John Deere
JD24
Skid-Steer Loader

JOHN DEERE

TECHNICAL MANUAL

John Deere JD24
Skid-Steer Loader

TM1042 (01DEC74) English

John Deere
Lawn & Grounds Care Division
TM1042 (01DEC74)

LITHO IN U.S.A.
ENGLISH

JD24 SKID-STEER LOADER
TECHNICAL MANUAL
TM-1042 (Dec-74)

CONTENTS

SECTION 10 - GENERAL
- Group 5 - Specifications
- Group 10 - Predelivery, Delivery, and After Sales Service
- Group 15 - Loader Tune-up
- Group 20 - Lubrication

SECTION 20 - ENGINE
- Group 5 - Diagnosing Engine Malfunctions
- Group 10 - Basic Gasoline Engine
- Group 15 - Repair, Assembly, and Adjustments of Gasoline Engine
- Group 20 - Gasoline Engine Specifications and Special Tools
- Group 25 - Basic Diesel Engine
- Group 30 - Repair, Assembly, and Adjustments of Diesel Engine
- Group 35 - Diesel Engine Cooling System
- Group 40 - Diesel Engine Specifications and Special Tools

SECTION 30 - FUEL SYSTEM
- Group 5 - Diagnosing Fuel System Malfunctions (Gasoline)
- Group 10 - Carburetor (Gasoline)
- Group 15 - Fuel Filter, Strainer, and Pump (Gasoline)
- Group 20 - Specifications (Gasoline)
- Group 25 - Diagnosing Fuel System Malfunctions (Diesel)
- Group 30 - Transfer Pump and Filter (Diesel)
- Group 35 - Fuel Injection Nozzles
- Group 40 - Specifications and Special Tools (Diesel)

SECTION 40 - ELECTRICAL SYSTEM
- Group 5 - Diagnosis
- Group 10 - Battery and Wiring Diagram
- Group 15 - Charging System
- Group 20 - Ignition System
- Group 25 - Starting Motor
- Group 30 - Specifications and Special Tools

SECTION 50 - POWER TRAIN
- Group 5 - Diagnosing Power Train
- Group 10 - Power Train Flow
- Group 15 - Gearbox
- Group 20 - Hydraulic Variable Drive Sheave
- Group 25 - Variable Drive Shaft Assembly
- Group 30 - Clutch
- Group 35 - Center Reduction Gear Assembly
- Group 40 - Axle
- Group 45 - Drive Chains
- Group 50 - Specifications and Special Tools

SECTION 60 - STEERING AND BRAKES
- Group 5 - Steering
- Group 10 - Brakes
- Group 15 - Specifications

SECTION 70 - HYDRAULIC SYSTEM
- Group 5 - Diagnosis
- Group 10 - Hydraulic Pump
- Group 15 - Hydraulic Control Valves
- Group 20 - Variable Speed Valves
- Group 25 - Hydraulic Cylinders
- Group 30 - Specifications and Special Tools

SECTION 80 - ALPHABETICAL INDEX

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."

FOR YOUR CONVENIENCE

Vertical lines appear in the margins of many of the pages. These lines identify new material and revised information that affects specifications, procedures, and other important instructions.

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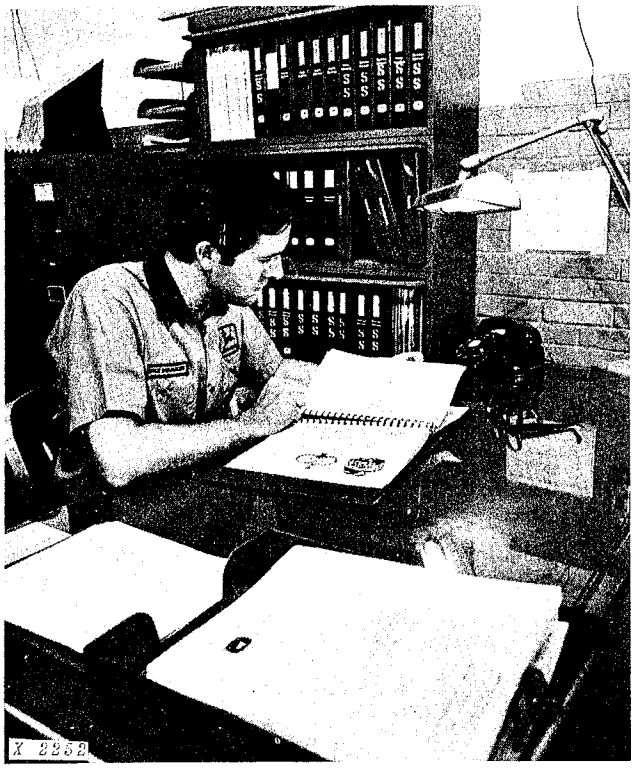
INTRODUCTION



Use FOS Manuals for Reference

Use Technical Manuals for Actual Service

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 men and for reference by experienced men.

Technical Manuals are concise service guides for a *specific* machine. Technical Manuals are on-the-job guides containing only the vital information needed by a journeyman mechanic.

When a serviceman should refer to a FOS Manual for more information, a FOS symbol like the one at the left is used in the TM to identify the reference.

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—a journeyman mechanic. 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.

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

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SAFETY AND YOU

INTRODUCTION

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

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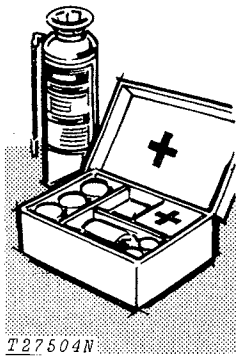
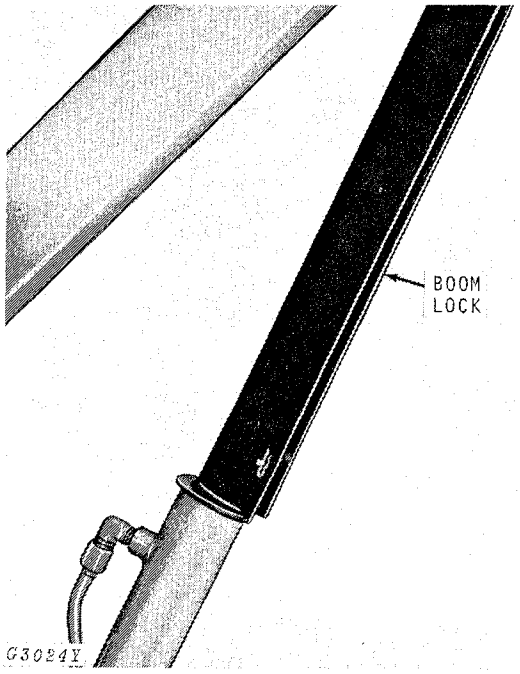


T27504N

Be prepared if an accident or fire should occur. Know where the first aid kit and the fire extinguishers are located—know how to use them.

BOOM LOCKS

CAUTION



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Install the boom locks on the lift cylinders as follows whenever work or repair is being done on the loader with the boom raised:

1. Start the engine and raise the boom to its greatest height. Shut off the engine.

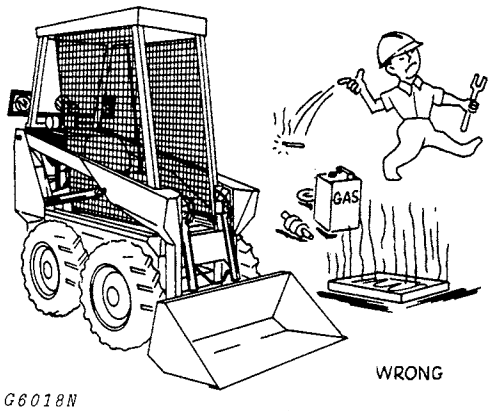
2. Lay the boom locks on the cylinder rods and install the drilled pins and spring pins.

3. Install boom locks on other cylinder rods in the same manner.

4. Lower the boom until it contacts the boom locks.

IMPORTANT: After servicing the loader, raise the boom and remove the boom locks.

AVOID FIRE HAZARDS



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Don't smoke while refueling or 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.

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.

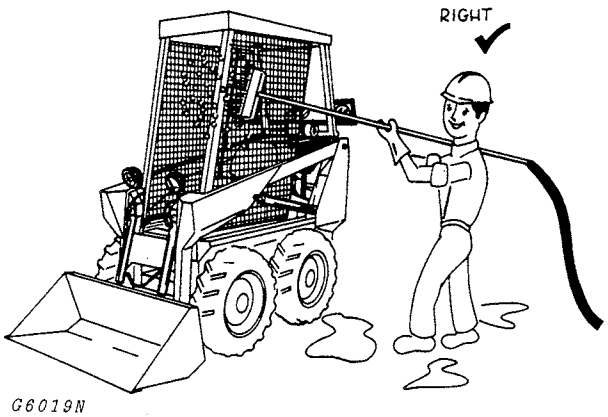
Never check fuel, battery electrolyte, or coolant levels with an open flame.

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.

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

CLEANING THE LOADER



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Always stop the engine before cleaning the loader.

Keep the operator's platform clean. Do not use it as a storage area.

Keep the engine closure screens free of foreign matter. Avoid a possible fire hazard.

Keep all equipment free of dirt and oil. In freezing weather, beware of snow and ice on operator's platform.

SERVICE AREA

Keep the service area clean and dry. Wet or oily floors are slippery. Wet spots can be dangerous when working with electrical equipment.

Make sure the service area is adequately vented.

Periodically check the shop exhaust system for leakage. Engine exhaust gas is dangerous.

Be sure all electrical outlets and tools are properly grounded.

Use adequate light for the job at hand.

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FLUIDS UNDER PRESSURE

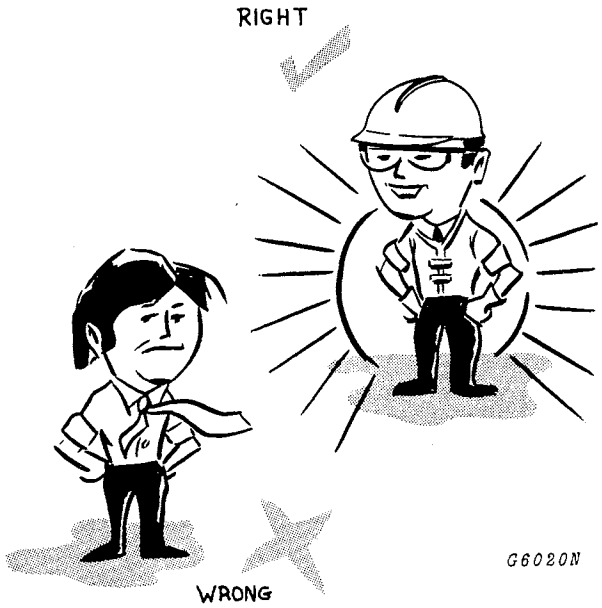
Escaping fluid under pressure can have sufficient force to penetrate the skin, causing serious bodily injury. Before disconnecting lines, be sure to relieve all pressure. Before applying pressure to the system, be sure all connections are tight and that lines, pipes and hoses are not damaged. Fluid escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands, to search for suspected leaks.

If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.

Don't forget the 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.

PERSONAL SAFETY



Always avoid loose clothing—flopping cuffs, dangling neckties and scarves—that can catch in moving parts and put you out of work.

Always wear your safety glasses while on the job.

Keep transmission and brake control units properly adjusted at all times. Before making adjustments, stop engine.

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 housings.

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

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

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

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

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

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Thank you very much for your reading. Please Click Here Then Get More Information.

NOTE:

If there is no response to click on the link above, please download the PDF document first and then click on it.

Section 10
GENERAL

CONTENTS OF THIS SECTION

Page

GROUP 5 SPECIFICATIONS
Loader Specifications 5-2

GROUP 10 PREDELIVERY, DELIVERY, AND AFTER SALES SERVICES
Predelivery Service 10-1
Delivery Service 10-1
After-Sales Service 10-2

Page

GROUP 15 LOADER TUNE UP
Loader Tune Up 15-1

GROUP 20 LUBRICATION
Lubrication Chart 20-1
Engine Lubricating Oil 20-1
Hydraulic Oil 20-2

Group 5
SPECIFICATIONS

LOADER DESIGN

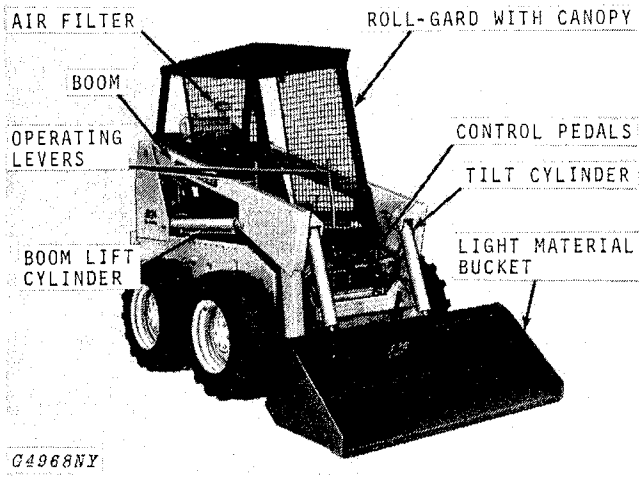

Fig. 1-JD24 Skid-Steer Loader

The JD24 Skid-Steer Loader is a 1700-pound capacity, self-propelled, four-wheel drive loader used for various material handling operations. It also has the ability to maneuver in small, tight areas.

All references in this manual to front, rear, left-hand and right-hand are in relation to the position of the operator seated in the operator's station.

SERIAL NUMBERS

The serial number plate is located on the right-hand side; inside the frame under the boom pivot.

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LOADER SPECIFICATIONS

ENGINE (Gasoline)
- Flywheel Horsepower at 2400 RPM ..... 37 hp (27.59 Kw)
- Number of Cylinders 4
- Bore and Stroke ..... 3.50 x 4 in. (8.89 cm x 10.16 cm)
- Piston Displacement ..... 154 cu. in. (252.41 cm^3)
- Compression Ratio ..... 5.05 to 1
- Intake Valve Clearance .....008 in. (0.2032 mm)
- Exhaust Valve Clearance .....016 in. (0.4064 mm)
- Slow idle ..... 900 RPM
- Fast idle .....2550 RPM
- Starting ..... Electric
- Fuel .....Gasoline (Regular Grade)
- Governor ..... Cam Gear Driven

ENGINE: (Diesel)
- John Deere (3152D 3-cylinder, 4 stroke, diesel)
- Horsepower ..... 37 (Flywheel) (27.59 Kw) (at 2500 engine rpm)
- Displacement .....152.0 cu. in. (249.08 cm^3)
- Compression ratio 16.3:1
- Bore and stroke, inches .....3.86 x 4.33
- Torque (ft-lbs) max. at 1300 rpm (9.80 x 10.99 cm) (observed) (nominal) 92.0
- N.A.CC or A.M.A. horsepower..... (120.73 Nm) rating for tax purposes .....17.88 (13.33 Kw)
- Intake valve clearance ..... 0.014" (0.357 mm)
- Exhaust valve clearance ..... 0.018" (0.457 mm)
- Slow idle (rpm) 1200
- Fast idle (rpm) 2650
- Working speed range (rpm) 1500-2500

COOLING SYSTEM: (Diesel)
- Capacity ..... 14 U.S. quarts (13.25 l)
- Thermostat .....180°F (82°C)
- Operating pressure ..... 14 psi (96.52 kPa)

ELECTRICAL SYSTEM
- Fuse ..... AGC 30
- Battery Voltage 12-Volt
- Battery Terminal Grounded..... Negative Ground
- Alternator Regulation .....Regulator-Rectifier
- Alternator ..... Belt driven, Motorola
- Breaker Point Gap (Gasoline) .....020 in. (0.508 mm)
- Spark Plugs (Gasoline)
  - Size ..... 18 mm
  - Gap .....030 in. (0.762 mm)

CAPACITIES (U.S. STANDARD MEASURES)
- Fuel Tank ..... 25 gal. (94.63 l)
- Engine Crankcase (Gasoline) ..... 4-1/2 qts. (4.26 l)
- (Diesel)..... 6 qts. (5.68 l)

DRIVE SYSTEM
- Gearbox .....Transmits engine power to clutch packs. It drives hydraulic pump and variable drive pulley.
- Clutch Packs ....Multi-disk type, roller cam actuated with 11 wear surfaces and heavy-duty separator springs.

TRAVEL SPEEDS
- Forward or Reverse .....0 to 7 mph (11.3 km/hr.) (Gasoline) 0 to 6 mph (9.7 km/hr.) (Diesel)
- Turning Radius .. 360 degrees in its own length

TIRES
- Type .....Flotation, grip-type
- Size .....10-16.5 6-ply rated
- Type .....Solid Rubber (Optional Diesel)
- Size 6.50-16

HYDRAULIC SYSTEM:

Pressure ..... 1750 psi (12.06 MPa)
Control ..... Dual pedal, double hydraulic system
Pump ..... Gear, 18 gpm (68.13 1/min.) at 2,400 engine rpm
Oil lines ..... Welded JIC steel tubing; single-wire braid hose
Filter ..... 33 micron paper cartridge in suction line

HYDRAULIC CYLINDERS:

	Bore	Stroke
Boom (2)	3-inch (7.62 cm)	27.5-inch (69.85 cm)
Bucket (2)	3-inch (7.62 cm)	16.5-inch (41.91 cm)
Grapple (2)	2.5-inch (6.32 cm)	8-inch (20.32 cm)

Cylinder Rods ..... Ground, heat-treated, chrome plated, polished
Boom cylinder rods ..... 1.5-in. dia. (3.81 cm)
Bucket cylinder rods ..... 1.25-in. dia. (3.18 cm)
Grapple cylinder rods ..... 1.125-in. dia. (2.88 cm)

LOAD CAPACITY .. Load capacity is 1700 lbs. (771.11 kg) Bucket capacities vary according to application

SHIPPING WEIGHT ..... 4619 lbs. (2095.143 kg)

Distribution ..... Rear - 73-1/2%, Front - 26-1/2%

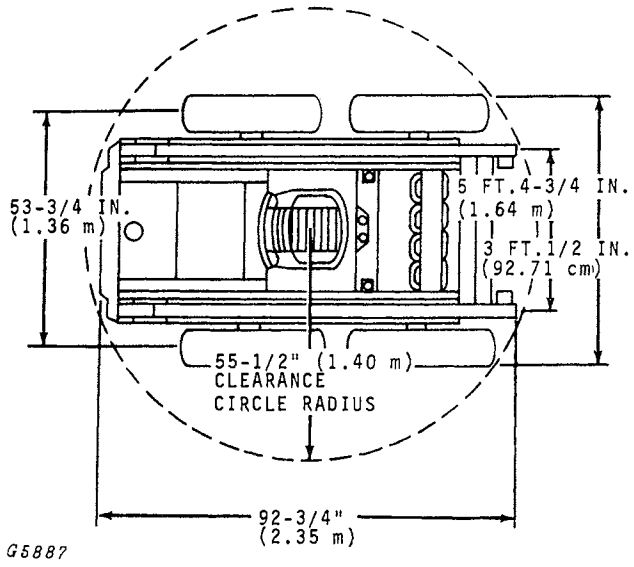
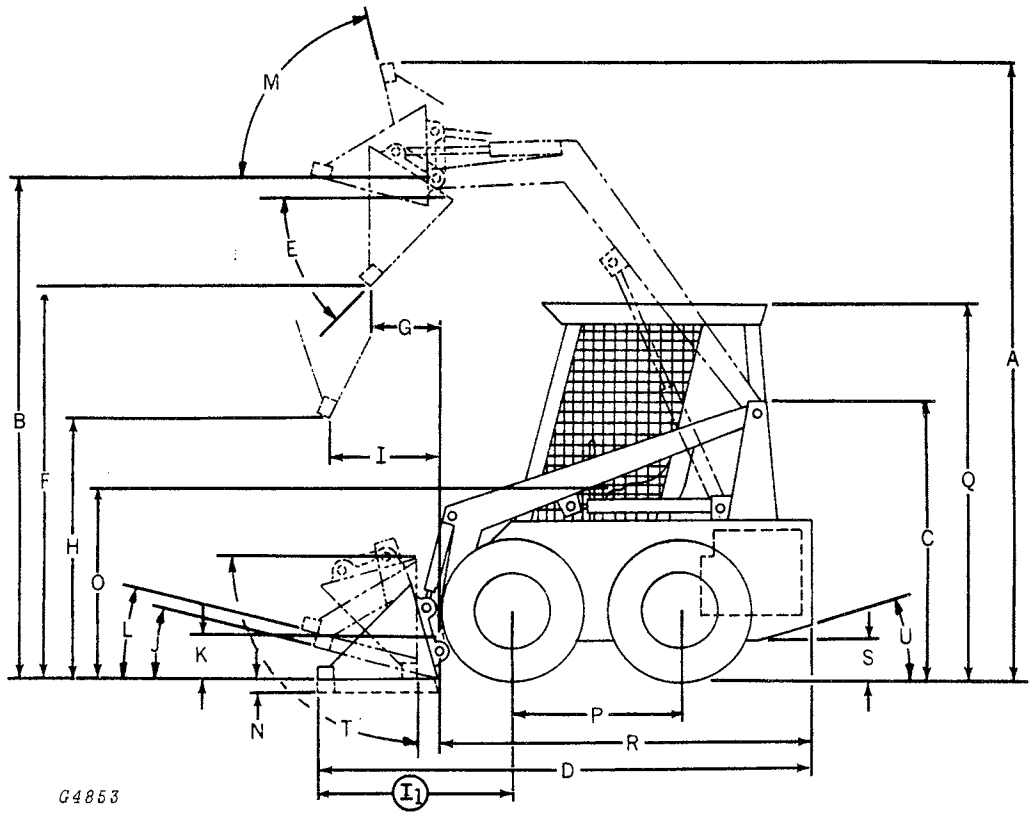


Fig. 2-Turning Radius and Dimensions



Specifications are in accordance with IEMC standards. Dimensions are with the Quik-Tatch Dirt and Foundry bucket.

A. Overall height - lift arms raised	149-1/4″ (3.79 m)
B. Height to hinge pin (Maximum)	116″ (2.94 m)
C. Overall height	61-1/2″ (1.56 m)
D. Overall length - with bucket	122-3/4″ (3.11 m)
E. Dump angle	37°
F. Dump height	91″ (2.31 m)
G. Reach of maximum height	19-1/4″ (48.9 cm)
I. Reach at "H" (25-1/4″ [64.14 cm] at 74° dump)	20″ (50.8 cm)
(28″ [71.12 cm] at 45° dump)	35-3/4″ (90.8 cm)
I_1. Reach bucket on ground	52-1/4″ (1.32 m)
J. Maximum rollback at ground	32°
K. Carry position	9-3/4″ (24.77 cm)
L. Maximum rollback at carry position	34°
M. Maximum rollback - fully raised	104°
N. Digging depth	3/4″ (1.91 cm)
O. Height to seat	42″ (1.07 m)
P. Wheel base	35″ (88.9 cm)
Q. Overall height with rollgard	85-1/4″ (2.16 m)
R. Overall length - less bucket	91″ (2.31 cm)
S. Ground clearance	7-3/4″ (19.69 cm)
T. Maximum grading angle	94°
U. Angle of departure	20°

(Specifications and design subject to change without notice)

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