



# Legal Vehicle Weight

Legal vehicle weight information for Alaska can be found in 17 AAC 25.013

Legal vehicle weight is determined by  
**THE MOST RESTRICTIVE OF**  
 one of three methods:

## Tire Loading, Axle Weight, or Bridge Formula

Legal weight is subject to seasonal weight restrictions when in effect. Weight restrictions are imposed as percentages to axle group weights. Weight restrictions do not apply to steer axles.

Some bridges are posted with maximum allowable weights. Do not cross posted bridges when in excess of posted bridge weights.

### Tire Loading

The weight on a tire may not exceed 600 pounds per linear inch of tire width.

Formula to determine tire loading:

$$W = (N)(T)(600)$$

W = Maximum tire loading weight (pounds per linear inch)

N = Number of tires

T = Tire width (in inches)

To convert metric sizes to inches, multiply by 0.0394

i.e. 255/70RR22.5 use the first number, 255 and multiply it by 0.0394 = 10 inches.

Tires cannot exceed the manufacturer's individual load rating.



### Axle Weight

|              |             |
|--------------|-------------|
| Single Axle  | 20,000 lbs. |
| 2-Axle Group | 38,000 lbs. |
| 3-Axle Group | 42,000 lbs. |
| 4-Axle Group | 50,000 lbs. |

8'1" is minimum distance between axles to be considered a separate axle group (as measured from center of axle to next center of axle).

3'6" is the minimum spacing between axles.

If the combination is a truck-tractor and single semi-trailer combination where the length of the semitrailer is 48 feet or more, the weight on a three-axle group on the semitrailer may not exceed, and the distance between the axles may not be less than:

|             |                   |
|-------------|-------------------|
| 42,000 lbs. | 3'6" min. spacing |
| 43,500 lbs. | 5' min. spacing   |
| 45,000 lbs. | 6' min. spacing   |

\* Weight Restrictions apply to axle weights\*



### Bridge Formula

Formula for a vehicle with lift axles in the drive group:

$$W = 500 \left[ \frac{LN}{N-1} + 12N + 36 \right]$$

W = the maximum gross vehicle weight to the nearest 500 pounds

L = the distance between extreme axles in whole feet (wheel base)

N = the number of axles on the vehicle or vehicle combination and does not include lift axles in the drive group of a power vehicle

Formula for a vehicle with no lift axles in the drive group:

$$W = 500 \left[ \frac{LN}{N-1} + 12N + 36 \right] + 3000$$

W = the maximum gross vehicle weight to the nearest 500 pounds

L = the distance between extreme axles in whole feet (wheel base)

N = the number of axles on the vehicle or vehicle combination



\* See the back for Bridge Formula Chart

# BRIDGE FORMULA CHART FOR GROSS VEHICLE WEIGHTS

| WB/Axles | 3     | 4     | 5     | 6      | 7      | 8      | 9      | 10     | 11     | 12     | 13     | 14     | 15     | 16     | Axles/WB |
|----------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------|
| 14       | 46500 | 51500 | 57000 |        |        |        |        |        |        |        |        |        |        |        | 14       |
| 15       | 47500 | 52000 | 57500 |        |        |        |        |        |        |        |        |        |        |        | 15       |
| 16       | 48000 | 52500 | 58000 |        |        |        |        |        |        |        |        |        |        |        | 16       |
| 17       | 49000 | 53500 | 58500 |        |        |        |        |        |        |        |        |        |        |        | 17       |
| 18       | 49500 | 54000 | 59500 |        |        |        |        |        |        |        |        |        |        |        | 18       |
| 19       | 50500 | 54500 | 60000 |        |        |        |        |        |        |        |        |        |        |        | 19       |
| 20       | 51000 | 55500 | 60500 |        |        |        |        |        |        |        |        |        |        |        | 20       |
| 21       | 52000 | 56000 | 61000 |        |        |        |        |        |        |        |        |        |        |        | 21       |
| 22       | 52500 | 56500 | 62000 |        |        |        |        |        |        |        |        |        |        |        | 22       |
| 23       | 53500 | 57500 | 62500 |        |        |        |        |        |        |        |        |        |        |        | 23       |
| 24       | 54000 | 58000 | 63000 |        |        |        |        |        |        |        |        |        |        |        | 24       |
| 25       | 55000 | 58500 | 63500 |        |        |        |        |        |        |        |        |        |        |        | 25       |
| 26       | 55500 | 59500 | 64500 |        |        |        |        |        |        |        |        |        |        |        | 26       |
| 27       | 56500 | 60000 | 65000 |        |        |        |        |        |        |        |        |        |        |        | 27       |
| 28       | 57000 | 60500 | 65500 |        |        |        |        |        |        |        |        |        |        |        | 28       |
| 29       | 58000 | 61500 | 66000 | 69500  |        |        |        |        |        |        |        |        |        |        | 29       |
| 30       | 58500 | 62000 | 67000 | 72000  |        |        |        |        |        |        |        |        |        |        | 30       |
| 31       | 59500 | 62500 | 67500 | 72500  |        |        |        |        |        |        |        |        |        |        | 31       |
| 32       | 60000 | 63500 | 68000 | 73000  |        |        |        |        |        |        |        |        |        |        | 32       |
| 33       |       | 64000 | 68500 | 74000  |        |        |        |        |        |        |        |        |        |        | 33       |
| 34       |       | 64500 | 69500 | 74500  |        |        |        |        |        |        |        |        |        |        | 34       |
| 35       |       | 65500 | 70000 | 75000  |        |        |        |        |        |        |        |        |        |        | 35       |
| 36       |       | 66000 | 70500 | 75500  |        |        |        |        |        |        |        |        |        |        | 36       |
| 37       |       | 66500 | 71000 | 76000  |        |        |        |        |        |        |        |        |        |        | 37       |
| 38       |       | 67500 | 72000 | 77000  |        |        |        |        |        |        |        |        |        |        | 38       |
| 39       |       | 68000 | 72500 | 77500  |        |        |        |        |        |        |        |        |        |        | 39       |
| 40       |       | 68500 | 73000 | 78000  |        |        |        |        |        |        |        |        |        |        | 40       |
| 41       |       | 69500 | 73500 | 78500  |        |        |        |        |        |        |        |        |        |        | 41       |
| 42       |       | 70000 | 74500 | 79000  |        |        |        |        |        |        |        |        |        |        | 42       |
| 43       |       | 70500 | 75000 | 80000  |        |        |        |        |        |        |        |        |        |        | 43       |
| 44       |       | 71500 | 75500 | 80500  |        |        |        |        |        |        |        |        |        |        | 44       |
| 45       |       | 72000 | 76000 | 81000  | 86500  | 91500  |        |        |        |        |        |        |        |        | 45       |
| 46       |       | 72500 | 77000 | 81500  | 87000  | 92500  |        |        |        |        |        |        |        |        | 46       |
| 47       |       | 73500 | 77500 | 82000  | 87500  | 93000  |        |        |        |        |        |        |        |        | 47       |
| 48       |       | 74000 | 78000 | 83000  | 88000  | 93500  |        |        |        |        |        |        |        |        | 48       |
| 49       |       | 74500 | 78500 | 83500  | 88500  | 94000  |        |        |        |        |        |        |        |        | 49       |
| 50       |       | 75500 | 79500 | 84000  | 89000  | 94500  |        |        |        |        |        |        |        |        | 50       |
| 51       |       |       | 80000 | 84500  | 90000  | 95000  |        |        |        |        |        |        |        |        | 51       |
| 52       |       |       | 80500 | 85000  | 90500  | 95500  |        |        |        |        |        |        |        |        | 52       |
| 53       |       |       | 81000 | 86000  | 91000  | 96500  |        |        |        |        |        |        |        |        | 53       |
| 54       |       |       | 82000 | 86500  | 91500  | 97000  |        |        |        |        |        |        |        |        | 54       |
| 55       |       |       | 82500 | 87000  | 92000  | 97500  |        |        |        |        |        |        |        |        | 55       |
| 56       |       |       | 83000 | 87500  | 92500  | 98000  |        |        |        |        |        |        |        |        | 56       |
| 57       |       |       | 83500 | 88000  | 93500  | 98500  |        |        |        |        |        |        |        |        | 57       |
| 58       |       |       | 84500 | 89000  | 94000  | 99000  |        |        |        |        |        |        |        |        | 58       |
| 59       |       |       | 85000 | 89500  | 94500  | 99500  |        |        |        |        |        |        |        |        | 59       |
| 60       |       |       | 85500 | 90000  | 95000  | 100500 | 106000 | 111500 | 117000 |        |        |        |        |        | 60       |
| 61       |       |       | 86000 | 90500  | 95500  | 101000 | 106500 | 112000 | 117500 |        |        |        |        |        | 61       |
| 62       |       |       | 87000 | 91000  | 96000  | 101500 | 107000 | 112500 | 118000 |        |        |        |        |        | 62       |
| 63       |       |       | 87500 | 92000  | 97000  | 102000 | 107500 | 113000 | 118500 |        |        |        |        |        | 63       |
| 64       |       |       | 88000 | 92500  | 97500  | 102500 | 108000 | 113500 | 119000 |        |        |        |        |        | 64       |
| 65       |       |       | 88500 | 93000  | 98000  | 103000 | 108500 | 114000 | 120000 |        |        |        |        |        | 65       |
| 66       |       |       | 89500 | 93500  | 98500  | 103500 | 109000 | 114500 | 120500 |        |        |        |        |        | 66       |
| 67       |       |       | 90000 | 94000  | 99000  | 104500 | 109500 | 115000 | 121000 |        |        |        |        |        | 67       |
| 68       |       |       | 90500 | 95000  | 99500  | 105000 | 110500 | 116000 | 121500 |        |        |        |        |        | 68       |
| 69       |       |       | 91000 | 95500  | 100500 | 105500 | 111000 | 116500 | 122000 |        |        |        |        |        | 69       |
| 70       |       |       | 92000 | 96000  | 101000 | 106000 | 111500 | 117000 | 122500 |        |        |        |        |        | 70       |
| 71       |       |       | 92500 | 96500  | 101500 | 106500 | 112000 | 117500 | 123000 |        |        |        |        |        | 71       |
| 72       |       |       | 93000 | 97000  | 102000 | 107000 | 112500 | 118000 | 123500 | 129500 | 135000 | 141000 | 146500 | 152500 | 72       |
| 73       |       |       | 93500 | 98000  | 102500 | 107500 | 113000 | 118500 | 124000 | 130000 | 135500 | 141500 | 147000 | 153000 | 73       |
| 74       |       |       | 94500 | 98500  | 103000 | 108500 | 113500 | 119000 | 124500 | 130500 | 136000 | 142000 | 147500 | 153500 | 74       |
| 75       |       |       | 95000 | 99000  | 104000 | 109000 | 114000 | 119500 | 125500 | 131000 | 136500 | 142500 | 148000 | 154000 | 75       |
| 76       |       |       |       | 99500  | 104500 | 109500 | 115000 | 120000 | 126000 | 131500 | 137000 | 143000 | 148500 | 154500 | 76       |
| 77       |       |       |       | 100000 | 105000 | 110000 | 115500 | 121000 | 126500 | 132000 | 137500 | 143500 | 149500 | 155000 | 77       |
| 78       |       |       |       | 101000 | 105500 | 110500 | 116000 | 121500 | 127000 | 132500 | 138500 | 144000 | 150000 | 155500 | 78       |
| 79       |       |       |       | 101500 | 106000 | 111000 | 116500 | 122000 | 127500 | 133000 | 139000 | 144500 | 150500 | 156000 | 79       |
| 80       |       |       |       | 102000 | 106500 | 111500 | 117000 | 122500 | 128000 | 133500 | 139500 | 145000 | 151000 | 156500 | 80       |
| 81       |       |       |       | 102500 | 107500 | 112500 | 117500 | 123000 | 128500 | 134000 | 140000 | 145500 | 151500 | 157000 | 81       |
| 82       |       |       |       | 103000 | 108000 | 113000 | 118000 | 123500 | 129000 | 134500 | 140500 | 146000 | 152000 | 157500 | 82       |
| 83       |       |       |       | 104000 | 108500 | 113500 | 118500 | 124000 | 129500 | 135500 | 141000 | 146500 | 152500 | 158500 | 83       |

**Department of Transportation & Public Facilities Regulations**

- 17 AAC 25.013 Legal vehicle weight
- 17 AAC 25.017 Supplemental axles
- 17 AAC 25.100 Road closures and restrictions
- 17 AAC 25.900 Definitions

Metric tire size can be converted to inches by multiplying by .0394  
 i.e. 255/70R22.5 = 255 mm X .0394 inches/mm = 10 inches

8'1" is the minimum spacing between axle groups. Axles spaced less than 8'1" apart are considered acting as one group.

For axle configurations not on this chart the gross vehicle weight may be determined by the following BRIDGE FORMULA:

$$Gross\ Vehicle\ Weight = 500 \left[ \frac{LN}{N-1} + 12N + 36 \right]$$

L = Wheelbase as measured from the center of the steering axle to the center of the last axle in feet. Inches are rounded up to the next whole foot.

N = Total number of axles.

For configurations with no lift axle(s) in the drive group, an additional 3,000 pounds is added to the gross vehicle weights as determined by the bridge formula or chart.

Legal gross vehicle is always the most restrictive of the bridge formula and the gross weight as determined by axle weights or by tires.

Lift axle(s) in the drive group of the power unit are not counted in determining the legal maximum allowable weight.

**MAXIMUM HIGHWAY SPEEDS**

| % Over Legal   | Maximum Speed |
|----------------|---------------|
| Up to 125%     | As Posted     |
| > 125% to 140% | 45 MPH        |
| > 140% to 150% | 40 MPH        |
| > 150% to 175% | 35 MPH        |
| > 175%         | 25 MPH        |

**AXLE WEIGHTS AND TIRE LOADINGS MUST ALSO BE CONSIDERED**

Max tire loading = no. of tires X tire width(inches) X 600 pounds/inch

- Single axles = 20,000 pounds maximum
- 2 Axle group = 38,000 pounds maximum
- 3 Axle group = 42,000 pounds maximum
- 4 Axle group = 50,000 pounds maximum
- 5 Axle group = 58,000 pounds maximum
- 6 Axle group = 66,000 pounds maximum

**Tire loadings over 700 pounds per inch reduce highway speed 5 MPH.**