PERMANENT DIAGNOSTIC TROUBLE CODES (PDTC) IMPLEMENTATION UPDATE



GREG COBURN
ENGINEERING AND RESEARCH BRANCH
BAR ADVISORY GROUP
OCTOBER 17, 2019

PDTC UPDATE

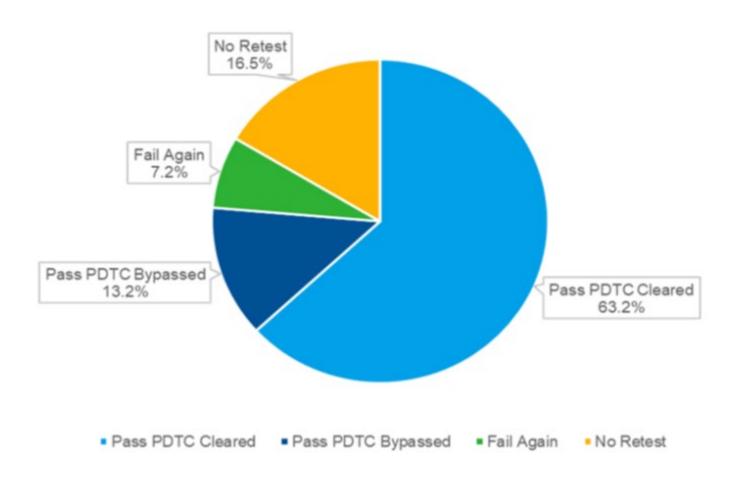
- Implemented: July 1, 2019
- Standard: 15 warm-up cycles and 200 miles since code clear
 - Allows time for codes to clear/reset
 - Continuing to evaluate if this standard is working
- Program Note: Half of the vehicles had 4 or fewer warm-ups and traveled less than 40 miles since codes last cleared
 - Evaluating how to reduce reliance on readiness monitors when no PDTCs are present
 - When no PDTCs are present, could readiness monitors be considered complete?
 - Ongoing analysis to identify manufacturer PDTC implementation issues

STATUS OF PDTC FAILURES

- 2010 and newer Model Year inspections: 225,712
 - o Fails (without PDTCs): 9,530 4.2%
 - PDTC-only Fails: 3,124 1.4%
 - Combined Fails: 12,654 5.6%
- Approximately 100 PDTC failures per day
- Increased failure rate for 2010 and newer vehicles by 1/3

PDTC FAILING VEHICLE OUTCOMES

July 1 – August 31, 2019



PDTC TOP 5 FAILURE REASONS

- 425 EVAP very small leak detected (P0456)
- 265 EVAP small leak detected (P0442)
- 157 Mass Air Flow Sensor Circuit (P0101)
- 128 Thermostat (PO128)
- 118 Mass Air Flow Censor Circuit (P0102)

Note: 42% of the PDTC failures are related to EVAP

EXAMPLE OF MODIFIED VEHICLE IDENTIFIED BECAUSE OF PDTCS

| YEAR | MODEL | | | | | MIL | | |
|--------|-------|-----------|----------------------|--------|---------------|---------|---------|----------|
| TESTED | YEAR | MAKE | MODEL | RESULT | PDTC | STATUS | WARMUPS | DISTANCE |
| 2016 | 2011 | CHEVROLET | CORVETTE GRAND SPORT | PASS | | MIL_OFF | 2 | 18 |
| 2017 | 2011 | CHEVROLET | CORVETTE GRAND SPORT | PASS | P0420 P0430 | MIL_OFF | 1 | 25 |
| 2019 | 2011 | CHEVROLET | CORVETTE GRAND SPORT | FAIL | P0420 P0430 | MIL_OFF | 1 | 57 |

- This vehicle has bad or no catalytic converters (P0420/P0430)
- The MIL will illuminate soon after the monitors run
- For past 3 inspection cycles, a code clear has been performed just prior to the test
- Vehicle passed in 2017 with PDTCs present
- In July 2019, presence of PDTCs caused vehicle to fail

QUESTIONS AND COMMENTS

Submit questions and/or comments to:

Greg Coburn

Bureau of Automotive Repair

10949 N. Mather Boulevard

Rancho Cordova, CA 95670

Email: greg.Coburn@dca.ca.gov