

INCH-POUND

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SUPERSEDING

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16 April 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 should 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 should 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 ANSI/ITSDF B56.1, Safety Standard for Low Lift and High Lift Trucks, and Occupational Safety and Health Administration (OSHA) Department of Labor 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: WR-ALC AFMC AFLCMC/WNZ, 235 Byron Street, Suite 19A, Robins AFB, GA 31098-1813. Since contact information can change, you may want to verify the currency of this address information using the ASSIST database at <https://assist.dla.mil>.

AMSC N/A

FSC 3930

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2.2 Operating environment. The CHFLT shall start within five minutes in any ambient temperature (and with the CHFLT 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 CHFLT is capable of achieving, including 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 power shift 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 of continuous operation while carrying full capacity load and at 75% throttle 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

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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. The lowering speed of the forks shall not exceed 45 feet per minute (fpm) unloaded or 95 fpm loaded (under any load condition). A manual override shall be provided so that forks can be safely lowered with the engine off. 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 of 244-inch fork lift height (measured from the top surface of the fork to the ground); 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 shall be provided. Mast tilt cylinders shall be low mounted as to not hinder visibility. Lifting eyes, for the convenience of assembly/disassembly, shall 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 tine spacing shall be a minimum inside-to-inside distance of 6 inches and maximum outside-to-outside distance 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 shall be rated at a minimum 3:1 safety factor. Heel hooks shall 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; the 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 shall lower at a controlled rate (no free-fall) regardless of whether they are loaded or unloaded. There

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shall be no uncontrolled operation, jerking, or a condition that could cause damage to the lift system or CHFLT 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 top handler 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 be between the mast. The carriage and top handler 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 shall be included with the top handling attachment and shall be visible to the operator while seated in the cab. An interlock system shall be included to prevent accidental/inadvertent release under load. The attachment shall 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 twist locks closest to the operator shall 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.

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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 MIL-STD-461, RE101 and RE102.

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

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

2.18 Service brakes. All wheel power assisted brakes shall be furnished. At a minimum, service brake performance shall comply with the requirements of ANSI/ITSDF 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 the use of 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 a horn actuator to sound the horn (see 2.22.11) 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 shall 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 the outside of the tires.

2.22 Cab. The CHFLT shall be equipped with an enclosed cab that incorporates overhead protection and side guards per ANSI/ITSDF 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 ANSI/ITSDF B56.1. The cab shall be offset or configured to maximize visibility at all lift heights. The operator shall 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. All windows shall be of the safety glass type. Additional windows on the cab roof and cab rear panel shall also be provided.

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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. At least one adjustable outside mirror shall be provided and mounted 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 shall be mounted in an accessible location 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, defined as the 5th percentile female to 95th percentile male in accordance with TABLE B-IV of MIL-STD-1472. A retracting operator seat belt shall be provided.

2.22.6 Instruments. In addition to the instruments supplied on the standard commercial CHFLT, 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 top handler controls inside the cab. Indicator lights shall 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 manufacturer's commercial model shall be provided.

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

2.22.10 License plate. 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.

2.22.11 Horn. The manufacturer's standard horn shall be provided.

2.22.12 Fire extinguisher. A commercial fire extinguisher shall be mounted on the CHFLT in an easily accessible location. The fire extinguisher shall be a minimum 2-1/2 pound capacity ABC type, or equivalent. The fire extinguisher shall be UL299 listed and UL711 tested.

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.

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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 tie downs. The CHFLT shall be provided with permanently installed tie down devices for rail or marine transportation. These devices shall have a minimum diameter of 6 inches. The devices shall have a structural safety factor of 2.0 to 1.0 based on static load. Each tie down device shall be properly labeled. The CHFLT counterweight shall have a lifting eye installed.

2.28 Winterization.

2.28.1 Type A winterization. When specified (see 6.1), the CHFLT shall be furnished with type A winterization that shall protect to -40°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 CHFLT when the cable is not in-use. The heaters shall be as follows:

(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 the engine coolant at a minimum temperature of $+10^{\circ}\text{F}$ in an ambient temperature of -40°F . It shall be controlled to limit engine coolant to not more than $+150^{\circ}\text{F}$.

(2) Oil. The engine oil heater shall be furnished with the capacity to maintain engine oil at a minimum temperature of $+10^{\circ}\text{F}$ in an ambient temperature of -40°F . It shall be controlled to limit engine oil temperature to not more than $+150^{\circ}\text{F}$.

(3) Battery. A battery heater shall be provided. It shall have the capacity to maintain battery electrolyte at a minimum temperature of $+10^{\circ}\text{F}$ in an ambient temperature of -40°F , and shall have a thermostat to limit the maximum electrolyte temperature at $+80^{\circ}\text{F}$.

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 of water-resistant type to prevent absorption of moisture.

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- 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 glow plug(s), grid heater, or engine coolant heater shall be provided to assist in engine cold temperature starting.
- e. Antifreeze. The CHFLT coolant shall be protected to -40 °F.

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

- a. Cold starting aid. A glow plug(s), grid heater, or engine coolant heater shall be furnished to assist in cold temperature starting.
- 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 of 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 °F.

2.29 Special tools. The design of the CHFLT shall minimize the requirement for special tools (see 6.3.1). All special tools shall be provided with, and stored on, the CHFLT.

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:

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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 CHFLT 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 Recycled recovered materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with 23.403 of the Federal Acquisition Regulation (FAR). However, used, rebuilt, or refurbished items shall not be provided.

3.2 Green Procurement Program. Green Procurement Program (GPP) is a mandatory federal acquisition program that focuses on the purchase and use of environmentally preferable products and services. GPP requirements apply to all acquisitions using appropriated funds, including services and new requirements. FAR 23.404(b) applies and states the GPP requires 100% of EPA designated product purchase that are included in the Comprehensive Procurement Guidelines list that contains recovered materials, unless the item cannot be acquired: a) competitively within a reasonable timeframe; b) meet appropriate performance standards, or c) at a reasonable price. The prime contractor is responsible for ensuring that all subcontractors comply with this requirement.

4. PRODUCT CONFORMANCE PROVISIONS.

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, modified as necessary to comply with the requirements herein. The Government reserves the right to require proof of such conformance.

4.1 Classification of inspections. The inspection requirements specified herein are classified as follows:

- a. First production inspection (see 4.2).
- b. Conformance inspection (see 4.3).

4.2 First production inspection. The first production CHFLT shall be subjected to the analyses,

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demonstrations, examinations, and tests described in 4.5.1 through 4.5.21. The contractor shall provide or arrange for all test equipment and facilities. Except as otherwise specified, all testing in which the engine is operated shall be performed using JP-8 turbine fuel.

4.3 Conformance inspection. Each production CHFLT shall be subjected to the examination described in 4.5.1.

4.4 Inspection requirements.

4.4.1 General inspection requirements. Apparatus used in conjunction with the inspections specified herein shall be laboratory precision type, calibrated at proper intervals to ensure laboratory accuracy.

4.4.2 Data. During all testing specified herein, at least the following data, unless not applicable, shall be recorded at intervals not to exceed 30 minutes. Additional data or shorter intervals shall be provided as appropriate for any specific test.

- a. Date.
- b. Time started.
- c. Time finished.
- d. Ambient temperature.
- e. Ambient humidity.

4.4.3 Test rejection criteria. Throughout all tests specified herein, the CHFLT shall be closely observed for the following conditions, which shall be cause for rejection.

- a. Failure to conform to design or performance requirements specified herein or in the contractor's technical proposal.
- b. Any spillage or leakage of any liquid, including fuel, coolant, lubricant, or hydraulic fluid, under any condition, except as allowed herein.
- c. Structural failure of any component, including permanent deformation, or evidence of impending failure.
- d. Evidence of excessive wear. If excessive wear is suspected, the original equipment manufacturer's (OEM's) specifications or tolerances shall be utilized for making a determination.
- e. Evidence of corrosion or deterioration.
- f. Misalignment of components.

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- g. Conditions that present a safety hazard to personnel during operation, servicing, or maintenance.
- h. Interference between the CHFLT components or between the CHFLT, the ground, and all required obstacles, with the exception of normal contact by the tires.
- i. Evidence of undesirable mobility characteristics, including instability in handling during cornering, braking, and while traversing all required terrain.
- j. Shutdown faults from:
 - (1) Engine cooling system.
 - (2) Engine lubrication system.
 - (3) Engine protective circuits.

4.5 Test methods.

4.5.1 Examination of product. Each CHFLT shall be examined to verify compliance with the requirements herein prior to accomplishing any other demonstrations or tests listed in 4.5. A contractor-generated, Government-approved checklist (part of the test procedure) shall be used to identify each requirement not verified by an analysis, certification, demonstration, or test, and shall be used to document the examination results. Particular attention shall be given to materials, workmanship, dimensions, surface finishes, protective coatings and sealants and their application, welding, fastening, and markings. Proper operation of each CHFLT function shall be verified. Certifications and analyses shall be provided in accordance with Table I. Each production CHFLT shall be inspected to a Government-approved reduced version of the checklist.

TABLE I. Certifications and analysis.

Paragraph	Required Certifications and Analysis
2.1 <u>Safety.</u>	Contractor certification that the CHFLT complies with all requirements in accordance with the latest revisions of ANSI/ITSDF B56.1 and 29 CFR 1910.178 in effect at time of manufacture.
2.2 <u>Operating environment.</u>	Contractor certification that the CHFLT can be stored and operated in temperatures up to 125 °F.
2.5 <u>Engine.</u>	Engine manufacturer certification that the engine is in accordance with all applicable requirements, including exhaust emissions standards and fuels.
2.7 <u>Fuel system.</u>	Contractor certification the fuel system provides operational capacity in accordance with the requirement of 2.7.

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TABLE I. Certifications and analysis. Continued

Paragraph	Required Certifications and Analysis
2.18 <u>Service brakes</u> .	Contractor certification that the CHFLT complies with the service brake requirement of ANSI/ITSDF B56.1.
2.22 <u>Operator's overhead guard</u> .	Contractor certification that the overhead guard is in accordance with ANSI/ITSDF B56.1. Contractor engineering analysis demonstrating the Falling Object Protection System (FOPS) is in accordance with ANSI/ITSDF B56.1.
2.27 <u>Tie downs</u> .	Contractor tie down provision analysis (see 4.5.20.1).

4.5.2 Low temperature storage and operation test. A first production CHFLT shall be tested in accordance with MIL-STD-810, Method 502.5, Procedures I and II, to demonstrate compliance with the low temperature storage and operating requirements of 2.2 and 2.28. Test duration shall be one 24-hour cycle for each procedure beginning no less than two hours after test item temperature stabilization.

4.5.3 Dimension measurement. A first production CHFLT shall be measured to demonstrate compliance with the dimensional requirements of 2.4, 2.10, 2.11, and 2.14.

4.5.4 Weight measurement. A first production CHFLT shall be weighed to demonstrate compliance with 2.4d.

4.5.5 Transmission demonstration. A first production CHFLT shall be operated at maximum throttle in both the forward and reverse directions to demonstrate compliance with the inching requirements of 2.6.

4.5.6 Fail safe hydraulic lift system. The rated load shall be raised to its maximum lift height with the forks level. The vertical distance from the ground to the top surface of one fork shall be measured. No personnel shall be under or in front of the load during the next step. The hydraulic line(s) that supply pressure to the lift system shall be disconnected. After one minute has elapsed, the vertical distance from the ground to the same point on the fork surface shall be re-measured for compliance with 2.9.2. The fork tilt shall be measured. The hydraulic line(s) that supply pressure to prevent forward tilting shall be disconnected. The fork tilt shall be re-measured for compliance with 2.9.2. A change of more than 1.0 degrees of tilt shall be cause for rejection. The manual override provided shall be used to lower the rated load to ground.

4.5.7 Lift height. With the rated load on the forks and with the forks level, the forks shall be lifted to their maximum lift height. The distance shall be measured from the ground to the top surface of one fork to determine the maximum lift height and demonstrate compliance with 2.10.

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4.5.8 Fork side shifting mechanism. The forks shall be side shifted with the rated load on the forks from extreme left to extreme right position and back to extreme left 50 times. The CHFLT shall be capable of side shifting at least 6.0 inches off center, in both directions, throughout the fork spread specified in 2.11.

4.5.9 Fork positioner mechanism. With no load on the forks, the forks shall be adjusted from their most closed position to most open position and then returned to most closed. The fork spacing shall be measured at the most open and closed positions to demonstrate compliance with 2.11. This shall be considered one cycle. This process shall be repeated until 100 cycles have been completed.

4.5.10 Lifting and lowering speeds. The rated load shall be raised and lowered to demonstrate compliance with the lifting and lowering speed requirements of 2.11.1. This shall also be repeated with no load on the forks.

4.5.11 Container handler attachment demonstration. The container handler attachment shall be removed and remounted on the CHFLT in no more than 5 minutes to demonstrate compliance with the requirement in 2.12.

4.5.12 Oscillation test. The CHFLT shall approach a 20 foot ISO container with the rated load while one end of the ISO container is 7 inches higher than the other. The CHFLT shall engage and lift the load to demonstrate compliance with 2.13. After lifting the load, the load shall be removed from the forks on the same incline where the final height of the unloaded CHFLT is 7 inches higher than the other.

4.5.13 Starter disconnect switch. The CHFLT engine shall be started and ran for at least 10 seconds. The starter switch shall be energized (move to “off” then “on” position if applicable) while the engine is running to demonstrate compliance with 2.15.2. With the engine not running, the transmission selector shall be placed in the lowest forward gear and the starter switch shall be energized. This shall be repeated for all forward and reverse gears to demonstrate compliance with 2.15.2.

4.5.14 Electromagnetic interference test. A first production CHFLT shall be tested in accordance with MIL-STD-461: RE 101 and RS 102 to demonstrate compliance with 2.15.7.

4.5.15 Travel speed. The CHFLT shall be operated on a level surface at maximum speed in both the forward and reverse directions with the rated load to demonstrate compliance with 2.16.

4.5.16 Stability. The following stability tests shall be conducted in accordance with ANSI/ITSDF B56.1-1969 to demonstrate compliance with 2.17: forward stacking, forward travel, lateral stacking, and lateral travel.

4.5.17 Parking brake. A first production CHFLT shall be parked on a minimum 30% grade while carrying the rated load. The parking brake shall be engaged while parked in both the ascending and descending to demonstrate compliance with 2.19.

4.5.18 Steering. The CHFLT shall be tested to demonstrate compliance with the emergency power steering requirement of 2.20.

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4.5.19 Turning radius. With the rated load on forks, the CHFLT shall be operated in low gear at engine idle speed on a dry, flat apron in a clockwise direction, at maximum steering angle. At least two complete circles shall be made before taking any measurements. The path of the outside wheel shall be marked on the pavement using chalk along the outside of the tire while making the complete circle. To determine the turning radius, the distance shall be measured from the outside of the tire in accordance with 3.5 of SAE J695 to a similar point across the diameter of the trace and divide in half. This process shall be repeated in the counterclockwise direction to demonstrate compliance with 2.21.

4.5.20 Tie down provision verification.

4.5.20.1 Tie down provision analysis. An engineering analysis shall be performed to demonstrate compliance with the tie down provision requirements of 2.27.

4.5.20.2 Tie down provision test. A first production CHFLT shall be tested to demonstrate compliance with the tie down provision requirements of 2.27.

4.5.21 Sound level test. Measure the noise level at the operator's ear with the engine operating at maximum rpm and while lifting rated load. If noise level is between 84 and 94 dB(A), the noise warning plate required by 2.33 shall be on all CHFLT's delivered on this contract.

5. PACKAGING.

5.1 Packaging. Preservation, packing, and marking shall be as specified in the contract or order (see 6.1).

6. NOTES.

6.1 Ordering Data. Procurement documents shall specify the following:

- a. CID Title, Number, and Date of this CID
- b. Winterization (see 2.28.2).
- d. Color (see 2.30).
- e. Packaging requirements (see 5.1)

6.2 Source of Documents.

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

Industrial Truck Standards Development Foundation
Suite 460, 1750 K Street NW
Washington, D.C. 20006
<http://www.itsdf.org>

6.2.2 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, D.C. 20402
<https://www.osha.gov>

6.2.3 The Federal Acquisition Regulation (FAR) documents may be obtained from the address:

Superintendent of Documents
P.O. Box 371954
Pittsburgh, PA 15250
<https://www.acqnet.gov/far>

6.2.4 The Federal Standards Document (FED) documents may be obtained from the address:

Document Automation and Production
700 Robbins Avenue, Bldg. 4D
Philadelphia, PA 1911-5094
<https://assist.dla.mil>

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

Society of Automotive Engineers, Inc.
400 Commonwealth Drive
Warrendale, PA 15096
<http://www.sae.org/>

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

Underwriters Laboratories, Inc
333 Pfingsten Road
Northbrook, IL 60062-2096
<http://www.ul.com>

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6.3 Definitions

6.3.1 Special tool. A tool that is not commercially and readily available from a source other than the CHFLT contractor.

6.4 Suggested Source.

6.4.1 CAGE Code: 30076

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

MILITARY INTEREST:

Custodians:

Navy - SA
Air Force - 84
DLA - IS

Preparing Activity:

Air Force - 84

Reviewers:

Air Force - 99

Agent:

Air Force - 99

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NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST database at <https://assist.dla.mil> .