



TRAIN CONTROL ELECTRONIC TECHNICIAN

FC: MA720
PG: MW-III
FLSA: Non-Exempt

PC: 301
BU: 01 (SEIU)
Created: April 1988
Revised: 2004

*Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are **not** intended to reflect all duties performed within the job.*

DEFINITION

Under general supervision, troubleshoots, maintains, performs primary maintenance, installs and modifies computerized, electronic and electro-mechanical yard and train control specialized and related devices and equipment; maintains records of work performed; and performs related duties as assigned.

CLASS CHARACTERISTICS

This is the journey level class performing skilled maintenance and repair of computerized, electronic and electro-mechanical yard and train control equipment and components such as switching machines, automatic train operations, multiplex, electrification, interlocking and tower console systems and equipment. Incumbents work independently according to accepted standard of the trade, supervisory direction and District procedures and practices. Incumbents at this level are expected to select appropriate tools, materials and approach to the work. This class is distinguished from other electronic technician classes in that the duties relate specifically to the maintenance and repair of specialized yard, train control, and related equipment.

REPORTS TO

This position reports to the Train Control Foreworker.

EXAMPLES OF DUTIES – *Duties may include, but are not limited to, the following:*

1. Repairs, removes and replaces power supplies, relays, motors, switches and related electrical components.
2. Adjusts, removes and replaces printed circuit boards, sensors, speed encoding devices and related electronic components.
3. Adjusts, repairs, removes and replaces mechanical mechanisms and parts such as gears, springs, clutches and rods.
4. Installs new assemblies, parts and components for equipment modifications; installs new wiring, pins, and connectors.
5. Troubleshoots, tests and diagnoses both hardware and software equipment problems using

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computerized diagnostics tools, oscilloscopes, voltage, amperage and ohm meters, pressure gauges, magnetic field testers, calipers, multi-meters, signal and tone generators, test cards and related devices.

6. May fabricate special test equipment and prototype train control equipment.
7. Performs preventive maintenance of equipment, including cleaning, lubricating, checking and adjusting all parts and components.
8. Reads work requests and discusses work to be performed with foreworkers, supervisors, work request initiators and engineers.
10. Reads and interprets manuals, drawings, procedures, specifications and schematic diagrams.
11. Determines whether equipment can be repaired in the field and removes and may send equipment to component repair shops.
12. Responds to computerized, telephone and in-person requests for yard and train control equipment maintenance.
13. Maintains records of work performed, time required, parts and materials used, component serial numbers and related data, using current District maintenance management software and other PC applications such as, excel, lotus notes, word, etc.
14. Confirms that simple, work orders and safe clearances have been provided where necessary, and uses appropriate safety apparel and devices.
15. Updates drawings to reflect field conditions.
16. Prepares brief reports of repeated maintenance problems.
17. Operates District vehicles to reach equipment to be serviced and may include specialized high-rail vehicles used on tracks; may operate cranes or other equipment as required for repair.

QUALIFICATIONS

Knowledge of:

Basic operating principles of analog and digital electronics, electrical and electronic circuitry and mechanical mechanisms.

Methods and procedures for the repair, installation and maintenance of computerized, electronic and electro-mechanical yard control and train control equipment.

Methods and procedures for testing and troubleshooting yard control and train control equipment. Use and care of hand and power electrical, electronic and mechanical testing and repair tools and equipment.

Current District PC applications such as excel, lotus notes, word, etc..

Mathematics used in train control maintenance including Boolean algebra.

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Safety practices and procedures pertaining to the work.

Skill in:

Assessing and troubleshooting both hardware and software problems in computerized electronic, electrical and mechanical yard and train control equipment down to the component level.

Installing, repairing and maintaining yard and train control equipment.

Using and maintaining hand and power tools and equipment used in the trade.

Reading and interpreting manuals, procedures, diagrams and schematics.

Keeping written records of work performed and parts and materials used.

Using current PC applications systems.

Communicating tactfully and effectively with those contacted in the course of the work.

Operating the District's radio and telephone communication systems in compliance with District Rules, Regulations and Procedures.

MINIMUM QUALIFICATIONS

Education:

Electronics from an accredited college, or a Certificate of Achievement in Electronics from an accredited college, or completion of military training in electronics, or completion of a formal apprenticeship as an electronic technician and possession of a high school diploma, GED, or recognized equivalent.

Experience:

One (1) year of (full-time equivalent) verifiable experience in maintaining, troubleshooting and repairing computerized, electronic and electro-mechanical equipment.

Other Requirements:

Must possess a valid California driver's license and have a satisfactory driving record.

Must possess adequate color vision to distinguish wiring, parts, and signals.

Must be physically able to lift to waist level and carry up to 60 pounds.

Must be physically able to climb, stoop, bend, kneel, and crawl to reach work.

Must be physically able to walk on uneven surfaces for long distances.

Must be physically able to work in confined spaces, underground and on aerial structures.

Must be willing to work in exposure to live voltage.

Must be able to wear respiratory protective equipment during the performance of assigned duties in accordance with the District Respirator Program and applicable Cal-OSHA requirements.

Must be able to understand, read and communicate in English.

Must be able to work various shifts, weekends, holidays, and overtime.

Substitution:

In addition to the experience listed above, four (4) years of (full-time equivalent) verifiable electronic maintenance experience (i.e. maintaining, troubleshooting and repairing electronic and/or electro-mechanical equipment) can be substituted for the education.

WORKING CONDITIONS

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Environmental Conditions:

Shop environment; exposure to live voltage, air contamination, heat, and cold; field environment; exposure to live voltage, electronic equipment, ancillary equipment and devices, uneven surfaces, confined spaces, underground, aerial structures, and inclement weather.

Physical Conditions:

Requires maintaining physical condition necessary for lifting and carrying; climbing, stooping, bending, kneeling, crawling, walking, standing or sitting for prolonged periods of time.