HD200 SelectSpray Attachment for ProGator Serial No 175001-

JOHN DEERE

OPERATOR'S MANUAL

HD200

OMUC34030 ISSUE A6 (ENGLISH)

John Deere Turf Care
European Edition
Printed in U.S.A.

Introduction

Using Your Operator's Manual

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

OUO2005,000013D-19-01NOV12

Professional Use Only

This non-road mobile machinery is to be made available exclusively for professional use.

MK71445,0000004-19-29AUG18

Machine Use

This machine 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.

This machine is to be used only with machines designed to provide adequate protection from hazardous substances or the operator must wear appropriate personal protection equipment.

Agricultural applications covered by national environmental protection standards or legal requirements are not allowed with this sprayer. Contact local authorities if the acceptance for the use of the sprayer is not obvious.

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.

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

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

MX00654,0000255-19-06DEC12

Contents

Continued on next page

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

Page

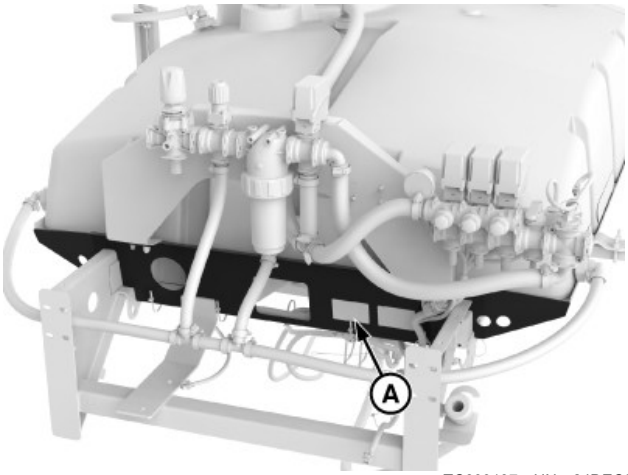
Product Identification

Product Compatibility

The HD200 SelectSpray is compatible with ProGator™ Utility Vehicles.

MX00654,0000256-19-16JUL15

Record Identification Numbers



TC699137—UN—24DEC25

HD200 Serial Number (175001-)

For information on servicing, contact an Authorized Service Center. Always provide the product model and serial number.

Locate the model and serial number for the attachment and record the information in the spaces provided below.

DATE OF PURCHASE:

— — — — — — — — — — — — — — — — — —

DEALER NAME:

— — — — — — — — — — — — — — — — — —

DEALER PHONE:

— — — — — — — — — — — — — — — — — —

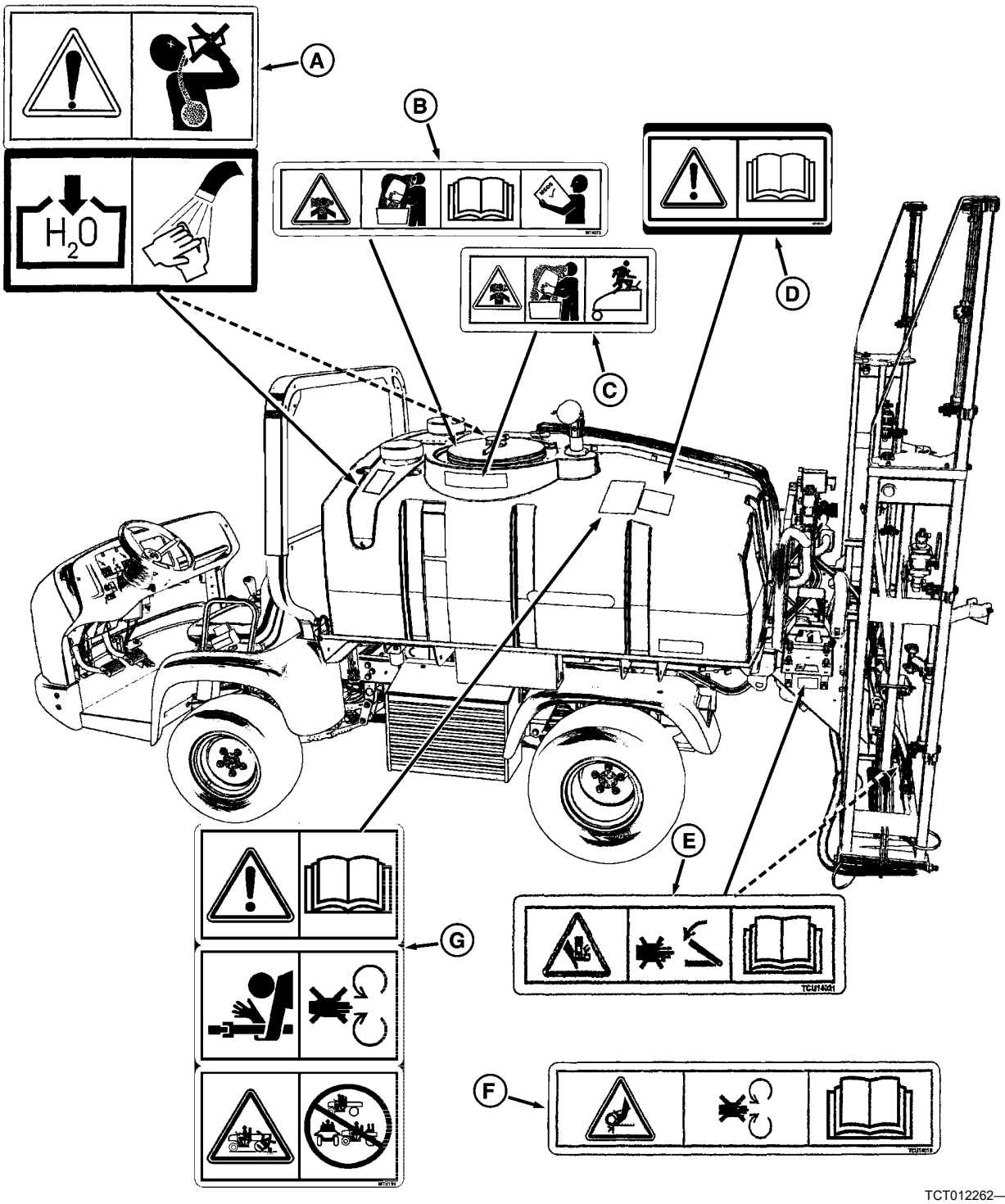
PRODUCT SERIAL NUMBER (A):

— — — — — — — — — — — — — — — — — —

YCWRHFR,1766990148794-19-29DEC25

Safety Labels without Text

Safety Label Location—Sprayer Tank

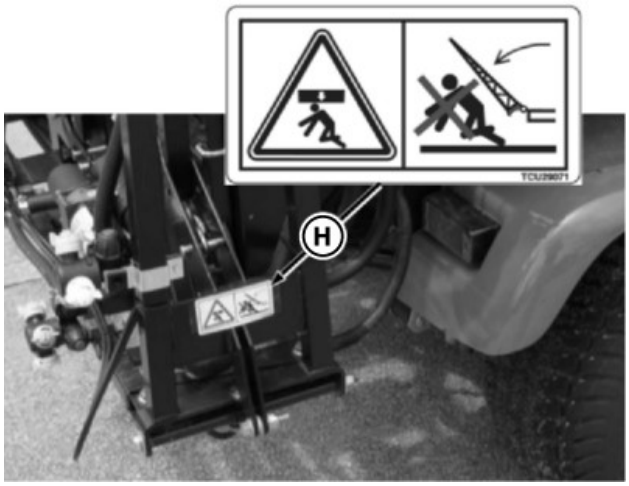


TCT012262—UN—26JAN15

A—Avoid Injury From Drinking Water MT4295
B—Avoid Injury From Chemical Hazards MT4072
C—Do Not Enter Tank MT6073
D—Read Operators Manual MT4074
E—Avoid Injury From Crushing TCU14021
F—Avoid Injury From Moving Parts TCU14019
G—Read Operators Manual, Avoid Moving Parts, Keep Bystanders Away TCU28908

OUMX068,0000B0B-19-27JAN15

Safety Label Location—Spray Booms (5.5 m (18 ft.)



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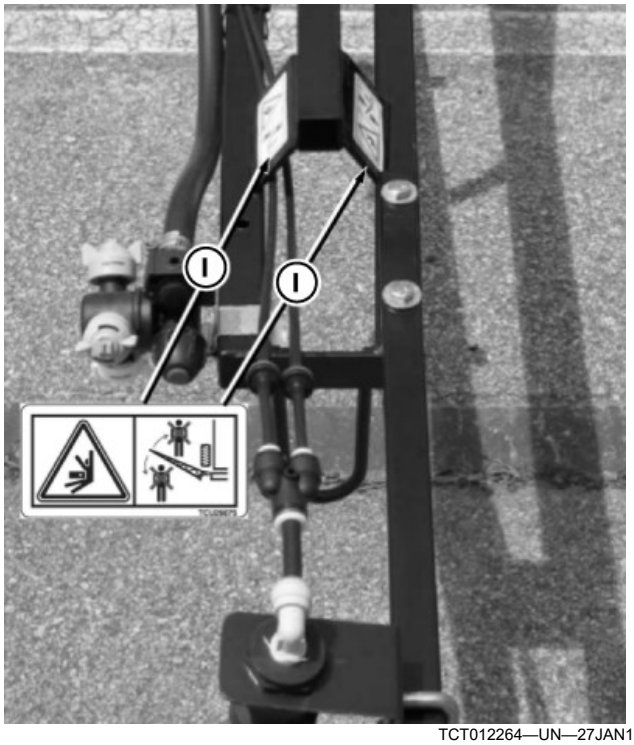
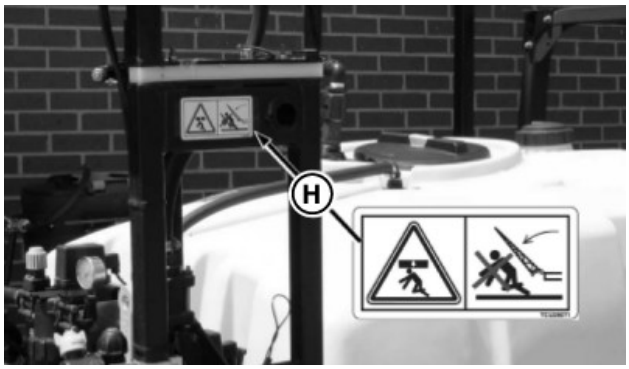


TCT012264—UN—27JAN15

H—Avoid Injury From Moving Boom TCU29071
I—Avoid Injury From Boom Swing Area TCU29075

OUMX068,0000B18-19-27JAN15

Safety Label Location—Spray Booms (4.6 —6.4 m (15—21 ft.)



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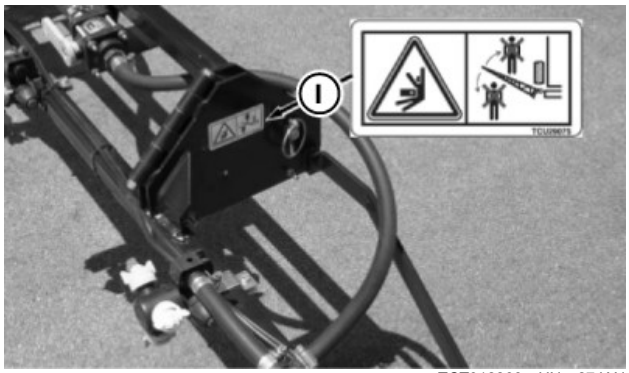

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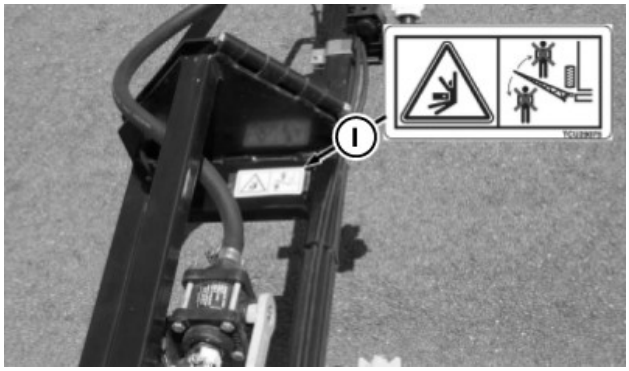


TCT012267—UN—27JAN15

H—Avoid Injury From Moving Boom TCU29071
I—Avoid Injury From Boom Swing Area TCU29075

OUMX068,0000B19-19-27JAN15

Understanding the Machine Safety Labels without Text

TCT005498—UN—11SEP12

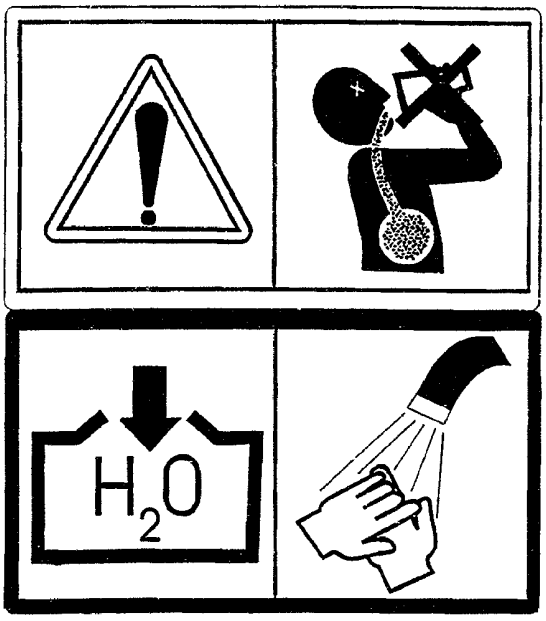
The machine safety labels shown in this section are placed in important areas on your machine to draw attention to potential safety hazards.

On your machine safety labels, the words DANGER, WARNING, and CAUTION are used with this safety-

alert symbol. DANGER identifies the most serious hazards.

MX00654,0000389-19-01JAN26

Avoid Injury From Drinking Water

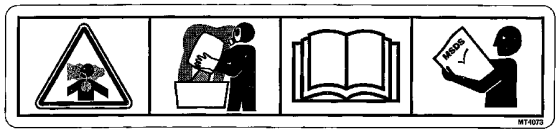


MT4295—UN—24NOV12

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

OUMX068,0000B0D-19-27JAN15

Avoid Injury From Chemical Hazards

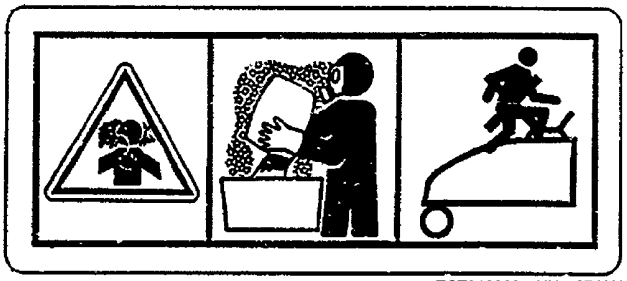


MT4072—UN—24NOV12

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

OUMX068,0000B0E-19-27JAN15

Do Not Enter Tank



TCT012268—UN—27JAN15

To avoid injury from chemical hazards, do not enter tank.

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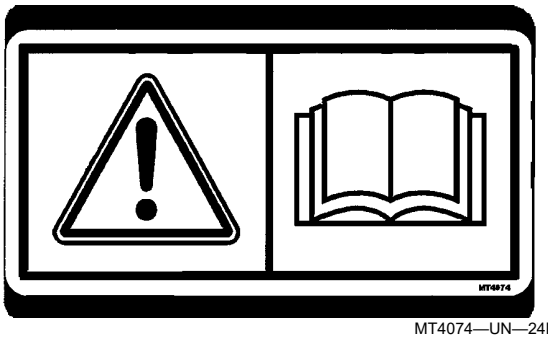
Read Operators Manual



MT4074—UN—24NOV12

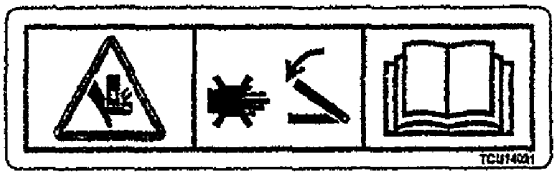
Empty tank before removing attachment.

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

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

OUMX068,0000B0C-19-27JAN15

Avoid Injury From Crushing

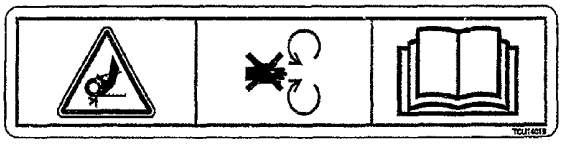


TCU14021—UN—24NOV12

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

OUMX068,0000B10-19-27JAN15

Avoid Injury From Moving Parts



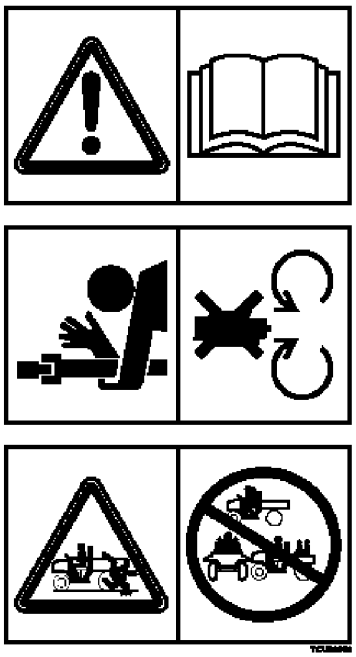
TCU14019—UN—24NOV12

Installed on optional electric hose reel.

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

OUMX068,0000B11-19-27JAN15

Read Operators Manual, Avoid Moving Parts, Keep Bystanders Away

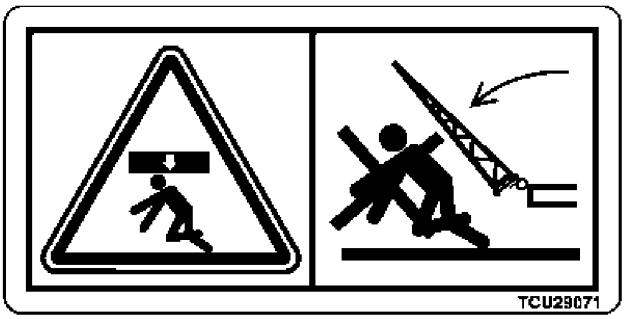


TCU28908—UN—15DEC12

- 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.

OUMX068,0000B0F-19-27JAN15

Avoid Injury From Moving Boom

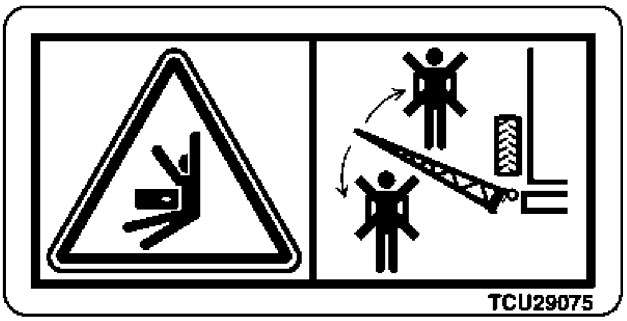


TCU29071—UN—13DEC12

To avoid injury, keep clear of moving boom.

OUMX068,0000B1E-19-27JAN15

Avoid Injury From Boom Swing Area



TCU29075—UN—13DEC12

To avoid injury, keep clear of boom swing area.

OUMX068,0000B1F-19-27JAN15

Read Safety in Machine Operator's Manual

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

MX00654,000020E-19-16NOV12

Operate Sprayer 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 tank filled completely. Drain tank to below lowest fill line before raising for service or other reason.

MX00654,000020F-19-19NOV12

Parking Safely

1. Stop vehicle on a level surface, not on a slope.
2. Fully lower the cargo box and any attachments on the machine that can be lowered.
3. Lock park brake.
4. Stop engine.
5. Remove key.
6. Before you leave the operator's seat, wait for engine and all moving parts to stop.
7. Disconnect the negative battery cable or remove the spark plug wires (for gasoline engines) before servicing the machine.

MX00654,0000210-19-06DEC12

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.

MX00654,0000211-19-16NOV12

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.

MX00654,0000212-19-16NOV12

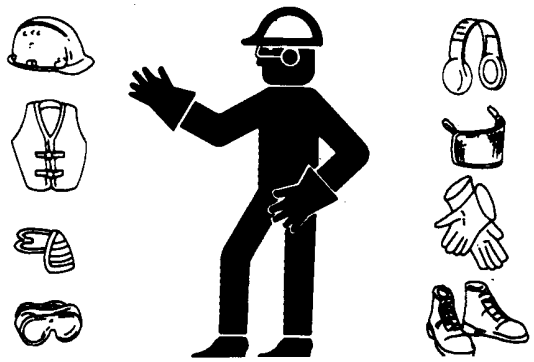
Practice Safe Maintenance

- 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.
- 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.

MX00654,0000214-19-16NOV12

Wear Appropriate Clothing

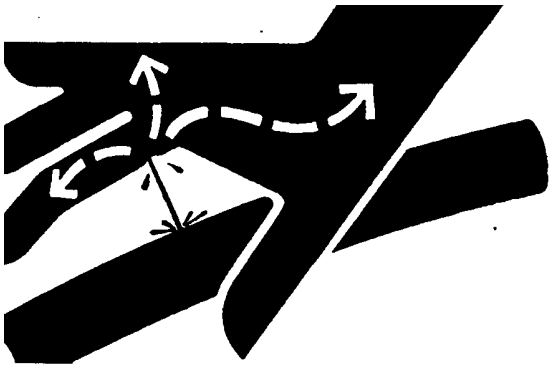


TS206—UN—15APR13

- 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 SDS for the chemicals being used to be sure the proper personal protection equipment is being used.

MX00654,0000215-19-13DEC19

Avoid High Pressure Fluids



X9811—UN—23AUG88

- 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.

MX00654,0000216-19-16NOV12

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.

MX00654,0000217-19-16NOV12

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 and how to put your machine out of service at the end of its life.

OUMX068,000063A-19-16JUL15

Preparing Vehicle

Preparing the Machine

Machine Requirements

Your machine must be equipped with the Auxiliary Hydraulic Kit for operation of the sprayer pump. If your machine is equipped with a PTO control lever, two quick-couplers at the rear of the machine, an auxiliary tank and oil cooler, the Auxiliary Hydraulic Kit is installed.

Prepare for Assembly

1. Park machine safely.
2. Follow instructions in your machine operator's manual to remove the cargo box.
3. Remove any attachment that uses the hydraulic lift or rear pivots.

MX00654,000025B-19-06DEC12

Controller Mount Bracket Kit Components

Quantity	Description
1	Bracket, Control Box Mount
1	Bracket, Ram Mount
1	Bracket, Arm, Ram Double Socket
1	Mount, Ram U-Bolt
2	Washer, Round
2	Nut, Hex M6 Nylock
2	Screw, Flanged M6

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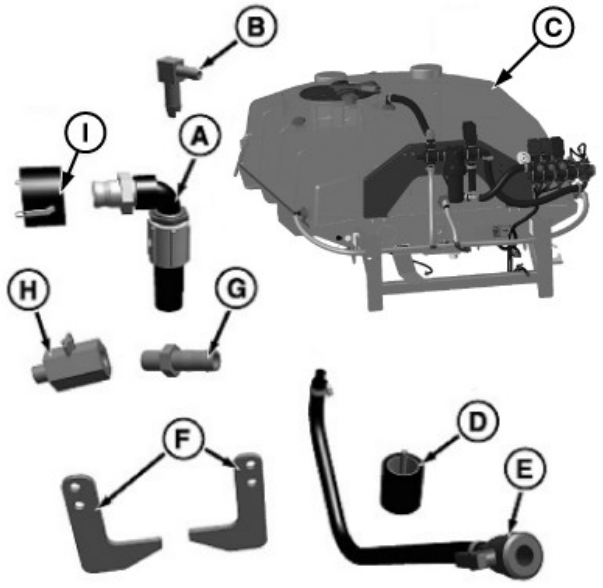
Tank Components

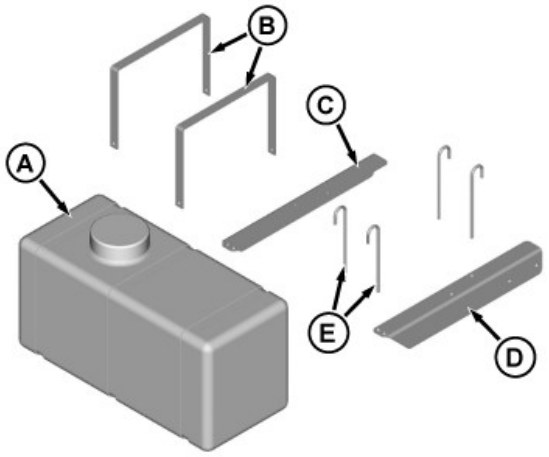
Sprayer



TC699494—UN—13JAN26

Quantity	Description
1	Assembly, Filler (A)
1	Fitting, Barbed Hose, 1/4 in. (B)
1	Tank Assembly, Sprayer (C)
2	Down Stops (55 mm) (D)
1	Hose Assembly, Tank Drain (E)
2	Clamp, Frame (F)
1	Fitting, Barbed, 1/2 MPT x 3/8 HB (G)
1	Valve (H)
1	Cap, Dust (I)
6	Nut, Nylock, M10
6	Capscrew, Hex Head, M10x35
1	Washer, Flat, M26
1	Clamp, Hose, 1/2 in.
1	Elbow, 1/2 FTP x 1/2 MPT
1	Hose, 3/8 in. x 12 in.
1	Hose, Clear
4	Clamp, Hose, 3/8 in.
3	J Clips
1	Straight Fitting, , 0.75 in. HOSE BARB TO NPT

Rinse Tank



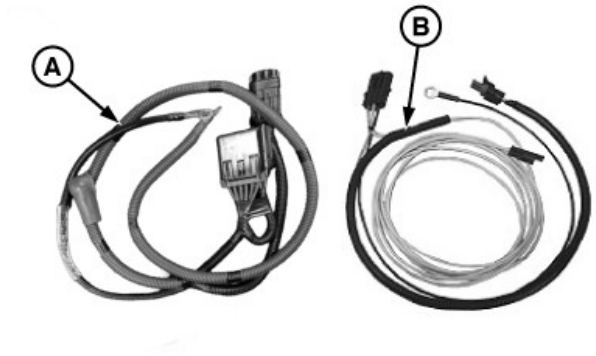
TCT012903—UN—16JUL15

Quantity	Description
1	Tank, 20 gallon (A)
2	Strip, Rinse Tank (B)
1	Mount, Front (C)
1	Mount, Rear (D)
4	J-Bolt (E)
1	Tank, Rinser
1	Valve, 0.75 in FMNPT (3/package)
1	Hose Barb, 1.25 x 1.25 in NPT
1	Hose Barb, 1.25 x 1.50 in NPT (10/package)
1	Hose Barb, 1.00 in x .75 in NPT (10/package)
1	Nipple, 1.00 in x 0.75 in (10/package)
1	Hose, Discharge 1.25 in ID x 6.67 ft
1	Hose, 1.00 in ID x 3.6 ft
2	Clamp, Worm Gear (Type F)
2	Clamp, Worm Gear (SAE J1508)
4	Tie Strap
4	Bolt, M10 x 25
8	Washer, 10.5 mm ID
4	Washer, 9 mm ID
4	Locknut, M10
4	Locknut, M8
1	Fitting, T5 1 in NPT

Rinse Tank Components

YCWRHFR,1766990255746-19-30DEC25

Electrical Components



TC699120—UN—24DEC25

Quantity	Description
1	Power Harness (A)
1	Console Wire Harness (B)
8	Tie Strap

YCWRHFR,1766982942769-19-28DEC25

Personal Wash Tank Components

Quantity	Description
1	Elbow
1	Ball Valve
1	Hose Barb
1	Hose
1	Hose Clamp

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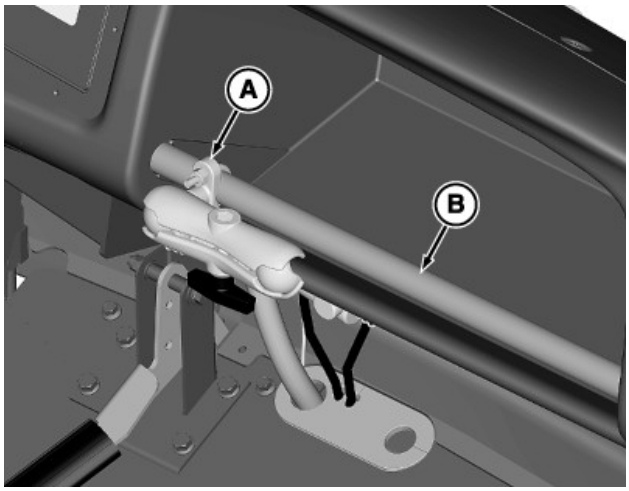
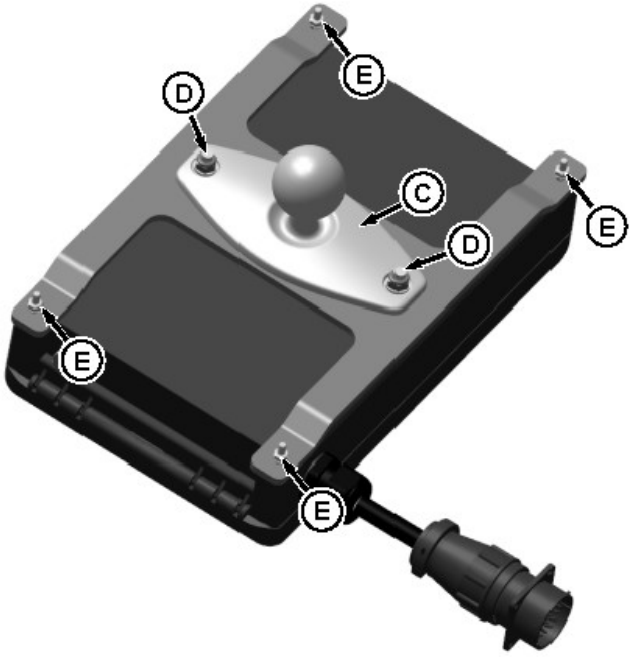
Install Control Box

Install Brackets



TCT016280—UN—06SEP18

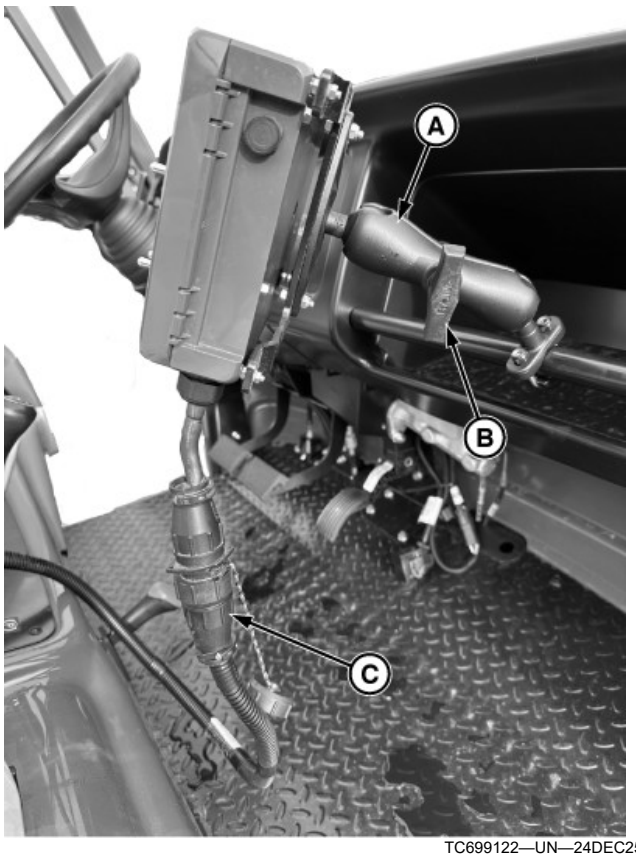
1. Attach arm (A) to ProGator™ glove box bar (B).



TC101311—UN—27OCT19

2. Install ball mount bracket (C) to control box bracket using two flange bolts (D), washers and locknuts.
3. Install control box to control box bracket using existing control box studs and four supplied nuts (E).

Install Control Box



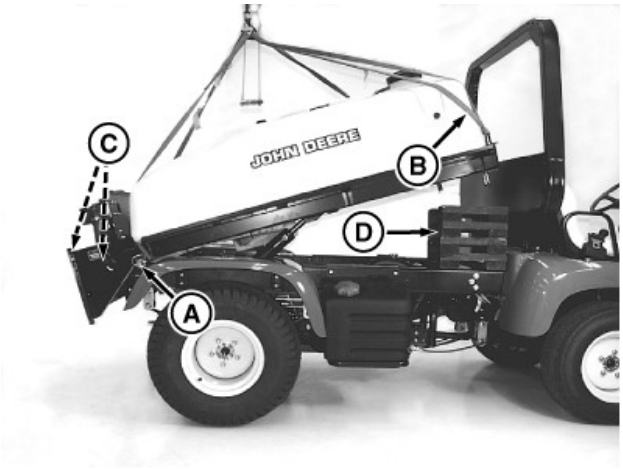
TC699122—UN—24DEC25

1. Attach ball mount bracket to arm socket (A), adjust to desired orientation, and tighten knob (B).
2. Connect wire harness (C).

YCWRHFR,1766982992554-19-30DEC25

Install Sprayer

CAUTION: Avoid Injury! Machine component or attachment is heavy. Use a safe lifting device with correct load capacity rating to lift, install or remove component or attachment.

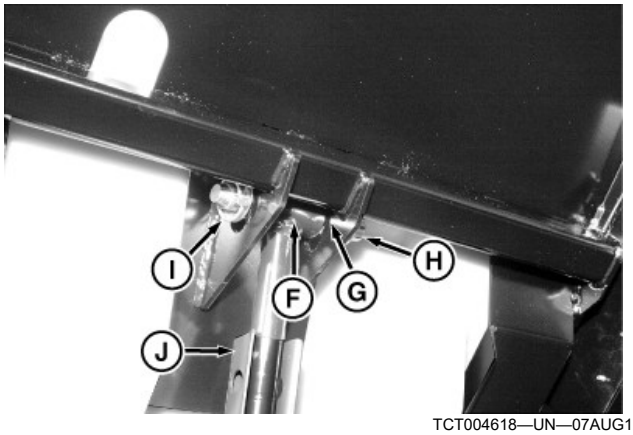


TCT004616—UN—20AUG12

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 rear of frame (C).
4. Install safety stand (D) between machine frame and sprayer frame.
5. Lift the tank/frame into position over machine frame as shown.

TCT004617—UN—07AUG12

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



TCT004618—UN—07AUG12

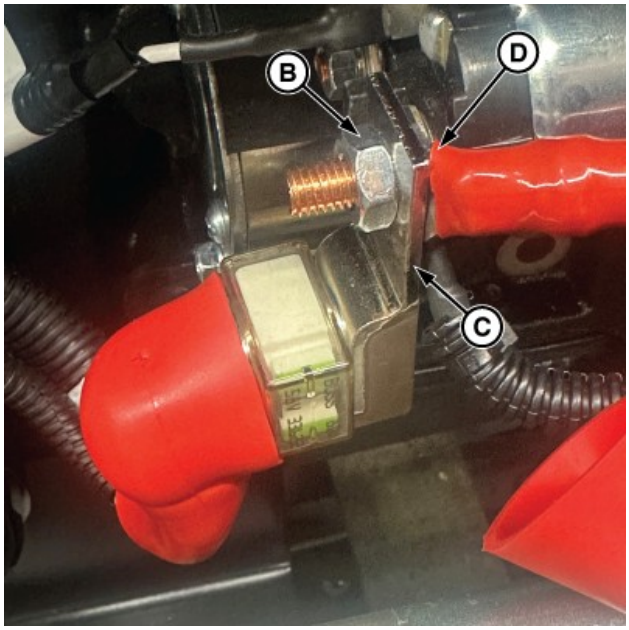
7. Align hole in lift cylinder rod end (F) with hole in frame (G). Install connecting pin (H), and secure with M26 flat washer and spring locking pin (I).
8. Remove safety stand (J) from between rod end and hydraulic cylinder. Replace safety stand to machine storage location.
9. Disconnect hoist from sprayer and completely lower tank using the lift cylinder lever.

MX00654,0000252-19-05DEC12

Install Sprayer Power Harness

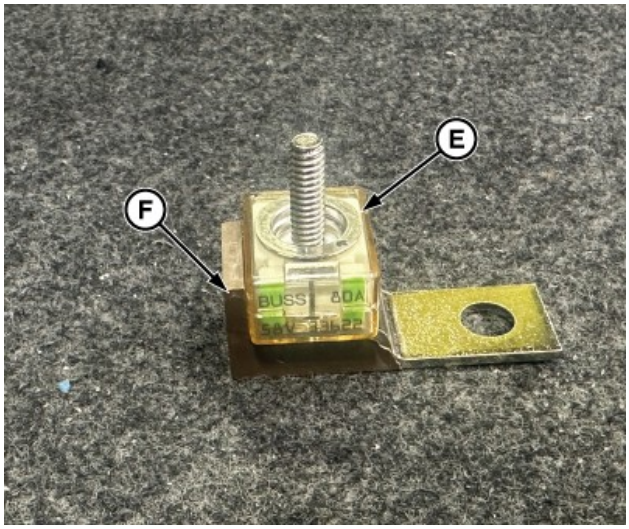
APY597556—UN—24OCT23

1. Remove the red boot cover (A) to expose the lock nut (B).



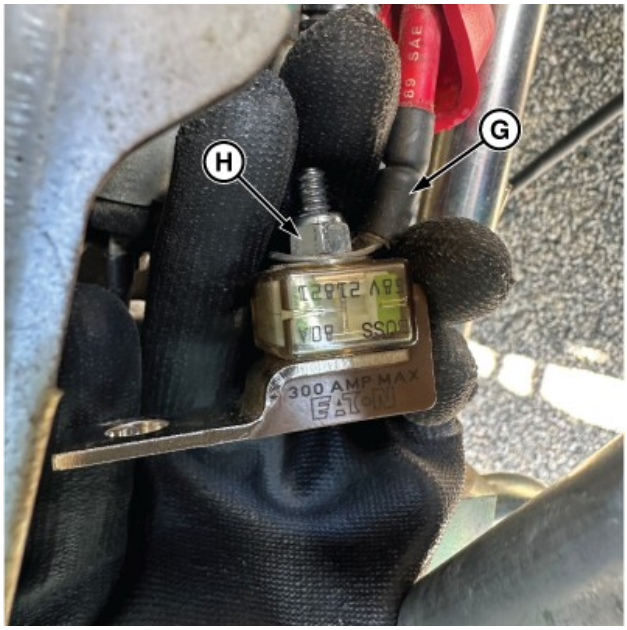
APY597557—UN—24OCT23

2. Loosen and remove the nut (B) from the starter.
3. Remove the buss bar (C) and the red battery cable (D) from the starter.



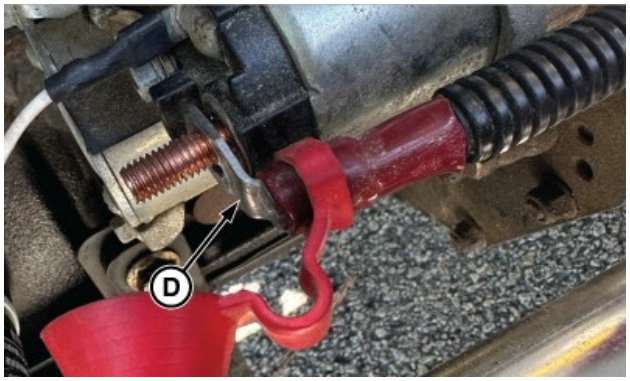
APY597532—UN—20OCT23

4. Install the fuse (E) to the buss bar (F).



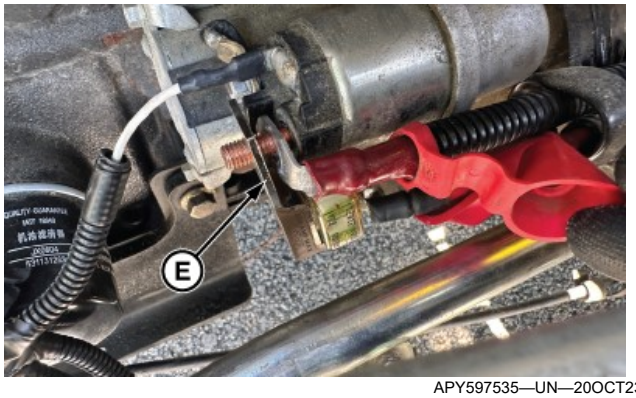
APY597533—UN—20OCT23

5. Install the ring terminal of the red cable (G) from sprayer power harness onto the buss bar (E).
6. Install and tighten the lock nut (H)to the buss bar assembly.



APY597534—UN—20OCT23

7. Install the ring terminal of the red battery cable (D) on the starter solenoid terminal.

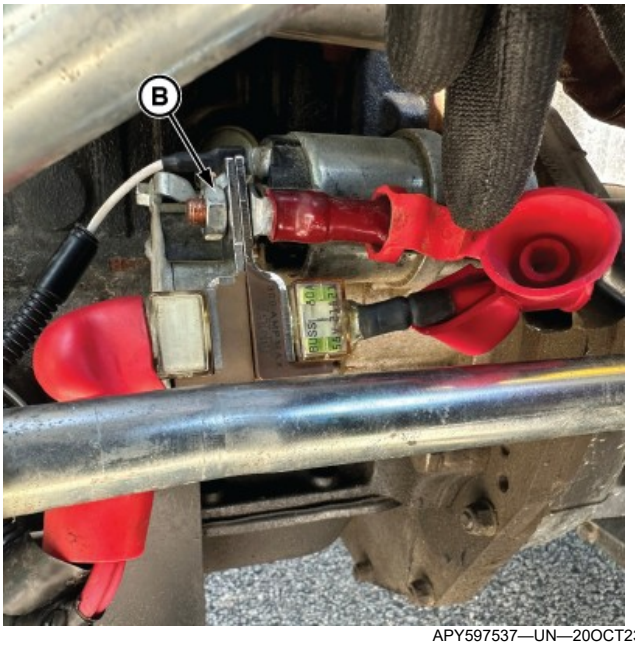


APY597535—UN—20OCT23

8. Place the buss bar (E) from the sprayer power harness on the starter solenoid terminal, with the fuse pointing toward the rear of the ProGator.

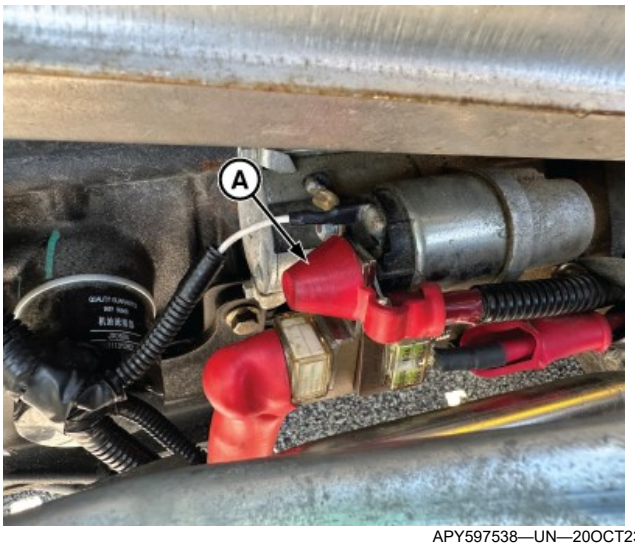
APY597536—UN—20OCT23

9. Place the buss bar (C) from the ProGator wiring harness on the starter solenoid terminal with the fuse pointing towards the front of the ProGator.



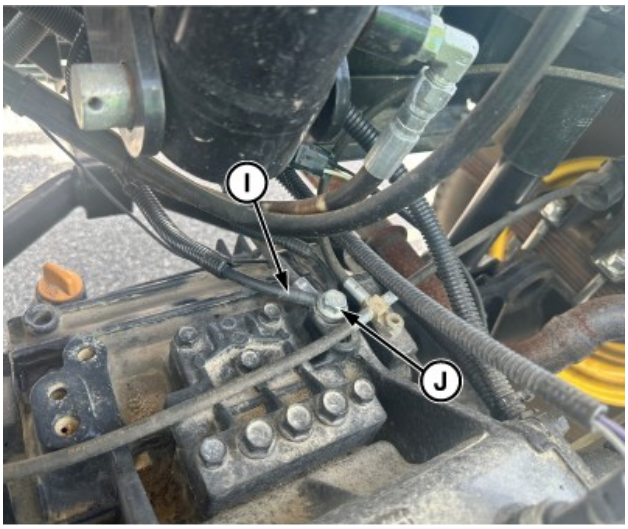
APY597537—UN—20OCT23

10. Install and tighten the lock nut (B).



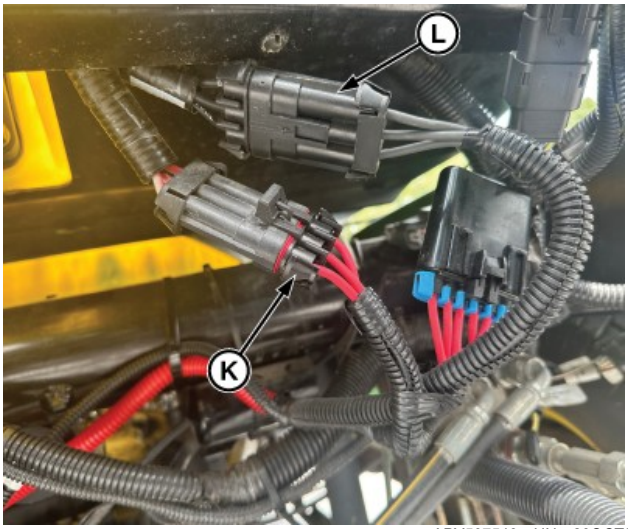
APY597538—UN—20OCT23

11. Place the red boot cover (A) over the stater solenoid.



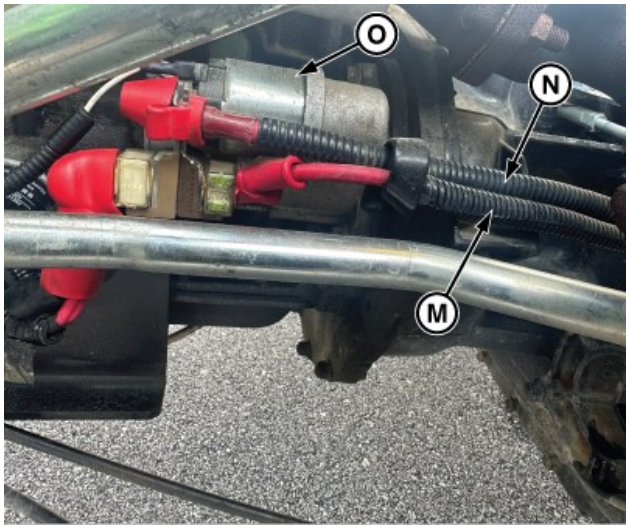
APY597539—UN—20OCT23

12. Install ring terminal of sprayer power harness black ground cable (I) to transaxle ground bolt (J).



APY597540—UN—20OCT23

13. Connect male power harness connector (K) and female ground (L) to matching connection on the sprayer main harness.



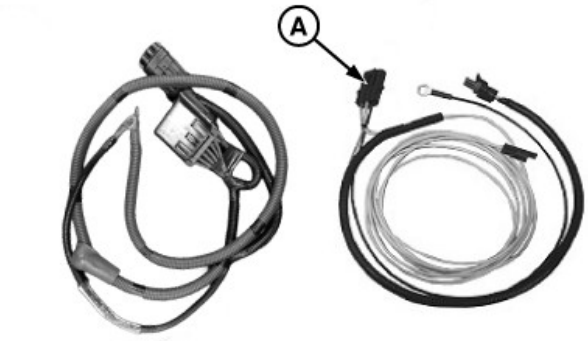
APY597541—UN—20OCT23

14. Route sprayer power harness red cable (M) along the battery cable (N) to the starter solenoid (O). Route the cable away from potential sources of damage and secure with retainers.

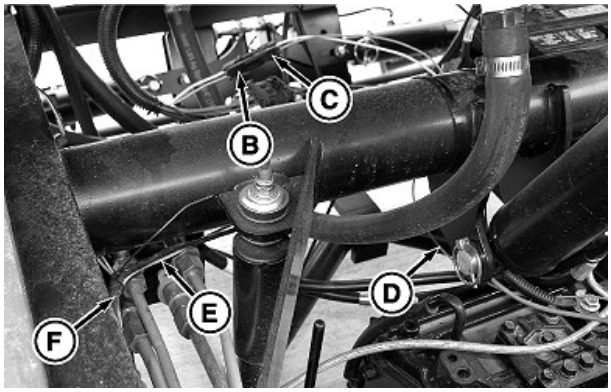
gvg6119,1698061707181-19-24OCT23

Install Console Wire Harness

NOTE: The three-wire connector (A) on the front harness is for use with optional automatic rate control kit.

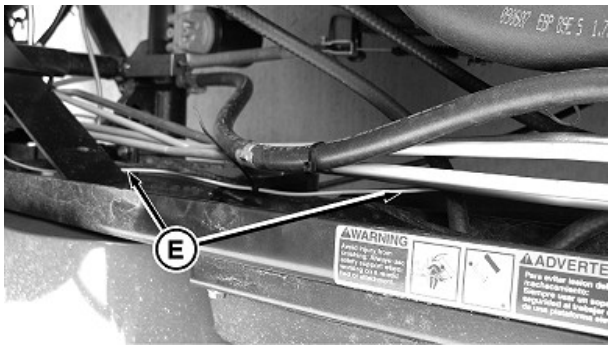


TC699121—UN—24DEC25



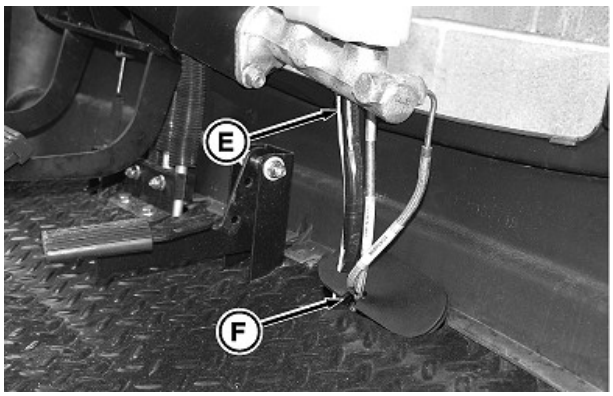
TCT005988—UN—19NOV12

1. Connect sprayer main harness pink and yellow wire connector (B) to console harness pink and yellow wire connector (C).
2. Route console harness pink wire (D) over transaxle.
3. Route console harness yellow wire (E) to machine harness (F) along right frame rail.



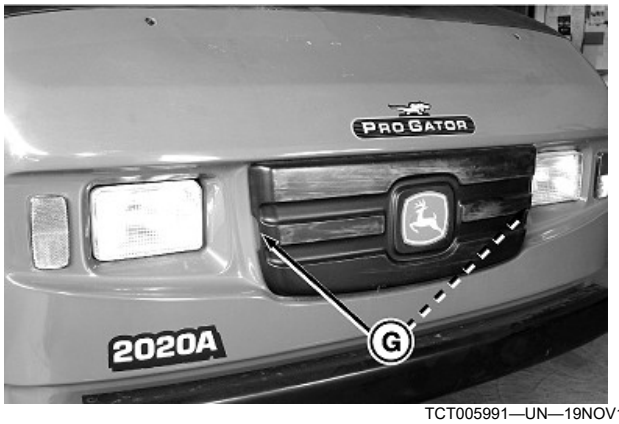
TCT005989—UN—19NOV12

4. Route console harness yellow wire (E) forward along machine harness inside right frame rail.



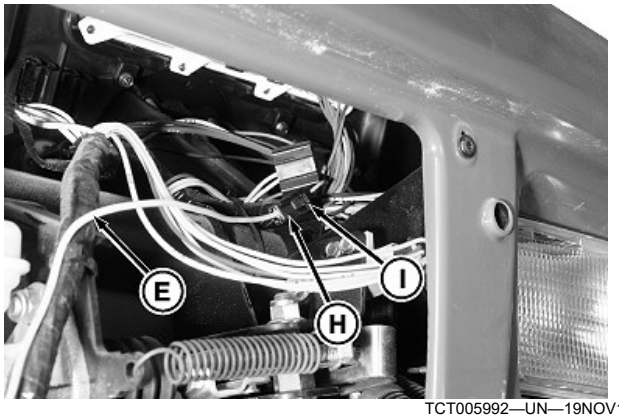
TCT005990—UN—19NOV12

5. Route yellow wire (E) along with machine harness under cab floor and through opening (F) at forward edge of cab floor.



TCT005991—UN—19NOV12

6. Grasp grille at tabs (G) and pull outward to remove front grille to access the wiring harness.



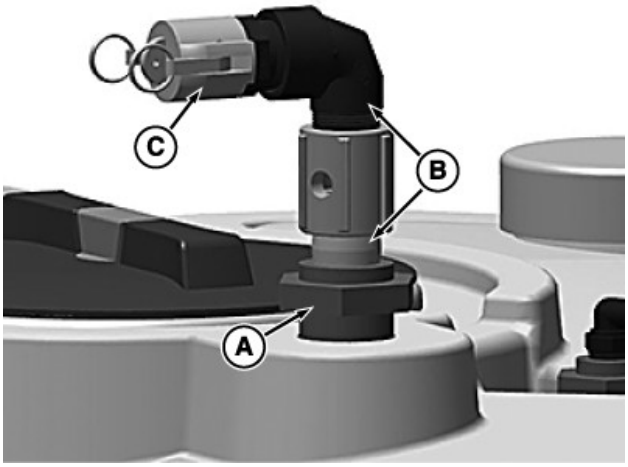
TCT005992—UN—19NOV12

7. Route yellow wire (E) upward along machine harness under dashboard.
8. Install connector (H) on yellow wire to machine harness connector (I).
9. Secure installed wires with wire ties.
10. Replace grille.

YCWRHFR,1766983104402-19-30DEC25

Install Sprayer Tank Components

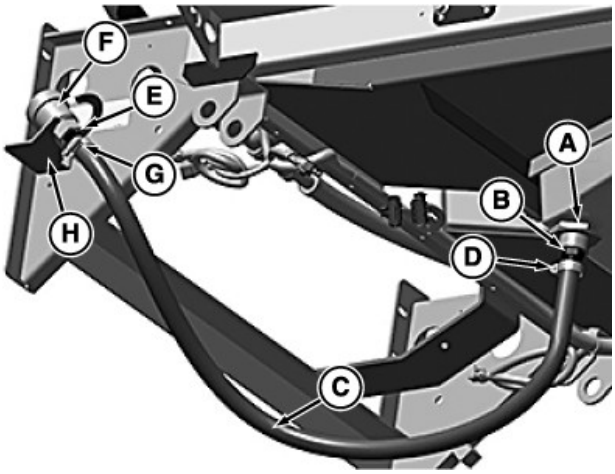
NOTE: For best results, apply a chemical-resistant pipe sealant to all threaded fittings.



TC102022—UN—13JUL21

1. Remove and discard plastic protective cap from the fill port (A) on the top side of tank.
2. Thread the filler tube (B) into the fill port. Tighten completely, positioning quick-coupler opening facing the left side of the tank as shown.
3. Install dust cap (C).

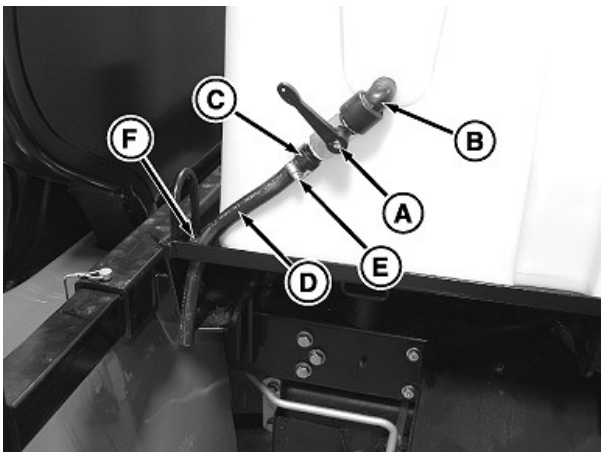
Tank Drain Hose



TC102023—UN—13JUL21

1. Raise and properly support the tank to access the tank drain (A).
2. Using thread sealant on fitting, install straight 3/4 inch hose barb to NPT threaded fitting (B) into the tank drain (A).
3. Install the drain tube (C) onto straight hose barb fitting (B) and secure with a hose clamp (D).
4. Using thread sealant on fitting, assemble second 3/4 inch hose barb to NPT threaded fitting (E) to drain valve (F).
5. Using a hose clamp (G), secure the drain tube (C) onto second straight hose barb fitting (E).
6. Route the drain hose under the machine rear frame and set drain valve (F) into cradle (H) as shown.

Personal Wash Tank Hose



TCT005995—UN—19NOV12

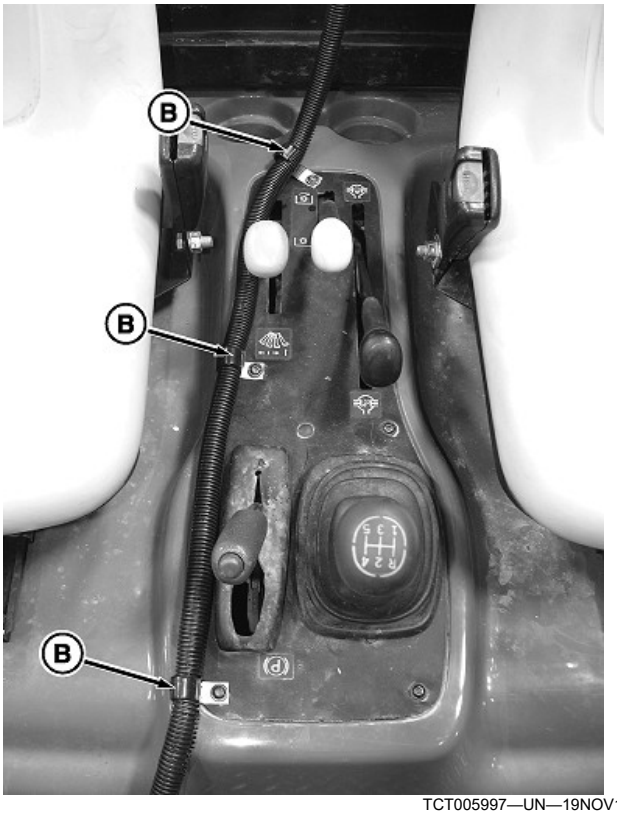
1. Install the ball valve (A) onto elbow (B).
2. Install the hose barb (C) onto the ball valve.
3. Install elbow assembly into the threaded hole in the left front corner of sprayer wash tank as shown.
4. Install the hose (D) onto the hose barb with a hose clamp (E).
5. Route hose through hole (F) in the sprayer frame.

KJ60627,0001015-19-13JUL21

Connect Sprayer Main Harness to Control Box

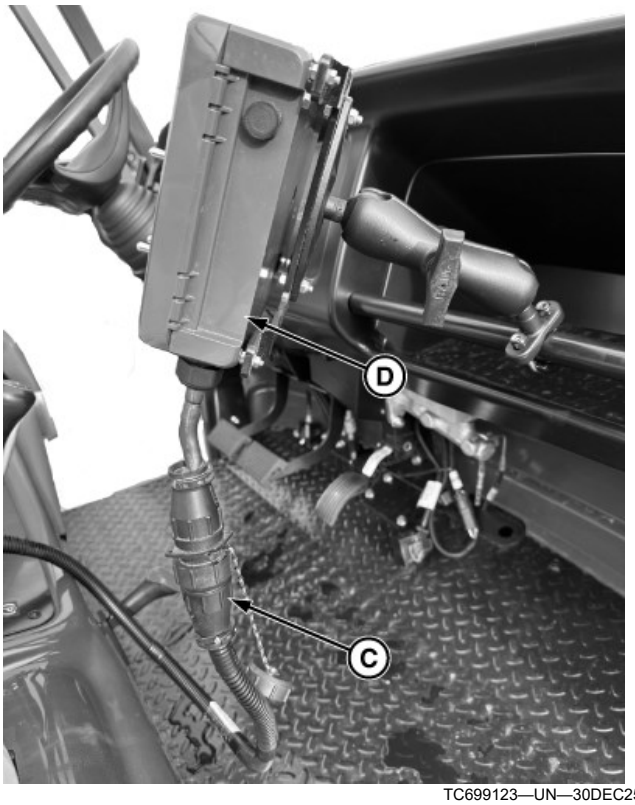
TCT005996—UN—19NOV12

1. Remove tie strap holding section of main sprayer harness (A) to side of sprayer frame.
2. Route harness between sprayer and machine, and over plate in bottom half of ROPS frame.



TCT005997—UN—19NOV12

3. Install J-clips (B) on screws in center control panel.
4. Install harness on J-clips and route to front of machine.
5. Connect harness connector (C) to control box (D).



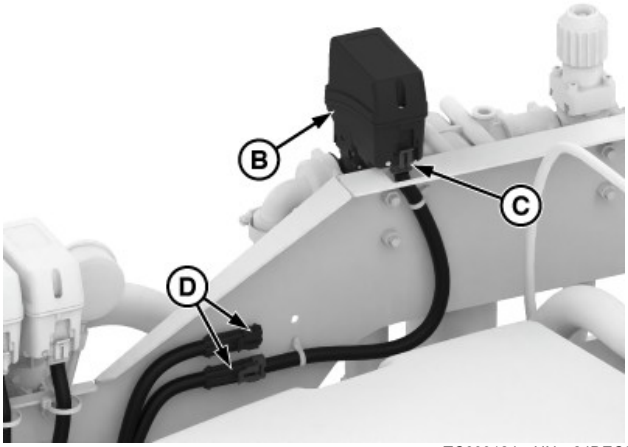
TC699123—UN—30DEC25

YCWRHFR,1766983171641-19-30DEC25

Connect Rear Wiring Harness

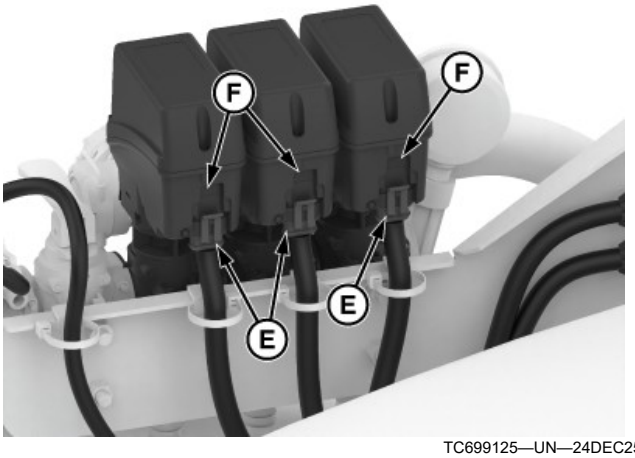
TCT005999—UN—19NOV12

1. Cut tie strap securing rear harness bundle (A) to rear corner of sprayer frame.



TC699124—UN—24DEC25

2. Connect single jumper harness connector (C) to the master solenoid valve (B).
3. Connect the other end of the single jumper harness to connector (D) for the manual rate or auto rate function, as required by the control box type.



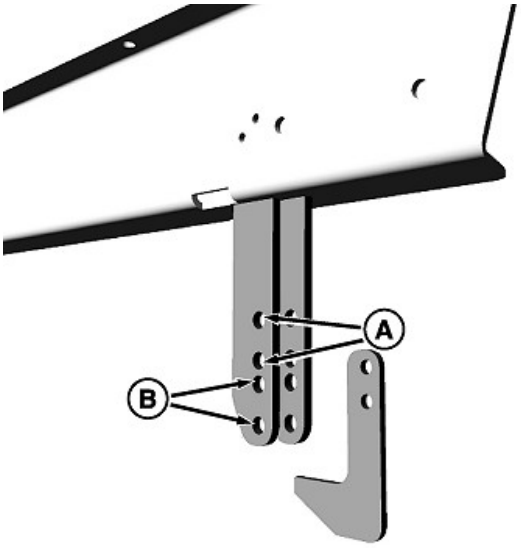
TC699125—UN—24DEC25

4. Connect multiple harness connectors (E) to boom solenoid valves (F) in correct order from left to right.
   a. Connect the long solenoid lead to the outer solenoid.
   b. Connect the middle solenoid lead to the middle solenoid.
   c. Connect the short solenoid lead to the inner solenoid.
5. If equipped with optional sprayer equipment, make all necessary electrical and hose connections at this time. See installation instructions provided with your optional equipment.
6. 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.

YCWRHFR,1766983197917-19-30DEC25

Install Frame Clamps

Sprayer can be mounted on earlier and current model ProGators. The difference between models requires the use of different mounting holes on the frame bracket. Use the following illustration as a guide for selecting the appropriate mounting hole for machine:

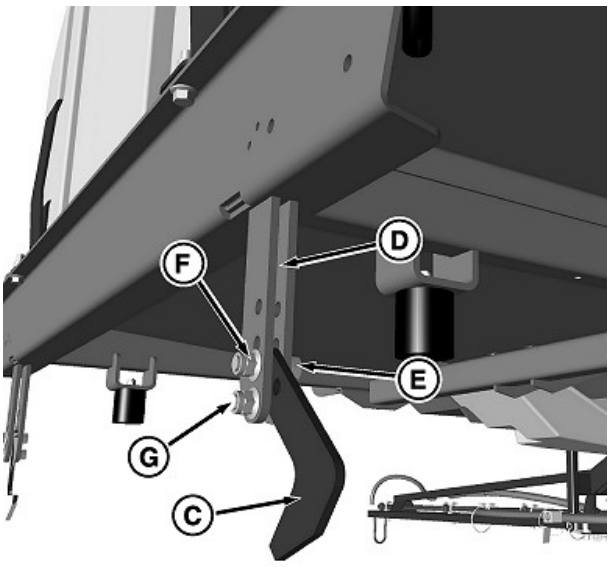


TCT006002—UN—19NOV12

A—Upper and lower mounting holes for earlier models (2020, 2030).

B—Upper and lower mounting holes for current models (2020A, 2030A).

Installing Frame Clamps to Sprayer



TCT006003—UN—19NOV12

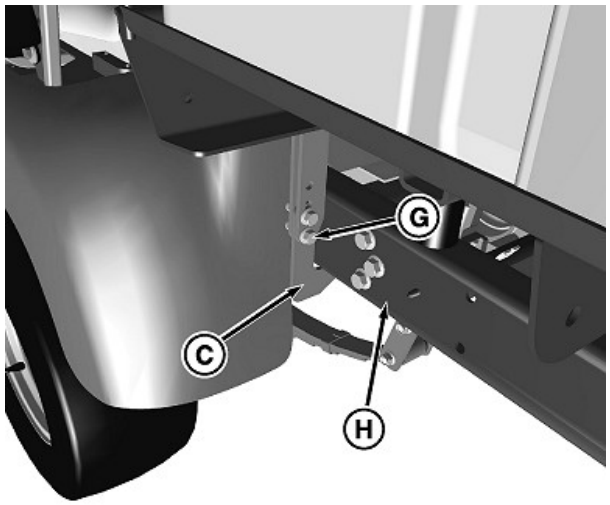
Current mounting shown.

1. Place frame clamp (C) onto frame bracket (D); install M10x35 bolt (E) into the appropriate mounting hole. Install M10 locknut (F) onto bolt but do not tighten.
2. Pivot frame clamp up and install M10x35 bolt (G) in appropriate mounting hole. Install locknut onto bolt but do not tighten. The frame clamp should stay in this open position to clear the ProGator frame when lowering sprayer.

Securing Sprayer to Frame

Once sprayer is installed, it should be secured to the ProGator frame before operating.

1. Lower sprayer.



TCT006004—UN—19NOV12

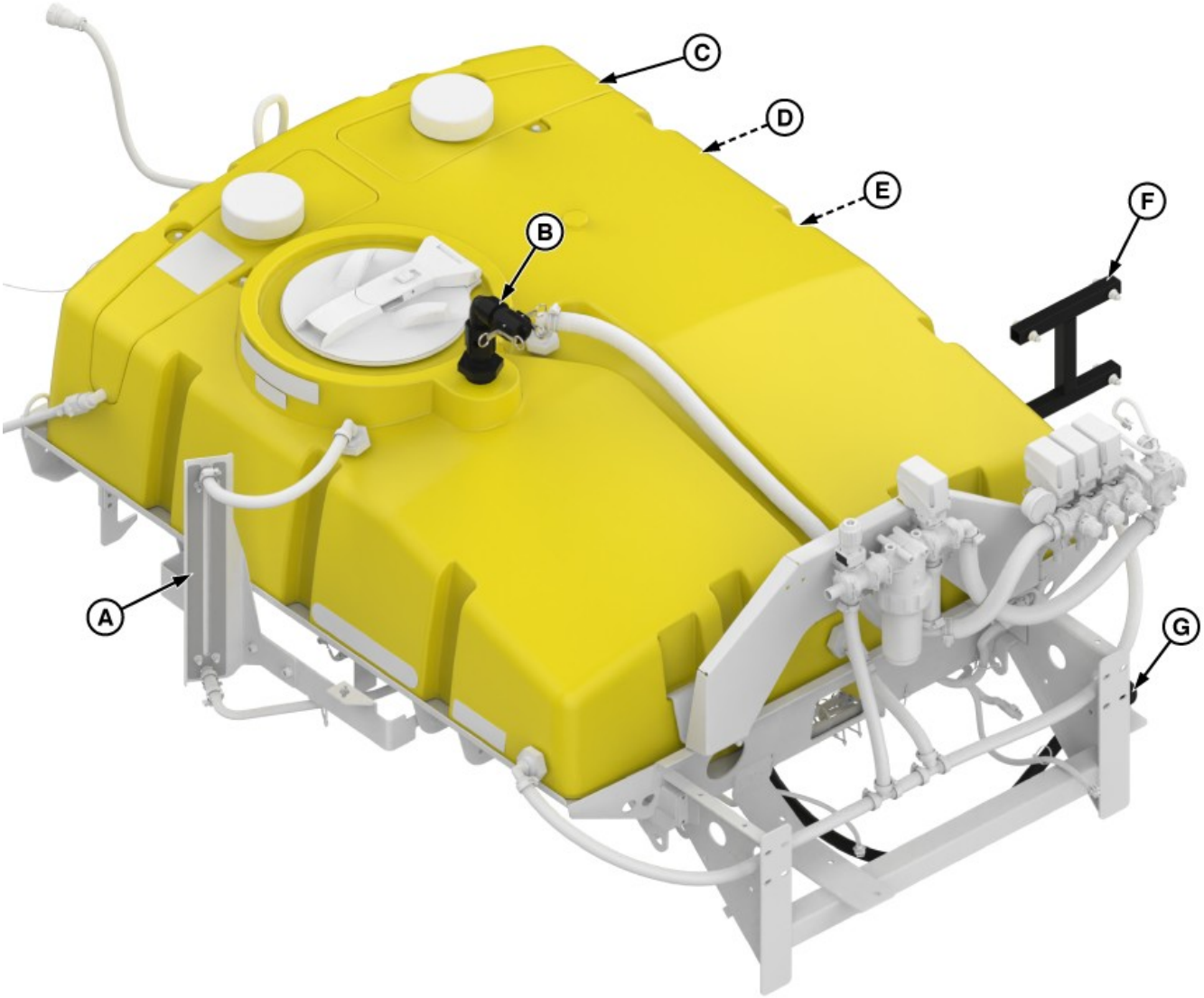
2. Remove bottom M10 locknut and M10x35 bolt so frame clamp (C) can pivot down to secure sprayer to ProGator frame (H).
3. Install M10x35 bolt (G) through frame bracket and secure with M10 locknut.
4. Tighten fasteners securely.

OUO2005,0000152-19-19NOV12

Solution Tank

The solution tank holds the mixture to be sprayed. When the pump is engaged, the level of agitation can be adjusted at the manifold. The tank level can be monitored via the level indicators on the side of the tank. The pump is connected to the tank via a 3-way valve and mounted on the rear of the sprayer frame.

Solution Tank Diagram



TC699491—UN—30DEC25

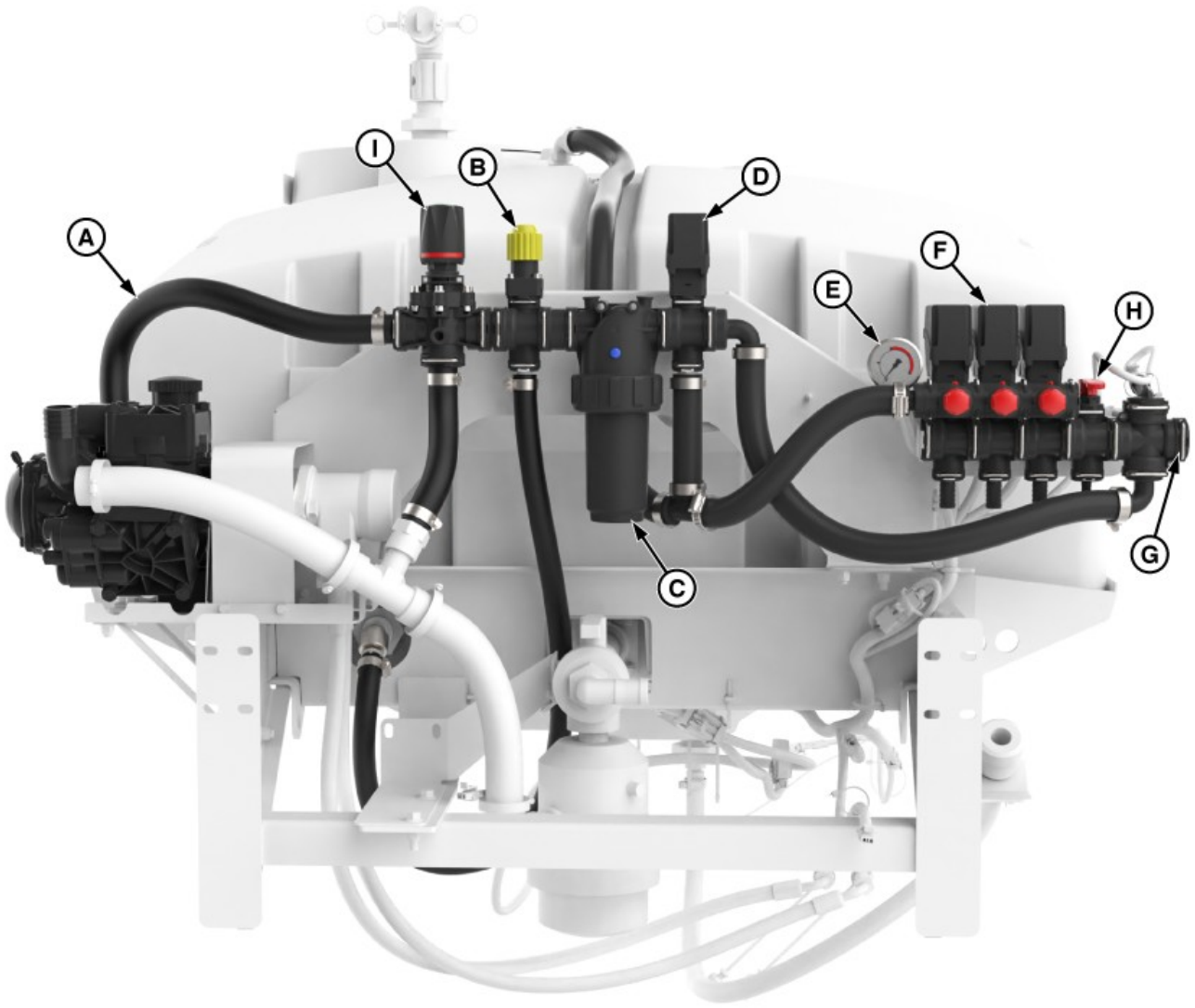
A—Fill Marker
B—Quick Connect, Main Tank Fill
C—Tank, Foam Marker
D—External Fill Indicator
E—Rinse Tank (Not Shown)
F—Clothing Locker Mounts
G—Hose and Valve, Drain

YCWRHFR,1766990883711-19-29DEC25

Manifold (Valve Stack)

The manifold (valve stack) is mounted on the rear of the sprayer solution tank and contains the primary valves, ports, strainers, gauges, and sensors for the spray system. Agitation can be adjusted using the yellow agitation valve. The strainer removes oversized particulate. A (optional, required for diaphragm pump operation) pressure relief valve (green) is installed on systems with a diaphragm pump (optional). The manual hose reel valve is used to connect to a hose reel (optional). The flowmeter, pressure gauge, and pressure sensor are utilized to monitor the system performance.

Manifold Diagram



TC699139—UN—31DEC25

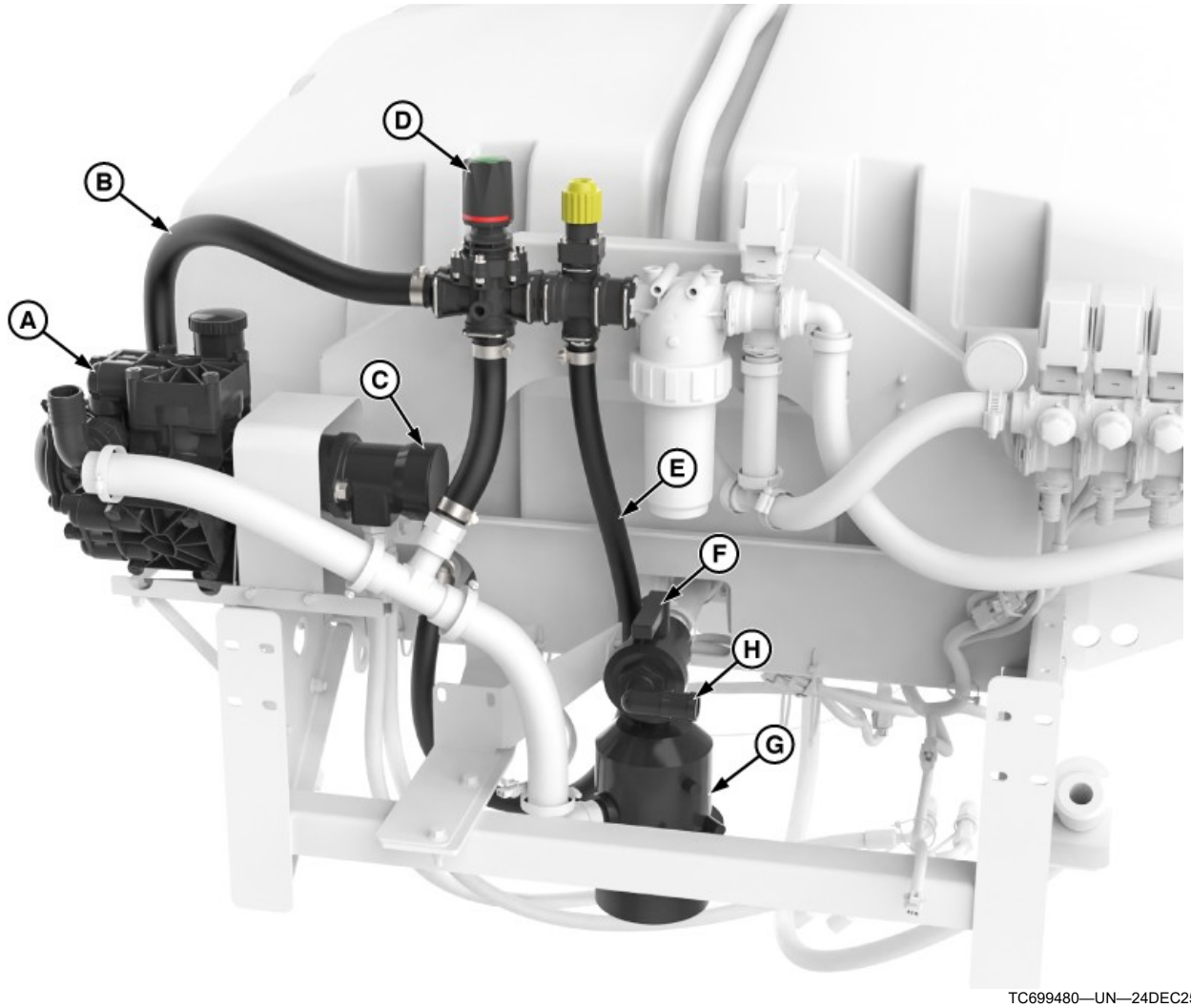
A—Hose, Pump Outlet
B—Valve, Agitation
C—Strainer
D—Valve, Electric Proportional Flow Control
E—Gauge, Pressure
F—Control Valves, Boom Section
G—Fitting, Cross (For Pressure Sensor)
H—Valve, Manual On-Off (For Hose Reel Attachment)
I—Pressure Relief Valve

YCWRHFR,1766990881889-19-30DEC25

Pump

The pump pumps the solution mixture from the solution tank to the rest of the spray system. Solution can be pulled from the solution tank or rinse tank (optional), and is selected via the 3-way valve. The pump is hydraulically driven by the ProGator™ vehicle auxiliary hydraulic circuit. The pump speed will vary with engine speed and as a result, optimum performance will result from consistent engine speed. For diaphragm pumps, a suction strainer is plumbed between the 3-way valve and the pump inlet.

Diaphragm Pump Diagram



TC699480—UN—24DEC25

A—Pump, Diaphragm
B—Hose, Pump Outlet
C—Hydraulic Motor
D—Valve, Pressure Relief
E—Hose, Tank Outlet
F—Three Way Valve
G—Suction Strainer
H—Port, Rinse Tank (Optional)

YCWRHFR,1766990880095-19-29DEC25

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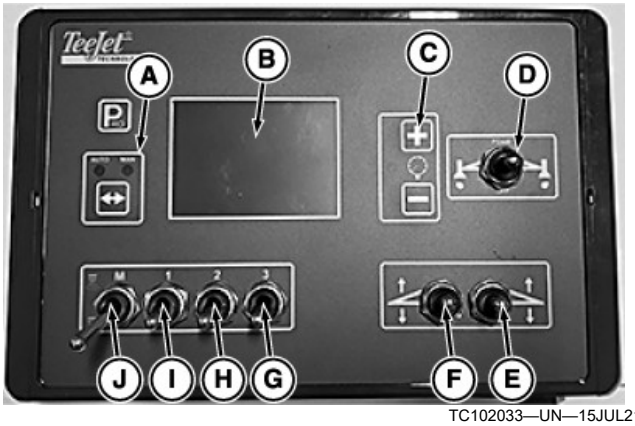
Automatic Rate Control Box

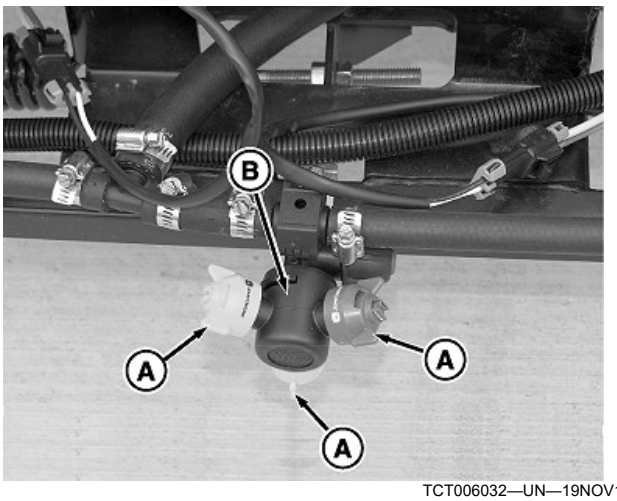


TC102033—UN—15JUL21

A—Auto/Manual Control
B—Digital Display Screen
C—Pressure Control
D—Marker Switch
E—Right Boom Wing Switch
F—Left Boom Wing Switch
G—Right Boom Section Switch
H—Center Boom Section Switch
I—Left Boom Section Switch
J—Boom Master Switch

YCWRHFR,1766984694374-19-28DEC25

Spray Tip Operation



TCT006032—UN—19NOV12

NOTE: There are three detent positions to place each spray tip in an activated (downward) position. It is not recommended, but three additional detent positions in between downward positions can be used for shutting off individual spray valves.

1. Select spray tip nozzle (A) color, and rotate spray tip assembly (B), so that color selected is in the down position.
2. Repeat procedure for color selected for remaining spray tips on boom sections.

OUO2005,000015D-19-05DEC12

Spray Tip Selection

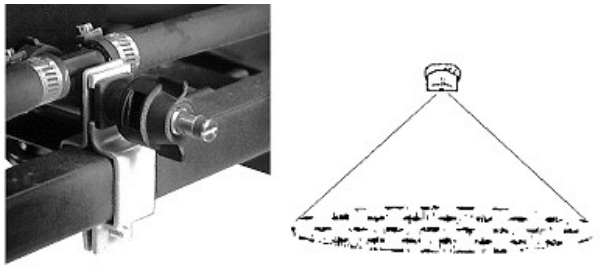
Examples of spray tips shown are for reference only.

Actual coverate rates must be calculated from spray tip flow rate, machine speed, overlap and operating pressure.

See your John Deere dealer for spray tips and additional information.

OUO2005,000015E-19-19NOV12

Flood Style Spray Tip

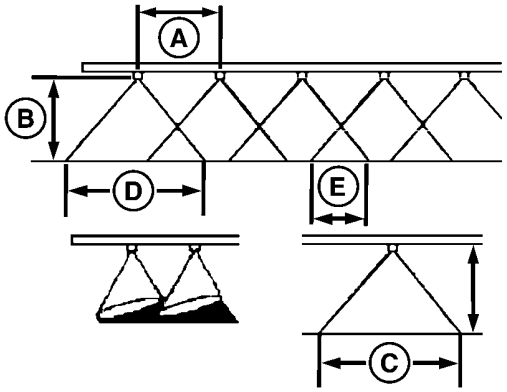


TCT006033—UN—19NOV12

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



TCT012904—UN—16JUL15

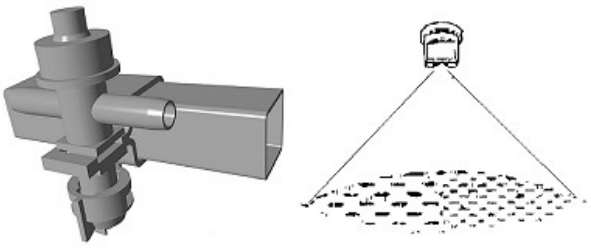
- Spacing (A) = 500 mm (19.7 in.)
- Height (B) = 406 mm (16 in.)**
- Spray Angle (C) = 115° to 125°
- Spray Coverage (D) = 102 cm (40 in.)
- Overlap (E) = 100%

**Measure with sprayer tank full.

To change nozzle height, adjust the height of the boom.

OUO2005,000015F-19-16JUL15

Ultra Low-Drift Style Spray Tip

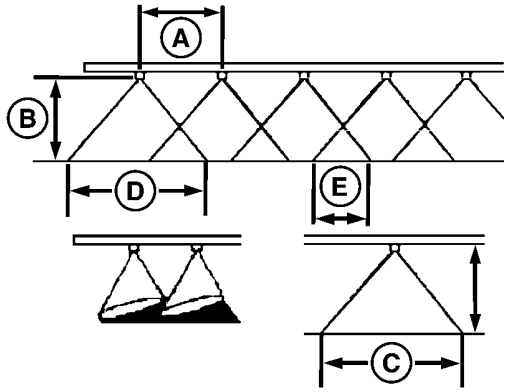


TCT006035—UN—19NOV12

Typical spray pattern shown at right.

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

Nozzle Dimensions



TCT012904—UN—16JUL15

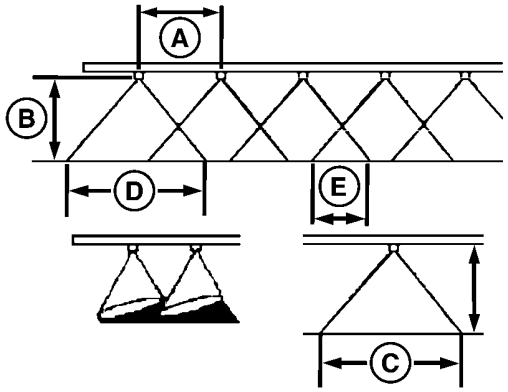
- Spacing (A) = 500 mm (19.7 in)
- Height (B) = 406 mm (16 in)**
- Spray Angle (C) = 120°
- Spray Coverage (D) = 102 cm (40 in)
- Overlap (E) = 100%

**Measure with sprayer tank full.

To change nozzle height, adjust the height of the boom.

OUO2005,0000160-19-06JUN18

Nozzle Dimensions



TCT012904—UN—16JUL15

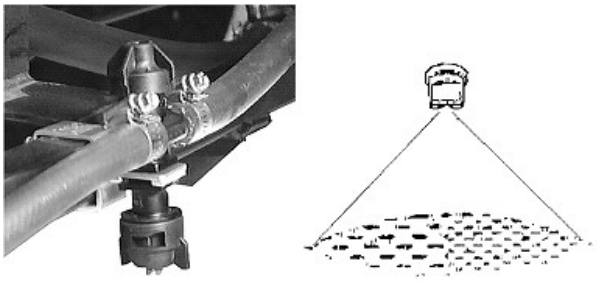
- Spacing (A) = 500 mm (19.7 in.)
- Height (B) = 457 to 508 mm (18 to 20 in.)**
- Spray Angle (C) = 80° - 110°
- Spray Coverage (D) = 762 mm (30 in.)
- Overlap (E) = 50%

**Measure with sprayer tank full.

To change nozzle height, adjust the height of the boom.

OUO2005,0000161-19-16JUL15

Flat Fan Style Spray Tip



TCT006036—UN—19NOV12

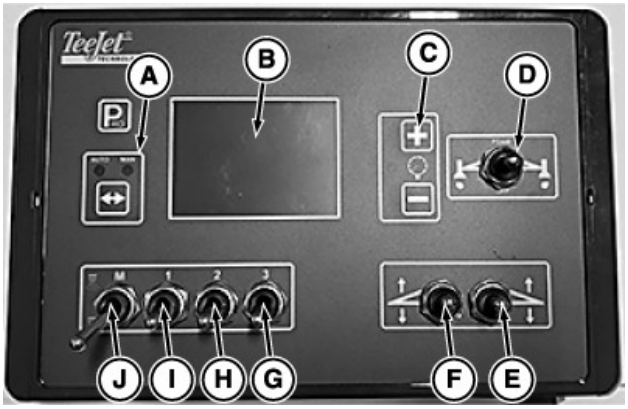
Typical spray pattern shown at right.

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.

Using Automatic Rate Control Box



TC102033—UN—15JUL21

A—Auto/Manual Control
B—Digital Display Screen
C—Pressure Control
D—Marker Switch
E—Right Boom Wing Switch
F—Left Boom Wing Switch
G—Right Boom Section Switch
H—Center Boom Section Switch
I—Left Boom Section Switch
J—Boom Master Switch

- Auto/Manual Control (A) The Auto and Manual touch pad switches change controller operation between automatic and manual control of sprayer functions. In the auto operating mode, the controller automatically maintains uniform application with changes in

operating conditions. In the manual operating mode, rate can be temporarily increased or decreased to suit application requirements.

- Digital Display Screen (B) - The digital display screen shows selectable values for the sprayer operating pressure, flow rate, ground speed, and other operational parameters. These values are used to set up the sprayer controller for operation and to monitor operation when in use.
- Pressure Control (C) - The + and - touch pad switches are used to change the nozzle pressure during the controller setup or while in operation. Pressing the + switch increases the system pressure (within system limits). Pressing the - switch decreases the system pressure (within system limits).
- Marker Switch (D) - This switch controls the foam marker. With the switch in the center position, no marker foam is released. With the switch in the right position, foam is released from the nozzle at the end of the right spray boom. With the switch in the left position, foam is released from the nozzle at the end of the left spray boom.
- Right Boom Wing Switch (E) - This switch controls the right boom wing lift. Move the switch up to raise the right boom wing. Move the switch down to lower the right boom wing.
- Left Boom Wing Switch (F) - This switch controls the left boom wing lift. Move the switch up to raise the left boom wing. Move the switch down to lower the left boom wing.
- Right Boom Section Switch (G) - Switch 3 controls right boom section isolation valve. To allow flow to the right boom section spray nozzles, move switch 3 to the up position. (Switch M must be in the up position as well.) To shut off flow to the right boom section spray nozzles, move switch 3 to the down position.
- Center Boom Section Switch (H) - Switch 2 controls center boom section isolation valve. To allow flow to the center boom section spray nozzles, move switch 2 to the up position. (Switch M must be in the up position as well.) To shut off flow to the center boom section spray nozzles, move switch 2 to the down position.
- Left Boom Section Switch (I) - Switch 1 controls left boom section isolation valve. To allow flow to the left boom section spray nozzles, move switch 1 to the up position. (Switch M must be in the up position as well.) To shut off flow to the left boom section spray nozzles, move switch 1 to the down position.
- Boom Master Switch (J) - Switch M controls the flow to all boom section valves. To allow flow to all individual boom section isolation valves, move switch M to the up position. To shut off flow to all individual boom section isolation valves, move switch M to the down position.

Area / Volume Display Feature

With the master boom switch in the ON position, the controller measures both the application area and the total volume applied.

- The area counter measures treated area and is dependent on the values programmed for the number of tips per boom section and the tip spacing.

NOTE: The volume counter counts flow anytime the master switch is in the "ON" position. To shut all three booms "OFF", always toggle the master switch to the "OFF" position. If toggling the individual boom switches to "OFF" while leaving the master switch "ON", the controller continues to count flow going through the flowmeter.

- The volume counter is dependent on flowmeter pulses.
- The lower right area of the console alternates between the two measurements every three seconds.
- To clear the counter/volume measure:

  a. Set the master boom switch to the OFF position.
  b. Press and hold the Auto/Man key for three seconds.
  c. The controller displays a message asking if the field counter is to be cleared.
  d. Use the + or – keys to select either yes or no.
  e. To accept the change and return to normal operating mode, press the Pro key.

Tank Volume Feature

The console counts down the volume remaining in the tank and alerts the operator when the low tank level has been reached.

The low tank level is programmed by the operator in System Setup Mode.

- To reset the tank volume:

  a. Master switch must be in the OFF position.
  b. Pressing the + and – keys at the same time displays the tank volume indicator and the number flashes.
  c. Use + or – keys to change tank volume to the current volume in the tank in incremental units, or press the Auto/Manual key to reset to the maximum tank volume.
  d. To store the value, press the Pro button.
  e. This process must be repeated every time fluid is added to the tank.

Boost Mode

The controller is capable of boosting the target rate either up or down in 10% increments.

Boost up:

- With the system in operating mode, and the master switch ON, press the + key to increase the target rate by 10%. Each subsequent pressing of the + key increases the target rate by 10%.
- The amount the rate is boosted is displayed for 2 seconds. The target symbol flashes anytime the system is in boost mode.
- To return to the target application rate, press the – key to return in 10% increments. Push the + and – keys simultaneously to return to the target rate immediately.

Boost down:

- With the system in operating mode, and the master switch ON, press the - key to decrease the target rate by 10%. Each subsequent pressing of the - key decreases the target rate by 10%.
- The amount the rate is boosted is displayed for 2 seconds. The target symbol flashes anytime the system is in boost mode.
- To return to the target application rate, press the + key to return in 10% increments. Push the + and – keys simultaneously to return to the target rate immediately.

Sensor Alarms

- Application Alarm – If the controller senses a discrepancy of 10% or more between the target application rate and the actual application rate, the application rate window flashes. This alerts the operator to a problem with the sprayer plumbing, operation, or programming. An audible alarm is activated when this feature is enabled. It provides three short beeps, indicating high priority.
- No Speed Alarm – This alarm occurs only if the master boom switch is in the ON position. If the controller stops receiving pulses from the speed sensor, the speed display tractor symbol flashes at the top of the display. An audible alarm is activated when this feature is enabled. Audible alarm provides two short beeps, repeated every second, indicating medium priority.
- No Flow Alarm – This alarm occurs only if the master boom switch is in the ON position. This alarm indicates that the controller has stopped receiving pulses from the flowmeter. The turbine symbol flashes at the top of the console. An audible alarm is activated when this feature is enabled. Audible alarm provides two short beeps, repeated every second, indicating medium priority.
- No Pressure Alarm – This alarm occurs only if the master boom switch is in the ON position. This alarm indicates that the pressure transducer has failed or lost its connection. An audible alarm is activated when this feature is enabled. Audible alarm provides two short beeps, repeated every second, indicating medium priority.
- Low Tank Volume Alarm – This alarm occurs when the tank volume reaches the low tank volume set in the system setup mode. The tank volume symbol flashes on the display screen. Audible alarm provides one short beep, repeated every second, indicating low priority.
- Low-Pressure Alarm — This alarm occurs only if the master boom switch is in the ON position. This alarm indicates that the pressure has dropped below the minimum value. It provides two short beeps, repeated every second, indicating medium priority.
- Low Speed Alarm — This alarm occurs only if the master boom switch is in the ON position. This alarm indicates that the vehicle speed has dropped below the minimum value and spraying stops. It provides two short beeps, repeated every second, indicating medium priority.
- Pressure Difference Warning Alarm — This alarm occurs only if the master boom switch is in the ON position. With flow-based regulation, the controller compares the actual measured pressure (if pressure sensor is installed) with the calculated pressure based on flow and nozzle size. If the difference is greater than 20 percent, the visual alarm “Press diff” flashes on the display.
- Flow Difference Warning Alarm — This alarm occurs only if the master boom switch is in the ON position. With flow-based regulation, the controller compares the actual measured flow (if a flowmeter is installed) with the calculated flow based on pressure and nozzle size. If the difference is greater than 20 percent, the visual alarm “Flow diff” flashes on the display.

User Programmable Tip

The automatic rate controller is pre-configured to accommodate the following nozzles:

- Orange - 0.38 L/min (0.1 gal/min) (US gallons per minute)
- Green - 0.57 L/min (0.15 gal/min)
- Yellow - 0.76 L/min (0.20 gal/min)
- Light Pink - 0.95 L/min (0.25 gal/min)
- Blue - 1.14 L/min (0.30 gal/min)
- Red - 1.51 L/min (0.40 gal/min)
- Brown - 1.89 L/min (0.50 gal/min)
- Gray - 2.27 L/min (0.60 gal/min)
- White - 3.03 L/min (0.80 gal/min)
- Light Blue - 3.79 L/min (1.00 gal/min)
- Light Green - 5.68 L/min (1.50 gal/min)

There are nozzles available for use that may not match the presets, for example a nozzle rated at 4.73 L/min (1.25 gal/min). This type of nozzle can be entered into the controller and used with the User Programmable Tip feature.

To enter a User Programmable Tip, enter the

Application Setup mode. Press the Pro key three times until the triangle above the nozzle color bar starts flashing. Use the + or - keys to move the triangle over "P" at the far right-hand side of the color bar. Then press the Pro key four times until the number in the lower right-hand corner of the controller screen just above "P" starts to flash. Use the + or minus keys to enter the gal/min rating of the nozzle that you desire to use. Press and hold the Pro key for three Operating - 30 OPERATING seconds to store.

The new nozzle rating has been stored and is ready for use.

Power On Controller

Power on the Controller – Simply press the Pro key one time to turn on the console. The console initially displays the software version at the top of the screen and the serial number of the console at the bottom of the screen. After approximately 5 seconds, the console enters operating mode.

Power Off Controller

To power off the console, press and hold the minus (-) button, press and release the Pro key once, then release the minus (-) button. Display begins to count down from 5 seconds as settings are saved, and then powers off.

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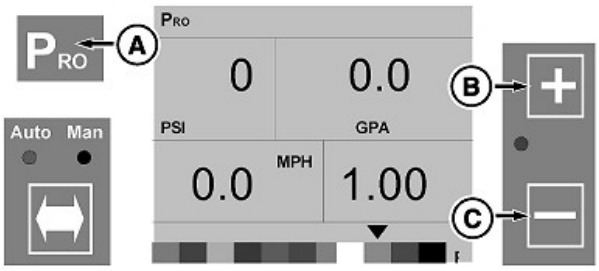
Configuring Automatic Rate Control Box



TCT006037—UN—19NOV12

1. Press Pro button (A) once to activate rate control unit.

   After software version has been displayed, and screen goes to the Operating screen, press and hold Pro button for three seconds to enter the System Setup mode.

2. To select working units, press + (B) or - (C) button.

   Changing Units

   a. Select desired units.

   b. To accept the desired units, press and hold the Pro button for three seconds.

   c. Power off the controller.

   d. Power on the controller.

   e. To reenter the system setup mode, hold the Pro button for three seconds.

   f. Reenter all default values listed in this section.

   g. To save the values, press and hold the Pro button for three seconds.

Unit options:

- U.S. - US gallons per acre (Default)
- Trf - US gallons per 1000 square feet
- INP - Imperial gallons per acre
- LM2 - Liters per meter squared
- SI - metric (L/min, l/ha, km/hr, cm)

NOTE: To change values in all steps, press + or - button. At any time, hold Pro button three seconds to exit System Setup. To accept the value and advance to the next programming step, press the Pro button.

3. Press Pro button for Speed Sensor Calibration.

   Default = 980

NOTE: 980 default is used in the U.S. (gallons per acre mode) only. If spraying in metric units (LM2 or SI), the speed sensor requires further calibration (See Automatic Rate Controller Calibration).

   The value for this step is number of pulses generated by speed sensor over a set distance. With the default value, the speeds on the ProGator™ dash and automatic rate control unit must match. If they do not, the speed sensor requires further calibration (See Automatic Rate Controller Calibration).

   To ensure proper operation, “Rad” is displayed in the lower left of the controller screen and “30 ft” displayed in the lower right. This data is changed by pressing the “Auto/Man” button on the controller.

NOTE: To avoid spraying during the next process, toggle the individual boom section switches to the "Off" position.

4. Press Pro button for Distance Counter.

   The Distance Counter feature is not a calibration step. No specific value must be entered here for the control unit to operate correctly. This feature measures distance in feet (meters) and can be used to confirm the Automatic Speed Calibration.

   To activate the counter, turn the master boom switch ON.

   To stop the counter, turn the master boom switch OFF.

To clear an existing distance value, press and hold the “Auto/Man” button for 3 seconds.

To confirm the Automatic Speed Calibration, drive the vehicle across the same 91.44 m (300 ft) course.

5. Press Pro button for the Pressure Sensor Installed selection.

   Default = YES

   - A digital pressure sensor is installed as standard equipment with this control package.
   - Do not change default setting.

6. Press Pro button for Pressure Transducer Low-Pressure Calibration (P rEF).

   Default = 4.00

   - Used to calibrate the Zero pressure setting of pressure transducer installed in system.
   - Pressure transducer used with this control unit reads zero pressure at 4.00 mA.

   If pressure does not read zero on the control unit when the PTO is off, the pressure sensor requires further calibration (see Automatic Rate Controller Calibration).

7. Press Pro button for Pressure Transducer Maximum Rating (P Hi).

   Default = 2500 kPa (25.0) bar (363 psi)

   - Used to establish maximum rating of pressure transducer in system.
   - Do not change default setting.

   Press Pro button for Pressure Minimum.

   Default = 69 kPa (0.69) bar (10 psi)

   - Used to set the minimum operating pressure. Regulation is stopped below this value.
   - Do not change this default.

8. Press Pro button for Flow Sensor Installed.

   Default = YES

   - A flowmeter is installed as standard equipment with this control package.
   - Do not change default setting.

9. Press Pro button for flowmeter Pulses.

   Default = 79.0

   - Pre-programmed to match the calibration number on the flowmeter decal.
   - If volume applied displayed on control unit does not match the actual volume applied, the flowmeter requires further calibration. To calibrate the flowmeter, see Automatic Rate Controller Calibration.

10. Press Pro button for Flow Sensor Minimum Flow Capacity.

    Default = 19 L/min (5.0 gal/min)

    - Do not change default setting.
    - When both a pressure sensor and flow sensor are installed, this control unit determines when flow rate has dropped below the capacity of flowmeter being used, and automatically switches to pressure based regulation. When flow rate once again reaches an acceptable level for the flowmeter to regulate, control unit automatically switches back to flow based regulation.

11. Press Pro button to base regulation mode on Flow or Pressure.

    Default = FLO

    - FLO - flowmeter is used to control flow and the pressure transducer is used only to display the actual pressure.
    - Option: PRS - Pressure transducer is used to control the flow and display the actual pressure.
    - Control system can be used with either a flowmeter, pressure transducer, or both. This step instructs the console which type of sensor is being used to control regulation.
    - To select FLO or PRS, use the + and - buttons (See FLO and PRS Regulation).

12. To set Nozzle spacing, press Pro button.

    Default = 50 cm (20 in)

    - Nozzle spacing must be recorded in inches (cm in SI mode).
    - To increase or decrease nozzle spacing, use the + and - buttons.

13. To set the number of boom sections, press Pro button.

    Default = 3

    - Used to set the number of boom sections.
    - Do not change this default.

14. Press Pro button to enter Number of Nozzle Tips on Boom Section 1, as indicated on the controller box.

    Default = 4 for 5.5 m (18 ft) or 6.4 m (21 ft) boom

    - Change to 2 for 4.6 m (15 ft) boom.

15. Press Pro button to enter Number of Nozzle Tips on Boom Section 2, as indicated on the controller box.

    Default = 3 for 5.5 m (18 ft) boom

- Change to 5 for 4.6 m (15 ft) or 6.4 m (21 ft) boom.

16. Press Pro button to enter Number of Nozzle Tips on Boom Section 3, as indicated on the controller box.

    Default = 4

    - Set the same as Boom Section 1.

17. Press Pro button for Liquid-Specific Gravity (Density).

    Default = NO

    - Change default to YES if entering density.
    - If yes is selected after pressing Pro button, a density screen appears. A “D” flashes at the top of console display.
    - The default value of 1.00 corresponds with the specific gravity of water and is correct for most pesticide applications. Occasionally, some spray solutions, such as fertilizer, have different densities. If using such a material, a new value must replace the default value. To determine the specific gravity of other solutions, use the following chart:

Weight of Solution per Gallon	Specific Gravity
3.18 kg (7.0 lb)	0.84
3.63 kg (8.0 lb)	0.96
3.78 kg (8.34 lb) (water)	1.00
4.54 kg (10 lb)	1.20
4.83 kg (10.65 lb) (28% N)	1.2
4.92 kg (10.85 lb) (30% N)	1.30
4.99 kg (11.0 lb)	1.32
5.44 kg (12.0 lb)	1.44
6.35 kg (14.0 lb)	1.68

    - Use the + or - button to change the value in display. To accept value and move to next step, press Pro button.
    - If solution being used is not listed in chart, calculate the specific gravity as follows:

    Specific gravity = weight of solution / weight of water

NOTE: The specific gravity value is adjusted within this setup screen. To enable or disable Density Mode, see Programming Application Rate with Automatic Rate Control Box.

18. Press Pro button to choose the Pressure Regulating mode.

    Default = Bypass

    - Indicates that pressure regulating valve is plumbed in the supply line before boom control valves.
    - Do not change default setting.

19. To regulate the valve speed - course/fine adjustment, press the Pro button.

    Default = 9

    - Coarse and fine adjustment controls the speed of the valve when the control unit requires large (coarse) and small (fine) adjustments in flow.
    - Begin with a course/fine adjustment speed number of 9, which works well in most applications. Optimize the number during sprayer operation. To increase or decrease the response time, use the + or - buttons.
    - Select any number between 0 and 9: 0 = slow, 9 = fast.

20. To select Section Control Valve Type, press the Pro button.

    Default = 3-way

    - Set type of section valves to 2-way (non-bypass) or 3-way (metered bypass).
    - Do not change this default.

21. Press Pro button for Maximum Tank Volume.

    Default = 757 L (200 gallons)

    - Controller tracks volume down from the maximum tank content down to zero remaining tank volume. This setting allows the volume to be monitored.
    - Do not change default setting for HD200 SelectSpray.
    - The control unit alerts the operator when nearing the end of a tank.
    - A volume of 0 disables the tank volume feature.
    - To increase or decrease maximum tank volume, use the + or - buttons.

22. Press Pro button for Low Tank Indicator.

    Default = 94.6 L (25 gal)

    - Controller shows a visible alarm on control unit when the tank volume is reaching a low level of fluid. This setting allows selection of volume at which that alarm displays on control unit.
    - To increase or decrease the fluid level at which this alarm begins to display, use the + or - buttons.
    - A value of “0” disables this feature.

23. Press Pro button for Communications.

    Default = No Connections (computer, GPS, and so on)

    - Do not change this setting. This control unit does not have any external communication capability.

24. Press Pro button for Simulated Low Speed.

Default = 10 km/h (6 mph)

- Allows for verification of control unit functions and sprayer without moving sprayer.
- Must be tested before spraying activity.
- Controller has a low and high simulated ground speed that allows for switching between the two to simulate a speed change. This ensures that console is regulating properly during the sprayer checkout.
- To activate simulated speed when in normal operating mode with the master switch ON:

  Press Pro and - buttons for the low simulated speed.

  Press Pro and + buttons for the high simulated speed.
- Once sprayer begins moving, and control unit receives an actual speed sensor pulses, the simulated ground speed feature is deactivated.
- To change this setting, use the + or - buttons.

25. Press Pro button for Simulated High Speed

    Default = 15 km/hr (9 mph)

    - To change this setting, use the + or - buttons.

26. Press Pro button for Minimum Speed Alarm.

    Default = 3.2 km/hr (2 mph)

    - Controller automatically shuts off boom sections at preprogrammed speed to eliminate an operator function when slowing to stop or turn around. When sprayer speed exceeds established minimum speed, boom sections turn back on.
    - A value of 0 disables this feature.
    - This feature is disabled in Manual mode.
    - To change this setting, use the + or - buttons.

27. Press Pro button for 3 seconds to Escape and Save Changes.

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Automatic Rate Controller Calibration

In most cases, the Automatic Rate Controller is accurate using factory defaults and does not require further calibration. If further calibration is required, there are three components that can be calibrated:

Speed Sensor

Calibrate the speed sensor only if the speed on the ProGator™ dash and rate control unit do not match. To calibrate, first mark off a course of exactly 91.44 m (300 ft). Position the ProGator™ near the beginning of the course. Then enter System Setup Mode, and press Pro key until arriving at Speed Sensor Calibration screen (default 3 710 L/m^2 (980 gallons per acre). Press and hold + and - keys simultaneously for three seconds and begin driving. As the starting point of the course is crossed, press + key to start calibration. As the ending point is crossed, press the + key. The new speed sensor calibration number is displayed. To accept new value, press Pro key.

The auto speed calibration process must take place when the spray tank is half full.

Perform the automatic speed calibration process at least twice and use the average of the calibration numbers.

Once the calibration number has been determined, it must be entered into the console.

Pressure Sensor

NOTE: Pressure sensor calibration is not required with the digital manual control unit.

Calibrate the pressure sensor only if the pressure on the control unit does not read zero when the sprayer PTO is turned off.

NOTE: Sometimes it can be best to remove the pressure sensor from the plumbing system to complete calibration

To calibrate, make sure that the sprayer PTO is turned off and that there is no pressure in system. Then enter System Setup mode and press Pro key until arriving at Pressure Sensor Reference screen (default 4.00). To begin calibrating, press and hold + and - keys simultaneously for three seconds. The lower left of the control unit screen counts 1 - 10. Once the counter reaches ten, the new calibration number is displayed, and must be 4.00 +/- 0.20. To accept new value, press Pro key.

Flow Meter

Calibrate the flowmeter only if the total volume applied shown on the control unit does not match the actual volume applied. NOTE: The control unit counts flow any time the master switch is on. When turning off all three booms especially for transporting, turn off the master switch to stop counting flow pulses. To calibrate the flowmeter, enter System Setup mode and press Pro key until arriving at Flow Meter calibration screen (default 79.0). To begin calibrating, press and hold the + and - keys simultaneously for three seconds. The cal number zeros out and CAL shows on the control unit. Engage the PTO, press the + key to begin calibration, and turn the boom sections on. Spray a known quantity of fluid (that is - 378.5 L (100 gallons)). As the known quantity is sprayed, the console counts pulses. When the known quantity has been sprayed, turn off the master switch. Press the Pro key. To adjust value to the known quantity sprayed, use the + and - keys. Then press the Pro key,

and the new calibration number is displayed. To accept new value, press Pro key for three seconds.

Perform the automatic flowmeter calibration process at least twice and use the average of the calibration numbers.

Once the calibration number has been determined, it must be entered into the console.

OUO2005,0000166-19-17JUL15

FLO and PRS Regulation

The TeeJet automatic rate controller has the capability to achieve the target application rate in two ways - flow-based (FLO) or pressure-based (PRS) regulation.

FLO Regulation Mode

In FLO regulation mode, the controller receives input signals from the flow meter. The controller then adjusts the pressure regulating valve accordingly to achieve the application rate based on the flow meter pulses. As the ProGator speeds up and slows down, the regulating valve adjusts to maintain proper flow meter pulses. The pressure and application rate displayed on the controller are the actual pressure and application rate.

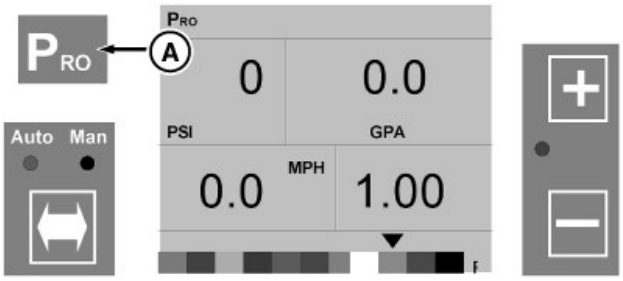
PRS Regulating Mode

In PRS regulating mode, the controller receives signals from the pressure sensor, and ignores any signal from the flow meter. From the application setup mode, the controller knows what pressure it is supposed to achieve for a given ground speed and nozzle. The controller receives signal from the pressure sensor, and adjusts the pressure regulating valve to achieve the proper pressure to maintain the target application rate. As the ProGator speeds up and slows down, the regulating valve adjusts to maintain proper nozzle pressure. The pressure displayed on the controller is the actual operating pressure, but the application rate is a calculated application rate based on speed and pressure.

Both regulating modes accomplish the same task, maintaining application rate. They only utilize different sensors to accomplish the task. When spraying chemicals with a specific gravity close to that of water, either FLO or PRS will be accurate. However, when spraying chemicals with a specific gravity that is different from that of water, product density must be taken into consideration in order to maintain accuracy in FLO mode. For FLO-based regulation to be successful, the specific gravity of the solution must be entered into the controller by following instructions in Configuring Automatic Rate Control Box. In PRS mode, the specific gravity does not need to be entered into the controller to maintain the application rate.

OUO2005,0000167-19-20NOV12

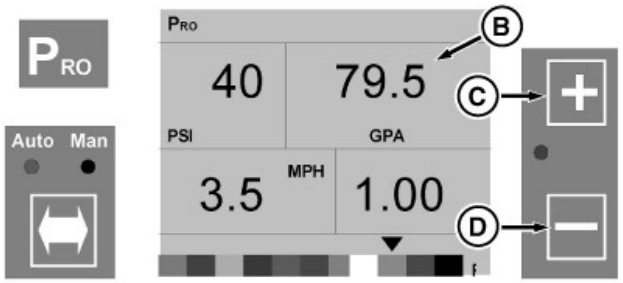
Programming Application Rate with Automatic Rate Control Box



TCT004511—UN—20AUG12

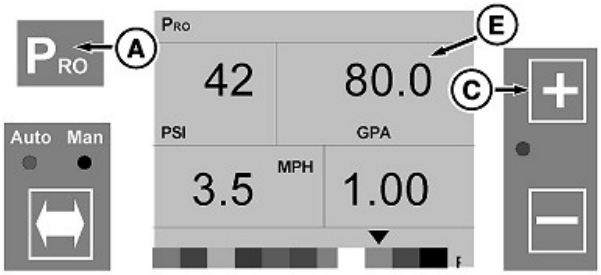
Setup

1. Press Pro button (A) twice to exit the operator screen and enter the Application Setup Screen.



TCT004512—UN—20AUG12

2. The application rate (B) flashes on the screen, meaning it can now be changed. To change setting, press “+” (C) or “-” (D) button to adjust in 0.01 increments.



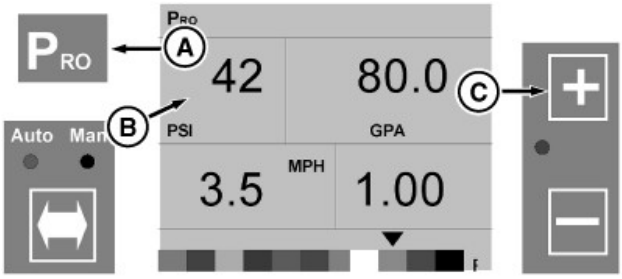
TCT006040—UN—20NOV12

3. Press the “+” button (C) to change to 950 Liters per Hectare (L/ha) (80 Gallons per acre) (E).

NOTE: The rest of the pressure, speed, and nozzle calculations are automatically calculated so your application rate is correct. But, you still have the ability to adjust each of these independently. The controller does not store these values, but allows you to look at the rates and change them accordingly.

4. To save the new application rate, press Pro button (A). Pressing the Pro button does not store the application rate. To store the application rate, press and hold the Pro button (A) for 2-3 seconds. The application rate is now stored, and takes you back to the operator screen. Before storing the application

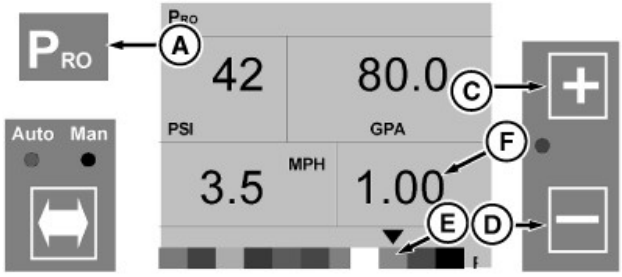
rate, follow Application Rate Adjustment steps for verification of settings.



TCT004514—UN—20AUG12

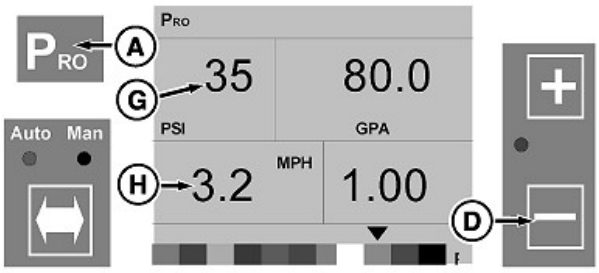
Application Rate Adjustments

1. Press the Pro button (A) again. The psi (B) number flashes.
2. You can do the following to verify that your application rate is appropriate:
   a. To let the control unit calculate what speed is required to achieve the desired application rate for a given nozzle and pressure, change the pressure.
   b. To let the control unit calculate what pressure is required to achieve the desired application rate for a given nozzle and speed, change the speed.
   c. To determine what pressure is required to achieve the desired application rate for a given speed, change the nozzle type.



TCT004515—UN—20AUG12

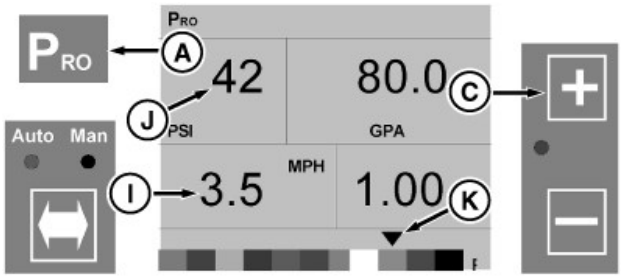
3. By pressing the Pro button (A) and the “+” (C) and “-” (D) buttons, you can individually select pressure, speed, or nozzle type to see what must be achieved in each category to reach the desired target application rate. In the preceding example, we are using the light blue nozzles (E) and 3.76 L/min (1.00 gal/min) tips (F).



TCT006043—UN—20NOV12

4. For example, you may feel that 290 kPa (2.90 bar) (42 psi) is too high of a pressure setting, and you want to change it to 240 kPa (2.40 bar) (35 psi). When the kPa (bar) (psi) value (G) is flashing, use the “-” button (D) to reduce in 6.89 kPa (0.069 bar) (1 psi) increments. Notice that the speed (H) also changes as you make this adjustment
5. You can now press the Pro button (A) to alter machine travel speed. After pressing the Pro button, the machine speed (H) must now be flashing.

NOTE: We have now verified that with a 3.76 L/min (1.00 gal/min) light blue nozzle, and 240 kPa (2.40 bar) (35 psi) of spray pressure, slow the machine down to 5.15 km/h (3.2 mph) to apply the correct target rate at the desired pressure. So, as your speed goes up or down, the control unit adjusts system pressure accordingly to achieve the target rate.



TCT004517—UN—20AUG12

6. Now change the speed to see the affect on pressure. Press the “+” (C) button adjust speed to 5.63 km/h (3.5 mph) (I). Notice that the pressure (psi) changes to 290 kPa (2.90 bar) (42 psi) (J) as the adjustment is made.
7. Pressing the Pro button (A) allows you to change nozzle type. You must now see the nozzle selector arrow (K) is flashing.

NOTE: We have now verified that with a 3.76 L/min (1.00 gal/min) light blue nozzle, and traveling at 5.63 km/h (3.5 mph), the pressure regulator needs to adjust pressure to 290 kPa (2.90 bar) (42 psi) to apply the correct target rate at the desired speed. If your speed goes up or down, the control unit adjusts system pressure to achieve the target rate.

8. Now if you like the 5.63 km/h (3.5 mph) speed, but think the pressure is too low, you have two options:
   - Change the application rate.
   - Change the nozzle.

NOTE: The nozzle selection setup portion of the setup procedure allows you to determine if you have the correct nozzle for what you are trying to apply.

TCT004518—UN—20AUG12

9. Use the "-" button (D) to find a nozzle (L) that sprays roughly 483 kPa (4.83 bar) (70 psi) (M) at 5.63 km/h (3.5 mph) (I).
10. Press the Pro button (A) again to go back to the beginning and allow you to adjust your application rate. The application rate (N) must now be flashing.

NOTE: In the operating mode, you see the actual pressure reading, actual speed reading, and the actual application rate. None of the inputs are flashing now.

TCT004519—UN—20AUG12

11. To store your application rate, hold down the Pro button (A) for 2-3 seconds.
12. To enable/disable Liquid Specific Gravity (Density) Mode on the Generation 3 Controller (color display): While in application setup press the "Auto/Man" button to enable or disable the Liquid Specific Gravity (Density) Mode. "D" is displayed at the top of the screen when this mode is enabled.

KJ60627,0001026-19-16JUL21

Operating the Sprayer

1. If an optional eductor kit is installed, close all valves before operating.
2. Turn handle on three-way valve at tank rear to point toward the tank.
3. Fill sprayer tank half full with water.
4. Determine correct travel speed and system pressure for your nozzle type and spray application.
5. Rotate triple nozzle bodies to select spray tips.
6. Adjust boom height to match spray tip angle, and nozzle to desired spraying angle.
7. Lock ProGator park brake, put gearshift lever in neutral position and start the engine.
8. Engage ProGator PTO.
9. Set ProGator to desired RPM based on desired ground speed and gear selection for your application.
10. Turn yellow knob on agitator valve to adjust tank agitation as desired.
11. Program your application rate with the automatic rate control box.
12. Load chemical in tank manually or by using optional eductor.
13. Fill tank to desired water level.
14. Maintain proper travel speed.
15. Turn control box master boom switch to ON position.

Stopping the Sprayer

1. Turn master boom switch to OFF position.
2. Disengage ProGator PTO.

Pump Use

To extend the life of the sprayer pump:

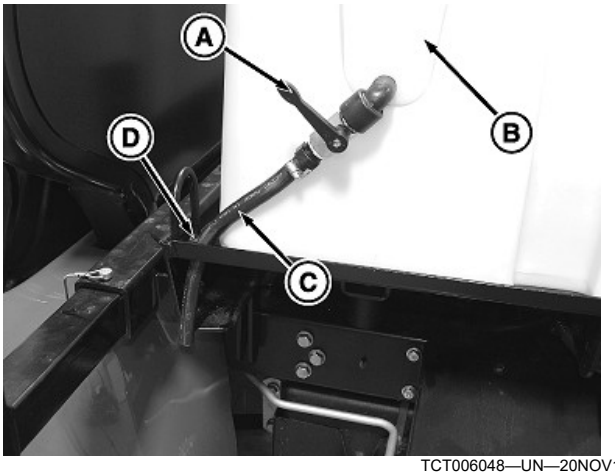
- Do not leave chemicals or residue in the pump overnight as they can damage components.
- Do not operate pump when dry.
- Follow instructions to properly winterize the sprayer.
- Do not use sprayer for turf paint applications if the sprayer is equipped with a centrifugal pump.

OUO2005,0000169-19-07DEC23

Using the Personal Wash Tank

CAUTION: Avoid injury! 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.



TCT006048—UN—20NOV12

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

OUO2005,000016B-19-27JAN15

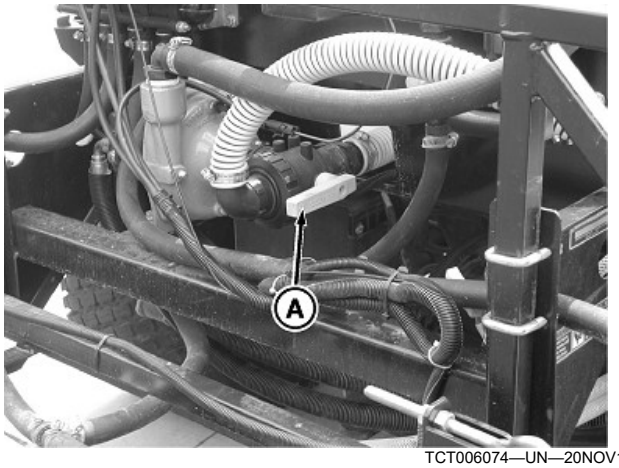
Using Rinse Tank

Filling Rinse Tank

1. Make sure the three way valve handle is in the vertical position.
2. Fill rinse tank with clean water.

Operating

1. Stop machine on a level surface, not a slope.
2. Place gear shift lever in NEUTRAL.
3. Lock machine park brake.



TCT006074—UN—20NOV12

4. Move three way valve handle to the rear position (A). In this position water from the rinse tank will be flowing to the inlet of the pump.

TC699135—UN—24DEC25

5. Move ball valve handle (B) to open:
   - Open position - with ball valve handle in the direction of the valve assembly, pressurized rinse water will flow to the tank rinser located inside the main sprayer tank.
   - Closed position - with the ball valve handle in the direction on the machine, rinse water will not flow.
6. Engage PTO to start pump.
7. Run pump as needed. Do not run pump dry. Once all clean water has been used, disengage PTO to stop pump.

YCWRHFR,1766986071517-19-30DEC25

Filling and Draining Sprayer Tank

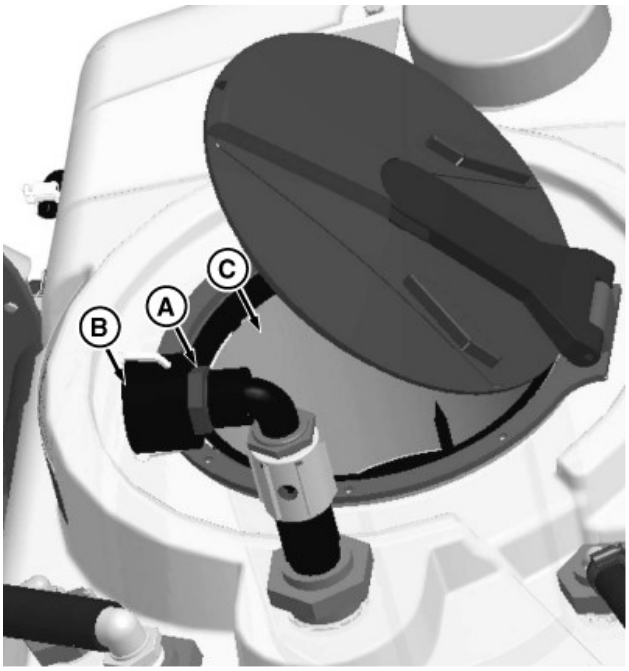
Filling the Tank

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.**

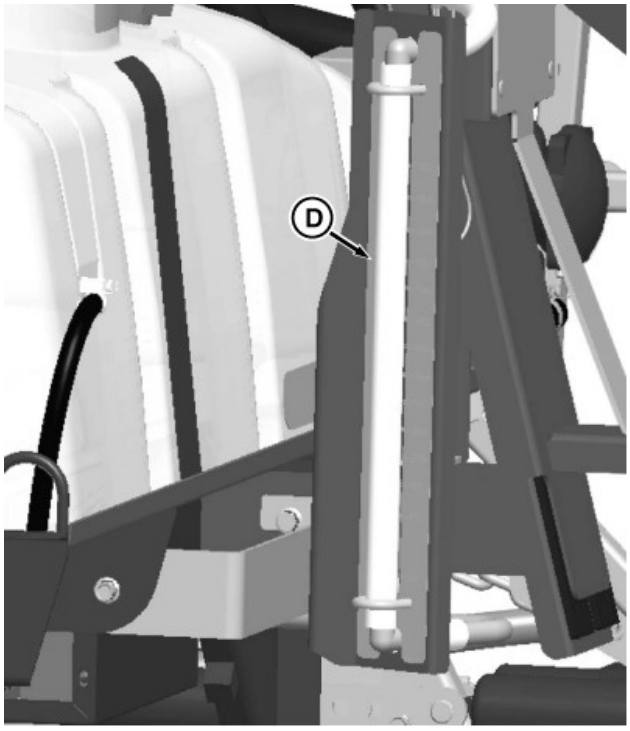
1. Park machine safely.



TCT002185—UN—18DEC12

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

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



TCT002186—UN—18DEC12

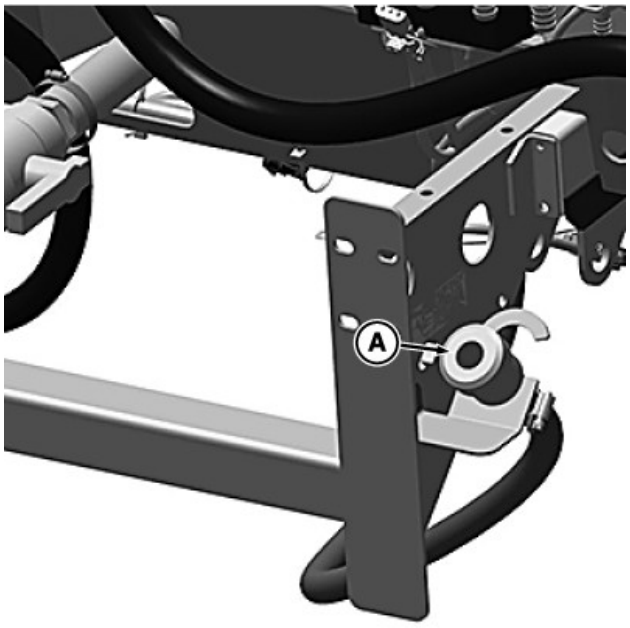
5. Fill tank with proper amount of chemical and mix with clean water. Use sight gauge (D) for approximate measurement.

Draining the 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. 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.



TC102034—UN—16JUL21

3. Place container under drain hose (A) 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.

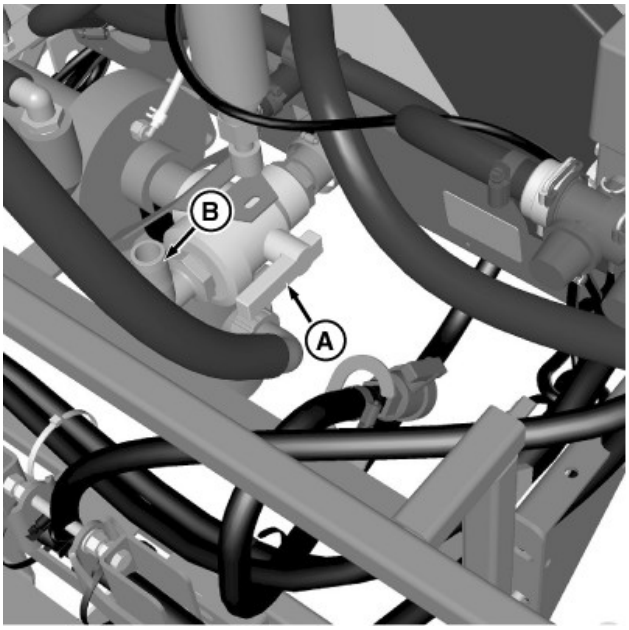
IMPORTANT: Avoid damage! Avoid damage to pump. Turn valve handle so that is faces perpendicular to hose after draining tank.

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.

KJ60627,0001032-19-22JUL21

Using Three-Way Valve

IMPORTANT: Avoid damage! 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.



TCT002188—UN—18DEC12

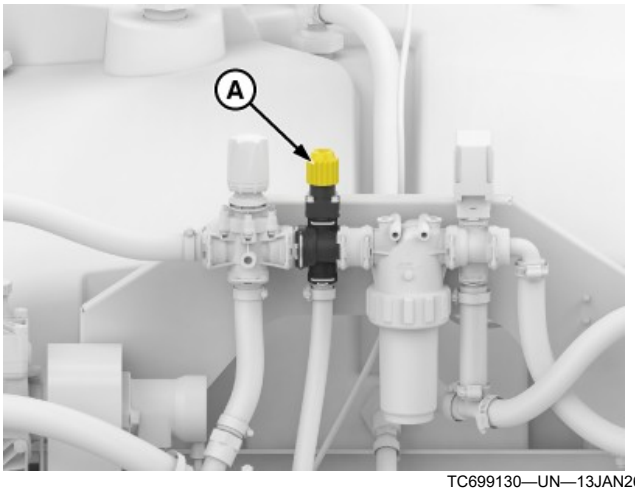
- Turn handle (A) so arrow points toward tank to pull liquid from tank when operating the sprayer.
- Turn handle so arrow points away from tank to pull liquid from port (B) when optional rinse tank is installed.
- No liquid is going into pump when three-way valve handle is in the vertical position.

MX00654,000027C-19-18DEC12

Using the Agitator

No liquid is going into pump when three-way valve handle is in the vertical position.

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



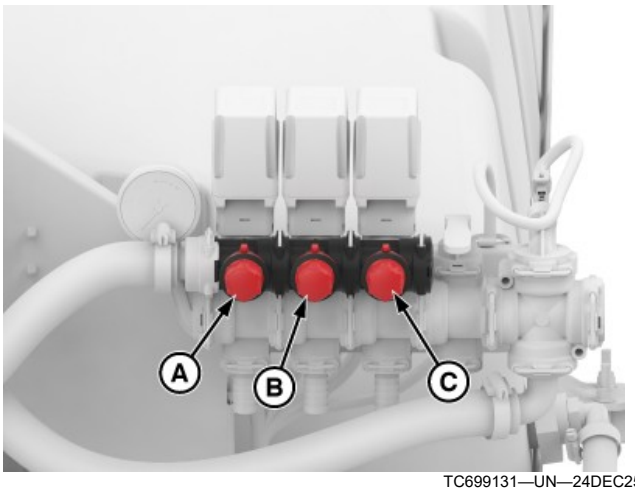
TC699130—UN—13JAN26

3. Turn knob (A) on agitator valve counterclockwise to open and set desired agitation rate.

4. Resume normal spraying operations.
5. To stop agitator:
   a. Shut sprayer OFF.
   b. Park machine safely.
   c. Turn knob on agitator valve clockwise to the closed position.

YCWRHFR,1766985602755-19-28DEC25

Adjusting Throttling Valves



TC699131—UN—24DEC25

1. Turn all three throttling valve knobs: left (A), center (B), and right (C) clockwise to 0 or fully turned in OFF position.

NOTE: If you have an automatic rate control box, you must set that to manual control in order to do this procedure.

2. Go to front of machine and turn all three boom valves ON using the manual control box or automatic rate control box.
3. Turn ON the master control using the manual control box or automatic rate control box.
4. Make note of the operating spray pressure at the control box.
5. At the control box in front, turn OFF right boom section.

NOTE: When turning OFF a boom section, operating spray pressure will now increase.

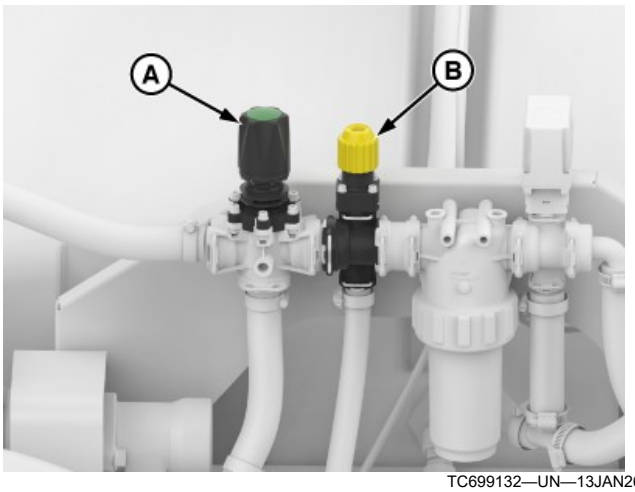
6. Adjust right throttle valve knob (C) to obtain operating spray pressure noted earlier.
7. At the control box in front, turn ON right boom section, and turn OFF the center section.
8. Adjust the center throttle valve knob (B) to obtain operating spray pressure noted earlier.
9. At the control box in front, turn ON center boom section, and turn OFF the left section.
10. Adjust the left throttle valve knob (A) to obtain operating spray pressure noted earlier.
11. After all three boom sections have been turned OFF and ON, check each throttle valve setting by turning OFF any of the three boom sections, and the operating spraying pressure should remain the same.

YCWRHFR,1766985651181-19-30DEC25

Setting System Relief Pressure (Diaphragm Pump Only)

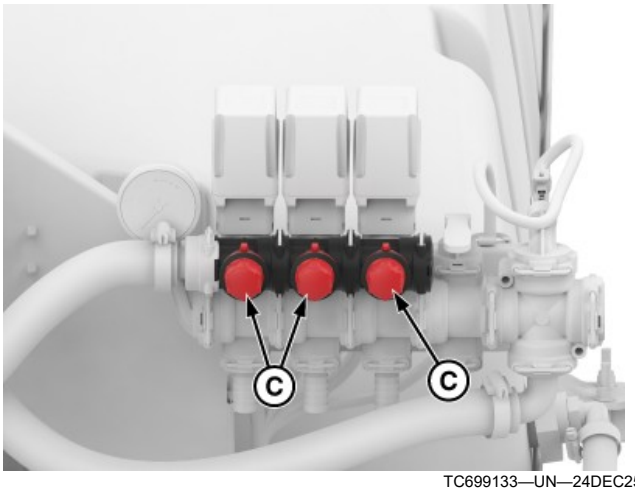
If the system is deadheaded, the diaphragm pump kit comes equipped with a pressure relief valve to provide fluid a route back to tank. This valve must be set on initial setup to protect the system when a pressure of 1000 kPa (10 bar) (145 psi) is achieved.

1. If an optional educator kit is installed, close all valves before operating.
2. Turn handle on three way valve at tank rear to point toward the tank.
3. Fill sprayer tank half full with water.



TC699132—UN—13JAN26

4. Open pressure relief valve green knob (A) by turning counter-clockwise until it is fully turned out.
5. Lock machine park brake and start engine.
6. Engage machine PTO.
7. Set machine to full engine rpm.
8. Close agitator valve yellow knob (B) by turning clockwise until it is fully turned in.



TC699133—UN—24DEC25

9. Close all three throttling valves red knobs (C) by turning clockwise until all three are fully turned in.
10. Turn pressure relief valve green knob clockwise until liquid pressure gauge at rear of sprayer reads 700—1000 kPa (7—10 bar) (100—145 psi).

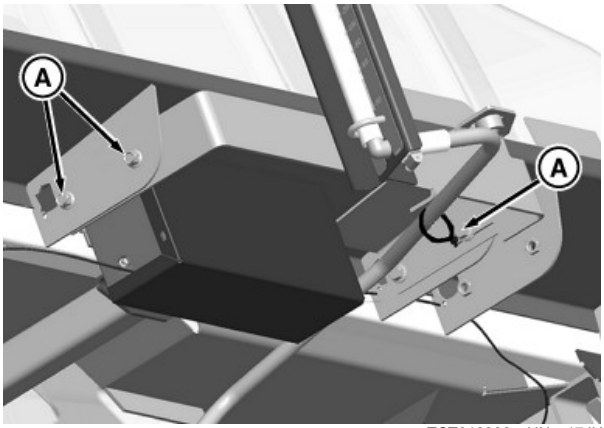
NOTE: 100 psi is recommended for typical applications.

11. The diaphragm pump system relief pressure is now set and will not need further adjustment unless higher spray pressures are required. Do not adjust pressure relief valve higher than 200 psi.

YCWRHFR,1766985714934-19-30DEC25

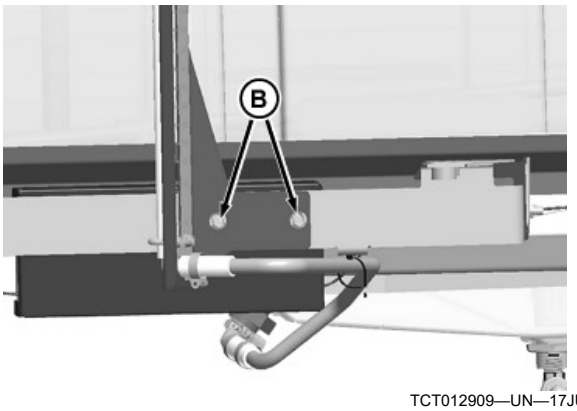
Calibrate Sight Gauge

1. Park the 2030A Pro Gator/HD200 unit on flat surface, shut off the machine, and lock the park brake.
2. Locate a flowmeter or a vessel that has a known fluid volume.
3. Fill the sprayer tank to 50 L (13.2 gal) and check the reading on the sight gauge. If the gauge reads 50 L (13.2 gal), skip to step 7.



TCT012908—UN—17JUL15

4. If the reading is not accurate, locate the three bolts (A).
5. Loosen the bolts and move the bracket until the reading is accurate. Once the reading is at the correct level, tighten the three bolts.

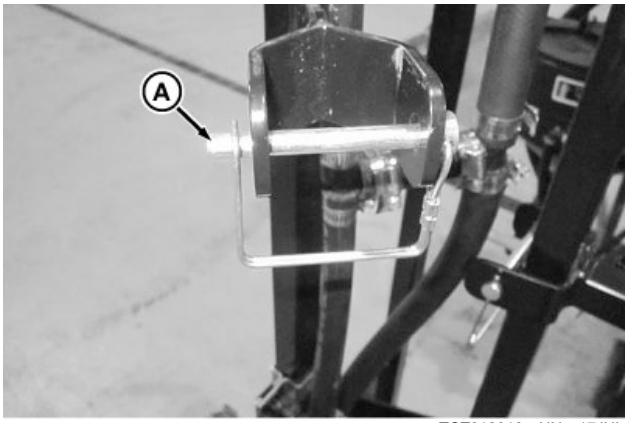


TCT012909—UN—17JUL15

6. If more adjustment is needed, loosen the two bolts (B) and adjust the bracket angle until the correct measurement is read. Once the correct measurement is read, tighten the two bolts.
7. Fill the unit to 100 L (26.4 gal) and check the gauge for accuracy. If the gauge reads 100 ± 5 L (26.4 ± 1.32 gal), the gauge is accurately calibrated.
8. If the measurement is not accurate, repeat steps 3 to 6 and recheck the volume at 50 L (13.2 gal) and 100 L (26.4 gal).

OUMX068,0000CE7-19-17JUL15

Using Boom Wings



TCT012910—UN—17JUL15

1. Remove spring locking pins (A).
2. Place pins in storage tubes and latch.

IMPORTANT: Avoid damage! Do not operate sprayer with boom wings in raised position.

When boom wings are in raised position and ready for transport, make sure that spring locking pins are installed securing wings.

3. Raise or lower boom wings by moving left and right

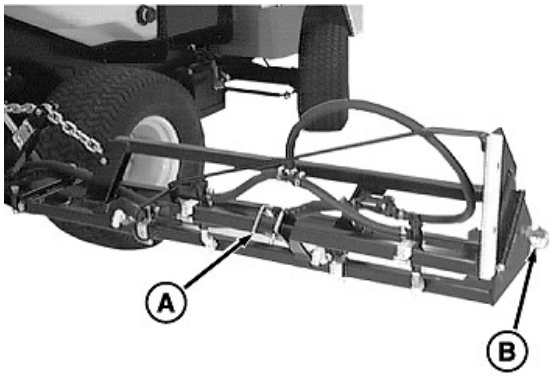
boom wing switches to RAISE or LOWER position until boom wings are at desired height.

OUO2005,0000171-19-17JUL15

Using Boom Wing Extensions (4.6/6.4 m (15/21 ft) Boom Only)

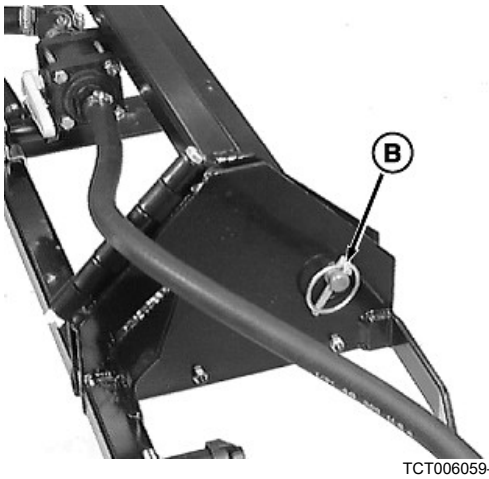
NOTE: When extensions are not in use, secure pins in the original locations and close ball valves.

1. Lower boom wings to operating position.



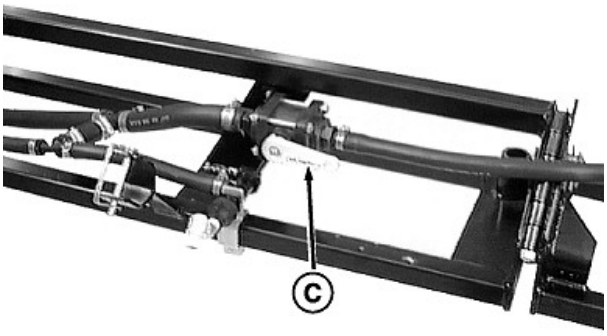
TCT006058—UN—20NOV12

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



TCT006059—UN—20NOV12

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

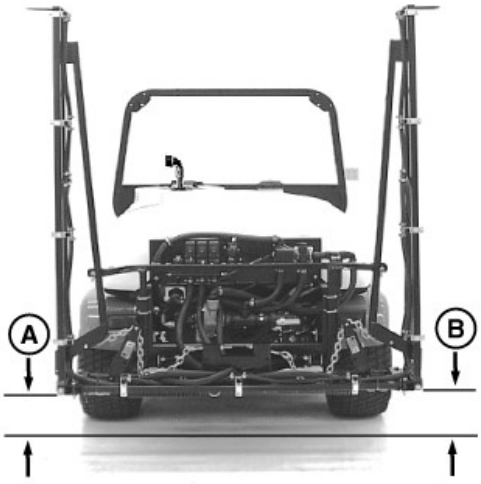


TCT006060—UN—20NOV12

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.
5. Install wire lock pin (A).

OUO2005,0000172-19-20NOV12

Adjust Boom Height



TCT004575—UN—15AUG12

Park machine safely on a flat, level surface, with adequate room to deploy boom wing sections (and extensions, if so equipped).

NOTE: Measurement for spray boom center section height and leveling adjustment must be carried out with both spray boom wings in the same position, either raised or lowered, to equalize loading on the machine.

Adjust Boom Center Section

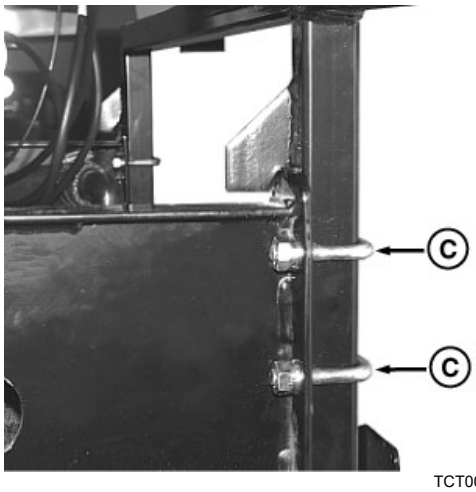
NOTE: To perform height and leveling adjustments, the sprayer attachment must be mounted on the machine.

The boom center section must be level, and positioned so that spray nozzles are at the correct height for nozzle spray angle and intended application.

1. Check tire pressures, and adjust if necessary so that tire pressures are equal and within specification for the installed sprayer attachment.
2. Measure between ground level and nozzle tips. Measurements (A) and (B) must be the same and a minimum of 50 cm (20 in)

NOTE: The approximate weight of the boom assembly is 111 kg (245 lbs). Use a lifting device with an appropriate capacity to lift and support the boom assembly when adjusting the boom height.

3. Support the boom assembly evenly if height adjustment is required. Use a hoist and sling arrangement or floor jacks on each side of the center boom.



TCT004576—UN—07AUG12

4. Loosen four U-bolt clamps (C) securing boom center section to support frame.
5. Adjust center section position until boom height is as required and boom is level.
6. Tighten all U-bolt clamps.
7. Proceed to boom wing section adjustment.

CB12260,00002EB-19-17JUL15

Adjust Boom Wing Level

TCT004577—UN—15AUG12

NOTE: Center boom section height and level adjustment must be performed before checking or adjusting boom wing sections. (See Adjust Boom Height.)

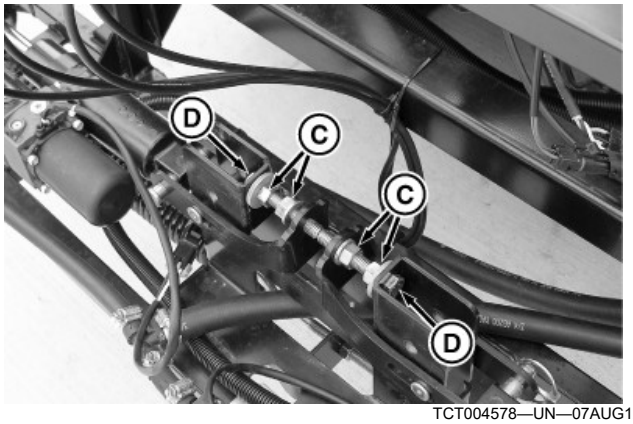
NOTE: Measurement for spray boom level and adjustment should be carried out with both spray boom wings in the lowered position, and both wing extensions (if so equipped) either folded or deployed so as to equalize side to side loading on the machine.

Boom Wing Level Adjustment

Boom wing sections should be adjusted so that they are level, with wing section spray nozzle height consistent from side to side and with center section nozzle height.

NOTE: Lowered spray boom wings should not be supported by lift actuators. Measurement and adjustment should be carried out with spray boom wings fully lowered so that maximum drop is controlled by restraint chains only.

1. Deploy boom wing sections to fully lowered position.
2. Measure between ground level and end of boom wings. Measurements (A) and (B) should be the same and equal to center boom section measurement.
3. Adjust boom wing level as necessary to bring boom wing (or wing extension) outer end to same height as boom center section height.



TCT004578—UN—07AUG12

4. To adjust boom wing level:

a. Loosen nuts (C).

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

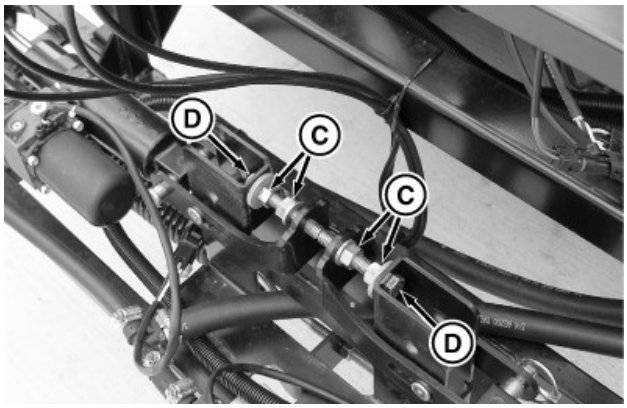
c. Tighten nuts (C) completely.

Leveling Boom Wings with Ground Wheels (If equipped)

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

TCT004579—UN—15AUG12

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:



TCT004578—UN—07AUG12

a. Loosen nuts (C).

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

c. Tighten nuts (C) completely.

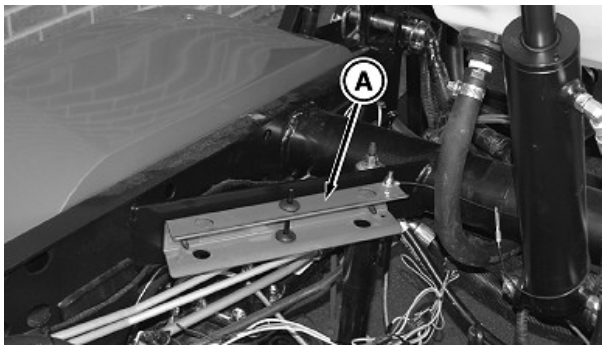
OUO2005,0000177-19-07DEC12

3. Follow instructions in your ProGator Operator Manual to raise and lower the cargo box.

CAUTION: Avoid injury! Attachment is heavy and can crush.

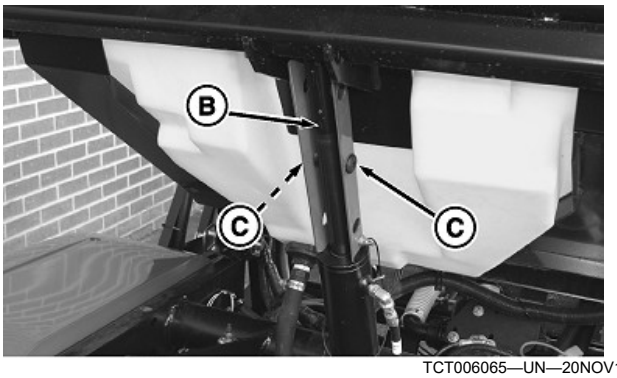
- **Support any raised attachment with a mechanical lock or other safe method before servicing.**
- **Empty all material from any attachment before servicing.**

4. Install the machine safety support before servicing:



TCT006064—UN—20NOV12

a. Remove safety support (A) from stored position in the rear of the vehicle on the right side.



TCT006065—UN—20NOV12

b. Install safety support onto the lift cylinder rod (B). Be sure the lift cylinder rod is seated properly between the safety support rubber grommets (C).

5. Remove the safety support before lowering the cargo box.

OUO2005,0000175-19-20NOV12

Raising and Lowering Sprayer

1. Park vehicle safely. (See Parking Safely in the Safety section.)
2. Follow instructions in Filling and Draining Sprayer Tank to drain the tank fluid to a level below the lowest fill mark on the tank before raising the cargo box.

Transporting

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

1. If installed, move eductor to transport position.

2. To safely empty tank, dilute and spray excess chemicals.
3. Park machine safely.
4. Rinse and drain sprayer tank.
5. If equipped, fold and lock boom wing extensions in folded back position.
6. Raise and lock boom wings in upright position.
7. Attach caution flags to booms if required.

OUO2005,0000176-19-20NOV12

Prepare Machine for Removal

1. Park machine safely.
2. Ensure sprayer tank is empty to help reduce and balance load.
3. Lock boom wings in upright position.

MX00654,000021A-19-19NOV12

Disconnect Hydraulic Hoses

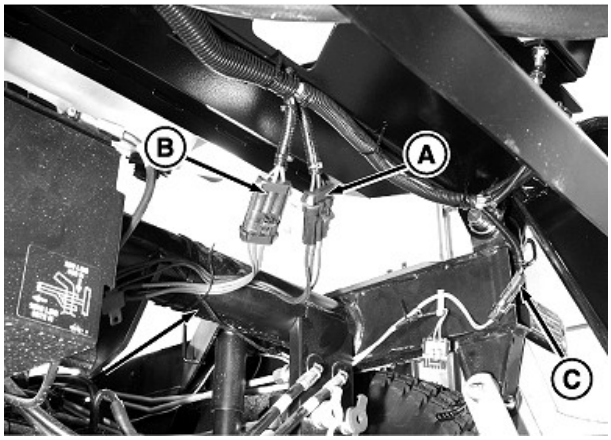
CAUTION: Avoid injury! Escaping fluid under pressure can penetrate skin and cause serious injury, including gangrene.

- **Relieve pressure before disconnecting hydraulic or other pressurized lines.**
- **Use a piece of cardboard to search for leaks. Do not expose hands or body to high pressure fluids.**
- **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 on sprayer hydraulic lines and quick disconnect couplers.

MX00654,000021B-19-19NOV12

Disconnect Rear Wiring Harness



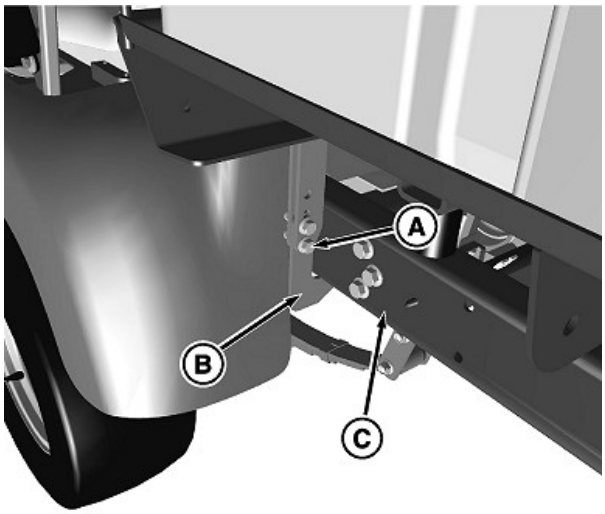
TCT006005—UN—26NOV12

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

1. Disconnect large harness connector (A) connector (B) on sprayer main harness.
2. Disconnect small harness connector (C) on sprayer main harness.

MX00654,000021C-19-16JUL15

Removing Sprayer Without Support Stands

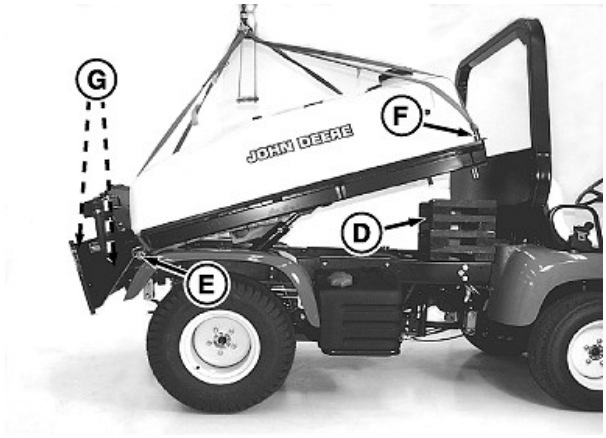


TCT006006—UN—26NOV12

CAUTION: Avoid injury! The machine can fall or slip from an unsafe lifting device or supports:

- **Use a safe lifting device rated for the load to be lifted.**
- **Lower machine onto jack stands or other stable supports and block wheels before servicing.**

1. Position the machine safely near the safe lifting device.
2. Make certain sprayer wiring harness is completely disconnected from sprayer.
3. Remove bottom M10 locknut and M10x35 bolt (A) so frame clamp (B) can pivot open from frame (C). Repeat on opposite side.
4. Pivot clamps upward and install M10x35 bolt (A) and M10 locknut to secure clamps in open position.
5. Using lift cylinder control lever, extend lift cylinder rod approximately 25-30 cm (10-12 in.) to provide access to lift cylinder connecting pin.
6. Stop engine, remove key and set the park brake.

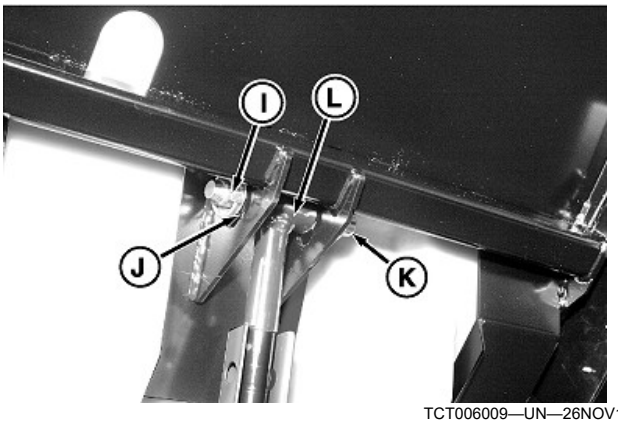


TCT006007—UN—26NOV12

7. Install a safety stand (D) between machine frame and sprayer frame.
8. Install lift straps or chains to sprayer so unit is balanced upon hoisting. Do not directly connect to rear mounting holes (E).
9. Attach lift strap to lift loops (F) at front of sprayer frame.
10. Secure straps around rear of frame (G).

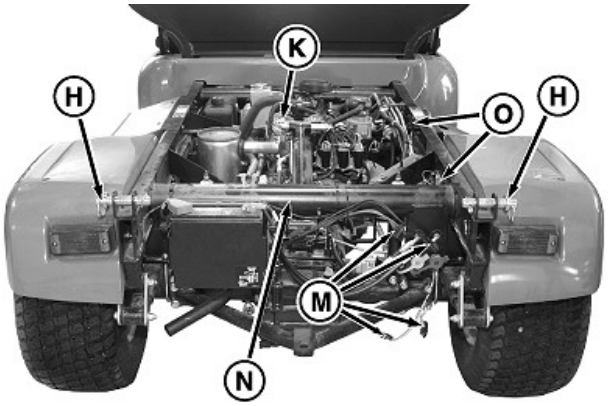
TCT006008—UN—26NOV12

11. Lift sprayer frame slightly and remove quick-lock pins and pivot pins (H) at rear of machine.



TCT006009—UN—26NOV12

12. Remove spring locking pin (I), M6 washer (J), and connecting pin (K) at lift cylinder rod end (L).
13. Lift sprayer clear of machine and set on level surface. Remove lifting gear from sprayer.

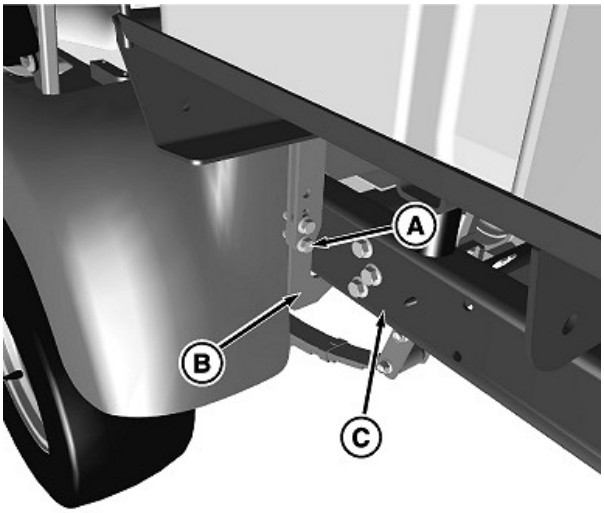


TCT006010—UN—26NOV12

14. Install pivot pins (H) at rear of machine for storage.
15. Install connecting pin (K) to lift cylinder rod for storage.
16. Remove safety stand from machine frame.
17. Route excess portion of sprayer wiring harness (M) under frame tube (N) and back toward front of machine along frame (O). Secure with tie straps away from moving parts.

MX00654,000021D-19-19NOV12

Removing Sprayer With Optional Support Stands



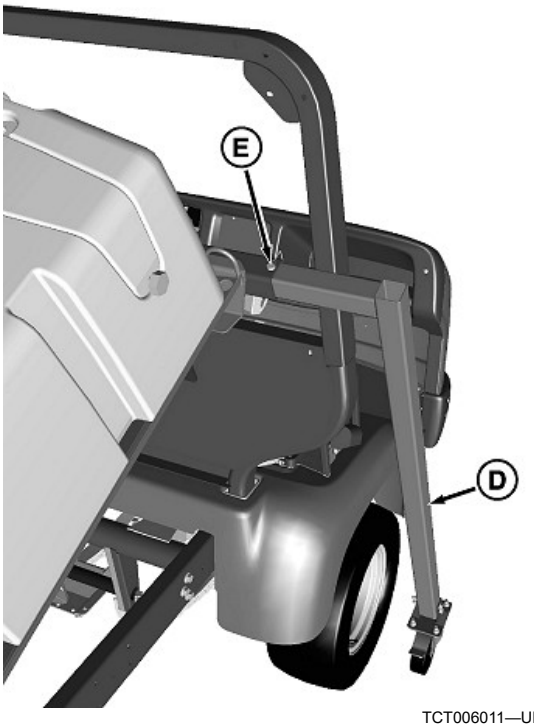
TCT006006—UN—26NOV12

1. Park vehicle safely. (See Parking Safely in the Safety section.)
2. Check to be sure sprayer wiring harness is completely disconnected from sprayer.
3. Remove bottom M10 locknut and M10x35 bolt (A)

so frame clamp (B) can pivot open from frame (C). Repeat on opposite side.

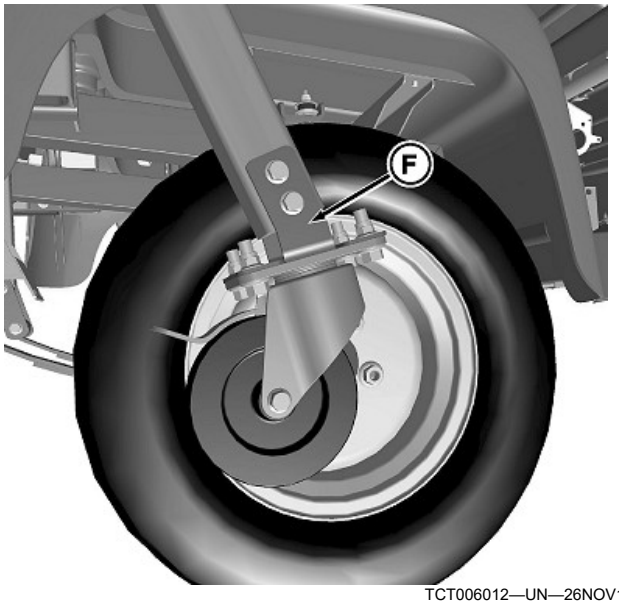
4. Pivot clamps upward and install M10x35 bolt (A) and M10 locknut to secure clamps in open position.
5. Using machine lift cylinder control lever, extend lift cylinder rod approximately 25-30 cm (10-12 in.) to provide access to lift cylinder connecting pin.
6. Stop engine, remove key and set the park brake.
7. Follow Remove and Store Control Box instructions in this manual.

NOTE: There are right and left side support stands (D).



TCT006011—UN—26NOV12

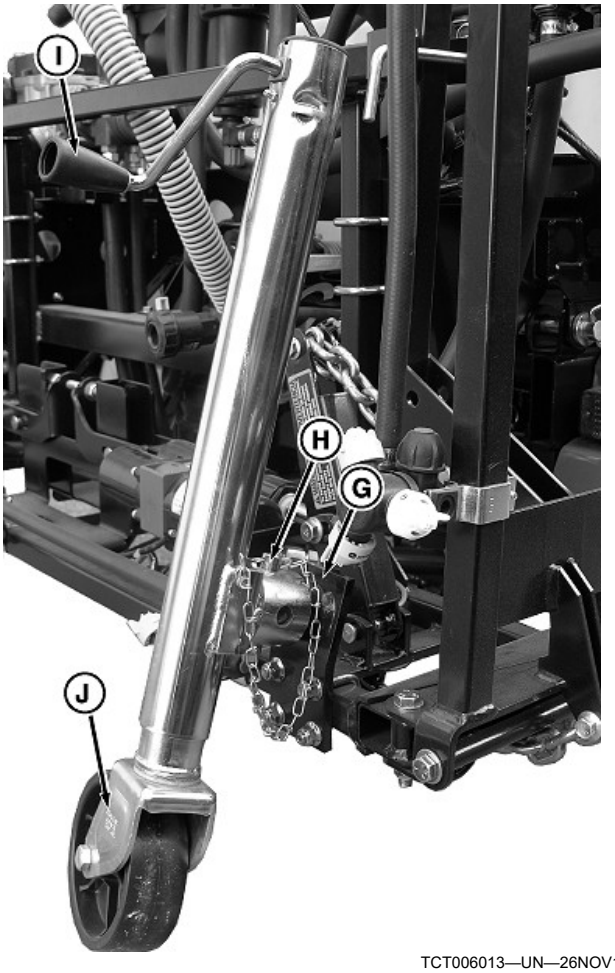
8. Insert front support stands (D) into support stand brackets and secure with quick-lock pins (E).



TCT006012—UN—26NOV12

   a. Install front support stand on side of sprayer so angle on bracket (F) is towards rear of machine.
   b. Repeat for other side.

9. Push forward on machine lift cylinder lever to lower sprayer until front support stand rests on level ground.



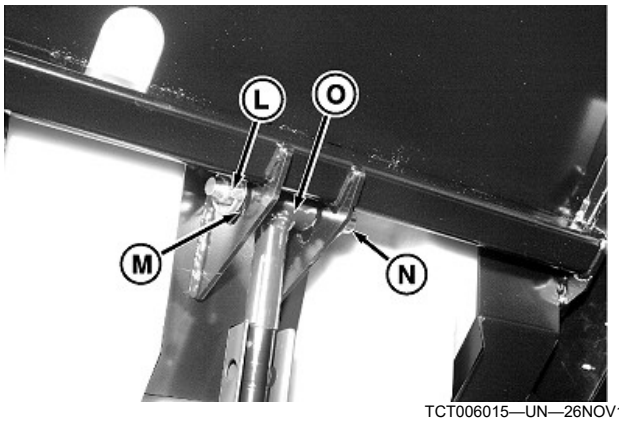
TCT006013—UN—26NOV12

Right side shown in supported position.

10. Install adjustable jack onto jack base bracket (G) in vertical position. Install pin (H) to secure jack to jack base bracket.
11. Rotate handle (I) to adjust jack wheel (J) downward just so wheel touches level ground. Repeat on opposite side.

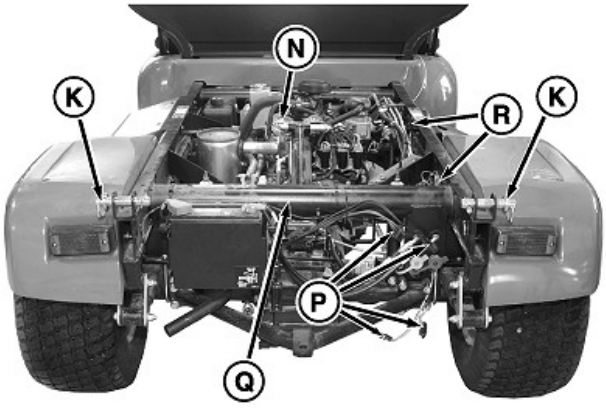
TCT006014—UN—26NOV12

12. Rotate both jacks until pivot pins (K) at rear of machine move back and forth freely. Remove quick-lock pins and pivot pins (K).



TCT006015—UN—26NOV12

13. Remove spring locking pin (L), M6 washer (M), and connecting pin (N) at lift cylinder rod end (O).
14. Rotate each handle (I) evenly until sprayer assembly completely clears frame. Make sure the sprayer is raised high enough to clear the drain hose in the bottom of the tank.
15. Drive machine slowly away from sprayer assembly.



TCT006016—UN—26NOV12

16. Install pivot pins (K) at rear of machine for storage.
17. Install connecting pin (N) and hardware to lift cylinder rod for storage.
18. Route excess sprayer wiring harness (P) under frame tube (Q) and back toward front of machine along frame (R). Secure with tie straps away from moving parts.

MX00654,000021E-19-06DEC12

Storing Safety

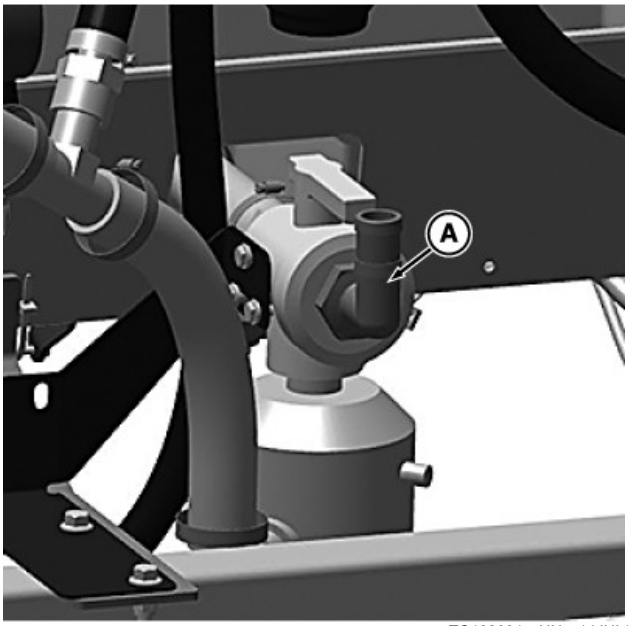
CAUTION: Avoid injury! Fuel vapors are explosive and flammable. Engine exhaust fumes contain carbon monoxide and can cause serious illness or death:

- **Run the engine only long enough to move the machine to or from storage.**

- **Machine fires and structure fires can occur if a machine is stored before allowing it to cool, or if debris is not removed from around the engine and muffler, or if stored near combustible materials.**
- **Do not store vehicle with fuel in the tank inside a building where fumes may reach an open flame or spark.**
- **Allow the engine to cool before storing the machine in any enclosure.**

MX00654,000021F-19-19NOV12

Winterization and Storage



TC102031—UN—14JUL21

Sprayer

1. Dilute and spray excess chemicals into an empty tank.
2. Park machine safely.
3. Rinse and drain the sprayer tank.
4. Turn the yellow knob on the agitator valve clockwise to the fully closed position.
5. Ensure that elbow nipple (A) on three-way ball valve is pointed up. Rotate if necessary.
6. Turn three-way ball valve so that handle is horizontal and pointing away from tank.
7. Pour RV antifreeze into the elbow nipple until full.
8. Start pump briefly to circulate the antifreeze, then stop pump.
9. Repeat steps 7, 8 to ensure that antifreeze has circulated through pump and all rear plumbing.
10. Add additional antifreeze into the elbow nipple till full.
11. If equipped, fold and lock boom wing extensions in folded back position.
12. Raise and lock boom wings in the upright position.

Foam Marker (If Equipped)

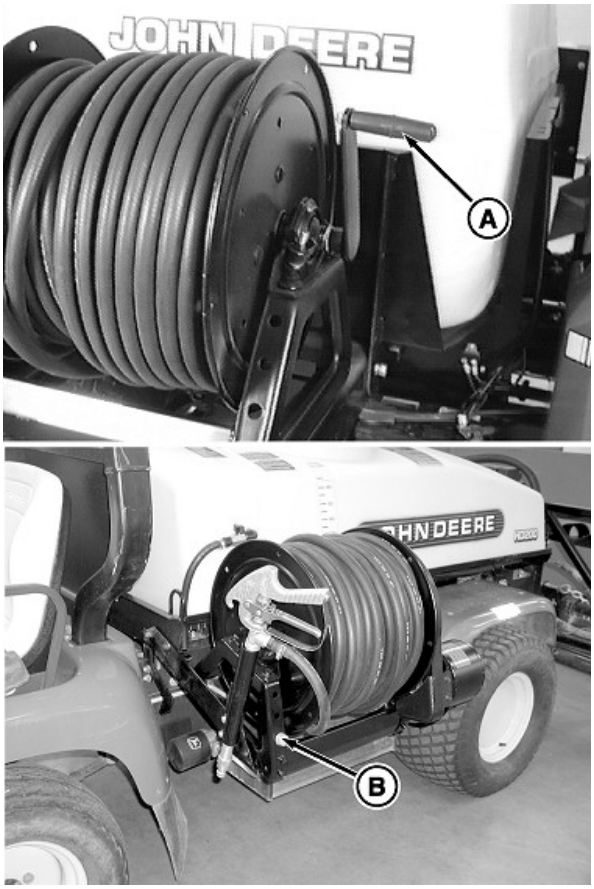
To prepare foam marker for storage, perform following steps. When finished, all plumbing and wetted parts are filled with RV antifreeze. This is preferred over dry storage.

1. Drain marker tank and clean or replace the tank outlet strainer.
2. Install the tank strainer and strainer cover.

NOTE: Follow all safety and mixing instructions on the RV antifreeze container label.

3. Fill the marker tank with RV antifreeze.
4. Operate foam marker normally through both sides for two minutes each. This purges any water/marker agent solution out and fills the system with antifreeze.
5. Clean inside of the foam marker cabinet.
6. Clean the air pump inlet filter.

Hose Reel (If Equipped)



TCT006018—UN—26NOV12

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.

Electric Hose Reel - Manually wind in last 2 m (6.5 ft) to prevent injury from fast-winding hose.

4. Wind hose on the reel as follows:
   a. Manual Hose Reel: Use one hand to help guide the hose while manually turning handle (A).
   b. Electric Hose Reel: Press power switch (B) to start electric motor and automatically wind the hose on reel. Keep hands away from drum while guiding hose. Manually wind in last 2 m (6.5 ft) of hose.
5. Place handgun in the storage tube.

Personal Wash Tank

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

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

KJ60627,000101B-19-14JUL21

Removing From Storage

IMPORTANT: Avoid 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 (If equipped)

1. Drain marker tank, and clean or replace tank outlet strainer.

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

2. Use clean water or any special dilution mixtures, and fill marker tank.
3. Operate foam marker normally through both sides until all traces of anti-freeze are gone.
4. 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.
5. Clean inside of foam marker cabinet.
6. Fill foam marker tank.
7. Operate foam marker at maximum foam rate until foam appears at foam nozzle. Repeat for other side.
8. Adjust to normal foam rate.

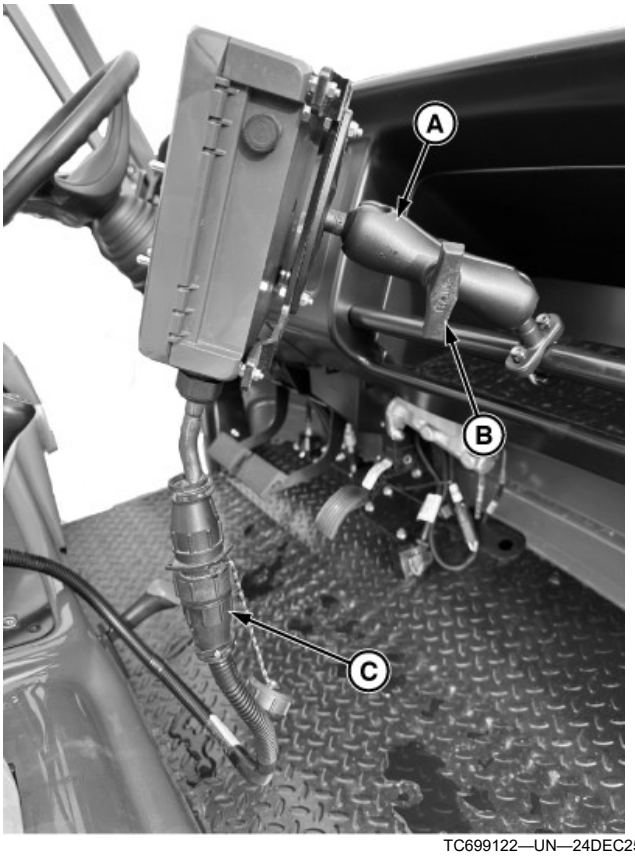
Personal Wash Tank

1. Pour several gallons of 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.

MX00654,0000221-19-19NOV12

Remove and Store Control Box



TC699122—UN—24DEC25

1. Loosen arm socket knob (B) until control box and attached brackets can be removed from bracket (A).
2. Disconnect wire harness (C).
3. Store control box in a dry and noncorrosive environment.

YCWRHFR,1766985904120-19-28DEC25

Installing Sprayer on Machine Without Optional Support Stands

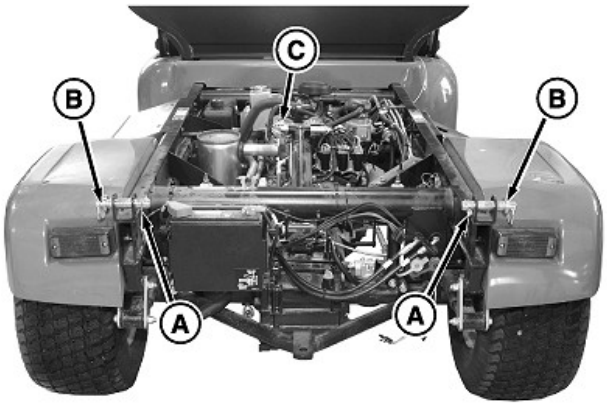
The initial installation of the sprayer to the machine is covered in the Assembly section. The following checklist is for installing the sprayer on machine after the initial installation.

- ☐ Install sprayer tank on machine frame with safe lifting device or using support stands.
- ☐ Connect the rear wiring harness.
- ☐ Connect the sprayer hydraulic hoses.
- ☐ Secure the sprayer to machine frame with mounting clamps.
- ☐ Verify the boom height and level; adjust if necessary.

OUO2005,0000158-19-19NOV12

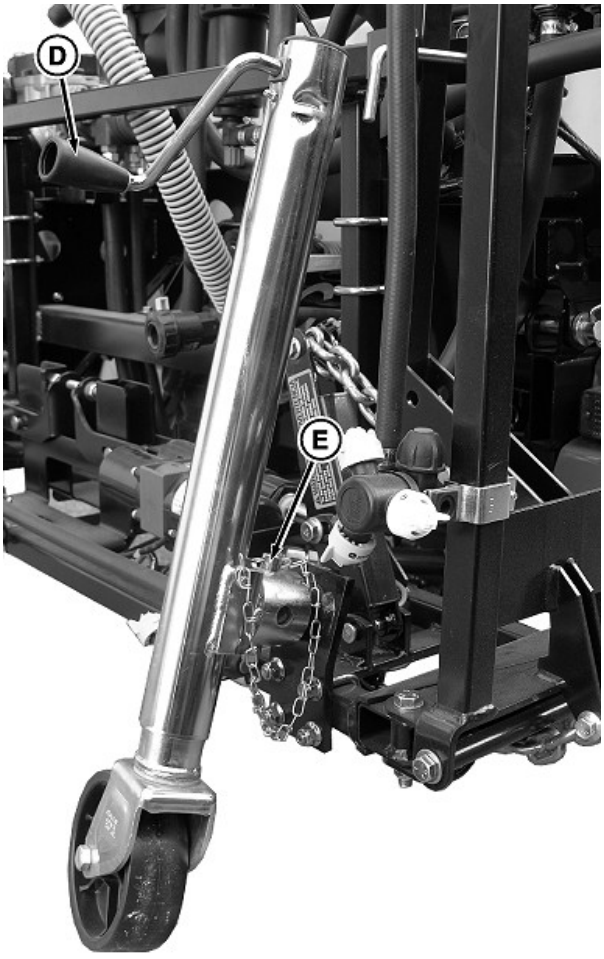
Installing Sprayer on Machine With Optional Support Stands

1. Carefully back machine underneath sprayer and park machine safely (See Parking Safely in the SAFETY section).



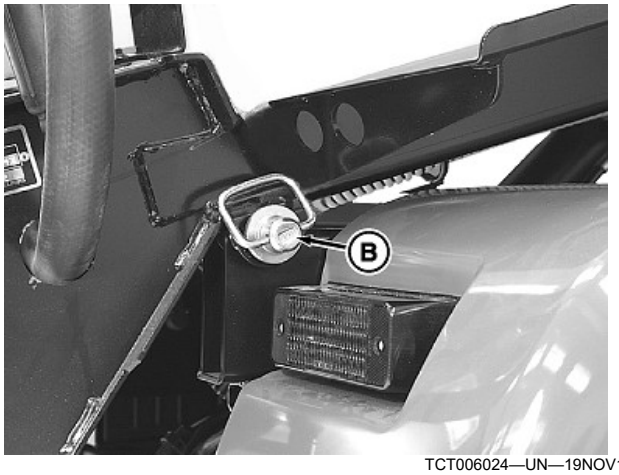
TCT006022—UN—19NOV12

2. Remove quick-lock pins (A), rear pivot pins (B) and cylinder pin (C).
3. Position sprayer so that sprayer frame mounting points are positioned directly over ProGator rear pivots.



TCT006023—UN—19NOV12

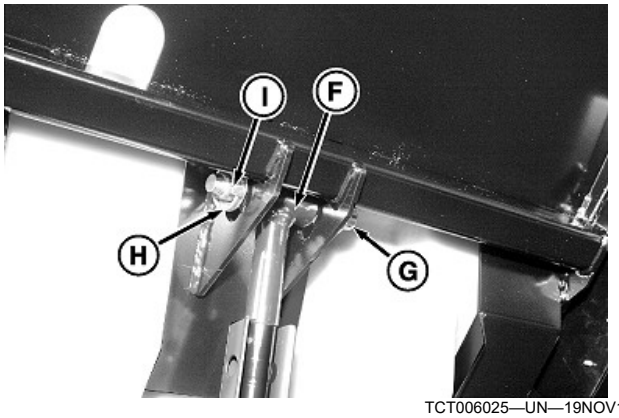
4. Rotate the rear jack handles (D) until sprayer frame holes line up with ProGator rear pivot holes.



TCT006024—UN—19NOV12

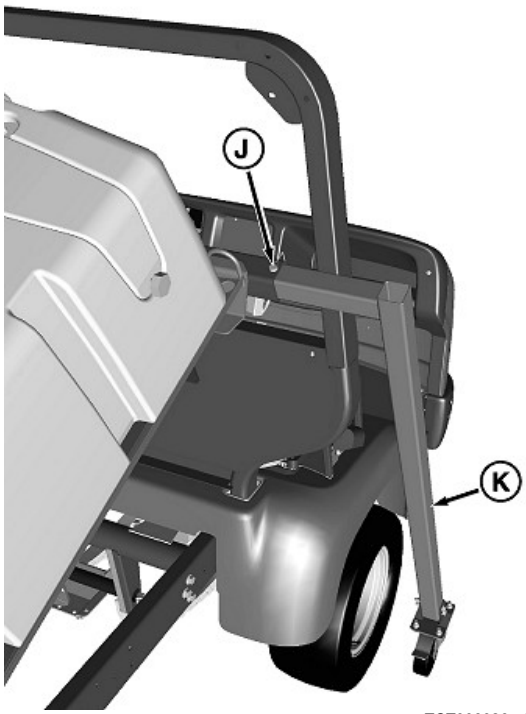
5. Install rear pivot pins (B), and secure with quick-lock pins.
6. Continue to rotate jack handles until both rear jacks are fully retracted, pull jack pins (E) and remove jacks. Rear jacks are used for storage only and should not be installed during spray operations.

7. Start engine, pull back on the machine lift cylinder lever to extend the lift cylinder 25-30 cm (10-12 in.).
8. Stop engine, remove key, and set parking brake.



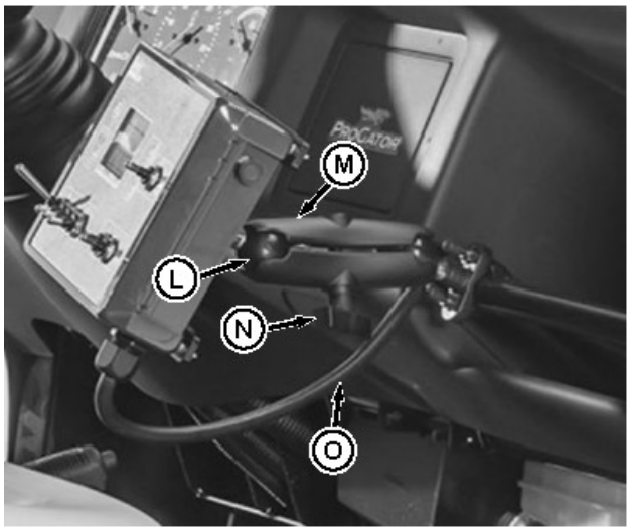
TCT006025—UN—19NOV12

9. Install cylinder end (F) into position on sprayer frame, and secure with pin (G), washer (H), and quick-lock pin (I).



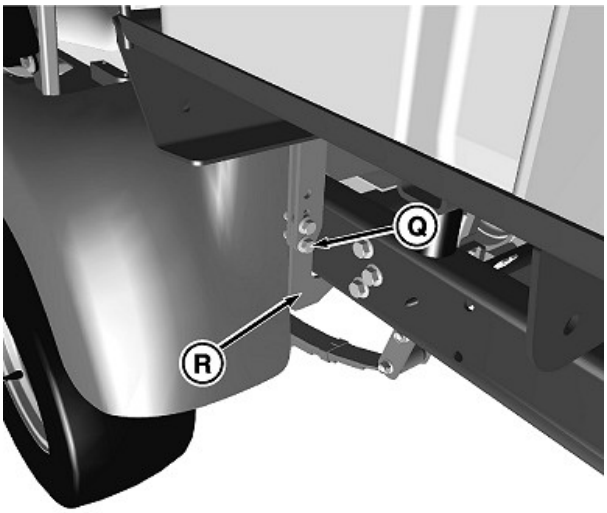
TCT006026—UN—19NOV12

10. Remove quick-lock pins (J) securing front support (K) stands, and remove front support stands. Front support stands are used for storage only and should not be installed during spray operations.
11. Push down on machine lift cylinder lever to lower sprayer onto frame without engine running and key in off position.
12. Connect hydraulic lines.
13. Connect rear electrical connectors.



TC101313—UN—30OCT19

14. Attach the ball mount bracket (L) to the arm socket (M), adjust to desired orientation, and tighten knob (N).
15. Route harness (O) through J-clamps to the right of operator controls.



TCT006028—UN—19NOV12

16. Remove bottom M10 locknuts and M10x35 bolts (Q) and rotate both frame clamps (R) underneath the frame rail. Reinstall bolts and locknuts.

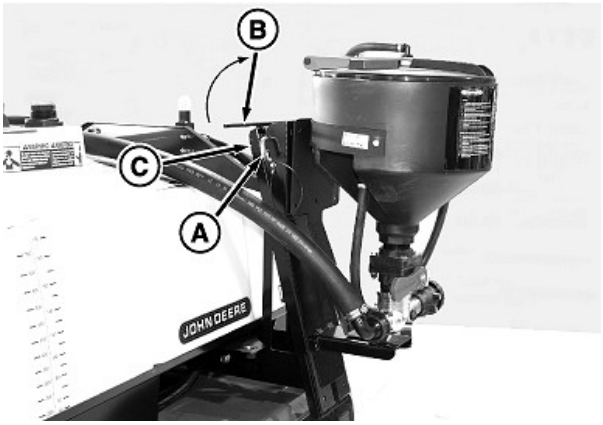
MX00654,000024E-19-30OCT19

Using Eductor

Operating and Transport Positions

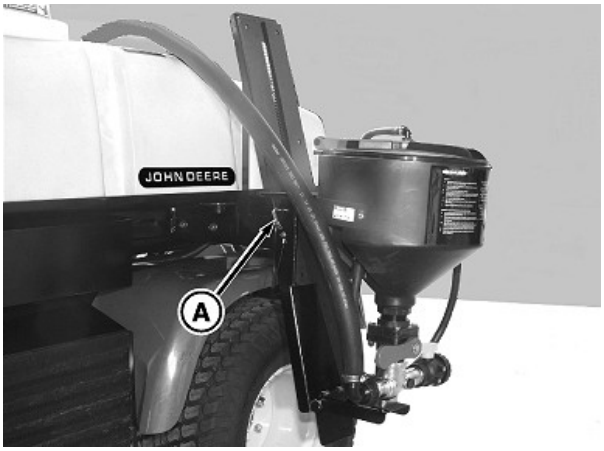
IMPORTANT: Avoid damage! Move eductor to operating position before loading chemical.

Empty chemical from eductor before raising eductor to transport position.



TCT006066—UN—20NOV12

1. To move hopper into the operating position, rotate and remove latch lock pin (A).
2. Pull latch (B) toward hopper to release elevating platform from bracket (C) and lower platform to operating position for loading hopper.



TCT006067—UN—20NOV12

3. Store latch lock pin (A) in storage position.
4. When moving or transporting machine, return elevating platform to raised (transport) position and install latch onto bracket and lock into raised position with lock pin.

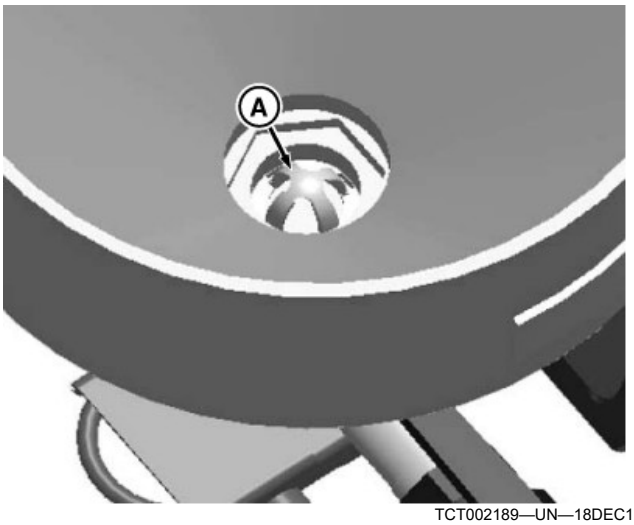
Startup

NOTE: All valves must be closed prior to starting: inlet valve (C), hopper valve handle (D), and rinse tank valve (A).

TCT006068—UN—20NOV12

1. Open tank lid (A) to check for foreign objects which may hinder performance or contaminate the system.
2. Close and lock lid by turning cover clockwise.
3. Divert pump flow to inlet line, by turning inlet valve handle (C) horizontally. A pressure of 2.1 bar (30 psi) minimum and 10.4 bar (150 psi) maximum must be used.
4. Open hopper valve handle (D) by rotating handle downward to the vertical position.
5. Unlock and open lid slowly by turning cover counterclockwise.

Loading Chemicals into Hopper



TCT002189—UN—18DEC12

⚠ CAUTION: Avoid injury! Chemicals can be dangerous.

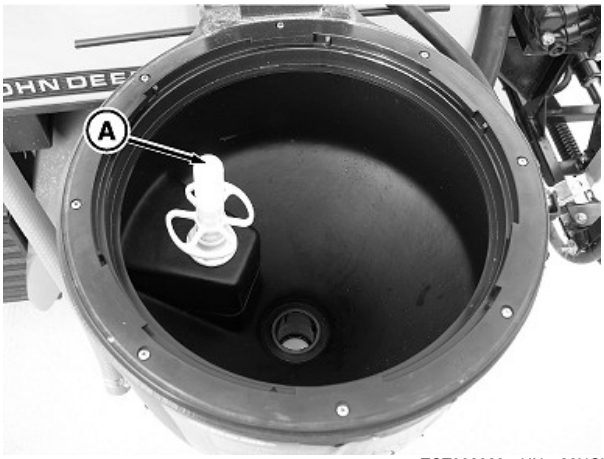
Avoid injury to operator or bystanders:

- **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.**

1. Open tank lid. Drain should be equipped with strainer (A) shown. Pour required amount of chemical into hopper. Avoid splashing liquids or powdered chemicals outside of hopper.



TCT006069—UN—20NOV12

2. Rinse empty chemical containers if applicable. Place container opening over container rinse valve (A) and press down. This will activate the rinse valve and rinse container.
3. Rinse the hopper. Close and lock lid by turning cover clockwise. Release the safety locking band on the hopper tank rinse valve (red handle) and turn on for 20 seconds. Close ball valve and return locking band to locked position.
4. Open lid and inspect for chemical residue. Repeat as necessary.
5. Close hopper valve.

Loading Chemical with Optional Suction Lance

NOTE: Lance suction is dependent upon eductor pressure and flow. For best results, use highest pressure available up to 150 psi maximum.

1. Insert lance body with O-ring into eductor until the O-ring is sealed.
2. Use the free end of the lance to pierce bag or container to vacuum powdered or liquid chemical.
3. Rinse lance. Place lance end into a clean container of water to rinse lance assembly.
4. Remove lance body from eductor and drain any remaining fluid into hopper.
5. Close hopper knife valve. Turn inlet ball valve off.

Shutdown

1. Ensure that:
   - All valves are closed. Be sure to close hopper valve first.
   - Chemical residue has been cleaned.
   - Hopper lid is closed and locked by turning cover clockwise.
2. Divert pump flow back to normal operation.

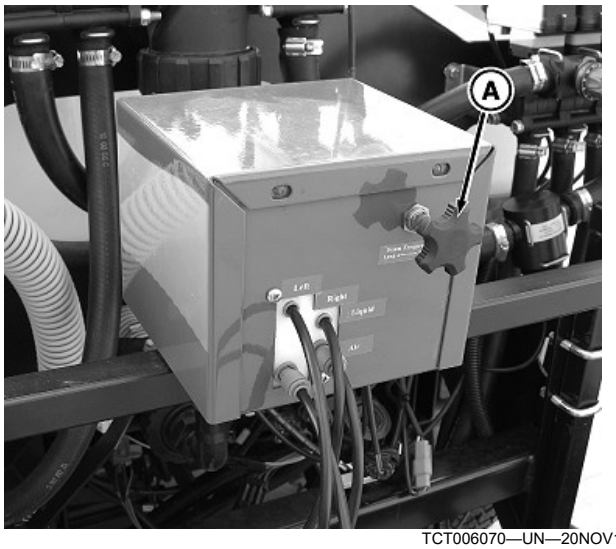
MX00654,000027D-19-18DEC12

Using Foam Marker

Operating Foam Marker

1. Prepare solution in foam marker tank.
2. If equipped, lower right and left boom wings and extensions.
3. With engine running, move control box foam marker switch to LEFT or RIGHT position. Foam output should appear from foam nozzle on selected side.
4. Move foam marker switch to OFF position when done marking.

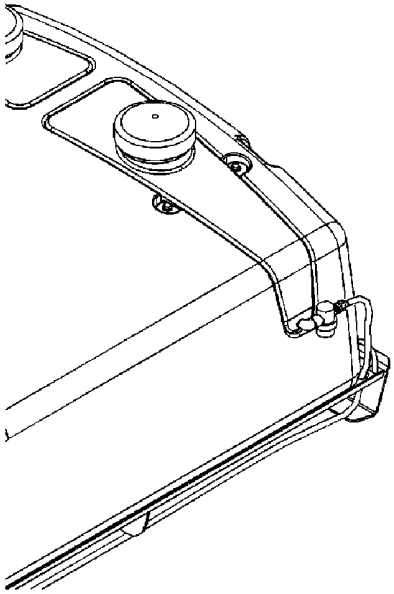
Adjusting Foam Marker



TCT006070—UN—20NOV12

Use knob (A) to adjust relative mixture of air and liquid (foam concentrate). This mixture ration will determine size of foam mark being dropped.

Preparing Foam Marker Solution



TCT006071—UN—27NOV12

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.

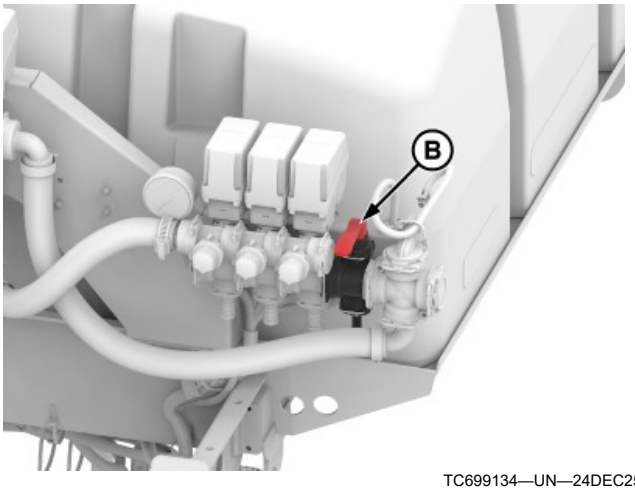
OUO2005,0000179-19-20NOV12

Using Manual and Electric Hose Reels

1. Park machine safely with gearshift lever in neutral position.
2. Move boom master switch down to OFF position.

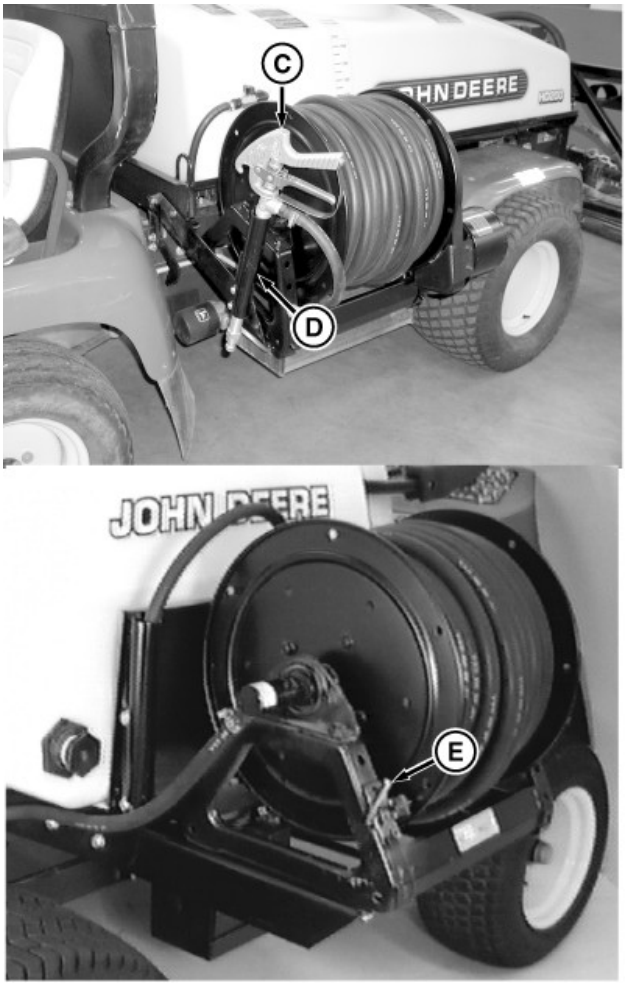
TCT004583—UN—07AUG12

3. Move machine PTO control lever (A) to start operation of sprayer pump.
4. Set machine at desired RPM using optional throttle/governor control if installed. If necessary, adjust system pressure using pressure switch on control panel.
5. Leave engine running and dismount machine.



TC699134—UN—24DEC25

6. Place hose reel valve lever (B) at rear of sprayer in ON position:
   - ON position - with lever in raised or upper position, liquid supply to hose reel is turned ON.
   - OFF position (shown) - with lever in lower or down position, liquid supply to hose reel is turned OFF.



TCT004585—UN—07AUG12

Top picture shows electric hose reel, bottom picture shows manual hose reel.

7. Remove handgun (C) from storage tube (D).
8. Remove desired length of hose from reel:
   - Manual Hose Reel: Pull out and move reel lock (E) to unlocked position so reel spins freely. Pull the hose off the reel.
   - Electric Hose Reel: Pull the hose off the reel.

YCWRHFR,1766986073642-19-30DEC25

Service Intervals - Standard Equipment

Before Each Use

- Check and clean inline strainer.
- Check and clean suction strainer (if equipped).
- Check machine hydraulic fluids.
- Check sprayer tank for damage or internal debris.
- Check connections for leaks.
- Check contents in sprayer tank.

After Each Use

- Drain and rinse tank, boom lines, nozzles, and hose reel (if equipped).

As Needed

- Adjust boom wing flexible joint spring tension.
- Check and clean personal wash tank cover vent.

Annually

- Lubricate boom wing pivot joints.
- Diaphragm pump: replace diaphragms and change oil.
- Inspect and replace nozzles.

MX00654,0000238-19-24NOV12

Service Intervals - Optional Equipment

After Each Use

- Drain and rinse chemical eductor.

As Needed

- Clean foam marker tank outlet strainer.
- Check and clean foam marker tank cover vent.
- Lubricate manual hose reel tension brake area.
- Lubricate jack stands.

25 Hours

- Lubricate ground wheels.

50 Hours

- Clean foam marker cabinet using compressed air.
- Lubricate hose reel swivel fittings.

Annually

- Replace foam marker pump tube/hose.

MX00654,0000239-19-24NOV12

Parts

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

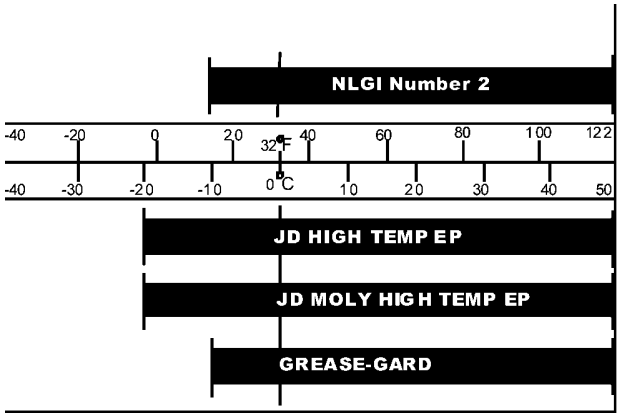
When you order parts, your John Deere dealer needs the serial number or product identification number (PIN) for your machine or attachment. These are the numbers that you recorded in the Product Identification section of this manual.

Order Service Parts Online

Visit https://partscatalog.deere.com/jdrc/ for your Internet connection to parts ordering and information.

TC00531,00000E9-19-04AUG25

Grease



TCT006076—UN—07DEC12

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.

MX00654,000024E-19-25NOV12

Cleaning the Sprayer

Follow these procedures after each use of the Sprayer.

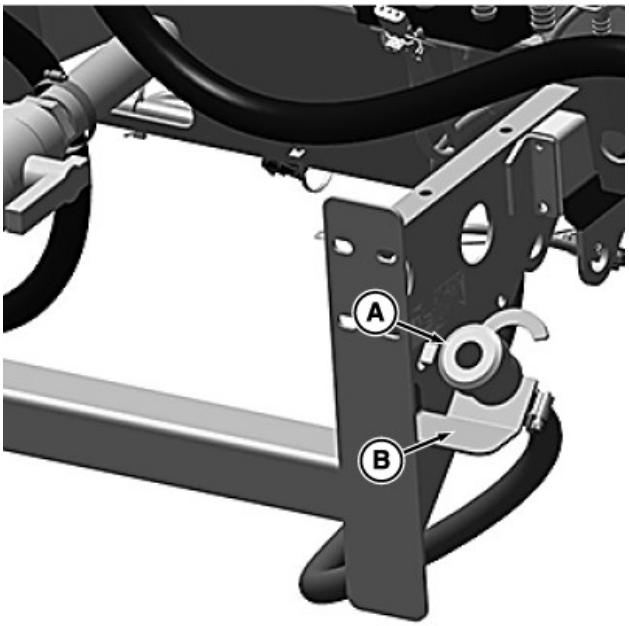
GREASE-GARD is a trademark of Deere & Company

IMPORTANT: Avoid damage! Always empty and clean the sprayer immediately after each use. Failure to do so can cause the chemicals to dry or thicken in the lines, clogging the pump and other components.

1. Stop the machine, turn off the master boom switch and all boom control switches. Lock the parking brake, place the range selector in the neutral position, and turn OFF the engine.

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) must be supplied by the chemical dealer and provides proper safety information.**
- **Wear proper clothing and safety equipment when 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.**



TC102037—UN—16JUL21

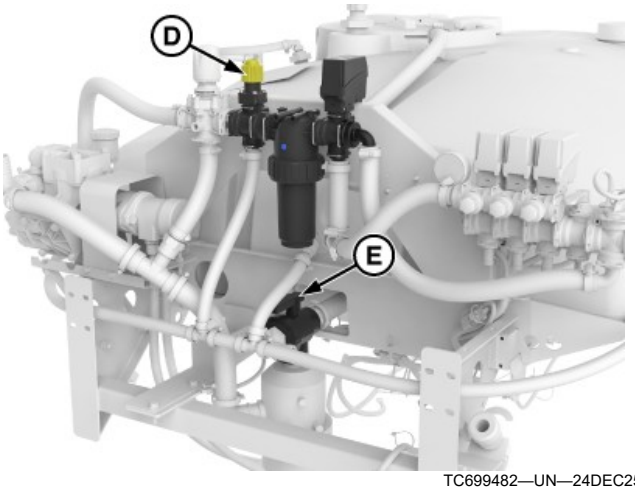
2. Remove drain valve (A) from cradle (B) and place into suitable container. Open the drain valve by rotating yellow handle so that it aligns with hose. Remove any unused material from the tank and dispose of it according to local codes and the material manufacturers instructions.
3. Close the tank drain valve and place back into cradle, with valve opening facing away from operator.
4. To rinse tank, add 70 L (18.5 gal) of clean fresh water.

NOTE: If a chemical rinse is needed, you can use John Deere SprayMaster™ Spray Tank Cleaner #N306631. For flushing foam marker tank, use John Deere SprayMaster™ Foam Tank Cleaner #N305630. On the final rinse, use only clean, clear water.

5. Start the engine.

TC699481—UN—24DEC25

6. Open rinse tank valve (C).
7. With the shift lever in the neutral position, engage the PTO, and set engine speed to the normally operated RPMs.



TC699482—UN—24DEC25

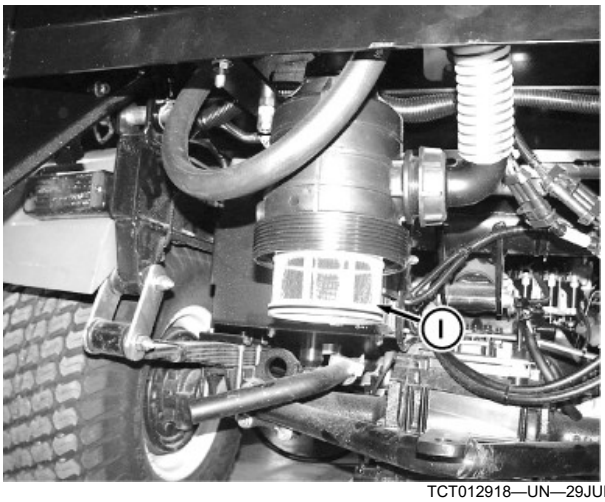
8. Close the agitator valve by turning yellow knob (D) clockwise.
9. Switch three-way valve (E) to rinse tank suction.
10. When rinse tank is empty, move three-way valve to main tank suction.
11. Open agitator valve to rinse bottom of tank.

12. Run cleaning for 10 minutes.
13. To begin spraying, set the master boom switch and all boom control switches to the ON positions.

IMPORTANT: Avoid damage! Spraying must be performed in open area or over previously applied area.

14. Allow all the water in the tank to spray out through the nozzles.
15. Check the nozzles to ensure that they are all spraying correctly.
16. Set the master boom switch to the off position, disengage the PTO, and stop the engine.
17. Repeat steps 4 through 15 at least two more times to ensure that the spray system is fully cleaned.

TCT012917—UN—29JUL15



TCT012918—UN—29JUL15

TCT012919—UN—29JUL15

18. Remove and clean the inline strainer (H), suction strainer (I) (if equipped), and foam marker strainer (J) (if equipped).

IMPORTANT: Avoid damage! If you used wettable powder chemicals, clean the suction strainer (if equipped), after each tank.

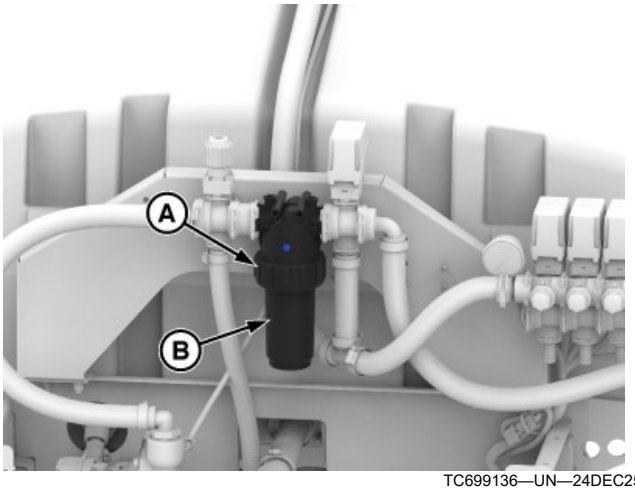
19. Remove the spray nozzles and clean them by hand. Replace damaged or worn nozzles.
20. Inspect check valves and replace if necessary.
21. Remove and clean the spray tip strainers (if equipped).

IMPORTANT: Avoid damage! If sprayer is being used for the last time of growing season, winterization must be performed.

22. Using a garden hose, spray off the outside of the sprayer with clean water.

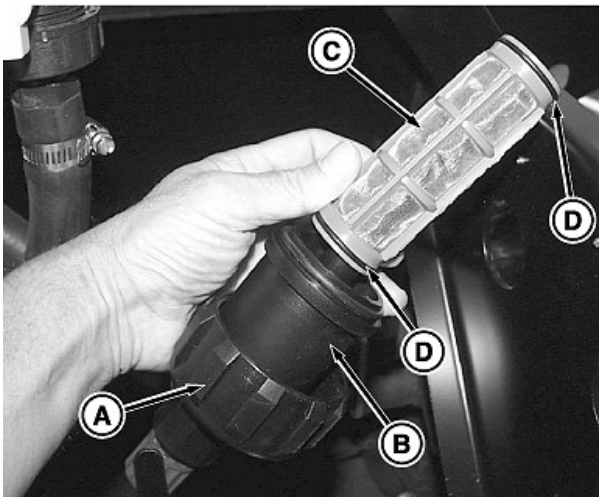
YCWRHFR,1766992156856-19-30DEC25

Servicing the Inline Strainer



TC699136—UN—24DEC25

1. Unscrew large nut (A) and remove canister (B) at rear of sprayer and lower it to access the strainer.



TCT006084—UN—26NOV12

2. Remove strainer (C) from canister (B).
3. Clean or replace strainer and O-rings (D) as needed.
4. Install strainer and canister and secure with large nut (A).

YCWRHFR,1766986268010-19-28DEC25

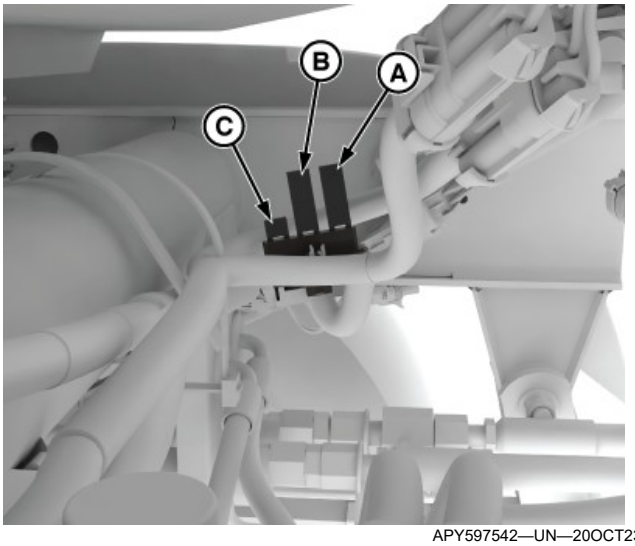
Verifying Sprayer Output

Operate the sprayer at desired pressure and collect flow from at least two spray tips, comparing collected to expected output (gpm).

- Replace spray tips if two or more exceed the expected output by 10% or more.

MX00654,000023E-19-25NOV12

Checking Power Fuse & Actuator Boom Circuit Breaker



APY597542—UN—20OCT23

The front wiring harness is equipped with a fuse holder containing:

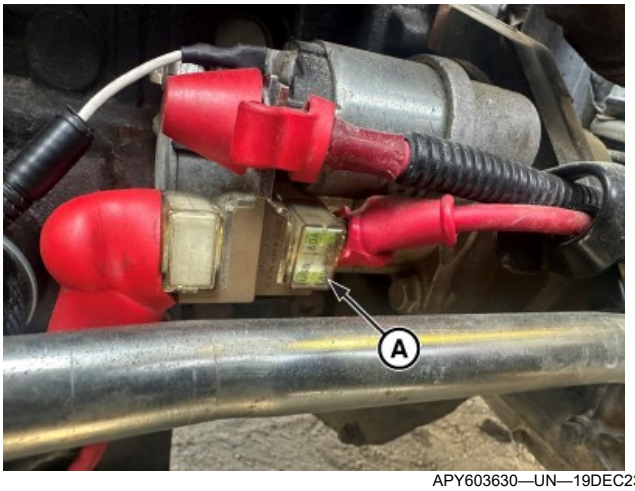
- (A) CB 14 VDC 20A (actuator boom circuit breaker)
- (B) CB 14 VDC 20A (actuator boom circuit breaker)
- (C) 20 A (main power fuse)

In the event of an electrical overload, the main power fuse will blow. The system will not automatically reset, and the blown fuses will need to be replaced to restore power to the sprayer.

If the power is not restored after replacing the fuses, the main system fuse located near the starter solenoid may be blown. Refer to the Checking Main System Fuse section.

YCWRHFR,1766992386031-19-31DEC25

Checking Main System Fuse



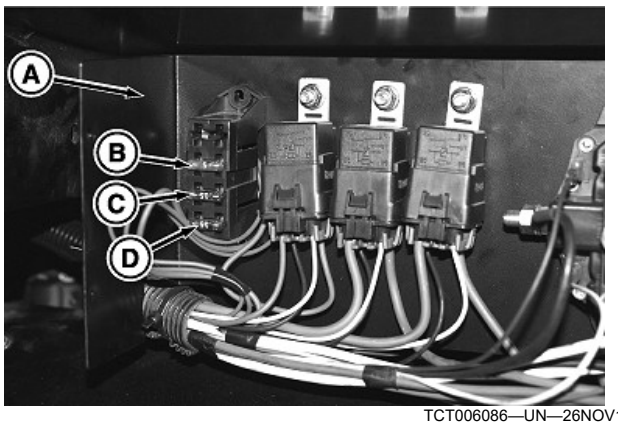
APY603630—UN—19DEC23

The main wiring harness is equipped with a 80 amp fuse (A) to protect the sprayer electrical system, located near the starter solenoid. In the event of an overload, the fuse will blow and the all power to the sprayer components will be lost. The fuse would need to be replaced to restore power back to sprayer.

If power is not restored after replacing the fuses, there is a short in the main wiring harness. See John Deere dealer.

YCWRHFR,1766992401662-19-30DEC25

Checking Sprayer & Kit Fuses



TCT006086—UN—26NOV12

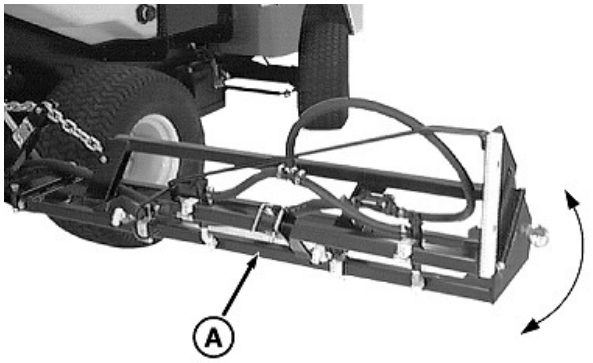
1. Remove side cover from wiring panel (A).

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

2. Locate fuse block near sprayer control panel.
   - (B) 15 Amp (valves)
   - (C) 15 Amp (boom master)
   - (D) 5 Amp (console power)
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.

gvg6119,1696940214342-19-10OCT23

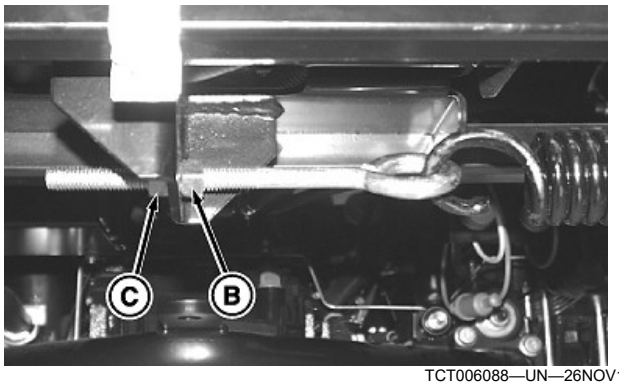
Adjusting Boom Wing Spring Tension



TCT006087—UN—26NOV12

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 (A) in lowered position.
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.

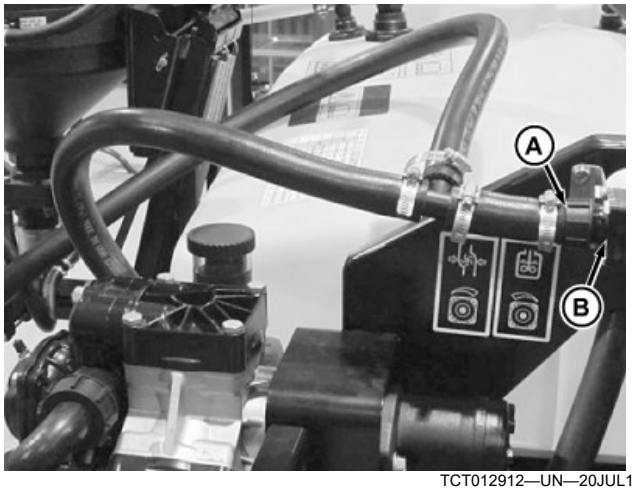


TCT006088—UN—26NOV12

4. Tighten hex nut (C) until spring coils start to separate creating tension. Then tighten nut (B). This should provide the proper amount of spring tension on boom wing flexible joint. If spring is too tight, booms will be hard to break away correctly. If spring is too loose, booms will vibrate when driving. If more or less spring tension is desired:
   - Increase spring tension - Loosen nut (B), then tighten nut (C) completely.
   - Decrease spring tension - Loosen nut (C), then tighten nut (B) completely.
5. Repeat for other boom wing.

MX00654,0000241-19-07DEC12

Checking Pump Efficiency



TCT012912—UN—20JUL15

1. Disconnect diaphragm pump hose (A) from threaded fitting on valve block (B).
2. Connect manometer in-line between hose and valve block.

OUMX068,0000CE9-19-20JUL15

Servicing the Diaphragm Pump

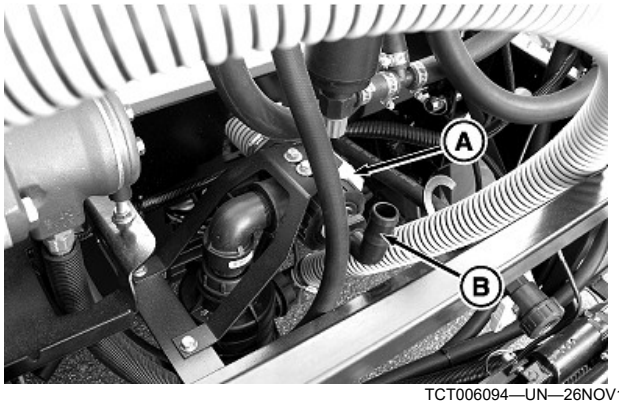
Park machine safely on a firm, level surface away from floor drains, ditches, or streams.

CAUTION: Avoid injury! Vapors from solvents can be explosive and flammable. Follow the instructions on the container label for safe use of the solvent:

- **Work in a well-ventilated area.**
- **Wear protective clothing when handling solvent.**
- **Do not smoke while handling solvents.**
- **Keep solvent away from flames or sparks.**

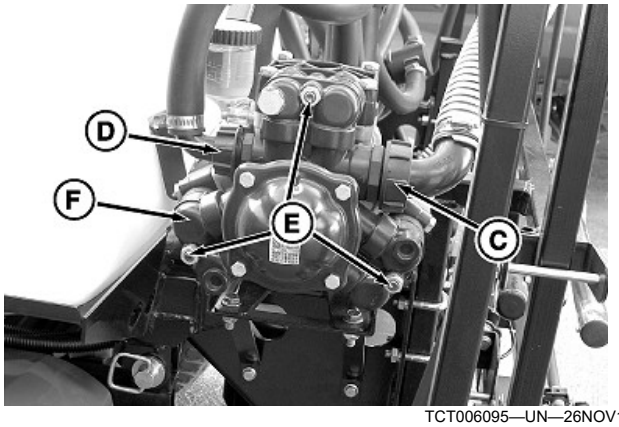
NOTE: This pump requires a high grade non-detergent SAE 30W oil. See your John Deere dealer for oil.

Valve Inspection and Replacement



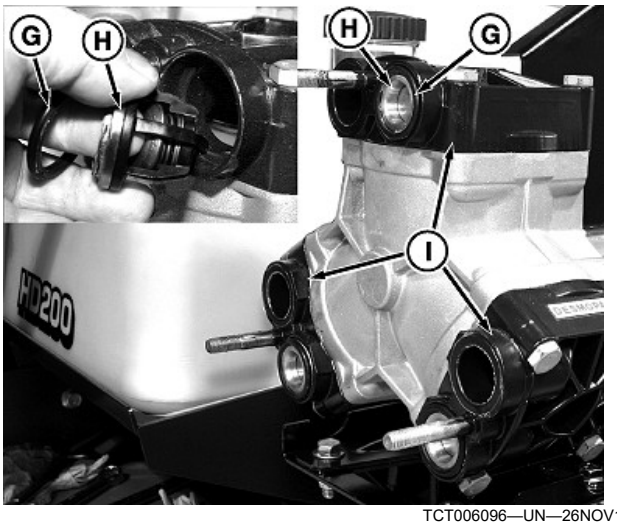
TCT006094—UN—26NOV12

1. Close tank valve (A) if product remains in tank. Rotate valve handle 180 degrees to point toward auxiliary inlet (B).
2. Flush pump thoroughly with clear water through auxiliary inlet port. Drain to a properly labeled container.



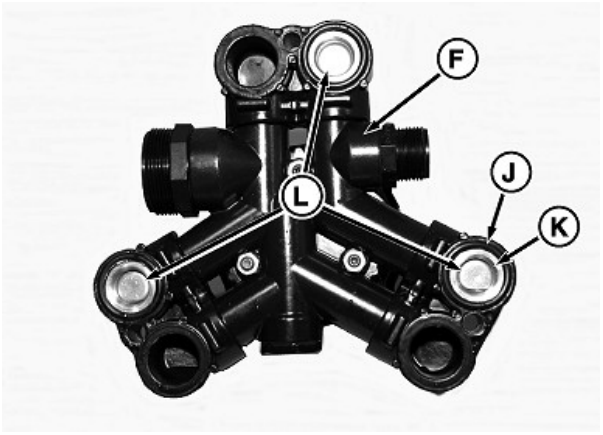
TCT006095—UN—26NOV12

3. Loosen pump inlet (C) and outlet (D) elbow nuts and remove hose and elbow assemblies from pump. Secure hoses away from pump.
4. Remove three M10 hex nuts (E) securing manifold assembly (F) to pump heads. Remove manifold assembly.



TCT006096—UN—26NOV12

5. Remove O-ring (G) and check valve assembly (H) from three pump heads (I).

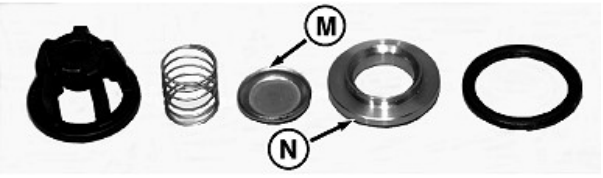


TCT006097—UN—26NOV12

6. Remove O-ring (J) and check valve assembly (K) from three areas (L) on pump manifold (F).

NOTE: Remember exact location and position of parts before disassembling.

7. Disassemble valve assemblies to check for damage or trapped debris.



TCT006098—UN—26NOV12

8. Clean valve components. Inspect beveled edges of valve (M) and valve seat (N) for wear or damage.
9. Assemble valve components. Make certain that valve spring seat faces valve spring, with valve seat beveled edge facing valve.

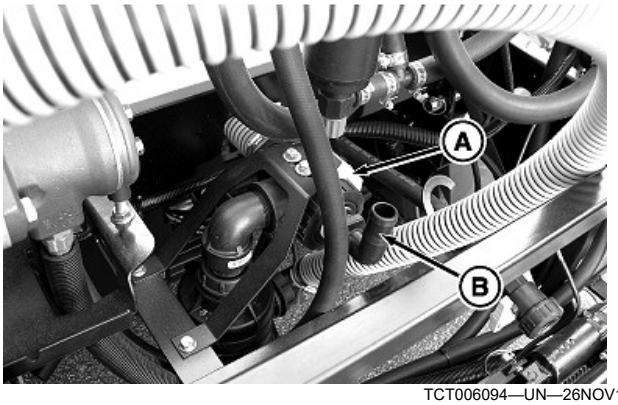
10. Lightly coat new valve sealing O-rings with grease in order to make certain of retention during reassembly.

NOTE: Set valve assemblies aside for later installation if further pump disassembly is to be carried out.

11. Install valve assemblies to manifold and heads.
12. Install manifold to pump heads, and secure with three M10 hex nuts. Tighten fasteners evenly.

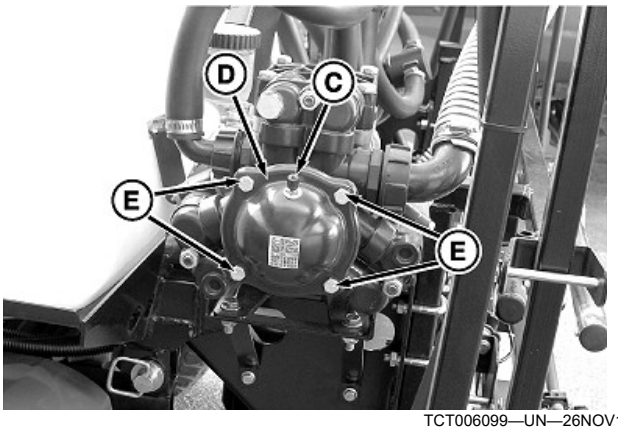
Accumulator Diaphragm Replacement

The accumulator diaphragm should be replaced if a failure is apparent or as required for periodic maintenance. Accumulator diaphragm failure may be indicated by pulsation in pump output pressure. Diaphragm replacement can be carried out with the pump in place.



TCT006094—UN—26NOV12

1. Close tank valve (A) if product remains in tank. Rotate valve handle 180 degrees to point toward auxiliary inlet (B).
2. Flush pump thoroughly with clear water through auxiliary inlet port. Drain to a properly labeled container.



TCT006099—UN—26NOV12

3. Remove air valve cap (C) and exhaust all air pressure from accumulator air chamber cap (D).
4. Loosen and remove four M8 hex bolts (E) securing air chamber cap to accumulator base.

TCT006100—UN—26NOV12

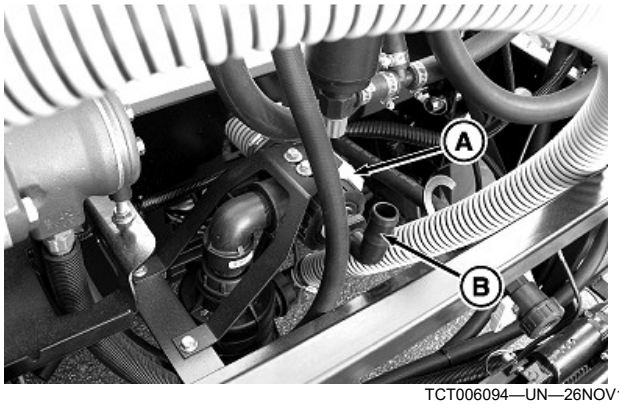
5. Remove cap and diaphragm (F) from accumulator base.
6. Make certain that diaphragm sealing surfaces (G) of air chamber base and cap are clean.
7. Install replacement accumulator diaphragm to manifold body. Check to see that diaphragm edge lies flat.

NOTE: Install air chamber cap to base with the air valve at the top of the cap.

8. Install air chamber cap to manifold and secure with four hex head bolts.
9. Tighten bolts evenly.
10. Charge accumulator air chamber to 20 percent of anticipated pump working pressure.

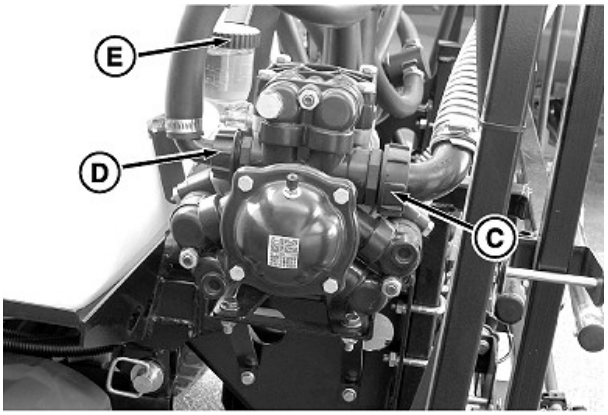
Pump Diaphragm Replacement

Pump diaphragms should be replaced if a failure is apparent or as required for periodic maintenance. Indications of pump diaphragm failure may include appearance of oil in pump output or a milky appearance of pump lubricating oil. Diaphragm replacement can be carried out with the pump in place.



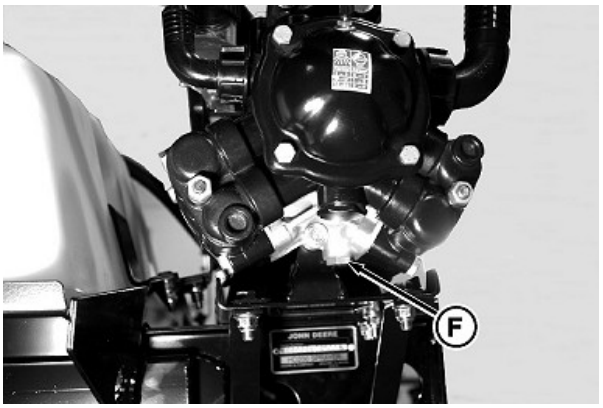
TCT006094—UN—26NOV12

1. Close tank valve (A) if product remains in tank. Rotate valve handle 180 degrees to point toward auxiliary inlet (B).
2. Flush pump thoroughly with clear water through auxiliary inlet port. Drain to a properly labeled container.



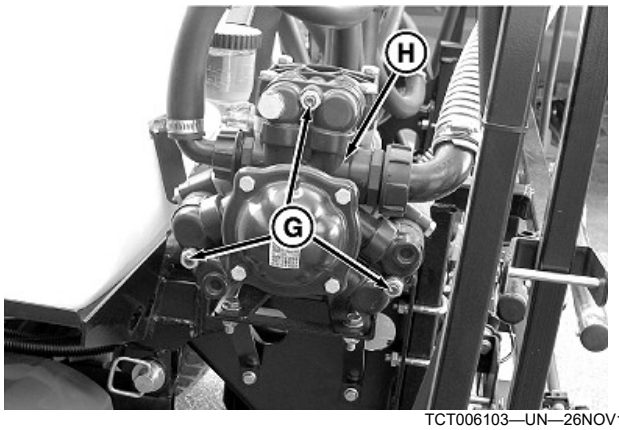
TCT006101—UN—26NOV12

3. Loosen pump inlet (C) and outlet (D) elbow nuts and remove hose and elbow assemblies from pump. Secure hoses away from pump.
4. Remove lubricating oil reservoir cap (E).



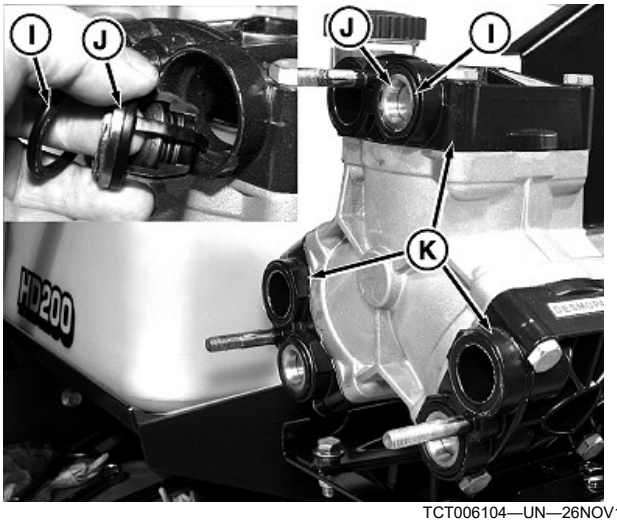
TCT006102—UN—26NOV12

5. Remove pump crankcase plug (F) and drain oil into a suitable container. Rotate crankshaft to aid in draining oil.



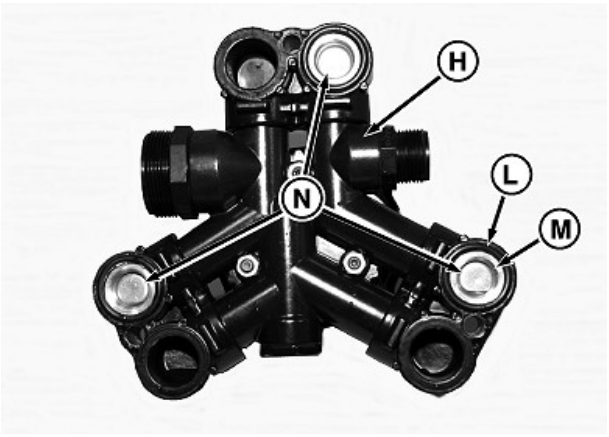
TCT006103—UN—26NOV12

6. Remove three M10 hex nuts (G) securing pump manifold assembly (H) to pump heads. Remove manifold assembly from pump.



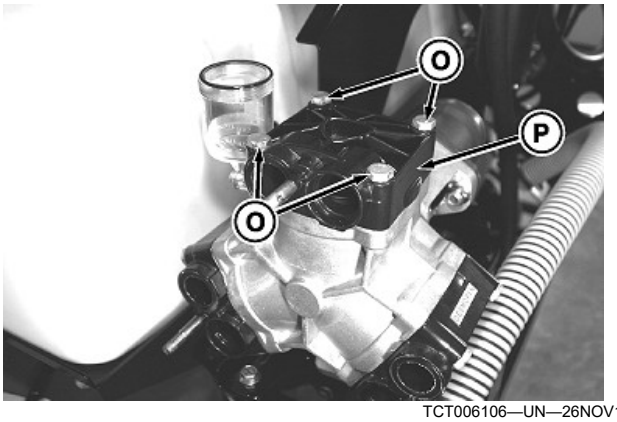
TCT006104—UN—26NOV12

7. Remove O-ring (I) and check valve assembly (J) from three pump heads (K). Set parts aside in a clean location.



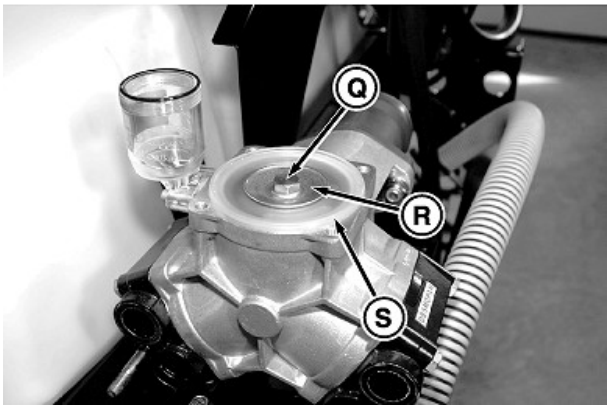
TCT006105—UN—26NOV12

8. Remove O-ring (L) and check valve assembly (M) from three areas (N) on pump manifold (H). Set parts aside in a clean location.



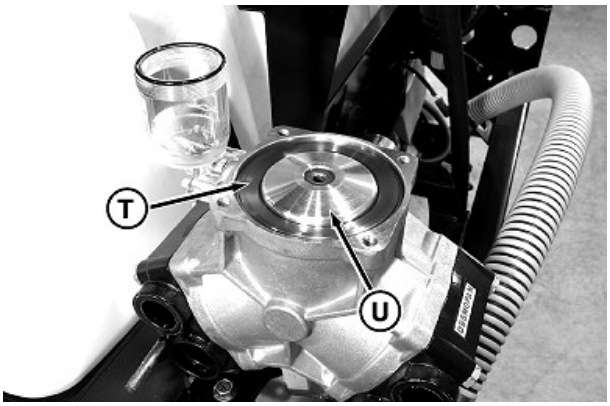
TCT006106—UN—26NOV12

9. Remove four M10x55 hex head bolts (O) securing pump heads (P) to pump body. Remove heads and set aside in a clean location.



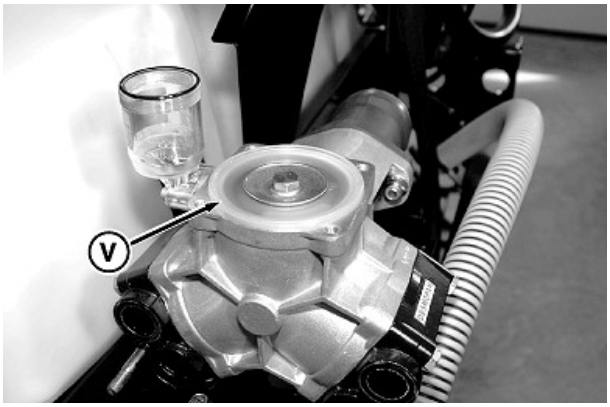
TCT006107—UN—26NOV12

10. Remove M12 diaphragm retaining bolt (Q), support washer (R), and diaphragm (S) from pump piston. Retain bolt and support washer.



TCT006108—UN—26NOV12

11. Make certain that diaphragm seating groove (T) of pump body is clean.
12. Rotate pump crankshaft to bring top piston (U) to maximum upward stroke.
13. Install replacement diaphragm to piston with diaphragm support washer and hex head bolt.
14. Rotate crankshaft to seat diaphragm lip in pump body groove. Tighten diaphragm bolt.



TCT006109—UN—26NOV12

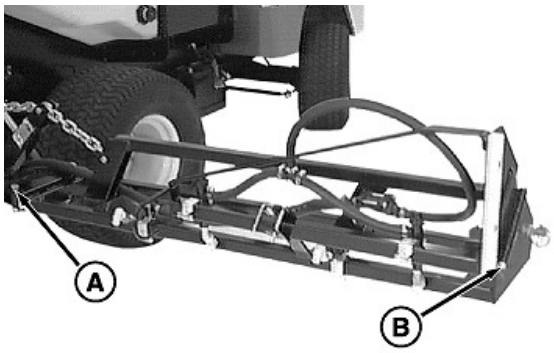
15. Install head, ensuring that diaphragm sealing lip (V) is correctly inserted in head groove.
16. Secure head to pump body with four hex head bolts. Tighten bolts.
17. Continue rotation of crankshaft to bring next piston to maximum upward stroke.
18. Remove and replace diaphragm and retaining hardware.
19. Rotate crankshaft further, ensuring that diaphragm is properly seated. Tighten bolt.
20. Install head, making certain that diaphragm lip fits properly in head.
21. Secure head to pump.
22. Repeat diaphragm installation procedure for remaining pump cylinder.
23. Install pump manifold assembly to heads, securing with three hex head bolts. Tighten bolts.
24. Rotate pump slowly in both directions, while filling crankcase with lubricating oil through oil sight glass bowl. Fill crankcase with specified quantity of recommended oil. Replace sight bowl cover.
25. Charge accumulator air chamber to 20% of anticipated pump working pressure.

Winterization

If freezing conditions are likely to be encountered, or for Winter storage, the pump should be flushed with RV antifreeze. This flushing process will displace any water base solution in the pump which might cause damage from freezing.

MX00654,0000243-19-07DEC12

Lubricating Boom Wing Pivots



TCT006110—UN—26NOV12

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

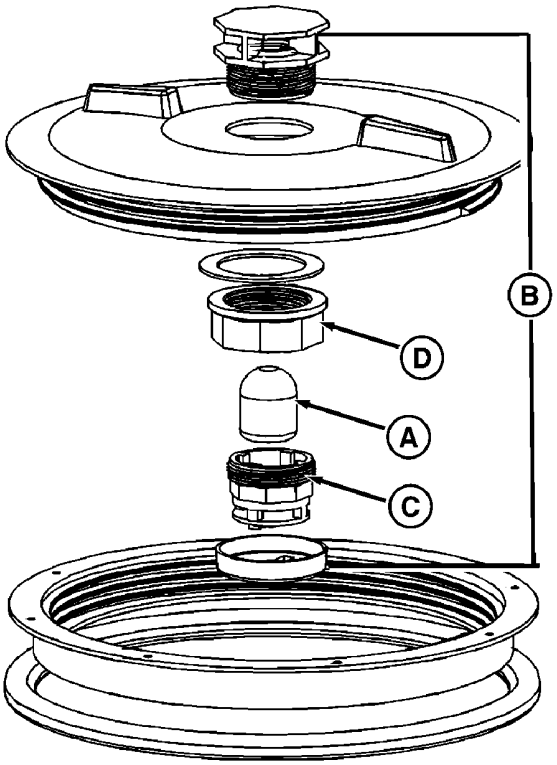
MX00654,0000244-19-25NOV12

Inspecting and Cleaning Vented Fill Covers

The personal wash tank and foam marker tank are 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.



TCT006111—UN—27NOV12

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.

TCT006112—UN—26NOV12

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.

OUMX068,0000CF3-19-30JUL15

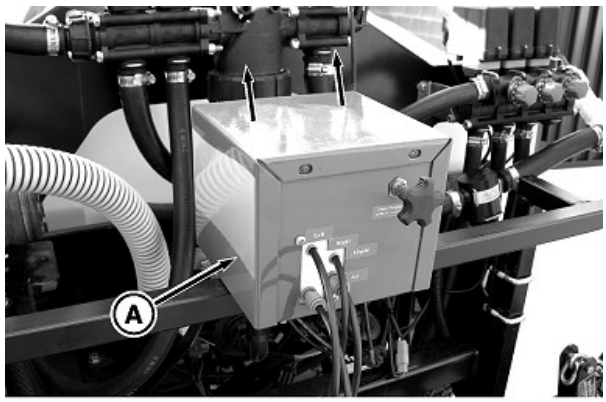
Servicing Foam Marker Kit

CAUTION: Avoid injury! Vapors from solvents can be explosive and flammable. Follow the instructions on the container label for safe use of the solvent:

- **Work in a well-ventilated area.**
- **Wear protective clothing when handling solvent.**
- **Do not smoke while handling solvents.**
- **Keep solvent away from flames or sparks.**

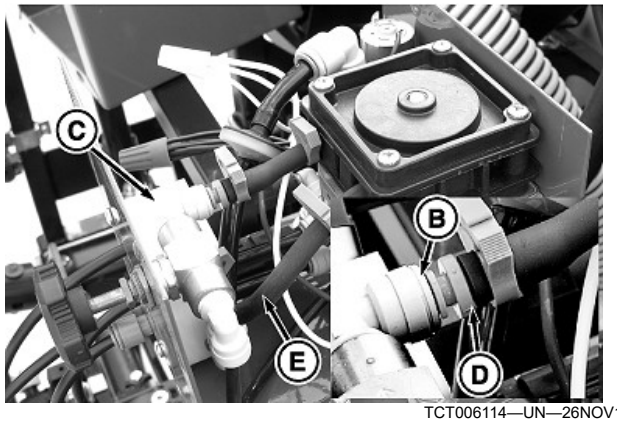
NOTE: This pump requires a high grade non-detergent SAE 30W oil. See your John Deere dealer for oil.

Foam Solution Pump



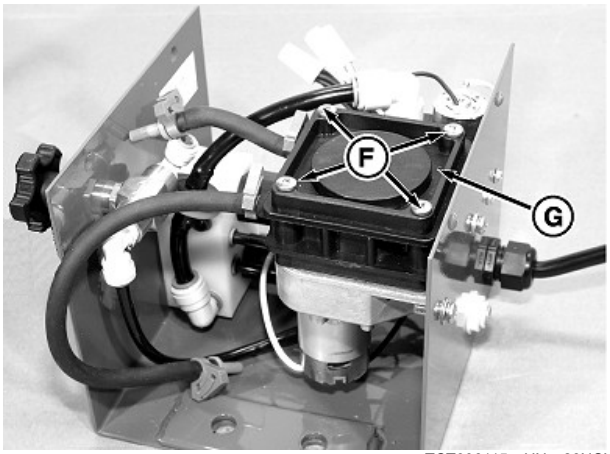
TCT006113—UN—26NOV12

1. Lift cover (A) from foam marker pump enclosure for access to foam marker pump.



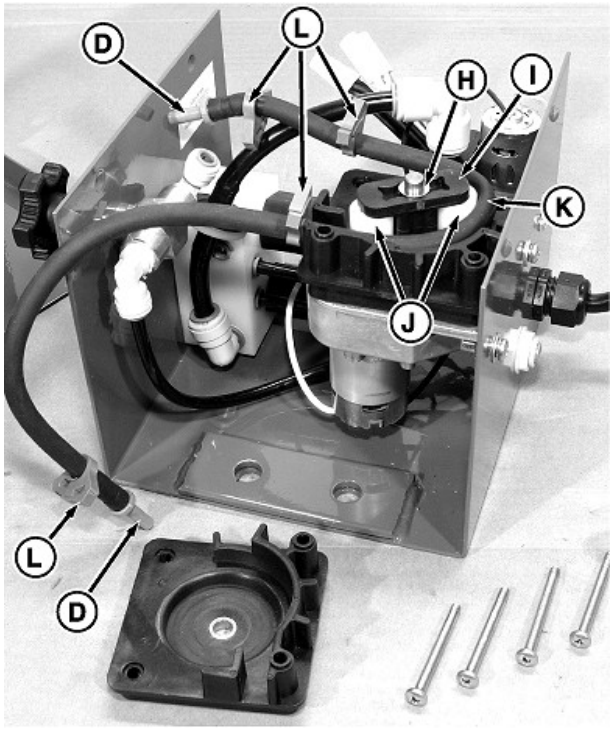
TCT006114—UN—26NOV12

2. Pull lock ring (B) toward elbow (C), and pull out hose stem (D) from elbow. Repeat for pump outlet hose (E).



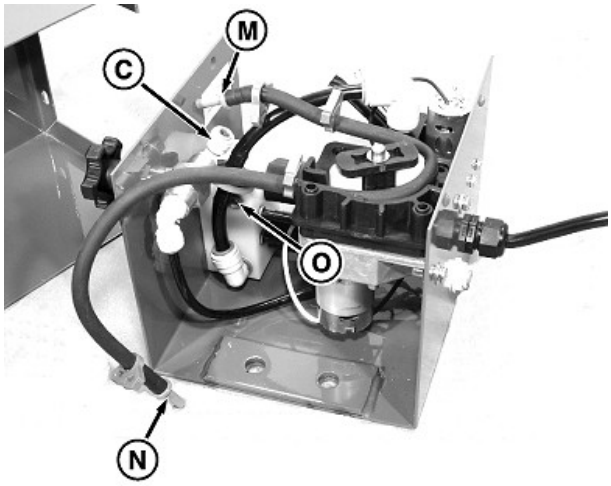
TCT006115—UN—26NOV12

3. Remove four 10x3 in. screws (F) securing pump roller cover (G) to foam pump body. Remove cover and set aside with screws.



TCT006116—UN—26NOV12

4. Remove and set aside shim washer (H) at top of roller assembly (I).
5. Remove and inspect roller assembly to ensure that rollers (J) are clean and free from damage. Be certain that rollers turn freely.
6. Remove hose (K) from pump body.
7. Release clamps (L) at inlet and outlet hose stems (D) and on hose at pump body. Remove and retain hose clamps and stems.
8. If rollers were removed, install rollers to pump spindle and reinstall to pump body.
9. Install shim washer to spindle at top of roller assembly.
10. Install outlet hose stems to ends of replacement hose. Secure stems with hose clamps.

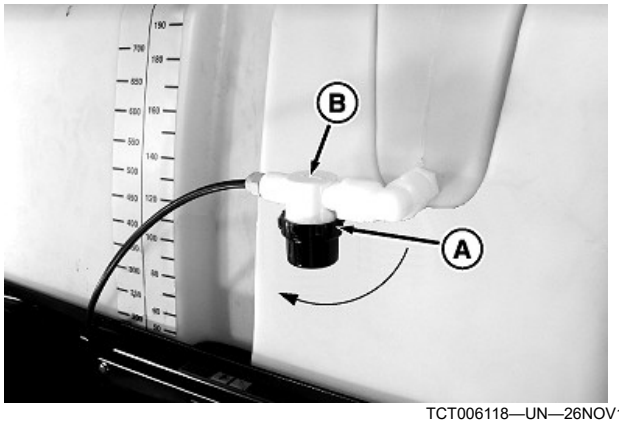


TCT006117—UN—26NOV12

11. Insert hose end (M) stem into elbow (C).
12. Insert hose end (N) stem into valve block fitting (O).
13. Install hose into pump body, ensuring that hose is not pinched and is secured within pump body channel.
14. Install cover to pump body, ensuring that hose is not pinched and is secured within pump cover channel.
15. Secure roller cover to pump body with four 10x3 in. screws. Turn screws in evenly and tighten securely.
16. Reinstall remaining hose clamps at pump body inlet and outlet to retain hose position.

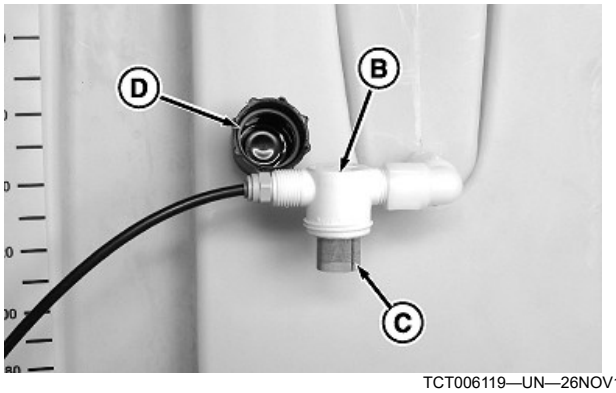
Foam Solution Strainer

NOTE: Removal of the foam solution strainer bowl for strainer inspection or cleaning will allow any solution in the tank to drain.



TCT006118—UN—26NOV12

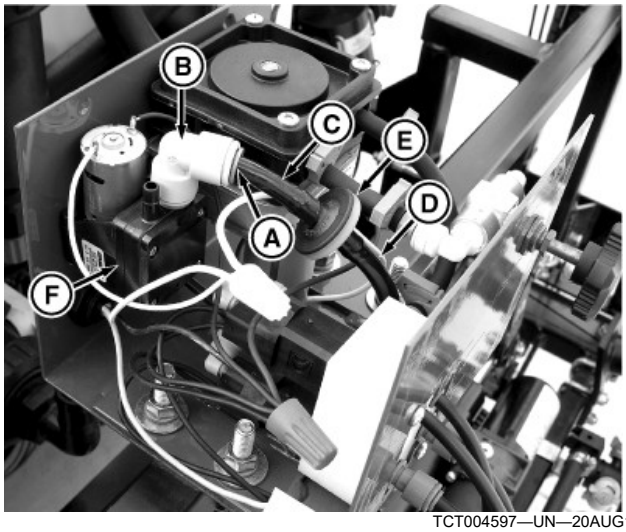
1. Turn strainer bowl (A) to loosen and remove from strainer housing (B).
2. Allow any foam solution remaining in tank to drain to a suitable container.



TCT006119—UN—26NOV12

3. Remove screen (C) from strainer housing (B).
4. Remove seal (D) from strainer bowl.
5. Rinse screen and bowl in warm water to loosen deposits. Clean thoroughly, being careful not to damage screen.
6. Inspect screen and seal for damage. Replace if needed.
7. Replace screen in strainer housing.
8. Replace seal in strainer bowl.
9. Reassemble bowl to strainer housing.

Air Line Check Valve



TCT004597—UN—20AUG12

1. Press in lock rings (A) toward elbow (B), and remove air supply hose assembly (C) from elbow. Repeat procedure for bottom end of hose (D).
2. Inspect check valve (E) in air supply hose to see that flow is allowed only in the direction away from the compressor (F).
3. Replace check valve if damaged or if there is flow in both directions.

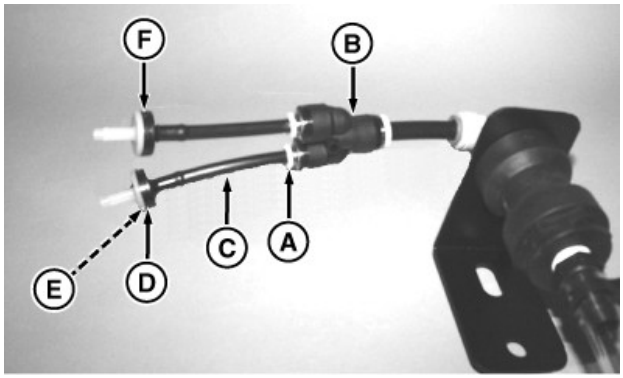
NOTE: If check valve is being replaced, be sure the letters "VAC" (G) on the check valve are faced away from compressor (F).

TCT004598—UN—07AUG12

4. Install replacement check valve to air supply hose.
5. Install air supply hose assembly to compressor and valve block elbows.

Foamhead Check Valves

⚠ CAUTION: Avoid injury! Do not put nozzle tip or other sprayer parts to your lips to blow out dirt. Use compressed air or clean water.



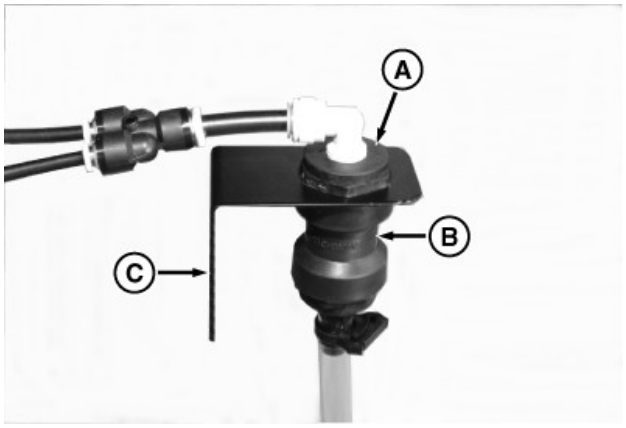
TCT004599—UN—20AUG12

1. Press in lock ring (A) toward connector (B) to release air supply hose (C) from connector (B) at foamhead.
2. Remove check valve (D) from supply hose.

NOTE: The letters "VAC" (E) should appear on the outlet side of the valve body (facing foamhead).

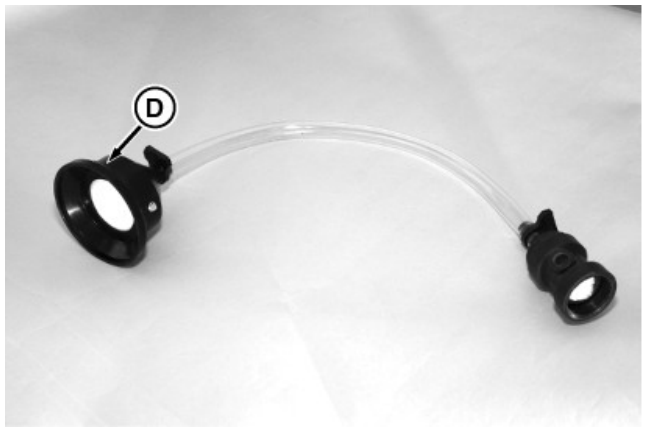
3. Inspect check valve to see that flow is allowed only in one direction through the valve body.
4. Replace check valve if damaged or if there is flow in both directions.
5. Install check valve to system hoses with letters "VAC" on valve body facing foamhead.
6. Repeat inspection and replacement steps for second valve (F).
7. Repeat steps for opposite boom.

Foamhead Cleaning



TCT004600—UN—07AUG12

1. Hold bushing cap (A). Turn foamhead (B) to loosen, and remove foamhead from boom end bracket (C).
2. Remove foamhead, hose, and collector assembly from opposite boom end.

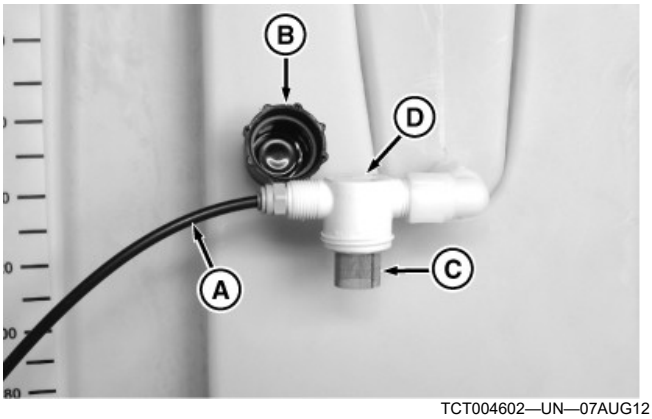


TCT004601—UN—07AUG12

3. Rinse and backflush foamhead, hose, and collector assemblies (D) thoroughly with warm water.
4. Apply joint sealing tape to bushing cap threads. Install foamheads through boom end brackets and to bushing caps. Tighten caps.

Winterization

The foam solution tank, valves, and hoses must be drained completely prior to storage or when freezing temperatures may occur. If the solution is allowed to freeze, system components may be damaged.

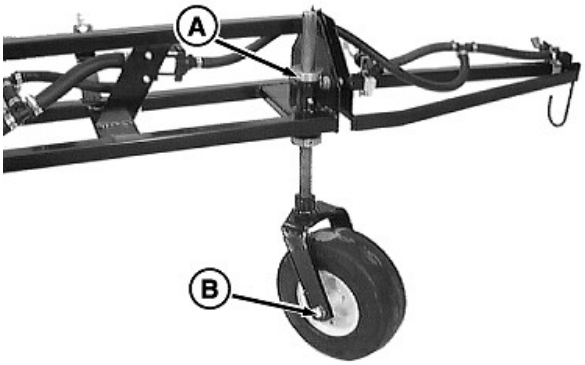


TCT004602—UN—07AUG12

1. Disconnect foam solution hose (A) and drain solution into a suitable container.
2. Remove bowl (B) and screen (C) from strainer housing (D) at tank outlet.
3. Clean strainer screen.
4. Flush foam solution tank with warm water and allow to drain.
5. Replace tank strainer screen and bowl.
6. Turn on power to foam system and operate until no foam is produced.
7. Add anti-freeze solution such as windshield washer fluid to tank.
8. Turn on power to foam system and run until anti-freeze reaches foamheads.

MX00654,0000246-19-14DEC12

Lubricating Ground Wheels

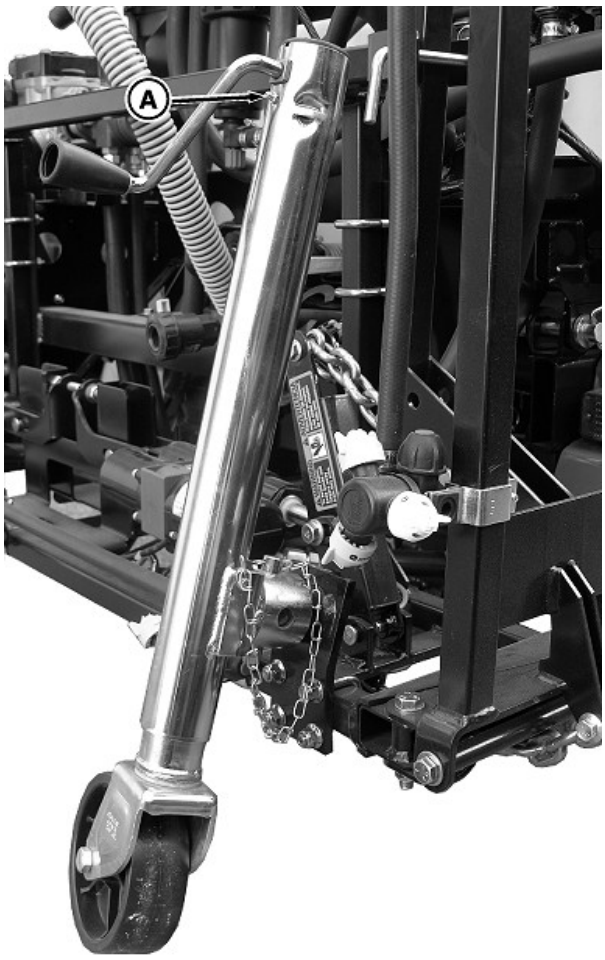


TCT006126—UN—26NOV12

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

MX00654,0000247-19-25NOV12

Lubricating Jack Stands



TCT006127—UN—26NOV12

Right side shown in supported position.

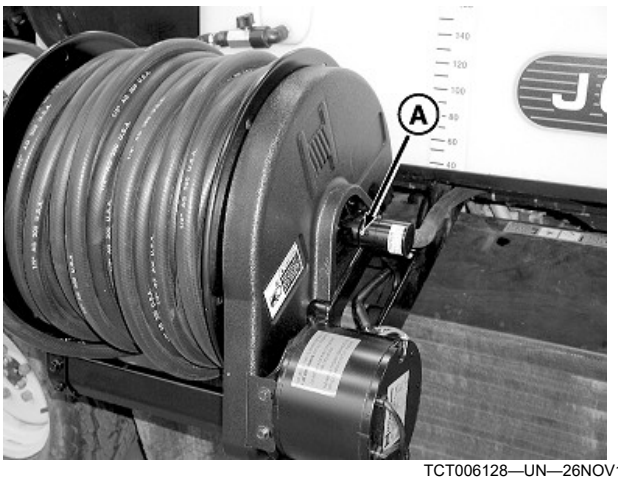
Lubricate fitting (A) with recommended grease.

MX00654,0000248-19-25NOV12

Servicing Hose Reel

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

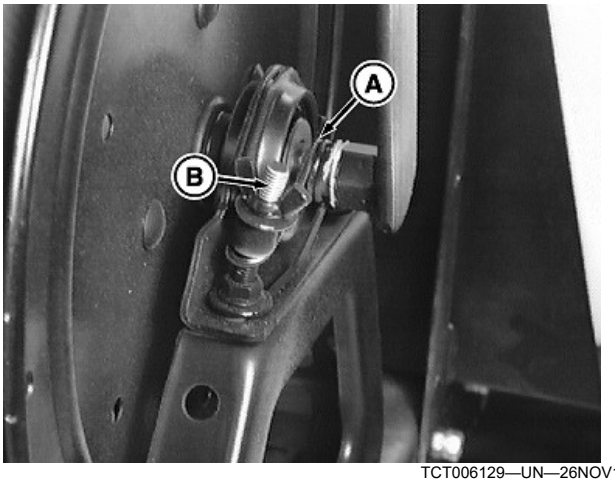
Lubricating Electric Hose Reel



TCT006128—UN—26NOV12

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

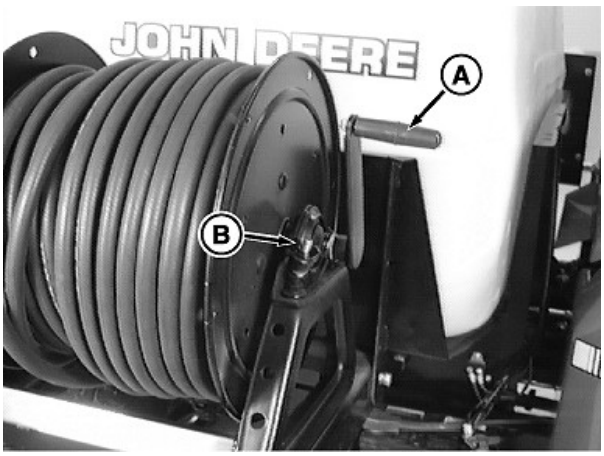
Lubricating Manual Hose Reel



TCT006129—UN—26NOV12

1. Apply small amount of recommended grease on reel tension brake adjustment area (A).
2. Apply small amount of recommended grease or oil on threads of reel tension brake adjustment bolt (B) to prevent rusting and seizing.

Adjusting Tension Brake

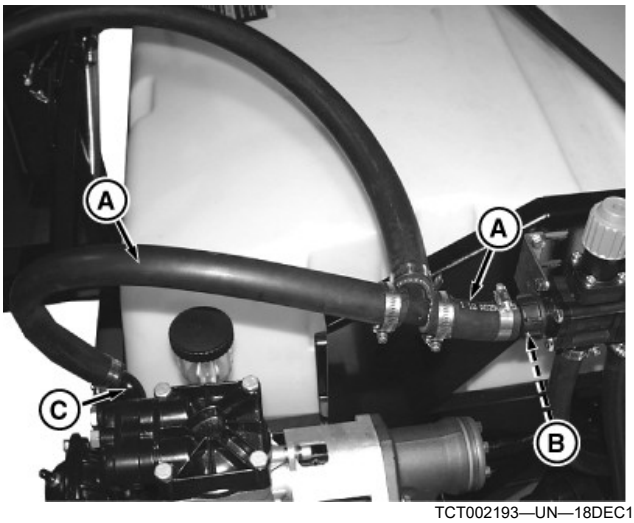


TCT006130—UN—26NOV12

1. Make sure hose reel is properly lubricated prior to adjusting reel tension.
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.

MX00654,0000249-19-25NOV12

Installing a Test Flow Meter



TCT002193—UN—18DEC12

1. Loosen hose clamps and remove hoses (A).
2. Install hose barb fitting included with machine on threaded barb on end (B) of pressure control manifold.
3. Install 90 degree hose barb fitting (C) on diaphragm pump.
4. Install flow meter between fittings (B) and (C).

5. After testing complete, remove fittings, flow meter and install hoses (A).

MX00654,0000280-19-18DEC12

Troubleshooting

Using Troubleshoot Chart

If you are experiencing a problem that is not listed in this chart, see your Technical Manual, dealer, or other service provider for service.

MP47322,00F467B-19-17OCT25

SelectSpray HD200

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
Inadequate or Fluctuating Pressure Reading At Gauge	No Fluid or Low Fluid Level In Tank Air In Pressure Tube - Bleed System Electrical Circuit Failure
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
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
Boom Wing Actuators Will Not Work	Check Three Fuses on Sprayer Power Harness
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
Poor/uneven Spray Pattern	Wrong Nozzles for Application Boom Not Level Boom Wings Not Level Wrong Boom Height for Nozzle Nozzles Not All Same Design Incorrect Pressure Setting
Boom Sections Do Not Correspond With 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 or Drains Slowly	Spigot Plugged Inside Tank Hose Plugged Cap Vent Plugged
Marker Will Not Turn On	Harness Plug Not Plugged In Automatic Reset Circuit Breaker Tripped (Short-to-Ground in Sprayer Electrical System) Check 15 Amp Fuse
Air Pump Runs - Nothing Coming Out	Liquid Pump Shut Off or Not Primed Liquid Pump Tube has Failed Kinked or Damaged Tube Liquid Pump Motor Failed
Nothing Comes Out	Tank Cover Vent is Plugged Kinked or Damaged Tube Tank Outlet Strainer is Dirty or Plugged Needle Valve is Plugged or Closed
Discharge Almost All Water	Kinked or Damaged Tube Air Pump Not Running
Discharge Foamy But Very Watery	Foam Concentrate Weak Kinked or Damaged Tube Hard Water Liquid Pressure Too High Air Pump Not Operating or Plugged
Good Foam - Not Enough Of It	Adjust Needle Valve
Foam Goes to Wrong Side	Left/Right Hoses Hooked Up Backwards or No Power to Valve Solenoid Stuck or Damaged

If	Check
Foam Goes to Both Sides	Solenoid Stuck or Damaged
Boom Wings Will Not Float	Plane Wheel Locking Collars Loose
Wheels Will Not Caster	Needs Lubrication
Boom Wings Will Not Maintain Level	Plane Wheel 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
Boom Wing Actuators Will Not Work	Check Three Fuses on Sprayer Power Harness

YCWRHFR,1766992506169-19-30DEC25

Specifications

HD200

Sprayer Tank Capacity	757 L (200 gal)
Shipping Weight (gross weight)	261 kg (576 lb)
Sprayer Weight (net weight)	175 kg (386 lb)
Sprayer Tank Material	polyethylene

MX00654,0000265-19-13DEC19

Boom 5.5 m (18 ft.) Spray Width

Boom Weight	95 kg (210 lb)
Physical Boom Height (Wings Raised)	239 cm (94 in)
Physical Boom Width (Wings Raised)	180 cm (71 in)
Physical Boom Width (Wings Lowered)	514 cm (203 in)
Physical Boom Width (Outer Nozzle to Outer Nozzle)	509 cm (200 in)

MX00654,000026A-19-13DEC19

Extendable Boom 4.6 / 6.4 m (15 / 21 ft.) Spray Width

Boom Weight	110 kg (243 lb)
Physical Boom Height (Wings Raised and Extensions Folded)	178 cm (70 in)
Physical Boom Height (Wings Raised Extensions Extended)	252 cm (99 in)
Physical Boom Width (Wings Raised)	252 cm (99 in)
Physical Boom Width (Wings Lowered and Extensions Folded)	478 cm (188 in)
Physical Boom Width (Wings Lowered and Extensions Extended)	615 cm (242 in)
Physical Boom Width 4.6 m (15 ft.) (Outer Nozzle to Outer Nozzle)	400 cm (157 in)
Physical Boom Width 6.4 m (21 ft.) (Outer Nozzle to Outer Nozzle)	600 cm (236 in)

MX00654,000026B-19-13DEC19

Diaphragm Pump

Manufacturer	Pentair 9910-D115
Maximum Flow	108 L/min (28.6 gal/min)
Maximum Pump Pressure	1—2 MPa (10—20 bar) (145—290 psi)
Working Pressure	1 MPa (10 bar) (145 psi) with pressure relief valve
Pump Control Valve	3-Port Proportional Flow Control Valve with Bypass)
Onboard Oil	SAE 30W Non-detergent

MX00654,000026D-19-13DEC19

Personal Wash Tank

Tank Capacity	15 L (4 gal)

MX00654,000026E-19-13DEC19

Optional Equipment

Tank Residual Volumes

Volume of residual in tank:

Total horizontal with agitator and recirculation . . . . . 10.59 L (2.8 gal)
Total horizontal without agitator and recirculation . . . . . 9.83 L (2.6 gal)
Total inclination 8.5 degree (drive direction left) . . . . . 11.58 L (3.06 gal)
Total inclination 8.5 degree (drive direction right) . . . . . 11.46 L (3.03 gal)
Total inclination 8.5 degree (drive direction uphill) . . . . . 10.01 L (2.64 gal)
Total inclination 5.0 degree (drive direction downhill) . . . . . 15.21 L (4.0 gal)
Allowed total volume of residual in the tank . . . . . 16.5 L (4.36 gal)

Rinse Tank

Rinse Tank Capacity . . . . . 75 L (20 gal)

Foam Maker

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

Ground Plane Wheel

Tire Inflation . . . . . 206 kPa (2.06 bar) (30 psi)

Hose Reel

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

OUMX068,0000CEB-19-20JUL15

Nozzle Flow Rate

				Litres/Hectare at Km/Hr						
Tip Color	**Part Numbers**	**Pressure (bar)**	**Flow (L/ min.)**	**8 kph**	**10 kph**	**12 kph**	**14 kph**	**16 kph**	**18 kph**	**LERAP Rating**
Blue	Tip - PSULA2003 Filler Cap - PS90003 Strainer - PS310	2.0	0.980	147	118	98	84	73	65	***
		3.0	1.200	180	144	120	103	90	80	***
		4.0	1.386	208	166	139	119	104	92	
		5.0	1.550	232	186	155	133	116	103	
		6.0	1.697	255	204	170	145	127	113	
Red	Tip - PSULA2004 Filler Cap - PS90004 Strainer - PS310	2.0	1.306	196	157	131	112	98	87	***
		3.0	1.600	240	192	160	137	120	107	***
		4.0	1.848	277	222	185	158	139	123	
		5.0	2.066	310	248	207	177	155	138	
		6.0	2.263	339	272	226	194	170	151	
Brown	Tip - PSULA2005 Filler Cap - PS90005 Strainer - PS310	2.0	1.633	245	196	163	140	122	109	***
		3.0	2.000	300	240	200	171	150	133	***
		4.0	2.309	346	277	231	198	173	154	***

										Litres/Hectare at Km/Hr
Tip Color	Part Numbers	Pressure (bar)	Flow (L/ min.)	8 kph	10 kph	12 kph	14 kph	16 kph	18 kph	LERAP Rating
		5.0	2.582	387	310	258	221	194	172	***
		6.0	2.828	424	339	283	242	212	189	***

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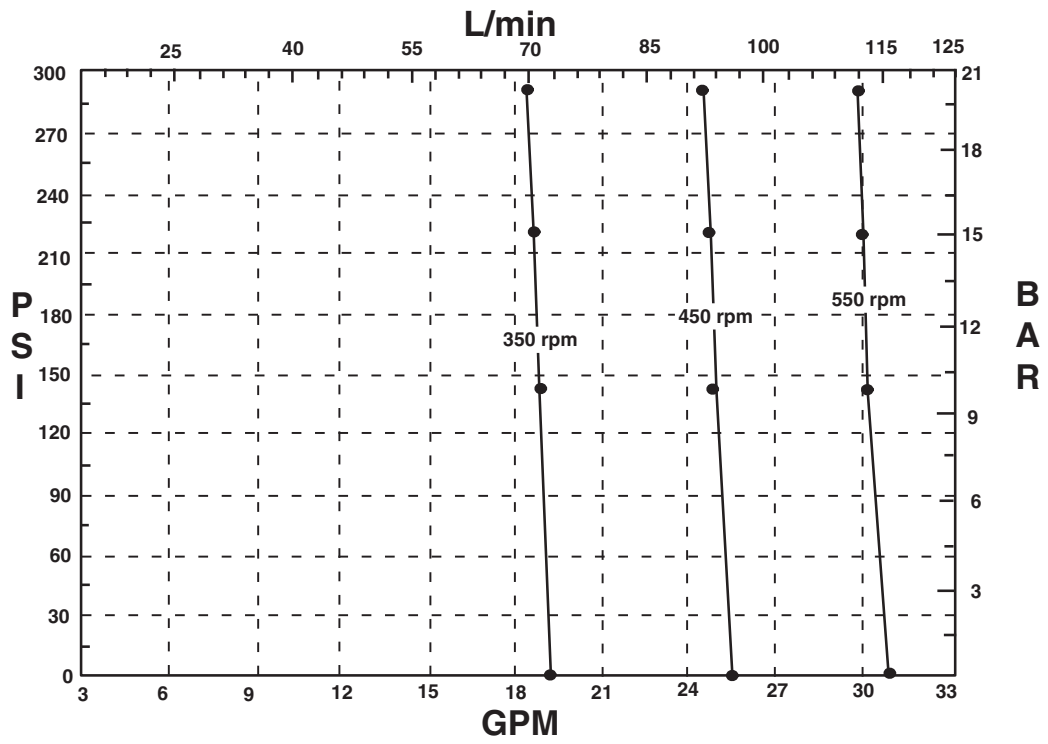
Diaphragm Pump Performance Chart



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MX00654,0000308-19-26APR13

Getting Quality Service

Service Literature

If you would like to purchase a copy of the Parts Catalog or Technical Manual for this machine, visit The John Deere Technical Information Store at:

https://techpubs.deere.com/

or call:

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

TH84124,0000199-19-04AUG25

Parts

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

When you order parts, your John Deere dealer needs the serial number or product identification number (PIN) for your machine or attachment. These are the numbers that you recorded in the Product Identification section of this manual.

Order Service Parts Online

Visit https://partscatalog.deere.com/jdrc/ for your Internet connection to parts ordering and information.

TC00531,00000E9-19-04AUG25

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.
3. In North America or Canada, call the John Deere Customer Contact Center.
   - Call 1-800-537-8233 and provide product serial number and model number.

MX00654,0000313-19-28MAY13

Declaration of Conformity

EC Declaration of Conformity

Deere & Company
Moline, Illinois, U.S.A.

The undersigned hereby declares that

Machine Type: Sprayer
Model: HD200
Serial Numbers: See Product Identification Page

fulfills all relevant provisions and essential requirements of the following directives:

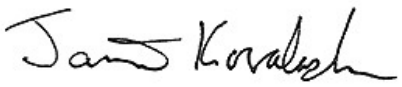
DIRECTIVE	NUMBER	CERTIFICATION METHOD
Machinery Directive	2006/42/EC	Self-Certification
Electromagnetic Compatibility Directive	2014/30/EU	Self-Certification

Name and address of the person in the European Community authorized to compile the technical construction file:
John Deere Walldorf GmbH & Co. KG
Customer Support
Impexstraße 3
D-69190 Walldorf
EUConformity@JohnDeere.com

Place of Declaration: Fuquay-Varina, NC USA
Date of Declaration: 1 December 2020
Manufacturing Unit: John Deere Turf Care

CE

DXCE01—UN—28APR09



TC101784—UN—24FEB21

Name: Jamie Kovalaske

Title: Product Engineering Manager, Golf & Turf

VS70618,0000D96-19-11AUG21

UK Declaration of Conformity

Deere & Company
Moline, Illinois, U.S.A.

The undersigned hereby declares that

Machine Type: Sprayer
Model: HD200
Serial Numbers: See Product Identification Page

fulfills all relevant provisions and essential requirements of the following UK regulations:

DIRECTIVE	NUMBER	CERTIFICATION METHOD
The Supply of Machinery (Safety) Regulations 2008	S.I. 2008/1597	Self-Certification
Electromagnetic Compatibility Regulations 2016	S.I. 2016/1091	Self-Certification

Name and address of the person authorized to compile the technical construction file:

John Deere Walldorf GmbH & Co. KG
Customer Support
Impexstraße 3
D-69190 Walldorf
EUConformity@JohnDeere.com

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Place of Declaration: Fuquay-Varina, NC USA
Date of Declaration: 1 October 2021
Manufacturing Unit: John Deere Turf Care
Ag & Turf Products Importer: John Deere Ltd- Harby Road, Langar, Nottinghamshire, NG13 9HT
Forestry Products Importer: John Deere Forestry Ltd- Carlisle Airport Industrial Estate, Carlisle, Cumbria, CA6 4NW

UK CA

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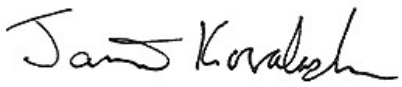

TC101784—UN—24FEB21

Name: Jamie Kovalaske

Title: Product Engineering Manager, Golf & Turf

VS70618,0000D95-19-11AUG21

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