

TOOL USE INSTRUCTION

RIVIAN

TOOL NUMBER

TSN00787-300-D

TITLE

COOLANT EVAC & FILL KIT

REV - DATE

REV B - 2/1/26

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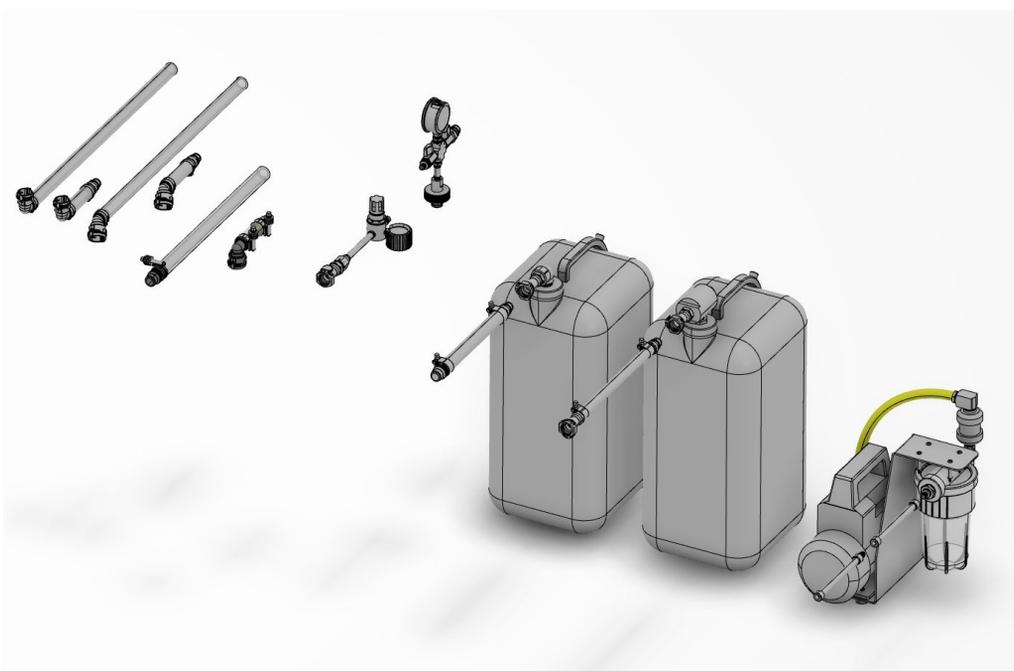
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TOOL FUNCTION

Evacuate, recover and fill the coolant system in Rivian vehicles.



**WARNING**

Do not perform procedure if tool is damaged or missing parts. Consult the Rivian Service Tool Catalog for replacement components.

Failure to follow guidelines outlined in this document could result in injury and/or property damage.

**PPE REQUIRED**

- eye protection
- closed toe shoes
- gloves



SPECIFICATIONS

Required Power Sources:

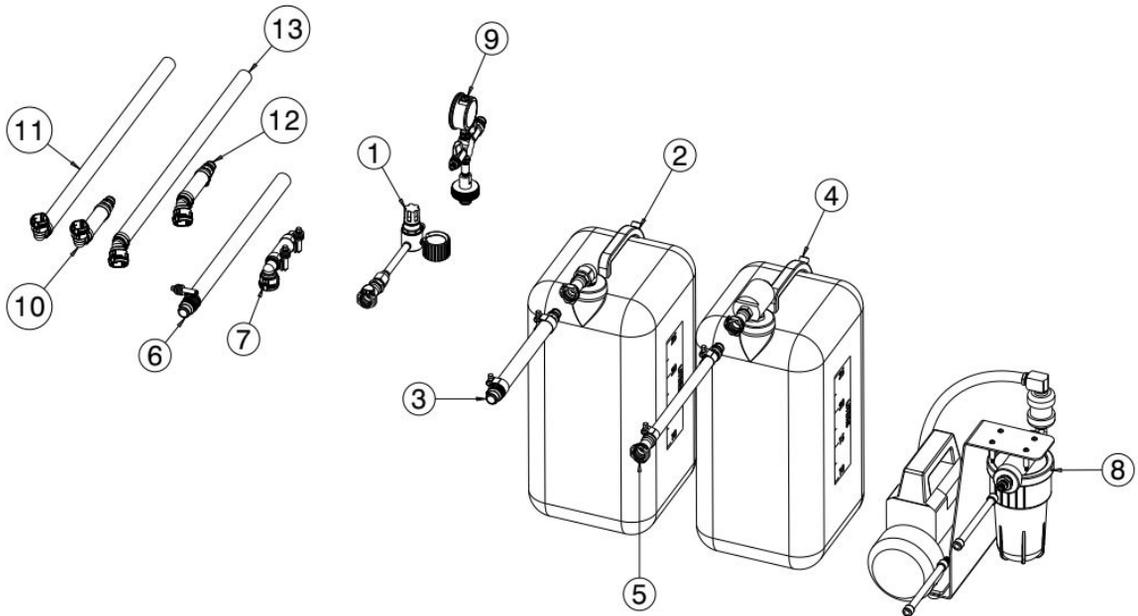
1. Shop air
2. 120vac/240vac - (Vacuum Pump)

LABOR CODES

262850024 Coolant (Drain and Refill)

OTHER TOOLS REQUIRED

-RiDe



COMPONENT GUIDE

ITEM	RIVIAN TOOL ID	DESCRIPTION
1	TSN00789-300-A	REGULATED AIR HOSE
2	TSN00791-300-A	DRAIN JUG, 7 GAL
3	TSN00858-300-A	DRAIN HOSE

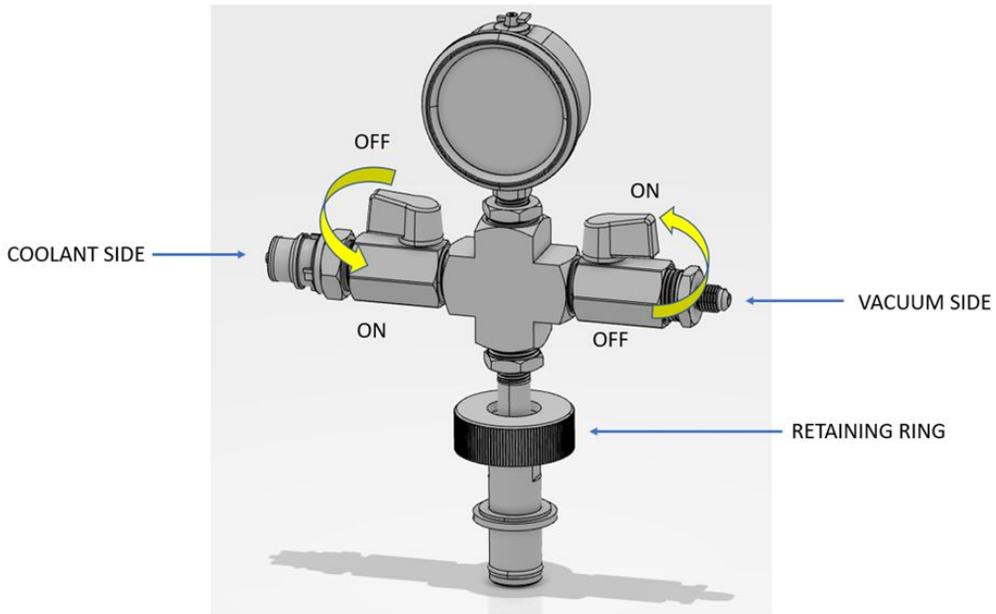


COMPONENT GUIDE - CONTINUED

ITEM	RIVIAN TOOL ID	DESCRIPTION
4	TSN00792-300-A	FILL JUG, 7 GAL
5	TSN00859-300-A	FILL HOSE
6	TSN00680-201-A	DRAIN HOSE, OPEN END
7	TSN00680-202-A	COOLANT PUMP PLUG
8	TSN00790-300-B	VACUUM PUMP ASSEMBLY
9	TSN00788-300-B	DRAIN AND FILL CAP ASSEMBLY
10	TSN01732-300-A	NW14 PURGE ADAPTER
11	TSN01731-300-A	NW14 DRAIN HOSE
12	TSN01734-300-A	NW16 PURGE ADAPTER
13	TSN01733-300-A	NW16 DRAIN HOSE



DRAIN AND FILL CAP ASSEMBLY



VACUUM INTAKE CATCH BOWL



ALWAYS CHECK THE CATCH BOWL, BEFORE, DURING, AND AFTER OPERATION. UNSCREW AND EMPTY THE BOWL OF COOLANT. FAILURE TO EMPTY THE BOWL CAN RESULT IN VACUUM PUMP DAMAGE

FLOAT CHECK VALVE

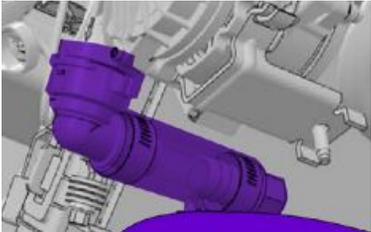
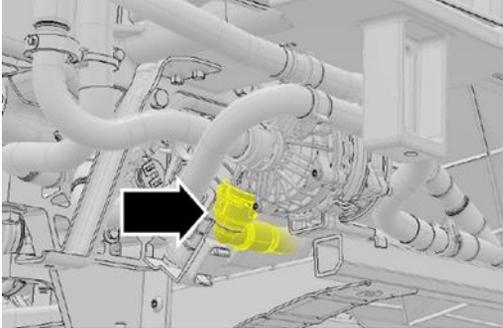
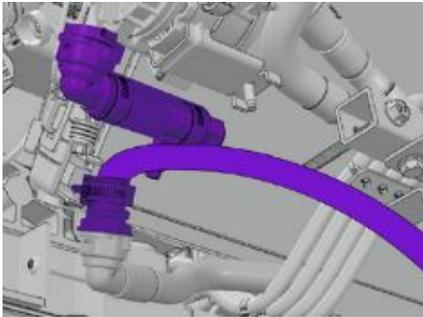


IF THE VACUUM INTAKE CATCH BOWL BECOMES FULL AND ALLOWS FLUID TO TO PASS, THE FLOAT CHECK VALVE WILL SHUT OFF VACUUM FLOW FROM THE VACUUM PUMP. THIS PROTECTS IT FROM INGESTING COOLANT.

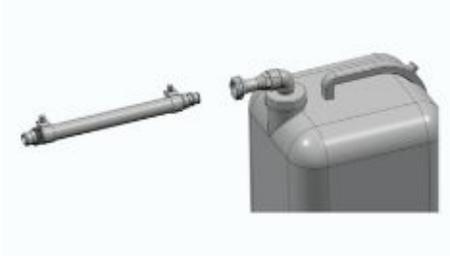
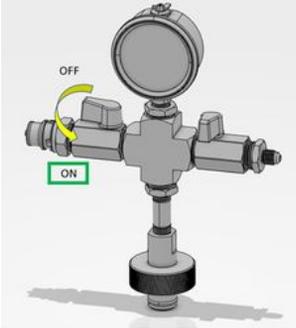
FOLLOW THE STEPS BELOW TO RESET THE VALVE

<p>1</p>	<p>Disconnect the check valve by unscrewing the top and bottom portions.</p> 	
<p>2</p>	<p>Empty all fluid out of the valve body and vacuum catch bowl.</p>	
<p>3</p>	<p>Re-install the valve by screwing the top and bottom portions back together. Note the orientation of the body during installation. There is an arrow that should be facing upward when installed.</p>	

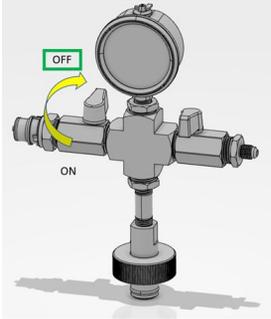
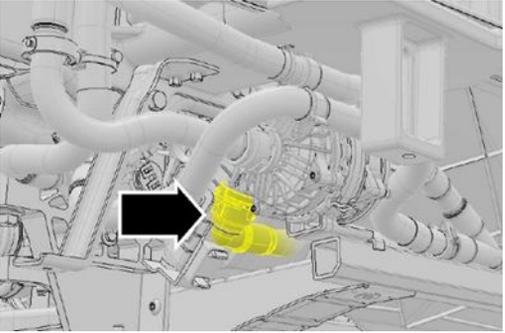


<p>1</p>	<p>Push the drain and fill cap onto the coolant degas bottle. Ensure both valves are in the OFF position. Push the tool into the degas bottle until it fully seats on the rim. Thread the retaining ring onto the bottle.</p> <p>The tool must be seated before attempting to thread the retaining ring</p>	
<p>2</p>	<p>Disconnect the coolant line at the powertrain pump. Install the coolant plug onto the pump.</p> 	
<p>3</p>	<p>Connect one end of the DRAIN HOSE, OPEN END to the coolant line previously connected to the coolant pump. Point the other end into a drain tank.</p>	

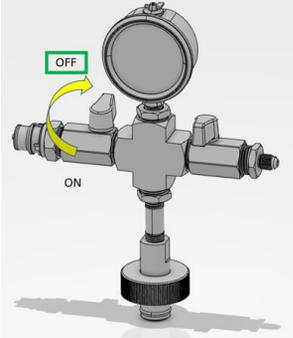


<p>4</p>	<p>Alternatively, you can use the DRAIN HOSE, along with the DRAIN JUG if you want to capture coolant directly.</p> <p>Be sure that the vent cap is removed on the drain jug.</p>	
<p>5</p>	<p>Attach shop air to the REGULATED AIR HOSE. Attach the other end of the air hose to the coolant side of the DRAIN AND FILL CAP ASSEMBLY. .</p>	
<p>6</p>	<p>Turn the valve on the coolant side of the drain and fill cap to the ON position.</p>	
<p>7</p>	<p>Slowly increase pressure to ~10psi by adjusting the regulator. (Turn clockwise)</p>	



<p>8</p>	<p>Coolant will begin to drain. Continue to run air through the system until coolant stops flowing through the drain line.</p>	
<p>9</p>	<p>Once draining is complete, turn the coolant side valve the drain and fill cap to the OFF position.</p>	
<p>10</p>	<p>Remove the drain hose assembly, coolant plug and reconnect the coolant pump.</p>	
<p>11</p>	<p>Repeat the process for the ESS coolant loop.</p>	

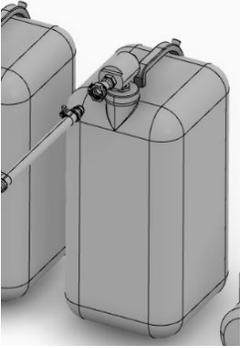
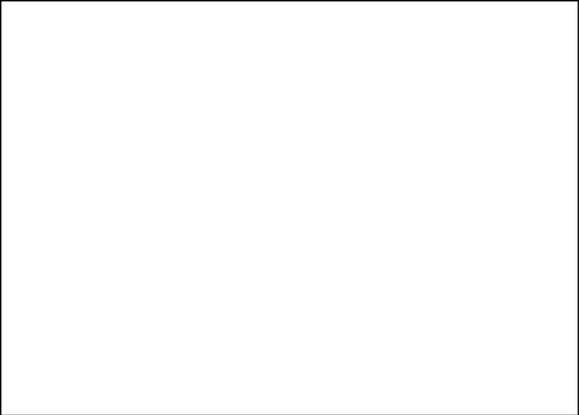


<p>1</p>	<p>Ensure that the valves on the drain and fill cap are in the OFF position.</p>	
<p>2</p>	<p>Attach shop air to the REGULATED AIR HOSE. Attach the other end of the air hose to the coolant side of the DRAIN AND FILL CAP .</p>	
<p>3</p>	<p>Turn the valve on the coolant side of the drain and fill cap to the ON position. Slowly increase pressure to ~10 psi by adjusting the regulator. (Turn clockwise) Monitor the pressure reading using the gauge on the drain and fill cap .</p>	
<p>4</p>	<p>Once 10 psi is reached, turn the valve on the the coolant side of the drain and fill cap to the OFF position and disconnect shop air.</p>	

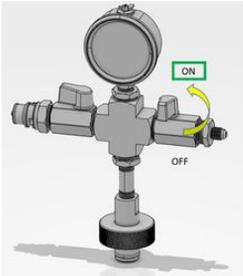
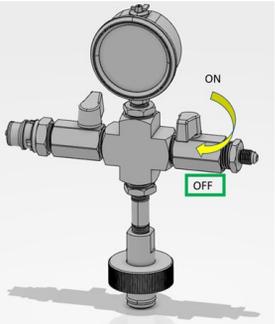


5	Monitor the pressure for 90 seconds. If there is a drop in pressure, the coolant system may be compromised. Flag the vehicle for investigation	
6	If the vehicle passes the pressure test, move on to the filling procedure.	

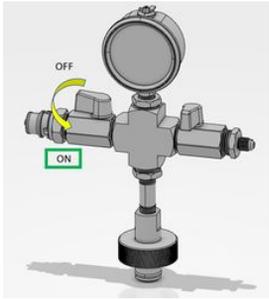
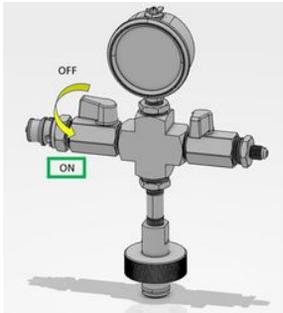


<p>1</p>	<p>Important, VACUUM CATCH BOWL:</p> <ul style="list-style-type: none"> • Empty any residual coolant after each use • Monitor the catch bowl during operation <p>Do not allow the catch bowl to fill up; this will cause damage to the vacuum pump</p>	
<p>2</p>	<p>Ensure the fill tank is filled up with at least ~20L (5.3 gallons) of coolant.</p>	
<p>3</p>	<p>Ensure that the valves on the drain and fill cap are in the OFF position.</p>	
<p>4</p>	<p>Screw the vacuum hose onto the vacuum intake filter. Screw the other side of the vacuum hose onto the vacuum side of the drain and fill cap.</p>	



<p>5</p>	<p>Attach the FILL HOSE assembly to the FILL JUG. Attach the other end of the fill hose assembly to the coolant side of drain and fill cap.</p> <p>Remove the vent cap at the top of the fill tank.</p>	
<p>6</p>	<p>Turn the vacuum side valve on the drain and fill cap to the ON position.</p>	
<p>7</p>	<p>Turn on the vacuum pump.</p> <p>Run the vacuum pump until the gauge reaches 28-30 inHg.</p> <p>Monitor the catch bowl to ensure it is not filling with coolant.</p>	
<p>8</p>	<p>Turn the vacuum side valve on the drain and fill cap to the OFF position, and turn off the vacuum pump.</p>	

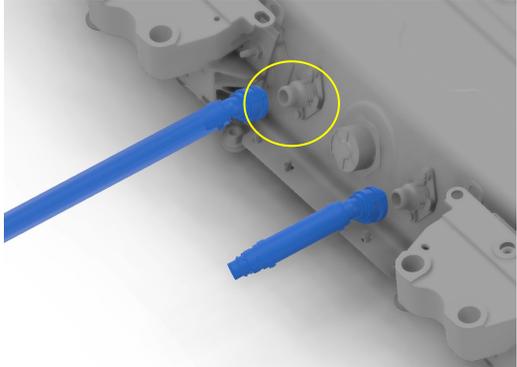
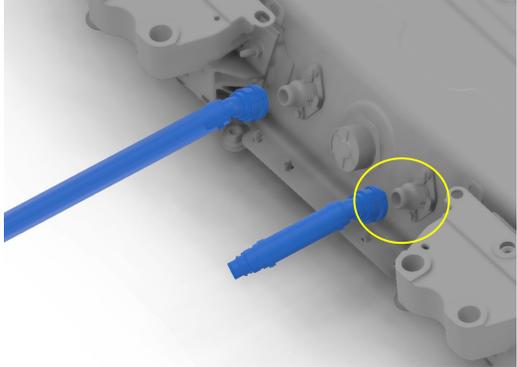
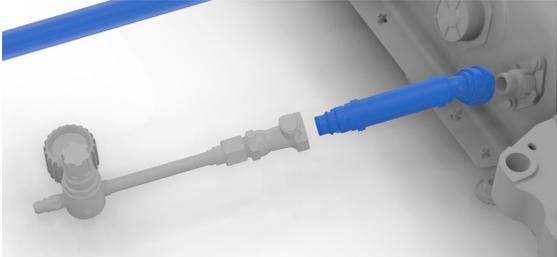


<p>9</p>	<p>Monitor the vacuum gauge for 90 seconds to ensure that the system holds vacuum.</p> <p>NOTE: if the vacuum level drops, there is a possible leak in the system. Recheck all tooling connections and test again. Flag the vehicle for inspection if you suspect a leak in the vehicle system.</p>	
<p>10</p>	<p>Bleed any air out of the fill hose assembly by quickly opening and closing the coolant side valve once coolant has filled the hose up to the valve.</p>	
<p>11</p>	<p>With the coolant valve closed, run a quick vacuum again until the system reaches 28-30 inHg. You are now prepared to fill the system.</p>	
<p>12</p>	<p>Turn the coolant side valve on the drain and fill cap to the ON position.</p> <p>The system will begin to fill with coolant.</p>	



<p>13</p>	<p>Once filling is complete, turn the coolant side valve to the OFF position. Disconnect all hoses and remove the drain and fill cap.</p>	
<p>14</p>	<p>Continue with the next steps per the service manual procedure to run the purge routines.</p>	



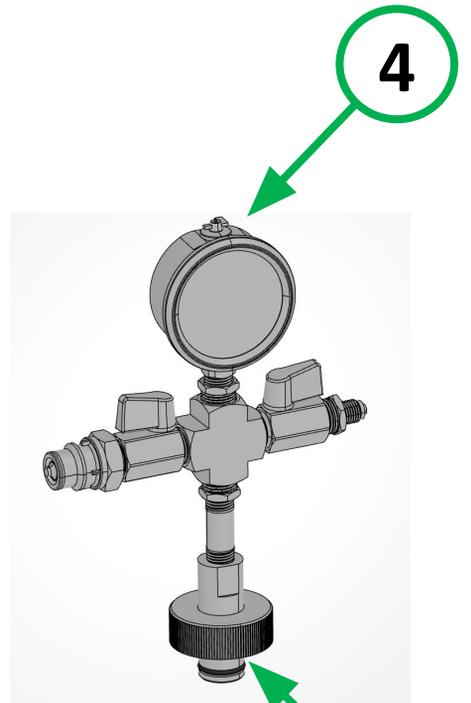
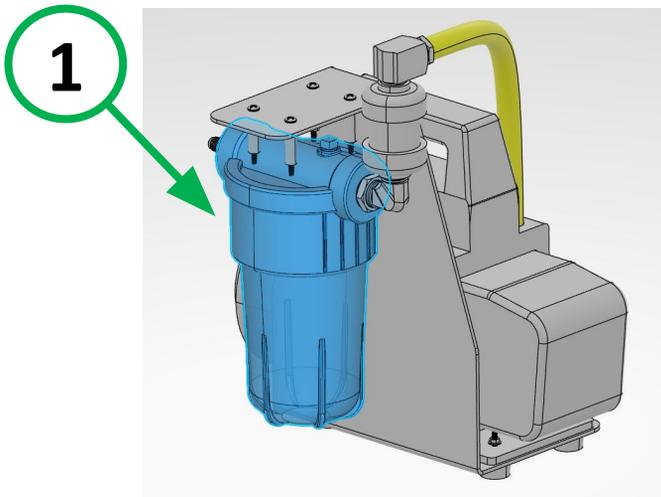
<p>1</p>	<p>Use the appropriate plug and drain hose adapters depending on the vehicle/configuration:</p> <p>NW14 PURGE ADAPTER NW14 DRAIN HOSE NW16 PURGE ADAPTER NW16 DRAIN HOSE</p>	
<p>2</p>	<p>Attach the DRAIN HOSE to the coolant outlet on the pack.</p>	
<p>3</p>	<p>Attach the PURGE ADAPTER to the coolant inlet on the pack.</p>	
<p>4</p>	<p>Attach the REGULATED AIR HOSE to the PURGE ADAPTER.</p>	



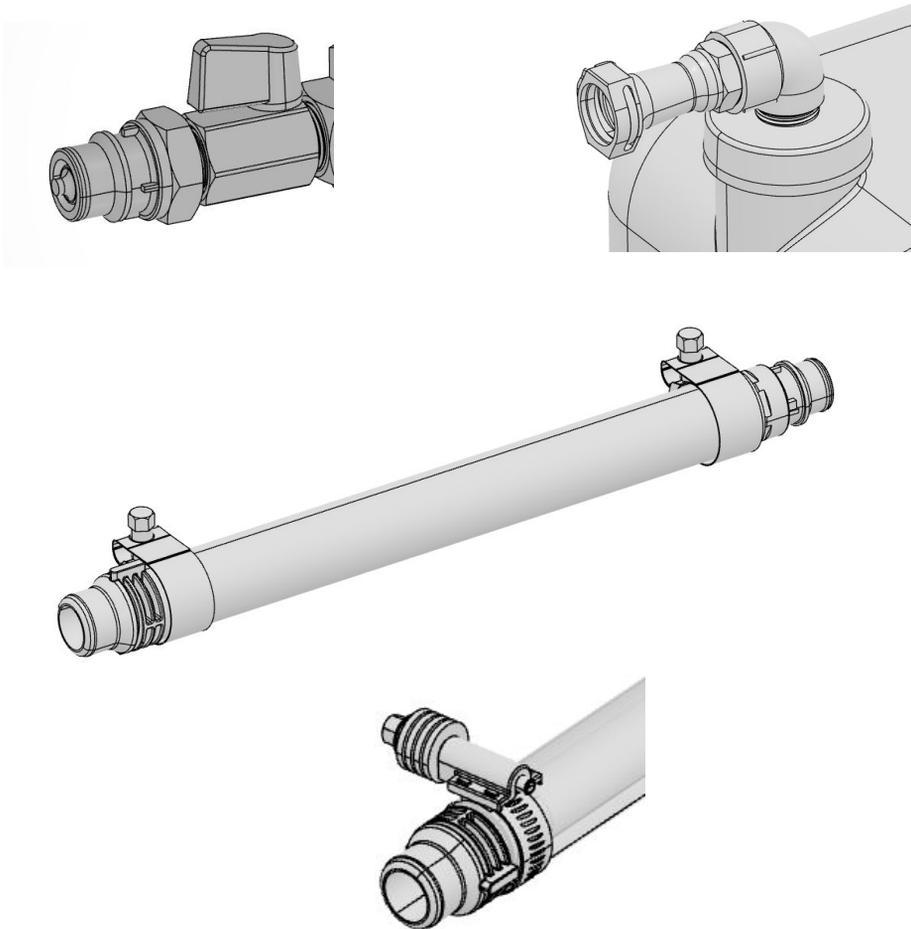
5	Attach shop air to the REGULATED AIR HOSE.	
6	Purge the pack of coolant until no more fluid comes out.	



ITEM	DESCRIPTION	INSPECT	REPLACE
1	FILTER/CATCH BOWL	BEFORE EVERY USE	N/A
2	VACUUM PUMP OIL	MONTHLY	AS REQUIRED
3	DRAIN CAP O-RING	QUARTERLY	AS REQUIRED
4	DRAIN AND FILL CAP GAUGE	QUARTERLY	AS REQUIRED
5	FITTINGS, HOSE CONNECTORS, ETC.	QUARTERLY	AS REQUIRED

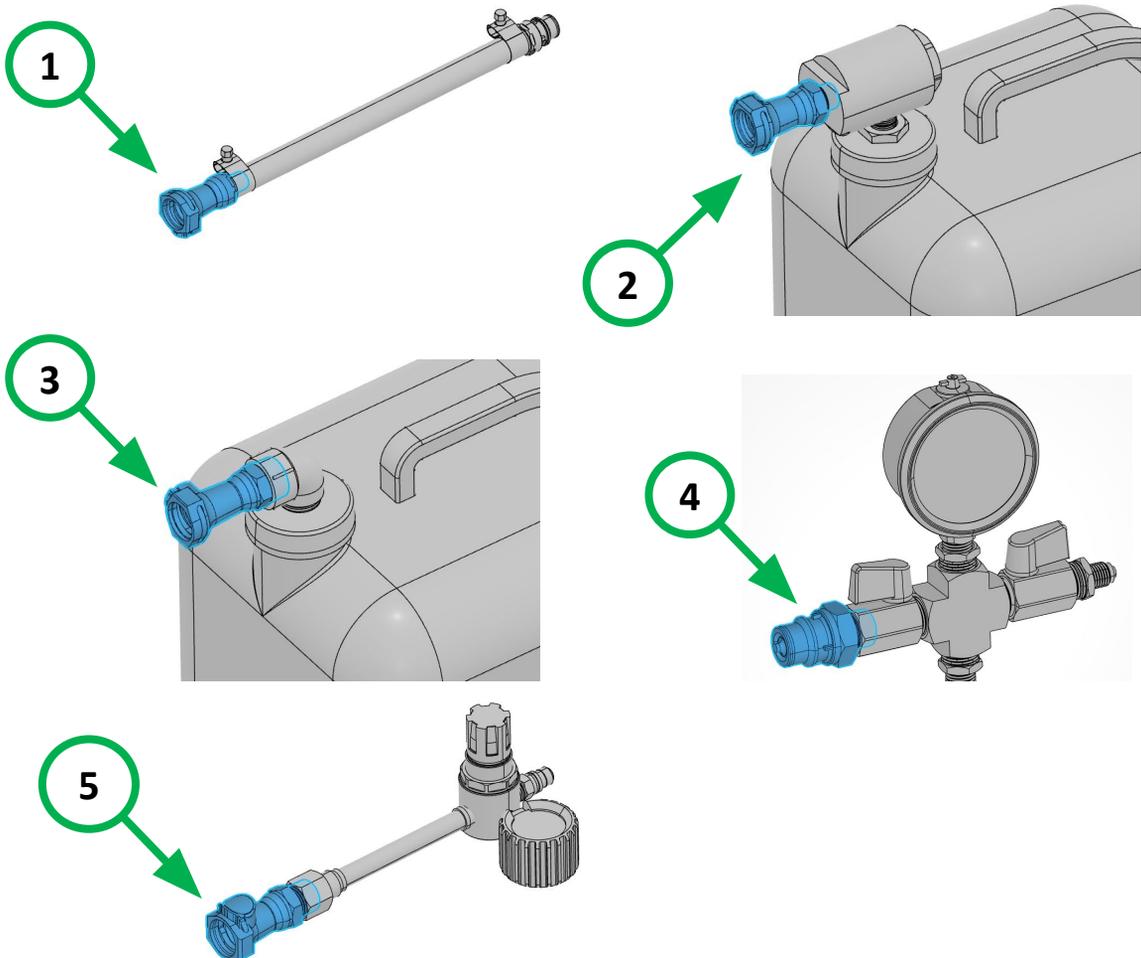


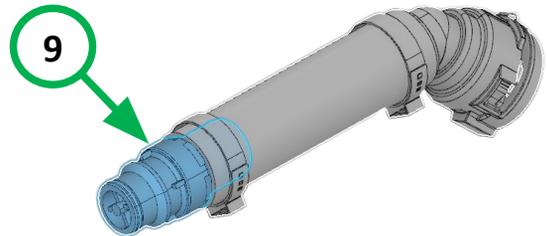
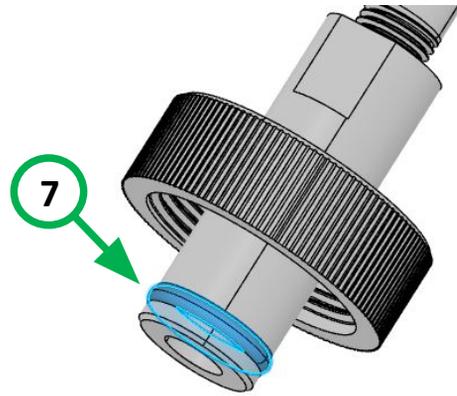
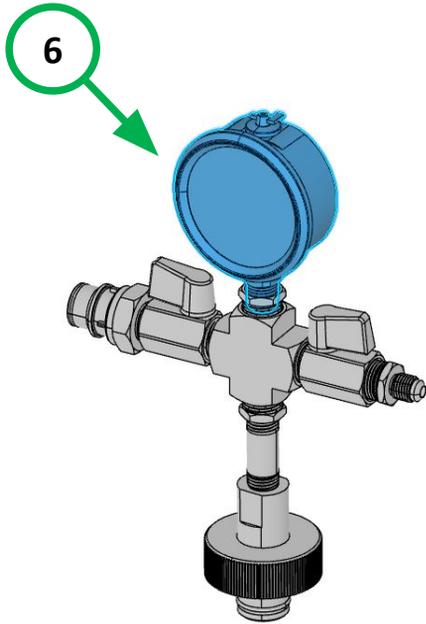
5 Examples shown below, inspect all items



FOR OTHER ITEMS NOT SHOWN, CONTACT RIVIAN SERVICE TOOL ENGINEERING

ITEM	DESCRIPTION	ORDER INFO:
1	QD, Fill hose	MCMMASTER 51545K34
2	QD, Fill jug	MCMMASTER 51545K31
3	QD, Drain jug	MCMMASTER 5012K897
4	QD, Drain and fill cap assy	MCMMASTER 51545K51
5	QD, Regulated air hose	MCMMASTER 51545K87
6	Gauge, Drain and fill cap assy	MCMMASTER 38465k43
7	O-ring, Drain and fill cap assy	MCMMASTER 9263K725
8	Vacuum oil	Robinair 13119 or Equivalent
9	QD, Purge adapter	MCMMASTER 5012K909





PROBLEM	SOLUTION
The vacuum catch bowl quickly fills with coolant.	Drain the vehicle system of coolant before trying to perform a full system fill.
There is no vacuum being pulled when trying to fill.	Clear the float check valve.



REV	DATE	CHANGE DESCRIPTION
B	2/1/26	UPDATED TO NEW FORMAT FROM CONF.

