

39 and 47 Rotary Mowers



JOHN DEERE

OPERATORS MANUAL

39 and 47
Rotary Mowers

OMM48953 G1 English

John Deere
Lawn & Grounds Care Division
OMM48953 G1

LITHO IN U.S.A.
ENGLISH





Safety Precautions

BECAUSE WE CARE, we want you to always remember these important safety points before you operate your mower and garden tractor. This mower was built with your safety in mind. However, accidents can happen, even with a well designed mower, because of improper use. For your protection, we urge you to follow these safety precautions.

- Know the controls and how to stop quickly. **READ THE OWNER'S MANUAL.**
- Do not allow children to operate the vehicle. Do not allow adults to operate it without proper instruction.
- Do not carry passengers. Keep children and pets a safe distance away.
- Clear the work area of objects that might be picked up and thrown.
- Disengage all attachment clutches and shift into neutral before attempting to start the engine (motor).
- Disengage power to attachment(s) and stop the engine (motor) before leaving the operator's position.
- Disengage power to attachment(s) and stop the engine (motor) before making any repairs or adjustments.
- Disengage power to attachment(s) when transporting or not in use.
- Take all possible precautions when leaving the vehicle unattended, such as disengaging the power-take-off, lowering the attachment(s), shifting into neutral, setting the parking brake, stopping the engine, and removing the key.
- Do not stop or start suddenly when going uphill or downhill. Mow up and down the face of steep slopes; never across the face.
- Reduce speed and exercise extreme caution on slopes and in sharp turns to prevent tipping or loss of control. Be especially cautious when changing direction on slopes.
- Stay alert for holes, rocks and roots in the terrain and other hidden hazards.
- Use care when pulling loads or using heavy equipment.
- Use only approved drawbar hitch points.
- Limit loads to those you can safely control.
- Do not turn sharply. Use care when backing.
- Use counterweight(s) or wheel weights when suggested in the owner's manual.
- Watch out for traffic when crossing or near roadways.
- When using any attachments, never direct discharge of material toward bystanders nor allow anyone near the vehicle while in operation.
- Handle gasoline with care - it is highly flammable.
- Use approved gasoline container.
- Never remove the fuel cap or add gasoline to a running or hot engine, or fill the fuel tank indoors.
- Wipe up spilled gasoline.
- Open doors if the engine is run in the garage - exhaust fumes are dangerous. Do not run the engine (motor) indoors.
- Keep the vehicle and attachments in good operating condition and keep safety devices in place.
- Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.
- Never store the equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any enclosure.
- To reduce fire hazard, keep the engine free of grass, leaves or excessive grease.
- The vehicle and attachments should be stopped and inspected for damage after striking a foreign object and the damage should be repaired before restarting and operating the equipment.
- Do not change the engine governor settings or over-speed the engine.
- When using the vehicle with mower, proceed as follows:
 - (1) Mow in daylight or in good artificial light.
 - (2) Never make a cutting height adjustment while the engine (motor) is running if the operator must dismount to do so.
 - (3) Shut the engine (motor) off before unclogging the discharge chute.
 - (4) Check the blade mounting bolts for proper tightness at frequent intervals.
- Disengage power to mower before backing up. Do not mow in reverse unless absolutely necessary and then only after careful observation of the entire area behind the mower.



Contents

	Page		Page
SAFETY PRECAUTIONS.....	Inside Front Cover	ASSEMBLY.....	13
TO THE PURCHASER	2	Gauge Wheels and Rear Roller	13
OPERATION	3-9	Anti-Wrap Guard	13
Pre-Starting Inspection	3	INSTALLATION	14-18
Starting the Tractor	3	Preparing Tractor	14
Raising and Lowering the Mower	3	Attaching Mower to Tractor	14-16
Adjusting Height of Cut	4	Inflating Tires	17
Setting Mower Depth Control	5-6	Leveling Mower	17
Regulating Travel Speed	6	Adjusting Mower Lift	18
Starting and Stopping the Mower	7	Checking Electric Lift (Extra Equipment)	18
Operating the Mower	8	Installing Leaf Mulcher Plate	18
Mowing Tips	8-9	REMOVAL	19
SERVICE	10-11	SPECIFICATIONS	20
Replacing Deck Belt	10	SERIAL NUMBER	20
Servicing Mower Blades	10		
Servicing Mower Spindles	10		
Replacing Drive Belt	11-12		



John Deere 214 Lawn and Garden Tractor with 47 Rotary Mower



To the Purchaser

Read this operator's manual before using the mower. You will be able to do a better, safer job.



M27246

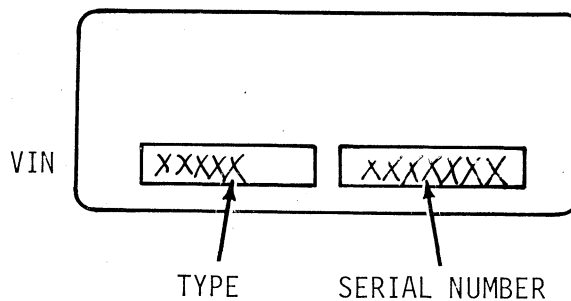
This OPEI Seal certifies that your model of mower has been tested by an independent laboratory and that it complies with American National Standard B71.1 1980, "Safety Specification for Power Lawn Mowers, Lawn and Garden Tractors, and Lawn Tractors."

 **This safety alert symbol identifies important safety messages in this manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.**

Because John Deere sells its products world-wide, U.S. units of measure are shown with their respective Metric equivalents throughout this operator's manual. These equivalents are the SI (International System) Units of Measure.

After you have read this manual thoroughly, keep it handy for ready reference. When in need of parts and major service, see your authorized John Deere dealer. He has trained service technicians, as well as genuine service parts and the necessary tools and equipment to handle all your needs.

Right-hand (R.H.) and left-hand (L.H.) references are determined by standing at the rear of the tractor or mower and facing the direction of forward travel.



M27360

A twelve digit VIN (Vehicle Identification Number) is located on the mower deck. The first five digits is the type; the last seven digits is the serial number. Record the model and serial number of your mower in the space provided on page 20.

This operator's manual is prepared for all 39 and 47 Rotary Mowers Serial No. 30,001 and above.



Operation

PRE-STARTING INSPECTION

1. Refer to specifications photographs on page 20 and become familiar with mower components.
2. Be sure mower has been properly assembled, page 13, and attached to tractor, pages 14 through 16.
3. Be sure mower is leveled and adjusted as instructed on pages 17 and 18.
4. Check condition of mower blades. Keep blade bolts tight, blades sharp and in balance. See page 10.

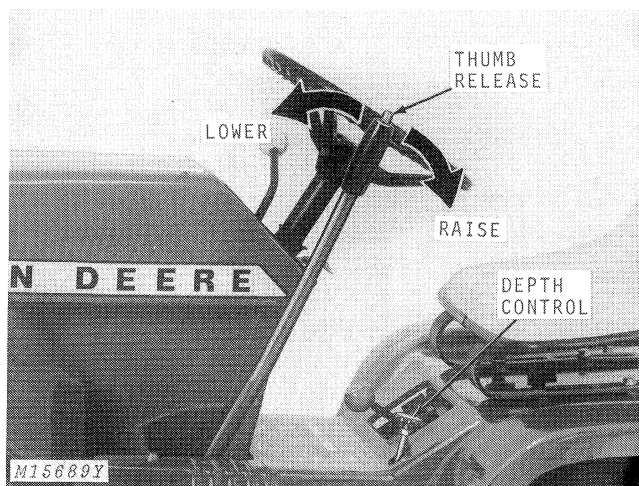
STARTING THE TRACTOR

The PTO clutch must be disengaged before the engine will start. See page 7. The tractor shift lever must also be in neutral position before the engine will start.

CAUTION: To prevent personal injury, never leave the tractor seat until the engine has stopped and mower blades have stopped revolving.

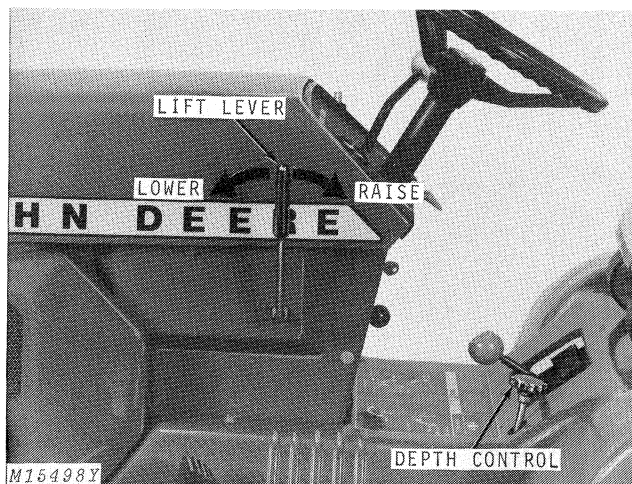
RAISING AND LOWERING THE MOWER

Manual Lift Tractors



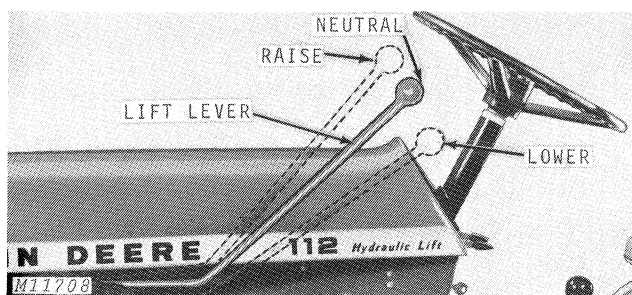
On tractors equipped with manual lift, press thumb release and move lift lever forward to lower mower. Pull lever back to raise mower.

Hydraulic Lift Tractors 210, 212, 214 and 216 Tractors



On the above-listed tractors with hydraulic lift, move lift lever forward to lower mower. Pull lever rearward to raise mower.

Hydraulic Lift Tractors 110 Tractors (Serial No. 100,001-272,000) and 112 Tractors (Serial No. 100,001-250,000)

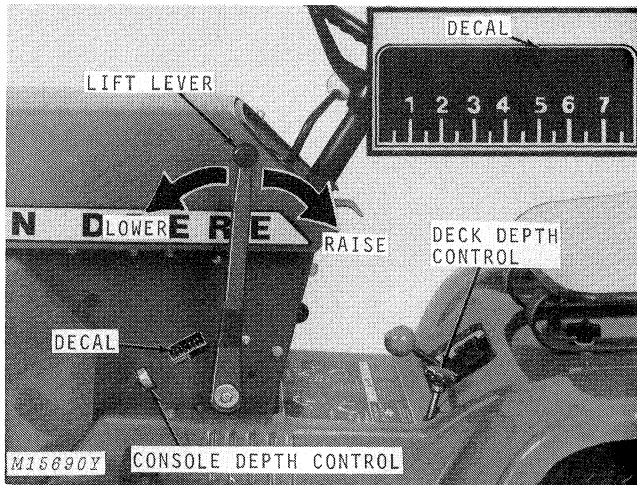


On the above-listed tractors with hydraulic lift, raise the lift lever to raise the mower. Lower lift lever to lower mower.

RAISING AND LOWERING THE MOWER—Continued

Electric Lift Tractors

200, 210, 212, 214 and 216 Tractors



On the above-listed tractors with electric lift, move the lift lever forward to lower the mower. Pull lever rearward to raise the mower. The mower will move up or down in direct proportion to the amount the lift lever is moved forward or rearward.

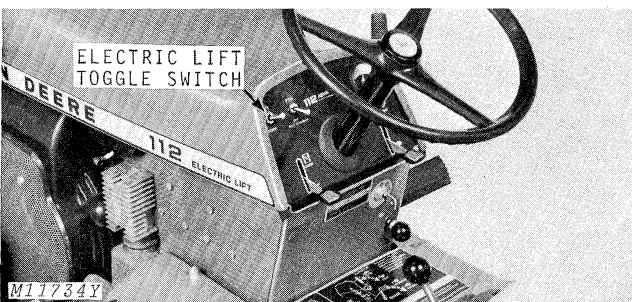
NOTE: This electric lift system is always position-responsive from the fully raised position to the preset depth.

Electric Lift Tractors

110 Tractors (Serial No. 285,001-310,000)

110 Tractors (Serial No. 320,001-)

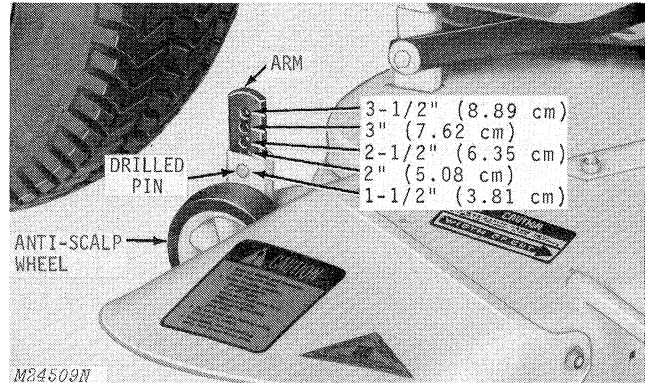
112 Tractors (Serial No. 250,001-)



On the above-listed tractors with electric lift, press toggle switch down to lower mower; up to raise mower. The switch returns to neutral when released.

ADJUSTING HEIGHT OF CUT

IMPORTANT: Before adjusting the mower cutting height, check tire inflation and level the mower as explained on page 17. Then adjust the mower anti-scalp wheels and the mower depth control.



Approximate cutting height for each anti-scalp wheel position is shown above.

1. Raise mower to transport position.

CAUTION: To prevent injury, disengage PTO, shut off engine, and make sure blades have stopped moving before adjusting anti-scalp wheels.

2. Remove spring locking pin and drilled pin.
3. Move anti-scalp wheel to desired position.
4. Insert drilled pin in arm and secure with spring locking pin.
5. Set mower depth control, page 5.

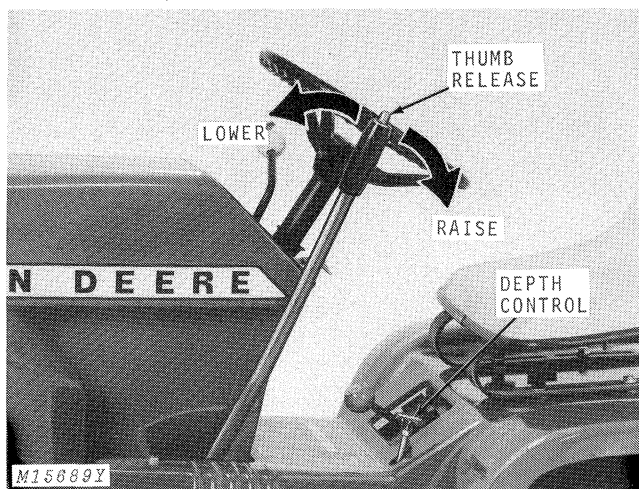
IMPORTANT: Mower depth control must be set to prevent anti-scalp wheels from riding on the ground and supporting mower weight.

Ground conditions will alter cutting height. To determine exact cutting height, measure height of grass mowed.

SETTING MOWER DEPTH CONTROL

Proper adjustment of mower depth control permits mower to return to preset cutting level each time mower is lowered. The depth control will carry the mower weight, preventing anti-scalp wheels from dropping into low spots. This will also give a more uniform cutting height and minimize scalping.

Manual and Hydraulic Lift (All Tractors) Electric Lift (110 and 112 Tractors)



Setting Mower Depth Control

IMPORTANT: The operator must be on tractor seat when setting mower depth control as the operator's weight affects the adjustment.

1. Lower mower until anti-scalp wheels are about 1/4 inch (6.4 mm) off the ground.

IMPORTANT: The anti-scalp wheels are not intended to support mower weight. They must be 1/4 inch (6.4 mm) off the ground for the depth control to support mower weight.

2. Turn depth control clockwise until tight.

Changing Cutting Height

1. Raise mower to remove mower weight from depth control, allowing depth control to turn freely.
2. Adjust anti-scalp wheels to desired cutting height (see page 4).
3. Turn depth control counterclockwise for a shorter cutting height and clockwise for a longer cutting height.
4. Lower mower until anti-scalp wheels are 1/4 inch (6.4 mm) off the ground.
5. Turn depth control clockwise until tight.

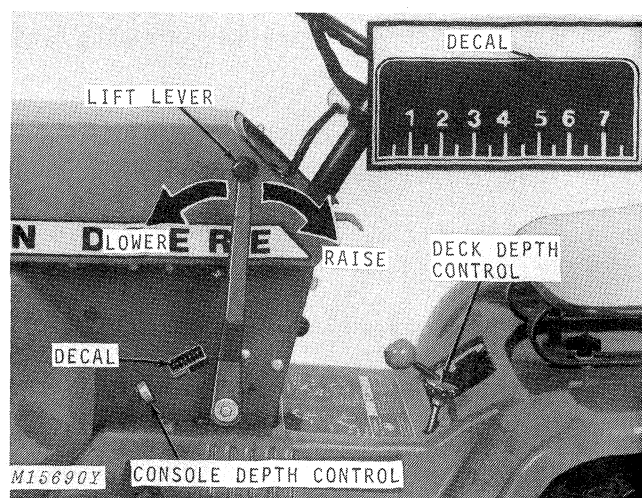
Locking Mower in Raised Position

Raise mower and turn depth control clockwise as far as possible.

This permits lift control of front or rear-mounted attachments without removing mower. The operating depth of the attachments is not affected by the depth control.

SETTING MOWER DEPTH CONTROL—Continued

Electric Lift (200, 210, 212, 214 and 216 Tractors)



Setting Mower Depth Control

IMPORTANT: The operator must be on tractor seat when setting mower depth control as the operator's weight affects the adjustment.

1. Turn deck depth control counterclockwise as far as possible to allow unrestricted use of console depth control.

2. Turn console depth control counterclockwise until stop in slot is aligned with "1" on decal.

3. Lower mower until anti-scalp wheels are about 1/4 inch (6.4 mm) off the ground.

IMPORTANT: The anti-scalp wheels are not intended to support mower weight. They must be 1/4 inch (6.4 mm) off the ground for the depth control to support mower weight.

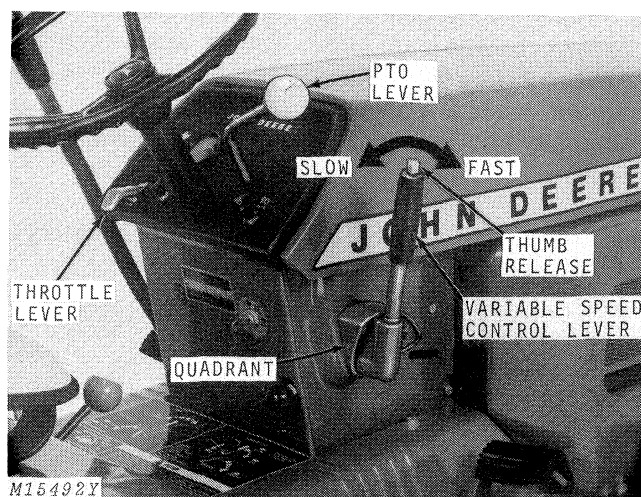
4. Turn console depth control clockwise until depth control stop hits lift stop mechanism and will not turn without force.

Locking Mower in Raised Position

Raise mower and turn deck depth control clockwise until tight.

The electric lift can now be used to operate front and rear-mounted attachments.

REGULATING TRAVEL SPEED



IMPORTANT: Always operate the mower with the engine running at full throttle to give maximum blade speed and engine cooling.

CAUTION: Always look behind you to make sure area is clear before backing the tractor and mower.

Forward travel speed can be regulated independently of engine speed and transmission gear setting with the variable speed control lever. With the engine operating at full throttle, set the variable speed control lever in the quadrant notch that provides the desired ground travel speed.

Travel speed can be decreased temporarily by depressing the clutch or clutch-brake pedal part way (see tractor operator's manual) should mower become overloaded. Travel speed will increase to former setting when pedal is released.

Travel speed also can be reduced by moving the variable speed control lever to the rear. In either case, full engine rpm is transmitted to the mower.

When mowing in areas of short thin grass, move the lever forward to increase tractor speed.

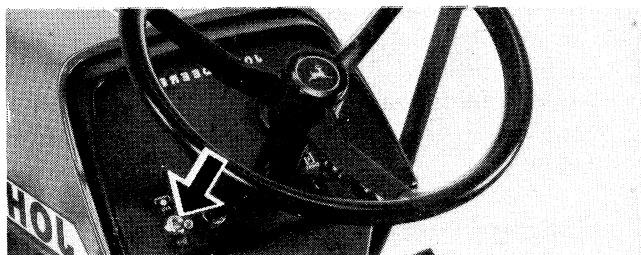
Use the variable speed control lever to slow down tractor when making turns. Sharp, fast turns will tend to shear off blades of grass and push turf as the front tractor wheels slide.

Using either the clutch pedal or the variable speed lever saves time because it eliminates the need for shifting gears as mowing conditions vary.

STARTING AND STOPPING THE MOWER

CAUTION: To prevent possible personal injury, disengage drive and shut off engine immediately before leaving tractor seat and/or if mower should strike unseen obstructions while mowing. Repair any damage before starting to mow again.

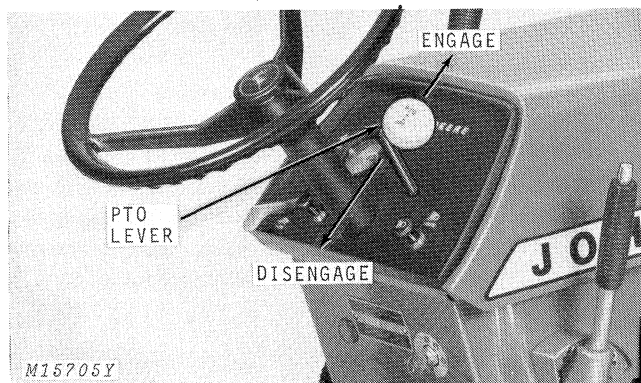
200 Series Tractors (Serial No. 190,001 and Above)



M29039

Pull out on PTO clutch toggle switch and lift up to engage mower drive. Push toggle switch down to disengage mower drive.

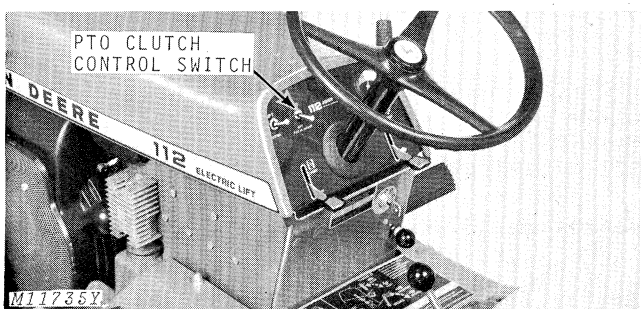
200 Series Tractors (Serial No. 30,001-190,000); 110 Tractors (Serial No. 272,001-) and 112 Tractors (Serial No. 300,001-)



M15705Y

Raise PTO lever to engage mower. Pull PTO lever down to disengage mower.

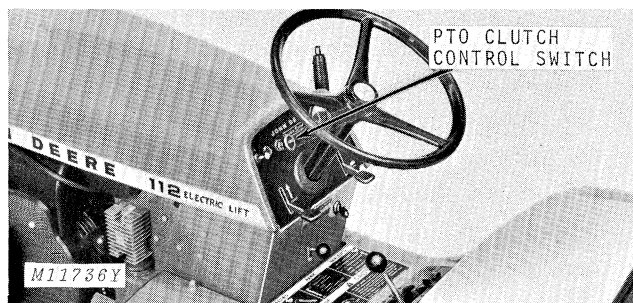
112 Tractors (Serial No. 260,001-300,000)



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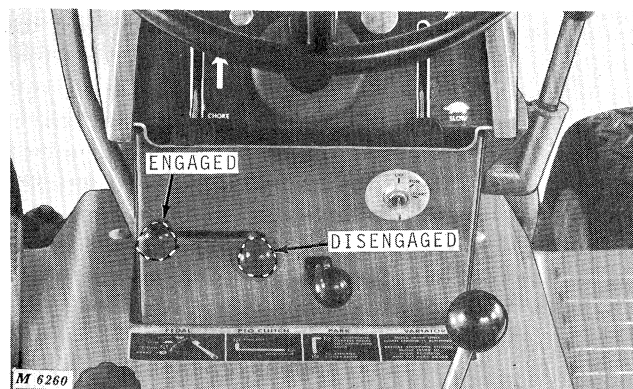
To engage mower, pull out on PTO clutch control switch (to unlock) and raise switch. Push switch down to "OFF" to disengage mower.

112 Tractors (Serial No. 250,001-260,000)



Pull out PTO clutch control switch to engage mower. Push in switch to disengage mower. Indicator light glows red when PTO clutch is engaged.

112 Tractors (Serial No. 100,001-250,000) and 110 Tractors (Serial No. 100,001-272,000)



The mower is engaged and disengaged with the PTO clutch lever located on the tractor pedestal.

To engage the mower drive, pull lever to the left; then lift up and hook. To disengage drive, push the lever slightly to the left and down to the disengaged position.

OPERATING THE MOWER

Starting the Mower

1. Lower mower to ground level except in tall, dense grass. Start tractor engine and let it warm up before applying load.

2. Engage PTO clutch lever slowly to drive mower. On tractors with electric PTO clutch, engage switch with engine running at slow speed.

NOTE: Prolong the life of mower drive belts by engaging mower slowly.



CAUTION: Always look behind you to make sure area is clear, before attempting to back the tractor and mower.

Stopping the Mower

1. Disengage PTO clutch.
2. Raise mower for transport.



CAUTION: TO AVOID SERIOUS PERSONAL INJURY, NEVER GET OFF OF THE TRACTOR WHILE THE POWER-TAKE-OFF (PTO) CLUTCH IS ENGAGED OR THE ENGINE IS RUNNING. A pressure sensitive safety switch is located in the seat on 200 Series Tractors, Serial No. 70,001 and above. It is designed to interrupt engine operation whenever operator weight is lifted off of the seat while the engine is running with the power-take-off clutch engaged.

MOWING TIPS



CAUTION: To prevent personal injury, do not remove the discharge chute guard from your mower. The chute guard must remain on the mower at all times to insure proper safety.

Area to Be Mowed

Before mowing, analyze the area to determine the best mowing procedure. Consider the height of the grass and the type of terrain (level, hilly, or rough) as well as the presence of rocks or trash. Each condition will require certain adjustments or precautions as outlined in the following pages.



CAUTION: To prevent personal injury, pick up all rocks, stones, twigs and other debris you can find before mowing in a new area. Enter the area cautiously. Cut grass higher than desired the first time over so mower will clear unseen obstructions and will not cause scalping if ground is pitted.

Cutting Height

Cut grass more often rather than too short. Short grass is subject to more rapid deterioration in hot weather and invites weed growth in growing weather. Check local recommendations for the most suitable grass height in your area.

Extremely tall grass should be mowed twice. Raise mower and cut only half the desired height. Then mow a second time to desired height.

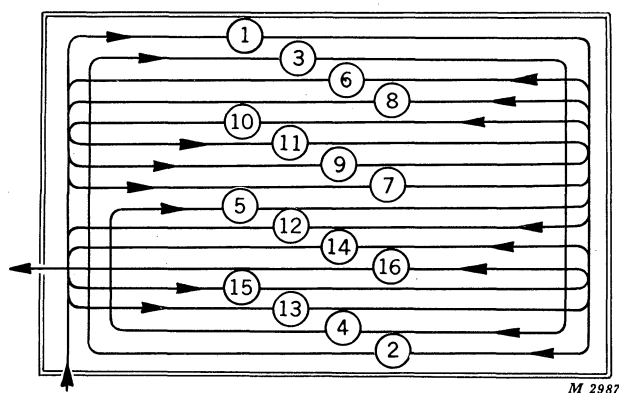
Mowing Pattern

When beginning to mow large open areas, make two or three clockwise passes to discharge clippings away from bordering objects, such as sidewalks, driveways, fences, buildings, etc. Then mow counterclockwise to discharge clippings over the grass already mowed. A simple rule to follow is to make left turns whenever possible.

DANGER

ROTATING CUTTING BLADE

- Do not put hands or feet under or into any part of this mower deck or discharge chute
- OBJECTS MAY BE THROWN FROM MOWER
 - Clear lawn of debris and objects
 - Do not mow with bystanders in area
- DO NOT OPERATE MOWER WITHOUT DISCHARGE CHUTE



Mow with the uncut grass to the left of the mower so that grass clippings will be discharged evenly over grass already cut. Discharging clippings over uncut grass causes a buildup of grass clippings which may prevent uniform cutting. This also imposes an unnecessary load on the tractor and mower.

For the professional touch in large open areas, try the mowing pattern shown above. Make two or three passes clockwise around the lawn and then cut the lawn in half by mowing down the center. Turn counterclockwise (to the left) at each end of area over grass already cut.

Plan the mowing pattern so that you can mow straight forward as much as possible.

Mowing Speed

Proper ground speed for mowing will depend upon (1) the height, density and type of grass to be cut and (2) field or yard conditions.

When mowing, always operate engine at full throttle. This is necessary to maintain proper blade speed and to cause maximum flow of air to cool engine.

Generally, best mowing will result when operating the tractor shift lever in 2nd or 3rd gear with the variable speed control lever in the midpoint of the quadrant and engine operating at full throttle.

If grass is not too tall or dense, move the variable speed control lever forward to increase ground speed as desired.

If, in 3rd gear the engine lugs and labors in tall or dense grass and the variable speed control lever is all the way back, shift to 2nd gear.

If grass will not cut satisfactorily at slower tractor speeds and with engine throttle wide open, then overlap, using only a portion of the mower width.

IMPORTANT: If tractor is to be used to power an elevator or other machine operated by the PTO Attachment (extra equipment), disconnect mower drive belt or remove mower from tractor, page 19.

Trimming

Turn to the left when there is room enough to trim all the way around trees, bushes and shrubs.

Leave close trimming for clean-up. Turn to the right when necessary to trim along an inside circle of hedge, fence or bush. Closest trimming can be accomplished by running the left side of the mower next to the objects to be trimmed.

Slow down for maximum control while trimming.

Cleaning Mower

CAUTION: To prevent personal injury when cleaning underside of mower, remove tractor ignition key and disconnect spark plug wire.

After each mowing, flush clippings from the underside of the mower with water. If clippings and dirt have dried, scrape underside of mower clean. Repaint chipped areas to prevent rust.

Remove the deck belt shield at least once a season and remove clippings that may have entered this area. This will prolong the life of the mower deck belt. (See page 10.)

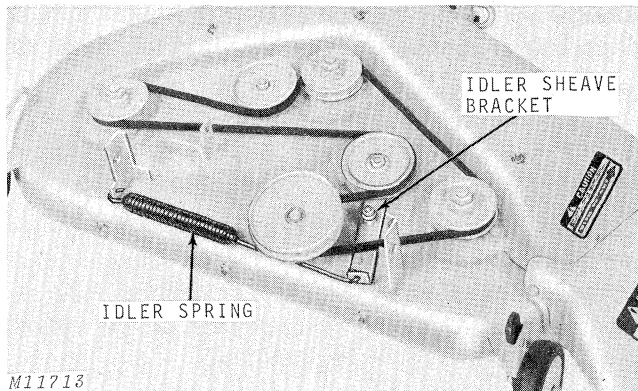




Service

CAUTION: To prevent personal injury, disengage power, shut off engine and make sure blades have stopped revolving before servicing machine.

REPLACING DECK BELT



1. Remove mower from tractor and remove deck belt shield.

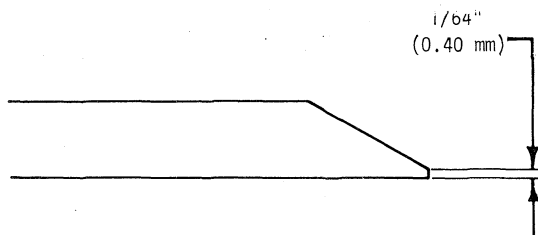
IMPORTANT: Clean out grass clippings and dirt before installing new belt. Be sure idler sheave bracket pivots freely.

2. Check condition of idler spring. Replace spring if it is stretched or worn. A faulty spring could cause belt slippage.

3. Position new belt into sheaves as shown above and replace shield.

NOTE: Always use a genuine John Deere belt available from your dealer.

SERVICING MOWER BLADES



M22933

Sharpen blade leaving a 1/64 inch (0.40 mm) dull tip on cutting edge.

A razor sharp cutting edge will roll over and dull quickly. Maintain original bevel. Remove an equal amount of material from each end of blade to maintain proper balance. Replace blade if it is damaged or out of balance.

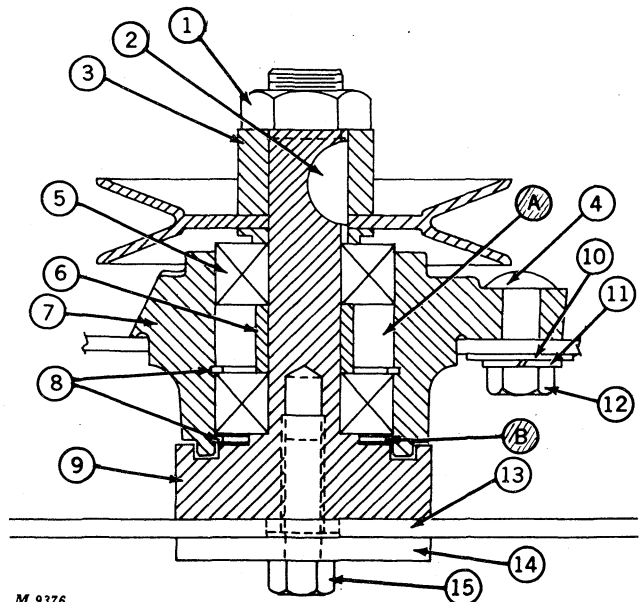
Be sure to install blades with the bends in the blade tips pointing upward toward the top of the mower.

Tighten the blade bolts to 50 to 58 ft-lbs (67.8 to 78.6 N·m) torque.

Mower blades can be purchased packaged in sets of three blades with attaching hardware.

SERVICING MOWER SPINDLES

Mower spindles normally require no lubrication or service. If, for any reason, the spindle must be disassembled, be sure to lubricate and torque parts as follows.



M 9376

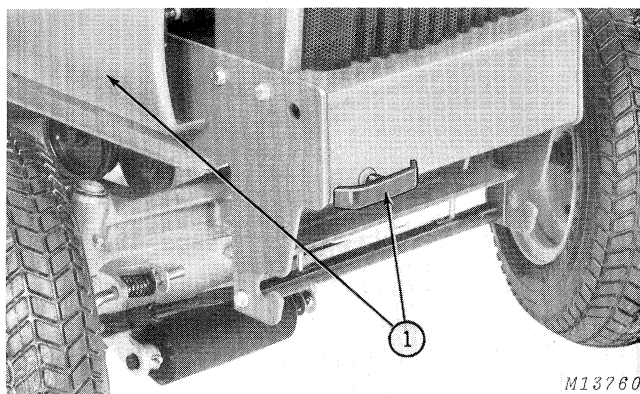
- | | | |
|-----------------|--------------|----------------|
| 1—Lock Nut | 6—Spacer | 11—Lock Washer |
| 2—Key | 7—Hub | 12—Nut |
| 3—Driven Sheave | 8—Snap Rings | 13—Blade |
| 4—Bolt | 9—Spindle | 14—Washer |
| 5—Ball Bearing | 10—Washer | 15—Cap Screw |

When assembling bearings and spacer, fill areas "A" and "B" 75% full of SAE multipurpose-type grease.

Tighten lock nut (1) to 120 ft-lbs (162.7 N·m) torque. Tighten cap screw (15) holding mower blade to spindle to between 50 and 58 ft-lbs (67.8 to 78.6 N·m) torque.

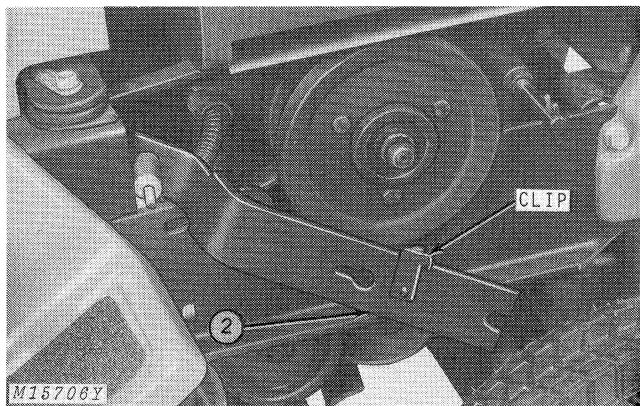
REPLACING DRIVE BELT

CAUTION: To prevent personal injury, disengage power, shut off engine and make sure blades have stopped revolving before servicing machine.

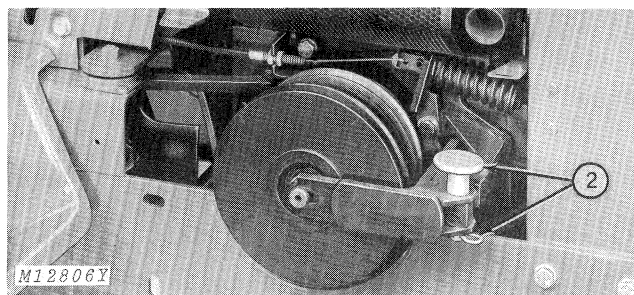


1. Turn handle on bumper plate counterclockwise to release spring tension. Turn handle until there is approximately 3/4-inch (19 mm) clearance between the handle and bumper plate when the handle is pulled out.

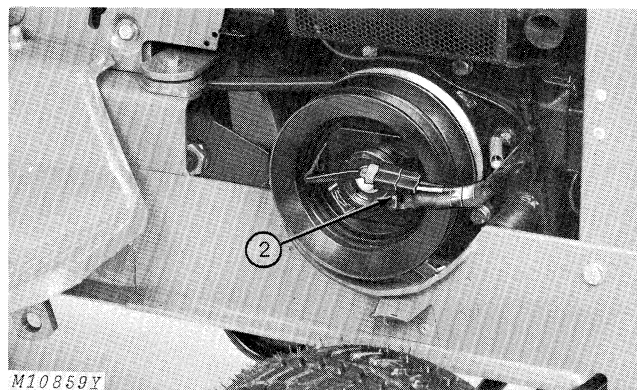
Remove right-hand side panel from 200, 210, 212, 214 and 216 Tractors. On 110 and 112 Tractors, remove PTO shield by pushing down on center and pulling out on bottom.



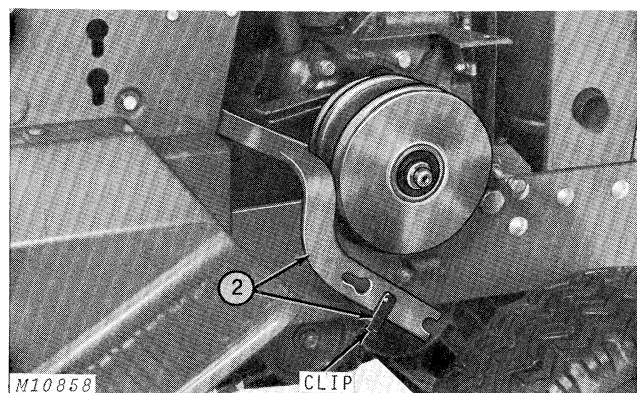
2. On 200, 210, 212, 214 and 216 Tractors (Serial No. 30,001-190,000); 110 Tractors (Serial No. 320,001-); and 112 Tractors (Serial No. 300,001-), pivot clip upward and slide clutch arm to the rear to release clutch arm.



On 110 Tractors (Serial No. 272,001-320,000), remove spring locking pin from drilled pivot pin and remove drilled pin from clutch arm pivot. Slide clutch arm forward to allow belt to be removed.

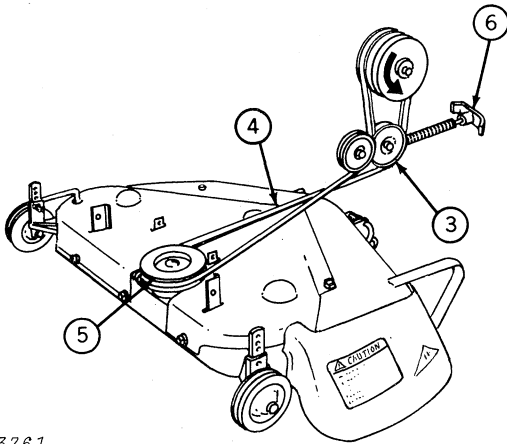


On 112 Tractors (Serial No. 250,001-300,000), disconnect electric clutch to allow spring-loaded support arm to be moved forward. Connectors are locked together with a spring clip. Pry spring clip outward with a small screwdriver to disconnect.



On 112 Tractors (Serial No. 100,001-250,000) and 110 Tractors (Serial No. 100,001-272,000), lift and pivot clip to release clutch arm. Lower clutch arm.

REPLACING DRIVE BELT—Continued



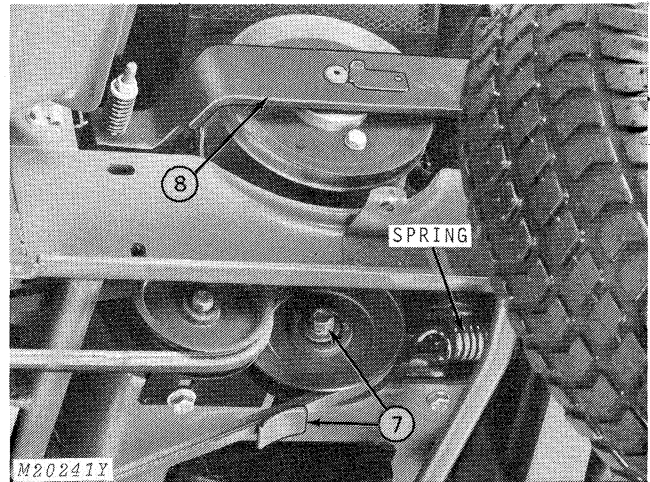
M13761

3. Pull idler assembly toward rear and remove belt from mower sheave. Slip belt off PTO sheave and out of tractor.

4. Install new belt exactly as shown. Do not install belt with a reverse twist which causes mower blades to operate backwards.

5. Pull idler assembly toward rear and position belt over mower sheave.

6. Turn handle on bumper plate clockwise until spring is tight against backside of bumper plate. Then turn handle one or two turns counterclockwise to back off spring.



7. Loosen idler sheave bolt and adjust belt guide to within 1/8 inch (3.18 mm) of belt when mower is lowered to operating position.

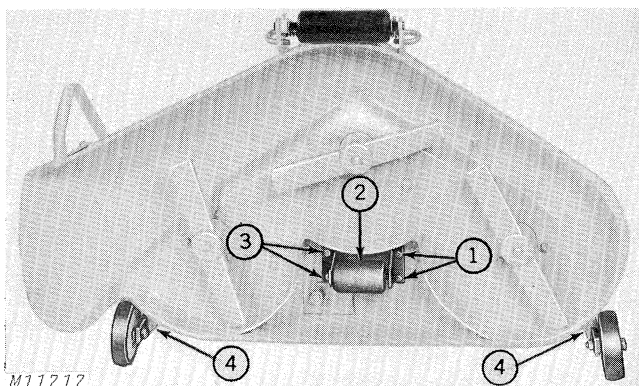
8. On tractors so equipped, replace clutch arm or connect electric clutch and replace tractor side panel or PTO shield. See Step 2, page 11.

NOTE: 200 Series Tractors Serial No. 190,001 and above are equipped with an electric PTO clutch.



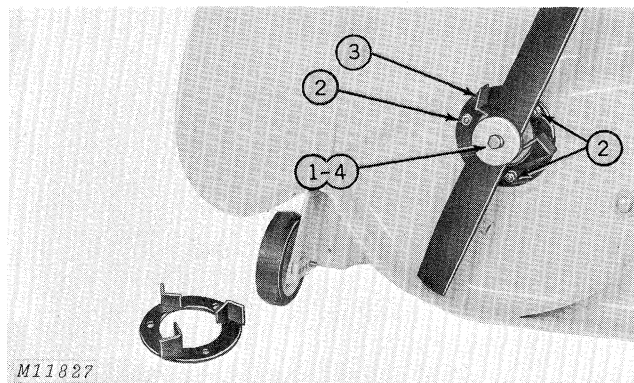
Assembly

ANTI-SCALP WHEELS AND REAR ROLLER



1. Attach rear roller bracket with welded axle to bolts already in place with lock washers and nuts.
2. Slide roller on axle.
3. Slide bracket over end of axle and attach to studs in mower, using lock washers and nuts from bag of parts.
4. Insert both anti-scalp wheel assemblies and install drilled pins and spring locking pins through adjusting holes nearest anti-scalp wheel tires.

ANTI-WRAP GUARD (Extra Equipment)



The anti-wrap guard minimizes the amount of vines and weeds from winding around the spindles of the mower.

If mower is installed on tractor, remove mower for ease of assembly.

1. Remove blade from the spindle.
2. Remove the nuts and lock washers holding spindle bearing to deck. Discard the lock washers.

NOTE: If belt tension pulls the bolts through the deck, remove the deck cover to reinstall bolts.

3. Place anti-wrap guard on bolts and tighten securely with original nuts. There should be 1/32 to 1/16-inch (0.8 to 1.6 mm) clearance between the spindle and knives. If necessary, bend knives to obtain clearance.

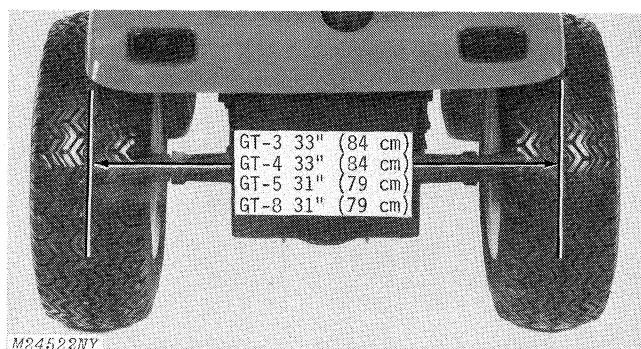
4. Replace mower blade. Tighten blade cap screw to 50 to 58 ft-lbs (67.8 to 78.6 Nm) torque. Be sure blade does not strike end of knives. Grind off knives if necessary.



Installation

PREPARING TRACTOR

Adjusting Wheel Tread



When mowing on steep hillsides, move rear wheels to the wide wheel tread position for increased tractor stability.

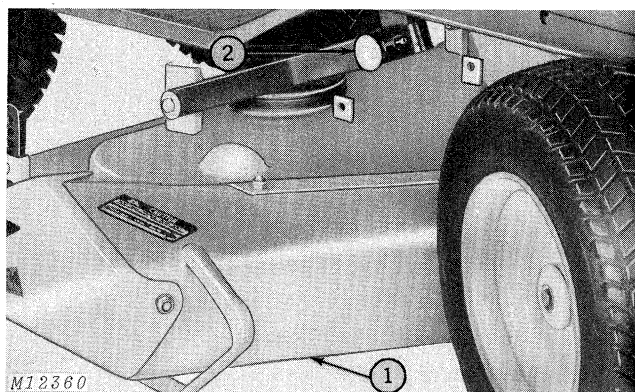
Tractors with GT-3 or GT-5 High-Flotation Tires

Remove wheel bolts; turn wheel around with valve stem inward, and reassemble on hub.

Tractors with GT-4 or GT-8 Traction Tires

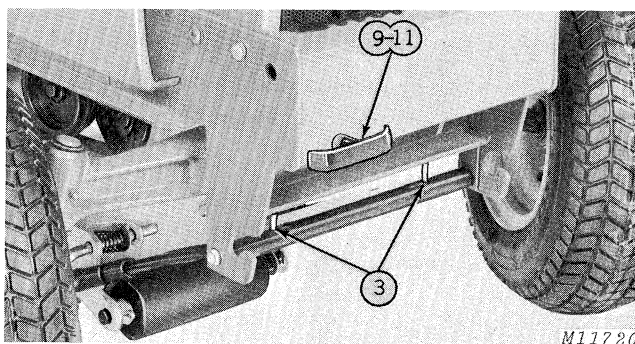
Remove wheel bolts, turn wheel around with valve stem inward and reassemble each wheel on the opposite side of the tractor. Interchanging right-hand and left-hand rear wheels is required to maintain the proper direction of rotation for traction tires. Tread (and arrow) on tire must point forward in direction of travel.

ATTACHING MOWER TO TRACTOR

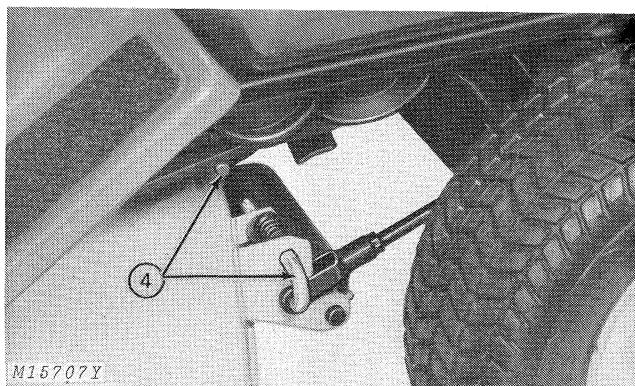


1. Slide mower under tractor.

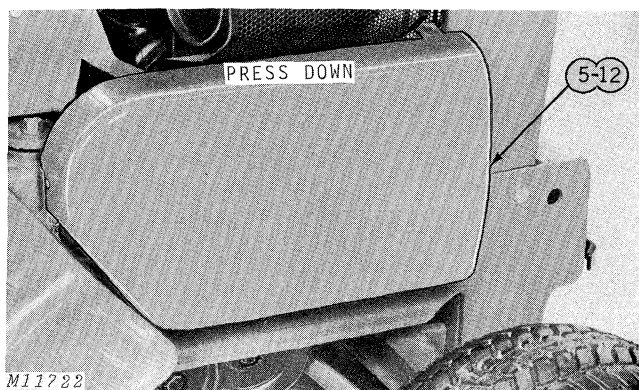
2. Pull spring loaded pins on draft arms and lock draft arms on rear draft brackets.



3. Lock front draft pins in extracted position and align with lower holes on tractor mounting brackets. Release spring-loaded draft pins.

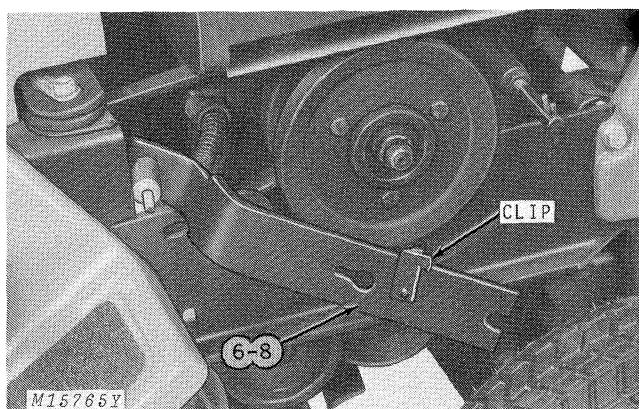


4. Attach front draft arms to mower. Lock in position with draft pins.

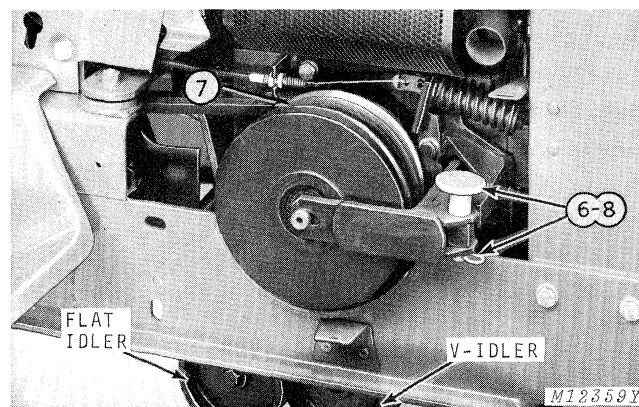


5. Remove right-hand side panel from 200, 210, 212, 214 and 216 Tractors. On others, unhook PTO shield by pressing down on top and unhooking bottom stud.

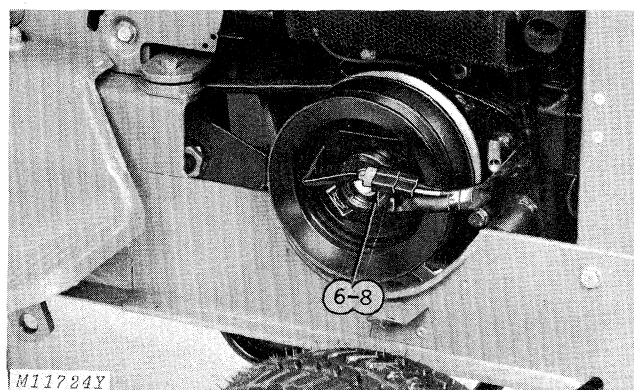
NOTE: If shield is attached to the tractor with a cable (so that the tractor cannot be operated without the shield installed), do not remove shield from cable.



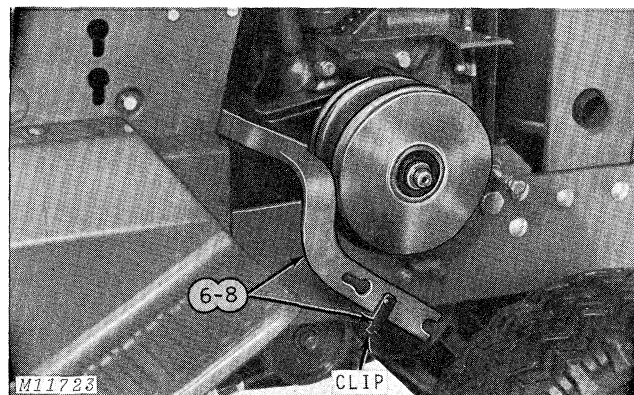
6. On 200, 210, 212, 214 and 216 Tractors (Serial No. 30,001-190,000); also 110 Tractors (Serial No. 320,001-), pivot clip upward and slide clutch arm to the rear to release clutch arm.



On 110 Tractors (Serial No. 272,001-320,000), remove spring locking pin from drilled pivot pin and remove drilled pin from clutch arm pivot. Slide clutch arm forward to install belt.



On 112 Tractors (Serial No. 250,001-300,000), disconnect electric clutch to allow spring-loaded support arm to be moved forward to install belt. Connectors are locked together with a spring clip. Pry spring clip outward with a small screwdriver to disconnect.



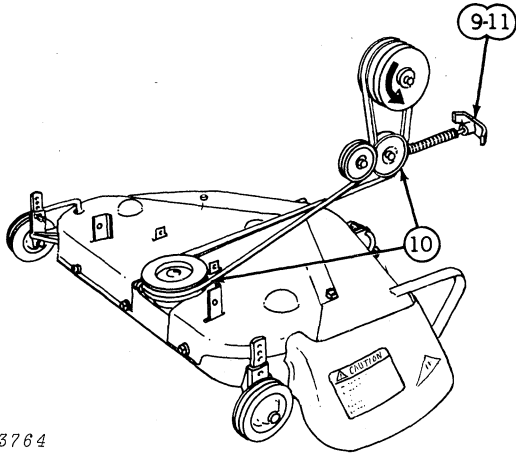
On 112 Tractors (Serial No. 100,001-250,000) and 110 Tractors (Serial No. 100,001-272,000), lift and pivot clip to release clutch arm. Lower clutch arm to install belt.

7. Slide belt between PTO sheaves and frame and pull belt to underside of tractor. Install belt on inner PTO sheave. Position belt on V-idler and flat idler as shown. (See photo at left).

8. Reassemble clutch arm or connect electric clutch on tractors so equipped.

9. Turn handle on bumper plate counterclockwise to release idler spring tension until there is approximately 3/4-inch (1.90 cm) clearance between bumper plate and handle when handle is pulled outward. See center right-hand photo on page 14.

ATTACHING MOWER TO TRACTOR—Continued



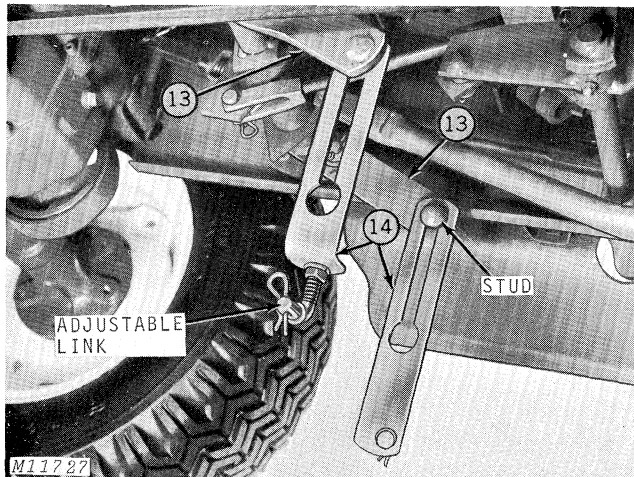
M13764

10. Pull idler assembly to rear and install belt over mower sheave.

IMPORTANT: Install belt exactly as illustrated. Be sure belt is not installed with a reverse twist which causes mower blades to operate backwards.

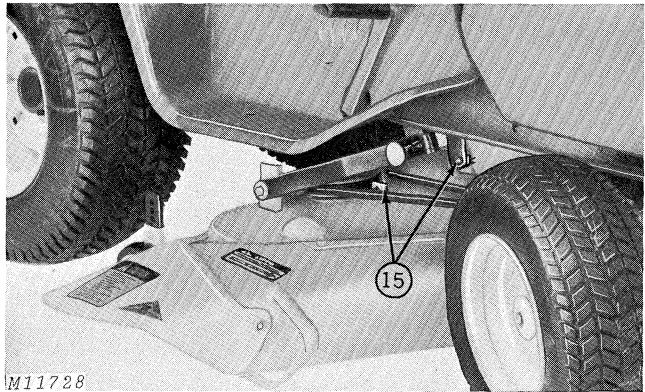
11. Turn handle on bumper plate clockwise until spring is tight against backside of bumper plate. Then turn handle one or two turns counterclockwise to back off spring.

12. Replace side panels on 200, 210, 212, 214 and 216 Tractors. Replace PTO shield by hooking bottom pin in bottom hole and snapping upper pins into upper holes. (See top left photo on page 15.)

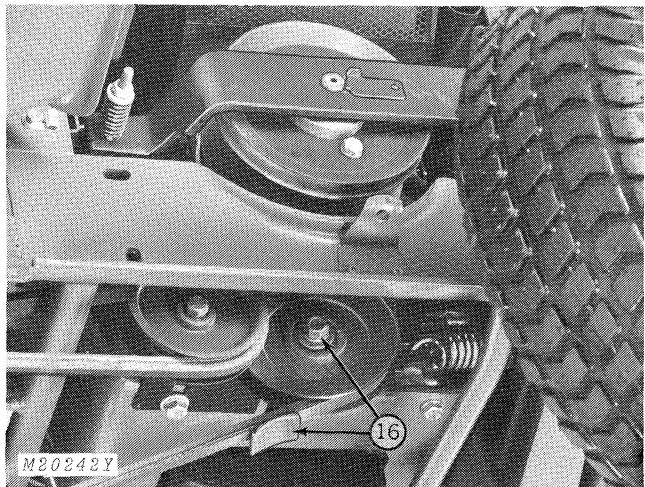


13. Lower lift arms with the tractor lift. Be sure mower depth control is turned counterclockwise all the way. Pull downward on lift arms to be sure they are at lowest point.

14. Attach lift links on lift arm studs with drilled holes for spring locking pins facing outward. **NOTE:** Install adjustable link on right-hand side.

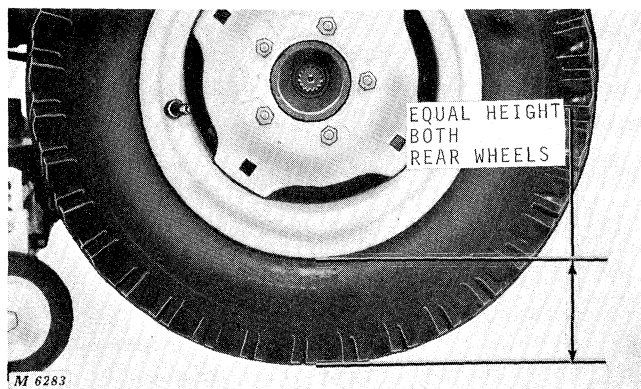


15. Connect lift links to mower and install spring locking pins.



16. With mower in lowered position, loosen idler sheave bolt and adjust belt guide to within 1/8 inch (3.18 mm) of belt.

INFLATING TIRES

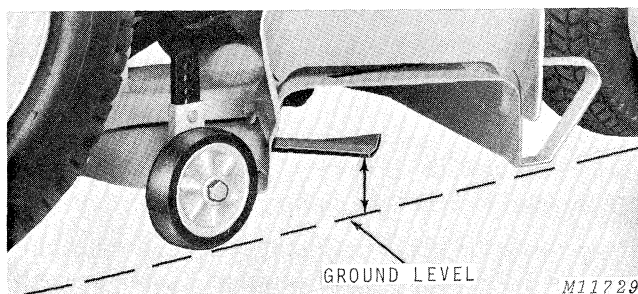


Before making mower adjustments, it is important to inflate both rear tires until the distance between the ground and the wheel rim is exactly the same on each rear wheel. Tire pressure for all-purpose and traction tires should not exceed 6 psi (41 kPa) (0.41 bar). Maximum pressure for high-flotation tires is 5 psi (34 kPa) (0.34 bar). Use a low pressure tire gauge.

LEVELING MOWER

Make the following mower adjustments at the beginning of each mowing season or whenever the mower has been removed and reinstalled on the tractor.

CAUTION: TO AVOID SERIOUS PERSONAL INJURY, NEVER GET OFF THE TRACTOR WHILE THE POWER-TAKE-OFF (PTO) CLUTCH IS ENGAGED OR THE ENGINE IS RUNNING. A pressure sensitive safety switch is located in the seat on 200 Series Tractors Serial No. 70,001 and above. It is designed to interrupt engine operation whenever operator weight is lifted off of the seat while the engine is running with the power-take-off clutch engaged.



Chute Guard Raised for Clarity

Leveling Side-to-Side

1. Park tractor on a hard flat surface, such as a driveway, sidewalk, or garage floor.

2. Inflate rear tires evenly until the distance between the ground and the wheel rim is exactly the same on each rear wheel.

3. Raise mower to raised position.

4. Rotate outer blade on each side of mower to point straight sideways.

5. Measure distance of blade tips to ground. A block of wood of proper length may also be used to gauge the height of blade tips.

When mower is properly adjusted, the distance should be the same on each side of mower.

If adjustment is required, remove adjustable link, page 16, from mower deck. Turn adjusting screw up to raise or down to lower right-hand side, until right-hand dimension is exactly the same as left-hand dimension.

Tighten jam nuts firmly against link after adjusting.

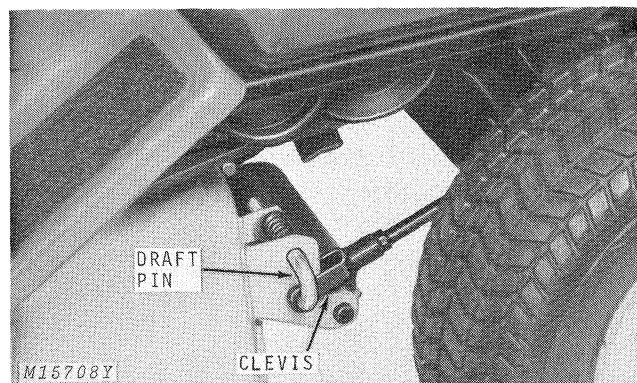
Leveling Front-to-Rear

1. Rotate outer blade on right-hand side (discharge chute side) of mower to point straight forward and backward.

2. Measure, or gauge with a block of wood, the distance of the blade tip from the ground at front of the mower.

3. Rotate blade half-way around (180°) to again point straight forward and rearward. Measure or gauge distance of the blade tip from the ground at rear of mower.

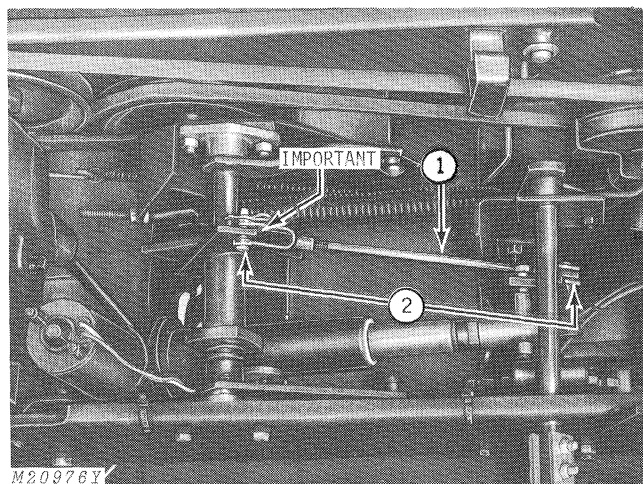
Whenever mower is properly leveled front-to-rear, the rear dimension should be 1/8-inch (3.18 mm) more than the front dimension.



4. If adjustment is required, pull draft pins from each front draft link and equally turn each threaded clevis on or off the link until mower is leveled. Turning clevis onto link raises front of mower; turning clevis off link lowers front of mower. Tighten jam nuts firmly after adjusting.

ADJUSTING MOWER LIFT ON ALL TRACTORS EXCEPT 200 SERIES TRACTORS ABOVE SERIAL NO. 190,001

Raise and lower mower with the tractor lift to check for proper raising and lowering. Be sure mower depth control is turned down and anti-scalp wheels are in raised position when checking the lowered position of mower. The mower should not strike the frame when raised.



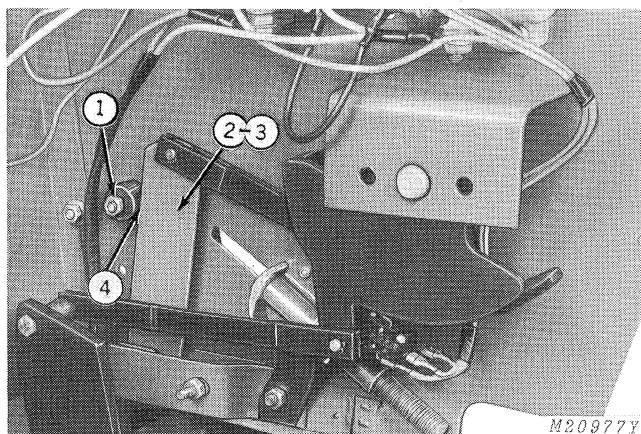
If adjustment is necessary;

CAUTION: Remove ignition switch key from tractor before adjusting.

1. Remove lift connecting link.
2. Turn clevis on or off link until the proper length of 11.9 inches (302.26 mm) between the centers of the clevis pin holes is obtained. Reinstall link.

IMPORTANT: When reinstalling link, be sure the stop on the secondary lift shaft is toward the front so the lift arms must be raised slightly to connect the link.

CHECKING ELECTRIC LIFT (Extra Equipment)



If tractor is equipped with an electric lift, check adjustment of the stop spacer.

To check, turn the tractor ignition key switch to "RUN" position and pull the lift lever all the way to the rear.

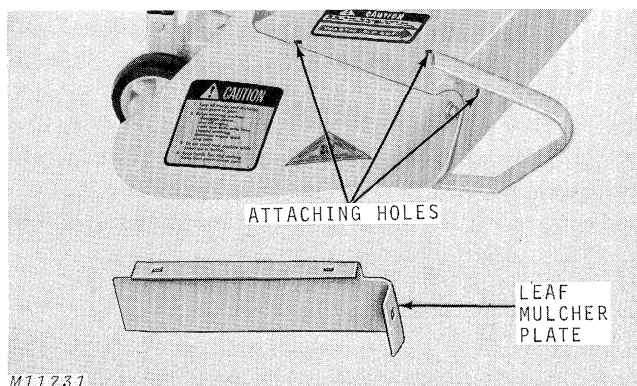
After the lift has traveled to its fully raised position, turn the key switch off. If the lift solenoid clicks, adjustment is necessary.

CAUTION: Refer to tractor operator's manual and remove battery from tractor as specified. Reinstall battery in tractor as instructed in tractor operator's manual after adjustment.

Adjust as follows:

1. Loosen the stop spacer bolt.
2. Pull lift lever all the way to the rear.
3. Move the lift lever forward until the key switch can be turned on and off without activating the lift solenoids.
4. Move the spacer forward until it touches the control switch arm and tighten.

INSTALLING LEAF MULCHER PLATE (Extra Equipment)



A leaf mulcher plate is available as extra equipment for your mower.

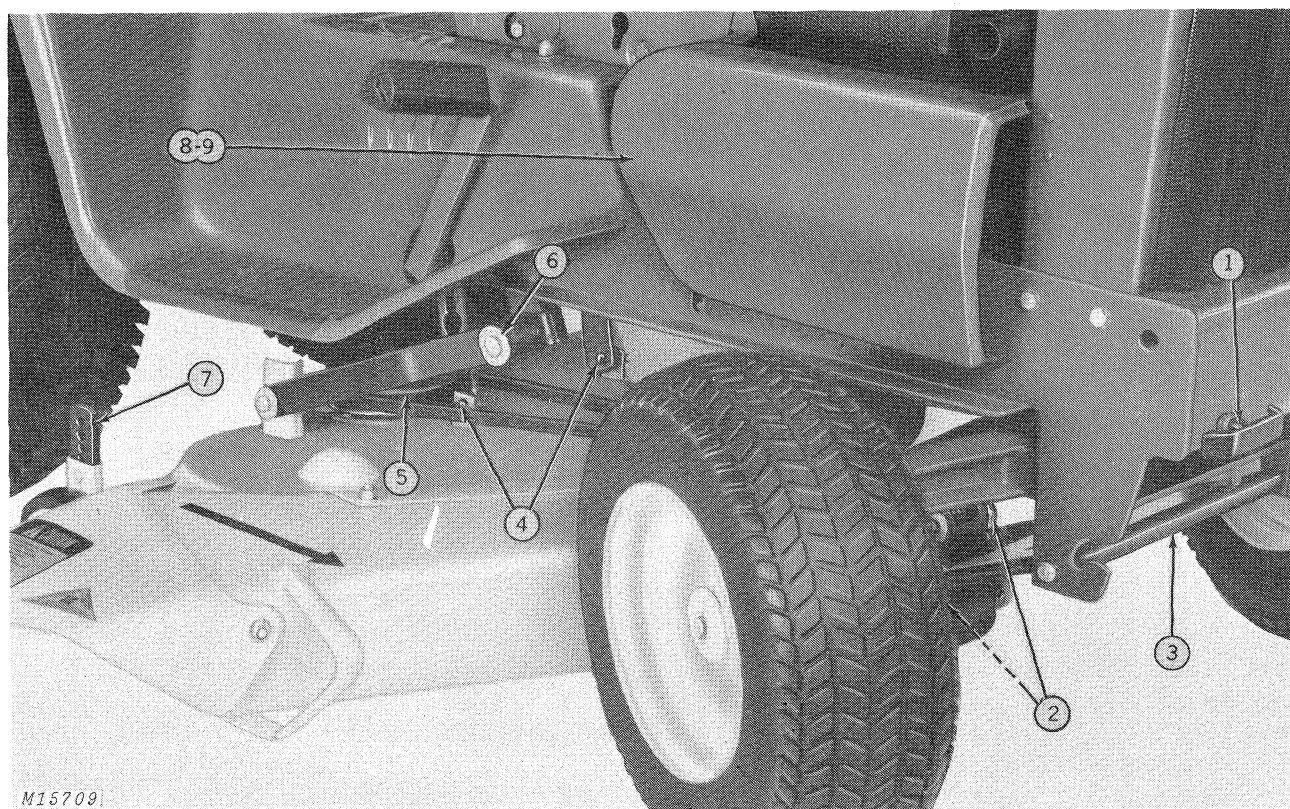
Leaves usually can be mulched at regular cutting height. However, if necessary, the anti-scalp wheels can be used to lower the mower.

Use the leaf mulcher only to chop and pulverize dry leaves. Always remove leaf mulcher before mowing grass.

Install leaf mulcher plate, as positioned above, using round head bolts supplied with mulcher. Install round head bolts from bottom of mower so that wing nuts are above the mower deck.



Removal



M15709

CAUTION: If tractor is to be used to power an elevator or other machine operated by the PTO Attachment (extra equipment), disconnect mower drive belt or remove mower from tractor.

Lower mower to ground level with the tractor lift.

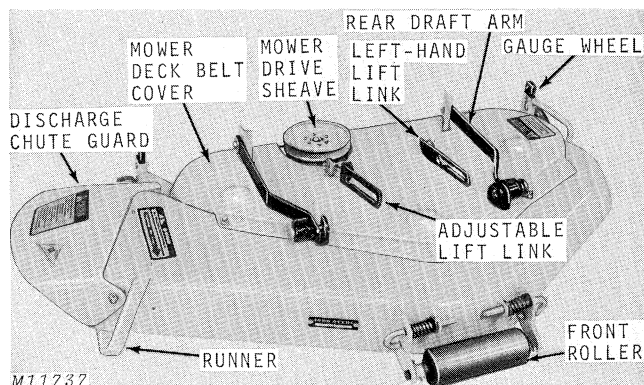
1. Turn handle on front bumper plate counterclockwise to release belt tension.
2. Disconnect front draft arms from mower.
3. Remove front draft plate from tractor.
4. Disconnect lift links from mower. Turn mower depth control counterclockwise all the way and pull tractor lift arms downward as far as possible.

Remove lift links from tractor lift arm studs. Replace lift links on mower for safekeeping.

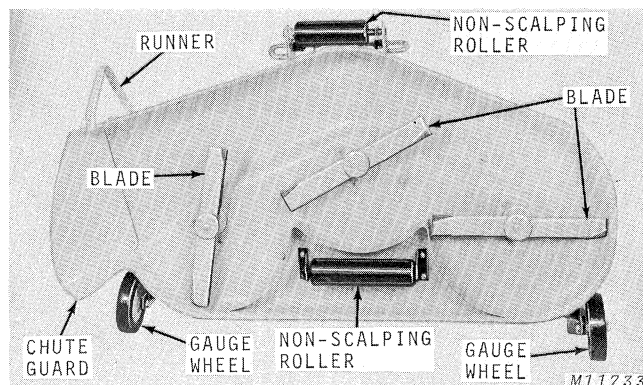
5. Remove drive belt from around mower drive sheave.
6. Disconnect rear draft arms from tractor.
7. Position anti-scalp wheels in hole for 1-1/2-inch (3.81 cm) cutting height and slide mower out from under tractor.
8. Remove side panel or PTO shield. Disconnect clutch arm or electric clutch on tractors so equipped. Slip belt off PTO sheave. Remove belt.
9. Replace clutch arm or connect electric clutch on tractors so equipped. Replace side panel or PTO shield.



Specifications



39 Mower



47 Mower

John Deere Tractor Required . . .	200, 210, 212, 214, 216 and 110 or 112 (Serial No. 100,001-)	210, 212, 214, 216 and 112 (Serial No. 100,001-)
Cutting Width	38 in. (96.52 cm)	46 in. (1.168 m)
Overall Width	49-1/4 in. (1.251 m)	57 in. (1.448 m)
Overall Length	27 in. (68.58 cm)	29 in. (73.66 cm)
Blades (number)	3	3
Blades (length)	13-29/32 in. (35.32 cm)	16 in. (40.64 cm)
Bearings	Sealed - No Lubrication Required	
Anti-Scalp Wheel Diameter . . .	5 in. (12.70 cm)	6 in. (15.24 cm)
Cutting Height	1-1/2 to 3-1/2 in. (3.81 to 8.89 cm)	
Trimming Clearance	5/8 in. (1.59 cm)	13/16 in. (2.06 cm)
Shipping Weight	.85 lbs. (38.56 kg)	113 lbs. (52.26 kg)

(Specifications and design subject to change without notice.)

SERIAL NUMBER Model No. _____ Serial No. _____ Date of Purchase _____ <i>(To be filled in by purchaser)</i>

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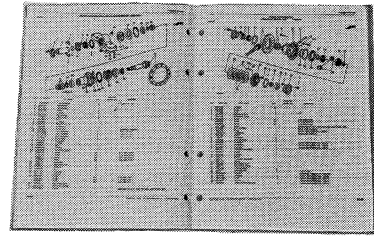
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PARTS CATALOG



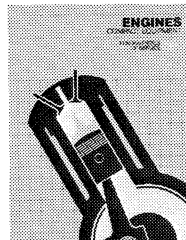
A parts catalog containing exploded view illustrations and lists of all parts is useful when purchasing service parts. Helps identify the correct parts. Useful in assembling and disassembling.

OPERATOR'S MANUAL



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

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