

## WINTER STORAGE Jim Pepper

In an effort to keep vehicles from biodegrading due to road salt, many of our members in northern states store their Studebakers during the winter months. Improper storage procedures can lead to premature mechanical failure and unnecessary problems in the spring. The following steps will allow you to store a car for winter and successfully return it to the street in spring. I have also included the reasons for each step. The whole process should take two to four hours, but it is time well spent.

1. Fill the gas tank (3/4 tank minimum). An empty tank can collect moisture and rust internally. Avoid storing a vehicle with oxygenated fuel in it if possible. Oxygenated fuel has a very short shelf life, (about 30 days) can attack soft items such as hoses and gaskets, and it can corrode fuel system components.
2. Add a fuel stabilizer such as Sta-Bil per instructions. Fuel stabilizer prevents oxidation of the gas and formation of gum deposits in the fuel system. If you use E-10 fuel, make sure the product you use is made to treat ethanol type fuels.
3. Change the oil and filter. As an engine runs, unburned fuel, moisture, and by-products of combustion leak past the rings and contaminate the oil. As an engine sits, these contaminants react chemically with the engine bearings (ie. rod, main and cam). This reaction etches the bearings and bearing journals. This etching destroys the bearing surfaces and increases running clearance. Storing with clean oil prevents this from happening.
4. Lube the chassis. A lube job pushes out any moisture that might have worked into the various joints. This will prevent rust from forming and causing wear.
5. Check for proper strength anti-freeze. Drain, flush, and refill if it is more than two years old. Proper strength anti-freeze will prevent coolant from freezing. Drain, flush, and refill will keep acids from forming and keep the cooling system clean.
6. Start engine and run to achieve operating temperature. This is done to circulate the fresh oil and to introduce the fuel stabilizer into the carburetor and fuel system.
7. Remove the air cleaner and while the engine is at idle, spray fogging oil into the carburetor for about 30 seconds. Keep the engine running for a short time then let it die while still spraying. If it does not die on its own, shut it off. You can pull the plugs after shutting off the engine and spray directly into the cylinders for added protection but that is somewhat overkill. Re-install the plugs if you do this. This step puts a coat of oil on all the internal engine surfaces (cylinders, pistons, valves, etc.) preventing rust formation.
8. Cover the carburetor mouth with a piece of plastic or a small plastic bag and reinstall the air cleaner. Stuff a rag in each tailpipe and the cover with a small plastic bag and zip ties to seal them off. What this does is it seals off the engine from both ends preventing air exchange. This will minimize moisture in the air from condensing on cold (very cold) engine and exhaust parts.

9. Remove battery and clean and cover cable clamps, clean battery tray, clean battery top and posts. A battery should be stored, fully charged, on a block of wood or it can be left in the vehicle on the tray. A fully charged battery will not freeze or be damaged by cold. Do not store a battery inside your house or basement.

10. Jack up the car (truck) and place on four quality jack stands. Place the stands under the rear axle and under the front axle or lower control arms. This is done to promote air movement under the car to keep it dry. It also maintains the load on the suspension. Loading the suspension is important because it prevents the front upper frame snubber from being squashed and keeps rust from forming between spring leaves. Another option is to place the vehicle on vehicle dollies. That will keep the load on the suspension.

11. Remove all four tires If it is on stands. Cover each drum (disc) with a plastic garbage bag. Tie it off behind the backing plate, sealing it as good as possible. Nox-rust, chemically treated rust prevention paper or equivalent moisture absorber (desiccant packets) can be added to the inside of the bag but it is not absolutely necessary. This prevents brake drums and components from getting rusty. This step should be mandatory on any disc brake equipped vehicle. You can cover the tire and wheel assembly with the tire on the vehicle if your bag is large enough.

12. Wash and wax the exterior including polishing the chrome. Any chrome under the hood can be wiped with an oily rag, or polished with chrome polish to prevent rust or corrosion.

13. Place dryer several sheets such as Bounce throughout the interior, trunk, and under the hood. These deter rodents from hanging up a home sweet home sign for the winter. More is better. I also use one Fresh Cab Botanical Rodent Repellent purchased from the local Farm and Fleet store in each vehicle. Pull down the sun visors away from the headliner. Mice will also make a home above the visors if left up.

14. Cover the vehicle with a breathable car cover and wait for spring.

#### WINTER STORAGE MYTHS –

Starting an engine and running it every few weeks or once a month. Running for over an hour will only bring the coolant up to operating temperature. The oil and the exhaust system will not get warm enough to burn off all moisture present. A driving load is needed to do that. You will probably draw in more moisture than you expel. The cold starts will leave a lot of unburned fuel and moisture in the oil due to the rich choke/low heat conditions counteracting the benefits of the fresh oil change. The battery will eventually wear down and freeze due to the severe cold start draw and minimal charge time. -I'll drive it only when its nice out and the roads are clear. After any snowfall the roads are salt laden for many weeks. Even though they're dry, the roads contain salt ground into a fine powder that can penetrate seams in the underbody, fenders, or frame and start a chemical reaction when teamed with humidity, moisture and condensation,

etc. Another thing that happens when its nice out in winter is the snow piles start to melt and the runoff contains as much salt as it did when it was plowed into a pile. The point is your car can get covered with as much corrosive salt when the roads are clear as when it is snowing.

Last, if you drive a generic brand "X" all winter, you will appreciate 'that Studebaker (or any classic car) a lot more in the springtime.