

AutoConnect™ Mid-Mount Mower 54D and 60D



OPERATOR'S MANUAL AutoConnect Mid-Mount Mower 54D and 60D OMLVU26521 ISSUE A9 (ENGLISH)

CALIFORNIA Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

If this product contains a gasoline engine:

WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

The State of California requires the above two warnings.

Additional Proposition 65 Warnings can be found in this manual.

John Deere Augusta Works

North American Edition
PRINTED IN U.S.A.



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

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Previous Editions
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Product Identification

Product Compatibility

The 54D and 60D AutoConnect mowers are designed for use with compact utility tractor models: 1 Family Compact Utility Tractors.

Before operating the mower, the following equipment must be installed on the machine. See your John Deere dealer.

- Mid-PTO Kit (Mechanical or Hydraulic)
- Mower Lift Kit (Standard or AutoConnect)

UP00731,0000366 -19-21JUL15-1/1

Record Identification Numbers

AutoConnect Mower

54D Serial No. (030001-)

60D Serial No. (030001-)

If you need to contact an Authorized Service Center for information on servicing, always provide the product model and serial number.

You will need to locate the model and serial numbers for the mower deck and record the information in the spaces provided below.

DATE OF PURCHASE:

DEALER NAME:

DEALER PHONE:

PRODUCT SERIAL NUMBER:

UP00731,0000367 -19-06AUG15-1/1

Safety Labels

Replace Safety Signs

Replace missing or damaged safety signs. Use this operator's manual for correct safety sign placement.

There can be additional safety information contained on parts and components sourced from suppliers that is not reproduced in this operator's manual.



TS201 —UN—15APR13

DX,SIGNS -19-18AUG09-1/1

DANGER—M118610

DANGER

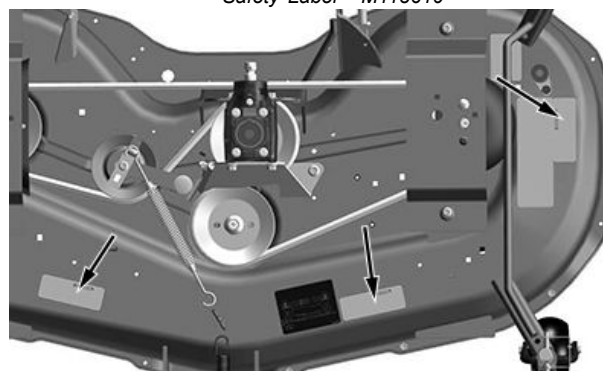
ROTATING BLADE

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



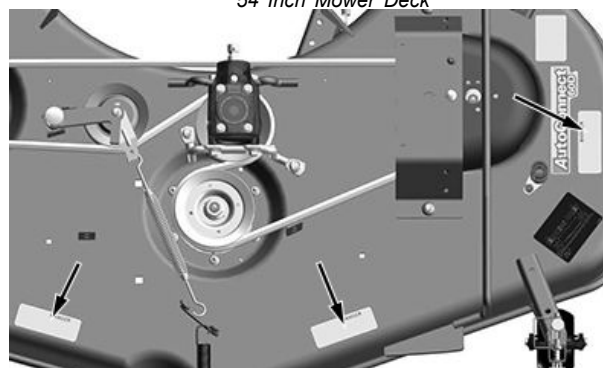
LV18771 —UN—20AUG13

Safety Label - M118610



LV27941 —UN—15MAR17

54 Inch Mower Deck



LV27939 —UN—15MAR17

60 Inch Mower Deck

UP00731,00005F6 -19-15NOV18-1/1

DANGER—M139128

DANGER

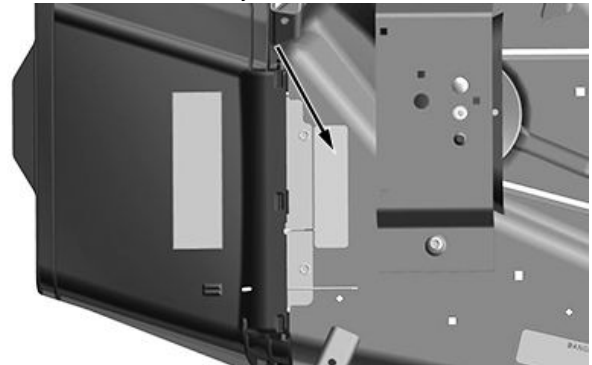
To avoid injury from rotating blades and thrown objects:

Keep hands and feet away from rotating blades.

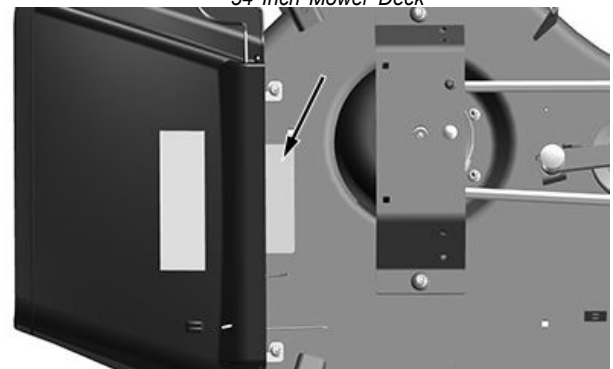
Keep bystanders a safe distance away. Do not operate mower without discharge chute or entire grass catcher in place.



Safety Label - M139128



54 Inch Mower Deck



60 Inch Mower Deck

UP00731,00005F7 -19-15NOV18-1/1

LV18772 —UN—20AUG13

LV27942 —UN—15MAR17

LV27940 —UN—15MAR17

DANGER—M156388

DANGER

ROTATING BLADE

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

THROWN OBJECTS

Before mowing, clear area of objects that may be thrown by blade.

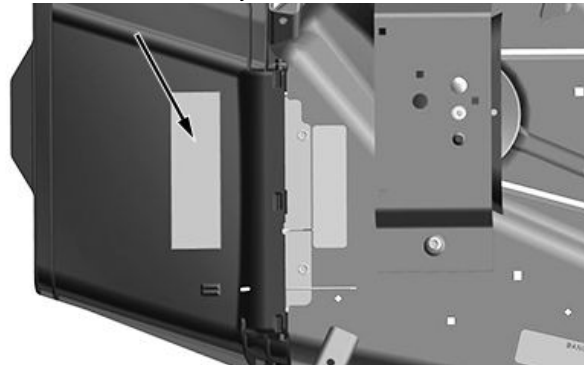
Do not operate mower without discharge chute or entire grass catcher in place.

WARNING



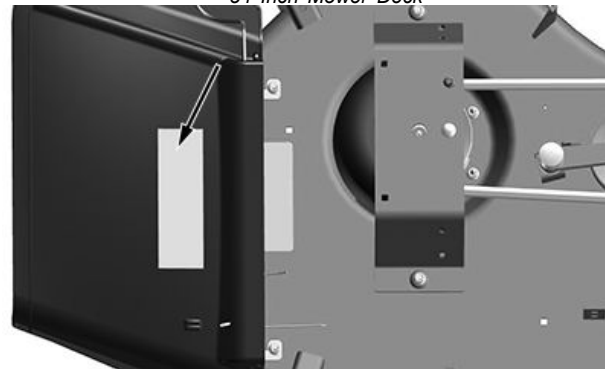
LV18773 —UN—20AUG13

Safety Label - M156388



LV27944 —UN—15MAR17

54 Inch Mower Deck



LV27943 —UN—15MAR17

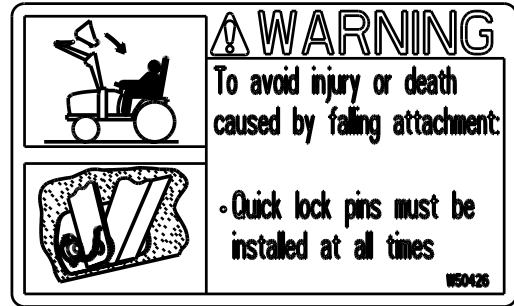
60 Inch Mower Deck

UP00731,00005F8 -19-15NOV18-1/1

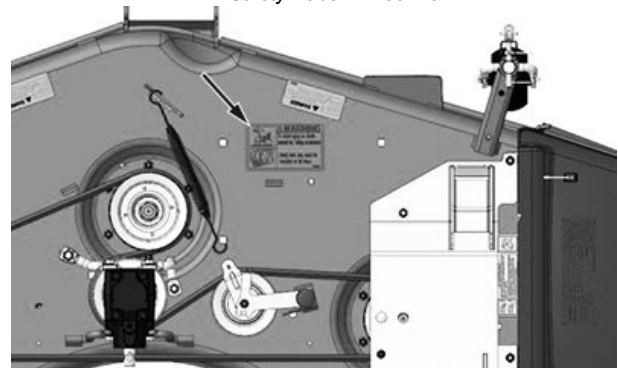
WARNING—W50426

To avoid injury or death caused by falling attachment:

- Quick lock pins must be installed at all times.



Safety Label—W50426



54 and 60 Inch Mower Deck

UP00731,00005F9 -19-15NOV18-1/1

LV30389 —UN—24OCT18

LV30405 —UN—15NOV18

Safety

Recognize Safety Information

This is a safety-alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.



TS1389 —UN—28JUN13

DX,ALERT -19-29SEP98-1/1

Understand Signal Words

DANGER; The signal word DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING; The signal word WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION; The signal word CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. CAUTION may also be used to alert against unsafe practices associated with events which could lead to personal injury.

A signal word—DANGER, WARNING, or CAUTION—is used with the safety-alert symbol. DANGER identifies the most serious hazards. DANGER or WARNING safety signs are located near specific hazards. General

▲ DANGER

▲ WARNING

▲ CAUTION

TS187 —19—30SEP98

precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.

DX,SIGNAL -19-05OCT16-1/1

Follow Safety Instructions

Carefully read all safety messages in this manual and on your machine safety signs. Keep safety signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from your John Deere dealer.

There can be additional safety information contained on parts and components sourced from suppliers that is not reproduced in this operator's manual.

Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

Keep your machine in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.



TS201 —UN—15APR13

If you do not understand any part of this manual and need assistance, contact your John Deere dealer.

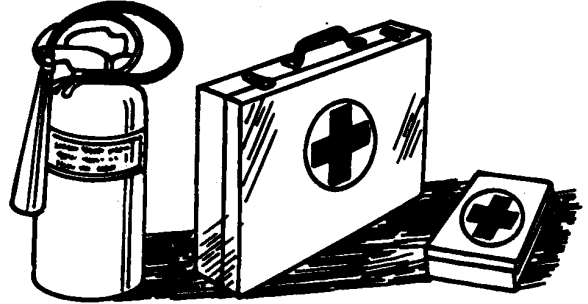
DX,READ -19-16JUN09-1/1

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.



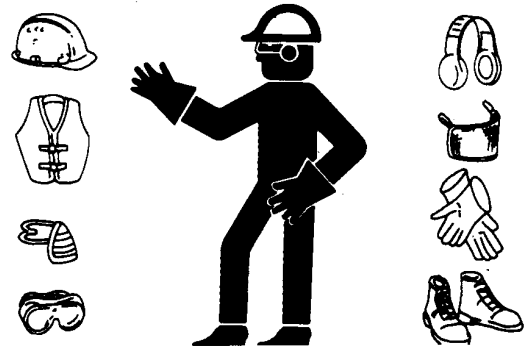
DX,FIRE2 -19-03MAR93-1/1

TS291 —UN—15APR13

Wear Protective Clothing

Wear close fitting clothing and safety equipment appropriate to the job.

Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphones while operating machine.



DX,WEAR2 -19-03MAR93-1/1

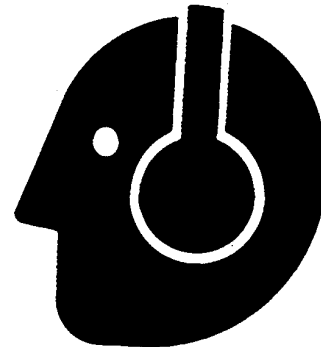
TS206 —UN—15APR13

Protect Against Noise

There are many variables that affect the sound level range, including machine configuration, condition and maintenance level of the machine, ground surface, operating environmental, duty cycles, ambient noise, and attachments.

Exposure to loud noise can cause impairment or loss of hearing.

Always wear hearing protection. Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.



DX,NOISE -19-03OCT17-1/1

TS207 —UN—23AUG88

Training

- Read the instructions carefully. Be familiar with the controls and the proper use of the equipment.
- Never allow children or people unfamiliar with these instructions to use the lawn mower. Local regulations can restrict the age of the operator.

- Never mow while people, especially children, or pets are nearby.
- Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people or their property.
- Do not carry passengers.

AP43109,0000288 -19-16APR13-1/1

Preparation

- While mowing, always wear substantial footwear and long trousers. Do not operate the equipment when barefoot or wearing open sandals.
- Thoroughly inspect the area where the equipment is to be used and remove all objects which can be thrown by the machine.
- Before using, always visually inspect to see that the blades, blade bolts and cutter assembly are not worn or damaged. Replace worn or damaged blades and bolts in sets to preserve balance.
- On multi-bladed machines, take care as rotating one blade can cause other blades to rotate.

AP43109,0000289 -19-15APR13-1/1

Operation

- Do not operate the engine in a confined space where dangerous carbon monoxide fumes can collect.
- Mow only in daylight or in good artificial light.
- Before attempting to start the engine, disengage all blade attachment clutches and shift into neutral.
- Remember there is no such thing as a safe slope. Travel on grass slopes requires particular care. To guard against overturning:
 - Never mow across the face of a slope, unless the machine is designed for this purpose.
- Stop the blades from rotating before crossing surfaces other than grass.
- Never direct discharge of material toward bystanders nor allow anyone near the machine while in operation.
- Never operate the machine with defective guards, or without safety protective devices in place.
- Do not change the engine governor settings or overspeed the engine. Operating the engine at excessive speed can increase the hazard of personal injury.
- Before leaving the operator's position:
 - Disengage the drive to any attachments and lower them;
 - Change into neutral and lock the parking brake;
 - Stop the engine and remove the key.
- Disengage drive to attachments, stop the engine, disconnect the spark plug wires and remove the ignition key:
 - Before clearing blockages or unclogging chute;
 - Before checking, cleaning, or working on the machine;
 - After striking a foreign object. Inspect the machine for damage and make repairs before restarting and operating the equipment;
 - If the machine starts to vibrate abnormally (check immediately).
- Disengage drive to attachments when transporting or not in use.
- Stop the engine and disengage drive to attachment:
 - Before refueling;
 - Before removing the grass catcher;
 - Before making height adjustment unless adjustment can be made from the operator's position.
- Reduce the throttle setting during run-out and, if the engine is provided with a shut-off valve, turn the fuel off at the conclusion of mowing.
- Inspect machine before you operate. Repair or replace damaged, badly worn, or missing parts. Make any necessary adjustments before you operate.
- Do not operate mower without discharge chute or entire grass catcher in place. Never operate with the discharge deflector raised, removed, or altered, unless using a grass catcher.
- Stop machine if anyone enters the area.
- Use only accessories and attachments approved by the manufacturer of the machine. Keep safety labels visible when installing accessories and attachments.
- Never raise mower decks when blades are running.

AP43109,000028A -19-18APR13-1/1

Maintenance and Storage

- Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.
- Never store the equipment with fuel in the tank inside a building where fumes can reach an open flame or spark.
- Allow the engine to cool before storing in any enclosure.
- To reduce the fire hazard, keep the engine, silencer, battery compartment and fuel storage area free of grass, leaves, or excessive grease.
- Check the grass catcher frequently for wear or deterioration.
- Replace worn or damaged parts for safety.
- If the fuel tank has to be drained, this should be done outdoors.
- On multi-bladed machines, take care as rotating one blade can cause other blades to rotate.
- When machine is to be parked, stored or left unattended, lower the cutting means unless a positive mechanical lock is used.
- Use jack stands or lock service latches to support components when required. Securely support any machine elements that must be raised for service work.
- Before servicing machine or attachment, carefully release pressure from any components with stored energy, such as hydraulic components or springs.
- Release hydraulic pressure by lowering attachment or cutting units to the ground or to a mechanical stop and move hydraulic control levers back and forth.
- Disconnect battery or remove spark plug (for gas engines) before making any repairs. Disconnect the negative terminal first and the positive last. Reconnect positive first and negative last.
- Use care when checking blades. Wrap the blades or wear gloves, and use caution when servicing them. Only replace blades. Never straighten or weld them.
- Keep hands, feet, clothing, jewelry and long hair away from moving parts. If possible, do not make adjustments with the engine running.
- Charge batteries in an open well ventilated area, away from spark and flames. Unplug charger before connecting or disconnecting from battery. Wear protective clothing and use insulated tools.

AP43109,000028B -19-15APR13-1/1

Checking Mowing Area

TCAL41689 —UN—08APR13

- Clear mowing area of objects that might be thrown. Keep people and pets out of mowing area.
- Low-hanging branches and similar obstacles can injure the operator or interfere with mowing operation. Before mowing, identify potential obstacles such as low-hanging branches, and trim or remove those obstacles.
- Study mowing area. Set up a safe mowing pattern. Do not mow where traction or stability is doubtful.
- Test drive area with mower lowered but not running. Slow down when you travel over rough ground.

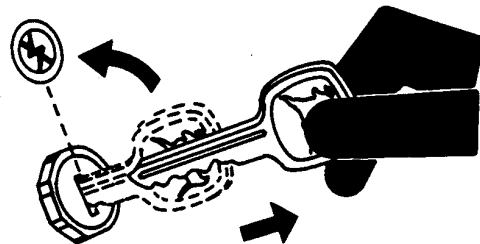


AP43109,000028C -19-15APR13-1/1

Park Machine Safely

Before working on the machine:

- Lower all equipment to the ground.
- Stop the engine and remove the key.
- Disconnect the battery ground strap.
- Hang a "DO NOT OPERATE" tag in operator station.



TS230 —UN—24MAY89

DX,PARK -19-04JUN90-1/1

Rotating Blades are Dangerous

TCAL43410 —UN—15MAR13

HELP PREVENT SERIOUS OR FATAL ACCIDENTS:

- Rotating blades can cut off arms and legs, and throw objects. Failure to observe safety instructions could result in serious injury or death.
- Keep hands, feet and clothing away from mower deck when engine is running.
- Be alert at all times, drive forward and in reverse carefully. People, especially children can move quickly into the mowing area before you know it.
- Before backing up, stop mower blades or attachments and look down and behind the machine carefully, especially for children.



- Do not mow in reverse.
- Shut off blades when you are not mowing.
- Park machine safely before leaving the operator's station for any reason including emptying the grasscatchers or unplugging the chute.

UP00731,000009E -19-04SEP13-1/1

Avoid Backover Accidents

Before moving machine, be sure that all persons are clear of machine path. Turn around and look directly for best visibility. Use a signal person when backing if view is obstructed or when in close quarters.

Do not rely on a camera to determine if personnel or obstacles are behind the machine. The system can be limited by many factors including maintenance practices, environmental conditions, and operating range.



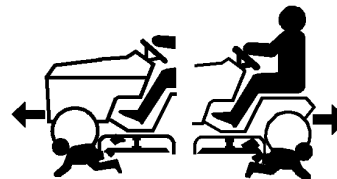
PC10857XW —UN—15APR13

DX,AVOID,BACKOVER,ACCIDENTS -19-30AUG10-1/1

Protect Children

MXAL41929 —UN—18FEB13

- Death or serious injury can occur when young children associate having fun with a lawn mowing machine simply because someone has given them a ride on a machine.
- Children are attracted to lawn mowing machines and mowing activities. They don't understand the dangers of rotating blades or the fact that the operator is unaware of their presence.
- Children who have been given rides in the past may suddenly appear in the mowing area for another ride and be run over or backed over by the machine.
- Tragic accidents with children can occur if the operator is not alert to the presence of children, especially when a child approaches a machine from behind. Before and while backing up, stop mower blades and look down and behind the machine carefully, especially for children.
- Never carry children on a machine or attachment, even with the blades off. Do not tow children in a cart or trailer. They can fall off and be seriously injured or interfere with safe machine operation.
- Never use the machine as a recreational vehicle or to entertain children.



- Never allow children or an untrained person operate the machine. Instruct all operators not to give children a ride on the machine or in an attachment.
- Keep children indoors, out of the mowing area, and in the watchful eye of a responsible adult, other than the operator, when a mower is being operated.
- Stay alert to the presence of children. Never assume that children will remain where you last saw them. Turn the machine off if a child enters the work area.
- Use extreme care when approaching blind corners, shrubs, trees, or other objects that may block your view of a child.

OOU1023,0000037 -19-21FEB13-1/1

Stay Clear of Rotating Drivelines

Entanglement in rotating driveline can cause serious injury or death.

- Wear close fitting clothing.
- Stop the engine and be sure PTO driveline is stopped before getting near it.

UP00731,000009A -19-04SEP13-1/1

Avoid Tipping

TCAL47141 —UN—12APR13



- Slopes are a major factor related to loss-of-control and tip-over accidents, which can result in severe injury or death. Operation on all slopes requires extra caution.
- Be aware that mechanical front wheel drive (MFWD) can improve access to dangerously sloped terrain, thereby increasing the possibility of a tipover.
- Drive up and down a hill - not across.
- Watch for holes, ruts, bumps, rocks, or other hidden objects. Uneven terrain could overturn the machine. Tall grass can hide obstacles.
- Do not mow or operate machine on wet grass. Tires may lose traction. Tires may lose traction on slopes even though the brakes are functioning properly.
- Choose a low ground speed so you will not have to stop or shift while on a slope.
- Always keep the machine in gear when going down slopes. Do not shift to neutral and coast downhill.
- Avoid starting, stopping or turning on a slope. If the tires lose traction, disengage the blades and proceed slowly, straight down the slope.

- Keep all movement on slopes slow and gradual. Do not make sudden changes in speed or direction, which could cause the machine to roll over.
- Do not operate machine near drop-offs, ditches, embankments, or bodies of water. The machine could suddenly roll over if a wheel goes over the edge or the edge caves in. Leave a safety area between the machine and any hazard.
- Danger of tipping is increased greatly with tires in narrow tread setting and driving at high speed.
- Follow the manufacturer's recommendations for wheel weights or counterweights for added stability when operating on slopes or using front or rear mounted attachments. Remove weights when not required.

UP00731,000009B -19-04SEP13-1/1

Store Attachments Safely

Stored attachments such as dual wheels, cage wheels, and loaders can fall and cause serious injury or death.

Securely store attachments and implements to prevent falling. Keep playing children and bystanders away from storage area.



TS219 —UN—23AUG88

DX.STORE -19-03MAR93-1/1

Assembly

Parts in Kit

54D Mower Deck		60D Mower Deck	
Quantity	Description	Quantity	Description
1	54D Mower Deck Assembly	1	60D Mower Deck Assembly
4	Gauge Wheel	4	Gauge Wheel
4	Spring Pin	4	Spring Pin
1	Gearbox Assembly	1	Gearbox Assembly
4	Bolt, M10x25	4	Bolt, M10x25
1	Discharge Chute Assembly	1	Discharge Chute Assembly
2	Bolt, Carriage Head, M8x16	1	Rod, Chute Pivot
2	Locknut, M8	1	Spring, Chute Tension
1	Front Draft Link Assembly	2	Bolt, M8x20
1	Spring, Draft Link	2	Bracket
		2	Retainer
		2	Locknut, M8
		1	Roll Pin
		1	Front Draft Link Assembly
		1	Spring, Draft Link

UP00731,0000368 -19-06AUG15-1/1

Required Equipment

Before installing the mower, the following equipment must be installed on the machine. See your John Deere dealer for ordering information.

- Mower Lift Kit (Mechanical or Hydraulic)

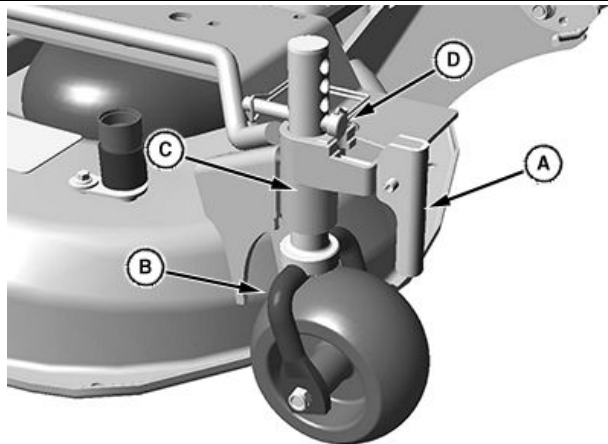
- Mower Driveshaft Kit (Standard or AutoConnect)

CAUTION: Machine component or attachment is heavy. Use a safe lifting device with correct load capacity rating to lift, install or remove component or attachment.

UP00731,0000369 -19-06AUG15-1/1

Install Wheels

1. Remove mower from crate using chain hoist or other suitable device.
2. Install wheels (A) by sliding wheel shaft up through wheel bracket (B).
3. Press downward on handles (C) to lock wheels. Wheels must be in the unlocked position before installing mower on tractor.
4. Install spring pin (D) in each wheel shaft.



LV23978 —UN—04AUG15

UP00731,000036A -19-06AUG15-1/1

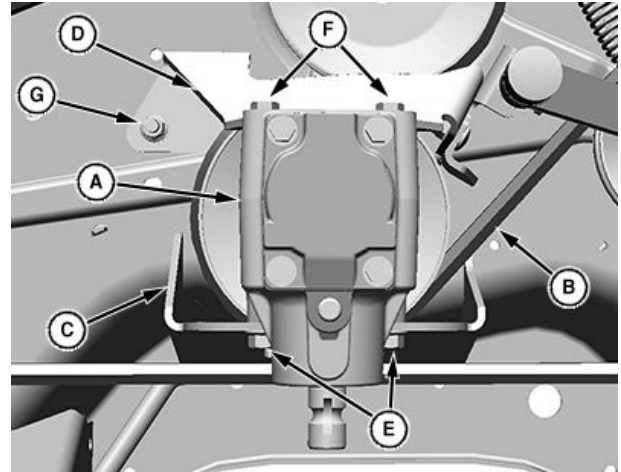
Install Gearbox

Install Gearbox (54D)

1. Lower gearbox assembly (A) onto mower while routing belt (B) around gearbox pulley and between legs of gearbox brackets (C, D) as shown. Removal of bracket (D) from mower may be required for belt routing.
2. Loosely install two M10x25 bolts (E) through front bracket (C) into gearbox.
3. Loosely install two M10x25 bolts (F) through rear bracket (D) into gear case.
4. Tighten four M10 gearbox mounting bolts (E, F) to 73 N•m (54 lb.-ft.).
5. Tighten two rear gearbox mounting bracket nuts (G) to 73 N•m (54 lb.-ft.).

A—Gear Case Assembly
B—Belt
C—Bracket
D—Bracket

E—Bolt (M10x25)
F—Bolt (M10x25)
G—Nuts



Gearbox 54D

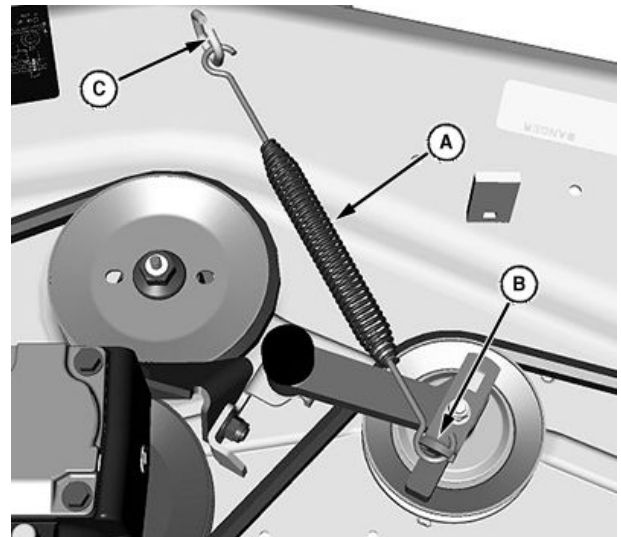
LV23979 —UN—04AUG15

UP00731,000036B -19-06AUG15-1/4

6. Attach spring (A) to tensioner arm (B) and bracket (C) on mower.
7. Check all pulleys for proper belt alignment.

A—Spring
B—Tensioner Arm

C—Bracket



Gearbox 54D

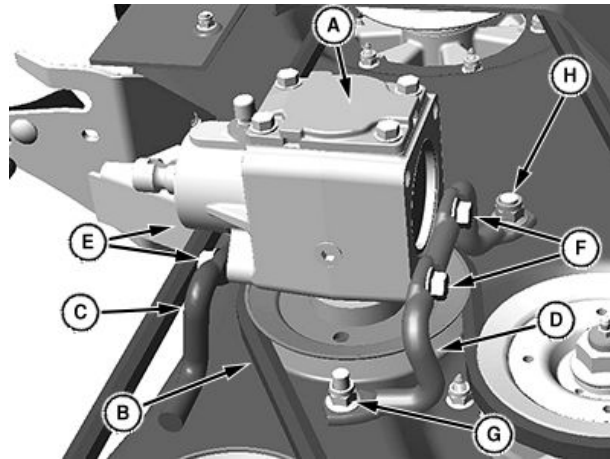
LV23980 —UN—04AUG15

Continued on next page

UP00731,000036B -19-06AUG15-2/4

Install Gearbox 60D

1. Lower gearbox assembly (A) onto mower while routing belt (B) around gearbox pulley and between legs of gearbox brackets (C, D) as shown.
2. Loosely install two M10x25 bolts (E) through front bracket (C) into gearbox.
3. Loosely install two M10x25 bolts (F) through rear bracket (D) into gearbox.
4. Tighten four M10 gearbox mounting bolts (E, F) to 73 N·m (54 lb·ft).
5. Tighten rear gearbox mounting bracket nuts:
 - a. Tighten one M10 nut (G) to 73 N·m (54 lb·ft).
 - b. Tighten one M12 nut (H) to 119 N·m (88 lb·ft).



A—Gear Case Assembly
B—Belt
C—Bracket
D—Bracket

E—Bolt (M10x25)
F—Bolt (M10x25)
G—Nut (M10)
H—Nut (M12)

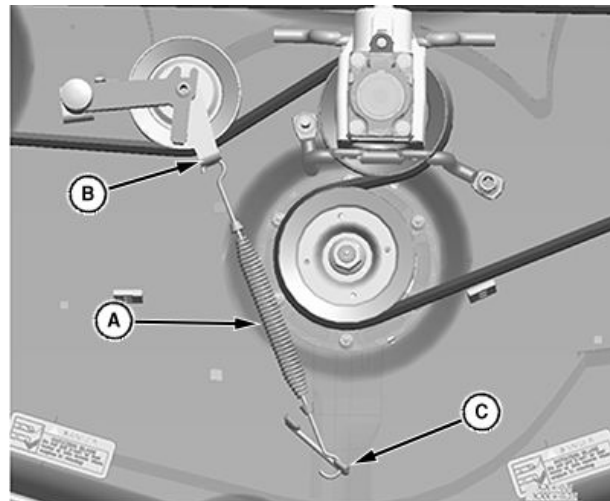
UP00731,000036B -19-06AUG15-3/4

LV23981—UN—04AUG15

6. Attach spring (A) to tensioner arm (B) and bracket (C) on mower.
7. Check all pulleys for proper belt alignment.

A—Spring
B—Tensioner Arm

C—Bracket



UP00731,000036B -19-06AUG15-4/4

LV23982—UN—04AUG15

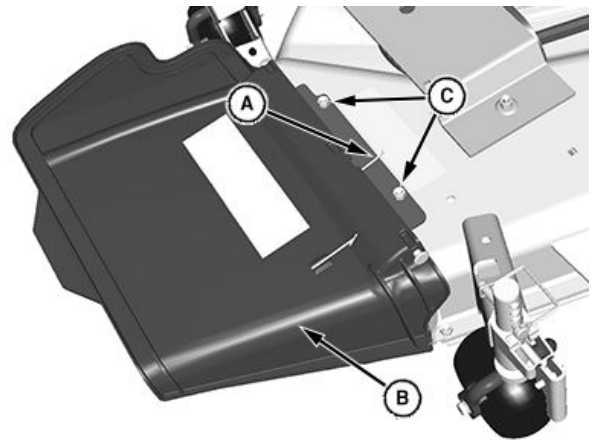
Install Discharge Chute

Install Discharge Chute (54D)

1. Ensure correct placement of spring (A).
2. Position the discharge chute assembly (B) on the mower and secure with two M8x16 carriage head bolts and two M8 locknuts (C).

A—Spring
B—Chute Assembly

C—Locknuts (M8)



Discharge Chute (54D)

UP00731,000036C -19-28JUL15-1/2

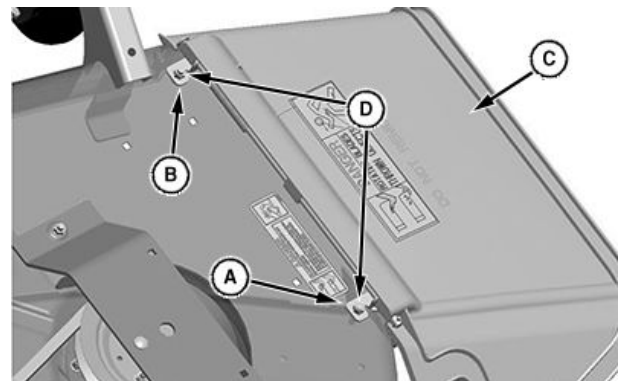
LV23983 —UN—04AUG15

Install Discharge Chute (60D)

1. Attach rear hinge (A) to deck with nut. Do not tighten.
2. Pre-load spring with one hand and attach front hinge (B) to deck with nut. Do not tighten.
3. Pull discharge chute assembly (C) away from deck as nuts (D) are tightened to help align hinges.

A—Rear Hinge
B—Front Hinge

C—Chute Assembly
D—Nuts



Discharge Chute (60D)

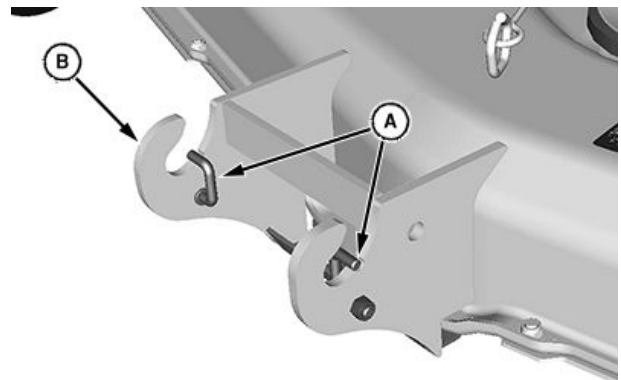
UP00731,000036C -19-28JUL15-2/2

LV23984 —UN—04AUG15

Install Front Draft Link

1. Remove nut and lock pin (A) from each side of front draft link bracket

A—Lock Pin



Continued on next page

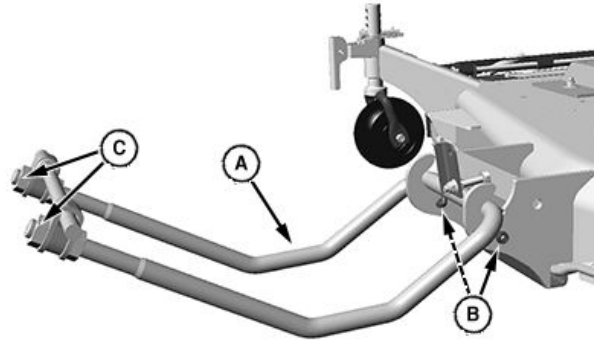
UP00731,000036D -19-06AUG15-1/4

LV23985 —UN—04AUG15

2. Install draft link assembly (A) in bracket and secure with two lock pins and nuts (B).
3. Loosen front nuts (C) on draft link assembly 4-5 turns (Nuts will be tightened when mower is initially installed on machine).

A—Draft Link Assembly
B—Nuts

C—Front Nuts



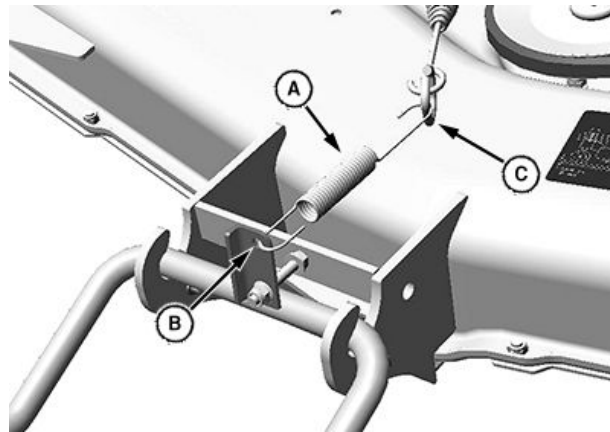
LV23986—UN—04AUG15

UP00731,000036D -19-06AUG15-2/4

4. Install spring (A) through hole in draft link bracket (B) and ring on mower (C).

A—Spring
B—Bracket

C—Ring on Mower



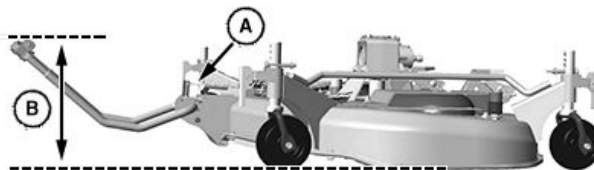
LV23987—UN—04AUG15

UP00731,000036D -19-06AUG15-3/4

5. Initial adjustment - With gauge wheels unlocked and mower resting firmly on a level surface, adjust length of bolt (A) to achieve a 290 mm (11.4 in.) height (B) from the center of the draft link front pins to the level surface. If a loader is also installed, this may need to be slightly lower to clear parking stand. The front draft must always be pushed down during drive over or damage to the front draft will occur. Tighten locknut on bolt securely.

A—Bolt

B—290 mm (11.4 in.) Height



LV23988—UN—04AUG15

UP00731,000036D -19-06AUG15-4/4

Installing

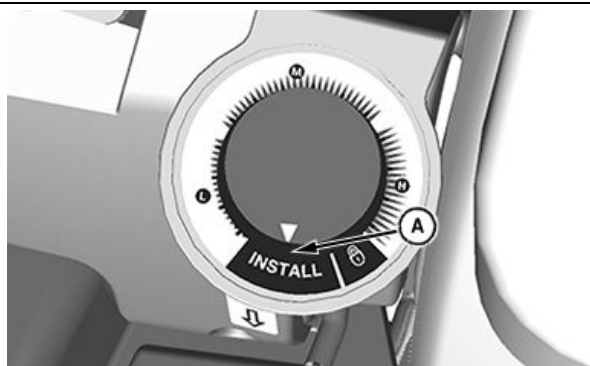
Install Mower

NOTE:

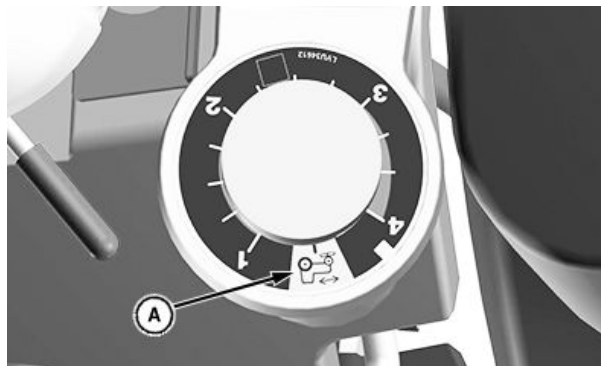
- Implements, attachments, and weights affect the set-up of the mower deck. For the initial set-up, remove all implements, attachments, and weights. After implements, attachments, or weights are installed on the mower deck, recheck to ensure that the mower deck is still level. If the deck is not level, level the deck again.
- Do not adjust the rockshaft linkage during the deck set-up. If the rockshaft linkage is adjusted during the deck set-up, level the deck again.

1. Set mower height control to the install position (A).

A—Install Position



LV29618 —UN—20DEC17



LV29888 —UN—14FEB18

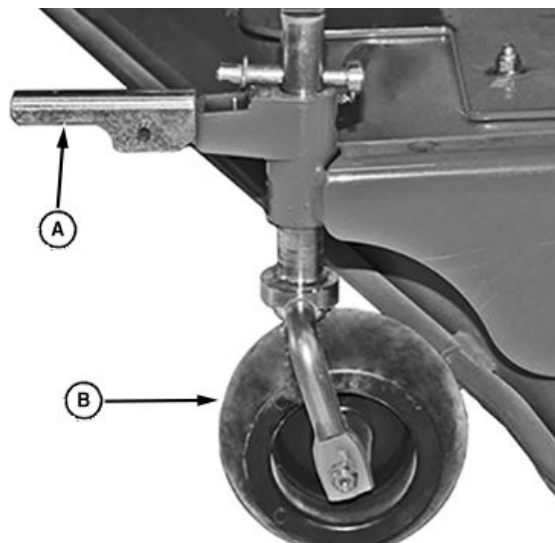
The numbers on the control label do not represent inches.
They are for reference only.

UP00731,0000522 -19-15AUG18-1/9

2. Raise handle (A) to release lock on each gauge wheel (B). Mower rests fully on ground.
3. Ensure that mower is sitting on firm, level ground. A smooth surface allows the tractor to push the mower along the ground. Make sure that rear tires are inflated to 20 PSI.

A—Handle

B—Wheel



LV23990 —UN—04AUG15

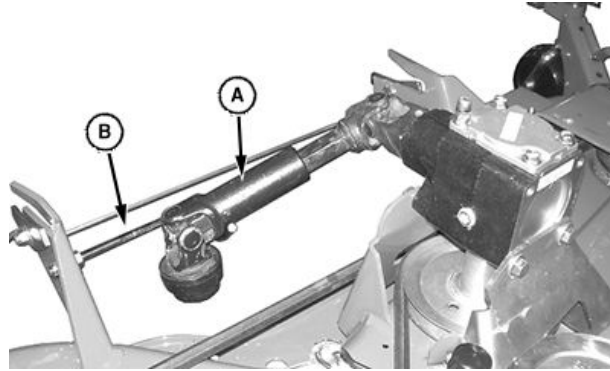
Continued on next page

UP00731,0000522 -19-15AUG18-2/9

4. Standard Driveshaft Models Only: Ensure that the driveshaft (A) is positioned in the hanger (B) on the right side of the mower.

A—Driveshaft

B—Hanger



Standard Driveshaft Models Only

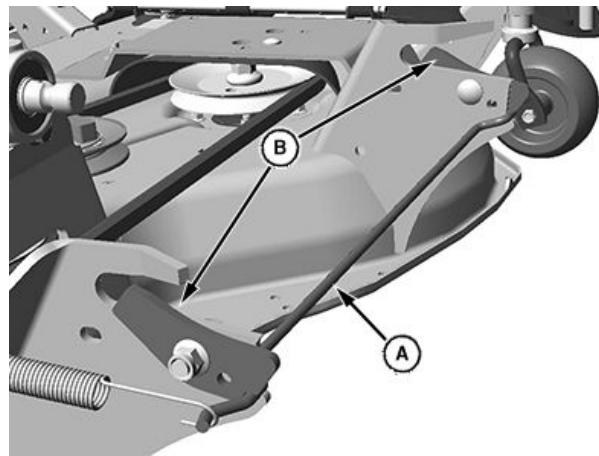
LV23991—UN—04AUG15

UP00731,0000522 -19-15AUG18-3/9

5. Ensure that the rear lock assembly (A) is in the locked (B) position. The lock assembly will automatically unlock as the machine engages the mower, and lock after full engagement.
6. Lower mower lift arms using SCV or rockshaft lever control.
7. Shift machine PTO selector to Rear PTO only to allow the mid-PTO and driveshaft to turn freely and engage the mower gear case with minimal resistance.
8. Engage tractor MFWD, and in put low range.
9. Drive the machine straight toward rear of mower.

A—Rear Lock Assembly

B—Locked



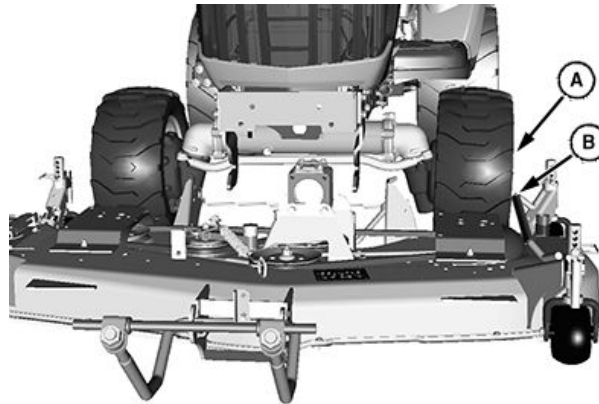
LV23992—UN—04AUG15

UP00731,0000522 -19-15AUG18-4/9

10. Align the outside of the left front tire (A) so it contacts the guide bar (B) on the left side of mower.

A—Left Front Tire

B—Guide Bar



LV23993—UN—04AUG15

Continued on next page

UP00731,0000522 -19-15AUG18-5/9

11. Drive tractor slowly, smoothly, and straight onto the drive-over ramps (A) on mower.

A—Drive-Over Ramps



LV23994 —UN—04AUG15

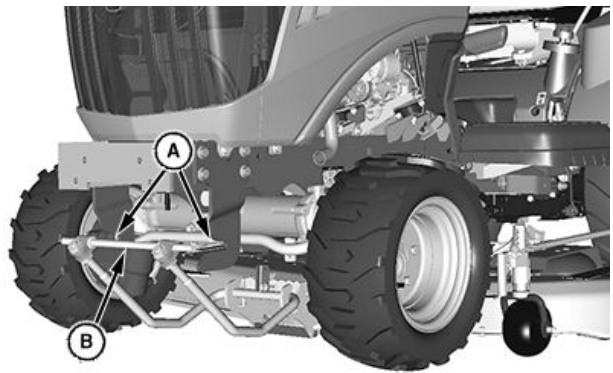
UP00731,0000522 -19-15AUG18-6/9

12. Continue driving tractor over the front edge of the mower deck until the pivot pin (A) from the draft link fully engages the notches in the front support hangers (B). Then the mower just begins to move forward. Stop the machine and lock the park brake.

- If the mower pulls forward early or appears to be caught in the lift system, stop tractor, reverse slightly, and move forward again. If the mower still does not properly attach, stop the tractor, lock park brake, dismount tractor and determine cause of problem. See the troubleshooting section for additional information.

A—Pivot Pin

B—Support Hanger



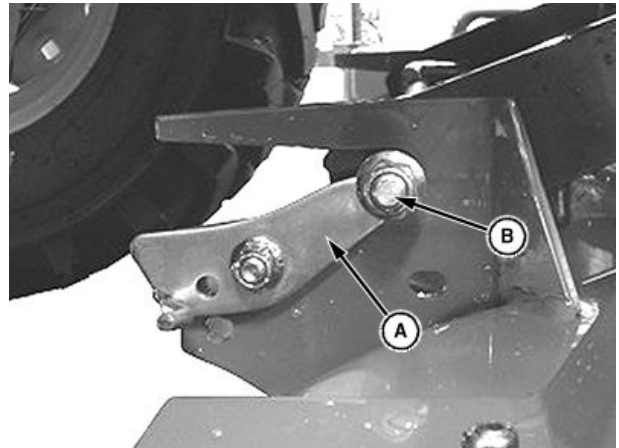
LV23995 —UN—04AUG15

UP00731,0000522 -19-15AUG18-7/9

13. Dismount tractor and ensure that the rear lock tab (A) on each side of mower is raised and firmly seated against the lift arm rod (B).

A—Lock Tab

B—Rod



LV23996 —UN—04AUG15

Continued on next page

UP00731,0000522 -19-15AUG18-8/9

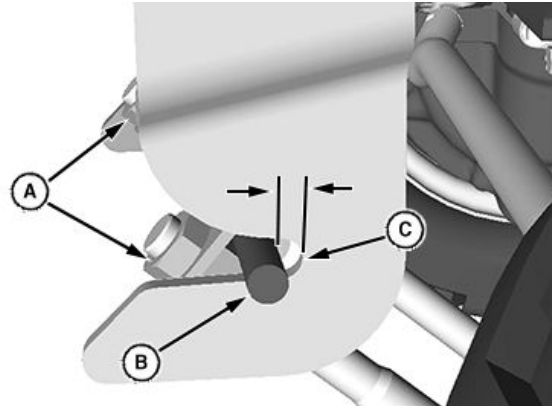
14. INITIAL INSTALLATION - Adjust front draft link nuts (A) as required to achieve 3 mm (.125 in) gap between the pivot pin (B) and back of the slots (C) in the front frame hooks.

- Uneven ground requires a larger gap, while level ground a smaller gap. Too much gap effects front to rear deck leveling. Too little gap causes lock to function improperly.

15. Start engine and lift mower to highest position.

16. Adjust gauge wheels as required for desired mowing height.

17. Adjust the mower height-of-cut dial to the desired setting, lower mower deck and stop the engine.



A—Front Draft Link Nuts

B—Pivot Pin

UP00731,0000522 -19-15AUG18-9/9

LV23997—UN—04AUG15

Connect Driveshaft

Driveshaft Connection - AutoConnect

If the machine is equipped with an AutoConnect Kit, the drive shaft is installed on the machine. It will automatically connect with the mower gearbox as the mower is installed on the machine.

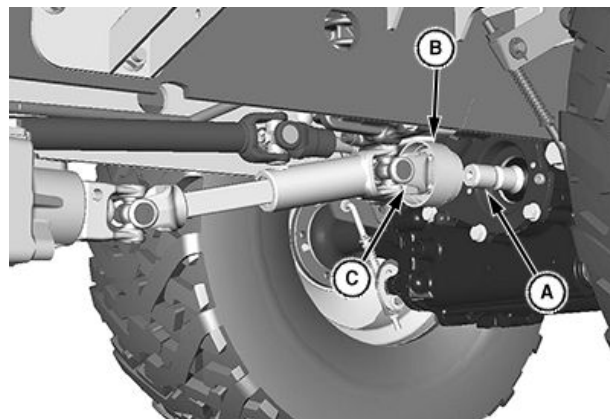
- Shift machine PTO selector to Mid-PTO to allow for mower operation.

Driveshaft Connection - Standard

If the machine is not equipped with an AutoConnect kit, a standard drive shaft is installed on the mower gearbox and must be directly connected to the machine Mid-PTO shaft.

1. To connect a standard drive shaft to the machine:

- Lift the driveline from the mower hanger and position it in line with the machine PTO shaft (A).
- Pull the drive shaft collar (B) toward the front of the machine.
- Align the rear drive shaft yoke (C) with the PTO shaft and push the yoke onto the shaft completely. It may be necessary to rotate the drive shaft slightly to engage the shaft.



A—PTO Shaft

B—Driveshaft Collar

C—Driveshaft Yoke

- Release the collar. Slide the yoke front-to-back to ensure that the yoke lock has firmly seated in the PTO shaft detent.
2. Shift the machine PTO selector to Mid-PTO to allow for mower operation.

UP00731,0000382 -19-06AUG15-1/1

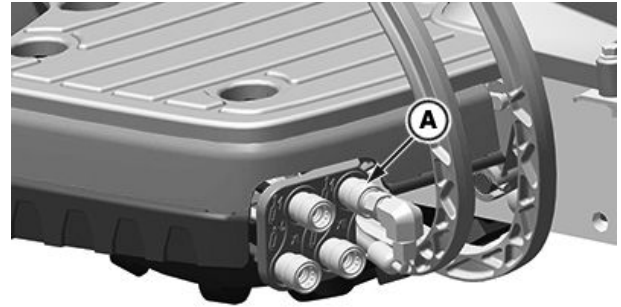
LV23998—UN—04AUG15

Connect Hydraulic Hose for Mower Lift

Connect Hydraulic Hose for SCV Hydraulic Mower Lift

1. Disconnect all loader SCV hose from SCV ports.
2. Connect the hydraulic mower lift hose to port (A).

A—Port



Hydraulic Port

UP00731,00005E1 -19-11OCT18-1/2

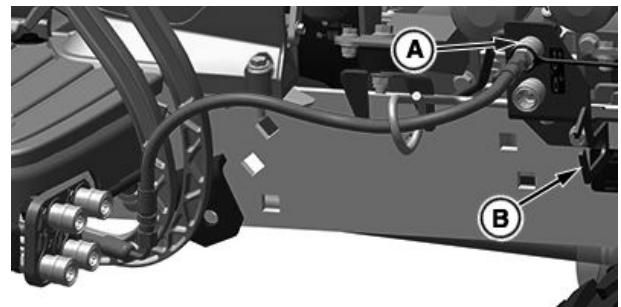
LV30376 —UN—11OCT18

Connect Hydraulic Hose for Third Function Mower Lift

1. Disconnect all loader SCV and third function hose from SCV ports.
2. Connect the third function mower lift hose to the top SCV port (A).
3. When not in use, store the third function lift hose in the storage bracket (B)

A—Mid-Mower Lift Hose

B—Storage Bracket



Mid-Mower Lift Hose

UP00731,00005E1 -19-11OCT18-2/2

LV30377 —UN—11OCT18

Adjusting

Preparing Machine

Required Equipment:

- Mower Lift Kit
- Mower Driveshaft Kit

Machine Setup:

1. Park machine safely.

2. Follow machine operator's manual instructions to check tire pressure.
3. Assemble the mower deck per assembly instructions in operator's manual.

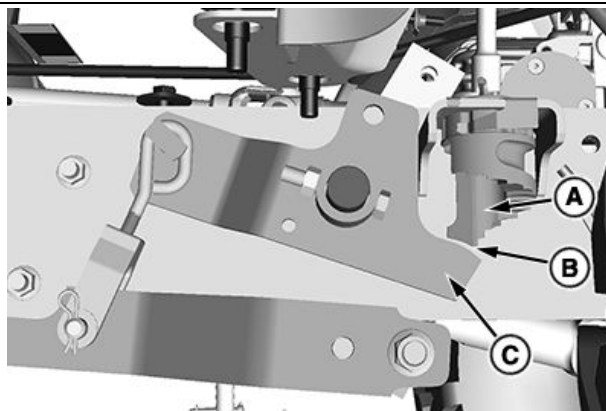
UP00731,000036E -19-06AUG15-1/1

Adjusting Mower Level (Side-to-Side)

CAUTION: Rotating blades are dangerous. Before adjusting or servicing mower:

- Disconnect spark plug wires or battery negative (-) cable to prevent engine from starting accidentally.
- Always wear gloves when handling mower blades or working near blades.

1. Park machine on a level surface, not on a slope.
2. Lock park brake.
3. Disengage mower blades.
4. Raise the mower deck. Turn the height-of-cut control dial until the fifth step (B) on the height of cut cam (A) is oriented towards the bell crank (C). Lower the mower deck fully.
5. Stop engine, remove the key, and hang a "DO NOT OPERATE" tag in the operator station.
6. Wait for engine and all moving parts to stop before leaving seat.



LV30215—UN—15AUG18

A—Height of Cut Cam
B—Fifth Step

C—Bellcrank

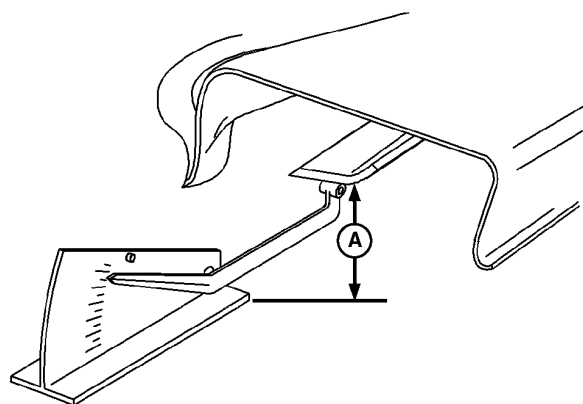
7. Disconnect the negative (-) battery cable.

UP00731,0000372 -19-15AUG18-1/4

NOTE: Mower wheels should not contact ground during leveling.

8. Measure from each outside blade tip to the level surface (A).

A—Level Surface



Using Leveling Gauge

LV18692—UN—20AUG13

Continued on next page

UP00731,0000372 -19-15AUG18-2/4

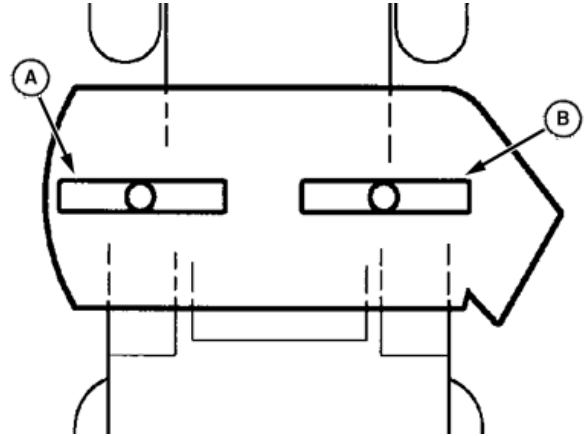
9. Turn the left blade (A) as shown. Hold the drive belt and turn the right blade (B) as shown. Take the blade-tip-to-surface measurement on both blades. The difference between both measurements must not be greater than specification.

Specification

Side-to-Side—Difference.....3—6 mm
0.125—0.236 in.

A—Left Blade

B—Right Blade



LV24008 —UN—04AUG15

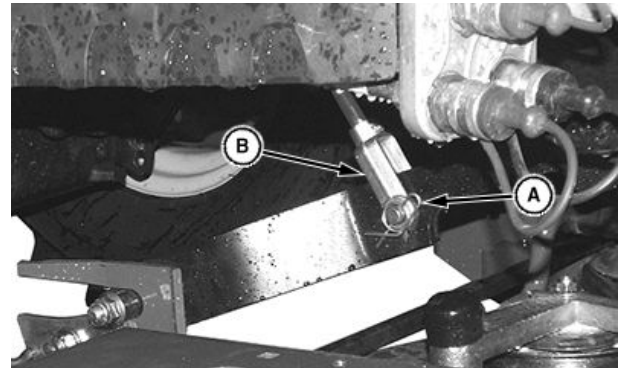
UP00731,0000372 -19-15AUG18-3/4

10. To adjust side-to-side level:

- Remove the retaining pins (A) from the left and right rear turnbuckles (B).
- Adjust one turnbuckle at a time as required and check the blade level.
 - Shorten the turnbuckle - raises the deck
 - Lengthen the turnbuckle - lowers the deck
- When adjustment is complete, install retaining pins.

A—Retaining Pins

B—Turnbuckles



LV24009 —UN—04AUG15

UP00731,0000372 -19-15AUG18-4/4

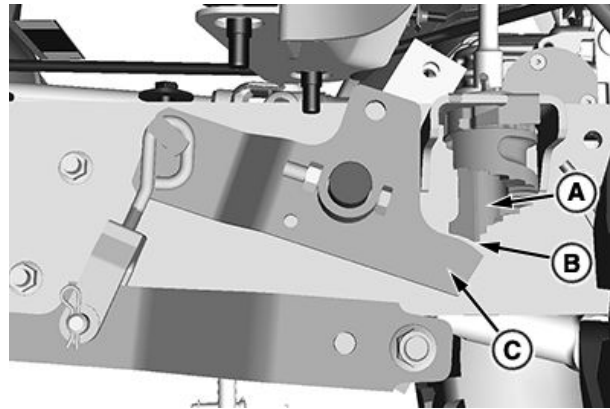
Adjusting Mower Level (Front-to-Rear)

1. Park machine on a flat, level surface.
2. Lock the park brake.
3. Disengage the mower blades.
4. Raise the mower deck. Turn the height-of-cut control dial until the fifth step (B) on the height of the cut cam (A) is oriented towards the bell crank (C). Lower the mower deck fully.

CAUTION: Rotating blades are dangerous. Before adjusting or servicing mower:

- To prevent engine from starting accidentally, disconnect the negative (-) battery cable.
- Always wear gloves when handling mower blades or working near blades.

5. Stop the engine, remove the key, and hang a "DO NOT OPERATE" tag in the operator station.
6. Wait for the engine and all moving parts to stop before leaving the operator seat.



A—Height of Cut Cam
B—Fifth Step

C—Bellcrank

7. Disconnect the negative (-) battery cable.

UP00731,00005B1 -19-15AUG18-1/5

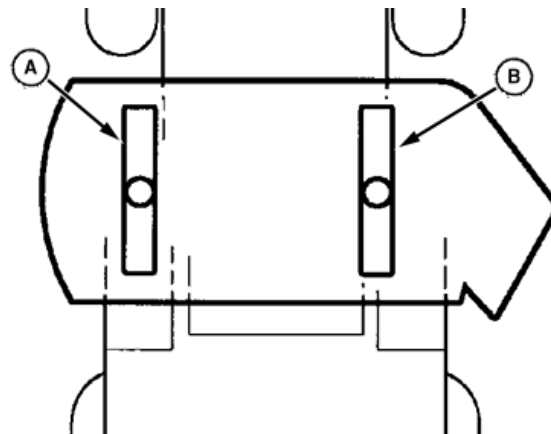
NOTE: Adjust the front blade of the mower lower than the rear blade of the mower.

Do not allow the mower wheels to contact the ground during leveling.

8. Turn the left blade (A) as shown. Hold the drive belt and turn the right blade (B) as shown. Take blade tip-to-surface measurement on both ends of each blade and compare to specification:

Specification

Blade Tip Front-to-Rear
(front is the lower end)—Height Difference..... 3 mm
0.125 in.



A—Left Blade

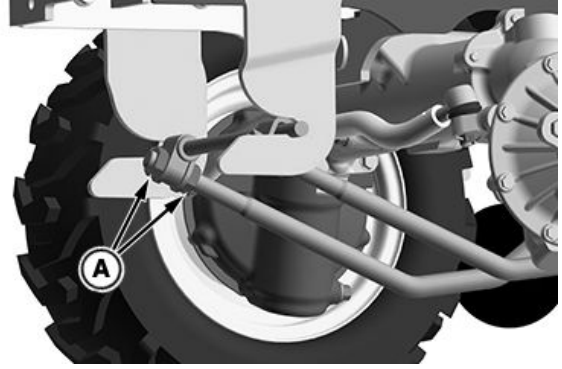
B—Right Blade

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UP00731,00005B1 -19-15AUG18-2/5

9. If the front-to-rear difference is within specification, tighten draft link nuts (A) and go to step 12.
10. If front-to-rear difference is greater than 13 mm (0.50 in), loosen draft link nuts (A).
 - a. To raise the front of the deck, shorten the draft link.
 - b. To lower the front of the deck, lengthen the draft link.
 - c. Return to step 4 to measure the front-to-rear level.
11. If the front-to-rear difference is less than 13 mm (0.50 in) but greater than 3 mm (0.125 in), tighten the draft link nuts (A).

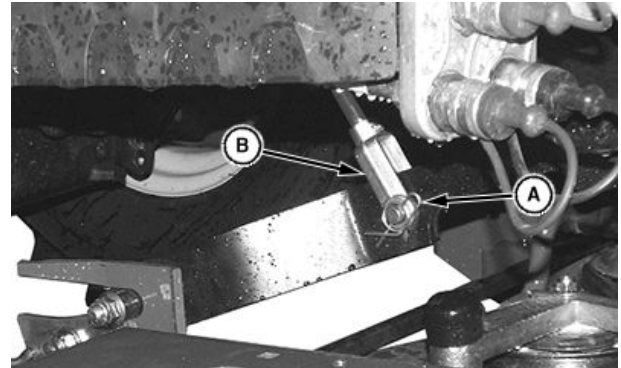
A—Draft Link Nut (4 used)



LV30217—UN—14AUG18

UP00731,00005B1 -19-15AUG18-3/5

- a. Connect the negative battery cable.
- b. Lower the deck to the ground, stop the engine, and remove the key.
- c. Remove the retaining pins (A) and pivot pin securing both turnbuckles (B) to the lift arms.
- d. Shorten both turnbuckle assemblies an equal number of turns to raise the rear of the deck.
- e. Lengthen both turnbuckle assemblies an equal number of turns to lower the rear of the deck.
- f. When the adjustment is complete, install the retaining pins.
- g. Return to previous steps to measure the front-to-rear level.



A—Retaining Pins

B—Turnbuckles

LV24009—UN—04AUG15

12. Connect the negative battery cable.
13. Lower the deck to the ground, stop the engine, and remove the key.

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UP00731,00005B1 -19-15AUG18-4/5

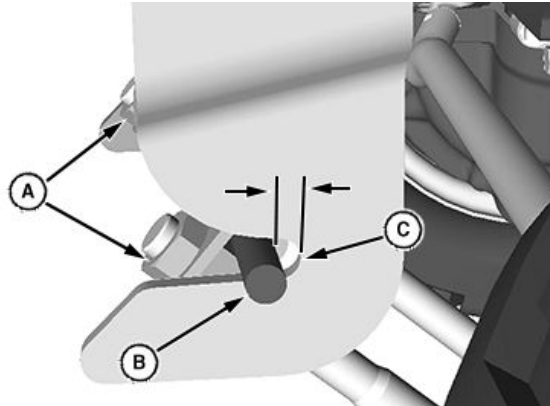
14. Measure the draft link gap (A) and compare to specifications.

Specification

Draft Link
Gap—Distance..... 3 mm
0.125 in.

- Uneven ground requires a larger gap, while level ground requires a smaller gap. Too much gap effects front to rear deck leveling. Too little gap causes lock to function improperly.

15. If the draft link gap is not to specification, loosen the draft link nuts (A).
- To decrease the draft link gap, shorten the draft link.
 - To increase the draft link gap, lengthen the draft link.
 - Return to previous steps to measure the front-to-rear level.
16. If the draft link gap is to specification, the front-to-rear leveling procedure is complete.



A—Front Draft Link Nuts

B—Pivot Pin

UP00731,00005B1 -19-15AUG18-5/5

LV23997—UN—04AUG15

Adjusting Deck Height

- Ensure that the mower deck is level.
- Raise the mower deck fully and measure the mower stop-to-tractor frame gap (A) between the mower lift stop and the tractor frame. Compare the measurement to specification:

Specification

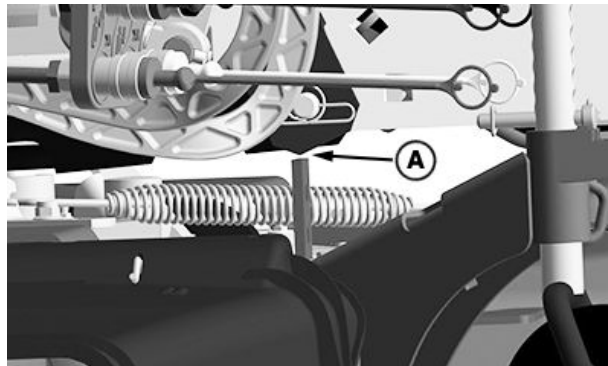
Mower Stop-to-Tractor
Frame Gap
(A)—Distance..... 3 mm
0.125 in.

3. **If the mower stop-to-tractor frame gap is to specification, the deck adjustment is complete.**

NOTE: If adjustments are needed beyond this point, perform the deck side-to-side and the front-to-rear procedures after the mower stop-to-tractor frame gap is successfully set.

If the mower stop-to-tractor frame gap cannot be achieved, the rockshaft linkage and or the lift strap linkage are out of adjustment. See your John Deere dealer for the proper adjustment procedure.

4. **If the mower stop-to-tractor frame gap is not to specification:**



A—Gap

- Lower the mower deck to the ground.
- Stop the engine and remove key.
- Wait for the engine and all moving parts to stop before leaving the operator seat.

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UP00731,0000524 -19-15AUG18-1/3

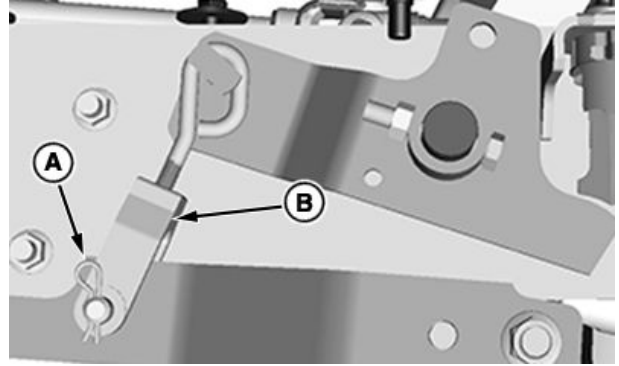
LV30218—UN—14AUG18

Adjusting

- d. Remove the retaining pins (A) and pivot pin securing both turnbuckles (B) to the lift arms.
- e. To reduce the gap, shorten the turnbuckle assemblies an equal number of turns.
- f. To increase the gap, lengthen the turnbuckle assemblies an equal number of turns.
- g. Install the turnbuckles on the lift arms.
- h. Raise the mower deck fully, stop engine, and remove key.

A—Retaining Pin

B—Turnbuckle



LV30216 —UN—14AUG18

UP00731,0000524 -19-15AUG18-2/3

- i. Measure the mower stop-to-tractor frame gap (A) between the mower lift stop and the tractor frame. Compare the measurement to specification:

Specification

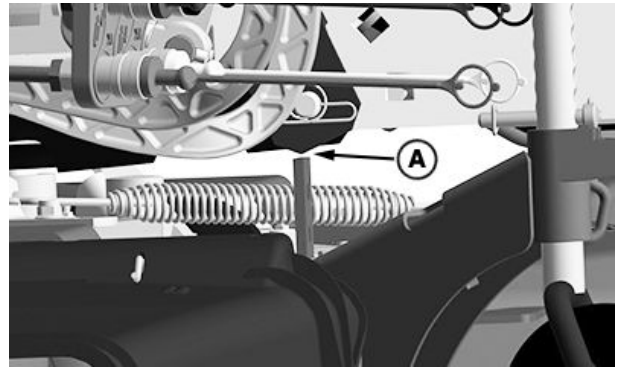
Mower Lift Stop-to-

Tractor Frame Gap

(A)—Distance..... 3 mm
0.125 in.

- j. Repeat steps a - i until mower stop-to-tractor frame gap is to specification.
5. Perform the side-to-side and the front-to-rear adjustment procedure.

A—Gap



LV30218 —UN—14AUG18

UP00731,0000524 -19-15AUG18-3/3

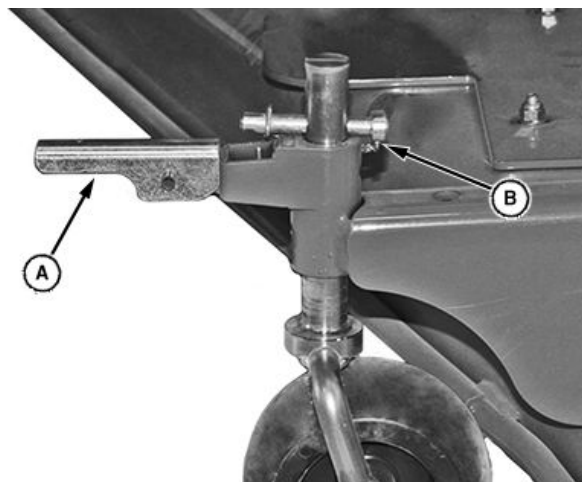
Adjusting Mower Wheels

IMPORTANT: Avoid damage! If mower wheels are adjusted incorrectly, the mower deck can be damaged:

- Wheels must not ride on ground supporting mower weight.
- Check wheel adjustment each time cutting height is changed.

1. Park machine on a level surface, not on a slope.
2. Disengage mower blades.
3. Raise mower, turn the height-of-cut control to the desired cutting height and lower mower.
4. Lock park brake.
5. Stop engine and remove key.
6. Wait for engine and all moving parts to stop before leaving operator seat.
7. Set gauge wheel height:
 - a. Release gauge wheel lock (A).
 - b. Adjust wheel assembly to 9.5 mm (3/8 in) distance between gauge wheels and ground.

IMPORTANT: Avoid damage! Ensure that at least one hole remains above lock bracket. In



A—Gage Wheel Lock

B—Lock Pin

extreme mowing conditions, retract wheels completely to avoid damage.

- c. Install snap lock pin (B) in hole just above gauge wheel bracket.
- d. Repeat for remaining gauge wheels.

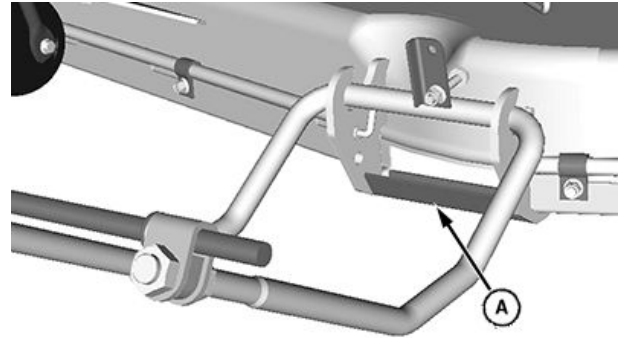
LV24013—UN—04AUG15

UP00731,0000374 -19-30JUL15-1/1

Removing and Storing

Removing Mower

1. Park machine on a level surface, not on a slope. If ground conditions are soft, place a piece of plywood under the mower front draft skid (A) before lowering and removing.
2. Remove front weights, if installed. Replace weights after mower is removed.
3. Lock park brake.
4. Disengage mower blades.
5. Ensure tractor can be driven rearward to deposit mower and that sufficient room exists to back fully off deck before turning tractor wheels.
6. Release gage wheel locks, and set height of cut control to INSTALL position. 6.
7. Lower mower to ground and stop engine.



A—Front Draft Skit

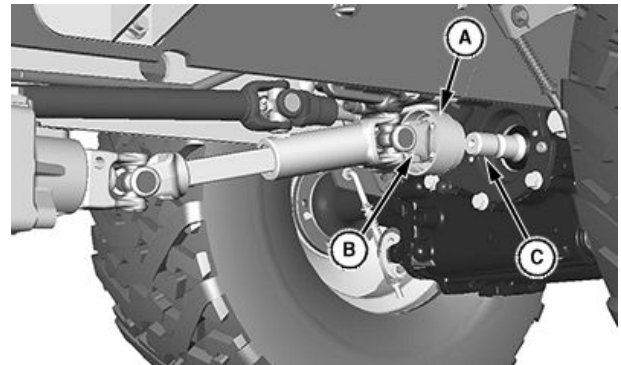
LV23959 —UN—04AUG15

UP00731,0000370 -19-06AUG15-1/5

8. Standard Drive Shaft Models Only: Disconnect the drive shaft as follows:
 - a. Pull the drive shaft collar (A) toward the front of the machine to release the yoke lock.
 - b. Pull the rear yoke assembly (B) straight toward the front of the machine until it has cleared the PTO shaft (C).

A—Drive Shaft Collar
B—Yoke Assembly

C—PTO Shaft



Standard Drive Shaft Models Only

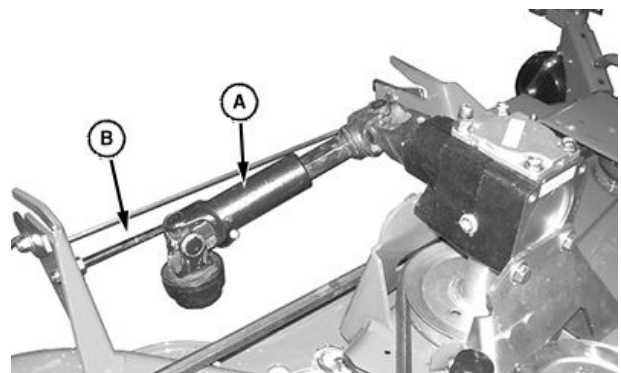
LV24000 —UN—04AUG15

UP00731,0000370 -19-06AUG15-2/5

- c. Place the rear yoke assembly (A) in the hanger (B) on the right side of the mower.

A—Yoke Assembly

B—Hanger



LV23991 —UN—04AUG15

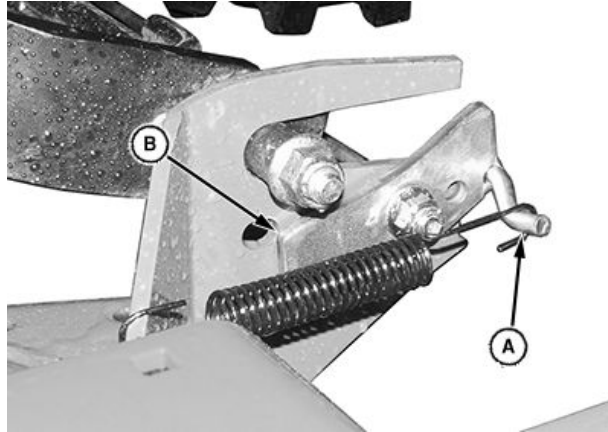
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UP00731,0000370 -19-06AUG15-3/5

9. Raise the lock lever up (A) to release the left and right rear mower lock (B). If lock sticks, pull mower rearward on machine.
10. Start engine and engage tractor MFWD in low range.
11. Slowly back tractor straight off mower.
12. Raise lift system fully and turn height of cut control to the lock position.

A—Lock Lever

B—Mower Lock



LV24002—UN—04AUG15

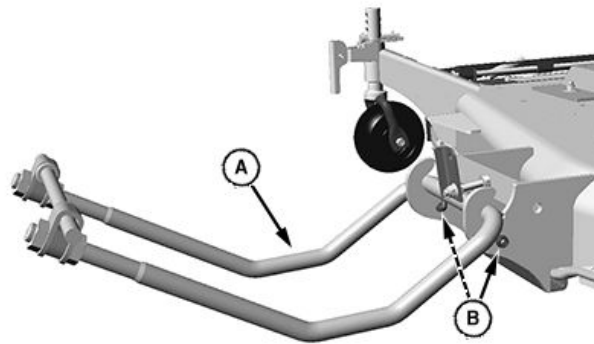
UP00731,0000370 -19-06AUG15-4/5

NOTE: Do not use the front draft link assembly as a handle to move or reposition the mower deck.

13. When removing the mower for storage:
 - a. Remove the front draft link assembly (A).
 - b. Remove the tension spring and two lock pins (B).
 - c. Remove the lift link assembly from the mower.
 - d. Retain all components for later installation.
14. Replace weights that were previously removed.

A—Front Draft Link Assembly

B—Lock Pins



LV24003—UN—04AUG15

UP00731,0000370 -19-06AUG15-5/5

Storing Mower

CAUTION: Blades are sharp. Do not store mower deck on machine or removed from machine with blades exposed. Store mower deck laying flat on ground.

1. Remove mower from machine. (If machine is to be stored with mower on machine, refer to Storing Machine in your machine's operator's manual.)
2. Clean underside of mower with water pressure and scraper.
3. Inspect blades:
 - Have dull blades sharpened and balanced.
 - Replace damaged blades.
4. Clean top of deck and the area around all of the sheaves.
5. Check condition of belt. If necessary, get a new belt. Do not install new belt until you remove mower from storage.
6. Repair or replace any worn or damaged parts.
7. Apply touch-up paint where needed to prevent rust.
8. Lubricate grease points.
9. Release belt tension.
10. Store mower in a clean, dry place.
11. Put a waterproof cover over mower, if you store the mower outside.

UP00731,0000063 -19-26AUG13-1/1

Operating

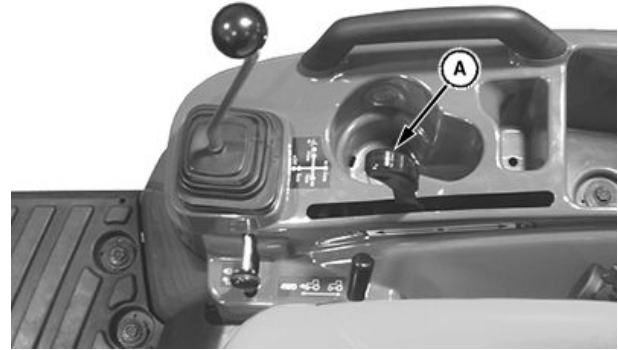
Raising and Lowering Mower

The machine can be equipped with a mechanical or hydraulic lift system. The height-of-cut control is the same for all systems.

Mechanical Lift System

IMPORTANT: Avoid Damage when using the mechanical lift system. To prevent unintended operation, do not connect any implement or attachment to the three point hitch when the machine is being used for mowing operations.

A mechanical mower lift kit is connected to the machine rock shaft and operates with the control lever (A). See the machine operator's manual for operating instructions for your specific tractor.



Model 1023E shown

A—Rock Shaft Control Lever

LV24004 —UN—04AUG15

UP00731,00005DD -19-26NOV18-1/4

Hydraulic Mower Lift System (If equipped)

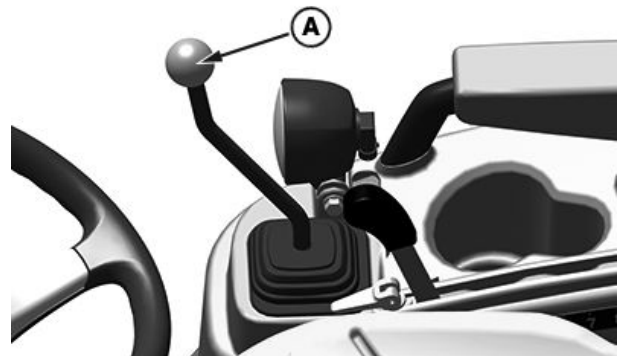
A hydraulic mower lift system operates independently of the machine rockshaft and operates by the machine SCV lever (A).

To raise the mower:

1. Pull the SCV lever (A) to the left to raise the mower.
2. Make height-of-cut adjustment, if necessary.

To lower the mower:

Lower the mower by pushing the SCV lever slightly to the right. Avoid engaging the regeneration function, do not push the lever fully to the right.



Hydraulic Mower Lift

A—SCV Lever

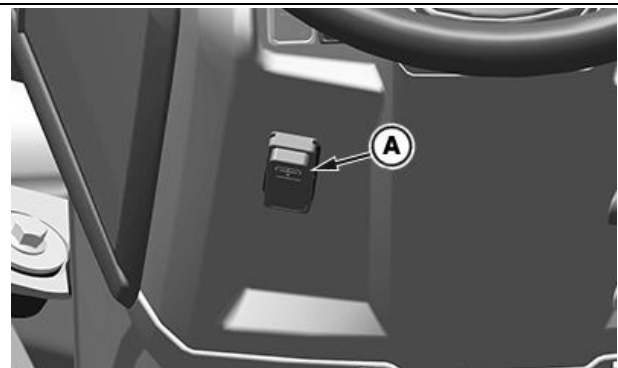
LV30374 —UN—05OCT18

UP00731,00005DD -19-26NOV18-2/4

Independent Hydraulic Mower Lift System (If equipped)

A hydraulic mower lift system operates independently of the machine rockshaft and is operated by the mower lift switch (A). To raise and lower the mower deck, use the mower lift switch.

A—Mower Lift Switch



Independent Hydraulic Lift System

LV30372 —UN—04OCT18

Continued on next page

UP00731,00005DD -19-26NOV18-3/4

Third Function SCV Hydraulic Mower Lift System (If equipped)

A third function SCV hydraulic mower lift system operates independently of the machine rockshaft and is operated by the machine third function button on the SCV lever (A). To raise and lower the mower deck, use the third function button.



Third Function

UP00731,00005DD -19-26NOV18-4/4

LV30373 —UN—04OCT18

Height-of-Cut Adjustment

The mower height-of-cut is adjusted with the control (A) on the left side of the operator. Raise and hold the mower to its highest position using the lift system and adjust the height-of cut control as follows:

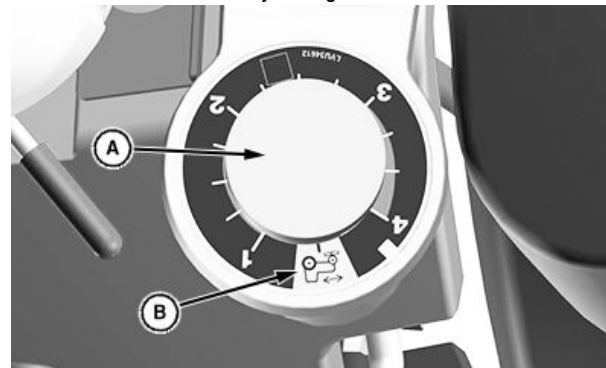
- Install (B)—Turn the control to this position to lower the mower lift mechanism whenever removal or installation of the mower is required.
- Height-of-Cut Range—Turn the control to any position in this range to select the desired height-of-cut.
- L—M—H Style Height-of-Cut Label
- 1—4 Style Height-of-Cut Label

A—Height-of-Cut Control

B—Install Position



L—M—H Style Height-of-Cut Label



1—4 Style Height-of-Cut Label

UP00731,00005DE -19-04OCT18-1/1

LV29620 —UN—20DEC17

LV29889 —UN—14FEB18

Engaging Mower

1. Review instructions on using mid-PTO included in your machine operator's manual.

2. Follow machine operator's manual instructions to engage mid-PTO and mower.

UP00731,0000069 -19-26AUG13-1/1

Unplugging Mower

⚠ CAUTION: Avoid injury! Do not attempt to unplug attachment with machine running.

- Rotating blades are dangerous. Shut off the engine and remove the key before getting off the seat to inspect the machine and attachment.
- Thrown objects can cause serious injury. Make sure all machine parts are stopped before raising hopper top or removing chutes.

1. Park machine safely. Wait for all moving parts to stop before getting off to inspect machine.
2. Check under mower deck and discharge chute for debris.
3. Remove debris and check for proper operation.

UP00731,000006A -19-06AUG15-1/1

Transporting Mower on Machine

Raise mower to the highest position and turn the height-of-cut control to the lock position.

UP00731,0000376 -19-30JUL15-1/1

Transporting Machine on Trailer

Refer to machine operator's manual for transporting information.

UP00731,0000377 -19-30JUL15-1/1

Service

Service Intervals

Every 10 Hours

- If operating in dry conditions, clean debris from mower.

Every 25 Hours

- Lubricate spindles
- Lubricate driveshaft
- Inspect mower blades

- Inspect mower belt

Every 100 Hours

- Check gearbox oil level
- Wash mower

Every 500 Hours

- Change gearbox oil

UP00731,000006C -19-26AUG13-1/1

Grease

IMPORTANT: Avoid damage! Use recommended John Deere greases to avoid component failure and premature wear. The recommended John Deere greases are effective within an average air temperature range of -29 to 135 degrees C (-20 to 275 degrees F). If operating outside that temperature range, contact your Servicing dealer for a special-use grease.

The following greases are preferred:

- John Deere Multi-Purpose SD Polyurea Grease

- John Deere Multi-Purpose HD Lithium Complex Grease

If not using any of the preferred greases, be sure to use a general all-purpose grease with an NLGI grade No.2 rating.

Wet or high speed conditions may require use of a special-use grease. Contact your Servicing dealer for information.

UP00731,000006E -19-26AUG13-1/1

Gear Oil

Use oil viscosity based on the expected air temperature range during the period between oil changes.

John Deere GL-5 Gear Lubricant is recommended.

Other oils may be used if they meet one or more of the following:

- API Service Classification GL-5.
- Military Specification MIL-L-2105D.
- Military Specification MIL-L-2105C.
- Military Specification MIL-L-2105B.

Oils meeting Military Specification MIL-L-10324A may be used as arctic oils.

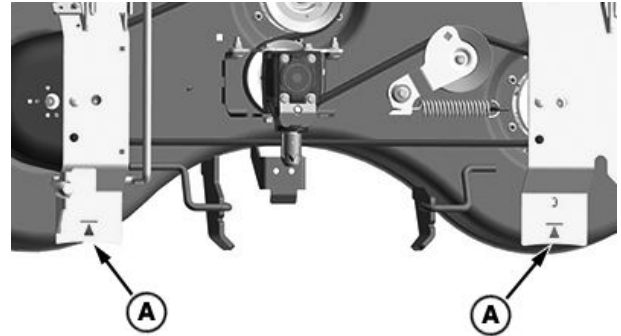
UP00731,000006F -19-26AUG13-1/1

Service the Mower Deck Using the Load-N-Go Ramps

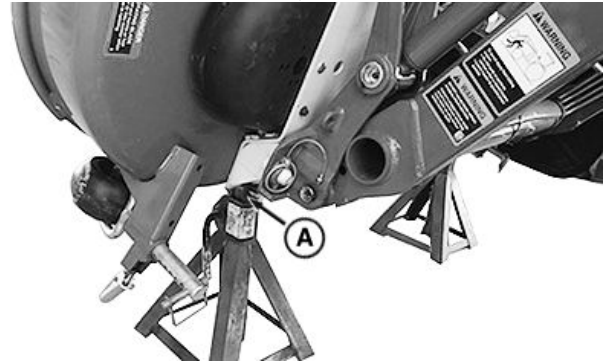
CAUTION: Do not walk or perform service under a raised loader, bucket or attachment unless it is securely blocked or held in position.

1. Start tractor engine.
2. With the mower deck attached to the loader arms, raise the mower deck off the ground.
3. Retract the cylinders to angle the mower deck in a vertical position.
4. Place jack stands under the deck to align with the jacking points (A) location.
5. Slowly lower the mower deck onto the jack stands.
6. Move the loader SCV to the float position.

A—Jacking Point



Jacking Point



Jacking Point

UP00731,00005F3 -19-15NOV18-1/1

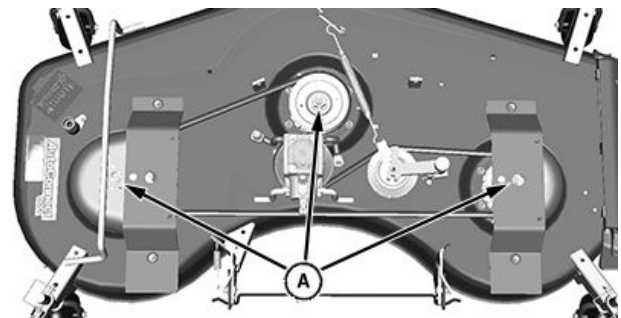
LV30404—UN—14NOV18

LV30397—UN—01NOV18

Lubricating Mower

1. Lubricate three grease fittings (A) on sheaves with recommended grease.

A—Grease Fittings on Sheaves



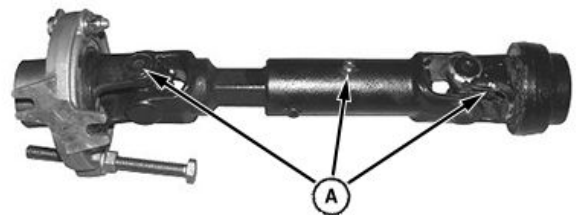
60D Mower Shown

UP00731,0000378 -19-30JUL15-1/2

LV24014—UN—04AUG15

2. Lubricate three grease fittings (A) on mid PTO with recommended lubricant.

A—Grease Fittings on Mid PTO



UP00731,0000378 -19-30JUL15-2/2

LV24015—UN—04AUG15

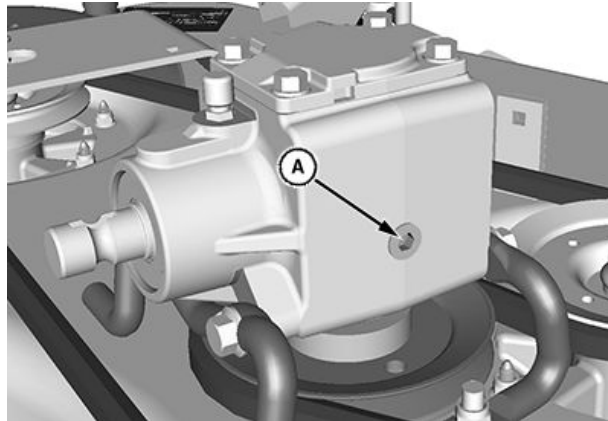
Servicing Gearbox

Checking Oil Level

1. Remove plug from one side of gearbox.
2. Oil level should be even with bottom edge of plug hole.
3. If oil is low, add recommended oil.
4. Install plug.

Changing Oil

1. Remove gearbox bracket with gearbox. Refer to assembly section for additional information.
2. Remove plug (A) on both sides of gearbox.
3. Lift and turn gearbox on side to drain oil from gearbox.
4. Route belt around gearbox sheave and lower gearbox onto deck. Secure gearbox bracket to deck. Refer to assembly section for additional information.
5. Add recommended oil to bottom edge of plug hole in gearbox.



A—Plug

6. Install plugs.

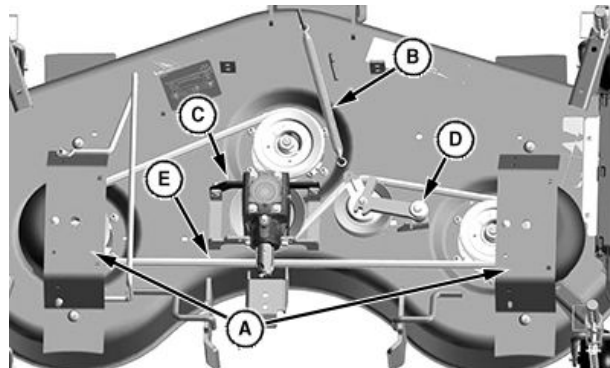
UP00731,0000379 -19-30JUL15-1/1

LV24016—UN—04AUG15

Servicing Mower Belt

Removing Belt

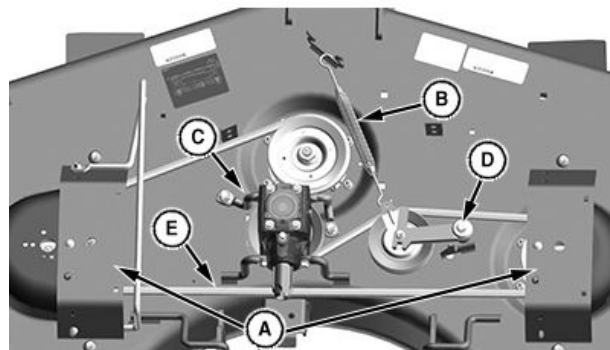
1. Remove mower from machine.
2. Clean area around and under ramps.
3. Remove both drive-over ramps (A) with shields.
4. Remove spring (B) to relieve belt tension.
5. Remove the rear gearbox support (C).
6. Remove the dust cap, snap ring, and flat washer (D) retaining the tensioner pulley assembly and remove the pulley assembly.
7. Remove belt (E) from mower.



54D Mower Shown

Installing Belt

1. Install belt around sheaves and route as shown.
2. Install tensioner pulley assembly and secure using a flat washer, snap ring, and dust cap (D).
3. Install the rear gearbox support (C) with original hardware.
4. Install tensioner spring (B).
5. Install the left and right drive-over ramps (A) with shields.



60D Mower Shown

A—Ramps
B—Spring
C—Gearbox Support

D—Washer
E—Belt

UP00731,000024D -19-15MAR17-1/1

LV27035—UN—13DEC16

LV27034—UN—13DEC16

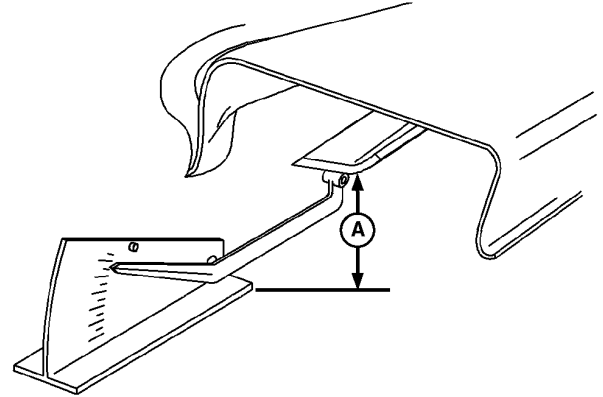
Servicing Mower Blades

CAUTION: Avoid injury! Blades are sharp. Always wear gloves when handling blades or working near blades.

Replace blades if defective. Never straighten or weld them.

Checking for Bent Mower Blades

1. Park machine on a level surface, not on a slope.
2. Disengage mower blades.
3. Fully raise the mower.
4. Lock the park brake.
5. Stop the engine.
6. Remove the key.
7. Wait for engine and all moving parts to stop before you leave the operator's seat.
8. Block the mower.
9. Measure the distance (A) from blade tip to level surface with a ruler or a leveling gauge available at your John Deere dealer.
10. Rotate blade 180° and measure the distance between other end of blade and surface.
11. Check all blades. Install new blade if difference between measurements is more than 3 mm (1/8 in.).



A—Distance - Blade to Level Surface

LV18692 —UN—20AUG13

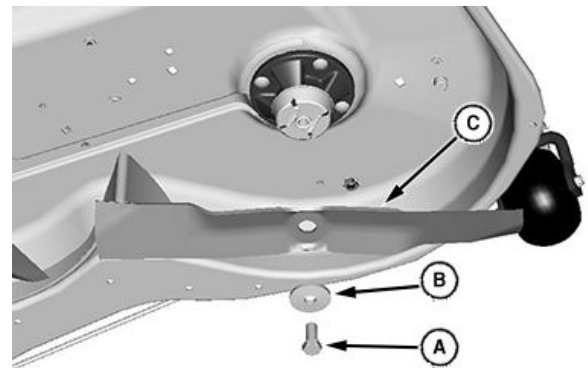
UP00731,000037B -19-06AUG15-1/7

Removing Mower Blades

1. Park machine safely.
2. Remove mower from machine.
3. Use a suitable lifting device to raise mower to gain access to blades.
4. Insert wood block between blade and mower to prevent blade from turning when removing bolt.
5. Remove blade:
 - a. 54D - Remove bolt (A), washer (B) and blade (C).

A—Bolt
B—Washer

C—Blade



54D Deck Shown

LV24019 —UN—04AUG15

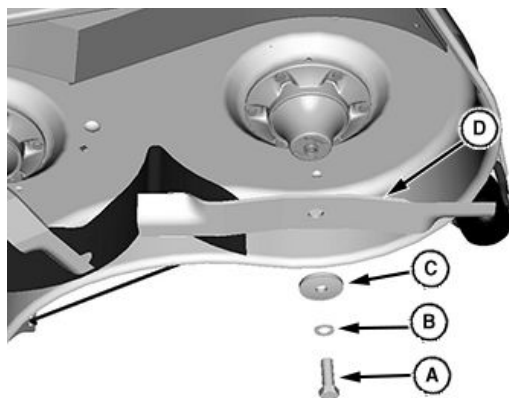
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UP00731,000037B -19-06AUG15-2/7

- b. 60D - Remove bolt (A), washer (B), washer (C) and blade (D).

A—Bolt
B—Washer

C—Washer
D—Blade



60D Deck Shown

UP00731,000037B -19-06AUG15-3/7

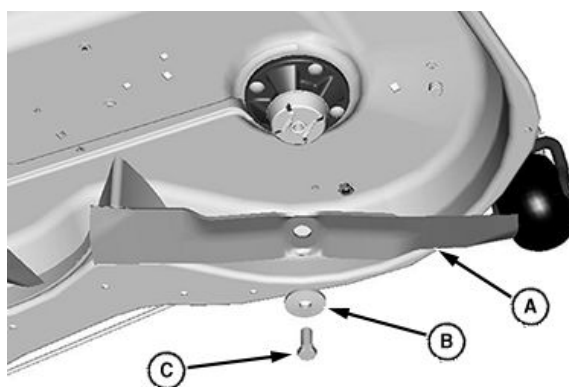
LV24020—UN—04AUG15

Installing Mower Blades

1. Install blade with cutting edge toward the ground:
 - a. 54D - Install blade (A) with cutting edge toward the ground, washer (B) and bolt (C).

A—Blade
B—Washer

C—Bolt



54D Deck Shown

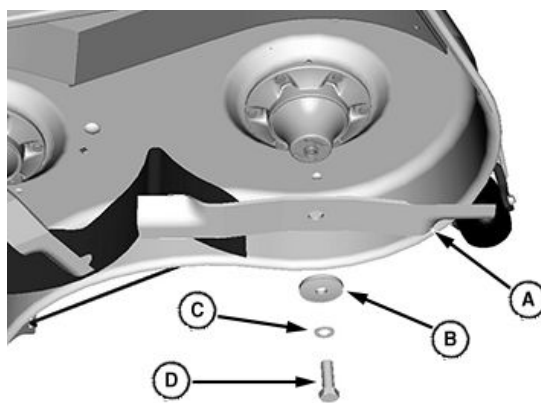
UP00731,000037B -19-06AUG15-4/7

LV24021—UN—05AUG15

- b. 60D - Install blade (A) with cutting edge toward the ground, washer (B), washer (C) and bolt (D).
2. Insert wood block between blade and mower to prevent blade from turning when tightening bolt.
 - Tighten 54D bolt to 68 N•m (50 lb-ft)
 - Tighten 60D bolt to 122 N•m (90 lb-ft)

A—Blade
B—Washer

C—Washer
D—Bolt



60D Deck Shown

UP00731,000037B -19-06AUG15-5/7

LV24022—UN—05AUG15

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Sharpening Blades

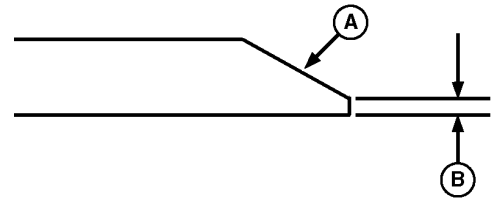
⚠ CAUTION: Avoid injury! Rotating blades are dangerous. Before adjusting or servicing mower:

- Disconnect spark plug wire(s) or battery negative (-) cable to prevent engine from starting accidentally.
- Always wear gloves when handling mower blades or working near blades.

1. Sharpen blade with grinder, hand file or electric blade sharpener.

- Keep original bevel (A) when grinding..
- Blade should have 0.40 mm (1/64 in.) cutting edge (B) or less.

2. Balance blade before installing.



A—Bevel

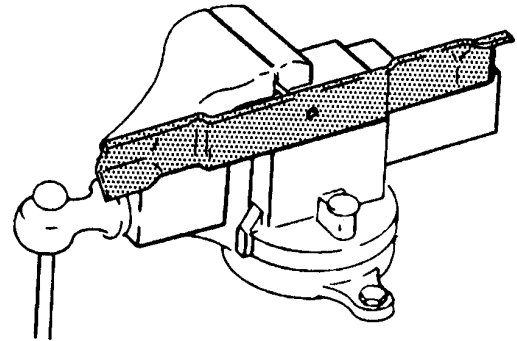
B—Cutting Edge

UP00731,000037B -19-06AUG15-6/7

LV18695—UN—20AUG13

Balancing Blades

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



UP00731,000037B -19-06AUG15-7/7

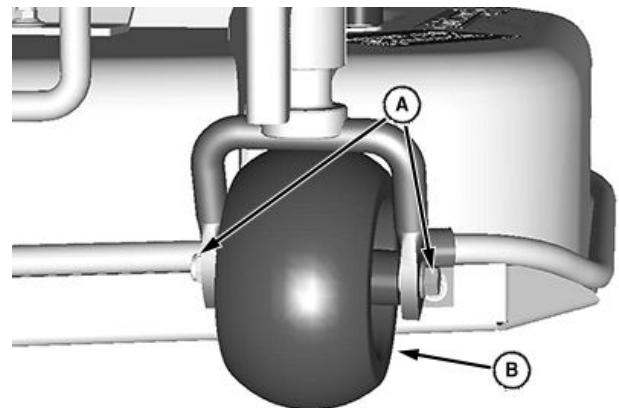
LV18696—UN—20AUG13

Replacing Wheels

1. Park machine on a level surface, not on a slope.
2. Disengage mower blades.
3. Fully raise mower.
4. Lock park brake.
5. Stop engine.
6. Remove key.
7. Wait for engine and all moving parts to stop before leaving operator seat.
8. Remove wheel hardware (A).

IMPORTANT: Avoid damage! Do not overtighten wheel hardware. Overtightening hardware will cause damage to bushing.

9. Install new wheel (B) with hardware.



A—Wheel Hardware

B—Wheel

UP00731,000037C -19-06AUG15-1/1

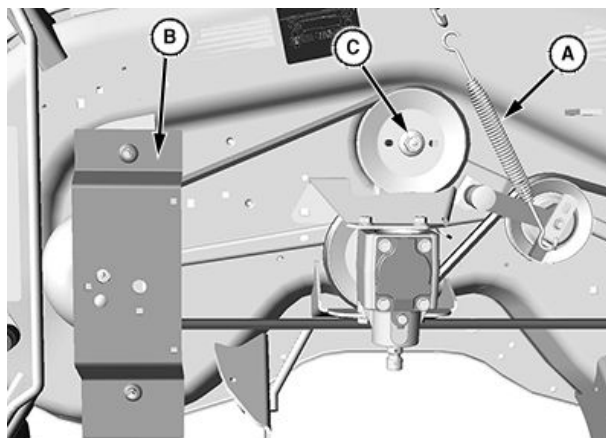
LV24023—UN—04AUG15

Replacing Sheaves

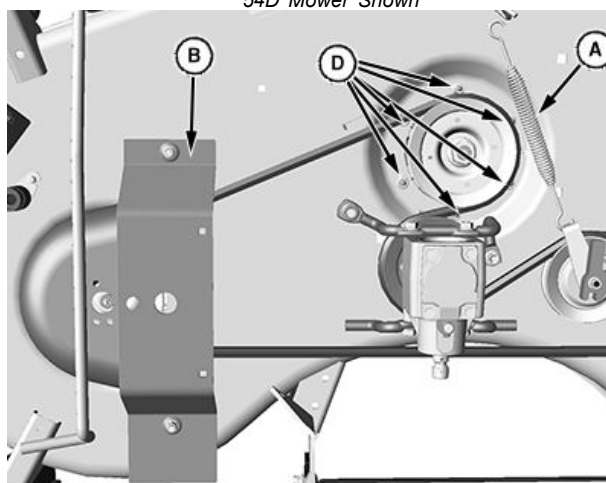
1. Remove spring (A) to relieve belt tension.
2. If necessary, remove drive over ramp (B).
3. Remove bolt:
 - a. 54D mower: Remove center bolt (C) on sheave to be replaced.
 - b. 60D mower: Remove six bolts (D) on sheave to be replaced.
4. Replace sheave and secure with original hardware.
5. Replace ramps, if removed.

A—Spring
B—Ramp

C—Center Bolt
D—Bolts



54D Mower Shown



60D Mower Shown

LV24024—UN—04AUG15

LV24025—UN—04AUG15

UP00731,000037D -19-06AUG15-1/1

Troubleshooting

Use Troubleshooting Chart

If you are experiencing a problem that is not listed in this chart, see your John Deere distributor for service.

When you have checked all the possible causes listed and you are still experiencing the problem, see your John Deere distributor.

KN52281,1003F58 -19-22AUG12-1/1

Mower Deck Troubleshooting

IF	Check
Discharge chute plugged	• Belt(s) installed incorrectly. • Grass too wet. • Grass too long. • Engine should be at full throttle. • Rear of deck too low.
Patches of grass uncut	• Travel speed too fast. • Engine should be at full throttle. • Dull blades. • Cutting height set too high.
Belt slipping	Debris around sheaves. Worn belt. Mower plugged.
Too much vibration	Debris on mower deck or around sheaves. Damaged drive belt. Damaged sheaves or sheaves out of alignment. Blades out of balance.
Uneven cut	Check procedures on Adjusting Mower Level Side-to-Side and Front-to-Rear. Travel speed too fast. Blades are dull. Check tire pressure. Adjust mower wheels.
Mower stops when reverse foot pedal is depressed and attachment is engaged	Normal condition. See the reverse implement option information in your machine operator manuals.
Blades scalping grass	Turning speed too fast. Ridges in terrain. Rough or uneven terrain. Low tire pressure. Cutting too low. Bent blade(s). Adjust mower wheels.
Mower loads down tractor	Turning speed too fast. Ridges in terrain. Rough or uneven terrain. Low tire pressure. Cutting too low. Bent blade(s). Adjust mower wheels.
Uneven clipping distribution	Cutting height set too low. Mowing too fast. Grass too wet.

UP00731,0000381 -19-06AUG15-1/1

Connecting Mower Deck Troubleshooting

IF	Check
Rear draft arms are not fully lowered	Height of cut control should be in the install position, use SCV or rockshaft control lever to raise and lower deck. Mower lift link is not contacting any step on height stop cam. Refer to adjusting maximum height-of-cut for additional information.
Rear latch is not functioning properly	Rear lock assembly should be in locked position prior to driving over mower. Rear lock assembly only stops in the lock and unlock position. NOTE: If lock assembly stops or binds in-between positions, lubrication at pivot point may be required. Rear lock assembly and surrounding components are not deformed or bent. Rear lift arm rods are completely lowered on both sides of mower. This function is controlled by the SCV or rockshaft control lever. Refer to installing mower deck for additional information.
If mower and ground conditions are not consistent	Ensure mower is parked on level hard surface. If parking on level hard surface is not possible, place a board under front of mower. Gage wheels in unlock position. Mower is centered on the tractor. Driveshaft connection is aligned properly (for AutoConnect driveshaft only). Driveshaft is properly installed in hanger (for standard driveshaft only). If equipped with front weights, remove before installation. Replace weights when complete. Refer to installing mower deck for additional information.
Improper front draft arm engagement	At least a 2-3mm (.08-.10 in) gap at front draft link and frame hook. Adjustment to draft link nuts may be required. If locks are not releasing or locking easily, gap at front draft link and frame hook may need to be increased. Front draft link yoke is properly oriented. Front draft link is at proper height and not dragging on bottom of frame hook. Refer to installing mower deck for additional information.

UP00731,0000387 -19-06AUG15-1/1

Specifications

Mower Deck Specifications

54D Mower Deck

Mower Type	Mulch or Side Discharge
Cutting Blades	3
Overall Width	1.74 m (68.5 in)
Overall Length	1.75 m (69 in)
Cutting Height ^a	2.5 - 10.2 cm (1 - 4 in)
Cutting Width	1.37 m (54 in)
Mower Weight	89 kg (197 lb)
Blade Bolt Torque	68 N·m (50 lb·ft)
Gearbox Oil Capacity	136 mL (4.6 oz)

^aMay vary depending on tire size.

60D Mower Deck

Mower Type	Mulch or Side Discharge
Cutting Blades	3
Overall Width	1.85 m (72.8 in)
Overall Length	1.82 m (71.6 in)
Cutting Height ^a	2.5 - 10.2 cm (1 - 4 in)
Cutting Width	1.52 m (60 in)
Mower Weight	117 kg (258 lb)
Blade Bolt Torque	122 N·m (90 lb·ft)
Gearbox Oil Capacity	136 mL (4.6 oz)

^aMay vary depending on tire size.

UP00731,0000252 -19-15MAR17-1/1

Getting Quality Service

Service Literature

If you would like a copy of the Parts Catalog or Technical Manual for this machine call:

- **U.S. & Canada:** 1-800-522-7448.
- **All Other Regions:** Your John Deere dealer.

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Parts

We recommend John Deere quality parts and lubricants, available at your John Deere dealer.

When you order parts, your John Deere dealer needs the serial number or product identification number (PIN) for your machine or attachment. These are the numbers that you recorded in the Product Identification section of this manual.

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Order Service Parts Online

Visit <http://JDParts.deere.com> for your Internet connection to parts ordering and information.

AP43109,00002D1 -19-15APR13-1/1

John Deere Quality Continues with Quality Service

John Deere provides a process to handle your questions or problems, should they arise, to ensure that product quality continues with your John Deere dealer's parts and service support.

Follow the steps below to get answers to any questions you may have about your product.

1. Refer to the appropriate attachment, machine or equipment operator manuals.
 2. Contact your John Deere dealer with unanswered questions.
 3. In North America or Canada, call the John Deere Customer Contact.
- Call 1-800-537-8233 and provide product serial number and model

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