

21-INCH WALK-BEHIND ROTARY MOWERS (SERIAL NO. 410,001-)



JOHN DEERE

OPERATORS MANUAL

21-INCH WALK-BEHIND ROTARY
MOWERS (SERIAL NO. 410,001-)

OMM73861 C7 English

JOHN DEERE HORICON WORKS
OMM73861 C7

LITHO IN THE U.S.A.
ENGLISH



Introduction

Thank you for purchasing a John Deere product.

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

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

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

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

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

Warranty is provided as part of John Deere's support program for customers who operate and maintain their equipment as described in this manual.

The warranty does not cover:

A—Products which have been altered or modified in ways not approved by John Deere, including setting fuel delivery above specifications or otherwise overpowering of products.

B—Depreciation or damage caused by normal wear, accident, lack of reasonable and necessary maintenance as specified in this manual, improper maintenance, improper protection in storage, or improper use or abuse.

C—Normal maintenance and replacement of service items such as filters, spark plugs, belts, brake linings, cutting blades and hoses unless such items are defective.

D—Transportation, mailing and service call charges for warranty service.



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

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Safety

CERTIFICATION

This OPEI Seal certifies that your mower has been certified by an Independent laboratory and that it complies with American National Standard B71.1, 1984, "Safety Specifications for Power Lawn Mowers, Lawn and Garden Tractors, and Lawn Tractors."

This mower complies with the Consumer Product Safety Commission safety standards for walk-behind lawn mowers.



OBA;TY1384 1 Y05;55SA A 240985

UNDERSTAND SIGNAL WORDS

A signal word—DANGER, WARNING, or CAUTION—is used with the safety-alert symbol. DANGER identifies the most serious hazards.

Safety signs with signal word DANGER or WARNING are typically near specific hazards.

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

⚠ DANGER

⚠ WARNING

⚠ CAUTION

AB6;TS187 053;SIGNAL 071085

FOLLOW SAFETY INSTRUCTIONS

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

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



AB6;TS188 053;SIGNS 071085

⚠ WARNING

OBJECTS MAY BE THROWN FROM MOWER.

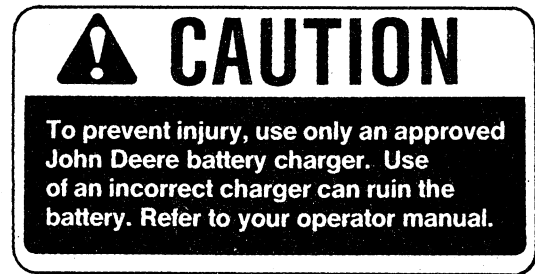
- Clear lawn of debris and objects.
- Do not mow with bystanders in area.
- Operate only with discharge chute or bag adapter and bag in place.

⚠ CAUTION

- Read Operator's Manual for safe operating instructions.
- Do not allow young children to operate mower.
- Stop engine before adjusting cutting height.
- Disconnect spark plug wire before cleaning, inspecting or repairing mower.

Warning/Caution Decal located on Rear of Mower Deck

2A8;TY1370 7 M22;;SAI B 051286



Caution Decal Located on Rear of Battery

0BA;TY1370 9 Y05;54SA D 180985



Cutting Blade Decal Located on Right-Hand Side of Mower Deck

0BA;TY1371 0 Y05;54SA E 180985

LEARN MACHINE SAFETY

Carefully read this manual. Learn how to operate the machine and how to use the controls properly.

Do not let anyone operate this machine without proper instruction.

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



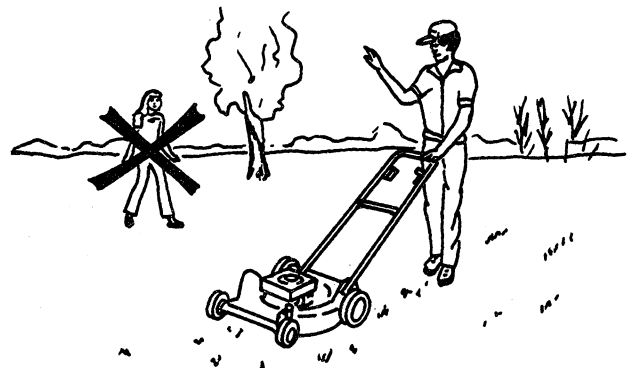
AB6;TS183 053;READ2 080785

PROTECT PEOPLE AND PETS

Keep people and pets out of the area where you are using the mower.

Do not let children or untrained persons operate the mower.

Never leave mower unattended.



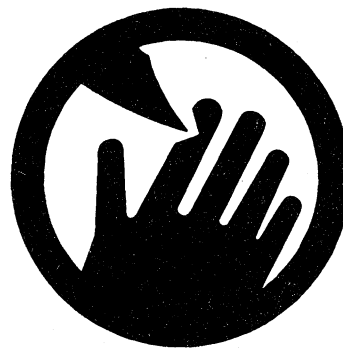
0BA;TY1371 6 Y05;54SA F 180985

AVOID INJURY FROM MOVING PARTS

Keep hands, feet, and clothing away from mower deck and discharge chute when blades are turning.

Do not adjust mower wheels or level mower while the engine is running. If these adjustments are to be made, STOP the engine.

Stop mower blade when you are driving between mowing jobs, before you cross a gravel road, path, sidewalk, street, or when you are not using the mower.



0BA;TY1371 2 Y05;54SA H 180985

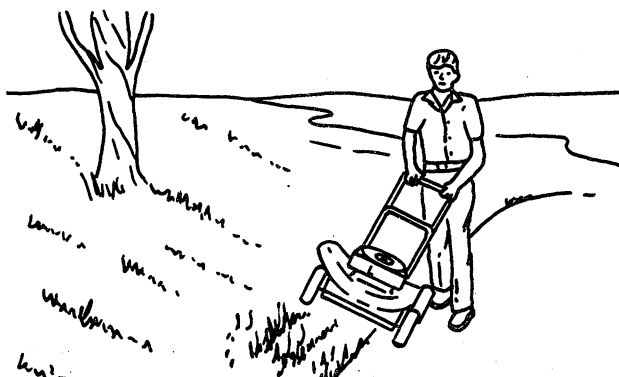
OPERATE SAFELY ON SLOPES

Mow across face of slopes—never up and down.

Keep a firm hold on mower handle.

Be especially careful when you change directions on a slope; slow down. Avoid sudden starts and stops on slopes.

Avoid leaving mower on a slope. Stop on level surface, if possible.



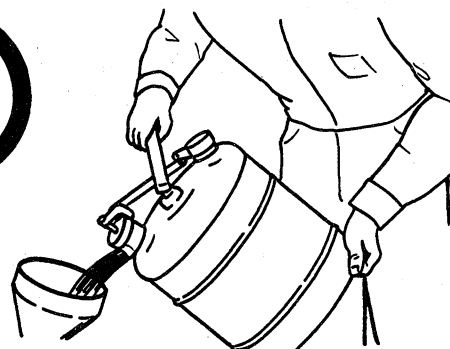
0BA;TY1371 7 Y05;54SA J 211085

HANDLE FUEL SAFELY—AVOID FIRES

Handle fuel with care: it is highly flammable. Do not refuel the machine while smoking or when near open flame or sparks.

Always stop engine before refueling machine. Fill fuel tank outdoors.

Prevent fires by keeping machine clean of accumulated trash, grease, and debris. Always clean up spilled fuel.



AB6;TS185 053;FIRE1 240785

OPERATE SAFELY

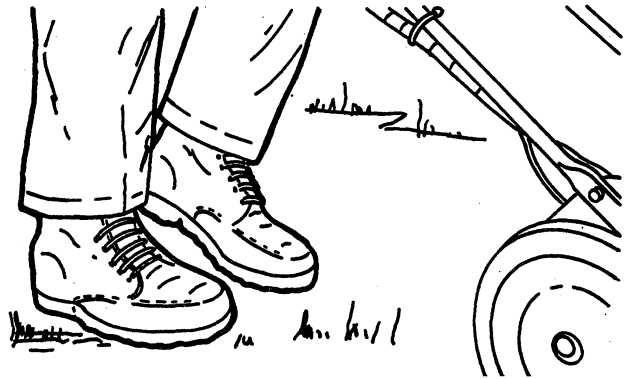
Always wear shoes when operating mower.

Be sure of your footing. Walk—never run.

Discharge clippings away from people.

Keep side chute, mulching plate or rear bag attachment in place.

Do not run engine indoors unless there is enough ventilation.



0BA;TY1371 5 Y05;54SA G 211085

CHECK GROUND CONDITIONS

Clear the mowing area of objects that might be picked up and thrown.

Consider the type of area you plan to mow. Set up a safe mowing pattern. Do not mow under conditions in which traction or stability is doubtful.

Travel slowly over rough ground.



0BA;TY1302 5 Y05;54SA I 180985

WEAR PROTECTIVE CLOTHING

Wear fairly tight clothing. and safety equipment.

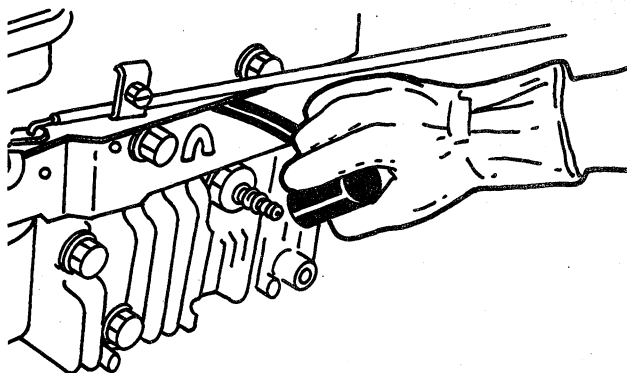


AB6;TS184 053;WEAR2 080785

SERVICE MOWER SAFELY

Shut the engine off and remove spark plug wire before servicing.

Always wear gloves when servicing mower.



0BA;TY1371 4 Y05;54SA K 211085

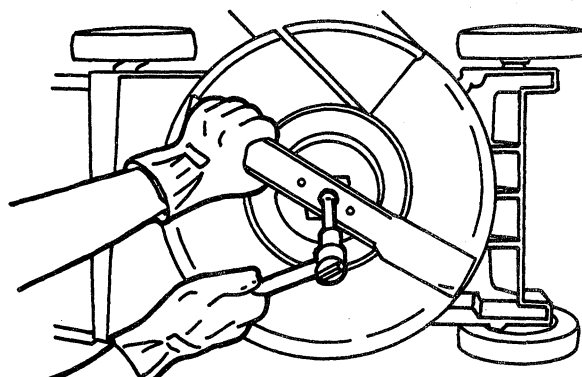
PRACTICE REGULAR MAINTENANCE

Keep all parts in good condition and fastened in place.

Fix damage immediately. Replace worn or broken parts.

If you hit an object, stop the mower. Fix the damage before you operate again.

Always wear gloves when servicing mower.

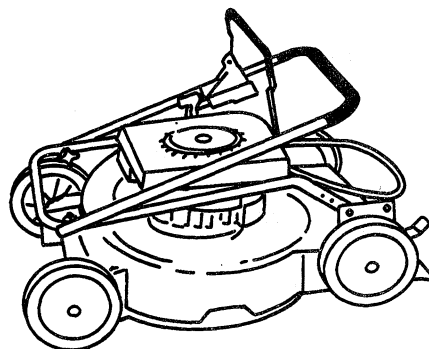


0BA;TY1371 9 Y05;54SA L 180985

STORE MOWER PROPERLY

Store mower indoors in a dry, locked-up area, out of reach of children.

Do not store mower in an enclosure where fuel fumes may accumulate or reach an open flame or spark.



0BA;TY1371 3 Y05;54SA M 180985

PROTECT AGAINST NOISE

Prolonged exposure to loud noise can cause impairment or loss of hearing.

Wear a suitable hearing protective device such as earmuffs (A) or earplugs (B) to protect against objectionable or uncomfortable loud noises.

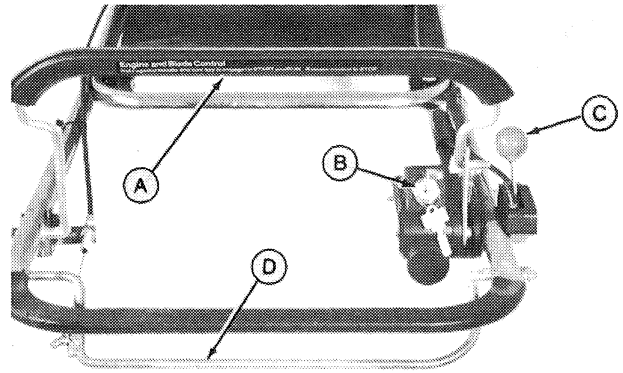


AB6;X7662 053;NOISE 270886

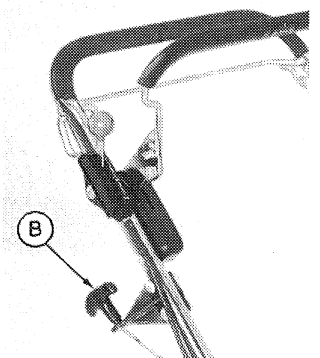
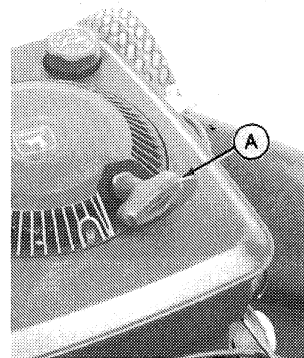
Controls

CONTROLS—MANUAL AND ELECTRIC START MOWERS

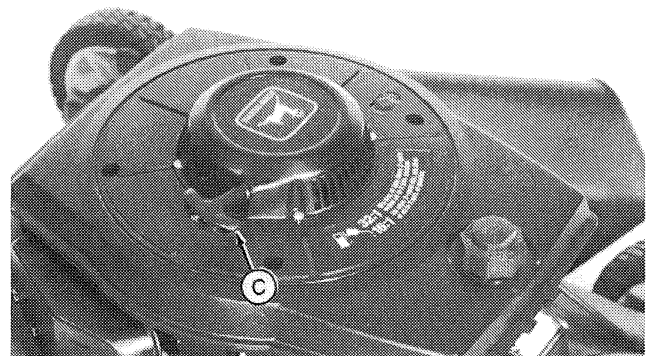
- A—Engine Shut-Off Bail
- B—Ignition Key Switch (Electric Start)
- C—Throttle Control (4-Cycle model Shown)
- D—Self-Propelled Control Bail (Self-Propelled)



2A8;M40463 M22;;CTI A 051286

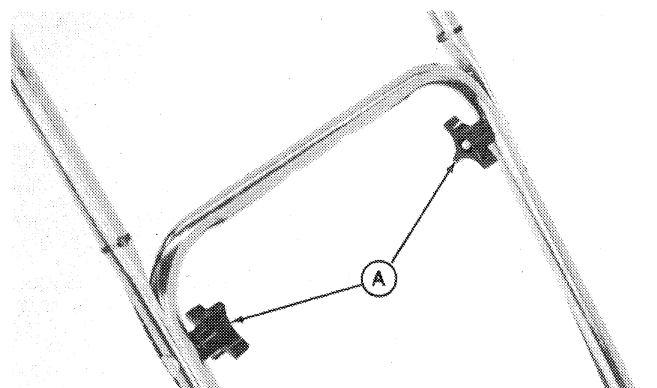


- A—Recoil Starter Handle (4-Cycle Blade Brake Clutch and Electric Start Auxiliary)
- B—Recoil Starter Handle (Manual Start)
- C—Recoil Starter Handle (2-Cycle Blade Brake Clutch)

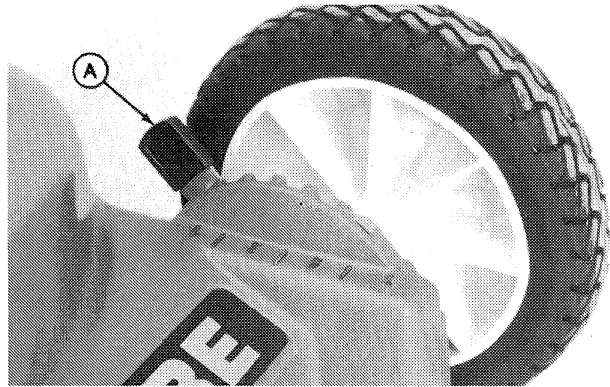


2A8;M40464 M40465 M40466 M22;;CTI B 051286

- A—Folding Handle Knobs



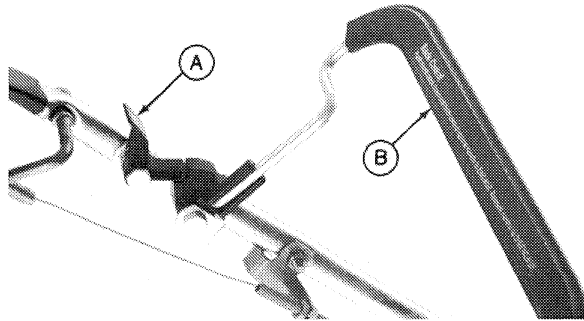
2A8;TY1370 6 M22;;CTI C 051286



A—Cutting Height Adjustment Lever (4 used)

2A8;TY1367 0 M22;;CTI D 051286

CONTROLS—BLADE BRAKE CLUTCH MOWERS ONLY

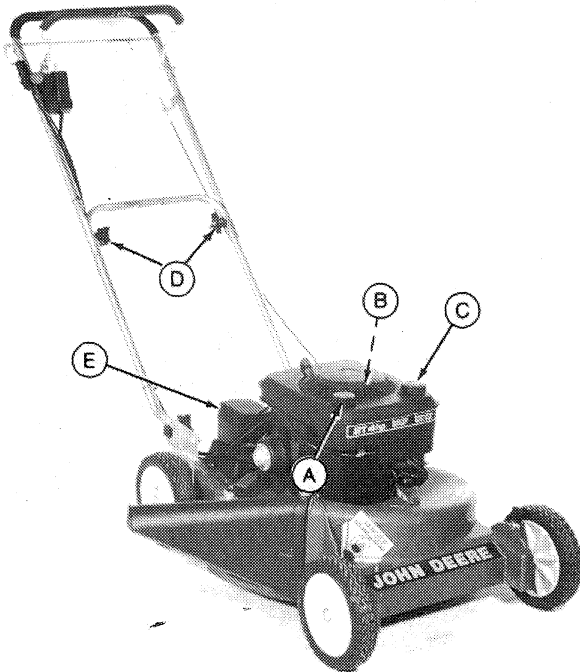


A—Latch
B—Blade Brake Clutch
Bail

2A8;M40467 M22;;CTI E 051286

Prestarting Checks

PRESTARTING CHECKS



Check	When	Reference	Section
A—Oil Level (4-cycle only)	Before Each Use	Checking Oil Level	Service/Before Each Use
B—Air Cleaner	Every 25-Hours	Cleaning Air Filter Element	Service/25 Hours
C—Fuel Level	Before Each Use	Filling Fuel Tank	Service/Before Each Use
D—Loose or Missing Parts	Before Each Use		
E—Battery	As Necessary	Charging Battery	Service/As Necessary

Operation

MOWING SUGGESTIONS

The following suggestions will help you mow safely, achieve maximum performance from your mower and grass bagging accessory, and maintain good lawn appearance. For specific problems, see Troubleshooting section.



CAUTION: Before mowing, review the Safety section. In addition, observe the following precautions:

- Clean area to be mowed, inspect for debris.
- Avoid mowing in reverse.
- Shut off engine, remove spark plug wire and make certain blade has stopped rotating before removing or installing discharge chute or bag.
- Do not discharge clippings toward objects or people.
- Do not operate on inclines with grass bag more than half full of clippings.
- Never leave clippings in grass bag.
- Keep all people and pets away from mowing area.
- Keep away from front of mower and discharge chute when engine is running.



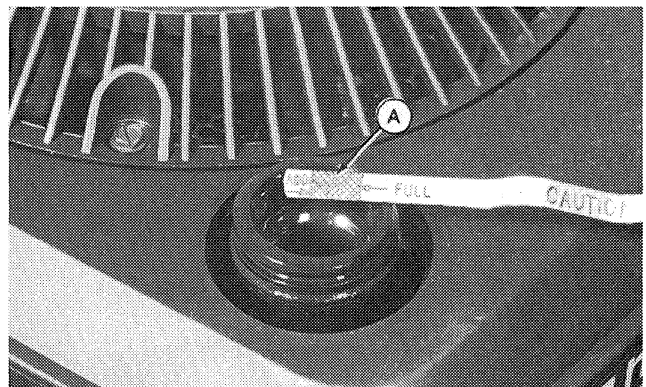
2A8;M40470 M22;;OPI A 051286

BREAK-IN ENGINE—4-CYCLE

IMPORTANT: Make certain engine crankcase is in “ADD-to-FULL” range on oil dipstick (A) before attempting to operate.

The engine must be “broken in” during the first 5 hours of operation. Every time you start the engine, put throttle control in “SLOW” position. Let the engine warm up until it runs smoothly (1—2 minutes).

After the first 5 hours of operation, change crankcase oil. (Refer to Service/25 Hours section.)



2A8;M40471 M22;;OPI B 051286

ADJUSTING CUTTING HEIGHT



CAUTION: Stop engine, and make certain blade has stopped rotating before adjusting cutting height.

IMPORTANT: Both front and rear adjusting levers must be adjusted to the same height.

There are seven projections for cutting height adjustments on the rear handle brackets. There are six projections and one hole on the front brackets. The hole is located on the vertical side wall and directly below the "7" on the mower deck.

1. Pull out on front and rear wheel adjusting levers.
2. Move lever to desired position and release lever in notch.

Raise cutting height by moving front and rear adjusting levers forward.

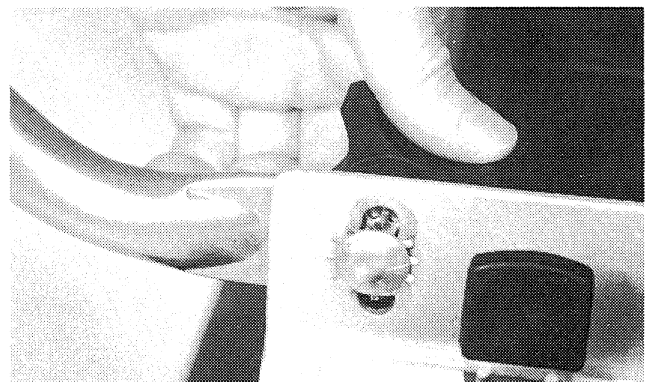
Wheel Position	Cutting Height
1	1 in. (25 mm)
—	1-3/8 in. (35 mm)
3	1-7/8 in. (48 mm)
—	2-1/4 in. (57 mm)
5	2-5/8 in. (67 mm)
—	3 in. (76 mm)
7	3-1/2 in. (89 mm)



2A8;TY1368 2 M22;;OPI C 051286

ADJUSTING HANDLE HEIGHT

1. Loosen knobs on both sides of handle.
2. Raise or lower handle in slots until a comfortable position is found.
3. Tighten knobs securely.



2A8;M40472 M22;;OPI D 051286

FILLING FUEL TANK

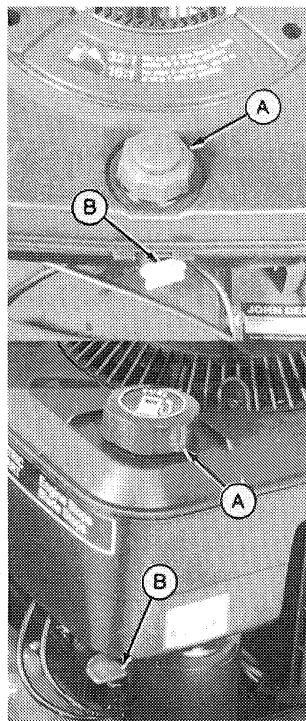


CAUTION: Handle fuel carefully:

- Shut off engine and allow it to cool before refueling.
- Fill fuel tank outdoors.
- Do not smoke around fuel.
- Avoid spilling fuel. Do not overfill fuel tank.
- Wipe clean after refueling.
- Move from refueling area before starting.

IMPORTANT: Do not permit dirt or other foreign matter to enter the fuel system. This will cause hard starting, poor performance, and engine damage. Always use clean gasoline storage cans and funnels.

NOTE: 2-cycle engine requires a special fuel mix. See Fuels and Lubricants section for correct fuel (4-cycle) or fuel mix (2-cycle).



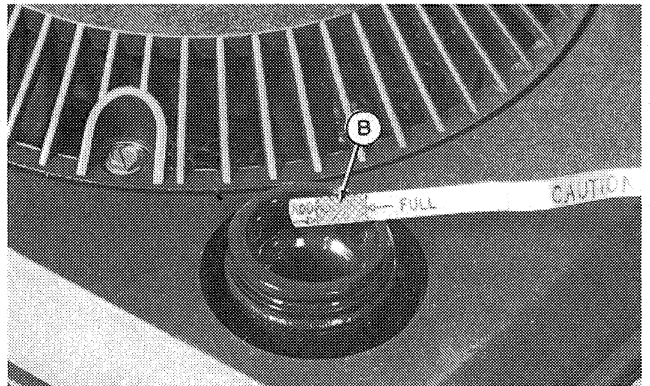
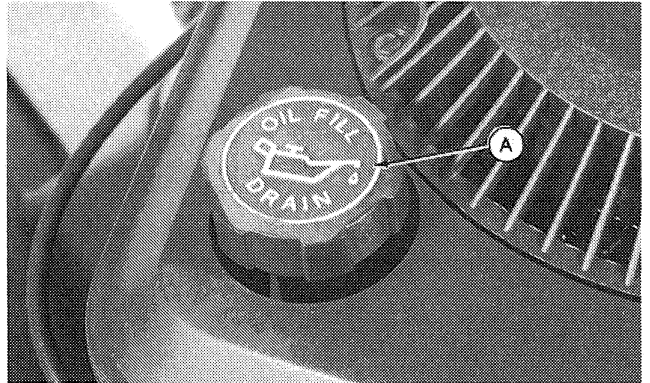
1. Wipe dust and dirt from around fuel cap (A).
2. Remove cap and place in a clean area.
3. Fill tank to bottom of filler neck.
4. Install fuel cap securely.
5. Check that fuel shut off valve (B) is in "OPEN" position.

2A8;M40473 M40474 M22;;OPI E 191286

CHECKING OIL LEVEL ON 4-CYCLE ENGINE

IMPORTANT: Never check or add oil while engine is running.

1. Stop engine and place mower on a level surface.
2. Remove oil dipstick (A) and wipe clean.
3. Thread dipstick completely IN before checking oil level.
4. Remove dipstick. Check oil level on dipstick.
5. Oil level must be between "ADD" and "FULL" marks on dipstick (B).
6. If oil level is low, add oil to bring oil level no higher than "FULL" mark on dipstick. (See Engine Oil in Fuels and Lubricants section for correct oil.)
7. Install and tighten dipstick.



2A8;M40475 M40476 M22;;OPI F 051286

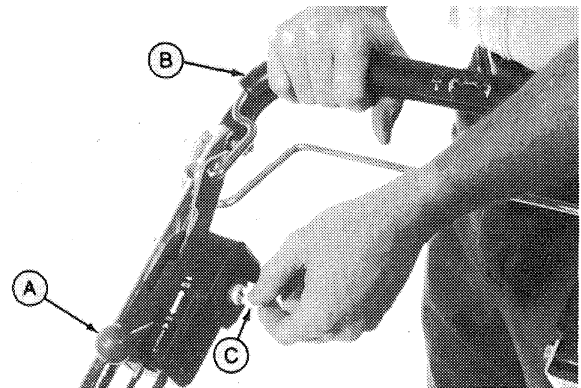
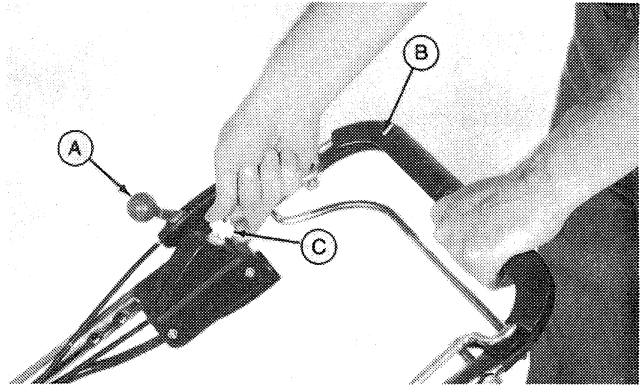
STARTING ENGINE—ELECTRIC START MODELS



CAUTION: Never start mower inside a building. Always wear protective clothing and footwear. Keep your feet away from underneath mower deck and blade.

1. Open fuel shut-off valve.
2. Move throttle control (A) forward to CHOKE position to start cold engine and to FAST position to start warm engine.
3. Pull engine shut-off bail (B) down and hold against handle.
4. Turn ignition key (C) to engage starter and engine should start. Release key when engine starts.
5. Move throttle control to get desired engine speed.

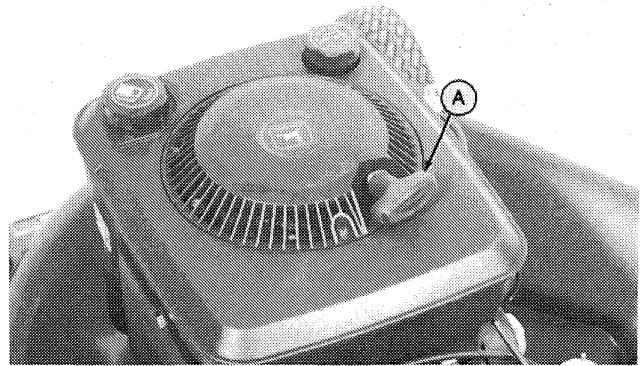
Top photo: 4-cycle controls, bottom photo: 2-cycle controls.



2A8;M40477 M40480 M22;;OPI G 051286

6. (4-cycle engine only.) If battery is low, use auxiliary recoil starter (A) to start engine. Proceed as follows:

- a. Move throttle control forward to "CHOKE" position.
- b. Hold engine shut-off ball down to upper handle.
- c. Place foot on foot pad on left side of deck.
- d. Pull auxiliary recoil starter. Do not let go of handle quickly, allowing it to snap back. Return rope slowly when engine starts.

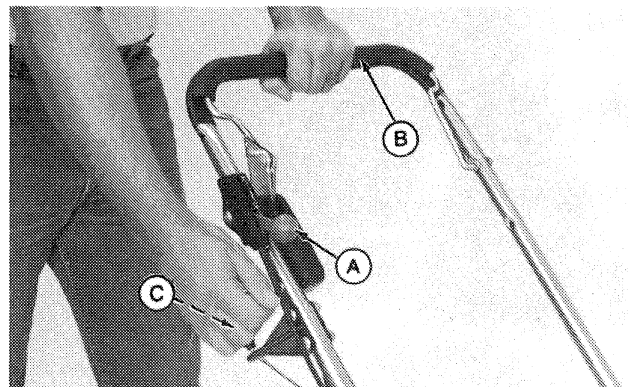


2A8;M40481 M22;;OPI H 051286

STARTING ENGINE—MANUAL START MODELS

 **CAUTION:** Never start mower inside a building. Always wear protective clothing and footwear. Keep your feet away from underneath mower deck and blade.

1. Open fuel shut-off valve.
2. Move throttle control (A) forward to CHOKE position to start cold engine and to FAST position to start warm engine.
3. Pull engine shut-off bail (B) down and hold against handle.
4. Pull recoil starter handle (C). Do not let go of handle quickly, allowing it to snap back. Return rope slowly when engine starts.
5. After engine starts, move throttle control to get desired engine speed.



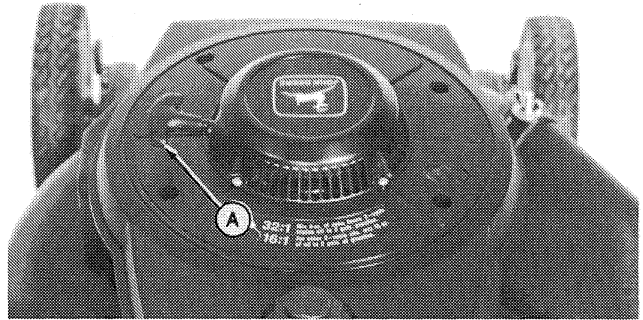
4—Cycle Throttle Shown

2A8;TY1373 5 M22;;OPI I 051286

STARTING ENGINE—BLADE BRAKE CLUTCH MODELS



CAUTION: Never start mower inside a building. Always wear protective clothing and footwear. Keep your feet away from underneath mower deck and blade.



1. Open fuel shut-off valve.
2. Move throttle control (A) forward to CHOKE position to start cold engine and to FAST position to start warm engine.
3. (2-cycle engine only.) Turn ignition ON.
4. Place foot on foot pad on left side of deck.
5. Pull on recoil starter handle (A) until resistance is felt, then pull sharply. Do not let rope snap back in.
6. When engine starts, move throttle control to get desired operating speed.

NOTE: If engine falters when throttle is moved to RUN position, move control to CHOKE position momentarily until engine is warm.

2A8;M40482 M22;;OPI J 051286

STARTING FLOODED 2-CYCLE ENGINE

If the engine floods, proceed as follows:

- a. Remove air filter element and squeeze out excess fuel. Leave filter off.
- b. Move throttle control to FAST position.
- c. Turn engine over several times with starter motor or recoil starter.
- d. When engine starts and runs smoothly, stop it and install air filter.
- e. Restart engine without choking.

M22;;OPI K 051286

STARTING FLOODED 4-CYLCE ENGINE

If engine floods, proceed as follows:

- Move throttle control to SLOW position.
- Turn engine over several times with starter motor or recoil starter.
- Move throttle control to FAST position.
- Pull starter handle or engage starter motor to start engine.

M22;;OPI L 051286

ENGAGING BLADE—BLADE BRAKE CLUTCH MODELS

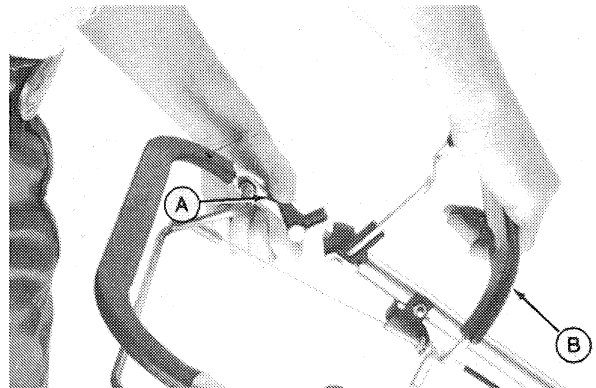


CAUTION: Protect yourself from possible blade contact injuries. If you suspect your blade is not stopping within 3 seconds, see your John Deere dealer.

NOTE: When mowing in heavy cutting conditions, engage the blade brake clutch in a previously mowed area. Engaging the blade brake clutch in heavy cutting conditions may stall the engine.

Engage blade by pressing the bail latch (A) with your left thumb and rapidly pulling blade bail (B) against the handle.

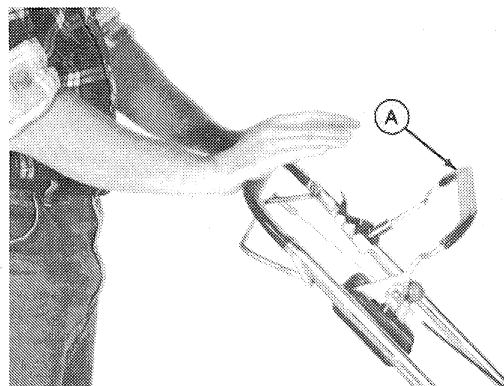
NOTE: Mower may make a squealing noise when blade is engaged. This does not indicate a problem.



2A8;M40483 M22;;OPI M 191286

DISENGAGING BLADE—BLADE BRAKE CLUTCH MODELS

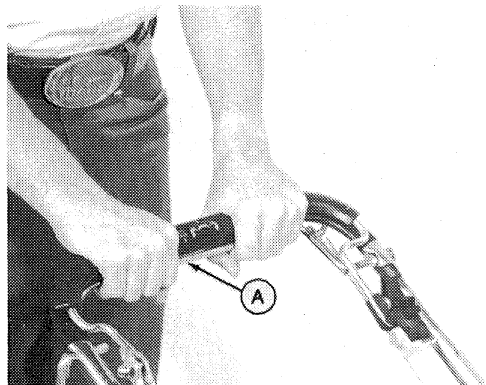
Release bail (B) to disengage blade. Engine will continue to run.



2A8;M40484 M22;;OPI N 051286

ENGAGING AND DISENGAGING DRIVE WHEELS—SELF-PROPELLED MODELS

1. To engage rear wheels, pull self-propelled bail (A) to handle and hold.
2. Release bail to disengage wheels.



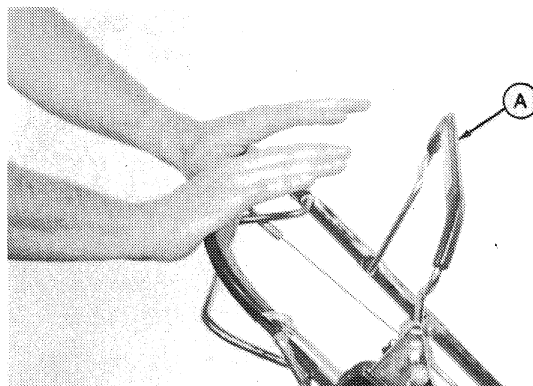
2A8;M40485 M22;;OPI P 051286

STOPPING THE ENGINE—MANUAL START AND ELECTRIC START MODELS



CAUTION: Protect yourself from possible blade contact injuries. See your John Deere dealer for repairs in engine and blade do not stop within 3 seconds.

1. Move throttle control to “SLOW” position.
2. Release engine shut-off bail (A).



2A8;M40486 M22;;OPI Q 051286

STOPPING ENGINE—BLADE BRAKE CLUTCH



CAUTION: Protect yourself from possible blade contact injuries. See your John Deere dealer for repairs if blade does not stop within 3 seconds.

1. Release blade brake clutch bail.
 - 2a. (4-cycle engines only) Move throttle control to STOP position.
 - 2b. (2-cycle engines only) Move throttle to SLOW position and turn ignition key OFF.

M22;;OPI R 221286

REMOVING, EMPTYING, AND INSTALLING GRASS BAG—ACCESSORY



CAUTION: Stop engine before removing or installing grass bag.

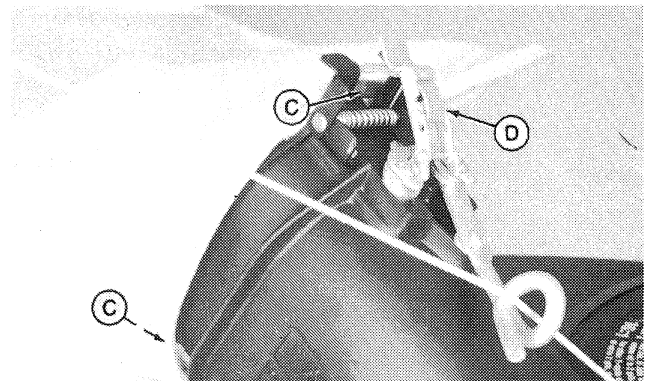
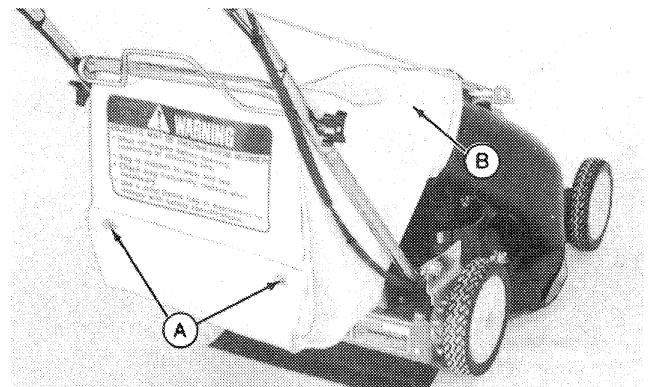
1. Remove grass bag by releasing bag clamp (A) located on discharge chute.
2. Grasp bag handle (B) and remove bag.



2A8;TY1378 3 M22;;OPI S 051286

3. After bag is removed, empty bag by turning clasps (A), opening flap.
4. Close flap and reinstall bag (B).

NOTE: Grass bag rod (C) must be behind locking tab on bottom of chute mouth and between tabs on the trap door. Install latch on grass bag rod and depress lever (D) to open trap door.



2A8;TY1378 4 TY1376 9 M22;;OPI T 051286

CHECKING GRASS BAG PERFORMANCE— ACCESSORY



CAUTION: Grass bags are subject to normal deterioration and wear. Check bag frequently for holes. Replace bag as necessary with original equipment bags that meet current safety standards.

Always stop engine before removing or installing grass bag.

Never leave grass clippings or leaves in the bag. Damp clippings generate heat as they decompose. This could cause the bag to deteriorate or the clippings to ignite.

Never store grass bag or garbage bags even partially full of clippings in or near buildings.

Keep mower deck, discharge chute, and grass bag clean. Stop engine and remove spark plug wire before cleaning mower deck and discharge chute.



2A8;TY1378 5 M22;;OPI U 051286

If there is a trail of clippings left behind the mower:

1. Stop engine and make certain blade has stopped rotating.
2. Check grass level in bag:
 - a. If grass level is to the top of bag, empty bag and check that chute is not clogged.
 - b. If grass level is not to the top of the bag, check for a plugged chute and remove any obstruction.



2A8;M32856 M22;;OPI V 081286

INSTALLING AND REMOVING THATCHER

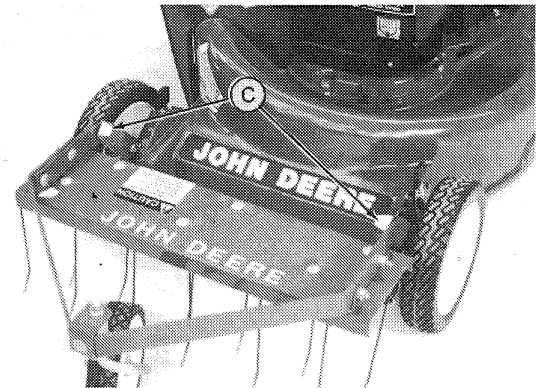
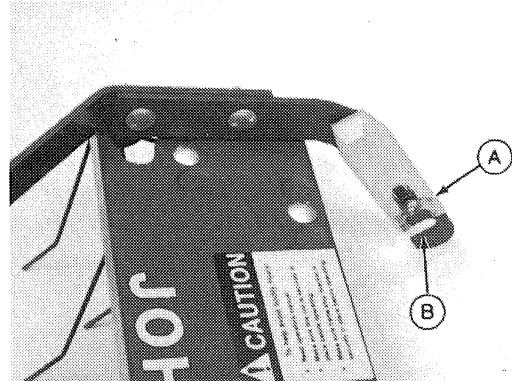
CAUTION: Stop mower engine, remove spark plug cable and disconnect battery on electric starter mowers before installing or removing thatcher.

INSTALL THATCHER

1. Slide latches (A) forward to open mounting slots (B).
2. Lower front mower wheel to "1" position.
3. Place the mounting slots over bushings.
4. Slide latches (C) rearward, securing thatcher to mower.
5. Return mower height adjustment to desired position.

REMOVE THATCHER

1. Slide latches (C) forward.
2. Lower front wheels to position "1" .
3. Remove thatcher and return wheels to desired position.



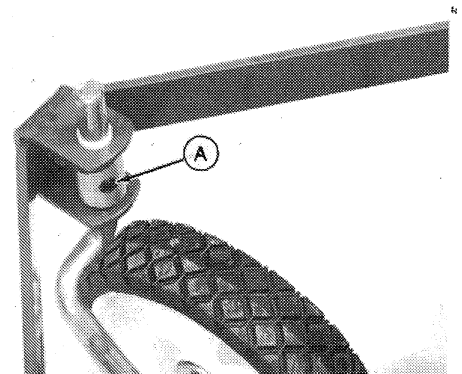
2A8;TY1395 2 TY1395 3 M22;;OPI W 081286

ADJUSTING THATCHER HEIGHT

CAUTION: Stop mower engine, remove spark plug cable and disconnect battery on electric start mowers before adjusting thatcher height.

IMPORTANT: Thatcher must be mounted on mower to make height adjustments.

1. Place mower with thatcher installed on a level surface.
2. Set mower height to 3-in. (76 mm) or less.
3. Loosen set screw (A).
4. Adjust tine tips so they are 1/2-in. (13 mm) above the ground in "free" position and just touch the ground when deflected back.
5. Tighten set screw.



2A8;TY1394 9 M22;;OPI X 081286

OPERATE THATCHER

SAFETY SUGGESTIONS:



CAUTION: Improper use or maintenance by the operator may result in injury. Read this instruction and the mower operator's manual to learn how to operate equipment.

Follow these safety suggestions:

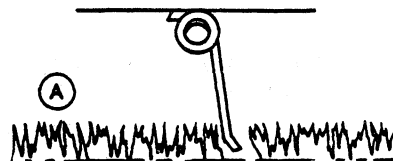
- Read CAUTION decal on thatcher.
- Read DANGER and CAUTION decals on mower
- Clean work area: Remove objects which might become tangled in thatcher or thrown by mower.
- Do not modify thatcher.
- Replace broken tines immediately.
- Keep children and pets a safe distance away.
- Thatch in daylight or good artificial light.
- Drive slowly over rough ground.

M22;;OPI Y 081286

REMOVE THATCHER

Grass should be less than 3 in. (76 mm) tall for proper tine action.

Position (A): Tines relaxed, not working.

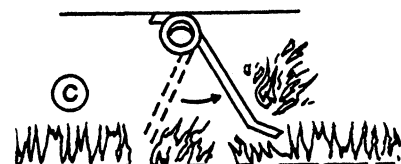
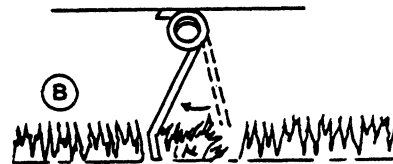


Position (B): Tines deflected.

Position (C): Tines flipping thatch up, ready to be picked up by mower/bagger or sweeper.

When thatcher is in use, each tine should deflect by itself and flip thatch forward. If tines stay in deflected position (B), the main frame is too low and should be raised. If all tines stay in position (A), main frame should be lowered.

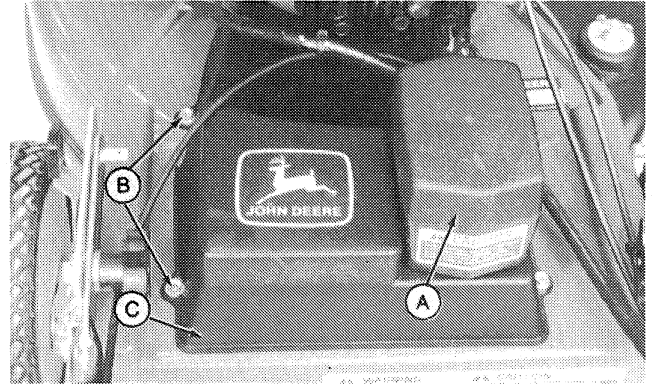
To adjust tines, see LEVEL THATCHER. Raise or lower thatcher 1/4 in. (6 mm) at a time until tine action is correct.



2A8;TY9167 M22;;OPI Z 081286

CHANGING GROUND SPEED— SELFPROPELLED

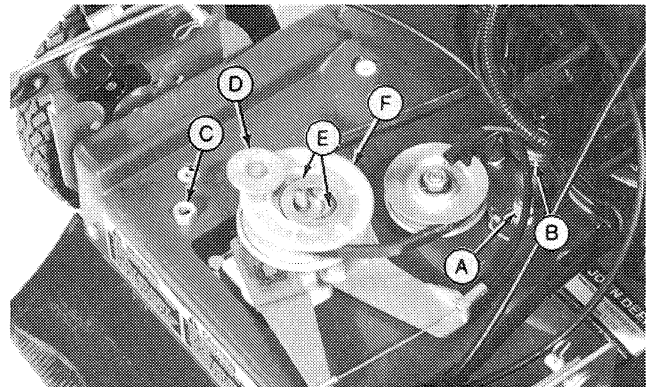
1. Shut off engine and disconnect spark plug wire.
2. On Electric Start: disconnect and remove battery (A).
3. Remove four screws (B) and cover (C).



2A8;TY1380 1 M22;;OPI AA 081286

4. Loosen nut (A) to loosen belt tightener pulley (B).
5. Remove nut (C), washer (D), extra spacers (E), and upper pulley half (F).

A—Nut
B—Belt Tightener Pulley
C—Nut
D—Washer
E—Spacers (4 Used)
F—Upper Pulley Half

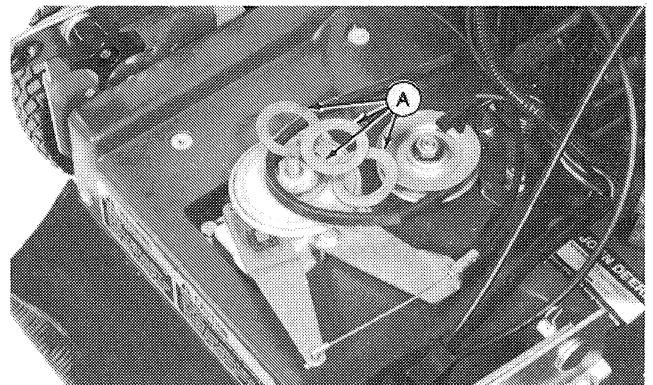


2A8;M40487 M22;;OPI AB 081286

6. Install correct number of spacers (A) for desired ground speed. (See chart below.) Do not discard remaining spacers.

NOTE: Mower is delivered to run at a ground speed of 2.7 mph (4.3 km/h).

Spacers	Ground Speed
0	2.3 mph (3.7 km/h)
1	2.5 mph (4.0 km/h)
2	2.7 mph (4.3 km/h)
3	2.9 mph (4.7 km/h)
4	3.1 mph (5.0 km/h)



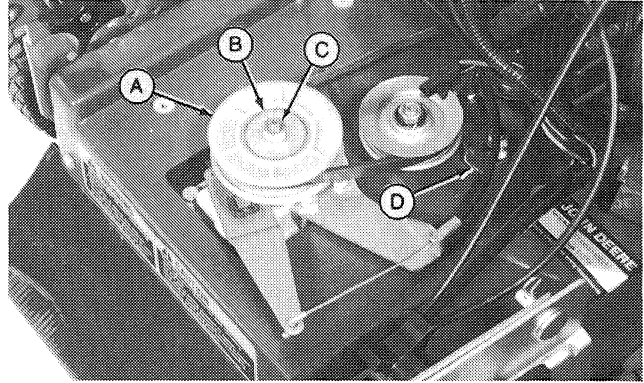
2A8;M40488 M22;;OPI AC 221286

NOTE: Check that drive belt is properly seated on lower pulley half.

7. Install upper pulley half (A).
8. Place extra spacers and washer (B) on pulley stud. Fasten with nut (C).

NOTE: Before tightening nut, check that upper pulley half is properly seated and mated with lower pulley half.

9. Adjust belt tension bracket (D) and tighten nut. Belt should have a deflection of approximately 3/8 in. (8.5 mm) with firm finger pressure.
10. Rotate engine several times to seat belt in groove. Recheck belt tension and readjust if necessary.
11. Install cover using screws removed in Step 2.
12. On Electric Start: install and connect battery.



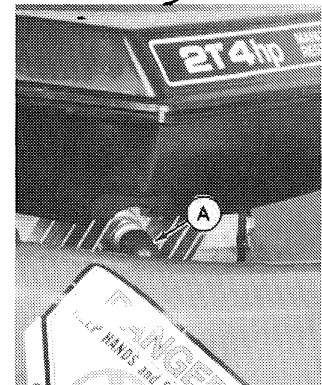
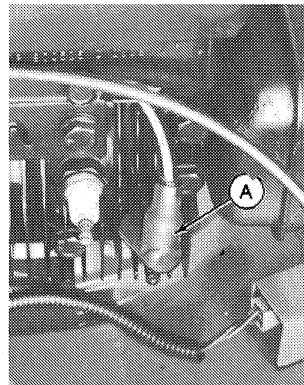
A—Upper Pulley Half
B—Washer
C—Nut
D—Belt Tension Bracket

2A8;M40489 M22;;OPI AD 221286

CLEANING MOWER AFTER USING

After mowing:

- Stop engine and let it cool.
- Disconnect spark plug wire (A).
- Clean clippings from top and underside of deck.
- Empty grass bag.
- Leave spark plug wire disconnected until next use.



2A8;M40490 M40491 M22;;OPI AE 221286

MOWING FOR A BETTER LAWN

1. Cut grass when it is dry. Wet grass can cause mower to plug, thus leaving a trail of grass clumps behind the mower.
2. When mowing, operate throttle in "FAST" position to maintain proper blade speed and air flow to discharge grass clippings.
3. Without a rear bag attachment, mow uncut grass with left side of mower to discharge clippings over cut grass.

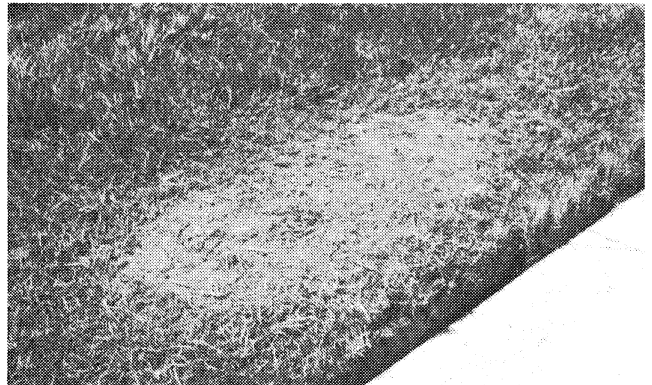
With a rear bag attachment, mow uncut grass with right (discharge) side of mower to facilitate bagging.

4. Keep mower deck and chute clean. Before you clean the mower:
 - a. Stop engine and wait for all moving parts to stop.
 - b. Remove spark plug cable.



2A8;M32856 M22;;OPI AF 081286

5. Mow grass frequently. Shorter clippings deteriorate faster. Cutting grass too short will cause rapid deterioration and possible weed growth.
6. Mow with a sharp cutting blade. A dull blade will tear the grass and cause grass tips to turn brown.
7. Slow down when making turns. Short, fast turns will cause scuffing and pull grass out by the roots.



2A8;M32859 M22;;OPI AG 081286

8. Be sure mower is leveled properly or uneven mowing will result. All four wheels must be adjusted for the same height. Stop engine before adjusting cutting height.

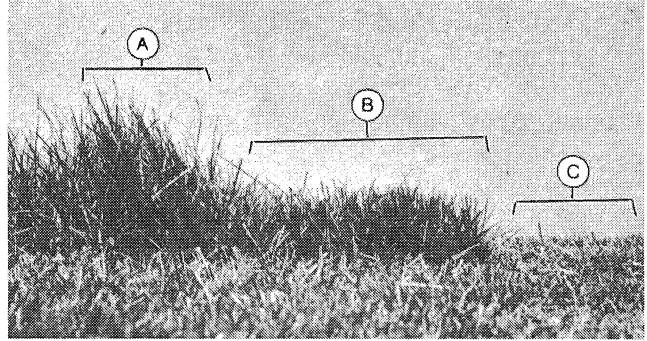


2A8;M32860 M22;;OPI AH 081286

MOWING TALL GRASS

First method: mow grass twice.

1. Adjust cutting height to mow tall grass (A) to half height (B).
2. Adjust cutting height to cut second pass at desired height (C).



Second method: mow at desired height.

Travel at slow speed and cut full width or travel at desired speed and cut half of width.

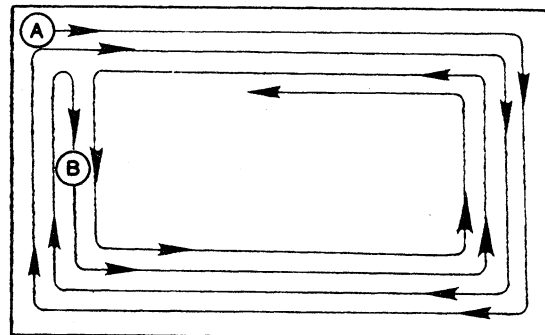
2A8;M27196 M22;;OPI AI 081286

MOWING A LARGE AREA

1. Mow two or three right-hand rounds (A) along the edges of area. Normally do not mow more than three right-hand rounds without a grass bag because clippings will build up and cause:

- Mower to plug.
- Uneven cutting.
- Engine to overload.

2. Then mow left-hand rounds (B) to finish.



2A8;M33867 M22;;OPI AJ 081286

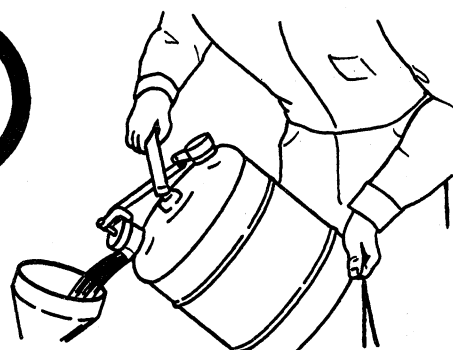
Fuels and Lubricants

FUEL—4-CYCLE ENGINE



CAUTION: Do not fill fuel tank when engine is running or hot. Do not smoke when filling fuel tank.

Use clean, fresh, lead-free gasoline. Gasoline that has been stored for a long time vaporizes poorly, causing hard starts. Use of leaded gasoline or gasohol is NOT recommended.



2A8;TY185 M22;;LUI A 081286

MIXING FUEL (16;1)—2-CYCLE ENGINE

IMPORTANT: Use regular gasoline. Do not use lowlead, unleaded, premium gasoline, gasohol or other alcohol blended fuels.

Use the 16:1 fuel mix chart when using oil meeting BIA certification for TC-W service.

FUEL MIX CHART (16:1 Mixture)					
U.S.		IMPERIAL		S.I. (Metric)	
Gas	Oil To Be Added	Gas	Oil To Be Added	Petrol	Oil To Be Added
1 gal	8 oz	1 gal	10 oz	4 L	250 mL
2 gal	16 oz	2 gal	20 oz	8 L	500 mL
2-1/2 gal	20 oz	2-1/2 gal	25 oz	10 L	626 mL
3 gal	24 oz	3 gal	30 oz	12 L	750 mL
4 gal	32 oz	4 gal	40 oz	16 L	1000 mL
5 gal	40 oz	5 gal	50 oz	20 L	1250 mL
6 gal	48 oz	6 gal	60 oz	24 L	1500 mL

2A8;TY1017 1 M22;;LUI B 081286

MIXING FUEL (32;1)—2-CYCLE ENGINE

IMPORTANT: Use regular gasoline. Do not use lowlead, unleaded, premium gasoline, gasohol or other alcohol blended fuels.

Use the 32:1 fuel mix chart when using John Deere 2-Cycle Engine Oil.

FUEL MIX CHART (32:1 Mixture)					
U.S.		IMPERIAL		S.I. (Metric)	
Gas	Oil To Be Added	Gas	Oil To Be Added	Petrol	Oil To Be Added
1 gal	4 oz	1 gal	5 oz	4 L	125 mL
2 gal	8 oz	2 gal	10 oz	8 L	250 mL
2-1/2 gal	10 oz	2-1/2 gal	12.5 oz	10 L	313 mL
3 gal	12 oz	3 gal	15 oz	12 L	375 mL
4 gal	16 oz	4 gal	20 oz	16 L	500 mL
5 gal	20 oz	5 gal	25 oz	20 L	625 mL
6 gal	24 oz	6 gal	30 oz	24 L	750 mL

2A8;TY1017 2 M22;;LUI C 081286

MIXING FUEL THOROUGHLY—2-CYCLE ENGINE

IMPORTANT: Mix gasoline and oil thoroughly. Never use gasoline that has been stored for a long time, unless a fuel stabilizer is used.

1. Fill mixing container half full of gasoline.
2. Pour in correct amount of 2-cycle oil.
3. Shake mixture vigorously.
4. Pour in remaining gasoline.
5. Shake mixture vigorously.

M22;;LUI D 081286

GASOLINE ENGINE OIL

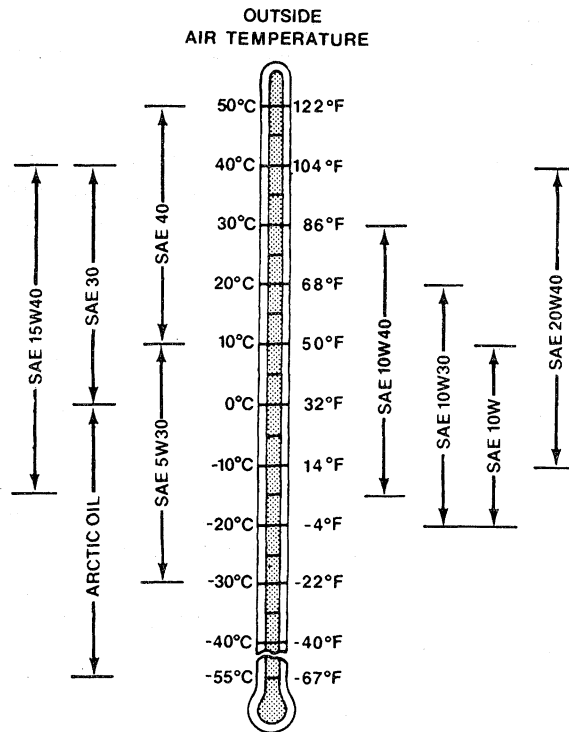
Use oil viscosity based on expected air temperature range during the drain interval.

Starting aids which directly or indirectly warm the oil before cranking may permit the use of oils at temperatures below the limits shown on the chart. See your John Deere dealer for assistance.

John Deere PLUS-4 Engine Oil is recommended.

Other oils may be used if they meet the requirements of API Service Classification SE or SF.

Oils meeting Military Specifications MIL-L-46167A are recommended as arctic oils. Other specially formulated oils may be used if they have a pour point at least 5°C (9°F) below the lowest expected air temperature between oil changes.



AB6/TS199 053/GAS. 310786

GREASE

Use only John Deere AM104468 Grease to lubricate transmission and rear wheel axles (Self-Propelled models). Other greases will foul the clutch mechanism and cause premature clutch failure.

M22;;LUI E 221286

Troubleshooting

Symptom	Problem	Solution	Page
Engine Does Not Start	Fuel shut-off valve closed.	Open fuel shut-off valve.	
	Fuel tank empty.	Fill fuel tank.	
	Improper fuel or fuel mixture.	Use correct fuel.	
	Old fuel.	Use fresh fuel.	
	Spark plug wire loose disconnected.	Connect spark plug wire.	
	Spark plug not gapped correctly.	Check and set spark plug gap.	
	Spark plug bad.	Install new spark plug.	
	Ignitions parts bad.	See your John Deere dealer.	
	Engine shut-off bail not held down (Manual Start and Electric Start).	Hold engine shut-off bail down.	
	Battery not connected (Electric Start).	Connect battery.	
	Throttle control not in "FAST" position.	Move throttle control to "FAST" position.	
	Carburetor out of adjustment.	See your John Deere dealer.	
	Interlock plunger not depressed.	Adjust acutator to depress plunger.	
Engine Starts Hard or Loses Power	Dirt or water in fuel tank.	Drain and clean fuel tank.	
		Fill with fresh fuel.	
	Vent in gas cap plugged.	Clean vent or install new gas cap.	
	Air cleaner element dirty.	Clean or install new air filter element.	
	Spark plug not gapped correctly.	Check and set spark plug gap.	
	Spark plug bad.	Install new spark plug.	
	Spark plug loose.	Clean, re-gap and tighten spark plug.	
	Ignition parts bad.	See your John Deere dealer.	
Engine Runs Erratically	Cylinder exhaust ports plugged.	See your John Deere dealer.	
	Carburetor out of adjustment.	See your John Deere dealer.	
	Spark plug bad.	Install new spark plug.	
	Spark plug not gapped correctly.	Check and set spark plug gap.	
	Throttle control in "CHOKE" position.	Move throttle control to "FAST" position.	
	Cooling fins plugged.	Clean all cooling fins.	

Continued on next page

Symptom	Problem	Solution	Page
Engine Idles Poorly	Air filter element dirty. Carburetor out of adjustment. Cooling fins plugged.	Clean or replace element. See your John Deere dealer. Clean all cooling fins.	
Engine Overheats	Blower housing or cooling fins plugged.	Clean blower housing and cooling fins.	
Engine Vibrates Too Much	Blade cap screws loose. Blade nut loose. Blade out of balance. Crankshaft bent.	Tighten cap screws. Tighten nut. Sharpen and balance blade. See your John Deere dealer.	
Mower Mows Unevenly	Ground speed too fast. Operator making mower turn corner to fast. Ridges in terrain. Mower not level.	Walk slower or adjust ground speed— Self Propelled. Walk slower. Change mowing pattern. Set all four wheels to the same position.	
Discharge CHute Plugs	Grass wet. Mower too low. Engine overloaded. Grass bag full.	Let grass dry. Raise mower cutting height. Remove half of grass height on first pass. Mow at desired height on second pass. Make a partial cut, using half of the mower cutting width. Empty grass bag.	
Blade Does Not Stop Within 3 Seconds When Blade Brake Bail is Released	Blade brake clutch out of adjustment.	See your John Deere dealer.	
Engine/Blade Do Not Stop Within 3 Seconds	Flywheel brake out of adjustment.	See your John Deere dealer.	
Mower Does Not Propel	Drive belt broken.	See your John Deere dealer.	
Transmission Slips	Drive belt tension Transmission out of adjustment. Springs broken or dislodged. Clutch plate worn.	Adjust drive belt idler. See your John Deere dealer. See your John Deere dealer. See your John Deere dealer.	

Periodic Service

USING SERVICE RECORDS

1. Keep a record of the number of hours you run your mower.
2. Check your record regularly to learn when your mower needs service.
3. Perform all services at designated intervals. Then write the number of hours (from your service record) and the date in the spaces provided.

NOTE: This manual is not a detailed service manual. It has important safety precautions and the information you need for safe operation and routine maintenance. If you want more detailed information, see your John Deere dealer.

SAMPLE SERVICE RECORD CHART	
DATE	HOURS
1 JUN '85	3
6 JUN '85	2 - (5)
7 JUN '85	1 - (6)
11 JUN '85	4 - (10)
17 JUN '85	3 - (13)

2A8;TY1221 7 M22;PSI A 081286

SERVICE/10 HOURS

Clean air filter—2-cycle engine.
Check grass bag for wear.

Hours				
Date				
Hours				
Date				
Hours				
Date				
Hours				
Date				
Hours				
Date				
Hours				
Date				

2A8;TY1289 2 M22;PSI B 081286

SERVICE/25 HOURS

Clean and gap spark plug.

Clean air filter—4-cycle engine.

Check blade and engine mounting bolt tightness.

Lubricate rear axle—Self-Propelled.

Change crankcase oil—4-cycle engine.

Hours				
Date				
Hours				
Date				
Hours				
Date				
Hours				
Date				
Hours				
Date				
Hours				
Date				

2A8;TY1289 2 M22;PSI C 081286

SERVICE/50 HOURS

Adjust Self-Propelled clutch spring.

Hours				
Date				
Hours				
Date				
Hours				
Date				
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Date				
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Date				

2A8;TY1289 2 M22;;PSI E 221286

SERVICE/200 HOURS

Lubricate transmission with AM104468 Grease.

Hours				
Date				
Hours				
Date				
Hours				
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Date				

2A8;TY1289 2 M22;;PSI F 221286

SERVICE/AS NECESSARY

Charge battery. (As Necessary)

Sharpening and balancing blade. (As Necessary)

Adjust 4-cycle throttle and control cable. (As Necessary)

Check blade brake clutch. (Annually)

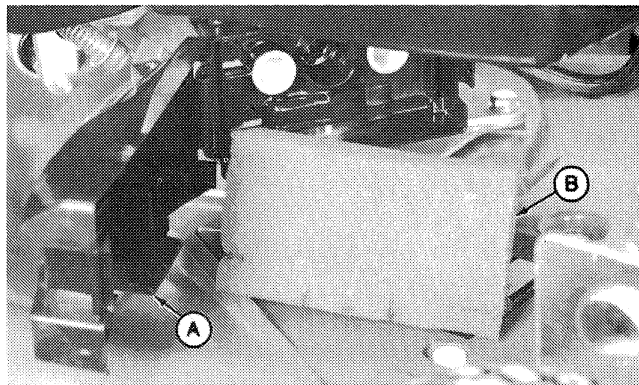
M22;;PSI -D 250287

Service/10 Hours

CLEANING AIR FILTER ELEMENT—2-CYCLE ENGINE

CAUTION: Shut engine off and disconnect spark plug.

1. Wipe dirt from outside of air cleaner. Remove cover (A) and element (B).
2. Inspect element and replace if damaged. If element replacement is necessary refer to step 5.
3. Wash element in liquid detergent and warm water.
4. Wrap element in cloth and squeeze it dry.
5. Apply 10—15 drops of oil to element. Squeeze element to distribute oil.
6. Install element and cover.

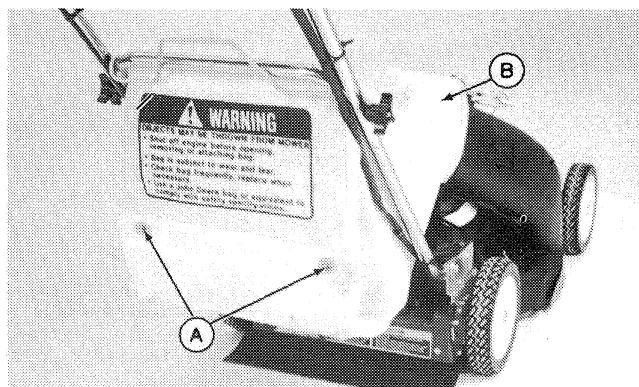


2A8;TY1368 8 M22;SVI A 091286

CHECKING GRASS BAG—ACCESSORY

Check clasps (A) for wear and grass bag (B) for holes, tears, and wear. Replace bag if necessary.

Keep bag clean by washing it in warm or cold water. A clean bag allows good air flow and makes the mower more efficient.



2A8;TY1367 7 M22;SVI B 091286

Service/25 Hours

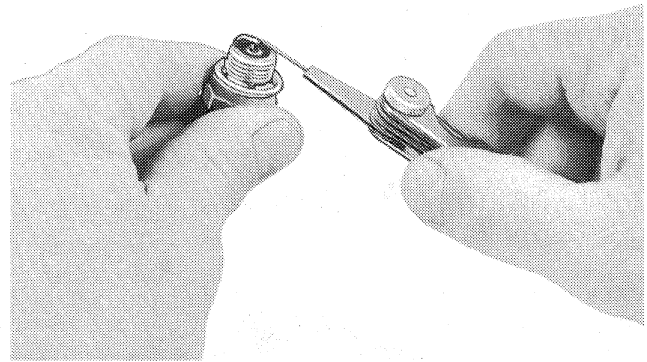
CLEANING AND GAPPING SPARK PLUG

1. Remove and inspect spark plug.

If porcelain is cracked or electrodes are pitted, install a new spark plug. Tighten plug.

If spark plug is in good condition, clean plug and reset gap.

IMPORTANT: Do not clean spark plug in a machine using abrasives.



2. Clean spark plug by scraping or using a wire brush. Wash with a commercial solvent.

3. Use a round wire-type feeler gauge to check gap.

Engine	Plug Gap
2-Cycle	0.035 in. (0.890 mm)
4-Cycle	0.030 in. (0.762 mm)

4. Bend only the outer electrode when you set gap.
5. Install spark plug. Tighten to 12—15 lb-ft (16—20 N·m).

2A8;TY8335 M22;;SVI C 091286

CLEANING AIR FILTER ELEMENT—4-CYCLE ENGINE

IMPORTANT: Do not run engine with element removed.

1. Wipe dirt from outside of air cleaner. Remove screw and cover (A) and element (B).

2. Inspect element and clean or replace if damaged.

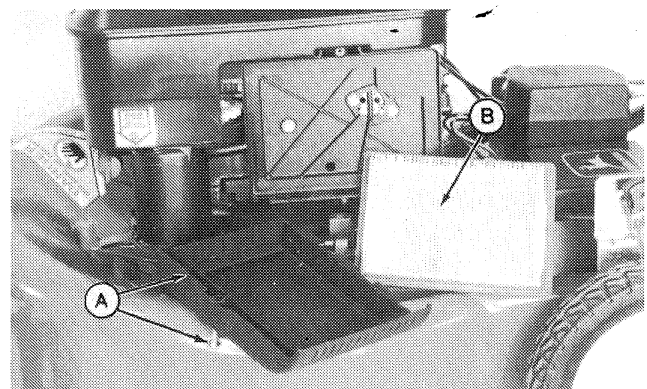
3. To clean, wash in a low or non-sudsing detergent and warm water solution. Do not use petroleum solvents such as kerosene, to clean element.

4. Rinse thoroughly with flowing water from inside out until water is clear.

5. Allow element to stand and air dry thoroughly before using.

IMPORTANT: Do not oil element. Do not use pressurized air to clean or dry element.

6. Install element and cover.



2A8;TY1372 7 M22;;SVI D 091286

TIGHTENING BLADE AND ENGINE MOUNTING NUTS



CAUTION: Disconnect spark plug cable to help prevent accidental starting.

Disconnect battery on electric-start models to help prevent accidental starting.

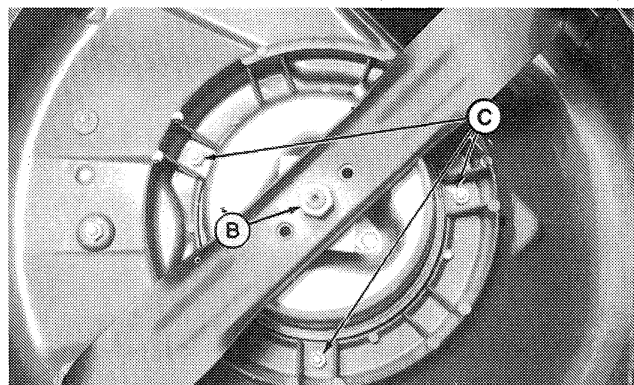
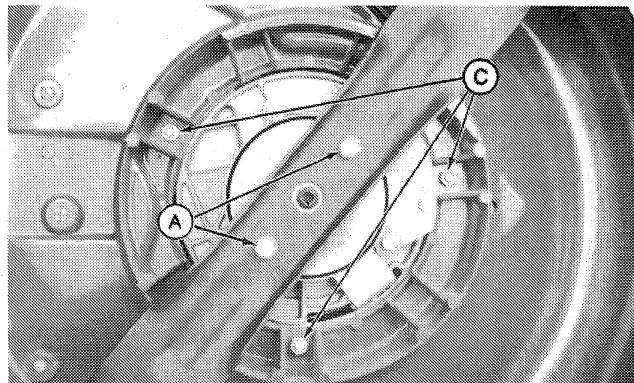
Wear heavy work gloves and wrap blade with a rag when checking or tightening blade hardware.

1a. On units with Blade Brake Clutch: tighten cap screws (A) to 30 lb-ft (41 N·m).

1b. On units without Blade Brake Clutch: tighten nut (B) to 45—50 lb-ft (61—68 N·m).

2. Tighten engine mounting nuts (C) to 20 lb-ft (27 N·m).

IMPORTANT: Do not overtighten hardware.

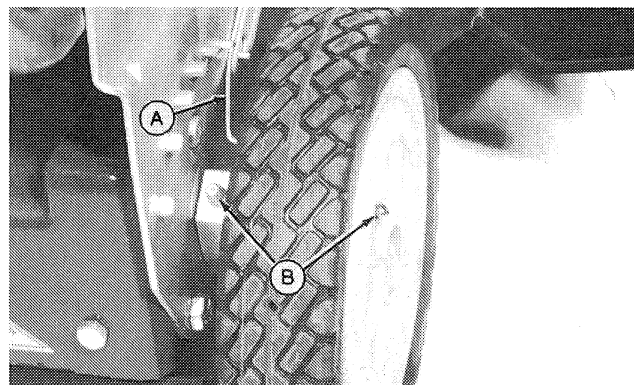


2A8;TY1368 9 TY1366 5 M22;SVI E 091286

LUBRICATING REAR AXLE BEARINGS—SELFPROPELLED

1. Stop engine, remove spark plug wire, and place height adjustment lever (A) in high position.

2. Lubricate grease fittings (B) on both rear wheels using only John Deere AM104468 grease.



2A8;M40492 M22;SVI F 221286

CHANGING ENGINE OIL—4-CYCLE ENGINE

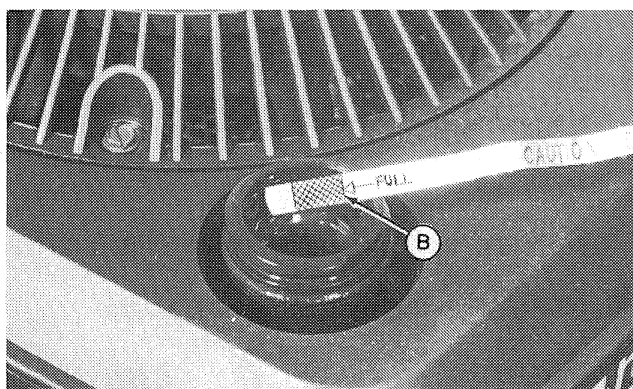
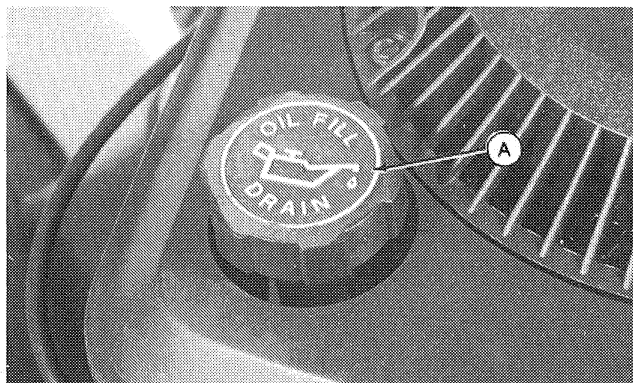


CAUTION: Before lubricating mower, stop engine and disconnect spark plug wire. On electric start models, disconnect battery to help prevent accidental starting.

IMPORTANT: Do not turn mower on left side. Oil will run into air cleaner and carburetor. This makes it hard to restart engine.

NOTE: This method can be used to change crankcase oil in all 4-cycle models.

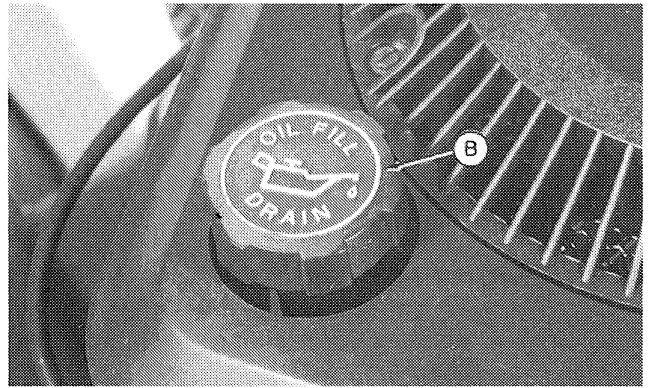
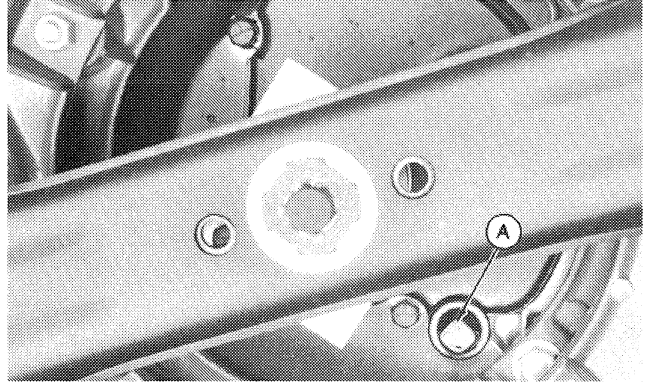
1. Wipe off any dirt and remove dipstick (A) and discharge chute.
2. Turn mower on right side and drain oil into a container. Wipe up spilled oil.
3. Place mower on a level surface.
4. Pour approximately 1-1/4 pt (0.60 L) engine oil through dipstick tube. (See Fuels and Lubricants section for correct oil.) Wipe up spilled oil.
5. Replace dipstick. Crankcase level should read to "FULL" mark (B) on dipstick.



2A8;M40475 M40493 M22;SVI G 091286

This method can also be used to change crankcase oil in manual and electric start 4-cycle engines without blade brake clutch.

1. Remove chute and turn mower on right side.
2. Remove oil drain plug (A) and drain oil into a container. Install oil drain plug and tighten.
3. Place mower on a level surface.
4. Wipe off any dirt and remove dipstick (B).
5. Pour approximately 1-1/4 pt (0.60 L) engine oil through dipstick tube. (See Fuels and Lubricant section for correct oil.) Wipe up spilled oil.
6. Replace dipstick. Crankcase level should read to "FULL" mark on dipstick.



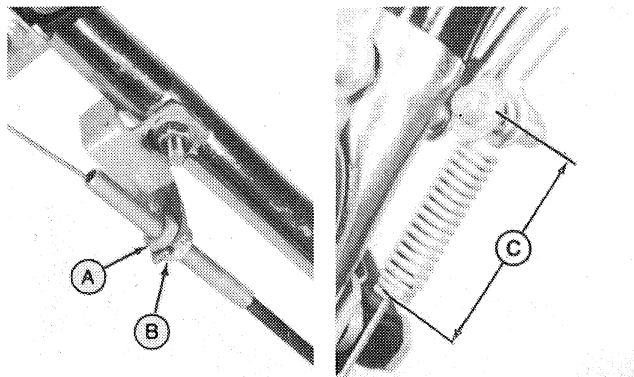
2A8;TY1379 1 M40494 M22;;SVI H 091286

Service/50 Hours and 200 Hours

SERVICE/50 HOURS—ADJUST SELF-PROPELLED CLUTCH SPRING

Loosen jam nut (A) and turn nut (B) to adjust spring length (C). Spring length should be 1.8 to 1.9-in. (46 to 48 mm) with clutch handle in engaged position.

Tighten jam nut.



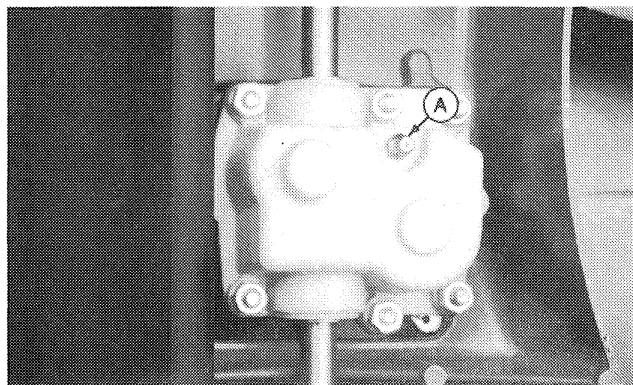
2A8;M40542 M40788 M22;SVI -HA 250287

SERVICE/200 HOURS—LUBRICATE SELF-PROPELLED TRANSMISSION

1. Remove plug from bottom of transmission and install grease fitting (A).

IMPORTANT: Use only John Deere AM104468 grease to fill self-propelled transmissions. Other greases will cause premature clutch failure.

Fill transmission until clutch arm on top side of transmission moves. Do not overfill transmission.



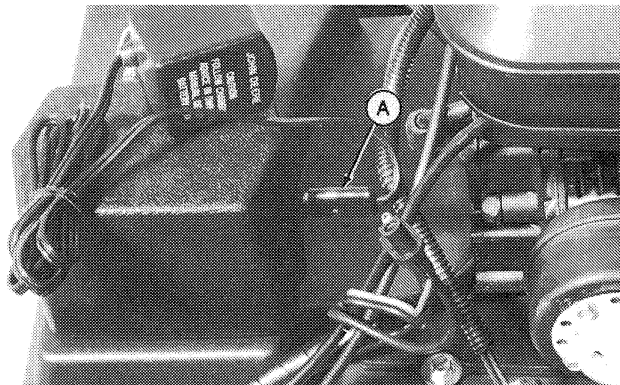
2A8;TY1377 4 M22;SVI HB 221286

Service/as Necessary

CHARGING BATTERY—ELECTRIC START

NOTE: Electric start mower engines are equipped with an on-board alternator. It is designed to charge a battery to its pre-start level of charge with 3 minutes of engine running time. A 12-volt DC charger is provided to charge the battery during non-engine running times or instances where the battery charge is not enough to start the engine, such as after long storage period.

IMPORTANT: Use only charger supplied with the mower. Other chargers will permanently damage the battery. **DO NOT** charge battery in areas where ambient temperature is below 41°F (5°C) or above 122°F (50°C).



1. Insert charger connector (A) into battery receptacle.
2. Insert charger into 115V single phase 60-cycle outlet.
3. Disconnect charger from outlet and battery after battery had charged 24–36 hours (new or discharged).

2A8;M40495 M22;;SVI I 091286

SHARPENING AND BALANCING BLADE

CAUTION: Stop engine. Disconnect spark plug wire and disconnect battery on electric-start models to help prevent accidental starting.

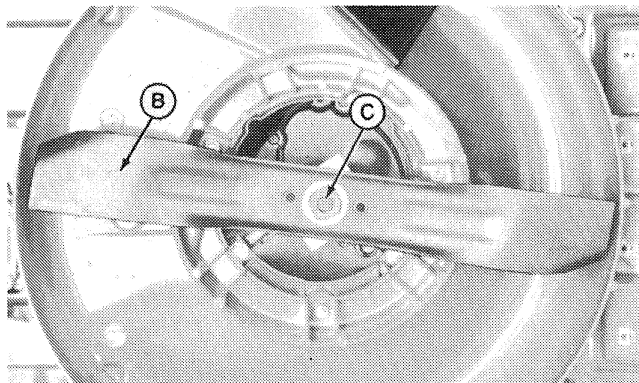
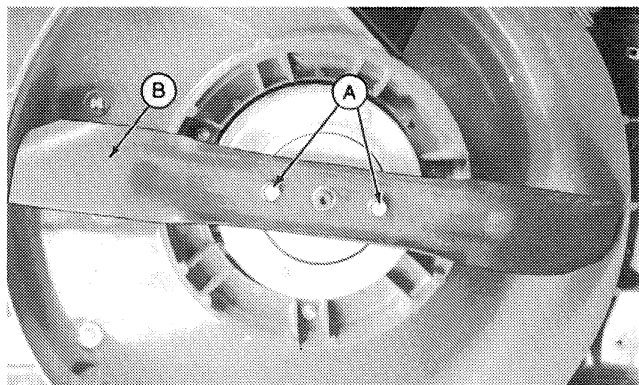
Wear heavy work gloves and wrap blade with a rag when removing it.

IMPORTANT: Do not turn mower on left side. Oil will run into air cleaner and carburetor. This makes it hard to restart engine.

1. Remove chute and turn mower on right side.
- 2a. On units with blade brake clutch: remove two cap screws (A) and blade (B).
- 2b. On units without blade brake clutch: remove cap screw, lock washer, and washer (C). Remove blade (B).

CAUTION: Universal blades may adversely affect mower performance and/or safety. Consult your John Deere dealer for proper replacement blades.

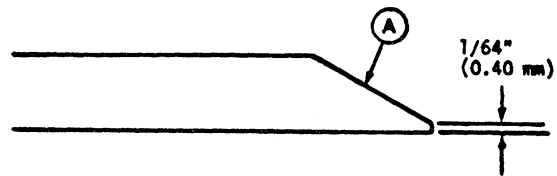
3. Inspect blade. Replace blade if cracked or bent.



2A8;TY1379 4 TY1379 3 M22;;SVI J 221286

CAUTION: Wear safety glasses and gloves when you sharpen the blade.

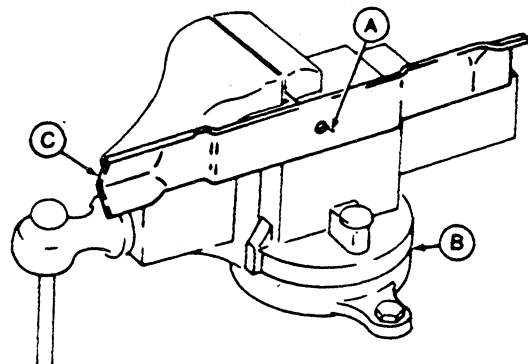
4. Sharpen blade with a file using same number of strokes on each side. This maintains proper balance.
5. Keep original angle (A) when sharpening blade.
6. Leave a 1/64 in. (0.40 mm) dull tip on cutting edge. A razor-sharp edge will chip easily and dull quickly.



CAUTION: Balance blade after it is sharpened.

2A8;TY1383 6 M22;;SVI K 221286

7. Clean blade thoroughly.
8. Put a long finishing nail (A) in a vise (B).
9. Set blade (C) horizontally on a nail as shown.
10. If blade moves, file the end that moves down until blade balances.

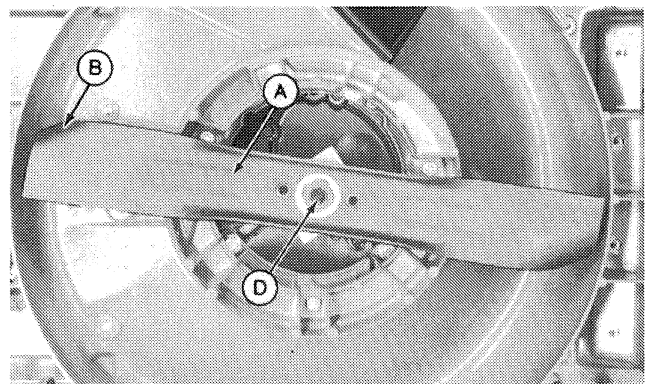
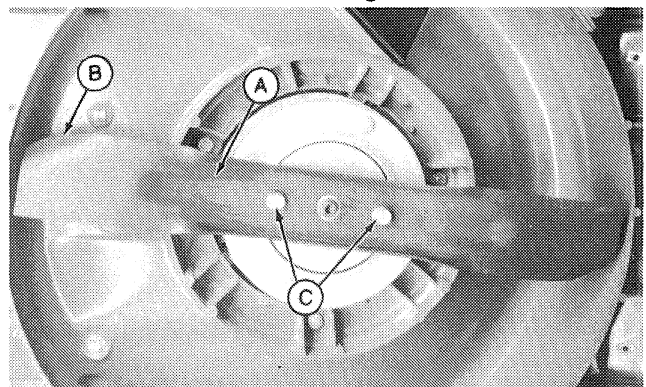


2A8;TY1380 6 M22;;SVI L 091286

CAUTION: Wear gloves or wrap blade with a rag when installing blade.

11a. On units with blade brake clutch: install blade (A) with bend (B) toward deck using two cap screws (C). Tighten cap screws to 30 lb-ft (41 N·m).

11b. On units without blade brake clutch: install blade (A) with bend (B) toward deck using washer, lock washer, and cap screw (D). Tighten cap screw to 45—50 lb-ft (61—68 N·m).

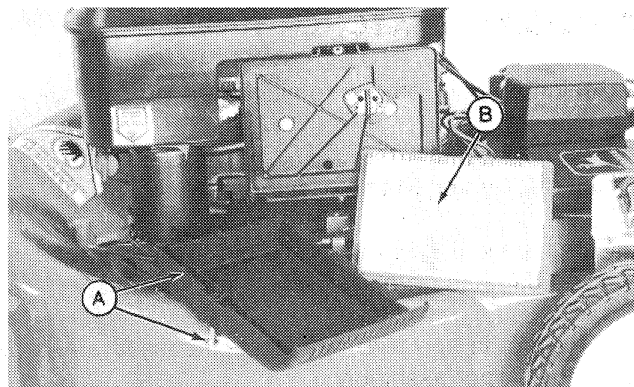


A—Blade
B—Bend in Blade
C—Cap Screws
D—Cap Screw

2A8;TY1373 3 TY1373 4 M22;;SVI M 091286

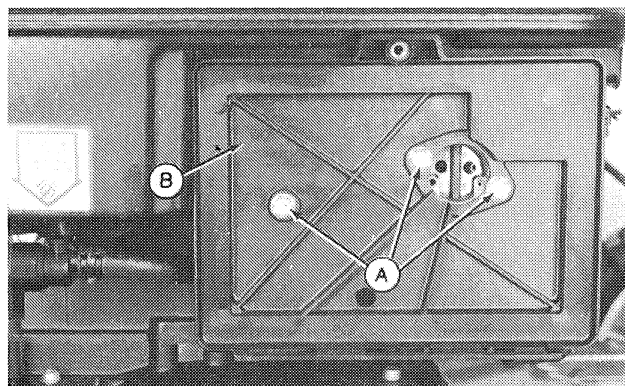
ADJUSTING THROTTLE CONTROL CABLE— 4-CYCLE ENGINE

1. Remove screw and air cleaner cover (A).
2. Remove element (B).



2A8;TY1372 7 M22;SVI N 091286

3. Remove three screws (A) and plate (B).



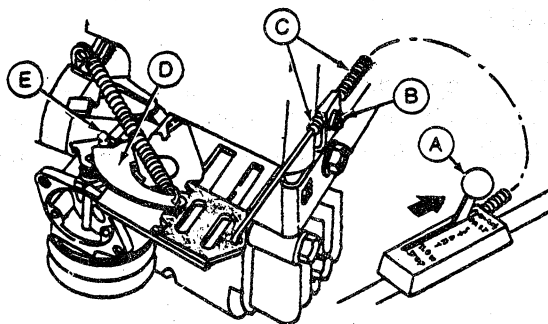
2A8;TY1378 8 M22;SVI O 091286

4. Move throttle control to the "FAST" position (A).

NOTE: "FAST" position is detented; do not go past "FAST" position into "CHOKE" position.

5. Loosen screw (B) and slide cable casing (C) forward or backward until lever (D) just touches choke arm at (E). Tighten screw.

6. Reinstall air cleaner assembly.

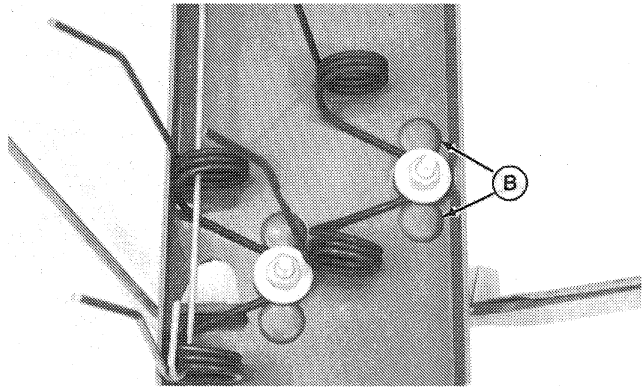
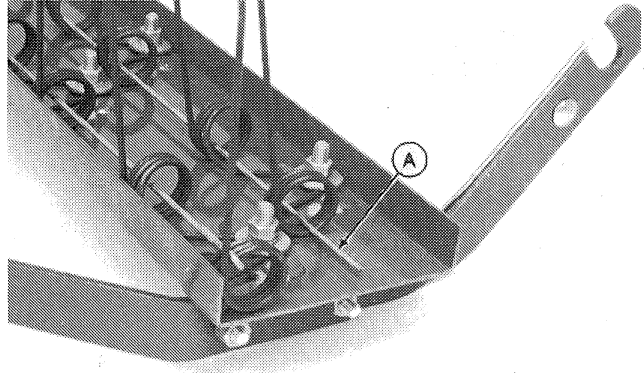


A—Throttle Control—
Fast Position
B—Screw
C—Cable Casing
D—Lever
E—Choke Arm/Lever
Contact

2A8;TY1236 9 M22;SVI P 091286

REPLACING THATCHER TINES

1. Straighten and remove retaining rod (A) from damaged tine.
2. Remove damaged tine. Save hardware.
3. Install new tine, making certain tine tips face same direction as tines on main frame.
4. Put offset in tine wire between embossed areas (B) of frame for proper assembly.
5. Secure tine with hardware saved from step 2.
6. Reinstall retaining rod.



2A8;TY1395 4 TY1395 5 M22;;SVI Q 091286

CHECKING BLADE BRAKE CLUTCH— ANNUALLY

Blade must stop within 3 seconds after release of blade brake bail (A). If blade does not stop within 3 seconds, have your John Deere dealer check the blade brake clutch.

M22;;SVI R 091286

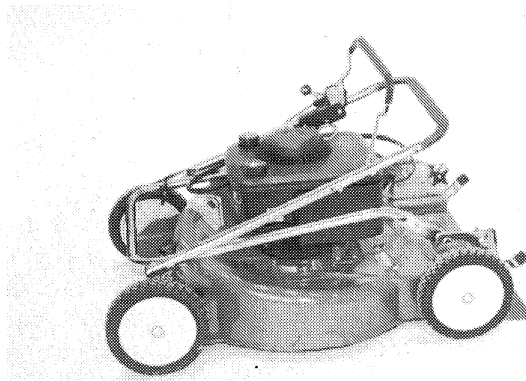
Storage

STORE MOWER PROPERLY



CAUTION: Store mower in a dry, locked-up place, out of reach of children.

Do not store mower in an enclosure where fuel fumes may accumulate or reach an open flame or spark.



2A8;TY1373 1 M22;;STI A 091286

BETWEEN MOWING JOBS



CAUTION: Disconnect battery on electric-start models to help prevent accidental starting. Store mower with spark plug cable removed to help prevent accidental starting.

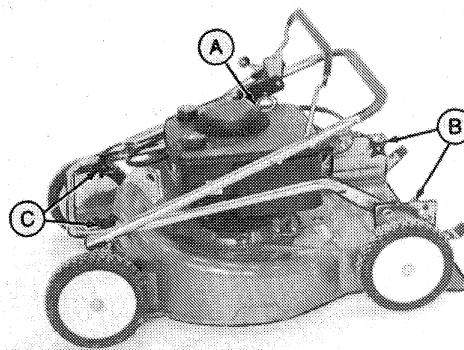
Clean exterior of the mower with a damp cloth. Remove all accumulations of dirt and grass. If periodic lubrication and service is required, now is the time to perform those services to keep your mower ready for the next mowing job.

M22;;STI B 091286

BETWEEN MOWING SEASONS

NOTE: Follow all "Between Mowing Jobs" procedures, plus the following steps:

IMPORTANT: Use John Deere Gasoline Storage Stabilizer (TY6295) in the fuel tank. See your John Deere dealer. A gasoline storage conditioner should always be used when storing the mower to prevent carburetor varnishing and partial plugging of carburetor jets. Either of these conditions could cause the engine to run lean and result in piston seizure or engine failure.



1. Remove fuel from tank if fuel stabilizer is not used.
2. Close fuel shutoff valve.
3. 4-cycle engine: change crankcase oil.
4. Pour 1 oz of engine oil into spark plug hole and turn engine over twice to distribute oil.
5. Replace spark plug but leave plug wire disconnected.

IMPORTANT: Do not kink control cables when folding handle. Disconnect battery on electric start models before folding handles.

6. On Manual Start: Pull recoil starter rope slightly and tie a slip knot in starter rope at blower housing (A).
7. Remove lower handle height adjustment knobs, washers, lock washers, and cap screws (B).
8. Loosen folding handle knobs (C) and fold handle as shown.
9. Replace height adjustment cap screws, washers, lock washers, and knobs in slotted holes.

STORING THATCHER



CAUTION: Tines may cause puncture injuries if thatcher falls or is inadvertently contacted. Store thatcher with tines resting on the floor.

Before placing the thatcher into storage, check for loose nuts and bolts and tighten if necessary.

Replace any worn or missing parts.

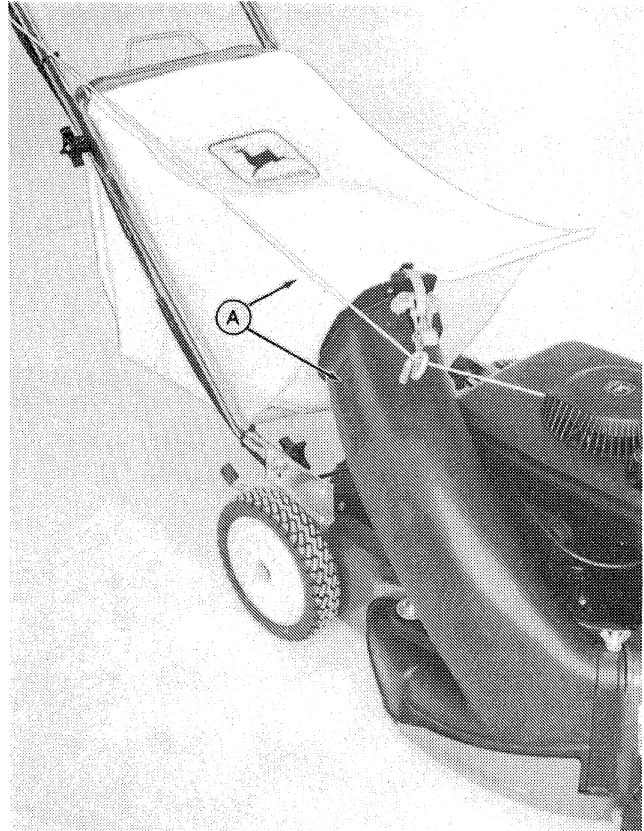
Apply grease to all pivot points.

M22;;STI D 091286

Accessories

REAR BAG ATTACHMENT

The TY20287 Rear Bag Attachment (A) has a 2 bu (0.07 M³) capacity. The bag is easily attached and detached from discharge chute.



2A8;TY1372 9 M22;;ACI A 221286

REMOTE FUEL KIT

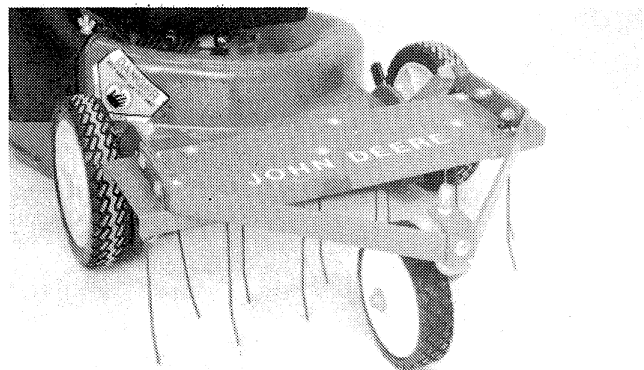
The TY20288 Remote Fuel Kit (A) is designed to extend mowing time. Fuel capacity of remote tank is 5.7 qt (5.5L).



2A8;TY1372 8 M22;;ACI B 091286

FRONT-MOUNTED THATCHER

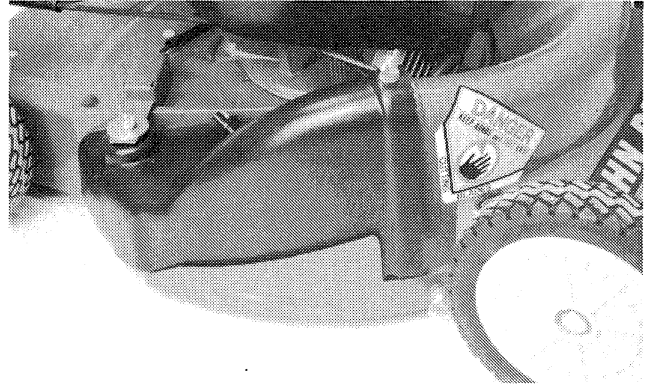
The TY13108 Front-Mounted Thatcher is designed to lift grass for a more uniform cut and to remove thatch for preventative lawn maintenance.



2A8;TY1376 6 M22;;ACI C 091286

MULCHING PLATE

The TY20140 Mulching Plate attaches in place of the side discharge chute or rear discharge chute to retain grass until the blade chops it to a fine mulch.



2A8;TY1347 9 M22;ACI D 091286

STEEL WHEEL KIT

The TY20330 Steel Wheel Kit consists of two steel wheels with dual ball bearings, grease fittings, and mounting bolts. Order two kits for push mowers and one kit for self-propelled mowers.

M22;ACI E 091286

REMOTE AIR INTAKE KIT—2-CYCLE ENGINE

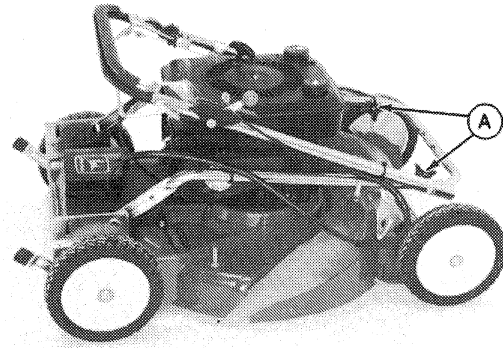
The BM22007 Remote Air Intake Kit for 2-cycle engines is available for use in extremely dusty conditions.

M22;ACI F 221286

Assembly

ASSEMBLE MOWER

1. Loosen folding handle knobs (A).
2. Lift handle to an upright position and tighten folding handle knobs.
3. Align hole in handle with slot in bracket on both sides of mower deck.

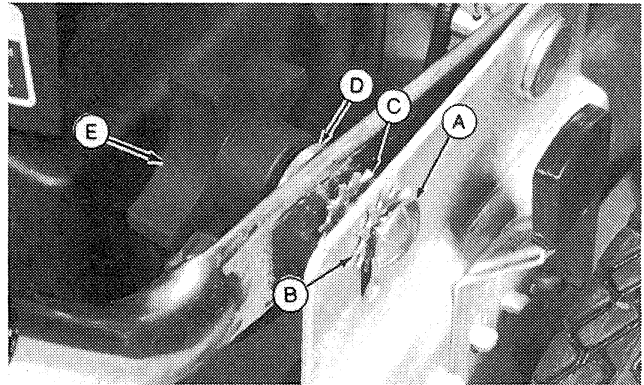


2A8;TY1372 6 M22;;ASI A 091286

4. Install carriage bolt (A), large lock washer (B), lock washer (C), flat washer (D) and knob (E) to both sides of handle.
5. Adjust handle height and tighten knobs securely.

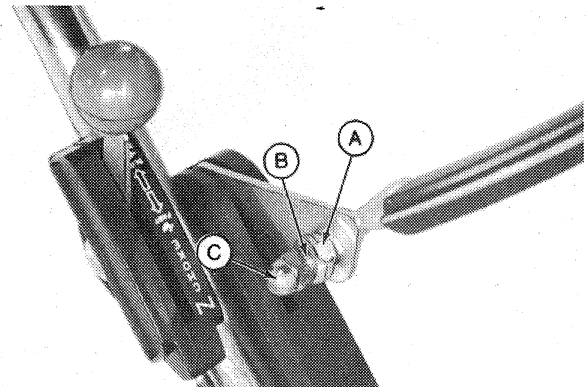
A—Carriage Bolt (2 used)
B—Large Lock Washer
(2 used)

C—Lock Washer (2-Used)
D—Flat Washer (2-Used)
E—Knob (2 used)



2A8;M40497 M22;;ASI B 091286

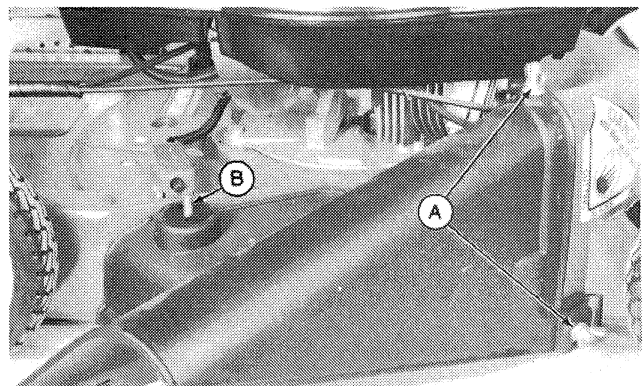
6. On Blade Brake Clutch: install clutch cable eyelet (A) over threaded stud (B) and secure with nut (C).
7. On Manual Start without Blade Brake Clutch (not illustrated): pull recoil starter handle to release slip knot in starter rope.



2A8;TY1372 4 M22;;ASI C 091286

8. Install side discharge chute and fasten with washers and wing nuts (A).

NOTE: Do not install washers and wing nut on stud (B) at this time.



2A8;TY1377 6 M22;;ASI D 101286

9. Push switch into housing until actuator (A) fits over stud (B).

10. Install flat washer (C), lock washer (D), and wing nut (E).

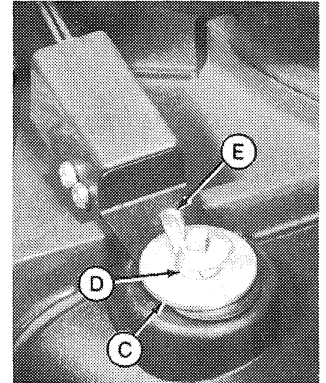
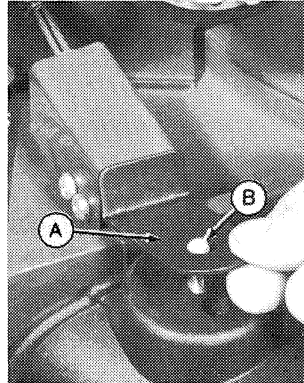
A—Actuator

B—Stud

C—Flat Washer

D—Lock Washer

E—Wing Nut

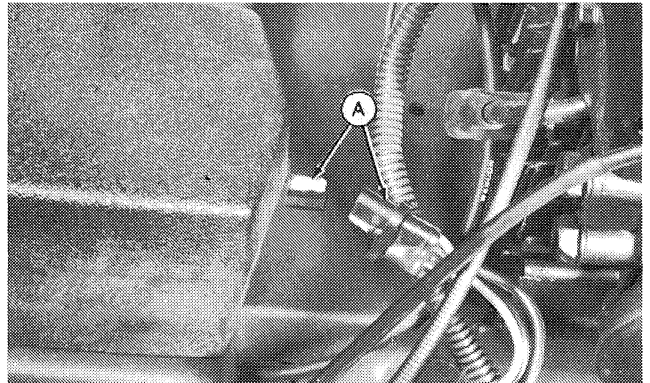


2A8;M40498 M40499 M22;ASI E 101286

CONNECT BATTERY—ELECTRIC START

NOTE: Before first start, charge battery 24—36 hours the charger provided.

Connect battery leads (A).



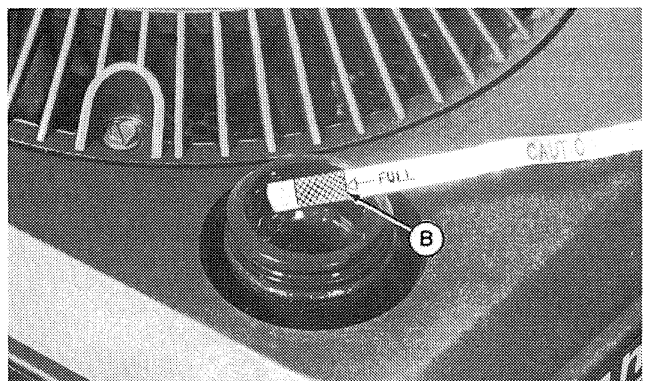
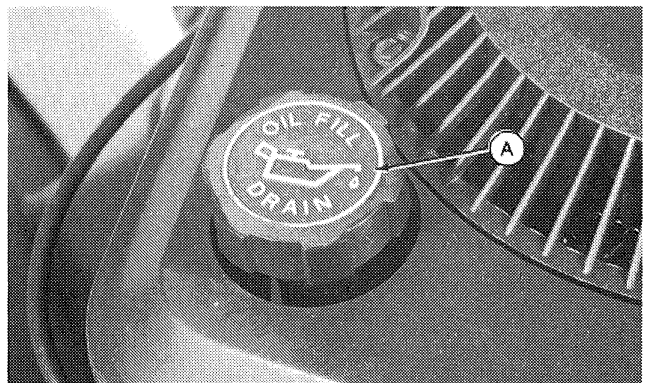
2A8;M40500 M22;ASI F 101286

FILLING ENGINE CRANKCASE—4-CYCLE ENGINE

IMPORTANT: The mower is shipped without oil in the engine crankcase. If the dealer has not filled the crankcase, fill crankcase as explained below.

1. Place mower on level surface and remove dipstick (A).
2. Add 1-1/4 pt (0.6 L) of engine oil through dipstick tube. (See Engine Oil in Fuels and Lubricants section for correct oil.)
3. Thread dipstick into tube then remove to check oil level. Add oil to bring level to FULL mark (B) on dipstick.
4. Replace dipstick and wipe up spilled oil.

IMPORTANT: Never remove oil dipstick when engine is running.



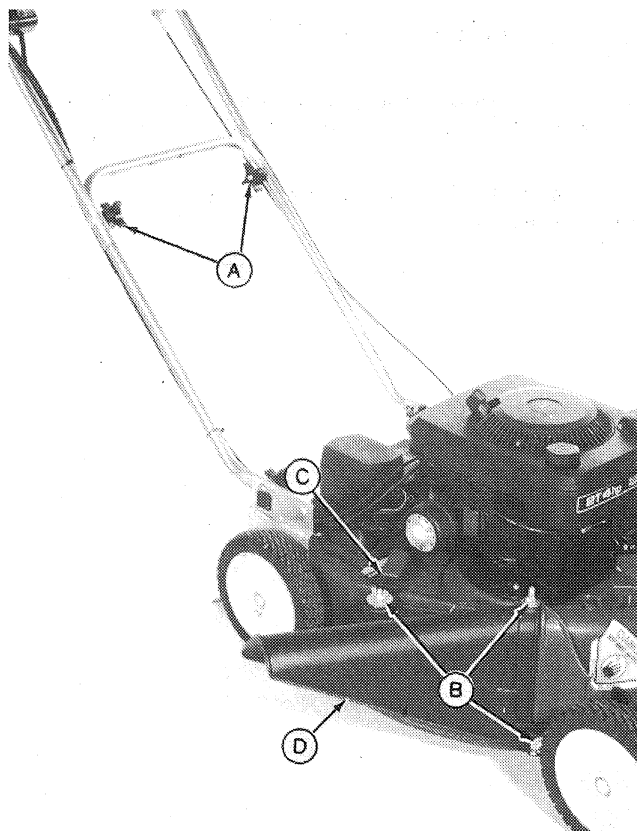
2A8;M40475 M40493 M22;ASI G 101286

INSTALL REAR BAG ATTACHMENT— ACCESSORY

CAUTION: Stop engine and disconnect spark plug wire. On electric start models, disconnect battery before installing rear bag attachment. **DO NOT** operate mower unless side discharge chute or rear bag attachment is securely in place.

1. Remove knobs and screws (A) then reinstall with knobs on outside of handles.
2. Remove wing nuts, lock washers, and washers (B).
3. Remove actuator (C).
4. Remove side discharge chute (D).

A—Screws and Knobs
B—Wing Nuts and Washers
C—Actuator
D—Side Discharge Chute



2A8;M40501 M22;ASI H 101286

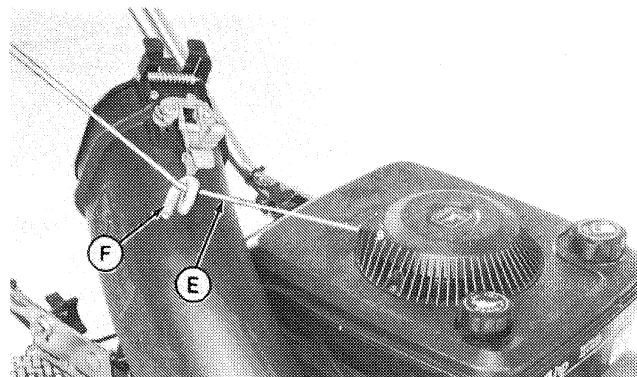
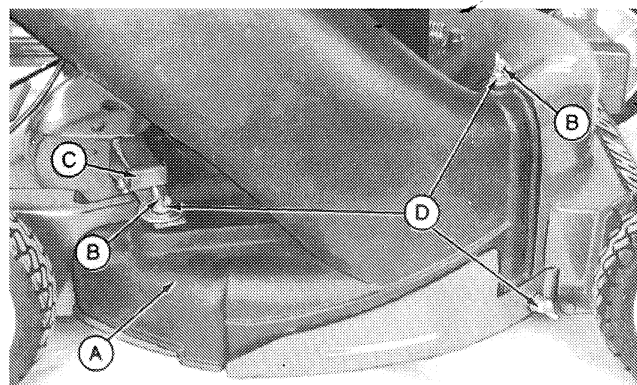
IMPORTANT: The front bottom edge of the rear discharge chute must be “positioned” between guard and internal chute strap. Do not install outside the guard like side discharge chute is installed.

5. Install rear discharge chute (A) over studs (B).
6. Install actuator (C).
7. Install washers, lock washers and wing nuts (D) (removed in Step 2).

NOTE: Make sure rear discharge chute hardware is in place and tightened securely.

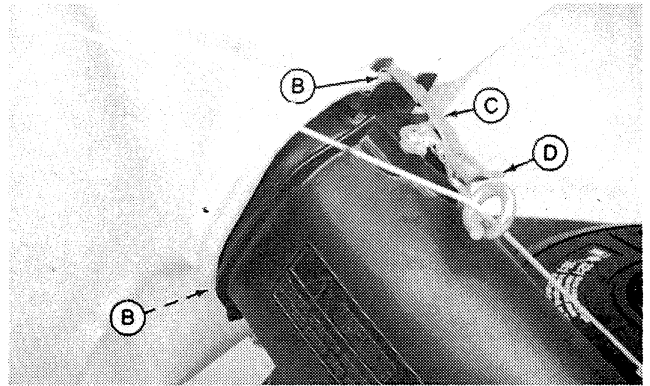
8. On Manual Start: install starter rope (E) through rope eyelet (F).

A—Rear Discharge Chute
B—Studs
C—Actuator
D—Wing Nuts
E—Starter Rope
F—Rope Eyelet



2A8;TY1380 4 TY1380 5 M22;ASI I 101286

9. Install grass bag (A) on lower handle.
10. Put grass bag rod (B) behind locking tab at bottom of chute mouth and between the tabs on trap door.
11. Put latch (C) over grass bag rod and depress lever (D) to open trap door.



2A8;TY1383 4 M40502 M22;;ASI J 101286

Specifications

4-CYCLE ENGINE

	Manual Start Push	Blade Brake Clutch Push	Self-Propelled	Self-Propelled	Clutch Self-Propelled
Engine	Briggs & Stratton (4-cycle, single cylinder, air-cooled)				
Horsepower	3-1/2 hp (2.6kW)	3-1/2hp (2.6 kW)	4 hp (3.0 kW)	4 hp (3.0 kW)	4 hp (3.0 kW)
Operating Speed			3100—3300 rpm		
Idle Speed			1750 rpm		
Displacement	9.02 cu in. (148 cm ³)	9.02 cu in. (148 cm ³)	11.39 cu in. (187 cm ³)	11.39 cu in. (187 cm ³)	11.39 cu in. (187 cm ³)
Crankcase Capacity			1-1/4 pt (0.6 L)		
Fuel Tank Capacity			1-1/2 qt (1/4 l)		
Battery	Not available	Not available	Not available	12V, 2.5 amp/h sealed lead acid	Not available

Spark Plug Type	John Deere AM37145 or equivalent
Spark Plug Gap	0.030 in. (0.762 mm)
Spark Plug Torque	12—17 lb-ft (16—23 N·m)
Engine Mounting Nuts Torque	20 lb-ft (27 N·m)
Flywheel Air Gap	0.020 in. (0.510 mm)

(Specifications and design subject to change without notice.)

M22;;SPI A 221286

2—CYCLE ENGINE

Engine	OMC, Series F 2-cycle, single cylinder air cooled
Horsepower	4 hp (3.0 kW)
Operating Speed	3100—3300 rpm
Displacement	7.78 cu in. (128 cm ³)
Spark Plug Type	John Deere TY6080 or equivalent
Spark Plug Gap	0.035 in. (0.089 mm)
Spark Plug Torque	12—15 lb-ft (16—20 N·m)
Armature Air Gap	0.010 in. (0.254 mm)
Fuel Capacity	2 qt (1.9 L)
Battery	12-V, 2.5 amp/hr Sealed Lead Acid

(Specifications and design subject to change without notice.)

M22;;SPI B 091286

Specifications

MOWER

	Manual Start Push	Blade Brake Clutch Push	Manual Start Self-Propelled	Electric Start Self-Propelled	Blade Brake Clutch Self-Propelled
Cutting Width			21 in. (533 mm)		
Cutting Height Range			1—3-1/2 in. (25—89 mm)		
Number of Cutting Heights			7		
Tire Diameter			8 in. (203 mm)		
Deck Material			Cast aluminum		
Blade Torque					
Cap Screw			30 lb-ft (41 N·m)		
Nut			45—50 lb-ft (61—68 N·m)		
Net Weight					
4-Cycle	71 lb (32 kg)	81 lb (37 kg)	78 lb (35 kg)	88 lb (40 kg)	89 lb (40 kg)
2-Cycle	76 lb (35 kg)	90 lb (41 kg)	89 lb (40 kg)	95 lb (43 kg)	98 lb (45 kg)

(Specifications and design subject to change without notice.)

M22;;SPI C 221286

SERIAL NUMBER

The mower serial number and code number (A) are located on the rear of the mower deck.

When writing about or filling out warranty claims, use all numbers and letters shown.

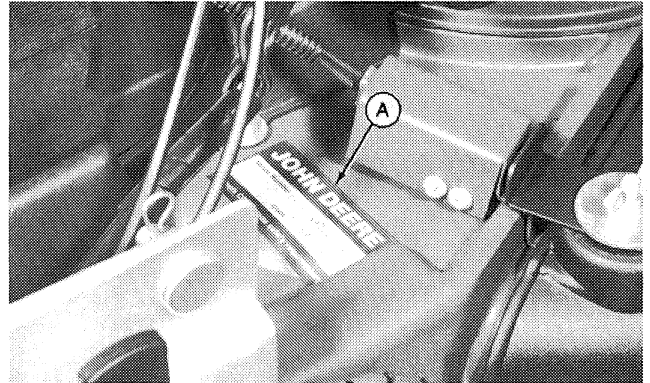
Record the serial number and code number in the space provided below.

Mower Serial No. _____

Code No. _____

Date of Purchase _____

(To be filled in by purchaser.)

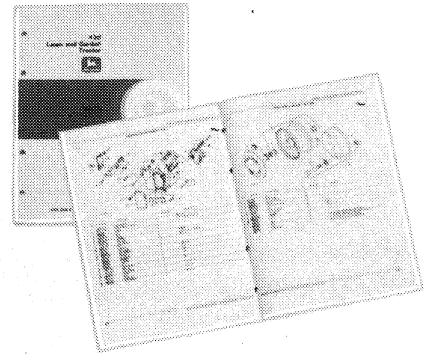


2A8;M40503 M22;;SPI D 091286

John Deere Service Literature Available

PARTS CATALOG

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

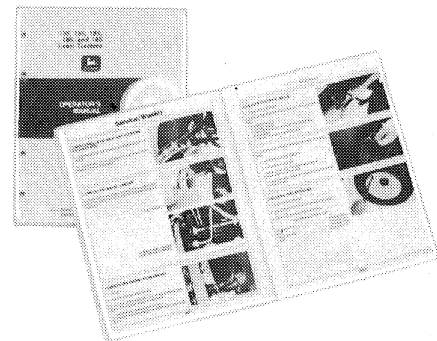


AB6;TS189 053;PARTS 271185

OPERATOR'S MANUAL

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

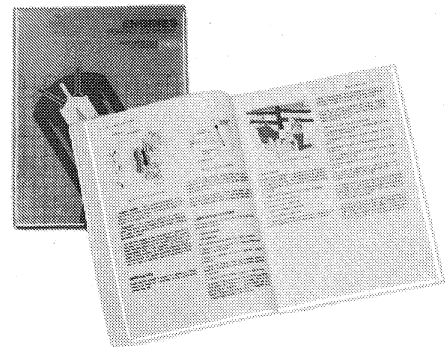
An extra copy of the operator's manual is important if the copy furnished with your machine is misplaced.



AB6;TS190 053;OM 271185

FUNDAMENTALS OF SERVICE MANUALS

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



AB6;TS194 053;CPFOS 271185

John Deere Service Literature Available

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Title	Order Number	Price Each	x Quantity	= Total
21-Inch Walk Behind Rotary Mowers				
Parts Catalog			x	=
2 Cycle	PC-2096		x	=
4 Cycle	PC-2097		x	=
Operator's Manual	OM-M73861		x	=
Service or Technical Manual	TM-1369		x	=
			x	=
			x	=
FOS Manual—Engines	FCP-80101B		x	=
FOS Manual—Electrical Systems	FCP-83101B		x	=
FOS Manual—Hydraulics	FCP-82101B		x	=
FOS Manual—Power Trains	FCP-81101B		x	=
Catalogs of Available Service Publications:				
Consumer Product Publications	CPC-1704			
Agricultural Product Publications	CPC-1703			
Industrial Product Publications	CPC-1852			

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

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Prices listed effective until 31 December 1986

SP-317 (MAR-86)

M22;;M73861 SLIT 051286

4M8;PSLIT 2 221286



John Deere is at your service when you need it

It is John Deere's objective to train all of their authorized dealer service personnel effectively so they can handle your service needs. Your dealer therefore has service technicians who are trained to give your machine the best of care. We would encourage you to use the service provided by your dealer whenever possible.

If for some reason you are unable to locate a dealer in your area, our sales branches are available to provide you with such information. The location and listing of such sales branches are shown below. Check the listing for the location of the area in which you reside.

Sales Branch

1. JOHN DEERE COMPANY
2001 Deere Dr.
Conyers, GA 30208
404-922-7040

2. JOHN DEERE COMPANY
701 Georgesville Road
Columbus, OH 43228
614-275-1500

3. JOHN DEERE COMPANY
P.O. Box 20598
Dallas, TX 75220
214-352-1701

4. JOHN DEERE COMPANY
1400 - 13th Street
East Moline, IL 61244
309-752-6175

5. JOHN DEERE LIMITED
P.O. Box 1000
South Service Road at Hunter
Grimsby, Ontario, Canada L3M 4H5
416-945-9281

6. JOHN DEERE COMPANY
3210 East 85th Street
Southeast Station
Kansas City, MO 64132
816-361-4000

7. JOHN DEERE COMPANY
P.O. Box 855
Minneapolis, MN 55440
612-887-6200

8. JOHN DEERE COMPANY
P.O. Box 20098
Portland, OR 97220
503-667-1191

9. JOHN DEERE COMPANY
P.O. Box 4949
Syracuse, NY 13221
315-432-9300

