**THE IMPORTANCE OF COMPRESSOR LUBRICATION**

Proper compressor lubrication is crucial to a successful repair and system longevity. Using the wrong type, viscosity and amount will compromise compressor longevity and system integrity.

**FOR SUCCESSFUL REPAIR,** only the recommended amount, type, and viscosity of oil, and the appropriate refrigerant should be used. Use of oils containing dye, sealers or other additives that do not meet SAE J2670, may reduce compressor longevity, impact system performance and void your warranty.

**TYPE**

- **PAG (R134a)** OEM approved for R134a systems; 46, 100 and 150 viscosities
- **MINERAL OIL** OEM approved for R12
- **ESTER** 100 viscosity; ONLY used during retrofit (Original R12 system to R134a System)
- **HYBRID ELECTRIC** Specially formulated for use in high voltage electric compressors
- **PAG (R1234yf)** A PAG lubricant specifically designed for 1234yf systems. **NOTE:** R134a lubricants are not compatible with R1234yf systems. *ICE32 is not compatible with R1234yf systems.*

**ADDITIVES**

- **Sealant**
- **Dye**

**AMOUNT**

- **Too Little** — Seized compressor
- **Too Much** — Slugged compressor (liquid/hydraulic lock), broken reed valves and/or broken pistons

**ADD OIL TO THE CORRECT LOCATION**

- **Orifice Tube:** ½ in compressor; ½ in accumulator
- **TXV:** ½ in compressor; ½ in evaporator

**NOTE:** If compressor has a drain plug, oil should be added to crankcase through drain plug. Otherwise add to suction port.

**VISCOSITY**

PAG lubricants are available in 46, 100, 150 viscosities. Due to compressor design and precise manufacturing tolerances, it is imperative the correct viscosity is used. Use of incorrect viscosity oil can result in premature compressor failure, excessive noise, abnormal wear, etc.

**Using refrigerant or lubricants containing sealants or excessive dyes may:**

- Result in Corrosive Damage
- Impact System Performance
- Void Compressor Warranty!

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**FOUR SEASONS® CAPACITY GUIDE**

Consult Four Seasons® Capacity Guide or manufacturers specifications for accurate amount, type and viscosity.

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**ADDITIONAL RESOURCES:**

- www.4s.com/en/digital-resources/temp-testing/
- Technical Support 1-866-502-0068
- SEARCH: Four Seasons Automotive

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**PERFORMING A SUCCESSFUL COMPRESSOR REPLACEMENT STARTS HERE.**

Expert Technicians know performing a successful compressor replacement takes knowing the importance of doing the job right, the first time.

Understanding the complexity of different A/C systems and how they function prevents compromising the repair and voiding compressor warranty.

Learn more inside.
BASIC REQUIREMENTS FOR COMPRESSOR WARRANTY

- **Expansion Device**: Must be replaced for compressor warranty.
- **Accumulator/Filter Drier**: Replace if contaminated.
- **Condenser**: Most modern condensers are constructed from hundreds of tiny tubes only a few fractions of an inch in diameter. They will be clogged with debris, therefore impossible to flush following a catastrophic compressor failure.
- **Hose Assembly**: Hose assemblies will be contaminated with debris from a failed compressor. Hoses with mufflers cannot be flushed and should be replaced. Carefully inspect for evidence of deterioration.
- **Evaporator**: The dirty oil accumulated at the bottom of the evaporator – think valve grinding compound.

DON'T COMPROMISE THE REPAIR. DO THE JOB RIGHT THE FIRST TIME.

CATASTROPHIC COMPRESSOR FAILURE IS A SYMPTOM, NOT A CAUSE!

A compressor rarely fails on its own. To prevent a comeback, it is critical that the ROOT CAUSE of the original failure is identified and proper repair procedures followed. Doing the job right the first time eliminates comebacks and increases shop profitability and reputation!

### Typical Thermal Expansion Valve System

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<td>Orifice Tube</td>
</tr>
<tr>
<td>50ºF</td>
<td>Evaporator</td>
</tr>
<tr>
<td>130ºF</td>
<td>Liquid Line</td>
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<td>165ºF</td>
<td>Suction Line</td>
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<td>165ºF</td>
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### Typical Orifice Tube System

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### Steps to Repair

1. Requires continuous air pressure.
2. Meter 1/3 quart of flush into evaporator.
3. Allow to soak for 10-15 minutes.
4. Flush at 40 PSI.

FOR A COMPLETE GUIDE TO ESSENTIAL STEPS TO REPAIR, SCAN HERE, OR VISIT WWW.4S.COM AND CHECK OUT OUR SUCCESSFUL SERVICE & REPAIR SECTION.