PHYSICAL DEMANDS ASSESSMENT

PROFESSIONAL FLAT BED DRIVER



PHYSICAL DEMANDS ASSESSMENT (PDA) PROFESSIONAL FLAT BED DRIVER

As a national organization mandated to identify and support HR needs for Canada's trucking and transportation sector, Trucking HR Canada (THRC) plays a pivotal role in designing and completing projects that directly address HR challenges to support a vibrant and thriving trucking workforce. A key concern is the attraction, recruitment and retention of skilled workers to keep the wheels of the industry turning.

What is the Issue?

Diversity and inclusion lead to strong, skilled workplaces; however, many industries – including the trucking sector – experience difficulties and barriers in engaging and retaining individuals that require accommodations to perform their jobs to their full potential.

How Can Physical Demands Assessments Help Employers?

Physical Demands Assessments are an invaluable HR tool for employers to ensure diverse workplaces in which all workers can effectively perform essential and valuable work.

PDAs help to identify the physical requirements of a position that can then serve as the basis for implementing accommodations to allow workers to perform their jobs effectively and efficiently.

What are Physical Demands Assessments?

Physical Demands Assessments (PDAs) identify the physical job requirements for specific occupations. Once employers are aware of the physical requirements of the job, current employees and new hires can be assessed to determine if they can perform the physical duties. If required, potential accommodations can be put in place to allow workers from various under-represented groups to not only perform, but thrive, in their roles – a mutually beneficial outcome for both workers and employers.

When are Physical Demands Assessments Useful for Employers?

Employers can use Physical Demands Assessments when working with the following diverse groups in the workplace:

- Workers with different physical body strength capabilities than their coworkers in the same role.
- Workers who may not have the same strength, balance, stamina or coordination as their co-workers.
- Employees who are returning to work after experiencing an injury that causes temporary impairment of physical ability or functioning.
- Employees or new hires who have permanent medical restrictions or disabilities that alter the way they perform certain physical tasks.

Physical Demands Assessments are useful for EVERY employee. PDAs promote the consideration of inclusive practices that help all workers to perform their jobs as effectively, safely and comfortably as possible.





PDA OVERVIEW

Job Description: Professional Flat Bed Driver

The Professional Flat Bed Driver is engaged in hauling items that are beyond the height, width or length of standard, enclosed trailers on a flat bed. Items being hauled can range from equipment, to steel. Cargo securement is of particular importance for the Flat Bed Driver, and manual tie-down techniques are often required.

In addition to the foundational functions associated with driving a truck, the Professional Flat Bed Driver may also be involved in route planning, obtaining appropriate permits, and coordinating with external agencies while en route (e.g. police, utility companies, specialty load/unload crews) depending on the load they are hauling. The driver performing this driving specialty requires superior abilities in working with a team, as well as superior judgement in placing the load in optimal position to ensure cargo securement.

Most physical aspects of the job:

The most commonly performed actions requiring physical **STRENGTH** include:

OCCASIONALLY Performed Actions:

- Pushing and Pulling
 - Unilaterally (one side of the body)
 - Bilaterally (both sides of the body)

RARELY Performed Actions:

- Lifting and Lowering
- From ground to trailer
- From ground over shoulder/head

Physical strength requirements (maximum and usual):

- Lifting and Lowering Maximum 27.9 kg (62 lb.); usual 9 kg (20 lb.)
- Carrying
 - Weight Maximum 27.9 kg (62 lb.); usual 9 kg (20 lb.)
 - Distance Maximum 17 meters (56 ft.); usual 8 meters (26 ft.)
- Pushing/Pulling Force:
 - Up/Down Maximum 47 kgf (130 lbf); usual 15 kgf (33 lbf)
 - Unilateral Maximum 13.6 kg (30 lb.); usual 8 kgf (17 lbf)
 - Bilateral Maximum 48.8 kgf (108 lbf); usual 9 kgf (20 lbf)

The most commonly performed actions requiring **MOBILITY** AND **PHYSICAL POSITIONING** include:

FREQUENTLY	OCCASIONALLY	RARELY
Performed Actions:	Performed Actions:	Performed Actions:
Sitting	Standing	Climbing (Stairs/
Gripping	Walking	Ladders)
Foot Action	Neck Movements	 Balancing
	Reaching (Horizontal/	Kneeling
	Forward/Vertical)	 Crouching/Squatting
	Elbow Movements	 Crawling
	 Wrist Movements 	Low Back Movements
	Pinching	 Reaching (Lateral)
		Fine Finger Movements

Legend:

	% of Shift	4hr Shift	8hr Shift	12hr Shift
SELDOM	Not daily	Not daily	Not daily	Not daily
RARE	0-5%	1-12 min	1-24 min	1 – 36 min
OCCASIONAL	6%-33%	13 min- 1hr 19 min	25 min – 2hr 38 min	37 min – 3hr 58 min
FREQUENT	34%-66%	1hr 20 min – 2hr 40 min	2hr 39 min – 5hr 15 min	3hr 59 min – 8hr
CONSTANT	67%-100%	2hr 41 min – 4hr	5hr 16 min – 8hr	8hr 1 min - 12hr

ESSENTIAL JOB FUNCTIONS:

Essential job functions are the fundamental duties required of Professional Driver Trainers; in other words, they are the duties that the incumbent **absolutely must be able to do** to perform the job.

The Essential Job Functions of the Flat Bed Driver is:

- Driving
- Cargo Handling and Securement

Flat Bed Drivers spend upwards of 75% of their day driving and upwards of 25% of their days securing and handling cargo.

ESSENTIAL JOB REQUIREMENTS

To be a Flat Bed Driver, job incumbents must meet the basic medical and vision standards to obtain a commercial driver's license (CDL) in their province/territory. If these standards are not met, accommodations cannot be made. Medical and vision standards vary by jurisdiction; however, standards may include:

Vision Standards:

- a visual acuity that is not poorer than:
 - 20/30 with both eyes open and examined together
 - 20/100 in the weaker eye, with or without corrective lenses
- a horizontal visual field with both eyes open and examined together of at least:
 - 150 continuous degrees along the horizontal meridian
 - 20 continuous degrees above and below fixation

Hearing Standards:

Drivers whose hearing in one ear is better than in the other:

 must be able to perceive in the better ear a forced whisper at a distance of 1.5 metres, with or without a hearing aid

OR

 must not have a loss in the better ear of more than 40 decibels at 500, 1000 and 2000 hertz (if an audiometer is used to test the driver's hearing)

POTENTIAL ACCOMMODATIONS

Please note that the accommodations referenced are high-level suggestions for employers. However, any individual requiring accommodations to perform their job tasks should be assessed by an accredited and/or certified professional (e.g. Registered Kinesiologist, Ergonomist, Physio/Occupational Therapist) to develop an accommodation plan that is right for the individual. Potential accommodations for actions requiring physical **STRENGTH**:

Pushing and pulling – use of assistive pulleys, levers or tools (situation specific)

Potential accommodations for actions requiring **MOBILITY** AND **PHYSICAL POSITIONING**:

- Sitting ergonomically-fitted air-ride seat
- Gripping steering wheel grips, adaptors or knobs
- Foot action hand controls for accelerator and/or brakes (if automatic transmission)
- Elbow/Wrist movements supportive braces
- **Reaching** supportive hooks, bars or grabbing tools

Universal Inclusive Practices and Accommodations:

- Ensuring a low-scent or scent-free environment (e.g. in vehicles, loading/unloading areas and offices)
- Providing frequent breaks to allow workers experiencing non-visible disabilities to conserve energy (e.g. workers experiencing chronic fatigue, chronic pain, needing to take medication, needing to eat at specific times, needing to take more frequent bathroom breaks)
- Using electronic devices (e.g. tablet computers or smartphones with touchscreens) to complete administrative tasks requiring fine finger movements or wrist movement
- Providing ergonomic chairs during periods of sitting or when at rest during breaks
- Providing ice packs or heating pads (in-cab or in-office) to assist in pain management
- Stretching during breaks
- Wearing orthotic footwear
- Outfitting computer monitors with screen protection to prevent glare and prevent headaches
- Ensuring all step ladders, step stools and ladders are equipped with grips to ensure stability and prevent slips and falls, as well as grab grips and vision reflection strips.
- Providing headsets for desk jobs that require wrist movement or heck and neck movement
- Utilizing grip holders for use of devices such as phones or clipboards that require an open grip
- Using ear plugs to block out excess noise but maintain hearing ability to assist workers with noise sensitivity, post-concussion or auditory processing issues
- Using sunglasses or darkened lenses to manage light sensitivity issues.

PHYSICAL DEMANDS PROFILE

Job Title	Professional Flat Bed Driver	NOC	7511.2 - Line Haul and Local Truck Drivers
Report Completed By	CBI Workplace Solutions		

JOB OBJECTIVE:

The Professional Flat Bed Driver collects their loads from designated clients and transports the goods/products to the assigned delivery destination. The driver ensures that the load is secured and transported in a manner that meets or exceeds all government and company regulations and rules.

KEY PHYSICAL JOB TASKS

1. Plan trips

2. Handle cargo

- a. Load and Unload Product
 - i. Report to the shipping/receiving office for instructions.
 - ii. Sit in que while others are un/loaded (if required)
 - iii. Report to the assigned un/loading location; wait for the crane operator to locate the desired product
 - iv. Guide the crane operator to position load in desired location on the trailer

b. Secure/Release Load

i. Secure the load with compression straps or chains, ensuring that cardboard, rubber or chain protectors are covering the sharp metal edges/corners.

Open Deck

- The driver covers the product with a tarp(s) and secures the tarp edges to the trailer with bungee cords
- Upon delivery, the tarp(s) is removed, folded and stored and the straps are re-coiled in the winch.

Rack and Tarp

• The driver, un/installs the racking (trailer walls) from one side, bows (ceiling supports) and the tarp (ceiling/roof) when un/loading.

Slider Kit

• The driver releases the wall/ceiling framing tension and pushes the structure from the rear of the trailer, along the rail system, to the front of the trailer which folds the structure like an accordion. This frees the trailer for loading. The opposite action is performed for sealing the product for transport.

3. Transport loads

4. Ensure vehicle maintenance

- a. Conduct Circle Check
 - i. Completes a full visual inspection of tire pressure, cargo securement, coupling devices, horn, lights, steering, brakes, fluids, fuel, 5th wheel, etc. on both the truck and the trailer.
 - ii. Report minor defects (if found); if major defects are found the truck or trailer is scheduled for repair.
 - iii. Complete regular checks throughout the day (before proceeding with delivery post rest stops) to ensure no new defects.

5. Complete work logs

- a. Complete logs (paper or electronic) of drive, sleeper berth, off duty and on duty times per day and to submit these sheets at minimum once every 7 days. gress
 - i. Conduct road test

NOTE: Forces may vary depending on weather conditions (e.g. bungee cords increase stiffness with cold conditions, tarps caught in wind or wet with rain/snow). For this report, forces were collected on a calm and warm day.

EQUIPMENT	PERSONAL PROTECTIVE EQUIPMENT
Truck and trailer; tarps; bungee safety boots cords; ratchet binders; coil protectives; 3/8" chain; wood blocks; coil stands; compression straps; hammer; compression strap bar; trailer racking and bows (rack and tarp trailer); truck radio	Safety glasses; ear plugs; gloves; safety vest; hard hat

STRENGTH R	EQUIREMENTS		Fre	equen	су		Mass	(KG)	Task #	Comments	
		S	S R		F	С	Max	Usual			
Lifting/Lowering	Floor to Bench (0-88 cm)		1				27.9	9	2	 Tarp roll – 27.9 kg weight lifted 0-150 cm (ground to trailer), up to 2 rolls. 	
	Bench to Shoulder (89-149 cm)		1				27.9	9	2	• 10' of 3/8" chain – 11.0 kg weight lifted 0-150 cm (ground to trailer), up to 6/coil.	
	Floor to Shoulder (0-149 cm)		1				27.9	9	2	 Ratchet binder – 6.3 kg weight lifted 0-150 cm (ground to trailer), up to 6/coil. 	
	Above Shoulder		\checkmark				27.9	9	2	• Wood blocks – up to 15.0 kg weight depending on size needed.	
	(>150 cm)									 Coil protector – 5.5 kg weight lifted 0-150 cm (ground to trailer), up to 2/coil. 	
										• Coil stand - 23.7 kg weight lifted 0-150 cm (ground to trailer), up to 2/coil if loaded 'suicide' style.	
										• Tie down strap end – 1.7 kg weight from trailer ratchet (hand height: 150 cm) and thrown over trailer and load.	
										• Bungee cords – 1.0 kg weight, 14 per tarp.	
										• Tie down ratchet pry bar: 2.7 kg weight.	
										• Rack (side walls): 12.9 kg weight (2/coil load, up to 11/sheet load).	
										• Bow (ceiling support): 3.7 kg weight (up to 10 per trailer).	
										 All equipment may be manipulated between floor-bench and bench-shoulder once loaded onto the trailer to ensure the load is secured 	
Carrying	Weight		 ✓ 				27.9	9	2	• See above equipment; may carry up to 17 meters (trailer length).	
	Distance (meters)						17	8		-]	

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STRENGTH R	STRENGTH REQUIREMENTS		Fre	equenc	:y		Mass (KG)		Task #	Comments
		S	R	0	F	С	Мах	Usual		
Pushing/Pulling (Force)	Up/Down		1				>47	15.0	2	• Tighten tie down straps with bar and ratchet: operator's body weight (measured at 32.8-46.6 kgf push/pull down during data collection); number dependent on load.
										• Secure tarp bungee cords: dependent on distance stretched (space available, measured 6.3-18.5 kgf pull down/up during data collections).
										Close 2 hood latches: 10.4 kgf push down.
	Unilateral 🗸				13.6	2,4	• 5 kgf pulling force to disengage air brakes on a control panel (pincer grip). Hand horizontal distance 36 cm. Push to engage air brakes on a control panel (13.6 kgf). Hand distance 37 cm. Pull to disengage parking break (5 kgf).			
										• Trucks assessed had automatic transmission; some trucks may be manual.
	Bilateral			1				48.8	2.3.4	• Release tie straps from ratchet: 6.9 kgf pull back at hand height 150 cm; number dependent on load.
										• Open slider top: 16 kgf push initial, 10 kgf push sustained at hand height 150 cm.
										• Close slider top: 8 kgf pull initial, 4 kgf pull sustained at hand height 150 cm.
										• Open truck hood: 48.8 kgf pull back at hand height: 165 cm
										• Tighten ratchet binder: operator's body weight, hand height 40 cm.
										• Open truck door: 9.9 kgf pull back at hand height 125 cm.
	1	l				.	l			• Push/pull to windup landing gear (under 9 kgf).

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MOBILITY AND POSTURAL REQUIREMENTS			Fr	equen	су		Task #	Comments	
		S	R	0 F		C			
Standing				\checkmark			2,4	• While completing circle checks, un/loading, securing and releasing.	
								• On road surfaces, warehouse floor surfaces, steel trailer tops, carpeted truck cabins, etc.	
Walking				1			2,4	Around truck and trailer for circle checks, un/loading, securing/releasing.	
								• To and from customer shipping/receiving offices.	
Sitting					1		1,3,5	When operating the truck and waiting in cue.	
								• Whole body vibration may be present. However, Air ride seat with an air lumbar support is used.	
Climbing	Stairs		1				2,4	Stairs may be present at client facilities to access shipping/receiving offices.	
								• Drivers are trained to use 3-point technique to mount and dismount vehicle.	
	Ladders		1					• Up to 4 steps to access truck cabin and trailer. Each truck and trailer may vary in number and step height.	
	Other							Not Required.	
Balancing			1				2	• May be required when negotiating footing while securing/releasing loads on trailer top and when inspecting/replacing fluids in engine compartment.	
Kneeling			1				2	While securing/releasing loads on trailer top.	
Crouching/Sc	quatting		1				2,4	Pulling pin to disengage 5th wheel.	
								Handling cases at low level (if needed).	
								Accessing stored equipment in trailer box.	
								• When performing the circle check and inspecting under the trailer.	

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MOBILITY AND POSTURAL							Task #	Comments			
REQUIREM	IENTS	S	R	0	F	C					
Crawling			1				4	• May be required when performing the circle check and inspecting under the trailer.			
Neck Moveme	nts			1			2,3,4,5	Dynamic neck flexion and extension required to perform multiple job processes.Dynamic neck rotation is required to monitor for safety while driving and backing up.			
Low Back Mov	rements		1				2,4	 Visual inspection of the trailer: 105 cm from ground to the bottom of the trailer. Usually able to crouch to work at low levels. Stooping required when forward reach is too great to crouch. Low back flexion present while seated (i.e. driving). 			
Reaching	Horizontal (Forward)			1			2,3	 Trailer: Trailer box: up to 60 cm. Truck: Steering wheel and seat position may be adjusted at the operator's discretion and range will depend on the truck model. 			
	Vertical (Up/Down)			1			2,3,4	 Trailer: Trailer bed: 150 cm. Trailer box: 40-105 cm. Trailer hoses: 23 cm. Truck: Door handle: 125 cm. Grab bars: 135-175 cm. Steering wheel: 55-95 cm - height may vary slightly with tilt adjustments. 			
								 Dashboard controls: 70-80 cm. Radio: 140 cm. Open hood: 165 cm. 			
	Extension (Behind)							Not Required.			
	Lateral (Side)						3	Side reach to right for dash board controls - 75 cm.			

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MOBILITY AND POSTURAL REQUIREMENTS	Frequency S R O F C		Task #	Comments			
Elbow movements			1			2,3	 Intermittent non-neutral elbow posture may be required e.g. pronation/supination to operate commercial vehicle and secure/release loads.
Wrist movements			1			2,3	Intermittent non-neutral wrist postures may be required.
Gripping				1		2,3,4	 Closed grip: door handle, steering wheels, vehicle controls, belts, hoses, reservoir caps, pry bars, ratchet binders, wood blocks, etc. Open grip: cases (seldom), steering wheel, mobile device.
Pinching			1			1,3,4,5	• Tip/palmar pinch: belts, hoses, paperwork, pen, small controls, oil dipstick etc.
Fine finger movements (e.g. keying)		1				1,3,5	• Equipment controls, electronic log mobile application.
Striking with hand		1				4	 Using hammer to ensure tire inflation during pre/post trip inspection. May strike objects to release snow/ice dependent on weather conditions
Foot action				1		3	• Foot pedals while operating vehicle (gas, brake, clutch with standard transmission) (3.7 kg).

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1
8 min
8hr
2hr
8

ADDITIONAL CONCERNS AND DEMANDS

Environmental Conditions	\checkmark	Hot		Adequate lighting
	\checkmark	Cold Outdoor Indoor Dry Humid Noise Vibration		Moving objects
	\checkmark			Working at heights Slippery surface Congested area
	\checkmark			
				Sharp edges
	\checkmark			Fumes/vapours/gases
	1			Electromagnetic fields
		Glare		
Cognitive Demands	\checkmark	Work under pressure (deadlines)		Influence people
	1	Fast pace work		Confrontation situations
	\checkmark	Deal with multiple tasks		Incentive/piece work
		Perform complex and varied tasks		Irregular hours
		Attain precise standards/attention to detail		Overtime
		Control of work pace	1	Reading
		Direct control/plan of work	\checkmark	Working alone
		Close supervision		Working in a group
	\checkmark	Follow instructions		Travelling
Sensory Demands		Hearing	\checkmark	Spatial perception
		Speech		Tactile
		Colour vision	\checkmark	Smell
	1	Near vision		Taste
	\checkmark	Far vision		