

It is a fact that rust can be removed with relative ease from rusted objects using a method known as reverse electrolysis. Cannons and other artifacts from shipwrecks have been restored by use of this method on a large scale.

Here is how to do it in your garage.

1 - Find a five gallon bucket and fill it with water three inches from the top.

2 - Place a stainless steel plate $\frac{1}{2}$ the circumference of the bucket and from top to bottom of bucket. (you will have to curve it) 22 gage will suffice. Note part of it will be out of the solution (3") Note that steel can be used but with less effectiveness.

DO NOT USE GALVANIZED SHEET METAL OR ALUMINUM.

3 - Add 1 cup of washing soda or (baking soda second best choice) and dissolve it.

4 - find a steel rod to cross the top of the bucket to hang your part on in the solution with an elongated "s" steel hook just out of the solution. We only want "the part" to touch the liquid if possible. Rust is removed line of sight to the stainless so it will have to be rotated from time to time.

5 - Get out your automotive battery charger (12V, 15 AMP) and put the negative clip on the rod on top of the bucket giving the part in the solution a negative charge.

6 - The positive clip goes to the stainless steel plate. Turn on the charger and watch the part bubble with the current removing the rust particles. If you forget it for a while, it will only remove the rust, not any metal if it's a steel object. It can take hours to days depending on the size of the part. As far as non steel objects, be careful and watch the process so you don't return to a disintegrated part. An old pistol covered with rust would be an excellent candidate. For larger jobs you could use a plastic

garbage can. Solution will get toxic as used, so, don't dump it on the ground or dip your hands in the solution. Use proper method of disposal in your area.

The best way to keep the steel from rusting after it has come out of the solution and rinsed with clear water is to: dry it off well and apply Ospho with paint brush or a small piece of foam rubber and using latex rubber gloves to protect your skin from the acid in the Ospho (phosphoric acid). If you get it on your hands and fingers it will crack your skin and really mess up your fingers etc. Been there done that ! After the Ospho has dried, apply a good quality oil base enamel (Valspar, Rustolium) and you will have many years of protection from this combo. I have steel bars I made for a real estate co. in place for 20+ years still having almost no rust in the outdoor environment using ospho and a couple good coats of Rustolium paint. An even better but more expensive way to preserve the metal will be to apply Rustolium cold galvanized spray after the Ospho dries, then use the oil base Rustolium enamel. This really works well. Ospho can be found at your local auto paint supply co.

Good luck on your project !