

321.463 Maximum gross weight — exceptions — penalties.

1. An axle may be divided into two or more parts, except that all parts in the same vertical transverse plane shall be considered as one axle.

2. The gross weight on any one axle of a vehicle, or of a combination of vehicles, operated on the highways of this state, shall not exceed twenty thousand pounds on an axle equipped with pneumatic tires, and shall not exceed fourteen thousand pounds on an axle equipped with solid rubber tires. The gross weight on any tandem axle of a vehicle, or any combination of vehicles, shall not exceed thirty-four thousand pounds on an axle equipped with pneumatic tires. [This subsection](#) does not apply to implements of husbandry.

3. Notwithstanding other provisions of [this chapter](#) to the contrary, indivisible loads operating under the permit requirements of [sections 321E.7, 321E.8, 321E.9, 321E.29A, and 321E.29B](#), and divisible loads operating under the permit requirements of [section 321E.26](#), shall be allowed a maximum of twenty thousand pounds per axle.

4. a. (1) Notwithstanding any provision of [this section](#) to the contrary, the weight on any one axle of a self-propelled implement of husbandry used exclusively for the application of organic or inorganic plant food materials, agricultural limestone, or agricultural chemicals operated on the highways of this state shall not exceed twenty-five thousand pounds.

(2) A self-propelled implement of husbandry used exclusively for the application of organic or inorganic plant food materials, agricultural limestone, or agricultural chemicals shall comply with the other provisions of [this section](#) and [chapter](#) when operated over a bridge in this state, other than any provision limiting the weight on any one axle to less than twenty-five thousand pounds. A local authority may issue a special permit, based on a statewide standard developed by the department, allowing the operation over a bridge within its jurisdiction of such a self-propelled implement of husbandry with a weight in excess of the weights allowed under [this chapter](#).

b. (1) Notwithstanding any provision of [this section](#) to the contrary, the weight on any one axle of a fence-line feeder, grain cart, or tank wagon operated on the highways of this state shall not exceed twenty-four thousand pounds from February 1 through May 31 or twenty-eight thousand pounds from June 1 through January 31, provided, however, that the maximum gross vehicle weight of the fence-line feeder, grain cart, or tank wagon shall not exceed ninety-six thousand pounds.

(2) Notwithstanding any provision of [this section](#) to the contrary, a tracked implement of husbandry operated on the highways of this state shall not have a maximum gross weight in excess of ninety-six thousand pounds.

(3) A fence-line feeder, grain cart, tank wagon, or tracked implement of husbandry shall comply with the other provisions of [this section](#) and [chapter](#) when operated over a bridge in this state. A local authority may issue a special permit, based on a statewide standard developed by the department, allowing the operation over a bridge within its jurisdiction of a fence-line feeder, grain cart, tank wagon, or tracked implement of husbandry with a weight in excess of the weights allowed under [this chapter](#).

(4) For purposes of this paragraph “b”:

(a) “Highway” does not include a bridge.

(b) “Fence-line feeder, grain cart, or tank wagon” means any fence-line feeder, grain cart, or tank wagon.

5. a. Notwithstanding any provision of law to the contrary, a motor vehicle equipped with an engine fueled primarily by natural gas may exceed any applicable maximum gross weight limit under [this chapter](#), up to a maximum gross weight of eighty-two thousand pounds, by an amount equal to the difference between the weight of the vehicle attributable to the natural gas tank and fueling system installed in the vehicle and the weight of a comparable diesel fuel tank and fueling system.

b. Notwithstanding any provision of law to the contrary, a motor vehicle described in paragraph “a” equipped with an auxiliary power or idle reduction technology unit that reduces fuel use and emissions during engine idling may exceed any applicable maximum gross weight limit under [this chapter](#) by five hundred fifty pounds or the weight of the auxiliary power or idle reduction technology unit, whichever is less. This paragraph “b”

does not apply unless the operator of the vehicle provides to the department of public safety a written certification of the weight of the auxiliary power or idle reduction technology unit, demonstrates or certifies to the department of public safety that the idle reduction technology unit is fully functional at all times, and carries with the operator the written certification of the weight of the auxiliary power or idle reduction technology unit in the vehicle at all times to present to law enforcement in the event the vehicle is suspected of violating any applicable weight restrictions.

6. a. The maximum gross weight allowed to be carried on a vehicle or combination of vehicles on highways which are part of the primary road system is as follows:

MAXIMUM GROSS WEIGHT TABLE — PRIMARY HIGHWAYS						
Distance in feet	2 Axles	3 Axles	4 Axles	5 Axles	6 Axles	7 Axles
4	34,000					
5	34,000					
6	34,000					
7	34,000	34,000				
8	34,000	34,000				
8'1"	38,000	42,000				
9	39,000	42,500				
10	40,000	43,500	48,500			
11		44,000	49,500			
12		45,000	50,000			
13		45,500	50,500	56,000		
14		46,500	51,500	57,000		
15		47,000	52,000	57,500		
16		48,000	52,500	58,000		
17		48,500	53,500	58,500	64,000	
18		49,500	54,000	59,000	65,000	
19		50,000	54,500	60,000	65,500	
20		51,000	55,500	60,500	66,000	71,500
21		51,500	56,000	61,000	66,500	72,500
22		52,500	56,500	61,500	67,000	73,000
23		53,000	57,500	62,500	68,000	73,500
24		54,000	58,000	63,000	68,500	74,000
25		54,500	58,500	63,500	69,000	74,500
26		55,500	59,500	64,000	69,500	75,000
27		56,000	60,000	65,000	70,000	76,000
28		57,000	60,500	65,500	71,000	76,500
29		57,500	61,500	66,000	71,500	77,000
30		58,500	62,000	66,500	72,000	77,500
31		59,000	62,500	67,500	72,500	78,000
32		60,000	63,500	68,000	73,000	78,500
33			64,000	68,500	74,000	79,500
34			64,500	69,500	74,500	80,000
35			65,500	70,000	75,000	
36			68,000	70,500	75,500	
37			68,000	71,000	76,000	
38			68,000	72,000	77,000	
39			68,000	72,500	77,500	
40			68,500	73,000	78,000	
41			69,500	73,500	78,500	
42			70,000	74,000	79,000	
43			70,500	75,000	80,000	
44			71,500	75,500		
45			72,000	76,000		
46			72,500	76,500		
47			73,500	77,500		
48			74,000	78,000		
49			74,500	78,500		
50			75,500	79,000		
51			76,000	80,000		
52			76,500			
53			77,500			
54			78,000			
55			78,500			
56			79,500			
57			80,000			

b. The maximum gross weight allowed to be carried on a vehicle or combination of vehicles on nonprimary highways is as follows:

NONPRIMARY HIGHWAYS — MAXIMUM GROSS WEIGHT TABLE						
Distance in feet	2 Axles	3 Axles	4 Axles	5 Axles	6 Axles	7 Axles
4	34,000					
5	34,000					
6	34,000					
7	34,000	34,000				
8	34,000	34,000				
8'1"	38,000	42,000				
9	39,000	42,500				
10	40,000	43,500	45,000			
11		44,000	46,000			
12		45,000	47,000			
13		45,500	48,000	48,500		
14		46,500	49,000	49,500		
15		47,000	50,000	50,500		
16		48,000	51,000	51,500		
17		48,500	52,000	52,500	54,000	
18		49,500	53,000	53,500	55,000	
19		50,000	54,500	54,500	56,000	
20		51,000	55,500	55,500	57,000	
21		51,500	56,000	56,500	58,000	
22		52,500	56,500	57,500	59,000	
23		53,000	57,500	58,500	60,000	
24		54,000	58,000	59,500	61,000	
25		54,500	58,500	60,500	62,000	
26		55,500	59,500	61,500	63,000	
27		56,000	60,000	62,500	64,000	
28		57,000	60,500	63,500	65,000	
29		57,500	61,500	64,500	66,000	
30		58,500	62,000	65,500	67,000	
31		59,000	62,500	66,500	68,000	
32		60,000	63,500	67,500	69,000	
33			64,000	68,500	70,000	
34			64,500	69,500	71,000	
35			65,500	70,000	72,000	
36			68,000	70,500	73,000	
37			68,000	71,000	74,000	
38			68,000	72,000	75,000	
39			68,000	72,500	76,000	
40			68,500	73,000	77,000	
41			69,500	73,500	78,000	78,000
42			70,000	74,000	79,000	79,000
43			70,500	75,000	80,000	80,000
44			71,500	75,500		
45			72,000	76,000		
46			72,500	76,500		
47			73,500	77,500		
48			74,000	78,000		
49			74,500	78,500		
50			75,500	79,000		
51			76,000	80,000		
52			76,500			
53			77,500			
54			78,000			
55			78,500			
56			79,500			
57			80,000			

c. (1) The maximum gross weight allowed to be carried on a commercial motor vehicle on noninterstate highways, provided the vehicle is operated by a person with a commercial driver's license valid for the vehicle operated unless [section 321.176A](#) applies, is as follows:

NONINTERSTATE HIGHWAYS
MAXIMUM GROSS WEIGHT TABLE
COMMERCIAL MOTOR VEHICLE

Distance in feet	6 Axles	7 Axles
44	80,500	80,500
45	81,000	81,500
46	81,500	82,500
47	82,000	83,500
48	83,000	84,000
49	83,500	85,000
50	84,000	86,000
51	84,500	87,000
52	85,000	88,000
53	86,000	88,500
54	86,500	89,500
55	87,000	90,500
56	87,500	91,500
57	88,000	92,000
58	89,000	93,000
59	89,500	94,000
60	90,000	95,000
61		95,500
62		96,000

(2) Notwithstanding any provision of [this section](#) to the contrary, the maximum gross weight allowed to be carried on a noninterstate highway by a livestock vehicle with five axles, a minimum distance in feet between the centers of the first and fifth axles of sixty-one feet, and a minimum distance between the two rear axles of at least eight feet and one inch is eighty-six thousand pounds.

d. For the purposes of the maximum gross weight tables in paragraphs “a”, “b”, and “c”, distance in feet is the measured distance in feet between the centers of the extreme axles of any group of axles, rounded to the nearest whole foot.

e. (1) The maximum gross weight allowed to be carried on a tracked implement of husbandry when operated on a noninterstate highway bridge is as follows:

NONINTERSTATE HIGHWAY BRIDGES
MAXIMUM GROSS WEIGHT TABLE
TRACKED IMPLEMENTS OF HUSBANDRY

Length of Track in Feet	Weight in Pounds
4	34,000
5	34,000
6	34,000
7	34,000
8	42,000
9	42,500
10	45,000
11	46,000
12	47,000
13	48,500
14	49,500
15	50,500
16	51,500
17	54,000
18	55,000
19	56,000
20	57,000

21	58,000
22	59,000
23	60,000
24	61,000
25	62,000
26	63,000
27	64,000
28	65,000
29	66,000
30	67,000
31	68,000
32	69,000
33	70,000
34	71,000
35	72,000
36	73,000
37	74,000
38	75,000
39	76,000
40	77,000
41	78,000
42	79,000
43	80,000

(2) “*Length of track in feet*” means the length of track on one side of the tracked implement of husbandry which is in contact with the ground or roadway surface.

7. The weight on any one axle, including a tandem axle, of a vehicle which is transporting livestock on highways not part of the interstate system may exceed the legal maximum weight given in [this chapter](#) providing that the gross weight on any particular group of axles on such vehicle does not exceed the gross weight allowable under [this chapter](#) for such groups of axles.

8. The weight on any one axle, including a tandem axle, of a vehicle which is transporting raw materials from a designated borrow site to a construction project or transporting raw materials from a construction project, and which is operating on a highway that is not part of the interstate system and along a route of travel approved by the department or the appropriate local authority, may exceed the legal maximum weight otherwise allowed under [this chapter](#) by ten percent if the gross weight on any particular group of axles on the vehicle does not exceed the gross weight allowed under [this chapter](#) for that group of axles. If the vehicle exceeds the ten percent tolerance allowed under [this subsection](#), the fine shall be computed on the difference between the actual weight and the ten percent tolerance weight allowed for the axle or tandem axle.

9. A vehicle or combination of vehicles transporting materials or equipment on nonprimary highways to or from a construction project or commercial plant site may operate under the maximum gross weight table for primary highways in [subsection 6](#), paragraph “a”, or the maximum gross weight table for noninterstate highways in [subsection 6](#), paragraph “c”. When crossing a bridge, such a vehicle or combination of vehicles shall comply with any weight restriction imposed for the bridge pursuant to [section 321.471](#) or [321.474](#), provided signs that conform to the manual of uniform traffic-control devices adopted by the department that give notice of the restriction are posted as required under [section 321.472](#) or [321.474](#), as applicable.

10. A vehicle designed to tow wrecked or disabled vehicles shall be exempt from the weight limitations in [this section](#) while the vehicle is towing a wrecked or disabled vehicle.

11. a. A person who operates a vehicle in violation of [this section](#), and an owner, or any other person, employing or otherwise directing the operator of a vehicle, who requires or knowingly permits the operation of a vehicle in violation of [this section](#) shall be fined according to the following schedule:

AXLE, TANDEM AXLE, AND GROUP OF AXLES WEIGHT VIOLATIONS	
Pounds Overloaded	Amount of Fine
Up to and including 1,000 pounds	\$12
Over 1,000 pounds up to and including 2,000 pounds	\$22
Over 2,000 pounds up to and including 3,000 pounds	\$155
Over 3,000 pounds up to and including 4,000 pounds	\$240
Over 4,000 pounds up to and including 5,000 pounds	\$375
Over 5,000 pounds up to and including 6,000 pounds	\$585
Over 6,000 pounds up to and including 7,000 pounds	\$850
Over 7,000 pounds up to and including 8,000 pounds	\$950
Over 8,000 pounds up to and including 9,000 pounds	\$1,050
Over 9,000 pounds up to and including 10,000 pounds	\$1,150
Over 10,000 pounds up to and including 11,000 pounds	\$1,300
Over 11,000 pounds up to and including 12,000 pounds	\$1,400
Over 12,000 pounds up to and including 13,000 pounds	\$1,500
Over 13,000 pounds up to and including 14,000 pounds	\$1,600
Over 14,000 pounds up to and including 15,000 pounds	\$1,700
Over 15,000 pounds up to and including 16,000 pounds	\$1,800
Over 16,000 pounds up to and including 17,000 pounds	\$1,900
Over 17,000 pounds up to and including 18,000 pounds	\$2,000
Over 18,000 pounds up to and including 19,000 pounds	\$2,100
Over 19,000 pounds up to and including 20,000 pounds	\$2,200
Over 20,000 pounds	\$2,200 plus ten cents per pound in excess of 20,000 pounds

b. Fines for gross weight violations for vehicles or combinations of vehicles shall be assessed at one-half of the fine rate schedule for axle, tandem axle, and groups of axles weight violations.

c. Except as otherwise provided, the amount of the fine to be assessed shall be computed on the difference between the actual weight and the maximum legal weight specified in [this section](#).

d. The schedule of fines may be assessed in addition to any other penalties provided for in [this chapter](#).

12. Overloads on axles and tandem axles and overloads on groups of axles or on an entire

vehicle or combination of vehicles shall be considered as separate violations of the provisions of [this section](#).

13. A person shall not issue or execute, or cause to be issued or executed, a bill of lading, manifest, or shipping document of any kind which states a false weight of the cargo set forth on such bill, manifest, or document, which is less than the actual weight of the cargo.

14. *a.* A person operating a vehicle or combination of vehicles equipped with a retractable axle may raise the axle when necessary to negotiate a turn, provided that the retractable axle is lowered within one thousand feet following completion of the turn. This paragraph does not apply to a vehicle or combination of vehicles operated on an interstate highway, including a ramp to or from an interstate highway, or on a bridge.

b. A vehicle or combination of vehicles operated with a retractable axle raised as permitted under paragraph “*a*” is exempt from the weight limitations of [this section](#) as long as the vehicle or combination of vehicles is in compliance with the weight limitations of [this section](#) when the retractable axle is lowered.

c. [This subsection](#) does not prohibit the operation of a vehicle or combination of vehicles equipped with a retractable axle with the retractable axle raised when the vehicle or combination of vehicles is in compliance with the weight limitations of [this section](#) with the retractable axle raised.

15. A person who violates [this section](#) commits a simple misdemeanor.

[C24, 27, 31, 35, §5065; C39, §5035.12; C46, 50, 54, 58, 62, 66, 71, 73, 75, 77, 79, 81, §321.463; 81 Acts, ch 110, §1, ch 111]

89 Acts, ch 200, §1, 2; 92 Acts, ch 1238, §35; 94 Acts, ch 1199, §79; 95 Acts, ch 118, §26; 96 Acts, ch 1089, §4; 97 Acts, ch 100, §5, 12; 97 Acts, ch 104, §22; 98 Acts, ch 1103, §2; 98 Acts, ch 1178, §6, 7; 99 Acts, ch 108, §7; 2000 Acts, ch 1016, §17; 2000 Acts, ch 1040, §1; 2001 Acts, ch 32, §23 – 25; 2002 Acts, ch 1063, §33, 55; 2005 Acts, ch 20, §5 – 7, 12, 13; 2007 Acts, ch 143, §17; 2009 Acts, ch 133, §121; 2010 Acts, ch 1139, §1; 2010 Acts, ch 1140, §16, 17; 2013 Acts, ch 27, §1; 2013 Acts, ch 140, §62; 2017 Acts, ch 29, §96; 2017 Acts, ch 149, §2; 2018 Acts, ch 1172, §73; 2019 Acts, ch 15, §1; 2019 Acts, ch 138, §3; 2019 Acts, ch 158, §1; 2020 Acts, ch 1063, §152; 2021 Acts, ch 140, §1, 4; 2023 Acts, ch 85, §17

Referred to in §312.2, 321.453, 321.457, 321.459, 321.466, 321.473, 321E.2, 321E.7, 321E.8, 321E.9, 321E.9A, 321E.16, 321E.17, 321E.26, 321E.27, 321E.29, 321E.29A, 321E.29B, 321E.30, 805.8A(12)(e)

For scheduled fines listed in subsection 11, violations are charged and fines are applied pursuant to §805.8A, subsection 12, paragraph e