

MAINTENANCE

Adding Refrigerant Oil

The 10P15F compressor uses a special paraffin base refrigerant oil YN-9 (E73Z-19557-A) or equivalent refrigerant oil meeting Ford Specification ESH-M2C31-A2. A total oil charge of 240ml (8 fluid ounces) is used in a new system. It is important that only the specified type and quantity of refrigerant oil be used in the compressor. If there is a surplus of oil in the system, excessive oil will circulate with the refrigerant reducing the cooling capacity of the system. Too little oil will result in poor lubrication of the compressor.

When it is necessary to replace a component of the refrigerant system, the procedures in this Section must be followed to ensure that the total oil charge in the system is correct after the new part is installed. When the compressor is operated, oil gradually leaves the compressor and is circulated through the system with the refrigerant. Eventually a balanced condition is reached in which a certain amount of oil is retained in the compressor and a certain amount is continually circulated. If a component of the system is removed after the system has been operated, some oil will go with it. To maintain the original total oil charge, it is necessary to compensate for this by adding the lost oil to the new replacement part. The procedures for replacing oil follow.

During Compressor Replacement

NOTE: The suction accumulator / drier and the orifice tube should also be replaced whenever the compressor is replaced.

A new service replacement compressor contains 43ml (1.4 oz) of refrigerant oil YN-9 (E73Z-19557-A) or equivalent refrigerant oil. Prior to installing the replacement compressor, drain the oil from the removed (old) compressor into a clean calibrated container. Then, drain the oil from the new compressor into another clean calibrated container. If the amount of oil drained from the old compressor is between 3 and 5 ounces, pour the same amount of clean refrigerant oil into the new compressor. If the amount of oil drained from the old compressor is greater than 5 ounces, add 5 ounces of clean oil to the new compressor. If the amount of oil removed is less than 3 ounces, pour 3 ounces of clean oil into the new compressor. Use only the specified compressor oil.

This will maintain the system total oil charge within the specified limits.

During Component Replacement

NOTE: A new accumulator assembly contains 167-207 cc (5.65-6.99 ounces) of oil.

When replacing other components of the air conditioning refrigerant system, measured quantities of the specified refrigerant oil should be added to the component to ensure that the total oil charge in the system is correct before the system is operated.

Clean refrigerant oil YN-9 (E73Z-19557-A) or equivalent should be added to the replacement components as follows:

- Evaporator Core: Add 90ml (3 oz).
- Condenser: Add 30ml (1 oz).
- Accumulator: Drill a 12.7mm (1/2-inch) hole in the accumulator body and drain oil from accumulator through that hole. Drain existing oil from new accumulator then add same amount of oil removed, plus 28 grams (2 oz) of clean refrigerant oil to new accumulator.

Clean refrigerant oil should be poured directly into the replacement component. If any other components, such as an orifice tube or a hose are replaced, no additional refrigerant oil is necessary unless a hose bursts with a fully charged system. Then, the addition of 2 oz. refrigerant oil is recommended. The amount must be determined by the technician. The suction accumulator / drier should also be replaced under these circumstances.

TESTING

Compressor Manifold Leak Test

1. Tighten manifold retaining bolts to 18-23 N-m (14-16 lb-ft).
2. Leak test manifold O-ring seals.
3. If no leaks are found during leak test, manifold O-ring seals are good.
4. If a leak is found at manifold and manifold bolts are tightened to 18-23 N-m (14-16 lb-ft), install new manifold O-ring seals following procedure under Suction and Discharge Manifold Removal and Installation. Then, repeat leak test procedure.

Compressor External Leak Test

Tools Required:

- Pressure Test Plates D88L-19703-A
 - Rotunda Electronic Leak Detector 055-00015
1. Remove compressor from vehicle observing all safety precautions.
 2. Remove complete clutch assembly, including field coil, from compressor.
 3. Install Pressure Test Plates D88L-19703-A or equivalent on compressor.