

# Reasons For Catalytic Converter Failure

***NOTE: Failures caused by these problems are not covered by the warranty.***

## Engine Tune Up Required

A number of catalytic converter problems can occur as a result of an engine that is out of tune. Any time an engine is operating outside proper specifications, unnecessary wear and damage may be caused to the catalytic converter as well as the engine itself. The damage is often the result of an incorrect air/fuel mixture, incorrect timing, or misfiring ignition system, often caused by faulty plugs, wires or coils. Any of these conditions could lead to a catalytic converter failure or worse.

## Excess Fuel Entering Exhaust

The fuel that powers the vehicle is meant to burn in the combustion chamber only. Any fuel that leaves the combustion chamber unburned will enter the exhaust system and light-off when it reaches the catalytic converter. This can super-heat the converter far above normal operating conditions and cause a Converter Meltdown. This can happen even when the engine seems to be running properly. Possible causes for excess fuel entering the converter are an incorrect fuel mixture, incorrect timing, defective spark plugs, a faulty oxygen sensor, sticking float, faulty fuel injector or a malfunctioning check valve.

## Oil or Antifreeze Entering Exhaust

Oil or Antifreeze entering the exhaust system can block the converter's air passages by creating heavy carbon soot that coats the ceramic catalyst. These heavy Carbon Deposits create two problems. First, the carbon deposits prevent the catalytic converter from reducing harmful emission in the exhaust flow. And second, the carbon deposits clog the pores in the ceramic catalyst and block exhaust flow, increasing backpressure and causing heat and exhaust to back up into the engine compartment. Your engine may actually draw burnt exhaust gasses back into the combustion chamber and dilute the efficiency of the next burn cycle. The result is a loss of power and overheated engine components. Possible causes for oil or antifreeze entering the exhaust system are worn piston rings, faulty valve seals, failed gaskets, or warped engine components.

## Oxygen Sensor Not Functioning Properly

An oxygen sensor failure can lead to incorrect readings of exhaust gasses. The faulty sensor can cause a too rich or too lean condition. Too rich and the catalyst can melt down. Too lean and the converter is unable to convert the hydrocarbons into safe elements and may not pass an emission inspection.

## Road Damage

The ceramic catalyst inside a catalytic converter is made from a light-weight, thin-walled, fragile material. It is protected by a dense, insulating mat. This mat holds the catalyst in place and provides moderate protection against damage. However, road debris striking the converter or improper or a broken exhaust system support can cause a Catalyst Fracture. Once the ceramic catalyst is fractured, the broken pieces become loose and rattle around and break up into smaller pieces. Flow is interrupted and backpressure in the exhaust system increases. This leads to heat build up and loss of power. Possible causes of a catalyst fracture are road debris striking the converter, loose or broken hangers, potholes or off-road driving.

## PHYSICAL FAILURES

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### Road damage

Road damage: caused from road debris striking the converter and causing internal damage. If the brick(s) is not in one piece and in the proper position inside the converter body, the converter cannot work properly.



### Rust / corrosion

If the converter body, pipes, or seams are not fully intact, untreated exhaust gases can bypass the converter.



## THERMAL FAILURES

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### Melted brick

A melted brick is usually caused by raw fuel entering the converter and superheating the substrate. Once the brick melts, it crumbles into small pieces that can be heard rattling in the converter.



### Plugged brick / Burned converter

A brick that has been plugged up or a converter body that shows signs of overheating may indicate that the exhaust temperature is too hot. An engine that's running too lean can be one cause of overheated exhaust.



## CHEMICAL FAILURES

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### Contaminated brick

When oil or antifreeze get into the exhaust, they can coat the substrate, preventing the converter's chemical reaction from taking place. Some fuel additives can have the same effect. Also, excess unburned fuel can enter the converter and coat the brick.



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