DEMOUNTING AND MOUNTING PROCEDURES FOR TRUCK/BUS TIRES

WARNING

Always comply with the procedures on this chart and in the wheel manufacturer’s catalogs, instruction manuals or other industry and government instructional materials. Failure to do so may cause you or others to be hurt or killed.

WARNING

Any inflated tire mounted on a wheel contains explosive energy. The use of damaged, mismatched or improperly assembled tire and wheel parts can cause the assembly to burst apart with explosive force. If anyone is hit by an exploding tire, wheel parts, or the air blast, you or someone else may be hurt or killed.

1. Before Servicing any Rim Wheel (Tire/Rim Assembly)

1. Before loosening any nuts or clamps that attach a tube-type tire/rim assembly to a vehicle, always completely deflate the tire (or both tires of a dual assembly) by taking out the valve core(s).

2. Use proper tools to demount or mount rim parts. Never use a steel hammer to seat rim parts – use only rubber, plastic or brass tipped mallets. Striking a wheel/rim assembly with a hammer of any type can damage the wheel and endanger the installer. Use a steel duck bill hammer only as a wedge. Do not strike the head of a hammer with another hard faced hammer – use a rim mallet.

3. To make tire demounting and mounting easier, use a non-flammable tire lubricant or tire sealant labeled for that purpose.

4. Never reinflate a tire that has been operated in a run-flat or underinflated condition (80% or less of recommended pressure). Demount, inspect and match all tire and rim parts before reinflating.

5. If an emergency puncture/inflater has been used, deflate and reinflate the tire several times to remove remaining explosive propellant before servicing.

WARNING

If you don’t know how to use tire changing tools – STOP! Tire changing should only be done by trained persons. If you do it wrong, you can be hurt or killed.

Using Tire Tools

Always wear eye protection when using hammers and tire irons. Never use an extension or “cheater” bar. Always use soft-faced hammers when driving tire irons. Never use a hammer with a loose or cracked handle. Never use a bent, cracked, chipped, dented or mushroomed tool. Keep tools clean and inspect frequently. Never alter or apply heat to any tool. Never use a tire tool for anything except mounting tires.

Typical Tire Service Tools

Use only tools recommended by the tire or wheel manufacturer.

ALWAYS WEAR SAFETY GLASSES
2. Deflation and Demounting (Removing Tire from Wheel)

1. Never attempt to demount a tire from a rim unless you are sure that the tire is completely deflated (remove valve core and insert wire to ensure complete deflation).

2. Loosen the tire bead from the side ring by using a duck bill hammer or other bead breaking tool. Use a duck bill hammer as a wedge; do not pound on the tire or wheel. For single piece wheels, both beads must be loosened before demounting the tire.

### TUBE TYPE

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<th>Single Piece Rim</th>
<th>Solid Rim/Split Ring</th>
<th>Split Rim/Solid Ring</th>
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Lubricate both of the tire beads and position the assembly on the floor with the rim well side up. Place two tire irons 10-12 inches apart on each side of the valve with the spoon ends of irons toward the flange of the rim. Force the tire bead into the well opposite of the tire irons with your feet, then pull both irons toward the center of the rim, prying part of the tire bead over the rim.

While leaving one iron in place, take out and reinset the other iron about four inches from where it was removed. Pull downward on the iron to loosen more of the tire bead. Repeat this process until the first bead is entirely free from the rim.

Stand the tire on its tread. Position the rim so that the well rests on the second bead. Insert the straight end of the tire iron, as pictured, with the iron stop hooked over the flange. Allow the tire to fall toward you while applying upward pressure on the tire iron to unbutton the second bead. If necessary, rock or bounce the assembly to pry the rim out of the tire.

Turn the assembly over and break the other tire bead loose. Remove the rim from the tire. Remove the tube and flap from the tire.

Turn the assembly over and break the other tire bead loose. Remove the rim from the tire. Remove the tube and flap from the tire.

Insert the tapered end of the lock ring tool into the notch in the rim near the split. Push the tool downward and toward the center of the rim. A block of wood may be placed under the left side of the rim split to help offset the rim base.

Insert the tapered end of the lock ring tool into the second notch and push downward toward the center of the rim, prying the solid side ring from the rim. Remove side ring.

Insert the tapered end of the lock ring tool into the notch in the rim near the split. Push the tool downward and toward the center of the rim. A block of wood may be placed under the left side of the rim split to help offset the rim base.

Insert the tapered end of the lock ring tool into the second notch and push downward toward the center of the rim, prying the solid side ring from the rim. Remove side ring.
2. Deflation and Demounting (Removing Tire from Wheel)

1. Never attempt to demount a tire from a rim unless you are sure that the tire is completely deflated (remove valve core and insert wire to ensure complete deflation).
2. Loosen the tire bead from the side ring by using a duck bill hammer or other bead breaking tool. Use a duck bill hammer as a wedge; do not pound on the tire or wheel. For single piece wheels, both beads must be loosened before demounting the tire.

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- **Solid Rim/Solid Ring**
  - Insert the tapered end of the lock ring tool into the notch in the side ring. This notch is located between the embossments on the side ring.
  - Push the side ring downward at a point opposite the notch. Force the lock ring tool handle downward to pry the side ring from the rim. Continue prying around the rim until the side ring is free.
  - Remove the side ring from the rim. Turn the assembly over and break the other bead loose. Remove the rim from the tire. Remove the tube and flap from the tire.

- **Solid Rim/Solid Flange/ Split Lock Ring**
  - Push the flange and tire bead down until they clear the lock ring. Insert the tapered end of a lock ring tool into the notch in the lock ring near the split and pry the lock ring out of the rim gutter groove.
  - Insert the lock ring tools under the lock ring as shown and progressively pry around the rim until the lock ring is free. Remove the lock ring and flange from the tire assembly.
  - Turn the assembly over and break the other tire bead loose. Remove the rim from the tire. Remove the tube and flap from the tire.

- **Semi-Drop Center Solid Rim/Solid Ring**
  - Insert the tapered end of the lock ring tool into the notch in the side ring. Force the part of the side ring opposite the notch down and push downward on the lock ring tool to pry the side ring from the groove in the rim. Continue to pry the side ring around the rim being careful not to bend the side ring.
  - Remove the side ring from the rim. Force the tire bead down at the valve slot and using the tubeless tire iron, pry the opposite portion of the bead over the edge of the rim progressively loosening the tire bead all around the rim.
  - Turn the assembly over and break the other tire bead loose. Making sure that the tire bead stays in the rim well, slip the flat part of the tubeless tire iron between the tire bead and the rim as shown. Pry the tire bead over the rim by pushing down on the tire.
3. Inspection of Parts

1. Never use any part that is bent, pitted from corrosion, cracked or worn. These are unserviceable parts and must be destroyed so that they cannot be used. Do not use damaged or badly worn tires.

2. Never weld on a rim that has a tire on it. Do not rework, weld, heat or braze any rim parts for any reason.

3. Always find the identification stamp on the rim parts. Check the “Multipiece Rim Matching Chart” to see that the rim parts are properly matched. Never use a rim part unless you can positively identify it from the manufacturer’s stamped markings.

4. If you cannot identify a part, it must not be used. Destroy it.

5. Remove rust, dirt or foreign material from rim parts. Repainting the parts will make them last longer. Repaint the bare metal areas to make them last longer.

EXAMPLES OF UNSERVICEABLE PARTS – BENT, RUSTED, CRACKED OR WORN PARTS CANNOT BE SAFELY ASSEMBLED AND MUST BE DESTROYED. REPLACE THEM WITH PROPERLY MATCHED, SERVICEABLE PARTS.
4. Mounting (Assembling the tire and rim)

**FOR TUBELESS TIRES:**
A. Place the rim base on the floor with the well side up.
B. Lubricate both the tire beads and the top flange of the rim base.
C. Replace rubber washer on valve and inspect valve stem for damage or wear. Replace valve stem if necessary.

**FOR TUBE TYPE TIRES:**
A. Insert the tube into the tire and inflate just enough to round out the tube. Insert the flap. Check the flap wings to ensure that they are not folded.
B. Lay the rim on the floor, align the valve with the rim valve slot and work the tire onto the rim.
C. Remove the valve core from the valve stem to exhaust all air from the tube. This will prevent trapped air in the tube from interfering with the proper seating of the side or lock ring into the rim gutter groove.

**FOLLOW THE PROCEDURES BELOW FOR THE TYPE OF RIM ASSEMBLY YOU ARE SERVICING**

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**TUBELESS TYPE**

**Single Piece Rim**

Push the tire bead onto the rim as far as possible. Using the curved end of the tire iron (with the stop resting on the rim flange) take small bites to work the remaining section of the bead onto the rim.

Start the second tire bead into the well, holding it in position with foot or self-locking pliers clamped to the rim of the flange. Insert the curved end of the tire iron with the stop towards the rim and push the iron outwards to work the tire bead over the flange.

Taking small bites, repeat the operation progressively around the rim. Keep the tire bead in the well with your foot or self-locking pliers. Continue until the second tire bead is fully mounted over the flange.

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**TUBE TYPE**

**Solid Rim/Split Ring**

For rims with bead humps: make sure the top bead is below the bead hump before mounting on the side ring.

Insert one end of the side ring into the rim gutter groove. Progressively “walk” the side ring into place until it is completely seated in the rim gutter groove.

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**Split Rim/Solid Ring**

Spread the rim by placing a block under the left side of the split (when facing split). Align the valve with the rim valve slot and work the tire onto the rim.

Insert the side ring into the rim gutter groove starting at the left side of the split. Progressively “walk” the side ring into place until it is fully assembled into the rim gutter groove.

Turn the assembly over. Place the block of wood under the right side of the split (when facing split). Tap the rim until the split is in proper alignment. If rim refuses to align properly, check to make sure the rim locking device is undamaged and free of dirt, rust and burrs. DO NOT INFLATE IF THE SPLIT IS NOT PROPERLY ALIGNED.
4. Mounting (Assembling the tire and rim)

**FOR TUBELESS TIRES:**
A. Place the rim base on the floor with the well side up.
B. Lubricate both the tire beads and the top flange of the rim base.
C. Replace rubber washer on valve and inspect valve stem for damage or wear. Replace valve stem if necessary.

**FOR TUBE TYPE TIRES:**
A. Insert the tube into the tire and inflate just enough to round out the tube. Insert the flap. Check the flap wings to ensure that they are not folded.
B. Lay the rim on the floor, align the valve with the rim valve slot and work the tire onto the rim.
C. Remove the valve core from the valve stem to exhaust all air from the tube. This will prevent trapped air in the tube from interfering with the proper seating of the side or lock ring into the rim gutter groove.

**FOLLOW THE PROCEDURES BELOW FOR THE TYPE OF RIM ASSEMBLY YOU ARE SERVICING**

**TUBE TYPE**

### Solid Rim/Solid Ring
- Place the side ring in position with the notch located at least 3" from the valve slot. Find the two cutaway sections in the side ring locking surfaces (these sections are opposite each other and are shown as Points A). Push down on the side ring at Point C and work it into the rim gutter groove as far as possible by using your hand and rim mallet. Keeping the side ring engaged with the rim at Point C, strike the side ring progressively toward Points A with the mallet until half of the side ring is engaged.
- Insert the tapered end of the lock ring tool into the notch (Point B). Then pry outward and strike the ring downward with the mallet between the notch and cutaway section. Remove the tool and strike additional blows progressively toward the other cutaway section until the entire side ring is over the lip of the rim.
- Before inflating, be sure the side ring is completely mounted over the lip of the rim. A properly mounted side ring will move freely up and down with only hand pressure. DO NOT INFLATE IF THE SIDE RING DOES NOT MOVE FREELY.

### Solid Rim/Solid Flange/ Split Lock Ring
- Place the flange over the rim and then stand on the flange to push it below the rim gutter groove.
- Insert the end of the split lock ring into the rim gutter groove.
- Progressively “walk” the split lock ring into place until it is completely seated in the rim gutter groove.

### Semi-Drop Center Solid Rim/Solid Ring
- Work the first tire bead down into the well of the rim next to the valve. Progressively mount this bead by using a tubeless tire iron to pry the bead onto the rim.
- To apply the second tire bead, press the tire bead into the rim well with foot pressure, opposite the valve. Mount the rest of the tire bead using a tubeless tire iron, being careful not to pinch the tube.
- Place the side ring into the rim gutter groove with the two cutaway sections (Point A) in position as shown. Insert the lock ring tools between the ring and the rim, pry outward on the ring and strike downward with the mallet to fully mount the side ring.
5. Inflation

1. For a tube-type tire, be certain that the removable ring(s) are properly seated.
2. Never inflate beyond 5 psi before placing the tire/rim assembly in a restraining device that meets OSHA standard.
   \textbf{WARNING!} Never use starting fluid, ether, gasoline, or any other flammable material to lubricate, seal, or seat the beads of a tubeless tire.
3. Always inflate the assembly in a tire inflation cage or other restraining device. Use a clip-on air chuck and an in-line air valve with gauge.
   \textbf{WARNING!} When inflating a tire, stay out of the trajectory. (See below.) Do not rest or lean any part of your body against the restraining device during inflation.
4. Inflate to 20 psi and then check tire beads for proper seating. Never inflate beyond 40 psi to seat any tire beads. If the beads are not seated at 40 psi, STOP! Deflate and determine the problem.
5. For tube-type tires, inflate to service pressure without the valve core installed and then completely deflate the tire to prevent wrinkles in the tube. Insert the valve core and reinflate the tire to recommended service pressure as specified for the tire and/or rim.
6. Visually inspect the tire/rim assembly during inflation for improper seating of the ring(s) or any unusual conditions in the tire or rim.
   \textbf{WARNING!} Never hammer on any type of tire/rim assembly to correct a problem while the tire contains inflation pressure. Do not attempt to seat any part by hammering, striking, or prying while the tire contains any inflation pressure. You or someone else may be hurt or killed. If the parts are not seated properly, deflate the tire and correct the problem before proceeding.
7. After servicing a tire/rim assembly, never inflate the tire on the vehicle. Always inflate the tire in a tire inflation cage or other restraining device.
8. Never inflate beyond the inflation pressure specified for the tire or rim.
9. Before removing the tire/rim assembly from the restraining device, always inspect for proper seating of all parts.

Trajectory

The air pressure contained in a tire is dangerous. The sudden release of this pressure by a tire blow-out or side ring separation can cause serious injury or death. Stay out of the trajectory as indicated by the shaded area. When installing the tire/rim assembly on the vehicle, it will be impossible to stay out of the trajectory; however, at all other times you and all others must stay out of the trajectory.