

# POLICY BULLETIN

Tecumseh Compressor Company  
Compressor Group



*Tecumseh*

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**SUBJECT: Effect of Liquid Refrigerant In the Compressor**

PB-107

PAGE: 1 of 2

ISSUED: June 23, 1966

REV. DATE: 4/23/2007

For the purpose of this policy, compressor types will be defined in a generic manner with respect to the pressure present over the oil sump during running conditions. It will be important for the design engineer to be aware of what generic type compressor is being applied to the system so that relative parts of this policy can be reviewed. Contact Tecumseh Application Engineering if there are any questions as to which generic name applies to a specific product.

<u>Generic Name</u>	<u>Pressure Over Oil Sump</u>
Low side compressor	Suction
Hi side compressor	Discharge

It has been proven that the presence of liquid refrigerant in the compressor either on startup or during operation will produce adverse effects on the compressor reliability.

- 1.0 In the event of **STARTUP WITH LIQUID PRESENT** in the crankcase there is a possibility of:
  - 1.1 **Hi or Low side compressors:** Excessive foaming and oil pumping action to the extent of leaving the compressor with an inadequate oil level.
  - 1.2 **Low side compressors:** Causing blown head gaskets, discharge mufflers, or discharge lines, or broken valves.
  
- 2.0 The **QUALITY OF THE REFRIGERANT RETURN** also has a significant effect on compressor life. Excessive refrigerant “flood back” to the compressor can cause one or more of the following events:
  - 2.1 **Low side compressors:** Increased oil circulation rate, which decreases the efficiency of the system and may leave the compressor with an inadequate oil level.
  - 2.2 **Low side compressors:** Causing blown head gaskets, discharge mufflers, or discharge lines, or broken valves.
  - 2.3 **Low side compressors:** Reduction in compressor temperature to the degree that upon shutdown the refrigerant will migrate to the compressor even though an off cycle heating means has been provided.
  - 2.4 **Hi or low side compressors:** May result in bearing damage on direct or semi-direct suction compressors.

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In view of these two situations, the attached publications entitled:

Engineering Policy on OFF CYCLE HEAT

No. [EP-1](#)

Engineering Policy on CONTROL OF RETURN GAS

No. [EP-2](#)

are offered for use by the System Design and/or Application Engineer.

The limitations as set forth in these Engineering Policies **MUST BE ADHERED TO**. Otherwise, we shall reserve the right to withdraw warranty coverage.