

# Interoffice Letter



*Tom*  
To ZONE SERVICE ENGINEERS (A)  
DISTRICT SERVICE ENGINEERS (A)  
BRANCH SERVICE MANAGERS (B)  
DON CARLSON CRANFORD (C)

Date: AUGUST 24, 1982  
From: FRANK A. BAGILEO, JR.  
Office: SERVICE ENGINEERING-CRANFORD  
Subject: HERMETIC/CENTRIFUGAL  
MOTOR SENSOR REPLACEMENT/REPAIR

F.E.R. 81-4

PURPOSE: To advise field personnel of recommended repair procedures concerning motor sensor replacement.

MACHINES AFFECTED: All 19D series, 19EA, EB, FA.

PROCEDURE: This bulletin is to be read in its entirety before undertaking any repairs. It was constructed from memos and letters from Syracuse as well as input from other zones.

Regards,

*Frank Bagileo*  
Frank Bagileo

Attachment

# I N D E X

## REPAIR PROCEDURE

1. 19EA, EB, FA      SPARE SENSOR LOCATION
  
2. 19EA, EB, FA      SENSOR REPLACEMENT  
PARTIAL/TOTAL
  
3. 19D SERIES      MOTOR SENSOR REPLACEMENT

1. 19EA, EB, FA SPARE SENSOR LOCATION

1.0 19EA, EB, FA's have a spare set of sensors embedded in the motor end turns and motor slots. In the event that a motor sensor should go bad, consult Fig. 4 for location of the spare sensors.

2. 19EA, EB, FA SENSOR REPLACEMENT - PARTIAL/TOTAL

2.0 Method for bringing leads out of motor shell: See Figure 1. It is important that individual lead pairs be twisted together to prevent stray voltage pickup and securely bound to form a rigid assembly. To provide added security, the spade terminals and mating connectors can be soldered together (with rosin core solder; not acid core - use soldering iron and do not overheat spark plug terminals).

2.1 If end turn sensor is not usable but slot sensor is, a Klixon in series with a 75 ohm resistor can be used with the remaining sensor. A wiring diagram is shown in Figure 2. The Klixon (HH12HA105) should be attached as near as possible to the location of the end turn sensor and tied down with glass tape epoxied in place.

2.2 If all sensors are unusable a Klixon (or two-in series) should be attached as in step 2 above, but can be wired into the circuit bypassing the Robertshaw module. See wiring diagram, Figure 3.

2.3 Inspect stator end turns for damage due to whipping of sensor leads. Report any such damage immediately to this office.

3. 19D SERIES MOTOR SENSOR REPLACEMENT PROCEDURE

3.0 All work will be performed inside the motor shell.

3.1 Move motor back (19DG, DH compressor disassembly guide).

3.2 T-stat is located at the three o'clock position when viewing from the compressor end.

3.3 There will be two to four wires attached to the male connector depending on machine vintage. Two wires for the high winding T-stat and, if applicable, two wires from the refrigerant pump T-stat. Male connector is located on bottom of motor shell. MAKE SURE YOU LOCATE MOTOR T-STAT LEADS.

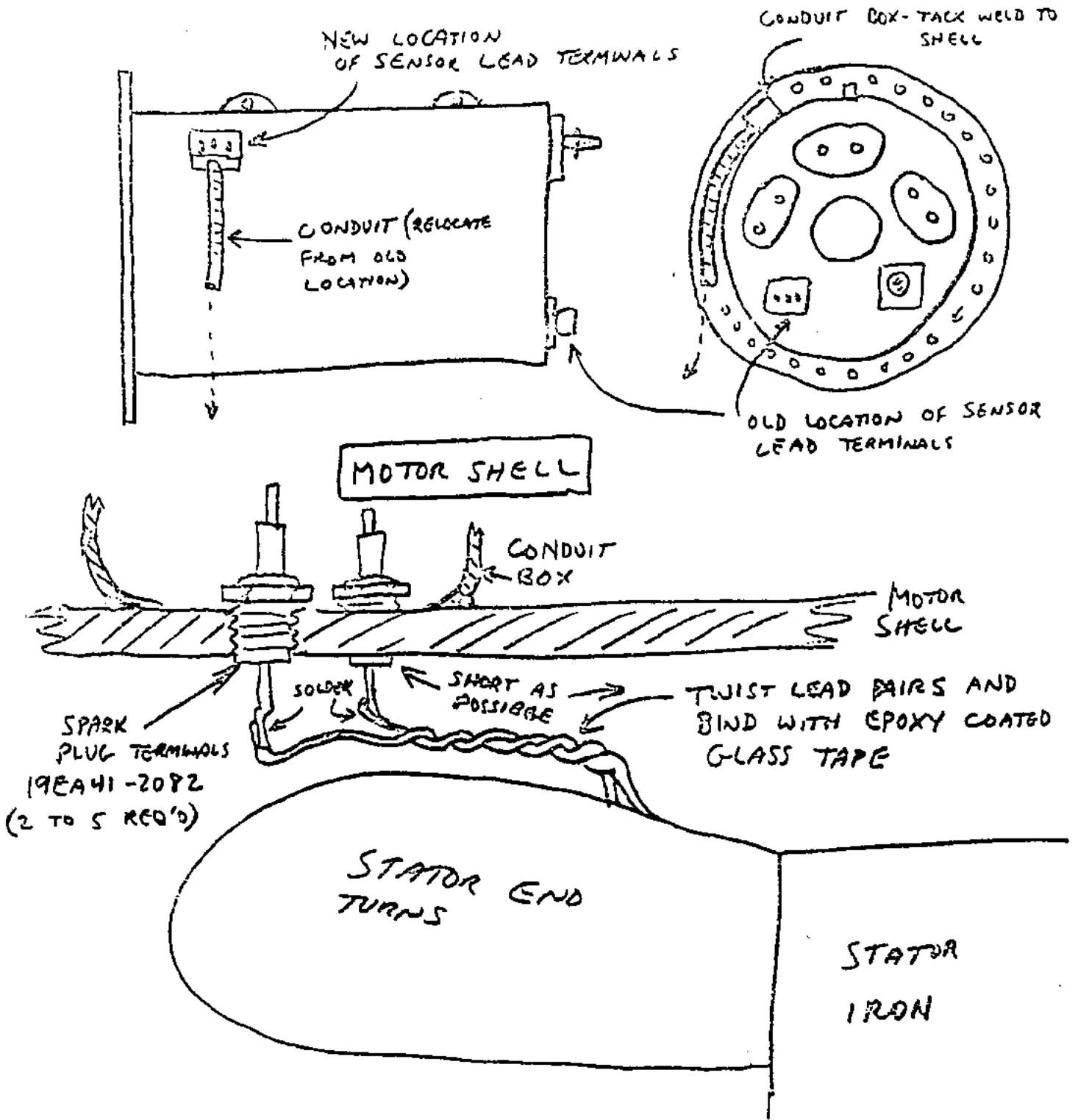
- 3.4 Cut the two motor sensor leads at a spot where you will be able to splice the leads from the new T-stat to the wires on the male connector.
- 3.5 Tie the Klixon wires to the stator using plastic ties.
- 3.6 Glass tie and epoxy the new T-stat onto the stator near the old one. Nothing has to be done on the leads coming from the female connector.

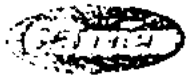
MATERIALS:

Motor Winding T-stat - HH12HA105

Epoxy - 3M - EC2054  
Hysol Manufacturing Co. - IC or 6C  
Shell Chemical Co. - Epon 907

Plastic Ties - Vendor





SENSOR may blow before fuse -  
a low vol. will raise set  
point = 10°F

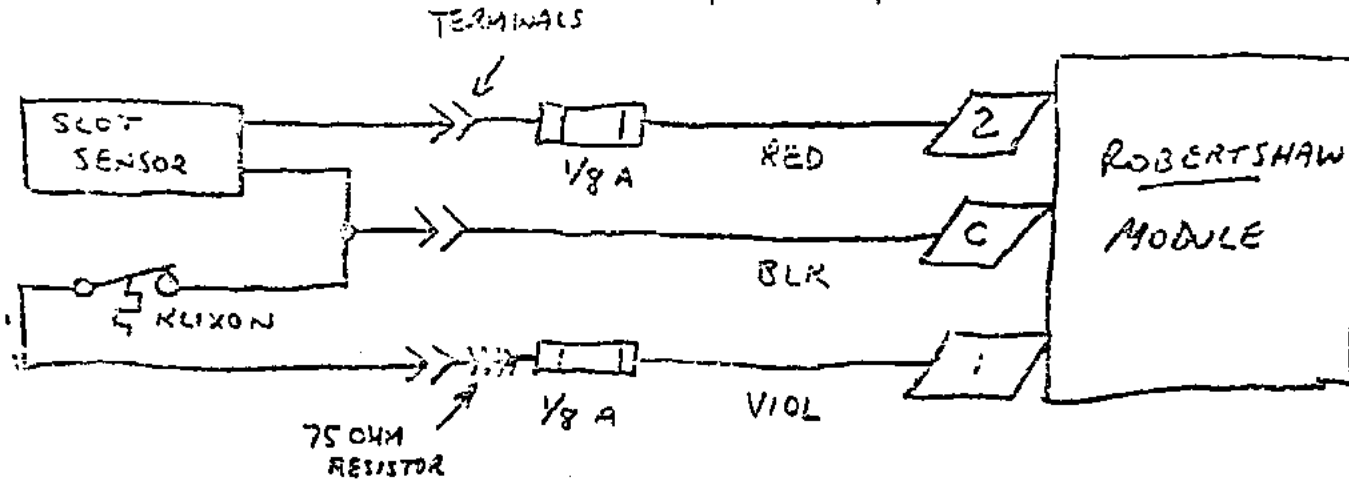


FIGURE 2 - WIRING WITH ONE SENSOR, ONE KLIXON

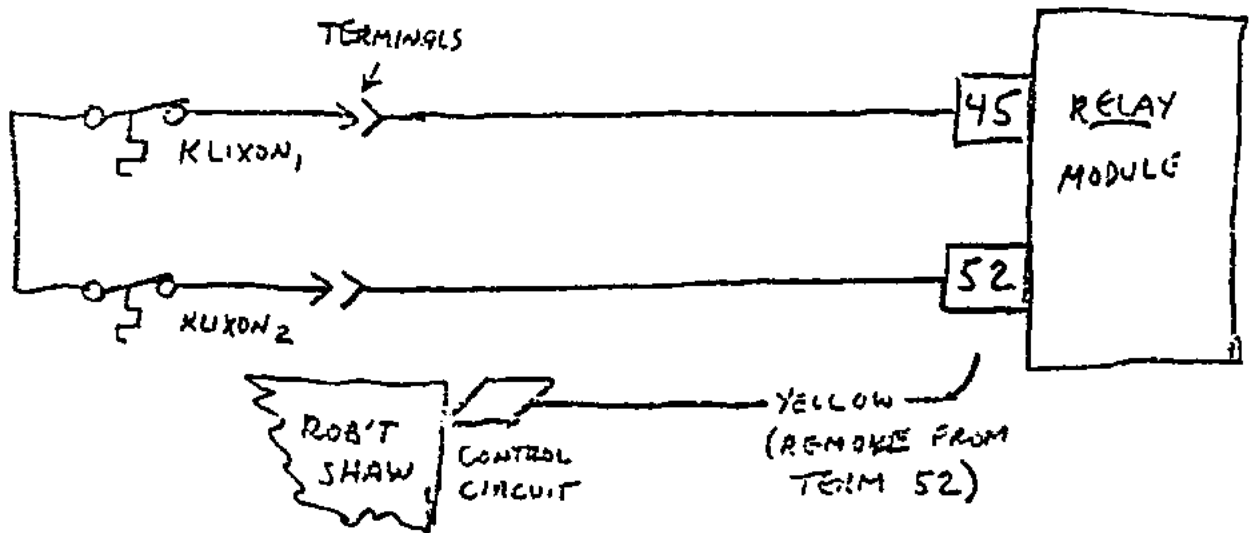
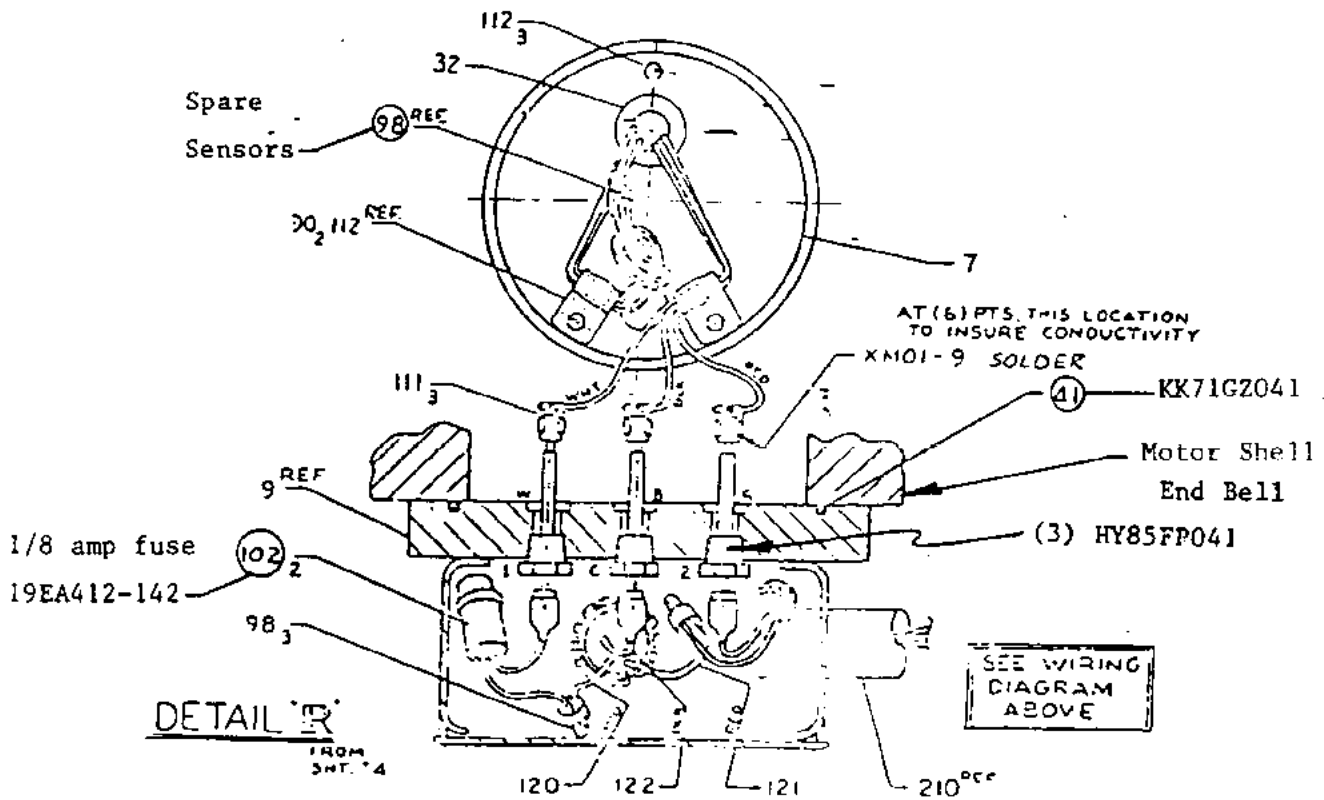
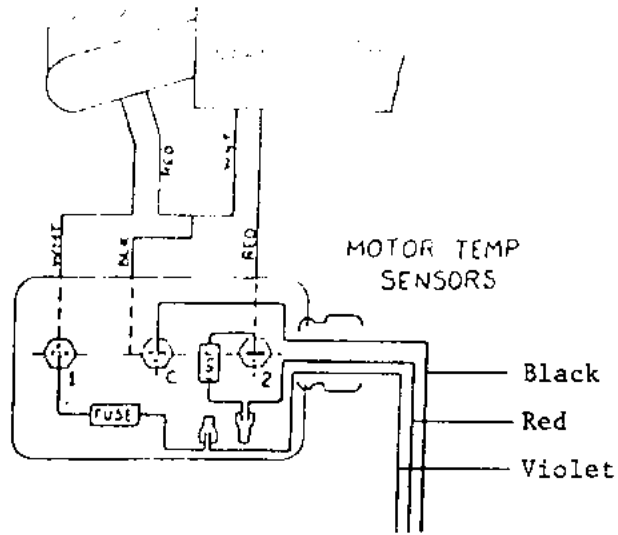


FIGURE 3 - WIRING WITH KLIXONS ONLY

FIGURE 4



19EA-EB-FA  
SPARE SENSOR LOCATIONS