

Subject		Market	
O2 and/or A/F Sensor DTC's Related to Exhaust Leaks		USA	
Service Category	Section		
Engine/Hybrid System	Intake/Exhaust		
Applicability			
Multiple models equipped w/2GR-FKS/FXS			

APPLICABLE VEHICLES

2017-2022	Highlander	2017-2019	Highlander HV
2016-2022	Tacoma	2017-2020	Sienna
2018-2022	Camry	2019-2022	Avalon

CONDITION

The purpose of this Tech Tip is to provide diagnostic tips to prevent misdiagnosis of the following DTC's and prevent repeat repairs.

One or more of the Heated Oxygen Sensors (O2) or Air Fuel ratio sensor (A/F) DTCs below could set due to a leaking exhaust system. If you encounter a vehicle with any of these DTCs

DTC	DTC Description
P013A00	O2 Sensor Slow Response - Rich to Lean Bank 1 Sensor 2
P013C00	O2 Sensor Slow Response - Rich to Lean Bank 2 Sensor 2
P042000	Catalyst System Efficiency Below Threshold Bank 1
P043000	Catalyst System Efficiency Below Threshold Bank 2

Please use these diagnostic tips to evaluate the exhaust system and confirm there are no leaks before continuing your diagnostics.

There are three primary concern areas for exhaust leaks:

- Poor, or incomplete welds (Pg. 2)
- Pipe alignment (Pg. 3)
- Missing, or damaged gaskets (Pg. 4)

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RECOMMENDATIONS

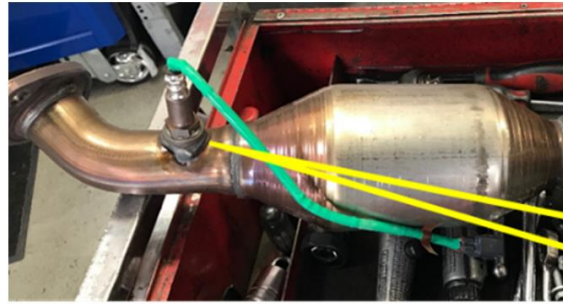
Exhaust Weld Inspection

Pin hole leaks in welds can be especially difficult to locate.

If a weld does not have a consistent bead, chances of a pinhole are high.

Pinholes in the sensor mounting boss, or upstream will introduce unmetered oxygen into the exhaust and give a false (typically lean) reading.

- Check welds for inconsistent beads
 - If this condition occurs, remove sensor and replace pipe.
 - Sensor can be reused in this case



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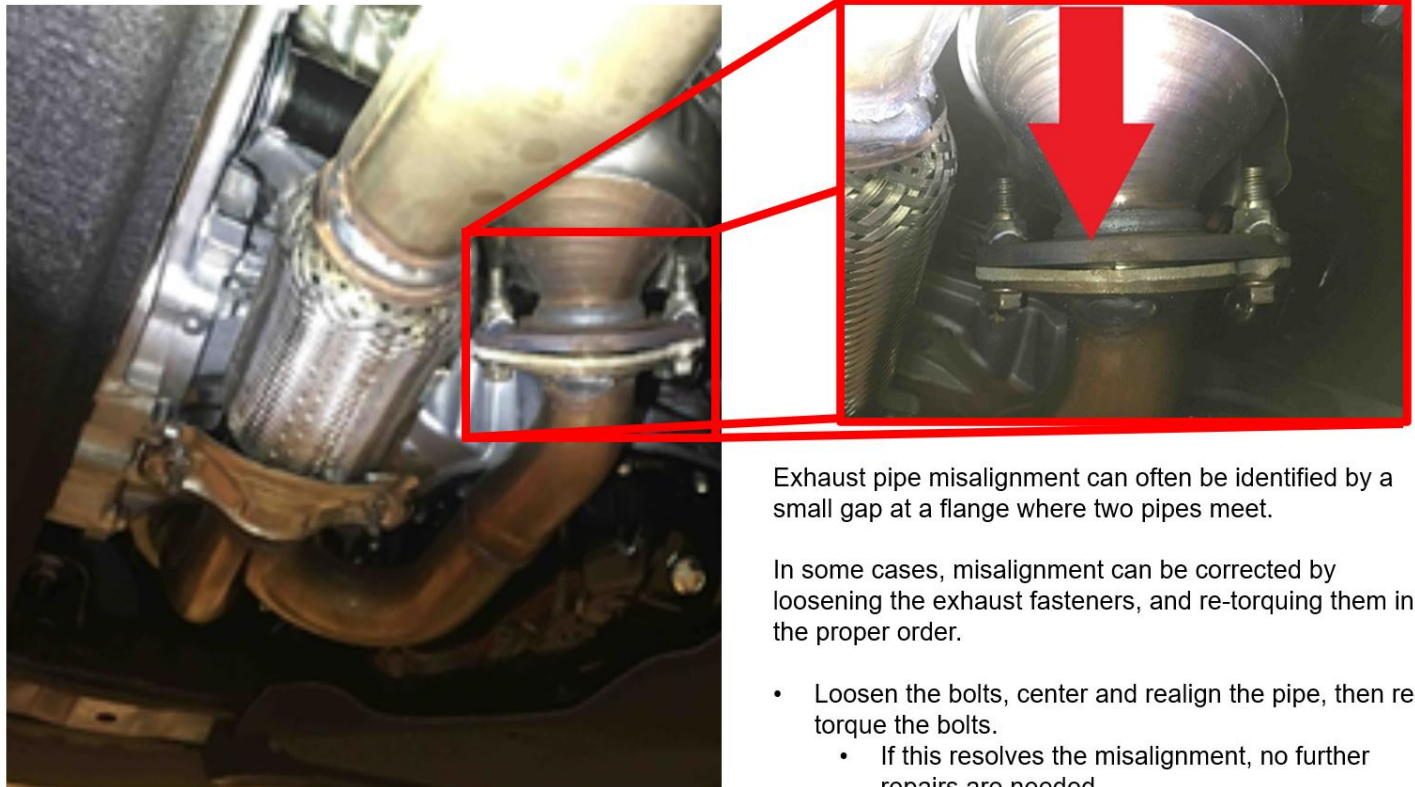
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Exhaust Pipe Misalignment



Exhaust pipe misalignment can often be identified by a small gap at a flange where two pipes meet.

In some cases, misalignment can be corrected by loosening the exhaust fasteners, and re-torquing them in the proper order.

- Loosen the bolts, center and realign the pipe, then re-torque the bolts.
 - If this resolves the misalignment, no further repairs are needed.
 - If the gap remains, pipe replacement will likely be necessary.

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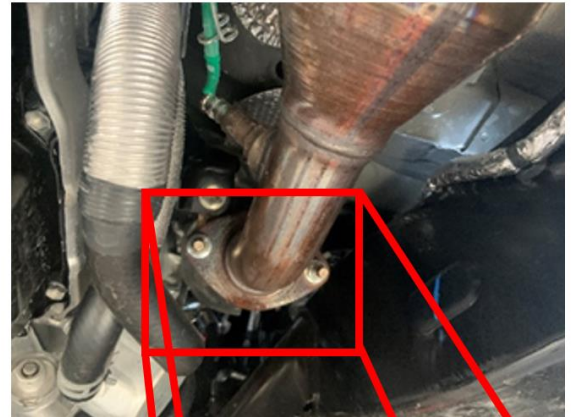
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Exhaust Gasket Leaks

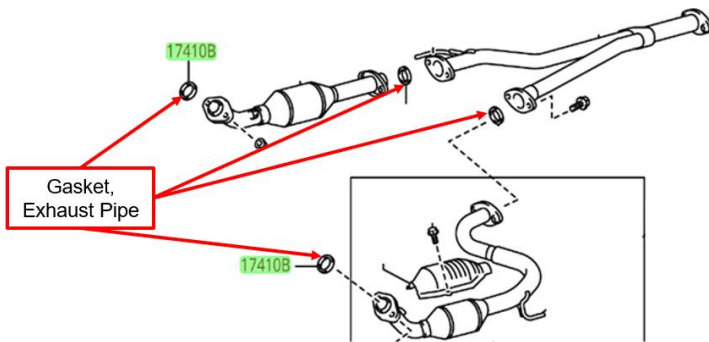
Exhaust pipe to pipe flange connection typically employ a gasket to seal the joint. If the gasket is missing or damaged, a leak will result.

In most cases a new gasket can be installed in the location of the leak.

- Check for presence of gasket
- If missing, install new gasket



Gasket is missing



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LINK REFERENCES

This Tech Tip does not contain any link references