

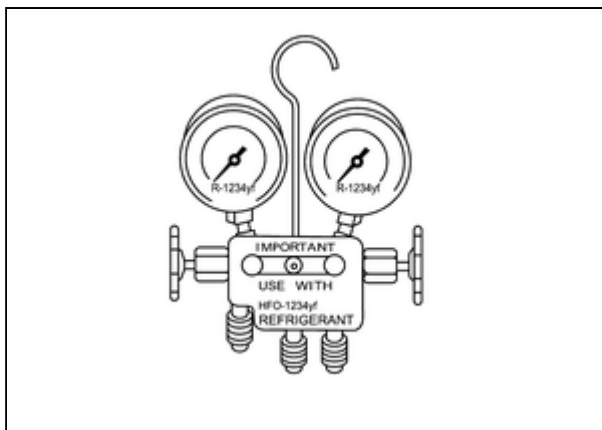
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## 2023 Nissan Titan Service and Repair Manual

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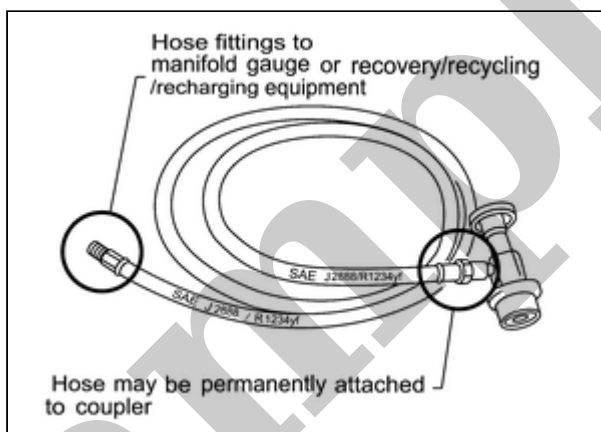
Be certain that the gauge face indicates HFO-1234yf or R-1234yf. Be sure the gauge set has threaded connections for HFO-1234yf (R-1234yf) service hoses. Confirm the set has been used only with refrigerant HFO-1234yf (R-1234yf) and specified lubricants.



SIEMD-5679910-02-000316708

## SERVICE HOSES

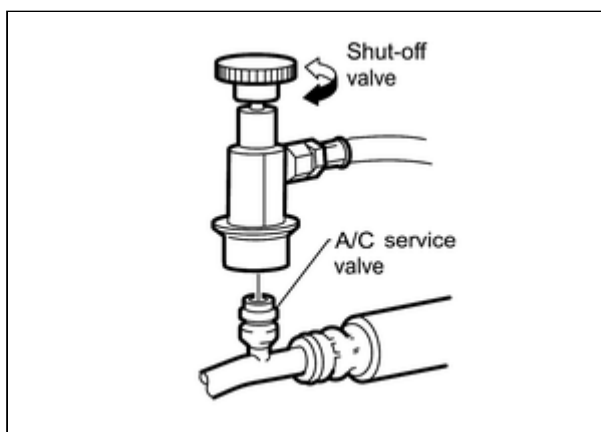
All hoses must equip positive shut-off devices (either manual or automatic) near the end of the hoses opposite to the manifold gauge.



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## SERVICE COUPLERS

Never attempt to connect HFO-1234yf (R-1234yf) service couplers to the CFC-12 (R-12) and HFC-134a (R-134a) A/C system. The HFO-1234yf (R-1234yf) couplers do not properly connect to the CFC-12 (R-12) and HFC-134a (R-134a) system. However, if an improper connection is attempted, discharging and contamination may occur.



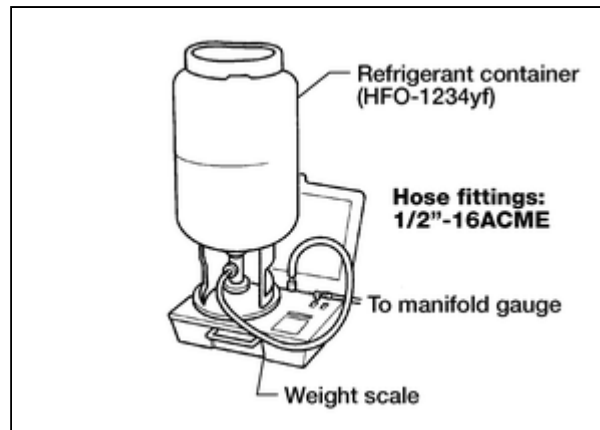
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Shut-off valve rotation	A/C service valve
Clockwise	Open
Counterclockwise	Close

# REFRIGERANT WEIGHT SCALE

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Verify that no refrigerant other than HFO-1234yf (R-1234yf) and specified lubricants have been used with the scale. The hose fitting must be 1/2"-16 ACME if the scale controls refrigerant flow electronically.



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## CHARGING CYLINDER

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Using a charging cylinder is not recommended. Refrigerant may be vented into air from cylinder's top valve when filling the cylinder with refrigerant. Also, the accuracy of the cylinder is generally less than that of an electronic scale or of quality recycle/recharge equipment.

# Special Service Tool



RDE-001824536



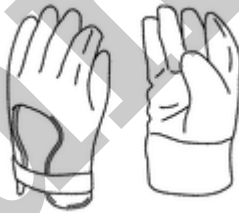


Do not mix HFO-1234yf (R-1234yf) refrigerant and/or its specified oil with HFC-134a (R-134a) and CFC-12 (R-12) refrigerants and/or oils.




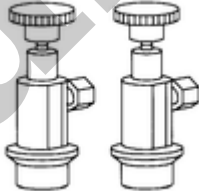

Separate and non-interchangeable service equipment must be used for handling each type of refrigerant/oil.

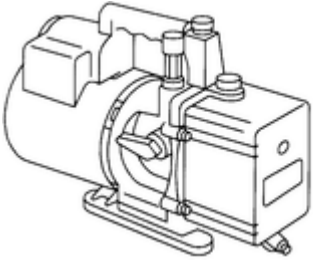
Refrigerant container fittings, service hose fittings and service equipment fittings (equipment which handles refrigerant and/or oil) are different between CFC-12 (R-12), HFC-134a (R-134a) and HFO-1234yf (R-1234yf). This is to avoid mixed use of the refrigerants/oil.

Adapters that convert one size fitting to another must not be used. Refrigerant/oil contamination will occur and compressor failure will result.

<b>Tool number</b> <b>(TechMate No.)</b> <b>Tool name</b>		<b>Description</b>
(J-52405) R1234YF AC RRR Machine	 RDE-001824536-02-IIA0150ZZ	Refrigerant recovery, recycling and recharging
(TIFZX) Electronic Refrigerant Leak Detector	 RDE-001824536-01-WIIA1921ZZ	Detects refrigerant leaks

<b>Tool number</b> <b>(TechMate No.)</b> <b>Tool name</b>		<b>Description</b>
Service hoses <ul style="list-style-type: none"> <li>• High-pressure side hose</li> <li>• Low-pressure side hose</li> <li>• Utility hose</li> </ul>	 <p>RDE-001937650-01--NT201</p>	Hose color: <ul style="list-style-type: none"> <li>• Low-pressure side hose: Blue with black stripe</li> <li>• High-pressure side hose: Red with black stripe</li> <li>• Utility hose: Yellow with black stripe or green with black stripe</li> </ul> Hose fitting to gauge: <ul style="list-style-type: none"> <li>• 1/2"-16 ACME</li> </ul>
Insulated gloves [Guaranteed insulation performance for 1000V/300A]	 <p>RDE-001937650-02-MCIA0149ZZ</p>	Removing and installing high voltage components
Leather gloves [Use leather gloves that can fasten the wrist tight]	 <p>RDE-001937650-03-PCIA0066ZZ</p>	<ul style="list-style-type: none"> <li>• Removing and installing high voltage components</li> <li>• Protect insulated gloves</li> </ul>
Insulated safety shoes	 <p>RDE-001937650-04-PCIA0011ZZ</p>	Removing and installing high voltage components
Safety glasses [ANSI Z87.1]	 <p>RDE-001937650-05-PCIA0012ZZ</p>	<ul style="list-style-type: none"> <li>• Removing and installing high voltage components</li> <li>• To protect eye from the spatter on the work to electric line</li> </ul>

<b>Tool number</b> <b>(TechMate No.)</b> <b>Tool name</b>		<b>Description</b>
Face shield	 RDE-001937650-08-PCIA0167ZZ	<ul style="list-style-type: none"> <li>• Removing and installing high voltage components</li> <li>• To protect face from the spatter on the work to electric line</li> </ul>
Insulated helmet	 RDE-001937650-06-PCIA0013ZZ	Removing and installing high voltage components
Insulation resistance tester (Multi tester)	 RDE-001937650-07-PCIA0014ZZ	Measuring insulation resistance, voltage and resistance
Service couplers <ul style="list-style-type: none"> <li>• High-pressure side coupler</li> <li>• Low-pressure side coupler</li> </ul>	 RDE-001937650-09--NT202	Hose fitting to service hose:  M14 x 1.5 fitting is optional or permanently attached.
Refrigerant weight scale	 RDE-001937650-10--NT200	For measuring of refrigerant  Fitting size: Thread size  1/2" -16 ACME

<b>Tool number</b> <b>(TechMate No.)</b> <b>Tool name</b>		<b>Description</b>
Vacuum pump (Including the isolator valve)	 <p>RDE-001937650-11--NT203</p>	Capacity: <ul style="list-style-type: none"> <li>• Air displacement: 4 CFM</li> <li>• Micron rating: 20 microns</li> <li>• Oil capacity: 482 mℓ (17 Imp fl oz.)</li> </ul> Fitting size: Thread size <ul style="list-style-type: none"> <li>• 1/2" -16 ACME</li> </ul>

Sample

# Sealant or/and Lubricant

RDE-001937652

Name	Application	Note
Refrigerant can (HFO-1234yf)	Charging refrigerant	—
Compressor oil (ND-OIL11)	Refilling compressor oil	—

Sample



## MAINTENANCE OF LUBRICANT LEVEL

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The compressor lubricant is circulating in the system together with the refrigerant. It is necessary to fill compressor with lubricant when replacing A/C system parts or when a large amount of refrigerant leakage is detected. It is important to always maintain lubricant level within the specified level. Or otherwise, the following conditions may occur.

- Insufficient lubricant amount: Stuck compressor
- Excessive lubricant amount: Insufficient cooling (caused by insufficient heat exchange)

Specified lubricant

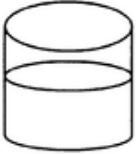




Refer to [Lubricant](#).

Sample

# Inspection

If there is a malfunction (abnormal noise from inside, cooling failure) in the compressor unit, check the compressor oil.

1. Remove electric compressor. Refer to [Removal & Installation](#).
2. Refer to the diagram and judge the drained compressor oil.

Compressor oil judgment figure				
				
Almost clear, no foreign material	Grayish clear, no foreign material	Light gray, no foreign material	Gray, foreign material	Black, foreign material
Judgment result 1			Judgment result 2	

RPR-001937705-02-SIIA0927GB

- Judgement result 1 : Replace only compressor.
- Judgement result 2 : Replace compressor and liquid tank.