INFORMATION SHEET

STAGE 3R TURBO UPGRADE KIT

2003-2004 DODGE SRT-4

PART NUMBER P5007864 (with Turbo Toys)
P4510338 (without Turbo Toys)
P4510339 (Stage 2 to Stage 3R Upgrade Kit)

Stage 3R Turbo Upgrade Kit Components

- (1) Stage 3R PCM
- (4) 682 cc/min Fuel Injectors*
- (1) 3.0 bar MAP Sensor*
- (1) 3.0 bar TIP Sensor*
- (1) Block-off Connector for PCM
- (1) Mopar TD05HR Turbocharger Assembly (with integrated exhaust manifold) and Penta-flange Exhaust Elbow
- (1) Demand-regulated Fuel Rail Assembly
- (1) 180 lph Fuel Pump Module
- (1) Fuel Rail Regulator Hose Kit
- (1) Exhaust Manifold Gasket
- (1) Exhaust Flex Joint Gasket
- (7) Exhaust Manifold Bolts
- (6) Oil/Water Banjo Fitting Sealing Washers
- (1) Oil Return Line Gasket
- (1) Vacuum Harness Securing Kit

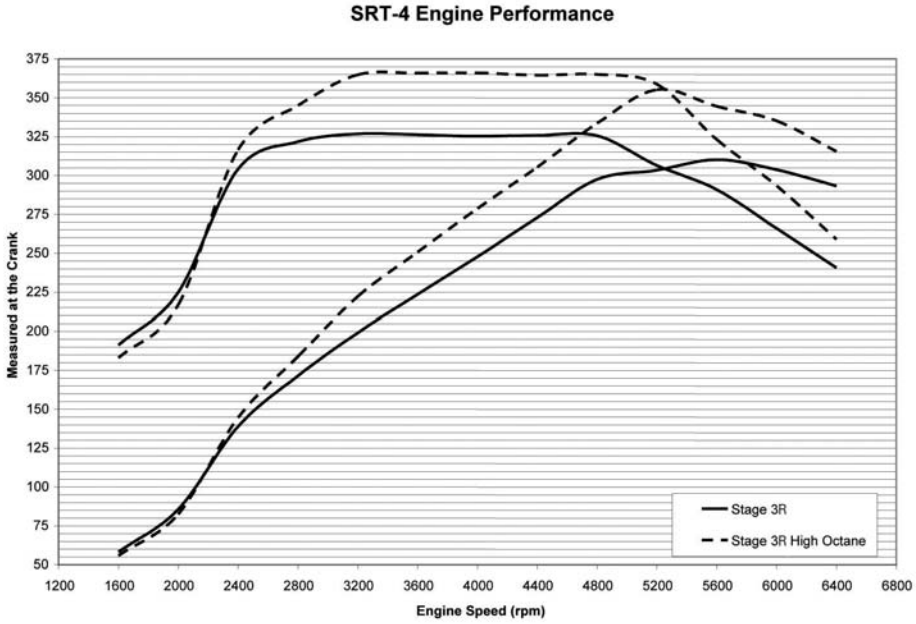
* Not included in the Stage 2 to Stage 3R Upgrade Kit (P4510339).

Recommended Upgrades

- P4510647 Performance Clutch
- P4510548 Blow-off Valve Conversion Kit
- W Speed-rated Tires
- P4510461 Cat-Back Exhaust System
- NGK #4306 Spark Plugs (or equivalent)
- Spark Plug Gap of .035"–.040"

Stage 3R Turbo Upgrade Kit Feature Description

- **Mopar TD05HR Turbocharger.** The Stage 3R kit uses a TD05HR-15GK2-10cm^2 turbo. The compressor and turbine are larger than the production turbo to produce higher power more efficiently.
- **Ti-Al Turbine Wheel.** The Mopar TD05HR Turbocharger employs a low mass Titanium Aluminide (Ti-Al) turbine wheel that has less rotational inertia. Less inertia results in better turbocharger response.
- **Increased WOT and Part Throttle Boost.** To develop the impressive peak power and peak torque for the Stage 3R package, the boost pressures have been optimized for wide-open throttle (WOT) conditions. The boost was also recalibrated for part throttle conditions to enhance the drivability.
- **Boost Hold Feature During WOT Shifts.** Keep the pedal to the metal, blip the clutch, and grab the next gear. Do it fast enough before the redline, and your reward will be a zero-lag, constant boost shift.
- **More Aggressive Exhaust Note During Deceleration.** More of the Mopar signature pops, snaps, and burbles during closed throttle decelerations and between shifts.
- **Optimized Calibration for the Mopar Performance Blow-Off Valve** (sold separately). The Stage 3R kit has improved the functionality and the audible performance of the integrated recirculation valve with the BOV Conversion Kit in mind.
- **Increased Rev. Limit.** The Stage 3R calibration increases the engine redline from 6240 RPM to 6500 RPM.



SRT-4 Engine Performance Chart

Vehicle Package	Torque Rating	Power Rating
SRT-4 Stage 3R	325 ft-lb @ 3200–4800 rpm	310 hp @ 5600 rpm
SRT-4 Stage 3R High Octane	365 ft-lb @ 3200–4800 rpm	355 hp @ 5200 rpm

NOTE: ALL RATINGS ARE WITH CAT-BACK SYSTEM P4510461.

Mopar Performance parts are sold "as is," without any warranty whatsoever.

Implied warranties, including warranties of merchantability or fitness for a particular purpose, are excluded. The entire risk as to quality and performance of such parts is with the buyer. Should such parts prove defective following their purchase, the buyer and not the manufacturer, distributor or retailer, assumes the entire cost of all necessary servicing or repair. Chrysler, Dodge, and Jeep® vehicle and parts warranties are voided if the vehicle or parts are used for competition or if they fail as a result of modification.

INFORMATION SHEET

STAGE 3R TURBO UPGRADE KIT

2003-2004 DODGE SRT-4

PART NUMBER P5007864 (with Turbo Toys)
P4510338 (without Turbo Toys)
P4510339 (Stage 2 to Stage 3R Upgrade Kit)

SPECIAL NOTE:
P0633 Fault Code Explanation

It is normal for the Mopar Turbo Upgrade Kits to set the P0633 fault code. This code will not activate the MIL (Malfunction Indicator Light), but it will be displayed during a diagnostic check. The vehicle functionality or performance will not be affected as a result of this code.

Fuel Line Pulsation Resonance Explanation

It is normal for the Mopar Stage 3R Turbo Upgrade Kit to exhibit fuel line pulsation resonance at idle and low engine loads. This condition is characterized by an audible "tapping" noise emanating from the fuel system, particularly in the area of the fuel line leading from the firewall to the inlet of the demand regulated fuel rail. This condition is normal and is generated by the fuel pressure regulation system at low injector pulse widths. Vehicle functionality and/or performance will not be affected as a result of this condition.

Not legal for use on pollution-controlled vehicles or vehicles registered for highway use.

For technical assistance regarding the MOPAR Turbo Upgrade Kits, please call the Mopar Performance Tech Line at (248) 969-1690.

NOTE: MOPAR PERFORMANCE PARTS RECOMMENDS PROFESSIONAL INSTALLATION BY AN ASE CERTIFIED TECHNICIAN. A VEHICLE HOIST, TELESCOPING TRANSMISSION JACK, TORQUE WRENCHES AND SPECIALIZED REMOVAL AND INSTALLATION TOOLS ARE REQUIRED. VEHICLE SERVICE MANUALS HAVE BEEN PROVIDED AND ARE REFERENCED EXTENSIVELY DURING THE INSTALLATION PROCEDURE. REFER TO SECTION 0 (STANDARD PROCEDURE – HOISTING RECOMMENDATIONS) FOR VEHICLE LIFTING INFORMATION, AND REFER TO THE FRONT OF EACH SECTION FOR SPECIAL INSTRUCTIONS AND WARNINGS.

INSTALLATION INSTRUCTIONS

STAGE 3R TURBO UPGRADE KIT

2003-2004 DODGE SRT-4

PART NUMBER P5007864 (with Turbo Toys)
P4510338 (without Turbo Toys)
P4510339 (Stage 2 to Stage 3R Upgrade Kit)

Installation Procedure

(1) Release fuel system pressure per Section 14 (Standard procedure – fuel system pressure release)
(2) Disconnect battery and remove battery tray per Section 8 (electrical/battery system/battery – removal)
(3) Drain engine coolant per Section 7 (Standard procedure cooling/engine)
(4) Drain engine oil and remove oil filter per Section 9 (Standard procedure – engine and oil filter change)
(5) Review standard procedures and Section 14 to become acquainted with the fuel lines, hoses and clamps and fuel quick connect fittings.
(6) Remove air cleaner assembly per Section 9 (Engine/air intake system/air cleaner housing – removal)
(7) Disconnect the vacuum hose harness from the turbocharger per Section 11 (Solenoids and vacuum harness – removal), and lay aside
(8) Remove Powertrain Control Module per Section 8e (Powertrain control Module – 2.4L SRT-4 – removal)

NOTE: THE ELECTRICAL CONNECTORS FOR THE PCM ARE COLOR CODED.

(9) Install new Stage 3R Performance Module per Section 8e (Powertrain Control Module – 2.0L – installation)

NOTE: DO NOT REPLACE THE AIR CLEANER HOUSING OR CONNECT THE NEGATIVE BATTERY CABLE UNTIL THE END OF THE INSTALLATION (FINAL INSTALLATION CHECKS AND STARTING PROCEDURE).

(10) Remove fuel rail and injectors per Section 14 (Fuel rail – removal)

NOTE: IF YOU ARE UPGRADING FROM STAGE 2 USING KIT P4510339, YOU WILL REUSE YOUR MOPAR PERFORMANCE FUEL INJECTORS, MAP SENSOR AND TIP SENSOR.

(11) Install Stage 2/3 Mopar Performance Injectors to the fuel rail assembly per Section 14 - Fuel rail installation.
(12) Install Fuel Rail Assembly per Section 14 (Fuel rail – installation). Refer to Fig. 1 for proper orientation of vacuum port on the new Demand-Regulated Fuel Rail.

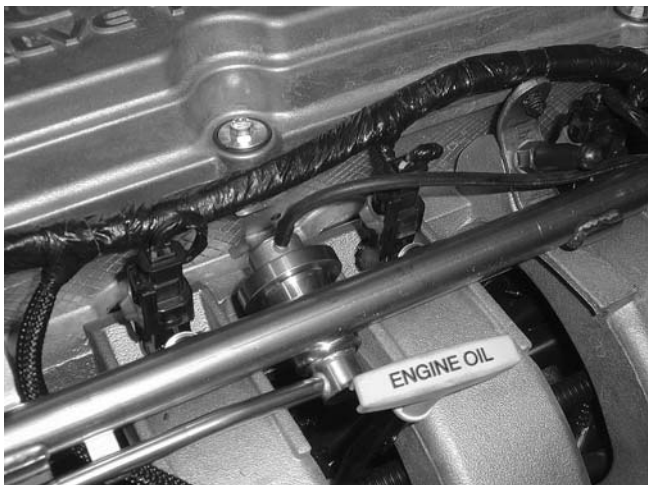


Fig. 1 Vacuum Port Orientation

(13) Install Fuel Pressure Regulator Vacuum Line.
A. Locate the throttle body vacuum elbow connection located just ahead of the throttle body (Fig. 2). Inspect all connections. Repair or replace any damaged components before proceeding.

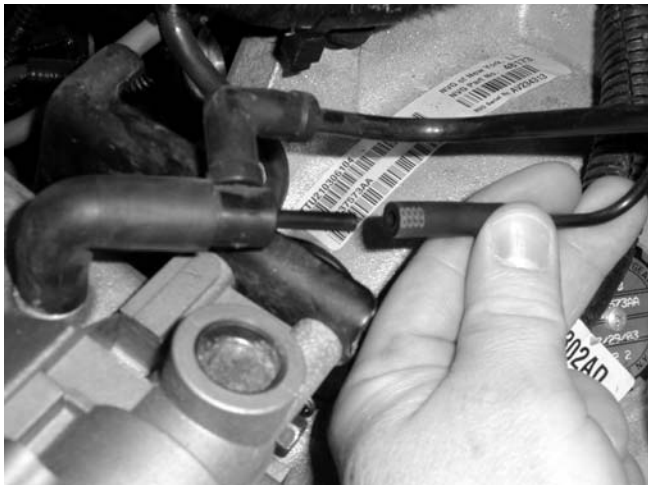


Fig. 2 Throttle Body Vacuum Elbow Location

B. Disconnect the 1/8" vacuum hose from the vacuum tee in the area indicated (Fig. 2) by gently twisting the hose while pulling apart.

C. Using the 1/8" vacuum hose supplied, cut a 50 mm (2 inch) section of hose and install over straight leg of the vacuum tee (Fig. 3).

Fig. 3 Vacuum Tee Installation

D. Install the straight leg of the supplied barbed vacuum tee between the two hose ends (Fig. 4).

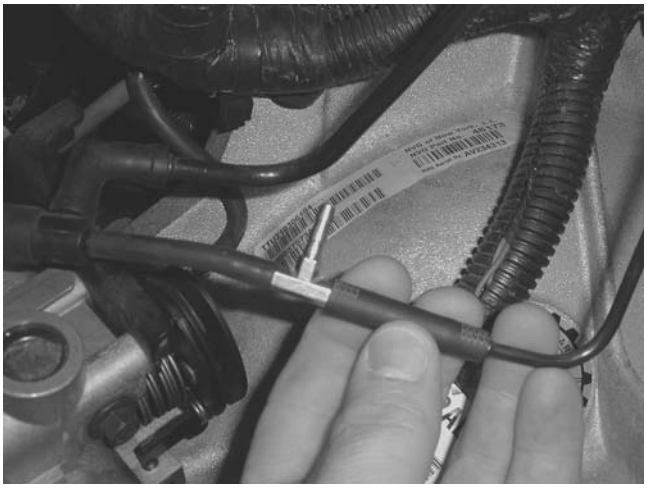


Fig. 4

E. Using the remaining length of 1/8" vacuum hose supplied, connect one end to the remaining leg of the vacuum tee (Fig. 4) and carefully route the hose to the fuel pressure regulator located in the center of the Demand-Regulated Fuel Rail Assembly (Fig. 5). Make sure to route the hose away from sharp edges and avoid pinching or kinking the hose during reassembly. Trim excess hose material with diagonal cutters.

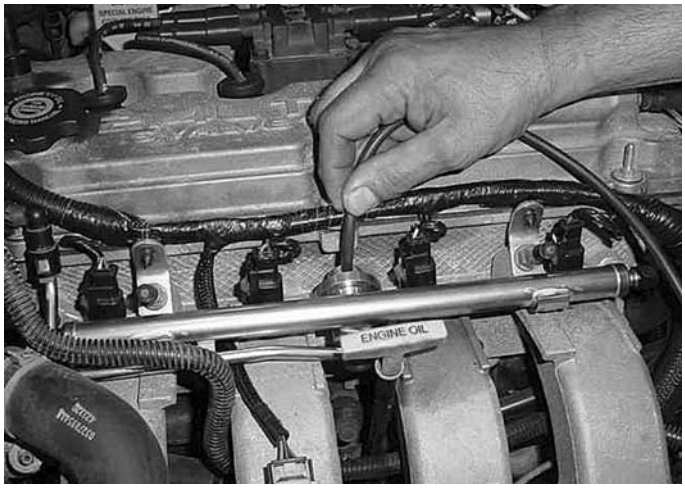


Fig. 5 Hose Routing–Demand-Regulated Fuel Rail Assembly

F. Connect the free end of the hose to the fuel pressure regulator (Fig. 5).

G. Starting at the fuel pressure regulator connection, secure all flexible rubber hose connections outlined in steps A-E above, using the zip ties supplied. Trim excess material from zip ties using diagonal cutters for a clean installation.

(14) Drain fuel tank per Section14 (Standard procedure – drain fuel tank).

(15) Remove fuel tank from vehicle per Section 14 (Fuel tank – removal).

(16) Remove the fuel pump module from the fuel tank per Section 14 (Fuel pump module – removal).

(17) Install new Performance Fuel Pump Module per Section 14 (Fuel pump module – installation).

(18) Install fuel tank into vehicle per Section 14 (Fuel tank – installation).

(19) Replace MAP and TIP Sensors per the following instructions (Skip for kit P4510339).

MAP SENSOR

REMOVAL

A. Locate MAP Sensor on front of intake manifold.

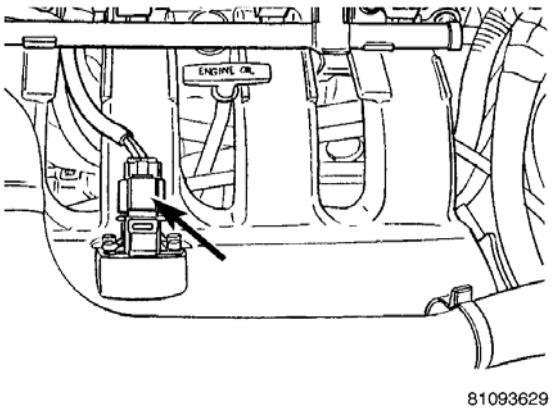


Fig. 6 Map Sensor Location

B. Disconnect electrical connector at MAP Sensor (Fig. 6).To remove connector, unlock connector by pushing red tab toward the wire harness, and then depress the center lock and pull the connector from the sensor.
C. Remove two screws attaching MAP Sensor to intake manifold.
D. Withdraw MAP Sensor from intake manifold.

MAP SENSOR

INSTALLATION

E. Apply a light coating of clean engine oil to MAP Sensor O-Ring.
F. Install new MAP Sensor supplied into intake manifold.
G. Install two fasteners retaining MAP Sensor to intake manifold.
H. Torque fasteners to 35 in/lbs.
I. Attach electrical connector to MAP Sensor, push lock tab into lock connector.

TIP SENSOR

REMOVAL

J. Locate TIP Sensor on left-hand inside fender (Fig. 7).
K. Disconnect electrical connector at TIP Sensor (Fig. 7). To remove connector, unlock the connector by pushing the red tab toward the wire harness, and then depress the center lock and pull the connector from the sensor.
L. Remove the two clips attaching TIP Sensor bracket to inner fender and save for reinstallation.
M. Remove vacuum hose from sensor.
N. Remove production sensor from bracket by gently lifting retaining clip and sliding sensor off of bracket flange. Bracket will be reused.

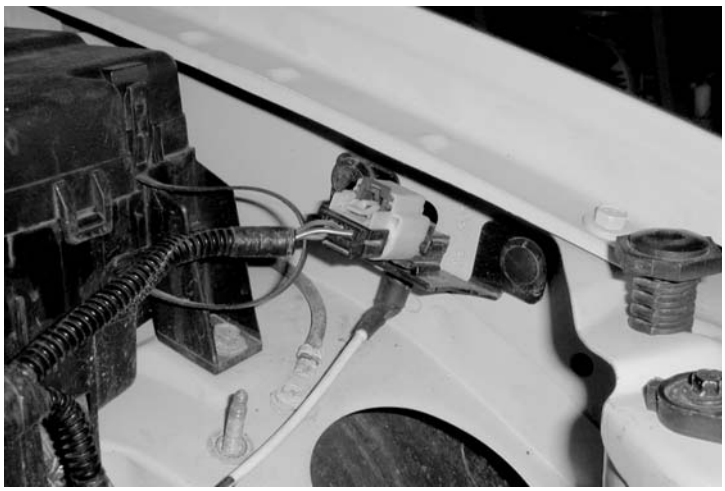


Fig. 7 TIP Sensor Location

TIP SENSOR

INSTALLATION

O. Locate new TIP Sensor supplied in kit .
P. Mount new TIP Sensor to original bracket by sliding the retaining clip over the bracket flange until it locks in place.
Q. Reinstall push clips through bracket and inner fender mounting holes.
R. Push center of clip until flush with base.
S. Reconnect vacuum hose.
T. Reconnect electrical connector, push lock tab into lock connector

(20) Review front cross member description in Section 13 (Front cross member removal). Mark position of front cross member assembly in vehicle by tracing mounting pads as shown in (Fig. 8).

Fig. 8 Mark Position of Front Cross Member Assembly

(21) Remove front cross member, steering rack and lower steering shaft per Section 13

(22) Remove turbocharger assembly per Section 11 (Turbocharger – removal) and coolant and oil lines per Section 11 (Lines and hoses – removal) and place aside.

(23) Install new Stage 3R Performance Turbocharger Assembly in vehicle per Section 11 (Turbocharger – Installation) and coolant and oil lines per Section 11 (Lines and hoses – installation). When torquing coolant lines, be careful to note and maintain line orientation to ensure proper fit. Slight trimming of the oil return hoses may be required to ease oil return line installation.

NOTE: USE A SMALL AMOUNT OF ADHESIVE (E.G., CONTACT CEMENT, WEATHER STRIP ADHESIVE, ETC.) TO ENSURE THE 2.5 MM THICK SHIM WASHER IS HELD IN PLACE UNDER THE HEAT SHIELD DURING INSTALLATION OF THE MOUNTING BOLT IN THE POSITION SHOWN IN (Fig. 9).

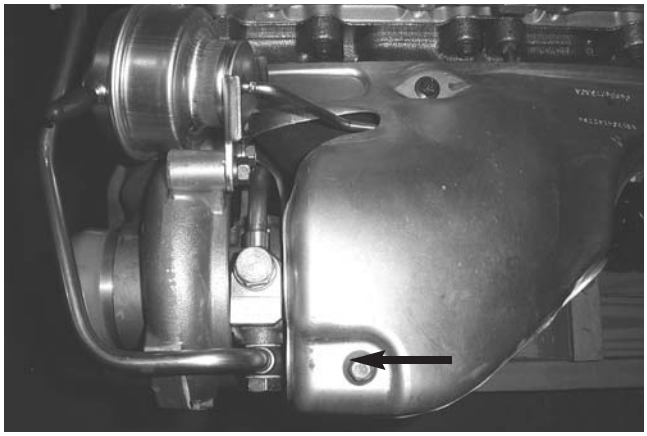


Fig. 9 Shim Washer Mounting Bolt Assembly

(24) Install front cross member, steering rack and lower steering shaft per Section 13 (Front cross member – installation).

(25) Replace engine oil filter and oil per Section 9 (Standard procedure – engine and oil filter change).

(26) Reconnect the vacuum harness assembly per Section 11 (Solenoids and vacuum harness – installation).

(27) Perform vacuum hose securing procedure.

A. Inspect the entire vacuum harness to ensure that all connections are securely connected and no damage or breaks exist. Repair or replace any damaged components before proceeding further with installation.

B. Identify vacuum harness connections for the following locations (Figures 10 & 11):

- Turbo Compressor Scroll
- Waste Gate
- Turbo Compressor Outlet
- Surge Valve
- Purge Solenoid Quick Connect
- Throttle Inlet Pressure (TIP) Sensor
- Clean Air Hose
- Throttle Body
- Intercooler Outlet Duct

C. Starting at each location listed in Step B, secure each flexible rubber hose connection to the appropriate vacuum line using the zip ties supplied. Using diagonal cutters, trim excess material from zip ties for a clean installation. Secure all flexible connections in one vacuum circuit before continuing to the next line location. DO NOT zip-tie the molded connections directly on the vacuum solenoids.

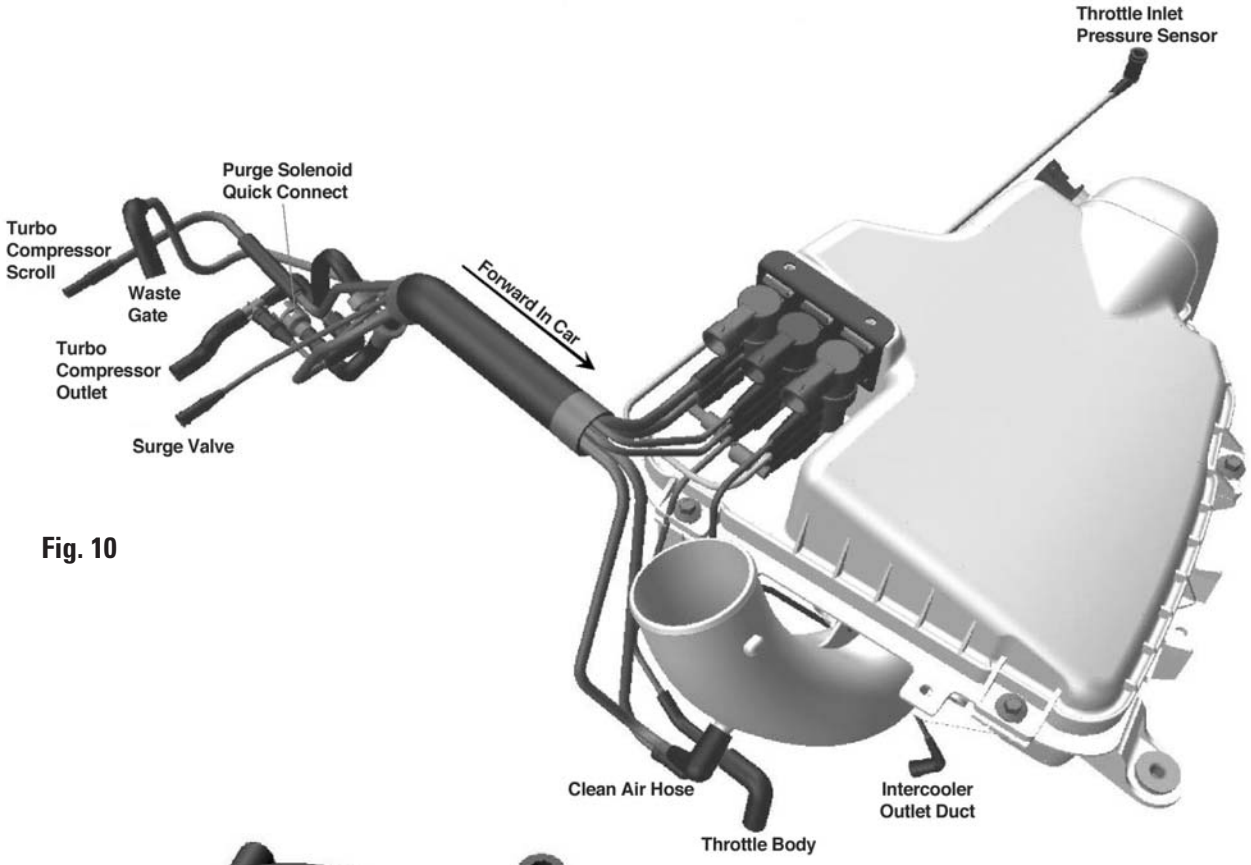


Fig. 10

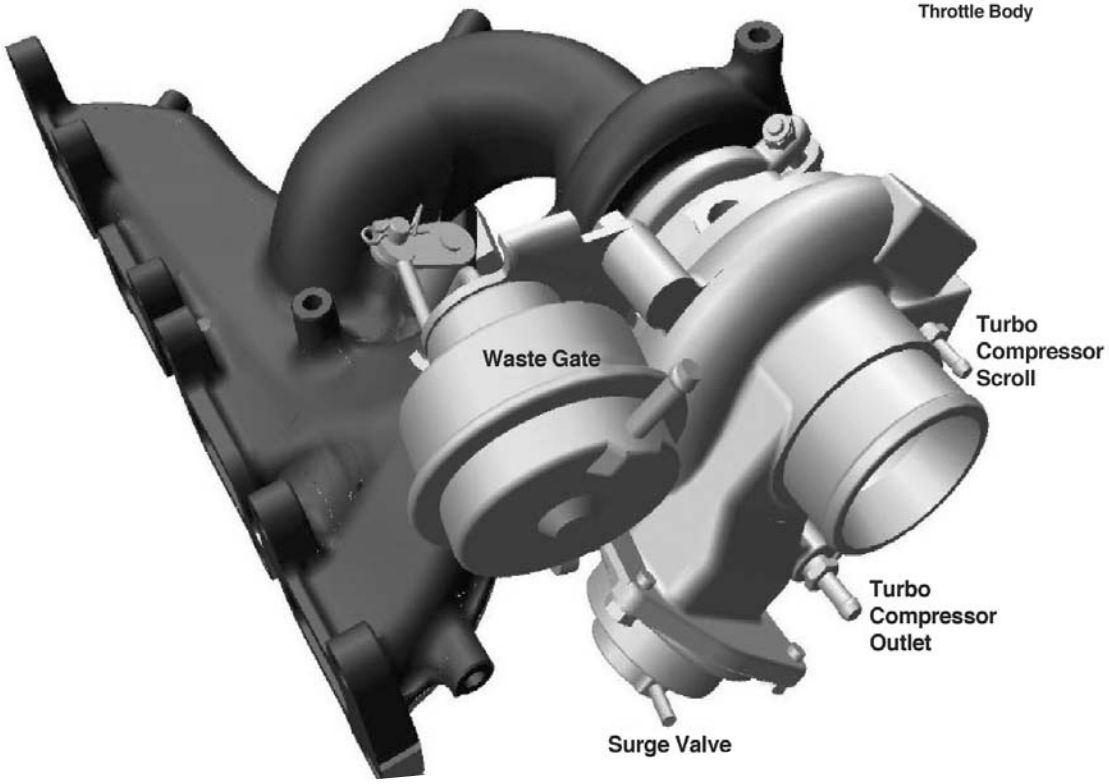


Fig. 11

NOTE: DO NOT INSTALL AIR CLEANER HOUSING AND INTAKE HOSE IF TURBO TOYS KIT WILL BE INSTALLED AT THIS TIME. FOR TURBO TOYS KIT INSTALLATION, REFER TO TURBO TOYS KIT INSTALLATION SHEET INCLUDED WITH KIT.

(28) Replace air housing and intake hose installation per Section 9 (Engine/air intake system/air cleaner housing – removal).
(29) Perform final installation checks and starting procedure below.
- A. Install battery tray and connect battery per Section 8 (Electrical/battery system/battery – installation).
- B. Remove Fuel Pump relay from Power Distribution Center (PDC). For location of relay, refer to label on underside of PDC cover.
- C. Crank engine over for 15 seconds to build oil pressure.
- D. Turn ignition key to OFF position.
- E. Check engine oil level check for leaks at turbocharger oil line connections. Repair as necessary.
- F Return fuel pump relay to PDC.
- G. One or more Diagnostic Trouble Codes (DTCs) may have been stored in PCM memory due to fuel pump relay removal. The DRB III scan tool must be used to erase a DTC.
- H. Turn ignition key to run position to pressurize fuel system.
- I. Turn ignition key to OFF position.
- J. Check for fuel system leaks at fuel tank module, fuel lines and fuel rail assembly. Repair as necessary.
- K. Start engine.
- L. Check for leaks at turbocharger coolant line connections. Check for exhaust leaks or contact with adjacent components. Repair as necessary.
- M. Drive vehicle for 100 miles at minimal engagement of boost. Check all fasteners and connections to ensure that all are at specified torque values.