

Perhaps looking at the thermometer, or looking at the fresh snowfall makes you doubt it, but Spring is getting pretty close. (Okay, for our readers in the Southern Hemisphere, change that to Fall). For most of us, though, we have to think about getting our cars ready for the road. Over the years we have recommended all kinds of things to be done in the Fall to make the car ready for storage. If you've done that, you are much closer to being ready to hook up the battery and press the starter button. Most of us didn't do all that should have been done last Fall. We may have done the minimum, and maybe even thought that once the car was put away, we'd take care of those other things. But painting the house, raking the leaves, putting in a new bathroom or all kinds of other projects that you put off last Summer, to give you more time to drive, have caught up with you. So let's get that car road-ready now.

The first thing to do is sit down with a cup of coffee and a pad of paper. Think back over last year's driving. Did you have any serious problems? Minor difficulties? Things that you meant to get around to, but just never did? The light switch that didn't always work? The charging rate of the generator? That noise when you made a left turn? If you were better organized than most of us, you made notes as those little problems occurred. Dig out those notes now and figure out which ones require immediate attention, and which ones can wait until the car is pulled out of storage.

Let's get started with the things that have to be done. Hopefully, you pulled the battery out, moved it to a warm area and hooked up a float charger. Nothing more to be done there except to check the fluid level (on a wet-cell battery) and refill with distilled water. Clean the terminals – wire brush to a bright silver color. If you didn't

pull and charge the battery it has to be done now. Hopefully the electrolyte didn't freeze and crack the case. Put on a pair of rubber gloves and examine the case. Any sign of a crack or of oozing fluid could mean a problem. If the battery is still frozen, put it into a plastic bucket and let it defrost. That electrolyte is a strong acid. Don't get it on your hands, in your eyes or on your clothing. If the case is cracked or suspect, trade it in for a new battery. Consider an Optima. There are several advantages to the Optima. First of all, it is virtually carefree. No fluid level to check, no freezing. It has a much higher amperage potential than a comparable wet-cell. If the battery tips over, there is nothing to spill out. It can be installed sideways or upright. And if you keep it charged, it will (generally) far outlast a wet-cell. That alone will make up for the difference in price. Sometimes the six-volt Optima is a little more difficult to locate. Most auto-parts stores, battery stores or dealers can order a six-volt Optima and have it for you within a couple of days. The Optima is smaller than a wet-cell, and even though it can tip over, I suggest that you secure it within the battery box (a couple of blocks of 2"x4" lumber can do the job). If the battery tips over while you are driving, it could yank out the cables, or if it is under the hood, it could interfere with moving parts.

Next item on the list: gasoline. Gasoline, unless treated with a gas-stabilizing product like those from Hirsch, Eastwood or Sta-Bil, has a life of about five or six months before it begins to turn bad. Smell the gas; fresh gas has a sort of pleasant smell. Gas that has turned smells terrible. Once you've smelled it you need no further description. Old gasoline will still burn, but the changes within the gas tend to form gum and varnish in the fuel system. Drain the gas, and use it in your everyday driver. Put fresh gas in the tank. If the gas has already turned bad, it could mean more work for you. The fuel filters, vacuum tank, fuel pump and carburetor, unless previously drained and winterized, could be full of gum. There is no solvent that will effectively rid the system of gum and varnish. It has to be



removed manually, with a wire brush, scraper, and a lot of bad words. The good thing, though, is you will not neglect the fuel system next year.

If, when you drained the gas, you found water in it, there well may be a more serious problem waiting to happen – or maybe it's already begun. The alcohol in the gasoline will hold some water in suspension. That's not the problem. Once the quantity of water exceeds that 'holding power' of the alcohol, it will separate out. The water settles to the bottom of the gas tank. Draining the gas will remove most of it, but it may have already begun to rust the tank, and you will never drain all of the liquid from the tank - unless you remove the tank, clean and seal it. Even though there may be no evidence of a leak on the outside of the tank (wet gas, gummy 'drips', peeling paint) the rust may have begun inside, and it won't get better by itself. Bill Hirsch Auto (see ad on page 44) has a complete kit. It is a small price to pay – in dollars and labor – to avoid on-the-road problems later in the season.



Engine oil is next. If you drained the oil, put in fresh and changed the filter last Fall before you put the car away, pour another cup of coffee and relax. If not, drain the crankcase (the oil will be thick from the cold, so allow adequate time for it all to drain out) and change the filter. Refill with fresh multi-weight oil – a 10W/40 or a 20W/50. Concerned about reduced Zinc dialkyldithiophosphate (ZDDP)? Use a diesel cross-over oil. A cross-over oil is one that is designed to work equally well in a gasoline engine and/or a diesel engine. Diesel regulations haven't required the reduction of ZDDP so diesel oils contain a higher percentage of this lubricant than gasoline oils. A cross-over oil, or a multi-performance oil will contain two designations on the API (American Petroleum Institute) starburst: a 'C' rating and an 'S' rating. The 'C' indicates



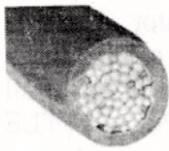
suitability for diesel engines and the 'S' is for gasoline engines. A mark such as API CJ-4/SN indicates that the oil is suitable for both diesel and gasoline engines.

While crawling around under the car, look for other leaks: crankcase, transmission, free-wheeling, overdrive, master cylinder, rear-end, radiator, fuel, water, brake and oil lines, etc. Any such leaks should be repaired. Tighten the bolts on the crankcase and transmission pans. They tend to loosen with road vibration. Often that will solve the leak problem. Sometimes just a gasket will have to be replaced. Or, it may be a bigger job. Better to do it now than when you want to use the car for a drive. Check the inside of the wheels for signs of leaking brake fluid and real-seal leaks. Examine the entire exhaust system, from the exhaust manifold to the tailpipe for black, sooty tracks indicating an exhaust leak. Check the muffler for rust.

Check all fluid levels – radiator, differential, transmission, free-wheeling, steering gear box, etc. Top them off. If the level is conspicuously low in any component, search for a reason. It may indicate sloppy maintenance last year or maybe a serious leak. Add a water-pump lubricant to the radiator fluid if you haven't changed the antifreeze within the past year.



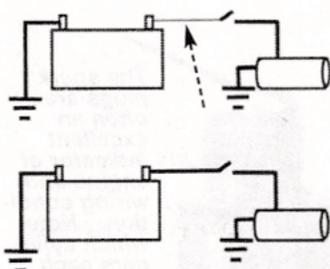
I'm getting tired of writing this, so I know that you are getting tired of reading it, but it is almost like a mantra already. Clean all high-amperage electrical cables: battery, ground, starter, and starter switch. Disconnect both ends, clean the cables and the connectors. Get all of the rust and corrosion off. That includes the tough-to-get-at connection where the battery ground cable connects to the car's frame. Wire brush and sand everything until they shine. If any cables show evidence of corrosion under the insulation, fraying or cracked insulation, replace them. Save yourself a lot of trouble and replace, not with store-bought 12 volt cables, but with specially made #00 or #0 cables.



Contact Restoration Supply Company or Y&Z Yesterdays Parts for cables or components. Get the heaviest cable that is available. It's only pennies more than the cheaper stuff, but it will do a much better job.



Something else to remember. The demand for high amperage, especially during starting, is immense. The ground wire is connected to the frame. The frame carries the ground circuit throughout the entire car. The starter motor is bolted directly to the engine and should have full amperage flow, but make sure that the engine is not partially insulated from the frame by using a woven ground cable between the engine and the frame. The 'hot' terminal of the battery goes directly to the starter switch. From the starter switch it goes to the starter motor. All of those cables must be the



Even one too-small cable in a circuit (arrow, top) will restrict amperage to the starter.

largest size possible. If a smaller diameter cable is used on any segment of the circuit, only partial amperage will be transmitted. It's like putting a funnel, or a resistor, in the circuit. It cannot perform adequately

unless all parts are up to the job. It's that 'weakest link' theory.

Tires: has the car been sitting on the tires all winter? And have the tires been on a freezing cold concrete slab, or worse, frozen mud? If those tires are bias ply or fiber-radial, expect flat spots. Those tires take a set. More than likely, as the car is driven, and as the tires warm up, that set will disappear, but you will have miles and miles of clunking down the road until the tires regain their round shape. Don't try to move the car if the tires are still frozen to the ground or mud. Odds, are, if you do, your first trip will be to the tire dealer for new ones. Hopefully, last Fall you put the car up on jack stands or took the tires off. Examine the tires for cracks,

tears, bald spots, wear markers, cord showing through or any other sign that there is a problem – or potential problem. Don't fool around. Call Universal Tire and order replacements. Even a flat during the driving season is a pain, but a blowout could be disastrous! Don't forget to check the spare tire(s).



Examine the tires, including sidewalls, for cracks and bare cord.

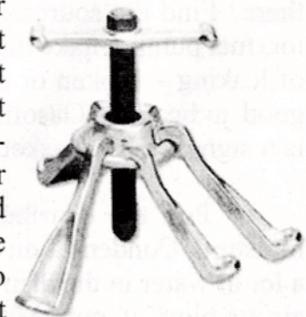
If the tires are good, great! Check the air pressure, add air as necessary and replace the missing valve caps.

Repack the front bearings – it's not a difficult job, just dirty. And a wheel bearing packer from Restoration Supply Company will



remove a lot of grease from the palms of your hands (and probably do a better job, too). While you are doing the bearings, check the brakes – linings, cylinders, springs, and connectors. Leaking cylinders should be rebuilt or replaced;

rusty parts should be removed and cleaned. Suspect springs should be replaced. Pull the rear wheels. Check the brake linings carefully for signs of oil or grease. That could mean a leaking rear-wheel seal. If the seal(s) are leaking, they must be replaced. You are probably going to need a wheel puller to get the drum off. Get the kind that has at least three legs that fit over the lugs. A five-legged version is better but harder to find. And don't forget to leave the axle nut on loosely so that the drum doesn't fly off and hit you in the chest.



Get out your owner's manual or your service manual and follow its recommendations about lubricating the car. Clean the old, crusty

grease off the Zerk or Alemite fittings and grease them with fresh grease. As you pump fresh grease in, the old stuff will ooze out from around the joint. Wipe it off and continue to fill until fresh grease shows. Sometimes a grease fitting will be hidden by old grease. Check the service manual for their locations. They are under that old filth somewhere. If the grease

doesn't seem to want to get into the fitting, you may have to remove



ALEMITE PIN TYPE FITTING



ZERK FITTING



ALEMITE HYDRAULIC FITTING

the Alemite or Zerk, clean out the old hardened grease and then re-install. (*The Alemite Pin Type Fitting requires a special grease-gun fitting. Contact Restoration Supply Company - see ad page 1*) Keep your eyes open for rust or anything else that would indicate something is not right. Get to it immediately, or write it down to check in the near future. Go around the car with a can of Silicone spray and a rag, and spray all of those parts that move – door hinges, hood and trunk hinges, cowl vents, wind-wing windows, ash tray slides, seat adjustment rails, and tire jack. You get the idea. Wipe up the overspray immediately. If you drip any of that spray on the floor mats or running boards, scrub it off; it could mean a dangerous slip or fall later on.

Under the hood, do a careful visual check first. Any disconnected, frayed or broken wires? Any oil or grease spots that shouldn't be there? Find the source. Look over the carburetor, fuel pump, intake manifold gaskets for signs of leaking – broken or discolored gaskets are a good indication. Gasoline dripping or staining is a sign of a bad gasket.

Pop the distributor cap and check for moisture. Condensation over the winter can put a lot of water in the distributor. Use compressed air to blow it out. Many people recommend WD-40 (Water Displacement 40), but I find air does the job well and leaves no residue. Check the points for pitting and corrosion. Change, dress and adjust if necessary. Check the contacts on the inside of the cap for corrosion – the rotor,



too. Lubricate the distributor. There is often an oil or grease cup on the shaft, and be sure to put one or two drops of oil on the felt under the rotor. Put a LITTLE (I cannot emphasize that enough – a LITTLE) distributor grease on the cam under the fiber block of the points.

Pull the plugs and examine them as you do. The tips should be a tan color, not oily or sooty. If you find something other than a nice, dry tan, make a note. (See *SK December 2011 - Champion Spark Plugs.*) That cylinder (or maybe just the wiring) needs attention. If the plugs are old and worn, replace them now.



NORMAL MIXED HIGH AND LOW SPEED



GAS FOULED



OIL FOULED



NORMAL



WORN-OUT

The spark plugs are often an excellent indicator of engine and wiring condition. Note which cylinders each was removed from for later identification.

Gap the spark plugs to your owner's manual specifications. Put about ½ teaspoon of Marvel Mystery Oil in each cylinder and replace the plugs and torque them down. Reconnect the wires.

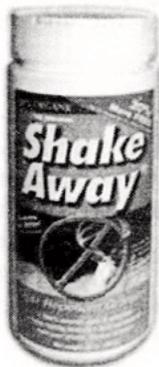
Next month we are going to discuss the cosmetics of getting your car ready for another season of driving, picnicking, car shows and show-and-shines, etc. But before we get into that, might I suggest that you check the car right now for rodent infestations?

Mice, rats and other creatures searching for a warm (or at least less cold) place to live over the winter may have found their way into

your car. There are all kinds of access routes for the nasty furry creatures to get into the car - up the tire, across the frame or axle into the engine compartment and from there possibly through an opening in the firewall. They only need a tiny opening - 3/4" or so is more than adequate. Or up a rear tire and into the trunk through a small opening in the trunk. From there, under the back seat, and there is a warm, comfortable place for them to nest, raise a family, and feast on your upholstery and seat cushioning.

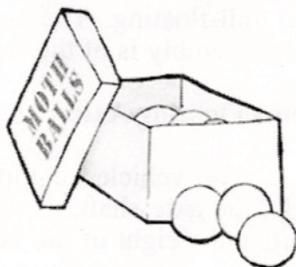
Open the trunk and search corners for signs of mouse/rat droppings, chewed fabric, rubber or wires. Pull out the seats - front and back, seat backs and cushions - and search for signs of infestations. Look under the dash. Use a good flashlight and look for chewed wires. Same thing under the hood. Repair or replace those wires immediately. You know that if you don't it will come back to bite you in the middle of the summer.

If you believe that you still have mice living in your car, there are several methods to rid the car of them. Mice don't like light. Open the hood and the trunk and leave lights on. Same with the passenger compartment. Traps, of course are one way, but there are several less terminal (for the mice) methods. Many RV or Motor Home and even marine supply stores sell rodent repellents. One that I have heard of, but have never used, is called Shake-Away (<http://www.critter-repellent.com/mice-1/>).



Another method is mothballs. Mice, like moths, don't like them. Put a small handful of them in a clean tuna fish or cat food can. Put one tin of the mothballs under the hood, one in the trunk and a couple in the passenger's compartment.

And speaking of tuna fish cans, if you carried or even worse, ate sandwiches in the car, crumbs fell on the



floor, behind the seats, and into all kinds of inaccessible crevices. Chips are notorious for doing this. And the rodents love the feast. They don't really care that a crust of bread is three months old and green. They are not necessarily gourmets.

Another method for getting mice out of the car is to put your cat in there for awhile. Don't lock it in, just encourage the cat to visit.



"Hey mouse, take a hike!"

Next month we'll cover really cleaning the interior of the car. Hopefully by then you will have gotten rid of those pesky creatures.

And this coming summer, be mindful of the fact that the mice may come back next winter. Be very careful that no food remains in the car. After each outing, double check for food scraps and vacuum out the car.

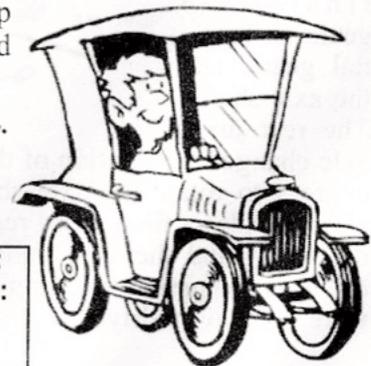
But the priority right now is getting the mouse damage repaired so that you can get out on the road.

Alright, with that nasty job behind you, and all of the mechanical work checked or completed, it's time to tie up the package.

Reinstall the battery, connect all of the wires, put the tires back on the car and double check the fluids. You drained the oil, but did you remember to refill the crankcase? The radiator? The master cylinder? Did you put the rotor back in the distributor? Everything good?

Fire 'er up and have a good summer driving.

S.K.



**NEXT MONTH:
Car Cosmetics:
Exterior**