

9935 Cotton Picker

For complete service information also see:

6068 Engine CTM104
Engine Fuel Injection CTM68
Starting Motors and Alternators CTM77

John Deere Des Moines Works
TM1613 (18SEP01)

LITHO IN U.S.A.
ENGLISH

Introduction

FOREWORD

This manual is written for an experienced technician. Essential tools required in performing certain service work are identified in this manual and are recommended for use.

Live with safety: Read the safety messages in the introduction of this manual and the cautions presented throughout the text of the manual.



This is the safety-alert symbol. When you see this symbol on the machine or in this manual, be alert to the potential for personal injury.

Technical manuals are divided in two parts: repair and operation and tests. Repair sections tell how to repair the components. Operation and tests sections help you identify the majority of routine failures quickly.

Information is organized in groups for the various components requiring service instruction. At the beginning of each group are summary listings of all applicable essential tools, service equipment and tools, other materials needed to do the job, service parts kits, specifications, wear tolerances, and torque values.

Technical Manuals are concise guides for specific machines. They are on-the-job guides containing only the vital information needed for diagnosis, analysis, testing, and repair.

Fundamental service information is available from other sources covering basic theory of operation, fundamentals of troubleshooting, general maintenance, and basic type of failures and their causes.

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FOLLOW SAFE PROCEDURES

Unsafe work practices are dangerous. Understand service procedure before doing work; do not attempt shortcuts.



TS231 -19-07OCT88

TX,05,FF1611 -19-14JUN90

HANDLE FLUIDS SAFELY—AVOID FIRES

When you work around fuel, do not smoke or work near heaters or other fire hazards.

Store flammable fluids away from fire hazards. Do not incinerate or puncture pressurized containers.

Make sure machine is clean of trash, grease, and debris.

Do not store oily rags; they can ignite and burn spontaneously.



TS227 -UN-23AUG88

DX,FLAME -19-04JUN90

PREVENT BATTERY EXPLOSIONS

Keep sparks, lighted matches, and open flame away from the top of battery. Battery gas can explode.

Never check battery charge by placing a metal object across the posts. Use a volt-meter or hydrometer.

Do not charge a frozen battery; it may explode. Warm battery to 16°C (60°F).



TS204 -UN-23AUG88

DX,SPARKS -19-03MAR93

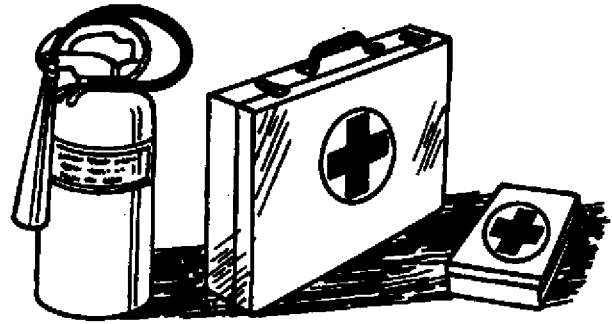
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2

PREPARE FOR EMERGENCIES

Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.



TS291
-JUN-23AUG88

DX,FIRE2 -19-03MAR93

PREVENT ACID BURNS

Sulfuric acid in battery electrolyte is poisonous. It is strong enough to burn skin, eat holes in clothing, and cause blindness if splashed into eyes.

Avoid the hazard by:

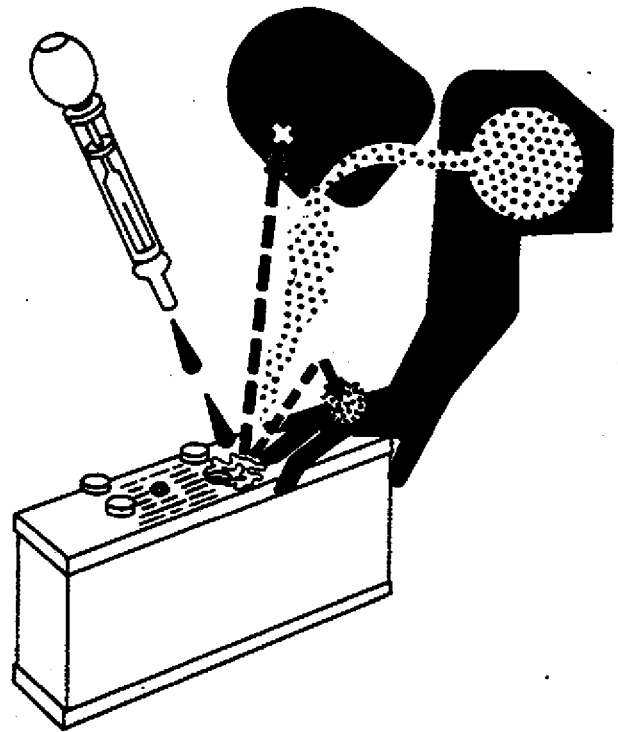
1. Filling batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling or dripping electrolyte.
5. Use proper jump start procedure.

If you spill acid on yourself:

1. Flush your skin with water.
2. Apply baking soda or lime to help neutralize the acid.
3. Flush your eyes with water for 15—30 minutes. Get medical attention immediately.

If acid is swallowed:

1. Do not induce vomiting.
2. Drink large amounts of water or milk, but do not exceed 2 L (2 quarts).
3. Get medical attention immediately.



TS203
-JUN-23AUG88

DX,POISON -19-21APR93

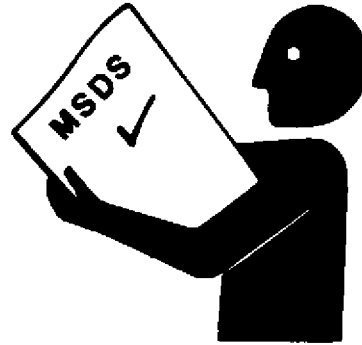
HANDLE CHEMICAL PRODUCTS SAFELY

Direct exposure to hazardous chemicals can cause serious injury. Potentially hazardous chemicals used with John Deere equipment include such items as lubricants, coolants, paints, and adhesives.

A Material Safety Data Sheet (MSDS) provides specific details on chemical products: physical and health hazards, safety procedures, and emergency response techniques.

Check the MSDS before you start any job using a hazardous chemical. That way you will know exactly what the risks are and how to do the job safely. Then follow procedures and recommended equipment.

(See your John Deere dealer for MSDS's on chemical products used with John Deere equipment.)



DX,MSDS,NA -19-03MAR93

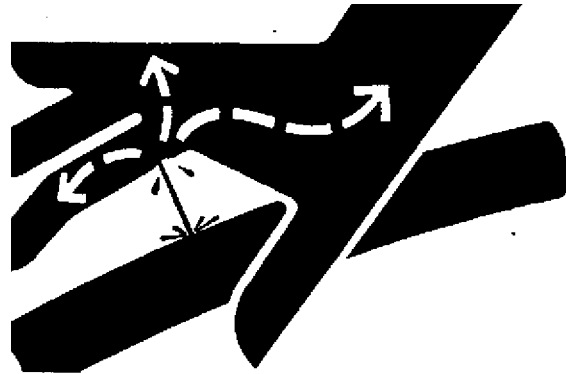
AVOID HIGH-PRESSURE FLUIDS

Escaping fluid under pressure can penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available from Deere & Company Medical Department in Moline, Illinois, U.S.A.



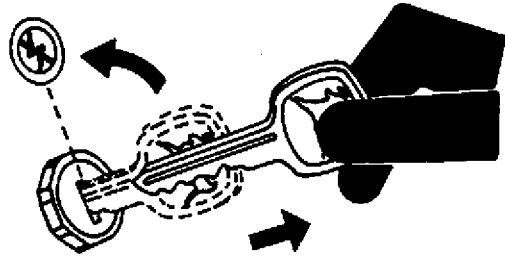
DX,FLUID -19-03MAR93

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4

PARK MACHINE SAFELY

Before working on the machine:

- Lower all equipment to the ground.
- Stop the engine and remove the key.
- Disconnect the battery ground strap.
- Hang a "DO NOT OPERATE" tag in operator station.



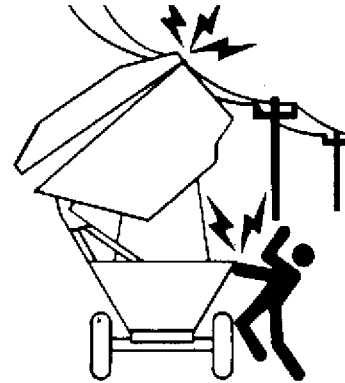
DX,PARK -19-04JUN90

TS230 -UN-24MAY89

AVOID POWER LINES

Serious injury or death can result from contact with electric lines.

Be certain that basket will not touch any overhead power lines when it is in raised position. Electrical shock will occur if you touch machine when it is in contact with overhead power lines.



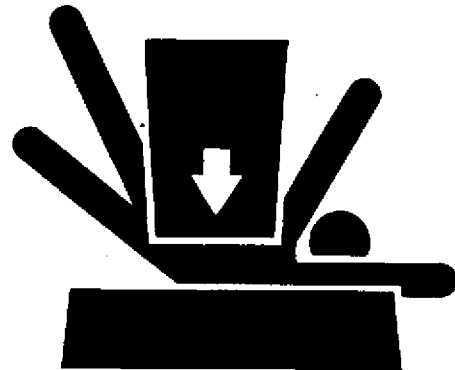
NXR,1005,A -19-14MAY92

TS683 -UN-21SEP89

SUPPORT MACHINE PROPERLY

Always lower the attachment or implement to the ground before you work on the machine. If you must work on a lifted machine or attachment, securely support the machine or attachment.

Do not support the machine on cinder blocks, hollow tiles, or props that may crumble under continuous load. Do not work under a machine that is supported solely by a jack. Follow recommended procedures in this manual.



DX,LOWER -19-04JUN90

TS229 -UN-23AUG88

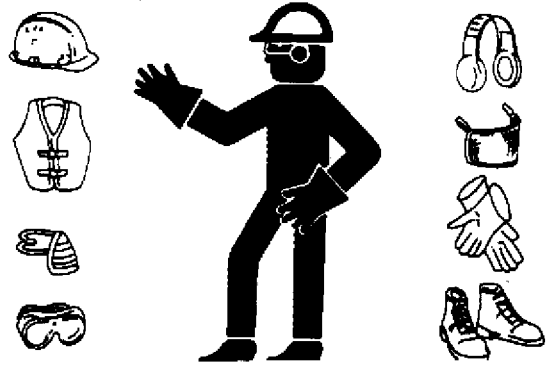
WEAR PROTECTIVE CLOTHING

Wear close fitting clothing and safety equipment appropriate to the job.

Prolonged exposure to loud noise can cause impairment or loss of hearing.

Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.

Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphones while operating machine.



DX,WEAR -19-10SEP90

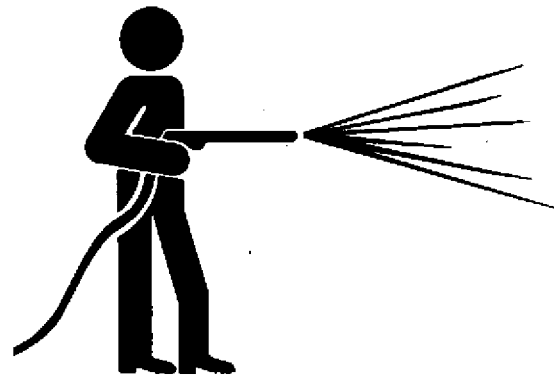
TS206 -UN-23AUG88

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WORK IN CLEAN AREA

Before starting a job:

- Clean work area and machine.
- Make sure you have all necessary tools to do your job.
- Have the right parts on hand.
- Read all instructions thoroughly; do not attempt shortcuts.



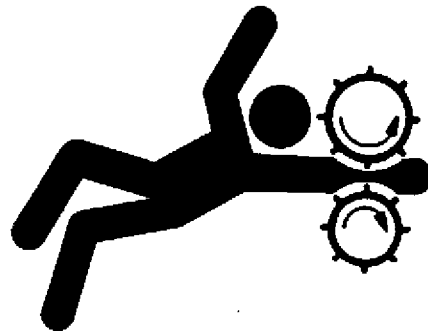
DX,CLEAN -19-04JUN90

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SERVICE MACHINES SAFELY

Tie long hair behind your head. Do not wear a necktie, scarf, loose clothing, or necklace when you work near machine tools or moving parts. If these items were to get caught, severe injury could result.

Remove rings and other jewelry to prevent electrical shorts and entanglement in moving parts.



DX,LOOSE -19-04JUN90

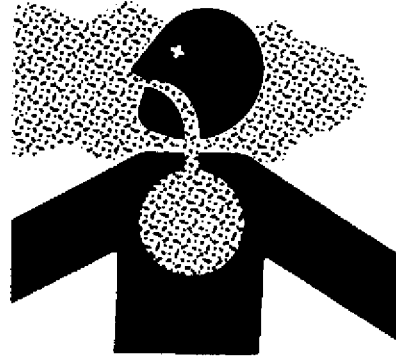
TS228 -UN-23AUG88

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6

WORK IN VENTILATED AREA

Engine exhaust fumes can cause sickness or death. If it is necessary to run an engine in an enclosed area, remove the exhaust fumes from the area with an exhaust pipe extension.

If you do not have an exhaust pipe extension, open the doors and get outside air into the area.



DX,AIR -19-04JUN90

TS220 -UN-23AUG88

ILLUMINATE WORK AREA SAFELY

Illuminate your work area adequately but safely. Use a portable safety light for working inside or under the machine. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.

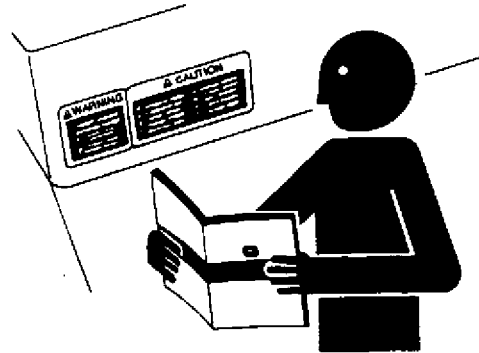


DX,LIGHT -19-04JUN90

TS223 -UN-23AUG88

REPLACE SAFETY SIGNS

Replace missing or damaged safety signs. See the machine operator's manual for correct safety sign placement.



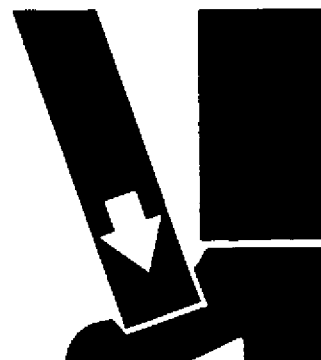
DX,SIGNS1 -19-04JUN90

TS201 -UN-23AUG88

USE PROPER LIFTING EQUIPMENT

Lifting heavy components incorrectly can cause severe injury or machine damage.

Follow recommended procedure for removal and installation of components in the manual.



DX,LIFT -19-04JUN90

TS226 -UN-23AUG88

REMOVE PAINT BEFORE WELDING OR HEATING

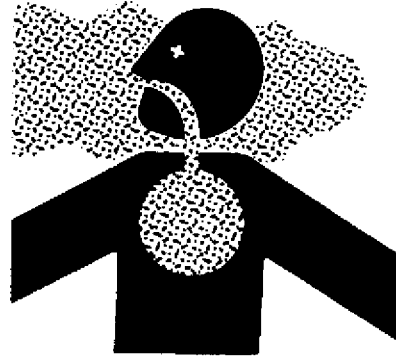
Avoid potentially toxic fumes and dust.

Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch.

Do all work outside or in a well ventilated area. Dispose of paint and solvent properly.

Remove paint before welding or heating:

- If you sand or grind paint, avoid breathing the dust. Wear an approved respirator.
- If you use solvent or paint stripper, remove stripper with soap and water before welding. Remove solvent or paint stripper containers and other flammable material from area. Allow fumes to disperse at least 15 minutes before welding or heating.



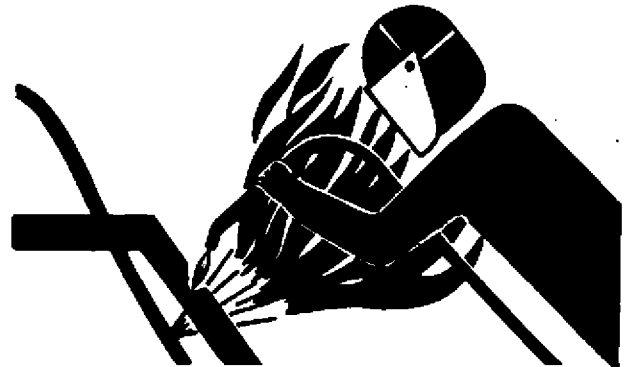
DX,PAINT -19-03MAR93

TS220 -JUN-23AUG88

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AVOID HEATING NEAR PRESSURIZED FLUID LINES

Flammable spray can be generated by heating near pressurized fluid lines, resulting in severe burns to yourself and bystanders. Do not heat by welding, soldering, or using a torch near pressurized fluid lines or other flammable materials. Pressurized lines can be accidentally cut when heat goes beyond the immediate flame area.



DX,TORCH -19-03MAR93

TSS953 -JUN-15MAY90

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SERVICE TIRES SAFELY

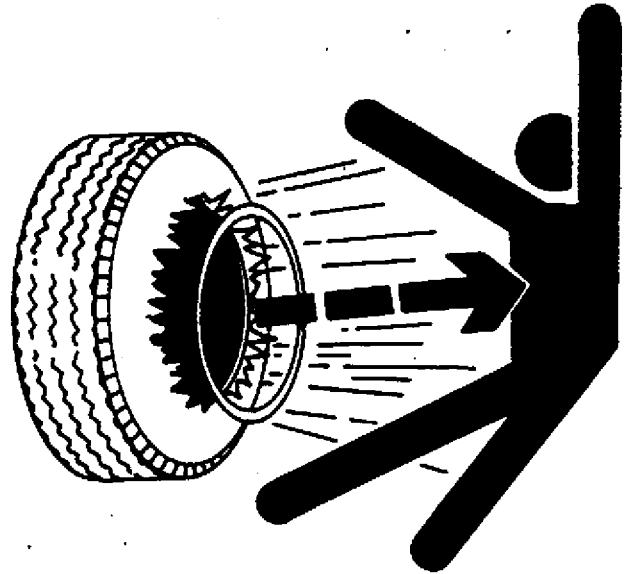
Explosive separation of a tire and rim parts can cause serious injury or death.

Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job.

Always maintain the correct tire pressure. Do not inflate the tires above the recommended pressure. Never weld or heat a wheel and tire assembly. The heat can cause an increase in air pressure resulting in a tire explosion. Welding can structurally weaken or deform the wheel.

When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.

Check wheels for low pressure, cuts, bubbles, damaged rims or missing lug bolts and nuts.



DX,RIM -19-24AUG90

TS211 -UN-23AUG88

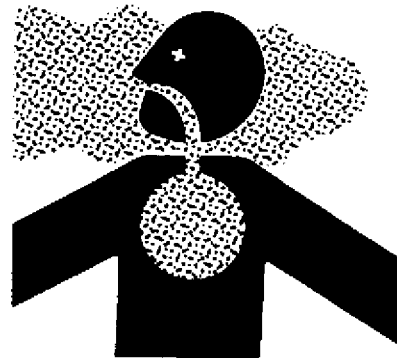
AVOID HARMFUL ASBESTOS DUST

Avoid breathing dust that may be generated when handling components containing asbestos fibers. Inhaled asbestos fibers may cause lung cancer.

Components in products that may contain asbestos fibers are brake pads, brake band and lining assemblies, clutch plates, and some gaskets. The asbestos used in these components is usually found in a resin or sealed in some way. Normal handling is not hazardous as long as airborne dust containing asbestos is not generated.

Avoid creating dust. Never use compressed air for cleaning. Avoid brushing or grinding material containing asbestos. When servicing, wear an approved respirator. A special vacuum cleaner is recommended to clean asbestos. If not available, apply a mist of oil or water on the material containing asbestos.

Keep bystanders away from the area.



DX,DUST -19-15MAR91

TS220 -UN-23AUG88

PRACTICE SAFE MAINTENANCE

Understand service procedure before doing work. Keep area clean and dry.

Never lubricate, service, or adjust machine while it is moving. Keep hands, feet, and clothing from power-driven parts. Disengage all power and operate controls to relieve pressure. Lower equipment to the ground. Stop the engine. Remove the key. Allow machine to cool.

Securely support any machine elements that must be raised for service work.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.

Disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.



-UN-23AUG88

TS218

DX,SERV -19-03MAR93

USE PROPER TOOLS

Use tools appropriate to the work. Makeshift tools and procedures can create safety hazards.

Use power tools only to loosen threaded parts and fasteners.

For loosening and tightening hardware, use the correct size tools. DO NOT use U.S. measurement tools on metric fasteners. Avoid bodily injury caused by slipping wrenches.

Use only service parts meeting John Deere specifications.



-UN-08NOV89

TS779

DX,REPAIR -19-04JUN90

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DISPOSE OF WASTE PROPERLY

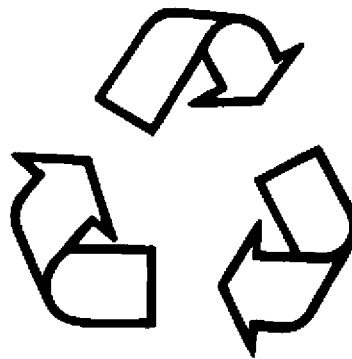
Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with John Deere equipment include such items as oil, fuel, coolant, brake fluid, filters, and batteries.

Use leakproof containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.

Do not pour waste onto the ground, down a drain, or into any water source.

Air conditioning refrigerants escaping into the air can damage the Earth's atmosphere. Government regulations may require a certified air conditioning service center to recover and recycle used air conditioning refrigerants.

Inquire on the proper way to recycle or dispose of waste from your local environmental or recycling center, or from your John Deere dealer.



-JUN-26NOV90

TS1133

DX,DRAIN -19-03MAR93

LIVE WITH SAFETY

Before returning machine to customer, make sure machine is functioning properly, especially the safety systems. Install all guards and shields.



-19-07OCT88

TS231

DX,LIVE -19-25SEP92

SPECIFICATIONS

WEIGHT

Standard	7258 kg (16,000 lb)
With basket extension and vane dump control	7575 kg (16,700 lb)

CAPACITIES

Cotton Basket:

Standard	17.2 m ³ (608 ft ³)
With extension	20.4 m ³ (727 ft ³)

Fuel tank	261 L (69 U.S. gal.)
Water solution tank	643 L (170 U.S. gal.)
Lubrication reservoir	254 L (67 U.S. gal.)
Cooling system	32.2 L (34 U.S. qt.)
Engine crankcase, includes filter	20 L (21.1 U.S. qt.)
Hydraulic/hydrostatic system	80 L (21 U.S. gal.)
Hydraulic/hydrostatic reservoir	68 L (18 U.S. gal.)
Transmission	13.6 L (14.4 U.S. qt) gear oil
Final drive	1.9 L (2 U.S. qt.) gear oil

ENGINE

Model	6068TN051
Displacement	6.8 L (414 in ³)
Horsepower	117 kW (157 hp)
Type	Wet sleeve, valve-in-head, diesel
Aspiration	Turbocharged
Cylinders	6
Slow speed idle	800-900 rpm
Rated speed (under field conditions)	2250 rpm
Fast idle speed (no load)	2360-2400 rpm
Bore	106 mm (4.19 in.)
Stroke	127 mm (5.00 in.)
Compression ratio	17:1
Valve clearance:	
Intake	0.35 mm (0.014 in.)
Exhaust	0.45 mm (0.018 in.)
Lubrication	Full-flow filtration w/by-pass

FUEL SYSTEM

Type	Direct injection
Injection pump type	In-line

AIR SYSTEM

Air cleaner	Aspirated, dry-type with safety element
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COOLING SYSTEM

Type Single pressure with gear driven water pump
 Temperature control Heavy-duty thermostat 82°C (180°F)

HYDROSTATIC DRIVE

Motor and pump make Sauer-Sundstrand
 Type of oil filter Full-flow, suction
 Type of cooler Air-cooled

FINAL DRIVE

Type Ring and pinion
 Ratio 6.08:1 (13 to 77)

BRAKES

Type 305 mm (12 in.) hydraulically actuated shoe-type
 Park brake Mechanical

GROUND SPEEDS

Picking speeds:
 1st gear 0-5.63 km/h (0-3.5 mph)
 2nd gear 0-6.76 km/h (0-4.2 mph)
 Transport speed:
 3rd gear 0-28.0 km/h (0-17.4 mph)
 Reverse 0-14.0 km/h (0-8.7 mph)

TIRES

Front drive 16.9 x 34, 10 PR (R1)
 Optional (cleat) ** 14.9 x 38, 12 PR (R1)
 Optional (cane and rice) 18.4 x 30, 10 PR (R2)
 Rear 9.00 x 24, 8 PR (I1)

TIRE PRESSURE

Front drive wheel (16.9 x 34) 221 kPa (2.2 bar) (32 psi)
 (14.9 x 38) ** 345 kPa (3.5 bar) (50 psi)
 (18.4 x 30) 207 kPa (2.0 bar) (30 psi)
 Guide wheel (9.00 x 24) 303 kPa (3.0 bar) (44 psi)

OPERATOR'S STATION

Standard equipment SOUND-GARD® styled cab (with no ROPS),
 PERSONAL-POSTURE™ seat with deluxe suspension and seat belts,
 air conditioning, heater, windshield wiper,
 electronic tachometer with hourmeter,
 console with speed and function control handle,
 electronically activated units and fan,
 AM/FM stereo radio, and operator presence system
 Heater capacity 5274 kw/hr (18,000 BTU)
 Air conditioner:
 Compressor make Nippondenso
 Capacity 6446 kw/hr (22,000 BTU)
 Refrigerant charge Approx. 1.7 kg (3-3/4 lb)
 Refrigerant type R134a

**Available in JDEX and JDIL countries only.

ELECTRICAL SYSTEM

Type	12-volt, negative ground
Battery:	
Group	31
Cold cranking capacity @ -18°C (0°F)	925 amps
Reserve capacity (minutes) @ 25 amps	180
Alternator	120 amp

HYDRAULIC SYSTEM

Type	Closed center, constant pressure
Standby pressure	18 617 kPa (2700 psi)
Steering system	Hydrostatic power

PICKING UNITS

Number of units	2
Number of picking drums	4 (2 per unit)
Number of picker bars (per unit)	
Front drum	12
Rear drum	12
Number of spindles (per machine) (18 per bar)	864
Row widths	864, 900, 914, 965, and 1016 mm (34, 35, 36, 38, and 40 in.)

PICKING UNIT SPEEDS (P.I.N. —2000)

Picking unit drive shaft	0-1391 rpm*
Picking drum	0-152 rpm*
Doffer shaft	0-1931 rpm*
Spindle	0-3916 rpm*

PICKING UNIT SPEEDS (P.I.N. 2001—)

Picking unit drive shaft	0-1473 rpm*
Picking drum	0-152 rpm*
Doffer shaft	0-1779 rpm*
Spindle	0-4224 rpm*

*Picking unit speeds listed are theoretical maximums.
Actual speeds will be approximately 5 percent lower due
to slippage in hydrostatic transmission and drive belts.

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