

# Everything You Need to Know



YOU WON'T FIND ANY CHANGES MADE TO TM 11-5985-357-13 (FEB 91) FOR THE OE-254/GRC ANTENNA GROUP, NSN 5985-01-063-1574.

NEITHER WILL YOU FIND ANY CHANGES MADE TO THE ANTENNA'S PARTS' MANUAL, TM 11-5985-357-23P (JUNE 88).

THEREFORE, EVERYTHING YOU NEED TO KNOW ABOUT THE OE-254 ANTENNA, WITHOUT EXCEPTION OR CORRECTION, CAN BE FOUND IN THOSE TWO TMs.

RIGHT? **WRONG!**



STUFF HAS HAPPENED TO THE ANTENNA OVER THE LAST 20 YEARS—STUFF IN SUPPLY AND MAINTENANCE—THAT YOU **NEED** TO KNOW.

AND GUESS WHAT? WE'RE GOING TO TELL YOU ABOUT THAT STUFF!



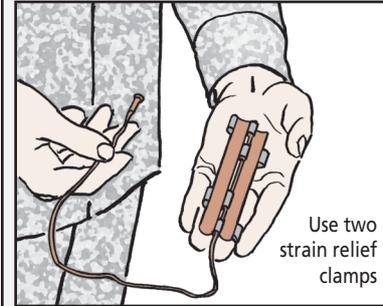
## Stuff One

The antenna support sleeve, Item 2 in Fig 5 of the parts manual, is not NSN 5985-01-072-8016. It's NSN 5985-01-326-5533.

The antenna support sleeve, Item 10 in Fig 5 of the parts manual, is not NSN 5985-01-072-8015. It's NSN 5985-01-327-1448.

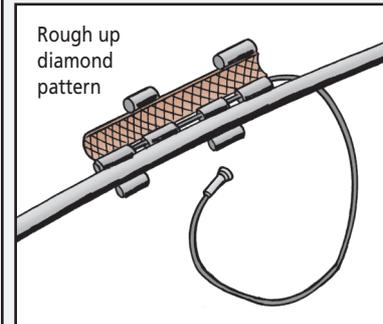
## Stuff Two

Item 3 of Fig 5 of the parts manual highlights the strain-relief clamp, NSN 5975-00-563-0229. You are issued one clamp. Para 2-4 of the -13 TM shows you where to attach it to the upper guy plate of the mast. However, one strain relief clamp has been found to be inadequate to relieve the strain. Another is needed at the bottom of the antenna. So, make sure you have two!



Use two strain relief clamps

Also, to keep the clamp from slipping, rough up the diamond pattern a bit with a file. Don't overdo it. Just scuff it a bit. The clamp will hold better.

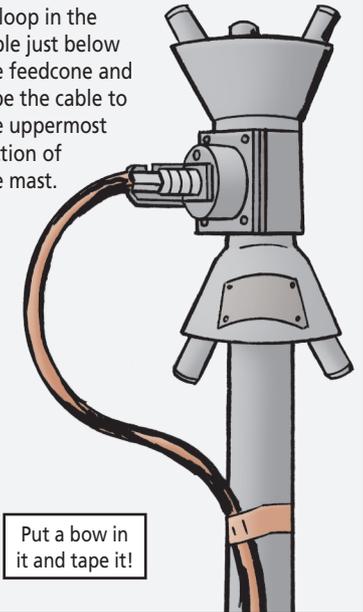


Rough up diamond pattern

Some Soldiers have stopped using the clamp in favor of electrical tape, NSN 5970-00-419-4291 (NSN 5970-00-723-5413 in extremely cold weather), or wire ties. Both of these methods work and give you more flexibility in where to take the strain off the cable. You should already be using the tape about every 5 feet of your cable as you tape the cable to the antenna to keep it from flapping in the wind.

Whatever you choose to use, the most important area to relieve stress is at the cable connector where the cable connects to the feedcone.

Put a small bow or loop in the cable just below the feedcone and tape the cable to the uppermost section of the mast.

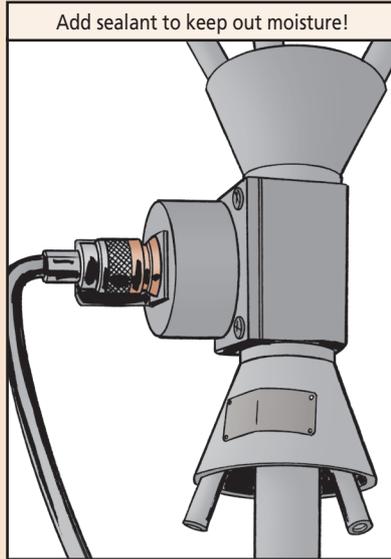


Put a bow in it and tape it!

### Stuff Three

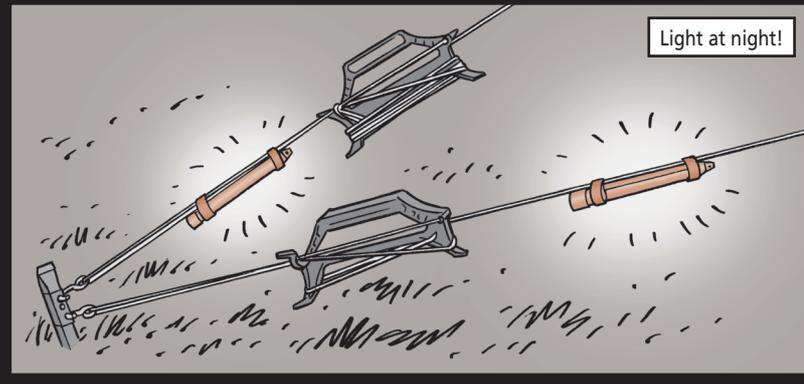
Fig 2-8 of the -13 gives instructions on how to moisture-proof mated RF connectors. The TM recommends using anti-corrosion silicone compound, NSN 6850-00-880-7616, on the threads and then taping each connection with a layer of electrical tape, NSN 5970-00-419-4291. That's good advice, but to be really effective at keeping moisture out of joints and connections, you need to use water-displacing compound, NSN 6850-00-142-9409, on the threads.

And, at the point where the cable connects to the feedcone, you need to use a good coaxial cable connector sealant to keep moisture out! Electrical tape at this juncture dries in the sun, shrinks and wears out. Coaxial cable connector sealant (bought at your local electronics or automotive store) seems to last forever and once removed, the area looks like new.



### Stuff Four

The safety instructions in your TMs say to "clearly mark all guy wires and ropes with the warning flags or signs supplied by your unit. Use strips of white cloth as warning streamers." That's good info as far as it goes, but you might also consider using light sticks, NSN 6260-01-230-8596, fastened with electrical tape to the wires for visibility at night in heavily trafficked areas. If you're under blackout conditions, there are infrared light sticks, NSN 6260-01-396-1710, that will do the job.



### Stuff Five

Cable assembly CG-1889C/U, NSN 5995-01-085-1665, used with your antenna is 80 feet long. According to your TM, you can cut it down to 50 feet as needed to remove damage, but no further. But, can you lengthen it?

Yes, you can by adding an additional cable or two, but remember, each time you lengthen it, you increase the db attenuation and decrease the power to reach the receivers you need to reach. As is, your 80-ft cable will get about 87 percent of the signal strength to a receiver. If you double the length of the cable, it drops to about 58 percent. Can you tolerate that kind of power loss?

An alternative is to order the RG-213/U cable, NSN 6145-00-660-8711, by the foot and add only what you need to the original 80-ft cable. This added length cable must have connectors, NSN 5935-00-928-3127, installed on both ends to be usable.

If you need to add an adapter to the cable to connect the cable to the radio, order TRU-2064 adapter, NSN 5935-01-375-5085. For a connector adapter that will let you join cables, use NSN 5935-01-035-5650.

Of course, the ideal is to select a site for your antenna that will ensure the 80-ft cable provided reaches to your radio.

NO MATTER THE LENGTH OF THE CABLE, IT SHOULD BE PROTECTED FROM VEHICLES AND PEOPLE WITH BOARDS LAID ON BOTH SIDES OF IT THAT ARE THICKER THAN THE CABLE.



### Stuff Six

Your antenna comes with five stakes, NSN 4030-01-073-6103—four to use and one for a spare. In sandy soil, four stakes have proven not to do the job when the strong winds blow. Use two stakes at each tiedown point instead of one. Even then, you still may have to use a dead man anchor, a rock anchor or a screw anchor to hold the antenna in place like it says on Page 2-11 of TM 11-5985-357-13.

Of course, if you're operating in cold weather with frozen ground you might need to use the cold weather stake, NSN 4030-00-187-5265. They're slimmer and easier to drive in the hard ground, but they also slip out easier when the ground thaws.

### Stuff Seven

The AS-3166 feedcone assembly is the heart of your antenna. Start your "heart" PM by giving it a little shake. The magnetic core in feedcones can break loose. If you give the feedcone a little shake and hear a rattle, that's probably what has happened. Turn it in and get another feedcone.



Once it passes the shake test, give the RF connector a close look. Wind whipping the RF cable can bend out the copper receptacle pin. A splayed receptacle won't make good contact with the cable pin.

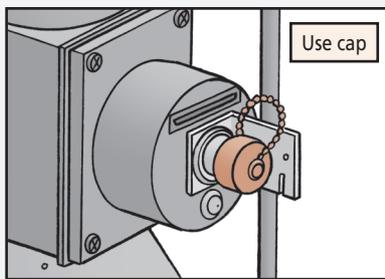


If the pin is splayed, a pair of needle-nose pliers will squeeze it back together. **GENTLY** is the word when using the pliers. The pin is easily broken.

Look inside the RF connector cap. The rubber insert should be there. If it isn't, replace the cap.



Use the cap anytime the feedcone is not connected to the RF cable.



### Stuff Eight

Your six antenna feed sockets catch dirt and moisture that lead to corrosion. Keep them clean with isopropyl alcohol, NSN 6810-00-753-4993, and a foam swab, NSN 7045-01-154-1317.



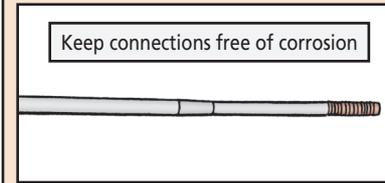
For stubborn corrosion, try using a small-arms bore brush, NSN 1005-00-903-1296. Use handle, NSN 1005-01-113-0321, for a better grip and more twisting force.

Just twist the bore brush down into the socket and turn it several times. The stiff fibers loosen corrosion and clean out the grooves.

Don't overdo it, though. Too much of this good thing can wear out a socket.

Treat the feedcone like the fragile piece of equipment it is. Make the feedcones one of the last things you store. Stencil the OE-254 storage bag to warn folks not to toss things on top of it.

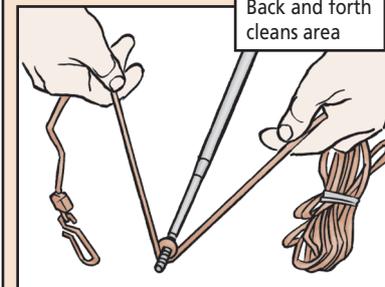
You must keep the connecting areas of the antenna elements free from corrosion. To do that, use water-displacing compound and silicone.



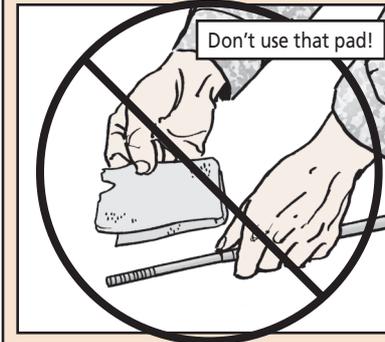
First, though, clean the connecting area of each element with your antenna's guy rope.

Loop the rope around the element. Pull back and forth from both ends of the rope.

The friction created by the rope cleans the connecting area.



Don't use a scouring pad to do this cleaning! Scouring pads wear down the metal and strip the element.



Once the contact areas are clean, spray them with water-displacing compound. Then give them a light coat of silicone compound.

Your element PM will be easier if when the antenna is erected, the elements are attached hand-tight. Elements that have been muscled together get damaged when they're muscled apart.



That's a whole lot of good stuff, but the best stuff for you to remember is the safety stuff. When you're working with the antenna, wear a helmet, safety glasses and gloves and always keep the tip caps, NSN 5985-00-930-7223, on the pointed ends of the exposed AB-24 antenna elements.

