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2018 CarMD® Vehicle Health Index™ Reveals U.S. Check Engine-Based Vehicle Repair Costs Are Down 10 Percent

Leading Causes for Check Engine Light Reduce Fuel Economy as Gas Prices Rise

IRVINE, Calif. (Apr. 25, 2018) – [CarMD](#), a leading provider of automotive diagnostic business solutions and data licensing, today released its nationally known **2018 CarMD® Vehicle Health Index™ (VHI)** report. This VHI report provides an overview of information related to check engine-related car repairs, costs and auto care trends.

The report revealed that the average cost to repair a check engine light-based incident fell 10 percent year-over-year in 2017. This is comprised of a 13 percent dip in labor charges and an 8 percent reduction in parts costs based on the vehicles inspected. The report also found that a faulty oxygen sensor, which negatively impacts fuel economy if left unrepaired, remains the most common reason vehicles experience a check engine light. CarMD further found that vehicle age impacts the type, cost and frequency of repairs, with a loose gas cap most likely to trigger a check engine light on a model year 2017 vehicle, while faulty ignition coils are most common on 2007 vehicles.

“We are encouraged by the drop in check engine light repair costs and a lower percentage of costly catastrophic repairs, which is an indication that drivers across the country are taking car maintenance and check engine light repairs seriously and vehicles are becoming more reliable,” said David Rich, CarMD’s Technical Director. “As the summer driving season approaches and gas prices inch past \$3.00 per gallon CarMD reminds vehicle owners that when the check engine light is on, even if your car seems to be driving fine, it will suffer from reduced fuel economy. It’s important to have it looked at as soon as possible – especially if the check engine light is blinking, which can indicate a serious problem.” Vehicle owners can access CarMD Garage, a free online service to see upcoming maintenance services due, at www.carmd.com/garage.

CarMD found that the average cost to repair a check engine problem in the U.S. in 2017 was \$357 including parts (\$216) and labor (\$141), which is down 15 percent from its \$422 high in 2006 but still 7 percent above the 10-year low of \$334 in 2011. The five most common problems found to trigger the check engine light were 1) oxygen sensor, 2) ignition coil and spark plug, 3) catalytic converter, 4) loose or damaged fuel cap and 5) EVAP purge control valve. They range in cost from \$26 to replace an OE gas cap to \$1,271 on average for a new OE catalytic converter. Car repairs and associated costs can be affected by region, maintenance decisions of previous owners, the time it takes for the automotive technician to perform the repairs, as well as the vehicle’s age.

The 2018 CarMD Vehicle Health Index analyzed repairs needed on 7,167,314 in-use vehicles reported to and validated by CarMD’s network from Jan. 1, 2017 to Dec. 31, 2017. The full Index, including the 10 most common check engine-related repairs, 10-year history of U.S. car repair costs, list of most common repairs by region, and 10 least/most expensive repairs is available at <https://www.carmd.com/wp/vehicle-health-index-introduction/2018-carmd-vehicle-health-index/>.

Below are highlights from this year’s report:

- According to CarMD, during 2017 the following were the five most common check engine light-related car repairs and associated average repair costs, including parts and labor, on 1996 to 2017 model year vehicles. If left unrepaired, each can negatively impact fuel economy and harm the environment.
 1. Replace oxygen sensor, 5.90 percent of repairs, \$238
 2. Replace ignition coil(s) and spark plug(s), 5.66 percent of repairs, \$367
 3. Replace catalytic converter, 5.09 percent of repairs, \$1,271
 4. Tighten or replace fuel cap, 4.35 percent of repairs, \$26
 5. Replace evaporative emissions (EVAP) purge control valve, 4.35 percent of repairs, \$147

- The type and frequency of fix affects the average cost to repair.
 - o Replace EVAP purge control valve, a repair that costs \$147 on average, moves into the list of five most common repairs – edging out replace mass air flow sensor, which is a \$340 repair at an auto shop or dealership.
 - o Replace catalytic converter drops from the second most common repair to the third spot, accounting for just 5 percent of needed repairs in 2017 versus over 6.5 percent of repairs the previous year.

- Vehicle age affects the likelihood and type of check engine light repair incidents.
 - o 2017 – The most common cause of a check engine problem on a 2017 vehicle is a loose or missing gas cap, accounting for nearly 20 percent of check engine light issues on these newer cars and trucks.
 - Model year 2017 vehicles accounted for less than 1 percent of vehicles reported to CarMD as needing check engine repairs in 2017.
 - The average cost to replace a gas cap on a 2017 vehicle is \$23, which is \$3 less than the national average for this part.
 - o 2007 – The most likely cause of a check engine problem on a 10-year-old model year 2007 vehicle are faulty ignition coils, accounting for 6 percent of repairs on 2007 vehicles.
 - Model year 2007 vehicles accounted for 10 percent of vehicles presented to CarMD as needing check engine repairs in 2017.
 - The average cost to replace ignition coils and spark plugs on a 2007 vehicle last year was \$368.
 - o 1997 – The most frequent check engine light repair for a 20-year-old model year 1997 vehicle is a faulty oxygen sensor, accounting for 10 percent of fixes for 1997 model year vehicles.
 - Model year 1997 vehicles accounted for 5.5 percent of vehicles diagnosed as needing check engine repairs in 2017.
 - The average cost to replace an O2 sensor on a 1997 vehicle is \$228.

[Click here](#) to view the detailed 2018 CarMD® Vehicle Health Index™ report. For additional information, including customizable reports, contact data@carmd.com or visit this link: <https://www.carmd.com/wp/vehicle-data-services/>.

About CarMD

Based in Irvine, Calif., CarMD is a leading provider of automotive diagnostic business solutions and data licensing. CarMD specializes in hardware products and technology services that leverage and empower the capabilities of the on-board diagnostics (OBD2) port. CarMD has worked with a network of ASE-certified technicians to build and validate the most comprehensive database of OBD2-related expert repairs and associated costs from which CarMD draws its Vehicle Health Index™. This Index is released each April in conjunction with National Car Care Awareness Month to provide vehicle owners and the industry with a comprehensive and independent report on vehicle repair trends. For information on CarMD's products and third-party software service solutions, visit www.carmd.com.

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Check Engine Light Insight

AT A GLANCE



Ignored Check Engine Light



Increased CO2 and Gas Consumption



Added Problems/Cost Down the Road

The **check engine light** is designed to come on when a vehicle's computer sees a problem that affects emissions or drivetrain issues. It can be caused by something simple like a loose gas cap or severe such as engine failure. If ignored, it will hurt the environment, the car's fuel economy and lead to more problems down the road.

Don't panic when the check engine light comes on, but get it diagnosed as soon as possible. Be aware that a blinking or flashing check engine light can indicate a more serious problem such as an engine misfire that needs immediate attention from roadside assistance.

Get Diagnosed

Diagnostic trouble codes (DTCs) are **5-digit alphanumeric codes** that identify the vehicle's trouble area and can help identify why the check engine light came on.

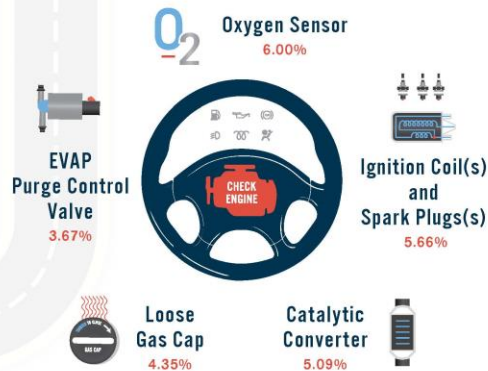


The first character is a letter that defines the main system where the problem occurred. The second character is a number that identifies the type of code. The third IDs the affected system, and the fourth and fifth characters define the section of the system that's malfunctioning.

The most common DTC in 2017 was **P0420**, which indicates Catalyst B1 Deterioration that often signifies a faulty oxygen sensor or catalytic converter.

5 Most Common Check Engine Repairs

Percentage of Repairs in 2017



THE GOOD NEWS!

U.S. car repair costs were **down 10%** year-over-year from 2016 to 2017 for cars needing check engine parts and labor. The average cost - \$357



DECREASE IN TOTAL AVERAGE REPAIR COSTS
(PARTS AND LABOR)

\$358.05	\$361.11	\$357.71	\$362.17
WEST REGION	MIDWEST REGION	SOUTH REGION	NORTHEAST REGION



For more information about check engine light health, visit www.carmd.com

Source: 2018 CarMD® Vehicle Health Index™, based on 7,167,314 check engine light issues reported to CarMD in calendar year 2017 on 1996-2017 model year vehicles in the U.S.