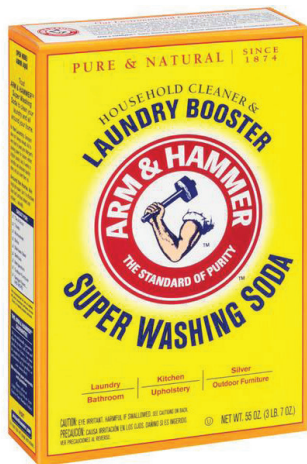


# RUST AND PAINT REMOVAL USING REVERSE ELECTROLYSIS BY MIKE SIERS

Most of us have had to deal with paint and rust removal on our cars, usually this is by sandblasting, wire wheels, grinding, paint strippers or sanding. There is an alternative called reverse electrolysis that does not damage the metal underneath the paint. It's shockingly effective.

Before starting on WM62 and SAL No. 1, I had been doing a lot of railroad lantern and lamp restoration using reverse electrolysis. In reverse electrolysis, the part is immersed in water with a low voltage DC, low current (1 to 2 amps) applied, and a mild additive in the water to help in the current transfer. The negative connection goes on the part you are working on and the positive connection to a sacrificial anode.



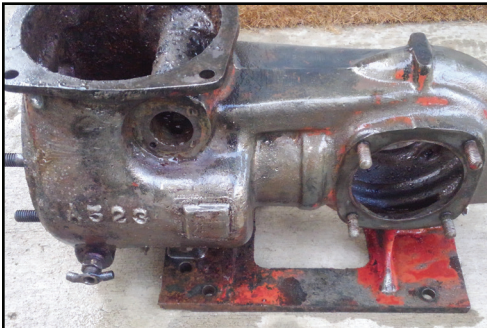
I have a couple of old battery chargers I use for the DC power source (older can be better). The anode I use is a piece of 1" steel flat bar, and I use Arm and Hammer Super Washing Soda (about a heaping tablespoon to a gallon of water). The washing soda is mostly sodium carbonate; it's not baking soda (sodium bicarbonate). It's mild but don't breathe the dust; use gloves if your skin is sensitive.

I find it best to use flat bar for the positive anode. It is cheap, but it is also easy to clean by rinsing and a quick hit with an old wire brush. It will rust quickly, and I would only get a few weeks out of it before it was worn out. Importantly, do not immerse the positive clamp in the water, it will corrode. Also, be aware that this process does create hydrogen gas, so this is best done outside.

The process will not only help remove (and neutralize rust) but will also remove paint. The process is not instant. Some parts may require a few hours while others need days. Depending on how much you are doing this you may have to change water out more frequently. The large tote did 4 wheels, 4 fenders, and 2 running boards over a 2-week period.

Larger items can also be done. In this picture an ROD engine block is being treated; this also treats any internal rust in the water jacket. The red paint breaks down quicker than other colors do. Notice the positive clamp is above the water, attached to the end of the flat bar, while the other end of the bar is submerged but *not* touching the block.





Some tips:

-Remove the positive clamp, or unplug the battery charger before touching or removing the part you are working on.

-Have a variety of brushes: Nylon, brass, stainless, and even some old toothbrushes for cleaning between soaks.

-SOS pads work well in removing any residue left behind.

-on longer soaks clean the anode more frequently, about twice a day. An old wire brush will do this along with a hose.

-Once parts are dried out get some paint or primer on them to prevent rust from returning

## FREE! MEMBERSHIP FREE! NARCOA NEW MEMBER EXPANSION CAMPAIGN CONTINUES INTO 2021!

Based on the continuing success of the NARCOA New Member Campaign, we are going to run the New Member Expansion Campaign again in 2021. This effort is designed to encourage active members to encourage friends to join NARCOA. Please encourage folks to join. The Membership Committee will add a membership bonus to any current member who brings in either a new member or a past inactive member in 2021.

Our active members recruited a total of forty seven (**47**) new members in 2020! You can participate in the Campaign in 2021. It's easy.

**Purpose:** Expand NARCOA membership, communicate the unique experience of NARCOA to the greater Railroad community and involve the current NARCOA members in the growth of NARCOA

**Timing:** January 1, 2021 – December 31, 2021

**Reward:** A **TWO MONTH** Membership Bonus will be added to the renewal date of any active member who brings in a new member or a past inactive member. One new member – **two** free months. Another new member, another **two** free months. A third new member, **eight** free months.

**EXTRA SUPER BONUS:** any active member who brings in a total of **THREE** new members or past inactive members during 2021 will receive a total of **TWELVE MONTHS** of membership extension! **HOLY COW!!**

**Rules:** NARCOA will extend the membership of any active member who brings in either a new member or a past archived member. The new member or returning member must pay a full annual membership and **MUST** include the referring member's name on the membership application. The membership bonus will only be applied to the identified referring member (no trading on the black market). A valid past member must have been inactive for a least two calendar years prior to rejoining.

Please don't scam the system. Anyone suspected of cheating will have their name misspelled in NARCOA forever!! ;-)  
Thanks in advance for your efforts to expand this hobby

Bob Hastings, Dan Page and Bill Delmar  
NARCOA Membership Team