 (GRAY)
P-40J539 (GREEN)
P-40J540 (WHITE)

LENS
P-48C514 (CLEAR)*
P-48C515 (YELLOW)
P-48C516 (RED)
P-49F967 (GREEN)

P-13B033 CUP

PLUNGER ASSEMBLY**
P-40J573 (BEIGE)
P-40J574 (GRAY)
P-40J575 (GREEN)

P-40V139 SPRING

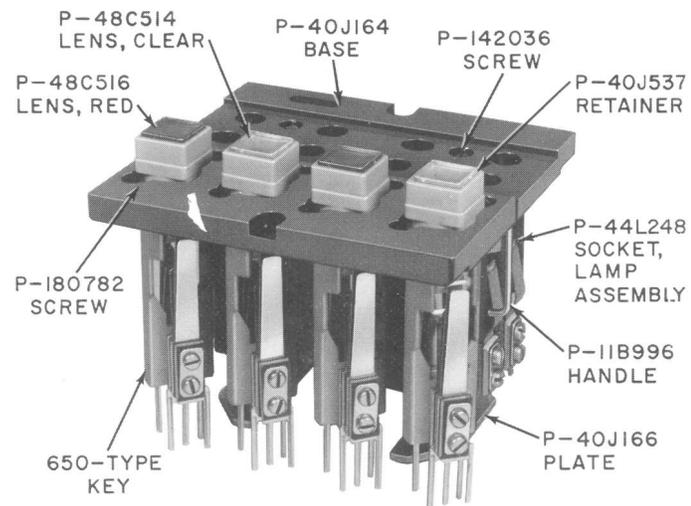
P-13B027 FRAME

P-13B031 STOP

P-180695 SCREW

* CLEAR WILL BE FURNISHED UNLESS OTHERWISE SPECIFIED
** INCLUDES RETAINER AND LENS

Fig. 21—630R Key



P-48C514 LENS, CLEAR

P-48C516 LENS, RED

P-40J164 BASE

P-142036 SCREW

P-40J537 RETAINER

P-44L248 SOCKET, LAMP ASSEMBLY

P-11B996 HANDLE

P-40J166 PLATE

P-180782 SCREW

650-TYPE KEY

Fig. 23—648A Key

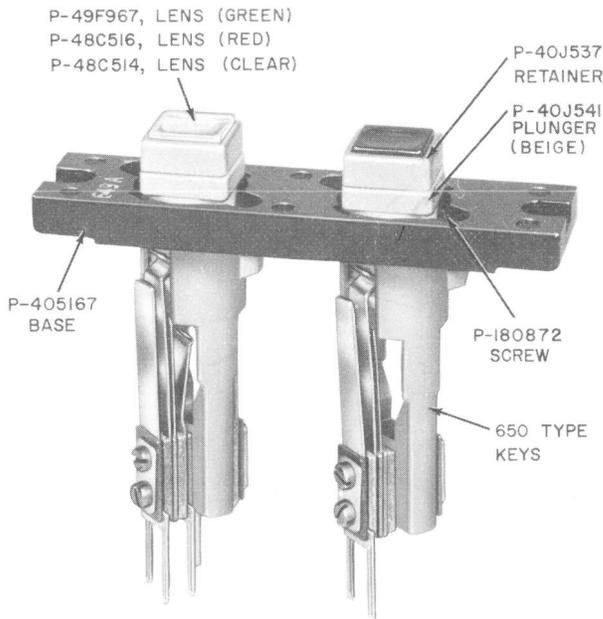
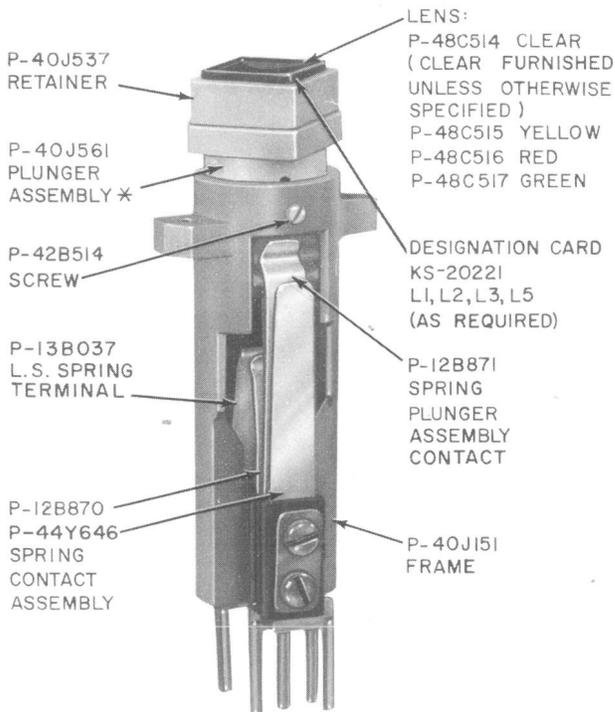


Fig. 24—649A Key



* INCLUDES RETAINER AND LENS

Fig. 25—650-Type Key (650A1 Illustrated)

3. REPLACEMENT PROCEDURES

3.01 List of Tools and Materials

| CODE OR SPEC NO. | DESCRIPTION |
|------------------|---|
| TOOLS | |
| 209 | 5/16-inch hex. open single-end offset wrench |
| 211 | Key-button pliers |
| 374B | Contact burnisher blade (Used to remove KS-21234 lamp cap and retainers.) |
| 417A | 1/4- and 3/8-inch open double-end flat wrench |
| R-1005 | Jewelers screwdriver |
| R-2959 | Allen socket screw wrench |
| — | 3-inch C screwdriver |
| — | 4-inch E screwdriver |
| — | B long-nose pliers |
| MATERIALS | |
| 1A or 2A | Cushion (or equivalent tubing) |

3.02 No replacement procedures are specified for screws and other parts where the replacement consists of a simple operation.

3.03 After making any replacement of parts, check the key and, where necessary, readjust it to meet the requirements covered in Section 032-724-701.

3.04 To remove a 547-, 552-, 576-, 579-, 585-, 592-, 596-, or 597-type key from its mounting, unsolder the leads to the terminals and tag the leads to facilitate reconnecting them. Remove the key mounting screw using the E screwdriver.

3.05 *To remove a 582- or 583-type key when it is mounted in a PBX switchboard cord unit*, proceed as follows. Remove the 348A plug from the connector. Loosen the two cowl fasteners at the top and bottom of the cord unit by turning them toward the left (counterclockwise) with the E screwdriver, and remove the cord unit. Loosen the plunger block setscrews that secure the plunger block on the push turn rod of the 580A key with the R-2959 wrench. Remove the cotter pin that connects the push turn rod to the 580A key with the B long-nose pliers and, while supporting the plunger block, withdraw the push turn rod. Remove the two screws that secure the keyshelf to the cord unit frame with the C screwdriver and remove the push turn rod bushing with the E screwdriver. Lift the keyshelf from the cord unit frame. Tag and unsolder the wires from the terminals of the 582- or 583-type key. Remove the key mounting screws with the C screwdriver. To remount the 582- or 583-type key, proceed as follows. Mount the key with the key mounting screws using the C screwdriver, and solder the leads that were removed. Place the keyshelf on the frame, and remount the push turn rod bushing with the E screwdriver. Insert and tighten securely the keyshelf mounting screws with the C screwdriver. Slide the push turn rod through the bushing and through the hole in the plunger block. During this operation, the finger portion of the knob should be in the upward position and the key mechanism of the 580A key should be in the unoperated position but with the push turn rod pulled out. Insert a new cotter pin, as shown in Fig. 26, with the B long-nose pliers. The two setscrews in the plunger block should then be tightened securely on the push turn rod with the R-2959 wrench, so the position of the plunger block is in accordance with the requirements for plunger block position for the 581A key as covered in Section 032-726-701. Remount the cord unit, tighten the cowl fasteners with the E screwdriver, and insert the 348A plug in the connector.

3.06 *To remove the 614A or 648A key when it is mounted in the PBX switchboard cord unit*, proceed as follows.

Note: Have available a 614A key space which should be inserted in place of the key immediately after the key has been removed. This will close the chain circuit and maintain service on the position.

Remove the screws that secure the keyshelf plate to the keyshelf using the E screwdriver and remove the plate. Remove the two key mounting screws using the C screwdriver, and lift the key from the keyshelf using the handle. Immediately replace it with the 614A key space.



Fig. 26—Method of Clinching Cotter Pin to Clear Wiring

3.07 *To remove the 615-type or 649A key when it is mounted in the PBX switchboard cord unit*, remove the keyshelf plate as covered in 3.06. Remove the two key mounting screws using the C screwdriver, and lift the key from the keyshelf as far as the skinners will permit.

3.08 *To remove a 625-type key when it is mounted in a traffic service desk*, withdraw the plunger as covered in 3.19.

Key Button

3.09 *547-, 576-, and 579-Type Keys:* To replace the button, proceed as follows. Hold the washer with the 209 wrench, and remove the button with the fingers by turning it in a counterclockwise direction. If the button cannot be removed with the fingers, hold the washer with the 209 wrench and with the 211 pliers, equipped with a 1A or 2A cushion or equivalent slid over each jaw, remove the key button by turning in a counterclockwise direction. Screw the new key button on, tightening it securely. Care should be taken to ensure that the washer is seated properly on the shoulder of the plunger rod.

3.10 *582- and 583-Type Keys:* To replace the button, remove the key as covered in 3.05 and replace the button on the plunger rod. To remount the key, proceed as covered in 3.05.

3.11 552-Type and 585A Keys Equipped With a 3-Piece Plunger: Remove the key button screw with the R-1005 jewelers screwdriver and remove the key button. Position the new key button, and reassemble the key button screw tightening it securely.

Key Button and Base

3.12 614A Key: To replace the button or base, remove the key as covered in 3.06. Remove the two key frame mounting screws using the C screwdriver. Position the key frame to clear the base, being careful not to break the wires. Substitute the new button as required. If the base is to be replaced, remove the four lamp socket block mounting screws using the C screwdriver. Substitute the new base. Reassemble the base, buttons, and key frame and insert and tighten the mounting screws securely.

3.13 615-Type Keys: To replace the button or base, remove the key as covered in 3.07. Remove the mounting screws from the base using the C screwdriver. Remove the base and buttons. Substitute the new part as required. Reassemble the base and buttons and insert and tighten the mounting screws securely.

Lens, Filter, Retainer, and Designation Card

3.14 624-, 625-, 630-, and 650-Type Keys: To replace the lens, filter, retainer, or designation card, remove the retainer using the #374B tool and replace the part as required. When replacing the designation card of the 625-type key, the plunger should be removed from the key frame and the designation card numbers positioned with reference to the projection on the plunger as shown in Fig. 28.

Plunger Rod

3.15 547-Type Keys Equipped With a One-Piece Plunger: To replace the plunger, first operate the plunger, then grasp the center of the retaining ring with the B long-nose pliers, and remove the ring and plunger. Position the new plunger in the sleeve, and operate the plunger. Hold the center of the retaining ring with the pliers, and push the ring in place on the plunger.

3.16 547-Type Keys Equipped With a 3-Piece Plunger: To replace the plunger rod, remove the spring assembly mounting screw nearest the button and slightly loosen the other spring assembly mounting screw using the C screwdriver. Tilt the spring assembly sufficiently to clear the plunger. Remove the button as covered in 3.09. Remove the washer and lockwasher. Then withdraw the plunger rod from its bearing. Insert the new plunger rod and reassemble the parts in the reverse order of removal and tighten all screws securely.

3.17 552- and 585-Type Keys Equipped With a One-Piece Plunger and 592-, 596-, and 597-Type Keys: To replace the plunger rod, remove the plunger rod screw with the R-1005 jewelers screwdriver and withdraw the plunger from the sleeve. Position the new plunger rod, and tighten the screw securely.

Plunger

3.18 624- and 650-Type Keys: To replace the plunger, remove the plunger retaining screw with the R-1005 jewelers screwdriver and withdraw the plunger. Remove the retainer with the fingers. Substitute the new plunger. Reassemble the retainer and plunger, insert in the frame, and tighten the screw securely.

3.19 625-Type Keys: Plungers of 625-type keys can be withdrawn directly; *however, when inserting a plunger in the frame of a 625-type key, take care to center the plunger in the recess and carefully apply pressure. Do not tilt the plunger nor force it into position; otherwise, the plunger tip may butt against the end of a contact spring and deform the spring.*

3.20 630-Type Keys: Plungers of 630-type keys require removal of the stop. (See Fig. 20.) *When inserting the plunger of a 630-type key, take care that the plunger leg with the rotating catch is aligned with the stop side of the key frame to avoid damage to the contact springs and plunger.*

Plunger Rod, Sleeve, Helical Spring, Washer, and Plunger

3.21 576-and 579-Type Keys: To replace the plunger rod, helical spring, washer, or plunger, remove the button as covered in 3.09.

Remove the spring assembly mounting screws as shown in Fig. 27 with the C screwdriver and remove the spring assembly, helical spring, washer, plunger, or plunger rod as required. Substitute the new part. Reassemble the parts in the reverse order of removal. Tighten the spring assembly mounting screws securely.

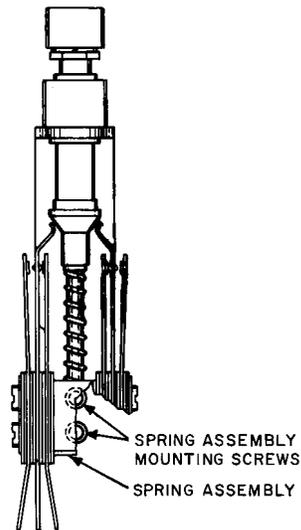


Fig. 27—Position of Spring Assembly Mounting Screws for the 576-, 579-, 582-, 583-, 596-, 597-, 614-, and 615-Type Keys (576A Illustrated)

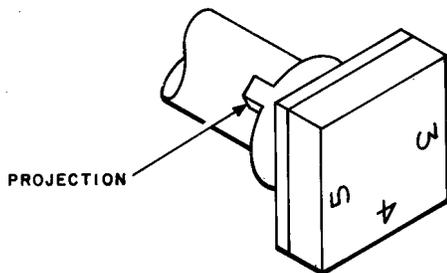


Fig. 28—625-Type Key, Designation Card Numbers Correctly Positioned With Reference to Projection on Plunger

3.22 582-, 583-, and 615-Type Keys: To replace the plunger rod, sleeve, helical spring, washer, or plunger, remove the key from its mounting as covered in 3.05 or 3.07 as applicable. In the case of the 615-type key, unsolder the leads to the switchboard cord unit and tag to facilitate

reconnecting them. Remove the key button from the 582- or 583-type key. Remove the spring assembly mounting screws shown in Fig. 27 with the C screwdriver and remove the spring assembly, sleeve, helical spring, washer, plunger, or plunger rod as required. Substitute the new part. Reassemble the parts in the reverse order of removal. Tighten the spring assembly mounting screws securely. Connect and resolder the leads to the proper terminals of the 615-type keys. To remount the 582- or 583-type key, proceed as covered in 3.05.

3.23 614A Key: To replace the plunger rod, sleeve (plunger stop), helical spring (plunger restoring spring), plunger, or washer, proceed as follows. Remove the key from the switchboard as covered in 3.06. Remove the two key frame mounting screws using the C screwdriver. Position the key frame to clear the base and lamp socket block, being careful not to break the wires. Remove the spring assembly mounting screws, shown in Fig. 27, using the C screwdriver, and position the spring assembly to clear the plunger rod. Substitute the new part as required. Reassemble the parts in the reverse order of removal, and tighten all mounting screws securely.

Cam and Rod

3.24 552-Type and 585A Keys Equipped With a 3-Piece Plunger: To replace the cam or rod, remove the plunger stop screw and the cam screw with the R-1005 jewelers screwdriver. Withdraw the key button and rod from the sleeve. If the cam is to be replaced, substitute a new cam. If the rod is to be replaced, remove and assemble the button on the new rod as covered in 3.11. To reassemble the parts, place the cam between the plunger springs and insert the rod of the button and rod assembly through the sleeve and into the cam. Insert the cam screw and plunger stop screw and tighten them securely.

KS-14672 LI Connector

3.25 614A Key: Remove the two mounting screws from the connector with the C screwdriver. Move the connector to a position convenient for unsoldering the wires. Tag and unsolder the leads. Substitute the new connector. Connect and solder the leads to the proper terminals. Remount the new connector and insert and securely tighten the screws.