

Screw Compressor HK06CA050 Oil Safety Switch Problem

THE PROBLEM

Johnson Controls has informed Carlyle that the HK06CA050 oil differential safety switch is no longer recommended for applications where the differential pressure exceeds 180 psi. Johnson Controls original ratings for this switch was 350 psi maximum allowable pressure and a maximum differential of 325 psid. The problem was detected by analyzing a few recent field failures. Johnson has designed a new switch that will resolve the problem. The new switch, Carlyle P/N HK06ZB001 is rated for 425 psi maximum allowable pressure and a maximum differential of 350 psid. The new switch also increases the time delay from 30 to 45 seconds. Johnson Controls has begun shipping the new switch to Carlyle and within two weeks we will have enough switches to handle all the required change outs.

The switch failure, which can result in the loss of refrigerant, has been limited to R-404A/507 screw systems in low and medium temperature applications with air cooled condensers. Screw systems with R-404A/507 with evaporative condensers or systems using R-22 should not experience this problem due to their lower discharge and oil pressures. These systems do not require immediate action. Systems using R-134a do not experience pressures that exceed the current switches rating and therefore will not have to be replaced.

THE IMMEDIATE SOLUTION

Carlyle requires that all R-404A/507 low and medium temperature systems using air cooled condensers immediately install the replacement HK06ZB001 switch. If the replacement switch HK06ZB001 is not available, the old HK06CA050 switch must be bypassed immediately until the new switch is available. The need for the immediate replacement or bypass is limited only to R-404A/507 air cooled low and medium temperature systems, all other systems requiring switch replacement can wait until the new switch is received.

The service contractor must do the following to bypass the HK06CA050 switch:

- A jumper wire must be added across contacts L & M.
- The high side oil pressure connection to the switch must be capped off.
- The switch and mounting hardware can be left in place until the service contractor can install the replacement switch.

SWITCH REPLACEMENT

The new switch, HK06ZB001, will be similar to the old switch, but both the low (suction) side and the high (oil) side pressure connections are located on the switch bottom. The current switch has the low side on the top and the high side on the bottom. Hose or tube lengths might be slightly different.