

2022 CHEVROLET CORVETTE SERVICE MANUAL

- **SEARCH**

1. **HVAC**

2. **Heating, Ventilation, and Air Conditioning**

3. **Repair Instructions**

- 4.

Flushing

Special Tools

- GE-41447-A $\tilde{\text{A}}$, $\hat{\text{A}}$ A/C Tracer Dye
- GE-45268 $\tilde{\text{A}}$, $\hat{\text{A}}$ Flush Adapter Kit
- GE-45268-130 $\tilde{\text{A}}$, $\hat{\text{A}}$ R $\tilde{\text{A}}$ $\hat{\text{A}}$ € $\hat{\text{A}}$ “1234yf Refrigerant Flushing Kit
- GE-50300 $\tilde{\text{A}}$, $\hat{\text{A}}$ R-1234yf Air Conditioning Refrigerant Recovery/Recharge Cart

Equivalent regional tools: Special Tools.

General Information

R-1234yf (HFO-1234yf) - 2,3,3,3 - Tetrafluoroprop-1-ene (CF₃CFCH₂), is an olefin containing hydrogen, fluorine and carbon with thermodynamic properties similar to R-134a. This refrigerant is a mildly flammable gas. It has a boiling point of $\tilde{\text{A}}$ $\hat{\text{A}}$ °29.2 $\tilde{\text{A}}$, $\hat{\text{A}}$ °C, a vapor pressure of 583 kPa absolute at 20 $\tilde{\text{A}}$, $\hat{\text{A}}$ °C, no ozone depletion potential, and a global warming potential (GWP) of 4.

In certain regions, technicians repairing or servicing motor vehicle air conditioning (MVAC) systems must be trained and certified by the appropriate regional or national regulatory agency.

- In the USA, refer to the Environmental Protection Agency (EPA) website for MVAC training requirements. <http://www.epa.gov/ozone/title6/609/technicians/609certs.html>
- In Canada, refer to the Environment Canada website for MVAC training requirements. <http://www.ec.gc.ca/ozone/default.asp?lang=En&n=943E1CAB-1#ws4E6F6835>
- In Europe, refer to Commission Regulation (EC) No 307/2008 for MVAC training requirements. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:092:0025:0027:EN:PDF>

Warning:

R-1234yf Proper Service Procedures Warning.

Note:

- Flushing with the GE-50300 recovery/recharge cart is not intended to remove metal from the air conditioning (A/C) system.
- Flushing will remove the fluorescent leak detection dye from the A/C system.

Flushing is intended to remove the following contaminants:

- Contaminated air conditioning oil
- Desiccant, following a desiccant bag failure
- Overcharge of air conditioning oil
- Refrigerant contamination

Metal Contamination

In the event of an A/C Compressor failure, metal will be released throughout the system resulting in contamination of the refrigerant and all system components.

Only install a designated machine for contaminated refrigerant (GE-50957 Machine R-1234yf Contaminated Refrigerant or equivalent service machine designated for contaminated refrigerant). This is critical to meet the requirements of Society of Automotive Engineers (SAE) J2851, and

so the standard refrigerant service machine is not contaminated thus introducing contamination into other vehicles.

For more information on recovery and recharging when system contamination is present, as well as proper disposal, refer to Refrigerant Recovery and Recharging

Components that are to be REPLACED due to metal contamination are as follows:

- Air conditioning compressor
- Metal lines that contain mufflers
- Thermal expansion valve (TXV)
- Receiver/Drier bottle with desiccant bag
- All rubber O-rings and seals
- Schrader valves on service ports

Components that are to be FLUSHED due to metal contamination, and are considered reusable are as follows:

- Basic metal lines that contain no mufflers
- Condenser
- Evaporator

Flushing Setup

1. Note:
 - Warmer engine or ambient temperature decreases the refrigerant recovery time during the air conditioning flush procedure.
 - Minimum flush time for metal contamination should be 25 minutes
2. Recover the refrigerant. Refrigerant Recovery and Recharging
3. Remove the air conditioning evaporator thermal expansion valve. Air Conditioning Evaporator Thermal Expansion Valve Replacement
4. Install the *GE-45268-121* Flush Adapter Kit in place of the thermal expansion valve.
5. Remove the air conditioning compressor. Air Conditioning Compressor Replacement
6. Install *GE-45268-10* Flush Adapter Kit to the discharge hose.
7. Install *GE-45268-10* Flush Adapter Kit to the suction hose.

Forward Flushing

1. Note:
 - Forward flow refrigerant flushing is recommended for contaminated refrigerant or air conditioning oil.
 - The filter inside *GE-45268-1* is serviceable. Remove and discard the check valve from the filter.
2. Service the filter with ACDelco P/N GF 470, before each flush.
3.
 1. Connect *GE-45268-1* to the suction port of *GE-45268-10*.
 2. Connect the blue hose from *GE-50300* Air Conditioning Service Center for HFO1234-yf to the *GE-45268-1* flush filter adapter (1).
 3. Connect the red hose from *GE-50300* Air Conditioning Service Center for HFO1234-yf to the *GE-45268-10* flush adapter (4).
4. Note:

The valve on the external refrigerant tank must be closed before starting the flush process.
5. Flush the air conditioning system by following the instructions supplied with the *GE-50300* Air Conditioning Service Center for HFO1234-yf.

6. Remove GE-45268-121 from the evaporator.
7.
 1. Inspect the air conditioning evaporator thermal expansion valve for debris. Clean or replace as needed.
 2. Install the air conditioning evaporator thermal expansion valve. Air Conditioning Evaporator Thermal Expansion Valve Replacement
8. Remove GE-45268-10 from the discharge hose.
9. Remove GE-45268-10 from the suction hose.
10. Note:

Flushing will remove all the air conditioning PAG oil from the air conditioning system. The air conditioning system must be replenished with the correct amount of air conditioning PAG oil.
11. Perform the air conditioning compressor oil balancing procedure. Air Conditioning Compressor Oil Balancing
12. Note:

GE-41447-a A/C tracer dye is for PAG oil only.
13. Add one bottle of the proper leak detection dye directly to the air conditioning compressor. Adhesives, Fluids, Lubricants, and Sealers
14. Install the air conditioning compressor. Air Conditioning Compressor Replacement
15. Replace the air conditioning receiver and dehydrator. Air Conditioning Receiver and Dehydrator Replacement
16. Recharge the refrigerant. Refrigerant Recovery and Recharging
17. Inspect for refrigerant leaks.