

RZI 700 Root Zone Injection System

(Serial No. 010101 –)

OPERATOR'S MANUAL

**John Deere
Worldwide Commercial and
Consumer Equipment Division
OMMT4057 E7**

**North American Version
Litho in U.S.A
English**

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Horicon, WI
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SAFETY SIGNS

Safety-Alert Symbol

Read and recognize safety information. Be alert to the potential for personal injury when you see this safety-alert symbol.

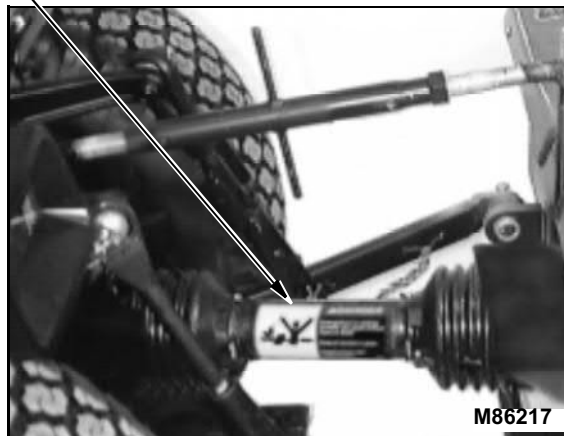
On your machine safety labels, the words DANGER, WARNING, and CAUTION are used with this safety-alert symbol. DANGER identifies the most serious hazards. In this manual, the word CAUTION and this symbol call attention to safety messages.



Machine Safety Labels



MT3980



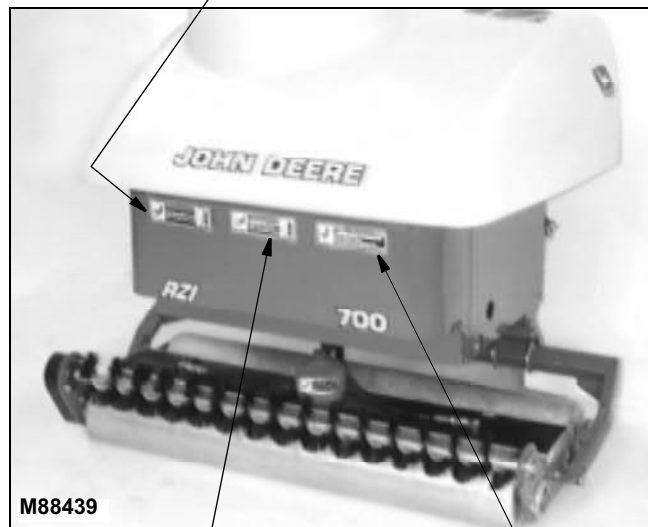
M86217

SAFETY SIGNS



(On rear panel and on frame under rear panel.)

MT3980

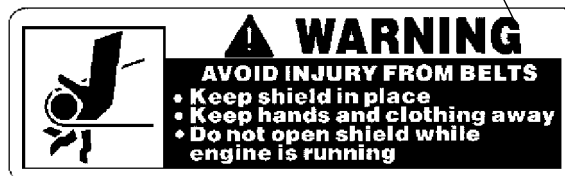


M88439



(On rear panel and on frame under rear panel.)

MT3979



(On rear panel and on frame under rear panel.)

M86253

SAFETY SIGNS

⚠ CAUTION

Empty tank before removing attachment

Winterize system when finished each day when operating in near freezing conditions.

Check system is at 0 PSI (0 kPa) before starting.

MT3977

(On both sides of tank.)

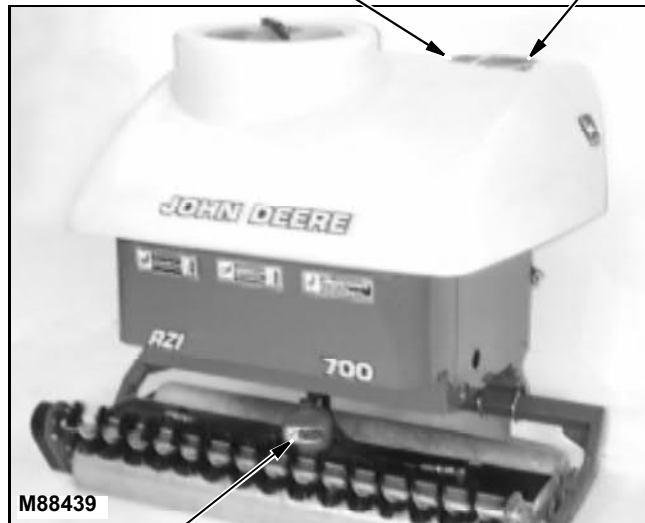
MT3977

⚠ WARNING

- To avoid injury, read operator's manual
- Ballast power unit per operator's manual
- Know location and function of all controls
- Keep all shields in place
- Stay clear of power driven parts
- Never carry riders
- Keep children and pets a safe distance away from machine
- Remove attachment from tractor on a level, flat hard surface
- Before leaving machine:
 - Stop engine
 - Set park brake
 - Lower or block up machine
 - Remove key


(On both sides of tank.)

MT3975



M88439

⚠ WARNING

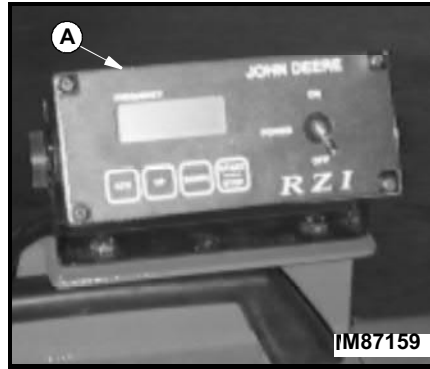
 To avoid injury from pressurized vessel, used dried nitrogen gas only. Read the operator's manual for instructions.

MT3978

MT3978

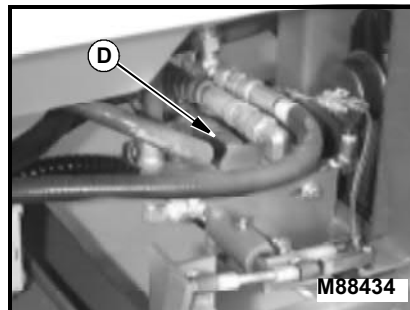
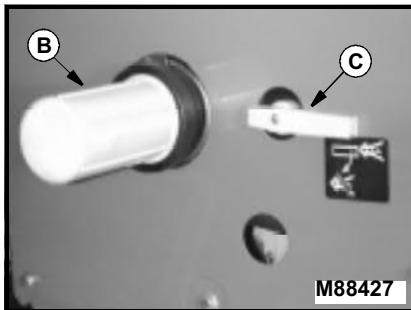
CONTROLS

Controls



A - Electronic DisplayChanges injector frequency rate

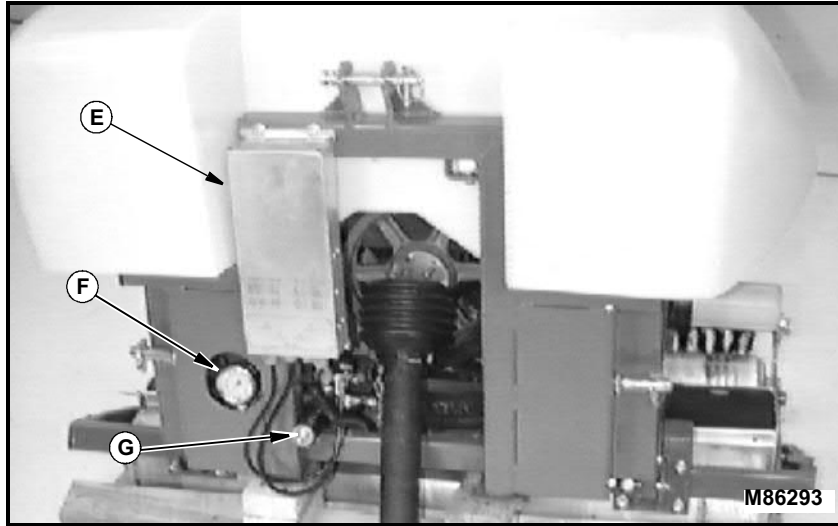
Component Location



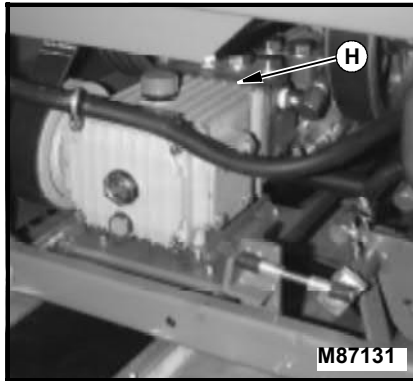
- B - Line Strainer Strains tank solution
- C - Tank On/Off Valve..... Controls solution flow
- D - Bypass Valve Allows solution back to tank
(right side panel removed)

CONTROLS

Component Location



- E - Controller..... Controls injection frequency**
- F - Pressure GaugeIndicates pressure in system**
- G - Pressure RegulatorControls system pressure**



- H - Pump (One of Two) Pumps solution**
- I - Accumulator.....Provides high pressure stability**

PREPARING THE TRACTOR

Tractor Requirements

NOTE: The RZI 700 Root Zone Injection System is compatible with the John Deere 955 and 1070 compact utility tractors.

Needed Requirements For ALL Tractors

- 22 kW (30 hp) minimum tractor.
- Capable of maintaining minimum speed of 1.6 km/h (1.0 mph). The optional speed control kit is recommended for the John Deere 955 utility tractor or any tractor with a hydro transmission.
- Category I, 3-point hitch.
- 540 rpm live tractor PTO.
- Correct ballast.

Ballasting Requirements



CAUTION: Help to avoid bodily injury. Proper front tractor ballast is required when installing the RZI to any tractor to provide stability. Refer to your tractor operator manual for ballasting information.

Your 955 or 1070 compact utility tractor **MUST** be equipped with the standard front weight kit as well as the optional weight kit to provide a total of NINE suitcase weights* [171.5 kg (378 lb)].

*Standard John Deere suitcase weight

INSTALLING

SAFETY

Park Vehicle Safely

- Stop vehicle on a level surface, not on a slope.
- Disengage PTO
- Engage the park brake.
- STOP the engine.
- Remove the key.
- Before you leave the operator's seat, wait for engine and all moving parts to STOP.

Connecting Draft Links

IMPORTANT: Proper ballast is required before operating the RZI. (See Ballasting Requirements in the PREPARING THE TRACTOR section.) DO NOT fill the tank until the RZI unit is attached to the tractor.

1. Back tractor to RZI so hitch pins are aligned with the RZI.



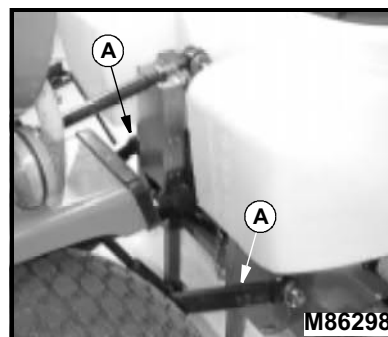
CAUTION: Before working around hitch:

- Stop engine.
- Lock park brake.

2. Make sure PTO is disengaged.
3. Engage parking brake.
4. STOP engine and remove key.
5. Wait for engine and all moving parts to STOP before leaving operator's seat.

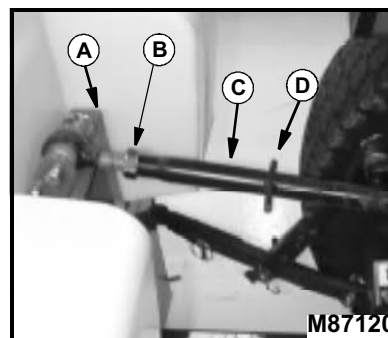
INSTALLING

6. Connect right and left draft links (A) to hitch pins.
7. Install quick-lock pins to hitch pins to secure draft links.



Connecting Center Link

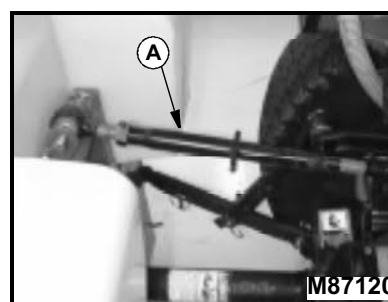
1. Connect center link (C) to mast bracket (A) and fasten with headed pin and quik-lock pin.
2. Turn adjusting link (D) to tighten the link. Do not overtighten.
3. Tighten locking nut (B) to adjusting link to lock center link into position.



Leveling The RZI Unit

NOTE: The RZI must be level when at operating height.

1. Raise the RZI to TRANSPORT position and retract the storage legs. (See Using The Park Stands in the OPERATING section.)
2. Lower the unit to the ground.
3. Adjust center link (A) to assure the unit is leveled correctly.



INSTALLING

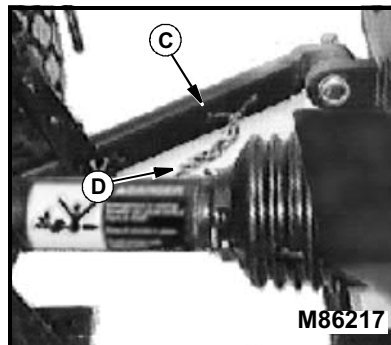
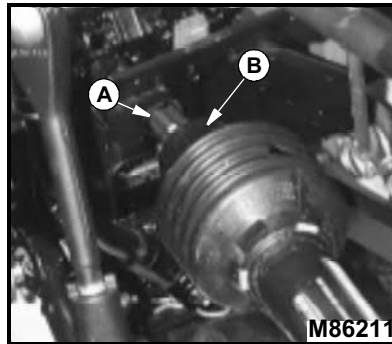
Connecting PTO Powershaft



CAUTION: Help prevent bodily injury. Keep all PTO shields in place and connect shield chains to draft links to prevent shields from rotating during operation.

NOTE: Install the PTO shaft with the unit resting on the ground.

1. Connect powershaft to rear tractor PTO shaft (A).
2. Slide powershaft forward as far as it will go.
3. Pull back on collar (B) to fasten powershaft in place.
4. Slide powershaft back and forth to make sure powershaft is properly locked.
5. Connect shield safety chain (D) from powershaft to welded clip (C) on draft link or to tractor to prevent the shield from rotating.
6. Lubricate all grease points before using. (See SERVICE section for locations.)



IMPORTANT: After installation, check shaft length to ensure the tube will not be crushed as the unit is raised. Check to make sure the drive shaft remains together as the unit is raised.

INSTALLING

Adjusting Sway Chains

NOTE: Instructions to adjust the sway chains are written for the 3-point hitch installed on 55 Series Compact Utility tractors. Refer to the operator manual for your tractor for the correct installation procedure if different.

1. Adjust sway chains on lower draft arms of 3-point hitch to minimize side-to-side sway to a maximum of 25 mm (1 in.) on each side.

2. To adjust sway chains:

- Remove yokes (A) from lower draft arms.
- Thread eyebolts (B) into yokes as needed and install yokes to draft arms.
- If sway cannot be properly adjusted by threading eyebolts, refer to tractor operator manual.

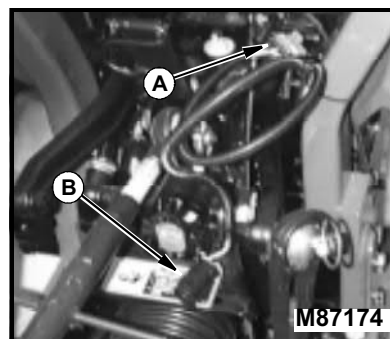


Connecting Power Supply

IMPORTANT: Be sure harness is not in a pinch point area when making connections.

NOTE: See the ASSEMBLY section for instructions on mounting the display and installing the wiring harness.

1. Install the harness 5-pin connector (A) to the display.
2. Plug the harness 7-pin connector (B) to the controller on the RZI unit.



INSTALLING

Installation Checklist

NOTE: After assembling and installing the RZI unit to the tractor, check it over for field-readiness before operating.

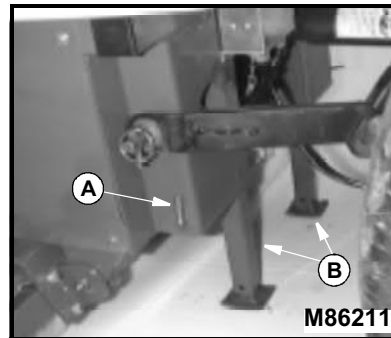
1. Operate the three-point hitch up and down to ensure that tractor implement connections do not cause interference.
2. When raising the unit, check the position of the drive shaft. The unit should not raise beyond 3/4 lift height position. Disengage the PTO before raising the unit beyond 3/4 position to avoid damaging the drive shaft.
3. When raising the unit, observe electrical cables and connections. Make sure there are no potential wear or pinch points that might damage electrical cables or connections.
4. Make sure all belts are tight.
5. Check pump oil level. (See SERVICE section.)

REMOVING

Removing RZI Unit From Tractor

IMPORTANT: DO NOT remove the RZI unit from the tractor with a full solution tank. Empty the solution tank before removing the unit from the tractor. (See Filling and Draining Solution Tank in the OPERATING section.)

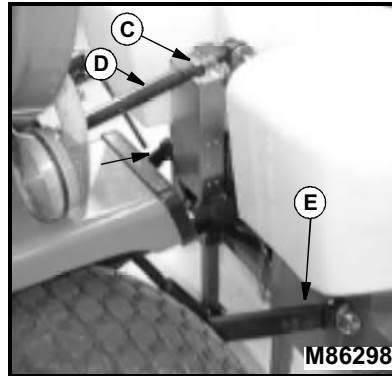
1. Relieve pressure in system before removing unit from tractor.
 - Disengage the PTO.
 - Raise unit so the roller assembly is off the ground.
 - Check the pressure gauge to make sure the system is at 0 kPa (0 psi).
 - (If pressure does not drop completely, see Relieving System High Pressure in the SERVICE section.)
2. Stop vehicle on a hard, level surface, not on a slope.
3. Engage the park brake.
4. Raise unit off the ground.
5. Pull spring pin (A) on side of unit to allow parking stand (B) to drop. Slide stand up and down to allow spring pin to lock in place. Repeat for other parking stand.



6. Lower unit slowly to the ground so that it rests on the rollers and parking stands.
7. Disconnect safety chains from draft links and remove the PTO shaft from the tractor.

REMOVING

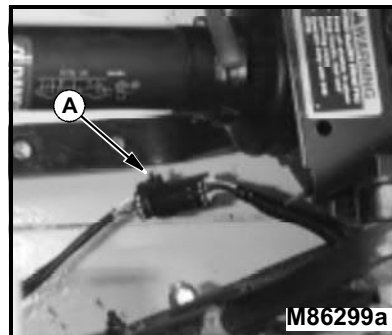
8. Loosen locking nut (C) and disconnect the center link (D) from the RZI unit. Disconnect the draft links (E) from the RZI unit.



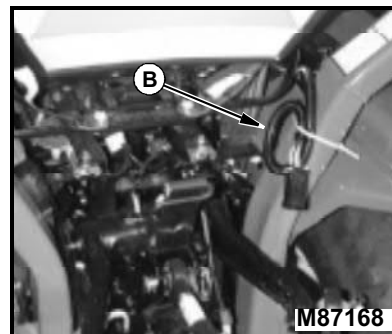
IMPORTANT: Disconnect the electrical harness from the RZI unit to the display before driving the tractor away from the parked unit.

Disconnecting The Power Supply

1. Shut off the display by turning the toggle switch to OFF.
2. Disconnect the harness connections to the battery. Wrap metal connectors with electrical tape.
3. Disconnect the controller power connection (A) on the RZI unit from the main harness.
4. Install dust caps onto harness connections.



5. Roll up harness (B) from controller and secure to the ROPS frame. Avoid storing the harness on the tractor in a pinch point area that might damage the cables.





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OPERATING

MACHINE SAFETY



Operate Safely

- Check tractor brake action before you operate. Adjust or service brakes as necessary.
- 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.
- If you hit or run over an object, stop the machine and inspect it. Make repairs before you operate. Keep machine 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.
- DO NOT let anyone, especially children, ride on machine or vehicle.
- DO NOT let children or an untrained person operate machine.
- Do not wear radio or music headphones while operating the machine. Safe operation requires your full attention.
- Do not put nozzle tip or other parts to your lips to blow out dirt. Use compressed air.

Operator Training Required

- Study operation section of this manual before operating the machine.
- Operate machine in an open, unobstructed area under the direction of an experienced operator.
- Learn the use of all controls.

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