

46 In. Mid-Mount Rotary Mower: 300 Series Tractors



OPERATOR'S MANUAL



John Deere Horicon Works
OM-M78995 Apr. '88
LITHO IN U.S.A.

Introduction

Thank you for purchasing a John Deere product.

Read this manual carefully to learn how to operate and service your machine correctly. Failure to do so could result in personal injury or equipment damage.

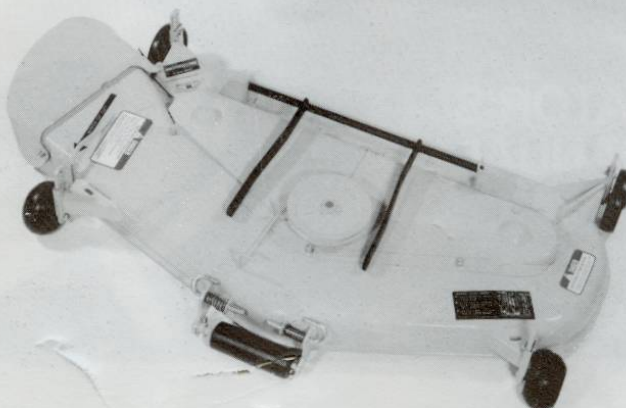
This manual should be considered a permanent part of your machine and should remain with the machine when you sell it.

Measurements in this manual are U.S. customary units and their metric equivalents.

Right-hand and left-hand sides are determined by facing in the direction of forward travel.

Warranty is provided as part of John Deere's support program for customers who operate and maintain their equipment as described in this manual. The warranty is explained on the warranty certificate which you should have received from your dealer.

Write Identification Numbers on next page. Accurately record all the numbers to help in tracing the machine should it be stolen. Your dealer also needs these numbers when you order parts. If this manual is kept on the machine, also file the identification numbers in a secure place off the machine.



All information, illustrations and specifications in this manual are based on the latest product information available at the time of publication. The right is reserved to make changes at any time without notice.

Specifications

CONTENTS

Page

Safety	2-3
Installation/Removal	4-9
Operating Mower	10-15
Troubleshooting	16
Service	17-19

SPECIFICATIONS

Used On 316, 318, 330 and 332 Tractors

Number of Blades 3

Width of Cut 46 in. (1170 mm)

Cutting Height 1-1/2 to 3-1/2 in. (38 to 90 mm)

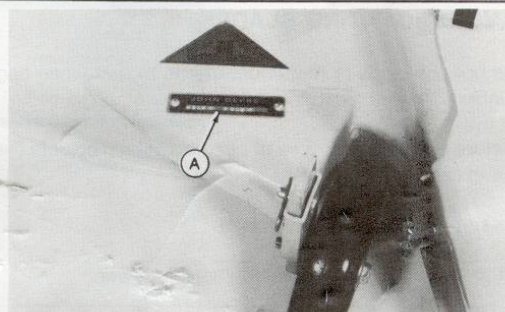
Blade Cap Screw Torque 55 lb-ft (75 N-M).

(Specifications and design subject to change without notice.)

RECORD MOWER IDENTIFICATION NUMBER

Record mower identification number (A). Your John Deere dealer needs this number when you order parts.

Identification Number _____



M61134

ARE WE MEETING YOUR NEEDS?

This operator's manual was written by the Service Publications Department at John Deere Horicon Works.

In our effort to meet customer needs, we invite you to mail comments on this manual to address at right.

Call your dealer or sales branch if you have problems or need service. See map on inside back cover.

**Meeting
Customer
Needs** 

JOHN DEERE HORICON WORKS
400 N. VINE
HORICON, WI 53032-1291
ATTN: SERVICE PUBLICATIONS

M41312

Safety

SAFETY TIPS

1. Allow only operator on tractor. Keep riders off.

2. Avoid tipping:

- Avoid holes, rocks and roots.
- Slow down before you turn.
- Use correct number of front weights on tractor.
- Mow up and down slopes — not across.
- Avoid sudden starts and stops on slopes.
- Avoid parking on slopes.

3. Protect against noise.

Wear earplugs to protect against loud or objectionable noises.

4. Do not modify machine.

Unauthorized modifications may impair function and/or safety and affect machine life.

PROTECT CHILDREN

Keep children and others away when you operate machine.

BEFORE YOU BACK UP:

- Stop PTO.
- Look behind tractor for children.

Do not let children operate tractor.

Never carry children. Do not let children ride on tractor, mower, or any attachment.



M41274

AVOID ROTATING BLADES

Do not put hands or feet under or into mower when engine is running.

Before mowing, clear area of people. Pick up objects that may be thrown by blades.

Keep guards and shield in place.

Stop tractor engine before you adjust mower.

Stop tractor PTO when you are not mowing grass.



M41090

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.



TS206

FOLLOW SAFETY INSTRUCTIONS

Carefully read all safety messages in this manual and on your machine safety signs. Follow recommended precautions and safe operating practices.

Keep safety signs in good condition. Replace missing or damaged safety signs.



Located on Left Side of Mower



Located on Right Side of Mower

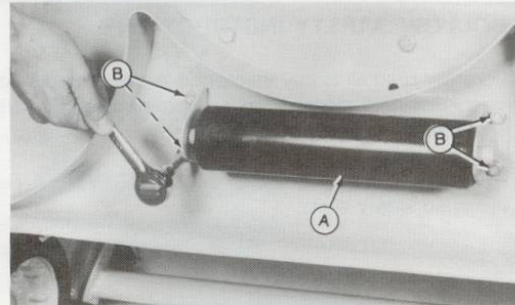
M61108

Installation/Removal

ASSEMBLY

1. Install rear roller (A):

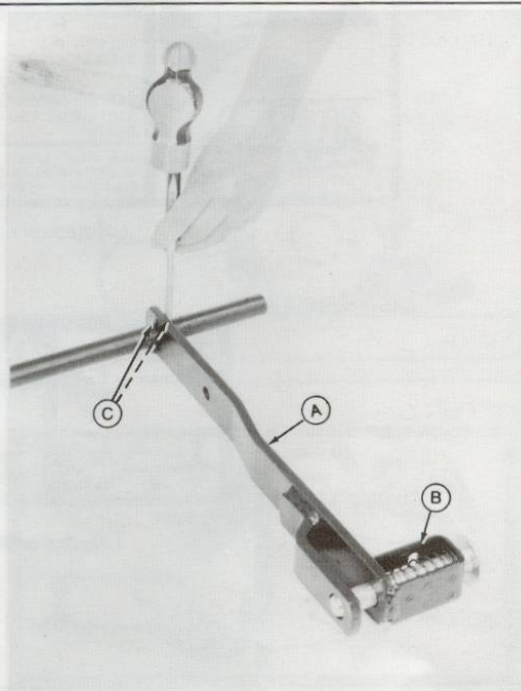
- Turn deck upside down.
- Fasten roller to deck with lock washers and nuts (B).



M61135

2. Install left lift arm (A):

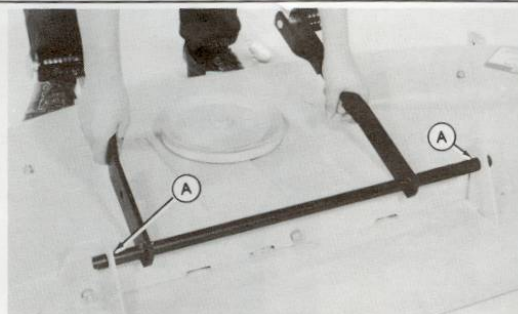
- Put left lift arm on shaft. Spring (B) must be to outside of mower.
- Fasten lift arm to bracket with spring pins (C). Spring pins must stick out equal distance on both sides of shaft.



M61136

3. Put shaft into deck brackets.

4. Fasten shaft to brackets with spring pins (A).



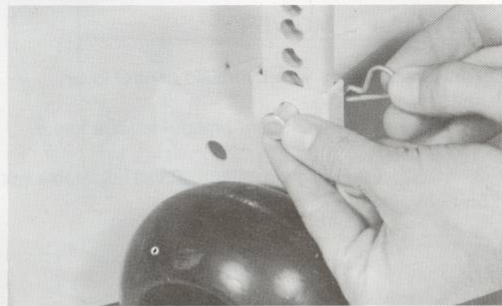
M61137

Installation/Removal

5. Install wheels:

NOTE: Front wheels (shown) are rounded. Rear wheels are flat.

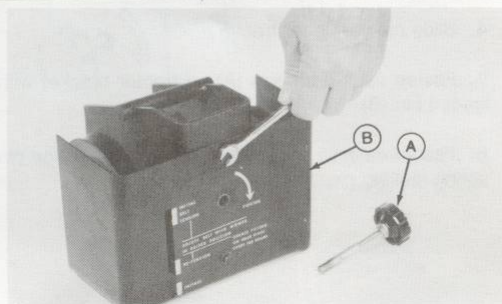
- Install wheels in brackets so wheels are to outside of brackets.
- Fasten each wheel in lowest hole with drilled pin and spring locking pin.



M33344

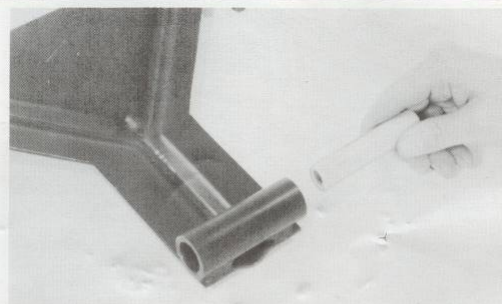
6. Remove knob (A) from muledrive.

7. Remove belt guard (B) by removing two screws.



M61109

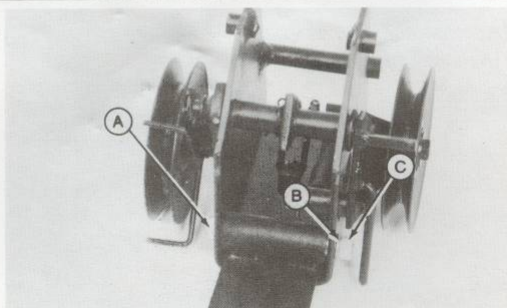
8. Install bushing in muledrive plate.



M32741

9. Fasten plate to muledrive with cap screw (A), lock washer (B) and nut (C).

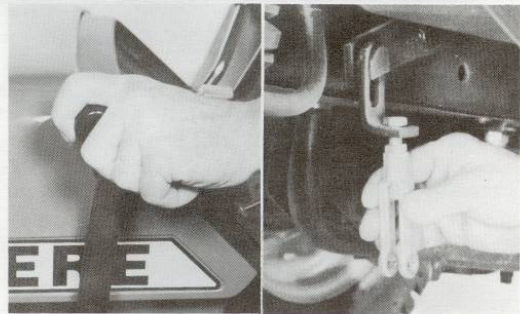
10. Install belt guard and tension knob. See steps 6 and 7.



M34393

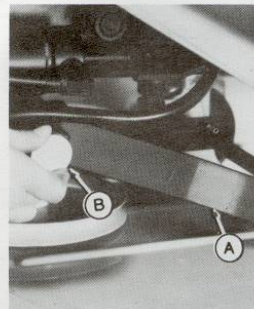
INSTALLING MOWER

1. Lower lift arms with hydraulic control lever.
2. Stop engine. Lock park brake. Remove key.
3. Install lift link on each lift arm. Install adjustable link (shown) on right side.

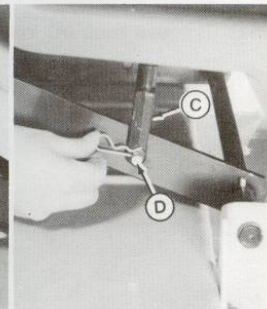


M61138

4. Slide mower under tractor.
5. Fasten each draft arm (A) on tractor bracket with spring-loaded pin (B).
6. Fasten each lift link (C) to draft arm with drilled pin (D) and spring locking pin.



M61139



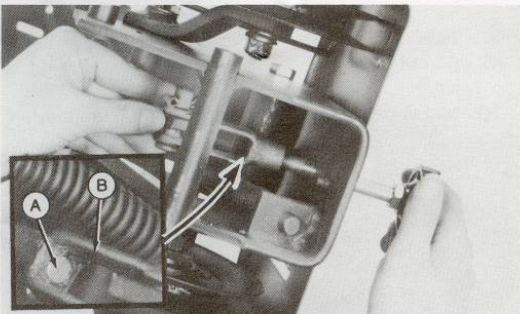
M61140

7. Remove grille.



M61117

8. Turn belt tension knob counterclockwise until end of bolt (A) is flush with inside of yoke (B).

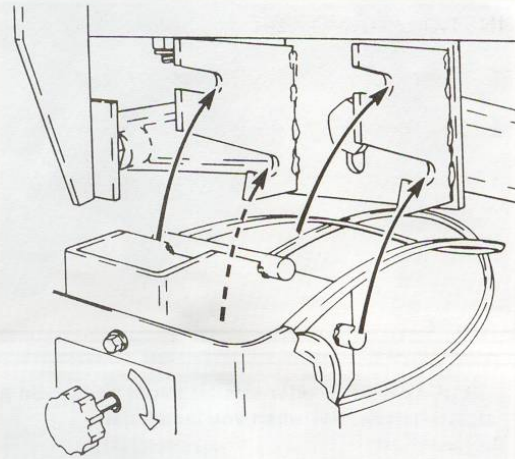


M61113

Installation/Removal

9. Install belt around pulleys, with V-side toward pulley. Belt must be under belt guides.

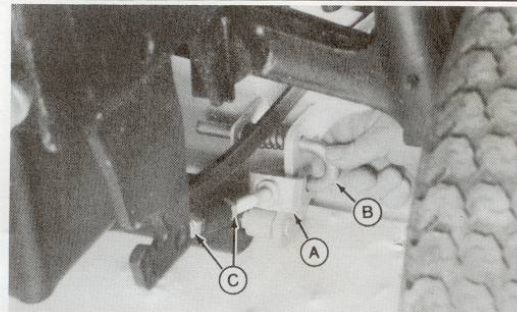
10. Install pins on muledrive in slots on tractor bracket. Put top half of belt loop in front grille area.



M33320

11. Fasten each draft arm (A) to mower deck with J-pin (B):

- CHECK: J-pins must snap into holes.
- Tighten jam nuts (C) until all slack is removed.



M61112

12. Install belt on mower drive pulley.



M39909

Installation/Removal

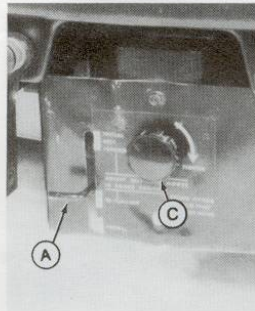
13. Raise mower fully by pulling hydraulic lever rearward.



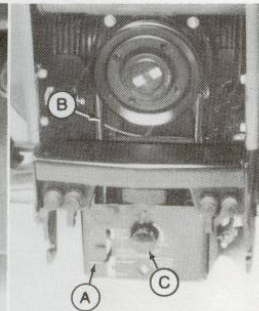
M61116

CAUTION: Tractor muffler might be hot. Do not touch muffler when you install belt.

14. Lift pointer (A) and install belt (B) on PTO pulley.
15. Turn knob (C) clockwise until pointer points to INITIAL BELT TENSION.



M61129



M61130

REMOVING MOWER

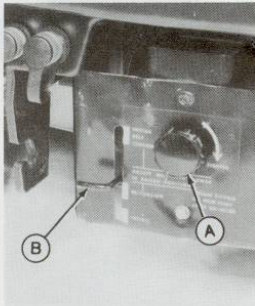
1. Lower mower fully with hydraulic lever.
2. Remove grille from tractor.



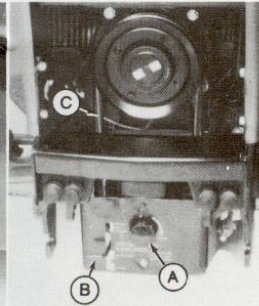
M61117

CAUTION: Tractor muffler might be hot. Do not touch muffler when you remove belt.

3. Turn knob (A) until belt is loose.
4. Raise pointer (B) and remove belt (C) from PTO pulley.



M61114



M61115

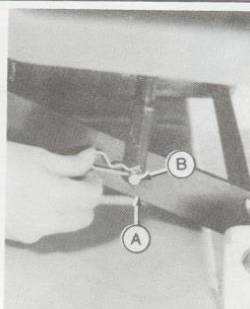
5. Remove front draft arms from mower by pulling out each J-pin (A).



M61208

6. Remove each draft arm (A) from lift links by removing spring locking pin and drilled pin (B).

7. Remove muledrive (C) from tractor



M61181

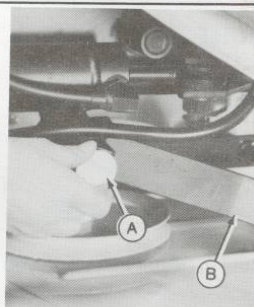


M61119

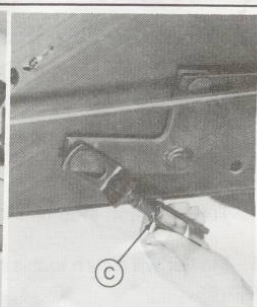
8. Pull out spring-loaded pin (A) and remove each draft arm (B) from tractor bracket.

9. Slide mower from under tractor.

10. Remove lift links (C) from tractor. Store lift links with mower.



M61182



M61183

Operating Mower

AVOID INJURY FROM ROTATING BLADES

Do not put hands or feet under mower when engine is running.

Before mowing, clear area of people. Pick up objects that may be thrown by blades.

Keep guards and shield in place.

Stop tractor engine before you adjust mower. Stop tractor PTO when you are not mowing.



M41090

RAISING AND LOWERING

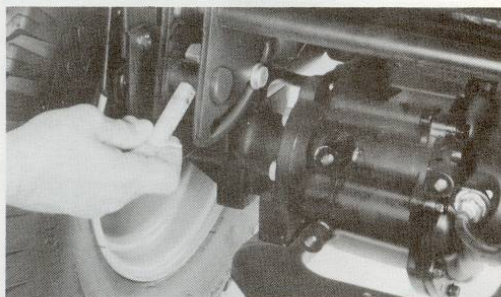
Raise and lower mower with tractor hydraulic lever. (Use inner lever on 318 Tractor).



M61116

SETTING CUTTING HEIGHT

1. Turn out tractor depth stop fully.
2. Put mower at desired cutting height with tractor hydraulic lever.
3. Turn in depth stop until it is tight.
4. Mower will return to this cutting height each time you lower mower.

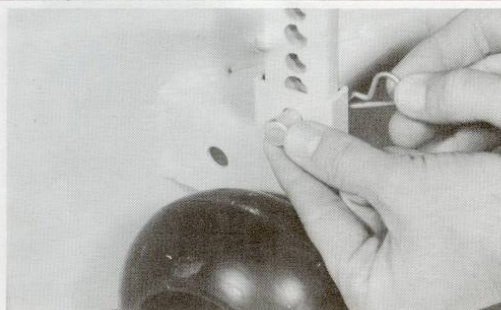


M32336

ADJUSTING WHEELS

IMPORTANT: All mower wheels must be adjusted to same height. Wheels must not ride on ground and support mower weight.

1. Lower mower to desired cutting height.
2. Remove spring locking pin and drilled pin.
3. Adjust each wheel to clear ground by 1/4 in. (6 mm). Install pins and fasten them with spring locking pins.



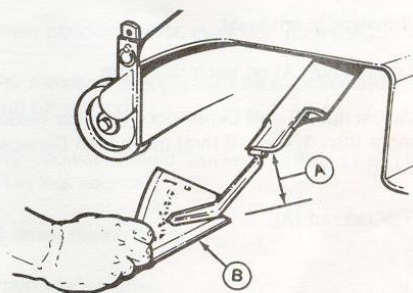
M33344

LEVELING MOWER: SIDE-TO-SIDE

1. Before you level mower:
 - Park on level surface.
 - Lower mower to desired cutting height: See SETTING CUTTING HEIGHT.
 - Adjust mower wheels: See ADJUSTING WHEELS.
 - Stop engine. Remove key. Lock park brake.
 - Check tractor tire pressure: See your tractor operator's manual.

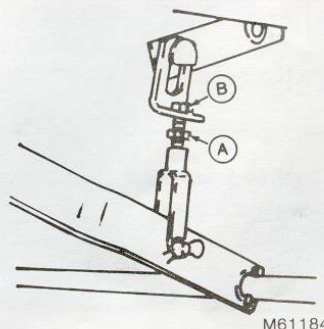
2. Turn each blade sideways.
3. Measure from outer blade tips to floor — Dimension A. Measurements should be equal $\pm 1/8$ in. (3 mm).

NOTE: Use leveling gauge (B) or short ruler to level blade. Order leveling gauge (TY15272) from your John Deere dealer.



M40161

4. If mower is not level:
 - Loosen lower nut (A) on right link.
 - Turn nut (B) to raise or lower mower.
 - Check blades for levelness. (See Dimension A in step 3.)
 - Tighten nut (A) against bracket.



M61184

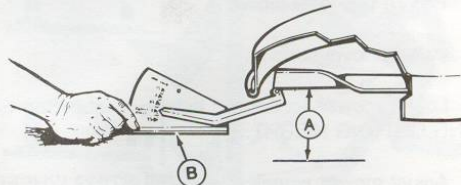
LEVELING MOWER: FRONT-TO-REAR

1. Before you level mower:
 - Park on level surface.
 - Lower mower to desired cutting height: See SETTING CUTTING HEIGHT.
 - Adjust mower wheels: See ADJUSTING WHEELS.
 - Stop engine. Remove key. Lock park brake.
 - Check tractor tire pressure: See your tractor operator's manual.

2. Turn blade on right side so it points straight ahead.
3. Measure from front blade tip to floor — Dimension (A).

NOTE: Use leveling gauge (B) or short ruler to level blade.

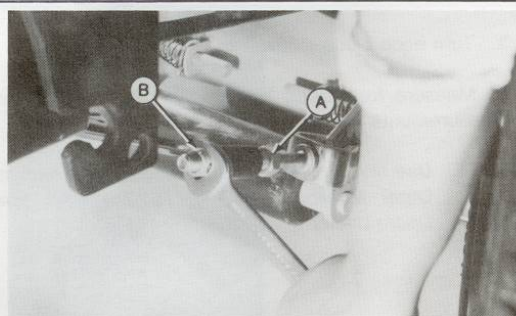
4. Measure from rear blade tip to floor: Dimension (A) on rear blade tip should be equal or no more than 1/4 in. (6 mm) more than Dimension A on front blade tip.



M40137

5. If mower is not level:

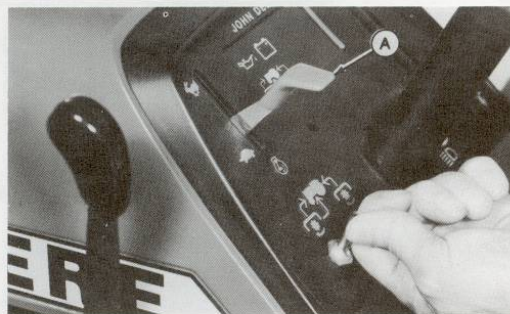
- Loosen nut (A) on each draft arm.
- Adjust nut (B) until Dimension A on rear blade tip is equal or no more than 1/4 in. (6 mm) more than Dimension A on front blade tip.
- Tighten nut (A).



M34425

ENGAGING MOWER

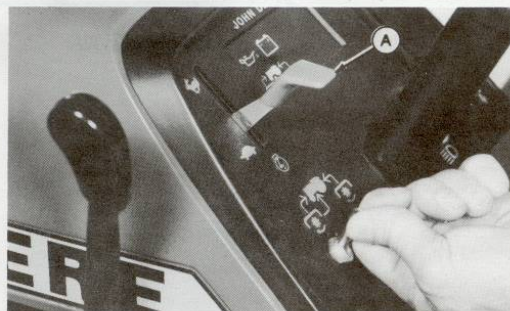
1. Put shift lever in N position.
2. Start engine.
3. Move throttle lever (A) to one-third speed position.
4. Put PTO switch at ON position.
5. Put throttle at FAST position.



M35189

DISENGAGING MOWER

1. Put throttle lever (A) at one-third position.
2. Put PTO switch at OFF position.



M35189

DISMOUNTING TO INSPECT OR UNPLUG MOWER

1. Stop tractor. Lock park brake.
2. Put throttle lever (A) at SLOW position. Put PTO switch at OFF position.
3. Put shift lever in N position.
4. Stop engine. Remove key.



M35189

MOWING TIPS

Mow only at full throttle.

Clean mower deck and chute often.

Mow grass when it is dry.

Most lawn care professionals suggest you mow high and often.

Check lawn periodically for even cut. If needed:

- a. LOOK: mower wheels should be approximately 1/4 in. (6 mm) off ground.
- b. LOOK: mower should be level. (See LEVELING MOWER in this section.)
- c. Slow down during turns.
- d. Sharpen blades often.

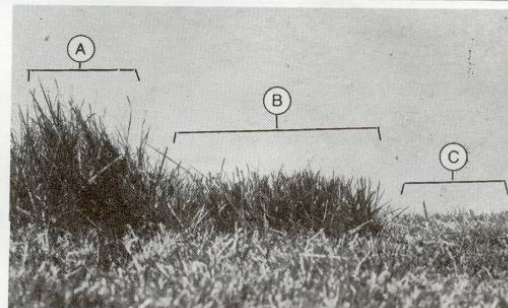
MOWING TALL GRASS

First method: Mow grass twice.

1. Adjust cutting height to mow tall grass (A) to half height (B).
2. Before second pass, adjust cutting height so you mow at desired height (C).

Second method:

1. Mow at desired height at slow travel speed, full width OR
2. Mow at desired height using only half of cutting width.



M27196

BAGGING TIPS



CAUTION: Avoid injury from mower blade. Do not try to unplug discharge chute while blade is turning.

Run engine at maximum speed. If engine slows down, reduce travel speed.

Wet grass will plug mower and bagger. Bag grass only when grass is dry and not very tall or dense.

Keep hopper top closed.

Line cloth bags with plastic garbage bags to help prevent bags from wear.

IMPORTANT: Do not leave clippings in bag:

- Moisture may damage bags.
- Damp clippings are fire hazard.

Cut grass higher than normal the first time so mower blades will clear unseen objects that could damage mower or bagger.

BAGGING ON SLOPES

Do not fill bags full when you mow slopes. Empty bags when they are half full.

Do not operate your tractor and mower on steep slopes with bagger installed.



M61051

AIRFLOW FOR BAGGER (OPTIONAL)

For best performance, large amount of airflow is needed.

To help increase airflow:

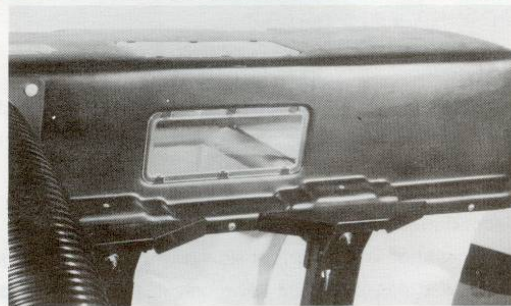
- Keep underside of mower, bagging chute, hopper top screen, and bags clean.
- Travel at lower speed setting.
- Adjust front-to-rear mower level so rear of mower is no more than 1/2 in. (13 mm) higher than front of mower. (See LEVELING MOWER in this section.)
- Mow with mower in higher cutting positions.

FILLING BAGS

Check window often.

Empty bags when clippings are up to window of hopper top or you may plug bagger chute.

Left bag normally fills first. Center and right bag may not fill completely when you cut thin strands of grass. Bags will fill if you slow Power-Pak engine speed.



M43130

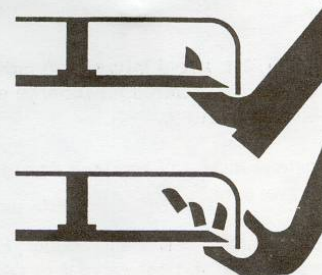
UNPLUGGING CHUTE WHILE BAGGING



CAUTION: Avoid injury from mower blade. Do not try to unplug discharge chute while blade is turning. Put PTO switch at OFF.

If there is trail of clippings behind mower, check for plugged chute or full bags.

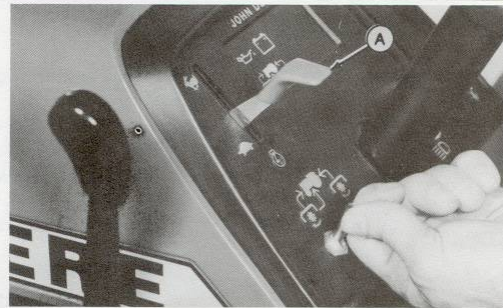
If grass builds up in front of discharge chute outlet, check for plugged bagger chute.



M41421

DISMOUNTING TO EMPTY OR CHECK BAGS

1. Stop tractor. Put shift lever in N. Lock park brake.
2. Put throttle lever (A) at one-third position.
3. Put PTO switch at OFF position.
4. Stop engine. Remove key.



M35189

Troubleshooting

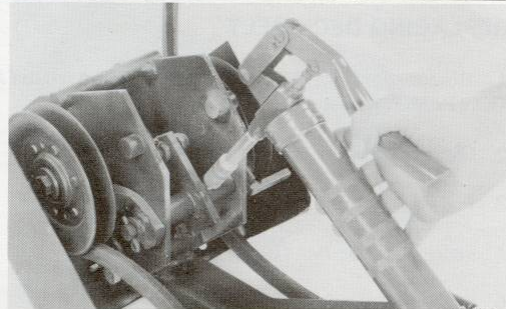
Problem	Solution	Section
Discharge Chute Plugs.	1. Install belt correctly.	Service
	2. Mow grass only when dry.	—
	3. Slow down. Mow in lower gear.	—
	4. Mow at full throttle.	—
Patches of Grass Uncut.	1. Mow at full throttle.	—
	2. Slow down. Mow in lower gear.	—
	3. Sharpen or replace blades.	Service
Excessive Vibration.	1. Remove belt shield. Clean trash from sheaves.	Service
	2. Adjust clearance between belt shield and belt.	Service
	3. Balance blades.	Service
	4. Replace belt.	Service
	5. Check sheaves for proper alignment or damage. Replace as needed. See your John Deere dealer	—
Blades Scalping Grass.	1. Raise cutting height.	Operating
	2. Reduce speed on turns.	—
	3. Change mowing pattern.	—
	4. Adjust mower wheels.	Operating
	5. Check tractor tire inflation.	—
Uneven Cut.	1. Level mower.	Operating
	2. Slow down. Mow in lower gear.	—
	3. Sharpen blades.	Service
	4. Adjust mower wheels.	Operating
Mower Loads Down Tractor.	1. Mow at full-throttle	—
	2. Slow down. Mow in lower gear.	—
	3. Remove trash from mower spindles	—

Service

LUBRICATING MULEDRIVE: 100 HOURS

NOTE: Muledrive shown removed from tractor for clarity.

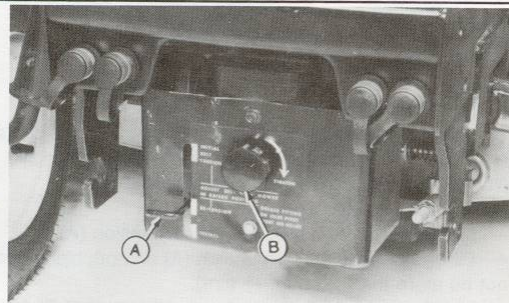
Lubricate idler pivot with John Deere Multi-Purpose grease or equivalent.



M34409

CHECKING DRIVE BELT TENSION: 100 HOURS

1. Raise mower fully.
2. Look: pointer (A) should be in "INITIAL BELT TENSION" area.
3. If pointer is in "RETENSION" area, turn knob (B) clockwise until pointer is in "INITIAL BELT TENSION" area.
4. If you cannot move pointer into "INITIAL BELT TENSION" area, install new belt.



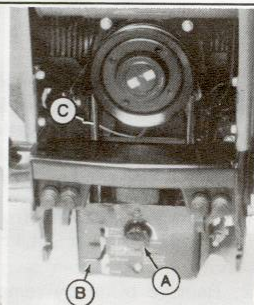
M61185

REPLACING DRIVE BELT

1. Lower mower to ground. Remove tractor grille.
 2. Turn knob (A) until pointer (B) points to "INSTALL".
- CAUTION:** Tractor muffler might be hot. Do not touch muffler when you remove belt.
3. Lift pointer and remove belt (C) from PTO pulley.

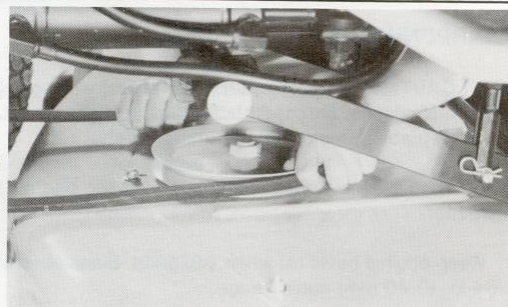


M61117



M61115

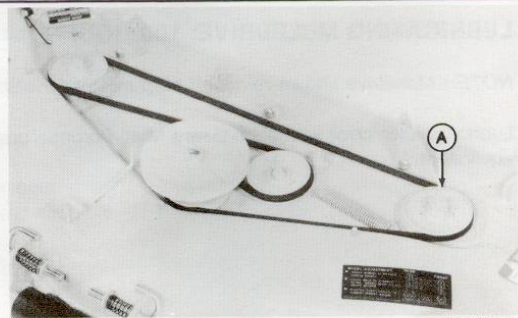
4. Remove belt from mower pulley.
5. Remove muledrive from tractor. Remove belt from muledrive pulleys.
6. Install new belt (M82718). See steps 8-15 in INSTALLING MOWER.



M34418

REPLACING DECK BELT

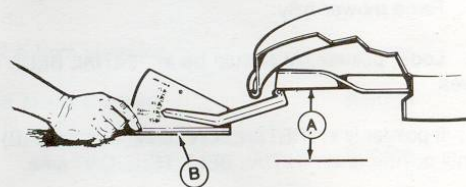
1. Remove mower from tractor. See INSTALLATION/REMOVAL section.
2. Remove deck belt shields.
3. Pull belt over pulley (A) to remove it.
4. Install new belt (M41668).
5. Install belt shields.



M38282

CHECKING BLADES

1. Raise blade to highest setting. Check:
 - Blade sharpness.
 - For blade damage.
 2. Lower blade to lowest setting. Check for bent blade:
 - Measure from blade tip to ground — Dimension (A).
- NOTE:** Use leveling gauge (B) or short ruler.
- Turn blade 180 degrees.
 - Measure opposite blade tip for Dimension (A).
 - Difference between Dimension (A) on both blade tips must not be more than 1/16 in. (1 mm).
 - Install new blade if needed. See REMOVING BLADE.



M40137

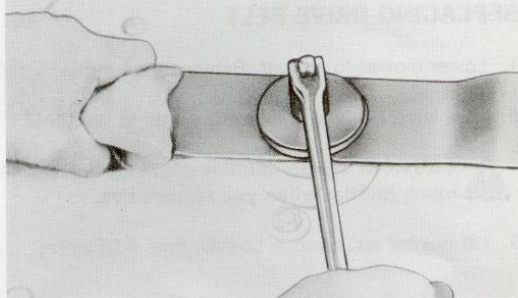
REMOVING BLADE



CAUTION: To help prevent being cut by blade:

- Remove mower from tractor before you remove blade. See Installation/Removal section.
- Wear gloves or wrap blade with rag.
- Block blade with board.

1. Remove mower from tractor. See INSTALLATION/REMOVAL section.
2. Remove blade by removing bolt and washer. Turn bolt counterclockwise.



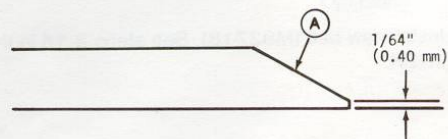
M41007

SHARPENING BLADES



CAUTION: When you sharpen blade, wear goggles and gloves. Balance blade after you sharpen it. Replace damaged blade immediately.

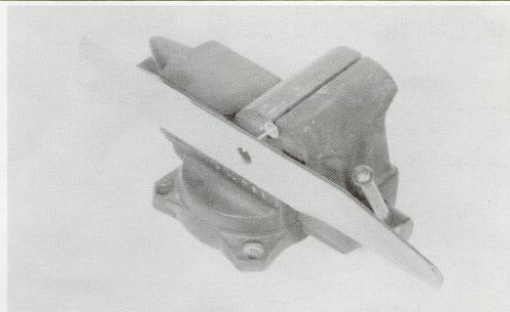
1. Sharpen blades with grinder, hand file, or electric blade sharpener.
2. Keep original bevel (A) when you grind. Blade should have 1/64-in. (0.40 mm) cutting edge.



M27741

BALANCING BLADES

1. Clean blade.
2. Put blade on nail in vise or on vertical wall stud. Turn blade to horizontal position.
3. If blade is not balanced, heavy end of blade will drop.
4. Grind bevel of heavy end. Do not change blade level.



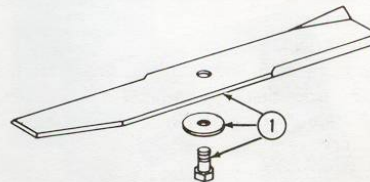
M32964

INSTALLING MOWER BLADE



CAUTION: Wear gloves or wrap blade with rag when you install blade. Put blocks under mower deck.

1. Install blade, washer, and cap screw. Bend in blade tip must be toward top of mower.
2. Tighten cap screw to 55 lb-ft (75 N-m).



M24146

STORING MOWER

1. Remove mower from tractor.
2. Clean underside of mower with water pressure and scraper.
3. Inspect blades. Sharpen and balance blades. Replace damaged blades.
4. Remove belt shield.
5. Clean top of deck.
6. Repair or replace worn or damaged parts.
7. Check condition of belt. If necessary, get new belt. Do not install new belt until you remove mower from storage.
8. Apply touch-up paint where needed to prevent rust.
9. Store mower in clean, dry place.
10. Put waterproof cover over mower if you store mower outside.

REPLACEMENT PARTS

Order replacement parts from your John Deere dealer.

Belt: Primary — M82718
Secondary — M41668

Blades: AM31100 (3)

Spindles: AM39916 (3)

Wheels: Front — M84690 (2)
Rear — AM32639 (2)

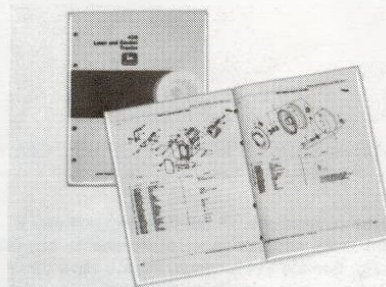
Sheaves: Jacksheave — AM33097
Sheave — AM105652
Idler — AM37249

Rear Roller — M42798

John Deere Service Literature Available

PARTS CATALOG

The parts catalog lists service parts available for your machine with exploded view illustrations to help you identify the correct parts. It is also useful in assembling and disassembling.



TS189

OPERATOR'S MANUAL

The operator's manual provides safety, operating, maintenance, and service information about John Deere machines.

An extra copy of the operator's manual is important if the copy furnished with your machine is misplaced.

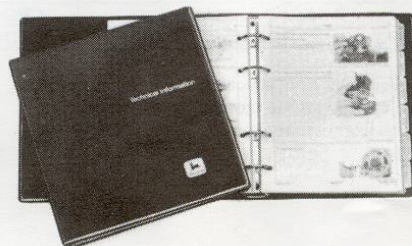


TS190

TECHNICAL AND SERVICE MANUALS

Technical and service manuals are service guides for your machine. Included in the manual are specifications, diagnosis, and adjustments. Also illustrations of assembly and disassembly procedures, hydraulic oil flows, and wiring diagrams.

Component technical manuals are required for some products. These supplemental manuals cover specific components.



TS192

FUNDAMENTALS OF SERVICE MANUALS

These basic manuals cover most makes and types of machines. FOS manuals tell you how to *service* machines. Each manual starts with basic theory and is fully illustrated with colorful diagrams and photographs. Both the "whys" and "hows" of adjustments and repairs are covered in this reference library.



TS194

THIS SPACE RESERVED FOR OFFICE USE ONLY

John Deere Distribution Service Center
Department S/P
1400 3rd Ave.
Moline, IL 61265-1304

Please send to...

Name _____

Address _____

Town _____ State _____

Zip _____ Phone (____) _____

To order these publications, fill out this form and mail it with payment to the address given. Make checks payable to Deere & Co. Service Publications. Please allow three weeks for delivery. **Prices include handling and postage to anywhere in the U.S.A. and Canada.**

Title	Order Number	Price Each	x Quantity	= Total
46 In. Mower For 300 Tractors			x	=
Parts Catalog	PC-1935	\$ 3.25	x	=
Operator's Manual	OM-M78995	1.25	x	=
			x	=
			x	=
			x	=
FOS Manual — Engines	FCP-80101B	12.15	x	=
FOS Manual — Electrical Systems	FCP-83101B	11.00	x	=
FOS Manual — Hydraulics	FCP-82101B	9.70	x	=
FOS Manual — Power Trains	FCP-81101B	9.70	x	=
Catalogs of Available Service Publications:				
Consumer Product Publications	CPC-1704	No Charge		
Agricultural Product Publications	CPC-1703	No Charge		
Industrial Product Publications	CPC-1852	No Charge		

NOTE: If you want manuals or catalogs not shown on this list, list the model number, serial number and name of the product.

Subtotal

Illinois State Residents add 6% for Retail Occupation Tax or show tax exemption number

Check or money order in U.S.
Dollars enclosed Total
(Do not send cash or stamps)

Prices subject to change without notice.