

WINTERIZING

YOUR

AUTOMOBILE

is also

PREVENTIVE

MAINTENANCE

by James Hill
2010 edition

retail price \$3
plus s&h

Introduction to Winter Storage

First thing to note.... This compilation is copyrighted. But, far as you're concerned, all that means is that you can't copy it to sell it; I can. You may copy it for your own use because you need copies to use in your shop and to keep yearly records, and then you can keep the original in your office where it's safe from oil spills. And you can show it around to your buddies. 'Nuff said. Now, I have received a lot of help and suggestions on this primer, and I would like to share it around. Feel free to show it around for your buddies so they can see what they need to guide them. And if you come across ideas or procedures that need changed or added to this, please forward it on to me so I can help others. That's what the hobby is for.... It's as the Packard brothers, long ago, advised when they said.... **"Ask the man who owns one";** my comment now is **"Ask the man who knows how."**

Technicalities aside, this little booklet comes to you with my **absolutely perfect guarantee.** I'll fully refund if at any time you feel this primer won't help you in your restoration project as much as it cost you, which is projected to be \$3 if bought at shows, or \$3 + \$1 s&h if bought through the mail. My guarantee: Just let the author or seller know of your dissatisfaction, and your complete investment will be refunded to you in US currency and you will also get a suggestion to pass on your copy to someone else (who has antique autos) at no cost to them; no need to return it to me. I'll bet no one else makes you a guarantee like that. I got confidence in my experience.

Second. You need to keep records concerning what you did, when you did it, and what parts or supplies you put into the auto. This will be good reference for you when you need to check things and it will also give good proof of what you did to maintain your auto whenever it goes to a new home. You have my permission to copy these record pages for your own use, then record on them everything you can, including brands of parts, part numbers, and sources, and store those sheets in a notebook. In addition, that info will help someone else get into their own project.

Third. Preventive maintenance doesn't cost you anything. It actually pays dividends. I discovered this on my first "new" car. When I sold it several years later, the motor was still "like new" and I actually got more for the car (that's above what I expected) than what all the maintenance cost me while I owned it. And preventive maintenance also reduces the possibility of a problem on-the-road. Consider what you would do if you had a brake or radiator problem stop you in Puntkin Center, Colorado. There's virtually no service there and parts come out of Canon City, 60 miles to the west. You'll sit there in a 2-horse motel for 3 days (snack food in the local quick shop) until parts get back and get put on, to get you on your way. How much more will you save by doing the repairs at home **before** they are needed???? That's **before** the system "goes south" on you? The Kanter brothers have a motto: **"Do it once and do it right"**. That makes sense; make it your motto.

Some of the suggestions here may seem like they are really "going out on a limb". They sure are. But in the long run, spending a dollar now will prevent you from having to spend ten dollars later on. I like those odds, but then I'm not a gambler. And it's the inconvenience that costs you the most; it's OK if the insurance would cover your every little road hazard and inconvenience.... Does yours? Mine doesn't.

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STORING YOUR ANTIQUE AUTO

If you store your antique auto over the winter, without driving it, you should have a regular procedure for putting it into storage in the fall and for taking it out of storage in the spring. The suggestions here may require a little preparation but the needed materials can be kept from year-to-year so next year will be easier. I suggest using fall as a time for regular intensive maintenance and checking because you have time for assembly of materials, and you still remember what you thought of during the summer.

I am writing this as though either you are doing the maintenance yourself, or you are closely directing the maintenance procedures yourself. If you are the type to "get your hands in", you must make arrangements so that procedures can be done at the appropriate time. On the other hand, if you simply take your auto to a maintenance business for oil changes, etc, all you need to know is what to tell the company that you want done. In this second case, you have to rely upon the experiences of the mechanics to know what to do and how to do it right. And in this second case, it helps to know what is supposed to be done so you can direct them in case they do not have mechanics experienced with antiques. (They don't teach about antiques in the technical college courses....)

For safety during your work, know that you should never get under an automobile that is supported on a jack, either mechanical or hydraulic. Never! Jacks are called "widow makers". They will let the car fall and crush anything underneath it and your wife could become a rich widow. For safest support, I recommend cutting pieces from square posts, 4x4, 6x6, 8x8, each piece 12 to 18 inches long. You can also use some similar 1x4s, 2x4s, 2x6s, cut from a strong hard wood (best is "southern yellow pine"). (Don't use bricks or cement blocks- they break or they scratch & bend the metal of the frame or suspension parts underneath.) When you jack up the car, slide the wood in under the frame so it will support the car at the height you want after you let the jack back down. Of course, if you have a mechanical lift, or a garage with a work well that you drive the car over, you're beautifully set although sometimes you still need something to block up the car with all its wheels off the ground.

I am strong on **preventive maintenance**. It doesn't cost you anything- nothing at all!- to change the oil and filter, to fill up the brake system and the radiator, to look for little seeps of other fluids, to check all lights and replace those that don't work. What little you will spend now in maintenance will save ten-times-over in repairs while on the road later on. So here we go.

First for a bare minimum of service..... Know that these steps will work best if they are done in the order listed. Sometimes you must "do it now" and sometimes it can set until tomorrow or day-after-tomorrow.

1. Change the oil & filter. Take your car out for a drive of at least 30 minutes at highway speed to get it good and hot and get everything stirred up. As soon as you get home, start draining the oil and remove the oil filter element. (Be sure to catch all that oil for proper disposal, don't just pour it out on the ground: "you dump it, you drink it"). For safety, I suggest you go to the distributor and pull the middle wire so the car absolutely cannot be started. Sometimes while draining, I like to rinse out the crankcase and filter case with Coleman-type gasoline stove fuel or unleaded gasoline. **Best:** you can then let the motor and crankcase drain overnight to get it good and empty. Meanwhile, back at the ranch ... or the car...

Clean out the oil filter case and even wash it out with either paint solvent or Coleman fuel to get out **all** the sediment and then dry it out with a clean cloth. (Get it clean!) Install a new filter and properly close up the filter case (using new gaskets). Record what filter you put in and when (date and mileage).

Now it's tomorrow.... Install the oil pan plug and properly tighten it. Immediately pour oil into the oil filler pipe, enough oil to bring it close to "full" on the dipstick. Put the distributor wire back into place and start the motor. Let it run at fast-idle for about 3-5 minutes (check the oil pressure gauge for operation) then turn off the motor. Wait 5 minutes then look for leaks and check the oil level; refill it up to the "full" line on the dip-stick. Record what oil you put in and when (date and mileage).

2. Check the coolant. It is probably a mix of half green antifreeze and half water. If it's not completely clean or if it's over 5 years old, now may be the time to drain out all the old antifreeze (be sure to catch all that fluid for proper disposal, don't just pour it out on the ground). Go through a good rinse of the coolant system by filling the radiator with water then running the motor at fast idle for about 15 minutes with the heater system on "hot" (this rinse water can have some radiator cleaner added if you feel like it). Then drain out the coolant. Refill it with water and repeat; if the drained water is not clean, do it again. Repeat rinsing until the water drains out completely clean and colorless and with no odor, then close all drain cocks and plugs.

Consider your thermostat. If it is easily accessible and if you don't know the age of it, now is the time to replace it. Most are fitted according to physical size and the temperature at which it opens. Know also that almost all thermostats have a little hole, about 1/16th inch, in the part that actually opens to allow a little bit of circulation even when it's closed. That's needed to allow air to circulate too.

Sometime during your involvement with the radiator and coolant system, check all radiator & heater hoses. If any of them are soft and spongy, you may need to replace them. If they're leaking, you must replace them now. Check to be sure that there is no leak around the water pump. Check all the fan belts, especially looking at the inside surfaces for cracks & missing sections, and look for places where the belt has worn to the cord. If you need to replace them, do it now and tighten them properly. (If you don't know what is proper, ask someone who knows this model of car or ask an old mechanic who grew up with these models.)

Now, refill the radiator. You're shooting for a 50:50 antifreeze mix; you may choose to add some radiator sealant or inhibitor or pump lubricant- that's your choice. It's been suggested that you find out what is the capacity of the coolant system, then add half that amount of new pure antifreeze and top up (or most of the way) the radiator with water.

OK- back to the radiator.... Start up the motor and let it run for about 15 minutes with the heater "on". Check the radiator several times to be sure the radiator stays filled at this step and you can add more water to fill the radiator although it may also overflow a little; they often do. Record what antifreeze you put in and when (date and mileage). Check the freezing temperature with a hydrometer. You want to shoot for protection to about -30 degrees F.

3. You need to **check the brake fluid** at the master cylinder. If the master cylinder is not clean outside, wash off the master cylinder with soapy water or with solvent (but you don't want any getting inside). Know that brake fluid will damage some paints so you don't want to get it on painted surfaces.

Now you can open the cap to the fluid reservoir. If it is not full, check the quality of the fluid in it. If it is not clean (usually colorless), use some sort of a syringe or drain to empty the master cylinder reservoir (put that removed fluid into a container for proper disposal). Wipe out the master cylinder then refill it with new brake fluid. The filler cap usually has a vent hole; be sure this hole is open. Install the filler cap but not tight. Gently pump the brakes a dozen times to be sure that the brakes work; this circulates the new brake fluid through the system. If you can push on the brake pedal for a minute and the pedal does not "sink", the system is probably not leaking; if the pedal sinks to the floor, you gotta find that leak **now**. Now go back and check the fluid in the reservoir. If it is not clean, you could repeat the empty-dry out-refill steps. One warning here- don't go getting "cheap" by saving this used fluid for reuse; it can't be reused, so dispose of it properly.

At this point, consider how much fuel you want to leave in the tank. Stop at Wal-mart and get some "Stabil gas treatment" and put the right amount into the tank, then fill it to your desired level. You could take the car out and drive it another 15 minutes to get it good and hot, and get all fluids well circulated, then it's ready to be parked. But wait, there's more you can do before you park it if you want a more thorough checkup.

4. **Grease the chassis.** You probably need to jack up the car then **put blocks under the car** so you can safely get under. Grease all the fittings on steering & suspension grease points, drive shaft, all grease fittings everywhere. "Enough" is usually when a little grease comes out wherever it can. While you are under there, check the lubricant in the transmission, the overdrive, and the differential. If they are not as full as they should be, fill them while you're checking them; don't wait, do it now. If you don't know how to check these, ask an old mechanic. Don't feel you're stupid because you don't know how- that's how you learn.

5. **Preventive maintenance** doesn't cost anything, so now you can do a more thorough inspection. Again, check the fan belts. Check the radiator hoses; if worn or cracked, replace them now. Check the flexible brake hoses, both front and rear. If there appears any "moisture" anywhere on them, that's probably not water..... it's brake fluid, and you've got a hose to replace. If you don't replace it now you'll replace it out on the road and you'll pay a mechanic 10 times as much to do the replacing after you pay him to tow it into his shop. (And you probably won't win that hard-luck trophy.) See why prevention doesn't cost anything? More on this later.

6. **Check all the lights.** If any light doesn't work, at least make a note of it; but best is- go ahead and replace lamps before you forget it. Have someone observe whether the brake lights and turn lights (if installed) do work properly. Check to be sure the generator indicator (or amp gauge) on the dash shows it's charging.

7. Check the battery. Is its acid full? If not, fill it properly with soft water. You can get “distilled” or “deionized” water as used in clothes irons, available at most bigger food stores. Check the battery cables. Clean? Well then, clean them, Dear Henry! “With what shall I clean them?” “With a wire brush, Dear Henry!” A warning here- **first** unbolt the **ground cable** at the battery. Yes, first! After that, you can disconnect the “hot cable”; not the other way around. After disconnecting, you can clean the cable ends with a wire brush or with a round file or emery paper. Likewise, clean the battery posts. After all are cleaned, you can connect the hot cable and tighten it. Then, **connect the ground cable last**. Get it right- **disconnect ground cable first; connect ground last**; make & post a label: **DGF-CGL** means “**disconnect ground first; connect ground last**”.

8. Look at the battery: If the battery is dirty, you can hose it off with detergent and water to remove anything acidic that might drip off of it. Then, tomorrow, after the battery is dry, you can see if there are any leaks of fluid which would probably be acid. If you have a volt meter, keep track of the voltage of the battery “at rest” and the voltage of the generator at idle and at about 1000 rpm motor speed.

By the way, while the battery is disconnected, you can go to the starter and **clean the cable** end at the solenoid because any dirty connection there reduces efficiency of conducting electricity to the starter; more preventive maintenance. Finally, record what you did and when. Keep a good record because memories fade faster than ink. Some people like to leave the battery disconnected over the winter- if you do, disconnect **only** the ground cable.

Now you’ve got the automobile more ready to store for the winter. But you can do the following steps to insure that it will keep until next April:

1. Take it out for another drive of about 15 minutes at highway speed. (So you did it once- do it again!) When you go out, check gasoline and add enough gas preservative such as “Sta-Bil” which you can get at Wal-Mart or automotive stores. This will help keep the gas fresh during storage. Bring the car back to the garage and immediately park it where it will set for the winter.
2. Jack up the car, and put wood blocks under the frame to support the four wheels off the floor or off ground. The support can be done with large and small wood blocks. I prefer foot-long pieces of 8x8 building post at each of the four corners. These can be put under the spring or wheel supports and then small thicknesses of wood (1x6 or 2x6) that will allow the auto to be lowered down onto the wood but the car wheels will not touch on the floor or ground. Recommended: **don’t** use cement blocks, bricks.
3. Immediately **disconnect** the **ground cable** from the battery. Drape a piece of heavy plastic over the battery and then cover that with a piece of soft rug. If the battery is under the seat, replace the floor panel and cover that over with a piece of rug. This keeps animals out of the interior of the car.
4. Some people like to put out a dish of mothballs (“paradichlorobenzene”) to set on top of the front seat backrest so that the vapors from the mothballs will spread throughout the car. This will help discourage little visitors (mice and spiders) but it does not seem to leave any odor in the car when you open it next spring.

5. Get a new tire pressure gauge to keep in the glove box. Check the air pressure in all tires and air them up to your usual pressure. Record this number for each tire to show whether you have a “seep-leak” in a tire over the winter. Inspect all the tires to be sure none are starting to crack or bulge; look for anything that could indicate the tires is needing replaced because over the winter is a good time to replace tires.
6. Cover the car with a good soft & clean cloth car cover; plastic tarp usually is not recommended. While it is not necessary to tie it in place, if there is any breeze through the garage, a simple cross-over looping of cotton rope will hold it in place.
7. Gently pat its fanny as you leave it, and speak gentle thoughts to keep it happy. Let it know it’s loved. Repeat that with the lady of the house.

You now have a record of what you have done, and what you need to check or reconnect next spring when you get the auto ready to drive.

*Note: if there is **anything** that needs added or changed in this listing, change it! And please let author Jim Hill know so this list can be improved. Write him at jnrhill@att.net.

SCAM WARNING

In the past year there have been several warnings published in Hemmings Motor News and other publications to the public about scams going on. Now you should know, fully, whats-a-haps, if you don’t already. In some cases, people have offered for sale parts that they do not have. They take your money and simply never send them. If your purchase is small (a hundred dollars or so), you have almost no possibility of getting anything back. A larger purchase might get some effort by local police (yours or theirs). In some cases the parts are much lower quality than what is advertised (**adv:** “NOS”, **deliver:** “poor to good”). Again, you probably won’t get much help getting the money back. My suggestion is to try to find someone you know who is near to the purchase to have them actually look at the parts and confirm what it is you’re buying. Be cautious about buying from someone you’ve never heard of. If nothing else, a car-club member-ship is a little insurance although anyone with felonious intent can still join a hobby group.

Sometimes good to high quality cars are being offered for sale and again either the quality is lower or the vehicle is never delivered, or damaged when delivered. The higher the investment the more you need an investigation service to check out the sale and the merchandise. On high value purchases, you might also consider using an “escrow service” through a bank where the money is held until both seller and buyer release it. It’ll cost you a little but you may save a lot! If at all possible, go see the car yourself before you complete the sale! And don’t sign a delivery receipt until you’ve fully checked over the car.

A third scam is where someone will purchase something you have for sale with almost no inquiry on what it is or condition, and offer your price. Eventually you receive a bank check, often a large amount more than what you were to get, with request that you cash the check and send your own check for the difference to a third party. Know that such a check may be “no good” until it finally clears the issuing bank and some of them are frauds. While you may not have sent the parts yet, if you send your check, the receiver gets it and cashes it, and you might be out a large amount of your own money because when that bank check comes back to your bank as “bouncy bouncy”, you don’t get paid. Work with your banker here and be sure that your bank can **confirm that the check has cleared** before you release the parts or send any refunds. Don’t be in any hurry to complete the purchase; a legit buyer should understand and be willing to work with you.

It’s getting to where you just don’t know whom you can trust. Sure, some of the big dealers may charge more than a small one-time advertiser, but you can be more sure you’ll get the parts and they will probably be right. (Although, in the past I’ve had dealings with two big dealers in the east, one of whom never shipped and the other shipped poor merchandise; no names told here, though, because one died over 15 years ago and the other is in a different business now.) Know that Hemmings Motor News keeps a service for **consumer problems**. She is **Mary Brott at HMN, POBox 256, Bennington, VT, 05201**, with e-mail at mbrott@hemmings.com.

SCAM WARNING

**A RECORD OF WHAT YOU DID on
YOUR CAR:** _____

OIL: changed on _____ (date) _____ (miles)
brand used _____ weight used _____

FILTER: changed on _____ (date) _____ (miles)
filter used _____
where bought _____

BRAKE FLUID: changed on _____ type _____

ANTIFREEZE: changed on _____ (date) _____ (miles)
brand used _____ temp check _____ (degrees)
additives put in _____
flexible hoses replaced _____

brand _____ part number _____

BATTERY CHECK: topped on _____ (date) _____ (miles)
battery brand _____ model _____
new at _____ (date) _____ (miles)

TIRE PRESSURES: RF _____ RR _____
LF _____ LR _____
L side mount _____ R side mount _____
Spare _____

You now have a listing of what you need to check next spring when you get your auto ready to drive. As you get the car ready to drive then, check all the above levels and values to be sure everything is full or up-to-par. Don't think you can ignore anything in the spring because you checked it last fall; deficiencies can begin any time. **Check it again!**