



National Defence

National Defence Headquarters
Ottawa, Ontario
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Défense nationale

Quartier général de la Défense nationale
Ottawa (Ontario)
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**SOLICITATION AMENDMENT
MODIFICATION DE
L'INVITATION**

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

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

Comments - Commentaires

**RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À :**

Bid Receiving - PWGSC - Réception des soumissions - TPSGC
11 Laurier St. - 11 rue Laurier
Place du Portage, Phase III
Core 0B2 - Noyau 0B2
Gatineau, Québec K1A 0S5

Title - Sujet Aircraft Cargo Loading Trailer with Height Adjustable Deck Remorque de chargement de cargaison d'avion avec plateforme ajustable en hauteur		Amendment No. - N° modif. 002
Solicitation No. N° de l'invitation W8476-206290/A	Date of Amendment Date de modification 30 October, 2020	
Address enquiries to: - Adresser toute demande de renseignements à : Joe Shepstone		
Telephone No. - N° de telephone	E-Mail Address - Courriel victor.shepstone@forces.gc.ca	
Destination Specified Herein Précisé dans les présentes		

Instructions: Municipal taxes are not applicable. Unless otherwise specified herein all prices quoted must include all applicable Canadian customs duties, GST/HST, excise taxes and are to be delivered Delivery Duty Paid including all delivery charges to destination(s) as indicated. The amount of the Goods and Services Tax/Harmonized Sales Tax is to be shown as a separate item.

Instructions : Les taxes municipales ne s'appliquent pas. Sauf indication contraire, les prix indiqués doivent comprendre les droits de douane canadiens, la TPS/TVH et la taxe d'accise. Les biens doivent être livrés « rendu droits acquittés », tous frais de livraison compris, à la ou aux destinations indiquées. Le montant de la taxe sur les produits et services/taxe de vente harmonisée doit être indiqué séparément.

Delivery required Livraison exigée See herein - Voir aux présentes	Delivery offered Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Person authorized to sign on behalf of Vendor/Firm (type or print): La personne autorisée à signer au nom du fournisseur/de l'entrepreneur (taper ou écrire en caractères d'imprimerie) :	
Name - Nom	Title - Titre
Signature	Date

Solicitation Closes - L'invitation prend fin At - à : 2:00 PM - 14:00 On - le : 17 November, 2020 Time Zone - Fuseau Horaire : Eastern Daylight Time (EDT) Heure avancée de l'Est (HAE)

THIS SOLICITATION AMENDMENT IS RAISED TO:

1. Provide clarification and answers to questions from potential suppliers.

Questions and Answers:

<p>Question 1</p>	<p>Clarification of Max / Min bed heights: <i>The requested height range delta between the C130 and C17 appears to be excessive, C17 – Maximum 1.93m and C130 Minimum 0.74m at 1190m? Aircraft Data shows C17 Minimum 1.625m / Maximum 1.879m and C130 MK4 & 5 Minimum 1.028 / Maximum 1.079m which is a height delta of 0.851m. The current CTTT is in service with C130 operators and is not as low as requested with C130 operators using around 1000mm minimum bed height not 740mm?</i></p>
<p>Answer 1</p>	<p>The loading height for C-17 is changed to 1.879m (73.97 inches). The loading height for the C-130 is changed to 0.99 m (39 inches). Articles 3.4.4 a) and 3.4.4 b) are modified. Refer to Purchase Description and the Technical Evaluation Matrix dated October 28, 2020.</p>
<p>Question 2</p>	<p><i>We received the below information from our supplier/manufacturer; they do not understand why the CAF have a min requirement of ramp loading height on the C130 of 0,74 m/ 2 feet 5in. Annex C 3.4.4.</i></p> <p><i>Can you please clarify?</i></p>
<p>Answer 2</p>	<p>The loading height for the C-130 is changed to 0.99 m (39 inches). Article 3.4.4 b) is modified. Refer to Purchase Description and the Technical Evaluation Matrix dated October 28, 2020.</p>
<p>Question 3</p>	<p><i>Just one section I noticed a mistake is in Annex "C" 3.4.1 - It indicates 25 km/h (40mph) 25 km/h is not (40 mph) it is 15.5 mph, unless they meant to say the opposite40 km/h (25 mph)</i></p>
<p>Answer 3</p>	<p>The required speed is 40 km/h (24.85 MPH). Article 3.4.1 a) is modified. Refer to Purchase Description and the Technical Evaluation Matrix dated October 28, 2020.</p>
<p>Question 4</p>	<p><i>Can you also clarify the height requirement for the C130 ramp.</i></p>
<p>Answer 4</p>	<p>The loading height for the C-130 is changed to 0.99 m (39 inches). Article 3.4.4 b) is modified. Refer to Purchase Description and the Technical Evaluation Matrix dated October 28, 2020.</p>

THIS SOLICITATION IS HEREBY AMENDED AS FOLLOWS:

- 1.1 Delete the Technical Evaluation Matrix dated 03/09/2019 in its entirety, and Replace with the Technical Evaluation Matrix dated 28/10/2020 (attached)

- 1.2 Delete the Purchase Description dated 2020-09-03 in its entirety, and
Replace with Purchase Description dated 2020-10-28 (attached).

ALL OTHER TERMS AND CONDITIONS REMAIN THE SAME.

Annex C
Technical Evaluation Matrix

Title:

TRAILER, AIRCRAFT CARGO LOADING/UNLOADING WITH HEIGHT ADJUSTABLE DECK

Date:

28/10/2020

Technical Evaluation Matrix
TRAILER, AIRCRAFT CARGO LOADING/UNLOADING WITH HEIGHT ADJUSTABLE DECK

Bidder Information

Bidder Name:

Proposal Date:

Proposed Make and Model:

Technical Mandatory Criteria			
PD Reference	PD Requirement	Bid Evaluation Requirement	Location in Bid Proposal
3.1 b)	<p><u>Standard Design</u></p> <p>b) Industry Acceptability - The trailer design must have demonstrated industry acceptability by having been manufactured and sold commercially for at least 2 year, or be manufactured by a company that has at least 5 years' experience in design and manufacturing of a comparable type of equipment of equivalent or greater complexity.</p>	<p>The Bidder must provide client information for industry acceptability and/or experience as specified in the purchase description.</p> <p>Client information must include:</p> <ul style="list-style-type: none"> - Client name and location - Year completed - List of make(s)/model(s). 	
3.3.1	<p><u>Vehicle Safety Regulation</u></p> <p>a) The trailer must be designed and built in accordance with the latest version of ANSI /SIA A92.7 and SAE ARP1247D.</p>	<p>Substantive information only required for ANSI /SIA A92.7.</p>	
3.4.1	<p><u>Performance</u></p> <p>a) The trailer, at GVWR, must sustain a speed of 40 km/h (24.85 MPH) on a packed gravel airfield runway.</p>	<p>Substantive information including information on:</p> <ul style="list-style-type: none"> - Speed specifically on packed gravel airfield runway 	

Technical Evaluation Matrix
TRAILER, AIRCRAFT CARGO LOADING/UNLOADING WITH HEIGHT ADJUSTABLE DECK

3.4.1	<p><u>Performance</u></p> <p>d) The trailer must have a payload capacity of at least 13 600 kg (30 000lbs).</p>	Substantive Information	
3.4.2	<p><u>Weight Ratings</u></p> <p>c) The total load on each axle of the vehicle must not exceed the GAWR for that axle.</p>	Substantive information including load calculations to demonstrate that the load on each axle does not exceed the GAWR of each axle.	
3.4.3	<p><u>Dimensions</u></p> <p>a) The trailer must have a minimum length that will permit the storage of three (3) cargo pallets in both biases.</p>	Substantive Information	
3.4.3	<p><u>Dimensions</u></p> <p>b) The trailer must have a minimum width that will permit the loading and unloading of cargo pallets in both biases.</p>	Substantive Information	
3.4.4	<p><u>Trailer Height</u></p> <p>a) The trailer must accommodate for a loading height of 1.879 m (73.97 inches) to match the loading height of a C-17 plane loading ramp.</p>	Substantive Information	

Technical Evaluation Matrix
 TRAILER, AIRCRAFT CARGO LOADING/UNLOADING WITH HEIGHT ADJUSTABLE DECK

3.4.4	<p><u>Trailer Height</u></p> <p>b) The trailer <i>must</i> accommodate for a loading height of 0.99 m (39 inches) to match the loading height of a C-130 plane loading ramp.</p>	Substantive Information	
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Proposed Equivalents			
PD Reference	PD Requirement	Bid Evaluation Requirement	Location in Bid Proposal



ANNEX B

PURCHASE DESCRIPTION

FOR

TRAILER, AIRCRAFT CARGO LOADING/UNLOADING WITH HEIGHT ADJUSTABLE DECK



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.



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Table of Contents

1	Scope	6
1.1	Scope	6
1.2	Instructions	6
1.3	Definitions	6
2	APPLICABLE DOCUMENTS	7
3	REQUIREMENTS	7
3.1	Standard Design	7
3.2	Operating Conditions	8
3.3	Safety Standards	8
3.4	Trailer Performance, Ratings and Dimensions	9
3.5	Trailer Design	10
3.6	Towing Ability	10
3.7	Transportability	10
3.8	Outriggers or Stabilizers	11
3.9	Engine	11
3.10	Engine Components	11
3.11	Hydraulic System	11
3.12	Cold Weather Starting Aids	11
3.13	Exhaust System	12
3.14	Braking System	12
3.15	Load Platform	12
3.16	Walkways	12
3.17	Pallet locks	13
3.18	Pallet Stops	13
3.19	Wheels, Rims and Tires	13
3.20	Hitch and Safety Chains	13
3.21	Accessories	14
3.22	Lubricants	14
3.23	Electrical System	14
3.24	Lighting	14
3.25	Controls	14
3.26	Instruments	15
3.27	Paint	15
3.28	Retroreflective Tape	15
3.29	Corrosion Protection	15
3.30	Identification	15



3.31	Warning, Markings and Instruction Plates	15
4	INTEGRATED LOGISTIC SUPPORT	16
4.1	Trailer Manuals	16
4.2	Warranty Letter	17
4.3	Other ILS Deliverables to Technical Authority	18
4.4	Safety Recalls and Servicing Data	20
4.5	Initial Parts Kit	20
4.6	Familiarization Training	20



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1 Scope

1.1 Scope

- a) This document describes the requirements for an elevated cargo trailer designed to accommodate loading and unloading from Canadian Forces C-17 Globemaster III and C-130J Hercules aircrafts.

1.2 Instructions

- a) Requirements, which are identified by the word “must”, are mandatory. Deviations will not be permitted.
- b) Requirements identified with a “will” define actions to be performed by Canada and require no action/obligation on the Contractor’s part.
- c) Where “**must**” or “will” are not used, the information supplied is for guidance only.
- d) In this document “provided” **must** mean “provided and installed”.
- e) Where a technical certification is referred to in this specification, a copy of the certification or an acceptable substantial information **must** be supplied for the trailer when requested by the Technical Authority.
- f) Metric measurements are used to define the requirement. Other measurements are for reference only and may not be exact conversions.
- g) Nominal dimensions reflect a method by which materials or products are generally identified, but which differ from the actual measured dimensions.

1.3 Definitions

- a) “**Technical Authority**” - The government official responsible for technical content of this requirement.
- b) “**Equivalent**” - Substitutes and alternatives that are equivalent in product, performance or a standard will be considered for acceptance by the Technical Authority where Proof of Compliance for equivalency for the respective requirement is provided for evaluation.
- c) “**Trailer**” – The entire trailer including all systems and sub-systems, in a complete manufactured state in accordance with the requirements in this Purchase Description.
- d) “**5th percentile adult female**” – As defined in the *Motor Vehicle Safety Regulations (C.R.C., c. 1038)* a person having as physical characteristics a mass of 46.3 kg, height of 1499 mm, erect sitting height of 785 mm, normal sitting height of 752 mm, hip sitting breadth of 325 mm, hip sitting circumference of 925 mm, waist sitting circumference of 599 mm, chest depth of 191 mm, bust circumference of 775 mm, chest upper circumference of 757 mm, chest lower circumference of 676 mm, knee height of 455 mm, popliteal height of 356 mm, elbow rest height of 180 mm, thigh clearance height of 104 mm, buttock-to-knee length of 518 mm, buttock-to-poples length of 432 mm, elbow-to-elbow breadth of 312 mm and seat breadth of 312 mm.
- e) “**95th percentile adult male**” – As defined in the *Motor Vehicle Safety Regulations (C.R.C., c. 1038)* a person having as physical characteristics a mass of 97.5 kg, height of 1849 mm, erect sitting height of 965 mm, normal sitting height of 930 mm, hip sitting breadth of 419 mm, hip sitting circumference of 1199 mm, waist sitting circumference of 1080 mm, chest depth of 267 mm, chest circumference of 1130 mm, knee height of 594 mm, popliteal height of 490 mm,

elbow rest height of 295 mm, thigh clearance height of 175 mm, buttock-to-knee length of 640 mm, buttock-to-poples length of 549 mm, elbow-to-elbow breadth of 506 mm and seat breadth of 404 mm.

- f) **“Gross Axle Weight Rating (GAWR)”** - The value specified by the trailer manufacturer as the load-carrying capacity of a single axle system, as measured at the tire-ground interfaces.
- g) **“Gross Vehicle Weight Rating (GVWR)”** - The value specified by the trailer manufacturer as the loaded weight of a single trailer.
- h) **“Payload”** - The maximum cargo load carrying capacity of the trailer. The payload is the calculated difference between the Curb Weight and the Gross Vehicle Weight Rating.
- i) **“Pallet”** - The cargo pallet which will be loaded on the cargo trailer. The 463 L pallet has dimensions of 2750mm x 2240mm x 57mm [LxWxH] (108in x 88in x 2.25in) (NSN: 1670-00-820-4896).

2 APPLICABLE DOCUMENTS

The following documents form part of this Purchase Description. The dates of issue are those in effect on the date of release of the RFP. Canada will not be supplying these documents. Sources are a shown:

Canadian Occupational Health and Safety Regulations (COHSR)

Yearbook - Tire and Rim Association Inc.

CAN/CGSB 3.517 - Diesel Fuel

MIL-STD-209K – Department of Defence, Interface Standard for Lifting and Tie down Provisions

SAE AMS-STD-595 – Colors Used in Government Procurement

SAE ARP1247E – Aircraft Ground Support Equipment – General Requirements

3 REQUIREMENTS

3.1 **Standard Design**

- a) **Latest Model** - The trailer design **must** be the manufacturer's latest model.
- b) **Industry Acceptability** - The trailer design **must** have demonstrated industry acceptability by having been manufactured and sold commercially for at least 2 year, or be manufactured by a company that has at least 5 years' experience in design and manufacturing of a comparable type of equipment of equivalent or greater complexity.
- c) **Engineering Certification** - Original manufacturers engineering certification **must** be provided upon request for major drive train components, and major equipment systems and assemblies, to demonstrate that assemblies are used within their design limitations.
- d) **Regulations** – The trailer **must** conform to all applicable laws, regulations and industrial standards governing manufacture, safety, noise levels and pollution in effect in Canada at the time of manufacture. International equivalent laws, regulations, and industrial standards will be accepted only if certified for equivalency by a professional engineer.

- e) **Published Ratings** - The trailer **must** have system and component capacities equivalent to published ratings (i.e. product or component brochures).
- f) **Standard Components** - The trailer **must** include all standard components, equipment and accessories for the model offered, although they may not be specifically described in this Purchase Description.
- g) **Spare Parts** - The manufacturer **must** select components readily available for a minimum period of fifteen (15) years from the date of manufacture.
- h) **Measurements** – Values for labels and indicators provided with equipment must be presented in metric units, or must have both imperial and metric units with metric dominant.
- i) **Foreign Object Debris (FOD)** - To prevent FOD, all loose metal parts **must** be securely attached to the trailer with wire lanyards. If removable panels are provided they **must** be attached with captive fasteners.

3.2 Operating Conditions

3.2.1 Weather

- a) The trailer **must** operate under the extremes of weather conditions found in Canada in temperatures ranging from -50 to 37° C (-58 to 99° F) and cold starting from -40° C with external aids.

3.2.2 Terrain

- a) The trailer **must** be operable on concrete, gravel and asphalt surfaces that include year round operations on rain, snow, hard packed snow and ice with up to 5.0% (percent) slope in all weather conditions without the use of operator installed supplementary traction aids.

3.3 Safety Standards

3.3.1 Trailer Safety Regulations

- a) The trailer **must** be designed and built in accordance with the latest version of ANSI /SIA A92.7 and SAE ARP1247D.

3.3.2 Human Factors Engineering

- a) The trailer, all systems, and components **must** comply with the relevant sections of the COHSR.
- b) The trailer **must** be manufactured/assembled for safety and ease of use by CAF users with anthropometric characteristic measurements ranging from 95th percentile male to 5th percentile female.
- c) The trailer **must** have entry and exit points equipped with handles and steps sized and positioned to accommodate CAF users with anthropometric characteristic measurements ranging from 95th percentile male to 5th percentile female.
- d) The trailer **must** be equipped, with warning and instruction plates, non-slip walking surfaces and heat shields, for operator safety.

3.4 Trailer Performance, Ratings and Dimensions

3.4.1 Performance

- a) The trailer, at GVWR, **must** sustain a speed of 40 km/h (24.85 MPH) on a packed gravel airfield runway.
- b) The trailer **must** have both an angle of approach and an angle of departure of at least 8 degrees.
- c) The trailer **must** permit the loading and unloading of cargo pallets while attached or unattached to the towing vehicle.
- d) The trailer **must** have a payload capacity of at least 13 600 kg (30 000lbs).

3.4.2 Weight Ratings

- a) The GVWR of the trailer **must** not be less than the sum of the unloaded trailer mass, the cargo carrying capacity, and the product obtained by multiplying the number of personal required for pallet loading and unloading by 68kg.
- b) Each GAWR **must** be equal to or less than the load rating of the weakest component in the axle system.
- c) The total load on each axle of the trailer **must** not exceed the GAWR for that axle.

3.4.3 Dimensions

- a) The trailer **must** have a minimum length that will permit the storage of three (3) cargo pallets in both biases.
- b) The trailer **must** have a minimum width that will permit the loading and unloading of cargo pallets in both biases.
- c) The overall length of the trailer **must** not exceed a maximum of 12.8 m (42 ft) during operation.
- d) The overall width of the trailer **must** not exceed a maximum of 4.3 m (14 ft) during operation.
- e) The trailer minimum ground clearance **must** be 250 mm (9.8 in).

3.4.4 Trailer Height

- a) The trailer **must** accommodate for a loading height of 1.879 m (73.97 inches) to match the loading height of a C-17 plane loading ramp.
- b) The trailer **must** accommodate for a loading height of 0.99 m (39 inches) to match the loading height of a C-130 plane loading ramp.
- c) The trailer **must** use a self-contained hydraulic system to adjust the trailer deck height to accommodate the loading height of a C-130 and C17 plane loading ramp.
- d) The overall height of the fully raised trailer **must** not exceed a maximum of 3.75 m (12.3 ft).
- e) The trailer **must** be equipped with means to lower the trailer deck in the event systems or main power source failure situation occurs.

3.5 Trailer Design

- a) The trailer **must** be designed with materials that are rated for use in the extreme weather conditions outlined in Section 3.2.1.

3.6 Towing Ability

- a) The trailer **must** follow the towing vehicle without weaving or side sway.
- b) The trailer **must** provide horizontal articulation up to 60 degrees without interference with the towing vehicle.
- c) The trailer **must** have a steering system to ensure load security during towing.

3.7 Transportability

3.7.1 CC130 Air Transportability

- a) The trailer **must** be loaded into any Canadian Forces CC130 Hercules aircraft.
- b) The width **must** be reducible to a maximum of 2.794 metres (110 inches).
- c) The width measured at exterior of the tires **must** be a maximum of 2.54 metres (100 inches).
- d) The height **must** be reducible to a maximum of 2.44 metres (96 inches).
- e) The weight, when prepared for air transport with half a tank of fuel, **must** not exceed:
 - i. 5,896.7 kg (13,000 lbs) on each axle, where tandem axles less than 1.22 metres (48 inches) apart are rated as a single axle;
 - ii. 2,948.4 kg (6,500 lbs) on each wheel; and
 - iii. 226.8 kg (500 lbs) per inch of tire width for unshored trailers.
- f) The trailer tie down provisions **must**:
 - i. Withstand stresses imposed by loads in all directions with a minimum factor of safety of 1.5, with respect to the ultimate strength of the material;
 - ii. Accept a minimum forward load of 3 g, rearward load of 1.5 g, vertical load of 2 g and lateral load of 1.5 g (1 g = shipping weight of the equipment), loads are not imposed simultaneously;
 - iii. Be positioned to anchor the vehicle, to prevent shifting or movement during transport;
 - iv. Be permanent and integrally attached;
 - v. Be positioned to provide access for the attachment of cables or turnbuckles;
 - vi. Be clearly marked with the maximum load permitted; and
 - vii. Provide complete tie down provision locations with decals on the trailer.
- g) The trailer, in air transportable configuration, **must**:

- i. Have an angle of approach and an angle of departure of at least 14 degrees; and
 - ii. Have a ramp break over angle of at least 14 degrees.
- h) The trailer **must** be configured for air-transportability using only trailer supplied tools, by 3 trained people, in 90 minutes or less.
- i) All removed equipment **must** be stored on the trailer.

3.8 Outriggers or Stabilizers

- a) If applicable, hydraulic stabilizers or outriggers **must** be provided in accordance with safety requirements in ANSI/SAIA A92.7 (or other applicable standard).
- b) If applicable, the trailer **must** be equipped with means to retract outriggers or stabilizers in the event systems or main power source failure situation occurs.

3.9 Engine

- a) The engine **must** operate on ultra-low sulphur diesel fuel to the CAN/CGSB Standard 3.517.
- b) Engine manufacturer's certification **must** be available upon request.

3.10 Engine Components

- a) A replaceable air filter(s) **must** be provided.
- b) A cooling system **must** be provided.
- c) A full flow replaceable oil filter **must** be installed.

3.11 Hydraulic System

- a) The trailer **must** be equipped with a hydraulic system.
- b) A hydraulic oil cooler **must** be provided if required to meet the operating conditions specified in Paragraph 3.2.
- c) Hydraulic hoses **must** be grouped together and clearly identified.
- d) Clearly marked test ports **must** be provided.
- e) Hydraulic pressure test gauge with applicable fittings and hoses **must** be provided.

3.12 Cold Weather Starting Aids

- a) A low temperature engine starting aid **must** be provided to meet the operating conditions specified in Paragraph 3.2.
- b) A thermostatically controlled in-line fuel heater **must** be provided.
- c) If required, a 110-volt engine block heater(s) **must** be provided
- d) A 110-volt battery heater(s) **must** be provided.
- e) The battery **must** be housed in an insulated battery box or blanket.

3.13 Exhaust System

- f) The engine **must** be equipped with an exhaust system shielded to prevent personnel contacting a heated surface.
- a) The exhaust system **must** prevent entry of rain.
- b) If a Selective Catalytic Reduction (SCR) System is used, there **must** be manual deactivation and activation controls for the automatic regeneration of the Diesel Particulate Filter (DPF).

3.14 Braking System

- a) The trailer **must** be equipped with surge brakes for the conditions specified in Paragraphs 3.2 and 3.4.
- b) The trailer brakes **must** allow the trailer to back-up without any restriction.
- c) The trailer brakes **must** be suitable for a trailer of this type and size.

3.15 Load Platform

- a) The load platform **must** be equipped with unidirectional, ball, or a combination of both rollers to accommodate loading and unloading of the pallets.
- b) If unidirectional rollers are provided, they **must** be grouped together in removable trays.
- c) The roller deck **must** cover the full length of the platform.
- d) The load platform **must** be provided with a minimum of nine (9) pan fitting tie down points evenly spaced and sized to accommodate the load of the individual pallet.
- e) The pan fitting tie down points **must** be rated for cargo pallet tie down.
- f) The load platform **must** be able to be adjustable to accommodate a deck pitch ± 2 degrees and roll ± 2 degrees.

3.16 Walkways

- a) The load platform **must** have two (2) walkways positioned on the longest sides of the trailer.
- b) The walkways **must** have rails with a minimum height of 1.07m (42 in) from the upper surface of the top of the rails to the floor.
- c) The walkways **must** have a minimum width of 0.3 m (11.8 in) from the trailer to the internal surface of the walkway rails.
- d) The walkways **must** support weight of at least 300 kg (661 lbs).
- e) The walkways **must** be folding or removable.
- f) Ground access to the walkway **must** rely on fixed steps with a maximum first step to ground distance of 610 mm (24 inch).
- g) Walking surface of the walkway **must** have safety grating to increase underfoot traction.
- h) The weight limits for each walkway **must** be marked as specified in 3.31.

3.17 Pallet locks

- a) The trailer **must** be equipped with pallet locks that will lock in pallets loaded in both biases.
- b) The pallet locks **must** be designed to fail in a manner to still allow pallet loading and securing with cargo straps.

3.18 Pallet Stops

- a) The trailer **must** be provided with pallet stops located at the front and rear of the trailer that will prevent pallets from rolling off of the trailer during transport and loading.
- b) The pallet stops **must** be retractable.

3.19 Wheels, Rims and Tires

- a) Tires and rims must be selected in accordance with Tire and Rim Association Yearbook.
- b) The tires **must** have tire manufacturer certification that tires and rims provided are suitable and adequately sized for this application.
- c) The wheel assembly **must** have sufficient load capacity so the trailer loaded to rated capacity and provided with all options does not exceed the manufacture's load ratings.
- d) The tires **must** be pneumatic.
- e) Tires **must** have a tread pattern for use in the operating conditions described in Paragraph 3.2.
- f) The wheels, tires and rims **must** include valve extensions for inner tires, if used, to allow for easy access.
- g) If applicable, all tires **must** be the same size, ply ratings, make and model.
- h) For each tire size provided, 2 (two) full size spare tire assemblies **must** be delivered with each trailer.
- i) The Technical Authority **must** approve the proposed spare tire mounting locations.
- j) Tire pressure **must** be marked near the tire location.

3.20 Hitch and Safety Chains

- a) The trailer **must** be provided with a pintle lunette hitch.
- b) The lunette **must** be rated to tow the trailer at full payload capacity.
- c) The lunette **must** have an inner diameter of 76mm (3 in).
- d) The lunette **must** be of swivel type.
- e) The lunette **must** be 635 mm (25 in) from the centre to the ground.
- f) The drawbar **must** pivot to provide a minimum 304mm (12 in) of vertical adjustment for the lunette.
- g) The drawbar **must** be equipped with a jack to provide support.

3.21 **Accessories**

- a) The trailer **must** be provided with a rear mounted license plate holder.
- b) Four (4) wheel chocks **must** be provided with dedicated on-board storage.
- c) The trailer **must** be equipped with a rear rubber bumper specific to aircraft ground support equipment.
- d) Mud flaps **must** be provided.
- e) The trailer **must** be equipped with a weather proof storage box at least 381 mm (15") long by 254 mm (10") wide by 203 mm (8") deep, with a locking latch **must** be provided.
- f) The weather proof storage box **must** be permanently mounted in a location that will not obstruct trailer operation.

3.22 **Lubricants**

- a) Synthetic non-proprietary lubricants **must** be provided.
- b) All lubricants and fluids provided **must** meet the operating conditions specified in Paragraph 3.2.1.

3.23 **Electrical System**

- a) The trailer **must** be equipped with a 12-volt or 24-volt electrical system.
- b) The trailer **must** be equipped with an independent electrical system from the prime mover.
- c) Wiring **must** be protected by insulating grommets, where passing through metal.
- d) A master disconnect switch, accessible from the ground, **must** be provided.
- e) The electrical system provided **must** meet the operating conditions specified in Paragraph 3.2.
- f) Batteries **must** be mounted in an accessible, protected and ventilated location

3.24 **Lighting**

- a) The trailer **must** be equipped with LED lights, including: marker, clearance and licence plate.
- b) Hazard flashing lights **must** be provided at the rear and front corners.
- c) Lights **must** be recessed or otherwise protected from damage with all components accessible for servicing.

3.25 **Controls**

- a) Each control **must** be permanently marked to identify the function, in both English and French.
- b) All hydraulic controls **must** be grouped together and contained in 1 (one) control box.
- c) The hydraulic control box **must** be equipped with lights to provide adequate lighting for nighttime operations.

- d) The hydraulic control box **must** be connected remotely by a wired remote control to distance the operator from the hydraulic system during hydraulic system operation.
- e) The hydraulic control box **must** have a minimum umbilical length of 7.62 m (25 ft).
- f) When the hydraulic system is not in use the hydraulic controls **must** be mounted on the trailer to prevent damage to the trailer, umbilical cord, and control box.
- g) The trailer **must** be equipped with a means to control the hydraulic system in the event of hydraulic control box failure.

3.26 Instruments

- a) All Instruments provided **must** be metric and visible to the operator in all lighting conditions.
- b) A hydraulic pressure indicator **must** be provided.
- c) A fuel level indicator **must** be provided.
- d) An inclinometer **must** be provided for deck levelling.

3.27 Paint

- a) All metal surfaces **must** be protected.
- b) The prime coating **must** be a high durability, corrosion resistant type, such as an epoxy.
- c) The colour **must** be Dupont Axalta 750206 E B Penn Dot Yellow or Technical Authority approved equivalent.

3.28 Retroreflective Tape

- a) Retroreflective tape **must** be placed along the front, rear and sides of the trailer.

3.29 Corrosion Protection

- a) The trailer **must** be designed and manufactured to prevent galvanic corrosion.
- b) The materials used in the trailer manufacturing **must** resist damage or deterioration as a result of cleaning with hot or cold water, steam, or detergents.

3.30 Identification

- a) The trailer identification information **must** be permanently affixed in a conspicuous and protected location.
- b) Identification information **must** include manufacturer's name, model and serial number.
- c) The trailer capacity rating **must** be marked on the drawbar.
- d) Identification information **must** include the GVWR and GAWR ratings.

3.31 Warning, Markings and Instruction Plates

- a) All identification, instructional, and warning labels **must** be bilingual or International symbols defined in SAE J1362.

- b) All identification, instructional, and warning labels **must** within view of the operator.
- c) All indicators and controls **must** be permanently labelled.

4 INTEGRATED LOGISTIC SUPPORT

4.1 Trailer Manuals

- a) All manuals required for the description, operation, maintenance and repair of the complete equipment, including sub-systems, **must** be provided.

4.1.1 Operator's Manuals

- a) The operator's manuals **must** be bilingual (English/French).
- b) The operator's manuals **must** include instructions for the safe operation of the trailer.
- c) The operator's manuals **must** include daily operator maintenance instructions/checks (including lubrication).
- d) The operator's manuals **must** include safety warnings.
- e) The operator's manuals **must** include hand signals (as necessary).
- f) The operator manuals **must** include instructions for safe trailer air transportation.

4.1.2 Parts Manual(s)

- a) The parts manual(s) **must** be in English (bilingual is desirable).
- b) The parts manual **must** have illustrations showing all components of the trailer including equipment and accessories from other manufacturers that are supplied to meet the requirements of the contract, with numbers for the itemization of the parts.
- c) The parts manual **must** have a listing for all itemized parts showing the Original Equipment Manufacturers (OEM) part number, the part name and a brief description of the item.
- d) The parts manual **must** cross reference the OEM part number to the correct illustration and item number.
- e) The parts manual **must** have a representation of bilingual warning signs and identification labels delivered on the equipment.

4.1.3 Maintenance Manuals

- a) The maintenance manual **must** be bilingual.
- b) The maintenance manual **must** include a trouble shooting guide, showing the steps and tests required to determine the exact cause of a problem and an explanation of the steps required to correct a problem.
- c) The maintenance manual **must** include a listing of the necessary tolerances, torque levels, fluid volume, and special tools (including item part numbers).
- d) The maintenance manual **must** include information on the order of disassembly and assembly of the systems and components of the trailer.

- e) The maintenance manual **must** include special tools list as per 4.3.4.

4.1.4 **Manual Delivery to Technical Authority**

- a) Sample manuals **must** be submitted to the Technical Authority (TA) prior to the delivery of the trailer for each model and or sub-system for approval. Sample manuals will not be returned. TA will provide approval or comments on the manuals within 30 days.
- b) One (1) complete set of approved manuals (Operator's, Maintenance, and Parts) in electronic format **must** be delivered to the Technical Authority.

4.1.5 **Manual Delivery with Trailer**

- a) One (1) complete set of manuals (Operator's, Maintenance, and Parts) **must** accompany each trailer, shipped to each location.
- b) The manuals **must** be in paper and electronic format.

4.1.6 **Electronic Format**

- a) Electronic format **must not** require installation, password and/or Internet connection to be accessed and be an unlocked PDF in a searchable format.

4.1.7 **Provisional Manuals**

- a) In the event that approved manuals are not available at the time of delivery of the equipment, manuals marked "Provisional" **must** be supplied with the equipment.
- b) The contractor **must** deliver replacement approved manuals to all destinations where Provisional manuals were delivered.

4.1.8 **Manual Supplements**

- a) The contractor **must** supply manual supplements (Operator's, Maintenance and Parts) to support dealer-installed equipment not covered in the Trailer Manuals.
- b) Manual supplements **must** be delivered in accordance with 4.1.4 and 4.1.5.

4.1.9 **Changes to Manuals**

- a) During the period of the contract, changes to equipment, which affect the contents of manuals, **must** be reflected in the revision of the electronic and paper version of the manuals.
- b) Changes to the manuals **must** conform to the same format and presentation requirements as the original manuals.
- c) The revised electronic version of the manual **must** be sent to the Technical Authority by the Contractor.

4.2 **Warranty Letter**

- a) The warranty letter **must** include a list of all Canadian designated warranty service providers that will honour the warranty for the equipment and attachments (if applicable) procured under this contract, including the contact person and phone number at each warranty service provider.

- b) The warranty letter **must** include additional warranty coverage of sub-systems and a copy of the warranty letter from each sub-system's Original Equipment Manufacturer (OEM).
- c) The warranty letter **must** include warranty period as negotiated in the contract.
- d) The warranty letter **must** include Contractor contact information, name and phone number, for warranty support.

4.2.1 **Warranty Letter Delivery**

- a) The Contractor **must** provide a bilingual warranty letter to the Technical Authority and with each trailer. If the Technical Authority requires the letter to be in DND format, then they will provide the Contractor a template for the DND acceptable format of the warranty letter.

4.3 **Other ILS Deliverables to Technical Authority**

- a) The following deliverables **must** be provided in electronic format prior to the delivery of the last trailer.

4.3.1 **Data Summary**

- a) The Contractor **must** provide a bilingual Data Summary for each make/model/configuration of trailer by completing Technical Authority's template with data and a trailer picture.

4.3.2 **Photographs**

- a) The Contractor **must** provide photographs in colour, taken against a plain background, and in digital JPEG format with a minimum 10 megapixel resolution.
- b) One left front three-quarter view of a completed unit **must** be provided.
- c) One right rear three-quarter view of a completed unit **must** be provided.

4.3.3 **Dimensioned Drawing**

- a) One side and front view sketch showing the dimensions **must** be provided. Brochure sketches are acceptable.

4.3.4 **Special Tools List** - The Contractor **must** provide an itemized list of specific special tools required for the servicing and repair of the trailer and include:

- a) Item name;
- b) Contractor's part number;
- c) Manufacturer's part number (OEM);
- d) Quantity recommended per delivery location;
- e) Unit price; and
- f) Unit of issue.

4.3.5 **Preventive Maintenance Replacement Parts Kit List (PMRPKL)** - The contractor **must** provide a list detailing the parts that are required to perform preventive maintenance to the system for a period of 12 months, and include:

- a) Item name;
- b) Contractor's part number;
- c) Manufacturer's part number (OEM);
- d) Manufacturer's NATO Supply code (NCAGE) or name and address;
- e) NSN (NATO Stock Number) (if known);
- f) Quantity per equipment;
- g) Quantity recommended;
- h) Unit price; and
- i) Unit of issue.

4.3.6 **Recommended Spare Parts List (RSPL)** - The Contractor **must** provide a list detailing the spare parts deemed necessary to maintain the trailer for a period of 12 months exclusive of any warranty period, and include:

- a) Item name;
- b) Contractor's part number;
- c) Manufacturer's part number (OEM);
- d) Manufacturer's NATO Supply code (NCAGE) or name and address;
- e) NSN (NATO Stock Number) (if known);
- f) Quantity per equipment;
- g) Quantity recommended;
- h) Unit price; and
- i) Unit of issue.

4.3.7 **Cataloguing Information**

- a) The contractor **must** provide the Technical Authority, upon request, the information necessary to catalogue the parts for the trailer.
- b) The cataloguing information **must** include the NSN of the part, if known.
- c) If the NSN is provided no other supporting technical data needs to be provided for that item.
- d) If the NSN is not provided, then the information **must** be sufficient to allow the Technical Authority to identify, classify and fully describe the part(s) to a NATO standard. This could include specifications, standards, drawings, or catalogues with brief description(s) of relevant

dimensional, material, mechanical, electrical and physical/ performance characteristics. Drawings sent to the Technical Authority will not be sent to other suppliers for production and will remain the property of the contractor.

4.4 Safety Recalls and Servicing Data

- a) Safety recalls, and manufacturer's technical service bulletins, or equivalent **must** be provided to the technical authority and the final delivery locations on a continuing basis, throughout the life expectancy of the trailer or for no less than 10 years.

4.5 Initial Parts Kit

- a) One initial parts kit **must** be delivered with each trailer.
- b) Each kit **must** include a complete set of filters and filter elements from the Original Equipment Manufacturer (OEM) required in the first 12 months of service.
- c) One kit per location **must** include the special tools listed in Paragraph 4.3.4.

4.6 Familiarization Training

- a) The Contractor **must** perform at least 1-day (8 hours) familiarization instruction at each destination, for a maximum of 8 personnel (at each destination).
- b) The instruction **must** include the detailed operation and normal servicing of the trailer and will be attended by CAF operators and maintainers.
- c) Familiarization instructions **must** be available in both official languages for destinations in the province of Quebec or as requested by the Technical Authority.
- d) The final dates **must** be arranged with the Technical Authority.
- e) After completion of the familiarization session, the Contractor **must** have a "**PROOF OF FAMILIARIZATION INSTRUCTION**" certificate signed by the consignee. The Technical Authority will supply this document in an electronic format, when requested.