Gear Ratio Calculator

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 grimmjeeper@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) SAE

Save the entries in the form for when you come back later Save Form **Or clear them entirely** Clear Saved Data
Note that this will store the data locally on your computer. Nothing you do is tracked on the grimmjeeper 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.

Enter Your Own Numbers

Number of forward gears	1
1st Gear	
2nd Gear	
3rd Gear	
4th Gear	
5th Gear	
6th Gear	
7th Gear	
8th Gear	
9th Gear	
10th Gear	
Reverse	

(●) Manual or Auto with lockup torque converter
( ) Automatic without lockup toque converter

Reset Form | Copy Transmission → | Copy Form →

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.

None

High Range	1.00
Low Range	2.43
Low 2 Range	-

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7th Gear	
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10th Gear	
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None

High Range	1.00
Low Range	2.43
Low 2 Range	-

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Step 3: Select underdrive.

None

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 315 / 75 R 16

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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	14.10	34.26	-	-	-	-
2	8.36	20.30	-	-	-	-
3	5.33	12.96	-	-	-	-
4	3.73	9.06	-	-	-	-
5	2.95	7.16	-	-	-	-
6	-	-	-	-	-	-
7	-	-	-	-	-	-
8	-	-	-	-	-	-
9	-	-	-	-	-	-
10	-	-	-	-	-	-
R	-	-	-	-	-	-

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	201	2.29	355	4.04	545	6.19
2	340	3.86	600	6.82	920	10.45
3	532	6.05	940	10.68	1441	16.37
4	761	8.65	1344	15.27	2060	23.41
5	964	10.95	1701	19.33	2608	29.64
6	-	-	-	-	-	-
7	-	-	-	-	-	-
8	-	-	-	-	-	-

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Step 3: Select underdrive.

None

High Range -

Low Range -

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Step 4: Enter axle gear ratio.

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Step 5: Select tire size.

◉ Inch
○ mm
○ Revs per mile
○ P-Metric 315 / 75 R 16

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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	14.92	36.26	-	-	-	-
2	7.80	18.94	-	-	-	-
3	5.15	12.51	-	-	-	-
4	3.73	9.06	-	-	-	-
5	2.95	7.16	-	-	-	-
6	-	-	-	-	-	-
7	-	-	-	-	-	-
8	-	-	-	-	-	-
9	-	-	-	-	-	-
10	-	-	-	-	-	-
R	-	-	-	-	-	-

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	190	2.16	336	3.82	515	5.85
2	364	4.14	643	7.31	986	11.20
3	552	6.27	974	11.06	1493	16.97
4	761	8.65	1344	15.27	2060	23.41
5	964	10.95	1701	19.33	2608	29.64
6	-	-	-	-	-	-
7	-	-	-	-	-	-
8	-	-	-	-	-	-

9	-	-	-	-	-	-
10	-	-	-	-	-	-
R	-	-	-	-	-	-

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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**	3000 **RPM**	6000 **RPM**
1	6	10	15
2	9	17	25
3	15	26	40
4	21	37	57
5	27	47	72
6	-	-	-
7	-	-	-
8	-	-	-
9	-	-	-
10	-	-	-
R	-	-	-

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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	1528	5349	10697
2	906	3170	6339
3	578	2023	4047
4	404	1415	2830
5	319	1118	2236
6	-	-	-
7	-	-	-
8	-	-	-
9	-	-	-
10	-	-	-
R	-	-	-

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9	-	-	-	-	-	-
10	-	-	-	-	-	-
R	-	-	-	-	-	-

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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**	3000 **RPM**	6000 **RPM**
1	5	9	14
2	10	18	27
3	15	27	41
4	21	37	57
5	27	47	72
6	-	-	-
7	-	-	-
8	-	-	-
9	-	-	-
10	-	-	-
R	-	-	-

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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	1617	5660	11320
2	845	2957	5915
3	558	1953	3905
4	404	1415	2830
5	319	1118	2236
6	-	-	-
7	-	-	-
8	-	-	-
9	-	-	-
10	-	-	-
R	-	-	-

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