

# Step-by-step guide to winterizing your car

Rob Siegel

As Thanksgiving nears, it's time for those of us in cold weather areas to put our precious rides away before the white stuff (snow) falls and more white stuff (salt) is spread onto roads in quantities sufficient to cause bridge decks to collapse.

There's quite a bit of calculus involved in "The Impending Winter Car Shuffle," as I keep my cars in several different storage spaces during the winter months. So I need to decide which cars deserve "project" status and thus get one of the coveted spaces in my garage, and which cars can slumber peacefully off-site until their spring awakening.



Preparing four cars for winter slumber in one of my storage areas.

Let me preface all this by saying that cars really don't like to sit. All of the problems associated with winter storage can be ameliorated simply by driving a car as often as possible. A three-month slumber is a blip on the radar as long as you keep the battery charged, but the gas can go bad and tires can flat spot if the car sits much longer than that. As you move from "months" to "years," the gas tank rusts (at least the metal tank on a vintage car does), the brake and clutch hydraulics begin to dissolve into the brake fluid, and the rings start to stick to the cylinder walls. So the shorter the stationary sojourn, the better. The problem is that for many people, "winter storage" means Thanksgiving to Memorial Day. That's six months, not three, which pushes that "no worries" philosophy to the limit.

Here are my biggest storage concerns this time of year:

**The space itself.** I hope I'm preaching to the converted when I say that it is crucially important to keep a vintage car dry. That usually requires use of enclosed indoor storage. Not everyone is fortunate enough to own or rent a private building with 12,000 square feet of climate-controlled and air-filtered space. I certainly don't have anything like that. Many of us make do with what we have—or have access to. Hopefully, that's a fully-enclosed garage. If you absolutely must use an open carport (it's better than nothing), avoid parking a car on dirt or grass at all costs. Both surfaces trap humidity and allow it circulate under the car. In an enclosed space, dryness is more important than cleanliness, provided that there aren't rakes and paint cans poised to fall off the wall or shelves and smack your car. Electricity is helpful, as it allows you hook up a battery charger (discussed below), but it isn't absolutely essential.



My garage. Clean? No. Dry? Yes.

**A car cover.** Unless your space has active air filtration, a cover is an absolute must for storage. After all, you might *think* you're just putting a car away for the winter, but life is full of unexpected hurdles, and who knows—five years later, it might still be there. As I wrote in my first book, “I’m sure every car guy who ever found a cool car in a barn would give his eye teeth to go back in time, find the owner, hand him a car cover, and beat the crap out of him until he agrees to *go out to the barn and put the cover on the damn car.*” Covering your vehicle keeps particulate matter and stray UV light away from the paint. It also protects against the footprints of little critters that might find their way into the storage space.





A cover is an absolute must.

**Rodent repellant.** Speaking of critters, the damage that mice can do is enormous. They chew wires, particularly on newer cars with biodegradable soy-based insulation. They rip up seating material and use it to make nests inside the heater box. And that's not to mention the waste they leave behind. Make sure there's no food or food-related trash in or around the car to attract them in the first place. [You can read up on the pros and cons](#) of using dryer sheets, D-Con, mothballs (naphthalene), sulphur, peppermint oil, and electronic repellents. All have their share of fans—and detractors.

**Tires.** The longer a car sits, the greater the danger the tires will get flat spots. I haven't had a problem with cars that sit for three months over the winter, but I have definitely felt flat spots on tires/cars that have been sitting for six months. The good news is, those flat spots usually round out once the car is driven. But why take a chance of causing permanent damage? If you think your car is going to sit idle for longer than a season, it may behoove you to put it up on jack stands. A better solution is simply to drive it, or at least roll it a few feet, at regular intervals. Also make sure that the tires are fully inflated before putting a car to bed for the winter.



Tires do get flat-spotted. If possible, move the car every few months.

**Battery storage and charging.** What to do? It all depends on where the car is stored, if electricity is available, and how long you plan to store the car. Any time I leave a car for more than a week—summer or winter, even at my house—I disconnect the negative battery terminal so the battery won't run down. My rule of thumb for storage is that if the battery is in good shape and fully charged, there's rarely a problem with disconnecting it for a month or even two, even in cold weather, and simply hooking it back up and starting the car. But if I'm parking it for the entire winter, and if it's sitting in an unheated garage, simply disconnecting the battery isn't enough. I'm likely to come back in the spring and find a weak or dead battery.

Part of the problem for me is that one of the spaces where I store cars doesn't have electricity, which means I can't use a battery charger. If your garage has electricity, by all means leave the battery on charger. If you have a good three-stage battery charger, you



can simply leave it hooked up, as the third stage is the maintainer charge. If you don't have one, you can use a battery maintainer or a trickle charger, which performs only that final charging stage. Since I have more cars than I have battery chargers, when cars are wintering in unheated storage areas (that aren't my garage), I wind up pulling the batteries out, bringing them home, and keeping them charged round-robin style.

I am a little squeamish about the risk of fire from leaving an unbranded \$12 trickle charger plugged in, particularly in a far-flung storage space, and as such I have a thing for branded battery chargers, but you can read the reviews and make up your own mind.



I don't own stock in Deltran, but name-brand battery chargers make me sleep better at night.

photo courtesy Deltran

There's also the question of whether a charger should be used with the battery connected or disconnected from the car. When in doubt, refer to your owner's manual, but I use the following guideline: If a battery is deeply discharged, lower than, say, 11.5 volts, I remove it from the car before charging it. There is some risk of acid leakage when recharging a discharged battery, and I'd rather have that on the garage floor than in the car. But if I'm just trickle-charging a battery, I leave it installed and connected. A

reminder: When you charge a battery, it's an opportunity to inspect and clean the battery posts and terminals on the ends of the cables with a post cleaner.

Lastly, I would be remiss if I didn't address the myth that leaving a battery on a concrete garage floor discharges the battery due to contact with the moisture in the concrete, so the assertion that the battery should be elevated or placed on a block of wood. Not true. Many websites, including those of several battery manufacturers as well as the debunking site [snopes.com](http://snopes.com), confirm that it is indeed a myth. Modern batteries are encased in a well-insulated plastic case and suffer no discharge to ground while sitting on concrete.

However, the myth does have two valid historical sources. Originally, lead acid batteries used glass cells in a wooden case, and the moisture from a cement floor could leech into the wood and warp it, which could cause the glass cells to crack. And before plastic cases became the norm, battery cases were made of hard-but-slightly-porous rubber that could absorb moisture from the concrete and provide a conductive path to ground that could discharge the battery's cells. Since neither situation is relevant today, let's put an end to that myth.





Feel free to leave or charge your battery on the garage floor. Concrete does not discharge the battery; that's a myth.

**Gas.** The use of oxygenated fuel (or E10) gas with 10-percent ethanol can be a problem for cars in storage, and the issue can be worse for vintage cars. The shelf-life of E10 is widely-quoted as being *only 30 days*, after which it can begin to deteriorate and take on a sour smell. Ethanol is hygroscopic—it attracts and absorbs water. On the one hand, the absorption of water is, oddly, a good thing—after all, if it isn't absorbed, it separates, leaving a layer of water in the tank. Absorption can only go so far, however, and when gas sits in a humid climate, the amount of water can reach the point where the gas can no longer absorb it and it separates anyway. Both water and ethanol are bad for vintage cars with vented fuel systems that allow condensation, and metal gas tanks that rust when the corrosive water-ethanol mix sits at the bottom of the tank.

The time-worn advice for winter storage is to fill the tank with fresh gas (thereby minimizing the open area in which condensation can form), add the correct quantity of a fuel stabilizer, then run the car for a few minutes to distribute it throughout the fuel system.



Many people add fuel stabilizer before putting their classic to bed for the winter. With that said, there's a difference between fuel stabilization and magic. I'm leery of any claim from any additive manufacturer that a gas stabilizer can remove water that has already separated out and is already sitting at the bottom of the tank. Unless your car is like a boat or a piece of industrial equipment, where the fuel filter has a drain cock which allows water to be drained off, the only way to remove water is to drain the tank. Also, be aware that fuel stabilizers typically contain strong solvents and cleaning agents. Cleaning your injectors may be a good thing, but be aware of what you're pouring into your tank.

Although I have certainly had horrible problems with old, varnished, gummy fuel and rusty gas tanks in vintage cars that have sat for years, I have never had a problem with fuel in a car that sat over the winter. And I typically don't use fuel stabilizer. When I fire up a car in April, if there is a problem, it will likely be the battery that I thought was



charged and went bad, or a tire that went flat over the winter, or float bowls in the carburetors that are empty and require a lot of cranking to fill them.

**Moisture in the exhaust.** Lastly, when you start a car, a fair amount of moisture can condense out in the exhaust. You'll see it dripping out the tailpipe. As you run the engine, the exhaust heats up and vaporizes the moisture. You want to be sure this happens before you lay a car up for months. You don't want to start it, run it for five minutes, and then put it away, as that can leave moisture in the exhaust that could rot it out from the inside. So be sure to run the car for about 15 minutes before putting it away. If water is still dripping from the tailpipe, drive it a bit longer.



Run the car long enough for condensation to boil out of the exhaust.

That's about it. Tuck your baby in for the winter, visit it and drive it when you can, and it should be just fine. And don't buy anything exotic while it's away; it's been said that classic cars can sense infidelity. Especially the Brits