Winterizing Your Vehicle
Mike Lenz

Check your antifreeze. Use a refractometer which measures specific gravity and has a chart showing the freezing point. You can mix polypropylene and polyethylene types, though if you do, it changes the service life of polypropylene from 100,000 miles to the standard 36,000. Antifreeze-water mix of 50/50 is good to about -34 degrees F. Use a maximum of 70% antifreeze. More is not better. The higher percentage actually will transfer less heat. Straight antifreeze is corrosive to aluminum and causes flaking on cast iron. Use Phosphate free antifreeze in aluminum engines.

Flushing your cooling system is a good idea, especially for the heater core. If you take it to a shop that has a coolant flush machine to have it done, they will clean and recycle your coolant and they'll add additives back to your antifreeze.

"Water wetter" adds heat transfer properties, so is more appropriate to use during the hotter summer months. It is still fine for winter usage. Coolant is also a lubricant and "water wetter" adds to the lubricating properties.

Newer computer controlled vehicles run at 210-220 degrees F, so if you put a lower thermostat in, the engine may not run as well because the engine will not reach the manufacturer's operating temperature.

Open element air cleaners are good for summer. However, not so for winter as they can cause carbureted and early TBI vehicles to form ice in the carb/throttle body. Older vehicles used to have hot air stoves to prevent this from happening.

Check your oil. 10**W**30 or 5**W**30 is best to use, as the **W** stands for winter, and makes the 30 weight oil act like 10 or 5 weight during the colder months. On newer vehicles the factory says to use specific weights, so don't think it's better to use 20**W**50 (mostly because clearances are so tight in newer engines).

Keep your fuel at least tank half full during the winter to prevent condensation. The electronic fuel pump in the tank warms the fuel if you only have five gallons or so in the tank. You may add "Heet" to absorb water. During the day and when driving, the fuel heats up and gives off more vapors and develops a positive pressure. When the temperature drops and the fuel cools, a negative pressure develops which draws moisture laden air back in to the tank. This moisture then gets trapped in the tank. If you haven't changed your fuel filter in the last 20,000 miles, now is a good time to do it.

Do a tune up as the ignition system is under more stress in cold weather. Be sure to check your spark plugs and wires.

Batteries die over the winter due to the larger current demand put on them. There's only a three year life expectancy on regular lead/acid batteries. At 80

degrees the battery will have full cranking capacity. At 32 degrees it drops 40 percent, and at 0 degrees it drops 60 percent.

Be sure to deal with corrosion on your battery and cables as it causes a voltage drop. Any shop will have a load tester to check your battery. Also have them check the alternator. Many failing alternators won't produce the proper amps under load, but will produce voltage.

Be sure to check the windshield wipers and the washer fluid. Use designated winter fluid that doesn't freeze till -20 degrees.

If you drive your 4x4 vehicle on the highway during the winter, an all terrain pattern will work best. This will allow the tire to push through to the pavement. Siping , small cuts made by a special machine, makes for more biting edges and also increases tire life, as the extra edges allow tires to cool faster.

Check your tire pressure. For every 10 degrees in temperature drop the tires will lose 1 to 2 psi.

Nitrogen can still leak through the pores of a tire, though supposedly the larger molecules don't leak out as fast (Costco uses it). However, there is 78 percent nitrogen in the air we breathe.

Where do you get recommendations for the correct cold tire pressure? Check the door jamb or inside the glove box. What's listed on the tire is the maximum tire pressure, which won't give you the best ride, especially on a light weight 4x4. Keep track of wear patterns and the best pressure should feel "right".

Tires chains aren't recommended for on road pavement driving, as they're hard on suspension and steering components. Rubber tires bite better than steel chains unless you're on totally snow packed roads or ice.

Be sure to carry an emergency kit: flashlight, blanket, flares, rain coats, glow sticks, toilet paper, food and water, and fire starter.

Check your belts and hoses. Every couple of months squeeze the hoses. This is especially important if you have any oil leaks, as oil deteriorates rubber quickly. Be sure to check the back side of serpentine belts for cracks, and replace as needed.

If you have a thermostatically controlled fan clutch, when weather is cold, it should feel free. If the engine is hot and fan is still spinning after the engine shuts off, the fan clutch requires replacement.

If you have an automatic transmission, and are using an auxiliary cooler, the lines should run through the radiator first and then the auxiliary cooler to keep the fluid at the proper operating temperature.

If you have a manual transmission, high viscosity oil gets thicker in colder temperatures, making it harder to shift.
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