

INCH-POUND

A-A-59932

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COMMERCIAL ITEM DESCRIPTION

TACTICAL VEHICLE, ARMORED

The General Services Administration has authorized the use of this Commercial Item Description for all federal agencies.

1. SCOPE.

This document covers a commercial, armored tactical vehicle. The vehicle is capable of carrying a payload of 2,500 lbs and towing a load of up to 4,200 lbs across all surfaces, include primary roads, secondary roads, and cross county. The vehicle provides ballistic protection to a 4-man crew and is capable of equipping either a roof mounted turret and weapon or the Common Remote Operated Weapon Station (CROWS).

2. SALIENT CHARACTERISTICS.

2.1 Vehicle description. The vehicle shall be a vehicle capable of transporting a four man crew, plus cargo, on and off road in accordance with the specifications contained in this document. The vehicle shall have a roof mounted turret and provide ballistic protection sufficient to safeguard the crew during operation in hostile environments. It shall be maintainable with standard tools and built with parts supplied from commercial sources and shall have a service life of at least 12 years.

2.2 Design and construction. The design shall promote cost effective, life-cycle sustainability by addressing considerations such as incorporating open standards, reducing pollutant emissions and wastes, and increasing fuel economy, while satisfying system performance requirements. It shall be designed and constructed so that no parts will work loose in service, and to withstand the strains, jars, vibrations, and other conditions incident to shipping, storage, installation, and service. It shall be weatherproof and designed to prevent the intrusion of water, sand, and dust into critical operating components.

2.2.1 Materials, protective coatings, and finish.

Comments, suggestions, or questions on this document should be addressed to: U.S. AIR FORCE Air Logistics Center - AFLCMC/WNZEB, 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/> .

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2.2.1.1 Protective coatings. Materials that deteriorate when exposed to sunlight, weather, or operational conditions normally encountered during the service life of the item shall not be used or shall have means of protection against such deterioration that does not prevent compliance with the performance requirements specified herein. Protective coatings that chip, crack, or scale with age or extremes of climatic conditions or when exposed to heat shall not be used. Exposed surfaces of fasteners, handles, and fittings shall also be primed and painted. See 2.2.4.1 for prohibited hazardous materials.

2.2.1.2 Finish. The exterior finish color of the vehicle and the inner surfaces of compartments shall be Desert Sand, Color Number 30313 of FED-STD-595.

2.2.1.3 Exclusion of water. The design of the vehicle shall be such as to prevent water leaking into, or being driven into, any part of the vehicle interior when either in an operating or travelling configuration. All windows, doors, panels, covers, etc., shall be provided with sealing arrangements such that the entry of water is minimized when these items are correctly closed. Particular care shall be taken to prevent wetting of equipment and heat and sound proofing materials. Sharp corners and recesses shall be avoided so that moisture and solid matter cannot accumulate to initiate localized attack. Sealed floors with suitable drainage shall be provided for storage compartments, engine compartments, and other areas in the vehicle that could collect and retain water.

2.2.1.3.1 Fluid traps and faying surfaces. There shall be no fluid traps on the vehicle. Faying surfaces of all structural joints, except welded joints, shall be sealed to preclude fluid intrusion.

2.2.1.3.2 Ventilation. Ventilation shall be sufficient to prevent moisture retention and buildup.

2.2.1.3.3 Drainage. Drain holes shall be provided to prevent collection or entrapment of water or other unwanted fluid in areas where exclusion is impractical. All designs shall include considerations for the prevention of water or fluid entrapment and ensure that drain holes are located to effect maximum drainage of accumulated fluids. The number and location of drain holes shall be sufficient to permit drainage of all fluids when the vehicle is on a 10-degree longitudinal slope facing both up and down and on a 10-degree side slope in each direction (right and left side facing up the slope). The minimum size of the drain holes shall be 0.375 inch.

2.2.2 Markings. All external devices which require an operational or maintenance interface shall be marked in accordance with MIL-STD-130. Markings shall be applied with decals and shall be 1-inch high block letters unless prohibited by the available space. In such cases, the markings shall be the largest size possible. Markings, Information/Caution shall be Lusterless Black, Color Number 37038 of FED-STD-595, and Markings, Warning/Danger shall be Lusterless Red, Color Number 31136 of FED-STD-595. The center of gravity of the vehicle shall be marked on the unit within 1-inch of the calculated center of gravity. Tire inflation pressure shall be marked as near to each tire as practicable.

2.2.3 Identification and information plates.

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2.2.3.1 Identification plate. A permanently-marked identification plate, constructed of a non-corroding metal, in accordance with MIL-STD-130 shall be securely attached to the vehicle mounted on the inside of the vehicle, on the dash or driver's door. The identification plate shall contain the following information, engraved onto the plate by a method that produces a consistent lettering quality: nomenclature, part number, serial number, registration number, contract number, date of manufacture, manufacturer's name and phone number, Commercial and Government Entity (CAGE) code, date of warranty expiration, National Stock Number (NSN), vehicle curb weight, maximum payload, gross vehicle weight, and fuel capacity and type. The vehicle and any of its components for which the Government's unit cost is more than \$5,000, is serially managed, or the procuring agency determines is mission essential, shall have Unique Identification (UID) (also known as Item Unique Identification (IUID)) information permanently affixed on or near the respective identification plate(s), marked in accordance with MIL-STD-130. UID information shall be included as both a bar code and human readable markings.

2.2.3.2 Transportation data plate. A permanently-marked transportation data plate, constructed of a non-corroding metal, shall be securely attached to the vehicle in a readily accessible location. The plate shall contain at least the following information:

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

2.2.3.3 Lubrication data plate. The vehicle shall be provided with a permanently-marked lubrication data plate constructed of a non-corroding metal, mounted on the driver's side of the vehicle 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 operational temperatures specified in 2.3.1.

2.2.3.4 Rear license plate bracket. The vehicle shall be equipped with a rear mounted license plate bracket and accompanying hardware.

2.2.4 Environment, Safety, and Occupational Health (ESOH).

2.2.4.1 Hazardous material. The design shall minimize and control hazards associated with the inclusion or use of hazardous or toxic materials and the generation of toxic or noxious gases. The

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vehicle shall not generate or use Class I or Class II Ozone Depleting Substances (ODS) during operation, maintenance, or disposal. Class I ODS and controlled substances identified in Chapter 4 of AFI 32-7086 shall not be used in any system, component, or process. The vehicle shall not contain or use either hexavalent chromium or cadmium without written approval by the procuring activity.

2.2.4.2 Component protection. All space in which work is performed during operation, service, and maintenance shall be free of hazardous protrusions, sharp edges, or other features which may cause injury to personnel. All rotating and reciprocating parts and all parts subject to high operational temperatures or subject to being electrically energized, that are of such nature or so located as to be hazardous to personnel, shall be guarded or insulated to eliminate the hazard. All wires, cables, tubes, and hoses shall be supported and protected to minimize chafing and abrasion and shall be located so as to provide adequate clearance from moving parts and high operational temperatures. Grommets shall be provided wherever wires, cables, tubes, or hoses pass through bulkheads, partitions, or structural members.

2.2.4.3 Foreign object damage (FOD). All loose metal parts, such as pins or connector covers, 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.

2.2.4.4 Fire extinguisher. Two dry chemical fire extinguishers, Type 1, Class 1, Size 2-1/2 in accordance with A-A-393, shall be mounted in the vehicle, one adjacent to the driver and the second in the passenger compartment.

2.2.4.5 Noise. The design shall ensure that noise created by the vehicle is compatible with the environment and minimize exposure of personnel to noise hazards during operations and maintenance activities. The interior noise created by the vehicle shall not exceed 75 decibels, in accordance with Federal Motor Carrier Safety Regulations 49 CFR 393.94.

2.2.4.6 Electrostatic discharge (ESD). The design of the vehicle shall preclude equipment damage due to ESD, protect personnel from electrical shock due to static charging, and prevent ignition of explosive atmospheres due to sparking.

2.2.5 Electromagnetic interference (EMI). The vehicle shall be in accordance with the following radiated emission and susceptibility requirements of MIL-STD-461: RE102 and RS103.

2.2.6 Human systems integration. The vehicle shall be designed in accordance with MIL-STD-1472 for ease of operation, inspection, and maintenance, including the use of arctic mittens and Mission-Oriented Protective Posture (MOPP) Level 4 Chemical Warfare Gear. Chemical Warfare Gear is not required for preventive maintenance or major corrective maintenance.

2.2.7 Fastening devices. All screws, bolts, nuts, pins, and other fastening devices shall be properly designed, manufactured, and installed with adequate means of preventing loss of torque or adjustment. Cotter pins, lock washers, or nylon patches shall not be used for this purpose, except

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for the attachment of trim items or as provided in commercial (see 6.3.4) components. Tapped threads shall have a minimum thread engagement in accordance with Table I.

TABLE I. Minimum thread engagement.

Material	Minimum Thread Engagement
Steel	1.0 times the nominal fastener diameter
Cast iron, brass, or bronze	1.5 times the nominal fastener diameter
Aluminum, zinc, or plastic	2.0 times the nominal fastener diameter

2.2.8 Welders and welding. All welders shall be certified to weld in accordance with AWS D1.1 and AWS D1.2, as applicable. The contractor shall make available to the Government certifications for all welders being utilized on the vehicle. Welding procedures and all welding on the vehicle shall be in accordance with AWS D1.1 and AWS D1.2, as applicable. The surface parts to be welded shall be free from rust, scale, paint, grease, and other foreign matter. Welds shall be of sufficient size and shape to develop the full strength of the welded parts. Welds shall transmit stress without cracking or permanent distortion when the parts connected by the welds are subjected to test, proof, and service loadings.

2.3 Environmental conditions.

2.3.1 Operating temperature range. The vehicle shall be capable of operating in ambient temperatures ranging from -40° F to 125° F.

2.3.2 Storage temperature range. The vehicle shall be capable of being stored in ambient temperatures ranging from -60° F to 140° F.

2.3.3 Precipitation.

2.3.3.1 Rain. The vehicle shall be capable of storage and operation during rainfall of 5-inches per hour for three consecutive hours and 10-inches per hour for 10 consecutive minutes, with winds of up to 35 knots; and with 6-inches of rain per hour impinging on the vehicle at angles from vertical to 45° for 30 consecutive minutes.

2.3.3.2 Snow. The vehicle shall be capable of storage and operation during accretion of wet snow up to 2-inches per hour for at least 12 hours.

2.3.3.3 Ice. The vehicle shall be capable of storage and operation with ice accretion up to 1.5-inches on exposed horizontal surfaces. An operator may use an ice scraper for five minutes during the start-up process.

2.3.4 Solar radiation. The vehicle shall not be adversely affected by full time exposure to solar radiation, such as those conditions encountered in desert environments.

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2.3.5 Fungus. All materials used in the vehicle shall be fungus resistant or shall be suitably treated to resist fungus. Materials treated for fungus resistance shall retain their original electronic and physical properties, shall not present toxic hazards, and treatment shall last for the entire service life of the part. The vehicle shall be suitable for operation and storage in conditions encountered in a tropical environment.

2.3.6 Salt fog. The vehicle shall be capable of storage and operation in high temperature, high humidity, salt laden, sea coast environments without damage or deterioration of performance.

2.3.7 Sand and dust. The vehicle shall be capable of storage and operation during exposure to wind-blown sand or dust without damage or deterioration of performance.

2.4 Weight and dimensions. Overall weight and dimensions (see 2.5.2) shall not exceed Table II:

Table II. Overall dimensions.

MEASUREMENT	DIMENSION
Weight	19,000 pounds.
Length	250 inches.
Width	100 inches.
Height	96 inches.

2.5 Transportability.

2.5.1 Surface transportability. The vehicle shall be transportable via all modes of surface shipment (highway, rail, and water) in accordance with MIL-STD-1366, and shall be capable of withstanding the mechanical shock and vibration characteristics of highway, rail, and water transport, except that design for rail impact testing (see 5.2.5 of MIL-STD-1366) is not required.

2.5.2 Tie downs. The vehicle shall be symmetrically restrained during all modes of surface transportability. Tie down points shall be rated at a minimum of 25,000 pounds, marked for capacity, with a clear opening compatible with MIL-DTL-25959 and MIL-PRF-27260 tie down 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 vehicle. The tie down provisions shall be in accordance with 4.1 through 4.12 of MIL-STD-209.

2.6 Maintainability. The vehicle shall be designed for maintainability in accordance with 5.9 through 5.9.18 of MIL-STD-1472; forces shall not exceed those specified for both males and females.

2.6.1 Inspection and servicing provisions.

- a. Pre-use inspections and servicing tasks shall not require tools.
- b. Routine service and preventive maintenance shall not require special tools (see 6.3.10).

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- c. Drain plugs and filters shall be directly accessible from the ground and oriented to have unimpeded drainage to a catch pan.
- d. The vehicle shall be designed with maximum usage of sealed lifetime lubrication bearings.

2.6.2 Special tools. The design of the item shall minimize the requirement for special tools (see 6.3.10). All special tools shall be provided with, and stored on, the vehicle.

2.6.3 Diagnostic software. A copy of any diagnostic software required or recommended for maintaining the vehicle shall be provided with each vehicle on CD-ROM or DVD-ROM.

2.7 Performance.

2.7.1 Payload. The vehicle shall have a minimum payload of 3,000lbs.

2.7.2 Towing capacity. The vehicle shall be capable of towing a total load (including trailer curb weight) of 4,200lbs.

2.8 Mobility. The fully equipped vehicle loaded to its gross vehicle weight rating (GVWR) shall be capable of the following:

- a. Maximum speed. Maintain a speed of 70 miles per hour (mph) on a dry level paved road for at least 1-mile.
- b. Gravel roads. Traverse a graded gravel road (see 6.3.8) at an average speed of 25 mph.
- c. Cross-country terrain. Traverse cross-country terrain (see 6.3.6) at an average speed of 20 mph.
- d. Acceleration. Accelerate from 0- to 60-mph within 26 seconds on a dry level paved road.
- e. Clearances. Have minimum ground clearance of 12-inches, an angle of approach of at least 35-degrees, an angle of departure of at least 20-degrees, and a ramp breakover angle of at least 25-degrees. Definitions of clearance terms shall be in accordance with SAE J1100.
- f. Gradeability. Ascend and descend a 40% grade slope without spillage of any fluid.
- g. Ramp negotiation. Negotiate, in each direction, a 36% grade ramp with connecting two horizontal surfaces. The ramp length shall be at least 1.2 times the wheelbase of the vehicle. The vehicle shall be capable of being driven forward or backward from one horizontal surface across the ramp crest, ascend or descend the ramp, cross the

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- ramp crest, and proceed on the other horizontal surface without any portion of the vehicle, other than its tires, contacting any of the three surfaces.
- h. Side slope negotiation. Negotiate a 30% grade side slope in each direction (right and left side facing up the slope) without spillage of any fluid.
 - i. Turning diameter. Have a wall-to-wall turning diameter, as defined by SAE J695, of 60-feet maximum in both directions.
 - j. Steering force. The force required to turn the wheels from lock to lock, with the vehicle loaded to its GVWR and the engine at low idle speed, shall not exceed 15-pounds when measured at the steering wheel rim.
 - k. Parking brakes. Hold the vehicle motionless on a 40% longitudinal grade in both upgrade and downgrade directions with the transmission in the neutral position. The grade surface shall be dry, hard, and free from loose material. The force required to set the brakes under these conditions shall not exceed 55-pounds.
 - l. Service brakes. Be in accordance with the performance requirements of Federal Motor Vehicle Safety Standard (FMVSS) Number 105.

2.8.1 Transmission. The vehicle shall be equipped with an automatic transmission which shall include a hydraulic torque converter and not less than five forward gear ratios. The net torque capacity and the net power rating of the transmission shall exceed the output ratings of the engine.

2.8.2 Axles. The vehicle shall be equipped with axles rated at least equal to the load imposed on each axle, measured at the ground, with the vehicle loaded to its GVWR.

2.8.3 Suspension. The vehicle shall be equipped with a suspension system with components having a rated capacity at least equal to the load imposed on each member, measured at the ground, with the vehicle loaded to its GVWR.

2.8.4 Steering. The vehicle shall be equipped with a power assisted steering system, with manual steering available in the event of power assist failure.

2.8.5 Brakes. The vehicle shall be equipped with power assisted, self-adjusting, hydraulic brakes on all wheels, with an antilock braking system (ABS), in accordance with FMVSS Number 105.

2.8.6 Tires and wheels. The vehicle shall be equipped with single, 40-inch front and rear tubeless steel belted radial tires with on/off-road type tread mounted on steel disc wheel assemblies. Tire and wheel assemblies shall be identical at all wheel positions. Tires and wheels shall be in accordance with the *Tire and Rim Association Year Book* requirements for this application. Under no circumstance shall the vehicle maximum governed speed exceed the speed rating of any of the furnished tires.

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2.8.6.1 Run flat operation. The vehicle shall be capable of operating at least 30 miles with complete loss of air pressure in two tires. The two flat tires shall be on different axles. Accumulation of mileage shall be in accordance with Table III:

TABLE III. Run flat requirements.

Terrain Type	Distance (miles)	Average Speed (mph)
Cross Country	12.0	12.0
Secondary Road	9.0	21.0
Paved Road	9.0	30.0

2.8.6.2 Spare tire and wheel assembly. When specified (see 6.2.b), a spare tire and wheel assembly (the tire mounted on the wheel) shall be mounted on the vehicle; the assembly shall be identical to the others provided.

2.9 Engine and related equipment. The vehicle shall be equipped with a diesel engine. The engine shall be certified to comply with the most stringent Environmental Protection Agency (EPA) non-road diesel engine emission requirements possible while meeting the requirement to operate on fuels containing over 15 parts per million (ppm) sulfur.

2.9.1 Engine starting system.

2.9.1.1 Starter. The engine shall be equipped with a 12- or 24-volt direct current (DC) electric starter.

2.9.1.2 Engine starting aids. The engine shall start within 15 seconds cranking in any ambient temperature within the required operating range of the vehicle. Internal engine starting aids, fluid starting aids, and heat from the winterization system (see 2.10.3) may be used prior to and during the start period to facilitate engine starting under the following conditions in Table IV:

TABLE IV. Engine starting aids.

Temperature Range	Starting Aids Permitted
40° F through 125° F	None
0° F through 39° F	Internal engine starting aids and fluid starting aids
-40° F through -1° F	Internal engine starting aids, fluid starting aids, and heat from the winterization system

2.9.2 Engine air intake system. The engine air intake system shall be in accordance with 3.13.1.4.3 of SAE ARP1247. The inlet shall not draw air from directly beneath the vehicle and shall not be located near the cooling system air outlet nor the engine exhaust outlet. Joints shall be minimized between the air filter outlet and the actual engine air inlet and shall be designed to ensure no leakage of unfiltered air into the engine. A differential pressure air filter service indicator shall be provided.

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2.9.3 Engine cooling system. The engine cooling system shall be in accordance with 3.13.1.4.2 of SAE ARP1247. Silicone radiator and heater hoses, constant-torque clamps, a coolant filter, and a coolant recovery system shall be provided. Engine coolant shall be in accordance with A-A-52624, Type I, and of adequate strength to provide protection to -40° F. The engine out (top of radiator) coolant temperature shall not exceed 210° F or the engine manufacturer's recommendations at 125° F. The coolant filter shall be rated for one year or 2,000 hours between replacements, with supplementary coolant additives (SCA) either included in the filter or added separately.

2.9.4 Engine lubrication system. The engine lubrication system shall be designed so that the vehicle can be operated on a 20-degree longitudinal slope facing both up and down and on an 11.5-degree side slope in each direction (right and left side facing up the slope).

2.9.4.1 Engine oil. The engine shall be compatible with Grade 15W40 of MIL-PRF-2104 from 0° F to 125° F. Oil pre-heat for operation below 0° F is allowed. The engine shall be compatible with arctic engine oil in accordance with MIL-PRF-46167 from -40° F to 60° F.

2.9.4.1.1 Engine oil operating temperature. The engine oil sump temperature shall not exceed 250° F or the engine manufacturer's recommendations at 125° F.

2.9.4.1.2 Engine oil consumption. The engine oil consumption shall not exceed 0.0035 pounds per brake horsepower-hour (lbs/bhp-hr) under any operating condition.

2.9.4.2 Engine oil filter. The engine oil filter shall be in accordance with 3.13.1.4.4 of SAE ARP1247.

2.9.5 Exhaust system. The exhaust system shall be constructed of stainless steel. The muffler(s) shall be constructed of aluminized steel or stainless steel. Exhaust system outlet(s) shall be directed away from personnel accessing any control panel or equipment compartment and the engine air intake, and shall not be directed toward the ground.

2.9.6 Engine fuels and fuel system.

2.9.6.1 Engine primary fuels. The following shall be primary fuels (see 6.3.9):

- a. JP-8, in accordance with MIL-DTL-83133, -40° F to 125° F ambient air temperature.
- b. 1-D S15, 1-D S500, 1-D S5000 in accordance with A-A-52557 and ASTM D975, below 60° F ambient air temperature.
- c. 2-D S15, 2-D S500, 2-D S5000 in accordance with A-A-52557 and ASTM D975, above 32° F ambient air temperature.

2.9.6.2 Engine emergency fuels. The following shall be emergency fuels (see 6.3.7): Jet A, Jet A1 in accordance with ASTM D1655-05, all ambient temperatures.

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Note: Jet A and Jet A1 may contain corrosion inhibitor/lubricity improver and icing inhibitors which shall result in properties equal to JP-8.

2.9.6.3 Fuel system. The fuel system shall be in accordance with 3.13.1.5.1 through 3.13.1.5.11 of SAE ARP1247 except as otherwise specified herein. The fuel system shall be constructed of materials which are compatible with the fuels listed in 2.9.6. Copper shall not be used in the fuel system. The fuel system shall be equipped with a fuel shut-off valve(s) to prevent continuous spillage when fuel lines are disconnected for service.

2.9.6.3.1 Fuel priming pump. The vehicle shall be equipped with an electric fuel pump. The electric pump shall be used as a priming pump capable of re-priming the engine fuel system following fuel exhaustion.

2.9.6.3.2 Fuel filters. Primary and secondary fuel filters and a heated fuel/water separator shall be provided. The fuel/water separator shall include a water coalescer and a drain valve that is readily accessible by an operator or a mechanic. A combination fuel filter and fuel/water separator may be provided. Fuel filter elements shall be easily replaceable by a mechanic using nothing more than common hand tools (see 6.3.5) without loss of engine prime.

2.9.6.3.3 Fuel tank. The fuel tank shall be in accordance with 3.13.1.5.5 through 3.13.1.5.9 of SAE ARP1247. The tank shall be designed so that the vehicle can be operated on a 40% grade longitudinal slope facing up and down and on a 30% grade side slope in each direction (right and left side facing up the slope). The tank shall have a minimum capacity of 40 gallons. The tank shall be provided with corrosion protection and baffles. A 0.25- to 0.375-inch nominal drain valve shall be provided for emptying fuel and sediment into a container underneath the vehicle without removal of the tank or any other major component. The fuel tank shall have a fuel fill opening of not less than three inch inside diameter and shall be designed to drain fuel spillage overboard for collection outside the vehicle. The fuel cap shall be equipped with a retention device to prevent loss and FOD. The fuel fill opening, fuel cap, and fuel cap retention device shall be fabricated from non-sparking material.

2.9.6.3.4 Range. The vehicle shall operate on internally carried fuel for a distance of at least 300 miles at an average speed of 30 to 40 mph on hard-surfaced roads over rolling terrain.

2.9.7 Engine diagnostic and emergency shutdown systems.

2.9.7.1 Engine diagnostic system. If the engine is equipped with an electronic control module (ECM), a diagnostic system shall be provided with a means to indicate engine faults; it shall be equipped with a controller area network (CAN) buss connector. If the vehicle is equipped with a diagnostic or built-in-test system, the engine diagnostic system shall be integrated with it; if not, it shall be a stand-alone system.

2.9.7.2 Engine emergency shutdown system. The engine shall be equipped with an engine emergency shutdown system consisting of a fuel cutoff solenoid activated by the following conditions:

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- a. Low oil pressure, less than 10 pounds per square inch (psi) or in accordance with the engine manufacturer's recommendations.
- b. Coolant over heat or cylinder head temperature over heat condition in accordance with the engine manufacturer's recommendations.
- c. Engine over speed should the engine exceed 110% rated speed. This is required for engines over 100 brake horsepower (bhp) and optional for engines less than 100 bhp rated horsepower.
- d. Vehicle rollover.

2.9.8 Cab instrumentation. The following instruments shall be provided to the operator:

- a. Tachometer.
- b. Odometer.
- c. Speedometer.
- d. Coolant temperature gauge.
- e. Low coolant level indicator.
- f. Oil pressure gauge.
- g. Oil temperature gauge.
- h. Fuel level gauge.
- i. Hour meter.
- j. Voltmeter.
- k. Transmission temperature gauge.
- l. Tire pressure monitoring system

2.10 Electrical system. The vehicle shall have a 24-volt, negative ground electrical system in accordance with 3.13.1.2 of SAE ARP1247 except as otherwise specified herein.

2.10.1 Alternator. A single or dual alternator charging system rated at not less than 120-ampere in accordance with 3.13.1.4.9 of SAE ARP1247 shall be provided. The alternator shall be capable of restoring the energy expended during an engine start in less than 15 minutes of engine idle at -40° F.

A-A-59932**2.10.2 Batteries and battery compartment.**

2.10.2.1 Batteries. Batteries shall be of the commercial (see 6.3.4) maintenance-free sealed lead acid, starved electrolyte, gas recombination, spiral wrapped, absorbed glass mat (AGM), top post type in accordance with MIL-B-18013/1.

2.10.2.2 Battery compartment. The batteries shall be enclosed in a corrosion-resistant, weatherproof box or compartment and shall be readily accessible.

2.10.2.3 Battery cables. The battery cables shall be sized to handle the system voltage and current levels, be clearly identified with "+" and "-" or red and black markings, and shall not be spliced.

2.10.3 Winterization system. A winterization system may be provided for starting in temperatures below 0° F. The winterization system may include heaters for engine coolant, engine oil, and the fuel tank, as well as battery warmers. The winterization system shall be designed to operate from an external 120 volts alternating current (VAC), 60 Hertz (Hz) power source utilizing the external electrical connections (see 2.10.4). The winterization system shall incorporate high-temperature shutoff switches to prevent overheating of any fluid or component.

2.10.4 Plugs and connectors. The winterization system shall be powered from a 120VAC/60Hz covered, polarized, insulated, labeled, recessed, male, NEMA 5-15 and NEMA 6-15, AC auto-eject receptacle. It shall be located on the exterior of the vehicle. A 25-foot long power cable, with straight blade (non-twistlock) connectors, shall be provided.

2.11 Vehicle cabin. The vehicle shall have a cabin capable of seating four 95th percentile males in individual seats, each with individual weapon racks capable of holding a standard M4 carbine.

2.11.1 Cabin storage. The vehicle shall be equipped with additional storage racks in the rear of the vehicle against the passenger side wall.

2.11.2 Climate control. The vehicle cabin shall be equipped with separately controlled front and rear air conditioning and heat. The heating system shall be capable of maintaining a temperature of 68° F at an ambient temperature of 0° F. The air conditioner shall be capable of cooling the vehicle to 25° F below ambient within 10 minutes of a cold start. The vehicle shall be equipped with a redundant system capable of operating the climate control system when the engine is shut off during periods of extended security to avoid unnecessary engine hours of operation at idle.

2.12 Turret and hatch. The vehicle shall have an assisted opening roof hatch that allows for one-handed operation.

2.12.1 Gun mount. The vehicle shall be equipped with a roof mounted gun mount capable of handling the M240 machine gun, M2 machine gun, MK19 automatic grenade launcher, and M249 automatic rifle, with accompanying adjustable gunner's platform, turret ring gasket, and armored gunner's shield. The turret shall be capable of continuous 360-degree movement.

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2.12.2 Gunner's seat. The vehicle shall have a sling seat and restraint mounted to the turret ring.

2.12.3 Gunner's visibility and protection. The vehicle shall provide 360-degree ballistic protection to the gunner. The gunner's shield shall provide 270-degree visibility via transparent armor.

2.13 CROWS compatibility. The vehicle shall have the capability to accept the Common Remotely Operated Weapon Station (CROWS).

2.14 Exterior lighting. The vehicle shall have a low- or no-profile exterior light bar.

2.15 Armor and ballistic protection. The vehicle shall have hardened steel armor plating in accordance with MIL-DTL-46100 on all sides of the crew compartment, including the roof and floor. The armor on the crew compartment sides shall have sufficient thickness to provide complete ballistic protection to the crew from a minimum of three .50 caliber M-2 ball rounds at 0 degrees obliquity. The armor on the roof and floor shall be a minimum of 0.25 inches thick.

2.16 External public address system. The vehicle shall have an external public address (PA) system with primary controls at the driver and front passenger positions.

2.17 Workmanship. The vehicle, including all parts and accessories, shall be constructed and finished in a thoroughly workmanlike manner. Workmanship objectives shall include freedom from blemishes, defects, burrs and sharp corners and edges; accuracy of dimensions, surface finish, and radii of fillets; thoroughness of welding, painting, and riveting; marking of parts and assemblies; and proper alignment of parts and tightness of assembly fasteners.

2.17.1 Bolted connections. Bolt holes shall be accurately punched or drilled and shall be deburred. Threaded fasteners shall be tight and shall not work loose during testing or service usage.

2.17.2 Riveted connections. Rivet holes shall be accurately punched or drilled and shall be deburred. Rivets shall be driven with pressure tools and shall completely fill the holes. Rivet heads shall be full, neatly made, concentric with the rivet holes, and in full contact with the surface of the component.

2.17.3 Gear and lever assemblies. Gear and lever assemblies shall be properly aligned and meshed and shall be operable without interference, tight spots, loose spots, or other irregularities. Where required for accurate adjustment, gear assemblies shall be free of excessive backlash.

2.17.4 Cleaning. The vehicle shall be thoroughly cleaned. Loose, spattered, or excess solder; welding slag; stray bolts, nuts, and washers; rust; metal particles; pipe compound; and other foreign matter shall be removed during and after final assembly.

2.18 Data.

2.18.1 Service bulletins. The contractor shall prepare Service Bulletins as required, to be issued by Air Force Registration Number, and notify the Government of new maintenance problems and/or procedures to be implemented on the contractor's equipment prior to issuance of permanent

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changes to the technical manuals. The Service Bulletins shall also identify any potential safety hazards.

2.18.2 Manuals. The contractor shall provide a hard copy of Operators, Parts, and Service Manuals to be sent as pack-up data with each vehicle delivered. The contractor shall provide an electronic copy of Operators, Parts, and Service Manuals formatted in Indexed Portable Document Format (IPDF) to Robins Air Force Base.

3. REGULATORY REQUIREMENTS.

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

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

4. PRODUCT CONFORMANCE PROVISIONS.

The products provided shall meet the salient characteristics of this Commercial Item Description, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial marketplace, modified as necessary to comply with the requirements herein. The Government reserves the right to require proof of such conformance.

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

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

4.2 First production inspection. The first production vehicles shall be subjected to the analyses, demonstrations, examinations, and tests described in 4.5.1 through 4.5.13. The contractor shall provide or arrange for all test equipment and facilities. Except as otherwise specified, all testing in which the engine is operated shall be performed using JP-8 turbine fuel.

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

4.4 Inspection requirements.

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

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

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

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

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

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- h. Interference between the vehicle components or between the vehicle, the ground, and all required obstacles, with the exception of normal contact by the tires.
- i. Evidence of undesirable mobility characteristics, including instability in handling during cornering, braking, and while traversing all required terrain.
- j. Shutdown faults from:
 - (1) Engine cooling system.
 - (2) Engine lubrication system.
 - (3) Engine protective circuits.

4.5 Test methods.

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

TABLE V. Certifications and analyses.

Paragraph	Required Certifications and Analyses
2.3.3.2 <u>Snow.</u>	Contractor analysis of the snow load requirement (see 4.5.4.3.2).
2.3.4 <u>Solar radiation.</u>	Contractor certification that the vehicle performance is not adversely affected by full time exposure to solar radiation, such as those conditions encountered in desert environments.
2.3.5 <u>Fungus.</u>	Contractor certification that the materials used in construction of the vehicle are fungus resistant or suitably treated to resist fungus.

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TABLE V. Certifications and analyses – Continued.

Paragraph	Required Certifications and Analyses
2.5.1 <u>Surface transportability.</u>	Contractor surface transportability analysis (see 4.5.6.1.1) and certification that the vehicle is transportable via all modes of surface shipment (highway, rail, and water) in accordance with MIL-STD-1366, and shall be capable of withstanding the mechanical shock and vibration characteristics of highway, rail, and water transport.
2.5.2 <u>Tie downs.</u>	Contractor tie down provision analysis (see 4.5.6.4.1).
2.9 <u>Engine and related equipment.</u> , 2.9.3 <u>Engine cooling system.</u> , 2.9.4 <u>Engine lubrication system.</u> , 2.9.6.1 <u>Engine primary fuels.</u> , and 2.9.6.2 <u>Engine emergency fuels.</u>	Engine manufacturer certification that the engine is in accordance with all applicable requirements, including exhaust emissions standards and fuels. Engine manufacturer application approval for the engine and its installation, including cooling system, lubrication system, and mounting system.
2.13 <u>CROWS compatibility.</u>	Contractor analysis verifying compatibility with the CROWS system.

4.5.2 Noise test. A first production vehicle shall be tested in accordance with SAE J366 to verify that the sound levels are in accordance with 2.2.4.5

4.5.3 Electromagnetic interference test. A first production vehicle shall be tested in accordance with MIL-STD-461: RE 102 and RS 103 to demonstrate compliance with 2.2.5. Any engine fuel in accordance with 2.9.6.1 may be utilized.

4.5.4 Environmental testing.

4.5.4.1 High temperature storage and operation test. A first production vehicle shall be tested in accordance with MIL-STD-810, Method 501.6, Procedures I and II, to demonstrate compliance with the high temperature storage and operating requirements of 2.3.1 and 2.3.2. Test duration shall be one 24-hour cycle for each procedure beginning no less than two hours after test item temperature stabilization.

4.5.4.2 Low temperature storage and operation test. A first production vehicle shall be tested in accordance with MIL-STD-810, Method 502.6, Procedures I and II, to demonstrate compliance with the low temperature storage and operating requirements of 2.3.1 and 2.3.2, as well as the engine starting requirement of 2.9.1.2, the alternator charging requirement of 2.10.1, and (if used) any winterization system requirements of 2.10.3 and 2.10.4. Test duration shall be one 24-hour cycle for each procedure beginning no less than two hours after test item temperature stabilization.

A-A-59932**4.5.5 Weight and dimension tests.**

4.5.5.1 Weight and center of gravity test. The weight of a first production vehicle shall be measured to demonstrate compliance with the weight requirement of 2.4.

4.5.5.2 Dimension measurement. A first production vehicle shall be measured to demonstrate compliance with the dimensional requirements of 2.4.

4.5.6 Transportability verification.**4.5.6.1 Surface transportability verification.**

4.5.6.1.1 Surface transportability analysis. An engineering analysis shall be performed to demonstrate compliance with 2.5.1. The engineering analysis shall utilize the data for road transportation in accordance with MIL-STD-810, Method 514.7, Table 514.7C-II.

4.5.6.4 Tie down provision verification.

4.5.6.4.1 Tie down provision analysis. An engineering analysis shall be performed to demonstrate compliance with the tie down provision requirements of 2.5.2.

4.5.6.4.2 Tie down provision test. A first production vehicle shall be tested to demonstrate compliance with the tie down provision requirements of 2.5.2.

4.5.7 Maintainability demonstration. All recommended preventive maintenance tasks shall be performed and the task times shall be recorded. The recommended frequencies of the preventive maintenance tasks and the times recorded to accomplish the tasks shall be used to develop an expected value of preventive maintenance time per measure of use, such as calendar time or hours of operation. It shall be demonstrated that the forces required do not exceed those allowed in MIL-STD-1472. All preventive maintenance tasks recommended to be performed daily and at the routine PMI shall also be performed by personnel wearing arctic mittens.

4.5.8 Mobility tests. A first production vehicle shall be tested in accordance with Table VIII of SAE AS8090 to demonstrate compliance with the mobility requirements of 2.8—2.8.2, 2.8.4, and 2.8.5. Note that the maximum towing force is 75 pounds per ton of gross weight, in accordance with 3.3.4 of SAE AS8090, rather than 50 pounds per ton of gross weight as stated in Table VIII of SAE AS8090. Unless otherwise specified, the first production vehicle shall perform the mobility tests below at its full GVWR and again at GVWR with a fully loaded trailer to demonstrate compliance with 2.7.1 and 2.7.2.

- a. Maximum speed. A first production vehicle shall be driven at its maximum speed on a dry level paved surface to demonstrate compliance with 2.8.a.
- b. Gravel roads. A first production vehicle shall be driven over gravel roads (see 6.3.8) for a distance of at least 25-miles at an average speed of at least 25-mph.

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- c. Cross-country terrain. A first production vehicle shall be driven over cross-country terrain (see 6.3.6) for a distance of at least 25-miles at an average speed of at least 20-mph.
- d. Acceleration. The time-distance-speed relationship of a first production vehicle shall be determined by accelerating from a standing stop to at least 50-mph on a dry level paved surface to demonstrate compliance with 2.8.f. Not less than four runs, each in opposite directions, shall be conducted. Maximum acceleration shall be the average time to reach 50-mph for all runs. A time-distance recorder shall be used to record data for this test.
- e. Clearances. A first production vehicle shall be parked on a flat level surface and its ground clearance, angle of approach, angle of departure, and ramp breakover angle shall be measured to demonstrate compliance with 2.8.e.
- f. Gradeability. A first production vehicle shall be driven up and down a 40% grade dry paved grade to demonstrate compliance with 2.8.f. Engine oil pressure shall be observed and shall not be less than the engine manufacturer's recommended pressure at the engine operating speed. Engine starting ability shall be demonstrated in both directions on the grade.
- g. Ramp negotiation. A first production vehicle shall be driven forward from a hard, flat horizontal surface and ascend a ramp with a minimum length of 1.2 times the vehicle wheelbase and a slope of at least 36% grade. It shall then proceed across the ramp crest onto an upper connecting hard, flat horizontal surface until all tires are resting on the upper surface, then shall be backed down the ramp until all tires are resting on the lower surface. The test shall then be repeated in the opposite direction.
- h. Side slope negotiation. A first production vehicle shall be driven on a side slope of at least 30% grade with its right side facing up slope; this shall be repeated with the left side facing up slope. Engine oil pressure shall be observed and shall not be less than the engine manufacturer's recommended pressure at the engine operating speed. Engine starting ability shall be demonstrated in both directions on the side slope.
- i. Turning diameter. A first production vehicle shall be tested in accordance with SAE J695 in both directions to measure its wall-to-wall 50-foot turning diameter.
- j. Steering force. A first production vehicle, with the engine at low idle speed, shall be tested to demonstrate compliance with 2.8.j.
- k. Parking brakes. A first production vehicle shall be tested in both directions on a dry, hard grade free from loose material with the transmission in the neutral position to demonstrate compliance with 2.8.k.

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1. Service brakes. A first production vehicle shall be tested on a level, dry, hard surface free from loose material to demonstrate compliance with the stopping distance requirement of 2.8.1. At least four stops in opposite directions shall be made; two stops in each direction. The brakes may be allowed to cool to ambient temperature between stops.

4.5.8.1 Range test. A first production vehicle shall be driven 300 miles on hard-surfaced roads over gently rolling terrain to demonstrate compliance with the range requirement of 2.9.6.3.4.

4.5.8.2 Run flat operation test. A first production vehicle shall be tested with two flat tires, on different axles, over the distances and at the average speeds in Table II to demonstrate compliance with the run flat requirements of 2.8.6.1.

4.5.9 Engine emergency shutdown system. The contractor shall demonstrate that the emergency shutdown system is capable of providing automated and immediate engine shutdown upon system/subsystem malfunction detection or during an unsafe event; system shutdown shall prove to not be hazardous to the vehicle functionality and integrity. The contractor may submit test data and request that AFLCMC/WNZEB review and consider waiving test requirements, provided tests were conducted under realistic conditions and independently managed by qualified third-party test agencies.

4.5.10 Climate control demonstration. A first production vehicle's climate control system shall be demonstrated to show compliance with the climate control requirements of 2.11.2.

4.5.11 Turret functionality test. A demonstration shall be performed on a first production vehicle to verify the turret requirements of 2.12 through 2.12.3, including 360° movement and gun mount compatibility.

4.5.12 Ballistic protection test. A first production vehicle shall be tested to demonstrate compliance with the ballistic protection requirements of 2.15.

4.5.13 CROWS compatibility analysis. An engineering analysis shall be performed to demonstrate compliance with the CROWS requirements of 2.13.

5. PACKAGING.

5.1 Preservation, packing, and marking shall be as specified in the contract or order.

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6. NOTES.

6.1 Source of documents.

6.1.1 Department of Defense and Federal documents. Department of Defense and Federal documents, except for GOST 10227-86, are available online at <http://quicksearch.dla.mil/> or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia PA 19111-5094. A copy of GOST 10227-86 can be obtained from the Procuring Contracting Officer (PCO).

6.1.2 AFI. Copies of AFIs are available online at <http://www.e-publishing.af.mil/>.

6.1.3 CFR. Copies of the CFR are available online at <http://www.ecfr.gov/>.

6.1.3 FAR. The 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 from <http://farsite.hill.af.mil/>.

6.1.4 ASTM documents. Application for copies should be addressed to ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken PA 19428-2959, <http://www.astm.org/>.

6.1.5 AWS documents. Application for copies should be addressed to American Welding Society, 550 N.W. LeJeune Road, Miami FL 33126, <http://www.aws.org/>.

6.1.6 NEMA documents. Application for copies should be addressed to NEMA, 1300 North 17th Street, Suite 1847, Rosslyn VA 22209, www.nema.org.

6.1.7 SAE documents. Application for copies should be addressed to SAE International, 400 Commonwealth Drive, Warrendale PA 15096, <http://www.sae.org/>.

6.1.8 TMC documents. Application for copies should be addressed to Technology and Maintenance Council, American Trucking Associations, 2200 Mill Road, Alexandria VA 22314-5388, http://www.trucking.org/Technology_Council.aspx.

6.1.9 Tire and Rim Association documents. Application for copies should be addressed to The Tire and Rim Association, Inc., 175 Montrose West Ave., Suite 150, Copley OH 44321, <http://www.us-tra.org/>.

6.2 Ordering data. Acquisition documents should specify the following:

- a. Title, number, and date of this CID.
- b. If a spare tire and wheel assembly is required (see 2.8.6.1).
- c. Packaging requirements (see 5.1).

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

NSN	2355-01-558-5864
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6.3 Definitions.

6.3.1. Alternate fuel. A fuel that can be used in place of the primary fuel with a possible loss of efficiency, engine adjustments may be necessary. The use of an alternate fuel may result in a change of maintenance or overhaul cost.

6.3.4 Commercial item.

(1) Any item, other than real property, that is of a type customarily used by the general public or by non-Governmental entities for purposes other than Governmental purposes, and—

(i) Has been sold, leased, or licensed to the general public; or

(ii) Has been offered for sale, lease, or license to the general public;

(2) Any item that evolved from an item described in paragraph (1) of this definition through advances in technology or performance and that is not yet available in the commercial marketplace, but will be available in the commercial marketplace in time to satisfy the delivery requirements under a Government solicitation;

(3) Any item that would satisfy a criterion expressed in paragraphs (1) or (2) of this definition, but for—

(i) Modifications of a type customarily available in the commercial marketplace; or

(ii) Minor modifications of a type not customarily available in the commercial marketplace made to meet Federal Government requirements. Minor modifications means modifications that do not significantly alter the non-Governmental function or essential physical characteristics of an item or component, or change the purpose of a process. Factors to be considered in determining whether a modification is minor include the value and size of the modification and the comparative value and size of the final product. Dollar values and percentages may be used as guideposts, but are not conclusive evidence that a modification is minor;

(4) Any combination of items meeting the requirements of paragraphs (1), (2), (3), or (5) of this definition that are of a type customarily combined and sold in combination to the general public;

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(5) Installation services, maintenance services, repair services, training services, and other services if—

(i) Such services are procured for support of an item referred to in paragraph (1), (2), (3), or (4) of this definition, regardless of whether such services are provided by the same source or at the same time as the item; and

(ii) The source of such services provides similar services contemporaneously to the general public under terms and conditions similar to those offered to the Federal Government;

(6) Services of a type offered and sold competitively in substantial quantities in the commercial marketplace based on established catalog or market prices for specific tasks performed or specific outcomes to be achieved and under standard commercial terms and conditions. For purposes of these services—

(i) “Catalog price” means a price included in a catalog, price list, schedule, or other form that is regularly maintained by the manufacturer or vendor, is either published or otherwise available for inspection by customers, and states prices at which sales are currently, or were last, made to a significant number of buyers constituting the general public; and

(ii) “Market prices” means current prices that are established in the course of ordinary trade between buyers and sellers free to bargain and that can be substantiated through competition or from sources independent of the offerors.

(7) Any item, combination of items, or service referred to in paragraphs (1) through (6) of this definition, notwithstanding the fact that the item, combination of items, or service is transferred between or among separate divisions, subsidiaries, or affiliates of a contractor; or

(8) A nondevelopmental item, if the procuring agency determines the item was developed exclusively at private expense and sold in substantial quantities, on a competitive basis, to multiple State and local Government. (Reference the Federal Acquisition Regulation (FAR) 2.101)

6.3.5 Common hand tool. A non-powered tool that is likely to be found in a typical mechanic’s toolbox. Common hand tools include open end, boxed end, combination, socket (both 6- and 12-point in both standard and deep-well), and hex key wrenches, in SAE sizes up to and including 1-inch and metric sizes up to and including 25-mm; ratchet handles, extensions, and swivels; slotted and Phillips-head screwdrivers; regular and snap-ring pliers; and a ball-peen hammer.

6.3.6 Cross-country terrain. Cross-country terrain consists of unimproved open fields, broken ground, loose sand, and gravel road encountered by tactical vehicles supporting an army in the field.

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6.3.7 Emergency fuel. A fuel that can be used when the primary and alternate fuels are not available. This fuel is not for use on a continuing basis, but is to be only when the primary and alternate fuel and equipment fuels are unobtainable and operation is mission essential. Engine life could be severely impacted.

6.3.8 Gravel road. A gravel road is a level or rolling gravel trail.

6.3.9 Primary fuel. The fuel or fuels used during tests to demonstrate system performance (contract compliance). Substitutions are presented as Alternate and Emergency fuels.

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

6.4 Key words.

Ballistic protection
Payload towing
Strategic vehicle
Turret, roof mounted
Weapon Station, Common, Remotely Operated (CROWS)

Concluding material:

Custodians:
Air Force - 184

Preparing Activity:
Air Force - 184

Agent:
Air Force – 99
(Project 2355-2016-002)

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/>.