
* NOT MEASUREMENT *
* SENSITIVE *

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SUPERSEDING
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FEDERAL SPECIFICATION

SNOW REMOVAL UNITS, ROTARY BLOWER, TRUCK MOUNTED
2400 TONS PER HOUR CAPACITY

This specification is approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

1. SCOPE

1.1 Scope. This specification covers snow removal units with a rotary blower plowhead capable of moving snow at no less than 2,400 tons per hour (tph) and mounted in the front of a four-wheel, four-wheel drive, diesel engine driven truck.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications and standards. The following specifications and standards form a part of this document to the extent specified herein. Unless otherwise specified (see 6.2), the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation.

Beneficial comments (recommendations, additions, deletions) and any pertinent
*data which may be of use in improving this document should be addressed to: *
*Commanding Officer (Code 156), Naval Construction Battalion Center, Port *
*Hueneme, CA 93043-5000, by using the self-addressed Standardization *
*Document Improvement Proposal (DD Form 1426) appearing at the end of this *
*document or by letter. *

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SPECIFICATIONS

MILITARY

- MIL-C-3774 - Crates, Wood; Open 12,000 and 16,000-Pound Capacity.
- MIL-C-52950 - Crates, Wood, Open and Covered.
- MIL-V-62038 - Vehicle, Wheeled, Preparation for Shipment and Storage of.

STANDARDS

FEDERAL

- FED-STD-123 - Marking for Shipment (Civil Agencies).
- FED-STD-297 - Rustproofing of Commercial (Nontactical) Vehicles.
- FED-STD-595 - Colors Used in Government Procurement.

MILITARY

- MIL-STD-129 - Marking for Shipment and Storage.
- MIL-STD-209 - Slings and Tiedown Provisions for Lifting and Tying Down Military Equipment.
- MIL-STD-1223 - Nontactical Wheeled Vehicles Treatment, Painting, Identification Marking, and Data Plate Standards.
- MIL-STD-1410 - Methods for Selection of Industrial Engines for End Item Application.

(Unless otherwise indicated, copies of federal and military specifications and standards are available from the Standardization Documents Order Desk, Bldg. 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.1.2 Other Government documents. The following other Government documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

Code of Federal Regulations (CFR):
Department of Transportation (DoT):

- 49 CFR 325 - Compliance with Interstate Motor Carrier Noise Emission Standards.
- 49 CFR 393 - Parts and Accessories Necessary for Safe Operation.
- 49 CFR 570 - Vehicle in Use Inspection Standards.
- 49 CFR 571 - Federal Motor Vehicle Safety Standards.

(Application for copies should be addressed to the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.)

Code of Federal Regulations (CFR):
Environmental Protection Agency (EPA):

- 40 CFR 86 - Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines: Certification and Test Procedures.

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- 40 CFR 202 - Motor Carriers Engaged in Interstate Commerce.
- 40 CFR 205 - Transportation Equipment Noise Emission Controls.

(Application for copies should be addressed to the Public Affairs Office, Environmental Protection Agency, Rockville, MD 20852; or CFR, Title 40 should be addressed to the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.)

2.2 Other publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified (see 6.2), the issues are those cited in the solicitation.

Society of Automotive Engineers, Inc. (SAE):

- SAE J534 - Lubrication Fittings.
- SAE J551 - Performance Levels and Methods of Measurement of Electromagnetic Radiation from Vehicles and Devices (30-1000 MHz).

(Application for copies should be addressed to the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096.)

Tire and Rim Association, Inc. (TRA):

TRA Yearbook

(Application for copies should be addressed to the Tire and Rim Association, Inc., 175 Montrose West Avenue, Copley, OH 44321.)

(Non-Government standards and other publications are normally available from the organizations that prepare or distribute the documents. These documents also may be available in or through libraries or other informational services.)

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Description. The snow removal unit shall consist essentially of a 4-wheel, 4-wheel drive, diesel engine driven truck furnished with a rotary plowhead unit. The rotary plowhead unit shall consist of rotary blower(s), discharge chute(s), and when applicable, a snow cutter assembly and an auxiliary diesel engine.

3.2 First article. When specified in the contract or purchase order (see 6.2), a sample shall be subjected to first article inspection (see 4.2.1 and 6.4).

3.3 Standard commercial product. The snow removal unit shall, as a minimum, be in accordance with the requirements of this specification and shall be the manufacturer's standard commercial product. Additional or better features which are not specifically prohibited by this specification but which are a part of

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the manufacturer's standard commercial product, shall be included in the equipment being furnished. A standard commercial product is a product which has been sold or is being currently offered for sale on the commercial market through advertisements or manufacturers' catalogs or brochures, and represents the latest production model.

3.4 Materials. Materials used shall be free from defects which would adversely affect the performance or maintainability of individual components or of the overall assembly. Materials not specified herein shall be of the same quality used for the intended purpose in commercial practice. Unless otherwise specified herein, all equipment, material, and articles incorporated in the work covered by this specification are to be new and fabricated using materials produced from recovered materials to the maximum extent possible without jeopardizing the intended use. The term "recovered materials" means materials which have been collected or recovered from solid waste and reprocessed to become a source of raw materials, as opposed to virgin raw materials. Unless otherwise specified, none of the above shall be interpreted to mean that the use of used or rebuilt products are allowed under this specification.

3.5 Interchangeability. All units of the same classification furnished with similar options under a specific contract shall be identical to the extent necessary to ensure interchangeability of component parts, assemblies, accessories, and spare parts.

3.6 Design and construction.

3.6.1 Ambient temperatures. The snow removal units, including all components, accessories, and auxiliaries, shall be capable of being stored, start, and operate satisfactorily at ambient temperature range from as low as -25 degrees Fahrenheit (oF) to as high as +125oF. Other design ambient temperature range shall be as specified (see 6.2).

3.6.2 Vehicle and components. The vehicle, including all required components and accessories, shall comply to the provisions of EPA 40 CFR 86, EPA 40 CFR 202, EPA 40 CFR 205, DoT 49 CFR 325, DoT 49 CFR 393, DoT 49 CFR 570, and DoT 49 CFR 571, as applicable, in effect on date of vehicle manufacture.

3.6.2.1 Cab. The cab shall be of metal construction, manufacturer's standard width, fully enclosed, heated, and insulated. Seats shall be upholstered and furnished with seat belts. Operator's seat shall be adjustable for height, forward, and rearward position. The window controls shall be manually operated. Windshield shall be electrically heated. All glass shall be tinted safety glass. The cab shall be designed to provide the driver easy access from the ground to the cab compartment. All exterior door handles and grab bars shall be designed for personnel wearing thick (arctic) gloves. All exterior step surfaces shall be non-skid or grated type. The cab defrosting and heating shall be thermostat controlled with multispeed fan, capable of maintaining the cab temperature to not less than 55oF and the defroster shall keep at least 75 percent of the windshield surface clear at the ambient temperature as specified.

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3.6.2.2 Engine(s). The propulsion (truck) engine shall be diesel fuel powered. When the unit furnished is of the two-engine type, the auxiliary engine shall also be diesel fuel powered. The auxiliary engine and associated components shall be mounted in the truck chassis. The auxiliary engine shall be protected from severe weather with removable metal housing. The housing doors and latches shall be designed to allow personnel wearing thick (arctic) gloves easy access to the engine. When specified (see 6.2), the engine(s) shall meet the requirements of MIL-STD-1410 for application in a class II end item.

3.6.2.3 Transmission. The chassis power train shall include an automatic transmission with not less than four forward speeds.

3.6.2.4 Transfer case. The transfer case shall provide positive drive to front and rear axles and shall provide means for locking the interaxle differential while the carrier is in motion. The interaxle differential shall be of the limited slip, manual or automatic locking type.

3.6.2.5 Axles. Axles shall be of the full floating type designed for four wheel drive, single tire mounting. Tire tracking difference between front and rear wheel centerlines shall be not more than 4 inches.

3.6.2.6 Steering. The vehicle shall have a hydraulic assisted power steering. When specified (see 6.2), a four-wheel steering shall be furnished. Failure of the hydraulic system shall not prevent manual steering of the vehicle.

3.6.2.7 Brakes. The service and emergency/parking brakes shall be of the full air or air over hydraulic brake system.

3.6.2.8 Hydraulic system. The hydraulic system shall be furnished complete with all necessary safety devices, alarms, and controls for a satisfactory operation of the driven hydraulic equipment. No high pressure hydraulic flexible hoses shall be used inside the truck cab.

3.6.2.9 Operating controls. All electrical, pneumatic, and hydraulic controls required to operate the vehicle and the plowhead components shall be located inside the cab and within reach from the driver's position. Controls shall be properly identified, using universal symbols or English language, or both.

3.6.2.10 Electrical system. The electrical system shall operate on a 12-volt negative ground. The charging alternator shall have no less than 50 ampere rating.

3.6.2.11 Starting system. The truck engine and auxiliary engine (when furnished) starting system shall operate from a 12-volt negative ground battery(s). Battery(s) provided for each engine shall be of the maintenance-free type with sufficient cold cranking amperes for the designed ambient temperature conditions. Battery(s) compartment shall be heated and insulated. Both the truck and auxiliary engine shall be furnished with accessories for quick engine starting (heat sensing ether injection system, glow plugs, or intake manifold heaters).

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3.6.2.12 Wheels and tires. Wheels shall be disc type. All wheels and tires shall be the same size and interchangeable between axles. Tires shall be wide-base tubeless steel-belted radial with non-directional mud or snow tread. Wheels and tires shall conform to TRA recommendation. When specified (see 6.2), a fully inflated spare tire shall be furnished.

3.6.2.13 Outside rear view mirrors. Electrically heated outside rear view mirrors shall be mounted on each side of the cab. The mirrors shall be of the combination type having flat and convex areas enclosed in a common housing. The flat portion shall have not less than 50 square inches, and the convex portion shall have not less than 20 square inches of reflective surface.

3.6.2.14 Panel instruments. Panel instruments shall be visible from the driver's location, and as a minimum, shall include the following:

- a. Voltmeter or ammeter.
- b. Lube oil pressure gauge.
- c. Engine coolant temperature gauge.
- d. Tachometer.
- e. Hour meter (minimum 9999 reading).
- f. Keyed ignition/starting switch.
- g. Fuel tank(s) level indicator.
- h. Speedometer with odometer.
- i. Low air pressure warning light and audible alarm.

When an auxiliary engine is furnished, it shall include the instruments listed in items (a) through (f) above. When a separate fuel tank is provided, a fuel level gauge shall be included.

3.6.2.15 Accessories. Accessories shall include, but are not limited to the following:

- a. Four tire chain assemblies to fit the tires provided.
- b. Splash guards and stone throw protection.
- c. Two tow hooks or eyes at both the front and rear of chassis.
- d. Two spot lights, one located on each side of the cab, both controlled at the driver's position.
- e. One amber rotating or strobe flashing warning light, located on top of cab to be easily visible to traffic coming from any direction.
- f. Fuel tank(s) capacity adequate for not less than 8 hours operation.
- g. Air dryer for air brake system, with automatic moisture ejector.
- h. Dual windshield washer assembly with a minimum one-gallon supply container.

3.6.2.16 Two-way radio equipment. When specified (see 6.2), a space for installation of two-way radio equipment with the required dimensions shall be provided.

3.6.2.17 Fire extinguisher. When specified (see 6.2), fire extinguisher(s) with the required type, size, and quantity shall be provided. Such extinguisher(s) shall be mounted so as to be readily accessible to the operator.

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3.6.3 Rotary plowhead. The rotary plowhead shall have a cutting width of not less than 8 feet and cutting height of not less than 4 feet. Adequate protection shall be provided to compensate for uneven road surfaces and protect the assembly from damage when a solid object other than compacted snow is encountered, or hitting road obstacles when operating in the forward or reverse direction. The plowhead shall be capable of being raised not less than 9 inches above ground level, with a positive locking device to retain the elevated plowhead when in transport position.

3.6.3.1 Discharge chute(s). The discharge chute(s) shall be hydraulically operated to perform the following:

- a. Rotate not less than 180 degrees from side to side of the vehicle.
- b. Permit dump truck loading of displaced snow, dump truck being positioned alongside, and top of dump body not less than 10 feet from ground.
- c. Vary the casting distance from minimum of 14 feet to not less than 90 feet from the chute(s) centerline.

3.6.3.2 Cutter bars. When specified (see 6.2), cutter bars shall be provided on each side of the rotary plowhead to permit the rotary head to cut through a minimum of 8 feet thick snow.

3.7 Performance.

3.7.1 Speed. With the rotary plowhead assembly in the transport position, the vehicle shall ascend a concrete or asphalted road with 4 percent grade at a speed of not less than 40 miles per hour (mph).

3.7.2 Turning circle. The vehicle turning circle shall be not more than 75 feet (inside wall-to-wall dimension).

3.7.3 Snow removal. With snow density from 10 to 40 pounds per cubic foot, the equipment shall be capable of clearing an 8-foot wide path in one pass, snow being displaced at the rate of 2,400 tph at a casting distance of not less than 90 feet.

3.7.4 Noise level. With engine(s), and rotary plowhead in running or operating condition, the noise level inside the cab shall be not more than 85 db(A).

3.8 Safety. For personnel protection, all rotating or moving parts and parts subject to high operating temperature, shall be insulated, enclosed or guarded. Each unit shall be furnished with backup lights and audible alarm, both activated when transmission is shifted into reverse gear.

3.9 Air pollution control. When specified (see 6.2), the snow removal unit shall comply to the State of California's air pollution control regulation.

3.10 Dimensions. The vehicle's limiting dimensions (without plowhead) shall be as follows:

- a. Width = 102 inches maximum
- b. Height = 144 inches maximum
- c. Wheel base = 162 inches maximum

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3.11 Rustproofing. The vehicle shall be rustproofed in accordance with FED-STD-297.

3.12 Tools. Each vehicle shall be furnished with tools required for exchanging mounted tire assembly with the spare assembly and shall include at least a hydraulic jack, jack handle, and wheel nut wrench. The jack shall be of such closed height to permit its location under the axle, or other satisfactory lift point at any wheel with flat tire. The jack, without blocking, shall be capable of raising any wheel of the fully loaded vehicle to a height adequate to permit removal and replacement of wheel and tire assembly.

3.13 Tool box. The vehicle shall be provided with a lockable, metal tool box. The tool box shall be weather tight. Tool box size shall be adequate to store all the necessary tools as required herein.

3.14 Lubrication. Unless otherwise specified (see 6.2), means for lubrication shall be in accordance with the manufacturer's standard practice. The lubricating points shall be easily visible and accessible. Hydraulic lubrication fittings shall be in accordance with SAE J534. Where use of high-pressure lubricating gun with 1,000 pound-force per square inch (psi) or higher, will damage grease seals or other parts, a suitable warning shall be affixed to the equipment in a conspicuous location.

3.15 Servicing and adjusting. Prior to acceptance of the snow removal units by the Government, the contractor shall service and adjust the equipment for immediate operational use as required in the operator's manual. The servicing and adjusting shall include at least the following:

- a. Inflation of all tires.
- b. Adjustment of brakes.
- c. Proper functioning of all lighting and electrical systems.
- d. Wheel alignment.
- e. Adjustment of engine(s) to include tune-up.
- f. Complete lubrication with grades of lubricants recommended for ambient temperature at the delivery point.
- g. Cooling system filled to capacity with recommended solution of water and antifreeze (ethylene glycol).

3.16 Radio interference characteristics. When specified (see 6.2), the snow removal unit shall conform to the radio interference characteristics requirements and test limits of SAE J551.

3.17 Lifting and tiedown attachments. When specified (see 6.2), the snow removal unit shall be equipped with lifting and tiedown attachments. Lifting and tiedown attachments shall conform to type II or type III of MIL-STD-209. A nonferrous transportation plate shall be provided and mechanically attached to the snow removal unit. Transportation plates shall be inscribed with a diagram showing the lifting attachments and lifting slings, the capacity of each attachment, and the required length and size of each sling cable. A silhouette of the item furnished showing the center of gravity shall be provided on the transportation plate. Tiedown attachments may be identified by stenciling or other suitable marking. Tiedown marking shall clearly indicate that the attachments are intended for the tiedown of the snow removal unit on the carrier when shipped.

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3.18 Identification plate. An identification plate will be furnished by the contracting officer for each snow removal unit. The contractor shall stamp all necessary data in the blank spaces of the plate provided for that purpose, and securely affix a plate to each unit in a conspicuous place with nonferrous screws, rivets, or bolts not less than 1/8-inch in diameter. The applicable nomenclature contained in the contract item description shall be placed in the top blank.

3.19 Instruction plates. Each unit shall be equipped with instruction plates or decals suitably located, describing any special or important procedures to be followed in operating and servicing the equipment. Plates or decals shall be of a material which will last and remain legible for the life of the equipment.

3.20 Identification marking. Identification shall be permanently and legibly marked directly on the equipment or on a corrosion-resisting metal plate securely attached to the equipment at the source of manufacturer. Identification shall include the manufacturer's model and serial number, name, and trademark to be readily identifiable to the manufacturer.

3.21 Vehicle Marking. Vehicle marking shall conform to MIL-STD-1223, applicable to the departmental service or agency as specified (see 6.2).

3.22 Cleaning, treatment, and painting. Surfaces normally painted in good commercial practice shall be cleaned, treated, and painted as specified herein. Surfaces to be painted shall be cleaned and dried to ensure that they are free from contaminants such as oil, grease, welding slag and spatter, loose mill scale, water, dirt, corrosion product, or any other contaminating substances. As soon as practicable after cleaning, and before any corrosion product or other contamination can result, the surfaces shall be prepared or treated to ensure the adhesion of the coating system. The painting shall consist of at least one coat of primer and one finish coat of acrylic-based enamel. The primer shall be applied to a clean, dry surface as soon as practicable after cleaning and treating. Painting shall be with manufacturer's current materials according to manufacturer's current processes and the total dry film thickness shall be not less than 2.5 mils over the entire surface. The paint shall be free from runs, sags, orange peel, or other defects. The end item, allied equipment, and attachments shall be the same color.

3.22.1 Color. The color of the finish coat, conforming to FED-STD-595, MIL-C-46168, or MIL-C-53039 shall be as specified (see 6.2).

3.23 Workmanship.

3.23.1 Metal fabrication. The metal used in fabrication shall be free from kinks, sharp bends, and other conditions which would be deleterious to the finished product. Manufacturing processes shall not reduce the strength of the metal to a value less than intended by the design. Manufacturing processes shall be done neatly and accurately. All bends shall be made by controlled means to ensure uniformity of size and shape.

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3.23.2 Bolted connections. Bolt holes shall be accurately punched or drilled and shall have the burrs removed. Washers or lockwashers shall be provided in accordance with good commercial practice, and all bolts, nuts, and screws shall be tight.

3.23.3 Riveted connections. Rivet holes shall be accurately punched or drilled and shall have the burrs removed. Rivets shall be driven with pressure tools and shall completely fill the holes. Rivet heads, when not countersunk or flattened, shall be of approved shape and uniform size for the same diameter of rivet. Rivet heads shall be full, neatly made, concentric with the rivet holes, and in full contact with the surface of the member.

3.23.4 Welding. Welding procedures shall be in accordance with a nationally recognized welding code. The surface of parts to be welded shall be free from rust, scale, paint, grease, or other foreign matter. Welds shall be of sufficient size and shape to develop the full strength of the parts connected by the welds. Welds shall transmit stress without permanent deformation or failure when the parts connected by the weld are subjected to proof and service loadings.

3.23.5 Castings. All castings shall be sound and free from patching, misplaced coring, warping, or any other defect which reduces the casting's ability to perform its intended function.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements (examinations and tests) as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in this specification where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items shall meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

4.1.2 Component and material inspection. Components and materials shall be inspected in accordance with all the requirements specified herein and in applicable referenced documents.

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

- a. First article inspection (see 4.2.1).
- b. Quality conformance inspection (see 4.2.2).

4.2.1 First article inspection. The first article inspection shall be performed on one snowplow when a first article is required (see 3.2 and 6.2). This inspection shall include the examination of 4.3 and the tests of 4.4. The first article may be either a first production item or a standard production item from the supplier's current inventory provided the item meets the requirements of the specification and is representative of the design, construction, and manufacturing technique applicable to the remaining items to be furnished under the contract.

4.2.1.1 Certificate of Compliance. The contractor shall submit for the approval of the Contracting Officer, or his authorized representative, a certificate of compliance in the first article test requirements cited in 4.4.1 through 4.4.5. The government reserves the right to examine and require a retest to determine the validity of the certification.

4.2.2 Quality conformance inspection. The quality conformance inspection shall include the examination of 4.3, the test of 4.4.9, and the packaging inspection of 4.5.

4.3 Examination. Each snow removal unit shall be examined for compliance with the requirements in section 3 of this specification. This element of inspection shall encompass all visual examinations and dimensional measurements. Noncompliance with any specified requirements or presence of one or more defects preventing or lessening maximum efficiency shall constitute cause for rejection.

4.4 Tests. Failure to pass any of the following tests shall constitute cause for rejection.

4.4.1 Brake test. The service, emergency, or parking brakes shall be tested in accordance with the applicable sections of DoT 49 CFR 570 and DoT 49 CFR 571 (see 4.2.1.1).

4.4.2 Air pollution control. The vehicle shall be tested in accordance with the applicable sections of EPA 40 CFR 86, and when applicable, to the State of California's air pollution control regulations (see 4.2.1.1).

4.4.3 Exterior noise emission test. The vehicle shall be tested in accordance with applicable sections of EPA 40 CFR 202, EPA 40 CFR 205, and DoT 49 CFR 325 (see 4.2.1.1).

4.4.4 Cab interior noise emission test. The vehicle shall be tested in accordance with the applicable sections of DoT 49 CFR 393, with the rotary plowhead operating at the maximum rated speed. Noise level shall be less than 85 db(A) (see 4.2.1.1).

4.4.5 Radio interference test. When radio interference suppression is required, the test shall be conducted in accordance with SAE J551 (see 4.2.1.1).

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4.4.6 Road test. With the rotary plowhead in the transport position, the vehicle shall be driven on a concrete or asphalt public highway for not less than 50 miles at 40 mph while maintaining not less than 40 mph on roads with not less than 4 percent grade. After completing the road test, continue with the turning circle test. The vehicle's turning circle shall be less than 75 feet.

4.4.7 Snow removal. Select a fairly flat, snow covered site with at least 3-1/2 feet deep snow. Prepare a course 12 feet wide and 250 feet long. Determine the total volume to be displaced by using the actual plowhead width dimension, the length of the course (250 feet), and the actual depth of snow. Take snow samples by removing a section of snow measuring 12 inches long by 12 inches wide and actual depth from ground to surface. Samples shall be taken at 25, 75, 125, 175, and 225 feet along the length of the course. Weigh each sample to determine the density. The average density from the five samples shall be used for capacity calculation.

- a. Position the bottom of the rotary plowhead unit not more than 1/2 inch from the ground.
- b. Position the discharge chute(s) in such a manner that the displaced snow will accumulate in either the left or right side of the vehicle at a casting distance of not less than 90 feet from the chute's centerline.
- c. Drive the vehicle through the center of the course at the maximum speed possible that the rotary plowhead can be driven to cut through the snow.
- d. Record accurately the time the plowhead completes clearing the 250-foot course.

After test completion, the road cleared shall be not less than 8 feet wide with snow left on the ground to be not more than 1/2 inch thick. The displaced snow shall be piled at not less than 90 feet from chute(s) centerline. The calculated displaced snow shall correspond to the rotary plowhead capacity of not less than 2,400 tph. When the required snow is not available, an alternate test method shall be submitted to the contracting officer for approval.

4.4.8 Low temperature test. The snow removal unit shall be subjected to -25oF, or to other specified ambient temperature for 24 hours. At the end of this period, both the truck and auxiliary engine (when furnished) shall be started and kept running for not more than 5 seconds. Turn off engine(s) and repeat procedure five times in succession. Repeat the on/off starting procedures two more times at 2-hour intervals. After passing the on/off start test, the engine(s) shall be started and kept running until the engine(s) normal operating temperature is reached. The electrical, pneumatic, and hydraulic components shall then be operated repeatedly for at least 30 minutes. There shall be no malfunctioning in the engine(s) or components.

4.4.9 Operational test. This test shall be conducted for not less than one hour. Drive the vehicle and operate each component repeatedly to demonstrate satisfactory operation of the equipment, but not limited to, ignition, brakes, electrical, pneumatic, and hydraulic system.

4.5 Preparation for delivery inspection. The snow removal unit shall be inspected to verify conformance to the requirements of section 5.

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5. PREPARATION FOR DELIVERY

5.1 Preservation, packaging, and packing. Preservation, packaging, and packing shall be in accordance with the requirements of MIL-V-62038, with the level of preservation, packaging, and the level of packing as specified (see 6.2).

5.2 Marking.

5.2.1 Military agencies. Shipments to military agencies shall be marked in accordance with MIL-STD-129.

5.2.2 Civil agencies. Shipments to civil agencies shall be marked in accordance with FED-STD-123.

5.3 Crated components. When specified (see 6.2), the rotary plowhead assembly shall be removed from the vehicle for shipment and shall be packed in open crates conforming to MIL-C-52950, type V, style A, class 1 or MIL-C-3774, type I, style A.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. The snow removal units are intended for removing and dispersing snow from airfield runways, taxiways, parking spaces, and roads.

6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1 and 2.2).
- c. When first article is required for inspection and approval (see 3.2).
- d. When ambient temperature range is other than specified (see 3.6.1).
- e. When engine(s) shall meet requirements of MIL-STD-1410 (see 3.6.2.2).
- f. When four-wheel steering is required (see 3.6.2.6).
- g. When a fully inflated spare tire is furnished (see 3.6.2.12).
- h. When space for a two-way radio is to be provided inside the cab with the required dimensions (see 3.6.2.16).
- i. When fire extinguisher is to be provided and quantity, type, and size required (see 3.6.2.17).
- j. When cutter bars are required (see 3.6.3.2).
- k. When compliance to State of California's air pollution control regulation is required (see 3.9).
- l. When lubrication is other than as specified (see 3.14).
- m. When conformance to radio interference characteristic requirements and test limits are required (see 3.16).
- n. When lifting and tiedown attachment is required (see 3.17).
- o. Departmental service or agency to which marking is applicable (see 3.21).

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- p. Color of finish coat conforming to FED-STD-595, MIL-C-46168, or MIL-C-53039 as specified (see 3.22.1).
- q. Level of preservation, packaging, and level of packing required (see 5.1).
- r. When plowhead assembly is to be removed and packed in open crates (see 5.3).

6.3 Data requirements. When this specification is used in an acquisition and data are required to be delivered, the data requirements shall be developed as specified by an approved Data Item Description (DD Form 1664) and delivered in accordance with the approved Contract Data Requirements List (CDRL), incorporated into the contract. When the provisions of DOD FAR Supplement, Part 27, Sub-Part 27.475-1 (DD Form 1423) are invoked and the DD Form 1423 is not used, the data should be delivered by the contractor in accordance with the contract or purchase order requirements.

6.4 First article. When a first article inspection is required, the item will be tested and should be a first production item, or it may be a standard production item from the contractor's current inventory as specified in 4.2.1. The first article should consist of one unit. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examination, test, approval of the first article, and approval of the Certificate of Compliance.

6.5 Subject term (keyword) listing.

Auxiliary engine
Blower
Diesel engine driven
Four-wheel drive
Rotary plowhead

MILITARY INTERESTS:

Custodians

Army - ME
Navy - YD
Air Force - 99

Review Activities

Army - AT
Air Force - 84

User Activity

Army - CE

CIVIL AGENCY COORDINATING ACTIVITY:

GSA-FSS

PREPARING ACTIVITY:

Navy - YD

(Project 3825-0205)

Orders for this publication are to be placed with General Services Administration, acting as an agent for the Superintendent of Documents. See section 2 of this specification to obtain extra copies and other documents referenced herein.