
INCH-POUND

KKK-L-1542D

February 1, 1996

SUPERSEDING

KKK-L-1542C

February 1, 1983

FEDERAL SPECIFICATION

LOADER, SCOOP TYPE, ARTICULATED, FOUR-WHEEL DRIVE

The General Services Administration has authorized the use of this federal specification by all federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers rear-mounted diesel engine, scoop type, articulated frame steering, four-wheel drive, pneumatic-tired front-end loaders, including a selection of several optional attachment(s).

1.2 Classification. The wheel loader shall conform to one of the following styles and sizes as specified (see 6.2).

Style A = ROPS with canopy

Style B = Fully enclosed ROPS cab

Size LW-1 1/2

Size LW-2

Size LW-2 1/2

Size LW-2 3/4

Size LW-3

Size LW-3 1/2

Size LW-4

Size LW-4 1/2

Size LW-5

Size LW-5 1/2

2. APPLICABLE DOCUMENTS

2.1 Government publications. The following documents, of the issues in effect on the date of invitation for bids or request for proposals, form a part of this specification to the extent specified herein:

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, 1000 23rd Avenue, Port Hueneme, CA 93043-4301.

AMSC N/A

FSC 3805

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

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Federal Standards

FED-STD-595 - Color Used in Government Procurement.

Military Standards

MIL-STD-209 - Slings and Tiedown Provisions for Lifting and
Tying Down Military Equipment.

(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.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless a specific issue is identified, the issue in effect on date of invitation for bids or request for proposal shall apply.

American Society of Mechanical Engineers (ASME)

ASME B56.6 - Safety Standard for Rough Terrain Forklift Trucks

(Application for copies should be addressed to the American Society of Mechanical Engineers, United Engineering Center, 345 East 47th Street, New York, NY 10017)

Society of Automotive Engineers, Inc. (SAE)

SAE J386 - Operator restraint System for Off-Road Work Machines
SAE J534 - Lubrication Fittings
SAE J742 - Capacity rating-Loader Bucket
SAE J925 - Minimum Service Access Dimensions for Off-Road Machines
SAE J1040 - Performance Criteria for Roll-Over Protective Structures
SAE J1152 - Braking Performance - Rubber Tired Construction Machine

(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., 3200 West Market Street, Suite 304, Akron, OH 44313.)

3. REQUIREMENTS.

3.1 Minimum requirements. The loader minimum requirements shall be not less than those shown in Table I.

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Table I. MINIMUM REQUIREMENTS

Loader Size	Rated Capacity [1] & [2]	Horsepower (KW) [3]	Tire size, rating, and service code [4]	Dump height [5]
LW-1 1/2	1 1/2 yd ³ (1.15 m ³)	100 (75)	17.5 - 25 12PR L-2	8.83 ft. (2.69 m)
LW-2	2 yd ³ (1.53 m ³)	115 (86)	17.5 - 25 12PR L-2	9 ft (2.74 m)
LW-2 1/2	2 1/2 yd ³ (1.91 m ³)	120 (90)	20.5 - 25 12PR L-2	9 ft (2.74 m)
LW-2 3/4	2 3/4 yd ³ (2.10 m ³)	140 (105)	20.5 - 25 12PR L-2	9 ft (2.74 m)
LW-3	3 yd ³ (2.29 m ³)	170 (127)	20.5 - 25 12PR L-2	9 ft (2.74 m)
LW-3 1/2	3 1/2 yd ³ (2.68 m ³)	170 (127)	23.5 - 25 12PR L-2	9 ft (2.74 m)
LW-4	4 yd ³ (3.06 m ³)	220 (165)	23.5 - 25 20PR L-2	9.5 ft. (2.90 m)
LW-4 1/2	4 1/2 yd ³ (3.44 m ³)	230 (172)	26.5 - 25 20PR L-2	9.5 ft. (2.90 m)
LW-5	5 yd ³ (3.82 m ³)	250 (187)	26.5 - 25 20PR L-2	9.5 ft. (2.90 m)
LW-5 1/2	5 1/2 yd ³ (4.2 m ³)	270 (202)	26.5 - 25 20PR L-2	9.5 ft. (2.90 m)

- [1] The rated capacity (nominal heaped capacity), shown in cubic yards (yd³) or cubic meters, (m³) shall be calculated in accordance with SAE J742.
- [2] The capacities shown are rated for General-Purpose buckets. Capacities for other buckets, also calculated in accordance with SAE J742, shall be as specified herein.
- [3] Net horsepower (kilowatt (kW)) at the flywheel at the rated governed RPM of a fully equipped loader.
- [4] Tires in accordance with TRA recommendations.
- [5] Minimum dump height measured from the ground to the lowest point of the cutting edge with the bucket hinge pin at maximum height and the bucket at a 45 degree dump angle.

3.2 Tipping load. With the loader at normal operating condition, steering at full turn (40 degree minimum), bucket at maximum rollback, the tipping load shall be not less than twice the SAE rated operating load. Tipping load shall be met without hydro-inflation of tires. For General-Purpose and Multi-Purpose buckets, the operating loads shall be calculated using materials weighing 3000 pounds per cubic yard (lb/yd³) or 1780 kilograms per cubic meter (kg/m³). For snow buckets, the operating loads shall be calculated using materials weighing 1800 lb/yd³ (1068 kg/m³).

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

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3.4 Standard commercial product. Except as modified herein, the basic wheel loader, with the optional features and attachments shall, as a minimum, be in accordance with the requirements of this specification and shall be the manufacturer's standard commercial product (see 6.5). Additional or better features which are not specifically prohibited by this specification but which are a part of the manufacturer's standard commercial product, shall be included in the unit being furnished.

3.5 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 (see 6.5) to the maximum extent possible, without jeopardizing the intended use. None of the above shall be interpreted to mean that the use of used or rebuilt products is allowed under this specification.

3.6 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.

3.7 Environmental condition. The loader and applicable attachment(s), shall be capable of being stored, started, and perform normal operation at any temperature between -20 degrees Fahrenheit (oF) to +120oF (-29 degrees Celsius (oC) to 49 oC), and from sea level up to 10,000 feet (ft) or 3050 meters (m). Any changes to above condition shall be as specified (see 6.2).

3.8 Vehicle components.

3.8.1 Operators compartment. The operator's compartment, for both style A and Style B, shall include an upholstered (weather-proof material), adjustable operator's seat, complete with type-1 seat belt conforming to SAE J386. The loader and attachment's operating controls shall be located inside the compartment, and within reach of the operator. When specified (see 6.2), an amber beacon light, located on top of the compartment, shall be furnished.

3.8.1.1 Style A. The style A operator's compartment shall be an open Roll-Over protective Structure (ROPS), conforming to SAE J1040, with metal canopy top. Instrument panel shall be protected with lockable panel guard.

3.8.1.2 Style B. The style B operator's compartment shall be fully enclosed, lockable, and with a ROPS conforming to SAE J1040. The fully enclosed cab shall, as a minimum, include rear view mirror(s), a personnel heater, defroster or defroster fan, and two access doors. Access with one door and emergency exit window, sized in accordance with SAE J925, is acceptable. The front and rear windows shall be provided with powered windshield washers and wipers. Both doors, or the door and emergency exit window, shall be capable of being held in an open position during operation. When specified (see 6.2), the manufacturers standard air-conditioned cab shall be furnished. Refrigerant with ozone depleting properties shall not be used in the air-conditioning unit.

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3.8.2 Engine. The loader shall have a rear frame mounted diesel engine with engine enclosure, and shall run on commercial grade diesel fuel. When specified (see 6.2), the loader shall operate on special fuel such as JP-4, JP-5, and JP-8 (Jet A/Jet A-1). Means of preventing products of combustion (sparks) emitting from the exhaust shall be provided.

3.8.2.1 Engine starting system. The engine starting system shall include a safety feature allowing engine starting only with the transmission in neutral or park position. When furnished, ether priming shall be of the measured shot type with storage capacity of not less than 12 ounces (0.35 liter). When specified (see 6.2), an electric (110 VAC) block heater shall be furnished.

3.8.3 Transmission. The transmission shall be of the full power shift design, with not less than four forward and three reverse speeds (except size LW-1 1/2), with full power shifting between speeds in the same direction. The LW-1 1/2 shall have not less than two speeds in either direction. A full Hydrostatic drive design transmission is acceptable.

3.8.4 Brakes. The service braking system, emergency stopping system, and parking brake system shall conform to SAE J1152.

3.8.5 Tires. Tire size, ply, and rating shall be not less than shown in Table I. Tires shall be tubeless design and of the same type, size, and ply rating on all four wheels. When specified (see 6.2), tires shall be puncture proof (see 6.5).

3.8.6 Loader frame. The loader frame shall be of the articulated steering design and furnished with steering frame lock. The frame shall provide not less than 10 degrees oscillation between the front and rear axle, either at hinge point or rear axle mounting location. The frame shall be furnished with two tow line attachments (either with eyes, rings, or hook) on the front and rear. A pin type hitch is acceptable in lieu of tow attachment at the rear.

3.8.7 Panel Instruments. The manufacturer's standard instrumentation shall be furnished and shall include as a minimum, a fuel level indicator, low engine oil pressure indicator, high engine operational temperature, high transmission oil or drive system oil temperature, and charging system failure indicator. Panel shall be illuminated for night operation.

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

- a. Crankcase guard, except when frame provides protection.
- b. Two front driving lights with two additional flood type work lights, plus two flood type rear work lights and combination stop and tail lights.
- c. Horn
- d. A reverse warning alarm (audible type) that automatically operate when machine is placed in reverse.
- e. Hour meter capable of reading at least 9,999 hours.

3.9 Loader buckets. When specified (see 6.2), the loader shall be furnished with a General-Purpose, Multi-Purpose, or Snow bucket for the required loader size. The buckets shall be the manufacturer's standard heavy duty type. The bucket's width shall be not less than the loader's tire path. The buckets

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cutting edge shall be made of wear and abrasion resistant steel. Buckets shall be capable of handling materials as specified in 3.2.

3.9.1 General-Purpose bucket. The General-Purpose bucket's rated capacity shall be not less than those shown in Table I. When specified (see 6.2), the bucket shall be furnished with easily replaceable bucket teeth.

3.9.2 Multi-Purpose bucket. The Multi-Purpose bucket's rated capacity, with less than those shown in Table I, are acceptable. However, capacity reduction shall be limited to compensate for the difference between the weight of the Multi-Purpose bucket assembly, as compared to the General-Purpose bucket assembly. The Multi-Purpose bucket shall be furnished with easily replaceable bucket teeth.

3.9.3. Snow bucket. The snow bucket's rated capacity shall be not less than the following:

Loader size	Rated capacity
LW-1 1/2	3 yd ³ (2.29 m ³)
LW-2	3 1/2 yd ³ (2.68 m ³)
LW-2 1/2	4 yd ³ (3.06 m ³)
LW-3	5 yd ³ (3.82 m ³)
LW-4	6 yd ³ (4.58 m ³)

3.10 Optional attachments. The front mounted optional attachments shall be furnished complete with all the necessary hydraulic controls and hardware, and shall be readily operational when installed in lieu of the loader bucket. All quick disconnect hydraulic hoses end connections shall be furnished with dust covers or plugs to keep connections clean when not in use. Unless the quick coupler system is specified, any attachment being mounted to the loader lift arms shall utilize the original bucket mounting pins and hardware.

3.10.1 Quick coupler assembly. When specified (see 6.2), a quick coupler assembly shall be furnished. The quick coupler shall include the following:

- a. Male half of quick coupler, designed to be installed on loader boom arms, using the original pins and devices.
- b. Self aligning pick-up point(s).
- c. Hydraulic powered, operator controlled locking device.
- d. Compatible female component secured to the back of the bucket(s) and any other optional front mounted implements or attachments as specified herein.
- e. Quick change over, requiring no special tools.

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3.10.2 Backhoe. When specified (see 6.2), a front mounted backhoe assembly shall be furnished. Self contained backhoe assembly, complete with operator station and controls, are acceptable in lieu of controls inside the cab. The backhoe assembly shall include the following minimum features:

Loader size	Horizontal reach at ground level	Digging depth below surface	Dumping height minimum clear	Bucket size
LW-2	12 ft (3.66 m)	12 ft (3.66 m)	7 ft (2.13 m)	18 in (457 mm)
LW-2 1/2	15 ft (4.6 m)	15 ft (4.6 m)	9 ft (2.74 m)	24 in (610 mm)
LW-2 3/4	15 ft (4.6 m)	15 ft (4.6 m)	9 ft (2.74 m)	24 in (610 mm)
LW-3	18 ft (5.5 m)	18 ft (5.5 m)	10 ft (3.05 m)	36 in (915 mm)

- a. Trenching bucket shall have cutting edges and replaceable teeth.
- b. Swing range of not less than 155 degrees.
- c. Digging depth capability all throughout the 155 degree swing range.
- d. Hydraulic controlled outriggers with pad.
- e. Lifting attachments to facilitate lifting the assembly using a single-point or a three-point lifting harness.
- f. Bucket size allowable tolerance to be +1-inch (+25 mm).

3.10.3 Forklift carriage. When specified (see 6.2), a forklift carriage assembly with two (2) fork tines shall be furnished. The fork tine shall conform to ASME B56.6. The assembly shall include the following features:

- a. Fork and carriage shall be sized and rated as follows:

Loader size	Minimum load rating	Load center	Length of tines
LW-2	5000 lbs (2268 kg)	2 ft (0.61 m)	4 ft (1.22 m)
LW-2 1/2	5500 lbs (2495 kg)	3 ft (0.91 m)	6 ft (1.83 m)
LW-2 3/4	6000 lbs (2721 kg)	3 ft (0.91 m)	6 ft (1.83 m)

- b. The carriage shall include a full width backguard of not less than 4 ft (1.22 m) above tines.
- c. The assembly shall include operator controlled, hydraulic powered, tine width adjustment.

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3.10.4 Extendable boom. When specified (see 6.2), an extendable boom assembly shall be furnished. The assembly shall include the following features:

- a. Boom lift capacity shall be not less than as follows:

Loader size *		Retracted	Extended
	*		
LW-2	*	2000 lbs (907 kg)	1500 lbs (680 kg)
LW-2 1/2	*	3000 lbs (1360 kg)	2000 lbs (907 kg)
LW-2 3/4	*	4000 lbs (1814 kg)	3000 lbs (1360 kg)

- b. The boom shall be manually extendable.
 c. The fully retracted over-all length shall be not more than 8 ft (2.44 m).
 d. The fully extended over-all length shall be not less than 10 ft (3.05 m), measured from male half of the loaders quick coupler mount.
 e. Provide not less than three extension locking positions, and include a safety device to prevent the extendable arm parting from the base unit without warning.
 f. The boom design shall include not less than three points for attachment of shackles, or similar slinging device, including the tip.

3.10.5 Logging forks. When specified (see 6.2), a logging fork assembly shall be furnished. The assembly shall include the following features:

- a. The assembly shall be the maximum size and capacity rating for the size loader specified.
 b. The assembly shall include the hydraulic operated retainer arms.

3.10.6 Snow plow. When specified (see 6.2), a snow plow assembly shall be furnished. The assembly shall include the following features:

- a. The plow shall be of the reversible type.
 b. When set to maximum angle, the plow shall extend not less than 12 inches (305 mm) beyond each side of the loader tires.

3.10.7 Snow blower. When required (see 6.2), a snow blower, with minimum specified discharge capacity, shall be furnished. The assembly shall include the following features:

- a. The blower shall be self contained, including but not limited to, diesel engine with fuel tank, a drive system for remote engagement of blower, and hydraulic controlled directional discharge chute.
 b. Clearing path shall be not less than the loaders tire path.

3.11 Lifting and tiedown attachments. When specified (see 6.2), the loader 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 loader. 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

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marking. Tiedown marking shall clearly indicate that the attachments are intended for the tiedown of the loader on the carrier when shipped.

3.12 Air transportability. When specified (see 6.2), the wheel loaders shall meet air transportability requirements of specified maximum dimension and maximum weight limits with the fuel tank 1/2 full. Width shall not exceed 105 inches, height shall not exceed 102 inches (2590 mm), weight per axle shall not exceed 13,000 lbs (5896 kg). If necessary, dimensions and weight limit can be achieved with the equipment in a reduced configuration. Achieving a reduced configuration shall be limited to the removal or relocation of mechanically attached (non-welded) components, and shall not affect the transportability of the item, including the ability to negotiate, without interference, a 15-foot (4.6 m) ramp at an angle of 17 degrees between two horizontal surfaces. The loader shall be transportable under its own power with the operator in the normal operating position. Components which require removal or relocation to achieve the reduced configuration shall include instructions for the removal, relocation, and re-installation fully described in the equipment manual(s) delivered with the unit. All socket drives larger than 1/2 inch (13 mm), end wrenches larger than 1 inch (26 mm), and any tools not common to average mechanics tool box that is required for removal or replacement of components shall be furnished with each loader. When delivered to the government, the item(s) shall not be in the reduced configuration.

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

3.14 Lubrication. 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 equipment, 1,000 pound-force per square inch gauge (6895 kilopascals) or higher, will damage grease seals or other parts, a suitable warning shall be affixed to the equipment in a conspicuous location.

3.15 Cleaning, treatment, and painting. Surfaces normally painted in good commercial practice shall be cleaned, treated, and painted with the manufacturers standard color for commercial wheel loader. When other color is required, the color of the finish coat conforming to FED-STD-595 shall be as specified (see 6.2). The paint shall be free from runs, sags, orange peel, or other defects. The end item, allied equipment, and applicable optional attachment(s) shall be the same color. In the event that repainting over the original color is necessary to provide the specified color, the original color shall not be visible at any location on the equipment or attachment(s).

3.16 Metric products. Products manufactured to metric dimensions will be considered on an equal basis with those manufactured using inch-pound units, provided they fall within specified tolerances and all other requirements of this document are met. If a product is manufactured to metric dimensions and those dimensions exceed the tolerance specified in the inch-pound units, a request should be made to the specification preparing activity for changes to this document.

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3.17 Commercial literature. When specified (see 6.2), the contractor shall submit two copies of commercial literature or brochures, listing the technical specification for the required loader size.

3.18 Additional options. Additional loader options, not included herein, shall be as specified (see 6.2).

3.19 WORKMANSHIP

3.19.1 Steel fabrication. The steel 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 steel 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.

3.19.2 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.

3.19.3 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.

3.19.4 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.

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 document 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 document shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in this document, 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

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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 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 a loader when a first article is required (see 3.3 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.

4.2.2 Quality conformance inspection. The quality conformance inspection shall include the examination of 4.3, and the operational test of 4.4.2.

4.3 Examination. Each loader shall be examined for compliance with the requirements in section 3 of this document. 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 test shall constitute cause for rejection.

4.4.1 Tipping load test. This test shall be conducted to verify conformance to 3.2. Test set-up shall be in accordance with manufacturer's recommendation.

4.4.2 Operational test. This test shall be conducted for not less than 2 hours. Drive the loader and operate each control to demonstrate satisfactory operation of the equipment, including but not limited to ignition, brakes, and operation of associated optional attachment.

5. PACKAGING.

5.1 Packaging requirements. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2).

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 loaders are intended for digging, lifting, and transporting of materials.

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6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. Style and size required (see 1.2).
- c. When a first article examination is required (see 3.3).
- d. When environmental condition is other than as specified (see 3.7).
- e. When a beacon light is required (see 3.8.1).
- f. When an air-conditioned cab is required (see 3.8.1.2).
- g. When loader shall operate on special fuel (see 3.8.2).
- h. When an electric block heater shall be furnished (see 3.8.2.1).
- i. When puncture proof tires are required (3.8.5).
- j. When a General-Purpose, Multi-Purpose, or snow bucket is required (see 3.9).
- k. When bucket teeth are required for General-Purpose bucket (see 3.9.1).
- l. When a quick coupler is required (see 3.10.1).
- m. When a backhoe is required (see 3.10.2).
- n. When a forklift carriage is required (see 3.10.3).
- o. When an extendable boom is required (see 3.10.4).
- p. When a logging fork is required (see 3.10.5).
- q. When a snow plow is required (see 3.10.6).
- r. When a snow blower is required, with specified rated capacity (see 3.10.7).
- s. When lifting and tiedown attachment is required (see 3.11).
- t. When air transportability is required (see 3.12).
- u. Color of finish coat required if other than as specified (see 3.15).
- v. When commercial literature is required (see 3.17).
- w. Additional loader options to be furnished with the unit (see 3.18).
- x. Packaging requirements (see 5.1).

6.3 First article. When a first article inspection is required, the item will be tested and should be a first article sample, 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, and approval of the first article.

6.4 Technical manuals. The requirement for technical manuals should be considered when this specification is applied on a contract. If technical manuals are required, military specifications and standards that have been cleared and listed in DOD 5010.12-L, Acquisition Management Systems and Data Requirements Control List (AMSDL), must be listed on a separate Contract Data Requirements List (DD Form 1423). This must be acquired under separate contract line item in the contract.

6.5 Definition.

a. Standard commercial product. A standard commercial product is a product which has been sold or offered for sale for not less than two years on the commercial market, through advertisements, manufacturer's catalogs, or brochures, and represents the latest production model.

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b. Recovered materials. 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.

c. Puncture proof tire. Puncture proof tire means a pneumatic tire casing filled with foam rubber or other type of semi-hardening material, in lieu of air.

6.6 Classification cross reference. Cross reference of classification changes between this specification and the preceding issue is as follows:

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Not indicated	Style A
Not indicated	Style B
Sizes are shown in Tables I, II, and III	Size LW-1 1/2 Size LW-2 Size LW-2 1/2 Size LW-2 3/4 Size LW-3 Size LW-3 1/2 Size LW-4 Size LW-4 1/2 Size LW-5 Size LW-5 1/2

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

PIN designation _____ KKK-L-1542 - X - X

Specification number _____

PIN code for style _____

PIN code for size _____

PIN codes for styles:

A = Style A
B = Style B

PIN codes for sizes:

A = Size LW-1 1/2
B = Size LW-2
C = Size LW-2 1/2
D = Size LW-3
E = Size LW-3 1/2
F = Size LW-3 1/2
G = Size LW-4
H = Size LW-4 1/2
J = Size LW-5
K = Size LW-5 1/2

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6.8 Subject term (key word) listing.

Backhoe
Extendable boom
Forklift carriage
General Purpose bucket
Logging fork
Multi-Purpose bucket
Snow blower
Snow bucket
Snow plow

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

MILITARY INTERESTS:

Custodians
Navy - YD1
Air Force - 99

Review Activity
DLA - CS

CIVIL AGENCY COORDINATING ACTIVITY:

GSA - FSS

PREPARING ACTIVITY:

Navy - YD1

(Project 3805-0168)