

7200 PrecisionCut™ Trim and Surrounds Mower

Machine Optimization Document

TC_7200_PCut_L3_EN

John Deere Turf Care



This manual serves as a quick reference for adjustments and controls of the machine for operators who are familiar with the machine and controls.

In no case does it replace the Operation Manual.

To prevent injury to persons or machines, the Operation Manual **must** be read carefully **before** the machine is used.

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The 7200 PrecisionCut™ Trim and Surrounds Mower is equipped with three QA7 reel cutting units. Reels are 7.0 inches (178 mm) in diameter, and available with either 5 blades or 8 blades to optimize cut quality for different turf mowing applications.



Individual cutting unit width options are 26 inches (66 cm) or 30 inches (76 cm) depending on desired productivity, contour following, and striping. The reel motors are hydraulic.

The following kits are available for the 26 inch (66 cm) cutting units:

- Grass Catchers
- Turf Conditioner
- Rear Roller PowerBrush

The “Width on Demand” system enables the operator to conveniently change the cutting width while the machine is being operated to improve productivity or maneuverability.



Effective cutting widths are as follows:

26 inch (66 cm) wide cutting units

- 68 inches (173 cm)
- 72 inches (183 cm)

30 inch (76 cm) wide cutting units

- 80 inches (203 cm)
- 84 inches (213 cm)

The operator uses a toggle switch on the command arm to select width of cut.

The “Reach Trimming” system enables the position of either front cutting unit to be moved outboard from its nominal position for safe trimming around bunkers, water features, or bushes/hedges. Toggle switches on the command arm are used to select the cutting unit and variably move the selected cutting unit. The maximum extension beyond the tire edge are is 14 inches (35.5 cm) if 26 inch cutting units are being used, and 20 inches (50.8 cm) if 30 inch cutting units are being used.

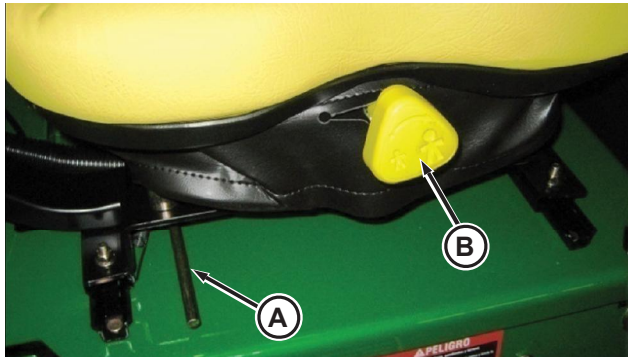
The 7200 PrecisionCut™ Trim and Surrounds Mower is powered by a Yanmar Diesel engine. The hydrostatic system drives all three wheels in forward, and only the front two wheels in reverse.

A separate document is available that describes QA7 cutting unit setup and adjustments.



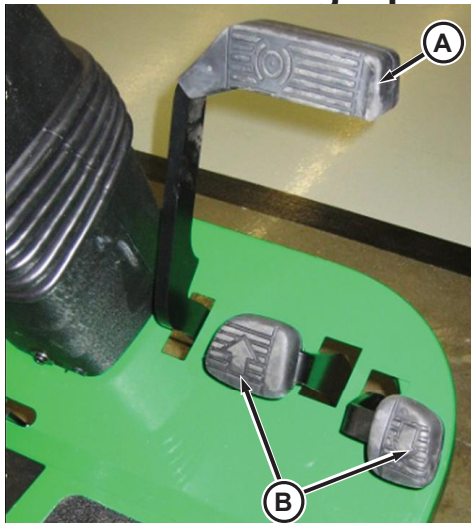
Seat Adjustment

Deluxe seat is standard on 7200 PrecisionCut™ Trim and Surrounds Mowers.

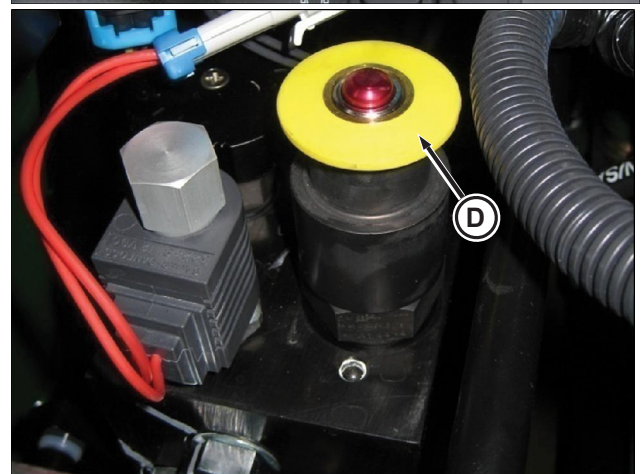
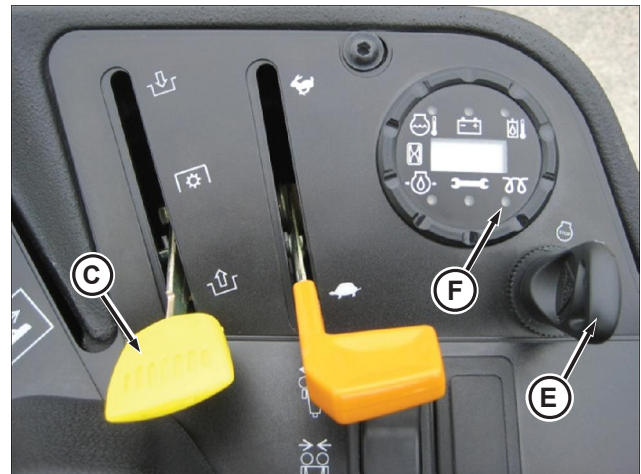


1. Adjust seat fore / aft for operator height.
 - Lever (A) located under seat on right side.
2. Adjust internal spring force for operator weight.
 - Knob (B) located in front of seat.
 - Rotate knob in clockwise direction for heavier operator to improve comfort and prevent seat from bottoming out.

Machine Starting Tips



1. Park Brake (A) locked.
2. Hydrostatic pedals (B) in neutral position.



3. Mow/Transport lever (C) in Transport position (lever pulled towards operator).
4. Backlap valve (D) in disengaged position (knob pushed down).
5. Turn key (E) to run position. Engine air pre-heater LED on instrument cluster (F) will illuminate 3-15 seconds and then go out. Engine can be started afterwards.
6. Run engine half throttle 2-3 minutes for warm-up. Avoid unnecessary idling.

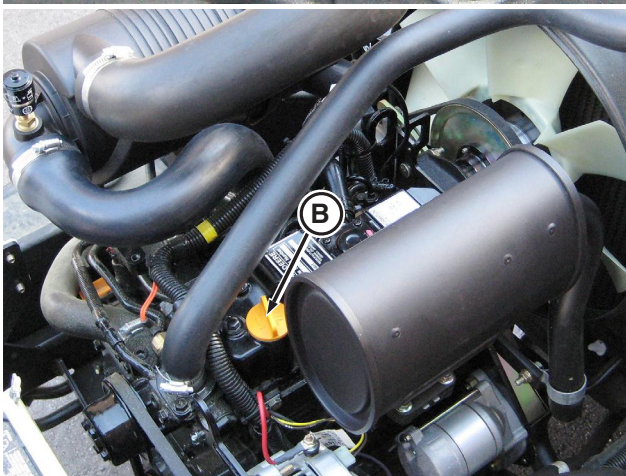
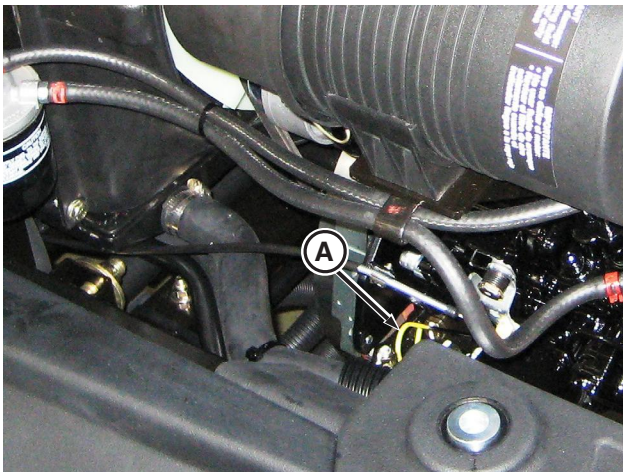


Key Setup and Adjustments – Machine

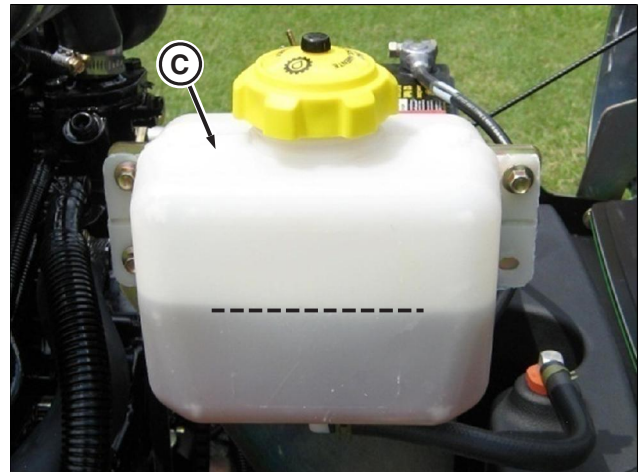
1. Inspect tires for proper inflation and wear. Adjust pressure as necessary.
 - Inflate tires to 15-20 psi (103-138 kPa)

NOTE: Operating tires below recommended pressure can cause premature tire failure.

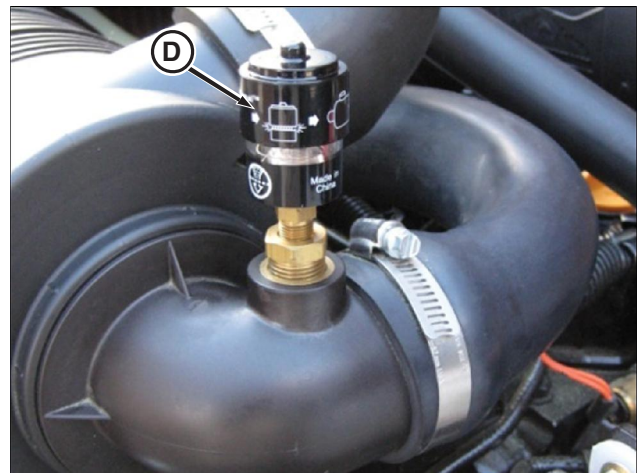
2. Check engine oil level. Add or remove oil as needed.



NOTE: Dipstick (A) and oil fill cap (B).



3. Check hydraulic oil level in overflow tank (C) located under hood, behind engine.
 - Oil level should be approximately 1.0 inch (25 mm) when engine is cold, or about half full when engine is warm.
 - Add hydraulic oil as needed to achieve proper level when engine is cold.
 - Run hydraulics to bleed air and recheck level.



4. Check air filter restriction indicator (D).
 - Push reset button.
 - Run engine at full throttle.
 - Replace primary air filter if red plunger visible in window.

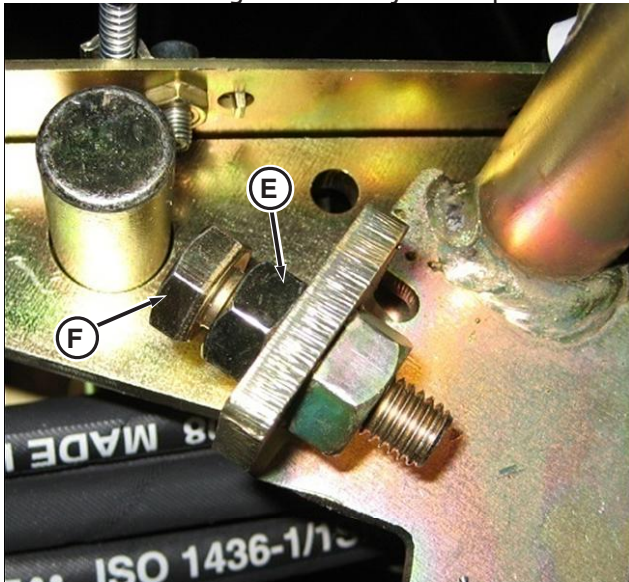


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5. Verify travel speed for mowing is set to 4-5 mph (6.4-8 kph). Equivalent speed is 5.9-7.3 feet per second (1.8-2.2 m/s).

- Measure travel speed at full engine throttle with Mow/Transport lever in Mow position and cutting units in fully raised position.

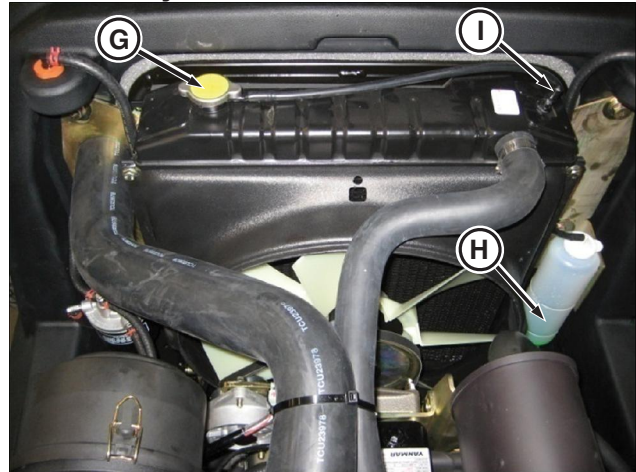


6. Adjust mow stop if necessary to set correct travel speed. Loosen jam nut (E) and adjust position of bolt (F) on bracket. Tighten jam nut afterwards.

- Lengthening bolt will decrease travel speed.
- Shortening bolt will increase travel speed.

NOTE: Travel speed set at factory to 4-5 mph (6.4-8 kph). Travel speed can be adjusted to 6 mph (9.7 kph) if mowing open, mostly flat areas. Adjust mow stop as needed to obtain desired travel speed. Travel speed during mowing must not exceed 6 mph (9.7 kph).

CAUTION: Avoid injury. Only remove radiator cap when engine and radiator are cool. Open cap slowly, and carefully remove.



7. Check engine coolant levels inside radiator and overflow bottle.

- Radiator must always be completely full. Check level under fill cap (G).
- Coolant in overflow bottle (H) should be approximately 1/3 full when cool.

8. Add coolant as required to achieve proper levels.

- Open valve (I) at top corner of radiator to allow air to vent from top of radiator as coolant is being added. Close valve when radiator is full.
- Only use approved coolant (such as John Deere Cool-Gard™ II).

9. Check condition and routing of hose between radiator and overflow bottle. If hose not routed properly, coolant recovery process will not be effective. Correct hose routing as necessary.

- Hose must be firmly attached to overflow bottle.
- Hose must not be kinked or pinched.

IMPORTANT: After filling a new or flushed radiator, check coolant levels more frequently until level within radiator stabilizes to full. This will ensure that all air has been purged from the cooling system.



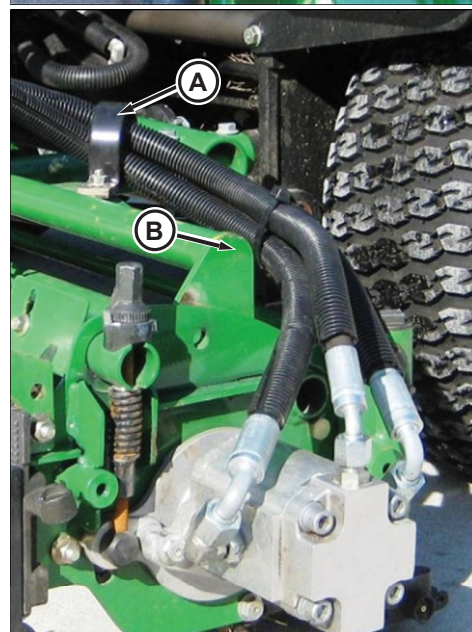
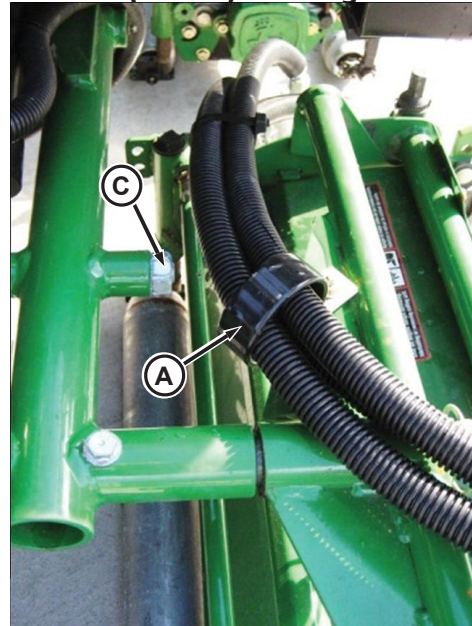
Key Setup And Adjustments – Front Cutting Units and Reel Motors



Reel motor hydraulic circuit is factory-configured for 26 inch (66 cm) cutting units; both front reel motors will be installed on left side of cutting units. This configuration will eliminate risk of front reel motors contacting each other during machine transport and mowing. Note that rear reel motor will be installed on right side of cutting unit.



26 inch (66 cm) Cutting Units



1. When reel motors are installed onto cutting units, route hydraulic motor hoses through guide loops (A) mounted on lift yokes to retain hoses.



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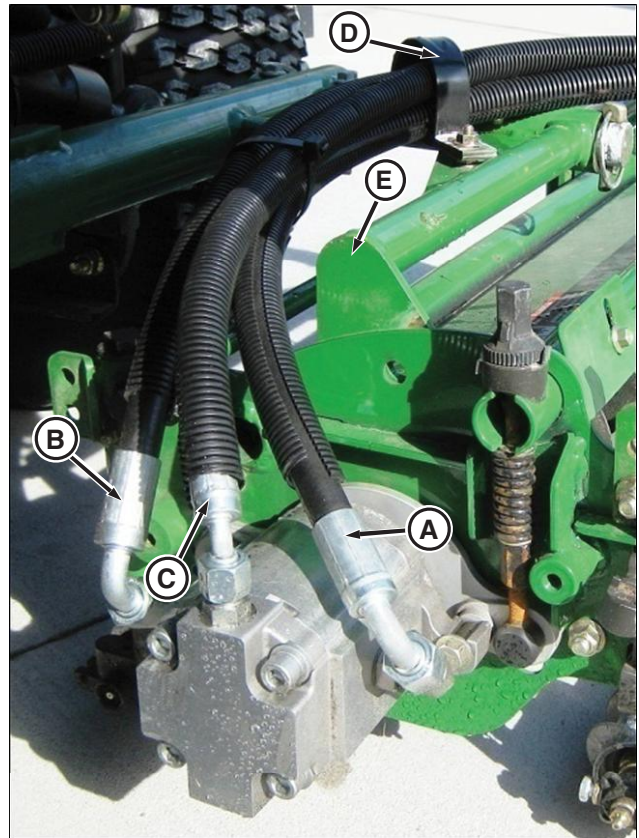
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2. Route hoses to prevent contact with lift yokes (B) and lift cylinder mounting bolts (C). It may be necessary to first loosen hose fittings on reel motors to enable hoses to be properly oriented. Tighten hose fittings afterwards.

30 inch (76 cm) Cutting Units

NOTE: Different lift arm kits (front only) and lift yoke kits are available for 26 inch (66 cm) and 30 inch (76 cm) cutting units. In addition to changing lift arms and lift yokes, following action must be taken to reconfigure machine for 30 inch (76 cm) cutting units:

1. Install front, left cutting unit reel motor onto right side of cutting unit frame.
 - Install counterweight onto opposite side of cutting unit frame.



2. Swap hydraulic flow in (A) and out (B) hoses at motor fittings or at frame fittings to ensure motor spins in correct direction. Motor case drain hose (C) remains in original position.
3. Route hoses to front, left reel motor identical to hose routing on front, right reel motor.
 - Route hoses through guide loop (D) on top of lift yoke.
 - Loosen hose fittings on reel motor. Orient reel motor hoses to avoid contact with corner of lift yoke (E) and lift cylinder mounting bolt (not visible in image). Tighten hose fittings.



Key Setup And Adjustments – Grass Catchers

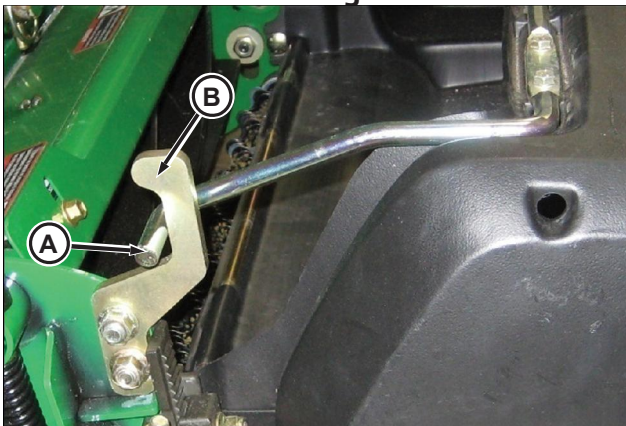


Cutting units can be operated with grass catchers attached:

- Front catcher baskets mount to front of cutting units. Rear grass deflectors on front cutting units must be closed when using grass catchers.
- Rear catcher basket mounts to rear of cutting unit. Rear grass deflector on rear cutting unit must be open when using grass catchers.

NOTE: Rear catcher basket cannot be used with rear roller PowerBrush.

To install front or rear grass catcher baskets:

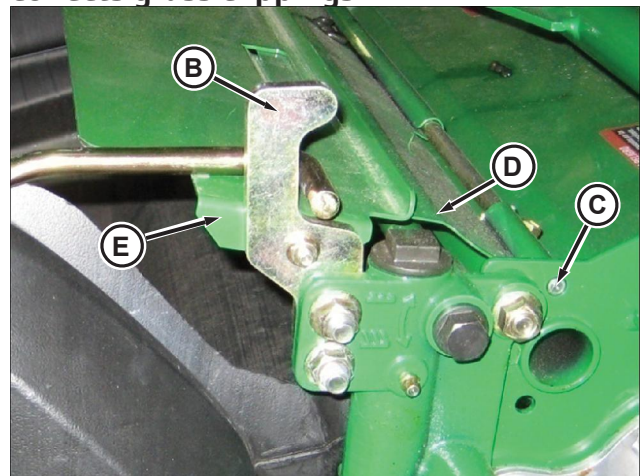


1. Secure hook (A) on both sides of catcher basket onto support brackets (B) on cutting unit frame.
2. Lower grass catcher basket into resting position on cutting unit.

To remove grass catcher baskets:

1. Simply lift catcher baskets off cutting units.

To ensure rear catcher basket properly collects grass clippings:



1. Place pivot shaft (C) or rear grass deflector (D) on rear cutting unit into upper hole in cutting unit frame. Orient deflector in horizontal direction, above Speed Link™ tube that connects rear roller adjusters.
2. Mount auxiliary deflector (E) onto catcher support brackets (B).



Operating Tips - Mowing

Park brake unlocked and operator in seat.



To engage Mow function:

1. Increase engine speed (A) to full throttle.
2. Move Mow/Transport lever (B) from Transport position to Mow position (away from operator).
3. Move Raise/Lower lever (C) to Lower position (away from operator). Cutting unit reels will begin spinning.

Note: Mow can also be engaged by first lowering cutting units and then moving Mow/Transport lever to Mow position, however cutting unit reels will not begin spinning. It will be necessary to push Raise/Lower lever to Lower position, and then cutting unit reels will begin spinning.

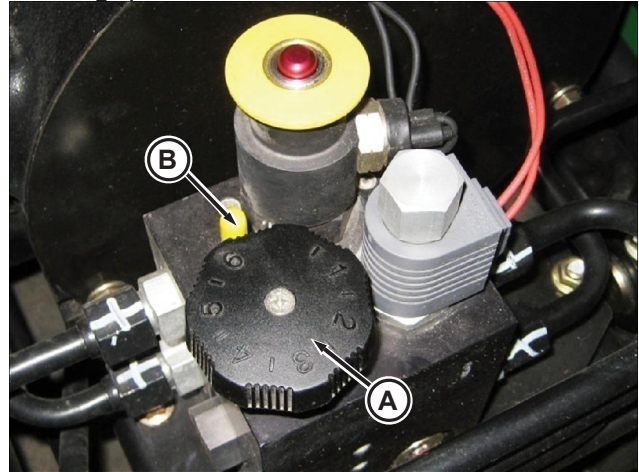
To disengage Mow function:

1. Decrease engine and ground speed.
2. Move Mow/Transport lever to Transport position.
3. Move Raise/Lower lever to Raise position.

Important: Do not attempt to engage or disengage Mow function when hydrostatic pedal fully depressed. Mow linkage provides stop for pedal linkage to set reduced speed during mowing. Damage to Mow cable or pedal linkage may result.

Operating Tips - Reel Speed

Adjust reel speed depending on turf conditions and mowing speed.



1. Rotate flow control knob (A) on Backlap valve counter-clockwise, aligning higher numbers on knob with indicator (B), to increase hydraulic flow to reel motors and make reels spin faster.
2. Rotate knob clockwise to make reels spin slower. Repeat operation on rearward facing Backlap valve for rear reel circuit.

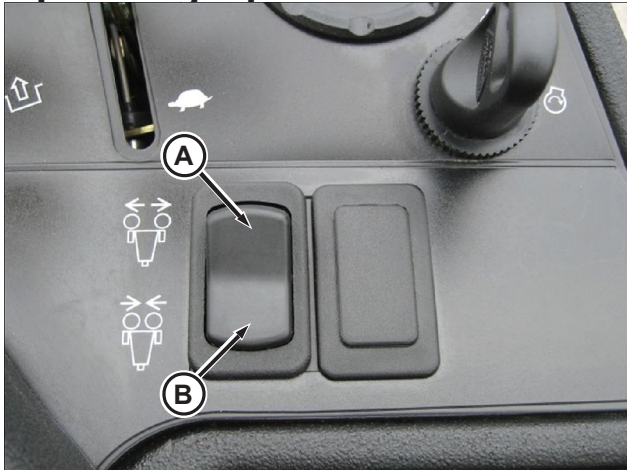
NOTE: Reduce reel speed when cutting taller grass to prevent grass from being blown over. Grass may consequently remain uncut. Also, faster reel speeds when mowing dry grass may cause grass clippings to be blown over grass catcher baskets.



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Operating Tips – Width of Cut



1. Use toggle switch on command arm to set front cutting units to either wide (A) or narrow (B) width of cut.
2. Width of cut can be changed whether cutting units are in raised or lowered position, and whether Mow is engaged or not.

The following should be considered when choosing width of cut to optimize productivity, and cut quality and performance:



Picture Note: Narrow cut shown.

- Narrow setting recommended for hilly, undulating terrain, side hills, and tight turns requiring more cutting unit overlap to ensure no uncut grass remains. Nominal overlap between front and rear cutting units is 5 inches (12.7 cm).



Picture Note: Wide cut shown.

- Wide setting recommended on flat, open terrain with long straight runs. Nominal overlap between front and rear cutting units is 3 inches (7.6 cm).
- Productivity gain of Wide setting over Narrow setting is approximately 6%. For example, gain is 3.64 acres (1.47 hectares) versus 3.43 acres (1.39 hectares) per hour when travel speed is 5 mph (8 kph).

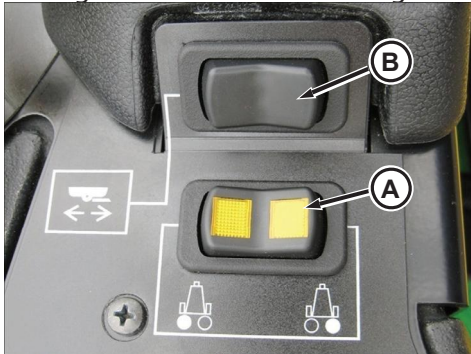
CAUTION: Avoid injury! Machine can leave trail of uncut grass in certain conditions on level ground as well as on slopes. Rear tire may lose traction when machine is traveling across a slope or if travel speed is too high in turns. Consequently, front and rear cutting units may unlap (lose available overlap). Traction is influenced by slope angle, turf conditions, moisture levels, tire pressure and travel speed. Reduce speed on slopes and when making turns.



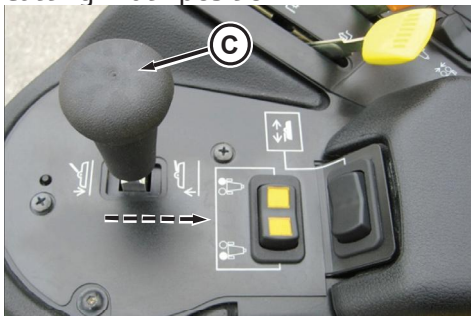
Operating Tips – Reach Trimming

Trimming feature can only be utilized when cutting units are in lowered position.

NOTE: Machine must be moving, otherwise turf damage can occur when cutting unit is extended.



1. Press selector toggle switch (A) left to select front, left cutting unit, or right to select front, right cutting unit. Toggle switch remains locked in selected position.
2. Press and hold toggle switch (B) to move selected cutting unit. Toggle switch will return to center position when let go.
 - Cutting unit will continue to move while toggle switch remains depressed, until out-board limit is reached.
 - Press and hold toggle switch in opposite direction to retract cutting unit position.
3. If selector toggle switch (A) placed in center position, extended cutting unit will fully return to normal cutting width position.



NOTE: If Raise/Lower lever (C) is pulled back to Raise position while one cutting unit is extended for trimming, extended cutting unit will first retract to nominal cutting width position before cutting units begin to lift.

The following should be considered when using trimming feature to optimize productivity, and cut quality and performance, as well as to ensure overall satisfaction:



- Mow outer areas around bunker (or other areas to be trimmed) first.
- Use trimming feature as last pass against area to be trimmed.
- Retract cutting unit after trimming completed.

NOTE: Extending one front cutting unit for trimming can cause it to unlap (lose available overlap) from rear cutting unit. In this configuration, trimming around objects prior to mowing will make cutting units leave a strip of uncut grass. Best practice is to mow first, then trim to create a neat, finished appearance.



Operating Tips – Safe Operation on Slopes

Operate machine with extreme caution on hills, slopes, and rough terrain to avoid losing traction and minimize rollover risk. Mowing sites should be carefully surveyed to assure slopes are safe for machine operation. Consider moisture and turf conditions. Wet slopes present significantly higher risk even though they may have been mowed successfully before. Look for dips and holes along the slope that could change the angle of vehicle operation.

Determining Safe Slope Angles:

1. Lay straight piece of sturdy lumber 4 ft (1.2 m) long on slope.
2. Measure slope angle with angle indicator or protractor level.



3. Repeat procedure at several points on same slope.
- Never mow or operate machine on slope angles greater than 25°.
 - Exceeding the maximum recommended slope angle of 25° increases the risk of rollover accidents that can result in serious injury or death.

- Always consider potential turf conditions and slope angles when determining the risk of loss-of-control and tip-over accidents.
- On slope angles of 15° or less the risk of rollover is low, but as the slope angle increases to the John Deere recommended maximum of 25° the risk increases to a moderate level.

When Operating on Slope

- Carefully review all cautions included in machine Operators Manual.
- Always wear seat belt when operating machine, regardless of slope condition.
- Make sure that tires are properly inflated. Too low or too high tire pressure will cause the tires to lose traction.
- Whenever possible, mow up and down the slope rather than across it.
- Use lower speeds when mowing and operating on slopes.
- Use caution when making turns or changing directions on slopes.
- Decrease speed as the slope angle increases.
- Do not mow near drop-offs, ditches, embankments, or bodies of water. Machine could suddenly roll over if wheel goes over edge or edge caves in. Leave a safe margin between the machine and any hazard.
- Avoid areas where turf is wet or loose.
- Leave cutting units lowered on slopes to maximize stability. Never lift cutting units on steep slopes. Raising cutting units on a slope can cause the machine to become unstable.
- Use caution when operating machine on wet or loose turf. Tires may lose traction. If it begins to rain, discontinue operation on slope.



Operation Checklist

Vehicle

- ☐ Check tire pressure.
- ☐ Check engine oil and hydraulic oil levels.
- ☐ Check engine coolant levels inside radiator and in recovery tank.
- ☐ Check fuel tank level. Add fuel as required. Capacity is 13.0 gallons (49.2 L).
- ☐ Lubricate all grease fittings on machine and cutting units. Wipe clean excess grease from fittings.

Cutting Units

- ☐ Inspect cutting unit reels and bedknives for sharpness. Backlap or grind edges if needed.
- ☐ Verify all cutting units are set to same HOC. Note that effective HOC after mowing will always be less than HOC set on a bench.
- ☐ Verify front roller brackets on all cutting units are in correct position for desired HOC.
A lower front roller position at the same HOC will cause the reel to be more aggressive on turf.
- ☐ Verify clearance between bedknife and reel. Recommended clearance is 0.050 mm (0.002 in.) for Fairway, Rough, and Surrounds mowing. Reel must not contact bedknife. Contact will accelerate wear and require more frequent reel and bedknife sharpening. Wear may result in observable cut quality issues. Contact will also generate heat and require more power to operate.
- ☐ Verify cutting units are properly aligned. Front roller must be parallel with bedknife and rear roller.
- ☐ Verify reel motors are installed in correct positions on cutting unit frame.
- ☐ Verify grass catcher baskets are properly installed.
- ☐ Verify Turf Conditioner and/or Rear Roller PowerBrush are adjusted properly and operational.
Note that conditioner blades counter-rotate (opposite of reel rotation) when operating.

Operation

- ☐ Always wear seat belt when operating machine.
- ☐ Read Operator's Manual and become familiar with all controls and operating procedures.
- ☐ Check safety circuits when starting engine and engaging cutting units. Perform repairs if engine can be started or mow can be engaged with any safety switch out of position.
- ☐ Verify backlap function disengaged and reels spinning in forward direction prior to mowing.
- ☐ Verify reel speed control knob set to maximum reel speed when mowing lower HOC.
- ☐ Check travel speed. Travel speed when mowing must not exceed 6 mph (9.7 kph), or should not exceed 5 mph (8 kph) if mowing hilly areas.
- ☐ Verify rear wheel weight installed.
- ☐ Survey areas where mower will be operated. Perform slope measurements prior to transporting machine or mowing in hilly areas.



Consequences of Improper Setup and/or Operation

Symptoms	Possible Causes
Tire sidewalls bubbled or failed	<ul style="list-style-type: none"> □ Tires run at too low pressure
Poor cut quality	<ul style="list-style-type: none"> □ Reel and/or bedknife is dull □ Reel position in cutting unit adjusted incorrectly; contact or excessive clearance between reel and bedknife □ Effective HOC set too low for turf height and conditions; not following "1/3" rule □ HOC not set equally on all cutting units □ Front roller not parallel to bedknife; front and rear rollers not parallel □ Front roller brackets in wrong position on cutting unit for HOC; bedknife pitched too shallow or too steep □ Incorrect front roller or bedknife being used for application □ Incorrect reel being used; more/less number of blades may be preferable □ Mow speed too fast for turf conditions and amount of grass being removed □ Reel speed too slow for turf conditions and travel speed; flow control knob on Backlap valve not set correctly □ Hydraulic oil level is low; pump not supplying sufficient oil volume to reel motors
Cutting units leave uncut grass	<ul style="list-style-type: none"> □ Reel and/or bedknife is dull □ Width of cut not ideal for area being mowed; front cutting units in wide setting □ Mowing open areas with one cutting unit extended for trimming □ Cutting unit not setup correctly; excessive clearance between reel and bedknife □ HOC set too low for turf height and conditions □ Travel speed too fast for turf conditions □ Machine losing traction when steering or mowing across slope, causing front cutting units to unlap (lose overlap) from rear cutting unit □ Front and/or rear cutting unit lift arm is bent; cutting unit may have hit something □ Incorrect front roller being used for turf conditions and application; grooved roller may be preferable to smooth roller
Discolored overlap stripe	<ul style="list-style-type: none"> □ Reel and/or bedknife is dull □ Bedknife improperly sharpened □ Reel speed set too fast, causing over-stressed grass
Grass buildup on roller affecting HOC	<ul style="list-style-type: none"> □ Roller scraper missing or out of adjustment □ PowerBrush shaft not adjusted properly
Turf scuffing	<ul style="list-style-type: none"> □ Travel speed too fast in turns or on slopes; tires skidding or slipping
Loss of traction while mowing or traveling across slope	<ul style="list-style-type: none"> □ Tires not inflated to correct pressure □ Travel speed too fast for turf conditions □ Slope angle too steep for turf conditions □ Cutting units in raised position, affecting machine stability



Service Intervals

Before Each Use

- ☐ Check engine oil
- ☐ Check hydraulic oil
- ☐ Check coolant
- ☐ Check for leaks
- ☐ Inspect tires and check air pressure
- ☐ Check safety interlock system
- ☐ Check brake system
- ☐ Check air filtration system
- ☐ Check for loose, missing, or damaged parts
- ☐ Check all safety guards and shields
- ☐ Check fuel/water separator
- ☐ Check pedals and/or steering control
- ☐ Check seat belt

After Each Use

- ☐ Check/fill fuel
- ☐ Clean debris from machine
- ☐ Clean debris from cooling system
- ☐ Clean debris from cutting units and attachments
- ☐ Lubricate machine after washing

Storage Tips

Preparing Machine for Long Term Storage

Note: Filling the fuel tank reduces the amount of air in the fuel tank and helps reduce deterioration of fuel.

- ☐ If you have been using “Stabilized Fuel,” add stabilized fuel to tank until the tank is full. (See your Operator Manual for specific procedure.)
- ☐ If you have NOT been using “Stabilized Fuel,” run engine until it runs out of fuel. (See your Operator Manual for specific procedure.)
- ☐ Service air cleaner.
- ☐ Clean debris from engine air intake screen, oil cooler coils and radiator cooling fins (if equipped).
- ☐ Check engine coolant level and freeze point.
- ☐ Check belts for damage and proper tension.
- ☐ Remove, charge, and store battery in a cool, dry place.
- ☐ Close fuel shut-off (if your machine is equipped).
- ☐ Store machine in a dry, protected place. If out side, put a waterproof cover over it.

Preparing Machine to Resume Operation

- ☐ Check tire pressure.
- ☐ Wipe grease off cutting units.
- ☐ Install cutting units (if removed).
- ☐ Be sure all shields, guards, or deflectors are in place.
- ☐ Check engine oil level.
- ☐ Check hydraulic oil in reservoir.
- ☐ Check all hoses, clamps, and connections.
- ☐ Check, charge and install battery.
- ☐ Lubricate all grease points.
- ☐ Open fuel shut-off, if your machine is equipped.

