Job Class Profile: Machinist

Pay Level:	CG-29	Point Band:	622-675

						Accountability		Development	Environmental	
		Interpersonal				& Decision		and	Working	Total
Factor	Knowledge	Skills	Physical Effort	Concentration	Complexity	Making	Impact	Leadership	Conditions	Points
Rating	5	2	5	6	3	3	3	2	5	
Points	233	33	32	29	90	65	62	43	54	641

JOB SUMMARY

The Machinist performs skilled journeyperson level work associated with the fabrication of a variety of metal components for machinery and equipment and advanced work in a variety of other trades associated with the repair of vehicles and related equipment carried out in a transportation garage.

Key and Periodic Activities

- Designs and fabricates specialized tools; shapes and sizes metal items using lathes, shapers, power saws, milling machines, drill presses and other metal-working power equipment; uses taps, dies, files and other similar hand tools; gauges work using micrometers, dial gauges, vernier calipers and other precision measuring instruments.
- Develops and implements quality control standards, adheres to manufacturer's specifications, interprets codes and regulations; performs tests and inspections, verifies materials, matches material to blueprints, checks measurements and verifies reports.
- Rebuilds electric and mechanical clothes, pumps, central valves, rams, hydraulic and mechanical jacks, transmissions and power take-offs.
- Performs precision measurements using a variety of measurement tools for mechanical and hydraulic components; compares against manufacturer's specifications to determine suitability for reuse in component rebuilding; performs machine shop operations to reestablish manufacturer's specifications and tolerances.
- Handles and uses a variety of hazardous products including compressed gas, combustible and flammable and oxidizing materials, poisonous/infectious/corrosive and dangerously reactive materials.
- Performs some engine rebuild duties, including cylinder reboring and resizing connecting rods; grinds crankshafts; regrinds flywheels and clutch pressure plates; turns and grinds semi-finished pistons.
- Machines bushings, turns steel, bronze and other shaftings to close tolerances and cuts keys in shaftings.
- Turns brake calipers and rotors and rebuilds pistons.
- Performs a variety of welding and braising functions on light and heavy equipment.
- Liaises with dealerships and industry specialists regarding technological changes and service requirements; liaises with equipment operators and outside departmental personnel.

Key and Periodic Activities

- Demonstrates and assists other trades persons in the development of skills and knowledge.

SKILL

Knowledge

General and Specific Knowledge:

- Knowledge of the appropriate legislation and regulations.
- Knowledge of Safe Work Procedures.
- Knowledge of new developments in technology.

Formal Education and/or Certification(s):

— Minimum: Journeyperson (Machinist); supplemented by courses in automotive body repair, automotive mechanics, welding and tool and die maker trades.

Years of Experience:

— Minimum: 3 to 4 years apprenticeship training, as well as some experience in various other trades associated with repairs of vehicles and equipment.

Competencies:

- Ability to keep ahead of technological trends and developments.
- Ability to develop new solutions and techniques to solve problems related to new and/or different equipment and machinery.
- Ability to perform precision measurements using a variety of measurement tools.
- Diagnostic and problem solving skills.
- Ability to fabricate, repair, modify, rebuild, recondition hydraulic, mechanical and electrical components.
- Ability to work independently.

Interpersonal Skills

- A range of interpersonal/communication skills are used to listen and ask questions to obtain information to diagnose problems with equipment and machinery and determine requirements for either fabricating metal components, rebuild parts, modify and redesign equipment attachments, provide advice to other trades persons and work in a team environment to gain the cooperation of co-workers in order to complete work, solve problems and make decisions.
- The most significant contacts are with: the immediate supervisor to discuss requirements of equipment and machinery repairs; co-workers to discuss procedures, share information and discuss quality control standards, specifications, codes and regulations; and from time to time with manufacturer, machine shop, dealership and industry specialists/representatives to discuss technological changes, service requirements, measurements and to assist with solving issues/problems.

EFFORT

Physical Effort
 The demands of the job occasionally result in considerable fatigue, requiring periods of rest. Work tasks and activities are performed by crawling under equipment and machinery to take measurements for fabrication of parts; bending, stretching and twisting while working in confined spaces; standing or kneeling on cement floors; and lifting and/or moving objects such as cylinders, bushings, pins, etc. Occasionally required to lift or move objects ranging from 25 to 50 lbs. (i.e. parts, materials and tools). Employees in this class perform the majority of work while standing to operate various types of machinery in the manufacturing of parts. Manual or physical activities include using hand tools that require accurate control and steadiness, using gross motor skills, using machinery or equipment that requires very controlled movement, and using equipment that requires rapid physical movement and reflexes. Fine
Concentration
 Work requires visual and authory concentration, eyenand coordination and alertness for the health and safety of others when fabricating metal components for machinery and equipment. Alertness and concentration are required when performing repetitive tasks such as using a drill press for fabricating brackets for use on heavy equipment; using other tools, welding and cutting processes, and other repairs. Work is impacted by time pressures and deadlines particularly during seasonal operations when equipment has to be repaired as quickly as possible to ensure public safety (i.e. winter snow clearing operations). Exact results and precision are required when performing the majority of duties as precise measurements must be taken in order to fabricate parts.
Complexity
 Work tasks and activities are different but involve related processes and methods requiring the use of a broad range of skill and a diversity of knowledge. The repair and manufacturing of parts involve a variety of metal components and relate to electrical, mechanical, hydraulic and pneumatic equipment and machinery. Knowledge of other trades such as welding, tool and die, automotive body repair and mechanics is necessary for the performance of some tasks. Typical challenges include the overhaul on an older machine whereby all parts must be manufactured where possible. A listing of parts and types of metal required must be identified. References include manuals, manufacturer and machine shop representatives, policies and procedures, Occupational Health and Safety Regulations, supervisors/managers and coworkers.

RESPONSIBILITY

Accountability and Decision-Making

- Work tasks and activities are moderately prescribed or controlled.

- Without prior approval, decisions can be made regarding whether or not a part or component can be fabricated; types of materials required; and any special tools needed to perform work.
- Approval is required for large scale purchases of tools and parts, financial decisions, major repairs, travel, overtime, policy changes, training, etc.
- Discretion and judgement must be exercised when solving an issue relating to the repair of equipment and machinery. Efforts are made to ensure all work is done as cost effectively as possible, keeping in mind safety and other issues.
- Advice, support and guidance are provided to apprenticeship students and coworkers.

Impact

- Work results can have an impact within the immediate work area, within and outside the department/group, within and outside the organization and on other staff and the general public.
- Work activities impact equipment, processes and systems, information, finances (cost effectiveness of fabrication of parts), facilities, material and human resources (metals, tools, downtime of equipment, etc.), health and safety and corporate image.
- Mistakes or errors can significantly impact the immediate work area, general public, equipment, finances, health and safety and corporate image.
- An error in fabrication of components for machinery and equipment can cause significant downtime for the repair, increase repair expenses and potentially impact transportation routes as well as the health and safety of the public and corporate image.

Development and Leadership of Others

- Not typically responsible for the direct supervision of staff.
- Are required to oversee and evaluate apprenticeship students as well as provide training and support to new employees.

WORKING CONDITIONS

Environmental Working Conditions

- Personal risks require safety equipment or precautions including goggles, gloves, hard hat, safety boots, ear protection, safety vest, reflective clothing, welding helmets, ear protection, dust masks, safe work practices, etc.
- The likelihood of minor cuts, bruises, abrasions or minor illnesses, fractures and disability are limited given that all health and safety regulations are followed.
- Regularly exposed to unusual/distracting noise, dirt, dust, sharp objects, and heavy machinery, with occasional exposure to fumes, limited ventilation, vibrations, wet or slippery surfaces, electrical shocks, and awkward or confining workspaces.