

Tow Vehicles

How to Choose Your Tow Vehicle

Whether you're an old pro or a novice, towing can be tricky. The first step in any case is to have the right equipment, and that begins with having the appropriate tow vehicle. However, there's one thing to keep in mind when choosing a tow vehicle: You first need to know how much your towed load (boat or travel trailer) really weighs.

In the case of a boat, that towed weight includes the trailer. It comes as a surprise to many would-be buyers that manufacturers generally furnish "dry" or empty weights (without op-

tions) for boats or camping trailers. Camping trailers with the Recreational Vehicle Industry Association (RVIA) seal should have a label that provides unloaded vehicle weight (UVW) with factory-installed options. Boat catalogs often list the dry weight of the hull, but not the weight of the engine or the weight of the boat's trailer. And although some furnished weights are quite accurate, these figures should only be used as guidelines.

For example, a boat weight may only include the hull. To that, you may have to add engine

weight, accessories, all the extra equipment stored in the boat and, if towing with a full load of fuel or water, figure about 6.1 pounds per gallon of gasoline and about 8.3 pounds per gallon of water. Diesel weighs about 7.1 pounds per gallon, and LPG (propane) weighs about 4.5 pounds per gallon. Depending on boat size, trailers can weigh anywhere from a few hundred pounds to more than 2000 pounds. So it's not unusual for that 4000-pound boat to grow by 1500 to 2000 pounds when it's ready to tow.

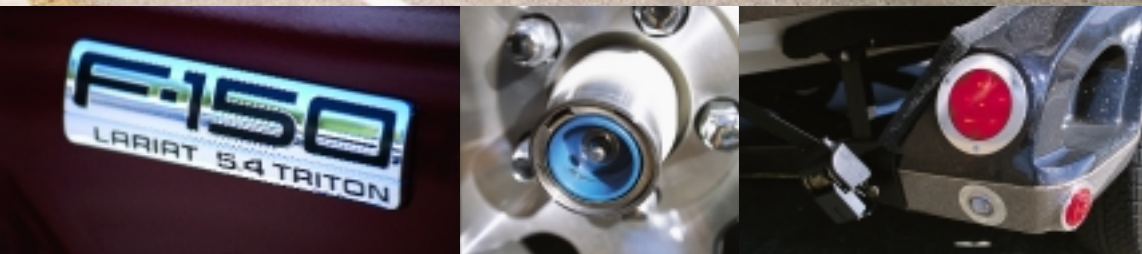
The most accurate way to determine your towed load is to weigh the boat/trailer or camping trailer as it is outfitted and loaded when it's ready to tow. It only costs a few dollars at a public scale, and it can save thousands of dollars in unexpected repairs to an ill-equipped tow vehicle.

BUYING A TOW VEHICLE

As a rule, if you want to tow a heavy load, you need a full-size pickup or sport-utility vehicle (SUV). If you have or plan to buy a small tow vehicle, such as a compact pickup or SUV, you will have to stick with a smaller, lighter boat or camping trailer.

Every vehicle has a tow rating. A full-size truck's tow rating can be as high as 10,000 pounds or more. The best place to find this information is in the vehicle owner's manual. Some automotive manufacturers offer towing guides that include tow ratings and detailed information on extra equipment needed to tow heavier loads. They are available from dealers, manufacturers' information offices and also can be called up on the Internet.

Most cars today have negligible tow ratings. Modern automobiles have severe limitations, and



TOW RATINGS OF 4WD TRUCK MODELS are often lower than those of 2WD models. However, the advantage of purchasing a tow vehicle with 4WD capability, despite the slightly lower tow rating, is the ability to easily pull the trailer boat up a steep or slippery boat ramp.



BOAT CATALOGS OFTEN LIST the dry weight of the hull, but not the weight of the engine or the boat's trailer. It is best to weigh your entire trailer/boat package prior to a tow vehicle purchase.



fewer than a handful are rated to tow more than 2000 pounds. Those limitations exist because of car-body structures and powertrain (engine, transmission, axle) components. If you overextend a modern car not rated to tow a heavy load, the consequences can be costly repairs and diminished highway safety. For towing loads over 2000 pounds, the only real option for those who need to tow with a car are older automobiles properly equipped for towing (see Chapter 2/Towing Equipment).

In recent years, trucks (pickups, SUVs and vans) have become very popular. With the demise of automobiles as tow vehicles, trucks have more than taken up the slack with roomy, comfortable, four-door models. Most modern trucks have the structural integrity necessary to easily handle heavy loads — as long as that load is within the manufacturer's towing recommendations.

The larger the truck, the sturdier the construction, the stronger the suspension, and the larger the engine will be. This makes them superior to modern automobiles for towing. In addition, most have a separate, full frame that provides a secure mounting location for the hitch.

TOW RATINGS

Deciphering tow ratings can be confusing, unless you read the fine print. For example, a maximum tow or "trailer weight" rating may be for an unloaded vehicle with only the driver aboard, a full fuel tank, oil and water, but not with passengers or optional equipment, such as air conditioning. It's not unusual to add 500 pounds of options to some vehicles, another 500 pounds for passengers and still another 500 pounds for luggage and other boating/camping gear. That can effectively lower the actual tow rating by 1500 pounds — and you must take this into account when choosing a tow vehicle.

Tow rating charts often include three "categories" that deal with weight. These are Gross Vehicle Weight Rating (GVWR), Trailer Weight Allowance (TWA), commonly stated as "maximum trailer rating," and Gross Combined Weight Rating (GCWR).

The GVWR is the maximum permissible weight a fully loaded vehicle may weigh. That number can be found on a label inside the driver's-side door.

TWA is the maximum weight a vehicle can tow. Be aware that this figure can vary depending

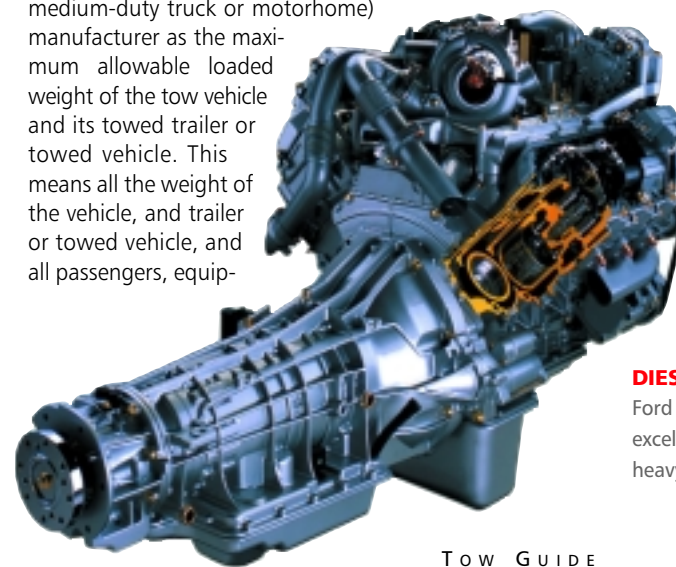
on whether the vehicle is equipped with a manual or automatic transmission and if it is equipped with four-wheel drive (4WD).

The GCWR is a type of tow rating, and perhaps the most important of all. The GCWR is the total weight specified by the tow vehicle (light truck, medium-duty truck or motorhome) manufacturer as the maximum allowable loaded weight of the tow vehicle and its towed trailer or towed vehicle. This means all the weight of the vehicle, and trailer or towed vehicle, and all passengers, equip-

ment and fuel carried in both. The best way to make sure your rig does not exceed these ratings is to take the vehicle and trailer to a public scale, fully equipped (or add the weight of extras later), and get them weighed accurately.

In addition, almost all vehicle and chassis manufacturers recommend that a supplemental brake control system be installed to activate the brakes on the trailer being towed. Vehicle owners should also consult individual state laws concerning this subject, as well as other trailering requirements.

There are also a host of accessories that automakers may



DIESEL ENGINES, SUCH AS THE

Ford 6.0L Power Stroke pictured, are excellent powerplants for towing heavy loads.



require for tow vehicles, especially trucks. These often include a heavy-duty radiator, engine-oil cooler, transmission-oil cooler, wiring harness, specific axle ratio, heavy-duty suspension, and special wheels and tires. These accessories would be expensive if bought separately. However, most manufacturers offer “trailer packages” that include these items. Packages often include a hitch (drawbar and hitchball not included). These factory-installed tow packages are considerably cheaper than if you add them later.

Don’t shortchange yourself by skimping on required items. Each required accessory adds to the vehicle’s towing capability and durability.

KNOW BEFORE YOU BUY

One of the most frequent comments from new vehicle owners is: “I was told by the dealer that my vehicle could tow 5000 pounds, but it does that poorly and sometimes even overheats.” They go on to say that various expensive items were added, but performance is still unsatisfactory.

A prospective buyer may have been given the maximum tow rating for a vehicle with the towing package, but was sold one without that package. Without a towing package, that same vehicle may be rated to tow only 2000 pounds.

Carefully read the window sticker that is posted on the vehicle at the dealership. It will tell you precisely what equipment is on that vehicle. Be aware, too, that there may be more than one towing package offered by a manufacturer. One may be for light-duty towing (often 3500 pounds maximum), while the other is for heavy-duty towing.

2WD OR 4WD?

Until recently, drivers have had only two drive-system choices for their tow vehicles: Two-wheel drive and four-wheel drive.

Two-wheel drive (2WD) means that either the front or rear wheels are the driving wheels. When on a steep launch ramp or very steep incline, the front of the vehicle usually lifts, causing the front tires to have less traction than the rear. When this happens with a front-drive vehicle, it will facilitate wheel spin and can limit the driver’s ability to retrieve the boat.

However, vehicles with a 4WD system can be especially useful on a steep or slippery launch ramp, because the front wheels can help pull it



IF YOU TOW A HEAVY LOAD, you will need a full-size pickup (opposite page) or sport-utility vehicle. A full-size pickup’s conventional tow rating can be as high as 12,000 pounds.

Towing Equipment

How To Equip Your Vehicle for Towing

Most vehicles require additional equipment for towing. The equipment package often includes various cooling systems, heavy-duty suspension components, the appropriate axle (ring and pinion) gear ratio and usually a more powerful engine. However, some towing packages do not include a hitch or wiring, so you'll need to get that on your own. The purpose of this extra equipment is to increase the longevity of your tow vehicle and improve its trailering performance.

A tow vehicle's greatest enemy is heat. It affects everything that moves. Controlling that heat usually isn't a problem during normal driving, as long as the vehicle is used within its prescribed limits. But, when you make it work hard, such as when towing, heat will build up more rapidly. Your major concerns must be keeping engine coolant, engine oil and transmission oil temperatures at proper levels.

ENGINE COOLING

All engine radiators work on the same principle. As liquid coolant circulates from the engine block and through the radiator, heat is dissipated from the radiator to the surrounding air. Consequently, the greater the cooling surface area and/or the more air that passes over that surface, the faster the heat is drawn from the coolant.

The harder an engine works, the more heat it generates. That's why manufacturers offer optional heavy-duty cooling systems and/or include them in towing packages. A heavy-duty cooling system generally has a radiator with one or more additional cores for greater cooling capacity. A core is a layer of cooling fins and tubes through which the hot water passes.

Included in many heavy-duty cooling systems is a more powerful fan that increases airflow



and the boat up. A special benefit of 4WD is that it has a "low range" — a lower gear range that increases the torque delivered to the wheels for more power to pull a heavy boat up a steep, wet ramp.

Tow ratings for 4WD systems are usually lower than they are for 2WDs, because they add weight to the vehicle, and the extra weight detracts from the GCWR.

All-wheel drive (AWD) systems also make all four wheels turn at the same time, but through a different system than 4WD — usually a computer-controlled viscous coupling. This is a tremendous safety advantage for all kinds of

driving, especially on wet or slick surfaces. With all wheels driving, the vehicle is also more stable and controlled on winding, curving roads. However, AWD also adds weight to the vehicle and can reduce the trailer tow rating.

On the plus side, modern AWD systems go into action in a matter of milliseconds with computer control. It continues to adjust for wheel spin at any or all wheels just as quickly. It's an excellent feature on slick launch ramps.

Understanding exactly what your tow vehicle is equipped with and how much weight it can actually tow is the key to being happy with your tow vehicle choice.

