

Wireless Set No 19 Mk.3 (Canadian)

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Static and EMP Protectors for Antennas

By

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Following the acquisition of two "New Old Stock" Racal 905 – 903 Antenna Kits, a search of the Internet began to locate and Download the appropriate Instruction and Installation Manuals.

Not only did this search locate the Manuals for the 905 – 903 Antenna, it also found an Instruction and Installation Manual for the 905 – 908 Antenna which is a 150 Watt Version of the 905 – 903 Antenna but with the addition of EMP Protection Components.

These EMP Protection components consist of Spark Gaps at the Antenna 12:1 Balun Centre Piece and in the 300 Ohm Load Terminating Resistors together with a Huber & Suhner Type 3401.17.A Gas Discharge EMP Protector fitted in the coaxial feed cable.

The Huber & Suhner EMP Protector fitted in the coaxial feed cable at the bottom of the antenna support mast is fixed in an aluminium bracket that is attached to an Earth Rod that has been driven into the ground.

As the two 905 – 903 antenna kits acquired plus other antennas available were destined for use by the authors local portable amateur radio club, it was decided to incorporate EMP protectors of the type described in the Instruction and Installation manuals for the type 905 – 908 antenna kit, to protect all the radio equipment from static likely to be encountered on Hill Top locations generated by rain and wind while out on portable excursions.

A quantity of Huber & Suhner Gas Discharge EMP Protectors and Brackets, Racal Part Number 905 – 052 : NATO Stock No 5985-99-256-1551 were readily obtained from "THEXMOD.com" in Scotland however, the special Earth Rods Racal Part Number 905 – 050 proved impossible to source.

Internet searches revealed that the local branch of "Screwfix" stocked 3/8" and 5/8" diameter x 4 ft. long Copper Plated Steel Earth Rods relatively cheaply, therefore it was decided to fabricate some adaptor bushes to fix these earth rods into the EMP protector brackets.

As the EMP protector brackets are made of aluminium and the earth rods of plated steel, it was decided to have the adaptor bushes turned from Stainless Steel to prevent corrosion of the dissimilar metals.

Dimensions of the Adaptor Bushes and photographs of the various component parts are shown at the end of this article.

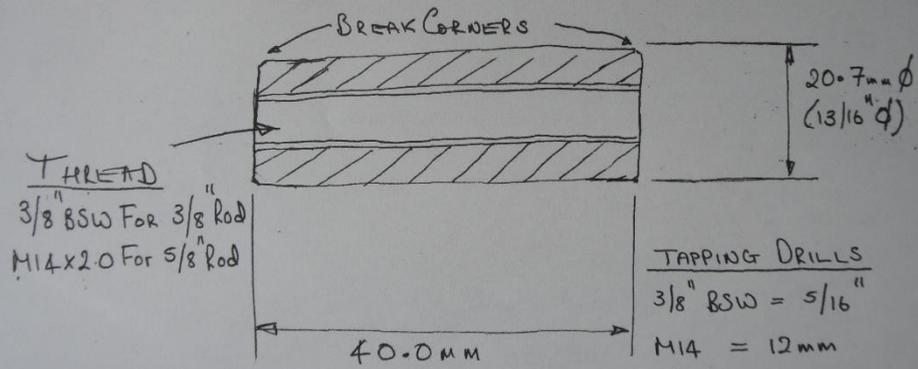
It was necessary to extend the threaded portions of the earth rods as supplied by Screwfix, to accommodate the bushes and to provide extra length for two lock nuts or a spare bush to be temporarily fitted to the rod ends to prevent damage to the threads when hammering the rods into the ground

A spare bush had a cross hole drilled through it to take a 10mm diameter "Tommy Bar" to be used as an earth rod insertion and extraction tool.

Once hammered into the ground, the two lock nuts or spare bush are removed from the earth rod and the EMP protector assembly fitted.

For removal of the earth rods from the ground, the two lock nuts or extraction tool are refitted to the rods which are then unscrewed from the ground in an upwards and clockwise direction.

EARTH STAKE ADAPTOR BUSH FOR EMP
PROTECTION CLAMP ASSEMBLY



MATERIAL: STAINLESS STEEL





