





***Job Analysis: Automated Control Specialist (STS) – Aviation Maintenance  
Port of Seattle – DOT #s 003.161-014 and 828.261-022***

The STS trains do not have drivers. The trains are controlled by complex electronic and computerized systems that are monitored and controlled remotely. Electronic sensors and network components located on the train cars and throughout the system provide speed, location, and other data used to operate and control the trains.

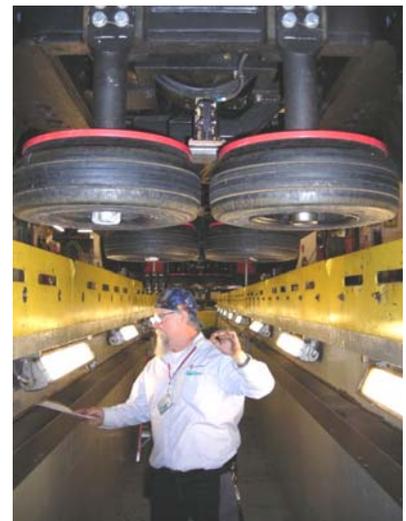
Automated Control Specialists supporting the STS are scheduled 4-5 days a week, 8-10 hours per day around the clock at Sea-Tac Airport. Workers are scheduled in three shifts (day, swing, and graveyard). It is possible that workers may have to work overtime and or be called in for unscheduled work to address critical situations.

The Automated Control Specialists generally work in a central workshop, however, there are times when the Specialists have to travel to various parts of the STS to retrieve or repair a disabled train car, install, repair, or adjust equipment, or perform inspections.



Tasks assigned to Automated Control Specialists

- Obtaining, reading and reviewing work orders, plans, and requests to understand assigned repair/maintenance projects.
- Requesting parts, supplies and or materials needed for projects. Assisting in maintaining logs and records regarding tools, equipment, and parts. Identifying and alerting Foreman or General Foreman when items are needed.
- Preparing and or reviewing site specific safety plan for each project. Review job plan. Ensure work is performed in a safe manner.
- Driving and or maneuvering train cars into repair shop area and positioning cars over repair “pit.”
- Conducting inspections and assessments of components and equipment for both preventative maintenance needs and required repairs. Troubleshooting component or system issues. Running diagnostic tests on electronic devices to test function/operation. Inspections/assessments may be done in the central workshops, or throughout the STS (for example, inspecting the sensors located throughout the STS, or inspecting the sensors and controllers used to open/close doors in the transit stations). Identify issues and the cause of the issues. Identify potential maintenance issues. Develop a plan of action to address issues.
- Repair, modify, adjust, or replace components or equipment as needed, consistent with written





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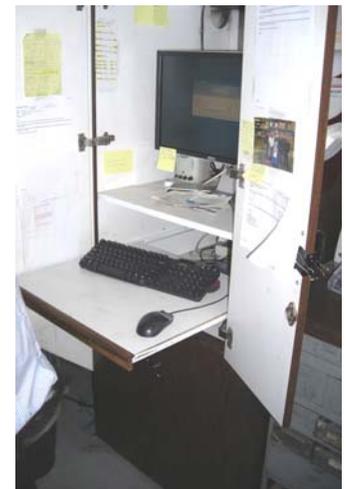
policies and guidelines. Tasks may include emergency maintenance (“EM”) issues, corrective maintenance (“CM”) concerns, or preventive maintenance (“PM”) projects.

- Respond to calls regarding disabled train cars and or requests for assistance.
- Repair and/or rebuild reusable equipment.
- Enter time by work order on a daily basis into job tracking system (Maximo).
- Enter description of work completed in a work log.
- Send and respond to electronic mails.
- Meet/connect with Foreman/supervisor on a daily basis.
- Attend periodic meetings during which training is provided and important safety issues are discussed.
- Complete all required forms and documents.
- Assist other crafts as requested.
- Perform other tasks as requested.



Necessary skills and abilities include the:

- Knowledge and skills necessary to install, maintain, and repair electronics systems in an efficient and safe manner. Having the knowledge of the hazards and safety precautions associated electronic, electrical, and electro-mechanical devices.
- Ability to identify and troubleshoot an issue quickly, identify the best method(s) to address the issue, and correctly complete the identified task.
- Ability to utilize critical thinking and judgment in defining, analyzing, and resolving problems.
- Skills to complete the assigned task(s), using all of the various types of tools and equipment, in a safe manner.
- Knowledge of computer networking basics. Knowledge of programmable logic controllers, including installation, testing, maintenance and repair.
- Ability to understand and follow oral and written instructions, and maintain attention to detail while working.
- Ability to read and interpret blue prints, schematics, drawings and detailed electronics systems technical specifications.
- Ability to take initiative and be responsible for getting work done with limited supervision in an expedient and timely manner.
- Excellent time management and prioritization skills, with the ability to multi-task.
- Ability to work in a professional manner. Automated Control Specialists





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may encounter Port tenants and the traveling public, and the workers need to represent the Port well while working.

- Ability to effectively communicate and express ideas both orally and in writing. Good interpersonal skills (including on a radio)
- Physical abilities to perform all of the assigned tasks.
- Ability to work independently, but also within a team environment. Automated Control Specialists need to be able to work closely with other crafts (such as Electricians, Operating Engineers and Auto Mechanics), and coordinate work among various types of crafts.
- Working knowledge of Windows-based computers, related accessories, time tracking software, keyboarding, data input skills, and electronic mail software.

**Machinery, Tools, Equipment, Personal Protective Equipment:**

- Windows-based desktop and laptop computers. Various computer software, such as Microsoft Office, project management software (Maximo), and software specific to programming, testing and maintaining electronic control equipment.
- Hand tools, including screwdrivers, wrenches, pliers, wire cutters, tape measures, utility knives, and hammers/mallets.
- Power tools, including drills, saws, and drill presses.
- Electronic instruments, assemblies, and components, and computer and network-related components.
- Electronic testing tools, meters, and instruments.
- Extension cords. Work lights. Flashlights.
- Tool boxes, buckets, or bags.
- Spools of wire.
- Soldering equipment. Clamps. Vises.
- 2-way radios.
- Ladders: step, freestanding, and extension. Man lifts/scissor lifts.
- Hand trucks.
- General office equipment, such as workstation/workbench, chair, stool, multi-line phones, copy and fax machines.
- General office supplies, including pens, pencils, folders, paper, stapler, scissors, paper clips, etc.



Workers are required to wear approved safety shoes/boots at all times. If working in a construction zone, workers are required to wear a hardhat and eye protection. Ear protection is also used when necessary. Automated Control Specialists may also wear gloves or kneepads.



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Education / Training:

Automated Control Specialists assigned to the STS are represented by the IBEW – Local 46. The Aviation Maintenance group seeks Specialists that are graduates of an approved electronic technician school, with at least 5 years of progressive experience in the field of system-based electronics and controls. New hires are generally assigned to shadow more experienced workers.

Preferred training includes manufacturers' system training certifications, and previous electronics maintenance experience in an airport or similar environment.



Additional training includes, but is not limited to AOA training (which allows workers to drive on the airfield), Asbestos Awareness, forklift, power truck, and pallet jack certifications. A valid Washington State Driver's License is required in this position, as is the ability to pass a required FAA background check.

All Port of Seattle employees must have training and or enough hands-on experience with computers to have a working knowledge of Windows-based computers, related accessories, time-tracking software, keyboarding, data entry, and electronic mail software.

**Per the Dictionary of Occupational Titles (DOT):**

**003.161-014 Electronics Technician** Specific Vocational Preparation: 7 (From two to four years)

**828.261-022 Electronics Mechanic** SVP: 7 (From two to four years)



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**COGNITIVE AND BEHAVIORAL ELEMENTS/DEMANDS**

Frequency Definitions:	
<b>Continuously</b> = Occurs 66-100% of the time.	<b>Occasionally</b> = Occurs 1-33% of the time
<b>Frequently</b> = Occurs 33-66% of the time.	<b>Rarely</b> = May occur less than 1% of the time.
<b>Never</b> = Does not ever occur.	
<b>Comprehension</b>	
Articulating and comprehending information in conversations.	Continuously
Reading, comprehending, and using written materials.	Frequently
Understanding and solving problems involving math and using the results.	Occasionally
Using technology/instruments/tools & information systems.	Continuously
Working with two and three dimensional formats.	Frequently
<b>Remembering</b>	
Remembering spoken instructions.	Continuously
Remembering written instructions.	Frequently
Remembering visual information.	Continuously
Recalling information incidental to task at hand.	Continuously
Memorizing facts or sequences.	Frequently
Remembering simple instructions.	Continuously
Remembering detailed instructions.	Continuously
<b>Learning &amp; Processing</b>	
Effectively learning and mastering information from classroom training.	Occasionally
Effectively learning and mastering information from on-the-job training.	Continuously
Learning from past directions, observations, and/or mistakes.	Continuously
Using common sense in routine decision making.	Continuously
Recognizing and anticipating potential hazards and taking precautions.	Continuously
Thinking critically and making sound decisions.	Continuously
Integrating ideas and data for complex decisions.	Continuously
Determining and following precise sequences.	Frequently
Coordinating and compiling data and information.	Frequently
Analyzing, synthesizing data and information.	Frequently
<b>Tasking and Planning</b>	
Performing repetitive or short-cycle work.	Continuously
Working under specific instructions.	Continuously
Completing complex tasks.	Frequently
Directing, controlling, or planning for others as necessary for basic tasks.	Occasionally
Directing, controlling, or planning for others as necessary for complex tasks.	Occasionally
Multi-tasking.	Frequently
Planning, prioritizing, and structuring daily activities.	Continuously



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<b>Use Appropriate Behavior for Professional Work Environment</b>	
Receiving criticism and accepting limits appropriately.	Frequently
Maintaining emotional control and organization under increased stress.	Continuously
Maintaining socially appropriate affect, temperament, and behavior.	Continuously
Monitoring own quality of performance and altering behaviors to correct mistakes or improve outcome.	Continuously
Working independently and/or unsupervised.	Continuously
Adapting to frequent interruptions, changes in priorities, or changes in work location.	Frequently
Responding effectively to emergency situations.	Occasionally

Frequency Designations: <b>Required Beneficial Not Necessary</b>	
<b>Maintaining Attendance and An Assigned Work Schedule</b>	
Maintaining predictable and reliable attendance each work shift.	Required
Being punctual.	Required
Taking rest periods at set times or only at times determined by breaks in job responsibilities.	Beneficial
Adjusting to a flexible schedule of work days and or shifts.	Beneficial



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**PHYSICAL DEMANDS**

**N/A:** Not Applicable

**S:** Seldom (1-10% of the time)

**O:** Occasional (10-30% of the time)

**STRENGTH:**  Sedentary  Light

**F:** Frequent (30%-70% of the time)

**C:** Constant (Over 70% of the time)

**WNL:** Within Normal Limits (talking, hearing, etc.)

Medium  Heavy  Very Heavy

Frequency

Comments

Sitting	<b>O-F</b>	Frequency depends on assigned tasks. While working at a workbench/workstation, working on a computer, repairing equipment, programming equipment, testing equipment, sitting on a low rolling stool or floor while working on train car, driving scooter/vehicle, and attending meetings.
Standing	<b>F</b>	Interchange with Walking. Frequency depends on assigned tasks. While viewing/inspecting/accessing/installing/ repairing/replacing equipment. Talking with co-workers, supervisors, and others. May be standing on a ladder.
Walking	<b>F</b>	Interchange with Standing. Frequency depends on assigned tasks. While in shop areas, moving between shops (there are 2: north and south), traveling to equipment locations, walking between a vehicle and work areas, and inspecting/installing/ repairing/replacing equipment. Walking may be over concrete, asphalt, tile, or over potentially slippery surfaces.
Lifting (up to 10 pounds)	<b>F</b>	Lifting parts, system components and accessories, supplies, hand and power tools; rolls/spools of wire (500' reel of wire is approx. 5-10 pounds), 2-way radio, laptop computer, paperwork, step ladder, drawings/blueprints, tools, up to 2 reams of copy paper, binders, schematic drawings, and manuals.
Lifting (10 to 20 pounds)	<b>O</b>	Lifting parts, system components and accessories, laptop bag with laptop, boxes of equipment and accessories, power tools, electronic testing equipment, small bag/box/bucket holding selected tools (15-20 pounds), and ladders.
Lifting (20 to 40 pounds)	<b>S</b>	Lifting equipment components and assemblies, boxes of electronic equipment and accessories, larger bag/box/bucket of tools (up to 40 lbs.), larger electronic testing equipment (largest portable units weigh approx. 35 pounds), rolls/spools of wire (2,500' reel of wire is approx. 35 pounds). Note: In the train shop, lifts, hoists, and other devices are available to limit the amount of lifting that is necessary.
Carrying (up to 10 pounds)	<b>F</b>	Carrying parts, system components and accessories, supplies, hand and power tools; rolls/spools of wire (500' reel of wire is approx. 5-10 pounds), 2-way radio, laptop computer, paperwork, step ladder, drawings/blueprints, tools, up to 2 reams of copy paper, binders, schematic drawings, and manuals.
Carrying (10 to 20 pounds)	<b>O</b>	Carrying parts, system components and accessories, laptop bag with laptop, boxes of equipment and accessories, power tools, electronic testing equipment, small bag/box/bucket holding selected tools (15-20 pounds), and ladders.



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Carrying (20 to 40 pounds)	<b>S</b>	Carrying equipment components and assemblies, boxes of electronic equipment and accessories, larger bag/box/bucket of tools (up to 40 pounds), larger electronic testing equipment (largest portable units weigh approx. 35 pounds), rolls/spools of wire (2,500' reel of wire is approx. 35 pounds). Note: In the train shop, wheeled carts, lifts, hoists, and other devices are available to limit the amount of carrying that is necessary. As possible, workers can to drive vehicles as close as possible to a work area to limit the amount of carrying.
Pushing/Pulling (Estimated force up to 15 lbs.)	<b>O</b>	While removing or replacing system components using hand and power tools, pulling wire, opening and closing component covers, maneuvering wheeled carts, opening doors, opening/closing file drawers, obtaining/replacing binders/ files/parts/components from shelves or drawers.
Pushing/Pulling (Estimated force 15 to 40 lbs.)	<b>S</b>	Potentially while removing or replacing system components, exerting force on a tool, or opening a train car door without power.
Climbing Stairs/Ladders	<b>O</b>	Frequency depends on assigned tasks. Stairs are used to reach the "pits" under the train cars in the train shops. Stairs are used to move between the north and south shops. Stairs are used to gain access to the supplies/parts storage lofts. Workers may encounter stairs in the terminal. Specialists climb ladders as necessary to reach work areas (ladders are generally freestanding, ranging from stepstools to 10' ladders). Specialists may also climb and work from a freestanding work platform/scaffolding.
Working at Heights/Balancing	<b>O</b>	While using ladders, work platforms/scaffolding, or working near the edge of the "pits" used to work underneath the train cars.
Bending at Waist	<b>F</b>	While accessing, inspecting, or repairing items at or below waist level, reaching for items at workbench/workstation, gathering tools, equipment, supplies, and manuals below waist level, programming and testing equipment while standing, and entering/exiting vehicles.
Bending Neck	<b>C</b>	In a majority of the tasks accomplished by Automated Control Specialists, the ability to move one's neck would be considered important.
Twisting at Waist	<b>S-O</b>	While maneuvering/reaching to gain access to equipment or components to install or replace, obtaining/moving items while seated at workbench/workstation, conducting inspections, and entering/exiting vehicles.
Crouching/Kneeling	<b>S</b>	When working on equipment or components below waist level, viewing/inspecting/accessing items at or below waist level, and gathering parts, equipment, and supplies stored below waist level.
Crawling	<b>S</b>	Rare. May be necessary when working on equipment or items below waist level.
Stooping	<b>S</b>	While inspecting/accessing/removing/replacing parts in hard to access areas, and gathering parts/supplies in the storage lofts.
Reaching (To shoulder level)	<b>F</b>	Inspecting/installing/repairing/replacing components and equipment. Pulling wire. Testing and repairing equipment at workstation/work bench. Gathering parts, equipment, and supplies stored from floor to shoulder level. Obtaining documents/manuals from file cabinets or shelves. Picking up telephone receiver or radio.



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Reaching (Over the shoulder)	<b>O</b>	Inspecting/installing/repairing/replacing components and equipment over shoulder level. Gathering parts and supplies stored above shoulder level. Note: Workers try to position themselves where the work is primarily performed between shoulder and waist heights.
Repetitive Motion	<b>N/A</b>	The variety of tasks assigned to the Automated Control Specialists minimizes repetitive motion.
Handling/Grasping	<b>F</b>	60 % Pinch Grasp 40 % Whole Hand Grasp
Fine Finger Manipulation	<b>F</b>	Installing/connecting/removing/repairing/replacing electronic equipment and components. Using electronic testing equipment and fixtures, soldering equipment, and hand tools. Operating triggers on power tools and using controls on shop tools. Writing. Processing paperwork. Using keys, 2-way radio, and phone.
Keyboarding	<b>S-O</b>	While programming controllers, networks, and other equipment. Performing tests. Entering time and work performed on a daily basis. Creating and responding to electronic mail.
Writing	<b>S</b>	Taking notes in meetings and while on phone/radio, writing on blueprints or other technical drawings, and documenting completed work tasks.
Driving	<b>S</b>	While driving electric cart/scooter, or other vehicle to and from work areas. Potentially driving/maneuvering train cars into repair shop area and positioning cars over repair “pit.”
Foot Controls	<b>S</b>	While driving.
Talking	<b>F</b>	Communicating with supervisors, co-workers, and potentially the public.
Hearing	<b>C</b>	Communicating with supervisors, co-workers, and potentially the public. Listening for radio traffic, hazards, and STS sounds.
Seeing	<b>C</b>	Visual abilities would be considered important in this position.
Normal Job Site Hazards	<b>C</b>	Working around electricity (risk of electrocution from train power), working near moving machinery and vehicles, working at heights (ladders and near open “pits” in train shops), falling objects, striking head on overhead objects, pinch hazards, sharp tools, slippery walking surfaces, sharp tools, fumes, dust, noise, odors, and vibrations.
Expected Environmental Conditions	<b>C</b>	A majority of the work completed by Automated Control Specialists is performed inside buildings. This work may be at a shop workbench/workstation, or in a shop environment. Specialists may also work in the tunnels between the airport terminals. Worker may be exposed to noisy environments, dust, fumes, and odors. Workers may be exposed to temperature changes, as generally work areas are not temperature controlled.



Bock Consulting

Claimant:  
Claim #:  
9/6/11; 12/28/16; 1/25/19  
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The above job analysis represents the requirements of a specific job based on personal observations, discussions with employer representatives, and/or workers. On occasion, practicality and feasibility prevent the direct observation and/or gathering of objective quantifiable data. For this reason, a "best estimate" may have been used when reporting physical demand frequencies.

Analysis was done on the job site?       Yes       No

Job Analysis Reviewed By:      Allen Tygesen

Completed by Vocational Provider      Brice York, B.A., CDMS

Date      January 25, 2019

Signature of Vocational Provider



Bock Consulting

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**FOR PHYSICIAN'S/EVALUATOR'S USE ONLY**

- The injured worker can perform the physical activities described in the job analysis and can return to work on \_\_\_\_\_
- The injured worker can perform the physical activities described in the job analysis on a part-time basis for \_\_\_\_\_ hours per day. The worker can be expected to progress to regular duties in \_\_\_\_\_ weeks/months.
- The injured worker can perform the described job, but only with the modifications/ restrictions in the attached report and/or listed below. These modifications/restrictions are (check one):
  - Temporary for \_\_\_\_\_ weeks \_\_\_\_\_ months
  - Permanent
- The injured worker cannot perform the physical activities described in the job analysis based on the physical limitations in the attached report and/or listed below. These limitations are (check one):
  - Temporary for \_\_\_\_\_ weeks \_\_\_\_\_ months
  - Permanent

COMMENTS:

Date \_\_\_\_\_ Physician's/Evaluator's Signature \_\_\_\_\_

Physician's/Evaluator's Name Printed \_\_\_\_\_

**PLEASE RETURN COMPLETED FORM VIA FACSIMILE TO:**

**Port of Seattle Employee Health & Safety Department at (206) 787-3406**