



154 Meadowlark Health Centre
156 Street & 87 Avenue
Edmonton, Alberta T5R 5W9
Tel (780) 429-4761
Fax (780) 425-4274
Toll Free 1-800-493-5446

Physical Demands Analysis

Heavy Duty Mechanic

Prepared for:
Standard General

Job Title:	Heavy Duty Mechanic	Assessment Location:	9660 Enterprise Way SE, Calgary AB	Data Collection Date:	July 20, 2020
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Completed By:	Joanna Taets Von Amerongen, BKin	Submitted on:	October 13, 2020
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Disclaimer:	The Physical Demands noted in this report may vary depending on company and location. Please contact the company directly to confirm this physical demands analysis is an accurate representation of the specific job title for the specific location.
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Work Schedule:	Shift Duration: 5 days/week, 10 hours/day; may vary Break Schedule: Total of 1 hour break per day: 2-15 minute coffee breaks, 1-30 minute lunch break Shift Rotation: Day shift: 6 am to 4:30 pm, Nigh shift: 2 pm to 12 am On call is required: No Overtime required: Yes: Saturday shifts from 9 am to 3 pm (depending on volume)
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Education / Experience:	Education required: 4 year program specializing in either on road or off road education. Hours required for position: 1200-1350 hours Tickets that may be required (not limited to): First Aid, Overhead Crane Operator, Rigging and Hoisting, Forklift Operator, Arial Work Platform, Fall Protection, RSTS with WHMIS 2015 and Basic Safety Orientation (BSO).
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Labour Provider:	N/A
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Job Overview:	As a Heavy Duty Mechanics, the worker is required to work on various projects assigned to the shop. The volume is dependent on volume in the field and machine/equipment maintenance and repair requirements.		
	% of shift	Job Task	Task Description
	Up to 5%	Safety Meeting	<ul style="list-style-type: none">Completing with crew, filling Individual Field Level Risk Assessment (IFLRA) including tasks for the day, hazards involved, exposures to the worker, etc.
	Up to 90%	Working on Various Projects	<ul style="list-style-type: none">Working on the projects outlined for the day including on and off road projects.Reporting to Foreman, ordering parts required, communicating with supervisor and workers off-site on status of projects.

	Up to 5%	Clean Up	<ul style="list-style-type: none"> Washing shop bays, cleaning and returning tools and equipment used throughout the day, organizing bays from the day's work.
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Equipment/ Tools:	<ul style="list-style-type: none"> Jack Stands (up to 54 lbs.) Lifts Crane Various power tools (up to 31 lbs.) Cylinder piece (83 lbs.) Battery charger (6 lbs. of force) Various hand tools (wrenches, pinch nose grip, etc.)
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Exposures / Environment:	<ul style="list-style-type: none"> Fume exposure (exhaust) Chemical exposure (oils, cleaners, degreasers, etc.) Noise exposure Heat/Cold exposure (when bay doors open)
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Personal Protective Equipment Required:	<ul style="list-style-type: none"> Hard hat Steel toed boots Gloves (optional) Safety glasses Safety vest or high visibility stripes/coveralls
Personal Protective Equipment as Required:	<ul style="list-style-type: none"> Kneeling pads (optional)

NOC STRENGTH LEVEL KEY	
Strength Level	Definition
Limited (Lim)	Up to 5 kg (11 pounds)
Light (L)	5 kg to 10 kg (11 – 22 pounds)
Medium (M)	10 kg to 20 kg (22 – 44 pounds)
Heavy (H)	Greater than 20 kg (44 pounds plus)

**Strength Level Key based on the National Occupational Classification*

FREQUENCY KEY		
Frequency	% of Workday	Hours – Based on 8 hour Workday
Not Required (N/R)	0%	0
Rarely (R)	1 – 5%	<25 min/day
Occasionally (O)	6 – 33%	25 min to 2 hours 40 min/day
Frequently (F)	34 – 66%	2 hours 41 min to 5 hours 17 min/day
Constantly (C)	67 – 100%	5 hours 18 min to 8 hours/day

**Frequency Key based on WCB Alberta Recommendations*

Job Demand	Frequency / NOC Strength Level					Details/ Measurements
	N/R	R	O	F	C	
Material Handling:						
Floor to Waist Level Lifting			*Up to 80 lbs.			Lifting tires, suspensions, impact guns, torque wrenches, batteries, cylinder pieces, jack stands, other various hand and power tools etc. from the ground.
Knee to Waist Level Lifting			*Up to 80 lbs.			Lifting tires, suspensions, impact guns, torque wrenches, batteries, cylinder pieces, jack stands, other various hand and power tools etc. from lower level shelving units.
Waist to Waist Level Lifting			*Up to 80 lbs.			Lifting tires, suspensions, impact guns, torque wrenches, batteries, cylinder pieces, jack stands, other various hand and power tools etc. from lower level shelving units.
Waist to Chest Level Lifting		*Up to 54 lbs.				Lifting impact guns, torque wrenches, jack stands, other various hand and power tools etc. from lower level shelving units.
Waist to Shoulder Level Lifting		*Up to 54 lbs.				Lifting impact guns, torque wrenches, jack stands, other various hand and power tools etc. from lower level shelving units.
Waist to Overhead Level Lifting		*Up to 54 lbs.				Lifting impact guns, torque wrenches, jack stands, other various hand and power tools etc. from lower level shelving units.
Front Carry			*Up to 80 lbs.			Carrying various equipment and hand/power tools including torque wrenches, impact guns, carrying jack stands, etc.
Right / Left-handed Carry (Dominant Hand)			*Up to 54 lbs.			Carrying various equipment and hand/power tools including torque wrenches, impact guns, carrying jack stands, portable tool kit, etc.
Shoulder Carry	X					Not required
Static Pushing/Pulling (Force)			Heavy NOC Level			On various equipment and vehicles to adjust position.
Dynamic Pushing/Pulling (Force)			Heavy NOC Level			Sweeping work bay, moving battery charger, using hand tools to tighten loosen components of vehicles/equipment, attaching clamps to secure positioning, etc.

*For manual handling tasks above 80 lbs., it is recommended that the worker uses either a 2 person lift or assistive equipment (e.g. crane).

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Upper Extremity Work:						
Hand Gripping				X		Using hand and power tools, gripping equipment/vehicle compartments, manipulating equipment/vehicle components, using crane to lift heavy parts, during bay clean up, etc.
Pinch Gripping				X		Using certain hand tools, tightening/loosening mechanical work with hands.
Upper Extremity Coordination					X	Using hand and power tools, gripping equipment/vehicle compartments, manipulating equipment/vehicle components, using crane to lift heavy parts, fixing equipment/vehicles, while ordering parts, during bay clean up, etc.
Reaching Forward				X		Using hand and power tools on equipment/vehicles, gripping equipment/vehicle compartments, manipulating equipment/vehicle components, using crane to lift heavy parts, fixing equipment/vehicles, while ordering parts, during bay clean up, etc.
Overhead Shoulder Level Reaching			X			Reaching into higher level components of equipment/vehicle, reaching for higher level tools stored (e.g. jack stand), during bay clean up.
Below Shoulder Level Reaching				X		Reaching into vehicle components that are below shoulder height, reaching for lower level tools stored (e.g. impact guns), during bay clean up.
Throwing	X					Not required

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Positional Work:						
Trunk Flexion (Bending)				X		Accessing various components of the equipment/vehicles to complete maintenance/repairs, retrieving lower level tools and equipment placed, bay clean up, etc.
Trunk Rotation (Twisting)				X		Accessing confined components of the equipment/vehicles to complete maintenance/repairs, bay clean up.

Kneeling			X			Accessing lower level components of the equipment/vehicles to complete maintenance/repairs, access behind tires, door frames, bay clean up, etc. Dependent on workers preference.
Crawling			X			Accessing lower level components of the equipment/vehicles that are also confined to complete maintenance/repairs, access behind tires, door frames, under the vehicle etc. Dependent on workers preference.
Crouching			X			Accessing lower level components of the equipment/vehicles to complete maintenance/repairs, access behind tires, door frames, under the vehicle etc. Dependent on workers preference.
Squatting			X			Accessing lower level components of the equipment/vehicles to complete maintenance/repairs, access behind tires, door frames, under the vehicle etc. Dependent on workers preference.
Neck Flexion				X		Into equipment/vehicle components, parts being repaired, looking at tools being used on equipment/vehicle, communicating with coworkers from higher levels, retrieving lower level parts, during bay clean up, etc.
Neck Extension			X			Into higher placed equipment/vehicle components, parts being repaired, looking at tools being used on equipment/vehicle, communicating with coworkers from lower levels, retrieving higher level parts, during bay clean up, etc.
Neck Rotation			X			Into confined places in equipment/vehicle components, parts being repaired, looking at tools being used on equipment/vehicle, communicating with coworkers from various bays, during bay clean up, etc.

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Static Work:						
Sitting			X			While completing repairs as able to, during breaks, completing part orders (seated near computer).

Static Standing				X		While completing repairs on equipment/vehicles, ordering parts (standing near computer), gaining access to various tools, communicating with coworkers, safety meeting, etc.
Balancing			X			Accessing various components of equipment/vehicles to complete repairs, in confined spaces, etc.

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Ambulation:						
Walking: Level Surfaces				X		Walking throughout bay and shop, while working on equipment/vehicles, communicating with coworkers in shop, cleaning bays at end of shift, retrieving various tools required, etc.
Walking: Uneven Surfaces	X					Not required
Walking: Slopes		X				Slope present near bay windows in shop.
Jumping	X					Not required
Running	X					Not required

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Climbing:						
Stairs	X					Not required
Ladder		X				Portable 3 step ladder to access higher level equipment/tools.
Other			X			Entering/exiting equipment or vehicles.

PHOTOS OF TASKS AND WORK ENVIRONMENT

Figure 1: Heavy duty mechanic kneeling to access under truck's hood.

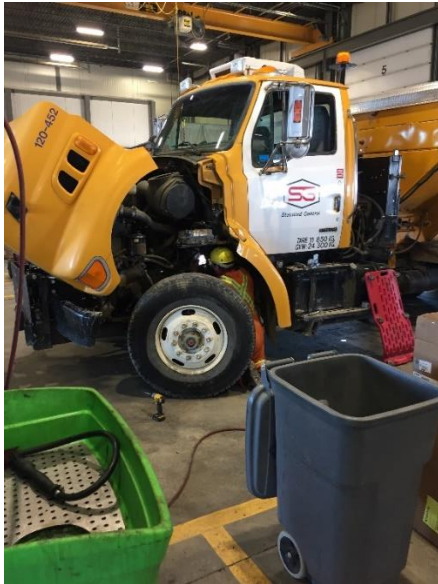


Figure 2: Heavy duty mechanic forward bending with a partial squat to access behind truck's tire.

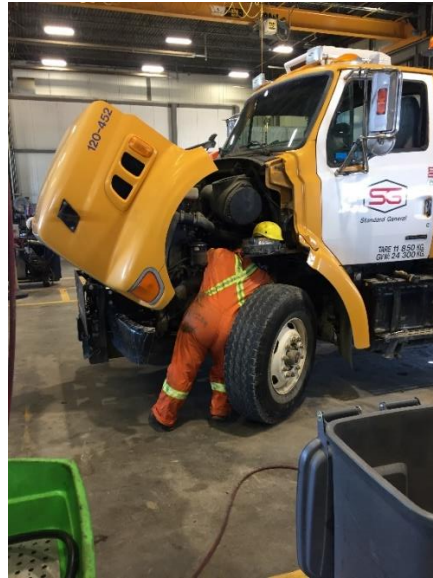
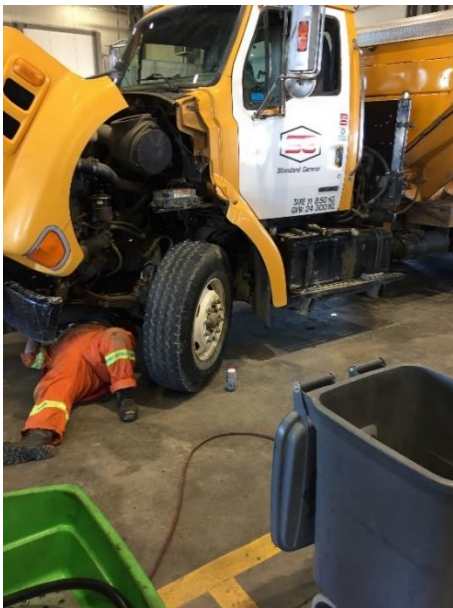


Figure 3: Heavy duty mechanic laying on his back to access under truck's hood.



If you have any questions, and/or would like to discuss this assessment and report further, I can be reached at (780) 429-4761.

Physical Demands Analysis
Job Title: Heavy Duty Mechanic
Date Prepared: August 18, 2020
Prepared for: Alberta Construction Association



Sincerely,

Joanna Taets Von Amerongen, BKin
Kinesiologist

SITE SPECIFIC JOB DEMAND ADDITIONS:

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Site Specific Job Demand:						
Laying Down			X			To access underneath equipment/vehicles.

Validation Agreement

Job Title:	Heavy Duty Mechanic
Data Collection Date:	July 20, 2020

We the undersigned have reviewed the Physical Demands Analysis for this position and agree that the physical demands documented in this report are representative of the true demands of the tasks associated with the job title as assessed on the date listed above.

Completed by:	Joanna Taets Von Amerongen, BKin	Lifemark Clinician Name
Approved by:	Matt Cooper, Paul Parsons	Management Representative
Approved by:		Worker Representative
Approved by:		Labour Provider Representative