INTERRUPTERS

ROTARY MERCURY-TYPE

REPLACEMENT PARTS AND PROCEDURES

1. GENERAL

1.01 This section covers the information necessary for ordering parts to be used in the maintenance of rotary mercury-type interrupters. It also covers approved procedures for replacing these parts.

1.02 This section is reissued to incorporate clearance requirements in the replacement procedures.

1.03 Part 2 of this section covers the piece-part numbers and the corresponding names of the parts which it is practical to replace in the field in the maintenance of this equipment. No attempt should be made to replace parts not designated. Part 2 also contains explanatory figures showing the different replacement parts. This information is called Replacement Parts.

1.04 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. REPLACEMENT PARTS

2.01 The figures included in this part show the various piece parts in their proper relation to the other parts of the apparatus. The piece-part numbers of the various parts are given together with the names of the parts as listed by the Western Electric Company Merchandise Department.

2.02 When ordering parts for replacement purposes, give both the piece-part number and the name of the piece part; for example, P-173238 Gasket. Do not refer to the section number or to any information shown in parentheses following the piece-part number. When ordering an interrupter ring for replacement purposes, specify the same code number that is stamped on the interrupter ring which is to be replaced; for example, 800A Interrupter Ring.

2.03 The insulators which separate the interrupter rings are not shown in the side views in order to permit normally obscured details to be shown.

2.04 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.

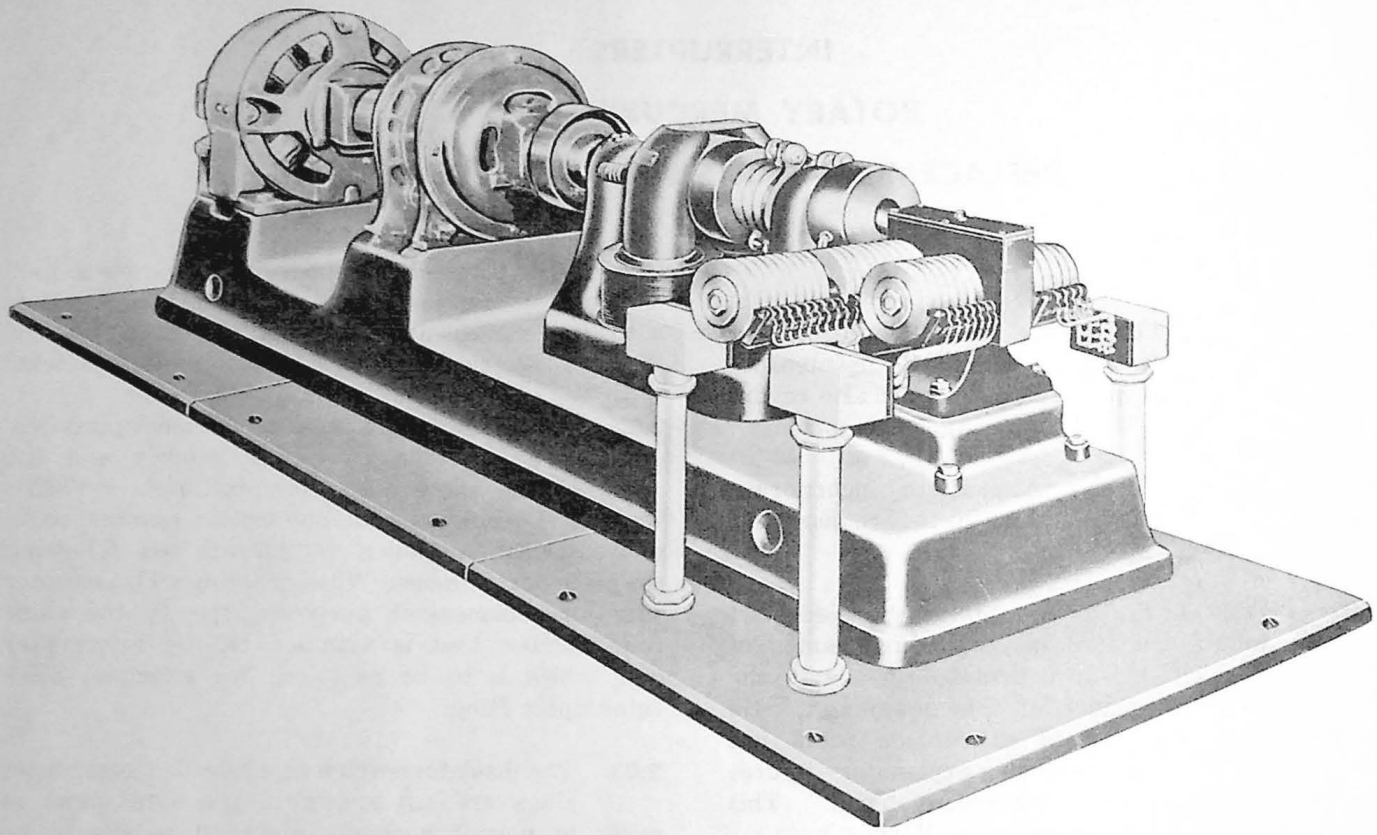

Fig. 1—General Assembly of Interrupter With Ringing Generator

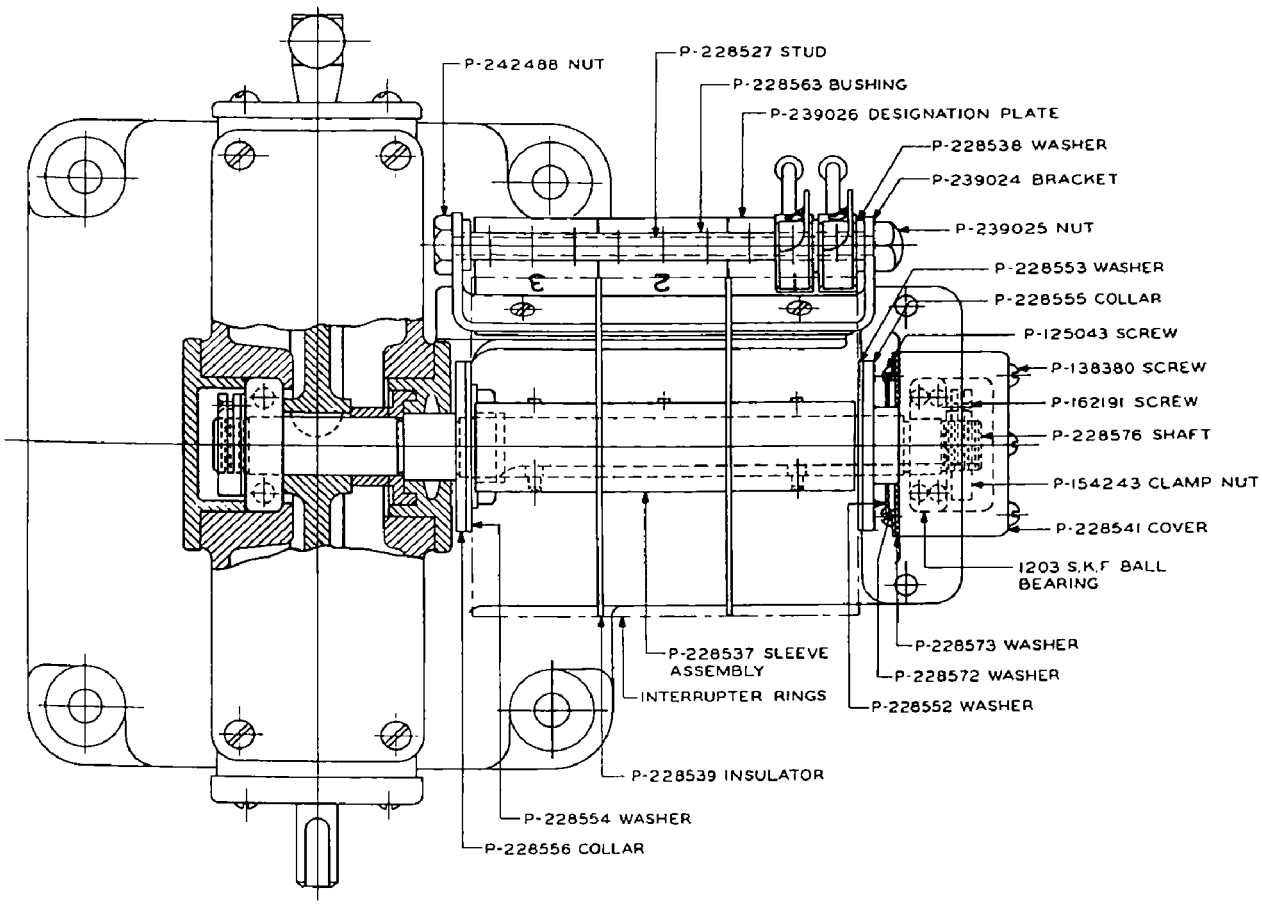

Fig. 2—1A Interrupter Mounting—Top View (For Side View See Fig. 5)

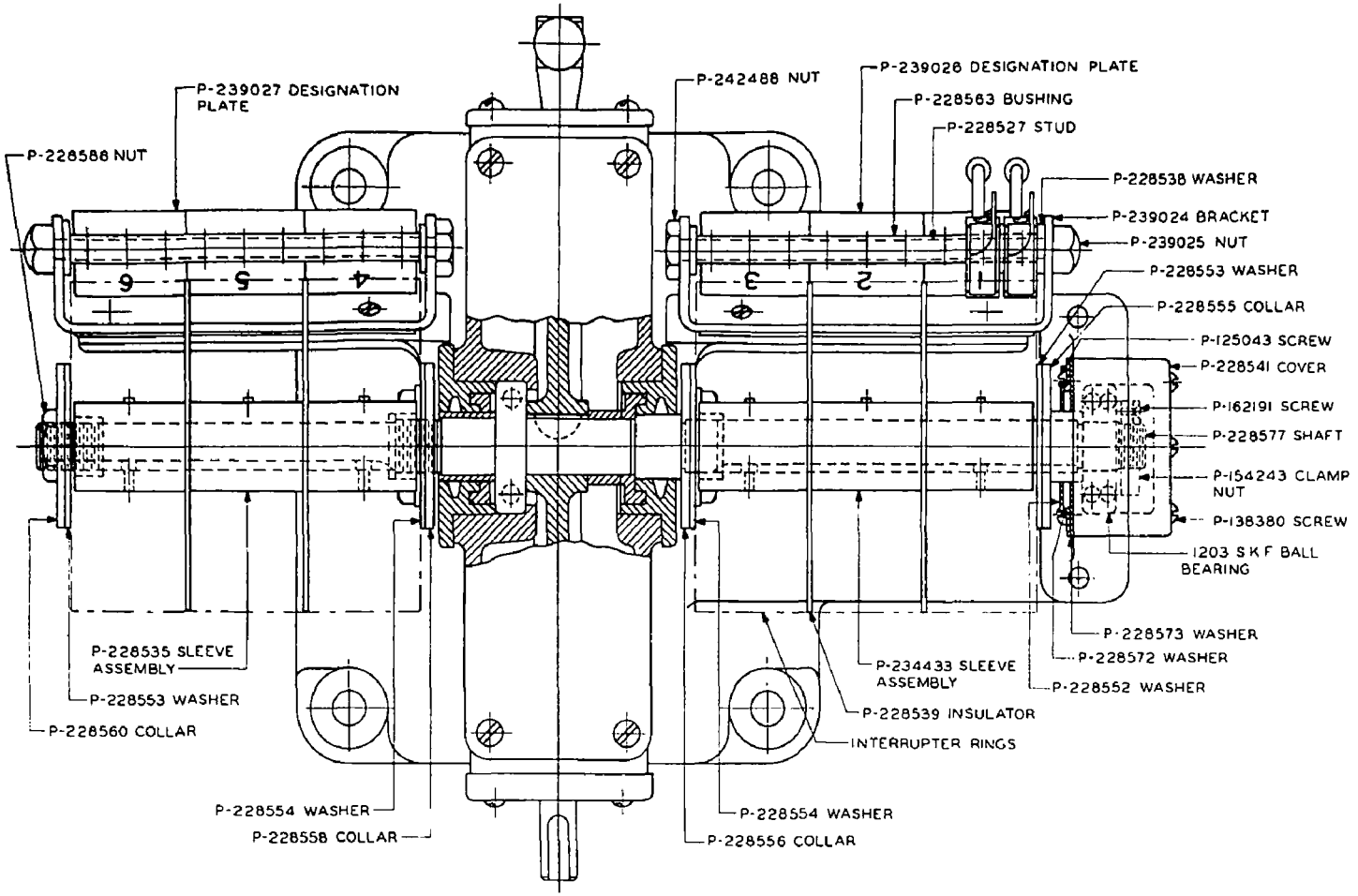

Fig. 3—1B Interrupter Mounting—Top View (For Side View See Fig. 5)

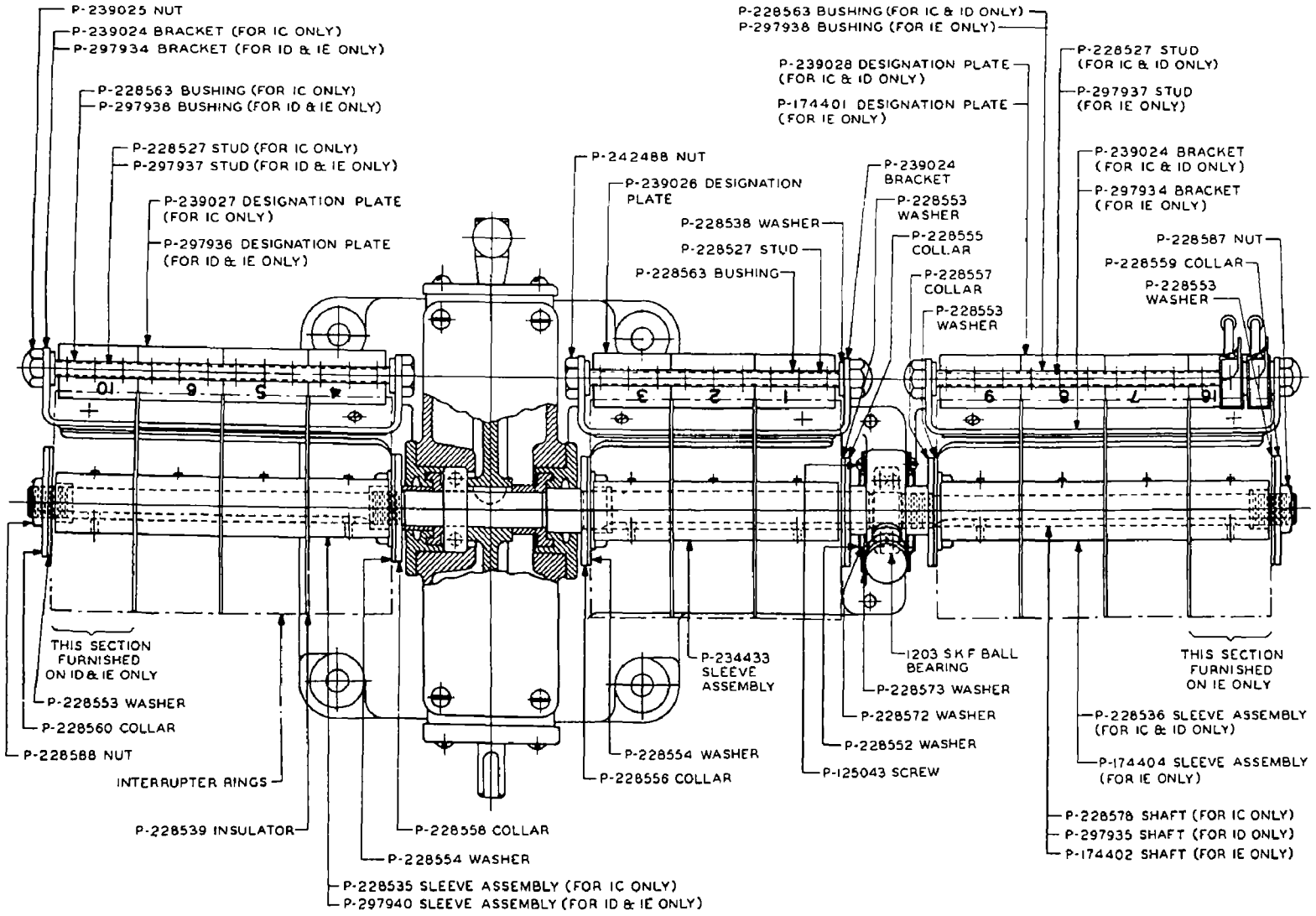

Fig. 4—1C, 1D, and 1E Interrupter Mountings—Top View (For Side View See Fig. 6)

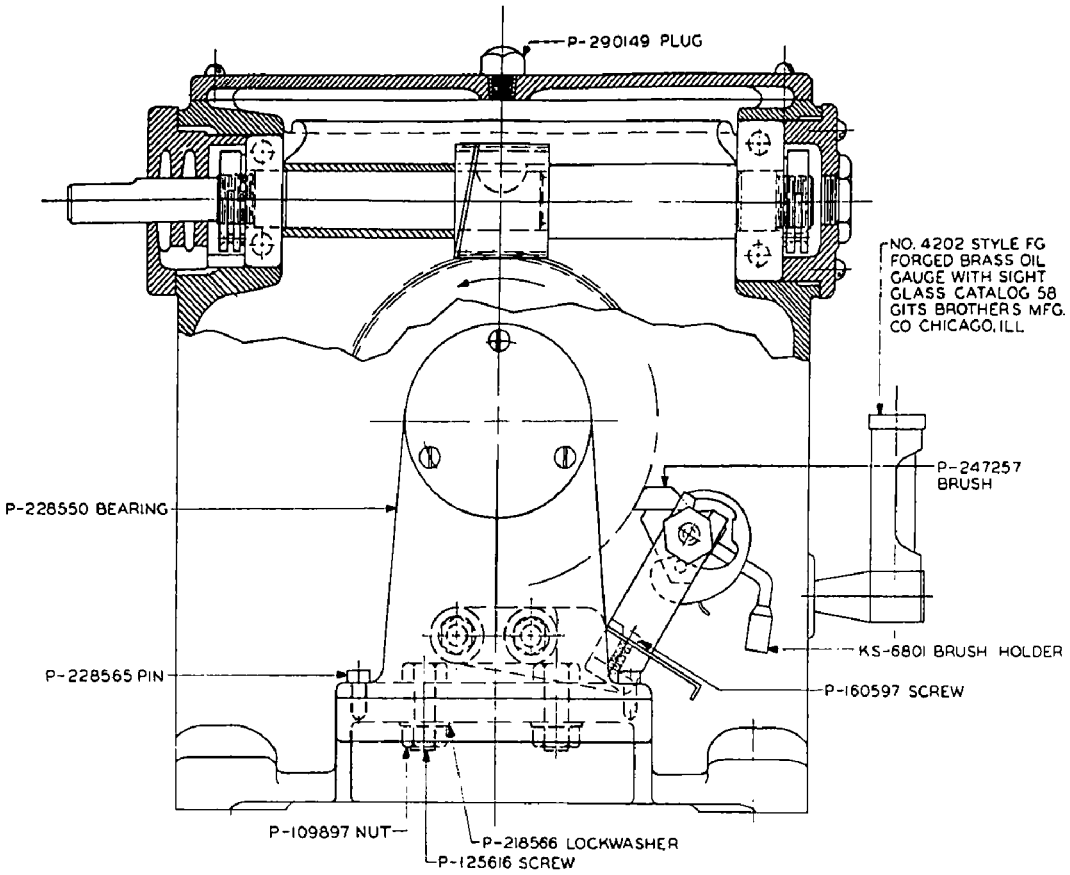

Fig. 5—1A and 1B Interrupter Mountings—Side View (For Top View See Fig. 2 and 3)

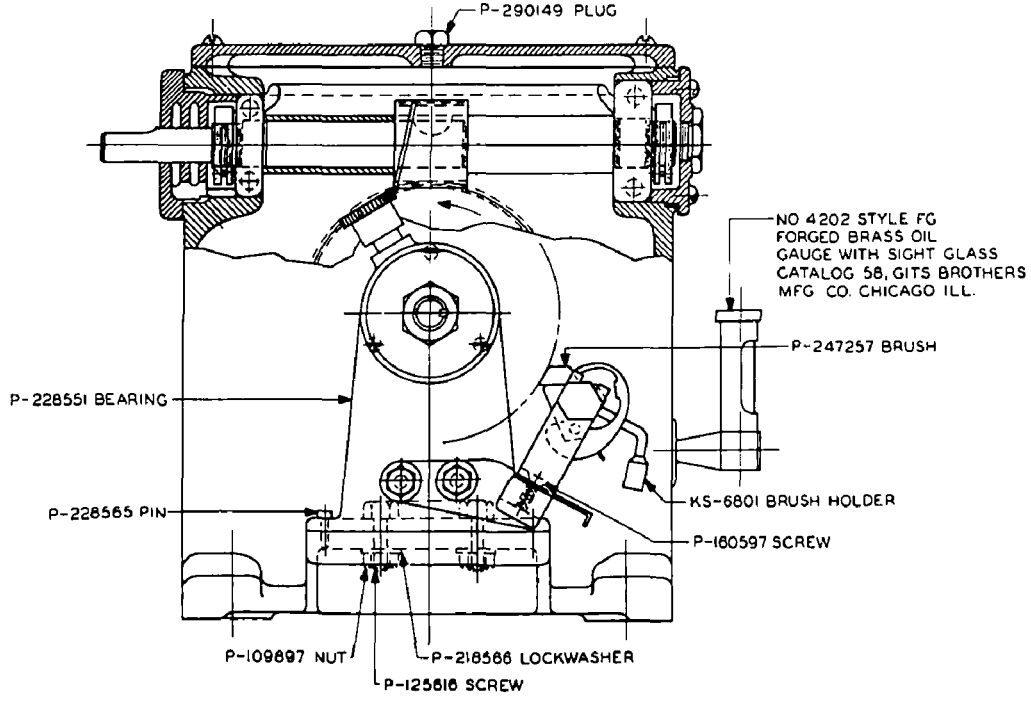

Fig. 6—1C, 1D, and 1E Interrupter Mountings—Side View (For Top View See Fig. 4)

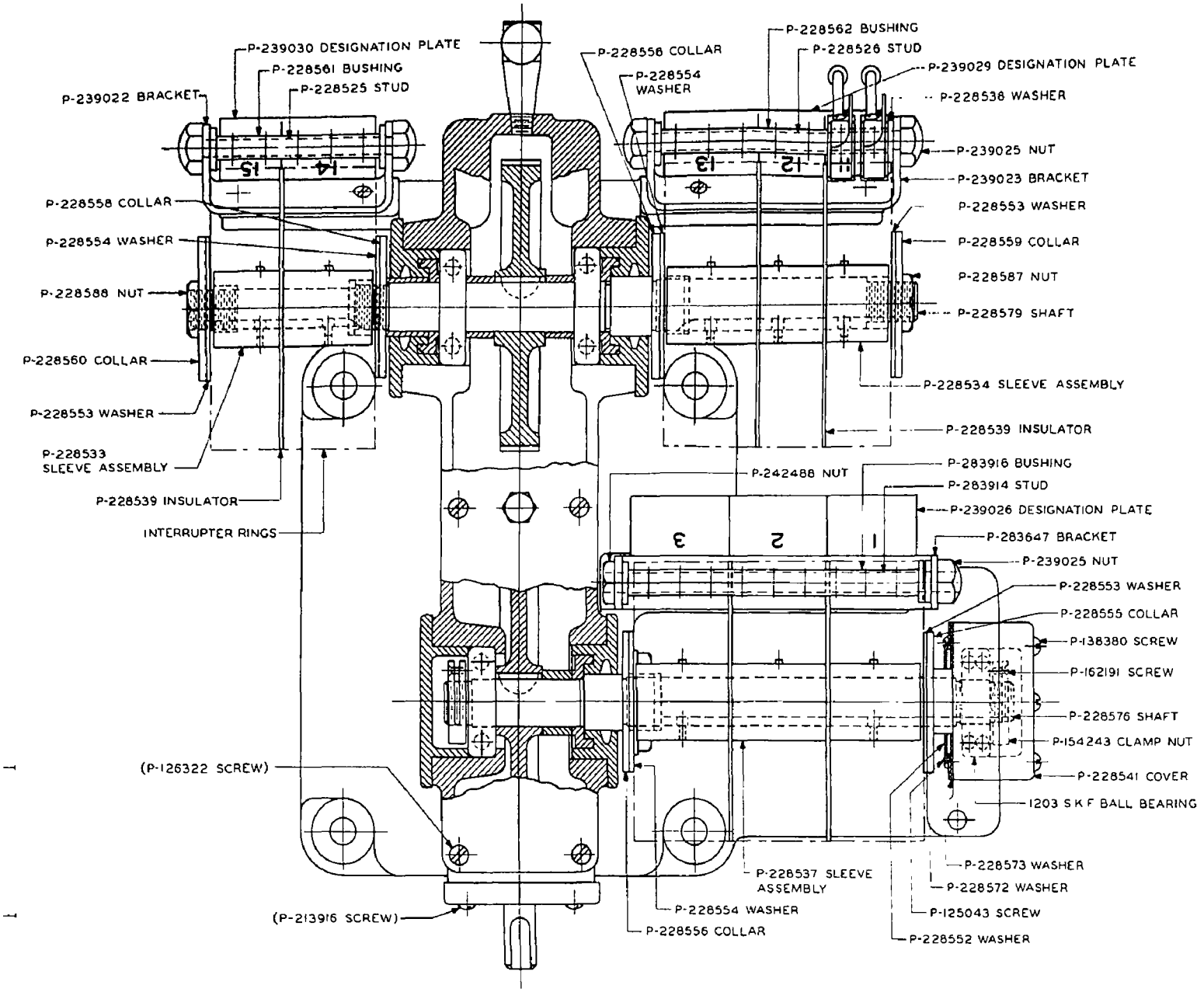

Fig. 7—2A Interrupter Mounting—Top View (For Side View See Fig. 10)

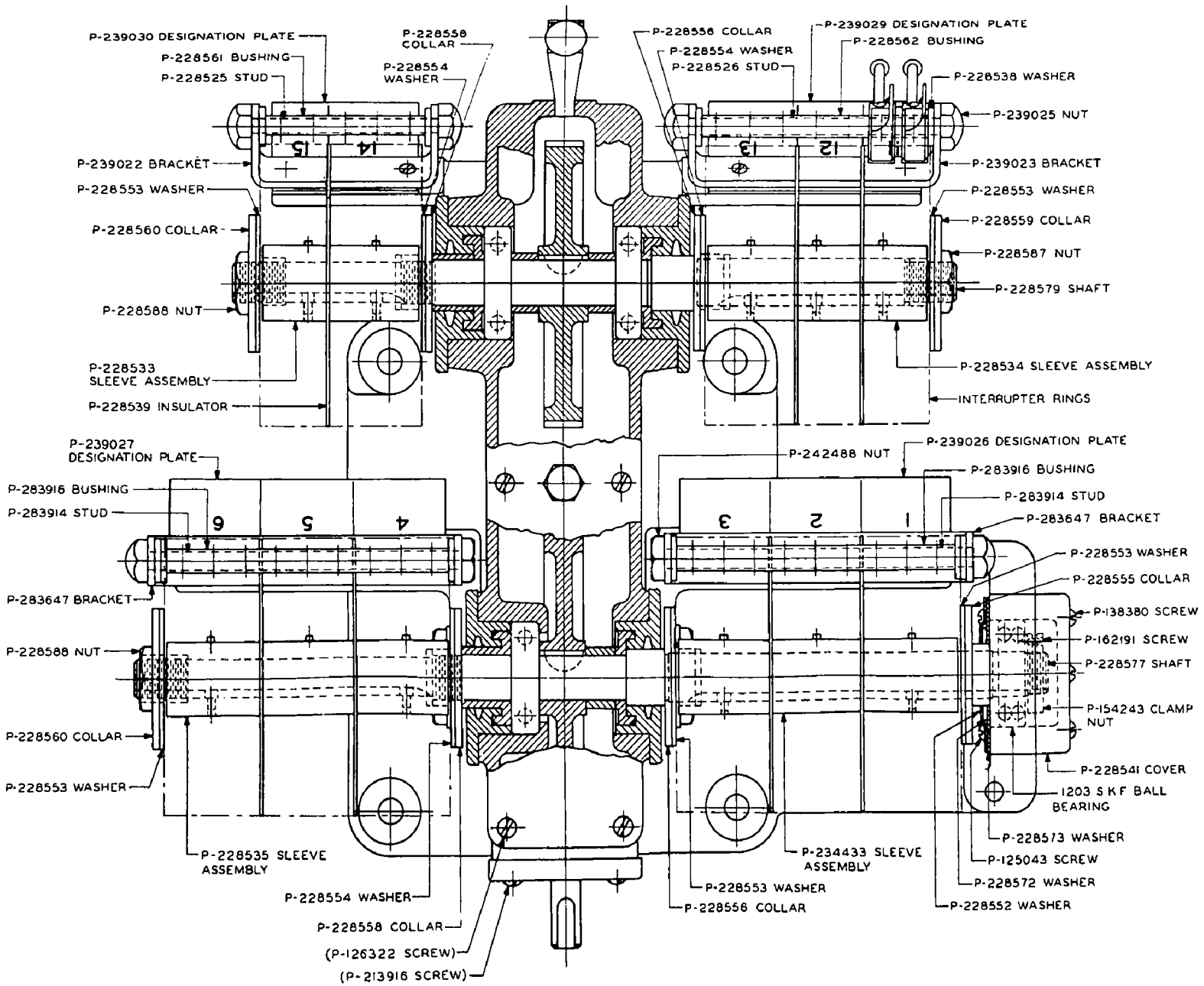

Fig. 8—2B Interrupter Mounting—Top View (For Side View See Fig. 10)

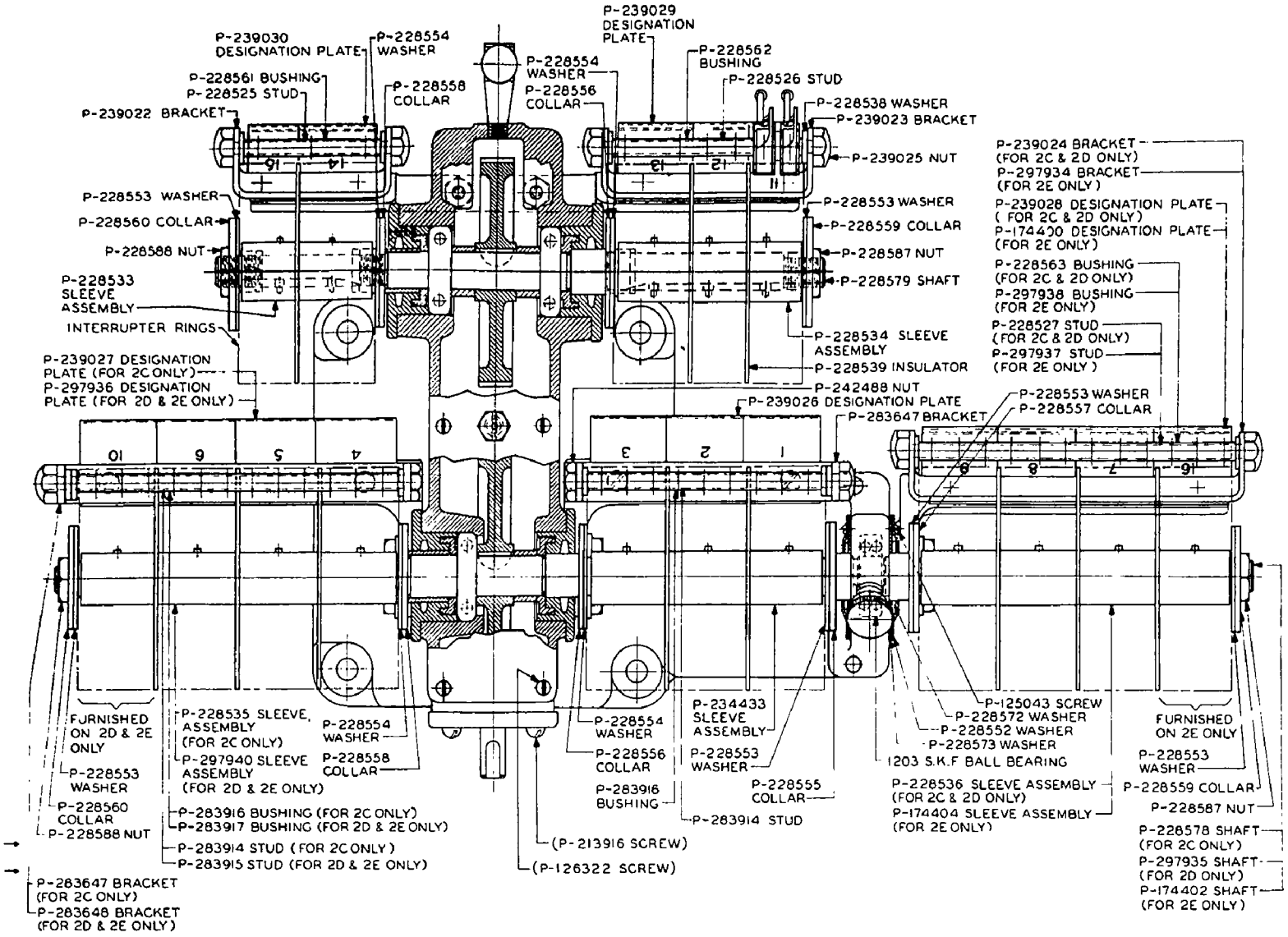

Fig. 9—2C, 2D, and 2E Interrupter Mountings—Top View (For Side View See Fig. 11)

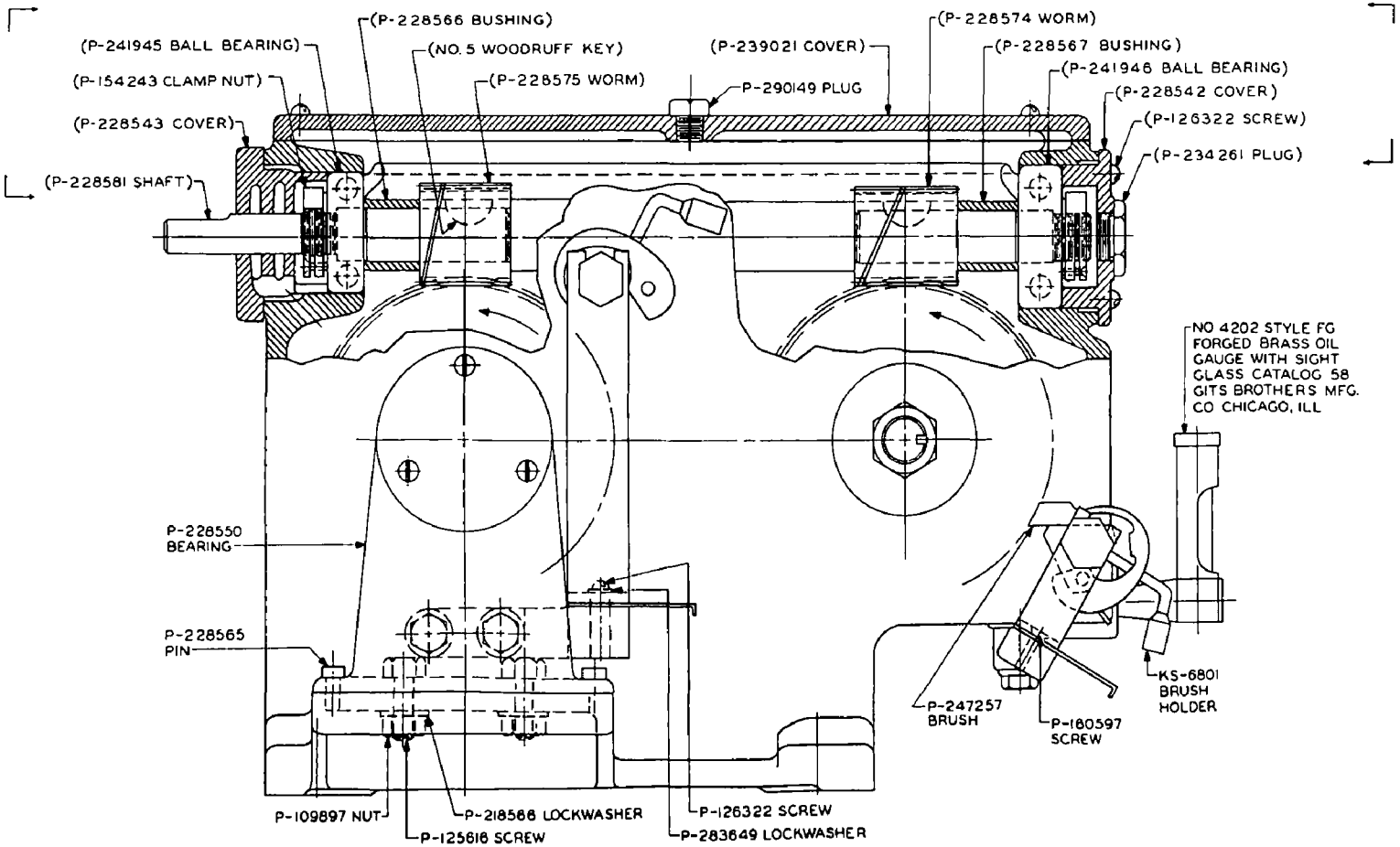

Fig. 10—2A and 2B Interrupter Mounting—Side View (For Top View See Fig. 7 and 8)

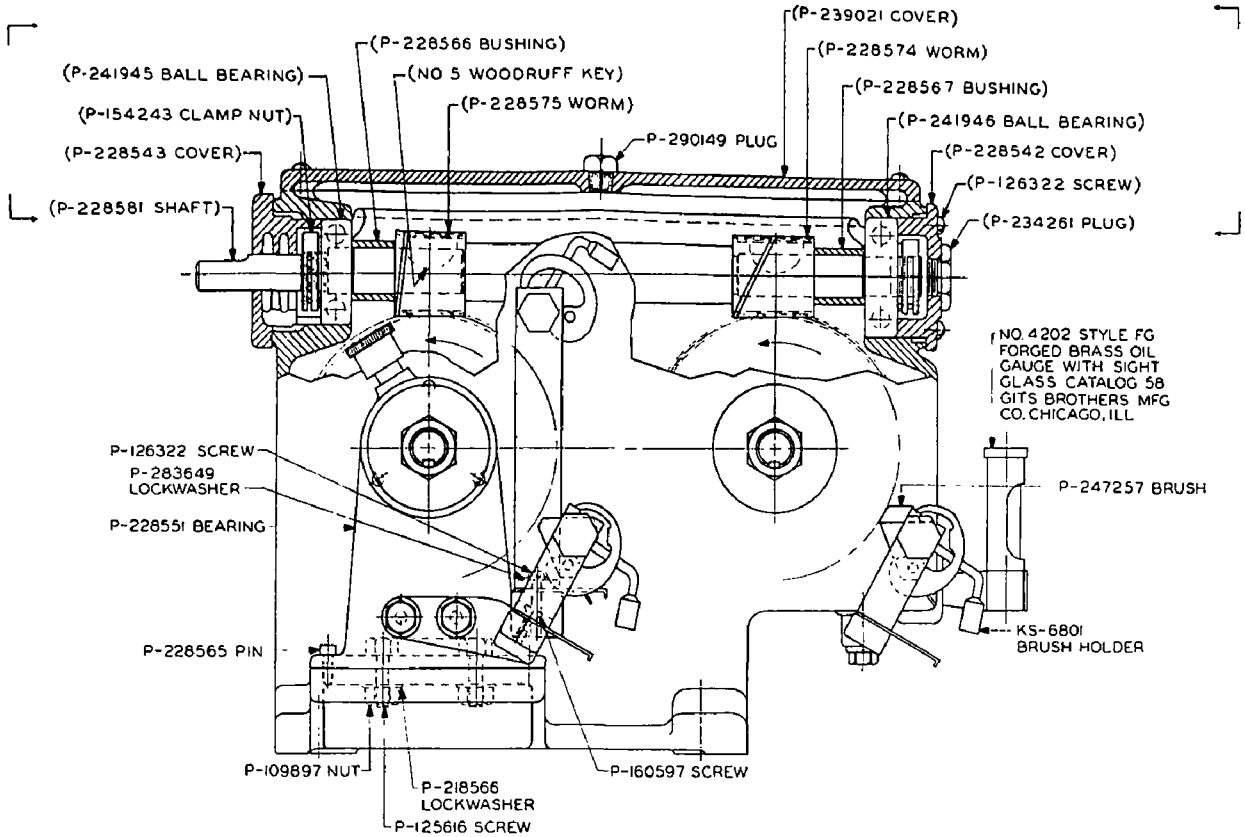

Fig. 11—2C, 2D, and 2E Interrupter Mounting—Side View (For Top View See Fig. 9)

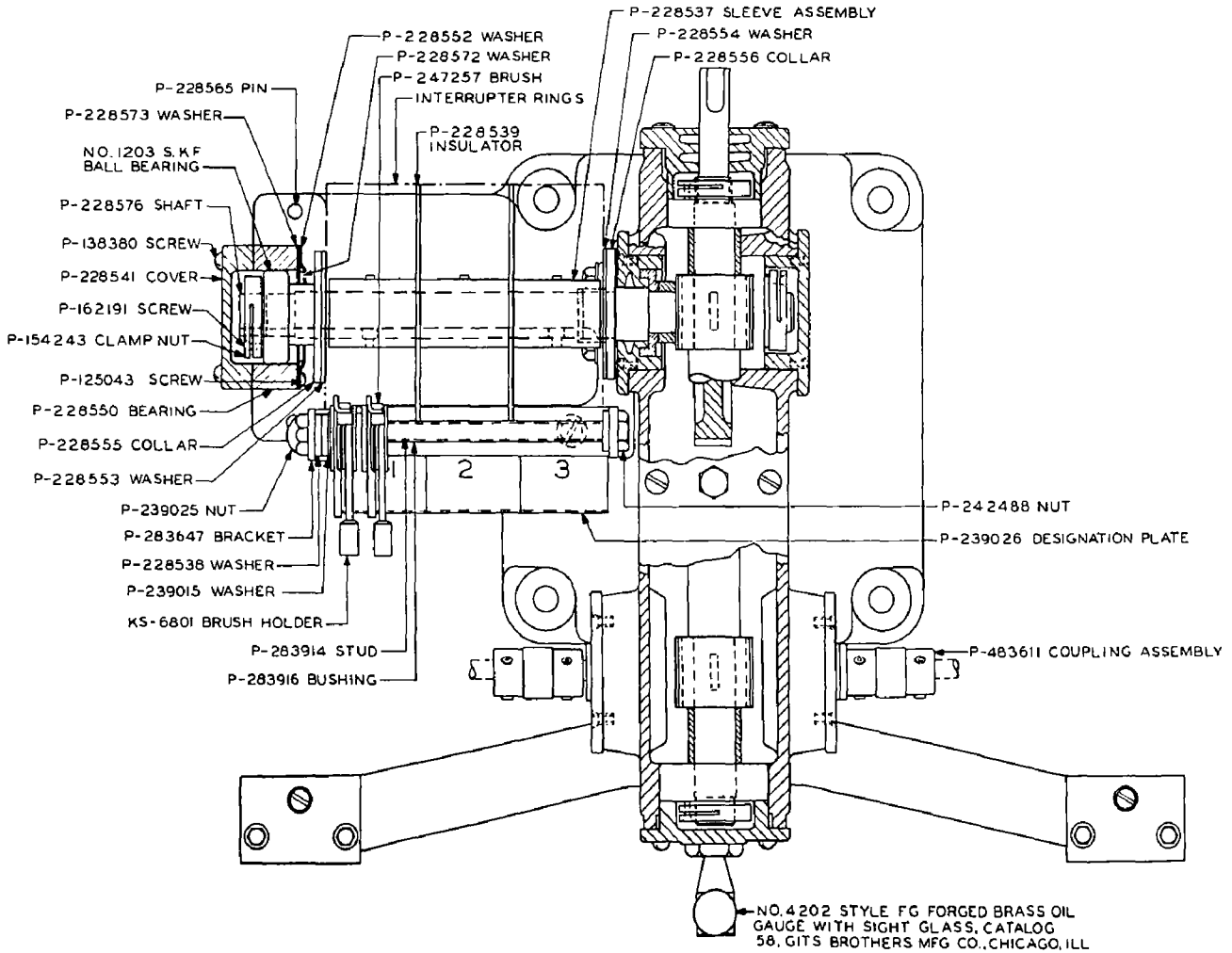

Fig. 12—3A Interrupter Mounting—Top View (For End View See Fig. 14)

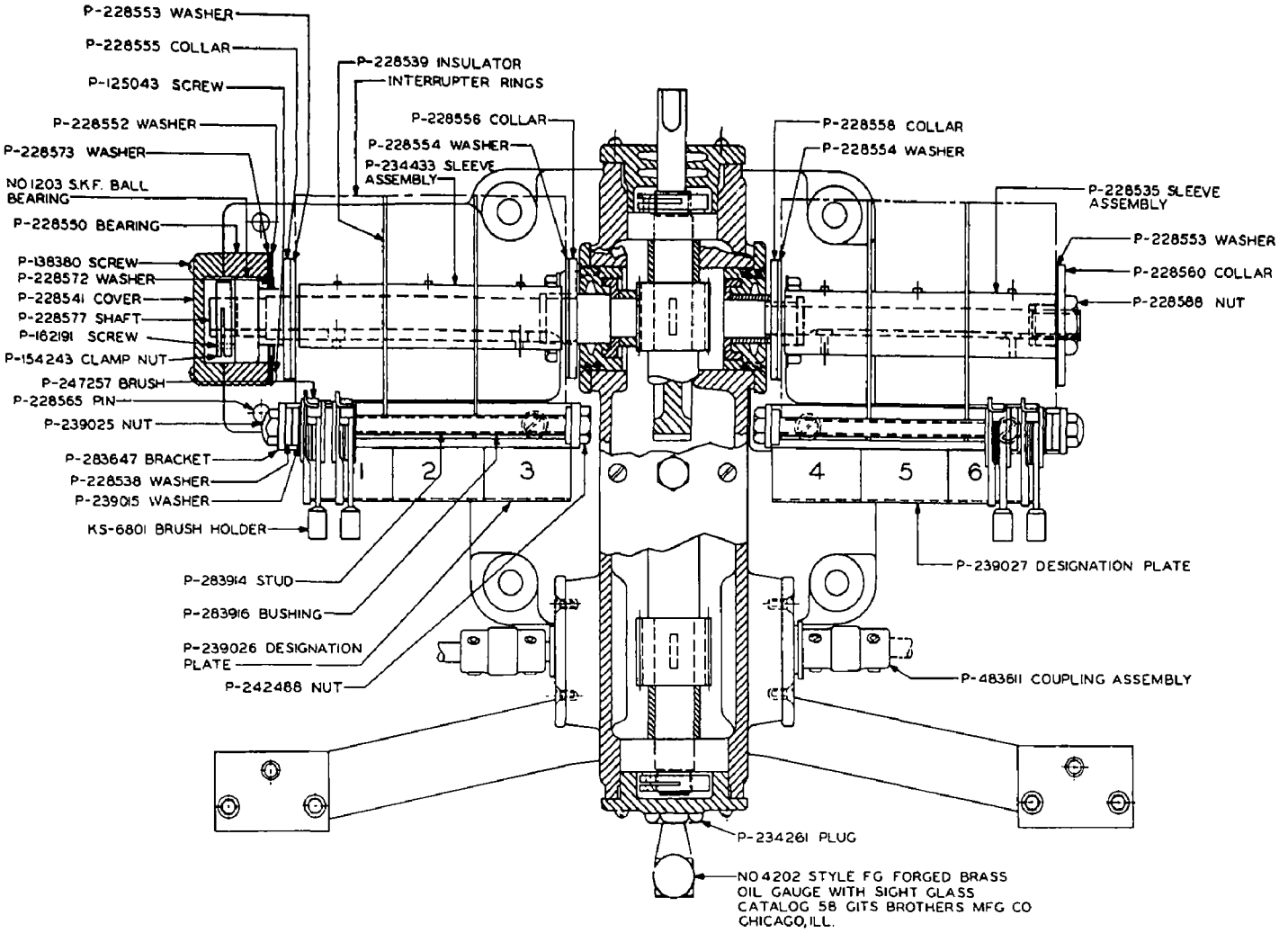

Fig. 13—3B Interrupter Mounting—Top View (For End View See Fig. 14)

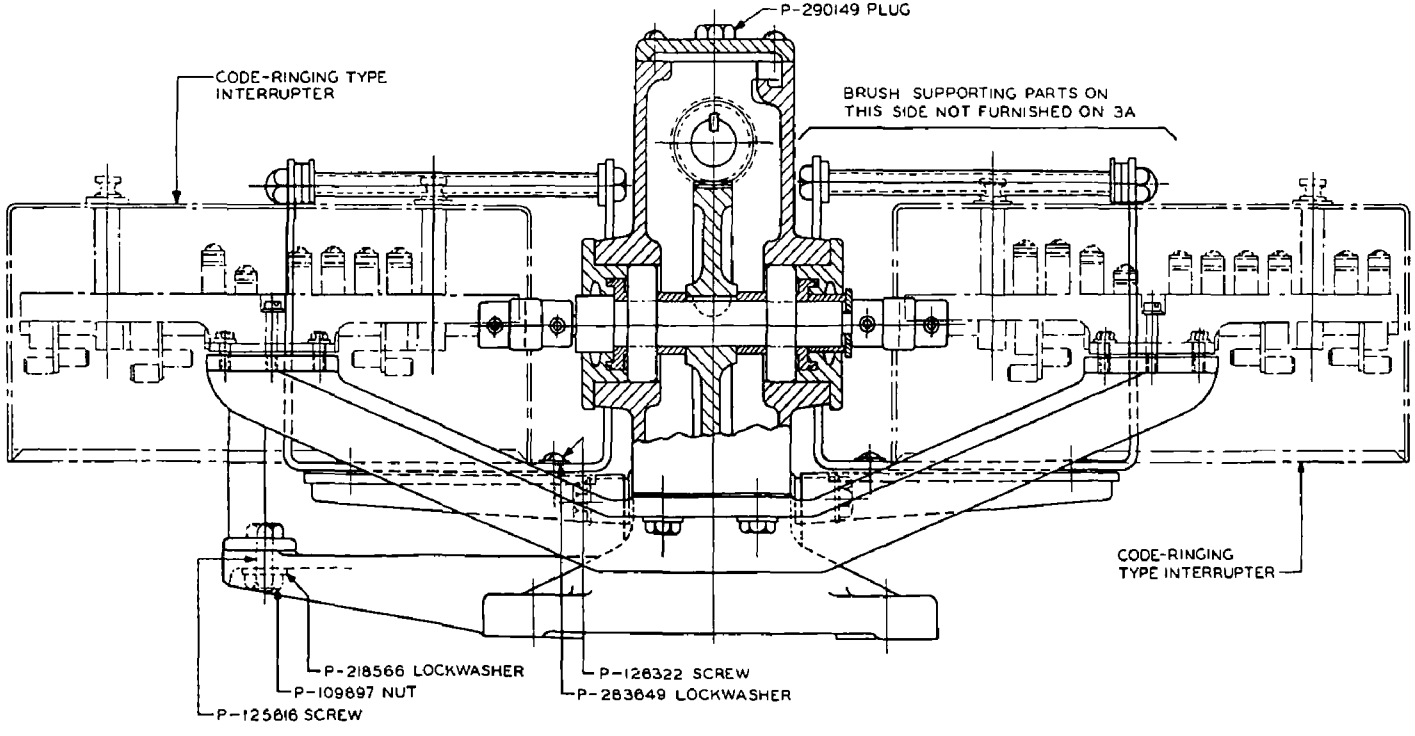

Fig. 14—3A and 3B Interrupter Mounting—End View (For Top View See Fig. 12 and 13)

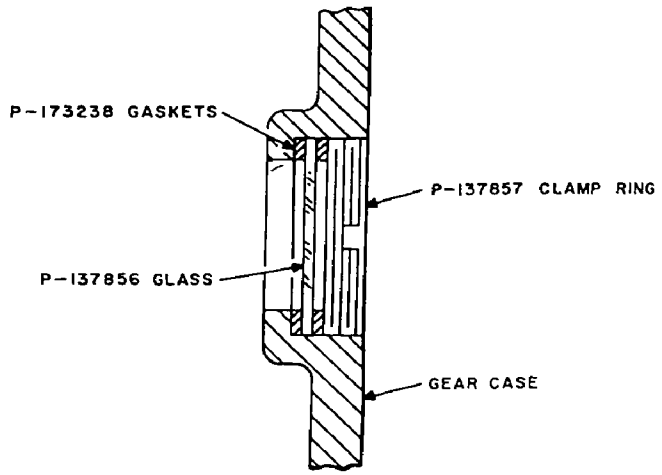

Fig. 15—Type of Oil Sight Used on Early 1- and 2-Type Interrupter Mountings

3. REPLACEMENT PROCEDURES

3.01 ***List of Tools and Materials:***

CODE OR SPEC NO.	DESCRIPTION
TOOLS	
453A	Swivel Spanner Wrench
R-1542	6-Inch Single-End Adjustable Wrench
R-2593	7/8- and 1-1/16 Inch Open-End Wrench
—	3-Inch C Screwdriver
—	Adjustable Spanner Wrench, J. H. Williams Co, No. 482
—	Putty Knife
MATERIALS	
KS-6824	Sealing Compound
KS-14666	Cleaning Cloth
—	Grease, 260-300P
—	Extreme Pressure Oil, 150-200 S 210 (SAE 140)
—	Oil, 80-100 S 210 (SAE 50)
—	1-Quart Measure (funnel attached)
—	Pail or Equivalent Receptacle for Oil
—	Goggles, American Optical Co, No. 3039-50

3.02 After making any replacement of parts, the apparatus shall be checked and, when necessary, readjusted to meet the requirements specified in Section 163-650-701 covering this apparatus.

3.03 ***Clearance:*** When reassembling parts, ensure that there is a clearance between current-carrying parts and metallic parts at ground potential of a minimum of 0.016 inch.

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

3.05 ***Brush Rigging:***

(a) ***Brushes:*** To replace a brush, release the spring tension, lift the brush holder arm away from the brush, remove the old brush, and insert a new brush. Fit the new brush as described in Section 163-650-701 before placing the interrupter in service.

(b) ***Brush Holders:*** To replace a brush holder, loosen the setscrews which secure the brush holders to their supporting stud, unscrew the crown nuts which secure the brush holder supporting steel stud and phenol fiber bushing, and remove the brush holders. Remove the defective brush holder from its lead and resolder a new brush holder to the lead in an approved manner. Reassemble using the reverse procedure. Brushes and brush holders should be reassembled in the same relative positions when not replaced by new brushes.

3.06 *Interrupter Rings:*

(a) *Interrupter Without Self-Aligning Bearing:* To replace the interrupter rings on the low-speed shaft not equipped with a self-aligning bearing, or outside of the self-aligning bearing, remove the brushes and the hexagonal nut on the end of the low-speed shaft. Remove the steel collar using the J. H. Williams Co, No. 482, adjustable spanner wrench. Remove the phenol fiber washer, and slip the interrupter rings from the phenol fiber sleeve which insulates the rings from the low-speed shaft. Replace the defective rings with new ones and reassemble using the reverse procedure. In removing the rings, their positions on the shaft and keyway should be noted so that they can be replaced in the same relative positions. If their position is not noted, the correct location and keyway for the various rings may be ascertained from ED-80296-01. In replacing the rings, see that the code number stamped on the rings is on the left-hand side as viewed from the drive shaft end of the gear case.

(b) *Interrupter With Self-Aligning Bearing:* To replace the inner interrupter rings on a low-speed shaft equipped with a self-aligning bearing, it is necessary to remove the bearing assembly as described in 3.07(a) in addition to the parts described in 3.06(a). Replace the interrupter rings in the same relative positions as described in 3.06(a) and reassemble using the reverse procedure.

3.07 *Bearings:*

(a) *Interrupter Without External Interrupter Rings:* To replace the self-aligning bearing on the low-speed shaft which is not equipped with external interrupter rings, remove the bearing cover machine screws with the 3-inch C screwdriver and remove the bearing cover. Loosen the machine screw in the clamp nut on the end of the low-speed shaft with the 3-inch C screwdriver and remove the clamp nut, using the R-2593 wrench. Withdraw the ball bearing from the bearing housing. Unscrew the nuts on the bearing housing mounting cap screws and steel studs and slip the bearing housing from the low-speed shaft. Remove the machine screws and nickel-silver washers using the 3-inch C screwdriver, and replace the felt washer with a new one. Replace the old bearing with a new one, repack with grease (260-300P), and reassemble in the reverse order of removal. Coat the housing with KS-6824 sealing compound and tighten all screws and nuts securely.

(b) *Interrupter With External Interrupter Rings:* To replace the self-aligning bearing on the low-speed shaft which is equipped with the external interrupter rings, remove the interrupter rings as described in 3.06(a). Replace the old ball bearing and felt washers with new ones as described in 3.07(a). Reassemble using the reverse procedure.

3.08 *Flush-Type Oil Sight:* To replace the oil sight glass or an oil sight part, drain the oil from the gear case by removing the drain plug with the R-1542 adjustable wrench. A suitable container should be used for catching the oil which is removed from the gear case. Remove the oil sight clamping ring with the 453A swivel spanner wrench and replace the defective part. The old cork gasket should always be replaced with new neoprene gaskets, located on both sides of the sight glass, whenever any part of the oil sight is replaced. Screw the clamping ring up firmly. Remove the old sealing compound from the plug and from around the drain hole using a putty knife. Goggles should be worn to protect the eyes from flying particles. Replace the drain plug after coating with KS-6824 sealing compound and refill the gear case with oil to the proper level as described in Section 163-650-701.