

FUEL SYSTEM

TABLE OF CONTENTS

	page		page
FUEL SYSTEM - 2.7L DIESEL		STANDARD PROCEDURES - CLEANING	
WARNING - HIGH FUEL SYSTEM PRESSURE .. 1		FUEL SYSTEM COMPONENTS	2
DIAGNOSIS AND TESTING - AIR IN FUEL		STANDARD PROCEDURES - DRAINING	
SYSTEM	1	WATER FROM FUEL FILTER	2
STANDARD PROCEDURE		FUEL INJECTION	3
STANDARD PROCEDURE - BLEEDING AIR		FUEL DELIVERY	16
FROM FUEL SYSTEM	1		

FUEL SYSTEM - 2.7L DIESEL

WARNING - HIGH FUEL SYSTEM PRESSURE

WARNING:: HIGH-PRESSURE FUEL LINES DELIVER FUEL UNDER EXTREME PRESSURE FROM THE INJECTION PUMP TO THE INJECTORS. THIS MAYBE AS HIGH AS 1600BAR (23,200PSI). USE EXTREME CAUTION WHEN INSPECTING FOR HIGH-PRESSURE FUEL LEAKS. FUEL UNDER THIS AMOUNT OF PRESSURE CAN PENETRATE SKIN CAUSING PERSONAL INJURY OR DEATH. INSPECT HIGH-PRESSURE FUEL LEAKS WITH A SHEET OF CARDBOARD. WEAR SAFETY GOGGLES AND ADEQUATE PROTECTIVE CLOTHING WHEN SERVICING FUEL SYSTEM.

DIAGNOSIS AND TESTING - AIR IN FUEL SYSTEM

Air will enter the fuel system whenever fuel supply lines, separator filters, injection pump, high-pressure lines or injectors are removed or disconnected. Air trapped in the fuel system can result in hard starting, a rough running engine, engine misfire, low power, excessive smoke and fuel knock.

Inspect the fuel system from the fuel tank to the injectors for loose connections (Refer to 14 - FUEL SYSTEM - WARNING). Leaking fuel is an indicator of loose connections or defective seals. Air can also enter the fuel system between the fuel tank and the fuel pump. Inspect the fuel tank and fuel lines for damage that might allow air into the system.

With the DRBIII® connected to the vehicle, select Engine and the select Sensor Display. Page down to view Fuel Pressure Set Point and Actual Fuel Pressure. Start the engine and observe the Fuel Pressure Set Point and the Actual Fuel Pressure. If the Actual Fuel Pressure Oscillates above and below the Fuel Pressure Set Point in a regular cycle, perform the

Fuel System Air Purge procedure (Refer to 14 - FUEL SYSTEM - STANDARD PROCEDURE).

If the Actual Fuel Pressure gradually drops below the Fuel Pressure Set Point then spikes well above the Fuel Pressure Set Point, replace the fuel pressure solenoid (Refer to 14 - FUEL SYSTEM/FUEL INJECTION/FUEL PRESSURE SOLENOID - REMOVAL), then perform the Fuel System Air Purge procedure (Refer to 14 - FUEL SYSTEM - STANDARD PROCEDURE).

STANDARD PROCEDURE

STANDARD PROCEDURE - BLEEDING AIR FROM FUEL SYSTEM

WARNING: NO SPARKS, OPEN FLAMES OR SMOKING. RISK OF POISONING FROM INHALING AND SWALLOWING FUEL. RISK OF INJURY TO EYES AND SKIN FROM CONTACT WITH FUEL. POUR FUELS ONLY INTO SUITABLE AND APPROPRIATELY MARKED CONTAINERS. WEAR PROTECTIVE CLOTHING.

- (1) Remove engine cover (Refer to 9 - ENGINE - REMOVAL).
- (2) Press locking ring at bleeder valve in direction of arrow and pull off seal.
- (3) Press inlet connection into bleeder valve until it locks.
- (4) Connect line between inlet connection and reservoir.
- (5) Connect hand pump to vacuum side at reservoir.
- (6) Operate hand pump until fuel flows through line free of bubbles.
- (7) Press locking ring at bleeder valve in direction of arrow and detach inlet connection.
- (8) Press seal into bleeder valve until it locks.

FUEL SYSTEM - 2.7L DIESEL (Continued)

(9) Install engine cover (Refer to 9 - ENGINE - INSTALLATION).

STANDARD PROCEDURES - CLEANING FUEL SYSTEM COMPONENTS

CAUTION: Cleanliness cannot be overemphasized when handling or replacing diesel fuel system components. This especially includes the fuel injectors, high-pressure fuel lines, fuel rail, and fuel injection pump. Very tight tolerances are used with these parts. Dirt contamination could cause rapid part wear and possible plugging of fuel injector nozzle tip holes. This in turn could lead to possible engine misfire. Always wash/clean any fuel system compo-

nent thoroughly before disassembly and then air dry. **DO NOT** wire brush injector nozzles when cleaning. Cap or cover any open part after disassembly. Before assembly, examine each part for dirt, grease or other contaminants and clean if necessary. When installing new parts, lubricate them with clean engine oil or clean diesel fuel only.

STANDARD PROCEDURES - DRAINING WATER FROM FUEL FILTER

Refer to Fuel Filter/Water Separator removal/installation for procedures (Refer to 14 - FUEL SYSTEM/FUEL DELIVERY/FUEL FILTER / WATER SEPARATOR - REMOVAL).