Glossary of Terms

This glossary of terms is intended to cover mainly emissions-related (to SAE J 1930) terminology, and other abbreviations that may be used in this manual.

The required term may be looked-up in the left-hand column, and subsequent columns give the standard acronym, unit or abbreviation, and definition.

Term(s)	Acronym/Unit/Abbreviation	Definition
Air Conditioning	A/C	
Accelerator Pedal Position	APP	Is a multitrack sensor which inputs the drivers demand into the engine control module (ECM)
After Bottom Dead Center	ABDC	Event occurring after bottom dead center
After Top Dead Center	ATDC	Event occurring after top dead center
Anti-lock Brake System	ABS	System which prevents wheel lock-up under braking by sensing lack of rotation of a wheel(s) and diverting fluid pressure away

Item 3 - Transmission, Steering Code

VIN Code	Description
A	Automatic LHS
C	Automatic RHS

Item 4 - Body Code

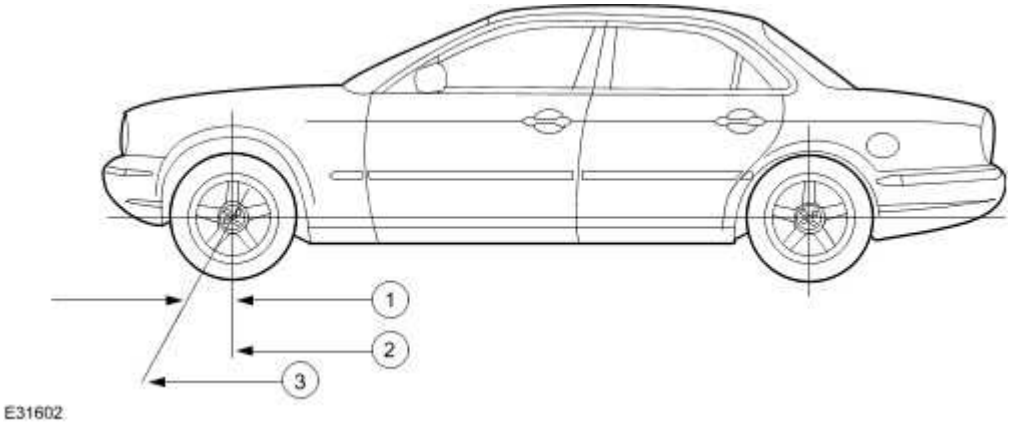
VIN Code	Description
43	X150 2 door Coupe
44	X150 2 door Convertible

Item 5 - Engine Emission System

VIN Code	Description
B	4.2L Naturally aspirated ULEV II
F	4.2L Naturally aspirated Stage 2
K	4.2L Naturally aspirated Stage 3
P	4.2L Naturally aspirated stage 4
U	4.2L Naturally aspirated Stage 2 (91 RON)
X	4.2L Naturally aspirated Stage 2 (E22 RON)

Item 6 - Check Digit

Caster

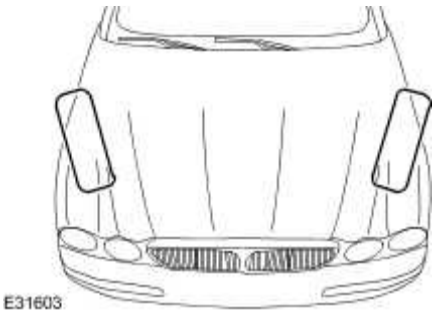


Item	Description
1	Positive caster
2	True vertical
3	Steering axis

Caster is the deviation from vertical of an imaginary line drawn through the ball joints when viewed from the side. The caster specifications in this section will give the vehicle the best directional stability characteristics when loaded and driven. The caster setting is not related to tire wear.

Toe

Positive Toe (Toe-In)



- **Is the resistance less than 10,000 ohms?**

-> Yes
GO to Pinpoint Test G561999t21.

-> No
GO to Pinpoint Test G561999t18.

G561999t18 : Check the initiator circuit for short circuit to power

1. Measure the resistance between:

FB012, harness side	Battery
Pin 1	Positive terminal

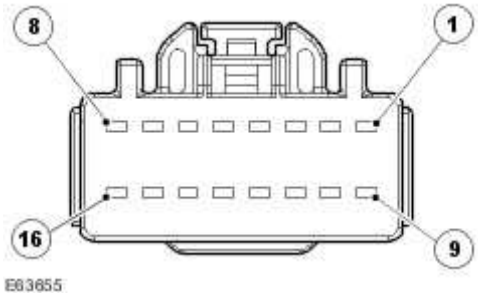
- **Is the resistance less than 10,000 ohms?**

-> Yes
GO to Pinpoint Test G561999t22.

-> No
GO to Pinpoint Test G561999t23.

G561999t19 : Check whether the short circuit is in the harness or the module

1. Disconnect the Tire Pressure Monitoring System module connector, CA072. 2.



Measure the resistance between:

FB012, harness side	Battery

GO to Pinpoint Test G545069t30.

G545069t30 : INSPECT BRAKE CALIPERS

1. Inspect brake calipers for binding, leaking or sticking.

- **Are any concerns found?**

-> Yes
INSTALL the brake calipers correctly or INSTALL new brake calipers as necessary.
Brake Caliper - Vehicles With: Standard Brakes (70.55.02)
Brake Caliper (70.55.03) TEST the system for normal operation.

-> No
Vehicle is OK.

PINPOINT TEST G545069p9 : BRAKES DRAG

G545069t31 : ROAD TEST VEHICLE

1. Road test the vehicle and apply the brakes.

- **Are the brakes functioning correctly?**

-> Yes
Vehicle is OK.

-> No
GO to Pinpoint Test G545069t32.

G545069t32 : CHECK BRAKE CALIPERS

1. Check the front caliper pistons and pins for binding, leaking or sticking.
Brake Caliper - Vehicles With: Standard Brakes (70.55.02) Check the rear caliper pistons and pins for binding, leaking or sticking.
Brake Caliper (70.55.03)

- **Do the disc brake caliper pistons and pins bind, leak or stick?**

-> Yes
INSPECT the brake calipers and parking brake cables. INSTALL new components as necessary. Test the system for normal operation. Road test vehicle if necessary.

-> No

Tie Rod End - 4.2L NA V8 - AJV8/4.2L SC V8 - AJV8 (57.55.02)

Removal

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

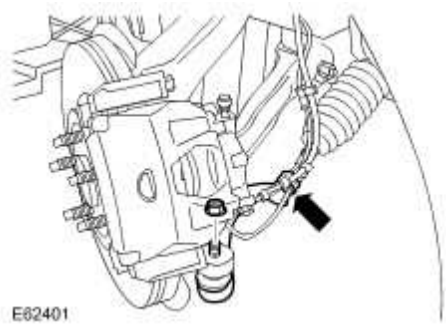
   Raise and support the vehicle.

2. Remove the front wheel and tire.
   For additional information, refer to Wheel and Tire (74.20.05)

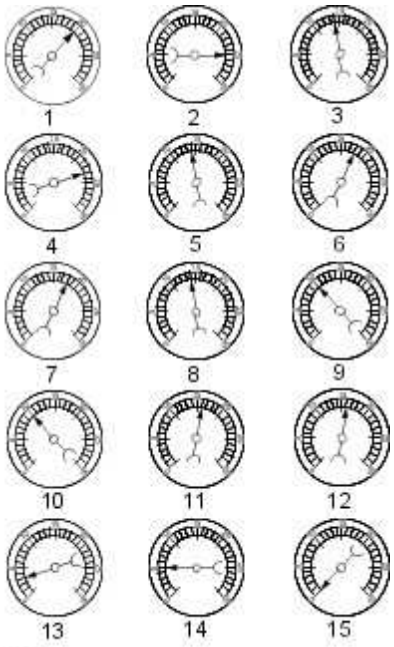
3. Loosen the tie-rod end lock nut.

4. **CAUTION: To prevent damage to the tie rods, use an additional wrench when loosening or tightening the components.**

   Remove and discard the tie rod end retaining nut.



5. Remove the tie-rod end, note the number of turns for installation.



1 . NORMAL READING: Needle between 51-74 kPa (15-22 in-Hg) and holding steady.

2 . NORMAL READING DURING RAPID ACCELERATION: When the engine is rapidly accelerated, the needle will drop to a low (not to zero) reading. When the throttle is suddenly released, the needle will snap back up to a higher than normal figure.

3 . NORMAL FOR HIGH-LIFT CAMSHAFT WITH LARGE OVERLAP: The needle will register as low as 51 kPa (15 in-Hg) but will be relatively steady. Some oscillation is normal.

4 . WORN RINGS OR DILUTED OIL: When the engine is accelerated, the needle drops to 0 kPa (0 in-Hg). Upon deceleration, the needle runs slightly above 74 kPa (22 in-Hg).

5 . STICKING VALVES: When the needle remains steady at a normal vacuum but occasionally flicks (sharp, fast movement) down and back about 13 kPa (4 in-Hg), one or more valves may be sticking.

6 . BURNED OR BENT VALVES: A regular, evenly-spaced, downscale flicking of the needle indicates one or more burned or damaged valves. Insufficient hydraulic valve tappet or hydraulic lash adjuster clearance will also cause this reaction.

7 . POOR VALVE SEATING: A small but regular downscale flicking can mean one or more valves are not seating correctly.

8 . WORN VALVE GUIDES: When the needle oscillates over about a 13 kPa (4 in-Hg) range at idle speed, the valve guides could be worn. As engine speed increases, the needle will become steady if guides are responsible.

9 . WEAK VALVE SPRINGS: When the needle oscillation becomes more violent as engine RPM is increased, weak valve springs are indicated. The reading at idle could be relatively steady.

NOTE:

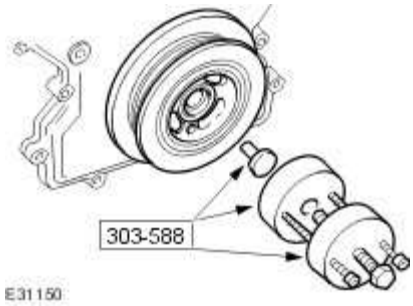
The crankshaft pulley retaining bolt will be very tight.

Using the special tool, retain the crankshaft front pulley.

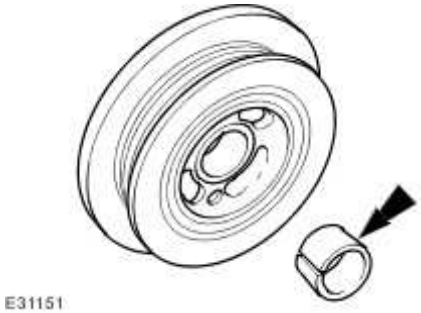
- Remove and discard the crankshaft pulley retaining bolt.
- Remove the special tools.

7 . Using the special tools, remove the crankshaft pulley.

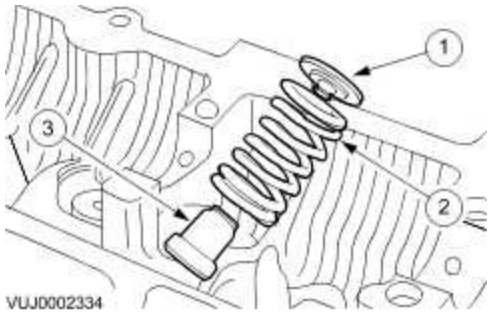
- Collect the locking ring.
- Remove the special tools.



8 . Check the crankshaft pulley and locking ring for damage.



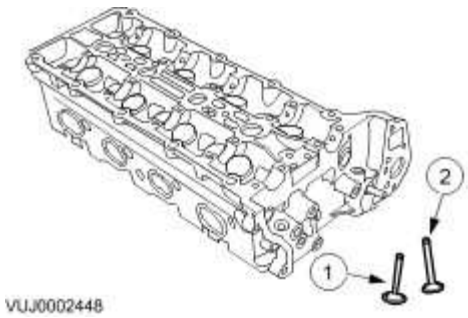
9 . Using the special tool, remove the crankshaft front seal.



5 . Remove the valves from the cylinder head.

4. Remove the intake valves.

5. Remove the exhaust valves.

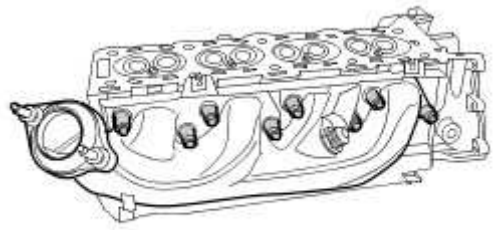


6 . Inspect the cylinder heads and related components. For additional information, refer to <<303-00>>

7 . Remove the pipe plugs and alignment dowels as necessary to clean the cylinder heads.

Assembly

1 . **WARNING: Eye protection is required during use of compressed air. Failure to follow**



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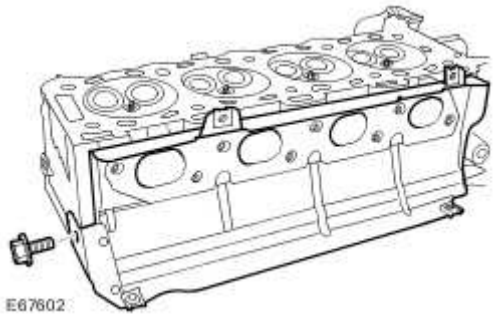
17 . Remove and discard the exhaust manifold gasket.

- Remove the bolt.



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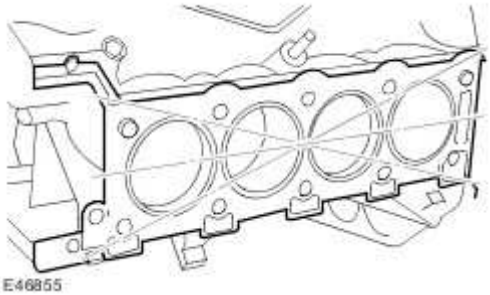
Installation

1 . Clean the component mating faces.

2 . Check cylinder head face for distortion, across the center and from corner to corner.



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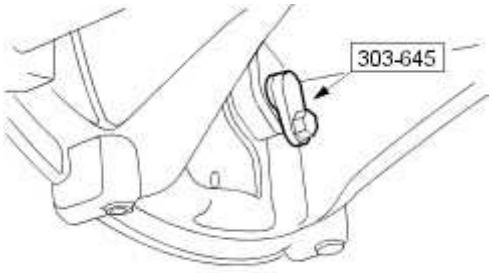
80 . Remove the special tool.



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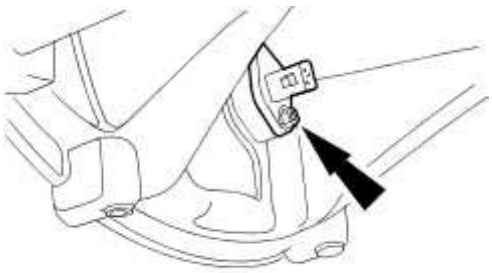
81 . Install the crankshaft position sensor.

- Tighten to 10 Nm.



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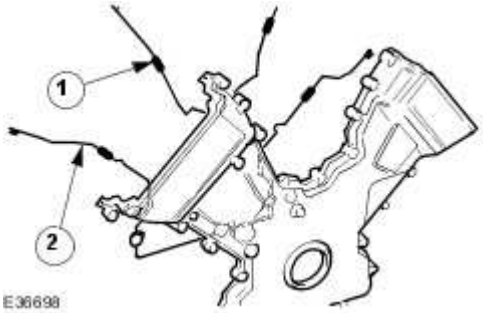
82 . Install new seals to the timing cover.

26. Install the new seal to the inner groove on the face of the timing cover.

27. Install the new seal to the outer groove on the face of the timing cover.



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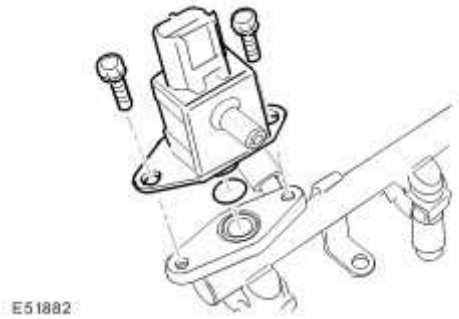
83 Apply sealant to the eight joints on the engine face.

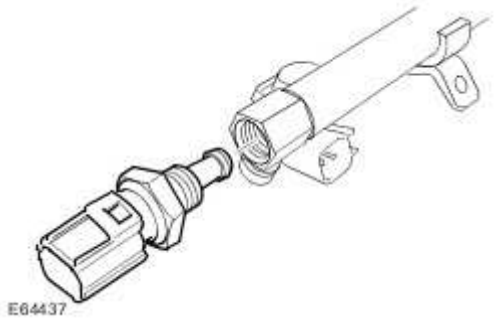
11 . Remove the fuel pressure sensor.

- Remove the 2 bolts.
- Discard the O-ring seals.



12 . **CAUTION: To prevent damage to components, use an additional wrench when loosening or tightening unions.**

Remove the fuel temperature sensor.



Installation

1 . Install the fuel temperature sensor.

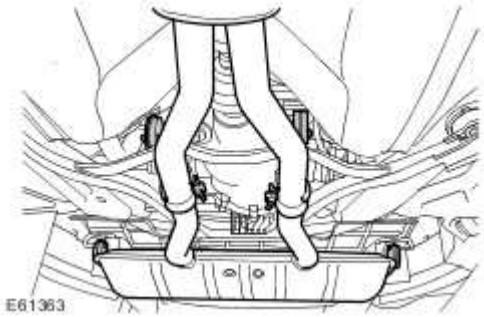
- Clean the component mating faces.
- Apply sealant to the sensor thread.
- Tighten the sensor to 7 Nm (5 lb.ft).

			Stability Assist
C003A00	Right rear wheel speed sensor	• Invalid data received from ABS - right rear wheel speed signal	• Check anti-lock control - stability assist module for DTCs and refer to DTC Index. Anti-Lock Control - Stability Assist
P001100	Intake camshaft position - timing over-advanced (bank 1)	• Variable Camshaft Timing (VCT) circuit fault • Valve timing incorrectly set • Timing chain has slipped	• Carry out the pinpoint tests associated with this DTC using the manufacturer approved diagnostic system • Check the valve timing. Timing Drive Components (12.65.13)
P001200	Intake camshaft position - timing over-retarded (bank 1)	• Variable Camshaft Timing (VCT) circuit fault • Valve timing incorrectly set • Timing chain has slipped	• Carry out the pinpoint tests associated with this DTC using the manufacturer approved diagnostic system • Check the valve timing. Timing Drive Components (12.65.13)
P001600	Crankshaft position (CKP)/Camshaft position (CMP) sensor correlation, right hand bank	• The relative positions of the CKP and CMP teeth are not correct Sensors incorrectly aligned on rebuild	• Reset the sensor positions. Camshaft Position (CMP) Sensor LH

P011300	Intake Air Temperature (IAT) sensor circuit - high input	• IAT sensor sensing circuit - short to ground, short to power • IAT sensor failure	• Carry out any pinpoint tests associated with this DTC using the manufacturer approved diagnostic system • Install a new MAF sensor as necessary. Mass Air Flow (MAF) Sensor (18.30.15)
P011623	Engine Coolant Temperature (ECT) sensor circuit - range/performance - signal stuck low	• Low coolant level • ECT sensor sensing circuit - intermittent high resistance • Engine thermostat failure • ECT sensor failure	• Fill cooling system to correct level and specification. Specifications • Carry out any pinpoint tests associated with this DTC using the manufacturer approved diagnostic system • Check and install new engine thermostat as necessary. Thermostat - Vehicles Without: Supercharger (26.45.07) • Install a new ECT sensor as necessary. Engine Coolant Temperature (ECT) Sensor (18.30.10)
P011624	Engine Coolant Temperature (ECT) sensor circuit - range/performance - signal stuck high	• Low coolant level • ECT sensor sensing circuit - intermittent high resistance • Engine thermostat failure • ECT sensor failure	• Fill cooling system to correct level and specification. Specifications • Carry out any pinpoint tests associated with this DTC using the manufacturer

6 . With assistance, remove the exhaust system.

- Disconnect the 4 exhaust hangers.



Installation

1 . With assistance, install the exhaust system.

- Attach the exhaust hangers.

2 . Tighten the catalyst-to-muffler clamps.

- Tighten the nuts to 50 Nm (37 lb.ft).

3 . Install the bracket.

- Tighten the bolts to 25 Nm (18 lb.ft).