

1600A Mower-Conditioner

**John Deere Ottumwa Works
TM1571 (27FEB97)**

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.

CAUTION: 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

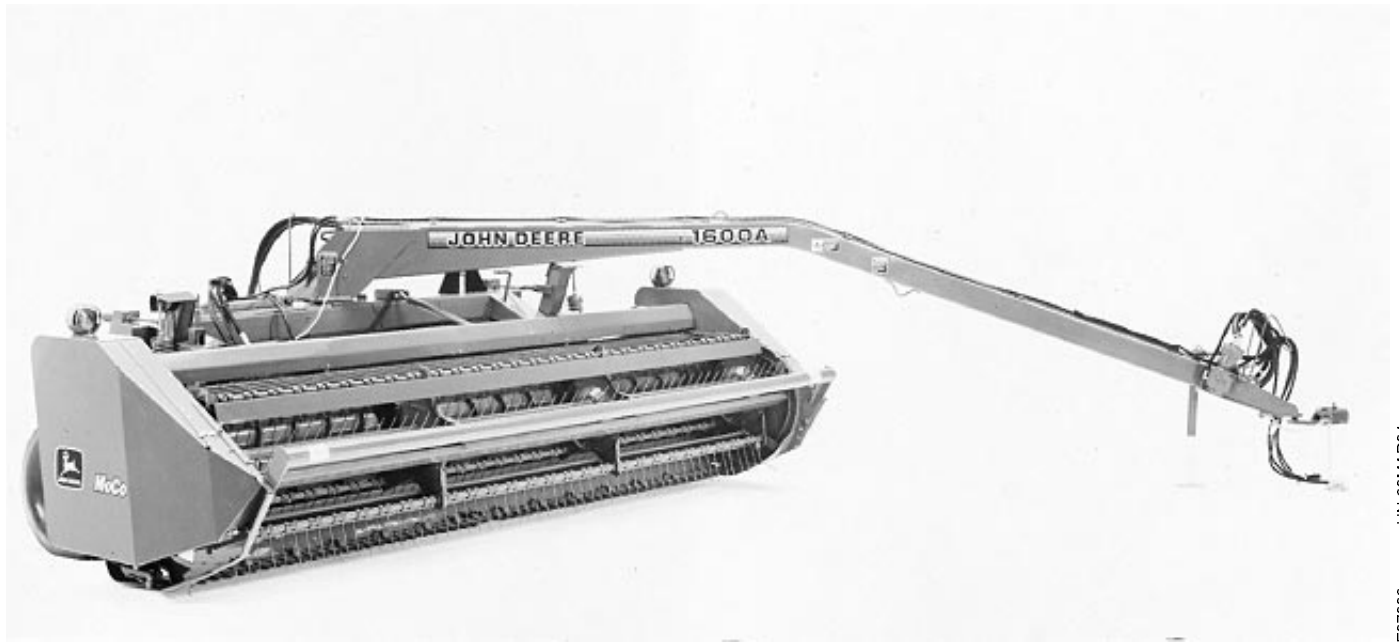
TECHNICAL MANUALS—MACHINE SERVICE

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.



E37930
-JUN-03MAR94

EX,TM1571,IFC -19-14MAR94

Contents

SECTION 10—GENERAL INFORMATION

- Group 05—Safety
- Group 10—General Information
- Group 15—Specifications
- Group 20—Lubrication

Group 45—Lift Cylinders

Index

SECTION 20—CUTTING COMPONENTS

- Group 05—General Information
- Group 10—Diagnosing Malfunctions
- Group 15—Cutterbar
- Group 20—Knife Drive Case

SECTION 30—PLATFORM

- Group 05—General Information
- Group 10—Diagnosing Malfunctions
- Group 15—Platform Frame
- Group 20—REEL
- Group 25—Augers
- Group 30—Platform Drives

SECTION 40—CONDITIONER

- Group 05—General Information
- Group 10—Diagnosing Malfunctions
- Group 15—Roll Drive Chain
- Group 20—Upper Conditioner Roll Arms
- Group 25—Conditioner Rolls

SECTION 50—CARRIER FRAME

- Group 05—General Information
- Group 10—Diagnosing Malfunctions
- Group 15—Frame Components
- Group 20—Tongue
- Group 25—Wheel Hub and Support
- Group 30—Electrical System

SECTION 60—HYDRAULICS

- Group 05—General Information
- Group 10—Diagnosing Malfunctions
- Group 15—Hydraulic Tests
- Group 20—Hydraulic Pump
- Group 25—Planetary Gear Case
- Group 30—Hydraulic Motor
- Group 35—Relief Valve And Oil Filter
- Group 40—Steering Cylinder

All information, illustrations and specifications in this 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.

TM1571-19-27FEB97

COPYRIGHT© 1994
DEERE & COMPANY
Moline, Illinois
All rights reserved
A John Deere ILLUSTRATION® Manual

Section 10 GENERAL INFORMATION

Contents

Page

Group 05—Safety 10-05-1

Group 10—General Information

Machine Description 10-10-1

Tractor Requirement 10-10-2

Three-Point Hitch 10-10-2

Group 15—Specifications

Machine Specifications 10-15-1

Metric Cap Screw Torque Values 10-15-3

Inch Cap Screw Torque Values 10-15-4

Tighten O-Ring Fittings 10-15-5

Tighten Flare-Type Tube Fittings 10-15-6

Group 20—Lubrication

Extreme Pressure Grease 10-20-1

Hydrostatic Drive Oil 10-20-1

Knife Drive Case Oil 10-20-2

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.



DX,FLAME -19-04JUN90

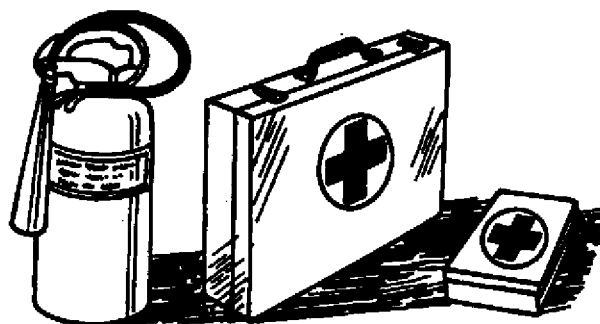
10-05-1
-JUN-23AUG88
TS227

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.



DX,FIRE2 -19-03MAR93

-JUN-23AUG88
TS291

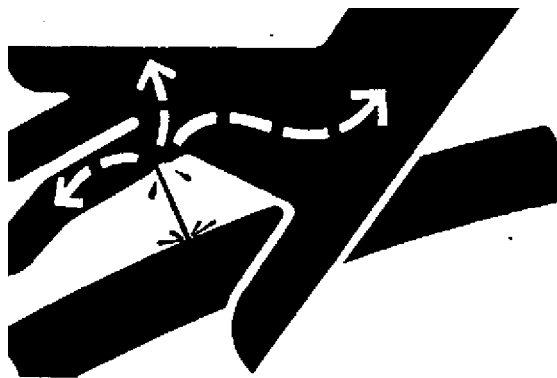
AVOID HIGH-PRESSURE FLUIDS

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.



-JUN-23AUG88

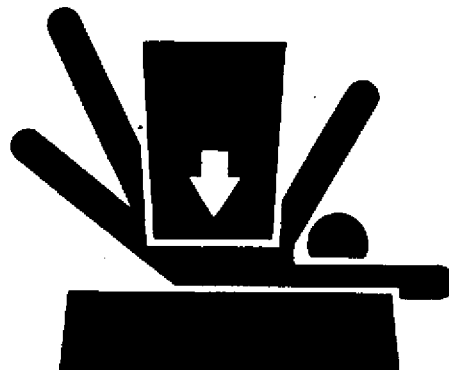
X9811

DX,FLUID -19-03MAR93

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.



-JUN-23AUG88

TS229

DX,LOWER -19-04JUN90

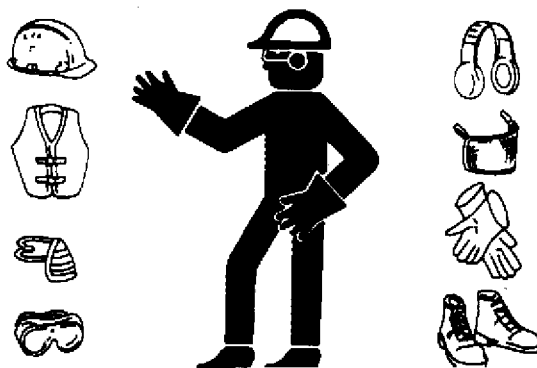
WEAR PROTECTIVE CLOTHING

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.



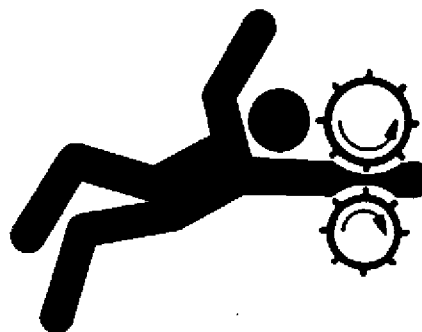
DX,WEAR -19-10SEP90

TS206 -UN-23AUG88

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.



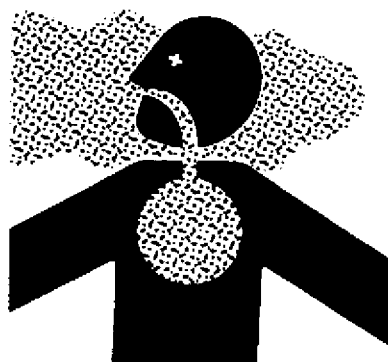
DX,LOOSE -19-04JUN90

TS228 -UN-23AUG88

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.



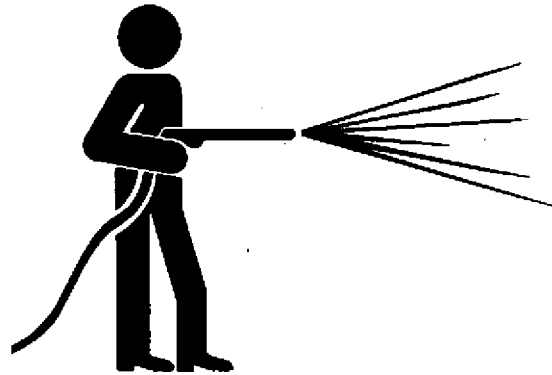
DX,AIR -19-04JUN90

TS220 -UN-23AUG88

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

T6642EJ -UN-18OCT88

REMOVE PAINT BEFORE WELDING OR HEATING

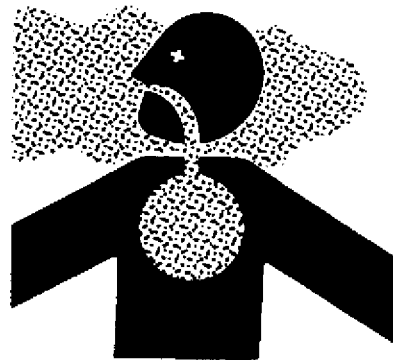
Avoid potentially toxic fumes and dust.

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 -UN-23AUG88

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

TS953 -UN-15MAY90

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.

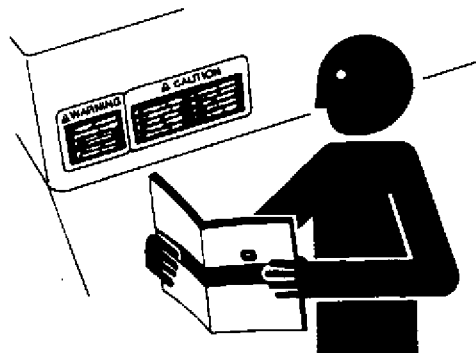


DX,LIGHT -19-04JUN90

TS223 -UN-23AUG88

REPLACE SAFETY SIGNS

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



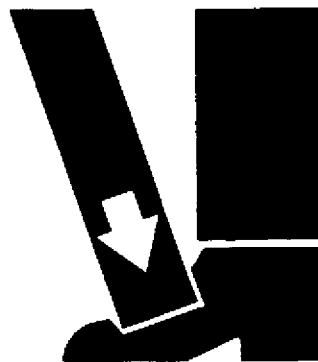
DX,SIGNS1 -19-04JUN90

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

SERVICE TIRES SAFELY

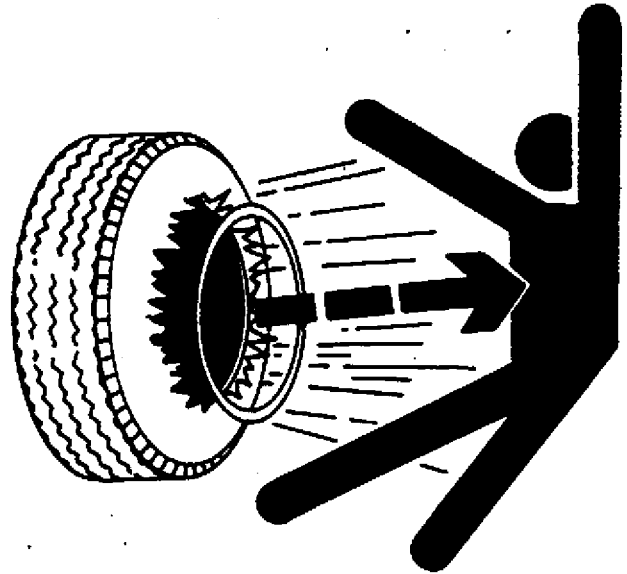
Explosive separation of a tire and rim parts can cause serious injury or death.

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.



-UN-23AUG88

TS211

DX,RIM

-19-24AUG90

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.



-UN-12APR90

TS952

DX,TIRECP

-19-24AUG90

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.



DX,SERV

-19-03MAR93

TS218 -UN-23AUG88

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.



DX,REPAIR

-19-04JUN90

TS779 -UN-08NOV89

DISPOSE OF WASTE PROPERLY

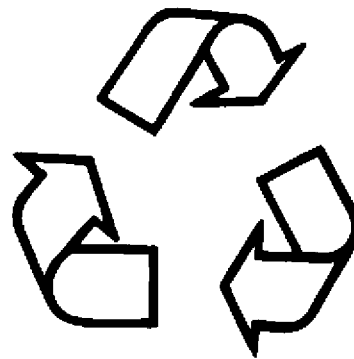
Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with John Deere equipment include such items as oil, fuel, coolant, brake fluid, filters, and batteries.

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 -JUN-26NOV90

DX,DRAIN -19-03MAR93

LIVE WITH SAFETY

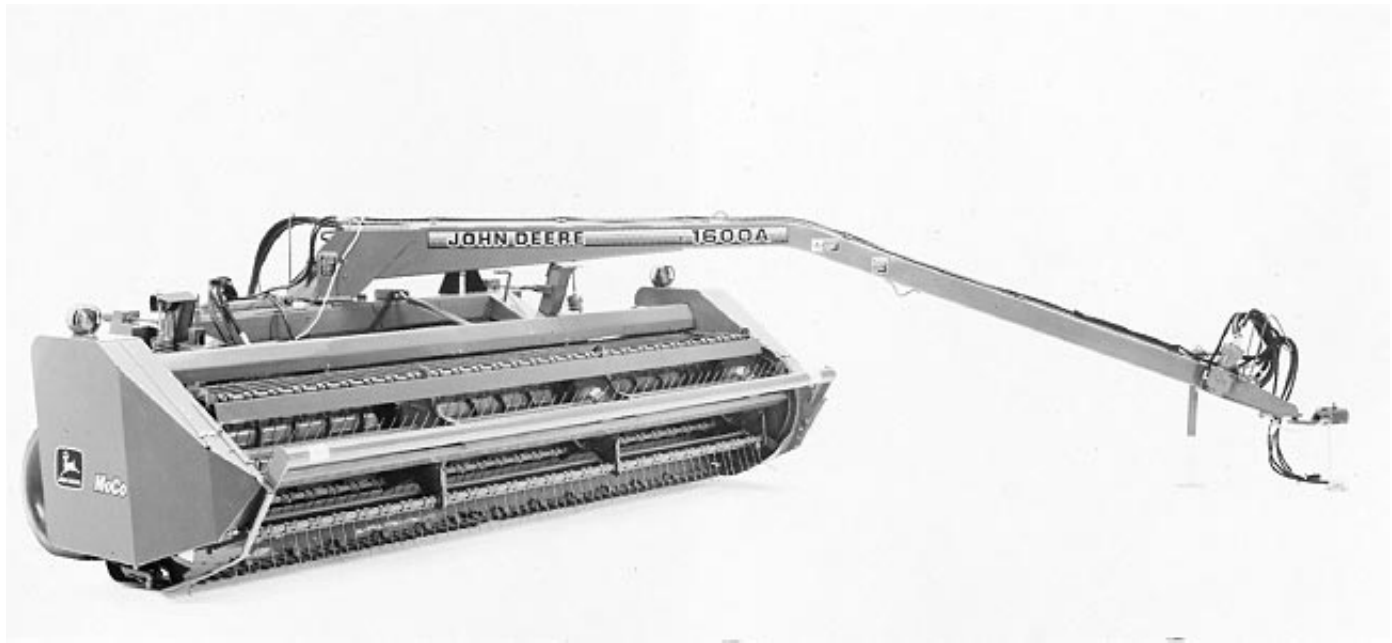
Before returning machine to customer, make sure machine is functioning properly, especially the safety systems. Install all guards and shields.



TS231 -19-07OCT88

DX,LIVE -19-25SEP92

MACHINE DESCRIPTION



The John Deere 1600A Mower-Conditioner is a mid-pivot design which allows cutting back-and-forth or around the field. Machine raise and swing are controlled by tractor hydraulics, and a PTO hydrostatic pump drives the power train. The platform

consists of a reel, a cutterbar with a timed dual knife, and two augers to deliver crop to the conditioner rolls. The size of the windrow is controlled by forming shields with an adjustable swath flap.

EX,1571,1010,A -19-14MAR94

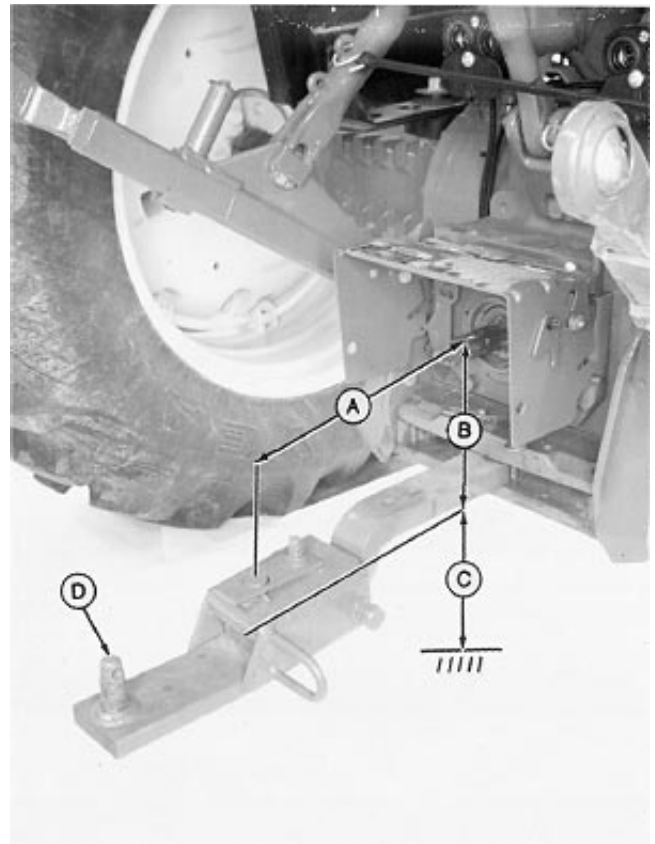
10
10
1

E37930
-UN-03MAR94

TRACTOR REQUIREMENT

The tractor must have a minimum of 70 PTO horsepower and can be equipped with a 540 or 1000 rpm shaft. Dual selective control valves with 13790 kPa (138 bar) (2000 psi) are required to operate the hydraulics. The drawbar attachment hitch must be set to the following dimensions:

- A—356 mm (14-in.)
540 rpm
406 mm (16-in.)
1000 rpm
- B—152 to 305 mm
(6 to 12 in.)
- C—330 to 508 mm
(13 to 20 in.)
To Ground
- D—Equal Angle Hitch

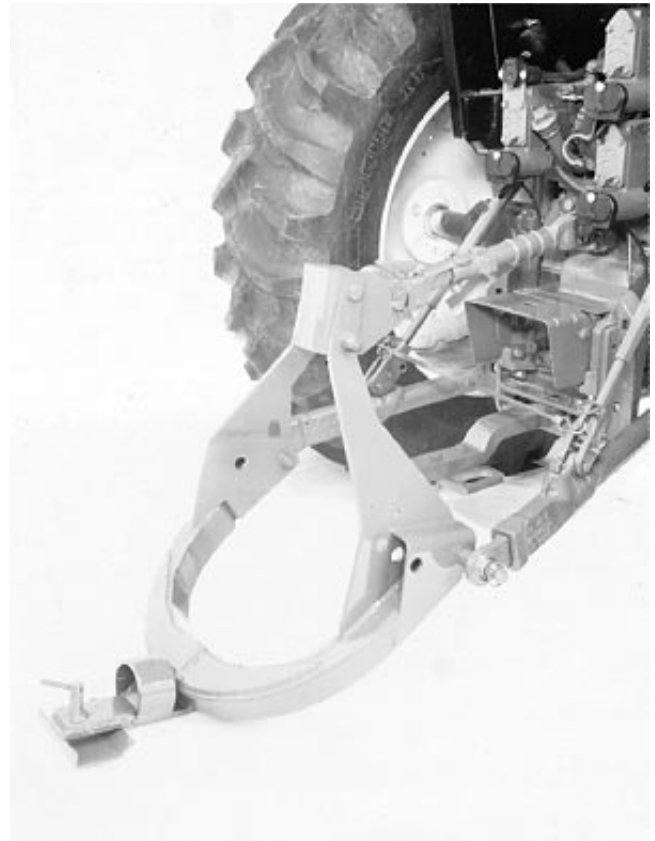


EX,1571,1010,B -19-14MAR94

E33411 -UN-20JUN89

THREE-POINT HITCH

The three-point hitch allows shorter turns and makes the machine more maneuverable. The hitch can be used with Category 2 and 3N three-point hitches and quick couplers. When the hitch is installed, parts are included to extend the hydrostatic pump and hydraulic hoses to the tractor.



EX,1571,1010,C -19-14MAR94

E33352 -UN-24JUL89

MACHINE SPECIFICATIONS

OPERATING SPEED 9.7 km/h (Up to 6 mph)

CUTTING HEIGHT —51 to 483 mm (—2 to 19 in.)

WIDTH OF CUT:

12-Ft (3.66 m) Platform	3.73 m (12 ft 3 in.)
14-Ft (4.27 m) Platform	4.34 m (14 ft 3 in.)
16-Ft (4.88 m) Platform	4.95 m (16 ft 3 in.)

WINDROW WIDTH:

(Depending on crop conditions) 1.02 to 2.74 m (40 in. to 9 ft)

TRANSPORTING WIDTH:

12 Ft (3.66 m) Platform	4.22 m (13 ft 10-1/4 in.)
14 Ft (4.27 m) Platform	4.83 m (15 ft 10-1/4 in.)
16 Ft (4.88 m) Platform	5.44 m (17 ft 10-1/4 in.)

HEIGHT (Transport) 1.98 m (6 ft 6 in.)

LENGTH:

12-Ft and 14-Ft (3.66 m and 4.27 m) Platforms	6.50 m (21 ft 3-1/2 in.)
16 Ft (4.88 m) Platforms	7.25 m (23 ft 9-1/2 in.)

WEIGHT:

With 12-Ft (3.66 m) Platform	2270 kg (5000 lb)
With 14-Ft (4.27 m) Platform	2450 kg (5400 lb)
With 16-Ft (4.88 m) Platform	2630 kg (5800 lb)

CUTTERBAR

Guards	Timed dual knife Heavy-duty, double-forged steel Non-clogs (optional)
Guard Angle	6° to 12°
Knives (Chrome)	Overserrated
Speed	1764 strokes per minute
Type Drive	Enclosed, running in oil

REEL:

Adjustable	Up and down, fore and aft
Diameter	1067 mm (42 in.)
Drive	V-belt with spring-loaded idler
Speed: Variable	60 to 72 rpm
Tooth Bars	5 Standard

EX,1571,1015,A -19-14MAR94

AUGERS:

Upper Auger Diameter	229 mm (9 in.)
Lower Auger Diameter	292 mm (11.5 in.)
Drive	V-Belt and 50 Chain
Speed	392 rpm lower; 430 rpm upper

CONDITIONER ROLLS	Urethane, intermittent cleat, intermeshing
Diameter	254 mm (10 in.)
Speed	643 rpm
Length	2794 mm (110 in.)
Drive	No. 60 O-ring roller chain

WHEELS:

Tire Size and Tire Inflation Pressure:

3.66 m (12-Ft) Platform	11L x 14-6 Ply 193 kPa (28 psi) (1.9 bar)
-------------------------	--

4.27 and 4.88 m (14-Ft and 16-Ft) Platforms	31L x 13.5 x 15-6 PR 207 kPa (30 psi) (2.1 bar)
---	--

RESERVOIR CAPACITY:

3.66 m and 4.27 m (12-Ft and 14-Ft) Platforms	94.6 L (25 gal)
4.88 m (16-Ft) Platform	102.2 L (27 gal)

POWER TAKE-OFF SPEED	540 rpm or 1000 rpm (1-3/8 in. only)
-----------------------------	--------------------------------------

RECOMMENDED TRACTOR	52.5 kW (70 hp) or larger
----------------------------	---------------------------

TRACTOR HYDRAULIC PRESSURE TO LIFT PLATFORM	13 790 kPa (138 bar) (2000 psi)
--	---------------------------------

(Specifications and design are subject to change without notice.)

EX,1571,1015,B -19-14MAR94

BUY NOW

**Then Instant Download
the Complete Manual
Thank you very much!**