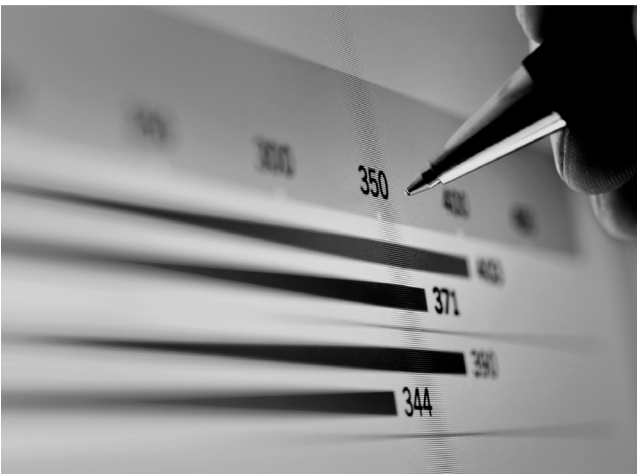
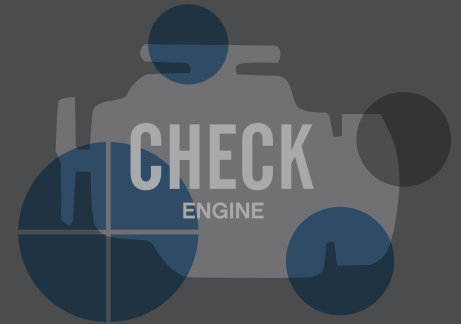




November 2011

Under Embargo Until Nov 14, 2011 @ 12 a.m.(ET)



A large graphic featuring a blue arrow pointing upwards with a car icon at its tip, set against a background of faint, repeating text listing car models and their corresponding Vehicle Health Index scores. The text includes entries such as '2008 Hyundai Elantra \$123.80 0.229 0.103 0.166, 35.', '2002 Volvo V70 \$155.71 0.212 0.121 0.166, 36.', '2008 Ford Mustang \$114.87 0.248 0.104 0.176, 1.', '2009 Toyota Corolla \$45.84 0.145 0.024 0.085, 2.', '2008 Honda CR-V \$91.25 0.142 0.047 0.095, 3.', '2007 Honda CR-V \$85.3 0.174 0.041 0.108, 5.', '2009 Toyota RAV4 \$61.33 0.186 0.042 0.114, 6.', '2011 Hyundai \$12.33 0.220 0.010 0.115, 7.', '2009 Toyota Camry \$176.0 0.231 0.011 0.121, 9.', '2005 Chevrolet Blazer \$149.00 0.166 0.091 0.128, 10.', '2008 Toyota \$328.57 0.117 0.141 0.129, 11.', '2006 Buick Lucerne \$112.56 0.184 0.076 0.130, 13.', '2007 Toyota Highlander \$132.89 0.179 0.087 0.133, 14.', 'Subaru Legacy \$321.93 0.125 0.147 0.136, 15.', '2008 Toyota TL \$52.83 0.232 0.045 0.139, 17.', '2010 Ford Escape \$16.00 0.267 0.016 0.141, 18.', 'Toyota Camry \$126.43 0.193 0.089 0.141, 19.', '2010 Toyota \$83.67 0.224 0.068 0.146, 21.', '2009 Nissan Altima \$614.33 0.091 0.204 0.147, 22.', 'Mercury Grand Marquis \$175.44 0.180 0.115 0.148, 23.', '2010 Mazda \$69.80 0.239 0.061 0.150, 25.', '2010 Ford Fusion \$110.54 0.215 0.087 0.151, 26.', 'Ford Edge \$39.33 0.268 0.039 0.154, 27.', '2008 Saturn Aura \$4.75 0.254 0.060 0.157, 29.', '2010 Chevrolet Impala \$124.71 0.217 0.099 0.158, 30.', 'Lucerne \$66.57 0.259 0.063 0.161, 31.', '2009 Nissan Versa \$1.77 0.295 0.031 0.163, 33.', '2002 Subaru Legacy \$246.31 0.174 0.156 0.165, 34.', 'Hyundai Elantra \$123.80 0.229 0.103 0.166, 35.', '2002 Volvo V70 \$155.71 0.212 0.121 0.166, 36.', '2006 Subaru Legacy \$112.56 0.184 0.076 0.130, 13.', '2007 Toyota Highlander \$132.89 0.179 0.087 0.133, 14.', 'Subaru Legacy \$321.93 0.125 0.147 0.136, 15.', '2008 Toyota TL \$52.83 0.232 0.045 0.139, 17.', '2010 Ford Escape \$16.00 0.267 0.016 0.141, 18.', 'Toyota Camry \$126.43 0.193 0.089 0.141, 19.', '2010 Toyota \$83.67 0.224 0.068 0.146, 21.', '2009 Nissan Altima \$614.33 0.091 0.204 0.147, 22.', 'Mercury Grand Marquis \$175.44 0.180 0.115 0.148, 23.', '2010 Mazda \$69.80 0.239 0.061 0.150, 25.', '2010 Ford Fusion \$110.54 0.215 0.087 0.151, 26.', 'Ford Edge \$39.33 0.268 0.039 0.154, 27.', '2008 Saturn Aura \$4.75 0.254 0.060 0.157, 29.', '2010 Chevrolet Impala \$124.71 0.217 0.099 0.158, 30.', 'Lucerne \$66.57 0.259 0.063 0.161, 31.', '2009 Nissan Versa \$1.77 0.295 0.031 0.163, 33.', '2002 Subaru Legacy \$246.31 0.174 0.156 0.165, 34.', 'Hyundai Elantra \$123.80 0.229 0.103 0.166, 35.', '2002 Volvo V70 \$155.71 0.212 0.121 0.166, 36.'

Welcome to the First Annual CarMD® Vehicle Health Index™

CarMD.com Corporation is pleased to release its first annual CarMD® Vehicle Health Index™ ... The Manufacturer Data Behind the Diagnostics. It is the first ever index to rank manufacturers and vehicles using statistically-based “check engine”-related failures and repair costs. By releasing this data, CarMD is providing car and truck shoppers with a completely unbiased and never-before-seen level of transparency into the new and used vehicles they may be considering. In this Index, CarMD highlights the best manufacturers with the combined average rating of fewest check engine-related problems and lowest related repair costs.

This CarMD Index also ranks the top 100 vehicles overall, the top three vehicles by category and provides an overview of the most common problems by make. In April 2011, CarMD released its first annual CarMD® Vehicle Health Index™, featuring unbiased statistical information covering the most common reasons for “check engine” light-related car repairs and the costs associated with those repairs, on a national basis. In June 2011, CarMD released the most common reasons for “check engine” light-related car repairs and the costs by state to help motorists better understand how geography and climate play a role in car maintenance and repairs. Each of these Index reports will be released annually and available at <http://corp.carmd.com>.

“As a result of compiling the industry’s most comprehensive database of diagnostic trouble codes and repairs for ‘check engine’-related problems, CarMD is in a unique position to provide statistics on a wide range of vehicles and manufacturers,” said Art Jacobsen, vice president, CarMD. “Sourced directly from a nationwide network of automotive technicians and vehicle owners since 1996, our Index takes an unbiased, never-before-seen approach to ranking vehicles based on total vehicle population, making it possible to compare a 10-year-old vehicle with a newer one.”

SUMMARY OF FINDINGS

According to the 2011 CarMD® Vehicle Health Index, **Toyota is the no. 1 ranked manufacturer in the U.S.**, based on a ranking derived from the fewest percentage of “check engine” light-related related problems and lowest average repair cost. Toyota, which includes Toyota and Lexus brands, has the lowest Index rating of 0.67. The lower the rating, the better the overall ranking. **Rounding out the top five vehicle manufacturers of 2011 are No. 2 Hyundai, No. 3 Honda, No. 4 Ford and No. 5 General Motors.**

MEDIA NOTES: (Top 10 vehicle manufacturers based on model year 2001-2011 vehicles needing repairs between Oct. 1, 2010 and Oct. 1, 2011, 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).

RANK	MANUFACTURER	Overall CarMD 2011 Index Rating
1	TOYOTA	0.67
2	HYUNDAI	0.85
3	HONDA	0.89
4	FORD	0.95
5	GENERAL MOTORS	0.97
6	MITSUBISHI	1.03
7	NISSAN	1.04
8	KIA	1.16
9	VOLKSWAGEN	1.38
10	CHRYSLER	1.97

HIGHLIGHTS APRIL 2011 INDEX

CarMD currently has more than a half-million repairs in its proprietary database that apply to roughly 189 million on board diagnostic, second generation (OBD2) vehicles on the road in the U.S., including an estimated 136 million MY 2001-2011 vehicles, from which the 2011 CarMD® Vehicle Health Index and Ranking was procured. As a result of compiling the industry's first and most comprehensive database of diagnostic trouble codes and repairs for 'check engine'-related problems, CarMD is uniquely positioned to provide actual data on a wide range of vehicles and manufacturers.



According to the 2011 CarMD® Vehicle Health Index, **Toyota is the no. 1 ranked manufacturer in the U.S., based on a ranking derived from the fewest percentage of "check engine" light-related related problems and lowest average repair cost.** Toyota, which includes Toyota and Lexus brands, has the lowest Index rating of 0.67. The lower the rating, the better the overall ranking.

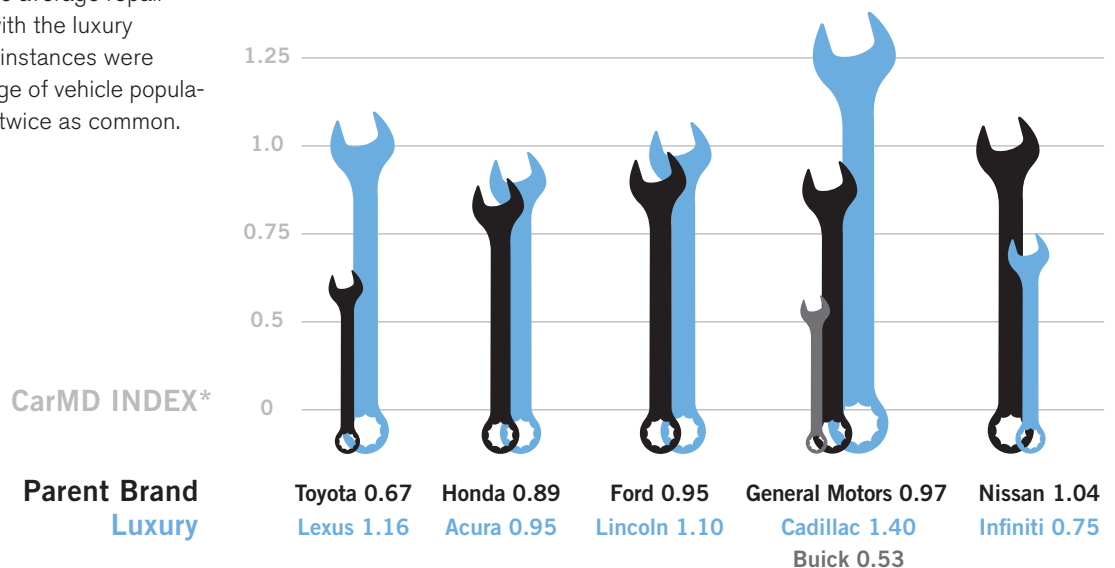


TOYOTA
RANKED No. 1
MANUFACTURER

Based on Fewest "Check Engine" Failures & Lowest Repair Costs

Generally speaking luxury brands hurt their parent brands, with Buick and Infiniti as exceptions. Although the average repair costs were actually lower with the luxury brands, the reported repair instances were higher based on a percentage of vehicle population – in most cases about twice as common.

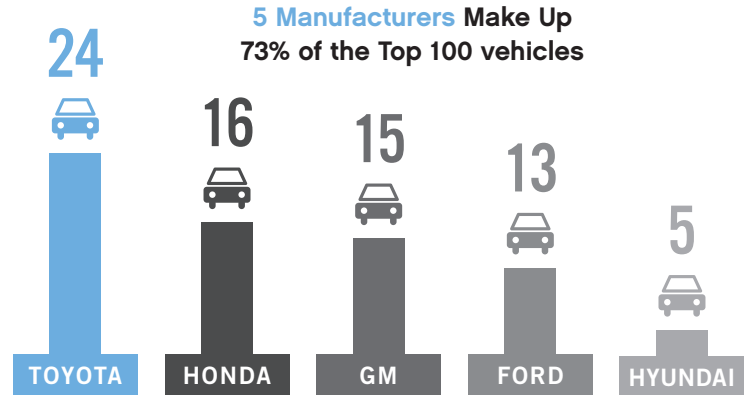
Parent Brands
Out Perform Luxury Brands*



*the lower the rating number, the higher the ranking

HIGHLIGHTS NOVEMBER 2011 INDEX

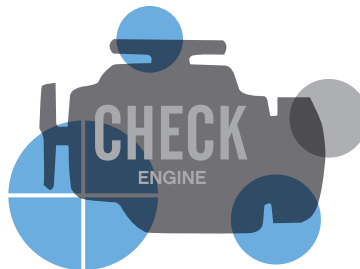
The top 100 vehicles represent the best vehicles out of more than 900 different registered vehicles on the road today. It is important to remember that even the 99th or 100th ranked vehicle on the top 100 list is a significant achievement, as this puts it in the top 10% of all vehicles on the road. 73% of the top 100 vehicles come from the top 5 ranked manufacturers: **Toyota- 24; Honda- 16; General Motors- 15; Ford- 13; Hyundai- 5**, with No. 1 ranked Toyota leading the pack with 24 vehicles in the top 100.



Ranked no. 5, General Motors was led by Buick, which produced many of the most reliable vehicles. Three of the top 100 vehicles were the Buick Lucerne (2006, 2007 and 2008 models). Buick led the luxury segment and had Buick been listed as its own manufacturer, the brand would have ranked as the no. 1 best manufacturer overall. With a low problem occurrence rate and an exceptionally low \$190 average repair cost, Buick's overall performance stands out.

GENERAL MOTORS	Average "Check Engine" Repair Cost	Overall CarMD Rating
Buick	\$190.69	0.53
Saturn	\$198.25	0.90
Chevy	\$242.83	0.95
Oldsmobile	\$205.78	0.99
Pontiac	\$226.38	1.03
GMC	\$246.29	1.12
Cadillac	\$402.51	1.40
GM Total	\$245.47	0.97

Different vehicle makes tend to have a unique set of problems and common failures. The CarMD Vehicle Health Index helps point out common problems by manufacturer, which is important for car owners to recognize in their maintenance and repair routines. See Charts on Pages 15-30.



No.1 Fix by Manufacturer

(see charts on page 15-30)

- Acura:** Inspect Battery and Charging System and Repair as Necessary
- Audi:** Inspect for Faulty Vacuum Hose(s) and Repair as Necessary
- BMW:** Replace Mass Air Flow (MAF) Sensor

QUICK SNAPSHOT APRIL 2011 INDEX

Overview

Over the past 15 years, CarMD has compiled and maintained the industry's largest and most comprehensive database of "check engine"-light problems and repairs. The CarMD® Vehicle Health Index™ is based on this database, which was procured from CarMD's nationwide network of Automotive Service Excellence (ASE)-certified technicians, who have input and validated failures and fixes into the CarMD diagnostic database from 1996 to 2011. On a daily basis, CarMD's network of technicians recommend, confirm and upload repairs and costs to the database. Subsequent CarMD Vehicle Health Index reports will draw from a larger sampling of diagnostic trouble codes and expert fixes.

- CarMD currently has more than a half-million repairs in its proprietary database that apply to roughly 189 million on board diagnostic, second generation (OBD2) vehicles on the road in the U.S., including an estimated 136 million MY 2001-2011 vehicles, from which the 2011 CarMD® Vehicle Health Index and Ranking is procured.
- Beginning in 1996, the U.S. government mandated that OBD2 be included on all foreign and domestic cars, light trucks, minivans and SUVs 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 about 80 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 positioned to provide statistics on a wide range of vehicles and manufacturers. By offering this unbiased and never-before-seen 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 900 different registered vehicles on the road today and the top 10 manufacturers represent the best out of more than 30 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 vehicles on the road.

NOVEMBER 2011 REPORT – Detailed Index Data – Top Ranked Manufacturers

Top Ranked Vehicle Manufacturers Highlights

- Toyota ranked no. 1 in the First Annual CarMD® Vehicle Health Index™ Top Ranked Manufacturers list.
 - This includes Toyota- and Lexus-branded vehicles.
 - Toyota's rating was the lowest at 0.67. The lower the rating score, the better the overall ranking.

- Rounding out the top five most reliable vehicle manufacturers of 2011 are no. 2 Hyundai (0.85), no. 3 Honda (0.89), no. 4 Ford (0.95) and no. 5 General Motors (0.97).
 - No. 2 ranked Hyundai has also seen vast improvements in its vehicle ratings since the early 2000's. The 2005 Hyundai Tucson received an overall Index score of 2.539, ranking in the no. 877 spot, not even in the top 100. Conversely the 2011 Hyundai Sonata earned a 0.115 rating placing it in the no. 6 spot.
 - The Elantra's evolution illustrates a very clear inflection point for Hyundai beginning with a full model change in 2006. This fourth-generation Elantra landed in the top 100 vehicles list twice and when combined with the fifth-generation Sonata launched in 2004, which appears three times in the top 100, it significantly propels Hyundai's ranking.
 - No. 3 ranked Honda's overall manufacturer index ranking would have been higher if it weren't for very poor scores on the 2001 and 2002 Honda Odyssey, with index scores of 3.812 and 3.331 respectively. However, Honda made vast improvements on this vehicle, and the 2008 Honda Odyssey earned a much-improved .250 rating.
 - No. 4 ranked Ford demonstrated consistent quality with vehicles such as the Edge. Since its launch in 2006, the Edge appears in the top 100 vehicles list three times. However, Ford's struggles with minivans reduced its ranking. The Ford Windstar, discontinued in 2003, still continues to hurt Ford's overall score with that model near the bottom of the 10-year period looked at by this Index. The Freestar, the Windstar's replacement, did not fare much better from 2003-2006.
 - Ranked no. 5, General Motors was led by Buick, which produced many of the most reliable vehicles. Three of the top 100 vehicles were the Buick Lucerne (2006, 2007 and 2008 models). Buick led the luxury segment and had Buick been listed as its own manufacturer, the brand would have ranked as the no. 1 best manufacturer overall. With a low problem occurrence rate and an exceptionally low \$190 average repair cost, Buick's overall performance stands out.
 - The discontinued Chevy Blazer also demonstrated consistent reliability, making it into the top 10 list and appearing a total of three times in the top 100.

- Generally speaking luxury brands actually hurt their parent brands, with Buick and Infiniti as exceptions. Although the average repair costs were actually lower with the luxury brands, the reported repair instances were higher based on a percentage of vehicle population – in most cases about twice as common. While Buick helped General Motor's no. 5 manufacturer ranking, Cadillac hurt General Motor's ranking significantly.
 - Lexus, Acura, Lincoln and Cadillac performed worse than their parent manufacturers.
 - Luxury brand top five ranking: No. 1 Buick (0.53 rating), no. 2 Infiniti (0.75 rating), no. 3 Volvo (0.87 rating), no. 4 Acura (0.95 ranking) and no. 5 Audi (1.09 rating).
 - Brand comparison: Toyota 0.67 rating - Lexus 1.16 rating; Honda 0.89 rating - Acura 0.95 rating; Ford 0.95 rating – Lincoln 1.10 rating; General Motors 0.97 rating - Cadillac 1.40 rating and Buick 0.53 rating; and Nissan 1.04 rating - Infiniti 0.75 rating.

- 73% of the top 100 vehicles come from the top 5 ranked manufacturers.
 - Toyota- 24; Honda- 16; General Motors- 15; Ford- 13; Hyundai- 5.
- The Top Ranked Manufacturers list is derived from those makes of vehicles with the fewest percentage of “check engine”-light problems and lowest average repair cost per number of registered vehicles on the road.
 - Data for the 2011 CarMD Vehicle Health Index is based on repairs on model year 2001-2011 vehicles, occurring between Oct. 1, 2010 and Oct. 1, 2011. (source for registered vehicles: R.L. Polk).

TOP 10 RANKED VEHICLE MANUFACTURERS IN THE U.S.

Rank	Manufacturer	% Vehicle Pop.	% CarMD Red Light Reports / Problems Seen	Average Repair Cost (Parts & Labor)	Overall CarMD 2011 Index Score
1	Toyota	13.2%	6.9%	\$417.37	0.67
2	Hyundai	3.1%	2.9%	\$219.35	0.85
3	Honda	10.6%	7.3%	\$429.57	0.89
4	Ford	18.1%	18.2%	\$240.68	0.95
5	General Motors	32.1%	32.5%	\$245.47	0.97
6	Mitsubishi	1.8%	1.7%	\$317.36	1.03
7	Nissan	6.2%	5.8%	\$323.61	1.04
8	Kia	1.9%	2.2%	\$257.73	1.16
9	Volkswagen	2.9%	3.9%	\$294.16	1.38
10	Chrysler	6.6%	15.0%	\$198.94	1.97

(Top 10 vehicle manufacturers based on model year 2001-2010 vehicles needing repairs between Oct. 1, 2010 and Oct. 1, 2011, 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)

NOVEMBER 2011 REPORT – Detailed Index Data – Top Ranked Vehicles

TOP RANKED VEHICLES

- Because of its vast database of problems and repairs for 1996 to current vehicles, CarMD is uniquely positioned to provide fact-based transparency into a wide range of vehicles.
 - For the first time ever, CarMD's Index ranks combined new and used vehicles.
- Toyota and Honda models each account for four of the top 10 ranked vehicles model year 2001 to 2011.
 - The no. 1 ranked 2009 Toyota Corolla had the lowest combined repair incidents and lowest average repair costs per number of registered vehicles, and the best CarMD Index rating of 0.085.
 - Other top-ranking Toyota vehicles include the 2009 Toyota RAV4 (no. 5), 2009 Toyota Camry (no. 7) and 2008 Toyota Highlander (no. 10).
 - Top-ranked Honda vehicles include the 2008 Honda CR-V (no. 2), 2007 Honda CR-V (no. 3), 2009 Honda Accord (no. 4) and 2009 Honda Pilot (no. 8).
 - Rounding out the top 10 are the 2011 Hyundai Sonata (No. 6) and the 2005 Chevrolet Blazer (no. 9).
- Sourced directly from a nationwide network of automotive technicians and vehicle owners since 1996, this CarMD Vehicle Health Index takes a never-before-seen approach to ranking vehicles based on the total vehicle population and makes it possible to compare a 10-year-old vehicle with a newer one, fueling the age-old "new versus used" vehicle debate.
 - This is particularly important since drivers are holding onto vehicles longer than ever before with an average vehicle age in excess of 10 years.
 - Some of the oldest vehicles in the top 100 are the no. 14-ranked 2001 Subaru Legacy, no. 33-ranked 2002 Subaru Legacy, no. 35-ranked 2002 Volvo V70, and the no. 48-ranked 2001 Ford Explorer, demonstrating that as manufacturers make vehicles to last longer and drivers hold onto their vehicles longer, it's possible to have a healthy well-maintained vehicle for 10+ years.

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 2001- 2011) from Oct. 1, 2010 and Oct. 1, 2011

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.	2009	Toyota	Corolla	\$45.84	0.145	0.024	0.085
2.	2008	Honda	CR-V	\$91.25	0.142	0.047	0.095
3.	2007	Honda	CR-V	\$85.75	0.148	0.046	0.097
4.	2009	Honda	Accord	\$65.13	0.174	0.041	0.108
5.	2009	Toyota	RAV4	\$61.33	0.186	0.042	0.114
6.	2011	Hyundai	Sonata	\$12.33	0.220	0.010	0.115
7.	2009	Toyota	Camry	\$176.04	0.143	0.092	0.117
8.	2009	Honda	Pilot	\$12.83	0.231	0.011	0.121
9.	2005	Chevrolet	Blazer	\$149.00	0.166	0.091	0.128
10.	2008	Toyota	Highlander	\$328.57	0.117	0.141	0.129
11.	2006	Buick	Lucerne	\$67.18	0.208	0.051	0.130
12.	2006	Subaru	Legacy	\$112.56	0.184	0.076	0.130
13.	2007	Toyota	Highlander	\$132.89	0.179	0.087	0.133
14.	2001	Subaru	Legacy	\$321.93	0.125	0.147	0.136
15.	2008	Toyota	Camry	\$130.75	0.184	0.088	0.136
16.	2007	Acura	TL	\$52.83	0.232	0.045	0.139
17.	2010	Ford	Escape	\$16.00	0.267	0.016	0.141
18.	2011	Toyota	Camry	\$126.43	0.193	0.089	0.141
19.	2010	Toyota	Camry	\$167.62	0.178	0.109	0.144
20.	2009	Honda	Civic	\$83.67	0.224	0.068	0.146
21.	2009	Nissan	Altima	\$614.33	0.091	0.204	0.147
22.	2005	Mercury	Grand Marquis	\$175.44	0.180	0.115	0.148
23.	2010	Mazda	3	\$20.00	0.280	0.020	0.150

Table continued on pages 9-12

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 2001- 2011) from Oct. 1, 2010 and Oct. 1, 2011 (cont’d.)

Rank	Year	Brand/Make	Model	Avg. Repair Cost	Index Rating (Repair Incidents)	Index Rating (Repair Costs)	Overall CarMD Index Rating Score (Repairs and Costs)
24.	2008	Toyota	Corolla	\$69.80	0.239	0.061	0.150
25.	2010	Ford	Fusion	\$110.54	0.215	0.087	0.151
26.	2010	Ford	Edge	\$39.33	0.268	0.039	0.154
27.	2008	Saturn	Aura	\$157.00	0.197	0.113	0.155
28.	2005	Buick	Century	\$64.75	0.254	0.060	0.157
29.	2010	Chevrolet	Impala	\$124.71	0.217	0.099	0.158
30.	2008	Buick	Lucerne	\$66.57	0.259	0.063	0.161
31.	2009	Nissan	Versa	\$57.50	0.269	0.056	0.162
32.	2008	Toyota	Yaris	\$28.77	0.295	0.031	0.163
33.	2002	Subaru	Legacy	\$246.31	0.174	0.156	0.165
34.	2008	Hyundai	Elantra	\$123.80	0.229	0.103	0.166
35.	2002	Volvo	V70	\$155.71	0.212	0.121	0.166
36.	2008	Ford	Mustang	\$46.50	0.301	0.051	0.176
37.	2008	Honda	Accord	\$114.87	0.248	0.104	0.176
38.	2006	Toyota	Camry	\$253.63	0.183	0.170	0.176
39.	2010	Honda	Accord	\$19.74	0.331	0.024	0.178
40.	2007	Toyota	FJ Cruiser	\$129.50	0.241	0.114	0.178
41.	2008	Toyota	Avalon	\$133.33	0.239	0.116	0.178
42.	2010	Chevrolet	Silverado	\$171.11	0.221	0.138	0.180
43.	2005	Cadillac	Escalade	\$79.60	0.284	0.083	0.183
44.	2007	Buick	Lucerne	\$246.00	0.202	0.182	0.192
45.	2007	Toyota	Camry	\$285.46	0.188	0.197	0.192
46.	2005	Toyota	RAV4	\$91.60	0.289	0.097	0.193

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 2001- 2011) from Oct. 1, 2010 and Oct. 1, 2011 (cont’d.)

Rank	Year	Brand/Make	Model	Avg. Repair Cost	Index Rating (Repair Incidents)	Index Rating (Repair Costs)	Overall CarMD Index Rating Score (Repairs and Costs)
47.	2008	Toyota	Sienna	\$320.11	0.184	0.215	0.200
48.	2001	Ford	Explorer	\$174.61	0.245	0.156	0.201
49.	2007	Volkswagen	Jetta	\$164.18	0.253	0.152	0.202
50.	2008	Nissan	Altima	\$233.68	0.220	0.188	0.204
51.	2008	Hyundai	Sonata	\$172.09	0.255	0.161	0.208
52.	2008	Chevrolet	Tahoe	\$144.09	0.275	0.145	0.210
53.	2007	Nissan	Murano	\$191.36	0.253	0.177	0.215
54.	2007	Toyota	Tacoma	\$234.06	0.234	0.200	0.217
55.	2008	Subaru	Outback	\$268.17	0.221	0.217	0.219
56.	2007	Nissan	Altima	\$516.56	0.154	0.291	0.222
57.	2005	Toyota	Camry Solara	\$191.50	0.261	0.183	0.222
58.	2006	Toyota	Sienna	\$220.85	0.246	0.198	0.222
59.	2003	Ford	Explorer Sport	\$114.67	0.315	0.132	0.224
60.	2004	Subaru	Legacy	\$368.20	0.193	0.260	0.227
61.	2008	Kia	Spectra	\$242.17	0.244	0.216	0.230
62.	2003	Subaru	Legacy	\$312.24	0.215	0.245	0.230
63.	2008	Volkswagen	Jetta	\$102.83	0.337	0.127	0.232
64.	2007	Ford	Edge	\$166.13	0.290	0.176	0.233
65.	2008	Ford	Fusion	\$121.11	0.323	0.143	0.233
66.	2006	Ford	Escape	\$144.56	0.306	0.162	0.234
67.	2007	Acura	MDX	\$83.11	0.360	0.109	0.235
68.	2005	Subaru	Legacy	\$300.89	0.227	0.250	0.238

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 2001- 2011) from Oct. 1, 2010 and Oct. 1, 2011 (cont’d.)

Rank	Year	Brand/Make	Model	Avg. Repair Cost	Index Rating (Repair Incidents)	Index Rating (Repair Costs)	Overall CarMD Index Rating Score (Repairs and Costs)
69.	2004	Toyota	Camry Solara	\$269.70	0.243	0.239	0.241
70.	2004	Volkswagen	Touareg	\$67.20	0.392	0.096	0.244
71.	2008	Ford	Edge	\$64.68	0.396	0.094	0.245
72.	2008	Ford	Focus	\$187.59	0.293	0.201	0.247
73.	2009	Honda	Fit	\$22.00	0.457	0.037	0.247
74.	2010	Chevrolet	Malibu	\$143.92	0.327	0.172	0.249
75.	2008	Honda	Odyssey	\$296.00	0.240	0.260	0.250
76.	2008	Honda	Pilot	\$211.50	0.283	0.219	0.251
77.	2007	Cadillac	Escalade	\$104.76	0.370	0.142	0.256
78.	2007	Toyota	RAV4	\$201.04	0.295	0.217	0.256
79.	2008	Toyota	RAV4	\$181.37	0.314	0.208	0.261
80.	2008	Nissan	Versa	\$250.11	0.279	0.255	0.267
81.	2008	Ford	Escape	\$113.95	0.383	0.159	0.271
82.	2008	Subaru	Impreza	\$83.40	0.428	0.130	0.279
83.	2008	Honda	Civic	\$307.62	0.265	0.298	0.281
84.	2009	Hyundai	Sonata	\$191.11	0.335	0.234	0.284
85.	2003	Mercury	Grand Marquis	\$156.00	0.361	0.206	0.284
86.	2005	Toyota	Highlander	\$567.94	0.185	0.384	0.285
87.	2008	Nissan	Rogue	\$82.69	0.440	0.133	0.287
88.	2003	Chevrolet	Blazer	\$196.89	0.334	0.241	0.288
89.	2008	Jeep	Liberty	\$109.64	0.412	0.165	0.289
90.	2007	Hyundai	Elantra	\$113.88	0.410	0.171	0.290

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 2001- 2011) from Oct. 1, 2010 and Oct. 1, 2011 (cont’d.)

Rank	Year	Brand/ Make	Model	Avg. Repair Cost	Index Rating (Repair Incidents)	Index Rating (Repair Costs)	Overall CarMD Index Rating Score (Repairs and Costs)
91.	2004	Chevrolet	Blazer	\$192.74	0.341	0.240	0.291
92.	2007	Honda	Civic	\$271.62	0.292	0.290	0.291
93.	2006	Mercury	Grand Marquis	\$134.75	0.392	0.193	0.293
94.	2004	Buick	Century	\$162.12	0.370	0.219	0.295
95.	2009	Ford	Focus	\$158.65	0.380	0.220	0.300
96.	2004	Mercury	Grand Marquis	\$187.19	0.356	0.244	0.300
97.	2010	Volkswagen	Jetta	\$139.22	0.399	0.203	0.301
98.	2008	Buick	Enclave	\$201.33	0.360	0.265	0.312
99.	2004	Toyota	Camry	\$351.68	0.274	0.352	0.313
100.	2005	Honda	Element	\$128.43	0.428	0.201	0.315

(Top 100 vehicles based on CarMD diagnostic reports generated from Oct. 1, 2010 – Oct. 1, 2011, representing an estimated 136 million model year 2001 – 2010 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)

November 2011 Report – Detailed Index Data – Top Vehicles by Category

Top 3 Ranked Vehicles in each category; based on combined fewest and lowest cost “check engine”- related problems (Model Year 2001-2011) from Oct. 1, 2010 to Oct. 1, 2011

Compact Car

1. 2009 Toyota Corolla
2. 2009 Honda Civic
3. 2008 Toyota Corolla



Minivan

1. 2008 Honda Odyssey
2. 2007 Dodge Caravan
3. 2005 Toyota Sienna



Full-sized Car

1. 2009 Honda Accord
2. 2011 Hyundai Sonata
3. 2009 Toyota Camry



Crossover SUV

1. 2008 Honda CR-V
2. 2007 Honda CR-V
3. 2007 Toyota Rav4



Full-sized SUV

1. 2009 Honda Pilot
2. 2005 Chevrolet Blazer
3. 2008 Toyota Highlander



Pickup Truck

1. 2010 Chevrolet Silverado
2. 2007 Toyota Tacoma
3. 2008 Toyota Tundra



November 2011 Report – Detailed Index Data – Common Repairs by Brand

Common Repairs by Brand/Make

- Different vehicle makes tend to have a unique set of problems and common failures. The CarMD Vehicle Health Index helps point out common problems by manufacturer, which is important for car owners to recognize in their maintenance and repair routines.
- Earlier this year, the CarMD Vehicle Health Index revealed that the no. 1 most common repair on vehicles in the U.S. is “replace oxygen sensor,” so it’s not surprising that when no. 1 ranked Toyota vehicles do have a problem, the most common culprit is a faulty oxygen (O2) sensor, accounting for about 15% of Toyota check engine-related repairs over the past year. Oxygen 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%. The average cost to replace an O2 sensor is \$238.71 (U.S.), \$268.95 (Toyota) and \$276.62 (Lexus), which pales in comparison to as much as \$700/year in wasted fuel.
- Other examples include Suzuki’s O2 problems (27%), Mercedes’ Mass Air Flow Sensor issues (19%) and Lincoln’s tendency to experience ignition coil and spark plug-related issues (17%).

Top 5 Most Common Acura “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Acura repairs Oct. 1, 2010 - Oct. 1, 2011
1	Inspect Battery and Charging System and Repair as Necessary	\$ 80.02	\$ 0	\$ 80.02	10.99%
2	Replace Oxygen Sensor(s) (O2S)	\$ 85.63	\$ 273.72	\$ 359.35	8.41%
3	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$ 1.22	\$ 0	\$ 1.22	8.29%
4	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$ 94.75	\$ 687.12	\$ 781.87	7.09%
5	Replace ABS Modulator Assembly	\$ 85.73	\$ 699.98	\$ 785.71	5.17%

Top 5 Most Common Audi “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Audi repairs Oct. 1, 2010 - Oct. 1, 2011
1	Inspect for Faulty Vacuum Hose(s) and Repair as Necessary	\$93.79	\$0.00	\$93.79	13.10%
2	Replace Mass Air Flow (MAF) Sensor	\$85.20	\$255.55	\$340.75	11.08%
3	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$250.29	\$922.75	\$1,173.03	9.05%
4	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	7.02%
5	Replace Ignition Coil(s)	\$84.95	\$65.54	\$150.49	6.86%

Top 5 Most Common BMW “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% BMW repairs Oct. 1, 2010 - Oct. 1, 2011
1	Replace Mass Air Flow (MAF) Sensor	\$82.42	\$439.50	\$521.92	13.02%
2	Inspect for Vacuum Leak and Repair as Necessary	\$82.04	\$0.00	\$82.04	12.84%
3	Replace Camshaft Position Sensor (CMP)	\$89.58	\$126.51	\$216.10	9.15%
4	Replace Oxygen Sensor(s) (O2S)	\$87.61	\$259.48	\$347.09	7.84%
5	Replace Thermostat and Housing Assembly	\$163.23	\$108.94	\$272.17	6.94%

Top 5 Most Common Buick “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Buick repairs Oct. 1, 2010 - Oct. 1, 2011
1	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.25	\$0.00	\$0.25	10.19%
2	Replace Oxygen Sensor(s) (O2S)	\$82.39	\$125.45	\$207.84	6.34%
3	Remove Aftermarket Alarm	\$78.43	\$0.00	\$78.43	5.85%
4	Replace Engine Coolant Temperature Sensor (ECT)	\$90.03	\$38.30	\$128.33	5.29%
5	Replace Spark Plug Wires and Spark Plugs	\$155.33	\$119.50	\$274.83	4.97%

Top 5 Most Common Cadillac “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Cadillac repairs Oct. 1, 2010 - Oct. 1, 2011
1	Replace Mass Air Flow (MAF) Sensor	\$82.85	\$279.11	\$361.96	6.99%
2	Replace Oxygen Sensor(s) (O2S)	\$81.61	\$170.53	\$252.15	6.81%
3	Remove Aftermarket Alarm	\$78.87	\$0.00	\$78.87	6.70%
4	Clean Fuel Injector(s)	\$79.83	\$0.51	\$80.34	6.42%
5	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$108.50	\$782.41	\$890.92	5.43%

Top 5 Most Common Chevrolet “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Chevrolet repairs Oct. 1, 2010 - Oct. 1, 2011
1	Replace Oxygen Sensor(s) (O2S)	\$86.67	\$157.78	\$244.45	9.47%
2	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.04	\$0.00	\$0.04	7.74%
3	Remove Aftermarket Alarm	\$80.32	\$0.00	\$80.32	6.23%
4	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$94.61	\$725.73	\$820.33	4.70%
5	Replace Mass Air Flow (MAF) Sensor	\$82.34	\$307.78	\$390.13	4.57%

Top 5 Most Common Chrysler “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Chrysler repairs Oct. 1, 2010 - Oct. 1, 2011
1	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	13.90%
2	Replace Exhaust Gas Recirculation (EGR) Valve and Clean All EGR ports	\$99.52	\$97.82	\$197.34	11.29%
3	Replace Oxygen Sensor(s) (O2S)	\$90.57	\$92.30	\$182.87	6.74%
4	Replace Spark Plug Wires and Spark Plugs	\$164.79	\$95.04	\$259.83	6.25%
5	Replace Camshaft Position Sensor (CMP)	\$87.63	\$64.25	\$151.88	6.11%

Top 5 Most Common Dodge “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Dodge repairs Oct. 1, 2010 - Oct. 1, 2011
1	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.05	\$0.00	\$0.05	11.59%
2	Replace Oxygen Sensor(s) (O2S)	\$89.08	\$99.87	\$188.95	10.35%
3	Replace Spark Plug Wires and Spark Plugs	\$146.31	\$94.90	\$241.21	7.19%
4	Replace Exhaust Gas Recirculation (EGR) Valve and Clean All EGR ports	\$98.75	\$92.07	\$190.81	6.07%
5	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$127.02	\$928.88	\$1,055.90	4.46%

Top 5 Most Common Ford “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Ford repairs Oct. 1, 2010 - Oct. 1, 2011
1	Replace ABS Control Module	\$87.84	\$847.63	\$935.46	12.50%
2	Replace Positive Crankcase Ventilation (PCV) Valve, Tube and Grommet	\$82.59	\$16.44	\$99.03	10.19%
3	Replace Oxygen Sensor(s) (O2S)	\$87.12	\$91.39	\$178.52	4.69%
4	Replace Spark Plug Wires and Spark Plugs	\$168.90	\$175.05	\$343.95	4.62%
5	Replace Ignition Coil(s) and Spark Plug(s)	\$244.60	\$181.28	\$425.88	4.28%

Top 5 Most Common GMC “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% GMC repairs Oct. 1, 2010 - Oct. 1, 2011
1	Replace Oxygen Sensor(s) (O2S)	\$90.78	\$149.13	\$239.91	11.44%
2	Remove Aftermarket Alarm	\$83.27	\$0.00	\$83.27	6.73%
3	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.79	\$0.00	\$0.79	6.32%
4	Replace Engine Coolant Temperature Sensor (ECT)	\$123.84	\$54.10	\$177.94	5.51%
5	Replace Mass Air Flow (MAF) Sensor	\$87.68	\$303.31	\$390.98	5.00%

Top 5 Most Common Honda “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Honda repairs Oct. 1, 2010 - Oct. 1, 2011
1	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$105.44	\$986.49	\$1,091.93	10.59%
2	Replace Oxygen Sensor(s) (O2S)	\$84.18	\$218.21	\$302.39	8.62%
3	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.43	\$0.03	\$0.46	7.32%
4	Inspect Battery and Charging System and Repair as Necessary	\$81.83	\$0.00	\$81.83	6.06%
5	Replace ABS Modulator Assembly	\$132.99	\$806.11	\$939.10	5.54%

Top 5 Most Common Hyundai “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Hyundai repairs Oct. 1, 2010 - Oct. 1, 2011
1	Replace Oxygen Sensor(s) (O2S)	\$88.81	\$114.59	\$203.40	14.05%
2	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	12.68%
3	Replace Spark Plug Wires and Spark Plugs	\$254.69	\$99.67	\$354.36	9.07%
4	Replace Evaporative Emissions (EVAP) Purge Control Valve	\$88.10	\$54.26	\$142.36	6.36%
5	Replace Mass Air Flow (MAF) Sensor	\$82.15	\$333.13	\$415.28	5.88%

Top 5 Most Common Infiniti “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Infiniti repairs Oct. 1, 2010 - Oct. 1, 2011
1	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$4.80	\$1.11	\$5.91	8.73%
2	Replace Oxygen Sensor(s) (O2S)	\$86.29	\$204.61	\$290.91	7.43%
3	Replace Oxygen Sensor(s) (O2S) and Reprogram Engine Control Module (ECM)	\$155.90	\$261.67	\$417.58	7.15%
4	Replace Ignition Coil(s)	\$87.81	\$178.10	\$265.91	6.69%
5	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$148.06	\$904.52	\$1,052.58	6.59%

Top 5 Most Common Jaguar “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Jaguar repairs Oct. 1, 2010 - Oct. 1, 2011
1	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$142.36	\$1,333.50	\$1,475.86	12.26%
2	Replace Oxygen Sensor(s) (O2S)	\$87.81	\$391.37	\$479.19	10.00%
3	Replace Ignition Coil(s)	\$98.84	\$110.20	\$209.03	8.71%
4	Replace Spark Plug(s) and Ignition Coil(s)	\$189.06	\$268.57	\$457.62	6.77%
5	Replace Mass Air Flow (MAF) Sensor	\$79.63	\$183.53	\$263.15	6.45%

Top 5 Most Common Jeep “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Jeep repairs Oct. 1, 2010 - Oct. 1, 2011
1	Replace Oxygen Sensor(s) (O2S)	\$82.86	\$94.78	\$177.64	14.0%
2	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	13.0%
3	Inspect for Faulty Vacuum Hose(s) at EVAP System and Repair as Necessary	\$104.49	\$0.00	\$104.49	6.9%
4	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$110.78	\$869.86	\$980.65	5.0%
5	Perform Engine De-Carbon Procedure	\$128.14	\$9.67	\$137.81	4.0%

Top 5 Most Common Kia “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Kia repairs Oct. 1, 2010 - Oct. 1, 2011
1	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	8.99%
2	Replace Oxygen Sensor(s) (O2S)	\$83.06	\$185.77	\$268.83	8.54%
3	Replace Spark Plug Wires and Spark Plugs	\$173.00	\$102.96	\$275.95	8.00%
4	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$143.31	\$868.60	\$1,011.92	7.96%
5	Inspect for Faulty Vacuum Hose(s) and Repair as Necessary	\$82.38	\$0.00	\$82.38	7.80%

Top 5 Most Common Land Rover “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Land Rover repairs Oct. 1, 2010 - Oct. 1, 2011
1	Replace Spark Plug Wires and Spark Plugs	\$329.22	\$365.61	\$694.83	13.98%
2	Replace Oxygen Sensor(s) (O2S)	\$82.37	\$179.78	\$262.15	11.83%
3	Replace Mass Air Flow (MAF) Sensor	\$80.91	\$444.85	\$525.75	8.60%
4	Inspect for Faulty Vacuum Hose(s) at Air Injection System (AIR) and Repair as Necessary	\$114.24	\$0.00	\$114.24	7.83%
5	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$3.48	\$0.00	\$3.48	7.07%

Top 5 Most Common Lexus “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Lexus repairs Oct. 1, 2010 - Oct. 1, 2011
1	Replace Oxygen Sensor(s) (O2S)	\$98.53	\$178.09	\$276.62	15.40%
2	Replace Air/Fuel Ratio Sensor (AFR)	\$90.57	\$230.30	\$320.87	14.63%
3	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$8.56	\$0.00	\$8.56	11.47%
4	Replace Mass Air Flow (MAF) Sensor	\$89.36	\$244.89	\$334.26	10.01%
5	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$96.55	\$1,240.95	\$1,337.50	9.55%

Top 5 Most Common Lincoln “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Lincoln repairs Oct. 1, 2010 - Oct. 1, 2011
1	Replace Spark Plug(s) and Ignition Coil(s)	\$188.18	\$171.92	\$360.10	16.72%
2	Replace Oxygen Sensor(s) (O2S)	\$80.35	\$86.86	\$167.22	9.84%
3	Replace Ignition Coil(s)	\$91.07	\$100.44	\$191.51	9.17%
4	Replace Positive Crankcase Ventilation (PCV) Valve and Hose	\$95.58	\$15.01	\$110.59	6.10%
5	Replace Intake Manifold Gasket(s)	\$350.97	\$66.87	\$417.84	5.37%

Top 5 Most Common Mazda “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Mazda repairs Oct. 1, 2010 - Oct. 1, 2011
1	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$149.24	\$750.81	\$900.05	12.47%
2	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$5.87	\$0.35	\$6.22	10.48%
3	Replace Oxygen Sensor(s) (O2S)	\$89.27	\$171.59	\$260.86	8.82%
4	Replace Mass Air Flow (MAF) Sensor	\$85.42	\$231.33	\$316.75	7.86%
5	Replace Spark Plug Wires and Spark Plugs	\$117.72	\$139.64	\$257.36	7.27%

Top 5 Most Common Mercedes “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Mercedes repairs Oct. 1, 2010 - Oct. 1, 2011
1	Replace Mass Air Flow (MAF) Sensor	\$86.53	\$433.39	\$519.93	19.11%
2	Replace Oxygen Sensor(s) (O2S)	\$87.07	\$250.87	\$337.94	9.84%
3	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$228.54	\$1,363.38	\$1,591.92	7.66%
4	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.00	\$0.00	\$0.00	7.59%
5	Replace Exhaust Gas Recirculation (EGR) Valve and Clean All EGR ports	\$123.53	\$214.62	\$338.15	5.20%

Top 5 Most Common Mercury “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Mercury repairs Oct. 1, 2010 - Oct. 1, 2011
1	Replace Positive Crankcase Ventilation (PCV) Valve and Hose	\$79.65	\$13.93	\$93.58	8.28%
2	Replace Spark Plug Wires and Spark Plugs	\$158.72	\$217.21	\$375.93	8.13%
3	Replace Oxygen Sensor(s) (O2S)	\$83.77	\$99.62	\$183.39	7.74%
4	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$3.05	\$0.00	\$3.05	6.77%
5	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$130.67	\$1,029.14	\$1,159.81	5.07%

Top 5 Most Common Mitsubishi “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Mitsubishi repairs Oct. 1, 2010 - Oct. 1, 2011
1	Replace Oxygen Sensor(s) (O2S)	\$84.51	\$220.80	\$305.30	19.22%
2	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$114.58	\$890.79	\$1,005.37	13.08%
3	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$2.19	\$0.00	\$2.19	10.16%
4	Replace Spark Plug Wires and Spark Plugs	\$171.84	\$156.68	\$328.51	6.89%
5	Replace Mass Air Flow (MAF) Sensor	\$80.49	\$591.00	\$671.48	5.30%

Top 5 Most Common Nissan “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Nissan repairs Oct. 1, 2010 - Oct. 1, 2011
1	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$159.33	\$657.10	\$816.43	13.67%
2	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$1.26	\$0.31	\$1.57	9.53%
3	Replace Oxygen Sensor(s) (O2S)	\$92.66	\$359.14	\$451.80	7.08%
4	Replace Ignition Coil(s)	\$86.90	\$146.12	\$233.02	5.93%
5	Replace Crankshaft Position Sensor (CKP)	\$82.57	\$51.78	\$134.35	3.93%

Top 5 Most Common Saab “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Saab repairs Oct. 1, 2010 - Oct. 1, 2011
1	Replace Ignition Control Module	\$83.06	\$308.92	\$391.98	18.40%
2	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$2.25	\$0.00	\$2.25	9.07%
3	Replace Oxygen Sensor(s) (O2S)	\$80.71	\$281.70	\$362.41	9.07%
4	Replace Ignition Control Module (ICM)	\$82.16	\$338.69	\$420.85	8.27%
5	Replace Throttle Body Assembly	\$87.65	\$478.32	\$565.97	6.93%

Top 5 Most Common Subaru “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Subaru repairs Oct. 1, 2010 - Oct. 1, 2011
1	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$95.56	\$808.47	\$904.03	17.18%
2	Replace Knock Sensor(s)	\$105.94	\$108.00	\$213.94	14.42%
3	Replace Spark Plug Wires and Spark Plugs	\$173.46	\$92.22	\$265.67	10.21%
4	Replace Oxygen Sensor(s) (O2S)	\$135.38	\$167.60	\$302.99	9.94%
5	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$14.12	\$0.35	\$14.48	9.73%

Top 5 Most Common Suzuki “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Suzuki repairs Oct. 1, 2010 - Oct. 1, 2011
1	Replace Oxygen Sensor(s) (O2S)	\$82.56	\$273.63	\$356.18	27.10%
2	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$3.73	\$0.00	\$3.73	19.03%
3	Replace Exhaust Gas Recirculation (EGR) Valve and Clean All EGR ports	\$94.19	\$436.16	\$530.35	9.68%
4	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$104.52	\$977.27	\$1,081.79	5.16%
5	Clean Ground Wire	\$79.38	\$0.00	\$79.38	3.87%

Top 5 Most Common Toyota “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Toyota repairs Oct. 1, 2010 - Oct. 1, 2011
1	Replace Oxygen Sensor(s) (O2S)	\$89.75	\$179.21	\$268.95	14.70%
2	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$0.57	\$0.00	\$0.57	11.91%
3	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$88.87	\$1,095.52	\$1,184.39	11.74%
4	Replace Air/Fuel Ratio Sensor (AFR)	\$88.94	\$211.97	\$300.91	7.74%
5	Replace Mass Air Flow (MAF) Sensor	\$99.92	\$277.04	\$376.96	5.75%

Top 5 Most Common Volkswagen “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Volkswagen repairs Oct. 1, 2010 - Oct. 1, 2011
1	Replace Mass Air Flow (MAF) Sensor	\$85.21	\$241.65	\$326.86	11.81%
2	Replace Catalytic Converter(s) with new OE Catalytic Converter(s)	\$132.36	\$816.57	\$948.93	10.87%
3	Replace Engine Coolant Temperature Sensor (ECT)	\$88.19	\$31.80	\$119.99	8.39%
4	Replace Ignition Coil(s)	\$83.85	\$129.03	\$212.87	5.58%
5	Replace Oxygen Sensor(s) (O2S)	\$94.99	\$199.62	\$294.61	5.13%

Top 5 Most Common Volvo “Check Engine” Light Repairs (Oct. 1, 2010 – Oct. 1, 2011)

Rank	Repair	Labor	Parts	Total Repair Cost (Parts & Labor)	% Volvo repairs Oct. 1, 2010 - Oct. 1, 2011
1	Inspect for Loose Fuel Cap and Tighten or Replace as Necessary	\$3.52	\$0.00	\$3.52	14.24%
2	Replace Oxygen Sensor(s) (O2S)	\$99.12	\$320.33	\$419.45	9.09%
3	Replace Mass Air Flow (MAF) Sensor	\$83.96	\$304.22	\$388.18	8.30%
4	Inspect for Faulty Vacuum Hose(s) and Repair as Necessary	\$83.01	\$0.00	\$83.01	6.44%
5	Replace Spark Plug(s) and Ignition Coil(s)	\$126.96	\$230.70	\$357.66	5.23%

METHODOLOGY NOVEMBER 2011 INDEX

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 2011 CarMD® Vehicle Health Index™ 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 from 1996 to 2011.

The 2011 Index statistically analyzes more than 325,000 specific repairs that apply to roughly 136 million model year 2001 to 2011 vehicles, taking place during the Oct. 1, 2010 to Oct. 1, 2011 time period. The data for the 2011 CarMD® Vehicle Health Index was pulled, analyzed and validated between Oct. 1, 2011 and Oct. 19, 2011, 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 2001 to 2010 makes and models of cars, light trucks, minivans and SUVs – foreign and domestic – with on board diagnostic second generation (OBD2) technology are included in the Index. For the 2011 Vehicle Health Index, CarMD focused on model year 2001-2011 vehicles, since the average age of a vehicle is now just over 10 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 CarMD diagnostic report. In determining the Top 10 manufacturers, brands were grouped under their parent manufacturer (i.e. Lexus under Toyota; Acura under Honda; Buick, Chevrolet, Cadillac, GMC, Oldsmobile, Pontiac and Saturn under General Motors; etc.) The data in the Index is applicable to more than 80 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, 2010 – Oct. 1, 2011.

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 scores.

On a daily basis, CarMD's nationwide network of thousands of 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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