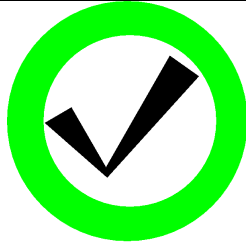


ANNEX B
PURCHASE DESCRIPTION
TROOP CARRIER VEHICLE 4X2

2020-01-08



NOTICE

This documentation has been reviewed by the **Technical Authority** and does not contain controlled goods.

AVIS

Cette documentation a été révisée par l'**Autorité technique** et ne contient pas de marchandises contrôlées.

1. **SCOPE**

1.1 **Scope** - This Purchase Description covers the requirements for diesel powered truck 4x2 (cab and chassis), and accessories.

1.2 **Instructions** - The following instructions apply to this Purchase Description.

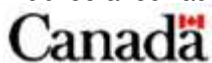
- (a) Requirements, which are identified by the word "**must**", are mandatory. Deviations will not be permitted;
- (b) Requirements identified with a "will" define actions to be performed by Canada and require no action/obligation on the Contractor's part;
- (c) Where "**must**" or "will" are not used, the information supplied is for guidance only;
- (d) Where a standard is specified and the Contractor has offered an **equivalent**, that **equivalent** standard **must** be supplied by the Contractor;
- (e) Where a technical certification is referred to in this Purchase Description, a copy of the certification or an acceptable **Proof of Compliance must** be supplied for the vehicle when requested by the **Technical Authority** up until the date of the expiration of the warranty period; and
- (f) While the SI system **must** be used as the primary system of measurement to define requirements of this Purchase Description, both the SI system and the standard system for this product may be indicated. Conversion from one system of measurement to the other may not be exact.

1.3 **Definitions**

- (a) "**Provided**" means "provided and installed";
- (b) "**Technical Authority**" means the official responsible for the technical content of this requirement;
- (c) "**Equivalent**" means a standard, means, or component type, which the **Technical Authority** has approved for this requirement as meeting the specified requirements for fit, form, function and performance;
- (d) "**Commercially Equipped**" means that the vehicle is provided in its standard commercial configuration with no additional government-specific requirements;
- (e) "**Curb Weight (CW)**" means the weight of the fully equipped vehicle. The curb weight includes the cab and chassis, all attached accessories, equipment, fuel, lubricant and coolants. The **Curb Weight** does not include the **Payload**, the weight of the driver/passenger(s) or their personal kit and equipment;

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- (f) **“Payload”** means the maximum cargo load carrying capacity of the vehicle. The payload is the calculated difference between the Curb Weight and the Gross Vehicle Weight Rating;
- (g) **“Gross Vehicle Weight” (GVW)** means the sum of the **Curb Weight**, the weight of a driver and passenger (80 kg per person) and the **weight of their personal kit and equipment and the Payload**. The **GVW must** not exceed the Gross Vehicle Weight Rating (GVWR);
- (h) **“Gross Vehicle Weight Rating” (GVWR)** means the maximum operating weight of the vehicle as stated by the manufacturer;
- (i) **“Gross Combined Weight Rating” (GCWR)** means the maximum allowable combined weight of the vehicle, with passengers and equipment in the vehicle and the *Payload* plus the weight rating of the trailer and the payload in the trailer;
- (j) **“Cab and Chassis”** means the vehicle Configuration before the addition of any accessories as given in the Accessories Table paragraph 1.4.1;
- (k) **“Gross Axle Weight” (GAW)** means the maximum load on an axle with the vehicle fully loaded; and
- (l) **“Gross Axle Weight Rating” (GAWR)** means the load capacity of an axle.

1.4 **Data Table** - The following table shows required performance and dimensions.

CHARACTERISTIC	PARAGRAPH	UNITS	Cab & Chassis (4x2)
HORSEPOWER	3.4 (c)	-	300
GVWR	3.4 (d)	kg	15,876
PAYLOAD	3.4 (e)	kg	5,000
TOWED LOAD	3.4 (f)	kg	5000
FRAME RBM	3.6	kg-m	20,193
FUEL CAPACITY	3.7.2 (a)	litres	300

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1.4.1 **Accessory Table** - The following table indicates with an "X" and by Configuration, the accessories, features, additional items and training.

DESCRIPTION	PARAGRAPH	Cab & Chassis (4x2)
CREW CAB	3.5 (a)	X
MANUAL SYNCHRONIZED TRANSMISSION	3.8.1	X
DRIVER TRAINING PEDALS	3.8.3	X
COLOUR	3.17 (b)	X

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2. APPLICABLE DOCUMENTS - The following documents are referenced in this Purchase Description. Canada will not be supplying any reference documents. Available information on the organization is supplied.

SAE Handbook

SAE World Headquarters
400 Commonwealth Dr.,
Warrendale, PA, 15096-0001
<http://www.sae.org>

Motor Vehicle Safety Act (MVSA)

Government of Canada / Transport Canada,
<http://www.tc.gc.ca/eng/act-regulations/regulations-crc-c1038htm>

Hazardous Products Act

Government of Canada / Department of Justice
<http://laws-lois.justice.gc.ca/eng/acts/H-3/>

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3. REQUIREMENTS

3.1 Standard Design

- (a) The vehicle **must** be the latest model from a manufacturer who has demonstrated acceptability by selling this type and size class of vehicle for at least five (5) years;
- (b) The vehicle **must** include all components and accessories normally supplied for this application, although they may not be specifically described in this Purchase Description;
- (c) The vehicle **must** have engineering certification available for this application from the original manufacturers of major equipment, systems and assemblies;
- (d) The vehicle **must** conform to all applicable laws, regulations and industrial standards in effect in Canada at the time of manufacture. The regulatory areas may include but are not necessarily limited to manufacturing, health and safety, noise levels, environment and emissions; and
- (e) The vehicle and accessories **must** operate in accordance with all original equipment manufacturers' (OEM) rated capacities and performance specifications.

3.2 Operating Conditions

3.2.1 Weather - The vehicle **must** start and operate under the extremes of weather conditions found in Canada in temperatures ranging from -40 to 40°C.

3.2.2 Terrain - The vehicle **must** operate in all seasons and all-weather conditions on highways and secondary roads.

3.3 Safety Standards

3.3.1 Vehicle Safety Regulations

- (a) The vehicle **must** meet the provisions of the Canada Motor Vehicle Safety Act; and
- (b) The completed vehicle **must** have Safety Compliance Certification Label with a National Safety Mark (NSM), as a seal of compliance.

3.3.2 Hazardous Materials – The Contractor **must** minimize or eliminate the use of hazardous materials, ozone depleting substances, polychlorinated biphenyls, asbestos and heavy metals (as described in the Hazardous Products Act of Canada) on the vehicle at time of delivery.

3.4 Performance

- (a) The vehicle **must** have a road speed of at least 100 km/h when carrying no less than the specified "**PAYLOAD**" (paragraph 3.4 (e)) on a flat, level road;
- (b) The vehicle **must** have a gradability, at a speed of at least 90 km/h, of at least 1.2 %, when carrying no less than the specified payload (paragraph 3.4 (e));
- (c) The vehicle **must** have a gross horsepower of at least that given as "**HORSEPOWER**" in the Data Table (paragraph 1.4
- (d) The vehicle **must** have a GVWR of at least that given as "**GVWR**" in the Data Table (paragraph 1.4);
- (e) The vehicle **must** have a payload capacity of at least that given as "**PAYLOAD**" in the Data Table (paragraph 1.4); and
- (f) The vehicle **must** have a towed load capacity of at least that given as "**TOWED LOAD**" in the Data Table (paragraph 1.4).

3.5 Vehicle Cab

- (a) **Crew Cab**

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- i The vehicle **must** be provided with a crew cab;
 - ii The crew cab **must** be provided with four (4) doors;
- (b) **Cab Requirements**
- i The cab **must** be provided with a tinted windshield;
 - ii **Wipers**
 - 1. The cab **must** be provided with windshield wipers with at least two (2) continuous speeds and one (1) intermittent speed; and
 - 2. The windshield wipers **must** be provided with arctic wiper blades.
 - iii The cab **must** be provided with two (2) rotating and pivoting interior sun visors;
 - iv The cab **must** be provided with padded armrests on both doors, coat hooks and rubber mats;
 - v **Windows**
 - 1. The cab **must** be provided with powered windows; and
 - 2. The cab **must** be provided with a visibility window in the front lower portion of the right hand door or a look-down mirror mounted at the top of the right hand door.
 - vii The cab **must** be provided with an exterior sun visor over the front windshield;
 - viii The cab **must** be provided with powered door locks;
 - ix The cab **must** be provided with air horn(s), protected from snow clogging;
 - x The vehicle **must** be provided with an in-cab 12-volt adaptor plug; and
 - xi The vehicle **must** be provided with two easily accessible in-cab compartments, one large enough to stow a water bottle, the other to protect important documents.
- (c) **Seats**
- i The vehicle **must** be provided with high-back driver and co-driver medium to dark coloured cloth upholstered seats ;
 - ii The seats **must** be provided with fold-up arm rests on the interior side;
 - iii The vehicle **must** be provided with push button controlled air suspension driver and co-driver seats that operate from the vehicle's air system; and
 - iv The vehicle **must** be provided with a rear bench seat for 3 passengers; and
 - v All seats **must** be provided with retractable shoulder/lap belt assemblies. A lap belt assembly will be acceptable for the centre passenger on the rear bench;
- (d) **Mirrors**
- i A rear view mirror system **must** be provided on the exterior of each side of the vehicle cab providing the operator with clear visibility to the sides and rear of the vehicle;
 - ii Each mirror system **must** be provided with a tall and narrow flat section having a surface area of at least 40,000 mm²;

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- iii Each mirror system **must** be provided with a convex mirror section located below the flat section, that has an area of at least 20,000 mm²;
 - iv Mirror glass **must** be separately replaceable;
 - v The flat section of the mirrors on both sides of the vehicle **must** be power adjustable from an in-cab control accessible to the operator;
 - vi The flat and convex mirrors **must** be provided with heating defrost elements;
 - vii Mirror heating **must** be activated by an in-cab control accessible to the operator; and
 - viii Heating elements **must** be replaceable.
- (e) **Fender Mirror**
- i Fender mirrors **must** be provided on or over the right and left hand front fenders; and
 - ii The fender mirrors **must** have a convex surface with an area of at least 20,000 mm².
- (f) **Air Conditioning** - The vehicle **must** be provided with a variable controlled cab heater with defrosting and an air conditioning system;
- (g) **Radio**
- i The vehicle **must** be provided with an AM/FM radio with blue-tooth; and
 - ii The radio **must** turn off automatically when the vehicle ignition is turned
- (h) **CB Radio** – The cab **must** be provided with a CB radio with at least 40 channels.
- (i) **Keys**
- i A common key **must** be used for all cab and chassis locks; and
 - ii This **must** include, but is not limited to, ignition and doors.
- 3.6 **Chassis** - The vehicle **must** be provided with a high strength steel chassis with resisting bending moment of at least “**FRAME RBM**” as given in the Data Table (paragraph 1.4).
- 3.6.1 **Suspension**
- (a) The vehicle **must** be provided with a front spring suspension and a rear heavy-duty on/off highway air suspension;
 - (b) The suspension system **must** be provided with shock absorbers at each wheel station;
 - (c) The rear suspension system **must** be provided with an immediate response, automatic height control system;
 - (d) The rear suspension system **must** be provided with a manual control dump valve to evacuate air from the suspension system; and
 - (e) The air suspension system **must** be provided with rear suspension stabilizers or **equivalent**.
- 3.7 **Engine** – The vehicle **must** be provided with a diesel engine.
- 3.7.1 **Engine Components**
- (a) **Engine Air Filter**
 - i The engine **must** be provided with an air filter or equivalent;

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- ii The filter **must** be a replaceable dry-type with at least two stages or equivalent; and
 - iii The vehicle air intake system **must** be provided with a filter restriction gauge, mounted inside the vehicle cab, which is visible from the driver's position.
- (b) The engine **must** be provided with an engine coolant suitable for temperatures down to -40° C;
 - (c) The engine **must** be provided with an exhaust system that has a vertical stack that clears the cab roofline with an exhaust elbow above the roofline;
 - (d) A cooling system **must** be provided with a thermostatic fan;
 - (e) The vehicle **must** be provided with an engine block heater with front and rear plug adaptors; and
 - (f) The engine **must** be provided with an internal engine compression brake.

3.7.2 **Fuel Tanks**

- (a) The fuel tanks **must** have a total capacity of at least “**FUEL CAPACITY**” as given in the Data Table (paragraph 1.4); and
- (b) The fuel tank filler area **must** be marked to identify the required vehicle fuel.

3.7.3 **Engine Cold Weather Aids**

- (a) The engine **must** be provided with cold weather aids to enable the engine (operating with winter grade fuels/oils) to be started at temperatures down to -40° C. The engine starting aids may include but are not limited to: glow plug(s) and intake air grid heater;
- (b) The engine **must** be provided with 110-volt engine coolant heater with the capacity as recommended by the engine manufacturer or conforming to SAE J1310;
- (c) The battery **must** be provided with a 110-volt battery blanket; and
- (d) The engine **must** be provided with a heated fuel filter/water separator to preheat diesel fuel prior to starting.

3.8 **Vehicle Driveline**

3.8.1 **Manual Synchronized Transmission**

- (a) The vehicle **must** be provided with a manual synchronized transmission;
- (b) The transmission **must** have at least six (6) forward speeds and one (1) reverse speed; and
- (c) The transmission **must** be provided with a neutral start safety switch;

3.8.2 **Axles**

- (a) The vehicle **must** be provided with a solid front axle;
- (b) The vehicle **must** be provided with a single rear drive axle;
- (c) The rear axle **must** be provided with a driver controlled differential lock or equivalent; and
- (d) The rear axle **must** be provided with dual tires at each wheel station.

3.8.3 **Driver Training Pedals**

- (a) The vehicle must be provided with driver training pedals (accelerator, clutch and brake) mounted on the floor in front of the front passenger seating position.

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3.9 **Brake System**

- (a) The vehicle **must** be provided with full air actuated service brakes and spring actuated parking brakes;
- (b) The brake system **must** be provided with a 4-channel anti-lock (ABS) brake system;
- (c) The brake system **must** be provided with air brakes on all axles with automatic slack adjusters;
- (d) The brake system **must** be provided with an air compressor with a capacity of at least 0.42 cubic metres per minute;
- (e) The brake system **must** be provided with a quick connect fitting for the connection of an air-hose on the wet (supply) air reservoir;
- (f) The wet air reservoir **must** be provided with a pull type drain that is accessible from beside the vehicle;
- (g) The brake system **must** be provided with an automatic air dryer with a heated dump valve;
- (h) The brake system **must** be provided with dust shields at each wheel station; and
- (i) The brake system **must** be provided with emergency brake chambers on the rear axle.

3.10 **Steering**

- (a) The vehicle **must** be provided with a power assisted steering system; and
- (b) The steering system **must** be provided with a telescopic/tilt steering column.

3.11 **Wheels and Tires**

- (a) The front axle **must** be provided with tires with a mud and snow tread;
- (b) The rear axle **must** be provided with tires with a mud and snow tread;
- (c) The tires **must** be steel-belted, tubeless and radial;
- (d) The rear axle **must** be provided with dual tires at each wheel station;
- (e) The tires **must** be mounted on hub pilot disc wheels;
- (f) All wheels **must** be provided with loose wheel nut indicators;
- (g) The wheel assemblies **must** have a capacity equal to or greater than the load applied, at the top vehicle speed (paragraph 3.4 (a)); and
- (h) The wheel assemblies **must** be assembled in accordance to the tire and rim manufacturer's specifications.

3.11.1 **Wheel and Tire Accessories**

(a) **Spare Wheel Assembly with Storage**

- i The vehicle **must** be provided with a spare wheel assembly that mounts on the front axle; and
- ii A dedicated and secure storage location for the wheel assembly **must** be provided on the vehicle.

3.12 **Controls** - The vehicle **must** be provided with a cruise control system with a fast idle feature.

3.13 **Instruments**

- (a) All dash board gauges and readouts **must** be in metric units; and

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- (b) Gauges and readouts which show both metric and English units will be accepted.
- 3.14 **Electrical System**
- (a) The electrical system **must** be provided with an alternator with an output of at least 200 amperes;
 - (b) The electrical system **must** be provided with maintenance-free batteries with at least 2,500 cold cranking amperes (CCA);
 - (c) The electrical system **must** be provided with a master disconnect switch for vehicles with air brakes, which does not disconnect clocks or the fuel-fired pre-heater (if installed);
 - (d) The wiring **must** be protected by insulating grommets where passing through metal; and
 - (e) The electrical system **must** be provided with a backup alarm that is activated when the vehicle transmission is in reverse.
- 3.15 **Lighting**
- (a) The vehicle **must** be provided with integral LED body lighting;
 - (b) The lighting system **must** be provided with headlights, clearance lights, stop lights, turn signal lights, tail-lights, and reverse movement lights;
 - (c) The vehicle **must** be provided with fog lights either inset in the bumper or mounted below the bumper; and
 - (d) The vehicle **must** be provided with variable illuminating interior lighting to enable night time operation.
- 3.16 **Lubricants and Hydraulic Fluids**
- (a) The vehicle **must** operate using synthetic non-proprietary lubricants and hydraulic fluids; and
 - (b) The vehicle **must** be provided with grease fittings conforming to SAE J534.
- 3.17 **Paint Colour**
- (a) The vehicle **must** be painted in the colour identified in the contract; and
 - (b) The vehicle **must** be painted Olive Drab Flat.
- 3.17.1 **Conspicuity** - Conspicuity tape **must** be provided in accordance with MSVA regulations.
- 3.17.2 **Corrosion Protection**
- (a) The vehicle **must** be protected with a rust protection treatment such as Krown, Rust Check or an **equivalent**; and
 - (b) The warranty papers from the rust protection system provider **must** accompany each vehicle.
- 3.18 **Identification** - The vehicle information (manufacturer's name, model, Vehicle Identification Number (VIN) and the GAWR, GVWR and GCWR ratings) **must** be permanently marked in conspicuous and protected locations.
- 3.18.1 **Warning and Instruction Plates**
- (a) The vehicle **must** be provided with warning and operation instruction plates in accordance SAE J115;
 - (b) The plates **must** be visible to a person standing near the location; and

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- (c) The plates **must** use graphic symbols, as defined in SAE J1362 or be written in the two (2) official languages (English and French).

3.19 **Equipment**

(a) **Tow Hooks**

- i The vehicle **must** be provided with tow hooks mounted at the front and at the rear; and
- ii Tow hooks and mountings **must** have the strength to permit the recovery of the vehicle.

(b) **License Plate Holders**

- i The vehicle **must** be provided with front and rear license plate holders; and
- ii The rear license plate **must** be illuminated.

- (c) **Filler Caps** – The vehicle **must** be provided with permanently marked filler caps, which identify the contents using international symbols or in writing using both French and English;

- (d) **Mud Flaps** - The vehicle **must** be provided with front mud flaps.

(e) **Aluminum Compartment**

- i The vehicle **must** be provided with a curbside frame mounted aluminum compartment;
- ii The compartment size **must** have the same volume as a compartment, which is 910 mm x 610 mm x 610 mm;
- iii The compartment **must** have side swinging doors which do not interfere with access or operations;
- iv The compartment **must** be of weatherproof construction with anti-return type drainage;
- v The compartment **must** have the interior walls and floor sprayed with an impact and noise protective coating;
- vi The compartment **must** have floor lined with removable perforated vinyl matting; and
- vii The compartment **must** have a cover equipped with a means to be secured using a padlock or a common keyed lock.

3.20 **Body System**

(a) **Troop Carrying/Cargo Body**

- i The vehicle **must** be equipped with a troop carrying/cargo body;
- ii **Body Dimensions**
 - 1. The vehicle **must** be provided with a troop carrying body having a nominal exterior length of 4,880 mm (16 Foot);
 - 2. The troop carrying body **must** have a nominal exterior width of 2,440 mm (96 inches); and
 - 3. The floor **must** be slip resistant.

iii **Bulkhead & Sides**

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1. A bulkhead rack with screen window opening aligned with rear cab **must** be provided;
2. The bulkhead **must** be constructed using a 76 mm (3 inch) steel C-channel frame installed on the platform, covered with minimum 12 gauge steel and expanded metal mesh on the window opening;
3. The body sides **must** be constructed of minimum 10 gauge sheet steel, 51x51 mm (2x2 inch) steel tubing, with a thickness of 3 mm (1/8 inch) and **must** form the vertical supports and be located on 1219 mm (4 feet) centres;
4. The sides **must** be 914 mm (36 inches) high. The sides **must** be permanently fixed to the body frame and floor;
5. The sides **must** be provided with handles mounted at the end of the vehicle to assist troop boarding; and
6. The sides **must** be provided with an attachment at the end of the vehicle for a safety strap like the one shown in figure 2, at the end of this document.

iv **Tie Down Rings**

1. The troop carrying/cargo body **must** be provided with two (2) rows of six (6) evenly spaced, 2,275 kg capacity, recessed (flush mounted), tie-down rings; and
2. The tie-down rings **must** be "D" shaped with drain holes, secured to the floor and positioned as close as possible to the sides of the body, but not more than 203 mm from the sides.

v **Tailgate**

1. The body **must** be equipped with a swing down tailgate;
2. The tailgate **must** be of similar construction to the body sides;
3. The tailgate **must** be equipped with a two-point slam-latch locking mechanism, with release mechanism that can be operated by one person from inside or outside of the box; and
4. The hinges and mechanism **must** have provisions for lubrication.

vi **Troop Entry/Egress**

1. The vehicle **must** be provided with a troop entry/egress system on each side of the rear of the cargo body;
2. The troop entry/egress system **must** be provided with step points that are minimum 203 mm (8 inches) wide and that are accessible and functional with the tailgate lowered; and
3. The troop entry/egress system must be provided with grab handles that are accessible to allow troops to enter and exit the rear body.

vii **Superstructure**

1. A removable metal superstructure without sharp edges or protrusions **must** be provided;
2. The superstructure **must** have crossbows on 1,219 mm (48 inches) centers;

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3. Superstructure material **must** be 22 mm (7/8 inches) aluminum solid rod;
4. The front superstructure crossbow, above the bulkhead **must** be filled with a solid sheeting material; and
5. The sheeting material must be constructed of aluminum with a minimum thickness of 1/8”.

viii

Troop Seats

1. Two (2) half-length, fold-down center facing troop seats on each side of the body **must** be provided;
2. When deployed to the sitting position, the top of the troop seats **must** be at least 431 mm (17 inches) and not more than 456 mm (18 inches) above the floor, and at least 431 mm (17 inches) deep;
3. Each individual bench assembly **must** be of sufficient strength and construction to support the combined weight of 5 personnel weighing 90 kg (200 lbs) each (a total of 450 kg (1000 lbs)) while the vehicle is traversing rough terrain;
4. A positive latching mechanism for securing the seats in the stowed/up position **must** be provided;
5. When the troop seats are in the stowed/up position, the seat assembly must fold flat against the sides;
6. The troop seating surfaces **must** be fabricated from durable inorganic materials or from organic materials that are resistant to environmental effects (moisture, weather, ultra-violet light, etc.); and
7. The troop seats **must** be finished in a paint colour similar to the colour of the troop carrier body.

ix

Mounting

1. The body **must** be mounted using the appropriate number of U-bolts or shear plates as required for the length of body being secured;
2. A full-length hardwood spacer **must** be provided.

x

Tarpaulin

1. The troop carrying body **must** be provided with a full tarpaulin over the superstructure;
2. The tarpaulin **must** be fabricated from a pliable and crack resistant material that withstands temperatures down to -40° C;
3. The material **must** be at least 18 ounce;
4. The tarpaulin material **must** be a colour similar to the colour of the troop carrier body.
5. The tarpaulin **must** be reinforced along the crossbows, with continuous strips of 100 mm wide tarpaulin material;
6. The tarpaulin **must** extend at least 250 mm below the top edge of the troop carrying body bulkhead, sides and tailgate;
7. The tarpaulin **must** be provided with a roll-up rear flap, securable in both the up or down positions;

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8. The tarpaulin **must** be provided with rear end closure using overlapping flaps from the sides to the rear of the troop carrying body;
9. The tarpaulin **must** be secured to the crossbows using at least eight (8) 25 mm nylon straps with Velcro or **Equivalent**;
10. The tarpaulin **must** be secured and under tension when installed over the superstructure and attached to the bulkhead, sides, and tailgate;
11. The tarpaulin **must** be secured to the vehicle using continuous, self-tensioning, black, polyurethane/ rubberized bungee rope(s);
12. The rope(s) **must** be hooked to eyelets in the tarpaulin and to secure anchor points on the bulkhead, sides and tailgate;
13. The tarpaulin edges **must** be reinforced with multiple layers of material with attachment points (eyelets) on the tarpaulin edges at no greater than 400 mm spacing.

(b) **Towing Provisions**

- i A pintle hook **must** be provided;
- ii The pintle hook **must** be a Holland Model BH200RN41 or **Equivalent**;
- iii The horizontal centerline of the pintle hook **must** be 610-mm to 711-mm (24 to 28-Inches) above the ground;
- iv Heavy-duty trailer safety chain towing shackles **must** be installed on both sides of the pintle hook;
- v Service (blue) and emergency (red) airline connectors must be provided on the rear pintle mounting plate;
- vi An electric brake controller must be provided in the cab accessible to the driver;
- vii **Pintle Mounting Plate**
 1. A pintle hook plate assembly **must** be provided.
 2. The plate assembly **must** be fabricated from steel;
 3. Stress analysis **must** be conducted to confirm the ability of the plate to withstand the specified towed load; and
 4. The analysis result **must** be supplied to the **Technical Authority**.
- viii A line drawing detailing the location of the items in the following drawing for the plate design **must** be supplied to **Technical Authority**. Such a drawing may look like Figure 1, below.

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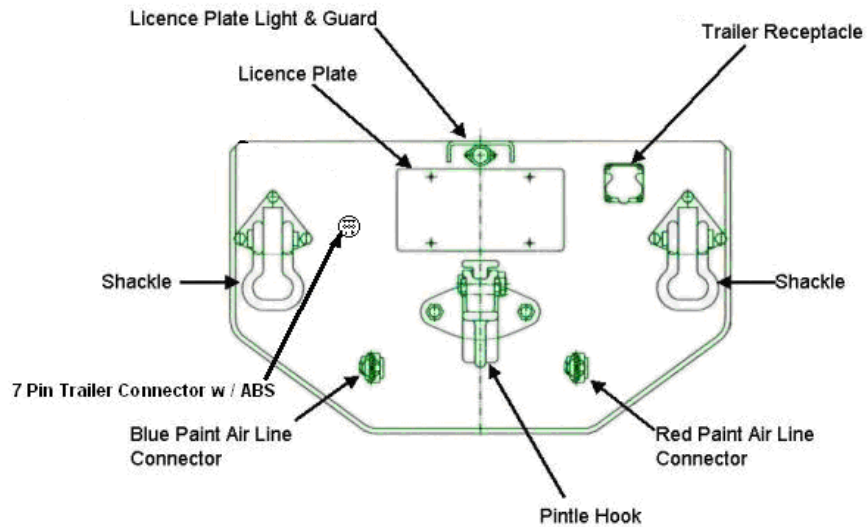


Figure 1 – Possible Pintle Hook Plate Arrangement

- (c) **Rear Bumper**
A rear ICC bumper must be provided at the rear of the vehicle.
- (d) **Dangerous Goods Placard Holders**
 - i The vehicle **must** be provided with four (4) aluminum dangerous goods placard holders;
 - ii One holder **must** be mounted at the centre of each side of the body, near the bottom;
 - iii One holder **must** be mounted at the rear of the body, at the lower curb side corner; and
 - iv One holder **must** be mounted on the front of the vehicle body on the left side.
- (e) **Fire Extinguisher**
 - i The vehicle **must** be provided with two (2) in-cab chemical fire extinguishers accessible by the operator.

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4. **INTEGRATED LOGISTIC ITEMS**

4.1 **Contractor Documentation and Integrated Logistic Items**

4.1.1 **Documents to *Technical Authority* (Designated Contact) on Contract**

(a) **Manuals for Approval**

- i The Contractor **must** supply access to a set of manuals, in digital format including the operator, parts and maintenance (shop repair) manuals;
- ii The set of manuals **must** include manuals for all the specified accessories and features. Accessory manuals may be included as supplements to the vehicle manuals;
- iii Digital copies **must** be supplied as a searchable PDF format or **Equivalent**;
- iv On-line maintenance manuals may be supplied in lieu of the digital maintenance manuals, however, these **must** be provided without subscription fees;
- v Digital copies **must** be functional without the requirement for a password, an auto-run installation procedure or an Internet connection;
- vi Digital copies **must** be supplied on a CD or a DVD;
- vii A separate CD/DVD **must** be supplied for each Make/ Model with all accessories;
- viii The CD or DVD **must** be permanently and legibly marked with a list of contents;
- ix Manuals will not be returned;
- x Manual approval or comments will be supplied within 15 working days of receipt; and
- xi The Contractor **must** supply responses to the **Technical Authority's** comments.

(b) **Photographs and Line Drawings**

- i The Contractor **must** supply two (2) digital colour photographs, one left-front three-quarter full vehicle view, and one right-rear three-quarter full vehicle view;
- ii One (1) digital colour photograph of each attachment taken at the three-quarter view that best illustrates the attachment **must** be supplied;
- iii One (1) front-view and one (1) side-view line drawing showing dimensions of the vehicle **must** be supplied. Brochure line drawings are acceptable;
- iv Photographs **must** an plain background;
- v Photographs **must** be in a JPEG (Joint Photographic Experts Group) format; and
- vi Photographs **must** have a resolution of at least eight (8) Mega pixels.

(c) **Data Summary**

- i The Contractor **must** supply a bilingual data summary, with vehicle data (including accessories and features) and a vehicle picture, for each DND contract;

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- ii The **Technical Authority** will supply a bilingual template of a data summary to the Contractor;
 - iii The Contractor **must** submit a digital copy (MS Word) of the completed data summary for approval;
 - iv Data summary approval or comments will be supplied within 15 working days of receipt; and
 - v The Contractor **must** provide responses to the Technical Authority's comments.
- (d) **Warranty Letter**
- i The **Technical Authority** will supply a current bilingual warranty letter template to the Contractor;
 - ii The Contractor **must** supply a complete description of the warranty with the requested warranty terms and any system or sub system warranty that exceeds the minimum requested;
 - iii The warranty letter **must** include the name and contact information of the closest designated warranty provider and other designated warranty providers across Canada;
 - iv Designated warranty providers **must** honour the warranty letter; and
 - v The Contractor **must** supply a copy of the warranty letter, in PDF digital format, for each vehicle delivered, to the **Technical Authority** or the designated contact for non-DND users.
- (e) **Safety Data Sheets**
- i The Contractor **must** supply a list, in digital format, of all hazardous materials used on the vehicle;
 - ii If there are no hazardous materials are used, this **must** be stated on the list; and
 - iii The Contractor **must** supply safety data sheets of all hazardous materials in the list.
- (f) **Rust Protection Warranty** - A copy, in digital format, of the warranty from the rust protection provider **must** be supplied, to the **Technical Authority** or the designated contact for non-DND users;
- (g) **Training Plan(s)** - The Contractor **must** supply the training plan for approval, for each of the training requirements listed in paragraph 4.2 to the **Technical Authority**, or the designated contact for non-DND users; and
- (h) **Line Setting Ticket** – The Contractor **must** supply a copy of the production line setting ticket, in digital format, with supplemental listing for each completed vehicle, to the **Technical Authority**, or to the designated contact for non-DND users.

4.1.2 **Items Supplied with Each Vehicle**

- (a) **Operator's Manual** - The Contractor **must** supply an approved bilingual operator's manual in both paper and digital format;
- (b) **Warranty Letter** - The Contractor **must** supply a paper copy of the warranty letter;
- (c) **Safety Data Sheets**
 - i The Contractor **must** supply a set of safety data sheets; and

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- ii The safety data sheets **must** be the same as those provided to the Technical Authority as per paragraph 4.1.1 (e).
- (d) **Rust Protection Warranty** – The Contractor **must** supply a copy of the warranty letter from the rust protection provider.
- (e) **Line Setting Ticket** – The Contractor **must** supply a copy of the production line setting ticket with supplemental list.

4.1.3

Additional Items

(a) **Digital Maintenance Manual - English**

- i The Contractor **must** supply the approved searchable digital maintenance (shop repair) manuals in English required for maintenance and repair of the vehicle features and accessories;
- ii The Contractor may supply this deliverable as a bilingual package;
- iii On-line maintenance manuals may be supplied in lieu of the digital maintenance manuals, however, these **must** be provided without subscription fees.
- iv Digital copies **must** be functional without the requirement for a password, an auto-run installation procedure or an Internet connection; and
- v Digital copies **must** be supplied on a CD or a DVD.

(b) **Digital Parts Manual**

- i The Contractor **must** supply the approved searchable digital parts manuals required the vehicle, features and accessories on a CD/DVD-ROM;
- ii On-line parts manuals may be supplied in lieu of the digital maintenance manuals, however, these **must** be provided without subscription fees; and
- iii Digital copies **must** be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.

4.2

Training

(a) **Training – Familiarization - English**

- i The Contractor **must** supply a familiarization course in English, at the delivery destination, optimized for operators and technicians who are qualified on the vehicle type but require training on newer or unique features and sub-systems of the delivered model;
- ii The instructor **must** be an OEM Factory Certified Training Provider;
- iii **Curriculum**
 - 1. The familiarization course **must** include operation and maintenance segments;
 - 2. The operation segment **must** include safety precautions to be observed while operating and servicing the vehicle, vehicle operating characteristics, pre-operating and shutdown procedures and daily/weekly operator servicing procedures;
 - 3. The operation segment **must** include sub-systems including automatic grease system and pre-heaters; and
 - 4. The operation segment **must** demonstrate all safety measures required for safe vehicle maintenance.

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- iv The familiarization course **must** have a minimum duration of eight (8) hours, divided into four (4) hours for operators and four (4) hours for technicians;
 - v The familiarization course **must** accommodate up to eight (8) personnel; four (4) operators and four (4) technicians;
 - vi For vehicles shipped to DND, the date for the familiarization course **must** be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped for users other than DND;
 - vii After completion of the familiarization course, the Contractor **must** have the “**PROOF OF FAMILIARIZATION**” certificate signed by the senior course attendee; and
 - viii The **Technical Authority** will supply the “**PROOF OF FAMILIARIZATION**” document template in a digital format.
- (b) **Training – Familiarization - French**
- i The Contractor **must** supply a familiarization course in French when requested by the **Technical Authority**, at the delivery destination, optimized for operators and technicians who are qualified on the vehicle type but require training on newer or unique features and sub-systems of the delivered model;
 - ii The instructor **must** be an OEM Factory Certified Training Provider;
 - iii **Curriculum**
 - 1. The familiarization course **must** include operation and maintenance segments;
 - 2. The operation segment **must** include safety precautions to be observed while operating and servicing the vehicle, vehicle operating characteristics, pre-operating and shutdown procedures and daily/weekly operator servicing procedures;
 - 3. The operation segment **must** include sub-systems including automatic grease system and pre-heaters; and
 - 4. The operation segment **must** demonstrate all safety measures required for safe vehicle maintenance.
 - iv The familiarization course **must** have a minimum duration of eight (8) hours, divided into four (4) hours for operators and four (4) hours for technicians;
 - v The familiarization course **must** accommodate up to eight (8) personnel; four (4) operators and four (4) technicians;
 - vi For vehicles shipped to DND, the date for the familiarization course **must** be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped for users other than DND;
 - vii After completion of the familiarization course, the Contractor **must** have the “**PROOF OF FAMILIARIZATION**” certificate signed by the senior course attendee; and

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- viii The *Technical Authority* will supply the “**PROOF OF FAMILIARIZATION**” document template in a digital format.



Figure 2- Rear View of Vehicle with Safety Strap