



Gear Ratio Speed Calculator

By David Nguyen

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Check out my racing project.

Calculate theoretical speed for a car in each of its gear ratios. If a car has less than 6 speeds, only enter numbers for the ratios that apply (i.e. no need to enter anything in '6th' gear for a car with only 5 speeds). Use redline RPM to figure top speed for each gear. Note that you will get ridiculous speeds for overdrive gears. This is because in reality top speed is physically limited in one of two ways, either by being geared relatively low or by aerodynamic drag. use the [horsepower calculator](#) to find out how much power a car would require at a given speed. If it doesn't make that much power, it can't go that speed no matter how it's geared.

The most accurate way to measure tire circumference is to use string and measure the actual distance. A quick way to approximate that is to add the wheel diameter to twice the height of the tire sidewall and then multiply by Pi (3.14159). For example, a car with 225/40R tires has a sidewall height of 3.54" (225 mm x 40/100 is 90 mm which is 3.54"). If it has 18" wheels then the tire diameter is roughly 25" (18 + 3.54 + 3.54).

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Tire diameter (in.):	<input type="text" value="22.7"/>	RPM:	<input type="text" value="7200"/>
1st Gear Ratio:	<input type="text" value="3.35"/>	2nd Gear Ratio:	<input type="text" value="1.99"/>
3rd Gear Ratio:	<input type="text" value="1.32"/>	4th Gear Ratio:	<input type="text" value="1"/>
5th Gear Ratio:	<input type="text" value=".68"/>	6th Gear Ratio:	<input type="text"/>
Final Drive Ratio:	<input type="text" value="3.73"/>		

1st Gear (mph):	<input type="text" value="39"/>	1st Gear (kmh):	<input type="text" value="62"/>
2nd Gear (mph):	<input type="text" value="66"/>	2nd Gear (kmh):	<input type="text" value="105"/>
3rd Gear (mph):	<input type="text" value="99"/>	3rd Gear (kmh):	<input type="text" value="158"/>
4th Gear (mph):	<input type="text" value="130"/>	4th Gear (kmh):	<input type="text" value="209"/>
5th Gear (mph):	<input type="text" value="192"/>	5th Gear (kmh):	<input type="text" value="307"/>
6th Gear (mph):	<input type="text" value="N/A"/>	6th Gear (kmh):	<input type="text" value="N/A"/>

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T5 Trans
245/40 R15
3.73 R/p