



# Restoring Your Tank

## It's a Gas!

### THINGS YOU'LL NEED

- 1) Eastwood Gas Tank Sealer kit
- 2) 2 cans of "Undergone" from Eastwood
- 3) 1 can "PRE" metal cleaner from Eastwood
- 4) 2 cans of "Tank Tone" from Eastwood
- 5) "Multi-Mender" putty from Eastwood (if you have a leak)
- 6) 64 oz. Muriatic Acid
- 7) 32 oz. Acetone
- 8) Multi-meter
- 9) Safety gloves and eye protection



It's a beautiful day for a drive in your classic. You're driving along with a smile on your face enjoying the scenery, the feel of the road, and the experience that only driving a vintage vehicle can give you when... the engine sputters and dies, just like you shut off the key. As the smile quickly leaves your face, you coast to the side of the road. You check the fuel gauge. It says you've got enough gasoline. You crank and crank the engine over but nothing, nada, zip, zilch. You pull a plug wire while a buddy turns the key – Eeeooowww! Yes, you've got spark! Then you check the brand new fuel filter you recently replaced. It's thoroughly clogged with rust and gunk. You serviced every part of the fuel system – except the gas tank itself! That's the problem. Gas tanks are out of site, so they tend to be out of mind – taken for granted. Many of our collector cars have seen their 40th, and 50th birthdays. Over those many years moisture has built-up and caused rust and scale to form and get sucked through the fuel lines, fuel pump, filter, and carburetor eventually causing problems.

When a car's engine runs, it pulls fuel from the tank, which causes a vacuum, which in turn pulls in air. Moisture in the air contacts the cool gasoline and condenses, causing rust and scale to form on the inside of the tank. Gas tanks actually rust from the inside out. This causes leaks as a result of small pinholes. When that happens, it's time to take action before the situation becomes explosive.

You've got a few choices. You could just buy a new gas tank if one is available for your model of car. Popular cars like Mustangs have replacements readily available and are reasonable in price. Another choice is to remove your tank and ship it off to one of the reputable gas tank restoration companies, such as Gas Tank Renu. They'll clean it up, repair any leaks, and send it back as good as new. The third option is to restore it yourself. This is a job that most hobbyists can do in an afternoon with good results and for quite a bit less money than the previous two options. The Eastwood Company sells a gas tank sealer kit that contains most all the things you need to do a good job. Also from Eastwood, you'll need "Undergone" to remove undercoating, "PRE" to prepare the tank for paint, and "Tank Tone" with real zinc to restore the appearance of your gas tank. In addition, you'll need Muriatic acid and Acetone that can be found at most home-improvement or hardware stores.

Safety is a major concern when working with gas tanks. It's not the liquid, but the gasoline vapors that are as dangerous as dynamite. If at all possible work outdoors where you've got plenty of ventilation. If you must work indoors, make certain that there are no sparks of any sort, or any pilot lights from water heaters or laundry dryers nearby. And of course, **DON'T SMOKE!** Also, as a precaution, disconnect the battery to prevent an errant spark from occurring. Better safe than sorry.

**Difficulty:**  **2 Wrench Rating:** Easy if you can read directions.



Sample of the remaining gasoline indicates loose rust and scale.



Inspection of the inside of the tank reveals a milky "goo-like" substance. Not good.

Some people prefer to have their tank cleaned by having it "hot-tanked" at a radiator shop. Not all shops do this, so call around first. If the tank has a leak, they can safely weld it shut. **NEVER**, try to weld, solder, or braze one yourself. Remember, those fumes can turn your gas tank in to a bomb in an instant. You can however, clean it out yourself at home.

Inspect the tank from the outside for rust, wet spots, or other problems. Then outside, tip the tank so the sun shines through the filler hole and inspect the inside of the tank. Though unlikely, a flashlight or trouble-light has the potential for causing a spark. The inside of a healthy tank should be bright and shiny metal - no rust, corrosion, or milky looking fluid. Don't despair, if your tank has problems. Most can be saved with a little work.

If your tank has rust forming inside, the first thing to do is get as much of it out as possible. You can do this by taping the sending unit hole shut with duct tape and pouring in a one-pound coffee can full of old nuts and bolts. Then add about two quarts of water and vigorously slosh it around to loosen the scale and rust. Pour out the dirty water and repeat the process till the water runs out clean. Next mix the entire contents of the "Metal Wash" that comes in your Eastwood kit with two gallons of very hot water in a clean bucket. Pour this mixture into the tank and slosh it around. Let it sit for five minutes on each surface - top, bottom,



Nuts and bolts dumped in to the tank help loosen rust and scale.



Pour out the Muriatic acid mixture in preparation for the next step.



Eastwood's "Fast Etch" removes rust and etches the metal. It's part of their gas tank resto kit.



Gas tank sealer prevents future rust and seals minor leaks. It's also resistant to alcohol.



Use a putty knife and "Undergone" to remove undercoating. This is a messy job, so have plenty of old newspapers covering the floor.



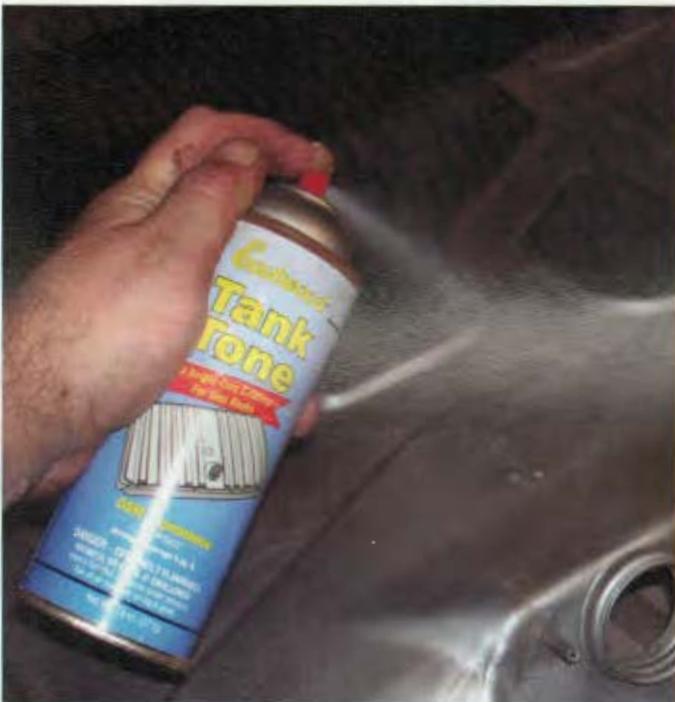
Underneath the 1/8th inch thick undercoating was basically a decent tank, save for minor surface rust in a few places.

A multimeter is used to test the rheostat in the sending unit. If the numbers change when the float is moved though it's range, the unit is good.





Paint stripper is used to remove the paint on top of the tank. Plastic prevents the stripper from evaporating before doing its job.



After cleaning the metal with Eastwood's "PRE", spray on "Tank Tone" which contains zinc and gives an OEM appearance.



The restored tank looks like new and should give many more years of service.

and both sides. When you've done that, vigorously slosh it around again for a few minutes and pour it out. This process removes any varnish that has formed inside. Thoroughly rinse the tank with water from a garden hose. At this point, the tank should be free of varnish.

Now it's time for the Muriatic acid. This stuff is not kind to skin or eyes, so it's recommended to wear rubber gloves and eye protection for this next step. Dilute a half-gallon of acid with a half-gallon of water in a bucket. With a new strip of duct tape over the sending unit hole, pour the diluted acid into the tank and slosh it around, coating all the inside surfaces for 5 to 10 minutes. Leave the filler neck hole open to allow pressure to escape. Periodically inspect the inside of the tank. It should appear a uniform grey color. Repeat this step until all traces of rust are gone. When you're done, pour the acid into a plastic bucket and neutralize it by adding baking soda till it stops fizzing. Then dispose of it according to local laws. Rinse the tank by filling it with water and draining it twice. You may notice some flash rust, but not to worry. It'll be taken care of in the next step. Also, when the tank is full of water inspect it for leaks. If you find any, mark them with a grease pencil or marker. You'll need to take your tank to a radiator shop to solder these. Don't try to solder them yourself. The metal inside is permeated with gasoline vapors and is still very volatile. You can also seal them yourself with the "Multi Mender" putty from Eastwood.

Your Eastwood kit also contains a bottle of "Fast Etch"; an acid based rust remover and metal prep. Pour the entire contents of the bottle into the tank and rotate it back and forth to coat the entire inside. This should also leave a uniform grey color. Using a funnel, pour the remaining etch back into the bottle and dispose of it properly, or save it for future rust removal projects. While the tank is still wet from the etch, pour in one quart of Acetone and rotate the tank covering all inside surfaces. Check for rust and repeat as needed. Pour the remaining Acetone back into the bottle and dispose of properly.

The final step for the inside of the tank is sealing it. For this we use the two bottles of Eastwood gas tank sealer found in the kit. Two bottles is enough for a 20-gallon tank.

Pour both bottles into the tank and temporarily close up the filler neck hole. Rotate the tank around well to coat the entire inside metal surfaces. Let it stand for 10 minutes on one side, then rotate it more and let it stand on the opposite side for 10 minutes. This is so the sealer doesn't harden thickly in one area and thin in another. The goal is an even coating all over. When the metal is generously coated, pour out the excess, open all the openings, and let it dry. Constant and forced ventilation is key to prevent the sealer from puddling in one area. The best way to do this is to insert a compressed air line into the tank, keeping it two inches or more from surfaces and setting the pressure at one to five psi. The tank should be completely dry within 48 hours at 60 degrees or better. Make sure the coating is slightly rubbery and doesn't have a strong odor before filling the tank with gas again.

Restoring the outside appearance of the tank is a fairly straightforward process. If your tank has undercoating all

over it as ours did, you'll need a putty knife and a can or two of Eastwood's "Under Gone", an undercoating remover. Clean the tank of any loose grime and spray on a generous coat of "Under Gone" and let it sit for 30 to 60 minutes. Then take a plastic spreader or a putty knife and scrape off the undercoating. Repeat this process until you've removed the majority of the sticky stuff. Then use Eastwood's "PRE" paint prep to remove any residual undercoating or residue. You may also want to wipe the whole tank down with some very fine steel wool to finish cleaning it. Make sure the tank is free of any oil, grease, or debris before applying the finishing touch - Eastwood's "Tank Tone". This paint provides a bright zinc coating that gives an OEM appearance and protects the tank from further rust. Each can covers about eight square feet. A big tank like ours requires two cans.

The sending unit should now be checked for proper function. You'll need a simple multi-meter for this. Connect the red lead to the sending unit's electrical wire. Touch the black lead to the body of the unit for ground. Now move the actuating wire with the float attached through its motion and watch the meter's readings. If the numbers don't move, check your connections and repeat the process. If the numbers still don't move, you probably have a faulty rheostat. If that's the case, you can get a new unit from Quanta Products. If the numbers do move and things check out, clean up the unit, shoot the outside with paint, and re-install it.

Servicing your gas tank is an important and necessary step in the restoration of a vintage vehicle. A dirty or leaking gas tank can not only wreak havoc with the other parts of the fuel system such as the filters, fuel pump, and carburetor, but can be downright dangerous if those leaks come in contact with a spark or intense heat. Remember, gasoline vapors are more volatile than the liquid itself. Use common sense and use every safety precaution when working with your classic's gas tank. Anyone who can follow directions can do this job with very good results. On our difficulty scale, I give this one two wrenches. So roll up your sleeves and get to work! Good luck with your restoration. 