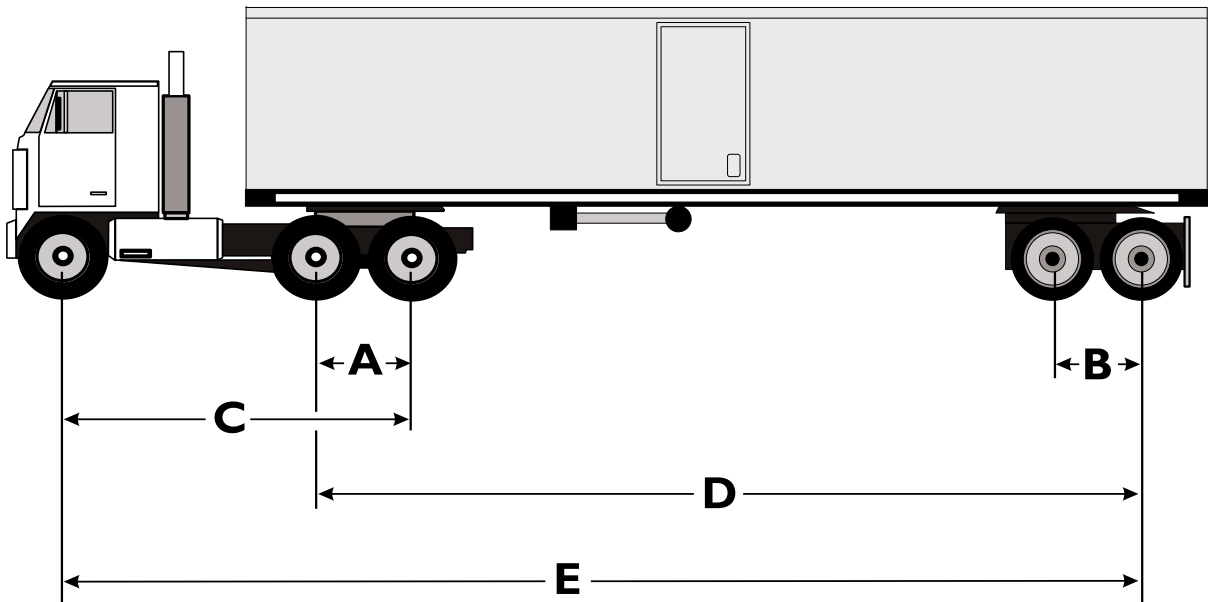


Calculating weigh bridge load bearing capacity

How To Use Bridge Formula Chart (R-Factor = $CLC/34,000$)



In the above example there are five (A-E) axle and span combinations. To determine the maximum load bearing capacity, follow the steps below for the average vehicle to be weighed on a standard IMXT or FCXT with a 2.65 R-factor or 45 ton CLC.

Combination	Axles	Assumed distance between axle centers for example	Load bearing capacity from chart
A	2	4 ft.	80,000#
B	2	4 ft.	80,000#
C	3	20 ft.	120,000#
D	4	45 ft.	169,412#
E	5	60 ft.	200,000#
Upper limit can never exceed scale capacity			200,000#

The above example demonstrates how to apply the R-factor charts to determine the maximum load bearing capability for a hypothetical truck. Note that in this case the maximum load bearing capacity is 200,000 lb since that is the scale rated capacity.

When comparing a Weigh-Tronix scale with a competitor's offering use the following formula to determine their capacities:

$$\frac{\text{Competitive CLC}}{\text{Weigh-Tronix CLC}} \times \text{Capacity (from chart on p. 3 \& 4)} = \text{Competitive capacity for a given axle and span combination}$$

In summary, first calculate the load bearing capacities for the typical vehicle your customer is weighing using the charts on pages 3 & 4. Next, if you know the competition's CLC, adjust the Weigh-Tronix load bearing capacities by the percentage relationship of the competitive CLC to the Weigh-Tronix CLC.

Try various examples and become familiar with this sales technique—it can be a powerful tool.

WEIGH-TRONIX BMS & BMC TRUCK SCALES

BRIDGE GROSS WEIGHT FORMULA

$$CLC = 80,000 \quad R = CLC / 34,000 = 2.353$$

AXLE SPAN	2 AXLES	3 AXLES	4 AXLES	5 AXLES	6 AXLES	7 AXLES	8 AXLES	9 AXLES
4	80,000							
5	80,000							
6	80,000							
7	80,000							
8	80,000	98,824						
9	91,765	100,588						
10	94,118	102,353						
11		104,118						
12		105,882	117,647					
13		107,647	119,216					
14		109,412	120,784					
15		111,176	122,353					
16		112,941	123,922	136,471				
17		114,706	125,490	137,941				
18		116,471	127,059	139,412				
19		118,235	128,627	140,882				
20		120,000	130,196	142,353	155,294			
21		121,765	131,765	143,824	156,706			
22		123,529	133,333	145,294	158,118			
23		125,294	134,902	146,765	159,529			
24		127,059	136,471	148,235	160,941	174,118		
25		128,824	138,039	149,706	162,353	175,490		
26		130,588	139,608	151,176	163,765	176,863		
27		132,353	141,176	152,647	165,176	178,235		
28		134,118	142,745	154,118	166,588	179,608	192,941	
29		135,882	144,314	155,588	168,000	180,980	194,286	
30		137,647	145,882	157,059	169,412	182,353	195,630	
31		139,412	147,451	158,529	170,824	183,725	196,975	
32		141,176	149,020	160,000	172,235	185,098	198,319	211,765
33			150,588	161,471	173,647	186,471	199,664	213,088
34			152,157	162,941	175,059	187,843	201,008	214,412
35			153,725	164,412	176,471	189,216	202,353	215,735
36			155,294	165,882	177,882	190,588	203,697	217,059
37			156,863	167,353	179,294	191,961	205,042	218,382
38			158,431	168,824	180,706	193,333	206,387	219,706
39			160,000	170,294	182,118	194,706	207,731	221,029
40			161,569	171,765	183,529	196,078	209,076	222,353
41			163,137	173,235	184,941	197,451	210,420	223,676
42			164,706	174,706	186,353	198,824	211,765	225,000
43			166,275	176,176	187,765	200,196	213,109	226,324
44			167,843	177,647	189,176	201,569	214,454	227,647
45			169,412	179,118	190,588	202,941	215,798	228,971
46			170,980	180,588	192,000	204,314	217,143	230,294
47			172,549	182,059	193,412	205,686	218,487	231,618
48			174,118	183,529	194,824	207,059	219,832	232,941
49			175,686	185,000	196,235	208,431	221,176	234,265
50			177,255	186,471	197,647	209,804	222,521	235,588
51			178,824	187,941	199,059	211,176	223,866	236,912
52			180,392	189,412	200,471	212,549	225,210	238,235
53			181,961	190,882	201,882	213,922	226,555	239,559
54			183,529	192,353	203,294	215,294	227,899	240,882
55			185,098	193,824	204,706	216,667	229,244	242,206
56			186,667	195,294	206,118	218,039	230,588	243,529
57			188,235	196,765	207,529	219,412	231,933	244,853
58				198,235	208,941	220,784	233,277	246,176
59				199,706	210,353	222,157	234,622	247,500
60				201,176	211,765	223,529	235,966	248,824

Total truck weight must not exceed the scale rated capacity.

WEIGH-TRONIX IMXT & FCXT TRUCK SCALES BRIDGE GROSS WEIGHT FORMULA

$CLC = 90,000 \quad R = CLC / 34,000 = 2.65$

AXLE SPAN	2 AXLES	3 AXLES	4 AXLES	5 AXLES	6 AXLES	7 AXLES	8 AXLES	9 AXLES
4	90,000							
5	90,000							
6	90,000							
7	90,000							
8	90,000	111,176						
9	103,235	113,162						
10	105,882	115,147						
11		117,132						
12		119,118	132,353					
13		121,103	134,118					
14		123,088	135,882					
15		125,074	137,647					
16		127,059	139,412	153,529				
17		129,044	141,176	155,184				
18		131,029	142,941	156,838				
19		133,015	144,706	158,493				
20		135,000	146,471	160,147	174,706			
21		136,985	148,235	161,801	176,294			
22		138,971	150,000	163,456	177,882			
23		140,956	151,765	165,110	179,471			
24		142,941	153,529	166,765	181,059	195,882		
25		144,926	155,294	168,419	182,647	197,426		
26		146,912	157,059	170,074	184,235	198,971		
27		148,897	158,824	171,728	185,824	200,515		
28		150,882	160,588	173,382	187,412	202,059	217,059	
29		152,868	162,353	175,037	189,000	203,603	218,571	
30		154,853	164,118	176,691	190,588	205,147	220,084	
31		156,838	165,882	178,346	192,176	206,691	221,597	
32		158,824	167,647	180,000	193,765	208,235	223,109	238,235
33			169,412	181,654	195,353	209,779	224,622	239,724
34			171,176	183,309	196,941	211,324	226,134	241,213
35			172,941	184,963	198,529	212,868	227,647	242,702
36			174,706	186,618	200,118	214,412	229,160	244,191
37			176,471	188,272	201,706	215,956	230,672	245,680
38			178,235	189,926	203,294	217,500	232,185	247,169
39			180,000	191,581	204,882	219,044	233,697	248,658
40			181,765	193,235	206,471	220,588	235,210	250,147
41			183,529	194,890	208,059	222,132	236,723	251,636
42			185,294	196,544	209,647	223,676	238,235	253,125
43			187,059	198,199	211,235	225,221	239,748	254,614
44			188,824	199,853	212,824	226,765	241,261	256,103
45			190,588	201,507	214,412	228,309	242,773	257,592
46			192,353	203,162	216,000	229,853	244,286	259,081
47			194,118	204,816	217,588	231,397	245,798	260,570
48			195,882	206,471	219,176	232,941	247,311	262,059
49			197,647	208,125	220,765	234,485	248,824	263,548
50			199,412	209,779	222,353	236,029	250,336	265,037
51			201,176	211,434	223,941	237,574	251,849	266,526
52			202,941	213,088	225,529	239,118	253,361	268,015
53			204,706	214,743	227,118	240,662	254,874	269,504
54			206,471	216,397	228,706	242,206	256,387	270,993
55			208,235	218,051	230,294	243,750	257,899	272,482
56			210,000	219,706	231,882	245,294	259,412	273,971
57			211,765	221,360	233,471	246,838	260,924	275,460
58				223,015	235,059	248,382	262,437	276,949
59				224,669	236,647	249,926	263,950	278,438
60				226,324	238,235	251,471	265,462	279,926