

Catalyst And Exhaust Systems

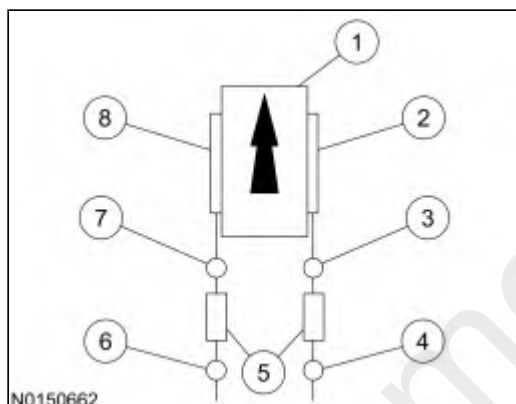
Overview

The catalytic converter and exhaust systems work together to control the release of harmful engine exhaust emissions into the atmosphere. The engine exhaust gas consists mainly of nitrogen (N), carbon dioxide (CO₂) and water (H₂O). However, it also contains carbon monoxide (CO), nitrogen oxides (NO_x), hydrogen (H), and various unburned hydrocarbons (HCs). The major air pollutants of CO, NO_x, and HCs, and their emission into the atmosphere must be controlled.

The exhaust system generally consists of an exhaust manifold, a front exhaust pipe, a universal heated oxygen sensor (HO2S), a rear exhaust pipe, a catalyst HO2S, a muffler, and an exhaust tailpipe. The catalytic converter is typically installed between the front and rear exhaust pipes. On some vehicle applications, more than one catalyst is used between the front and rear exhaust pipes. Catalytic converter efficiency is monitored by the on board diagnostic (OBD) system strategy in the PCM. For additional information on the OBD catalyst monitor, refer to the description for the [Catalyst Efficiency Monitor](#) in this section.

Only 2 heated oxygen sensors are used in an exhaust stream. The universal HO2S is before the catalyst (universal HO2S11 or universal HO2S21) and used for primary fuel control while the rear HO2S is after the catalyst (HO2S12 or HO2S22) and used to monitor catalyst efficiency.

Typical V Engine



Item	Number	Description
1	—	Engine
2	—	Bank 1 Exhaust Manifold
3	—	Universal HO2S11
4	—	HO2S12
5	—	Catalytic Converter
6	—	HO2S22
7	—	Universal HO2S21
8	—	Bank 2 Exhaust Manifold

Typical Inline Engine