



FILE INFORMATION:
DIVISION TAB-TRANE REFRIGERATION
PRODUCTS
PRODUCT TAB-RECIPROCATING COM-
PRESSOR-CONDENSER
UNITS
MODEL TAB-HERMETIC M-R
LITERATURE ITEM-SERVICE BULLETIN

LITERATURE FILE NO.

HCOM-SB-25

**GENERAL
SERVICE BULLETIN**

Since the Trane Company has a policy of continuous product improvement, it reserves the right to change specifications and design without notice. The installation and servicing of the equipment referred to in this booklet should be done by qualified, experienced technicians.

8/3/79
REVIEWED 7/1/81

SUBJECT: ROBERTSHAW MOTOR PROTECTOR RELAY DESIGN CHANGE

INTRODUCTION:

The purpose of this Service Bulletin is to announce the discontinuation of Trane part number RLY-589. A design change has been made to the Model MC-20 Robertshaw motor protector relay which requires the addition of a relay conversion kit in order to allow field replacement of the old style motor protector relay, part number RLY-589.

DISCUSSION:

The previous design Robertshaw MC-20 had an internal fuse for circuit protection. The fuse was an integral part of the MPR device and could not be field replaced. An inadvertent short in the control circuit, which caused the fuse to fail, required the replacement of the complete motor protector relay. Engineering evaluation of field returns has shown fuse failures to be one of the primary reasons for field replacement of RLY-589.

To prevent this situation, a design change was made to remove the internal fuse. The new style MC-20 employs an external fuse for circuit protection in the event of output circuit overload. It can only be identified from the previous design by the lack of an "R2" terminal on the control.

Some of the existing control circuit designs, using part number RLY-589, may cause a race between closing M1-M2 contacts and the opening of the normally closed contacts of the reset relay. When control power is supplied to the T1 terminal of the MPR and to the coil of the reset relay simultaneously, a race may occur, causing the reset relay to open its normally closed contacts before M1-M2 closes. This results in a unit lockout on the reset circuit.

The new version of MC-20 uses a mechanical relay for closure of the M1-M2 contacts instead of a triac circuit which was utilized on the previous design. Since the mechanical relay closes M1-M2 slower than the triac circuit, unit lockout will always occur unless a time delay relay is used in conjunction with the new style MC-20 relay.

When installed as shown in Figure 1 of Form 1-27.07-1, attached, time delay relay TR10 provides a 0.3 second time delay which allows sufficient time for the M1-M2 contacts of the new style MC-20 to close. This time delay will prevent nuisance lockouts of the reset relay circuit when power is first applied to the control panel or when a momentary power interruption occurs.

REPLACEMENT PROCEDURE:

The new style MC-20 is physically interchangeable and mounts in the control panel identically as the previous design. The fuse, fuse holder and other parts which ship with the new version, should be connected as shown in Figure 1. The "R2" terminal on the old MC-20 was used to initiate the timing period for the oil pressure circuit in the control. This is now done internally, so "R2" is no longer required on the new MC-20. When replacing an old style control with the new version, the wire previously connected to the "R2" terminal should be removed or the exposed portion secured and insulated using a wire nut or tape.

SPECIAL NOTE: When installing a new style MC-20 on duplex Water Cooled Cold Generators (CGWA) equipped with anti-cycle, periodic pumpout, a new reset relay - Trane Part No. RLY-761 will also be required. Refer to Figure 3 of Form 1-27.07-1, attached, for specific details.

Form 1-27.07-1 is a copy of the customer installation instructions which should be followed when replacing an old style MC-20 with the new version. KIT-697 will contain the same instruction sheet.

PARTS ORDERING INFORMATION:

Trane part number RLY-589 is no longer available. When replacing RLY-589, a relay conversion kit, part number KIT-697, will be required. KIT-697 consists of a new style motor protector relay, model MC-20, part number CNT-710, a 6.0 amp (AGS-6) fuse, part number FUS-21, a fuse holder assembly, a wire joint, 8-3/16" and 1-1/4" insulated female stab terminals, a 0.3 second time delay relay, part number RLY-751, and a customer installation instruction sheet.

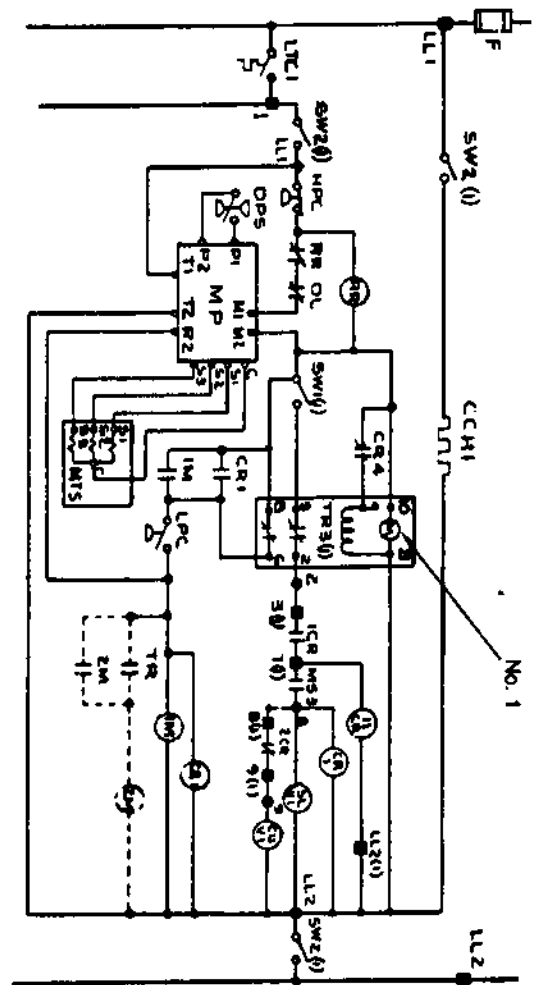
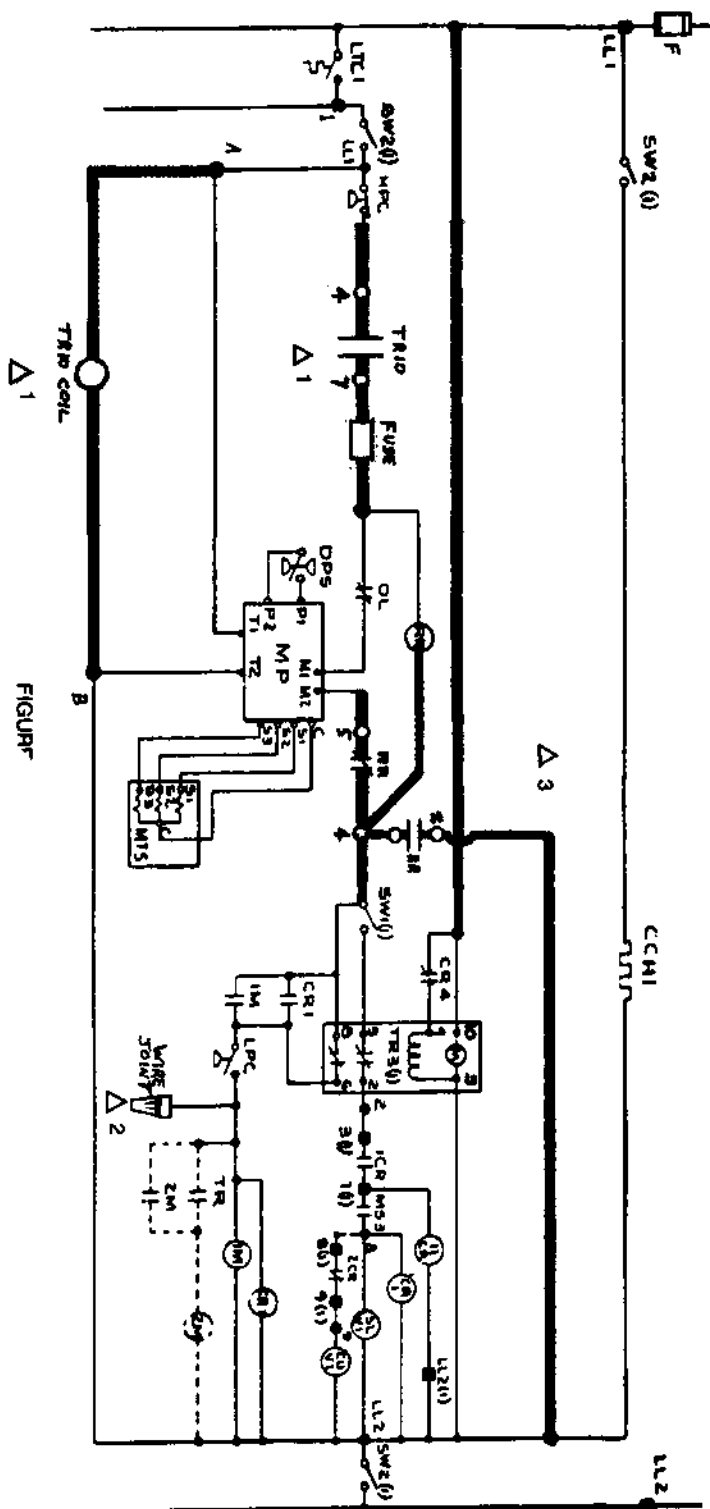


FIGURE 2



TYPICAL WIRING SCHEMATIC



Some duplex water cooled cold generators which have an anti-cycle, periodic pump-out timer installed downstream of the M2 as shown in Figure 2 will have nuisance oil

IMPORTANT: Wiring with bold lines shown in shaded portions must be customer installed.

TYPICAL WIRING SCHEMATIC



Some duplex water cooled cold generators which have an anti-cycle, periodic pump-out timer installed downstream of the M2 as shown in Figure 2 will have nuisance oil

IMPORTANT: Wiring with bold lines shown in shaded portions must be customer installed.