

INCH-POUND
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COMMERCIAL ITEM DESCRIPTION
SERVICING/DEICING MAINTENANCE PLATFORM,
HIGH REACH, TRUCK MOUNTED

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

1. SCOPE. This Commercial Item Description (CID) describes a truck mounted aerial servicing platform for C-5 and C-17 aircraft maintenance and deicing. This servicing platform should conform to the requirements and provide the capabilities specified herein.

2. SALIENT CHARACTERISTICS. The High Reach Maintenance Platform Truck shall consist of a heavy duty truck chassis, supporting frame, articulating aerial tower, work platform, stabilizers, and hydraulic system. The delivery systems, jib crane, and winch shall be commercially available items. Maximum gross unit weight shall not exceed 65,000 pounds (including full tank of fuel, operators, and installed equipment). The servicing platform shall be compact with all components arranged for maximum ease of operation and maintenance. The fully extended articulating boom shall be capable of raising the platform base a minimum of 120 feet from the ground.

2.1 Administration.

2.1.1 Manuals and Media.

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data that may improve this document should be sent to: WR-ALC/642 CBSG/GBEC, 460 Richard Ray Blvd., Ste 200, Robins AFB GA 31098-1813. 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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2.1.1.1.1 Technical manuals. The overall format for the manuals may be military specification, commercial, or a combination of both. Each technical manual shall have a title page. Line art shall be used to the maximum extent possible for illustrations and parts lists.

The contractor may submit digitized technical manuals in lieu of printed paper copies. The contractor may recommend the delivery of files developed in a "native" format as the final delivery medium. Native format includes MS Word, Framemaker, Interleaf, et cetera. However, all recommendations for native formatted data or graphics shall be approved by the Technical Order Manager prior to any work being performed.

The contractor shall validate the technical manuals for accuracy prior to submission to the procuring activity for verification. The contractor shall submit one complete set of draft manuals to the procuring activity for verification at least 60 days prior to the first production test. Any changes or corrections noted by the procuring activity shall be corrected and updated pages or manuals shall be submitted to the procuring activity.

Once approved by the procuring activity and a Technical Order number is assigned, the contractor shall pack two complete sets of both hard copy and CDs (if applicable) with each vehicle. An additional two complete sets of both hard copy and CDs (if applicable) shall be submitted to the procuring activity for stock.

2.1.1.1.1.1 Operator manual. The operator manual shall include all information required for the safe and efficient operation of the vehicle, including the servicing and deicing equipment, and any special attachments or auxiliary equipment. The operator manual shall include at least the following:

- a. Location and function of all controls and instruments shall be illustrated and fully described.
- b. Safety information that is consistent with the safety standards set forth in Section 2.1.5 herein.
- c. Checks and adjustments in preparation for placing the vehicle for service upon receipt from the contractor.
- d. Preparation for shipment or storage.
- e. Warranty information and period of the warranty for the complete vehicle and for any component warranty that exceeds the warranty of the complete vehicle. Addresses and telephone numbers shall be provided for all warranty providers.
- f. General description of and step-by-step instructions for the operation of the vehicle and its servicing and deicing system(s) and auxiliary equipment.
- g. Description of the post-operational procedures (draining, flushing, et cetera).

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- h. Checklists for the daily maintenance inspection and mission readiness check that the operator is expected to perform, including basic troubleshooting procedures.
- i. Procedures for towing a disabled vehicle.
- j. Procedures for changing a tire.
- k. Schedules for required preventative maintenance and required periodic maintenance.
- l. A line art drawing of the vehicle, including front, rear, left, and right side views, showing basic dimensions and weights (total vehicle and individual axle weight for the unloaded and fully loaded vehicle).
- m. Identification Markings as outlined in ANSI A92.2 are to be installed.

2.1.1.1.2 Service manual. The service manual shall identify any special tools and test equipment required and shall cover troubleshooting and maintenance as well as minor and major repair procedures. The text shall contain performance specifications, tolerances, and fluid capacities; current, voltage, and resistance data; test procedures; and such illustrations and exploded views as may be required to permit proper maintenance by qualified mechanics. The manual shall contain an alphabetical subject index and a table of contents. The service manual shall contain at least the following, where applicable:

- a. Deicing and washing system schematic(s).
- b. Hydraulic schematic.
- c. Pneumatic schematic.
- d. Electrical schematic.
- e. Winterization schematic.
- f. Fuel schematic.
- g. Schedules for required preventative maintenance and required periodic maintenance.
- h. Location, procedure, and interval for parts of the truck and equipment that require lubrication.

2.1.1.1.3 Parts manual. The parts manual shall include illustrations and exploded views, as needed, to properly identify all parts, assemblies, subassemblies, and special equipment. All components of assemblies shown in illustrations or exploded views shall be identified by reference numbers that correspond to the reference numbers in the parts lists. All purchased parts

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shall be cross-referenced with the original manufacturer's name and part number. The parts identification manual shall provide the description and quantity of each item used per vehicle. The size, thread dimensions, torque specifications, and special characteristics shall be provided for all nonstandard nuts, bolts, screws, washers, grease fittings, and similar items. The manual shall contain a numerical index. The parts manual shall contain a list of all of the component vendor names, addresses, and telephone numbers referenced in the parts list.

2.1.1.2 Product Orientation. A production orientation video DVD shall be provided with each truck. The DVD shall verbally and visually provide all information required for operation, routine inspection, and maintenance of the vehicle and its components, using the manuals as a baseline. An additional copy of the DVD shall be provided to the procuring activity.

2.1.2 Corrosion control and finishes.

2.1.2.1 Dissimilar metals. Dissimilar metals as defined in MIL-STD-889 shall not be in contact with each other. Metal plating or metal spraying of dissimilar base metals is acceptable to provide electromotive compatible abutting surfaces. The use of dissimilar metals separated by suitable insulating material is permitted, except in systems where bridging of insulation materials by an electrically conductive fluid can occur.

2.1.2.2 Finishes and protective coatings. Cleaning, painting, and finishing shall follow the guidelines of MIL-HDBK-808, Type I Exposure, film designation ES, FED-STD-595 color number 24052 (green). Refer to guidelines of AF Drawing 7545352 (Cage 98750).

2.1.2.3 Corrosion-resistant delivery system components. All components of the fluid delivery system shall be resistant to water, SAE Type I deicing, Type IV anti-icing and defrosting fluids in accordance with SAE AMS 1424, and solutions containing cleaning compound in accordance with MIL-PRF-87937.

2.1.3 Air transportability. The high reach maintenance platform truck shall be air transportable on C-5 and C-17 aircraft in accordance with the guidelines of MIL-HDBK-1791. In all transport configurations, the truck shall be capable of being restrained and withstanding 2.0 G up, 4.5 G down, 3.0 G forward, 1.5 G aft, and 1.5 G lateral accelerations. The unit shall be equipped with pressure relief devices or configured for air transport to prevent any part from becoming a projectile in the event of catastrophic loss of aircraft cabin pressure.

2.1.3.1 Air transportable configuration. The air transportable configuration shall include all equipment, $\frac{3}{4}$ tank of fuel, and no crewmembers. In this configuration, maximum single axle weight of 25,000 pounds. At least 6.0 inches sidewall and 6.0 inches overhead clearance shall be maintained between the high reach maintenance platform truck and the aircraft at all times during loading and flight. The restrained high reach maintenance platform truck shall allow for loadmaster in-flight access from the front to the rear of the aircraft. Parking and sleeper shoring shall be permitted according to the guidelines of the MIL-HDBK-1791.

2.1.3.2 Equipment removal/reconfiguration. Preparation and restoration of the unit for air transportability shall take no more than 30 minutes for two persons using common non-powered

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hand tools. All equipment removed shall be stored on the truck; caps and plugs shall permit driving and storage in transport configuration.

2.1.3.3 Tie down points. The unit shall be symmetrically restrained during air transport. Tie down points shall be rated at a minimum of 25,000 pounds and marked for capacity, with a clear opening compatible with the appropriate devices. Each end of each tie down device shall terminate at a tie down point and not pass through any other tie down point. There shall be no interference between tie down devices and the unit.

2.1.3.4 Transportation data plate. A transportation data plate shall be provided outside behind the truck cab in an unobstructed location. The plate shall contain at least the following information:

- a. Side and rear silhouette views of the unit.
- b. Horizontal and vertical location of the center of gravity of the unit in air transportable configuration, marked on the silhouette views.
- c. Shipping weight.
- d. Loading cubage.
- e. Overall height, width, and length.
- f. Front and rear axle loads.
- g. Tie down information.

2.1.3.5 Manually-operated mechanical lock for air transport. A manually-operated rigid mechanical lock shall be provided, in addition to the interlock system of 2.5.5, to further secure the aerial boom and platform in the stowed position in preparation for air transport.

2.1.4 Maintainability. The high reach maintenance platform truck and all included systems shall be designed and constructed for ease of maintenance, and shall require:

- a. A minimal amount of training needed to establish proficiency in assembly, disassembly, troubleshooting, maintenance, and service.
- b. When available, parts and components shall be located or positioned for rapid and simple inspection and recognition of excessive wear and potential failure.
- c. Capability of performing maintenance with general-purpose tools and equipment normally available commercially. The use of special purpose tools and equipment shall be subject to approval by the procuring activity.

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- d. The individual engine components (cylinder heads, fuel injection pump, air compressor, et cetera) are removable and replaceable without removal of the engine from the vehicle chassis.

2.1.5 Safety standards. The vehicle and all furnished accessories shall comply with the following safety standards:

- a. All applicable Federal Motor Vehicle Safety Standards (FMVSS) (49 Code of Federal Regulations (CFR) 571) in effect on the date of manufacture.
- b. OSHA 29 CFR 1910
- c. ANSI A92.2-2001 and ANSI Z359.1-2007

2.1.6 Set up/operating positions. The servicing platform shall be considered set up and ready for operation only after the following conditions are established:

- a. The unit shall be placed on an evenly paved area such as a parking ramp.
- b. It shall be verified that all weight is off the chassis suspension and transferred to the outriggers; i.e., the entire platform load shall be supported entirely on the outriggers.
- c. The extended outriggers shall not exemplify evidence of instability or overturning of the unit, with a 1,500 pound load applied to the platform. The boom shall not be activated before this verification has been accomplished.
- d. The unit shall be capable of operating only after being leveled by the outriggers. For operation on slopes, the unit shall be capable of being held in position by the elevating and rotating mechanism when the normal operating plane is $\pm 5^\circ$ from the horizontal.

2.1.7 Environmental conditions. The high reach maintenance platform truck shall operate satisfactorily under the following environmental conditions:

- a. Operating temperatures ranging from -40°F to 125°F, storage temperatures ranging from -40°F to 140°F.
- b. Altitude ranging from sea level to 6,000 feet.
- c. Self-induced vibration for all output conditions and vibration encountered during shipment and road operation.
- d. All forms of precipitation encountered under field operation.

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- e. Wind loads of at least 7.0 pounds per square inch (psi), or 40.0 miles per hour (mph) wind velocity.

2.1.8 Mobility.

2.1.8.1 Operating terrain. The vehicle shall be capable of being driven over paved roads, gravel roads, and cross country terrain. Cross country terrain consists of open fields, broken ground, and snow and ice covered airfield areas.

2.1.8.2 Maximum speed. The fully loaded vehicle shall be capable of being driven over paved roads at speeds up to 40 mph. The unit shall also be capable of being driven over cross country terrain up to speeds of 20 mph.

2.1.9 Overall dimensions. The vehicle in the stowed position shall conform to the dimensions indicated in the table below.

Length	496 inches
Width	102 inches (side mirrors retracted)
Height	153 inches

2.1.10 Component lifting provisions. Lifting eyes or other hoisting devices with a rating of at least 200 percent of component weight shall be provided on all major components.

2.1.11 Fittings. To enhance component removal and replacement, electrical systems shall be provided with disconnect plugs, protected receptacles, and multiple line connections. Hydraulic and pneumatic systems shall be provided with readily attachable/detachable type fittings. All disconnect points shall be readily accessible.

2.1.12 Lubrication. The high reach maintenance platform truck shall operate satisfactorily when lubricated with standard commercially available lubricants. Whenever possible, lubricated-for-life components are preferred. Grease and oil seals shall have maximum accessibility for inspection, servicing, and replacement.

2.1.12.1 Lubrication fittings. Lubrication fittings shall be in accordance with SAE J534 and shall be in accessible, protected positions. Extended fittings and drain plugs shall be provided for lubrication points.

2.1.12.2 Lubrication chart. A lubrication chart shall be provided showing all lubrication points. The chart shall specify the range and grade of lubricant required for critical temperatures. The chart shall be permanently attached to the servicing platform in an accessible and convenient location.

2.1.12.3 Drain plugs. All plugs installed for the purpose of draining lubricants shall be of the permanent magnet type.

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2.1.13 Protective cover. Weatherproof covers shall be provided to protect components exposed to ice or precipitation.

2.1.14 Equipment flooring. Equipment flooring shall be of steel tread-plate. All steps and platforms shall have a nonskid self-draining surface.

2.1.15 Sound levels.

2.1.15.1 Cab interior sound level. The vehicle interior sound level shall be in accordance with 49 CFR 393.94.

2.1.15.2 Vehicle exterior sound level. The vehicle exterior sound level shall be in accordance with 49 CFR 325.

2.1.16 Field of vision. The operator field of vision shall be in accordance with 49 CFR 393.78 through 393.80.

2.1.17 Foreign object damage. All loose metal parts, such as pins, shall be securely attached to the vehicle with wire ropes or chains. "Dog tag" style beaded chains shall not be provided. Removable panels, if provided, shall be attached with captive fasteners. Tire valve stem caps shall be made of plastic.

2.1.18 Workmanship. The high reach maintenance platform truck, including all parts and accessories, shall be fabricated in a thoroughly workmanlike manner. Particular attention shall be given to freedom from blemishes, burrs, defects, and sharp edges; accuracy of dimensions, radii of fillets, and marking of parts and assemblies; thoroughness of welding, brazing, soldering, riveting, and painting; alignment of parts; tightness of fasteners; et cetera. The high reach maintenance platform truck shall be thoroughly cleaned of all foreign matter.

2.2 Chassis and vehicle components. The chassis shall be a standard truck model or a custom chassis designed with requirements of a deicing/servicing vehicle.

2.2.1 Engine. The vehicle shall have a turbocharged diesel engine that is certified to comply with the Environmental Protection Agency (EPA) on-highway emission requirements at the time of manufacture.

2.2.2 Transmission. A fully automatic transmission with a hydraulic torque converter and at least five forward speeds shall be provided. The normal driving range selector position shall provide at least four gear ratios without movement of the selector.

2.2.3 Towing connections. Tow hooks shall be installed on the frame structure, or on suitable members attached directly to the frame; two shall be installed at the front (one on each side of the frame centerline), and at least one at the rear. Load ratings of tow hooks shall be at least 200 percent of the tow weight.

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2.2.4 Cooling system. A heavy duty cooling system shall be provided, which shall maintain engine coolant at a temperature below the boiling point with the unit fully loaded and operated in an ambient air temperature of not less than 125°F at sea level.

2.2.5 Fuel system and fuel tank(s). The fuel system shall be in accordance with 49 CFR 393.67. The truck shall have one or two fuel tanks with a minimum usable capacity of 60 gallons. When two tanks are furnished, automatic switching with manual override shall be provided.

2.2.6 Exhaust system. The exhaust system shall be in accordance with 49 CFR 393.83. A vertical exhaust, if furnished, shall be capable of being reached easily by personnel entering or leaving either side of the cab. If a vertical exhaust is provided, it shall be equipped with a hinged rain cap and a ¼ inch hole at the base of the exhaust stack to drain exhaust condensate. In addition, the exhaust system shall be shielded to prevent hydraulic fluid from leaking onto the hot exhaust system in the event of a hydraulic line rupture or leak.

2.2.7 Steering. The high reach maintenance platform truck shall be equipped with power steering and be left-hand drive.

2.2.8 Tires and wheels. The truck shall be equipped with tubeless steel belted radial ply tires with non-directional mud and snow type tread. Tire and wheel assemblies shall be identical at all positions. A spare tire and wheel assembly shall be provided and mounted in an easily accessible location. Tires shall be new; retreads, recaps, or re-grooved tires shall not be permitted.

2.2.9 Brake system. The vehicle shall be equipped with an all-wheel antilock brake system; the brakes shall be fully air-actuated. Brakes shall be in accordance with 49 CFR 393.40 through 393.42(b) and 393.43 through 393.52. The braking system complete with all necessary components shall include:

- a. Air compressor having a capacity of not less than 12 standard cubic feet per minute (scfm).
- b. Air storage reservoir(s), each tank equipped with drain, safety, and check valves between the compressor and the reservoir tank.
- c. At least one automatic moisture ejector shall be provided in the system.
- d. Automatic slack adjusters on cam brakes or internal self-adjusting brakes on wedge and disc brakes on all axles.
- e. Spring set parking brakes.

All components of the braking system shall be installed in such a manner as to provide adequate road clearance when traveling over uneven or rough terrain, including objects liable to strike and cause damage to the brake system components. No part of the braking system shall extend below the bottom of wheel rims, to ensure, in case of a flat tire, that the weight of the vehicle will be supported by the rim and the flat tire and not be imposed on any component of the braking

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system. Slack adjusters and air chambers shall be located above the bottom edge of the axle carrier.

2.2.9.1 Air dryer. A replaceable cartridge desiccant air dryer shall be installed in the air brake system. The dryer shall have the capability of removing not less than 95 percent of the moisture in the air being dried. The dryer shall have a filter to screen out oil and solid contaminants. The dryer shall have an automatic self-cleaning cycle and a thermostatically controlled heater to prevent icing of the purge valve.

2.2.10. Vehicle cab. The chassis shall include an enclosed, heated cab for the vehicle driver and a passenger. Standard truck cab equipment, such as heater/defroster, lights, electric wipers and washer, rear view mirrors, et cetera, shall be provided.

2.3 Electrical system. The high reach maintenance platform truck shall have a 12 volt electrical system.

2.3.1 Starting system. A 12 volt starting system shall be provided.

2.3.2 Alternator. The vehicle shall be equipped with an alternator rated at not less than 60 ampere.

2.3.3 Batteries. Each battery shall have a 12 volt potential and be a maintenance-free type battery; addition of water shall not be required during normal service life. The battery cover and vent system shall be designed to prevent electrolyte loss during service and to keep the top of the battery free from electrolyte. The total reserve capacity rating and the total cold cranking rating shall be in accordance with SAE J537.

2.3.3.1 Battery compartment. The battery box shall have a drain hole and a plug. The battery box also shall have positive restraints on cables (applicable models) when removing the box cover.

2.3.4 Electromagnetic interference. The control of electronic interference on the high reach maintenance platform truck shall be in accordance with MIL-STD-461E, radiated emission (RE)102 and radiated susceptibility (RS)103 (30 Megahertz (MHz) to 18 Gigahertz (GHz)).

2.3.5 Wiring. Wiring for the body shall be in accordance with applicable portions of the General Section of SAE J1292. All wiring exposed to possible physical damage, such as wiring on a compartment floor, or wiring where tools or materials may cause the wire to be frayed or shorted, shall be protected by the use of heavy wall thermoplastic conduit or steel conduit having waterproof connections. Grommets shall be used for all wiring going through any hole or body framework.

2.3.6 Lighting. All vehicle lights and reflectors shall be in accordance with 49 CFR 393, subpart B. Lighting shall be furnished for night-time operations of sufficient candle power to illuminate ground and platform control panels and front and rear outriggers position, body load-space, and all equipment contained therein.

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2.3.6.1 Floodlights. Two 4.5 inch minimum diameter sealed beam floodlights with universal mounts shall be installed. The floodlights shall be actuated from inside the cab for illuminating the work area. In addition, two 50 candela sealed-beam floodlights shall be mounted on the platform and adjustable to illuminate the front, side, above, and below the platform for night operation. These lights shall be actuated from the basket.

2.3.6.2 Beacon. One or more amber, rotating, vehicular warning beacon(s) shall be provided. The beacon(s) shall be mounted with reinforcements at the point of attachment on or near the left front corner of the cab guard for 360° visibility.

2.3.6.3 Turn signals. The high reach maintenance platform truck shall be provided with double-faced front signal units and with single-faced rear units installed in accordance with SAE J588, except the turn signals shall not be mounted on the engine hood. Front side mounted turn signal lamps shall also be furnished to compensate for the lack of double faced front mounted turn signals. A heavy duty flasher for the system shall be furnished; with both visual and audio (bell) indicators. Turn signal controls shall be mounted on the steering column. Turn signals shall be self-canceling, with controller mounted on the steering column.

2.3.7 Heater connections. A recessed, male, three-prong, 110 volt receptacle in accordance with style D or X of W-C-596G shall be provided for the power plant heaters and mounted and placarded on the outside of the cab. The receptacle shall be in a protected location and shall have a spring-loaded dust cap included as part of its housing. A three-wire connecting cable shall include a matching female connector at the vehicle end and a standard, weatherproof, three-pronged (two power plus one ground) male connector at the other end. A carrier for the connecting cable shall be mounted within the cab or engine compartment and shall provide positive cable retention during vehicle operation.

2.3.8 Power plant heater kit. A power plant heater kit shall be installed on the unit prior to delivery. The kit shall provide standby type winterization and shall include properly selected 110 volt heaters and thermostats. Heaters shall be of sufficient capacity to place the unit in an operating condition at -40°F within 60 minutes. A warning light in cab shall be provided to indicate when external heater is connected.

2.4 Controls, panels, and gages. The high reach maintenance platform truck shall have controls that are conveniently operable by the driver. All operating and servicing controls shall be easily operable by personnel wearing heavy arctic gloves and outer clothing; Mission Oriented Protective Posture (MOPP) IV gear.

2.4.1 Panels. All panels shall be easily opened by personnel wearing MOPP IV gear.

2.4.2 Instruments and gages. All instruments and gages mounted on the control panel shall have the following features:

- a. Uniform in appearance.
- b. Shock-mounted for instruments subject to error due to vibration.

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- c. A removable weather-resistant metal cover to provide maximum protection to gages, wiring, electrical connections, and terminals enclosed on the back of the control panel.
- d. Lighted instruments and gages.
- e. Identified as to their function.
- f. Installed in a manner to facilitate removal and servicing.

2.4.3 Ground Controls. In addition to the work platform controls (see 2.6.4), hand operated (electro-servo type) controls for the boom articulation, platform and the turntable shall be provided at a ground level control station. The controls shall be easily operated by a person wearing MOPP IV gear. The ground controls shall be positioned in a location that provides a clear, unobstructed view of all ranges of motion of the boom and platform during operation. These ground level controls shall override the work platform boom controls in the event of a disabling accident or injury to the operator(s) on the platform. The controls shall be in accordance with 4.3 of ANSI/SIA A92.2-2001.

2.5 Aerial tower (boom). The aerial tower (boom) shall be designed and manufactured in accordance with ANSI/SIA A92.2-2001, and designed for a minimum working load of 1,500 pounds on the platform while in any extended position with the stabilizers extended on even, uneven, and inclined surfaces.

2.5.1 Aerial tower structural components. Aerial tower structural components shall be in accordance with 4.2 of ANSI/SIA A92.2-2001. Extension and retraction with the boom in any position shall be smooth without lurching and shall not exceed a maximum deflection of 9.0 inches at a working load of 1,500 pounds. In the stowed position, the boom shall extend no greater than 4.0 feet beyond the vertical plane of the truck's front bumper.

2.5.2 Range of platform movement. The aerial assembly shall be capable of a minimum 180° horizontal rotation in either direction from neutral (stowed) position. The boom(s) shall raise the work platform to the height required to position personnel and equipment necessary to perform servicing, maintenance, component replacement, et cetera, on all exterior surfaces of the C-5 aircraft horizontal stabilizer 70 feet above ground level. Each half of the horizontal stabilizer is of a trapezoidal configuration which is 34 feet from tip to root, 8 feet wide at the tip and 21 feet wide at the root. Egress and ingress onto the aircraft from the work platform shall be direct and unobstructed. Handholds and steps shall be provided, if necessary, to enable personnel wearing heavy winter clothing easy and safe entry and exit of the work platform. The aerial assembly shall provide a minimum horizontal reach (radius) of not less than 58 feet, and allow platform to be positioned to within 12 inches (measured to the platform floor) of all upper surfaces of the horizontal stabilizer.

2.5.3 Boom and turntable operation. Boom rotation shall be achieved by a turntable, mounted on a chassis, which swings through a minimum 180° arc in either direction. The turntable assembly shall be rotated by a hydraulically operated motor. The turntable shall be so constructed as to

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eliminate all side thrust on the motor shaft. The motor shall rotate the loaded platform 360° in not less than 4 minutes and no more than 6 minutes.

2.5.4 Proof-load. The proof-load shall be two times the working load. With the outriggers fully extended, the boom extended in any position, and the platform subject to the proof-load, the vehicle shall not exhibit signs of instability. The load shall not cause permanent deformation of the platform, boom, outriggers, or any other components of the vehicle.

2.5.5 Outrigger and aerial boom interlock system. A combination electrical and mechanical interlock system shall be provided to ensure the boom is properly and safely stowed. Failure to lower the boom and satisfactorily engage the interlock system shall prevent the outriggers from being retracted and shall prevent the vehicle from being put into gear.

2.6 Work platform. The outside dimensions of the working area shall be a minimum of 36 by 96 inches. The platform shall be designed for a normal working load of 1,500 pounds. The platform shall incorporate a means of a minimum 90° articulation, a minimum of 45° right and left of its neutral position to assure interfacing with vertical aircraft surfaces. A replaceable rubber bumper shall be provided to prevent damage to aircraft surfaces.

2.6.1 Guardrails. Two rigid guardrails shall be provided around the perimeter of the work platform. The top rail shall be 42 inches (1067mm) high, plus or minus 3 inches(76mm) above the platform surface, designed to with-stand 300 pounds of force(1335 newtons) in any direction. The lower guardrail shall be midway between the kick plate and upper guardrail. The lower guardrail of the work platform shall be hinged to provide access from gateways to the platform and horizontal stabilizer. The guardrails shall be in accordance with 4.9.1 of ANSI/SIA A92.2-2001.

2.6.2 Platform flooring. The work space shall have reinforced, expanded-metal flooring with a clear working area of at least minimum 32 inches from front to back and at least minimum 92 inches from side to side. The upper surface shall provide safe footing to personnel wearing MOPP IV gear; especially heavy arctic boots. No point on the flooring shall deflect more than ¼ inch when subjected to a concentrated vertical load of 300 pounds covering an area of 25 square inches.

2.6.3 Kick plate. The kick plate shall be in accordance with subparagraph (3) of 4.9.1 of ANSI A92.2-2001.

2.6.4 Platform controls. Hand-operated (electric servo type) controls for the boom, platform articulation, and the turntable shall be provided on the platform structure. The controls shall be easily operated by a person wearing heavy MOPP IV gear, including heavy gloves. The controls shall be so positioned that the operator can actuate the handles by pushing or pulling them in a horizontal direction. The controls shall be mounted to give operator maximum visibility of the working side of the platform. The controls shall be in accordance with 4.3 of ANSI/SIA A92.2-2001.

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2.6.5 Aerial device re-activation indicators. If the operator maneuvers the aerial device into an unallowable position causing the system to lock up, indicators on both the platform control panel and the ground control panel shall clearly show the source of the problem.

2.6.6 Safety belts. Three positive-type safety belts with quick release features and a rated strength of 500 pounds each shall be provided. The belts shall be designed to allow freedom of movement of the operators in the platform. The safety belt mounting locations should not limit operator's access to horizontal stabilizers.

2.6.6.1 Attachment for fall protection. An anchor whose design is capable of supporting a static load of 5,000 pounds (2273 kg), shall be provided for appropriate fall protection for an occupant of the platform and increased by a safety factor of 0.2 (20%) for each additional occupant. If separate anchors are used for each occupant, each anchor shall be capable of supporting a static load of 5,000 pounds (2273kg). The strength requirements shall only apply to the anchorage(s) and their attachment to the aerial device. In accordance with ANSI A92.2, para 4.9.4.

2.6.7 Communication system. A communication system, equipped with voice-activated headsets at both the platform and at the lower controls, shall be provided. With all systems operating simultaneously, the operator positioned in the extended work platform (120 feet) and wearing a voice-activated headset shall be able to clearly communicate with the operator on the ground level (vice-versa).

2.6.8 Proximity sensor. The platform shall have a proximity sensor to stop the motion of the platform upon contact with the aircraft or other structures. The maximum force required to actuate the sensor shall be 10 pounds.

2.6.9 Materials handling system. A hydraulically extensible, hydraulically articulated jib crane and a hydraulically powered winch system shall be furnished at the work platform to provide a means of removing and installing aircraft parts. The system shall be capable of lifting a 1,000 lb load in any position of the jib or the work platform. This system shall be installed in a manner that automatically keeps it level with the work platform at all positions of the boom and so that it rotates as an integral part of the work platform when the platform is rotated from side to side. It shall also be possible to rotate the unladen jib on its base independently from the work platform and, when not in use, to store it out of the way of operators in the platform. Removal of the jib is not an acceptable form of storage.

2.6.10 Pneumatic system. A pneumatic system including an air supply line shall be installed from the truck to the platform to deliver air to power standard, commercial grade pneumatic hand tools. Two standard female style quick disconnects with automatic shut-off shall be provided on the work platform and one at the truck. All parts, fittings and components for mounting and safe operation shall be provided. The air supply lines shall be routed with minimum bends and located or guarded from damage during platform use.

2.6.11 Electrical receptacles. One 120 volt AC, 20 ampere electrical outlet shall be provided on the platform to allow the safe operation of standard commercial hand tools. The electrical circuit shall contain a circuit breaker. It shall have a weatherproof covering with spring hinged doors

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and shall provide two female receptacles. The power source for the circuit shall have a rating equal to or greater than the maximum continuous current required during operations of all alternating current components.

2.7 Outriggers. Four outriggers shall be supplied and ensure adequate stability of the truck when a 1,500 pound load is applied to the work platform. In all extended positions, the outriggers shall be in accordance with 4.5 of ANSI A92.2-2001.

2.8 Hydraulic system. A complete hydraulic fluid system shall be provided consisting of the components required to perform all hydraulically powered operations with the degree of control specified herein. As a part of this system, one male and one female standard commercial quick release connector and cap shall be provided at the platform to power hydraulic tools. The caps shall be suitably tethered to the connector assembly.

2.8.1 Hydraulic cylinders. All hydraulic cylinders shall be in accordance with ANSI/SIA A92.2-2001.

2.8.2 Hydraulic lines and fittings. Nonflexible metal tubing shall be used in the hydraulic system where flexing is not encountered during operation of the boom assembly. Flexible hose or collector rings shall be used where flexing of hydraulic lines is encountered and where installation of components require a flexible coupling. Hydraulic hose assemblies shall be in accordance with SAE J1273 and 4.6 of ANSI/SIA A92.2-2001.

2.8.3 Hydraulic pump. A hydraulic pump shall be provided with necessary pressure and flow capacities to operate all hydraulically-powered components. While operating at normal rated speed, the pump shall have sufficient capacity to simultaneously elevate the platform (under maximum rated load conditions) from the lowest to the highest position and to rotate the platform 360 degrees in not less than 4 minutes or more than 6 minutes.

2.8.4 Hydraulic fluid reservoir. A hydraulic fluid reservoir shall be provided with a capacity to hold the maximum volume of fluid that will be retained in the reservoir under any position of the boom assembly. Also, a minimum of 20 percent additional air space shall be provided to handle expansion, foaming, and surging of the fluid in the reservoir. The reservoir shall be marked to show use of oil and the maximum oil level in the reservoir with the boom(s) folded and the lines, cylinders, et cetera, full of oil.

2.8.5 Controlling hydraulic pressure rise. A means shall be provided to control hydraulic pressure rise due to thermal expansion of the hydraulic fluid, in accordance with 4.7.5 of ANSI/SIA A92.2.2001. The aerial device shall be capable of continuous operation of the unit for periods as long as four hours with 1,500 pounds on the work platform without failure of the hydraulic system.

2.8.6 Hydraulic system protection. The hydraulic system shall be equipped with appropriate devices to prevent motion of the platform in the event of hydraulic line failure, in accordance with 4.8 of ANSI/SAI A92-2-2001.

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2.8.6.1 Emergency lowering of elevated platform. At a minimum, a bleed-down valve, capable of being manually controlled at the base of the boom and on the platform control panel, shall be provided to permit lowering of the platform in the event of a hydraulic line failure. An auxiliary motor or other suitable device is also appropriate to expedite the lowering process. Tooling shall be provided to allow the boom turntable to be rotated away from any object under the work platform during an emergency lowering of the boom / platform.

2.9 Delivery system. All components of the delivery system shall withstand the working pressure specified herein and a hydrostatic pressure of at least twice the specified working pressure without leakage or failure. The system shall deliver a pre-mixed 60/40 (60% water/40% deicer fluid concentrate specified in 2.1.2.3) deicing fluid mixture or Type IV anti-icing fluid in sufficient quantity to meet ambient weather conditions that ensure aircraft air worthiness. A method of selecting either Type I deicing or Type IV anti-icing fluids shall be provided at the platform. The delivery system shall be designed to accommodate a deicing truck system pressure up to 260 psig; with a minimum of 200 psig.

2.9.1 Spray nozzle. A spray nozzle shall be provided. The connection between the delivery hose and spray gun shall allow the gun to swivel on the hose. A means of storing and protecting the nozzle when not in use shall be provided. The nozzle shall be operable by personnel wearing heavy arctic gloves. Delivery of the fluids shall be positively controlled by a lever type valve on the body of the nozzle. The nozzle shall deliver water and fluid at the appropriate gallons per minute (gpm) flow rate on the spray gun: 20, 50, 70, and 80 gpm are to be measured at the nozzle.

2.9.2 Cleaning compound spray apparatus (wand). A spray gun assembly shall be provided on the compound hose to deliver the cleaning compound fluids at the rate of at least 15 gpm at a working pressure of 200 psi \pm 10.

2.9.3 Storage box, delivery system components. A box shall be provided to store delivery system components of 2.9.1 and 2.9.2 when not in use. The storage box shall be deck-mounted, low-profile, and weatherproof with a capability to withstand a load of 300 pounds without permanent deformation. In addition, a means of securing contents (e.g., hasp and padlock) of the storage box shall also be provided.

3. REGULATORY REQUIREMENTS.

3.1 Recycled, recovered, or environmentally preferable 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

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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.

4.1 Classification of inspections. The inspection requirements specified are classified in 4.1.1 and 4.1.2, below.

4.1.1 First production inspection. The contractor shall provide or arrange for all test equipment and facilities per 4.4.

4.1.2 Conformance inspection. Each production vehicle shall be subjected to the examinations and tests described in 4.4.3.

4.2 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 marketplace. The government reserves the right to require proof of such conformance.

4.3 Commercial item requirement. The vehicle furnished shall comply with the "commercial item" definition of Federal Acquisition Regulation (FAR) 2.101 as of the date of award. The government reserves the right to require the offeror/contractor to prove that their product complies with the referenced commerciality requirements and each salient characteristic of this CID.

The offeror/contractor shall provide an itemized technical proposal that describes how the proposed model complies with each salient characteristic of this CID; a paragraph by paragraph response to the salient characteristics section of this CID shall be provided. The offeror/contractor shall provide two copies of their commercial descriptive catalogs with their offer as supporting reference to the itemized technical proposal. The offeror/contractor shall identify all modifications made to their commercial model in order to comply with the requirements herein.

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

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- 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.
- e. Interference between the vehicle components or between the vehicle, the ground, and all required obstacles, with the exception of normal contact by the tires.
- f. Misalignment of components.
- g. Evidence of undesirable road ability characteristics, including instability in handling during cornering, braking, and while traversing all required terrain.
- h. Conditions that present a safety hazard to personnel during operation, servicing, or maintenance.
- i. Overheating of the engine, transmission, or any other vehicle component.
- j. Evidence of corrosion.

4.4.3 Detailed inspection requirements. Each high reach maintenance platform truck shall be examined to verify compliance with the requirements herein. A Government approved checklist that identifies each relevant requirement and the inspection results shall be used. 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 high reach maintenance platform truck function shall be verified. Each production high reach maintenance platform truck shall be inspected to a reduced version of the checklist.

<u>Paragraph Reference</u>	<u>Required Certifications and Analyses</u>
2.1.7 Environmental conditions, 2.1.10 Component lifting provisions, 2.2.4 Cooling systems, 2.6.9 Materials handling system	Contractor certification of the environmental conditions, component lifting provisions, cooling systems, and materials handling system are in accordance with requirements and capabilities specified herein.

4.4.3.1 Air transportability analysis. An air transportability analysis shall be provided to the government representative at the first production test to begin the air transportability certification

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process. The analysis shall outline the steps necessary to load the high reach maintenance platform truck onto the specified aircraft, including diagrams, drawings, or instructions of the high reach maintenance platform truck preparation, loading, shoring, and tie down procedures (including engineering analysis of the tie down devices) for the high reach maintenance platform truck, along with critical dimensions, high reach maintenance platform truck weights, axle weights, et cetera.

4.4.3.2 Set up/operating position demonstration. The first production high reach maintenance platform truck shall be tested to demonstrate compliance with 2.1.6.

4.4.3.3 Mobility tests.

4.4.3.3.1 Roadability test. The fully loaded first production high reach maintenance platform truck shall be driven over ten miles of paved and ten miles of cross country terrain consisting of open fields, broken ground, and uneven terrain. All loads shall be removed and all structure and surfaces shall be visibly inspected for failure or permanent deformation. Test shall demonstrate compliance with 2.1.8.1.

4.4.3.3.2 Maximum speed test. The first production high reach maintenance platform truck shall be tested to demonstrate compliance with 2.1.8.2. A time-distance recorder shall be used to record data for this test.

4.4.3.4 Dimension measurement. The overall length, width, and height of the first production high reach maintenance platform truck shall be measured to demonstrate compliance with 2.1.9.

4.4.3.5 Sound level tests.

4.4.3.5.1 Cab interior sound level test. The cab interior sound levels of the first production high reach maintenance platform truck shall be measured in accordance with 49 CFR 393.94(c) to demonstrate compliance with 2.1.15.1.

4.4.3.5.2 Vehicle exterior sound level test. The exterior sound level of the first production high reach maintenance platform truck shall be measured in accordance with 49 CFR 325 to demonstrate compliance with 2.1.15.2.

4.4.3.6 Field of vision measurement. The field of vision of the first production high reach maintenance platform truck shall be measured to demonstrate compliance with 2.1.16.

4.4.3.7 Electromagnetic interference test. The first production high reach maintenance platform truck shall be tested in accordance with MIL-STD-461 to demonstrate compliance with 2.3.4.

4.4.3.8 Range of platform movement test. The first production high reach maintenance platform truck shall be tested to demonstrate compliance with 2.5.2.

4.4.3.9 Boom and turntable operation test. The first production high reach maintenance platform truck shall be tested to demonstrate compliance with 2.5.3.

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4.4.3.10 Proof-load test. Each high reach maintenance platform truck shall be subjected to a proof-load of at least 2 times the working load (minimum of 3,000 pounds), which shall be placed on the platform when the boom assembly is in any extended position and with the outriggers extended on even, uneven, and inclined surfaces. There shall be no indication of permanent distortion or of instability of the unit. Test shall demonstrate compliance with 2.5.4.

4.4.3.11 Interlock system demonstration. The outriggers and aerial boom of the first production high reach maintenance platform truck shall be operated to demonstrate that the interlock system complies with 2.5.5.

4.4.3.12 Communication system demonstration. The communication system of the first production high reach maintenance platform truck shall be operated to demonstrate compliance with 2.6.7.

4.4.3.13 Proximity sensor test. The proximity sensor of the first production high reach maintenance platform truck shall be tested to demonstrate compliance with 2.6.8.

4.4.3.14 Stability test. The first production high reach maintenance platform truck shall be tested in accordance with 4.5 of ANSI A92.2-2001 to demonstrate compliance with 2.7.

4.4.3.15 Continuous operation test. The aerial device of the first production high reach maintenance platform truck, with a 1,500-pound load in the work platform, shall be operated continuously for at least 4 hours, with no external cooling, to demonstrate compliance with 2.8.5.

4.4.3.16 Drift control test. The aerial device of the first production high reach maintenance platform truck, with a 1,500-pound load in the work platform, shall be tested to demonstrate compliance with 2.8.6.

4.4.3.17 Platform emergency lowering system demonstration. The platform emergency lowering system of the first production high reach maintenance platform truck shall be operated to demonstrate compliance with 2.8.6.2.

4.4.3.18 Spray gun and nozzle test. The spray gun and nozzle of the first production high reach maintenance platform truck shall be tested to demonstrate compliance with the flow rate and pressure requirements of 2.9.1.

4.4.3.19 Cleaning compound spray gun and nozzle test. The cleaning compound spray gun and nozzle of the first production high reach maintenance platform truck shall be tested to demonstrate compliance with the flow rate and pressure requirements of 2.9.2.

5. PACKAGING.

5.1 For acquisition purposes, the packaging requirements shall be as specified in the contract or order. When actual packaging of materiel is to be performed by Department of Defense (DOD) personnel, these personnel need to contact the responsible packaging activity to ascertain

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requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES.

6.1 Source of documents.

6.1.1 Department of Defense and Federal documents may be obtained at <http://assist.daps.dla.mil> or from the Document Automation and Production Service, Bldg 4D (DPM-DODSSP), 700 Robbins Avenue, Philadelphia PA 19111-5094.

6.1.2 The Code of Federal Regulations (CFR) may be obtained at <http://www.gpoaccess.gov/cfr/> or from the Superintendent of Documents, U.S. Government Printing Office, Washington DC 20402.

6.1.3 SAE International documents may be obtained <http://www.sae.org/servlets/index> or from SAE, Inc., 400 Commonwealth Drive, Warrendale PA 15096.

6.1.4 ANSI/EIA standards may be obtained at <http://www.ansi.org> or <http://www.eia.org> or available from the Electronics Industry Association, Engineering Department, 2001 Pennsylvania Ave., N.W., Washington, D.C., 20006. Phone: 1-800-854-7179 (USA and Canada).

6.1.5 FAR and DFARS may be obtained from the Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954. Electronic copies of the FAR may be obtained from <http://www.arnet.gov/far/>. Electronic copies of the DFARS may be obtained from <http://www.acq.osd.mil/dp/dars/dfars.html>

6.2 Intended use. The high reach maintenance platform truck is intended for use as a maneuverable work platform for maintaining, inspecting, servicing, and spraying large aircraft such as the C-5, C-17, C-130, and C-141. Furthermore, the operator will use the platform to egress and ingress the aircraft during maintenance. It may also be used for maintenance of hangar facilities.

6.3 Ordering data. The contract or order should specify the following: title, number, and date of this commercial item description.

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6.4 Key Words.

Articulating Aerial Tower
Egress/ Ingress
Heavy Duty Chassis
HRMP
Work Vehicle

Custodian:
Air Force - 84

Preparing activity:
Air Force – 84

Reviewer:
DLA-GS

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 Online database at <http://assist.daps.dla.mil>.