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2012 FORD Taurus OEM Service and Repair Workshop Manual

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After installing a high voltage battery coolant cooler (Chiller).	.5 fl oz (15 ml) plus the amount collected during refrigerant recovery.	Inject to low-side service port during system charging.
After installing/reassembling the thermostatic expansion valve.	Amount collected during refrigerant recovery.	Inject to low-side service port during system charging.
After installing a refrigerant Hose/Line.	2 fl oz (60 ml) plus the amount collected during refrigerant recovery [a].	Inject to low-side service port during system charging.
After an O-ring Leak Repair.	1 fl oz (30 ml) plus the amount collected during refrigerant recovery [b].	Inject to low-side service port during system charging.
After a service port leak repair.	Amount collected during refrigerant recovery.	Inject to low-side service port during system charging.
[a] If an excessive amount of Motorcraft® R-1234yf Refrigerant POE Oil (YN-34) or Motorcraft® R-134a Refrigerant POE Oil (YN-32) is lost due to a hose rupture/separation or other damage, the total system Motorcraft® R-1234yf Refrigerant POE Oil (YN-34) or Motorcraft® R-134a Refrigerant POE Oil (YN-32) capacity must be added. Also, it is necessary to replace the receiver/drier.		
[b] The amount specified may be used for one or multiple O-ring leak repairs. Do not multiply the Motorcraft® R-1234yf Refrigerant POE Oil (YN-34) or Motorcraft® R-134a Refrigerant POE Oil (YN-32) amount by the number of O-ring leaks being repaired.		

Use the General Equipment: Air Conditioning Service Unit

Oil Injection Using a Lubricant Injector

4. **NOTE**

Fluorescent refrigerant system dye is added to the refrigerant system at the factory to assist in refrigerant system leak diagnosis using a Rotunda-approved UV (ultraviolet) black light. It is not necessary to add additional dye to the refrigerant system before diagnosing leaks, even if a significant amount of refrigerant has been removed from the system. Replacement suction accumulators and receiver/driers are shipped with a fluorescent dye wafer included in the desiccant bag which dissolves

Refrigerant Oil Adding - Electric

412-00 Climate Control System - General Information	***2022 F-150***
General Procedures	***Procedure revision date: 04/11/2022***

Refrigerant Oil Adding - Electric

Check

NOTICE

Motorcraft® R-1234yf Refrigerant POE Oil (YN-34) only must be used as a refrigerant system lubricant for High Voltage Battery Electric vehicles. Addition of any oil other than Motorcraft® R-1234yf Refrigerant POE Oil (YN-34) to the High Voltage Battery Electric vehicle refrigerant system will damage the electric A/C (air conditioning) compressor and contaminate the refrigerant system.

NOTICE

Do not use the R-1234yf Refrigerant Management Machine built-in oil injection system to inject Motorcraft® R-1234yf Refrigerant POE Oil (YN-34) to the refrigerant system on High Voltage Battery Electric vehicles equipped with an electric A/C (air conditioning) compressor if it has been previously used to inject PAG oil. For High Voltage Battery Electric vehicles, use only clean manual injection tools. Injection of Motorcraft® R-1234yf Refrigerant POE Oil (YN-34) into a High Voltage Battery Electric vehicle with equipment previously used with PAG oil will contaminate and damage the High Voltage Battery Electric A/C (air conditioning) system.

NOTICE

During normal A/C (air conditioning) operation, oil is circulated through the system with the refrigerant, and a small amount is retained in each component. If certain components of the system are removed,

1. **NOTICE**

   An A/C (air conditioning) refrigerant analyzer must be used before the recovery of any vehicle's A/C (air conditioning) refrigerant. Failure to do so puts the shop's bulk refrigerant at risk of contamination. If the vehicle's A/C (air conditioning) refrigerant is contaminated, refer the customer to the service facility that carried out the last A/C (air conditioning) service. If the customer wishes to pay the additional cost, use the A/C (air conditioning) recovery equipment that is designated for recovering contaminated A/C (air conditioning) refrigerant. Dispose of all contaminated A/C (air conditioning) refrigerant as hazardous waste. For all equipment, follow the manufacturer's instructions.

   NOTICE

   Motorcraft® R-1234yf Refrigerant POE Oil (YN-34) only must be used as a refrigerant system lubricant. Addition of any oil other than Motorcraft® R-1234yf Refrigerant POE Oil (YN-34) to the refrigerant system will damage the A/C (air conditioning) compressor and contaminate the refrigerant system.

   NOTICE

   During normal A/C (air conditioning) operation, oil is circulated through the system with the refrigerant, and a small amount is retained in each component. If certain components of the system are removed, some of the refrigerant oil will go with the component. To maintain the original total oil charge, it is necessary to compensate for the oil lost by adding oil to the system with the new part.

   NOTE

   Use Refrigerant Identification Equipment that conforms to SAE J2912 standard identifies R-1234yf.

   Follow the instructions included with Refrigerant Identification Equipment to obtain the sample for testing. For the correct procedure.

   Refer to: Refrigerant Identification Testing(412-00 Climate Control System - General Information, General Procedures).

2. **NOTE**

   For R1234yf the A/C (air conditioning) Refrigerant Analyzer is equipped in the A/C (air conditioning) machine.

After installing the condenser core.	• 1.5 fl oz (45 ml) plus the amount collected during refrigerant recovery. (base condenser) • 1.5 fl oz (45 ml) plus the amount collected during refrigerant recovery. (split condenser - lower primary-climate) • 1.0 fl oz (30 ml) plus the amount collected during refrigerant recovery. (split condenser - upper secondary-battery)	Add directly to inlet port or inject to low-side service port during system charging.
After installing the evaporator core.	• 2.0 fl oz (60 ml) plus the amount collected during refrigerant recovery.	Add directly to inlet port or inject to low-side service port during system charging.
After installing/reassembling the thermostatic expansion valve.	Amount collected during refrigerant recovery.	Inject to low-side service port during system charging.
After installing a refrigerant Hose/Line.	2 fl oz (60 ml) plus the amount collected during refrigerant recovery [a].	Inject to low-side service port during system charging.
After an O-ring Leak Repair.	1 fl oz (30 ml) plus the amount collected during refrigerant recovery [b].	Inject to low-side service port during system charging.
After a service port leak repair.	Amount collected during refrigerant recovery.	Inject to low-side service port during system charging.
After installing High Voltage Battery Coolant Cooler (Chiller)	1 fl oz (30 ml) plus the amount collected during refrigerant recovery.	Inject to low-side service port during system charging.

[a] If an excessive amount of Motorcraft® R-1234yf Refrigerant POE Oil (YN-34) is lost due to a hose rupture/separation or other damage, the total system Motorcraft® R-1234yf Refrigerant POE Oil (YN-34) capacity must be added. Also, it is necessary to replace the receiver/drier.

Refrigerant Oil Adding

412-00 Climate Control System - General Information	*2022 F-150*
General Procedures	***Procedure revision date: 04/25/2022***

Refrigerant Oil Adding

Filling

1. Refer to the Refrigerant Oil Adding (when new components are installed) chart below for refrigerant oil adding amounts and methods of installation.
   - For the correct Refrigerant Management Center special tool,

     Refer to: Climate Control Tools and Equipment(412-00 Climate Control System - General Information, General Procedures).
   - Follow all steps for component of concern.

     Fill the air conditioning (A/C) system with the specified quantity of refrigerant oil.

     R-1234yf Refrigerant Oil Adding (when new components are installed)

Component	Motorcraft® R-1234yf Refrigerant PAG Oil (YN-35) Amount, fl oz (ml)	Method of Adding
After installing the A/C (air conditioning) Compressor.	Service compressor contains full system charge of oil. Oil matching required plus amount collected during recovery.	Refer to oil adding steps above.
After installing the receiver drier.	2 fl oz (60 ml) plus the amount collected during refrigerant recovery.	Inject to low-side service port during system charging.

repaired.

R-134a Refrigerant Oil Adding (when new components are installed)

Component	Motorcraft® PAG Refrigerant Compressor Oil (YN-12-D) Amount, fl oz (ml)	Method of Adding
After installing the A/C (air conditioning) Compressor.	Service compressor contains full system charge of oil. Oil matching required plus amount collected during recovery.	Refer to oil adding steps above.
After installing the receiver drier.	2 fl oz (60 ml) plus the amount collected during refrigerant recovery.	Inject to low-side service port during system charging.
After installing the receiver drier element.	1 fl oz (30 ml) plus the amount collected during refrigerant recovery.	Inject to low-side service port during system charging.
After installing the condenser core.	1.5 fl oz (45 ml) plus the amount collected during refrigerant recovery.	Add directly to inlet port or inject to low-side service port during system charging.
After installing the condenser core, and the receiver drier element.	2 fl oz (60 ml) plus the amount collected during refrigerant recovery.	Add directly to inlet port or inject to low-side service port during system charging.
After installing the evaporator core.	1.5 fl oz (45 ml) plus the amount collected during refrigerant recovery.	Add directly to inlet port or inject to low-side service port during system charging.
After installing/reassembling the thermostatic expansion valve.	Amount collected during refrigerant recovery.	Inject to low-side service port during system charging.

NOTE

Refrigerant system pressure should be between 413-551 kPa (60-80 psi) at 24° C (75° F) with the engine off and cool.

Adjust the oil injector piston and fill the oil injector with the correct amount of clean, new Motorcraft® R-1234yf Refrigerant PAG Oil (YN-35) or Motorcraft® PAG Refrigerant Compressor Oil (YN-12-D).

- For the correct Airsept R134a or R1234yf A/C (air conditioning) refrigerant large oil injector special tool,

  Refer to: Climate Control Tools and Equipment(412-00 Climate Control System - General Information, General Procedures).

3. Install the oil injector to the low-side service port valve.
4. **NOTE**

   Make sure all tools and hoses are clear of the engine cooling fan and drive belt before starting the engine. Failure to keep tools and hoses clear from the engine cooling fan and drive belt results in damage to the tools and/or vehicle.

   Start the engine and using the HVAC (heating, ventilation and air conditioning) controls press the A/C (air conditioning) system on button. Turn the oil injector piston clockwise and inject the refrigerant oil.

Inspection

Compressor Type

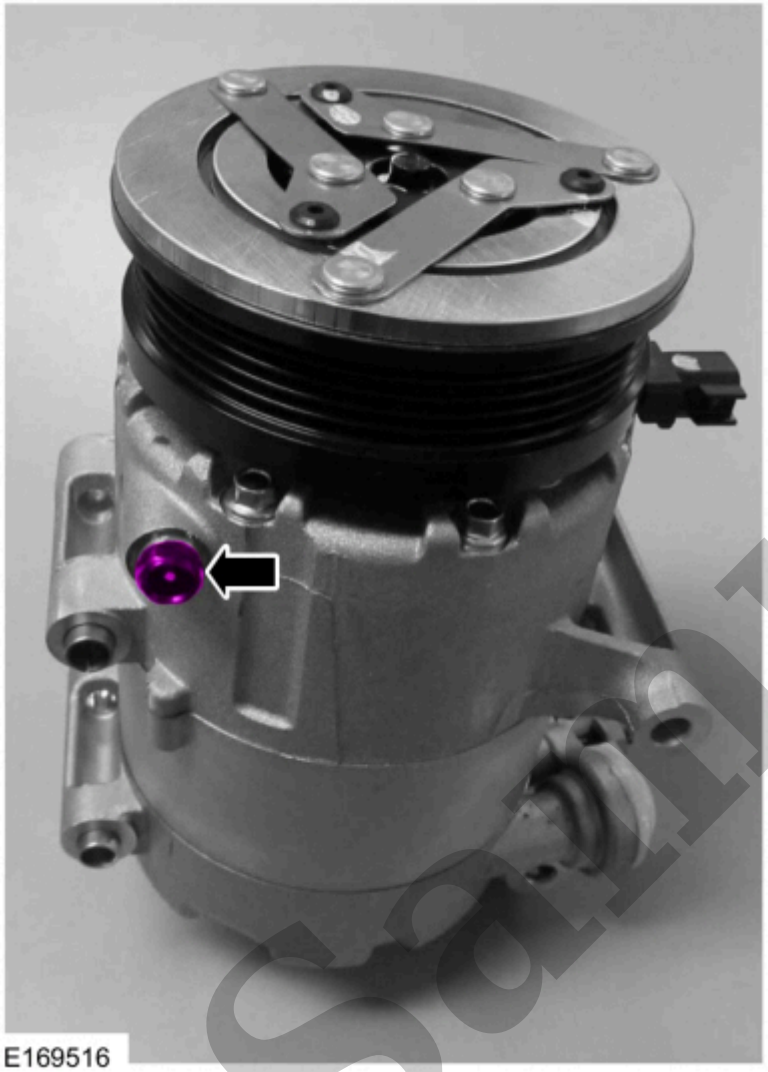
1. **NOTICE**

   An A/C (air conditioning) refrigerant analyzer must be used before the recovery of any vehicle's A/C (air conditioning) refrigerant. Failure to do so puts the shop's bulk refrigerant at risk of contamination. If the vehicle's A/C (air conditioning) refrigerant is contaminated, refer the customer to the service facility that carried out the last A/C (air conditioning) service. If the customer wishes to pay the additional cost, use the A/C (air conditioning) recovery equipment that is designated for recovering contaminated A/C (air conditioning) refrigerant. Dispose of all contaminated A/C (air conditioning) refrigerant as hazardous waste. For all equipment, follow the manufacturer's instructions.

NOTICE

2. **NOTE**

Type 1: (IVDC) Internal Variable Displacement Air Conditioning (A/C) Compressor



Click here to learn about symbols, color coding, and icons used in this manual.

3. **NOTE**

Type 2: (EVDC) External Variable Displacement Air Conditioning (A/C) Compressor

E169628

Click here to learn about symbols, color coding, and icons used in this manual.

5. **NOTE**

Type 4: Fixed Air Conditioning (A/C) Compressor