[INCH-POUND]
A-A-59424
April 16, 1999

.

COMMERCIAL ITEM DESCRIPTION

TRUCK, LIFT, FORK, CONTAINER HANDLER, DIESEL ENGINE-DRIVEN, PNEUMATIC-TIRED, 55000 POUND CAPACITY AT 48 INCH LOAD CENTER

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

1. SCOPE. This Commercial Item Description (CID) covers the general requirements for a commercial, diesel-engine-driven, container handling forklift truck (CHFLT). The CHFLT will primarily be used to lift, transport, and stack International Standards Organization (ISO) containers and sea/land containers of 20 foot length on paved and semi-improved surfaces. When using forks in the bottom lift configuration, the vehicle shall have the capability to lift, transport and stack loads up to 55,000 pounds at a 48 inch load center. When using a top handling attachment, the vehicle shall have the capability to lift, transport and stack loads (not including attachment) up to 44,000 pounds at a 48 inch load center.

2. SALIENT CHARACTERISTICS.

2.1 Description. The CHFLT shall be the supplier's standard commercial vehicle with a fixed-length 20-foot top handling attachment that meets all requirements specified in this document; failure of the CHFLT to meet any salient characteristics shall be cause for rejection. The CHFLT shall be equipped with, but not limited to, instruments, components and accessories that are standard on the commercial product, whether specified herein or not. The CHFLT shall be an assembly of new materials and shall be free of defects in design and construction that affect appearance, serviceability, and durability. The CHFLT shall comply with requirements of ASME/ANSI B56.1, Safety Standard for Low Lift and High Lift Trucks, and Occupational Safety and Health Administration Department of Labor (OSHA) Code of Federal Regulation (CFR) 29 CFR 1910.178, Powered Industrial Trucks. The CHFLT shall meet the performance parameters listed or referenced and shall be equipped as specified.

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data which may improve this document should be sent to: Warner Robins Air Logistics Center, WR-ALC/TILCC, 420 Second Street, Suite 100, Robins AFB GA 31098-1640.

2.2 Operating Environment. The CHFLT shall start within five minutes in any ambient temperature (and with the truck stabilized at ambient temperature) from 0° to +125°F. When specified (see 6.1), a winterization system (see 2.28) that extends the storage and operational range of the vehicle to –25°F, or to –40°F shall be furnished.

2.3 Design. The CHFLT shall be designed for safe operation with rated load at all lift heights and modes of operation the truck is capable of achieving; fork and mast tilt, fork and attachment positioning, travel speeds, braking, etc. The rated load capacity shall be 55,000 pounds at a horizontal load center of 48 inches; horizontal load center is the distance from the load carrying surface of the backrest to the load center of gravity.

2.4 Dimensions and Gross Vehicle Weight (GVW). The CHFLT shall be within the following dimensional characteristics and weight limitations:

a. Overall length: 360 inches (30 feet)

b. Overall width: 120 inches (10 feet)

c. Overall height: 215 inches (mast lowered); 244 inches (mast extended)

d. GVW: less than 95,000 pounds including all accessories and top handling attachment.

e. Wheelbase shall not exceed 144 inches.

2.5 Engine. The CHFLT shall be powered by a standard commercial diesel engine. Horsepower and torque shall be sufficient to provide the CHFLT performance specified herein.

2.6 Powertrain. A commercial powershift transmission and torque converter shall be provided. The transmission shall provide at least three forward and three reverse speeds; selective forward and reverse directional controls activated by the operator's foot are not acceptable. The transmission shall provide for positive inching or declutch control throughout the entire engine rpm range, in both forward and reverse directions. The inching or declutch control shall permit lifting of rated load, at maximum engine speed, while the transmission is in a forward or reverse gear, with no vehicle motion.

2.7 Fuel System. The fuel tank shall be of sufficient capacity to allow a minimum of eight (8) hours continuous operation without refueling. The fuel system shall include water/fuel separation filter(s) that are easily accessible for replacement.

2.8 Engine Exhaust. The exhaust system shall incorporate a muffler, and shall terminate overhead at a location clear of the operator's station. A means shall be furnished to prevent rain water intrusion into the exhaust system.

2.9 Hydraulic System. The hydraulic system shall consist of all hydraulic components necessary for operation of the vehicle, including filter(s). Restriction indicators to signal need for filter(s)

replacement shall be provided. Filter(s) shall be located so that they are easily accessed for replacement. All hydraulic hoses shall have a working pressure equal to or greater than the hydraulic system maximum relief valve setting. A test port shall be included, identified with a nameplate, and centrally located.

2.9.1 Hydraulic Reservoir. The hydraulic reservoir filler shall be properly labeled and of sufficient inside diameter to accept a filler tube of at least one inch. A full reservoir shall show no evidence of fluid leakage or spillage under all operating conditions, this includes: ascending, descending, and stability positions. A site gauge shall be provided and protected or positioned so that it is not subject to damage but is visible to maintenance personnel.

2.9.2 Fail-safe hydraulic lift system. The CHFLT shall be equipped with a fail-safe hydraulic lift system which will automatically lower fork tines at a safe controlled rate, and prevent forward tilting of the mast or forks in the event of system failure. Lowering speed of forks shall not exceed 45 feet per minute (fpm) unloaded, 95 fpm loaded, under any load condition. A manual override shall be provided so that forks can be safely lowered unpowered. Hydraulic hoses between the truck and top handling attachment shall be of the quick-disconnect type.

2.9.3 Hydraulic schematic. A corrosion resistant data plate containing the hydraulic schematic of the vehicle shall be permanently installed in an area where normal usage will cause it no damage. The data plate may be located behind a panel that can be opened by hand and become visible to maintenance personnel.

2.10 Masts and minimum lift height. The CHFLT shall be furnished with a removable two-stage vertical mast capable of a minimum 244-inch fork lift height (top surface of fork); both container handler configurations, bottom lift and top handling, shall permit stacking of ISO containers (20' x 8' x 8.5') two high. The mast assembly shall have vertical tilt capability with forward and backward tilt with at least 5 degrees forward and 10 degrees backward tilt. A tilt indicator, visible to the operator while seated in the cab, is required. Mast tilt cylinders shall be low mounted as to not hinder visibility. Lifting eyes, for the convenience of assembly/disassembly, will be installed on the mast. All operations of the masts shall be capable of smooth and controlled operation. Overall lowered height of the mast shall not exceed 215 inches.

2.11 Carriage and fork kit. A pin-type carriage with fork positioners and pin-type side shift integral to the carriage shall be provided. Overall width of the carriage shall not exceed 114-inches. The fork kit shall include all components required for conventional fork lift operations. Fork side shift and fork positioner shall be hydraulically powered and operable from inside the cab. Fork spacing shall have the tine minimum inside-to-inside distance of 6 inches and maximum span outside-to-outside of 108 inches. The fork tines shall have the following dimensional characteristics: 96 inch length, 11.8 inch width, and 4.1 inch thickness; forks shall have a taper on the underside of the fork extending from the tip rearward. Fork tines may also exceed the 4.1 inch thickness at the heel of the fork. Forks will be rated at a minimum 3:1 safety factor. Heel hooks will retain both forks to the carriage assembly to prevent fork kick-up.

2.11.1 Lifting speed. With rated load, the fork lift speed shall be no less than 60 fpm over the entire distance from ground level to maximum lift height; mast lowering speed with rated load shall not exceed 95 fpm**.** The lowering speed of the unloaded forks shall not exceed 45 fpm. The forks either unloaded or with rated load, shall lower at a controlled rate (no free-fall). There shall be no uncontrolled operation, jerking, or a condition that could cause damage to the lift system or forklift permitted.

2.12 Container handler attachment. The CHFLT shall be furnished with a fixed-length top handling attachment compatible for use with 20 foot ISO freight containers. The tophandler shall include all coupling devices and aligning arms for the vehicle to safely engage, lift, transport, and lower the containers in all modes of operation. The complete top handler shall be capable of being removed and mounted on the truck within 5 minutes. Hydraulic lines and electrical lines shall between the mast, carriage and tophandler shall be of the quick-disconnect type. The top handler and coupling devices shall be operable from inside the cab. Both electrical indicator lights and mechanical container engage/disengage safety indicators will be included with the top handling attachment and will be visible to the operator while seated in the cab. An interlock system will be included to prevent accidental/inadvertent release under load. The attachment will have eyelets so that slings and shackles, possessing a 44,000 capacity, can be used in conjunction with the truck.

2.13 Oscillation. Pile slope is not required, however, the CHFLT shall be capable of engaging and disengaging rated loads when containers are positioned where one end of the container is a maximum of seven inches higher than the other end.

2.14 Ground clearance. The CHFLT minimum allowable ground clearance with maximum rated load shall be 12 inches.

2.15 Electric system. A 24-volt electrical system is required. The electrical system shall consist of all electrical components necessary for operation of the truck. Electrical connections on components normally removed from the vehicle shall be of the quick-disconnect type. The CHFLT shall have sufficient electrical grounding to prevent static discharge.

2.15.1 Alternator. The CHFLT alternator shall have minimum output at normal engine operating RPM to supply and sustain full electrical operating load to all electrical components and accessories, includes all lighting and wipers, operating simultaneously without battery discharge.

2.15.2 Starter switch. The CHFLT starter switch shall not activate the engine starter while the engine is running, nor when the engine is not running and the transmission is in any forward or reverse gear.

2.15.3 Lighting. There shall be a minimum of six forward and four rearward driving lights. The floodlight(s) shall be positioned so that the adjustment mechanism does not interfere with entering or exiting the cab, nor interfere with the operator's vehicle operating functions. Tail light(s), and brake stop light(s) shall also be provided; taillights shall illuminate when either front or rear driving lights are on. All lights shall be protected by location or guards. Individual operator

controlled switches shall be provided for the front lights, rear lights, and floodlight(s). The top handling attachment shall have a minimum of two adjustable floodlights so that twistlocks closest to operator will be illuminated.

2.15.4 Batteries. Except where winterization is specified, the battery shall be the maintenance-free type. Batteries shall be located in an easily accessible and protected location.

2.15.5 Master switch. A keyless master switch, with an identification plate, shall be installed in a convenient location to permit disconnect of the batteries from all electrical load.

2.15.6 Wiring schematic. A corrosion resistant data plate containing the electrical schematic of the CHFLT shall be installed in an area where normal usage will cause it no damage. The data plate may be located behind a panel that can be opened by hand and visible to maintenance personnel.

2.15.7 Electromagnetic interference (EMI). The CHFLT shall comply with the EMI requirements of SAE J551.

2.16 Travel speed. The CHFLT maximum travel speed with a rated load shall be a minimum 15 miles per hour (mph) in forward direction and 9 mph in reverse direction.

2.17 Stability. The CHFLT shall meet the longitudinal stability stacking, longitudinal stability travel, lateral stability stacking, and lateral stability travel requirements of ASME/ANSI B56.1.

2.18 Service brakes. All wheel power assisted brakes shall be furnished. As a minimum, service brake performance shall comply with the requirements of ASME/ANSI B56.1.

2.19 Parking brake. The parking brake actuation shall be independent from the service brakes. The control shall be located within reach of the seated operator and in a position to permit the operator easy and safe movement on and off the vehicle. The parking brake shall be capable of holding the vehicle at rated capacity, without use of the service brakes, on a minimum 30 percent grade, in both ascending and descending directions.

2.20 Steering. Power assisted steering, with emergency steering in the event of power failure, shall be provided. The steering wheel shall be furnished with an audible horn mounted in the center, and shall be of the tilt type or mounted on a tilt steering pod.

2.20.1 Steering Axle. The steering axle shall be a hydrostatic design with a single rod double-ended steer cylinder connected with non-adjustable steering links. Steering spindles shall have tapered roller bearing throughout. Hub must be of the greased filled type, not oil filled.

2.21 Turning radius. The CHFLT maximum turning radius shall not exceed 21 feet when measured to outside of the tires.

2.22 Cab. The CHFLT shall be equipped with an enclosed cab that incorporates overhead protection and side guards per ASME/ANSI B56.1. Overhead protection, guards, and their mounting shall prevent intrusions into the operator's area, and comply with the impact performance requirements specified in ASME/ANSI B56.1. The cab shall be offset or configured to maximize visibility at all lift heights. The operator must be able to see the fork tips when they are completely lowered and spread eight feet apart.

2.22.1 Doors and windows. There shall be a removable door located on each side of the cab with a minimum of one window per door that can be opened for ventilation. The doors and windows shall be capable of securely locking in both the open and closed positions. Additional windows on the cab roof and cab rear panel shall also be provided. Front, top, and rear windows shall be equipped with window washers and wipers.

2.22.2 Fan. An adjustable fan shall be provided for cooling the operator. The fan shall be positioned so that it does not interfere with the operator's visibility, or with other functions required to operate the CHFLT.

2.22.3 Mirrors. Adjustable outside mirrors shall be provided and mounted, a minimum of one located on each side of the vehicle. The mirrors shall be sized and positioned on the vehicle to allow the operator (while seated) to view immediately behind the CHFLT as well as the road surface.

2.22.4 Dome light. An interior dome light and an Underwriter's Laboratory (UL) Classification D fire extinguisher shall be furnished, mounted, accessible, and in view of the operator while seated.

2.22.5 Operator seat. The operator's seat shall be a suspension type seat with folding armrests. The seat shall be adjustable to accommodate varying size of operators ranging from small to large frame or build. A retracting operator seat belt shall be provided.

2.22.6 Instruments. In addition to the instruments supplied on the standard commercial forklift, an hour meter shall be installed in the instrument panel. All instruments, except the hour meter, shall illuminate when forward or rearward driving lights are on. Container top handling attachment position indicator lights shall also be provided and located in direct view of the operator and positioned adjacent to the tophandler controls inside the cab. Indicator lights will reflect the following attachment conditions: "seated;" "twist locks locked," and "twist locks unlocked".

2.22 7 Load handling controls. All load motion controls shall be positioned to maximize operator efficiency. Controls shall be for right hand operation, and shall be self-centering (return to neutral position when released).

2.22.8 Heater and defroster. The heater and defroster normally provided on the contractor's standard, commercial model shall be provided.

2.22.9 Serviceability. The cab shall incorporate a hydraulic tilt feature for service access.

2.22.10 Provisions shall be provided on the CHFLT for mounting a standard automotive license plate. This shall be used to display the vehicle military registration number.

2.23 Safety guide rails. Safety guide rails in accordance with OSHA requirements shall be provided to assist in entering and exiting the cab. Areas located outside the cab designated for walking or which provide a normal walk path shall also be furnished with a non-skid surface and guide rails.

2.24 Backup alarm. An audible backup alarm in accordance with SAE J994 shall be furnished. The alarm shall activate when the transmission is placed in reverse.

2.25. Tires. The tires shall be commercially available pneumatic tires with non-directional tread. The tires shall be designed to minimize damage to paved or concrete surfaces.

2.26 Towing lugs. Two front and rear towing lugs shall be furnished and positioned so that the CHFLT can be towed from the front or rear. These lugs shall have a minimum diameter to accept chains and hooks up to 6 inches in diameter. Each pair of lugs shall sustain a minimum horizontal force 3 times the GVW.

2.27 Slings and tiedowns. The CHFLT shall be provided with permanently installed tiedown devices for rail or marine transportation. These devices shall have a minimum diameter to accept chain and hook assemblies with a diameter 6 inches. Based on static load the devices shall have a structural safety factor of 2.0 to 1. Each tiedown device shall be properly labeled. The CHFLT counterweight shall have a lifting eye installed.

2.28 Winterization kits. There shall be Type A (-65°F) and Type C (-25°F) options available for winter protection.

2.28.1 Type A kit. When specified (see 6.1) the CHFLT shall be furnished with Type A kit that shall protect to -65°F and shall consist of the following:

a. Engine heaters. Engine coolant, engine oil and battery heaters shall be provided. All heaters shall operate on 110 volt, alternating current. A three wire, 25 feet long, weatherproof cable shall be provided with minimum electrical load rating sufficient to operate all heaters simultaneously. A stowage place shall be provided on the truck when the cable is not in-use. The heaters shall be as follows:

a.1 Coolant. The engine coolant heater shall be installed in the engine block or lower coolant inlet hose. A coolant circulating pump, driven by a 110 volt alternating current motor shall be provided when a coolant inlet hose heater is furnished. The heater shall have the capacity to maintain engine coolant at a minimum temperature of +10°F in an ambient temperature of -65°F. It shall be controlled to limit engine coolant to not more than +150°F.

a.2 Oil. The engine oil heater shall be furnished with the capacity to maintain engine oil at a minimum temperature of +10°F in an ambient temperature of -65°F. It shall be controlled to limit engine oil temperature to not more than +150°F.

a.3 Battery. A battery heater shall be provided. It shall have capacity to maintain battery electrolyte at a minimum temperature of +10°F in an ambient temperature of -65°F, and shall have a thermostat to limit maximum electrolyte temperature +80°F.

b. Cab. The cab shall be provided with thermal insulation, if necessary, to meet the heating requirements listed (see 2.28.1.c). Thermal insulation shall be water-resistant type to prevent absorption of moisture.

c. Cab heater and defroster. The heater shall have the capacity to maintain a minimum temperature of +40°F at cab floor level in an ambient temperature of -40°F.

d. Cold starting aid. A measured shot ether system or glow plug(s) shall be provided to assist in engine cold temperature starting.

e. Antifreeze. The CHFLT coolant shall be protected to -65°F.

2.28.2 Type C kit. When specified (see 6.1), the CHFLT shall be furnished with Type C kit that shall protect to -25°F and shall consist of the following:

a. Cold starting aid. Glow plug(s) or a measure shot ether injection system shall be furnished.

b. Cab. The cab shall be provided with thermal insulation, if necessary, to meet the heating requirements listed (see 2.28.2.c). Thermal insulation shall be water- resistant type to prevent absorption of moisture.

c. Cab heater and defroster. The heater shall have the capacity to maintain a minimum temperature of +40°F at cab floor level in an ambient temperature of -20°F.

d. Antifreeze. The CHFLT coolant shall be protected to -25°.

2.29 Special tools. The contractor shall supply any special tools or equipment peculiar to, and only used on this CHFLT. This special tool set or peculiar equipment quantity shall be as specified in the contract or order.

2.30 Preparation, primer, paint, and markings. All surfaces normally painted by the vehicle manufacturer shall be prepared and primed using procedures compatible with the final paint. Unless otherwise specified (see 6.1), the final paint shall be a standard, non-metallic, commercially available polyurethane paint, color number 24052 of FED-STD-595. When specified (see 6.1), the final paint shall be a standard, non-metallic, commercially available polyurethane paint with a no-gloss light tan or sand color. The color of markings for green trucks shall be black paint; desert sand trucks shall be white paint.

2.31 Data plate. A corrosion resistant data plate shall be permanently installed on the instrument panel, or another visible protected location. The following information shall be on the plate:

Truck, Container Handler
Capacity and load center:
  Bottom Lift:
  Top Handler:
Gross Vehicle Weight (GVW):
National stock number:
Contract number:
Serial number:
Model number:
Registration number:
Manufactured by:
  Name:
  Address:
  Commercial and Government Entity (CAGE) Code:
Service Phone Number:
US Property:

2.32 Instruction plates. All warning and instructional plates normally installed by the forklift manufacturer, describing procedures or safety items shall be included.

2.33 Noise limits. The maximum sound level measured at the operator's station shall not exceed 80 dB(A) on a weighted average.

3. REGULATORY REQUIREMENTS.

3.1 The offeror/contractor is encouraged to use recovered materials to the maximum extent possible, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

3.1.1 Materials. For the purpose of this requirement, recovered materials are those materials that have been collected from solid waste and reprocessed to become a source of raw materials, as distinguished from raw materials. The components, pieces and parts incorporated in the vehicle may be newly fabricated from recovered materials to the maximum extent practical, provided the vehicle produced meets all other requirements of this specification. Used, rebuilt or re-manufactured components, pieces and parts shall not be incorporated.

4. QUALITY ASSURANCE PROVISIONS.

4.1 Product conformance. The products provided shall meet the salient characteristics of this CID, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial market. The CHFLT will be in compliance with ISO 9002. The government reserves the right to require proof of such conformance.

5. PACKAGING.

5.1 Packaging. Preservation and packaging shall be the minimum necessary to afford protection against corrosion, deterioration and physical damage during shipment from the supply source to the receiving activity.

6. NOTES.

6.1 Ordering Data. Procurement documents shall specify the following:

a. CID Title, Number, and Date of this CID

b. When winterization equipment is required, Type A or Type C (see 2.28).

c. Quantity of special tool sets or peculiar equipment (see 2.29).

d. When final paint color shall be other than color number 24052 of FED-STD-595 (see 2.30).

e. Packaging requirements if different than (see 5.)

6.2 Source of Documents.

6.2.1 The American National Standards Institute (ANSI) documents may be obtained from the address:

American National Standards Institute
11 West 42nd Street
New York NY 10036

6.2.2 The American Society of Mechanical Engineers (ASME documents may be obtained from the address:

American Society of Mechanical Engineers
345 East 47th Street
New York NY 10017-2392

6.2.3 The Occupational Safety and Health Administration (OSHA) documents may be obtained from the address:

Superintendent of Documents
U.S. Government Printing Office
Code of Federal Regulation
Washington DC 20402.

6.2.4 The Federal Standard (FED-STD) and Federal Acquisition Regulation (FAR) documents may be obtained from the address:

Defense Automated Printing Office
Bldg 4D (DPM-DoDSSP)
700 Robbins Avenue
Philadelphia PA 19111-5094

6.2.5 The International Organization for Standards (ISO) documents may be obtained from the address:

International Organization for Standardization (ISO)
1, rue de Varembé
Case postale 56
CH-1211 Genève 20
Switzerland

6.2.6 The Society of Automotive Engineers (SAE) documents may be obtained from the address:

Society of Automotive Engineers, Inc.
400 Commonwealth Drive
Warrendale PA 15096

6.2.7 The Underwriters Laboratories (UL) document may be obtained from the address:

Underwriters Laboratories, Inc
333 Pfingsten Road
Northbrook IL 60062-2096

6.3 Suggested Source.

6.3.1 CAGE Code: 30076

HYSTER CO. CORP OFFICES
2701 NW VAUGHN, SUITE 900
PO BOX 2902 PORTLAND OR 97208-2902

MILITARY INTEREST:

Custodian
Air Force - 99
DLA - IS
Navy - SA

Preparing Activity
Air Force - 84

Agent
Air Force - 99

DoD Project 3930-0015