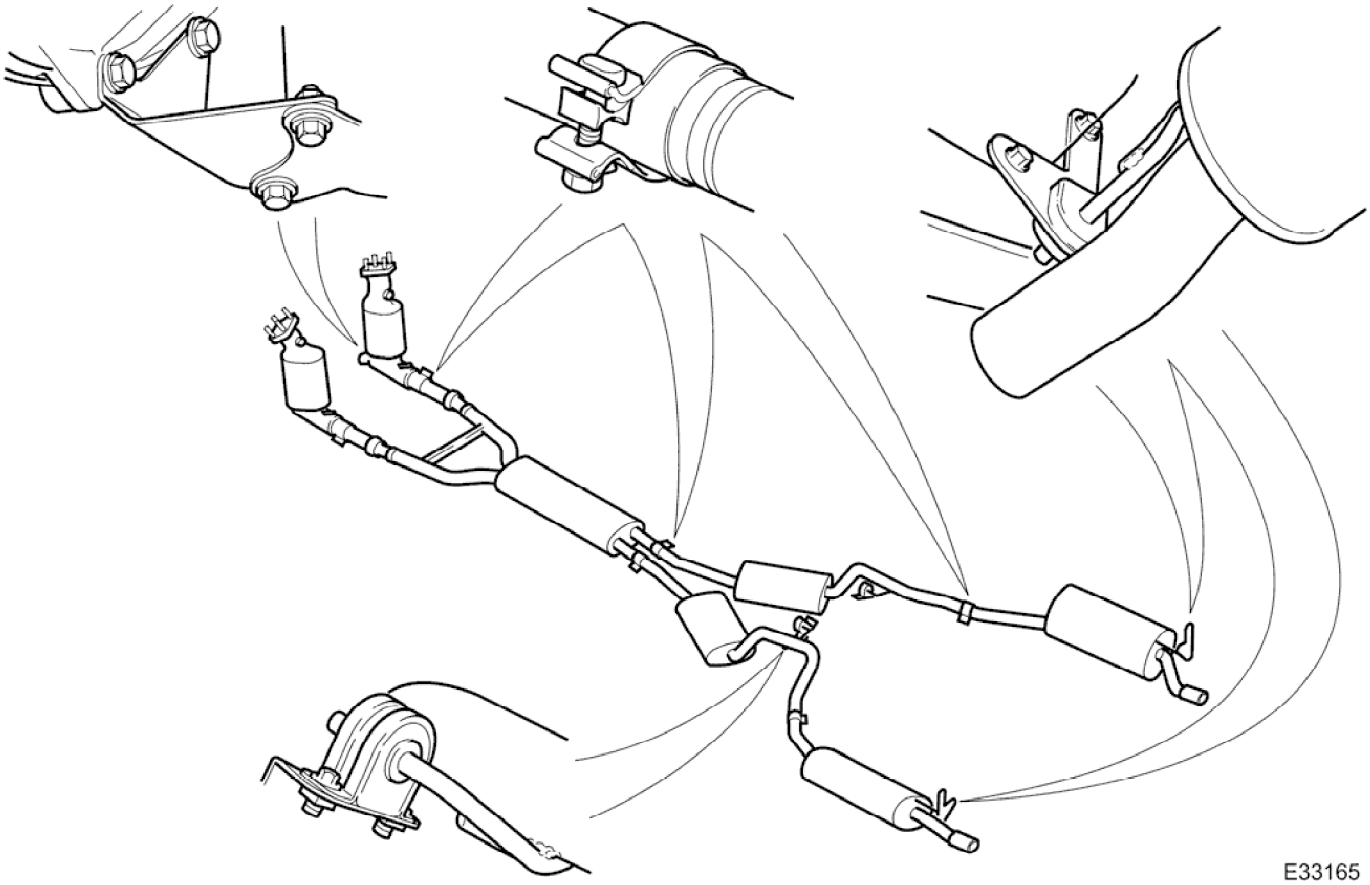
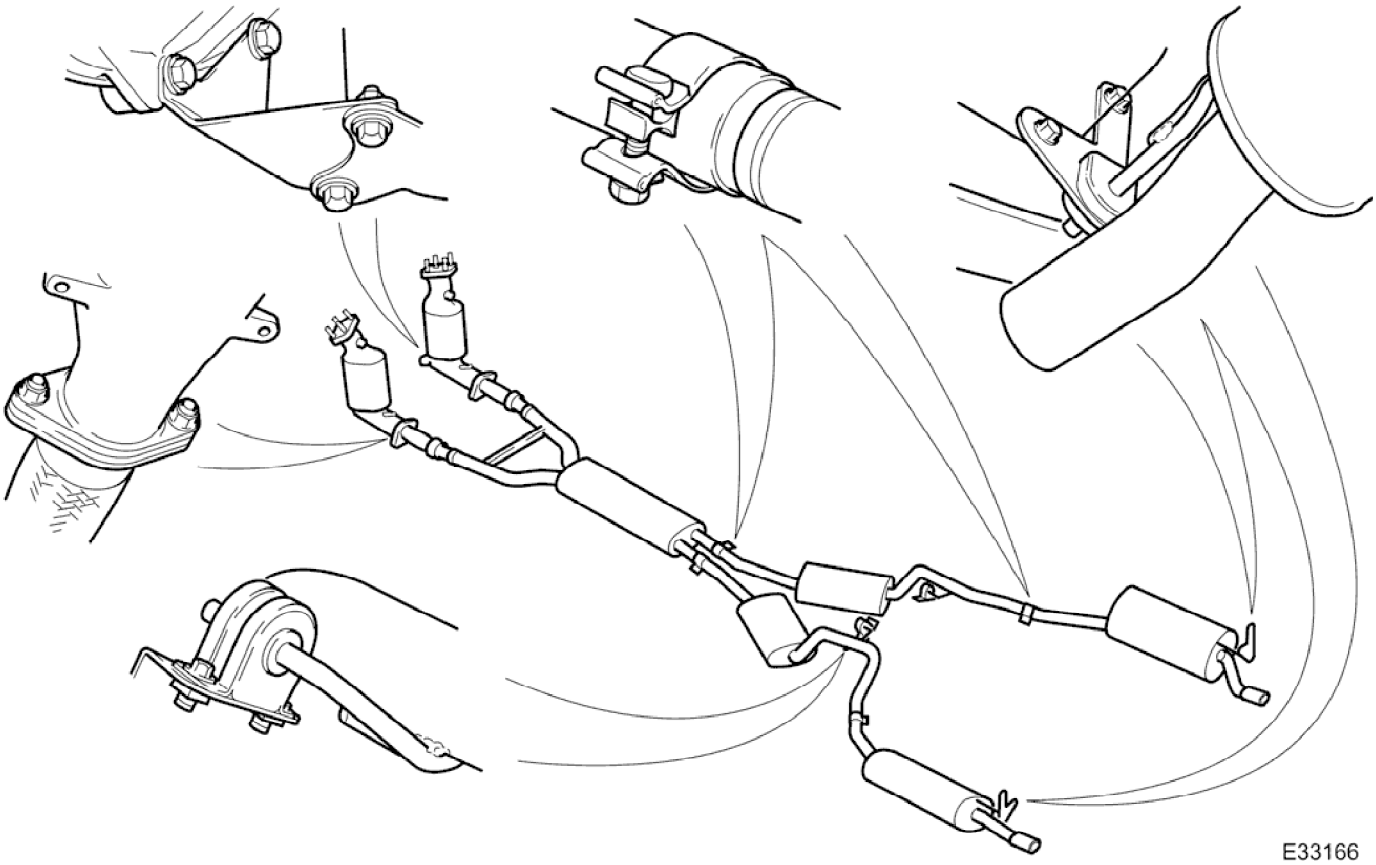
1998 XJ RANGE - Exhaust System - 309-00

Exhaust System

Exhaust Components - Normally Aspirated Vehicles



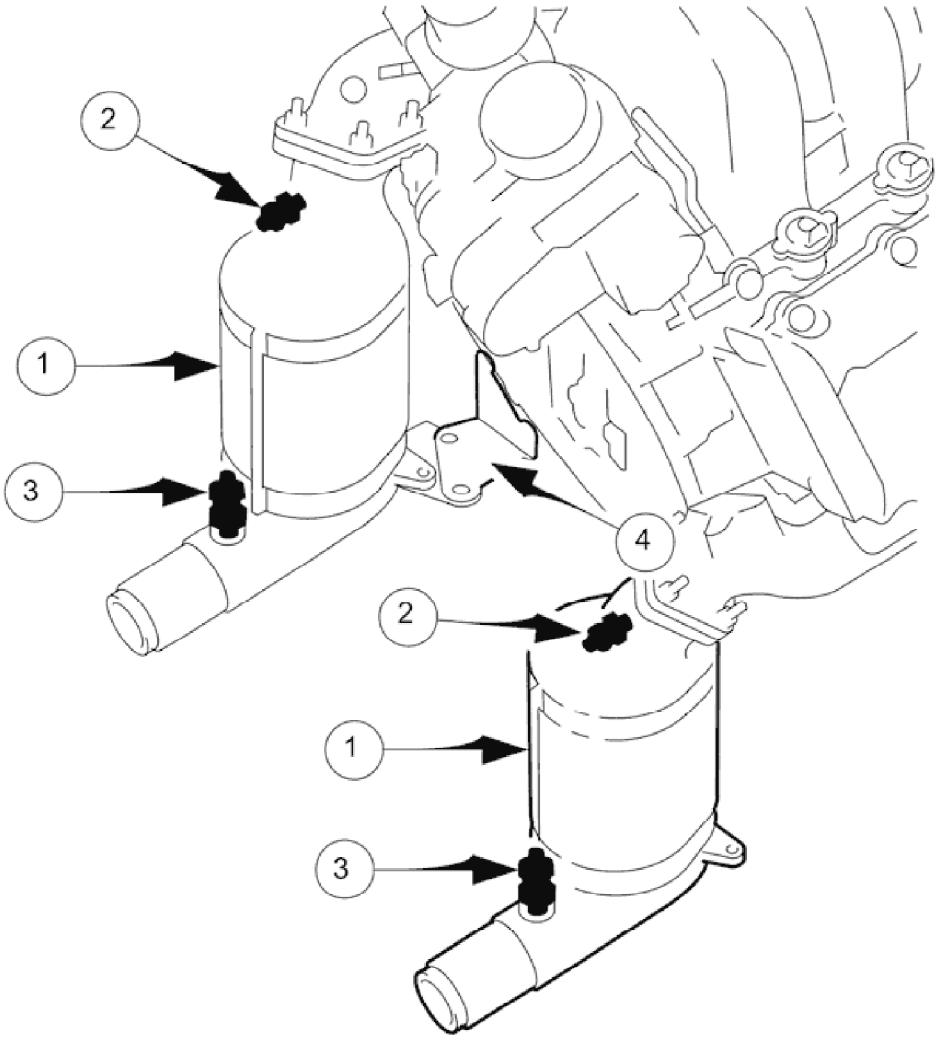
Exhaust Components - Supercharged Vehicles



All vehicles are fitted with a stainless steel exhaust system which features:

- Low back-pressure gas flow.
- Catalytic converters for markets having unleaded fuel.
- Front muffler common to the left-hand and right-hand engine cylinder banks.

Downpipe Catalytic Converter Assembly



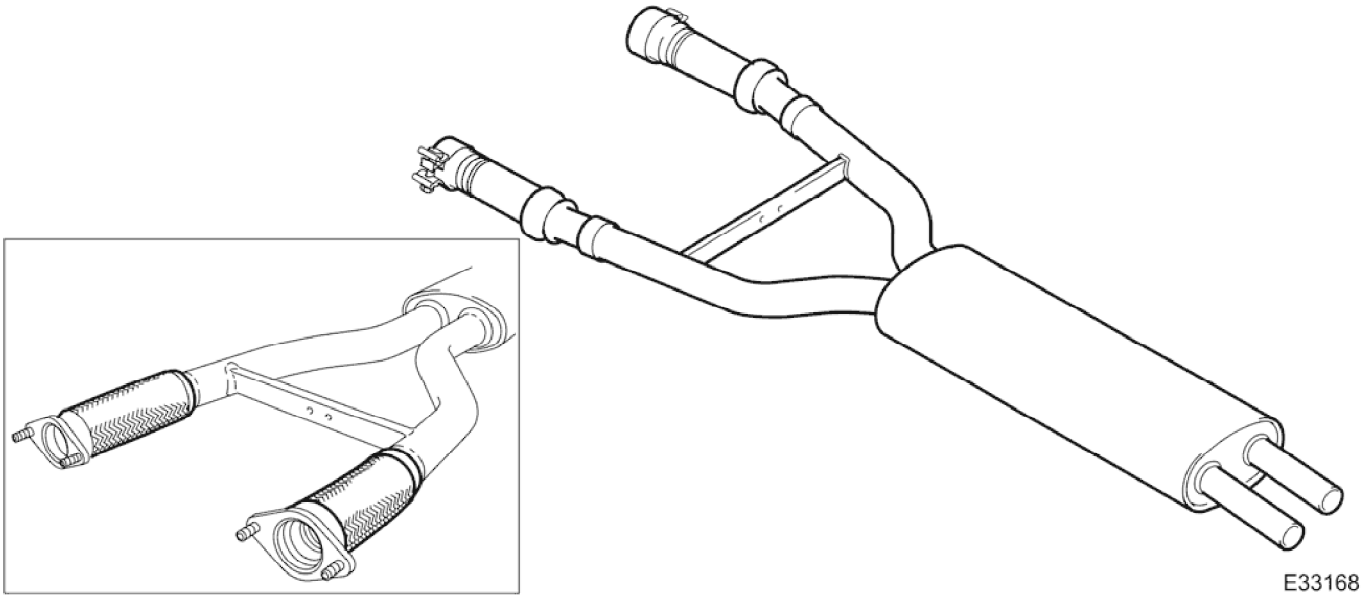
E33167

Item	Description
1	Downpipe catalytic converter
2	Upstream heated oxygen sensor
3	Downstream oxygen sensor (North American markets only)
4	Engine mounting bracket (LHS and RHS)

The left-hand and right-hand downpipe assemblies feature:

- Catalytic converter with palladium / rhodium coated elements. The elements are uncoated for markets with only leaded fuel.
- Retained to the exhaust manifold flange by four threaded studs. Joint-to-joint sealing is with a gasket.
- Engine-mounted bracket providing downpipe mounting by two nuts to the torque converter housing and two bolts to the downpipe.

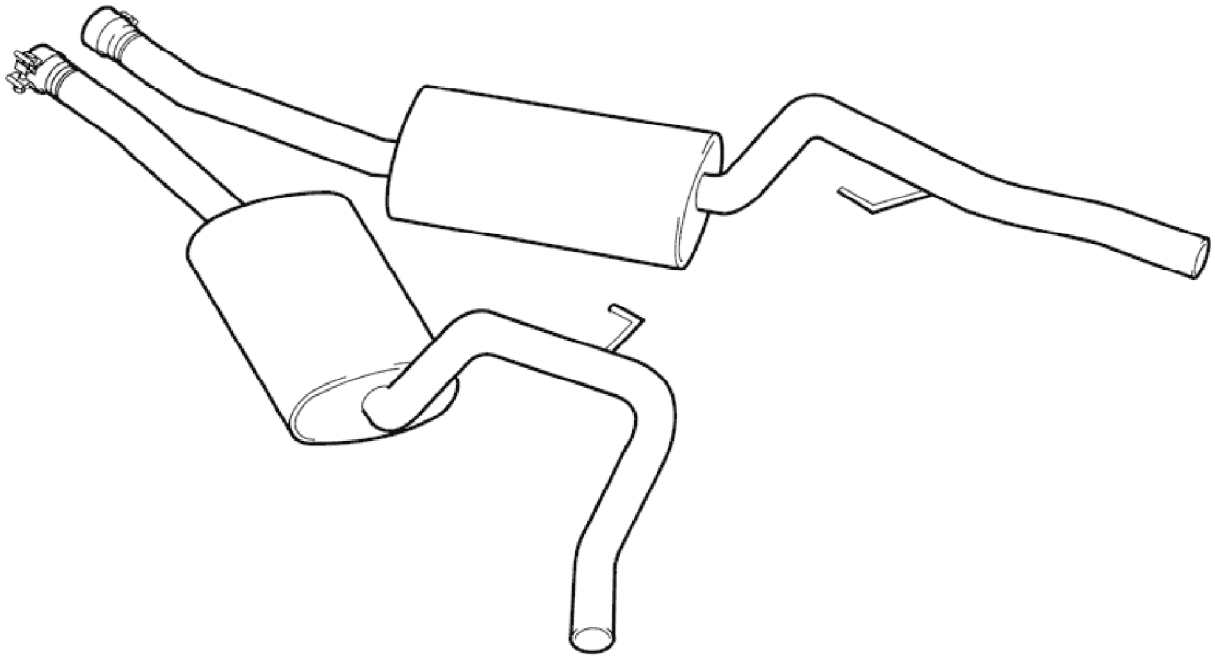
Front Muffler Assembly



The front muffler assembly features:

- Twin-pipe absorption type muffler.
- Pipe-to-pipe pressure damping.
- Inlet and outlet pipes welded to the muffler.
- Front joints are flanged on supercharged engines and a flexible pipe (not removable separately) is fitted behind each flange - refer to the inset above.

Intermediate Muffler Assembly

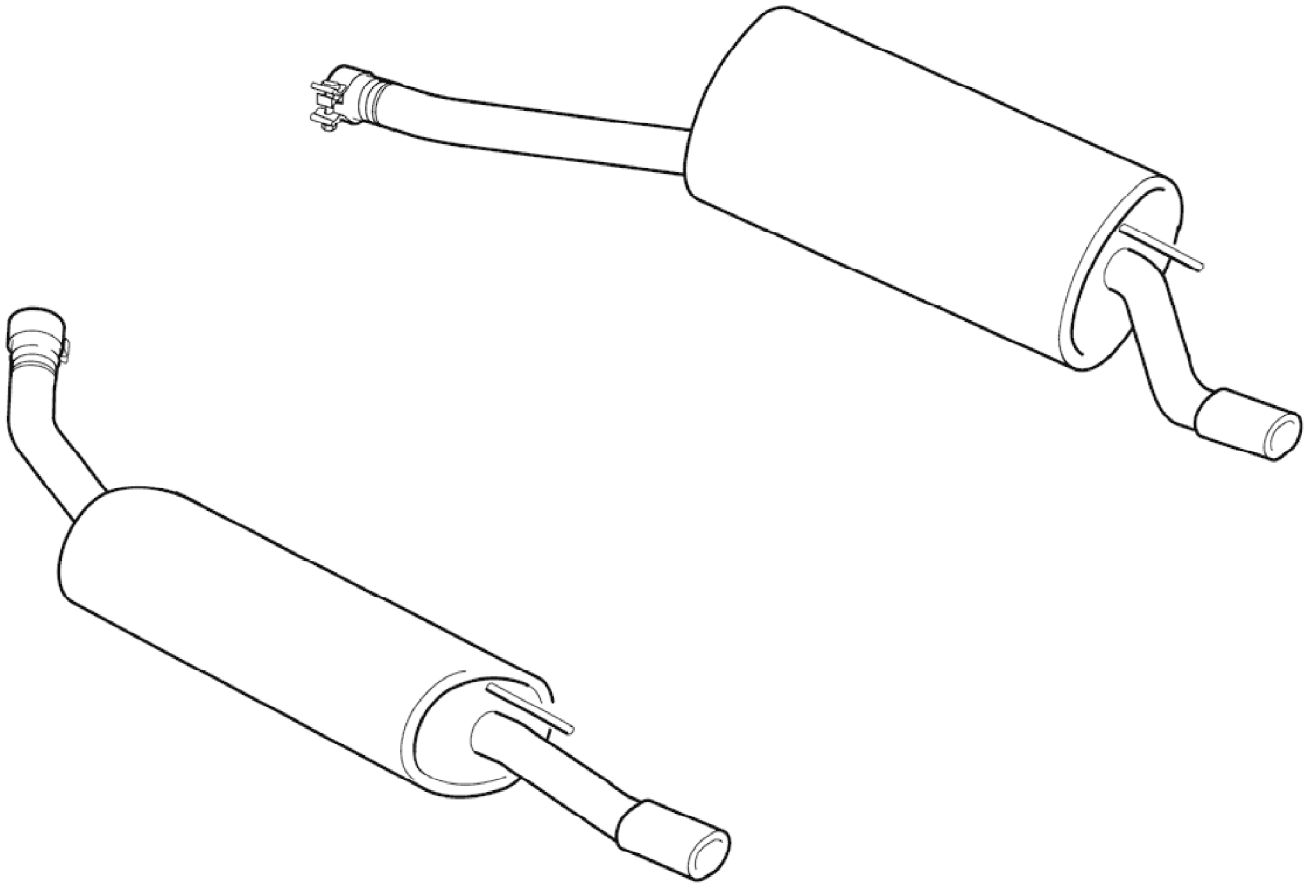


E33169

The left- and right-hand intermediate muffler assemblies comprise:

- Absorption type muffler.
- Inlet and outlet pipes welded to the muffler.

Rear Muffler Assembly

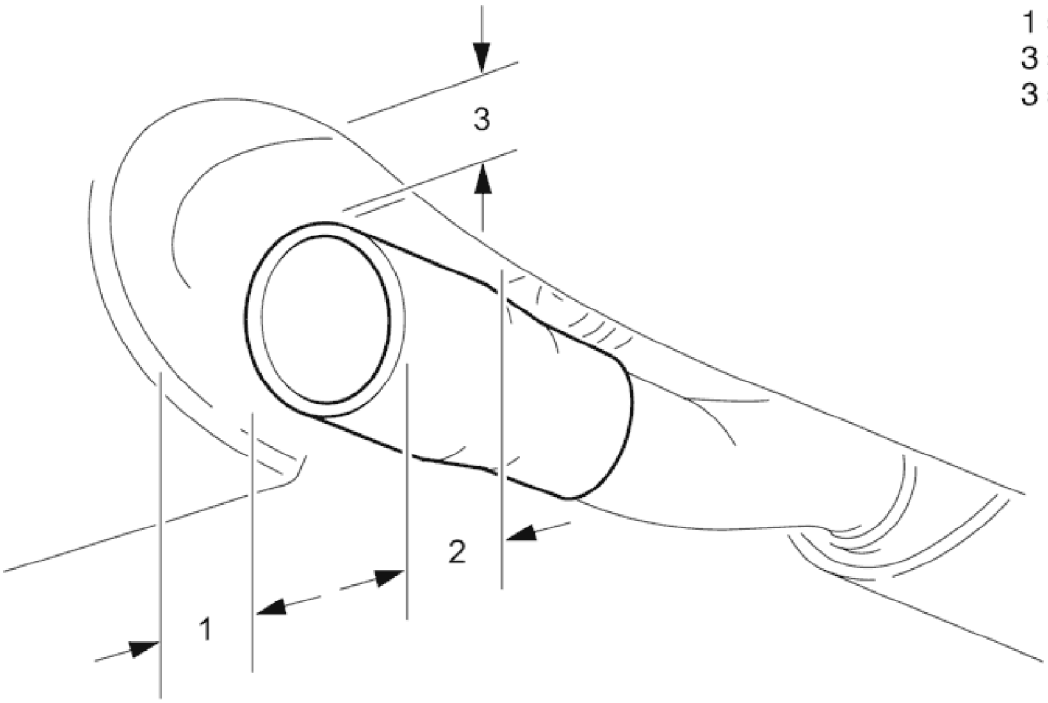


E33170

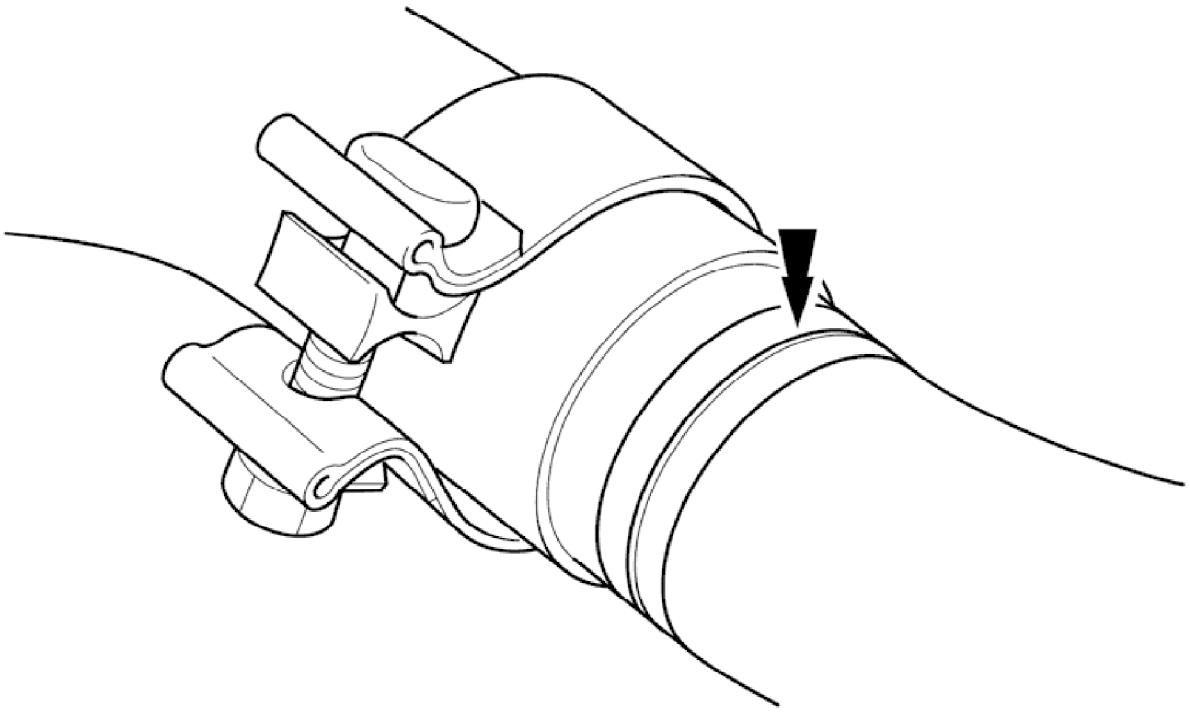
The left-hand and right-hand rear muffler assemblies comprise:

- Absorption type muffler.
- Inlet pipe and tailpipe welded to the muffler.
- Tailpipe bright finisher integral with the tailpipe.

Tailpipe Clearance to Moulded Bumper



Joints and Clamps

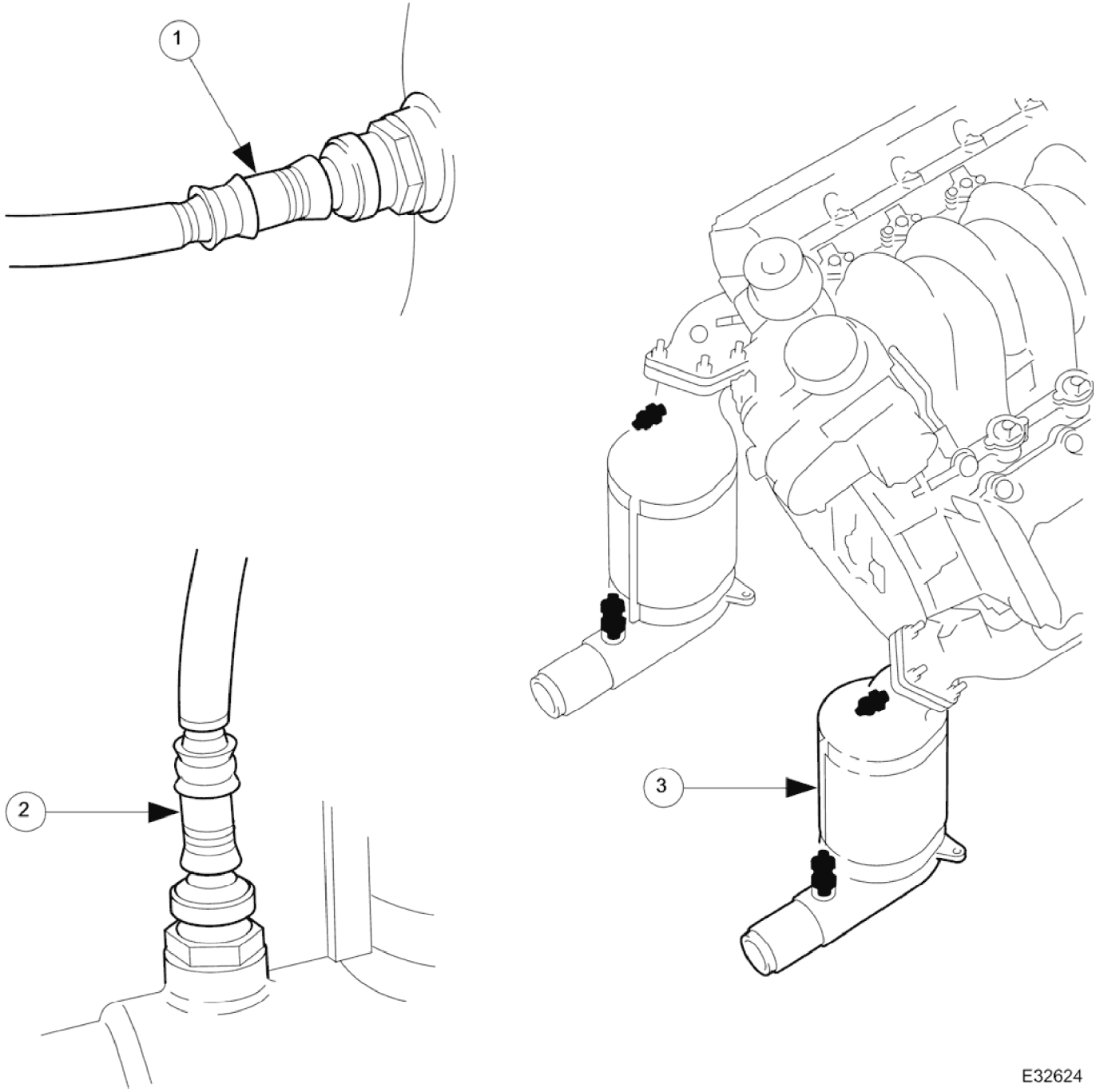


Pipe-to-pipe joints which are slip joints, feature:

- Clamping by Torca strap clamp.
- Indicator rings providing Maximum, Minimum and Nominal engagement marks.

Oxygen Sensor (O2)

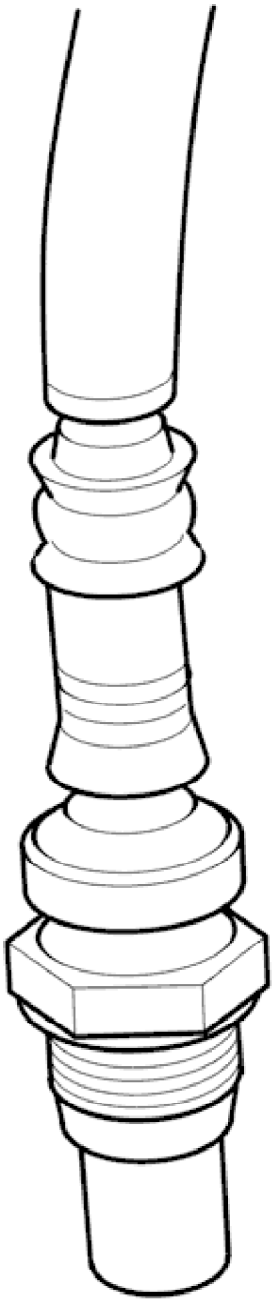
Location



Parts List

Item	Description
1	Heated oxygen sensor (upstream)
2	Oxygen sensor (downstream)
3	Catalytic converter

Operation



E34105

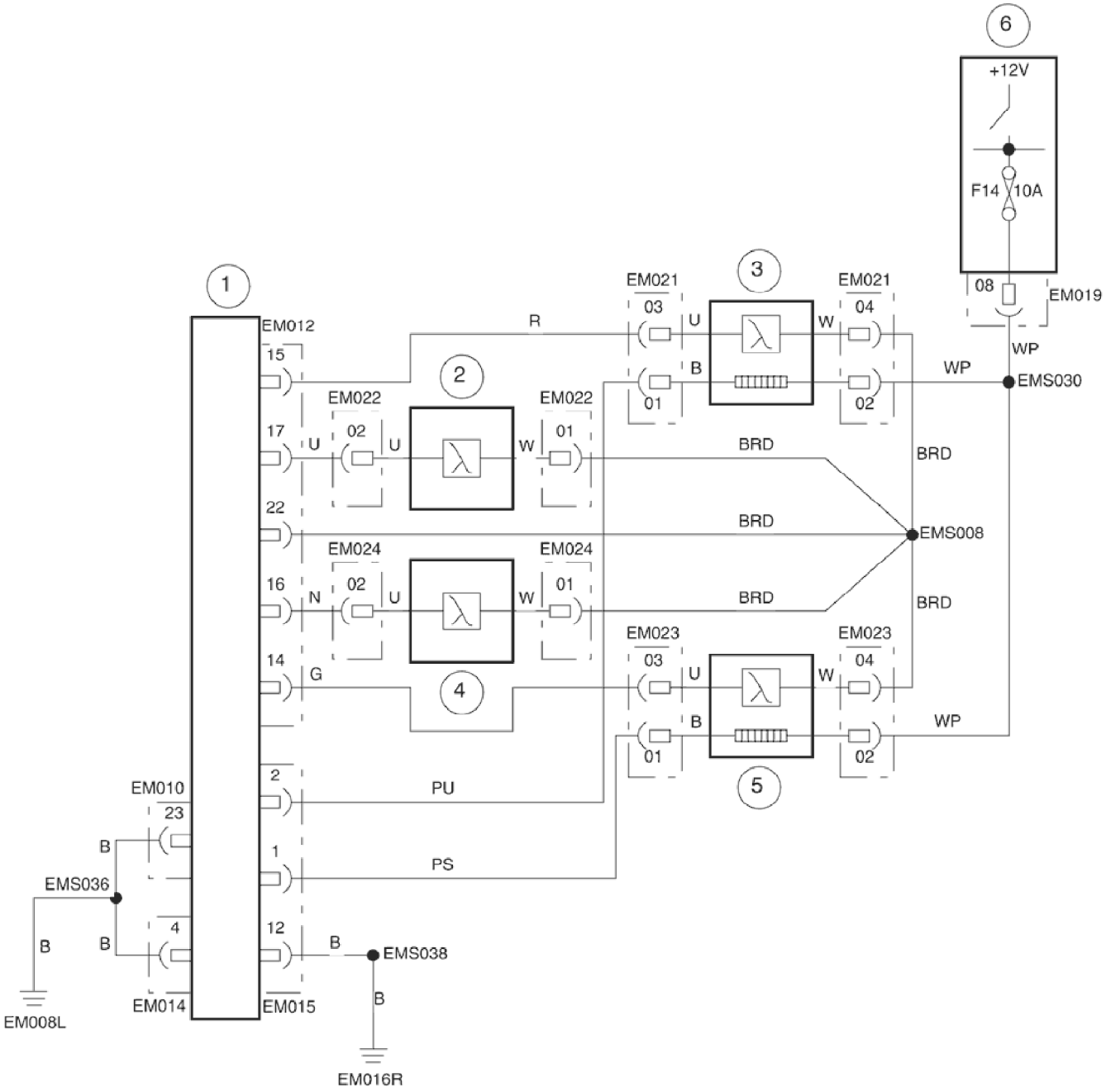
The upstream heated oxygen sensor is located at the catalytic converter inlet and detects the concentration of oxygen in the raw exhaust gases; an internal heater reduces the warm up time of the sensor output.

An oxygen sensor (without heater) is located at the converter outlet.

The ECM receives input signals from the sensors and varies the fuel injector duration (mixture) to provide optimum

gas emissions.

Circuit Diagram, O2 Sensors / ECM



Item	Description
1	ECM
2	Downstream oxygen sensor (A)
3	Upstream heated oxygen sensor (A)
4	Downstream oxygen sensor (B)
5	Upstream heated oxygen sensor (B)
6	Engine management fuse box

Inspection and Verification

Vehicle Harness Check

1. Check for open and short circuit in harness connector faults between the O2 sensor and ECM.

2. Check for approximately 12V between heater harness.

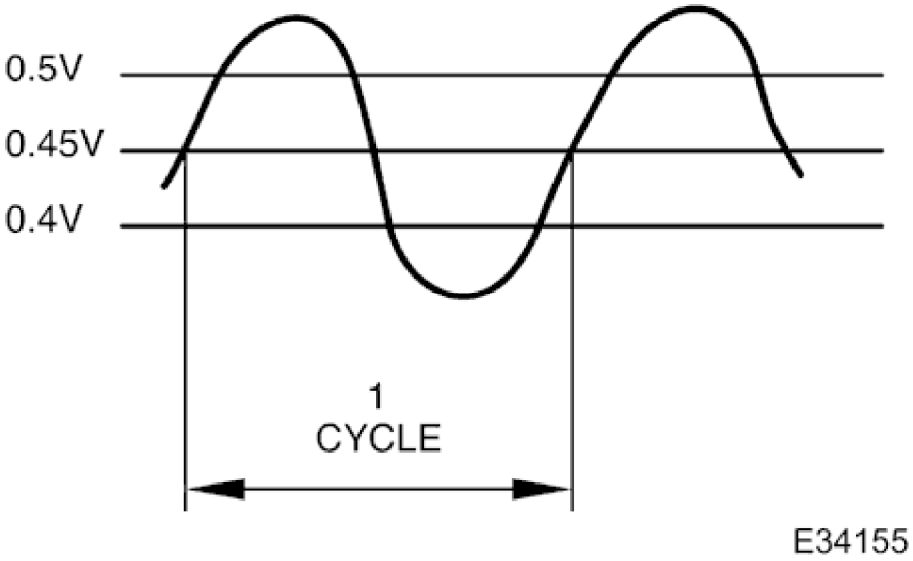
Heater Resistance Check

1. Verify that the resistance between the heater terminals is between 4OHM and 10OHM at -20°C to 100°C.

Performance Check

1. Run the engine at 2500 RPM for two minutes, to heat up the O2 sensor.

2. Check the voltage of the sensor output: Alternates between less than 0.4V at feed back engine conditions and in excess of 0.5V, see graph.



These voltages are for reference only.

3. Check that cycle of the upstream sensor output is in accordance with the appropriate pinpoint test.

4. Check that cycle of the downstream sensor output is in accordance with the appropriate pinpoint test.