

Gear Ratio Calculator

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This form allows you to calculate final drive ratios as well as see a comparison of speeds and RPMs within operating ranges of the vehicle. This calculator is useful for planning your rig, allowing you to see what kind of performance to expect from different combinations.

Disclaimer: This form is only to be used for estimation purposes. Exact results of combining equipment may vary from the estimates provided in this form. The data provided here is done so as-is with no warranty expressed or implied.

Note: This calculator is continually being updated. The lists of available equipment will probably never be complete. If you find that the parts you would like to use are not yet listed, please send the information to me at grimmjepper@gmail.com and I will do my best to include it as quickly as possible.

[Detailed Instructions Here](#)

Choose between SAE (feet/miles) and Metric (meters/kilometers)

Save the entries in the form for when you come back later Or clear them entirely
Note that this will store the data locally on your computer. Nothing you do is tracked on the grimmjepper server.

Step 1: Select transmission from the drop down list or, if it's not in the list and you know the gear ratios of your transmission, enter them below.

Number of forward gears	<input type="text" value="5"/>
1st Gear	3.50
2nd Gear	2.14
3rd Gear	1.39
4th Gear	1.00
5th Gear	0.78
6th Gear	-
7th Gear	-
8th Gear	-
9th Gear	-
10th Gear	-
Reverse	3.57

Manual or Auto with lockup torque converter
 Automatic without lockup torque converter

Step 2: Select transfer case from the drop down list or, if it's not in the list and you know the gear ratios of your transfer case, enter them below.

High Range	1.00
Low Range	2.72
Low 2 Range	-

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[Reset Form](#) [Copy Tcase →](#) [Copy Form →](#)[← Copy Form](#) [← Copy Tcase](#) [Reset Form](#)**Step 3: Select underdrive.**High Range Low Range [Reset Form](#) [Copy Underdrive →](#) [Copy Form →](#)**Step 4: Enter axle gear ratio.**[Reset Form](#) [Copy Ratio →](#) [Copy Form →](#)**Step 5: Select tire size.**

Inch

mm

Revs per mile

P-Metric / R

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The following chart lists the final drive ratio of all combined gears (transmission, transfer case, underdrive, axle) in all possible combinations

Final Drive Ratio						
Gear	Underdrive Hi			Underdrive Lo		
	TC HI	TC LO1	TC LO2	TC HI	TC LO1	TC LO2
1	14.39	39.13	-	-	-	-
2	8.80	23.92	-	-	-	-
3	5.71	15.54	-	-	-	-
4	4.11	11.18	-	-	-	-
5	3.21	8.72	-	-	-	-
6	-	-	-	-	-	-
7	-	-	-	-	-	-
8	-	-	-	-	-	-
9	-	-	-	-	-	-
10	-	-	-	-	-	-
R	14.67	39.91	-	-	-	-

The following chart lists the crawl speed you will be going while the engine is at a given RPM. Crawl speed is calculated based on the lowest low range (transfer case and underdrive in low range) available in your rig.

Crawl speed at given RPM in feet per minute and miles per hour						
Gear	750 RPM		3000 RPM		6000 RPM	
	FPM	MPH	FPM	MPH	FPM	MPH
1	153	1.74	612	6.95	1224	13.91
2	250	2.84	1001	11.37	2001	22.74
3	385	4.38	1541	17.51	3081	35.02
4	535	6.08	2142	24.34	4283	48.67
5	686	7.80	2746	31.20	5491	62.40
6	-	-	-	-	-	-
7	-	-	-	-	-	-
8	-	-	-	-	-	-
9	-	-	-	-	-	-
10	-	-	-	-	-	-

Step 3: Select underdrive.High Range Low Range [← Copy Form](#) [← Copy Underdrive](#) [Reset Form](#)**Step 4: Enter axle gear ratio.**[← Copy Form](#) [← Copy Ratio](#) [Reset Form](#)**Step 5: Select tire size.**

Inch

mm

Revs per mile

P-Metric / R

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The following chart lists the final drive ratio of all combined gears (transmission, transfer case, underdrive, axle) in all possible combinations

Final Drive Ratio						
Gear	Underdrive Hi			Underdrive Lo		
	TC HI	TC LO	TC LO2	TC HI	TC LO	TC LO2
1	15.96	43.41	-	-	-	-
2	9.76	26.54	-	-	-	-
3	6.34	17.24	-	-	-	-
4	4.56	12.40	-	-	-	-
5	3.56	9.67	-	-	-	-
6	-	-	-	-	-	-
7	-	-	-	-	-	-
8	-	-	-	-	-	-
9	-	-	-	-	-	-
10	-	-	-	-	-	-
R	16.28	44.28	-	-	-	-

The following chart lists the crawl speed you will be going while the engine is at a given RPM. Crawl speed is calculated based on the lowest low range (transfer case and underdrive in low range) available in your rig.

Crawl speed at given RPM in feet per minute and miles per hour						
Gear	750 RPM		3000 RPM		6000 RPM	
	FPM	MPH	FPM	MPH	FPM	MPH
1	149	1.70	597	6.79	1195	13.57
2	244	2.78	977	11.10	1954	22.20
3	376	4.27	1504	17.09	3008	34.18
4	523	5.94	2090	23.76	4181	47.51
5	670	7.61	2680	30.46	5360	60.91
6	-	-	-	-	-	-
7	-	-	-	-	-	-
8	-	-	-	-	-	-
9	-	-	-	-	-	-
10	-	-	-	-	-	-

R	150	1.70	600	6.82	1200	13.63
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R	146	1.66	586	6.65	1171	13.31
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The following chart lists the road speed you will be going while the engine is at a given RPM. Road speed is calculated based on the transfer case and underdrive being in high range.

Road speed at given RPM in miles per hour				
Gear	750 RPM	1800 RPM	2500 RPM	
1	5	11	16	
2	8	19	26	
3	12	29	40	
4	17	40	55	
5	21	51	71	
6	-	-	-	
7	-	-	-	
8	-	-	-	
9	-	-	-	
10	-	-	-	
R	5	11	15	

Road speed at given RPM in miles per hour				
Gear	750 RPM	1800 RPM	2500 RPM	
1	5	11	15	
2	8	18	25	
3	12	28	39	
4	16	39	54	
5	21	50	69	
6	-	-	-	
7	-	-	-	
8	-	-	-	
9	-	-	-	
10	-	-	-	
R	5	11	15	

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The following chart lists the RPMs your engine will be turning while driving at a given speed.

Road RPMs at given speed in miles per hour			
Gear	10	35	70
1	1586	5552	11104
2	970	3395	6789
3	630	2205	4410
4	453	1586	3173
5	354	1237	2475
6	-	-	-
7	-	-	-
8	-	-	-
9	-	-	-
10	-	-	-
R	1618	5663	11326

Road RPMs at given speed in miles per hour			
Gear	10	35	70
1	1625	5688	11375
2	994	3478	6955
3	645	2259	4518
4	464	1625	3250
5	362	1268	2535
6	-	-	-
7	-	-	-
8	-	-	-
9	-	-	-
10	-	-	-
R	1658	5801	11603

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