



# M AINTENANCE I NSTRUCTION

## BATTERY CHARGING CONTACTORS 8200708 AND 8238712

### DESCRIPTION

Battery charging contactor 8238712 is equipped with an interlock assembly fastened to the side of the magnet yoke and core as shown in Fig. 1. Contactor 8200708 is not equipped with an interlock assembly but is otherwise identical in every respect to contactor 8238712. Due to their similarity, all information presented in this bulletin will apply to both of them.

These contactors are especially designed to provide long life in heavy duty service. They function to connect the auxiliary generator to the battery for charging purposes.

The double breaking main contacts, utilizing four contact bridges in parallel, are rated at 250 amperes and are of silver alloy construction requiring no maintenance other than occasional inspection. The contacts break vertically with contact faces at a 45° angle to direction of motion. This allows the advantages of good arc dissipation, and self-aligning of contacts under effective spring pressure.

Although these contactors are not equipped with specific arc suppression devices, they can easily withstand normal arcing encountered in service. The arc chute should always be kept in place for arc suppression and to keep moving parts enclosed and protected from damage.

### MAINTENANCE

Inspection at intervals prescribed in Scheduled Maintenance Program, Main-

tenance Instruction 1704, is all that is needed to keep these contactors operating properly. Such inspections should reveal the need, if any, for further attention and replacement of worn parts.

### INSPECTION

1. Open main battery and auxiliary generator knife switches to protect batteries and auxiliary generator from damage while inspecting contactor.
2. Remove the four screws holding the arc chute assembly in place.
3. Move plunger by hand to check for binding parts and for proper make and break of contacts.
4. Inspect condition of stationary and movable contacts. Contacts are of a silver alloy material and should NEVER be filed or dressed even though they appear blackened and eroded. Contacts, both movable and stationary, should be replaced when the alloy is worn to the base metal.
5. Inspect tightness of electrical connections to coil and contact terminals.
6. See that contactor is securely fastened to its panel.
7. Check coil insulation condition for signs of overheating or damage. Check coil resistance.
8. Check moulded parts for cracks and breaks.

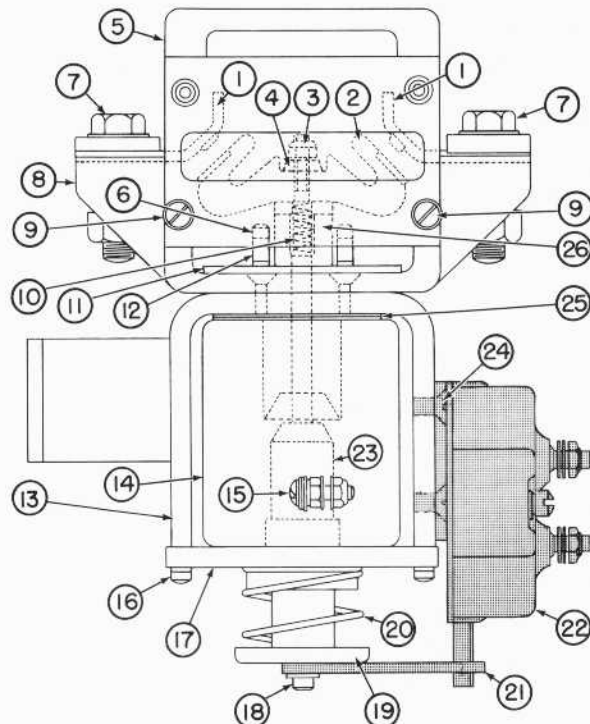
\* THIS BULLETIN IS COMPLETELY REVISED AND SUPERSEDES M. I. 2048.

## CONTACT REPLACEMENT

When any of the contacts are burned or worn to the extent that replacement is necessary, it is recommended that all contacts, both stationary and movable, be replaced. This may easily be done by referring to Fig. 1 and following the procedure below.

1. Remove arc chute (5) by removing the four screws (9) that hold it to the stationary contact support (8). Lift arc chute vertically.
2. Remove the two hex head bolts (7) from stationary contact support (8). Stationary contacts (1) can now be removed.
3. Remove elastic stop nut (3) from movable contact carrier (26). Remove retaining plate (4), which will permit removal of movable contacts (2) and compression springs (10).
4. Using new contacts, reassemble in reverse order to disassembly.
5. Manually check plunger and contact travel and overtravel as well as contact alignment. Energize coil to check for proper electrical pickup and drop-out. See Maintenance Data section for specifications.

3. Remove the four end plate capscrews (16) and remove yoke end plate (17). The magnet coil (14) and the insulating and spring washers (25) can now be dropped from the magnet yoke (13) and core.
4. Reassembly may be done in reverse order to disassembly. Use care to position coil properly so that its locating dowel pin fits into the mating hole in the yoke end plate.
5. Manually and electrically check contactor for proper operation.



## COIL REPLACEMENT

Although it is seldom necessary to replace the magnet coil, it may be done by referring to Fig. 1, and following the procedure below.

1. Disconnect leads from coil terminals (15).
2. Remove plunger cap screw (18) that fastens into the bottom of plunger (23). This releases cup washer (19) and return spring (20). (It also releases operating arm (21) on contactor 8238712.)

- |                               |                                  |
|-------------------------------|----------------------------------|
| 1. Stationary Contact         | 14. Magnet Coil                  |
| 2. Movable Contact            | 15. Coil Terminal                |
| 3. Elastic Stop Nut           | 16. End Plate Capscrew           |
| 4. Retaining Plate            | 17. Yoke End Plate               |
| 5. Arc Chute                  | 18. Plunger Capscrew             |
| 6. Socket Head Cap-screw      | 19. Cup Washer                   |
| 7. 3/8" Hex. Head Bolt        | 20. Return Spring                |
| 8. Stationary Contact Support | *21. Operating Arm               |
| 9. Special Screw and Washer   | *22. Interlock Assembly          |
| 10. Compression Spring        | 23. Plunger                      |
| 11. Clamp Plate               | *24. Machine Screw               |
| 12. Spacer                    | 25. Insulating and Spring Washer |
| 13. Magnet Yoke               | 26. Movable Contact Carrier      |
|                               | * Not Used On Contactor 8200708  |

Fig. 1 - Cross-Section Contactor 8238712

## MAINTENANCE DATA

Coil resistance @ 20° C. - - - - - 386  $\pm$  10% ohms  
 Working voltage - - - - - 74 volts DC  
 Pickup voltage - - - - - 48 volts DC max.  
 Dropout voltage - - - - - 5 to 28 volts DC max.  
 Plunger travel - - - - - 5/16" to 3/8"  
 Plunger overtravel - - - - - 1/16" to 3/32"  
 Contact pressure - - - - - 3 to 4 lbs.  
 Contact wear limit - - - - - 1/16" or when worn to base metal

## Hy-Pot

Coil to ground - - - - - 600 volts RMS, 60 cycles  
 Coil to contacts - - - - - 600 volts RMS, 60 cycles  
 Contacts to ground - - - - - 600 volts RMS, 60 cycles

Interlocks on Contactor 8238712 - - - - - 1 N.O. and 1 N.C.  
 Interlock pressure - - - - - 0.25 lb.  
 Interlock opening - - - - - 3/16"  
 Interlock wear limit - - - - - 1/16" per mating pair