

John Deere 7630 Knuckleboom Loader



JOHN DEERE

TECHNICAL MANUAL John Deere 7630 Knuckleboom Loader

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ENGLISH



7630 KNUCKLEBOOM LOADER

Technical Manual
TM-1147 (Oct-75)

CONTENTS

- Section 10 - GENERAL
 - Group 5 Specifications
 - Group 10 Lubricants
 - Group 15 Separation
- Section 20 - ENGINE
 - Group 5 Diagnosing Malfunctions
 - Group 10 Separation and Installation
 - Group 15 Basic Engine
 - Group 20 Engine Lubrication
 - Group 25 Speed Control Linkage
 - Group 30 Engine Cooling System
 - Group 35 Specifications and Special Tools
- Section 30 - FUEL SYSTEM
 - Group 5 Diagnosing Malfunctions
 - Group 10 Fuel Tank, Fuel Filter, Fuel Transfer Pump
 - Group 15 Fuel Injection Pump
 - Group 20 Specifications
- Section 40 - ELECTRICAL SYSTEM
 - Group 5 Wiring Diagrams
 - Group 10 Charging System
 - Group 15 Starting Motor
 - Group 20 Electrical Swivel
 - Group 25 Specifications
- Section 50 - HYDRAULIC SYSTEM
 - Group 5 General Information and Malfunction Diagnosis
 - Group 10 Hydraulic Pump
 - Group 15 Reservoir, Filters, and Oil Cooler
 - Group 20 Main Valve
 - Group 25 Stabilizer Valve (Cab Mount)
 - Group 30 Stabilizer Valve (Rear Mount)
 - Group 35 Swing Motor
 - Group 40 Motion Control Valve
 - Group 45 Hydraulic Swivels
 - Group 50 Selector Valve
 - Group 55 Grapple Inline Crossover Relief Valve
 - Group 60 Hydraulic Cylinders
 - Group 65 Control Lever Linkage
 - Group 70 Grapple Standard Orbit Motor
 - Group 75 Grapple High Torque Orbit Motor
 - Group 80 Specifications
- Section 60 - MISCELLANEOUS
 - Group 5 Grapples
 - Group 10 Stabilizer
 - Group 15 Cab (Rear Mount)

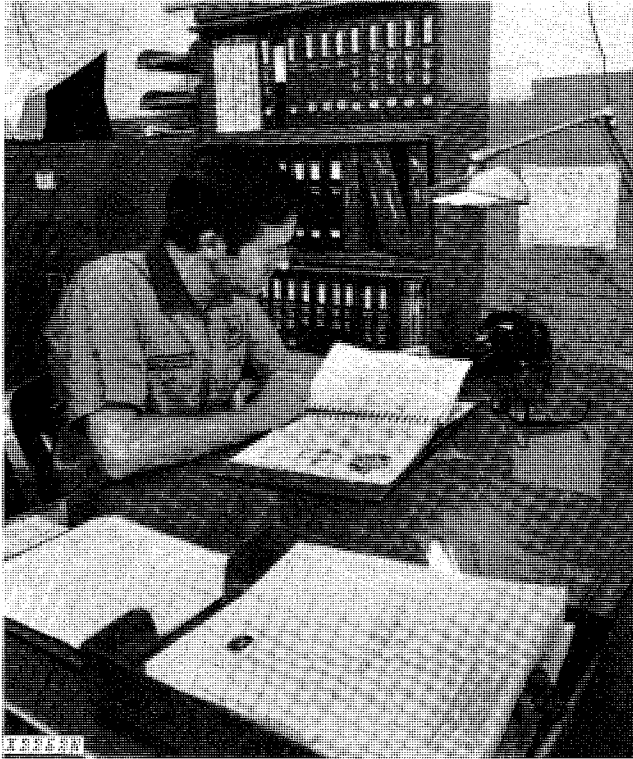
SI (International System) UNITS OF MEASURE

Metric equivalents have been included, where applicable, throughout this technical manual.

All information, illustrations and specifications contained in this technical manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

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INTRODUCTION



Use FOS Manuals for Reference

This technical manual is part of a twin concept of service:

FOS Manuals - for reference

Technical Manuals - for actual service

The two kinds of manuals work as a team to give you both the general background and technical details of shop service.

Fundamentals of Service (FOS) Manuals cover basic theory of operation, fundamentals of trouble shooting, general maintenance, and basic types of failures and their causes. FOS Manuals are for training new personnel and for reference by experienced service technicians.

Technical Manuals are concise service guides for a specific machine. Technical Manuals are on-the-job guides containing only the vital information needed by an experienced service technician.



Use Technical Manuals for Actual Service

Some features of this technical manual:

- Table of contents at front of manual
- Exploded views showing parts relationship
- Photos showing service techniques
- Specifications grouped for easy reference


This technical manual was planned and written for you - an experienced service technician. Keep it in a permanent binder in the shop where it is handy. Refer to it whenever in doubt about correct service procedures or specifications.

Using the technical manual as a guide will reduce error and costly delay. It will also assure you the best in finished service work.

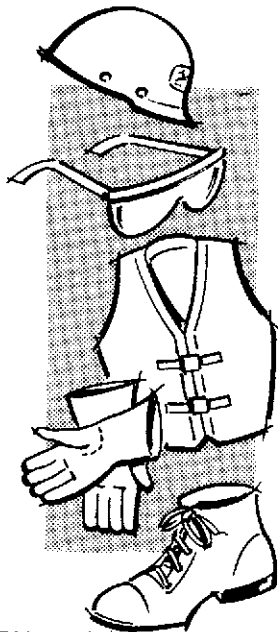
MAINTENANCE WITHOUT ACCIDENT WORK SAFELY



T27999N

 This safety alert symbol identifies important safety messages in this manual and on the loader. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

**EVERY EMPLOYER HAS A
SAFETY PROGRAM. KNOW
WHAT IT IS!**



T27501N

Consult your shop supervisor for specific instructions on a job, and the safety equipment required.

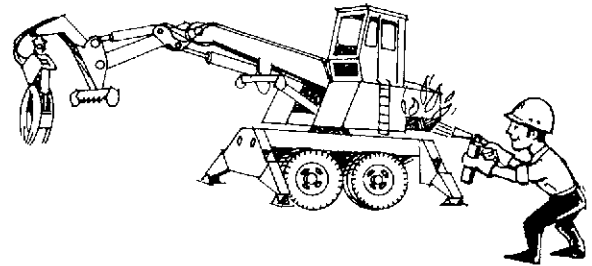
For instance, you may need: Hard hat, safety shoes, safety goggles, heavy gloves, reflector vests, ear protectors, respirators.

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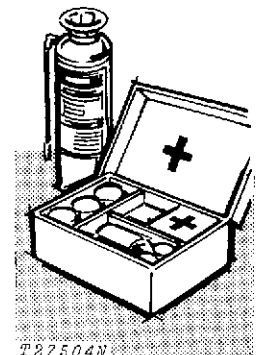
ALWAYS AVOID loose clothing or any accessory - flopping cuffs, dangling neckties and scarves, or rings and wrist watches - that can catch in moving parts and put you out of work.



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BE ALERT!

Plan ahead—work safely—avoid accidental damage and injury. If a careless moment does cause an accident or fire, react quickly with the tools and skills at hand—know how to use a first aid kit and a fire extinguisher—and where to get aid and assistance. In an emergency split-second action is the key to safety.



T27504N

MAINTENANCE WITHOUT ACCIDENT—Continued

Specific safety procedures should always be observed, whether servicing the equipment or making the repairs. Remembering these—in time!—can prevent an injury ... or save your life ...

AVOID FIRE HAZARDS

Fuel is Dangerous!

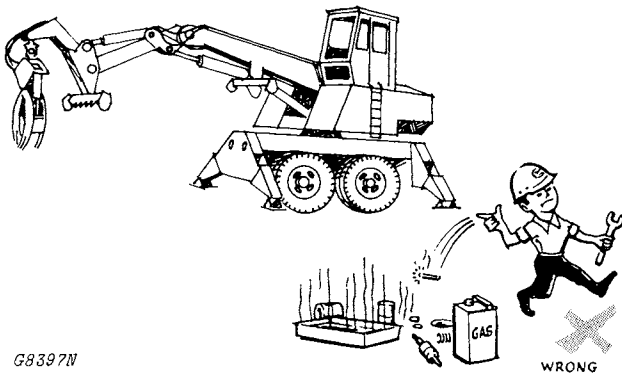
Don't smoke while refueling.

Don't smoke while handling highly flammable material.

Engine should be shut off when refueling.

Use care in refueling if the engine is hot.

Don't use open pans of gasoline or diesel fuel for cleaning parts. Good commercial, nonflammable solvents are preferred.



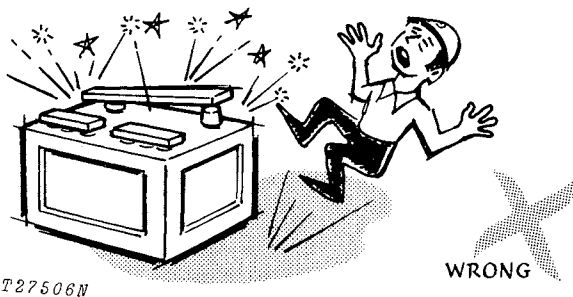
Battery Gas Is Highly Flammable!

Provide adequate ventilation when charging batteries.

Don't check battery charge by placing metal objects across the posts.

Don't allow sparks or open flame near batteries.

Don't smoke near battery.



Flame Is Not A Flashlight!

Never check fuel, battery electrolyte or coolant levels with an open flame.

Never use an open flame to look for leaks anywhere on the equipment.

Never use an open flame as a light anywhere on or around the equipment.

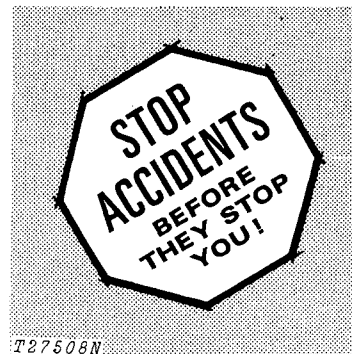
KNOW WHERE FIRE EXTINGUISHERS ARE KEPT!

UNDER ALL MAINTENANCE CONDITION -

Do not perform any work on the equipment unless authorized to do so. Then be sure you know what you're doing. Follow recommended procedures.

Never service the equipment while it is being operated.

Avoid working on equipment with the engine running. If it is necessary to make checks with the engine running, ALWAYS USE TWO SERVICE TECHNICIANS—one, the operator, at the controls, the other checking in view of the operator. Also, put the transmission in neutral, set the brake, and apply any safety locks provided. KEEP HANDS AWAY FROM MOVING PARTS.

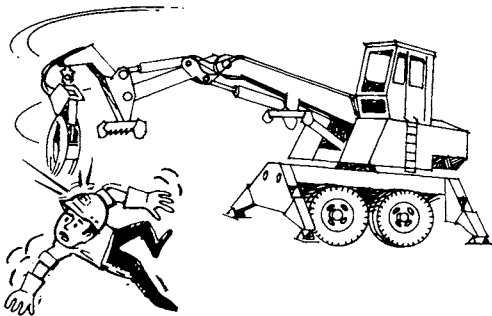


MAINTENANCE WITHOUT ACCIDENT

Before servicing, adjusting, or repairing - LOWER attachments to the ground - or, if necessary to raise them for access to certain parts, SECURELY SUPPORT by external means. DO NOT rely on controls to support or position attachments for maintenance.

Never allow ANYONE to walk under equipment that is raised and not properly blocked.

Avoid working directly under raised and blocked equipment unless absolutely necessary.



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If the machine is on an incline, block it securely.

Use hoisting equipment for lifting heavy parts. TAKE CARE! WATCH OUT FOR OTHER PEOPLE IN THE VICINITY.

Use extreme caution in removing radiator caps, drain plugs, grease fittings, or hydraulic pressure caps.

Wear safety glasses when drilling, grinding, or hammering metal.

Make sure the maintenance area is adequately vented.

Keep maintenance area CLEAN AND DRY. Oily and wet floors are slippery; greasy rags are a fire hazard; wet spots are dangerous when working with electrical equipment.

Store starting aids in a cool and well-ventilated place, out of the reach of unauthorized personnel.

SERVICING PRECAUTIONS

Stop the engine before cleaning or lubricating the equipment.

Lower mounted equipment and tools to the ground carefully.

Engine coolant gets hot! Don't remove the radiator cap until coolant temperature is below the boiling point. Then turn cap slightly to relieve pressure before removing.

Exhaust gases are dangerous! Periodically check exhaust system for excessive leakage.

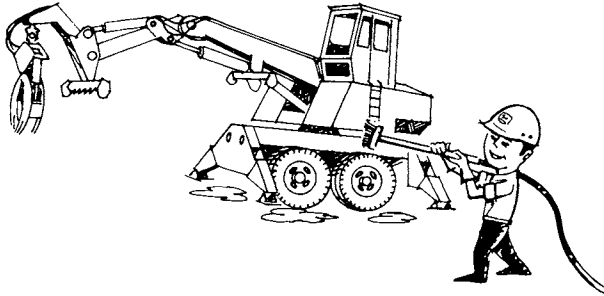
Don't forget a hydraulic system may be pressurized! To relieve pressure, follow the technical manual.

When checking hydraulic pressure, be sure to use the correct test gauge for the pressure in the particular system.

MAINTENANCE WITHOUT ACCIDENT—Continued

Keep ALL equipment free of dirt and oil. This attention will minimize fire hazards and facilitate spotting of loose or defective parts.

When preparing engine for storage, remember that inhibitor is volatile and therefore dangerous. Seal and tape openings after adding the inhibitor. Keep container tightly closed when not in use.



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Before removing any housing covers, stop engine. Take all objects from your pockets which could fall into the opened housings. Don't let adjusting wrenches fall into opened housing.

.... for Maintenance Adjustments

Don't attempt to check belt tension while the engine is running.

Don't adjust the fuel system while the machine is in motion.

PRECAUTIONS DURING REPAIR

Before working on the engine fuel system—close fuel shutoff valve.

Before working on hydraulic system—make sure engine is not running and the system pressure is relieved by working the control levers in all directions with the engine shut off.

Never let your bare hands come in contact with the sharp edges. WEAR GLOVES.

Before repairing the electrical system, or performing a major overhaul, make sure the batteries are disconnected.

Section 10 GENERAL

CONTENTS OF THIS SECTION

GROUP 5 - SPECIFICATIONS

7630 (Cab) Loader Design	5-3
Serial Number (Cab Mount	5-3
7630 (Rear) Loader Design	5-4
Serial Number (Rear Mount)	5-4
Loader Specifications	5-5
Grapples	5-6
Boom Lift Capacities (Cab Mount and Rear Mount)	5-7
Cab Mount View Side View	5-8
Rear Mount Side View	5-9
Rear Mount Rear View	5-10

GROUP 10 - LUBRICANTS

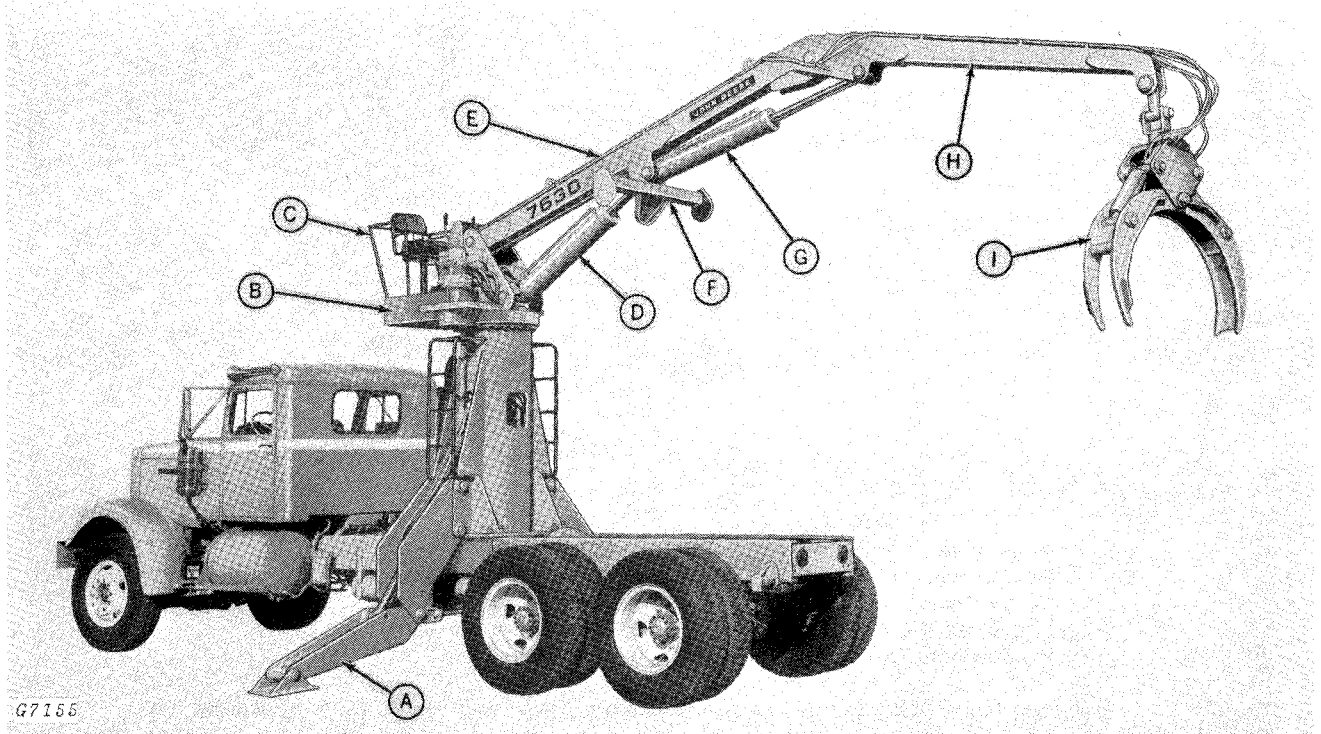
Lubricants	10-1
Lubrication and Periodic Service	10-2
Lubrication and Service Intervals	10-2
Periodic Service Chart (Cab Mount)	10-3
Cab Mount Lubrication	10-4 - 10-6
Periodic Service Chart (Rear Mount)	10-7 - 10-8
Rear Mount Lubrication	10-9 - 10-12

GROUP 15 - SEPARATION

General	15-1
Separating the 7630 Cab Mount from the Truck	15-2
Separating the 7630 Rear Mount from the Truck Frame	15-3 - 15-4
Installing Loader Onto Truck	15-4

Group 5 SPECIFICATIONS

7630 CAB MOUNT



- | | |
|----------------------|---------------------|
| A—Stabilizer | F—Heel |
| B—Operating Platform | G—Jib Boom Cylinder |
| C—Hand Railing | H—Jib Boom |
| D—Main Boom Cylinder | I—Grapple |
| E—Main Boom | |

Fig. 1—John Deere 7630 (Cab Mounted) Knuckleboom Loader with 44-Inch (1.11 m) Grapple

SERIAL NUMBER

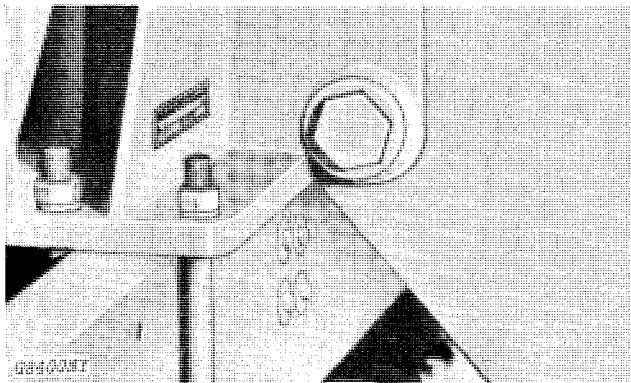
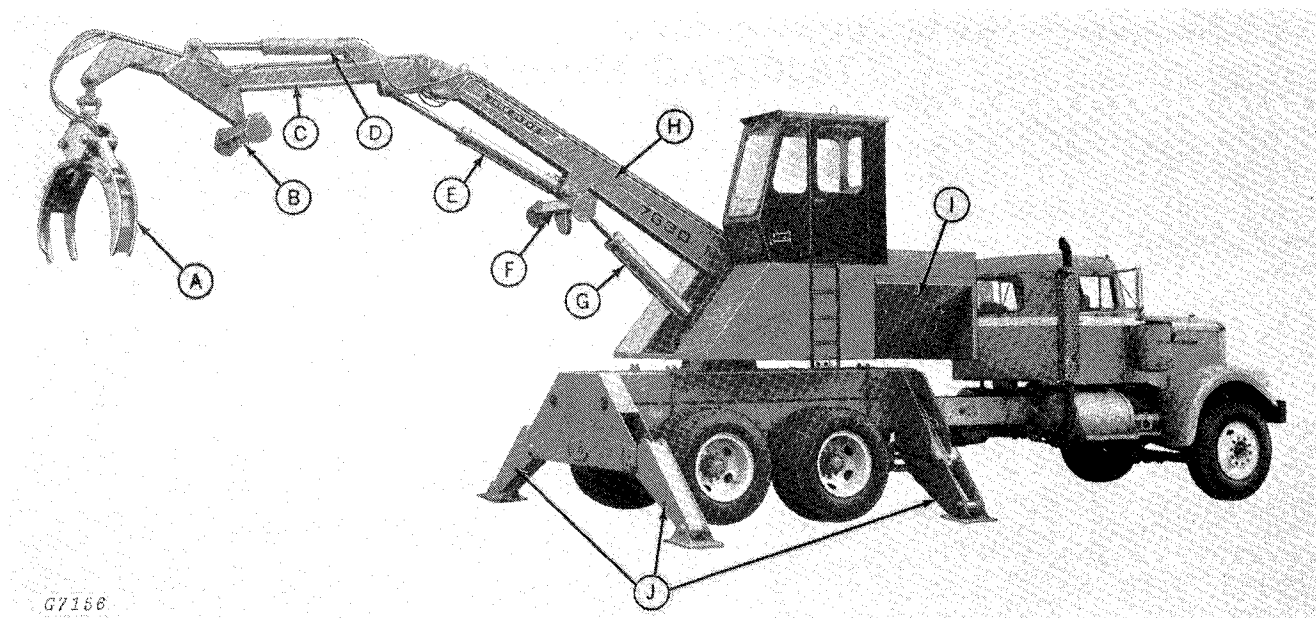


Fig. 2—Cab Mount Serial Number

The loader serial number on the 7630 Cab Mount Knuckleboom Loader is located on the lower front left-hand side of the mounting frame.

7630 REAR MOUNT



- | | |
|----------------------|------------------------|
| A—Grapple | F—Heel |
| B—Live Heel | G—Main Boom Cylinder |
| C—Jib Boom | H—Main Boom |
| D—Live Heel Cylinder | I—Engine Service Panel |
| E—Jib Boom Cylinder | J—Stabilizers |

Fig. 3—John Deere 7630 (Rear Mounted) Knuckleboom Loader with 44-Inch (1.11 m) Grapple

SERIAL NUMBER

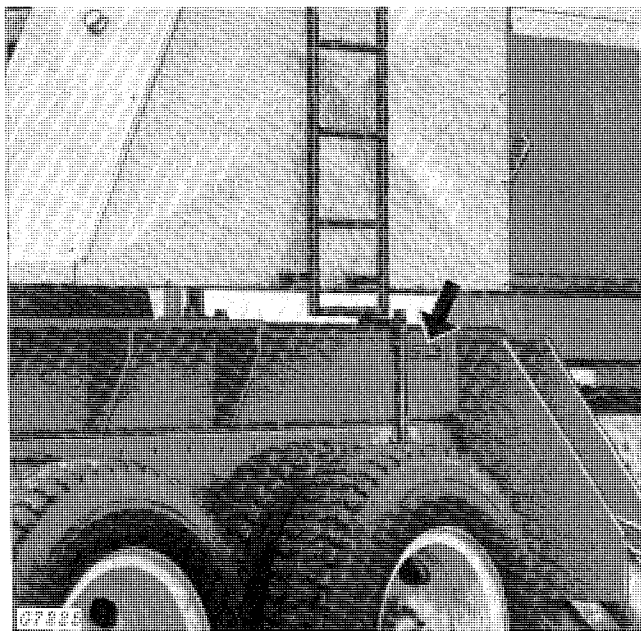


Fig. 4—Rear Mount Serial Number

The loader serial number on the 7630 Rear Mount Knuckleboom Loader is located on the lower rear left-hand side of the mounting frame.

LOADER SPECIFICATIONS

Operating Information:

Maximum loading reach:

Cab mount21 ft. 6 in. (6.55 m)
Rear mount w/live heel23 ft. (7.01 m)
Swing system Turntable
Swing arc360° continuous
Swing torque20,000 lb-ft (2766 kg-m)
Swing speed6 rpm

Stabilizer spread:

Cab mount15 ft. 6 in. (4.72 m)
Rear mount, front11 ft. 6 in. (3.51 m)
Rear mount, rear15 ft. 4 in. (4.67 m)
Stabilizer area, each256 sq. in. (1652 cm²)

Grapple rotation360°
Grapple swing torque175 lb-ft (24.2 kg-m)

Grapple opening, maximum:

40 in. (1.02 m) grapple40 in. (1.02 m)
44 in. (1.12 m) grapple44 in. (1.12 m)
1/4 cord (0.9 m³) grapple50 in. (1.27 m)

Transport height:

Cab mount13 ft. 2 in. (4.01 m)
Rear mount13 ft. (3.96 m)
Maximum transport width8 ft. (2.44 m)

Mounting:

Mounting frame integral with main frame. Brackets supplied for universal mounting. Bolts to truck frame.

Hydraulic Cylinders:

Main7x36 in. (178x914 mm), double-acting
Jib6x36 in. (152x914 mm), double-acting
Live heel (rear-mount only) ...5x24 in. (127x610 mm) double acting

Stabilizer ...6x21 in. (152x533 mm), double-acting
Grapple:

40 in. (1.02 m) and 1/4 cord (0.9 m³) ...3-1/2x8 in. (82x203 mm), double-acting
44 in. (1.12 m) 4x10 in. (102x254 mm), double-acting

Hydraulic System:

Controls2-lever, stack valve
Relief pressure2000 psi (140.6 kg/cm²)
Pump60 gpm (227 l/min) at 1800 rpm

Reservoir capacity:

Cab mount57 gal. (215.8 liters)
Rear mount70 gal. (265 liters)

Drive:

Cab mountPTO-driven
Rear mountEngine-driven

Auxiliary Diesel Power Unit: (rear mount only)

John Deere, 4-cylinder, valve-in-head, 4-stroke cycle. Power (@ 2500 rpm), intermittent...70 hp (52 kW*) 74.4 DIN-PS

Bore and stroke4.02x4.33 in. (102x110 mm)

Piston displacement219 cu. in. (3589 cm³)

Rotation, facing flywheel endCounterclockwise

Compression ratio16.3 to 1

Alternator12 volt, 35 amp w/regulator

Starter12 volt (no battery and cables)

*In the International System of Units (SI), power is expressed in kilowatts (kW).

Shipping Weight (approx):

Complete with stabilizers, all cylinders, hydraulic pump and all mounting, less grapples:

Cab mount7181 lb. (3257 kg)
Rear mount11,776 lb. (5342 kg)

Grapples:

40 in. (1.02 m) interlocking585 lb. (265 kg)
44 in. (1.12 m) interlocking695 lb. (315 kg)
1/4 cord (0.9 m³) general purpose620 lb. (281 kg)



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