

AIRCRAFT ELECTRICAL SYSTEMS MAINTENANCE

1. SPECIALTY SUMMARY: Analyzes, troubleshoots, installs, inspects and modifies aircraft electrical and associated electronic components, sub-systems and test equipment; and supervises aircraft electrical systems maintenance activities; services, maintains, repairs and changes batteries on aerospace equipment and systems.

2. DUTIES AND RESPONSIBILITIES:

a. ANALYZES AND ADVISES ON TECHNICAL PROBLEMS IN THE OPERATION AND MAINTENANCE OF AIRCRAFT ELECTRICAL SYSTEMS AND ASSOCIATED ELECTRONIC COMPONENTS, SUBSYSTEMS AND TEST EQUIPMENT:

(1) Solves maintenance problems using layout drawings and wiring and schematic diagrams to analyze construction and operating characteristics of electrical and associated electronic systems, components and test equipment.

(2) Follows and determines proper maintenance procedures to repair and return systems and components to maximum efficiency consistent with design characteristics.

(3) Diagnoses recurring malfunctions and recommends corrective action.

(4) Services and maintains batteries by checking fluid level, terminals, cell condition, charge and ability of the battery to hold the charge.

(5) Repairs and cleans batteries, terminals and cables.

(6) Removes and replaces batteries on all types of aerospace equipment and systems.

(7) Requisitions, stores and maintains operational levels of supplies.

b. INSTALLS, TESTS, MODIFIES AND REPAIRS ELECTRICAL SYSTEM COMPONENTS AND TEST EQUIPMENT:

(1) Diagnoses malfunctions using test equipment such as generator test stands, oscilloscopes, measuring devices and system testers.

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(2) Performs repair on electrical and solid-state circuitry such as master caution controllers, supervisory panels, anti-skid control box and nose-wheel steering amplifiers, timing and sensing devices, transformer rectifiers, warning amplifiers, generators, motors, wiring and controlling devices.

c. INSPECTS AND EVALUATES AIRCRAFT ELECTRICAL SYSTEMS MAINTENANCE ACTIVITIES:

(1) Inspects aircraft electrical equipment, associated electronic components and test equipment to determine operational status using inspection requirement technical publications.

(2) Interprets findings and determines required corrective action.

(3) Checks installed and repaired components to ensure compliance with technical publications.

(4) Evaluates performance of assigned personnel.

(5) Reviews maintenance management publications to obtain information applicable to aircraft electrical systems and associated electronic components and activities.

(6) Prepares material deficiency reports.

d. SUPERVISES AIRCRAFT ELECTRICAL SYSTEMS MAINTENANCE PERSONNEL:

(1) Plans and schedules work assignments.

(2) Establishes work methods, production controls and performance standards.

(3) Ensures availability of required maintenance equipment, tools and spare parts.

(4) Assigns maintenance functions to subordinates and establishes priorities for work accomplishment.

(5) Orients newly assigned personnel and assigns individuals to unit positions.

(6) Rotates assignment of personnel on various systems and components to ensure opportunity for full qualification and utilization of personnel.

(7) Conducts and supervises on-the-job training programs and subordinates in maintenance techniques.

(8) Reviews training status to determine level of qualification of assigned personnel.

(9) Instructs battery shop maintenance personnel on duties and tasks, evaluates performance, counsels personnel and maintains liaison with other supervisors and sections.

3. SPECIALTY QUALIFICATIONS:

a. **KNOWLEDGE:** Knowledge of electrical, electronic and mechanical principles as applied to aircraft electrical systems and test equipment; concepts and application of series and supporting publications, and use and interpretation of wiring diagrams, blueprints, and technical publications is mandatory.

b. **EDUCATION:** A 12th grade education with courses in basic electronics and mathematics is desirable.

c. **EXPERIENCE:** Experience in performing functions such as the installation, repair or modification of aircraft electrical systems and components is mandatory prior to the award of the 5-level AFSC.

d. TRAINING:

(1) Completion of a basic aircraft electrical systems maintenance course is mandatory.

(a) Career development course.

(b) Religious course.

e. OTHER:

(1) Normal color vision is mandatory.

(3) **AFSCs 242XX are lateral inputs to this AFSC.**