

# Is It Really Clean, Or Just New?

AN ARTICLE

BY

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You are the proud papa of a new antenna installation. You give out cigars and the party was epic. This new system has every new trick, piece of gear, accessory and monitoring gadget installed in to it. You even got twin transmitters for reliability and back up. You are king (or Queen) of the mountain.

The system was installed by a crew that was recommended by a colleague. You never used these hippies before but they came highly recommended. Since your transmission line and antenna were to be re-used, no tower crew was necessary up top, but the installation group hired this bunch of hippies with So-and So's Tower Service on the shirts because the installation guys from the plant and their local agent did not want to run the 200 feet of giant line through your room and the building which included a gas barrier and Shiny Nitrogen maker.

Wow, like the movie trailer says, this day was in the making for half of forever and a day. Here it is and you watch as the install crew turns in the proofs of performance, acceptance testing on the groups of equipment and line sweeping. You have been an Engineer for many years but like many Chief's and Indian's, you have only maintained systems and have never been on the installation or burn out mitigation ends of the roman candle.

Scattered around the room and in the trash cans are empty containers of common cleaning alcohol and thousands of different kinds of rags, shop towels and cloths. Depending on the circle that you run in and if you do not realize that today is no longer a date between 1930 and 1960, your brain is comforted by the notion that "everyone" uses alcohol and a "rag" of some kind to clean R.F. parts prior to assembly when they need it.... There are many crafts that I consistently remind people that it is not 1940 no more.

Right there the fire alarm should sound and you should be waiving your arms in a screaming panic. I am going say it here and these words upset the apple cart.

Factories make R.F. related parts, package them and ship them. **THEY DO NOT CLEAN THEM.**

OK, here it goes. After 40 years of fixing things that have had the magic smoke let out of them that involve everything from Melamine to Bakelite, to Teflon along with other scary plastics, when this stuff and the conductive metal items that they support are brand new, they are sometimes sort of shiny but they sure as feathers are NOT clean.

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If you have never had the pleasure of unwrapping a new R.F. line component I hate to bust your bag but these things ship from the factory in genuinely nasty condition. The photos below are examples of new product that is as they say, new, old stock. Never used by granny and I see people install these tarnished and patina covered things every day without any kind of cleaning.



These two products above are examples of new, old stock, right out of the factory bag. On the left, you see a surface patina embedded in the silver plating. On the right you see the Silver plating beginning to tarnish.



These three examples of filth is are new, out of the bag anchor inners that have both tarnish and finger mung oil on the Silver surfaces.



Rule 1:

If it is not pretty, it will not live very long.

Finger mung or slime on the Teflon insulators are attractive to carbon and other conductive dusts. These dusts form burn trails in the Teflon and when they snap over, they burn tracks in to the surface of the Teflon. It is not hard to guess what the failure mode is here. Finger oils and grease are insulators and when it burns off from the thermal expansion and contraction of the contacts, it forms a soot that well, need I say more? Visually inspect these parts to insure that the contacts are straight, parallel and the spring clips are in place and that they work to give you a smooth but firm socket insertion because without this firm contact, soot happens and the end is near.

So how you ask can I install new and (dare I say) used parts with some security to believe that they will love a long and happy life?

Here are the answers.

If you want a connector to bright and pretty like this guy,



Scotch Brite, Brakleen, and Terry cloth rags are the answer.



Notice the fine brush like finish on the last bullet. See how pristine the Teflon insulator is. These three items if used properly will take the patina and tarnish off of your parts.

The next curious question comes in the form of why Green Brakleen. Green is Non-Chlorinated and is allegedly easier of the copper but since this is 100% nasty chemical that pulls carbon in to the rag, moisture from the surfaces and dries nearly instantly as it is highly volatile (evaporative) and flammable. Use extreme caution when applying Brakleen to a rag and then using it on plastics.

Scotch Brite green is a very aggressive cleaning pad and some practice is required to give a good surface preparation and not strip off the Silver plating of a connector. The stainless steel connectors really buff up nicely with this product.

Brakleen should never be sprayed directly on a target surface. Typically this chemical is sprayed on the rag for better cleaning control. Brakleen is not good for you and gloves are recommended. Of course you should not breath the fumes and keep it away from sparks and flames.



I do not own most of these images and they belong to their respective companies.

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