Appendix G

Nonsealed Electronic Equipment

Many electronic equipment found inside shelters and helicopters have cooling fans which draw cooling air over the interior electronics and circuit cards. Some field electronic equipment, when removed from storage cases, also has openings to allow outside air to circulate for cooling inside the equipment. All electric equipment which lack gasket-equipped covers or have openings for circulation of cooling air, into the interior, must be classified as nonsealed. Airborne contaminates will penetrate inside this equipment and necessitate disassembly for decontamination.

Disassembly

Many circuit cards and electronic parts are susceptible to electro-static discharge (ESD) damage from improper handling. Disassembly and handling of the internal parts of electronic equipment should only be performed by qualified operator or maintenance personnel.

Decontamination

Many decontamination materials, such as DS2, are corrosive to the metal parts and circuit components found in electronic equipment. When electronic parts are exposed to NBC contamination or to corrosive decontaminants, they must be cleaned with an approved cleaner to remove all traces. For cleaning instructions refer to technical manuals for the equipment. If they are not available or do not contain cleaning instructions, the following procedures may be used as an alternative.

Cleaning Procedures

In general, electronic assemblies can be cleaned using mild types of evaporative solvents, such as alcohol. Mild detergent and clean water may also by used provided that –(1) The assemblies are thoroughly rinsed with distilled (de-ionized) water after cleaning and (2) care is taken to avoid getting any cleaning solutions inside of adjustable components, switches, connectors and relays. After cleaning, assemblies should be visually examined and tested for contamination to ensure the success of the cleaning operation. All parts should be completely dry and free of all traces of water, detergent, or solvents prior to reassembly and operation.

Note: Extreme care must be taken with those assemblies that contain adjustable components, switches, relays, open coils and capacitors, card edge sockets, plug contacts, and connector sockets. These assemblies should not be immersed into detergent or water solutions. Solvent cleaners should not be allowed to penetrate inside switches or relays where they will dissolve lubricants. These type of components may require the use of special solvents or lubricant cleaners to prevent damage. Any gear assemblies or moving parts may require lubrication after the cleaning operation.