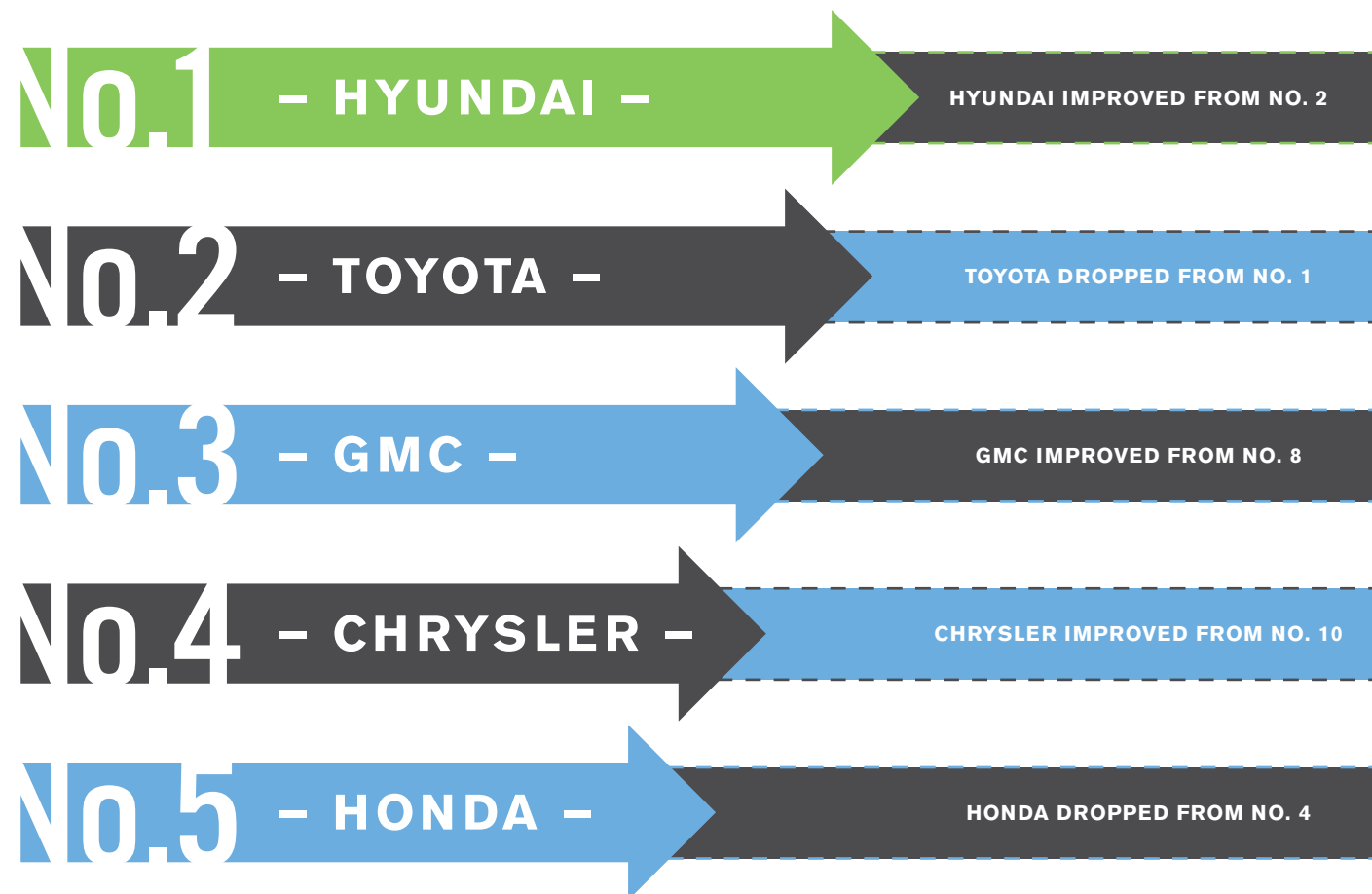


INTRODUCTION

CarMD.com Corporation is pleased to release its third annual CarMD® Vehicle Health Index™ Manufacturer & Vehicle Reliability Rankings – the only list to offer an annual ranking of manufacturers and vehicles with the lowest combined “check engine” repair incidents and costs. The rankings are statistically based on a combined average of fewest “check engine”-related problems and lowest repair costs for vehicles over the past year. The Index ranks the top 100 vehicles overall, the top 10 manufacturers, the top vehicles by category and the most common repairs by make. Based on more than 151,000 specific repairs performed from Oct. 1, 2012 to Sept. 30, 2013, the index encompasses approximately 119 million Model Year 2003-2013 vehicles. The 2013 index and archived indices are available at <http://corp.carmd.com>.

SUMMARY: TOP MANUFACTURERS

For the first time, Hyundai ranks as the no. 1 most reliable vehicle manufacturer with the fewest percentage of “check engine”-related problems and lowest average repair costs combined. Hyundai earns the top spot with the lowest Index rating of 0.80 (the lower the rating, the better the overall ranking). Rounding out the top five vehicle manufacturers of 2013 are no. 2 Toyota, No. 3 GMC, No. 4 Chrysler and No. 5 Honda. Coming in at no. 10 is Mitsubishi, which ranks in the top ten for the first time this year.



TOP 10 MANUFACTURERS – 2013

RANK	MANUFACTURER	% CarMD Red Light Reports / Problems Seen	Average Repair Cost (Parts & Labor)	Year-Over Year Overall Rating Comparison (2012 Index Rating in Parenthesis)	Year-Over-Year Comparison ↑ Improvement ↓ Decline
1	HYUNDAI	2.44%	\$312.67	0.80 (0.67)	↑ rating / improved from no. 2 in 2012
2	TOYOTA	10.34%	\$540.53	0.86 (0.58)	↓ rating / dropped from no. 1 in 2012
3	GM	28.75%	\$304.99	0.91 (1.12)	↑ rating / improved from no. 8 in 2012
4	CHRYSLER	5.19%	\$325.38	0.96 (1.23)	↑ rating / improved from no. 10 in 2012
5	HONDA	12.62%	\$469.93	0.97 (0.98)	↑ rating / improved from no. 4 in 2012
6	FORD	24.17%	\$385.82	1.04 (1.17)	↑ rating / improved from no. 9 in 2012
7	NISSAN	8.61%	\$404.61	1.09 (1.00)	↓ rating / dropped from no. 6 in 2012
8	KIA	2.46%	\$346.92	1.56 (1.04)	↓ rating / dropped from no. 7 in 2012
9	VOLKSWAGEN	2.61%	\$438.35	1.79 (0.99)	↓ rating / dropped from no. 5 in 2012
10	mitsubishi	1.74%	\$472.96	2.84 (n/a)	↑ new to top 10

The lower the Index rating, the higher reliability ranking.

(Top 10 vehicle manufacturers based on model year 2003-2013 vehicles needing repairs between Oct. 1, 2012 and Sept. 30, 2013, and determined by the manufacturers whose vehicles had the fewest percentage of CarMD repair incidents combined with the lowest cost per repair, per number of registered vehicles on the road. Sources: CarMD.com Corp., with vehicle population data provided by R.L. Polk. *)

HIGHLIGHTS

THE NEW NO. 1

After two consecutive years ranked as no. 2, **Hyundai** unseats Toyota as the no. 1-ranked manufacturer.

- Hyundai's ranking was fueled by its low repair frequency.
- Toyota's ranking drop was attributed to a 52 percent increase in repair frequency.



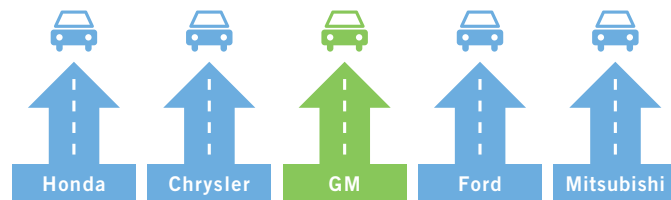
— HYUNDAI —
Ranked No. 1 Manufacturer
 Based on Fewest
 "Check Engine" Failures
 & Lowest Repair Costs

HALF OF THE TOP 10 MANUFACTURERS

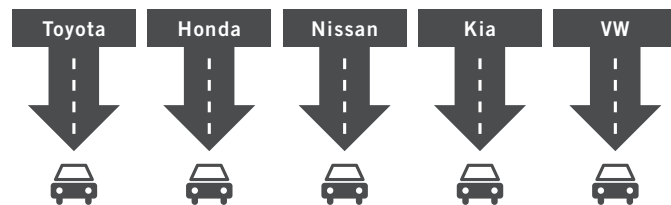
(Toyota, Honda, Nissan, Kia and Volkswagen)

experienced a drop in reliability rating, with more frequent visits to the repair shop and increased average repair costs. The other five (GM, Chrysler, Honda, Ford and Mitsubishi) saw improved ratings.

- GM experienced the largest improvement, moving from no. 8 to no. 3 thanks to several newer models making the top 100, including the no. 22-ranked 2011 Buick Lacrosse.



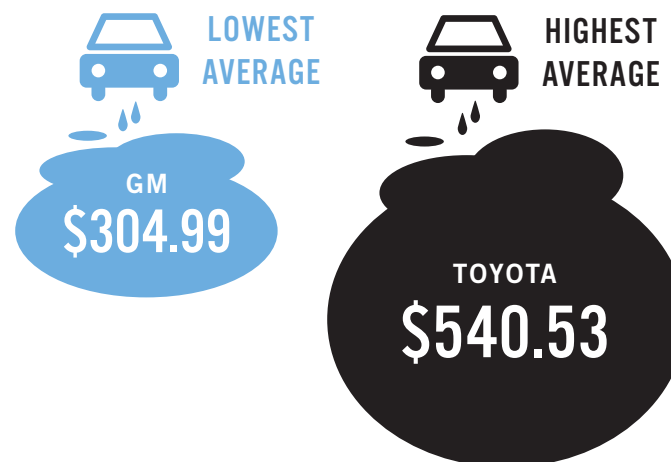
GM JUMPED FROM NO. 8 TO NO. 3 IN 2012



GM HAD THE LOWEST AVERAGE REPAIR COST AMONG THE TOP 10-RANKED MANUFACTURERS (\$304.99).

The manufacturer with the highest overall repair cost was Toyota (\$540.53), yet Toyota's very low repair incidence rate, second only to Hyundai, drove its no. 2 ranking.

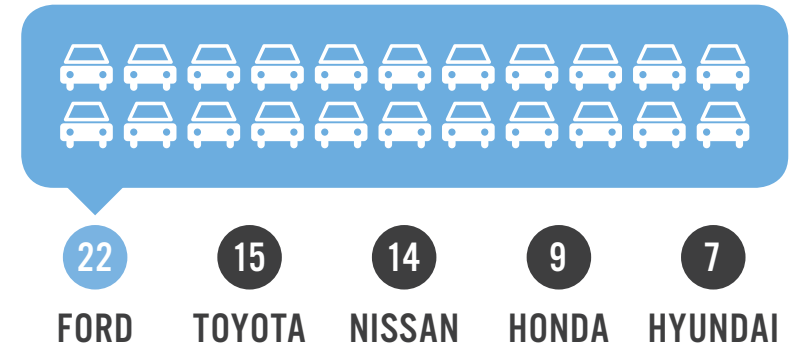
- The top five vehicles with the highest average repair costs were all Toyota Prius hybrid vehicles, which contributed to Toyota's rise in average repair cost.
- Bright spots for Toyota were the 2012 Toyota Camry and 2010 Toyota 4 Runner, each with average repair costs under \$100.



HIGHLIGHTS

73% OF THE TOP 100 RANKED VEHICLES CAME FROM THE TOP 5 RANKED MANUFACTURERS.

- Cadillac, Infiniti, Mini, Pontiac, Saturn, Subaru, Volkswagen and Volvo vehicles drop off the 2013 top 100 list
- New to this year's top 100 are Acura, GMC, Kia, Lincoln, Mazda and Mercury.



THE CARMD VEHICLE HEALTH INDEX

captures common problems by manufacturer, providing a valuable resource for vehicle owners as they maintain and repair their vehicles.

- Saab**, "Replace Ignition Control Module" (29%)
- Suzuki**, "Replace O2 Sensor" (22%)
- Acura**, "Inspect/Repair Battery & Charging System" (17%)

SAAB	SUZUKI	ACURA
Replace Ignition Control Module	Replace Oxygen Sensor	Inspect/Repair Battery & Charging System
29%	22%	17%

SUMMARY: TOP VEHICLES

For the third consecutive year, the top-ranked vehicle is a Toyota, with the 2012 Camry ranked as the most reliable vehicle for 2013. Previously, the Corolla ranked no. 1 with the 2009 Corolla and 2010 Corolla earning top spots in the past two CarMD rankings. The CarMD Vehicle Health Index allows consumers to statistically analyze how vehicles age, and examine real-life data on trends related to repair frequency and costs over a decade of makes and models. Sourcing the largest database of problems and repairs of vehicles on the road today, CarMD provides fact-based transparency across a wide range of vehicles, including new and used cars and trucks.

Four sedans, four compacts and two SUVs make up 2013's top 10 list, with Nissan leading the pack with five vehicles, including the 2012 Altima (ranked no. 2), 2011 Rogue (no. 5), 2012 Rogue (no. 6), 2012 Sentra (no. 7) and 2011 Sentra (no. 9). Toyota has three cars in the top 10, including the 2012 Toyota Camry (no. 1), 2011 Toyota Corolla (no. 3) and 2011 Toyota Camry (no. 4). Hyundai has one vehicle on the list 10 – the 2010 Elantra (no. 8). Rounding out the list is the 2012 Mazda 3 (no. 10), marking the first time Mazda has had a vehicle in the top 10. Previously, Mazda's highest ranking vehicle was the 2010 Mazda 3, which ranked no. 23 in the 2011 rankings.

SUMMARY: TOP VEHICLES

TOP 10 MOST RELIABLE VEHICLES

RANK	YEAR	BRAND/MAKE	MODEL	Overall CarMD 2013 Index Rating Score
1	2012	Toyota	CAMRY	0.011
2	2012	Nissan	ALTIMA	0.013
3	2011	Toyota	COROLLA	0.014
4	2011	Toyota	CAMRY	0.015
5	2011	Nissan	ROGUE	0.015
6	2012	Nissan	ROGUE	0.016
7	2012	Nissan	SENTRA	0.016
8	2010	Hyundai	ELANTRA	0.020
9	2011	Nissan	SENTRA	0.021
10	2012	Mazda	3	0.021

(Top 10 vehicle manufacturers based on model year 2003-2013 vehicles needing repairs in the U.S. between Oct. 1, 2012 and Sept. 30, 2013, and determined by the manufacturers whose vehicles had the fewest number of CarMD repair incidents combined with the lowest cost per repair, per number of registered vehicles on the road. Sources: CarMD.com Corp., with vehicle population data provided by R.L. Polk)

HOW DOES YOUR VEHICLE RANK?

Drivers can see how reliable their vehicle is through the **FREE** online CarMD® Vehicle Health ScoreCard™ tool, available at www.carmd.com/ScoreCard.

By inputting the year, make, model and mileage of your vehicle (or the one you're evaluating), consumers can access a CarMD Vehicle Health grade, along with the most common repairs/repair costs for the specific model year vehicle and reported mileage. The ScoreCard also alerts drivers of any recalls of service bulletins, which often lead to free- or low-cost repairs, and spotlights important known safety issues.

SUMMARY: TOP VEHICLES

Top 3 Ranked Vehicles by Category (Model Year 2003-2013) – 2013 CarMD® Vehicle Health Index Rankings & Lists.

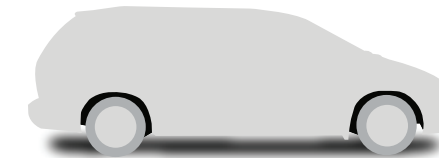
Compact Car

1. 2011 Toyota Corolla
2. 2012 Nissan Sentra
3. 2010 Hyundai Elantra



Minivan

1. 2012 Honda Odyssey
2. 2011 Honda Odyssey
3. 2009 Toyota Sienna



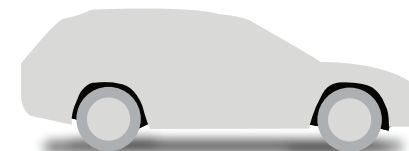
Sedan

1. 2012 Toyota Camry
2. 2012 Nissan Altima
3. 2011 Toyota Camry



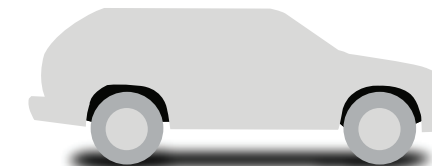
Wagon/Crossover SUV

1. 2010 Toyota Venza
2. 2011 Subaru Outback
3. 2005 Subaru Forester



Full-sized SUV

1. 2011 Nissan Rogue
2. 2012 Nissan Rogue
3. 2010 Hyundai Santa Fe



Luxury

1. 2011 Buick Lacrosse
2. 2010 Lincoln MKZ
3. 2007 Lincoln MKZ



Truck

1. 2012 Ford F350
2. 2012 Ford F250
3. 2012 GMC Sierra



2013 Report – Detailed Summary of Findings – Top 10 Vehicles Manufacturers

Hyundai's no. 1 ranking is attributable to the lowest repair incident rate combined with the second lowest average repair cost among the manufacturers.

- While Hyundai's rating actually dropped from 0.67 in 2012 to 0.80 in 2013, it achieved its no. 1 ranking because Toyota's rating dropped from 0.58 to 0.86.
- Hyundai had 7 vehicles in the top 100. The Hyundai Elantra and Sonata each appear twice on CarMD's top 100 vehicles list: 2010 Elantra (no. 8), 2013 Sonata (no. 14), 2011 Sonata (no. 37) and 2009 Elantra (no. 96). Rounding out Hyundai's top 100 vehicles are the 2010 Santa Fe (no. 32), 2012 Accent (no. 69) and 2011 Tucson (no. 93).

As no. 2 Toyota had the second lowest repair incident rating, but an above-average repair cost. Toyota's total combined Index rating dropped from 0.58 to 0.86. No Lexus or Scion vehicles made the top 100 this year.

- Toyota had 15 vehicles in the top 100, led by the 2012 Camry. Toyota compact cars and sedans totaled 10 with Avalon, Camry and Corolla vehicles listed in the top 100. As expected with age, last year's no. 1-ranked 2010 Corolla drops to no. 27 this year while still decreasing its average repair cost from \$283 to \$205.
- While not as highly ranked as its cars, Toyota's SUVs and trucks such as the 2008 FJ Cruiser (no. 75), 2010 4Runner (no. 79) and 2008 Highlander (no. 87) ranked within the top 100. Although the Sienna minivan didn't crack the top 100 ranking, it was ranked among the top 3 minivans.

No. 3-ranked General Motors earns an overall index score of 0.91 and saw the most improvement in 2013's rankings, moving up five spots from no. 8 and improving from last year's 1.12 rating.

- GM's increase is due to a combined improvement in both repair frequency and repair cost ratings. Although GM's average repair cost increased 5 percent from \$290 to \$304, this is much less than the 18 percent hike in repair costs GM experienced a year ago, and the national average increase of 10 percent
- GM has a total of 11 vehicles in the top 100, including four Buicks, five Chevrolets and two GMCs. Bright spots are the 2012 GMC Sierra, which is the top-ranked vehicle in the truck category, and the 2011 Buick Lacrosse, which ranks no. 1 in the luxury vehicle category.

No. 4-ranked Chrysler improved its overall index rating score from 1.23 to 0.96, moving up from no. 10 in 2012.

- Chrysler improved rankings in both repair frequency and repair cost despite an increase in average repair cost from \$287 to \$325 from 2012 to 2013.
- The top-ranked and only Chrysler vehicle to break the top 100 vehicles is the 2011 Chrysler 300c (no. 73).

No. 5-ranked Honda, which includes Acura and Honda, drops one spot from its no.4 ranking a year ago. Its CarMD Index ranking score improved slightly from 0.98 to 0.97, and its average repair cost remains virtually unchanged moving from \$466 in 2012 to \$469 in 2013. This is far better than the U.S. average, whose repair costs increased 10 percent, according to CarMD data published earlier this year.

- The top 100 list includes three Acura vehicles and nine Hondas, including the two top-ranked minivans – the 2012 and 2011 Odysseys. Honda continues to make improvements in the reliability of its minivans, as the earlier model Odysseys rank in the bottom 10 percent of vehicles rated by CarMD.

2013 Report – Detailed Summary of Findings – Top 10 Vehicles Manufacturers

Ranked no. 6, Ford improved both its repair frequency and repair costs ratings with an overall index score moving from 1.17 to 1.04, jumping up from its no. 9 ranking in 2012.

- Ford has the most vehicles in the top 100 with 22 Fords, two Lincolns and two Mercury vehicles. Ford earned two of the top three spots in the truck category with the 2012 Ford 350 and 2012 Ford 250. Other top 100s include the 2012 Fusion (no. 12) and the 2010 Lincoln MKZ (no. 29).
- As older-model minivans such as the 2003 Ford Windstar (currently the worst-rated vehicle tracked by CarMD) drop out of the vehicle population, Ford continues to improve its scores and rank.

Ranked no. 7, Nissan drops from no. 6 in 2012.

- Nissan's average check engine light-related repair costs rose 10 percent from \$366 in 2012 to \$404 in 2013, which is in line with the U.S. average that also rose 10 percent, according to CarMD data published earlier this year.
- Nissan has half of the vehicles in 2013's top 10, the top two vehicles in the SUV category, and the no. 2-ranked sedan. Nissan's score was hurt by poor ratings on its older model Nissan Quest minivans such as the 2006 Quest, which ranks in the bottom 1 percent of vehicles rated by CarMD.

Kia ranked no. 8 with a score of 1.56, seeing a reliability decline from 1.04 in 2012.

- Kia's repair incidents and repair costs were both up, with average repair cost rising from \$320 in 2012 to \$346 in 2013 – an 8 percent increase.
- Kia now has three vehicles in the top 100, including the 2009 Sportage (no. 66) and 2009 Sorrento (no. 90).

At no. 9 with an overall Index score of 1.79, **Volkswagen** dropped from no. 5 in 2012 and a previous score of 0.99 (the lower the score, the better the overall ranking).

- Volkswagen does not have any vehicles listed on the top 100 this year with its 2011 Jetta just missing the list at no. 109. CarMD's top 100 list represents the top 10 percent of all vehicles on the road today. There are many very reliable vehicles that didn't make the top 100.
- Volkswagen's score was hurt by older model vehicles that ranked poorly such as the 2003 GTI, which is in the bottom 1 percent of vehicles rated by CarMD. As these poorly ranked vehicles drop off the index, which analyzes 10 model years' worth of data, it will be interesting to see the effect on Volkswagen's ranking.

New to CarMD's top manufacturers list is **Mitsubishi at no. 10** with a total Index score of 2.84.

- Mitsubishi does not have any vehicles listed on the top 100, but its top-ranked 2009 Galant is in the top 30 percent of vehicles on the road today. It is important to remember that CarMD's top 100 list represents the top 10 percent of vehicles on the road. There are many vehicles that fall short of this list but are still considered reliable choices.
- Mitsubishi recently announced a 19.4 percent increase in sales from 2012 to 2013 while introducing several new vehicles such as the 2014 Mirage sub-compact and several new hybrids. It will be interesting to see if this impacts the company's ranking and ratings in future CarMD Index listings.

2013 Report – Detailed Index Data – Top 100 Vehicles Rankings & Lists

The Top 100 Vehicles in the U.S. with the lowest overall CarMD Index ranking based on the combined fewest and lowest cost “check engine”-related problems (Model Year 2003-2013) from Oct. 1, 2012 and Sept. 30, 2013

Rank	Year	Brand/Make	Model	Avg. Repair Cost	Index Rating (Repair Incidents)	Index Rating (Repair Costs)	Overall CarMD Index Rating Score (Repairs and Costs)
1	2012	Toyota	Camry	\$54.25	0.019	0.003	0.011
2	2012	Nissan	Altima	\$402.00	0.012	0.013	0.013
3	2011	Toyota	Corolla	\$416.00	0.013	0.014	0.014
4	2011	Toyota	Camry	\$131.40	0.022	0.008	0.015
5	2011	Nissan	Rogue	\$107.00	0.023	0.007	0.015
6	2012	Nissan	Rogue	\$107.00	0.025	0.007	0.016
7	2012	Nissan	Sentra	\$53.50	0.029	0.004	0.016
8	2010	Hyundai	Elantra	\$107.00	0.030	0.009	0.020
9	2011	Nissan	Sentra	\$344.00	0.021	0.020	0.021
10	2012	Mazda	3	\$100.33	0.033	0.009	0.021
11	2012	Nissan	Maxima	\$110.00	0.032	0.010	0.021
12	2012	Ford	Fusion	\$164.25	0.035	0.016	0.025
13	2012	Mazda	5	\$181.00	0.038	0.019	0.028
14	2012	Hyundai	Sonata	\$263.50	0.038	0.027	0.032
15	2012	Honda	Civic	\$145.00	0.049	0.019	0.034
16	2011	Toyota	Avalon	\$345.00	0.036	0.033	0.034
17	2012	Ford	F350	\$107.00	0.064	0.018	0.041
18	2010	Mazda	3	\$341.83	0.046	0.042	0.044
19	2010	Toyota	Camry	\$281.43	0.052	0.039	0.045
20	2012	Toyota	Rav4	\$170.00	0.064	0.029	0.047
21	2012	Ford	F250	\$250.50	0.060	0.040	0.050

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Rank	Year	Brand/Make	Model	Avg. Repair Cost	Index Rating (Repair Incidents)	Index Rating (Repair Costs)	Overall CarMD Index Rating Score (Repairs and Costs)
22	2011	Buick	Lacrosse	\$110.00	0.081	0.024	0.053
23	2010	Nissan	Altima	\$424.50	0.049	0.056	0.053
24	2010	Ford	Crown Victoria	\$179.00	0.072	0.034	0.053
25	2010	Mazda	Cx-7	\$518.00	0.046	0.063	0.054
26	2010	Nissan	Maxima	\$103.67	0.091	0.025	0.058
27	2010	Toyota	Corolla	\$205.19	0.075	0.041	0.058
28	2012	Ford	Focus	\$168.78	0.081	0.036	0.059
29	2010	Lincoln	Mkz	\$110.00	0.094	0.027	0.061
30	2012	Gmc	Sierra	\$170.67	0.089	0.041	0.065
31	2011	Honda	Accord	\$156.00	0.093	0.039	0.066
32	2010	Hyundai	Santa Fe	\$186.00	0.088	0.044	0.066
33	2012	Nissan	Versa	\$630.50	0.052	0.087	0.070
34	2010	Nissan	Versa	\$81.00	0.115	0.025	0.070
35	2011	Ford	Edge	\$222.00	0.089	0.052	0.070
36	2012	Buick	Enclave	\$372.00	0.071	0.070	0.071
37	2011	Hyundai	Sonata	\$175.36	0.097	0.046	0.071
38	2012	Chevrolet	Malibu	\$243.00	0.088	0.057	0.073
39	2012	Chevrolet	Impala	\$151.56	0.109	0.044	0.077
40	2010	Buick	Enclave	\$110.00	0.120	0.035	0.078
41	2009	Jeep	Wrangler	\$117.33	0.118	0.037	0.078

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Rank	Year	Brand/Make	Model	Avg. Repair Cost	Index Rating (Repair Incidents)	Index Rating (Repair Costs)	Overall CarMD Index Rating Score (Repairs and Costs)
42	2011	Ford	Taurus	\$162.00	0.110	0.048	0.079
43	2011	Ford	Focus	\$290.33	0.090	0.070	0.080
44	2011	Nissan	Juke	\$268.50	0.095	0.068	0.081
45	2012	Honda	Odyssey	\$536.67	0.072	0.103	0.088
46	2012	Chevrolet	Equinox	\$193.60	0.117	0.060	0.089
47	2008	Toyota	Camry Solara	\$342.00	0.093	0.085	0.089
48	2010	Nissan	Murano	\$21.40	0.170	0.010	0.090
49	2011	Honda	Pilot	\$136.50	0.132	0.048	0.090
50	2010	Toyota	Avalon	\$110.00	0.141	0.041	0.091
51	2011	Ford	F150	\$316.00	0.100	0.085	0.092
52	2009	Toyota	Camry	\$489.41	0.081	0.106	0.094
53	2010	Ford	F150	\$220.68	0.118	0.070	0.094
54	2009	Mazda	3	\$100.17	0.152	0.041	0.096
55	2010	Honda	Accord	\$180.69	0.132	0.064	0.098
56	2009	Acura	Mdx	\$136.00	0.145	0.053	0.099
57	2012	Ford	Econoline	\$236.00	0.122	0.077	0.099
58	2010	Ford	Focus	\$237.00	0.122	0.077	0.099
59	2008	Toyota	Avalon	\$729.50	0.068	0.132	0.100
60	2010	Ford	Edge	\$896.00	0.062	0.147	0.104
61	2011	Gmc	Terrain	\$108.00	0.163	0.047	0.105
62	2011	Honda	Odyssey	\$473.00	0.093	0.118	0.105

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63	2011	Ford	F250	\$193.75	0.141	0.073	0.107
64	2009	Nissan	Altima	\$509.40	0.092	0.125	0.108
65	2008	Acura	Mdx	\$181.00	0.147	0.071	0.109
66	2009	Kia	Sportage	\$118.50	0.168	0.053	0.111
67	2011	Ford	Fusion	\$184.92	0.151	0.074	0.112
68	2012	Ford	Escape	\$66.80	0.194	0.035	0.115
69	2012	Hyundai	Accent	\$88.50	0.186	0.044	0.115
70	2009	Jeep	Grand Cherokee	\$93.83	0.186	0.047	0.116
71	2007	Lincoln	Mkz	\$100.00	0.185	0.049	0.117
72	2009	Honda	Fit	\$332.67	0.126	0.112	0.119
73	2011	Chrysler	300C	\$68.00	0.204	0.037	0.120
74	2012	Ford	F150	\$365.90	0.123	0.120	0.121
75	2008	Toyota	Fj Cruiser	\$262.50	0.143	0.100	0.122
76	2007	Acura	Rdx	\$355.00	0.127	0.120	0.123
77	2007	Honda	Cr-V	\$255.44	0.147	0.100	0.124
78	2008	Toyota	Camry	\$226.50	0.156	0.094	0.125
79	2010	Toyota	4Runner	\$81.33	0.216	0.047	0.131
80	2009	Jeep	Patriot	\$121.20	0.199	0.064	0.132
81	2009	Bmw	X5	\$388.00	0.130	0.134	0.132
82	2009	Ford	Focus	\$93.15	0.215	0.054	0.134

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Rank	Year	Brand/Make	Model	Avg. Repair Cost	Index Rating (Repair Incidents)	Index Rating (Repair Costs)	Overall CarMD Index Rating Score (Repairs and Costs)
83	2010	Nissan	Rogue	\$258.57	0.160	0.111	0.135
84	2011	Ford	Escape	\$198.13	0.178	0.094	0.136
85	2008	Bmw	X5	\$167.00	0.189	0.084	0.137
86	2007	Mercury	Grand Marquis	\$276.50	0.157	0.116	0.137
87	2008	Toyota	Highlander	\$301.43	0.152	0.122	0.137
88	2011	Nissan	Maxima	\$274.20	0.159	0.117	0.138
89	2011	Ford	Explorer	\$357.00	0.142	0.136	0.139
90	2009	Kia	Sorento	\$272.50	0.164	0.119	0.141
91	2009	Kia	Optima	\$60.25	0.244	0.039	0.142
92	2009	Honda	Accord	\$202.67	0.185	0.100	0.143
93	2011	Hyundai	Tucson	\$134.33	0.214	0.077	0.145
94	2012	Chevrolet	Silverado	\$190.29	0.195	0.099	0.147
95	2011	Ford	Mustang	\$109.00	0.229	0.067	0.148
96	2009	Hyundai	Elantra	\$147.57	0.213	0.084	0.148
97	2009	Ford	Fusion	\$292.88	0.171	0.134	0.153
98	2008	Mercury	Sable	\$292.50	0.174	0.136	0.155
99	2011	Chevrolet	Hhr	\$257.17	0.186	0.128	0.157
100	2011	Subaru	Forester	\$168.33	0.217	0.098	0.157

(Top 100 vehicles based on CarMD diagnostic reports generated from Oct. 1, 2012 – Sept. 30, 2013, representing an estimated 119 million model year 2003 – 2013 vehicles on the road in the U.S., and determined by those that had the fewest number of CarMD repair incidents combined with the lowest cost per repair, per number of registered vehicles on the road. Sources: CarMD.com Corp., with vehicle population data provided by R.L. Polk)

2013 Report – Detailed Index Data – Common Repairs by Brand

Common Repairs by Brand/Make (MY 1996-2013) – 2013 CarMD® Vehicle Health Index™

- Different vehicle makes tend to have a unique set of problems and common failures. The CarMD Vehicle Health Index points out common problems by brand, providing a helpful resource for vehicle owners as they maintain and repair their vehicles.
- For instance “Replace Oxygen Sensor” accounted for 28 percent of Mini repairs in 2012. Earlier this year, CarMD revealed that the no. 1 most common repair on vehicles in the U.S. is “replace O2 sensor.” O2 sensors measure the amount of unburned oxygen in the exhaust and tell a car’s computer when there is either too much or not enough fuel as compared with oxygen for ideal operation. If a faulty O2 sensor is not repaired, the car’s gas mileage can drop by as much as 40 percent.
- Other examples: “Replace Ignition Control Module” accounted for 26 percent of Saab repairs last year; Subaru had a tendency to require the replacement of the catalytic converter (22%); and Scion was susceptible to loose or damaged gas caps (20%).

TOP 5 MOST COMMON REPAIRS “Check Engine” related repairs in the U.S.

NO.1

Inspect Battery and Charging System and Repair as Necessary

NO.2

Replace ABS Modulator Assembly

NO.3

Inspect for Faulty Wiring and Repair as Necessary

NO.4

Replace Catalytic Converter(s) with new OE Catalytic Converter(s)

NO.5

Replace Oxygen Sensor(s) (O2S)

5 Most Common Acura “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Acura repairs Oct. 1, 2012 - Sept. 30, 2013
1	Inspect Battery and Charging System and Repair as Necessary	\$108.53	\$0.00	\$108.53	17.2%
2	Replace ABS Modulator Assembly	\$116.16	\$2,052.03	\$2,168.19	9.6%
3	Inspect for Faulty Wiring and Repair as Necessary	\$150.68	\$0.00	\$150.68	7.4%
4	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$124.80	\$777.20	\$902.00	5.1%
5	Replace Oxygen Sensor(s) (O2S)	\$109.62	\$260.26	\$369.88	4.7%

2013 Report – Detailed Index Data – Common Repairs by Brand

5 Most Common Audi “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Audi repairs Oct. 1, 2012 - Sept. 30, 2013
1	Inspect for Faulty Vacuum Hose(s) and Repair as Necessary	\$108.93	\$0.00	\$108.93	13.74%
2	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$329.38	\$1,110.90	\$1,440.28	10.88%
3	Replace Mass Air Flow (MAF) Sensor	\$111.28	\$248.25	\$359.53	9.16%
4	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	8.21%
5	Inspect for Faulty Vacuum Hose(s) at Air Injection System (AIR) and Repair as Necessary	\$111.19	\$0.00	\$111.19	8.02%

5 Most Common BMW “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% BMW repairs Oct. 1, 2012 - Sept. 30, 2013
1	Inspect for Vacuum Leak and Repair as Necessary	\$111.03	\$0.38	\$111.41	13.92%
2	Replace Mass Air Flow (MAF) Sensor	\$109.25	\$455.03	\$564.28	12.80%
3	Replace Ignition Coil(s)	\$111.92	\$93.27	\$205.19	7.94%
4	Replace Camshaft Position Sensor (CMP)	\$113.58	\$132.75	\$246.33	6.31%
5	Replace Oxygen Sensor(s) (O2S)	\$116.49	\$296.69	\$413.18	5.42%

2013 Report – Detailed Index Data – Common Repairs by Brand

5 Most Common Buick “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Buick repairs Oct. 1, 2012 - Sept. 30, 2013
1	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	8.44%
2	Adjust Tire Pressure and Relearn Tire Pressure Sensor(s)	\$108.73	\$0.00	\$108.73	8.20%
3	Replace Wheel Speed Sensor(s), Wheel Hub and Bearing Assembly	\$297.35	\$433.36	\$730.71	6.11%
4	Replace Oxygen Sensor(s) (O2S)	\$113.08	\$96.44	\$209.52	6.01%
5	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$116.86	\$697.07	\$813.93	5.73%

5 Most Common Cadillac “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Cadillac repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Oxygen Sensor(s) (O2S)	\$111.17	\$141.53	\$252.70	7.57%
2	Clean Fuel Injector(s)	\$123.84	\$34.88	\$158.72	7.49%
3	Remove Aftermarket Alarm System	\$108.22	\$0.00	\$108.22	7.46%
4	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$155.59	\$890.71	\$1,046.30	6.13%
5	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	6.02%

2013 Report – Detailed Index Data – Common Repairs by Brand

5 Most Common Chevrolet “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Chevrolet repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Oxygen Sensor(s) (O2S)	\$112.67	\$116.01	\$228.68	8.39%
2	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	7.61%
3	Remove Aftermarket Alarm System	\$108.08	\$0.00	\$108.08	6.82%
4	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$132.95	\$922.88	\$1,055.82	3.92%
5	Replace Mass Air Flow (MAF) Sensor	\$108.30	\$312.37	\$420.67	3.43%

5 Most Common Chrysler “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Chrysler repairs Oct. 1, 2012 - Sept. 30, 2013
1	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.05	\$0.05	9.29%
2	Replace Exhaust Gas Recirculation (EGR) Valve and Clean All EGR ports	\$127.70	\$117.85	\$245.55	8.38%
3	Replace Oxygen Sensor(s) (O2S)	\$125.04	\$93.89	\$218.93	7.26%
4	Replace Spark Plug Wires and Spark Plugs	\$221.12	\$91.42	\$312.54	6.98%
5	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$171.73	\$947.72	\$1,119.45	6.46%

2013 Report – Detailed Index Data – Common Repairs by Brand

5 Most Common Dodge “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Dodge repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Oxygen Sensor(s) (O2S)	\$120.41	\$104.74	\$225.15	8.74%
2	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.26	\$0.50	\$0.76	8.17%
3	Replace Spark Plug Wires and Spark Plugs	\$189.86	\$103.59	\$293.45	7.11%
4	Inspect for Faulty Vacuum Hose(s) at Evaporative Emissions (EVAP) System	\$140.99	\$3.29	\$144.28	5.53%
5	Replace Exhaust Gas Recirculation (EGR) Valve and Clean All EGR ports	\$128.69	\$128.78	\$257.47	4.53%

5 Most Common Ford “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Ford repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Ignition Coil(s) and Spark Plug(s)	\$287.71	\$158.86	\$446.57	6.56%
2	Replace ABS Control Module	\$154.03	\$734.85	\$888.88	5.51%
3	Replace Oxygen Sensor(s) (O2S)	\$113.82	\$87.12	\$200.94	4.69%
4	Inspect Battery and Charging System and Repair as Necessary	\$108.57	\$0.00	\$108.57	4.62%
5	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	4.49%

2013 Report – Detailed Index Data – Common Repairs by Brand

5 Most Common GMC “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% GMC repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Oxygen Sensor(s) (O2S)	\$117.26	\$100.71	\$217.97	9.73%
2	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	6.91%
3	Remove Aftermarket Alarm System	\$108.02	\$0.00	\$108.02	6.89%
4	Replace Engine Coolant Temperature Sensor (ECT)	\$163.14	\$56.95	\$220.09	4.44%
5	Replace Mass Air Flow (MAF) Sensor	\$108.31	\$315.29	\$423.60	3.52%

5 Most Common Honda “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Honda repairs Oct. 1, 2012 - Sept. 30, 2013
1	Inspect Battery and Charging System and Repair as Necessary	\$112.25	\$0.00	\$112.25	9.96%
2	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$138.20	\$982.06	\$1,120.26	7.48%
3	Replace ABS Modulator Assembly	\$180.89	\$1,042.82	\$1,223.71	7.30%
4	Replace ABS Control Module	\$108.49	\$380.02	\$488.51	6.23%
5	Replace Oxygen Sensor(s) (O2S)	\$108.85	\$214.51	\$323.36	5.80%

2013 Report – Detailed Index Data – Common Repairs by Brand

5 Most Common Hyundai “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Hyundai repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Oxygen Sensor(s) (O2S)	\$111.74	\$130.15	\$241.89	13.75%
2	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	11.78%
3	Replace Spark Plug Wires and Spark Plugs	\$194.83	\$106.75	\$301.58	9.89%
4	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$125.58	\$940.14	\$1,065.72	7.96%
5	Replace Evaporative Emissions (EVAP) Purge Control Valve	\$108.68	\$72.50	\$181.18	5.87%

5 Most Common Infiniti “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Infiniti repairs Oct. 1, 2012 - Sept. 30, 2013
1	Clean Ground Wire	\$162.43	\$0.00	\$162.43	8.20%
2	Replace Ignition Coil(s)	\$122.51	\$164.93	\$287.44	6.69%
3	Replace Oxygen Sensor(s) (O2S)	\$122.91	\$230.20	\$353.11	6.69%
4	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	6.58%
5	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$252.46	\$931.60	\$1,184.06	6.15%

2013 Report – Detailed Index Data – Common Repairs by Brand

5 Most Common Jaguar “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Jaguar repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$181.80	\$1,346.70	\$1,528.50	12.58%
2	Replace Ignition Coil(s) and Spark Plug(s)	\$248.92	\$286.84	\$535.77	8.28%
3	Replace Ignition Coil(s)	\$121.89	\$78.31	\$200.20	7.36%
4	Replace Oxygen Sensor(s) (O2S)	\$111.90	\$269.86	\$381.75	6.13%
5	Reprogram Powertrain Control Module (PCM)	\$109.00	\$0.00	\$109.00	4.91%

5 Most Common Jeep “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Jeep repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Oxygen Sensor(s) (O2S)	\$110.66	\$97.56	\$208.22	11.96%
2	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.68	\$0.00	\$0.68	7.74%
3	Replace Leak Detection Pump (LDP)	\$116.36	\$98.10	\$214.46	6.62%
4	Inspect for Faulty Vacuum Hose(s) at Evaporative Emissions (EVAP) System	\$136.30	\$0.58	\$136.88	6.19%
5	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$154.94	\$1,008.99	\$1,163.93	5.24%

2013 Report – Detailed Index Data – Common Repairs by Brand

5 Most Common Kia “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Kia repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Oxygen Sensor(s) (O2S)	\$110.67	\$202.00	\$312.67	9.26%
2	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	9.17%
3	Replace Spark Plug Wires and Spark Plugs	\$233.10	\$93.76	\$326.86	7.32%
4	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$180.49	\$939.87	\$1,120.36	7.28%
5	Inspect for Faulty Vacuum Hose(s) and Repair as Necessary	\$108.29	\$0.00	\$108.29	5.38%

5 Most Common Land Rover “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Land Rover repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Spark Plug Wires and Spark Plugs	\$416.98	\$407.13	\$824.12	17.48%
2	Replace Oxygen Sensor(s) (O2S)	\$110.88	\$235.90	\$346.78	10.45%
3	Replace Mass Air Flow (MAF) Sensor	\$108.62	\$276.31	\$384.93	10.02%
4	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	8.10%
5	Inspect for Faulty Vacuum Hose(s) at Air Injection System (AIR) and Repair as Necessary	\$145.99	\$40.27	\$186.26	6.82%

2013 Report – Detailed Index Data – Common Repairs by Brand

5 Most Common Jaguar “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Jaguar repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$181.80	\$1,346.70	\$1,528.50	12.58%
2	Replace Ignition Coil(s) and Spark Plug(s)	\$248.92	\$286.84	\$535.77	8.28%
3	Replace Ignition Coil(s)	\$121.89	\$78.31	\$200.20	7.36%
4	Replace Oxygen Sensor(s) (O2S)	\$111.90	\$269.86	\$381.75	6.13%
5	Reprogram Powertrain Control Module (PCM)	\$109.00	\$0.00	\$109.00	4.91%

5 Most Common Jeep “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Jeep repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Oxygen Sensor(s) (O2S)	\$110.66	\$97.56	\$208.22	11.96%
2	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.68	\$0.00	\$0.68	7.74%
3	Replace Leak Detection Pump (LDP)	\$116.36	\$98.10	\$214.46	6.62%
4	Inspect for Faulty Vacuum Hose(s) at Evaporative Emissions (EVAP) System	\$136.30	\$0.58	\$136.88	6.19%
5	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$154.94	\$1,008.99	\$1,163.93	5.24%

2013 Report – Detailed Index Data – Common Repairs by Brand

5 Most Common Kia “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Kia repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Oxygen Sensor(s) (O2S)	\$110.67	\$202.00	\$312.67	9.26%
2	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	9.17%
3	Replace Spark Plug Wires and Spark Plugs	\$233.10	\$93.76	\$326.86	7.32%
4	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$180.49	\$939.87	\$1,120.36	7.28%
5	Inspect for Faulty Vacuum Hose(s) and Repair as Necessary	\$108.29	\$0.00	\$108.29	5.38%

5 Most Common Land Rover “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Land Rover repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Spark Plug Wires and Spark Plugs	\$416.98	\$407.13	\$824.12	17.48%
2	Replace Oxygen Sensor(s) (O2S)	\$110.88	\$235.90	\$346.78	10.45%
3	Replace Mass Air Flow (MAF) Sensor	\$108.62	\$276.31	\$384.93	10.02%
4	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	8.10%
5	Inspect for Faulty Vacuum Hose(s) at Air Injection System (AIR) and Repair as Necessary	\$145.99	\$40.27	\$186.26	6.82%

2013 Report – Detailed Index Data – Common Repairs by Brand

5 Most Common Lexus “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Lexus repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Oxygen Sensor(s) (O2S)	\$129.29	\$191.26	\$320.55	13.98%
2	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	11.41%
3	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$158.79	\$1,335.24	\$1,494.04	10.74%
4	Replace Air/Fuel Ratio Sensor (AFR)	\$127.68	\$250.24	\$377.92	9.99%
5	Replace Mass Air Flow (MAF) Sensor	\$117.19	\$297.17	\$414.36	7.70%

5 Most Common Lincoln “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Lincoln repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Ignition Coil(s) and Spark Plug(s)	\$257.33	\$151.41	\$408.74	16.93%
2	Replace Ignition Coil(s)	\$117.53	\$86.13	\$203.66	8.72%
3	Replace Oxygen Sensor(s) (O2S)	\$109.07	\$86.27	\$195.34	6.49%
4	Replace Air Bag Module	\$146.03	\$474.58	\$620.61	5.78%
5	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$174.00	\$1,174.22	\$1,348.22	4.66%

2013 Report – Detailed Index Data – Common Repairs by Brand

5 Most Common Mazda “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Mazda repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$185.02	\$884.08	\$1,069.10	10.08%
2	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	8.83%
3	Replace Mass Air Flow (MAF) Sensor	\$108.66	\$259.01	\$367.67	7.84%
4	Replace Spark Plug Wires and Spark Plugs	\$160.17	\$142.43	\$302.60	6.07%
5	Replace Oxygen Sensor(s) (O2S)	\$115.12	\$189.42	\$304.54	5.95%

5 Most Common Mercedes “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Mercedes repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Mass Air Flow (MAF) Sensor	\$111.23	\$428.23	\$539.46	12.11%
2	Replace Oxygen Sensor(s) (O2S)	\$115.82	\$256.41	\$372.23	5.99%
3	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	5.79%
4	Replace Ignition Coil(s)	\$145.65	\$151.19	\$296.84	4.64%
5	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$296.05	\$1,493.34	\$1,789.39	4.58%

2013 Report – Detailed Index Data – Common Repairs by Brand

5 Most Common Mercury “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Mercury repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Spark Plug Wires and Spark Plugs	\$198.31	\$222.47	\$420.78	8.69%
2	Replace Ignition Coil(s) and Spark Plug(s)	\$223.78	\$144.67	\$368.45	7.81%
3	Replace Oxygen Sensor(s) (O2S)	\$113.41	\$93.84	\$207.25	7.53%
4	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	7.48%
5	Replace Positive Crankcase Ventilation (PCV) Valve and Hose	\$108.28	\$19.22	\$127.50	6.97%

5 Most Common Mini “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Mini repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Oxygen Sensor(s) (O2S)	\$109.12	\$262.05	\$371.17	20.49%
2	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	9.84%
3	Perform Engine De-Carbon Procedure	\$107.98	\$0.00	\$107.98	6.56%
4	Replace Camshaft Position Sensor (CMP)	\$107.17	\$86.27	\$193.44	6.56%
5	Replace Spark Plug Wires and Spark Plugs	\$116.02	\$60.49	\$176.51	6.56%

2013 Report – Detailed Index Data – Common Repairs by Brand

5 Most Common Mitsubishi “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Mitsubishi repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Oxygen Sensor(s) (O2S)	\$117.38	\$256.55	\$373.93	17.67%
2	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$154.90	\$934.56	\$1,089.46	11.64%
3	Replace Spark Plug Wires and Spark Plugs	\$237.86	\$163.96	\$401.82	9.69%
4	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	6.67%
5	Replace Mass Air Flow (MAF) Sensor	\$108.64	\$559.06	\$667.70	4.97%

5 Most Common Nissan “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Nissan repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$219.98	\$669.20	\$889.18	14.51%
2	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	8.44%
3	Replace Ignition Coil(s)	\$123.89	\$143.34	\$267.23	6.66%
4	Replace Oxygen Sensor(s) (O2S)	\$121.56	\$200.27	\$321.83	5.97%
5	Replace Ignition Coil(s) and Spark Plug(s)	\$153.59	\$168.33	\$321.92	4.08%

2013 Report – Detailed Index Data – Common Repairs by Brand

5 Most Common Pontiac “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Pontiac repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$133.61	\$733.77	\$867.38	7.87%
2	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	7.52%
3	Replace Oxygen Sensor(s) (O2S)	\$109.32	\$130.81	\$240.13	7.05%
4	Remove Aftermarket Alarm System	\$108.20	\$0.00	\$108.20	6.70%
5	Replace Thermostat	\$146.58	\$26.15	\$172.73	5.75%

5 Most Common Porsche “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Porsche repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Mass Air Flow (MAF) Sensor	\$138.64	\$608.86	\$747.50	19.05%
2	Replace Spark Plug(s)	\$149.32	\$152.31	\$301.63	8.57%
3	Replace Oil Filler Vacuum Hose	\$176.02	\$32.62	\$208.64	7.62%
4	Replace Oxygen Sensor(s) (O2S)	\$108.80	\$308.18	\$416.98	7.62%
5	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	6.67%

2013 Report – Detailed Index Data – Common Repairs by Brand

5 Most Common Saab “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Saab repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Ignition Control Module (ICM)	\$109.06	\$362.87	\$471.93	29.01%
2	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	10.50%
3	Replace Oxygen Sensor(s) (O2S)	\$109.33	\$291.66	\$400.99	8.56%
4	Replace Throttle Body Assembly	\$115.85	\$492.31	\$608.16	6.08%
5	Replace Thermostat	\$131.28	\$29.49	\$160.77	5.52%

5 Most Common Scion “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Scion repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Evaporative Emissions (EVAP) Vacuum Switching Valve (VSV)	\$108.30	\$62.88	\$171.18	17.38%
2	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	17.13%
3	Inspect Battery and Charging System and Repair as Necessary	\$108.76	\$0.00	\$108.76	12.85%
4	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$115.53	\$958.92	\$1,074.45	6.80%
5	Replace Mass Air Flow (MAF) Sensor	\$108.37	\$198.24	\$306.61	6.80%

2013 Report – Detailed Index Data – Common Repairs by Brand

5 Most Common Subaru “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Subaru repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$124.07	\$697.83	\$821.90	15.63%
2	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	11.70%
3	Replace Oxygen Sensor(s) (O2S)	\$174.39	\$175.38	\$349.77	10.87%
4	Replace Knock Sensor(s)	\$133.19	\$125.18	\$258.37	9.73%
5	Replace Spark Plug Wires and Spark Plugs	\$220.80	\$86.59	\$307.39	6.83%

5 Most Common Suzuki “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Suzuki repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Oxygen Sensor(s) (O2S)	\$111.33	\$309.41	\$420.74	21.61%
2	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	16.43%
3	Replace Exhaust Gas Recirculation (EGR) Valve and Clean All EGR ports	\$116.66	\$458.51	\$575.17	9.22%
4	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$121.12	\$1,089.07	\$1,210.19	5.48%
5	Replace Thermostat	\$114.36	\$35.79	\$150.15	4.32%

2013 Report – Detailed Index Data – Common Repairs by Brand

5 Most Common Toyota “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Toyota repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$123.96	\$1,181.76	\$1,305.72	12.01%
2	Replace Oxygen Sensor(s) (O2S)	\$116.95	\$187.57	\$304.52	11.55%
3	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	10.18%
4	Replace Air/Fuel Ratio Sensor (AFR)	\$116.70	\$225.53	\$342.23	5.55%
5	Replace Mass Air Flow (MAF) Sensor	\$124.24	\$287.12	\$411.36	5.52%

5 Most Common Volkswagen “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% VW repairs Oct. 1, 2012 - Sept. 30, 2013
1	Replace Mass Air Flow (MAF) Sensor	\$110.33	\$246.45	\$356.78	11.91%
2	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$180.70	\$994.41	\$1,175.11	10.93%
3	Replace Ignition Coil(s)	\$108.50	\$115.47	\$223.97	6.38%
4	Replace Engine Coolant Temperature Sensor (ECT)	\$109.29	\$33.58	\$142.87	6.30%
5	Inspect for Faulty Vacuum Hose(s) at Air Injection System (AIR) and Repair as Necessary	\$109.04	\$0.00	\$109.04	6.19%

2013 Report – Detailed Index Data – Common Repairs by Brand

5 Most Common Volvo “Check Engine” Light Repairs (Oct. 1, 2012 - Sept. 30, 2013)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Volvo repairs Oct. 1, 2012 - Sept. 30, 2013
1	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	14.19%
2	Replace Mass Air Flow (MAF) Sensor	\$108.78	\$305.30	\$414.08	11.98%
3	Replace Oxygen Sensor(s) (O2S)	\$139.46	\$364.96	\$504.42	6.90%
4	Inspect for Faulty Vacuum Hose(s) and Repair as Necessary	\$108.70	\$0.00	\$108.70	6.33%
5	Replace Fuel Pressure Sensor	\$122.62	\$231.33	\$353.95	6.04%

2013 Report – CarMD® Vehicle Health Index™ – Overview

Since 1996, CarMD has compiled and maintained the industry's largest and most comprehensive database of “check engine” light-related problems and repairs. The database is procured from CarMD's nationwide network of Automotive Service Excellence (ASE)-certified technicians, who recommend, validate and upload repairs and costs to the database on a daily basis for 1996 vehicles to present. CarMD currently has 3 million verified repairs in its proprietary database that apply to roughly 200 million on-board diagnostic, second generation (OBD2) vehicles on the road in the U.S. This includes an estimated 119 million Model Year 2003-2013 vehicles, from which the 2013 CarMD® Vehicle Health Index Manufacturer and Vehicle Rankings were procured. Subsequent CarMD Vehicle Health Index reports will draw from a sampling of diagnostic trouble codes and expert fixes as the database grows, and the vehicle population changes.

- Beginning in 1996, the U.S. government mandated that OBD2 be included on all foreign and domestic cars, light trucks, vans, SUVs and now hybrids driven in the U.S. This universal technology is designed to detect malfunctions, set a diagnostic trouble code (DTC) and turn on the “check engine” light if there is a problem. This system provides vital health and safety information for roughly 80 percent of a vehicle's systems, and is installed on just over 82 percent of the vehicles in the U.S. today.
- As a result of compiling the industry's most comprehensive database of diagnostic trouble codes and repairs for “check engine”-related problems, CarMD is uniquely able to provide statistics on a wide range of vehicles and manufacturers. By offering this unbiased and unprecedented repair and reliability information over time, CarMD is able to present an unparalleled view of reliability over the lifecycle of vehicles, enabling consumers and the industry to compare and contrast makes based on facts and not just opinion surveys.
- The top 100 vehicles represent the best vehicles out of more than 1,000 different types of model year 2003 to 2013 vehicles on the road today, and the top 10 manufacturers represent the best out of more than 30 parent manufacturers. It is important to remember that even the 99th or 100th ranked vehicle on the top 100 list is a significant achievement, as this puts it in the top 10% of all 2003 to 2013 vehicles being ranked.
- Each spring, the company also releases its CarMD® Vehicle Health Index™ of unbiased statistical information covering the most common “check engine” light-related car repairs and associated costs, on a national basis. Each summer, CarMD shares state-by-state rankings of car repairs and costs to help motorists better understand how geography and climate play a role in car maintenance and repairs.
- Current and archived indices are available at <http://corp.carmd.com>.

(MEDIA NOTES: This document is provided on an embargoed basis to allow you to research and file your stories before this is posted to the <http://corp.carmd.com> website. Additional information, including Index news release, detailed data, logos, graphics and interviews are available upon request.)

2013 Report – CarMD® Vehicle Health Index™ – Methodology

CarMD has compiled the industry's most comprehensive database of diagnostic trouble codes and repairs for "check engine"-related problems downloaded by automotive technicians and vehicle owners since 1996. The data for the 2013 CarMD® Vehicle Health Index™ Manufacturer & Vehicle Rankings was procured from CarMD's network of thousands of independent and original equipment Automotive Service Excellence (ASE)-certified technicians who have input and validated failures and fixes into the CarMD diagnostic database.

The 2013 Index statistically analyzes more than 152,000 specific repairs that apply to roughly 119 million model year 2003 to 2013 vehicles, taking place in the United States during the Oct. 1, 2012 to Sept. 30, 2013 date period. The data for the 2013 CarMD® Vehicle Health Index was pulled, analyzed and validated between Oct. 1, 2013 and Nov. 3, 2013, by CarMD's internal team plus third party experts. The Index is based on downloaded information from each vehicle's government-mandated onboard diagnostic computer, combined with uploaded repair information from CarMD's network of automotive technicians. Repair costs are based on original equipment retail MSRP plus 10% markup. Labor rates are procured from several sources, including the Undercar Digest National and Regional Hourly Shop Labor Rate reports, as well as the average amount of time required for each repair. Both are updated annually.

Virtually all 2003 to 2013 makes and models of cars, light trucks, minivans, SUVs and hybrids – foreign and domestic – with on board diagnostic second generation (OBD2) technology are included in the Index. For the 2013 Vehicle Health Index, CarMD focused on model year 2003-2013 vehicles, since the average age of a vehicle is now 11 years old, and these are the vehicles that will be of interest to new and used car buyers. In determining the Top 10 manufacturers and Top 100 vehicles, CarMD included all makes and models that were listed among the U.S. vehicle population, according to R.L. Polk data, and had a visit or repair logged by a member of CarMD's professional repair technicians. In determining the Top 10 manufacturers, brands were grouped under their parent manufacturer (i.e. Lexus and Scion under Toyota; Acura under Honda; Buick, Chevrolet, Cadillac, GMC, Hummer, Oldsmobile, Pontiac and Saturn under GM; Audi under Volkswagen; etc.) The data in the Index is applicable to more than 82 percent of the vehicles on the road, giving a unique perspective on vehicles driven and repaired in the U.S. In determining the most common repairs by manufacturer, this Index looked at the entire OBD2 vehicle population (1996-current) vehicles for each manufacturer from Oct. 1, 2012 - Sept. 30, 2013.

CarMD contracted with a third party web-based project management company to program a formula that factored in the number of registered vehicles on the road for each manufacturer, make, model and year. A CarMD Vehicle Health Index rating was then assigned using the total number of red reports (or failures) per vehicle (or manufacturer) divided by the total number of vehicles in the population. Percentage of problems and average repair costs have been equally weighted in the CarMD Overall Index rating. The overall Index ranking for the Top Ranked Manufacturers and Vehicles were derived by the average of the Index and cost ranking and reliability scores.

On a daily basis, CarMD's nationwide network of thousands of factory-trained OE (original equipment) and independent automotive repair technicians recommend, confirm and upload repairs and costs by region to the CarMD database. As a result, subsequent CarMD Vehicle Health Index reports will draw from a larger sampling of diagnostic trouble codes, expert fixes and repair costs.

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