General information about inflation pressure, fitting and handling of forest tires

The inflation pressure affects the service life of the tire and the performance of the machine. To guarantee the tire's function and to provide margins for the extra stress a tire in forest service is exposed to, the inflation pressure should be chosen carefully.

Machine specific inflation pressure recommendations are based on a fully loaded machine, according to the manufacture's stated load, plus a dynamic marginal.

The recommendations indicate minimal- normal- and maximum inflation pressure. For estimation, see headline "The inflation pressure's effects".

The inflation pressure should be adjusted to the terrain conditions and load

Use a lower pressure if the terrain is relatively rock free and where greater bearing capacity is required.
Use a higher pressure for heavy service in demanding terrain.

If a machine specific recommendation is missing, the inflation pressure should be adjusted to the load that the tire is exposed to in kilograms (machine weight + load) and terrain conditions.
For more information, contact Trelleborg.

The inflation pressure's effects

	Advantages	**Disadvantages**
Low inflation pressure	Good comfort Large contact surface Lower ground pressure Less soil damage Increased traction	Reduced stability Increased risk of tube damage/wear
High inflation pressure	Increased stability Requirement when using tracks	Reduced comfort Increased risk of cuts and puncture damage to the lug tread Increased sensitivity to point loads Increased soil damage and ruts Less grip

inflation pressure Check
The tires must be visually checked daily and the inflation pressure must be checked at least once a month.
A tire that has been removed should be checked regularly during the first week after it has been refitted. This is because there might be air pockets between the tire and tube that ventilate out, and reduce the inflation pressure.
Wheels with liquid ballast must be checked more frequently as the volume of air in the tire is smaller.

The inflation pressure becomes lower if the temperature drops. Example: Inflated to 4 bar in the workshop (+20° Celcius) the pressure will become 3,5 bar when outside in the winter (- 20° Celcius). Pressure loss is 13,7% /40 degrees. The opposite will occur when it becomes warmer. (The calculation is valid for constant tire volume.) Ensure adjustments are made for this.

Driving with tracks
Use the recommended inflation pressure for track use.
Check that the tracks are correctly tensioned. The tracks must sag approximately 50 mm between the wheels.
Check that the tracks fit the tires. On one side, there must be a distance of approximately 15 mm between the track's side support and the tire.

Driving with chains
Use of chains does not affect the inflation pressure.

Tire maintenance
Regular inspection and maintenance of the tires increases service life.
During the daily visual inspection of the tires, it is important to note any damage, such as splinters and large gashes or pin hole damage that causes moisture to penetrate the tire shell. Any such damage should be repaired without causing a separation (external rubber releasing from the tire shell).
Check the tension of the anti-slide devices, and make sure that they do not have any loose links or sharp parts that can damage the tires.
Remove any branches or wood splinters that have got trapped between the tire and rim.

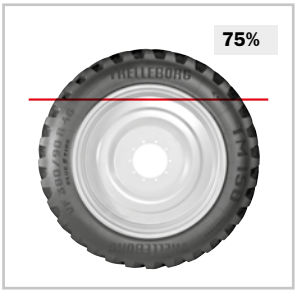
Filling forest tires with fluid
The tires can be filled with fluid to increase the stability and pull force of the machine.
Maximum permitted filling volume is 75% of the total tire volume.
For forestry machines, operating in heavy terrain, max. 50% filling volume.

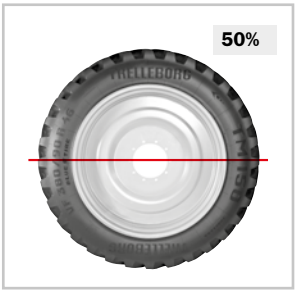
The ballast (fluid) must be water. **At temperatures below zero, a mixture of calcium chloride/water or glycol/water is recommended.**

At a mixture of 35%, calcium chloride increases the mixture's density up to approximately 1.2 kg/litre.

By turning the wheel and pressing the valve needle, you can easily decide whether the tire fluid volume is 75% or 50%.

At calculation of the wheel load, the entire ballast must be added to the machine weight.
Because of the lower air volume, fluid filled tires are less elastic and for that reason are also more sensitive to point loads and impacts. The rolling resistance and the dynamic forces of the wheel and suspension are also increased.
Remember to only use pressure gauges that tolerate fluid mixtures.
To obtain the correct fluid volume, see Trelleborg Wheel Systems' technical manual at www.trelleborg.com/wheelsystems





Fitting

Lubricant procedure

Lubricate the rim bead seat, rim flange and tire bead with a high quality, quick drying, fitting lubricant made for agricultural tires (e.g. Eurometec) or, in case of an emergency, soap and water.
The fitting lubricant with these characteristics also reduces the risk of the tire slipping on the rim.

If this advice is not followed, bead damage or fracture could occur during fitting and/or rim slippage during normal operation, which may cause premature tire failure.

Inflate the tube after it has been placed into the tire. This to avoid folds on the tube.

Step 1:

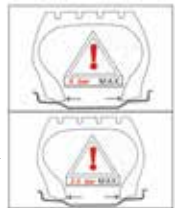
Maximum inflation pressure after fitment without any special safety precautions:
1,5 bar for 15” tires and smaller
1,0 bar for other tires

Step 2:

Filling to service pressure with safety equipment or precautions only (blast cage or filling from a distance).

5 bar for tires fitted on 15 degree rims 22.5” 24.5” 26.5” 28.5” 30.5”

2,5 bar for tires fitted on 5 degree rims.



The applied pressure is given on the tire with the symbol below. This pressure should not be mixed up with the maximum inflation pressure that can be higher than the applied pressure.

NOTE: A newly fitted tire should not be exposed to high torques within the first 24 hours.