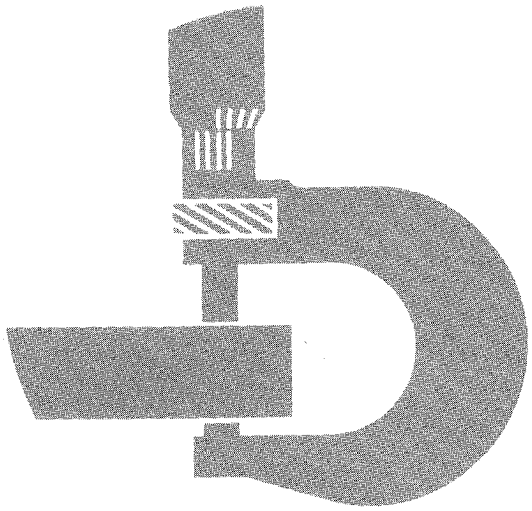
444C Loader



TECHNICAL MANUAL

TM1227
LITHO IN U.S.A. (REVISED)

444C LOADER TECHNICAL MANUAL TM-1227 (FEB-84)

SECTION AND GROUP CONTENTS

Continued on next page

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. Wherever applicable, specifications and design information are in accordance with SAE and ICED standards.

T09;1227 01 230982

SECTION AND GROUP CONTENTS—Continued

T09;1227 02 180184

INTRODUCTION

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 troubleshooting, general maintenance, and basic types of failures and their causes. FOS Manuals are for training new personnel and for reference by experienced 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.

Some features of this technical manual:

John Deere ILLUSTRUCTION format emphasizing more detailed pictures and a minimum use of words.

Detailed repair procedures outlined in individual section.

System diagnostic testing detailed in separate section.

Table of contents of all sections at the front of the manual and a listing of all groups and headings at the front of each section.

Special tools and specifications listed at the front of each group they are used in.

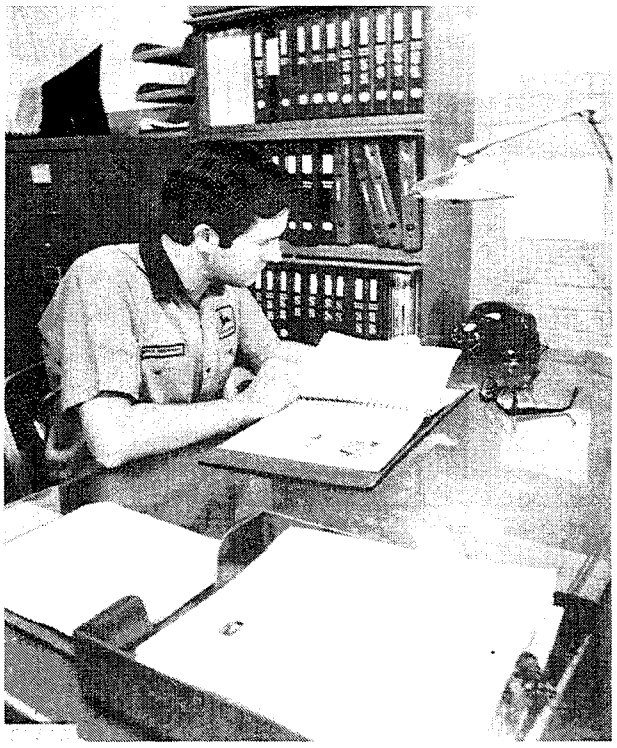
Special tools illustrated in numerical order at end of manual.

Alphabetical listing of all major components, specifications, and special tools.

General specifications, lubrication requirements, and a summation of safety rules.

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.



02A;X2253N, X2252N T09:III16 090281

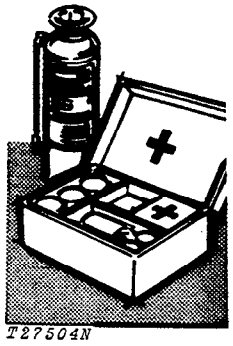
SAFETY AND YOU

CAUTION: This safety symbol followed by the word "caution" identifies important safety messages in this manual and on the loader or compactor. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.


T27999N

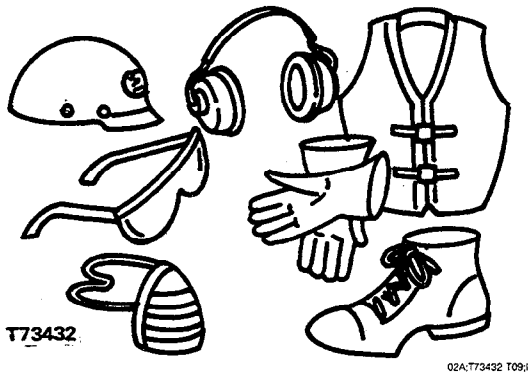
02A;T27999 N T09;III02 160181

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.


T27504N

02A;T27504 N T09;III03 160181

Wear safety equipment.


T73432

02A;T73432 T09;III04 160181

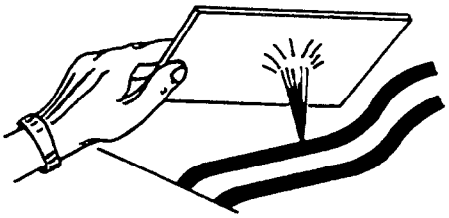
Wear fairly tight clothing.

T45672

02A;T45672 R T09;III05 160181

CAUTION: Escaping fluid under pressure can have sufficient force to penetrate the skin, causing serious injury. Before disconnecting lines, be sure to relieve pressure. Before applying pressure, be sure connections are tight and lines, pipes and hoses are not damaged. Use a piece of cardboard or wood, rather than hands, to search for 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.



02A;T45794 T09;III17 090281

KEEP SHOP AND STORAGE AREA CLEAN

Maintenance area should be adequately vented.

Keep maintenance area clean and dry.

Store flammable materials in a cool and well-vented area out of reach of unauthorized personnel.

02A;T27508 N T09;III07 160181

FOLLOW SAFE WORKING CONDITIONS

Perform work on equipment only if authorized to do so.

Follow recommended procedures.

Do not service equipment while it is being operated or engine is running.

Always use two service technicians - one, the operator at the controls, the other checking within sight of the operator.

Keep hands away from moving parts.

Support all raised equipment.

Do not work under raised bucket.

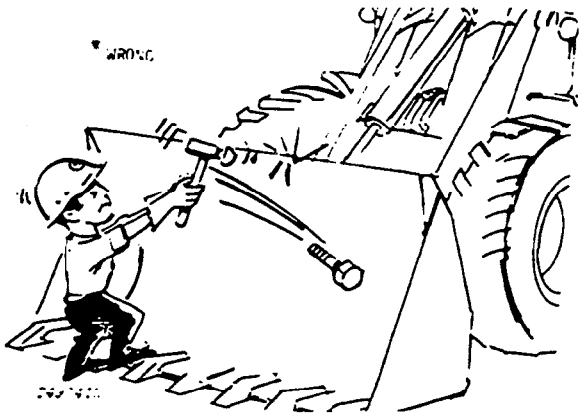
Always lower bucket before working on it.

If machine is on an incline, block it securely.

Use hoisting equipment for lifting heavy parts.

Wear safety glasses when drilling, grinding or hammering metal.

Do not use open flame around machine.



02A;T32709 N, T49041 N T09;II08 190181

OBSERVE SERVICE PRECAUTIONS

Keep all equipment free of dirt and oil.

Remove oil, grease, mud, ice, or snow from floor of operator's compartment or steps.

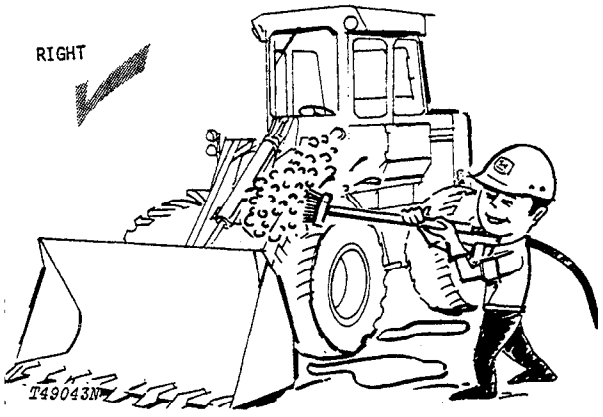
Do not remove radiator filler cap until coolant temperature is below the boiling point. Then loosen cap slowly to relieve pressure before removing.

Check exhaust system periodically for excessive leakage.

Relieve hydraulic pressure before working on hydraulic system.

Use the correct test group when checking hydraulic pressure.

Discharge accumulators completely before recharging or servicing.



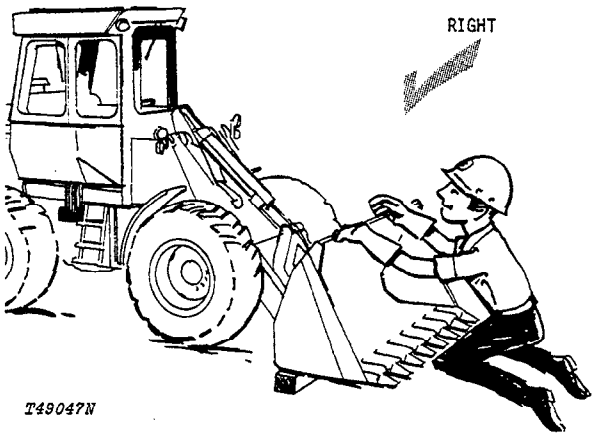
02A;T49043N T09;III14 090281

OBSERVE REPAIR PRECAUTIONS

Relieve hydraulic pressure before working on hydraulic system.

Disconnect batteries before repairing the electrical system or performing a major overhaul.

Securely block bucket before changing cutting edges. Wear gloves when working with sharp edges.



02A;T49047 N T09;III15 090281

CHECK SAFETY EQUIPMENT ON MACHINE

Check that all protective devices (guards, canopies, shields, ROPS, seat belts, etc.) are installed and secured on machine.

Inspect machine carefully for leakage from lines, hoses and fittings.

T32708N

02A;T32708 N T09;III11 190181

AVOID EXPLOSIONS OR FIRE

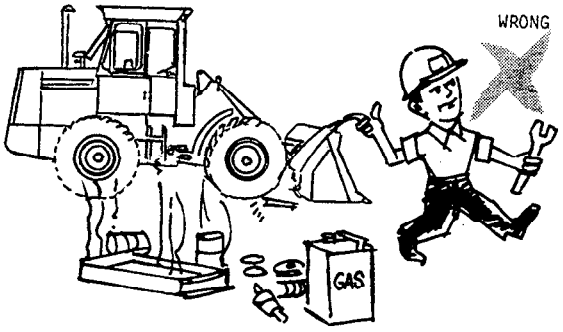
Do not smoke while refueling.

Do not smoke while handling highly flammable materials.

Shut off engine when refueling.

Use care in refueling if engine is hot.

Use good commercial, nonflammable solvents for cleaning parts.



02A;T49038 N T09;III12 190181

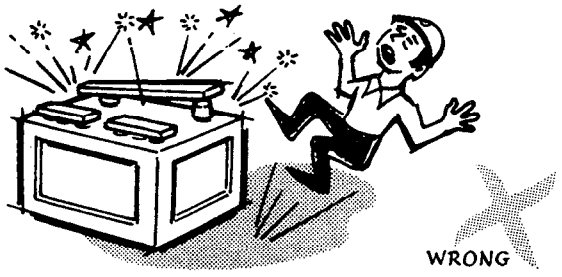
OBSERVE BATTERY PRECAUTIONS

Provide adequate ventilation when charging batteries.

Do not place metal objects across posts to check charge.

Do not smoke near battery.

Do not allow sparks or open flame near battery.



02A;T27506 N T09;III13 190181

444C LOADER

(Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with ICED and SAE Standards. Except where otherwise noted, specifications are based on a machine equipped with all standard equipment, 15.5-25, 8 ply loader-tread tires, ROPS cab, full fuel tank, and 175 lb [79 kg] operator.)

Power (@2400 engine rpm):	**SAE**	**DIN**
Gross	95 hp (71.0 kW)	
Net	85 hp (63.4 kW)	90.4 PS

Net engine flywheel power is for an engine equipped with fan, air cleaner, water pump, lubricating oil pump, fuel pump alternator and muffler. The gross engine power is without fan. Flywheel power ratings are under SAE standard conditions of 500-ft. altitude and 85°F temperature and DIN 70 020 conditions of 760 mm Hg barometer (sea level) and 20°C temperature. No derating is required up to 5,000 ft. (1500 m) altitude.

Engine: John Deere diesel; 6-cylinder, 4-stroke cycle.
Bore and stroke .... 4.02 x 4.33 in. (102 x 110 mm)
Piston displacement ..... 329 cu. in. (5.392 L)
Compression ratio ..... 16.2 to 1
Maximum torque @ 1200 rpm ..228 lb-ft (309 N·m) (31.5 kg-m)
(ACT option) .... 244 lb-ft (331 N·m) (33.8 kg/m)
Torque rise ..... 22 percent
(ACT option) ..... 31 percent
NACC or AMA (U.S. Tax) horsepower 38.8
Lubrication ..... Pressure system w/full-flow filter
Cooling .....Pressurized w/thermostat and controlled bypass
Fan: w/o air conditioner ..... Blower
w/air conditioner .....Suction
Air cleaner w/restriction indicator .....Dry
Electrical system ..... 12-volt w/alternator
Batteries (two 12-volt)
25 amps at 80°F
(27°C) .....Reserve capacity: 170 min. ea.
Alternator .....62 amp

Torque Converter:
Type .....Twin turbine
Torque multiplication ..... 5.44 to 1

Transmission .....Power Shift planetary

Forward Speeds	**mph**	**km/h**
1	0-2.9	0-4.7
2	2.9-6.5	4.7-10.5
3	0-11.0	0-17.7
4	11.0-24.6	17.7-39.6
Reverse Speeds		
1	0-3.9	0-4.7
2	3.9-8.8	6.3-14.2

Note: Shift from 1st to 2nd and 3rd to 4th is automatic.

Differentials:
Front and rear .....Standard
Front hydraulic differential lock ..... Optional

Drive Axles ...Inboard-mounted planetary gears to each wheel. Front axle fixed. Rear axle oscillates 22-degrees total. [13.5-in. (343 mm) vertical travel at center of tire].

Brakes:
Service Power-actuated, 4-wheel inboard mounted, wet-disk. Foot operated by either pedal. Left pedal also disconnects transmission.
Parking 10 x 1.5 in. (254 x 38 mm) expanding shoe on transmission output shaft, foot-operated. Includes transmission disconnect. Warning light on instrument panel. Warning buzzer.

Steering Full power steering. Frame articulated 80° by two hydraulic cylinders.

Cylinder Size:
Stroke .....15.75 in. (400 mm)
Bore .....3 in. (76 mm)
Rod diameter .....1.5 in. (38 mm)
Turning radius .....Measured to center line of outside tire ..... 13 ft. 10 in. (4.22 m)

Hydraulic Systems:
Loader functions ..Independent transmission driven gear pump delivers 40.0 gpm (2.52 L/s) at 600 psi (4137 kPa)(42.2 kg/cm²) and 2400 engine rpm.
2250 psi (15 514 kPa)(158.2 kg/cm²) relief-valve pressure setting.
Control .....Single-lever;dual hydraulic valve.
Optional triple hydraulic valve with separate lever.
Steering and brakes .. Engine-driven, 8-piston, variable-displacement pump delivers 20.6 gpm (1.30 L/s) at 1800 engine rpm and 2000 psi (13 790 kPa) (140.6 kg/cm²). Maximum system pressure is 2400 psi (16 548 kPa)(168.7 kg/cm²)
Loader hydraulic operating cycle times at full throttle.
Raise ..... 5.8 sec.
Dump ..... 1.6 sec.
Lowering: float ..... 4.0 sec.
power ..... 3.7 sec.
Maximum lift capacity w/standard operating equipment:
Maximum height ..... 7550 lb. (3425 kg)
Ground level .....18,200 lb. (8255 kg)

T09;IIII19 220682

Hydraulic Cylinders:	Bore	Stroke
Boom, two	5.25 in. (133 mm)	22.5 in. (571 mm)
Bucket, one	5.25 in. (133 mm)	25.30 in. (643 mm)

Cylinder rods .Ground, heat-treated, chrome plated, polished.

Boom and bucket cylinder rods ..... 2.25 in. (57 mm) dia.

Tires:

15.5-25, 8-ply-rating, L2 loader tread
15.5-25, 12-ply-rating, L2 loader tread
13.00-24, 8 ply-rating, G2 grader tread
17.50-25, 12-ply rating, L2 loader tread

Wheel Treads:

Front and rear ..... 70 in. (1.78 m)

Capacities	U.S.	Imp.	Liters
Cooling system	25 qt.	20.8 qt.	23.7
Fuel tank	40 gal.	33.3 gal.	151.4
Crankcase	11 qt.	9.2 qt.	10.4
Crankcase, including filter	12 qt.	10.0 qt.	11.4
Transmission case and filters	40 qt.	33.3 qt.	37.9
Front and Rear differential	17 qt.	14.2 qt.	16.1
Loader hydraulic sump	56 qt.	46.7 qt.	53.0

Additional Standard Equipment:

Adjustable cushioned seat with belt
Engine side shields
Front fenders
Gauges
- Transmission oil temperature
- Transmission oil pressure
- Fuel
- Coolant temperature
- Engine oil pressure
- Electric hourmeter
- Voltmeter

Instrument panel warning lights
- Parking brake
- Hydraulic filter bypass
- Loader hydraulic system indicator light

Key switch
Pushbutton safety start
Cigar lighter
Transistorized voltage regulator
Engine side shields w/locks
Transmission disconnect
Work lights, front flood, rear combination tail and brake lights
ROPS cab
- Heater/defroster or heater/defroster and pressurizer
- Front and rear windshield wipers
- Windshield washer
- Dome light

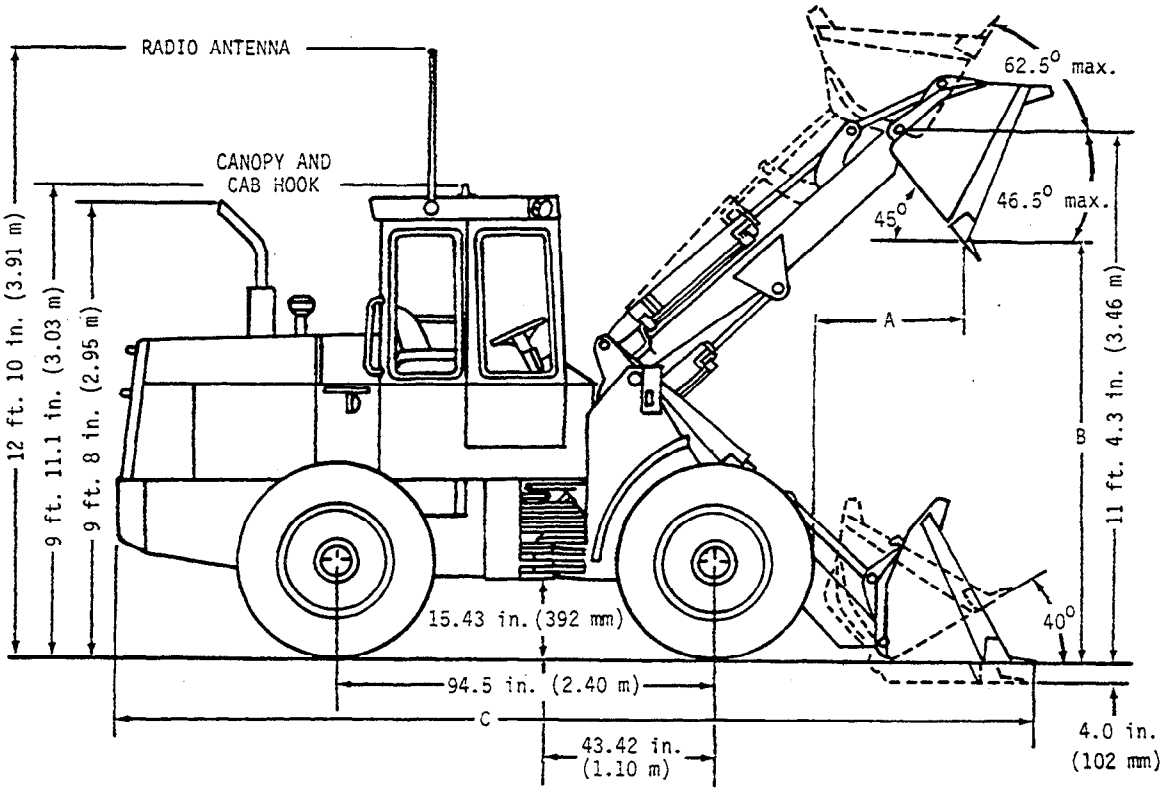
Instrument panel cover w/lock
Horn
Fuel filter
Automatic return to dig
Rear bottom guard
Hand grips
Fixed drawbar
Antifreeze
Precleaner
Cold weather starting aid
Articulation transport lock
Low-maintenance batteries

Special Equipment:

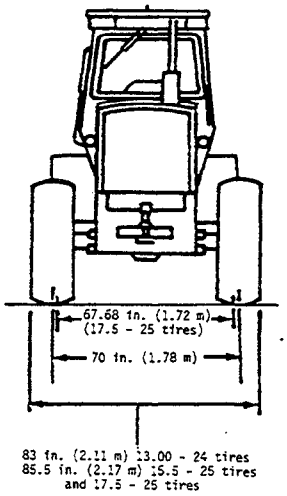
ROPS canopy
Adjustable suspension seat, vinyl or cloth
Heater for canopy
For ROPS cab:
- Air conditioner
- Radio—AM
- Mirrors

Reverse warning alarm
Triple hydraulic valve for loader
Bucket teeth
Auxilary bottom guard
License plate bracket
Automatic boom height control
SMV emblem
Auxiliary cutting edges
Flashing and turn signal lights
Rear-axle disconnect
Hydraulic front differential lock
Auxiliary spill guard
Altitude-compensating turbocharger
Emergency steering

T09;IIII22 290782



BUCKETS	DIMENSIONS		
	A	B	C
1-1/2 cu. yd. (1.15 m³)	32.9 in. (836 mm)	9 ft. 1.2 in. (2.77 m)	19 ft. (5.80 m)
1-3/4 cu. yd. (1.34 m³)	34.33 in. (872 mm)	8 ft. 11.6 in. (2.73 m)	19 ft. 2.4 in. (5.85 m)
3 cu. yd. (2.29 m³)	41.83 in. (1062 mm)	8 ft. 4.1 in. (2.54 m)	20 ft. 1 in. (6.12 m)
1-1/2 cu. yd. multipurpose (1.15 m³)	33.5 in. (847 mm)	8 ft. 5.7 in. (2.58 m)	19 ft. 11.0 in. (6.07 m)



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OPERATING INFORMATION	BUCKET			
	General purpose	**General purpose**	**Light materials**	**Multipurpose**
Capacity, heaped, SAE	1-1/2 cu. yd. (1.15 m³)	1-3/4 cu. yd. (1.34 m³)	3 cu. yd. (2.29 m³)	1-1/2 cu. yd. (1.15 m³)
Capacity, struck, SAE	1.22 cu. yd. (0.93 m³)	1.42 cu. yd. (1.09 m³)	2.49 cu. yd. (1.90 m³)	1.23 cu. yd. (0.94 m³)
Bucket width	88 in. (2.23 m)	92 in. (2.34 m)	96 in. (2.44 m)	88 in. (2.23 m)
Bucket weight	1190 lb. (540 kg)	1470 lb. (667 kg)	1920 lb. (871 kg)	2122 lb. (962 kg)
Breakout force, J732C SAE Standard using bucket hinge pin as pivot point	16,985 lb. (75.5 kN) (7704 kg)	15,680 lb.* (69.74 kN) (7112 kg)	11,245 lb. (52.02 kN) (5101 kg)	14,620 lb. (65.03 kN) (6632 kg)
Tipping load, straight max. reach	12,985 lb. (5890 kg)	14,035 lb.* (6306 kg)	12,230 lb. (5547 kg)	10,840 lb. (4917 kg)
***Tipping load, 40-deg. full turn** SAE	11,253 lb. (5105 kg)	12,135 lb.* (5504 kg)	10,500 lb. (4763 kg)	9270 lb. (4205 kg)
Tipping load, 35-deg. turn	11,650 lb. (5280 kg)	12,570 lb. (5700 kg)	10,890 lb. (4940 kg)	9630 lb. (4940 kg)
Circle diameter or turning clearance outside the bucket	32 ft. (9.76 m)	32 ft. 2 in. (9.80 m)	33 ft. 3 in. (10.13 m)	32 ft. 6 in. (9.91 m)
Loader operating weight	18,315 lb. (8308 kg)	19,535 lb.* (8861 kg)	19,045 lb. (8639 kg)	19,251 lb. (8732 kg)

*Operating weight and specification with 1-3/4 cu. yd. (1.34 m³) bucket includes 75 % fill of $CaCl_2$ solution in rear tires.
**SAE operating load specification for wheel loaders will not exceed 50% of the SAE full turn tipping load.

Adjustments to operating weights and tipping loads for 1-1/2 cu. yd. (1.15 m³) General Purpose Bucket			
Add (+) or deduct (—) lb. (kg) as indicated for loader equipped with:	**Loader Operating Weight**	**Tipping Load Straight**	**Tipping Load, 40-deg. Full Turn, SAE**
Less ROPS cab	—715 lb. (324 kg)	—600 lb. (272 kg)	—560 lb. (254 kg)
ROPS canopy in lieu of ROPS cab	—275 lb. (125 kg)	—215 lb. (98 kg)	—205 lb. (93 kg)
13.00-24, 8-ply-rating, grader tread tires	+380 lb. (172 kg)	+250 lb. (113 kg)	—215 lb. (98 kg)
17.50-25, 12-ply-rating, loader tread tires	+645 lb. (292 kg)	+420 lb. (190 kg)	+365 lb. (166 kg)
Air conditioning	+70 lb. (32 kg)	+125 lb. (57 kg)	+105 lb. (48 kg)
Auxiliary cutting edge	+120 lb. (54 kg)	—155 lb. (70 kg)	—155 lb. (70 kg)
Auxiliary spill guard	+110 lb. (50 kg)	—75 lb. (34 kg)	—75 lb. (34 kg)

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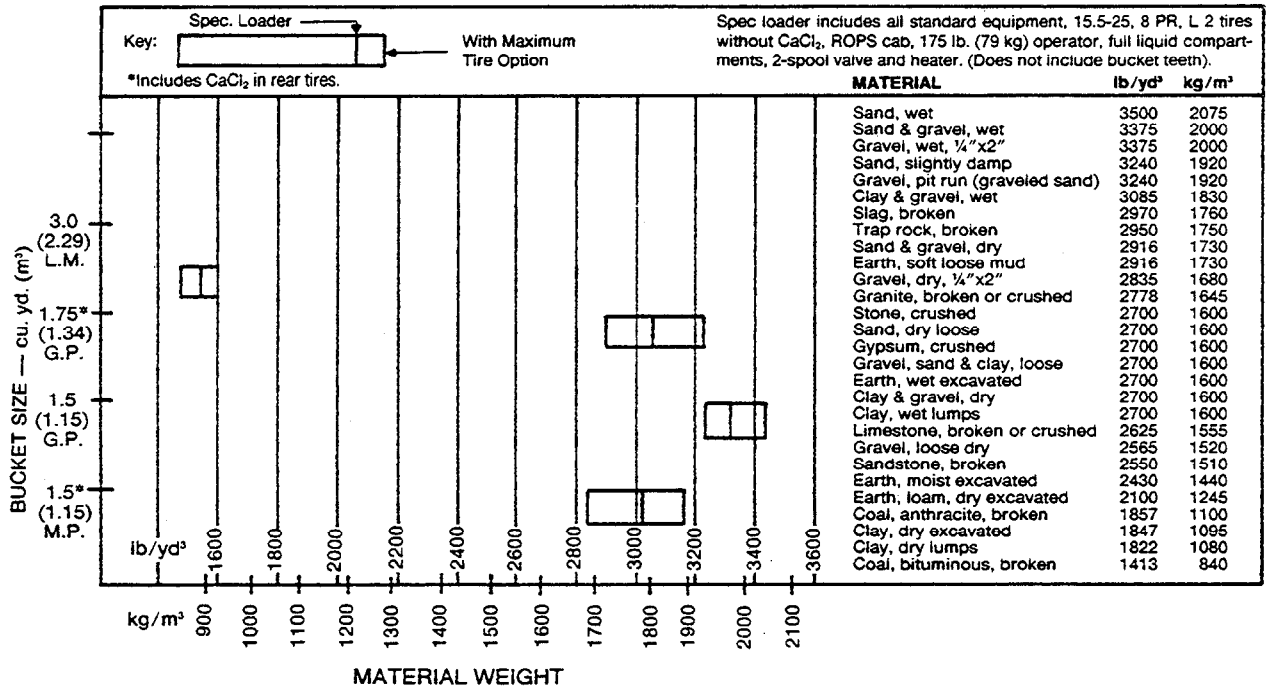
Maximum recommended material weight, lb. per cu. yd. (kg/cm³)				
All standard equipment and 15.5-25, 8-ply-rating tires	**1-1/2 cu. yd. (1.15 m³) General purpose**	**1-3/4 cu. yd.* (1.34 m³) General purpose**	**3 cu. yd. (2.29 m³) Light materials**	**1-1/2 cu. yd. (1.15 m³) Multipurpose**
Loader less cab or canopy	3135 (1860)	2910 (1727)	1460 (866)	2570 (1525)
Loader with canopy	3240 (1922)	3000 (1780)	1510 (896)	2660 (1578)
Loader with cab	3300 (1958)	3050 (1810)	1540 (914)	2720 (1614)

*Standard operating weight plus 75% fill of $CaCl_2$ solution in rear tires.

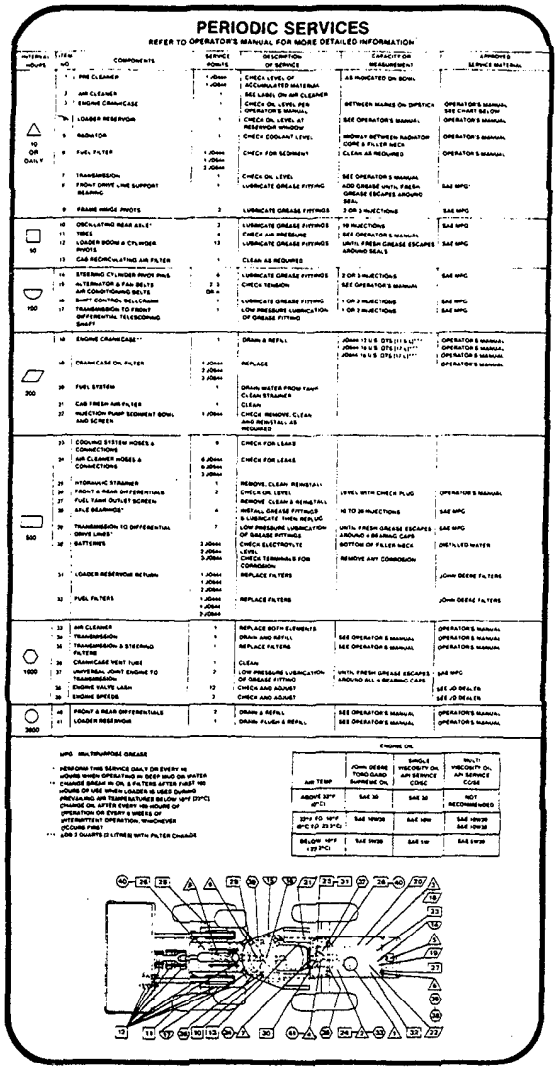


MATERIAL	lb/yd³	kg/m³
Sand, wet	3500	2075
Sand & gravel, wet	3375	2000
Gravel, wet, ¼"x2"	3375	2000
Sand, slightly damp	3240	1920
Gravel, pit run (graveled sand)	3240	1920
Clay & gravel, wet	3085	1830
Slag, broken	2970	1760
Trap rock, broken	2950	1750
Sand & gravel, dry	2916	1730
Earth, soft loose mud	2916	1730
Gravel, dry, ¼"x2"	2835	1680
Granite, broken or crushed	2778	1645
Stone, crushed	2700	1600
Sand, dry loose	2700	1600
Gypsum, crushed	2700	1600
Gravel, sand & clay, loose	2700	1600
Earth, wet excavated	2700	1600
Clay & gravel, dry	2700	1600
Clay, wet lumps	2700	1600
Limestone, broken or crushed	2625	1555
Gravel, loose dry	2565	1520
Sandstone, broken	2550	1510
Earth, moist excavated	2430	1440
Earth, loam, dry excavated	2100	1245
Coal, anthracite, broken	1857	1100
Clay, dry excavated	1847	1095
Clay, dry lumps	1822	1080
Coal, bituminous, broken	1413	840

GENERAL INFORMATION

Refer to the periodic service chart located on the inside of the left engine side shield when servicing the loader.

Your operator's manual contains more detailed information on servicing the loader.



LUBRICANTS

Engine Oils

Use John Deere TORQ-GUARD SUPREME® engine oil.

Use John Deere TORQ-GARD SUPREME SAE 10W-20 oil or equivalent during the first 100 hours of operation for break-in.

Oils other than John Deere TORQ-GARD SUPREME must have one of the following specifications.

Single Viscosity Oils	Multi-Viscosity Oils
API Service CD/SC MIL-L-2104C Series 3	**API Service CC/SE MIL-L-46152**

Oil and Air Temperatures

Air Temperature	John Deere TORQ-GARD SUPREME Oil	Other Oils: Single Viscosity Oil	Other Oils: Multi-Viscosity Oil
Above 32°F (0°C)	SAE 30	SAE 30	Not recommended
−10°F to 32°F (−23°C to 0°C)	SAE 10W-20	SAE 10W	SAE 10W-30
Below −10°F (−23°C)	SAE 5W-20	SAE 5W	SAE 5W-20

If you use SAE 5W-20 or SAE 5W oil, your engine may use more oil. Check the oil level regularly.

Transmission, Steering, and Brake System Oil

Above -20°F (-29°C), use John Deere Hydraulic Oil Type J14C, or an equivalent.

If temperatures are below -20° (-29°C), use John Deere HY-GARD Winter Grade Transmission and Hydraulic Oil (J20B).

John Deere HY-GARD Winter Grade Transmission and Hydraulic Oil (J20B) must not be used at sustained temperatures above 32°F (0°C).

Hydraulic and Differential Oils

Use John Deere HY-GARD® Transmission and Hydraulic Oil (J20B) or equivalent.

Grease

Use a SAE Multi-Purpose Grease containing 3-5% molybdenum disulfide for all grease fittings except axle bearings (Preferred).

You may also use:
- John Deere Multi-Purpose Grease or equivalent.
- SAE Multi-Purpose Grease

Use John Deere High Temperature Grease for axle bearings.

You may also use:
- SAE Multi-Purpose High Temperature Grease for temperatures above 150°F (66°C).

NOTE: John Deere High Temperature Grease may be used for all grease applications on the loader.

Storing and Handling Lubricants

Store lubricants in clean containers in an area protected from dust, moisture and other contamination.
When handling lubricants, use clean container.

T09:IIV06 210682

Section 01
WHEELS

CONTENTS

T09;010002 270782

SPECIAL TOOLS

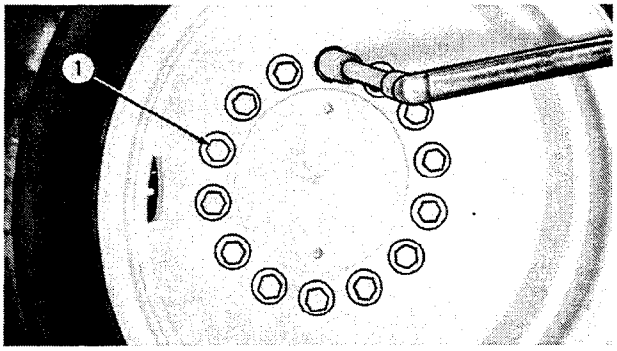
NOTE: Order tools from your SERVICE-GARD™ Catalog, unless otherwise indicated.

Number	Name	Use
D-05019ST	Heavy Duty Wheel Lift	Remove and install wheels
D-24206WK	Shop Stand	Supports the unit while removing wheels

T09;011001 231280

LOADER WHEEL SPECIFICATION

1. Cap screw torque ... (410 ± 40 N.m) 300 ± 30 lb-ft

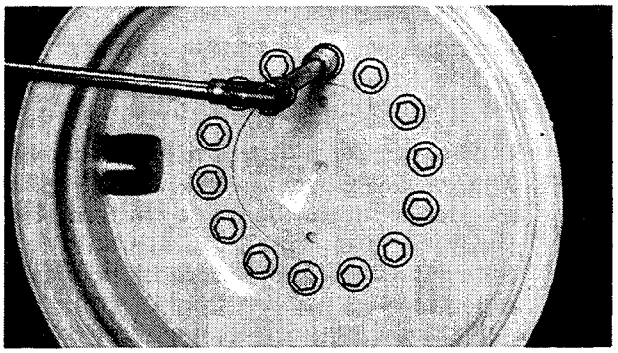


17A;T79309 T09;011020 030381

REMOVE LOADER WHEEL ASSEMBLY

CAUTION: A loader wheel weighs approximately (807 kg) 1780 lbs.

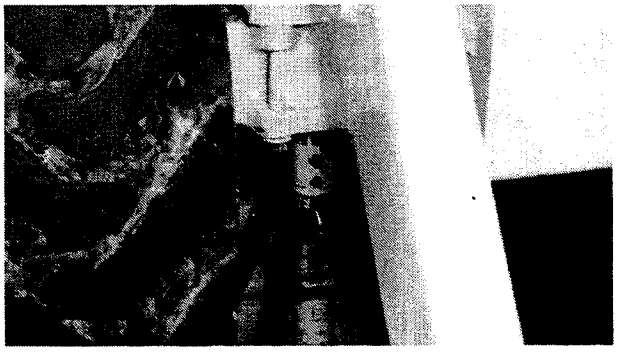
1. Loosen cap screws before lifting off the ground.



17A;T79310 T09;011021 030381

2. Lift the wheel off the ground using a service jack or hoist of at least (9000 kg) 10-Ton capacity.

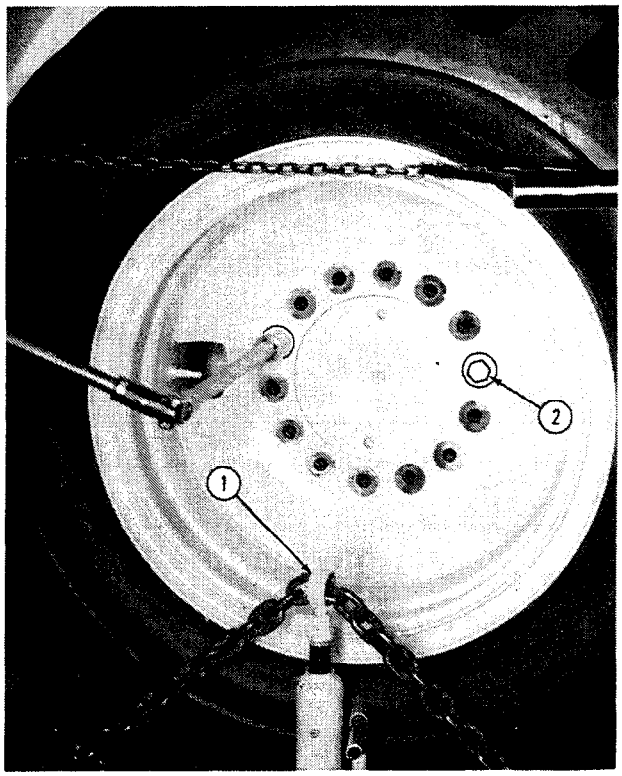
3. Support the axle housing using a shop stand of at least (9000 kg) 10-Ton capacity.



17A;T79311 T09;011022 030381

4. Support wheel with the D-05019ST Wheel Lift (1). Fasten safety chain around the upper portion of tire.

5. Remove the cap screws (2). Pull wheel assembly away from axle.



17A;T79312 T09;011023 030381

REMOVE LOADER TIRE

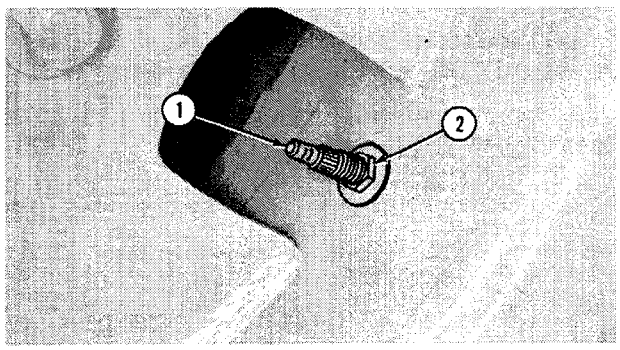
1. The tire can be removed without removing the wheel from the loader. See the John Deere Off-The-Road Tire Maintenance Manual to remove the tire from the wheel.

CAUTION: Failure to follow proper procedures when demounting a tire from a wheel or rim can produce an explosion which may result in serious bodily injury. DO NOT attempt to demount a tire unless you have the proper equipment and experience to perform the job safely. Have it done by a qualified tire repair service.

T09;011006 231280

2. Always completely deflate the tire by removing the valve core (1) from valve before attempting any demounting operation. Check the valve stem by running a probe through it to make sure the valve stem is not plugged. Remove valve nut (2).

3. Inspect all parts for damage; replace parts as necessary.



17A;T79313 T09;011024 030381

INSTALL LOADER TIRE

CAUTION: Failure to follow proper procedures when mounting a tire on a wheel or rim, can produce an explosion which may result in serious bodily injury. DO NOT attempt to mount a tire unless you have the proper equipment and experience to perform the job safely. Have it done by a qualified tire repair service.

NOTE: See the John Deere Off-The-Road Tire Maintenance Manual to mount the tire on the wheel.

1. Make sure all parts are clean and free from rust or grease before assembly.

T09;011008 231280

2. To prevent slipping of the wheel under load, the inside and outside of wheel (1) must be free of paint, rust, oil, grease, dirt or other foreign material before installation.

3. Instal valve stem (2) in rim base and tighten valve core housing finger tight.

4. Put John Deere Non-Soap Lubricating Grease, or an equivalent, on threads of pipe cap (if equipped). Install pipe cap on valve stem shield.

CAUTION: Serious bodily injury can occur from explosion when mounting and inflating tires if safe procedures are not followed.

5. Before mounting tire on rim, add soap lubricant to beads of the tire and O-ring (3).

6. Before adding air to tire, make sure the back ring (4) fits tight against the base all around the circumference.

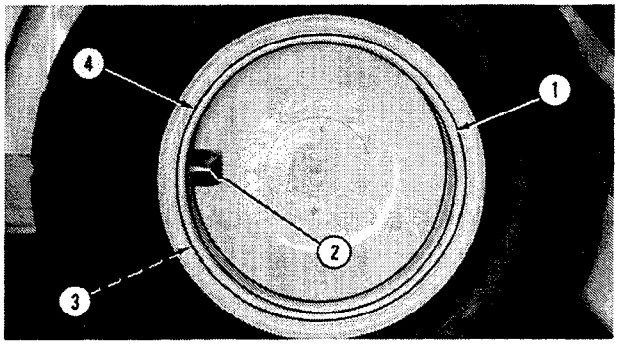
7. Clear the area of all persons.

8. Use a pressure-regulating valve with clip-on chuck and extension hose long enough to allow you to stand well to one side and NOT in front of the assembly while inflating.

9. Use only recommended air pressure. Pressure over this limit can cause explosion.

10. Add air until side flange of tire slides out against the back ring.

11. Before completely inflating tire, again make certain the back ring is in its proper groove completely around the rim.



17A;T79314 T09;011025 030361

Tire Size	Type	Ply Rating	Operating Pressure
13.00-24	G2	8	(344.8 kPa) (3.4 bar) 50 psi
15.5-25	L2	8	(310.3 kPa) (3.1 bar) 45 psi
15.5-25	L2	12	(379.2 kPa) (3.7 bar) 55 psi
17.5-25*	L2	12	(379.2 kPa) (3.7 bar) 55 psi

***Use with log loader**

12. Check air pressure in all tires with an accurate gauge having (6.89 kPa) (0.07 bar) 1 psi graduations. Be sure that tire pressures are equal for all four tires.

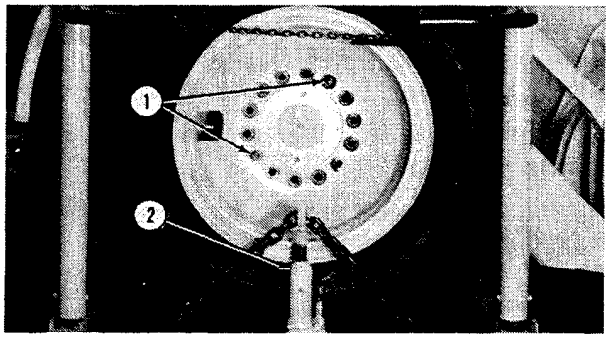
T09;011026 030381

INSTALL LOADER WHEEL ASSEMBLY

1. Thoroughly clean the cap screws, washers and the tapped holes in the flanged axle. Use compressed air to dry all parts and tapped holes.

2. Install special studs (1) in the flanged axle. The special studs are used as guides for installing loader wheels.

3. Use a D-05019ST Wheel Lift (2) to install the wheel.



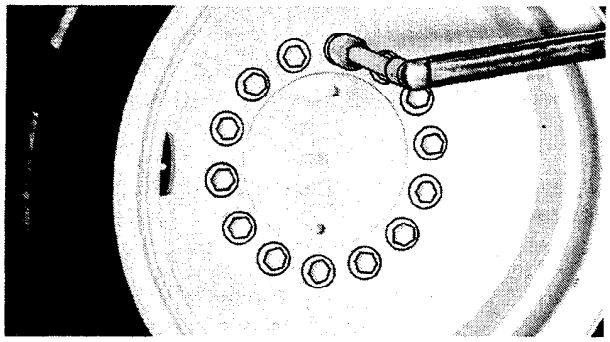
17A;T79315 T09;011027 030381

4. Install and tighten cap screws to (203 ± 20 N.m) 150 ± 15 lb-ft.

5. Lower the loader to the ground.

IMPORTANT: If a power wrench is used, be sure that the cap screws are engaged to prevent stripping. Operate the wrench slowly to prevent thread damage.

6. Cross tighten the cap screws to (410 ± 40 N.m) 300 ± 30 lb-ft.



17A;T79316 T09;011028 030381

Section 02
AXLES AND SUSPENSION SYSTEMS

CONTENTS

Continued on next page

T09;0200 66 130982

CONTENTS - Continued

T09;0200 55 270782

SPECIAL TOOLS

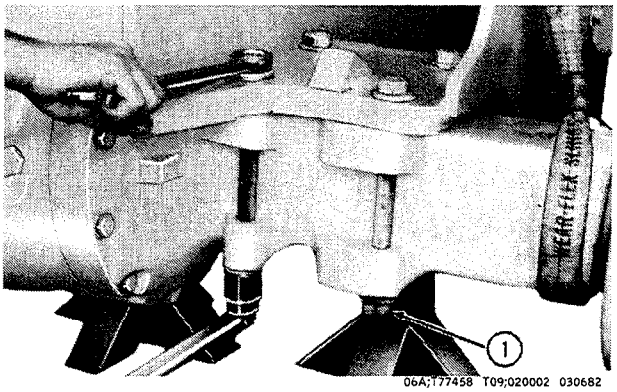
NOTE: Order tools from your SERVICE-GARD™ Catalog, unless otherwise indicated.

Number	Name	Use
D-01182AA or D-24206WK	Shop Stands	Supports the unit while removing differentials

T09;020001 171280

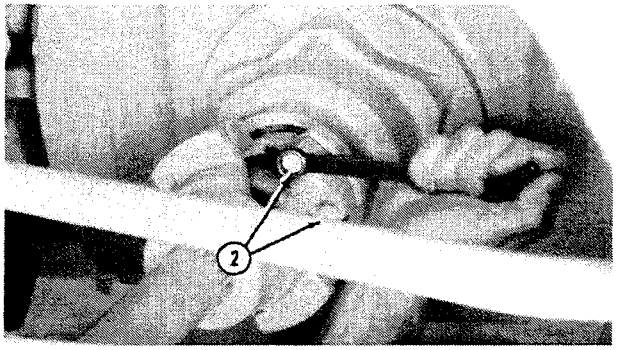
FRONT DIFFERENTIAL AND AXLE SPECIFICATIONS

1. Nuts torque ..... (600 ± 60 N·m) 445 ± 45 lb-ft



06A;T77458 T09;020002 030682

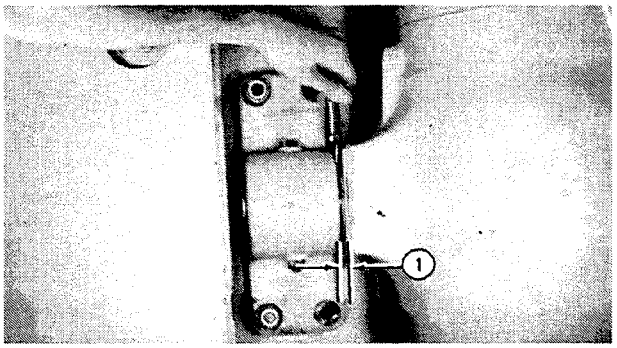
2. Cap screws torque .....(68 ± 7 N·m) 50 ± 5 lb-ft



06A;T77400 T09;020056 090281

REAR DIFFERENTIAL AND AXLE SPECIFICATIONS

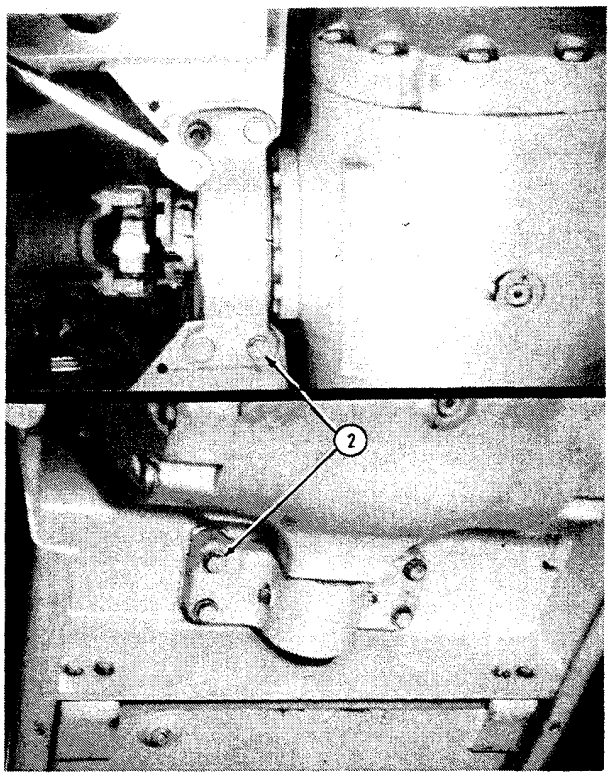
1. Install shims to give an end play clearance of (0.03 to 0.46 mm) 0.001 to 0.018 in.



06A;T77394 T09;020004 030682

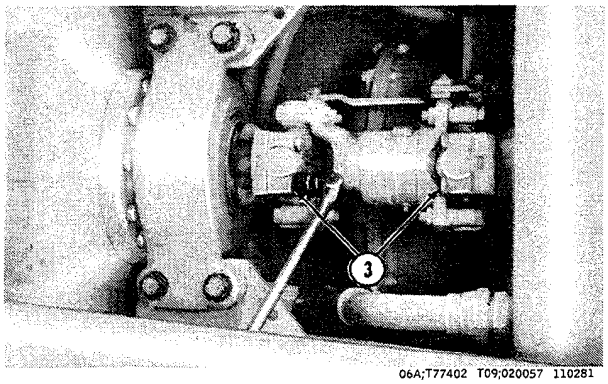
2. Cap screws and nuts torque

   5/8 in. .....(325 N·m) 240 lb-ft
   20 mm ..... (680 ± 68 N·m) 500 ± 50 lb-ft



06A;T77459 T09;020005 030682

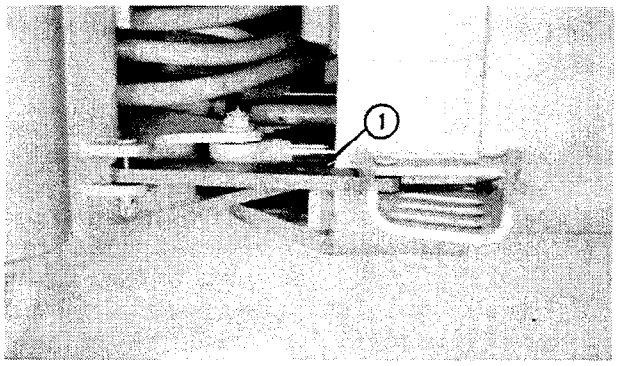
3. Cap screws torque ..... (68 ± 7 N·m) 50 ± 5 lb-ft.



06A;T77402 T09;020057 110281

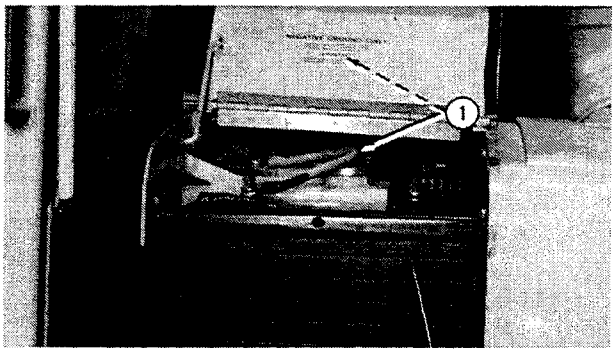
FRONT AXLE AND DIFFERENTIAL ASSEMBLY - PUT SHOP STANDS UNDER LOADER FRAME

1. Lift loader boom as high as possible. Put a support with a rated capacity of approximately (1772 kg) 3900 lbs. under bucket and boom.
2. Stop the engine.
3. Operate the steering valve, brake valve and loader control valve to release hydraulic pressure in the systems. Put loader control lever into float position.
4. Install lock bar (1).



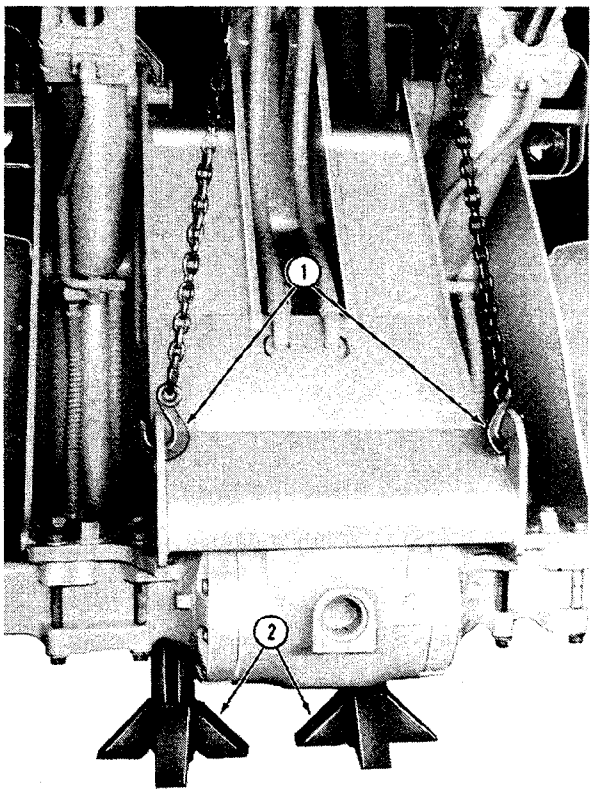
06A;T75019 T09;020007 221280

5. Disconnect battery ground cables (1).



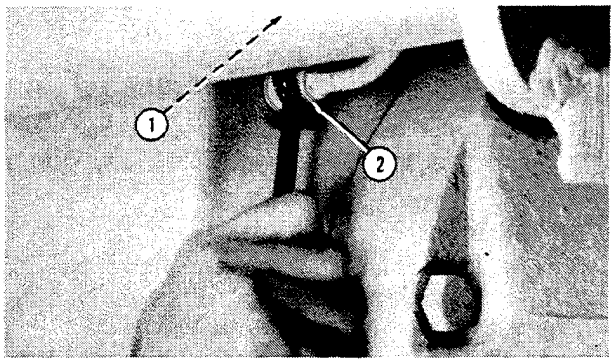
06A;T78321 T09;020058 110281

6. Remove bottom guard (if equipped).
7. Fasten a chain hoist (1) to the loader frame hooks and lift the front of the machine.
8. Put D-00182AA (shown) or D-24206WK Shop Stands (2) under loader frame. Lower machine onto shop stands.
9. Remove wheels (Group 0110).



06A;T77460 T09;020059 110281

DISCONNECT HYDRAULIC LINES AND DRIVE SHAFT



CAUTION: Escaping hydraulic oil under pressure can have sufficient force to penetrate the skin, causing serious injury. Before disconnecting lines, be sure to relieve pressure. Before applying pressure, be sure connections are tight and lines, pipes, and hoses are not damaged. Use a piece of cardboard or wood, rather than hands, to search for leaks.

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

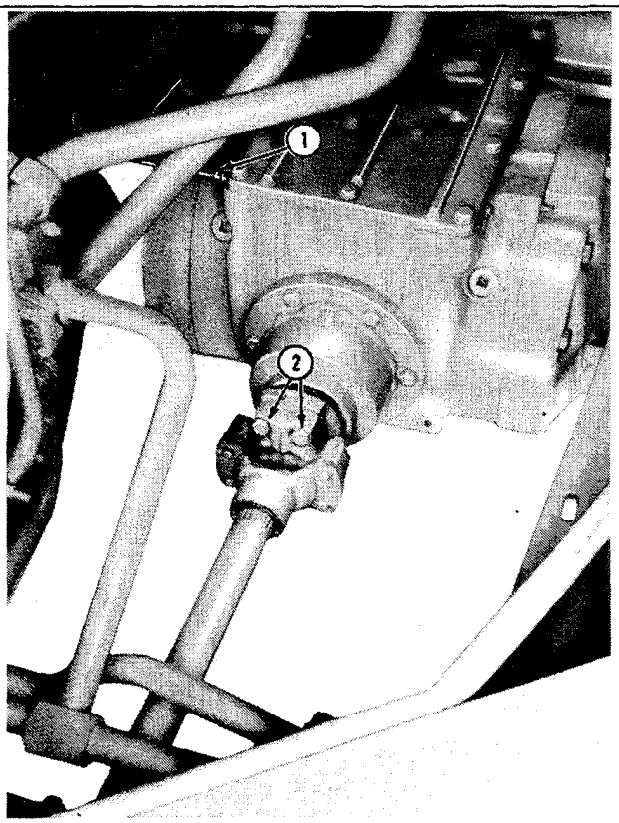
1. Disconnect hydraulic brake line (1) and differential lock return hose (2).

06A;T77461 T09;020011 240383

2. Disconnect differential lock inlet line (1).

3. Close all openings with caps and plugs to keep dirt from entering the hydraulic system.

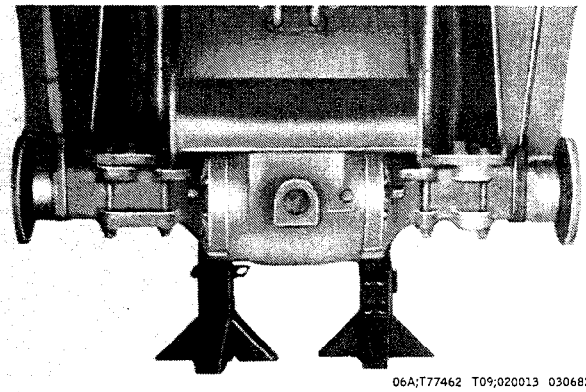
4. Remove four cap screws (2) to disconnect drive shaft from input quill.



06A;T75216 T09;020012 240283

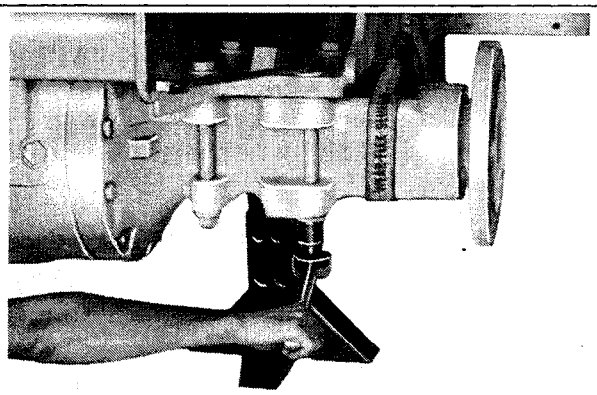
LOWER DIFFERENTIAL AND AXLE ASSEMBLY

1. Remove drain plug to drain approximately (22.5 L) 6 gal. of oil from differential.
2. Put a lifting strap (1) around each axle housing.



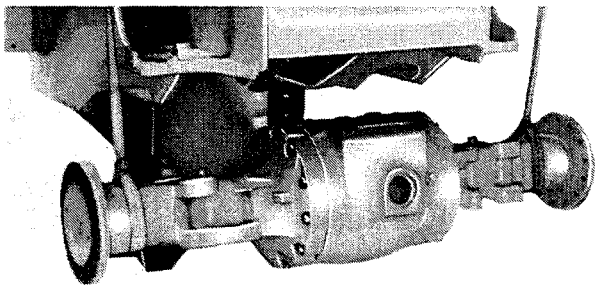
06A;T77462 T09;020013 030682

3. Put tension on straps and remove eight bolts and nuts.



06A;T77463 T09;020014 171280

4. Lower axle and differential as an assembly.



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Thank you very much for your reading.

Please Click Here Then Get More Information.