

Step-by-Step TIRE REPAIR

Two-Piece Tire Puncture Repair Procedures

The following “how to” photos and captions show and explain accepted industry procedures for repairing tire puncture injuries. Additional information is available on RMA’s website – rma.org – and by requesting its Puncture Repair Procedures information, or by requesting information about TIA’s Basic Automotive Tire Service training series, which includes a module dedicated to puncture repair.



1-2
1. Consult information about repairability of tires.
2. Locate the injury and circle with a tire crayon. **DO NOT INVERT RADIAL TIRES.**



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3. Remove the foreign puncturing object and probe the injury with an awl to determine the angle of penetration.



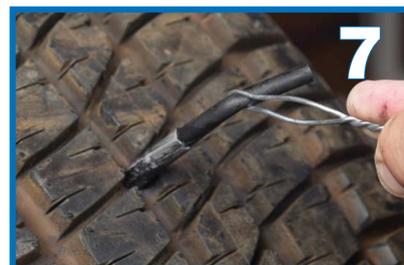
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4. Clean the area around the injury with cleaner fluid and a scraper.



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5. Using a low speed drill (max. 500-700 rpm) and a 3/16-inch tapered carbide cutter, ream the injury following the angle of penetration from the inside of the tire. Use proper eye protection.



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6. Remove the poly from the plug stem. Hook the stem into the wire puller. Coat the entire plug with self-vulcanizing cement. **NOTE: With one-piece repair units the patch section must be coated, as well.**



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7. While the cement is still wet, push the wire puller through the injury from the inside of the tire. Grasping the wire, use a steady pull until 1/2-inch of the gray rubber on the plug is exposed outside the tire.



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8. Using a flexible knife, cut the plug on the inside of the tire 1/8-inch above the innerliner. Be careful not to stretch the plug when cutting.



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9. Making sure the bead arrows of the repair unit are pointing to the beads, center the proper size repair unit over the injury. Use a tire crayon and outline an area 1/2-inch larger than the repair unit.



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10. Use a low-speed buffer (max. 5,000 rpm) and a buffing rasp to buff the plug and the out lined innerliner area. **BE CAREFUL NOT TO BUFF THROUGH THE INNERLINER.**



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11. Use a vacuum to completely remove the buffing dust.



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12. Apply a light coat of cleaner fluid to the buffed area, scrape clean and allow to dry.



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13. Apply an even coat of self-vulcanizing cement to the entire buffed area. Allow cement to dry until tacky. **Never use blow dryers, compressed air or heat lamps to facilitate drying. Drying time is affected by temperature and humidity.**



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14. When cement is dry, partially remove the poly backing from the repair unit, leaving just enough to hold the unit. Press the unit into place while removing the rest of the backing.



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15. Stitch the repair unit vigorously from the center working outwardly. Use as much hand pressure as possible. Remove top cover film.



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16. Apply repair sealer on the overbuff area, and over the edge of the repair unit.



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17. Apply bead sealer to the bead of the tire before inflation to help prevent air loss around the bead. **(NOT NECESSARY FOR TRUCK TIRES.)**



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18. After inflating, cut the plug stem flush with the outside tread area. The tire is now ready to be returned to service.

WHEN NOT TO REPAIR A TIRE

- There is 2/32-inch or less of tread on any two adjacent tread grooves. The tire is not legal on U.S. highways.
- The tire cord or steel belt is exposed, there are flex breaks or severe sidewall abrasions.
- There is any evidence of a separation in the tread area or the sidewall of the tire.
- There is any evidence to indicate the tire has been run flat. **Do not inflate**, since inflation could result in serious injury. Demount the tire and inspect for innerliner damage.
- There are punctures or damage in the shoulder or sidewall areas.
- Never use any wheel with a rim that is bent, pitted from corrosion, cracked or worn. Remove rust, dirt and foreign materials from wheel/rim parts.

WHEN 'ALWAYS' IS RIGHT

- Inflate the tire to maximum allowed pressure. **Do not overinflate.**
- Check the surface and the valve for the source of the leak(s) by using water, soap solution or leak detector.
- Locate the injury and circle with a crayon.
- Remove the valve core to deflate the tire.
- Demount and inspect the inside of the tire on a well-lighted spreader for innerliner cracks, open splices, exposed tire cord or steel belts, broken beads or bead wires, bulges or blisters, or other interior damage. If any damage other than a 1/4-inch maximum puncture injury in the tread is present, **do not repair.**

DISCLAIMER

Repairing a tire is a serious business. This information was researched and written using existing industry-approved procedures and material from both the RMA and TIA, and is NOT intended to be used as a substitute for proper tire repair training. The photos and additional information were supplied by Myers Tire Supply/Patch Rubber Co. The process shown here is consistent with those used by other major repair product makers, but consult their specific instructions before using. This information represents a consensus of tire industry experts. This is meant for educational purposes and those who use the methods recommended are solely responsible for any injuries, deaths or losses resulting from their application.