Helpful Suggestions

How to get

Full Mileage

from all

Auto Tires
Tire Economy

Montgomery Ward & Co. has always stood for Economy. We believe that every man should buy where he can save money. This does not mean that he should always buy the lowest priced, but that he should always get the best possible value for his money.

In Riverside Tires we offer you the best tire value we know. This value has been proven by our own Laboratory and road tests and by the actual service Riverside Tires have given to hundreds of thousands of customers.

The service secured from any article depends more or less on the care taken of it. Especially is this true of automobile tires. The mileage depends on the intrinsic value built into them by the careful selection of materials and painstaking workmanship; but it depends also on the care that they receive after they are put in use. We supply the value, but you must supply the care.

To assist you in the proper care of your tires and thus aid you in securing the full advantage of Riverside value, this booklet has been prepared. We trust you will find it interesting and profitable.

Stone Bruises or Broken Fabric

Breaks in the inner fabric are usually due to the tire striking a stone, railroad track, or other obstruction so hard that the body of the tire is bent in to a degree that stretches the inner fabric beyond the breaking point.

The rubber tread, being more elastic, may not suffer and the driver may not know of the damage until a blowout comes, perhaps hundreds of miles later. But in the meantime the movement of the tire constantly opens and closes this break, extending it to the other plies of fabric, and probably pinching the tube, until a blowout results.

These breaks in the fabric are sometimes irregular, but often run diagonally and are thought to be "imperfect joints" by those who do not know that there is no such thing as a joint in a tire.

The first protection in case of a blowout of this sort is an inner shoe, to protect the tube from pinching. This is a temporary or emergency repair only. If the tire is still good otherwise, a proper repair should be made by a competent repair man, usually by building a section into the tire. If properly done, such a repair will outlive the rest of the tire.

Unless such repair is made promptly, the break in the fabric will increase until it spreads from bead to bead and another blowout will result, despite the inner shoe.
Riverside Tires

If the tire is not worth repairing, use a blowout boot that completely encircles the tube (inside the casing) and locks securely, so as to relieve the casing of all internal pressure. See the "Stronghold" boot in our catalogue. This is the best protection we know of and will secure many an extra mile from a worn-out casing.

It is hard for the average driver to realize that such accidents are no more the fault of the tire than is a puncture. Any tire may be damaged in this way, but proper inflation reduces the likelihood to a minimum by maintaining an internal air pressure equal to ordinary blows from the outside. Careful drivers will watch their air pressure constantly to avoid so-called "stone bruises" as well as other damage.

Stronghold Boot
Relieves Casing from All Internal Pressure
Tread Cuts

Time spent in properly attending to small tread cuts is economy that usually is realized only after it is too late. Treads cut most easily in wet weather. After every long trip, and at regular intervals, the tires should be gone over carefully, all small cuts treated with tread filler and the large ones vulcanized.

If this is not done, water and dirt are forced into the cuts, pushing the tread loose from the fabric, and resulting in loosened tread and “sand blisters” or “mud boils.” If a blister has already formed it should be cut with a sharp knife at its lowest point on the sidewall, so that the dirt will work on out and not continue to tear loose the tread. As soon as possible it should be cut open, thoroughly cleaned and PROPERLY vulcanized.

In extreme cases of treads damaged from glass, or from much driving on fresh macadam roads, it may be advisable to retread the tire. However, this is not profitable if the cuts have been too long neglected and the fabric has begun to rot from the mud and water that have entered.

Cut Filler and full directions for its use will be found in our catalogues, or in any accessory store. It is not hard to use and well repays the time spent if applied properly.
Wheel Spinning

Tires are often badly damaged in a few moments of spinning the rear wheels in an effort to secure traction in sand, gravel, or other loose ground. It may take a few minutes of time, but it will save money to put on chains, wrap the tire with rope, throw brush, boards, etc., in front of and under the wheel, or in some other manner get traction without abusing the tires. On a slippery pavement or icy road, newspaper is an excellent article for this purpose.

The same effect is produced in time by a habit of letting the clutch in too fast with the engine speeded up. The sudden heavy pull will spin the wheels before they can take hold. Sudden braking and sudden acceleration not only scrape the tread, but tend to pull apart the plies of fabric.

Brakes

Brakes applied suddenly lock the wheels and drag the tires. The best of tires may be ruined very easily by abuse of this sort. Even once may scrape the tread clear down to the fabric, especially if the road be rough or rocky. This is especially true when the brakes are unevenly adjusted, so that the strain of stopping the car falls on one wheel.

Uneven adjustment is also responsible for most skidding on wet pavements. This may be corrected by jacking up the rear of the car and observing the action of the brakes, adjusting the brake rods and bands until the effect upon the rear wheels is the same.

Brakes should be applied slowly, with increasing force as the speed lessens. Do not drive so fast that you cannot stop readily in case of sudden danger.

Turning corners rapidly, throwing the weight of the car on the sides of the rear wheels, causes undue strain on the sidewalls, and wears the tread down also.
Rim Cuts

Longitudinal breaking of the casing just above the bead is known as “rim cutting.” It is due usually to a puncture and continued driving on the tire before the “flat” is noticed. Sometimes it is caused by under inflation, stiff relliners that interfere with the proper flexing of the sidewall, dented rims, or to tire fillers (used in place of inner tubes) that do not entirely fill the casing. The same effect may be produced also by wrong application of the tire on the rim. (See page 22.)

Deflated tires can always be detected quickly after once experienced. If in front, the steering wheel pulls to the side of the flat tire. If in the rear the wheel will bump and the rear end will sway from side to side. A flat tire should be removed at once or both casing and tube will be ruined. If necessary to drive flat, do so on the rim. Driving without the rim will be sure to ruin the wheel. A bent rim can be repaired more easily than a broken felloe.

Deterioration

All rubber dries out and deteriorates when exposed to light and air. This is why new tires are carefully wrapped in a spiral of paper. A tire that is carried as a spare will suffer as much in this way as one on a wheel will from light use. A spare tire should be kept covered, using a good tire cover for this purpose, and it is well to change the spare from time to time, even though not compelled to do so by tire trouble.

A new tire that is to be carried as a spare should first be driven until the rubber becomes soiled. This helps to preserve it from the light and air. A good tire paint is also useful for the same purpose.

Weather Checks Due to
Exposure to Light and Air
Our Guarantee

Riverside Tires are guaranteed on the basis of 10,000 miles for cords and 6,000 miles for fabrics. If any tire fails to give this mileage because of any fault in its material or construction, we will adjust it on a basis of the service guaranteed and that rendered. The experience of our customers has proven that under ordinary conditions Riverside Tires will afford mileage greater than we guarantee.

It sometimes happens that a defect will occur in a tire and not become apparent until after it has been used. This is unavoidable in tire manufacture, no matter how rigidly all tires are inspected before leaving the factory, and it is true of all makes of tires. A really defective tire is an accident and is no indication that any other tire of the same make is defective. We are glad to make good every defective tire returned to us. You cannot do us a greater favor than to return (by insured parcel post), any tire that is really defective.

Sometimes a motorist unfamiliar with tire troubles blames a tire for what is not really its fault. We want YOU to be able to judge fairly whether a tire has had a square deal and really has failed to give the service it was intended to give, or whether its natural life has been cut short by accident or abuse.

The more you understand about the proper care of tires, the more you will appreciate the quality of Riverside Tires.

Serial Number

We sell only first quality Riverside Tires. Each tire carries the name “Riverside” and a serial number. Any tire of the same tread with name or number erased is an imperfect tire, termed a “second,” and was not sold or guaranteed by Montgomery Ward & Co.

Riverside Cord Tires

Cord tires are longer lived than Fabric for two reasons. The greatest ordinary wear on tires is the breaking down of the body by reason of the heat generated by the friction of the different layers of fabric rubbing on each other as the tire continually changes its shape by flattening out at the ground as it revolves. This friction is reduced by a coating of rubber between the fabric layers. In a cord tire the threads (cords) of the fabric are so woven that each cord is entirely surrounded by rubber, thus reducing the internal friction to a minimum.

Riverside Cord Tires are “oversize”; that is, they have the same air space as the next largest size fabric tire. (See page 14 for oversize table.) For this reason they will carry a given load easier than a fabric tire, and so will last longer and stand more abuse. If an oversize tire is needed, a cord will be found most satisfactory.

The increased air space reduces the necessary air pressure and makes an easier riding tire. Because of their heavier construction, they are less likely to puncture. Though they cost a bit more per tire, they are much cheaper and more satisfactory in the long run. Increased riding comfort, fewer punctures, longer life and low prices make Riverside Cords the best tire investment ever offered the motoring public.

Cord Tires, because of their extra air space, should have the best quality tubes inside them. Riverside Heavy Duty tubes are made especially for cord tires.
Overload

Oversize tires should be used on cars that are subject to unusually hard service. Overloading strains a tire and unduly increases the flexing movement and the heat at the edge of the tread, thereby overtaxing the tire and considerably reducing its life. An oversize tire will give more mileage as well as add to the ease of riding. Below find table of oversize tires.

Riverside Cord Tires are all oversize. That is, a 30x3 1/2 Riverside Cord is the same size as a 31x4 fabric. So if you wish an oversize tire for 30x3 1/2, you can order either 30x3 1/2 cord or 31x4 fabric.

The weight of the car, together with the use to which it is put, should govern the size tires used. Your agency should be able to give you the weight resting upon front and rear wheels. If not, weigh each half of the car on a platform scale (with a level approach) and divide by two to get the weight on each wheel. The following table will then be a fairly close guide as to tires needed:

<table>
<thead>
<tr>
<th>OVERSIZE TIRES</th>
</tr>
</thead>
<tbody>
<tr>
<td>31x3 1/2  fits a 30x3 rim</td>
</tr>
<tr>
<td>31x4 fits a 30x3 1/2 rim</td>
</tr>
<tr>
<td>33x4 fits a 32x3 1/2 rim</td>
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<tr>
<td>35x4 fits a 34x3 1/2 rim</td>
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<tr>
<td>32x4 1/2 fits a 31x4 rim</td>
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<tr>
<td>33x4 1/2 fits a 32x4 rim</td>
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<tr>
<td>34x4 1/2 fits a 33x4 rim</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROPER LOAD PER WHEEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weights are for empty car, and tires specified will carry an ordinary load. If extra load is carried or car is used at unusual speed, use an oversize tire.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Size</th>
<th>Pounds</th>
<th>Tire</th>
<th>Rear</th>
<th>Front</th>
</tr>
</thead>
<tbody>
<tr>
<td>28x3</td>
<td>350</td>
<td>33x4</td>
<td>625</td>
<td>775</td>
</tr>
<tr>
<td>30x3</td>
<td>375</td>
<td>34x4</td>
<td>650</td>
<td>800</td>
</tr>
<tr>
<td>30x3 1/2</td>
<td>475</td>
<td>32x4 1/2</td>
<td>800</td>
<td>1000</td>
</tr>
<tr>
<td>31x3 1/2</td>
<td>500</td>
<td>33x4 1/2</td>
<td>850</td>
<td>1050</td>
</tr>
<tr>
<td>32x3 1/2</td>
<td>525</td>
<td>34x4 1/2</td>
<td>900</td>
<td>1100</td>
</tr>
<tr>
<td>34x3 1/2</td>
<td>575</td>
<td>35x4 1/2</td>
<td>950</td>
<td>1150</td>
</tr>
<tr>
<td>31x4</td>
<td>600</td>
<td>36x4 1/2</td>
<td>1000</td>
<td>1200</td>
</tr>
<tr>
<td>32x4</td>
<td>600</td>
<td>33x5</td>
<td>950</td>
<td>1200</td>
</tr>
<tr>
<td>31x4 1/2</td>
<td>650</td>
<td>35x5 1/2</td>
<td>1050</td>
<td>1300</td>
</tr>
<tr>
<td>32x4 1/2</td>
<td>700</td>
<td>37x5</td>
<td>1150</td>
<td>1400</td>
</tr>
</tbody>
</table>

Fender Damage

A bent fender or a weak spring on an overloaded car will sometimes allow a fender bolt or a sharp projection of the body to cut a furrow the full circumference of the tire, or to tear holes at intervals in the tread. This may occur only when the car is very heavily loaded or is traveling over a very rough road, in which case the cause of the cuts may be hard to find.

The first sign of such wear should cause immediate and thorough investigation. A smooth, bright bolt or spot on the under side of the fender indicates that it is rubbing the tire. On changing to cords or other oversize tires, always make sure that there is ample clearance for the additional height of the tire.

Cut by a Fender Bolt
Under Inflation

Under inflation is responsible for most tire trouble. It has already been referred to in the pages concerning broken fabric and rim cuts. Besides these forms of damage, tires driven without sufficient air pressure are subject to undue flexing with resulting separation of the plies of the fabric and of the rubber from the fabric, known as loose tread.

There is no excuse for such abuse of a tire. Accidents will happen to all of us, but air pressure can always be tested by the regular use of a gauge. Watch your tires, especially when the car is loaded. Very great under inflation will be apparent in a flattening at the bottom, but only a gauge will detect a moderate lack of air pressure, which is responsible for most cases of broken fabric. Inflate to full pressure as called for on your casing.

In hot weather the air pressure increases with the temperature of the tire, but not so much as is often thought. If the temperature of air in the tire increases 20 degrees, the pressure increases 3 pounds.

Turning a corner with the tire under inflated will sometimes pinch the tube and cause the tire to blow off the rim. Usually in such cases the tire is unjustly blamed.

Do not let a car stand on a flat tire. Remove the tire or jack up the car at once.
Tubes

Tubes properly cared for add greatly to tire service. Spare tubes should be carried in tube bags. Even as packed in original boxes they are likely to chafe from the motion of a car. They should NEVER be carried loose in the tool box.

Never use tubes either larger or smaller than the casing. The large tube will wrinkle and crease, while the small one will stretch and become lifeless.

Whenever a tube is put in a casing, either new or afterward, tire talc should be dusted into the casing to prevent the tube adhering to the fabric. Cover lightly all the inner surface of the casing, but do not leave enough that it will collect in one place, for this will burn the tube.

Rusty rims should be sand-papered and painted with rim paint or stove polish.

Use a good tool but be careful with it. Many a tube has been damaged by gouging with screwdriver or tire tool.

If a tire loses air too rapidly, test for a leaky valve. It is cheaper to put in new valve insides than to ruin a tube.

A leak at the base of the valve will often be hard to find, since it may not bubble in water under light pressure even though it leaks steadily while on the wheel. Always tighten the valve nut down close on a new tube (usually one or two turns is sufficient), but not close enough to pinch the rubber too tightly.

Driving on a deflated tire, after a puncture or blowout, not only breaks down the casing but ruins the tube as well. The valve will be torn out or the tube pulled in two. Very little such abuse may ruin tube and casing beyond repair.

The valve stem nut on the outside of the rim should always be tight. It excludes dirt and moisture and prevents slipping of the tube in the casing.
The Inside of the Casing

It is, of course, necessary that the inside side of the tire be perfectly smooth so that the tube will not be pinched. Many motorists have a "run" of tire trouble and blame the tire or tube, when really their own lack of attention to the casing is responsible.

A puncture will often leave a small hole in the fabric and the flexing tire will allow the tube to work into this hole, where it will be pinched until another "puncture" results. Many a man has repaired a half dozen such damages to a tube before discovering the reason. A break in the fabric will ruin a tube in much the same manner.

A small puncture hole may be filled with a good tread filler, being sure to work it well into the hole, or it may be covered by a small fabric patch. The inside of the casing should be carefully cleaned with gasoline before the patch is applied, otherwise it will wrinkle and do as much damage perhaps, as the original hole.

Any break in the fabric should be protected at once by an inner shoe. If very large, a new section should be put in the tire at once by a competent repair man. (See pages 1-2.)

Tire Fillers

Tire fillers are sometimes used instead of air but they so often lead to rim cuts or fabric separation that manufacturers will not be responsible for tires in which any substitute for air has been used.

Inner Tires—Reliners

When a casing has run about half its natural life, or has had the fabric separated by abuse, it can be made to give additional service by the use of a good reliner or inner tire. This should be accurately molded so as to fit smoothly inside the casing. If it wrinkles it may pinch a tube and cause more trouble than it saves. It should also be flexible so it will yield to every movement of the casing.

A broken casing cannot be repaired by this method. A fabric break will increase and eat through a reliner. (See p. 2.)

Since a reliner will reduce the air space of the casing somewhat, it is better to use a fairly new tube. An old tube is likely to be stretched beyond its original size and will be wrinkled by use in a smaller space.

Flaps

Flaps should be used with all straight side tires, to prevent pinching of the tube by the beads. Do not use a wrinkled, broken, or rust caked flap. The edge should be smooth and pliable. In mounting the tire see that the flap does not get out of shape and pinch the tube. Tire powder sprinkled on the rim will make the tire slip on more easily.

Improper application of the flap often causes pinched tubes and broken fabric.
**Straight Side and Clincher Rims**

A straight side tire and a clincher require different rims. No tire should ever be used without the proper rim or bead. On a combination rim, with reversible ring, the same care must be used to have the ring properly applied. The result of such abuse will be damage to both tube and casing.

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**Misapplication of Straight Side Tire to Clincher Rim**

These will both result in rim cutting.

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**Clincher Tire Improperly Adjusted to Rim, Rim Will Cut the Side Wall**

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**Fabric Broken by Flap or Reliner Improperly Adjusted**
Rut Wear

The side walls of a tire may be damaged by scraping against a curb or by driving in ruts, especially when the ground is frozen. This usually occurs on front tires which carry the strain of steering. The side wall necessarily is of lighter weight than the tread, not so thick or firm. It is built more elastic and allows for the natural flexing movement of the tire. If necessary to drive in ruts, do so slowly and do not rub the sides more than is necessary.

Since this wear is almost all on the outer side of the tire, it is well to reverse the tires when badly worn. Rubber can be vulcanized over the worn spots to protect the fabric from mud and water.

Motorist's Equipment

The pleasure and satisfaction to be had from the use of an automobile are very greatly increased by the use of proper additional equipment. There are numberless devices designed to make driving more economical, more pleasant, and more safe. Some of these have real merit and some have not. Some will be satisfactory to some drivers but not to others.

The wise motorist will invest in these accessories with caution but will be quick to take advantage of those that will really save him money or add to the comfort of his pleasure driving. In the selection of such equipment he must be guided largely by the advice of those more experienced than himself.

There is no better place to look for such advice than in the Auto Supply pages of our Large General Catalogue. They contain all that is best in auto supplies and accessories. The various items are selected by practical men who are experts in their lines. Every article is described as truthfully as they possibly can do it, so that you can buy with perfect confidence. As always, we guarantee satisfaction or your money back.

Our Large Catalogue contains our full line of Auto Supplies, but we issue also a special catalogue of Auto Supplies only.

Both of these are free and either will be sent to any address upon request. Keep one in your desk, garage or car, wherever it will be most handy. If your neighbor does not have one, do him a favor by showing him yours. He will appreciate it and so shall we.

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