



Bock Consulting

Job Analysis

Job Title	Automotive Machinist – Aviation Maintenance	Worker	
DOT Number	620.261-010	Claim Number	
Employer	Port of Seattle	Employer Phone #	(206) 787-6884
Employer Contact	Benny Austin	Date of Analysis	October 6, 2011

Job of Injury Previous Job New Job 10 Hours Per Day 4 Days Per Week¹

Job Description, Essential Functions, Tasks and Skills:



The Port of Seattle is a municipal corporation created on September 5, 1911 by the voters of King County. The Port of Seattle is divided into operating divisions, plus other departments that support the divisions and the broad mission of the Port: 1) Aviation Division, 2) Capital Development Division, 3) Real Estate Division, and 4)

Seaport Division. The Aviation Division operates Seattle-Tacoma International Airport. Sea-Tac is the 17th busiest passenger airport in the United States, serving more than 31.5 million passengers in 2010.

This job analysis was developed for an Automotive Machinist working for Aviation Maintenance.

Essential Functions

Aviation Maintenance Automotive Machinists maintain more than 850 vehicles and pieces of equipment used to maintain the Aviation Division's assets. Tasks may include routine/preventative maintenance and repairs, performing critical repairs when a vehicle or piece of equipment needs immediate repair, installing accessories on vehicles or equipment, and component fabrication. Items repaired may range from passenger buses and heavy construction equipment, to police vehicles and lawn mowers.

Repair tasks may be performed in the shop or in the field.

Tasks Assigned to the Automotive Machinist May Include:

- Performing preventative maintenance tasks on Aviation Maintenance vehicles and other equipment.
 - Replacing brake pads and windshield wipers on Aviation Maintenance vehicles.



¹ Hours may increase to 12 hour shifts seven days a week during snow emergencies.



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- Replacing and adjusting headlights.
- Replacing hydraulic hoses on heavy equipment.
- Ensuring all safety equipment on vehicles is inspected as outlined by Port and Aviation Maintenance policies.
- Maintaining vehicle oil and fuel systems.
- Performing annual maintenance tasks on Aviation Maintenance vehicles and other equipment.
- Preparing snow removal equipment for potential snow conditions/events.
- Discussing the nature of equipment malfunctions and failure with other Aviation Maintenance personnel.
- Examining items to be repaired.
- Troubleshooting issues, and pinpointing issues to repair.
- Referring to technical manuals, charts, and or written or on-line documentation related to the specific equipment being repaired.
- Repairing automobiles, trucks, tractors, passenger buses, forklifts, road-licensed vehicles, non road-licensed vehicles, and other types of equipment (lawn mowers, backhoes, front-end loaders, tractor trailers, and snow removal equipment). Vehicles may be powered by compressed natural gas, gasoline, propane, diesel, or electricity. Maintenance and repairs may include:
 - Raising vehicle using hydraulic jack or hoist to gain access to items to be repaired.
 - Removing parts in need of repair or replacement, using hand or pneumatic tools.
 - Disassembling parts/units to inspect for wear.
 - Rebuilding parts/units as applicable.
 - Replacing parts/units as applicable.
- Responding to critical issues, such as flat tires and failed hydraulic hoses to repair (likely in the field) to ensure work can be completed on time.
- Providing feedback to equipment users regarding the nature and extent of

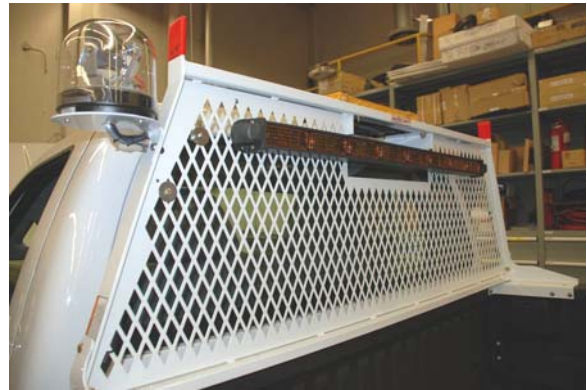




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malfunction/damage repaired.

- Installing accessories on vehicles and equipment, including installing remote control spot lights, headache racks, radios, push bars, flashing lights, and extra mirrors on Aviation Division vehicles.
- Performing fabrication and welding duties to retrofit, install, or repair various components.
- Entering time in computer system to track work hours by assigned task/project.
- Perform other tasks as requested.



Worker's Skills and Traits

- Knowledge of the common and accepted processes, methods, and tools used to perform preventative maintenance tasks and perform mechanical repairs.
- Have the skills to identify the best way to accomplish a task, and complete the assigned task(s) in a timely and efficient manner.
- Ability to work as part of a team, and independently perform assigned tasks without direct immediate supervision.
- Have good communication and personal interaction skills and abilities.
- Have the physical abilities to accomplish all of the assigned tasks. A full range of motion is generally needed to complete all of the tasks assigned to an Automotive Machinist. From time to time, it may be necessary to work in awkward positions to perform various tasks.
- Ability to follow directions closely and be detail oriented while working.
- Ability to safely operate a motor vehicle.
- Ability to work in a safe manner.
- Good eyesight, hand-eye coordination, and manual dexterity.
- Working knowledge of Windows-based computers, related accessories, time tracking software, keyboarding, data input skills, and electronic mail software.





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Machinery, Tools, Equipment, Personal Protective Equipment

- Hand tools, including socket sets, wrenches, torque wrench, hex/Allen wrenches, screw drivers, torx bits, pliers, cutters, Channel Locks, vise grip pliers, files, hammers, punches, chisels, and pry bars. Brake service tools, including brake spring pliers, and hold down tool.
- Pneumatic tools, including air ratchets, and air impact wrenches.
- Electrical tools, including multi meter, 12-volt circuit tester, remote starter switch, and insulation piercing test probes.
- Testing equipment, such as cylinder leakage tester, compression gauge, and radiator pressure tester.
- Various automotive and mechanical parts such as mufflers, brake drums, batteries, and tires.
- Other small tools, such as flash light, knife, inspection mirror, spark plug gauge, micrometer, and tape measure.
- Vehicle lifts.
- Wheel balancing machine.
- Rolling/wheeled carts. Creeper.
- Toolboxes.
- Cutting torch. Welding torch and equipment.
- Sand blaster. Parts washer.
- Two-way radios.
- Work trucks, automobiles, and scooters.
- Portable jacks. Hand lifts. Forklifts.
- Maintenance manuals and reference guides (hard copy and electronic).
- Shop workbenches. Shelving units. Cabinets.
- Computer, computer accessories, and project management software (Maximo). General office equipment, such as fax machine and telephones. General office supplies, such as pens/pencils, notepads, binders, and copy paper.
- Personal protective equipment: Safety vests. Safety glasses/protective eyewear. Hearing protection. Face shield. Gloves.





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Education / Training

The Automotive Machinists are members of the International Union of Auto Machinists Local #289.

Automotive Machinists are generally Journeyman level workers that have successfully completed an apprenticeship program offered through the Auto Machinists union. The purpose of the apprenticeship program is to develop a qualified, versatile and safe work force, and the training during the apprenticeship includes both classroom training and on the job experience. To qualify for an apprenticeship, the worker must be a high school graduate (or equivalent).



Some assigned tasks may require a CDL-A Driver's License.

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): 620.261-010 Vehicle Equipment
Mechanic**

Specific Vocational Preparation (SVP): 7 (Two to four years)



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COGNITIVE AND BEHAVIORAL ELEMENTS/DEMANDS

The psychological and cognitive demands of this position vary depending on assignments and duties.

Frequency Definitions:		
Continuously = Occurs 66-100% of the time.	Occasionally = Occurs 1-33% of the time	
Frequently = Occurs 33-66% of the time.	Rarely = May occur less than 1% of the time.	
Never = Does not ever occur.		
Comprehension		
Articulating and comprehending information in conversations.		Frequently
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.		Occasionally
Remembering		
Remembering spoken instructions.		Continuously
Remembering written instructions.		Continuously
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
Learning & Processing		
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.		Occasionally
Integrating ideas and data for complex decisions.		Occasionally
Determining and following precise sequences.		Frequently
Coordinating and compiling data and information.		Occasionally
Analyzing, synthesizing data and information.		Occasionally
Tasking and Planning		
Performing repetitive or short-cycle work.		Continuously
Working under specific instructions.		Continuously
Completing complex tasks.		Occasionally
Directing, controlling, or planning for others as necessary for basic tasks.		Rarely
Directing, controlling, or planning for others as necessary for complex tasks.		Rarely
Multi-tasking.		Frequently
Planning, prioritizing, and structuring daily activities.		Occasionally



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Use Appropriate Behavior for Professional Work Environment	
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: Required Beneficial Not Necessary	
Maintaining Attendance and An Assigned Work Schedule	
Maintaining predictable and reliable attendance each work shift.	Beneficial
Being punctual.	Beneficial
Taking rest periods at set times or only at times determined by breaks in job responsibilities.	Not Necessary
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)
F: Frequent (30%-70% of the time)
C: Constant (Over 70% of the time)
WNL: Within Normal Limits (talking, hearing, etc.)
STRENGTH: Sedentary Light Medium Heavy Very Heavy

	Frequency	Comments
Sitting	S-O	Interchange with walking and standing. While participating in meetings, sitting in vehicle or on ground while working, sitting on stool at workbench, driving to field work sites, and operating forklift.
Standing	F	Interchange with sitting and walking. Picking up parts and supplies from shop inventory, working on vehicles or larger pieces of equipment, performing welding duties, talking with co-workers, or standing at workbench. Standing may be on concrete, asphalt, dirt, gravel, even and uneven surfaces, or wet or oily surfaces.
Walking	F	Interchange with sitting and standing. Picking up parts and supplies from shop inventory, walking within shop, walking to equipment in field, and walking to meetings or to talk with co-workers. Walking may be over concrete, asphalt, dirt, gravel, even or uneven surfaces, or wet or oily surfaces.
Lifting (up to 10 pounds)	F	While lifting parts, supplies, smaller tools and equipment.
Lifting (10 to 40 pounds)	O	While lifting medium sized parts (passenger vehicle alternators weigh 10 to 25 lbs, brake pads for buses weigh 30 lbs.), cases of supplies, system components, smaller batteries, wheels, and tires (separately).
Lifting (40 to 70 pounds)	S	While lifting large parts (i.e., brake drums for large equipment–70 lbs.), vehicle batteries (50-60 lbs), and wheels with mounted tires. Note: There is equipment, including an overhead hoist and forklift, located in the shop that can be used to lift heavier items. In addition, assistance from co-workers is generally available when lifting heavier items.
Lifting (70 to 100 pounds)	Rare	While lifting large parts, larger batteries, and larger wheels with mounted tires. Note: There is equipment, including an overhead hoist and forklift, located in the shop that can be used to lift heavier items. In addition, assistance from co-workers is generally available when lifting heavier items.
Carrying (up to 10 pounds)	F	While carrying parts, supplies, smaller tools and equipment.
Carrying (10 to 40 pounds)	O	While carrying medium sized parts, cases of supplies, system components, smaller batteries, and wheels.
Carrying (40 to 70 pounds)	S	While carrying large parts (i.e., brake drums for large equipment–70 lbs.), and vehicle batteries (50-60 lbs) short distances. Note: There is equipment, including an overhead hoist and forklift, located in the shop that can be used to move heavier items. Wheeled carts are also available to use to transport heavier items in and around shop, and potentially in the field. Assistance from co-workers is generally also available when moving heavier items.



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Bending at Waist	F	While entering/exiting vehicles, performing assigned tasks on vehicles, working at a workbench/worktable, and obtaining or replacing items/supplies located below waist level.
Bending Neck	C	While performing a majority of the tasks assigned to an Aviation Maintenance Automotive Machinist.
Pushing/Pulling (Up to 20 pounds)	F	While opening/closing doors, using tools, welding equipment, loosening a bolt, pulling parts from or placing parts into tight locations located on vehicles and equipment, gathering supplies and parts from shelves, removing wheels and rolling tires and or tires and wheels, and when operating hoist, hand lifts, and portable jacks.
Pushing/Pulling (20 to 60 pounds)	S	There are circumstances where extra force may be needed to loosen a bolt to remove a part/component. For example, when a wheel is rusted onto a hub or a starter is rusted into place.
Climbing Stairs/Ladders	S	Workers may encounter stairs in the shop facilities, and potentially while working in the field. Ladders may be used for some tasks. Short ladders or stairs attached to a vehicle may be used to reach the cab or the top of a vehicle.
Crouching/Kneeling	O	Depending on work assigned. Working below knee level; gathering items stored at or below knee levels. Workers may wear knee pads while working.
Twisting at Waist	S	Depending on work assigned. Twisting can be limited if the worker moves feet while working.
Reaching (Floor to Shoulder)	F	While driving vehicles, using tools and equipment, removing, repairing, and replacing parts and components of vehicles and equipment, operating controls, knobs, and switches on vehicles and machines, and obtaining/storing supplies.
Reaching (Over the Shoulder)	S-O	Depending on tasks assigned. Vehicles may be lifted on a hoist overhead to access parts/components for repair, or an Automotive Machinist may lie on a creeper or on the floor under a vehicle to repair or replace parts overhead.
Repetitive Motion	N/A	The variety and sequencing of tasks assigned to a Machinist eliminates repetitive motion.
Handling/Grasping	F	50 % Pinch Grasp 50 % Whole Hand Grasp
Fine Finger Manipulation	F	While using keys to start vehicles and equipment, tools, equipment controls, knobs, and switches, repairing and or replacing parts, hand tightening nuts and other fasteners, leafing through printed manuals, using computer mouse, dialing phone, using 2-way radio, and picking up smaller items and parts.
Keyboarding	S	Entering time in time tracking system, looking up data on on-line reference guides, and receiving/sending emails.
Driving	S-O	While moving vehicles, driving to job sites and test driving vehicles and equipment.
Operating Foot Controls	S-O	While moving vehicles, driving to job sites and test driving vehicles and equipment. Operating sand blaster with foot controls.
Talking	F	Communicating with co-workers, supervisors, and potentially the public.



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Hearing	C	Communicating with co-workers, supervisors, and potentially the public. Listening to sounds of various engines and equipments. Listening for hazards and radio traffic.
Seeing	C	Visual abilities would be considered important in this position.
Writing	S	Writing notes or parts numbers.
Normal Job Site Hazards	C	Workers may be exposed to fumes, dust, loud noise, moving machinery, moving vehicles, hot metal parts (burn hazard), chemicals, solvents, petroleum products, and slippery surfaces. Specifically when working out of the shop, workers may be exposed to traffic.
Expected Environmental Conditions	C	Workers may work in a shop environment, but may also work in the field, which would expose them to outside weather conditions.

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: Benny Austin

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

Date October 6, 2011 Signature of Vocational Provider



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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