

**FORD: 1999 E SERIES, SUPER DUTY F SERIES**

Article **99-7-7** is being republished in its entirety as part of a consolidated 7.3L diagnostic aid booklet.

**ISSUE**

Significant changes have been made to the 7.3L DIT engine effective with the release of the 1999.5 Model Year (MY) (December 1998). The major areas addressed are the air intake system, turbocharger, injectors, and air cleaner.

**ACTION**

Refer to the following text and Part Application Chart for the correct part description and correct part usage when servicing subject engines.

**SERVICE PROCEDURE****HIGHLIGHTS****Fuel System**

- Tungsten carbide-coated injector plunger and barrel. Lessens the chance of injector damage by low lubricity fuel and water.
- New fuel pressure regulator (1999 MY). Fuel pressure on all Powerstroke engines built since 1/18/1998 or engine Serial Number (S/N) 551496 should be  $352 \pm 31$  kPa ( $51 \pm 4.5$  psi) at idle.

**NOTE**

**THE NEW INJECTORS AND/OR PUMP CANNOT BE USED IN PRE-1999.5 MODEL YEAR ENGINES AND THE PRE-1999.5 MODEL YEAR PUMP AND INJECTOR CANNOT BE UTILIZED IN 1999.5 MODEL YEAR ENGINES.**

- A dual element fuel filter was incorporated during the 1999 model year to filter the fuel that is returned to the tank via the fuel filter regulator. The Ford Replacement Part number for this filter is now F81Z-9N184-AA (Figure 1).

**High Pressure Oil System**

- New high pressure oil gallery plug for service that places the sealing O-rings deeper into the gallery. The new plug is identified with a circular groove cut into the face of the plug. The new plug went into production prior to the 1999.5 MY on engine S/N 751869 (Figure 2).
- New high pressure oil pump with higher flow rate (7.2cc versus 6.8cc 1999 model year and prior).

**Turbocharger**

- New higher efficiency turbocharger. Turbo compressor outlet diameter and compressor size increased to improve air flow. Taller pedestal provides better clearance (Figure 3).
- New exhaust inlet adapter allows access to the fuel pressure test port at the rear of the head.
- New exhaust up-pipes with inlet adapter.
- Econoline uses the new larger, taller turbo without the wastegate or charge air cooling provisions.

**Charge Air Cooler**

- New Charge Air Cooler (CAC) crossover is incorporated with the new turbo (Figure 4).
- A Powertrain Control Module (PCM)-controlled intake air heater is installed in the air inlet (after the CAC) to the engine side of the CAC crossover. The Econoline heater is in the Y-pipe downstream of the turbo. The new intake heater is used to heat the air before it reaches the combustion chamber in the engine during cold startup to reduce cold smoke. Current to the intake heater is switched on/off by a PCM-controlled relay, similar to the glowplug relay (Figure 5).
- Both E- and F-Series use a new intake cover with 76mm (3") inlets into the heads for better flow to the combustion chambers (Figure 6).

**NOTE:** The information in Technical Service 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 or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle.

# Article No. 03-21-33 Cont'd.

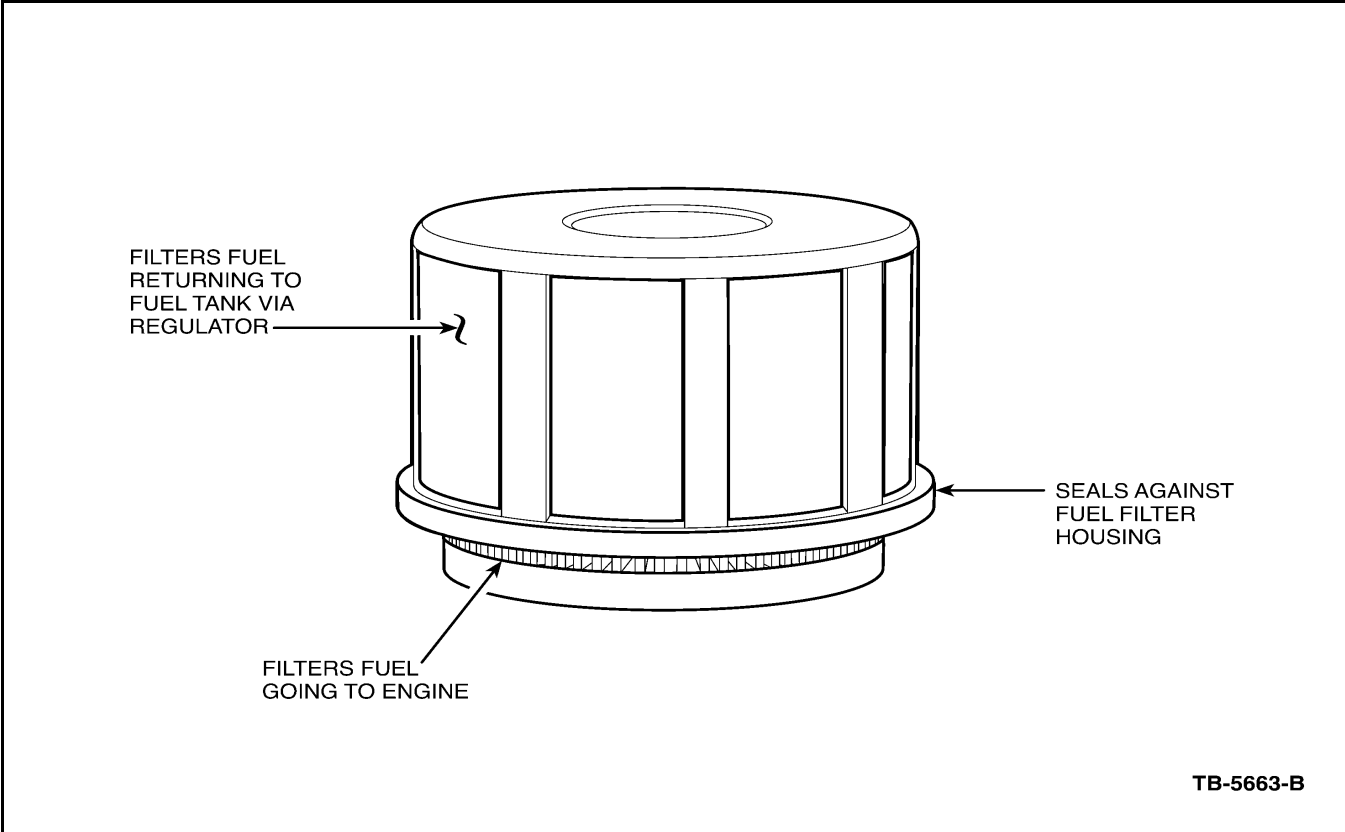
| PART APPLICATION   |                    |                      |
|--|--------------------|----------------------|
| Part Name  | 1999.5 Part Number | Previous Part Number |
| Air Heater Relay   | F81Z-6G015-AA      |                      |
| Air Heater   | F81Z-9N424-AA      |                      |
| Air Heater Insulator   | 1831643-C1 (N*)    |                      |
| Air Heater Sealing Washer  | 1827886-C1 (N*)    |                      |
| Air Heater Wave Washer   | 1831644-C1 (N*)    |                      |
| Air Cleaner (F-Series)   | XC3Z-9600-AA       | F81A-9600-AD         |
| Charge Air Cooler (CAC) Duct-to-Intake Manifold                      | F81Z-6K889-CA      | F81A-6K889-AA        |
| Cylinder Head Covers (Econoline/F-Series)                            | F81Z-9E434-CA      |                      |
| Engine Wiring Harness - Federal (F-Series)                           | F81Z-12B637-EA     |                      |
| Engine Wiring Harness - California (F-Series)                        | F81Z-12B637-DA     |                      |
| Engine Wiring Harness - Federal (Econoline)                          | XC2Z-12B637-EA     |                      |
| Engine Wiring Harness - California (Econoline)                       | XC2Z-12B637-FA     |                      |
| Exhaust Muffler Extension Pipe (156.2" W.B.)                         | XC3Z-5A212-BA      |                      |
| Wide Frame - Exhaust Muffler Extension Pipe (F-Series 172.4" W.B.)   | XC3Z-5A212-CA      |                      |
| Wide Frame - Exhaust Muffler Extension Pipe (F-Series 158" W.B.)     | XC3Z-5A212-DA      |                      |
| Wide Frame - Exhaust Muffler Extension Pipe (F-Series 141.8" W.B.)   | XC3Z-5A212-EA      |                      |
| Wide Frame - Exhaust Muffler Extension Pipe (F-Series 164.8" W.B.)   | XC3Z-5A212-FA      |                      |
| Narrow Frame - Exhaust Muffler Extension Pipe (F-Series 176.2" W.B.) | XC3Z-5A212-GA      |                      |
| Narrow Frame - Exhaust Muffler Extension Pipe (F-Series 161.8" W.B.) | XC3Z-5A212-HA      |                      |
| Narrow Frame - Exhaust Muffler Extension Pipe (F-Series 200.8" W.B.) | XC3Z-5A212-JA      |                      |
| Narrow Frame - Fuel Filter Element Package                           | F81Z-9N184-AA      | F81Z-9N184-AA        |
| Fuel Supply And Return Lines   | F81Z-9J338-NA      | F81A-9J338-NA        |
| High Pressure Oil Pump   | F81Z-9A543-CRM     | F81A-9A543-BA        |
| Injector (Tungsten Carbide)  | F81Z-9E527-BRM     | F81A-9E527-ARM       |
| Power Feed Cable (Econoline)   | XC2Z-12B568-BA     |                      |
| Regulating Valve Package   | F81Z-9B249-BB      | F81Z-9B249-BA        |
| Turbocharger Exhaust Inlet Adapter                                   | F8TZ-6K854-AA      |                      |
| Turbo Pedestal With Exhaust Back Pressure (EBP)                      | F81Z-6N639-CARM    | F81A-6N639-AA        |
| Turbo Pedestal Without EBP (F-Series)                                | F81Z-6N639-DARM    | F81A-6N639-BA        |
| Turbocharger With EBP (F-Series)                                     | F81Z-6K682-BARM    | F81A-6K682-AA        |
| Turbocharger Without EBP (F-Series)                                  | F81Z-6K682-CARM    | F81A-6K682-AARM      |
| Turbocharger Without EBP (Econoline)                                 | XC2Z-6K682-AARM    | F8UZ-6K682-AARM      |
| Wastegate Actuator Kit With EBP (F-Series)                           | F81Z-6F089-AA      |                      |
| Water Drain Cable (Econoline)  | XC2Z-9J312-AA      | F7UA-9J312-AA        |

(N\*) Navistar

**SUPERSEDES:** 99-7-7

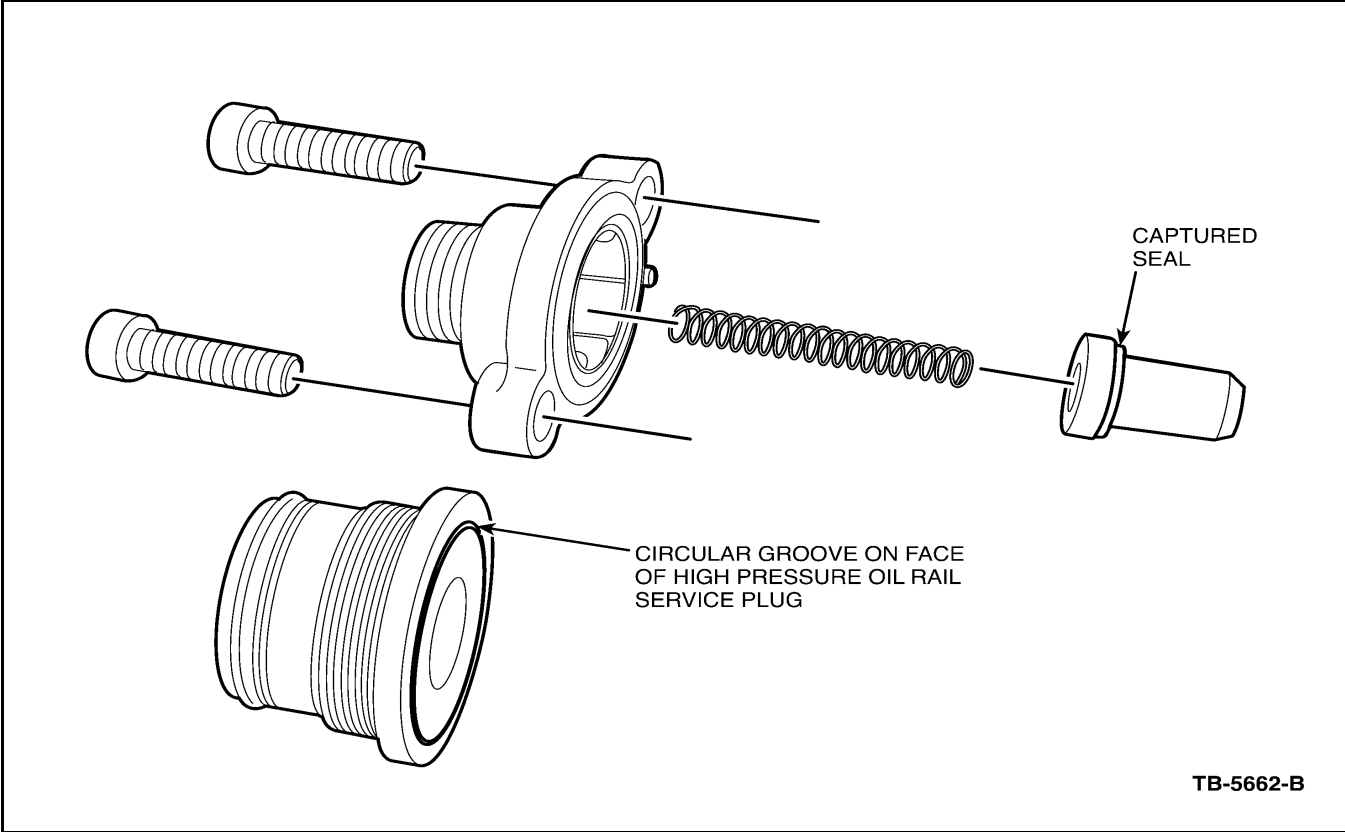
**WARRANTY STATUS:** INFORMATION ONLY

**OTHER APPLICABLE ARTICLES:** NONE



TB-5663-B

Figure 1 - Article 03-21-33



TB-5662-B

Figure 2 - Article 03-21-33

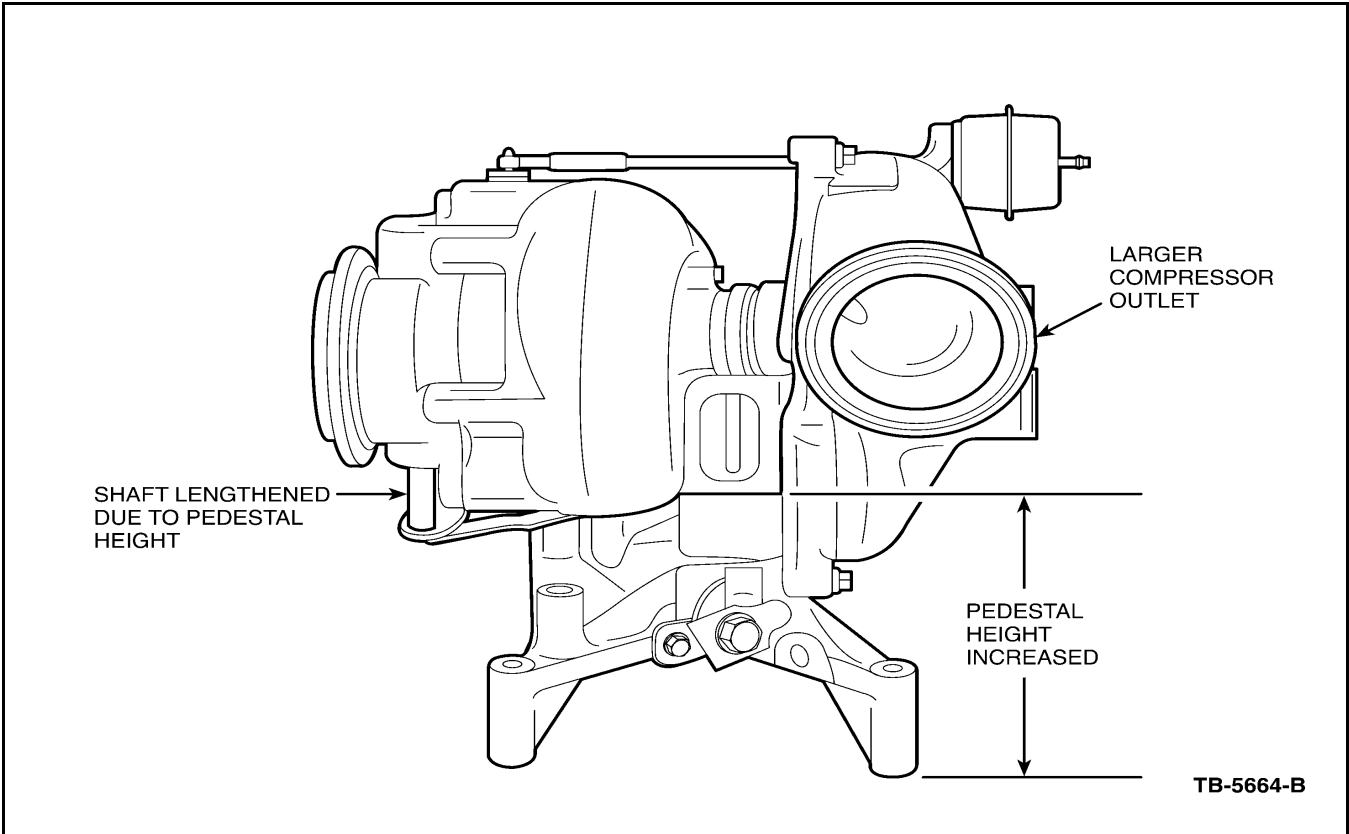


Figure 3 - Article 03-21-33

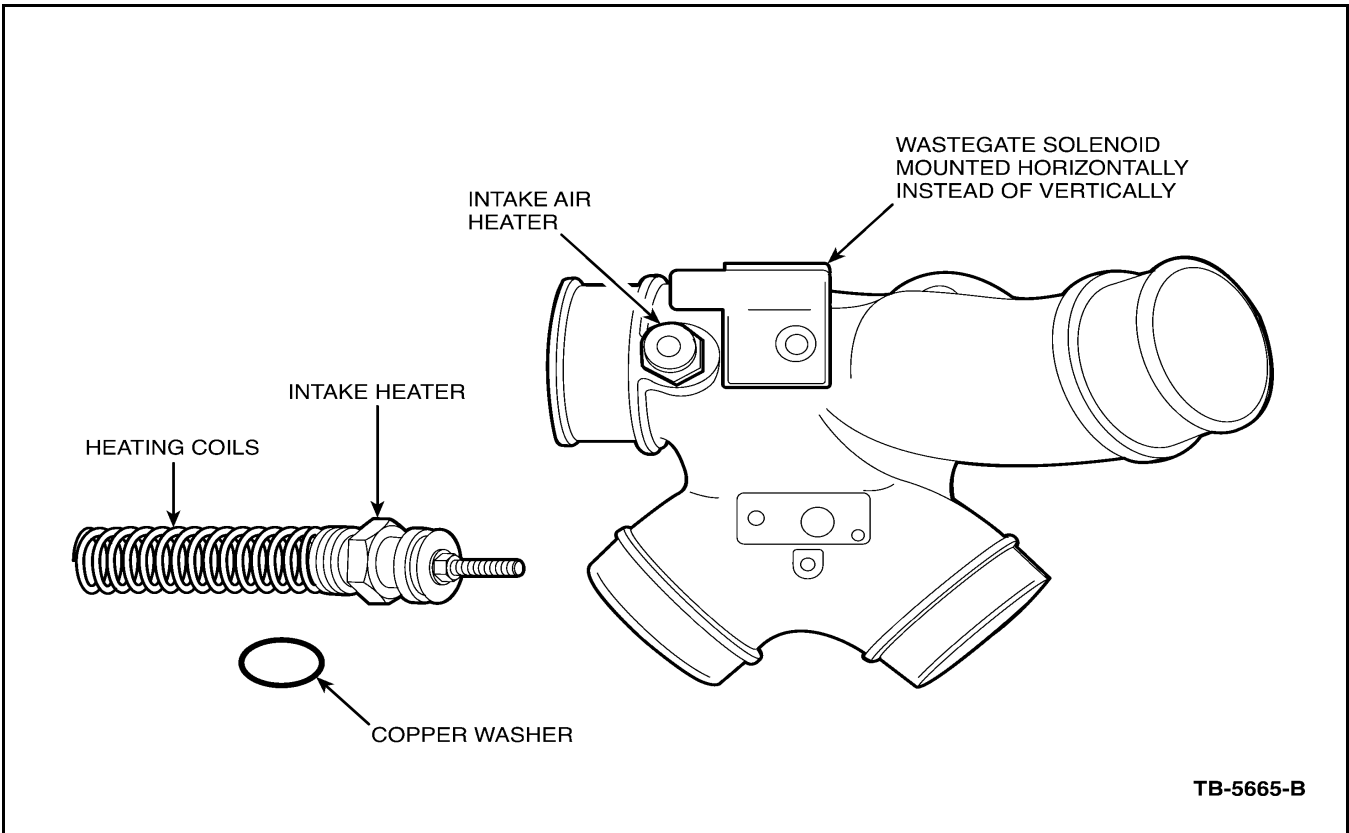


Figure 4 - Article 03-21-33

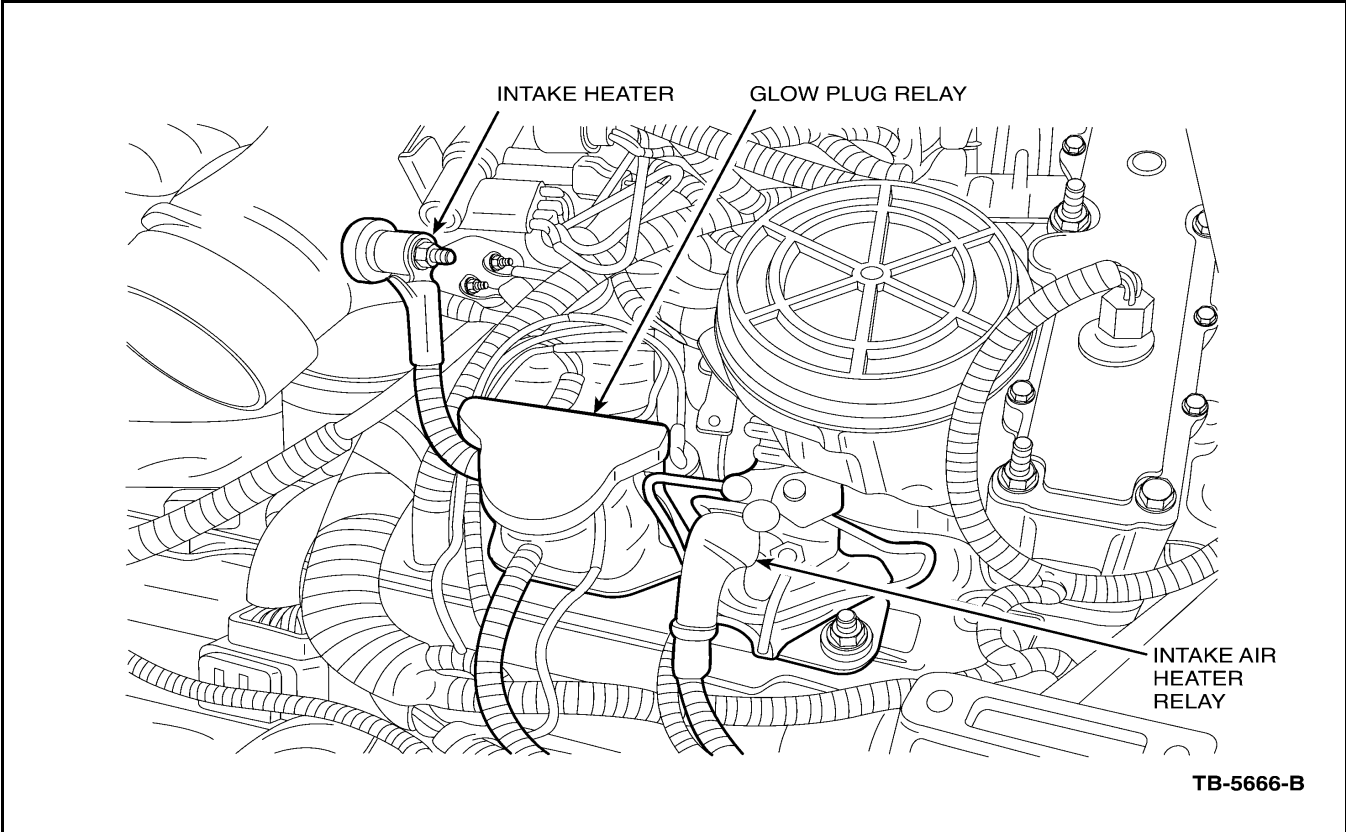


Figure 5 - Article 03-21-33

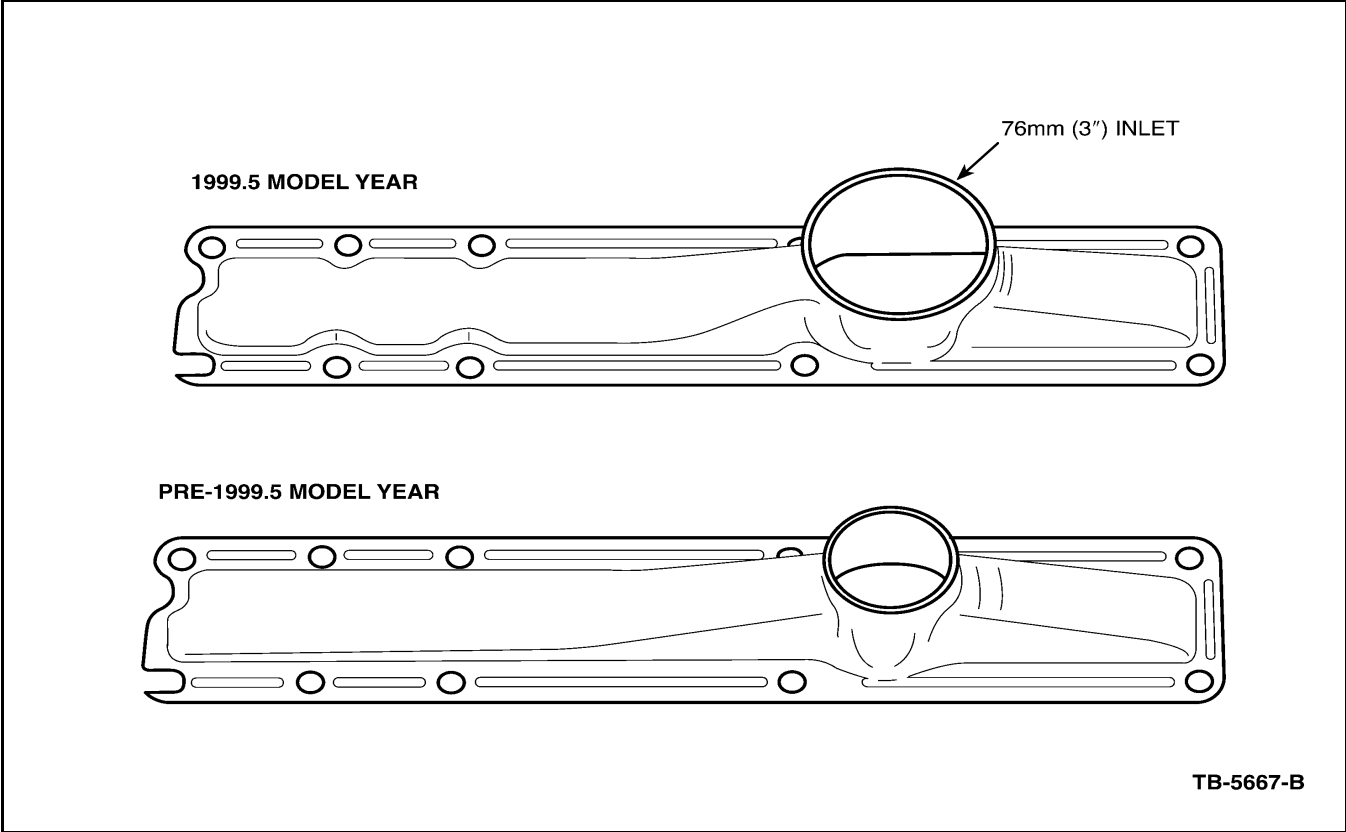


Figure 6 - Article 03-21-33