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**SOLICITATION AMENDMENT  
MODIFICATION DE L'INVITATION**

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

**Comments - Commentaires**

**Vendor/Firm Name and Address**

**Raison sociale et adresse du  
fournisseur/de l'entrepreneur**

**Issuing Office - Bureau de distribution**

**Industrial Vehicles & Machinery Products Division**

**LEFTD - HS Division**

**140, O'Connor Street/**

**140, rue O'Connor,**

**East Tower, 4th Floor/**

**Tour Est, 4e étage**

**Ottawa**

**Ontario**

**K1A 0S5**

<b>Title - Sujet</b> Forklift Trucks	
<b>Solicitation No. - N° de l'invitation</b> W8476-196080/A	<b>Amendment No. - N° modif.</b> 002
<b>Client Reference No. - N° de référence du client</b> W8476-196080	<b>Date</b> 2019-05-16
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$\$HS-610-76997	
<b>File No. - N° de dossier</b> hs610.W8476-196080	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2019-06-18</b>	
<b>Time Zone</b> <b>Fuseau horaire</b> Eastern Daylight Saving Time EDT	
<b>F.O.B. - F.A.B.</b> Specified Herein - Précisé dans les présentes <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input type="checkbox"/> <b>Other-Autre:</b> <input checked="" type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Reynolds, Kevin	<b>Buyer Id - Id de l'acheteur</b> hs610
<b>Telephone No. - N° de téléphone</b> (613) 297-1063 ( )	<b>FAX No. - N° de FAX</b> ( ) -
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b>	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

<b>Delivery Required - Livraison exigée</b>	<b>Delivery Offered - Livraison proposée</b>
<b>Vendor/Firm Name and Address</b> <b>Raison sociale et adresse du fournisseur/de l'entrepreneur</b>	
<b>Telephone No. - N° de téléphone</b> <b>Facsimile No. - N° de télécopieur</b>	
<b>Name and title of person authorized to sign on behalf of Vendor/Firm</b> <b>(type or print)</b> <b>Nom et titre de la personne autorisée à signer au nom du fournisseur/</b> <b>de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

This Amendment 002 is raised to publish questions and answers and provide revised Purchase Description and extend bid closing date.

**Question:**

Purchase Description Item 3.8 Engine, Page 11 of 20:

Please advise if an engine with Tier 3 certification would be acceptable.

**Answer:**

No – a Tier 3 engine will not be acceptable for this application.

**Question:**

3.3.3. “DS” Safety Rating

a) The vehicle must be manufactured to meet the requirements of a “DS” rating in accordance with standard UL 558; and

b) A UL authorized certification mark confirming the vehicle meets the UL safety rating must be permanently affixed to the vehicle before delivery.

Would a CE rating be accepted instead of UL?

**Answer:**

No – a “CE” rating will not be acceptable for this application.

**Question:**

The Department of National Defence has a requirement to purchase six (6) Rough Terrain Forklift Trucks and ancillary items in accordance with the Purchase Description for Rough Terrain and Aircraft Loading, All-Wheel Drive & All-Wheel Steering, Diesel Engine Driven, Sit Down Rider Type Forklift Trucks Rough Terrain Forklift Trucks, dated 25 February, 2019, and as described at Annex A - Pricing.

Is all-wheel steering a mandatory specification? If so, can you please provide a link to an example unit you are referencing.

**Answer:**

Yes – all-wheel steering is a mandatory requirement for this application. Liftking Model LK10P44, for example, is in service with DND.

All other terms and conditions remain.



**NOTICE**

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

**The Canadian Forces Material Handling Equipment**

**Purchase Description (PD) for Rough Terrain and Aircraft Loading, All-Wheel Drive & All-Wheel Steering, Diesel Engine Driven, Sit Down Rider Type Forklift Trucks.**

14 May 2019

OPI: DSVPM 4/DAPVS 4  
National Defence Headquarters  
Major General George R. Pearkes Building  
Ottawa, Ontario  
K1A 0K2

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Issued on Authority of the Chief of the Defence Staff

**Canada**

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1. **SCOPE**

1.1 **Scope** - This Purchase Description describes the requirements for rough terrain, all-wheel drive and all-wheel steering, diesel engine driven, sit down rider forklift trucks.

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 provided 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, at no cost to Canada, when requested by the ***Technical Authority***;
- e) Where technical certification is required, a copy of the certification or an ***Equivalent must*** be provided by the Contractor upon request;
- f) While the SI system is used as the primary system of measurement to define requirements in this Purchase Description, both the SI system and the Standard system of measurements may be indicated. Conversions from one system of measurement to the other may not be exact; and
- g) Dimensions stated as nominal ***must*** be treated as approximate dimensions. Nominal dimensions reflect a method by which materials or products are generally identified for sale commercially, but which differ from the actual dimensions.

1.3 **Definitions** - The following definitions apply to the interpretation of this Purchase Description:

1.3.1 “***Technical Authority***” - The government official responsible for technical content of this requirement.

1.3.2 “***Provided***” ***must*** means “provided and installed”.

1.3.3 “***Equivalent***” - A standard, means, or component type, which has been accepted by the ***Technical Authority*** as meeting the specified requirements for form, function and performance.

- 
- 1.4 **Requirements Summary Table** - Vehicles covered by this Purchase Description are represented as Configurations. The following table indicates performance and features by Configuration:

			CONFIGURATION
CHARACTERISTIC	PARAGRAPH	UNITS	A
LOAD CENTRE	3.4.2(a)	mm	1,220
		in	48
LIFT CAPACITY	3.4.2(b)	kg	4536
		lbs	10,000
LIFT HEIGHT	3.4.2(c)	mm	3,658
		in	144
OVERALL HEIGHT	3.4.2(d)	mm	3,556
		in	140
SIDE SHIFT ON EACH SIDE	3.4.2(f)	mm	76
		in	3
FORK LENGTH	3.5.1(b)	mm	2,438
		in	96

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## 2. **APPLICABLE DOCUMENTS**

### 2.1. **Government Furnished Documents** – Not applicable

### 2.2. **Other Publications** – The following documents form part of this Purchase Description. Websites for the organization are given when available. Unless otherwise specified, effective documents are those in effect on the date of manufacture. Sources are as shown:

#### 2.2.1. **CAN/CSA Standards**

CAN/CSA-B335-04                      Safety Standard for Lift Trucks  
CAN/CSA Z107.56-13                Measurement of Noise Exposure  
Canadian Standards Association (CSA)  
5060 Spectrum Way, Mississauga, Ontario, L4W 5N6  
<http://www.csa.ca/Default.asp?language=English>

#### 2.2.2. **UL Standards**

UL 558    Standard for Safety, Industrial Trucks, Internal Combustion  
                 Engine-Powered  
Underwriters' Laboratories of Canada  
7 Crouse Road, Scarborough, Ontario, M1R 3A9  
<http://www.ulc.ca/>

#### 2.2.3. **ANSI Standards**

ANSI/ITSDF B56.6    Standard for Safety for Rough Terrain Forklift Trucks  
Industrial Truck Standards Development Foundation  
1750 K Street NW, Suite 460, Washington DC 20009, USA  
<http://www.itsdf.org/>

#### 2.2.4. **SAE Standards**

SAE J1310            Electric Engine Preheaters and Battery Warmers for Diesel  
                         Engines Information Report  
Society of Automotive Engineers Inc.  
400 Commonwealth Drive, Warrendale, PA, 15096 <http://www.sae.org>

#### 2.2.5. **Canada Occupational Safety and Health Regulations**

Department of Justice/Government of Canada  
<http://laws-lois.justice.gc.ca/eng/regulations/sor-86-304/>

#### 2.2.6. **ISO Standards**

ISO 13284 Fork-lift trucks, Fork-arm extensions and telescopic fork arms  
International Organization for Standardization  
<https://www.iso.org/standard/34067.html>

#### 2.2.7. **Mil-Standard 1366E**

Interface Standard for Transportability Criteria

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### 3. **REQUIREMENTS**

#### 3.1. **Standard Design**

- 3.1.1. The vehicle **must** be the latest model from a manufacturer who has demonstrated acceptability by manufacturing and selling this type and size class of vehicle for at least one (1) year;
- 3.1.2. The vehicle **must** have engineering certification available, upon demand, for this application from the original equipment manufacturers (OEM) of major equipment systems and assemblies;
- 3.1.3. The vehicle **must** conform to all applicable laws, regulations and industrial standards governing manufacture, safety, noise levels and emissions in effect in Canada at the time of manufacture;
- 3.1.4. The vehicle **must** have systems and components not operating at greater than their ratings published by the systems or components manufacturers; and
- 3.1.5. The vehicle **must** include all components, equipment and accessories normally supplied for the model offered, although they may not be specifically described in this Purchase Description.

#### 3.2. **Operating Conditions**

- 3.2.1. **Weather** – The vehicle **must** start and operate under weather conditions found in Canada in temperatures ranging from -40°C to 40°C (-40°F to 104°F).

#### 3.2.2. **Terrain**

- a) The vehicle **must** operate on use-roughened concrete floors, deteriorated outdoor paved surfaces and packed gravel with potholes while being used for stacking and un-stacking pallets and moving general supplies in and around warehouses; and
- b) The vehicle **must** operate off-road (e.g. construction sites, open fields and dirt tracks) including year round operations on snow, mud, sand, and ice.

#### 3.3. **Safety Standards**

- 3.3.1. **Noise Level** – The vehicle noise levels **must** meet the requirements of legislation relative to paragraph 7.4 of Canada Occupational Safety and Health Regulations both at the operator's station and exterior to the vehicle for exposures of eight (8) hours during a 24 hour period when measured in accordance with CAN/CSA Z107.56-13.
- 3.3.2. **Vehicle Safety** – All vehicle design, construction and safety aspects **must** be in accordance with the latest edition of ANSI/ITDSF B56.6.
- 3.3.3. **“DS” Safety Rating**
  - a) The vehicle **must** be manufactured to meet the requirements of a “DS” rating in accordance with standard UL 558; and
  - b) A UL authorized certification mark confirming the vehicle meets the UL safety rating **must** be permanently affixed to the vehicle before delivery.



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### 3.4. **Performance**

#### 3.4.1. **Vehicle Performance**

- a) The vehicle, loaded to the “**LIFT CAPACITY**” listed in the Requirements Summary Table (paragraph 1.4) **must** achieve a forward speed of at least 25 km/h (15.5 mph) on asphalt road; and
- b) The vehicle, loaded to the “**LIFT CAPACITY**” listed in the Requirements Summary Table (paragraph 1.4) **must** achieve a gradeability of at least 35 percent under terrain conditions specified in section 3.2.2.

#### 3.4.2. **Forklift Performance**

- a) The vehicle, with the standard mast and no accessories, **must** have a load capacity of at least that given as “**LIFT CAPACITY**” at the load centre given as “**LOAD CENTRE**” in the Requirements Summary Table (paragraph 1.4);
- b) The load capacity **must** not de-rate to less than the “**LIFT CAPACITY**” in the Requirements Summary Table (paragraph 1.4) below a lift height of 2591 mm (102 inches);
- c) The vehicle **must** achieve a lift height of at least that given as “**LIFT HEIGHT**” in the Requirements Summary Table (paragraph 1.4). This will be measured from the floor to the top of the forks with the mast in an extended, straight up vertical position;
- d) The vehicle **must** have an over-all vehicle height at its highest point, with its mast collapsed and in vertical position, of no more than that given as “**OVERALL HEIGHT**” in the Requirements Summary Table (paragraph 1.4); and
- e) The capacity of the vehicle **must** not de-rate by more than 227kg (500 lbs) while side shifter is in use.

#### 3.4.3. **Dimensions**

- a) The vehicle **must** have a clearance between the lowest fixed point of the vehicle and the ground of not less than 305 mm (12 inches); and
- b) The vehicle **must** have approach and departure angles of not less than 25 degrees.

#### 3.4.4. **Air Transportability**

- a) The vehicle **must** be air transportable by a CAF C-17 without requiring any dismounting of any vehicle assemblies and accessories; and
- b) The vehicle **must** meet all criteria for air-transport in a CAF C-17 aircraft in accordance with mil-std-1366E.

### 3.5. **Equipment**

#### 3.5.1. **Application Equipment**

- a) **Mast**

- 
- i. The vehicle **must** be provided with a telescopic, hydraulic vertical mast having a minimum 15-degree forward tilt capability and minimum 10-degree backward tilt capability. These tilt capacities are measured from the mast, vertical straight up position; and
    - ii. The mast **must** provide the operator a clear view of the fork-tips when the forks are on the ground level and the mast is in the vertical, straight up position.
  - b) **Forks**
    - i. The vehicle **must** be provided with forks having a nominal length of that given as “**FORK LENGTH**” in the Requirements Summary Table (paragraph 1.4); and
    - ii. Upon request by DND, forks with a nominal length of 1,828 mm (72 inches) or 1,524 mm (60 inches) **must** be provided in lieu of the fork lengths specified in paragraph 3.5.1 (b-i).
  - c) **Roller Forks**
    - i. Each vehicle **must** be provided with removable roller fork sleeves;
    - ii. All roller fork design, manufacturing, and safety aspects **must** be in accordance with the latest version of ISO 13284;
    - iii. The roller forks **must** be able to lift at least that given as “**LIFT CAPACITY**” at the load centre given as “**LOAD CENTRE**” in the Requirements Summary Table (paragraph 1.4); and
    - iv. The roller fork sleeves **must** have a minimum length of 2,438 mm (96 in) and be no longer than 3048 mm (120 in).
  - d) **Backrest** - The vehicle **must** be provided with a standard load backrest having a minimum height of 1066 mm (42 inches);
  - e) **Mast Accumulator** – The vehicle **must** be provided with a mast accumulator system to absorb impact loads while the vehicle is traversing tracks, potholes and other obstacles;
  - f) **Fork-Levelling System** – The vehicle **must** be provided with a fork-levelling system that accommodates the lifting of pallets that are inclined up to no less than 15 percent to either side of the vehicle;
  - g) **Integrated Fork Positioning/Side Shifter**
    - i. The vehicle **must** be provided with an integrated fork positioning side shifter attachment that allows the operator, from the operator station, to increase and decrease the spacing between the unloaded forks as well as side shifting the fully loaded forks simultaneously to either side of the centre of the carriage; and
    - ii. The vehicle **must** have a side shift to either side of the carriage of at least that given as “**SIDE SHIFT**” in the Requirements Summary Table (paragraph 1.4).

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- h) **Rear-Mounted Pintle Hook**
- i. The vehicle **must** be provided with a rigid mounted pintle hook located at the rear of the forklift;
  - ii. The pintle hook **must** be mounted no less than 559 mm (22 inches) and no more than 711 mm (28 inches) above the ground level;
  - iii. The pintle hook **must** accommodate a lunette with an internal diameter of 76 mm (3 inches) and material thickness of 41 mm (1-5/8 inches); and
  - iv. The pintle hook **must** be a Holland Model or an **Equivalent**.
- i) **Vehicle Tie-Down Devices**
- i. The vehicle **must** be provided with at least four permanent and integrally mounted vehicle tie-down devices;
  - ii. The vehicle tie-down devices, working as a system, **must** be designed to withstand a forward load of 4 G's, a rearward load of 4 G's, an upward load of 2 G's and a side load of 1.5 G's (1 G = shipping weight of the equipment). These loads are not imposed simultaneously;
  - iii. The vehicle tie-down devices **must** be designed/located to prevent shifting or movement during transport on low-bed trailers, rail cars and aboard ships;
  - iv. The vehicle tie-down devices **must** be located to permit attachment of cables, turnbuckles, chains, and hooks;
  - v. The vehicle tie-down devices **must** be identified and marked with maximum load permitted;
  - vi. The vehicle tie-down load markings **must** be painted using a contrasting colour; and
  - vii. The vehicle tie-down information **must** be shown in the Operator's Manual and inside the vehicle cab (in the form of decals).
- j) **Vandalism Protection** – The vehicle **must** be provided with vandal protection including provisions for locking engine covers, filler caps and the cab with padlocks;
- k) **Recovery Hooks**
- i. The vehicle **must** be provided with recovery hooks (towing hooks, loops, or a component with **Equivalent** capability) at the rear of the vehicle; and
  - ii. Recovery hooks whose location is other than directly attached to/mounted on the vehicle frame **must** be approved by the **Technical Authority**.
- l) **Tool Compartment**
- i. The vehicle **must** be provided with secure storage for all tools and loose equipment required for daily maintenance; and

- 
- ii. The tool storage **must** be weatherproof and protect tools and loose equipment from the environment.
  - m) **Filler Caps**
    - i. The vehicle **must** be provided with filler caps that clearly and permanently identify the contents; and
    - ii. Filler caps **must** be identified by using international symbols, a standard (i.e. SAE 10W30) or be written out in both French and English.
  - n) **Camera System**
    - i. The vehicle **must** be provided with a camera system having adjustable mounting systems for individual cameras;
    - ii. The camera **must** provide visibility to the front and the rear of the vehicle to the operator;
    - iii. The front camera **must** provide operator visibility of the tips of the forks;
    - iv. The rear camera **must** be mounted at the rear of the vehicle to operate as a back-up camera; and
    - v. The camera system **must** be provided with a display screen inside the cab that is visible to an operator sitting in the operator's seat.
  - o) **Fire Extinguisher**
    - i. The vehicle **must** be provided with at least one (1) 2.2 kg (4.85 lb nominal) portable, low temperature rated fire extinguisher (blue) having a minimum ULC rating of 2A-10BC (NSN 4210-21-871-9134); and
    - ii. The fire extinguisher(s) **must** be installed such that it does not interfere with the operation of the vehicle or the view of the operator and is readily accessible to the operator.

### 3.6. **Operator Station**

#### 3.6.1. **FOPS Cab**

- a) The vehicle **must** be provided with a Falling Object Protective Structure (FOPS) cab system;
- b) The FOPS cab **must** be weatherproof and insulated;
- c) The FOPS cab **must** be provided with a heating, ventilating, and defrosting system capable of keeping windows free from frost and moisture;
- d) The FOPS cab **must** be provided with automotive standard tinted safety glass in all windows;
- e) The FOPS cab **must** be provided with a windshield wiper and washer system for the front and rear windows;

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- f) The FOPS cab **must** be provided with two (2) lockable doors, or one (1) door and no less than one (1) visibly labelled window as an emergency escape route; and
  - g) The vehicle **must** be provided with a load chart within the FOPS cab showing load capacities at various lift heights.
- 3.6.2. **Operator's Seat**
- a) The vehicle cab **must** be provided with a padded air suspension, cloth covered operator's seat with a backrest and seatbelt; and
  - b) The operator's seat **must** be fore/aft and vertically adjustable without having to have the operator move from the seated position.
- 3.6.3. **Rear-View Mirrors**
- a) The vehicle cab **must** be provided with adjustable rear-view mirrors, positioned for safe reverse operation;
  - b) If mirrors mounted on the exterior of the cab are used, they **must** be heated by activating an in-cab control;
  - c) The non-reflective surface of the mirrors **must** be flat black; and
  - d) The mirrors **must** be a split type with 25% of the reflective surface area comprising a convex mirror.
- 3.6.4. **Air Conditioner**
- a) The vehicle cab **must** be provided with an air conditioning system; and
  - b) The air conditioning system **must** not use an ozone-depleting refrigerant.
- 3.7. **Chassis** – The vehicle chassis **must** be the Contractor's standard for a vehicle of this type and size.
- 3.8. **Engine** – The vehicle **must** be provided with a diesel engine that meets or exceeds Tier-4i certification.
- 3.8.1. **Fuel Tank(s)** – The vehicle **must** be provided with a fuel tank having a capacity that allows the continuous operation of the forklift for eight (8) hours or more.
- 3.8.2. **Engine Cold Weather Aids**
- a) The engine **must** be provided with cold weather aids to enable the engine to be started at temperatures down to -40°C (may include glow plugs or intake air preheat system);
  - b) The engine **must** be provided with a 110 V AC powered engine coolant heater;
  - c) The engine heater(s) **must** have a capacity as recommended by the engine manufacturer or conforming to SAE J1310;
  - d) The 110 V AC engine heater(s) connecting plug **must** be accessible by an operator standing beside the vehicle;
  - e) The engine **must** be provided with a 110-volt battery blanket;
  - f) The engine **must** be provided with a battery powered, thermostatically controlled, in-line fuel heater;

- 
- g) The engine **must** be provided with a heated fuel filter/water separator; and
  - h) The vehicle **must** be provided with engine compartment side covers to limit the ingress of cold air into the engine compartment.

### 3.8.3. **Pre-Heater**

- a) The engine **must** be provided with a fuel-fired engine coolant preheat system;
- b) The pre-heater **must** have an output of no less than 8.8 kWh (30,000 BTU/hr);
- c) The fuel-fired pre-heater **must** be provided with a minimum seven (7) day programmable timer;
- d) The pre-heater model **must** be subject to **Technical Authority** approval. The desirable model is NSN 2990-12-357-4265 (Espar Hydronic M10); and
- e) The pre-heater **must** be located for ease of inspection and repair or replacement by Canadian Armed Forces (CAF) personnel in no more than 30 minutes.

### 3.9. **Transmission**

- 3.9.1. The vehicle **must** be provided with an automatic power-shift transmission with at least three (3) forward speeds and three (3) reverse speeds.
- 3.9.2. The transmission system **must** be provided with an inching control or **Equivalent** that allows the operator to perform fork functions while the vehicle is travelling at low speeds.

### 3.9.3. **All-Wheel Drive System**

- a) The vehicle **must** be provided with a driver selected, all-wheel drive system; and
- b) The all-wheel drive system **must** provide a 4 X 4 capability by delivering power equally to all wheels when selected.

- 3.10. **Brake System** - The vehicle **must** be provided with a service braking system, including a parking brake, which **must** conform to CAN/CSA B335-04 or **Equivalent**.

### 3.11. **Steering**

- 3.11.1 The vehicle steering system must be power-assisted steering which must conform to CAN/CSA B335-04 or Equivalent;
- 3.11.2 The vehicle steering must be rear-wheel steering only when 2-wheel steering (2-WS) mode is selected.
- 3.11.3 The vehicle must be provided with an operator selected 4 wheel steering (4-WS) system;
- 3.11.4 The steering system must be provided with an adjustable (tilt and telescopic) steering column; and

- 
- 3.11.5 The steering system must be provided with steering position indicators located in a position readily visible to the operator
- 3.12. **Wheels, Rims and Tires** - The vehicle **must** be provided with radial type snow and mud tires having Michelin XZL or **Equivalent** treads.
- 3.13. **Controls**
- 3.13.1. The vehicle **must** be provided with a joystick control system to operate all mast functions;
- 3.13.2. The joystick control **must** be provided with a dead man switch; and
- 3.13.3. The vehicle **must** be provided with a system to ensure that the engine can only be started with all controls in their neutral position.
- 3.14. **Instruments**
- a) The vehicle **must** be provided with an hour-meter which shows accumulated running time up to 9,999 hours; and
- b) **Weigh Scale**
- i. The vehicle **must** be provided with a weigh scale with 2 percent accuracy at forklift capacity; and
- ii. The weigh scale **must** be provided with a digital readout with zeroing capability.
- 3.15. **Electrical System**
- 3.15.1. **Warning Horn** – The vehicle **must** be provided with a readily accessible, driver-operated warning horn; and
- 3.15.2. **Back-Up Alarm System** - The vehicle **must** be provided with a back-up alarm system that is activated the vehicle's transmission is placed in reverse.
- 3.16. **Lighting**
- 3.16.1. **Reverse Movement Strobe Light**
- a) The vehicle **must** be provided with a red strobe light mounted on the rear of the vehicle; and
- b) The red strobe light **must** be activated when the vehicle's transmission is in reverse.
- 3.16.2. **Amber Coloured Strobe Light**
- a) The vehicle **must** be provided with an amber coloured, omnidirectional beacon light; and
- b) The beacon light **must** operate continuously when the vehicle ignition is in the "ON" position.
- 3.16.3. **Signal/Work Lights**
- a) The vehicle **must** be provided with two adjustable LED or **Equivalent** work lights aimed forward and rearward of the vehicle;
- b) The vehicle **must** be provided with rear mounted stop lights;
- c) The vehicle **must** be provided with front and rear mounted turn signal lights; and

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d) The signal light control **must** be mounted on the steering column.

3.17. **Hydraulic System**

3.17.1. The vehicle **must** be provided with a hydraulic system that supports the operation of all hydraulic components;

3.17.2. The hydraulic system **must** be provided with a hydraulic oil heater;

3.17.3. The heater **must** be provided with a thermostatic control system to prevent overheating of the hydraulic oil; and

3.17.4. The hydraulic oil heater may use heat from the cooling system.

3.18. **Lubricants and Hydraulic Fluids** - The vehicle **must** operate with non-proprietary, lubricants and hydraulic fluids.

3.19. **Automatic Greasing System**

3.19.1. The vehicle **must** be provided with an automatic greasing system;

3.19.2. The system **must** automatically provide grease to all greasing points recommended by the manufacturer;

3.19.3. The grease provided to the greasing points **must** be metered in accordance with the manufacturer's specifications;

3.19.4. The automatic greasing system **must** include a telltale light that indicates that the system is functioning; and

3.19.5. The automatic greasing system **must** be provided with a low grease level alarm indicator to the operator.

3.20. **Paint** - The vehicle **must** be painted using commercial colours having a high-durability, corrosion-resistant type coating.

3.21. **Identification** - The vehicle **must** be provided with an identification plate having manufacturer's name, model and serial number permanently marked in a conspicuous and protected location.

3.22. **Instruments, Decals and Data Plates**

3.22.1. Instruments, decals and data plates provided on the vehicle **must** be marked in metric units;

3.22.2. Instruments, decals and data plates **must** be marked using international symbols. Where international symbols are not possible, bilingual markings (English and French) **must** be provided; and

3.22.3. Warning and precautionary data plates **must** be provided in a bilingual format.



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#### 4. **INTEGRATED LOGISTICS SUPPORT**

##### 4.1 **Documentation and Support Items**

###### 4.1.1 **Items Provided to Technical Authority**

###### (a) **Manuals for Approval**

- i The Contractor **must** supply a set of manuals for each Configuration/model, in digital format, including the operator, parts and maintenance (shop repair) manuals. Manuals may cover more than one (1) Configuration/model;
- ii The set of manuals **must** include manuals for all the specified accessories and features for the Configuration/model. Accessory manuals may be included as supplements to the vehicle manuals;
- iii The operator manuals **must** be supplied in a bilingual format as a package;
- iv Digital copies **must** be functional without the requirement for a password, an auto-run installation procedure or an Internet connection;
- v Digital copies **must** be supplied on a CD or DVD;
- vi Digital copies **must** be supplied in a searchable PDF format;
- vii The CD or DVD **must** be permanently and legibly marked with a list of contents;
- viii Manual approval or comments will be supplied within 15 working days of receipt;
- ix The Contractor **must** supply responses to the **Technical Authority's** comments;
- x Manuals will not be returned; and
- xi Paper copies of manuals delivered under this contract **must** have the same content as the electronic format approved by the **Technical Authority**.

###### (b) **Photographs and Line Drawings**

- i The Contractor **must** supply two (2) digital colour photographs, one left-front three-quarter view, and one right-rear three-quarter view of each Configuration/Model;
- 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 side-view line drawing showing dimensions of the vehicle **must** be supplied. Brochure line drawings are acceptable;
- iv Photographs **must** have a plain background;

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- 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 for each Configuration/model, with vehicle data (including accessories and features) and a vehicle picture for each DND call-up;
  - ii The **Technical Authority** will supply a bilingual template of a data summary to the Contractor;
  - iii The Contractor **must** supply 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** supply responses to the **Technical Authority's** comments.
- (d) **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 used, this **must** be stated on the list; and
  - iii The Contractor **must** supply safety data sheets in both official languages, in digital PDF format for all hazardous materials in the list.
- (e) **Warranty Letter**
- i The **Technical Authority** will supply a 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; and
  - iv The Contractor **must** supply the original warranty letter in digital format, for each vehicle delivered, to the **Technical Authority**.
- (f) **Initial Parts Kit List**
- i The Contractor **must** supply a list of parts needed to perform preventive maintenance on one (1) vehicle for a period of one (1) year in accordance with the maintenance manual for each Configuration/Model;

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- ii A complete change of all filters and filter elements **must** be included in the list; and
  - iii The list **must** include the following elements: part description; Original Equipment Manufacturer (OEM) Part number; suggested quantity; and unit cost.
- (g) **Training Plan(s)** - The Contractor **must** supply a training plan for approval for each of the training courses listed in this Purchase Description to the **Technical Authority**. Approval or comments will be supplied within 15 working days of receipt.

#### 4.1.2 **Items with Each Vehicle**

- (a) **Operator's Manuals** - The Contractor **must** supply an approved bilingual operator's manual in both paper and digital format with each vehicle delivered;
- (b) **Warranty Letter** - The Contractor **must** supply a copy of the warranty letter with each vehicle delivered;
- (c) **Safety Data Sheets**
  - i The Contractor **must** supply a set of safety data sheets; and
  - ii The safety data sheets **must** be the same as those supplied to the **Technical Authority** as described in the Purchase Description.
- (d) **Initial Parts Kit**
  - i One (1) initial parts kit **must** be supplied; and
  - ii The initial parts kit **must** include a set of parts in the approved initial parts kit list as described in this Purchase Description.
- (e) **Maintenance Manual**
  - i The Contractor **must** supply the approved maintenance (shop repair) manuals in paper and digital format in English required for the maintenance and repair of the vehicle, features and accessories; and
  - ii The Contractor may supply this deliverable as a bilingual package.
- (f) **Parts Manual**
  - i The Contractor **must** supply the approved parts manuals for the vehicle, features and accessories;
  - ii The parts manual **must** be supplied in English in paper and digital format;
  - iii It is desirable to supply the parts manual in French in addition to the English version; and
  - iv Digital parts manuals **must** be supplied in a searchable PDF format CD/DVD-ROM.

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## 4.2 **Training**

### (a) **Training - Familiarization**

- i The Contractor ***must*** supply a familiarization course, 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 The course ***must*** be delivered in the official language (English or French) specified in the contract for that delivery destination;

#### iv **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 maintenance segment ***must*** include diagnostics, trouble shooting and operation of any special tools and test equipment (if any).
- v 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;
  - vi The familiarization course ***must*** accommodate up to eight (8) personnel; four (4) operators and four (4) technicians;
  - vii The date for the familiarization course ***must*** be arranged with the ***Technical Authority***;
  - viii After completion of the familiarization course, the Contractor ***must*** have the “**PROOF OF FAMILIARIZATION**” certificate signed by the senior course attendee; and
  - ix The ***Technical Authority*** will supply the “**PROOF OF FAMILIARIZATION**” document template in a digital format.

### (b) **Training – Troubleshooting**

- i The Contractor ***must*** supply a troubleshooting course in the official language (English or French) specified in the contract for that delivery destination;

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- ii The instructor **must** be an OEM Factory Certified Training Provider;
  - iii The troubleshooting course **must** include detailed testing, troubleshooting, problem analysis and adjustments training;
  - iv The troubleshooting course **must** have a minimum duration of twenty-four (24) hours but not exceeding eight (8) hours a day;
  - v The troubleshooting course **must** accommodate up to eight (8) maintenance personnel;
  - vi The troubleshooting course **must** be supplied at the delivery destination;
  - vii The date for the troubleshooting course **must** be arranged with the **Technical Authority**;
  - viii After completion of the troubleshooting course, the Contractor **must** have the “**PROOF OF TROUBLESHOOTING TRAINING**” certificate signed by the senior course attendee; and
  - ix The **Technical Authority** will supply the “**PROOF OF TROUBLESHOOTING TRAINING**” document template in a digital format

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## 5. **ACCEPTANCE TESTING**

- 5.1 The first vehicle **must** be examined and performance tested by the Contractor, either at the Contractor's facility or at the delivery location at the discretion of the **Technical Authority**, to ensure conformance to the requirements in this document;
- 5.2 The Contractor **must** arrange and provide necessary tools/equipment and personnel required to conduct the acceptance testing;
- 5.3 The **Technical Authority** will select items for the testing as per performance characteristics described in section 3 of this document and provide a test plan before the testing is conducted;
- 5.4 The **Technical Authority** or their authorized representative will witness this testing to assess the handling characteristics; and
- 5.5 The Contractor **must** rectify deficiencies to requirements that are identified during the acceptance testing prior to the vehicle(s) being shipped to their delivery destination.

## 6. **DELIVERY CONDITION**

- 6.1 The vehicle **must** be delivered to destination in a fully operational condition (serviced and adjusted). Both the interior and exterior **must** be cleaned;
- 6.2 If the vehicle requires assembly at destination, the Contractor **must** be responsible for all manpower and equipment to perform assembly;
- 6.3 The space for assembly at destination will be provided, if required;
- 6.4 All items such as wheel wrenches, jacks, and all other tools, equipment and accessories, which are shipped loose with the equipment, **must** be listed on the shipping certificate or to an attached packing note; and
- 6.5 The fuel tank(s) of the vehicle **must** be no less than half full on delivery.