

OEM BULLETIN: OEM-127

DATE: August '90

## CRYOL 150

Carlyle has done an extensive evaluation of the oil types used on the semi-hermetic and open drive compressors. As a result of the analysis, Carlyle is recommending that the oil type used in medium temperatures and air conditioning applications be changed from the current synthetic (Zerol 150) oil to a mineral oil.

Carlyle will begin shipping all of their 06DA/DM, 06EA/EM and 5F/5H compressors with a mineral oil called Cryol 150, manufactured by I.G.I. Petroleum Industries. Carlyle anticipates this change some time in the later part of August or early part of September.

In addition to the mineral oil, a small amount of an oil additive (added by the oil supplier) will be used. Tests by Carlyle have indicated that with a special oil additive, there has been a significant improvement in the lubrication of the compressor bearing and running gear.

Carlyle's 06DR/06ER refrigeration duty compressors will continue to use Zerol 150. The advantages to using this for refrigeration applications are: Better stability at high discharge temperatures and better oil misibility and oil return at lower suction temperatures. The Zerol 150 and Cryol 150 have different characteristics. One is not necessarily better than the other, but the mineral oil has better characteristics when used in medium temperatures and air conditioning applications. The new oils are fully compatible with other Carlyle approved oils and can be mixed in any proportion.

The key characteristic of the Cryol 150 oil is its ability to handle certain refrigerant control abuse conditions. Both flooded starts and flood back conditions can allow refrigerant to enter the lube system during compressor operation. The Cryol 150 has been found to operate with a dense oil foam under these abuse conditions and avoid vapor locks that may occur with Zerol 150. One indication of this refrigerant control condition is tripping of an oil safety switch. In severe refrigerant control conditions, bearing surfaces may be permanently damaged to the point of requiring the compressor's replacement. The combination of the Cryol 150 plus the new additive resulted in a compressor design that had the ability to operate successfully for longer periods under these types of refrigerant control abuse conditions.

This change in oil, plus the additive is expected to have favorable impact on customer failure rates, customer line rejects and a major impact on reduction of oil safety switch trips in the field.