



Tech Notes:

One of the most common problems facing our industry today. Injector clogging/restriction can cause many problems besides drivability issues, or worse yet, no drivability issues at all! That's what makes them such a nuisance.

On one hand, restrictions can cause a higher than acceptable fuel trim which will usually cause false catalyst efficiency codes to be set. On the other hand, if the fuel spray is more of a stream than an atomization, the fuel will likely not all be used in combustion, and damage due to overheating the substrate will actually destroy a converter.

This can also lead to carbon build-up in the combustion chamber which creates a whole new set of problems. When the carbon build-up gets heavy enough, it acts like a sponge absorbing fuel and air on the intake stroke. This absorbed mixture is not used during combustion, but is expelled directly into the catalytic converter upon the exhaust stroke. Raw fuel hits the hot substrate and damages it due to intensified heat. On top of that, the air that followed the unburned fuel contains oxygen. The upstream oxygen sensor sees this, and commands the ECM to increase the injector pulse making a "rich" exhaust condition even richer!

Please read the following bulletin:

XT303-17

X-TYPE

DATE

12/04

MODEL

2002 MY-ON

X-TYPE

VIN

C00001-ON

Rough Idle/Hesitation -

Contaminated Fuel Injectors - Cleaning Procedure

Issue:

Some vehicles may exhibit hesitation during acceleration or a rough idle. The MIL may also be illuminated.

Action:

Should a customer express concern of hesitation during acceleration or rough idle, with the possibility of the MIL "ON", follow the workshop procedure outlined below.

WORKSHOP PROCEDURE

1. Position Worldwide Diagnostic System (WDS) alongside vehicle, switch Portable Test Unit (PTU) "ON" and allow software to load.

Note :Ensure WDS is loaded with software release JTP 759/34 or later.

2. Connect the PTU to vehicle using diagnostic cable.
3. Enter VIN and navigate to DTC monitor.

4. Record all Diagnostic Trouble Codes (DTC) in the Engine Control Module (ECM).

Note :If any of the following DTCs: P0300 to P0306, P0171 or P0174 are present, check for loose / damaged intake components such as a cracked PCV hose or leaking IMT valve O-rings (refer to Technical Bulletin XT303-13). A smoke machine can be used to check for vacuum leaks. Any repairs are to be carried out as a separate Warranty Claim. If no fault is identified with the intake components, suspect contaminated fuel injectors; continue from step 9. If no DTCs logged continue from step 5.

5. Navigate to datalogger.

6. Connect exhaust extraction to the vehicle.

7. Select park and run engine to attain normal operating temperature.

8. Select and view signals for long term fuel trim (LIFT) bank 1 and bank 2.

Note :If a reading of greater than 10% is displayed, check for loose intake components. Any repairs are to be carried out as a separate Warranty Claim. If no fault is identified with the intake components suspect contaminated fuel injectors; continue from step 9.

Jaguar Cars recognizes that there are many types of commercially available pressurized injector cleaning kits as well as cleaners to choose from. You may use any existing equipment you have provided you are able to obtain satisfactory results.

However if you need to purchase this equipment Jaguar Cars recommends the Ford Motorcraft Pressurized Injector Cleaning Kit and Motorcraft pressurized injector cleaner. This equipment has been fully tested by Jaguar engineering and has been found to perform to Jaguar Specifications.

The Motorcraft Injector Cleaning kit, CM-1000 and cleaner, CM-1001 can be obtained through Excelda Manufacturing, (248) 486-3800 ext. 114 Kristi Mitchell.

Note :Please have a Credit Card available when ordering.

Additionally a Wynn's brand Injector cleaning kit and cleaner are recommended, this can be obtained from a local distributor. To locate a distributor call (800) 989-8363 or visit www.wynnsusa.com.

9. Remove the necessary fuse(s) to prevent the operation of the fuel pump. Refer to the electrical guide in Global Technical Reference (GTR) or Owners hand book for fuse(s) location.

10. Start and run the engine until it stops (fuel system depressurized).

Note :A DTC will be logged when the engine is run with the fuel pump fuse(s) removed.

11. Switch ignition "OFF".

12. Displace and reposition the safety spring clip from the fuel supply hose to fuel rail spring lock coupling.
13. Install special tool 310-D005 to the fuel rail supply hose.
14. Using special tool 310-D005 disconnect the fuel rail supply hose from the fuel rail.
15. Remove special tool 310-D005.
16. Install a suitable blanking plug in the fuel supply hose.
17. For effective fuel injector cleaning, in this instance, it will be necessary to carry out the cleaning process for a continuous twenty minute period using two bottles of injector cleaner at 3.3 bar +/- 0.2 bar.
18. Remove the blanking plug from the fuel supply hose.
19. Install the fuel supply hose to the fuel rail.
20. Re-install the fuse(s) for the fuel pump.
21. With WDS already connected, clear DTCs.

Description	SRO	Time	Causal Part Number
Pressurized fuel injector cleaning - All types	19.91.67	1.3 hrs.	C2S 19328

Parts Information:

N/A

Warranty Information:

Warranty claims should be submitted quoting the information found in the table. This will result in payment of the stated time and, where applicable parts/miscellaneous expense codes as listed.

The cost of the cleaner can be reimbursed by submitting the cost in the miscellaneous expenses field of the warranty claim.

NOTE: THE INFORMATION IN TECHNICAL BULLETINS IS INTENDED FOR USE BY TRAINED, PROFESSIONAL TECHNICIANS WITH THE KNOWLEDGE, TOOLS, AND EQUIPMENT TO DO THE JOB PROPERLY AND SAFELY. IT INFORMS THESE TECHNICIANS OF CONDITIONS THAT MAY OCCUR ON SOME VEHICLES, OR PROVIDES INFORMATION THAT COULD ASSIST IN PROPER VEHICLE SERVICE. THE PROCEDURES SHOULD NOT BE PERFORMED BY "DO-IT-YOURSELFERS." DO NOT ASSUME THAT A CONDITION DESCRIBED AFFECTS YOUR CAR. CONTACT A JAGUAR RETAILER TO DETERMINE WHETHER THE BULLETIN APPLIES TO YOUR VEHICLE.