

Number One
Air Conditioning
Maker



Carrier

Bulletin

Date: 10/20/76 Subject: SHAFT MOVEMENT MICROSWITCH

Dept: MSD SERVICE ENGRG.,
SYRACUSE

Number: 17SB-76-2

Author: T. P. LIBERA

PURPOSE

To transmit information and procedure for modifying the shaft movement microswitch (Carrier Part No. 17S42-1102-7) to produce positive switch action and prevent nuisance trip-outs.

MACHINES AFFECTED

17MPS compressors using the subject microswitch.

BACKGROUND

We have had reports of nuisance trip-outs on machines equipped with the subject microswitch. The switch has two main chambers. Chamber 1 (Fig. 1) contains the switch itself, and Chamber 2 contains a mechanical lever and a bellows assembly. Chamber 2 is exposed to external switch pressure. Chamber 1 is sealed and has an internal pressure. External switch pressure changes rapidly with sudden load changes and causes the bellows assembly to move and activate the switch at unwanted times.

It has also been discovered that if the neoprene bellows assembly (Fig. 2) is exposed to a high temperature for any period of time, it becomes very hard and will not allow the microswitch to function properly.

The spring (Fig. 2) is the only force that is exerted on the lever to activate the switch once the plunger is moved. This spring force is not enough to move the bellows assembly, once it has hardened.

Should the occasion arise that the machine is shut down and the compressor opened, this switch must be altered as shown in Figs. 1 and 2, or replaced with a 17MA41-252 microswitch.

PROCEDURE

1. Remove switch from machine.
2. Carefully pry the nameplate off the switch with a small screwdriver and discard the nameplate.
3. Remove the five screws that hold the cover on.
4. Remove the rubber gasket and cut the sections shown in Fig. 1. (Some machines may already have had the gasket cut.)
5. Remove horseshoe-shaped clip retainer.
6. Remove lever by carefully prying it off the pin it rides on.

FILING INSTRUCTIONS: 17MPS MANUAL
TAB: COMPRESSOR
Remove and Destroy 17SB-69-4 and 17SB-70-11.

PROCEDURE (CONT.)

7. Remove spring and clip off approximately 1/8" as shown in Fig. 2.
8. Place lever in a vise or some other suitable means of support and bend as shown in Fig. 2. Be sure to heat it first, or it may crack while being bent.
9. Install spring and lever as shown in Fig. 2.

Should the spring be too long, clip off more to suit the assembly. Be sure the lever feet are on top of the actuator. The movement of the actuator must not exceed 0.022 in. to actuate the switch. Bend lever to suit.

With the lever on top of the actuator, there will be positive switch action and the spring will not have to be depended upon to actuate the microswitch even if the switch bellows should harden.

Any switch found with a hard bellows should be replaced with a 17MA41-252 micro-switch.

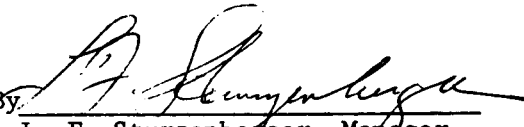
10. Refer to Fig. 3 for switch installation.

Issued By


O. P. Ten Eyck

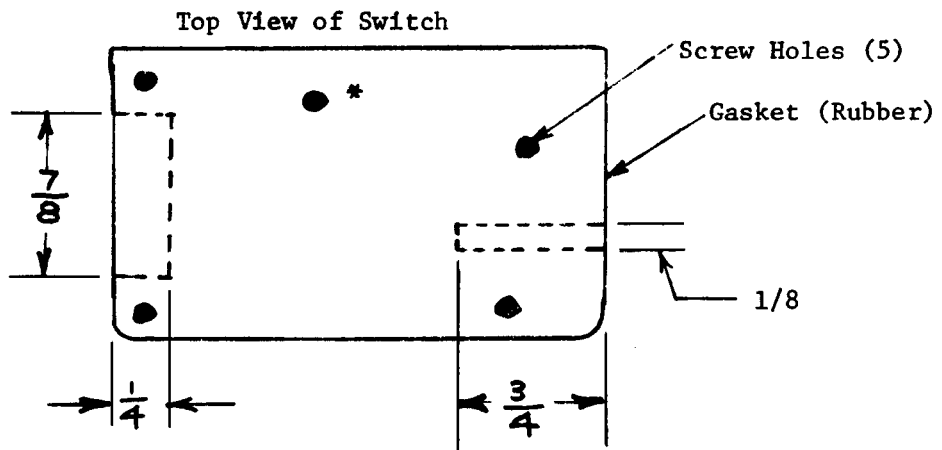
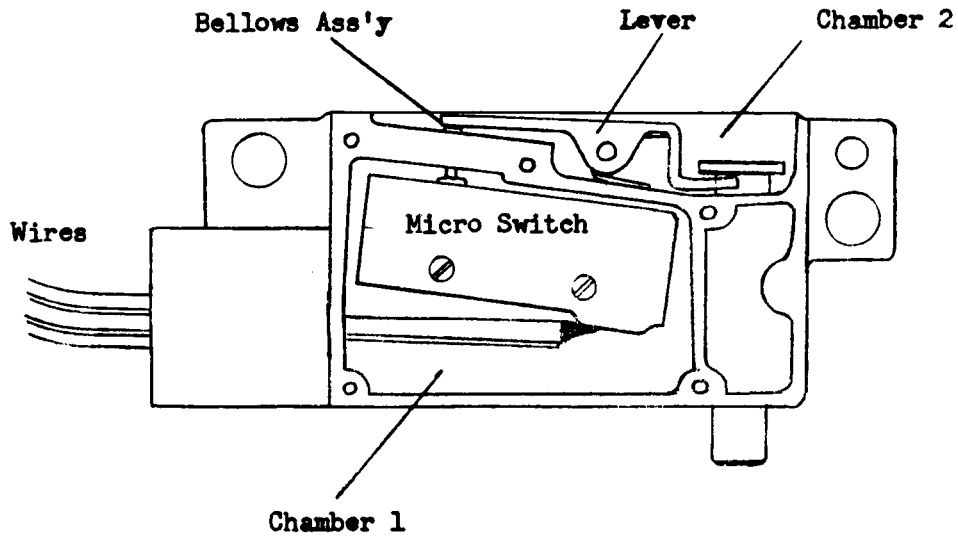
MSD Service Engineering

Reviewed By


L. F. Sturzenberger, Manager
MSD Service Engineering

OPT:eh

Atts.

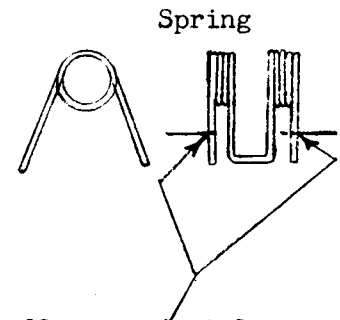
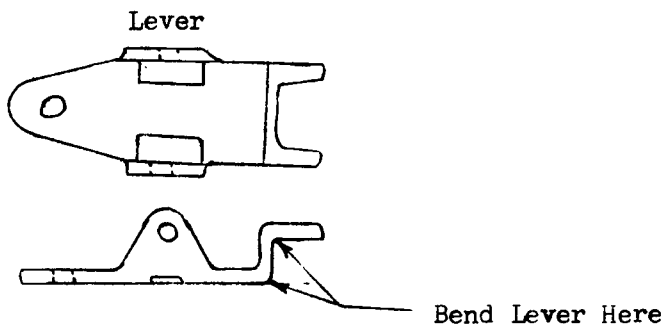
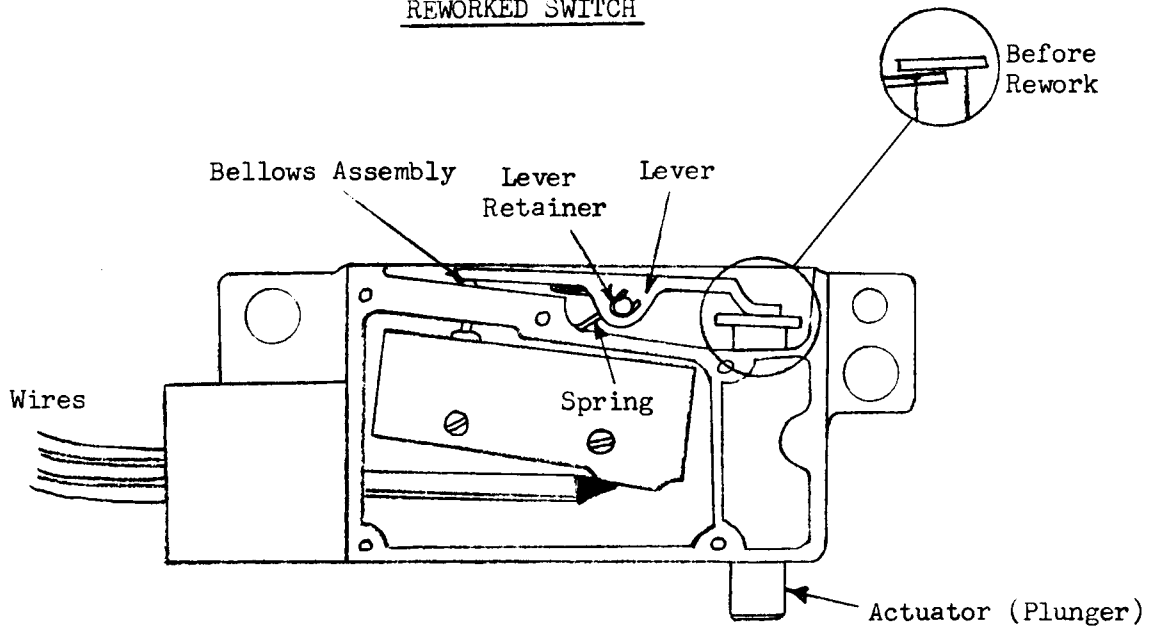


Cut gasket as shown.

* When cutting gasket, make sure that it is in the position shown.

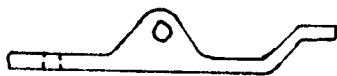
Fig. 1

REWORKED SWITCH



1. Heat lever and bend at points shown. Do not bend without heating. Bend should be approximately 45° as shown below.

2. Clip off approximately $1/8$ " of spring here and install in reverse as shown.



3. Assemble as shown above. Be sure to bring lever feet on top of the switch actuator. Movement to activate switch must not exceed .022 inch.

Fig. 2

CAUTION: Adjust bracket & switch with plunger aligned vertically and horizontally and as closely as possible to center of shaft.

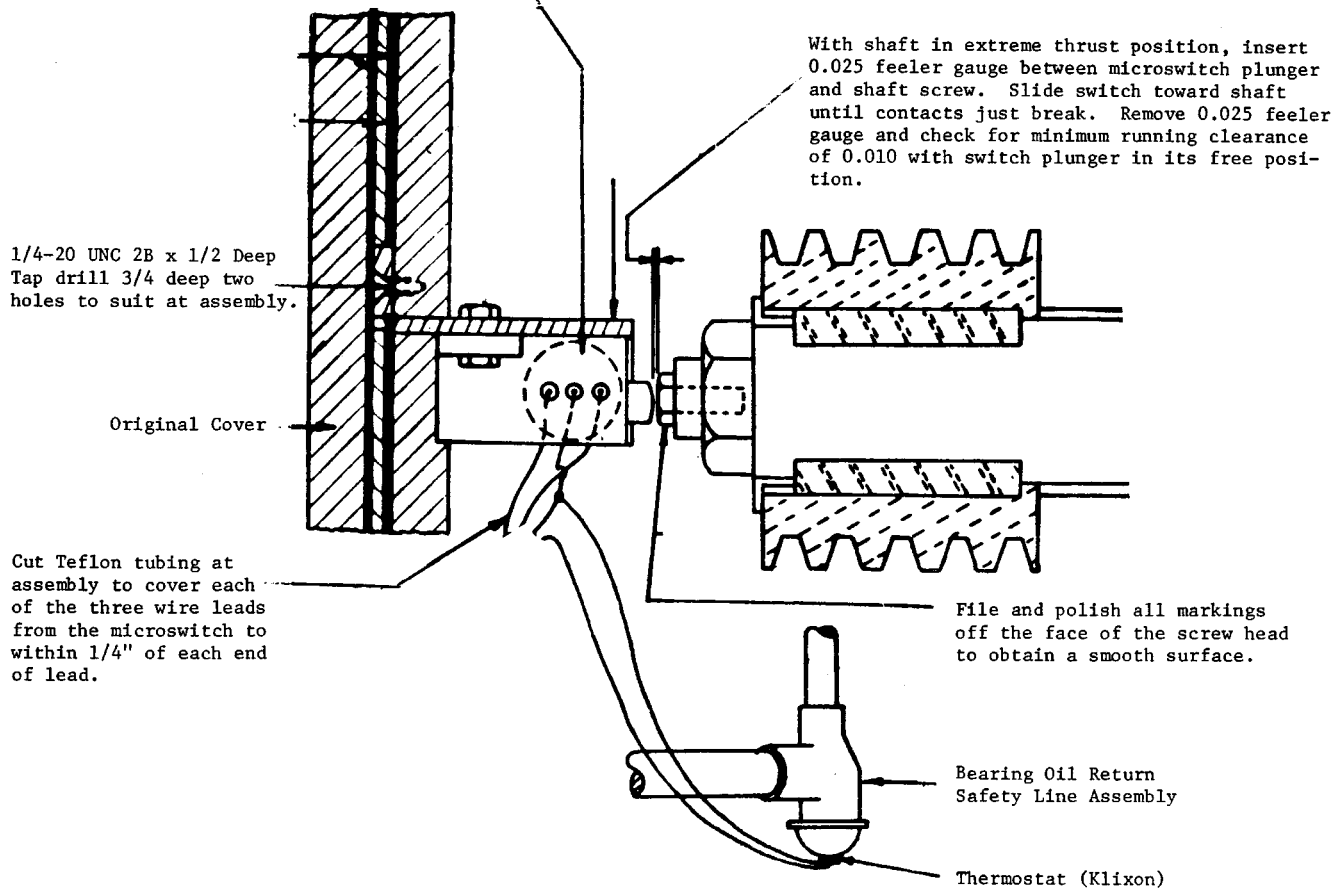


Fig. 3. Shaft Movement Switch and Return Oil Temperature Cutout Switch Installation