

INCH-POUND

A-A-59103A

8 February 2008

SUPERSEDING

A-A-59103

09 June 1997

## COMMERCIAL ITEM DESCRIPTION

## TRUCK, TANK A/S32A-24, POTABLE WATER

The General Services Administration has authorized the use of this commercial item description by all federal agencies.

1. **SCOPE.** This commercial item description covers the general requirements for a 250-gallon tank truck capable of handling individually 250 gallons of potable water, demineralized water, or water/alcohol mixtures. The tank truck is based on a commercial truck which is modified for use as a potable water truck in worldwide service.

2. **SALIENT CHARACTERISTICS.**

2.1 **Safety.** The truck shall comply with all applicable requirements of the Federal Motor Carrier Safety Regulations (49CFR 393), Federal Motor Vehicles Safety Standards (49CFR 571), and OSHA standards in effect at the time of manufacture. The principle platform walking surfaces shall be of an anti-skid type.

2.2. **Design and construction.** The truck shall be designed to comply with all applicable requirements of SAE ARP 1247 and shall have a 10 year minimum life expectancy.

2.3 **Maintainability.** All assemblies, controls, and installed equipment shall be located so that there is no adverse interference with each other or the operation, and shall be readily accessible for maintenance, operation, removal, and replacement using common hand tools. All operating controls and servicing shall be so designed to allow access by personnel wearing arctic winter clothing.

Beneficial comments, recommendations, additions, deletions, clarifications, etc., and any other data which may improve this document should be sent to: WR-ALC/642<sup>nd</sup> CBSSS/GBEC, 480 Richard Ray Blvd, Robins AFB GA 31098-1647. Since contact information can change, you may want to verify the currency of this address information using the ASSIST database at <http://assist.daps.dla.mil>

## A-A-59103A

2.4 Environmental requirements. The vehicle shall be capable of satisfactory storage, start and operation under the following environmental conditions with truck stabilized at:

- a. Temperatures ranging from -40 °F to 125 °F.
- b. Exposure to relative humidity up to 100 percent.
- c. Exposure to salt fog.
- d. Exposure to sand and dust particles as encountered in desert areas.

2.5 Air Transportability. The vehicle shall be air transportable on C-130, C-17, and C-5 aircraft without removing ballast or shoring to load the aircraft (referred to as approach shoring and step-up shoring). Use MIL-HDBK-1791 as a guide.

2.5.1 Air transportable configuration. The air transportable configuration shall include all equipment,  $\frac{3}{4}$  tank of fuel, and no crewmembers. The restrained truck shall allow for loadmaster in-flight access from the front to the rear of the aircraft.

2.5.2 Equipment removal/reconfiguration. Removal of mechanically attached (non-welded, non-riveted, etc.) components shall be acceptable, if necessary, to meet the required height for air transportability. Preparation and restoration of the truck for air transportability shall take no more than 24 hours using common non-powered hand tools. All equipment removed shall be stored on the truck; caps and plugs shall permit driving and storage in transport configuration. Removal and installation instructions shall be described in the technical manual(s) delivered. The self-mobility of the truck shall not be affected by the removal of these components.

2.5.3 Tie down points. The truck shall be capable of being symmetrically restrained during air transport. Tie down points, if used, shall be rated at a minimum of 10,000 pounds, marked for capacity, with a clear opening compatible with the appropriate devices.

2.5.4 Shoring. The use of shoring during flight (referred to as load shoring, parking shoring, and sleeper shoring) is permitted, but not desired. However, the use of shoring is not an alternative to good vehicle design.

2.5.5 Transportation Data Plate. A transportation data plate shall be provided and contain at least the following information:

- a. Side and rear silhouette views of the vehicle.
- b. Horizontal and vertical location of the center-of-gravity of the vehicle in transport configuration.
- c. Shipping weight.
- d. Loading (cube capacity)
- e. Overall length, width and height.
- f. Tiedown instruction.

2.5.6 Overall Dimensions. The overall width of the truck shall not exceed 96 inches. The overall height of the truck shall not exceed 85 inches in the empty condition. The overall length of the truck shall not exceed 20 feet.

## A-A-59103A

2.6 Engine. The diesel engine shall be capable of providing the performance specified herein when operating on fuels conforming to MIL-DTL-83133.

2.7 Transmission. The transmission shall be automatic.

2.8 Lubrication. Lubrication means shall be provided for all moving parts that require periodic lubrication. The types of lubricants shall be selected from and in accordance with SAE J754. Grease lubrication fittings shall conform to SAE J534.

2.9 Fluid level indicator. All fluid level indicators shall be located where they are readily accessible without danger of burns or injury to the operator.

2.10 Battery. The battery shall have adequate capacity to provide not less than 8.0 hours of continuous operation under normal industrial use.

2.11 Steering. Power steering shall be furnished.

2.12 Service brakes. Service brakes conforming to ASME/ANSI B56.1 shall be furnished.

2.13 Parking brake. The truck shall be equipped with the manufacturer's standard commercial parking brake.

2.14 Tires. Tire loading shall not exceed those specified in the Tire and Rim Association Yearbook.

2.15 Tank. The tank shall be a minimum of 250 gallon liquid capacity and shall include a closed fill system, plus at least 10 percent expansion space and accommodate baffles, without reduction of stated minimum liquid capacity. The tank and all of its components which come into contact with water shall be fabricated of 300 series stainless steel. A manhole of no less than 20 inches in diameter shall be provided to allow the entry of personnel within the tank for cleaning and/or inspection. A site gauge shall be provided on the tank that is viewable when standing at the pumping compartment.

2.16 Elastomers. Elastomeric materials used in the tank, pumping system and all components which come into contact with water shall be compatible with potable water, de-mineralized water, water/alcohol mixtures and 50/50 mixture of propylene glycol (uninhibited) antifreeze and de-mineralized water.

2.17 Access Plates. Access plates shall be provided to allow for maintenance and inspection of the tank.

2.18 Drain. A drain valve shall be installed to permit complete drainage. The operation of the drain valve shall not require the operator to go beneath the truck.

## A-A-59103A

**2.19 Pumping System.** The pumping system shall include the tank to pump suction line, pump, tank return line, filter, positive displacement meter, hose reel, a minimum of 25 feet of servicing hose with camlock type or equivalent connection to allow for interchange of the squeeze type nozzle and commercial quick connector, nozzle, valves, control panel, associated plumbing and minor components. All pumping system components which come into contact with water shall be compatible with potable water. The pumping system shall deliver a minimum of 20 GPM at a maximum of 40 PSI when nozzle is at least 35 feet above pumping compartment floor. The nozzle squeeze control valve shall be capable of throttling the liquid from 0 GPM to 20 GPM without adjustment of the pumping system.

**2.19.1 Pumping Compartment.** The pumping system shall be housed in a completely enclosed compartment. The pumping controls, servicing hose and nozzle storage box shall be accessible for normal operation.

**2.20 Night Servicing Lights.** The truck shall be provided with at least two adjustable lights to facilitate servicing in the darkness. The pump compartment shall be illuminated for night operation.

**2.21 Controls and instrumentation markings.** All controls, valves, gauges, and indicators used in the operation of the vehicle shall be identified by securely attached nameplates of such construction that exposure to oil, dirt, light, etc. will neither fade nor eradicate them. Tags or decals shall not be used. All markings shall be legible from a distance of 5 feet away.

**2.21.1 Operating Instructions.** Brief operating and precautionary instructions shall be permanently affixed near the appropriate controls. The instructions shall be clear, concise and adequate to enable operation of the vehicle without damage to the equipment or injury to personnel and shall refer to the components as identified by nameplates.

**2.22 Finishes and protective coatings.**

**2.22.1 Cleaning, painting, plating, anodic films, and chemical treatments.** Cleaning, chemical treatments, painting, plating, and films shall be in accordance with best commercial practice. Colors shall be as identified in FED-STD-595 unless otherwise specified.

**2.22.2 Gloss green.** Unless otherwise specified (see 6.2), all exterior surfaces and compartment interior surfaces shall be painted gloss green, color 14052. The chassis and running gear may be green or black. Driveline and cab components, which are not visible during normal operations with the cab door closed, may be their original color. Markings shall be red, color 31136.

**2.22.3 Gloss yellow.** When specified (see 6.2), all exterior surfaces and compartment interior surfaces shall be painted gloss yellow, color 13538. The chassis and running gear may be yellow or black. Driveline and cab components, which are not visible during normal operations with the cab door closed, may be their original color. Markings shall be white reflective tape on a red background.

## A-A-59103A

2.22.4 Forest green. When specified (see 6.2), all exterior surfaces and compartment interior surfaces shall be painted forest green, color 24052. The chassis and running gear may be green or black. Driveline and cab components, which are not visible during normal operations with the cab door closed, may be their original color. Markings shall be painted black, color 37038.

2.22.5 Desert sand. When specified (see 6.2), all exterior surfaces and compartment interior surfaces shall be painted tan #686A, color 33446, as specified in MIL-DTL-53039. Markings shall be painted white, color 37875."

2.23 Rear Bumper. A rear bumper shall be furnished.

2.24 Acoustic Noise Levels. The maximum A-weighted sound level produced by the vehicle during operations shall not exceed 83dba.

2.25 Electromagnetic interference (EMI). Unless otherwise specified, the truck shall comply with the requirements of MIL-STD-461 (See Table V, Ground, Air Force) for electromagnetic interference and susceptibility."

## 2.26 Winterization Kits.

2.26.1 Truck Winterization. A standby type winterization kit complete with an indicator light located in the cab shall be provided for each truck. The kit shall be designed to operate from an external 110 volt AC power source and shall include immersion type heaters or an approved alternative for the engine coolant, oil pan and transmission as well as battery box heater. The winterization kit shall be adequate for operation at -40°F.

2.26.2 Potable Water Tank and Pump Compartment Winterization. The cargo tank and pump compartment shall incorporate a standby type winterization kit designed to operate from an external 110 volt AC power source. The heater in the cargo tank shall be controlled to limit the maximum water temperature to 60 °F. The heater in the pumping compartment shall be controlled to limit the maximum air temperature to 150 °F.

2.27 Identification plate. A stainless steel identification plate shall be permanently installed at an easily accessible location. It shall contain the following information:

NOMENCLATURE:

MANUFACTURER'S NAME:

MANUFACTURER'S ADDRESS:

MANUFACTURER'S SERVICE PHONE NUMBER:

MANUFACTURER'S MODEL NUMBER:

MANUFACTURER'S SERIAL NUMBER:

DATE OF MANUFACTURE:

CONTRACT NUMBER:

NATIONAL STOCK NUMBER:

REGISTRATION NUMBER:

US PROPERTY

## A-A-59103A

2.28 Cab. The standard cab shall be equipped with an overhead interior light. The lights shall be of proper size, location, and intensity for reading manuals while seated in the cab or standing at the open driver's cab door during night operations. An air conditioning system shall be provided. The cab shall not be furnished with a cigar lighter or radio.

3. **REGULATORY REQUIREMENTS**. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR). However, used, rebuilt or remanufactured components, pieces, and parts shall not be incorporated in the truck.

4. **PRODUCT CONFORMANCE**.

4.1 Product Conformance. The products provided shall meet the salient characteristics of this commercial item description, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial marketplace. The government reserves the right to require proof of such conformance prior to delivery of the first production truck; the contractor shall demonstrate to the government that the truck meets all the requirements of the CID.

4.2 Commercial item requirement. The truck furnished must meet the "commercial item" definition, as specified in FAR 2.101, as of the date of award. The offeror/contractor shall identify all modifications made to their commercial model in order to meet the performance and descriptive requirements of the CID or the referenced documents. In regard to the offered item, the offeror/contractor shall identify any enhancements or improvements to the performance requirements of paragraph 2 of the CID or the referenced documents.

4.3 Verification. Prior to delivery of the first truck, the contractor shall demonstrate or test at their facility, each requirement of the CID or referenced documents.

4.4 Overall dimensions. The first production truck shall be measured for verification of the overall dimensions.

4.5 Pumping system test. The first Production Truck pumping system shall be tested by the contractor for compliance to paragraph 2.19. The pumping system shall demonstrate that the system will deliver a minimum of 20 GPM at a maximum of 40 PSI when nozzle is at least 35 feet above pumping compartment floor. The nozzle squeeze control valve shall be tested to demonstrate that the valve is capable of throttling the liquid from 0 GPM to 20 GPM without adjustment of the pumping system.

4.6 Electro-magnetic interference (EMI). The first production truck shall be tested by the contractor for verification of the specified EMI requirements prior to first production verification of the truck. The truck shall be tested for Radiated Emission per RE102 of MIL-STD-461 and Radiated Susceptibility per RS103 of MIL-STD-461. Test results shall be submitted to the government representative at first production verification.

## A-A-59103A

4.7 Air transportability. An air transportability report shall be submitted to the government representative at first production verification to begin the air transportability certification process. The report shall outline the steps necessary to load the truck onto the specified aircraft, including diagrams, drawings, or instructions of the vehicle preparation, loading, shoring, and tie down procedures (including engineering analysis of the tie down devices) for the truck.

4.8 Transportation data plate. The first production truck shall be inspected for verification of the specified transportation data plate.

4.9 Miscellaneous specifications. The first production truck shall be inspected for verification of compliance with SAE specifications ARP1247 and Federal Motor Carrier Safety Regulations (49CFR 393), Federal Motor Vehicles Safety Standards (49CFR 571).

4.10 Reconfiguration criteria. Failure to comply with the requirements of this CID, reference documents, or the tests shall be cause for reconfiguration and re-demonstration. Causes for reconfiguration shall include: structural failure; non-correctable misalignments; component interference; conditions presenting a safety hazard to the user or maintainer: instability during operation, spillage of water or coolant, overheating, and driveline vibration or shudder due to suboptimal driveline angles.

5. PACKAGING. Preservation, packing and marking shall be as specified in the contract or order.

6. NOTES.

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. This truck is intended for use in delivering potable water to all types of aircraft under worldwide conditions.

6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Finish color required, if not gloss green (see 2.22)

6.3 Source of Documents.

6.3.1 ASME/ANSI documents may be obtained at [www.asme.org](http://www.asme.org) or from American Society of Mechanical Engineers, P.O. Box 2900 Fairfield NJ 07007.

6.3.2 SAE documents may be obtained at [www.sae.org](http://www.sae.org) or from Society of Automotive Engineers, Inc, 400 Commonwealth Drive, Warrendale PA 15096.

6.3.3 Copies of Military Specifications are available at <http://assist.daps.dla.mil> or from the Standardization Document Order Desk, 700 Robbins Avenue, Bldg 4D, Philadelphia, Pa 19111-5094.

A-A-59103A

6.3.4 Federal Acquisition Regulation (FAR) documents may be obtained at <http://www.acqnet.gov/far> or [www.acqnet.gov/far](http://www.acqnet.gov/far) or from Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250.

6.4 Key words

Demineralized

Potable

Tank truck

Water

Water truck

Civil agency:  
GSA-FSS

Custodians:  
Air Force - 99

Preparing activity:  
Air Force - 84

(Project 2320-2008-005)

Agent  
Air Force - 99

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