

JOHN DEERE
WORLDWIDE COMMERCIAL & CONSUMER
EQUIPMENT DIVISION

Sprayer
LP19871 and LP19872 - 110 Gallon

OMLVU22172 E9
OPERATOR'S MANUAL



JOHN DEERE

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Consumer Equipment Division**

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North American Version

Litho in U.S.A.

INTRODUCTION

Introduction

Using Your Operator's Manual

Read this entire operator's manual, especially the safety information, before operating.

This manual is an important part of your machine. Keep all manuals in a convenient location so they can be accessed easily.

Use the safety and operating information in the attachment operator's manual, along with the machine operator's manual, to operate and service the attachment safely and correctly.

If your attachment manual has a section called Preparing the Machine, it means that you will have to do something to your tractor or vehicle before you can install the attachment. The Assembly and Installation sections of this manual provide information to assemble and install the attachment to your tractor or vehicle. Use the Service section to make any needed adjustments and routine service to your attachment.

If you have any questions or concerns with the assembly, installation, or operation of this attachment, see your local John Deere dealer or call the John Deere Customer Contact Center at 1-800-537-8233 for assistance.

Warranty information on this John Deere attachment can be found in the warranty that came with your John Deere tractor or vehicle.

Product Identification

Product Compatibility

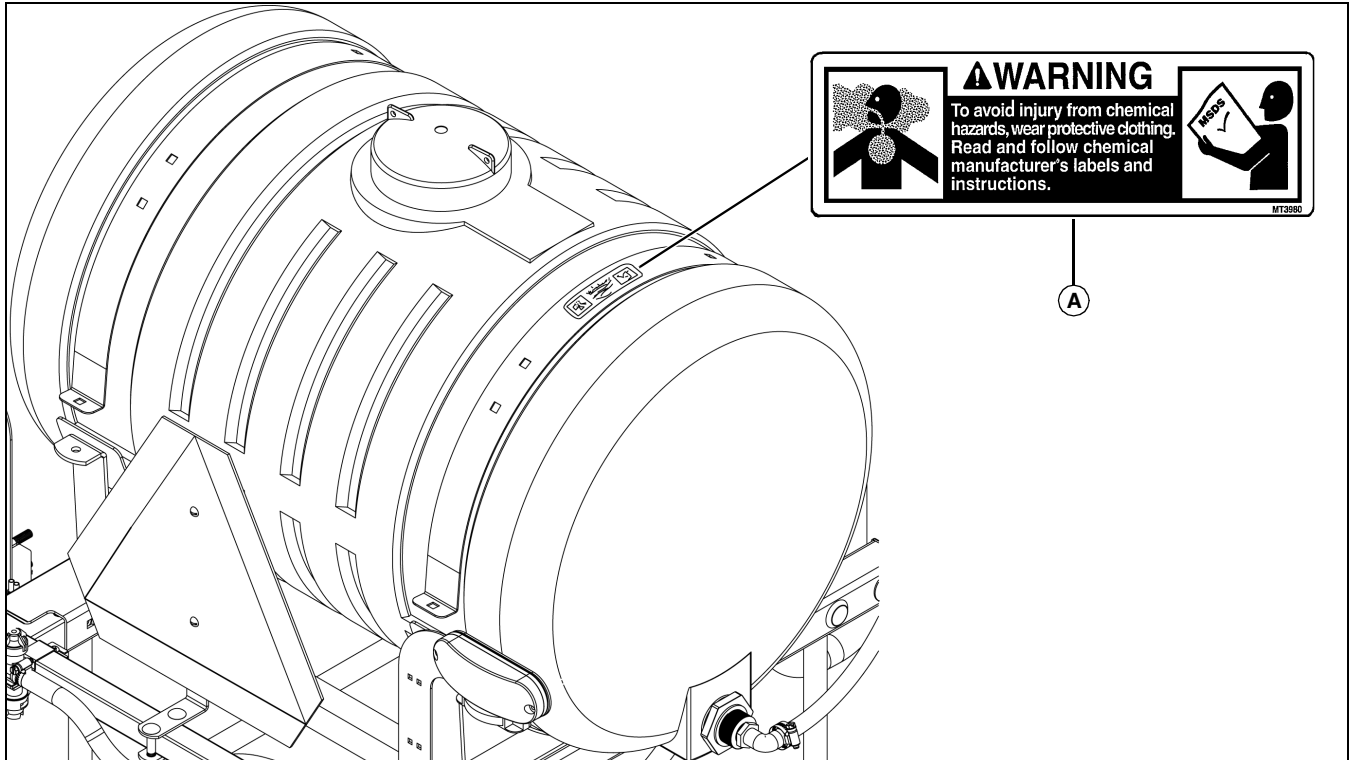
This Sprayer is compatible with Compact Utility Tractors:

3120, 3320, 3520, 3720, 4120, 4320, 4520, 4720

SAFETY LABELS

Safety Labels

Safety Label Location



MT3980, MX27529

A- WARNING - MT3980

Warning - MT3980



Understanding The Machine Safety Labels

The machine safety labels shown in this section are placed in important areas on your machine to draw attention to potential safety hazards.

On your machine safety labels, the words DANGER, WARNING, and CAUTION are used with this safety-alert symbol. DANGER identifies the most serious hazards.

The operator's manual also explains any potential safety hazards whenever necessary in special safety messages that are identified with the word, CAUTION, and the safety-alert symbol.



MT3980

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

SAFETY

Safety

Read Safety in Machine Operator's Manual

Read the general safety operating precautions in your machine operator's manual for additional safety information.

Operate Safely

- Read the machine and attachment operator's manual carefully. Be thoroughly familiar with the controls and the proper use of the equipment. Know how to stop the machine and disengage the controls quickly.
- Do not let children or an untrained person operate machine.
- Make any necessary adjustments before you operate. Never attempt to make any adjustments while the engine is running, unless if recommended in adjustment procedure.
- Take all possible precautions when leaving the machine unattended. Shut off the engine before making any repairs, adjustments, or inspections. Lower the attachment, lock the parking brake, stop the engine, and remove the key.
- Look behind machine before you back up. Back up carefully.
- Do not let anyone, especially children, ride on machine or attachment. Riders are subject to injury such as being struck by foreign objects and being thrown off. Riders may also obstruct the operator's view, resulting in the machine being operated in an unsafe manner.
- Use only attachments and accessories approved by the manufacturer of this product.
- If the machine vibrates abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.
- Always refer to the Storage section of the operator's manual for important details if storing this product for a long period of time.
- Keep people and pets out of the work area. Stop machine if anyone enters the area.
- If you hit an object, stop the machine and inspect it. Make repairs before you operate. Keep machine properly maintained and in good working order. Keep all shields and guards in place.
- Always inspect the sprayer completely before and after each use. Before pressurizing the system, check to be sure all fittings and hoses are tightly installed. Be sure guards and shields are in good condition and fastened in place. Make any necessary adjustments before you operate.
- Never use the sprayer during windy conditions.
- Always release pressure in the system before filling, cleaning or servicing the sprayer.
- Do not put nozzle tip or other sprayer parts to your lips to blow out dirt. Use compressed air.
- If the sprayer is mounted to the bed of a utility vehicle, never raise the bed with the sprayer installed. Empty the sprayer and remove it from the bed if you need to raise the bed for any reason.

Parking Safely

1. Stop vehicle on a level surface, not on a slope.
2. Lock park brake.
3. Stop engine.
4. Remove key.
5. Before you leave the operator's seat, wait for engine and all moving parts to stop.

6. Disconnect the negative battery cable or remove the spark plug wire (for gasoline engines) before servicing the machine.

Mix and Handle Chemicals Safely

- It is best to wear full cover clothing and always wear protective goggles and rubber gloves to protect yourself while handling chemicals.
- Follow instructions on chemical container labels.
- Open all chemical containers carefully, using proper tools.
- Open, pour, weigh and mix chemicals in a well-ventilated area.
- Reserve all equipment used for the application of chemicals exclusively for that purpose.
- Prohibit all smoking, drinking and eating food in chemical-handling area.
- It is a good practice to take a soapy shower immediately after the using the sprayer to apply chemicals.
- Wash all clothing worn when using chemicals separately in the laundry after spraying is completed.

Read Chemical Container Label

- Chemicals can be dangerous. Improper selection or use can injure persons, animals, plants, soils or other property. Select the right chemical for the job and handle and apply with care.
- Read the instructions, precautions, and warnings on the container label before opening. Use the product strictly according to label directions for specific applications, in the amounts specified, at the times specified and only when needed.
- Keep the container closed tightly except when preparing the mix.
- Do not remove labels from chemical containers. Store all chemicals in their original containers.
- Do not mix chemicals unless stated on the container label.
- Store chemicals when not in use according to the container label.

Handle Chemical Products Safely

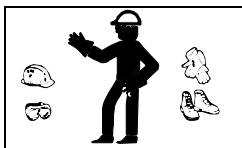
- Direct exposure to hazardous chemicals can cause serious injury. Potentially hazardous chemicals used with John Deere equipment include pesticides, herbicides and fungicides.
- A Material Safety Data Sheet (MSDS) provides specific details on chemical products: physical and health hazards, safety procedures, and emergency response techniques.
- The MSDS should be obtained from the chemical dealer at the time of the chemical purchase.
- Check the MSDS before beginning any job using a hazardous chemical. Know exactly what the risks are and how to do the job safely. Always wear recommended personal protection equipment.

Practice Safe Maintenance

- 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 the machine or attachment 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.

SAFETY

- Lower any attachment completely to the ground or to an existing attachment mechanical stop before servicing the attachment. 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 or attachment, carefully release pressure from any components with stored energy, such as hydraulic components and springs.
- Release hydraulic pressure by lowering attachment or cutting units to the ground or to a mechanical stop and move hydraulic control levers.
- Securely support any machine or attachment 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.
- Check all hardware at frequent intervals to be sure the equipment is in safe working condition.
- Do not modify machine or safety devices. Unauthorized modifications to the machine or attachment may impair its function and safety.



Wear Appropriate Clothing

- Wear close fitting clothing and safety equipment appropriate for the job.
- Certain operating conditions may dictate that the operator and any passenger wear

appropriate safety equipment while operating the vehicle. Be prepared for any existing and potential conditions before operating machine.

- Local safety or insurance regulations may require additional safety equipment such as eye protection or a hard hat.
- Always wear substantial footwear and long trousers. Do not operate the equipment when barefoot or wearing open sandals.
- Wear proper clothing and safety equipment while handling chemicals or using the sprayer. Refer to the MSDS for the chemicals being used to be sure the proper personal protection equipment is being used.



Avoid High Pressure Fluids

- Hydraulic hoses and lines can fail due to physical damage, kinks, age, and exposure. Check hoses and lines regularly. Replace damaged hoses and lines.

- Hydraulic fluid connections can loosen due to physical damage and vibration. Check connections regularly. Tighten loose connections.
- Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.
- Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.
- If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available from Deere & Company Medical Department in Moline, Illinois, U.S.A. Information may be obtained in the United States and Canada only by calling 1-800-822-8262.

Dispose of Chemicals Properly

- Proper disposal of excess spray material is very important. If you have excess tank solution, it is best to dilute it with water and apply it to the area you previously treated.
- Never dump solution into a drain or near a lake or stream.
- Chemicals containers should be triple-rinsed, with the rinse water added to the sprayer tank. Do not burn empty chemical containers. Dispose of containers at recycling centers.

Handling Waste Product and Chemicals

Waste products, such as, used oil, fuel, coolant, brake fluid, and batteries, can harm the environment and people:

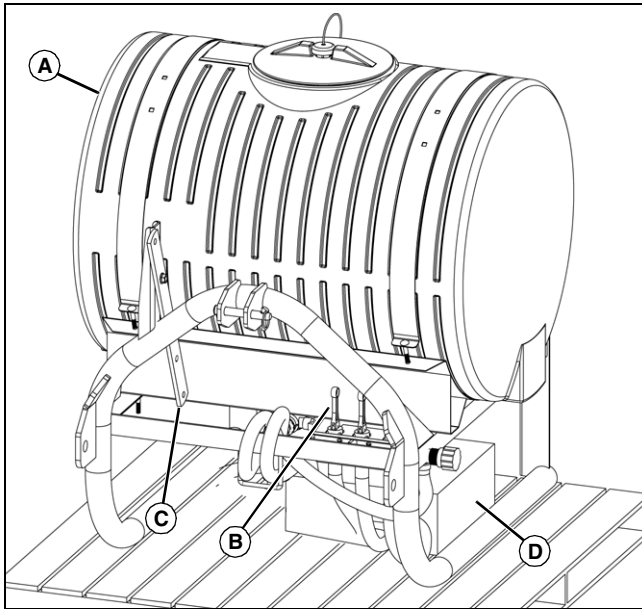
- Do not use beverage containers for waste fluids - someone may drink from them.
- See your local Recycling Center or authorized dealer to learn how to recycle or get rid of waste products.
- A Material Safety Data Sheet (MSDS) provides specific details on chemical products: physical and health hazards, safety procedures, and emergency response techniques. The seller of the chemical products used with your machine is responsible for providing the MSDS for that product.

ASSEMBLY

Assembly

Parts in Kit

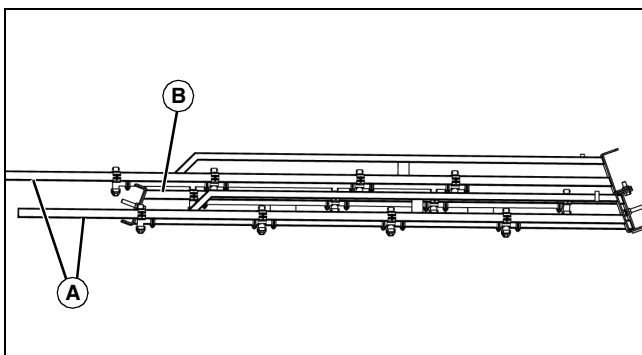
Sprayer Frame



MX27466

Qty.	Description
1	Sprayer Assembly (A)
1	Control Valve (B)
1	Control Valve Bracket (C)
1	Pump (D)
1	Safety Kit

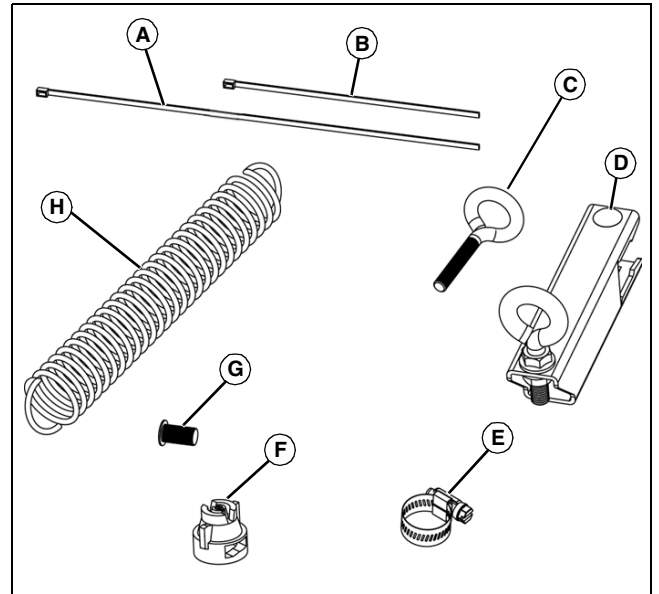
Boom Assembly (Boxed)



MX27538

Qty.	Description
2	Side Boom (A)
1	Center Boom (B)
1	Hardware Bag

Hardware Bag

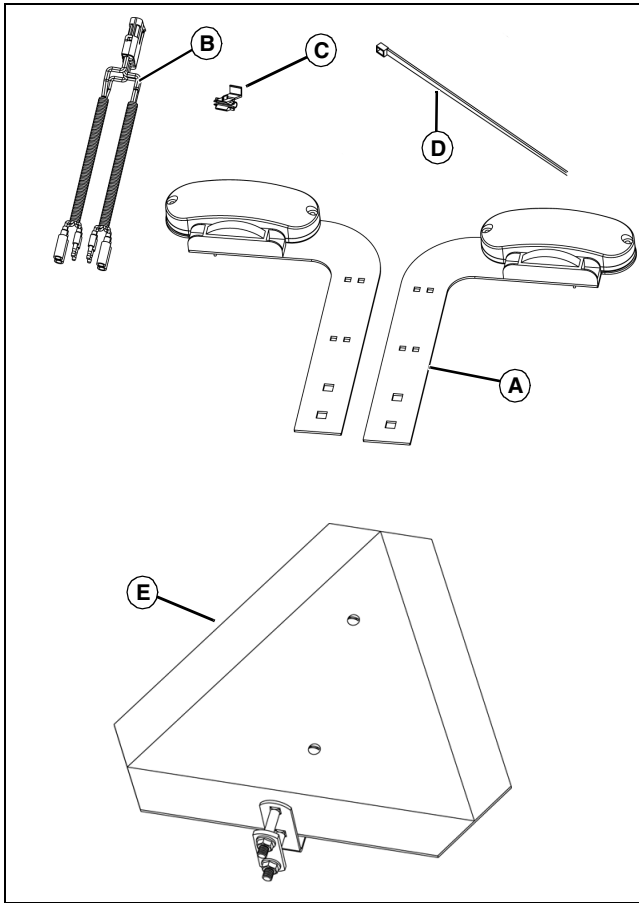


MX27467a

Qty.	Description
6	Tie Wrap, 7 in. (A)
2	Tie Wrap, 14-1/2 in. (B)
2	Eye Bolt, 3/8 x 4 (C)
2	Bracket, Boom Spring (D)
3	Hose Clamp (E)
12	Spray Tip (F)
12	Strainer (G)
2	Boom Spring (H)
2	Carriage Bolt, 3/8 x 3
4	Carriage Bolt, 3/8 x 1
2	Nylok Nut, 1/2
4	Nut, 3/8
2	Bolt, 1/2 x 6-3/4
2	Washer, 1/2
6	Flange Nut, 3/8

ASSEMBLY

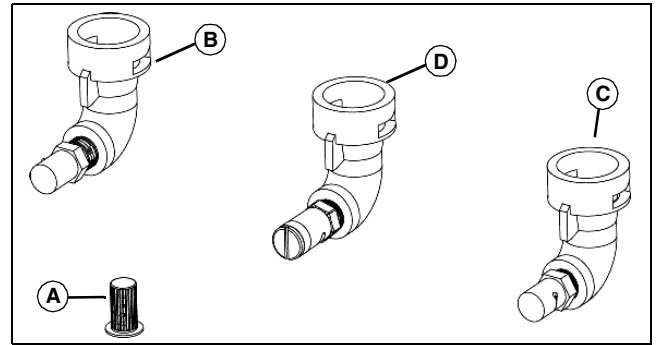
Safety Kit - Light Kit and SMV Sign (with hardware)



MX27530, MX27531, MX27305a

Qty.	Description
1	Light Assembly (A)
1	Adapter, Wire Harness (B)
4	Clips, Wire Snap (C)
6	Tie Strap, 7-in. (D)
1	SMV Sign with Hardware (E)
1	SMV Mount Plate
2	3/8 x 2-1/4 Carriage Bolt
4	3/8 x 3/4 Carriage Bolt
6	3/8 Flange Nut

Boomless Nozzle Option Hardware Bag



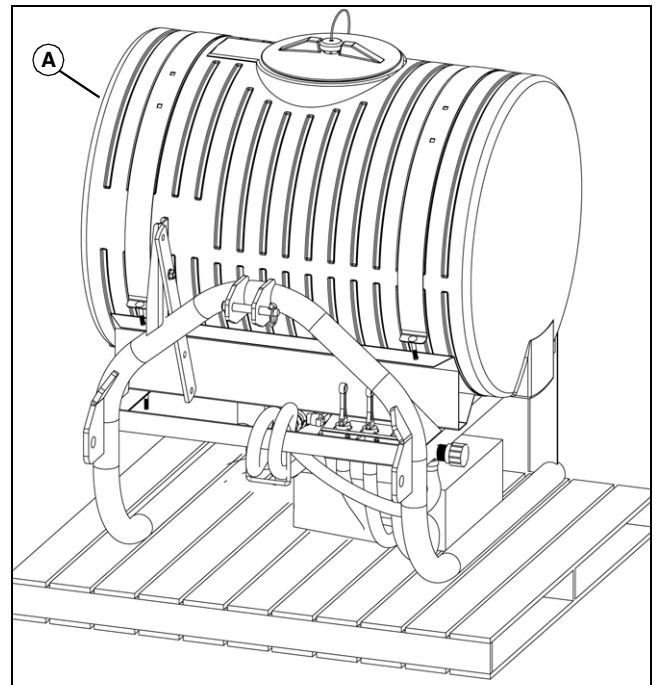
MX27447

Qty.	Description
3	Spray Tip Screen (A)
1	Spray Nozzle, Left (B)
1	Spray Nozzle, Right (C)
1	Spray Nozzle, Center (D)

Remove Sprayer from Shipping Crate

NOTE: When removing plastic wrap use caution, the hoses are contained inside the wrap.

1. Remove plastic wrap from sprayer.



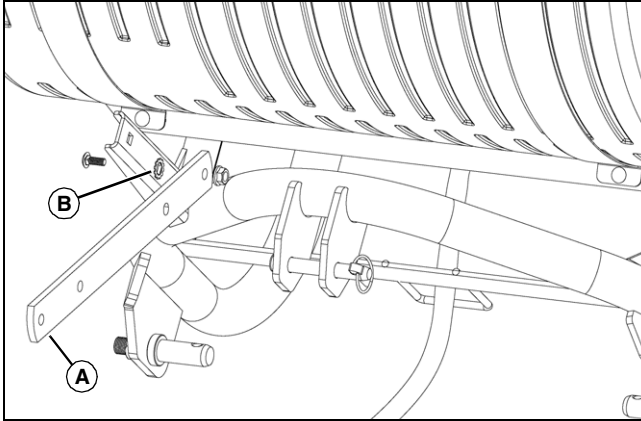
MX27466

2. Remove hardware securing sprayer assembly (A) to shipping crate, and remove sprayer assembly.
3. Inspect unit for shipping damage. Inventory parts prior to assembly. If parts are missing or damaged, call 1-866-438-9091.

ASSEMBLY

Control Valve Assembly

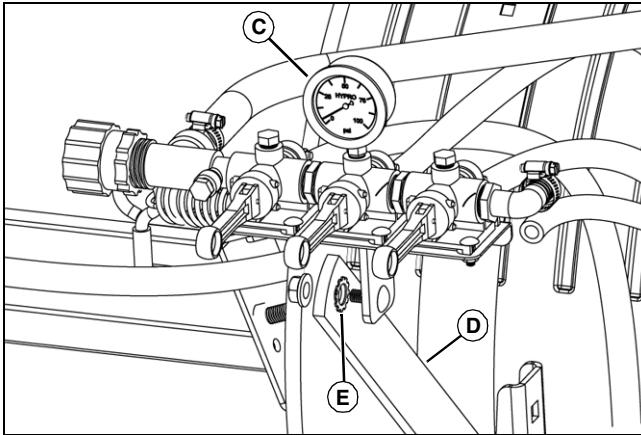
1. Locate and remove control valve bracket by removing bolt securing it to frame.



MX27470

Picture Note: Top view shown.

2. Use hardware just removed to relocate control valve bracket (A) to frame hole, as shown. Position star washer (B) between bracket and frame.
3. Carefully cut tie wraps and remove control valve from sprayer frame.



MX27471

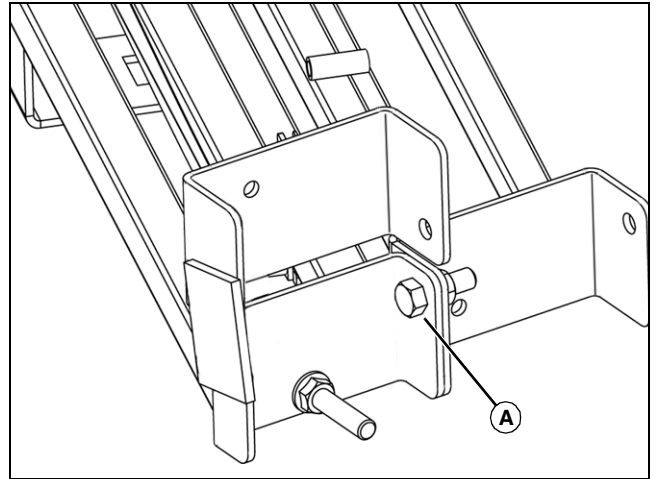
4. Position control valve (C) at top of control valve bracket (D).
5. Secure control valve to control valve bracket with carriage bolt, star washer, and flange nut (already in fixture). Make sure star washer (E) is positioned between bracket and valve mount.

NOTE: Sprayer control arm is equipped with multiple mounting options to accommodate different needs. Pay special attention when installing on cab tractors; control arm can hit rear glass if not adjusted properly.

Sprayer Boom Assembly

IMPORTANT: Avoid damage! The aid of an assistant is necessary to avoid injury or product damage during boom assembly.

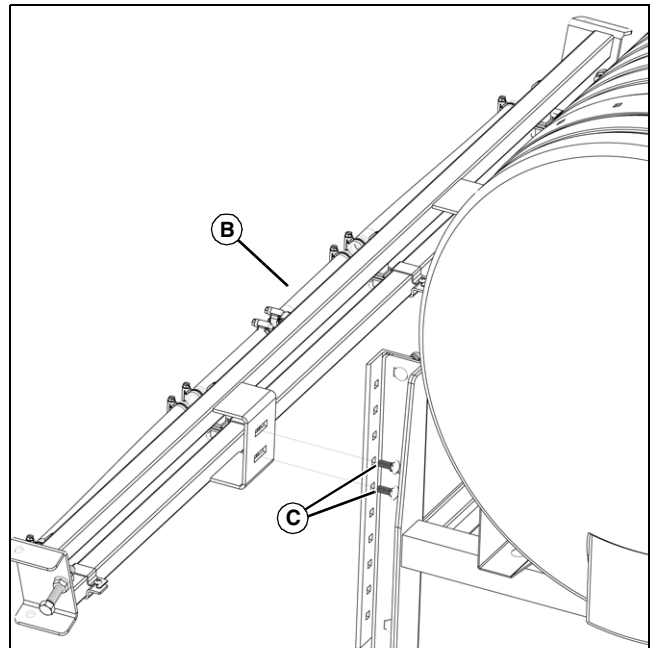
1. Remove boom from box and lay on ground.



MX27469

2. Remove and discard bolt (A).

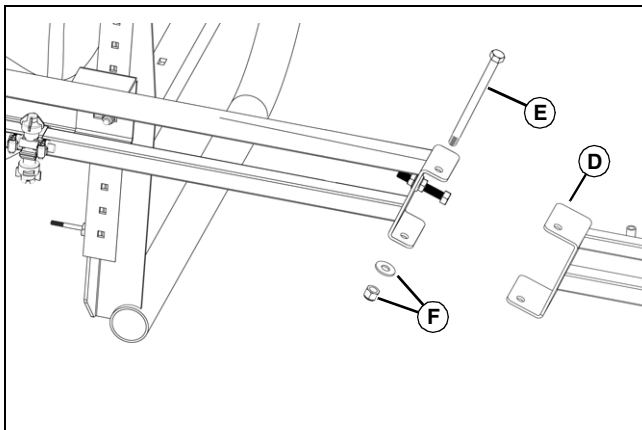
NOTE: The boom mount frame allows for multiple boom height options. Location may require adjustment when calibrating sprayer.



MX27472

3. Locate and position center boom (B) on frame at desired height. Use four 3/8 x 1 carriage bolts (C) and 3/8 flange nuts (two per bracket) to secure in place.

ASSEMBLY



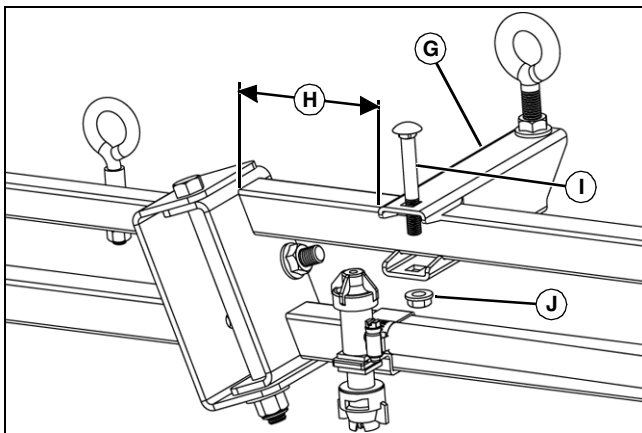
MX27473

Picture Note: Right side shown.

4. Secure right side boom hinge (D) to center boom with 1/2 x 6-3/4 bolt (E), 1/2 flat washer, and 1/2 Nylok nut (F).

5. Repeat to install left side boom.

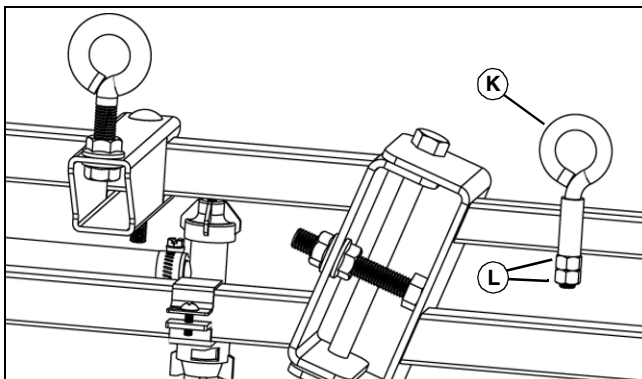
NOTE: Spring bracket can be adjusted, but not removed. Check location and position prior to use.



MX27474

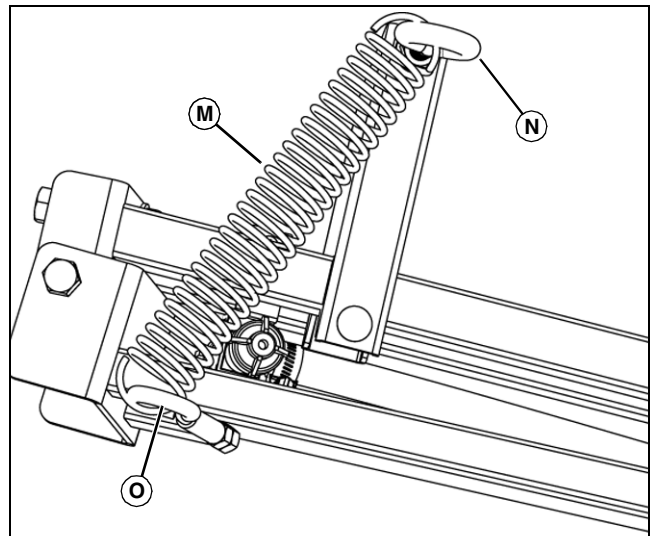
Picture Note: Left side shown.

6. Position spring bracket (G) on top rail of center boom, 5-1/2 inches (H) from weld point on end of center boom. Spring bracket must be position with eyehook hole up, and toward tank side of boom. Insert 3/8 x 3 carriage bolt (I) and 3/8 flange nut (J) and tighten.



MX27475

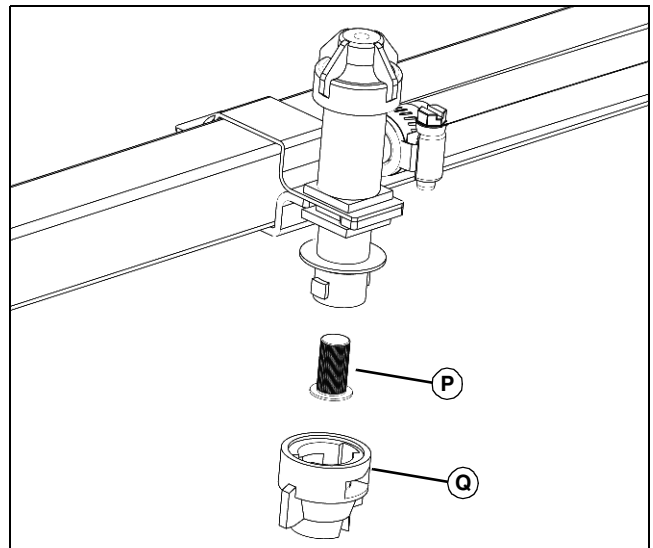
7. Locate eyehook attachment point on side booms. Install eyehooks (K) with two 3/8 jam nuts (L) on each. Eyehooks should be able to rotate freely.



MX27476

8. Fold boom. Attach spring (M) to spring bracket (N).

9. Attach other side of spring to eyehook (O). Use vice grip if necessary.



MX27440

10. Locate twelve spray tips and strainers in hardware bag.

11. Insert strainer (P) into tip housing.

12. Push spray tip (Q) in place by lining up slots with tip housing. Turn 1/4 turn and spray tip will lock into place.

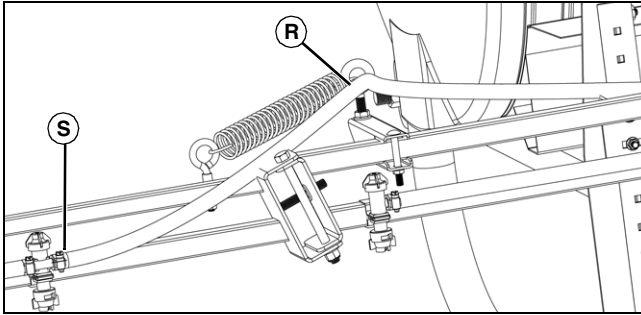
13. Locate boom hoses marked with color tie wraps:

- left side hose - blue tie wrap
- right side hose - red tie wrap
- center hose - black tie wrap

ASSEMBLY

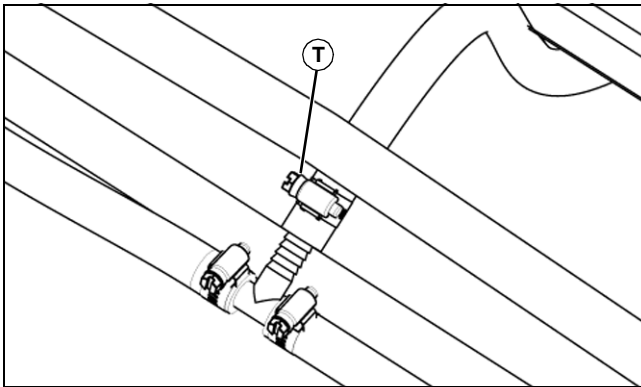
NOTE: It is helpful to wet hose barbs with lubricant or liquid soap prior to insertion.

Check for proper hose routing prior to installing hose on hose barb. Do not pry hose off hose barb. Hose has to be cut to remove it from the barb.



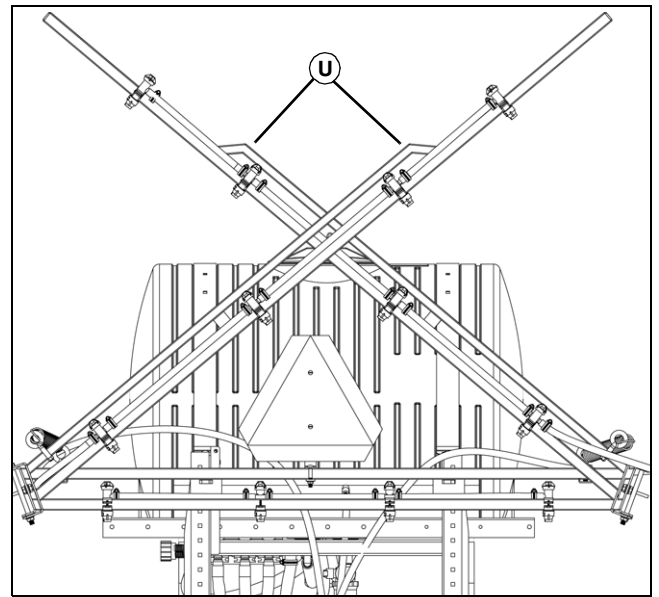
MX27477

14. Route left hose (R) along top side of left boom.
15. Place hose clamp on end of hose and attach hose to barbed fitting on first boom tip (S). Make sure hose is inserted fully onto barbed fitting.
16. Slide clamp over hose barbs and tighten.
17. Use tie wraps to secure hose to eyehook and top boom channel.
18. Repeat for right side boom.



MX27478

19. Slide hose clamp (T) over center boom hose.
20. Insert boom hose tee fully and tighten clamp.



MX27479

NOTE: Boom arms (U) can be folded as shown.

The boom mount frame allows for multiple boom heights. Location may need to be adjusted when calibrating sprayer.

For general operation, it is recommended to install boom on second to bottom set of holes to allow maximum ground clearance for operation.

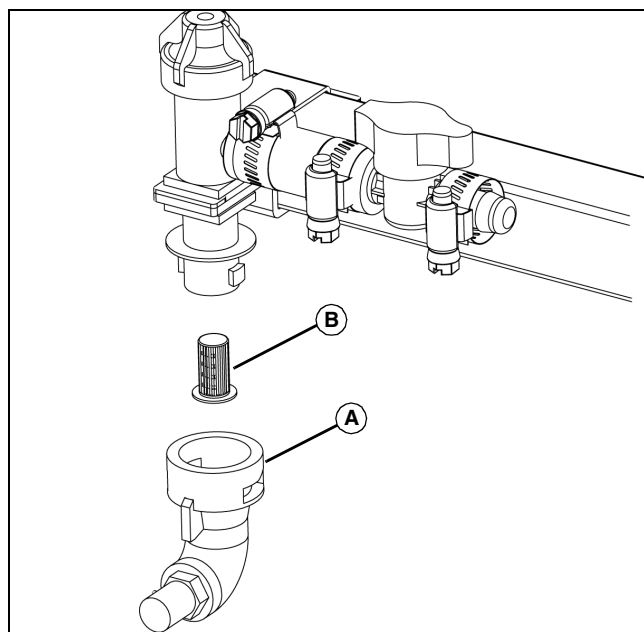
For specific applications, boom height can be adjusted depending on crop height.

Install Boomless Option

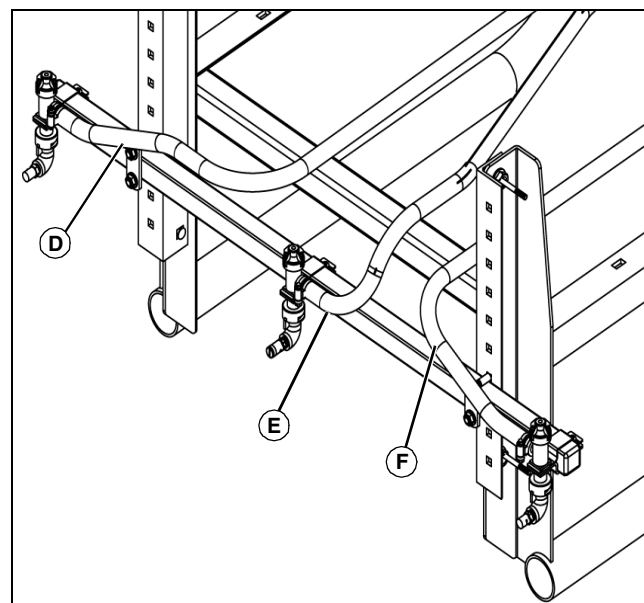
1. Locate:

- three tip stainers
- one left spray nozzle (yellow)
- one right spray nozzle (yellow)
- center spray nozzle (stainless)

ASSEMBLY



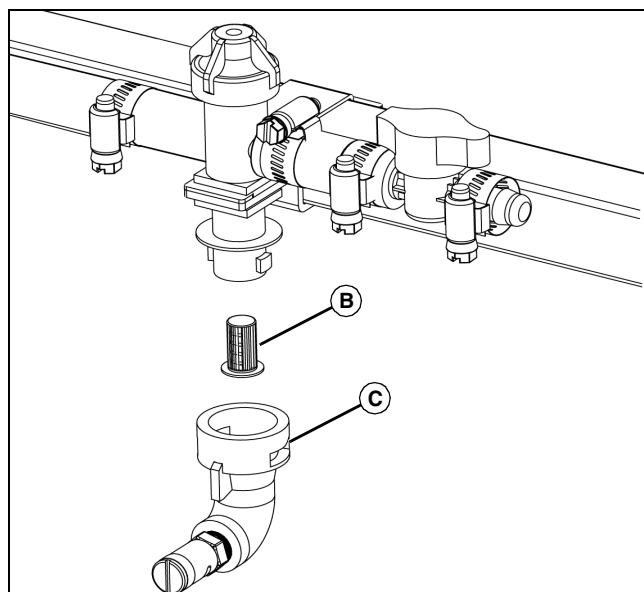
MX27534



MX27533

Picture Note: The height shown in illustration is for installation purposes only. The actual height should be adjusted for your application.

2. Attach left spray nozzle (A) and strainer (B). Make sure nozzle is positioned so it is directed straight back and nozzle slot is facing left.
3. Attach right spray nozzle and strainer, with slot facing right.



MX27535

4. Install center nozzle (C) and strainer (B). Make sure nozzle is directed straight back and nozzle slot is directed down.

5. Locate boom hoses marked with color tie wraps:

- left hose (D) - blue
- right hose (E) - red
- center hose (F) - black

6. Place hose clamp on end of hose and attach hose to corresponding barbed fitting. Make sure hose is inserted fully onto barbed fitting.

7. Slide clamp over hose barbs and tighten clamp securely.

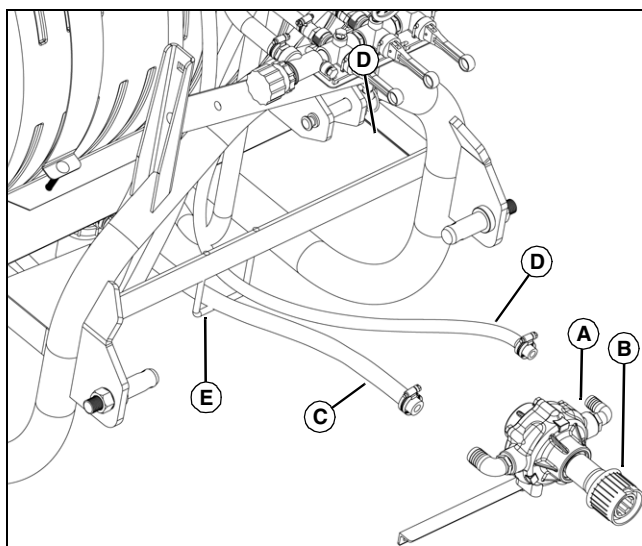
8. Secure excess hose to the sprayer frame.

NOTE: The height indicated is for installation purposes only. The actual height should be adjusted for optimal performance with tractor.

Mount Pump

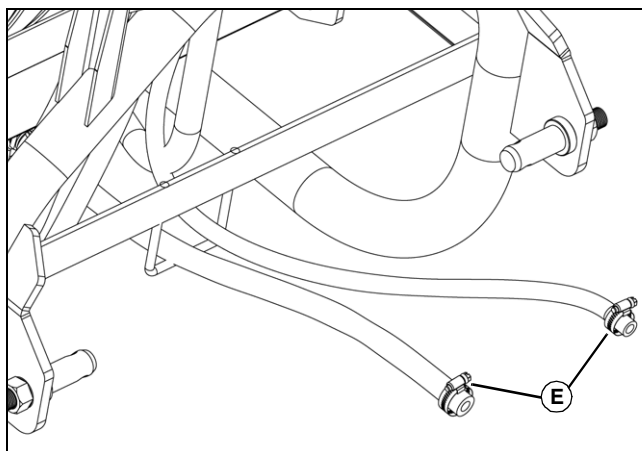
1. Mount sprayer on tractor prior to connecting any hose to pump:
 - a. Park machine safely. (See Parking Safely in Safety section.)
 - b. Lower tractor lift link to lowest position.
 - c. Mount sprayer on 3-point hitch.

ASSEMBLY



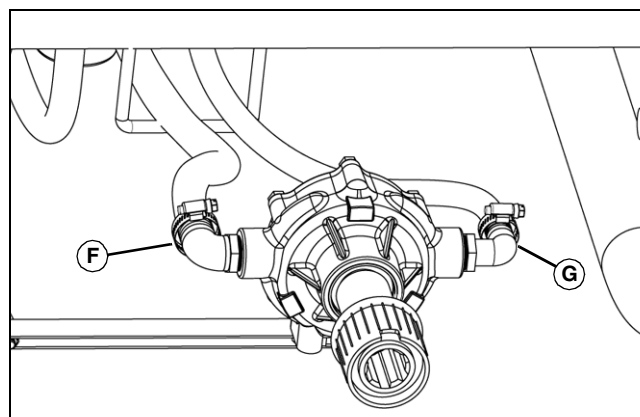
MX27480

2. Attach pump (A) to PTO shaft by pulling back the orange sleeve (B) and sliding it fully onto shaft until collar seats. Be sure hoses (C and D) are routed behind hitch frame and through hose keeper (E) as shown.
3. If not already done, lower sprayer to ground.
4. Locate yellow tank suction hose (C) and black pump outlet hose (D).
5. Hold hoses to mounted pump and cut to appropriate length. Hoses should be cut so there is some slack but should not touch the ground when sprayer is in lowest position.
6. After hoses are cut, remove sprayer from hitch to proceed.



MX27485

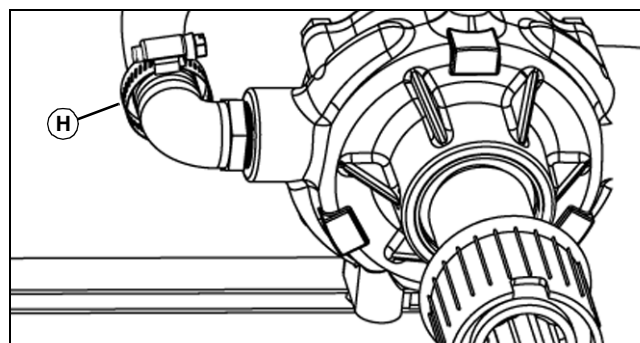
7. Loosen and slide clamps (E) back slightly away from end of hoses.



MX27481

8. Insert 1-in. barb fitting into 1 in. yellow suction hose on the "IN" side of pump (F). Be sure clamp is on hose prior to insertion, and barb is fully inserted.

9. Insert 3/4 in. barb fitting into 3/4 in. black suction hose on the "OUT" side of pump (G). Be sure clamp is on hose prior to insertion, and barb is fully inserted.

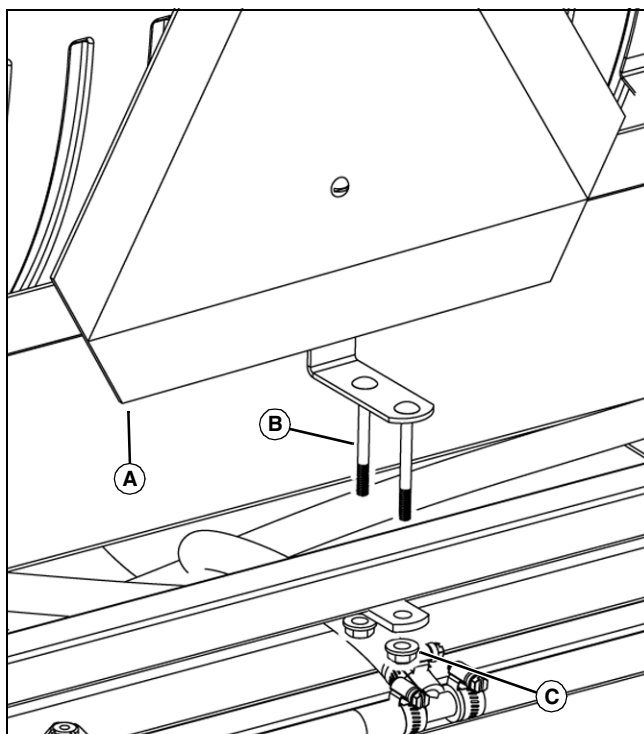


MX27482

10. Slide clamps (H) over barbs and tighten securely. It is important that clamps be positioned over barbs for a proper seal.

ASSEMBLY

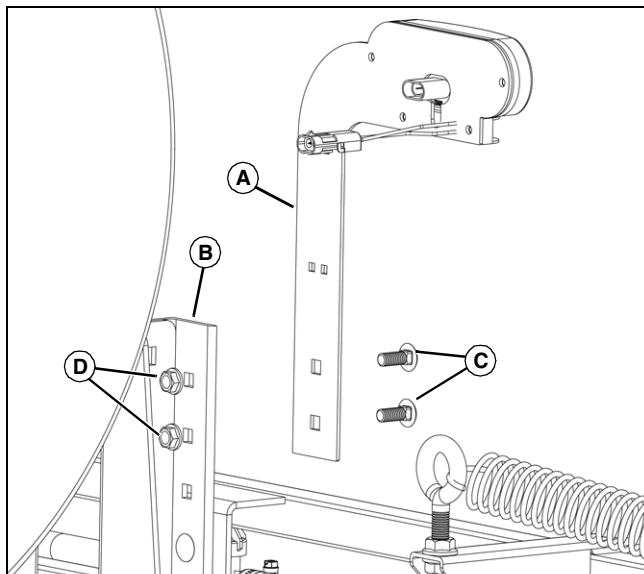
Install SMV (Slow Moving Vehicle) Sign



MX27483

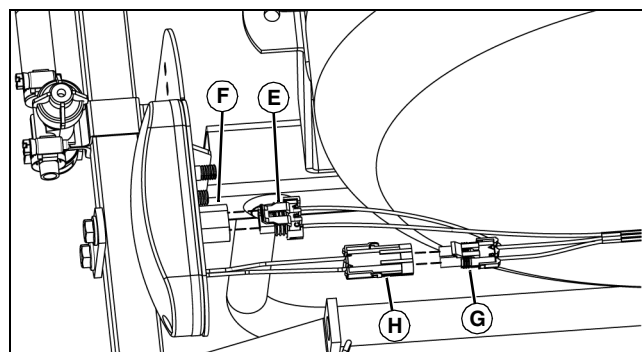
Install SMV sign (A) to top rail of center boom with 5/16 x 3 bolts (B), bracket strap (C) and flange nuts (D) already in sign bracket.

Installing Lights



MX27484

1. Install light support bracket (A) to boom support bracket (B) with two 5/16 carriage bolts (C) and 5/16 flange nuts (D).
2. Install remaining light support bracket at opposite side using same procedure.

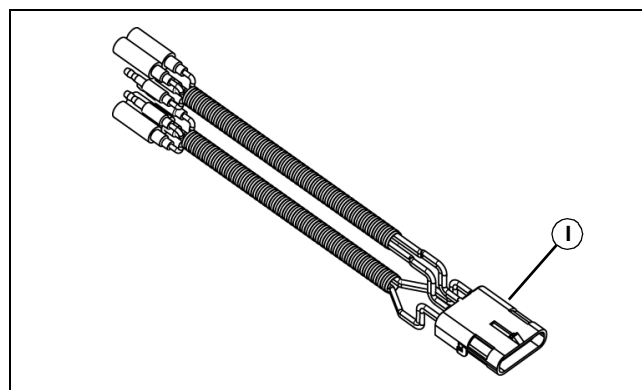


MX27449

3. Connect tail light connector (E) to tail light socket (F).
4. Connect turn signal connector (G) to turn signal port (H).
5. Make connections at opposite side.

Connect Wire Harness Adapter to Tractor

NOTE: For tractors equipped with 7-pin wire harness capabilities, use adapter LP20934 (sold separately).



MX27450

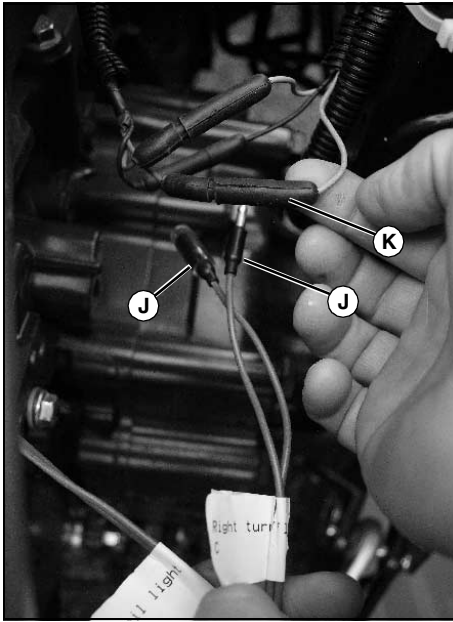
1. Locate wire harness adapter (I).
2. Note wire harness adapter and labels before attempting connection:
 - right turn signal - green
 - tail light - gray
 - left turn signal - green
 - ground wire - black

If tractor is equipped with quick connects, follow "Installation Method 1" procedure.

If tractor is not equipped with quick connects, follow "Installation Method 2" procedure.

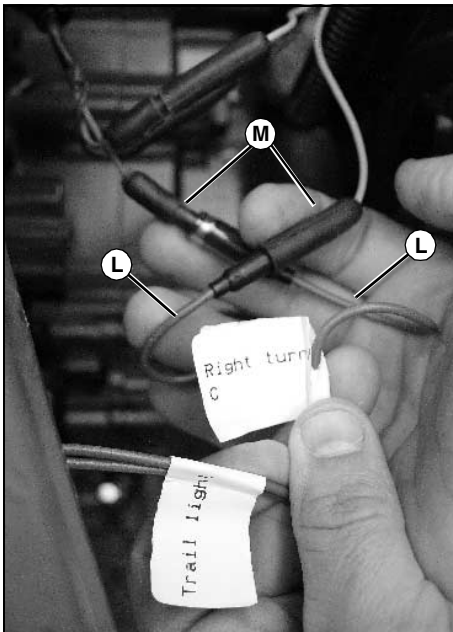
ASSEMBLY

3. Installation Method 1:



MX27451

- Locate tail light wire connectors in rear of tractor (usually located at base of roll bar or behind seat).
- Identify right side wire bundle on tractor and on wire harness adapter labeled "Right Turn Signal (Green)".
- Locate green right turn signal wire on tractor and separate tractor connection (K).



MX27452

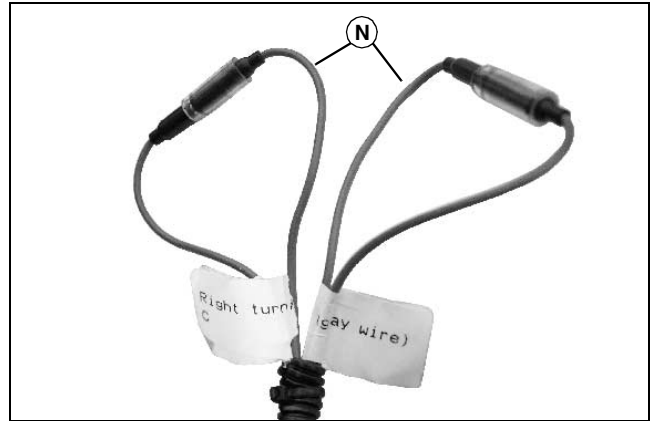
- Connect wire labeled "Right Turn Signal (Green)" on wire harness adapter (L) to tractor connections (M) as shown.
- Repeat for "Tail Light (Gray)" in right side wire bundle.
- Identify left side wire bundle on tractor and on wire harness adapter, labeled "Left Turn Signal (Green)".
- Locate green left turn signal wire on tractor and separate tractor

connection. Connect labeled "Left Turn Signal (Green)" on wire harness adapter to tractor connections.

- Repeat for "Ground Wire (Black)" in left side wire bundle.

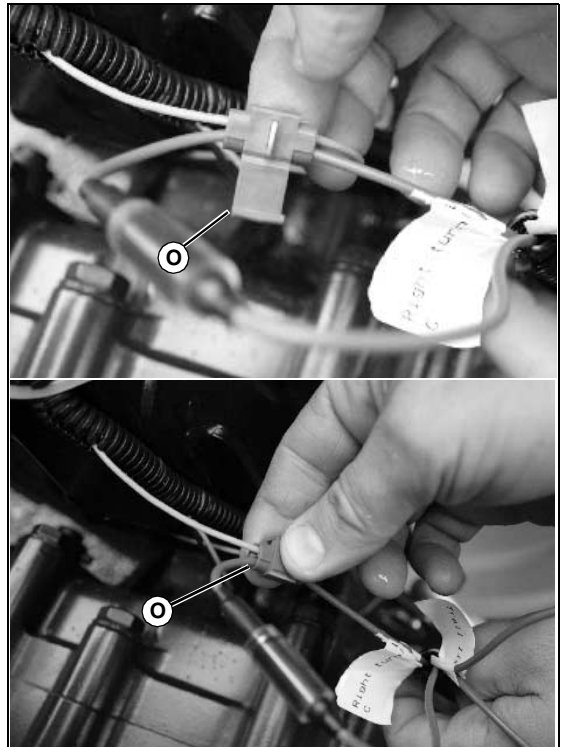
4. Installation Method 2:

If tractor is not equipped with quick connectors, it may be necessary to use snap connectors included.



MX27456

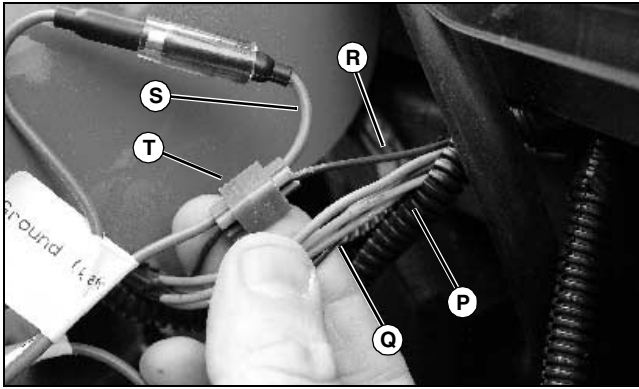
- Loop each connection wire (N) to itself as shown, prior to connecting to tractor.



MX27453, MX27454

- Join wires together using snap connectors (O). Place both wires in snap connector as shown, then snap together to lock in place.
- Locate tail light wire connectors at rear of tractor; these are usually routed to the rear of tractor near fender.

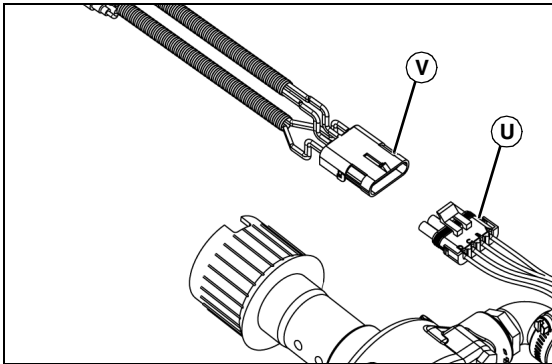
INSTALLING



MX27455

- d. Pull back sheathing (P) to expose color coded wires (Q) on perspective sides, right and left.
- e. Identify left side wire bundle on tractor and on wire harness adapter, labeled "Left Turn Signal (Green)".
- f. Locate black ground wire (R) on tractor. Connect labeled "Ground Wire (Black)" on wire harness adapter (S) to black tractor wire as shown using connector (T).
- g. Repeat for "Left Turn Signal (Green)" in left side wire bundle as shown.
- h. Identify right side wire bundle on tractor and on wire harness adapter, labeled "Right Turn Signal (Green)".
- i. Locate green right turn signal wire on tractor. Connect labeled "Tail Light (Gray)" on wire harness adapter to gray tractor wire.
- j. Repeat for "Right Turn Signal (Green)" in right side wire bundle.

NOTE: If tractor is equipped with a cab with high mount turn signals, the turn signals are mounted so that they are visible with sprayer mounted on tractor. Therefore, it is not necessary to attach turn signal wires (green) to tractor. Right and left turn signal lights are not used on light kit; keep them looped and do not connect to tractor.



MX27457

5. Locate tail light wire termination (U) (wiring that connects to sprayer tail lights). Locate and connect wire harness adapter (V) to wire termination (U).
6. Secure wires to sprayer and tractor with tie straps provided. Avoid securing wires close to moving parts or in areas where wires may get wrapped or pinched.

Installing

Installing Ballast



CAUTION: Avoid injury! Machine can become unstable when operating with attachment. Ballast is required when the attachment is installed.

When the attachment is removed, also remove any ballast that was added to the machine.

Use only attachments and accessories recommended by the manufacturer.

Compact Utility Tractors

See Ballasting Machine in your tractor operator's manual to determine the number of front weights required to ballast the tractor.

Use the following table to ballast these tractor models:

Tractor Model	No. of Weights	Weight (kg/lb)	Implement Code
3120, 3320, 3520, 3720	9	70	70
4120, 4320, 4520, 4720	9	70	90

Mounting the Pump

Correct mounting of the pump will insure safe pumping operation. The preferred method for mounting torque arm and pump to tractor is with the chain vertical to support the pump.

NOTE: Do not attach torque arm to movable linkages.

1. Mount pump and torque arm to PTO shaft using coupler.
2. Attach torque chain to tractor frame with arm in horizontal position.

It is permissible to mount torque arm with chain in downward position. To do this, mount arm to pump in reverse position. Do not use tension spring or chain.

Attaching Sprayer to Tractor

1. Park machine safely. (See Parking Safely in Safety section.)
2. Lower tractor lift link to lowest position.
3. Mount sprayer on 3-point hitch.

Removing and Storing

Removing Sprayer From Tractor

1. Park the machine safely. (See Parking Safely in Safety section.)
2. Empty the sprayer tank.
3. Lower tractor lift link to lowest position.
4. Disconnect sprayer from tractor 3-point hitch.

OPERATING



CAUTION: Avoid injury! Machine can become unstable when operating with attachment. Ballast is required when the attachment is installed.

When the attachment is removed, also remove any ballast that was added to the machine.

Use only attachments and accessories recommended by the manufacturer.

5. Remove any added front ballast from machine.

Store Sprayer Safely



CAUTION: Avoid injury! To avoid chemical injury:

- Wear protective clothes, gloves and goggles when handling sprayer.
- Do not store sprayer with chemicals in tank.
- If spray comes in contact with your body, immediately follow directions on chemical container pertaining to spray material.

1. Pump all spray material from tank. (See Dispose of Chemicals Properly in the SAFETY section.)
2. Rinse tank, pump, spray wand and all hoses thoroughly with fresh clean water.
3. Repeat step 2 several times.
4. Wipe out sump with a clean cloth or paper towel.
5. Drain hoses and pump filter.
6. Check sprayer for worn or damaged parts. Replace parts as needed.
7. Tighten loose hardware.
8. Store sprayer in a place where it will not freeze.

Operating

Filling Sprayer Tank



CAUTION: Avoid injury! 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.
- When filling tank, never allow end of water hose to contact chemical mixture.

IMPORTANT: Avoid damage! Clean any spills immediately with clean water prior to operating the sprayer.

NOTE: There is no drain plug provided for draining sprayer tank. When filling tank, consider the area to be sprayed and amount of solution required to complete the task.

1. Clean area around tank filler cap to prevent tank contamination.
2. Remove tank filler cap and fill tank.
3. Install tank filler cap.

Draining and Cleaning Sprayer Tank

IMPORTANT: Avoid 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. To quickly empty the tank of excess material, remove the brass spray tip from the spray wand and pump the material into a container.
 - Empty remaining solution into an appropriated container for proper disposal.
 - Dilute remaining solution with water and apply it to the area previously treated.
2. Spray all inside surfaces of tank with low pressure garden hose to remove any remaining solution. Rinse sprayer tank, pump, sprayer wand and all hoses thoroughly with fresh clean water. Rinse several times to make sure sprayer tank is clean and free of chemicals.
3. Once the tank is empty, wipe out inside of sprayer tank with a clean cloth or paper towel.
4. Install filler cap.

Calibrating the Sprayer

When spraying with boom, sprayer must be calibrated to ensure proper spray coverage and to combat over-application or under-application. The calibration process is simplified when broken into three steps:

- calculate speed of tractor
- determine nozzle size and consult calibration chart for desired or

OPERATING

instructed gallon per acre (GPA)

- set pressure using relief valve

Calculating the Speed

It is important to determine what speed tractor will be traveling while spraying. Even if tractor has a speedometer, it is still recommended that speed be checked for accuracy. Perform following steps to determine speed:

1. Measure a 200 or 300 foot distance on a field or surface similar to where sprayer will be used.
2. Drive tractor with half full sprayer across measured distance at a constant and comfortable speed for spraying. There can be no changes in speed while measuring time.
3. When using a gear driven tractor, select a gear where PTO is at or near 540 RPM. This is important for pump to provide adequate pressure to sprayer when spraying.
4. Determine amount of time, in seconds, it takes to travel the measured distance.
5. Speed can be determined by entering data into the following equation:

$$\text{speed (mph)} = (\text{distance (ft)} \times 60) / (\text{time (sec)} \times 88)$$

or by consulting the following table:

Speed in MPH	Time (sec) required to travel a distance of:	
	200 ft.	300 ft.
1	136	205
1.5	91	136
2	68	102
2.5	55	82
3	45	68
3.5	39	58
4	34	51
4.5	30	45
5	27	41
5.5	25	37
6	23	34
6.5	21	31
7	19	29

NOTE: If using boomless nozzles, use the Boomless Nozzle Calibration Chart.

Determining Nozzle Size and Using Calibration Chart

STANDARD CALIBRATION CHART						
Tip Size	PSI	GPM of one nozzle	GPA			
			3 mph	4 mph	5 mph	6 mph

XRC11004	15	0.24	23.8	17.8	14.3	11.9
	20	0.28	27.8	21.0	16.6	13.9
	30	0.35	34.6	26.0	21.0	17.3
	40	0.40	39.6	30.0	24.0	19.8
	50	0.45	44.0	33.0	27.0	22.0
	60	0.49	48.0	36.0	29.0	24.0

The spray nozzles on your sprayer are XRC11004, which match up with the calibration chart. Refer to the calibration chart. Using tractor speed, nozzle size, and desired gallons per acre (GPA), find pressure (psi) necessary to achieve your GPA. It is important to note that lower pressure settings will result in less spray drift.

Example:

Assume tractor speed is determined to be 4 mph, nozzles are red (XRC11004), and desired GPA is 20 GPA. The calibration charts shows that you should set sprayer's pressure at about 20 psi in order to apply 20 GPA.

Boomless Calibration

Right and Left Nozzles: 1/4XP20

Center Nozzle: 1/4TTJ08

BOOMLESS CALIBRATION CHART FOR 24" HEIGHT						
PSI	Cap. 3 Nozzle GPM	Spray Width "ft"	GPA			
			4 mph	6 mph	8 mph	10 mph
30	4.19	26.3	19.7	13.1	9.9	7.9
40	4.8	30.3	19.6	13.1	9.8	7.8
50	5.39	32.3	21.0	13.8	10.3	8.3
60	5.98	33.3	22.0	14.8	11.1	8.9

BOOMLESS CALIBRATION CHART FOR 36" HEIGHT						
PSI	Cap. 3 Nozzle GPM	Spray Width "ft"	GPA			
			4 mph	6 mph	8 mph	10 mph
30	4.19	27.3	19.0	12.7	9.5	7.6
40	4.8	31.3	19.0	12.7	9.5	7.6
50	5.39	33.3	20.0	13.4	10.0	8.0
60	5.98	35.3	21.0	14.0	10.5	8.4

Adjusting the Sprayer Pressure

NOTE: All calibration needs to be done with clean water.

Once correct pressure setting has been determined, the sprayer must be adjusted to that pressure setting. Before adjusting sprayer's pressure, it is important to set tractor RPM at rate that was used to determine tractor speed. The relief valve controls sprayer pressure and is located directly beside the pressure gauge. Go to spray, turn relief valve until necessary pressure is achieved. Sprayer is now calibrated.

NOTE: Due to normal wear, Teejet® recommends replacing sprayer nozzles after every spraying season. Nozzle replacement will ensure accurate spraying performance.

SERVICE

Operating the Sprayer

Pump Safety Precautions



CAUTION: Avoid injury! 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.
- When filling tank, never allow end of water hose to contact chemical mixture.

IMPORTANT: Avoid damage!

- Do not pump flammable or explosive fluids such as gasoline, fuel oil, kerosene, etc.
- Do not pump acids (i.e. acid fertilizer) with super rollers. For acid fertilizer, Hypro recommends Silver Series castings with Teflon rollers.
- Do not run pump dry! Do not pump faster or above maximum recommended speed and pressure (1200 RPM, 300 PSI).
- Do not pump liquids at temperatures higher than recommended maximum temperature (60°C, 140°F).
- Disconnect power, release all pressure and drain all liquids before servicing pump.

Spraying with the Boom

1. Calibrate the sprayer to achieve the desired gallons per acre (GPA). Refer to Calibrating the Sprayer and the Calibration Chart to determine the correct pressure settings.
2. Connect pump PTO coupler to PTO shaft.
3. Fill tank with water to set pressure and test for leaks.
4. Prepare to spray by opening ball valve on inlet line from tank and closing control valve handle. Handle must be in horizontal position.
5. Start tractor and engage pump. For adequate spraying pressure and tank agitation, PTO should be running at or near 540 RPM. Ensure pump is primed and there are no leaks in any lines.
6. Use relief valve to adjust sprayer pressure to pressure rating determined during sprayer calibration. When opening control valve, it may be necessary to adjust pressure again.
7. Ensure that tractor PTO is disengaged. Fill tank with amount of water and chemicals recommended by chemical being used. After filling tank, engage pump and allow ample amount of time for jet agitator to mix water and chemicals.

NOTE: Do not start sprayer operation until chemicals and water are mixed for the recommended time listed on the chemical instructions.

8. At spraying location, open booms, engage pump, and make sure pressure setting is correct. While spraying, maintain a constant level of speed and RPM (rates determined when calibrated).

Service

Servicing Sprayer Safely



CAUTION: Avoid injury! To avoid chemical injury:

- Wear protective clothes, gloves and goggles when handling sprayer.
- Do not put the nozzle tips or other parts to your lips to blow out dirt.
- If spray comes in contact with your body, immediately follow directions on chemical container pertaining to spray material.

Servicing the Pump

Follow all pump safety precautions and warnings. Following these guidelines will help to ensure many years of smooth and trouble-free sprayer operation.

- Flush pump out with fresh water after every use.
- Winterize pump to prevent freezing and corrosion. Refer to Winterizing Sprayer for instructions.
- Change seals and rollers if pump is leaking or has a noticeable decrease in performance.

Winterizing Sprayer

It is important to winterize sprayer to avoid damage from freezing and corrosion before temperatures reach freezing levels.

1. Empty and rinse tank.



CAUTION: Avoid injury! Do not use standard antifreeze. Standard antifreeze can be harmful to humans, animals, crops and the environment.

2. Put one to two gallons of RV nontoxic antifreeze in tank.
3. Engage pump and spray with boom and subsequently spray gun (if applicable). Ensure that antifreeze has been pumped through entire system including all spray nozzles.
4. Store sprayer in a dry location away from elements.

Placing Sprayer Back in Service after Winterizing

1. Flush sprayer with fresh water to clean out all antifreeze and any other buildup.
2. Do a thorough inspection of all components before spraying.

Troubleshooting

Using Troubleshooting Chart

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

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

SPECIFICATIONS

Using Troubleshooting Chart

IF	CHECK
Pump Loses Suction.	Clean Pump suction screen. Check tank fill level. Fill tank. Clean or replace pump. Check for loose pump fittings.
Pump Capacity Decreased.	Clean pump suction screen. Clean spray nozzle(s). Selection lever is not completely turned on, or is in the OFF position.
Poor Spray Pattern.	Clean spray nozzles. Adjust nozzle height. Align spray tips with boom.
Pump Vibrates or Spray Pulses.	Adjust pump.
Pump Does Not Work.	Check wiring connections. Check machine battery. Clean debris from pump. Check pump switch. Check pump motor. Check fuse on 12 volt plug adapter harness. Adjust pump.

Getting Quality Service

John Deere Quality Continues with Quality Service

John Deere provides a process to handle your questions or problems, should they arise, to ensure that product quality continues with your John Deere dealer's parts and service support.

Follow the steps below to get answers to any questions you may have about your product.

1. Refer to the appropriate attachment, machine or equipment operator manuals.
2. Contact your John Deere dealer with unanswered questions.

Specifications

110 Gallon, 3-Point Hitch Sprayer

Pump

ModelSeries 7700XL
 Type Seven Roller Pump
 ManufacturerHypro
 Max Pressure 2068 kPa (300 psi)
 Max Flow Rate: 22.4 gpm
 Max RPM:..... 800 rpm
 Ports: 3/4" NPT Inlet & Outlet, 1" Hose Barb Included
 Continuous Operation 689 kPa (100 psi)
 Intermittent Operation 1379 kPa (200 psi)

Sprayer Tank

Capacity416 L (110 gallon)
 Spraying Width 6 m (20 ft)
 Spraying Width (Without boom) 9 m (30 ft)

Weight (With boom):

Empty 136 kg (300 lb)
 Full 551 kg (1216 lb)

Weight (Without boom):

Empty 109 kg (240 lb)
 Full 524 kg (1156 lb)

GETTING QUALITY SERVICE
