



### **AMENDMENT 003**

This amendment is raised to publish questions and answers and modify the documents mention below as follows:

#### **1. Questions and Answers**

See Attached document

#### **2. Annex A – Group 1: Purchase Description for Group 1A and 1B**

**Delete:** In its entirety

**Insert:** See Attached document

#### **3. Annex B – Group 2: Purchase Description for Group 2A and 2B**

**Delete:** In its entirety

**Insert:** See Attached document

#### **4. Annex C – Group 3: Purchase Description for Group 3A and 3B**

**Delete:** In its entirety

**Insert:** See Attached document

#### **5. Annex C – Group 3: Technical Information Questionnaire for Group 3B (English only)**

**Delete:** In its entirety

**Insert:** See Attached document (PDF and MSWord)

#### **6. Annex D – Group 4: Purchase Description for Group 4A, 4B and 4C**

**Delete:** In its entirety

**Insert:** See Attached document

Solicitation No. - N° de l'invitation  
E60HS-15FRKL/A  
Client Ref. No. - N° de réf. du client  
E60HS-15FRKL

Amd. No. - N° de la modif.  
003  
File No. - N° du dossier  
HS634. E60HS-15FRKL

Buyer ID - Id de l'acheteur  
HS634  
CCC No./N° CCC - FMS No./N° VME

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## **7. Annex E – Group 7: Purchase Description for Group 7A and 7B**

**Delete:** In its entirety

**Insert:** See Attached document

## **8. Annex E – Group 7: Technical Information Questionnaire for Group 7B**

**Delete:** In its entirety

**Insert:** See Attached document (PDF)

**All other terms and conditions remain the same.**

## **Responses to Question on 2016 Forklift NMSO – English**

### **Question 1**

Specification For Group 1 – paragraph 3.5.1(i) - Fork Tine Position Guide

Features and Accessories 3.5.1 Item (i) Fork Tine Position Guide - We would like to review this request and explain the difficulty to install this item with the required side-shifting fork positioner.

### **Response 1**

This is required. However, the bidders can specify restrictions on using this item (Fork Tine Position Guide) with side-shifting fork positioner, but both of them must be available.

### **Amendment to Purchase Description /Technical Information Questionnaire 1**

No amendments required.

### **Question 2**

Group 1B Engine 3.8 (b)

We would like to review the emission standards that are required Tier 4 or Tier 4i.

### **Response 2**

Tier-4 engine is mandatory.

### **Amendment to Purchase Description /Technical Information Questionnaire 2**

Delete paragraph 3.8 (b) in its entirety.

Insert:

(b) The engine *shall* meet Tier 4 emission standards.

### **Question 3**

Specification For Group 3A – paragraph 1.4 Data Table

I would like to make a suggestion for a possible change/improvement.

For the shorter mast reach trucks as specified in Group 3A, Forklift Stand-up Rider, reach and Tier, can you accept a BATTERY CAPACITY of less than 26KWH?

The requirement for 26KWH forces the need for a minimum 750AH, 36 volt battery and therefore a 36 volt truck.

For some of the shorter mast configurations (lower lift heights), you may want to consider a 24volt reach truck.

This truck would be more economical to purchase than the 36 volt truck. Minimum KWh recommended would be in the 20 to 25KWh range.

This 24 volt truck could be used for the standard mast, as well as mast 2 & 3.

Please let me know if this is of interest and if you require any additional information to make this decision.

### **Response 3**

The suggestion is appreciated, but the requirement remains unchanged.

### **Amendment to Purchase Description /Technical Information Questionnaire 3**

No amendments required.

### **Question 4**

For ANNEX F – Pricing.

There are several chargers listed (different voltage, etc.) for which you require pricing. The assumption is that these chargers will charge all batteries in the trucks for that specific configuration.

Shorter mast trucks (Standard Mast) will typically have a different sized battery requirement than the taller mast (Mast 5) trucks and will therefore require a different AH charger depending on the mast configuration. The same charger cannot necessarily be supplied for all masts in the same configuration.

### **Response 4**

Prices for different chargers are required. DND will decide which charger to order when a call-up is issued. Different locations have specific needs for their charger input because of the wiring in that location. It would be too expensive to rewire a location to suit a forklift charger.

**Amendment to Purchase Description /Technical Information Questionnaire 4**

No amendments required.

**Question 5**

Specification For Group 7A & 7B– paragraph 3.4.1(c) – Fork Outside Spread:

3.4.1. Pallet Jack Performance (c) - The pallet jack shall have a nominal fork outside width of 22”.

Although 22” is available, a more ‘standard’ pallet truck has an outside width of 27”. Can you confirm if the spec of 22” requested is accurate?

If 22” is the desired OAW, configuration C and D cannot be supplied by our company’s standard offering. It is possible other manufacturers are also not able to offer these configurations.

**Response 5**

This is acceptable with a minimum inside fork spread (inside fork separation) of 6 inches.

**Amendment to Purchase Description /Technical Information Questionnaire 5**

Delete paragraph 3.4.1 (c) in its entirety.

Insert:

(c) The vehicle *shall* have a fork outside width of equal to or less than 690 mm (27.1 inches) and a space between the forks of at least 152 mm (6 inches).

**Question 6**

Specification For Group 7B – paragraph 1.4 Data Table: Configuration D

Can you confirm that you indeed require an 8000lb capacity in the 36, 42, 48, 60 and 72” fork length (fork length 1, 2, 3 4 and 5)? Our standard product offering does not offer the 8000lb capacity in this fork length, as this capacity is usually required because the truck is handling two pallets simultaneously and it is only available for fork lengths of 84” or longer (double pallet) in an 8000lb capacity truck.

**Response 6**

Fork lengths of 48, 60 and 84 inches are required for Configurations C & D in Group 7B.

**Amendment to Purchase Description /Technical Information Questionnaire 6**

In the DATA TABLE (PARAGRAPH 1.4) for configurations C and D against

FORK LENGTH - replace 1,065 mm / 42 inches with 1,219 mm /48 inches (2 locations)

FORK LENGTH 2 - replace 910 mm / 36 inches with 1,524 mm / 60 inches (2 locations)

FORK LENGTH 3 - replace 1,215 mm /48 inches with 2,133 mm / 84 inches (2 locations)

Delete the values against requirements for FORK LENGTH 4, FORK LENGTH 5 AND FORK LENGTH 6.

In the FEATURE TABLE (PARAGRAPH 1.4.1) for the configurations C and D against the requirement for accessories 3.5.1 (c), 3.5.1 (d) and 3.5.1 (e) delete the requirement.

In the Technical Information Questionnaire the requirement for responses to Configuration C and D for accessories 3.5.1 (c), 3.5.1 (d) and 3.5.1 (e) is deleted.

The requirement for the pricing of the accessories 3.5.1 (c), 3.5.1 (d) and 3.5.1 (e) has been deleted from the Price Book.

**Question 7**

Can you confirm that all of these pages are the actual ones to be used for Group 3B? The header in the middle pages states Group 3A.

**Response 7**

Yes – you are correct.

**Amendment to Purchase Description /Technical Information Questionnaire 7**

The Technical Information Questionnaire has been corrected.

**Question 8**

Group 3A, stand-up rider, reach and tier – Mast Configurations

Configuration A - Configuration A is a deep-reach truck (42” reach) and mast dimensions are not typically the same as a single reach. Below are ‘standard’ mast configuration options available. Please confirm if either of these would be accepted as alternatives from what was requested.

<u>Mast (vehicle height/lift height)</u>	<u>Alternative A</u>	<u>Alternative B</u>
Standard Mast - 89.5 / 192	89 / 189	95 / 207
Mast 2 - 108 / 240	107 / 237	114 / 252
Mast 3 - 120 /270	118 / 264	122 / 276
Mast 4 - 132 / 300	128 / 288	135 / 302

For Configuration C, Mast 3 - Would either of the following mast configurations be acceptable as Alternatives in lieu of what is requested:

<u>Requested:</u>	<u>Alternative A</u>	<u>Alternative B: (vehicle height/lift)</u>
120” / 270”	118”/ 268”	122”/280”

**Response 8**

For Configuration A: Alternative A is acceptable for the masts stated.

For Configuration C, Mast 3: Alternative A is acceptable.

**Amendment to Purchase Description /Technical Information Questionnaire 8**

In the Data Table (Paragraph 1.4)

For Configuration A

For the standard mast substitute 4,800 mm /189 inches for 4,875 mm /192 inches height lift

For mast 2 substitute 6,019 mm /237 inches for 6,095 mm /240 inches height lift

For Mast 3 substitute 6,705 mm /264 inches for 6.855 mm /270 inches height lift

For Mast 4 substitute 7,315 mm /288 inches for 7,620 mm /300 inches height lift

For Configuration C

For Mast 3 substitute 6,805 mm /268 inches for 6.855 mm /270 inches height lift

**Question 9**

Purchase Description ((All Groups):

**4. Integrated Logistics Items**

Can you please confirm if all items listed in Integrated Logistic Items are deliverables after the contract is awarded or if any of these items are to be included in the bid submission?

**Response 9**

The contractor is responsible for providing these items after the award of the standing offer.

**Amendment to Purchase Description /Technical Information Questionnaire 9**

No amendments required.

**Question 10**

Group: 1A, Section: 3.2.1, Page: 5 of 20

**Item:** Section 3.2.1 states that the units “**Shall**” start and be operated in temperatures ranging from minus 20 (-20) degrees C to 40 Degrees C. Sections 3.3.4 and / or 3.3.5 State that the units “**Shall**” have UL approval Type “LP” &/or “LPS” ratings in accordance with UL 558. Relates to all configurations listed in group 1A.

**Question:** Most OEM's standard Block Heaters &/or cold weather start aids will void UL Approvals (Both LP & LPS). Would the client approve unit configurations that are UL approved prior to the installation of cold weather aids?

**Response 10**

This is not relevant as the configurations do not include any block heaters or cold weather start aids.

**Amendment to Purchase Description /Technical Information Questionnaire 10**

No amendments required.

**Question 11**

Group: 1B, Section: 3.8.3, Page: 5 of 20

**Item:** Section 3.8.3 States that:

The engine "shall" be equipped 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 shall be equipped with one or more 110-Volt engine heaters. The engine heaters shall have a capacity as recommended by the engine manufacturer or conform to SAE J1310; and

The engine heater plug shall be accessible by an operator standing beside the vehicle.

**Item:** Section 3.3.4 or Section 3.3.5 State that the units "shall" have UL "D" or "DS" ratings in accordance with UL 558. Relates to all configurations listed in group 1B.

**Question:** Most OEM's standard Block Heaters &/or cold weather start aids will void UL Approvals (Both LP & LPS). Would the client approve unit configurations that are UL approved prior to the installation of cold weather aids?

**Response 11**

The cold weather aids, excluding the block heaters, will be included in the UL Approval and these should all be included in the UL approval. The block heater, however, will not be powered during the operation of the vehicle in the hazardous zones, so it would not affect the safety of the vehicle operating. The client accepts that the Block heater is not approved within the UL rating.

**Amendment to Purchase Description /Technical Information Questionnaire 11**

No amendments required.

**Question 12**

Group: 1A, Section: 3.5.1 (a), Page: 2 of 20

**Item:** Mast 2: Lift Height: 150", Vehicle Height: 84" – Relates to Configuration A, B, C, & D

**Question:** Height from the seat point index to the underside of the overhead guard shall be no less than 890 mm (35 inches) in accordance with the recommendation in ANSI B56.1 when measured in accordance with ISO 5353. The lowered overhead guard (of 84") in conjunction with a seat (Full or Non suspension) is not recommended by the OEM as the Seat Index Point would be below the ANSI B56.1 guidelines. Our OEM suggests going with an 84.8" lowered to comply with these guidelines. These overhead guards would be factory standard, fully compliant with ANSI B56.1 and would shorten overall lead times. Would this safety recommendation and Lowered overall height at or below 84.8" be accepted for these units (Configuration A, B, C, & D)?

**Response 12**

This is not allowed.

**Amendment to Purchase Description /Technical Information Questionnaire 12**

No amendments required.

**Question 13**

Group: 1B, Section: 3.5.1 (a), Page: 2 of 20

**Item:** Mast 2: Lift Height: 150", Vehicle Height: 84" – Relates to Configuration A, B, C, & D

**Question:** Height from the seat point index to the underside of the overhead guard shall be no less than 890 mm (35 inches) in accordance with the recommendation in ANSI B56.1 when measured in accordance with ISO 5353.

The lowered overhead guard (of 84") in conjunction with a seat (Full or Non suspension) is not recommended by the OEM as the Seat Index Point would be below the ANSI B56.1 guidelines. Our OEM suggests going with an 84.8" lowered to comply with these guidelines. These overhead guards would be factory standard, fully compliant with ANSI B56.1 and would shorten overall lead times. Would this safety recommendation and Lowered overall height at or below 84.8" be accepted for these units (Configuration A, B, C, & D)?

**Response 13**

This is not allowed. Bidders can specify restrictions on combining Mast 2 with 3.6.1(b) in the proposal.

**Amendment to Purchase Description /Technical Information Questionnaire 13**

No amendments required.

**Question 14**

Group: 7A, Section: 3.4.1, Page: 6 of 13

**Item:** Section 3.4.1 part c, states that the pallet jack "**Shall**" have nominal individual fork width of 6.7"

**Question:** Our OEM Offers an individual nominal fork width of 7.0" even. Would this configuration be acceptable for the client? (For unit configuration A, B & C)

**Response 14**

This is acceptable. Refer to Question 5.

**Amendment to Purchase Description /Technical Information Questionnaire 14**

Delete paragraph 3.4.1 (c) in its entirety.

Insert:

(c) The vehicle **shall** have a fork outside width of equal or less than 690 mm (27.1 inches) and a space between the forks of at least 152 mm (6 inches).

**Question 15**

Group: 7B, Section: 3.4.1, Page: 2 of 14

**Item:** Section 3.4.1 part c, states that the overall fork spread shall be 22" & that the nominal individual fork thickness of 9".

**Question:** For operator safety while riding "on / in" the units, OEM recommends a wider overall width to increase unit stability when cornering. These units have faster speed than the walk behind style units. A narrower overall width can potentially cause the unit to tip, especially when carrying a full load. ANSI B56.1 Section 5.3.20 states that "operators should use caution when turning into an aisle as the load wheels tend to cut the corner". Given the speed of these units, cornering capabilities as well as the capacity (6000 & 8000lbs), would the client consider an overall fork spread of 27.1" & individual fork thickness of 9.1" (For configurations A, B, C & D). The added overall width increases the overall stability of the unit, especially when carrying wider pallet loads (48" x 48" pallet for example).

**Response 15**

This is acceptable. Refer to Question 5.

**Amendment to Purchase Description /Technical Information Questionnaire 15**

Delete paragraph 3.4.1 (c) in its entirety.

Insert:

(c) The vehicle **shall** have a fork outside width of equal or less than 690 mm (27.1 inches) and a space between the forks of at least 152 mm (6 inches).

**Question 16**

Group: 2A, Section: 3.3.4, Page: 5 of 19

**Item:** Section 3.3.4, under "EE" Safety Rating states that "The vehicle shall be manufactured to meet the requirements of an "EE" Safety Rating in accordance with standard UL583, or an equivalent, in lieu of the "E" Safety Rating.

**Question:** The addition of electrical items to a vehicle, with an EE Safety Rating, may void the UL Classification of the unit. For feature items found in 3.5.1 (i) Fork Tine Position Guide, and 3.14.1 (a) Weigh Scale, the addition of these items may void the “EE” UL certification. Will items 3.5.1 (i) and 3.14.1 (a) be added to a vehicle that is required to have an “EE” UL certification?

**Response 16**

Yes – the vehicle must be UL “EE” certified at delivery with all accessories supplied and installed.

**Amendment to Purchase Description /Technical Information Questionnaire 16**

No amendments required.

**Question 17**

Group: 2A, Section: 1.4 - Data Table, Page: 2 of 19

**Item:** Under Data table 1.4, and Configurations B and D, require an 80” Overall Vehicle Height. Also, 3.6 (a) (ii) states height from the seat point index to the underside of the overhead guard shall be at least 35 inches.

**Question:** An 80” vehicle height can be accommodated for these configurations. However, in order to keep with 3.6 (a) (ii), feature 3.6.1 (b) may not be able to be accommodated as it would conflict with 3.6 (a) (ii). Will feature 3.6.1 (b) be required with Configurations B and D?

**Response 17**

This is not acceptable. Bidders can specify restrictions on combining Configurations B & D with 3.6.1(b).

**Amendment to Purchase Description /Technical Information Questionnaire 17**

No amendments required.

**Question 18**

Group: 2A, Section: 1.4 Data Table, Page: 2 of 19

**Item:** Under Data table 1.4, and Configurations B and D, require an 80” Overall Vehicle Height.

**Question:** The requirement of feature 3.6.1 (a) will add 2” to the overall height of the vehicle. Will feature 3.6.1 (a) be required with configurations B and D?

**Response 18**

This is not acceptable.

**Amendment to Purchase Description /Technical Information Questionnaire 18**

No amendments required.

**Question 19**

Group: 2B, Section: 1.4 Data Table, Page: 2 of 19

**Item:** Under Data table 1.4, paragraph 3.5.1 (a), Mast 2, requires an 84” Overall Vehicle Height

**Question:** Would an 87” Overall Vehicle Height for Mast 2 vehicles, all configurations, paragraph 3.5.1 (a) be sufficient?

**Response 19**

This is not acceptable.

**Amendment to Purchase Description /Technical Information Questionnaire 19**

No amendments required.

**Question 20**

Group: 2B, Section: 1.4 Data Table, Page: 2 of 19

**Item:** Under Data table 1.4, paragraph 3.5.1 (a), Mast 2, requires an 84” Overall Vehicle Height. Also, 3.6 (a) (ii) states height from the seat point index to the underside of the overhead guard shall be at least 35 inches.

**Question:** An 84" vehicle height can be accommodated for Mast 2, Paragraph 3.5.1 (a). However, in order to keep with 3.6 (a) (ii), feature 3.6.1 (b) may not be able to be accommodated as it would conflict with 3.6 (a) (ii). Will feature 3.6.1 (b) be required with the Mast 2 vehicles?

**Response 20**

This is not acceptable.

**Amendment to Purchase Description /Technical Information Questionnaire 20**

No amendments required.

**Question 21**

Group: 2B, Section: 1.4, Data Table, Page: 2 of 19

**Item:** Under Data table 1.4, Mast 2 vehicles require an 84" Overall Vehicle Height.

**Question:** The requirement of feature 3.6.1 (a) will add 2" to the overall height of the vehicle. Will feature 3.6.1 (a) be required with Mast 2 vehicles?

**Response 21**

This is not acceptable.

**Amendment to Purchase Description /Technical Information Questionnaire 21**

No amendments required.

**Question 22**

Group: 2B, Section: 3.3.4, Page: 5 of 19

**Item:** Section 3.3.4, under "EE" Safety Rating states that "The vehicle shall be manufactured to meet the requirements of an "EE" Safety Rating in accordance with standard UL583, or an equivalent, in lieu of the "E" Safety Rating.

**Question:** The addition of electrical items to a vehicle, with an EE Safety Rating, may void the UL Classification of the unit. For feature items found in 3.5.1 (i) Fork Tine Position Guide, and 3.14.1 (a) Weigh Scale, the addition of these items may void the "EE" UL certification. Will items 3.5.1 (i) and 3.14.1 (a) be added to a vehicle that is required to have an "EE" UL certification?

**Response 22**

Yes – the vehicle must be UL "EE" certified at delivery with all accessories supplied and installed.

**Amendment to Purchase Description /Technical Information Questionnaire 22**

No amendments required.

**Question 23**

Group: 3B, Section: 1.4 - Data Table, Page: 2 of 19

**Item:** Under Data table 1.4, Configuration C units, 4500 pound capacity

**Question:** The most common capacities of this group and type of unit is the 3000, 3500 and 4000 pound capacity vehicles. Any size capacity vehicles, in this group and type, over 4000 pounds, is a single source product and only available from one supplier. In keeping with clause 2.4, Offerors instructions, Pg 5 of 28, Groups 3a and 3b can only be fully accommodated by One Supplier and therefore restrictive to other suppliers. Will configuration C units, under Group 3b, be separated from this grouping and offered on a separate offer than E60HS-15FRKL/B?

**Response 23**

These units were bid by 3 companies for the previous standing offer; however, on examining these companies it was found that 2 of them no longer produce this size. The requirement will be amended to reflect the addition of a 3,000 pound capacity and deletion of the 4,500 pound capacity.

**Amendment to Purchase Description /Technical Information Questionnaire 23**

In the Data table of the Purchase description

Delete the column with all the values of the present C Configuration.

Insert a column to the left of the present A Configuration  
Change the configuration letters that are presently A and B to B and C  
In the new column insert A as the configuration  
In the new column  
Insert 1,355 kg/3,000 lb for the lift capacity  
Insert 4,724 mm/186 inches as the standard mast lift height  
Insert 2,274 mm/ 89.5 inches as the standard mast vehicle height  
Insert 1,067 mm/ 42 inches as the fork length  
Insert 3,810 mm/ 150 inches as the Mast 2 lift height  
Insert 2,160 mm/ 85 inches as the Mast 2 vehicle height  
Insert 5,180mm/ 204 inches as the Mast 3 lift height  
Insert 2,415 mm/ 95 inches as the Mast 3 vehicle height  
Insert 5,639 mm/ 222 inches as the Mast 4 lift height  
Insert 2,545 mm/ 100 inches as the Mast 4 vehicle height  
Insert 6,095 mm/ 240 inches as the Mast 5 lift height  
Insert 2,160 mm/ 85 inches as the Mast 5 vehicle height  
Insert 26 as the Battery Capacity  
Price Book  
Amended with the new values for capacity

#### **Question 24**

Group: 4A, Section: 1.4 Data Table, Page: 2 of 17

**Item:** Under Data table 1.4, all configurations, section 3.5 (d), Minimum/Maximum separation

**Question:** This type of vehicle is meant to “straddle” the pallet when approaching with the forks. The normal minimum straddle width is minimum 42” to maximum 49”. With a 37” straddle separation, the maximum width of the pallet being straddled can be 35” (1” of clearance on either side of pallet). The normal width of the carriage on this piece of equipment is 34”. The addition of feature of 3.5.1 (e) with 4” side-shift on either side will cause the side-shifting attachment to hit the base leg (straddle leg) and therefore cannot be accommodated. Will feature 3.5.1 (a) be required for the 37” minimum straddle width? Would a 42” minimum straddle width be sufficient?

#### **Response 24**

This is not allowed.

#### **Amendment to Purchase Description /Technical Information Questionnaire 24**

No amendments required.

#### **Question 25**

Group: 4A/4B/4C, Section: 3.3.4, Page: 3 of 17

**Item:** Section 3.3.4, under “EE” Safety Rating states that “The vehicle shall be manufactured to meet the requirements of an “EE” Safety Rating in accordance with standard UL583, or an equivalent, in lieu of the “E” Safety rating.

**Question:** The addition of items to a vehicle, with an EE Safety Rating, may void the UL Classification of the unit. For feature item found in 3.5.1 (d) Cold Storage Preparation, the addition of this feature may void the UL “EE” safety certification. Will Feature item 3.5.1 (d) be required with an “EE” safety rating?

#### **Response 25**

Yes – the vehicle must be UL “EE” certified at delivery with all accessories supplied and installed.

#### **Amendment to Purchase Description /Technical Information Questionnaire 25**

No amendments required.

**Question 26**

Group 1B, Section: Tab 2, Page: N.A

**Item:** Configurations A, B, C, D, E & F show the capacity requirements in KG. The price pages show different capacity requirements that don't match with Annex A – Technical Requirements.

**Question:** Is this a typo or does the client requires different capacities than the ones listed in the technical requirements in annex A – Group 1B?

**Response 26**

This is typographical error.

**Amendment to Purchase Description /Technical Information Questionnaire 26**

The Price Book has been corrected.

**Question 27**

Group: 1A & B, Section: 3.3.4 & 3.3.5, Page. N.A

**Item:** Unit shall be manufactured to meet the requirements of an LP & D safety Rating. The unit shall be manufactured to meet the requirements of an LPS & DS safety rating (in lieu of LP or D Rating)

**Question:** The addition of electrical items to the vehicle with D, LP, DS & LPS Safety ratings may void the UL Classification of the unit. For the items found in section 3.5.1 (tine Guide) & 3.14.1 (Weigh Scale) when wired into the units. Will the features listed above be required with the UL approval as stated in 3.3.4 & 3.3.5?

**Response 27**

Yes – the vehicle must be UL certified at delivery with all accessories supplied and installed.

**Amendment to Purchase Description /Technical Information Questionnaire 27**

No amendments required.



**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 propane (LPG) engine powered, 4-wheel, counterbalance, sit down rider type forklift trucks with features and accessories.

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

- (a) Requirements, which are identified by the word "**shall**", 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 "**shall**" or "will" are not used, the information supplied is for guidance only;
- (d) In this document "provided" **shall** mean "provided and installed";
- (e) Where a standard is specified and the Contractor has offered an **Equivalent**, that **Equivalent** standard **shall** be supplied by the Contractor;
- (f) Where a technical certification is referred to in this Purchase Description, a copy of the certification or an acceptable Proof of Compliance **shall** be supplied, when requested by the **Technical Authority**;
- (g) While the SI system **shall** 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; and
- (h) Dimensions stated as nominal **shall** 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**

- (a) "**Technical Authority**" **shall** mean the official responsible for the technical content of this Purchase Description;
- (b) "**Equivalent**" **shall** mean a standard, means, or component type, which the **Technical Authority** has approved for this requirement

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OPI DSVPM 4 - DAPVS 4

Issued on Authority of the Chief of the Defence Staff  
Publiée avec l'autorisation du chef d'état-major de la Défense

as meeting the specified requirements for fit, form, function and performance; and

- (c) **"Commercially Equipped"** shall mean that the vehicle is provided in its standard commercial Configuration with no additional government-specified requirements.

1.4 **Data Table** - The following table shows required performance and dimensions for each Configuration and includes paragraph references.

CHARACTERISTIC		PARAGRAPH	UNITS	CONFIGURATION				
				A	B	C	D	E
LIFT CAPACITY		3.4.1 (a)	kg	1,805	2,260	2,715	3,170	3,625
			lbs	4,000	5,000	6,000	7,000	8,000
LOAD CENTRE		3.4.1 (a)	mm	610	610	610	610	610
			inches	24	24	24	24	24
STANDARD MAST - LIFT HEIGHT		3.4.1 (c)	mm	4,720	4,720	4,720	4,720	4,670
			inches	186	186	186	186	184
STANDARD MAST - VEHICLE HEIGHT		3.4.1 (d)	mm	2,290	2,290	2,290	2,340	2,365
			inches	90	90	90	92	93
MAST 2	LIFT HEIGHT	3.5.1 (a)	mm	3,810	3,810	3,810	3,810	3,695
			inches	150	150	150	150	145.5
	VEHICLE HEIGHT		mm	2,140	2,140	2,140	2,140	2,365
			inches	84	84	84	84	93
MAST 3	LIFT HEIGHT	3.5.1 (b)	mm	5,330	5,330	5,330	5,205	5,155
			inches	210	210	210	205	203
	VEHICLE HEIGHT		mm	2,795	2,795	2,795	2,795	2,495
			inches	110	110	110	110	98
MAST 4	LIFT HEIGHT	3.5.1 (c)	mm	5,940	5,940	5,940	5,660	5,500
			inches	234	234	234	223	216.5
	VEHICLE HEIGHT		mm	2,925	2,925	2,925	2,925	2,795
			inches	115	115	115	115	110

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1.4.1 **Feature Table** - The following table indicates with an "X" and by Configuration the features, accessories, items and training, which *shall* become part of the vehicle order when required by the call-up.

DESCRIPTION	PARAGRAPH	CONFIGURATION				
		A	B	C	D	E
"LPS" Safety Rating Feature	3.3.5	X	X	X	X	X
Mast no. 2	3.5.1 (a)	X	X	X	X	X
Mast no. 3	3.5.1 (b)	X	X	X	X	X
Mast no. 4	3.5.1 (c)	X	X	X	X	X
Lift Accumulator	3.5.1 (d)	X	X	X	X	X
Side Shifter	3.5.1 (e)	X	X	X	X	X
Fork Positioning Side Shifter	3.5.1 (f)	X	X	X	X	X
54-inch Forks	3.5.1 (g)	X	X	X	X	X
60-inch Forks	3.5.1 (h)	X	X	X	X	X
Fork Tine Position Guide	3.5.1 (i)	X	X	X	X	X
Cab	3.6.1 (a)	X	X	X	X	X
Suspension Seat	3.6.1 (b)	X	X	X	X	X
Tank Lift Device	3.8.3 (a)	X	X	X	X	X
Dual Load Wheels - Pneumatic	3.12.1 (a)	X	X	X	X	X
Single Load Wheels - Solid	3.12.1 (b)	X	X	X	X	X
Dual Load Wheels - Solid	3.12.1 (c)	X	X	X	X	X
Single Load Wheels - Snow and Mud	3.12.1 (d)	X	X	X	X	X
Dual Load Wheels - Snow and Mud	3.12.1 (e)	X	X	X	X	X
Weigh Scale	3.14.1 (a)	X	X	X	X	X
Signal Lights	3.16.1 (a)	X	X	X	X	X
Additional Working Lights	3.16.1 (b)	X	X	X	X	X
Initial Parts Kit	4.1.4 (a)	X	X	X	X	X
Paper Maintenance Manuals	4.1.4 (b)	X	X	X	X	X
Digital Maintenance Manuals	4.1.4 (c)	X	X	X	X	X
Paper Parts Manuals	4.1.4 (d)	X	X	X	X	X
Digital Parts Manuals	4.1.4 (e)	X	X	X	X	X
Training - Familiarization - English	4.2 (a)	X	X	X	X	X
Training - Familiarization - French	4.2 (b)	X	X	X	X	X
Training - Maintenance - English	4.2 (c)	X	X	X	X	X
Training - Maintenance - French	4.2 (d)	X	X	X	X	X
Training - Troubleshooting - English	4.2 (e)	X	X	X	X	X
Training - Troubleshooting - French	4.2 (f)	X	X	X	X	X



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 Standards

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

B335

Safety Standards for Lift Trucks

Canadian Standards Association (CSA)  
5060 Spectrum Way, Suite 100  
Mississauga, Ontario, L4W 5N6  
<http://www.csa.ca/cm/ca/en/home>

UL 558

Standard for Industrial Trucks, Internal Combustion Engine-Powered

Underwriters' Laboratories of Canada  
7 Underwriters Road,  
Toronto, Ontario, M1R 3A9  
<http://www.ulc.ca/>

Canada Occupational Health and Safety Regulations

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

CAN/CSA Z107.56-13

Measurement of Noise Exposure

Canadian Standards Association  
5060 Spectrum Way, Suite 100  
Mississauga, Ontario, L4W 5N6  
<http://www.csa.ca/cm/ca/en/home>

Hazardous Products Act

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

ANSI B56.1

Safety Standards for Low Lift and High Lift Trucks  
American National Standards Institute  
1899 L Street, NW, 11<sup>th</sup> Floor  
Washington, DC, 20036  
<http://www.ansi.org/>

ISO 5353

Earth-moving machinery, and tractors and machinery for agriculture  
and forestry - Seat index point  
International Organisation for Standardisation  
ISO Central Secrétariat  
1, ch. de la Voie-Creuse  
CP 56  
CH 1211 Geneva 20  
Switzerland  
<http://www.iso.org/iso/home.htm>

### 3. REQUIREMENTS

#### 3.1 Standard Design

- (a) The vehicle *shall* be the latest model from a manufacturer who has demonstrated acceptability by selling this type and size class of vehicle for at least three (3) years;
- (b) The vehicle *shall* include all components, equipment and accessories normally supplied for this application, although they may not specifically be described in this Purchase Description;
- (c) The vehicle *shall* have engineering certification available for this application from the original manufacturers of major equipment, systems and assemblies;
- (d) The vehicle *shall* 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 *shall* operate in accordance with all original equipment manufacturers' (OEM) rated capacities and performance specifications.

#### 3.2 Operating Conditions

3.2.1 Weather - The vehicle *shall* start and operate under the extremes of weather conditions found in Canada in temperatures ranging from -20 to 40°C.

3.2.2 Terrain - The vehicle *shall* operate on use-roughened concrete floors, deteriorated outdoor paved surfaces and compacted gravel surfaces while being used for stacking, un-stacking and moving general supplies in and around warehouses.

#### 3.3 Safety Standards

3.3.1 Noise Level - In order for the vehicle noise levels to meet the requirements of legislation relative to Canada Occupational Safety and Health Regulations (paragraph 7.4) both at the operator's station and exterior to the vehicle, the noise level *shall* be less than 87 dB(A), when measured in accordance with CAN/CSA Z107.56-13.

3.3.2 Vehicle Safety - All vehicle design, construction and safety aspects *shall* be in accordance with CSA B335 or an *Equivalent*.

3.3.3 Hazardous Materials - The Contractor *shall* 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 the time of delivery.

3.3.4 "LP" Safety Rating - The vehicle *shall* be manufactured to meet the requirements of an "LP" safety rating in accordance with Standard UL 558, or an *Equivalent*.

#### 3.3.5 "LPS" Safety Rating Feature

- (a) The vehicle *shall* be manufactured to meet the requirements of an "LPS" safety rating in accordance with Standard UL 558, or an *Equivalent*, in lieu of the "LP" safety rating (paragraph 3.3.4); and

- (b) A certification label confirming the vehicle meets the "LPS" safety rating *shall* be permanently affixed to the vehicle before delivery.

3.4 Vehicle - The vehicle *shall* be a sit down rider type forklift.

3.4.1 Forklift Performance

- (a) The vehicle, with the standard mast and no accessories, *shall* have a lift capacity of at least that given as "LIFT CAPACITY" in the Data Table (paragraph 1.4) at the load centre of that given as "LOAD CENTRE" in the Data Table (paragraph 1.4);
- (b) The lift capacity, with the standard mast and no accessories, *shall* not de-rate to below specified load capacity before reaching a load lift height of 3,810 mm (150 inches);
- (c) The vehicle *shall* have a lift height of at least that given as "STANDARD MAST - LIFT HEIGHT" in the Data Table (paragraph 1.4), measured from the floor to the top of the forks with the mast in an extended vertical position; and
- (d) The vehicle, with the mast in its lowest position, *shall* pass under a horizontal beam with a height above ground level of that given as "STANDARD MAST - VEHICLE HEIGHT" in the Data Table (paragraph 1.4).

3.5 Equipment

(a) Standard Mast

- i The vehicle *shall* be provided with a see-through telescopic mast; and
- ii The standard mast *shall* have full free lift.

(b) Forks

- i The vehicle *shall* be provided with standard forks having a nominal length of either 1,016 mm (40 inches) or 1,066 mm (42 inches); and
- ii Forks with nominal lengths of 914 mm (36 inches) or 1,219 mm (48 inches) *shall* be provided, in lieu of the standard forks, when required by the call-up.

(c) Load Backrest - The load backrest *shall* have a nominal height of 1,219 mm (48 inches);

(d) Mast Tilt - The vehicle *shall* be provided with a power mechanism that tilts the mast fore and aft of vertical; and

(e) Fire Extinguisher

- i Internal combustion vehicles *shall* be provided with a fire extinguisher having at least 1 kg (2.2 lb) of fire extinguishing chemicals;
- ii The fire extinguisher *shall* be readily accessible to the operator; and
- iii The fire extinguisher *shall* not interfere with the operation of the vehicle or the view of the operator.

3.5.1 Features and Accessories(a) Mast no. 2

- i The vehicle *shall* be provided with mast no. 2, in lieu of the standard mast (paragraph 3.5 (a));
- ii Mast no. 2 *shall* be a "see-through" design;
- iii Mast no. 2 *shall* have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "**MAST 2**" - "**LIFT HEIGHT**" in the Data Table (paragraph 1.4);
- iv The vehicle, with the mast no. 2 in its lowest position, *shall* pass under a horizontal beam with a height above ground level of that given as "**MAST 2**" - "**VEHICLE HEIGHT**" in the Data Table (paragraph 1.4); and
- v Mast no. 2 *shall* have full free lift.

(b) Mast no. 3

- i The vehicle *shall* be provided with mast no. 3, in lieu of the standard mast (paragraph 3.5 (a));
- ii Mast no. 3 *shall* be a "see-through" design;
- iii Mast no. 3 *shall* have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "**MAST 3**" - "**LIFT HEIGHT**" in the Data Table (paragraph 1.4);
- iv The vehicle, with the mast no.3 in its lowest position, *shall* pass under a horizontal beam with a height above ground level of that given as "**MAST 3**" - "**VEHICLE HEIGHT**" in the Data Table (paragraph 1.4); and
- v Mast no. 3 *shall* have full free lift.

(c) Mast no. 4

- i The vehicle *shall* be provided with mast no. 4, in lieu of the standard mast (paragraph 3.5 (a));
- ii Mast no. 4 *shall* be a "see-through" design;
- iii Mast no. 4 *shall* have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "**MAST 4**" - "**LIFT HEIGHT**" in the Data Table (paragraph 1.4);
- iv The vehicle, with the mast no.4 in its lowest position, *shall* pass under a horizontal beam with a height above ground level of that given as "**MAST 4**" - "**VEHICLE HEIGHT**" in the Data Table (paragraph 1.4); and
- v Mast no. 4 *shall* have full free lift.

(d) Lift Accumulator - The mast *shall* be provided with a system to absorb impact loads from tracks, potholes and other obstacles;

(e) Side Shifter - The vehicle *shall* be provided with a side shifter capable of shifting the fully loaded forks simultaneously at least 100 mm (4 inches) to both sides of the centreline;

- (f) **Fork Positioning Side Shifter**
- i The vehicle **shall** be provided with an integrated fork-positioning side shifter;
  - ii The fork-positioning attachment **shall** increase/decrease the spacing between the unloaded forks; and
  - iii The side shifter **shall** be capable of side shifting fully loaded forks simultaneously to either side.
- (g) **54-inch Forks** - The vehicle **shall** be provided with forks having a nominal length of 1,372 mm (54 inches), in lieu of standard forks (paragraph 3.5 (b));
- (h) **60-inch Forks** - The vehicle **shall** be provided with forks having a nominal length of 1,524 mm (60 inches), in lieu of standard forks (paragraph 3.5 (b));
- (i) **Fork Tine Position Guide**
- i The vehicle **shall** be provided with a fork tine position guide;
  - ii The fork tine position guide **shall** be permanently attached to the backrest;
  - iii The fork tine position guide **shall** use a laser to create a line that shows the level of the top of the fork tines;
  - iv The fork tine position guide **shall** be connected to the vehicle electrical system;
  - v The fork tine position guide **shall** automatically turn off when the vehicle is turned off; and
  - vi The fork tine position guide **shall** automatically turn off when the forks are within 2,130 mm (84 inches) of ground level.

### 3.6 **Operator Station**

- (a) **Overhead Guard**
- i The vehicle **shall** be provided with a driver's overhead guard with wire mesh or **Equivalent** mounted to protect operator; and
  - ii The height from the seat point index to the underside of the overhead guard **shall** be at least 890 mm (35 inches) in accordance with the recommendation in ANSI B56.1 when measured in accordance with ISO 5353.
- (b) **Seat** - The vehicle **shall** be provided with a padded operator's seat and backrest, provided with seat belts; and
- (c) **Mirrors** - The vehicle **shall** be provided with rear view mirrors providing a full view for safe reverse operations.

#### 3.6.1 **Operator Station Features and Accessories**

- (a) **Cab**
- i The vehicle **shall** be provided with a fully enclosed weatherproof and insulated cab;

- ii The height from the seat point index to the underside of the cab roof *shall* be at least 890 mm (35 inches) in accordance with the recommendation in ANSI B56.1 when measured in accordance with ISO 5353;
- iii The cab *shall* be provided with a heating system with ventilation and defrosting systems capable of keeping windows free from frost and moisture;
- iv The cab *shall* be provided with safety glass in the windows;
- v It is preferred the glass be tinted to reduce solar heating load;
- vi The cab *shall* be provided with windshield wipers, including a windshield washer for each wiper; and
- vii The cab *shall* offer overhead load visibility during storage and retrieval operations.

(b) Suspension Seat

- i The vehicle *shall* be provided with a padded full suspension seat and backrest;
- ii It is preferred that the seat be cloth covered;
- iii The seat *shall* be provided with seat belts conforming, as a minimum, to SAE J386; and
- iv The seat *shall* be provided with fore/aft and vertical adjustment without the operator having to move from a seated position.

3.7 Chassis - Commercially Equipped

3.8 Engine - The vehicle *shall* be provided with a LPG engine.

3.8.1 Engine Components - The vehicle *shall* be provided with a catalytic converter and closed loop control system for reduction of emissions.

3.8.2 LPG Fuel Tank

- (a) The vehicle *shall* be provided with a LPG fuel tank mounted on the vehicle. It is preferable to have the tank mounted horizontally;
- (b) The fuel tank *shall* have a safety guard with quick release clamps and quick connect couplings; and
- (c) Each vehicle *shall* be provided with one spare tank.

3.8.3 Engine Features and Accessories

(a) Tank Lift Device

- i The vehicle *shall* be provided with a tank lift device that reduces the effort required to remove and replace the propane tank; and
- ii The tank lift device *shall* lower the tank into a convenient position for exchange.

3.9 Transmission - The transmission *shall* be provided with an inching function.

- 3.10 **Brake System** - The braking system *shall* conform to CSA B335, or an *Equivalent*.
- 3.11 **Steering - Commercially Equipped**
- 3.12 **Tires and Wheels**
- (a) The vehicle *shall* be provided with industrial high-pressure pneumatic tube type tires with non-directional treads; and
- (b) The vehicle *shall* be provided with single load wheels.
- 3.12.1 **Tire Features and Accessories**
- (a) **Dual Load Wheels - Pneumatic**
- i The vehicle *shall* be provided with dual load wheels, in lieu of the wheels specified in paragraph 3.12; and
- ii Tires *shall* be industrial pneumatic tires having non-directional treads.
- (b) **Single Load Wheels - Solid**
- i The vehicle *shall* be provided with single load wheels, in lieu of the wheels specified in paragraph 3.12; and
- ii Tires *shall* be soft ride solid pneumatic profile tires with non-directional treads.
- (c) **Dual Load Wheels - Solid**
- i The vehicle *shall* be provided with dual load wheels, in lieu of the wheels specified in paragraph 3.12; and
- ii Tires *shall* be soft ride solid pneumatic profile tires with non-directional treads.
- (d) **Single Load Wheels - Snow and Mud**
- i The vehicle *shall* be provided with single load wheels, in lieu of the wheels specified in paragraph 3.12; and
- ii Tires *shall* have a snow and mud or aggressive tread pattern.
- (e) **Dual Load Wheels - Snow and Mud**
- i The vehicle *shall* be provided with dual load wheels, in lieu of the wheels specified in paragraph 3.12; and
- ii Tires *shall* have a mud and snow or aggressive tread pattern.
- 3.13 **Controls** - The vehicle *shall* be provided with a safety device ensuring that the engine can only be started with the transmission in a neutral position.
- 3.14 **Instruments** - The instruments *shall* be provided with an hour-meter, which displays accumulated running time up to 9,999 hours.
- 3.14.1 **Instruments Features and Accessories**
- (a) **Weigh Scale**
- i The vehicle *shall* be provided with a weigh scale with an accuracy of at most 2 percent of forklift capacity; and

- ii The weigh scale *shall* be provided with a digital readout with zeroing capability.

3.15 Electrical System

- (a) The vehicle *shall* be provided with a readily accessible driver-operated warning horn; and
- (b) The vehicle *shall* be provided with a backup alarm to alert personnel that the vehicle is in backup mode.

3.16 Lighting

(a) Floodlights

- i The vehicle *shall* be provided with floodlights that allow for forklift operations at night;
- ii The floodlights *shall* provide sufficient lighting for the operator to see the load and fork tips in all positions; and
- iii The vehicle *shall* be provided with at least one adjustable floodlight.

(b) Flashing Beacon

- i The vehicle *shall* be provided with a red flashing beacon light mounted on the rear of the vehicle; and
- ii The beacon *shall* be activated when the vehicle transmission is in reverse.

3.16.1 Lighting Features and Accessories

- (a) Signal Lights - The vehicle *shall* be provided with headlights, adjustable work lights at the front and rear, stoplights and turn signals; and
- (b) Additional Working Lights - The vehicle *shall* be provided with at least 2 additional working lights on the front.

3.17 Hydraulic System - Commercially Equipped

3.18 Lubricants and Hydraulic Fluids

- (a) The vehicle *shall* operate using synthetic non-proprietary lubricants and hydraulic fluids; and
- (b) Grease fittings provided on the vehicle *shall* conform to SAE J534.

3.19 Paint - Commercially Equipped

3.20 Identification - The manufacturer's name, model and vehicle serial number *shall* be permanently marked in a conspicuous and protected location.

3.21 Vehicle Delivery Condition

- (a) The vehicle *shall* be delivered to destination in a fully operational condition (serviced and adjusted). Both the interior and exterior *shall* be cleaned;
- (b) If the vehicle requires assembly at destination, the Contractor *shall* be responsible for all manpower and equipment to perform assembly;

- (c) The space for assembly at destination will be provided, if required;
- (d) For shipment verification, items such as wheel wrenches, jacks, and all other tools, equipment and accessories, which are shipped loose, **shall** be listed on the shipping certificate or to an attached packing note;
- (e) Propane fuel tanks **shall** be shipped empty; and
- (f) Lubricants installed in the vehicle at time of delivery **shall** be suitable for the destination and the season of delivery.

## 4. INTEGRATED LOGISTIC ITEMS

4.1 Contractor Documentation and Integrated Logistic Items4.1.1 Documents supplied to the Technical Authority(a) Data Summary

- i A bilingual data summary *shall* be supplied for each Configuration with data and a vehicle picture;
- ii The *Technical Authority* will supply a template of an approved data summary to the Contractor;
- iii The Contractor *shall* supply the information requested for all accessories and features for the equipment Configuration;
- iv The Contractor *shall* submit a digital copy (MS Word) of the completed data summary to the *Technical Authority* for approval; and
- v Data summary approval or comments will be supplied within 30 calendar days of receipt.

(b) Manual for Approval

- i A set of manuals for each Configuration, in digital format, including the operator, parts and maintenance (shop repair) manuals *shall* be supplied. Manuals may cover more than one Configuration;
- ii The set of manuals *shall* include manuals for all the specified accessories and features for the Configuration;
- iii Accessory manuals may be included as supplements to the vehicle manuals. Manuals will not be returned; and
- iv Manual approval or comments will be supplied within 30 calendar days of receipt.

(c) Photographs and Line Drawings

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

- (d) Initial Parts Kit List - A list of the parts included in the initial parts kit specified in paragraph 4.1.4(a) for each Configuration *shall* be supplied;
- (e) Material Safety Data Sheets
- i The Contractor *shall* supply a list, in digital format, of all hazardous materials on the vehicle at the time of delivery;
  - ii If there are no hazardous materials used, this *shall* be stated on the list; and
  - iii The Contractor *shall* supply material safety data sheets of all hazardous materials in the list.
- (f) Training Plan(s) - The Contractor *shall* supply a training plan for approval, for each of the training requirements listed in paragraph 4.2; and
- (g) Customer Support Package
- i A customer support package, in digital format, *shall* be supplied to the **Technical Authority**;
  - ii The customer support package *shall* include brochures for all vehicle models used to comply with each of the Configuration requirements;
  - iii The customer support package *shall* include the brochures for all features/attachments not supplied by the vehicle manufacturer;
  - iv The customer support package *shall* include a Configuration document stating the make/model(s) required to fulfil all requirements for that Configuration;
  - v The Configuration document *shall* state the estimated delivery for each make/model required to fulfil requirements of that Configuration;
  - vi The Configuration document *shall* include a list of equipment/features that comprise the basic specified vehicle including any related product code required on the manufacturer's basic model;
  - vii The Configuration document *shall* include a list of all additional accessories/features that are specified for that Configuration including, where relevant, the product code and make/model;
  - viii The **Technical Authority** will distribute the customer support package to those who request it, however, the Contractor *shall* distribute this document, when requested; and
  - ix The Contractor *shall* receive approval for the customer support package from the **Technical Authority** prior to distribution.

4.1.1.2 Items Supplied with Each Vehicle(a) Operator's Manual

- i An operator's manual for the safe vehicle operation including all supplied attachments **shall** be supplied;
- ii The operator's manual **shall** be supplied in a bilingual format or as 2 manuals (one English, and one French) in a single binder;
- iii In addition to the paper copy of the operator's manual, a digital copy on a CD or DVD **shall** be supplied;
- iv The CD or DVD **shall** be permanently and legibly labeled with the list of contents; and
- v The digital copy **shall** not require a password or an Internet connection to be functional.

(b) Warranty Letter

- i A paper copy of the completed bilingual warranty letter in the approved format with each vehicle shipped **shall** be supplied;
- ii The **Technical Authority** will supply a template of an approved warranty letter to the Contractor;
- iii The Contractor **shall** supply a complete description of the warranty in the warranty letter with the requested warranty terms and any system or sub system warranty that exceeds the minimum requested in the contractual documents;
- iv The warranty letter **shall** include the name and contact information of the closest designated warranty provider and other designated warranty providers across Canada; and
- v Designated warranty providers **shall** honour the warranty letter.

(c) Material Safety Data Sheets

- i A set of material safety data sheets **shall** be supplied; and
- ii The material safety data sheets **shall** be the same as those provided to the **Technical Authority** as per paragraph 4.1.1 (e).

4.1.1.3 Distribution of copies of Warranty Letter

- (a) **DND** - For vehicles shipped to DND, a bilingual copy of the warranty letter, in electronic format, **shall** be supplied to the **Technical Authority**; or
- (b) **Not DND** - For vehicles shipped to users other than DND, a bilingual copy of the warranty letter, in electronic format, **shall** be supplied to the identified user or designated contact person.

4.1.4 Additional Items

- (a) Initial Parts Kit
  - i One initial parts kit *shall* be supplied; and
  - ii The initial parts kit *shall* include a complete set of parts, including filters and filter elements required by the Original Equipment Manufacturer for the first year of scheduled maintenance.
- (b) Paper Maintenance Manuals - Maintenance manuals in paper format, as published and available for the Canadian market, for the maintenance and repair of the vehicle, features and accessories *shall* be supplied;
- (c) Digital Maintenance Manuals
  - i Searchable digital maintenance manuals, as published and available for the Canadian market, for maintenance and repair of the vehicle features and accessories *shall* be supplied on a CD/DVD-ROM;
  - ii The digital maintenance manuals *shall* be in a PDF or *Equivalent* format;
  - iii The digital format *shall* not require a password or an Internet connection to be functional; and
  - iv On-line maintenance manuals may be supplied in lieu of the digital maintenance manuals, however, this *shall* be provided without subscription fees.
- (d) Paper Parts Manuals - Parts manuals in paper format required for the vehicle, as published and available for the Canadian market, features and accessories *shall* be supplied; and
- (e) Digital Parts Manuals
  - i Searchable digital parts manuals required for vehicle, as published and available for the Canadian market, features and accessories *shall* be supplied on a CD/DVD-ROM;
  - ii The digital maintenance manuals *shall* be in a PDF or *Equivalent* format;
  - iii The digital format *shall* not require a password or an Internet connection to be functional; and
  - iv On-line parts manuals may be supplied in lieu of the digital parts manuals, however, this *shall* be provided without subscription fees.

4.2 Training

- (a) Training - Familiarization - English
  - i The Contractor *shall* supply a familiarization course in English;
  - ii The course instructor *shall* be an OEM Factory Certified Training Provider;
  - iii The familiarization course *shall* include operation and maintenance segments demonstrating all safety measures

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- required for safe vehicle use, instructions on the use of all features and accessories provided and maintenance;
- iv The instructor *shall* supply responses to questions;
  - v The familiarization course *shall* have a minimum duration of eight (8) hours;
  - vi The familiarization course *shall* accommodate up to eight (8) personnel;
  - vii The familiarization course *shall* be supplied at the delivery destination;
  - viii For vehicles shipped to DND, the date for the familiarization course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
  - ix After completion of the familiarization course, the Contractor *shall* have the "PROOF OF FAMILIARIZATION" certificate signed by the senior course attendee; and
  - x The **Technical Authority** will supply the "PROOF OF FAMILIARIZATION" document template in a digital format.
- (b) Training - Familiarization - French
- i The Contractor *shall* supply a familiarization course in French;
  - ii The course instructor *shall* be an OEM Factory Certified Training Provider;
  - iii The familiarization course *shall* include operation and maintenance segments demonstrating all safety measures required for safe vehicle use, instructions on the use of all features and accessories provided and maintenance;
  - iv The instructor *shall* supply responses to questions;
  - v The familiarization course *shall* have a minimum duration of eight (8) hours;
  - vi The familiarization course *shall* accommodate up to eight (8) personnel;
  - vii The familiarization course *shall* be supplied at the delivery destination;
  - viii For vehicles shipped to DND, the date for the familiarization course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
  - ix After completion of the familiarization course, the Contractor *shall* have the "PROOF OF FAMILIARIZATION" certificate signed by the senior course attendee; and
  - x The **Technical Authority** will supply the "PROOF OF FAMILIARIZATION" document template in a digital format.

(c) Training - Maintenance - English

- i The Contractor *shall* supply a maintenance training course in English;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;
- iii The maintenance training course curriculum *shall* include operation and maintenance safety precautions, preventive maintenance including servicing schedules, troubleshooting, testing and adjustments;
- iv The maintenance training course *shall* have a minimum duration of four (4) days;
- v The maintenance training course *shall* accommodate up to eight (8) maintenance personnel;
- vi The maintenance training course *shall* be supplied at the delivery destination;
- vii For vehicles shipped to DND, the dates for the maintenance training course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- viii After completion of the maintenance training course, the Contractor *shall* have the "PROOF OF MAINTAINER TRAINING" certificate signed by the senior course attendee; and
- ix The **Technical Authority** will supply the "PROOF OF MAINTAINER TRAINING" document template in a digital format.

(d) Training - Maintenance - French

- i The Contractor *shall* supply a maintenance training course in French;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;
- iii The maintenance training course curriculum *shall* include operation and maintenance safety precautions, preventive maintenance including servicing schedules, troubleshooting, testing and adjustments;
- iv The maintenance training course *shall* have a minimum duration of four (4) days;
- v The maintenance training course *shall* accommodate up to eight (8) maintenance personnel;
- vi The maintenance training course *shall* be supplied at the delivery destination;
- vii For vehicles shipped to DND, the dates for the maintenance training course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;

- viii After completion of the maintenance training course, the Contractor *shall* have the "PROOF OF MAINTAINER TRAINING" certificate signed by the senior course attendee; and
- ix The *Technical Authority* will supply the "PROOF OF MAINTAINER TRAINING" document template in a digital format.

(e) Training - Troubleshooting - English

- i The Contractor *shall* supply a troubleshooting course in English;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;
- iii The troubleshooting course *shall* include detailed testing, troubleshooting, problem analysis and adjustments training;
- iv The troubleshooting course *shall* have a minimum duration of eight (8) hours;
- v The troubleshooting course *shall* accommodate up to eight (8) maintenance personnel;
- vi The troubleshooting course *shall* be supplied at the delivery destination;
- vii For vehicles shipped to DND, the date for the troubleshooting course *shall* be arranged with the *Technical Authority*, or the identified user or designated contact person for vehicles shipped to users other than DND;
- viii After completion of the troubleshooting course, the Contractor *shall* 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.

(f) Training - Troubleshooting - French

- i The Contractor *shall* supply a troubleshooting course in French;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;
- iii The troubleshooting course *shall* include detailed testing, troubleshooting, problem analysis and adjustments training;
- iv The troubleshooting course *shall* have a minimum duration of eight (8) hours;
- v The troubleshooting course *shall* accommodate up to eight (8) maintenance personnel;
- vi The troubleshooting course *shall* be supplied at the delivery destination;

PURCHASE DESCRIPTION  
GROUP 1A  
FORKLIFT TRUCK, PROPANE (LPG) ENGINE

- vii For vehicles shipped to DND, the date for the troubleshooting course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- viii After completion of the troubleshooting course, the Contractor *shall* 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.



**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 engine powered, 4-wheel, counterbalance, sit-down rider type forklift trucks with features and accessories.

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

- (a) Requirements, which are identified by the word "**shall**", 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 "**shall**" or "will" are not used, the information supplied is for guidance only;
- (d) In this document "provided" **shall** mean "provided and installed";
- (e) Where a standard is specified and the Contractor has offered an **Equivalent**, that **Equivalent** standard **shall** be supplied by the Contractor;
- (f) Where a technical certification is referred to in this Purchase Description, a copy of the certification or an acceptable Proof of Compliance **shall** be supplied, when requested by the **Technical Authority**;
- (g) While the SI system **shall** 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; and
- (h) Dimensions stated as nominal **shall** 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**

- (a) "**Technical Authority**" **shall** mean the official responsible for the technical content of this requirement;

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OPI DSVPM 4 - DAPVS 4

Issued on Authority of the Chief of the Defence Staff

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PURCHASE DESCRIPTION  
GROUP 1B  
FORKLIFT, TRUCK, DIESEL ENGINE

- (b) "**Equivalent**" shall mean 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; and
- (c) "**Commercially Equipped**" shall mean that the vehicle is provided in its standard commercial Configuration with no additional government-specified requirements.

1.4 **Data Table** - The following table shows required performance and dimensions for each Configuration and includes a paragraph references.

CHARACTERISTIC			CONFIGURATION						
			PARAGRAPH	UNITS	A	B	C	D	E
LIFT CAPACITY	3.4.1 (a)	kg	1,805	2,260	2,715	3,170	3,625	4,535	
		lbs	4,000	5,000	6,000	7,000	8,000	10,00	
LOAD CENTRE	3.4.1 (a)	mm	610	610	610	610	610	610	
		inches	24	24	24	24	24	24	
STANDARD MAST - LIFT HEIGHT	3.4.1 (c)	mm	4,720	4,720	4,720	4,720	4,670	4,695	
		inches	186	186	186	186	184	185	
STANDARD MAST - VEHICLE HEIGHT	3.4.1 (d)	mm	2,290	2,290	2,290	2,340	2,365	2,495	
		inches	90	90	90	92	93	98	
MAST 2	3.5.1 (a)	LIFT HEIGHT	mm	3,810	3,810	3,810	3,810	3,695	3,820
		inches	150	150	150	150	145.5	150	
VEHICLE HEIGHT	3.5.1 (a)	mm	2,140	2,140	2,140	2,140	2,365	2,315	
		inches	84	84	84	84	93	91	
MAST 3	3.5.1 (b)	LIFT HEIGHT	mm	5,330	5,330	5,330	5,205	5,155	5,255
		inches	210	210	210	205	203	207	
VEHICLE HEIGHT	3.5.1 (b)	mm	2,795	2,795	2,795	2,795	2,495	2,770	
		inches	110	110	110	110	98	109	
MAST 4	3.5.1 (c)	LIFT HEIGHT	mm	5,940	5,940	5,940	5,660	5,500	5,890
		inches	234	234	234	223	216.5	232	
VEHICLE HEIGHT	3.5.1 (c)	mm	2,925	2,925	2,925	2,925	2,795	3,000	
		inches	115	115	115	115	110	118	

**PURCHASE DESCRIPTION**  
**GROUP 1B**  
**FORKLIFT, TRUCK, DIESEL ENGINE**

1.4.1 **Feature Table** - The following table indicates with an "X" and by Configuration the features, accessories, items and training, which *shall* become part of the vehicle order when required by the call-up.

DESCRIPTION	PARAGRAPH	CONFIGURATION					
		A	B	C	D	E	F
"DS" Safety Rating Feature	3.3.5	X	X	X	X	X	X
Mast no. 2	3.5.1 (a)	X	X	X	X	X	X
Mast no. 3	3.5.1 (b)	X	X	X	X	X	X
Mast no. 4	3.5.1 (c)	X	X	X	X	X	X
Lift Accumulator	3.5.1 (d)	X	X	X	X	X	X
Side Shifter	3.5.1 (e)	X	X	X	X	X	X
Fork Positioning Side Shifter	3.5.1 (f)	X	X	X	X	X	X
54-inch Forks	3.5.1 (g)	X	X	X	X	X	X
60-inch Forks	3.5.1 (h)	X	X	X	X	X	X
Fork Tine Position Guide	3.5.1 (i)	X	X	X	X	X	X
Cab	3.6.1 (a)	X	X	X	X	X	X
Suspension Seat	3.6.1 (b)	X	X	X	X	X	X
Dual Load Wheels - Pneumatic	3.12.1 (a)	X	X	X	X	X	X
Single Load Wheels - Solid	3.12.1 (b)	X	X	X	X	X	X
Dual Load Wheels - Solid	3.12.1 (c)	X	X	X	X	X	X
Single Load Wheels - Mud and Snow	3.12.1 (d)	X	X	X	X	X	X
Dual Load Wheels - Mud and Snow	3.12.1 (e)	X	X	X	X	X	X
Weigh Scale	3.14.1 (a)	X	X	X	X	X	X
Signal Lights	3.16.1 (a)	X	X	X	X	X	X
Additional Working Lights	3.16.1 (b)	X	X	X	X	X	X
Initial Parts Kit	4.1.4 (a)	X	X	X	X	X	X
Paper Maintenance Manuals	4.1.4 (b)	X	X	X	X	X	X
Digital Maintenance Manuals	4.1.4 (c)	X	X	X	X	X	X
Paper Parts Manuals	4.1.4 (d)	X	X	X	X	X	X
Digital Parts Manuals	4.1.4 (e)	X	X	X	X	X	X
Training - Familiarization - English	4.2 (a)	X	X	X	X	X	X
Training - Familiarization - French	4.2 (b)	X	X	X	X	X	X
Training - Maintenance - English	4.2 (c)	X	X	X	X	X	X
Training - Maintenance - French	4.2 (d)	X	X	X	X	X	X
Training - Troubleshooting - English	4.2 (e)	X	X	X	X	X	X
Training - Troubleshooting French	4.2 (f)	X	X	X	X	X	X

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 Standards

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

B335

Safety Standards for Lift Trucks  
Canadian Standards Association (CSA)  
5060 Spectrum Way, Suite 100  
Mississauga, Ontario, L4W 5N6  
<http://www.csa.ca/cm/ca/en/home>

UL 558

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

Canada Occupational Health and Safety Regulations  
Government of Canada / Department of Justice  
<http://laws-lois.justice.gc.ca/eng/regulations/SOR-86-304/index.html>

CAN/CSA Z107.56-13

Measurement of Noise Exposure  
Canadian Standards Association  
5060 Spectrum Way, Suite 100  
Mississauga, Ontario, L4W 5N6  
<http://www.csa.ca/cm/ca/en/home>

Hazardous Products Act

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

ANSI B56.1

Safety Standards for Low Lift and High Lift Trucks  
American National Standards Institute  
1899 L Street, NW, 11<sup>th</sup> Floor  
Washington, DC, 20036  
<http://www.ansi.org/>

ISO 5353

Earth-moving machinery, and tractors and machinery for agriculture  
and forestry - Seat index point  
International Organisation for Standardisation  
ISO Central Secrétariat  
1, ch. de la Voie-Creuse  
CP 56  
CH 1211 Geneva 20  
Switzerland  
<http://www.iso.org/iso/home.htm>

### 3. REQUIREMENTS

#### 3.1 Standard Design

- (a) The vehicle **shall** be the latest model from a manufacturer who has demonstrated acceptability by selling this type and size class of vehicle for at least three (3) years;
- (b) The vehicle **shall** include all components, equipment and accessories normally supplied for this application, although they may not specifically be described in this Purchase Description;
- (c) The vehicle **shall** have engineering certification available for this application from the original manufacturers of major equipment, systems and assemblies;
- (d) The vehicle **shall** 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 **shall** operate in accordance with all original equipment manufacturers' (OEM) rated capacities and performance specifications.

#### 3.2 Operating Conditions

3.2.1 Weather - The vehicle **shall** 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 **shall** operate on use-roughened concrete floors, deteriorated outdoor paved surfaces and compacted gravel surfaces while being used for stacking, un-stacking and moving general supplies in and around warehouses.

#### 3.3 Safety Standards

3.3.1 Noise Level - In order for the vehicle noise levels to meet the requirements of legislation relative to Canada Occupational Safety and Health Regulations (paragraph 7.4) both at the operator's station and exterior to the vehicle, the noise level **shall** be less than 87 dB(A), when measured in accordance with CAN/CSA Z107.56-13.

3.3.2 Vehicle Safety - All vehicle design, construction and safety aspects **shall** be in accordance with CSA B335 or an **Equivalent**.

3.3.3 Hazardous Materials - The Contractor **shall** 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 the time of delivery.

3.3.4 "D" Safety Rating - The vehicle **shall** be manufactured to meet the requirements of an "D" safety rating in accordance with Standard UL 558, or an **Equivalent**.

#### 3.3.5 "DS" Safety Rating Feature

- (a) The vehicle **shall** be manufactured to meet the requirements of an "DS" safety rating in accordance with Standard UL 558, or an **Equivalent**, in lieu of the "D" safety rating (paragraph 3.3.3); and

- (b) A certification label confirming the vehicle meets the "DS" safety rating *shall* be permanently affixed to the vehicle before delivery.

3.4 Vehicle - The vehicle *shall* be a sit down rider type forklift.

3.4.1 Forklift Performance

- (a) The vehicle, with the standard mast and no accessories, *shall* have a lift capacity of at least that given as "LIFT CAPACITY" in the Data Table (paragraph 1.4) at the load centre of that given as "LOAD CENTRE" in the Data Table (paragraph 1.4);
- (b) The lift capacity, with the standard mast and no accessories, *shall* not de-rate to below specified load capacity before reaching a load lift height of 3,810 mm (150 inches);
- (c) The vehicle *shall* have a lift height of at least that given as "STANDARD MAST - LIFT HEIGHT" in the Data Table (paragraph 1.4), measured from the floor to the top surface of the forks in the full-up position; and
- (d) The vehicle, with the mast in its lowest position, *shall* pass under a horizontal beam with a height above ground level of that given as "STANDARD MAST - VEHICLE HEIGHT" in the Data Table (paragraph 1.4).

3.5 Equipment

(a) Standard Mast

- i The vehicle *shall* be provided with a see-through telescopic mast;
- ii The standard mast *shall* have full free lift; and
- iii Tips of the forks *shall* be visible by a seated operator at all lift heights.

(b) Forks

- i The vehicle *shall* be provided with standard forks having a nominal length of either 1,016 mm (40 inches) or 1,066 mm (42 inches); and
- ii Forks with nominal lengths of 914 mm (36 inches) or 1,219 mm (48 inches) *shall* be provided, in lieu of the standard forks, when required by the call-up.

(c) Load Backrest - The backrest *shall* have a nominal height of 1,219 mm (48 inches);

(d) Mast Tilt - The vehicle *shall* be provided with a power mechanism that tilts the mast fore and aft of vertical; and

(e) Fire Extinguisher

- i Internal combustion vehicles *shall* be provided with a fire extinguisher having at least 1 kg (2.2 lb) of fire extinguishing chemicals;
- ii The fire extinguisher *shall* be readily accessible to the operator; and
- iii The fire extinguisher *shall* not interfere with the operation of the vehicle or the view of the operator.

3.5.1 Features and Accessories(a) Mast no. 2

- i The vehicle **shall** be provided with mast no. 2, in lieu of the standard mast (paragraph 3.5 (a));
- ii Mast no. 2 **shall** be a "see-through" design;
- iii Mast no. 2 **shall** have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "**MAST 2**" - "**LIFT HEIGHT**" in the Data Table (paragraph 1.4);
- iv The vehicle, with the mast no. 2 in its lowest position, **shall** pass under a horizontal beam with a height above ground level of that given as "**MAST 2**" - "**VEHICLE HEIGHT**" in the Data Table (paragraph 1.4); and
- v Mast no. 2 **shall** have full free lift.

(b) Mast no. 3

- i The vehicle **shall** be provided with mast no. 3, in lieu of the standard mast (paragraph 3.5 (a));
- ii Mast no. 3 **shall** be a "see-through" design;
- iii Mast no. 3 **shall** have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "**MAST 3**" - "**LIFT HEIGHT**" in the Data Table (paragraph 1.4);
- iv The vehicle, with the mast no. 3 in its lowest position, **shall** pass under a horizontal beam with a height above ground level of that given as "**MAST 3**" - "**VEHICLE HEIGHT**" in the Data Table (paragraph 1.4); and
- v Mast no. 3 **shall** have full free lift.

(c) Mast no. 4

- i The vehicle **shall** be provided with mast no. 4, in lieu of the standard mast (paragraph 3.5 (a));
- ii Mast no. 4 **shall** be a "see-through" design;
- iii Mast no. 4 **shall** have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "**MAST 4**" - "**LIFT HEIGHT**" in the Data Table (paragraph 1.4);
- iv The vehicle, with the mast no. 4 in its lowest position, **shall** pass under a horizontal beam with a height above ground level of that given as "**MAST 4**" - "**VEHICLE HEIGHT**" in the Data Table (paragraph 1.4); and
- v Mast no. 4 **shall** have full free lift.

(d) Lift Accumulator - The mast **shall** be provided with a system to absorb impact loads from tracks, potholes and other obstacles;

(e) Side Shifter - The vehicle **shall** be provided with a side shifter capable of shifting the fully loaded forks simultaneously at least 100 mm (4 inches) to both sides of the centreline;

- (f) Fork Positioning Side Shifter
- i The vehicle *shall* be provided with a fork-positioning side shifter;
  - ii The fork-positioning attachment *shall* increase/decrease the spacing between the unloaded forks; and
  - iii The side shifter *shall* be capable of side shifting fully loaded forks simultaneously to either side.
- (g) 54-inch Forks - The vehicle *shall* be provided with forks having a nominal length of 1,372 mm (54 inches), in lieu of standard forks (paragraph 3.5 (b));
- (h) 60-inch Forks - The vehicle *shall* be provided with forks having a nominal length of 1,524 mm (60 inches), in lieu of standard forks (paragraph 3.5 (b)); and
- (i) Fork Tine Position Guide
- i The vehicle *shall* be provided with a tine position guide;
  - ii The fork tine position guide *shall* be permanently attached to the backrest;
  - iii The fork tine position guide *shall* use a laser to create a line that shows the level of the top of the fork tines;
  - iv The fork tine position guide *shall* be connected to the vehicle electrical system;
  - v The fork tine position guide *shall* automatically turn off when the vehicle is turned off; and
  - vi The fork tine position guide *shall* automatically turn off when the forks are within 2,130 mm (84 inches) of ground level.

### 3.6 Operator Station

- (a) Overhead Guard
- i The vehicle *shall* be provided with a driver's overhead guard with wire mesh or *Equivalent* mounted to protect operator; and
  - ii The height from the seat point index to the underside of the overhead guard *shall* be at least 890 mm (35 inches) in accordance with the recommendation in ANSI B56.1 when measured in accordance with ISO 5353.
- (b) Seat - The vehicle *shall* be provided with a padded operator's seat and backrest, provided with seat belts; and
- (c) Mirrors - The vehicle *shall* be provided with rear view mirrors providing a full view for safe reverse operations.

#### 3.6.1 Operator Station Features and Accessories

- (a) Cab
- i The vehicle *shall* be provided with a fully enclosed weatherproof and insulated cab;

- ii The height from the seat point index to the underside of the cab roof **shall** be at least 890 mm (35 inches) in accordance with the recommendation in ANSI B56.1 when measured in accordance with ISO 5353;
- iii The cab **shall** be provided with a heating system with ventilation and defrosting systems capable of keeping windows free from frost and moisture;
- iv The cab **shall** be provided with safety glass in the windows. It is preferred the glass be tinted to reduce solar heating load;
- v The cab **shall** be provided with windshield wipers, including a windshield washer for each wiper; and
- vi The cab **shall** offer overhead load visibility during storage and retrieval operations.

(b) Suspension Seat

- i The vehicle **shall** be provided with a padded full suspension seat and backrest;
- ii It is preferred that the seat be cloth covered;
- iii The seat **shall** be provided with seat belts conforming, as a minimum, to SAE J386; and
- iv The seat **shall** be provided with fore/aft and vertical adjustment without the operator having to move from a seated position.

3.7 Chassis - Commercially Equipped3.8 Engine

- (a) The vehicle **shall** be provided with a diesel engine; and
- (b) The engine **shall** meet Tier 4 emission standards.

3.8.1 Engine Components - Commercially Equipped

3.8.2 Fuel Tank(s) - The fuel tank filler cap **shall** be marked to identify the vehicle fuel.

3.8.3 Engine Cold Weather Aids

- (a) The engine **shall** be equipped with cold weather aids to enable the engine (operating with winter grade fuels/oils) to be started at temperatures down to -40° C;
- (b) The engine **shall** be equipped with a low temperature engine starting aid;
- (c) The engine **shall** have one of the following systems: glow plug(s), intake air preheat or **Equivalent**;
- (d) The engine **shall** be equipped with one or more 110-Volt engine heaters. The engine heaters **shall** have a capacity as recommended by the engine manufacturer or conform to SAE J1310; and
- (e) The engine heater plug **shall** be accessible by an operator standing beside the vehicle.

- 3.9 Transmission - The transmission *shall* be provided with an inching function.
- 3.10 Brake System - The braking system *shall* conform to CSA B335, or an *Equivalent*.
- 3.11 Steering - *Commercially Equipped*
- 3.12 Tires and Wheels
- (a) The vehicle *shall* be provided with industrial high-pressure pneumatic tube type tires with non-directional treads; and
- (b) The vehicle *shall* be provided with single load wheels.
- 3.12.1 Tire Features and Accessories
- (a) Dual Load Wheels - Pneumatic
- i The vehicle *shall* be provided with dual load wheels, in lieu of the wheels specified in paragraph 3.12; and
- ii Tires *shall* be industrial pneumatic tires having non-directional treads.
- (b) Single Load Wheels - Solid
- i The vehicle *shall* be provided with single load wheels, in lieu of the wheels specified in paragraph 3.12; and
- ii Tires *shall* be soft ride solid pneumatic profile tires with non-directional treads.
- (c) Dual Load Wheels - Solid
- i The vehicle *shall* be provided with dual load wheels, in lieu of the wheels specified in paragraph 3.12; and
- ii Tires *shall* be soft ride solid pneumatic profile tires with non-directional treads.
- (d) Single Load Wheels - Snow and Mud
- i The vehicle *shall* be provided with single load wheels, in lieu of the wheels specified in paragraph 3.12; and
- ii Tires *shall* have a snow and mud or aggressive tread pattern.
- (e) Dual Load Wheels - Snow and Mud
- i The vehicle *shall* be provided with dual load wheels, in lieu of the wheels specified in paragraph 3.12; and
- ii Tires *shall* have a mud and snow or aggressive tread pattern.
- 3.13 Controls - The vehicle *shall* be provided with a safety device ensuring that the engine can only be started with the transmission in a neutral position.
- 3.14 Instruments - The instruments *shall* be provided with an hour-meter, which displays accumulated running time up to 9,999 hours.

3.14.1 Instruments Features and Accessories(a) Weigh Scale

- i The vehicle *shall* be provided with a weigh scale with an accuracy of at most 2 percent of forklift capacity; and
- ii The weigh scale *shall* be provided with a digital readout with zeroing capability.

3.15 Electrical System

- (a) The vehicle *shall* be provided with a readily accessible driver-operated warning horn; and
- (b) The vehicle *shall* be provided with a backup alarm to alert personnel that the vehicle is in backup mode.

3.16 Lighting(a) Floodlights

- i The vehicle *shall* be provided with floodlights that allow for forklift operations at night;
- ii The floodlights *shall* provide sufficient lighting for the operator to see the load and fork tips in all positions; and
- iii The vehicle *shall* be provided with at least one adjustable floodlight.

(b) Flashing Beacon

- i The vehicle *shall* be provided with a red flashing beacon light mounted on the rear of the vehicle; and
- ii The beacon *shall* be activated when the vehicle transmission is in reverse.

3.16.1 Lighting Features and Accessories

- (a) Signal Lights - The vehicle *shall* be provided with headlights, adjustable work lights at the front and rear, stoplights and turn signals; and
- (b) Additional Working Lights - The vehicle *shall* be provided with at least 2 additional working lights on the front.

3.17 Hydraulic System - Commercially Equipped3.18 Lubricants and Hydraulic Fluids

- (a) The vehicle *shall* operate using synthetic non-proprietary lubricants and hydraulic fluids; and
- (b) Grease fittings provided on the vehicle *shall* conform to SAE J534.

3.19 Paint - Commercially Equipped

3.20 Identification - The manufacturer's name, model and vehicle serial number *shall* be permanently marked in a conspicuous and protected location.

3.21 Vehicle Delivery Condition

- (a) The vehicle **shall** be delivered to destination in a fully operational condition (serviced and adjusted). Both the interior and exterior **shall** be cleaned;
- (b) If the vehicle requires assembly at destination, the Contractor **shall** be responsible for all manpower and equipment to perform assembly;
- (c) The space for assembly at destination will be provided, if required;
- (d) For shipment verification, items such as wheel wrenches, jacks, and all other tools, equipment and accessories, which are shipped loose, **shall** be listed on the shipping certificate or to an attached packing note;
- (e) Fuel tank(s) **shall** be half to three quarters full on delivery; and
- (f) Lubricants installed in the vehicle at time of delivery **shall** be suitable for the destination and the season of delivery.

## 4. INTEGRATED LOGISTIC ITEMS

4.1 Contractor Documentation and Integrated Logistic Items4.1.1 Documents supplied to the Technical Authority(a) Data Summary

- i A bilingual data summary *shall* be supplied for each Configuration with data and a vehicle picture;
- ii The **Technical Authority** will supply a template of an approved data summary to the Contractor;
- iii The Contractor *shall* supply the information requested for all accessories and features for the equipment Configuration;
- iv The Contractor *shall* submit a digital copy (MS Word) of the completed data summary to the **Technical Authority** for approval; and
- v Data summary approval or comments will be supplied within 30 calendar days of receipt.

(b) Manuals for Approval

- i A set of manuals for each Configuration, in digital format, including the operator, parts and maintenance (shop repair) manuals *shall* be supplied. Manuals may cover more than one Configuration;
- ii The set of manuals *shall* include manuals for all the specified accessories and features for the Configuration. Accessory manuals may be included as supplements to the vehicle manuals;
- iii Manuals will not be returned; and
- iv Manual approval or comments will be supplied within 30 calendar days of receipt.

(c) Photographs and Line Drawings

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

- (d) Initial Parts Kit List - A list of the parts included in the initial parts kit specified in paragraph 4.1.4(a) for each Configuration *shall* be supplied;

- (e) Material Safety Data Sheets
- i The Contractor **shall** supply a list, in digital format, of all hazardous materials used on the vehicle;
  - ii If there are no hazardous materials used, this **shall** be stated on the list; and
  - iii The Contractor **shall** supply material safety data sheets of all hazardous materials in the list.
- (f) Training Plan(s) - The Contractor **shall** supply a training plan for approval, for each of the training requirements listed in paragraph 4.2; and
- (g) Customer Support Package
- i A customer support package, in digital format, **shall** be supplied;
  - ii The customer support package **shall** include brochures for all vehicle models used to comply with each of the Configuration requirements;
  - iii The customer support package **shall** include the brochures for all features/attachments not supplied by the vehicle manufacturer;
  - iv The customer support package **shall** include a Configuration document stating the make/model(s) required to fulfil all requirements for that Configuration;
  - v The Configuration document **shall** state the estimated delivery for each make/model required to fulfil requirements of that Configuration;
  - vi The Configuration document **shall** include a list of equipment/features that comprise the basic specified vehicle including any related product code required on the manufacturer's basic model;
  - vii The Configuration document **shall** include a list for all additional accessories/features that are specified for that Configuration including, where relevant, the product code and make/model;
  - viii The **Technical Authority** will distribute the customer support package to those who request it, however, the Contractor **shall** distribute this document, when requested; and
  - ix The Contractor **shall** receive approval for the customer support package from the **Technical Authority** prior to distribution.

#### 4.1.2 Items Supplied with Each Vehicle

- (a) Operator's Manuals
- i An operator's manual for the safe vehicle operation including all supplied attachments **shall** be supplied;
  - ii The operator's manual **shall** be supplied in a bilingual format or as 2 manuals (one English, and one French) in a single binder;

- iii In addition to the paper copy of the operator's manual, a digital copy on a CD, DVD or **Equivalent shall** be supplied;
- iv The CD or DVD **shall** be permanently and legibly labeled with the list of contents; and
- v The digital copy **shall** not require a password or an Internet connection to be functional.

(b) Warranty Letter

- i A paper copy of the completed bilingual warranty letter in the approved format with each vehicle shipped **shall** be supplied;
- ii The **Technical Authority** will supply a template of an approved warranty letter to the Contractor;
- iii The Contractor **shall** supply a complete description of the warranty in the warranty letter with the requested warranty terms and any system or sub system warranty that exceeds the minimum requested in the contractual documents;
- iv The warranty letter **shall** include the name and contact information of the closest designated warranty provider and other designated warranty providers across Canada; and
- v Designated warranty providers **shall** honour the warranty letter.

(c) Material Safety Data Sheets

- i A set of material safety data sheets **shall** be supplied; and
- ii The material safety data sheets **shall** be the same as those provided to the **Technical Authority** as per paragraph 4.1.1 (e).

4.1.3 Distribution of copies of Warranty Letter

- (a) **DND** - For vehicles shipped to DND, a bilingual copy of the warranty letter, in electronic format, **shall** be supplied to the **Technical Authority**; or
- (b) **Not DND** - For vehicles shipped to users other than DND, a bilingual copy of the warranty letter, in electronic format, **shall** be supplied to the identified user or designated contact person.

4.1.4 Additional Items

(a) Initial Parts Kit

- i One initial parts kit **shall** be supplied; and
- ii The initial parts kit **shall** include a complete set of parts, including filters and filter elements required by the Original Equipment Manufacturer for the first year of scheduled maintenance.

- (b) Paper Maintenance Manuals - Maintenance manuals in paper format, as published and available for the Canadian market, for

the maintenance and repair of the vehicle, features and accessories *shall* be supplied;

(c) Digital Maintenance Manuals

- i Searchable digital maintenance manuals, as published and available for the Canadian market, for maintenance and repair of the vehicle features and accessories *shall* be supplied on a CD/DVD-ROM;
- ii The digital maintenance manuals *shall* be in a PDF or **Equivalent** format;
- iii The digital format *shall* not require a password or an Internet connection to be functional; and
- iv On-line maintenance manuals may be supplied in lieu of the digital maintenance manuals, however, this *shall* be provided without subscription fees.

(d) Paper Parts Manuals - Parts manuals in paper format required for the vehicle, as published and available for the Canadian market, features and accessories *shall* be supplied; and

(e) Digital Parts Manuals

- i Searchable digital parts manuals required for vehicle, as published and available for the Canadian market, features and accessories *shall* be supplied on a CD/DVD-ROM;
- ii The digital maintenance manuals *shall* be in a PDF or **Equivalent** format;
- iii The digital format *shall* not require a password or an Internet connection to be functional; and
- iv On-line parts manuals may be supplied in lieu of the digital parts manuals, however, this *shall* be provided without subscription fees.

4.2 Training

(a) Training - Familiarization - English

- i The Contractor *shall* supply a familiarization course in English;
- ii The course instructor *shall* be an OEM Factory Certified Training Provider;
- iii The familiarization course *shall* include operation and maintenance segments demonstrating all safety measures required for safe vehicle use, instructions on the use of all features and accessories provided and maintenance;
- iv The instructor *shall* supply responses to questions;
- v The familiarization course *shall* have a minimum duration of eight (8) hours;
- vi The familiarization course *shall* accommodate up to eight (8) personnel;

- vii The familiarization course *shall* be supplied at the delivery destination;
- viii For vehicles shipped to DND, the date for the familiarization course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- ix After completion of the familiarization course, the Contractor *shall* have the "PROOF OF FAMILIARIZATION" certificate signed by the senior course attendee; and
- x The **Technical Authority** will supply the "PROOF OF FAMILIARIZATION" document template in a digital format.

(b) Training - Familiarization - French

- i The Contractor *shall* supply a familiarization course in French;
- ii The course instructor *shall* be an OEM Factory Certified Training Provider;
- iii The familiarization course *shall* include operation and maintenance segments demonstrating all safety measures required for safe vehicle use, instructions on the use of all features and accessories provided and maintenance;
- iv The instructor *shall* supply responses to questions;
- v The familiarization course *shall* have a minimum duration of eight (8) hours;
- vi The familiarization course *shall* accommodate up to eight (8) personnel;
- vii The familiarization course *shall* be supplied at the delivery destination;
- viii For vehicles shipped to DND, the date for the familiarization course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- ix After completion of the familiarization course, the Contractor *shall* have the "PROOF OF FAMILIARIZATION" certificate signed by the senior course attendee; and
- x The **Technical Authority** will supply the "PROOF OF FAMILIARIZATION" document template in a digital format.

(c) Training - Maintenance - English

- i The Contractor *shall* supply a maintenance training course in English;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;
- iii The maintenance training course curriculum *shall* include operation and maintenance safety precautions, preventive maintenance including servicing schedules, troubleshooting, testing and adjustments;

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SDPD - E

- iv The maintenance training course *shall* have a minimum duration of four (4) days;
- v The maintenance training course *shall* accommodate up to eight (8) maintenance personnel;
- vi The maintenance training course *shall* be supplied at the delivery destination;
- vii For vehicles shipped to DND, the dates for the maintenance training course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- viii After completion of the maintenance training course, the Contractor *shall* have the "PROOF OF MAINTAINER TRAINING" certificate signed by the senior course attendee; and
- ix The **Technical Authority** will supply the "PROOF OF MAINTAINER TRAINING" document template in a digital format.

(d) Training - Maintenance - French

- i The Contractor *shall* supply a maintenance training course in French;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;
- iii The maintenance training course curriculum *shall* include operation and maintenance safety precautions, preventive maintenance including servicing schedules, troubleshooting, testing and adjustments;
- iv The maintenance training course *shall* have a minimum duration of four (4) days;
- v The maintenance training course *shall* accommodate up to eight (8) maintenance personnel;
- vi The maintenance training course *shall* be supplied at the delivery destination;
- vii For vehicles shipped to DND, the dates for the maintenance training course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- viii After completion of the maintenance training course, the Contractor *shall* have the "PROOF OF MAINTAINER TRAINING" certificate signed by the senior course attendee; and
- ix The **Technical Authority** will supply the "PROOF OF MAINTAINER TRAINING" document template in a digital format.

(e) Training - Troubleshooting - English

- i The Contractor *shall* supply a troubleshooting course in English;

- ii The instructor *shall* be an OEM Factory Certified Training Provider;
  - iii The troubleshooting course *shall* include detailed testing, troubleshooting, problem analysis and adjustments training;
  - iv The troubleshooting course *shall* have a minimum duration of eight (8) hours;
  - v The troubleshooting course *shall* accommodate up to eight (8) maintenance personnel;
  - vi The troubleshooting course *shall* be supplied at the delivery destination;
  - vii For vehicles shipped to DND, the date for the troubleshooting course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
  - viii After completion of the troubleshooting course, the Contractor *shall* 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.
- (f) Training - Troubleshooting - French
- i The Contractor *shall* supply a troubleshooting course in French;
  - ii The instructor *shall* be an OEM Factory Certified Training Provider;
  - iii The troubleshooting course *shall* include detailed testing, troubleshooting, problem analysis and adjustments training;
  - iv The troubleshooting course *shall* have a minimum duration of eight (8) hours;
  - v The troubleshooting course *shall* accommodate up to eight (8) maintenance personnel;
  - vi The troubleshooting course *shall* be supplied at the delivery destination;
  - vii For vehicles shipped to DND, the date for the troubleshooting course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
  - viii After completion of the troubleshooting course, the Contractor *shall* 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.



**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 electric 3-wheel sit-down rider counterbalance forklifts with features and attachments.

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

- (a) Requirements, which are identified by the word "**shall**", 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 "**shall**" or "will" are not used, the information supplied is for guidance only;
- (d) In this document "provided" **shall** mean "provided and installed";
- (e) Where a standard is specified and the Contractor has offered an **Equivalent**, that **Equivalent** standard **shall** be supplied by the Contractor, upon request;
- (f) Where a technical certification is referred to in this Purchase Description, a copy of the certification or an acceptable Proof of Compliance **shall** be supplied, when requested by the **Technical Authority**;
- (g) While the SI system **shall** 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; and
- (h) Dimensions stated as nominal **shall** 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**

- (a) "**Technical Authority**" **shall** mean the official responsible for the technical content of this requirement;
- (b) "**Equivalent**" **shall** mean a standard, means, or component type, which the **Technical Authority** has approved for this requirement

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as meeting the specified requirements for fit, form, function and performance; and

- (c) **"Commercially Equipped"** shall mean that the vehicle is provided in its standard commercial Configuration with no additional government-specified requirements;

1.4 **Data Table** - The following table shows required performance and dimensions for each Configuration and includes paragraph references.

CHARACTERISTIC			PARAGRAPH	UNITS	CONFIGURATION					
					A	B	C	D	E	F
LIFT CAPACITY			3.4.1 (a)	kg	905	905	1,355	1,355	1,580	1,805
				lb	2,000	2,000	3,000	3,000	3,500	4,000
LOAD CENTRE			3.4.1 (a)	mm	610	610	610	610	610	610
				in	24	24	24	24	24	24
STANDARD MAST - LIFT HEIGHT			3.4.1 (c)	mm	4,720	3,805	4,720	3,805	4,720	4,720
				in	186	150	186	150	186	186
STANDARD MAST - VEHICLE HEIGHT			3.4.1 (d)	mm	2,290	2,035	2,290	2,035	2,290	2,290
				in	90	80	90	80	90	90
MAST 2	LIFT HEIGHT		3.5.1 (a)	mm	3,805		3,805		3,805	3,805
				in	150		150		150	150
	VEHICLE HEIGHT	mm		2,135		2,135		2,135	2,135	
		in		84		84		84	84	
MAST 3	LIFT HEIGHT		3.5.1 (b)	mm	5,330		5,330		5,330	5,330
				in	210		210		210	210
	VEHICLE HEIGHT	mm		2,795		2,795		2,795	2,795	
		in		110		110		110	110	
MAST 4	LIFT HEIGHT		3.5.1 (c)	mm	5,940		5,940		5,940	5,940
				in	234		234		234	234
	VEHICLE HEIGHT	mm		2,925		2,925		2,925	2,925	
		in		115		115		115	115	
BATTERY CAPACITY			3.15 (b)	kWh	17	17	24	24	24	24

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FORKLIFT, ELECTRIC, 3 WHEELS

1.4.1 **Feature Table** - The following table indicates with an "X" and by Configuration the features, accessories, items and training, which *shall* become part of the vehicle order when required by the call-up.

DESCRIPTION	PARAGRAPH	CONFIGURATION					
		A	B	C	D	E	F
"EE" Safety Rating Feature	3.3.4	X	X	X	X	X	X
Mast no. 2	3.5.1 (a)	X		X		X	X
Mast no. 3	3.5.1 (b)	X		X		X	X
Mast no. 4	3.5.1 (c)	X		X		X	X
Lift Accumulator	3.5.1 (d)	X	X	X	X	X	X
Side Shifter	3.5.1 (e)	X	X	X	X	X	X
Fork Positioner/Side Shifter	3.5.1 (f)	X	X	X	X	X	X
54-inch Forks	3.5.1 (g)	X	X	X	X	X	X
60-inch Forks	3.5.1 (h)	X	X	X	X	X	X
Fork Tine Position Guide	3.5.1 (i)	X	X	X	X	X	X
Removable Cab	3.6.1 (a)	X	X	X	X	X	X
Suspension Seat	3.6.1 (b)	X		X		X	X
Lug Tread Tire	3.12.1 (a)	X	X	X	X	X	X
Weigh Scale	3.14.1 (a)	X	X	X	X	X	X
220 V, Single Phase Charger	3.15.1 (a)	X	X	X	X	X	X
220 V, 3 Phase Charger	3.15.1 (b)	X	X	X	X	X	X
440 V, 3 Phase Charger	3.15.1 (c)	X	X	X	X	X	X
550 V, 3 Phase Charger	3.15.1 (d)	X	X	X	X	X	X
Battery Watering System	3.15.1 (e)	X	X	X	X	X	X
Battery Rollers	3.15.1 (f)	X	X	X	X	X	X
Initial Parts Kit	4.1.4 (a)	X	X	X	X	X	X
Paper Maintenance Manuals	4.1.4 (b)	X	X	X	X	X	X
Digital Maintenance Manuals	4.1.4 (c)	X	X	X	X	X	X
Paper Parts Manuals	4.1.4 (d)	X	X	X	X	X	X
Digital Parts Manuals	4.1.4 (e)	X	X	X	X	X	X
Training - Familiarization - English	4.2 (a)	X	X	X	X	X	X
Training - Familiarization - French	4.2 (b)	X	X	X	X	X	X
Training - Maintenance - English	4.2 (c)	X	X	X	X	X	X
Training - Maintenance - French	4.2 (d)	X	X	X	X	X	X
Training - Troubleshooting - English	4.2 (e)	X	X	X	X	X	X
Training - Troubleshooting - French	4.2 (f)	X	X	X	X	X	X

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 Standards

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

CAN/CSA Standards

B335 Safety Standards for Lift Trucks  
Canadian Standards Association (CSA)  
5060 Spectrum Way, Suite 100  
Mississauga, Ontario, L4W 5N6  
<http://www.csa.ca/cm/ca/en/home>

UL Standards

UL 583 Standard for Electric-Battery-Powered Industrial Trucks  
Underwriters' Laboratories of Canada  
7 Underwriters Road,  
Toronto, Ontario, M1R 3A9  
<http://www.ulc.ca/>

Hazardous Products Act

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

ANSI Standards

B56.1 Safety Standards for Low Lift and High Lift Trucks  
American National Standards Institute  
1899 L Street, NW, 11<sup>th</sup> Floor  
Washington, DC, 20036  
<http://www.ansi.org/>

ISO Standards

5353 Earth-moving machinery, and tractors and machinery for agriculture and forestry - Seat index point  
International Organisation for Standardisation  
ISO Central Secrétariat  
1, ch. de la Voie-Creuse  
CP 56  
CH 1211 Geneva 20  
Switzerland  
<http://www.iso.org/iso/home.htm>

### 3. REQUIREMENTS

#### 3.1 Standard Design

- (a) The vehicle *shall* be the latest model from a manufacturer who has demonstrated acceptability by selling this type and size class of vehicle for at least three (3) years;
- (b) The vehicle *shall* include all components, equipment and accessories normally supplied for this application, although they may not specifically be described in this Purchase Description;
- (c) The vehicle *shall* have engineering certification available for this application from the original manufacturers of major equipment, systems and assemblies;
- (d) The vehicle *shall* 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 *shall* operate in accordance with all original equipment manufacturers' (OEM) rated capacities and performance specifications.

#### 3.2 Operating Conditions

3.2.1 Weather - The vehicle *shall* operate in temperatures ranging from 0 to 40°C.

3.2.2 Terrain - The vehicle *shall* operate on use-roughened concrete floors while being used for stacking, un-stacking and moving general supplies in warehouses.

#### 3.3 Safety Standards

3.3.1 Vehicle Safety - All vehicle design, construction and safety aspects *shall* be in accordance with CSA B335 or an *Equivalent*.

3.3.2 Hazardous Materials - The Contractor *shall* 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) used in the manufacture and assembly of the product supplied.

3.3.3 "E" Safety Rating - The vehicle *shall* be manufactured to meet the requirements of an "E" safety rating in accordance with Standard UL 583, or an *Equivalent*.

#### 3.3.4 "EE" Safety Rating Feature

- (a) The vehicle *shall* be manufactured to meet the requirements of an "EE" safety rating in accordance with Standard UL 583, or an *Equivalent*, in lieu of the "E" safety rating (paragraph 3.3.3); and
- (b) A certification label confirming the vehicle meets the "EE" safety rating *shall* be permanently affixed to the vehicle before delivery.

3.4 Vehicle - The vehicle *shall* be a battery-powered, sit down rider type forklift.

3.4.1 Forklift Performance

- (a) The vehicle, with the standard mast and no accessories, *shall* have a lift capacity of at least that given as "LIFT CAPACITY" in the Data Table (paragraph 1.4) at the load centre of that given as "LOAD CENTRE" in the Data Table (paragraph 1.4);
- (b) The lift capacity, with the standard mast and no accessories, *shall* not de-rate to below specified lift capacity before reaching a load lift height of 3,810 mm (150 inches);
- (c) The vehicle *shall* have a lift height of at least that given as "STANDARD MAST - LIFT HEIGHT" in the Data Table (paragraph 1.4), measured from the floor to the top surface of the forks in the full-up position; and
- (d) The vehicle, with the mast in its lowest position, *shall* pass under a horizontal beam with a height above ground level of that given as "STANDARD MAST - VEHICLE HEIGHT" in the Data Table (paragraph 1.4).

3.4.2 Forklift Configuration

- (a) The vehicle *shall* have 3 wheels; and
- (b) 3-wheel vehicles *shall* have a single steer wheel or a pair of wheels, which are pivoted together.

3.5 Equipment

(a) Standard Mast

- i The vehicle *shall* be provided with a see-through telescopic mast; and
- ii The standard mast *shall* have full free lift.

(b) Forks

- i The vehicle *shall* be provided with standard forks having a nominal length of either 1,016 mm (40 inches) or 1,066 mm (42 inches); and
- ii Forks with nominal lengths of 914 mm (36 inches) or 1,219 mm (48 inches) *shall* be provided, in lieu of the standard forks, when required by the call-up.

(c) Load Backrest - The load backrest *shall* have a nominal height of 1,219 mm (48 inches);

(d) Mast Tilt - The vehicle *shall* be provided with a power mechanism that tilts the mast fore and aft of vertical; and

(e) Fire Extinguisher

- i Electric vehicles *shall* be provided with a fire extinguisher having at least 1 kg (2.2 lb) of fire extinguishing chemicals;
- ii The fire extinguisher *shall* be installed to be readily accessible to the operator; and
- iii The fire extinguisher *shall* not interfere with operation of the vehicle or the view of the operator.

3.5.1 Features and Accessories(a) Mast no. 2

- i The vehicle *shall* be provided with mast no. 2, in lieu of the standard mast (paragraph 3.5 (a));
- ii Mast no. 2 *shall* be a "see-through" design;
- iii Mast no. 2 *shall* have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "MAST 2" - "LIFT HEIGHT" in the Data Table (paragraph 1.4);
- iv The vehicle, with the mast no. 2 in its lowest position, *shall* pass under a horizontal beam with a height above ground level of that given as "MAST 2" - "VEHICLE HEIGHT" in the Data Table (paragraph 1.4); and
- v Mast no. 2 *shall* have full free lift.

(b) Mast no. 3

- i The vehicle *shall* be provided with mast no. 3, in lieu of the standard mast (paragraph 3.5 (a));
- ii Mast no. 3 *shall* be a "see-through" design;
- iii Mast no. 3 *shall* have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "MAST 3" - "LIFT HEIGHT" in the Data Table (paragraph 1.4);
- iv The vehicle, with the mast no. 3 in its lowest position, *shall* pass under a horizontal beam with a height above ground level of that given as "MAST 3" - "VEHICLE HEIGHT" in the Data Table (paragraph 1.4); and
- v Mast no. 3 *shall* have full free lift.

(c) Mast no. 4

- i The vehicle *shall* be provided with mast no. 4, in lieu of the standard mast (paragraph 3.5 (a));
- ii Mast no. 4 *shall* be a "see-through" design;
- iii Mast no. 4 *shall* have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "MAST 4" - "LIFT HEIGHT" in the Data Table (paragraph 1.4);
- iv The vehicle, with the mast no. 4 in its lowest position, *shall* pass under a horizontal beam with a height above ground level of that given as "MAST 4" - "VEHICLE HEIGHT" in the Data Table (paragraph 1.4); and
- v Mast no. 4 *shall* have full free lift.

(d) Lift Accumulator - The mast *shall* be provided with a system to absorb impact loads from tracks, potholes and other obstacles;

(e) Side Shifter - The vehicle *shall* be provided with a side shifter capable of shifting the fully loaded forks simultaneously at least 100 mm to both sides of the centreline;

- (f) **Fork Positioning Side Shifter**
  - i The vehicle **shall** be provided with a fork-positioning side shifter;
  - ii The fork-positioning attachment **shall** increase/decrease the spacing between the unloaded forks; and
  - iii The side shifter **shall** be capable of side shifting fully loaded forks simultaneously to either side.
- (g) **54-inch Forks** - The vehicle **shall** be provided with forks having a nominal length of 1,372 mm (54 inches), in lieu of standard forks (paragraph 3.5 (b));
- (h) **60-inch Forks** - The vehicle **shall** be provided with forks having a nominal length of 1,524 mm (60 inches), in lieu of standard forks (paragraph 3.5 (b)); and
- (i) **Fork Tine Position Guide**
  - i The vehicle **shall** be provided with a fork tine position guide;
  - ii The fork tine position guide **shall** be permanently attached to the forklift carriage;
  - iii The fork tine position guide **shall** use a laser to create a line that shows the level of the top of the fork tines;
  - iv The fork tine position guide **shall** be connected to the vehicle electrical system;
  - v The fork tine position guide **shall** automatically turn off when the vehicle is turned off; and
  - vi The fork tine position guide **shall** automatically turn off when the forks are within 2,130 mm (84 inches) of ground level.

3.6 **Operator Station**

- (a) **Overhead Guard**
  - i The vehicle **shall** be provided with a driver's overhead guard with wire mesh or **Equivalent** mounted to protect operator; and
  - ii The height from the seat point index to the underside of the overhead guard **shall** be at least 890 mm (35 inches) in accordance with the recommendation in ANSI B56.1 when measured in accordance with ISO 5353.
- (b) **Seat** - The vehicle **shall** be provided with a padded operator's seat and backrest, equipped with seat belts; and
- (c) **Mirrors** - The vehicle **shall** be provided with rear view mirrors providing a full view for safe reverse operations.

3.6.1 **Operator Station Features and Accessories**

- (a) **Removable Cab**
  - i The vehicle **shall** be supplied with a removable cab with removable doors;

- ii The cab *shall* fit over the overhead guard; and
- iii The cab *shall* be easily installed/removed without the use of tools.

(b) Suspension Seat

- i The vehicle *shall* be provided with a padded full suspension seat and backrest;
- ii It is preferred that the seat be cloth covered;
- iii The seat *shall* be provided with seat belts conforming, as a minimum, to SAE J386; and
- iv The seat *shall* be provided with fore/aft and vertical adjustment without the operator having to move from a seated position.

3.7 Chassis - *Commercially Equipped*

3.8 Motors - *Commercially Equipped*

3.9 Transmission - *Commercially Equipped*

3.10 Brake System - The braking system *shall* conform to CSA B335, or an *Equivalent*.

3.11 Steering - *Commercially Equipped*

3.12 Tires

- (a) The vehicle *shall* be provided with manufacturer's standard smooth face press-on tires; and
- (b) The tread material *shall* be optimized for use on an electric forklift.

3.12.1 Tire Features and Accessories

- (a) Lug Tread Tires - The vehicle *shall* be provided with lug tread tires, in lieu of the standard tires (paragraph 3.12).

3.13 Controls - The vehicle *shall* be provided with controls readily accessible to the operator including an infinitely variable speed controller with convenient right foot operation.

3.14 Instruments - The instruments *shall* be provided with an hour-meter with numerical read-out which records accumulated running time up to 9,999 hours and a battery state-of-charge indicator with lift interrupt.

3.14.1 Instruments Features and Accessories

(a) Weigh Scale

- i The vehicle *shall* be provided with a weigh scale with an accuracy of at most of 2 percent of forklift capacity; and
- ii The weigh scale *shall* be provided with a digital readout with zeroing capability.

3.15 Electrical System

- (a) The vehicle *shall* be provided with an electrical system operating at no less than twenty four (24) volts;

- (b) Batteries *shall* have a capacity of at least "**BATTERY CAPACITY**" as given in the Data Table (paragraph 1.4); and
- (c) The vehicle *shall* be provided with a backup alarm to alert personnel that the vehicle is in back-up mode.

### 3.15.1 Electrical Features and Accessories

- (a) 220 V, Single Phase Charger - A charger *shall* be supplied for connection to a 220-volt, single phase, 60 Hz power source;
- (b) 220 V, 3 Phase Charger - A charger *shall* be supplied for connection to a 220-volt, three phase, 60Hz power source;
- (c) 440 V, 3 Phase Charger - A charger *shall* be supplied for connection to a 440-volt, three phase, 60Hz power source;
- (d) 550 V, 3 Phase Charger - A charger *shall* be supplied for connection to a 550-volt, three phase, 60Hz power source;
- (e) Battery Watering System
  - i The vehicle *shall* be provided with a battery watering system;
  - ii The battery watering system *shall* be supplied with a removable hose; and
  - iii The removable hose *shall* be provided with a quick connect coupler.
- (f) Battery Rollers - The vehicle *shall* be provided with battery compartment rollers to allow the rapid changing of the batteries.

### 3.16 Lighting

- (a) The vehicle *shall* be provided with the manufacturer's lighting package;
- (b) Work Lights
  - i The vehicle *shall* be provided with two (2) adjustable, forward facing LED work lights and one (1) adjustable, rear-facing LED work light; and
  - ii The work lights *shall* provide illumination for forward and reverse operations of vehicle.
- (c) Flashing Beacon
  - i The vehicle *shall* be provided with a red flashing beacon light mounted on the rear of the vehicle; and
  - ii The beacon *shall* be activated when the vehicle transmission is in reverse.

### 3.17 Hydraulic System

- (a) The hydraulic system *shall* be provided with all components required for the operation of the hydraulic actuators provided, including pump, reservoir, filters and control valves; and
- (b) The hydraulic reservoir *shall* be provided with a visual oil level indicator.

3.18 Lubricants and Hydraulic Fluids

- (a) The vehicle **shall** operate using synthetic non-proprietary lubricants and hydraulic fluids; and
- (b) Grease fittings provided on the vehicle **shall** conform to SAE J534.

3.19 Paint - Commercially Equipped

3.20 Identification - The manufacturer's name, model and vehicle serial number **shall** be permanently marked in a conspicuous and protected location.

3.21 Vehicle Delivery Condition

- (a) The vehicle **shall** be delivered to destination in a fully operational condition (serviced and adjusted). Both the interior and exterior **shall** be cleaned;
- (b) If the vehicle requires assembly at destination, the Contractor **shall** be responsible for all manpower and equipment to perform assembly;
- (c) The space for assembly at destination will be provided, if required;
- (d) For shipment verification, items such as wheel wrenches, jacks, and all other tools, equipment and accessories, which are shipped loose, **shall** be listed on the shipping certificate or to an attached packing note; and
- (e) Lubricants installed in the vehicle at time of delivery **shall** be suitable for the destination and the season of delivery.

4. INTEGRATED LOGISTIC ITEMS4.1 Contractor Documentation and Integrated Logistic Items4.1.1 Documents Supplied to the Technical Authority(a) Data Summary

- i A bilingual data summary *shall* be supplied for each Configuration with data and a vehicle picture on the **Technical Authority** supplied form;
- ii The **Technical Authority** will supply a template of an approved data summary to the Contractor;
- iii The Contractor *shall* supply the information requested for all accessories and features for the equipment Configuration;
- iv The Contractor *shall* submit a digital copy (MS Word) of the completed data summary to the **Technical Authority** for approval; and
- v Data summary approval or comments will be supplied within 30 calendar days of receipt.

(b) Manual for Approval

- i A set of manuals for each Configuration, in digital format, including the operator, parts and maintenance (shop repair) manuals *shall* be supplied. Manuals may cover more than one Configuration;
- ii The set of manuals *shall* include manuals for all the specified accessories and features for the Configuration. Accessory manuals may be included as supplements to the vehicle manuals;
- iii Manuals will not be returned; and
- iv Manual approval or comments will be supplied within 30 calendar days of receipt.

(c) Photographs and Line Drawings

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

- (d) Initial Parts Kit List - A list of the parts included in the initial parts kit specified in paragraph 4.1.4(a) for each Configuration *shall* be supplied;
- (e) Material Safety Data Sheets
- i The Contractor *shall* supply a list, in digital format, of all hazardous materials used on the vehicle;
  - ii If there are no hazardous materials used, this *shall* be stated on the list; and
  - iii The Contractor *shall* supply material safety data sheets of all hazardous materials in the list.
- (f) Training Plan(s) - The Contractor *shall* supply a training plan for approval, for each of the training requirements listed in paragraph 4.2; and
- (g) Customer Support Package
- i A customer support package, in digital format, *shall* be supplied;
  - ii The customer support package *shall* include brochures for all vehicle models used to comply with each of the Configuration requirements;
  - iii The customer support package *shall* include the brochures for all features/attachments not supplied by the vehicle manufacturer;
  - iv The customer support package *shall* include a Configuration document stating the make/model(s) required to fulfil all requirements for that Configuration;
  - v The Configuration document *shall* state the estimated delivery for each make/model required to fulfil requirements of that Configuration;
  - vi The Configuration document *shall* include a list of equipment/features that comprise the basic specified vehicle including any related product code required on the manufacturer's basic model;
  - vii The Configuration document *shall* include a list for all additional accessories/features that are specified for that Configuration including, where relevant, the product code and make/model;
  - viii The *Technical Authority* will distribute the customer support package to those who request it, however, the Contractor *shall* distribute this document, when requested; and
  - ix The Contractor *shall* receive approval for the customer support package from the *Technical Authority* prior to distribution.

4.1.2 Items Supplied with Each Vehicle

(a) Operator's Manual

- i An operator's manual for the safe vehicle operation including all supplied attachments **shall** be supplied;
- ii The operator's manual **shall** be supplied in a bilingual format or as 2 manuals (one English, and one French) in a single binder;
- iii In addition to the paper copy of the operator's manual, a digital copy on a CD, DVD or **Equivalent shall** be supplied;
- iv The CD or DVD **shall** be permanently and legibly labeled with the list of contents; and
- v The digital copy **shall** not require a password or an Internet connection to be functional.

(b) Warranty Letter

- i A paper copy of the completed bilingual warranty letter in the approved format with each vehicle shipped **shall** be supplied;
- ii The **Technical Authority** will supply a template of an approved warranty letter to the Contractor;
- iii The Contractor **shall** supply a complete description of the warranty in the warranty letter with the requested warranty terms and any system or sub system warranty that exceeds the minimum requested in the contractual documents;
- iv The warranty letter **shall** include the name and contact information of the closest designated warranty provider and other designated warranty providers across Canada; and
- v Designated warranty providers **shall** honour the warranty letter.

(c) Material Safety Data Sheets

- i A set of material safety data sheets **shall** be supplied; and
- ii The material safety data sheets **shall** be the same as those supplied to the **Technical Authority** as per paragraph 4.1.1 (e).

4.1.3 Distribution of copies of Warranty Letter

- (a) **DND** - For vehicles shipped to DND, a bilingual copy of the warranty letter, in electronic format, **shall** be supplied to the **Technical Authority**; or
- (b) **Not DND** - For vehicles shipped to users other than DND, a bilingual copy of the warranty letter, in electronic format, **shall** be supplied to the identified user or designated contact person.

4.1.4 Additional Items

- (a) Initial Parts Kit
  - i One initial parts kit *shall* be supplied; and
  - ii The initial parts kit *shall* include a complete set of parts, including filters and filter elements required by the Original Equipment Manufacturer for the first year of scheduled maintenance.
- (b) Paper Maintenance Manuals - Maintenance manuals in paper format, as published and available for the Canadian market, for the maintenance and repair of the vehicle, features and accessories *shall* be supplied;
- (c) Digital Maintenance Manuals
  - i Searchable digital maintenance manuals, as published and available for the Canadian market, for maintenance and repair of the vehicle features and accessories *shall* be supplied on a CD/DVD-ROM;
  - ii The digital maintenance manuals *shall* be in a PDF or *Equivalent* format;
  - iii The digital format *shall* not require a password or an Internet connection to be functional; and
  - iv On-line maintenance manuals may be supplied in lieu of the digital maintenance manuals, however, this *shall* be provided without subscription fees.
- (d) Paper Parts Manuals - Parts manuals in paper format required for the vehicle, as published and available for the Canadian market, features and accessories *shall* be supplied; and
- (e) Digital Parts Manuals
  - i Searchable digital parts manuals required for vehicle, as published and available for the Canadian market, features and accessories *shall* be supplied on a CD/DVD-ROM;
  - ii The digital maintenance manuals *shall* be in a PDF or *Equivalent* format;
  - iii The digital format *shall* not require a password or an Internet connection to be functional; and
  - iv On-line parts manuals may be supplied in lieu of the digital parts manuals, however, this *shall* be provided without subscription fees.

4.2 Training

- (a) Training - Familiarization - English
  - i The Contractor *shall* supply a familiarization course in English;
  - ii The course instructor *shall* be an OEM Factory Certified Training Provider;
  - iii The familiarization course *shall* include operation and maintenance segments demonstrating all safety measures

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required for safe vehicle use, instructions on the use of all features and accessories provided and maintenance;

- iv The instructor *shall* supply responses to questions;
- v The familiarization course *shall* have a minimum duration of eight (8) hours;
- vi The familiarization course *shall* accommodate up to eight (8) personnel;
- vii The familiarization course *shall* be supplied at the delivery destination;
- viii For vehicles shipped to DND, the date for the familiarization course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- ix After completion of the familiarization course, the Contractor *shall* have the "PROOF OF FAMILIARIZATION" certificate signed by the senior course attendee; and
- x The **Technical Authority** will supply the "PROOF OF FAMILIARIZATION" document template in a digital format.

(b) Training - Familiarization - French

- i The Contractor *shall* supply a familiarization course in French;
- ii The course instructor *shall* be an OEM Factory Certified Training Provider;
- iii The familiarization course *shall* include operation and maintenance segments demonstrating all safety measures required for safe vehicle use, instructions on the use of all features and accessories provided and maintenance;
- iv The instructor *shall* supply responses to questions;
- v The familiarization course *shall* have a minimum duration of eight (8) hours;
- vi The familiarization course *shall* accommodate up to eight (8) personnel;
- vii The familiarization course *shall* be supplied at the delivery destination;
- viii For vehicles shipped to DND, the date for the familiarization course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- ix After completion of the familiarization course, the Contractor *shall* have the "PROOF OF FAMILIARIZATION" certificate signed by the senior course attendee; and
- x The **Technical Authority** will supply the "PROOF OF FAMILIARIZATION" document template in a digital format.

(c) Training - Maintenance - English

- i The Contractor *shall* supply a maintenance training course in English;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;
- iii The maintenance training course curriculum *shall* include operation and maintenance safety precautions, preventive maintenance including servicing schedules, troubleshooting, testing and adjustments;
- iv The maintenance training course *shall* have a minimum duration of four (4) days;
- v The maintenance training course *shall* accommodate up to eight (8) maintenance personnel;
- vi The maintenance training course *shall* be supplied at the delivery destination;
- vii For vehicles shipped to DND, the dates for the maintenance training course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- viii After completion of the maintenance training course, the Contractor *shall* have the "PROOF OF MAINTAINER TRAINING" certificate signed by the senior course attendee; and
- ix The **Technical Authority** will supply the "PROOF OF MAINTAINER TRAINING" document template in a digital format.

(d) Training - Maintenance - French

- i The Contractor *shall* supply a maintenance training course in French;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;
- iii The maintenance training course curriculum *shall* include operation and maintenance safety precautions, preventive maintenance including servicing schedules, troubleshooting, testing and adjustments;
- iv The maintenance training course *shall* have a minimum duration of four (4) days;
- v The maintenance training course *shall* accommodate up to eight (8) maintenance personnel;
- vi The maintenance training course *shall* be supplied at the delivery destination;
- vii For vehicles shipped to DND, the dates for the maintenance training course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;

- viii After completion of the maintenance training course, the Contractor *shall* have the "PROOF OF MAINTAINER TRAINING" certificate signed by the senior course attendee; and
- ix The *Technical Authority* will supply the "PROOF OF MAINTAINER TRAINING" document template in a digital format.

(e) Training - Troubleshooting - English

- i The Contractor *shall* supply a troubleshooting course in English;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;
- iii The troubleshooting course *shall* include detailed testing, troubleshooting, problem analysis and adjustments training;
- iv The troubleshooting course *shall* have a minimum duration of eight (8) hours;
- v The troubleshooting course *shall* accommodate up to eight (8) maintenance personnel
- vi The troubleshooting course *shall* be supplied at the delivery destination;
- vii For vehicles shipped to DND, the date for the troubleshooting course *shall* be arranged with the *Technical Authority*, or the identified user or designated contact person for vehicles shipped to users other than DND;
- viii After completion of the troubleshooting course, the Contractor *shall* 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.

(f) Training - Troubleshooting - French

- i The Contractor *shall* supply a troubleshooting course in French;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;
- iii The troubleshooting course *shall* include detailed testing, troubleshooting, problem analysis and adjustments training;
- iv The troubleshooting course *shall* have a minimum duration of eight (8) hours;
- v The troubleshooting course *shall* accommodate up to eight (8) maintenance personnel;
- vi The troubleshooting course *shall* be supplied at the delivery destination;

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- vii For vehicles shipped to DND, the date for the troubleshooting course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- viii After completion of the troubleshooting course, the Contractor *shall* 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.



**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 electric 4-wheel sit-down rider counterbalance forklifts with features and attachments.

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

- (a) Requirements, which are identified by the word "**shall**", 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 "**shall**" or "will" are not used, the information supplied is for guidance only;
- (d) In this document "provided" **shall** mean "provided and installed";
- (e) Where a standard is specified and the Contractor has offered an **Equivalent**, that **Equivalent** standard **shall** be supplied by the Contractor, upon request;
- (f) Where a technical certification is referred to in this Purchase Description, a copy of the certification or an acceptable Proof of Compliance **shall** be supplied, when requested by the **Technical Authority**;
- (g) While the SI system **shall** 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; and
- (h) Dimensions stated as nominal **shall** 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**

- (a) "**Technical Authority**" **shall** mean the official responsible for the technical content of this Purchase Description;
- (b) "**Equivalent**" **shall** mean a standard, means, or component type, which the **Technical Authority** has approved for this requirement

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as meeting the specified requirements for fit, form, function and performance; and

- (c) **"Commercially Equipped"** shall mean that the vehicle is provided in its standard commercial Configuration with no additional government-specified requirements.

1.4 **Data Table** - The following table shows required performance and dimensions for each Configuration and includes paragraph references.

CHARACTERISTIC			PARAGRAPH	UNITS	CONFIGURATION			
					A	B	C	D
LIFT CAPACITY			3.4.1 (a)	kg	1,805	2,260	2,715	3,170
				lb	4,000	5,000	6,000	7,000
LOAD CENTRE			3.4.1 (a)	mm	610	610	610	610
				in	24	24	24	24
STANDARD MAST - LIFT HEIGHT			3.4.1 (c)	mm	4,720	4,720	4,720	4,695
				in	186	186	186	185
STANDARD MAST - VEHICLE HEIGHT			3.4.1 (d)	mm	2,290	2,290	2,290	2,290
				in	90	90	90	90
MAST 2	LIFT HEIGHT		3.5.1 (a)	mm	3,805	3,805	3,805	3,805
				in	150	150	150	150
	VEHICLE HEIGHT		3.5.1 (a)	mm	2,135	2,135	2,135	2,135
				in	84	84	84	84
MAST 3	LIFT HEIGHT		3.5.1 (b)	mm	5,330	5,330	5,330	5,330
				in	210	210	210	210
	VEHICLE HEIGHT		3.5.1 (b)	mm	2,795	2,795	2,795	2,795
				in	110	110	110	110
MAST 4	LIFT HEIGHT		3.5.1 (c)	mm	5,940	5,940	5,940	5,560
				in	234	234	234	219
	VEHICLE HEIGHT		3.5.1 (c)	mm	2,925	2,925	2,925	2,925
				in	115	115	115	115
BATTERY CAPACITY			3.15 (b)	kWh	29.5	40.5	47.5	47.5

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1.4.1 **Feature Table** - The following table indicates with an "X" and by Configuration the features, accessories, items and training, which *shall* become part of the vehicle order when required by the call-up.

DESCRIPTION	PARAGRAPH	CONFIGURATION			
		A	B	C	D
"EE" Safety Rating Feature	3.3.4	X	X	X	X
Mast no. 2	3.5.1 (a)	X	X	X	X
Mast no. 3	3.5.1 (b)	X	X	X	X
Mast no. 4	3.5.1 (c)	X	X	X	X
Lift Accumulator	3.5.1 (d)	X	X	X	X
Side Shifter	3.5.1 (e)	X	X	X	X
Fork Positioner/Side Shifter	3.5.1 (f)	X	X	X	X
54-inch Forks	3.5.1 (g)	X	X	X	X
60-inch Forks	3.5.1 (h)	X	X	X	X
Fork Tine Position Guide	3.5.1 (i)	X	X	X	X
Removable Cab	3.6.1 (a)	X	X	X	X
Suspension Seat	3.6.1 (b)	X	X	X	X
Lug Tread Tires	3.12.1 (a)	X	X	X	X
Weigh Scale	3.14.1 (a)	X	X	X	X
120 V, Single Phase Charger	3.15.1 (a)	X	X	X	X
220 V, 3 Phase Charger	3.15.1 (b)	X	X	X	X
440 V, 3 Phase Charger	3.15.1 (c)	X	X	X	X
550 V, 3 Phase Charger	3.15.1 (d)	X	X	X	X
Battery Watering System	3.15.1 (e)	X	X	X	X
Battery Rollers	3.15.1 (f)	X	X	X	X
Initial Parts Kit	4.1.4 (a)	X	X	X	X
Paper Maintenance Manuals	4.1.4 (b)	X	X	X	X
Digital Maintenance Manuals	4.1.4 (c)	X	X	X	X
Paper Parts Manuals	4.1.4 (d)	X	X	X	X
Digital Parts Manuals	4.1.4 (e)	X	X	X	X
Training - Familiarization - English	4.2 (a)	X	X	X	X
Training - Familiarization - French	4.2 (b)	X	X	X	X
Training - Maintenance - English	4.2 (c)	X	X	X	X
Training - Maintenance - French	4.2 (d)	X	X	X	X
Training - Troubleshooting - English	4.2 (e)	X	X	X	X
Training - Troubleshooting - French	4.2 (f)	X	X	X	X

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 Standards

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

B335

Safety Standards for Lift Trucks

Canadian Standards Association (CSA)  
5060 Spectrum Way, Suite 100  
Mississauga, Ontario, L4W 5N6  
<http://www.csa.ca/cm/ca/en/home>

UL 583

Standard for Electric-Battery-Powered Industrial Trucks

Underwriters' Laboratories of Canada  
7 Underwriters Road,  
Toronto, Ontario, M1R 3A9  
<http://www.ulc.ca/>

Hazardous Products Act

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

Canada Occupational Health and Safety Regulations

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

ANSI B56.1

Safety Standards for Low Lift and High Lift Trucks  
American National Standards Institute  
1899 L Street, NW, 11<sup>th</sup> Floor  
Washington, DC, 20036  
<http://www.ansi.org/>

ISO 5353

Earth-moving machinery, and tractors and machinery for agriculture  
and forestry - Seat index point  
International Organisation for Standardisation  
ISO Central Secrétariat  
1, ch. de la Voie-Creuse  
CP 56  
CH 1211 Geneva 20  
Switzerland  
<http://www.iso.org/iso/home.htm>

**3. REQUIREMENTS****3.1 Standard Design**

- (a) The vehicle *shall* be the latest model from a manufacturer who has demonstrated acceptability by selling this type and size class of vehicle for at least three (3) years;
- (b) The vehicle *shall* include all components, equipment and accessories normally supplied for this application, although they may not specifically be described in this Purchase Description;
- (c) The vehicle *shall* have engineering certification available for this application from the original manufacturers of major equipment, systems and assemblies;
- (d) The vehicle *shall* 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 *shall* operate in accordance with all original equipment manufacturers' (OEM) rated capacities and performance specifications.

**3.2 Operating Conditions**

3.2.1 **Weather** - The vehicle *shall* operate in temperatures ranging from 0 to 40°C.

3.2.2 **Terrain** - The vehicle *shall* operate on use-roughened concrete floors while being used for stacking, un-stacking and moving general supplies in warehouses.

**3.3 Safety Standards**

3.3.1 **Vehicle Safety** - All vehicle design and safety aspects *shall* be in accordance with CSA B335 or an *Equivalent*.

3.3.2 **Hazardous Materials** - The Contractor *shall* 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) used in the manufacture and assembly of the product supplied.

3.3.3 **"E" Safety Rating** - The vehicle *shall* be manufactured to meet the requirements of an "E" safety rating in accordance with Standard UL 583, or an *Equivalent*.

**3.3.4 "EE" Safety Rating Feature**

- (a) The vehicle *shall* be manufactured to meet the requirements of an "EE" safety rating in accordance with Standard UL 583, or an *Equivalent*, in lieu of the "E" safety rating (paragraph 3.3.3); and
- (b) A certification label confirming the vehicle meets the "EE" safety rating *shall* be permanently affixed to the vehicle before delivery.

3.4 **Vehicle** - The vehicle *shall* be a battery-powered sit down rider type forklift.

**3.4.1 Forklift Performance**

- (a) The vehicle, with the standard mast and no accessories, *shall* have a lift capacity of at least that given as "**LIFT CAPACITY**" in the Data Table (paragraph 1.4) at the load centre of that given as "**LOAD CENTRE**" in the Data Table (paragraph 1.4);
- (b) The lift capacity, with the standard mast and no accessories, *shall* not de-rate to below specified lift capacity before reaching a load lift height of 3,810 mm (150 inches);
- (c) The vehicle *shall* have a lift height of at least that given as "**STANDARD MAST - LIFT HEIGHT**" in the Data Table (paragraph 1.4), measured from the floor to the top surface of the forks in the full-up position; and
- (d) The vehicle, with the mast in its lowest position, *shall* pass under a horizontal beam with a height above ground level of that given as "**STANDARD MAST - VEHICLE HEIGHT**" in the Data Table (paragraph 1.4).

**3.4.2 Forklift Configuration**

- (a) The vehicle *shall* have 4 wheels; and
- (b) 4-wheel vehicles *shall* have two separate steer wheels, one on either side of the vehicle.

**3.5 Equipment****(a) Standard Mast**

- i The vehicle *shall* be provided with a see-through telescopic mast; and
- ii The standard mast *shall* have full free lift.

**(b) Forks**

- i The vehicle *shall* be provided with standard forks having a nominal length of either 1,016 mm (40 inches) or 1,066 mm (42 inches); and
- ii Forks with nominal lengths of 914 mm (36 inches) or 1,219 mm (48 inches) *shall* be provided, in lieu of the standard forks, when required by the call-up.

(c) **Backrest** - The backrest *shall* have a nominal height of 1,219 mm (48 inches);

(d) **Mast Tilt** - The vehicle *shall* be provided with a power mechanism that tilts the mast fore and aft of vertical; and

**(e) Fire Extinguisher**

- i Electric vehicles *shall* be provided with a fire extinguisher having at least 1 kg (2.2 lb) of fire extinguishing chemicals;
- ii The fire extinguisher *shall* be installed to be readily accessible to the operator; and
- iii The fire extinguisher *shall* not interfere with operation of the vehicle or the view of the operator.

3.5.1 Features and Accessories(a) Mast no. 2

- i The vehicle **shall** be provided with mast no. 2, in lieu of the standard mast (paragraph 3.5 (a));ii Mast no. 2 **shall** be a "see-through" design;
- ii Mast no. 3 **shall** be a "see-through" design;
- iii Mast no. 2 **shall** have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "**MAST 2**" - "**LIFT HEIGHT**" in the Data Table (paragraph 1.4);
- iv The vehicle, with the mast no. 2 in its lowest position, **shall** pass under a horizontal beam with a height above ground level of that given as "**MAST 2**" - "**VEHICLE HEIGHT**" in the Data Table (paragraph 1.4); and
- v Mast no. 2 **shall** have full free lift.

(b) Mast no. 3

- i The vehicle **shall** be provided with mast no. 3, in lieu of the standard mast (paragraph 3.5 (a));
- ii Mast no. 2 **shall** be a "see-through" design;
- iii Mast no. 3 **shall** have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "**MAST 3**" - "**LIFT HEIGHT**" in the Data Table (paragraph 1.4);
- iv The vehicle, with the mast no. 3 in its lowest position, **shall** pass under a horizontal beam with a height above ground level of that given as "**MAST 3**" - "**VEHICLE HEIGHT**" in the Data Table (paragraph 1.4); and
- v Mast no. 3 **shall** have full free lift.

(c) Mast no. 4

- i The vehicle **shall** be provided with mast no. 4, in lieu of the standard mast (paragraph 3.5 (a));
- ii Mast no. 2 **shall** be a "see-through" design;
- iii Mast no. 4 **shall** have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "**MAST 4**" - "**LIFT HEIGHT**" in the Data Table (paragraph 1.4);
- iv The vehicle, with the mast no. 4 in its lowest position, **shall** pass under a horizontal beam with a height above ground level of that given as "**MAST 4**" - "**VEHICLE HEIGHT**" in the Data Table (paragraph 1.4); and
- v Mast no. 4 **shall** have full free lift.

(d) Lift Accumulator - The mast **shall** be provided with a system to absorb impact loads from tracks, potholes and other obstacles;

(e) Side Shifter - The vehicle **shall** be provided with a side shifter capable of shifting the fully loaded forks

simultaneously at least 100 mm (4 inches) to both sides of the centreline;

(f) Fork Positioning Side Shifter

- i The vehicle *shall* be provided with a fork-positioning side shifter;
- ii The fork-positioning attachment *shall* increase/decrease the spacing between the unloaded forks; and
- iii The side shifter *shall* be capable of side shifting fully loaded forks simultaneously to either side.

(g) 54-inch Forks - The vehicle *shall* be provided with forks having a nominal length of 1,372 mm (54 inches), in lieu of standard forks (paragraph 3.5 (b));

(h) 60-inch Forks - The vehicle *shall* be provided with forks having a nominal length of 1,524 mm (60 inches), in lieu of standard forks (paragraph 3.5 (b)); and

(i) Fork Tine Position Guide

- i The vehicle *shall* be provided with a fork tine position guide;
- ii The fork tine position guide *shall* be permanently attached to the forklift carriage;
- iii The fork tine position guide *shall* use a laser to create a line that shows the level of the top of the fork tines;
- iv The fork tine position guide *shall* be connected to the vehicle electrical system;
- v The fork tine position guide *shall* automatically turn off when the vehicle is turned off; and
- vi The fork tine position guide *shall* automatically turn off when the forks are within 2,130 mm (84 inches) of ground level.

3.6 Operator Station

(a) Overhead Guard

- i The vehicle *shall* be provided with a driver's overhead guard with wire mesh or *Equivalent* mounted to protect operator; and
- ii The height from the seat point index to the underside of the overhead guard *shall* be at least 890 mm (35 inches) in accordance with the recommendation in ANSI B56.1 when measured in accordance with ISO 5353.

(b) Seat - The vehicle *shall* be provided with a padded operator's seat and backrest, provided with seat belts; and

(c) Mirrors - The vehicle *shall* be provided with rear view mirrors providing a full view for safe reverse operations.

**3.6.1 Operator Station Features and Accessories****(a) Removable Cab**

- i The vehicle *shall* be supplied with a removable cab with removable doors;
- ii The cab *shall* fit over the overhead guard; and
- iii The cab *shall* be easily installed/removed without the use of tools.

**(b) Suspension Seat**

- i The vehicle *shall* be provided with a padded full suspension seat and backrest;
- ii It is preferred that the seat be cloth covered;
- iii The seat *shall* be provided with seat belts conforming, as a minimum, to SAE J386; and
- iv The seat *shall* be provided with fore/aft and vertical adjustment without the operator having to move from a seated position.

**3.7 Chassis - Commercially Equipped****3.8 Motors - Commercially Equipped****3.9 Transmission - Commercially Equipped****3.10 Brake System - The braking system *shall* conform to CSA B335, or an *Equivalent*.****3.11 Steering - Commercially Equipped****3.12 Tires**

- (a) The vehicle *shall* be provided with manufacturer's standard smooth face press-on tires;
- (b) The tread material *shall* be optimized for use on an electric forklift.

**3.12.1 Tire Features and Accessories**

- (a) Lug Tread Tires - The vehicle *shall* be provided with lug tread tires, in lieu of the standard tires (paragraph 3.12).

**3.13 Controls - The vehicle *shall* be provided with controls readily accessible to the operator including an infinitely variable speed controller with convenient right foot operation.****3.14 Instruments - The instruments *shall* be provided with an hour-meter with numerical read-out which records accumulated running time up to 9,999 hours and a battery state-of-charge indicator with lift interrupt.****3.14.1 Instruments Features and Accessories****(a) Weigh Scale**

- i The vehicle *shall* be provided with a weigh scale with accuracy of at most 2 percent of forklift capacity; and
- ii The weigh scale *shall* be provided with a digital readout with zeroing capability.

3.15 Electrical System

- (a) The vehicle *shall* be provided with an electrical system operating at no less than twenty four (24) volts;
- (b) Batteries *shall* have a capacity of at least "BATTERY CAPACITY" as given in the Data Table (paragraph 1.4); and
- (c) The vehicle *shall* be provided with a backup alarm to alert personnel that the vehicle is in back-up mode.

3.15.1 Electrical Features and Accessories

- (a) 220 V, Single Phase Charger - A charger *shall* be supplied for connection to a 220-volt, single phase, 60 Hz power source;
- (b) 220 V, 3 Phase Charger - A charger *shall* be supplied for connection to a 220-volt, three phase, 60Hz power source;
- (c) 440 V, 3 Phase Charger - A charger *shall* be supplied for connection to a 440-volt, three phase, 60Hz power source;
- (d) 550 V, 3 Phase Charger - A charger *shall* be supplied for connection to a 550-volt, three phase, 60Hz power source;
- (e) Battery Watering System
  - i The vehicle *shall* be provided with a battery watering system;
  - ii The battery watering system *shall* be supplied with a removable hose; and
  - iii The removable hose *shall* be provided with a quick connect coupler.
- (f) Battery Rollers - The vehicle *shall* be provided with battery compartment rollers to allow the rapid changing of the batteries.

3.16 Lighting

- (a) Work Lights
  - i The vehicle *shall* be provided with two adjustable forward facing LED work lights and one adjustable rear-facing LED work light; and
  - ii The work lights *shall* provide sufficient illumination for forward and reverse operations of vehicle.
- (b) Flashing Beacon
  - i The vehicle *shall* be provided with a red flashing beacon light mounted on the rear of the vehicle; and
  - ii The beacon *shall* be activated when the vehicle transmission is in reverse.

3.17 Hydraulic System - Commercially Equipped3.18 Lubricants and Hydraulic Fluids

- (a) The vehicle *shall* operate using synthetic non-proprietary lubricants and hydraulic fluids; and

(b) Grease fittings provided on the vehicle **shall** conform to SAE J534.

3.19 Paint - **Commercially Equipped**

3.20 Identification - The manufacturer's name, model and vehicle serial number **shall** be permanently marked in a conspicuous and protected location.

3.21 Vehicle Delivery Condition

- (a) The vehicle **shall** be delivered to destination in a fully operational condition (serviced and adjusted). Both the interior and exterior **shall** be cleaned;
- (b) If the vehicle requires assembly at destination, the Contractor **shall** be responsible for all manpower and equipment to perform assembly;
- (c) The space for assembly at destination will be provided, if required;
- (d) For shipment verification, items such as wheel wrenches, jacks, and all other tools, equipment and accessories, which are shipped loose, **shall** be listed on the shipping certificate or to an attached packing note; and
- (e) Lubricants installed in the vehicle at time of delivery **shall** be suitable for the destination and the season of delivery.

## 4. INTEGRATED LOGISTIC ITEMS

4.1 Contractor Documentation and Integrated Logistic Items4.1.1 Documents Supplied to the Technical Authority(a) Data Summary

- i A bilingual data summary *shall* be supplied for each Configuration with data and a vehicle picture on the **Technical Authority** supplied form;
- ii The **Technical Authority** will supply a template of an approved data summary to the Contractor;
- iii The Contractor *shall* supply the information requested for all accessories and features for the equipment Configuration;
- iv The Contractor *shall* submit a digital copy (MS Word) of the completed data summary to the **Technical Authority** for approval; and
- v Data summary approval or comments will be supplied within 30 calendar days of receipt.

(b) Manuals for Approval

- i A set of manuals for each Configuration, in digital format, including the operator, parts and maintenance (shop repair) manuals *shall* be supplied. Manuals may cover more than one Configuration;
- ii The set of manuals *shall* include manuals for all the specified accessories and features for the Configuration. Accessory manuals may be included as supplements to the vehicle manuals;
- iii Manuals will not be returned; and
- iv Manual approval or comments will be supplied within 30 calendar days of receipt.

(c) Photographs and Line Drawings

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

- (d) Initial Parts Kit List - A list of the parts included in the initial parts kit specified in paragraph 4.1.4(a) for each Configuration *shall* be supplied;
- (e) Material Safety Data Sheets
- i The Contractor *shall* supply a list, in digital format, of all hazardous materials used on the vehicle;
  - ii If there are no hazardous materials used, this *shall* be stated on the list; and
  - iii The Contractor *shall* supply material safety data sheets of all hazardous materials in the list.
- (f) Training Plan(s) - The Contractor *shall* supply a training plan for approval, for each of the training requirements listed in paragraph 4.2; and
- (g) Customer Support Package
- i A customer support package, in digital format, *shall* be supplied;
  - ii The customer support package *shall* include brochures for all vehicle models used to comply with each of the Configuration requirements;
  - iii The customer support package *shall* include the brochures for all features/attachments not supplied by the vehicle manufacturer;
  - iv The customer support package *shall* include a Configuration document stating the make/model(s) required to fulfil all requirements for that Configuration;
  - v The Configuration document *shall* state the estimated delivery for each make/model required to fulfil requirements of that Configuration;
  - vi The Configuration document *shall* include a list of equipment/features that comprise the basic specified vehicle including any related product code required on the manufacturer's basic model;
  - vii The Configuration document *shall* include a list for all additional accessories/features that are specified for that Configuration including, where relevant, the product code and make/model;
  - viii The *Technical Authority* will distribute the customer support package to those who request it, however, the Contractor *shall* distribute this document, when requested; and
  - ix The Contractor *shall* receive approval for the customer support package from the *Technical Authority* prior to distribution.

4.1.2 Items Supplied with Each Vehicle(a) Operator's Manual

- i An operator's manual for the safe vehicle operation including all supplied attachments **shall** be supplied;
- ii The operator's manual **shall** be supplied in a bilingual format or as 2 manuals (one English, and one French) in a single binder;
- iii In addition to the paper copy of the operator's manual, a digital copy on a CD, DVD or **Equivalent shall** be supplied;
- iv The CD or DVD **shall** be permanently and legibly labeled with the list of contents; and
- v The digital copy **shall** not require a password or an Internet connection to be functional.

(b) Warranty Letter

- i A paper copy of the completed bilingual warranty letter in the approved format with each vehicle shipped **shall** be supplied;
- ii The **Technical Authority** will supply a template of an approved warranty letter to the Contractor;
- iii The Contractor **shall** supply a complete description of the warranty in the warranty letter with the requested warranty terms and any system or sub system warranty that exceeds the minimum requested in the contractual documents;
- iv The warranty letter **shall** include the name and contact information of the closest designated warranty provider and other designated warranty providers across Canada; and
- v Designated warranty providers **shall** honour the warranty letter.

(c) Material Safety Data Sheets

- i A set of material safety data sheets **shall** be supplied; and
- ii The material safety data sheets **shall** be the same as those supplied to the **Technical Authority** as per paragraph 4.1.1 (e).

4.1.3 Distribution of copies of Warranty Letter

- (a) **DND** - For vehicles shipped to DND, a bilingual copy of the warranty letter, in electronic format, **shall** be supplied to the **Technical Authority**; or
- (b) **Not DND** - For vehicles shipped to users other than DND, a bilingual copy of the warranty letter, in electronic format, **shall** be supplied to the identified user or designated contact person.

4.1.4 Additional Items

- (a) Initial Parts Kit
  - i One initial parts kit *shall* be supplied; and
  - ii The initial parts kit *shall* include a complete set of parts, including filters and filter elements required by the Original Equipment Manufacturer for the first year of scheduled maintenance.
- (b) Paper Maintenance Manuals - Maintenance manuals in paper format, as published and available for the Canadian market, for the maintenance and repair of the vehicle, features and accessories *shall* be supplied;
- (c) Digital Maintenance Manuals
  - i Searchable digital maintenance manuals, as published and available for the Canadian market, for maintenance and repair of the vehicle features and accessories *shall* be supplied on a CD/DVD-ROM;
  - ii The digital maintenance manuals *shall* be in a PDF or *Equivalent* format;
  - iii The digital format *shall* not require a password or an Internet connection to be functional; and
  - iv On-line maintenance manuals may be supplied in lieu of the digital maintenance manuals, however, this *shall* be provided without subscription fees.
- (d) Paper Parts Manuals - Parts manuals in paper format required for the vehicle, as published and available for the Canadian market, features and accessories *shall* be supplied; and
- (e) Digital Parts Manuals
  - i Searchable digital parts manuals required for vehicle, as published and available for the Canadian market, features and accessories *shall* be supplied on a CD/DVD-ROM;
  - ii The digital maintenance manuals *shall* be in a PDF or *Equivalent* format;
  - iii The digital format *shall* not require a password or an Internet connection to be functional; and
  - iv On-line parts manuals may be supplied in lieu of the digital parts manuals, however, this *shall* be provided without subscription fees.

4.2 Training

- (a) Training - Familiarization - English
  - i The Contractor *shall* supply a familiarization course in English;
  - ii The course instructor *shall* be an OEM Factory Certified Training Provider;
  - iii The familiarization course *shall* include operation and maintenance segments demonstrating all safety measures

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required for safe vehicle use, instructions on the use of all features and accessories provided and maintenance;

- iv The instructor **shall** supply responses to questions;
- v The familiarization course **shall** have a minimum duration of eight (8) hours;
- vi The familiarization course **shall** accommodate up to eight (8) personnel;
- vii The familiarization course **shall** be supplied at the delivery destination;
- viii For vehicles shipped to DND, the date for the familiarization course **shall** be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- ix After completion of the familiarization course, the Contractor **shall** have the "PROOF OF FAMILIARIZATION" certificate signed by the senior course attendee; and
- x The **Technical Authority** will supply the "PROOF OF FAMILIARIZATION" document template in a digital format.

(b) Training - Familiarization - French

- i The Contractor **shall** supply a familiarization course in French;
- ii The course instructor **shall** be an OEM Factory Certified Training Provider;
- iii The familiarization course **shall** include operation and maintenance segments demonstrating all safety measures required for safe vehicle use, instructions on the use of all features and accessories provided and maintenance;
- iv The instructor **shall** supply responses to questions;
- v The familiarization course **shall** have a minimum duration of eight (8) hours;
- vi The familiarization course **shall** accommodate up to eight (8) personnel;
- vii The familiarization course **shall** be supplied at the delivery destination;
- viii For vehicles shipped to DND, the date for the familiarization course **shall** be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- ix After completion of the familiarization course, the Contractor **shall** have the "PROOF OF FAMILIARIZATION" certificate signed by the senior course attendee; and
- x The **Technical Authority** will supply the "PROOF OF FAMILIARIZATION" document template in a digital format.

(c) Training - Maintenance - English

- i The Contractor *shall* supply a maintenance training course in English;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;
- iii The maintenance training course curriculum *shall* include operation and maintenance safety precautions, preventive maintenance including servicing schedules, troubleshooting, testing and adjustments;
- iv The maintenance training course *shall* have a minimum duration of four (4) days;
- v The maintenance training course *shall* accommodate up to eight (8) maintenance personnel;
- vi The maintenance training course *shall* be supplied at the delivery destination;
- vii For vehicles shipped to DND, the dates for the maintenance training course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- viii After completion of the maintenance training course, the Contractor *shall* have the "PROOF OF MAINTAINER TRAINING" certificate signed by the senior course attendee; and
- ix The **Technical Authority** will supply the "PROOF OF MAINTAINER TRAINING" document template in a digital format.

(d) Training - Maintenance - French

- i The Contractor *shall* supply a maintenance training course in French;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;
- iii The maintenance training course curriculum *shall* include operation and maintenance safety precautions, preventive maintenance including servicing schedules, troubleshooting, testing and adjustments;
- iv The maintenance training course *shall* have a minimum duration of four (4) days;
- v The maintenance training course *shall* accommodate up to eight (8) maintenance personnel;
- vi The maintenance training course *shall* be supplied at the delivery destination;
- vii For vehicles shipped to DND, the dates for the maintenance training course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;

- viii After completion of the maintenance training course, the Contractor *shall* have the "PROOF OF MAINTAINER TRAINING" certificate signed by the senior course attendee; and
- ix The *Technical Authority* will supply the "PROOF OF MAINTAINER TRAINING" document template in a digital format.

(e) Training - Troubleshooting - English

- i The Contractor *shall* supply a troubleshooting course in English;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;
- iii The troubleshooting course *shall* include detailed testing, troubleshooting, problem analysis and adjustments training;
- iv The troubleshooting course *shall* have a minimum duration of eight (8) hours;
- v The troubleshooting course *shall* accommodate up to eight (8) maintenance personnel;
- vi The troubleshooting course *shall* be supplied at the delivery destination;
- vii For vehicles shipped to DND, the date for the troubleshooting course *shall* be arranged with the *Technical Authority*, or the identified user or designated contact person for vehicles shipped to users other than DND;
- viii After completion of the troubleshooting course, the Contractor *shall* 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.

(f) Training - Troubleshooting - French

- i The Contractor *shall* supply a troubleshooting course in French;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;
- iii The troubleshooting course *shall* include detailed testing, troubleshooting, problem analysis and adjustments training;
- iv The troubleshooting course *shall* have a minimum duration of eight (8) hours;
- v The troubleshooting course *shall* accommodate up to eight (8) maintenance personnel;
- vi The troubleshooting course *shall* be supplied at the delivery destination;

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- vii For vehicles shipped to DND, the date for the troubleshooting course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- viii After completion of the troubleshooting course, the Contractor *shall* 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.



**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 straddle leg electric motor driven narrow aisle forklift trucks with a stand-up rider with reaching forks with features and accessories.

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

- (a) Requirements, which are identified by the word "**shall**", 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 "**shall**" or "will" are not used, the information supplied is for guidance only;
- (d) In this document "provided" **shall** mean "provided and installed";
- (e) Where a standard is specified and the Contractor has offered an **Equivalent**, that **Equivalent** standard **shall** be supplied by the Contractor;
- (f) Where a technical certification is referred to in this Purchase Description, a copy of the certification or an acceptable Proof of Compliance **shall** be supplied, when requested by the **Technical Authority**;
- (g) While the SI system **shall** 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; and
- (h) Dimensions stated as nominal **shall** 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**

- (a) "**Technical Authority**" **shall** mean the official responsible for the technical content of this Purchase Description;

- (b) "**Equivalent**" shall mean 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; and
- (c) "**Commercially Equipped**" shall mean that the vehicle is provided in its standard commercial Configuration with no additional government-specified requirements.

1.4 **Data Table** - The following table shows required performance and dimensions for each Configuration and includes paragraph references.

CHARACTERISTIC			PARAGRAPH	UNITS	CONFIGURATION		
					A	B	C
LIFT CAPACITY			3.4.1 (a)	kg	1,355	1,580	2,265
				lbs	3,000	3,500	4,500
STANDARD MAST	LIFT HEIGHT		3.4.1 (b)	mm	4,800	4,875	4,875
				in	189	192	192
	VEHICLE HEIGHT	3.4.1 (c)	mm	2,275	2,275	2,275	
			in	89.5	89.5	89.5	
REACH			3.4.1 (e)	mm	1,067	505	505
				in	42	20	20
FORK LENGTH			3.5 (b)	mm	1,015	1,015	1,015
				in	40	40	40
MINIMUM SEPARATION			3.5 (d)	mm	865	865	865
				in	34	34	34
MAXIMUM SEPARATION			3.5 (d)	mm	1,240	1,240	1,240
				in	49	49	49
MAST 2	LIFT HEIGHT		3.5.1 (a)	mm	6,019	6,095	6,095
				in	237	240	240
	VEHICLE HEIGHT	3.5.1 (a)	mm	2,745	2,745	2,745	
			in	108	108	108	
MAST 3	LIFT HEIGHT		3.5.1 (b)	mm	6,705	6,855	6,805
				in	264	270	268
	VEHICLE HEIGHT	3.5.1 (b)	mm	3,050	3,050	3,050	
			in	120	120	120	
MAST 4	LIFT HEIGHT		3.5.1 (c)	mm	7,315	7,620	7,620
				in	288	300	300
	VEHICLE HEIGHT	3.5.1 (c)	mm	3,355	3,355	3,355	
			in	132	132	132	
MAST 5	LIFT HEIGHT		3.5.1 (d)	mm	9,295	9,295	9,295
				in	366	366	366
	VEHICLE HEIGHT	3.5.1 (d)	mm	4,115	4,115	4,115	
			in	162	162	162	
BATTERY CAPACITY			3.15 (b)	kWh	26	26	26

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1.4.1 **Feature Table** - The following table indicates with an "X" and by Configuration the features, accessories, items and training, which *shall* become part of the vehicle order when required by the call-up.

DESCRIPTION	PARAGRAPH	CONFIGURATION		
		A	B	C
"EE" Safety Rating Feature	3.3.4	X	X	X
Mast no. 2	3.5.1 (a)	X	X	X
Mast no. 3	3.5.1 (b)	X	X	X
Mast no. 4	3.5.1 (c)	X	X	X
Mast no. 5	3.5.1 (d)	X	X	X
Side Shifter	3.5.1 (e)	X	X	X
Weigh Scale	3.14.1 (a)	X	X	X
220 V, Single Phase Charger	3.15.1 (a)	X	X	X
220 V, 3 Phase Charger	3.15.1 (b)	X	X	X
440 V, 3 Phase Charger	3.15.1 (c)	X	X	X
550 V, 3 Phase Charger	3.15.1 (d)	X	X	X
Battery Watering System	3.15.1 (e)	X	X	X
Working Lights	3.16.1 (a)	X	X	X
Initial Parts Kit	4.1.4 (a)	X	X	X
Paper Maintenance Manuals	4.1.4 (b)	X	X	X
Digital Maintenance Manuals	4.1.4 (c)	X	X	X
Paper Parts Manuals	4.1.4 (d)	X	X	X
Digital Parts Manuals	4.1.4 (e)	X	X	X
Training - Familiarization - English	4.2 (a)	X	X	X
Training - Familiarization - French	4.2 (b)	X	X	X
Training - Maintenance - English	4.2 (c)	X	X	X
Training - Maintenance - French	4.2 (d)	X	X	X
Training - Troubleshooting - English	4.2 (e)	X	X	X
Training - Troubleshooting - French	4.2 (f)	X	X	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 Standards

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

B335

Safety Standards for Lift Trucks  
Canadian Standards Association (CSA)  
5060 Spectrum Way, Suite 100  
Mississauga, Ontario, L4W 5N6  
<http://www.csa.ca/cm/ca/en/home>

UL 583

Standard for Electric-Battery-Powered Industrial Trucks  
Underwriters' Laboratories of Canada  
7 Underwriters Road,  
Toronto, Ontario, M1R 3A9  
<http://www.ulc.ca/>

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 **shall** be the latest model from a manufacturer who has demonstrated acceptability by selling this type and size class of vehicle for at least three (3) years;
- (b) The vehicle **shall** include all components, equipment and accessories normally supplied for this application, although they may not specifically be described in this Purchase Description;
- (c) The vehicle **shall** have engineering certification available for this application from the original manufacturers of major equipment, systems and assemblies;
- (d) The vehicle **shall** 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 **shall** operate in accordance with all original equipment manufacturers' (OEM) rated capacities and performance specifications.

3.2 Operating Conditions

3.2.1 Weather - The vehicle **shall** operate in temperatures ranging from 0 to 40°C.

3.2.2 Terrain - The vehicle **shall** operate on use-roughened concrete floors while being used for stacking, un-stacking and moving general supplies in warehouses.

3.3 Safety Standards

3.3.1 Vehicle Safety - All vehicle design and safety aspects **shall** be in accordance with CSA B335 or an **Equivalent**.

3.3.2 Hazardous Materials - The Contractor **shall** 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) used in the manufacture and assembly of the product supplied.

3.3.3 "E" Safety Rating - The vehicle **shall** be manufactured to meet the requirements of an "E" safety rating in accordance with Standard UL 583, or an **Equivalent**.

3.3.4 "EE" Safety Rating Feature

- (a) The vehicle **shall** be manufactured to meet the requirements of an "EE" safety rating in accordance with Standard UL 583, or an **Equivalent**, in lieu of the "E" safety rating (paragraph 3.3.3); and
- (b) A certification label confirming the vehicle meets the "EE" safety rating **shall** be permanently affixed to the vehicle before delivery.

3.4 Vehicle - The vehicle **shall** be a straddle-type stand-up rider forklift with a reach mechanism.

3.4.1 Forklift Performance

- (a) The vehicle, with the standard mast and no accessories, *shall* have a lift capacity, at a 610 mm load centre, of at least that given as "LIFT CAPACITY" in the Data Table (paragraph 1.4);
- (b) The vehicle *shall* have a lift height of at least that given as "STANDARD MAST - LIFT HEIGHT" in the Data Table (paragraph 1.4), when measured from the floor to the top surface of the forks in the full-up position;
- (c) The vehicle, with the standard mast in its lowest position, *shall* pass under a horizontal beam with a height above ground level of that given as "STANDARD MAST - VEHICLE HEIGHT" in the Data Table (paragraph 1.4); and
- (d) The vehicle *shall* have a reach depth of at least that given as "REACH" in the Data Table (paragraph 1.4).

3.5 Equipment

- (a) Standard Mast
  - i The vehicle *shall* be provided with a telescopic mast; and
  - ii The standard mast *shall* have full free lift.
- (b) Forks - The vehicle *shall* be provided with forks having a nominal fork length of "FORK LENGTH" as given in the Data Table (paragraph 1.4);
- (c) Load Backrest - The load backrest *shall* have a nominal height of 1,219 mm (48 inches);
- (d) Straddle Legs
  - i The vehicle *shall* be provided with straddle legs with a separation, in increments, covering a range of at least that given as "MINIMUM SEPARATION" and "MAXIMUM SEPARATION" in the Data Table (paragraph 1.4);
  - ii The straddle separation is defined as the distance between straddle legs inside edges, preferably in increments of 50 mm; and
  - iii The straddle separation, which *shall* be provided to a destination will be stated in the call-up, if no separation is stated in the call-up then the maximum separation *shall* be provided.
- (e) Reach Mechanism
  - i The vehicle *shall* be provided with a mechanism capable of moving the load forward, with the forklift stationary; and
  - ii The mechanism *shall* move the forks forward a distance of at least that given as "REACH" in the Data Table (paragraph 1.4).
- (f) Fork Tine Position Guide
  - i The vehicle *shall* be provided with a fork tine position guide;

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- ii The fork tine position guide *shall* be permanently attached to the backrest;
- iii The fork tine position guide *shall* use a laser to create a line that shows the level of the top of the fork tines;
- iv The fork tine position guide *shall* be connected to the vehicle electrical system;
- v The fork tine position guide *shall* automatically turn off when the vehicle is turned off; and
- vi The fork tine position guide *shall* automatically turn off when the forks are within 2,130 mm (84 inches) of ground level.

3.5.1 Features and Accessories(a) Mast no. 2

- i The vehicle *shall* be provided with mast no. 2, in lieu of the standard mast (paragraph 3.5 (a));
- ii Mast no. 2 *shall* have full free lift;
- iii Mast no. 2 *shall* have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "MAST 2" - "LIFT HEIGHT" in the Data Table (paragraph 1.4); and
- iv The vehicle, with mast no. 2 in its lowest position, *shall* pass under a horizontal beam with a height above ground level of that given as "MAST 2" - "VEHICLE HEIGHT" in the Data Table (paragraph 1.4).

(b) Mast no. 3

- i The vehicle *shall* be provided with mast no. 3, in lieu of the standard mast (paragraph 3.5 (a));
- ii Mast no. 3 *shall* have full free lift;
- iii Mast no. 3 *shall* have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "MAST 3" - "LIFT HEIGHT" in the Data Table (paragraph 1.4); and
- iv The vehicle, with mast no. 3 in its lowest position, *shall* pass under a horizontal beam with a height above ground level of that given as "MAST 3" - "VEHICLE HEIGHT" in the Data Table (paragraph 1.4).

(c) Mast no. 4

- i The vehicle *shall* be provided with mast no. 4, in lieu of the standard mast (paragraph 3.5 (a));
- ii Mast no. 4 *shall* have full free lift;
- iii Mast no. 4 *shall* have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "MAST 4" - "LIFT HEIGHT" in the Data Table (paragraph 1.4); and

iv The vehicle, with mast no. 4 in its lowest position, **shall** pass under a horizontal beam with a height above ground level of that given as "**MAST 4**" - "**VEHICLE HEIGHT**" in the Data Table (paragraph 1.4).

(d) Mast no. 5

i The vehicle **shall** be provided with mast no. 5, in lieu of the standard mast (paragraph 3.5 (a));

ii Mast no. 5 **shall** have full free lift;

iii Mast no. 5 **shall** have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "**MAST 5**" - "**LIFT HEIGHT**" in the Data Table (paragraph 1.4); and

iv The vehicle, with mast no. 5 in its lowest position, **shall** pass under a horizontal beam with a height above ground level of that given as "**MAST 5**" - "**VEHICLE HEIGHT**" in the Data Table (paragraph 1.4).

(e) Side Shifter - The vehicle **shall** be provided with a side shifter capable of shifting the fully loaded forks simultaneously at least 50 mm to both sides of the centreline.

3.6 Operator Station

(a) The vehicle **shall** be provided with an operator station with an overhead guard that allows full load visibility;

(b) The overhead guard **shall** be provided with steel bars or **Equivalent** mounted to protect the operator from falling objects;

(c) The vehicle **shall** have a clearance of at least 1,995 mm (78.5 inches) between the floor and the underside of the overhead guard; and

(d) The operator station **shall** be provided with an anti-fatigue floor mat and an operator's backrest. It is preferred that the operator is facing across the direction of travel.

3.7 Chassis - *Commercially Equipped*

3.8 Motors - *Commercially Equipped*

3.9 Transmission - *Commercially Equipped*

3.10 Brake System

(a) The brake system **shall** conform to CSA B335; and

(b) The brakes **shall** be provided with a dead-man type service brake, automatically applied upon removal of operator's foot from the pedal.

3.11 Steering - *Commercially Equipped*

3.12 Tires - *Commercially Equipped*

3.13 Controls - *Commercially Equipped*

3.14 Instruments - The instruments **shall** be provided with an hour-meter with numerical read-out which records accumulated running time up to 9,999 hours and a battery state-of-charge indicator with lift interrupt.



3.14.1 Instruments Features and Accessories

(a) Weigh Scale

- i The vehicle **shall** be provided with a weigh scale with an accuracy of at most 2 percent of the forklift lift capacity; and
- ii The weigh scale **shall** be provided with a digital readout with zeroing capability.

3.15 Electrical System

- (a) The vehicle **shall** be provided with an electrical system operating at no less than twenty four (24) volts;
- (b) Batteries **shall** have a capacity of at least "BATTERY CAPACITY" as given in the Data Table (paragraph 1.4);
- (c) The vehicle **shall** be provided with a backup alarm to alert personnel that the vehicle is in backup mode; and
- (d) The vehicle **shall** be provided with battery compartment rollers to allow the rapid changing of the batteries.

3.15.1 Electrical Features and Accessories

- (a) 220 V, Single Phase Charger - A charger **shall** be supplied for connection to a 220-volt, single phase, 60Hz power source;
- (b) 220 V, 3 Phase Charger - A charger **shall** be supplied for connection to a 220-volt, three phase, 60Hz power source;
- (c) 440 V, 3 Phase Charger - A charger **shall** be supplied for connection to a 440-volt, three phase, 60Hz power source;
- (d) 550 V, 3 Phase Charger - A charger **shall** be supplied for connection to a 550-volt, three phase, 60Hz power source; and
- (e) Battery Watering System
  - i The vehicle **shall** be provided with a battery watering system;
  - ii The battery watering system **shall** be supplied with a removable hose; and
  - iii The removable hose **shall** be provided with a quick connect coupler.

3.16 Lighting

(a) Flashing Beacon

- i The vehicle **shall** be provided with a red flashing beacon light mounted on the rear of the vehicle; and
- ii The red flashing beacon **shall** be activated when the vehicle travels in reverse.

3.16.1 Lighting Features and Accessories

- (a) Working Lights - The vehicle **shall** be provided with the manufacturer's working light package.

3.17 Hydraulic System - Commercially Equipped



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3.18 Lubricants and Hydraulic Fluids

- (a) The vehicle **shall** operate using synthetic non-proprietary lubricants and hydraulic fluids; and
- (b) Grease fittings provided on the vehicle **shall** conform to SAE J534.

3.19 Paint - Commercially Equipped

3.20 Identification - The manufacturer's name, model and vehicle serial number **shall** be permanently marked in a conspicuous and protected location.

3.21 Vehicle Delivery Condition

- (a) The vehicle **shall** be delivered to destination in a fully operational condition (serviced and adjusted). Both the interior and exterior **shall** be cleaned;
- (b) If the vehicle requires assembly at destination, the Contractor **shall** be responsible for all manpower and equipment to perform assembly;
- (c) The space for assembly at destination will be provided, if required;
- (d) For shipment verification, items such as wheel wrenches, jacks, and all other tools, equipment and accessories, which are shipped loose, **shall** be listed on the shipping certificate or to an attached packing note; and
- (e) Lubricants installed in the vehicle at time of delivery **shall** be suitable for the destination and the season of delivery.

## 4. INTEGRATED LOGISTIC ITEMS

4.1 Contractor Documentation and Integrated Logistic Items4.1.1 Documents supplied to the Technical Authority(a) Data Summary

- i A bilingual data summary *shall* be supplied for each Configuration with data and a vehicle picture on the *Technical Authority* supplied form;
- ii The *Technical Authority* will supply a template of an approved data summary to the Contractor;
- iii The Contractor *shall* supply the information requested for all accessories and features for the equipment Configuration;
- iv The Contractor *shall* submit a digital copy (MS Word) of the completed data summary to the *Technical Authority* for approval; and
- v Data summary approval or comments will be supplied within 30 calendar days of receipt.

(b) Manuals for Approval

- i A set of manuals for each Configuration, in digital format, including the operator, parts and maintenance (shop repair) manuals *shall* be supplied. Manuals may cover more than one Configuration;
- ii The set of manuals *shall* include manuals for all the specified accessories and features for the Configuration. Accessory manuals may be included as supplements to the vehicle manuals;
- iii Manuals will not be returned; and
- iv Manual approval or comments will be supplied within 30 calendar days of receipt.

(c) Photographs and Line Drawings

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

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- (d) Initial Parts Kit List - A list of the parts included in the initial parts kit specified in paragraph 4.1.4(a) for each Configuration *shall* be supplied;
- (e) Material Safety Data Sheets
  - i The Contractor *shall* supply a list, in digital format, of all hazardous materials used on the vehicle;
  - ii If there are no hazardous materials used, this *shall* be stated on the list; and
  - iii The Contractor *shall* supply material safety data sheets of all hazardous materials in the list.
- (f) Training Plan(s) - The Contractor *shall* supply a training plan for approval, for each of the training requirements listed in paragraph 4.2; and
- (g) Customer Support Package
  - i A customer support package, in digital format, *shall* be supplied;
  - ii The customer support package *shall* include brochures for all vehicle models used to comply with each of the Configuration requirements;
  - iii The customer support package *shall* include the brochures for all features/attachments not supplied by the vehicle manufacturer;
  - iv The customer support package *shall* include a Configuration document stating the make/model(s) required to fulfil all requirements for that Configuration;
  - v The Configuration document *shall* state the estimated delivery for each make/model required to fulfil requirements of that Configuration;
  - vi The Configuration document *shall* include a list of equipment/features that comprise the basic specified vehicle including any related product code required on the manufacturer's basic model;
  - vii The Configuration document *shall* include a list for all additional accessories/features that are specified for that Configuration including, where relevant, the product code and make/model;
  - viii The **Technical Authority** will distribute the customer support package to those who request it, however, the Contractor *shall* distribute this document, when requested; and
  - ix The Contractor *shall* receive approval for the customer support package from the **Technical Authority** prior to distribution.



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4.1.2 Items Supplied with Each Vehicle

(a) Operator's Manual

- i An operator's manual for the safe vehicle operation including all supplied attachments **shall** be supplied;
- ii The operator's manual **shall** be supplied in a bilingual format or as 2 manuals (one English, and one French) in a single binder;
- iii In addition to the paper copy of the operator's manual, a digital copy on a CD, DVD or **Equivalent shall** be supplied;
- iv The CD or DVD **shall** be permanently and legibly labeled with the list of contents; and
- v The digital copy **shall** not require a password or an Internet connection to be functional.

(b) Warranty Letter

- i A paper copy of the completed bilingual warranty letter in the approved format with each vehicle shipped **shall** be supplied;
- ii The **Technical Authority** will supply a template of an approved warranty letter to the Contractor;
- iii The Contractor **shall** supply a complete description of the warranty in the warranty letter with the requested warranty terms and any system or sub system warranty that exceeds the minimum requested in the contractual documents;
- iv The warranty letter **shall** include the name and contact information of the closest designated warranty provider and other designated warranty providers across Canada; and
- v Designated warranty providers **shall** honour the warranty letter.

(c) Material Safety Data Sheets

- i A set of material safety data sheets **shall** be supplied; and
- ii The material safety data sheets **shall** be the same as those provided to the **Technical Authority** as per paragraph 4.1.1 (e).

4.1.3 Distribution of copies of Warranty Letter

- (a) **DND** - For vehicles shipped to DND, a bilingual copy of the warranty letter, in electronic format, **shall** be supplied to the **Technical Authority**; or
- (b) **Not DND** - For vehicles shipped to users other than DND, a bilingual copy of the warranty letter, in electronic format, **shall** be supplied to the identified user or designated contact person.



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4.1.4 Additional Items

(a) Initial Parts Kit

- i One initial parts kit *shall* be supplied; and
- ii The initial parts kit *shall* include a complete set of parts, including filters and filter elements required by the Original Equipment Manufacturer for the first year of scheduled maintenance.

(b) Paper Maintenance Manuals - Maintenance manuals in paper format, as published and available for the Canadian market, for the maintenance and repair of the vehicle, features and accessories *shall* be supplied;

(c) Digital Maintenance Manuals

- i Searchable digital maintenance manuals, as published and available for the Canadian market, for maintenance and repair of the vehicle features and accessories *shall* be supplied on a CD/DVD-ROM;
- ii The digital maintenance manuals *shall* be in a PDF or *Equivalent* format;
- iii The digital format *shall* not require a password or an Internet connection to be functional; and
- iv On-line maintenance manuals may be supplied in lieu of the digital maintenance manuals, however, this *shall* be provided without subscription fees.

(d) Paper Parts Manuals - Parts manuals in paper format required for the vehicle, as published and available for the Canadian market, features and accessories *shall* be supplied; and

(e) Digital Parts Manuals

- i Searchable digital parts manuals required for vehicle, as published and available for the Canadian market, features and accessories *shall* be supplied on a CD/DVD-ROM;
- ii The digital maintenance manuals *shall* be in a PDF or *Equivalent* format;
- iii The digital format *shall* not require a password or an Internet connection to be functional; and
- iv On-line parts manuals may be supplied in lieu of the digital parts manuals, however, this *shall* be provided without subscription fees.

4.2 Training

(a) Training - Familiarization - English

- i The Contractor *shall* supply a familiarization course in English;
- ii The course instructor *shall* be an OEM Factory Certified Training Provider;
- iii The familiarization course *shall* include operation and maintenance segments demonstrating all safety measures

- required for safe vehicle use, instructions on the use of all features and accessories provided and maintenance;
- iv The instructor **shall** supply responses to questions;
  - v The familiarization course **shall** have a minimum duration of eight (8) hours;
  - vi The familiarization course **shall** accommodate up to eight (8) personnel;
  - vii The familiarization course **shall** be supplied at the delivery destination;
  - viii For vehicles shipped to DND, the date for the familiarization course **shall** be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
  - ix After completion of the familiarization course, the Contractor **shall** have the "PROOF OF FAMILIARIZATION" certificate signed by the senior course attendee; and
  - x The **Technical Authority** will supply the "PROOF OF FAMILIARIZATION" document template in a digital format.
- (b) Training - Familiarization - French
- i The Contractor **shall** supply a familiarization course in French;
  - ii The course instructor **shall** be an OEM Factory Certified Training Provider;
  - iii The familiarization course **shall** include operation and maintenance segments demonstrating all safety measures required for safe vehicle use, instructions on the use of all features and accessories provided and maintenance;
  - iv The instructor **shall** supply responses to questions;
  - v The familiarization course **shall** have a minimum duration of eight (8) hours;
  - vi The familiarization course **shall** accommodate up to eight (8) personnel;
  - vii The familiarization course **shall** be supplied at the delivery destination;
  - viii For vehicles shipped to DND, the date for the familiarization course **shall** be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
  - ix After completion of the familiarization course, the Contractor **shall** have the "PROOF OF FAMILIARIZATION" certificate signed by the senior course attendee; and
  - x The **Technical Authority** will supply the "PROOF OF FAMILIARIZATION" document template in a digital format.

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(c) Training - Maintenance - English

- i The Contractor *shall* supply a maintenance training course in English;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;
- iii The maintenance training course curriculum *shall* include operation and maintenance safety precautions, preventive maintenance including servicing schedules, troubleshooting, testing and adjustments;
- iv The maintenance training course *shall* have a minimum duration of four (4) days;
- v The maintenance training course *shall* accommodate up to eight (8) maintenance personnel;
- vi The maintenance training course *shall* be supplied at the delivery destination;
- vii For vehicles shipped to DND, the dates for the maintenance training course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- viii After completion of the maintenance training course, the Contractor *shall* have the "PROOF OF MAINTAINER TRAINING" certificate signed by the senior course attendee; and
- ix The **Technical Authority** will supply the "PROOF OF MAINTAINER TRAINING" document template in a digital format.

(d) Training - Maintenance - French

- i The Contractor *shall* supply a maintenance training course in French;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;
- iii The maintenance training course curriculum *shall* include operation and maintenance safety precautions, preventive maintenance including servicing schedules, troubleshooting, testing and adjustments;
- iv The maintenance training course *shall* have a minimum duration of four (4) days;
- v The maintenance training course *shall* accommodate up to eight (8) maintenance personnel;
- vi The maintenance training course *shall* be supplied at the delivery destination;
- vii For vehicles shipped to DND, the dates for the maintenance training course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;

- viii After completion of the maintenance training course, the Contractor *shall* have the "PROOF OF MAINTAINER TRAINING" certificate signed by the senior course attendee; and
- ix The *Technical Authority* will supply the "PROOF OF MAINTAINER TRAINING" document template in a digital format.

(e) Training - Troubleshooting - English

- i The Contractor *shall* supply a troubleshooting course in English;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;
- iii The troubleshooting course *shall* include detailed testing, troubleshooting, problem analysis and adjustments training;
- iv The troubleshooting course *shall* have a minimum duration of eight (8) hours;
- v The troubleshooting course *shall* accommodate up to eight (8) personnel;
- vi The troubleshooting course *shall* be supplied at the delivery destination;
- vii For vehicles shipped to DND, the date for the troubleshooting course *shall* be arranged with the *Technical Authority*, or the identified user or designated contact person for vehicles shipped to users other than DND;
- viii After completion of the troubleshooting course, the Contractor *shall* 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.

(f) Training - Troubleshooting - French

- i The Contractor *shall* supply a troubleshooting course in French;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;
- iii The troubleshooting course *shall* include detailed testing, troubleshooting, problem analysis and adjustments training;
- iv The troubleshooting course *shall* have a minimum duration of eight (8) hours;
- v The troubleshooting course *shall* accommodate up to eight (8) personnel;
- vi The troubleshooting course *shall* be supplied at the delivery destination;

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- vii For vehicles shipped to DND, the date for the troubleshooting course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- viii After completion of the troubleshooting course, the Contractor *shall* 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.



**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 counterbalanced electric motor driven narrow aisle forklift trucks with a stand-up rider with features and accessories.

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

- (a) Requirements, which are identified by the word "**shall**", 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 "**shall**" or "will" are not used, the information supplied is for guidance only;
- (d) In this document "provided" **shall** mean "provided and installed";
- (e) Where a standard is specified and the Contractor has offered an **Equivalent**, that **Equivalent** standard **shall** be supplied by the Contractor;
- (f) Where a technical certification is referred to in this Purchase Description, a copy of the certification or an acceptable Proof of Compliance **shall** be supplied, when requested by the **Technical Authority**;
- (g) While the SI system **shall** 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; and
- (h) Dimensions stated as nominal **shall** 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**

- (a) "**Technical Authority**" **shall** mean the official responsible for the technical content of this Purchase Description;
- (b) "**Equivalent**" **shall** mean 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; and

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OPI DSVPM 4 - DAPVS 4

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(c) **"Commercially Equipped"** shall mean that the vehicle is provided in its standard commercial Configuration with no additional government-specified requirements.

1.4 **Data Table** - The following table shows required performance and dimensions for each Configuration and includes paragraph references.

CHARACTERISTIC			PARAGRAPH	UNITS	CONFIGURATION		
					A	B	C
LIFT CAPACITY		3.4.1 (a)	kg	1,355	1,585	1,810	
			lbs	3,000	3,500	4,000	
STANDARD MAST	LIFT HEIGHT	3.4.1 (b)	mm	4,724	4,720	4,720	
			in	186	186	186	
	VEHICLE HEIGHT	3.4.1 (c)	mm	2,274	2,275	2,275	
			in	89.5	89.5	89.5	
FORK LENGTH		3.5 (b)	mm	1,067	1,067	1,067	
			in	42	42	42	
MAST 2	LIFT HEIGHT	3.5.1 (a)	mm	3,810	3,810	3,810	
			in	150	150	150	
	VEHICLE HEIGHT	3.5.1 (a)	mm	2,160	2,160	2,160	
			in	85	85	85	
MAST 3	LIFT HEIGHT	3.5.1 (b)	mm	5,180	5,180	5,180	
			in	204	204	204	
	VEHICLE HEIGHT	3.5.1 (b)	mm	2,415	2,415	2,415	
			in	95	95	95	
MAST 4	LIFT HEIGHT	3.5.1 (c)	mm	5,639	5,635	5,635	
			in	222	222	222	
	VEHICLE HEIGHT	3.5.1 (c)	mm	2,545	2,545	2,545	
			in	100	100	100	
MAST 5	LIFT HEIGHT	3.5.1 (d)	mm	6,095	6,095	6,095	
			in	240	240	240	
	VEHICLE HEIGHT	3.5.1 (d)	mm	2,160	2,160	2,160	
			in	85	85	85	
BATTERY CAPACITY		3.15 (b)	kWh	26	26	26	

1.4.1 **Feature Table** - The following table indicates with an "X" and by Configuration the features, accessories, items and training, which *shall* become part of the vehicle order when required by the call-up.

DESCRIPTION	PARAGRAPH	CONFIGURATION		
		A	B	C
"EE" Safety Rating Feature	3.3.4	X	X	X
Mast no. 2	3.5.1 (a)	X	X	X
Mast no. 3	3.5.1 (b)	X	X	X
Mast no. 4	3.5.1 (c)	X	X	X
Mast no. 5	3.5.1 (d)	X	X	X
Side Shifter	3.5.1 (f)	X	X	X
Weigh Scale	3.14.1 (a)	X	X	X
220 V, Single Phase Charger	3.15.1 (a)	X	X	X
220 V, 3 Phase Charger	3.15.1 (b)	X	X	X
440 V, 3 Phase Charger	3.15.1 (c)	X	X	X
550 V, 3 Phase Charger	3.15.1 (d)	X	X	X
Battery Watering System	3.15.1 (e)	X	X	X
Working Lights	3.16.1 (a)	X	X	X
Initial Parts Kit	4.1.4 (a)	X	X	X
Paper Maintenance Manuals	4.1.4 (b)	X	X	X
Digital Maintenance Manuals	4.1.4 (c)	X	X	X
Paper Parts Manuals	4.1.4 (d)	X	X	X
Digital Parts Manuals	4.1.4 (e)	X	X	X
Training - Familiarization - English	4.2 (a)	X	X	X
Training - Familiarization - French	4.2 (b)	X	X	X
Training - Maintenance - English	4.2 (c)	X	X	X
Training - Maintenance - French	4.2 (d)	X	X	X
Training - Troubleshooting - English	4.2 (e)	X	X	X
Training - Troubleshooting - French	4.2 (f)	X	X	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 Standards

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

B335

Safety Standards for Lift Trucks  
Canadian Standards Association (CSA)  
5060 Spectrum Way, Suite 100  
Mississauga, Ontario, L4W 5N6  
<http://www.csa.ca/cm/ca/en/home>

UL 583

Standard for Electric-Battery-Powered Industrial Trucks  
Underwriters' Laboratories of Canada  
7 Underwriters Road,  
Toronto, Ontario, M1R 3A9  
<http://www.ulc.ca/>

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 **shall** be the latest model from a manufacturer who has demonstrated acceptability by selling this type and size class of vehicle for at least three (3) years;
- (b) The vehicle **shall** include all components, equipment and accessories normally supplied for this application, although they may not specifically be described in this Purchase Description;
- (c) The vehicle **shall** have engineering certification available for this application from the original manufacturers of major equipment, systems and assemblies;
- (d) The vehicle **shall** 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 **shall** operate in accordance with all original equipment manufacturers' (OEM) rated capacities and performance specifications.

3.2 Operating Conditions

3.2.1 Weather - The vehicle **shall** operate in temperatures ranging from 0 to 40°C.

3.2.2 Terrain - The vehicle **shall** operate on use-roughened concrete floors while being used for stacking, un-stacking and moving general supplies in warehouses.

3.3 Safety Standards

3.3.1 Vehicle Safety - All vehicle design and safety aspects **shall** be in accordance with CSA B335 or an **Equivalent**.

3.3.2 Hazardous Materials - The Contractor **shall** 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) used in the manufacture and assembly of the product supplied.

3.3.3 "E" Safety Rating - The vehicle **shall** be manufactured to meet the requirements of an "E" safety rating in accordance with Standard UL 583, or an **Equivalent**.

3.3.4 "EE" Safety Rating Feature

- (a) The vehicle **shall** be manufactured to meet the requirements of an "EE" safety rating in accordance with Standard UL 583, or an **Equivalent**, in lieu of the "E" safety rating (paragraph 3.3.3); and
- (b) A certification label confirming the vehicle meets the "EE" safety rating **shall** be permanently affixed to the vehicle before delivery.

3.4 Vehicle - The vehicle **shall** be a counterbalanced stand-up rider forklift.



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3.4.1 Forklift Performance

- (a) The vehicle, with the standard mast and no accessories, **shall** have a lift capacity at a 610 mm load centre of at least that given as "**LIFT CAPACITY**" in the Data Table (paragraph 1.4);
- (b) The vehicle **shall** have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "**STANDARD MAST**" - "**LIFT HEIGHT**" in the Data Table (paragraph 1.4); and
- (c) The vehicle, with the standard mast in its lowest position, **shall** pass under a horizontal beam with a height above ground level of that given as "**STANDARD MAST**" - "**VEHICLE HEIGHT**" in the Data Table (paragraph 1.4).

3.5 Equipment

(a) Standard Mast

- i The vehicle **shall** be provided with a telescopic mast; and
- ii The standard mast **shall** have full free lift.

(b) Forks - The vehicle **shall** be provided with forks having a nominal fork length of "**FORK LENGTH**" as given in the Data Table (paragraph 1.4);

(c) Load Backrest - The load backrest **shall** have a nominal height of 1,219 mm (48 inches);

(d) Fork Tine Position Guide

- i The vehicle **shall** be provided with a fork tine position guide;
- ii The fork tine position guide **shall** be permanently attached to the backrest;
- iii The fork tine position guide **shall** use a laser to create a line that shows the level of the top of the fork tines;
- iv The fork tine position guide **shall** be connected to the vehicle electrical system;
- v The fork tine position guide **shall** automatically turn off when the vehicle is turned off; and
- vi The fork tine position guide **shall** automatically turn off when the forks are within 2,130 mm (84 inches) of ground level.

3.5.1 Features and Accessories

(a) Mast no. 2

- i The vehicle **shall** be provided with mast no. 2, in lieu of the standard mast (paragraph 3.5 (a));
- ii Mast no. 2 **shall** have full free lift;
- iii Mast no. 2 **shall** have a lift height, measured from the floor to the top surface of the forks in the full-up

- position, of at least that given as "MAST 2" - "LIFT HEIGHT" in the Data Table (paragraph 1.4); and
- iv The vehicle, with mast no. 2 in its lowest position, **shall** pass under a horizontal beam with a height above ground level of that given as "MAST 2" - "VEHICLE HEIGHT" in the Data Table (paragraph 1.4).
- (b) Mast no. 3
- i The vehicle **shall** be provided with mast no. 3, in lieu of the standard mast (paragraph 3.5 (a));
- ii Mast no. 3 **shall** have full free lift;
- iii Mast no. 3 **shall** have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "MAST 3" - "LIFT HEIGHT" in the Data Table (paragraph 1.4); and
- iv The vehicle, with mast no. 3 in its lowest position, **shall** pass under a horizontal beam with a height above ground level of that given as "MAST 3" - "VEHICLE HEIGHT" in the Data Table (paragraph 1.4).
- (c) Mast no. 4
- i The vehicle **shall** be provided with mast no. 4, in lieu of the standard mast (paragraph 3.5 (a));
- ii Mast no. 4 **shall** have full free lift;
- iii Mast no. 4 **shall** have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "MAST 4" - "LIFT HEIGHT" in the Data Table (paragraph 1.4); and
- iv The vehicle, with mast no. 4 in its lowest position, **shall** pass under a horizontal beam with a height above ground level of that given as "MAST 4" - "VEHICLE HEIGHT" in the Data Table (paragraph 1.4).
- (d) Mast no. 5
- i The vehicle **shall** be provided with mast no. 5, in lieu of the standard mast (paragraph 3.5 (a));
- ii Mast no. 5 **shall** have full free lift;
- iii Mast no. 5 **shall** have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "MAST 5" - "LIFT HEIGHT" in the Data Table (paragraph 1.4); and
- iv The vehicle, with mast no. 5 in its lowest position, **shall** pass under a horizontal beam with a height above ground level of that given as "MAST 5" - "VEHICLE HEIGHT" in the Data Table (paragraph 1.4).
- (e) Side Shifter - The vehicle **shall** be provided with a side shifter capable of shifting the fully loaded forks simultaneously at least 50 mm to both sides of the centreline.



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3.6 Operator Station

- (a) The vehicle **shall** be provided with an operator station with an overhead guard that allows full load visibility;
- (b) The overhead guard **shall** be provided with steel bars or **Equivalent** mounted to protect the operator from falling objects;
- (c) The vehicle **shall** have a clearance of at least 1,990 mm (78.5 inches) between the floor and the underside of the overhead guard; and
- (d) The operator station **shall** be provided with an anti-fatigue floor mat and an operator's backrest. It is preferred that the operator is facing across the direction of travel.

3.7 Chassis - Commercially Equipped

3.8 Motors - Commercially Equipped

3.9 Transmission - Commercially Equipped

3.10 Brake System

- (a) The brake system **shall** conform to CSA B335; and
- (b) The brakes **shall** be provided with a dead-man type service brake, automatically applied upon removal of operator's foot from the pedal.

3.11 Steering - Commercially Equipped

3.12 Tires - Commercially Equipped

3.13 Controls - The vehicle **shall** be provided with a safety device ensuring that the engine can only be started with the transmission in a neutral position.

3.14 Instruments - The instruments **shall** be provided with an hour-meter with numerical read-out which records accumulated running time up to 9,999 hours and a battery state-of-charge indicator with lift interrupt.

3.14.1 Instruments Features and Accessories

(a) Weigh Scale

- i The vehicle **shall** be provided with a weigh scale with an accuracy of at most 2 percent of the lift capacity; and
- ii The weigh scale **shall** be provided with a digital readout with zeroing capability.

3.15 Electrical System

- (a) The vehicle **shall** be provided with an electrical system operating at no less than twenty four (24) volts;
- (b) Batteries **shall** have a capacity of at least "**BATTERY CAPACITY**" as given in the Data Table (paragraph 1.4);
- (c) The vehicle **shall** be provided with a backup alarm to alert personnel that the vehicle is in backup mode; and



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- (d) The vehicle *shall* be provided with battery compartment rollers to allow the rapid changing of the batteries.

3.15.1 Electrical Features and Accessories

- (a) 220 V, Single Phase Charger - A charger *shall* be supplied for connection to a 220-volt, single phase, 60Hz power source;
- (b) 220 V, 3 Phase Charger - A charger *shall* be supplied for connection to a 220-volt, three phase, 60Hz power source;
- (c) 440 V, 3 Phase Charger - A charger *shall* be supplied for connection to a 440-volt, three phase, 60Hz power source;
- (d) 550 V, 3 Phase Charger - A charger *shall* be supplied for connection to a 550-volt, three phase, 60Hz power source; and
- (e) Battery Watering System
  - i The vehicle *shall* be provided with a battery watering system;
  - ii The battery watering system *shall* be supplied with a removable hose; and
  - iii The removable hose *shall* be provided with a quick connect coupler.

3.16 Lighting

- (a) Flashing Beacon
  - i The vehicle *shall* be provided with a red flashing beacon light mounted on the rear of the vehicle; and
  - ii The red flashing beacon *shall* be activated when the vehicle travels in reverse.

3.16.1 Lighting Features and Accessories

- (a) Working Lights - The vehicle *shall* be provided with the manufacturer's working light package.

3.17 Hydraulic System - Commercially Equipped

3.18 Lubricants and Hydraulic Fluids

- (a) The vehicle *shall* operate using synthetic non-proprietary lubricants and hydraulic fluids; and
- (b) Grease fittings provided on the vehicle *shall* conform to SAE J534.

3.19 Paint - Commercially Equipped

3.20 Identification - The manufacturer's name, model and vehicle serial number *shall* be permanently marked in a conspicuous and protected location.

3.21 Vehicle Delivery Condition

- (a) The vehicle *shall* be delivered to destination in a fully operational condition (serviced and adjusted). Both the interior and exterior *shall* be cleaned;
- (b) If the vehicle requires assembly at destination, the Contractor *shall* be responsible for all manpower and equipment to perform assembly;



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- (c) The space for assembly at destination will be provided, if required;
- (d) For shipment verification, items such as wheel wrenches, jacks, and all other tools, equipment and accessories, which are shipped loose, **shall** be listed on the shipping certificate or to an attached packing note; and
- (e) Lubricants installed in the vehicle at time of delivery **shall** be suitable for the destination and the season of delivery.

## 4. INTEGRATED LOGISTIC ITEMS

4.1 Contractor Documentation and Integrated Logistic Items4.1.1 Documents supplied to the Technical Authority(a) Data Summary

- i A bilingual data summary *shall* be supplied for each Configuration with data and a vehicle picture on the *Technical Authority* supplied form;
- ii The *Technical Authority* will supply a template of an approved data summary to the Contractor;
- iii The Contractor *shall* supply the information requested for all accessories and features for the equipment Configuration;
- iv The Contractor *shall* submit a digital copy (MS Word) of the completed data summary to the *Technical Authority* for approval; and
- v Data summary approval or comments will be supplied within 30 calendar days of receipt.

(b) Manuals for Approval

- i A set of manuals for each Configuration, in digital format, including the operator, parts and maintenance (shop repair) manuals *shall* be supplied. Manuals may cover more than one Configuration;
- ii The set of manuals *shall* include manuals for all the specified accessories and features for the Configuration. Accessory manuals may be included as supplements to the vehicle manuals;
- iii Manuals will not be returned; and
- iv Manual approval or comments will be supplied within 30 calendar days of receipt.

(c) Photographs and Line Drawings

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

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- (d) Initial Parts Kit List - A list of the parts included in the initial parts kit specified in paragraph 4.1.4(a) for each Configuration *shall* be supplied;
- (e) Material Safety Data Sheets
  - i The Contractor *shall* supply a list, in digital format, of all hazardous materials used on the vehicle;
  - ii If there are no hazardous materials used, this *shall* be stated on the list; and
  - iii The Contractor *shall* supply material safety data sheets of all hazardous materials in the list.
- (f) Training Plan(s) - The Contractor *shall* supply a training plan for approval, for each of the training requirements listed in paragraph 4.2; and
- (g) Customer Support Package
  - i An customer support package, in digital format, *shall* be supplied;
  - ii The customer support package *shall* include brochures for all vehicle models used to comply with each of the Configuration requirements;
  - iii The customer support package *shall* include the brochures for all features/attachments not supplied by the vehicle manufacturer;
  - iv The customer support package *shall* include a Configuration document stating the make/model(s) required to fulfil all requirements for that Configuration;
  - v The Configuration document *shall* state the estimated delivery for each make/model required to fulfil requirements of that Configuration;
  - vi The Configuration document *shall* include a list of equipment/features that comprise the basic specified vehicle including any related product code required on the manufacturer's basic model;
  - vii The Configuration document *shall* include a list for all additional accessories/features that are specified for that Configuration including, where relevant, the product code and make/model;
  - viii The *Technical Authority* will distribute the customer support package to those who request it, however, the Contractor *shall* distribute this document, when requested; and
  - ix The Contractor *shall* receive approval for the customer support package from the *Technical Authority* prior to distribution.

4.1.2 Items Supplied with Each Vehicle

(a) Operator's Manual

- i An operator's manual for the safe vehicle operation including all supplied attachments **shall** be supplied;
- ii The operator's manual **shall** be supplied in a bilingual format or as 2 manuals (one English, and one French) in a single binder;
- iii In addition to the paper copy of the operator's manual, a digital copy on a CD, DVD or **Equivalent shall** be supplied;
- iv The CD or DVD **shall** be permanently and legibly labeled with the list of contents; and
- v The digital copy **shall** not require a password or an Internet connection to be functional.

(b) Warranty Letter

- i A paper copy of the completed bilingual warranty letter in the approved format with each vehicle shipped **shall** be supplied;
- ii The **Technical Authority** will supply a template of an approved warranty letter to the Contractor;
- iii The Contractor **shall** supply a complete description of the warranty in the warranty letter with the requested warranty terms and any system or sub system warranty that exceeds the minimum requested in the contractual documents;
- iv The warranty letter **shall** include the name and contact information of the closest designated warranty provider and other designated warranty providers across Canada; and
- v Designated warranty providers **shall** honour the warranty letter.

(c) Material Safety Data Sheets

- i A set of material safety data sheets **shall** be supplied; and
- ii The material safety data sheets **shall** be the same as those provided to the **Technical Authority** as per paragraph 4.1.1 (e).

4.1.3 Distribution of copies of Warranty Letter

- (a) **DND** - For vehicles shipped to DND, a bilingual copy of the warranty letter, in electronic format, **shall** be supplied to the **Technical Authority**; or
- (b) **Not DND** - For vehicles shipped to users other than DND, a bilingual copy of the warranty letter, in electronic format, **shall** be supplied to the identified user or designated contact person.

4.1.4 Additional Items

- (a) Initial Parts Kit
  - i One initial parts kit *shall* be supplied; and
  - ii The initial parts kit *shall* include a complete set of parts, including filters and filter elements required by the Original Equipment Manufacturer for the first year of scheduled maintenance.
- (b) Paper Maintenance Manuals - Maintenance manuals in paper format, as published and available for the Canadian market, for the maintenance and repair of the vehicle, features and accessories *shall* be supplied;
- (c) Digital Maintenance Manuals
  - i Searchable digital maintenance manuals, as published and available for the Canadian market, for maintenance and repair of the vehicle features and accessories *shall* be supplied on a CD/DVD-ROM;
  - ii The digital maintenance manuals *shall* be in a PDF or *Equivalent* format;
  - iii The digital format *shall* not require a password or an Internet connection to be functional; and
  - iv On-line maintenance manuals may be supplied in lieu of the digital maintenance manuals, however, this *shall* be provided without subscription fees.
- (d) Paper Parts Manuals - Parts manuals in paper format required for the vehicle, as published and available for the Canadian market, features and accessories *shall* be supplied; and
- (e) Digital Parts Manuals
  - i Searchable digital parts manuals required for vehicle, as published and available for the Canadian market, features and accessories *shall* be supplied on a CD/DVD-ROM;
  - ii The digital maintenance manuals *shall* be in a PDF or *Equivalent* format;
  - iii The digital format *shall* not require a password or an Internet connection to be functional; and
  - iv On-line parts manuals may be supplied in lieu of the digital parts manuals, however, this *shall* be provided without subscription fees.

4.2 Training

- (a) Training - Familiarization - English
  - i The Contractor *shall* supply a familiarization course in English;
  - ii The course instructor *shall* be an OEM Factory Certified Training Provider;

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- iii The familiarization course *shall* include operation and maintenance segments demonstrating all safety measures required for safe vehicle use, instructions on the use of all features and accessories provided and maintenance;
- iv The instructor *shall* supply responses to questions;
- v The familiarization course *shall* have a minimum duration of eight (8) hours;
- vi The familiarization course *shall* accommodate up to eight (8) personnel;
- vii The familiarization course *shall* be supplied at the delivery destination;
- viii For vehicles shipped to DND, the date for the familiarization course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- ix After completion of the familiarization course, the Contractor *shall* have the "PROOF OF FAMILIARIZATION" certificate signed by the senior course attendee; and
- x The **Technical Authority** will supply the "PROOF OF FAMILIARIZATION" document template in a digital format.

(b) Training - Familiarization - French

- i The Contractor *shall* supply a familiarization course in French;
- ii The course instructor *shall* be an OEM Factory Certified Training Provider;
- iii The familiarization course *shall* include operation and maintenance segments demonstrating all safety measures required for safe vehicle use, instructions on the use of all features and accessories provided and maintenance;
- iv The instructor *shall* supply responses to questions;
- v The familiarization course *shall* have a minimum duration of eight (8) hours;
- vi The familiarization course *shall* accommodate up to eight (8) personnel;
- vii The familiarization course *shall* be supplied at the delivery destination;
- viii For vehicles shipped to DND, the date for the familiarization course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- ix After completion of the familiarization course, the Contractor *shall* have the "PROOF OF FAMILIARIZATION" certificate signed by the senior course attendee; and

- x The **Technical Authority** will supply the "PROOF OF FAMILIARIZATION" document template in a digital format.
- (c) Training - Maintenance - English
- i The Contractor **shall** supply a maintenance training course in English;
  - ii The instructor **shall** be an OEM Factory Certified Training Provider;
  - iii The maintenance training course curriculum **shall** include operation and maintenance safety precautions, preventive maintenance including servicing schedules, troubleshooting, testing and adjustments;
  - iv The maintenance training course **shall** have a minimum duration of four (4) days;
  - v The maintenance training course **shall** accommodate up to eight (8) maintenance personnel;
  - vi The maintenance training course **shall** be supplied at the delivery destination;
  - vii For vehicles shipped to DND, the dates for the maintenance training course **shall** be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
  - viii After completion of the maintenance training course, the Contractor **shall** have the "PROOF OF MAINTAINER TRAINING" certificate signed by the senior course attendee; and
  - ix The **Technical Authority** will supply the "PROOF OF MAINTAINER TRAINING" document template in a digital format.
- (d) Training - Maintenance - French
- i The Contractor **shall** supply a maintenance training course in French;
  - ii The instructor **shall** be an OEM Factory Certified Training Provider;
  - iii The maintenance training course curriculum **shall** include operation and maintenance safety precautions, preventive maintenance including servicing schedules, troubleshooting, testing and adjustments;
  - iv The maintenance training course **shall** have a minimum duration of four (4) days;
  - v The maintenance training course **shall** accommodate up to eight (8) maintenance personnel;
  - vi The maintenance training course **shall** be supplied at the delivery destination;
  - vii For vehicles shipped to DND, the dates for the maintenance training course **shall** be arranged with the

*Technical Authority*, or the identified user or designated contact person for vehicles shipped to users other than DND;

- viii After completion of the maintenance training course, the Contractor *shall* have the "PROOF OF MAINTAINER TRAINING" certificate signed by the senior course attendee; and
- ix The *Technical Authority* will supply the "PROOF OF MAINTAINER TRAINING" document template in a digital format.

(e) Training - Troubleshooting - English

- i The Contractor *shall* supply a troubleshooting course in English;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;
- iii The troubleshooting course *shall* include detailed testing, troubleshooting, problem analysis and adjustments training;
- iv The troubleshooting course *shall* have a minimum duration of eight (8) hours;
- v The troubleshooting course *shall* accommodate up to eight (8) personnel;
- vi The troubleshooting course *shall* be supplied at the delivery destination;
- vii For vehicles shipped to DND, the date for the troubleshooting course *shall* be arranged with the *Technical Authority*, or the identified user or designated contact person for vehicles shipped to users other than DND;
- viii After completion of the troubleshooting course, the Contractor *shall* 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.

(f) Training - Troubleshooting - French

- i The Contractor *shall* supply a troubleshooting course in French;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;
- iii The troubleshooting course *shall* include detailed testing, troubleshooting, problem analysis and adjustments training;
- iv The troubleshooting course *shall* have a minimum duration of eight (8) hours;

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- v The troubleshooting course *shall* accommodate up to eight (8) personnel;
- vi The troubleshooting course *shall* be supplied at the delivery destination;
- vii For vehicles shipped to DND, the date for the fault detection training course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- viii After completion of the troubleshooting course, the Contractor *shall* 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.



**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.

This questionnaire covers technical information, which **shall** be provided for evaluation of the Configurations of the vehicle offered.

Where the specification paragraphs below indicate "**Proof of Compliance**", the "**Proof of Compliance**" **shall** be provided for each performance requirement/specification.

Bidders should indicate the document name/title and page number where the **Proof of Compliance** can be found.

Definitions for **Equivalent** and **Proof of Compliance** are found in the **DEFINITIONS** section at the end of this document.

**CONTRACTOR INFORMATION**

Contractor Name \_\_\_\_\_

Date \_\_\_\_\_



Substitutes/Alternatives

Are any substitutes/alternatives offered as **Equivalent**? YES  NO

If yes, please identify all equipment substitutes/alternatives offered as **Equivalents** below:

---

**NOTE: Proof of Compliance shall** be provided for all items offered as a substitute or alternative.

SPECIFICATION PARAGRAPHS

3.3.4 **"EE" Safety Rating Feature - Proof of Compliance**

Certification - document \_\_\_\_\_

3.4.1 **Forklift Performance - Proof of Compliance**

Vehicle - Make \_\_\_\_\_ - Model \_\_\_\_\_

Mast - Model \_\_\_\_\_

- (a) Lift capacity and load centre on page \_\_\_\_\_ of document \_\_\_\_\_
- (b) Lift height on page \_\_\_\_\_ of document \_\_\_\_\_
- (c) Vehicle height with collapsed mast on page \_\_\_\_\_ of document \_\_\_\_\_

3.5 **Equipment**

(d) **Tine Position Guide - Proof of Compliance**

Make \_\_\_\_\_ - Model \_\_\_\_\_

Details on page \_\_\_\_\_ of document \_\_\_\_\_

3.5.1 **Features and Accessories**

(a) **Mast no. 2 - Proof of Compliance**

Vehicle - Make \_\_\_\_\_ - Model \_\_\_\_\_

Mast - Model \_\_\_\_\_

Lift height on page \_\_\_\_\_ of document \_\_\_\_\_

Vehicle height with collapsed mast on page \_\_\_\_\_ of document \_\_\_\_\_

(b) **Mast no. 3 - Proof of Compliance**

Vehicle - Make \_\_\_\_\_ - Model \_\_\_\_\_

Mast - Model \_\_\_\_\_

Lift height on page \_\_\_\_\_ of document \_\_\_\_\_

Vehicle height with collapsed mast on page \_\_\_\_\_ of document \_\_\_\_\_

(c) **Mast no. 4 - Proof of Compliance**

Vehicle - Make \_\_\_\_\_ - Model \_\_\_\_\_

Mast - Model \_\_\_\_\_

Lift height on page \_\_\_\_\_ of document \_\_\_\_\_

Vehicle height with collapsed mast on page \_\_\_\_\_ of document \_\_\_\_\_

(d) **Mast no. 5 - Proof of Compliance**

Vehicle - Make \_\_\_\_\_ - Model \_\_\_\_\_

Mast - Model \_\_\_\_\_

Lift height on page \_\_\_\_\_ of document \_\_\_\_\_

Vehicle height with collapsed mast on page \_\_\_\_\_ of document \_\_\_\_\_



**Substitutes/Alternatives**

Are any substitutes/alternatives offered as *Equivalent*? YES  NO

If yes, please identify all equipment substitutes/alternatives offered as *Equivalents* below:

**NOTE: Proof of Compliance shall be provided for all items offered as a substitute or alternative.**

**SPECIFICATION PARAGRAPHS**

3.3.4 **"EE" Safety Rating Feature - Proof of Compliance**

Certification - document \_\_\_\_\_

3.4.1 **Forklift Performance - Proof of Compliance**

Vehicle - Make \_\_\_\_\_ - Model \_\_\_\_\_

Mast - Model \_\_\_\_\_

(a) Lift capacity and load centre on page \_\_\_\_\_ of document \_\_\_\_\_

(b) Lift height on page \_\_\_\_\_ of document \_\_\_\_\_

(c) Vehicle height with collapsed mast on page \_\_\_\_\_ of document \_\_\_\_\_

3.5 **Equipment**

(d) **Tine Position Guide - Proof of Compliance**

Make \_\_\_\_\_ - Model \_\_\_\_\_

Details on page \_\_\_\_\_ of document \_\_\_\_\_

3.5.1 **Features and Accessories**

(a) **Mast no. 2 - Proof of Compliance**

Vehicle - Make \_\_\_\_\_ - Model \_\_\_\_\_

Mast - Model \_\_\_\_\_

Lift height on page \_\_\_\_\_ of document \_\_\_\_\_

Vehicle height with collapsed mast on page \_\_\_\_\_ of document \_\_\_\_\_

(b) **Mast no. 3 - Proof of Compliance**

Vehicle - Make \_\_\_\_\_ - Model \_\_\_\_\_

Mast - Model \_\_\_\_\_

Lift height on page \_\_\_\_\_ of document \_\_\_\_\_

Vehicle height with collapsed mast on page \_\_\_\_\_ of document \_\_\_\_\_

(c) **Mast no. 4 - Proof of Compliance**

Vehicle - Make \_\_\_\_\_ - Model \_\_\_\_\_

Mast - Model \_\_\_\_\_

Lift height on page \_\_\_\_\_ of document \_\_\_\_\_

Vehicle height with collapsed mast on page \_\_\_\_\_ of document \_\_\_\_\_

(d) **Mast no. 5 - Proof of Compliance**

Vehicle - Make \_\_\_\_\_ - Model \_\_\_\_\_

Mast - Model \_\_\_\_\_

Lift height on page \_\_\_\_\_ of document \_\_\_\_\_

Vehicle height with collapsed mast on page \_\_\_\_\_ of document \_\_\_\_\_



Substitutes/Alternatives

Are any substitutes/alternatives offered as **Equivalent**? YES  NO

If yes, please identify all equipment substitutes/alternatives offered as **Equivalents** below:

---

**NOTE: Proof of Compliance shall** be provided for all items offered as a substitute or alternative.

SPECIFICATION PARAGRAPHS

3.3.4 **"EE" Safety Rating Feature - Proof of Compliance**

Certification - document \_\_\_\_\_

3.4.1 **Forklift Performance - Proof of Compliance**

Vehicle - Make \_\_\_\_\_ - Model \_\_\_\_\_

Mast - Model \_\_\_\_\_

- (a) Lift capacity and load centre on page \_\_\_\_\_ of document \_\_\_\_\_
- (b) Lift height on page \_\_\_\_\_ of document \_\_\_\_\_
- (c) Vehicle height with collapsed mast on page \_\_\_\_\_ of document \_\_\_\_\_

3.5 **Equipment**

(d) **Tine Position Guide - Proof of Compliance**

Make \_\_\_\_\_ - Model \_\_\_\_\_

Details on page \_\_\_\_\_ of document \_\_\_\_\_

3.5.1 **Features and Accessories**

(a) **Mast no. 2 - Proof of Compliance**

Vehicle - Make \_\_\_\_\_ - Model \_\_\_\_\_

Mast - Model \_\_\_\_\_

Lift height on page \_\_\_\_\_ of document \_\_\_\_\_

Vehicle height with collapsed mast on page \_\_\_\_\_ of document \_\_\_\_\_

(b) **Mast no. 3 - Proof of Compliance**

Vehicle - Make \_\_\_\_\_ - Model \_\_\_\_\_

Mast - Model \_\_\_\_\_

Lift height on page \_\_\_\_\_ of document \_\_\_\_\_

Vehicle height with collapsed mast on page \_\_\_\_\_ of document \_\_\_\_\_

(c) **Mast no. 4 - Proof of Compliance**

Vehicle - Make \_\_\_\_\_ - Model \_\_\_\_\_

Mast - Model \_\_\_\_\_

Lift height on page \_\_\_\_\_ of document \_\_\_\_\_

Vehicle height with collapsed mast on page \_\_\_\_\_ of document \_\_\_\_\_

(d) **Mast no. 5 - Proof of Compliance**

Vehicle - Make \_\_\_\_\_ - Model \_\_\_\_\_

Mast - Model \_\_\_\_\_

Lift height on page \_\_\_\_\_ of document \_\_\_\_\_

Vehicle height with collapsed mast on page \_\_\_\_\_ of document \_\_\_\_\_



DEFINITIONS

The following definitions apply to the interpretation of this Technical Information Questionnaire:

- (a) "**Equivalent**" *shall* mean a standard, means, or component type, which the **Technical Authority** has approved for this requirement, in writing, as meeting the specified requirements for fit, form, function and performance; and
  
- (b) "**Proof of Compliance**" *shall* mean an unaltered document, such as a brochure and/or technical literature and/or a third party test report provided by a nationally and/or internationally recognized testing facility and/or a report generated by a nationally and/or internationally recognized third party software. The document *shall* provide detailed information on each performance requirement and/or specification. Where a document submitted as **Proof of Compliance** does not cover all the performance requirements and/or specifications or when no such document is available or when modifications to the original equipment or customization are required to achieve the performance requirements and/or specifications, a Certificate of Attestation (as a separate document) signed by a senior engineer representing the Original Equipment Manufacturer (OEM) detailing the modifications and how they meet the performance requirements and/or specifications *shall* be provided. The certificate *shall* detail all performance requirements and/or specifications required to substantiate compliance. One certificate can be provided for one or all performance requirements and/or specifications.



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 electric straddle walkie stackers with features and accessories.

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

- (a) Requirements, which are identified by the word "**shall**", 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 "**shall**" or "will" are not used, the information supplied is for guidance only;
- (d) In this document "provided" **shall** mean "provided and installed";
- (e) Where a standard is specified and the Contractor has offered an **Equivalent**, that **Equivalent** standard **shall** be supplied by the Contractor;
- (f) Where a technical certification is referred to in this Purchase Description, a copy of the certification or an acceptable Proof of Compliance **shall** be supplied, when requested by the **Technical Authority**;
- (g) While the SI system **shall** 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; and
- (h) Dimensions stated as nominal **shall** 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**

- (a) "**Technical Authority**" **shall** mean the official responsible for the technical content of this requirement;
- (b) "**Equivalent**" **shall** mean a standard, means, or component type, which the **Technical Authority** has approved for this requirement

FORKLIFT, WALKIE STACKER, STRADDLE TYPE

as meeting the specified requirements for fit, form, function and performance; and

- (c) **"Commercially Equipped"** shall mean that the vehicle is provided in its standard commercial Configuration with no additional government-specified requirements.

1.4 **Data Table** - The following table shows required performance and dimensions for each Configuration and includes paragraph references.

CHARACTERISTIC		PARAGRAPH	UNITS	CONFIGURATION		
				A	B	C
LIFT CAPACITY		3.4.1 (a)	kg	905	1,355	1,805
			lb	2,000	3,000	4,000
STANDARD MAST - LIFT HEIGHT		3.4.1 (b)	mm	3,200	3,200	3,145
			in	126	126	124
VEHICLE HEIGHT		3.4.1 (c)	mm	2,340	2,185	2,185
			in	92	86	86
FORK LENGTH		3.5 (b)	mm	1,067	1,067	1,067
			in	42	42	42
MINIMUM SEPARATION		3.5 (d)	mm	940	940	940
			in	37	37	37
MAXIMUM SEPARATION		3.5 (d)	mm	1,245	1,245	1,245
			in	49	49	49
MAST 2	LIFT HEIGHT	3.5.1 (a)	mm	2,435	2,435	2,540
	VEHICLE HEIGHT		in	96	96	100
MAST 3	LIFT HEIGHT	3.5.1 (b)	mm	1,920	1,935	2,110
	VEHICLE HEIGHT		in	75 ½	76	83
MAST 4	LIFT HEIGHT	3.5.1 (c)	mm	3,655	3,655	3,655
	VEHICLE HEIGHT		in	144	144	144
BATTERY CAPACITY		3.15 (a)	mm			4,300
			in			169 ½
BATTERY CAPACITY		3.15 (a)	mm			2,290
			in			90

FORKLIFT, WALKIE STACKER, STRADDLE TYPE

1.4.1 **Feature Table** - The following table indicates with an "X" and by Configuration the features, accessories, items and training, which *shall* become part of the vehicle order when required by the call-up.

DESCRIPTION	PARAGRAPH	CONFIGURATION		
		A	B	C
"EE" Safety Rating Feature	3.3.4	X	X	X
Mast no. 2	3.5.1 (a)	X	X	X
Mast no. 3	3.5.1 (b)	X	X	X
Mast no. 4	3.5.1 (c)			X
Side Shifter	3.5.1 (e)	X	X	X
Cold Storage Preparation	3.5.1 (d)	X	X	X
120 V, Single Phase Charger	3.15.1 (a)	X	X	X
220 V, Single Phase Charger	3.15.1 (b)	X	X	X
220 V, 3 Phase Charger	3.15.1 (c)	X	X	X
440 V, 3 Phase Charger	3.15.1 (d)	X	X	X
550 V, 3 Phase Charger	3.15.1 (e)	X	X	X
Initial Parts Kit	4.1.4 (a)	X	X	X
Paper Maintenance Manuals	4.1.4 (b)	X	X	X
Digital Maintenance Manuals	4.1.4 (c)	X	X	X
Paper Parts Manuals	4.1.4 (d)	X	X	X
Digital Parts Manuals	4.1.4 (e)	X	X	X
Training - Familiarization - English	4.2 (a)	X	X	X
Training - Familiarization - French	4.2 (b)	X	X	X
Training - Maintenance - English	4.2 (c)	X	X	X
Training - Maintenance - French	4.2 (d)	X	X	X
Training - Troubleshooting - English	4.2 (e)	X	X	X
Training - Troubleshooting - French	4.2 (f)	X	X	X

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 Standards

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

B335

Safety Standards for Lift Trucks

Canadian Standards Association (CSA)  
5060 Spectrum Way, Suite 100  
Mississauga, Ontario, L4W 5N6  
<http://www.csa.ca/cm/ca/en/home>

UL 583

Standard for Electric-Battery-Powered Industrial Trucks

Underwriters' Laboratories of Canada  
7 Underwriters Road,  
Toronto, Ontario, M1R 3A9  
<http://www.ulc.ca/>

Hazardous Products Act

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

FORKLIFT, WALKIE STACKER, STRADDLE TYPE

## 3. REQUIREMENTS

3.1 Standard Design

- (a) The vehicle *shall* be the latest model from a manufacturer who has demonstrated acceptability by selling this type and size class of vehicle for at least three (3) years;
- (b) The vehicle *shall* include all components, equipment and accessories normally supplied for this application, although they may not specifically be described in this Purchase Description;
- (c) The vehicle *shall* have engineering certification available for this application from the original manufacturers of major equipment, systems and assemblies;
- (d) The vehicle *shall* 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 *shall* operate in accordance with all original equipment manufacturers' (OEM) rated capacities and performance specifications.

3.2 Operating Conditions

3.2.1 Weather - The vehicle *shall* operate in temperatures ranging from 0 to 40°C.

3.2.2 Terrain - The vehicle *shall* operate on use-roughened concrete floors while being used for stacking, un-stacking and moving general supplies in warehouses.

3.3 Safety Standards

3.3.1 Vehicle Safety - All vehicle design and safety *shall* be in accordance with CSA B335 or an *Equivalent*.

3.3.2 Hazardous Materials - The Contractor *shall* 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) used in the manufacture and assembly of the product supplied.

3.3.3 "E" Safety Rating - The vehicle *shall* be manufactured to meet the requirements of an "E" safety rating in accordance with Standard UL 583, or an *Equivalent*.

3.3.4 "EE" Safety Rating Feature

- (a) The vehicle *shall* be manufactured to meet the requirements of an "EE" safety rating in accordance with Standard UL 583, or an *Equivalent*, in lieu of the "E" safety rating (paragraph 3.3.3); and
- (b) A certification label confirming the vehicle meets the "EE" safety rating *shall* be permanently affixed to the vehicle before delivery.

3.4 Vehicle - The vehicle *shall* be a straddle-type walkie stacker.

FORKLIFT, WALKIE STACKER, STRADDLE TYPE3.4.1 Forklift Performance

- (a) The vehicle, with the standard mast and no accessories, *shall* have a lift capacity at a 610 mm load centre of at least that given as "**LIFT CAPACITY**" in the Data Table (paragraph 1.4);
- (b) The vehicle *shall* have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "**STANDARD MAST - LIFT HEIGHT**" in the Data Table (paragraph 1.4); and
- (c) The vehicle, with the standard mast in its lowest position, *shall* pass under a horizontal beam with a height above ground level of that given as "**VEHICLE HEIGHT**" in the Data Table (paragraph 1.4).

3.5 Equipment(a) Standard Mast

- i The vehicle *shall* be provided with a telescopic mast; and
- ii The standard mast *shall* have full free lift.

(b) Forks - The vehicle *shall* be provided with forks having a nominal fork length of "**FORK LENGTH**" as given in the Data Table (paragraph 1.4);(c) Load Backrest - The load backrest *shall* have a nominal height of 1,219 mm (48 inches); and(d) Straddle Legs

- i The vehicle *shall* be provided with straddle legs with a separation, in increments, covering a range of at least that given as "**MINIMUM SEPARATION**" and "**MAXIMUM SEPARATION**" in the Data Table (paragraph 1.4);
- ii The straddle separation is defined as the distance between straddle legs inside edges, preferably in increments of 50 mm; and
- iii The straddle separation *shall* be provided when stated in the call-up, if no separation is stated in the call-up then the maximum separation *shall* be provided.

3.5.1 Features and Accessories(a) Mast no. 2

- i The vehicle *shall* be provided with mast no. 2, in lieu of the standard mast (paragraph 3.5 (a));
- ii Mast no. 2 *shall* have full free lift;
- iii Mast no. 2 *shall* have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "**MAST 2**" - "**LIFT HEIGHT**" in the Data Table (paragraph 1.4); and
- iv The vehicle, with mast no. 2 in its lowest position, *shall* pass under a horizontal beam with a height above

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ground level of that given as "MAST 2" - "VEHICLE HEIGHT" in the Data Table (paragraph 1.4).

(b) Mast no. 3

- i The vehicle **shall** be provided with mast no. 3, in lieu of the standard mast (paragraph 3.5 (a));
- ii Mast no. 3 **shall** have full free lift;
- iii Mast no. 3 **shall** have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "MAST 3" - "LIFT HEIGHT" in the Data Table (paragraph 1.4); and
- iv The vehicle, with mast no. 3 in its lowest position, **shall** pass under a horizontal beam with a height above ground level of that given as "MAST 3" - "VEHICLE HEIGHT" in the Data Table (paragraph 1.4).

(c) Mast no. 4

- i The vehicle **shall** be provided with mast no. 4, in lieu of the standard mast (paragraph 3.5 (a));
- ii Mast no. 4 **shall** have full free lift;
- iii Mast no. 4 **shall** have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "MAST 4" - "LIFT HEIGHT" in the Data Table (paragraph 1.4); and
- iv The vehicle, with mast no. 4 in its lowest position, **shall** pass under a horizontal beam with a height above ground level of that given as "MAST 4" - "VEHICLE HEIGHT" in the Data Table (paragraph 1.4).

(d) Side Shifter - The vehicle **shall** be provided with a side shifter capable of shifting the fully loaded forks simultaneously at least 50 mm to both sides of the centerline; and

(e) Cold Storage Preparation

- i The vehicle **shall** be provided with preparation for operations in a refrigerated warehouse; and
- ii The preparations **shall** include low temperature lubricants, anti-seize compounds, hydraulic fluids and heated and/or sealed switches and controls.

3.6 Operator/Forklift Body Clearance - Sufficient clearance beneath the vehicle **shall** be provided so operator's feet cannot be trapped entering or leaving ramps.

3.7 Chassis - *Commercially Equipped*

3.8 Motors - *Commercially Equipped*

3.9 Transmission - *Commercially Equipped*

3.10 Brake System

(a) The brake system **shall** conform to CSA B335, or an **Equivalent**;

FORKLIFT, WALKIE STACKER, STRADDLE TYPE

- (b) The brakes **shall** be automatically applied when the steering handle is no less than 5 degrees from the true vertical and horizontal positions;
- (c) When the steering handle is released from the operating position, it **shall** return to a vertical braking position;
- (d) The braking system **shall** be interlocked by a relay; and
- (e) The braking system **shall** disconnect the traction motor power when the brakes are applied.

3.11 Steering

- (a) The vehicle steering system **shall** be through the drive wheel using a steering handle equipped with comfortable handgrips;
- (b) The steering handle, in the horizontal position, **shall** protrude at least 610 mm from the rear of the truck;
- (c) The steering handle **shall** turn the drive wheel assembly at least 90 degrees in each direction from the straight-ahead position; and
- (d) The steering handle **shall** automatically return to the vertical position when released from the operating position.

3.12 Tires - Commercially Equipped3.13 Controls

- (a) The vehicle **shall** be provided with an electronic speed controller providing infinitely variable speed control in both directions mounted in the steering handle;
- (b) The automatic controls **shall** be provided with an emergency-reversing button mounted at the end of the steering handle;
- (c) The emergency-reversing button **shall** immediately reverse the vehicle direction of motion when depressed to protect the operator from injury during close quarter manoeuvring; and
- (d) The lift controls **shall** be self-centring and **shall** be interconnected so they cannot be operated with the steering handle in travel position.

3.14 Instruments - The instruments **shall** be provided with an hour-meter with numerical read-out which records accumulated running time up to 9,999 hours and a battery state-of-charge indicator with lift interrupt.

3.15 Electrical System

- (a) The vehicle **shall** be provided with an electrical system operating at no less than twenty four (24) volts;
- (b) Batteries **shall** have a capacity of at least "**BATTERY CAPACITY**" as given in the Data Table (paragraph 1.4); and
- (c) The vehicle **shall** be provided with a back-up alarm to alert personnel that the vehicle is in back-up mode.

3.15.1 Electrical Features and Accessories

- (a) 120 V, Single Phase Charger - A charger *shall* be supplied for connection to a 120-volt, single phase, 60Hz power source;
- (b) 220 V, Single Phase Charger - A charger *shall* be supplied for connection to a 220-volt, single phase, 60Hz power source;
- (c) 220 V, 3 Phase Charger - A charger *shall* be supplied for connection to a 220-volt, three phase, 60Hz power source;
- (d) 440 V, 3 Phase Charger - A charger *shall* be supplied for connection to a 440-volt, three phase, 60Hz power source; and
- (e) 550 V, 3 Phase Charger - A charger *shall* be supplied for connection to a 550-volt, three phase, 60Hz power source.

3.16 Lighting - Commercially Equipped

3.17 Hydraulic System - Commercially Equipped

3.18 Lubricants and Hydraulic Fluids

- (a) The vehicle *shall* operate using synthetic non-proprietary lubricants and hydraulic fluids; and
- (b) Grease fittings provided on the vehicle *shall* conform to SAE J534.

3.19 Paint - Commercially Equipped

3.20 Identification - The manufacturer's name, model and vehicle serial number *shall* be permanently marked in a conspicuous and protected location.

3.21 Vehicle Delivery Condition

- (a) The vehicle *shall* be delivered to destination in a fully operational condition (serviced and adjusted). Both the interior and exterior *shall* be cleaned;
- (b) If the vehicle requires assembly at destination, the Contractor *shall* be responsible for all manpower and equipment to perform assembly;
- (c) The space for assembly at destination will be provided, if required;
- (d) For shipment verification, items such as wheel wrenches, jacks, and all other tools, equipment and accessories, which are shipped loose, *shall* be listed on the shipping certificate or to an attached packing note; and
- (e) Lubricants installed in the vehicle at time of delivery *shall* be suitable for the destination and the season of delivery.

4. INTEGRATED LOGISTIC ITEMS4.1 Contractor Documentation and Integrated Logistic Items4.1.1 Documents Supplied to the Technical Authority(a) Data Summary

- i A bilingual data summary *shall* be supplied for each Configuration with data and a vehicle picture on the **Technical Authority** supplied form;
- ii The **Technical Authority** will supply a template of an approved data summary to the Contractor;
- iii The Contractor *shall* supply the information requested for all accessories and features for the equipment Configuration;
- iv The Contractor *shall* submit a digital copy (MS Word) of the completed data summary to the **Technical Authority** for approval; and
- v Data summary approval or comments will be supplied within 30 calendar days of receipt.

(b) Manuals for Approval

- i A set of manuals for each Configuration, in digital format, including the operator, parts and maintenance (shop repair) manuals *shall* be supplied. Manuals may cover more than one Configuration;
- ii The set of manuals *shall* include manuals for all the specified accessories and features for the Configuration. Accessory manuals may be included as supplements to the vehicle manuals;
- iii Manuals will not be returned; and
- iv Manual approval or comments will be supplied within 30 calendar days of receipt.

(c) Photographs and Line Drawings

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

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- (d) Initial Parts Kit List - A list of the parts included in the initial parts kit specified in paragraph 4.1.4(a) for each Configuration *shall* be supplied;
- (e) Material Safety Data Sheets
  - i The Contractor *shall* supply a list, in digital format, of all hazardous materials used on the vehicle;
  - ii If there are no hazardous materials used, this *shall* be stated on the list; and
  - iii The Contractor *shall* supply material safety data sheets of all hazardous materials in the list.
- (f) Training Plan(s) - The Contractor *shall* supply a training plan for approval, for each of the training requirements listed in paragraph 4.2; and
- (g) Customer Support Package
  - i A customer support package, in digital format, *shall* be supplied;
  - ii The customer support package *shall* include brochures for all vehicle models used to comply with each of the Configuration requirements;
  - iii The customer support package *shall* include the brochures for all features/attachments not supplied by the vehicle manufacturer;
  - iv The customer support package *shall* include a Configuration document stating the make/model(s) required to fulfil all requirements for that Configuration;
  - v The Configuration document *shall* state the estimated delivery for each make/model required to fulfil requirements of that Configuration;
  - vi The Configuration document *shall* include a list of equipment/features that comprise the basic specified vehicle including any related product code required on the manufacturer's basic model;
  - vii The Configuration document *shall* include a list for all additional accessories/features that are specified for that Configuration including, where relevant, the product code and make/model;
  - viii The *Technical Authority* will distribute the customer support package to those who request it, however, the Contractor *shall* distribute this document, when requested; and
  - ix The Contractor *shall* receive approval for the customer support package from the *Technical Authority* prior to distribution.

4.1.2 Items Supplied with Each Vehicle(a) Operator's Manuals

- i An operator's manual for the safe vehicle operation including all supplied attachments **shall** be supplied;
- ii The operator's manual **shall** be supplied in a bilingual format or as 2 manuals (one English, and one French) in a single binder;
- iii In addition to the paper copy of the operator's manual, a digital copy on a CD or DVD **shall** be supplied;
- iv The CD or DVD **shall** be permanently and legibly labeled with the list of contents; and
- v The digital copy **shall** not require a password or an Internet connection to be functional.

(b) Warranty Letter

- i A paper copy of the completed bilingual warranty letter in the approved format with each vehicle shipped **shall** be supplied;
- ii The **Technical Authority** will supply a template of an approved warranty letter to the Contractor;
- iii The Contractor **shall** supply a complete description of the warranty in the warranty letter with the requested warranty terms and any system or sub system warranty that exceeds the minimum requested in the contractual documents;
- iv The warranty letter **shall** include the name and contact information of the closest designated warranty provider and other designated warranty providers across Canada; and
- v Designated warranty providers **shall** honour the warranty letter.

(c) Material Safety Data Sheets

- i A set of material safety data sheets **shall** be supplied; and
- ii The material safety data sheets **shall** be the same as those supplied to the **Technical Authority** as per paragraph 4.1.1 (e).

4.1.3 Distribution of copies of Warranty Letter

- (a) **DND** - For vehicles shipped to DND, a bilingual copy of the warranty letter, in electronic format, **shall** be supplied to the **Technical Authority**; or
- (b) **Not DND** - For vehicles shipped to users other than DND, a bilingual copy of the warranty letter, in electronic format, **shall** be supplied to the identified user or designated contact person.

FORKLIFT, WALKIE STACKER, STRADDLE TYPE4.1.4 Additional Items

- (a) Initial Parts Kit
  - i One initial parts kit *shall* be supplied; and
  - ii The initial parts kit *shall* include a complete set of parts, including filters and filter elements required by the Original Equipment Manufacturer for the first year of scheduled maintenance.
- (b) Paper Maintenance Manuals - Maintenance manuals in paper format, as published and available for the Canadian market, for the maintenance and repair of the vehicle, features and accessories *shall* be supplied;
- (c) Digital Maintenance Manuals
  - i Searchable digital maintenance manuals, as published and available for the Canadian market, for maintenance and repair of the vehicle features and accessories *shall* be supplied on a CD/DVD-ROM;
  - ii The digital maintenance manuals *shall* be in a PDF or *Equivalent* format;
  - iii The digital format *shall* not require a password or an Internet connection to be functional; and
  - iv On-line maintenance manuals may be supplied in lieu of the digital maintenance manuals, however, this *shall* be provided without subscription fees.
- (d) Paper Parts Manuals - Parts manuals in paper format required for the vehicle, as published and available for the Canadian market, features and accessories *shall* be supplied; and
- (e) Digital Parts Manuals
  - i Searchable digital parts manuals required for vehicle, as published and available for the Canadian market, features and accessories *shall* be supplied on a CD/DVD-ROM;
  - ii The digital maintenance manuals *shall* be in a PDF or *Equivalent* format;
  - iii The digital format *shall* not require a password or an Internet connection to be functional; and
  - iv On-line parts manuals may be supplied in lieu of the digital parts manuals, however, this *shall* be provided without subscription fees.

4.2 Training

- (a) Training - Familiarization - English
  - i The Contractor *shall* supply a familiarization course in English;
  - ii The course instructor *shall* be an OEM Factory Certified Training Provider;

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- iii The familiarization course *shall* include operation and maintenance segments demonstrating all safety measures required for safe vehicle use, instructions on the use of all features and accessories provided and maintenance;
- iv The instructor *shall* supply responses to questions;
- v The familiarization course *shall* have a minimum duration of eight (8) hours;
- vi The familiarization course *shall* accommodate up to eight (8) personnel;
- vii The familiarization course *shall* be supplied at the delivery destination;
- viii For vehicles shipped to DND, the date for the familiarization course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- ix After completion of the familiarization course, the Contractor *shall* have the "PROOF OF FAMILIARIZATION" certificate signed by the senior course attendee; and
- x The **Technical Authority** will supply the "PROOF OF FAMILIARIZATION" document template in a digital format.

(b) Training - Familiarization - French

- i The Contractor *shall* supply a familiarization course in French;
- ii The course instructor *shall* be an OEM Factory Certified Training Provider;
- iii The familiarization course *shall* include operation and maintenance segments demonstrating all safety measures required for safe vehicle use, instructions on the use of all features and accessories provided and maintenance;
- iv The instructor *shall* supply responses to questions;
- v The familiarization course *shall* have a minimum duration of eight (8) hours;
- vi The familiarization course *shall* accommodate up to eight (8) personnel;
- vii The familiarization course *shall* be supplied at the delivery destination;
- viii For vehicles shipped to DND, the date for the familiarization course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- ix After completion of the familiarization course, the Contractor *shall* have the "PROOF OF FAMILIARIZATION" certificate signed by the senior course attendee; and

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- x The **Technical Authority** will supply the "PROOF OF FAMILIARIZATION" document template in a digital format.

(c) Training - Maintenance - English

- i The Contractor **shall** supply a maintenance training course in English;
- ii The instructor **shall** be an OEM Factory Certified Training Provider;
- iii The maintenance training course curriculum **shall** include operation and maintenance safety precautions, preventive maintenance including servicing schedules, troubleshooting, testing and adjustments;
- iv The maintenance training course **shall** have a minimum duration of four (4) days;
- v The maintenance training course **shall** accommodate up to eight (8) maintenance personnel;
- vi The maintenance training course **shall** be supplied at the delivery destination;
- vii For vehicles shipped to DND, the dates for the maintenance training course **shall** be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- viii After completion of the maintenance training course, the Contractor **shall** have the "PROOF OF MAINTAINER TRAINING" certificate signed by the senior course attendee; and
- ix The **Technical Authority** will supply the "PROOF OF MAINTAINER TRAINING" document template in a digital format.

(d) Training - Maintenance - French

- i The Contractor **shall** supply a maintenance training course in French;
- ii The instructor **shall** be an OEM Factory Certified Training Provider;
- iii The maintenance training course curriculum **shall** include operation and maintenance safety precautions, preventive maintenance including servicing schedules, troubleshooting, testing and adjustments;
- iv The maintenance training course **shall** have a minimum duration of four (4) days;
- v The maintenance training course **shall** accommodate up to eight (8) maintenance personnel;
- vi The maintenance training course **shall** be supplied at the delivery destination;
- vii For vehicles shipped to DND, the dates for the maintenance training course **shall** be arranged with the

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*Technical Authority*, or the identified user or designated contact person for vehicles shipped to users other than DND;

- viii After completion of the maintenance training course, the Contractor *shall* have the "PROOF OF MAINTAINER TRAINING" certificate signed by the senior course attendee; and
- ix The *Technical Authority* will supply the "PROOF OF MAINTAINER TRAINING" document template in a digital format.

(e) Training - Troubleshooting - English

- i The Contractor *shall* supply a troubleshooting course in English;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;
- iii The troubleshooting course *shall* include detailed testing, troubleshooting, problem analysis and adjustments training;
- iv The troubleshooting course *shall* have a minimum duration of eight (8) hours;
- v The troubleshooting course *shall* accommodate up to eight (8) personnel;
- vi The troubleshooting course *shall* be supplied at the delivery destination;
- vii For vehicles shipped to DND, the date for the troubleshooting course *shall* be arranged with the *Technical Authority*, or the identified user or designated contact person for vehicles shipped to users other than DND;
- viii After completion of the troubleshooting course, the Contractor *shall* 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.

(f) Training - Troubleshooting - French

- i The Contractor *shall* supply a troubleshooting course in French;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;
- iii The troubleshooting course *shall* include detailed testing, troubleshooting, problem analysis and adjustments training;
- iv The troubleshooting course *shall* have a minimum duration of eight (8) hours;

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- v The troubleshooting course *shall* accommodate up to eight (8) personnel;
- vi The troubleshooting course *shall* be supplied at the delivery destination;
- vii For vehicles shipped to DND, the date for the troubleshooting course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- viii After completion of the troubleshooting course, the Contractor *shall* 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.



**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 straddle reach walkie stackers with features and accessories.

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

- (a) Requirements, which are identified by the word "**shall**", 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 "**shall**" or "will" are not used, the information supplied is for guidance only;
- (d) In this document "provided" **shall** mean "provided and installed";
- (e) Where a standard is specified and the Contractor has offered an **Equivalent**, that **Equivalent** standard **shall** be supplied by the Contractor;
- (f) Where a technical certification is referred to in this Purchase Description, a copy of the certification or an acceptable Proof of Compliance **shall** be supplied, when requested by the **Technical Authority**;
- (g) While the SI system **shall** 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; and
- (h) Dimensions stated as nominal **shall** 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**

- (a) "**Technical Authority**" **shall** mean the official responsible for the technical content of this requirement;

- (b) **"Equivalent"** shall mean 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; and
- (c) **"Commercially Equipped"** shall mean that the vehicle is provided in its standard commercial Configuration with no additional government-specified requirements.

1.4 **Data Table** - The following table shows required performance and dimensions for each Configuration and includes paragraph references.

CHARACTERISTIC		PARAGRAPH	UNITS	CONFIGURATION	
				A	B
LIFT CAPACITY		3.4.1 (a)	kg	905	1,355
			lb	2,000	3,000
STANDARD MAST - LIFT HEIGHT		3.4.1 (b)	mm	3,045	3,045
			in	120	120
VEHICLE HEIGHT		3.4.1 (c)	mm	2,135	2,135
			in	84	84
REACH		3.4.1 (d)	mm	505	505
			in	20	20
FORK LENGTH		3.5 (b)	mm	1,067	1,067
			in	42	42
MINIMUM SEPARATION		3.5 (d)	mm	940	940
			in	37	37
MAXIMUM SEPARATION		3.5 (d)	mm	1,244	1,244
			in	49	49
MAST 2	LIFT HEIGHT	3.5.1 (a)	mm		2,435
			in		96
	VEHICLE HEIGHT		mm		2,010
			in		79
MAST 3	LIFT HEIGHT	3.5.1 (b)	mm	3,755	3,780
			in	148	149
	VEHICLE HEIGHT		mm	2,390	2,390
			in	94	94
MAST 4	LIFT HEIGHT	3.5.1 (c)	mm	4,365	4,365
			in	172	172
	VEHICLE HEIGHT		mm	2,265	2,265
			in	89	89
BATTERY CAPACITY		3.15 (b)	kWh	10	10

1.4.1 **Feature Table** - The following table indicates with an "X" and by Configuration the features, accessories, items and training, which *shall* become part of the vehicle order when required by the call-up.

DESCRIPTION	PARAGRAPH	CONFIGURATION	
		A	B
"EE" Safety Rating Feature	3.3.4	X	X
Mast no. 2	3.5.1 (a)		X
Mast no. 3	3.5.1 (b)	X	X
Mast no. 4	3.5.1 (c)	X	X
Side Shifter	3.5.1 (d)	X	X
Cold Storage Preparation	3.5.1 (e)	X	X
120 V, Single Phase Charger	3.15.1 (a)	X	X
220 V, Single Phase Charger	3.15.1 (b)	X	X
220 V, 3 Phase Charger	3.15.1 (c)	X	X
440 V, 3 Phase Charger	3.15.1 (d)	X	X
550 V, 3 Phase Charger	3.15.1 (e)	X	X
Initial Parts Kit	4.1.4 (a)	X	X
Paper Maintenance Manuals	4.1.4 (b)	X	X
Digital Maintenance Manuals	4.1.4 (c)	X	X
Paper Parts Manuals	4.1.4 (d)	X	X
Digital Parts Manuals	4.1.4 (e)	X	X
Training - Familiarization - English	4.2 (a)	X	X
Training - Familiarization - French	4.2 (b)	X	X
Training - Maintenance - English	4.2 (c)	X	X
Training - Maintenance - French	4.2 (d)	X	X
Training - Troubleshooting - English	4.2 (e)	X	X
Training - Troubleshooting - French	4.2 (f)	X	X

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 Standards

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

B335

Safety Standards for Lift Trucks

Canadian Standards Association (CSA)  
5060 Spectrum Way, Suite 100  
Mississauga, Ontario, L4W 5N6  
<http://www.csa.ca/cm/ca/en/home>

UL 583

Standard for Electric-Battery-Powered Industrial Trucks

Underwriters' Laboratories of Canada  
7 Underwriters Road,  
Toronto, Ontario, M1R 3A9  
<http://www.ulc.ca/>

Hazardous Products Act

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

### 3. REQUIREMENTS

#### 3.1 Standard Design

- (a) The vehicle **shall** be the latest model from a manufacturer who has demonstrated acceptability by selling this type and size class of vehicle for at least three (3) years;
- (b) The vehicle **shall** include all components, equipment and accessories normally supplied for this application, although they may not specifically be described in this Purchase Description;
- (c) The vehicle **shall** have engineering certification available for this application from the original manufacturers of major equipment, systems and assemblies;
- (d) The vehicle **shall** 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 **shall** operate in accordance with all original equipment manufacturers' (OEM) rated capacities and performance specifications.

#### 3.2 Operating Conditions

3.2.1 Weather - The vehicle **shall** operate in temperatures ranging from 0 to 40°C.

3.2.2 Terrain - The vehicle **shall** operate on use-roughened concrete floors while being used for stacking, un-stacking and moving general supplies in warehouses.

#### 3.3 Safety Standards

3.3.1 Vehicle Safety - All vehicle design and safety aspects **shall** be in accordance with CSA B335 or an **Equivalent**.

3.3.2 Hazardous Materials - The Contractor **shall** 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) used in the manufacture and assembly of the product supplied.

3.3.3 "E" Safety Rating - The vehicle **shall** be manufactured to meet the requirements of an "E" safety rating in accordance with Standard UL 583, or an **Equivalent**.

#### 3.3.4 "EE" Safety Rating Feature

- (a) The vehicle **shall** be manufactured to meet the requirements of an "EE" safety rating in accordance with Standard UL 583, or an **Equivalent**, in lieu of the "E" safety rating (paragraph 3.3.3); and
- (b) A certification label confirming the vehicle meets the "EE" safety rating **shall** be permanently affixed to the vehicle before delivery.

3.4 Vehicle - The vehicle **shall** be straddle-type walkie stacker with powered movement and reach.

3.4.1 Forklift Performance

- (a) The vehicle, with the standard mast and no accessories, *shall* have a lift capacity at a 610 mm load centre of at least that given as "**LIFT CAPACITY**" in the Data Table (paragraph 1.4);
- (b) The vehicle *shall* have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "**STANDARD MAST - LIFT HEIGHT**" in the Data Table (paragraph 1.4);
- (c) The vehicle, with the standard mast in its lowest position, *shall* pass under a horizontal beam with a height above ground level of that given as "**VEHICLE HEIGHT**" in the Data Table (paragraph 1.4); and
- (d) The vehicle *shall* have a reach depth of at least that given as "**REACH**" in the Data Table (paragraph 1.4).

3.5 Equipment

- (a) Standard Mast
  - i The vehicle *shall* be provided with a telescopic mast; and
  - ii The standard mast *shall* have full free lift.
- (b) Forks - The vehicle *shall* be provided with forks having a nominal fork length of "**FORK LENGTH**" as given in the Data Table (paragraph 1.4);
- (c) Load Backrest - The load backrest *shall* have a nominal height of 1,219 mm (48 inches);
- (d) Straddle Legs
  - i The vehicle *shall* be provided with straddle legs with a separation, in increments, covering a range of at least that given as "**MINIMUM SEPARATION**" and "**MAXIMUM SEPARATION**" in the Data Table (paragraph 1.4);
  - ii The straddle separation is defined as the distance between straddle legs inside edges, preferably in increments of 50 mm; and
  - iii The straddle separation *shall* be provided when stated in the call-up, if no separation is stated in the call-up then the maximum separation *shall* be provided.
- (e) Reach Mechanism
  - i The vehicle *shall* be provided with a mechanism capable of moving the load forward, with the forklift stationary; and
  - ii The mechanism *shall* move the forks forward a distance of at least that given as "**REACH**" in the Data Table (paragraph 1.4).

3.5.1 Features and Accessories

(a) Mast no. 2

- i The vehicle **shall** be provided with mast no. 2, in lieu of the standard mast (paragraph 3.5 (a));
- ii Mast no. 2 **shall** have full free lift;
- iii Mast no. 2 **shall** have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "**MAST 2**" - "**LIFT HEIGHT**" in the Data Table (paragraph 1.4); and
- iv The vehicle, with mast no. 2 in its lowest position, **shall** pass under a horizontal beam with a height above ground level of that given as "**MAST 2**" - "**VEHICLE HEIGHT**" in the Data Table (paragraph 1.4).

(b) Mast no. 3

- i The vehicle **shall** be provided with mast no. 3, in lieu of the standard mast (paragraph 3.5 (a));
- ii Mast no. 3 **shall** have full free lift;
- iii Mast no. 3 **shall** have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "**MAST 3**" - "**LIFT HEIGHT**" in the Data Table (paragraph 1.4); and
- iv The vehicle, with mast no. 3 in its lowest position, **shall** pass under a horizontal beam with a height above ground level of that given as "**MAST 3**" - "**VEHICLE HEIGHT**" in the Data Table (paragraph 1.4).

(c) Mast no. 4

- i The vehicle **shall** be provided with mast no. 4, in lieu of the standard mast (paragraph 3.5 (a));
- ii Mast no. 4 **shall** have full free lift;
- iii Mast no. 4 **shall** have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "**MAST 4**" - "**LIFT HEIGHT**" in the Data Table (paragraph 1.4); and
- iv The vehicle, with mast no. 4 in its lowest position, **shall** pass under a horizontal beam with a height above ground level of that given as "**MAST 4**" - "**VEHICLE HEIGHT**" in the Data Table (paragraph 1.4).

- (d) Side Shifter - The vehicle **shall** be provided with a side shifter capable of shifting the fully loaded forks simultaneously at least 50 mm to both sides of the centerline; and

(e) Cold Storage Preparation

- i The vehicle **shall** be provided with preparation for operations in a refrigerated warehouse; and
- ii The preparations **shall** include low temperature lubricants, anti-seize compounds, hydraulic fluids and heated and/or sealed switches and controls.



3.6 Operator/Forklift Body Clearance - Sufficient clearance beneath the vehicle *shall* be provided so operator's feet cannot be trapped entering or leaving ramps.

3.7 Chassis - Commercially Equipped

3.8 Motors - Commercially Equipped

3.9 Transmission - Commercially Equipped

3.10 Brake System

- (a) The brake system *shall* conform to CSA B335, or an **Equivalent**;
- (b) The brakes *shall* be automatically applied when the steering handle is no less than 5 degrees from the true vertical and horizontal positions;
- (c) When the steering handle is released from the operating position, it *shall* return to a vertical braking position;
- (d) The braking system *shall* be interlocked by a relay; and
- (e) The braking system *shall* disconnect the traction motor power when the brakes are applied.

3.11 Steering

- (a) The vehicle steering system *shall* be through the drive wheel using a steering handle equipped with comfortable handgrips;
- (b) The steering handle, in the horizontal position, *shall* protrude by at least 610 mm from the rear of the truck;
- (c) The steering handle *shall* turn the drive wheel assembly at least 90 degrees in each direction from the straight-ahead position; and
- (d) The steering handle *shall* automatically return to the vertical position when released from the operating position.

3.12 Tires - Commercially Equipped

3.13 Controls

- (a) The vehicle *shall* be provided with an electronic speed controller providing infinitely variable speed control in both directions mounted in the steering handle;
- (b) The automatic controls *shall* be provided with an emergency-reversing button mounted at the end of the steering handle;
- (c) The emergency-reversing button *shall* immediately reverse the vehicle direction of motion when depressed to protect the operator from injury during close quarter manoeuvring; and
- (d) The lift controls *shall* be self-centring and *shall* be interconnected so they cannot be operated with the steering handle in travel position.

3.14 Instruments - The instruments *shall* be provided with an hour-meter with numerical read-out which records accumulated running time up to 9,999 hours and a battery state-of-charge indicator with lift interrupt.



3.15 Electrical System

- (a) The vehicle *shall* be provided an electrical system operating at no less than twenty four (24) volts;
- (b) Batteries *shall* have a capacity of at least "BATTERY CAPACITY" as given in the Data Table (paragraph 1.4); and
- (c) The vehicle *shall* be provided with a backup alarm to alert personnel that the vehicle is in back-up mode.

3.15.1 Electrical Features and Accessories

- (a) 120 V, Single Phase Charger - A charger *shall* be supplied for connection to a 120-volt, single phase, 60Hz power source;
- (b) 220 V, Single Phase Charger - A charger *shall* be supplied for connection to a 220-volt, single phase, 60Hz power source;
- (c) 220 V, 3 Phase Charger A charger *shall* be supplied for connection to a 220-volt, three phase, 60Hz power source;
- (d) 440 V, 3 Phase Charger - A charger *shall* be supplied for connection to a 440-volt, three phase, 60Hz power source; and
- (e) 550 V, 3 Phase Charger - A charger *shall* be supplied for connection to a 550-volt, three phase, 60Hz power source.

3.16 Lighting - *Commercially Equipped*

3.17 Hydraulic System - *Commercially Equipped*

3.18 Lubricants and Hydraulic Fluids

- (a) The vehicle *shall* operate using synthetic non-proprietary lubricants and hydraulic fluids; and
- (b) Grease fittings provided on the vehicle *shall* conform to SAE J534.

3.19 Paint - *Commercially Equipped*

3.20 Identification - The manufacturer's name, model and vehicle serial number *shall* be permanently marked in a conspicuous and protected location.

3.21 Vehicle Delivery Condition

- (a) The vehicle *shall* be delivered to destination in a fully operational condition (serviced and adjusted). Both the interior and exterior *shall* be cleaned;
- (b) If the vehicle requires assembly at destination, the Contractor *shall* be responsible for all manpower and equipment to perform assembly;
- (c) The space for assembly at destination will be provided, if required;
- (d) For shipment verification, items such as wheel wrenches, jacks, and all other tools, equipment and accessories, which are shipped loose, *shall* be listed on the shipping certificate or to an attached packing note; and
- (e) Lubricants installed in the vehicle at time of delivery *shall* be suitable for the destination and the season of delivery.

## 4. INTEGRATED LOGISTIC ITEMS

4.1 Contractor Documentation and Integrated Logistic Items4.1.1 Documents Supplied to the Technical Authority(a) Data Summary

- i A bilingual data summary *shall* be supplied for each Configuration with data and a vehicle picture on the **Technical Authority** supplied form;
- ii The **Technical Authority** will supply a template of an approved data summary to the Contractor;
- iii The Contractor *shall* supply the information requested for all accessories and features for the equipment Configuration;
- iv The Contractor *shall* submit a digital copy (MS Word) of the completed data summary to the **Technical Authority** for approval; and
- v Data summary approval or comments will be supplied within 30 calendar days of receipt.

(b) Manuals for Approval

- i A set of manuals for each Configuration, in digital format, including the operator, parts and maintenance (shop repair) manuals *shall* be supplied. Manuals may cover more than one Configuration;
- ii The set of manuals *shall* include manuals for all the specified accessories and features for the Configuration. Accessory manuals may be included as supplements to the vehicle manuals;
- iii Manuals will not be returned; and
- iv Manual approval or comments will be supplied within 30 calendar days of receipt.

(c) Photographs and Line Drawings

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

- (d) Initial Parts Kit List - A list of the parts included in the initial parts kit specified in paragraph 4.1.4(a) for each Configuration *shall* be supplied;

- (e) Material Safety Data Sheets
- i The Contractor **shall** supply a list, in digital format, of all hazardous materials used on the vehicle;
  - ii If there are no hazardous materials used, this **shall** be stated on the list; and
  - iii The Contractor **shall** supply material safety data sheets of all hazardous materials in the list.
- (f) Training Plan(s) - The Contractor **shall** supply a training plan for approval, for each of the training requirements listed in paragraph 4.2; and
- (g) Customer Support Package
- i A customer support package, in digital format, **shall** be supplied;
  - ii The customer support package **shall** include brochures for all vehicle models used to comply with each of the Configuration requirements;
  - iii The customer support package **shall** include the brochures for all features/attachments not supplied by the vehicle manufacturer;
  - iv The customer support package **shall** include a Configuration document stating the make/model(s) required to fulfil all requirements for that Configuration;
  - v The Configuration document **shall** state the estimated delivery for each make/model required to fulfil requirements of that Configuration;
  - vi The Configuration document **shall** include a list of equipment/features that compromise the basic specified vehicle including any related product code required on the manufacturer's basic model;
  - vii The Configuration document **shall** include a list for all additional accessories/features that are specified for that Configuration including, where relevant, the product code and make/model;
  - viii The **Technical Authority** will distribute the customer support package to those who request it, however, the Contractor **shall** distribute this document, when requested; and
  - ix The Contractor **shall** receive approval for the customer support package from the **Technical Authority** prior to distribution.

#### 4.1.2 Items Supplied with Each Vehicle

- (a) Operator's Manual
- i An operator's manual for the safe vehicle operation including all supplied attachments **shall** be supplied;
  - ii The operator's manual **shall** be supplied in a bilingual format or as 2 manuals (one English, and one French) in a single binder;

- iii In addition to the paper copy of the operator's manual, a digital copy on a CD or DVD **shall** be supplied;
- iv The CD or DVD **shall** be permanently and legibly labeled with the list of contents; and
- v The digital copy **shall** not require a password or an Internet connection to be functional.

(b) Warranty Letter

- i A paper copy of the completed bilingual warranty letter in the approved format with each vehicle shipped **shall** be supplied;
- ii The **Technical Authority** will supply a template of an approved warranty letter to the Contractor;
- iii The Contractor **shall** supply a complete description of the warranty in the warranty letter with the requested warranty terms and any system or sub system warranty that exceeds the minimum requested in the contractual documents;
- iv The warranty letter **shall** include the name and contact information of the closest designated warranty provider and other designated warranty providers across Canada; and
- v Designated warranty providers **shall** honour the warranty letter.

(c) Material Safety Data Sheets

- i A set of material safety data sheets **shall** be supplied; and
- ii The material safety data sheets **shall** be the same as those supplied to the **Technical Authority** as per paragraph 4.1.1 (e).

4.1.3 Distribution of copies of Warranty Letter

- (a) **DND** - For vehicles shipped to DND, a bilingual copy of the warranty letter, in electronic format, **shall** be supplied to the **Technical Authority**; or
- (b) **Not DND** - For vehicles shipped to users other than DND, a bilingual copy of the warranty letter, in electronic format, **shall** be supplied to the identified user or designated contact person.

4.1.4 Additional Items

(a) Initial Parts Kit

- i One initial parts kit **shall** be supplied; and
- ii The initial parts kit **shall** include a complete set of parts, including filters and filter elements required by the Original Equipment Manufacturer for the first year of scheduled maintenance.

- (b) Paper Maintenance Manuals - Maintenance manuals in paper format, as published and available for the Canadian market, for

the maintenance and repair of the vehicle, features and accessories *shall* be supplied;

(c) Digital Maintenance Manuals

- i Searchable digital maintenance manuals, as published and available for the Canadian market, for maintenance and repair of the vehicle features and accessories *shall* be supplied on a CD/DVD-ROM;
- ii The digital maintenance manuals *shall* be in a PDF or *Equivalent* format;
- iii The digital format *shall* not require a password or an Internet connection to be functional; and
- iv On-line maintenance manuals may be supplied in lieu of the digital maintenance manuals, however, this *shall* be provided without subscription fees.

(d) Paper Parts Manuals - Parts manuals in paper format required for the vehicle, as published and available for the Canadian market, features and accessories *shall* be supplied; and

(e) Digital Parts Manuals

- i Searchable digital parts manuals required for vehicle, as published and available for the Canadian market, features and accessories *shall* be supplied on a CD/DVD-ROM;
- ii The digital maintenance manuals *shall* be in a PDF or *Equivalent* format;
- iii The digital format *shall* not require a password or an Internet connection to be functional; and
- iv On-line parts manuals may be supplied in lieu of the digital parts manuals, however, this *shall* be provided without subscription fees.

4.2 Training

(a) Training - Familiarization - English

- i The Contractor *shall* supply a familiarization course in English;
- ii The course instructor *shall* be an OEM Factory Certified Training Provider;
- iii The familiarization course *shall* include operation and maintenance segments demonstrating all safety measures required for safe vehicle use, instructions on the use of all features and accessories provided and maintenance;
- iv The instructor *shall* supply responses to questions;
- v The familiarization course *shall* have a minimum duration of eight (8) hours;
- vi The familiarization course *shall* accommodate up to eight (8) personnel;
- vii The familiarization course *shall* be supplied at the delivery destination;

- viii For vehicles shipped to DND, the date for the familiarization course **shall** be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- ix After completion of the familiarization course, the Contractor **shall** have the "PROOF OF FAMILIARIZATION" certificate signed by the senior course attendee; and
- x The **Technical Authority** will supply the "PROOF OF FAMILIARIZATION" document template in a digital format.

(b) Training - Familiarization - French

- i The Contractor **shall** supply a familiarization course in French;
- ii The course instructor **shall** be an OEM Factory Certified Training Provider;
- iii The familiarization course **shall** include operation and maintenance segments demonstrating all safety measures required for safe vehicle use, instructions on the use of all features and accessories provided and maintenance;
- iv The instructor **shall** supply responses to questions;
- v The familiarization course **shall** have a minimum duration of eight (8) hours;
- vi The familiarization course **shall** accommodate up to eight (8) personnel;
- vii The familiarization course **shall** be supplied at the delivery destination;
- viii For vehicles shipped to DND, the date for the familiarization course **shall** be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- ix After completion of the familiarization course, the Contractor **shall** have the "PROOF OF FAMILIARIZATION" certificate signed by the senior course attendee; and
- x The **Technical Authority** will supply the "PROOF OF FAMILIARIZATION" document template in a digital format.

(c) Training - Maintenance - English

- i The Contractor **shall** supply a maintenance training course in English;
- ii The instructor **shall** be an OEM Factory Certified Training Provider;
- iii The maintenance training course curriculum **shall** include operation and maintenance safety precautions, preventive maintenance including servicing schedules, troubleshooting, testing and adjustments;
- iv The maintenance training course **shall** have a minimum duration of four (4) days;

- v The maintenance training course *shall* accommodate up to eight (8) maintenance personnel;
- vi The maintenance training course *shall* be supplied at the delivery destination;
- vii For vehicles shipped to DND, the dates for the maintenance training course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- viii After completion of the maintenance training course, the Contractor *shall* have the "PROOF OF MAINTAINER TRAINING" certificate signed by the senior course attendee; and
- ix The **Technical Authority** will supply the "PROOF OF MAINTAINER TRAINING" document template in a digital format.

(d) Training - Maintenance - French

- i The Contractor *shall* supply a maintenance training course in French;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;
- iii The maintenance training course curriculum *shall* include operation and maintenance safety precautions, preventive maintenance including servicing schedules, troubleshooting, testing and adjustments;
- iv The maintenance training course *shall* have a minimum duration of four (4) days;
- v The maintenance training course *shall* accommodate up to eight (8) maintenance personnel;
- vi The maintenance training course *shall* be supplied at the delivery destination;
- vii For vehicles shipped to DND, the dates for the maintenance training course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- viii After completion of the maintenance training course, the Contractor *shall* have the "PROOF OF MAINTAINER TRAINING" certificate signed by the senior course attendee; and
- ix The **Technical Authority** will supply the "PROOF OF MAINTAINER TRAINING" document template in a digital format.

(e) Training - Troubleshooting - English

- i The Contractor *shall* supply a troubleshooting course in English;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;

- iii The troubleshooting course *shall* include detailed testing, troubleshooting, problem analysis and adjustments training;
- iv The troubleshooting course *shall* have a minimum duration of eight (8) hours;
- v The troubleshooting course *shall* accommodate up to eight (8) personnel;
- vi The troubleshooting course *shall* be supplied at the delivery destination;
- vii For vehicles shipped to DND, the date for the troubleshooting course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- viii After completion of the troubleshooting course, the Contractor *shall* 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.

(f) Training - Troubleshooting - French

- i The Contractor *shall* supply a troubleshooting course in French;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;
- iii The troubleshooting course *shall* include detailed testing, troubleshooting, problem analysis and adjustments training;
- iv The troubleshooting course *shall* have a minimum duration of eight (8) hours;
- v The troubleshooting course *shall* accommodate up to eight (8) personnel;
- vi The troubleshooting course *shall* be supplied at the delivery destination;
- vii For vehicles shipped to DND, the date for the troubleshooting course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- viii After completion of the troubleshooting course, the Contractor *shall* 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.



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 counterbalance walkie stacker with features and accessories.

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

- (a) Requirements, which are identified by the word "**shall**", 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 "**shall**" or "will" are not used, the information supplied is for guidance only;
- (d) In this document "provided" **shall** mean "provided and installed";
- (e) Where a standard is specified and the Contractor has offered an **Equivalent**, that **Equivalent** standard **shall** be supplied by the Contractor;
- (f) Where a technical certification is referred to in this Purchase Description, a copy of the certification or an acceptable Proof of Compliance **shall** be supplied, when requested by the **Technical Authority**;
- (g) While the SI system **shall** 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; and
- (h) Dimensions stated as nominal **shall** 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

- (a) "**Technical Authority**" **shall** mean the official responsible for the technical content of this requirement;
- (b) "**Equivalent**" **shall** mean a standard, means, or component type, which the **Technical Authority** has approved for this requirement

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as meeting the specified requirements for fit, form, function and performance; and

- (c) **"Commercially Equipped"** shall mean that the vehicle is provided in its standard commercial Configuration with no additional government-specified requirements.

1.4 **Data Table** - The following table shows required performance and dimensions for each Configuration and includes paragraph references.

CHARACTERISTIC		PARAGRAPH	UNITS	CONFIGURATION		
				A	B	C
LIFT CAPACITY		3.4.1 (a)	kg	905	1,355	1,805
			lb	2,000	3,000	4,000
STANDARD MAST - LIFT HEIGHT		3.4.1 (b)	mm	3,655	3,810	3,755
			in	144	150	148
VEHICLE HEIGHT		3.4.1 (c)	mm	2,365	2,440	2,440
			in	93	96	96
FORK LENGTH		3.5 (b)	mm	1,067	1,067	1,067
			in	42	42	42
MAST 2	LIFT HEIGHT	3.5.1 (a)	mm	2,640	2,640	2,640
			in	104	104	104
	VEHICLE HEIGHT		mm	1,985	1,985	1,985
			in	78	78	78
MAST 3	LIFT HEIGHT	3.5.1 (b)	mm	3,045	3,200	3,045
			in	120	126	120
	VEHICLE HEIGHT		mm	2,110	2,110	2,110
			in	83	83	83
MAST 4	LIFT HEIGHT	3.5.1 (c)	mm	4,060	4,365	4,060
			in	160	172	160
	VEHICLE HEIGHT		mm	2,720	2,720	2,720
			in	107	107	107
BATTERY CAPACITY		3.15 (b)	kWh	10	10	10

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1.4.1 **Feature Table** - The following table indicates with an "X" and by Configuration the features, accessories, items and training, which *shall* become part of the vehicle order when required by the call-up.

DESCRIPTION	PARAGRAPH	CONFIGURATION		
		A	B	C
"EE" Safety Rating Feature	3.3.4	X	X	X
Mast no. 2	3.5.1 (a)	X	X	X
Mast no. 3	3.5.1 (b)	X	X	X
Mast no. 4	3.5.1 (c)	X	X	X
Side Shifter	3.5.1 (d)	X	X	X
Cold Storage Preparation	3.5.1 (e)	X	X	X
120 V, Single Phase Charger	3.15.1 (a)	X	X	X
220 V, Single Phase Charger	3.15.1 (b)	X	X	X
220 V, 3 Phase Charger	3.15.1 (c)	X	X	X
440 V, 3 Phase Charger	3.15.1 (d)	X	X	X
550 V, 3 Phase Charger	3.15.1 (e)	X	X	X
Initial Parts Kit	4.1.4 (a)	X	X	X
Paper Maintenance Manuals	4.1.4 (b)	X	X	X
Digital Maintenance Manuals	4.1.4 (c)	X	X	X
Paper Parts Manuals	4.1.4 (d)	X	X	X
Digital Parts Manuals	4.1.4 (e)	X	X	X
Training - Familiarization - English	4.2 (a)	X	X	X
Training - Familiarization - French	4.2 (b)	X	X	X
Training - Maintenance - English	4.2 (c)	X	X	X
Training - Maintenance - French	4.2 (d)	X	X	X
Training - Troubleshooting - English	4.2 (e)	X	X	X
Training - Troubleshooting - French	4.2 (f)	X	X	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 Standards

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

B335

Safety Standards for Lift Trucks

Canadian Standards Association (CSA)  
5060 Spectrum Way, Suite 100  
Mississauga, Ontario, L4W 5N6  
<http://www.csa.ca/cm/ca/en/home>

UL 583

Standard for Electric-Battery-Powered Industrial Trucks

Underwriters' Laboratories of Canada  
7 Underwriters Road,  
Toronto, Ontario, M1R 3A9  
<http://www.ulc.ca/>

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 *shall* be the latest model from a manufacturer who has demonstrated acceptability by selling this type and size class of vehicle for at least three (3) years;
- (b) The vehicle *shall* include all components, equipment and accessories normally supplied for this application, although they may not specifically be described in this Purchase Description;
- (c) The vehicle *shall* have engineering certification available for this application from the original manufacturers of major equipment, systems and assemblies;
- (d) The vehicle *shall* 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 *shall* operate in accordance with all original equipment manufacturers' (OEM) rated capacities and performance specifications.

3.2 Operating Conditions

3.2.1 Weather - The vehicle *shall* operate in temperatures ranging from 0 to 40°C.

3.2.2 Terrain - The vehicle *shall* operate on use-roughened concrete floors while being used for stacking, un-stacking and moving general supplies in warehouses.

3.3 Safety Standards

3.3.1 Vehicle Safety - All vehicle design and safety aspects *shall* be in accordance with CSA B335 or an *Equivalent*.

3.3.2 Hazardous Materials - The Contractor *shall* 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) used in the manufacture and assembly of the product supplied.

3.3.3 "E" Safety Rating - The vehicle *shall* be manufactured to meet the requirements of an "E" safety rating in accordance with Standard UL 583, or an *Equivalent*.

3.3.4 "EE" Safety Rating Feature

- (a) The vehicle *shall* be manufactured to meet the requirements of an "EE" safety rating in accordance with Standard UL 583, or an *Equivalent*, in lieu of the "E" safety rating (paragraph 3.3.3); and
- (b) A certification label confirming the vehicle meets the "EE" safety rating *shall* be permanently affixed to the vehicle before delivery.

3.4 Vehicle - The vehicle *shall* be a counterbalance type walkie stacker with powered movement.

FORKLIFT, WALKIE STACKER, COUNTERBALANCE3.4.1 Forklift Performance

- (a) The vehicle, with the standard mast and no accessories, *shall* have a lift capacity at a 610 mm load centre of at least that given as "**LIFT CAPACITY**" in the Data Table (paragraph 1.4);
- (b) The vehicle *shall* have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "**STANDARD MAST - LIFT HEIGHT**" in the Data Table (paragraph 1.4); and
- (c) The vehicle, with the standard mast in its lowest position, *shall* pass under a horizontal beam with a height above ground level of that given as "**VEHICLE HEIGHT**" in the Data Table (paragraph 1.4).

3.5 Equipment(a) Standard Mast

- i The vehicle *shall* be provided with a telescopic mast; and
  - ii The standard mast *shall* have full free lift.
- (b) Forks - The vehicle *shall* be provided with forks having a nominal fork length of "**FORK LENGTH**" as given in the Data Table (paragraph 1.4);
- (c) Load Backrest - The load backrest *shall* have a nominal height of 1,219 mm (48 inches).

3.5.1 Features and Accessories(a) Mast no. 2

- i The vehicle *shall* be provided with mast no. 2, in lieu of the standard mast (paragraph 3.5 (a));
- ii Mast no. 2 *shall* have full free lift;
- iii The vehicle, with mast no. 2, *shall* have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "**MAST 2**" - "**LIFT HEIGHT**" in the Data Table (paragraph 1.4); and
- iv The vehicle, with mast no. 2 in its lowest position, *shall* pass under a horizontal beam with a height above ground level of that given as "**MAST 2**" - "**VEHICLE HEIGHT**" in the Data Table (paragraph 1.4).

(b) Mast no. 3

- i The vehicle *shall* be provided with mast no. 3, in lieu of the standard mast (paragraph 3.5 (a));
- ii Mast no. 3 *shall* have full free lift;
- iii The vehicle, with mast no. 3, *shall* have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "**MAST 3**" - "**LIFT HEIGHT**" in the Data Table (paragraph 1.4); and

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iv The vehicle, with mast no. 3 in its lowest position, **shall** pass under a horizontal beam with a height above ground level of that given as "**MAST 3**" - "**VEHICLE HEIGHT**" in the Data Table (paragraph 1.4).

(c) Mast no. 4

i The vehicle **shall** be provided with mast no. 4, in lieu of the standard mast (paragraph 3.5 (a));

ii Mast no. 4 **shall** have full free lift;

iii The vehicle, with mast no. 4, **shall** have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "**MAST 4**" - "**LIFT HEIGHT**" in the Data Table (paragraph 1.4); and

iv The vehicle, with mast no. 4 in its lowest position, **shall** pass under a horizontal beam with a height above ground level of that given as "**MAST 4**" - "**VEHICLE HEIGHT**" in the Data Table (paragraph 1.4).

(d) Side Shifter - The vehicle **shall** be provided with a side shifter capable of shifting the fully loaded forks simultaneously at least 50 mm to both sides of the centerline; and

(e) Cold Storage Preparation

i The vehicle **shall** be provided with preparation for operations in a refrigerated warehouse; and

ii The preparations **shall** include low temperature lubricants, anti-seize compounds, hydraulic fluids and heated and/or sealed switches and controls.

3.6 Operator/Forklift Body Clearance - Sufficient clearance beneath the vehicle **shall** be provided so operator's feet cannot be trapped entering or leaving ramps.

3.7 Chassis - *Commercially Equipped*

3.8 Motors - *Commercially Equipped*

3.9 Transmission - *Commercially Equipped*

3.10 Brake System

(a) The brake system **shall** conform to CSA B335, or an **Equivalent**;

(b) The brakes **shall** be automatically applied when the steering handle is no less than 5 degrees from the true vertical and horizontal positions;

(c) When the steering handle is released from the operating position, it **shall** return to a vertical braking position;

(d) The braking system **shall** be interlocked by a relay; and

(e) The braking system **shall** disconnect the traction motor power when the brakes are applied.

3.11 Steering

- (a) The vehicle steering system *shall* be through the drive wheel using a steering handle equipped with comfortable handgrips;
- (b) The steering handle, in the horizontal position, *shall* protrude at least 610 mm from the rear of the truck;
- (c) The steering handle *shall* turn the drive wheel assembly at least 90 degrees in each direction from the straight-ahead position; and
- (d) The steering handle *shall* automatically return to the vertical position when released from the operating position.

3.12 Tires - Commercially Equipped3.13 Controls

- (a) The vehicle *shall* be provided with an electronic speed controller providing infinitely variable speed control in both directions mounted in the steering handle;
- (b) The automatic controls *shall* be provided with an emergency-reversing button mounted at the end of the steering handle;
- (c) The emergency-reversing button *shall* immediately reverse the vehicle direction of motion when depressed to protect the operator from injury during close quarter manoeuvring; and
- (d) The lift controls *shall* be self-centring and *shall* be interconnected so they cannot be operated with the steering handle in travel position.

3.14 Instruments - The instruments *shall* be provided with an hour-meter with numerical read-out which records accumulated running time up to 9,999 hours and a battery state-of-charge indicator with lift interrupt.

3.15 Electrical System

- (a) The vehicle *shall* be provided with an electrical system operating at no less than twenty four (24) volts;
- (b) Batteries *shall* have a capacity of at least "BATTERY CAPACITY" as given in the Data Table (paragraph 1.4); and
- (c) The vehicle *shall* be provided with a backup alarm to alert personnel that the vehicle is in back-up mode.

3.15.1 Electrical Features and Accessories

- (a) 120 V, Single Phase Charger - A charger *shall* be supplied for connection to a 120-volt, single phase, 60Hz power source;
- (b) 220 V, Single Phase Charger - A charger *shall* be supplied for connection to a 220-volt, single phase, 60Hz power source;
- (c) 220 V, 3 Phase Charger - A charger *shall* be supplied for connection to a 220-volt, three phase, 60Hz power source;
- (d) 440 V, 3 Phase Charger - A charger *shall* be supplied for connection to a 440-volt, three phase, 60Hz power source; and
- (e) 550 V, 3 Phase Charger - A charger *shall* be supplied for connection to a 550-volt, three phase, 60Hz power source.



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- 3.16 Lighting - *Commercially Equipped*
- 3.17 Hydraulic System - *Commercially Equipped*
- 3.18 Lubricants and Hydraulic Fluids
- (a) The vehicle *shall* operate using synthetic non-proprietary lubricants and hydraulic fluids; and
  - (b) Grease fittings provided on the vehicle *shall* conform to SAE J534.
- 3.19 Paint - *Commercially Equipped*
- 3.20 Identification - The manufacturer's name, model and vehicle serial number *shall* be permanently marked in a conspicuous and protected location.
- 3.21 Vehicle Delivery Condition
- (a) The vehicle *shall* be delivered to destination in a fully operational condition (serviced and adjusted). Both the interior and exterior *shall* be cleaned;
  - (b) If the vehicle requires assembly at destination, the Contractor *shall* be responsible for all manpower and equipment to perform assembly;
  - (c) The space for assembly at destination will be provided, if required;
  - (d) For shipment verification, items such as wheel wrenches, jacks, and all other tools, equipment and accessories, which are shipped loose, *shall* be listed on the shipping certificate or to an attached packing note; and
  - (e) Lubricants installed in the vehicle at time of delivery *shall* be suitable for the destination and the season of delivery.

4. INTEGRATED LOGISTIC ITEMS
- 4.1 Contractor Documentation and Integrated Logistic Items
- 4.1.1 Documents Supplied to the Technical Authority
- (a) Data Summary
- i A bilingual data summary *shall* be supplied for each Configuration with data and a vehicle picture on the **Technical Authority** supplied form;
  - ii The **Technical Authority** will supply a template of an approved data summary to the Contractor;
  - iii The Contractor *shall* supply the information requested for all accessories and features for the equipment Configuration;
  - iv The Contractor *shall* submit a digital copy (MS Word) of the completed data summary to the **Technical Authority** for approval; and
  - v Data summary approval or comments will be supplied within 30 calendar days of receipt.
- (b) Manuals for Approval
- i A set of manuals for each Configuration, in digital format, including the operator, parts and maintenance (shop repair) manuals *shall* be supplied. Manuals may cover more than one Configuration;
  - ii The set of manuals *shall* include manuals for all the specified accessories and features for the Configuration. Accessory manuals may be included as supplements to the vehicle manuals;
  - iii Manuals will not be returned; and
  - iv Manual approval or comments will be supplied within 30 calendar days of receipt.
- (c) Photographs and Line Drawings
- i Two (2) digital colour photographs, one left-front three-quarter view, and one right-rear three-quarter view of each Configuration *shall* be supplied;
  - ii One (1) digital colour photograph of each attachment taken at the three-quarter view that best illustrates the attachment *shall* be supplied;
  - iii One (1) front-view and one (1) side-view line drawing showing dimensions of the vehicle *shall* be supplied. Brochure line drawings are acceptable;
  - iv Photographs *shall* have a plain uncluttered background; and
  - v Photographs *shall* be in a JPEG (Joint Photographic Experts Group) format. Photographs *shall* have a resolution of at least eight (8) Mega pixels.

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- (d) Initial Parts Kit List - A list of the parts included in the initial parts kit specified in paragraph 4.1.4(a) for each Configuration *shall* be supplied;
- (e) Material Safety Data Sheets
- i The Contractor *shall* supply a list, in digital format, of all hazardous materials used on the vehicle;
  - ii If there are no hazardous materials used, this *shall* be stated on the list; and
  - iii The Contractor *shall* supply material safety data sheets of all hazardous materials in the list.
- (f) Training Plan(s) - The Contractor *shall* supply a training plan for approval, for each of the training requirements listed in paragraph 4.2; and
- (g) Customer Support Package
- i A customer support package, in digital format, *shall* be supplied;
  - ii The customer support package *shall* include brochures for all vehicle models used to comply with each of the Configuration requirements;
  - iii The customer support package *shall* include the brochures for all features/attachments not supplied by the vehicle manufacturer;
  - iv The customer support package *shall* include a Configuration document stating the make/model(s) required to fulfil all requirements for that Configuration;
  - v The Configuration document *shall* state the estimated delivery for each make/model required to fulfil requirements of that Configuration;
  - vi The Configuration document *shall* include a list of equipment/features that comprise the basic specified vehicle including any related product code required on the manufacturer's basic model;
  - vii The Configuration document *shall* include a list for all additional accessories/features that are specified for that Configuration including, where relevant, the product code and make/model;
  - viii The **Technical Authority** will distribute the customer support package to those who request it, however, the Contractor *shall* distribute this document, when requested; and
  - ix The Contractor *shall* receive approval for the customer support package from the **Technical Authority** prior to distribution.

4.1.2 Items Supplied with Each Vehicle(a) Operator's Manual

- i An operator's manual for the safe vehicle operation including all supplied attachments **shall** be supplied;
- ii The operator's manual **shall** be supplied in a bilingual format or as 2 manuals (one English, and one French) in a single binder;
- iii In addition to the paper copy of the operator's manual, a digital copy on a CD or DVD **shall** be supplied;
- iv The CD or DVD **shall** be permanently and legibly labeled with the list of contents; and
- v The digital copy **shall** not require a password or an Internet connection to be functional.

(b) Warranty Letter

- i A paper copy of the completed bilingual warranty letter in the approved format with each vehicle shipped **shall** be supplied;
- ii The **Technical Authority** will supply a template of an approved warranty letter to the Contractor;
- iii The Contractor **shall** supply a complete description of the warranty in the warranty letter with the requested warranty terms and any system or sub system warranty that exceeds the minimum requested in the contractual documents;
- iv The warranty letter **shall** include the name and contact information of the closest designated warranty provider and other designated warranty providers across Canada; and
- v Designated warranty providers **shall** honour the warranty letter.

(c) Material Safety Data Sheets

- i A set of material safety data sheets **shall** be supplied; and
- ii The material safety data sheets **shall** be the same as those supplied to the **Technical Authority** as per paragraph 4.1.1 (e).

4.1.3 Distribution of copies of Warranty Letter

- (a) **DND** - For vehicles shipped to DND, a bilingual copy of the warranty letter, in electronic format, **shall** be supplied to the **Technical Authority**; or
- (b) **Not DND** - For vehicles shipped to users other than DND, a bilingual copy of the warranty letter, in electronic format, **shall** be supplied to the identified user or designated contact person.

4.1.4 Additional Items

- (a) Initial Parts Kit
  - i One initial parts kit *shall* be supplied; and
  - ii The initial parts kit *shall* include a complete set of parts, including filters and filter elements required by the Original Equipment Manufacturer for the first year of scheduled maintenance.
- (b) Paper Maintenance Manuals - Maintenance manuals in paper format, as published and available for the Canadian market, for the maintenance and repair of the vehicle, features and accessories *shall* be supplied;
- (c) Digital Maintenance Manuals
  - i Searchable digital maintenance manuals, as published and available for the Canadian market, for maintenance and repair of the vehicle features and accessories *shall* be supplied on a CD/DVD-ROM;
  - ii The digital maintenance manuals *shall* be in a PDF or *Equivalent* format;
  - iii The digital format *shall* not require a password or an Internet connection to be functional; and
  - iv On-line maintenance manuals may be supplied in lieu of the digital maintenance manuals, however, this *shall* be provided without subscription fees.
- (d) Paper Parts Manuals - Parts manuals in paper format required for the vehicle, as published and available for the Canadian market, features and accessories *shall* be supplied; and
- (e) Digital Parts Manuals
  - i Searchable digital parts manuals required for vehicle, as published and available for the Canadian market, features and accessories *shall* be supplied on a CD/DVD-ROM;
  - ii The digital maintenance manuals *shall* be in a PDF or *Equivalent* format;
  - iii The digital format *shall* not require a password or an Internet connection to be functional; and
  - iv On-line parts manuals may be supplied in lieu of the digital parts manuals, however, this *shall* be provided without subscription fees.

4.2 Training

- (a) Training - Familiarization - English
  - i The Contractor *shall* supply a familiarization course in English;
  - ii The course instructor *shall* be an OEM Factory Certified Training Provider;

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- iii The familiarization course *shall* include operation and maintenance segments demonstrating all safety measures required for safe vehicle use, instructions on the use of all features and accessories provided and maintenance;
- iv The instructor *shall* supply responses to questions;
- v The familiarization course *shall* have a minimum duration of eight (8) hours;
- vi The familiarization course *shall* accommodate up to eight (8) personnel;
- vii The familiarization course *shall* be supplied at the delivery destination;
- viii For vehicles shipped to DND, the date for the familiarization course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- ix After completion of the familiarization course, the Contractor *shall* have the "PROOF OF FAMILIARIZATION" certificate signed by the senior course attendee; and
- x The **Technical Authority** will supply the "PROOF OF FAMILIARIZATION" document template in a digital format.

(b) Training - Familiarization - French

- i The Contractor *shall* supply a familiarization course in French;
- ii The course instructor *shall* be an OEM Factory Certified Training Provider;
- iii The familiarization course *shall* include operation and maintenance segments demonstrating all safety measures required for safe vehicle use, instructions on the use of all features and accessories provided and maintenance;
- iv The instructor *shall* supply responses to questions;
- v The familiarization course *shall* have a minimum duration of eight (8) hours;
- vi The familiarization course *shall* accommodate up to eight (8) personnel;
- vii The familiarization course *shall* be supplied at the delivery destination;
- viii For vehicles shipped to DND, the date for the familiarization course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- ix After completion of the familiarization course, the Contractor *shall* have the "PROOF OF FAMILIARIZATION" certificate signed by the senior course attendee; and

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- x The **Technical Authority** will supply the "PROOF OF FAMILIARIZATION" document template in a digital format.
- (c) Training - Maintenance - English
  - i The Contractor **shall** supply a maintenance training course in English;
  - ii The instructor **shall** be an OEM Factory Certified Training Provider;
  - iii The maintenance training course curriculum **shall** include operation and maintenance safety precautions, preventive maintenance including servicing schedules, troubleshooting, testing and adjustments;
  - iv The maintenance training course **shall** have a minimum duration of four (4) days;
  - v The maintenance training course **shall** accommodate up to eight (8) maintenance personnel;
  - vi The maintenance training course **shall** be supplied at the delivery destination;
  - vii For vehicles shipped to DND, the dates for the familiarization course **shall** be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
  - viii After completion of the maintenance training course, the Contractor **shall** have the "PROOF OF MAINTAINER TRAINING" certificate signed by the senior course attendee; and
  - ix The **Technical Authority** will supply the "PROOF OF MAINTAINER TRAINING" document template in a digital format.
- (d) Training - Maintenance - French
  - i The Contractor **shall** supply a maintenance training course in French;
  - ii The instructor **shall** be an OEM Factory Certified Training Provider;
  - iii The maintenance training course curriculum **shall** include operation and maintenance safety precautions, preventive maintenance including servicing schedules, troubleshooting, testing and adjustments;
  - iv The maintenance training course **shall** have a minimum duration of four (4) days;
  - v The maintenance training course **shall** accommodate up to eight (8) maintenance personnel;
  - vi The maintenance training course **shall** be supplied at the delivery destination;
  - vii For vehicles shipped to DND, the dates for the maintenance training course **shall** be arranged with the

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*Technical Authority*, or the identified user or designated contact person for vehicles shipped to users other than DND;

- vii After completion of the maintenance training course, the Contractor *shall* have the "PROOF OF MAINTAINER TRAINING" certificate signed by the senior course attendee; and
- ix The *Technical Authority* will supply the "PROOF OF MAINTAINER TRAINING" document template in a digital format.

(e) Training - Troubleshooting - English

- i The Contractor *shall* supply a troubleshooting course in English;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;
- iii The troubleshooting course *shall* include detailed testing, troubleshooting, problem analysis and adjustments training;
- iv The troubleshooting course *shall* have a minimum duration of eight (8) hours;
- v The troubleshooting course *shall* accommodate up to eight (8) personnel;
- vi The troubleshooting course *shall* be supplied at the delivery destination;
- vii For vehicles shipped to DND, the date for the troubleshooting course *shall* be arranged with the *Technical Authority*, or the identified user or designated contact person for vehicles shipped to users other than DND;
- viii After completion of the troubleshooting course, the Contractor *shall* 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.

(f) Training - Troubleshooting - French

- i The Contractor *shall* supply a troubleshooting course in French;
- ii The instructor *shall* be an OEM Factory Certified Training Provider;
- iii The troubleshooting course *shall* include detailed testing, troubleshooting, problem analysis and adjustments training;
- iv The troubleshooting course *shall* have a minimum duration of eight (8) hours;

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- v The troubleshooting course *shall* accommodate up to eight (8) personnel;
- vi The troubleshooting course *shall* be supplied at the delivery destination;
- vii For vehicles shipped to DND, the date for the troubleshooting course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- viii After completion of the troubleshooting course, the Contractor *shall* 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.



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 electric walkie pallet jacks with features and accessories.

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

- (a) Requirements, which are identified by the word "**shall**", 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 "**shall**" or "will" are not used, the information supplied is for guidance only;
- (d) In this document "provided" **shall** mean "provided and installed";
- (e) Where a standard is specified and the Contractor has offered an **Equivalent**, that **Equivalent** standard **shall** be supplied by the Contractor.
- (f) Where a technical certification is referred to in this Purchase Description, a copy of the certification or an acceptable Proof of Compliance **shall** be supplied, when requested by the **Technical Authority**;
- (g) While the SI system **shall** 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; and
- (h) Dimensions stated as nominal **shall** 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**

- (a) "**Technical Authority**" **shall** mean the official responsible for the technical content of this requirement;

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- (b) "**Equivalent**" shall mean 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; and
- (c) "**Commercially Equipped**" shall mean that the vehicle is provided in its standard commercial configuration with no additional government-specified requirements.

1.4 **Data Table** - The following table shows required performance and dimensions for each Configuration and includes clause references.

CHARACTERISTIC	CLAUSE	UNITS	CONFIGURATION		
			A	B	C
LIFT CAPACITY	3.4.2 (a)	kg	2,040	2,720	3,625
		lb	4,500	6,000	8,000
LIFT HEIGHT	3.4.2 (b)	mm	200	200	200
		in	8	8	8
FORK LENGTH	3.5.1 (a)	mm	1,065	1,065	1,065
		in	42	42	42
FORK LENGTH 2	3.5.2 (a)	mm	910	910	910
		in	36	36	36
FORK LENGTH 3	3.5.2 (b)	mm	1,215	1,215	1,215
		in	48	48	48
BATTERY CAPACITY	3.15 (a)	kWh	3	6	6

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1.4.1 **Feature Table** - The following table indicates with an "X" and by Configuration, the features, accessories, items and training, which *shall* become part of the vehicle order when required by the call-up.

DESCRIPTION	CLAUSE	CONFIGURATION		
		A	B	C
"EE" Safety Rating	3.3.4	X	X	X
Fork Length no. 2	3.5.2 (a)	X	X	X
Fork Length no. 3	3.5.2 (b)	X	X	X
Cold Storage Preparation	3.5.2 (c)			X
Battery Removal Aids	3.5.2 (d)	X	X	X
Initial Parts Kit	4.1.4 (a)	X	X	X
Paper Maintenance Manuals	4.1.4 (b)	X	X	X
Digital Maintenance Manuals	4.1.4 (c)	X	X	X
Paper Parts Manuals	4.1.4 (d)	X	X	X
Digital Parts Manuals	4.1.4 (e)	X	X	X
Training - Familiarization - English	4.2 (a)	X	X	X
Training - Familiarization - French	4.2 (b)	X	X	X

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.

B335

Safety Standards for Lift Trucks

Canadian Standards Association (CSA)

5060 Spectrum Way, Suite 100

Mississauga, Ontario, L4W 5N6

<http://www.csa.ca/cm/ca/en/home>

UL 583

Standard for Electric-Battery-Powered Industrial Trucks

Underwriters' Laboratories of Canada

7 Underwriters Road,

Toronto, Ontario, M1R 3A9

<http://www.ulc.ca/>

**3. REQUIREMENTS****3.1 Standard Design**

- (a) The vehicle *shall* be the latest model from a manufacturer who has demonstrated acceptability by selling this type and size class of vehicle for at least three (3) years;
- (b) The vehicle *shall* include all components, equipment and accessories normally supplied for this application, although they may be not specifically described in this Purchase Description;
- (c) The vehicle *shall* have engineering certification available for this application from the original manufacturers of major equipment, systems and assemblies;
- (d) The vehicle *shall* 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 *shall* operate in accordance with all original equipment manufacturers' (OEM) rated capacities and performance specifications.

**3.2 Operating Conditions**

3.2.1 **Weather** - The vehicle *shall* operate in temperatures ranging from 0 to 40°C.

3.2.2 **Terrain** - The vehicle *shall* operate on use-roughened concrete floors while being used stacking, un-stacking and moving general supplies in and around warehouses.

**3.3 Safety Standards**

3.3.1 **Vehicle Safety** - All vehicle design and safety aspects *shall* be in accordance with CSA B335 or an *Equivalent*.

3.3.2 **Hazardous Materials** - The Contractor *shall* 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) used in the manufacture and assembly of the product supplied.

3.3.3 **"E" Safety Rating** - The vehicle *shall* be manufactured to meet the requirements of an "E" safety rating in accordance with Standard UL 583, or an *Equivalent*.

**3.3.4 "EE" Safety Rating Feature**

- (a) The vehicle *shall* be manufactured to meet the requirements of an "EE" safety rating in accordance with Standard UL 583, or an *Equivalent*, in lieu of the "E" safety rating (paragraph 3.3.3); and
- (b) A certification label confirming the vehicle meets the "EE" safety rating *shall* be permanently affixed to the vehicle before delivery.

- 3.4 Vehicle - The vehicle *shall* be a walkie pallet jack.
- 3.4.1 Pallet Jack Performance
- (a) The pallet jack *shall* have a lift capacity of at least that given as "LIFT CAPACITY" in the Data Table (paragraph 1.4);
  - (b) The pallet jack *shall* have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "LIFT HEIGHT" in the Data Table (paragraph 1.4); and
  - (c) The pallet jack *shall* have a fork outside width of equal to or less than 690 mm (27.1 inches) and a space between the forks of at least 152 mm (6 inches).
- 3.5 Equipment
- (a) Standard Forks - The vehicle *shall* be provided with forks having a nominal fork length of "FORK LENGTH" as given in the Data Table (paragraph 1.4); and
  - (b) Standard Load Backrest - The vehicle *shall* be provided with a load backrest with a nominal height of 1,219 mm (48 inches).
- 3.5.1 Features and Accessories
- (a) Fork Length no. 2 - Forks, with a nominal length of that given as "FORK LENGTH 2" in the Data Table (paragraph 1.4), *shall* be provided in lieu of the standard forks (paragraph 3.5.1 (a));
  - (b) Fork Length no. 3 - Forks, with a nominal length of that given as "FORK LENGTH 3" in the Data Table (paragraph 1.4), *shall* be provided in lieu of the standard forks (paragraph 3.5.1 (a));
  - (c) Cold Storage Preparation
    - i The vehicle *shall* be provided with preparation for operations in a refrigerated warehouse; and
    - ii The preparations *shall* include low temperature lubricants, anti-seize compounds, hydraulic fluids and heated and/or sealed switches and controls.
  - (d) Battery Removal Aids
    - i The vehicle *shall* be provided with devices to aid in the removal and replacement of the battery; and
    - ii The devices may include items such as battery rollers or pivoting battery mounts.
- 3.6 Operator/Forklift Body Clearance - *Commercially Equipped*
- 3.7 Chassis - *Commercially Equipped*
- 3.8 Motors - *Commercially Equipped*
- 3.9 Transmission - *Commercially Equipped*
- 3.10 Brake System - *Commercially Equipped*
- 3.11 Steering - *Commercially Equipped*
- 3.12 Tires - *Commercially Equipped*
- 3.13 Controls - *Commercially Equipped*

3.14 Instruments - The vehicle *shall* be provided with an hour-meter with numerical read-out which records accumulated running time up to 9,999 hours and a battery state-of-charge indicator with lift interrupt.

3.15 Electrical System

- (a) The vehicle batteries *shall* have a capacity of at least "BATTERY CAPACITY" as given in the Data Table (paragraph 1.4); and
- (c) The vehicle *shall* be supplied with a CSA approved, fully automatic, constant voltage, heavy-duty type a battery charger that connects to a 120-volt, single phase 60 Hz power source.

3.16 Lighting - *Commercially Equipped*

3.17 Hydraulic System - *Commercially Equipped*

3.18 Lubricants and Hydraulic Fluids - *Commercially Equipped*

3.19 Paint - *Commercially Equipped*

3.20 Identification - The manufacturer's name, model and vehicle serial number *shall* be permanently marked in a conspicuous and protected location.

3.21 Vehicle Delivery Condition

- (a) The vehicle *shall* be delivered to destination in a fully operational condition (serviced and adjusted) and both the interior and exterior *shall* be cleaned;
- (b) If the vehicle requires assembly at destination, the Contractor *shall* be responsible for all manpower and equipment to perform assembly;
- (c) The space for assembly at destination will be provided, if required;
- (d) For shipment verification, items such as wheel wrenches, jacks, and all other tools, equipment and accessories, which are shipped loose, *shall* be listed on the shipping certificate or to an attached packing note; and
- (e) Lubricants installed in the vehicle at time of delivery *shall* be suitable for the destination and the season of delivery.

4. Integrated Logistic Items
- 4.1 Contractor Documentation and Integrated Logistic Items
- 4.1.1 Documents Supplied to the Technical Authority
- (a) Data Summary
- i The Contractor **shall** supply a bilingual data summary for each Configuration with vehicle data and a vehicle picture included;
  - ii The **Technical Authority** will supply a template of a data summary to the Contractor;
  - iii The Contractor **shall** supply the information requested for all accessories and features for the equipment Configuration;
  - iv The Contractor **shall** submit a digital copy (MS Word) of the completed data summary to the **Technical Authority** for approval; and
  - v Data summary approval or comments will be supplied within 30 calendar days of receipt.
- (b) Manuals for Approval
- i A set of manuals for each Configuration, in digital format, including the operator, parts and maintenance (shop repair) manuals **shall** be supplied. Manuals may cover more than one Configuration;
  - ii The set of manuals **shall** include manuals for all the specified accessories and features for the Configuration. Accessory manuals may be included as supplements to the vehicle manuals;
  - iii Manuals will not be returned; and
  - iv Manual approval or comments will be supplied within 30 calendar days of receipt.
- (c) Photographs and Line Drawings
- i Two (2) digital colour photographs, one left-front three-quarter view, and one right-rear three-quarter view of each Configuration **shall** be supplied;
  - ii One (1) digital colour photograph of each attachment taken at the three-quarter view that best illustrates the attachment **shall** be supplied;
  - iii One front-view and one side-view line drawing showing dimensions of the vehicle **shall** be supplied. Brochure line drawings are acceptable;
  - iv Photographs **shall** have a plain uncluttered background; and
  - v Photographs **shall** be in a JPEG (Joint Photographic Experts Group) format. Photographs **shall** have a resolution of at least eight (8) Mega pixels.

- (d) Initial Parts Kit List - A list of the parts included in the initial parts kit specified in paragraph 4.1.4(a) for each Configuration *shall* be supplied;
- (e) Material Safety Data Sheets
- i The Contractor *shall* supply a list, in digital format, of all hazardous materials used on the vehicle;
  - ii If there are no hazardous materials used, this *shall* be stated on the list; and
  - iii The Contractor *shall* supply material safety data sheets of all hazardous materials in the list.
- (f) Training Plan(s) - The Contractor *shall* supply a training plan for approval, for each of the training requirements listed in paragraph 4.2; and
- (g) Customer Support Package
- i A customer support package, in digital format, *shall* be supplied;
  - ii The customer support package *shall* include brochures for all vehicle models and all features/attachments used to comply with each of the Configuration requirements;
  - iii The customer support package *shall* include a Configuration document stating the make/model(s) required to fulfil all requirements for that Configuration;
  - iv The Configuration document *shall* state the estimated delivery for each make/model required to fulfil requirements of that Configuration;
  - v The Configuration document *shall* include a list of equipment/features that comprise the basic specified vehicle including any related product code required on the manufacturers basic model;
  - vi The Configuration document *shall* provide a list for each additional attachments/accessories/features that are specified for that Configuration including, where relevant, the product code and make/model; and
  - vii The *Technical Authority* will distribute the customer support package to those who request it, however, the Contractor *shall* distribute this document, when requested.

4.1.2 Items Supplied with Each Vehicle

- (a) Operator's Manual
- i An operator's manual for the safe vehicle operation including all supplied attachments *shall* be supplied;
  - ii The operator's manual *shall* be supplied in a bilingual format or as 2 manuals (one English, and one French) in a single binder;

- iii In addition to the paper copy of the operator's manual, a digital copy on a CD or DVD **shall** be supplied;
- iv The CD or DVD **shall** be permanently and legibly labeled with the list of contents; and
- v The digital copy **shall** not require a password or an Internet connection to be functional.

(b) Warranty Letter

- i A paper copy of the completed bilingual warranty letter in the approved format with each vehicle shipped **shall** be supplied;
- ii The **Technical Authority** will supply a template of the warranty letter to the Contractor;
- iii The Contractor **shall** supply a complete description of the warranty in the warranty letter with the requested warranty terms and any system or sub system warranty that exceeds the minimum requested in the contractual documents;
- iv The warranty letter **shall** include the name and contact information of the closest designated warranty provider and other designated warranty providers across Canada; and
- v Designated warranty providers **shall** honour the warranty letter.

- (c) Material Safety Data Sheets - A set of material safety data sheets, the same as those supplied to the **Technical Authority** as per paragraph 4.1.1 (e), **shall** be supplied.

4.1.3 Distribution of copies of Warranty Letter

- (a) DND - For vehicles shipped to DND, a bilingual copy of the warranty letter, in electronic format, **shall** be supplied to the **Technical Authority**; or
- (b) Not DND - For vehicles shipped to users other than DND, a bilingual copy of the warranty letter, in electronic format, **shall** be supplied to the identified user or designated contact person.

4.1.4 Additional Items

(a) Initial Parts Kit

- i One initial parts kit **shall** be supplied; and
- ii The initial parts kit **shall** include a complete set of parts, including filters and filter elements required by the Original Equipment Manufacturer for the first year of scheduled maintenance.

- (b) Paper Maintenance Manuals - Maintenance manuals in paper format, as published and available for the Canadian market, for the maintenance and repair of the vehicle, features and accessories **shall** be supplied;

- (c) Digital Maintenance Manuals
- i Searchable digital maintenance manuals, as published and available for the Canadian market, for maintenance and repair of the vehicle features and accessories **shall** be supplied on a CD/DVD-ROM;
  - ii The digital maintenance manuals **shall** be in a PDF or **Equivalent** format;
  - iii The digital format **shall** not require a password or an Internet connection to be functional; and
  - iv On-line maintenance manuals may be supplied in lieu of the digital maintenance manuals, however, this **shall** be provided without subscription fees.
- (d) Paper Parts Manuals - Parts manuals in paper format required for the vehicle, as published and available for the Canadian market, features and accessories **shall** be supplied; and
- (e) Digital Parts Manuals
- i Searchable digital parts manuals required for vehicle, as published and available for the Canadian market, features and accessories **shall** be supplied on a CD/DVD-ROM;
  - ii The digital maintenance manuals **shall** be in a PDF or **Equivalent** format;
  - iii The digital format **shall** not require a password or an Internet connection to be functional; and
  - iv On-line parts manuals may be supplied in lieu of the digital parts manuals, however, this **shall** be provided without subscription fees.

4.2 Training

- (a) Training - Familiarization - English
- i The Contractor **shall** supply a familiarization course in English;
  - ii The course instructor **shall** be an OEM Factory Certified Training Provider;
  - iii The familiarization course **shall** include operation and maintenance segments demonstrating, all safety measures required for safe vehicle use, instructions on the use of all features and accessories provided and maintenance;
  - iv The instructor **shall** supply responses to questions;
  - v The familiarization course **shall** include at least 1-day (8 hours) of training;
  - vi The familiarization course **shall** accommodate up to 8 personnel;
  - vii The familiarization course **shall** be supplied at the delivery destination;

PURCHASE DESCRIPTION  
GROUP 7A  
PALLET JACK, WALKIE, ELECTRIC

PJWE - E

- viii For vehicles shipped to DND, the date for the familiarization course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- ix After completion of the familiarization course, the Contractor *shall* have the "PROOF OF FAMILIARIZATION" certificate signed by the senior course attendee; and
- x The **Technical Authority** will supply the "PROOF OF FAMILIARIZATION" document template in a digital format.

(b) Training - Familiarization - French

- i The Contractor *shall* supply a familiarization course in French;
- ii The course instructor *shall* be an OEM Factory Certified Training Provider;
- iii The familiarization course *shall* include operation and maintenance segments demonstrating, all safety measures required for safe vehicle use, instructions on the use of all features and accessories provided and maintenance;
- iv The instructor *shall* supply responses to questions;
- v The familiarization course *shall* include at least 1-day (8 hours) of training;
- vi The familiarization course *shall* accommodate up to 8 personnel;
- vii The familiarization course *shall* be supplied at the delivery destination;
- viii For vehicles shipped to DND, the date for the familiarization course *shall* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;
- ix After completion of the familiarization course, the Contractor *shall* have the "PROOF OF FAMILIARIZATION" certificate signed by the senior course attendee; and
- x The **Technical Authority** will supply the "PROOF OF FAMILIARIZATION" document template in a digital format.



**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 pallet jacks with a platform for the operator with features and accessories.

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

- (a) Requirements, which are identified by the word "**shall**", 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 "**shall**" or "will" are not used, the information supplied is for guidance only;
- (d) In this document "provided" **shall** mean "provided and installed";
- (e) Where a standard is specified and the Contractor has offered an **Equivalent**, that **Equivalent** standard **shall** be supplied by the Contractor;
- (f) Where a technical certification is referred to in this Purchase Description, a copy of the certification or an acceptable Proof of Compliance **shall** be supplied, when requested by the **Technical Authority**;
- (g) While the SI system **shall** 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; and
- (h) Dimensions stated as nominal **shall** 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**

- (a) "**Technical Authority**" **shall** mean the official responsible for the technical content of this requirement;
- (b) "**Equivalent**" **shall** mean 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; and

- (c) **"Commercially Equipped"** shall mean that the vehicle is provided in its standard commercial configuration with no additional government-specified requirements.

1.4 **Data Table** - The following table shows required performance and dimensions for each Configuration and includes paragraph references.

CHARACTERISTIC		PARAGRAPH	UNITS	CONFIGURATION			
				A	B	C	D
LIFT CAPACITY		3.4.2 (a)	kg	2,720	2,720	3,625	3,625
			lb	6,000	6,000	8,000	8,000
LIFT HEIGHT		3.4.2 (b)	mm	200	200	200	200
			in	8	8	8	8
FORK LENGTH		3.5 (a)	mm	1,065	1,065	1,219	1,219
			in	42	42	48	48
FORK LENGTH 2		3.5.1 (a)	mm	910	910	1,524	1,524
			in	36	36	60	60
FORK LENGTH 3		3.5.1 (b)	mm	1,215	1,215	2,133	2,133
			in	48	48	84	84
FORK LENGTH 4		3.5.1 (c)	mm	1,520	1,520		
			in	60	60		
FORK LENGTH 5		3.5.1 (d)	mm	1,825	1,825		
			in	72	72		
FORK LENGTH 6		3.5.1 (e)	mm	2,135	2,135		
			in	84	84		
POSITION OF PLATFORM	END	3.6.1 (a)	-	X		X	
	CENTRE	3.6.1 (b)	-		X		X
BATTERY CAPACITY		3.15 (a)	kWh	11	11	11	11

1.4.1 **Feature Table** - The following table indicates with an "X" and by Configuration the features, accessories, items and training, which *shall* become part of the vehicle order when required by the call-up.

DESCRIPTION	PARAGRAPH	CONFIGURATION			
		A	B	C	D
"EE" Safety Rating Feature	3.3.4	X	X	X	X
Fork Length no. 2	3.5.1 (a)	X	X	X	X
Fork Length no. 3	3.5.1 (b)	X	X	X	X
Fork Length no. 4	3.5.1 (c)	X	X		
Fork Length no. 5	3.5.1 (d)	X	X		
Fork Length no. 6	3.5.1 (e)	X	X		
Cold Storage Preparation	3.5.1 (f)	X	X	X	X
Spray Wash-down	3.5.1 (g)	X	X	X	X
Battery Removal Aids	3.5.1 (h)	X	X	X	X
Initial Parts Kit	4.1.4 (a)	X	X	X	X
Paper Maintenance Manuals	4.1.4 (b)	X	X	X	X
Digital Maintenance Manuals	4.1.4 (c)	X	X	X	X
Paper Parts Manuals	4.1.4 (d)	X	X	X	X
Digital Parts Manuals	4.1.4 (e)	X	X	X	X
Training - Familiarization - English	4.2 (a)	X	X	X	X
Training - Familiarization - French	4.2 (a)	X	X	X	X

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.

B335

Safety Standards for Lift Trucks

Canadian Standards Association (CSA)  
5060 Spectrum Way, Suite 100  
Mississauga, Ontario, L4W 5N6  
<http://www.csa.ca/cm/ca/en/home>

UL 583

Standard for Electric-Battery-Powered Industrial Trucks

Underwriters' Laboratories of Canada  
7 Underwriters Road,  
Toronto, Ontario, M1R 3A9  
<http://www.ulc.ca/>

**3. REQUIREMENTS****3.1 Standard Design**

- (a) The vehicle *shall* be the latest model from a manufacturer who has demonstrated acceptability by selling this type and size class of vehicle for at least three (3) years;
- (b) The vehicle *shall* include all components, equipment and accessories normally supplied for this application, although they may not specifically be described in this Purchase Description;
- (c) The vehicle *shall* have engineering certification available for this application from the original manufacturers of major equipment, systems and assemblies;
- (d) The vehicle *shall* 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 *shall* operate in accordance with all original equipment manufacturers' (OEM) rated capacities and performance specifications.

**3.2 Operating Conditions**

3.2.1 **Weather** - The vehicle *shall* operate in temperatures ranging from 0 to 40°C.

3.2.2 **Terrain** - The vehicle *shall* operate on use-roughened concrete floors while being used for stacking, un-stacking and moving general supplies in and around warehouses.

**3.3 Safety Standards**

3.3.1 **Vehicle Safety** - All vehicle design and safety aspects *shall* be in accordance with CSA B335 or an ***Equivalent***.

3.3.2 **Hazardous Materials** - The Contractor *shall* 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) used in the manufacture and assembly of the product supplied.

3.3.3 **"E" Safety Rating** - The vehicle *shall* be manufactured to meet the requirements of an "E" safety rating in accordance with Standard UL 583, or an ***Equivalent***.

**3.3.4 "EE" Safety Rating Feature**

- (a) The vehicle *shall* be manufactured to meet the requirements of an "EE" safety rating in accordance with Standard UL 583, or an ***Equivalent***, in lieu of the "E" safety rating (paragraph 3.3.3); and
- (b) A certification label confirming the vehicle meets the "EE" safety rating *shall* be permanently affixed to the vehicle before delivery.

3.4 Vehicle - The vehicle *shall* be a rider-on pallet jack.

3.4.1 Pallet Jack Performance

- (a) The vehicle *shall* have a lift capacity of at least that given as "LIFT CAPACITY" in the Data Table (paragraph 1.4);
- (b) The vehicle *shall* have a lift height, measured from the floor to the top surface of the forks in the full-up position, of at least that given as "LIFT HEIGHT" in the Data Table (paragraph 1.4); and
- (c) The vehicle *shall* have a fork outside width of equal to or less than 690 mm (27.1 inches) and a space between the forks of at least 152 mm (6 inches).

3.5 Equipment

- (a) Standard Forks - The vehicle *shall* be provided with forks having a nominal fork length of "FORK LENGTH" as given in the Data Table (paragraph 1.4); and
- (b) Standard Load Backrest - The vehicle *shall* be provided with a load backrest with nominal height of 1,219 mm (48 inch).

3.5.1 Features and Accessories

- (a) Fork Length no. 2 - Forks, with a nominal length of that given as "FORK LENGTH 2" in the Data Table (paragraph 1.4), *shall* be provided in lieu of the standard forks (paragraph 3.5 (a));
- (b) Fork Length no. 3 - Forks, with a nominal length of that given as "FORK LENGTH 3" in the Data Table (paragraph 1.4), *shall* be provided in lieu of the standard forks (paragraph 3.5 (a));
- (c) Fork Length no. 4 - Forks, with a nominal length of that given as "FORK LENGTH 4" in the Data Table (paragraph 1.4), *shall* be provided in lieu of the standard forks (paragraph 3.5 (a));
- (d) Fork Length no. 5 - Forks, with a nominal length of that given as "FORK LENGTH 5" in the Data Table (paragraph 1.4), *shall* be provided in lieu of the standard forks (paragraph 3.5 (a));
- (e) Fork Length no. 6 - Forks, with a nominal length of that given as "FORK LENGTH 6" in the Data Table (paragraph 1.4), *shall* be provided in lieu of the standard forks (paragraph 3.5 (a));
- (f) Cold Storage Preparation
  - i The vehicle *shall* be provided with preparation for operations in a refrigerated warehouse; and
  - ii The preparations *shall* include low temperature lubricants, anti-seize compounds, hydraulic fluids and heated and/or sealed switches and controls.
- (g) Spray Wash-down - The vehicle *shall* be prepared so that it can be washed down with a high-pressure spray without damage; and
- (h) Battery Removal Aids
  - i The vehicle *shall* be provided with devices to aid in the removal and replacement of the battery; and
  - ii The devices may include items such as battery rollers or pivoting battery mounts.

3.6 Operator Station

- (a) The vehicle *shall* be provided with an operator platform with a non-slip standing surface; and
- (b) The platform *shall* allow the operator to steer safely.

3.6.1 Operator Station Position

- (a) End Platform - The platform *shall* be located at the end of the vehicle behind the steering arm when indicated as "END" in the Data Table (paragraph 1.4); or
- (b) Centre Platform
  - i The platform *shall* be located between the steering arm and the load backrest when indicated as "CENTRE" in the Data Table (paragraph 1.4); and
  - ii The platform *shall* be accessible from either side of the pallet jack.

3.7 Chassis - *Commercially Equipped*

3.8 Motors - *Commercially Equipped*

3.9 Transmission - *Commercially Equipped*

3.10 Brake System - *Commercially Equipped*

3.11 Steering - *Commercially Equipped*

3.12 Tires - *Commercially Equipped*

3.13 Controls - *Commercially Equipped*

3.14 Instruments - The instruments *shall* be provided with an hour-meter with numerical read-out which records accumulated running time up to 9,999 hours and a battery state-of-charge indicator with lift interrupt.

3.15 Electrical System

- (a) The vehicle batteries *shall* have a capacity of at least "BATTERY CAPACITY" as given in the Data Table (paragraph 1.4); and
- (b) The vehicle *shall* be supplied with a CSA approved, fully automatic, constant voltage, heavy-duty type battery charger that connects to a 120-volt, single phase 60 Hz power source.

3.16 Lighting - Not applicable

3.17 Hydraulic System - *Commercially Equipped*

3.18 Lubricants and Hydraulic Fluids - *Commercially Equipped*

3.19 Paint - *Commercially Equipped*

3.20 Identification - The manufacturer's name, model and vehicle serial number *shall* be permanently marked in a conspicuous and protected location.

3.21 Vehicle Delivery Condition

- (a) The vehicle *shall* be delivered to destination in a fully operational condition (serviced and adjusted). Both the interior and exterior *shall* be cleaned;

- (b) If the vehicle requires assembly at destination, the Contractor **shall** be responsible for all manpower and equipment to perform assembly;
- (c) The space for assembly at destination will be provided, if required;
- (d) For shipment verification, items such as wheel wrenches, jacks, and all other tools, equipment and accessories, which are shipped loose, **shall** be listed on the shipping certificate or to an attached packing note; and
- (e) Lubricants installed in the vehicle at time of delivery **shall** be suitable for the destination and the season of delivery.

4. INTEGRATED LOGISTIC ITEMS

4.1 Contractor Documentation and Integrated Logistic Items

4.1.1 Documents Supplied to the Technical Authority

(a) Data Summary

- i A bilingual data summary *shall* be supplied for each Configuration with data and a vehicle picture on the *Technical Authority* supplied form;
- ii The *Technical Authority* will supply a template of an approved data summary to the Contractor;
- iii The Contractor *shall* supply the information requested for all accessories and features for the equipment Configuration;
- iv The Contractor *shall* submit a digital copy (MS Word) of the completed data summary to the *Technical Authority* for approval; and
- v Data summary approval or comments will be supplied within 30 calendar days of receipt.

(b) Manuals for Approval

- i A set of manuals for each Configuration, in digital format, including the operator, parts and maintenance (shop repair) manuals *shall* be supplied. Manuals may cover more than one Configuration;
- ii The set of manuals *shall* include manuals for all the specified accessories and features for the Configuration. Accessory manuals may be included as supplements to the vehicle manuals;
- iii Manuals will not be returned; and
- iv Manual approval or comments will be supplied within 30 calendar days of receipt.

(c) Photographs and Line Drawings

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

- (d) Initial Parts Kit List - A list of the parts included in the initial parts kit specified in paragraph 4.1.4(a) for each Configuration **shall** be supplied;
- (e) Material Safety Data Sheets
- i The Contractor **shall** supply a list, in digital format, of all hazardous materials used on the vehicle;
  - ii If there are no hazardous materials used, this **shall** be stated on the list; and
  - iii The Contractor **shall** supply material safety data sheets of all hazardous materials in the list.
- (f) Training Plan(s) - The Contractor **shall** supply a training plan for approval, for each of the training requirements listed in paragraph 4.2; and
- (g) Customer Support Package
- i A customer support package, in digital format, **shall** be supplied;
  - ii The customer support package **shall** include brochures for all vehicle models and all features/attachments used to comply with each of the Configuration requirements;
  - iii The customer support package **shall** include a Configuration document stating the make/model(s) required to fulfil all requirements for that Configuration;
  - iv The Configuration document **shall** state the estimated delivery for each make/model required to fulfil requirements of that Configuration;
  - v The Configuration document **shall** include a list of equipment/features that compromise the basic specified vehicle including any related product code required on the manufacturer's basic model;
  - vi The Configuration document **shall** provide a list for each additional attachments/accessories/features that are specified for that Configuration including, where relevant, the product code and make/model; and
  - vii The **Technical Authority** will distribute the customer support package to those who request it, however, the Contractor **shall** distribute this document, when requested.

#### 4.1.2 Items Supplied with Each Vehicle

- (a) Operator's Manuals
- i An operator's manual for the safe vehicle operation including all supplied attachments **shall** be supplied;
  - ii The operator's manual **shall** be supplied in a bilingual format or as 2 manuals (one English, and one French) in a single binder;
  - iii In addition to the paper copy of the operator's manual, a digital copy on a CD or DVD **shall** be supplied;

- iv The CD or DVD *shall* be permanently and legibly labeled with the list of contents; and
- v The digital copy *shall* not require a password or an Internet connection to be functional.

(b) Warranty Letter

- i A paper copy of the completed bilingual warranty letter in the approved format with each vehicle shipped *shall* be supplied;
- ii The *Technical Authority* will supply a template of an approved warranty letter to the Contractor;
- iii The Contractor *shall* supply a complete description of the warranty in the warranty letter with the requested warranty terms and any system or sub system warranty that exceeds the minimum requested in the contractual documents;
- iv The warranty letter *shall* include the name and contact information of the closest designated warranty provider and other designated warranty providers across Canada; and
- v Designated warranty providers *shall* honour the warranty letter.

- (c) Material Safety Data Sheets - A set of material safety data sheets, the same as those supplied to the *Technical Authority* as per paragraph 4.1.1 (e), *shall* be supplied.

4.1.3 Distribution of copies of Warranty Letter

- (a) DND - For vehicles shipped to DND, a bilingual copy of the warranty letter, in electronic format, *shall* be supplied to the *Technical Authority*; or
- (b) Not DND - For vehicles shipped to users other than DND, a bilingual copy of the warranty letter, in electronic format, *shall* be supplied to the identified user or designated contact person.

4.1.4 Additional Items

(a) Initial Parts Kit

- i One initial parts kit *shall* be supplied; and
- ii The initial parts kit *shall* include a complete set of parts, including filters and filter elements required by the Original Equipment Manufacturer for the first year of scheduled maintenance.

- (b) Paper Maintenance Manuals - Maintenance manuals in paper format, as published and available for the Canadian market, for the maintenance and repair of the vehicle, features and accessories *shall* be supplied;

(c) Digital Maintenance Manuals

- i Searchable digital maintenance manuals, as published and available for the Canadian market, for maintenance and repair of the vehicle features and accessories *shall* be supplied on a CD/DVD-ROM;

- ii The digital maintenance manuals **shall** be in a PDF or **Equivalent** format;
  - iii The digital format **shall** not require a password or an Internet connection to be functional; and
  - iv On-line maintenance manuals may be supplied in lieu of the digital maintenance manuals, however, this **shall** be provided without subscription fees.
- (d) **Paper Parts Manuals** - Parts manuals in paper format required for the vehicle, as published and available for the Canadian market, features and accessories **shall** be supplied; and
- (e) **Digital Parts Manuals**
- i Searchable digital parts manuals required for vehicle, as published and available for the Canadian market, features and accessories **shall** be supplied on a CD/DVD-ROM;
  - ii The digital maintenance manuals **shall** be in a PDF or **Equivalent** format;
  - iii The digital format **shall** not require a password or an Internet connection to be functional; and
  - iv On-line parts manuals may be supplied in lieu of the digital parts manuals, however, this **shall** be provided without subscription fees.

#### 4.2 **Training**

- (a) **Training - Familiarization - English**
- i The Contractor **shall** supply a familiarization course in English;
  - ii The course instructor **shall** be an OEM Factory Certified Training Provider;
  - iii The familiarization course **shall** include operation and maintenance segments demonstrating all safety measures required for safe vehicle use, instructions on the use of all features and accessories provided and maintenance;
  - iv The instructor **shall** supply responses to questions;
  - v The familiarization course **shall** have a minimum duration of eight (8) hours of training;
  - vi The familiarization course **shall** accommodate up to eight (8) personnel;
  - vii The familiarization course **shall** be supplied at the delivery destination;
  - viii For vehicles shipped to DND, the date for the familiarization course **shall** be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped to users other than DND;

- ix After completion of the familiarization course, the Contractor *shall* have the "PROOF OF FAMILIARIZATION" certificate signed by the senior course attendee; and
- x The *Technical Authority* will supply the "PROOF OF FAMILIARIZATION" document template in a digital format.

(b) Training - Familiarization - French

- i The Contractor *shall* supply a familiarization course in French;
- ii The course instructor *shall* be an OEM Factory Certified Training Provider;
- iii The familiarization course *shall* include operation and maintenance segments demonstrating all safety measures required for safe vehicle use, instructions on the use of all features and accessories provided and maintenance;
- iv The instructor *shall* supply responses to questions;
- v The familiarization course *shall* have a minimum duration of eight (8) hours of training;
- vi The familiarization course *shall* accommodate up to eight (8) personnel;
- vii The familiarization course *shall* be supplied at the delivery destination;
- viii For vehicles shipped to DND, the date for the familiarization course *shall* be arranged with the *Technical Authority*, or the identified user or designated contact person for vehicles shipped to users other than DND;
- ix After completion of the familiarization course, the Contractor *shall* have the "PROOF OF FAMILIARIZATION" certificate signed by the senior course attendee; and
- x The *Technical Authority* will supply the "PROOF OF FAMILIARIZATION" document template in a digital format.



**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.

This questionnaire covers technical information, which **shall** be provided for evaluation of the Configurations of the vehicle offered.

Where the specification paragraphs below indicate "**Proof of Compliance**", the "**Proof of Compliance**" **shall** be provided for each performance requirement/specification.

Bidders should indicate the document name/title and page number where the **Proof of Compliance** can be found.

Definitions for **Equivalent** and **Proof of Compliance** are found in the **DEFINITIONS** section at the end of this document.

**CONTRACTOR INFORMATION**

Contractor Name \_\_\_\_\_

Date \_\_\_\_\_



Substitutes/Alternatives

Are any substitutes/alternatives offered as **Equivalent**? YES  NO

If yes, please identify all equipment substitutes/alternatives offered as **Equivalents** below:

---

**NOTE: Proof of Compliance shall** be provided for all items offered as a substitute or alternative.

SPECIFICATION PARAGRAPHS

3.3.4 **"EE" Safety Rating Feature** *Proof of Compliance*  
Certification - document \_\_\_\_\_

3.4.1 **Forklift Performance** - *Proof of Compliance*  
Vehicle - Make \_\_\_\_\_ - Model \_\_\_\_\_  
(a) Lift capacity on page \_\_\_\_\_ of document \_\_\_\_\_  
(b) Lift height on page \_\_\_\_\_ of document \_\_\_\_\_  
(c) Fork outside width on page \_\_\_\_\_ of document \_\_\_\_\_

3.5 **Equipment**

(a) **Standard Forks** - *Proof of Compliance*  
Fork length on page \_\_\_\_\_ of document \_\_\_\_\_  
(b) **Standard Load Backrest** - *Proof of Compliance*  
Details on page \_\_\_\_\_ of document \_\_\_\_\_

3.5.1 **Features and Accessories**

(a) **Fork Length no. 2** - *Proof of Compliance*  
Fork length 2 on page \_\_\_\_\_ of document \_\_\_\_\_  
(b) **Fork Length no. 3** - *Proof of Compliance*  
Fork length 3 on page \_\_\_\_\_ of document \_\_\_\_\_  
(c) **Fork Length no. 4** - *Proof of Compliance*  
Fork length 4 on page \_\_\_\_\_ of document \_\_\_\_\_  
(d) **Fork Length no. 5** - *Proof of Compliance*  
Fork length 5 on page \_\_\_\_\_ of document \_\_\_\_\_  
(e) **Fork Length no. 6** - *Proof of Compliance*  
Fork length 6 on page \_\_\_\_\_ of document \_\_\_\_\_

3.6.1 **Operator Station Position**

(a) **End Platform** - *Proof of Compliance*  
Information provided on document \_\_\_\_\_



**Substitutes/Alternatives**

Are any substitutes/alternatives offered as **Equivalent**? YES  NO

If yes, please identify all equipment substitutes/alternatives offered as **Equivalents** below:

---

**NOTE: Proof of Compliance shall** be provided for all items offered as a substitute or alternative.

**SPECIFICATION PARAGRAPHS**

3.3.4 **"EE" Safety Rating Feature - Proof of Compliance**  
Certification - document \_\_\_\_\_

3.4.1 **Forklift Performance - Proof of Compliance**  
Vehicle - Make \_\_\_\_\_ - Model \_\_\_\_\_  
(a) Lift capacity on page \_\_\_\_\_ of document \_\_\_\_\_  
(b) Lift height on page \_\_\_\_\_ of document \_\_\_\_\_  
(c) Fork outside width on page \_\_\_\_\_ of document \_\_\_\_\_

3.5 **Equipment**

(a) **Standard Forks - Proof of Compliance**  
Fork length on page \_\_\_\_\_ of document \_\_\_\_\_  
(b) **Standard Load Backrest - Proof of Compliance**  
Details on page \_\_\_\_\_ of document \_\_\_\_\_

3.5.1 **Features and Accessories**

(a) **Fork Length no. 2 - Proof of Compliance**  
Fork length 2 on page \_\_\_\_\_ of document \_\_\_\_\_  
(b) **Fork Length no. 3 - Proof of Compliance**  
Fork length 3 on page \_\_\_\_\_ of document \_\_\_\_\_  
(c) **Fork Length no. 4 - Proof of Compliance**  
Fork length 4 on page \_\_\_\_\_ of document \_\_\_\_\_  
(d) **Fork Length no. 5 - Proof of Compliance**  
Fork length 5 on page \_\_\_\_\_ of document \_\_\_\_\_  
(e) **Fork Length no. 6 - Proof of Compliance**  
Fork length 6 on page \_\_\_\_\_ of document \_\_\_\_\_

3.6.1 **Operator Station Position**

(b) **Centre Platform - Proof of Compliance**  
Information provided on document \_\_\_\_\_



**Substitutes/Alternatives**

Are any substitutes/alternatives offered as **Equivalent**? YES  NO

If yes, please identify all equipment substitutes/alternatives offered as **Equivalents** below:

---

**NOTE: Proof of Compliance shall** be provided for all items offered as a substitute or alternative.

**SPECIFICATION PARAGRAPHS**

3.3.4 **"EE" Safety Rating Feature** *Proof of Compliance*  
Certification - document \_\_\_\_\_

3.4.1 **Forklift Performance** - *Proof of Compliance*  
Vehicle - Make \_\_\_\_\_ - Model \_\_\_\_\_  
(a) Lift capacity on page \_\_\_\_\_ of document \_\_\_\_\_  
(b) Lift height on page \_\_\_\_\_ of document \_\_\_\_\_  
(c) Fork outside width on page \_\_\_\_\_ of document \_\_\_\_\_

3.5 **Equipment**

(a) **Standard Forks** - *Proof of Compliance*  
Fork length on page \_\_\_\_\_ of document \_\_\_\_\_  
(b) **Standard Load Backrest** - *Proof of Compliance*  
Details on page \_\_\_\_\_ of document \_\_\_\_\_

3.5.1 **Features and Accessories**

(a) **Fork Length no. 2** - *Proof of Compliance*  
Fork length 2 on page \_\_\_\_\_ of document \_\_\_\_\_  
(b) **Fork Length no. 3** - *Proof of Compliance*  
Fork length 3 on page \_\_\_\_\_ of document \_\_\_\_\_

3.6.1 **Operator Station Position**

(a) **End Platform** - *Proof of Compliance*  
Information provided on document \_\_\_\_\_



Substitutes/Alternatives

Are any substitutes/alternatives offered as **Equivalent**? YES  NO

If yes, please identify all equipment substitutes/alternatives offered as **Equivalents** below:

---

**NOTE: Proof of Compliance shall** be provided for all items offered as a substitute or alternative.

SPECIFICATION PARAGRAPHS

3.3.4 **"EE" Safety Rating Feature - Proof of Compliance**  
Certification - document \_\_\_\_\_

3.4.1 **Forklift Performance - Proof of Compliance**  
Vehicle - Make \_\_\_\_\_ - Model \_\_\_\_\_  
(a) Lift capacity on page \_\_\_\_\_ of document \_\_\_\_\_  
(b) Lift height on page \_\_\_\_\_ of document \_\_\_\_\_  
(c) Fork outside width on page \_\_\_\_\_ of document \_\_\_\_\_

3.5 **Equipment**

(a) **Standard Forks - Proof of Compliance**  
Fork length on page \_\_\_\_\_ of document \_\_\_\_\_  
(b) **Standard Load Backrest - Proof of Compliance**  
Details on page \_\_\_\_\_ of document \_\_\_\_\_

3.5.1 **Features and Accessories**

(a) **Fork Length no. 2 - Proof of Compliance**  
Fork length 2 on page \_\_\_\_\_ of document \_\_\_\_\_  
(b) **Fork Length no. 3 - Proof of Compliance**  
Fork length 3 on page \_\_\_\_\_ of document \_\_\_\_\_

3.6.1 **Operator Station Position**

(b) **Centre Platform - Proof of Compliance**  
Information provided on document \_\_\_\_\_

DEFINITIONS

The following definitions apply to the interpretation of this Technical Information Questionnaire:

- (a) "**Equivalent**" *shall* mean a standard, means, or component type, which the **Technical Authority** has approved for this requirement, in writing, as meeting the specified requirements for fit, form, function and performance; and
  
- (b) "**Proof of Compliance**" *shall* mean an unaltered document, such as a brochure and/or technical literature and/or a third party test report provided by a nationally and/or internationally recognized testing facility and/or a report generated by a nationally and/or internationally recognized third party software. The document *shall* provide detailed information on each performance requirement and/or specification. Where a document submitted as **Proof of Compliance** does not cover all the performance requirements and/or specifications or when no such document is available or when modifications to the original equipment or customization are required to achieve the performance requirements and/or specifications, a Certificate of Attestation (as a separate document) signed by a senior engineer representing the Original Equipment Manufacturer (OEM) detailing the modifications and how they meet the performance requirements and/or specifications *shall* be provided. The certificate *shall* detail all performance requirements and/or specifications required to substantiate compliance. One certificate can be provided for one or all performance requirements and/or specifications.