



CNG Field Service Bulletin
High Pressure Filter – Solenoid Valve – Regulator
Assembly Leak Testing and Torque Specifications

ENP-692
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1. Introduction

The CNG high pressure filter, solenoid valve and regulator inside the fuel management module (FMM) are connected using adapters and jam nuts. The fittings must be torqued to specifications to prevent leaks.

If leaks form on this subassembly, the fuel system must be depressurized and the jam nuts must be torqued to specification.

NOTE

The two adapter fittings (“A” and “B” below) must be properly tightened: The hex nut must not be accidentally loosened when tightening the jam nut.

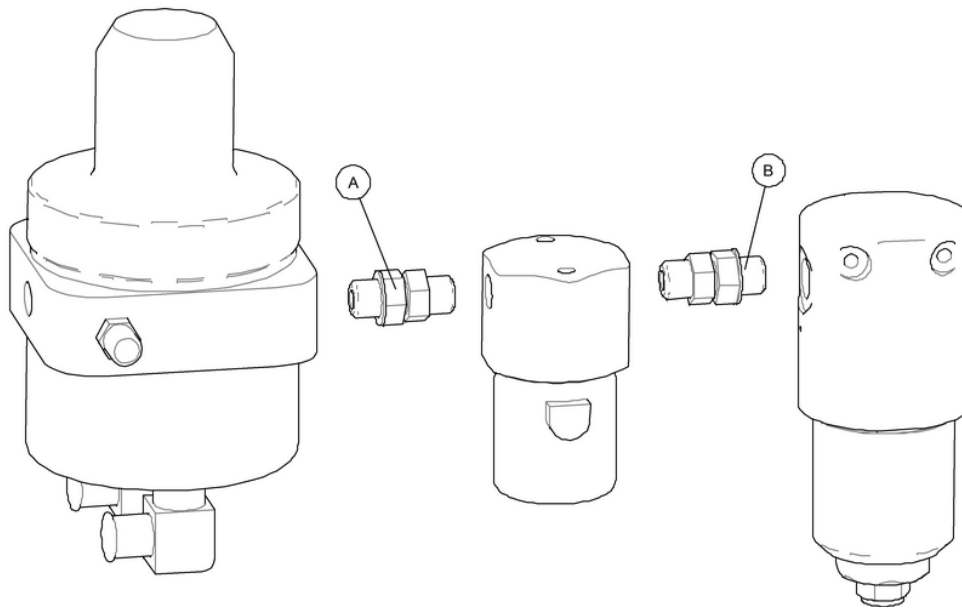


Figure 1. The regulator, solenoid valve and high pressure filter subassembly inside the FMM are connected together with adapters and jam nuts, A and B.

Warning Messages Used in this Bulletin

WARNING

Personal injury or death may occur if procedures are not followed.

CAUTION

Damage to equipment, fuel system or vehicle is possible if instructions are not followed.

2. Affected Units

Agility Fuel Solutions CNG fuel systems.

3. Corrective Action

Correct torque must be applied to adapter jam nuts to prevent leaks. Regular inspections for leaks should be included as part of routine inspections.

4. Tools and Materials

- Personal protective equipment (PPE) for CNG service.
- Common hand tools for CNG fuel system maintenance and service.
 - Thin crow foot wrench with ratchet torque drive.*
 - Thin backup wrench for proper tightening.*
- Natural gas leak detection fluid.
- O-ring lubricant, silicone based, Parker Super-0 Lube or similar.
- Replacement O-rings or fittings as needed. See Figure 2:
 - O-ring part number 10500014
 - Male adapter part number 10200279

***Note:** Thin wrenches are needed to properly access the fittings. Standard wrenches can hang up on the opposing nuts being tightened.

Always use a backup wrench to securely hold the fitting in place while the torque wrench tightens the jam nut against its fitting.

5. Procedure

5.1 Pinpoint Leaks

The exact leak location must be found before starting work. Although electronic leak detectors can find leaks, none are able to positively identify the exact leak location.

1. Access the fuel management module (FMM), located at the rear side panel on the bus and open the access door.



Figure 2. Access the FMM at the rear of the vehicle.

2. Disconnect electrical connections to the FMM.
3. Remove the FMM bottom panel by removing 6 screws.
4. Use a leak detection solution to find exactly where the leak is.
5. Mark or otherwise record the location of the leaking fitting.

WARNING

Depressurize the system before starting repairs. See Field Service Bulletin ENP-391, "Safely Working on CNG Fuel Systems."

5.2 Depressurize

1. Make sure all cylinder valves are fully closed.
2. Turn the red-handle main shutoff valve to the ON/OPEN position.
 1. Close the FMM door (if equipped) and start and run the engine until it stalls.
 2. Check the low pressure gauge to make sure it reads zero psi.
 3. Turn the ignition off, and remove the key. Follow any other vehicle lock-out procedures.
 4. Access the bleed valve (usually inside the FMM housing) and open it slowly using an open end wrench to relieve remaining pressure in the system.
 5. Close the bleed valve.

5.3 Repair Leaks, Pressurize System and Test Again

⚠ CAUTION

Special care is required to ensure the hex nut does not loosen.

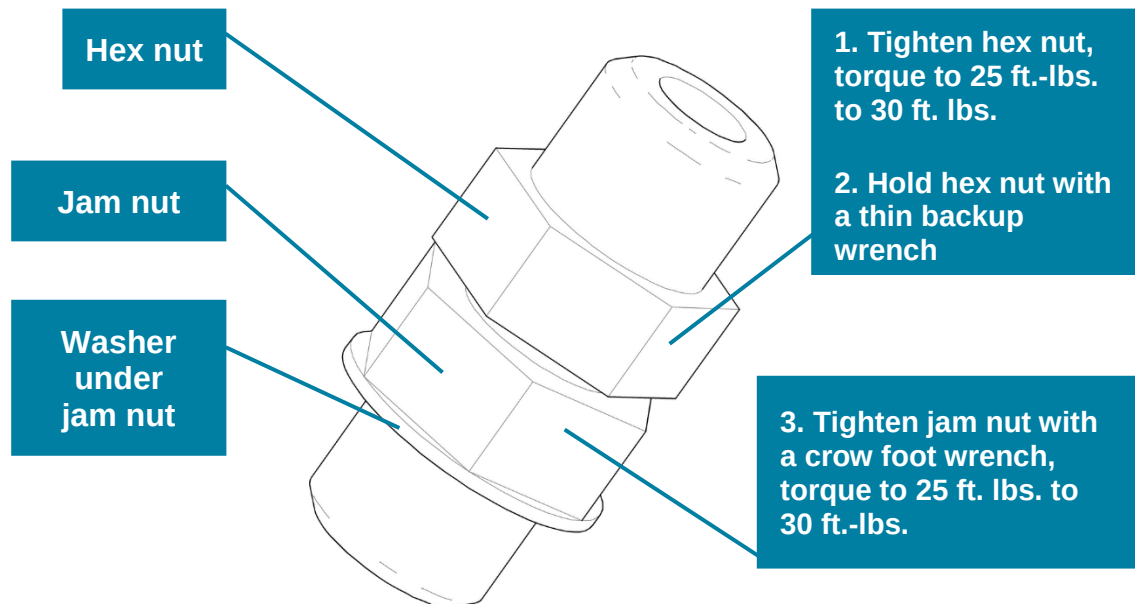


Figure 3. The Hex nut and jam nut on the adapters must be tightened carefully to make absolutely certain the hex nut does not loosen.

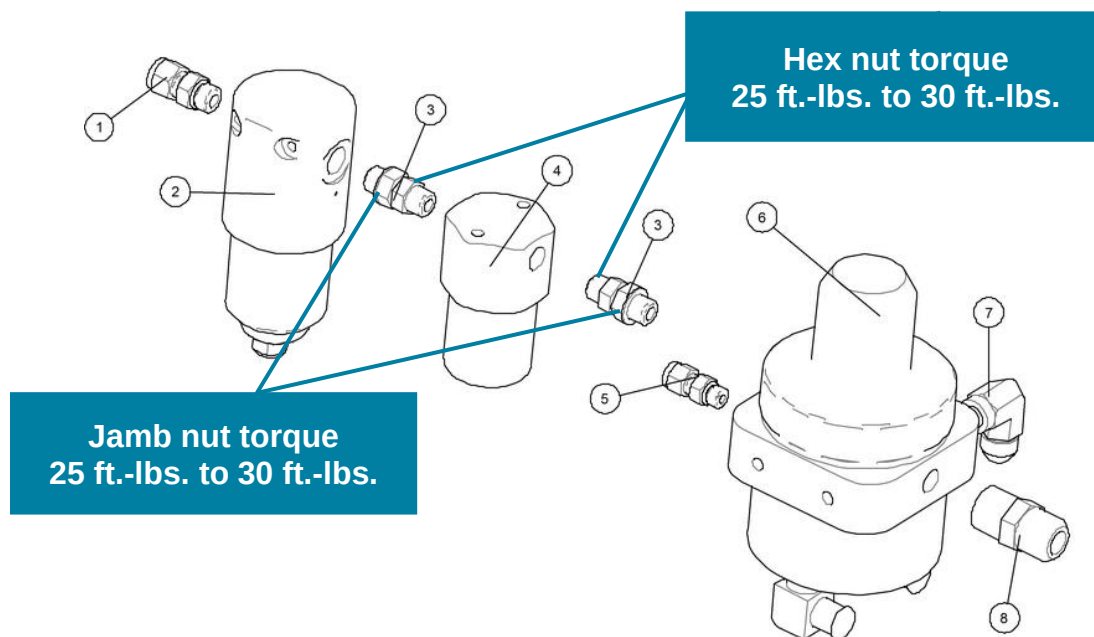


Figure 4. Subassembly and fittings. DO NOT ALLOW the hex nut to loosen.

Table 1. Filter, solenoid valve and regulator subassembly bill of materials.

Item	Part Number	Description
1	10200062	Connector, 3/8-in. tube x 9/16-18 male
2	20100008	High pressure filter assembly
3	10200279	Straight male adapter
3A	10500014	O-ring
4	10300098	24V solenoid valve
5	10200056	Connector, 1/4-in. tube x 7/16-20 male
6	10300207	Regulator
7	10240016	Elbow, 1/4-in. female NPT x -6 male JIC
8	10240011	Straight fitting, -10 male JIC x 7/8-14 male SAE

1. Jam nuts can be tightened without removing the components from the vehicle for initial leak repairs.
2. As an added precaution, connections that are not leaking should be re-torqued.
 - a. Make sure the hex nuts do not loosen when torqueing the jam nuts.
3. Torque jam nuts to 25 ft.-lbs. to 30 ft.-lbs.
4. Pressurize system and perform leak tests.
 - a. If leaks are found, replace O-rings.
 - b. Remember to lubricate the O-rings before installing them.
5. If O-rings must be replaced, the three components - filter, solenoid valve and regulator – **must be removed as one assembly.**
6. When work is completed, perform a leak test again.
7. When the assembly is leak-free, re-install FMM bottom panel.
8. Hook up electrical connections.
9. Close and lock bus side panel.
10. Update service records for the vehicle.
11. The vehicle can be returned to service.

6. Warranty Information

1. This procedure is covered under the standard warranty.
2. Standard repair time (SRT) is .75 hours (45 minutes) for tightening fittings; 3 hours if O-rings are removed and replaced.

If you have any questions, contact Agility Fuel Solutions Customer Care: +1 949 267 7745, toll free: +1 855 500 2445 or support@agilityfs.com.

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