Carlyle

Technical
Bulletin OEM 96T-4

Date: June 7, 1996
From: Miguel Boscan

Carlyle Compressor 06D And 06E Gasket Change

Carlyle Compressor will soon be changing some of the gaskets used in all Carlyle 06D and 06E reciprocating compressors. The current fiber gaskets are still 100% satisfactory for sealing the compressor, but are not compatible with our newer manufacturing methods. We, therefore, need to switch to a Wolverine metal gasket in place of the fiber gaskets currently used on the majority of flanged surfaces. The Wolverine gasket is a rubber-coated steel core gasket. The Wolverine gaskets already have a proven reliability record on Carlyle compressors. Carlyle has been using Wolverine valve plate and cylinder head gaskets on 06D and 06E compressors for almost ten years. The Wolverine gasket also has a servicing advantage in that there is the reduction of effort needed to clean the sealing surfaces when compared to a similar fiber gasket. This change is expected to be effective with compressors built starting with S/N 1296J00001.

The main reason for this change is that the Wolverine gasket is compatible with our new paint system. With fiber gaskets, it is necessary to retorque all bolts after the compressor has been processed in the dehydration oven. Since dehydration is done prior to painting, there is no way to damage the painted finish of the compressor. However, with our new paint system the dehydration process is now part of the paint curing process and any retorquing of the compressor bolts would mar the final topcoat. The advantage of the Wolverine gasket is that they do not require any retorquing after dehydration.

The following recommendations should be observed with the new Wolverine gaskets:

1. **Do not** use Wolverine gaskets with service valves. The service valve pads have a serrated surface design and we feel that this will damage the gasket surface. Fiber gaskets will continue to be supplied with Carlyle's service valve accessory packages.

2. No Wolverine gasket should be reused once the compressor has been run exposing the gaskets to refrigerant and oil.

3. Do not reuse the original Wolverine sightglass gasket on an 06D compressor when replacing the sightglass with a float adapter. Carlyle will supply an extra sightglass gasket with all 06DR and 06DM model compressor for this purpose.

4. Please note that we are not changing the service replacement gasket kits. The change is only being done to accommodate our new painting system, as noted above. To repeat, both fiber and Wolverine style gaskets provide a high quality compressor seal when properly installed and torqued.

Carlyle

Technical
Bulletin 96T-5

Aug. 8, 1996
Paul Tollar

Carlyle 06D/E POE Oil Recommendations

Carlyle Compressor has continued to evaluate alternate POE oils for use in our 06D/E semi hermetic reciprocating compressors. We have recently added another lubricant to the oil options announced in Carlyle Technical OEM Bulletin 95T-4, dated May 24, 1995. Below is a matrix of recommended oils for the refrigerants and applications shown.

	R404A & R507		R134a	R22		R-407C
POE Oil Type	Low Temp	Med. Temp	Med. Temp & A/C	Low Temp	Med. Temp & A/C	Med. Temp & A/C
Mobil Artic EAL 68	NO	YES	YES	NO	YES	YES
Castrol SW68	NO	YES	YES	NO	YES	YES
Castrol E68	YES	YES	YES	YES	YES	YES
ICI Emkarate RL68H	YES	YES	YES	YES	YES	YES
Lubrizol 2916S (See Note)	YES	YES	YES	YES	YES	YES
CPI Solest 68	YES	YES	YES	YES	YES	YES

Note: Also available as Texaco HFC Capella 68NA

Based on laboratory testing and field experience, Carlyle is giving approval to Castrol Icematic E68 POE oil for use in low, medium and air conditioning applications. Present low temperature systems using Castrol SW68 or Mobil Artic EAL 68 and not experiencing any excessive suction line pressure drops do not need to change the oil.

Finally, Carlyle has approved the use of POE oils with Refrigerant 22 under certain application limitations. Some system owners are interested in using POE lubricants with CFC and HCFC refrigerants such as R-22 and R-502 to make the transition over to HFC refrigerants quicker. Our field experience indicates that this may not be advisable because of the problems we have seen.

- While Carlyle recommends a 225°F discharge temperature limit with R-22, customers have not always held this limit. When our compressors have overheated, more internal compressor wear results.

- Moisture control is much more difficult with POE lubricants. Keeping moisture levels below 50 PPM requires much more stringent start-up and servicing practices.

- Finally, the POE oils act as excellent solvents. They return all contaminants left in systems back to the compressor. This includes dirt, metal chips, and any residual material left from prior system problems. In retrofits, this includes overheating or motor burnout residue. This causes oil discoloration and, in some cases, plugging of suction or oil filters.

Because of these potential problems and the POE's much higher cost, Carlyle recommends delaying the use of POE oils until the system is ready to be applied with the HFC refrigerants.