

**Lubrication Aid for DS Circuit Breakers**

Levering In Device

- 1) The Worm Wheel gear threads are lubricated with 53701HE (Lubriplate 130A) in accordance with MIL 1A30569.
- 2) The Levering-In Device worm shaft (791A675H01) where it is assembled through the worm shaft bushing is lubricated with 53701HE (Lubriplate 130A) in accordance with MIL 1A30569. The part may be identified on Dwg. 449D224 as Part # 6
- 3) The Levering -In Device Crank Arm Shaft where it passes through the Circuit Breaker side sheets is lubricated with 53701HE (Lubriplate 130A). Apply grease to all external bearing surfaces that contact the frame side sheets in accordance with Dwg. 809A265 and MIL 1A30502 and Dwg. 6616C52. The shaft is also lubricated with 53701HE in accordance with MIL 1A30571 where the Crank Arm Shaft contacts the poxylubed Levering – In Device Welded Assembly (as shown on Dwg.693C118).
- 4) The Levering-In Device Gear driving faces are lubricated with 53701HE (Lubriplate 130 A) in accordance with MIL 1A30570.
- 5) The Levering In Device Large Nut Threads (791A674H01) are lubricated with 53701HE (Lubriplate 130A) in accordance with e mail from Mr. Stan Budol dated 1/28/99
- 6) The Levering-In Device surface between the Push To Trip and Shutter is lubricated with 53701HE in accordance with Dwg. 809A265.
- 7) The Interlock Lever (786A17H01) is lubricated with 53701HE (Lubriplate 130A) in accordance with Dwg. 140D097. This is part # on Dwg. 2.
- 8) The Levering-In Device is operated during the assembly phase and sticking points are lubricated with 53701HE in accordance with MIL 1A30571 step # 17.
- 9) The Manual Trip Device Assembly is operated during the assembly phase and sticking points are lubricated with 53701HE in accordance with MIL 1A30548.

Pole Shaft Assembly

- 1) The Pole Shaft (designated as "Jack Shaft" on Dwg. 809A265) is lubricated with 53701HE (Lubriplate 130 A) on a total of 4 bearing surfaces in accordance with Dwg. 809A265. Two of the surfaces are designated on Dwg.695C005 and on MIL1A30507 steps 1 & 2. The three bearing plates per side (349A459H02) which are attached to the inner surface of the frame side sheets, are held, and grease is applied to the hole the pole shaft ends are inserted into. The pole shaft ends are also lubricated prior to insertion into the bearing plates. The other two bearing surfaces are where the pole shaft contacts the operating mechanism side sheets in the center of the Circuit Breaker.

Pole Unit Hinges

- 1) The Pole Unit Hinges for all three types of Circuit Breaker are lubricated with Westinghouse Grease 53701AN on 4 contact surfaces in accordance with the appropriate Dwg. (DS 206 / 591C652, 809A265 and MIL 1A30704) (DS 416 & 420 / 139D633, 809A265 and MIL 1A30707).

Operating Mechanism (Motor Mechanism Assembly)

- 1) The following parts are lubricated with 53701QB (BR-2) in accordance with MIL 1A30634 and Dwg. 809A265. The parts are listed on Assembly Dwg. 567F759. Some of the below parts have multiple usage in the assembly. Check the Dwg. closely and the MIL for assembly instructions.
  - a) Oscillator Assembly [Motor Driving Face] (436B923G01) Part # on Dwg 24
  - b) Mechanism Bushing (795A062H01) Part # on Dwg. 26
  - c) Washer [To hold onto the assembly](70530BA3DW) Part # on Dwg. 27
  - d) Bushing [Outside surface](795A062H02) Part # on Dwg. 28
  - e) Thrust Bearing (72004BJ02B) Part # on Dwg 29 This part must be cleaned with Mineral Spirits, air dried and packed with grease prior to installation.
  - f) Thrust Bearing Washers (72004AQ05T) Part # on Dwg. 30

Operating Mechanism

- 1) The Main Roller Cam surface is lubricated with 53701QB (BR-2) in accordance with MIL 1A30634
- 2) The Trip Lever Shaft (349A613G01) (also designated the Trip Pin) is lubricated at both ends with 53701QB (BR-2) in accordance with Dwg.

## QUALITY ASSURANCE PROCEDURE

809A265. The part may be seen as Part # 17 on Dwg. 567F430 or as part # 19 on Dwg. 6616C52.

- 3) The Crank Arm Pins are lubricated with 53701QB (BR-2) in accordance with MIL 1A30502. The locations may be seen on Dwg. 6616C52 as part # (location) 14.
- 4) Installed into the side sheets for the Operating Mechanism are 2 roller needle bearings (72004CK02N) which must be cleaned with Mineral Spirits, air dried and lubricated with Shell Avania No. 2 Grease prior to installation.

### General Assembly Points

- 1) The pins for each of the four Breaker Rollers are lubricated with 53701HE (Lubriplate 130A) in accordance with Dwg. 809A265.
- 2) The Pins on the moving end of the Closing Springs (the ones near the center part of the Circuit Breaker) are lubricated with 53701QB (BR-2) in accordance with Dwg. 809A265. This is the location where the spring end is attached. The location may be seen on Dwg. 6616C52 as part # (location) 14. **Note: The Dwg. shows four (4) location 14's. These represent both ends of the Closing Spring.**