170
Skid-Steer Loader

JOHN DEERE

TECHNICAL MANUAL

170
Skid-Steer Loader

TM1075 (01JUL74) English

John Deere
Lawn & Grounds Care Division
TM1075 (01JUL74)

LITHO IN U.S.A.
ENGLISH

DCG

TM1075 01JUL74

170 SKID-STEER LOADER

TECHNICAL MANUAL
TM-1075 (Jul-74)

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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.

SI (International System) Units of Measure

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

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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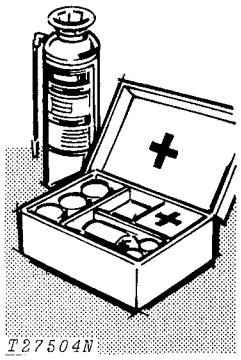
SAFETY AND YOU

T27999N

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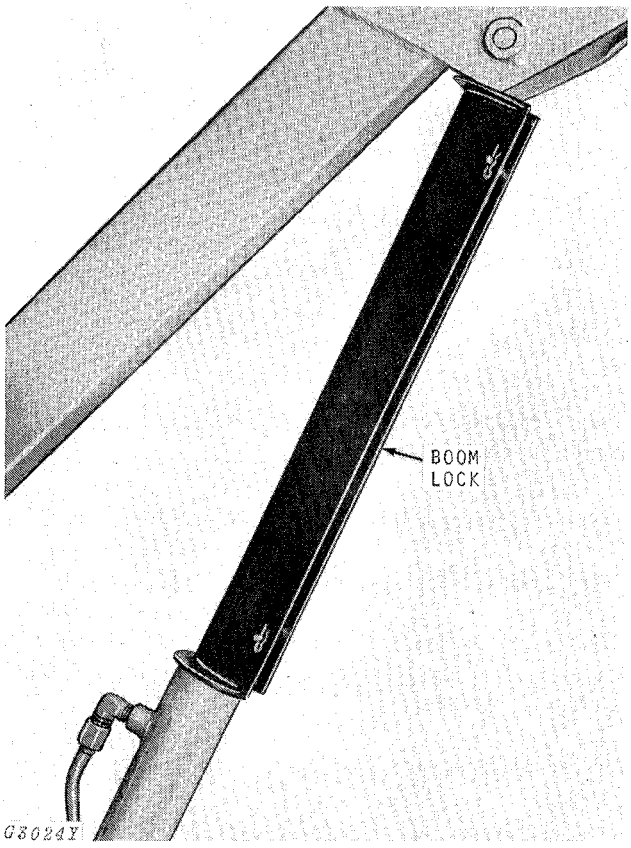
Be prepared if an accident or fire should occur. Know where the first aid kit and the fire extinguishers are located—know how to use them.

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.

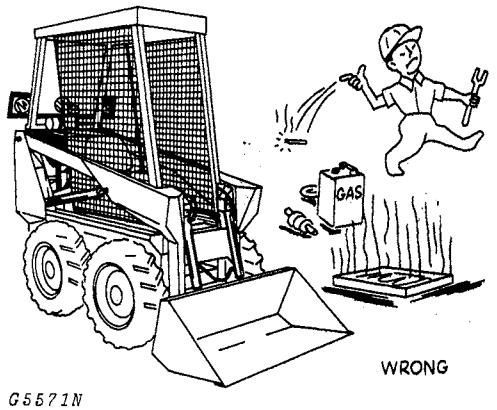
2. Lay the boom locks on the cylinder rods and install the drilled pins and spring pins.

3. Install boom blocks 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.

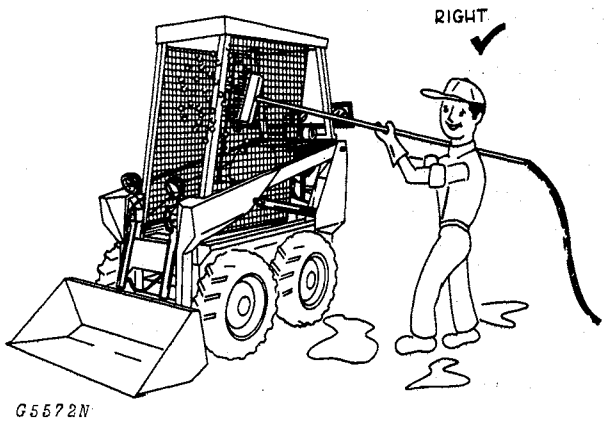
Never check fuel, battery electrolyte, or coolant levels with an open flame.

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, or 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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Section 10
GENERAL

CONTENTS OF THIS SECTION

Group 5
SPECIFICATIONS

LOADER DESIGN

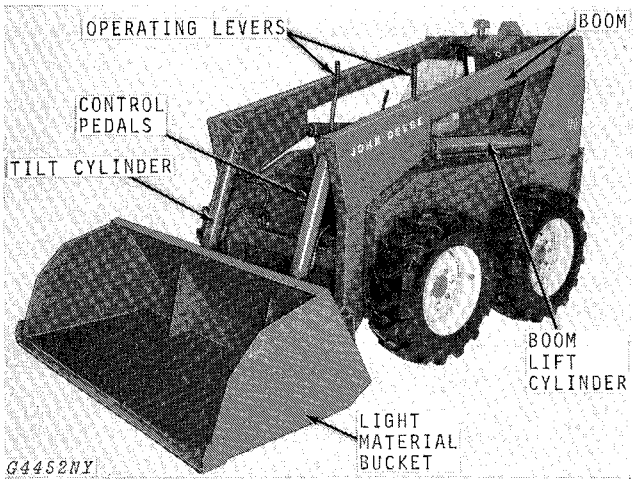

Fig. 1-170 Skid-Steer Loader

The John Deere 170 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

HORSEPOWER (@ 2,400 engine rpm):
Brake(SAE)* ..... 37 (49.617 Kw)
* Brake horsepower is for an engine equipped with fan, air cleaner and muffler; and is maximum under SAE standard conditions at sea level and 60°F (16°C).

ENGINE: Wisconsin VG4D, 4-cylinder, 4-stroke cycle, gasoline

Maximum torque @ 1,600 rpm ..... 93.8 ft-lb (127.18 Nm)
Number of Cylinders 4
Bore and Stroke .3.50 x 4 in. (8.89 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
Lubrication ..... Pressure system w/full-flow filter
Cooling fan ..... Suction
Air cleaner w/restriction indicator ..... Dry
Electrical System ..... 12 volt w/alternator

ELECTRICAL SYSTEM

Battery Voltage 12-volt
Battery Terminal Grounded..... Negative Ground
Alternator Regulation ..... Regulator-Rectifier
Alternator ..... Belt Driven, Motorola
Breaker Point Gap .....020 in. (0.508 mm)
Spark Plugs
Size ..... 18 mm
Gap ..... .030 in. (0.762 mm)

CAPACITIES (U.S. STANDARD MEASURES)

Fuel Tank ..... 25 gal. (94.63 l)
Engine Crankcase .....4-1/2 qts. (4.26 l)
Hydraulic System..... 20 gal. (5.68 l)
Oil Filter..... 1/2 qt., Spin-On (13.24 l)

TIRES

Type ..... Flotation, grip-type
Size.... 10-16.5, 6-ply-rated (25.40 x 41.91 cm)

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: mph

Forward or reverse.....0-7 (11.3 km/hr)
Turning Radius:..... 360 degrees in its own length

FINAL DRIVES:

Axle is specially-treated, forged 2.56 in. (6.50 cm) dia. steel. Chain and sprocket primary, secondary, and final drives.

STEERING ..... Multiple-disk clutch. Control levers for left and right drive wheels. Front or reverse.

HYDRAULIC SYSTEM:

Pressure .....1,750 psi (12.06 MPa)
Control ..... Dual-pedal, double hydraulic system
Pump ..... Gear, 18 gpm (68.13 1/min) @ 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 in. (7.62 cm)	27.5 in. (69.85 cm)
Bucket (2)	3 in. (7.62 cm)	16.5 in. (41.91 cm)
Grapple (2)	2.5 in. (6.32 cm)	8 in. (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 1,700 lbs. (771.11 kg) Bucket capacities vary according to application

SHIPPING WEIGHT ..... 4,400 lbs.
Distribution..... Rear-82%, Front-18%

OPERATING WEIGHT
Distribution..... Rear-70%, Front-30%
(With dirt bucket)

BUCKET SPECIFICATIONS

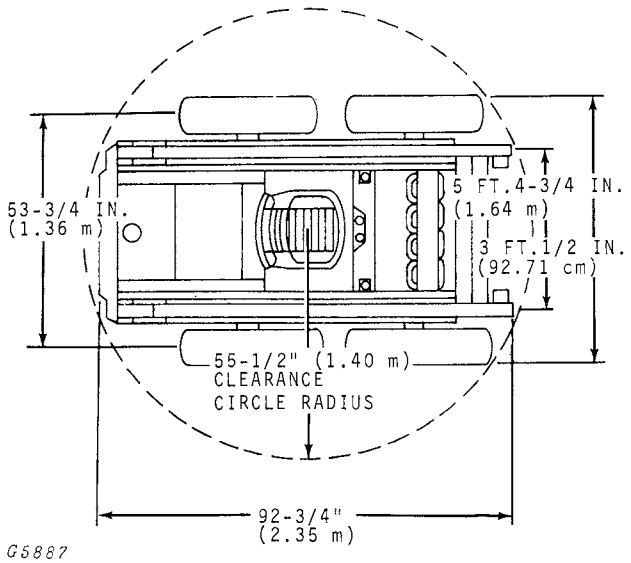
REGULAR BUCKETS	Width	Height	Capacity Cu. Ft.	Wt. Lbs.
Dirt	65″ (1.65m)	18-5/8″ (47.31cm)	10.0 (0.28m³)	335 (14.99kg)
Produce	72″ (1.83m)	28″ (71.12cm)	15.0 (0.425m³)	405 (18.37kg)
Light Materials	67″ (1.70m)	22-7/8″ (58.10cm)	20.2 (3/4 yd.) (0.57m³)	455 (20.65kg)
Fertilizer	65″ (1.65m)	21-3/8″ (54.29cm)	15.3 (0.43m³)	400 (18.14kg)
Utility	65″ (1.65m)	20-1/8″ (51.12cm)	12.5 (0.35m³)	380 (17.24kg)
Manure Bucket	65″ (1.65m)	18-7/8″ (47.94cm)		375 (17.01kg)

QUIK-TATCH BUCKETS	Width	Height	Capacity Cu. Ft.	Wt. Lbs.
Dirt	65″ (1.65m)	20″ (50.80cm)	10.5 (0.297m³)	415 (18.82kg)
Light Materials	73″ (1.85m)	27-3/4″ (70.49cm)	25.5 (1 yd.) (0.722m³)	465 (21.09kg)
Light Materials	67″ (1.70m)	25-3/4″ (65.41cm)	20.2 (3/4 yd.) (0.57m³)	415 (18.82kg)
Fertilizer	65″ (1.65m)	23-3/16″ (58.90cm)	15.3 (0.43m³)	420 (19.05kg)
Utility	65″ (1.65m)	20″ (50.80cm)	12.5 (0.35m³)	402 (18.23kg)
Quik-Tatch Bar				100 (4.536kg)

PALLET FORKS

Width ..... 43″ (1.092m)
Weight
- Quik-Tatch Mounting Frame ... 290 lbs. (13.54kg)
- Standard Mounting Frame ..... 115 lbs. (5.23kg)
- Forks (two) 36″ (91.44cm) ..... 150 lbs. (6.80kg)
- Forks (two) 46″ (122.84cm) .... 170 lbs. (7.71kg)

TURNING RADIUS



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