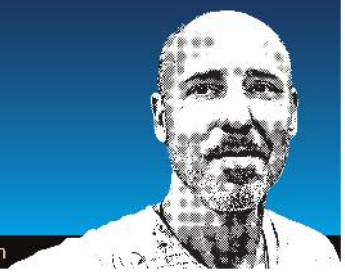
SHOP VIEW BY MARCUS ANGHEL

Rust Prevention



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This week I am flying on my way to Carlisle, Pennsylvania, to attend the annual Ford Nationals swap meet and car show. Looking at the weather forecast as I leave Phoenix, Arizona, I take for granted how unusual the climate I live and work in is compared to the rest of the locations I deal with in and out of the United States. The temperature in Phoenix is 100 degrees today (it's still springtime so not very hot) and more importantly the humidity level is only 12 percent.

It's the humidity that is so different when compared to everywhere else and one of the biggest differences when dealing with rust that forms on bare metal parts and tools. People have been looking for the cure, or fix, for rust even before we had cars. It's the one thing that can destroy large structures and has been blamed for several bridge collapses over the years. Because I rebuild and ship a lot of suspension pieces, I need to coat bare metal parts with a rust inhibitor before sending them out. Protecting bare metal parts is important to those of us who show and trailer (or even occasionally drive) our cars, so I want to take a closer look at some of the products that are available.

First of all, we should look at exactly what rust is and why it happens. Understanding that will help in the prevention for some of us. Rust is an iron oxide created when iron and water combine (air moisture or direct contact with water). Given enough time along with the combination of oxygen and water, any iron mass will eventually convert to rust and disintegrate. And it should be noted that if salt is present, then the corrosion process can happen more quickly but by itself is not the reason we have rusting. Only when combined with water.

The typical scenario you have in a shop is directly related to temperature changes and humidity. The outside temperature drops and the shop gets cold, as does everything inside, including cars and tools. Then the air temperature rises again, but things in the shop are still cool. Water from the air condenses on the cooler surfaces, causing moisture on your items.

Some of the more basic ways to prevent issues like this is to have a shop or garage that is climate controlled, or at least is equipped with a dehumidifier. Doing this will basically eliminate the ongoing cycle of humidity with the temperature changes. This is not always practical for everyone as the workspace may be too large or not sealed enough. Others have had some success with just having a fan in the shop to move the air around, but it all depends on where you live and the temps and humidity you are dealing with.

Knowing that we all can't have shops like this, the next best thing is to actually treat, coat, or condition the bare metal pieces so they do not rust. There have been a lot of products sold over the years. Although I can't say that only one works, you have some good choices to choose from to see which works best for your scenario.

Paint is the most obvious way to prevent oxidation on metal parts. Paint was used extensively by Ford on service parts. Many service parts that were typically bare metal were painted to avoid rust before they arrived to be sold or installed.

Cosmolene is an older method to preserve parts. It was and still is used by different manufacturers. It is commonly seen on brake rotors but not used much in preserving parts on a finished car because of the greasy, waxy nature of the product.

WD-40 is another product that people have used for years, mainly because it is readily available. However, WD-40 manufactures a specific product for protecting parts called "Long Term Corrosion Inhibitor," which can be purchased online or through local outlets.

Fluid Film is typically sprayed on and lightly wiped off for rust protection. The manufacturer says the product is made from processed wool wax and oils. It is somewhat new to the automotive world but has been in use a long time.

BoeShield is a very popular product that was in fact developed by Boeing for long-term metal protection and lubrication. It dries to a waxy, waterproof finish.

Developed by ECS and sold through its distributors, RPM is short for Rust Prevention Magic. As a wax, the item being treated is heated and then the RPM is brushed onto the product, where it melts and is absorbed. Excess is then wiped off.

Gibbs comes from the motorcycle world and is another spray that is used for eliminating the formation of rust on metals by penetrating, lubricating, and waterproofing. It is used in the weapons industry.

Here's an additional comment I can make to ensure a better chance at success: If you live in a high humidity climate, make sure you first heat the item you are coating to eliminate any moisture trapped in the pores of the metal. This actually helps the process before coating a part.