

JOHN DEERE
WORLDWIDE COMMERCIAL & CONSUMER
EQUIPMENT DIVISION

AERCORE® Tractor-Mounted Aerators
1000, 1500, and 2000

OMTCU51887 C1
OPERATOR'S MANUAL



JOHN DEERE

Export Version
Litho in U.S.A.



INTRODUCTION

Thank You for Purchasing a John Deere Product

We appreciate having you as a customer and wish you many years of safe and satisfied use of your machine.

Using Your Operator's Manual

This manual is an important part of your machine and should remain with the machine when you sell it.

Reading your operator's manual will help you and others avoid personal injury or damage to the machine. Information given in this manual will provide the operator with the safest and most effective use of the machine. Knowing how to operate this machine safely and correctly will allow you to train others who may operate this machine.

This manual and safety signs on your machine may also be available in other languages (see your John Deere dealer to order).

Sections in your operator's manual are placed in a specific order to help you understand all the safety messages and learn the controls so you can operate this machine safely. You can also use this manual to answer any specific operating or servicing questions. A convenient index located at the end of this book will help you to find needed information quickly.

The machine shown in this manual may differ slightly from your machine, but will be similar enough to help you understand our instructions.

RIGHT-HAND and LEFT-HAND sides are determined by facing in the direction the machine will travel when going forward. When you see a broken line arrow (----->), the item referred to is hidden from view.

Before delivering this machine, your dealer performed a predelivery inspection to ensure best performance.

Machine Use

This aerator is designed solely for use in customary lawn care operations, for park and amenity area maintenance. Use in any other way is considered as contrary to the intended use.

The manufacturer accepts no liability for damage or injury resulting from this misuse, and these risks must be borne solely by the user. Compliance with and strict adherence to the conditions of operation, service and repair as specified by the manufacturer also constitute essential elements for the intended use.

This aerator should be operated, serviced and repaired only by persons familiar with all its particular characteristics

and acquainted with the relevant safety rules (accident prevention). The accident prevention regulations, all other generally recognized regulations on safety and occupational medicine and the road traffic regulations must be observed at all times.

Setting fuel delivery beyond published factory specifications or otherwise overpowering will result in loss of warranty protection for this machine.

Any arbitrary modifications carried out on this machine will relieve the manufacturer of all liability for any resulting damage or injury.

Special Messages

Your manual contains special messages to bring attention to potential safety concerns, machine damage as well as helpful operating and servicing information. Please read all the information carefully to avoid injury and machine damage.



CAUTION: Avoid injury! This symbol and text highlight potential hazards or death to the operator or bystanders that may occur if the hazards or procedures are ignored.

IMPORTANT: Avoid damage! This text is used to tell the operator of actions or conditions that might result in damage to the machine.

NOTE: General information is given throughout the manual that may help the operator in the operation or service of the machine.

PRODUCT IDENTIFICATION

Record Identification Numbers

AERCORE® Tractor-Mounted Aerators

1000, 1500, and 2000 Serial No. (010001 -)

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

You will need to locate the serial number for the machine and record the information in the spaces provided below.



DATE OF PURCHASE:

DEALER NAME:

DEALER PHONE:

PRODUCT SERIAL NUMBER (A):

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OMTCU51887 C1 - English

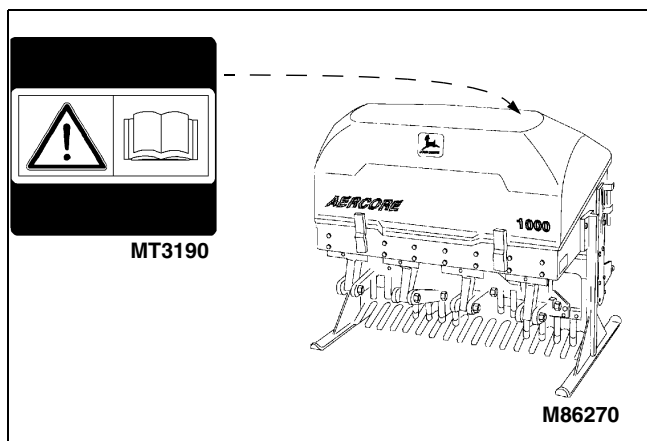
SAFETY

Pictorial Safety Signs



At several important places on this machine safety signs are affixed intended to signify potential danger. The hazard is identified by a pictorial in a warning triangle (▲). An adjacent pictorial provides information how to avoid personal injury. These safety signs, their placement on the machine and a brief explanatory text are shown in this Safety Signs section.

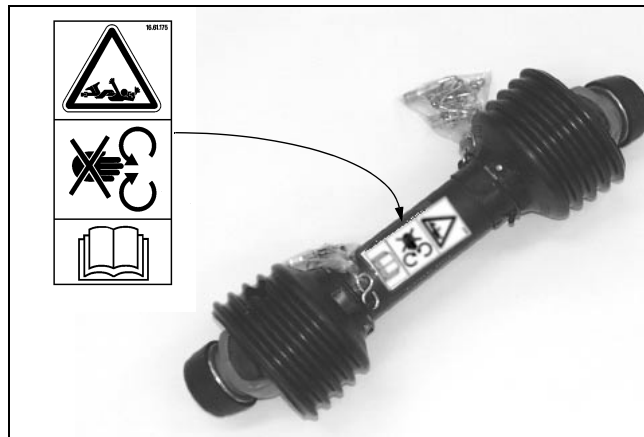
Read Operators Manual



Picture Note: On front of hood

This operator's manual contains important information necessary for safe machine operation. Observe all safety rules to avoid accidents.

Stay Clear of Rotating Drivelines

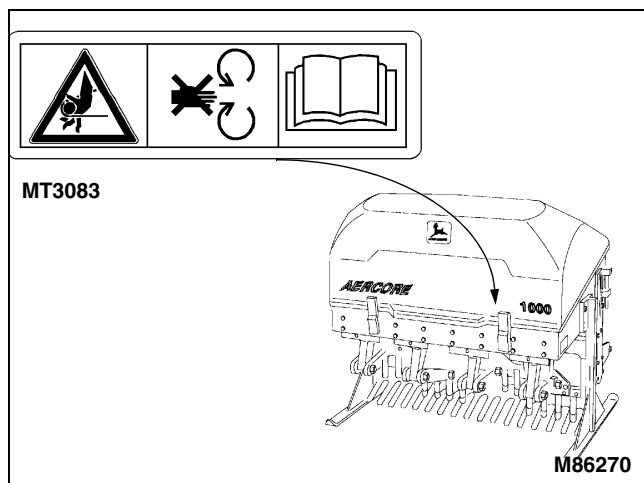


Picture Note: On powershaft

Entanglement in rotating driveline can cause serious injury or death.

Stop the engine and be sure PTO driveline is stopped before getting near it.

Avoid Injury From Getting Caught In Belts

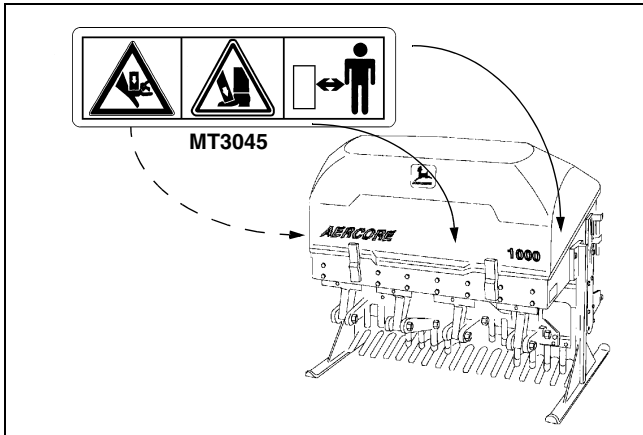


Picture Note: At rear of hood

- Do not operate aerator without hood in place.
- Stay clear of belts.

SAFETY

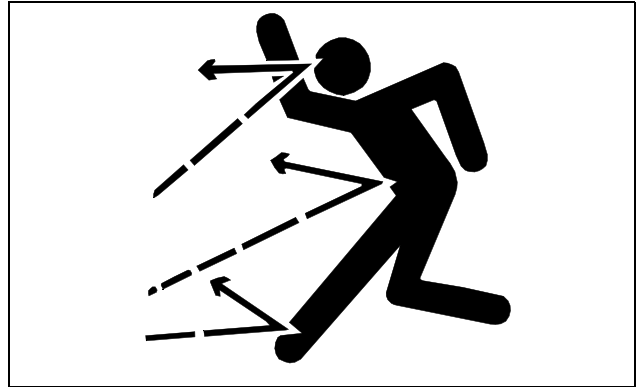
Avoid Injury From Moving Tines



Picture Note: On each side of frame and rear of hood

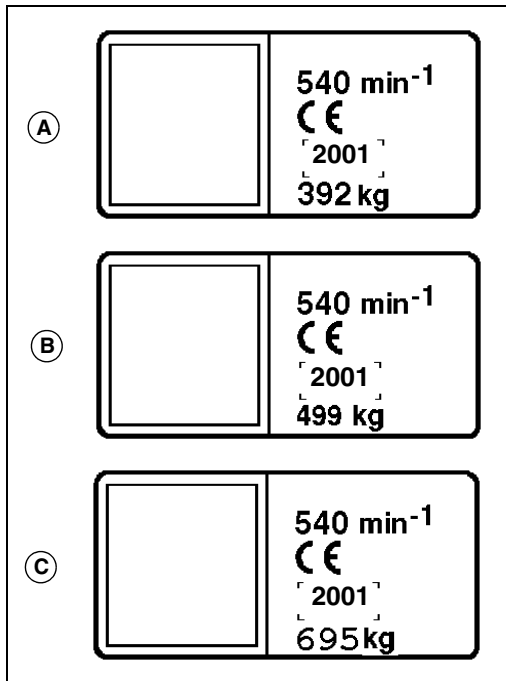
Do not put hands or feet under aerator when engine is running.

Operating Safely



- Inspect machine before you operate. Be sure hardware is tight. Repair or replace damaged, badly worn, or missing parts. Be sure guards and shields are in good condition and fastened in place. Make any necessary adjustments before you operate.
- Check before each use that operator presence controls are functioning correctly. Test safety systems. Do not operate unless they are functioning correctly.
- Do not change the engine governor setting or overspeed the engine.
- Check brake action before you operate. Adjust or service brakes as necessary.
- Stop machine if anyone enters the area.
- If you hit an object, stop and inspect the machine. Make repairs before you operate. Keep machine and attachments properly maintained and in good working order.
- Do not leave machine unattended when it is running.
- Only operate during daylight or with good artificial light.
- Be careful of traffic when operating near roadways. Use care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.
- Do not wear radio or music headphones while operating the machine. Safe operation requires your full attention.

CE Certification and Specification Label



A - Aercore 1000

B - Aercore 1500

C - Aercore 2000

This label on your machine indicates that this model has been certified and is in compliance with European Directive 98/37/EEC (89/392EEC) Standards.

Parking Safely

1. Stop machine on a level surface, not on a slope.
2. Disengage PTO.
3. Lock park brake.
4. Install support legs or lower attachment to ground.
5. Stop engine.
6. Remove key.
7. Before you leave the operator's station, wait for engine

SAFETY

and all moving parts to stop.

Be Familiar With the Work Area

- Identify locations of buried irrigation and electrical cables.
- Identify locations of sprinkler heads, fairway markers and other obstacles.

Avoid Tipping

- Do not drive where machine could slip or tip.
- Stay alert for holes and other hidden hazards in the terrain.
- Keep away from drop-offs, ditches, and embankments.
- Slow down before you make a sharp turn or operate on a slope.
- Drive up and down a hill - not across. Be careful when you change direction on a slope.

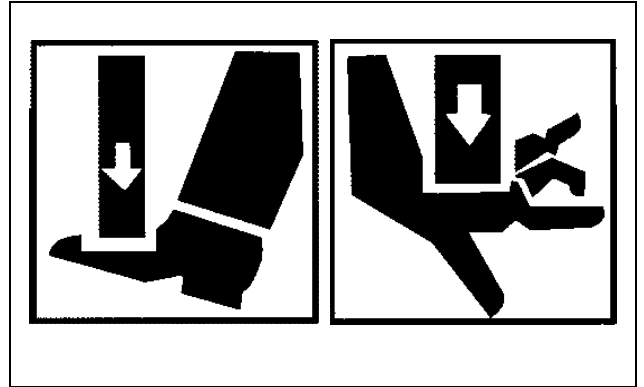
Stay Clear of Rotating Drivelines



Entanglement in rotating driveline can cause serious injury or death:

- Wear close fitting clothing.
- Stop the engine and be sure PTO driveline is stopped before getting near it.
- Do not step over PTO driveline. Walk around aerator to get to other side.

Avoid Injury From Moving Parts



Keep hands, feet, clothing and other objects away from moving parts.

Do not attempt to remove any obstruction while aerator is in motion.

Practice Safe Maintenance



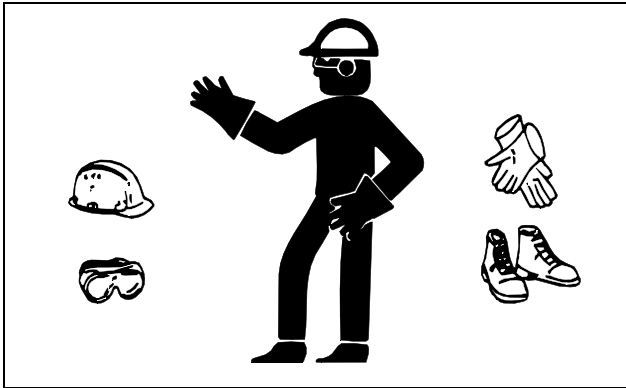
- Understand service procedure before doing work. Keep area clean and dry.
- Never lubricate, service, or adjust machine while it is moving. Keep safety devices in place and in working condition. Keep hardware tight.
- Keep hands, feet, clothing, jewelry, and long hair away from any moving parts, to prevent them from getting caught.
- Lower attachments to the ground before servicing machine. Disengage all power and stop the engine. Lock park brake and remove the key. Let machine cool.
- Securely support attachments or machine components that must be raised for service work. Do not rely on system pressure to hold equipment in raised position. Inadvertent loss of pressure can result in sudden drop of equipment if not properly supported.
- Keep all parts in good condition and properly installed.

SAFETY

Fix damage immediately. Replace worn or broken parts.
Remove any buildup of grease, oil, or debris.

- Do not modify machine. Unauthorized modifications may impair its function and safety.
- Do not wear radio or music headphones while servicing the machine. Safe service requires your full attention.

Wear Appropriate Clothing



- Wear close fitting clothing and safety equipment appropriate for the job.
- Always wear safety goggles or safety glasses with side shields when operating the mower.
- Wear a suitable protective device such as earplugs. Loud noise can cause impairment or loss of hearing.
- Do not wear radio or music headphones. Safe service and operation requires your full attention.

PREPARING VEHICLE

Tractor Compatibility

NOTE: *Compatibility listing is for John Deere compact utility tractors only. Other tractors may be used if they meet the General Tractor Requirements.*

AERCORE® aerators can be used with the following John Deere compact utility tractors:

AERCORE Model	Compatible Tractor Models
1000	770, 855, 870, 955, 970, 990, 1070, 4100, 4200, 4300, 4400, 4500, 4600, 4700
1500	870, 955, 970, 990, 1070, 4200, 4300, 4400, 4500, 4600, 4700
2000	990, 1070, 4500, 4600, 4700

General Tractor Requirements

- Inflate tractor tires to proper pressure. See your tractor operator's manual.
- Install proper front ballast.
- Minimum engine horsepower:
 - AERCORE 1000: 11 kW (15 hp)
 - AERCORE 1500: 16.5 kW (25 hp)
 - AERCORE 2000: 26.1 kW (35 hp)
- Minimum PTO speed: 540 rpm at rated engine speed.
- Category I, 3-point hitch. Conversion kits are available to allow hook-up to tractors with a Category II, 3-point hitch. See your John Deere dealer.
- Cruise control or a speed control kit is recommended. Kits may not be available for all tractors. See your John Deere dealer.

Ballasting Requirements



CAUTION: Avoid injury! Proper front ballast is required when installing aerator to tractor. Improper ballast may cause loss of stability. Do not use tractors under-sized for your aerator.

NOTE: *It may be necessary to install a weight bracket extension kit on some John Deere Compact Utility Tractors to hold the proper number of suitcase weights. See your John Deere dealer.*

Ballast Requirements for John Deere Compact Utility Tractors

AERCORE Model	John Deere Tractor Model	Quantity - Size of Suitcase Weights
1000	770, 855, 955	9 - 19kg (42 lb)
	870, 970, 1070	12 - 19kg (42 lb)
	990	10 - 19kg (42 lb)
	4100, 4500, 4600, 4700	9 - 32kg (70 lb)
1500	870, 970, 1070	12 - 19kg (42 lb)
	955	9 - 19kg (42 lb)
	990	10 - 32kg (70 lb)
	4500, 4600, 4700	12 - 32kg (70 lb)
2000	990	10 - 32kg (70 lb)
	1070, 4500, 4600, 4700	12 - 32kg (70 lb)

INSTALLING

Prepare Vehicle

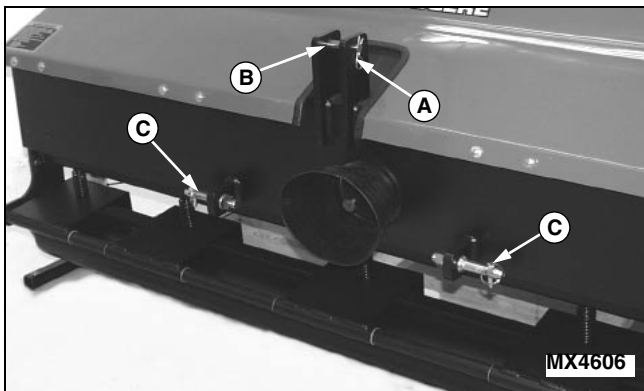


CAUTION: Avoid injury! Install proper ballast on tractor before operating the aerator.

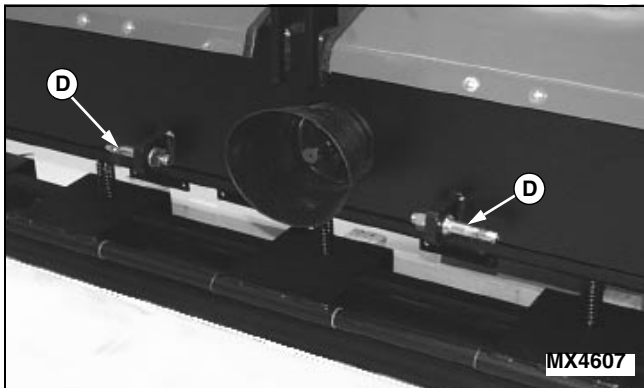
Select a tractor recommended for your aerator model.
Install the required front ballast.

Attach Aerator to Tractor

1. Prepare the 3-point hitch by loosening the sway links and adjustable lift link. (See your tractor Operator's Manual.)

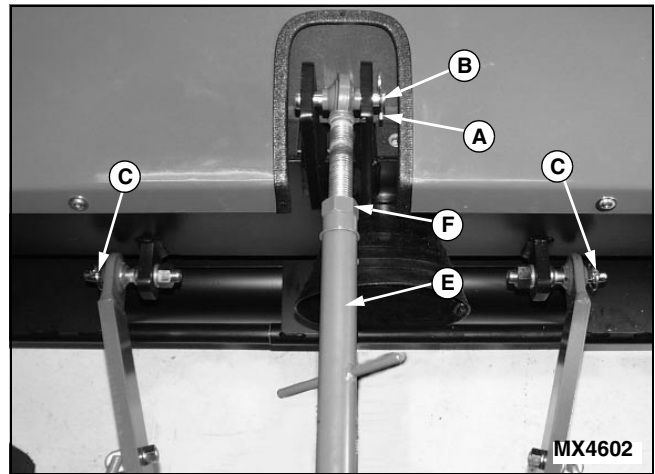


2. Remove and retain spring locking pin (A), drilled pin (B), and quick-lock pins (C).



3. Slowly back tractor up to aerator so draft arms are aligned for connection to aerator pins (D). Raise hitch if necessary to align draft arms.

4. Park tractor safely. (See Parking Safely in the SAFETY section.)



5. Slide draft arms onto aerator pins and secure with quick-lock pins (C).

6. Adjust the length of center link (E) as needed. Connect center link to aerator clevis with drilled pin (B) and spring locking pin (A).

7. Tighten the center link and lock nuts (F) at both ends.

8. Adjust the sway links on the lower draft arms to minimize side-to-side sway. (See your tractor Operator's Manual.)

Install PTO Powershaft

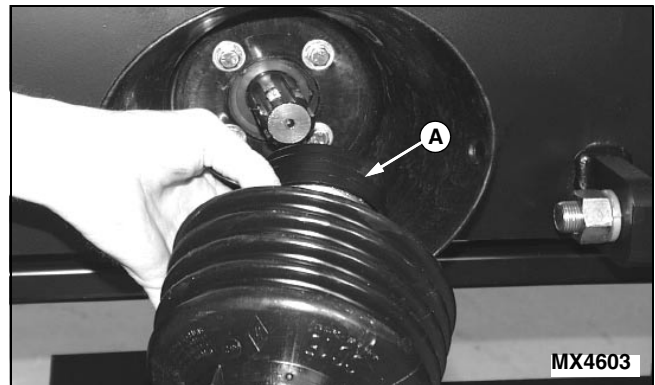
1. Unlatch and raise aerator hood.



CAUTION: Avoid injury! The powershaft is a two-section telescoping unit. Keep the sections together and horizontal when handling to prevent separation and possible crushing injury from falling parts.

2. Remove powershaft from inside the aerator.

NOTE: Either end of powershaft can be attached to aerator driveshaft.

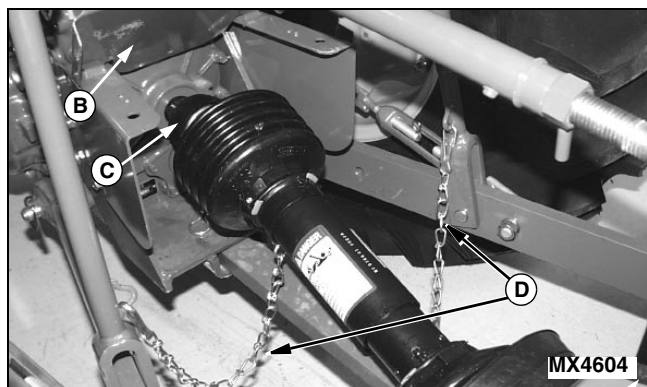


3. Pull and hold back locking collar (A) on powershaft.

INSTALLING

Slide powershaft onto aerator driveshaft until it locks in place.

- Slide powershaft back and forth several times to ensure it is securely locked on driveshaft.



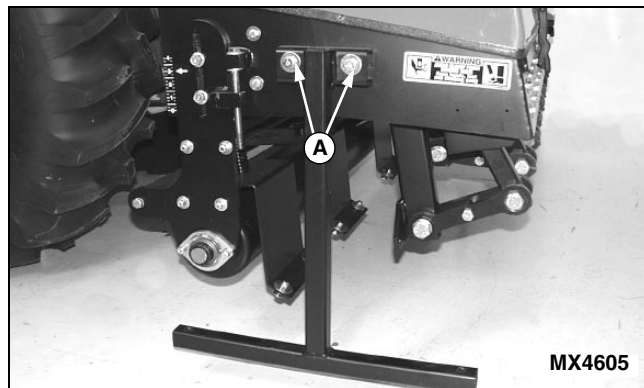
- Raise rear PTO shield (B) if equipped.
- Pull and hold back locking collar (C) on powershaft. Slide powershaft onto rear PTO shaft until it locks in place.
- Slide powershaft back and forth several times to ensure it is securely locked on rear PTO shaft.
- Lower PTO shield if equipped.
- Hook chains (D) to welded loops on draft arms or lift links to prevent powershaft guard from rotating during PTO operation.

Remove Support Legs

- Start the engine.
- Raise the aerator slightly to take weight off the support legs.
- Close the speed of drop/lock valve completely. (See your tractor Operator's Manual.)
- Park tractor safely. (See Parking Safely in the SAFETY section.)



CAUTION: Avoid injury! Inadvertent loss of system pressure could result in sudden drop of aerator. Keep body parts out from under aerator when support legs are not installed.



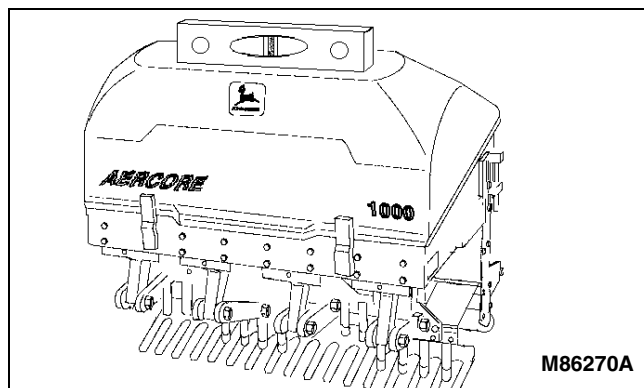
- Remove bolts and washers (A) securing the support legs to the aerator.
- Store the support legs and attaching hardware for future use to remove the aerator.

Level the Aerator



CAUTION: Avoid injury! Inadvertent loss of system pressure could result in sudden drop of aerator. Keep body parts out from under aerator when support legs are not installed.

IMPORTANT: Avoid damage! Aerator must be leveled to ensure proper hole placement or turf may be damaged.



- Place a level on the aerator hood.
- Adjust the 3-point hitch adjustable lift link to level the aerator. (See your tractor Operator's Manual.)

REMOVING

Prepare for Removal

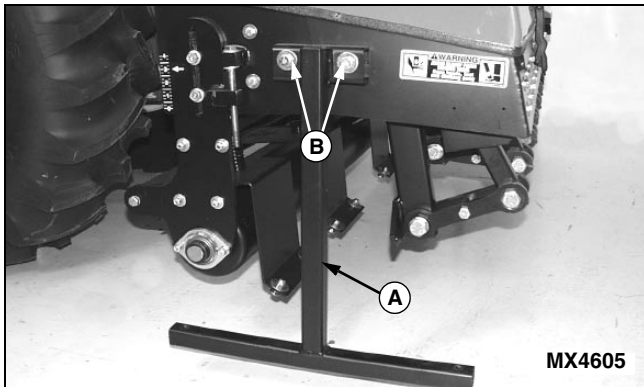
1. Drive tractor to a firm, level surface for removal and storage of the aerator.
2. Adjust the speed of drop/lock valve to provide a SLOW lowering speed for the aerator. (See your tractor Operator's Manual.)

IMPORTANT: Avoid damage! Support legs must be installed before removing aerator from tractor or when parking tractor with aerator installed. Do not lower aerator to ground without support legs installed or tines and turf guards can be damaged.

3. Lower aerator slowly until the turf guards are slightly above the ground.
4. Close the speed of drop/lock valve completely. (See your tractor Operator's Manual.)
5. Park vehicle safely. (See Parking Safely in the SAFETY section.)

Install Support Legs

CAUTION: Avoid injury! Inadvertent loss of system pressure could result in sudden drop of aerator. Keep body parts out from under aerator when support legs are not installed.



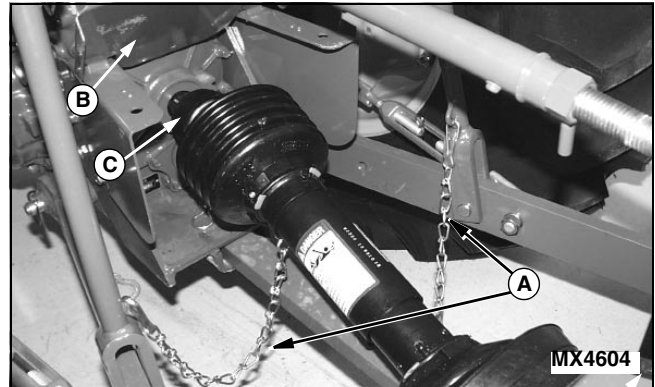
1. Install support leg (A) on both sides of aerator using original attaching bolts and washers (B). Tighten hardware completely.

NOTE: Tractor does not need to be running to lower aerator.

2. Open the speed of drop/lock valve slightly.
3. Lower aerator slowly until support legs are resting on the ground.

Remove PTO Powershaft

1. Unlatch and raise aerator hood.

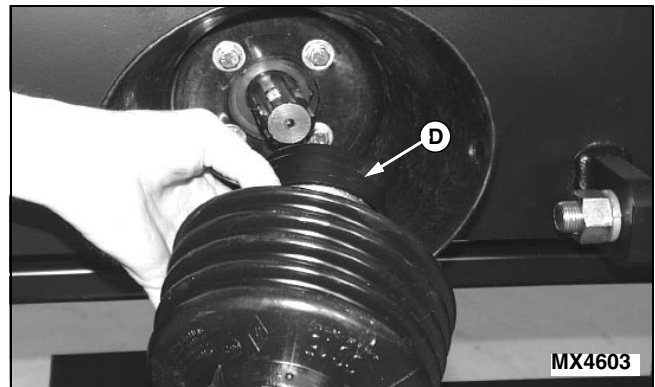


2. Unhook chains (A) from draft arms or lift links.
3. Raise PTO shield (B) if equipped.



CAUTION: Avoid injury! The powershaft is a two-section telescoping unit. Keep the sections together and horizontal when handling to prevent separation and possible crushing injury from falling parts.

4. Pull and hold back locking collar (C) on powershaft. Slide powershaft off rear PTO shaft.

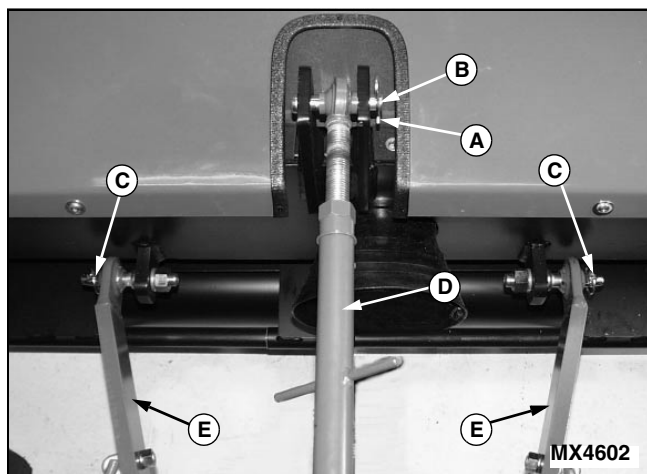


5. Pull and hold back locking collar (D) on powershaft. Slide powershaft off aerator driveshaft.
6. Place powershaft inside aerator for storage.
7. Lower and latch the aerator hood.
8. Lower the tractor rear PTO shield if equipped.

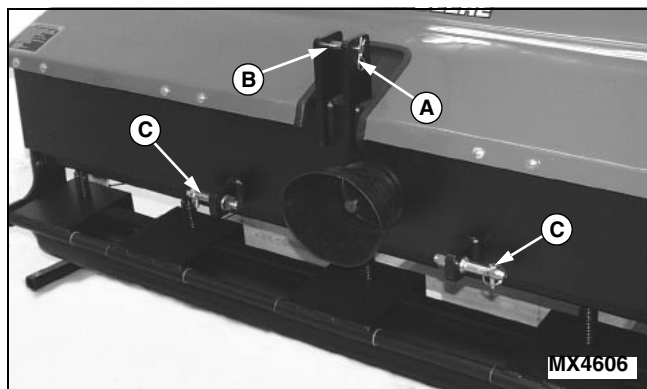
Disconnect Aerator from Tractor

1. Loosen the center link, sway links, and adjustable lift link on the 3-point hitch. (See your tractor Operator's Manual.)

REMOVING



2. Remove and retain spring locking pin (A), drilled pin (B), and quick-lock pins (C).
3. Place center link (D) in storage hook on 3-point hitch.
4. Slide draft arms (E) off the aerator pins.



5. Install pins (A), (B), and (C) for storage.
6. Adjust the sway links on the lower draft arms to minimize side-to-side sway. (See your tractor Operator's Manual.)
7. Drive tractor slowly away from aerator. Park tractor safely. (See Parking Safely in the SAFETY section.)

OPERATING

Daily Operating Checklist

- ☐ Lubricate powershaft.
- ☐ Check belt tension.
- ☐ Check for loose or broken tines.
- ☐ Check for loose or missing hardware.
- ☐ Check for bent or damaged aerating links.
- ☐ Check tine holders and ram for damage.

Avoid Damage to Plastic and Painted Surfaces

- Do not wipe plastic parts unless rinsed first.
- Insect repellent spray may damage plastic and painted surfaces. Do not spray insect repellent near machine.
- Be careful not to spill fuel on machine. Fuel may damage surface. Wipe up spilled fuel immediately.

Operating Tips

IMPORTANT: Avoid damage! Always raise aerator first and then disengage PTO when making turns. Do not reduce PTO rpm when aerator is temporarily raised out of the ground.

Around Greens and Teeboxes:

- Survey the green before aerating.
- Plan your direction to minimize turning and maneuvering around hazards at the end of a pass.
- Make the initial pass across the center of the green and work your way to the outside.
- Raise aerator and shut off PTO when turning.
- Maintain consistent spacing while aerating a green by selecting a marking reference before starting.
- Use a windrow attachment if either tire extends outside the aerating swath of the tractor. This will eliminate driving over cores from a previous pass.
- Shut off the PTO on the tractor whenever the aerator is lifted out of the ground. do not set idle to low with PTO running.

On Fairways:

- Mark and/or flag all sprinkler heads and other items that could be damaged or cause damage to the aerator.
- Start on the outside perimeter of the fairway and work your way to the inside.

- Check for sand traps, water or other hazards before starting.
- Plan your direction to minimize turning and maneuvering around hazards at the end of a pass.
- Avoid sharp turns while aerating.
- Raise aerator and shut off PTO when turning.
- Shut off the PTO on the tractor whenever the aerator is lifted out of the ground. do not set idle to low with PTO running.

Training:

- Practice before operating the aerator for the first time is critical to quality performance. Read the operator manual to learn operating procedures.
- Practice in an open field to become familiar with operating techniques necessary to maintain correct speed for proper hole spacing and hole quality.

General Operating Practice:

- Do not make sharp turns. Lift aerator out of ground to turn at the end of fairway.
- If tractor engine begins to labor or slow down when operating the aerator in hard soil or going uphill, raise the aerator slightly until the tractor engine regains its speed.
- Wait to aerate if the soil is too hard and compacted. Aerate after rain or watering to achieve best results.
- Always carry extra tines and tools to replace a tine if it breaks while you are aerating.

Aeration Hole Quality

- **Coring Depth:** Poor quality can result if the depth is set too deep. Decrease the tine depth by 6 mm (1/4 in.) to 12.7 mm (1/2 in.) and check for improved hole quality.
- **Tine Type:** Closed tubular tines will provide better quality holes than open-side tines. Use open-side tines in applications to overcome plugging in high sand-content soils or wet conditions.
- **Attachment Angle:** Support legs provide the correct attaching angle at hook-up for most conditions. Too much or too little angle can affect hole quality. Different coring depths or turf conditions may require changing the tine entry angle to provide a quality hole. Adjust the center link to try more angle or less angle and check the results.
- **Turf Guard:** The turf guard needs to be firmly on the surface during operation or lifting may occur. This lifting is especially prevalent in turf with poor root conditions. Excessive turf guard pressure can cause marking in soft turf.

OPERATING

- **Damaged Aerating Linkage:** If the hole quality is bad in one aeration linkage path only, then that associated linkage may have a damaged or missing part. First, inspect the linkage for any missing or loose hardware. Sometimes damaged linkage will make unusual noise. Check for bent tines. Straighten or replace tines if needed. Replace linkage if needed.
- **Hole Spacing:** Hole spacings greater than 76.2 mm (3 in.) can reduce the hole quality in some turf conditions.
- **Hard Soil:** The aerator will raise up off the turf in hard soils conditions and the hole quality may be less than desirable.

Pre-Operating Adjustments

- Level the aerator.
- Adjust the aerator attachment angle if necessary.

IMPORTANT: Avoid damage! Do not raise 3-point hitch above 3/4 height while PTO is engaged or excessive wear to powershaft can occur. Raise to full height only when transporting the aerator.

- Set the rockshaft adjustable depth stop to the 3/4 position to prevent aerator from raising fully. (See your tractor Operator's Manual.)
- Adjust the speed of drop/lock valve so aerator lowers fairly quick without striking the ground abruptly. (See your tractor Operator's Manual.)
- Raise aerator slightly off the ground. Engage PTO and slowly increase tractor rpm. Check all moving parts for rubbing or interference. Make any necessary adjustments.

Checking Tractor Ground Speed

NOTE: Tractor ground speed directly affects forward hole spacing, quantity of holes, and rate of coverage. Operating within 2 - 4.8 km/h (1.2 - 3 mph) is recommended for most soil conditions.

1. Select a location to test ground speed.
2. Measure a test area 30.5 m (100 ft) in length.
3. Operate tractor at wide open throttle. Select a low speed and drive tractor 30.5 m (100 ft). Record the time required to travel the distance.
4. Make three passes, recording the time for each pass. The average time should be 30 - 40 seconds for most conditions. Average times for operating at the low and high end of the recommended speed range are as follows:
 - at 2 km/h (1.2 mph), average time traveling the test

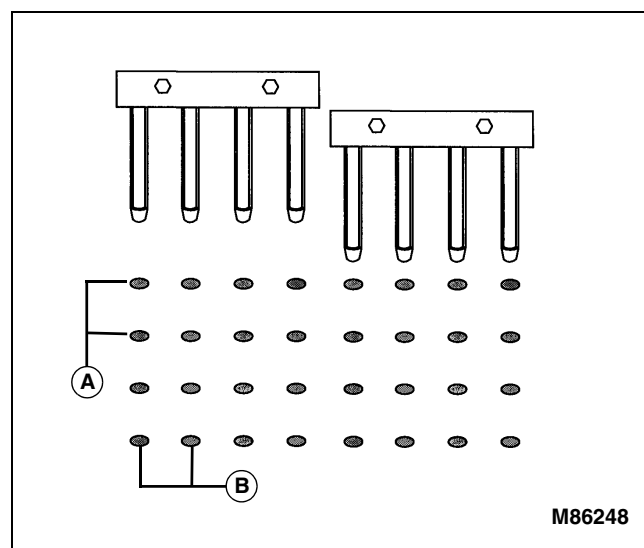
distance should be 57 seconds.

- at 4.8 km/h (3 mph), average time traveling the test distance should be 23 seconds.

5. Adjust speed accordingly to achieve the best results.

Hole Coverage and Spacing

Adjusting Holes-Per-Square-Foot Dimension



Increasing the ground speed will reduce the number of holes per square foot, but will increase forward hole spacing (A) and increase the square feet aerated per hour.

Changing the tine holder from 4x holders to 3x holders will increase the tine hole spacing (B) and decrease the number of holes per square foot.

Operating Speed and Hole Productivity

Forward hole spacing is the distance between holes as the aerator moves forward.

Tine spacing is the distance between tines in the tine holder.

OPERATING

1000 Aercore				
Speed	Forward Hole Spacing	Number of Holes/sq ft at 61 mm (2.4 in.) Tine Spacing	Number of Holes/sq ft at 81 mm (3.2 in.) Tine Spacing	Coverage Rate (sq ft/hr)
2.0 km/h (1.2 mph)	50.8 mm (2.0 in.)	22.5	30.0	20013
2.4 km/h (1.5 mph)	63.5 mm (2.5 in.)	18.0	24.0	25016
3.0 km/h (2.0 mph)	76.2 mm (3.0 in.)	15.0	20.0	30020
3.8 km/h (2.4 mph)	101.6 mm (4.0 in.)	11.2	15.0	40026
4.2 km/h (2.6 mph)	111.8 mm (4.4 in.)	10.3	13.7	43795
4.8 km/h (3.0 mph)	127 mm (5.0 in.)	12.0	9.0	50033

1500 Aercore				
Speed	Forward Hole Spacing	Number of Holes/sq ft at 61 mm (2.4 in.) Tine Spacing	Number of Holes/sq ft at 81 mm (3.2 in.) Tine Spacing	Coverage Rate (sq ft/hr)
2.0 km/h (1.2 mph)	50.8 mm (2.0 in.)	30.0	22.5	30020
2.4 km/h (1.5 mph)	63.5 mm (2.5 in.)	24.0	18.0	37525
3.0 km/h (2 mph)	76.2 mm (3.0 in.)	20.0	15.0	45030
3.8 km/h (2.4 mph)	101.6 mm (4.0 in.)	15.0	11.2	60039
4.2 km/h (2.6 mph)	111.8 mm (4.4 in.)	13.7	10.3	65693
4.8 km/h (3 mph)	127 mm (5.0 in.)	12.0	9.0	75049

2000 Aercore				
Speed	Forward Hole Spacing	Number of Holes/sq ft at 61 mm (2.4 in.) Tine Spacing	Number of Holes/sq ft at 81 mm (3.2 in.) Tine Spacing	Coverage Rate (sq ft/hr)
2.0 km/h (1.2 mph)	50.8 mm (2.0 in.)	45.0	60.0	40026
2.4 km/h (1.5 mph)	63.5 mm (2.5 in.)	36.0	48.0	50032
3.0 km/h (2 mph)	76.2 mm (3.0 in.)	30.0	40.0	60040
3.8 km/h (2.4 mph)	101.6 mm (4.0 in.)	22.4	30.0	80052
4.2 km/h (2.6 mph)	111.8 mm (4.4 in.)	20.6	27.4	87590
4.8 km/h (3 mph)	127 mm (5.0 in.)	24.0	18.0	100066

OPERATING

Operating the Aerator

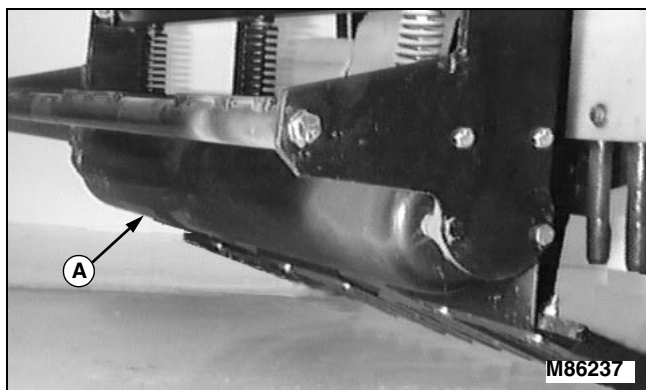
IMPORTANT: Avoid damage! Always raise aerator first and then disengage PTO before making turns.

Do not reduce tractor rpm with PTO running when aerator is raised out of the ground.

Do not back up tractor with aerator in operation or lowered to the ground.

1. Complete the pre-operating adjustments for the aerator and remove the support legs if installed.
2. Start the engine.
3. Raise aerator so turf guards are off the ground.
4. Set tractor range shift lever to low gear.
5. Set tractor at high throttle.
6. Engage rear PTO.
7. Unlock the park brake.
8. Obtain proper ground speed.
9. Engage cruise control or optional speed control kit, if equipped, to maintain consistent ground speed.

NOTE: Adjustment roller must make contact with turf surface for proper operation.



10. Lower aerator so adjustment roller (A) contacts the ground.

11. To raise the aerator at the end of a pass:

- a. Raise the aerator.
- b. Disengage the PTO.
- c. Reduce the tractor rpm.

Removing and Installing Support Legs

Removing

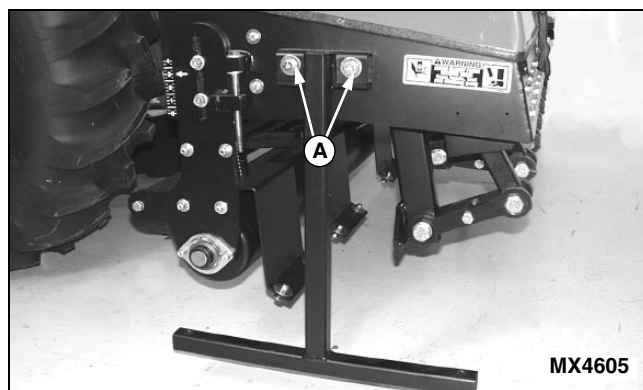
1. Start the engine.
2. Open the speed of drop/lock valve slightly. (See your

tractor Operator's Manual.)

3. Raise the aerator slightly to take weight off the support legs.
4. Close the speed of drop/lock valve completely. (See your tractor Operator's Manual.)
5. Park tractor safely. (See Parking Safely in the SAFETY section.)



CAUTION: Avoid injury! Inadvertent loss of system pressure could result in sudden drop of aerator. Keep body parts out from under aerator when support legs are not installed.



6. Remove bolts and washers (A) securing the support legs to the aerator.
7. Store the support legs and attaching hardware.

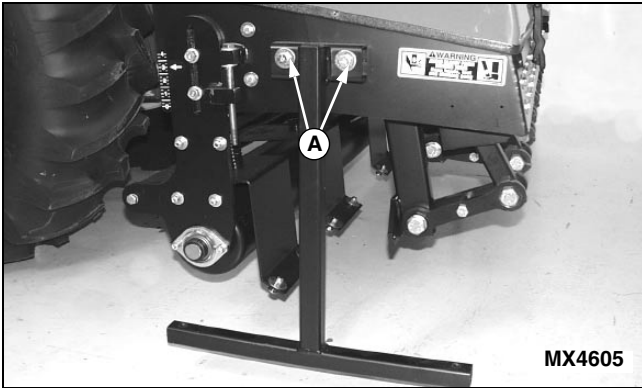
Installing

1. Obtain the aerator support legs and mounting hardware from storage.
2. Start the engine.
3. Open the speed of drop/lock valve slightly. (See your tractor Operator's Manual.)
4. Raise the aerator slightly to provide clearance to attach the support legs.
5. Close the speed of drop/lock valve completely. (See your tractor Operator's Manual.)
6. Park tractor safely. (See Parking Safely in the SAFETY section.)

OPERATING



CAUTION: Avoid injury! Inadvertent loss of system pressure could result in sudden drop of aerator. Keep body parts out from under aerator when support legs are not installed.



7. Align holes in support leg with mounting holes in aerator frame. Install bolts and washers (A). Tighten bolts completely.

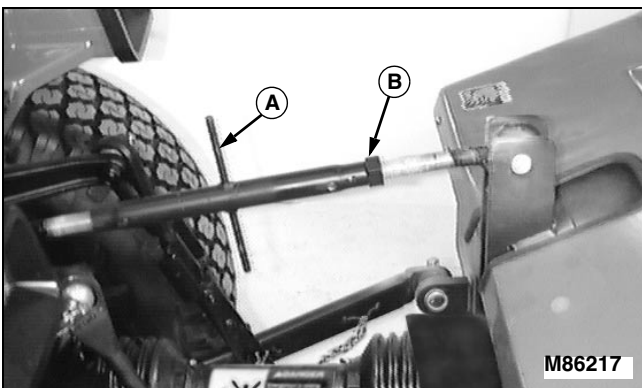
NOTE: Tractor does not need to be running to lower aerator.

8. Open the speed of drop/lock valve slightly. (See your tractor Operator's Manual.)

9. Lower aerator until support legs are resting on the ground.

Adjusting Attachment Angle

NOTE: The aerator support legs provide the correct attaching angle for most soil conditions. Adjustment to the aerator angle will affect the angle of tine entry and improve hole quality in some soil conditions.

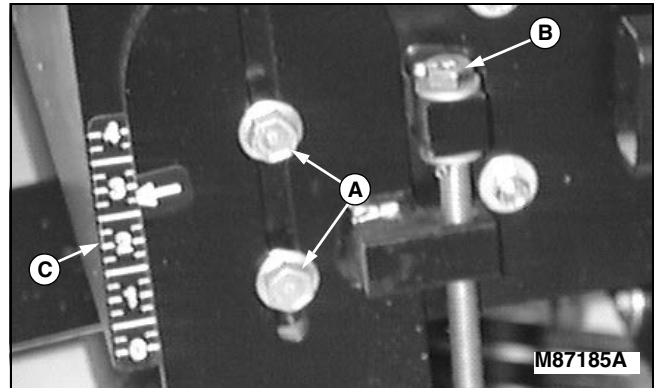


1. Loosen locking nut (B) and turn center link (A) to increase or decrease aerator angle.
2. Tighten locking nut to lock center link in position.

Adjusting Tine Depth

NOTE: Before determining tine depth adjustment is needed, make sure adjustment roller and turf guards were contacting the ground during operation of the aerator. If aerator is not lowered completely, tine depth will be less than expected.

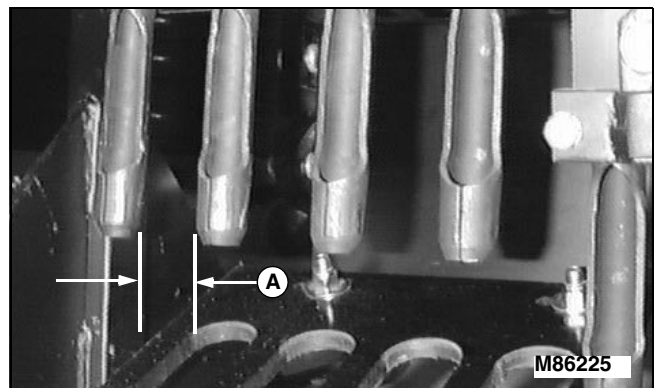
Tine depth can be adjusted to a maximum 10 cm (4 in.). Depth adjustment must be the same on both sides of aerator.



1. Loosen bolts (A) securing the depth control at both sides of aerator.
2. Turn adjusting nut (B) to adjust up or down to desired depth. Use depth indicator label (C) to determine tine depth. The adjustment must be equal on both sides.
3. Tighten bolts (A) to 156 N•m (115 lb-ft) to secure depth control arms at both sides of aerator.

Selecting the Correct Tine Holder

NOTE: Different tine holders will require different turf guards to be installed. See your John Deere dealer.



Tine holders are available in three sizes to accommodate different hole spacing requirements. Hole spacing (A) is the distance between each tine. See your John Deere dealer for tine holder kits.

OPERATING

4X Tine Holder - Hole spacing of 61 mm (2.4 in.). Two styles available, one for 19 mm (3/4 in.) open-sided tines and one for 10 mm (3/8 in.), 12.7 mm (1/2 in.), and 16 mm (5/8 in.) tines in either solid, tubular or open-sided.

3X Tine Holder - Hole spacing of 81 mm (3.2 in.). Two styles available, one for 19 mm (3/4 in.) open-sided tines and one for 10 mm (3/8 in.), 12.7 mm (1/2 in.), and 16 mm (5/8 in.) tines in either solid, tubular or open-sided.

Mini-Tine Holder - Used for holding mini-tines only.

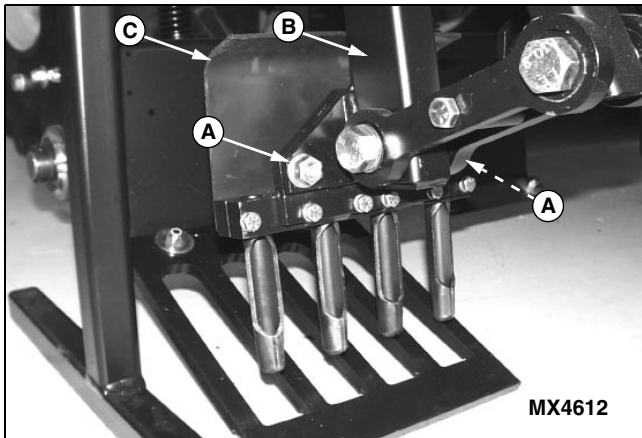
Removing and Installing Tine Holders



CAUTION: Avoid injury! Do not service with tractor running or aerator in the raised position. Support legs must be installed and aerator lowered completely.

NOTE: Different turf guards are required when installing different size tine holders. See your John Deere dealer.

1. Park tractor safely. (See Parking Safely in the Safety section.)
2. Install support legs to aerator. Lower aerator until support legs are resting on the ground.



3. Remove flanged lock nuts (A) securing tine holder to connecting rod (B). Remove the tine holder.

NOTE: Core deflectors are not required for mini-tines and solid tines.

4. Remove core deflector (C) and install it onto selected tine holder if necessary. Tighten hardware completely.
5. Install correct tines to selected tine holder.
6. Attach tine holder to flanged mounting surface on connecting rod using the flanged lock nuts. Tighten the nuts to 156 N•m (115 lb-ft).

Removing and Installing Tines



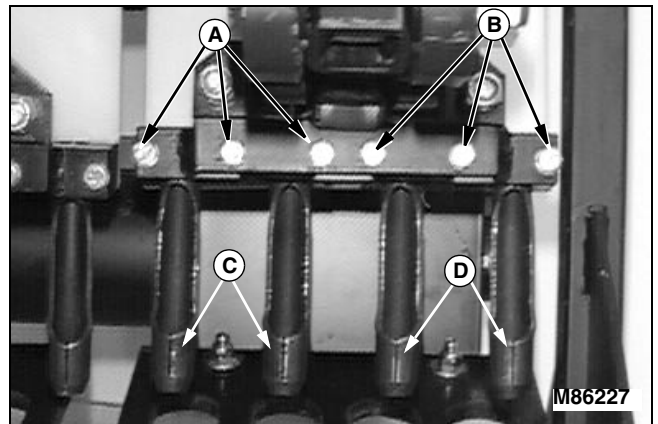
CAUTION: Avoid injury! Do not service with tractor running or aerator in the raised position. Support legs must be installed and aerator lowered completely.

NOTE: Different diameter tines may require different tine holders and turf guards. If different tine holder is not required, it can remain installed on machine when changing the tines.

New tines will not consistently pull cores. Operate aerator in a practice area to break-in new tines.

1. Park tractor safely. (See Parking Safely in the Safety section.)
2. Install support legs to aerator. Lower aerator until support legs are resting on the ground.

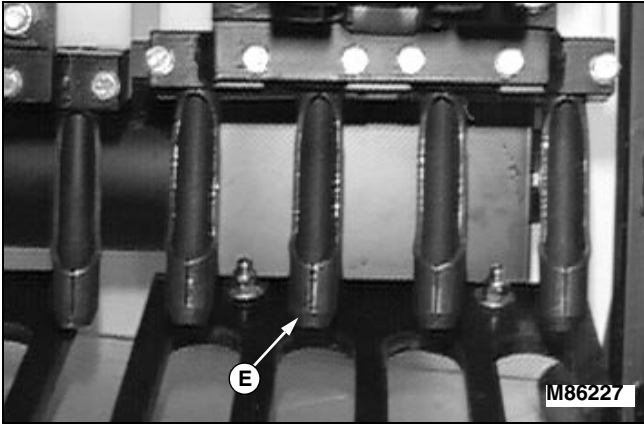
NOTE: Do not remove bolts to remove tines. Loosen only as much as needed to remove tines.



3. Loosen bolts (A) or (B) on tine holder just enough to remove the tines. Tines (C) or (D) can be removed two at a time by loosening only the bolts on that side of the tine holder.

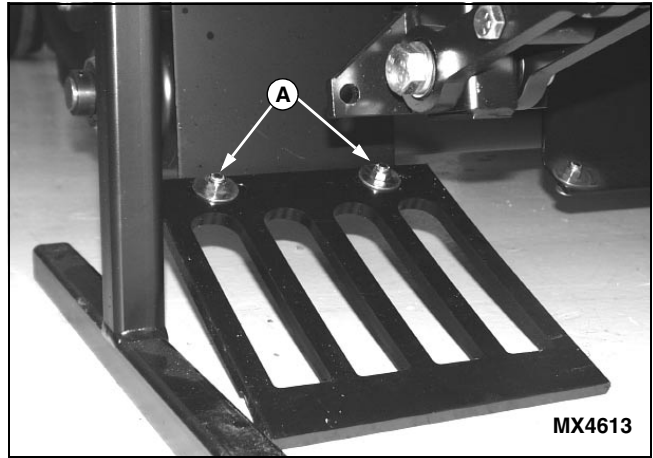
OPERATING

NOTE: A short board may be used to hold all the tines in place while tightening.



4. Install tine into tine holder with beveled end (E) of tine pointing down. Install open-sided tines with open side facing rearward as shown.

5. Push tines completely inside tine holder. Tighten bolts alternately to 35 N•m (26 lb-ft).



3. Remove and retain hardware (A) securing turf guards to turf guard brackets. Remove turf guards.

Removing and Installing Turf Guards



CAUTION: Avoid injury! Do not service with tractor running or aerator in the raised position. Support legs must be installed and aerator lowered completely.

IMPORTANT: Avoid damage! Twisted or bent turf guards can damage the tines. Replace turf guards at the first sign of any damage.

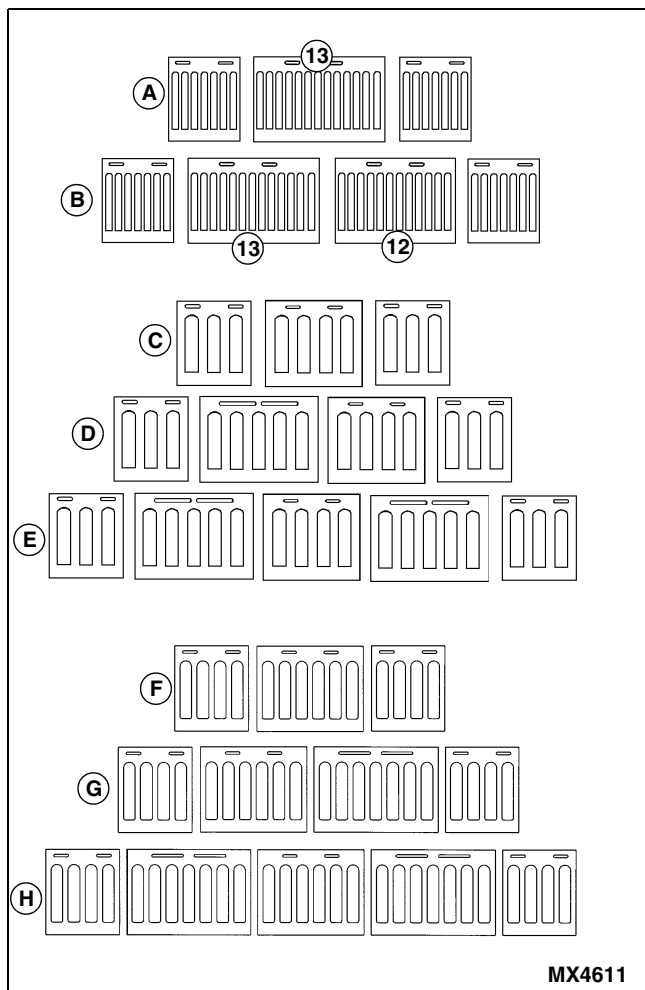
1. Park tractor safely. (See Parking Safely in the SAFETY section.)

2. Install support legs to aerator. Lower aerator until support legs are resting on the ground.

OPERATING

IMPORTANT: Avoid damage! Make sure turf guards are installed in correct arrangement as illustrated to ensure proper alignment with tines. The 12-slot (12) and 13-slot (13) mini-tine turf guards appear very similar. Use care to prevent improper installation. Mini-tine turf guards are not for use on Aercore 2000 models.

NOTE: Illustrated views are from back of aerator.



- A - Aercore 1000 with Mini-Tine Holders
- B - Aercore 1500 with Mini-Tine Holders
- C - Aercore 1000 with 3x Tine Holders
- D - Aercore 1500 with 3x Tine Holders
- E - Aercore 2000 with 3x Tine Holders
- F - Aercore 1000 with 4x Tine Holders
- G - Aercore 1500 with 4x Tine Holders
- H - Aercore 2000 with 4x Tine Holders

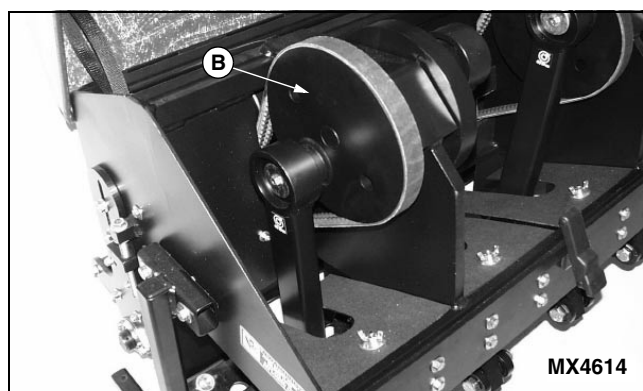
4. Determine the appropriate illustration for your model aerator.

NOTE: There should be approximately 40 mm (1-1/2 in.) spacing between the turf guards.

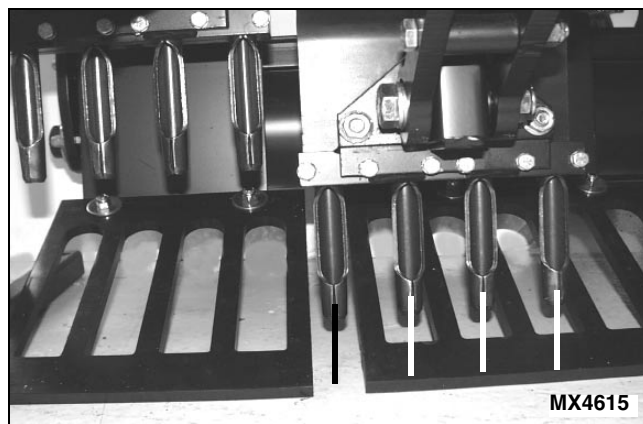
Install nuts and washers on top side of turf guards.

5. Attach turf guards to the turf guard brackets using nuts, bolts, and washers removed earlier. Make sure guards are installed in the correct order with the grooved side of each guard facing down. Do not tighten the hardware completely.

6. Unlatch and raise aerator hood.



7. Turn each belt pulley (B) manually to lower its tine set as close as possible to the turf guard for proper alignment.



8. Adjust each turf guard so the tines are centered in the tine openings and in the spaces between the tine guards as shown. Tighten the turf guard attaching hardware completely after proper alignment.

Removing and Installing Core Deflectors



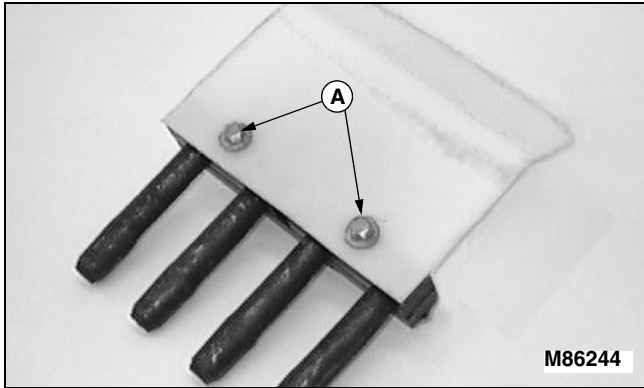
CAUTION: Avoid injury! Do not service with tractor running or aerator in the raised position. Support legs must be installed and aerator lowered completely.

NOTE: Core deflectors are not required with mini-tines

OPERATING

and solid tines. Deflectors may be removed or installed with tine holders on or off the aerator.

1. Park tractor safely. (See Parking Safely in the Safety section.)
2. Install support legs to aerator. Lower aerator until support legs are resting on the ground.



3. Remove and retain hardware (A) from backside of core deflector.
4. Install new core deflector so curved portion points rearward when installed on aerator.
5. Secure each deflector with two flat washers, lock washers and bolts. Tighten hardware until lock washers are compressed. Do not over-tighten.

Transporting Aerator



CAUTION: Avoid injury! Drive tractor at safe travel speeds when transporting aerator. Use caution on slopes and rough ground.

Install a Slow Moving Vehicle (SMV) sign to rear of aerator if transporting on public roads.

IMPORTANT: Avoid damage! Remove support legs from aerator before transporting. Legs can become caught in moving parts and be torn from machine by elevated ground structure and debris.

1. Raise aerator slightly so tines are above the ground.
2. Disengage the PTO. Wait several seconds for PTO to stop rotating.
3. Raise aerator completely for transport.
4. Close the speed of drop/lock valve completely. (See your tractor Operator's Manual.)
5. Transport aerator at a safe speed.

REPLACEMENT PARTS

Service Literature

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

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

Parts

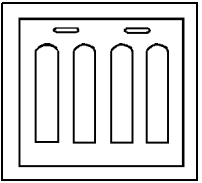
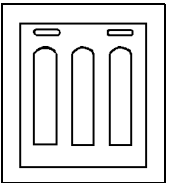
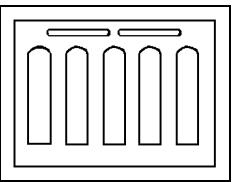
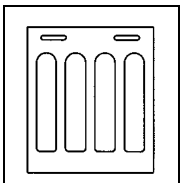
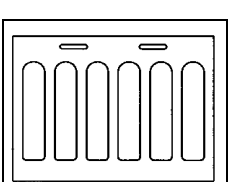
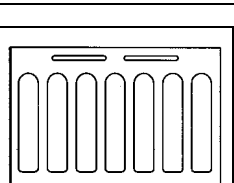
We recommend John Deere quality parts and lubricants, available at your John Deere dealer.

Part numbers may change, use part numbers listed below when you order. If a number changes, your dealer will have the latest number.

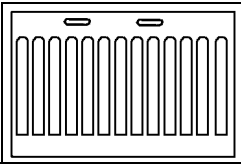
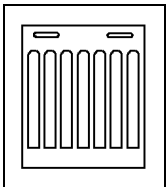
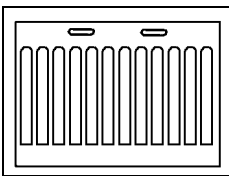
When you order parts, your John Deere dealer needs your product serial number. This is the number that you recorded in the Product Identification section of this manual.

Part Numbers

ITEM	PART NUMBER
Drive belt	MT3040
Tine, Tubular 10 mm (3/8 in)	MT2964
Tine, Tubular 12.7 mm (1/2 in)	MT2965
Tine, Tubular 16 mm (5/8 in)	MT2966
Tine, Open Side 19 mm (3/4 in)	MT2968
Tine, Solid 16 mm (5/8 in)	MT2969
Mini-Tine, Open Side 6.4 mm (1/4 in)	MT2971
3x Tine Holder, for 10 mm (3/8 in), 12.7 mm (1/2 in) and 16 mm (5/8 in) tines	AMT1595
3x Tine Holder, for 19 mm (3/4 in) tines	AMT1611
4x Tine Holder, for 10 mm (3/8 in), 12.7 mm (1/2 in) and 16 mm (5/8 in) tines	AMT1612
4x Tine Holder, for 19 mm (3/4 in) tines	AMT1613
Mini-Tine Holder	AMT1614

ITEM	PART NUMBER
Turf Guard, 4-Slot (for 3x holder)	 TCU51059
Turf Guard, 3-Slot (for 3x holder)	 TCU51060
Turf Guard, 5-Slot (for 3x holder)	 TCU51890
Turf Guard, 4-Slot (for 4x holder)	 TCU51062
Turf Guard, 6-Slot (for 4x holder)	 TCU51061
Turf Guard, 7-Slot (for 4x holder)	 TCU51886

REPLACEMENT PARTS

ITEM	PART NUMBER
Turf Guard, 13-Slot (for mini-tine holder)	 TCU51068
Turf Guard, 7-Slot (for mini-tine holder)	 TCU51069
Turf Guard, 12-Slot (for mini-tine holder)	 TCU51070

(Part numbers are subject to change without notice. Part Numbers may be different outside the U.S.A.)

SERVICE INTERVALS

Servicing Your Machine

Please use the following intervals to perform routine maintenance on your machine.

Before Each Use

- Lubricate powershaft grease fittings (five points).
- Check gear box oil level.
- Check for proper belt tension.
- Check for loose or missing hardware and parts.

After Each Use

- Clean debris from machine.
- Clean tubular and open-sided tines completely.
- Check for loose or missing hardware and parts.
- Check for damaged tines and turf guards.

Break-in - After First 50 Hours

- Change gear box oil.

Every 8 Hours

- Lubricate powershaft grease fittings (five points).

Every 400 Hours

- Clean the flex-link assemblies completely.

Seasonal or Every 800 Hours

- Change gear box oil.
- Replace rubber bumper stops.
- Check for excessive wear or cracking of rubber components and belts.

SERVICE

Grease

IMPORTANT: Avoid damage! Use recommended John Deere greases to avoid component failure and premature wear.

The recommended John Deere greases are effective within an average air temperature range of -29 to 135 degrees C (-20 to 275 degrees F).

If operating outside that temperature range, contact your Servicing dealer for a special-use grease.

The following John Deere greases are PREFERRED:

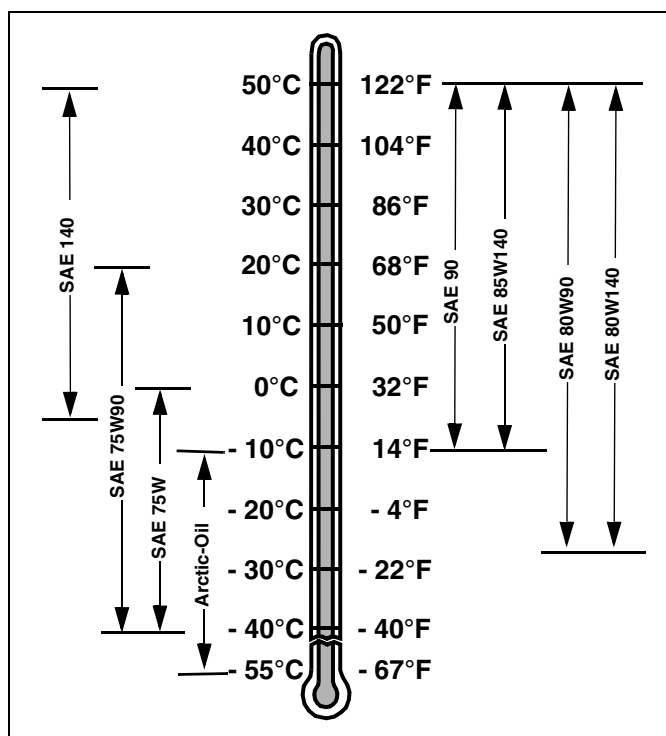
- John Deere Moly High Temperature EP Grease.
- John Deere High Temperature EP Grease.
- John Deere GREASE-GARD™.

Other greases may be used if above John Deere greases are not available:

- SAE Multipurpose EP Grease with 3 to 5 percent molybdenum disulfide.
- SAE Multipurpose EP Grease.
- Greases meeting Military Specification MIL-G-10924C may be used as arctic grease.

Gear Oil

IMPORTANT: Avoid damage! Use oil viscosity based on the expected air temperature range during the period between oil changes.



Recommended oil:

- GL-5 Gear Lubricant - SAE 85W-140
- GL-5 Gear Lubricant - SAE 80W-90

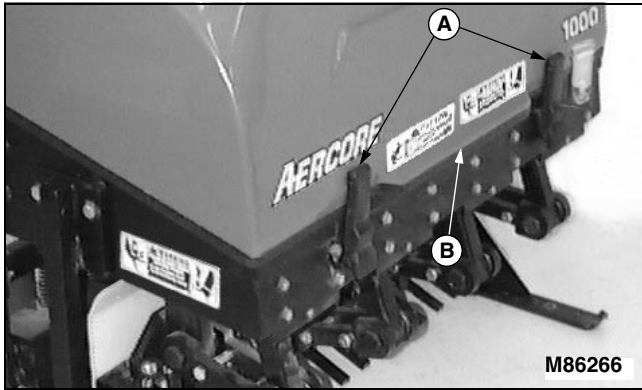
Other oils may be used if they meet one or more of the following:

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

Raising Hood

1. Park tractor safely. (See Parking Safely in the SAFETY section.)
2. Install support legs and lower aerator to ground.

SERVICE



3. Unhook latches (A).
4. Lift hood at area (B) and carefully lay it back.

Cleaning Exterior of Machine

IMPORTANT: Avoid damage! Do not use high pressure water on exterior of machine or near sealed bearings. Water can be drawn into bearings as they cool.

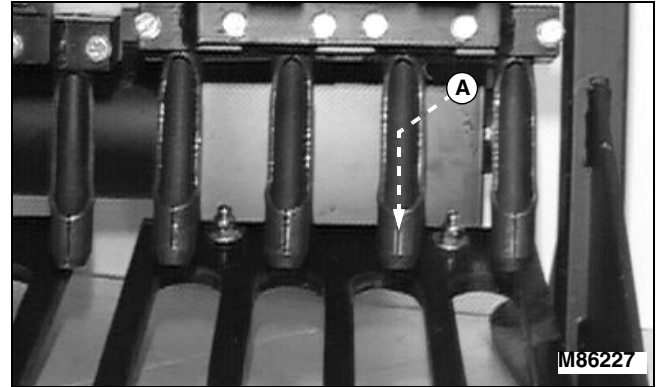
Reduce compressed air to less than 210 kPa (30 psi) when used for cleaning purposes.

1. Park tractor safely. (See Parking Safely in the SAFETY section.)
2. Install support legs and lower aerator to ground.
3. Use high volume, low-pressure water or compressed air to clean exterior of machine.
4. Perform all grease maintenance when done cleaning entire machine.

Cleaning Tines

1. Park tractor safely. (See Parking Safely in the SAFETY section.)
2. Install support legs and lower aerator to ground.

NOTE: Tubular and open-sided tines should be cleaned after each use. Excess buildup inside the tines can result in poor hole quality.

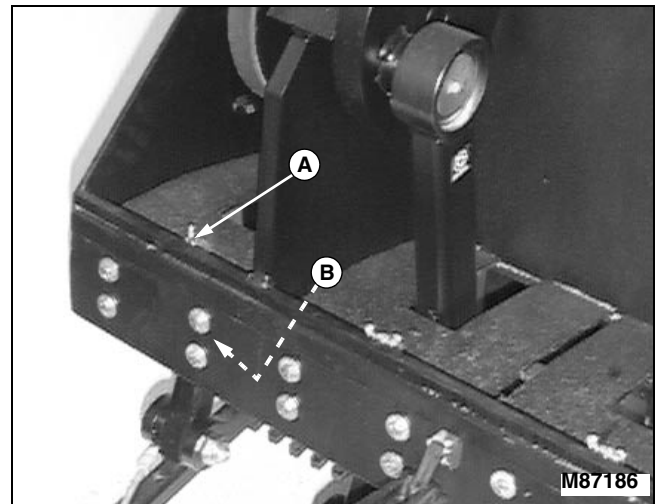


3. Use high-pressure water to flush tines after each use and remove any residual core material from inner surface (A).

Cleaning Flex-Links

NOTE: Dried-on soil can affect performance of the flex-link assemblies. Keep flex-links clean.

1. Park tractor safely. (See Parking Safely in the SAFETY section.)
2. Install support legs and lower aerator to ground.
3. Raise the hood.

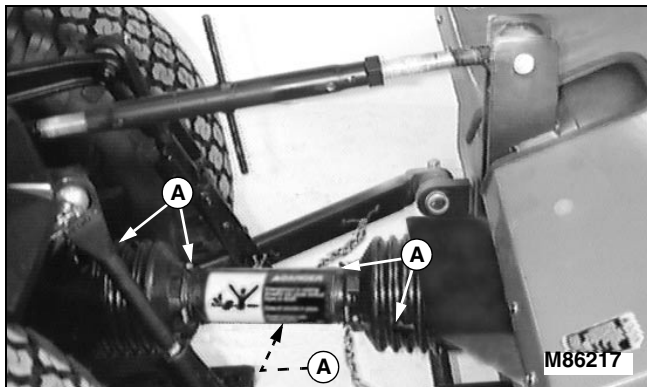


4. Remove wing nut (A) and washer securing divider seal to the frame.
5. Remove the seal and wash off the flex-link assemblies (B).
6. Install the divider seals and secure with the washer and wing nut.

SERVICE

Lubricating Powershaft

1. Park tractor safely. (See Parking Safely in the SAFETY section.)
2. Install support legs and lower aerator to ground.
3. Wipe dirt and foreign material from grease fittings.

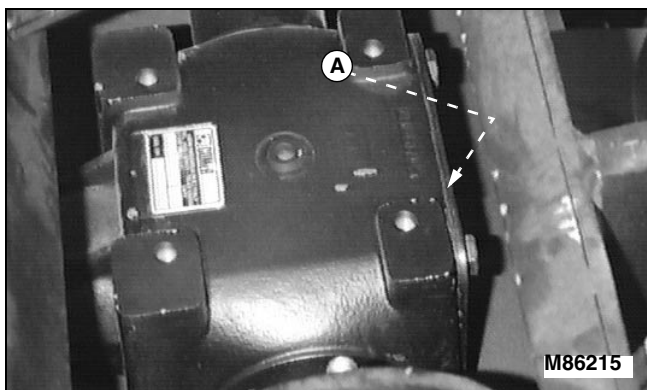


4. Grease powershaft at five points (A). Access the middle fitting by lining up slots in shield with grease fitting.
5. Wipe off excess grease from fittings.

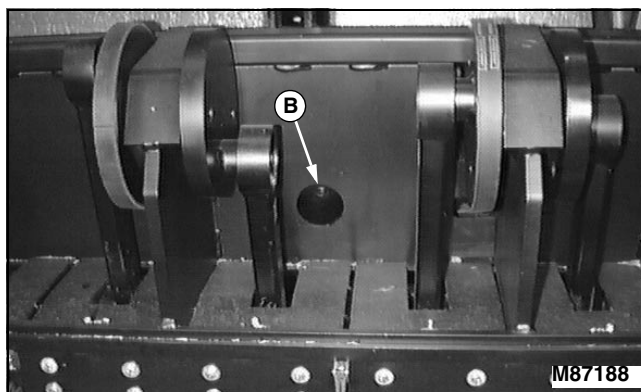
Checking Gear Box Oil Level

IMPORTANT: Avoid damage! Gear box must be level to ensure accurate oil level indication.

1. Park tractor safely. (See Parking Safely in the SAFETY section.)
2. Install support legs and lower aerator to ground.
3. Raise the hood.



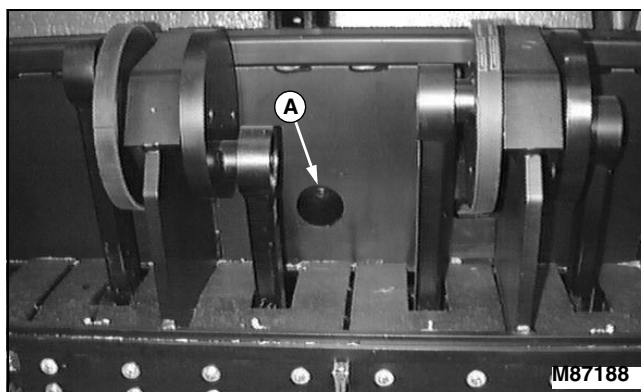
4. Wipe dirt and foreign material from backside of gear box (A) before checking fluid level.



5. To check gear box oil level, remove oil plug through access hole (B) in aerator frame. Visually check to see that oil is just below the hole. If not, add oil.
6. Lower and latch hood.

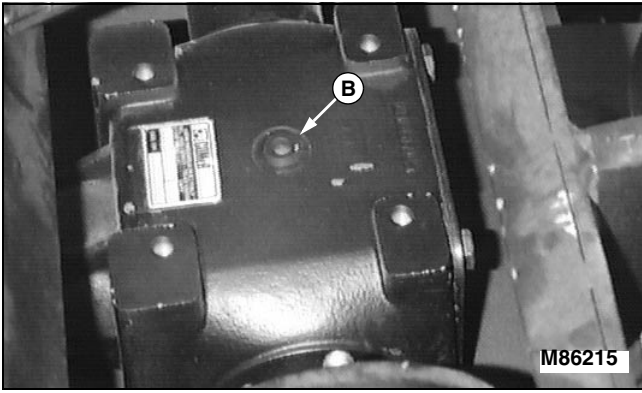
Adding Oil to Gear Box

1. Park tractor safely. (See Parking Safely in the SAFETY section.)
2. Install support legs and lower aerator to ground.
3. Raise the hood.



4. Remove the check plug at the backside of the gear box through the access hole (A) in the frame wall.

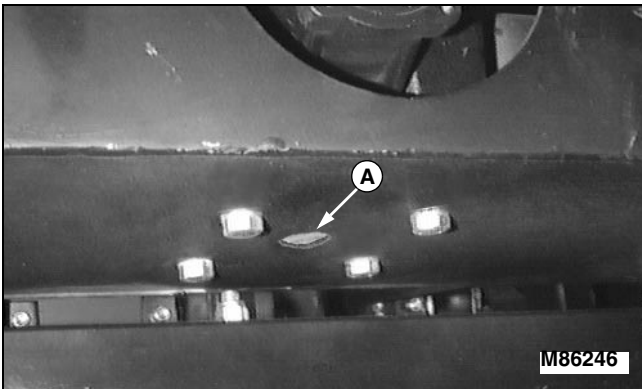
SERVICE



5. Remove the vent plug (B) at the top of the gear box.
6. Add oil until oil begins to come out the side hole in the gear box.
7. Install plugs and wipe excess oil.
8. Lower and latch hood.

Draining Gear Box

1. Park tractor safely. (See Parking Safely in the SAFETY section.)
2. Install support legs and lower aerator to ground.
3. Raise the hood.
4. Remove vent plug at top of gear box.

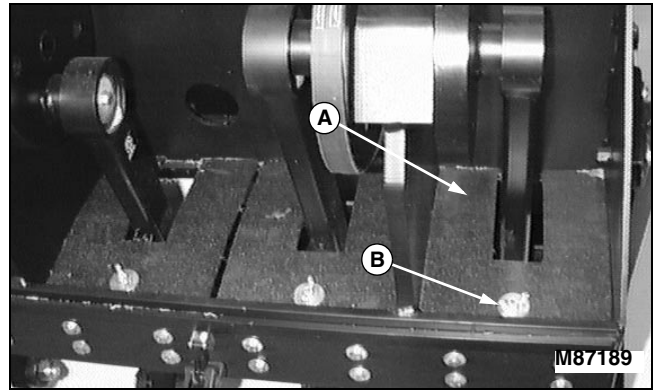


5. Remove oil plug located at bottom of gear box. Use access hole (A) under aerator body to remove plug.
6. Drain oil into pan and dispose of properly.
7. Install vent plug and oil plug. Tighten completely.
8. Lower and latch hood.

Replacing Divider Seals

1. Park tractor safely. (See Parking Safely in the SAFETY section.)

2. Install support legs and lower aerator to ground.
3. Raise the hood.

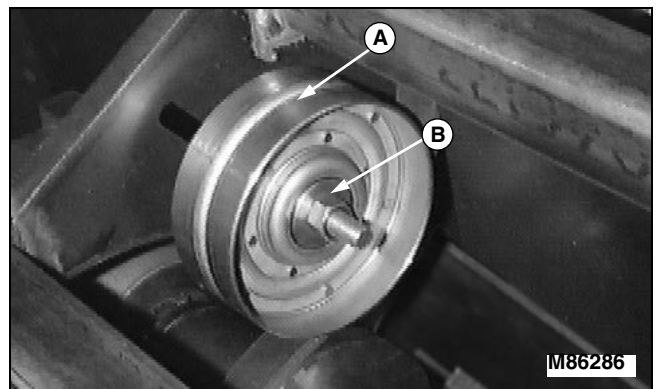


4. Remove wing nut (B) and washer to remove seal (A).
5. Replace seal and install hardware.
6. Lower and latch hood.

Adjusting Drive Belt Tension

IMPORTANT: Avoid damage! Operating with loose belts can produce poor results and cause damage to the belts. If hole spacing is wider on one side of aerator, the belt on the wide spaced side may be slipping. Adjust tension as necessary.

1. Park tractor safely. (See Parking Safely in the SAFETY section.)
2. Install support legs and lower aerator to ground.
3. Raise the hood.



4. Loosen nut (B).
5. Apply pressure downward on adjusting idler (A) to provide necessary tension to belt.
6. Belt should deflect approximately 5 mm. (3/16 in) with 12 kg (26 lb) of pressure or moderate thumb pressure.
7. Maintain proper belt tension and tighten nut (B)

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completely.

8. Lower and latch hood.

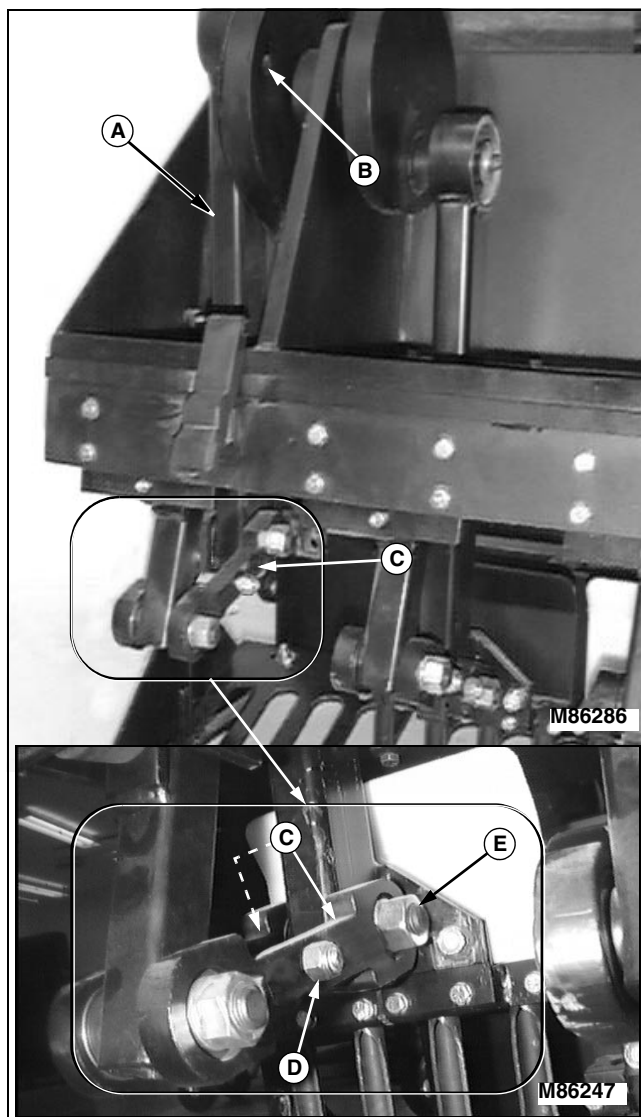
Changing Drive Belts

IMPORTANT: Avoid damage! Drive belts should never be kinked or twisted. Use care when installing and removing good belts. Do not store spare belts by hanging on a nail. Lay flat to store.

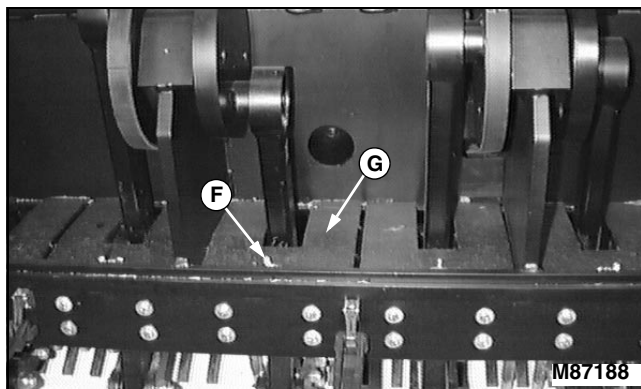
1. Park tractor safely. (See Parking Safely in the SAFETY section.)
2. Install support legs and lower aerator to ground.
3. Raise the hood.

Removing Belt

NOTE: It is necessary to first remove the belt from the end belt pulley in order to remove a center belt from the 1500 or 2000 AERCORE. On 1500 models, the left end belt must be removed. On 2000 models, the end belt on the side closest to the selected center belt must be removed. Connecting rod (A) must be loosened at return links (C) and removed from belt pulley (B).



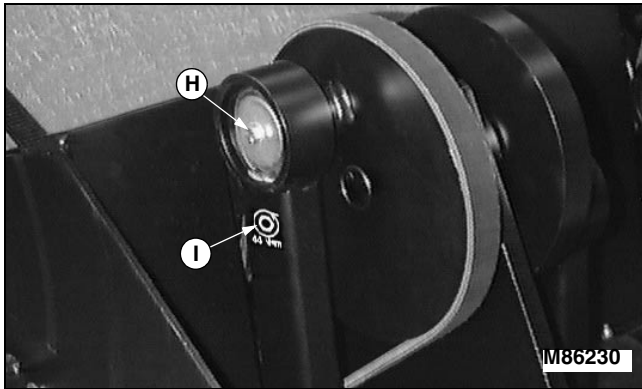
1. Loosen locknut (D) to release pressure on return links (C). Remove front nut (E), bolt and washers (closest to tine holder) to allow return links to drop free from the connecting rod.



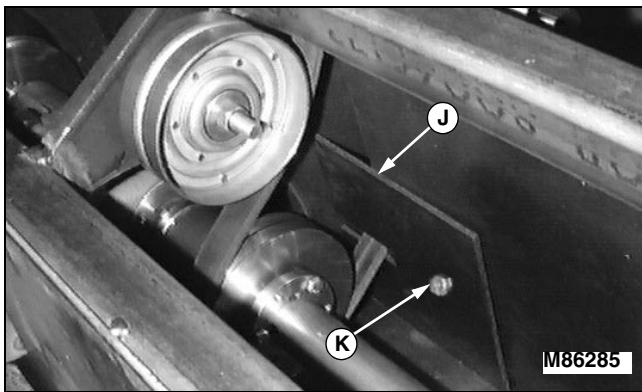
2. Remove wing nut (G) to remove divider seal (F).

SERVICE

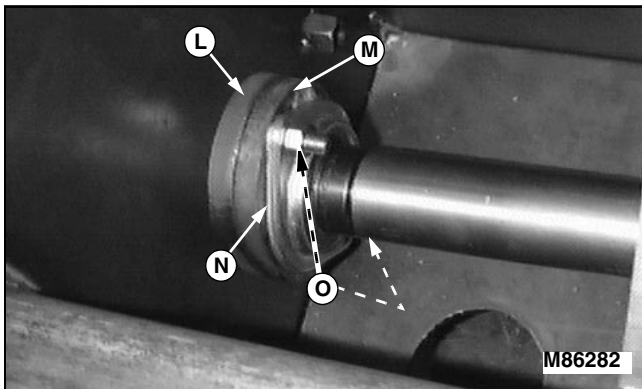
NOTE: Bolts holding connecting rods to belt pulleys are left-hand threaded. Refer to the decal (I) on the arm indicating direction of thread.



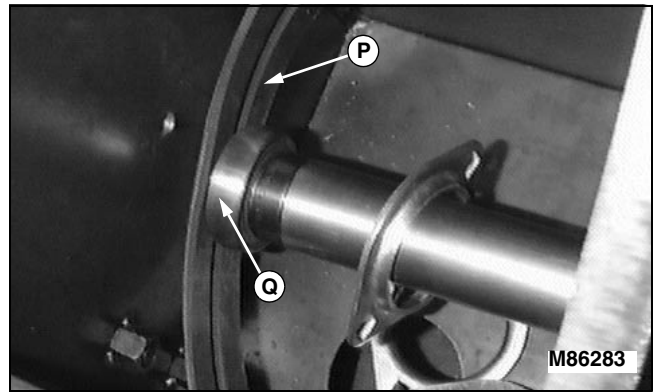
3. Remove bolt and washer (H) and pull connecting rod away from belt pulley.



4. Remove the dirt shield (J) from inside the gear box area by removing the self-tapping screw (K).



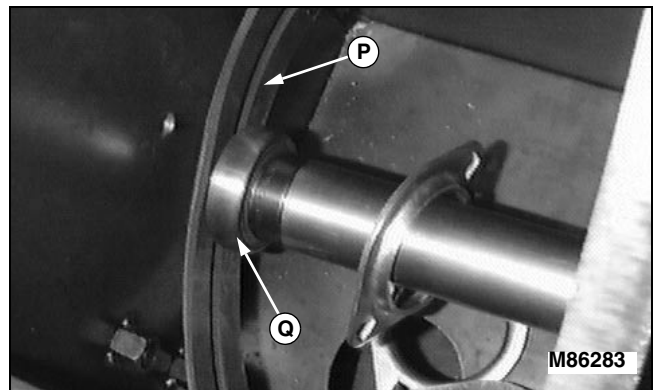
5. Remove two lock nuts (O) and bolts securing gear box shaft to the side wall of the frame.
6. Remove blank spacer (L), bearing spacer (M) and outer bearing plate (N).



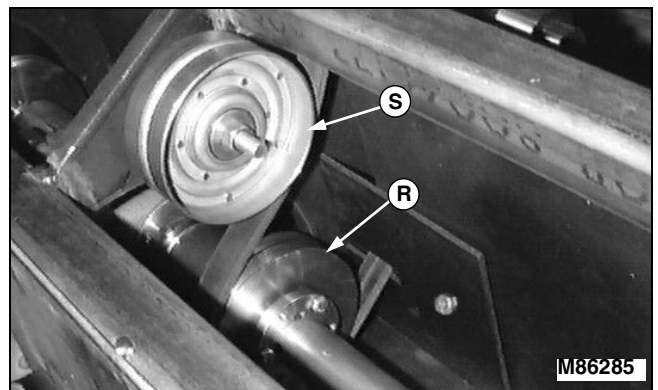
7. Remove belt (P) from around bearing (Q) and shaft and remove from aerator.

Installing Belt

NOTE: The center drive belts must be in place before installing the end belts.



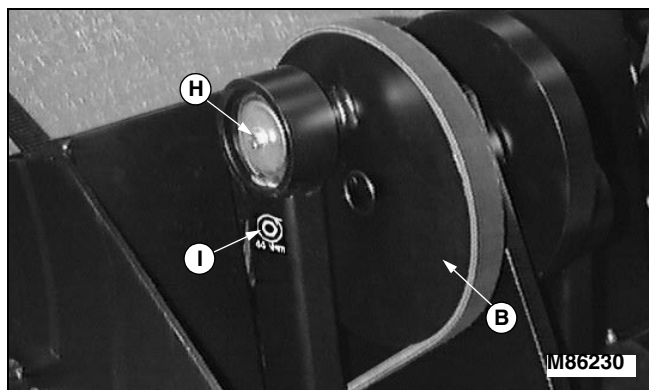
1. Slide belt (P) between bearing (Q) and side frame.



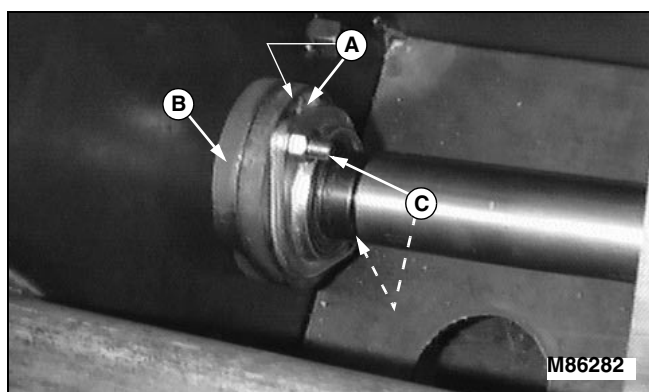
2. Install belt around shaft pulley (R) and route under adjusting idler (S).

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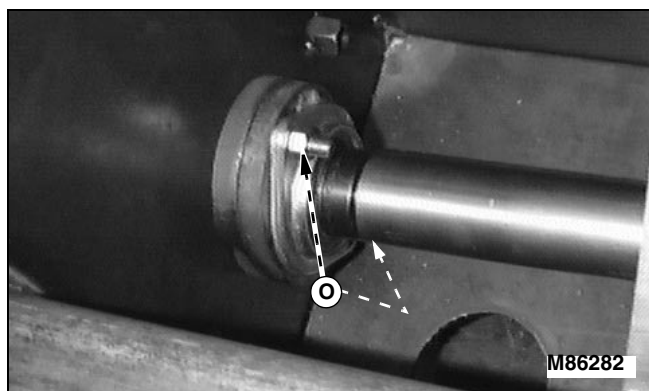
NOTE: Bolts holding connecting rods to belt pulleys are left-hand threaded. Refer to the decal (I) on the arm indicating direction of thread.



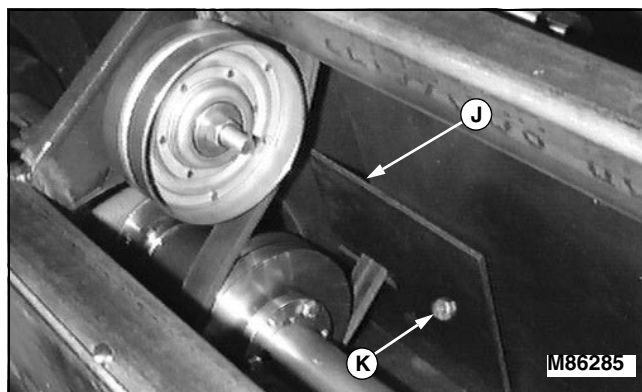
3. Install belt around belt pulley (B). Place connecting rod into position and secure with bolt and washer (H). Tighten bolt to 44 N•m (32 lb-ft).



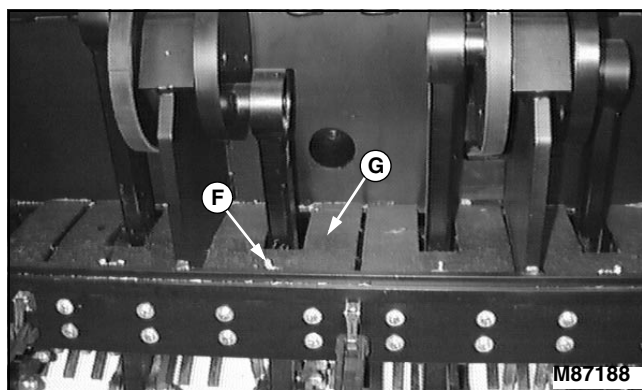
4. Install outer bearing plate and bearing spacer (A) onto bearing. Hold these parts in place and install blank spacer (B) and bolts (C) from the outside.



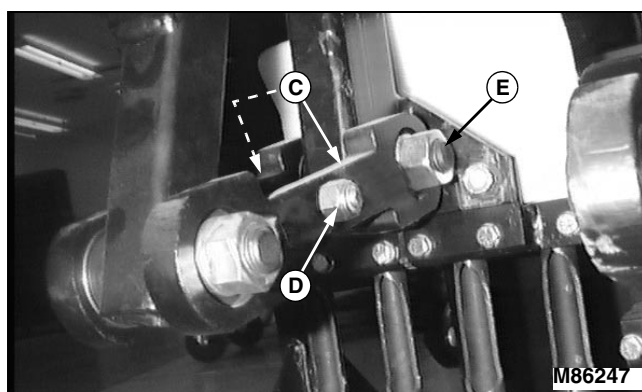
5. Install two lock nuts (O). Tighten nuts completely to secure shaft end to side frame.



6. Install dirt shield (J) and secure with self-tapping screw (K).



7. Install divider seal (G) and secure with wing nut (F).



8. Assemble return links (C) to connecting rod with original bolt, washers, and nut (E). Tighten nut completely.

9. Tighten locknut (D) completely.

10. Adjust the belt tension.

Adjusting Roller Scraper

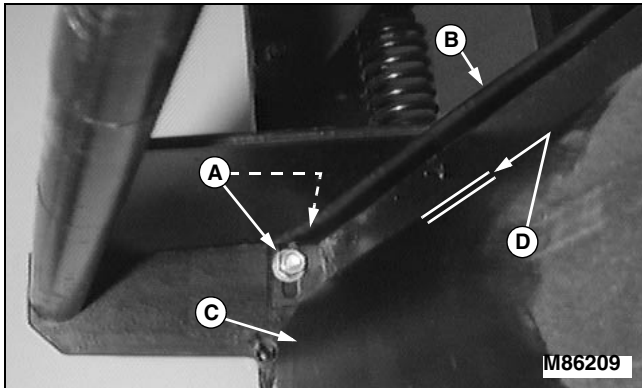
NOTE: It may be necessary to adjust the turf guard spring tension after adjusting the roller scraper.

1. Park tractor safely. (See Parking Safely in the SAFETY

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section.)

2. Install support legs and lower aerator to ground.



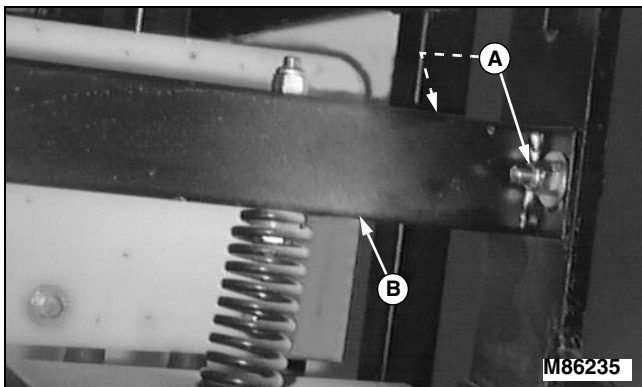
3. Loosen two nuts (A) at both ends of roller scraper and move scraper (B) to desired dimension from roller (C). Recommended gap (D) between roller and scraper is 1-2 mm (3/64-5/64 in.).

Adjusting Turf Guard Spring Tension

IMPORTANT: Avoid damage! Proper turf guard spring adjustment is critical to good hole quality. The turf guard needs to be firmly on the ground to prevent turf lifting. Excessive turf guard pressure can cause marking in soft turf.

Adjusting tine depth may affect turf guard ground pressure.

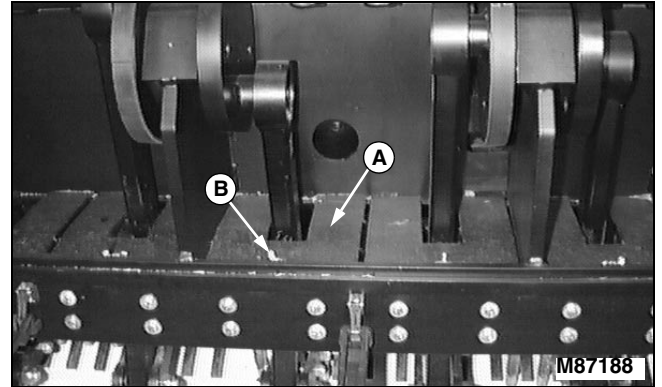
1. Park tractor safely. (See Parking Safely in the SAFETY section.)
2. Install support legs and lower aerator to ground.



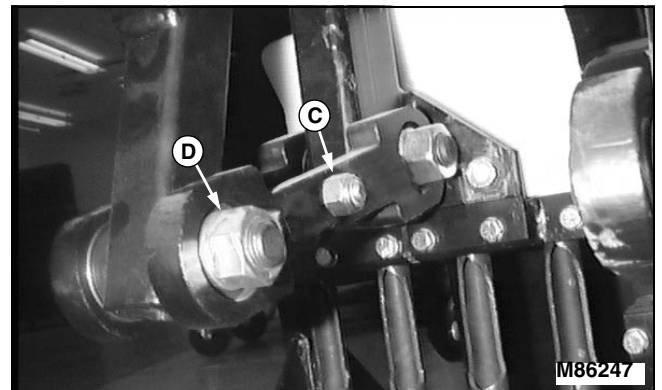
3. Loosen two nuts (A) on both ends of adjusting bar (B).
4. Make adjustments in small increments, testing hole quality after each adjustment before operating.
 - Move adjusting bar up to reduce tension.
 - Move adjusting bar down to increase tension.

Replacing Flex-Link Bumper Stops

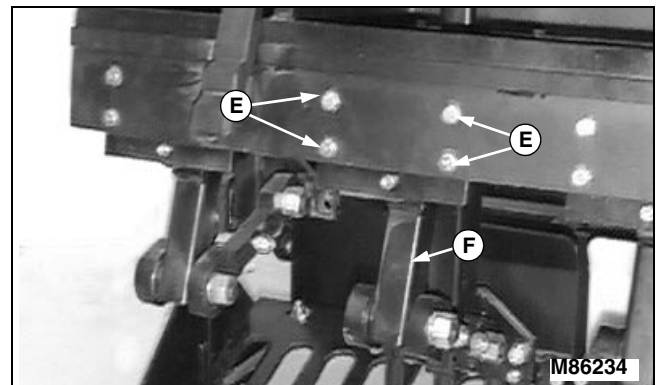
1. Park tractor safely. (See Parking Safely in the SAFETY section.)
2. Install support legs and lower aerator to ground.
3. Raise the hood.



4. Remove wing nut (B) to remove divider seal (A).

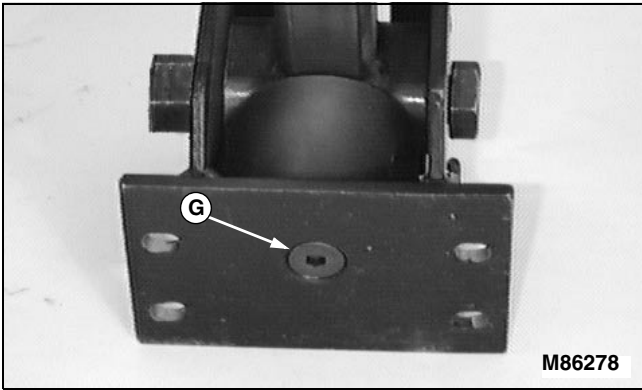


5. Loosen nut (C) to release pressure on return links. Remove nut and bolt (D) at rear of flex-link.

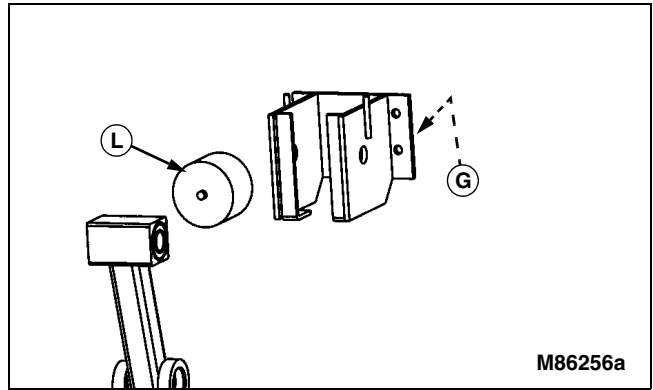


6. Remove four bolts (E) to allow bumper bracket and arm (F) to drop down away from frame.

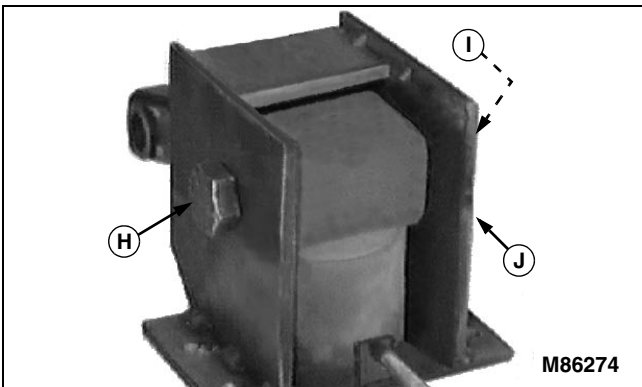
SERVICE



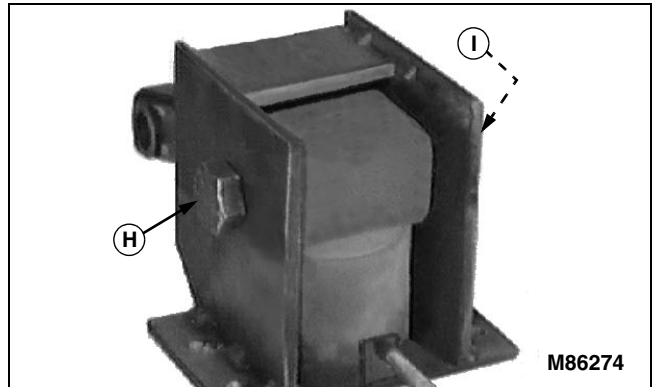
7. Remove screw (G) from bracket plate using hex head wrench.



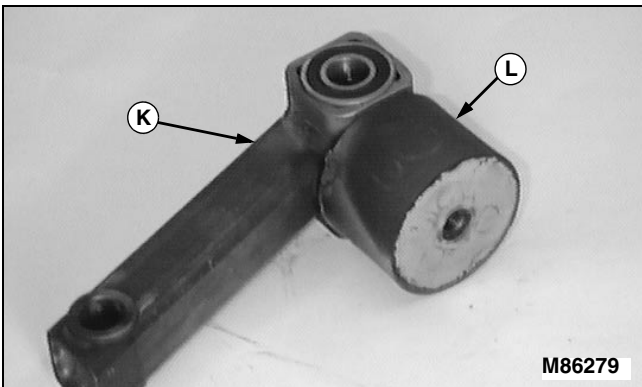
10. Install new bumper (L) onto flex-link. Tighten bumper securely to link using a strap wrench. DO NOT overtighten. Install bumper and arm into bracket and secure bumper to bracket by installing screw (G).



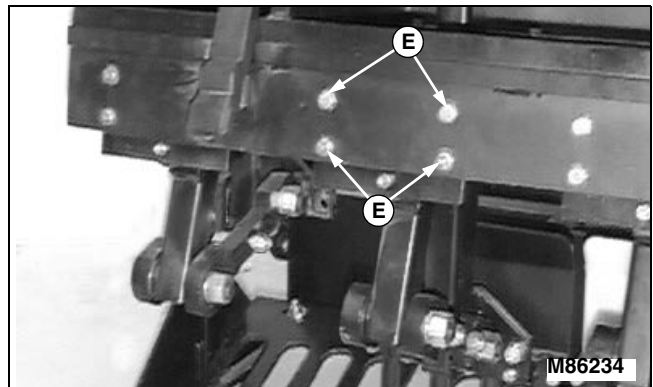
8. Remove nut (I) and bolt (H). Remove flex-link arm with rubber bumper from the bracket assembly (J).



11. Install flex-link to bracket with bolt (H) and nut (I).



9. Remove old bumper (L) by unscrewing from the flex-link arm (K).



12. Attach bracket assembly to frame using existing hardware (E). Assemble return link to flex-link. Tighten nut (I) to standard torque.

13. Install divider seal with washer and wing nut.

14. Lower and latch hood.

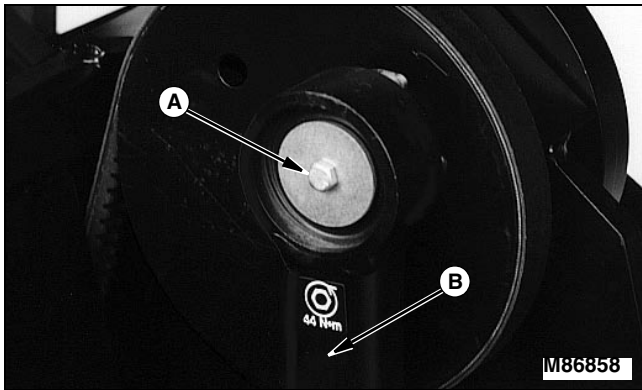
SERVICE

Removing and Installing Belt Pulleys

Removing Belt Pulleys

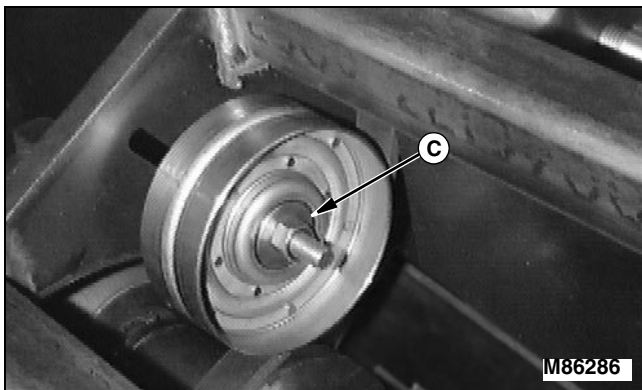
NOTE: To remove pulleys, two 3/4 x 3-1/2 in carriage bolts with nuts and lock washers are required.

1. Park tractor safely. (See Parking Safely in the SAFETY section.)
2. Install support legs and lower aerator to ground.
3. Raise the hood.

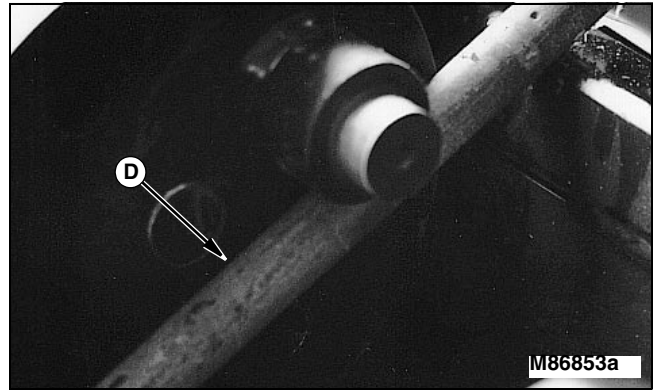


4. Remove the bolts (A) and washers securing the connecting rods to the pulley.
5. Remove the connecting rods (B) on both sides of the pulleys.

IMPORTANT: Avoid damage! Drive belts should never be kinked or twisted. Use care when installing and removing good belts.

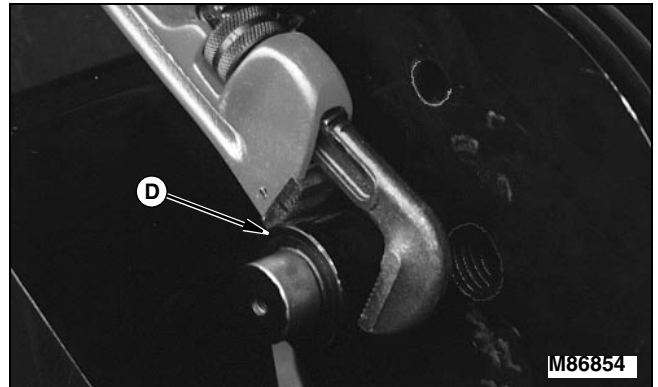


6. Loosen bolt (C) securing the belt tensioner sheave and remove the belt from the belt pulley.

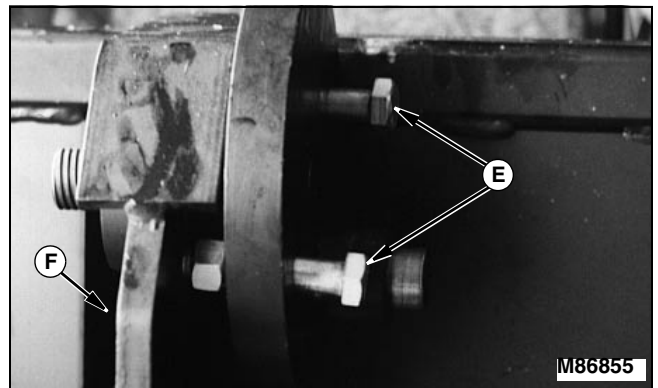


7. Place a metal bar (D) underneath the mount for the connecting rod to prevent the belt pulley from rotating while performing the next step.

IMPORTANT: Avoid damage! Decals on each connecting rod indicate direction of turn when removing the pulley.



8. Use a pipe wrench to loosen the pulley on the opposite side where the pipe is placed. Place wrench on bushing (D) welded to pulley. Loosen the pulley and remove.
9. Remove the bar used to hold the pulley in place.



10. Install two 3/4 in x 3-1/2 in carriage bolts (E) with lock washers and nuts to the remaining pulley through existing holes in pulley.
11. Tighten them equally to apply pressure to the center

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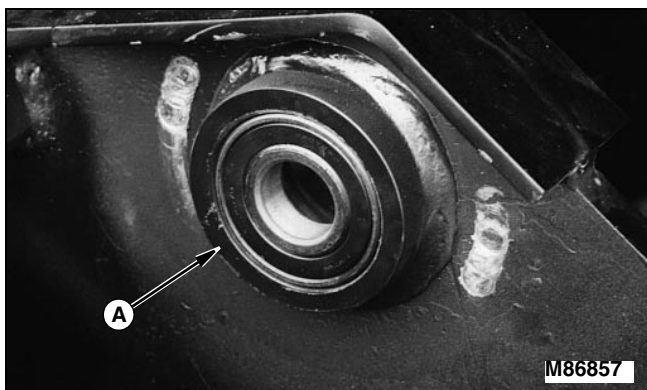
plate. As the bolts are tightened, the pulley and pulley shaft assembly will be forced from the center plate (F).



12. Place the removed pulley and shaft assembly in a vise. Remove the shaft from the pulley using a pipe wrench.

13. Remove bearing from machine and replace. Perform other necessary service.

Installing Belt Pulleys



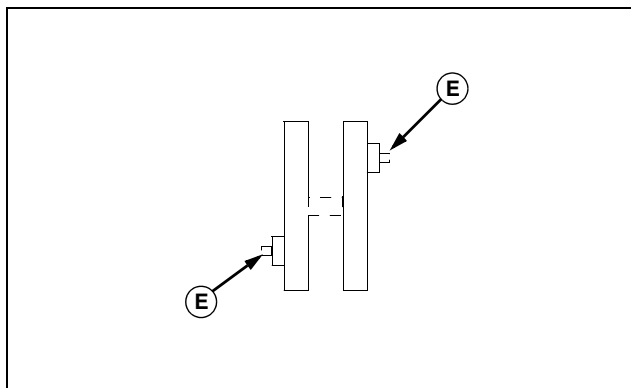
1. Install the snap ring and bearing (A) if removed.

IMPORTANT: Avoid damage! The pulley with the V-groove is the belt pulley. Install it so that it is lined up with the belt and tensioner pulley.

2. Install the pulley shaft and other bearing.

3. Apply thread locking agent to the shaft threads and install the washer and pulley.

IMPORTANT: Avoid damage! Connecting rod mounting positions (E) must be located opposite of each other when installed.



4. Install connecting rod mounting positions (E) opposite of each other.

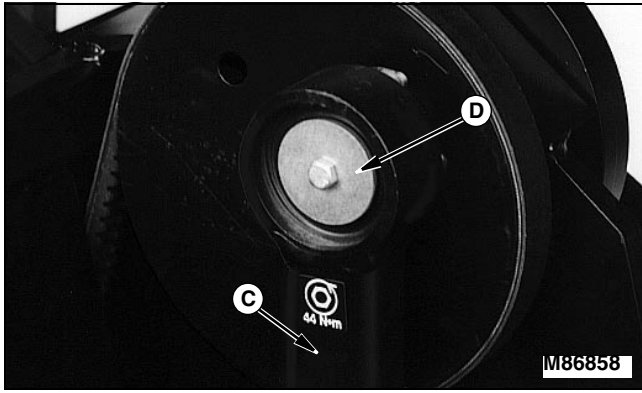


5. Install washer and remaining pulley. Thread pulley on so that the connecting rod mounting locations are opposite each other when tightened completely.



6. Install belt and belt tensioner sheave (B).

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7. Install connecting rods (C) and secure with flat washers (D) and bolts. Tighten bolts to 44 N•m (32 lb-ft).
8. Adjust the drive belt tension.

TROUBLESHOOTING

Aerator

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

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

IF	CHECK
Hole spacing is not the same on both sides of aerator.	Adjust belt tension.
Hole quality is poor.	Check to make sure aerator mounting angle is correct. Run tractor at wide open throttle. Turf guard is not making contact with the ground. Tines are not penetrating to the full depth.
Hole spacing is too close.	Increase tractor speed. Run tractor at wide open throttle.
Hole spacing is wide.	Decrease tractor speed.
Aerator is bouncing and tines are not penetrating to the full depth.	Reduce tractor speed. If soil is hard or compacted, measure depth of penetration and adjust the depth control to the measured amount.

STORAGE

Storing the Aerator

1. Select a dry storage area with a firm, level surface.
2. Install support legs and remove aerator from tractor.
3. Wash the machine. Clean the tines with high-pressure water while still clamped in the tine holders.
4. Remove tines from tine holders. If tines are still usable, coat with oil and store in a plastic bag.
5. Check for loose or missing hardware.
6. Check rubber flex-link bumpers and flex mounts for wear or cracking. Replace as necessary.
7. Check turf guards for damage and replace if needed.
8. Check the aerating tine ram and tine holders for damage.
9. Loosen belt tension.
10. Check drive belts for wear or damage. Remove any material collected in the pulley grooves.
11. If the aerator must be stored outside, cover with a waterproof cover.

Returning the Aerator From Storage

1. Wash machine if needed.
2. Lubricate the powershaft.
3. Check drive belts for deterioration. Replace if needed.
4. Adjust the belt tension.
5. Change the gear box oil.
6. Install tines in tine holders.
7. Install aerator to tractor.
8. Raise aerator enough so tines cannot contact the ground. Run tractor with PTO engaged at idle speed for 5 - 10 seconds to check for unusual sounds from the aerator.
9. To achieve desired hole spacing and depth, test aerator on practice turf before using on fairways or greens. Make adjustments as needed. New tines must be broken-in on practice turf before use.
10. Listen for any unusual mechanical noises while operating on practice turf. Make all necessary repairs.
11. Check for loose or missing hardware after operating on practice turf.

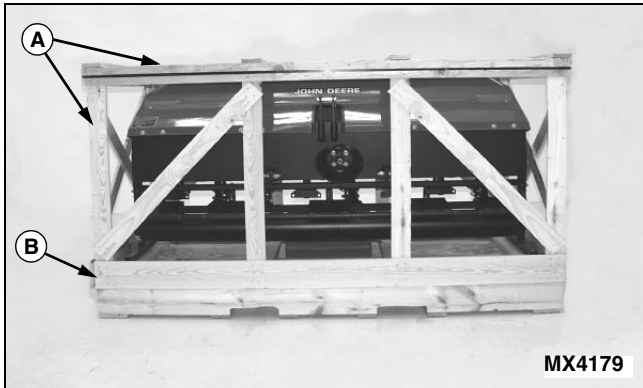
ASSEMBLY

Prepare for Assembly



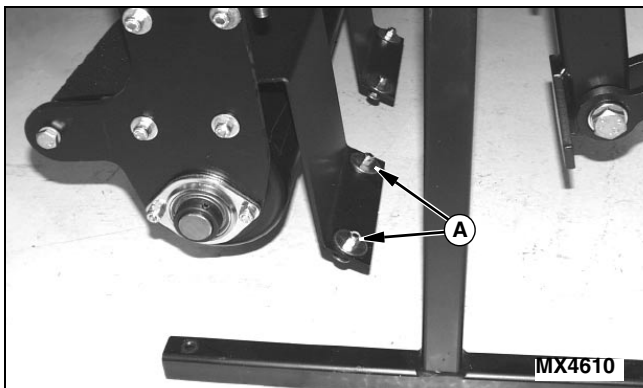
CAUTION: Avoid injury! Do not remove the steel support legs securing the aerator to the shipping pallet. Aerator will drop causing injury or damage.

NOTE: The tines, tine holders, and turf guards are ordered and packaged separately from the aerator. See your John Deere dealer if you have not received these parts.



1. Remove all side and top crating material (A) from shipping pallet (B). Discard the crating material.
2. Remove the tines, tine holders, and turf guards from the shipping containers. Discard the containers.
3. Select a tractor recommended for your aerator model. Install the required front ballast. (See the PREPARING VEHICLE section.)

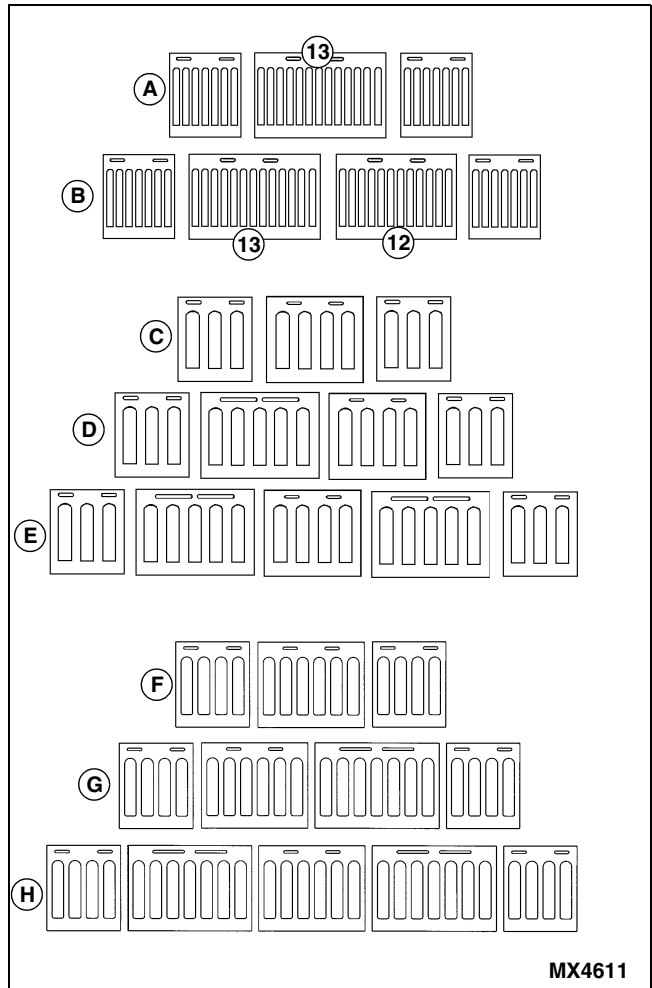
Install Turf Guards



1. Remove and retain nut, bolt, and washer (A) from each turf guard bracket on the machine.

IMPORTANT: Avoid damage! Make sure turf guards are installed in correct arrangement as illustrated to ensure proper alignment with tines. The 12-slot (12) and 13-slot (13) mini-tine turf guards appear very similar. Use care to prevent improper installation. Mini-tine turf guards are not for use on Aercore 2000 models.

NOTE: Illustrated views are from back of aerator.



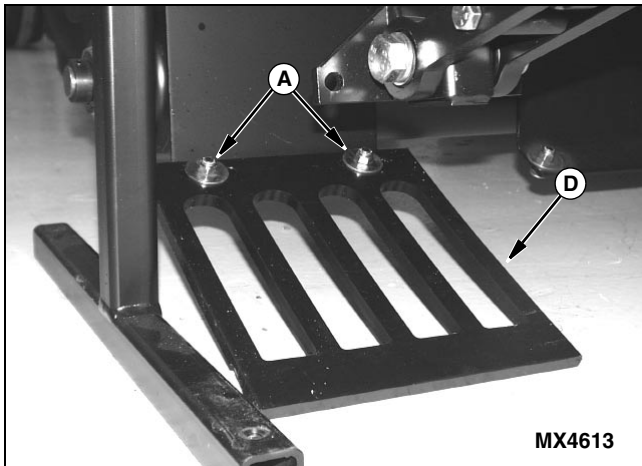
- A - Aercore 1000 with Mini-Tine Holders
- B - Aercore 1500 with Mini-Tine Holders
- C - Aercore 1000 with 3x Tine Holders
- D - Aercore 1500 with 3x Tine Holders
- E - Aercore 2000 with 3x Tine Holders
- F - Aercore 1000 with 4x Tine Holders
- G - Aercore 1500 with 4x Tine Holders
- H - Aercore 2000 with 4x Tine Holders

2. Determine the appropriate illustration for your model aerator.

ASSEMBLY

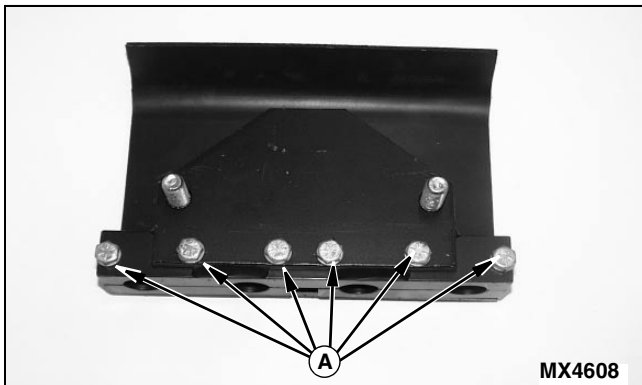
NOTE: There should be approximately 40 mm (1-1/2 in.) spacing between the turf guards.

Install nuts and washers on top side of turf guards.



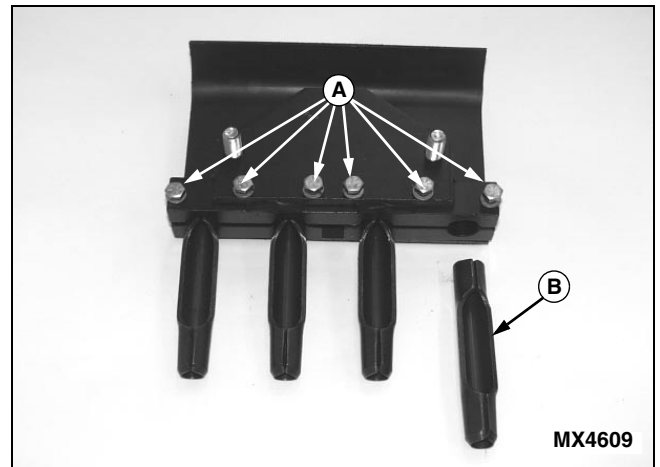
3. Attach turf guards (D) to the turf guard brackets using nuts, bolts, and washers (A) removed earlier. Make sure guards are installed in the correct order with the grooved side of each guard facing down. Do not tighten the hardware completely.

Install Tines



1. Loosen bolts (A) completely but do not remove from tine holders.

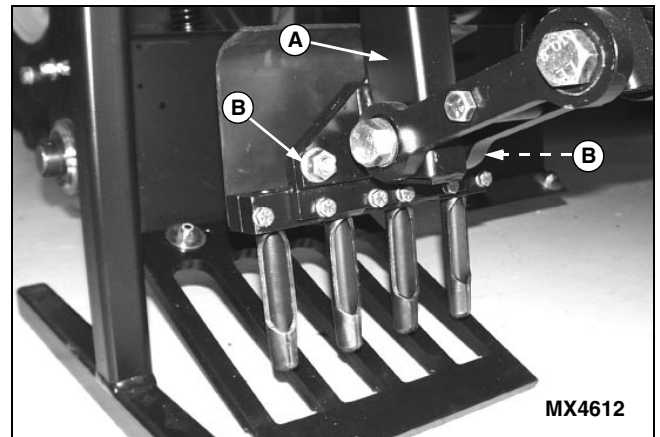
NOTE: Open-sided tines must be installed with the open side positioned on same side as bolt heads (A).



2. Insert round end of tines (B) inside the tine holder clamp halves with beveled tip to the outside. Push each tine up into the holder until firmly seated.

3. Tighten bolts (A) alternately to 35 N•m (26 lb-ft).

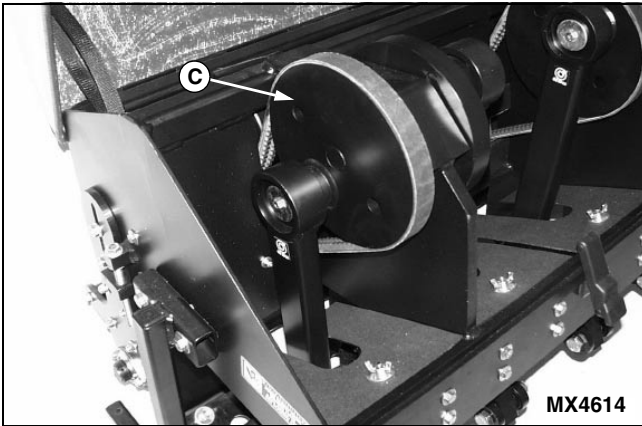
Install Tine Holders



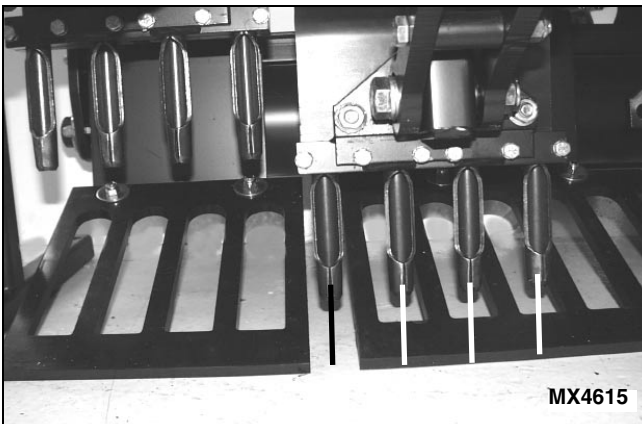
1. Attach a tine holder to the flanged mounting surface on each connecting rod (A) using flanged lock nuts (B) provided. Tighten the nuts to 156 N•m (115 lb-ft).

2. Unlatch and raise aerator hood.

ASSEMBLY



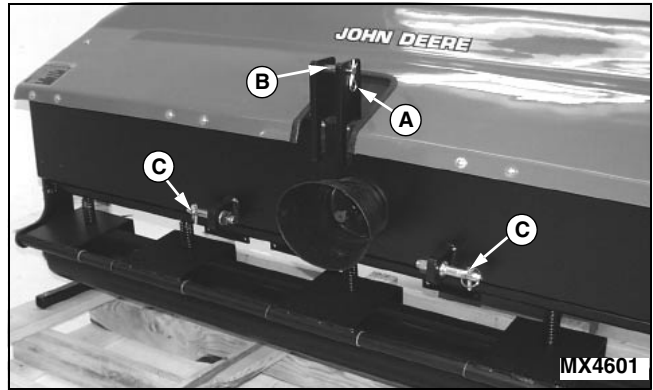
3. Turn each belt pulley (C) manually to lower its tine set as close as possible to the turf guard for proper alignment.



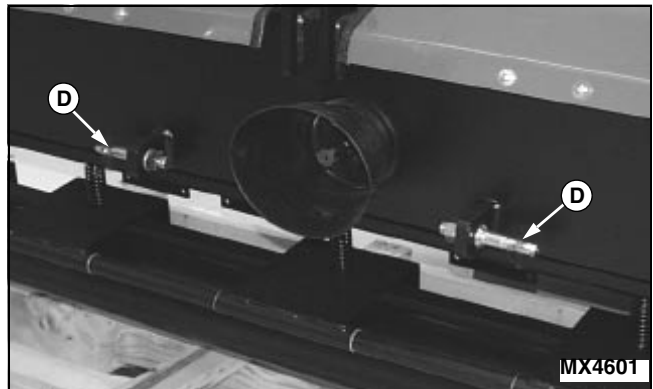
4. Adjust each turf guard so the tines are centered in the tine openings and in the spaces between the tine guards as shown. Tighten the turf guard attaching hardware completely after proper alignment.

Attach Aerator to Tractor

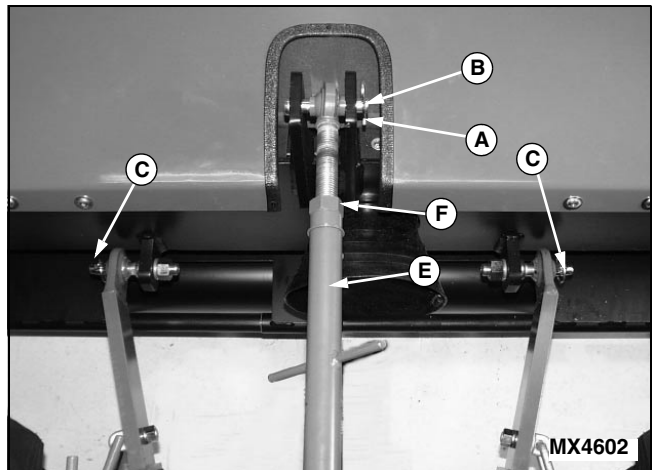
1. Prepare the 3-point hitch by loosening the sway links and adjustable lift link. (See your tractor Operator's Manual.)



2. Remove spring locking pin (A), drilled pin (B), and quick-lock pins (C) from aerator. Set the pins aside.



3. Slowly back tractor up to aerator so draft arms are aligned for connection to aerator pins (D). Raise hitch if necessary to align draft arms.
4. Park tractor safely. (See Parking Safely in the SAFETY section.)

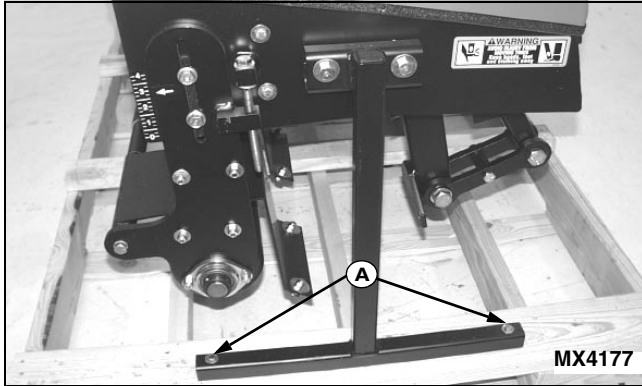


5. Slide draft arms onto aerator pins and secure with quick-lock pins (C).
6. Adjust the length of center link (E) as needed. Connect center link to aerator clevis with drilled pin (B) and spring locking pin (A).

ASSEMBLY

7. Tighten the center link and lock nuts (F) at both ends.
8. Adjust the sway links on the lower draft arms to minimize side-to-side sway. (See your tractor Operator's Manual.)

Remove Aerator from Shipping Pallet



1. Remove and discard hardware (A) securing the support leg at both sides of shipping pallet.
2. Start the engine.
3. Adjust the speed of drop/lock valve to provide a slow lowering speed for the aerator. (See your tractor Operator's Manual.)
4. Raise the aerator until the support legs are above the shipping pallet.
5. Drive the tractor forward until the aerator is off the pallet. Proceed to a firm, level surface to set the aerator.
6. Lower aerator slowly until the support stands are resting on the ground.
7. Close the speed of drop/lock valve completely. (See your tractor Operator's Manual.)
8. Park tractor safely. (See Parking Safely in the SAFETY section.)
9. Remove or continue installing the aerator as desired. (See the REMOVING or INSTALLING section.)

SPECIFICATIONS

Tractor Specifications

Minimum Tractor Requirements

AERCORE 1000	11 kW (15 hp)
AERCORE 1500	16.5 kW (25 hp)
AERCORE 2000	26.1 kW (35 hp)

Travel Speed

Aerating	2-4.8 km/h (1.2-3 mph)
Transport	24 km/h (15 mph)
PTO Speed (at Wide-Open Throttle)	540 rpm

Aerator Specifications

Weight

AERCORE 1000	392 kg (865 lb)
AERCORE 1500	499 kg (1100 lb)
AERCORE 2000	695 kg (1530 lb)

Height	99 m (39 in.)
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Width

AERCORE 1000	1.2 m (45.7 in.)
AERCORE 1500	1.7 m (65.5 in.)
AERCORE 2000	2.2 m (85.7 in.)

Coring Width

AERCORE 1000	0.95 m (37.5 in.)
AERCORE 1500	1.5 m (57.5 in.)
AERCORE 2000	1.9 m (77.5 in.)

Coring Depth (Maximum)	100 mm (4 in.)
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Hole Pattern (Variable Depending on Tractor Speed)

4X Tine Holder	61 mm x 50 mm to 127 mm (2.4 in. x 2.0 in. to 5.0 in.)
3X Tine Holder	81 mm x 50 mm to 127 mm (3.2 in. x 2.0 in. to 5.0 in.)

Gear Box Specifications

Rated Input	540 rpm
Rated Input Power	22 kw (30 hp)
Gear Oil Capacity	1 L (1.1 qt)
Weight	22 kg (48.5 lb)

SPECIFICATIONS

Tine Sizes

Tubular	10 mm (3/8 in.)
Tubular	12.7 mm (1/2 in.)
Tubular	16 mm (5/8 in.)
Open Side	19 mm (3/4 in.)
Solid	16 mm (5/8 in.)
Mini-Tine (Open Side)	6.4 mm (1/4 in.)
Mini-Tine (Solid)	6.4 mm (1/4 in.)

Aerator Productivity (Using 4X Tine Holders)

AERCORE 1000

61 x 50 mm (2.4 x 2.0 in.)	1859 sq m/hr (20013 sq ft/hr)
61 x 64 mm (2.4 x 2.5 in.)	2324 sq m/hr (25016 sq ft/hr)
61 x 76 mm (2.4 x 3.0 in.)	2789 sq m/hr (30020 sq ft/hr)
61 x 101 mm (2.4 x 4.0 in.)	3718 sq m/hr (40026 sq ft/hr)
61 x 111 mm (2.4 x 4.38 in.)	4069 sq m/hr (43795 sq ft/hr)
61 x 127 mm (2.4 x 5.0 in.)	4648 sq m/hr (50033 sq ft/hr)

AERCORE 1500

61 x 50 mm (2.4 x 2.0 in.)	2789 sq m/hr (30020 sq ft/hr)
61 x 64 mm (2.4 x 2.5 in.)	3486 sq m/hr (37525 sq ft/hr)
61 x 76 mm (2.4 x 3.0 in.)	4183 sq m/hr (45030 sq ft/hr)
61 x 101 mm (2.4 x 4.0 in.)	5578 sq m/hr (60039 sq ft/hr)
61 x 111 mm (2.4 x 4.38 in.)	6102 sq m/hr (65693 sq ft/hr)
61 x 127 mm (2.4 x 5.0 in.)	6972 sq m/hr (75049 sq ft/hr)

AERCORE 2000

61 x 50 mm (2.4 x 2.0 in.)	3718 sq m/hr (40026 sq ft/hr)
61 x 64 mm (2.4 x 2.5 in.)	4648 sq m/hr (50032 sq ft/hr)
61 x 76 mm (2.4 x 3.0 in.)	5578 sq m/hr (60040 sq ft/hr)
61 x 101 mm (2.4 x 4.0 in.)	7436 sq m/hr (80052 sq ft/hr)
61 x 111 mm (2.4 x 4.38 in.)	8138 sq m/hr (87590 sq ft/hr)
61 x 127 mm (2.4 x 5.0 in.)	9296 sq m/hr (100066 sq ft/hr)

Recommended Lubricants

Gear Oil John Deere GL-5 80W-90 Gear Lubricant

Grease*

..... John Deere MOLY HIGH TEMPERATURE EP GREASE
..... John Deere HIGH TEMPERATURE EP GREASE

SPECIFICATIONS

..... John Deere GREASE GARD™

*All bearings used in the aerator are sealed bearings and do not require grease.
(Specifications and design subject to change without notice.)

Sound Measurements

Sound Power Level According to 79/113/EEC (with all the amendments)

AERCORE® 1000	99 dB(A) at 540 rpm PTO speed
AERCORE® 1500	99 dB(A) at 540 rpm PTO speed
AERCORE® 2000	105 dB(A) at 540 rpm PTO speed

DECLARATION OF CONFORMITY

1000, 1500 and 2000 Aerator

**Deere & Company
John Deere Road
Moline, IL 61265-8098 USA**

I, the undersigned:

declare that these machines

Type **1000, 1500 and 2000 Aerator**

Serial Number **See Product Identification Page**

comply with the applicable requirements of:

Machine Directive **98/37/EEC (89/392/EEC)**

Done at:

John Deere Horicon Works **30 March 2001**



**PAUL A. MEYER
VICE PRESIDENT, MANUFACTURING AND PRODUCT DEVELOPMENT**

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NOTES

SERVICE STATEMENT

John Deere Parts



We help minimize downtime by putting genuine John Deere parts in your hands in a hurry.

That's why we maintain a large and varied inventory - to stay a jump ahead of your needs.

Well-Trained Technicians



School is never out for John Deere service technicians.

Training schools are held regularly to be sure our personnel know your equipment and how to maintain it.

Result? - Experience you can count on!

The Right Tools



Precision tools and testing equipment enable our Service Department to locate and correct troubles quickly ... to save you time and money.

Prompt Service



Our goal is to provide prompt, efficient care when you want it and where you want it.

We can make repairs at your place or at ours, depending on the circumstances: see us, depend on us.

JOHN DEERE SERVICE SUPERIORITY: We'll be around when you need us.

