



Field Service Bulletin
CNG High Pressure Filter Maintenance
ENP-114
Rev. H: October 29, 2018

1. Introduction

The Agility Fuel Solutions high pressure filter is designed to catch contaminants that may be introduced when fueling. The housing is made of anodized aluminum alloy. Its working pressure is 4,500 psi (31,026 kPa / 310 bar) with a burst rating in excess of 16,000 psi (110,316 kPa / 1,103 bar). The element provides both particulate and coalescing filtration.

Draining High Pressure Filter Bowl: Not required unless excessive oil is found at element change interval. If needed, drain at engine oil change intervals, which are one-half of the filter element change intervals.

High Pressure Filter Maintenance Intervals:

The high pressure filter element should be replaced when the earliest of the three below intervals occurs:			
	Mi. / km	Hours	Months
Severe duty: e.g. transit bus, refuse (15 mph average speed)			
With Cummins-Westport ISL-G engine	15,000 / 24,140	1,000	9
With Cummins-Westport ISX-G engine	25,000 / 40,234	1,000	9
<i>With all other engines</i>	<i>Follow engine manufacturer's intervals for fuel filter maintenance</i>		
	Mi. / km	Hours	Months
Normal duty: e.g. trucking (50 mph average speed)			
With Cummins-Westport ISL-G engine	35,000 / 56,327	1,000	9
With Cummins-Westport ISX-G engine	50,000 / 80,467	1,000	9
<i>With all other engines</i>	<i>Follow engine manufacturer's intervals for fuel filter maintenance</i>		
For unique applications or requirements	Average speed times 1,000	1,000	9

NOTES

1. High pressure filter element replacement varies depending on fuel quality.
2. The recommended intervals follow Cummins engine fuel filter maintenance intervals for the ISL-G and ISX-G engines.

Warning Statements Used in this Document

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

This procedure applies to all Agility Fuel Solutions CNG systems high pressure filter assembly 20100008 and the new Mani-Filter™ 20101001.

3. Corrective Action

Does not apply. This is a routine maintenance task.

4. Tools, Materials, Parts Needed

- Standard hand tools and PPE
- See parts breakdown at the end of this bulletin

WARNING **CAUTION**

The filter should not be under pressure when servicing or personal injury may result.

5. Procedure

A. Depressurize the System

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

7. The system is now ready to service.

B. Drain the Filter Housing, If Needed

1. Remove the plug and drain the housing until all liquid (if any) is removed. Follow procedures for hazardous waste disposal for this liquid. It may be a good idea to record the amount of oil and contaminants of the fluid.
 - i. Normally, draining the high pressure filter is not needed.
2. Inspect the O-ring and replace it if necessary.
3. Clean the drain plug threads, lube the O-ring, and re-install the drain plug.
4. Torque to 25 to 30 ft-lbs. (34 N m to 41 N m) and apply a torque seal to the plug.

C. Replace the High Pressure Filter Element

1. Unscrew the filter bowl from the housing.
2. Remove the filter bowl O-ring and clean the bowl inside and out with a clean, dry cloth.
3. Remove the element by pulling it off and inspect it for oil contamination.
4. Remove the small O-ring from the element housing.
5. Un-screw the element base and remove the filter element.
6. Lubricate the small O-ring and install it on the filter element housing. Use only non-petroleum-based lube such as Parker Super-0-Lube.
7. Install the new element onto the housing and screw the element base in place.
8. Install the filter element onto the element port inside the filter housing. Make sure it seats properly by twisting the element assembly.
9. Lubricate and install the filter bowl O-ring.
10. Carefully apply a silicone-based spray lubricant (any brand will do, 3-IN-ONE Professional is one example) to the filter bowl threads and re-assemble the filter.

⚠ CAUTION

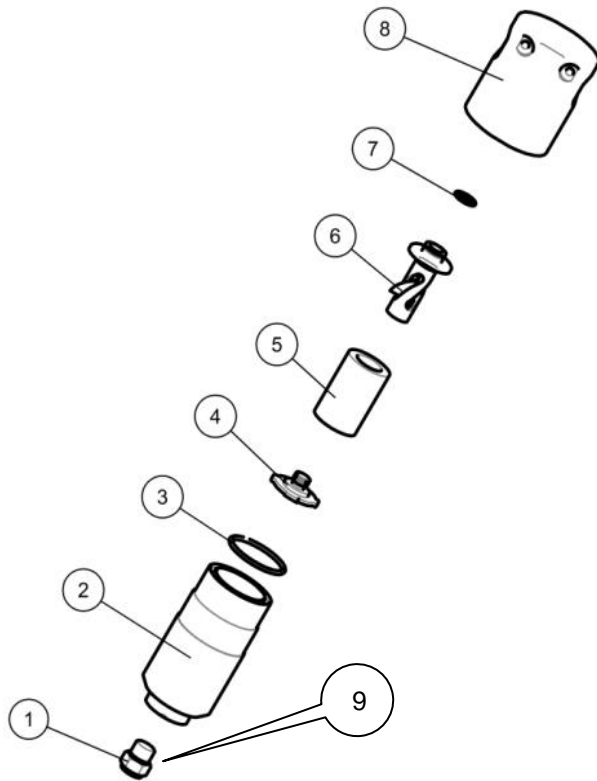
Apply lube to the threads only, DO NOT allow the lube to contaminate the filter or O-rings.

11. Torque the filter bowl to 40 ft-lbs, ± 1 ft-lbs. (54 N m) and mark the filter bowl with a torque seal.
12. If the bleed valve was opened, make sure to close it.
13. Repressurize the system by slowly opening the cylinder valves, then . . .

14. Turn the quarter-turn (main shut-off) valve to the OPEN position and turn the vehicle ignition key ON. This will allow fuel to flow throughout the system.

15. Check the HP filter and connections for leaks, and repair as needed.

High Pressure Filter Assembly 20100008



⚠ CAUTION

A. Torque Specifications

Filter Bowl: 40 Ft-Lbs (54 N m)

Hex Plug: 25 to 30 Ft-Lbs (34 N m to 41 N m)

In/Out Ports: 25 to 30 Ft-Lbs (34 N m to 41 N m)

B. Lubrication Note

- 1) Apply a silicone-based spray lubricant to the filter bowl threads only. DO NOT allow lubricant to contaminate the filter or O-rings.
- 2) Apply O-ring lubricant to all O-rings. Make sure it is silicon-based and NOT petroleum-based. Parker Super-O-Lube is suitable.

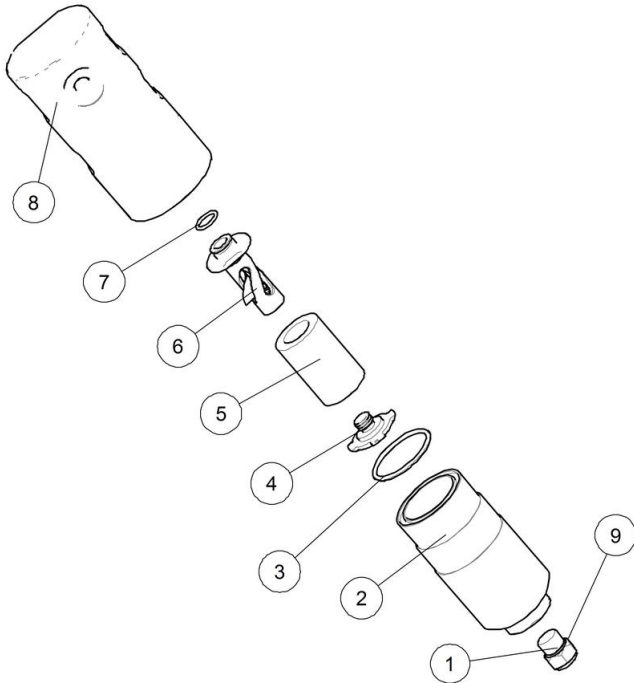
Item	Qty.	Part Number	Description
1	1	10200266	9/16-in. hex plug
2	1	20100107	Filter bowl
3	1	10500022	Filter bowl O-ring
4	1	20100110	Element base
5	1	20100109	Filter element**
6	1	20100108	Element housing
7	1	10500017	Element housing O-ring
8	1	20100106	Filter housing
9	1	10500014	Hex plug O-ring

**NOTE

A high pressure filter element replacement kit is available, which includes one each filter bowl O-ring (3), filter element (5) and O-ring item 7.

Order Part number 20103412

High Pressure Mani-Filter™ Assembly 20101001



CAUTION

A. Torque Specifications

Filter Bowl: 40 Ft-Lbs (54 N m)

Hex Plug: 25 to 30 Ft-Lbs (34 N m to 41 N m)

In/Out Ports: 25 to 30 Ft-Lbs (34 N m to 41 N m)

B. Lubrication Note

- 1) Apply a silicone-based spray lubricant to the filter bowl threads only. DO NOT allow lubricant to contaminate the filter or O-rings.
- 2) Apply O-ring lubricant to all O-rings. Make sure it is silicon-based and NOT petroleum-based. Parker Super-O-Lube is suitable.

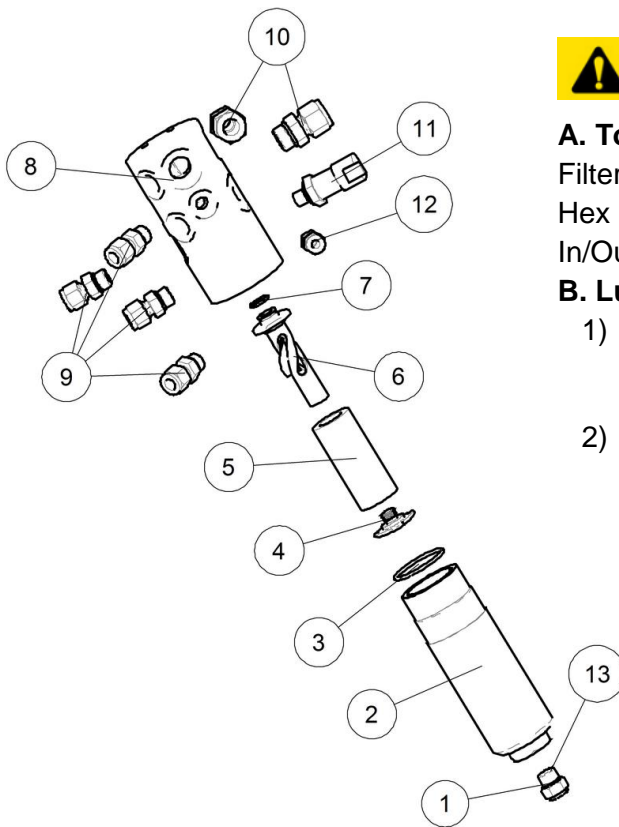
Item	Qty.	Part Number	Description
1	1	10200266	9/16-in. hex plug
2	1	20100107	Filter bowl
3	1	10500022	Filter bowl O-ring
4	1	20100110	Element base
5	1	20100109	Filter element**
6	1	20100108	Element housing
7	1	10500017	Element housing O-ring
8	1	20100402	ManiFilter, exit LHS
9	1	10500014	Hex plug O-ring

**NOTE

A high pressure filter element replacement kit is available, which includes one each filter bowl O-ring (7), filter element (5) and O-ring item 4.

Order Part number 20103495

High Pressure ManiFilter™ Assembly with Fittings 30004007



CAUTION

A. Torque Specifications

Filter Bowl: 40 Ft-Lbs (54 N m)

Hex Plug: 25 to 30 Ft-Lbs (34 N m to 41 N m)

In/Out Ports: 25 to 30 Ft-Lbs (34 N m to 41 N m)

B. Lubrication Note

- 1) Apply a silicone-based spray lubricant to the filter bowl threads only. DO NOT allow lubricant to contaminate the filter or O-rings.
- 2) Apply O-ring lubricant to all O-rings. Make sure it is silicon-based and NOT petroleum-based. Parker Super-0-Lube is suitable.

Item	Qty.	Part Number	Description
1	1	10200266	9/16-in. hex plug
2	1	20100353	Filter bowl
3	1	10500022	Filter bowl O-ring
4	1	20100110	Element base
5	1	20100352	Filter element, long
6	1	20100351	Element housing
7	1	10500014	Element housing O-ring
8	1	30004100	ManiFilter housing
9	4	10200062	Connector, 3/8-in. tube x 9/16-18 male
10	2	10200066	Connector, 1/2-in. tube x 3/4-16 male
11	1	10404112	Transducer
12	1	10200056	Connector, 1/4-in. tube x 7/16-20 male
13	1	10500014	Hex plug O-ring

6. Agility Fuel Solutions Coalescing Filter Specifications

The high pressure filter housing is made of high strength aluminum alloy and has a burst rating in excess of 16,000 psi. The housing is anodized to prevent corrosion that may be encountered in severe applications.

Part Numbers	20100008 and 20101001
Replacement Filter Element Part Number	20100109
Maximum Operating Pressure	3600 psi (24821 kPa / 248 bar)
Operating Temperature	-40°F to 250°F (-40°C to 121°C)
Inlet/outlet Ports	9/16 – 18 SAE
Flow	Inside to outside element
Element	10 micron pre filter
	Coalescing element 99.99% efficient @ .3 to .6 micron
Burst Pressure	18,000 psi (124106 kPa / 1241 bar)
Flow Rate	75 SCFM @ 100 psi (689 kPa / 6.9 bar) inlet
Certification	NGV3.1

7. Warranty Information

Does not apply. This is a routine maintenance procedure.

For parts and support, contact Agility Fuel Solutions Customer Care: +1 949 267 7745, toll free: +1 855 500 2445 or parts@agilityfs.com.

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