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General Information - Health and Safety Precautions

Description and Operation

Introduction

Modern vehicles contain many materials and liquids which if not handled with care can be hazardous to both personal health and the environment. Also, many of the procedures associated with vehicle maintenance and repair involve physical hazards or other risks to health.

This subsection lists some of these hazardous operations and the materials and equipment associated with them. Precautions necessary to avoid these hazards are identified.

The list is not exhaustive and all operations and procedures and the handling of materials, should be carried out with health and safety in mind.

Before using any product the Materials Safety Data Sheet supplied by the manufacturer or supplier should be consulted.

 WARNING: Many liquids and other substances used in motor vehicles are poisonous and should under no circumstances be consumed and should, as far as possible, be kept from contact with the skin. These liquids and substances include acid, anti-freeze, brake fluid, fuel, windscreen washer additives, lubricants, refrigerants and various adhesives.

Acids and Alkalis

For example - alkalis such as caustic soda used in cleaning materials; acids such as sulphuric acid used in batteries.

Both alkalis and acids are irritant and corrosive to the skin, eyes, nose and throat. They cause burns and can destroy ordinary protective clothing.

Avoid splashes to the skin, eyes and clothing. Wear suitable protective impervious apron, gloves and goggles. Do not breath mists.

Make sure access to eye wash bottles, shower and soap are readily available for splashing accidents.

Display Eye Hazard sign.

Air Bags

Highly flammable, explosive – observe No Smoking policy.

Used within the vehicle as safety restraints.

The inflator contains a high-energy propellant which, when ignited, produces a VERY HOT GAS (2500°C).

The gas inflator (generator) used in air bags is Sodium Azide. This material is hermetically sealed in each air bag module and is completely consumed during deployment. No attempt should be made to open an air bag inflator as this will lead to the risk of exposure to Sodium Azide. If a gas generator is ruptured, full protective clothing should be worn when dealing with the spillage.

After normal deployment, gloves and safety goggles should be worn during the handling process.

Deployed air bags should be disposed of in a plastic bag in accordance with local regulations at an approved chemical waste site.

Following any direct contact with Sodium Azide:

- Wash affected areas thoroughly with water.
- **SEEK IMMEDIATE MEDICAL ASSISTANCE.**

Air Bags - Do's

- Do store modules in an upright position.
- Do keep modules dry.
- Do carry modules with the cover side pointing away from the body.
- Do place modules with their cover side upwards.
- Do carefully inspect modules for damage.
- Do stand to one side when connecting modules.
- Do make sure all test equipment is properly calibrated and maintained.
- Do wash hands after handling deployed air bags.

Air Bags - Do Not

- Do Not store highly flammable material together with modules or gas generators.
- Do Not store gas generators at temperatures exceeding 80°C.
- Do Not store modules upside down.
- Do Not attempt to open a gas generator housing.
- Do Not expose gas generators to open flame or sources of heat.
- Do Not place anything on top of a module cover.
- Do Not use damaged modules.
- Do Not touch a fired module or gas generator for at least 10 minutes after firing.
- Do Not use any electrical probes on the wiring circuit.

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Engine - I6 3.2L Petrol - Intake Manifold

Removal and Installation

Removal

1. Disconnect the battery ground cable.

   Refer to: Specifications (414-00 Battery and Charging System - General Information, Specifications).

2. Remove the engine cover.

   Refer to: Engine Cover - I6 3.2L Petrol (501-05 Interior Trim and Ornamentation, Removal and Installation).

3. Remove the air cleaner assembly.

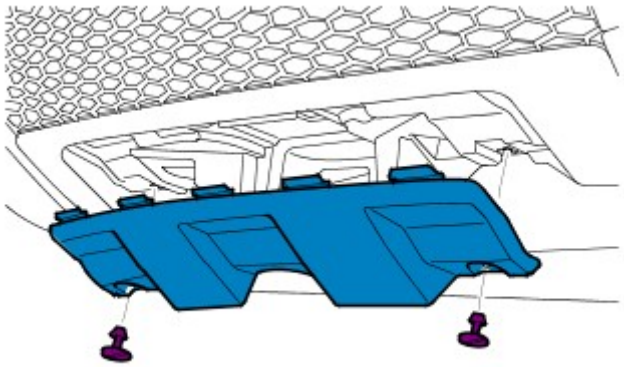
   Refer to: Air Cleaner (303-12B Intake Air Distribution and Filtering - TD4 2.2L Diesel, Removal and Installation).

4. **4.** WARNING: Do not work on or under a vehicle supported only by a jack. Always support the vehicle on safety stands.

   Raise and support the vehicle.

5. Remove the engine undershield.

   Refer to: Engine Undershield (501-02 Front End Body Panels, Removal and Installation).



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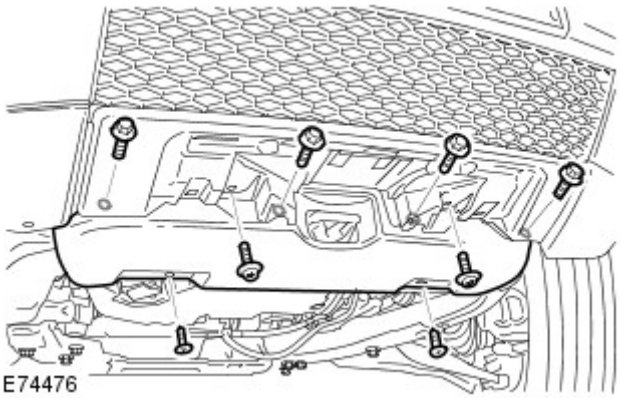

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7.

Published: 11-May-2011

Fuel Charging and Controls - Turbocharger - TD4 2.2L Diesel - Turbocharger Actuator Rod

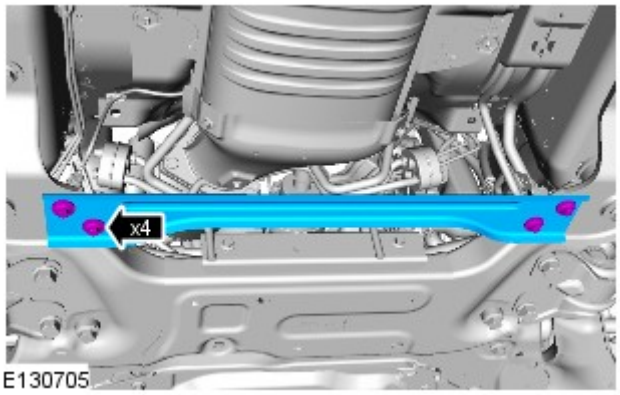
Removal and Installation

Removal

- NOTE: Removal steps in this procedure may contain installation details.
- NOTE: Some variation in the illustrations may occur, but the essential information is always correct.

1. **1.** WARNING: Do not work on or under a vehicle supported only by a jack. Always support the vehicle on safety stands.

   Raise and support the vehicle.



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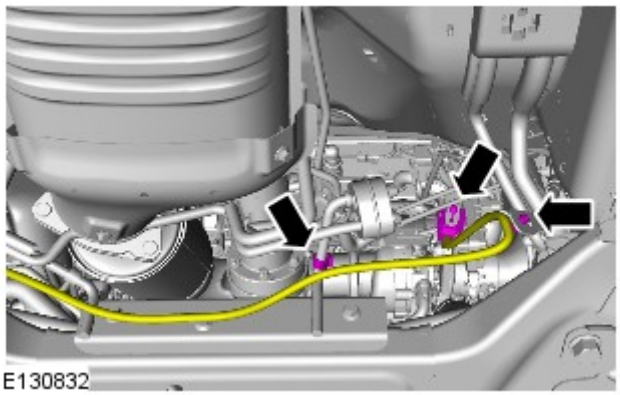
2. *Torque:* 25 Nm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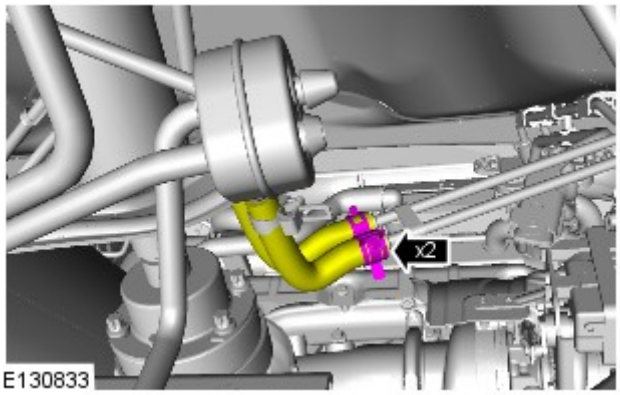
3. **3.** NOTE: Vehicles fitted with diesel particulate filter (DPF)



E130833

4. **4.** NOTE: Note the position of the hoses.

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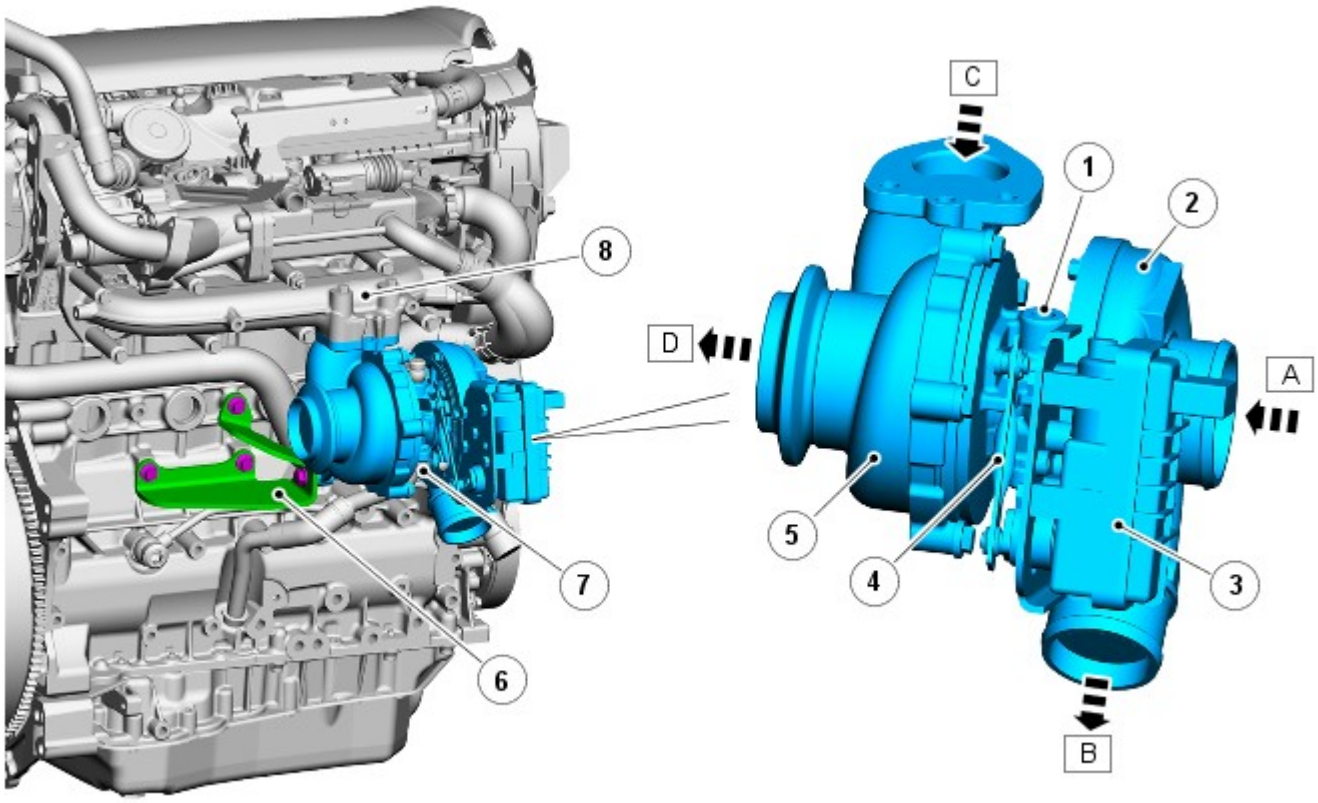
Fuel Charging and Controls - Turbocharger - TD4 2.2L Diesel - Turbocharger

Description and Operation

COMPONENT LOCATION



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Item	Part Number	Description
A	-	Intake air from air filter
B	-	Compressed air to charge air cooler
C	-	Exhaust gas inlet
D	-	Exhaust gas outlet
1	-	Oil supply pipe
2	-	Compressor housing
3	-	Rotary Electronic Actuator (REA)
4	-	Variable vane actuator linkage
5	-	Turbine housing
6	-	Turbocharger support bracket
7	-	Oil return pipe
8	-	Exhaust manifold

OVERVIEW

The TD4 engine features a Garrett Rotary Electronic Actuated (REA) variable geometry turbocharger. The turbocharger is mounted to the exhaust manifold on the Right-Hand (RH) side of the engine, and secured to the cylinder block with a bracket. An oil pipe with banjo type fixing is attached between an outlet on the RH side of the cylinder block and the top of the turbocharger housing, and provides pressurized oil to the turbocharger bearings. An oil pipe attached to the bottom of the turbocharger is connected to the oil pan housing, and directs return oil from the turbocharger into the oil pan. A heat shield is installed over the turbocharger and exhaust manifold to protect other components, and to prevent accidental contact with the hot exhaust components.

The turbocharger comprises a turbine and compressor wheel mounted on a common shaft, enclosed within a cast housing. The common shaft is supported on 2 semi-floating bearings. The cast housing forms 2 chambers that closely surround the turbine and compressor wheels. The turbine wheel is positioned between the exhaust gas flow from the engine and the exhaust system. The compressor wheel is positioned in the intake air flow between the air filter and outlet to the charge air cooler.

During turbocharger operation, the turbine and compressor shaft may reach speeds in excess of 200,000 rpm, and produce a charge air (boost) pressure of up to 1.7 bar (25 psi). A pre-turbine pressure of 3 bar (44 psi) and a temperature of 800°C (1472°F) may be generated inside the turbine chamber.

A REA is attached to the compressor housing, and is connected via a linkage to a rotary adjusting ring located within the turbine housing. The internal circumference of the rotary adjusting ring houses a set of radial variable vanes. The variable vanes are positioned to intercept the exhaust gas flow from the engine, ahead of the turbine wheel.

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Fuel Charging and Controls - TD4 2.2L Diesel - Throttle Body

Removal and Installation

Removal

1. Remove the cover and disconnect the battery ground cable.

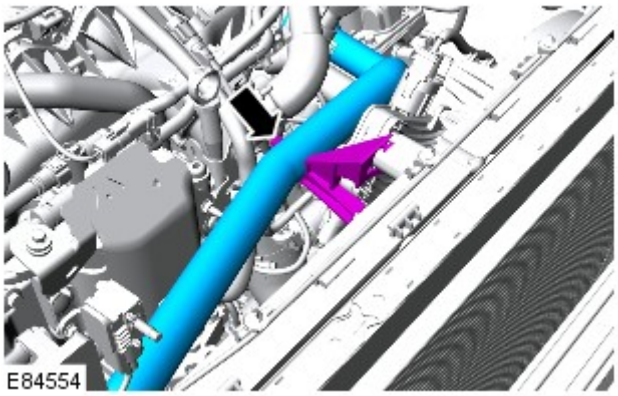
   Refer to: Specifications (414-00 Battery and Charging System - General Information, Specifications).

2. Remove the engine cover.

   Refer to: Engine Cover - TD4 2.2L Diesel (501-05 Interior Trim and Ornamentation, Removal and Installation).

3. Remove the manifold absolute pressure (MAP) sensor.

   Refer to: Manifold Absolute Pressure (MAP) Sensor (303-14B Electronic Engine Controls - TD4 2.2L Diesel, Removal and Installation).



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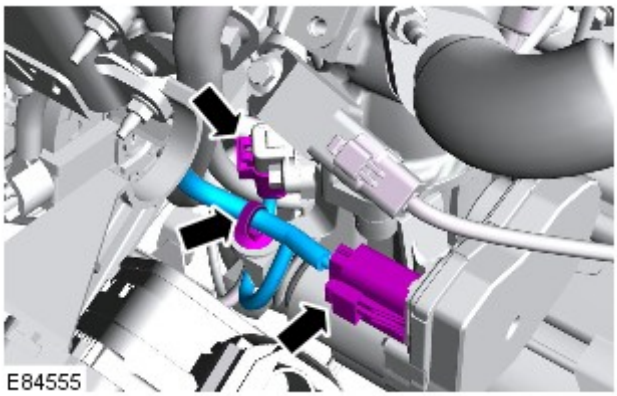

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Fuel Charging and Controls - Turbocharger - TD4 2.2L Diesel - Turbocharger Actuator Rod

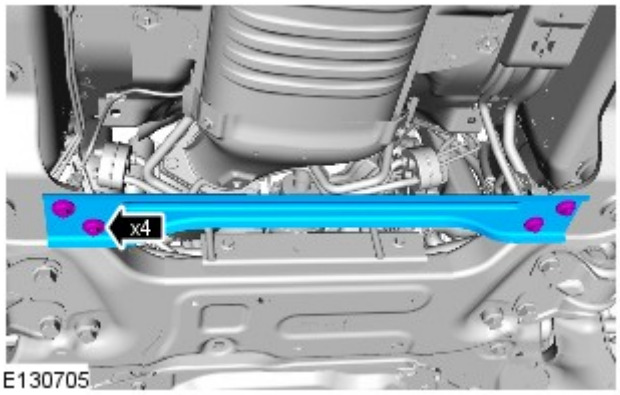
Removal and Installation

Removal

- NOTE: Removal steps in this procedure may contain installation details.
- NOTE: Some variation in the illustrations may occur, but the essential information is always correct.

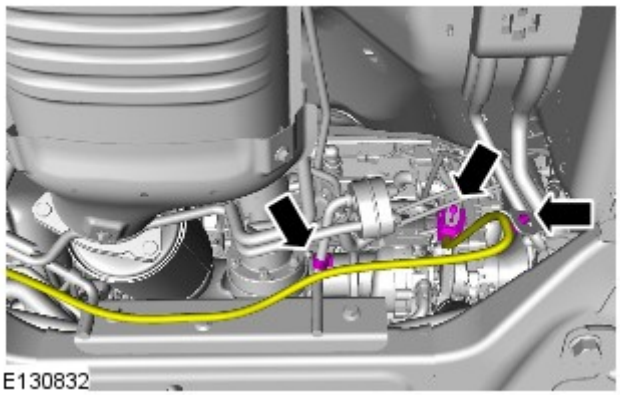
1. **1.** WARNING: Do not work on or under a vehicle supported only by a jack. Always support the vehicle on safety stands.

   Raise and support the vehicle.

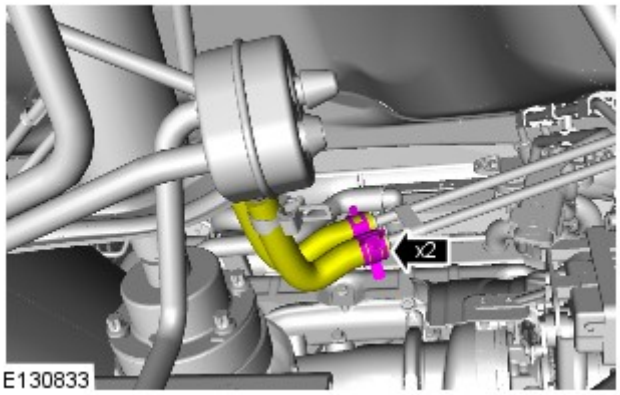


E130705

2. *Torque:* 25 Nm


E130832

3. **3.** NOTE: Vehicles fitted with diesel particulate filter (DPF)



E130833

4. **4.** NOTE: Note the position of the hoses.

E88737

Four HO2S are used by the ECM to measure the oxygen content of the exhaust gasses leaving the engine. Two upstream sensors measure the gasses before they pass through the catalytic converter and two additional downstream sensors measure the gasses after they have passed through the catalytic converter.

The HO2S receive a fused power supply from the main relay in the BJB. Each HO2S is also connected to the ECM on three wires which provide a PWM control of the sensor heating coil, a ground and a signal line.

HO2S Preheating

The HO2S (often referred to as a Lambda (λ) sensor) only operates efficiently at temperatures above 300°C (572°F). The normal operating temperature is between 300°C and 850 °C (572°F and 1562°F) and the HO2S is electrically preheated so it reaches the optimum working temperature quickly. Another reason for the preheating is to maintain a normal operating temperature to prevent condensation which could damage the sensor.

The sensor heating coil is a PTC resistor. The heating coil is supplied with battery voltage via the main relay and provided with a ground by the ECM. When the ECM provides the ground the current will pass through the coil. When the sensor is cold, the resistance through the PTC resistor is low and a high current will pass through the coil. The ECM provides a PWM ground initially. As the PTC resistor heats up the resistance increases reducing the current flow. This is sensed by the ECM which gradually reduces the PWM ground to a continuous ground.

The coil is heated immediately following an engine start for a period of approximately 20 seconds and also during low load conditions when the temperature of the exhaust gasses is insufficient to maintain the optimum sensor temperature. The ECM controls the application of the PWM signal to prevent sensor damage due to thermal shock caused by the sensor heating too quickly. The ECM can diagnose faults in the heater coil and record fault codes which can be retrieved using a Land Rover approved diagnostic system.

Upstream HO2S

Two upstream HO2S are used and are located in each exhaust manifold, between the engine and the catalytic converter. The HO2S comprises a solid electrolyte Zirconium dioxide cell surrounded by a gas permeable ceramic. The output voltage from the sensor is dependent on the level of O_2 passing through the permeable ceramic coating. Nominal voltage for λ=1 is 300 to 500mV. As the fuel/air mixture becomes richer (λ<1) the voltage rises to up to 900mV. As the mixture becomes weaker (λ>1) the voltage falls towards 0mV.

The upstream HO2S is used by the ECM to monitor the oxygen content of the exhaust gasses leaving the engine before they reach the catalytic converter. The ECM will check the output from the HO2S to determine the combustion mixture and ensure λ=1 is obtained. λ=1 is the optimum air/fuel ratio which relates to a mixture of 14.7 kg air per 1 kg of fuel (14.7:1).

The HO2S uses current regulation and outputs a linear signal dependent on the ratio of exhaust gas oxygen to ambient oxygen. The oxygen content of the exhaust gasses is measured by comparing it with ambient air drawn into the HO2S.

Downstream HO2S

Two downstream HO2S are used and are located in the each exhaust system after the starter catalytic converter. The downstream HO2S are used by the ECM to monitor the oxygen content of the exhaust gasses leaving the catalytic converter. The ECM can use this information to check (when the conditions for catalyst diagnostics have been met) for correct operation of the catalytic converter.

The injectors receive a fused battery voltage supply via the main relay. The ECM operates the injectors by grounding solenoid valves in the injector. When the ground is applied the solenoid valve operates and the injector sprays pressurized fuel from the fuel rail into the cylinder intake ports. The amount of fuel injected and the timing of the injection period is controlled by the ECM using data from other sensors.

The ECM can monitor the injector operation by monitoring the ground line from the injector. Each injector can be diagnosed by the ECM and fault codes stored. The codes can be read using a Land Rover approved diagnostic system.

Variable Intake System (VIS)

The VIS changes the length of the inlet manifold using two ECM controlled actuators which move flaps to control the air flow. The actuators operate singularly or together to adjust the length of the inlet tract.

Using an 'H' bridge, the intake and plenum actuator's internal electronics changes the actuator motor's polarity and therefore the flap position. At each flap position change, the DC actuator motor is powered for approximately 0.5 seconds. The worm gear design ensures that the flap remains in the desired position, even when the electric motors are not powered.

Intake Tract Variable Manifold

E88744

The ECM controls the position of the flaps by modulating the relevant actuator's control signal. If the signal shifts from low (approximately 1 volt) to high (approximately 10 volts) the internal electronics interpret it as the flap must close. If the signal shifts from high to low, the flap must open.

At engine speeds of less than 3800 rpm both the intake and plenum flaps are closed. At engine speeds of approximately 3800 rpm and higher the intake flap begins to open, effectively shortening the length of the intake manifold. At engine speeds of 4800 rpm or higher both the intake and plenum flaps are open, providing the shortest length of intake manifold.

VIS Flap Functionality

Engine Speed	Intake Tract Flap	Plenum Intake Flap	Effect
Less than 3800 rpm	Closed	Closed	Long tracts
3800 to 4800 rpm	Open	Closed	Short tracts
More than 4800 rpm	Open	Open	Open plenum

Plenum Variable Intake Manifold

E88745

The ECM diagnoses via the actuator if the flap has assumed the correct position. It does this, by comparing the desired air flow with the actual air flow. A fault code is stored if the deviations are outside the tolerances. The codes can be read using a Land Rover approved diagnostic system.

If an actuator fails and the flap is in the open position, it is not possible to remove the actuator and flap assembly from the inlet manifold. A small indentation on the body of the actuator allows for a 3 mm Allen key to be pushed through the thin membrane wall of the actuator housing. The Allen key can be engaged in the spindle of the actuator motor which allows the flap to be turned to the closed position and consequently the actuator and flap assembly can then be removed from the intake manifold.

Purge Valve

Symptom (general)	Symptom (specific)	Possible causes	Action
	Difficult to start hot	• Injector leak • Fuel system fault • Fuel temperature sensor fault • Intake air temperature (IAT) sensor fault • Mass air flow (MAF) sensor fault • Evaporative emissions purge valve fault • Ignition system fault	Check for DTCs indicating an injector, fuel system or sensor fault. Check the evaporative emission and ignition systems. Rectify as necessary.
	Difficult to start after hot soak (vehicle standing after engine has reached operating temperature)	• Injector leak • Fuel system fault • Fuel temperature sensor fault • Intake air temperature (IAT) sensor fault • Mass air flow (MAF) sensor fault • Evaporative emissions purge valve fault • Ignition system fault	Check for DTCs indicating an injector, fuel system or sensor fault. Check the evaporative emission and ignition systems. Rectify as necessary.
	Engine cranks too fast/slow	• Battery discharged • Starting system fault • Compressions high/low	Check the battery condition and state of charge. Check the starter system. Refer to the electrical guides. Check the engine compressions. Rectify as necessary.
Engine stalls	Engine stalls soon after start	• Breather system disconnected/restricted • Air filter restricted • Fuel line fault • Engine control module (ECM) relay fault • Mass air flow (MAF) sensor fault • Ignition system fault	Check the engine breather and intake systems. Check the fuel lines for leakage, etc.. Check for DTCs indicating an ECM relay, sensor or ignition system fault. Rectify as necessary.
	Engine stalls on overrun	• Engine control module (ECM) relay fault • Throttle position (TP) sensors fault	Check for DTCs indicating an ECM relay or TP sensor fault. Rectify as necessary.
	Engine stalls at steady speed	• Engine control module (ECM) relay fault • Crankshaft position (CKP) sensor fault • Throttle position (TP) sensors fault	Check for DTCs indicating an ECM relay or sensor fault. Rectify as necessary.
	Engine stalls with speed control enabled	• Engine control module (ECM) relay fault	Check for DTCs indicating an ECM relay fault. Rectify as necessary.
	Engine stalls when manoeuvring	• Additional engine loads (power steering, air conditioning (A/C), etc.) • Engine control module (ECM) relay fault • Throttle position (TP) sensors fault • Transmission malfunction • Controller area network (CAN) malfunction	Check the accessory drive systems. Check for DTCs indicating an ECM relay, sensor, transmission or CAN fault. Rectify as necessary.
Poor driveability	Engine hesitates/poor acceleration	• Fuel line fault • Fuel pump fault • Injector leak • Fuel pressure fault • Throttle position (TP) sensors fault • Throttle motor fault • Ignition system fault • Heated oxygen sensor (HO2S) fault • Transmission malfunction • Restricted accelerator pedal travel (carpet, etc.) • Accelerator pedal position (APP) sensor fault	Check the fuel lines and intake air system. Check for DTCs indicating a fuel pump or pressure fault. Check for DTCs indicating a TP sensor or motor fault. Check for DTCs indicating an ignition, sensor or transmission fault. Check the APP sensor for full movement, etc.. Rectify as necessary.
	Engine backfires	• Fuel pump fault • Fuel line fault • Mass air flow (MAF) sensor fault • Heated oxygen sensor (HO2S)	Check the fuel pump and lines. Check for DTCs indicating a sensor, ignition or VVT fault. Rectify as necessary.

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Electronic Engine Controls - I6 3.2L Petrol - Camshaft Position (CMP) Sensor

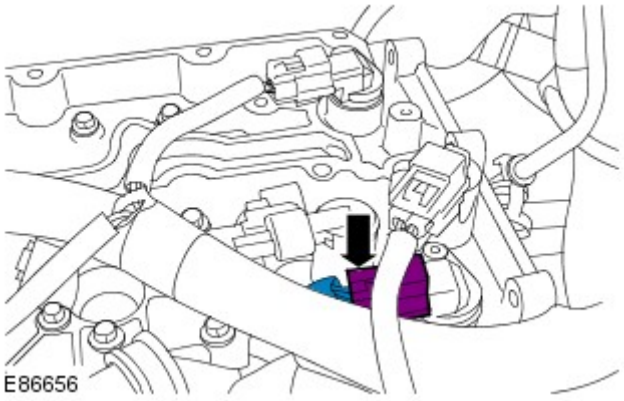
Removal and Installation

Removal

- NOTE: Removal steps in this procedure may contain installation details.

1. Remove the engine cover.

   Refer to: Engine Cover - I6 3.2L Petrol (501-05 Interior Trim and Ornamentation, Removal and Installation).



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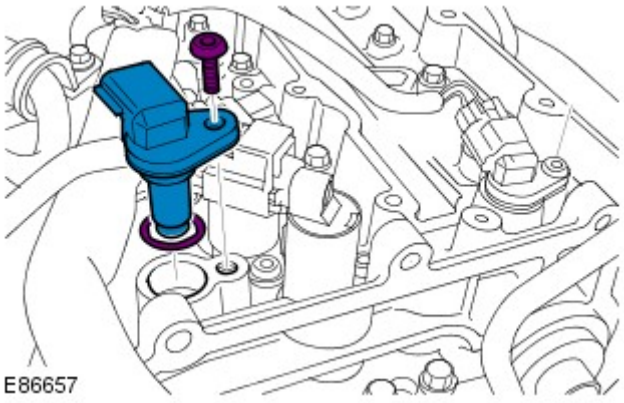

3. **3.** CAUTIONS:

   Note the fitted position of the special washer.

   Discard the seal.

   Torque: 10 Nm

Installation

1. **1.** CAUTIONS:

   Make sure that the mating faces are clean and free of corrosion and foreign material.

   A new O-ring seal is to be installed.

   To install, reverse the removal procedure.

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Electronic Engine Controls - I6 3.2L Petrol - Manifold Absolute Pressure (MAP) Sensor

Removal and Installation

Removal

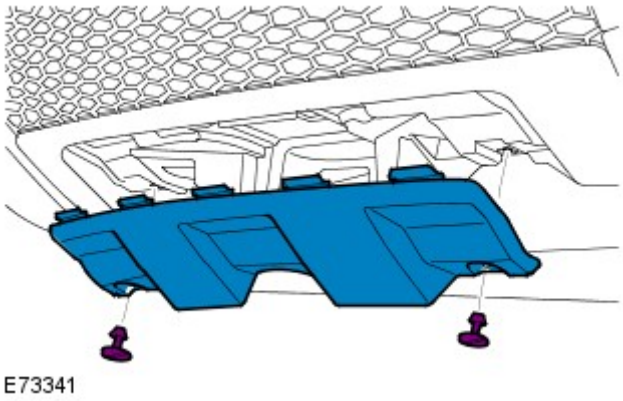
1. **1.** WARNING: Do not work on or under a vehicle supported only by a jack. Always support the vehicle on safety stands.

   Raise and support the vehicle.

2. Remove the engine undershield.

   Refer to: Engine Undershield (501-02 Front End Body Panels, Removal and Installation).

3.



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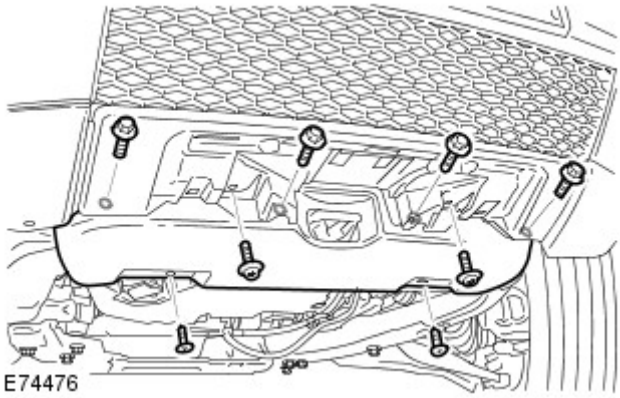

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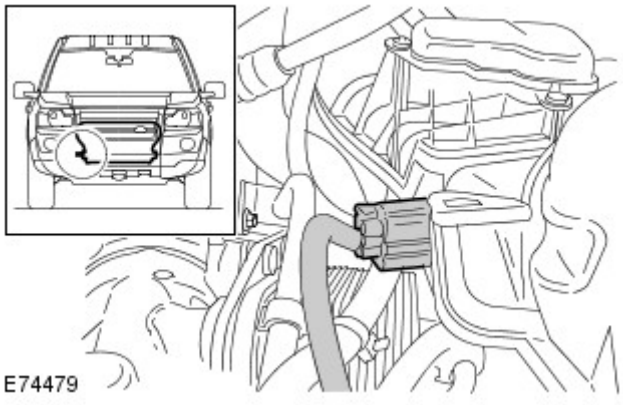
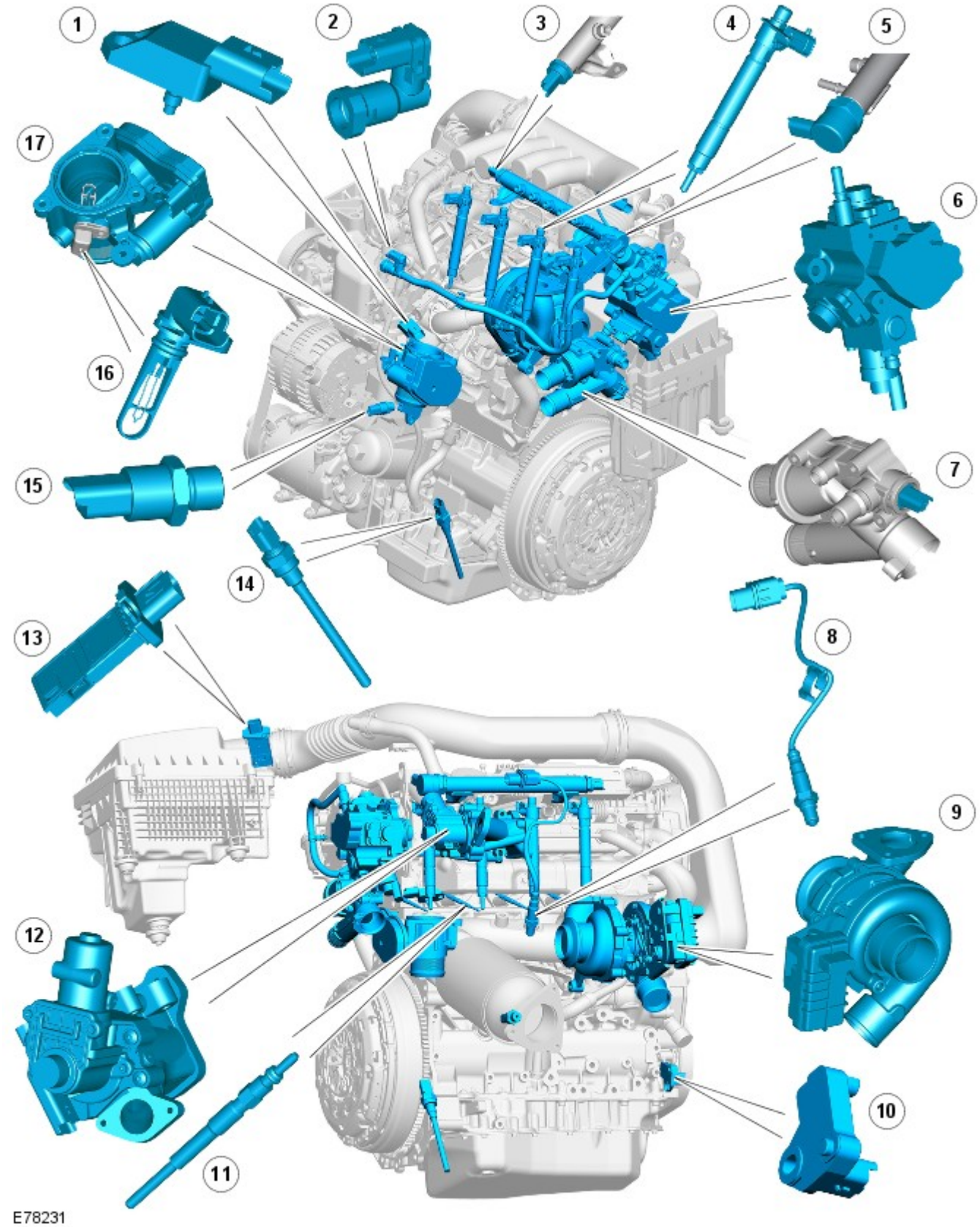


Published: 11-May-2011

Electronic Engine Controls - TD4 2.2L Diesel - Electronic Engine Controls

Description and Operation

COMPONENT LOCATION SHEET 1 OF 2



Item	Part Number	Description
1	-	manifold absolute pressure (MAP) sensor
2	-	Fuel temperature sensor
3	-	Fuel rail pressure sensor
4	-	Injector (4 off)

Published: 12-Jul-2011

Electronic Engine Controls - TD4 2.2L Diesel - Electronic Engine Controls

Diagnosis and Testing

Principles of Operation

For a detailed description of the electronic engine controls, refer to the relevant Description and Operation section in the workshop manual.
REFER to: Electronic Engine Controls (303-14 Electronic Engine Controls - TD4 2.2L Diesel, Description and Operation).

Inspection and Verification

CAUTION: Diagnosis by substitution from a donor vehicle is **NOT** acceptable. Substitution of control modules does not guarantee confirmation of a fault, and may also cause additional faults in the vehicle being tested and/or the donor vehicle.

1. **1.** Verify the customer concern.
2. **2.** Visually inspect for obvious signs of mechanical or electrical damage and system integrity.

Visual Inspection

Mechanical	Electrical
• Fuel level (minimum of four liters for run out of fuel strategy) • Contaminated fuel • Engine oil level • Cooling system coolant level • Fuel system • Air intake system • Vacuum system	• Wiring harness • Electrical connector(s) • Fuses(s) • Relay(s)

3. **3.** If an obvious cause for an observed or reported concern is found, correct the cause (if possible) before proceeding to the next step.
4. **4.** If the cause is not visually evident, verify the symptom and refer to the Symptom Chart, alternatively, check for Diagnostic Trouble Codes (DTCs) and refer to the DTC Index.

Symptom Chart

Symptom	Possible Cause	Action
Engine Non-Start		
Engine does not crank	• Security system/Immobilizer engaged • Battery • Powertrain control module relay • Park/Neutral switch • Brake/clutch switches • Throttle valve stuck • Starting system • Engine seized	Check that security system is disarmed. Ensure battery is in fully charged and serviceable condition. Check for DTCs and refer to relevant DTC Index. Check Park/neutral and Brake/clutch switches. Ensure correct start procedure is being adhered to. Check engine is not seized
Engine cranks but does not start	• Contaminated fuel • Engine breather system disconnected/restricted • Throttle valve stuck • Air intake system • Fuel system • Electronic engine controls	Check for fuel contamination. Check engine breather and air intake system integrity. Ensure correct start procedure is being adhered to. Check for DTCs and refer to the relevant DTC Index
Difficult To Start		
Difficult to start cold	• Check engine coolant level/anti-freeze content • Battery • Electronic engine controls • Exhaust gas recirculation (EGR) valve stuck open • Fuel pump	Check engine coolant level/condition. Ensure battery is in fully charged and serviceable condition. Check for DTCs and refer to relevant DTC Index
Difficult to start hot	• Electronic engine controls • Injector leak • Fuel system • Intake air system • Exhaust gas recirculation valve stuck open • Blocked exhaust/catalytic converter • Engine compressions low	Check for DTCs and refer to the relevant DTC Index. Check engine, fuel, intake air, exhaust, systems for integrity

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Uni-Body, Subframe and Mounting System - Front Subframe

Removal and Installation

Special Tool(s)

	211-316 Separator, Ball Joint
	502-012 Alignment Pins, Subframe

General Equipment

Powertrain Jack

Removal

1. **1.** WARNING: Make sure to support the vehicle with axle stands.

   Raise and support the vehicle.

2. Siphon the fluid from the power steering reservoir.

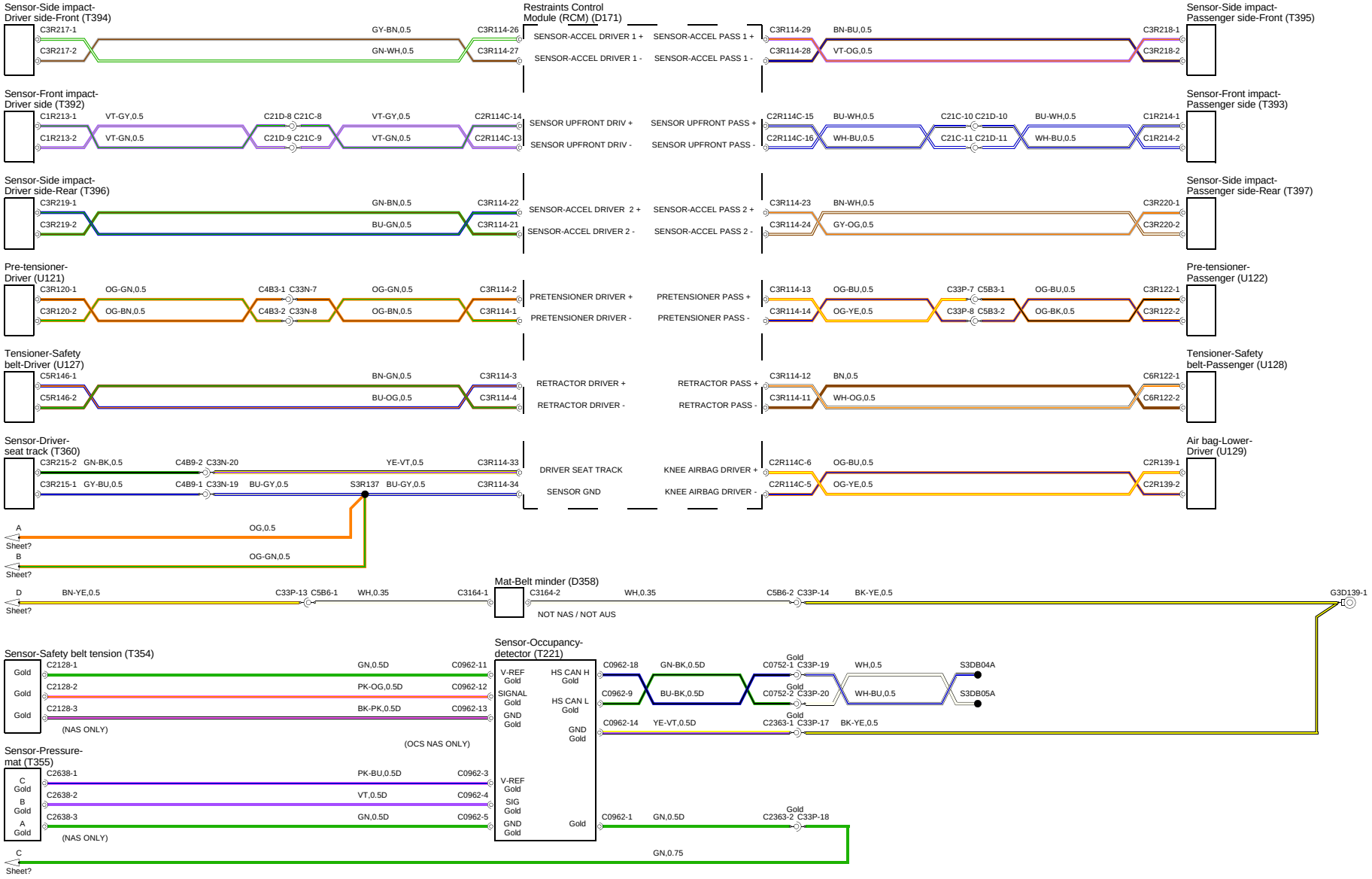
3. Remove the front road wheels and tires.

   Refer to: Wheel and Tire (204-04 Wheels and Tires, Removal and Installation).

4. Remove the engine undershield.

   Refer to: Engine Undershield (501-02 Front End Body Panels, Removal and Installation).

5. Disconnect the LH catalyst monitor sensor electrical connector.


Sensor-Side impact-Driver side-Front (T394)
C3R217-1
C3R217-2
GY-BN,0.5
GN-WH,0.5
C3R114-26
C3R114-27
Restraints Control Module (RCM) (D171)
SENSOR-ACCEL DRIVER 1 +
SENSOR-ACCEL DRIVER 1 -
SENSOR-ACCEL PASS 1 +
SENSOR-ACCEL PASS 1 -
C3R114-29
C3R114-28
BN-BU,0.5
VT-OG,0.5
C3R218-1
C3R218-2
Sensor-Side impact-Passenger side-Front (T395)
Sensor-Front impact-Driver side (T392)
C1R213-1
C1R213-2
VT-GY,0.5
VT-GN,0.5
C21D-8 C21C-8
C21D-9 C21C-9
VT-GY,0.5
VT-GN,0.5
C2R114C-14
C2R114C-13
SENSOR UPFRONT DRIV +
SENSOR UPFRONT DRIV -
SENSOR UPFRONT PASS +
SENSOR UPFRONT PASS -
C2R114C-15
C2R114C-16
BU-WH,0.5
WH-BU,0.5
C21C-10 C21D-10
C21C-11 C21D-11
BU-WH,0.5
WH-BU,0.5
C1R214-1
C1R214-2
Sensor-Front impact-Passenger side (T393)
Sensor-Side impact-Driver side-Rear (T396)
C3R219-1
C3R219-2
GN-BN,0.5
BU-GN,0.5
C3R114-22
C3R114-21
SENSOR-ACCEL DRIVER 2 +
SENSOR-ACCEL DRIVER 2 -
SENSOR-ACCEL PASS 2 +
SENSOR-ACCEL PASS 2 -
C3R114-23
C3R114-24
BN-WH,0.5
GY-OG,0.5
C3R220-1
C3R220-2
Sensor-Side impact-Passenger side-Rear (T397)
Pre-tensioner-Driver (U121)
C3R120-1
C3R120-2
OG-GN,0.5
OG-BN,0.5
C4B3-1 C33N-7
C4B3-2 C33N-8
OG-GN,0.5
OG-BN,0.5
C3R114-2
C3R114-1
PRETENSIONER DRIVER +
PRETENSIONER DRIVER -
PRETENSIONER PASS +
PRETENSIONER PASS -
C3R114-13
C3R114-14
OG-BU,0.5
OG-YE,0.5
C33P-7 C5B3-1
C33P-8 C5B3-2
OG-BU,0.5
OG-BK,0.5
C3R122-1
C3R122-2
Pre-tensioner-Passenger (U122)
Tensioner-Safety belt-Driver (U127)
C5R146-1
C5R146-2
BN-GN,0.5
BU-OG,0.5
C3R114-3
C3R114-4
RETRACTOR DRIVER +
RETRACTOR DRIVER -
RETRACTOR PASS +
RETRACTOR PASS -
C3R114-12
C3R114-11
BN,0.5
WH-OG,0.5
C6R122-1
C6R122-2
Tensioner-Safety belt-Passenger (U128)
Sensor-Driver-seat track (T360)
C3R215-2
C3R215-1
GN-BK,0.5
GY-BU,0.5
C4B9-2 C33N-20
C4B9-1 C33N-19
YE-VT,0.5
BU-GY,0.5
S3R137
BU-GY,0.5
C3R114-33
C3R114-34
DRIVER SEAT TRACK
SENSOR GND
KNEE AIRBAG DRIVER +
KNEE AIRBAG DRIVER -
C2R114C-6
C2R114C-5
OG-BU,0.5
OG-YE,0.5
C2R139-1
C2R139-2
Air bag-Lower-Driver (U129)
A
Sheet?
OG,0.5
B
Sheet?
OG-GN,0.5
Mat-Belt minder (D358)
D
Sheet?
BN-YE,0.5
C33P-13 C5B6-1
WH,0.35
C3164-1
C3164-2
WH,0.35
NOT NAS / NOT AUS
C5B6-2 C33P-14
BK-YE,0.5
G3D139-1
Sensor-Safety belt tension (T354)
Gold
Gold
Gold
C2128-1
C2128-2
C2128-3
GN,0.5D
PK-OG,0.5D
BK-PK,0.5D
C0962-11
C0962-12
C0962-13
(NAS ONLY)
Sensor-Occupancy-detector (T221)
V-REF Gold
SIGNAL Gold
GND Gold
HS CAN H Gold
HS CAN L Gold
GND Gold
C0962-18
C0962-9
C0962-14
GN-BK,0.5D
BU-BK,0.5D
YE-VT,0.5D
Gold
C0752-1 C33P-19
C0752-2 C33P-20
C2363-1 C33P-17
WH,0.5
WH-BU,0.5
BK-YE,0.5
S3DB04A
S3DB05A
(OCS NAS ONLY)
Sensor-Pressure-mat (T355)
C Gold
B Gold
A Gold
C2638-1
C2638-2
C2638-3
PK-BU,0.5D
VT,0.5D
GN,0.5D
C0962-3
C0962-4
C0962-5
(NAS ONLY)
V-REF Gold
SIG Gold
GND Gold
Gold
C0962-1
GN,0.5D
Gold
C2363-2 C33P-18
C
Sheet?
GN,0.75