

## The Fine Print

The information in this material is taken from numerous sources. To reference each source in the body of the work would add too much to its bulk; therefore, this list is given as reference of the materials used.

### Sources

Brochures: automotive manufacturers' brochures, web sites, press kits, media-only manufacturer web sites, data books, technical bulletins, owner's manuals and new model highlights and preview books.

Periodicals: *Car and Driver*, *Road and Track*, *Automotive News*, *Motor Trend*, *AutoWeek*, *Automobile Magazine*, *Popular Mechanics*, *Consumer Reports*, *Consumer Guide*, *Kiplinger's*, *Consumer's Digest*, *The Complete Car Cost Guide*, *The Complete Small Truck Cost Guide*, *The Car Book*, *Four Wheeler*, *Petersen's 4Wheel Off-Road*, *Open Road*, *Popular Mechanics*, *Popular Science* and *Trailer Life*.

Marketing Research Firms: J.D. Power and Associates, Automotive Lease Guide and Strategic Vision, Inc.

First Hand Data Gathering: Much of the data necessary is taken by Advanta-STAR employees' hands-on inventories and investigations performed on new car dealer lots or with vehicles loaned by the manufacturer, its divisions or their agents for evaluation.

Other Sources: Highway Loss Data Institute (HLDI) reports, Insurance Institute for Highway Safety (IIHS) crash tests and bumper tests, National Highway Traffic Safety Administration (NHTSA) reports, the EPA Fuel Economy Guide, the EPA *Green Vehicle Guide* and Automotive Lease Guide.

### Notes

#### NHTSA and IIHS Crash Assessments

The comparisons of NHTSA and IIHS crash assessments data are taken from the latest crash assessments published by the U.S. government and the Insurance Institute for Highway Safety. If one of the vehicles has been redesigned since the latest test data, a comparison is not done.

A comparison is done of vehicles of a comparable bodystyle, length and weight class. I.E. Sedan to sedan, 1/2 ton to 1/2 ton, etc. However, if vehicles of similar types have not both been tested, the closest comparison is made.

The NHTSA NCAP frontal test is performed at 35 MPH into a flat, immovable barrier. Five stars means a 10% or less chance of serious injury or death, four stars is 11% to 20%, three stars is 21% to 35%, two stars is 36% to 45%, and 1 star is 46% or greater chance of serious injury or death.

Head Injury Index is the measurement of the pressure to the dummy's head. Figures above 1000 indicate likely serious injury or death. Chest Forces are measured in G forces, so a chest G force of 50 would be 50 times your own weight. Measurements of 60 and above indicate likely serious injuries or death. Femur loads, measured in pounds, are the forces on the dummy's legs. Numbers above 2250 indicate serious injuries or death are likely.

The NHTSA NCAP side test is performed by launching a 3015 pound object into the side of the test vehicle at 38½ MPH. Five stars means a 5% or less chance of serious injury or death, four stars is 6% to 10%, three stars is 11% to 20%, two stars is 21% to 25%, and 1 star is 26% or greater chance of serious injury or death.

Head Injury Index is the measurement of the pressure to the dummy's head. Figures above 1000 indicate likely serious injury or death. Pelvic Injury potential is measured in G forces. Measurements of over 130 G's indicate a high likelihood of serious injury or death. Thigh forces are measured in pounds. A thigh force of greater than 2250 pounds indicates a high likelihood of serious injury or death.

Visit the NHTSA website at <http://www.nhtsa.gov> for further explanations of their crash test methodology and ratings.

Insurance Institute for Highway Safety (IIHS) frontal crash tests are performed at 40 MPH into a deformable barrier at an offset: that is only a portion of the front of the test vehicle strikes the barrier. The subjective ratings of “Poor” to “Good” are judgments of the IIHS and don’t have any published statistical bearing on possible injuries in real-world crashes. Visit the IIHS website at <http://www.iihs.org> for further explanations of their crash test methodology and ratings.

## Highway Loss Data Institute Injury Histories

The history of injuries is with data from the Highway Loss Data Institute. Their data is already represented in terms of the number of injury claims per vehicle registered of cars that have not been significantly altered.

## Bumper Tests

Bumper tests are always compared from the same source, either *Consumer Reports* or the *Highway Loss Data Institute*. We take data from the latest version of either source. The figures represent the total of multiple tests.

## Reliability

Comparisons of overall reliability are taken from an analysis of the bar charts in *Consumer Reports* Car Issue. Since the comparison is of numeric data taken from a graphic source, it is only an approximation. The reliability figures are only taken for cars that have not been significantly redesigned or who maintain their major systems. The data from different versions of the same car are not combined since sample sizes aren’t stated. The data from *Consumer Reports* may not be representative since their sample is not taken universally, but from Consumers Union members, a group that may display certain differing characteristics from those of the overall car purchasing population of the United States. For models which are evaluated between annual car issues of *Consumer Reports*, the data is extrapolated from a five level evaluation (“Much worse than average”, “Worse than average”, “Average”, “Better than average”, and “Much better than average”).

Other reliability comparisons are from J. D. Power and Associates. These ratings include Initial Quality, APEAL and Dependability.

Initial Quality ratings by J. D. Power and Associates are compiled from the returned surveys of new car owners who receive a survey mailed to a statistically reliable sample. The findings are represented in problems per one hundred (100) vehicles. The fewer reported defects, the higher the ranking.

APEAL ratings by J. D. Power and Associates are compiled from the returned surveys of new car owners who receive a survey mailed to a statistically reliable sample. The ratings are compiled from questions related to how well satisfied the owners are with their vehicles.

## Horsepower and Torque Ratings

The Society of Automotive Engineers (SAE) determines test procedures used by manufacturers to rate engine horsepower and torque for advertising purposes. The three currently approved procedures in order of approval date are: SAE J1995, J1349 and J2723. Although differing in many technical aspects, all three provide similar if not identical ratings. The most stringent is the recently approved J2723 testing procedure, which calls for third-party verification.

Different manufacturers advertise horsepower and torque figures resulting from different procedures. Recently, several manufacturers updated their horsepower and torque ratings to SAE J2723, including GM (newly introduced engines), Honda and Toyota. This resulted in different ratings from previous years when there have been no actual changes to the engines. Since no conversion exists between horsepower and torque ratings of one procedure to another, Advanta-STAR will utilize the figures advertised by the manufacturer regardless of the procedure used, as long as it is a currently recognized SAE testing procedure.

## Performance Test Results

In some comparisons, different acceleration times, braking distances, cornering forces, and other results are listed for the same vehicle. This is due to the nature of magazine tests: they are not the same, and produce different data. For these reasons, comparative data is taken from the same source.

Each car magazine or other testing source uses its own methods. Atmospheric conditions induce different results. Therefore one source may produce somewhat different results from another source, both testing the same vehicle model, powertrain and bodystyle.

## Fuel Mileage

The fuel mileage comparisons are taken from the latest issue of the EPA Gas Mileage Guide, the full EPA report, as reported in manufacturer's literature or from the actual EPA mileage sticker on a representative model (whichever is available), unless otherwise noted. Some vehicles (medium duty trucks) are not tested for EPA fuel mileage.

EPA fuel mileage figures are for comparison purposes only. Actual mileage may vary. The calculations used to obtain these results were changed for model year 2008, and those for 2008 and later may not be used to compare against earlier results. <http://www.fueleconomy.gov>.

Price differences between regular unleaded, midgrade and premium vary according to market conditions. Those differences listed in our comparisons are recent ranges nationwide, but are apt to change. Check with local gas stations or an up to date source of prices for comparisons, such as: <http://www.theautochannel.com/link.html?http://www.fueleconomy.gov/feg/gasprices/states/index.shtml>.

## Space, capacity and dimensions

All of the dimensions used are taken from measurements made by manufacturers, EPA, Advanta-STAR representatives or the measurements from automotive magazines, in that order of preference. If the measurements must be taken from different sources, they are checked with each other for accuracy, and if they differ from each other significantly, they are discarded. Interior dimensional comparisons are made with standard equipment; dimensions may change for options such as moon roof, sun roof, all-wheel-drive, full-size spare tire, hybrid powertrain or others.

## Standard and optional equipment

The comparisons of standard and optional equipment are taken from manufacturers' brochures, data books, press releases, Internet sites or the latest edition of *Consumer Guide's Automobile Book*.

## Towing capacity

Comparisons of towing capacity are taken from the manufacturers' brochures, owner's manuals, data books, *Consumer Reports* or *Consumer Guide's 4x4s, Pickups and Vans*. Never rely on these comparisons to determine what a vehicle can safely tow. Options, passengers and other cargo alter the final figures; always consult the dealer or manufacturer to determine safe towing capacities and methods for a particular vehicle.

Historically, towing capacity has been calculated by the manufacturer without national standards. Different manufacturers use different calculations. Recently, a standard for calculating towing capacities has been put into place by the SAE (Society of Automotive Engineers), which involves the ability to accelerate, maintain speed and brake, over a variety of conditions and incline grades. As manufacturers adopt these voluntary standards, towing capacities may change. However, whatever towing capacities are cited by the manufacturer and how they are calculated, they are always a relative guide to what will be safe and not void your warranty.

## ***Citations***

For the exact citation of one particular fact contact Advanta-STAR, 83337 Shepherd Lane, Folsom, Louisiana 70437. Print the page and circle the paragraph for which you want to know the exact source. Send the printed page and a self addressed stamped envelope to Advanta-STAR and allow two to three weeks for data collection and delivery. We will cite the location of the data; due to copyright laws we cannot send you photocopies of anyone's materials except our own checklists or government publications.

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If present model year information is not available at the time of compilation, previous model year data may be used if there is no reason to believe any changes took place that will affect the data in the present model year. If any design or engineering changes have are known to have taken place, data from a previous model year will be discarded.

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