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PROPER INSTALLATION AND CARE OF INNER TUBES

Many of us with older cars still use inner tubes rather than tubeless tires. One of the major determinations for the decision is the wheel. Sectional wheels are not suitable for tubeless tires because of the leaks that are inherent in their construction The wheel has to provide the air-tight segment that fits over the opening in the tire, sealing it and keeping the air in. Sometimes it is the rim, sometimes it is the lip, or sometimes it is the construction of the wheel/spokes that were never designed nor constructed to be air-tight, and so are not suitable for tubeless tires.

Yet even on newer wheels, wheels that can accept tubeless tires, it is often advisable to use inner tubes despite the fact that they are not required.

The inner tube provides a second layer of protection and a seal even if the tire is cracked or porous. The inner tube is an airtight container that fits inside the tire casing. It has its own valve, so that when properly installed, it is a pocket of air within the protective outer tire.

This article isn't a forum to weigh the pros and cons of using an inner tube. That choice is yours. We will spend a few minutes discussing the best way to install inner tubes and how to best maintain them.

Before we get to the actual inner tube, let's talk about a separate layer of protection for the tube. Commonly known as a 'flap,' an 'inner tube flap,' or a 'tire flap' or sometimes as a rim strip, basically it is a layer of rubber that fits between the inner tube and the metal rim protecting the tube from abrasion and punctures from sharp edges, bolts, or attachments on the rim. The flap, generally available from the same sources as the inner tubes, come in sizes to fit the wheels (diameter and width) and the tube. The flap cannot be too big or it will tend to fold over and cause lumps inside the tire. Those lumps can damage the tube. When properly installed it must lie flat as a cushion between the tube and the metal of the wheel (or, in the case of a wooden spoked wheel, the felloe).

Very few tools are needed for tube installation, but be sure that they are not rusted and that they do not have raw edges. Have a rubber mallet handy to make the job just a little easier.

Properly cared for, an inner tube will last as long as the tire casing itself. But there are a number of factors that must be followed for optimum service. It must fit properly, and after installation, it should be pumped up, fully deflated and then reinflated to the recommended pressure.

USE NEW TUBES, whenever possible, in new or used casings. Tubes gradually become thin and porous with use and may leak rapidly and shorten the life of the casing.

REMOVE DIRT, pebbles, bits of torn tire wrapping, and nails from the casing before inserting a tube. The tube should also be clean. Any foreign objects next to it will wear away the rubber.

USE A GOOD PRESSURE GAUGE to test tire pressure. An error of three pounds either way can cut thousands of miles from the life of the tires. Underinflation seriously overheats tubes.

NEVER INSTALL TUBES that are oversized or undersized. Despite their elasticity, they do not accommodate themselves properly, and folding or stretching within the casing can be ruinous.

DON'T PUT BACK old valve cores that have seen a lot of service, and don't put them into new tubes. Good valves, inexpensive and available at auto parts stores, will assure maintenance of pressure.

DON'T PUT WET TUBES into casings. While it is harmless to test tubes under water for leaks, they should be dried thoroughly before inserting into the casing to prevent trapped water.

DO'S

BE SURE BEADS are in place on the rim before inflating the tube. Beware of pinched tubes.

RE-BALANCE WHEELS after tubes have been switched within the casings, or new ones installed. A new tube will often be heavier than a worn or used one.

USE CARE with tire irons to avoid damaging the tube. Even a light pinch, which does not cause an immediate leak, may cause a slow leak later. Keep tire irons clear of the valves.

CENTER TUBE carefully before mounting the casing on a rim. If it is twisted or folded anywhere, straighten, and smooth it by running your hand around the inside of the casing until it is free.

SOAP CASING BEADS to simplify mounting and to reduce the danger of injuring tubes. Never use oil or grease to lubricate beads.

DON'TS

DON'T USE TOO MUCH talc between the tube and casing. It might cake in one place causing a wear spot. If a very little is applied and spread evenly, it works better.

DON'T ADD AIR until you are sure that the valve is clean and free of debris. Dirt forced into the valve mechanism will cause leaks. Clean valve by releasing a little air or by blowing with compressed air.

NEVER BALLOON a tube, as shown, when testing it for leaks. This stretching may weaken the tube and the stretched area may become porous during use.

DON'T DAMAGE the soft rubber lip around the inner edge of the tire bead with a tire iron. That will form a smooth edge for the tube between the casing and rim, and tube damage may occur.

NEVER PUT TUBES or casings down on a greasy floor or work area. The oil or grease will rot the rubber. Wash off any oil or grease, and dry before installing.

HOW TO MOUNT TIRES

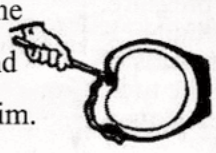
1. Partially inflate the tube before inserting it to prevent buckling.

2. With your hand, gently guide the valve through the hole in the rim.

3. Push the bead under the valve into the well at the center of the rim

4. Force the rest of this bead over the flange so that it rests in the well.

5. Now pry the top bead opposite the valve over the flange and, with a second tool, work around the rim.



6. Seat the valve correctly, pulling it out by hand and centering it.

7. While holding the valve, inflate until both the beads are properly seated.

8. If there is a centering rib, have it show evenly all the way around.

See note on use of talc on page 48.