

Horsepower

Here is a different kind of question. How much horsepower do I need to pull a trailer?

Sounds kind of complicated, but it's actually quite simple (if you have a friend that knows Physics that can explain it to you).

On my website is a link to a horsepower calculator that a friend of mine helped me develop. (You'll need Microsoft Excel to use it.)

Imbedded in the spreadsheet are the formulas used in the calculation so you can see how it works.

If you would like to save a copy of this spreadsheet to your computer, right-click on the link above and choose "save target as" and point to a directory and file name on your computer.

The topics of horsepower and torque can be very confusing and have led to some heated online debate, but I'll see if I can put it in simple terms.

Torque determines how fast you can go, while horsepower keeps you going.

But each has its limits based on how fast the engine can turn (rpm's). Let's look at some real world examples.

The diesel engines used in semi-tractors are not much different than those used in the average pickup truck. The amounts of horsepower each produce is about the same, but the amount of torque produced by the semi engine is about double what the engine in the pickup will produce. But the engine in the semi needs to be able to pull around over 50,000 pounds, while the pickup engine may only be capable of 25,000 pounds.

For towing purposes, there might be an easier example. Let's look at the Duramax 6.6 liter diesel and the GM 8.1 liter Vortec engines. The Duramax is rated for a maximum of 300 horsepower at 3000 rpm and 520 foot pounds of torque at 1800 rpm. The 8.1 Vortec is rated for a maximum of 340 horsepower at 4200 rpm and 455 foot pounds of torque at 3200 rpm. If you used similar trucks with the different engines towing the same load, the Duramax would do it faster because it has more torque.

In most cases, horsepower and torque are not real important unless you are towing a heavy trailer up a steep hill. Once you reach the hills, you will need more torque than horsepower.

Since torque produces horsepower, you can use the horsepower calculator to see if you have enough horsepower to tow the desired trailer up the hills, but the amount of torque will determine how fast you will get up them.

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