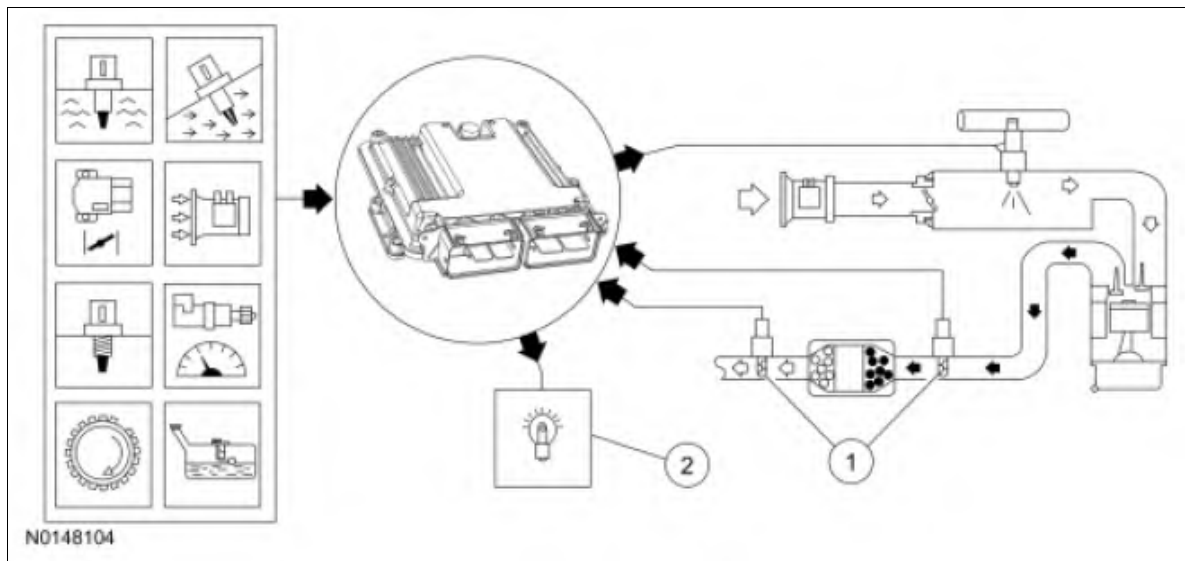


Fig 1: Catalyst Efficiency Monitor Flow Diagram



Courtesy of FORD MOTOR CO.

CATALYST EFFICIENCY MONITOR > INTEGRATED AIR FUEL CATALYST MONITOR

The integrated air fuel catalyst monitor is an on board strategy designed to monitor the oxygen storage capacity of the catalyst after a deceleration fuel shut off (DFSO) event. The monitor determines the amount of fuel needed to drive the catalyst to a rich condition when starting from an oxygen saturated, lean condition. The monitor is a measure of how much fuel is required to force the catalyst from a lean to a rich condition. The monitor runs during fuel reactivation following a DFSO event. The monitor completes after a calibrated number of DFSO monitoring events have occurred.

COLD START EMISSION REDUCTION MONITOR > OVERVIEW

The cold start emission reduction monitor is an on board strategy designed for vehicles that meet the low emissions vehicle-II (LEV-II) emissions standards. The monitor works by detecting the lack of catalyst warm up resulting from a failure to apply sufficient cold start emission reduction during a cold start. There are 2 types of monitors:

- cold start emission reduction component monitor
- cold start emission reduction system monitor

COLD START EMISSION REDUCTION MONITOR > COLD START EMISSION REDUCTION COMPONENT MONITOR

The engine speed monitor and the spark timing monitor are carried out during the cold start emission reduction component monitor. The engine speed monitor checks the average difference between the actual and desired engine speeds. The spark timing monitor compares the average difference between desired and commanded spark to a calibrated threshold.