

***MICHELIN® TRUCK TIRE
NAIL HOLE REPAIR
PROCEDURES***

***TWO-PIECE RADIAL TRUCK
TIRE NAIL HOLE
REPAIR METHOD INSTRUCTIONS***



MICHELIN

Two-Piece Radial Truck Tire Nail Hole Repair Method Instructions

Please follow the instructions closely so you can put your customer back on the road with a quality tire repair!

Please follow the exact step-by-step procedures contained in this manual to attain a safe and quality repair. Only qualified and trained personnel should do tire repairs. The goal is to return the repaired tire to service and provide the customer with a sound and safe product.

Repair products and materials used should be from the same manufacturer to ensure compatibility in the curing process.



WARNING

Warning!

Always demount the tire from the wheel and complete a thorough tire and wheel inspection prior to returning the components to service.

Check the tire for signs of underinflation/run flat and other damages such as bulges, bead damage, bad repairs, anything that would require the tire to be inspected by a professional retread and repair facility.

Never inflate a tire that has signs of heat damage or with indications of running underinflated.

Remember, if there are any concerns or questions regarding the safety and integrity of the tire, err

on the side of caution, and forward the tire to a professional retread and repair facility.

Always follow correct procedures when demounting and mounting tires and wheels.

When inflating an assembly after a repair, be sure to follow all procedures outlined by the tire and wheel industry.

Inspect sidewall area for any signs of 'zipper' damage, such as bulges, and listen for popping sounds. If any of these are present, deflate the tire immediately by disconnecting the air line at the quick connect, deflate completely, then remove from the cage/restraining device, and scrap the tire.

Safety First

Use safety glasses, and keep repair area, tools, and materials clean and in good working order.

Always place the mounted tire in a safety cage or an OSHA*-approved restraining device with the valve core still removed!



* Occupational Safety and Health Administration

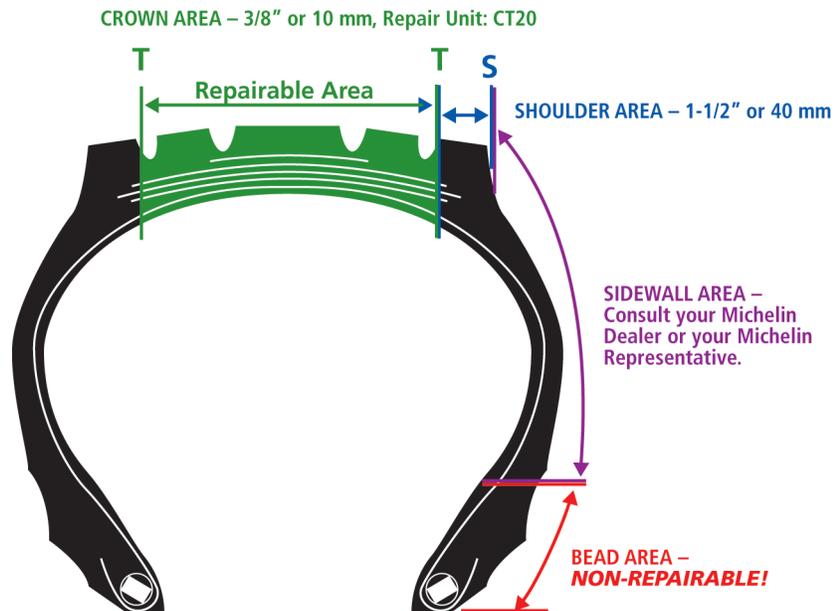
MICHELIN® X One® Tire

- There are no special repair techniques or materials required when repairing a MICHELIN® X One® tire.

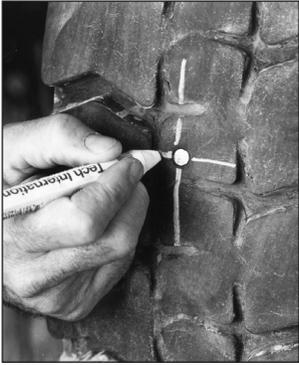
Nail Hole Limitations Chart

Maximum repairable nail hole diameter is 3/8 inch (T-T area).

All injuries larger than 3/8 inch or outside the specified T-T area, must be treated as a section repair.



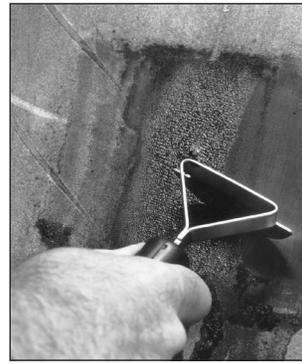
Truck Tire Nail Hole Repair Procedures



- 1** Locate and mark the injury on the outside and inside of the tire.



- 2** REMOVE the object from the tire. Inspect the injury to determine the location, size, and angle of penetration. Probe into the injury and make sure that no air infiltration exists or excessive rust has formed. Refer to the Nail Hole Limitations Chart on Page 1 to determine reparability and to select the proper repair material. Use Injury Sizing Tool if available. Make sure to measure the injury to assure the damage does not exceed 3/8" (10 mm).



- 3** Apply rubber cleaner to the inner liner at the injured area. While the area is still moist, use a rubber scraper to remove contaminating substances.



- 4** Prepare the injury with the proper size carbide cutter on a low rpm drill (max. 1200 rpm). Following the direction of the injury, drill from the inside out. Repeat this process three times. Repeat this procedure from the outside of the tire to ensure damaged steel and rubber are removed (be careful when drilling; you do not want to make the injury any larger than necessary).



- 5** Using a Spiral Cement Tool, cement the injury from the inside of the tire with Chemical Vulcanizing Fluid. Turn the tool in a clockwise direction both into and out of the tire. This step should be repeated 3 to 5 times. Leave the tool in the injury as you go to the next step.



- 6** Place the wire puller in the middle of the black exposed portion of the stem. Remove the protective poly from the stem and brush a light coat of Chemical Vulcanizing Fluid (cement) on this area. For lubrication, apply a coat of cement to the wire puller where it contacts the stem.

Truck Tire Nail Hole Repair Procedures *(continues)*



- 7** Remove spiral cement tool from the injury and feed the small end of the wire puller through the injury from inside of the tire.



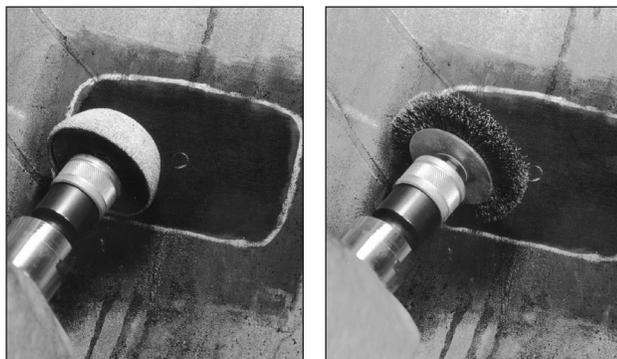
- 8** Grasp the wire puller from the outside of the tire and begin pulling the stem into place. If the wire puller comes off, grasp the stem with a pair of pliers and pull the stem until it fills the injury, exposing approximately 1/2 inch (13 mm) of the gray cushion bonding gum above the face of the tread.



- 9** On the inside of the tire, center the appropriate repair unit template over the stem, make sure to correctly align the template in relationship to the tire beads, and draw a perimeter around the template.



- 10** Remove the template and cut off the stem 1/8 inch (3 mm) above the inner liner on the inside of the tire. **NOTE:** If you do not have a repair template, go to this step and cut the stem; then using the correct sized patch and centering it correctly on the injury – arrows towards the beads – draw your perimeter approximately 1/2 inch larger than the repair patch.



- 11** Use a low rpm (max. 5000 rpm) buffer and texturizing wheel to mechanically buff the stem flush to the inner liner. Then buff the outlined area to achieve an even RMA-1 or RMA-2 buffed texture. Use a clean, soft wire brush, remove all dust and debris from the buffed area.



- 12** Vacuum all buffing dust and debris from the tire. If the buffed surface is touched or contaminated after cleaning the area, you must repeat Step 11 to guarantee your surface is clean for proper repair bonding.

Truck Tire Nail Hole Repair Procedures *(continues)*



13 Using Chemical Vulcanizing Fluid (cement), brush a thin, even coat into the clean textured area. Allow 3 to 5 minutes to dry; the vulcanizing cement should be tacky. Areas with high humidity may require a longer dry time. Make sure the cement used is compatible with the repair units you are installing.



14 With the tire beads in a relaxed position, center the repair unit over the filled injury. Press the repair unit down into place over the injury. Make sure the directional bead arrows on the repair unit are aligned with the beads of the tire, and press into place. Roll the protective poly back to the outer edges of the repair unit. This enables you to handle the repair unit without contaminating the bonding gum layer. You are now ready to stitch the repair.



15 Stitch the repair unit, firmly pressing down from the center toward the outer edges. This will eliminate trapping air under the repair unit.



16 Remove the rest of the poly backing. Stitch the repair unit from the center to the outer edges. Remove the top clear protective poly.



17 To cover over-buffed areas in tubeless tires, apply Security Sealer to the outer edge of the repair unit and over-buffed area. If tube-type, cover the repair with Tire Talc to prevent the repair from vulcanizing to the tube.



18 Cut the stem off on the outside of the tire 1/8 inch (3 mm) above the tire's surface. The tire is now ready to be returned to service.

Please follow the instructions closely so you can put your customer back on the road with a quality tire repair!

MICHELIN® Truck Tire Nail Hole Repair Procedures

To learn more please contact your MICHELIN Sales Representative or visit

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