

INCH-POUND

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SUPERSEDING

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COMMERCIAL ITEM DESCRIPTION

TRUCK, AIRCRAFT SERVICING (AST), 3 TON HIGH LIFT FOR LOADING C-5 AIRCRAFT UPPER DECK

The General Services Administration has authorized the use of this Commercial Item Description as a replacement for MIL-T-87999 for all federal agencies.

1. **SCOPE.** This Commercial Item Description (CID) describes an Aircraft Servicing Truck (AST) utilizing a diesel engine, automatic transmission, and commercial cab and chassis, with an elevating van body capable of servicing the upper deck of a C-5 military aircraft. The AST will transport a three ton (6,000 pound) payload, and will be capable of elevating, and transferring the payload a minimum of 27 feet above ground level. The AST will be air transportable on C5 military aircraft.

2. **SALIENT CHARACTERISTICS.** The AST shall be an assembly of new materials and shall be free of defects in design and construction affecting maintainability, serviceability, durability and appearance. The AST shall conform to the more stringent of State or Federal laws applicable to a vehicle of this type, for mobility on the public roads and on the flight line service area for the defined purpose. All components of the AST shall be represented in the manufacturer's commercial sales literature as standard or optional equipment. Failure of the AST to meet the defined salient characteristics shall be cause for rejection of the vehicle. The AST shall be provided with and/or meet all of the following.

2.1 **Cab/Chassis and Vehicle Components.** The AST shall be based on a commercial cab and chassis, complying with FED-STD-794. The elevating van body system shall comply with the recommendations of SAE Aerospace Recommended Practice ARP1247, General Requirements for Aerospace Ground Support Equipment, Motorized and Non-motorized, and as specified herein. The AST van body shall contain, protect and hoist personnel or cargo. The minimum payload capacity shall be 6,000 pounds.

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data that may improve this document should be sent to: WR-ALC/AFLCMC/WNZEB, 235 Byron Street, Suite 19A, Robins AFB GA 31098-1813 or emailed to SPEC99@us.af.mil . Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at https://assist.dla.mil/ .

AMSC N/A

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2.2 Cab Design. The AST cab shall be a full-width commercial cab. The cab shall be equipped with an hour meter in addition to the standard commercial instrumentation. When specified (see 6.2 a), a metric speedometer and odometer shall be provided. The cab shall be equipped with wipers, a windshield washer, driver and passenger-door rear-view mirrors, visors, heater/defroster, interior dome light, seat belts, and other equipment as found in standard commercial offerings. When specified (see 6.2 b), cab shall be equipped with an Air Conditioning system. When specified (see 6.2 c), cab shall be equipped with heated driver and passenger-door rear-view mirrors.

2.3 Chassis Design. The AST chassis shall be equipped with a power train consisting of a diesel engine of not less than six cylinders and an automatic transmission. The engine shall be equipped with an automatic throttle actuator that automatically increases the engine speed when the hydraulic pump for the body lifting mechanism, outriggers, or service platform is engaged, and decreases the engine speed when the load is removed. This automatic throttle actuator shall only function when the transmission selector is in the “park” position (or the “neutral” position if there is no “park” position available). The power train shall possess sufficient cooling capacity to perform in high ambient temperatures of +125 °F without exceeding the manufacturer’s maximum allowable temperatures on the individual power train components. The diesel engine shall operate satisfactorily when using Jet A-1 (JP-8) fuel. Power train shall be equipped with a standard (type C) winterization package that is good for starting down to –20 °F, or when specified (see 6.2 d), a heavy-duty (type A) winterization package good for storage down to –65 °F and starting to –40 °F. Winterization package components with external power requirements shall be compatible with 110VAC/20A circuitry. The chassis shall meet applicable Tier 2 (export equivalent) exhaust and evaporative emissions standards in effect at the time of vehicle manufacture. The chassis shall have a rear bumper installed. The chassis shall be equipped with a back-up alarm. The chassis shall be equipped with power steering. The chassis shall be equipped with two hooks, loops, or pins for towing the vehicle on the front of the chassis, and two hooks, loops, or pins for towing the vehicle on the rear of the chassis. The chassis shall be equipped with two 10 pound (minimum) dry chemical type fire extinguishers with a mounting bracket, and a ULC rating of 30B:C (minimum). One fire extinguisher shall be mounted on each side of the chassis. The chassis shall be provided with a spare tire assembly of the same size, tread design, and load range as the tires furnished on the chassis, a carrier for the spare tire assembly, the necessary tire tools (to include a jack) for changing any wheel on the chassis with a flat tire, 25-foot heavy-duty jumper cables, and three emergency reflective triangles.

2.4 Mobility. The fully loaded AST (Gross Vehicle Weight (GVW) + the driver and one passenger (weighing 200 pounds each) + a 6,000 pound payload) shall be capable of ascending a 1% continuous grade at a minimum of 50 miles per hour (MPH). The AST shall be capable of a minimum of 58 MPH on flat asphalt or concrete surfaces.

2.5 Stabilizing System. The AST shall have a hydraulically-powered, outrigger-type stabilizing system capable of preventing blow-over or tip-over of a fully loaded and fully elevated van body, with the service platform fully extended. Wind loads and jet blasts are defined in SAE-ARP1247, paragraph 3.13.1.9. The stabilizing system shall have controls located in the cab, adjacent to or on the lifting system control station (see 2.6), positioned to be accessible to a person standing on the ground with the driver’s door open. A minimum of four outriggers with an interlock shall be incorporated in the stabilizing system. The body shall be able to be lifted to a maximum calculated stable height of not less than 10 feet without the use of outriggers. Above the

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maximum calculated stable height, outriggers shall be deployed. The outrigger interlock shall prevent the body from being lifted above the maximum calculated stable height without the outriggers deployed, and shall prevent the outriggers from being retracted once the van body has been lifted above the maximum calculated stable height (see 2.6). Automatic, pilot-operated check valves shall be incorporated into each outrigger to preclude movement of deployed outriggers in the event of a hydraulic, electrical or power source failure. Each outrigger shall be provided with an automatic, positive-locking device which will hold the outrigger in the retracted position without settling, which may be manually released.

2.6 Lifting System. The AST shall have a powered lifting system capable of lifting the van body floor to a minimum of 27 feet above level ground. The powered lifting system shall be capable of operating in ambient temperatures of -40°F to $+125^{\circ}\text{F}$. The powered lifting system shall be driven by a heavy duty power take-off (PTO) attached to the AST's transmission, and a hydraulic pumping system that is controlled by a switch in the cab. The PTO shall not be of the split-shaft design. The lifting system shall have two control stations. The first lifting system control station shall be located in the cab, positioned to be accessible to a person standing on the ground with the driver's door open. The second lifting system control station shall be located inside the van body at the left (driver's) side front corner. Each lifting system control station shall override the other. The lifting system controls shall be electrically operated and of the "dead-man" type. Prior to lifting the van body, two operations shall occur for the lifting mechanism to be in an operational mode: (1) the parking brake shall be applied, and (2) the shift selector for the transmission shall be shifted into the "park" or "neutral" position. The lifting mechanism will then be in an operational mode. Prior to lifting the van body above the maximum calculated stable height, a third operation shall occur: (3) the stabilizing system for the AST shall be deployed. If the parking brake is removed at any time during the lifting operation or while the van body is in a lifted position, the AST's engine shall shut down, thus stopping the hydraulic pumping system. An interlock shall be provided to prevent the transmission from engaging a forward or reverse gear at any time during the lifting operation or while the van body is in a lifted position. Additionally, when lifting the van body above the maximum calculated stable height, an outrigger interlock shall prevent the outriggers from being retracted (see 2.5). Automatic, pilot-operated check valves shall be incorporated in the hydraulic system to preclude body descent in the event of a hydraulic, electrical or power source failure. Metering valves shall be incorporated in the hydraulic system to provide gradual starting and stopping of the hoist to eliminate shock due to start and stop. A "limit" switch shall be incorporated on the chassis to limit or stop the downward motion of the descending body as it approaches the chassis resting position. A manual device or valve shall be incorporated into the system to lower the body in case of an electrical or power source failure. A manual locking device shall be incorporated into the system to positively retain the body and hoist at a raised position of not less than 100 inches, measured from the ground level to the body floor.

2.7 Van Body. The AST shall be equipped with a closed van, aircraft servicing body, for the purpose of containing and protecting a 6000 pound payload of personnel and cargo. The van body shall have minimum finished interior dimensions of 78 inches high, 90 inches wide and 168 inches long. The front and rear walls shall have manual activated counter-balanced roll-up doors, with clear openings not less than 54 inches wide by 72 inches high. Also included shall be side windows and cargo tie-down points. Tire chain clearance shall be provided between the tires and the floor sub-structure above.

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2.7.1 Walls and Roof. The van body walls and top shall be of an insulated, double wall construction. The body exterior shall be of weatherproof materials and construction, while operating at highway speeds. Drip moldings shall be provided above the roll-up doors and windows. The body interior wall and ceiling surfaces shall be covered with not less than ¼ inch thick, unfinished, A-B, exterior grade plywood. A white, commercial-quality, interior-wall covering may be added to the plywood wall covering if it is standard commercial practice to do so. Interior corners, between the walls and between the walls and ceiling, shall be covered with radiused metal (cove) strips. The intersecting corners of cove strips shall be joined with a matching inverted metal corner cap.

2.7.2 Floor. The van body floor shall provide a permanent slip free (when wet) surface under high foot traffic and wheeled cart transport. The floor shall support the maximum design load, uniformly distributed at 1000 pounds per square foot, at any location, without permanent deflection. Additionally, the floor shall support ¼ of the payload in any of the four corners (1500 pounds distributed over 1.50 square feet). Floors constructed of more than one piece shall have the joints reinforced from below and shall provide an uninterrupted work surface, without exposed seams or edges. The floor edges shall be radius bent to project up the interior walls at least four inches, with welded corners. Heavy gauge cove strips, extending at least four inches up the interior walls, may be substituted for radius bending the floor. The intersecting corners of cove strips shall be joined with a matching inverted radius metal corner cap. A drain shall be located at the center of the floor.

2.7.3 Doors. Roll-up doors, counter-balance tracks and hardware shall not obstruct the minimum front and rear van body clear opening requirement. All components of each door and seal shall be fabricated of corrosion resistant materials, and shall provide a weatherproof assembly while operating at highway speeds. Each door shall be restrained to prevent over-travel. Each door shall have latches provided at the midpoint of the door. Each latch shall be operable and lockable from both inside and outside of the body. Each door shall have a loop style pull-down strap hanging within 60 inches of the floor, with the door fully open. An open mesh metal barrier shall protect the back of the cab should the front door be open, while the body is in the down position. The metal mesh shall be capable of preventing a 1-½ inch diameter projectile from striking the cab and shall not be sharp edged.

2.7.4 Windows. Four windows with a minimum clear glass area of 12 inches wide by 18 inches high, shall be located on the van body, two per side. Windows shall be centered at the ¾ point of the wall height above the floor. Windows shall be of a horizontally top-hinged awning type or horizontally center-hinged awning type, and fitted with safety glass and interior screens. Windows shall latch and shall be mechanically opened and limited to no more than three inches. Hinged and latched guards shall be located on the inside body and shall protect the window from being struck by a ½ inch round projectile, while providing at least 50% free area.

2.7.5 Cargo-restraint points. A minimum of 24 rope-tie cargo-restraint points shall be provided, 12 per side wall. The cargo restraints shall be equally spaced in three tiers of four each and attached to wall structural members. Tier height shall be at six inches, and at 1/3 and 2/3 of the wall height above the floor.

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2.7.6 Service Platform. The front of the AST shall be equipped with a service platform with guard rails for front-end loading. The service platform shall provide a full, body-width walkway. The service platform shall be capable of powered extension and retraction.

2.7.6.1 Service platform Guard Rail. The service platform guard rail shall be a minimum of 42 inches high measured from the floor to the top of the guard rails, shall move, extend and retract with the platform, and shall provide full protection from one front corner of the van body, around the platform, to the other front corner of the van body. The front guard rail(s) shall be removable with quick-release devices or hinged for access into the aircraft. Hangers shall be provided in the body for stowage of the removable guard rail(s).

2.7.6.2 Service platform Dimensions. The service platform shall be of the same width as the elevating body. The service platform and guard rail shall be capable of extending a minimum of 7 feet beyond the AST front bumper, toward the aircraft.

2.7.6.3 Service platform Characteristics. The service platform shall have a stored position not less than 3 inches above the AST cab behind the AST front bumper. The platform floor shall be constructed of material designed for high traffic, slip free wet service, under foot and wheeled car transport. The platform floor shall support a single 1000 pounds per square foot load, at any point on the floor, at any position, with the range of platform motion, without permanent deflection. The platform floor shall travel vertically and flush with the van body floor, when above the stored platform position.

2.7.6.4 Service platform Threshold Plates. Threshold plates shall provide a means to preclude the feet of operating personnel in the van body from being trapped between a rising van body and the stored platform structure. Threshold plates shall span between the van body and the platform and over the extending section of the platform. The threshold plates shall span over trip hazards.

2.7.6.5 Service platform Contact Edge. The leading edge of the platform shall have a cylindrical, hollow, cushioned edge with an outside diameter of not less than 7 inches at the aircraft contact point. The contact edge shall also have a pressure sensing device that shall limit the aircraft contact pressure, at any point, to no more than 15 pounds of force. A means shall be provided to arrest the extension feature of the service platform when the cushioned edge contacts any external object. The service platform positioning controls shall be located adjacent to the hoist controls located in the van body.

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2.10 Rear Bumper with Integral Step. A rear bumper with an integral step shall be provided. The rear bumper shall be configured to provide rear protection and step access to the van body floor. A safety tread step, integral with the rear bumper, shall be provided to assist personnel entering the body interior when the body is in its lowered position. The step shall extend across the full width of the body, shall be a minimum of 10 inches deep, and a maximum of 20 inches above the ground.

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2.12 Warning Signs. A warning sign specifying the payload capacity of the AST Body shall be provided on the body visible to a driver entering the driver's cab door. Warning signs shall be furnished in critical locations reading: "KEEP HANDS AND FEET CLEAR OF LIFT WHILE LIFT IS IN OPERATION".

2.13 Electrical System. The AST shall be equipped with a 12V electrical system. The system shall be designed such that there is sufficient electrical power for all electrical components under the most extreme of conditions. The battery(ies) shall be maintenance free. All external chassis wiring shall incorporate weather-proof connections and terminations. Exceptions to this are under-hood terminal strips and electrical posts that are protected from the elements. All body wiring shall be in corrugated-vinyl loom, and a circuit box with a door panel and spring loaded latch shall be provided. The interior of the circuit box door panel shall have a wiring schematic attached to it. Any wire splicing (typically resulting from special-request options) shall incorporate a mechanically-crimped connector, solder and heat-shrink tubing.

2.14 Lighting.

2.14.1 Basic Lighting. Lighting shall be equivalent to the standard commercial offering to include parking lights, head lights (high and low beam), brake lights, turn signals, and hazard lights. The basic lighting system shall be in compliance with FMVSS requirements.

2.14.2 Cargo Transfer Lights. Two sealed-beam lights with a minimum of 30,000 candlepower shall be provided for night cargo-transfer operations and mounted on an adjustable base. The cargo transfer lights shall be activated by a labeled switch at the hoist controls, in the cab and the body. The lights shall be mounted on the roof, facing forward near the front roll-up door. When specified (see 6.2 e), two additional cargo transfer lights shall be mounted on the rear of the van body.

2.14.3 Interior Light. Four interior recessed wall lights shall be provided, two per side of the van body. The lights shall be located and of sufficient intensity to provide a minimum light level of 40 foot candles at any location inside the body. Each light lens shall be protected by a hinged guard allowing service access to the light. Lights shall be switched at a location near the van body hoist controls.

2.14.4 Warning Lights. Two red flashing warning lights shall be provided. The warning lights shall be activated by a labeled switch at the hoist controls, in the cab and the body. One light shall be located over each roll-up door.

2.14.5 Spotlights. When specified (see 6.2 f), the AST shall be equipped with adjustable spotlights, capable of illuminating 180 degrees of elevation and 360 degrees of rotation, and located on the driver's and passenger's side of the cab. The spotlights shall be installed in the door-to-windshield pillar, and shall be steerable from the both positions, inside the cab.

2.14.6 Beacon Warning Light. A flashing amber beacon warning light shall be mounted above the roofline on the centerline of the AST.

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2.15 Tool Box. A weatherproof tool box shall be provided and located on the chassis frame rail underneath the AST body. The tool box shall be fabricated from a minimum of 10 gauge steel, and shall have a bottom-hinged side door with corrosion-resistant stay chains to provide a shelf when the door is opened in the horizontal position. A hasp with latch and provisions for a padlock shall be provided. The tool box shall be of the appropriate size to stow tire tools and equipment as specified in paragraph 2.3, as well as load restraint devices used by personnel.

2.16 Electro-magnetic interference (EMI). The AST shall comply with EMI requirements of MIL-STD-461 for Radiated Emission per RE102 for Air Force ground equipment.

2.17 Finish. Prior to the application of the finish top coat, any body or chassis component specifically manufactured by or for the AST manufacturer, from sheet, plate, angular, or tubular steel, shall be painted with a zinc-rich primer. As specified (see 6.2 g), the AST shall be painted White, color closest to Strata Blue, Dark Green (Color 14052, FED-STD-595), or Desert Sand (Color 13448, Fed-STD-595) using the manufacturer's standard commercial paint system. A "special option" may be available from the OE chassis-cab manufacturer to have the chassis cab delivered to the AST manufacturer in the specified paint colors above, eliminating the need for the AST manufacturer to paint the cab, and providing an OEM-quality finish top coat. If this "special option" cannot be obtained, chassis cabs shall be ordered from the OE chassis-cab manufacturer in a color that is close to the final color that the AST will be painted (i.e. ordered in black or dark green for a final finish coat in the specified dark green color, and gold for a final finish coat in the desert sand color). Prior to applying the finish top coat, the chassis cab's OEM finish shall be properly prepared by surface conditioning (scuffing with an abrasive material and cleaning) the paint at a minimum. The finish top coat shall extend into the door jambs and hood jambs to the extent that the OEM finish color cannot be seen through the gaps between the body panels when the doors and hood are closed. The complete exterior color of the body shall match the exterior color of the AST.

2.18 Corrosion Protection. The AST shall be corrosion-protected with a thick, hard, black, commercially-available Corrosion Preventive Compound (CPC) that is difficult to remove. Application shall include the exposed body-chassis metal (both OEM and added) underneath the AST (excluding the drivetrain). In addition, ASTs that are to be shipped overseas shall be temporarily corrosion-protected from the effect of salt spray both on the ship and at port with the application of a thin, soft-film, semi-transparent, commercially-available CPC that is easily removable by washing or with a low pressure steam. Application of the temporary CPC shall be to the exterior of the tow tractor, in critical or corrosion sensitive areas of the vehicle. The overseas Air Force vehicle maintainers shall remove this temporary CPC on receipt of the AST from the shipper. The Technical Manual shall reflect the temporary CPC removal process.

2.19 Air Transportability. The AST shall be air transportable on C-5 aircraft without shoring to load the aircraft (referred to as approach shoring and step-up shoring). Use MIL-STD-1791 as a guide. In all transport configurations, the AST 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 AST 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.

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2.19.1 Air Transportable Configuration. The air transportable configuration shall include all equipment, $\frac{3}{4}$ tank of fuel, and no crewmembers. At least 6.0 inches sidewall and 6.0 inches overhead clearance shall be maintained between the AST and the aircraft at all times during loading and flight. The restrained AST shall allow for loadmaster in-flight access from the front to the rear of the aircraft.

2.19.2 Equipment Removal/Configuration. Preparation and restoration of the AST for air transportability shall take no more than 15 minutes for two persons using common non-powered hand tools. All equipment removed shall be stored in the AST; caps and plugs shall permit driving and storage in transport configuration.

2.19.3 Tie Down Points. The AST shall be symmetrically restrained during air transport. Tie down points shall be rated at a minimum of 10,000 pounds, 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 AST.

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

2.20 Transportation Data Plate. The AST shall be provided with a permanently marked transportation data plate constructed of a non-corroding metal, mounted on both exterior sides of the van body. The plate shall contain at least the following information:

- a. Side and rear silhouette views of the AST
- b. Horizontal and vertical location of the center of gravity of the AST 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

The information contained on the transportation data plate shall also appear in the Technical Manual as it is presented on the plate.

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2.21 Identification Plate. The AST shall be provided with a permanently marked identification plate constructed of a non-corroding metal, mounted in the AST cab on the driver's door panel, and a rear license plate mounting bracket with license plate attaching hardware. The variable information on the identification plate shall be engraved onto the plate by a method that produces a consistent lettering quality. At a minimum, the identification plate shall include the following information:

- a. Vehicle Nomenclature
- b. Manufacturer's Make and Model Number
- c. Manufacturer's Vehicle Identification (serial) Number or VIN
- d. Registration Number
- e. National Stock Number (NSN)
- f. Manufacturer's address and phone number
- g. Date of Manufacture
- h. Contract Number
- i. Warranty: (month and km (miles))
- j. Vehicle Curb Weight: kg (pound)
- k. Maximum Payload: kg (pound)
- l. Gross Vehicle Weight (GVW): kg (pound)
- m. Gross Combination Weight Rating: kg (pound)

The information contained on the identification plate shall also appear in the Technical Manual as it is presented on the plate.

2.22 Lubrication Data Plate. The AST shall be provided with a permanently-marked lubrication data plate constructed of a non-corroding metal, mounted on one of the exterior sides of the van body that shall direct attention to all lubrication fittings and components that require lubrication. The plate shall identify the type and grade of lubricant required for all operational temperatures. The information contained on the lubrication data plate shall also appear in the Technical Manual as it is presented on the plate.

2.23 Technical Manual. The contractor shall provide AST manuals. The contractor's parts manuals shall list the part numbers for contractor-manufactured parts, plus the part numbers for purchased sub-level components and whole components.

2.24 Instructional Media Package. The contractor shall provide with each AST, an instructional media package (video) that verbally and visually provides all information for the operation and routine maintenance of the AST and its components, using the commercial manuals as a baseline.

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3. REGULATORY REQUIREMENTS.

3.1 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 incorporated in the tow tractor.

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.

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

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

4.3 Verification. Prior to delivery of the first AST, the contractor shall demonstrate or test at his facility, each requirement of the CID or the referenced documents. Subsequent production AST units shall be inspected using a check list from the AST salient characteristics, and shall be tested per 4.3.3, 4.3.4, 4.3.5, and 4.3.7 (unloaded cycling portion only). Failure of the first production vehicle to comply with the CID or the referenced documents or any of the tests shall be cause for refusal of acceptance, until corrective reconfiguration and successful re-test is completed. Failures also include: structural cracks, misalignment, interference, safety hazards, operational instability, spillage of fluids, fuel or coolant, and overheating.

4.3.1 Cab Design. The first production AST cab shall be inspected for verification of the cab type and the specified equipment mounted in and on the cab.

4.3.2 Chassis Design. The first production AST chassis shall be inspected for verification of the specified engine and transmission components. The engine shall be inspected for verification of the automatic throttle actuator for the hydraulic system, and demonstrated for verification of its function. The cooling system shall be certified by the chassis manufacturer to satisfy all operating conditions at all ambient temperatures up to the specified, for both the engine and transmission. A copy of the AST manufacturer's signed application for approval for the use of

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Jet A-1 or JP-8 fuels in the engine and proof of emissions compliance shall be submitted to the government representative at first production verification with the vehicle documents. The winterization packages shall be certified by the AST manufacturer to satisfy the winterization conditions specified. The chassis shall be inspected for verification of the rear bumper and its specifications, back-up alarm, and towing hooks, loops, or pins. The chassis shall be inspected for verification of the required fire extinguishers.

4.3.3 Mobility. The AST shall be tested by driving the fully loaded AST at an average of 50 MPH, over 10 miles of paved highway. All loads shall be removed and all chassis and van body structure and surfaces shall be visibly inspected for failure or permanent deformation.

4.3.4 Stabilizing System. The first production AST shall be inspected for verification of a hydraulically-powered, outrigger-type stabilizing system. The stabilizing system shall be demonstrated for verification of its function. A schematic of the hydraulics of the stabilizing system and calculations showing the maximum calculated stable height shall be submitted to the government representative at the first production verification. The stabilizing system shall be fully cycled 10 consecutive times. The stabilizing system shall show no reduction in operational speed, and shall not exceed the design limits specified for the lifting system for heat build-up.

4.3.5 Lifting System. The first production AST shall be inspected for verification of a powered lifting system and the specified components and characteristics of the lifting system. The lifting system shall be demonstrated for verification of its functions and measured for verification of the minimum specified lifted height. The lifting system shall be certified by the AST manufacturer to satisfy all operating conditions at all ambient temperatures up to the specified. A schematic of the hydraulics of the lifting system shall be submitted to the government representative at the first production verification. The lifting system shall be fully cycled 10 consecutive times. The lifting system shall show no reduction in operational speed, and shall not exceed the design limits specified for the lifting system for heat build-up.

4.3.6 Van Body. The first production AST shall be inspected for verification of a closed van body and the specified components and characteristics of the van body. The van body shall be measured for verification of its specified dimensions. The maximum design load (6000 pounds over six square feet) shall be located at each of the extreme corners of the van body floor and the hoist shall be fully cycled five times. No evidence of hoist linkage binding, permanent deformation, or other failure mode shall be detected following each load position cycle.

4.3.7 Service Platform. The first production AST shall be inspected for verification of a service platform with guard rails and the specified components and characteristics of the service platform. The service platform shall be demonstrated for verification of its powered extension and retraction functions, and measured for verification of its specified dimensions. The aircraft-contact edge of the service platform shall be tested for verification of the limited contact pressure specification. The service platform shall be fully cycled 10 consecutive times. The service platform shall show no reduction in operational speed, and shall not exceed the design limits specified for the lifting system for heat build-up. With the van body fully elevated, the platform shall be loaded with 750 pounds at the extreme right front corner. The platform shall be fully extended and retracted five times. The load shall then be shifted to the extreme left front corner and the five cycles repeated. At the end of each cycle, the platform and hoist operating systems

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and linkages shall be inspected. No evidence of binding, permanent deformation or other failure mode shall be detected.

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4.3.12 Warning Signs. The first production AST shall be inspected for verification of the specified warning signs.

4.3.13 Electrical System. The first production AST shall be inspected for verification of the specified electrical system. A schematic of the AST's electrical system shall be submitted to the government representative at the first production verification. A tabulation of the current load for the AST cab and chassis for stabilizing, hoist and platform operating systems, and for the van body controls and lighting shall be provided. The load data shall be compared to the alternator output, individual circuits, and wire sizing for the margin of safety in the design.

4.3.14 Lighting. The first production AST shall be inspected for verification of the specified lighting, locations, and functions. Documentation of candlepower of the cargo transfer lights and the interior lights shall be submitted to the government representative at first production verification.

4.3.15 Tool Box. The first production AST shall be inspected for verification of the specified toolbox and contents.

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

4.3.17 Finish. Documentation showing the specifications of the zinc-rich primer used in the AST's production shall be submitted to the government representative at the first production verification. Color sample cards with the specified colors shall be submitted at the first production verification. AST finish documentation shall include any "special option" codes for the top coat finish from the OE chassis-cab manufacturer if applicable.

4.3.18 Corrosion Protection. The first production AST shall be inspected for verification of the specified corrosion protection. Documentation of the application process and certification of the level of corrosion treatment shall be submitted to the government representative at the first production verification.

4.3.19 Air Transportability. An air transportability report shall be submitted to the government representative at first production verification to begin the air transportability certification process. The report shall outline the steps necessary to load the AST onto the specified aircraft, including diagrams, drawings, or instructions of the AST preparation, loading, shoring, and tie down

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procedures (including engineering analysis of the tie down devices), along with critical dimensions, AST weights, axle weights, etc.

4.3.20 Transportation Data Plate. The first production AST shall be inspected for verification of the specified transportation data plate.

4.3.21 Identification Plate. The first production AST shall be inspected for verification of the specified identification plate and a rear license plate mounting bracket.

4.3.22 Lubrication Data Plate. The first production AST shall be inspected for verification of the specified lubrication data plate.

5. PACKAGING.

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

5.2 Unless otherwise provided in the contract or order, the AST shall be prepared for delivery by common carrier.

6. NOTES.

6.1 Source of documents.

6.1.1 Department of Defense and Federal documents may be obtained online at <http://quicksearch.dla.mil/> or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia PA 19111-5094.

6.1.2 FAR. FAR may be obtained from the Superintendent of Documents, P.O. Box 371954, Pittsburgh PA 15250-7954. Electronic copies of the FAR may be obtained online at <https://www.acquisition.gov/far/index.html>

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

6.2 Ordering data. The contract or order should specify the following:

- a. When metric speedometer and odometer is required (see 2.2).
- b. When air conditioning is required (see 2.2).
- c. When driver and passenger-door, heated rear-view mirrors are required (see 2.2).
- d. When heavy-duty (type A) winterization is required (see 2.3).
- e. When two additional cargo transfer lights are required (see 2.14.2).
- f. When driver and passenger spotlights are required (see 2.14.5).
- g. Finish color required (see 2.17).

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6.2.1 National Stock Number (NSN). The following is a list of NSNs assigned that correspond to this CID. The list may not be indicative of all possible NSNs associated with this CID.

NSN
2320-01-305-6339
2320-01-305-6340

6.3 **Key Words**.

AST
 Diesel engine
 Payload transport
 Van Body

6.4 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

CONCLUDING MATERIAL:

Custodians:
 Air Force – 184

Preparing Activity:
 Air Force – 184

Reviewers:
 Air Force – 99

Agent:
 Air Force – 99

(Project 2320-2014-001)

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 <https://assist.dla.mil/> .