

# SERVICE BULLETIN

No. 88

## SAFETY WARNING

### AVOIDING BEAD DAMAGE RIM CLAMP TIRE MOUNTING MACHINES

With the introduction of the rim clamp tire mounting machine, the possibility of damaging a bead during the mounting process has greatly increased. The additional power of these machines, coupled with incorrect mounting procedures, can cause substantial damage to the inside of a bead. The most common form of damage is in the form of a cut on the inside of the bead located above the toe. Unfortunately, the bead damage cannot be seen by the operator and, if the damage remains undetected, it will result in tire failure.

Testing indicates two main factors contribute to the possibility of damaging a bead during mounting. One is the improper use of, or lack of, lubrication. By utilizing the proper mixture of lubricant in the right locations on a tire and rim, damage to the bead can be virtually eliminated. The second is the positioning of the tire on the rim during mounting of the top bead. Making sure the top bead remains in the well of the rim during mounting is essential for trouble-free installation. Although these factors are true for any type of mounting, extra precaution is required on a rim clamp tire mounting machine due to the additional power of the machine. Where a conventional tire mounting machine will usually stall when a tire is not properly positioned and/or lubricated, a rim clamp tire mounting machine may force the tire over the rim flange, damaging the bead in the process (see photo below).



CONSUMER RELATIONS

COOPER TIRE

Damaging beads in the mounting process can be eliminated by educating your service personnel as to the proper procedures for lubricating a tire and rim and the subsequent mounting of the tire onto the rim.

Train your service personnel to strictly follow the Rubber Manufacturers Association's "DEMOUNTING AND MOUNTING PROCEDURES FOR AUTOMOBILE AND LIGHT TRUCK (LT) TIRES" chart and emphasize the following steps:

- **Proper concentration of lubricant.** Follow the lubricant manufacturers' recommendations. Over-diluted mixtures will dry too fast acting as if no lubricant was used. Under-diluted mixtures will not dry soon enough which may permit rotation of the tire on the rim, thus contributing to balance and uniformity problems.
- **Proper placement of lubricant.** Both beads and the rim must be lubricated. Bead lubrication to the tire must include application from each rim aligning ring to the bead toe. Rim lubrication must include the safety humps (1), the bead seating surfaces (2), and the top flange area (3) to allow for a smooth movement of the bead over the rim flange and complete seating of the bead against the rim flange (see diagram).



- **Keep the top bead in the rim well.** While the second (top) bead is being placed over the rim, it is necessary to keep continual pressure on the top sidewall of the tire to make sure the top bead stays in the rim well. This allows for a minimal amount of stretching and allows for a smooth movement of the bead over the flange. The lower the profile of the tire, the more difficult the second (top) bead is to mount, thus the more important this procedure.
- **Accurate alignment setting of swing arm on the rim clamp tire mounting machine.** The vertical tool clearance may change with machine use and should be inspected often. Failure to maintain the proper clearance (as stated in owners manual) may result in damage to the tire and/or rim.

- **Proper positioning of rim clamp tire mounting machine tool head.** The tool head may be adjustable on a rim clamp tire mounting machine. Consult the rim clamp tire mounting machine manufacturer about this adjustment setting. If the tool head setting is not proper, a bead of the tire could be damaged during mounting.

## **SAFETY WARNING**

**MOUNTING TIRES IS DANGEROUS --  
FAILURE TO FOLLOW THE ABOVE AND  
RMA'S "DEMOUNTING AND MOUNTING  
PROCEDURES FOR AUTOMOBILE AND  
LIGHT TRUCK (LT) TIRES" CHARTS  
AND SAFETY PRECAUTIONS CAN RESULT  
IN SERIOUS INJURY OR DEATH.**

If you wholesale tires to other dealers (sub-dealers), each should receive a copy of this Service Bulletin. Please advise Cooper or your supplier of the number of Service Bulletins that are needed for your sub-dealers and we will provide them to you at no charge. You may order this Service Bulletin through the Consumer Relations Department, Cooper Tire & Rubber Company, Findlay, Ohio 45840. The toll-free number is (800) 854-6288.