

SECTION V MAINTENANCE

5.1. INSPECTION.

5.1.1. GENERAL. - This radio equipment has been constructed of materials considered to be the best obtainable for the purpose, and has been carefully inspected and adjusted at the factory to reduce maintenance to a minimum. However, a certain amount of checking and servicing will be necessary to maintain efficient and dependable operation. The following section has been written to aid in checking the equipment.

5.1.2. ROUTINE INSPECTION. - Routine inspection schedules should be set up for periodic checks of this equipment. This inspection should include examination of the mechanical system for excessive wear or binding, and of the electrical system for electrical defects and deterioration of components.

If routine inspection of the equipment is carried out faithfully, the chances of improper operation of the equipment are greatly minimized. It is important, therefore, that this inspection be made as frequently as possible and should be sufficiently thorough to include all major electrical circuits of the equipment as well as the mechanical portion.

5.1.3. CLEANING. - The worst enemies of uninterrupted service in equipment of this type are dirt and corrosion. Dirt reduces efficiency and causes undue wear of rotating parts. Corrosion most seriously affects contacts such as those on tap switches, tubes, relays and cables. Salt laden air, dirt, and moisture tend to accelerate corrosion. The result may be equipment failure for no apparent reason.

Periodic dusting of accessible parts by means of a soft brush and a jet of dry, oil-free air removes foreign particles. Under certain conditions it is difficult or virtually impossible to prevent accumulation of moisture. Even so, frequent wiping of parts lessens danger of corrosion. If the atmosphere is corrosive, frequent inspection and wiping of parts is of especial importance.

5.1.4. VACUUM TUBES. - Check the emission characteristics of all tubes; then examine all tube prongs to make sure they are free from corrosion. Straighten bent pins with a tube pin straightener. See that all tubes are firmly seated in their proper sockets, and that a good electrical contact exists between tube prong and socket. Before discarding a tube, be sure that it is at fault and that the trouble is not due to a loose or broken connection within the equipment. Keep an extra set of tested tubes on hand at all times. If an equipment's faulty performance seems due to tube failure, check the tubes by replacing them with the extras. Inspection will usually locate defective tubes that are overloading power circuits. Excessive heating or sputtering within a vacuum tube indicates a fault in the tube circuit.

5.1.5. TUBE REPLACEMENT PRECAUTIONS.

(a) Remove tubes by pulling them straight up.

(b) Before inserting a tube, make certain that the pins are straight and that it is of the correct type for the socket into which it is to be placed.

5.1.6. TUBE TABLE

SYMBOL	TYPE	FUNCTION
V101	6AK5	RF amplifier
V102	6BE6	First mixer
V103	6BE6	Band 1 mixer
V104	6BA6	Calibration oscillator
V105	6AK5	Crystal h-f oscillator
V106	6BE6	Second mixer
V301	6BA6	First 500 kc i-f amplifier
V302	6BA6	Second 500 kc i-f amplifier