TIRES GWJ 2-20-09

PRESSURE CHECK/ADJUST –

You will need a good quality tire gage to keep in your glove box. Occasionally, you will also need a source of compressed air to adjust pressures. This could be the corner store, a tire pump in your trunk, or a small compressor in your garage.

Tire pressures must be checked and adjusted dead cold, before driving. Read the tire gage on each tire more than once, just to get a consistent reading. Pressures can sometimes be too high (a tire filled in cold weather can be too high in hot weather), just let it out a little at a time until the pressure is right.

More often, pressures can be too low. All tires leak slowly, if nothing else. Add a tad too much air from whatever source, and bleed it down to "just right".

The correct tire pressure is in your owner's manual, and on a sticker just inside one of the front doors, on the door pillar. Many vehicles use different pressures front and rear, some others use the same all around. Use those recommended pressures, not what is posted on the tire sidewall. Don't forget the spare tire in the trunk (which may have yet a different pressure, especially the small temporary "donut" spares).

The tire sidewall pressure is a maximum pressure rating, and it is way too high for driving. You will wear out the tread early in weird-looking patterns, and you will skid way too easily on ice or in the rain, if you use the tire sidewall max pressure.

FLATS –

No manufacturer puts enough equipment in their vehicle to safely change a flat! In addition to the jack and tire iron they supply, you desperately need the following items. Put them in a box and keep them in your trunk.

> Pipe cheater to fit your tire iron, long enough to make a handle 2 to 2.5 feet long
> Wood blocks about 6 to 8 inches long: 1 ea 1x4 & 4x4, 3 ea 2x4
> A small tarp or a folded piece of box cardboard, that you can sit or lay upon
> Rags or paper towels for cleaning up
> Small hammer for dealing with blocking and un-blocking the wheels
> Big, long blade screwdriver, for removing hubcaps

First – park on a level spot off the roadway. Ruin the flat tire by driving on it, if you have to. No tire is worth your injury or death. KEY: LEVEL, AWAY FROM TRAFFIC !!!!

Second – securely block the wheel diagonally opposite the flat with two of the 2x4 blocks. Use the hammer to make sure. Otherwise, the car can fall off the jack and injure or kill you. KEY: SECURELY BLOCKED !!!

Third – remove the hubcap, and use the tire iron with cheater pipe to loosen the lug nuts or bolts. (BUT DO NOT REMOVE THEM !!!!!!)

Fourth – jack up the flat tire to about 2 inches clear. (You may use a single1x4, 2x4, or 4x4 block shim, or no shim, under the jack as needed, to make this easier.) Now remove the lugs and the flat tire's wheel assembly.

Fifth – fit the spare, and run the lugs on finger-tight; then hand tight one-handed with the tire iron, while holding the wheel from turning with the other hand.

Sixth – jack the car down, and tighten the lugs in a criss-cross pattern with the tire iron and cheater. Then go around the circle checking tightness at least twice. Tight is when the lug no longer moves when you twist it with the tire iron and cheater.

Seventh – remove the blocks with the hammer, put stuff away, and clean yourself up.

HOW TO BUY TIRES –

When your tires are worn, they must be replaced. Use the "penny test". Stick a penny into a tread groove, with Lincoln's head facing you, top of his head into the groove. If you can see the top of his head, your tires are illegal at tread depth 3/32 inch or less. If part of his scalp or head is covered, you tread depth is deep enough to be legal.

The wear pattern has much to tell you about your car and its tires. Suspension problems should be repaired before new tires are installed. Otherwise, you just wear out the new tires way too fast, and that is very, very expensive. See the illustration far below for some insight into what the wear patterns are telling you.

Most folks will want to buy the same size tire that they had. Read the sidewall for its size code, which will be something such as "P185/65-R15". That code is what you match up. "P" means passenger car tire, light trucks will have "LT" instead. The "185" or other number is the tread width in millimeters. The "/65/" or other number means the sidewall height from rim to tread is that percentage of tread width. The "-R15" or other number means rim diameter in inches, with the "R" meaning "radial ply" (what is most commonly available now).

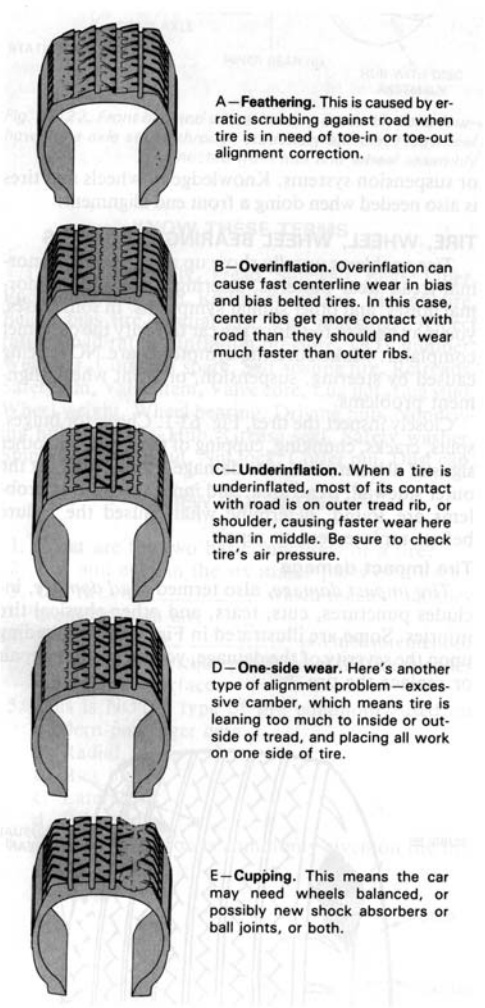
You will want a treadwear rating as high as you can afford ("100" is the standard rating, accept nothing under that), with a traction rating as high as is available (of three), and the medium or midrange temperature rating (of three). High traction and medium temperature are what most tire places sell, anyway. Buy the road hazard insurance, and get your front end alignment checked and adjusted, if they offer it. Those are worth it.

If you end up with two newer tires and two older ones with thinner tread, put the older ones on the rear. They are more at risk of a blowout. Maintaining steering control with a blowout is far easier if it happens on a rear wheel. It can flip you on the front!

TIRE ROTATION –

Look in the owner's manual. Do this (or have it done) as often as the manual says: your tires will last a lot longer. For modern vehicles with radial tires and a "donut" temporary spare, the rotation pattern is merely trade front-to-back, maintaining same side. You will need a couple of jackstands for safety, if you do this yourself. It's sort of like changing two flats on the same side at once. Use the flat changing procedure, but do everything to both wheels simultaneously.

Wear patterns –



A—**Feathering.** This is caused by erratic scrubbing against road when tire is in need of toe-in or toe-out alignment correction.

B—**Overinflation.** Overinflation can cause fast centerline wear in bias and bias belted tires. In this case, center ribs get more contact with road than they should and wear much faster than outer ribs.

C—**Underinflation.** When a tire is underinflated, most of its contact with road is on outer tread rib, or shoulder, causing faster wear here than in middle. Be sure to check tire's air pressure.

D—**One-side wear.** Here's another type of alignment problem—excessive camber, which means tire is leaning too much to inside or outside of tread, and placing all work on one side of tire.

E—**Cupping.** This means the car may need wheels balanced, or possibly new shock absorbers or ball joints, or both.

Fig. 63-3. Tire tread wear patterns will tell you about cause of rapid or abnormal wear. Study patterns and causes. (Goodyear)

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