

Instructions for Type MW-31 and 41 Side Mounting 3rd Overload Relay Kit for Starters --- Sizes 3 and 4

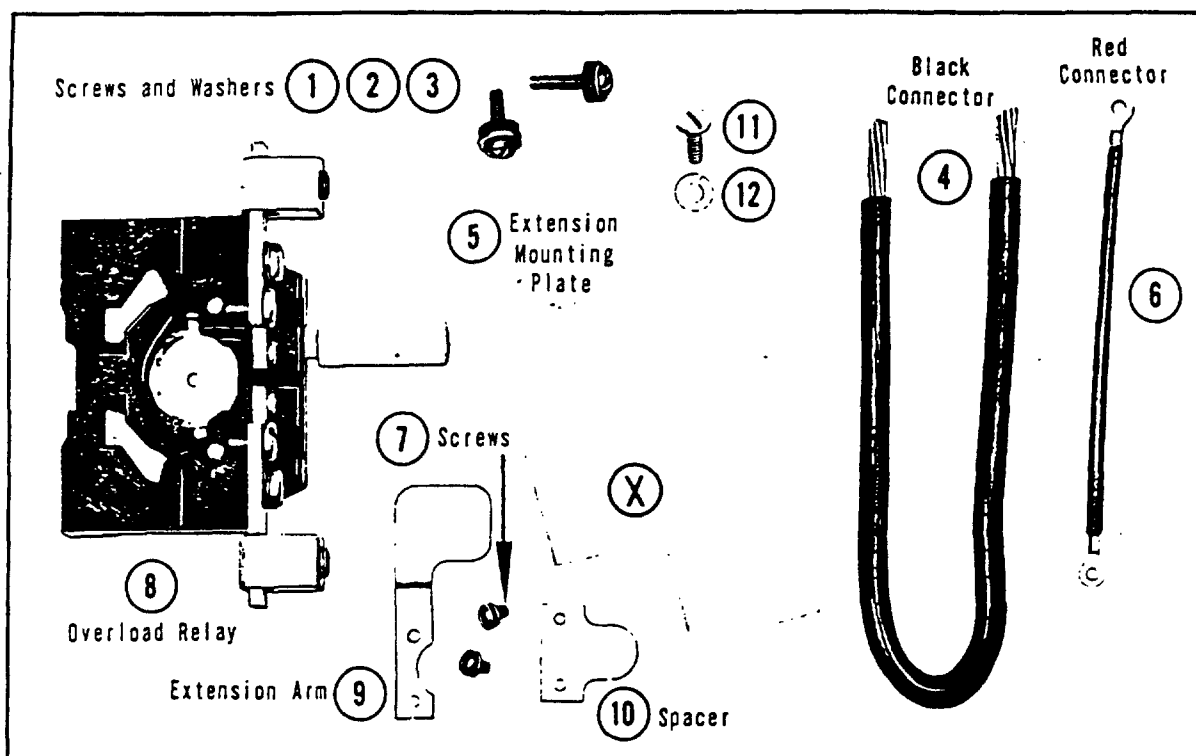


Figure 1. Component Parts of 3rd Overload Relay Kit

MATERIAL

- | | | |
|-----------------------|-----------------------------------|-------------------|
| (1) Pan Screw | (5) Extension Mounting Plate | (9) Extension Arm |
| (2) Washer | (6) Connector | (10) Spacer |
| (3) Washer (Neoprene) | (7) Pan Screw and Washer | (11) Screw |
| (4) Connector (Black) | (8) Overload Relay MW-31 or MW-41 | (12) Lockwasher |

Installation

1. Remove starter from enclosure.
2. Referring to Figs. 2 and 3, disconnect wires to right hand overload relay as follows:
 - a. Disconnect strap at point "A".
 - b. Disconnect wire "H" at point "K" and wire "C" at point "L".
3. Remove right hand overload relay from starter by removing two mounting screws. Cut away insulation plate to first score mark. Using screw and lockwasher (11) and (12) place screw (11) thru clearance hole

("X" in Fig. 1) in extension mounting plate (5) and screw into middle tapped hole in main base.

4. Using the overload relay removed in Step 3, mount relay on starter and extension mounting place using original screws. These screws will go thru the clearance holes in the overload relay, thru the clearance hole in the extension mounting plate and into the tapped holes in the main base.
5. Mount overload relay (8) with screws (1), (2) and (3) following the same procedure as outlined in Step 4. See Figure 4. Note: This relay is connected in load lead T2 so

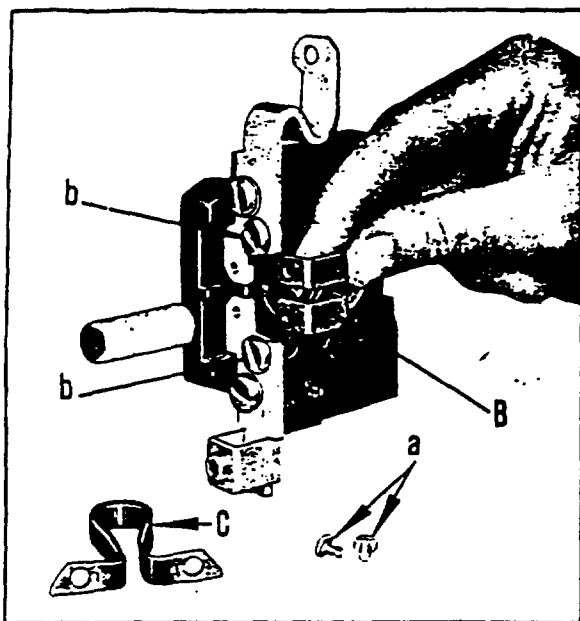


Figure 6. Install Heater "B" in the Relay. Using Small Screws "a" Threaded Into Holes or Install Heater "C" Using Larger Screws "b". Be sure the Looped Portion Enters the Recess in the Relay.

temperature, heaters should be applied according to Heater Table for average applications. When the room temperature surrounding the motor exceeds that at the starter, assume a decreased motor current of 1% for each degree C. difference in temperature and select heaters accordingly. When the room temperature at the starter exceeds that at the motor, assume an increased motor current of 1% for each degree C. difference in temperature and select heaters accordingly.

Confining the relay in a small space, such as a starter cabinet, with other apparatus which produces heat will raise its ambient temperature, affecting its tripping value. Heater Application Tables P and S are for use with enclosed starters when the ambient temperature within the cabinet and immediately surrounding the relay is above the ambient temperature in which the motor operates.

Description

Type MW Thermal Overload Relays are used in linestarters and control panels to provide overload protection for motors. Overload protection is obtained by a bi-metallic, snap-action disc consisting of two dissimilar metals laminated together and pressed into a concave disc. When heated to a predetermined temperature by a heating element, the disc snaps to its convex position, opening the contacts and stopping the motor. When the disc cools, it snaps back to its original position. Attempted reset during this cooling period will not damage the relay. With a proper choice of heaters, the relay may be used on a-c or d-c circuits of from 14.2 to 173 amperes at not more than 600 volts. The relay contacts will carry and break currents in the contactor coil up to 2 amperes in an a-c circuit and 50 volt-amperes at a maximum of 1 ampere in a d-c circuit.

The relay will provide protection against abnormal load conditions to current values exceeding locked rotor current. In accordance with the National Electric Code the relay should be protected against short circuits by fuses rated at not more than four times the rated motor current, or by a time limit circuit breaker set at not more than four times the rated motor current.

Operation

The relay is designed to operate the contacts in any one of three positions, "Auto", "Hand" and "No Stop". The position of the control spring in the notched push-rod controls the action of the push-rod.

When the spring is in the "Hand" position at the time the bi-metal snaps open the contacts, the "Reset-Stop" push-rod moves to engage and retain the contacts in the open position. After the disc has cooled, the push-rod may be depressed to reset the contacts to the closed position. The push-rod may also serve as a stop button by depressing it further to open the contacts.