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## **2019 CarMD® Vehicle Health Index™ Finds Ignition Coils, Spark Plugs and O<sub>2</sub> Sensors Tie for Most Commonly Diagnosed Check Engine Repair**

### **Car Repair Costs Were Up Across All U.S. Regions in 2018**

**IRVINE, Calif. (Apr. 24, 2019)** – [CarMD](#), a leading provider of automotive diagnostic data and business solutions, today released its 2019 CarMD® Vehicle Health Index™ report. This annual VHI report provides an overview of information related to check engine-related car repairs, costs and trends.

The report found that in 2018 – for the first time since CarMD has reported these rankings – there was a tie in the no. 1 most commonly diagnosed check engine light repair with “replace ignition coil(s) and spark plug(s)” and “replace oxygen sensor” each accounting for 5.81% of repairs. This past year, U.S. vehicle owners also saw a 6.5% year-over-year increase in the average cost to repair check engine light issues with costs up across all four U.S. regions.

“Several factors impact the type and cost of repairs, including vehicle age, driving conditions, upkeep and how often a driver addresses a dashboard warning light, which can snowball from a single faulty spark plug into the need for additional repairs if ignored,” said Leon Chen, CEO of CarMD. “By monitoring industry trends we hope to educate drivers about the importance of repair and maintenance. Likewise, as our data reports an increase or decrease in a particular repair, automotive service professionals can adjust their customer communication and parts inventory accordingly.”

Rounding out the five most common problems found to trigger the check engine light after ignition coil and spark plug, and O<sub>2</sub> sensor were 3) catalytic converter, 4) loose or damaged fuel cap and 5) ignition coil (without sparkplug replacement). There was a slight increase in ignition coil issues, while slightly fewer mass air flow sensor, oxygen sensor and EVAP purge control valve replacements in 2018. Spark plugs and ignition coils work together to help the engine start, and keep running. Faulty spark plugs can trigger ignition coil failure, which is why they are often replaced simultaneously. High underhood temperatures and age can also cause them to fail.

CarMD found that the average cost to repair a check engine problem in the U.S. in 2018 was \$381 including parts (\$224) and labor (\$157), representing an 11% increase in labor and 3.5% uptick in parts costs. Repair costs were up across all regions of the U.S., with the West seeing the largest increase (8%) and Midwest only seeing a 1% increase. Vehicle owners in the West paid the most for check engine-related car repairs (\$387) – nearly 6% more than drivers in the Midwest, who paid the least (\$366). The most common repair in the West, Midwest and Northeast was “replace oxygen sensor(s)” while it was “replace ignition coil(s) and spark plug(s)” in the South.

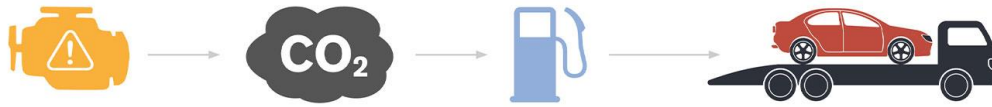
The 2019 CarMD Vehicle Health Index analyzed repairs needed on 7,167,314 in-use vehicles reported to and validated by CarMD’s network from Jan. 1, 2018 to Dec. 31, 2018. The full Index, including the 10 most common check engine-related repairs, 10-year history of U.S. car repair costs, list of most common repairs by region, and 10 least/most expensive repairs is available at <https://www.carmd.com/wp/vehicle-health-index-introduction/2019-carmd-vehicle-health-index/>.

#### **About CarMD**

Headquartered in Irvine, Calif., CarMD.com Corporation is a leading provider of automotive diagnostic business solutions, including [CarMD PRO SCAN](#), digital automotive aftermarket platform services and vehicle data licensing. CarMD specializes in automotive technology solutions that leverage and empower the capabilities of the on-board diagnostics (OBD) port. Published tri-annually, the CarMD® Vehicle Health Index™ reports on automotive repair and maintenance trends. For more information about CarMD’s automotive aftermarket solutions, including current and archived Vehicle Health Index reports, visit [www.carmd.com](http://www.carmd.com).

## Check Engine Light Insight At a Glance

The **check engine light** is designed to come on when a vehicle's computer sees a problem that affects emissions or drivetrain issues. It could be as simple as a loose gas cap or severe such as engine failure. **Ignore it and you'll hurt the car's fuel economy, harm the environment and end up at the repair shop.**



### I'm Not Panicking, You're Panicking...

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

The good news – one of the most common reasons the check engine light comes on is a loose, damaged or missing gas cap costing \$0 to \$25 to repair. The bad news – it can cost thousands if it ends up being an engine or catalytic converter problem.



#### Top 5 Check Engine Repairs in 2018

1. Ignition Coil(s) and Spark Plug(s) (5.81%)
2. TIE Oxygen Sensor (5.81%)
3. Catalytic Converter (4.93%)
4. Gas Cap (4.18%)
5. Replace Ignition Coil (3.64%)

#### National Average

The average cost to repair a check engine light problem in the U.S. in 2018 was \$381.



### The ABCs of DTCs – How Do You Know What's Wrong?

Diagnostic trouble codes (DTCs) are **5-digit alphanumeric codes** that identify the vehicle's trouble area. 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 ID's the affected system, and the fourth and fifth characters define the section of the system that's malfunctioning.

The most common DTC in 2018 was **P0420**, which indicates Catalyst B1 Deterioration, which often indicates a faulty oxygen sensor or catalytic converter.

Automotive repair technicians use a diagnostic tool to see what DTCs the car has and use it as a starting point to determine what repairs the car needs.



For more information on check engine light health,  
Please visit [www.carmd.com](http://www.carmd.com)