

08913, 08955

3M™ Fuel System Cleaner - Proper Hardware Cleaning and Handling**Technical Service Bulletin No. 338**

Important: This Bulletin is offered as a supplement to the Cleaning Procedure Step, Important Handling Tips, and Equipment Maintenance sections in the 3M™ Fuel System Cleaner Quick Check Guide, PN 08817, and the Fuel System Cleaner Information on our web site www.3m.com/automotive. This document is not intended to cover and does not contain the comprehensive information that users need from the Quick Check Guide to Safely and Properly use these products. Users should thoroughly read all of the information in the Fuel System Cleaner Quick Check Guide before attempting to use these products. Users should also refer to the individual Material Safety Data Sheet (MSDS) for guidelines on the safe handling and proper disposal of these chemicals.

3M™ Fuel System Cleaner (FSC)

3M™ Fuel System Cleaner, PN 08913 & PN 08955, is a unique blend of chemicals designed to effectively remove carbon deposits from the inside of four cycle fuel injected gasoline engines. These cleaners require the use of 3M™ Fuel System Cleaning Hardware to safely and properly apply the cleaner into a vehicle's fuel injection system.

Background: 3M™ has been offering fuel cleaners in pressurized aerosols and specialized hardware to apply these fuel cleaners for over 20 years. The sole purpose of this fuel system cleaning hardware is to apply 3M™ Fuel System Cleaner or 3M™ Fuel Injector Cleaner into the fuel injection systems on engines. These tools have been designed with great detail and refined over time. They are precisely machined, well built, durable tools that if taken care of properly can last for thousands of cleanings. They should be treated with the care that you would give to any of your other expensive precision measurement tools i.e. micrometers, calipers, torque wrenches, etc...

Failure to remove residual FSC after each use can result in :

- Ugly looking FSC spills and messes in your kit box or wherever you store your hardware at .
- The accumulation of dust and dirt that can cause contamination in the next fuel system you clean .
- Unintended chemical spills in your work space , on yourself, and on or in your customers vehicles .
- Chemical staining.
- Chemical damage.
- Premature failure of the diaphragm inside the pressure regulator .
- If repeatedly left uncleaned , residual FSC deposits can accumulate and build on parts of the hardware, become visually apparent and cause minor problems like parts that won 't go together smoothly, parts that are very difficult to separate , or parts that have nuisance drips or leaks . If users allow this to happen the visually unapparent accumulations that build on the inside of the hardware can cause more serious problems like inaccurate pressure reading , inaccurate pressure control , and sticking & binding that can lead to premature failure of the tool (s).

Hardware item description :**new part number****[old PN]**

Cleaner Hose:	PN 838	[old PN 08838]
Gauge / Pressure Regulator:	PN 828	[old PN 08828]
Can Adapter:	PN 827	[old PN 08927]
Fuel Rail Adapter:	Various PN's assigned to the fuel rail adapters. Please refer to the Quick Check Guide, PN 08817.	
Cleaning Hardware:	All other items included in one of the kits or available from 3M to apply these cleaners.	
Please reference 3M Technical Service Bulletin #434 for a complete list of old to new part numbers.		

Recommended Cleaning and Handling of 3M™ Fuel System Cleaner Hardware

These additional procedural steps are intended to be used after step # 23 of the **Cleaning Procedure Steps** as published on page 0-6 in the Fifth Edition of our Fuel System Cleaner Quick Check Guide PN 08817, Stock Number 60-9801-0881-9, Literature Code 60-4400-0295-6. The procedural step location, page number, stock number and literature code is different in older versions of our guides. Basically, these steps are intended to be used after the hardware has been used to apply a can of Fuel System Cleaner, after removing the empty can of cleaner from the gauge / pressure regulator, after removing the hardware set from the vehicle's engine, and before returning the hardware to proper storage.

After each use: residual cleaner inside the cleaner hose , inside the gauge / pressure regulator, inside the can adapter, and in the fuel rail adapter that was used should be drained out, rinsed with a fast drying cleaning solvent , dried, wiped clean, and returned to proper storage.

These additional steps will take no more than about 1 minute to perform and can greatly improve the ease-of-use and life of the hardware!

EQUIPMENT MAINTENANCE ADDENDUM: **Recommended Cleaning Procedure After Each Use :**

If the individual items (cleaner hose, gauge / pressure regulator, can adapter, fuel rail adapter) have been disassembled, they should be put back together so that the inside of the parts can be cleaned in one operation.

IMPORTANT NOTE: There is a one way check valve in the gauge / pressure regulator that is only opened when the cleaner hose is attached. In order to clean all of the inside passages of the gauge / pressure regulator the cleaner hose must be attached and the knob on the regulator must be turned to "ON" [(+) indicator on face of the regulator knob] so that your cleaning agent can flush out the insides of the assemblies.

1. Place the "Can Adapter" end of the gauge / pressure regulator assembly into an approved disposal container to collect the residual FSC and cleaning agent from the inside of the assembly.
2. Vertically extend the cleaner hose with one hand by grasping the fuel rail adapter.
3. Open the regulator by turning the knob fully clockwise in the "ON" (+) position and open the ball valve on hose (parallel with the cleaner hose) and allow any residual FSC to drain out.
4. With a can of 3M™ Throttle Plate Cleaner or 3M™ High Power Brake Cleaner - with the extension tube on the actuator, place the extension tube in the opening of the fuel rail adapter and spray several ounces of throttle plate cleaner or brake cleaner through the assembly allowing it to drain through the inside of the components and out into the disposal container. If the fuel rail adapter makes it difficult to spray into the assembly it can be removed.
5. Use clean compressed air to blow out the inside of the assembly.
6. Separate the individual components, spray and wipe any areas of the hardware that might still have residual FSC on them.
7. Spray into the locking mechanisms on the can adapter and the locking mechanism on the gauge / pressure regulator. Manually manipulate the locking mechanisms from locked to unlocked positions to test their functionality, ensure smooth operation and check for full engagement. Inspect each part thoroughly for damage. Replace any worn or damaged parts.
8. Wipe off the outside of the hardware items with clean towels and blow dry with clean compressed air as needed. While performing the final cleaning, close the ball valve on the hose (perpendicular to the cleaner hose) and **IMPORTANT! close the regulator by turning the knob fully counter-clockwise to the "OFF" (--) position** before returning the hardware items to the Fuel System Cleaner Adapter Kit box.
9. Close and latch the kit box lid.

NOTE:

- If the hardware has *not been routinely cleaned* and contains stubborn, hard to remove, or hard to get to deposits you can use the throttle plate cleaner or brake cleaner to soak the deposits for brief periods (up to 5 minutes) before draining and drying. Repeated applications of new, clean throttle plate cleaner or brake cleaner with the added soak time are more effective at removing accumulated deposits than just long term soaking and the re-application of new, clean, clear throttle plate cleaner or brake cleaner can be used to judge whether all of the deposits have been removed by viewing the clarity of the cleaning agent while it's being drained. **DO NOT STORE THE HARDWARE WITH THE THROTTLE PLATE CLEANER OR BRAKE CLEANER INSIDE FOR EXTENDED PERIODS IN AN ATTEMPT TO CLEAN!**

Additional Handling and Storage Recommendations :

Gauge / pressure regulator

- Every fuel system cleaning gauge / pressure regulator that 3M sells comes in a protective foam case. Users are advised to retain and use this case for the protective storage of the gauge / pressure regulator when it is not in use.
- Always store the gauge / pressure regulator inside the 3M™ Fuel System Cleaner Kit Box to keep it away from dirt and other hazards.
- Always store the gauge / pressure regulator with the knob in the "OFF" position, fully counter-clockwise. If the knob on the regulator is turned-in, "ON" (+) position, during storage, the internal diaphragm in the regulator will be stressed and early failure can occur.
- There are no repairable items offered for the gauge / pressure regulator. Under NO circumstances should the gauge / pressure regulator be opened-up, altered, or attempted to be repaired.

If users encounter problems with any of their cleaning hardware they should first attempt to thoroughly clean their hardware . If a thorough cleaning doesn 't resolve the problem , users can contact 3M to arrange to send back the hardware item (s) for inspection . Items that are received that are deemed to have a manufacturers ' defect may be fully warranted . 3M reserves the right , at their discretion , to either warrant or not . Please see the legal disclaimer at the bottom of this document . 3M will not warranty any hardware items that exhibit signs of neglect , abuse, misuse, alteration, tampering, normal wear, or have not simply been kept clean .

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