9960
Cotton Picker
Repair

For complete service information also see:

6076 Engine (P.I.N. -N09960X004000) CTM6
6076 Engine (P.I.N. N09960X004001-) CTM42
Radial Piston Pump CTM7
Engine Accessories CTM11
9960 Operation and Test TM1521

John Deere Des Moines Works
TM1448 (25FEB92)
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 diagnostics. Repair sections tell how to repair the components. Diagnostic 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.

Binders, binder labels, and tab sets can be ordered by John Deere dealers direct from the John Deere Distribution Service Center.

This manual is part of a total product support program.

FOS MANUALS—REFERENCE

TECHNICAL MANUALS—MACHINE SERVICE

COMPONENT MANUALS—COMPONENT SERVICE

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

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

Component Technical Manuals are concise service guides for specific components. Component technical manuals are written as stand-alone manuals covering multiple machine applications.

O53,TMIFC -19-26JAN90

TO: JOHN DEERE DEALER

IMPORTANT: Please remove this page and route through your service department.

This is the revised technical manual for the 9960 Cotton Picker.

This publication only contains the repair sections for the cotton picker. Use TM-1521, 9960 Cotton Picker Operation and Test for diagnostic and test information.

NX,TM1448DLR -19-08OCT91

Thanks very much for your reading,

Want to get more information,

Please click here, Then get the complete manual

JustClickHere

NOTE:

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

Have any questions please write to me:
admin@servicemanualperfect.com

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

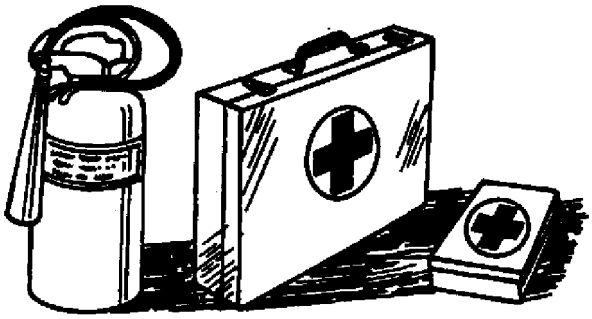
DX,SPARKS -19-04JUN90

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 -UN-23AUG88

DX,FIRE2 -19-04JUN90

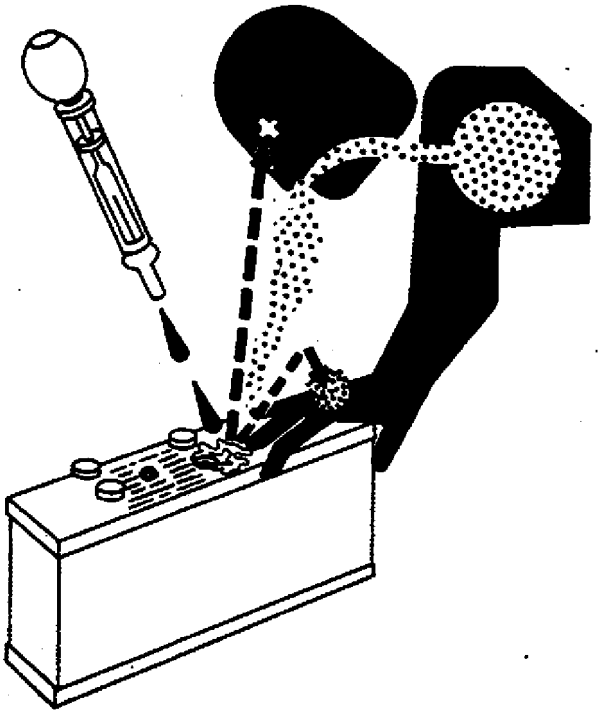
PREVENT ACID BURNS

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 10—15 minutes. Get medical attention immediately.

If acid is swallowed:
1. Drink large amounts of water or milk.
2. Then drink milk of magnesia, beaten eggs, or vegetable oil.
3. Get medical attention immediately.



TS203 -UN-23AUG88

DX,POISON -19-04JUN90

SERVICE COOLING SYSTEM SAFELY

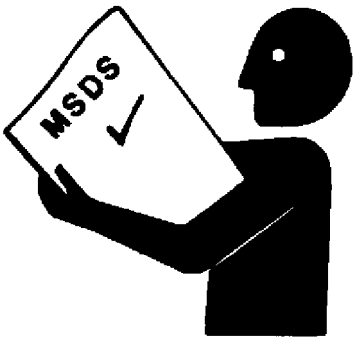
Explosive release of fluids from pressurized cooling system can cause serious burns.

Shut off engine. Only remove filler cap when cool enough to touch with bare hands. Slowly loosen cap to first stop to relieve pressure before removing completely.

TS281 -UN-23AUG88

DX,RCAP -19-04JUN90

HANDLE CHEMICAL PRODUCTS SAFELY



TS1132 -UN-26NOV90

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.

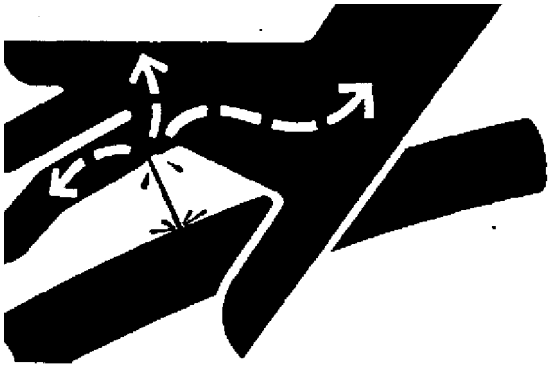
A Material Safety Data Sheet (MSDS) provides specific details on chemical products: physical and health hazards, safety procedures, and emergency response techniques.

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 -19-15MAR91

AVOID HIGH-PRESSURE FLUIDS



X9811 -UN-23AUG88

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.

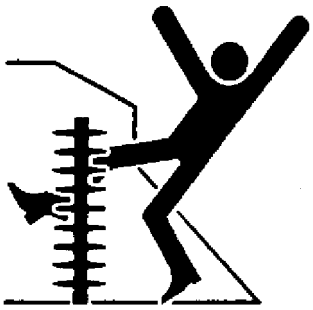
Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

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 -19-09AUG91

AVOID CONTACT WITH ENGAGED PICKING UNIT

If service is required with engaged picking units, avoid contact with moving parts. Moving parts can puncture or dismember body parts, or cause death.

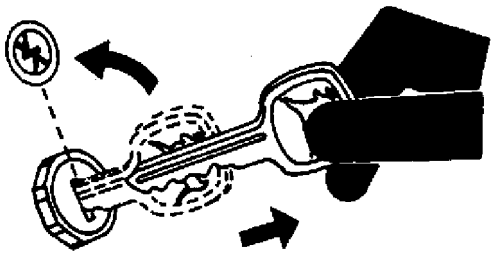


N39613 -UN-07OCT88

N01,1000,K -19-04MAY90

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.



TS230 -UN-24MAY89

DX,PARK -19-04JUN90

- Look overhead for electric lines or low ceiling.

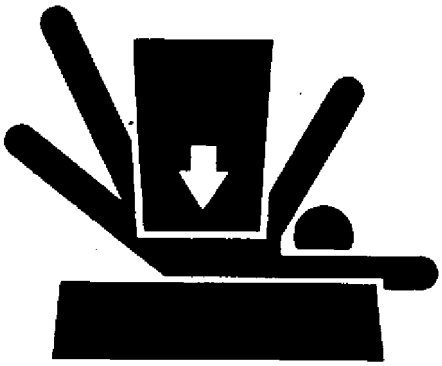
N39671 -UN-30NOV88

N01,1000,L -19-04MAY90

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.



TS229 -UN-23AUG88

DX,LOWER -19-04JUN90

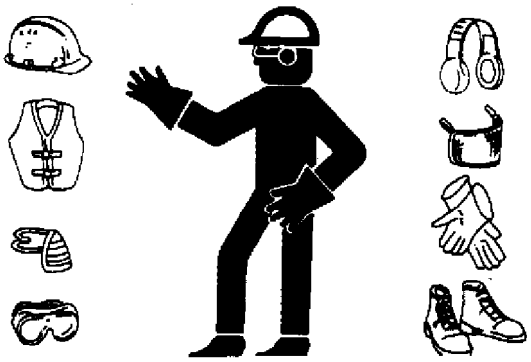
WEAR PROTECTIVE CLOTHING

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.



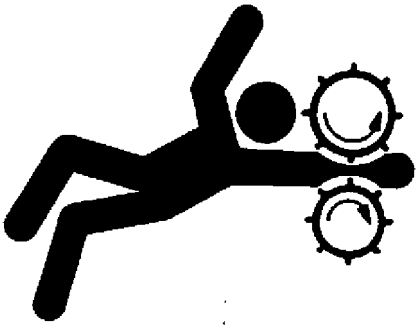
TS206 -UN-23AUG88

DX,WEAR -19-10SEP90

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.



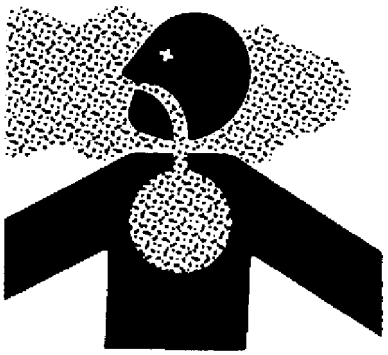
TS228 -UN-23AUG88

DX,LOOSE -19-04JUN90

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.

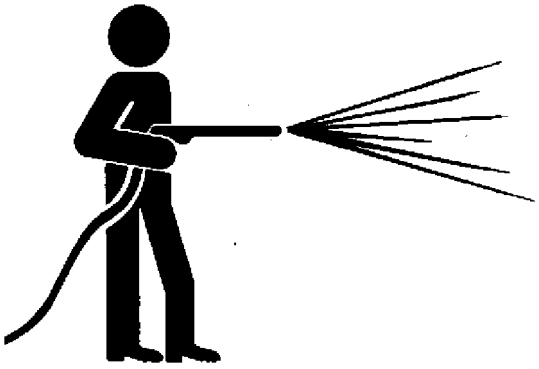


TS220 -UN-23AUG88

DX,AIR -19-04JUN90

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.



T6642EJ -UN-18OCT88

DX,CLEAN -19-04JUN90

REMOVE PAINT BEFORE WELDING OR HEATING

Avoid potentially toxic fumes and dust.

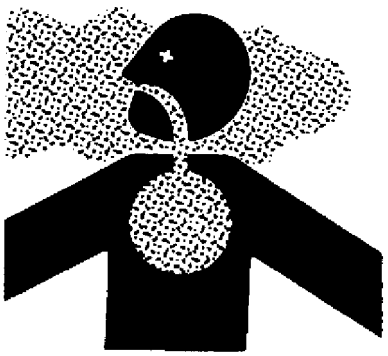
Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch.

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.



TS220 -UN-23AUG88

DX,PAINT -19-04JUN90

AVOID HEATING NEAR PRESSURIZED FLUID LINES

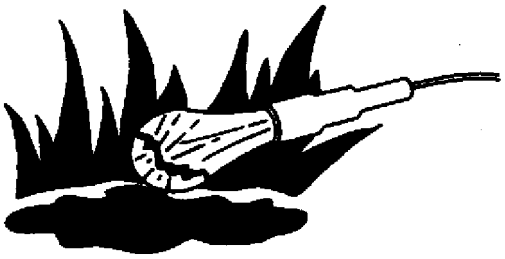
Flammable spray can be generated by heating near pressurized fluid lines, resulting in severe burns to yourself and bystanders. Do not heat by welding, soldering, or using a torch near pressurized fluid lines or other flammable materials. Pressurized lines can be accidentally cut when heat goes beyond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

TS953 -UN-15MAY90

DX,TORCH -19-05OCT90

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.

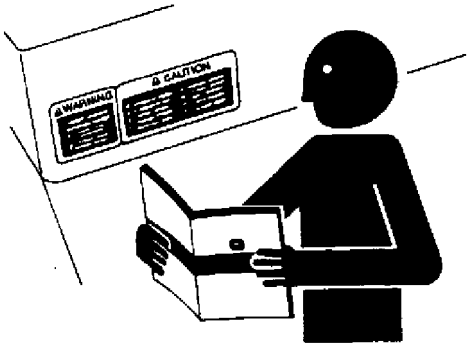


TS223 -UN-23AUG88

DX,LIGHT -19-04JUN90

REPLACE SAFETY SIGNS

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



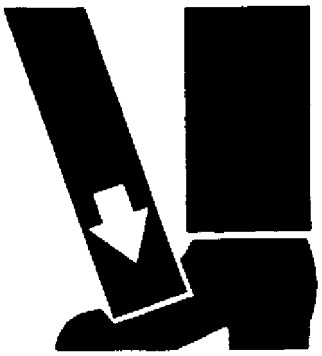
TS201 -UN-23AUG88

DX,SIGNS1 -19-04JUN90

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.



TS226 -UN-23AUG88

DX,LIFT -19-04JUN90

SERVICE TIRES SAFELY

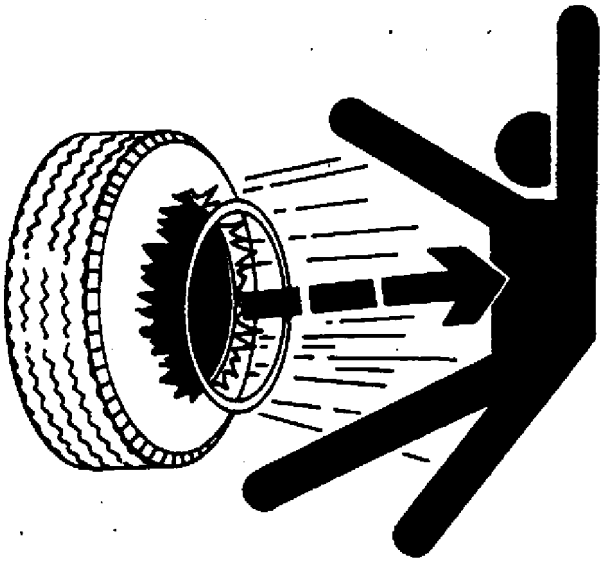
Explosive separation of a tire and rim parts can cause serious injury or death.

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.



TS211 -UN-23AUG88

DX,RIM -19-24AUG90

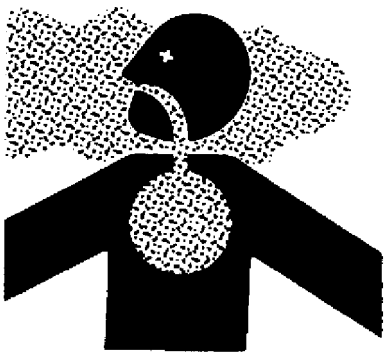
AVOID HARMFUL ASBESTOS DUST

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.



TS220 -UN-23AUG88

DX,DUST -19-15MAR91

PRACTICE SAFE MAINTENANCE

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

Never lubricate or service 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.

TS218 -UN-23AUG88

DX,SERV -19-04JUN90

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.

TS779 -UN-08NOV89

DX,REPAIR -19-04JUN90

DISPOSE OF WASTE PROPERLY

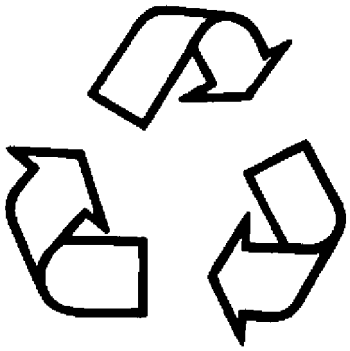
Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with John Deere equipment include such items as oil, fuel, coolant, brake fluid, filters, and batteries.

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.



TS1133 -UN-26NOV90

DX,DRAIN -19-09AUG91

LIVE WITH SAFETY

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

TS231 -19-07OCT88

DX,LIVE -19-04JUN90

SPECIFICATIONS

PICKING UNITS
- Number of units . . . . . 4 or 5
- Number of picking drums . . . . . 2 per unit
- Number of picker bars (per machine)
  - Front Drum 12
  - Rear Drum 12
- Number of spindles (per machine)
  - Conventional units 1920
  - In-Line units (4-row) 1728
  - (5-row) 2160
- Row widths . . . . . 762, 813, 914, 965, and 1016 mm (30, 32, 36, 38, and 40 in.)
  1524 mm (60 in.) Skip-row
  1646 mm (64 in.) Skip-row

PICKING UNIT SPEEDS (CONVENTIONAL UNIT) (P.I.N. -4000)
- Picking unit drive shaft . . . . . 0-1473 rpm*
- Picking drum . . . . . 0-152 rpm*
- Doffer shaft . . . . . 0-1845 rpm*
- Spindle . . . . . 0-4224 rpm*

PICKING UNIT SPEEDS (CONVENTIONAL UNIT) (P.I.N. 4001-)
- Picking unit drive shaft . . . . . 0-1391 rpm*
- Picking drum . . . . . 0-152 rpm*
- Doffer shaft . . . . . 0-1742 rpm*
- Spindle . . . . . 0-3915 rpm*

PICKING UNIT SPEEDS (IN-LINE UNITS) (P.I.N. -4000)
- Picking unit drive shaft . . . . . 0-1473 rpm*
- Picking drum . . . . . 0-152 rpm*
- Doffer shaft . . . . . 0-2046 rpm*
- Spindle . . . . . 0-4224 rpm*

PICKING UNIT SPEEDS (IN-LINE UNITS) (P.I.N. 4001-)
- Picking unit drive shaft . . . . . 0-1390 rpm*
- Picking drum . . . . . 0-152 rpm*
- Doffer shaft . . . . . 0-1930 rpm*
- Spindle . . . . . 0-3915 rpm*

GROUND SPEEDS (Full Throttle)
- Picking speeds:
  - 1st gear . . . . . 0-5.73 km/h (0-3.56 mph)
  - 2nd gear . . . . . 0-6.76 km/h (0-4.2 mph)
- Transport speed:
  - 3rd gear . . . . . 0-24.14 km/h (0-15 mph)
- Reverse . . . . . 0-11.42 km/h (0-7.1 mph)

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

NX,1010,L -19-10OCT91

CAPACITIES

Cotton Basket:	
Intermediate height	29.8 m^3 (1065 cu. ft.)
Full height	32.8 m^3 (1173 cu. ft.)
Fuel tank	454 L (120 gal.)
Water/solution tank	870.5 L (230 gal.)
Lubrication reservoir	227 L (60 gal.)
Cooling system	42 L (44 U.S. qt.)
Engine crankcase, includes filter	23 L (24.3 qt.)
Hydraulic/hydrostatic system	52.5 L (16.5 gal.)
Hydraulic/hydrostatic reservoir	34 L (9 gal.)
Transmission	10 kg (22 lb) grease
Final drive	5 kg (11 lb) grease

TIRES

Front drive	18.4 x 38, 14 PR (R1, R2) or 20.8 x 38, 14 PR (R1, R2)
Rear	9.00 x 24, 8 PR (I1)

WEIGHT

Conventional unit machine	12 225 kg (26,950 lb)
In-line unit, narrow row machine (4-row)	12 792 kg (28,200 lb)
(5-row)	14 043 kg (30,960 lb)

ENGINE

Model (P.I.N. -4000)	6076AN001
(P.I.N. 4000-)	6076AN030
Type	Diesel, aftercooled
Aspiration	Turbocharged
Cylinders	6, in-line
Slow speed idle	800-900 rpm
Rated speed (under field conditions)	2200 rpm
Fast idle speed (no load)	2360-2425 rpm
Bore and stroke	116 x 121 mm (4.57 x 4.75 in.)
Compression ratio	16.0 to 1
Displacement	7.6 L (466 cu. in.)
Horsepower (P.I.N. 101-111)	168 kW (225 hp)
(P.I.N. 112-)	186 kW (250

FUEL SYSTEM

Type	Direct injection
Injection pump type	In-line
Injection pump timing	TDC

AIR SYSTEM

Air cleaner	Dry type with safety element aspirated precleaner

COOLING SYSTEM

Type	Single pressure with gear driven water pump
Temperature control	Dual, heavy-duty thermostat 180˚

NX,1010,J -19-23OCT91

ELECTRICAL SYSTEM

Type	12-volt, negative ground
Batteries:	
Group	31
Cold cranking capacity @ -18˚C (0˚F)	650 amps
Reserve capacity (minutes) @ 25 amps	160
Alternator	90 amp

HYDROSTATIC DRIVE

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

FINAL DRIVE

Type	Ring and pinion, 11 to 104

BRAKES

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

HYDRAULIC SYSTEM

Type	Closed center, constant pressure
Standby pressure	17 170-17 860 kPa (2490-2590 psi)
Steering system	Hydrostatic power

OPERATOR'S STATION

Type	SOUND-GARD® styled cab (with no ROPS), heater, windshield wiper, rear view mirrors, deluxe seat suspension, PERSONAL-POSTURE™ seat, electronic tachometer with hourmeter, and operator presence system
Optional equipment	Air conditioning
Heater capacity	5274 w/hr (18,000 BTU)
Air conditioner:	
Compressor make	Nippondenso
Capacity	6446 w/hr (22,000 BTU)
Refrigerant charge	Approx. 2.5 kg (5-1/2 lb)

NX,1010,K -19-10OCT91