

# FARM AND DAIRY

## & RURAL HOME



We Welcome Practical Progressive Ideas.

The Recognized Exponent of Dairying in Canada

Trade increases the wealth and glory of a country; but its real strength and stamina are to be looked for among the cultivators of the land.—Lord Chatham

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## How To Secure a Maximum Mileage From Tires

Some of the Points in Tire Maintenance That Are Too Often Neglected

**T**HE tire manufacturers try to make perfect casings and tubes. A perfect casing and tube is one of the factors of good tire service. The other factor is protection against abuse, and this is up to the motorist.

There are several kinds of tire abuse—most of them innocently inflicted by the car owner—but insufficient inflation is more damaging than anything else. Statistics compiled by the leading tire manufacturers, indicate that more than 75 per cent. of all the tires that have gone out of service prematurely, did so because of insufficient inflation. The tire itself is unable to sustain the weight of a car. It is the function of the air cushion inside to do this. When this air cushion consists of air under insufficient pressure, the tire is forced to sustain part of the weight itself, exactly in proportion to the deficiency in the air pressure.

### Results of Underinflation.

The first result is that the weight above, being no longer properly sustained, flattens the tire out where it rests on the ground. Then, when the car is put in motion, every part of the tire, on reaching the bottom must assume this unnatural flattened shape. Each side must bend out and then back again at every revolution. The body of the casing consists of several plies of fabric united as a whole by the rubber which has been vulcanized through and through. When the side walls bend in and out through underinflation, these fabric layers in time pull apart, separating from each other. The same conditions which caused them to pull against each other now cause them to rub and chafe. This produces friction and heat. The different layers soon wear each other out, and as soon as one place becomes too weak to sustain the inside air pressure, the tire gives way with a "blowout."

### A "Stone Bruise."

A "stone bruise" is another cause of a blowout, for which underinflation is indirectly responsible. When a tire encounters a round stone, a brick, a car track or any similar blunt object, a "stone bruise" frequently follows if the tire is improperly inflated. Under these conditions the internal air pressure, not offering sufficient resistance, the object sinks into the tire forcing it inward at

B. H. BRAMBLE, The Goodyear Tire & Rubber Co., Toronto, Ont.

this one place. The tread comes into actual contact, but its elasticity allows it to adapt its shape so that it usually suffers no injury, unless the object be sharp and cut it. But the effect on the fabric is more serious. It is not elastic and can't stretch; consequently, if the object sinks in far enough to produce enough strain, it must break.

Naturally that ply of fabric receiving the greatest strain is the inside one, for it undergoes the greatest distortion, and for this reason it is the first to break. Seldom, indeed, is any shock violent enough to break every ply of fabric and cause an immediate blowout. Almost invariably it is the inside ply that is fractured at the time. As

in the case of a clincher tire, underinflation usually permits the tire to be rim-cut before the fabric gives way of itself. Bending in and out increases the normal action of the hook of the rim against the clincher bead of the tire.

### How to Prevent Underinflation.

Although every year hundreds of thousands of tires on this continent are prematurely ruined through insufficient air pressure, the prevention of this abuse is comparatively simple. Tire manufacturers recommend the pressure of air which should be maintained in different sizes and types of tires. In addition, some manufacturers furnish the recommended air pressure for each size of tire, according to the load it has to carry.

It is quite obvious that an accurate pressure gauge is essential in order to inflate tires to these recommended pressures. A gauge is also necessary to test the tires occasionally so that any reduction in the pressure, due to leakage, can be detected and remedied. A number of reliable and inexpensive gauges are in the market which will pay for themselves several times in reducing tire expense. Too much stress cannot be laid on this point, for it is impossible for even an expert to tell accurately what pressure is in a tire by its appearance.

In this connection the importance of good tubes is worthy of attention. Some tubes fail to hold air for any considerable length of time due to microscopic holes in the rubber which permit a seepage of air. The result is that the car owner finds his tires lose ten or twenty pounds of pressure within a few days after he has pumped them up. The same trouble is sometimes caused through a slight leak at the valve

or, if the tube has been repaired, through an imperfectly applied patch.

The car owner who experiences this trouble is bound to have an abnormal tire expense, unless he does one of two things: Pumps his tires up very frequently so that the pressure never falls very far below normal or, replaces his defective tubes with others which are absolutely leak proof.

### Care of the Tread.

Next in importance is the care of the tread. The body of a pneumatic tire consists of heavy



A Medical Diagnosis.

Inquirer—"What's the matter with yer kyar, doc?" Doctor—"Well, it has all the symptoms of grip—irregular pulse, convulsions, and high temperature."—Life.

this is not apparent the tire usually continues to give service, but the broken edges of the inside fabric chafe the other plies. The natural bending of the tire finally breaks the remaining plies, and then the tube forces its way through, resulting in a blowout.

Another condition which frequently results from underinflation is loosening of the tread. Underinflation produces a little roll right in front of the point in contact with the ground, which in time tends to separate the tread from the fabric "carcass."

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