



COMMERCIAL FLEET TIRE DIGEST

The authoritative guide to reducing commercial tire expenditures from
Pressure Systems International,
the global leader in Automatic Tire Inflation Systems

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Understand Tire Load/Inflation Tables

The Tire and Rim Association (T&RA), established in 1903, is comprised of tire manufacturers, wheel manufacturers, and allied part supplier members who produce rim valves and rubber grommets. The association issues five annual publications covering tires and wheels. It is critical that the engineering standards for a given tire size and load range is the same regardless of manufacturer. This is also true for wheels and valves.

The "Year Book" from T&RA includes all of the load/inflation tables for every passenger, light truck, truck-bus, off-road, agricultural, industrial, and motorcycle tire & wheel. Their website to order publications is www.us-tra.org. They are based in the rubber capital of the world, Akron, Ohio.

Choosing the proper tire inflation pressure is always determined using the worst case load the tire will see under real world conditions. The "cold" inflation pressure is listed in all of the tables. Cold inflation pressure is determined at 68F ambient temperature and does NOT include any inflation pressure build-up due to vehicle operation.

Typical truck tire pages from the Year Book have been recreated for clarity and shown below:

Tire and Rim Association Standard												
TIRE LOAD LIMITS (lbs.) AT VARIOUS COLD INFLATION PRESSURES (psi)												
Tire Size	Usage	70	75	80	85	90	95	100	105	110	115	120
11R22.5	Dual	4380	4580	4760	4950	5205(F)	5415	5625	5840(G)	5895	5950	6005(H)
	Single	4530	4770	4990	5220	5510(F)	5730	5950	6175(G)	6320	6465	6610(H)

General Data (Inches)													
Tire Size		Design New Tire					Maximum Grown Tire				Minimum Size	Minimum Dual Spacing	Approved Rim
Designation	Rim	Section Width	Highway Tread	Traction Tread	Deep Trac Tread	Overall Width	Highway Tread	Traction Tread	Deep Trac Tread	Factor	Spacing	Contours	
11R22.5	8.25	11.00	41.48	41.70	41.94	11.88	42.34	42.57	42.82	51.77	12.50	7.50, 8.25	

Every tire size is listed on two separate pages as shown in the above charts. One chart shows the load/inflation table for a given tire size and the second page or chart shows information about the approved rim along with section width, overall diameter, and minimum dual spacing data.

When using the load/inflation table, first pick your tire size and then locate the specific line if the tire is going to be used as a single or dual configuration. We've shown the example of a 11R22.5 tire size.

As you view the load limits chart from left to right, for each tire size and usage (single or dual), choose the worst-case tire load for the particular situation you have. Once you have identified that, navigate to the top of the chart to view the appropriate tire inflation pressure for that load. A load limit that is shown in BOLD will also have a load range letter designation which lets the user know that, as shown in the chart example, a load range G tire has a maximum load of 5840 lbs. for dual usage and would require a cold inflation of 105 psi. The higher the load range letter designation, the more load the tire can carry for a given size.

For the 11R22.5 dual tire we've shown as an example, you first determine what pressure you should be running in that tire on the drive position? If you know that in your fleet, you have 20,000-pound drive axle and your loads typically gross out, the worst case load the drive tire will experience is 5,000 pounds. According to the load/inflation table, a 11R22.5 run as a dual at 5,000 pound loads would require a minimum cold inflation of 90 psi. By viewing the table, you could see that 85 psi cold inflation would be too low a pressure because the maximum load for 85 psi is only 4,950 pounds. Additional information in the General Data table for a 11R22.5 shows that the recommended design rim width is 8.25" but that a 7.50" rim is also approved.

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