Refrigerant Oil Adding - Hybrid Electric Vehicle (HEV), Vehicles With: R1234YF Refrigerant

Special Tool(s) / General Equipment

Air Conditioning Service Unit

Check

NOTICE: MotorcraftÂ® 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 MotorcraftÂ® R-1234yf Refrigerant POE Oil (YN-34) to the High Voltage Battery Electric vehicle refrigerant system will damage the electric A/C compressor and contaminate the refrigerant system.

NOTICE: Do not use the R-1234yf Refrigerant Management Machine built-in oil injection system to inject MotorcraftÂ® R-1234yf Refrigerant POE Oil (YN-34) to the refrigerant system on High Voltage Battery Electric vehicles equipped with an electric A/C 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 MotorcraftÂ® 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 system.

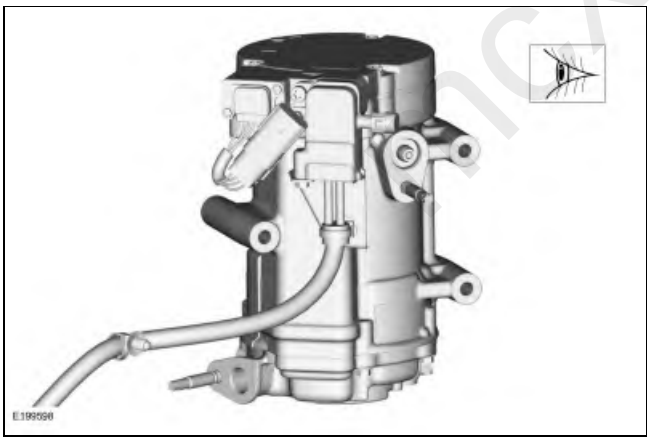
NOTICE: During normal A/C operation, oil is circulated through the system with the refrigerant, and a small amount is retained in each component. If certain components of the system are removed, some of the refrigerant oil will go with the component. To maintain the original total oil charge, it is necessary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

NOTICE: Perform an oil balance when replacing a compressor where system flush will not be performed.

NOTE: *The purpose of oil balance is to make sure the amount of oil in the system is not increased or decreased as a result of the replacement component(s).*

NOTE: *New compressors come fully charged with MotorcraftÂ® R-1234yf Refrigerant POE Oil (YN-34). The old compressor is only partially charged because some of the oil is elsewhere in the A/C system.*

1. Visually check the A/C compressors old and new.



Filling

NOTICE: Perform an oil balance when replacing a compressor where system flush will not be performed.

NOTE: *The purpose of oil balance is to make sure the amount of oil in the system is not increased or decreased as a result of the replacement component(s).*

NOTE: *Service compressors come charged with MotorcraftÂ® R-1234yf Refrigerant POE Oil (YN-34). The old compressor is only partially charged because some of the oil is elsewhere in the A/C system.*

1. Remove the suction and discharge port seal cap on the new A/C compressor.
2. Add the amount of oil collected during recovery to new service compressor.

3. Install the suction and discharge port seal cap on the new A/C compressor.
4. If the system is being flushed you must add oil to the service compressor to match the system specification stated on the underhood label.

Activation

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

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

   NOTICE: During normal A/C 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.

2. **NOTICE: Make sure the equipment is clean and free of foreign material.**

   NOTE: *During normal A/C 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 MotorcraftÂ® R-1234yf Refrigerant POE Oil (YN-34) stays inside 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.*

   Refer to the chart below for refrigerant oil adding amounts and methods of installation.

Refrigerant Oil Adding (When new components are installed)

	MotorcraftÂ® R-1234yf Refrigerant POE Oil (YN-34) fl oz (ml)	Method of Adding
After installing the A/C 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.
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 MotorcraftÂ® R-1234yf Refrigerant POE Oil (YN-34) is lost due to a hose rupture/separation or other damage, the total system MotorcraftÂ® R-1234yf Refrigerant POE Oil (YN-34) capacity must be added. Also, it is necessary to replace the receiver/drier.		