

From The Desk of Tom Wilbeck, N5KGN

Oxidation Prevention on Antennas and Electrical Connections

Tom Wilbeck - N5KGN

At several recent club meetings, mention has been made of anti-oxidation compounds that can be used during assembly of antennas. It is helpful to have some idea of what is available and the proper uses of some of the more popular preparations that are available.

The compounds that are commonly encountered are used by the electrical construction and maintenance industry and the automotive maintenance industry. Electricians use anti-oxidation compounds to protect electrical connections from the effects of weather and other environmental moisture conditions. The compound shields the connection from the intrusion of water, and keeps air out as well. Some of these compounds have various conductive particles added. You may have, at one time or another, seen someone use light grease or petroleum jelly on the terminals of a storage battery to prevent or reduce corrosion. The principle is the same.

Another common use of anti-oxidation compounds is for anti-seizure on bolts, nuts and other fasteners. Stainless steel is especially prone to galling when used as a fastener. A light coat of a lubricating agent can reduce the metal to metal friction that causes the surface deformation and galling. Some of the anti-seize agents have metal particles mixed with the lubricant to add other properties, such as electrical conductivity. One such compound has copper and is intended for use on sparkplug threads.

At one meeting, mention was made about the assembly of amateur antennas constructed of aluminum tubing. The tubing joints are subject to water intrusion and corrosion can begin to form in these joints. The Mosley Electronics Co., manufacturers of many fine amateur and commercial antennas, packages a small amount of a compound, called Penetrox A, with their new antennas. The assembler is advised to coat the tubing where the sections telescope inside one another. A properly prepared joint can withstand weather for over 25 years without any sign of corrosion, and the joint readily comes apart if the antenna needs to be disassembled,

If the antenna uses screw-type terminals for the feed connections, an anti-oxidation compound can be useful. Many of these connections are fully exposed to weather, and the only thing that protects it at all is the compression of the hardware. That is not very positive. The addition of a compound to the connection can completely exclude moisture for many years.

Here are some popular compounds and their uses:

Jetlube SS-30

Marketed primarily as an anti-seize compound. It is supplied with grounding materials

Continuing: Tom Wilbeck

by Industrial Communications Engineers, LTD for use on ground connections. It is a petroleum grease with clay and copper particles. It is NOT RECOMMENDED FOR USE ON ALUMINUM. The copper will react with aluminum eventually.

Burndy Penetrox A

It is an oil base with Zinc particles. Excellent for Aluminum to Aluminum or Aluminum to Copper connections. OK for all other metals. Not recommended where there is contact with rubber or plastic

Burndy Penetrox A-13

A synthetic oil base and Zinc particles. Excellent for Aluminum to Aluminum Or Aluminum to Copper connections. OK for all other metals. Will not harm most rubber or plastic

Burndy Penetrox E

A synthetic oil base and Copper particles. Excellent for Copper. Not recommended for other metals.

Ideal NoAlox

Petroleum base and Zinc. OK for all metals

Versa-Chem AntiSeize

Copper particles in petroleum base. Excellent for Copper, especially in high temperature applications. OK for most other metals.

Sanchem NO-OX-ID

Petrolatum base and active corrosion inhibitor, no metal particles
Marketed as "Rust Preventive" and "Electrical Contact Grease". Safe on all metals.

Regardless of the compound used, it should be applied liberally. There should be no voids, air bubbles, etc.

Net Control Operators August 2011

Thanks to the following Ham Radio Operators for volunteering to serve as Net Control as part of the Wednesday LETARC Two Meter Net. The Net meets at 8:30 pm on 147.34 + with a PL of 136.5.

August 3	Jim Rogers;	August 10	Jim Quinn
August 17	Cloys Tolbert;	August 24	Todd Hoover
August 31	Todd Hoover		

ARRL Teacher Institute

ARRL welcomes two new instructors to our Teachers Institute staff this year guided by Miguel Enriquez, KD7RPP



Matt Severin, N8MS, will be lead instructor for the TI-2 on Space in the Classroom. Severin is the co-principal at Dowagiac Middle School in Dowagiac, Michigan serving over 550 students in grades 6th through 8th. Severin has incorporated amateur radio into his classroom since 1999 when he first earned his amateur radio license. He has worked with students ranging from grade 3 to 12 and has found ways to integrate amateur radio at all levels. Some of Matt's previous activities include participating in the School Club Round Up, starting a radio youth club, and monitoring & collecting data from amateur radio satellites & weather satellites. He has also helped 15 students to make impromptu International Space Station contacts from school. Currently Severin is working with middle school students as they learn how to program micro controllers in preparation for a high altitude balloon launch. Matt has been licensed for 12 years and holds an Amateur Extra license.

Tommy Gober, N5DUX, will co-teach Teachers Institute sessions this summer with lead instructor, Miguel Enriquez, KD7RPP. Gober holds an Amateur Extra license and teaches high school Computer and Technology classes at Pine Tree High School in Longview, TX. He is a graduate of LeTourneau University and an active member of the Texas State Guard. He began his interest in amateur radio while in grade school, but it was not until college that he got his license. Tommy has been an ARRL registered instructor and VE for several years, leading dozens of people toward their licenses. He joins the ARRL ETP team bringing him his love of electronics, computer programming, amateur radio, communications and passion for both teaching and learning. He enjoys CW, satellites, HF, kit building and portable operations.



Miguel Enriquez, KD7RPP was first licensed as a Novice in 1976 and learned about electronics building a Heathkit. He upgraded to an Extra license in 2002. Enriquez is a mathematics, statistics and psychology teacher at Pueblo High School in Tucson, AZ. He also has 10 years teaching experience at the community college and university levels. In 2005 Enriquez established an amateur radio club in his high school. Through donations of equipment and support from individuals and ARRL the club grew to its current level of activity with 26 members and five licensed students. Today the club explores satellite communications, ATV, robotics, HF, EchoLink and weather satellite imagery.

— Something Special —



LETARC.ORG

Board Member Profile

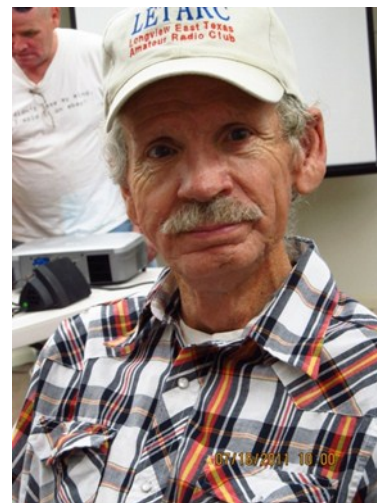
Jim Rogers, N5VGQ, began life in El Paso, Texas, living there during his childhood. Later, he and his family moved to Oklahoma. While still a boy in El Paso, he became acquainted with a “ham” radio operator who piqued his curiosity about radios. During his early teens, he worked at a furniture store and was able to exchange his labor for the purchase price of older console radios. He discovered RADIO!!

His family moved to Oklahoma where he helped his family. Subsequently, Jim joined the Navy [1968-70] where he was assigned to the Repair Division aboard ship. He worked on all kinds of equipment ranging from small diesels to pumps to telephone system.

Following discharge from the Navy, he worked at a paper mill in Oklahoma followed by working for *Weyerhaeuser* plywood industries for several years. In 1980, after having moved to Henderson, Texas, he was involved in a serious accident which put him on disability for several years.

In 1990, Jim decided to put all of his electronics knowledge and skills to use and earned his General Class license.

About the year 2000, Jim became LETARC’s Communications Director and has held that post since. Jim mentioned that while living in Henderson, he and a good friend named Dick White, WB5RSM, studied and prepared for their ham license. Both achieved success. While Jim moved to Longview, Dick became the voice of SkyWarn for Rusk county partly due to his excellent voice and knowledge. Jim has accomplished a lot and continues to be involved with Ham radio and deeply involved with LETARC. Thank you, Jim. We all appreciate your help through the years.



If you have questions or comments, send an email to Todd Hoover, N5TJH.
HOOVER_TJ@YAHOO.COM