

INCH-POUND

A-A-59757

November 09, 2004

## COMMERCIAL ITEM DESCRIPTION

### CRANE TRUCK, WAREHOUSE, PNEUMATIC RUBBER TIRES

The General Services Administration has authorized the use of this commercial item description as a replacement for Class A of MIL-C-3998 for all federal agencies.

#### 1. SCOPE

1.1 Scope. This Commercial Item Description (CID) covers the requirements for a commercial, wheel-mounted, self-propelled, rotating and telescoping boom, warehouse and industrial handling crane.

#### 2. CLASSIFICATION.

2.1 Classification. The trucks covered by this CID shall be listed by type as shown below. The type to be furnished shall be as specified (see 3.4).

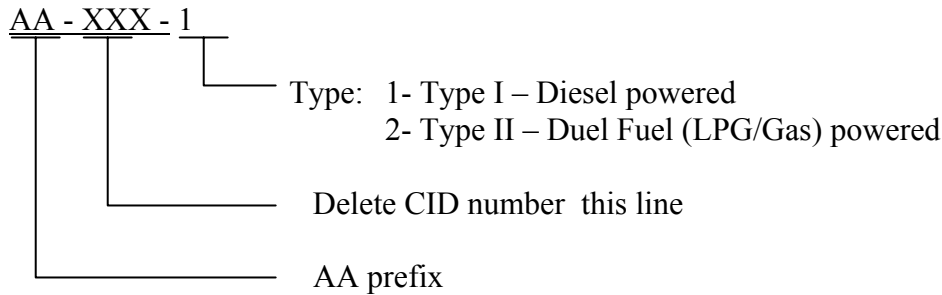
Type I - Diesel powered

Type II - Dual Fuel (LPG/Gas) powered

Comments, suggestions, or questions on this document should be addressed to WR-ALC/LEEV, 295 Byron Street, Warner-Robins AFB, GA. 31098-1616. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at <http://assist.daps.dla.mil>.

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2.2 Part or Identification Number (PIN). The following PIN procedure is for government purposes and does not constitute a requirement for the contractor.



### 3. SALIENT CHARACTERISTICS

3.1 Safety. The truck shall comply with UL 558, OSHA, and ASME B30.5 specifications in effect at the time of manufacture. An operator's seatbelt conforming to SAE J 386, and restraint devices designed to ensure the operator's upper body remains entirely within the protection of the overhead guard in the event of tipover shall be provided.

3.2 Operating temperature. The truck shall be capable of operating in temperatures ranging from -25° F to +125° F. The power source shall start within 5 minutes in any ambient temperature and with the truck stabilized at ambient temperature.

3.3 Materials. Materials shall be as specified herein. Materials not specified shall be selected by the contractor and shall be subject to all provisions of this specification. Unless otherwise specified herein, all equipment, material, and articles incorporated in the work covered by this specification are to be new.

3.3.1 Recovered materials. The components, pieces and parts incorporated in the trucks may be newly fabricated from recovered materials to the maximum extent practicable, provided the trucks produced meet all other requirements of this specification. Used, rebuilt or remanufactured components, pieces and parts shall not be incorporated in the truck.

3.3.2 Dissimilar metals. Unless suitably protected against galvanic corrosion, dissimilar metals shall not be in intimate contact with each other.

3.3.3 Drain holes. Structures shall be designed to eliminate pockets where debris and water might accumulate. All structural configurations shall allow water run-off, or shall have adequate sized and placed drain holes.

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3.4 Power source.

3.4.1 Diesel (Type I). The truck shall be powered by a standard, commercial, diesel engine. The engine shall operate on diesel fuel in accordance with A-A-52557 without detrimental effects on the engine, or its performance.

3.4.2 Dual Fuel (Type II). When specified (see 7.1), the truck shall be powered by a standard, commercial, dual fuel (Liquefied Petroleum Gas/Gasoline) engine.

3.5 Fuel system. The truck shall have all necessary filters, water separators, and components required for operation. The truck shall have a fuel tank of sufficient capacity to allow at least eight hours of continuous operation.

3.6 Starting system. The 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. The starter switch shall only operate when the transmission is in the “neutral” or “park” positions.

3.7 Transmission. A torque converter and a powershift type of transmission shall be furnished, with at least three speeds forward and one speed reverse.

3.8 Hydraulic system. A pressure relief protection device is required along with pump(s), cylinders, control valves, filter(s), reservoir, hoses, and all other components necessary to make a complete hydraulic system. In the event of hydraulic system damage or failure, a means to prevent the boom from automatically lowering/retracting/tilting shall be provided. The hydraulic system shall prevent the load from falling more than 0.5 inches after system failure. A manual override system shall be provided to allow for safe load removal.

3.9 Visibility. Truck manufacture shall have a side-view of the truck showing sight lines for a 95<sup>th</sup> percentile male and a 5<sup>th</sup> percentile female. The visibility shall conform to the standard visibility available in the industry.

3.10 Steering. Power steering, with emergency steering in the event of power failure, shall be furnished.

3.11 Service brakes. The service braking system shall be the commercially available system provided by the manufacturer. The service brakes shall be capable of bringing the crane to a complete safe stop in accordance ASME B30.5. Not more than 80 pounds of force on the brake pedal shall be required to meet the requirements of ASME B30.5.

3.12 Parking brake. Parking brake(s) shall hold, but not necessarily stop the truck without rated load when the truck is stopped on a 15 percent grade in both the ascending and descending position. The parking brakes shall be operated by hand or foot controls and is located within reach of the seated operator. The brake shall have a locking device. The force required to pull the hand lever when setting the brake shall not exceed 35 pounds. The parking brake shall be independent from the service brakes.

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3.13 Electrical system. A 12 or 24 volt direct current (VDC) electrical system shall be furnished. The electrical system shall consist of all electrical components necessary for operation of the truck. The truck shall have sufficient electrical grounding to prevent static discharge.

3.14 Backup alarm. An audible backup alarm shall be furnished. The alarm shall automatically activate when the transmission selector is placed in reverse.

3.15 Instruments and controls. In addition to the instruments supplied on the standard commercial truck, an hour meter shall be installed in the instrument panel. Except the hour meter, all instruments shall illuminate. All load motion controls shall be right hand operation controls and of the self-centering type, i.e., controls shall return to the neutral position when released. All controls shall be located within easy reach of the operator in the operator's cab. All controls shall be clearly marked as to their use and function.

3.16 Lighting. A minimum of (2) headlights, (1) boom-mounted light, a variable light to illuminate the working area, and 4-way hazard warning lights shall be furnished. Tail light(s) and brake stop light(s) shall be installed. Individual operator controlled switches shall be provided.

3.17 Horn. An electric or air horn shall be provided. The horn may be hand or foot actuated.

3.18 Operator's overhead guard. An overhead guard shall be provided to protect the operator from falling objects.

3.19 Cab. The truck shall be equipped with an enclosed cab and shall have a door with at least one window, which can be opened for ventilation. The door shall be provided with hinges that can be serviced without door removal. In addition to the door window, the cab shall be furnished with a front windshield, rear window, and side windows. The windshield and all windows shall be safety glass. Dual rear view mirrors shall be provided. The cab interior shall be furnished with water-resistant non-absorbent thermal insulation. A commercial fire extinguisher shall be mounted on the truck 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 UL listed.

3.20 Windshield wipers. There shall be at one wiper on the front window and one wiper on the rear window.

3.21 Winterization. At a minimum, the following items shall be provided.

3.21.1 Engine coolant heater. An engine coolant heater shall be installed in the engine block or lower coolant inlet hose. A coolant-circulating pump, driven by a 110 volt or 220 volt alternating current motor, shall be provided when a coolant inlet hose heater is furnished. The heater shall have adequate capacity to maintain engine coolant at a temperature of +10° F in an ambient temperature of -25° F. It shall be controlled to limit engine coolant to not more than 150° F.

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3.21.2 Engine oil heater. An engine oil heater with adequate capacity to maintain engine oil at a temperature of at least +10 degrees F in an ambient temperature of -25° F shall be furnished. It shall be controlled to limit engine oil temperature to not more than 150 ° F.

3.21.3 Battery heater. A battery heater shall be provided. It shall have adequate capacity to maintain battery electrolyte at a temperature of at least +10° F in an ambient temperature of -25°F, and shall have a thermostat to limit temperature of the electrolyte to not more than +80°F.

3.21.4 Cab. The cab shall meet the requirements of 3.19, and shall also contain thermal insulation, if necessary, to meet the heating requirements of 3.21.5.

3.21.5 Heater and defroster. The heater shall be of sufficient capacity to maintain a temperature of +40° F at cab floor level in an ambient temperature of -25° F.

3.21.6 Cold starting aid. A cold starting aid such as a measure shot ether injection system shall be furnished.

3.21.7 Antifreeze. Engine coolant shall be protected to -25° F.

### 3.22 Performance.

3.22.1 Minimum lifting capacities. The boom lengths referenced below are measured from the centerline of rotation to the centerline of the load. Also, the load capacities referenced below should remain constant throughout 360 degrees of boom rotation.

3.22.1.1 With outriggers extended. The crane shall be capable of lifting 10,000 pounds with the boom retracted to 8 feet. The crane shall be capable of lifting 4,000 pounds with the boom extended to 18 feet.

3.22.1.2 Without outriggers extended (on rubber). The crane shall be capable of lifting 5,000 pounds with the boom retracted to 8 feet. The crane shall be capable of lifting 1,000 pounds with the boom extended to 18 feet.

3.22.2 Travel speed. The crane without load shall be capable of attaining and maintaining a travel speed on level, paved roads of not less than 15 mph.

3.22.3 Gradeability. The crane without load shall be capable of ascending a 15 percent grade on hard packed surfaces, without engine stall, in forward gear at a speed of not less than 2 mph.

3.22.4 Noise limits. Maximum allowable noise level shall not exceed 84dB(A) at the operator's ear. If the noise level at the operator's ear exceeds 84 dB (A) (85 to 92 dB (A)), a permanent warning decal or placard shall be installed inside the cab clearly visible to the operator. Noise level limits that exceed 92dB(A) are not acceptable.

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3.22.5 Electromagnetic interference (EMI). The truck shall comply with EMI requirements of SAE J551-1, SAE J551-2, and SAE J551-11. (See Table I)

TABLE I

<i>Name</i>	<i>Description</i>	Parameters
SAE J551-1	Compatibility	N/A
SAE J551-2	Emissions	(Frequency Range: 30 to 1000 MHz)
SAE J551-11	Susceptibility	(Frequency Range: 100 kHz to 18 GHz) 20 V/m (100 kHz to 200 MHz) 50 V/m (above 200 MHz)

3.22.6 Boom height. The horizontal boom height shall be 102 inches maximum. The boom reach shall be 360 inches minimum with rated load.

3.22.7 Right angle turn. With rated load on the boom, truck positioned perpendicular to a wall, and with the front of the load against the wall, the truck shall be able to back up and make a complete right angle turn (ending up parallel to the wall) within 176 inches.

3.22.8 Ground clearance. Without a load on the boom, the truck ground clearance at the center of the wheelbase shall be at least 9 inches.

3.22.9 Load drift. With hydraulic fluid at normal operating temperature, the lift assembly shall hold rated load at maximum lift height and boom extension for at least 10 minutes with not more than 1.0 inch of cylinder travel, and not more than 0.5 degree of rotational drift.

3.22.10 Stability. The truck shall meet the stability requirements defined by SAE J765 and ASME B30.5.

3.23 Coating. The truck shall be primed and painted using standard commercial practices using commercially available coatings and shall conform to coating manufacturer's guidelines. The finish shall show no evidence of uneven application, curtains, runs snags, orange peel, lack of adhesion, or other defects.

3.23.1 Primer. When specified (see 7.2), the primer shall consist of a base coat of zinc-rich primer and an intermediate primer coat.

3.23.2 Topcoat. The final top-coat shall be the manufacturer's standard commercially available polyurethane.

3.23.2.1 Green. When specified (see 7.3), the final paint shall be Forest Green, Color Number 24052 of FED-STD-595.

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3.23.2.2 Desert sand. When specified (see 7.3), the final paint shall be no-gloss tan, color number 30313 of FED-STD-595.

3.24 Rust-proofing. When specified (see 7.3), tropical rust proofing shall be provided. This should be considered a premium rust proofing package usually consisting of an additional coating. The truck shall be treated with a corrosion preventative compound complying with A-A-59295. Some of these trucks may be used in tropical/coastal environments and experience high humidity and salt spray. These environments usually cause high levels of corrosion in the areas listed below. At a minimum, these areas shall be coated in the following: (See Table II)

TABLE II

1. Cab, interior	6. Locations where dissimilar metals come in contact
2. Cab, exterior	7. Area above fuel tank(s)
3. Seams	8. Engine oil pan & transmission oil pan
4. Welds	9. Radiator support structure
5. Hidden recessed areas	10. Battery box

3.25 Markings, data plates, and instruction plates. Corrosion resistant identification plate and all warning and instruction plates shall be provided and mounted on the truck. The identification plate shall contain the following information:

Crane Truck, Warehouse  
 Capacity: (\_\_\_\_) pounds at (\_\_\_\_) inch load center  
 Gross Vehicle Weight (GVW):  
 National Stock Number (NSN):  
 Contract Number:  
 Serial Number:  
 Model Number:  
 Registration Number:  
 Manufactured by:  
 Name:  
 Address:  
 Service Phone Number:  
 US Property:

3.26 Walkway coating. Floor plates and step surfaces shall be coated with a nonslip-coating compound, or be furnished with a nonslip metal or tread plate surface.

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3.27 Slings and tie down provisions. Slings and tie-down devices that enable the truck to be tied down to the floor of a transportation medium shall be provided. All devices should be easily accessible and minimize the need to crawl under the vehicle when securing it. All devices shall be capable of accepting a chain and hook with an outside diameter of 3.00 inches through its opening, and shall have a structural safety factor of 2.3 to 1, based on static load. The notation "LIFT HERE" or "TIE-DOWN" shall be stenciled in paint near each lifting and tie-down device.

3.28 Transportability. The truck shall withstand without damage highway, rail and marine transport.

3.29 Tires and tire loadings. Tire loadings shall not exceed the values specified by the tire manufacturer or the Tire and Rim Association Yearbook. The truck shall be equipped with pneumatic tires. Tires shall be not more than 12 months old on date of acceptance by the Government.

3.30 Towing hitch. A pintle-type, towing hitch shall be installed at the center rear of the truck, with the center of the hitch opening 22 to 30 inches above ground level. The pintle shall be capable of sustaining a rearward, horizontal force of at least 3 times the gross vehicle weight (GVW) of the crane. Two lugs, one positioned on each side of the pintle, shall be installed for securing safety chains; minimum lug opening diameter shall be three inches.

#### 4. REGULATORY REQUIREMENTS.

4.1 Recycled, recovered, or environmentally preferable materials. The contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal acquisition Regulations (FAR).

#### 5. PRODUCT CONFORMANCE

5.1 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.

5.1.1 The contractor shall conduct a user demonstration of the first unit produced under the contract. This demonstration shall include operation of the vehicle and all supporting data required to meet compliance with this specification.



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## 6. PACKAGING

6.1 Preservation, Packaging, Labeling and Marking. Unless otherwise specified (see 7.3), the preservation, packaging, and packing shall be to a degree of protection to preclude damage to containers and/or contents thereof under normal shipping conditions, handling, etc. This involves shipment from the supply source to the receiving activity, and reshipment from the receiving activity. The preservation, packaging, and packing shall conform to applicable carrier's rules and regulations. Intermediate and exterior package quantities, labeling and marking shall be as specified in the contract and/or order.

## 7. NOTES

### 7.1 Referenced documents:

7.2.1 Government documents. Copies of specifications, standards, and handbooks are available online at <http://assist.daps.dla.mil> or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.

AMERICAN NATIONAL STANDARDS INSTITUTE, INC (ANSI/ASME) Copies of ASME standards may be obtained online at <http://www.asme.org/> or from the American Society of Mechanical Engineers, 345 East 47<sup>th</sup> street, New York, NY 10017.

SOCIETY OF AUTOMOTIVE ENGINEERS, INC (SAE) Copies of SAE standards may be obtained online at <http://www.sae.org/> or from the Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, PA 15096.

THE TIRE AND RIM ASSOCIATION, INC (T&RA) Copies of T&RA standards may be obtained from <http://www.us-tra.org/> or from the Tire and Rim Association, 3200 West Market Street, Akron, OH 44313.

### 7.2 Ordering data. Acquisition documents must specify the following:

- a. Title, number, and date of this document.
- b. Type of power source (see 2. and 3.4.2).
- c. Primer system (see 3.23.1)
- d. Topcoat (see 3.23.1.1 and 3.23.1.2).
- e. Rustproofing, if required (see 3.25).
- f. Packaging requirements, if different (see 6.1).

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MILITARY INTERESTS:

Custodian:

Army – MI

Air Force – 99

Civil Agency and  
Coordinating Activities:  
GSA-FSS

Preparing Activity:

Air Force - 84

Agent:

Air Force - 99

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