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 \* INCH-POUND \*  
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KKK-L-1086D  
 15 October 1991  
 SUPERSEDING  
 KKK-L-1086C  
 November 10, 1983

## FEDERAL SPECIFICATION

### LOADER, SCOOP TYPE, FULL TRACKED

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

#### 1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers diesel-engine-driven, hydraulically operated, crawler-type front end loaders.

1.1.1 Federal specification coverage. This specification does not include all varieties of the commodity as indicated by the title of the specification or which are commercially available, but is intended to cover only those generally used by the Federal Government.

#### 1.2 Classification.

1.2.1 Sizes. The loaders covered by this specification shall be furnished in the sizes listed in tables I and II, as specified (see 6.2).

#### 2. APPLICABLE DOCUMENTS

##### 2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, 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 (see 6.2).

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 \*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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FSC 3805

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## SPECIFICATIONS

### FEDERAL

W-B-131 - Battery Storage, Vehicular Ignition, Lighting and Starting

### MILITARY

MIL-T-3351 - Tractor, Full-Track Low-Speed; Tractor, Wheeled, Agriculture; Tractor, Wheeled Industrial and their Attachments, Packaging of

## STANDARDS

### MILITARY

MIL-STD-209 - Slings and tiedown provisions for lifting and tying down military equipment

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

#### 2.1.2 Federal Regulations.

- 29 CFR 1926.600 - Equipment
- 29 CFR 1926.602 - Material Handling Equipment
- 29 CFR 1926.604 - Site Clearing
- 29 CFR 1926.1000 - Rollover Protective Structure

(The Code of Federal Regulations (CFR) and the Federal Register (FR) are for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. When indicated, reprints of certain regulations may be obtained from the Federal Agency responsible for issuance thereof.)

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

Society of Automotive Engineers (SAE):

Standards and Recommended Practices.

- J88 - Exterior Sound Level Measurement Procedure for Earthmoving Machinery
- J350 - Spark Arrester Test Procedure for Medium size Engines
- J732 - Specification Definitions - Loaders
- J742 - Capacity Rating - Loader Bucket
- J919 - Operator Sound Level Measurement Procedure for Earthmoving machinery-Singular Type Test

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J994 - Alarm Backup - Electric - Performance, Test, and Application  
J1029 - Lighting and Marking of Construction and Industrial  
Machinery  
J1349 - Engine Power Test Code - Spark Ignition and Diesel

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

2.2.1 Order of precedence. In the event of a conflict between the text of this document and the references cited herein (except for related associated detail specifications, specification sheets, or milsheet standards), 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 General. This specification covers diesel-engine-driven, crawler-type loaders and allied equipment of conventional and heavy duty construction, design complete with all necessary operating accessories customarily furnished with loaders of this type whether stipulated herein or not, together with such modifications and attachments as may be necessary to enable the unit to function reliably and efficiently in sustained operation. The loader shall be the latest model of the standard product of the manufacturer.

3.2 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.

3.2.1 Standard commercial product. The loader 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 the manufacturer's standard commercial product, shall be included in the loader 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 manufacturer's catalogs, or brochures, and represents the latest production model.

3.3 Loader capacity and operational requirements. The loader shall have the specified bucket SAE rated capacity for material weighing 3,000 pounds per cubic yard and shall be capable of starting and operating efficiently under any of the conditions or combination of conditions outlined in 3.3.1 and 3.3.2. A drawbar or retrieval hitch shall be provided when loader is supplied without optional rear-mounted equipment.

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3.3.1 Temperature conditions. The loader shall perform satisfactorily in any ambient temperature from -20oF up to and including +120oF with full impact of solar radiation of 360 Btu/sq ft/hr for at least 4 hours. The low temperature requirement shall be met after the specified low temperature has been sustained for not less than 3 days without benefit of solar radiation. The loader shall not be damaged by storage at any ambient temperature from +160oF for periods of 4 hours per day to -40oF for periods of at least 3 days' duration when serviced in accordance with the manufacturer's recommendation.

3.3.2 Loader weight. For satisfactory operating load stability, the loader shall weigh not less than the applicable minimum given in table I. The loader weight shall be the shipping weight with specified bucket complete with hydraulic controls, starting system, standard accessories and attachments, including radiator and crankcase guards, and the counterweight advertised and supplied for use without rear-mounted equipment. Track guiding and roller guards shall be included in loader weight when furnished with loader. It shall not include weight of operator and fuel.

3.4 Safety. All exposed parts subject to high operating temperatures or which are energized electrically shall be located, insulated, fully enclosed, or guarded so as to prevent hazards to operating personnel. All moving parts which are of such nature or so located as to be a hazard to operating personnel shall be enclosed or guarded. Protective devices shall not impair the operating functions. The loader shall comply with 29 CFR 1926.602 (seat belts, brakes, and horns), 1926.604 (overhead covering), and 1926.1000 (rollover protection system [ROPS]). When rear or side canopy guards are specified (see 3.23.1) they shall conform to 1926.604. When an enclosed cab is specified (see 3.23.1), it shall include glass (safety or equivalent) conforming to 1926.600 and rollover protection conforming to 1926.1000. A backup alarm conforming to J994, type C or D shall be provided. The alarm signal shall be audible above and distinguishable from the surrounding noise.

3.5 Sound level. The exterior sound level of the loader shall not exceed 88 dB(A) when measured accordance with SAE J88. If the sound level in the area occupied by the operator exceeds 85 dB(A) when measured in accordance with SAE J919, a clearly visible and legible warning plate containing the following shall be permanently affixed to the loader in a conspicuous protected location. ("CAUTION: HEARING PROTECTION REQUIRED WHEN TRACTOR IS OPERATING"). The plate shall have a yellow background with black lettering and shall be of corrosion-resistant material.

3.6 Ease of maintenance. The design of the loaders and accessory installations shall permit ready accessibility for servicing, replacement, and adjustment of component parts and accessories with minimum disturbance of other elements.

3.7 Frame. The frame shall be designed to withstand maximum stresses under all operating conditions and, in addition, provide adequate support for attaching any device approved by the loader manufacturer for use in combination with the loader.

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3.8 Engine. The manufacturer's standard diesel engine as supplied commercially for the size loader specified, capable of operating on commercial diesel fuel as recommended by the manufacturer shall be supplied. The engine shall be equipped with an adequate and efficient fuel injection mechanism, adequate fuel oil filter system, efficient lubricating oil filter, and an air cleaner of the two stage dry type with service indicator, a 12v or 24v electric cranking system and charging alternator. An exhaust stack with rain cap or curved outlet opening shall be furnished, and nonturbocharged engines shall be equipped with an exhaust muffler. When specified (see 6.2) the diesel engines shall be equipped with a spark arrester having an arresting efficiency of not less than 80 percent as determined by SAE J350.

3.8.1 Engine cooling system. The manufacturer's current standard production engine cooling system that meets the requirements of 3.3.1 shall be acceptable.

3.8.2 Engine horsepower. The applied net horsepower of the engine at the flywheel when measured in accordance with SAE J1349, shall be not less than the values shown in table I for the size loader specified.

3.9 Fuel tank. The fuel tank shall be of a type regularly furnished as standard equipment with a capacity for 8 hours of continuous normal operation. The tank shall be equipped with a means for draining water and sediment from the bottom of the tank.

3.10 Electrical system. Unless otherwise specified (see 6.2) the manufacturer's standard electrical system shall be provided.

3.10.1 Battery. The battery or batteries shall be the manufacturer's type normally furnished for cold starting (see 3.3.1). Mounting of battery(s) shall permit ready accessibility for servicing, removal, and replacement. Batteries furnished shall be dry charged in accordance with Federal Specification W-B-131, without electrolyte, with sealed caps to prevent the intrusion of atmospheric moisture.

3.10.2 Lights and circuits. The following lights with associated circuit-breakers, or other protective devices and switches shall be provided as well as two headlights, one rear light and one dash light (two rear lights, when specified) see (6.2). The front and rear lights shall conform to SAE J1029. All lights shall be guarded or mounted in a protected location.

3.10.3 Alternator. The alternator shall be the manufacturer's standard or optional alternator that will provide adequate service under all operating conditions specified herein.

3.11 Operator's compartment.

3.11.1 Seat. An adjustable operator's seat shall be provided. The seat shall be located to provide the operator with convenient access to operating controls, visibility of the work zone and all instruments and gages mounted on instrument-panel, when seated with seat belt fastened and properly adjusted.

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Table I.

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Table II.

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3.11.2 Instruments and gages. The following instruments and gages shall be provided and shall be located on the instrument panel, except the hour meter and air filter restriction indicator which may be remotely mounted.

- a. Engine lubricating oil pressure gage or warning light.
- b. Engine cooling liquid temperature gage.
- c. Hour meter.
- d. Torque converter temperature gage (when applicable).
- e. Transmission clutch oil pressure gage (when applicable).
- f. Air filter service or air restriction gage.
- g. Ammeter, voltmeter, or warning light.
- h. An instrument panel guard that can be locked.

Any additional instruments and gages offered as standard by the manufacturer shall also be provided.

3.11.3 Loader hydraulic controls. The loader's hydraulic lift control shall provide, raise, hold, lower, and float positions. General purpose bucket control shall have tilt-back, hold and dump positions. Lift and bucket controls shall be easily operable with one hand or a bucket self-leveling device shall be provided. Loaders shall be equipped with a position indicator which shall be visible to the operator seated in the normal operating position. When a multipurpose bucket is specified, an additional hydraulic control shall be furnished with clam close, hold and open positions. When optional front or rear mounted equipment is furnished with the loader, additional hydraulic controls, if required, shall be provided.

### 3.12 Loader bucket and operation requirements.

3.12.1 Bucket. A general purpose bucket without teeth shall be furnished. When specified (see 3.23.2), a multi-purpose bucket with teeth shall be furnished, teeth shall have replaceable tips. Width of bucket provided shall be not less than shown in table II or not less than loader width to outside of track shoes, whichever is greater.

3.12.2 Operation requirements. The lift and bucket mechanism for each size loader and type of bucket shall provide the operation specified in table II without malfunction, breakage, or permanent deformation.

3.13 Hydraulic system. The manufacturer's standard hydraulic system shall be furnished.

3.14 Hood, side doors or shields. The manufacturer's standard or optional hood, side doors or shields shall be provided.

3.15 Engine to transmission drive. The engine to transmission drive shall be compatible with the manufacturer's current standard transmission for the size and model loader provided.

3.16 Transmission. The manufacturer's transmission as offered and provided commercially as standard equipment for the size loader specified shall be provided. The transmission shall provide the minimum number of forward and reverse speeds specified in table I unless transmission is hydrostatic drive.

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3.17 Steering and brake systems. The manufacturer's current standard production steering and braking systems capable of making pivot turns in either direction are acceptable.

3.18 Final drive units. The final drive units shall be in housings adequately sealed against mud, dust, and water. The final drive gears shall be heat-treated steel with machine-cut teeth.

3.19 Track assembly. Track links, pins, and bushings shall be of heat-treated steel, and shall be replaceable and interchangeable. A recoil mechanism shall be provided for cushioning the front idlers. Track roller bushings or bearings shall be permanently sealed and lubricated. Hydraulic track adjusters shall be furnished.

3.19.1 Track shoes and grousers. Track shoes and grousers shall be heat-treated steel offering a maximum resistance to wear and abrasion. Unless otherwise specified (see 6.2), the shoe and grouser widths shall be the manufacturer's standard.

3.19.2 Track gage. The loaders furnished shall have track gage widths not less than shown in table I.

3.19.3 Track length on ground. The length of track from centerline of front idler to centerline of rearmost sprocket or idler shall be not less than shown in table I.

3.20 Tools. Tools normally furnished with the loader by the manufacturer shall be provided together with the manufacturer's standard tool storage box or compartment.

3.21 Cleaning, treatment, and painting. Surfaces normally painted in good commercial practice shall be cleaned, treated, and painted as specified herein. The color of the finish coat shall be as specified (see 6.2). Surfaces to be painted shall be cleaned and dried to insure 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. 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.

3.22 Manufacturer's identification. The loader and allied equipment shall bear the manufacturer's name or trademark, model designation, and serial number on a plate securely affixed in a conspicuous place. The manufacturer's name or trademark may be cast integral, stamped, or otherwise permanently marked upon the equipment.

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3.22.1 Identification plate. When required will be furnished by the procuring activity.

3.23 Optional accessories and allied equipment. When optional accessories and allied equipment are specified and furnished, such equipment shall be of current models so designed and constructed as to be readily adaptable without modification, and shall operate efficiently with the loaders so equipped.

3.23.1 Optional accessories. When specified (see 6.2), loaders shall be furnished with any of the following or other accessories as specified by the procuring agency:

- a. Hand or foot operated accelerator or decelerator.
- b. Track roller guards.
- c. Sprocket rock guards (if loader does not have drum type [enclosed] sprockets).
- d. Front idler rock guards (if loader does not have drum type idlers).
- e. Front pull hook if retrieval hitch and drawbar are omitted (see 3.23.2 b and d).
- f. Crankcase guard. The crankcase guard shall be capable of affording positive protection to the crankcase, flywheel housing, accessories, and other assemblies exposed to damage from projecting stumps, brush and boulders, and other obstructions likely to be encountered when operating in rough terrain. The guard, its supports and attachment fittings shall be capable of withstanding impact in addition to the full weight of the loader, without yielding or collapsing while providing protection to any vulnerable assembly, when bearing upon one or more projecting objects. Adequate provision shall be made for access through the guard to any point requiring periodic service.
- g. Radiator guards. The radiator guards shall provide protection to the radiator. The guards shall be constructed so as to offer the least impairment to the efficiency of the system compatible with the required ruggedness. The supporting frame shall be of sufficient strength and rigidity to support the guards and shall be mounted independently of the radiator, or in such a manner that shocks or slight deflections will not be transmitted to the radiator core. Guards shall provide ready access for cleaning debris from the front of the radiator.
- h. Cab, fully enclosed type. The cab shall be the manufacturer's current standard production type, enclosing the operator's seat and all controls.

Power operated windshield wipers shall be provided, one front and one rear. If the cab has a separated or split windshield, two power operated front wipers shall be provided. All glass shall conform to 29 CFR 1926.600 and the cab shall conform to 29 CFR 1926.1000 for rollover protection.

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- i. Personnel heater, defroster, or defroster fan. Installed in fully enclosed cab specified in 3.23.1h or 3.23.1j.
- j. Air conditioned cab. The manufacturer's current air conditioned cab shall be provided. This cab shall meet all requirements for the fully enclosed cab specified in 3.23.1i.
- k. Reversible fan for loaders with front or rear mounted engines.
- l. ROPS rear screen guard. (Should be specified when towing winch is required or when loader will be used in woods operation).
- m. ROPS side screen guards (for use in woods operation).
- n. Teeth for general purpose bucket.
- o. Brush deflectors (forward sweeps) for ROPS canopy or cab.
- p. Vandalism protection kit (as offered commercially by the manufacturer).
- q. Specify drawbar or retrieval hitch, (see 3.3).
- r. Rear view mirror for ROPS canopy or ROPS cabs.

3.23.2 Optional allied equipment. When specified in the invitation for bids contract, or order (see 6.2), loaders shall be furnished with any of the following or other allied equipment as specified by the procuring agency. Allied equipment shall be of heavy duty construction and be capable of handling the full power output of the specified loader under all operating conditions:

- a. Multipurpose bucket with teeth instead of general purpose bucket. Multipurpose bucket shall perform operations of clamshell, dozer and scraper, as well as front end shovel. All operations shall be hydraulically controlled from operator's seat.
- b. Scarifier or ripper, rear mounted, hydraulically operated, with provisions for a minimum of three teeth (specify number of teeth required). Loader with ripper-scarifier must weigh not less than shown in table I, for type bucket specified. Front pull hook should be specified.
- c. Winch, towing, single drum, with integral drawbar or coupler. When specified, the winch drum shall be spooled with appropriate size and length of cable with attached hook (cable length and diameter must be specified). Loader with winch must weigh not less than shown in table I, for type bucket specified.
- d. Backhoe, rear mounted, hydraulically operated. Front pull hook must be specified if drawbar and retrieval hitch are omitted.

### 3.24 Special requirements.

3.24.1 Winterization. When specified (see 6.2), the loader shall be winterized to start and operate at -25oF, -40oF, or -50oF.

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

3.25 Workmanship. Workmanship shall conform to current best manufacturing practice followed for this type of equipment. Component parts and units shall be manufactured to definite standard dimension, with proper fits and clearances.

#### 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 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.

4.2 Inspection. Each loader shall be inspected for material, workmanship and compliance with all requirements of this specification. Non-conformance to the requirements specified herein shall be cause for rejection of the loader.

4.3 Tests. Unless otherwise specified (see 6.2), conformance to the tests required in 4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.7, and 4.3.8 shall be determined by the manufacturer's certified test reports or test data. If test reports or certified data is not available or satisfactory, the tests shall be conducted as specified.

4.3.1 Engine horsepower. The net applied engine horsepower shall be determined by SAE Test Code J1349. Nonconformance to the requirements of table I shall constitute failure of this test.

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4.3.2 Sound level. The exterior sound level shall be determined by SAE test code J88. The sound level at the operator's station shall be determined in accordance with SAE test code J919. Nonconformance to the requirements of 3.5 shall constitute failure of this test.

4.3.3 Digging test. Excavate in undisturbed soil, or soil compacted to approximately the same state, provided it is as hard or harder than undisturbed soil, and load into 5-ton dump trucks or framework of comparable dimensions for eight (8) continuous hours. During this period, a minimum of 30 full operating loads shall be handled each hour at normal working speed. Table II requirements for digging depth, dumping shall be verified during this portion of tests.

4.3.4 Stockpile loading test. A stockpile of loose soil equal to 20 times the volume of the struck capacity of the bucket, shall be loaded and transported a distance of not less than 100 feet over uneven terrain. The loader shall have adequate power to crowd the bucket into a stockpile with sufficient force to fill the bucket to its rated capacity in one pass. This operation cycle shall require not more than 22 round trips, or three hours time, leaving pick up area relatively clean. This operation shall be performed for not less than six (6) hours.

4.3.5 Bulldozing test. The loader with bucket set for dozing, shall be employed to doze a cut of approximately 4-inches depth in undisturbed soil, (or soil compacted to approximately natural state, provided it is as hard as or harder than undisturbed soil) into a stockpile approximately 15 times the bucket capacity in volume, and then spreading (by dozing mode only) the same pile to a level surface. This operation shall not require more than 1.5 hours for completion. The operation shall be repeated for three cycles or four and one-half (4.5) continuous hours as a minimum.

4.3.6 Scraper Operation. With the bucket partially opened and adjusted for a digging depth of 2 to 4 inches, the loader shall fill the bucket to its rated load capacity in undisturbed soil and deposit same into a truck or over a framework onto a stockpile. This operation shall be performed for not less than four (4) hours.

4.3.7 Clamshell operation. Using the bucket as a clamshell, load loose soil or rock to rated bucket capacity from a stockpile to a 5-ton dump truck or framework of equivalent dimensions using the bottom dump feature of the bucket. A minimum of 80 passes shall be made in (4) continuous hours. The bucket shall be used to pick up irregular shaped items such as brush, large tree trimmings and large rocks by means of the edge grip and be capable of holding them firmly while traveling in carry position. This function shall be performed for two (2) hours.

4.3.8 Test procedure. Test shall encompass specified functions and total not less than 35 hours operating time. Time required to meet total may be accomplished performing any of the required operational functions. Periodic inspections during testing will be made to check for oil leaks, component overheating or signs of component damage or breakage. Failure of the loader to preform the test specified shall be considered cause for rejection. Any equipment malfunction during the testing that requires repair prior to acceptance by the government inspector shall also be cause for rejection.

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4.4 Safety. The manufacturer shall furnish certification to prove compliance with 3.4.

4.5 Inspection of preparation for delivery. Preservation, packing, and marking shall be examined in accordance with the quality assurance provisions of MIL-T-3351.

## 5. PREPARATION FOR DELIVERY

5.1 Preservation, packing, and marking. The loader shall be preserved, packed, and marked in accordance with MIL-T-3351, type II. The level of preservation and packing shall be level A, level B, or commercial as specified (see 6.2).

## 6. NOTES

6.1 Intended use. The loaders are intended for digging, lifting, transporting, dumping of materials and operation over rough terrain.

6.2 Ordering data. Purchasers should select the preferred options permitted herein and include the following information in procurement documents:

- a. Title, number and date of this specification.
- b. Size loader required (see 1.2.1 and table 1).
- c. When spark arrester is required for nonturbocharged diesel engines (see 3.8)
- d. When electrical system, as specified in 3.10 is required.
- e. When two rear lights are required (see 3.10.2).
- f. When shoe and grouser width are different (see 3.19.1).
- g. When paint is different (see 3.21).
- h. When optional accessories are required (see 3.23.1).
- i. When optional allied equipment is required (see 3.23.2).
- j. When winterization is required (if other than specified in 3.3.1) specify -250oF, -400oF, or -500oF (see 3.24.1).
- k. When lifting and tie down attachments are required (see 3.24.2).
- l. When certified test reports or data is not acceptable (see 4.3).
- m. Level of preservation, packing and marking required (see 5.1).

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MILITARY INTERESTS:

Custodians

Army - ME  
Navy - YD  
Air Force - 99

Review Activities

Army - AT, CR  
Air Force - 84  
DLA - CS

User Activity

Navy - MC

CIVIL AGENCY COORDINATING ACTIVITIES:

INTERIOR - BLM  
USDA - AFS  
DOT - NHT  
GSA - FSS (DCG)

PREPARING ACTIVITY:

Navy - YD

(Project 3805-0141)

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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.