JOHN DEERE
WORLDWIDE COMMERCIAL & CONSUMER EQUIPMENT DIVISION

Sprayer Attachment for ProGator HD200

OMTCU17727 E3

OPERATOR'S MANUAL

JOHN DEERE

Export Versione
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.

If you have an attachment, use the safety and operating information in the attachment operator's manual along with the machine operator's manual to operate the attachment safely and correctly.

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 (------), 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 HD200 sprayer is designed solely for use in customary lawn and turf spraying operations. 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 machine 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.

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

Product Compatibility

The Model HD200 Sprayer Attachment is compatible with PROGATOR® utility vehicles.

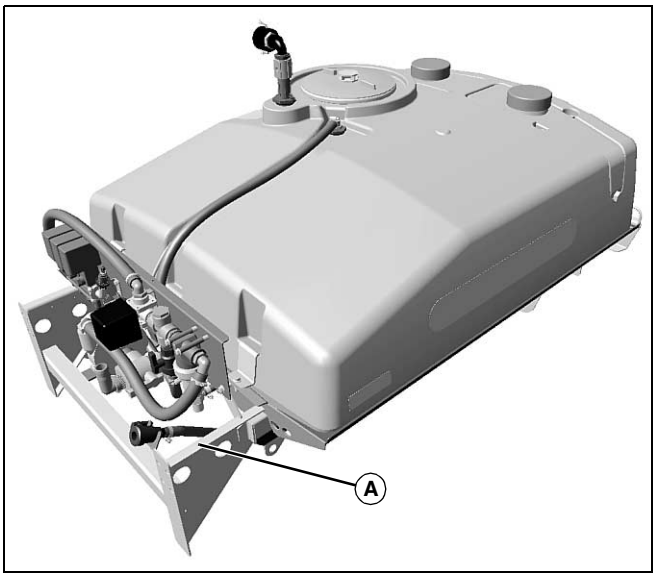
Record Identification Numbers

Sprayer Attachment

Serial No. (030001-)

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

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



MX19912

DATE OF PURCHASE:

_____

DEALER NAME:

_____

DEALER PHONE:

_____

PRODUCT SERIAL NUMBER (A):

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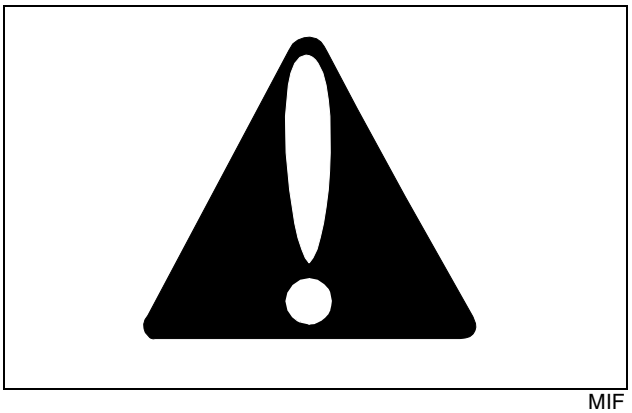
OMTCU17727 E3 - English

Pictorial Safety Signs



MIF

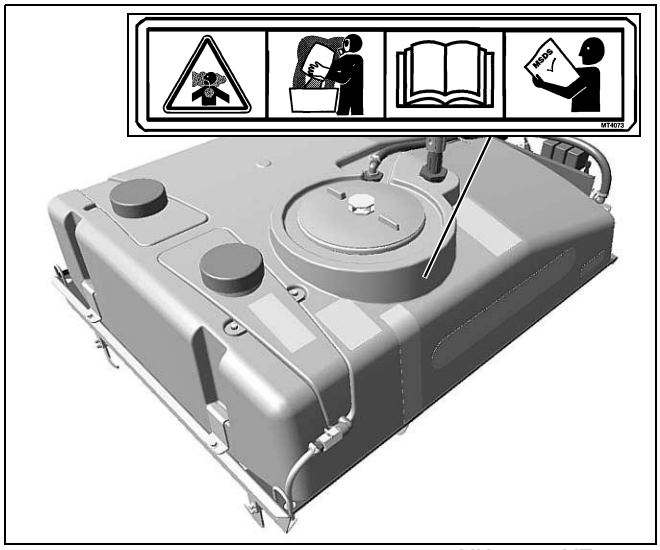
At several important places on this machine safety signs are affixed intended to signify potential danger. The hazard is identified by a pictorial in a warning triangle. An adjacent pictorial provides information how to avoid personal injury. These safety signs, their placement on the machine and a brief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

Danger - Avoid Injury from Contaminated Water

MX19913, MT4295

To avoid injury, do not drink water from this container. It may be contaminated. Use for rinse/wash purposes only.

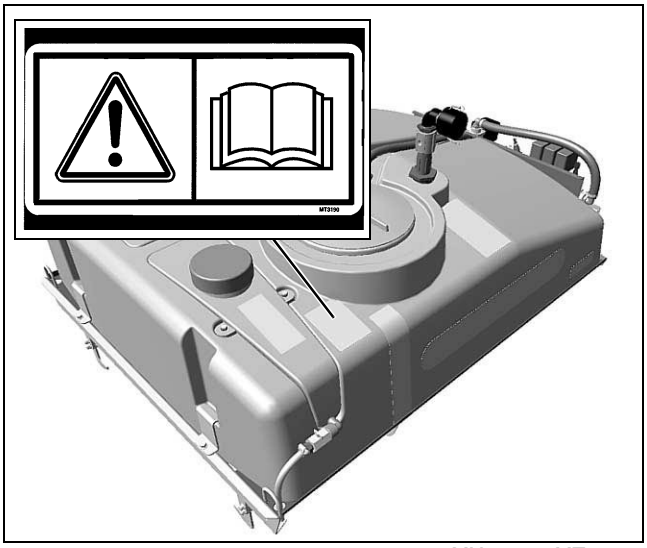
Warning - Avoid Injury from Chemical Hazards



MX19913, MT4072

To avoid injury from chemical hazards, wear protective clothing. Read and follow chemical manufacturer's labels and instructions.

Caution - Avoid Injury Read Operator's Manual



MX19913, MT4074

To avoid injury, read operator's manual.

Empty tank before removing attachment.

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

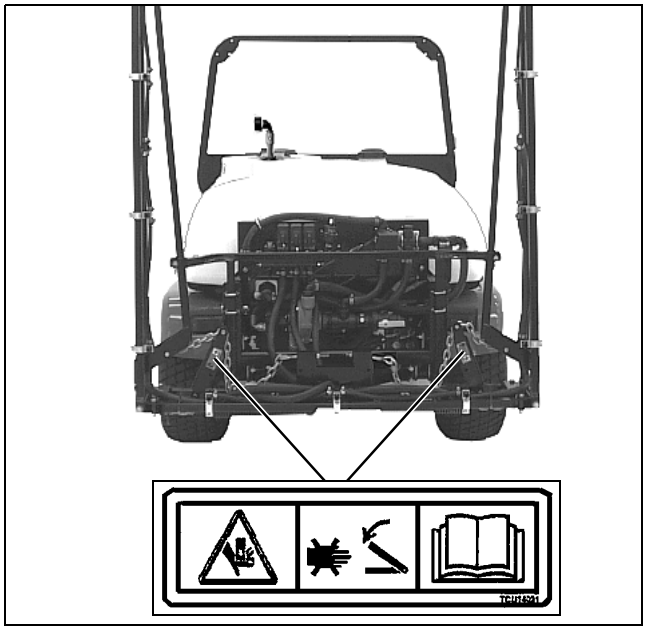
Check system is at 0 PSI (0 kPa) before starting.

Warning - General Read Operator's Manual

MX19913, MT3190

- 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 driving parts.
- Never carry riders.
- Keep children and pets a safe distance away from machine.
- Remove attachment from power unit on a level, flat, hard surface.
- Before leaving machine:
- • Stop engine.
- • Set park brake.
- • Lower or block up machine.
- • Remove key.

Warning - Avoid Injury from Pinch Point

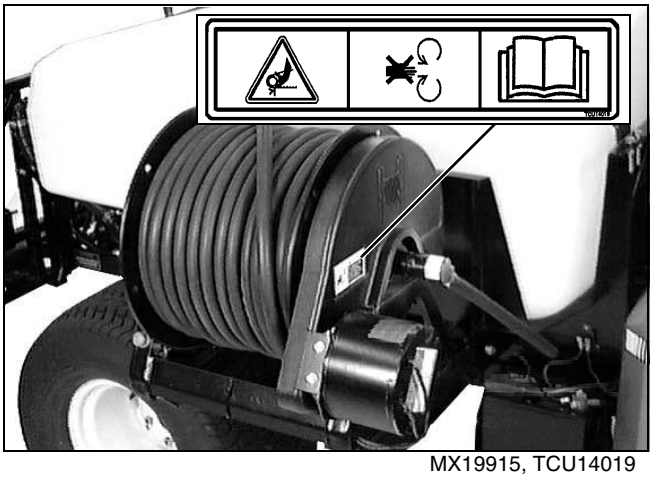


MX19914, TCU14021

Picture Note: Optional electric actuator kit shown.

To avoid injury, keep hands and fingers away from this area.

Caution - Avoid Injury from Being Crushed or Cut

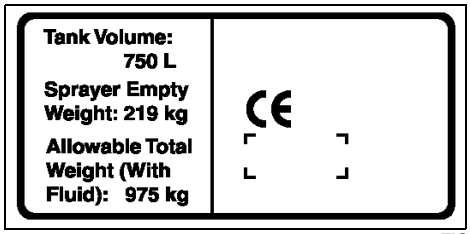


MX19915, TCU14019

Picture Note: Optional electric hose reel kit shown.

Moving parts can crush and cut. Keep hands clear. Do not operate with guards removed.

CE Certification and Specification Label



TCU18622

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

Operator Training Required

- The owner of the machine is responsible for training the users and mechanics of the machine.
- The owner/user can prevent and is responsible for accidents or injuries occurring to themselves, other people, or property.
- Do not allow operation or service of the machine by untrained adults.
- Do not let children operate the machine. Local regulations may restrict the age of the operator.
- The operator or user is responsible for accidents or hazards occurring to other people or their property.
- All drivers should seek and obtain professional and practical instruction. Such instruction should emphasize:
    - the need for care and concentration when working with ride-on machines.
    - control of a ride-on machine sliding on a slope will not be regained by the application of the brake.
- The main reasons for loss of control are:
    - insufficient wheel grip;
    - being driven too fast;
    - inadequate braking;
    - the type of machine is unsuitable for its task;
    - lack of awareness of the effect of ground conditions, especially slopes;
    - incorrect hitching and load distribution.
- Read the operator's manual and study the safety and operation sections before operating the machine.
- If the operator of the machine cannot read or understand this manual, it is the machine's owner responsibility to explain this material to the operator. This publication is available in other languages.
- Operate the machine in an open, unobstructed area under the direction of an experienced operator.
- Learn the use of all controls.
- Operator experience is required to learn the moving, stopping, turning and other operating characteristics of the machine.

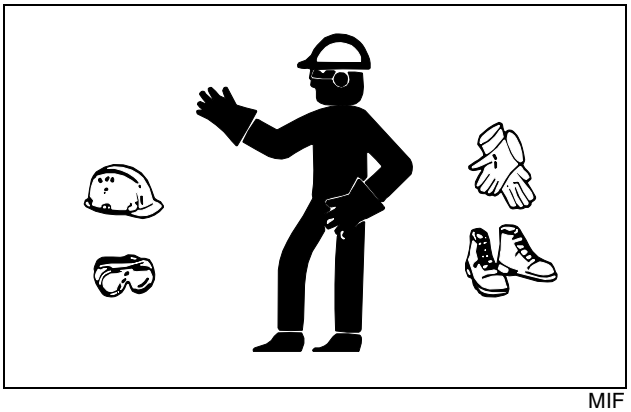
Operating Safely

- Only allow responsible adults, who are familiar with the instructions to operate the machine. Local restrictions may restrict the age of the operator.
- Inspect machine before you operate. Be sure hardware is tight. Repair or replace damaged, badly worn, or missing parts. Replace faulty silencers. Be sure guards and shields are in good condition and fastened in place. Make any necessary adjustments before you operate.
- Be sure all drives are in neutral and parking brake is locked before starting engine. Only start engine from the operator's position.
- Check brake action before you operate. Adjust or service brakes as necessary.
- Stop machine if anyone enters the area.
- If you hit an object or if abnormal vibration occurs, 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.
- Use only accessories and attachments approved by the manufacturer of the machine. Keep safety labels visible when installing accessories and attachments.
- Do not operate machine if you are under the influence of drugs or alcohol.
- Check before each use that operator presence controls are functioning correctly. Test safety systems. Do not operate unless they are functioning correctly.
- Do not wear radio or music headphones. Safe service and operation require your full attention.
- Disengage drive to attachments when transporting or not in use.
- When machine is left unattended, stored, or parked, lower the aerati0n head unless a positive mechanical lock is used.

Parking Safely

1. Stop machine on a level surface, not on a slope.
2. Disengage Power Take-Off (PTO).
3. Lower attachments to the ground.
4. Lock the park brake.
5. Stop the engine.
6. Remove the key.
7. Wait for engine and all moving parts to stop before you leave the operator's seat.
8. Close fuel shut-off valve, if your machine is equipped.
9. Disconnect the negative battery cable or remove the spark plug wire (for gasoline engines) before servicing the machine.

Wear Appropriate Clothing



MIF

- Wear close fitting clothing and safety equipment appropriate for the job.
- Always wear safety goggles or safety glasses with side shields when operating the machine.
- Wear a suitable protective device such as earplugs. Loud noise can cause impairment or loss of hearing.

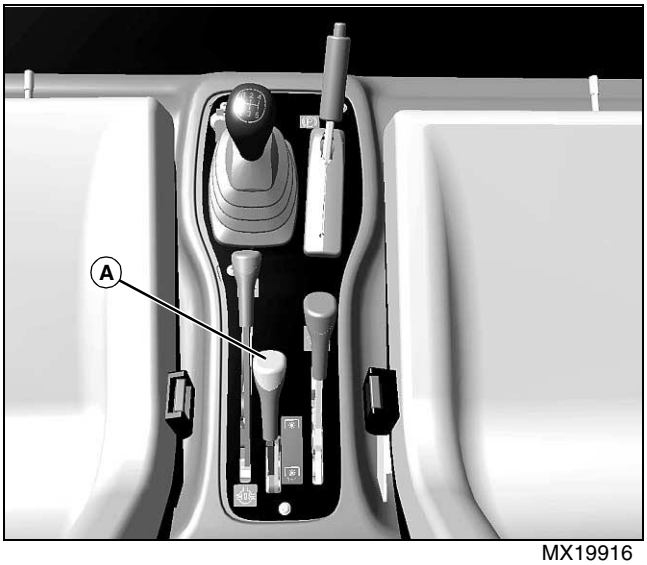
Practice Safe Maintenance

MIF

- Only qualified, trained adults should service this machine.
- Understand service procedure before doing work. Keep area clean and dry.
- Do not operate the engine in a confined space where dangerous carbon monoxide fumes can collect.
- 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.
- Disconnect battery or remove spark plug wire (for gasoline engines) before making any repairs.
- Before servicing machine, carefully release pressure from components with stored energy such as hydraulic components.
- Securely support any machine elements that must be raised for service work. Use jack stands or lock service latches to support components when needed.
- Never run engine unless park brake is locked.
- Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Replace all worn or damaged safety and instruction decals.
- To prevent fires, remove any buildup of grease, oil, or debris from the machine, especially the engine compartment.
- Charge batteries in an open, well-ventilated area, away from sparks. Unplug battery charger before connecting or disconnecting from the battery. Wear protective clothing and use insulated tools.
- Do not modify machine or safety devices. Unauthorized modifications may impair its function and safety.

Preparing the Machine

Machine Requirements



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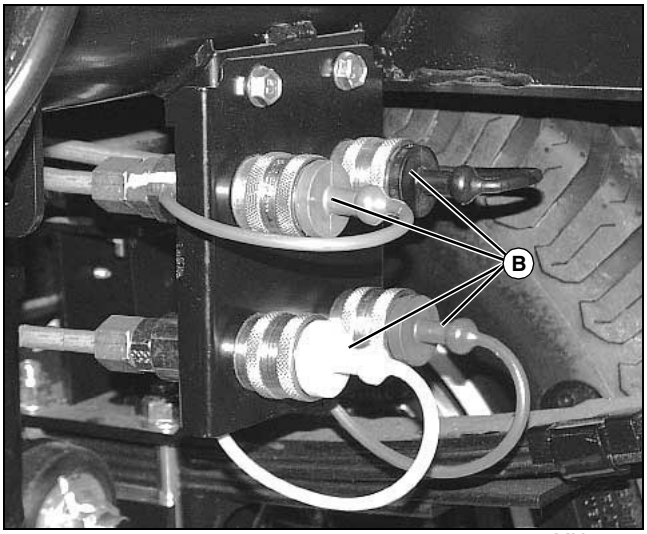


MX2928

Picture Note: Some machines may be equipped with two-coupler auxiliary hydraulic kit. Four-coupler auxiliary hydraulic kit shown.

Your machine must be equipped with optional Auxiliary Hydraulic Kit for operation of the sprayer pump. If machine is equipped with PTO control lever (A), four quick-couplers (B) at the rear of the machine, an auxiliary tank, and oil cooler, the Auxiliary Hydraulic Kit is installed. If necessary, see you John Deere dealer to order kit.

It is recommended your machine also be equipped with optional throttle/governor control kit to help maintain consistent travel speed over varying types of terrain. Uncontrolled machine RPM may result in uneven spray coverage.

1. Park machine safely.

NOTE: Sprayer must be installed using an overhead lifting device. Park machine safely.

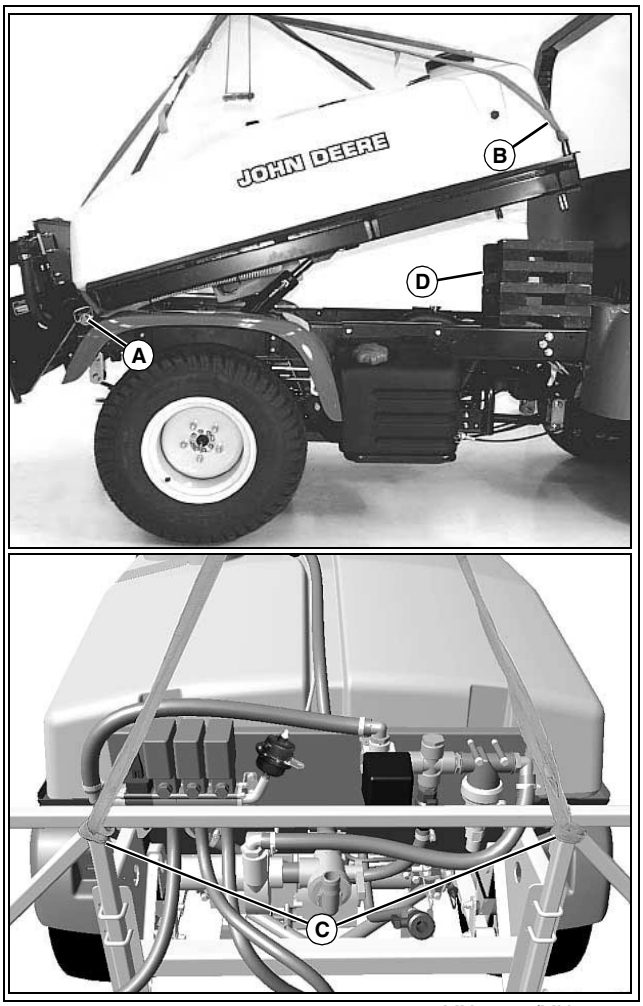
2. Ensure sprayer tank is empty to help reduce and balance load.
3. Lock boom wings in the upright position.
4. Ensure lift cylinder lines are properly connected to hydraulic quick-couplers at rear of machine.
5. Extend cylinder rod 25-30 cm (10-12 in.).
6. Remove pivot pins at rear of machine frame.
7. Remove lift cylinder connecting pin.

Install Sprayer Tank

CAUTION: Avoid injury! Avoid crush injury or death!

The sprayer must be installed using a safe lifting device such as an overhead hoist. Ensure hoist, straps, and chains are adequate lift capacity and in good condition.

Do not allow lift straps or chains to contact or interfere with plumbing components when hoisting.



MX2956a/MX19921

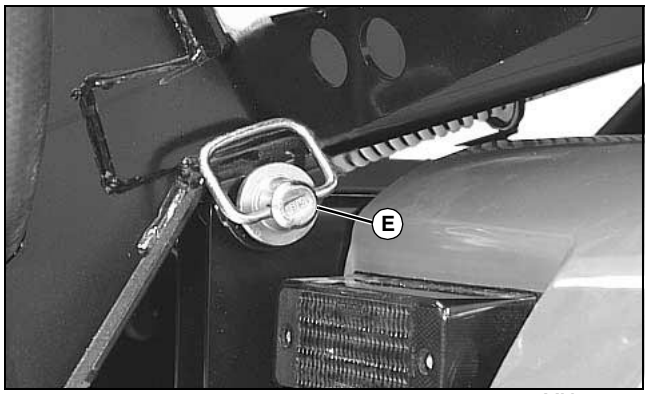
1. Install lift straps or chains to sprayer so unit is balanced upon hoisting. Do not directly connect to rear mounting holes (A).

2. Attach lift strap to lift loops (B) at front of sprayer frame.

3. Secure straps around vertical supports (C) to prevent slippage and make sure U-bolts on boom center frame are tightened completely.

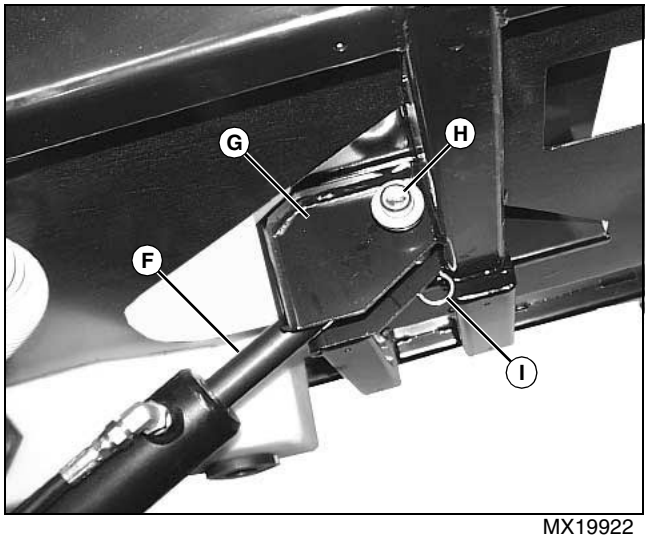
4. Install safety stand (D) between machine frame and sprayer frame.

5. Lift the tank/frame into position over machine frame as shown.



MX19928

6. Align mounting holes at rear of machine and install pivot pins (E) as shown. Secure pivot pins with quick-lock pins.

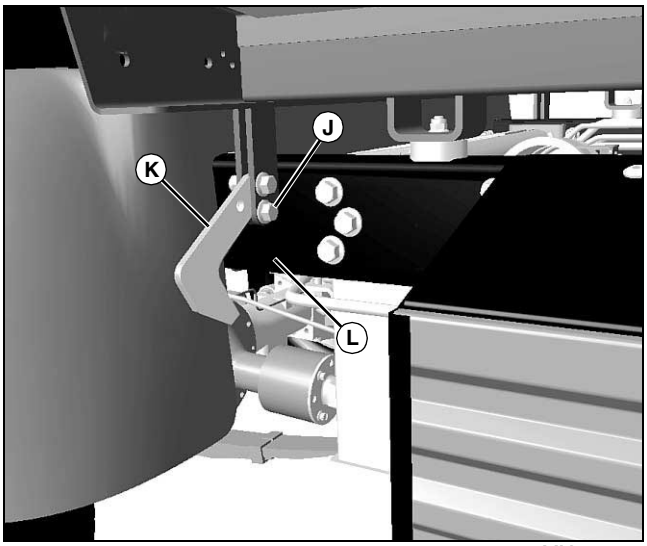


MX19922

7. Align hole in cylinder rod (F) with hole in clevis (G). Install connecting pin (H), and secure with M26 flat washer (not shown) and spring locking pin (I).

8. Remove safety stand from between tank and machine frame.

9. Disconnect hoist from sprayer and completely lower tank using the lift cylinder lever.

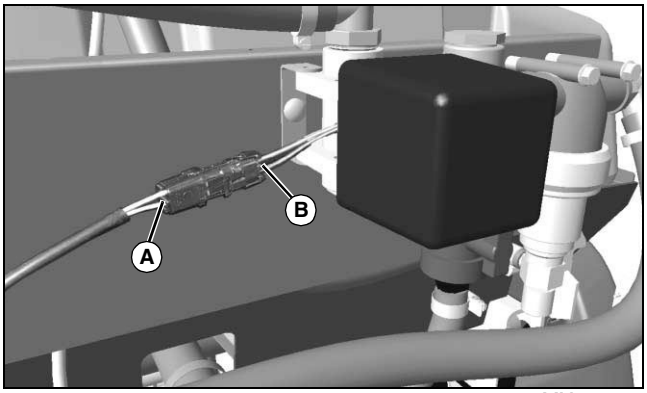


MX19923

Picture Note: Left side clamp shown.

10.Remove lower hardware (J) from sprayer frame clamps (K). Allow clamps to pivot downward and hook under the machine frame (L). Install the lower hardware to secure clamps in the locked position.

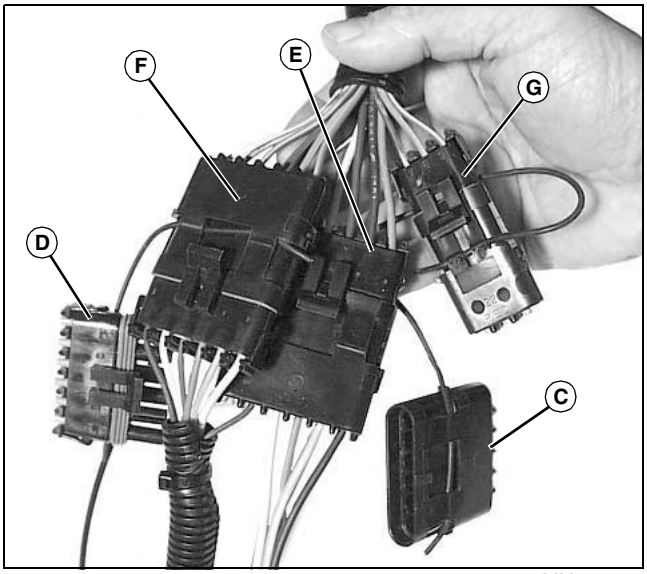
Connect Rear Wiring Harness



MX19926

1. Connect purple and green rear harness leads (A) to red and black leads (B) from pressure regulating valve.

NOTE: The three-wire connector (G) on the front harness is for use with optional autorate controller. The two-wire connectors (yellow/pink and orange/ purple) are for optional electric boom actuators.



MX30010

2. Remove the storage caps (C)(D) from the large male (E) and female (F) plugs at the rear of the front harness.

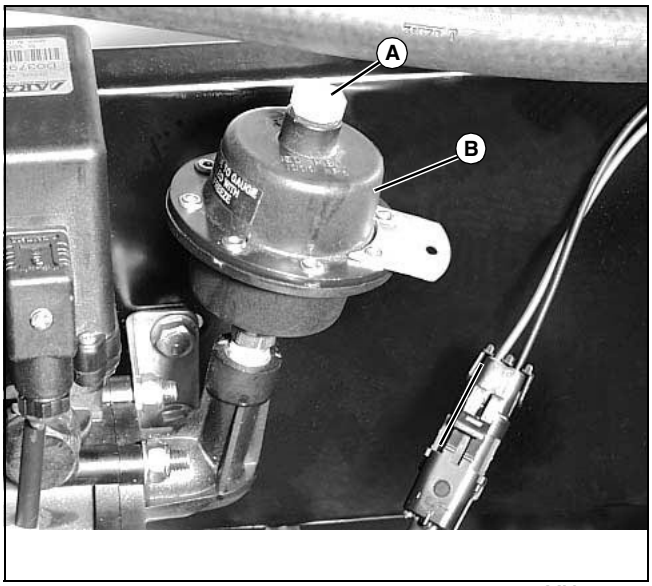
3. Connect the large male and female plugs from the rear harness to the corresponding large plugs from the front harness.

4. If equipped with optional sprayer equipment, make all necessary electrical and hose connections at this time. See installation instructions provided with your optional equipment.

5. If not equipped with optional sprayer equipment, route the excess and unused sprayer harness leads behind back panel below solenoid manifold and secure with tie straps provided.

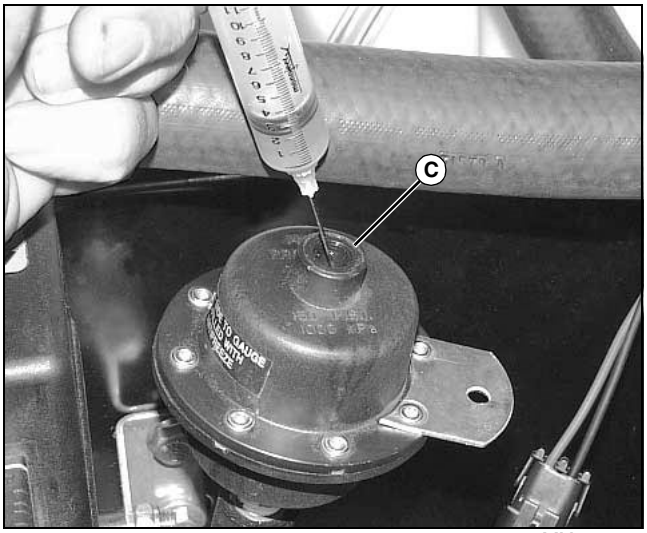
Fill and Connect Pressure Tube

1. Locate pressure tube, stored with front harness, and route to isolator.



MX30034

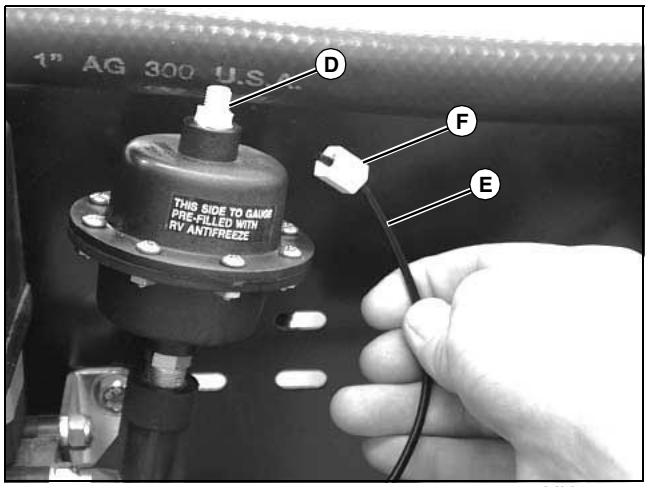
2. Remove storage plug (A) from isolator (B) and place in plastic storage bag for future use.



MX30035

3. Add RV anti-freeze to isolator port (C) with syringe or other method, allowing fluid to displace any air in isolator. Fill to top of port.

4. Remove storage cap (not shown) from male compression fitting on pressure tube and place in plastic storage bag with isolator storage plug for future use.

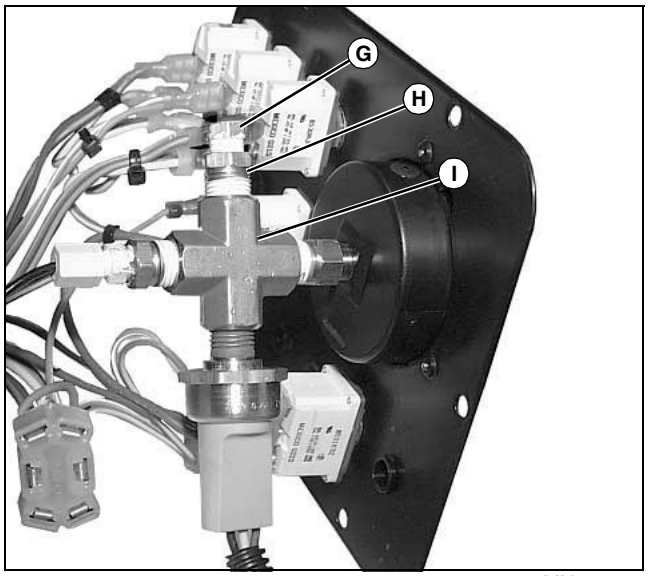


MX30009

5. Disassemble the two compression fittings on the pressure tube, install male compression fitting (D) into isolator port and tighten.

6. Install pressure tube (E) into isolator quickly, to avoid fluid loss from tube, and secure with female compression fitting (F).

7. Remove the hardware retaining the dash panel and carefully pull panel out to enable access to cross fitting behind pressure gauge. Retain hardware.



MX30027

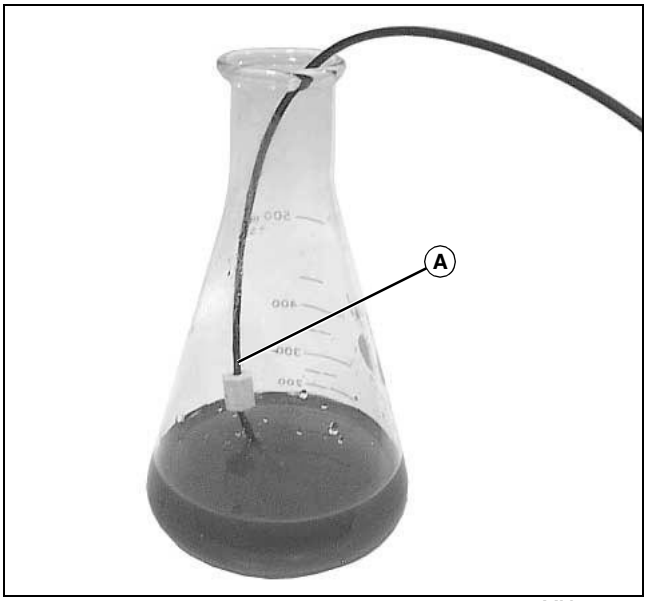
8. Remove plug (G) from adapter (H) in cross fitting (I) behind pressure gauge. Top off with RV anti-freeze to replace any fluid lost during installation and replace plug.

9. Operate sprayer and confirm proper gauge function. If readings appear inaccurate, or low pressure warning buzzer sounds intermittently, follow procedures below to bleed system from pressure tube to gauge.

10. Install dash panel.

Fill Pressure Tube and Connect Isolator to Pressure Gauge (Suction Method)

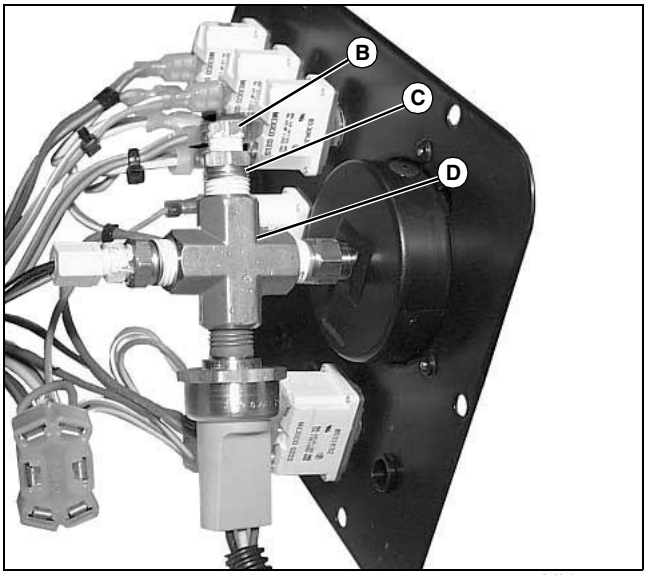
1. Disconnect female compression fitting from isolator and remove pressure tube. Male compression fitting can remain in isolator.



MX19976

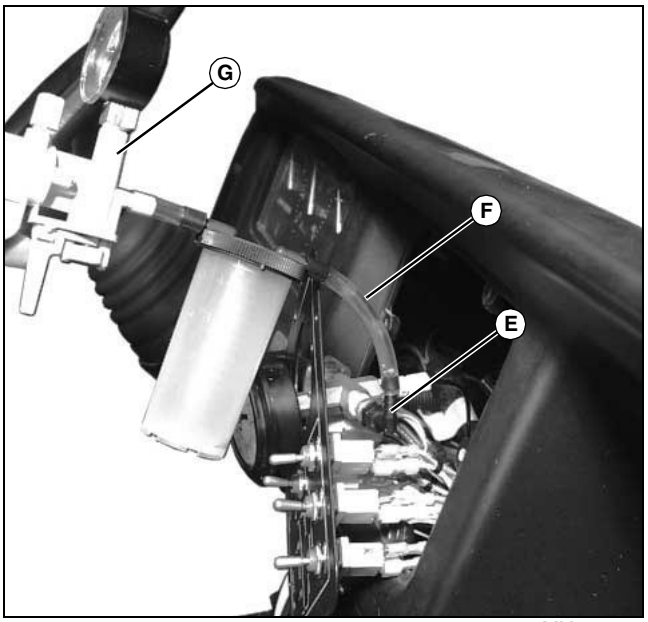
2. Place the sprayer end of the pressure tube (A) into a container filled with an adequate amount of RV anti-freeze. The container should be at or above the level of the pressure gauge.

3. Remove the hardware retaining the dash panel and carefully pull panel out to enable access to cross fitting behind pressure gauge. Retain hardware.



MX30027

4. Remove plug (B) from adapter (C) in cross fitting (D) at rear of pressure gauge. Retain plug.



MX19975

5. Install a fitting (E) and tubing (F) compatible with available equipment to connect suction pump (G) or equivalent to adapter on cross fitting.

6. Operate pump until fluid appears in tube and allow pressure to equalize.

7. Remove the tube from the fluid container, quickly connect the tube to the isolator and tighten the compression fitting.

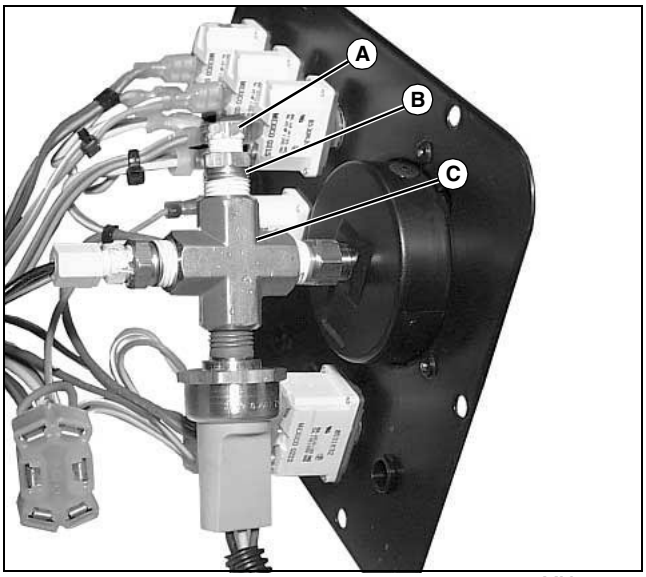
8. Remove the pump and hardware from the cross fitting, keeping the opening on top. Top off cross fitting with RV anti-freeze and install plug (B) removed earlier, using thread sealant tape to prevent leakage.

9. Operate sprayer and confirm proper gauge function. If readings appear inaccurate, or low pressure warning buzzer sounds intermittently, there may be air in system. Repeat bleed procedure if necessary.

10. Install dash panel.

Fill Pressure Tube and Connect Isolator to Pressure Gauge (Injection Method)

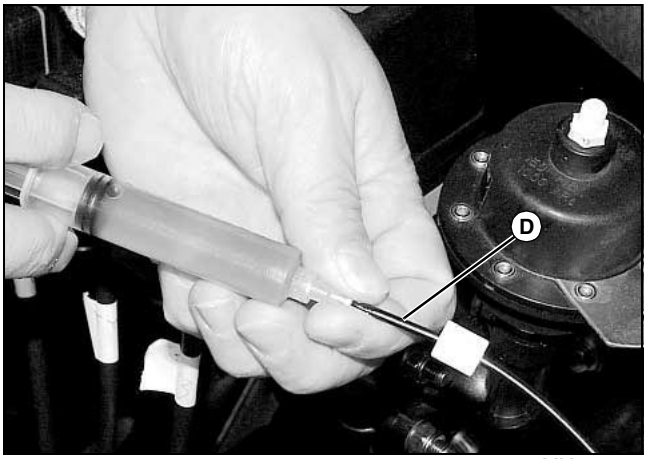
1. Remove the hardware retaining the dash panel and carefully pull panel out to enable access to cross fitting behind pressure gauge. Retain hardware.



MX30027

2. Remove plug (A) from adapter (B) in cross fitting (C) at rear of pressure gauge. Retain plug.

3. Disconnect female compression fitting from isolator and remove pressure tube. Male compression fitting can remain in isolator.



MX30036

4. Inject fluid into the sprayer end of the pressure tube (D) with a syringe until it fills the plug port on cross fitting behind pressure gauge.

5. Remove syringe, quickly connect the tube to the isolator and tighten the compression fitting.

6. Top off cross fitting with RV anti-freeze and install plug removed earlier, using thread sealant tape to prevent leakage.

7. Operate sprayer and confirm proper gauge function. If readings appear inaccurate, or low pressure warning buzzer sounds intermittently, there may be air in system. Repeat bleed procedure if necessary.

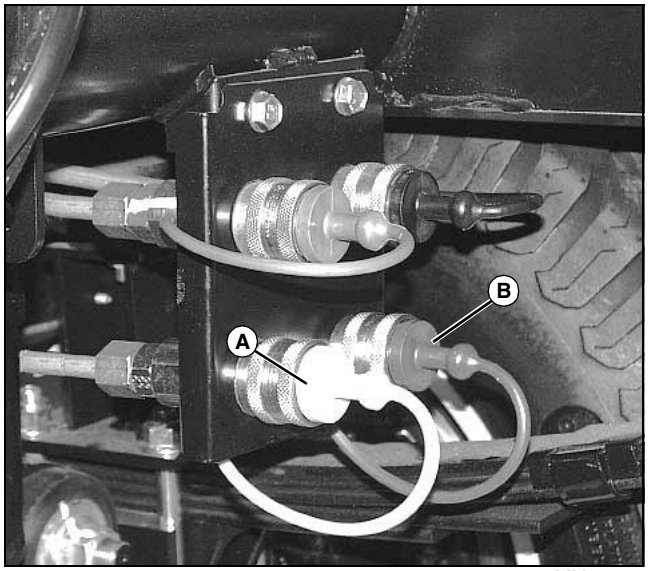
8. Install dash panel.

Connect Hydraulic Hoses

CAUTION: Avoid injury! Hydraulic fluid is under pressure. Escaping fluid can penetrate the skin and cause serious injury. Protect hands and body.

- **Relieve all pressure before checking hydraulic hoses.**
- **Search for leaks with piece of cardboard. Do not use hands to check hoses.**
- **Tighten all connections before applying pressure.**

1. Remove dust caps from sprayer hydraulic hoses and quick-couplers at rear of machine.



MX2928

2. Connect the color coded male fittings on sprayer hydraulic hoses to corresponding color coded female quick-couplers:

- Sprayer PTO pressure hose to yellow (A).
- Sprayer PTO return hose to red (B).

Adjust Boom

1. Adjust boom level. (See Adjusting Boom Level in the Operating - Standard Equipment section).

2. Level the boom wings. (See Leveling the Boom Wings in the Operating - Standard Equipment section, or refer to the Operating - Optional Equipment section if boom wings are equipped with electric lift actuators or ground wheels.)

Prepare Machine for Removal

NOTE: Sprayer must be removed with an overhead lifting device. Park machine accordingly.

1. Park machine safely.

2. Ensure sprayer tank is empty to help reduce and balance load.

3. Lock boom wings in upright position.

Disconnect Hydraulic Hoses

CAUTION: Avoid injury! Hydraulic fluid is under pressure. Escaping fluid can penetrate the skin and cause serious injury. Protect hands and body.

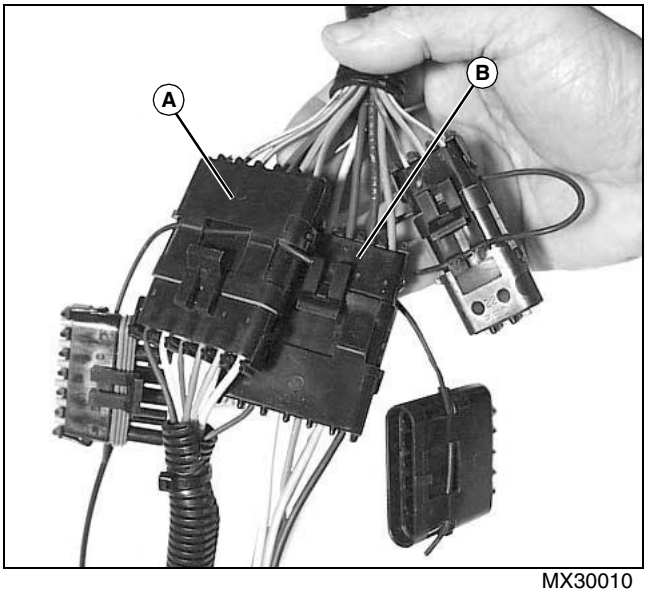
- **Relieve all pressure before checking hydraulic hoses.**
- **Search for leaks with piece of cardboard. Do not use hands to check hoses.**
- **Tighten all connections before applying pressure.**

1. Disconnect sprayer hydraulic lines from yellow and red female quick-couplers at rear of machine. Leave lift cylinder lines connected.

2. Install dust caps.

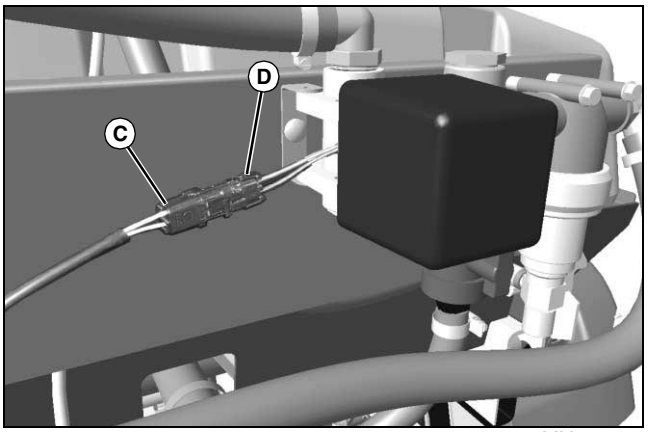
Disconnect Rear Wiring Harness

IMPORTANT: Avoid damage! Disconnect all sprayer auxiliary equipment electrical and hose connections before removing unit from machine.



MX30010

1. Disconnect two large plugs (A)(B) at rear of front harness. Install storage caps on front harness plugs at this time.

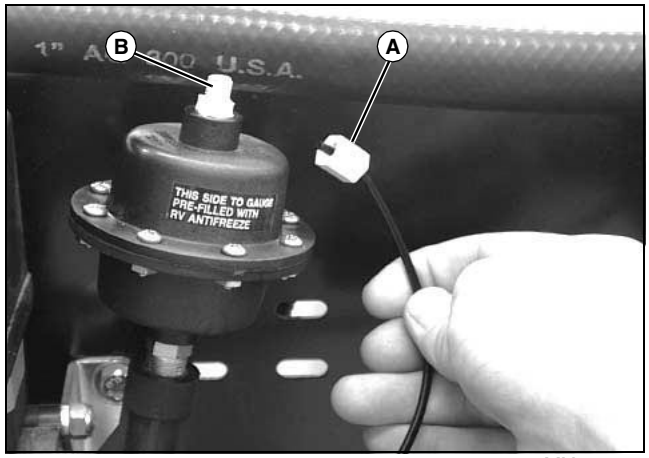


MX19926

2. Disconnect purple and green rear harness leads (C) to red and black leads (D) from pressure regulating valve.

3. Disconnect any optional sprayer components as necessary and coil and secure the rear harness to the sprayer frame for storage.

Disconnect Pressure Gauge Tube



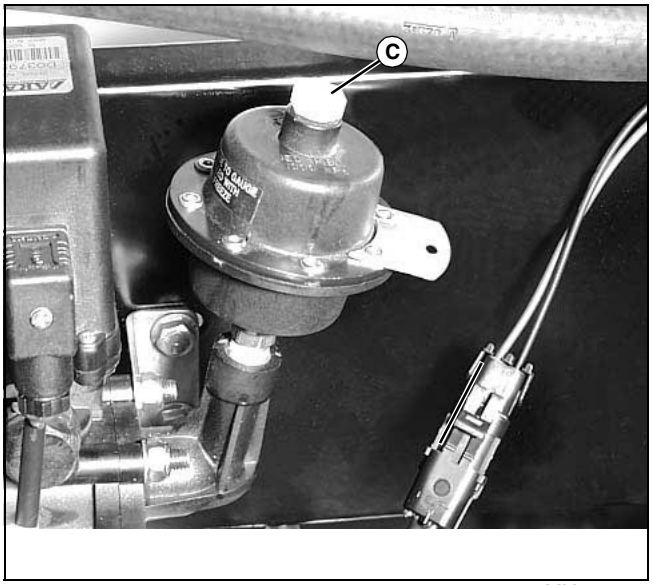
MX30009

1. Loosen and remove female compression fitting (A) and pressure tube from isolator.

2. Remove male compression fitting (B) from isolator and assemble with female compression fitting on pressure tube.

3. Install storage cap onto remaining end of male compression fitting and tighten components to secure on pressure tube and prevent fluid loss during storage.

4. Coil pressure gauge tube and fittings, and secure with other front harness components away from moving parts until next usage.



MX30034

5. Top off fluid level in isolator and install storage plug (C) until next usage.

Remove Sprayer

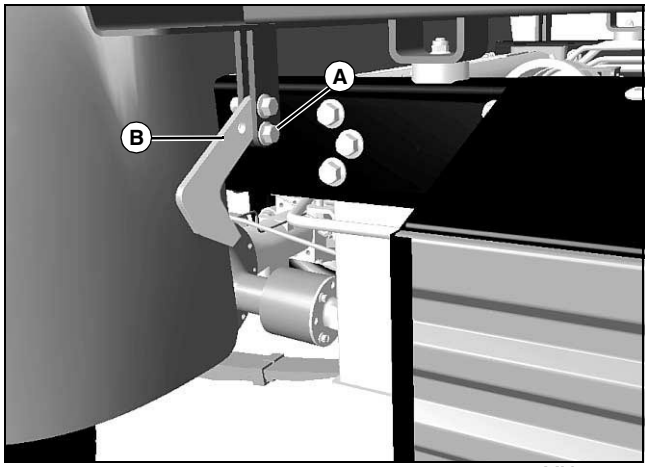
CAUTION: Avoid injury! Avoid crush injury or death!

The sprayer must be installed using a safe lifting device such as an overhead hoist. Ensure hoist, straps, and chains are adequate lift capacity and in good condition.

Do not allow lift straps or chains to contact or interfere with plumbing components when hoisting.

1. Park machine safely near an overhead crane or other safe lifting device.

2. Ensure sprayer wiring harness is completely disconnected from sprayer.



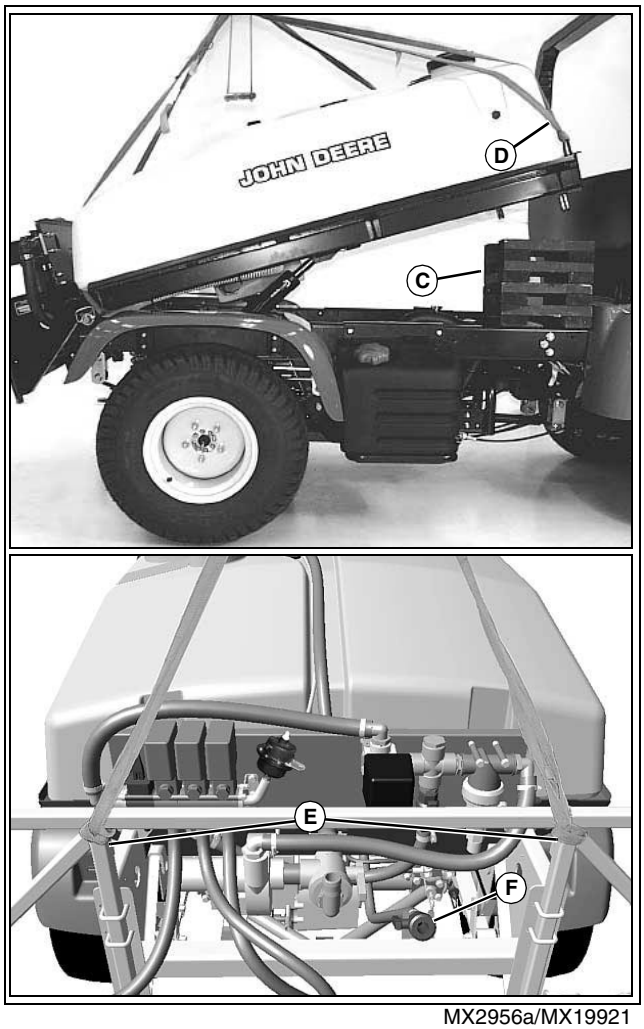
MX19923

Picture Note: Left side clamp shown.

3. Remove lower hardware (A) from frame clamps (B). Pivot clamps upward and install hardware to secure clamps in open position, as shown.

4. Using lift cylinder control lever, extend lift cylinder rod approximately 25-30 cm (10-12 in.) to provide access to lift cylinder pin.

5. Stop engine and remove key.



MX2956a/MX19921

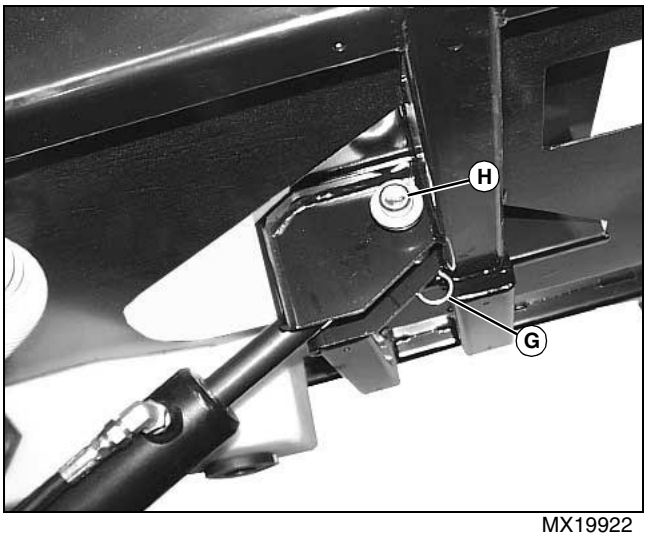
6. Install a safety stand (C) between machine frame and sprayer frame.

7. Install lift straps or chains to sprayer so unit is balanced upon hoisting:

   a. Attach to lift loops (D) at front of sprayer frame.

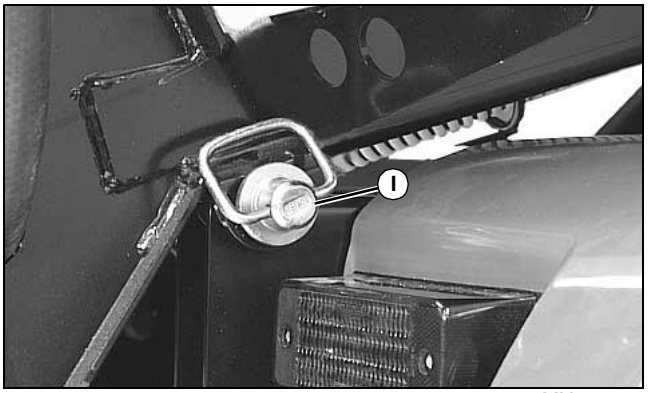
   b. Make sure U-bolts on boom center frame are tightened completely. Secure straps or chains around vertical supports (E) to prevent damage.

8. Remove tank drain valve (F) from cradle on sprayer frame and move it so that it will clear machine rear frame tube when tank is removed.



MX19922

9. Remove spring locking pin (G), M26 flat washer (not shown) and connecting pin (H) at lift cylinder rod.



MX19928

10. Remove quick-lock pins and pivot pins (I) at rear of machine.

11. Lift sprayer clear of machine and set on level surface. Remove lifting gear from sprayer.

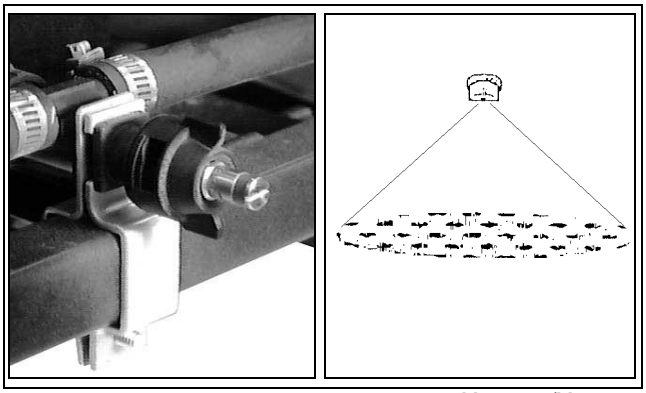
12. Install pivot pins at rear of machine for storage.

13. Install connecting pin to lift cylinder rod for storage.

14. Remove safety stand from machine frame.

15. Secure front harness components at the rear of the machine in a safe position away from moving parts.

Turbo Floodjet Nozzle

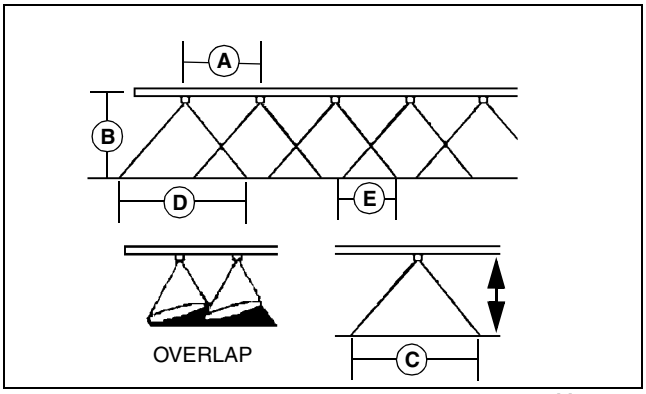


M88228a/M88226

Picture Note: Typical spray pattern shown at right.

This is a wide-angle, flat nozzle for broadcast spraying. A 100% overlap of spray pattern is recommended to assure adequate coverage.

Nozzle Dimensions

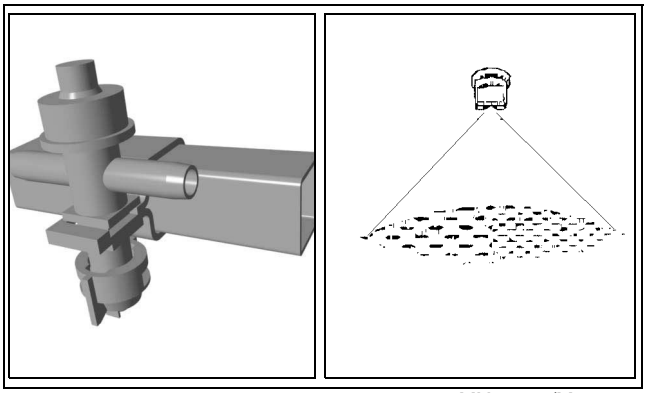


M88227

- Spacing (A) = 508 mm (20 in.)
- Height (B) = 406 mm (16 in.)
- Spray Angle (C) = 115° to 125°
- Spray Coverage (D) = 102 cm (40 in.)
- Overlap (E) = 100%

To change nozzle height, see Adjusting Boom Height in the Operating - Standard Equipment section.

Ultra Low-Drift Nozzle

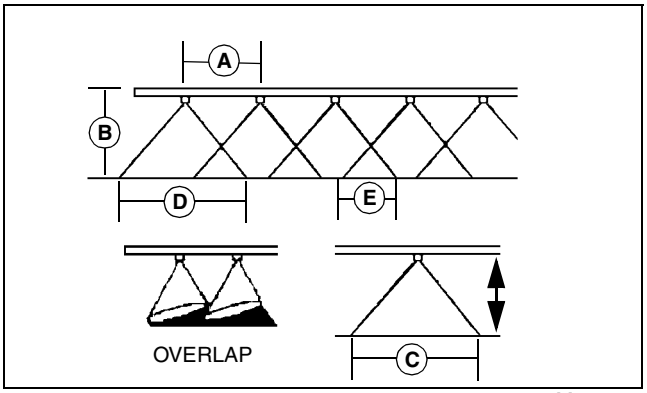


MX15781/M88225

Picture Note: Typical spray pattern shown at right.

This is a wide-angle, flat-fan type nozzle with dual air eduction. It provides a uniform pattern for broadcast spraying.

Nozzle Dimensions

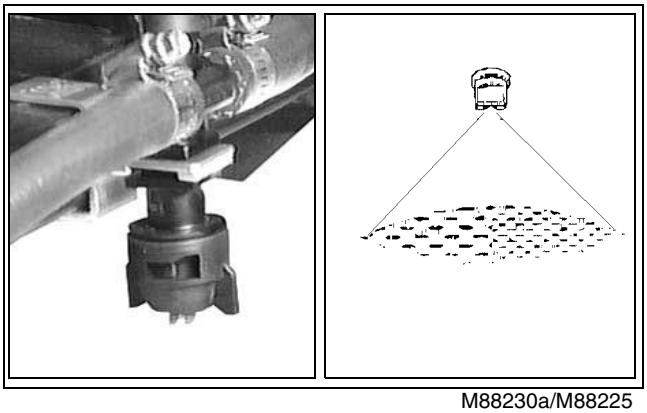


M88227

- Spacing (A) = 508 mm (20 in.)
- Height (B) = 406 mm (16 in.)
- Spray Angle (C) = 120°
- Spray Coverage (D) = 102 cm (40 in.)
- Overlap (E) = 100%

To change nozzle height, see Adjusting Boom Height in the Operating - Standard Equipment section.

Flat Fan Nozzle



M88230a/M88225

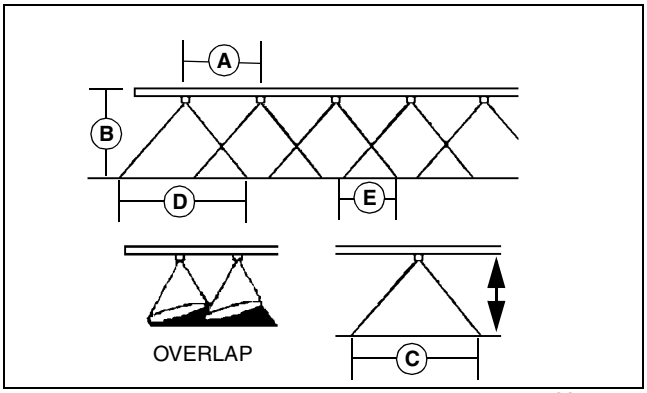
Picture Note: Typical spray pattern shown at right.

This nozzle provides a fan-shaped spray pattern finely tapered at each end. Tapered ends permit offset overlap of spray pattern to assure uniform coverage.

Higher pressures provide increased penetration and finer coverage of smaller particles.

Lower pressures provide larger droplets to reduce the risk of drift.

Nozzle Dimensions

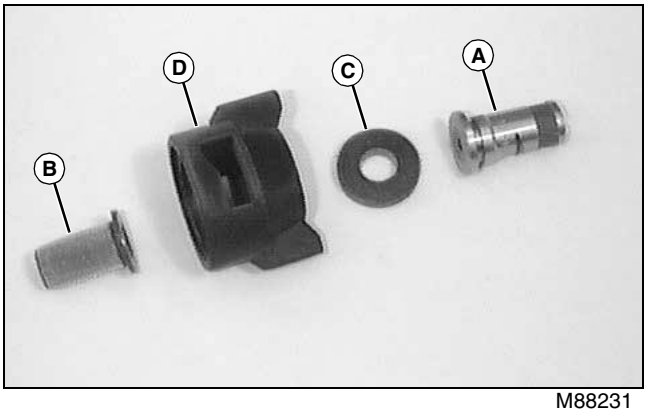


M88227

- Spacing (A) = 508 mm (20 in.)
- Height (B) = 457 to 508 mm (18 to 20 in.)
- Spray Angle (C) = 80° to 110°
- Spray Coverage (D) = 762 mm (30 in.)
- Overlap (E) = 50%

To change nozzle height, see Adjusting Boom Height in the Operating - Standard Equipment section.

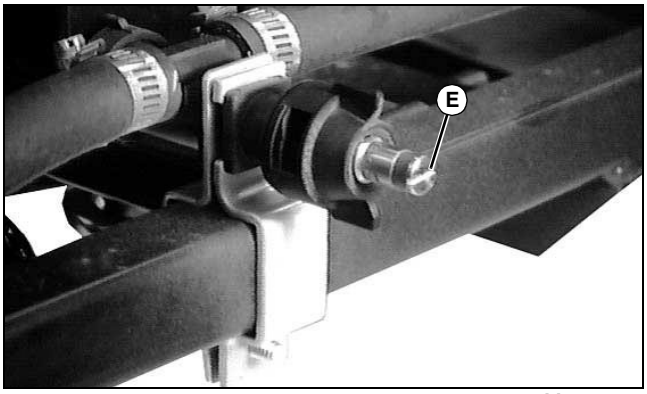
Assemble and Install Turbo Floodjet Nozzles



M88231

1. Insert nozzle tip (A) into cap (B). Insert washer (C) into cap and insert filter (D) with flat, wide surface to the washer.

2. Install nozzle assembly on holder and twist to secure assembly to holder.



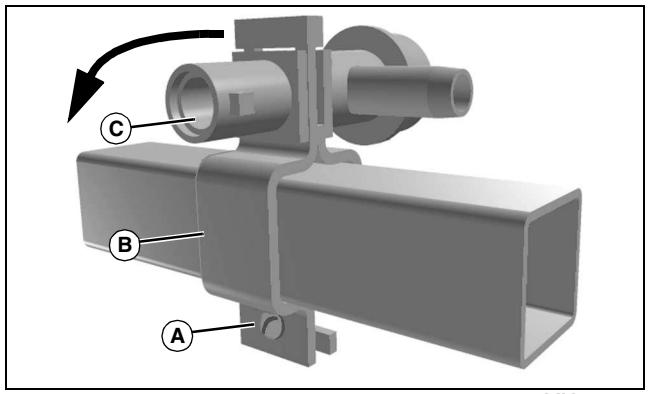
M88228a

3. Align slot (E) on nozzle end with screwdriver so that slot is parallel to ground.

Assemble and Install Ultra Low-Drift Nozzles

Rotate Nozzle Brackets (If Required)

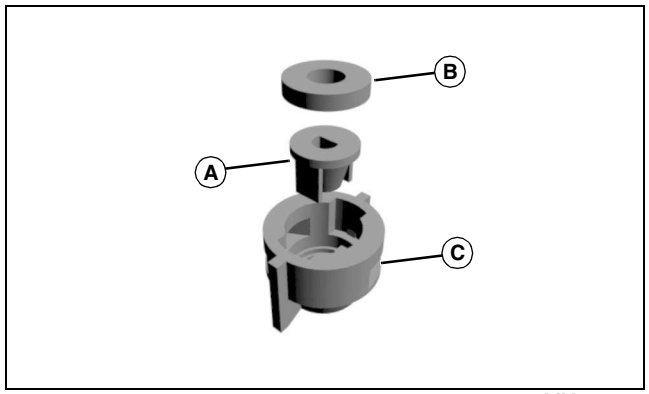
NOTE: Nozzle holder (C) may be pointed to rear or toward ground for single nozzle installations (0.15 - 0.6 gpm). Nozzle holder must point toward ground for twin nozzle installations (0.8 - 1.2 gpm).



MX15784

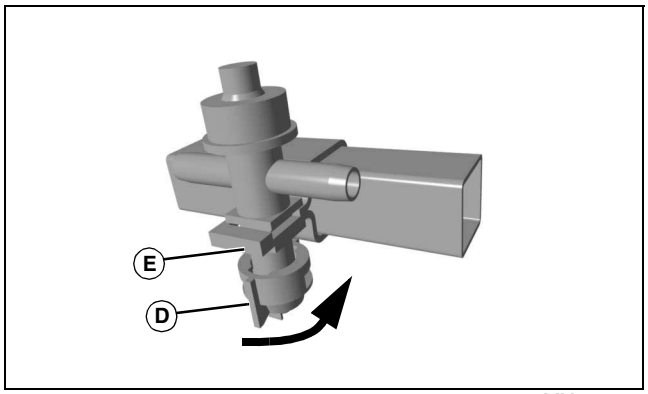
1. Loosen screw (A) on nozzle bracket (B).
2. Rotate nozzle bracket 90° so nozzle holder (C) points toward ground.
3. Tighten screw.
4. Repeat procedure for remaining nozzle brackets.

Install Ultra Low-Drift Nozzles (0.15 - 0.6 gpm single-nozzles)



MX15780

1. Insert nozzle (A) and seal (B) in cap (C).

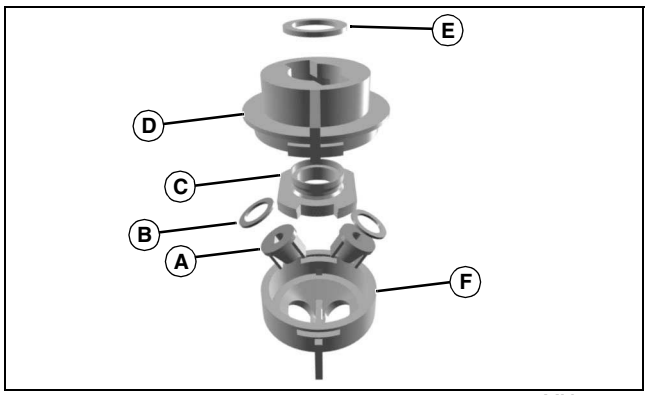


MX15781

2. Install nozzle assembly (D) on holder (E) and rotate to secure.
3. Repeat procedure for remaining nozzles.

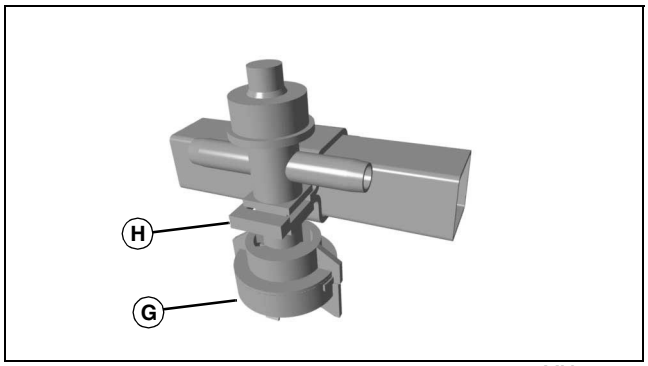
Install Ultra Low-Drift Nozzles (0.8 - 1.2 gpm twin-nozzles)

NOTE: Cap sections (C, D, F) and seals (B and E) come assembled. Cap must be opened, and center section removed to insert nozzles. For clarity, step one shows complete assembly process.



MX15782

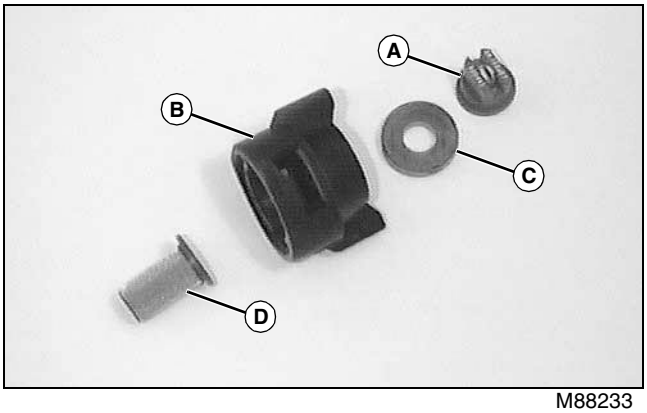
1. Insert two nozzles (A), two small seals (B), center section of cap (C), upper section of cap (D) and large seal (E) into lower section of cap (F).



MX15783

2. Install nozzle assembly (G) on holder (H) and rotate to secure.

Assemble and Install Flat Fan Nozzles

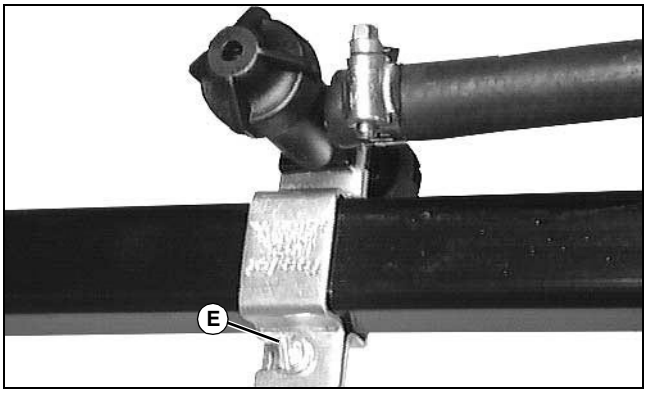


M88233

1. Insert nozzle tip (A) into cap (B). Insert washer (C) into cap and insert filter (D) with flat, wide surface to washer.

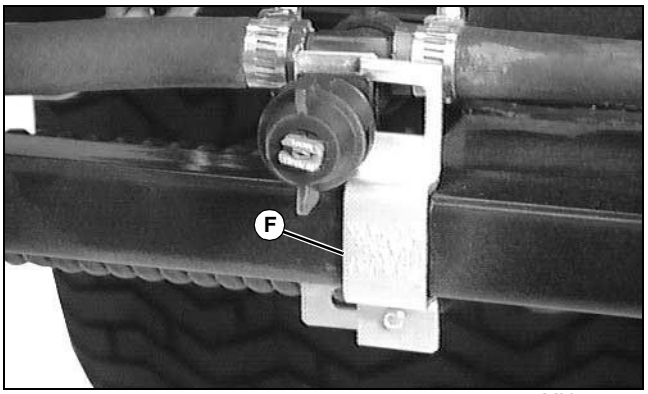
2. Install nozzle assembly on holder and twist to secure assembly to holder.

NOTE: Nozzle assemblies need to be rotated 90° to allow nozzle to point to ground.



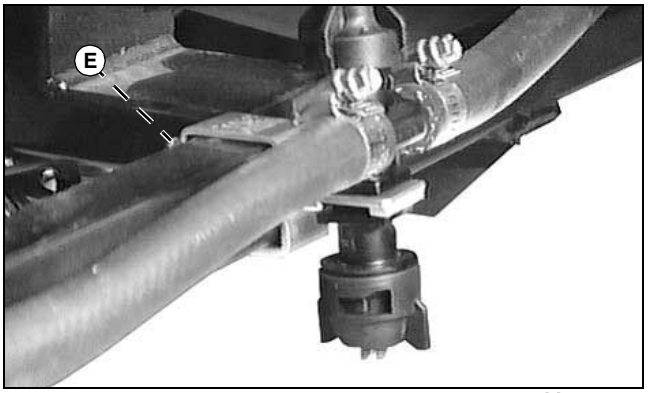
M88234

3. Loosen screw (E) on backside of bracket assembly.



MX88235

4. Slide front bracket (F) to one side.



M88230a

5. Position nozzle assembly 90° forward so nozzle points downward and tighten screw (E).

Application Rate Tables - Turbo Floodjet Nozzles

Turbo Floodjet Nozzle Application Chart Rated in Liters per Square Meter								
Part Number	**Pressure**	**Flow Rate**	**Speed**					
	(kPa)	(Lpm)	3 km/h	4 km/h	5 km/h	6 km/h	7 km/h	8 km/h
PMN0073-932	69	0.76	0.016	0.012	0.010	0.008	0.007	0.006
	138	1.06	0.019	0.015	0.012	0.010	0.008	0.007
Nozzle # 2	207	1.32	0.022	0.017	0.013	0.011	0.010	0.008
	276	1.51	0.025	0.019	0.015	0.013	0.011	0.010
PMN0073-53	69	0.95	0.021	0.016	0.013	0.010	0.009	0.008
	138	1.32	0.025	0.019	0.015	0.013	0.011	0.010
Nozzle # 2.5	207	1.63	0.030	0.022	0.018	0.015	0.013	0.011
	276	1.89	0.033	0.025	0.020	0.016	0.014	0.012
PMN0073-57	69	1.14	0.031	0.023	0.019	0.016	0.013	0.012
	138	1.59	0.039	0.029	0.023	0.019	0.017	0.015
Nozzle # 3	207	1.97	0.045	0.034	0.027	0.022	0.019	0.017
	276	2.27	0.051	0.038	0.030	0.025	0.022	0.019

Turbo Floodjet Nozzle Application Chart Rated in Liters per Square Meter								
Part Number	**Pressure**	**Flow Rate**	**Speed**					
PMN0073-935	69	1.51	0.042	0.031	0.025	0.021	0.018	0.016
	138	2.16	0.052	0.039	0.031	0.026	0.022	0.020
Nozzle # 4	207	2.61	0.060	0.045	0.036	0.030	0.026	0.022
	276	3.03	0.067	0.050	0.040	0.034	0.029	0.025
PM00073-695	69	1.89	0.054	0.040	0.032	0.027	0.023	0.020
	138	2.69	0.066	0.049	0.039	0.033	0.028	0.025
Nozzle # 5	207	3.29	0.075	0.056	0.045	0.037	0.032	0.028
	276	3.79	0.083	0.063	0.050	0.042	0.036	0.031
PM00073-697	69	1.89	0.066	0.049	0.039	0.033	0.028	0.025
	138	2.69	0.075	0.056	0.045	0.037	0.032	0.028
Nozzle # 6	207	3.29	0.083	0.063	0.050	0.042	0.036	0.031
	276	3.79	0.091	0.068	0.055	0.045	0.039	0.034
PM00073-699	69	2.27	0.064	0.048	0.038	0.032	0.027	0.024
	138	3.22	0.077	0.058	0.046	0.039	0.033	0.029
Nozzle # 7.5	207	3.79	0.089	0.067	0.054	0.045	0.038	0.034
	276	4.54	0.100	0.075	0.060	0.050	0.043	0.037
PM00073-701	69	2.84	0.085	0.064	0.051	0.042	0.036	0.032
	138	4.16	0.104	0.078	0.063	0.052	0.045	0.039
Nozzle # 10	207	4.92	0.119	0.089	0.072	0.060	0.051	0.045
	276	5.68	0.134	0.101	0.080	0.067	0.057	0.050

Turbo Floodjet Nozzle Application Chart Rated in Gallons per 1,000 Square Feet								
Part Number	**Pressure**	**Flow Rate**	**Speed**					
	(PSI)	(GPM)	2 mph	3 mph	4 mph	5 mph	6 mph	7 mph
PMN0073-932	10	0.20	0.68	0.45	0.34	0.27	0.23	0.19
	20	0.28	0.95	0.64	0.48	0.38	0.32	0.27
Nozzle # 2	30	0.35	1.19	0.80	0.60	0.48	0.40	0.34
	40	0.40	1.36	0.91	0.68	0.55	0.45	0.39
PMN0073-53	10	0.25	0.85	0.57	0.43	0.34	0.28	0.24
	20	0.35	1.19	0.80	0.60	0.48	0.40	0.34
Nozzle # 2.5	30	0.43	1.47	0.98	0.73	0.59	0.49	0.42
	40	0.50	1.70	1.14	0.85	0.68	0.57	0.49
PMN0073-57	10	0.30	1.02	0.68	0.51	0.41	0.34	0.29
	20	0.42	1.43	0.95	0.72	0.57	0.48	0.41
Nozzle # 3	30	0.52	1.77	1.18	0.89	0.71	0.59	0.51
	40	0.60	2.05	1.36	1.02	0.82	0.68	0.58
PMN0073-935	10	0.40	1.36	0.91	0.68	0.55	0.45	0.39
	20	0.57	1.94	1.30	0.97	0.78	0.65	0.56
Nozzle # 4	30	0.69	2.35	1.57	1.18	0.94	0.78	0.67
	40	0.80	2.73	1.82	1.36	1.09	0.91	0.78
PM00073-695	10	0.50	1.70	1.14	0.85	0.68	0.57	0.49
	20	0.71	2.42	1.61	1.21	0.97	0.81	0.69
Nozzle # 5	30	0.87	2.97	1.98	1.48	1.19	0.99	0.85

Turbo Floodjet Nozzle Application Chart Rated in Gallons per 1,000 Square Feet								
Part Number	Pressure	Flow Rate	Speed					
	40	1.00	3.41	2.27	1.70	1.36	1.14	0.97
PM00073-697	10	0.60	2.05	1.36	1.02	0.82	0.68	0.58
	20	0.85	2.90	1.93	1.45	1.16	0.97	0.83
Nozzle # 6	30	1.00	3.41	2.27	1.70	1.36	1.14	0.97
	40	1.20	4.09	2.73	2.05	1.64	1.36	1.17
PM00073-699	10	0.75	2.56	1.70	1.28	1.02	0.85	0.73
	20	1.10	3.75	2.50	1.88	1.50	1.25	1.07
Nozzle # 7.5	30	1.30	4.43	2.95	2.22	1.77	1.48	1.27
	40	1.50	5.11	3.41	2.56	2.05	1.70	1.46
PM00073-701	10	1.00	3.41	2.27	1.70	1.36	1.14	0.97
	20	1.40	4.77	3.18	2.39	1.91	1.59	1.36
Nozzle # 10	30	1.70	5.80	3.86	2.90	2.32	1.93	1.66
	40	2.00	6.82	4.55	3.41	2.73	2.27	1.95
PMN0073-932	10	0.20	29.7	19.8	14.9	11.9	9.9	8.5
	20	0.28	41.6	27.7	20.8	16.6	13.9	11.9
Nozzle # 2	30	0.35	52.0	34.7	26.0	20.8	17.3	14.9
	40	0.40	59.4	39.6	29.7	23.8	19.8	17.0
PMN0073-53	10	0.25	37.1	24.8	18.6	14.9	12.4	10.6
	20	0.35	52.0	34.7	26.0	20.8	17.3	14.9
Nozzle # 2.5	30	0.43	63.9	42.6	31.9	25.5	21.3	18.2
	40	0.50	74.3	49.5	37.1	29.7	24.8	21.2
PMN0073-57	10	0.30	44.6	29.7	22.3	17.8	14.9	12.7
	20	0.42	62.4	41.6	31.2	24.9	20.8	17.8
Nozzle # 3	30	0.52	77.2	51.5	38.6	30.9	25.7	22.1
	40	0.60	89.1	59.4	44.6	35.6	29.7	25.5
PMN0073-935	10	0.40	59.4	39.6	29.7	23.8	19.8	17.0
	20	0.57	84.6	56.4	42.3	33.9	28.2	24.2
Nozzle # 4	30	0.69	102.5	68.3	51.2	41.0	34.2	29.3
	40	0.80	118.8	79.2	59.4	47.5	39.6	33.9
PM00073-695	10	0.50	74.3	49.5	37.1	29.7	24.8	21.2
	20	0.71	105.4	70.3	52.7	42.2	35.1	30.1
Nozzle # 5	30	0.87	129.2	86.1	64.6	51.7	43.1	36.9
	40	1.00	148.5	99.0	74.3	59.4	49.5	42.4
PM00073-697	10	0.60	89.1	59.4	44.6	35.6	29.7	25.5
	20	0.85	126.2	84.2	63.1	50.5	42.1	36.1
Nozzle # 6	30	1.00	148.5	99.0	74.3	59.4	49.5	42.4
	40	1.20	178.2	118.8	89.1	71.3	59.4	50.9
PM00073-699	10	0.75	111.4	74.3	55.7	44.6	37.1	31.8
	20	1.10	163.4	108.9	81.7	65.3	54.5	46.7
Nozzle # 7.5	30	1.30	193.1	128.7	96.5	77.2	64.4	55.2
	40	1.50	222.8	148.5	111.4	89.1	74.3	63.6
PM00073-701	10	1.00	148.5	99.0	74.3	59.4	49.5	42.4
	20	1.40	207.9	138.6	104.0	83.2	69.3	59.4
Nozzle # 10	30	1.70	252.5	168.3	126.2	101.0	84.2	72.1

Turbo Floodjet Nozzle Application Chart Rated in Gallons per 1,000 Square Feet								
Part Number	Pressure	Flow Rate	Speed					
	40	2.00	297.0	198.0	148.5	118.8	99.0	84.9
	50	0.90	133.7	89.1	66.8	53.5	44.6	38.2

Application Rate Tables - Ultra Low Drift Nozzles

Part Number	Pressure	Flow Rate	Speed					
	(kPa)	(Lpm)	3 km/h	4 km/h	5 km/h	6 km/h	7 km/h	8 km/h
PMUL 20015	138	0.42	0.017	0.012	0.010	0.008	0.007	0.006
	207	0.49	0.019	0.014	0.012	0.010	0.008	0.007
	276	0.57	0.022	0.017	0.013	0.011	0.010	0.008
	345	0.64	0.025	0.019	0.015	0.013	0.011	0.009
	414	0.68	0.027	0.020	0.016	0.013	0.011	0.010
PMUL 2002	138	0.53	0.021	0.016	0.013	0.010	0.009	0.008
	207	0.64	0.025	0.019	0.015	0.013	0.011	0.009
	276	0.76	0.030	0.022	0.018	0.015	0.013	0.011
	345	0.83	0.033	0.025	0.020	0.016	0.014	0.012
	414	0.91	0.036	0.027	0.021	0.018	0.015	0.013
PMUL 20025	138	0.68	0.027	0.020	0.016	0.013	0.011	0.010
	207	0.83	0.033	0.025	0.020	0.016	0.014	0.012
	276	0.95	0.037	0.028	0.022	0.019	0.016	0.014
	345	1.06	0.042	0.031	0.025	0.021	0.018	0.016
	414	1.17	0.046	0.035	0.028	0.023	0.020	0.017
PMUL 2003	138	0.79	0.031	0.023	0.019	0.016	0.013	0.012
	207	0.98	0.039	0.029	0.023	0.019	0.017	0.014
	276	1.14	0.045	0.034	0.027	0.022	0.019	0.017
	345	1.29	0.051	0.038	0.030	0.025	0.022	0.019
	414	1.40	0.055	0.041	0.033	0.028	0.024	0.021
PMUL 2004	138	1.06	0.042	0.031	0.025	0.021	0.018	0.016
	207	1.32	0.052	0.039	0.031	0.026	0.022	0.019
	276	1.51	0.059	0.045	0.036	0.030	0.025	0.022
	345	1.70	0.067	0.050	0.040	0.033	0.029	0.025
	414	1.85	0.073	0.055	0.044	0.036	0.031	0.027
PMUL 2005	138	1.32	0.052	0.039	0.031	0.026	0.022	0.019
	207	1.63	0.064	0.048	0.039	0.032	0.028	0.024
	276	1.89	0.074	0.056	0.045	0.037	0.032	0.028
	345	2.12	0.083	0.063	0.050	0.042	0.036	0.031
	414	2.31	0.091	0.068	0.055	0.045	0.039	0.034
PMUL 2006	138	1.59	0.063	0.047	0.038	0.031	0.027	0.023
	207	1.97	0.078	0.058	0.047	0.039	0.033	0.029
	276	2.27	0.089	0.067	0.054	0.045	0.038	0.034
	345	2.54	0.100	0.075	0.060	0.050	0.043	0.038
	414	2.76	0.109	0.081	0.065	0.054	0.047	0.041

Part Number	Pressure	Flow Rate	Speed					
(2) PMUL 2004	138	2.12	0.083	0.063	0.050	0.042	0.036	0.031
with Twin Cap	207	2.64	0.104	0.078	0.062	0.052	0.045	0.039
	276	3.02	0.119	0.089	0.071	0.059	0.051	0.045
	345	3.40	0.134	0.100	0.080	0.067	0.057	0.050
	414	3.70	0.146	0.109	0.087	0.073	0.062	0.055
(2) PMUL 2005	138	2.64	0.104	0.078	0.062	0.052	0.045	0.039
with Twin Cap	207	3.26	0.128	0.096	0.077	0.064	0.055	0.048
	276	3.78	0.149	0.112	0.089	0.074	0.064	0.056
	345	4.24	0.167	0.125	0.100	0.083	0.072	0.063
	414	4.62	0.182	0.136	0.109	0.091	0.078	0.068
(2) PMUL 2006	138	3.18	0.125	0.094	0.075	0.063	0.054	0.047
with Twin Cap	207	3.94	0.155	0.116	0.093	0.078	0.066	0.058
	276	4.54	0.179	0.134	0.107	0.089	0.077	0.067
	345	5.08	0.200	0.150	0.120	0.100	0.086	0.075
	414	5.52	0.217	0.163	0.130	0.109	0.093	0.081

Ultra Low Drift Nozzle Application Chart Rated in Gallons per 1,000 Square Feet								
Part Number	Pressure	Flow Rate	Speed					
	(PSI)	(GPM)	2 mph	3 mph	4 mph	5 mph	6 mph	7 mph
PMUL 20015	20	0.11	0.38	0.25	0.19	0.15	0.13	0.11
	30	0.13	0.44	0.30	0.22	0.18	0.15	0.13
	40	0.15	0.51	0.34	0.26	0.20	0.17	0.15
	50	0.17	0.58	0.39	0.29	0.23	0.19	0.17
	60	0.18	0.61	0.41	0.31	0.25	0.20	0.18
PMUL 2002	20	0.14	0.48	0.32	0.24	0.19	0.16	0.14
	30	0.17	0.58	0.39	0.29	0.23	0.19	0.17
	40	0.20	0.68	0.45	0.34	0.27	0.23	0.19
	50	0.22	0.75	0.50	0.38	0.30	0.25	0.21
	60	0.24	0.82	0.55	0.41	0.33	0.27	0.23
PMUL 20025	20	0.18	0.61	0.41	0.31	0.25	0.20	0.18
	30	0.22	0.75	0.50	0.38	0.30	0.25	0.21
	40	0.25	0.85	0.57	0.43	0.34	0.28	0.24
	50	0.28	0.95	0.64	0.48	0.38	0.32	0.27
	60	0.31	1.06	0.70	0.53	0.42	0.35	0.30
PMUL 2003	20	0.21	0.72	0.48	0.36	0.29	0.24	0.20
	30	0.26	0.89	0.59	0.44	0.35	0.30	0.25
	40	0.30	1.02	0.68	0.51	0.41	0.34	0.29
	50	0.34	1.16	0.77	0.58	0.46	0.39	0.33
	60	0.37	1.26	0.84	0.63	0.50	0.42	0.36
PMUL 2004	20	0.28	0.95	0.64	0.48	0.38	0.32	0.27
	30	0.35	1.19	0.80	0.60	0.48	0.40	0.34
	40	0.40	1.36	0.91	0.68	0.55	0.45	0.39
	50	0.45	1.53	1.02	0.77	0.61	0.51	0.44
	60	0.49	1.67	1.11	0.84	0.67	0.56	0.48

Ultra Low Drift Nozzle Application Chart Rated in Gallons per 1,000 Square Feet								
Part Number	**Pressure**	**Flow Rate**	**Speed**					
PMUL 2005	20	0.35	1.19	0.80	0.60	0.48	0.40	0.34
	30	0.43	1.47	0.98	0.73	0.59	0.49	0.42
	40	0.50	1.70	1.14	0.85	0.68	0.57	0.49
	50	0.56	1.91	1.27	0.95	0.76	0.64	0.55
	60	0.61	2.08	1.39	1.04	0.83	0.69	0.59
PMUL 2006	20	0.42	1.43	0.95	0.72	0.57	0.48	0.41
	30	0.52	1.77	1.18	0.89	0.71	0.59	0.51
	40	0.60	2.05	1.36	1.02	0.82	0.68	0.58
	50	0.67	2.28	1.52	1.14	0.91	0.76	0.65
	60	0.73	2.49	1.66	1.24	1.00	0.83	0.71
(2) PMUL 2004	20	0.56	1.91	1.27	0.95	0.76	0.64	0.55
with Twin Cap	30	0.70	2.39	1.59	1.19	0.95	0.80	0.68
	40	0.80	2.73	1.82	1.36	1.09	0.91	0.78
	50	0.90	3.07	2.05	1.53	1.23	1.02	0.88
	60	0.98	3.34	2.23	1.67	1.34	1.11	0.95
(2) PMUL 2005	20	0.70	2.39	1.59	1.19	0.95	0.80	0.68
with Twin Cap	30	0.86	2.93	1.95	1.47	1.17	0.98	0.84
	40	1.00	3.41	2.27	1.70	1.36	1.14	0.97
	50	1.12	3.82	2.55	1.91	1.53	1.27	1.09
	60	1.22	4.16	2.77	2.08	1.66	1.39	1.19
(2) PMUL 2006	20	0.84	2.86	1.91	1.43	1.15	0.95	0.82
with Twin Cap	30	1.04	3.55	2.36	1.77	1.42	1.18	1.01
	40	1.20	4.09	2.73	2.05	1.64	1.36	1.17
	50	1.34	4.57	3.05	2.28	1.83	1.52	1.31
	60	1.46	4.98	3.32	2.49	1.99	1.66	1.42

Ultra Low Drift Nozzle Application Chart Rated in Gallons per Acre								
Part Number	**Pressure**	**Flow Rate**	**Speed**					
	(PSI)	(GPM)	2 mph	3 mph	4 mph	5 mph	6 mph	7 mph
PMUL 20015	20	0.11	16.3	10.9	8.2	6.5	5.4	4.7
	30	0.13	19.3	12.9	9.7	7.7	6.4	5.5
	40	0.15	22.3	14.8	11.1	8.9	7.4	6.4
	50	0.17	25.2	16.8	12.6	10.1	8.4	7.2
	60	0.18	26.7	17.8	13.4	10.7	8.9	7.6
PMUL 2002	20	0.14	20.8	13.9	10.4	8.3	6.9	5.9
	30	0.17	25.2	16.8	12.6	10.1	8.4	7.2
	40	0.20	29.7	19.8	14.8	11.9	9.9	8.5
	50	0.22	32.7	21.8	16.3	13.1	10.9	9.3
	60	0.24	35.6	23.8	17.8	14.3	11.9	10.2
PMUL 20025	20	0.18	26.7	17.8	13.4	10.7	8.9	7.6
	30	0.22	32.7	21.8	16.3	13.1	10.9	9.3
	40	0.25	37.1	24.7	18.6	14.8	12.4	10.6
	50	0.28	41.6	27.7	20.8	16.6	13.9	11.9

Ultra Low Drift Nozzle Application Chart Rated in Gallons per Acre								
Part Number	**Pressure**	**Flow Rate**	**Speed**					
	60	0.31	46.0	30.7	23.0	18.4	15.3	13.2
PMUL 2003	20	0.21	31.2	20.8	15.6	12.5	10.4	8.9
	30	0.26	38.6	25.7	19.3	15.4	12.9	11.0
	40	0.30	44.5	29.7	22.3	17.8	14.8	12.7
	50	0.34	50.5	33.7	25.2	20.2	16.8	14.4
	60	0.37	54.9	36.6	27.5	22.0	18.3	15.7
PMUL 2004	20	0.28	41.6	27.7	20.8	16.6	13.9	11.9
	30	0.35	52.0	34.6	26.0	20.8	17.3	14.8
	40	0.40	59.4	39.6	29.7	23.8	19.8	17.0
	50	0.45	66.8	44.5	33.4	26.7	22.3	19.1
	60	0.49	72.8	48.5	36.4	29.1	24.3	20.8
PMUL 2005	20	0.35	52.0	34.6	26.0	20.8	17.3	14.8
	30	0.43	63.8	42.6	31.9	25.5	21.3	18.2
	40	0.50	74.2	49.5	37.1	29.7	24.7	21.2
	50	0.56	83.1	55.4	41.6	33.3	27.7	23.8
	60	0.61	90.6	60.4	45.3	36.2	30.2	25.9
PMUL 2006	20	0.42	62.4	41.6	31.2	24.9	20.8	17.8
	30	0.52	77.2	51.5	38.6	30.9	25.7	22.1
	40	0.60	89.1	59.4	44.5	35.6	29.7	25.5
	50	0.67	99.5	66.3	49.7	39.8	33.2	28.4
	60	0.73	108.4	72.3	54.2	43.4	36.1	31.0
(2) PMUL 2004	20	0.56	83.1	55.4	41.6	33.3	27.7	23.8
with Twin Cap	30	0.70	103.9	69.3	52.0	41.6	34.6	29.7
	40	0.80	118.8	79.2	59.4	47.5	39.6	33.9
	50	0.90	133.6	89.1	66.8	53.5	44.5	38.2
	60	0.98	145.5	97.0	72.8	58.2	48.5	41.6
(2) PMUL 2005	20	0.70	103.9	69.3	52.0	41.6	34.6	29.7
with Twin Cap	30	0.86	127.7	85.1	63.8	51.1	42.6	36.5
	40	1.00	148.5	99.0	74.2	59.4	49.5	42.4
	50	1.12	166.3	110.9	83.1	66.5	55.4	47.5
	60	1.22	181.1	120.8	90.6	72.5	60.4	51.8
(2) PMUL 2006	20	0.84	124.7	83.1	62.4	49.9	41.6	35.6
with Twin Cap	30	1.04	154.4	102.9	77.2	61.8	51.5	44.1
	40	1.20	178.2	118.8	89.1	71.3	59.4	50.9
	50	1.34	199.0	132.6	99.5	79.6	66.3	56.8
	60	1.46	216.8	144.5	108.4	86.7	72.3	61.9

Application Rate Tables - Flat Fan Nozzles

Flat Fan Nozzle Application Chart Rated in Liters per Square Meter								
Part Number	**Pressure**	**Flow Rate**	**Speed**					
	(kPa)	(Lpm)	3 km/h	4 km/h	5 km/h	6 km/h	7 km/h	8 km/h
PMN0073-1114	138	0.42	0.016	0.012	0.010	0.008	0.007	0.006

Flat Fan Nozzle Application Chart Rated in Liters per Square Meter								
Part Number	Pressure	Flow Rate	Speed					
	207	0.49	0.019	0.015	0.012	0.010	0.008	0.007
	276	0.57	0.022	0.017	0.013	0.011	0.010	0.008
	345	0.64	0.025	0.019	0.015	0.013	0.011	0.010
	414	0.68	0.027	0.020	0.016	0.013	0.011	0.010
PMN0073-1115	138	0.53	0.021	0.016	0.013	0.010	0.009	0.008
	207	0.64	0.025	0.019	0.015	0.013	0.011	0.010
	276	0.76	0.030	0.022	0.018	0.015	0.013	0.011
	345	0.83	0.033	0.025	0.020	0.016	0.014	0.012
	414	0.91	0.036	0.027	0.021	0.018	0.015	0.013
PMN0073-1116	138	0.79	0.031	0.023	0.019	0.016	0.013	0.012
	207	0.98	0.039	0.029	0.023	0.019	0.017	0.015
	276	1.14	0.045	0.034	0.027	0.022	0.019	0.017
	345	1.29	0.051	0.038	0.030	0.025	0.022	0.019
	414	1.40	0.055	0.041	0.033	0.028	0.024	0.021
PMN0073-1117	138	1.06	0.042	0.031	0.025	0.021	0.018	0.016
	207	1.32	0.052	0.039	0.031	0.026	0.022	0.020
	276	1.51	0.060	0.045	0.036	0.030	0.026	0.022
	345	1.70	0.067	0.050	0.040	0.034	0.029	0.025
	414	1.85	0.073	0.055	0.044	0.037	0.031	0.027
PMN0073-1118	138	1.36	0.054	0.040	0.032	0.027	0.023	0.020
	207	1.67	0.066	0.049	0.039	0.033	0.028	0.025
	276	1.89	0.075	0.056	0.045	0.037	0.032	0.028
	345	2.12	0.083	0.063	0.050	0.042	0.036	0.031
	414	2.31	0.091	0.068	0.055	0.045	0.039	0.034
PMN0073-1119	138	1.63	0.064	0.048	0.038	0.032	0.027	0.024
	207	1.97	0.077	0.058	0.046	0.039	0.033	0.029
	276	2.27	0.089	0.067	0.054	0.045	0.038	0.034
	345	2.54	0.100	0.075	0.060	0.050	0.043	0.037
	414	2.76	0.109	0.082	0.065	0.054	0.047	0.041
PMN0073-1120	138	2.16	0.085	0.064	0.051	0.042	0.036	0.032
	207	2.65	0.104	0.078	0.063	0.052	0.045	0.039
	276	3.03	0.119	0.089	0.072	0.060	0.051	0.045
	345	3.41	0.134	0.101	0.080	0.067	0.057	0.050
	414	3.71	0.146	0.110	0.088	0.073	0.063	0.055

Flat Fan Nozzle Application Chart Rated in Gallons per 1,000 Square Feet								
Part Number	Pressure	Flow Rate	Speed					
	(PSI)	(GPM)	2 mph	3 mph	4 mph	5 mph	6 mph	7 mph
PMN0073-1114	20	0.11	0.38	0.25	0.19	0.15	0.13	0.11
	30	0.13	0.44	0.30	0.22	0.18	0.15	0.13
	40	0.15	0.51	0.34	0.26	0.20	0.17	0.15
	50	0.17	0.58	0.39	0.29	0.23	0.19	0.17
	60	0.18	0.61	0.41	0.31	0.25	0.20	0.18

Flat Fan Nozzle Application Chart Rated in Gallons per 1,000 Square Feet								
Part Number	Pressure	Flow Rate	Speed					
PMN0073-1115	20	0.14	0.48	0.32	0.24	0.19	0.16	0.14
	30	0.17	0.58	0.39	0.29	0.23	0.19	0.17
	40	0.20	0.68	0.45	0.34	0.27	0.23	0.19
	50	0.22	0.75	0.50	0.38	0.30	0.25	0.21
	60	0.24	0.82	0.55	0.41	0.33	0.27	0.23
PMN0073-1116	20	0.21	0.72	0.48	0.36	0.29	0.24	0.20
	30	0.26	0.89	0.59	0.44	0.35	0.30	0.25
	40	0.30	1.02	0.68	0.51	0.41	0.34	0.29
	50	0.34	1.16	0.77	0.58	0.46	0.39	0.33
	60	0.37	1.26	0.84	0.63	0.50	0.42	0.36
PMN0073-1117	20	0.28	0.95	0.64	0.48	0.38	0.32	0.27
	30	0.35	1.19	0.80	0.60	0.48	0.40	0.34
	40	0.40	1.36	0.91	0.68	0.55	0.45	0.39
	50	0.45	1.53	1.02	0.77	0.61	0.51	0.44
	60	0.49	1.67	1.11	0.84	0.67	0.56	0.48
PMN0073-1118	20	0.36	1.23	0.82	0.61	0.49	0.41	0.35
	30	0.44	1.50	1.00	0.75	0.60	0.50	0.43
	40	0.50	1.70	1.14	0.85	0.68	0.57	0.49
	50	0.56	1.91	1.27	0.95	0.76	0.64	0.55
	60	0.61	2.08	1.39	1.04	0.83	0.69	0.59
PMN0073-1119	20	0.43	1.47	0.98	0.73	0.59	0.49	0.42
	30	0.52	1.77	1.18	0.89	0.71	0.59	0.51
	40	0.60	2.05	1.36	1.02	0.82	0.68	0.58
	50	0.67	2.28	1.52	1.14	0.91	0.76	0.65
	60	0.73	2.49	1.66	1.24	1.00	0.83	0.71
PMN0073-1120	20	0.57	1.94	1.30	0.97	0.78	0.65	0.56
	30	0.70	2.39	1.59	1.19	0.95	0.80	0.68
	40	0.80	2.73	1.82	1.36	1.09	0.91	0.78
	50	0.90	3.07	2.05	1.53	1.23	1.02	0.88
	60	0.98	3.34	2.23	1.67	1.34	1.11	0.95

Flat Fan Nozzle Application Chart Rated in Gallons per Acre								
Part Number	Pressure	Flow Rate	Speed					
	(PSI)	(GPM)	2 mph	3 mph	4 mph	5 mph	6 mph	7 mph
PMN0073-1114	20	0.11	16.3	10.9	8.2	6.5	5.4	4.7
	30	0.13	19.3	12.9	9.7	7.7	6.4	5.5
	40	0.15	22.3	14.9	11.1	8.9	7.4	6.4
	50	0.17	25.2	16.8	12.6	10.1	8.4	7.2
	60	0.18	26.7	17.8	13.4	10.7	8.9	7.6
PMN0073-1115	20	0.14	20.8	13.9	10.4	8.3	6.9	5.9
	30	0.17	25.2	16.8	12.6	10.1	8.4	7.2
	40	0.20	29.7	19.8	14.9	11.9	9.9	8.5
	50	0.22	32.7	21.8	16.3	13.1	10.9	9.3

Flat Fan Nozzle Application Chart Rated in Gallons per Acre								
Part Number	Pressure	Flow Rate	Speed					
	60	0.24	35.6	23.8	17.8	14.3	11.9	10.2
PMN0073-1116	20	0.21	31.2	20.8	15.6	12.5	10.4	8.9
	30	0.26	38.6	25.7	19.3	15.4	12.9	11.0
	40	0.30	44.6	29.7	22.3	17.8	14.9	12.7
	50	0.34	50.5	33.7	25.2	20.2	16.8	14.4
	60	0.37	54.9	36.6	27.5	22.0	18.3	15.7
PMN0073-1117	20	0.28	41.6	27.7	20.8	16.6	13.9	11.9
	30	0.35	52.0	34.7	26.0	20.8	17.3	14.9
	40	0.40	59.4	39.6	29.7	23.8	19.8	17.0
	50	0.45	66.8	44.6	33.4	26.7	22.3	19.1
	60	0.49	72.8	48.5	36.4	29.1	24.3	20.8
PMN0073-1118	20	0.36	53.5	35.6	26.7	21.4	17.8	15.3
	30	0.44	65.3	43.6	32.7	26.1	21.8	18.7
	40	0.50	74.3	49.5	37.1	29.7	24.8	21.2
	50	0.56	83.2	55.4	41.6	33.3	27.7	23.8
	60	0.61	90.6	60.4	45.3	36.2	30.2	25.9
PMN0073-1119	20	0.43	63.9	42.6	31.9	25.5	21.3	18.2
	30	0.52	77.2	51.5	38.6	30.9	25.7	22.1
	40	0.60	89.1	59.4	44.6	35.6	29.7	25.5
	50	0.67	99.5	66.3	49.7	39.8	33.2	28.4
	60	0.73	108.4	72.3	54.2	43.4	36.1	31.0
PMN0073-1120	20	0.57	84.6	56.4	42.3	33.9	28.2	24.2
	30	0.70	104.0	69.3	52.0	41.6	34.7	29.7
	40	0.80	118.8	79.2	59.4	47.5	39.6	33.9
	50	0.90	133.7	89.1	66.8	53.5	44.6	38.2
	60	0.98	145.5	97.0	72.8	58.2	48.5	41.6

Understanding Dash Controls

MX19929

- Master Switch (A) - This toggle switch controls boom sections.
- Boom Section “L” Switch (B) - This toggle switch controls the left solenoid which controls liquid flow to the left boom. To activate liquid flow at system pressure to the left boom, move switch up to the ON position. To terminate liquid flow to the left boom, move switch down to OFF position.
- Boom Section “C” Switch (C) - This toggle switch controls the center solenoid which controls liquid flow to the center boom. To activate liquid flow at system pressure to the center boom, move switch up to the ON position. To terminate liquid flow to the center boom, move switch down to OFF.
- Boom Section “R” Switch (D) - This toggle switch controls the right solenoid which controls liquid flow to the right boom. To activate liquid flow at system pressure to the right boom, move switch up to the ON position. To terminate liquid flow to the right boom, move switch down to OFF.
- Marker Switch (E) - This toggle switch controls the foam marker (optional equipment). Move switch to the left position, foam will start to flow from the left side boom wing nozzle. Move switch to the right position, foam will start to flow from the right side boom wing nozzle. Move switch to the center position, foam will stop.
- Boom Wing Switch (F) - This toggle switch controls the right boom wing electric lift cylinder (optional equipment). Move switch to the lower position, the right boom wing will begin to lower. This is a infinite positioning switch - at any time, you release the switch, the boom wing will stop. Move switch to the raise position, the right boom will begin to raise.
- Boom Wing Switch (G) - This toggle switch controls the left boom wing electric lift cylinder (optional equipment). Move switch to the lower position, the left boom wing will begin to lower. This is a infinite positioning switch - at any time, you release the switch, the boom wing will stop. Move switch to the raise position, the left boom will begin to raise.
- Handgun Switch (H) - Future option. Not used at this time.
- Flow Switch (I) - This toggle switch controls pump flow AUTOMATIC/MANUAL.
- Pressure Switch (J) - This toggle switch controls pressure INCREASE/DECREASE.

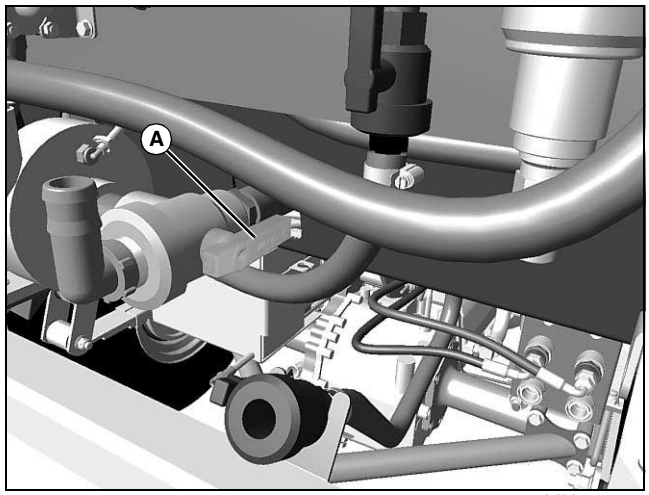
NOTE: The pressure gauge is liquid filled. The liquid inside the gauge is to dampen any internal or external shocks, jarring, bumps, etc. Please do not try to remove any liquid from this gauge.

- Pressure Gauge (K) - This pressure gauge reads the operating pressure for the sprayer system. While spraying, the system pressure should be a constant. Any drastic changes in pressure is an indication of a sprayer component not functioning properly. Example: If the nozzles were plugged, there would be a higher pressure reading on the gauge. If the nozzles were missing, there would be a lower pressure or no pressure at all on the gauge.

Operating the Sprayer

See your machine Operator’s Manual for complete operating instructions.

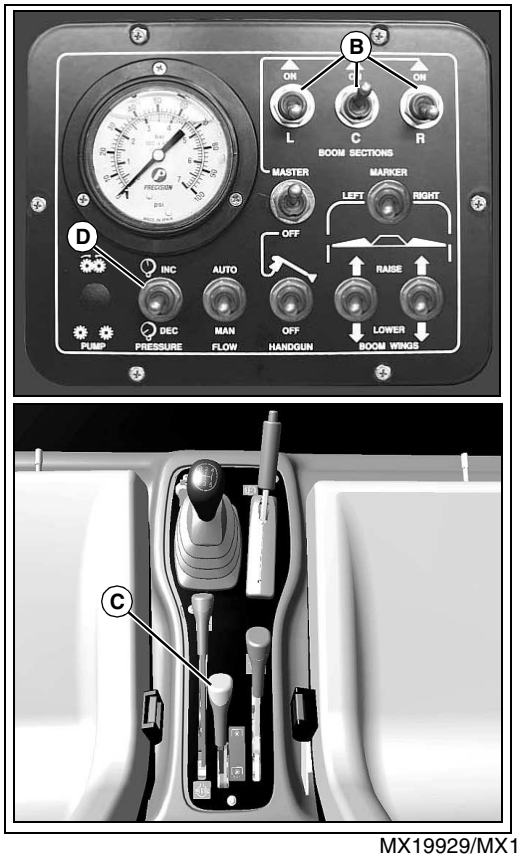
IMPORTANT: Avoid damage! Avoid damage to pump. Before operating sprayer, always make sure that arrow on handle (A) of three-way ball valve is pointing toward tank, as shown. The pump will be severely damaged within a few minutes if it is run dry.



MX19936

1. Determine the correct travel speed and system pressure for your nozzle type and spray application. (See Nozzle section.)

2. Adjust boom to the desired boom height and width.



MX19929/MX19916

3. Select desired boom sections for use. Move appropriate boom section switches (B) to the ON position.

4. Pull PTO control lever (C) upward to the ON position to activate sprayer pump.

5. Set machine at desired RPM using throttle/governor control. If necessary, adjust system pressure using pressure switch (D). (See Adjusting System Pressure in this section.)

6. Maintain proper travel speed using the machine throttle/ governor control.

7. To stop sprayer, move all control panel switches to OFF. Return PTO control lever to OFF position.

Adjusting System Pressure

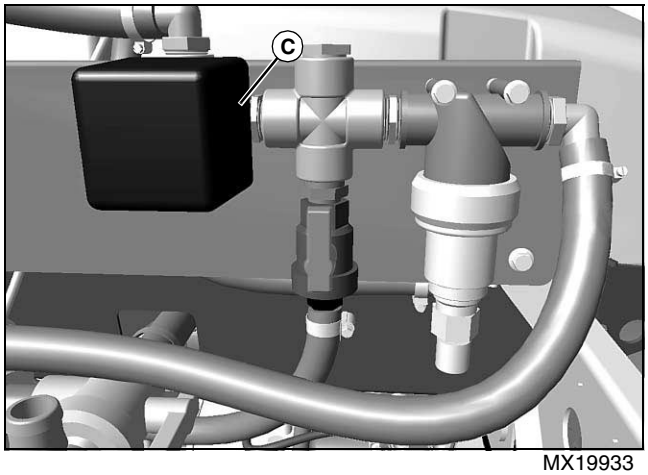
MX19929

For proper performance, system pressure should be adjusted to match nozzle type in use. (See Nozzle section for recommended pressure.)

When the sprayer is being operated, system pressure will be read on the dash control panel pressure gauge (A).

Adjust system pressure as needed:

- Move pressure switch (B) up to INC position to increase pressure.
- Move pressure switch (B) down to DEC position to decrease pressure.



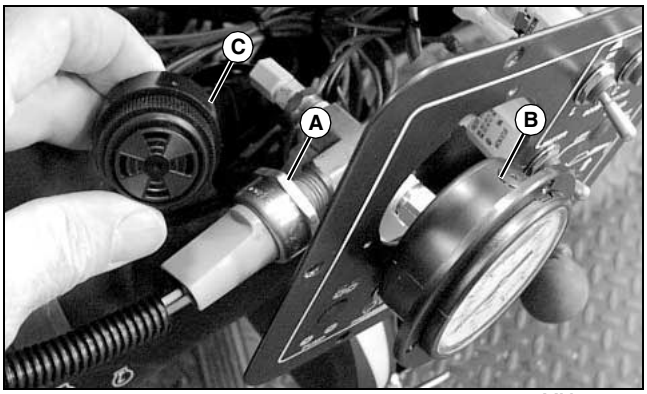
MX19933

NOTE: If there is no pressure indication or an inaccurate indication on the gauge, the pressure gauge tube and/or isolator will need to be bled. (See Service - Standard Equipment section) for details.

Pressure regulating valve (C) at rear of sprayer should not be tampered with.

Low Pressure (Low Fluid Indicator) Warning System

IMPORTANT: Avoid damage! If low pressure warning buzzer sounds, discontinue spraying, move all control panel switches to OFF and return PTO control lever to OFF position to avoid damage to the pump. Refill tank and/or determine and repair cause of low pressure warning before continuing.



MX19972

The low pressure warning system consists of a pressure switch (A) located behind the pressure gauge (B), and a warning buzzer (C). The pressure switch is set at 9 PSI. A 10-12 second time delay feature allows system pressure to build after start-up to avoid false low pressure warnings.

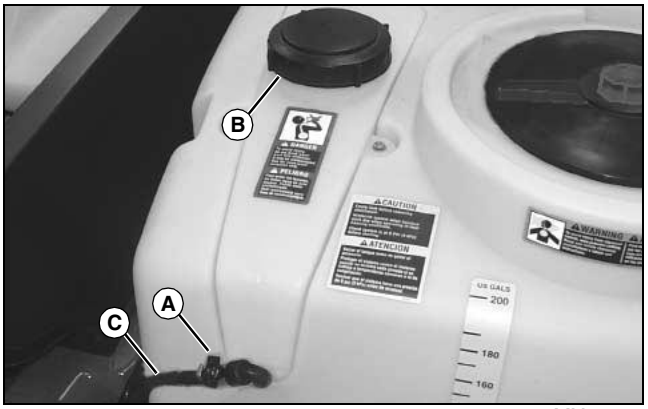
Erratic and erroneous pressure readings and low pressure warnings can be caused by air in the pressure line between the gauge and the isolator. To avoid or repair problems of air in the pressure tube, see Fill and Install Pressure Gauge Tube in Installing section or Bleeding the Pressure Gauge Tube in the Service - Standard Equipment section.

Low pressure can also be caused by material blockage in the inline strainer. To backflush or service strainer, see Backflushing the Inline Strainer in this section, or Checking and Cleaning the Inline Strainer in the Service - Standard Equipment section.

Using the Personal Wash Tank

CAUTION: Avoid injury! Avoid Injury or Death. Never fill wash tank with anything other than fresh water for rinse/wash purposes.

Do not drink from this container. Fluids contained inside may be contaminated.



MX2993

1. Close spigot valve (A).
2. Clean area around fill cover (B).
3. Remove fill cover.
4. Fill wash tank with clean water.
5. Install fill cover.
6. Remove hose (C) from hole in sprayer frame.
7. Open spigot valve.
8. Wash as required and close spigot valve.
9. Return hose to hole in sprayer frame.

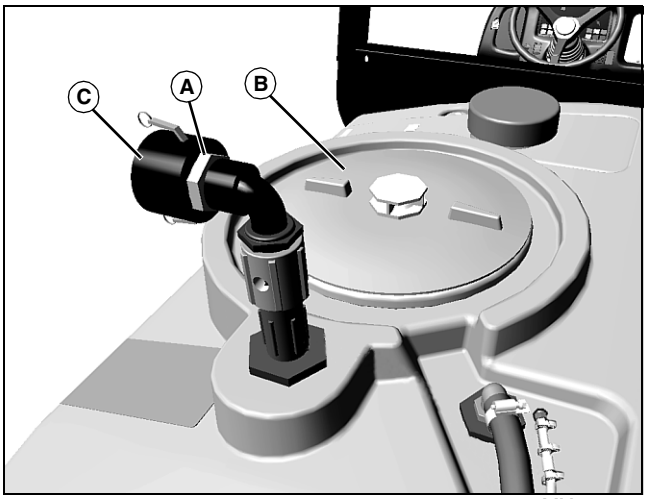
Filling and Draining Sprayer Tank

Filling the Tank

CAUTION: Avoid injury! Avoid Injury or Death! Chemicals can be dangerous. Avoid injury to operator or bystanders:

- **Read chemical container label for mixing and handling instructions. A Material Safety Data Sheet (MSDS) should be supplied by the chemical dealer and provides proper safety information.**
- **Wear proper clothing and safety equipment while handling or applying spray chemicals.**
- **Wear a full covering of clothing, protective goggles and rubber gloves.**
- **Prohibit all smoking, drinking, and eating around chemicals.**

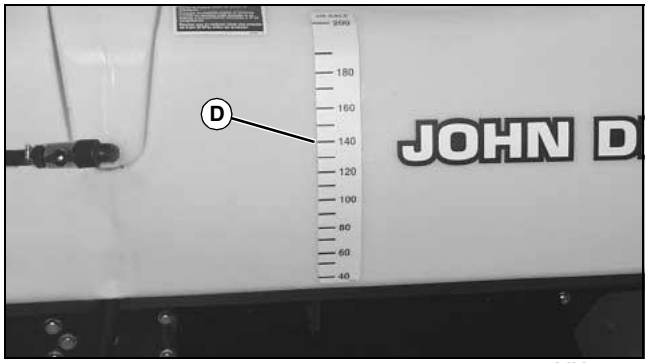
1. Park machine safely.



MX19920

2. Select quick-connect coupler (A) or fill port (B) for filling.
3. Clean the fill area to prevent tank contamination.
4. Remove dust cap (C) from quick-coupler, connect to 1 in. fitting.

NOTE: Follow chemical manufacturer's mixing instructions on container label for proper proportions and application rates.



MX2995

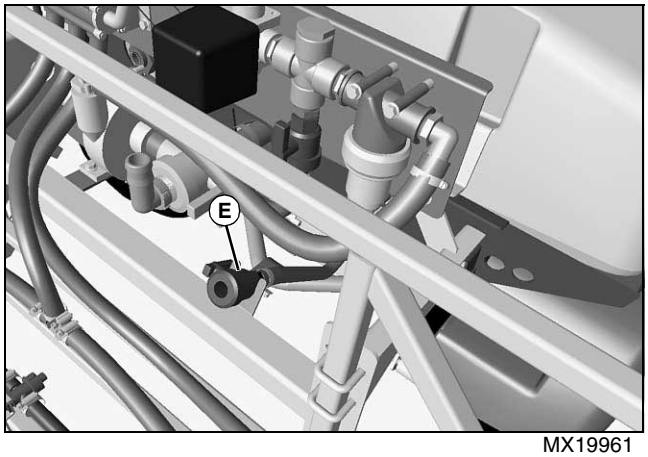
5. Fill tank with proper amount of chemical and mix with clean water. Use fill marks (D) for accurate measurement.

Draining the Tank

IMPORTANT: Avoid damage! Avoid Environmental Damage!

- **Proper disposal of excess spray is very important. Dilute it with water and apply it to area previously treated.**
- **Never dump excess into a storm drain or near a lake or stream.**

1. Park machine safely on a surface that can not be damaged by chemicals. Do not park near a storm drain, lake, or stream.
2. Rinse interior of tank as needed.



MX19961

3. Place container under drain hose (E) at the rear of the sprayer.
4. Remove hose from retaining cradle.
5. Turn valve handle to align with hose to open valve.
6. Allow tank to drain completely.

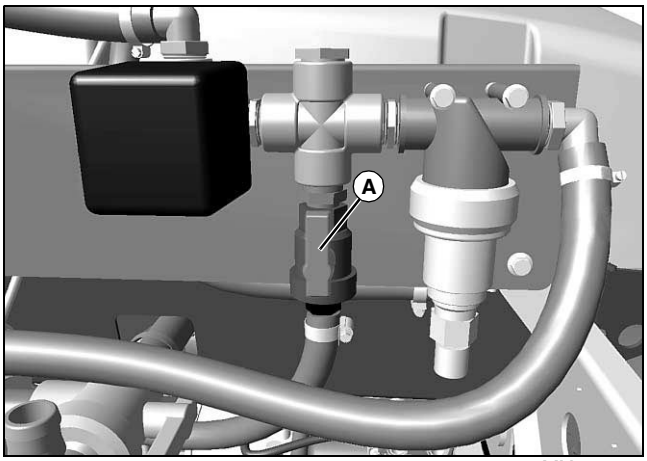
IMPORTANT: Avoid damage! Avoid damage to pump. Turn valve handle so that is faces perpendicular to hose after draining tank.

7. Turn valve handle 90° so handle points perpendicular to hose to close valve.
8. Secure hose in retaining cradle.
9. Properly dispose or rinse water.

Using the Agitator

The agitator is a jet nozzle device located inside the sprayer tank at the lower left rear corner. When operating, it allows the tank contents to be routed at system pressure into the spray tank. This system provides continuous agitation to prevent separation of spray tank mixture. It is recommended to use agitator whenever operating sprayer.

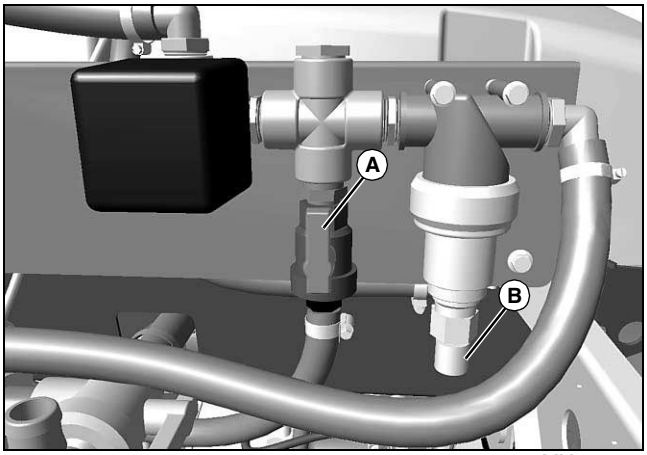
1. Shut sprayer OFF.
2. Park machine safely.



MX19933

3. Turn handle (A) on agitator ball valve to vertical OPEN position as shown.
4. Resume normal spraying operations.
5. To stop agitator:
   a. Shut sprayer OFF.
   b. Park machine safely.
   c. Turn agitator ball valve to horizontal CLOSED position.

Backflushing the Inline Strainer

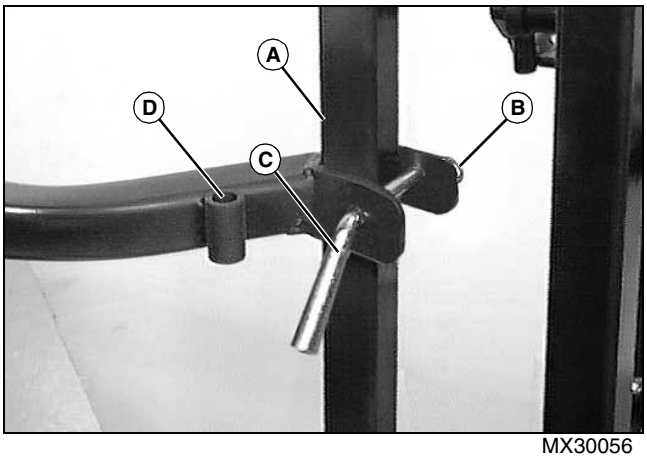


MX19933

1. Shut sprayer OFF.
2. Shut OFF all boom switches.
3. Turn agitator ball valve (A) to horizontal OFF position.
4. Open strainer valve (B) by backing out knob.
5. Turn ON sprayer to clean strainer.
6. Shut sprayer OFF and close strainer valve by turning knob in.
7. If problems persist, see Remove and Install Inline Strainer in Service - Standard Equipment section for more information.

Using Boom Wings

CAUTION: Avoid injury! Boom wings are heavy and can fall suddenly when pins are removed. Maintain secure grasp of boom wings and lower them slowly to operating position.



MX30056

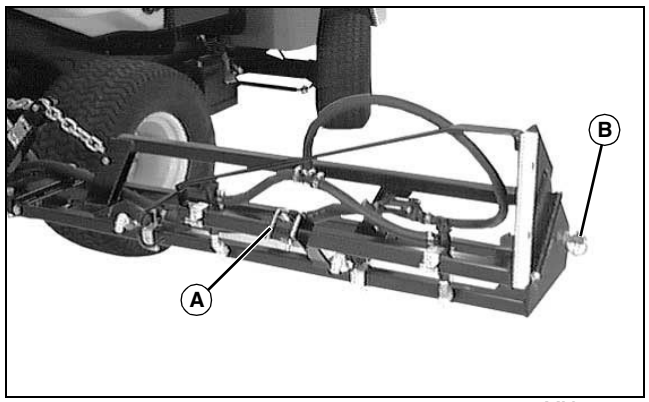
1. Hold boom (A) in upright position.

2. Remove spring locking pin (B) and drilled pin (C).
3. Lower boom slowly to operating position.
4. Secure pins in storage tube (D).

Using Boom Wing Extensions (15/21 Foot Boom Only)

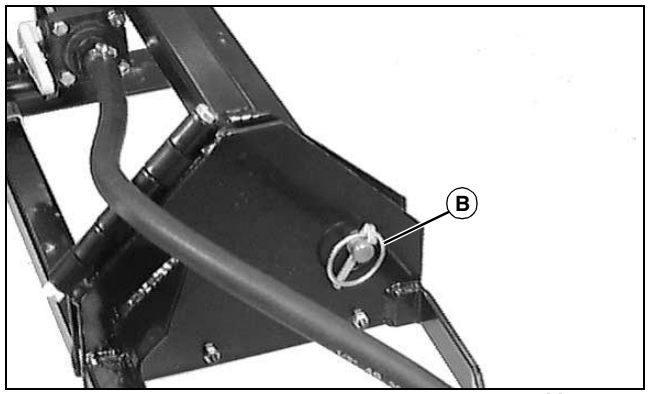
NOTE: When extensions are not in use, secure pins in the original locations and close ball valves.

1. Lower boom wings to operating position.



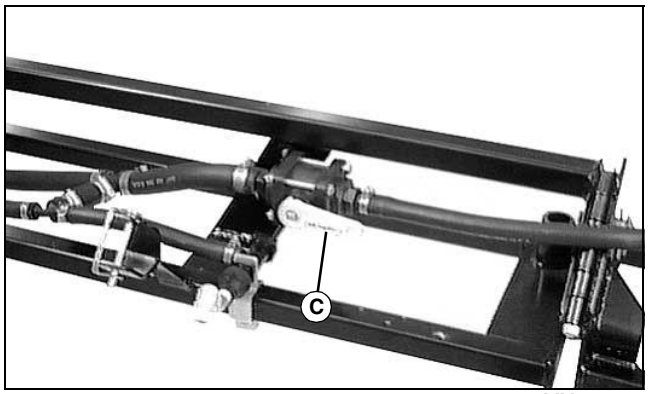
MX19966

2. Remove wire lock pin (A) and quick-lock pin (B).



M88203a

3. Unfold boom wing extension and install quick-lock pin (B).

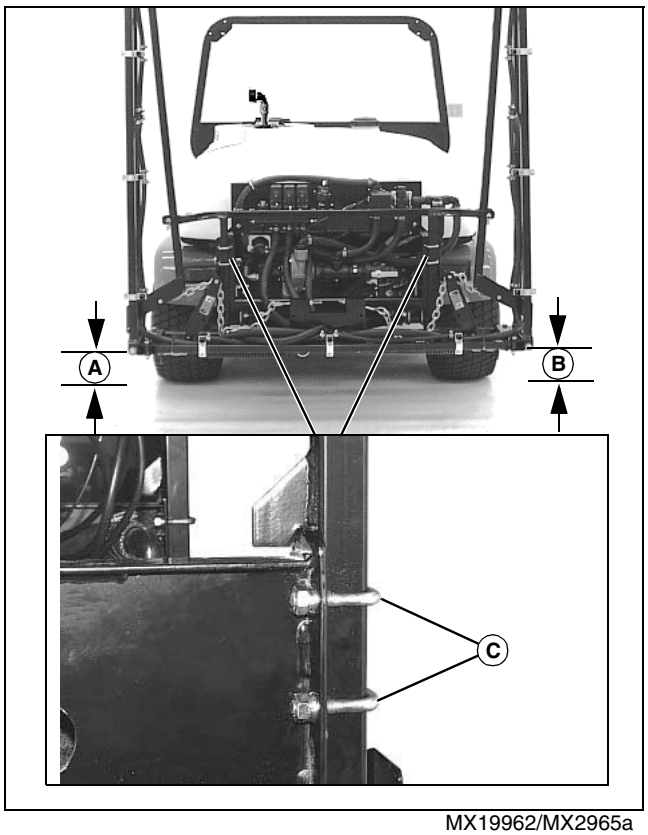


MX19965

4. Turn ball valve handle (C) to:
   - Horizontal OPEN position for spraying.
   - Vertical CLOSED position when boom wing extensions are folded and not in use.

Adjusting Boom Level and Height

1. Park Machine Safely.
2. Check machine tires for correct and equal pressures.
3. Fold and lock boom wing extensions, if equipped.
4. Raise and lock boom wings.



MX19962/MX2965a

5. Measure between ground level and each end of center

boom section. Measurements (A) and (B) should be the same.

6. If ends are not level or height adjustment is desired, adjust boom:

   a. Support center boom section evenly with a safe hoist or floor jack.

   b. Loosen four U-bolts (C) and adjust center boom section so each end is at equal height.

7. Tighten four U-bolts completely.

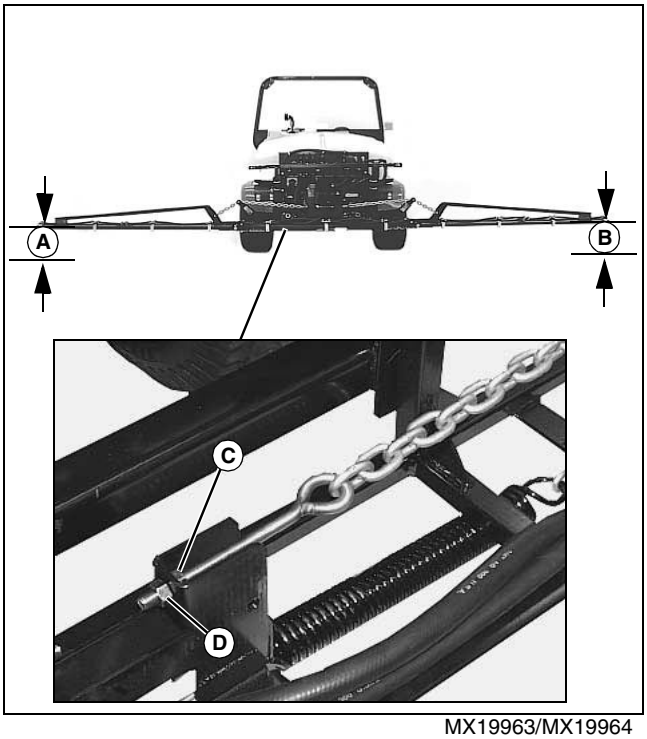
8. Remove lifting device from center boom.

9. Level boom wings. (See Leveling the Boom Wings in this section or refer to Operating-Optional Equipment section if boom wings are equipped with electric actuators or ground wheels.)

Leveling the Boom Wings

1. Level boom. (See Adjusting Boom Level and Height in this section.)

2. Lower and lock boom wings to operating position.



MX19963/MX19964

3. Measure between ground level and end of boom wings. Measurements (A) and (B) should be same and equal to center boom section measurement.

4. To adjust boom wing level:

   a. Loosen nut (C).

   b. Tighten or loosen nut (D) to raise or lower end of boom wing.

   c. Tighten nut (C) completely.

Transporting

CAUTION: Avoid injury! Be aware of sprayer height and width dimensions at all times during transport.

1. Dilute and spray excess chemicals safely to empty tank.

2. Park machine safely.

3. Rinse and drain sprayer tank.

4. If equipped, fold and lock boom wing extensions in folded back position.

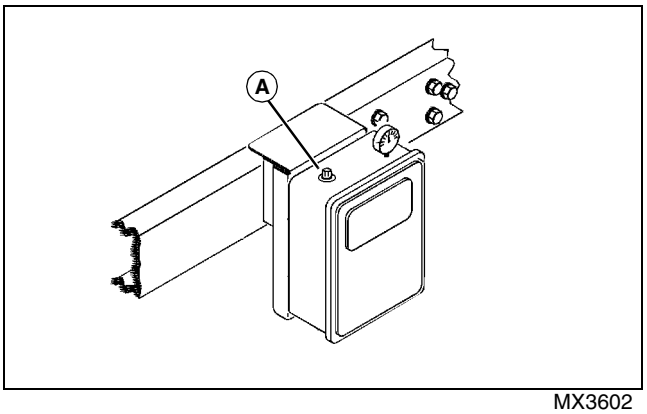
5. Raise and lock boom wings in upright position.

6. Attach caution flags to booms if required.

Daily Operating Checklist

- Check inline strainer.
- Check machine hydraulic fluids.
- Check sprayer tank for damage or internal debris.
- Check connections for leaks.
- Check contents in sprayer tank.

Adjusting Foam Marker Pressure



MX3602

Use knob (A) to adjust relative mixture of air and liquid (foam concentrate). The pressure gauge indicates the pressure at which the liquid is being injected.

IMPORTANT: Avoid damage! Operating under 138 kPa (20 psi) may not produce enough liquid pressure to overcome foam discharge pressure. This can result in intermittent foam output.

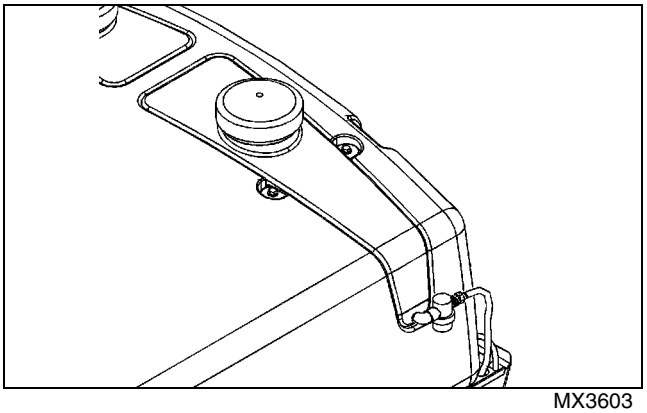
Never operate foam marker continuously over 414 kPa (60 psi) or unit could be damaged.

Setting Pressure

- Rotate knob fully counter-clockwise to shut off liquid pump completely.
- Rotate knob clockwise to increase pressure and liquid flow.
- To aid in priming on first tank full, turn knob completely clockwise.

Pressure Setting Characteristic Chart		
	Low Pressure	**High Pressure**
Pressure Range	138 - 207 kPa ((20 - 30 psi)	207 kPa ((30 psi) and up
Foam Density	Light	Heavy, Wet
Foam Consistency	Fluffy, Larger Bubbles	Thick, Smaller Bubbles
Solution Usage	Lower	Higher
Average Blob Size	Larger	Smaller
Hot Weather Durability	Less	More

Foam Marker Solution Preparation



MX3603

Selecting Concentrate

Always use high quality foam concentrate. Be aware many poor quality foam concentrates are sold. Some concentrates may work well in some conditions but not others. Ask your John Deere dealer for recommendations.

Mixing Solution

NOTE: Mixing solution too strong can result in foam being too stiff. Although foam quality may appear good, the marker may seem to stall with little foam output. If this occurs, dilute mixture with water.

Follow these guidelines when mixing solution:

- Always follow directions on product label.
- Always use clean water. If your water has high mineral content, it is advisable to add a water conditioner.
- Always add concentrate to water and not water to concentrate.
- When topping off foam marker tank with a water hose, place end of hose in under liquid surface to prevent agitation and foam formation in tank.
- If foam appears watery, it may require additional concentrate or a water conditioning agent. Experiment to determine correct mix for your application.

Using Foam Marker

1. Prepare solution in foam marker tank.

2. If equipped, lower right and left boom wings and extensions and lock into place.

MX19929

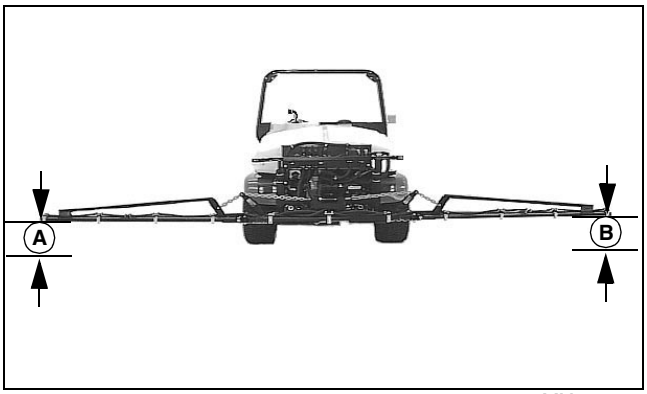
3. Locate foam marker switch (A). This is a three position switch: LEFT/OFF/RIGHT.

4. With engine running, move switch to LEFT or RIGHT position. Foam output should appear from foam nozzle on selected side.

- If foam comes out both sides, adjust foam marker directo-valve. (See Service - Optional Equipment section.)
- If foam marker turns on, but very little or no foam output appears, filter screens require cleaning. (See Service - Optional Equipment section.)

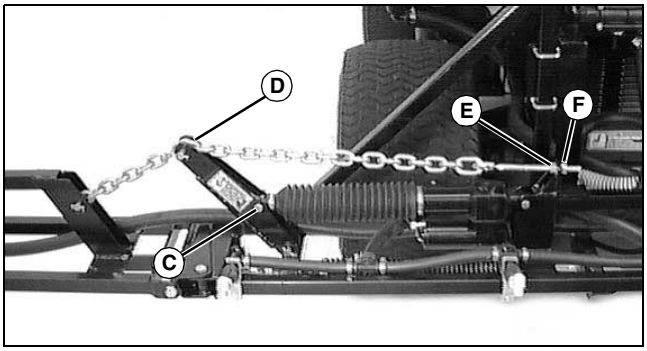
5. If necessary, adjust foam marker pressure to improve foam density and consistency. (See Adjusting Foam Marker Pressure in this section.)

6. Move foam marker switch to OFF position when done marking.



MX19932

3. Measure between ground level and end of boom wings. Measurements (A and B) should be same and equal to center boom section measurement.



M92277a

4. To adjust boom wing level:

a. Remove cotter pin and drilled pin (C).

b. Disconnect actuator from fold yoke (D).

c. Loosen nut (E).

d. Tighten or loosen nut (F) to raise or lower end of boom wing.

e. Tighten nut (E) completely.

f. Align actuator end hole with hole in fold yoke (D).

g. Install drilled pin (C) and secure with cotter pin.

Leveling Boom Wings with Electric Actuators

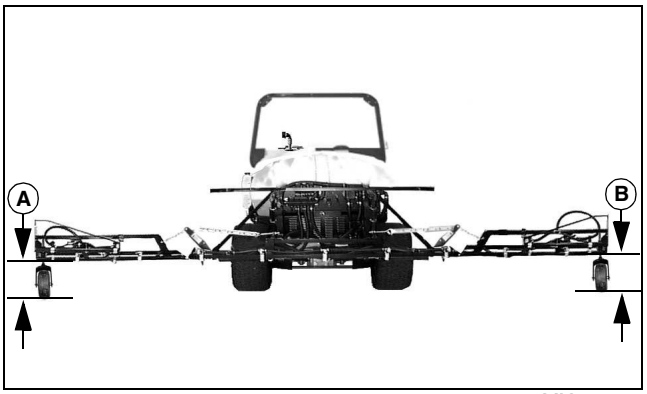
1. Level boom. (See Adjusting Boom Level and Height in Operating - Standard equipment section.)

2. Remove lock pins from boom wings and lower completely using boom wing switches on dash control panel.

Leveling Boom Wings with Ground Wheels

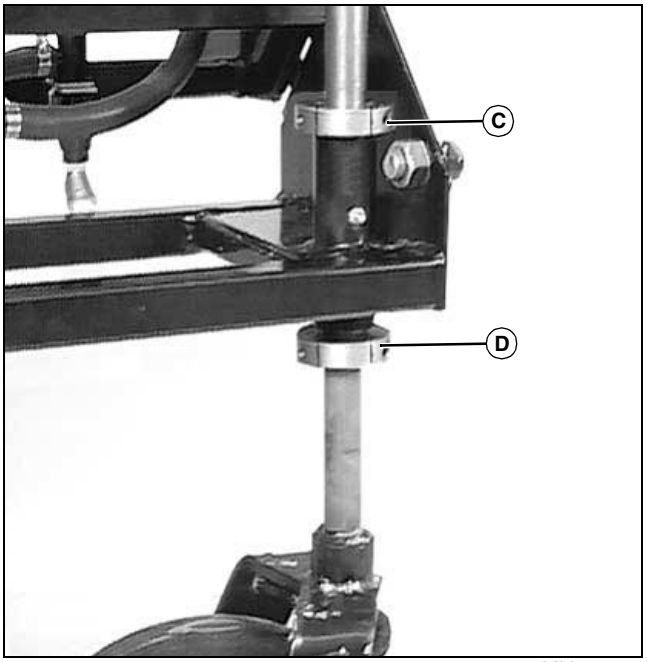
1. Level boom. (See Adjusting Boom Level and Height in Operating - Standard Equipment section.)

2. Remove lock pins from booms, and wings, and lower completely.



MX19967

3. Measure between ground level and end of boom wings. Measurements (A and B) should be same and equal to center boom section measurement.



MX19969

4. To adjust boom wing level:

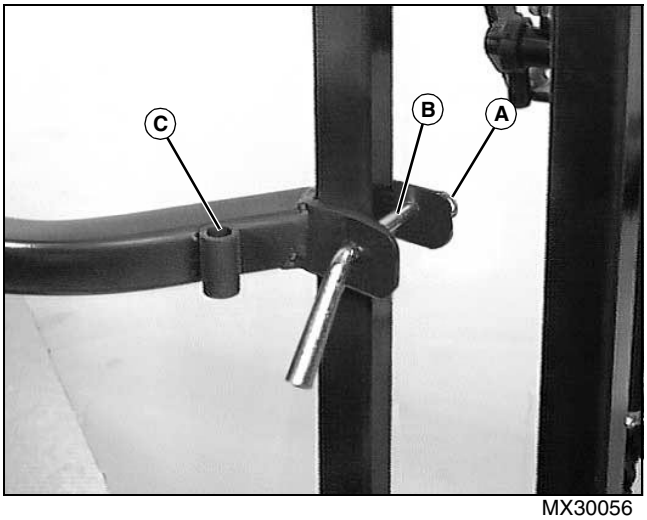
   a. Loosen locking collars (C and D).

   b. Move boom up or down to level.

   c. Move locking collar (D) up against underside of boom. Tighten set screw completely.

   d. Move locking collar (C) down against upper side of boom. Tighten set screw completely.

Using Boom Wings with Electric Actuators



MX30056

Picture Note: Right side shown.

1. Remove spring locking pins (A) and drilled pins (B).
2. Secure pins in storage tubes (C).

IMPORTANT: Avoid damage! When boom wings are in raised position and ready for transport, make sure drilled pins and spring locking pins are installed to secure wings.

MX19929

3. Raise or lower boom wings by moving left (C) and right (D) boom wing switches to RAISE or LOWER position until boom wings are at desired height.

Using Manual and Electric Hose Reels

Operating

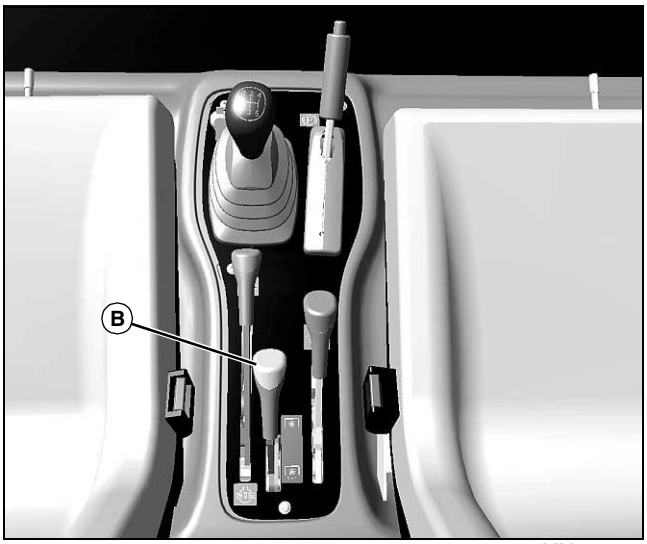
1. Stop machine on a level surface, not a slope.

2. Place gear shift lever in NEUTRAL.

3. Lock machine park brake.

MX19929

4. Move boom master switch (A) to OFF position.

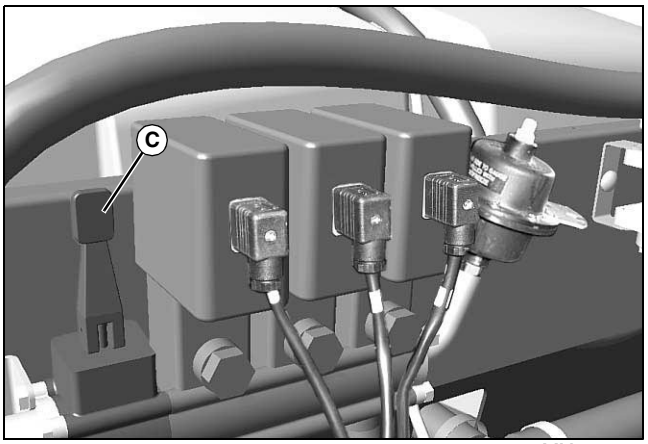


MX19916

5. Pull up on PTO control lever (B) to start operation of sprayer pump.

6. Set machine at desired RPM using throttle/governor control. If necessary, adjust system pressure using pressure switch on control panel.

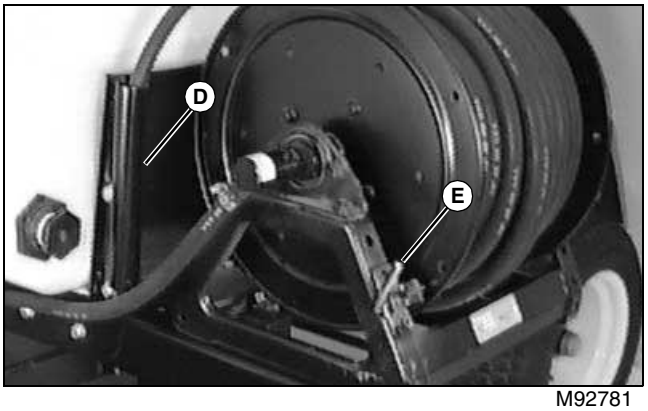
7. Leave engine running and dismount machine.



MX19925

8. Place hose reel valve lever (C) at rear of sprayer in ON position:

- ON position (shown) - with lever in raised or upper position, liquid supply to hose reel is turned on.
- OFF position - with lever in lower or down position, liquid supply to hose reel is turned off.



M92781

9. Remove handgun from storage tube (D).

10. Remove desired length of hose from reel.

- Manual Hose Reel: Pull out and move reel lock (E) to UNLOCKED position (shown) so reel spins freely. Pull hose off reel.
- Electric Hose Reel: Pull hose off reel.

Storing

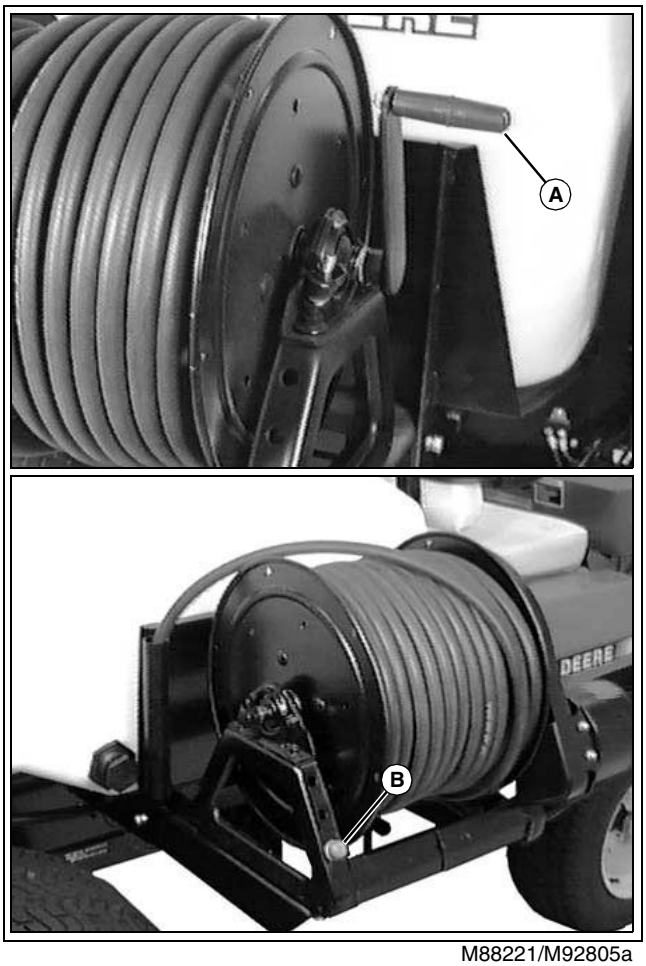
1. Park machine safely.

2. Place hose reel valve lever in OFF position.

3. Operate handgun briefly to remove air pressure from hose.

CAUTION: Avoid injury! Moving parts can crush and cut! Keep hands clear. Do not operate with guard removed.

Wind at least 2 m (6.5 ft) of hose manually to prevent injury from fast-winding hose.



M88221/M92805a

4. Wind hose on reel as follows:

   • Manual Hose Reel: Use one hand to help guide hose while manually turning handle (A).

   • Electric Hose Reel: Press power switch (B) to start electric motor and automatically wind hose on reel. Keep hand away from drum while guiding hose. Manually wind in last 2 m (6.5 ft) of hose.

5. Place handgun in storage tube.

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 machine serial number and engine serial number. These are the numbers that you recorded in the Product Identification section of this manual.

Part Numbers

Item	Part Number
Storage Cap, Pressure Tube Fitting	N277237
Storage Plug, Isolator	15H558
Strainer, Self-Cleaning Line	TCU18176
Strainer, Basket	TCU51825
Strainer, Nozzles, 100 Mesh	PM00073-791
Strainer, Foam Marker Tank Outlet, 80 Mesh	AMT2215
Check Valve Assembly	AMT2479

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

Service Intervals - Standard Equipment

Before Each Use

- Check and Clean Inline Strainer.

As Needed

- Adjust Boom Wing Flexible Joint Spring Tension.
- Bleed Dash Control Panel Pressure Gauge and/or Isolator.
- Check and Clean Personal Wash Tank Cover Vent.

Annually

- Lubricate Boom Wing Pivot Joints.

Service Intervals - Optional Equipment

As Needed

- Clean Foam Marker Tank Outlet Strainer.
- Check and Clean Foam Marker Air Pump Outlet Check Valve.
- Check Foam Marker Liquid Pump Outlet Strainer.
- Check and Clean Foam Marker Tank Cover Vent.
- Lubricate Manual Hose Reel Tension Brake Area.

Weekly

- Clean Foam Marker Air Pump Filter.

25 Hours

- Lubricate Ground Wheels.

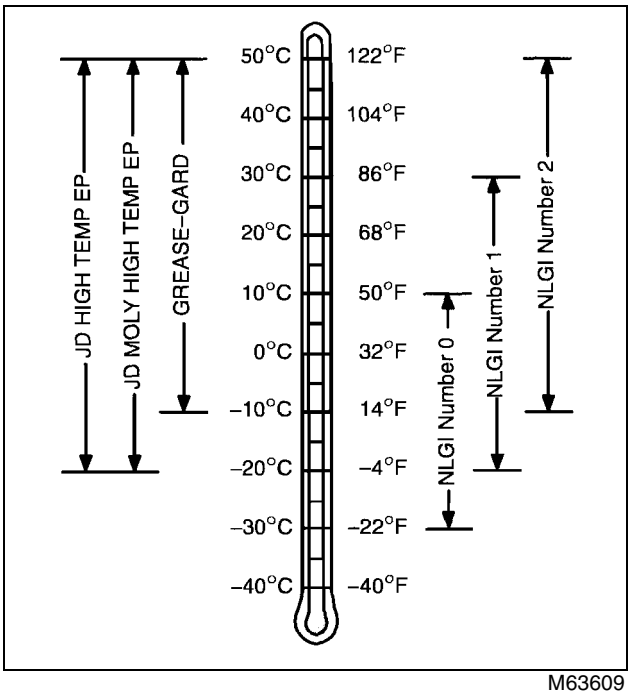
50 Hours

- Clean Foam Marker Cabinet.
- Lubricate Electric Hose Reel.
- Lubricate Manual Hose Reel.

Yearly

- Clean Foam Marker Tank Outlet Strainer.
- Clean Foam Marker Liquid Pump Outlet Strainer

Grease



M63609

Use grease based on NLGI consistency numbers and the expected air temperature range during the service interval.

The following greases are preferred:

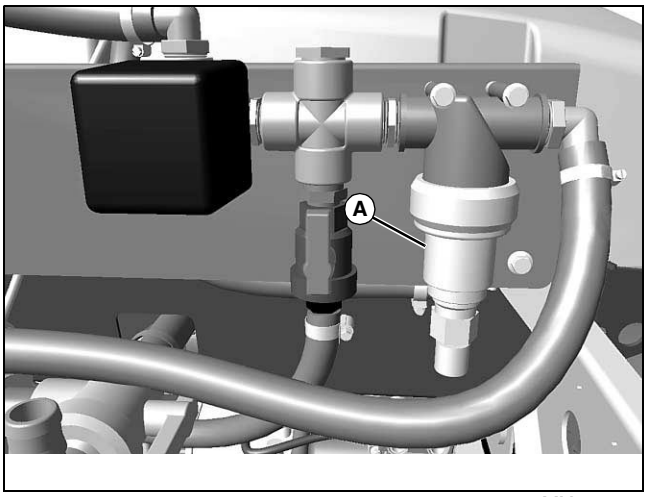
- John Deere Moly High Temperature EP Grease.
- John Deere High Temperature EP Grease.
- John Deere GREASE-GARD™.

Other greases may be used if they meet the following:

- 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.

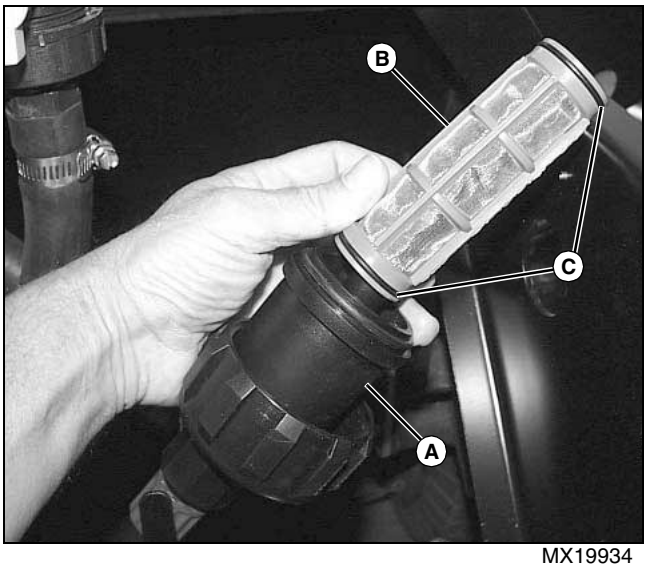
Remove and Install Inline Strainer

The in-line strainer is designed to be self-cleaning (See Backflushing the Inline Strainer in the Operating section). For physical inspection, cleaning or replacement of the strainer, follow the procedure below.



MX19933

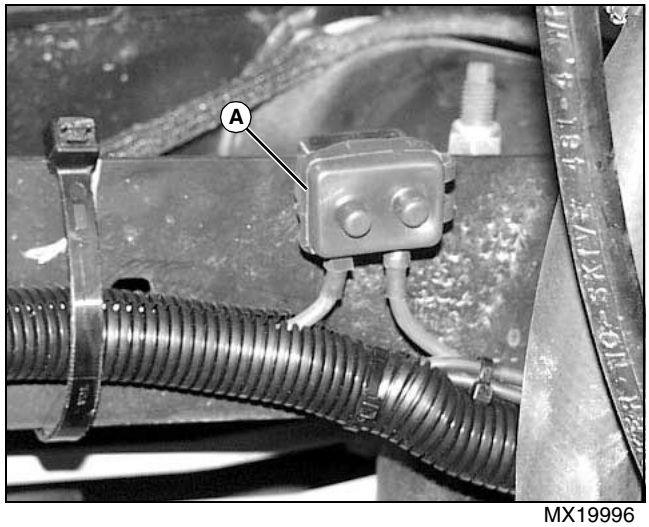
1. Unscrew canister (A) at rear of sprayer and lower it to access the strainer. Do not disconnect the hose attached to the bottom of the canister.



MX19934

2. Remove strainer (B) from canister.
3. Clean or replace strainer and o-rings (C) as needed.
4. Install canister and strainer.

Checking Main Circuit Breaker



MX19996

The front wiring harness is equipped with 50 amp automatic reset circuit breaker (A) to protect the sprayer electrical system.

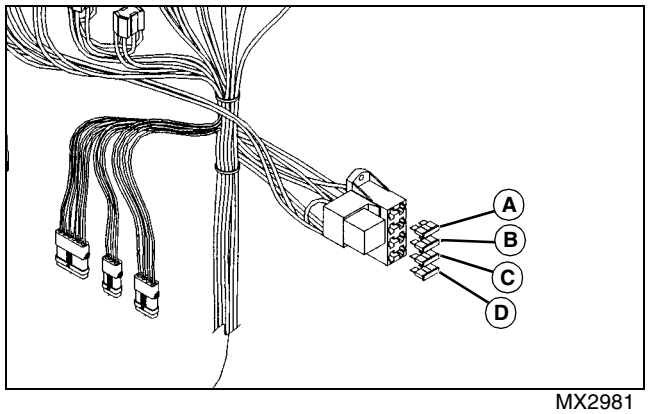
In event of electrical overload, the circuit breaker will trip OPEN. It will automatically reset only when electrical load has been removed from circuit.

If circuit breaker does not automatically reset, there is a direct short in main wiring harness. See your John Deere dealer.

Checking Fuses and Boom Wing Actuator Circuit Breaker

1. Remove front grill from machine.

NOTE: To prevent accidental loss of fuses/circuit breaker during operation, secure to fuse block with a strip of electrical tape or equivalent.



MX2981

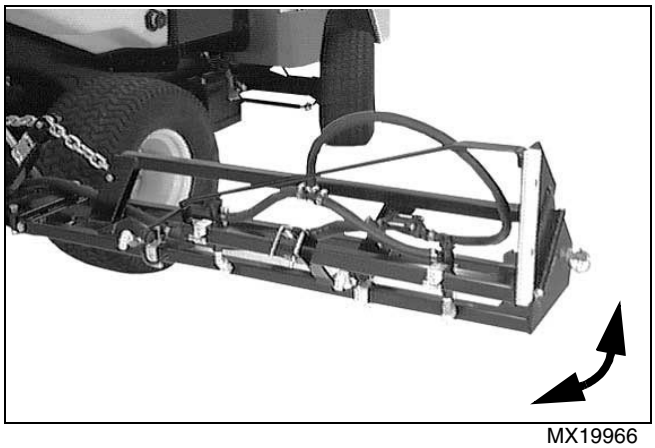
2. Locate fuse block near sprayer control panel.
   - (A) 20 Amp circuit breaker (optional boom wing actuators)
   - (B) 5 Amp (optional accessories)
   - (C) 15 Amp (optional foam marker)
   - (D) 15 Amp (solenoid valves)

3. Check and replace bad fuses or circuit breaker as needed with new fuses or circuit breaker of same amperage rating. If new fuse or circuit breaker blows, there is a short-to-ground in sprayer wiring harness. See your John Deere dealer.

Adjusting Boom Wing Spring Tension

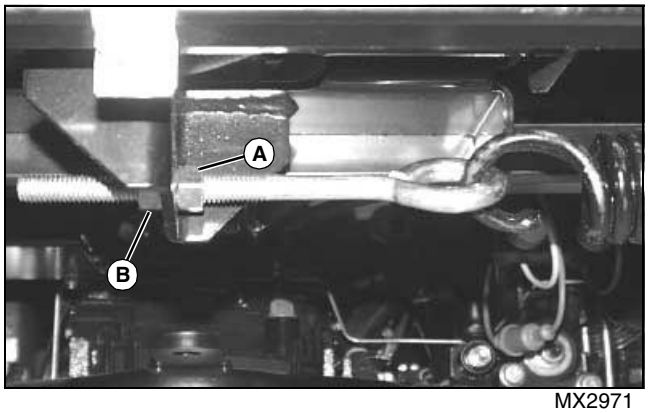
NOTE: More spring tension will be required if optional gage wheels are being used.

1. Ensure boom wing pivot joints are lubricated.
2. Put boom wings in lowered position.



MX19966

3. Move end of right boom wing toward front or rear to simulate hitting an object. Boom wing should firmly snap back to its normal operating position.



MX2971

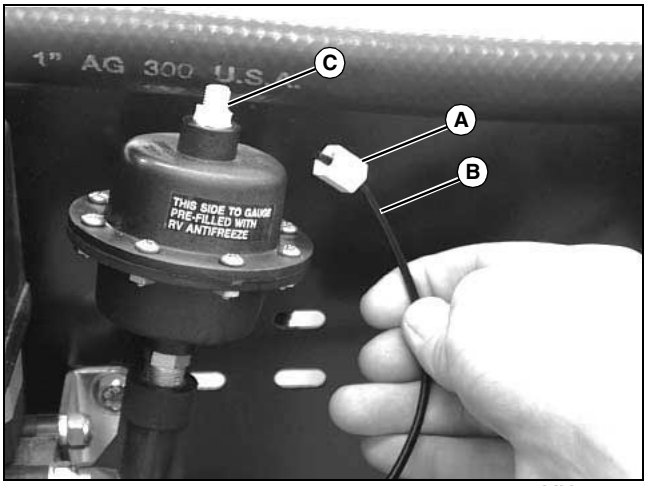
4. Adjust hex nuts so approximately 25 mm (1 in.) of threads exist on eyelet side of bolt. This should provide the proper amount of spring tension on boom wing flexible joint. If more or less spring tension is desired:
   - Increase spring tension - Loosen nut (A), then tighten

nut (B) completely.

- Decrease spring tension - Loosen nut (B), then tighten nut (A) completely.

5. Repeat for other boom wing.

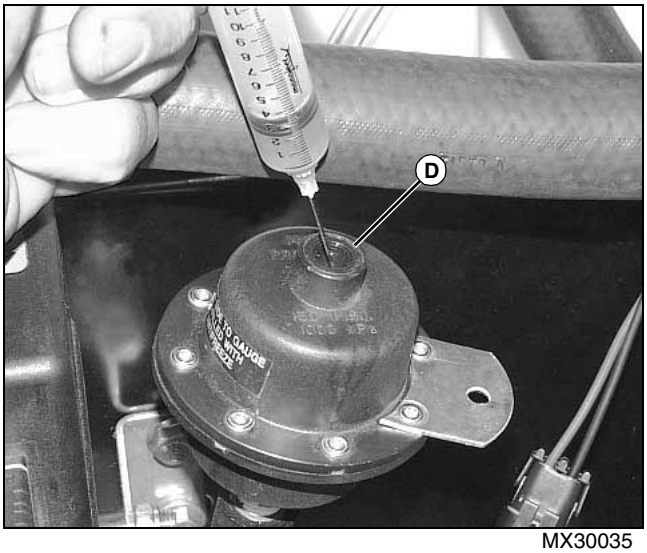
Bleeding the Isolator



MX30009

1. Disconnect the female compression fitting (A) and remove the pressure tube (B) from the isolator.

2. Remove the male compression fitting (C) from the isolator.



MX30035

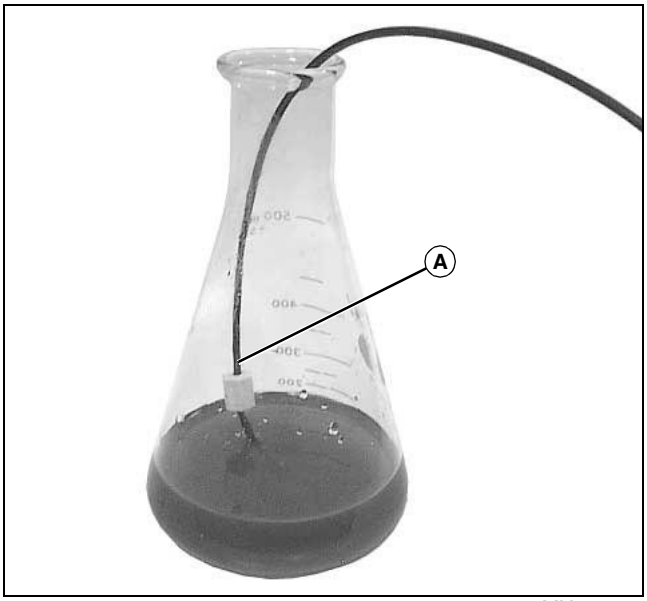
3. Add RV anti-freeze to isolator port (D) with syringe or other method, allowing fluid to displace any air in isolator. Fill to top of port.

4. Install compression fittings and pressure tube, operate sprayer to confirm proper gauge function or continue with procedure to bleed the pressure tube.

Bleeding the Pressure Gauge Tube

Fill Pressure Tube and Connect Isolator to Pressure Gauge (Suction Method)

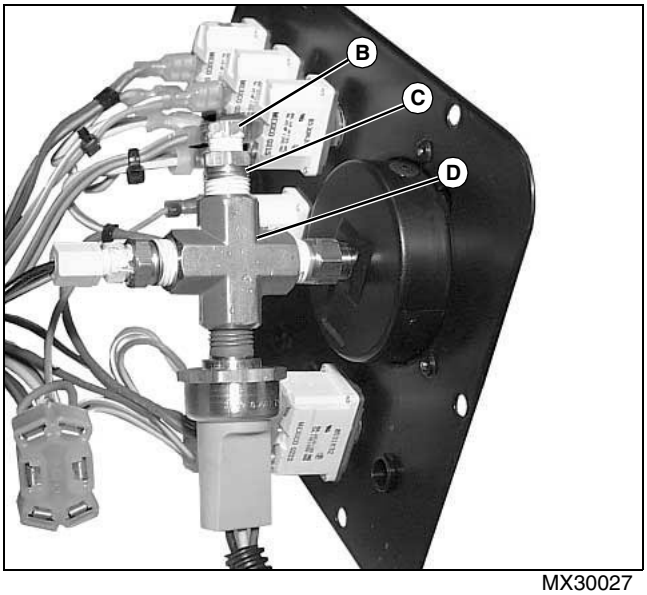
1. Disconnect female compression fitting from isolator and remove pressure tube. Male compression fitting can remain in isolator.



MX19976

2. Place the sprayer end of the pressure tube (A) into a container filled with an adequate amount of RV anti-freeze. The container should be at or above the level of the pressure gauge.

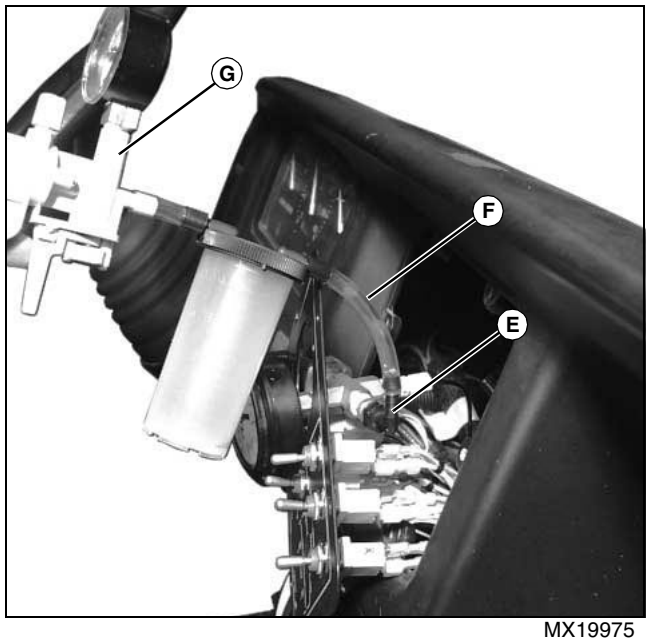
3. Remove the hardware retaining the dash panel and carefully pull panel out to enable access to cross fitting behind pressure gauge. Retain hardware.



MX30027

4. Remove plug (B) from adapter (C) in cross fitting (D) at

rear of pressure gauge. Retain plug.



MX19975

5. Install a fitting (E) and tubing (F) compatible with available equipment to connect suction pump (G) or equivalent to adapter on cross fitting.

6. Operate pump until fluid appears in tube and allow pressure to equalize.

7. Remove the tube from the fluid container, quickly connect the tube to the isolator and tighten the compression fitting.

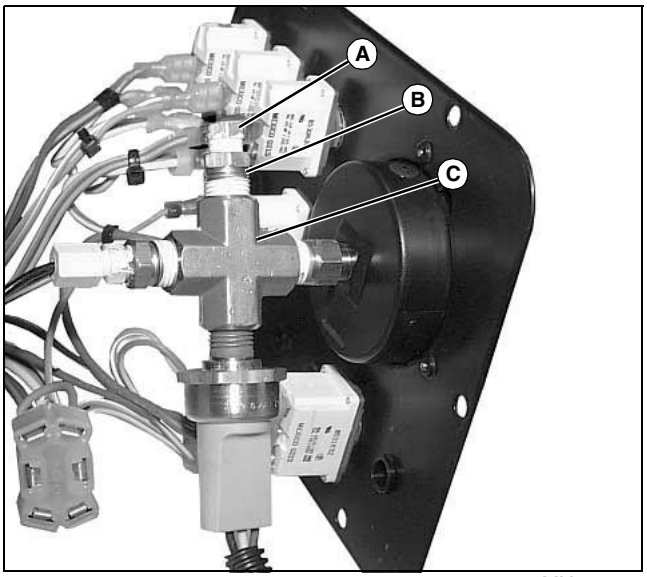
8. Remove the pump and hardware from the cross fitting, keeping the opening on top. Top off cross fitting with RV anti-freeze and install plug (B) removed earlier, using thread sealant tape to prevent leakage.

9. Operate sprayer and confirm proper gauge function. If readings appear inaccurate, or low pressure warning buzzer sounds intermittently, there may be air in system. Repeat bleed procedure if necessary.

10.Install dash panel.

Fill Pressure Tube and Connect Isolator to Pressure Gauge (Injection Method)

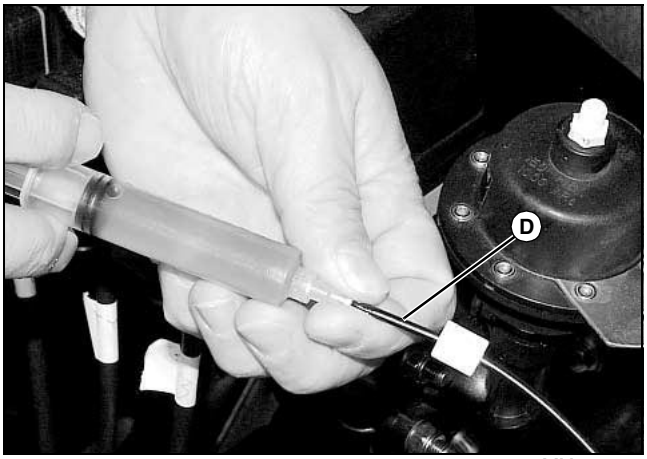
1. Remove the hardware retaining the dash panel and carefully pull panel out to enable access to cross fitting behind pressure gauge. Retain hardware.



MX30027

2. Remove plug (A) from adapter (B) in cross fitting (C) at rear of pressure gauge. Retain plug.

3. Disconnect female compression fitting from isolator and remove pressure tube. Male compression fitting can remain in isolator.



MX30036

4. Inject fluid into the sprayer end of the pressure tube (D) with a syringe until it fills the plug port on cross fitting behind pressure gauge.

5. Remove syringe, quickly connect the tube to the isolator and tighten the compression fitting.

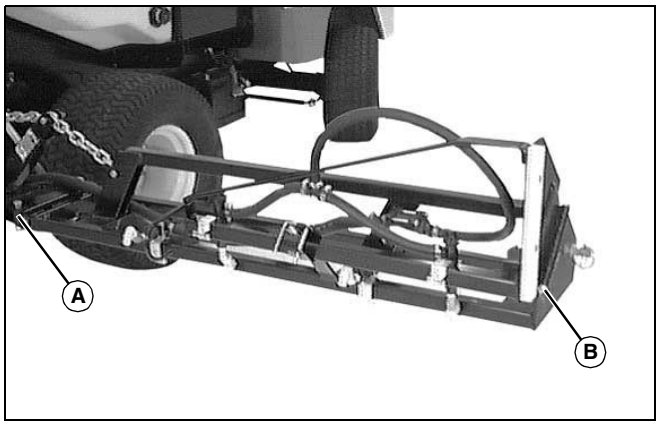
6. Top off cross fitting with RV anti-freeze and install plug removed earlier, using thread sealant tape to prevent leakage.

7. Operate sprayer and confirm proper gauge function. If readings appear inaccurate, or low pressure warning buzzer sounds intermittently, there may be air in system. Repeat bleed procedure if necessary.

8. Install dash panel.

Lubricating Boom Wing Pivots

1. Put boom wings in lowered position and support them with a jack stand or blocks.



MX19966

2. Remove boom wing pivot bolts (A) and boom wing extension bolts (B), if equipped.

3. Apply grease to pivot bolts and install.

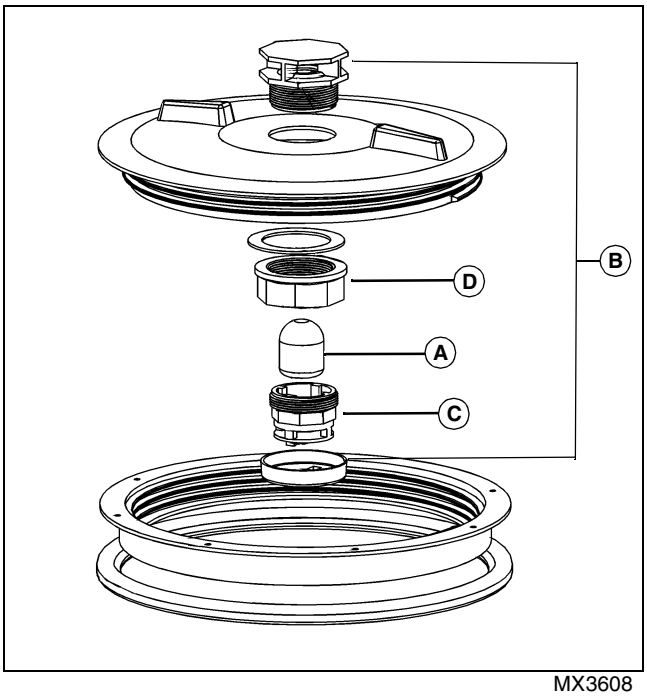
4. Move end of boom wing toward front or rear to simulate hitting an object. Boom wings should snap back to normal operating position.

Inspecting and Cleaning Vented Fill Covers

The sprayer tank, personal wash tank, and foam marker tank are each equipped with a vented fill cap. Cap vent must be clean and in operable condition to ensure proper tank drainage.

Sprayer Tank Fill Cover

1. Remove fill cover from sprayer tank.



MX3608

2. Turn cover upside down several times and verify float (A) moves freely inside breather assembly (B). If float does not move, breather parts may be dirty or damaged.

3. Loosen and remove float guide (C) from bulkhead nut (D).

4. Remove float from float guide.

5. Clean breather assembly with mild detergent. Rinse thoroughly.

6. Inspect breather parts for damage or deterioration. Replace breather assembly if necessary.

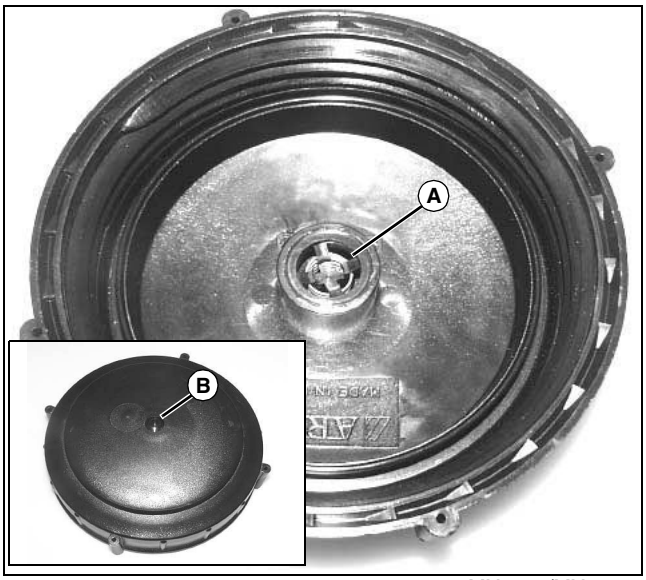
7. Place float in float guide with rounded end facing upward.

8. Tighten float guide to bulkhead nut.

9. Install fill cover to sprayer tank.

Personal Wash and Foam Marker Tanks

1. Remove fill cover from tank.



MX2991/MX2992

2. Clean vent spring area (A) with mild detergent. Rinse thoroughly.

3. Verify vent cap (B) is seated properly against vent hole in cover.

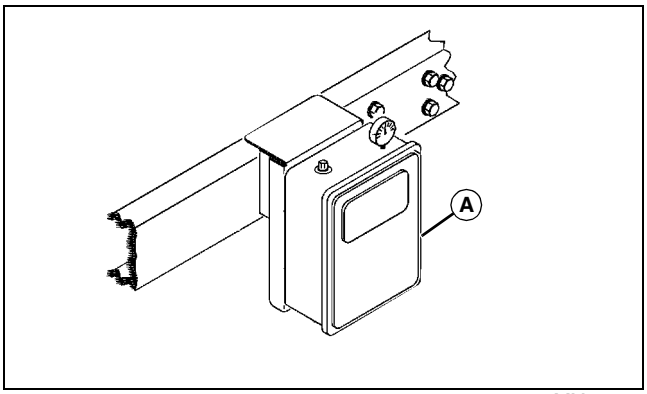
4. Press on vent cap with fingertip. Verify cap moves downward against spring tension and returns to seated position.

5. Replace fill cover if vent is not operating properly.

6. Install fill cover to tank.

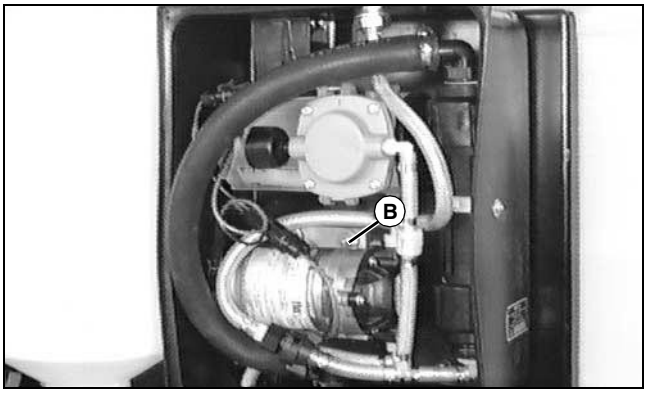
Cleaning Foam Marker Cabinet

IMPORTANT: Avoid damage! Do not use high pressure water to clean inside of foam marker cabinet. Electrical system can be damaged.



MX3602

1. Remove four screws securing cabinet cover (A). Remove cover.



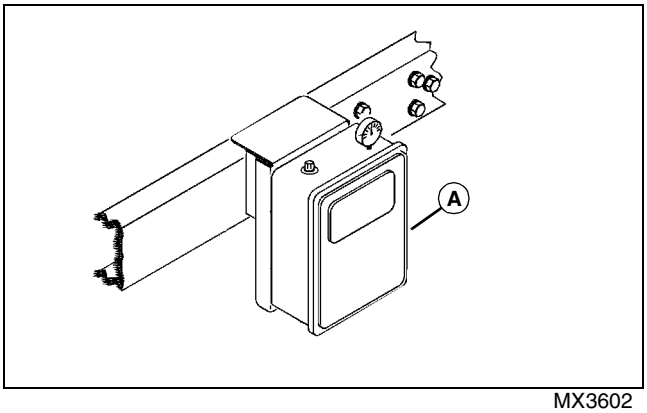
M88152

2. Use an air hose and compressed air. Clean inside of cabinet and around air pump motor (B).

3. Check air pump inlet filter. (See Cleaning Foam Marker Air Pump Inlet Filter in this section.)

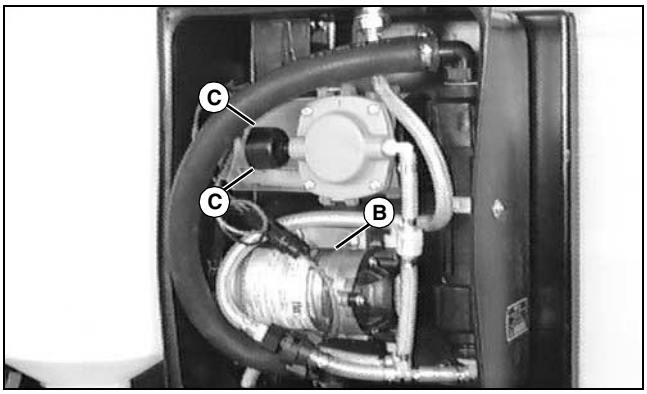
4. Install cabinet cover and secure with four screws.

Cleaning Foam Marker Air Pump Inlet Filter



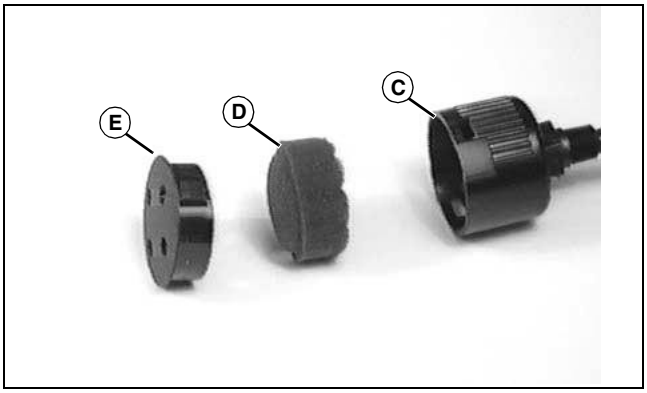
MX3602

1. Remove four screws securing cabinet cover (A). Remove cover.



2. Locate air pump inlet filter canister (B).

3. Push in both upper and lower tabs (C) to release and remove air filter cap.



M88153

4. Remove foam air filter (D).

5. Clean foam filter:

   a. Wash in warm water with mild detergent.

   b. Rinse thoroughly until all traces of detergent are gone.

IMPORTANT: Avoid damage! Do not wring-dry foam filter. Wringing may tear and deform filter element.

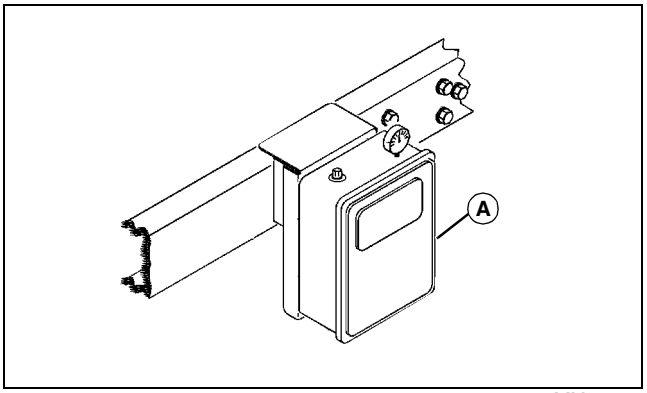
c. Squeeze away excess water.

d. Allow to air dry completely.

e. Soak in fresh clean engine oil and squeeze out any excess oil.

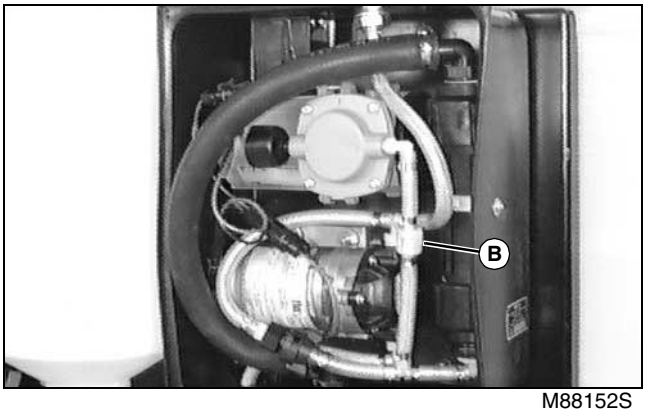
6. Install foam filter in filter canister (B).
7. Install cap (E) to filter canister.
8. Install cabinet cover and secure with four screws.

Checking and Cleaning Foam Marker Air Pump Outlet Check Valve



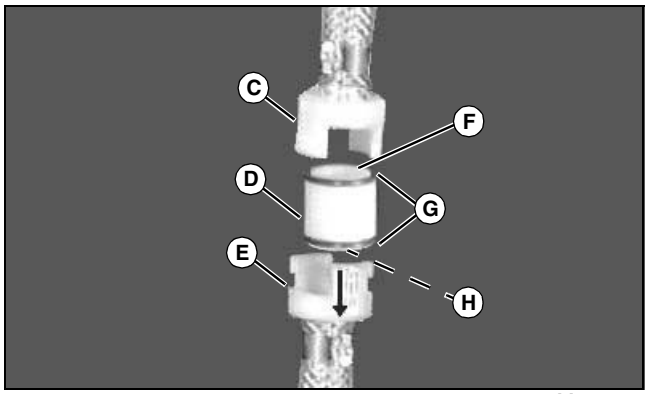
MX3602

1. Remove four screws securing cabinet cover (A).



M88152S

2. Locate air pump check valve (B).



M88159

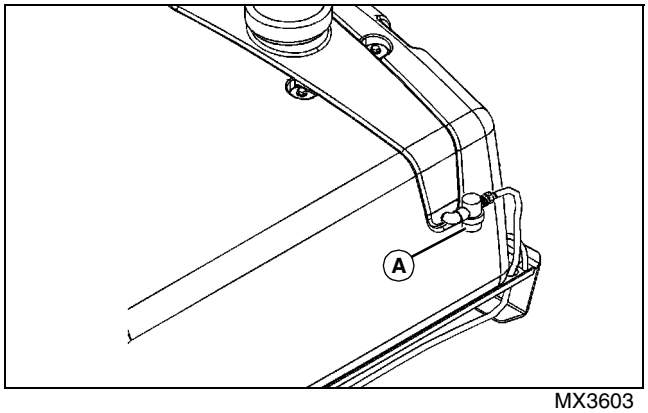
3. Separate check valve couplers (C and E).
4. Remove check valve cartridge (D).
5. Clean or replace cartridge as necessary:
   - Inspect inner O-ring (H) and outer O-rings (G).
   - Internal spring loaded plunger must operate freely and have a good seal.

NOTE: Air flow direction arrow is attached to check valve coupler (E).

6. Install check valve cartridge (D) with spring side (F) toward air pump outlet hose.
7. Lock check valve couplers (C and E) together.
8. Install cabinet cover and secure with four screws.

Cleaning Foam Marker Tank Outlet Strainer

IMPORTANT: Avoid damage! Avoid Environmental Damage! Some foam marking agents can be harmful to the environment. Collect the agent in a container and dispose of according to manufacturer's instructions.

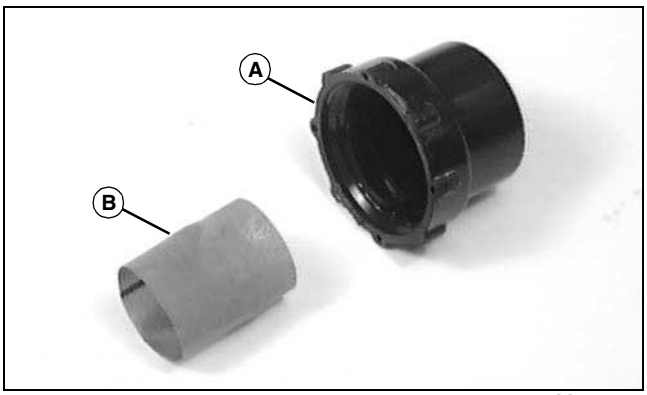


MX3603

1. Locate strainer cover (A) at base of foam marker tank.

NOTE: If foam marker tank is not empty, removing strainer cover will cause tank to drain.

2. If tank is not empty, prepare a drain pan to collect tank contents from strainer port.



M88155

3. Remove strainer cover (A) and 80 Mesh strainer (B). Allow tank to drain if applicable.

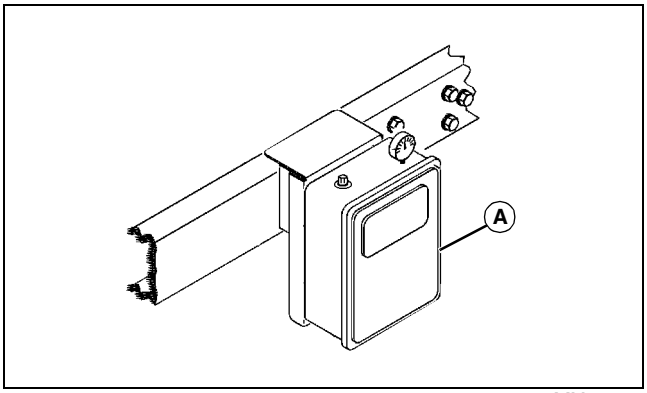
4. Clean or replace 80 Mesh strainer. To clean strainer, wash gently with warm water and mile detergent.

5. Rinse strainer thoroughly and allow to air dry completely.

6. Install strainer and strainer cover.

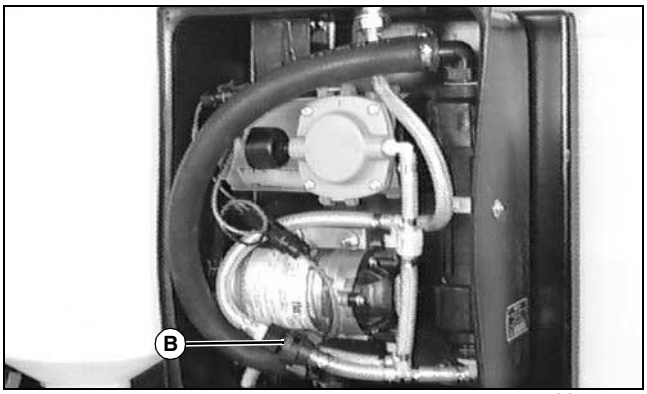
7. Dispose of waste marking agent properly.

Cleaning Foam Marker Liquid Pump Outlet Strainer and Orifice



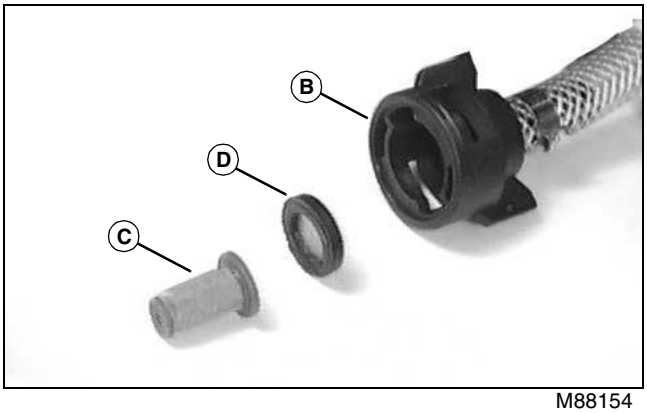
MX3602

1. Remove four screws securing cabinet cover (A). Remove cover.



M88152

2. Locate and open liquid pump outlet hose connector (B).



M88154

3. Remove 100 Mesh strainer (C) and orifice plate (D).

4. Clean or replace strainer and orifice plate. To clean, wash items gently with warm water and mild detergent.

5. Rinse items thoroughly and allow to air dry.

6. Install orifice plate with numbers toward outside. Install strainer and connect liquid pump outlet hose connector.

7. Install cabinet cover and secure with four screws.

Inspecting and Cleaning Foam Marker Tank Vented Fill Cover

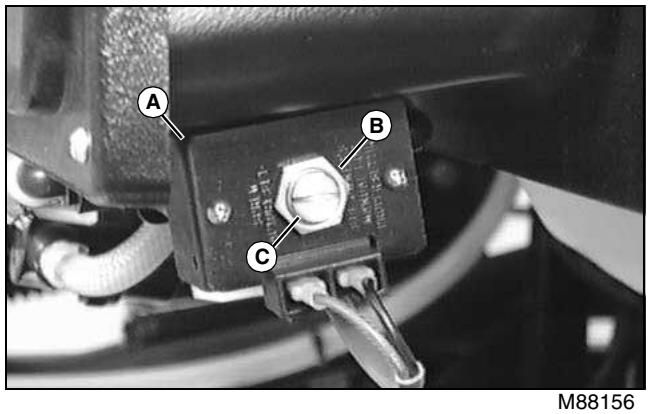
Foam marker tank is equipped with a vented fill cap. Cap vent must be clean and in operable condition to ensure proper tank drainage. (See Inspecting and Cleaning Vented Fill Covers in Service - Standard Equipment section.)

Adjusting Foam Marker Directo-Valve

When operating foam marker, foam should come out of foam nozzle hose on only one side of sprayer. Example: If dash mounted marker switch is moved to the LEFT position, foam should only come out on left side of sprayer.

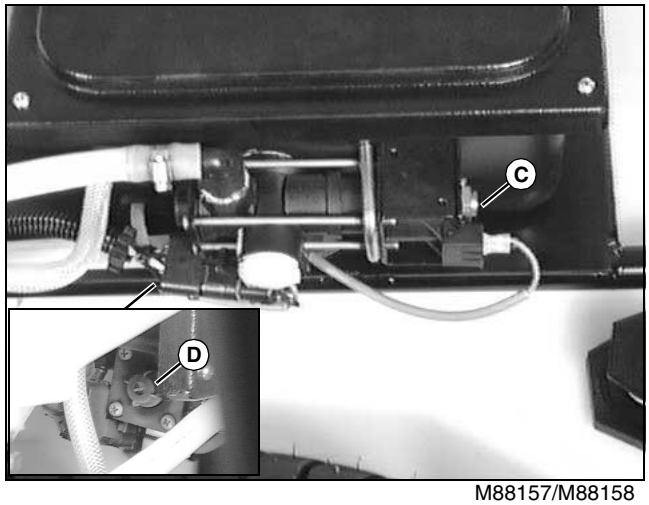
If foam comes out of both sides, adjustment to the foam

marker directo-valve is needed.



M88156

1. Locate foam marker directo-valve (A) mounted at bottom of foam marker cabinet.
2. Adjust Valve:
   a. Loosen jam nut (B).

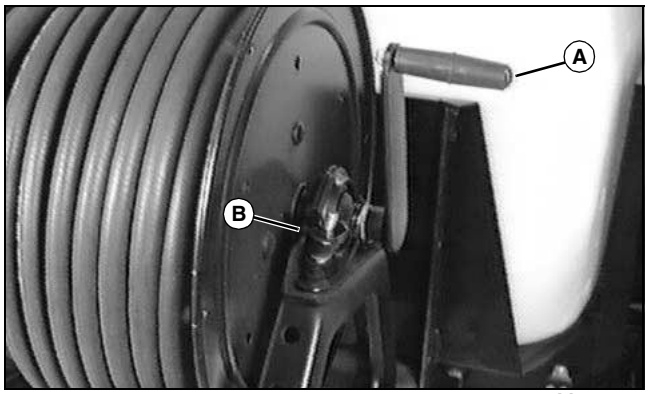


M88157/M88158

   b. Unscrew armature stop (C). Armature stop will not come out.
   c. While holding piston in, turn armature stop (C) until it just makes contact.
   d. Back out armature stop (C) 1/8-turn.
   e. Release spring-loaded piston.
   f. Hold armature stop (C) in position with a screwdriver and tighten jam nut (B).

Adjusting Manual Hose Reel Tension Brake

1. Make sure hose reel is properly lubricated prior to adjusting reel tension. (See Lubricating Manual Hose Reel in this section.)



M88221

2. Pull out hose and turn handle (A) to wind hose back on reel. Drag (reel tension) is adjustable using wing nut (B).
3. Adjust reel tension brake.
   - Tighten wingnut (B) to increase reel tension.
   - Loosen wingnut (B) to decrease reel tension.

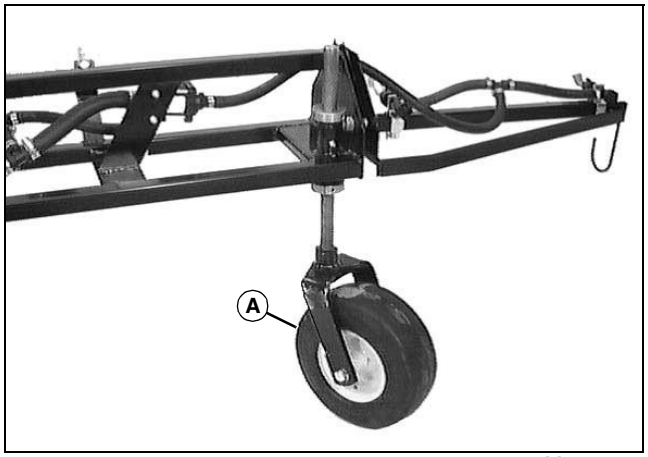
Checking Electric Hose Reel Circuit

The electric hose reel circuit is protected by 40 amp automatic reset circuit breaker (not shown) in hose reel wiring harness, which connects to the 50 amp main circuit breaker in the front harness.

If circuit breaker does not automatically reset, disconnect electric hose reel positive (+) lead from circuit breaker:

- If breaker automatically resets, there is a direct short in electric hose reel wiring harness.
- If breaker does not automatically reset, there is a direct short in sprayer wiring harness. See your John Deere dealer.

Checking Ground Wheel Tire Pressure



M88223a

1. Check tires (A) for damage.

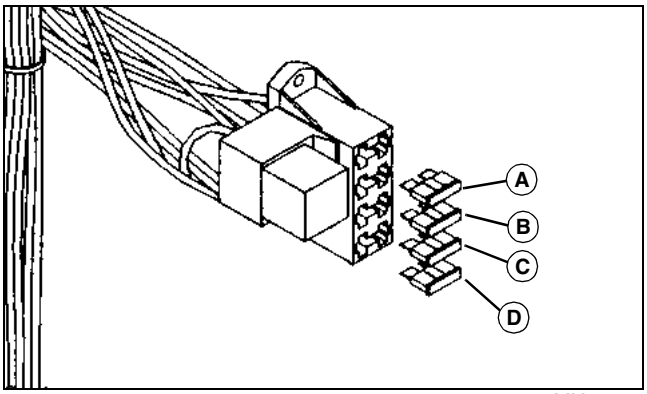
NOTE: Recommended tire pressure is 206 kPa (30 psi).

- Check tire pressure with an accurate gauge.

Checking Fuses and Boom Wing Actuator Circuit Breaker

1. Remove front grill from machine.

NOTE: To prevent accidental loss of fuses/circuit breaker during operation, secure to fuse block with a strip of electrical tape or equivalent.



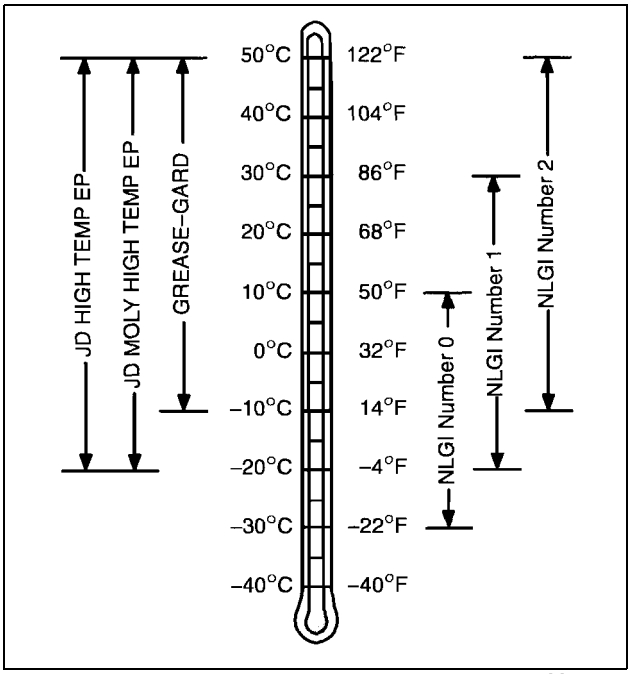
MX2981

2. Locate fuse block near sprayer control panel.

- (A) 20 Amp circuit breaker (optional boom wing actuators)
- (B) 5 Amp (optional accessories)
- (C) 15 Amp (optional foam marker)
- (D) 15 Amp (solenoid valves)

3. Check and replace bad fuses as needed with new fuses of same amperage rating. If new fuse blows, there is a short-to-ground in sprayer wiring harness. See your John Deere dealer.

Grease



M63609

Use grease based on NLGI consistency numbers and the expected air temperature range during the service interval.

The following greases are preferred:

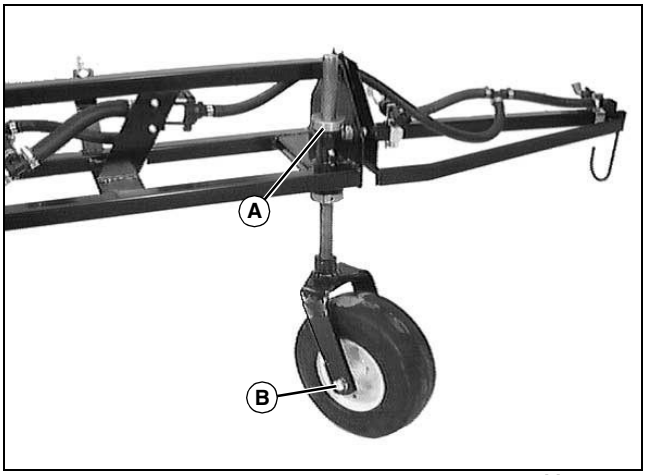
- John Deere Moly High Temperature EP Grease.
- John Deere High Temperature EP Grease.
- John Deere GREASE-GARD™.

Other greases may be used if they meet the following:

- 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.

Lubricating Ground Wheels

NOTE: See Grease in this section for proper types of grease.

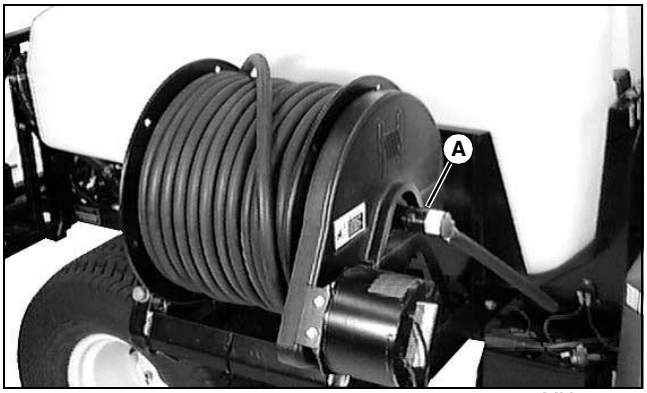


M88223a

1. Lubricate ground wheel pivot (A).
2. Lubricate ground wheel axle (B).

Lubricating Electric Hose Reel

NOTE: Use John Deere Moly High-Temperature Extreme Pressure Grease to lubricate swivel joint.

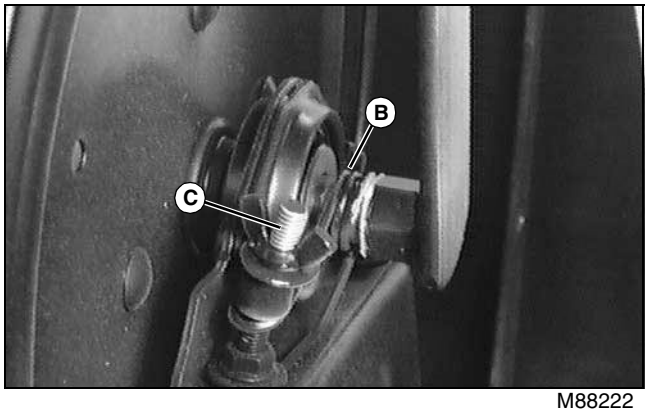


MX19915

1. Apply small amount of grease to swivel fitting (A).
2. Wipe off excess grease around fitting.

IMPORTANT: Avoid damage! Do not over lubricate reel tension area. Dirt and dust will tend to collect on lubricated parts leading to premature wear.

NOTE: See Grease in this section for proper type of grease.



M88222

3. Apply small amount of grease on reel tension brake adjustment area (B).
4. Apply small amount of grease or oil on threads of reel tension brake adjustment bolt (C) to prevent rusting and seizing.

Using Troubleshooting Chart

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
Pump Will Not Turn On	Sprayer Pump Hydraulic Lines Disconnected Problem with Auxiliary Hydraulic System
Pump On - No Liquid Flowing	Tank Empty Three-Way Ball Valve Turned Off Inline Strainer Plugged Pressure Regulating Valve Problem Solenoid Valve Problem Blown Fuse in Sprayer Wiring Harness
Low Pressure Warning Buzzer On - PTO Lever On, Adequate Pressure Reading At Gauge	Defective Pressure Switch Electrical Circuit Failure
Low Pressure Warning Buzzer On - PTO Lever On, Inadequate or Fluctuating Pressure Reading At Gauge	No Fluid or Low Fluid Level In Tank Air In Pressure Tube - Bleed System Defective Pressure Switch Electrical Circuit Failure
Low Pressure Warning Buzzer On - PTO Lever Off	Electrical Circuit Failure
Gauge Pressure Does Not Drop To Zero With Pump Off	Too Much Fluid, Pressurizing System - Remove Minimal Fluid From Isolator
Vent Line Not Full of Fluid	Check Valve Is Not Closed Check Valve Installed Incorrectly - Arrow Should Point Toward Front of Machine
Agitator Will Not Turn On	Ball Valve Not in Open Position Kinked or Damaged Hose
Agitator Will Not Turn Off	Ball Valve Not in Close Position Ball Valve Failed
Tank Will Not Drain	Tank Drain Ball Valve in Close Position
Nothing Works	Not Connected to Battery Correctly Automatic Reset Circuit Breaker Tripped (Short-to-Ground in Sprayer Electrical System)
Boom Switches Will Not Work	Check 15 Amp Fuse
Pump Will Not Turn On	Check 15 Amp Fuse
Foam Marker Will Not Turn On	Check 15 Amp Fuse

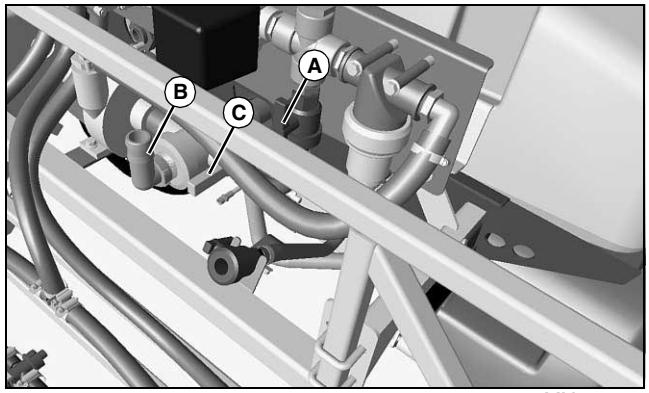
If	Check
Boom Wing Actuators Will Not Work	Check 20 Amp Circuit Breaker
Boom Wings Will Not Stay Level	Leveling Hardware Loose or Missing
Boom Wings Will Not Flex	Flexible Joint Needs Lubrication Flexible Joint Spring Tension Too Tight
Boom Will Not Stay Level	Attaching Hardware Loose
Boom Wing Extensions Not Solid	Locking Pin Not Installed or Missing
Boom Wing Extensions Not Spraying	Ball Valve in Closed Position
Poor Spray Pattern	Wrong Nozzles for Application Boom Not Level Boom Wings Not Level Wrong Boom Height for Nozzle Nozzles Not All Same Design
Uneven Spray Pattern	Wrong Nozzles for Application Boom Not Level Boom Wings Not Level Wrong Boom Height for Nozzle Nozzles Not All Same Design
Boom Sections Do Not Correspond With Dash Control Panel Switches	Boom Hoses Not Connected to Correct Solenoid Valves Boom Electrical Connectors Not Connected to Correct Solenoid Valves
Personal Wash Tank Will Not Drain	Spigot Plugged Inside Tank Hose Plugged
Personal Wash Tank Drains Slowly	Cap Vent Plugged Spigot Plugged Inside Tank
Marker Will Not Turn On	Harness Plug Not Plugged In Automatic Reset Circuit Breaker Tripped (Short-to-Ground in Sprayer Electrical System)
Air Pump Runs - Nothing Coming Out - No Pressure on Gauge	Liquid Pump Shut Off or Not Primed Electronic Speed Control Failed, Causing Liquid Pump Not to Run Liquid Pump Valves of Diaphram Have Failed Liquid Pump Motor Failed
Nothing Comes Out - Normal Pressure on Gauge	Tank Cover Vent is Plugged Tank Outlet Strainer is Dirty or Plugged Liquid Pump Outlet Strainer is Dirty or Plugged Liquid Pump Outlet Orifice is Plugged

If	Check
Discharge Almost All Water	Air Pump Inlet Filter is Dirty or Plugged Air Pump Outlet Check Valve is Plugged or Installed Backwards Air Pump Not Running Air Pump Diaphragm Ruptured, Worn Out, or Valves Failed Liquid Pump Outlet Orifice is Missing
Discharge Foamy But Very Watery	Foam Concentrate Weak Hard Water Liquid Pressure Too High Air Pump Not Operating or Plugged
Good Foam - Not Enough Of It	Foam Concentrate Mixed Too Long
Foam Goes to Wrong Side	Left/Right Hoses Hooked Up Backwards or No Power to Valve
Foam Goes to Both Sides	Directo-Valve Not Adjusted Properly
Boom Wings Will Not Float	Locking Collars Loose
Wheels Will Not Caster	Needs Lubrication
Boom Wings Will Not Maintain Level	Locking Collars Loose
Hose Reels Out Too Easily	Adjust Tension Brake
Hose Reels Out Too Hard	Adjust Tension Brake
Hose Will Not Fit On Reel	Roll Hose On Evenly
Hose Will Not Reel Out	Brake in Locked Position
Hose Unreels During Transport	Brake in Unlocked Position
Reel Will Not Wind In	Automatic Reset Circuit Breaker Tripped (Short-to-Ground in Sprayer Electrical System) Solenoid Problem Electrical Problem
Motor Failure	Use Wrench to Wind Hose
Boom Wing Actuators Will Not Work	Check 20 Amp Circuit Breaker

Winterization and Storage

Sprayer

1. Dilute and spray excess chemicals to empty tank.
2. Park machine safely.
3. Rinse and drain sprayer tank.



MX19961

4. Turn agitator ball valve (A) to horizontal OFF position.
5. Ensure that elbow nipple (B) on three-way ball valve is pointed up. Rotate if necessary.
6. Turn three-way ball valve so that arrow is horizontal and pointing away from tank.
7. Pour RV anti-freeze into elbow nipple until full.
8. Start pump briefly to circulate anti-freeze, then stop pump.
9. Repeat steps 7, 8 to ensure that anti-freeze has circulated through pump and all rear plumbing.
10. Add additional anti-freeze into elbow nipple till full.
11. If equipped, fold and lock boom wing extensions in folded back position.
12. Raise and lock boom wings in upright position.

Foam Marker

To prepare foam marker for storage, perform following steps. When finished, all plumbing and wetted parts will be filled with RV anti-freeze. This is preferred over dry storage.

1. Drain marker tank and clean or replace tank outlet strainer. (See Cleaning Foam Marker Tank Outlet Strainer in Service section.)
2. Install tank strainer and strainer cover.

NOTE: Follow all safety and mixing instructions on RV anti-freeze container label.

3. Fill marker tank with RV anti-freeze.
4. Operate foam marker normally through both sides for two minutes each. This will purge any water/marker agent solution out and fill system with anti-freeze.
5. Clean inside of foam marker cabinet. (See Cleaning Foam Marker Cabinet in Service section.)
6. Clean air pump inlet air filter. (See Cleaning Air Pump Inlet Air Filter in Service section.)

Personal Wash Tank

To prepare personal wash tank for storage, perform following steps.

1. Drain wash tank and clean as required.
2. Clean and rinse inside of tank as needed.
3. Open spigot and allow all water to drain.
4. Leave spigot open to allow condensation to drain.

Removing From Storage

IMPORTANT: Avoid damage! Avoid Environmental Damage! Some RV anti-freeze solutions can be harmful to the environment. Collect solution in a container and dispose of according to manufacturer's instructions.

Sprayer

1. Partially fill sprayer tank with clean water.
2. Turn handle on three-way ball valve toward sprayer tank.
3. Operate sprayer until RV anti-freeze is cleaned from system.

Foam Marker

1. Drain marker tank, and clean or replace tank outlet strainer. (See Cleaning Foam Marker Tank Outlet Strainer in Service section.)
2. Install tank strainer and strainer cover.

NOTE: Follow all safety instructions on RV anti-freeze container label.

3. Use clean water or any special dilution mixtures, and fill marker tank.
4. Operate foam marker normally through both sides until all traces of anti-freeze are gone.
5. Drain remaining clean water or any special dilution mixtures from marker tank. Make sure tank strainer is clean and installed properly. Install and tighten strainer cover.
6. Clean inside of foam marker cabinet. (See Cleaning Foam Marker Cabinet in Service section.)
7. Clean air pump inlet air filter. (See Cleaning Air Pump Inlet Air Filter in Service section.)
8. Fill foam marker tank. (See Foam Marker Solution Preparation in Operating section.)

9. Operate foam marker at 100% full pressure until foam appears at foam nozzle. Repeat for other side.

10. Adjust system pressure for proper operation. (See Adjusting Foam Marker Pressure in Operating section.)

Personal Wash Tank

1. Pour several liters (gallons) or clean fresh water into tank and allow to drain. This will rinse out any debris from tank, spigot, and drain hose.

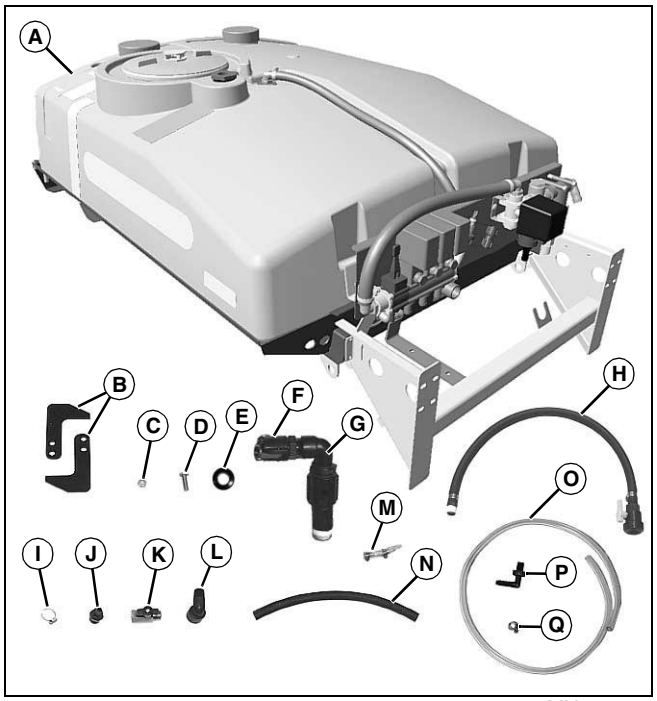
2. Close spigot.

3. Fill tank with clean fresh water.

4. Install and tighten cover.

5. Open spigot and water should drain smoothly from hose. If water drains slowly or not at all, inspect and clean cover vent.

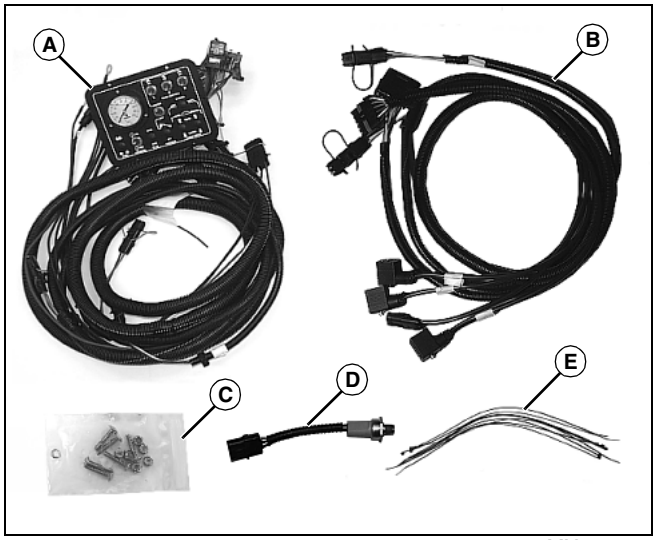
Tank Components



MX19979

Qty	Description
1	Tank Assembly, Sprayer (A)
2	Clamp, Frame (B)
6	Nut, Nylock, M10 (C)
6	Capscrew, Hex Head, M10 x 35 (D)
1	Washer, Flat, M26 (E)
1	Cap, Dust (F)
1	Assembly, Filler (G)
1	Hose Assembly, Tank Drain (H)
1	Clamp, Hose, 1/2 in. (I)
1	Fitting, Barbed, 1/2 MPT x 3/8 HB (J)
1	Valve (K)
1	Elbow, 1/2 FTP x 1/2 MPT (L)
1	Check Valve, 1/4” (M)
1	Hose, 3/8 in. x 12 in. (N)
1	Hose, Clear (O)
1	Fitting, Barbed Hose, 1/4 in. (P)
2	Clamp, Hose, 3/8 in. (Q)

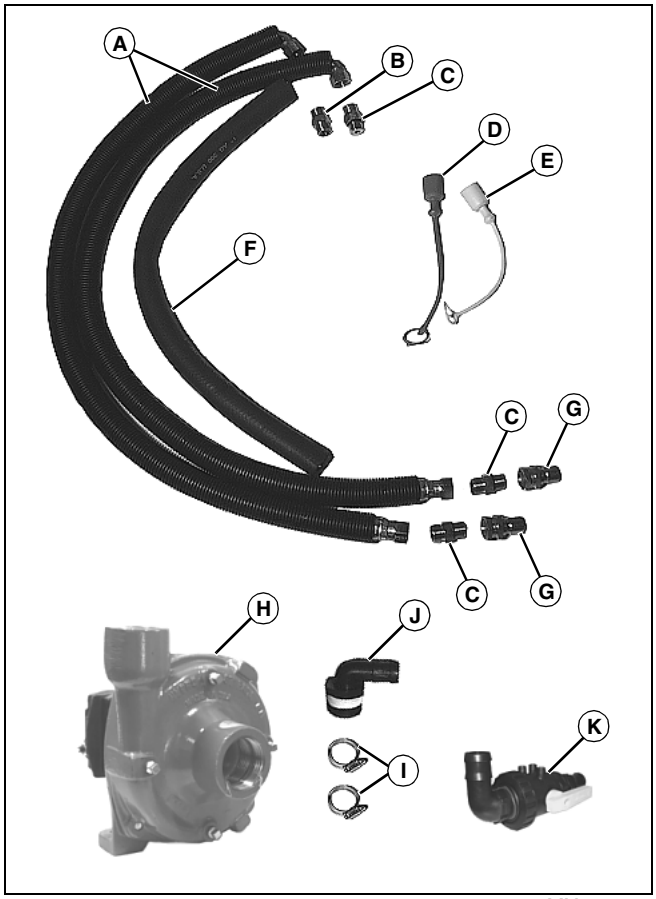
Electrical Components



MX19989

Qty	Description
1	Control Panel and Front Wiring Harness (A)
1	Rear Wiring Harness (B)
1	Bag of Hardware, Control Panel Mounting (C) (Includes (6) Screws, Plastic Washers, Nylock Nuts)
1	Low Pressure Warning Switch/Harness (D)
8	Tie Strap, 14 in (E)

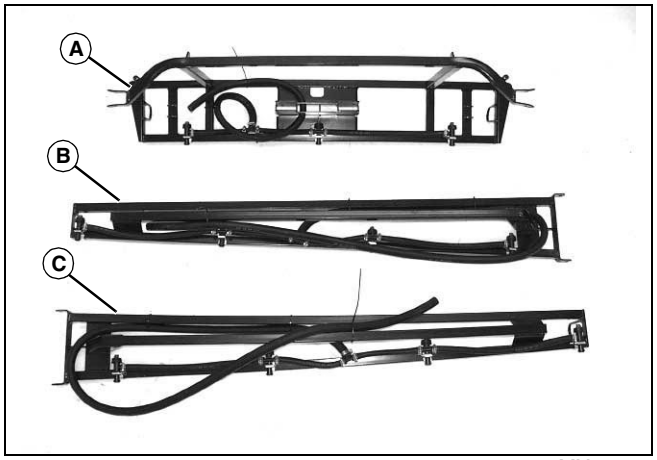
Sprayer Pump and Hydraulic Components



MX19989

Qty	Description
2	Hose Assembly, Hydraulic (A)
1	Fitting, Check Valve (B)
3	Fitting, Adapter (C)
1	Dust Cap, Red (D)
1	Dust Cap, Yellow (E)
1	Hose, 1 in. dia. (F)
2	Quick Coupler, Male (G)
1	Pump Assembly, Sprayer (H)
2	Clamp, Hose (I)
1	Fitting, Elbow (J)
1	Ball Valve, Three-Way (K)

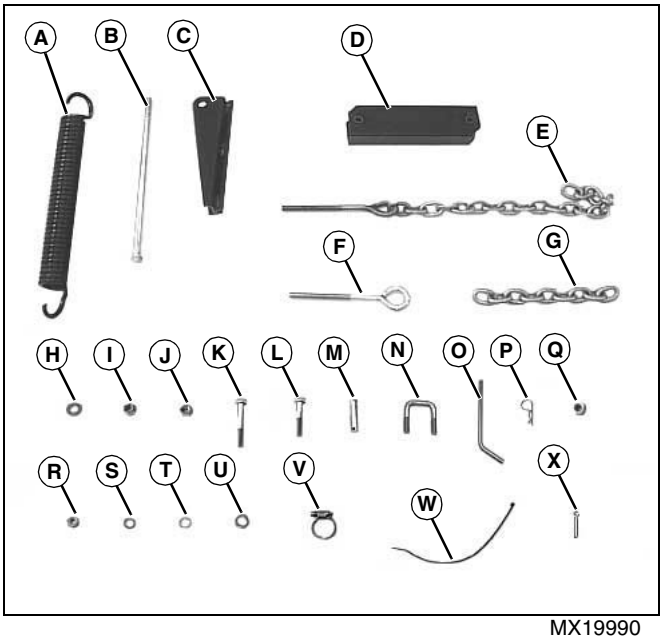
Boom Components



MX2902

Qty	Description
1	Frame, Boom Center (A)
1	Wing, Left Boom (B)
1	Wing, Right Boom (C)

Boom Hardware



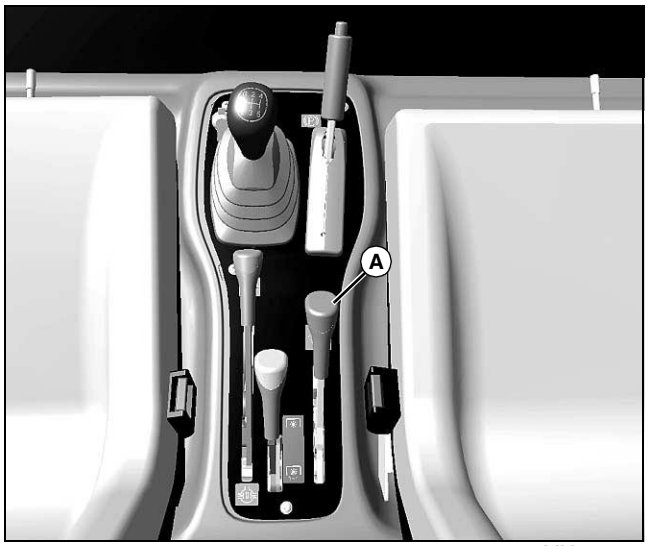
MX19990

Qty	Description
2	Spring, Boom (A)
2	Capscrew, Hex Head, 1/2 x 11-1/2 in. (B)
2	Hinge, Breakaway (C)

Qty	Description
2	Pivot Hinge, Center (D)
2	Eye Bolt/Chain Assembly 5/16 x 19 in. (E)
4	Eye Bolt 1/2 x 6 in. (F)
2	Chain 5/16 x 9 in. (G)
4	Washer, Flat, 1/2 in. (H)
8	Nut, Hex, 1/2 in. (I)
2	Nut, Lock, Reversible, 1/2 in. (J)
4	Capscrew, Hex, M12 x 70 (K)
2	Capscrew, Hex, M12 x 50 (L)
2	Pin, Drilled, 1/2 x 2 in. (M)
4	U-Bolt, M10 (N)
2	Pin, Drilled, 3/8 in. (O)
2	Pin, Spring Locking (P)
6	Nut, Nylock, M12 (Q)
8	Nut, Hex, M10 (R)
8	Washer, Lock, M10 (S)
8	Washer, Flat, M10 (T)
8	Washer, Flat, M12 (U)
3	Clamp, Hose, 3/4 in. (V)
2	Tie Strap, 7 in. (W)
2	Cotter Pin, 1/8 x 1 in. (X)

Prepare for Assembly

1. Park machine safely.



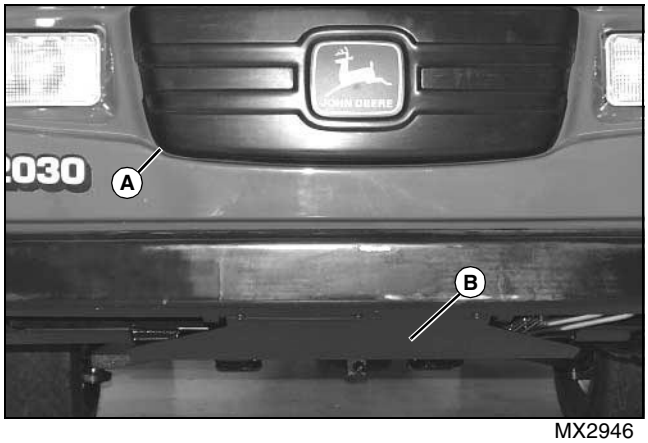
MX19916

2. Use lift cylinder control lever (A) and extend lift cylinder rod approximately 25 to 30 cm (10 to 12 in.).

Install Control Panel and Front Harness

IMPORTANT: Avoid damage! Disconnect negative (-) battery cable to prevent accidental electrical short during installation.

1. Disconnect negative (-) battery cable from battery.



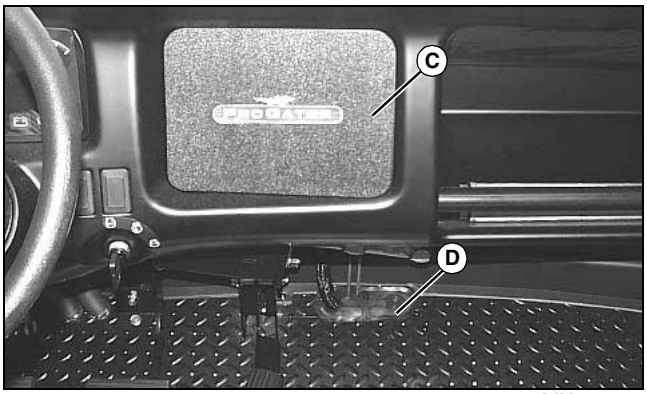
MX2946

2. Remove front grill (A) from machine.

NOTE: Sprayer wiring harness will be mounted under skid plate (B).

3. Remove attaching hardware and skid plate (B).

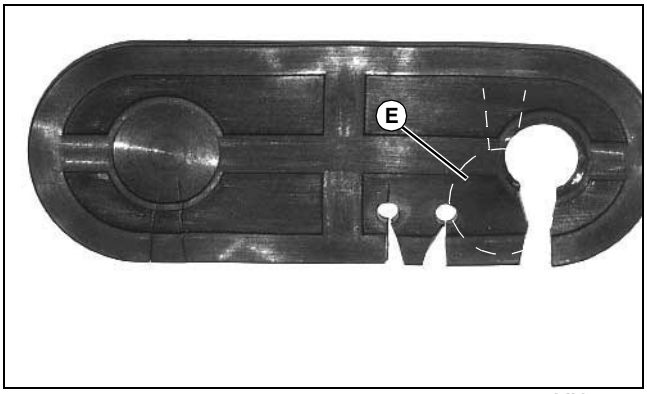
NOTE: Removal of front panel and headlight assembly is not required, but may ease installation.



MX2947a

4. Locate control panel mounting reference outline in the machine dash (C) next to the instrument panel. Cut through dash, following outline, remove cut-out piece and de-burr edges as necessary.

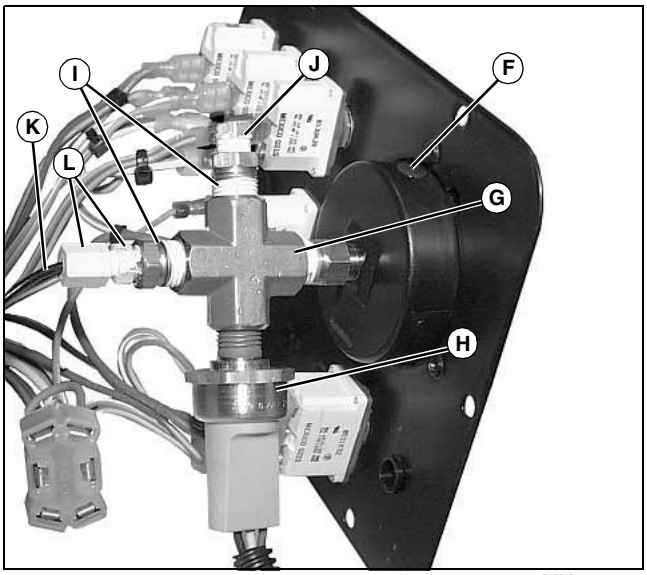
5. Remove rubber foot (D) from well.



MX2948

6. Cut out area (E) from rubber boot with a scissors or utility knife.

7. Place control panel and front wiring harness on a clean work surface.



MX30027

8. Remove fittings from pressure gauge, if present.

9. Locate rubber fill plug (F) on pressure gauge. Use a razor blade and carefully cut off rubber nipple, exposing breather port.

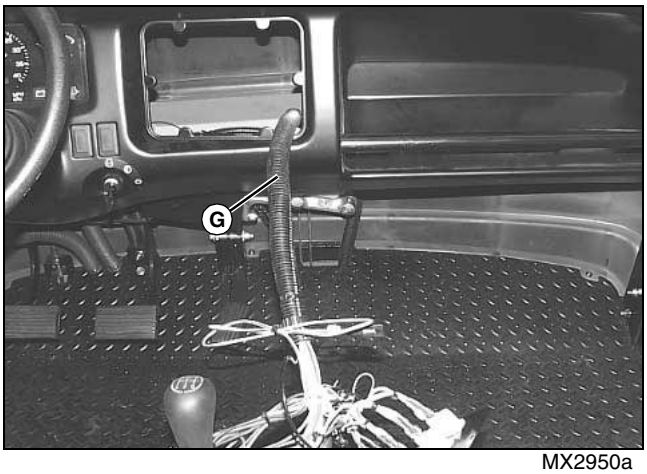
10. Install cross fitting (G), using thread sealant tape. Tighten to orientation shown so that low pressure warning switch (H) can be installed without interference.

11. Install low pressure warning switch (supplied with thread sealant applied) and adapters (I) (using thread sealant tape) and tighten.

12. Connect low pressure warning switch wiring connector to front harness.

13. Install plug (J) using thread sealant tape. Do not tighten at this time.

14. Install pressure tube (K), fittings (L) and tighten.



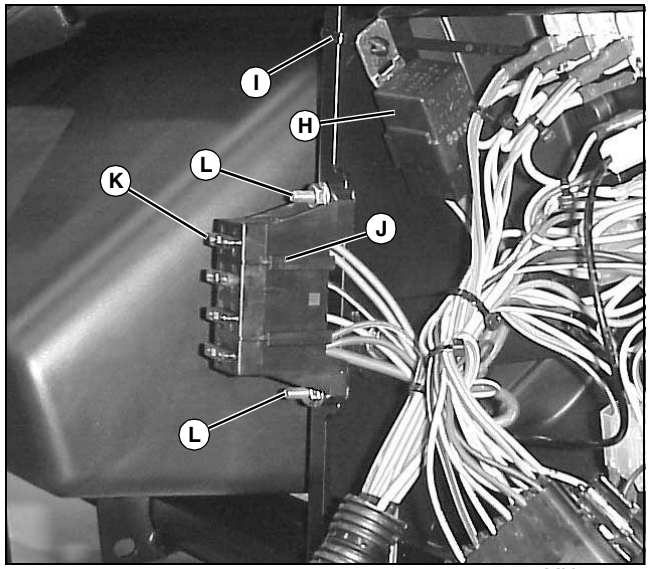
MX2950a

15. Route front wiring harness (G) completely through control panel opening and through foot well cutout where boot was removed.

MX19985

16. Set control panel in place over cut-out and use panel as a template to drill 5mm (3/16 in.) diameter mounting holes.

17. Clean drilling residue from control panel area.

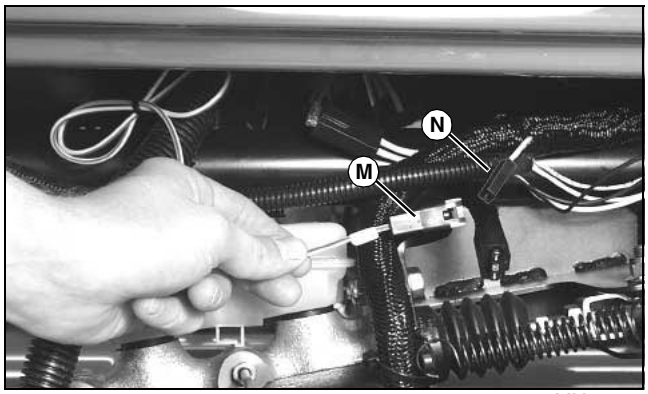


MX3632a

18. Access front wiring harness through grill opening. Secure main disconnect relay (H) in upright position as shown by connecting tie strap (I) around vertical support to right of control panel.

19. Position fuse block (J) so 20 amp circuit breaker (K) is at top. Secure fuse block to vertical support mounting flange using two M10 x 25mm (1 in.) capscrews (L) and two M10 locknuts. Use electrical tape to secure fuses and circuit breaker to fuse block to prevent accidental loss during machine operation.

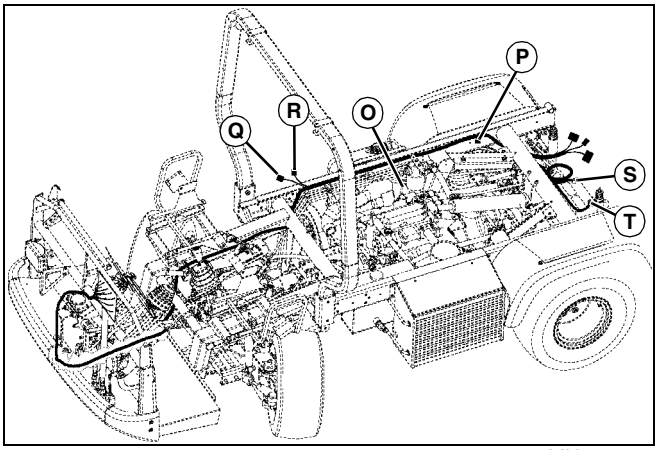
20. Temporarily secure control panel to dash with two supplied screws and nuts. Removal will be necessary for a later step, do not tighten.



MX2952

21. Locate auxiliary power leads near brake fluid reservoir, and connect:

- Yellow/Red lead (M) from sprayer front wiring harness (female lock connector).
- Yellow lead (N) from machine main wiring harness (male lock connector).



MX19995

22.Route front wiring harness along same path as machine wiring harness. At point where machine harness splits to engine, continue straight to rear of machine, routing harness between hydraulic oil filter assembly (O) and machine side frame, then under the rear axle adjacent to the right rear shock absorber. The 50 amp automatic reset circuit breaker (P) will be positioned in the front harness near this location.

IMPORTANT: Avoid damage! Before securing harness, ensure that it is routed to avoid moving parts that could pinch or otherwise damage harness or components.

23.Leave approximately 15 cm (6 in.) of slack in harness at control panel. Working toward rear of machine, remove remaining slack and secure harness in place using tie straps supplied in kit.

24. Locate the PTO switch connection to the machine

wiring harness from under the machine. Unplug the PTO switch connector (male plug) from the machine wiring harness (female plug). Plug the PTO switch connector into the female plug (Q) in the sprayer front harness, and the machine harness PTO switch connector to the male plug (R) in the sprayer front harness.

25.Separate black (S) and red (T) battery leads at end of front wiring harness. Temporarily bundle and secure the remaining harness components.

26.Connect red lead (T) from front harness to positive (+) battery cable.

27.Connect black leads (S) from front harness to negative (-) battery cable. Install battery negative (-) cable to battery. Ensure positive and negative battery connections are tightened completely.

28.Install grill and skid plate to machine.

Install Sprayer Tank

CAUTION: Avoid injury! Avoid crush injury or death!

The sprayer must be installed using a safe lifting device such as an overhead hoist. Ensure hoist, straps, and chains are adequate lift capacity and in good condition.

Do not allow lift straps or chains to contact or interfere with plumbing components when hoisting.

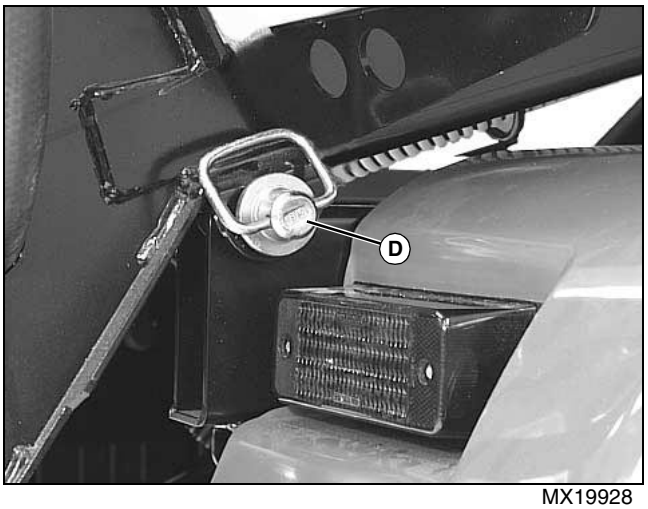
1. Park machine safely.

MX2956a

2. Install lift straps or chains to sprayer frame so unit is balanced upon hoisting. Do not directly connect to rear mounting holes (A) as these will be used for attachment to machine:

- Support rear of unit by routing a lift strap or chain across bottom side of tank frame, just forward of mounting holes (A).
- Attach to lift loops (B) at front of frame.

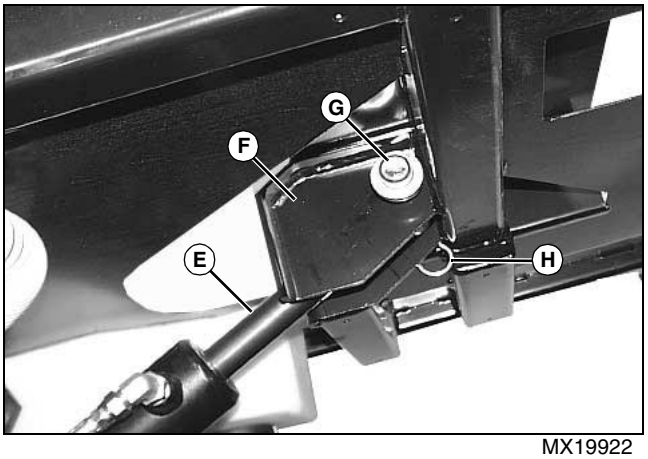
3. Install a safety stand (C) between tank and machine frame.



MX19928

4. Align mounting holes at rear of machine and install pivot pins (D) as shown. Secure pivot pins with quick-lock pins.

5. Lift sprayer frame in position over machine bed as shown.



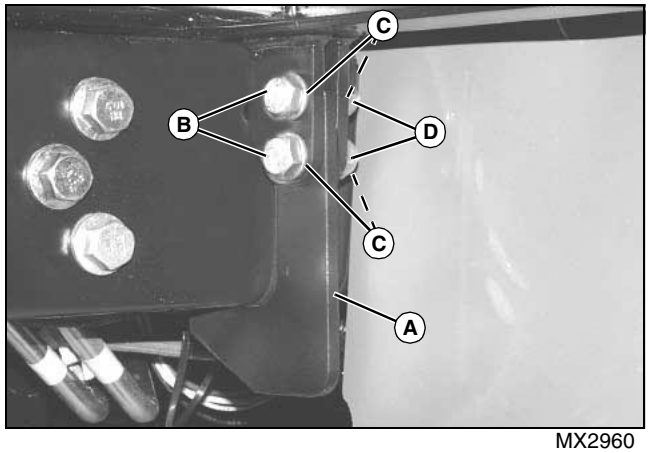
MX19922

6. Align hole in cylinder rod (E) with hole in clevis (F). Install connecting pin (G) and secure with M26 flat washer (not shown) and spring locking pin (H).

7. Remove safety stand from between tank and machine frame.

8. Disconnect hoist from sprayer and completely lower tank to machine bed.

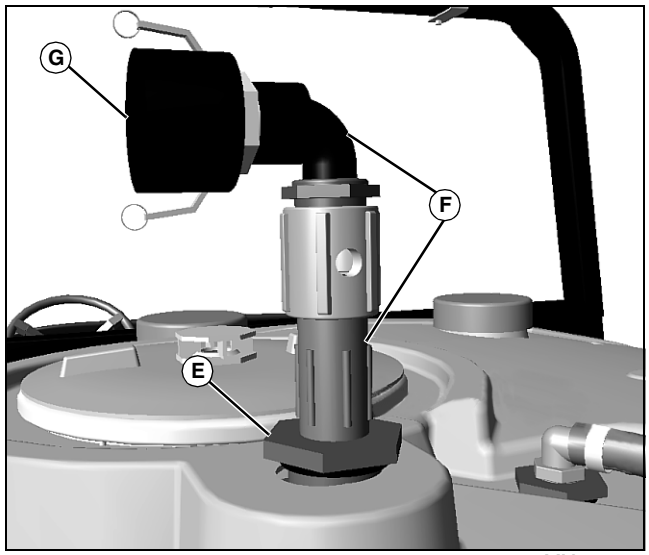
Install Sprayer Tank Components



MX2960

1. Install one frame clamp (A), to clamp clevis behind each front fender, as shown, using two M10 x 35 mm hex head capscrews (B), four flat washers (C) and two locknuts (D).

NOTE: For best results, apply a chemical-resistant pipe sealant to all threaded fittings.

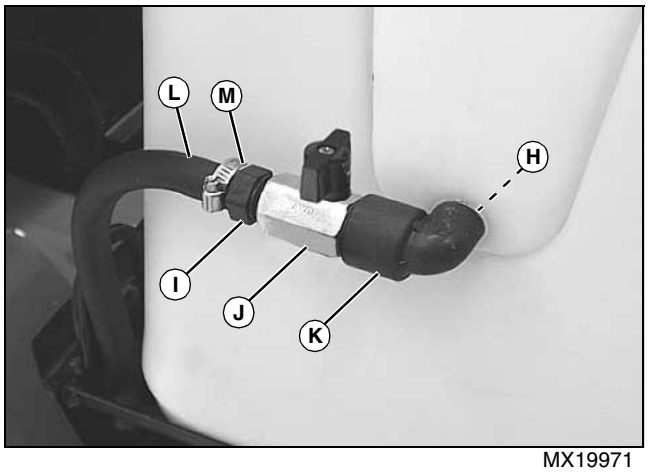


MX19970

2. Remove and discard plastic protective cap from fill port (E) on top side of tank.

3. Thread filler tube assembly (F) into fill port. Tighten completely, positioning quick-connect opening facing left side of tank as shown.

4. Install dust cap (G).



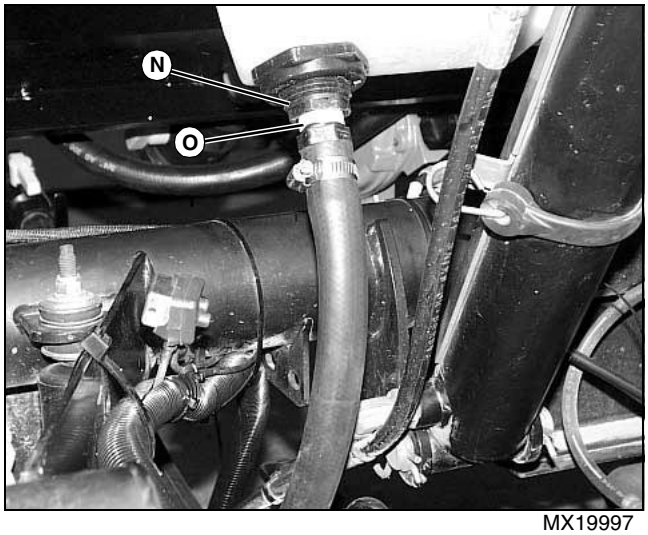
MX19971

5. Remove and discard plastic protective cap from wash tank port (H) at left side of tank.

6. If necessary, assemble barbed fitting (I), valve (J) and elbow (K).

7. If necessary, tighten assembly in wash tank port as shown. Attach hose (L) to barbed fitting with hose clamp (M).

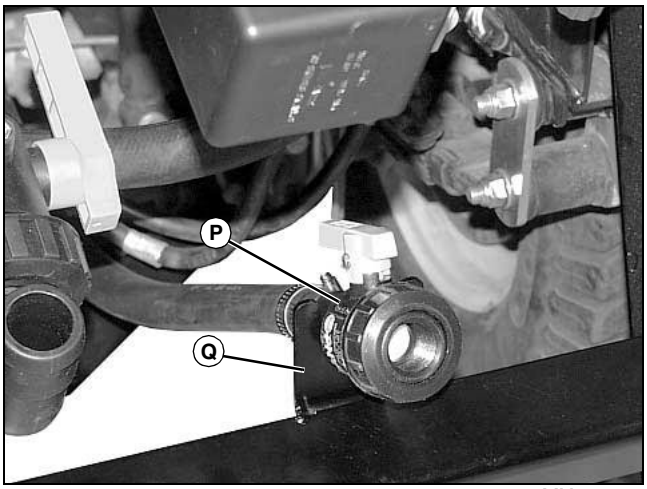
8. Place end of hose in hole in sprayer frame as shown.



MX19997

9. Raise and properly support tank for easiest access to tank drain (N).

10. Apply thread sealant tape to male hose end fitting (O) and thread into tank drain until tight.



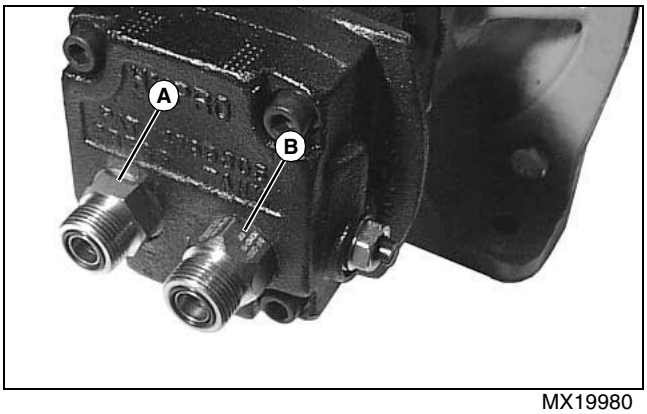
MX19998

11. Route drain hose assembly under machine rear frame crossmember, then up over hitch bracket and set drain valve (P) in cradle (Q) as shown. This is the normal storage position.

Install Sprayer Pump and Hoses

The sprayer pump is available in either cast or stainless steel versions and is packaged separately from the other sprayer components.

1. Locate box containing pump and remove contents to a clean work surface.

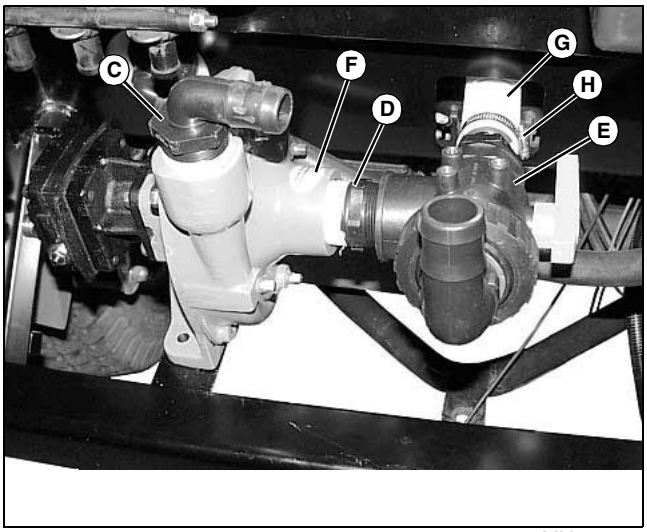


MX19980

2. Remove shipping plugs in hydraulic pump ports if present.

3. Install supplied hydraulic adapter fitting (A) into pump pressure port and tighten.

4. Install supplied hydraulic check valve (B) into pump return (tank) port and tighten. Arrow on check valve should point toward hose.



MX19982

5. Apply thread sealant tape to elbow fitting (C) and install into pump body. Tighten to orientation shown.

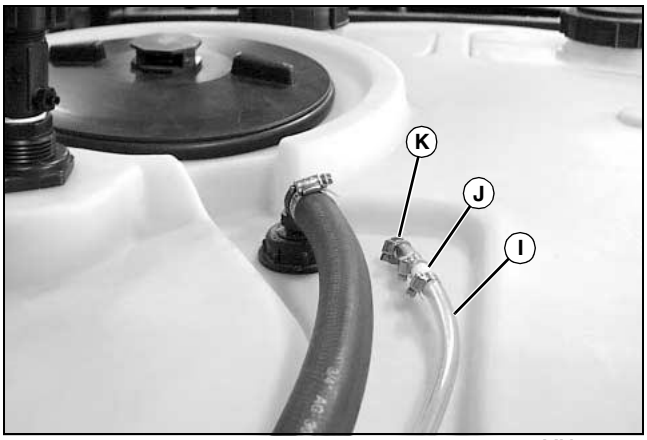
6. Apply thread sealant tape to fitting (D) on three-way ball valve (E) and install into pump inlet (F). Tighten ball valve to orientation shown with valve horizontal and inlet fitting toward tank supply hose (G).

7. Apply lubricant to barbed fitting on three-way ball valve or inside of supply hose to aid assembly and loosely install hose clamp (H) over supply hose.

8. Slide pump/ball valve assembly into position, inserting barbed fitting on three-way ball valve fully into tank supply hose.

9. Position pump over mounting holes on sprayer frame and secure using M10 x 35mm (1-3/8 in.) bolts and nylock nuts.

NOTE: Arrow on check valve (J) must point toward front of machine.

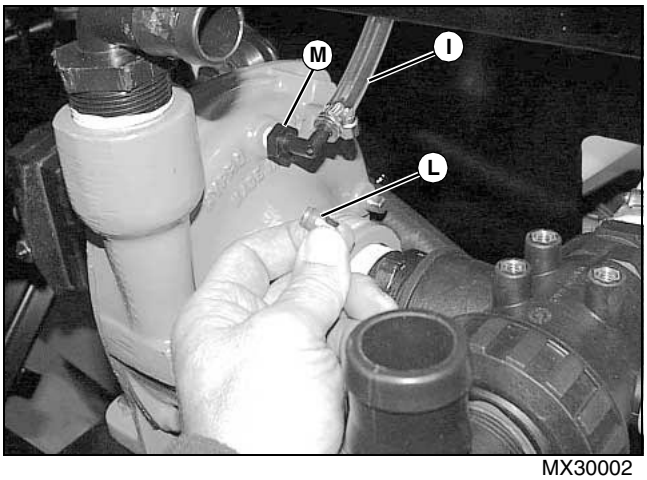


MX30003

10.Place a 3/8” hose clamp loosely over one end of the clear hose (I) and install hose onto check valve (J) connected to elbow in tank (K) and tighten clamp. This hose functions as a pump-to-tank priming line, facilitating

faster pump priming.

11. Route clear hose down sprayer tank, following hose to inline strainer canister, then over to pump.

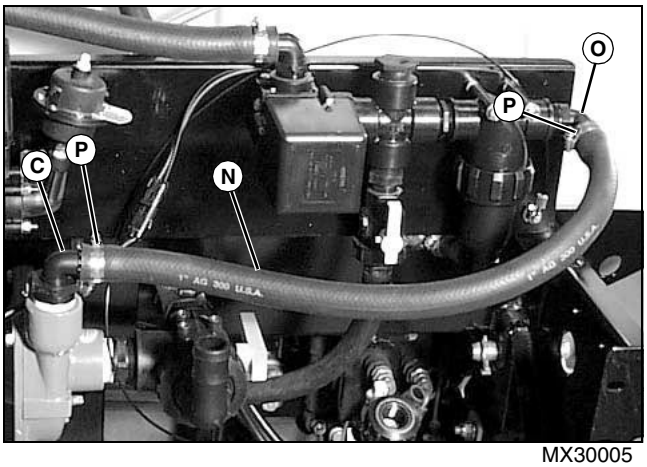


MX30002

12. Remove uppermost plug (L) from pump housing.

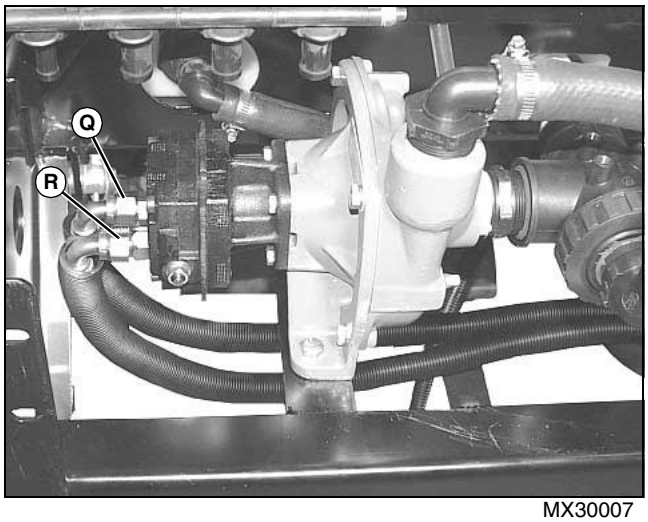
13. Apply thread sealant tape to 1/4 in. barbed elbow fitting (M) and install into pump in place of plug (L), as shown.

14. Place 3/8 in. hose clamp loosely over remaining end of clear hose (I) and install hose onto barbed elbow fitting. Tighten hose clamp.



MX30005

15. Install 1 in. hose (N) between pump outlet elbow fitting (C) and manifold elbow (O). Secure with hose clamps (P) and tighten.



MX30007

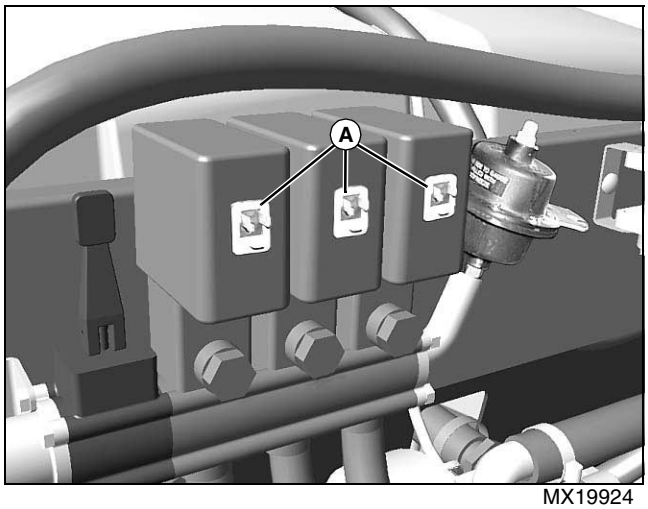
16. Locate supplied hydraulic hose assemblies and place dust covers over quick-connect fittings.

17. Install hose assembly with yellow dust cover (Q) onto adapter at port marked PRESSURE on hydraulic pump. Route hose above hitch assembly and toward coupler bracket, as shown.

18. Install hose assembly with red dust cover (R) onto adapter at port marked TANK on hydraulic pump. Route hose toward coupler bracket with pressure hose, as shown.

Install and Connect Rear Wiring Harness

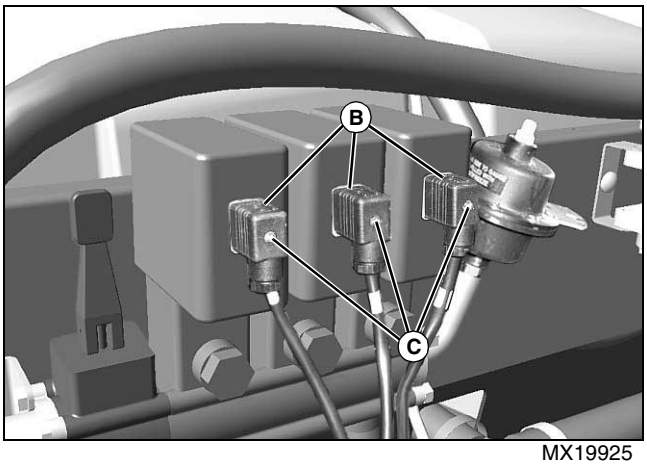
1. Locate rear harness bundle and remove small bag of parts attached to harness. Remove solenoid plug seals and screws.



MX19924

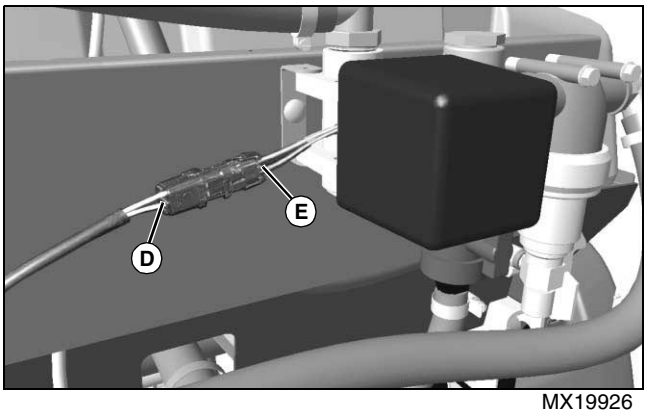
2. Install solenoid plug seals (A) over solenoid valve prongs as shown.

NOTE: Solenoid leads are tagged and numbered 1, 2, 3. Connect them in numerical order from left to right.



MX19925

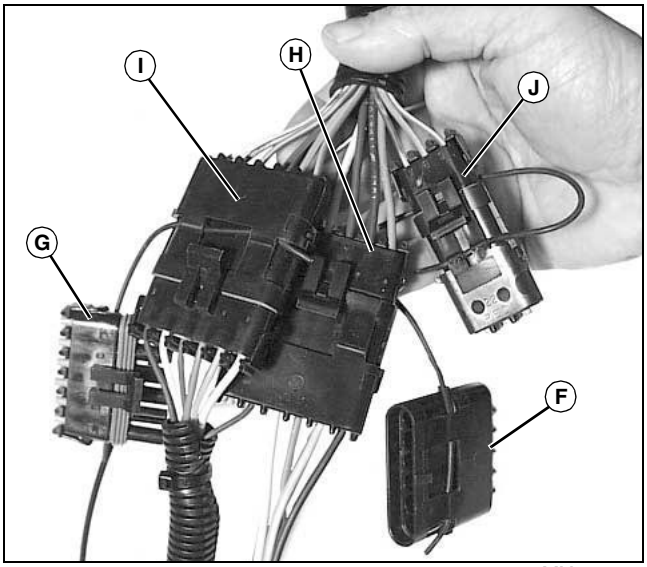
3. Connect solenoid plugs (B) to solenoid valves in correct order from left to right. Secure each plug to valve using screws (C).



MX19926

4. Connect purple and green rear harness leads (D) to red and black leads (E) from pressure regulating valve.

NOTE: The unused three-wire connector on the front harness is for unspecified optional equipment. The two-wire connectors (yellow/pink and orange/purple) are for optional electric boom actuators.



MX30010

5. Remove the storage caps (F)(G) from the large male (H) and female (I) plugs at the rear of the front harness.

6. Connect the large male and female plugs from the rear harness to the corresponding large plugs from the front harness. The three-wire connector (J) of the front harness is unused at this time.

7. If equipped with optional sprayer equipment, make all necessary electrical and hose connections at this time. See installation instructions provided with your optional equipment.

8. If not equipped with optional sprayer equipment, route the excess and unused sprayer harness leads behind back panel below solenoid manifold and secure with tie straps provided.

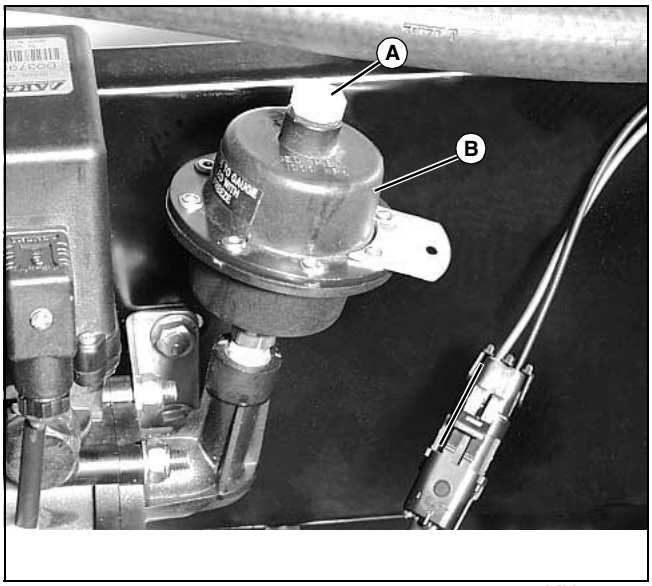
Fill and Connect Pressure Tube

Prepare the Isolator

1. Locate small plastic bag of parts containing pressure tube compression fittings and storage cap. Remove compression fittings and save plastic bag and storage cap for later use.

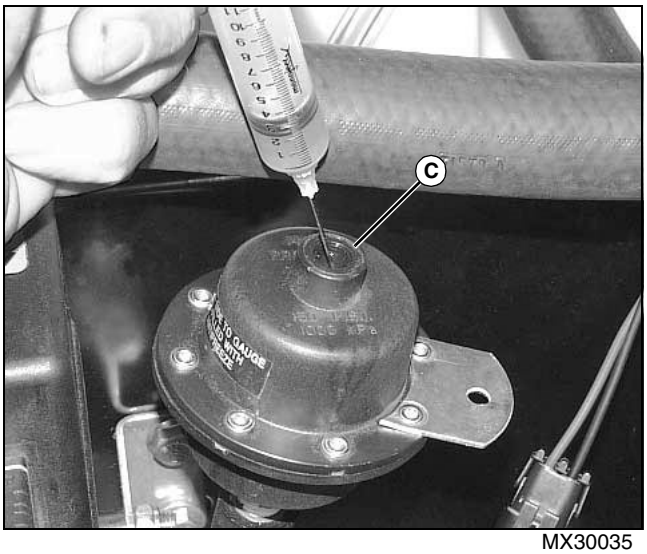
2. Locate pressure tube in front harness and route to isolator.

NOTE: Isolator is supplied with a threaded storage plug installed and is pre-filled with RV anti-freeze.



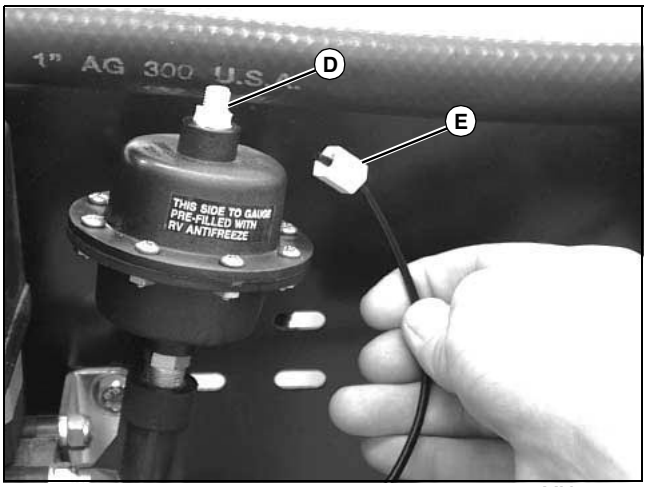
MX30034

3. Remove storage plug (A) from isolator (B) and place in plastic bag with compression fitting storage cap for later use.



MX30035

4. Add RV anti-freeze to isolator port (C) with syringe or other method, allowing fluid to displace any air in isolator. Fill to top of port.

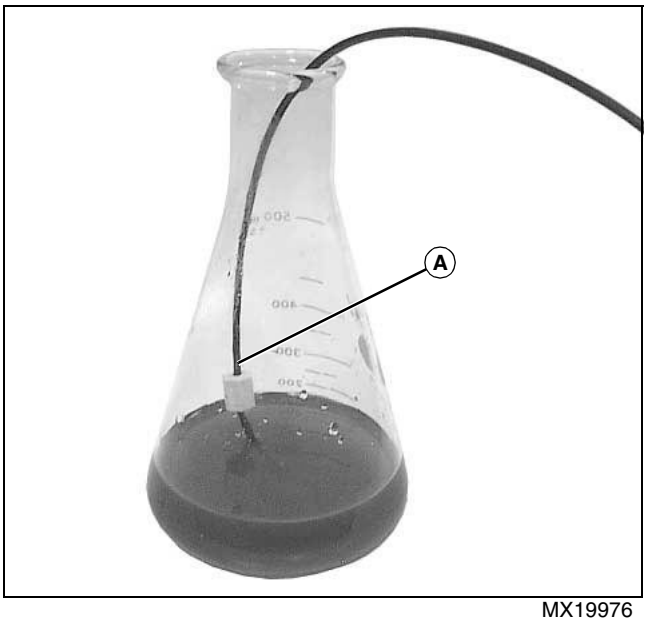


MX30009

5. Install male compression fitting (D) into isolator port and tighten.

6. Install female compression fitting (E) onto pressure tube and slide partway up the tube.

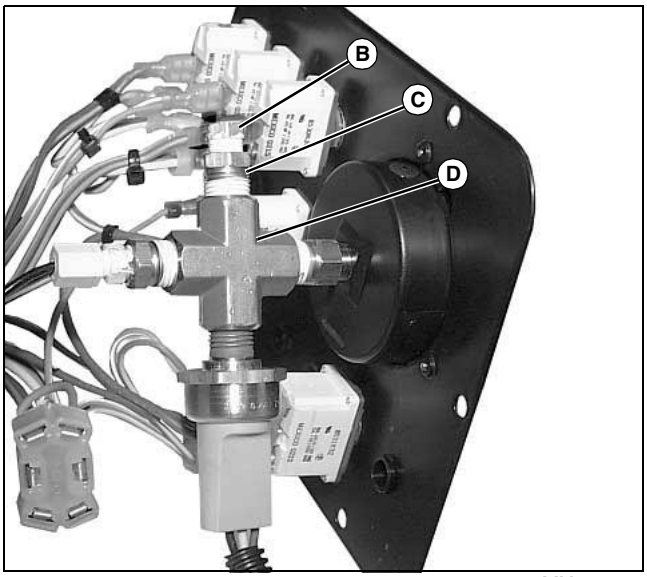
Fill Pressure Tube and Connect Isolator to Pressure Gauge (Suction Method)



MX19976

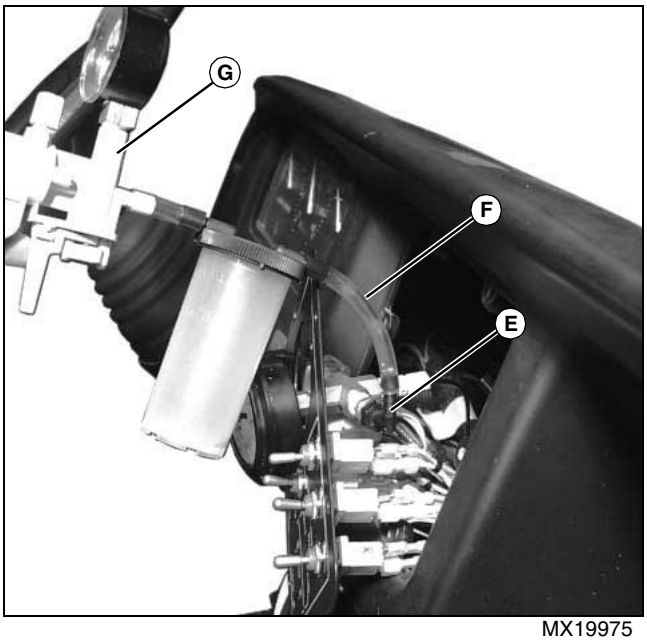
1. Place the sprayer end of the pressure tube (A) into a container filled with an adequate amount of RV anti-freeze. The container should be at or above the level of the pressure gauge.

2. Remove the hardware retaining the dash panel and carefully pull panel out to enable access to cross fitting behind pressure gauge. Retain hardware.



MX30027

3. Remove plug (B) from adapter (C) in cross fitting (D) at rear of pressure gauge. Retain plug.



MX19975

4. Install a fitting (E) and tubing (F) compatible with available equipment to connect suction pump (G) or equivalent to adapter on cross fitting.

5. Operate pump until fluid appears in tube and allow pressure to equalize.

6. Remove the tube from the fluid container, quickly connect the tube to the isolator and tighten the compression fitting.

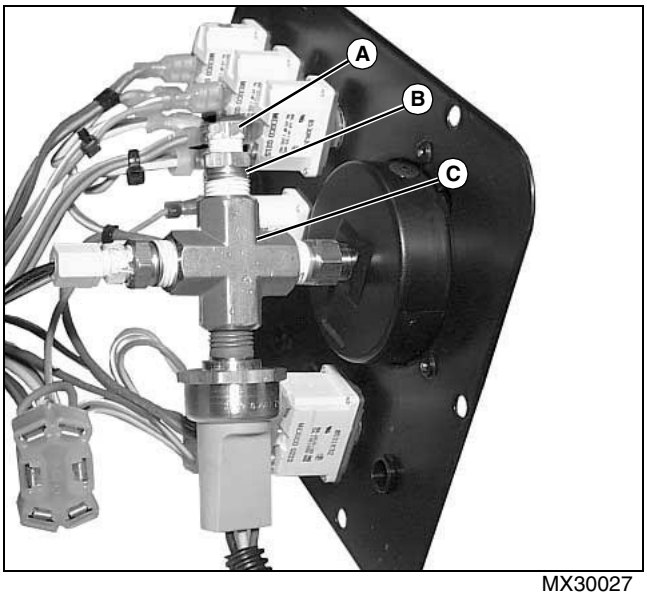
7. Remove the pump and hardware from the cross fitting, keeping the opening on top. Top off cross fitting with RV anti-freeze and install plug (B) removed earlier, using thread sealant tape to prevent leakage.

8. Operate sprayer and confirm proper gauge function. If readings appear inaccurate, or low pressure warning buzzer sounds intermittently, there may be air in system. Repeat bleed procedure if necessary.

9. Install dash panel.

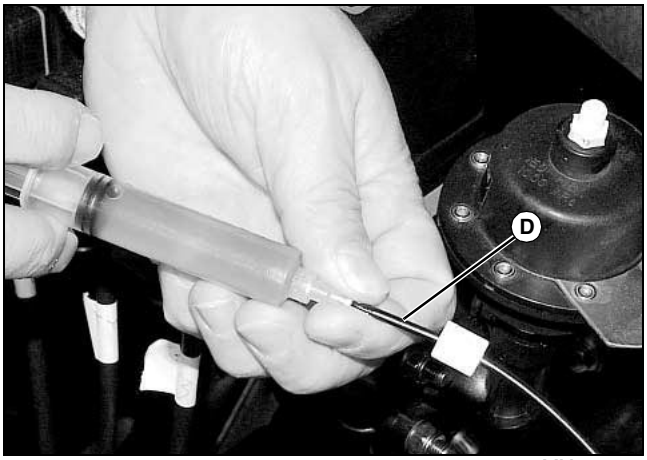
Fill Pressure Tube and Connect Isolator to Pressure Gauge (Injection Method)

1. Remove the hardware retaining the dash panel and carefully pull panel out to enable access to cross fitting behind pressure gauge. Retain hardware.



MX30027

2. Remove plug (A) from adapter (B) in cross fitting (C) at rear of pressure gauge. Retain plug.



MX30036

3. Inject fluid into the sprayer end of the pressure tube (D) with a syringe until it fills the plug port on cross fitting behind pressure gauge.

4. Remove syringe, quickly connect the tube to the isolator and tighten the compression fitting.

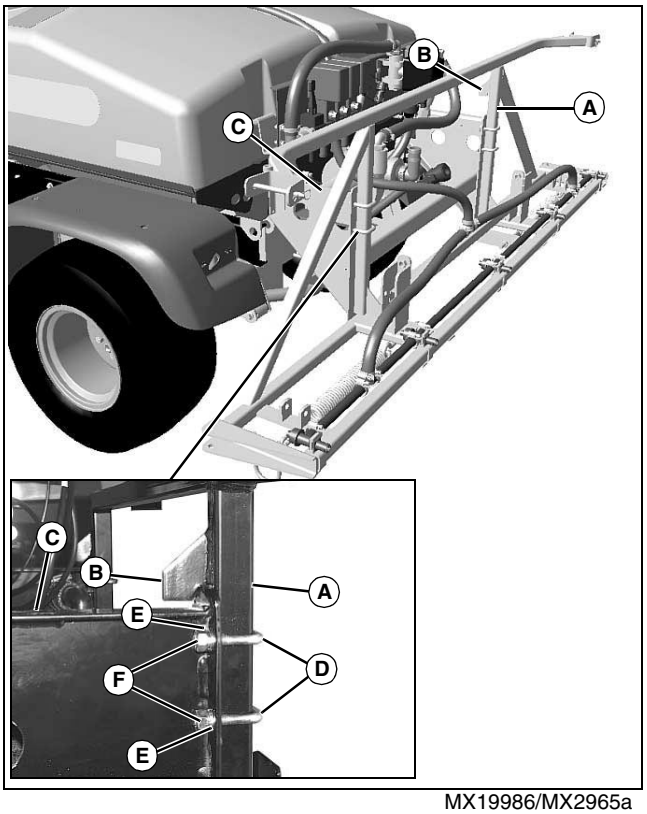
5. Top off cross fitting with RV anti-freeze and install plug

removed earlier, using thread sealant tape to prevent leakage.

6. Operate sprayer and confirm proper gauge function. If readings appear inaccurate, or low pressure warning buzzer sounds intermittently, there may be air in system. Repeat bleed procedure if necessary.

7. Install dash panel.

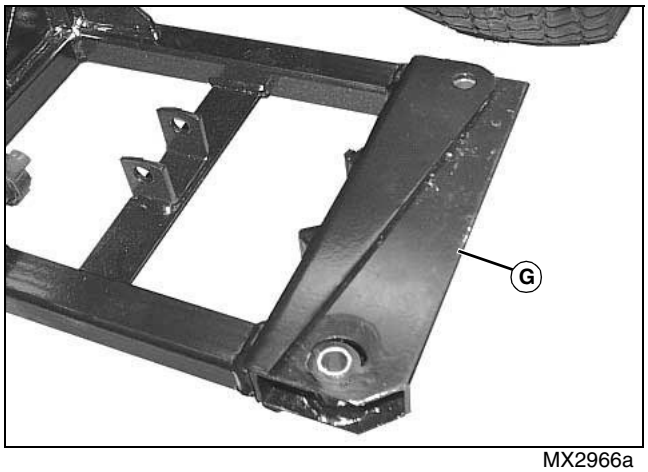
Assemble Boom



MX19986/MX2965a

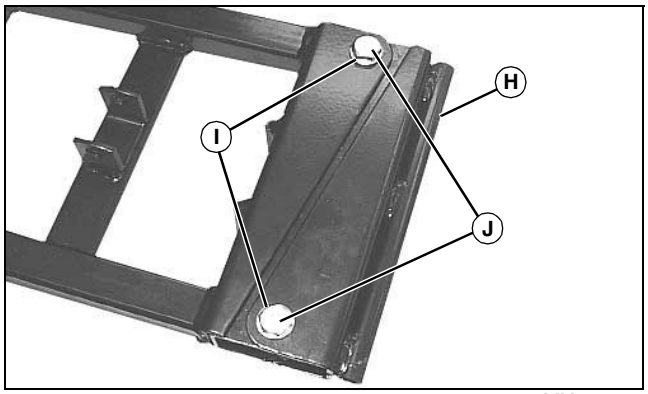
1. Hang boom center frame (A) on sprayer frame so hooks (B) rest over top flange on boom mounts (C).

2. Secure center frame to boom mounts at both sides using U-bolts (D), M10 flat washers (E), and M10 hexnuts (F). Tighten completely.



MX2966a

3. Place pivot hinge center (G) in center boom frame end exactly as shown.

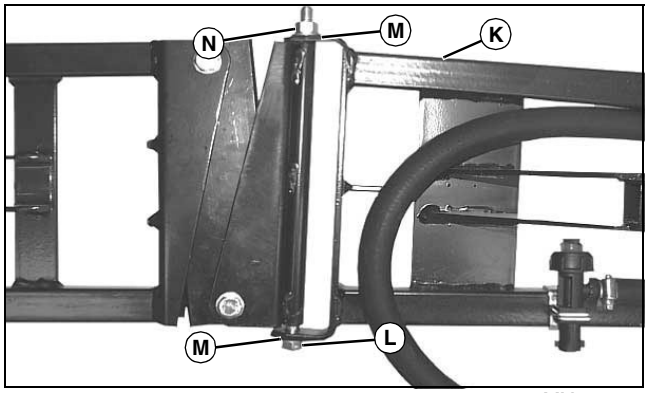


MX2967a

4. Place breakaway hinge (H) on pivot hinge center.

5. Install M12 flatwashers (I) and M12 hex head capscrews (J) from top side of assembly. Secure on bottom side with M12 flatwashers and M12 nylock nuts. Tighten completely.

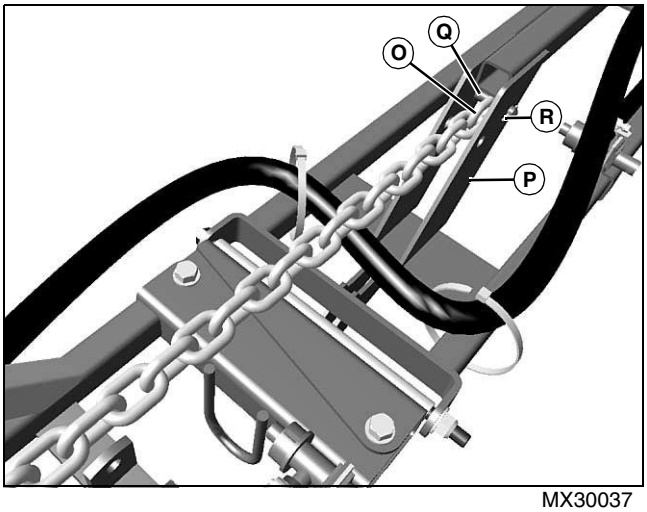
6. Check hinge assembly for movement. If hinge is difficult to pivot, loosen locknuts slightly.



MX2968a

7. Position right side boom wing (K) so spray nozzles are facing same direction as nozzles on center boom frame. Support wing with a jack stand or blocks to keep it level with boom center frame.

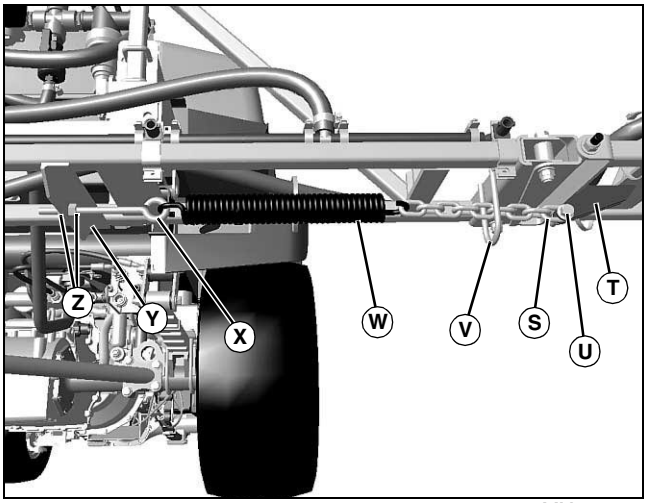
8. Attach right side boom wing to breakaway hinge with 1/2 x 11-1/2 in. hex head capscrew (L), 1/2 in. flatwashers (M), and 1/2 in. reversible locknut (N).



MX30037

9. Position end link of chain (O) from eyebolt/chain assembly at upper hole in right boom wing lift arm (P). Secure with 1/2 in. x 2 in. pin (Q) and cotter pin (R).

NOTE: Earlier version boom had a different chain anchor bracket ((T) below) and different hardware to connect the chain to bracket.



MX30038

Picture Note: Current boom components shown.

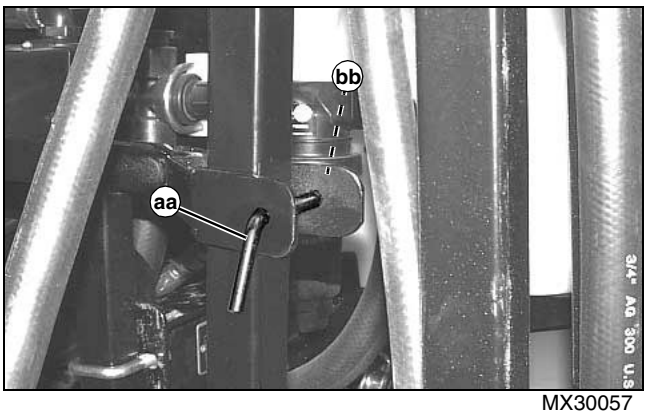
10. Attach 5/16 x 9 in. chain (S) to inside of bracket (T) and secure with M12 x 50 mm capscrew (U) and M12 nylock nut.

11. Route chain through loop (V) and attach to boom spring (W). Connect other end of boom spring to eye bolt (X). Secure eye bolt through either hole on bottom side of boom center frame (Y) using two 1/2 in. hex nuts (Z).

12. Adjust hex nuts so approximately 25 mm (1 in.) of threads exists on eyelet side of bolt. This will provide proper amount of spring tension on boom wing flexible joint.

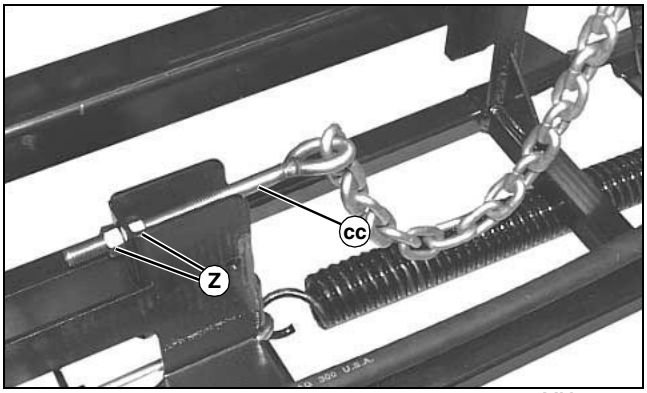
13. Remove jack stand or blocks from under boom wing.

14. Move boom wing forward or rearward to simulate striking an object. Release wing and verify it properly returns to normal operating position without binding.



MX30057

15. Raise right side boom wing completely and lock in place with 3/8 in. drilled pin (aa) and spring locking pin (bb).

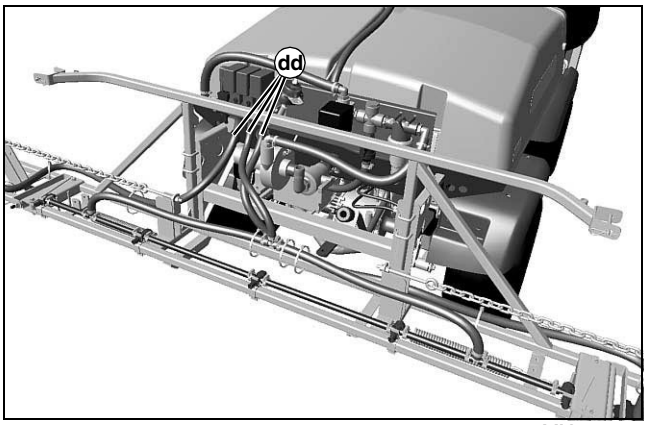


MX2972a

16. Secure eye bolt (cc) to center frame as shown using two 1/2 in. hex nuts (Z).

17. Repeat to install left side boom wing.

18. After both boom wings are completely installed, remove the drilled pins and spring locking pins from retaining clevis and lower boom wings. Install pins in storage tube located by each clevis.



MX30039

19.Route sprayer hoses (dd) as shown. Tie straps are provided in kit to secure hoses.

Adjust Boom

1. Adjust boom level. (See Adjusting Boom Level in Operating - Standard Equipment section.)

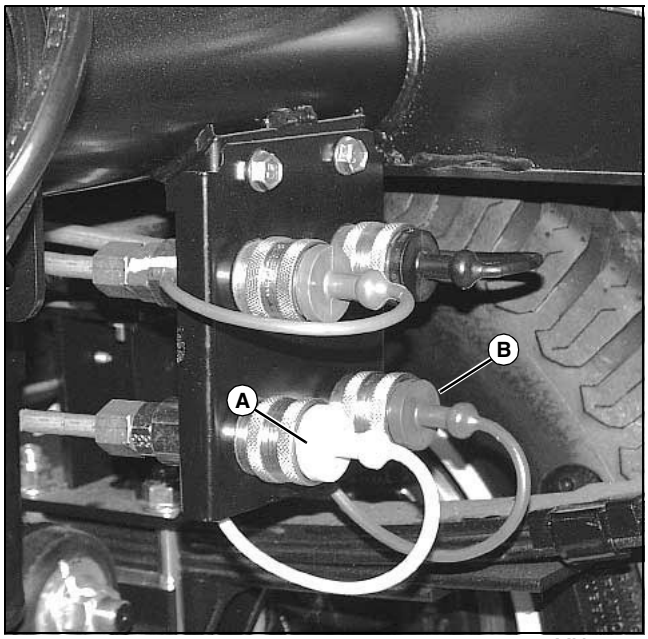
2. Level boom wings (See Leveling Boom Wings in Operating - Standard Equipment section, or Operating - Optional Equipment section.) if boom wings are equipped with electric actuators or ground wheels.

Connect Hydraulic Hoses

CAUTION: Avoid injury! Hydraulic fluid is under pressure. Escaping fluid can penetrate the skin and cause serious injury. Protect hands and body.

- **Relieve all pressure before checking hydraulic hoses.**
- **Search for leaks with piece of cardboard. Do not use hands to check hoses.**
- **Tighten all connections before applying pressure.**

1. Remove dust caps from sprayer hydraulic hoses and quick-couplers at rear of machine.



MX2928

2. Connect the color coded male fittings on sprayer hydraulic hoses to corresponding color coded female quick-couplers:

- Sprayer PTO pressure hose to yellow (A).
- Sprayer PTO return hose to red (B).

SPECIFICATIONS

Standard Equipment

Sprayer Specifications:

Sprayer Tank Capacity	**757 L (200 gal.)**
Sprayer Tank/Frame Shipping Weight (Less Pump)	**146 kg (321 lb)**
Sprayer Tank/Frame Weight (Empty)	**109 kg (240 lb)**

Boom Specifications (18 Foot Boom):

Boom Weight	**95 kg (210 lb)**
Boom Height (Wings Raised)	**228 cm (90 in.)**
Boom Width (Wings Raised)	**109 kg (240 lb)**
Boom Width (Wings Lowered)	**514 cm (203 in.)**

Boom Specifications (15/21 Foot Boom):

Boom Weight	**110 kg (243 lb)**
Boom Height (Wings Raised and Extensions Folded)	**178 cm (70 in.)**
Boom Height (Wings Raised and Extensions Extended)	**244 cm (96 in.)**
Boom Width (Wings Raised)	**231 cm (91 in.)**
Boom Width (Wings Lowered and Extensions Folded)	**478 cm (188 in.)**
Boom Width (Wings Lowered and Extensions Extended)	**615 cm (242 in.)**

Personal Wash Tank Specifications:

Tank Capacity	**15 L (4 gal.)**

Optional Equipment

Foam Marker Specifications:

Tank Capacity	**15 L (4 gal.)**
Average Foam Output	**12.1 L/min. (3.2 gpm)**
Average Solution Usage	**18.1 L/hr (4.8 gph)**
Average Drop Interval	**7.7 seconds**
Average Drop Distance at 16 km/h (10 mph)	**34.1 m (112 ft)**

Ground Wheel Specifications:

Tire Inflation (Maximum)	**206 kPa (30 psi)**

Manual Hose Reel Specifications:

Hose Diameter	**13 mm (1/2 in.)**
Hose Length	**61 m (200 ft)**

Electric Hose Reel Specifications:

Hose Diameter	**13 mm (1/2 in.)**
Hose Length	**61 m (200 ft)**
Circuit Breaker Protected	**40 Amp (automatic reset on sprayer wiring harness)**

Grease

Use grease based on NLGI consistency numbers and the expected air temperature range during the service interval.

The following 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 they meet the following:

- 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.

(Specifications and design subject to change without notice)

DECLARATION OF CONFORMITY

HD200 Sprayer

Deere & Company

John Deere Road

Moline, IL 61265-8098 USA

I, the undersigned:

declare that these machines

Type . . . . . **HD200 Sprayer**

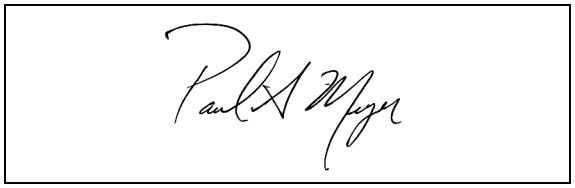
Serial Number . . . . . **See Product Identification Page**

comply with the applicable requirements of:

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

Done at:

John Deere Turf Care . . . . . **9 April 2003**



PAUL A. MEYER

VICE PRESIDENT, ENGINEERING & SUPPLY MANAGEMENT

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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.

Service Record

Date	Service Performed