

TIRE INFORMATION SERVICE BULLETIN

AVOID TIRE BEAD DAMAGE ON TIRE MOUNTING MACHINES THAT SECURE THE RIM FROM UNDERNEATH

With tire mounting machines that secure the rim from underneath, there is a greater possibility of damaging a tire bead during the mounting process. This bead damage can be the result from one or more of the following factors: the increased power of the machine; the potential for the machine to get out of alignment; and/or improper mounting procedures. The most common form of damage is a cut on the inside of the bead located above the toe or on the bead seat (i.e. sole or face). The tire service professional must carefully observe the tire during the mounting process. See Figure 1. If the damage remains undetected, it can lead to tire failure. See Figures 2 and 3 on page 2.

WARNING

Serious injury or death may result from tire failure due to bead damage. A bead-damaged tire can explode during the mounting process or fail later in use. Follow USTMA's "Demounting and Mounting Procedures for Passenger and Light Truck Tires" chart. Only specially trained persons should mount tires.

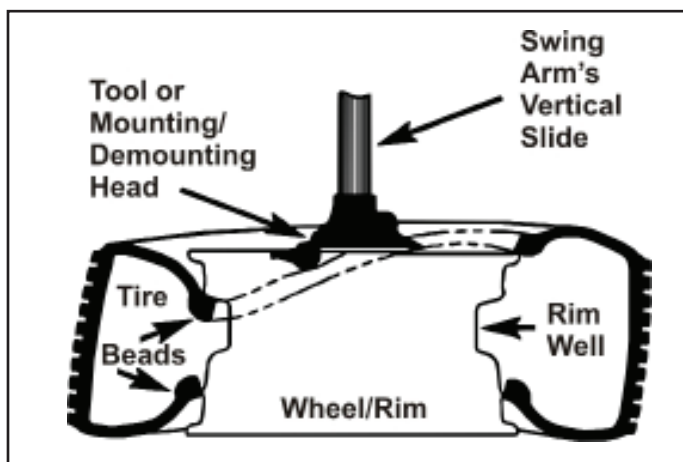


FIGURE 1:
Tire section during mounting

NOTE

When positioning the wheel on the mounting equipment, make sure the deepest part of the well is as close to the wheel mounting head. This may require flipping the wheel face down.

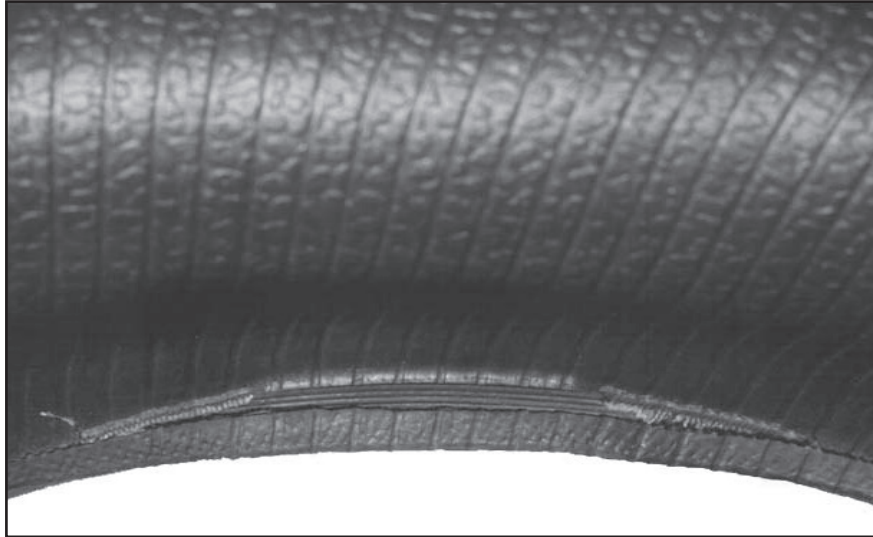


FIGURE 2:
An example of damage on
the inside of the bead.

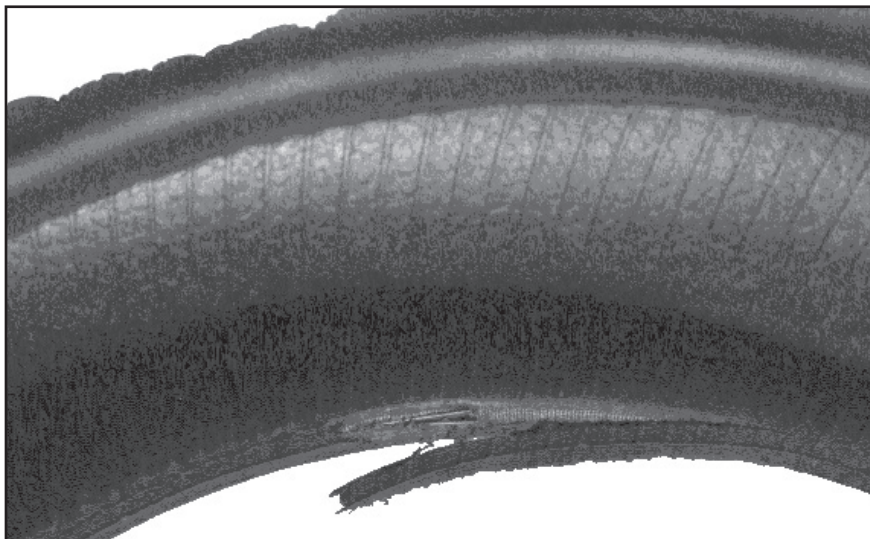


FIGURE 3:
An example of damage at the
bead sole.

Tire service personnel should follow proper demounting and mounting procedures. It is important to follow the procedures outlined below to prevent damage to the bead:

PROPER POSITIONING OF RIM ON MOUNTING EQUIPMENT

The majority of rims are standard mount so the mounting surface (intended outboard side) must be facing up when placed on the tire changing machine. Some custom and aftermarket rims have a different rim design called reverse mount rims. See Figure 4.

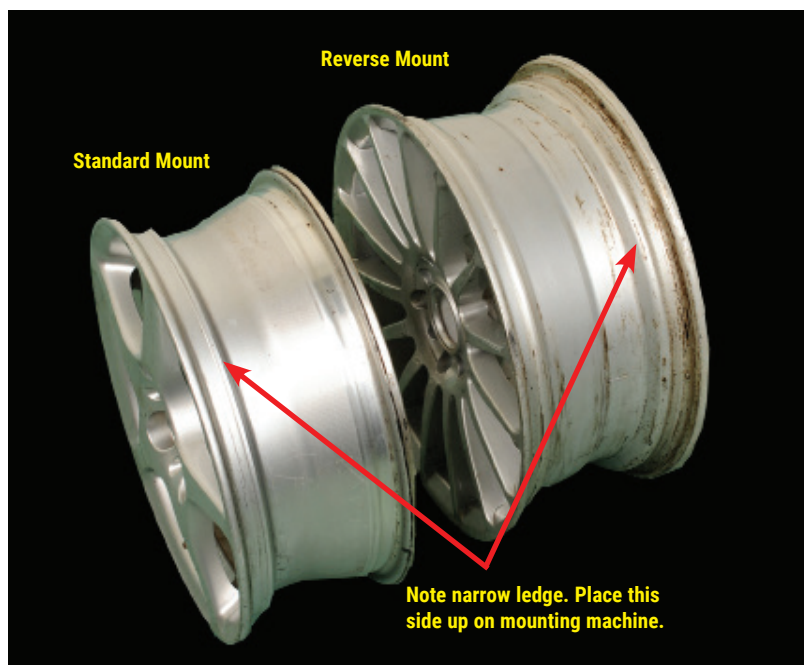


Figure 4:
Standard and Reverse Mount Rims

Standard mount rims have the narrow ledge and deep rim well portion closer to the intended outboard side. Reverse mount rims have the narrow ledge and deep well portion closer to the backside (intended inboard side) of the rim.

During the mounting process, the narrow ledge and deep well portion needs to be close to the mounting head to prevent excessive bead stretch or stresses causing bead damage. Therefore, reverse mount rims should be mounted with the intended outboard facing down on the tire changing machine.

PROPER LUBRICATION

Use commercially available lubricants made for mounting tires. Follow lubricant manufacturers' recommendations for diluting, if applicable. Over-diluted mixtures will dry too fast, as if no lubricant was used. Under-diluted mixtures will not dry soon enough, which may allow rotation of the tire on the rim, thus contributing to a ride disturbance. For additional information, see TISB 41, "Tire Bead Lubricants, Mounting Aids, Bead Sealers, OEM Mobility Kits, Tire Sealants, Balancing Substances and Flammable Substances."

PROPER PLACEMENT OF LUBRICANT

The rim and both tire beads must be lubricated, to allow for a smooth movement of the tire bead over the rim flange and complete bead seating against the rim flange. Tire bead lubricant must be applied from the mounting guide ring area around the bead toe prior to installing on the rim. See Figure 5.



FIGURE 5:
Lubricating the bead area

Rim lubrication must include the bead humps (#1), the bead seating surfaces (#2), and the top flange area (#3). See Figure 6.

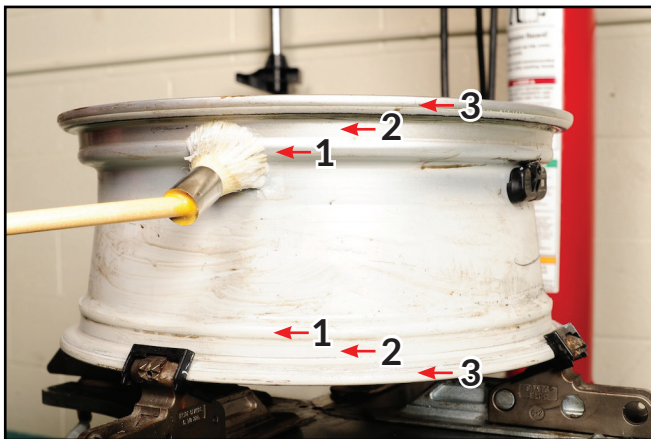


FIGURE 6:
Lubricating the rim

KEEP THE BEAD IN THE RIM WELL

Place the bottom bead over the rim flange and into the rim well. Mount the bottom bead onto the wheel. While the top bead is being placed over the rim, it is necessary to keep continual pressure on the top sidewall of the tire (180° from the machine's mounting/demounting tool head) to ensure that portion of the top bead stays in the rim well. This minimizes the amount of stretching and allows for a smooth movement of the tire bead over the flange. The lower the profile of the tire, the more difficult the top bead is to mount. Thus, this procedure is very important.

PROPER ALIGNMENT SETTING OF MACHINE'S SWING ARM AND VERTICAL SLIDE CLEARANCES

The swing arm's vertical slide clearance may change with the machine's use and should be inspected often. Failure to maintain the proper clearance (as stated in owner's manual) may result in damage to the tire and/or rim.

PROPER POSITIONING OF THE MACHINE'S MOUNTING/DEMOUNTING HEAD

If the mounting/demounting head setting is not proper, the tire bead could be damaged during mounting. See Figure 7. The tool head may be adjustable. Consult mounting machine manufacturer (or owner's manual) about this adjustment setting. Also, the use of a plastic rim protector can help reduce tire and rim damage.

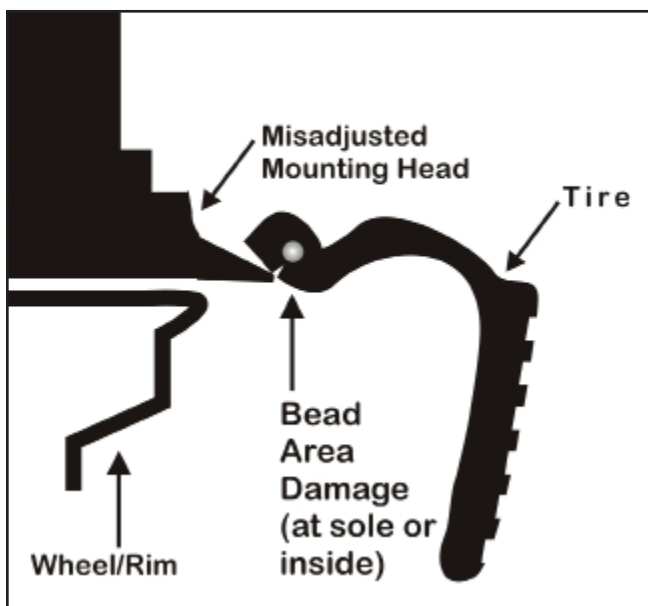


FIGURE 7: Improper placement of Mounting Head

⚠ WARNING

Serious injury or death may result from explosion of tire and rim/wheel assembly due to improper mounting.

- Never exceed 40 psi (inflation pressure when seating beads.)
- Always use a safety cage or other restraining device with a clip-on extension hose.
- Only specially trained persons should mount tires.

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