

**200 and 900 Series Cutting Platforms**  
**40 and 90 Series Corn Heads**  
**50 and 50A Series Row Crop Heads**

**John Deere Harvester Works**  
**TM1581 (03OCT94)**

LITHO IN U.S.A.  
ENGLISH

## 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.

## 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

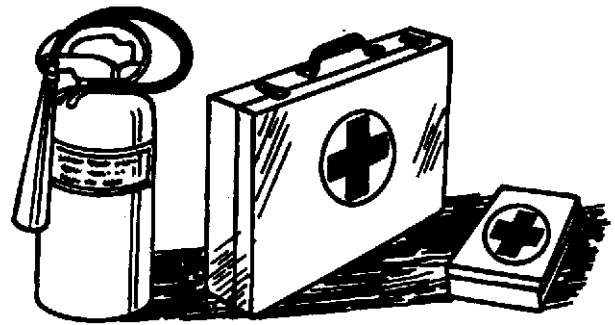
10-05-1  
-JUN-23AUG88  
TS227

## 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

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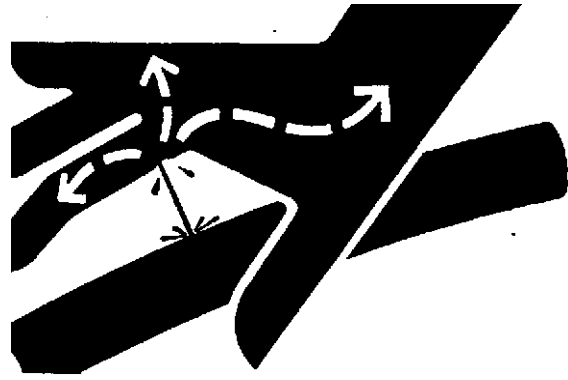
## AVOID HIGH-PRESSURE FLUIDS

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

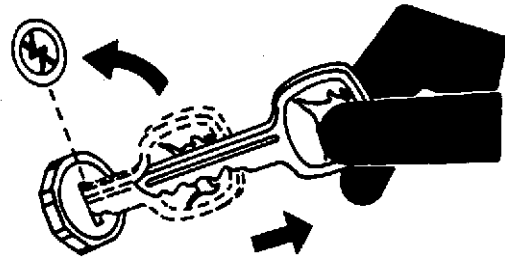
X9811

DX,FLUID -19-03MAR93

## 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.



-JUN-24MAY89

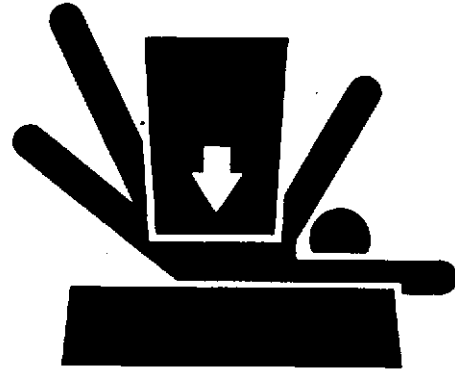
TS230

DX,PARK -19-04JUN90

### 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

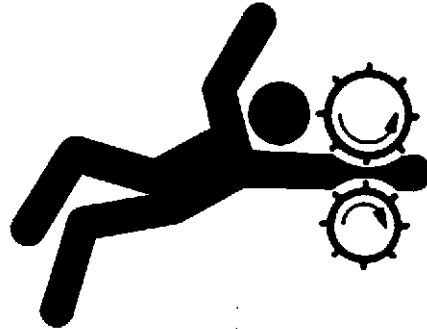
TS229 -JUN-23AUG88

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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.



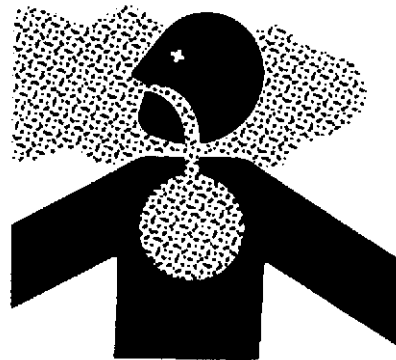
DX,LOOSE -19-04JUN90

TS228 -JUN-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 -JUN-23AUG88

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### 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.



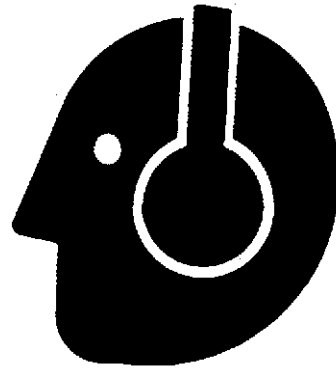
DX,LIGHT -19-04JUN90

TS223 -JUN-23AUG88

### PROTECT AGAINST NOISE

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.



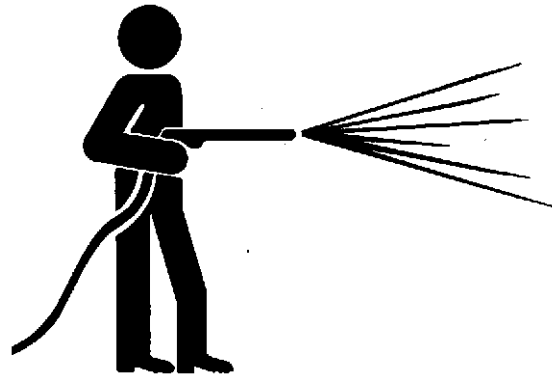
DX,NOISE -19-03MAR93

TS207 -JUN-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 -JUN-18OCT88

## 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

10510  
-JUN-08NOV89  
TS779

## DISPOSE OF WASTE PROPERLY

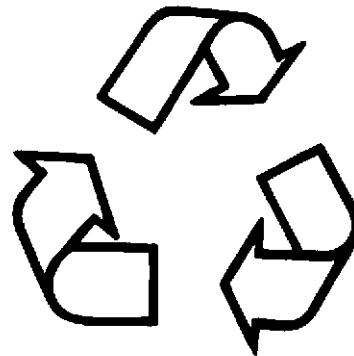
Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with John Deere equipment include such items as oil, fuel, coolant, brake fluid, filters, and batteries.

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.



DX,DRAIN -19-03MAR93

-JUN-26NOV90  
TS1133

**LIVE WITH SAFETY**

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



DX,LIVE -19-25SEP92

TS231 -19-07OCT88

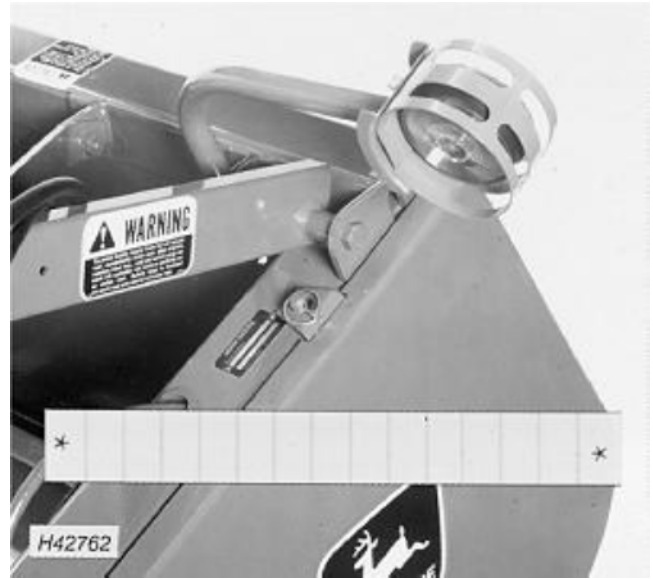
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### SERIAL NUMBER

The serial number is on a plate located on the top left-hand end of the cutting platform.

When ordering parts, always bring the serial number from the serial number plate. This will help your John Deere dealer in giving you fast service.



JUN-09NOV90  
H42762

TM1581,10A -19-03OCT94

The serial number is on a plate located on the right-hand end of the row-crop head.

Record your row-crop head serial number in the space provided on the illustration. Provide this serial number to your dealer when ordering parts.



JUN-12JAN91  
H42466

TM1581,10B -19-03OCT94

The serial number is on a plate located on the right-hand end of the corn head.

Record your corn head serial number in the space above. Give this serial number to your dealer when ordering parts.



JUN-29NOV90  
H42848

TM1581,10C -19-03OCT94

## 200 SERIES PLATFORMS

*Specifications given in this manual are intended for service ONLY and do not include normal factory manufacturing tolerances.*

*(Specifications and design subject to change without notice)*

<b>Rigid Cutterbar Platform Model</b>	<b>Cutting Width</b>	<b>Combine Model</b>
213	3 812 mm (12 ft. 6 in.)	4420, 4425, 6600, 6620, 7700, 7720
215	4 422 mm (14 ft. 6 in.)	4420, 4425, 6600, 6620, 7700, 7720, 8820
216	4 727 mm (15 ft. 6 in.)	4420, 4425, 6600, 6620, SideHill, 6620, 7700, 7720, 8820
218	5 336 mm (17 ft. 6 in.)	4420, 4425, 6600, 6620, 7700, 7720, 8820
220	5 846 mm (19 ft. 6 in.)	4420, 6600, 6620, 7700, 7720, 8820
222	6 556 mm (21 ft. 6 in.)	6600, 6620, 7700, 7720, 8820
224	7 165 mm (23 ft. 6 in.)	6600, 6620, 7700, 7720, 8820
230	8 994 mm (29 ft. 6 in.)	7700, 7720, 8820
<b>Flex Cutterbar Platform Model</b>		
213	3 812 mm (12 ft. 6 in.)	4420, 4425, 6600, 6620, 7700, 7720
215	4 422 mm (14 ft. 6 in.)	4420, 4425, 6620, SideHill, 6620, 7720, 8820
216	4 727 mm (15 ft. 6 in.)	4420, 4425, 6620, SideHill, 6620, 7720, 8820
218	5 336 mm (17 ft. 6 in.)	4420, 4425, 6620, 7720, 8820
220	5 846 mm (19 ft. 6 in.)	4420, 6620, 7720, 8820
222	6 556 mm (21 ft. 6 in.)	6620, 7720, 8820
224	7 165 mm (23 ft. 6 in.)	6620, 7720, 8820

**NOTE:** *Conversion parts are available to convert 213, 215, 216, 220 and 222 Model platforms for use with the SideHill 6600 and 6620 Combines. The 215 flex and 216 flex and rigid platforms are also available with factory installed parts as noted above.*

Specifications

Cutterbar

Type .....	Enclosed wobble drive
Extension (rigid) .....	102 mm (4 in.) forward and 102 mm (4 in.) rearward 203 mm, (8 in.) max.
Tilt range .....	9 degrees
Flexible cutterbar float range .....	102 mm (4 in.)
Cutterbar length .....	152 mm (6 in.) less than platform width
Knife sections .....	Heavy-duty, overserrated
Guards .....	Forged steel heat-treated
Knife speeds: (measured at sheave rpm)	
4420, 6620, 7720 .....	502 rpm (Std.) 439 rpm (Opt. Slow) 565 rpm (Opt. Fast) 6620 ( —610727), 7720 ( —611386)
8820 .....	529 rpm (Std.) 462 rpm (Opt. Slow) 596 rpm (Opt. Fast) 6620 (610728— ), 7720 (611387— )

Backshaft speeds

4420, 6620, 7720 .....	460—470 rpm 6620 ( —610727) 490 rpm 6620 (610728— ) 7720 ( —611386)
4425 .....	500 rpm 7720 (611387— )
8820 .....	490 rpm

Reel (Pickup)

Number of slats .....	6 (with spring steel fingers)
Diameter .....	1 067 mm (42 in.)

Reel (Slat)

Number of slats .....	5
Diameter .....	1 016 mm (40 in.)

Reel Controls

Height control .....	Hydraulic
Speed control .....	Hydraulic
Operating speeds .....	(Pickup 5—44 rpm) (Slat 8—66 rpm)

Platform Auger

Diameter .....	610 mm (24 in.)
Operating speed:	
4420, 6600, 6620, 7720, 7700 .....	151 rpm std., 121 opt. 6620 ( —610727), 7720 ( —611386)
8820 .....	159 rpm std. 127 rpm opt. 6620 (610728— ), 7720 (611387— )

NOTE: A special 121 rpm for 4420, 6600, 6620, 7700,  
7720 and 127 rpm for 8820 slow speed  
sprockets is available.

Retractable auger fingers

Platform  
Size

Number of fingers .....	
12 .....	13 and 15 ft.
18 .....	16, 18, 20, 22, 24, 30 ft.
Diameter .....	16 mm (5/8 in.) with breakaway notch
Reach .....	152 mm (6 in.)

## 900 SERIES PLATFORMS

Specifications given in this manual are intended for service only and do not include normal factory manufacturing tolerances.

<b>Rigid Cutterbar Platform Model</b>	<b>Cutting Width</b>	<b>Gathering Width</b>	<b>Combine Model</b>
918	5334 mm (17 ft. 6 in.)	5.5 m (18 ft.)	4435, 6620, 7720, 8820, 9400, 9500, 9600, SideHill 9500, CTS
920 and 920 Rice	5944 mm (19 ft. 6 in.)	6.1 m (20 ft.)	6620, 7720, 8820, 9400, 9500, 9600, SideHill 9500, CTS
922 and 922 Rice	6556 mm (21 ft. 6 in.)	6.7 m (22 ft.)	6620, 7720, 8820, 9400, 9500, 9600, SideHill 9500, CTS
925 and 925 Rice	7620 mm (25 ft.)	7.8 m (25 ft. 6 in.)	6620, 7720, 7722, 8820, 9400, 9500, 9600, SideHill 9500, CTS
930 and 930 Rice	8992 mm (29 ft. 6 in.)	9.1 m (30 ft.)	7720, 8820, 9500, 9600, SideHill 9500, CTS
<b>Flex Cutterbar Platform Model</b>	<b>Cutting Width</b>	<b>Gathering Width</b>	<b>Combine Model</b>
913	3810 mm (12 ft. 6 in.)	3.8 m (12 ft. 5 in.)	4435, 6620, 7720, 9400, 9500, 9600, SideHill 9500, CTS
915	4572 mm (15 ft.)	4.5 m (14 ft. 11 in.)	4435, 6620 SideHill, 6620, 7720, 8820, 9400, 9500, 9600, SideHill 9500, CTS
918	5334 mm (17 ft. 6 in.)	5.3 m (17 ft. 5 in.)	4435, 6620, 7720, 8820, 9400, 9500, 9600, SideHill 9500, CTS
920	5944 mm (19 ft. 6 in.)	5.9 m (19 ft. 5 in.)	6620, 7720, 8820, 9400, 9500, 9600, SideHill 9500, CTS
922	6554 mm (21 ft. 6 in.)	6.6 m (21 ft. 5 in.)	6620, 7720, 8820, 9400, 9500, 9600 SideHill 9500, CTS
925	7620 mm (25 ft.)	7.6 m (24 ft. 11 in.)	6620, 7720, 8820, 9400, 9500, 9600, SideHill 9500, CTS
930	8992 mm (29 ft. 6 in.)	9.0 m (29 ft. 5 in.)	7720, 8820, 9500, 9600 SideHill 9500, CTS

(Specifications and design subject to change without notice.)

HX1581,1015,AC -19-03OCT94

Specifications

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**Cutterbar:**

Type . . . . . Enclosed wobble drive  
 Extension (rigid) . . . . . 102 mm (4 in.) forward and 102 mm (4 in.) rearward 203 mm (8 in.) max.  
 Tilt range . . . . . 9 degrees  
 Flexible cutterbar float range . . . . . 90 mm (3-1/2 in.)  
 Cutterbar length . . . . . 152 mm (6 in.) less than platform width, except for 915 and 925 models  
 Knife sections . . . . . Heavy-duty, overserrated  
 Guards . . . . . Forged steel, heat-treated

**Knife Speed: (measured at sheave rpm)**

539 cpm on Flexible Platforms  
 562 cpm on Rigid Platforms

**Reel: (pickup)**

Number of slats . . . . . 6 (with DURA-FLO fingers)  
 Diameter . . . . . 1067 mm (42 in.)

**Reel: (slat)**

Number of slats . . . . . 5  
 Diameter . . . . . 1016 mm (40 in.)

**Reel Controls:**

Height control . . . . . Hydraulic  
 Speed control . . . . . Hydraulic  
 Operating speeds . . . . . (Pickup 5—44 rpm) (Slat 8—66 rpm)

**Platform Auger:**

Diameter . . . . . 610 mm (24 in.)  
 Operating speed . . . . . 169 rpm std. 135 rpm opt.

HX1581,1015,AD -19-03OCT94

## 918 DRAPER PLATFORM

“Specifications given in this manual are intended for service only and do not include normal factory manufacturing tolerances.”

**Combine Models** ..... 9500, 9600, 7720 and 8820

**Platform Drive Shaft** ..... 521 rpm

### Cutter Bar

Type ..... Enclosed wobble drive

Cutterbar length ..... 5.33 m (17.5 ft.)

Knife sections ..... Chrome plated, heavy-duty, overserrated

Guards ..... Forged steel heat-treated

Knife Speed (measured  
with 521 rpm  
backshaft speed) ..... 491 cpm

### Pickup Reel

Number of slats ..... 6 (with spring steel fingers)

Diameter ..... 1320 mm (52 in.)

### Reel Controls

Height control ..... Hydraulic

Speed control ..... Hydraulic

Operating speeds ..... 3-30 rpm

### Auger

Diameter ..... 610 mm (24 in.)

Operating speed ..... 169 rpm

Retractable auger fingers

Number of fingers ..... 12

Diameter ..... 16 mm (5/8 in.)

With break-a-way notch

Reach ..... 152 mm (6 in.)

Torque required to seat

new finger ..... 70 N·m (50 lb-ft) (maximum)

Platform weight ..... 1696 kg (3740 lb)

TM1581, HX15, C -19-03OCT94

### 40 SERIES CORN HEAD

Specifications given in the manual are intended for service only and do not include normal factory manufacturing tolerances.

CORN HEAD MODEL	MACHINE MODEL	NUMBER OF ROWS	CORN HEAD MODEL	MACHINE MODEL	NUMBER OF ROWS
443	Forage Harvester 4420 Combine 4425 Combine 4435 Combine 6620 Combine	4	644	6620 Combine 7720 Combine 8820 Combine 9400 Combine 9500 Combine 9600 Combine CTS Combine	6
444	Forage Harvester 4420 Combine 4425 Combine 6620 Combine SideHill 6620 Combine 7720 Combine 9400 Combine 9500 Combine SideHill 9500 Combine	4	645	6620 Combine 7720 Combine 8820 Combine 9400 Combine 9500 Combine 9600 Combine CTS Combine	6
546	6620 Combine SideHill 6620 Combine 7720 Combine 8820 Combine 9400 Combine 9500 Combine SideHill 9500 Combine 9600 Combine CTS Combine	5	843	7720 Combine 8820 Combine  9500 Combine 9600 Combine CTS Combine	8
643	6620 Combine SideHill 6620 Combine 7720 Combine 8820 Combine 9400 Combine 9500 Combine SideHill 9500 Combine 9600 Combine CTS Combine	6	844	8820 Combine 9600 Combine CTS Combine	8
			1243	8820 Combine 9600 Combine	12

Specifications

Gatherer Points	Low profile floating type hinged above gatherer chains
Center and Outer Gatherer Sheets	hinged, quick-removable
Type of Gatherer Chains	Heavy-duty 555 endless steel roller chain (no master connecting link)
Minimum Clearance Between Gatherer Chains and Ground	32 mm (1-1/4 in.)
Row Unit Drive	Enclosed gear box with gears submerged in lubricant; driven by single input hex. shaft
Gatherer Chain Adjustment	Spring loaded- self-adjusting
Stalk Rolls	Spiral-pointed, flute-type (2 per row unit)
Deck Plate Adjustment	Bolt adjusted
Slip Clutch	One per row unit plus auger drive
Trash Knives	Full length one piece heat-treated steel

HX1581,1015,AE -19-03OCT94

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Specifications

10-15-8

Approximate Overall Width for Storage—

443	3454 mm (11 ft. 4 in.)
444	3708 mm (13 ft. 6 in.)
546	4928 mm (16 ft. 2 in.)
643	4928 mm (16 ft. 2 in.)
644	5791 mm (19 ft.)
645	6096 mm (20 ft.)
843	6299 mm (20 ft. 8 in.)
844	7820 mm (25 ft. 8 in.)
1243	9347 mm (30 ft. 8 in.)

Approximate Overall Length for Storage—All Corn

Heads	3048 mm (10 ft.)
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Approximate Shipping Weight of Corn Head—(Includes Shipping Skid)

443	1129 kg (2488 lb.)
444	1184 kg (2610 lb.)
546	1472 kg (3245 lb.)
643	1590 kg (3505 lb.)
644	1855 kg (4090 lb.)
645	1901 kg (4190 lb.)
843	2243 kg (4944 lb.)
844	2470 kg (5466 lb.)
1243	3332 kg (7340 lb.)

(Specifications and design subject to change without notice.)

HX1581,1015,AF -19-03OCT94

## 90 SERIES CORN HEAD

Specifications given in the manual are intended for service only and do not include normal factory manufacturing tolerances.

CORN HEAD MODEL	MACHINE MODEL	NUMBER OF ROWS	CORN HEAD MODEL	MACHINE MODEL	NUMBER OF ROWS
493	Forage Harvester 4420 Combine 4425 Combine 4435 Combine 6620 Combine	4	694	6620 Combine 7720 Combine 8820 Combine 9400 Combine 9500 Combine 9600 Combine CTS Combine	6
494	Forage Harvester 4420 Combine 4425 Combine 6620 Combine SideHill 6620 Combine 7720 Combine 9400 Combine 9500 Combine SideHill 9500 Combine	4	893	7720 Combine 8820 Combine 9500 Combine 9600 Combine CTS Combine	8
			894	8820 Combine 9600 Combine CTS Combine	8
594	6620 Combine SideHill 6620 Combine 7720 Combine 8820 Combine 9400 Combine 9500 Combine SideHill 9500 Combine 9600 Combine CTS Combine	5	1293	8820 Combine 9600 Combine	12
693	6620 Combine 7720 Combine 8820 Combine 9400 Combine 9500 Combine 9600 Combine CTS Combine	6			
693 SH	SideHill 6620 Combine SideHill 9500 Combine	6			

Specifications

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Gatherer Points . . . . .	Low profile floating type hinged above gatherer chains
Center and Outer Gatherers . . . . .	hinged, quick-removable
Type of Gatherer Chains . . . . .	Heavy-duty 555 endless steel roller chain with chromed pins (no master connecting link)
Minimum Clearance Between Gatherer Chains and Ground . . . . .	32 mm (1-1/4-in.)
Row Unit Drive . . . . .	Enclosed gear box with gears submerged in lubricant; driven by single input hex. shaft
Gatherer Chain Adjustment . . . . .	Spring-loaded self-adjusting
Stalk Rolls . . . . .	Spiral-pointed, flute-type (2 per row unit)
Deck Plate Adjustment . . . . .	Bolt adjusted (Optional) Hydraulic adjusted
Slip Clutch . . . . .	One per row unit plus auger drive
Trash Knives . . . . .	Full length one piece heat-treated steel

HX1581,1015,AG -19-03OCT94

*Specifications*

10-15-11

Approximate Overall Width for Storage—

493	3454 mm (11 ft. 4 in.)
494	3708 mm (13 ft. 6 in.)
594	4928 mm (16 ft. 2 in.)
693	4928 mm (16 ft. 2 in.)
693 SH	4928 mm (16 ft. 2 in.)
694	5791 mm (19 ft.)
695	6096 mm (20 ft.)
893	6299 mm (20 ft. 2 in.)
894	7820 mm (25 ft. 8 in.)
1293	9347 mm (30 ft. 8 in.)

Approximate Overall Length  
for Storage—All Corn

Heads	3000 mm (9 ft. 10-in.)
Points folded up (service position)	2400 mm (7 ft. 11-in.)

Approximate Shipping Weight  
of Corn Head—(Includes Shipping Skid)

493	1129 kg (2488 lb.)
494	1184 kg (2610 lb.)
594	1472 kg (3245 lb.)
693	1590 kg (3505 lb.)
693 SH	1590 kg (3505 lb.)
694	1855 kg (4090 lb.)
695	1901 kg (1855 lb.)
893	2243 kg (4944 lb.)
894	2470 kg (5466 lb.)
1293	3332 kg (7340 lb.)

(Specifications and design subject to change without notice.)

CRNHD,90SP,C -19-14SEP93

## 50 AND 50A SERIES ROW CROP

(Specifications and design subject to change without notice.)

Specifications given in this manual are intended for service only and do not include normal factory manufacturing tolerances.

ROW-CROP HEAD MODEL	COMBINE MODEL	NUMBER OF ROWS
454 and 454A	4420, 4425, 4435, 6620, SideHill 6620, 7720, 7721 9400, 9500	4
653 and 653A	4420, 6220, SideHill 6620, 7720, 8820, 9400, 9500, 9600	6
654 and 654A	6620, 7720, 8820 9400, 9500, 9600	6
655 and 655A	7720, 8820, 9500, 9600	6
853 and 853A	7720, 8820, 9500, 9600	8

### Auger

(Retractable Finger Feeding)

Diameter	24 in. (610 mm)
Speed	100 to 165 rpm
Torque to seat fingers	20 lb-ft (27 N·m)

### Crop Gatherer

Type	Belted chains
Gatherer belt speed	215 to 352 rpm
Drive	Chain
Gatherer points	Adjustable and floating
Row unit sheets	Swing-out

### Rotary Knives

Type	Rotary 6 blade with adjustable shear
Speed	202 to 331 rpm
Cuts per minute	1212 to 1986
Blade material	High-carbon steel, heat treated cutting edge

### Stationary Knives

Type	Fixed
Knife material	Heat-treated cutting edge

### Skid Shoes

Type	Self-aligning, adjustable to three positions
Float range	6 in. (152 mm)

## Specifications

### Approximate Overall Width

454 and 454A . . . . .	4 m	(13 ft.)
653 and 653A . . . . .	4.7 m	(15 ft. 6 in.)
654 and 654A . . . . .	6.3 m	(20 ft. 8 in.)
655 and 655A . . . . .	6.4 m	(21 ft.)
853 and 853A . . . . .	6.5 m	(21 ft. 2 in.)

### Approximate Overall Length

(All row-crop heads) . . . . . 3.3 m (11 ft.)

### Approximate Shipping Weight

454 and 454A . . . . .	1 220 kg (2880 lbs.)
653 and 653A . . . . .	1 530 kg (3570 lbs.)
654 and 654A . . . . .	1 905 kg (4420 lbs.)
655 and 655A . . . . .	2 063 kg (4550 lbs.)
853 and 853A . . . . .	2 155 kg (5000 lbs.)

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

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10  
15  
13

UNIFIED INCH BOLT AND CAP SCREW TORQUE VALUES

10  
15  
14

SAE Grade and Head Markings	1 or 2 <sup>b</sup>	5	5.1	5.2	8	8.2
SAE Grade and Nut Markings	2	5		8		

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Size	Grade 1				Grade 2 <sup>b</sup>				Grade 5, 5.1, or 5.2				Grade 8 or 8.2			
	Lubricated <sup>a</sup>		Dry <sup>a</sup>		Lubricated <sup>a</sup>		Dry <sup>a</sup>		Lubricated <sup>a</sup>		Dry <sup>a</sup>		Lubricated <sup>a</sup>		Dry <sup>a</sup>	
	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft
1/4	3.7	2.8	4.7	3.5	6	4.5	7.5	5.5	9.5	7	12	9	13.5	10	17	12.5
5/16	7.7	5.5	10	7	12	9	15	11	20	15	25	18	28	21	35	26
3/8	14	10	17	13	22	16	27	20	35	26	44	33	50	36	63	46
7/16	22	16	28	20	35	26	44	32	55	41	70	52	80	58	100	75
1/2	33	25	42	31	53	39	67	50	85	63	110	80	120	90	150	115
9/16	48	36	60	45	75	56	95	70	125	90	155	115	175	130	225	160
5/8	67	50	85	62	105	78	135	100	170	125	215	160	240	175	300	225
3/4	120	87	150	110	190	140	240	175	300	225	375	280	425	310	550	400
7/8	190	140	240	175	190	140	240	175	490	360	625	450	700	500	875	650
1	290	210	360	270	290	210	360	270	725	540	925	675	1050	750	1300	975
1-1/8	400	300	510	375	400	300	510	375	900	675	1150	850	1450	1075	1850	1350
1-1/4	570	425	725	530	570	425	725	530	1300	950	1650	1200	2050	1500	2600	1950
1-3/8	750	550	950	700	750	550	950	700	1700	1250	2150	1550	2700	2000	3400	2550
1-1/2	1000	725	1250	925	990	725	1250	930	2250	1650	2850	2100	3600	2650	4550	3350

DO NOT use these values if a different torque value or tightening procedure is given for a specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.

Fasteners should be replaced with the same or higher grade. If higher grade fasteners are used, these should only be tightened to the strength of the original.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.

Make sure fasteners threads are clean and that you properly start thread engagement. This will prevent them from failing when tightening.

Tighten plastic insert or crimped steel-type lock nuts to approximately 50 percent of the dry torque shown in the chart, applied to the nut, not to the bolt head. Tighten toothed or serrated-type lock nuts to the full torque value.

<sup>a</sup> "Lubricated" means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings. "Dry" means plain or zinc plated without any lubrication.

<sup>b</sup> Grade 2 applies for hex cap screws (not hex bolts) up to 152 mm (6-in.) long. Grade 1 applies for hex cap screws over 152 mm (6-in.) long, and for all other types of bolts and screws of any length.



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