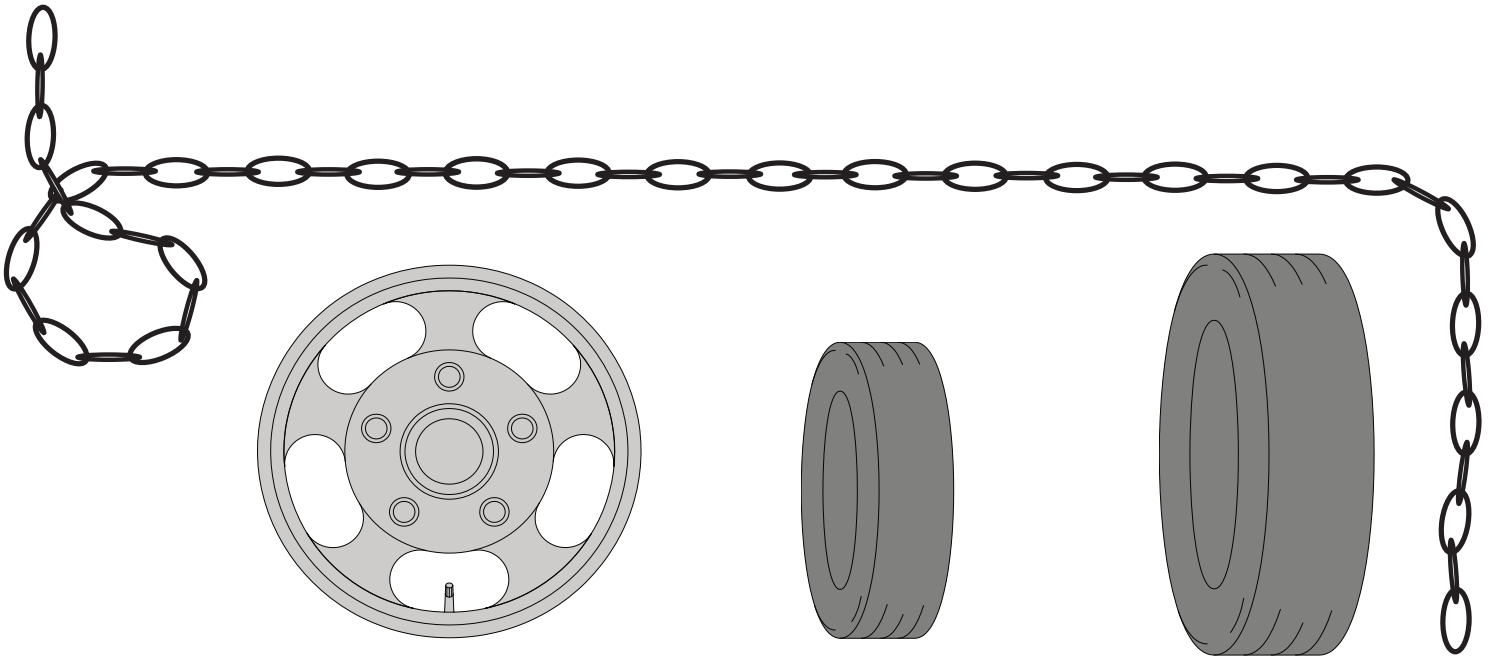


MaineDOT W.I.S.E. COLLEGE



WHEELS, TIRES AND CHAINS

MaineDOT WISE COLLEGE

SERVICING TRUCK TIRES & WHEELS



MOUNTING AND INFLATION:

Precautions and Reasons for Precautions

Always match a tire (size) diameter designation with exactly the same rim diameter designation. Don't assume that it came in with proper size.

Rims of different diameters and tapers cannot be interchanged.

Don't try to seat rings or other components by hammering while tire is inflated or partially inflated.

Never introduce a flammable substance into a tire – before, during, or after mounting.

This is unsafe and may result in internal tire damage or fire, rim damage, or a potentially dangerous vapor remaining in the tire. Any of these conditions could cause serious personal injury during the mounting and inflating procedure.

Double check to make sure all components are properly seated prior to and after inflation.

Always inflate in a safety cage or use another restraining device that is approved by the Occupational Safety and Health Administration (OSHA).

Don't inflate a tire before all components are properly in place. Place assembly in a safety cage or use another restraining device and inflate to approximately 10 psi. Recheck components for proper assembly. Observe that the O ring does not roll out of its groove. If the assembly is not proper, deflate and correct. Never hammer on an inflated or partially inflated tire/rim assembly. If the assembly is proper at approximately 10 psi, continue to inflate to fully seat the tire beads.

If tube type, inflate to approximately 75 psi pressure (Grader, 50

psi). Then completely deflate to remove buckles and uneven stresses from the tube and flap before reinflating to correct operating pressure. This repeat inflation is necessary to prevent buckles which may lead to premature tube failures.

After completing inflation, check valve and rim components in both bead areas for leaks. Observe tire lower sidewall circumferential groove's concentricity with top of flange. If distance between groove and rim flange varies by 1/8" or more around the circumference or from one bead to the other, the tire beads must be unseated from the bead seat, relubricated and resealed.

Never sit on or stand in front of or over a tire and rim assembly that is being inflated. During inflation, always use a clip-on chuck with sufficient length of hose to permit standing clear of the potential trajectory of the wheel components and use an inline valve with gauge or a pressure regulator preset to a desired value when inflating a tire. When a tire is in a restraining device, do not lean any part of your body or equipment on or against the restraining device.

If parts are improperly installed, they may fly apart with explosive force sufficient to cause serious injury or death. Rapid air loss can propel an assembly.

Follow recommended mounting, demounting, inflating and deflating procedures for tires and rims as outlined in this manual.

Misassembled parts may fly apart during inflation. Check at 10 psi to determine whether parts are in proper position.

Don't hammer on rims or components with steel hammers. Use rubber, lead, plastic, or brass faced mallets if it is necessary to tap uninflated components together. Mallet faces should be in good condition to avoid chips from mallet face inside of the components.

Properly matched and assembled components will seat without tapping. If a part is tapped, it or the tapping tool may fly out with explosive force.

When moving a tire or wheel with a cable or chain sling, stand clear. The cable or chain may break, lash out, and cause serious injury.

Never attempt to weld on an inflated tire/rim assembly or on a rim assembly with a deflated tire.

Heat from welding will cause a sudden, drastic increase in pressure, often resulting in a possible explosion with the force of a bomb. Deflated tires can catch fire inside the air chamber.

Mixing parts of one type rim with those of another is extremely dangerous. Always check manufacturer for approval if in doubt.

OPERATION: Precautions and Reasons for Precautions

Always use rims recommended for the tire. Consult catalogues for proper tire/rim matching.

Don't overload or overinflate tire/rim assemblies. Check for adequate rim strength if special operating conditions are anticipated.

Excessive overload or overinflation can cause damage to the tire and rim assembly.

Never run a vehicle on one tire of a dual assembly.

The carrying capacity of the single tire and rim is dangerously exceeded, and operating a vehicle in this manner can result in damage to the rim and tire or cause a tire fire.

Never use a tube in a tubeless tire/rim assembly where the rim is suspected of leaking.

Loss of air pressure through fatigue cracks or other fractures in a tubeless rim warns you of a potential rim failure. This safety feature is lost when tubes are used with leaking rims. Continued use may cause the rim to burst with explosive force.

Always inspect rims and wheels for damage during tire checks.

Early detection of potential rim failures may prevent serious injury.

Never add or remove an attachment or otherwise modify a rim (especially by heating, welding, or brazing) unless the tire has been removed and approval has

been received from the rim manufacturer.

Modification or heating of a rim or one of its parts may weaken it so that it cannot withstand forces created by inflation or operation.

SERVICING TIRE AND RIM ON VEHICLE: Precautions and Reasons for Precautions

Block the tire and wheel on the opposite side of the vehicle before placing the jack in position.

Regardless of how hard or firm the ground appears, put hardwood blocks under the jack. Always provide for vehicle support with blocks just in case the jack should slip.

The vehicle may shift, slip off the jack, and cause injury.

Inspection Procedures for Identification of Potential "Zipper Ruptures" in Steel Cord Radial Medium and Light Truck Tires

Any tire suspected of having been operated underinflated and/or overloaded must be approached with caution. Completely deflate the tire by removing the valve core before removing the tire/rim/wheel assembly from the vehicle. After removing from the vehicle, clearly identify the tire, so it will not be reinflated until carefully inspected by a trained technician, to determine the cause of underinflation, as well as any tire damage resulting from underinflation and/or overloading.

WARNING

Permanent tire damage due to underinflation and/or overloading cannot always be detected. Any tire known or suspected to have been run at 80% or less of normal operating inflation pressure and/or overloaded, could possibly have permanent structural damage (steel cord fatigue). Ply cords weakened by underinflation and/or overloading may break one after another, until a rupture occurs in the upper sidewall with accompanying instantaneous air loss and explosive force. This can result in serious injury or death.

IMPORTANT EQUIPMENT FOR TIRE AND RIM/WHEEL SERVICING

Using proper tools and safety equipment can help prevent personal injuries and costly damage. Remember, an inflated truck tire contains explosive energy. This can cause the tire/rim components to burst apart with great force. Protect yourself. Use the servicing equipment recommended below.

1. Always inflate in a safety cage using a clip on air chuck or use an OSHA approved restraining device with a clip-on air chuck.

This is a safeguard against injury resulting from assembly errors.

A safety cage is your best protection if there is an explosion during inflation.



Safety cage

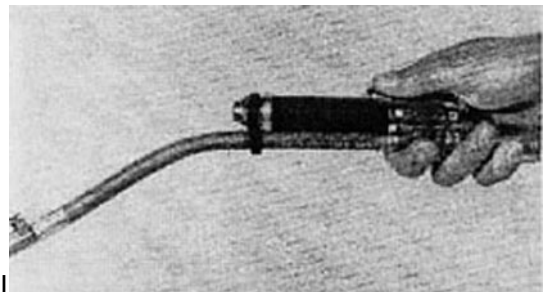
⚠ WARNING: Facing the side/lock rings against a wall or other permanent structure during inflation is not safe. If the assembly explodes, you can be struck by flying components. Fully restrain the tire and rim/wheel during inflation.

2. Always use a clip-on air chuck with an in-line valve and gauge with sufficient length of hose to **stand clear**.



Clip-on air chuck

In-line valve and gauge



A clip-on air chuck allows you to keep your hands, arms, and body clear during inflation. An in-line valve allows you to control the air flow while standing away from the assembly. An in-line gauge allows you to monitor the air pressure going into the tire during inflation.

⚠ WARNING: Inflating a truck tire with a hand-held air chuck is dangerous. You have to put your hands inside the safety cage or the restraining device. You can't stand clear. You can be seriously injured.

RADIAL TIRE AIR PRESSURES
COLD INFLATION

TIRE SIZE MAXIMUM RECOMMENDED PRESSURES

All passenger Cars and Light Trucks (1/2 ton pickup) 36 lb

Air pressures are for single tire (S) and dual tire (D)

P215/85R16 L.T.	S-45 D-40
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P225/75R16 L.T.	S-45 D-40
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P235/85R16 L.T.	S-45 D-40
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P245/75R16 L.T.	S-45
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8.75xR16.5 L.T.	S-45 D-40
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**All above front tires (in 16") may require air pressures to be adjusted up or down 10 lb. (rears may require up to 20 lb. dependent on load hauled) but not lower than 40 lb. in dual application or 36 lb. single application.

TRUCK TIRES

All pressures are for single tire (S) and dual tire (D)

10.00xR20	S-105 D-95
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11.00xR20	S-105 D-95
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11.00xR22	S-120 D-110
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9R22.5	S-110 D-105
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11R22.5	S120 D-110
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12R22.5	S-120 D-110
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425/65R22.5	S-105
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**Inside truck dual may need a valve stem extension.

ALWAYS USE A METAL VALVE CAP!



- WARNING**
- 1 NEVER EXCEED ANY MAXIMUM AIR PRESSURE/SETTING STAMPED INTO ANY RIM.
 - 2 NEVER EXCEED THE MAXIMUM AIR PRESSURE/SETTING MOLDED INTO THE SIDE WALL OF ANY TIRE.
 - 3 ALWAYS USE A METAL, SEALING VALVE CAP!

AIR PRESSURE CHART

Tire	Type	Air pressure (lbs.)
480x8	Trailer	65
6.00x9	Boat Trailer	65
6.00x9	Industrial	90
5.30/4.50x12	Trailer	55
8-14.5	Trailer	90
7.50x15	Trailer	90
8.25x15	Trailer	100
10.00x15	Trailer	100
215/75R17.5	Trailer	120
9.50xR16.5	Trailer	65
11Lx16	12 Ply	50
12x16.5	10 Ply (Case 4X4)	50
20.5xR25 Radial	25-Ply Loader	55 Front / 45 Rear
23.5x25 Bias	20-Ply Loader	55
20.5x25	Bias Ply Loader	55
19.5LR24 Radial	JCB Loader	28
14.00x24 Bias	Grader	40
14.00xR24	Grader JD670 Drives on right side may require up to 15 lb extra if wing is used.	40 Front / 45 Rear
18.4x24	10 Ply Tractor	28
17.5x25	Grader	30
17.5LR24	Loader / hoe	42

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