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KEEPING RUBBER ON THE ROAD

PROPER INFLATION AND MAINTENANCE OF A MOTORHOME'S TIRES HELP TO **INCREASE SAFETY AND LOWER COST**

by DOUG JONES



RV tires are complex. Understanding how they operate and how best to maintain them will help you keep your motorhome in safe running condition. If a tire goes down from improper air pressure or maintenance, so does the RV and the enjoyment of the trip.

Tires are composed of various types of material and rubber compounds, including performance properties essential to the proper functioning of the tire under various conditions. These properties evolve over time. For each tire, this evolution depends on many factors, such as weather, storage conditions and other conditions of use the tire is subjected to throughout its life. That is why, in addition to regular inspections and inflation pressure maintenance by the owners, it is recommended that RV tires, including spare tires, be inspected regularly by a qualified tire specialist, such as a

Michelin RV tire dealer, who will assess the tire's suitability for continued service.

RV owners are strongly encouraged to be aware not only of their tires' visual condition and inflation pressures, but also of any changes in dynamic performances such as increased air loss, noise or vibration, which could be an indication that the tires need to be removed from service to prevent failure.

It is impossible to predict when tires should be replaced based on their calendar age alone. However, the older the tire, the greater the chance that it will need to be replaced due to the service-related evolution or other conditions found upon inspection or detected during use. While most tires will need replacement before 10 years, Michelin recommends that any tires in service 10 years or longer from the date of manufacture, including spare tires, be replaced with new tires as a simple precaution, even if such tires appear serviceable

and even if they have not reached the legal-wear limit.

For tires that were on an original equipment vehicle (for example, acquired on a new vehicle), follow the vehicle manufacturer's tire replacement recommendations when specified (but not to exceed 10 years). The date when a tire was manufactured is located on the sidewall of the tire. RV owners should locate the Department of Transportation, or DOT, code on the tire that begins with "DOT" and ends with the week and year of manufacture. For example, a code ending with "0304" indicates a tire made in the third week of the year (January) in 2004.

SELECTING REPLACEMENT TIRES

One of the most important equipment purchases any RV owner will make will be tires. If the consumer obtained good service with the original set of tires, chances are they were matched well for the RV's



Always check air pressure when tires are “cold” and haven’t been driven for more than a mile. If you can’t avoid checking warm tires, be sure to allow for an increase in pressure.



Michelin recommends that a motorhome owner purchase a high quality truck tire air gauge with a dual-angled head. This allows the owner to check the pressure of the inner and outer dual wheels.



Checking air pressure on rear dual tires can be difficult; high-quality metal valve extenders can make the task easier. The easier it is to check the pressure, the more likely the procedure will be done.

weight needs, the RV type and the area of driving. Should the RV owner choose to replace his tires with another size, it is important to be very careful with this selection. There are some basic areas of concern, such as the load rating of the new tire, the overall diameter of the tire for vehicle clearance, speedometer reading and wheel width. There is also the matching of the tires to the dual wheel offset for the dual spacing clearance and the load rating of the wheel. For example: Buying a tire with a higher load rating that might require 105 PSI would be inappropriate if the RV wheel is limited to 80 PSI. Also, be sure that the wheel width is compatible with the new tire size; doing otherwise is dangerous. Consult the vehicle manufacturer for wheel specifications.

THE IMPORTANCE OF TIRE PRESSURE

After choosing the best tire for a motorhome, the most important factor in maintaining the life of RV tires is making sure they are always properly inflated. Incorrect air pressure for the weight of the vehicle is dangerous and could cause such situations as premature wear, tire damage or a harsher ride. An underinflated or overloaded tire will build up more heat that could go beyond the endurance limits of the rubber and radial cords. This could cause sudden tire failure. Underinflation will also cause poor handling, faster and/or irregular tire wear, and can decrease fuel economy. Overinflation, on the other hand, will reduce the tire’s contact area with the road, which reduces traction, braking ability and handling. A tire that is overinflated for the weight it is carrying is more prone to a harsh ride, uneven tire wear and impact damage.

The level of air pressure required in each tire depends on the weight of the fully loaded vehicle. So the owner cannot correctly determine the right air pressure unless he knows the vehicle’s actual weights. The maximum load capacity allowed for the size tire and load rating and the minimum cold air inflation needed to carry that maximum load are located on the tire’s sidewall. The lower the air pressure, the lower the load that the tire can carry. (A complete load and inflation table for Michelin RV tires is available at www.michelinrvtires.com or by contacting a local Michelin RV tire dealer.)

RV owners need to know the correct air pressure per axle for the vehicle, and they need to know when and how often to check the tires. Here are a few recommendations:

1. Check at least once a month and before any major trips.
2. On long trips, check every morning before driving.
3. Check before and after storage.
4. On short trips of a day or less driving each way, check before you leave and before you return home.

Always try to check tires when they are “cold” and have not been driven for more than one mile. The stated load capacity for a given cold inflation pressure is based on ambient outside temperatures. The pressure in a “hot” tire may be as much as 10 to 15 PSI higher than a cold tire pressure.

If the tires must be checked when they are warm, be sure to allow for an increase in pressure, and make sure the pressure of the tires on both sides of the axle are within a few PSI of each other. Never let air out of a hot tire.

To make checking the tire pressure easier and more accurate, Michelin recommends that the RV owner purchase a quality truck tire air gauge with a dual-angled head. This allows the owner to check the pressure of the inner and outer dual wheels. The easier it is to check the pressure, the more often you’re likely to do it. Nothing should restrict the ability to check tire pressure daily when driving.

Be sure to use pressure-sealing valve caps to prevent air from escaping the valve stem. If valve stem extension hoses are used, make sure they are good quality, solid stainless-steel braid reinforced and are securely anchored to the outer wheel. The joints should be soaped immediately after initial installation to check for air loss.

MAINTAINING MICHELIN RV TIRES

During any pretrip inspection, be sure to check the tires for signs of aging, weathering and/or ozone cracking — these show up as tiny cracks in the rubber surface on the sidewall of the tire. If the cracks are less than 1/32-inch deep, the tire is fine to run. Between 1/32 inch and 1/16 inch, the tire is suspect and should be examined by a local Michelin RV tire dealer. If the cracks are any deeper than 1/16 inch, the tire should be replaced immediately.

Here are a few tips to help you protect the tires from these common damage conditions:

1. Keep the tires properly inflated.
2. Keep the tires clean.
3. Avoid prolonged exposure to heat, cold or moisture.
4. Avoid prolonged exposure to ultraviolet rays.
5. Cover the tires when the vehicle is

not in use.

6. Do not park near electric generators or transformers.

7. Do not store the motorhome in an area where welding is being done or in a garage that has mercury vapor lamps.

STORAGE

Unless the motorhome is in full-time service, the coach probably spends some time in long-term storage. But what is not commonly known is that rubber tires deteriorate when not being used. So, if you must store your RV, a cool, dry, sealed garage is the best bet. Also, some storage surfaces can cause tires to age faster. That's why Michelin recommends placing a barrier (cardboard, plastic or plywood) between the tire and the storage surface.

Here are some other steps motorhome owners can take to help reduce the aging effects from long-term storage:

1. Thoroughly clean tires with soap and water before placing into storage.

2. Cover tires to block direct sunlight and ultraviolet rays.

3. Store out of a high ozone area.

Note: When a vehicle is stored, tires should be inflated to the inflation pressure indicated on the sidewall. Before removing the vehicle from long-term storage, thoroughly inspect each tire — this includes sidewalls, tread area and air pressure. If the tires have lost air, be sure to inflate them to the correct pressure before driving.

CLEANING AND DRESSING

Like the rest of the coach, it pays to keep the tires clean. Road oil will cause deterioration of the rubber, and dirt buildup will hold the contaminants next to the tire. As with the cleaning of any rubber product, proper cleaning methods must be used to obtain the maximum years of service from the tires.

A soft brush and normal mild soap that you would use to clean the RV may be used. If a dressing product is used to protect the tires from aging, use extra care and caution. Tire dressings that contain petroleum products, alcohol or silicones will cause deterioration or cracking and accelerate the aging process. In many cases, it is not the dressing itself that can be a problem, but rather the chemical reaction

that the product can have with the antioxidant in the tire. Heat can add to the negative reaction. When these same dressing products are used on a passenger car tire that is replaced every three to four years, it is rare to see a major problem. However, in most cases, RV tires may last much longer due to limited annual mileage, and the chemical reactions have much longer to take place.

GETTING A FLAT

Even the best drivers can drive over a nail, and the best tires can pick up that nail or screw and go flat. If you pick up an object that causes a flat in your RV tire, repair must be made to the inside of the tire. To do this, the tire needs to be demounted and inspected on the inside of the casing for any other damage that the object may have caused.

INSPECTION

RV tires should be inspected thoroughly at least once a year, and any time the owner drives in rough or rocky terrain or is having the RV serviced. This inspection should include both sidewalls, the tread area, the valves, the valve caps and any valve extensions. Inspect for nails, cuts, bulges, aging or fatigue cracks, as well as for weathering or ozone cracking. Also, check between dual tires for any objects lodged between them. See a local tire dealer at once if anything unusual is observed.

On a regular basis, rub the palm of your hand across the face of the tread on your front tires to feel for any feathered wear from “toe” alignment problems, but be careful since severe wear can expose steel belt edges that are very sharp. A toe misalignment problem can be caused by impact with a “chuck” hole in the road. Bad toe wear can be hard to find visually, but can be felt very quickly with the hand. This type of alignment problem can wear rubber off the tread of the tires in just a few hundred miles.

LEVELING RVs ON RADIAL TIRES

When using blocks for leveling, extreme caution must be taken to make sure the tires are fully supported. The weight on the tire should be evenly distributed on the block. And in the case of duals, it should be evenly distributed on blocks for both tires. If not, the sidewall cables can become fatigued and damaged, resulting in a sidewall rupture and a complete, sudden loss of air pressure. Note that in the correct method, the blocks are wider than the tread and longer than the tire’s footprint. This provides maximum support to the tires and assures that the load is evenly distributed.

Choosing the right tires is only the beginning. Tires play a big part in any motorhome use, so it is important to give them the proper attention they deserve. Understanding the importance of proper tire pressure, maintenance and storage will help an RV stay up and running, while minimizing down time or lost enjoyment for the RV owner. ♦

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