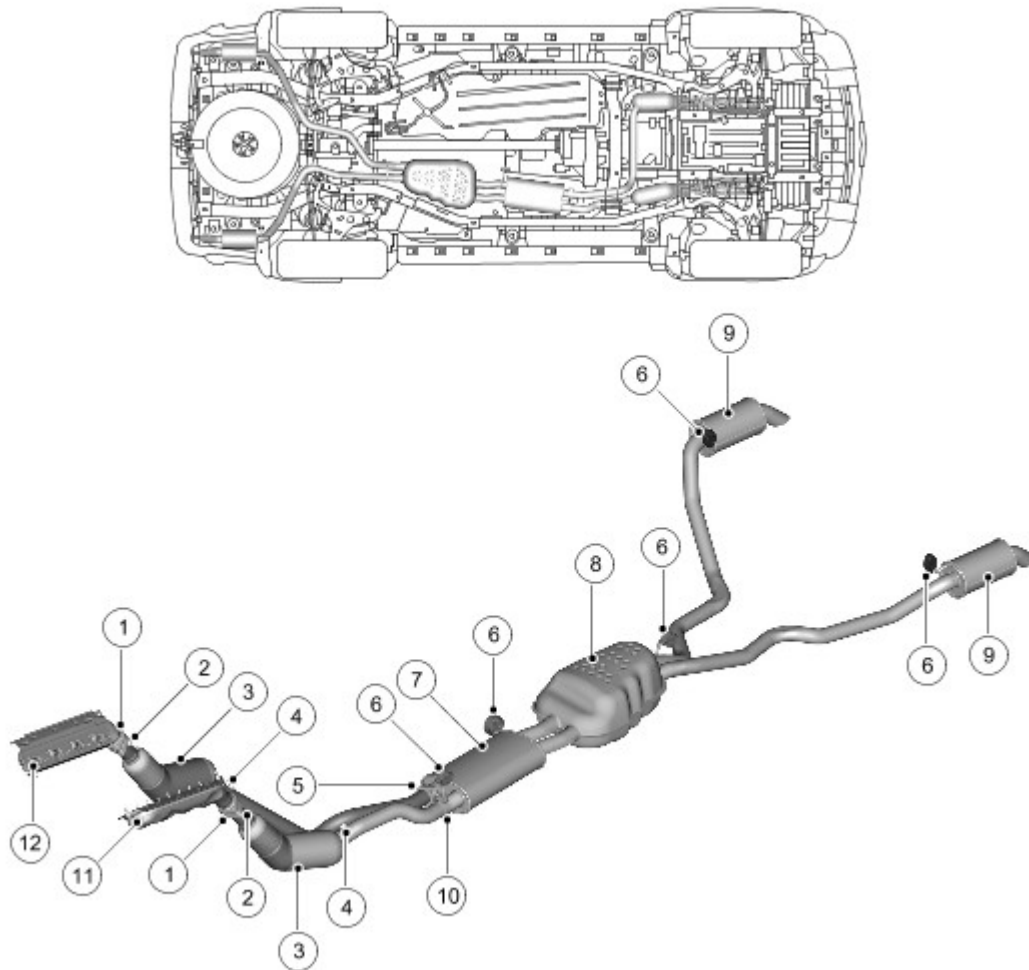




Published : Apr 8, 2005

Exhaust System

4.4L V8 Exhaust System Component Location



E43859

Item	Part Number	Description
1	-	Flange - manifold to front section
2	-	Pre catalyst heated oxygen sensor location
3	-	Catalyst
4	-	Post catalyst heated oxygen sensor location
5	-	Flange - RH front section to rear section
6	-	Mounting rubber (5 off)
7	-	Silencer - Front
8	-	Silencer - Centre
9	-	Silencer - Rear
10	-	Clamp - LH front section to rear section
11	-	LH exhaust manifold

12	-	RH exhaust manifold
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GENERAL

The 4.4L V8 exhaust system is fabricated from stainless steel and is supplied as three separate assemblies; a LH front section incorporating a catalytic converter, a RH front section incorporating a catalytic converter and a rear section incorporating a front silencer, a centre silencer and two rear silencers.

The system is attached to the underside of the body with five mounting rubbers which are located on mild steel hanger bars that are welded to the system. The mounting rubbers locate on corresponding hangers which are welded to the underside of the vehicle body. The system is routed mainly on the inside of the LH chassis longitudinal before splitting near the rear differential to exit at each side of the rear of the vehicle.

The system has service repair items available. Indentations in the rear section, between the center and the rear silencers, show the cut points for the service replacement rear silencers or front section. When a service repair section is used, the joint is connected using a sleeve and two clamps to connect the pipes at the cut points.

FRONT SECTION

Both front sections have a welded flange with two holes which provide for the attachment with two bolts onto the LH and RH exhaust manifolds. The flange is sealed by a tapered seat in the flange and a machined cone on the manifold.

The flange is welded to a short, straight pipe, which in turn is welded to the body of the catalytic converter. The pipe has a threaded boss which is welded over a hole in the pipe to provide location for the pre catalyst heated oxygen sensor (HO2S).

On the LH front section, the converter outlet pipe is a 55 mm (2.16 in) diameter tube, with a 1.5 mm (0.06 in) wall thickness, which is welded to the converter body. The rear of the outlet pipe is inserted into the flared end of the rear section. A clamp is used to compress and secure the joint.

On the RH front section, the converter outlet pipe is a 55 mm (2.16 in) diameter tube, with a 1.5 mm (0.06 in) wall thickness, which is welded to the converter body. The rear of the pipe curves left, under the transmission and then curves again to run parallel to the LH pipe. The end of the pipe has a welded flange with two holes which locate on two studs on the rear section and is secured with nuts. A metal gasket is used to seal the joint between the front and rear section flanges.

Both the LH and RH converter outlet pipes have a threaded boss which is welded over a hole in the pipe to provide location for the post catalyst HO2S.

REAR SECTION

The rear section has a short 55 mm (2.16 in) diameter tube, with a 1.5 mm (0.06 in) wall thickness, which is flared to an inside diameter of 55 mm (2.16 in) to locate the LH front section. The tube is welded to the front silencer assembly. A second short 55 mm (2.16 in) diameter tube, with a 1.5 mm (0.06 in) wall thickness, has a welded flange with captive studs to provide attachment for the flange on the RH front section. This tube is also welded to the front silencer assembly.

The front silencer comprises a single skin and two end plates which are welded together to give a capacity of 6.4 litres (390.5 in³). The silencer contains baffles and perforated tubes which reduce noise as the exhaust gases pass through the silencer. A hanger bar is welded to the front of the silencer and provides for the location of a mounting rubber.

The silencer has two short 55 mm (2.16 in) diameter outlet pipes, with a 1.5 mm (0.06 in) wall thickness, which connect to the centre silencer.

The centre silencer comprises two pressed stainless steel shells which are welded together to give a capacity of 25.2 litres (1538 in³). The silencer contains baffles and perforated tubes which reduce noise as the exhaust gasses pass through the silencer. A hanger bar is welded to the front right hand side of the silencer and provides location for a mounting rubber.

The silencer has two 60 mm (2.36 in) diameter outlet pipes, with a 1.5 mm (0.06 in) wall thickness, which are curved to pass around the rear suspension components.

Each outlet pipe terminates in a welded joint with the tail silencers. The outlet pipes have a hanger bar which provides for the location of a mounting rubber.

A hanger bar is welded to the front face of each rear silencer and provides for the location of a mounting rubber. The silencer is a circular fabrication with a baffle tube which is surrounded with glass fibre to provide further noise suppression. Each silencer has a capacity of 2.7 litres (165 in³).

The silencers each have an outlet pipe which is 60 mm (2.4 in) diameter, with a wall thickness of 1.2 mm (0.05 in). Each outlet pipe is curved downwards to direct exhaust gasses away from the rear of the vehicle.

CATALYTIC CONVERTER

The engine management system provides accurately metered quantities of fuel to the combustion chambers to ensure the most efficient use of fuel and to minimise the exhaust emissions.

To further reduce the carbon monoxide and hydrocarbons content of the exhaust gases, a catalytic converter is integrated into the front pipe of the exhaust system. In the catalytic converter the exhaust gases are passed through honeycombed ceramic elements coated with a special surface treatment called 'washcoat'. The washcoat increases the surface area of the ceramic elements by a factor of approximately 7000. On top of the washcoat is a coating containing metals, which are the active constituent for converting harmful emissions into inert by-products. The metals add oxygen to the carbon monoxide and the hydrocarbons in the exhaust gases, to convert them into carbon dioxide and water respectively.