

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 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)

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 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.

| | |
|-------------------------|--------------------------------|
| 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 toque converter

| | |
|-------------------------|--------------------------------|
| 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 toque 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 | - |

| | |
|-------------|------|
| High Range | 1.00 |
| Low Range | 2.72 |
| Low 2 Range | - |

Step 3: Select underdrive.

None

High Range

-

Low Range

-

Step 4: Enter axle gear ratio.

4.11

Step 5: Select tire size.

☐Inch

☐mm

☐Revs per mile

☒P-Metric

30.47

774

662

245

/

75

R

16

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.

None

High Range

-

Low Range

-

Step 4: Enter axle gear ratio.

4.56

Step 5: Select tire size.

☒Inch

☐mm

☐Revs per mile

☐P-Metric

33

838

611

315

/

75

R

16

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 |
|---|-----|------|-----|------|------|-------|

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 | <input type="text" value="750"/> RPM | <input type="text" value="1800"/> RPM | <input type="text" value="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 |

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 | <input type="text" value="10"/> | <input type="text" value="35"/> | <input type="text" value="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 |

| | | | | | | |
|---|-----|------|-----|------|------|-------|
| R | 146 | 1.66 | 586 | 6.65 | 1171 | 13.31 |
|---|-----|------|-----|------|------|-------|

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 | <input type="text" value="750"/> RPM | <input type="text" value="1800"/> RPM | <input type="text" value="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 |

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 | <input type="text" value="10"/> | <input type="text" value="35"/> | <input type="text" value="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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