Daimler Trucks North America LLC

For questions, comments, or to submit an inquiry, go to
DDCSN.com > Warranty > Warranty Applications > Inquiries > Submit an Inquiry

WARRANTY DEPARTMENT
13400 Outer Drive West
Detroit, MI 48239-4001

Please distribute to:
Dealer Principal, Warranty Manager, Service Manager, Parts Manager, Sales Manager

☑ Freightliner Dealers	☑ Thomas Built Bus Dealers	⊘ Sales Terms (DTR)
☑ Western Star Dealers	☑ Direct Warranty Customers	☑ Used Product (DTR)
☑ Sterling Dealers	☑ Export	⊘ Travel Centers of America/Petro:Lube
☑ FCCC Dealers	☑ DDC Distributors	

IMPORTANT WARRANTY INFORMATION

REF **15-017**
Effective 05/18/2015
Release 05/18/2015
SUBJECT Detroit: Updated Fuel Injector SDTs

❖ Detroit Standard Diagnostic Times

As a result of the ongoing collaboration with the Joint Application Development (JAD) committee, DTNA developed Standard Diagnostic Times (SDTs) to support the service network and streamline the claims submittal process. The Detroit Warranty Department has created SDTs for Fuel System Hard Start/No Start.

The new SDTs are in addition to current Fuel Injector SDTs. The Hard Start/No Start diagnostic steps guide the technician through identifying raw fuel in the exhaust, which requires the technician to perform Test E. Test E is an inspection procedure that assists a technician in determining the amount of progressive damage to the engine and After Treatment System (ATS) from an over-fueling injector. Depending on the level of progressive damage, the inspection process may be complicated and time consuming. Given the complex nature of the repair path, the new SDTs provide times for the two (2) main inspection paths: whether a backwards running engine was detected or not.

Components that require replacement, as noted on the technician's Test E Worksheet, will require additional labor operations. Use published standard repair times (SRTs) for the other replaced components on the warranty claim and provide support in the claim narrative.

❖ New Engine SDTs

The following are new SDTs:

- **Fuel Injector(s), Perform Diagnostic Test E**
  - There are no loose or damaged injectors; backwards running engine **was not** detected
- **Fuel Injector(s), Perform Diagnostic Test E**
  - There are no loose or damaged injectors; backwards running engine **was** detected; lower end bearings inspected/replaced

Refer to the information and tables below for descriptions of what is included in each SDT.

The new SDTs are also available in the applicable Labor Time Guide as well as at www.ddcsn.com > Warranty > Warranty Applications > Warranty System > Labor > SRTs > SRT Search. Any feedback or questions regarding SDT/SRT usage may be addressed through the Warranty Support Center > Detroit Inquiries.

❖ **New Labor Operations**

021000F – Fuel Injector(s), Perform Diagnostic Test E

- There are no loose or damaged injectors; backwards running engine **was not** detected
- Includes time to inspect exhaust system for presence of raw fuel, remove exhaust gas recirculation (EGR) cooler for cleaning, remove fuel filters to inspect for possible diesel exhaust fluid (DEF) and other contamination, and change engine oil/filter. Remove air inlet piping to inspect and determine engine did not run backwards; run engine at high idle one (1) hour and perform a regen.

021000G – Fuel Injector(s), Perform Diagnostic Test E

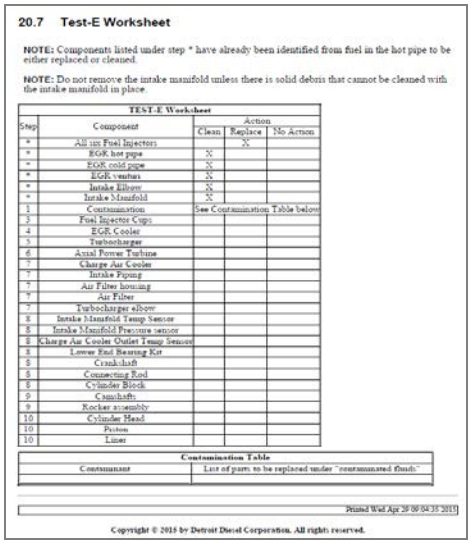
- There are no loose or damaged injectors; backwards running engine **was** detected; lower end bearings inspected/replaced
- Includes SDT 021000F time; checking Intake Temperature, Inlet Pressure, and Charge Air Cooler (CAC) Outlet Temperature; all lower end bearings removed and replaced

It is possible that SDTs 021000F or 02100G, when used in conjunction with fuel injector removal and replacement SRTs, will be adequate to complete the repair. However, many failure scenarios may require replacement of additional components; possible examples include, but are not limited, to:

- Loose injectors could require injector cup replacement
- Broken/damaged injector tips could require turbo replacement
- Engine over speed could result in cylinder leak-down test/camshaft replacement
- Damage found during lower end bearing inspection could result in crankshaft or engine replacement

During claim creation, reviewing the Test E Worksheet with the technician's results is helpful in determining if additional components were replaced. The Test E Worksheet can then serve as a guide to align the component(s) replaced with the appropriate SRTs.

Please note that the new SDTs do not include time to inspect or make necessary repairs to the ATS, which will also require inspection, cleaning, or replacement. Review both Test E results and major component information when considering SRTs. Select applicable SRTs based on a vehicle's ATS configuration and the repair strategy performed.



20.7 Test-E Worksheet

NOTE: Components listed under step * have already been identified from fuel in the hot pipe to be either replaced or cleaned.

NOTE: Do not remove the intake manifold unless there is solid debris that cannot be cleaned with the intake manifold in place.

TEST-E Worksheet

Step	Component	Action		
		Clean	Replace	No Action
*	All set Fuel Injectors		X	
*	EGR hot pipe	X		
*	EGR cold pipe	X		
*	EGR venturi	X		
*	Intake Elbow	X		
*	Intake Manifold	X		
1	Contamination	See Contamination Table below		
3	Fuel Injector Cups			
4	EGR Cooler			
5	Turbocharger			
6	Axial Power Turbine			
7	Charge Air Cooler			
7	Intake Piping			
7	Air Filter housing			
7	Air Filter			
7	Turbocharger elbow			
8	Intake Manifold Temp Sensor			
8	Intake Manifold Pressure sensor			
8	Charge Air Cooler Outlet Temp Sensor			
8	Lower End Bearing Kit			
8	Crankshaft			
8	Connecting Rod			
8	Cylinder Block			
9	Camshaft			
9	Rocker assembly			
10	Cylinder Head			
10	Piston			
10	Liner			

Contamination Table

Contaminant	List of parts to be replaced under "contaminated fluids"

Printed Wed Apr 29 09:04:35 2015

Fuel Injector(s)		
EZ	**Moderate**	**Difficult**
0.5 hour **021000B** Injector Diagnostics – Easy **Visual diagnostic checks of other parts besides the PFP.**	**1.0 Hour** **021000C** Injector Diagnostics – Moderate **Visual diagnostic checks of other parts besides the PFP. Small amount of symptom based diagnostics. Completion of published diagnostic 1-14 steps.** **Typically used for diagnosing fault codes, such as 65X FMI ALL with faulty injector(s).**	**2.0 Hour** **021000E** Injector Diagnostics – Difficult **Visual diagnostic checks of other parts besides the PFP. Large amount of symptom based diagnostics. Completion of published diagnostics, greater than 14 steps.** **Typically used for diagnosing a Hard Start, aerated return fuel, fault code SPN 1077 FMI 7, SPN, or SPN 157 FMI 16 with faulty fuel injector(s).**

Note: Test E in the Hard Start/No Start diagnostics is a repair procedure to identify the amount of progressive damage that has occurred.

Test E: There are no loose or damaged injectors; backwards running engine was not detected.	
6 hours (DD13)	**4.2 Hours (DD15/16)**
021000F **Completion of Test E with no additional progressive damage identified to the engine.** • Fuel Filter R&R • Air Inlet Piping R&R • Oil/Filter Change • EGR Cooler R&R • Run engine high at idle 1 hour • Regen **Note: Does not include SRTs for additional components that may require replacement, such as ATS/ATD, due to progressive damage - see Test E Worksheet.**	

Test E: There are no loose or damaged injectors; backwards running engine was detected; lower end bearings inspected/replaced.	
14.9 Hours (DD13)	**13.1 Hours (DD15/16)**
021000G **Completion of Test E, including lower end bearing inspection, but no additional progressive damage identified to the engine.** • Fuel Filter R&R • Air Inlet Piping • EGR Cooler R&R • Detroit Sensor (3) o Intake Temp o Inlet Pressure o CAC Outlet Temp • Main Bearing All • Rob Bearing All • Run engine at high idle 1 hour • Regen **Note: Does not include SRTs for additional components that may require replacement such as cams, turbo, and/or ATS/ATD, due to progressive damage - see Test E Worksheet.**	