

TIRE INFORMATION SERVICE BULLETIN

DEMOUNTING AND MOUNTING PROCEDURES FOR MOTORCYCLE TIRES

WARNING

Tire changing can be dangerous and should be done by trained personnel using proper tools and procedures. Always read and understand any manufacturer's warning contained on their tread label, customer literature, or molded into the tire sidewall.

Failure to comply with these procedures may result in faulty positioning of the tire and/or rim parts and cause the assembly to burst with explosive force, sufficient to cause serious physical injury or death. Never mount or use damaged tires or rims.

- Always wear approved eye protection while servicing tire wheel assemblies.
- Always clean components and apply approved tire lubricant to wheel, tube and tire beads.
- Always ensure that the wheel/rim is the correct size/type for the tire¹ being mounted.
- Always secure assembly on mounting machine or place in safety cage before inflating.
- Always follow tire manufacturers instruction for maximum bead seating pressures; otherwise do not exceed 40 psi.
- Never use antifreeze, silicones, or petroleum-based lubricants to mount tires.
- Never rework, weld, heat, or braze rims.
- Never use a flammable or volatile substance, bead sealer, aerosol inflator, or rubber "donut" to aid bead seating.

WARNING

WHEN SEATING BEADS NEVER STAND, LEAN, OR REACH OVER THE ASSEMBLY DURING INFLATION.

Inspect both sides of the tire to be sure that the beads are evenly seated. If tire is mounted on a machine that does not have a positive lock-down device to hold the wheel, inflation should be done in a safety cage or other restraining device. If both beads are not properly seated when reaching manufacturers maximum bead seating pressure, deflate the assembly, reposition the tire and/or tube on the rim, relubricate, and reinflate. Inflating beyond manufacturers maximum bead seating pressure when trying to seat the beads is a dangerous practice that may break a tire bead (or even the rim) with explosive force, possibly resulting in serious injury or death. After the beads are fully seated, adjust inflation pressure to the required operating pressure.

For normal operation, follow pressure recommendations in the owner's manual, on the motorcycle placard or the tire manufacturers recommendations. Load and cold inflation pressure must not exceed the rim/wheel manufacturer's recommendations, even if the tire is approved for a higher load or inflation.

¹ For more information, see USTMA TISB Volume 28, "Never Mount Passenger Car Tires on Motorcycle Rims Fitted to Motorcycles or Sidecars."

Follow motorcycle owner's manual to select the correct replacement tire size. The tire diameter must always match the rim diameter. It is unsafe to install passenger car tires on motorcycle rims.

WARNING

A motorcycle rim, typically marked with "M/C" and/or "MT", has a different bead seat diameter and flange contour than a passenger car rim and each tire type is designed to fit its approved rims.

Any attempt made to mount passenger car tires on motorcycle rims, may cause inflation pressure loss or one of the beads to break with explosive force and could cause serious physical injury or death.

NEVER MOUNT A PASSENGER CAR TIRE ON A MOTORCYCLE RIM.

Note: See special tire manufacturer's tread label mounting instructions for bead lock, which may only be mounted on certain matching motorcycle model rims.

The National Highway Traffic Safety Administration (NHTSA) issued a Consumer Advisory² warning about the hazards of fixing tires filled with flammable aerosol inflators. The following text was extracted and paraphrased from the Consumer Advisory:

Many aerosol inflators contain a flammable propellant that can cause an explosion. Aerosol flat tire fixes are an emergency temporary solution and should be used with caution. After filling a tire with an aerosol inflator, don't expose the tire to extreme heat, flames, sparks or other ignition sources. Be careful using metal tools like tire irons, metal reamers, and hammers, because they could cause sparks while being used to repair a tire. A tire service professional should assume a tire may have been repaired previously with an aerosol product. Before starting to fix a tire, remove the valve core and as much of the aerosol propellant as possible. Then, inflate and deflate the tire a few times to completely remove all traces of the potentially explosive propellant. Once this is all done, you may remove the tire from the rim and repair the tire using industry recommended repair procedures...

MOTORCYCLE TIRE DEMOUNTING INSTRUCTIONS

Remove wheel assembly from motorcycle in accordance with vehicle manufacturer's instructions.

1. Place, do not throw or drop the assembly on the mounting machine and secure the assembly with a hold down device.
2. Loosen rim locks, where applicable. Also, loosen washers and nuts from the valve stem. Carefully remove the valve core to completely deflate the assembly while staying out of the trajectory of the valve stem/core. Remove the washers and nuts from the valve stem.
3. Loosen both tire beads from the rim.
4. Use commercially available lubricants made for bead seating. Also, vegetable oil and animal soap solutions may be used. Never use antifreeze, silicones, or petroleum-based lubricants. If a lubricant is water-based, it should contain a rust inhibitor. Lubricate the top bead of the tire and demount it from the rim beginning at the valve area.
5. Beginning with the valve area, remove the tube (if tube-type) from the tire by hand, being careful not to pinch the tube between the tire bead and the rim. Lubricate the second bead and the top rim flange.
6. Demount the bottom bead of the tire from the rim. This may be done using tire irons only, it is often easier to begin the process with a tire iron and simply push the tire off the rim. Remove the rim band on the spoke wheel.

² USDOT/NHTSA Consumer Advisory, Sept. 24, 1991 "NHTSA Warns About Hazards of Fixing Tires Filled with Aerosol Inflators" (NHTSA-49-91)

MOTORCYCLE TIRE MOUNTING INSTRUCTIONS

1. With a wire brush remove any rubber deposits, dried soap solution, rust, heavy paint, etc., from rim flanges and bead seat ledges (especially safety humps and radius). All interior surfaces should be smooth and clean. Special care must be exercised to be sure that any broken wire fragments from the brush are removed (see Photo 1).

For a tubeless rim, replace rubber valve assembly. Replace valve core and grommet in metal valve assembly.

For motorcycles equipped with Tire Pressure Monitoring Systems (TPMS) consult the owner's manual or TPMS manufacturer for service recommendations.

2. For tubetype/spoked wheels check the drop center well to make certain no spokes are loose or protrude above the nipples (see Photo 2A). Inspect the rim band (replace if damaged with new band of same specification). Reinstall the rim band and make certain it is in place, completely covering the spoke ends (see Photo 2B).

3. Follow the owner's manual to select the correct replacement tire size. Ensure the tire and rim diameter codes always match (see Photo 3). All passenger car and motorcycle rims actually differ in bead seat diameter and flange contour. Only motorcycle tires should be mounted on motorcycle rims. Most motorcycle rims are marked with the suffix "M/C". Do not mount passenger car tires on motorcycle rims.

Example: Mount 15" diameter motorcycle tires only on contours (examples: MT or MTM rims) for 15M/C motorcycle tires.

Note: Where tubeless tires are fitted on rims which are not suitable for tubeless application, an appropriate motorcycle inner tube shall be fitted. Do not fit tubes in radial motorcycle tires, or fit radial motorcycle tires on rims requiring tubes, unless the tubes have matching size and radial (R) markings.



PHOTO 1



PHOTO 2A



PHOTO 2B



PHOTO 3

MOTORCYCLE TIRE MOUNTING INSTRUCTIONS

4. If a mounting machine is used, center and securely fasten the wheel to the mounting machine with a hold down cone or clamping device (see Photo 4). Follow approved mounting and safety instructions for the equipment used. Consult any special owner's manual or tire manufacturer's mounting instructions.

5. Be sure the inside of the tire and rim well are free of dirt, liquids, nuts, washers, or other foreign material and damage.

6. With a soft brush, cloth, or spray, apply an approved tire lubricant to the rim contact surface and the bottom tire bead (see Photo 5). Mount the bottom bead on the wheel taking into account any directional arrows. This may often be accomplished by simply pushing the bead onto the rim (see Photo 6).



PHOTO 4



PHOTO 5



PHOTO 6

MOTORCYCLE TIRE MOUNTING INSTRUCTIONS

7. For applications requiring a tube, select a new tube with the exact same size marking as the new tire. Follow tube or rim manufacturers' instructions for matching tube valve base and stem to rim.

Be sure the tube is clean and not damaged. Lightly dust the tube with dry lubricant to ease fitting. Carefully insert the tube in the tire starting by fitting the stem through the valve hole. After aligning the tube valve with the valve stem hole in the rim, insert and center the valve stem through the valve hole in the rim (see Photo 7). If the tube has a fully threaded valve stem, fit the valve stem washer and grommet, and then start the locking nut by threading it part of the way on the stem.

Check the inside of the tire once more for any loose items or damage and remove any identification labels. Make sure all washers and lock nuts are accounted for and correctly assembled to the threaded valve stem before proceeding (see Photo 7A). Insert valve core and slightly inflate to round out and center the tube. This helps prevent pinching.

8. Apply lubricant to the exposed rim flange, tube base and the base of the upper tire bead (see Photo 8). Do not let excessive lubricant run between the tire and tube or contact the treads.

9. Mount top bead of the tire on the rim using mounting tools if necessary. The bead in the valve area will be the last part of the bead to go over the rim flange.

Do not use a pry bar or lift sharply on the tire bead. Take extreme care not to pinch or damage the tube. Never use a substitute tool such as a screwdriver. Re-center the valve stem, if necessary, by rotating both tire and tube (see Photo 9).

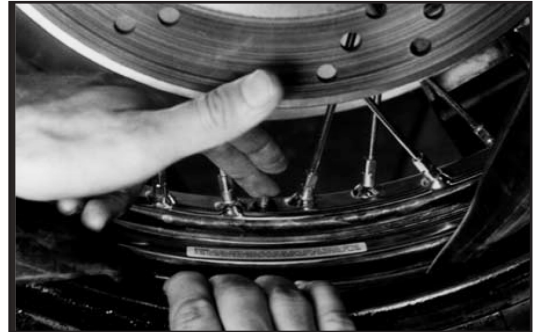


PHOTO 7



PHOTO 7A



PHOTO 8



PHOTO 9

MOTORCYCLE TIRE MOUNTING INSTRUCTIONS

10. Before inflating to seat tire beads, ensure that assembly is secure on tire mounting machine/changer or placed in an approved safety cage. If the tire mounting machine/changer is not equipped with a positive hold down device for the assembly inflation process, an approved safety cage must be used (see Photo 10).

11. Use an extension air hose with a clip-on chuck and in-line valve with gauge or pre-set pressure regulator to permit you to stand clear of tire assembly (see Photo 10 and 11). Stand back. Never stand, lean or reach over assembly during inflation. Inflate slowly and carefully (in short bursts), with the valve core inserted to seat the tire beads. Do not exceed manufacturers maximum bead seating pressure to seat beads. While the assembly remains secured, visually check for even bead seating. If the beads are not seated; deflate completely and repeat the above procedures.

12. For applications including a tube, always remove the valve core, after the beads are seated, to completely deflate the tube. Deflation and re-inflation helps prevent tube folds, creases, or wrinkles.

13. Re-insert the valve core. While still secured, reinflate the assembly to the proper operating pressure, (consult motorcycle owner's manual, placard, and any special tread label or sidewall instructions or the tire manufacturer's recommendations). Tighten the nut on the valve stem and check and tighten any rim locks. Install a sealing valve cap to guard against leakage (see photos 12 and 13).



PHOTO 10



PHOTO 11

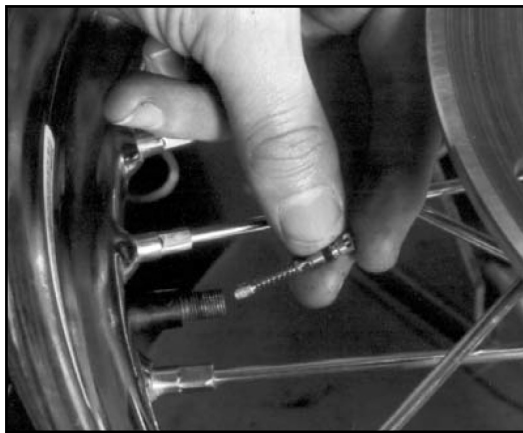


PHOTO 12



PHOTO 13

MOTORCYCLE TIRE MOUNTING INSTRUCTIONS

14. Balance the tire and wheel assembly and re-install in accordance with any directional arrows in front or rear fitment. Check tire “run-out” and re-check bead seating (see photo 14).

Note: Tire and wheel assembly balance must be checked with a balance stand or a computer wheel balancer. Some manufacturers provide a balance dot to be aligned with the valve stem.

15. Follow vehicle manufacturer’s instructions for remounting the finished tire and wheel assembly on motorcycle. Spin the tire and wheel assembly to check alignment and clearance (see photo 15).

Always wear approved eye protection while servicing tire and wheel assemblies.



PHOTO 14



PHOTO 15

SAFETY PROCEDURES FOR MOUNTING MOTORCYCLE TIRES

Improper mounting can result in tube failure, deflation, tire damage and an accident. To reduce the chance of an accident and injury, follow the recommendations below:

- **ALWAYS:**

Ensure the rim/wheel is the correct size/type for the tire being mounted.

Clean the interior surfaces of the rim thoroughly and apply approved tire lubricant to wheel, tube and tire beads.

Lock assembly on mounting machine or place in safety cage before inflating.

Ensure that all lock nuts, grommets and washers are accounted for and correctly assembled to the valve stem before inflating.

Replace the valve assembly on tubeless tires.

Follow these additional recommendations for applications requiring a tube:

With spoked wheel rims, an effective "rim band" must cover the spoke ends in the drop center rim well so that the spoke ends will not chafe the tube. Inspect the spoke ends and rim band for any damage; replace if necessary.

Use a new tube in a new tire with matching size marking. Never install a non-radial tube in a radial motorcycle tire. Check for matching size and radial (R) marking.

Return a serviceable tube to the same tire from which it was removed or destroy the tube.

Before installing a tube, always be sure that the tube is clean and that the inside of the tire is free of damage, dirt, liquids, foreign material and remove any identification labels.

Center and lubricate tube, rim and the tire bead contact surfaces with approved tire mounting/ rubber lubricant to prevent pinching.

Replace and secure any required rim locks.

When beads are seated, deflate completely and re-inflate to avoid tube folds, creases, or wrinkles.

- **NEVER:**

Use antifreeze, silicones, or petroleum-based lubricants when mounting tires.

Install a tube as a substitute for a proper repair.

Install a larger - or smaller - sized tube than was designed for the tire being used.

Install a non-radial tube in a radial motorcycle tire. Check for matching size and radial (R) marking.

Mount a tire on a wheel rim that is damaged or that has been repaired or reworked by welding or brazing.

Use a flammable or volatile substance, bead sealer, aerosol inflator, or rubber (donut) to aid bead seating.

Exceed manufacturers maximum bead seating pressure to seat beads.

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