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CarMD 2020 Vehicle Health Index Finds Mitsubishi Least Likely to Need Check Engine Light Repairs, Kia Most Affordable When Repairs are Needed

Ranks 2018 Toyota Tacoma most reliable, 2018 Hyundai Tucson most affordable vehicle

IRVINE, Calif. (Dec. 16, 2020) – CarMD.com Corporation today released its 2020 CarMD® Vehicle Health Index™ Make and Model Reliability Rankings, continuing its decade-long tradition of analyzing and reporting on which model year 1996 to 2020 vehicles require the fewest check engine light repairs and which cost least to fix when they do need repairs. CarMD studies the vehicle population dating back to 1996 because that is when vehicles were first required to have an on-board computer that triggers the check engine light to alert the driver to a problem that impacts emissions output, fuel economy and drivability.

CarMD finds that Mitsubishi was the brand least likely to need check engine repairs over the past year, edging out Mercedes and Volkswagen, which rank no. 2 and no. 3 respectively. The 2018 Toyota Tacoma ranked as the vehicle least likely to need a check engine light repair; and the 2018, 2017 and 2016 Tacoma swept the category for trucks least likely to need repairs in 2020. While CarMD does not currently rank the vehicles most likely to have a check engine light problem, Vehicle Health Index calculations show that the 2018 Toyota Tacoma is more than 50% less likely to experience a check engine light issue than the worst ranked vehicle, which is a 2009 domestic SUV.

For the second consecutive year, Kia is the brand with the lowest average repair cost (\$322), followed closely by Chrysler (\$333) and Mazda (\$339). The 2018 Hyundai Tucson cost the least on average (\$34) to repair. Ford, GMC, Mazda and Volkswagen are the brands to rank in the top 10 on both lists this year, meaning they have both low frequency of check engine light incidents and low average repair costs.

“Having a reliable vehicle to drive and reducing the likelihood of costly car repairs is particularly important as we wrap up 2020 – a year that has brought many challenges,” said David Rich, CarMD’s technical director. “CarMD publishes this annual report to help vehicle owners and used car shoppers make better informed buying and service decisions, and to encourage drivers to seek repairs when the check engine light comes on.” Rich notes that when used in conjunction with other solutions such as [CarMD PRO SCAN](#), the CarMD Vehicle Health Index reports can help repair shops educate customers about upcoming repair needs.

10 Most Reliable Brands Least Likely to Have a Check Engine Light Come On

CarMD studied data from more than 19.5 million unique model year 1996 to 2020 vehicles reporting check engine health to identify the brands least likely to need check engine repairs. To rank these brands, CarMD developed an Index frequency score formulated by the lowest percentage of repair incidents per percentage of vehicle population. From this data, CarMD found the following brands were least likely to need a check engine repair over the past year:

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|---------------|--------------|
| 1. Mitsubishi | 6. Mazda |
| 2. Mercedes | 7. BMW |
| 3. Volkswagen | 8. GMC |
| 4. Buick | 9. Subaru |
| 5. Ford | 10. Cadillac |

10 Brands with the Lowest Average Repair Costs

When factoring in all of the repairs needed on the various models and model years under each automaker, CarMD found the 10 vehicle brands with the lowest average check engine light-related repair costs in 2020 were:

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|------------------------|---------------------------|
| 1. Kia (\$322.43) | 6. Jeep (\$359.13) |
| 2. Chrysler (\$332.83) | 7. Chevrolet (\$375.78) |
| 3. Mazda (\$339.35) | 8. Ford (\$381.63) |
| 4. Hyundai (\$352.41) | 9. GMC (\$384.40) |
| 5. Dodge (\$355.92) | 10. Volkswagen (\$413.06) |

10 Most Reliable Vehicles Least Likely to Have a Check Engine Light Come On

Any given brand can have a mix of reliable vehicle models along with some that have more frequent issues. And vehicle reliability can vary by model year, particularly when a model change has occurred. For this reason, the CarMD Vehicle Health Index drills down to rank vehicles by year, make and model. The following 10 vehicles had the lowest check engine light-related repair frequency, resulting in fewer trips to the repair shop, parts store or dealership in 2020:

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|-----------------------|--------------------------------|
| 1. 2018 Toyota Tacoma | 6. 2018 Hyundai Santa Fe Sport |
| 2. 2015 Honda CR-V | 7. 2014 Honda CR-V |
| 3. 2018 Toyota Camry | 8. 2017 Ford Explorer |
| 4. 2017 Honda Accord | 9. 2018 Nissan Rogue |
| 5. 2017 Toyota Tacoma | 10. 2016 Toyota Tacoma |

10 Vehicles with the Lowest Average Repair Costs

When the check engine light comes on, the following are the 10 vehicles that CarMD found to have the lowest average repair cost among the more than 10,145 different model year, make and model vehicles analyzed by CarMD. Many of these repairs come in under the average national hourly labor rate for automotive diagnostics and repair because they require simple fixes that can be done in less than an hour or at home by a skilled enthusiast:

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|-------------------------------------|--|
| 1. 2018 Hyundai Tucson (\$33.80) | 6. 2017 Mitsubishi Outlander Sport (\$72.56) |
| 2. 2019 Subaru Impreza (\$37.74) | 7. 2019 Honda HR-V (\$73.45) |
| 3. 2016 Mercedes-Benz GLE (\$39.79) | 8. 2017 Hyundai Tucson (\$75.35) |
| 4. 2017 Mitsubishi Mirage (\$57.14) | 9. 2018 Subaru Legacy (\$78.09) |
| 5. 2018 Kia Soul (\$69.69) | 10. 2017 Subaru Legacy (\$79.93) |

The most common repair on 9 out of 10 of the most affordable vehicles to fix is to inspect or replace a loose, damaged or missing gas cap or fuel cap gasket. An often quick, easy and affordable repair, if ignored fuel cap problems can reduce fuel economy and lead to additional problems down the road. For instance, the most common repair on the 2018 Hyundai Tucson is to tighten the gas cap, accounting for nearly half of this model year's recommended repairs, while the national average for gas cap-related repairs is 4.5%. On an older 2005 Hyundai Tucson, the most common repairs are oxygen sensor and catalytic converter replacements. As vehicles age, the type of repair changes and the average cost to repair them typically increases.

This Index ranks the 10 brands/makes and 100 vehicles least likely to have a check engine light on; 10 brands/makes and 100 vehicles with the lowest average repair costs; and top three vehicles by category. To compile this index

CarMD analyzed data from over 19.5 million model year 1996 to 2020 vehicles reporting check engine health from Oct. 1, 2019 – Sept. 30, 2020. The full detailed report with year-over-year scores is available at <https://www.carmd.com/wp/vehicle-health-index-introduction/2020-carmd-manufacturer-vehicle-rankings/>.

About CarMD

Headquartered in Irvine, Calif., CarMD.com Corporation is a leading provider of automotive diagnostic business solutions, 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.

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10 Makes Least Likely to Have a Check Engine Light On



RANK (LEAST LIKELY)	BRAND	CARMD INDEX FREQUENCY SCORE 2020*	YEAR-OVER-YEAR COMPARISON
1	Mitsubishi	0.66	Up from no. 2
2	Mercedes	0.74	Down from no. 1
3	Volkswagen	0.81	Not listed in 2019
4	Buick	0.84	Down from no. 3
5	Ford	0.89	No change
6	Mazda	0.93	Not listed in 2019
7	BMW	0.94	Not listed in 2019
8	GMC	0.97	Not listed in 2019
9	Subaru	0.99	Up from no. 10
10	Cadillac	0.99	Not listed in 2019

*The lower the Index frequency score, the higher the ranking.

(Top 10 vehicle makes by repair frequency based on model year 1996-2020 vehicles inspected between Oct. 1, 2019 and Sept. 30, 2020, and determined to have the fewest percentage of CarMD repair incidents, per vehicle population. Sources: CarMD.com Corp., with vehicle population data provided by R.L. Polk.)