

- Knock Sensor Codes
- Lean Codes (Fuel Trim)
- MAF (airflow) Sensor Codes
- MAP Sensor Codes
- Misfire (No Codes)
- Misfire Codes (Cyl #)
- Misfire (Random)
- Monitor Readiness
- O2 Sensor Codes
- Rich Codes (Fuel Trim)**
- Stalling
- Throttle Position Sensor Codes
- Won't Start (No crank)
- Vacuum Leak

RICH CODES

Rich codes may be due to excessive fuel pressure, bad MAP sensor or dirty mass airflow (MAF) sensor.

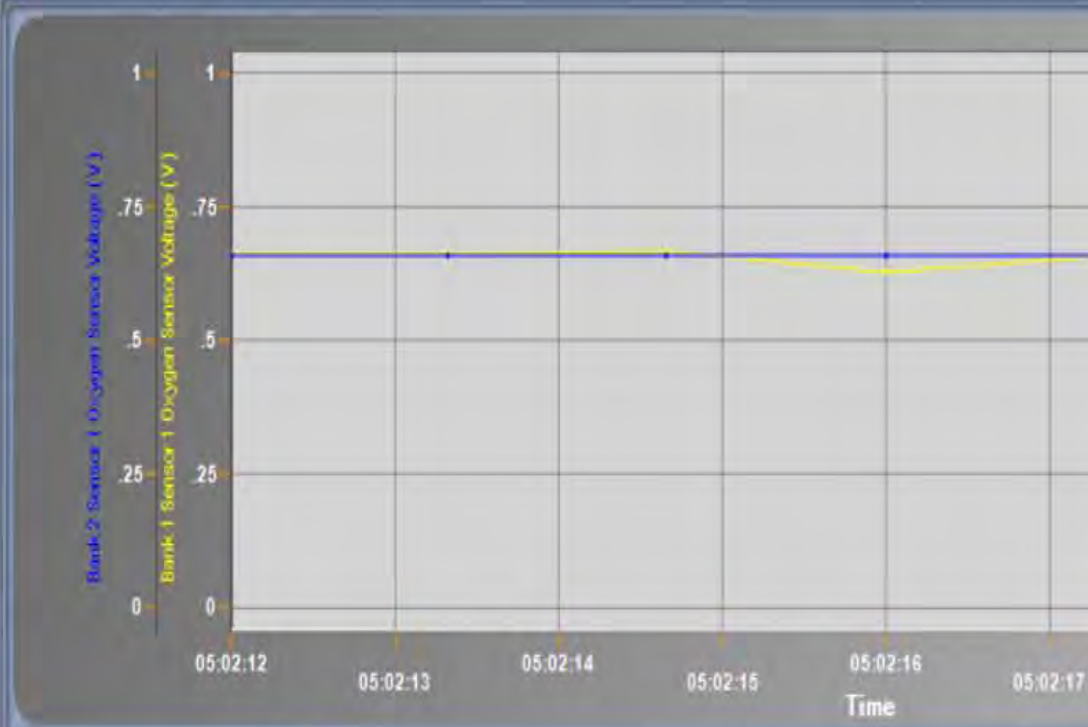
Look at fuel trim. If fuel trim is rich (negative 12 or more), a rich fuel condition is confirmed. Fuel trim should normally be within plus or minus 8 range.

Look at O2 sensor inputs. If O2 readings are high (RICH), this also confirms a rich fuel condition.

Look at loop status. Engine should be running in CLOSED LOOP when it is at normal operating temperature. If running in OPEN LOOP when engine is warm, fuel mixture will be too rich.

Look at MAP input. MAP sensor should show high vacuum at idle and lower vacuum at wide open throttle. If little or no change in MAP reading when revving engine, check for loose or plugged vacuum hose to MAP sensor. If hose okay, replace MAP sensor.

Check fuel pressure with a gauge or look at PID (if vehicle supports PID). If pressure is higher than specifications, problem is bad fuel pressure regulator or plugged fuel filter. See how to test.



PID Name	
Fuel System Monitor	Completed
Fuel System1 Status	Closed Loop-using oxygen
Fuel System2 Status	Closed Loop-using oxygen
Engine Coolant Temperature	228.6 °F
Short Term Fuel Trim - Bank 1	0 %
Long Term Fuel Trim - Bank 1	7.03125 %
Short Term Fuel Trim - Bank 2	-5.555555 %
Long Term fuel Trim - Bank 2	-28.90625 %
Bank 1 Sensor 1 Oxygen Sensor Voltage	0.66 V
Bank 1 Sensor 1 Short Term Fuel Trim	0 %
Bank 2 Sensor 1 Oxygen Sensor Voltage	0.66 V
Bank 2 Sensor 1 Short Term fuel Trim	0.70125 %