TRAILER SPRAYER

MODEL: 500 BW

OPERATOR'S MANUAL

DO NOT OPERATE THIS EQUIPMENT UNTIL THIS
MANUAL HAS BEEN READ AND UNDERSTOOD.

Part Number: 07.09145D
November 2007

MILLER-ST.NAZIANZ,INC.
P.O. BOX 127
ST. NAZIANZ, WI 54232
920/773-2121
FAX:920/773-1200

INTRODUCTION

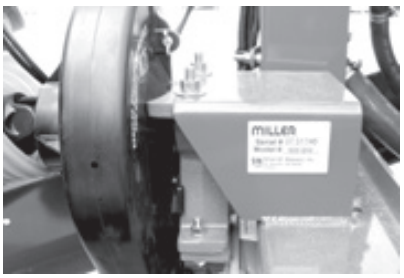
This Operator's Manual is provided to acquaint the operator with the safety and operation of the Miller Sprayer. Complete Assembly, Operation, Lubrication and Maintenance procedures are provided. Following the recommended procedures will help you achieve many years of dependable service.

This manual is considered part of your machine and should remain with the machine at all times.

Make sure the operator reads and understands the manual before placing the sprayer into operation.

Failure to follow the recommended procedures may result in injury and equipment damage, and could void the warranty.

MACHINE SERIAL NUMBER



The machine serial number is located on the left side of the pump mount shield. For your convenience refer to this number and your product model number when requiring service or parts information. Record the machine serial number, model number, date of purchase and dealership name in the space provided below.

Date Purchased _____

Model No. _____ Serial No. _____

Dealership _____

Right and Left Hand sides are determined from a position standing at the rear of the sprayer looking toward the hitch.

This Operator's Manual uses the term "Tractors" when identifying the power source for the sprayer.

The Delivery and Warranty Registration Card found in the front of this manual must be completed and signed to validate your warranty protection. You must read and understand the places where you attest to having received instructions as to care, adjustments, safe operation and applicable warranty policy. The terms and conditions of the warranty are specified on the rear cover of this manual.

WARNING

SOME PHOTOGRAPHS USED HEREIN MAY SHOW DOORS, GUARDS AND SHIELDS OPENED OR REMOVED. BE SURE THAT ALL DOORS, GUARDS AND SHIELDS ARE FASTENED IN THEIR PROPER POSITION BEFORE MACHINE IS OPERATED!

Table Of Contents

Trailer Sprayer

Pre-Delivery Check List

After the Miller Trailer Sprayer has been completely set-up, the following inspections MUST be made before delivering it to the customer. Check off each item after prescribed action is taken.

- ❒ NO parts on the unit have been damaged in shipment. Check for such things as dents and loose or missing parts; correct or replace components as required.
- ❒ Verify correct nozzle spacing.
- ❒ Adjust axles per customer's wheel spacing request.
- ❒ If applicable, sprayer has the correct hydraulically driven centrifugal pump for the customer's tractor hydraulics.
- ❒ Inflate tires to recommended pressure as described in the Maintenance Section of the Operator Manual.
- ❒ Tighten wheel nuts to correct torque (150 ft lb).
- ❒ Make sure all bolts and other fasteners are tightened or adjusted properly.
- ❒ As applicable, the Cylinders, Hoses and Fittings are NOT damaged, leaking or loosely connected.
- ❒ Rotating PTO Shields turn freely.
- ❒ Lubricate grease fittings.
- ❒ Safety decals are in place and legible.

Hook the sprayer to the appropriate RPM tractor and test run it while checking that proper operation is exhibited by all components.

Check that:

- ❒ Partially fill tank with water, and operate sprayer to inspect fittings and hose connections for leaks.
- ❒ With water in tank, be sure tank bands are tight.
- ❒ All accessories function correctly.
- ❒ Transport lights operate properly.
- ❒ Hoses secured and not in contact with any moving parts.
- ❒ Hydraulic systems operate properly.

_____
Dealership's Name

_____
Dealer Representative's Name

_____
Date Checklist Filled Out

_____
Model Number. Serial Number.

Delivery Check List

The following check list is an important reminder of valuable information that MUST be passed on to the customer at the time the unit is delivered. Check off each item as you explain it to the customer.

- ❒ Sprayers with power take off (PTO) driven pumps must have the tractor drawbar adjusted per instructions on page 12.
- ❒ Make sure customers know how to connect hydraulic pumps on sprayers that are equipped for tractor hydraulics.
- ❒ Install electric control box per instructions in separate control box manual.
- ❒ Give the customer this operator's manual. Instruct them to be sure to read and completely understand its contents before attempting to operate the unit.
- ❒ Give the customer the Agricultural Implement Driveline safety manual (907228). Instruct the customer to be sure to read and completely understand its contents before attempting to operate the unit.
- ❒ Explain the warranty.
- ❒ Explain that regular lubrication and proper adjustments are required for continued proper operation and long life. Review the maintenance section of this manual with the customer.
- ❒ Complete the dealer and warranty registration card. Have the customer sign it and return it to Miller-St. Nazianz.
- ❒ Included with this manual are separate operator/installation manuals for some components. Be sure to read and completely understand the contents of these before operating the sprayer.

I acknowledge that the above points were reviewed with me at the time of delivery.

_____
Customer's Signature

_____
Date Delivered

(Customer Copy)

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Customer's Signature

Date Delivered

(Dealer Copy)

Safety Precautions

This symbol is used to call your attention to instructions concerning your personal safety. Be sure to observe and follow these instructions. Take time to be careful!

DANGER

"DANGER" indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

"WARNING" indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

"CAUTION" indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also alert against unsafe practices.

BEFORE you attempt to operate this machine, read and study the following safety information. In addition, MAKE SURE that every individual who operates or works with this equipment, whether family member or employee, is familiar with these safety precautions. Miller-St. Nazianz provides guards for exposed moving parts for the operator's protection; however, some areas cannot be guarded or shielded in order to assure proper operation. The OPERATOR'S MANUAL AND DECALS on the machine itself warn you of dangers and SHOULD BE READ AND OBSERVED CLOSELY.

Power Source Shutdown Procedure

Before cleaning, unclogging, adjusting, lubricating or servicing this machine:

1. **Disengage the tractor PTO.**
2. **Deactivate tractor hydraulic controls.**
3. **Shut off the tractor engine, remove the starter key and take it with you.**
4. **Wait for all machine motion to stop.**
5. **Remove the telescoping PTO driveline and ALL power connections from the tractor.**

Failure to follow these precautions could result in death or serious injury.

Implement Safety

Some photographs used herein may show doors, guards and shields opened or removed. BE SURE that all doors, guards and shields are fastened in their proper position before machine is operated.

Know how to stop sprayer operation **BEFORE** starting it.

BE ALERT for people and/or animals in front of or around machine, when about to start machine.

KEEP hands, feet and clothing away from PTO when in operation!

DO NOT wear loose or baggy clothing when operating this unit!

DO NOT allow people other than a qualified operator near the unit!

DO NOT allow minors to be near the machine unless properly supervised.

KEEP riders off sprayer.

DO NOT unclog, adjust, lubricate or service your sprayer until you disengage the tractor PTO and shut off the tractor engine. Failure to follow this procedure may result in serious bodily injury!

AVOID high pressure fluids. Escaping fluid under pressure can penetrate skin causing serious injury.

DO NOT exceed a maximum towing speed of 20 MPH (32 KPH) while transporting the sprayer.

REDUCE speed on rough or hilly ground.

BE EXTRA careful when going through fence gates or nearing confined quarters.

ALWAYS follow state and local regulations regarding use of a safety chain, slow moving vehicle signs and transport lighting, when towing farm equipment on public highways.

ALWAYS engage the tractor parking brake before dismounting.

BE SURE the hitch jack locking pin is completely engaged and that the machine is properly blocked and prevented from rolling **BEFORE** disconnecting the sprayer from the tractor.

ALWAYS securely block sprayer up when working under sprayer.

DO NOT stand between tractor and sprayer when hitching or unhitching sprayer unless engine is stopped and parking brake is engaged.

Implement Safety, continued

KEEP ALL personnel at a safe distance when folding or unfolding boom.

KEEP all persons away from sprayer and boom while in operation.

KEEP clear of hydraulically controlled booms. Booms may move suddenly, without warning.

AVOID sudden turns when transporting sprayer. Slow tractor before turning.

BE AWARE of sprayer width and boom swing to avoid hitting other objects or personnel.

ALWAYS shut off remote hydraulic supply and relieve pressure before disconnecting.

Provide adequate clearance in all directions when folding or unfolding boom.

KEEP clear of ALL electrical power lines when operating sprayer or when folding or unfolding booms.

Chemical Safety

Handle ALL agricultural chemicals with care. Use chemicals **ONLY** as directed on the manufacturer's warning label.

WEAR protective clothing (such as goggles, rubber or chemical resistant gloves and respirator) while handling chemicals.

KEEP protective clothing clean and in good condition. Discard if damaged.

ALWAYS wash hands and face thoroughly with soap and clean water after handling chemicals.

NEVER eat, smoke, drink or put hands to mouth before washing.

Know the phone number and location of the nearest poison control center.

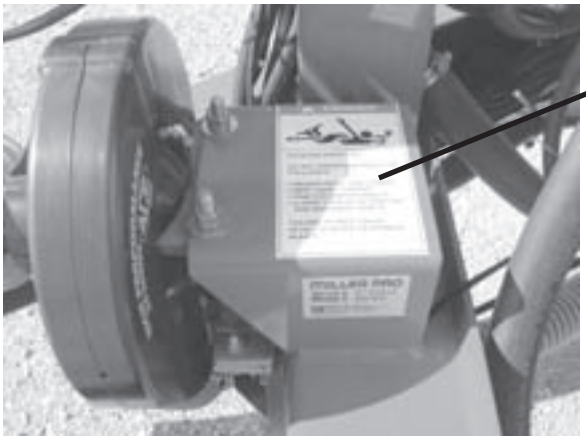
KEEP a list of all chemicals used and the chemical manufacturer's names.

⚠ Safety Decals

The decals are for your protection. If your safety decals are not readable or are missing, contact your dealer for replacements.

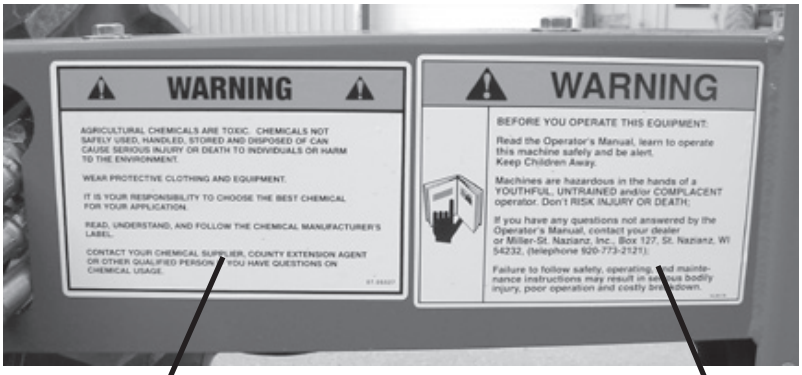
"Danger, Rotating Driveline" decal (Part No. 329594B2).

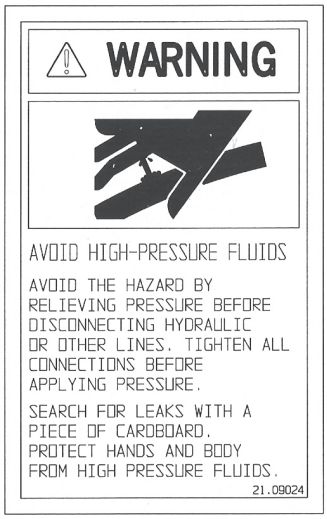
"Shield Missing" decal (Part No. 331639B2). This decal is mounted on the driveline and is visible only if the plastic shield is removed.



"Danger, Rotating Driveline" decal (Part No. 16.20177). This decal is on the guard behind the pump pulley guard

Safety Decals, continued





Decal - Hydraulic Fluid Pressure (Part No. 21.09024)

⚠ WARNING

AGRICULTURAL CHEMICALS ARE TOXIC. CHEMICALS NOT SAFELY USED, HANDLED, STORED AND DISPOSED OF CAN CAUSE SERIOUS INJURY OR DEATH OR HARM TO THE ENVIRONMENT.

- WEAR PROTECTIVE CLOTHING AND EQUIPMENT.
- IT IS YOUR RESPONSIBILITY TO CHOOSE THE BEST CHEMICAL FOR YOUR APPLICATION.
- READ, UNDERSTAND, AND FOLLOW THE CHEMICAL MANUFACTURER'S LABEL.
- CONTACT YOUR CHEMICAL SUPPLIER, COUNTY EXTENSION AGENT OR OTHER QUALIFIED PERSON IF YOU HAVE QUESTIONS ON CHEMICAL USAGE.

07.05527

Agricultural Chemicals (Part No. 07.05527)

⚠ WARNING

BEFORE YOU OPERATE THIS EQUIPMENT:

Read the operator's manual and learn to operate this machine safely.

Keep children away.

Machines can be hazardous in the hands of an untrained operator.

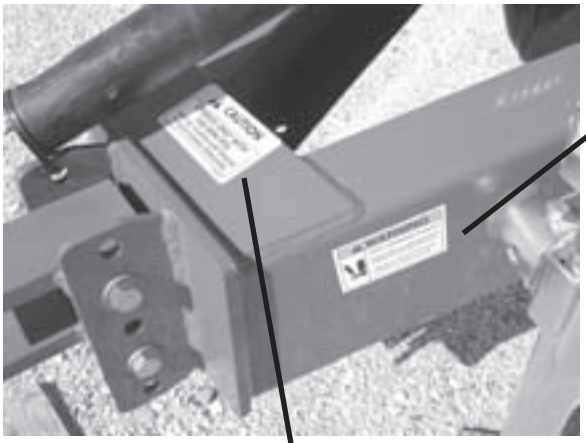
Failure to follow safety, operating and maintenance instructions could result in death or serious injury.

If you have questions; contact your dealer or Miller-St. Nazianz at (920) 773-2121

16.20178

Decal - Before Operating (Part No. 16.20178)

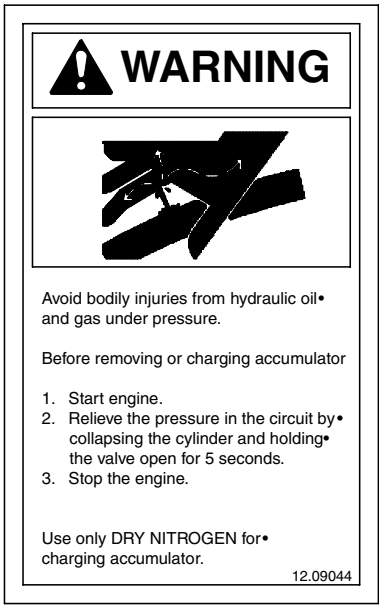
Safety Decals, continued



Decal - 540 RPM
(Part No. 340248B1)

Decal - Foot Crushing Hazard
(Part No. 17.01155)

Decal - Fresh Water Tank
(Part No. 07.09573)



Decal - Accumulator Pressure
(Part No. 21.09044)

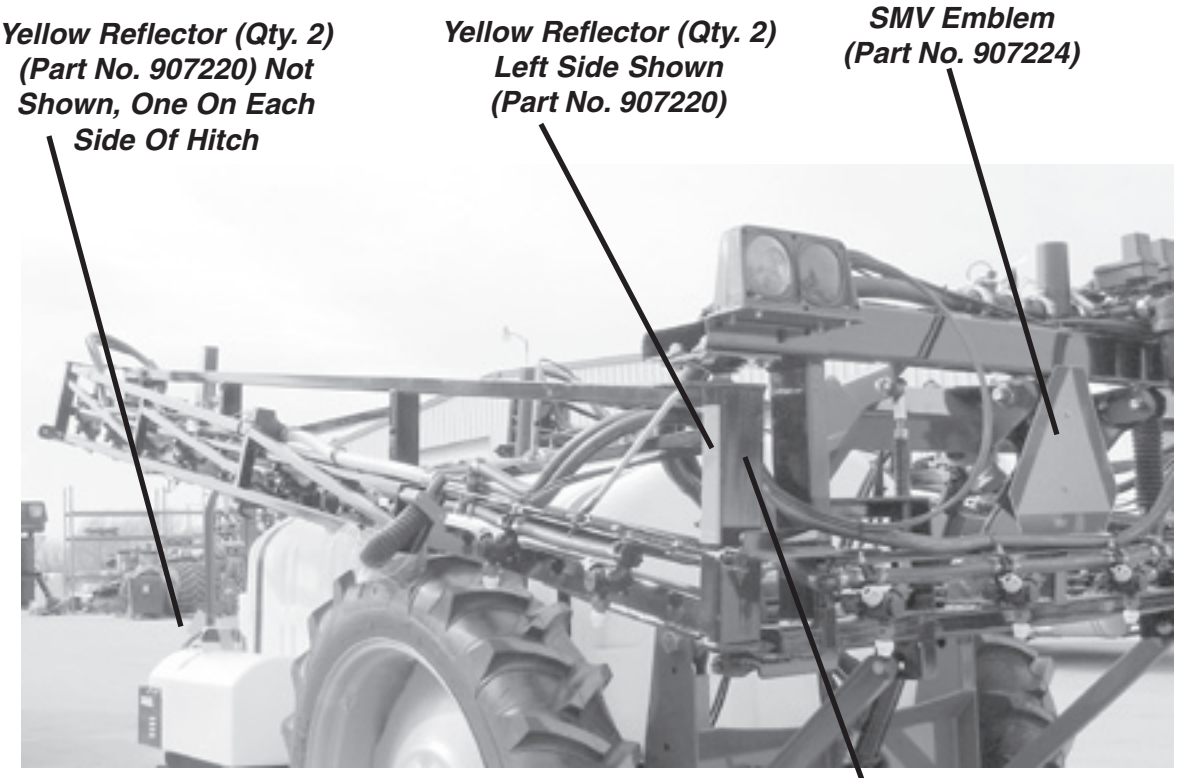
Safety Decals, continued

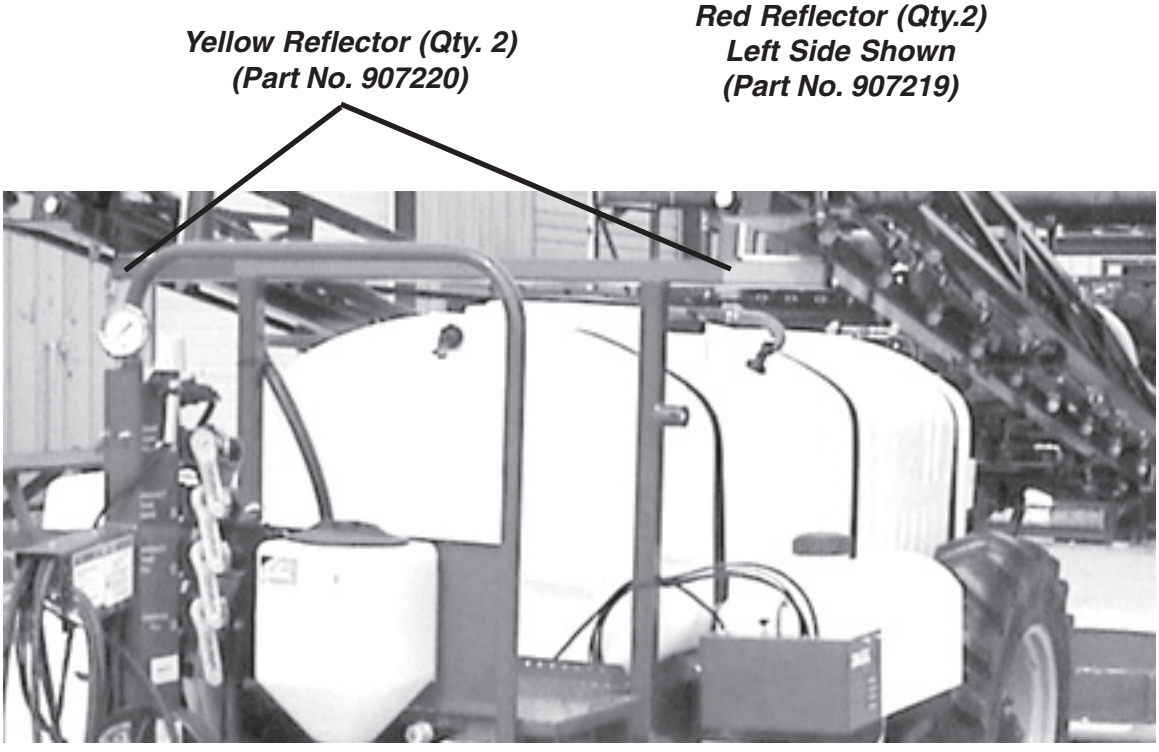
Decal - Pinch Point Qty 2
(Part No. 21.09025)

Decal - Hydraulic Fluid Pressure
(Part No. 21.09024)

Safety Decals, continued

Reflective Decals





Sprayer Setup And Assembly

Wheel Spacing

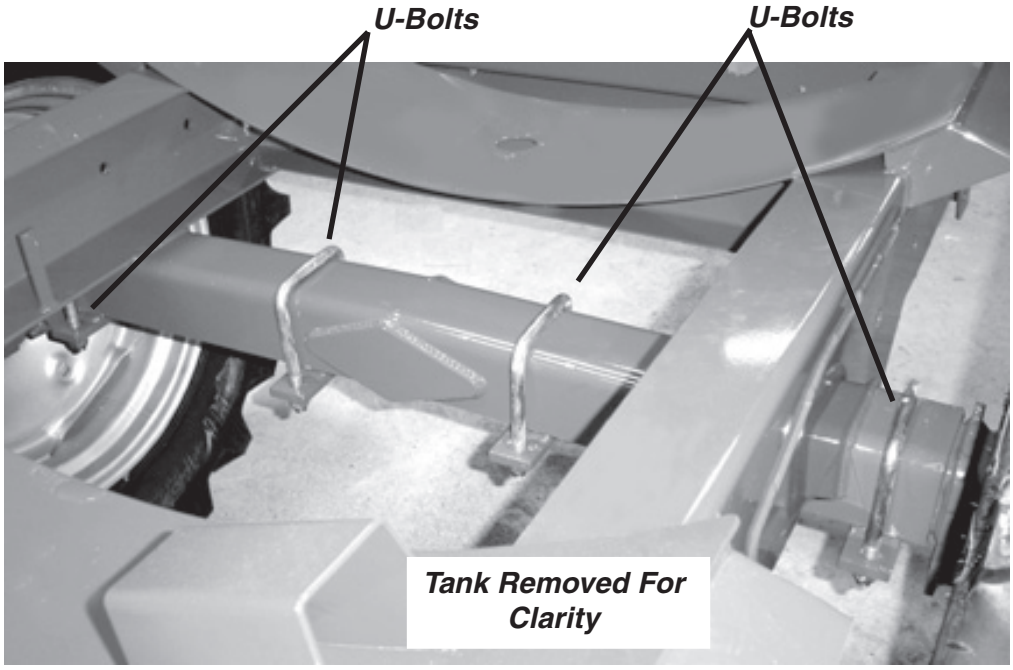
Wheel spacing can be adjusted from 62 inches (minimum) to 80 inches (maximum).

To change wheel spacing proceed as follows:

DANGER

Sprayer can fall during wheel spacing adjustment and crush person working under sprayer. Death or serious injury will result. Support the sprayer securely when adjusting wheel spacing.

1. Hitch sprayer to tractor (refer to the “Hitching” section on page 13 of this manual). Place chocks or blocks in front of and behind wheel on opposite side of wheel to be adjusted.
2. Measure and mark center of sprayer frame to assure equal spacing of wheels from sprayer centerline.
3. Place a hydraulic or screw jack under the sprayer frame behind the axle on the same side as the wheel to be adjusted. Jack up the sprayer high enough to raise the wheel from the ground.
4. Block the sprayer frame to keep sprayer from dropping if jack should fail or lose pressure.
5. Loosen the nuts on the U-bolts securing the wheel and hub assembly to the sprayer frame.
6. Slide the wheel and hub assembly in or out to the desired distance. Measure from the centerline of the sprayer to the centerline of the tire. DO NOT exceed the minimum 62 inch or maximum 80 inch distances.
7. Tighten the hex nuts on the U-bolts.
8. Lower the wheel to the ground.
9. Repeat steps 3 through 8 for the wheel assembly on the other side of the sprayer.



Implement Driveline (PTO Drive Pumps Only)

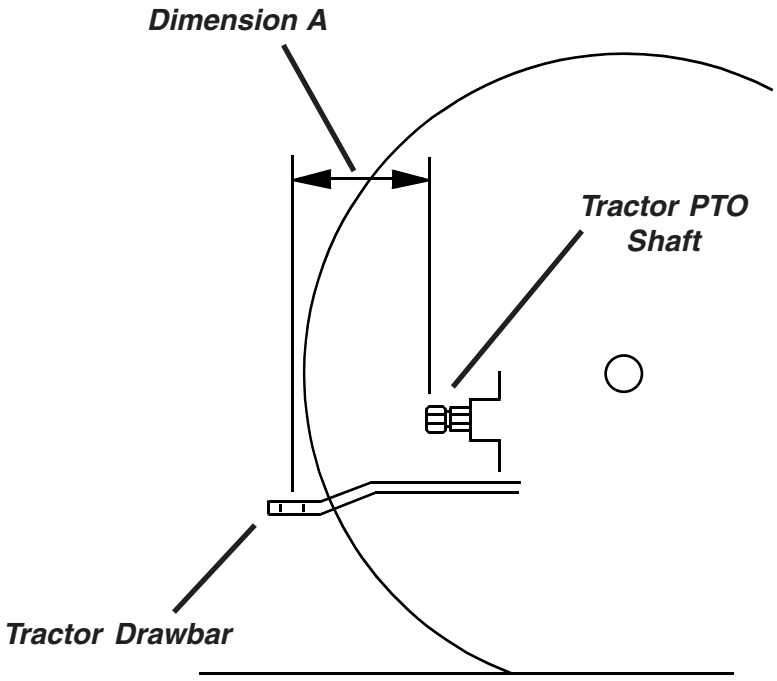
WARNING

Before working on PTO shaft or connecting or disconnecting it, STOP tractor, apply the parking brake, and make sure that the tractor motor has stopped turning.

The Miller Sprayer is designed to be used with a tractor having a 540 RPM PTO unless your sprayer has a 1000 RPM centrifugal pump (Optional).

Adjust the tractor drawbar so the distance from the end of the PTO shaft to the center of the drawbar hitch pin hole (Dimension A) is 14.00" for 540 RPM PTO or 16.00" for 1000 RPM PTO.

NOTE: If the hitch pin hole is located well behind the tractor tires, the operator can make a turn sharp enough to damage the driveline.



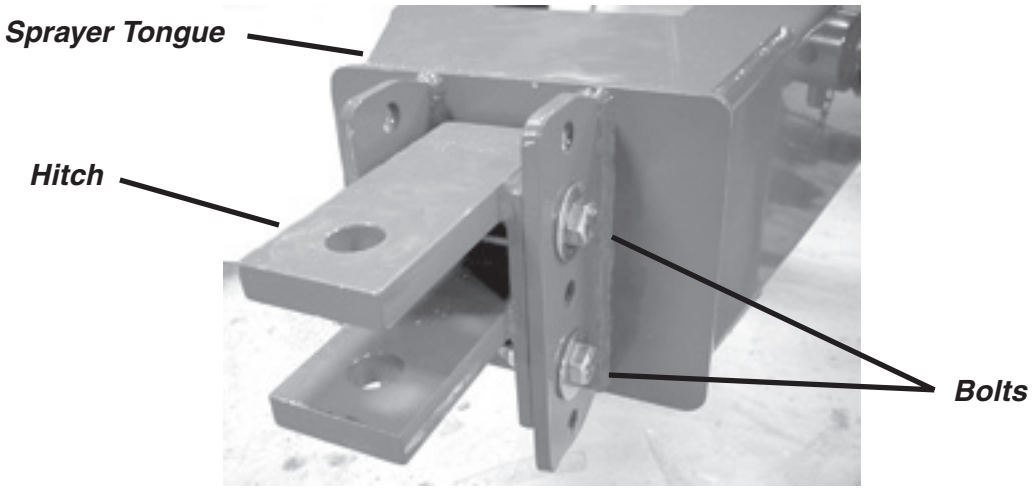
Hitching Sprayer To Tractor

CAUTION

DO NOT stand between the tractor and sprayer when hitching or unhitching the sprayer unless tractor engine is STOPPED and parking brake is applied.

Hitching

1. Align the tractor drawbar with the sprayer clevis hitch.
2. Shut down and lockout the power source. Refer to “Power Source Shutdown Procedure” on Page 3 of this manual. Follow these procedures to correctly lockout the power source.
3. If necessary, adjust the position of the hitch so that the sprayer is as level as possible when hitched to the tractor. Adjust the hitch as follows:
   a. Remove the four bolts securing the hitch to the flanges on the sprayer tongue.
   b. Raise or lower the hitch or rotate the hitch 180° to a position that will ensure that the sprayer is as level as possible.
   c. Insert all four bolts through the flanges on the sprayer tongue and the hitch. Tighten securely.



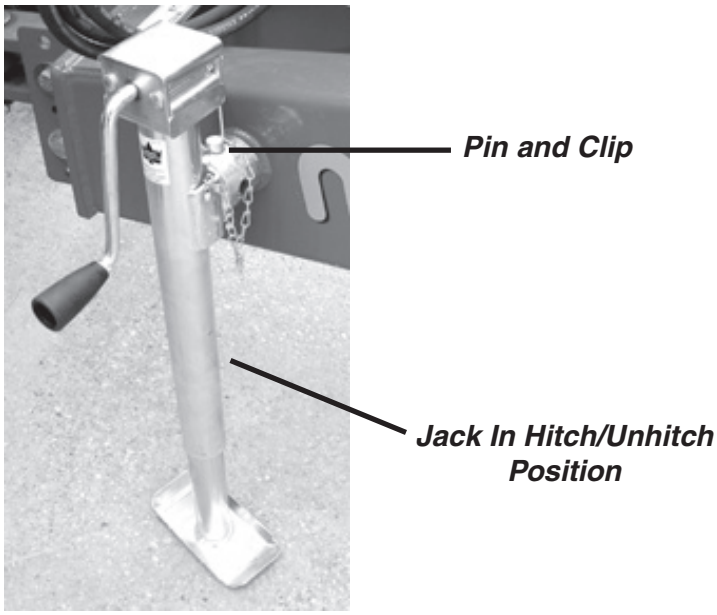
4. Remove the hitch pin and clip from their storage positions.
5. Install the hitch pin. Insert the clip through the side of the hitch pin to lock in place.
6. Turn the leveling crank on the jack stand until the jack no longer touches the ground.

NOTE: Safety chains are available for your sprayer by ordering Part No. 329946B91 from your Miller dealer.

7. Store the jack during operation.

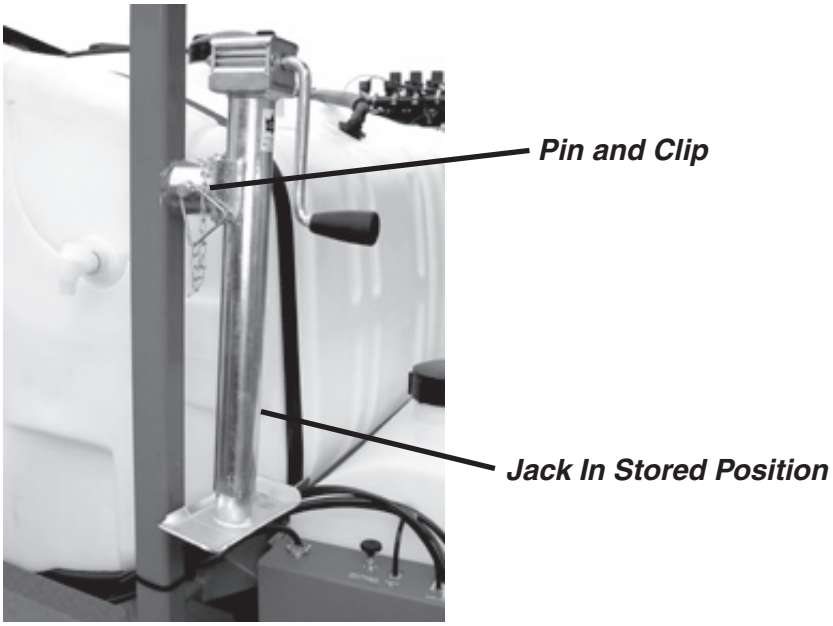
   a. Remove the pin and clip from the jack mount on the sprayer hitch.

   b. Remove the jack from the mount.



   c. Position the jack onto the storage mount on the sprayer frame.

   d. Secure in place with the pin and clip.



Important: Always secure the jack in the storage position before beginning any operation or transport of the sprayer. Damage to the jack can result if jack is not stored during operation or transport.

WARNING

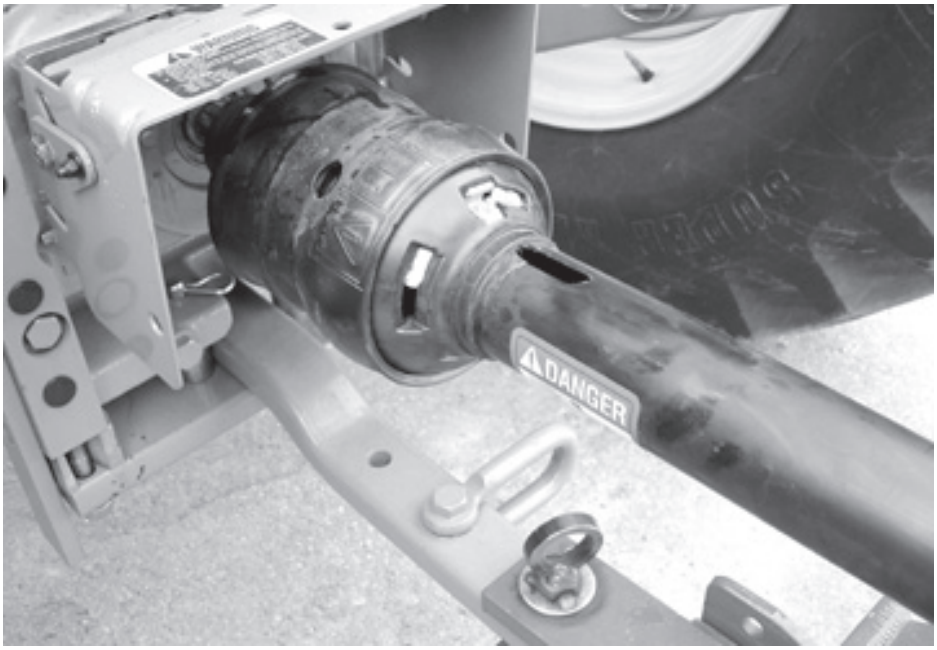
Connect 540 RPM sprayer pumps ONLY to 540 RPM tractor PTO output shafts. Connect Optional 1000 RPM sprayer pumps ONLY to 1000 RPM tractor PTO output shafts.

8. Pull the collar on the tractor end of the driveline to the rear (toward the sprayer), and slide the driveline onto the tractor's PTO output shaft as far as possible.

9. Release the collar. Pull the driveline to the rear (toward the sprayer) until the collar snaps into the locked position, and the driveline cannot be moved forward or backward.

WARNING

Be certain that the driveline is securely attached to the PTO shaft on the power source. Install all shield system components before beginning operation.



Hydraulic Drive Sprayer Pump Hose Hook Up (Optional)

Hydraulic Hose Hook Up:

WARNING

Hydraulic oil under pressure can spray into eyes and cause physical injury. Follow tractor operator manual instructions for shutting off hydraulic supply and relieving hydraulic pressure before connecting or disconnecting hydraulic hoses.

1. Assemble the sprayer hydraulic pump hoses to the tractor hydraulic couplers.

IMPORTANT: Assemble the hoses to the tractor, but DO NOT activate hydraulics until the pump has been properly primed.

2. Place the tractor hydraulic control lever in the position next to the float position. The pump should operate. If the pump does not operate, place the tractor hydraulic control lever in the float position.

3. Disconnect and reverse the sprayer hose connections at the tractor. The pump should operate.

IMPORTANT: Always use the float position to STOP the hydraulic sprayer pump.

Note: If sprayer is being hitched to the tractor for the first time, charge the sprayer hydraulic system with oil.

IMPORTANT: The storage slots for the hydraulic hoses should ONLY be used when sprayer is disconnected from the tractor and being stored. Hydraulic hoses MUST always be connected to tractor during transport of sprayer.

Control Box Installation

Electrical Connections To Tractor

When connecting the electrical control boxes to the tractor, it is recommended that you purchase a wiring harness pigtail adaptor from your tractor dealer or your local Miller dealer.

Examples of these pigtails are:
Miller Part No. 21.21624, John Deere Part No. RE67013 or Case-IH Part No. 187103A1.

Be sure to ONLY connect to tractors with a 12 Volt Positive electrical system.

Electric Sprayer Controls

Note: Refer to the separate control box owner's manual for detailed installation instructions.

1. Turn OFF all switches.
2. Install control box in the tractor cab in a location where it can be used easily and is readily visible.
3. Determine best routing for control cable and pressure tube. Be sure the cables and/or tubes DO NOT interfere with any moving parts on tractor or sprayer.
4. Install Mounting bracket
5. Make tractor connections for power input, ground and pressure tubing if so equipped.

TeeJet Controller (Standard):

a. Connect the 2 RED wires to the 12 volt power source (positive).

b. Connect the 2 BLACK wires to a ground point on the tractor (negative).

c. Connect the single BLUE wire to the tractor headlight system. The BLUE wire powers the light in the pressure gauge and does not turn OFF with the control box switch. DO NOT connect directly to a power source that does not disconnect when the tractor is shut OFF.

d. Using the pressure tube coupler and fittings, connect the tube in the control wiring harness to the tube in the extension wiring harness. Install the coupler outside the tractor cab in case it would leak.
A gauge isolator (Part No. 07.17961) is available to use in place of the pressure tube coupler. If it is installed outside the tractor cab, it prevents chemicals from entering the tractor cab. It also protects the control box gauge when liquid nitrogen is sprayed.

Raven Rate Controller (Optional):

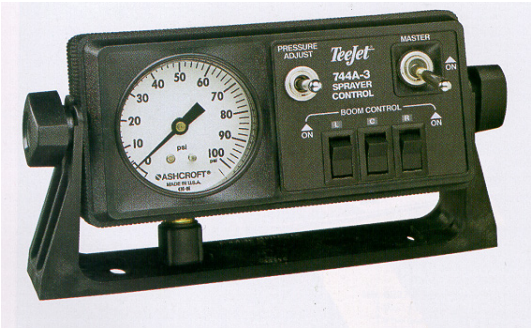
a. Connect the RED wire directly to the battery (12 volt - positive). DO NOT connect to a remote power source.

b. Connect the WHITE wire directly to the battery (12 volt - ground). DO NOT connect to a remote ground source.

c. The rate controller is normally pre-programmed from Miller for your sprayer, but you should verify that the programming matches your sprayer specifications. It is very important that the radar gun input number is correct - refer to the Raven owner's manual.

6. Complete the final assembly and make the final connections. Test system to make sure it is working properly.

TeeJet Controller (Standard)



RAVEN Rate Controller (Optional)

Hydraulic Hose Connections - Boom Control

There are three types of booms available for your sprayer.

- **EF** Hydraulic fold with boom widths of: 38 ft, 45 ft, 48 ft and 51 ft.
- **EFT** Hydraulic fold & wing tilt with boom widths of: 38 ft, 45 ft, 48 ft and 51 ft.
- **HC** Hydraulic fold with boom widths of: 45 ft and 51 ft.

WARNING

Hydraulic oil under pressure can spray into eyes and cause physical injury. Follow tractor operator manual instructions for shutting off hydraulic supply and relieving hydraulic pressure before connecting or disconnecting hydraulic hoses.

EF &EFT Boom Hydraulic Hose Connections

1. The EF & EFT boom utilizes three separate hydraulic hoses which must be connected to the appropriate couplers on the tractor. All three male tips are an ASAE standard tip (Pioneer).
    - The single hose will operate the entire boom UP or DOWN & for EFT boom with switch activated will tilt left wing UP or DOWN.
    - The pair of hoses will operate the fold IN or OUT & for EFT boom with switch activated will tilt right wing UP or DOWN
2. The hoses on the sprayer are maked with colored tie wraps to identify the hoses for proper connection to the tractor. The pair of hoses for the fold IN or OUT will have one color and the boom UP or DOWN will be another color.
3. There is an extra set of the colored tie wraps shipped with your sprayer. Attach these tie wraps to the proper tractor hydraulic couplers to aid in the correct reattaching of the sprayer hydraulic hoses.

Note: If sprayer is being hitched to the tractor for the first time, charge the sprayer hydraulic system with oil.

IMPORTANT: The storage slots for the hydraulic hoses should ONLY be used when sprayer is disconnected from the tractor and being stored. Hydraulic hoses MUST always be connected to tractor during transport of sprayer.

EFT Boom Electrical Connections

There are three wires that are to be connected to the tractor.

1. Connect the two RED wires to the positive (+) 12 volt power source of the tractor. The RED wires can be connected directly to the battery or to an auxiliary connection such as the fuse block.
2. Connect the WHITE wire to the negative (-) ground source of the tractor. The WHITE wire can be connected directly to the negative battery or to an auxiliary connection as long as a good ground is maintained.

HC Boom Hydraulic Hose and Electrical Connections

Your sprayer has been shipped from the factory set-up for use with a tractor that has “Open Center” Hydraulics. Determine if your tractor has this type of hydraulics.

Connect sprayer hydraulic hoses to the tractor hydraulic system. When the HC boom is in use , the hydraulic valve on the tractor MUST be locked open to assure a constant supply of oil to the cylinder valve control bank located at the back of the sprayer.

HC Boom Electrical Connections

There are two wires that are to be connected to the tractor.

1. Connect the RED wire to the positive (+) 12 volt power source of the tractor. The RED wire can be connected directly to the battery or to an auxiliary connection such as the fuse block.

2. Connect the WHITE wire to the negative (-) ground source of the tractor. The WHITE wire can be connected directly to the negative battery or to an auxiliary connection as long as a good ground is maintained.

If your tractor has “Closed Center” Hydraulics, turn the flow rate on your tractor hydraulic system down to 5 to 6 GPM and try the sprayer boom functions. If the sprayer functions are not satisfactory, the valve block located at the rear of the boom can be altered to operate with “Closed Center” Hydraulic systems.

To change from “Open Center” Hydraulic system set-up to “Closed Center” Hydraulics:

1. Locate the valve block at the rear of your sprayer on the rear tower.

2. Locate the lower left solenoid cartridge on the face of the valve block.

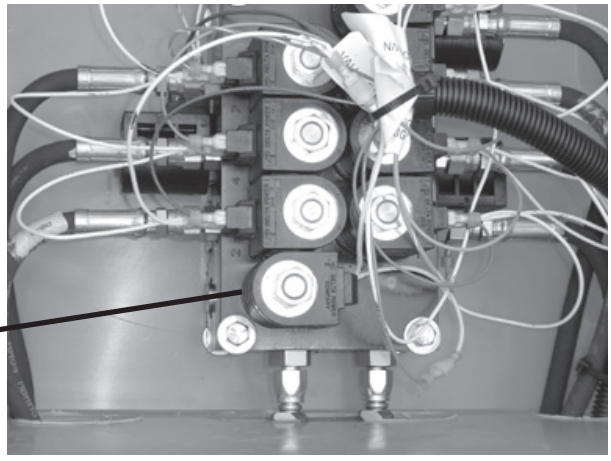
3. Remove the wire coil and open center bypass valve from the valve block. Insert the hex plug, shipped with your sprayer into the valve block and tighten.

4. Your sprayer is now set-up to be used with “Closed Center” Hydraulics.

Note: If sprayer is being hitched to the tractor for the first time, charge the sprayer hydraulic system with oil.

IMPORTANT: The storage slots for the hydraulic hoses should ONLY be used when sprayer is disconnected from the tractor and being stored. Hydraulic hoses MUST always be connected to tractor during transport of sprayer.

Valve Block



Replace This Wire Coil and Open Center Bypass Valve With Plug For Closed Center Hydraulics

Sprayer Accessories

Make all required electrical connections for sprayer accessories. Refer to the “Accessories” section of this manual for proper instructions on electrical connections.

Unhitching Sprayer From Tractor

Unhitching

CAUTION

DO NOT stand between the tractor and sprayer when hitching or unhitching the sprayer unless tractor engine is STOPPED and parking brake is applied.

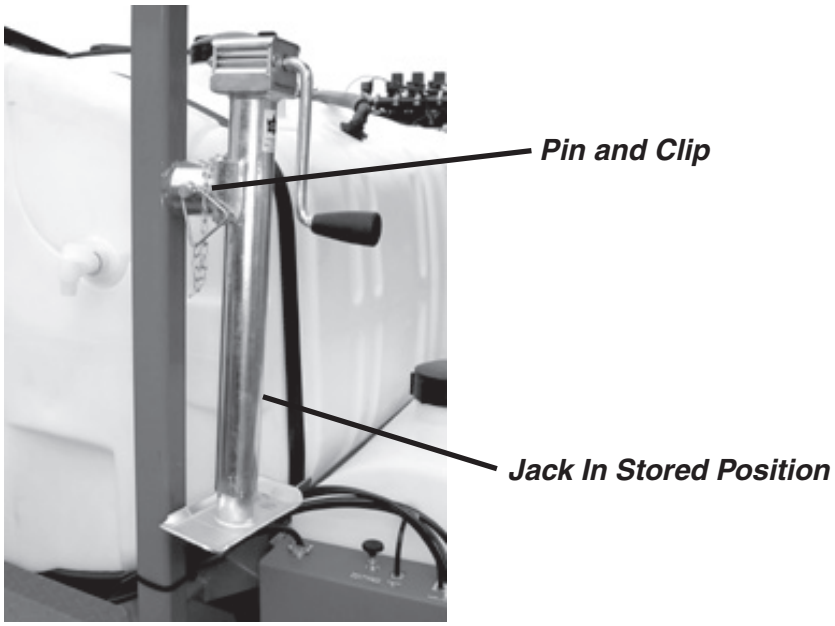
WARNING

Before disconnecting the PTO shaft, make sure that the tractor motor has stopped turning before getting off the tractor.

WARNING

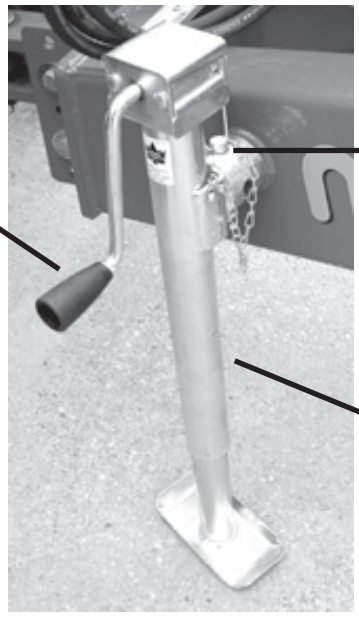
Hydraulic oil under pressure can spray into eyes and cause physical injury. Follow tractor operator manual instructions for shutting off hydraulic supply and relieving hydraulic pressure on sprayers with remote hydraulic controls.

1. Park sprayer on a firm, level surface. Block both sprayer wheels to prevent any unexpected movement when the sprayer is unhitched from the tractor,
2. Shut down and lockout the power source. Refer to “Power Source Shutdown Procedure” on Page 3 of this manual. Follow these procedures to correctly lockout the power source.
3. Remove the pin and clip from the jack mount and remove the jack from the stored position on the sprayer frame.



4. Position the jack onto the mounting hub on the sprayer hitch. Align the holes in the jack with the holes in the mount and insert the pin and clip to secure the jack in place.

5. Turn the leveling crank on the jack until the hitch begins to rise up off the tractor drawbar.

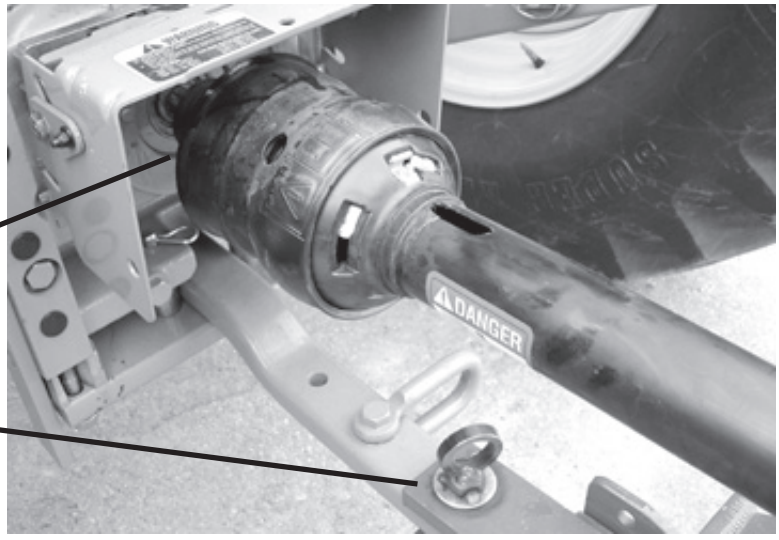


6. Relieve the pressure in the hydraulic system. Uncouple the hoses from the tractor remotes.

7. Disconnect electrical connections on all sprayer accessories.

8. Pull collar on tractor end of implement driveline to the rear. Slide the driveline off the tractor output shaft.

9. Remove the hitch pin and clip. Reinstall the hitch pin and clip in the storage position.



IMPORTANT: The storage slots for the hydraulic hoses should ONLY be used when sprayer is disconnected from the tractor and being stored. Hydraulic hoses MUST always be connected to tractor during transport of sprayer.

Transporting Sprayer

IMPORTANT: Observe the safety precautions when transporting the sprayer to another location:

1. **DO NOT** allow anyone to ride on sprayer or tractor.
2. **DO NOT** transport the sprayer unless the booms are fully folded and boom is securely placed in the boom transport rests.
3. **AVOID** sudden turns which may reduce operator control of the tractor or cause sprayer to tip. Sprayers tend to be top heavy when tank is filled and wheels are set at 62 inches.
4. **ALWAYS** be aware of the location of the ends of the booms in order to avoid collisions with stationary or moving objects.

IMPORTANT: NEVER exceed the maximum towing speed of 20 MPH (32 KMH). Reduce speed when turning or traveling on rough or hilly terrain.

Transport Lighting

The sprayer is equipped with transport lighting for transporting the sprayer on public highways. The light cord supplied with the sprayer has a standard seven prong plug. Contact your tractor dealer if your tractor does not have the appropriate receptacle.

SMV Emblem and Reflectors

The sprayer is provided with reflective strips and a slow moving vehicle (SMV) emblem. Unless prohibited, always use a SMV emblem.

Safety Chain

Sprayers can be equipped with a safety chain (Part No. 329946B91) for travel on public highways. Contact your dealer to order. When attaching chain, be sure to allow enough slack for turning.

Sprayer Accessories

Listed are the accessories available and the connection instructions if required.

For ease of connecting accessories to your tractor, see your tractor dealer or your local Miller dealer for an accessory connecting pigtail harness that connects directly to your tractor electrical system and allows your accessory to be “keyed” to the tractor ignition.

Examples of some of these pigtails are:
Miller Part no. 21.21624, John Deere Part Number RE67013 or Case - IH Part Number 187103A1.

NOTE: If your sprayer is equipped with the HC boom, all connections for these accessories will be incorporated into the HC control box and wire harness.

The instructions listed are for sprayers with EF booms only.

Foam Marker Switch Box

A foam marking system is an optional accessory. If your sprayer is equipped with a foam marker, refer to the owner’s manual supplied with the unit for installation instructions.

Connect the foam marker kit as follows:

- Connect the WHITE wire to the Positive (+) 12 volt power source on your tractor.
- Connect the BLACK wire to the Negative (-) ground source on your tractor or a good ground.

Fence Line Kit (Right Side, Left Side or Both)

A fence line kit is an optional accessory. Refer to the “Optional Accessories” section later in this manual for operation of this accessory.

NOTE: This system is not fused. It is recommended that this system be connected to a fused power source on the tractor.

Connect the fence line kit as follows:

- Connect the RED wire to the Positive (+) 12 volt power source on your tractor.
- Connect the BLACK wire to the Negative (-) ground source on your tractor or a good ground.

In-Cab Electric 50 Gallon Rinse System

A in-cab electric rinse system is a option for your sprayer. This system requires connection to the tractor electrical system.

Connect the in-cab rinse system as follows:

- Connect the RED wire to the Positive (+) 12 volt power source on your tractor.
- Connect the BLACK wire to the Negative (-) ground source on your tractor or a good ground.

NOTE: This system is not fused. It is recommended that this system be connected to a fused power source on the tractor.

Operation

Topics covered in this section include the following:

- Sprayer tip selection
- Priming and calibrating the sprayer
- Sprayer control systems
- Booms and boom operation

A water tank mounted on a trailer, a boom, a pump and a control system are the basic equipment for all sprayers. However, many variations of this basic equipment are possible depending on the capacity of the water tank and the type of boom, pump and control systems selected. In addition, sprayers may also be equipped with various accessories.

NOTE: This section of the manual may include information and procedures for optional accessories which are not part of your sprayer's equipment.

General Information

This section includes general information operators will find helpful for cost-effective sprayer operation.

Measuring Travel Speed

Measure a test course in the area to be sprayed or in an area with similar surface conditions. Minimum lengths of 100 and 200 feet are recommended for measuring speeds up to 5 and 10 miles per hour, respectively. Determine the time required to travel the test course.

To help ensure accuracy, conduct the speed check with a loaded sprayer and select the engine throttle setting and gear that will be used when spraying. Repeat the above process and average the times that were measured. Use the following equation or the table to determine ground speed.

Speed (mph)	Travel Time Required (seconds)		
	100 Feet	200 Feet	300 Feet
3.0	23	45	68
3.5	20	39	58
4.0	17	34	51
4.5	15	30	45
5.0	14	27	41
6.0	---	23	34
7.0	---	19	29
7.5	---	18	27
8.0	---	17	26
9.0	---	15	23

Useful Formulas and Conversions

GPA=	Application rate in gallon per acre
GPM=	Flow rate in gallons per minute
S=	Speed in miles per hour
W=	Nozzle spacing in inches

Calculate flow rate per nozzle when application rate, speed and nozzle spacing are known:

$$\text{GPM (per Nozzle)} = \frac{\text{GPA} \times \text{S} \times \text{W}}{5940}$$

Calculate application rate when nozzle spacing, speed and flow rate are known:

$$\text{GPA} = \frac{5940 \times \text{GPM}}{\text{S} \times \text{W}}$$

Calculate speed when flow rate, application rate and nozzle spacing are known:

$$\text{S} = \frac{5940 \times \text{GPM}}{\text{GPA} \times \text{W}}$$

Convert speed from feet per second to miles per hour:

S = Feet per second x 0.682

Spraying Solutions Other Than Water

Since all the tabulations are based on spraying water, which weighs 8.34 lbs. per US gallon, conversion factors must be used when spraying solutions which are heavier or lighter than water. To determine the proper size nozzle for the solution to be sprayed, first multiply the desired GPM or GPA of solution by the water rate conversion factor. Then use the new converted GPM or GPA rate to select the proper size nozzle.

Example:

Desired application is 20 GPA of 28%N. Determine the correct nozzle size as follows:

GPA (solution) x Conversion factor = GPA (from table)

20 GPA (28%) x 1.13 = 22.6 GPA (water)

The applicator should choose a nozzle size that will supply 22.6 GPA of water at the desired pressure.

Weight Of Solution	Specific Gravity	Conversion Factors
8.34 lbs per gallon - Water	1.0	1.0
10.65 lbs per gallon - 28% Nitrogen	1.28	1.13
11.0 lbs per gallon - 32% Nitrogen	1.32	1.15

Tip Selection

Proper application of agricultural chemicals is essential to good performance. Applying the correct amount and effectively covering the target are key factors in proper application. Too often, poor weed, disease, or insect control can be traced to problems with spray distribution along the boom.

Spray distribution refers to the uniformity of spray coverage across the boom swath. The goal in broadcast spraying is even (uniform) spray distribution. Factors affecting spray distribution include nozzle type, spray pattern angle, nozzle spacing and boom height. When selecting nozzles to be used on a boom for broadcast application, finding the correct combination of these factors is important. The nozzle spray angle and the height of the boom will determine the overlap between adjacent tips, which is critical to uniform distribution.

Unless otherwise specified at the time of manufacture, your sprayer is equipped with flat fan spray nozzles having the following characteristics:

- Volume: approximately 20 GPA at 30 psi at 5 mph
- Spray angle: 110 degrees
- Nozzle spacing: 20 inches

If you want to change the application rate or the type of nozzle, the tables on the following pages provide the information needed to help you choose the right nozzle for common applications. (Refer to the product catalog for more specific information).

IMPORTANT: Your chemical supplier can give you accurate information about the recommended chemical mixture and the application rate. Check with your supplier before you select a different tip.

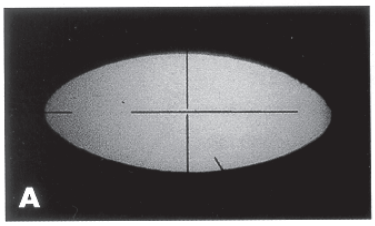
You must know the following information to use the nozzle selection tables:

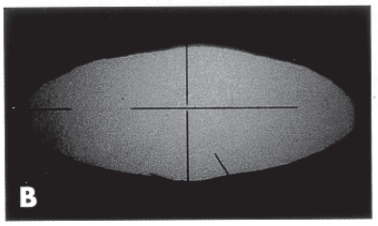
- The type of nozzle (flat fan, cone, or flood)
- The spraying pressure you will be using (psi)
- The application rate (GPA)
- The nozzle spacing (in inches)
- The operating speed in miles per hour

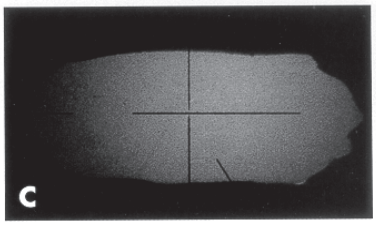
Spray Tip Wear

TeeJet® Spray Tip Wear

TECHNICAL INFORMATION







Tips Don't Last Forever!

There is sufficient evidence that spray tips may be the most neglected component in today's farming…yet they are among the most critical of items in proper application of valuable agricultural chemicals.

For example, a 10 percent over-application of chemical on a twice-sprayed 1000 acre farm could represent a loss of $2,000–$10,000 based on today's chemical investments of $10.00–$50.00 per acre. This does not take into account potential crop damage.

An Inside Look at Nozzle Orifice Wear and Damage

While wear may not be detected when visually inspecting a nozzle, it can be seen when viewed through an optical comparator. The edges of the worn nozzle (B) appear more rounded than the edges of the new nozzle (A). Damage to nozzle (C) was caused by improper cleaning. The spraying results from these tips can be seen in the illustrations below.

Determining Tip Wear

The best way to determine if a spray tip is excessively worn is to compare the flow rate from the used tip to the flow rate of a new tip of the same size and type. Charts in this catalog indicate the flow rates for new nozzles. Check the flow of each tip by using an accurate graduated collection container, a timing device and an accurate pressure gauge mounted at the nozzle tip. Compare the flow rate of the old tip to that of the new one. Spray tips are considered excessively worn and should be replaced when their flow exceeds the flow of a new tip by 10%. Reference pages 136 for more information.

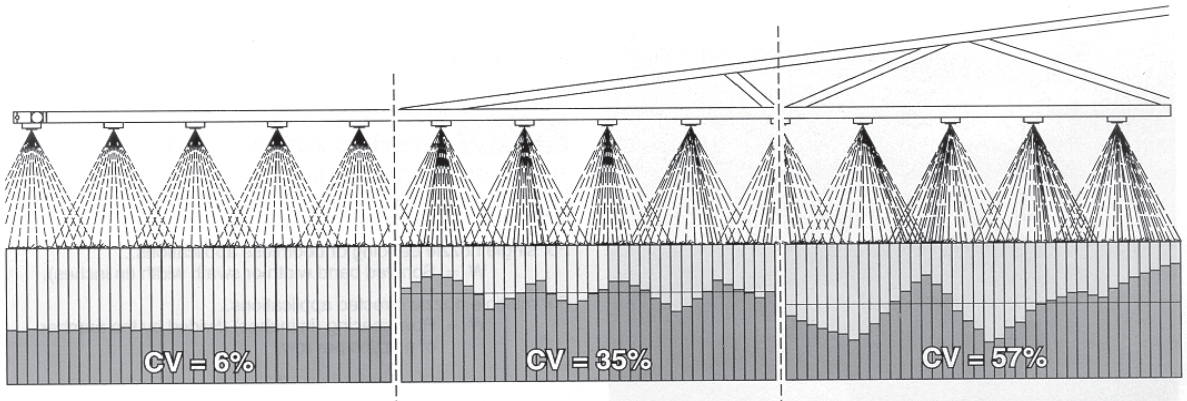
Spray Tip Care is the First Step to Successful Application

The successful performance of a crop chemical is highly dependent on its proper application as recommended by the chemical manufacturer. Proper selection and operation of spray nozzles are very important steps in accurate chemical application. The volume of spray passing through each nozzle plus the droplet size and spray distribution on the target can influence pest control.

Critical in controlling these three factors is the spray nozzle orifice. Careful craftsmanship goes into the precision manufacturing of each nozzle orifice. Although a dealer can help in spray tip selection, the maintenance of those tips rests solely in the hands of the user.

The illustration below compares the spraying results obtained from well-maintained vs. poorly-maintained spray tips. Poor spray distribution can be prevented. Selection of longer wearing tip materials or frequent replacement of tips from softer materials can eliminate misapplication due to worn spray tips.

Careful cleaning of a clogged spray tip can mean the difference between a clean field and one with weed streaks. Flat spray tips have finely crafted thin edges around the orifice to control the spray. Even the slightest damage from improper cleaning can cause both an increased flow rate and poor spray distribution. Be sure to use adequate strainers in your spray system to minimize clogging. If a tip does clog, only use a soft bristled brush or toothpick to clean it…never use a metal object. Use extreme care with soft tip materials such as plastic. Experience has shown that even a wooden toothpick can distort the orifice.



NEW SPRAY TIPS

Produce a uniform distribution when properly overlapped.

WORN SPRAY TIPS

Have a higher output with more spray concentrated under each tip.

DAMAGED SPRAY TIPS

Have a very erratic output – overapplying and underapplying.

Air Induction Spray Tips (Greenleaf Turbo Drop Nozzles)
15 Inch Nozzle Spacing

Medium Pressure TurboDrop® XL Nozzle (TDXL, TDCXL)

Optimal pressure range is 30-90 psi. Targeting 60 psi operating pressure will allow for greater changes in speed and pressure. Max pressure is 120 psi. Higher pressures are recommended for contact pesticides (60-120 psi).

At lower pressures, the spray angle of the exit tip will narrow by approximately 10-15% (making a 110 degree tip essentially a 90-100 degree tip). Make necessary boom height adjustment for desired overlap. (For 20" spacing, a height of 20-36" is recommended.)

Complete Nozzle #	Liquid Pressure PSI	Nozzle Capacity GPM	GALLONS PER ACRE BASED ON 15" NOZZLE SPACING									
			4 MPH	5 MPH	6 MPH	7 MPH	8 MPH	10 MPH	12 MPH	14 MPH	16 MPH	18 MPH
	20	0.07	7.0	5.6	4.7	4.0	3.5	2.8	2.3	2.0	1.7	1.6
	30	0.09	8.6	6.9	5.7	4.9	4.3	3.4	2.9	2.4	2.1	1.9
	40	0.10	9.9	7.9	6.6	5.7	4.9	4.0	3.3	2.8	2.5	2.2
AM11001	50	0.11	11.1	8.8	7.4	6.3	5.5	4.4	3.7	3.2	2.8	2.5
	60	0.12	12.1	9.7	8.1	6.9	6.1	4.8	4.0	3.5	3.0	2.7
	70	0.13	13.1	10.5	8.7	7.5	6.5	5.2	4.4	3.7	3.3	2.9
TDXL-11001	80	0.14	14.0	11.2	9.3	8.0	7.0	5.6	4.7	4.0	3.5	3.1
TDCXL-11001	90	0.15	14.8	11.9	9.9	8.5	7.4	5.9	4.9	4.2	3.7	3.3
	100	0.16	15.6	12.5	10.4	8.9	7.8	6.3	5.2	4.5	3.9	3.5
	110	0.17	16.4	13.1	10.9	9.4	8.2	6.6	5.5	4.7	4.1	3.6
	120	0.17	17.1	13.7	11.4	9.8	8.6	6.9	5.7	4.9	4.3	3.8
	130	0.18	17.8	14.3	11.9	10.2	8.9	7.1	5.9	5.1	4.5	4.0
50 mesh screen	140	0.19	18.5	14.8	12.3	10.6	9.3	7.4	6.2	5.3	4.6	4.1
	150	0.19	19.2	15.3	12.8	10.9	9.6	7.7	6.4	5.5	4.8	4.3
	20	0.11	10.5	8.4	7.0	6.0	5.2	4.2	3.5	3.0	2.6	2.3
	30	0.13	12.9	10.3	8.6	7.3	6.4	5.1	4.3	3.7	3.2	2.9
	40	0.15	14.8	11.9	9.9	8.5	7.4	5.9	4.9	4.2	3.7	3.3
AM110015	50	0.17	16.6	13.3	11.1	9.5	8.3	6.6	5.5	4.7	4.1	3.7
	60	0.18	18.2	14.5	12.1	10.4	9.1	7.3	6.1	5.2	4.5	4.0
	70	0.20	19.6	15.7	13.1	11.2	9.8	7.9	6.5	5.6	4.9	4.4
TDXL-110015	80	0.21	21.0	16.8	14.0	12.0	10.5	8.4	7.0	6.0	5.2	4.7
TDCXL-110015	90	0.22	22.3	17.8	14.8	12.7	11.1	8.9	7.4	6.4	5.6	4.9
	100	0.24	23.5	18.8	15.6	13.4	11.7	9.4	7.8	6.7	5.9	5.2
	110	0.25	24.6	19.7	16.4	14.1	12.3	9.8	8.2	7.0	6.2	5.5
	120	0.26	25.7	20.6	17.1	14.7	12.9	10.3	8.6	7.3	6.4	5.7
	120	0.26	25.7	20.6	17.1	14.7	12.9	10.3	8.6	7.3	6.4	5.7
	130	0.27	26.8	21.4	17.8	15.3	13.4	10.7	8.9	7.6	6.7	5.9
50 mesh screen	140	0.28	27.8	22.2	18.5	15.9	13.9	11.1	9.3	7.9	6.9	6.2
	150	0.29	28.7	23.0	19.2	16.4	14.4	11.5	9.6	8.2	7.2	6.4

15 Inch Nozzle Spacing (continued)

Complete Nozzle #	Liquid Pressure PSI	Nozzle Capacity GPM	GALLONS PER ACRE BASED ON 15" NOZZLE SPACING									
			4 MPH	5 MPH	6 MPH	7 MPH	8 MPH	10 MPH	12 MPH	14 MPH	16 MPH	18 MPH
	20	0.14	14.0	11.2	9.3	8.0	7.0	5.6	4.7	4.0	3.5	3.1
	30	0.17	17.1	13.7	11.4	9.8	8.6	6.9	5.7	4.9	4.3	3.8
	40	0.20	19.8	15.8	13.2	11.3	9.9	7.9	6.6	5.7	4.9	4.4
AM11002	50	0.22	22.1	17.7	14.7	12.6	11.1	8.8	7.4	6.3	5.5	4.9
	60	0.24	24.2	19.4	16.2	13.8	12.1	9.7	8.1	6.9	6.1	5.4
	70	0.26	26.2	20.9	17.4	15.0	13.1	10.5	8.7	7.5	6.5	5.8
TDXL-11002	80	0.28	28.0	22.4	18.7	16.0	14.0	11.2	9.3	8.0	7.0	6.2
TDCXL-11002	90	0.30	29.7	23.7	19.8	17.0	14.8	11.9	9.9	8.5	7.4	6.6
	100	0.32	31.3	25.0	20.9	17.9	15.6	12.5	10.4	8.9	7.8	7.0
	110	0.33	32.8	26.2	21.9	18.7	16.4	13.1	10.9	9.4	8.2	7.3
	120	0.35	34.3	27.4	22.8	19.6	17.1	13.7	11.4	9.8	8.6	7.6
	130	0.36	35.7	28.5	23.8	20.4	17.8	14.3	11.9	10.2	8.9	7.9
50 mesh screen	140	0.37	37.0	29.6	24.7	21.2	18.5	14.8	12.3	10.6	9.3	8.2
	150	0.39	38.3	30.7	25.5	21.9	19.2	15.3	12.8	10.9	9.6	8.5
	20	0.18	17.5	14.0	11.7	10.0	8.7	7.0	5.8	5.0	4.4	3.9
	30	0.22	21.4	17.1	14.3	12.2	10.7	8.6	7.1	6.1	5.4	4.8
	40	0.25	24.7	19.8	16.5	14.1	12.4	9.9	8.2	7.1	6.2	5.5
AM110025	50	0.28	27.7	22.1	18.4	15.8	13.8	11.1	9.2	7.9	6.9	6.1
	60	0.31	30.3	24.2	20.2	17.3	15.1	12.1	10.1	8.7	7.6	6.7
	70	0.33	32.7	26.2	21.8	18.7	16.4	13.1	10.9	9.3	8.2	7.3
TDXL-110025	80	0.35	35.0	28.0	23.3	20.0	17.5	14.0	11.7	10.0	8.7	7.8
TDCXL-110025	90	0.37	37.1	29.7	24.7	21.2	18.5	14.8	12.4	10.6	9.3	8.2
	100	0.40	39.1	31.3	26.1	22.3	19.6	15.6	13.0	11.2	9.8	8.7
	110	0.41	41.0	32.8	27.3	23.4	20.5	16.4	13.7	11.7	10.3	9.1
	120	0.43	42.8	34.3	28.6	24.5	21.4	17.1	14.3	12.2	10.7	9.5
	130	0.45	44.6	35.7	29.7	25.5	22.3	17.8	14.9	12.7	11.1	9.9
50 mesh screen	140	0.47	46.3	37.0	30.8	26.4	23.1	18.5	15.4	13.2	11.6	10.3
	150	0.48	47.9	38.3	31.9	27.4	23.9	19.2	16.0	13.7	12.0	10.6
	20	0.21	21.0	16.8	14.0	12.0	10.5	8.4	7.0	6.0	5.2	4.7
	30	0.26	25.7	20.6	17.1	14.7	12.9	10.3	8.6	7.3	6.4	5.7
	40	0.30	29.7	23.7	19.8	17.0	14.8	11.9	9.9	8.5	7.4	6.6
AM11003	50	0.34	33.2	26.5	22.1	19.0	16.6	13.3	11.1	9.5	8.3	7.4
	60	0.37	36.3	29.1	24.2	20.8	18.2	14.5	12.1	10.4	9.1	8.1
	70	0.40	39.3	31.4	26.2	22.4	19.6	15.7	13.1	11.2	9.8	8.7
TDXL-11003	80	0.42	42.0	33.6	28.0	24.0	21.0	16.8	14.0	12.0	10.5	9.3
TDCXL-11003	90	0.45	44.5	35.6	29.7	25.4	22.3	17.8	14.8	12.7	11.1	9.9
	100	0.47	46.9	37.5	31.3	26.8	23.5	18.8	15.6	13.4	11.7	10.4
	110	0.50	49.2	39.4	32.8	28.1	24.6	19.7	16.4	14.1	12.3	10.9
	120	0.52	51.4	41.1	34.3	29.4	25.7	20.6	17.1	14.7	12.9	11.4
	130	0.54	53.5	42.8	35.7	30.6	26.8	21.4	17.8	15.3	13.4	11.9
50 mesh screen	140	0.56	55.5	44.4	37.0	31.7	27.8	22.2	18.5	15.9	13.9	12.3
	150	0.58	57.5	46.0	38.3	32.8	28.7	23.0	19.2	16.4	14.4	12.8
	20	0.28	28.0	22.4	18.7	16.0	14.0	11.2	9.3	8.0	7.0	6.2
	30	0.35	34.3	27.4	22.8	19.6	17.1	13.7	11.4	9.8	8.6	7.6
	40	0.40	39.6	31.7	26.4	22.6	19.8	15.8	13.2	11.3	9.9	8.8
AM11004	50	0.45	44.2	35.4	29.5	25.3	22.1	17.7	14.7	12.6	11.1	9.8
	60	0.49	48.5	38.8	32.3	27.7	24.2	19.4	16.2	13.8	12.1	10.8
	70	0.53	52.3	41.9	34.9	29.9	26.2	20.9	17.4	15.0	13.1	11.6
TDXL-11004	80	0.57	56.0	44.8	37.3	32.0	28.0	22.4	18.7	16.0	14.0	12.4
TDCXL-11004	90	0.60	59.4	47.5	39.6	33.9	29.7	23.7	19.8	17.0	14.8	13.2
	100	0.63	62.6	50.1	41.7	35.8	31.3	25.0	20.9	17.9	15.6	13.9
	110	0.66	65.6	52.5	43.7	37.5	32.8	26.2	21.9	18.7	16.4	14.6
	120	0.69	68.5	54.8	45.7	39.2	34.3	27.4	22.8	19.6	17.1	15.2
	130	0.72	71.3	57.1	47.6	40.8	35.7	28.5	23.8	20.4	17.8	15.9
24 mesh screen	140	0.75	74.0	59.2	49.4	42.3	37.0	29.6	24.7	21.2	18.5	16.5
	150	0.77	76.6	61.3	51.1	43.8	38.3	30.7	25.5	21.9	19.2	17.0

15 Inch Nozzle Spacing (continued)

Complete Nozzle #	Liquid Pressure PSI	Nozzle Capacity GPM	GALLONS PER ACRE BASED ON 15" NOZZLE SPACING									
			4 MPH	5 MPH	6 MPH	7 MPH	8 MPH	10 MPH	12 MPH	14 MPH	16 MPH	18 MPH
	20	0.35	35.0	28.0	23.3	20.0	17.5	14.0	11.7	10.0	8.8	7.8
	30	0.43	42.9	34.3	28.6	24.5	21.4	17.2	14.3	12.3	10.7	9.5
	40	0.50	49.5	39.6	33.0	28.3	24.8	19.8	16.5	14.2	12.4	11.0
AM11005	50	0.56	55.4	44.3	36.9	31.6	27.7	22.1	18.5	15.8	13.8	12.3
	60	0.61	60.7	48.5	40.4	34.7	30.3	24.3	20.2	17.3	15.2	13.5
	70	0.66	65.5	52.4	43.7	37.4	32.8	26.2	21.8	18.7	16.4	14.6
TDXL-11005	80	0.71	70.0	56.0	46.7	40.0	35.0	28.0	23.3	20.0	17.5	15.6
TDCXL-11005	90	0.75	74.3	59.4	49.5	42.5	37.1	29.7	24.8	21.2	18.6	16.5
	100	0.79	78.3	62.6	52.2	44.7	39.2	31.3	26.1	22.4	19.6	17.4
	110	0.83	82.1	65.7	54.8	46.9	41.1	32.9	27.4	23.5	20.5	18.3
	120	0.87	85.8	68.6	57.2	49.0	42.9	34.3	28.6	24.5	21.4	19.1
	130	0.90	89.3	71.4	59.5	51.0	44.6	35.7	29.8	25.5	22.3	19.8
24 mesh screen	140	0.94	92.7	74.1	61.8	52.9	46.3	37.1	30.9	26.5	23.2	20.6
	150	0.97	95.9	76.7	63.9	54.8	48.0	38.4	32.0	27.4	24.0	21.3
	20	0.42	42.0	33.6	28.0	24.0	21.0	16.8	14.0	12.0	10.5	9.3
	30	0.52	51.5	41.2	34.3	29.4	25.7	20.6	17.2	14.7	12.9	11.4
	40	0.60	59.4	47.5	39.6	34.0	29.7	23.8	19.8	17.0	14.9	13.2
AM11006	50	0.67	66.4	53.1	44.3	38.0	33.2	26.6	22.1	19.0	16.6	14.8
	60	0.74	72.8	58.2	48.5	41.6	36.4	29.1	24.3	20.8	18.2	16.2
	70	0.79	78.6	62.9	52.4	44.9	39.3	31.4	26.2	22.5	19.7	17.5
TDXL-11006	80	0.85	84.0	67.2	56.0	48.0	42.0	33.6	28.0	24.0	21.0	18.7
TDCXL-11006	90	0.90	89.1	71.3	59.4	50.9	44.6	35.7	29.7	25.5	22.3	19.8
	100	0.95	94.0	75.2	62.6	53.7	47.0	37.6	31.3	26.8	23.5	20.9
	110	1.00	98.5	78.8	65.7	56.3	49.3	39.4	32.8	28.2	24.6	21.9
	120	1.04	102.9	82.3	68.6	58.8	51.5	41.2	34.3	29.4	25.7	22.9
	130	1.08	107.1	85.7	71.4	61.2	53.6	42.8	35.7	30.6	26.8	23.8
24 mesh screen	140	1.12	111.2	88.9	74.1	63.5	55.6	44.5	37.1	31.8	27.8	24.7
	150	1.16	115.1	92.1	76.7	65.8	57.5	46.0	38.4	32.9	28.8	25.6
	20	0.56	55.8	44.6	37.2	31.9	27.9	22.3	18.6	15.9	13.9	12.4
	30	0.69	68.3	54.7	45.5	39.0	34.2	27.3	22.8	19.5	17.1	15.2
	40	0.80	78.9	63.1	52.6	45.1	39.4	31.6	26.3	22.5	19.7	17.5
	50	0.89	88.2	70.6	58.8	50.4	44.1	35.3	29.4	25.2	22.1	19.6
	60	0.98	96.6	77.3	64.4	55.2	48.3	38.6	32.2	27.6	24.2	21.5
	70	1.05	104.4	83.5	69.6	59.6	52.2	41.7	34.8	29.8	26.1	23.2
TDXL-11008	80	1.13	111.6	89.3	74.4	63.8	55.8	44.6	37.2	31.9	27.9	24.8
TDCXL-11008	90	1.20	118.3	94.7	78.9	67.6	59.2	47.3	39.4	33.8	29.6	26.3
	100	1.26	124.7	99.8	83.2	71.3	62.4	49.9	41.6	35.6	31.2	27.7
	110	1.32	130.8	104.7	87.2	74.8	65.4	52.3	43.6	37.4	32.7	29.1
	120	1.38	136.6	109.3	91.1	78.1	68.3	54.7	45.5	39.0	34.2	30.4
	130	1.44	142.2	113.8	94.8	81.3	71.1	56.9	47.4	40.6	35.6	31.6
	140	1.49	147.6	118.1	98.4	84.3	73.8	59.0	49.2	42.2	36.9	32.8
	150	1.54	152.8	122.2	101.8	87.3	76.4	61.1	50.9	43.6	38.2	33.9
	20	0.71	70.0	56.0	46.6	40.0	35.0	28.0	23.3	20.0	17.5	15.5
	30	0.87	85.7	68.5	57.1	49.0	42.8	34.3	28.6	24.5	21.4	19.0
	40	1.00	98.9	79.1	66.0	56.5	49.5	39.6	33.0	28.3	24.7	22.0
	50	1.12	110.6	88.5	73.7	63.2	55.3	44.2	36.9	31.6	27.7	24.6
	60	1.22	121.2	96.9	80.8	69.2	60.6	48.5	40.4	34.6	30.3	26.9
	70	1.32	130.9	104.7	87.2	74.8	65.4	52.3	43.6	37.4	32.7	29.1
TDXL-11010	80	1.41	139.9	111.9	93.3	79.9	70.0	56.0	46.6	40.0	35.0	31.1
TDCXL-11010	90	1.50	148.4	118.7	98.9	84.8	74.2	59.4	49.5	42.4	37.1	33.0
	100	1.58	156.4	125.1	104.3	89.4	78.2	62.6	52.1	44.7	39.1	34.8
	110	1.66	164.1	131.2	109.4	93.7	82.0	65.6	54.7	46.9	41.0	36.5
	120	1.73	171.3	137.1	114.2	97.9	85.7	68.5	57.1	49.0	42.8	38.1
	130	1.80	178.3	142.7	118.9	101.9	89.2	71.3	59.4	51.0	44.6	39.6
	140	1.87	185.1	148.1	123.4	105.8	92.5	74.0	61.7	52.9	46.3	41.1
	150	1.94	191.6	153.3	127.7	109.5	95.8	76.6	63.9	54.7	47.9	42.6

Air Induction Spray Tips (Greenleaf Turbo Drop Nozzles)
20 Inch Nozzle Spacing

Medium Pressure TurboDrop® XL Nozzle (TDXL, TDCXL)

Optimal pressure range is 30-90 psi. Targeting 60 psi operating pressure will allow for greater changes in speed and pressure. Max pressure is 120 psi. Higher pressures are recommended for contact pesticides (60-120 psi).

At lower pressures, the spray angle of the exit tip will narrow by approximately 10-15% (making a 110 degree tip essentially a 90-100 degree tip). Make necessary boom height adjustment for desired overlap. (For 20" spacing, a height of 20-36" is recommended.)

Complete Nozzle #	Liquid Pressure PSI	Nozzle Capacity GPM	GALLONS PER ACRE BASED ON 20" NOZZLE SPACING									
			4 MPH	5 MPH	6 MPH	7 MPH	8 MPH	10 MPH	12 MPH	14 MPH	16 MPH	18 MPH
	20	0.07	5.2	4.2	3.5	3.0	2.6	2.1	1.7	1.5	1.3	1.2
	30	0.09	6.4	5.1	4.3	3.7	3.2	2.6	2.1	1.8	1.6	1.4
	40	0.10	7.4	5.9	4.9	4.2	3.7	3.0	2.5	2.1	1.9	1.6
AM11001	50	0.11	8.3	6.6	5.5	4.7	4.1	3.3	2.8	2.4	2.1	1.8
	60	0.12	9.1	7.3	6.1	5.2	4.5	3.6	3.0	2.6	2.3	2.0
	70	0.13	9.8	7.9	6.5	5.6	4.9	3.9	3.3	2.8	2.5	2.2
TDXL-11001	80	0.14	10.5	8.4	7.0	6.0	5.2	4.2	3.5	3.0	2.6	2.3
TDCXL-11001	90	0.15	11.1	8.9	7.4	6.4	5.6	4.5	3.7	3.2	2.8	2.5
	100	0.16	11.7	9.4	7.8	6.7	5.9	4.7	3.9	3.4	2.9	2.6
	110	0.17	12.3	9.8	8.2	7.0	6.2	4.9	4.1	3.5	3.1	2.7
	120	0.17	12.9	10.3	8.6	7.3	6.4	5.1	4.3	3.7	3.2	2.9
	130	0.18	13.4	10.7	8.9	7.6	6.7	5.4	4.5	3.8	3.3	3.0
50 mesh screen	140	0.19	13.9	11.1	9.3	7.9	6.9	5.6	4.6	4.0	3.5	3.1
	150	0.19	14.4	11.5	9.6	8.2	7.2	5.7	4.8	4.1	3.6	3.2
	20	0.11	7.9	6.3	5.2	4.5	3.9	3.1	2.6	2.2	2.0	1.7
	30	0.13	9.6	7.7	6.4	5.5	4.8	3.9	3.2	2.8	2.4	2.1
	40	0.15	11.1	8.9	7.4	6.4	5.6	4.5	3.7	3.2	2.8	2.5
AM110015	50	0.17	12.4	10.0	8.3	7.1	6.2	5.0	4.1	3.6	3.1	2.8
	60	0.18	13.6	10.9	9.1	7.8	6.8	5.5	4.5	3.9	3.4	3.0
	70	0.20	14.7	11.8	9.8	8.4	7.4	5.9	4.9	4.2	3.7	3.3
TDXL-110015	80	0.21	15.7	12.6	10.5	9.0	7.9	6.3	5.2	4.5	3.9	3.5
TDCXL-110015	90	0.22	16.7	13.4	11.1	9.5	8.3	6.7	5.6	4.8	4.2	3.7
	100	0.24	17.6	14.1	11.7	10.1	8.8	7.0	5.9	5.0	4.4	3.9
	110	0.25	18.5	14.8	12.3	10.5	9.2	7.4	6.2	5.3	4.6	4.1
	120	0.26	19.3	15.4	12.9	11.0	9.6	7.7	6.4	5.5	4.8	4.3
	120	0.26	19.3	15.4	12.9	11.0	9.6	7.7	6.4	5.5	4.8	4.3
	130	0.27	20.1	16.1	13.4	11.5	10.0	8.0	6.7	5.7	5.0	4.5
50 mesh screen	140	0.28	20.8	16.7	13.9	11.9	10.4	8.3	6.9	5.9	5.2	4.6
	150	0.29	21.6	17.2	14.4	12.3	10.8	8.6	7.2	6.2	5.4	4.8

20 Inch Nozzle Spacing (continued)

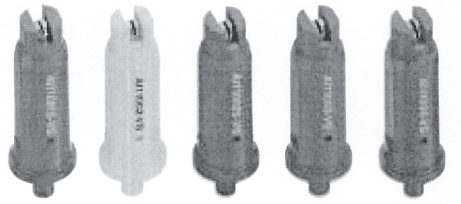
Complete Nozzle #	Liquid Pressure PSI	Nozzle Capacity GPM	GALLONS PER ACRE BASED ON 20" NOZZLE SPACING									
			4 MPH	5 MPH	6 MPH	7 MPH	8 MPH	10 MPH	12 MPH	14 MPH	16 MPH	18 MPH
	20	0.14	10.5	8.4	7.0	6.0	5.2	4.2	3.5	3.0	2.6	2.3
	30	0.17	12.9	10.3	8.6	7.3	6.4	5.1	4.3	3.7	3.2	2.9
	40	0.20	14.8	11.9	9.9	8.5	7.4	5.9	4.9	4.2	3.7	3.3
AM11002	50	0.22	16.6	13.3	11.1	9.5	8.3	6.6	5.5	4.7	4.1	3.7
	60	0.24	18.2	14.5	12.1	10.4	9.1	7.3	6.1	5.2	4.5	4.0
	70	0.26	19.6	15.7	13.1	11.2	9.8	7.9	6.5	5.6	4.9	4.4
TDXL-11002	80	0.28	21.0	16.8	14.0	12.0	10.5	8.4	7.0	6.0	5.2	4.7
TDCXL-11002	90	0.30	22.3	17.8	14.8	12.7	11.1	8.9	7.4	6.4	5.6	4.9
	100	0.32	23.5	18.8	15.6	13.4	11.7	9.4	7.8	6.7	5.9	5.2
	110	0.33	24.6	19.7	16.4	14.1	12.3	9.8	8.2	7.0	6.2	5.5
	120	0.35	25.7	20.6	17.1	14.7	12.9	10.3	8.6	7.3	6.4	5.7
	130	0.36	26.8	21.4	17.8	15.3	13.4	10.7	8.9	7.6	6.7	5.9
50 mesh screen	140	0.37	27.8	22.2	18.5	15.9	13.9	11.1	9.3	7.9	6.9	6.2
	150	0.39	28.7	23.0	19.2	16.4	14.4	11.5	9.6	8.2	7.2	6.4
	20	0.18	13.1	10.5	8.7	7.5	6.6	5.2	4.4	3.7	3.3	2.9
	30	0.22	16.1	12.9	10.7	9.2	8.0	6.4	5.4	4.6	4.0	3.6
	40	0.25	18.5	14.8	12.4	10.6	9.3	7.4	6.2	5.3	4.6	4.1
AM110025	50	0.28	20.7	16.6	13.8	11.9	10.4	8.3	6.9	5.9	5.2	4.6
	60	0.31	22.7	18.2	15.1	13.0	11.4	9.1	7.6	6.5	5.7	5.0
	70	0.33	24.5	19.6	16.4	14.0	12.3	9.8	8.2	7.0	6.1	5.5
TDXL-110025	80	0.35	26.2	21.0	17.5	15.0	13.1	10.5	8.7	7.5	6.6	5.8
TDCXL-110025	90	0.37	27.8	22.3	18.5	15.9	13.9	11.1	9.3	7.9	7.0	6.2
	100	0.40	29.3	23.5	19.6	16.8	14.7	11.7	9.8	8.4	7.3	6.5
	110	0.41	30.8	24.6	20.5	17.6	15.4	12.3	10.3	8.8	7.7	6.8
	120	0.43	32.1	25.7	21.4	18.4	16.1	12.9	10.7	9.2	8.0	7.1
	130	0.45	33.4	26.8	22.3	19.1	16.7	13.4	11.1	9.6	8.4	7.4
50 mesh screen	140	0.47	34.7	27.8	23.1	19.8	17.4	13.9	11.6	9.9	8.7	7.7
	150	0.48	35.9	28.7	23.9	20.5	18.0	14.4	12.0	10.3	9.0	8.0
	20	0.21	15.7	12.6	10.5	9.0	7.9	6.3	5.2	4.5	3.9	3.5
	30	0.26	19.3	15.4	12.9	11.0	9.6	7.7	6.4	5.5	4.8	4.3
	40	0.30	22.3	17.8	14.8	12.7	11.1	8.9	7.4	6.4	5.6	4.9
AM11003	50	0.34	24.9	19.9	16.6	14.2	12.4	10.0	8.3	7.1	6.2	5.5
	60	0.37	27.3	21.8	18.2	15.6	13.6	10.9	9.1	7.8	6.8	6.1
	70	0.40	29.4	23.6	19.6	16.8	14.7	11.8	9.8	8.4	7.4	6.5
TDXL-11003	80	0.42	31.5	25.2	21.0	18.0	15.7	12.6	10.5	9.0	7.9	7.0
TDCXL-11003	90	0.45	33.4	26.7	22.3	19.1	16.7	13.4	11.1	9.5	8.3	7.4
	100	0.47	35.2	28.2	23.5	20.1	17.6	14.1	11.7	10.1	8.8	7.8
	110	0.50	36.9	29.5	24.6	21.1	18.5	14.8	12.3	10.5	9.2	8.2
	120	0.52	38.6	30.8	25.7	22.0	19.3	15.4	12.9	11.0	9.6	8.6
	130	0.54	40.1	32.1	26.8	22.9	20.1	16.1	13.4	11.5	10.0	8.9
50 mesh screen	140	0.56	41.6	33.3	27.8	23.8	20.8	16.7	13.9	11.9	10.4	9.3
	150	0.58	43.1	34.5	28.7	24.6	21.6	17.2	14.4	12.3	10.8	9.6
	20	0.28	21.0	16.8	14.0	12.0	10.5	8.4	7.0	6.0	5.2	4.7
	30	0.35	25.7	20.6	17.1	14.7	12.9	10.3	8.6	7.3	6.4	5.7
	40	0.40	29.7	23.7	19.8	17.0	14.8	11.9	9.9	8.5	7.4	6.6
AM11004	50	0.45	33.2	26.5	22.1	19.0	16.6	13.3	11.1	9.5	8.3	7.4
	60	0.49	36.3	29.1	24.2	20.8	18.2	14.5	12.1	10.4	9.1	8.1
	70	0.53	39.3	31.4	26.2	22.4	19.6	15.7	13.1	11.2	9.8	8.7
TDXL-11004	80	0.57	42.0	33.6	28.0	24.0	21.0	16.8	14.0	12.0	10.5	9.3
TDCXL-11004	90	0.60	44.5	35.6	29.7	25.4	22.3	17.8	14.8	12.7	11.1	9.9
	100	0.63	46.9	37.5	31.3	26.8	23.5	18.8	15.6	13.4	11.7	10.4
	110	0.66	49.2	39.4	32.8	28.1	24.6	19.7	16.4	14.1	12.3	10.9
	120	0.69	51.4	41.1	34.3	29.4	25.7	20.6	17.1	14.7	12.9	11.4
	130	0.72	53.5	42.8	35.7	30.6	26.8	21.4	17.8	15.3	13.4	11.9
24 mesh screen	140	0.75	55.5	44.4	37.0	31.7	27.8	22.2	18.5	15.9	13.9	12.3
	150	0.77	57.5	46.0	38.3	32.8	28.7	23.0	19.2	16.4	14.4	12.8

20 Inch Nozzle Spacing (continued)

Complete Nozzle #	Liquid Pressure PSI	Nozzle Capacity GPM	GALLONS PER ACRE BASED ON 20" NOZZLE SPACING									
			4 MPH	5 MPH	6 MPH	7 MPH	8 MPH	10 MPH	12 MPH	14 MPH	16 MPH	18 MPH
	20	0.35	26.3	21.0	17.5	15.0	13.1	10.5	8.8	7.5	6.6	5.8
	30	0.43	32.2	25.7	21.4	18.4	16.1	12.9	10.7	9.2	8.0	7.1
	40	0.50	37.1	29.7	24.8	21.2	18.6	14.9	12.4	10.6	9.3	8.3
AM11005	50	0.56	41.5	33.2	27.7	23.7	20.8	16.6	13.8	11.9	10.4	9.2
	60	0.61	45.5	36.4	30.3	26.0	22.7	18.2	15.2	13.0	11.4	10.1
	70	0.66	49.1	39.3	32.8	28.1	24.6	19.7	16.4	14.0	12.3	10.9
TDXL-11005	80	0.71	52.5	42.0	35.0	30.0	26.3	21.0	17.5	15.0	13.1	11.7
TDCXL-11005	90	0.75	55.7	44.6	37.1	31.8	27.9	22.3	18.6	15.9	13.9	12.4
	100	0.79	58.7	47.0	39.2	33.6	29.4	23.5	19.6	16.8	14.7	13.1
	110	0.83	61.6	49.3	41.1	35.2	30.8	24.6	20.5	17.6	15.4	13.7
	120	0.87	64.3	51.5	42.9	36.8	32.2	25.7	21.4	18.4	16.1	14.3
	130	0.90	67.0	53.6	44.6	38.3	33.5	26.8	22.3	19.1	16.7	14.9
24 mesh screen	140	0.94	69.5	55.6	46.3	39.7	34.7	27.8	23.2	19.9	17.4	15.4
	150	0.97	71.9	57.5	48.0	41.1	36.0	28.8	24.0	20.6	18.0	16.0
	20	0.42	31.5	25.2	21.0	18.0	15.8	12.6	10.5	9.0	7.9	7.0
	30	0.52	38.6	30.9	25.7	22.1	19.3	15.4	12.9	11.0	9.6	8.6
	40	0.60	44.6	35.7	29.7	25.5	22.3	17.8	14.9	12.7	11.1	9.9
AM11006	50	0.67	49.8	39.9	33.2	28.5	24.9	19.9	16.6	14.2	12.5	11.1
	60	0.74	54.6	43.7	36.4	31.2	27.3	21.8	18.2	15.6	13.6	12.1
	70	0.79	59.0	47.2	39.3	33.7	29.5	23.6	19.7	16.8	14.7	13.1
TDXL-11006	80	0.85	63.0	50.4	42.0	36.0	31.5	25.2	21.0	18.0	15.8	14.0
TDCXL-11006	90	0.90	66.8	53.5	44.6	38.2	33.4	26.7	22.3	19.1	16.7	14.9
	100	0.95	70.5	56.4	47.0	40.3	35.2	28.2	23.5	20.1	17.6	15.7
	110	1.00	73.9	59.1	49.3	42.2	37.0	29.6	24.6	21.1	18.5	16.4
	120	1.04	77.2	61.8	51.5	44.1	38.6	30.9	25.7	22.1	19.3	17.2
	130	1.08	80.3	64.3	53.6	45.9	40.2	32.1	26.8	23.0	20.1	17.9
24 mesh screen	140	1.12	83.4	66.7	55.6	47.6	41.7	33.3	27.8	23.8	20.8	18.5
	150	1.16	86.3	69.0	57.5	49.3	43.1	34.5	28.8	24.7	21.6	19.2
	20	0.56	41.8	33.5	27.9	23.9	20.9	16.7	13.9	12.0	10.5	9.3
	30	0.69	51.2	41.0	34.2	29.3	25.6	20.5	17.1	14.6	12.8	11.4
	40	0.80	59.2	47.3	39.4	33.8	29.6	23.7	19.7	16.9	14.8	13.1
	50	0.89	66.2	52.9	44.1	37.8	33.1	26.5	22.1	18.9	16.5	14.7
	60	0.98	72.5	58.0	48.3	41.4	36.2	29.0	24.2	20.7	18.1	16.1
	70	1.05	78.3	62.6	52.2	44.7	39.1	31.3	26.1	22.4	19.6	17.4
TDXL-11008	80	1.13	83.7	66.9	55.8	47.8	41.8	33.5	27.9	23.9	20.9	18.6
TDCXL-11008	90	1.20	88.8	71.0	59.2	50.7	44.4	35.5	29.6	25.4	22.2	19.7
	100	1.26	93.6	74.8	62.4	53.5	46.8	37.4	31.2	26.7	23.4	20.8
	110	1.32	98.1	78.5	65.4	56.1	49.1	39.2	32.7	28.0	24.5	21.8
	120	1.38	102.5	82.0	68.3	58.6	51.2	41.0	34.2	29.3	25.6	22.8
	130	1.44	106.7	85.3	71.1	61.0	53.3	42.7	35.6	30.5	26.7	23.7
	140	1.49	110.7	88.6	73.8	63.3	55.3	44.3	36.9	31.6	27.7	24.6
	150	1.54	114.6	91.7	76.4	65.5	57.3	45.8	38.2	32.7	28.6	25.5
	20	0.71	52.5	42.0	35.0	30.0	26.2	21.0	17.5	15.0	13.1	11.7
	30	0.87	64.3	51.4	42.8	36.7	32.1	25.7	21.4	18.4	16.1	14.3
	40	1.00	74.2	59.4	49.5	42.4	37.1	29.7	24.7	21.2	18.5	16.5
	50	1.12	83.0	66.4	55.3	47.4	41.5	33.2	27.7	23.7	20.7	18.4
	60	1.22	90.9	72.7	60.6	51.9	45.4	36.3	30.3	26.0	22.7	20.2
	70	1.32	98.2	78.5	65.4	56.1	49.1	39.3	32.7	28.0	24.5	21.8
TDXL-11010	80	1.41	104.9	83.9	70.0	60.0	52.5	42.0	35.0	30.0	26.2	23.3
TDCXL-11010	90	1.50	111.3	89.0	74.2	63.6	55.6	44.5	37.1	31.8	27.8	24.7
	100	1.58	117.3	93.9	78.2	67.0	58.7	46.9	39.1	33.5	29.3	26.1
	110	1.66	123.0	98.4	82.0	70.3	61.5	49.2	41.0	35.2	30.8	27.3
	120	1.73	128.5	102.8	85.7	73.4	64.3	51.4	42.8	36.7	32.1	28.6
	130	1.80	133.8	107.0	89.2	76.4	66.9	53.5	44.6	38.2	33.4	29.7
	140	1.87	138.8	111.0	92.5	79.3	69.4	55.5	46.3	39.7	34.7	30.8
	150	1.94	143.7	114.9	95.8	82.1	71.8	57.5	47.9	41.1	35.9	31.9

TeeJet Air Induction Spray Tips

At Various Speeds And Pressures
<u>20 Inch</u> Tip Spacing



	PSI	Capacity 1 Nozzle in GPM	Capacity 1 Nozzle in oz./min.	20" GPA 4 mph	5 mph	6 mph	8 mph	10 mph	12 mph	15 mph	20 mph	Gallons Per 1000 Sq. Ft. 2 mph	3 mph	4 mph	5 mph
AI110015 (100)	30	0.13	17	9.7	7.7	6.4	4.8	3.9	3.2	2.6	1.9	0.44	0.29	0.22	0.18
	40	0.15	19	11.1	8.9	7.4	5.6	4.5	3.7	3.0	2.2	0.51	0.34	0.26	0.20
	50	0.17	22	12.6	10.1	8.4	6.3	5.0	4.2	3.4	2.5	0.58	0.39	0.29	0.23
	60	0.18	23	13.4	10.7	8.9	6.7	5.3	4.5	3.6	2.7	0.61	0.41	0.31	0.24
	70	0.20	26	14.9	11.9	9.9	7.4	5.9	5.0	4.0	3.0	0.68	0.45	0.34	0.27
	80	0.21	27	15.6	12.5	10.4	7.8	6.2	5.2	4.2	3.1	0.71	0.48	0.36	0.29
	90	0.23	29	17.1	13.7	11.4	8.5	6.8	5.7	4.6	3.4	0.78	0.52	0.39	0.31
	100	0.24	31	17.8	14.3	11.9	8.9	7.1	5.9	4.8	3.6	0.82	0.54	0.41	0.33
AI11002 (50)	30	0.17	22	12.6	10.1	8.4	6.3	5.0	4.2	3.4	2.5	0.58	0.39	0.29	0.23
	40	0.20	26	14.9	11.9	9.9	7.4	5.9	5.0	4.0	3.0	0.68	0.45	0.34	0.27
	50	0.22	28	16.3	13.1	10.9	8.2	6.5	5.4	4.4	3.3	0.75	0.50	0.37	0.30
	60	0.24	31	17.8	14.3	11.9	8.9	7.1	5.9	4.8	3.6	0.82	0.54	0.41	0.33
	70	0.26	33	19.3	15.4	12.9	9.7	7.7	6.4	5.1	3.9	0.88	0.59	0.44	0.35
	80	0.28	36	21	16.6	13.9	10.4	8.3	6.9	5.5	4.2	0.95	0.63	0.48	0.38
	90	0.30	38	22	17.8	14.9	11.1	8.9	7.4	5.9	4.5	1.0	0.68	0.51	0.41
	100	0.32	41	24	19.0	15.8	11.9	9.5	7.9	6.3	4.8	1.1	0.73	0.54	0.44
AI110025 (50)	30	0.22	28	16.3	13.1	10.9	8.2	6.5	5.4	4.4	3.3	0.75	0.50	0.37	0.30
	40	0.25	32	18.6	14.9	12.4	9.3	7.4	6.2	5.0	3.7	0.85	0.57	0.43	0.34
	50	0.28	36	21	16.6	13.9	10.4	8.3	6.9	5.5	4.2	0.95	0.63	0.48	0.38
	60	0.31	40	23	18.4	15.3	11.5	9.2	7.7	6.1	4.6	1.1	0.70	0.53	0.42
	70	0.33	42	25	19.6	16.3	12.3	9.8	8.2	6.5	4.9	1.1	0.75	0.56	0.45
	80	0.35	45	26	21	17.3	13.0	10.4	8.7	6.9	5.2	1.2	0.79	0.60	0.48
	90	0.38	49	28	23	18.8	14.1	11.3	9.4	7.5	5.6	1.3	0.86	0.65	0.52
	100	0.40	51	30	24	19.8	14.9	11.9	9.9	7.9	5.9	1.4	0.91	0.68	0.54
AI11003 (50)	30	0.26	33	19.3	15.4	12.9	9.7	7.7	6.4	5.1	3.9	0.88	0.59	0.44	0.35
	40	0.30	38	22	17.8	14.9	11.1	8.9	7.4	5.9	4.5	1.0	0.68	0.51	0.41
	50	0.34	44	25	20	16.8	12.6	10.1	8.4	6.7	5.0	1.2	0.77	0.58	0.46
	60	0.37	47	27	22	18.3	13.7	11.0	9.2	7.3	5.5	1.3	0.84	0.63	0.50
	70	0.40	51	30	24	19.8	14.9	11.9	9.9	7.9	5.9	1.4	0.91	0.68	0.54
	80	0.42	54	31	25	21	15.6	12.5	10.4	8.3	6.2	1.4	0.95	0.71	0.57
	90	0.45	58	33	27	22	16.7	13.4	11.1	8.9	6.7	1.5	1.0	0.77	0.61
	100	0.47	60	35	28	23	17.4	14.0	11.6	9.3	7.0	1.6	1.1	0.80	0.64
AI11004 (50)	30	0.35	45	26	21	17.3	13.0	10.4	8.7	6.9	5.2	1.2	0.79	0.60	0.48
	40	0.40	51	30	24	19.8	14.9	11.9	9.9	7.9	5.9	1.4	0.91	0.68	0.54
	50	0.45	58	33	27	22	16.7	13.4	11.1	8.9	6.7	1.5	1.0	0.77	0.61
	60	0.49	63	36	29	24	18.2	14.6	12.1	9.7	7.3	1.7	1.1	0.83	0.67
	70	0.53	68	39	31	26	19.7	15.7	13.1	10.5	7.9	1.8	1.2	0.90	0.72
	80	0.57	73	42	34	28	21	16.9	14.1	11.3	8.5	1.9	1.3	0.97	0.78
	90	0.60	77	45	36	30	22	17.8	14.9	11.9	8.9	2.0	1.4	1.0	0.82
	100	0.63	81	47	37	31	23	18.7	15.6	12.5	9.4	2.1	1.4	1.1	0.86
AI11005 (50)	30	0.43	55	32	26	21	16.0	12.8	10.6	8.5	6.4	1.5	0.97	0.73	0.58
	40	0.50	64	37	30	25	18.6	14.9	12.4	9.9	7.4	1.7	1.1	0.85	0.68
	50	0.56	72	42	33	28	21	16.6	13.9	11.1	8.3	1.9	1.3	0.95	0.76
	60	0.61	78	45	36	30	23	18.1	15.1	12.1	9.1	2.1	1.4	1.0	0.83
	70	0.66	84	49	39	33	25	19.6	16.3	13.1	9.8	2.2	1.5	1.1	0.90
	80	0.71	91	53	42	35	26	21	17.6	14.1	10.5	2.4	1.6	1.2	0.97
	90	0.75	96	56	45	37	28	22	18.6	14.9	11.1	2.6	1.7	1.3	1.0
	100	0.79	101	59	47	39	29	23	19.6	15.6	11.7	2.7	1.8	1.3	1.1
AI11006 (50)	30	0.52	67	39	31	26	19.3	15.4	12.9	10.3	7.7	1.8	1.2	0.88	0.71
	40	0.60	77	45	36	30	22	17.8	14.9	11.9	8.9	2.0	1.4	1.0	0.82
	50	0.67	86	50	40	33	25	19.9	16.6	13.3	9.9	2.3	1.5	1.1	0.91
	60	0.73	93	54	43	36	27	22	18.1	14.5	10.8	2.5	1.7	1.2	0.99
	70	0.79	101	59	47	39	29	23	19.6	15.6	11.7	2.7	1.8	1.3	1.1
	80	0.85	109	63	50	42	32	25	21	16.8	12.6	2.9	1.9	1.4	1.2
	90	0.90	115	67	53	45	33	27	22	17.8	13.4	3.1	2.0	1.5	1.2
	100	0.95	122	71	56	47	35	28	24	18.8	14.1	3.2	2.2	1.6	1.3
AI11008 (50)	30	0.69	88	51	41	34	26	20	17.1	13.7	10.2	2.3	1.6	1.2	0.94
	40	0.80	102	59	48	40	30	24	19.8	15.8	11.9	2.7	1.8	1.4	1.1
	50	0.89	114	66	53	44	33	26	22	17.6	13.2	3.0	2.0	1.5	1.2
	60	0.98	125	73	58	49	36	29	24	19.4	14.6	3.3	2.2	1.7	1.3
	70	1.06	136	79	63	52	39	31	26	21	15.7	3.6	2.4	1.8	1.4
	80	1.13	145	84	67	56	42	34	28	22	16.8	3.8	2.6	1.9	1.5
	90	1.20	154	89	71	59	45	36	30	24	17.8	4.1	2.7	2.0	1.6
	100	1.26	161	94	75	62	47	37	31	25	18.7	4.3	2.9	2.1	1.7

TeeJet Application Rates in Gallons Per Acre

At Various Speeds And Pressures
15 Inch Tip Spacing

Tip Size	Pressure (PSI)	Nozzle Capacity (GPM)	Nozzle Capacity (oz/min)	15 INCH TIP SPACING									
				5 MPH	6 MPH	7 MPH	8 MPH	10 MPH	12 MPH	13 MPH	14 MPH	16 MPH	18 MPH
	15	0.06	8	4.8	4.0	3.4	3.0	2.4	2.0	1.8	1.7	1.5	1.3
	20	0.07	9	5.5	4.6	4.0	3.5	2.8	2.3	2.1	2.0	1.7	1.5
	25	0.08	10	6.3	5.3	4.5	4.0	3.2	2.6	2.4	2.3	2.0	1.8
	30	0.09	12	7.1	5.9	5.1	4.5	3.6	3.0	2.7	2.5	2.2	2.0
	35	0.09	12	7.1	5.9	5.1	4.5	3.6	3.0	2.7	2.5	2.2	2.0
XR11001VS	40	0.10	13	7.9	6.6	5.7	5.0	4.0	3.3	3.0	2.8	2.5	2.2
	50	0.11	14	8.7	7.3	6.2	5.4	4.4	3.6	3.4	3.1	2.7	2.4
	60	0.12	15	9.5	7.9	6.8	5.9	4.8	4.0	3.7	3.4	3.0	2.6
	70	0.13	17	10.3	8.6	7.4	6.4	5.1	4.3	4.0	3.7	3.2	2.9
	80	0.14	18	11.1	9.2	7.9	6.9	5.5	4.6	4.3	4.0	3.5	3.1
	90	0.15	19	11.9	9.9	8.5	7.4	5.9	5.0	4.6	4.2	3.7	3.3
	100	0.16	20	12.7	10.6	9.1	7.9	6.3	5.3	4.9	4.5	4.0	3.5
	15	0.09	12	7.1	5.9	5.1	4.5	3.6	3.0	2.7	2.5	2.2	2.0
	20	0.11	14	8.7	7.3	6.2	5.4	4.4	3.6	3.4	3.1	2.7	2.4
	25	0.12	15	9.5	7.9	6.8	5.9	4.8	4.0	3.7	3.4	3.0	2.6
	30	0.13	17	10.3	8.6	7.4	6.4	5.1	4.3	4.0	3.7	3.2	2.9
	35	0.14	18	11.1	9.2	7.9	6.9	5.5	4.6	4.3	4.0	3.5	3.1
XR11015VS	40	0.15	19	11.9	9.9	8.5	7.4	5.9	5.0	4.6	4.2	3.7	3.3
	50	0.17	22	13.5	11.2	9.6	8.4	6.7	5.6	5.2	4.8	4.2	3.7
	60	0.18	23	14.3	11.9	10.2	8.9	7.1	5.9	5.5	5.1	4.5	4.0
	70	0.20	26	15.8	13.2	11.3	9.9	7.9	6.6	6.1	5.7	5.0	4.4
	80	0.21	27	17	13.9	11.9	10.4	8.3	6.9	6.4	5.9	5.2	4.6
	90	0.23	29	18	15.2	13.0	11.4	9.1	7.6	7.0	6.5	5.7	5.1
	100	0.24	31	19	15.8	13.6	11.9	9.5	7.9	7.3	6.8	5.9	5.3
	15	0.12	15	9.5	7.9	6.8	5.9	4.8	4.0	3.7	3.4	3.0	2.6
	20	0.14	18	11.1	9.2	7.9	6.9	5.5	4.6	4.3	4.0	3.5	3.1
	25	0.16	20	12.7	10.6	9.1	7.9	6.3	5.3	4.9	4.5	4.0	3.5
	30	0.17	22	13.5	11.2	9.6	8.4	6.7	5.6	5.2	4.8	4.2	3.7
	35	0.19	24	15.0	12.5	10.7	9.4	7.5	6.3	5.8	5.4	4.7	4.2
XR11002VS	40	0.20	26	15.8	13.2	11.3	9.9	7.9	6.6	6.1	5.7	5.0	4.4
	50	0.22	28	17	14.5	12.4	10.9	8.7	7.3	6.7	6.2	5.4	4.8
	60	0.24	31	19	15.8	13.6	11.9	9.5	7.9	7.3	6.8	5.9	5.3
	70	0.26	33	21	17.2	14.7	12.9	10.3	8.6	7.9	7.4	6.4	5.7
	80	0.28	36	22	18	15.8	13.9	11.1	9.2	8.5	7.9	6.9	6.2
	90	0.30	38	24	20	17.0	14.9	11.9	9.9	9.1	8.5	7.4	6.6
	100	0.32	41	25	21	18.1	15.8	12.7	10.6	9.7	9.1	7.9	7.0
	15	0.18	23	14.3	11.9	10.2	8.9	7.1	5.9	5.5	5.1	4.5	4.0
	20	0.21	27	17	13.9	11.9	10.4	8.3	6.9	6.4	5.9	5.2	4.6
	25	0.24	31	19	15.8	13.6	11.9	9.5	7.9	7.3	6.8	5.9	5.3
	30	0.26	33	21	17.2	14.7	12.9	10.3	8.6	7.9	7.4	6.4	5.7
	35	0.28	36	22	18	15.8	13.9	11.1	9.2	8.5	7.9	6.9	6.2
XR11003VS	40	0.30	38	24	20	17.0	14.9	11.9	9.9	9.1	8.5	7.4	6.6
	50	0.34	44	27	22	19	16.8	13.5	11.2	10.4	9.6	8.4	7.5
	60	0.37	47	29	24	21	18.3	14.7	12.2	11.3	10.5	9.2	8.1
	70	0.40	51	32	26	23	19.8	15.8	13.2	12.2	11.3	9.9	8.8
	80	0.42	54	33	28	24	21	16.6	13.9	12.8	11.9	10.4	9.2
	90	0.45	58	36	30	25	22	17.8	14.9	13.7	12.7	11.1	9.9
	100	0.47	60	37	31	27	23	18.6	15.5	14.3	13.3	11.6	10.3

15 Inch Tip Spacing (continued)

Tip Size	Pressure (PSI)	Nozzle Capacity (GPM)	Nozzle Capacity (oz/min)	15 INCH TIP SPACING									
				5 MPH	6 MPH	7 MPH	8 MPH	10 MPH	12 MPH	13 MPH	14 MPH	16 MPH	18 MPH
	15	0.24	31	19	15.8	13.6	11.9	9.5	7.9	7.3	6.8	5.9	5.3
	20	0.28	36	22	18	15.8	13.9	11.1	9.2	8.5	7.9	6.9	6.2
	25	0.32	41	25	21	18.1	15.8	12.7	10.6	9.7	9.1	7.9	7.0
	30	0.35	45	28	23	20	17.3	13.9	11.6	10.7	9.9	8.7	7.7
	35	0.37	47	29	24	21	18.3	14.7	12.2	11.3	10.5	9.2	8.1
XR11004VS	40	0.40	51	32	26	23	19.8	15.8	13.2	12.2	11.3	9.9	8.8
	50	0.45	58	36	30	25	22	17.8	14.9	13.7	12.7	11.1	9.9
	60	0.49	63	39	32	28	24	19.4	16.2	14.9	13.9	12.1	10.8
	70	0.53	68	42	35	30	26	21.0	17.5	16.1	15.0	13.1	11.7
	80	0.57	73	45	38	32	28	23	18.8	17.4	16.1	14.1	12.5
	90	0.60	77	48	40	34	30	24	19.8	18.3	17.0	14.9	13.2
	100	0.63	81	50	42	36	31	25	20.8	19.2	17.8	15.6	13.9
	15	0.31	40	25	20	17.5	15.3	12.3	10.2	9.4	8.8	7.7	6.8
	20	0.35	45	28	23	20	17.3	13.9	11.6	10.7	9.9	8.7	7.7
	25	0.40	51	32	26	23	19.8	15.8	13.2	12.2	11.3	9.9	8.8
	30	0.43	55	34	28	24	21	17.0	14.2	13.1	12.2	10.6	9.5
	35	0.47	60	37	31	27	23	18.6	15.5	14.3	13.3	11.6	10.3
XR11005VS	40	0.50	64	40	33	28	25	19.8	16.5	15.2	14.1	12.4	11.0
	50	0.56	72	44	37	32	28	22	18.5	17.1	15.8	13.9	12.3
	60	0.61	78	48	40	35	30	24	20.1	18.6	17.3	15.1	13.4
	70	0.66	84	52	44	37	33	26	22	20.1	18.7	16.3	14.5
	80	0.71	91	56	47	40	35	28	23	21.6	20.1	17.6	15.6
	90	0.75	96	59	50	42	37	30	25	22.8	21.2	18.6	16.5
	100	0.79	101	63	52	45	39	31	26	24	22.3	19.6	17.4
	15	0.37	47	29	24	21	18.3	14.7	12.2	11.3	10.5	9.2	8.1
	20	0.42	54	33	28	24	21	16.6	13.9	12.8	11.9	10.4	9.2
	25	0.47	60	37	31	27	23	18.6	15.5	14.3	13.3	11.6	10.3
	30	0.52	67	41	34	29	26	20.6	17.2	15.8	14.7	12.9	11.4
	35	0.56	72	44	37	32	28	22	18.5	17.1	15.8	13.9	12.3
XR11006VS	40	0.60	77	48	40	34	30	24	19.8	18.3	17.0	14.9	13.2
	50	0.67	86	53	44	38	33	27	22	20.4	19.0	16.6	14.7
	60	0.73	93	58	48	41	36	29	24	22.2	20.6	18.1	16.1
	70	0.79	101	63	52	45	39	31	26	24	22.3	19.6	17.4
	80	0.85	109	67	56	48	42	34	28	26	24.0	21.0	18.7
	90	0.90	115	71	59	51	45	36	30	27	25.5	22.3	19.8
	100	0.95	122	75	63	54	47	38	31	29	27	23.5	20.9
	15	0.49	63	39	32	28	24	19.4	16.2	14.9	13.9	12.1	10.8
	20	0.57	73	45	38	32	28	23	18.8	17.4	16.1	14.1	12.5
	25	0.63	81	50	42	36	31	25	20.8	19.2	17.8	15.6	13.9
	30	0.69	88	55	46	39	34	27	23	21.0	19.5	17.1	15.2
	35	0.75	96	59	50	42	37	30	25	22.8	21.2	18.6	16.5
XR11008VS	40	0.80	102	63	53	45	40	32	26	24	22.6	19.8	17.6
	50	0.89	114	70	59	50	44	35	29	27	25.2	22.0	19.6
	60	0.98	125	78	65	55	49	39	32	30	28	24.3	21.6
	70	1.06	136	84	70	60	52	42	35	32	30	26.2	23.3
	80	1.13	145	89	75	64	56	45	37	34	32	28	24.9
	90	1.20	154	95	79	68	59	48	40	37	34	30	26.4
	100	1.26	161	100	83	71	62	50	42	38	36	31	28

15 Inch Tip Spacing (continued)

Tip Size	Pressure (PSI)	Nozzle Capacity (GPM)	Nozzle Capacity (oz/min)	15 INCH TIP SPACING									
				5 MPH	6 MPH	7 MPH	8 MPH	10 MPH	12 MPH	13 MPH	14 MPH	16 MPH	18 MPH
	15	0.61	78	48	40	35	30	24.2	20	18.6	17.3	15.1	13.4
	20	0.71	91	56	47	40	35	28.1	23	22	20.1	17.6	15.6
	25	0.79	101	63	52	45	39	31	26	24	22	19.6	17.4
	30	0.87	111	69	57	49	43	34	29	27	25	22	19.1
	35	0.94	120	74	62	53	47	37	31	29	27	23	21
XR11010-SS	40	1.00	128	79	66	57	50	40	33	30	28	25	22
	50	1.12	143	89	74	63	55	44	37	34	32	28	25
	60	1.22	156	97	81	69	60	48	40	37	35	30	27
	70	1.32	169	105	87	75	65	52	44	40	37	33	29
	80	1.41	180	112	93	80	70	56	47	43	40	35	31
	90	1.50	192	119	99	85	74	59	50	46	42	37	33
	100	1.58	202	125	104	89	78	63	52	48	45	39	35
	15	0.92	118	73	61	52	46	36.4	30	28	26.0	22.8	20.2
	20	1.06	136	84	70	60	52	42.0	35	32	30	26.2	23.3
	25	1.19	152	94	79	67	59	47	39	36	34	29	26.2
	30	1.30	166	103	86	74	64	51	43	40	37	32	29
	35	1.40	179	111	92	79	69	55	46	43	40	35	31
XR11015-SS	40	1.50	192	119	99	85	74	59	50	46	42	37	33
	50	1.68	215	133	111	95	83	67	55	51	48	42	37
	60	1.84	236	146	121	104	91	73	61	56	52	46	40
	70	1.98	253	157	131	112	98	78	65	60	56	49	44
	80	2.12	271	168	140	120	105	84	70	65	60	52	47
	90	2.25	288	178	149	127	111	89	74	69	64	56	50
	100	2.37	303	188	156	134	117	94	78	72	67	59	52

20 Inch Tip Spacing

Tip Size	Pressure (PSI)	Nozzle Capacity (GPM)	Nozzle Capacity (oz/min)	20 INCH TIP SPACING									
				5 MPH	6 MPH	7 MPH	8 MPH	10 MPH	12 MPH	13 MPH	14 MPH	16 MPH	18 MPH
	15	0.06	8	3.6	3.0	2.5	2.2	1.8	1.5	1.4	1.3	1.1	1.0
	20	0.07	9	4.2	3.5	3.0	2.6	2.1	1.7	1.6	1.5	1.3	1.2
	25	0.08	10	4.8	4.0	3.4	3.0	2.4	2.0	1.8	1.7	1.5	1.3
	30	0.09	12	5.3	4.5	3.8	3.3	2.7	2.2	2.1	1.9	1.7	1.5
	35	0.09	12	5.3	4.5	3.8	3.3	2.7	2.2	2.1	1.9	1.7	1.5
XR11001VS	40	0.10	13	5.9	5.0	4.2	3.7	3.0	2.5	2.3	2.1	1.9	1.7
	50	0.11	14	6.5	5.4	4.7	4.1	3.3	2.7	2.5	2.3	2.0	1.8
	60	0.12	15	7.1	5.9	5.1	4.5	3.6	3.0	2.7	2.5	2.2	2.0
	70	0.13	17	7.7	6.4	5.5	4.8	3.9	3.2	3.0	2.8	2.4	2.1
	80	0.14	18	8.3	6.9	5.9	5.2	4.2	3.5	3.2	3.0	2.6	2.3
	90	0.15	19	8.9	7.4	6.4	5.6	4.5	3.7	3.4	3.2	2.8	2.5
	100	0.16	20	9.5	7.9	6.8	5.9	4.8	4.0	3.7	3.4	3.0	2.6
	15	0.09	12	5.3	4.5	3.8	3.3	2.7	2.2	2.1	1.9	1.7	1.5
	20	0.11	14	6.5	5.4	4.7	4.1	3.3	2.7	2.5	2.3	2.0	1.8
	25	0.12	15	7.1	5.9	5.1	4.5	3.6	3.0	2.7	2.5	2.2	2.0
	30	0.13	17	7.7	6.4	5.5	4.8	3.9	3.2	3.0	2.8	2.4	2.1
	35	0.14	18	8.3	6.9	5.9	5.2	4.2	3.5	3.2	3.0	2.6	2.3
XR110015VS	40	0.15	19	8.9	7.4	6.4	5.6	4.5	3.7	3.4	3.2	2.8	2.5
	50	0.17	22	10.1	8.4	7.2	6.3	5.0	4.2	3.9	3.6	3.2	2.8
	60	0.18	23	10.7	8.9	7.6	6.7	5.3	4.5	4.1	3.8	3.3	3.0
	70	0.20	26	11.9	9.9	8.5	7.4	5.9	5.0	4.6	4.2	3.7	3.3
	80	0.21	27	12	10.4	8.9	7.8	6.2	5.2	4.8	4.5	3.9	3.5
	90	0.23	29	14	11.4	9.8	8.5	6.8	5.7	5.3	4.9	4.3	3.8
	100	0.24	31	14	11.9	10.2	8.9	7.1	5.9	5.5	5.1	4.5	4.0
	15	0.12	15	7.1	5.9	5.1	4.5	3.6	3.0	2.7	2.5	2.2	2.0
	20	0.14	18	8.3	6.9	5.9	5.2	4.2	3.5	3.2	3.0	2.6	2.3
	25	0.16	20	9.5	7.9	6.8	5.9	4.8	4.0	3.7	3.4	3.0	2.6
	30	0.17	22	10.1	8.4	7.2	6.3	5.0	4.2	3.9	3.6	3.2	2.8
	35	0.19	24	11.3	9.4	8.1	7.1	5.6	4.7	4.3	4.0	3.5	3.1
XR11002VS	40	0.20	26	11.9	9.9	8.5	7.4	5.9	5.0	4.6	4.2	3.7	3.3
	50	0.22	28	13	10.9	9.3	8.2	6.5	5.4	5.0	4.7	4.1	3.6
	60	0.24	31	14	11.9	10.2	8.9	7.1	5.9	5.5	5.1	4.5	4.0
	70	0.26	33	15	12.9	11.0	9.7	7.7	6.4	5.9	5.5	4.8	4.3
	80	0.28	36	17	14	11.9	10.4	8.3	6.9	6.4	5.9	5.2	4.6
	90	0.30	38	18	15	12.7	11.1	8.9	7.4	6.9	6.4	5.6	5.0
	100	0.32	41	19	16	13.6	11.9	9.5	7.9	7.3	6.8	5.9	5.3
	15	0.18	23	10.7	8.9	7.6	6.7	5.3	4.5	4.1	3.8	3.3	3.0
	20	0.21	27	12	10.4	8.9	7.8	6.2	5.2	4.8	4.5	3.9	3.5
	25	0.24	31	14	11.9	10.2	8.9	7.1	5.9	5.5	5.1	4.5	4.0
	30	0.26	33	15	12.9	11.0	9.7	7.7	6.4	5.9	5.5	4.8	4.3
	35	0.28	36	17	14	11.9	10.4	8.3	6.9	6.4	5.9	5.2	4.6
XR11003VS	40	0.30	38	18	15	12.7	11.1	8.9	7.4	6.9	6.4	5.6	5.0
	50	0.34	44	20	17	14	12.6	10.1	8.4	7.8	7.2	6.3	5.6
	60	0.37	47	22	18	16	13.7	11.0	9.2	8.5	7.8	6.9	6.1
	70	0.40	51	24	20	17	14.9	11.9	9.9	9.1	8.5	7.4	6.6
	80	0.42	54	25	21	18	16	12.5	10.4	9.6	8.9	7.8	6.9
	90	0.45	58	27	22	19	17	13.4	11.1	10.3	9.5	8.4	7.4
	100	0.47	60	28	23	20	17	14.0	11.6	10.7	10.0	8.7	7.8

20 Inch Tip Spacing (continued)

Tip Size	Pressure (PSI)	Nozzle Capacity (GPM)	Nozzle Capacity (oz/min)	20 INCH TIP SPACING									
				5 MPH	6 MPH	7 MPH	8 MPH	10 MPH	12 MPH	13 MPH	14 MPH	16 MPH	18 MPH
	15	0.24	31	14	11.9	10.2	8.9	7.1	5.9	5.5	5.1	4.5	4.0
	20	0.28	36	17	14	11.9	10.4	8.3	6.9	6.4	5.9	5.2	4.6
	25	0.32	41	19	16	13.6	11.9	9.5	7.9	7.3	6.8	5.9	5.3
	30	0.35	45	21	17	15	13.0	10.4	8.7	8.0	7.4	6.5	5.8
	35	0.37	47	22	18	16	13.7	11.0	9.2	8.5	7.8	6.9	6.1
XR11004VS	40	0.40	51	24	20	17	14.9	11.9	9.9	9.1	8.5	7.4	6.6
	50	0.45	58	27	22	19	17	13.4	11.1	10.3	9.5	8.4	7.4
	60	0.49	63	29	24	21	18	14.6	12.1	11.2	10.4	9.1	8.1
	70	0.53	68	31	26	22	20	15.7	13.1	12.1	11.2	9.8	8.7
	80	0.57	73	34	28	24	21	17	14.1	13.0	12.1	10.6	9.4
	90	0.60	77	36	30	25	22	18	14.9	13.7	12.7	11.1	9.9
	100	0.63	81	37	31	27	23	19	15.6	14.4	13.4	11.7	10.4
	15	0.31	40	18	15	13.2	11.5	9.2	7.7	7.1	6.6	5.8	5.1
	20	0.35	45	21	17	15	13.0	10.4	8.7	8.0	7.4	6.5	5.8
	25	0.40	51	24	20	17	14.9	11.9	9.9	9.1	8.5	7.4	6.6
	30	0.43	55	26	21	18	16	12.8	10.6	9.8	9.1	8.0	7.1
	35	0.47	60	28	23	20	17	14.0	11.6	10.7	10.0	8.7	7.8
XR11005VS	40	0.5	64	30	25	21	19	14.9	12.4	11.4	10.6	9.3	8.3
	50	0.56	72	33	28	24	21	17	13.9	12.8	11.9	10.4	9.2
	60	0.61	78	36	30	26	23	18	15.1	13.9	12.9	11.3	10.1
	70	0.66	84	39	33	28	25	20	16	15.1	14.0	12.3	10.9
	80	0.71	91	42	35	30	26	21	18	16.2	15.1	13.2	11.7
	90	0.75	96	45	37	32	28	22	19	17.1	15.9	13.9	12.4
	100	0.79	101	47	39	34	29	23	20	18	16.8	14.7	13.0
	15	0.37	47	22	18	16	13.7	11.0	9.2	8.5	7.8	6.9	6.1
	20	0.42	54	25	21	18	16	12.5	10.4	9.6	8.9	7.8	6.9
	25	0.47	60	28	23	20	17	14.0	11.6	10.7	10.0	8.7	7.8
	30	0.52	67	31	26	22	19	15.4	12.9	11.9	11.0	9.7	8.6
	35	0.56	72	33	28	24	21	17	13.9	12.8	11.9	10.4	9.2
XR11006VS	40	0.60	77	36	30	25	22	18	14.9	13.7	12.7	11.1	9.9
	50	0.67	86	40	33	28	25	20	17	15.3	14.2	12.4	11.1
	60	0.73	93	43	36	31	27	22	18	16.7	15.5	13.6	12.0
	70	0.79	101	47	39	34	29	23	20	18	16.8	14.7	13.0
	80	0.85	109	50	42	36	32	25	21	19	18.0	15.8	14.0
	90	0.90	115	53	45	38	33	27	22	21	19.1	16.7	14.9
	100	0.95	122	56	47	40	35	28	24	22	20	17.6	15.7
	15	0.49	63	29	24	21	18	14.6	12.1	11.2	10.4	9.1	8.1
	20	0.57	73	34	28	24	21	17	14.1	13.0	12.1	10.6	9.4
	25	0.63	81	37	31	27	23	19	15.6	14.4	13.4	11.7	10.4
	30	0.69	88	41	34	29	26	20	17	15.8	14.6	12.8	11.4
	35	0.75	96	45	37	32	28	22	19	17.1	15.9	13.9	12.4
XR11008VS	40	0.80	102	48	40	34	30	24	20	18	17.0	14.9	13.2
	50	0.89	114	53	44	38	33	26	22	20	18.9	16.5	14.7
	60	0.98	125	58	49	42	36	29	24	22	21	18.2	16.2
	70	1.06	136	63	52	45	39	31	26	24	22	19.7	17.5
	80	1.13	145	67	56	48	42	34	28	26	24	21	18.6
	90	1.20	154	71	59	51	45	36	30	27	25	22	19.8
	100	1.26	161	75	62	53	47	37	31	29	27	23	21

20 Inch Tip Spacing (continued)

Tip Size	Pressure (PSI)	Nozzle Capacity (GPM)	Nozzle Capacity (oz/min)	20 INCH TIP SPACING									
				5 MPH	6 MPH	7 MPH	8 MPH	10 MPH	12 MPH	13 MPH	14 MPH	16 MPH	18 MPH
	15	0.61	78	36	30	26	23	18.1	15	13.9	12.9	11.3	10.1
	20	0.71	91	42	35	30	26	21.1	18	16	15.1	13.2	11.7
	25	0.79	101	47	39	34	29	23	20	18	17	14.7	13.0
	30	0.87	111	52	43	37	32	26	22	20	18	16	14.4
	35	0.94	120	56	47	40	35	28	23	21	20	17	16
XR11010-SS	40	1.00	128	59	50	42	37	30	25	23	21	19	17
	50	1.12	143	67	55	48	42	33	28	26	24	21	18
	60	1.22	156	72	60	52	45	36	30	28	26	23	20
	70	1.32	169	78	65	56	49	39	33	30	28	25	22
	80	1.41	180	84	70	60	52	42	35	32	30	26	23
	90	1.50	192	89	74	64	56	45	37	34	32	28	25
	100	1.58	202	94	78	67	59	47	39	36	34	29	26
	15	0.92	118	55	46	39	34	27.3	23	21	19.5	17.1	15.2
	20	1.06	136	63	52	45	39	31.5	26	24	22	19.7	17.5
	25	1.19	152	71	59	50	44	35	29	27	25	22	19.6
	30	1.30	166	77	64	55	48	39	32	30	28	24	21
	35	1.40	179	83	69	59	52	42	35	32	30	26	23
XR11015-SS	40	1.50	192	89	74	64	56	45	37	34	32	28	25
	50	1.68	215	100	83	71	62	50	42	38	36	31	28
	60	1.84	236	109	91	78	68	55	46	42	39	34	30
	70	1.98	253	118	98	84	74	59	49	45	42	37	33
	80	2.12	271	126	105	90	79	63	52	48	45	39	35
	90	2.25	288	134	111	95	84	67	56	51	48	42	37
	100	2.37	303	141	117	101	88	70	59	54	50	44	39

TeeJet FloodJet Wide Angle Flat Spray Tips

At Various Speeds And Pressures
40 Inch Tip Spacing

	PSI	GPM	GPA 40° 4 MPH	5 MPH	6 MPH	8 MPH	10 MPH	12 MPH	15 MPH	20 MPH
1/8K-.50 TK-.50 [100]	10	0.050	-	-	-	-	-	-	-	-
	20	0.071	2.6	2.1	1.8	1.3	1.1	0.88	0.70	0.53
	30	0.087	3.2	2.6	2.2	1.6	1.3	1.1	0.86	0.65
	40	0.10	3.7	3.0	2.5	1.9	1.5	1.2	0.99	0.74
1/8K-.75 TK-.75 [100]	10	0.075	2.8	2.2	1.9	1.4	1.1	0.93	0.74	0.56
	20	0.11	4.1	3.3	2.7	2.0	1.6	1.4	1.1	0.82
	30	0.13	4.8	3.9	3.2	2.4	1.9	1.6	1.3	0.97
	40	0.15	5.6	4.5	3.7	2.8	2.2	1.9	1.5	1.1
1/8K-1 TK-1 [100]	10	0.10	3.7	3.0	2.5	1.9	1.5	1.2	0.99	0.74
	20	0.14	5.2	4.2	3.5	2.6	2.1	1.7	1.4	1.0
	30	0.17	6.3	5.0	4.2	3.2	2.5	2.1	1.7	1.3
	40	0.20	7.4	5.9	5.0	3.7	3.0	2.5	2.0	1.5
1/8K-1.5 TK-1.5 [50]	10	0.15	5.6	4.5	3.7	2.8	2.2	1.9	1.5	1.1
	20	0.21	7.8	6.2	5.2	3.9	3.1	2.6	2.1	1.6
	30	0.26	9.7	7.7	6.4	4.8	3.9	3.2	2.6	1.9
	40	0.30	11.1	8.9	7.4	5.6	4.5	3.7	3.0	2.2
(1/8K, 1/4K, TK)-2 TK-2 [50]	10	0.20	7.4	5.9	5.0	3.7	3.0	2.5	2.0	1.5
	20	0.28	10.4	8.3	6.9	5.2	4.2	3.5	2.8	2.1
	30	0.35	13.0	10.4	8.7	6.5	5.2	4.3	3.5	2.6
	40	0.40	14.9	11.9	9.9	7.4	5.9	5.0	4.0	3.0
(1/8K, 1/4K, TK)-2.5 TK-2.5 [50]	10	0.25	9.3	7.4	6.2	4.6	3.7	3.1	2.5	1.9
	20	0.35	13.0	10.4	8.7	6.5	5.2	4.3	3.5	2.6
	30	0.43	16.0	12.8	10.6	8.0	6.4	5.3	4.3	3.2
	40	0.50	18.6	14.9	12.4	9.3	7.4	6.2	5.0	3.7
(1/8K, 1/4K, TK)-3 (TK, TKT)-3 [50]	10	0.30	11.1	8.9	7.4	5.6	4.5	3.7	3.0	2.2
	20	0.42	15.6	12.5	10.4	7.8	6.2	5.2	4.2	3.1
	30	0.52	19.3	15.4	12.9	9.7	7.7	6.4	5.1	3.9
	40	0.60	22	17.8	14.9	11.1	8.9	7.4	5.9	4.5
(1/8K, TK)-4 TK-4	10	0.40	14.9	11.9	9.9	7.4	5.9	5.0	4.0	3.0
	20	0.57	21	16.9	14.1	10.6	8.5	7.1	5.6	4.2
	30	0.69	26	20	17.1	12.8	10.2	8.5	6.8	5.1
	40	0.80	30	24	19.8	14.9	11.9	9.9	7.9	5.9
(1/8K, 1/4K, TK)-5 (TK, TKT)-5	10	0.50	18.6	14.9	12.4	9.3	7.4	6.2	5.0	3.7
	20	0.71	26	21	17.6	13.2	10.5	8.8	7.0	5.3
	30	0.87	32	26	22	16.1	12.9	10.8	8.6	6.5
	40	1.00	37	30	25	18.6	14.9	12.4	9.9	7.4
(1/8K, 1/4K, TK)-7.5 TK-7.5	10	0.75	28	22	18.6	13.9	11.1	9.3	7.4	5.6
	20	1.06	39	31	26	19.7	15.7	13.1	10.5	7.9
	30	1.30	48	39	32	24	19.3	16.1	12.9	9.7
	40	1.50	56	45	37	28	22	18.6	14.9	11.1
(1/8K, 1/4K, TK)-10 TK-10	10	1.00	37	30	25	18.6	14.9	12.4	9.9	7.4
	20	1.41	52	42	35	26	21	17.4	14.0	10.5
	30	1.73	64	51	43	32	26	21	17.1	12.8
	40	2.00	74	59	50	37	30	25	19.8	14.9
(1/8K, 1/4K)-12	10	1.20	45	36	30	22	17.8	14.9	11.9	8.9
	20	1.70	63	50	42	32	25	21	16.8	12.6
	30	2.08	77	62	51	39	31	26	21	15.4
	40	2.40	89	71	59	45	36	30	24	17.8
(1/8K, 1/4K)-15 TK-15	10	1.50	56	45	37	28	22	18.6	14.9	11.1
	20	2.12	79	63	52	39	31	26	21	15.7
	30	2.60	97	77	64	48	39	32	26	19.3
	40	3.00	111	89	74	56	45	37	30	22
(1/8K, 1/4K)-18	10	1.80	67	53	45	33	27	22	17.8	13.4
	20	2.55	95	76	63	47	38	32	25	19
	30	3.12	116	93	77	58	46	39	31	23
	40	3.60	134	107	89	67	53	45	36	27
(1/8K, 1/4K)-20 TK-*20 QCK-20	10	2.00	74	59	50	37	30	25	19.8	14.9
	20	2.83	105	84	70	53	42	35	28	21
	30	3.46	128	103	86	64	51	43	34	26
	40	4.00	149	119	99	74	59	50	40	30
1/4K-22	10	2.20	82	65	54	41	33	27	22	16.3
	20	3.11	115	92	77	58	46	38	31	23
	30	3.81	141	113	94	71	57	47	38	28
	40	4.40	163	131	109	82	65	54	44	33
1/4K-24	10	2.40	89	71	59	45	36	30	24	17.8
	20	3.39	126	101	84	63	50	42	34	25
	30	4.16	154	124	103	77	62	51	41	31
	40	4.80	178	143	119	89	71	59	48	36

(B) = BSPT

Note: *Always double check your application rates. Other spray angles, capacities, and materials may be available. See your TeeJet Dealer or www.teejet.com for more information.*

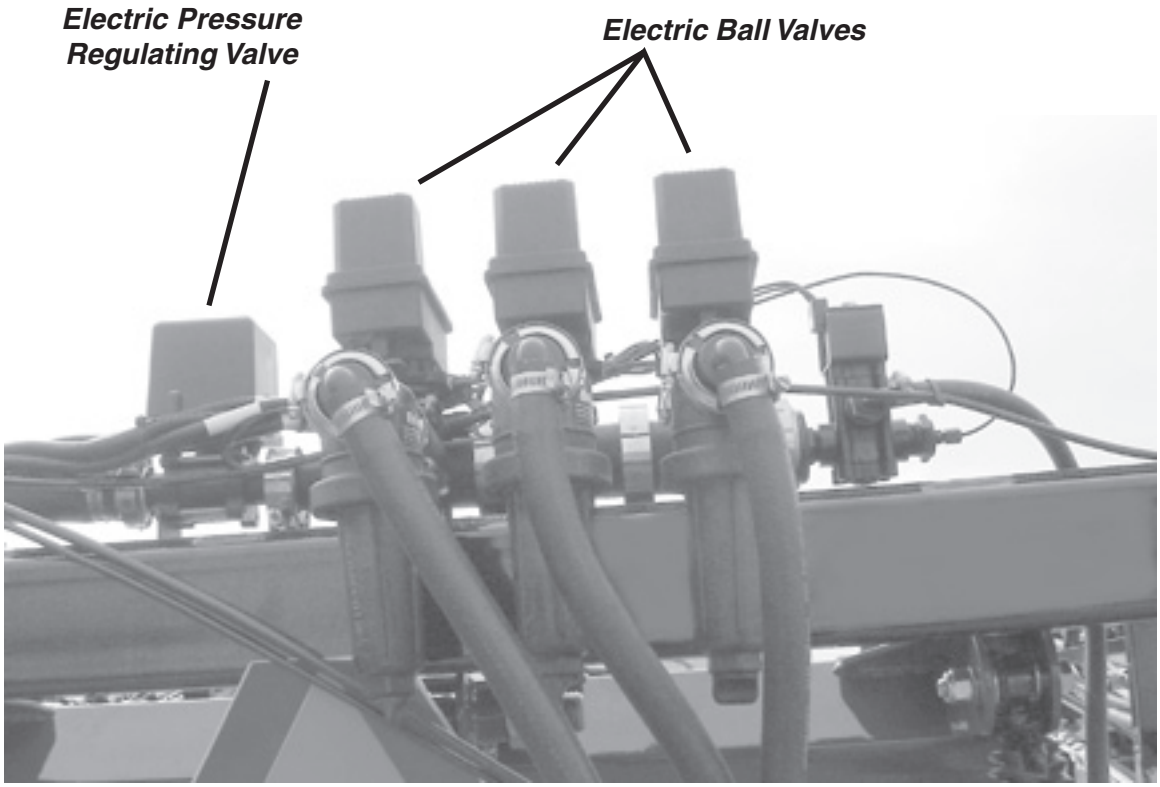
	PSI	GPM	GPA 60° 4 MPH	5 MPH	6 MPH	8 MPH	10 MPH	12 MPH	15 MPH	20 MPH
1/4K-27	10	2.70	67	53	45	33	27	22	17.8	13.4
	20	3.82	95	76	63	47	38	32	25	18.9
	30	4.68	116	93	77	58	46	39	31	23
	40	5.40	134	107	89	67	53	45	36	27
3/8K-30 TK-30 QCK-30	10	3.00	74	59	50	37	30	25	19.8	14.9
	20	4.24	105	84	70	52	42	35	28	21
	30	5.20	129	103	86	64	51	43	34	26
	40	6.00	149	119	99	74	59	50	40	30
3/8K-35	10	3.50	87	69	58	43	35	29	23	17.3
	20	4.95	123	98	82	61	49	41	33	25
	30	6.06	150	120	100	75	60	50	40	30
	40	7.00	173	139	116	87	69	58	46	35
(3/8K, 1/2K)-40 QCK-40	10	4.00	99	79	66	50	40	33	26	19.8
	20	5.66	140	112	93	70	56	47	37	28
	30	6.93	172	137	114	86	69	57	46	34
	40	8.00	198	158	132	99	79	66	53	40
3/8K-45	10	4.50	111	89	74	56	45	37	30	22
	20	6.36	157	126	105	79	63	52	42	31
	30	7.79	193	154	129	96	77	64	51	39
	40	9.00	223	178	149	111	89	74	59	45
1/2K-50 QCK-50	10	5.00	124	99	83	62	50	41	33	25
	20	7.07	175	140	117	87	70	58	47	35
	30	8.66	214	171	143	107	86	71	57	43
	40	10.0	248	198	165	124	99	83	66	50
1/2K-60 QCK-60	10	6.00	149	119	99	74	59	50	40	30
	20	8.49	210	168	140	105	84	70	56	42
	30	10.4	257	206	171	129	103	86	69	51
	40	12.0	297	238	198	149	119	99	79	59
1/2K-70	10	7.00	173	139	116	87	69	58	46	35
	20	9.90	245	196	163	123	98	82	65	49
	30	12.1	300	240	200	150	120	100	80	60
	40	14.0	347	277	231	173	139	116	92	69
(1/2K, 3/4K)-80 QCK-80	10	8.00	198	158	132	99	79	66	53	40
	20	11.3	280	224	186	140	112	93	75	56
	30	13.9	344	275	229	172	138	115	92	69
	40	16.0	396	317	264	198	158	132	106	79
(1/2K, 3/4K)-90	10	9.00	223	178	149	111	89	74	59	45
	20	12.7	314	251	210	157	126	105	84	63
	30	15.6	386	309	257	193	154	129	103	77
	40	18.0	446	356	297	223	178	149	119	89
3/4K-100 QCK-100	10	10.0	248	198	165	124	99	83	66	50
	20	14.1	349	279	233	174	140	116	93	70
	30	17.3	428	343	285	214	171	143	114	86
	40	20.0	495	396	330	248	198	165	132	99
3/4K-110	10	11.0	272	218	182	136	109	91	73	54
	20	15.6	386	309	257	193	154	129	103	77
	30	19.1	473	378	315	236	189	158	126	95
	40	22.0	545	436	363	272	218	182	145	109
(1/2K, 3/4K)-120 QCK-120	10	12.0	297	238	198	149	119	99	79	59
	20	17.0	421	337	281	210	168	140	112	84
	30	20.8	515	412	343	257	206	172	137	103
	40	24.0	594	475	396	297	238	198	158	119
3/4K-140	10	14.0	347	277	231	173	139	116	92	69
	20	19.8	490	392	327	245	196	163	131	98
	30	24.2	599	479	399	299	240	200	160	120
	40	28.0	693	554	462	347	277	231	185	139
QCK-150	10	15.0	371	297	248	186	149	124	99	74
	20	21.2	525	420	350	262	210	175	140	105
	30	26.0	644	515	429	322	257	215	172	129
	40	30.0	743	594	495	371	297	248	198	149
3/4K-160	10	16.0	396	317	264	198	158	132	106	79
	20	22.6	559	447	373	280	224	186	149	112
	30	27.7	686	548	457	343	274	229	183	137
	40	32.0	792	634	528	396	317	264	211	158
3/4K-180 QCK-180	10	18.0	446	356	297	223	178	149	119	89
	20	25.5	631	505	421	316	252	210	168	126
	30	31.2	772	618	515	386	309	257	206	154
	40	36.0	891	713	594	446	356	297	238	178
3/4K-210 QCK-210	10	21.0	520	416	347	260	208	173	139	104
	20	29.7	735	588	490	368	294	245	196	147
	30	36.4	901	721	601	450	360	300	240	180
	40	42.0	1040	832	693	520	416	347	277	208

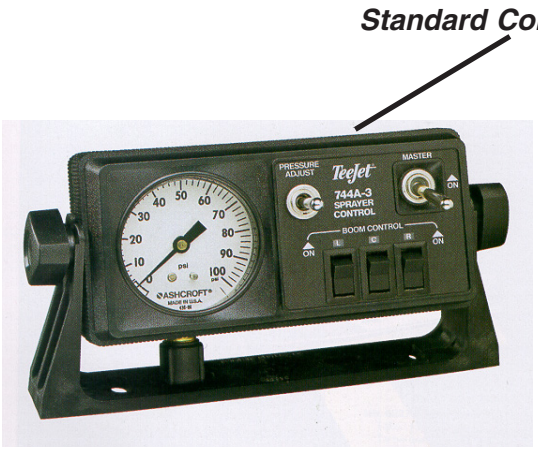
Sprayer Controls

Sprayer operation and liquid flows are controlled by a combination of controls on the tractor and the sprayer.

Triple Electric Control (Standard)

This system consists of three electric ball valves and a electric pressure regulating valve which are all mounted on the top of the boom mid section of the sprayer. The control box is mounted on the tractor.





Control Box

The control box consists of the following components:

- MASTER ON/OFF switch which controls power to the valves for each boom section. When power is supplied to the valves, the valves open, allowing liquid to flow to the boom sections.

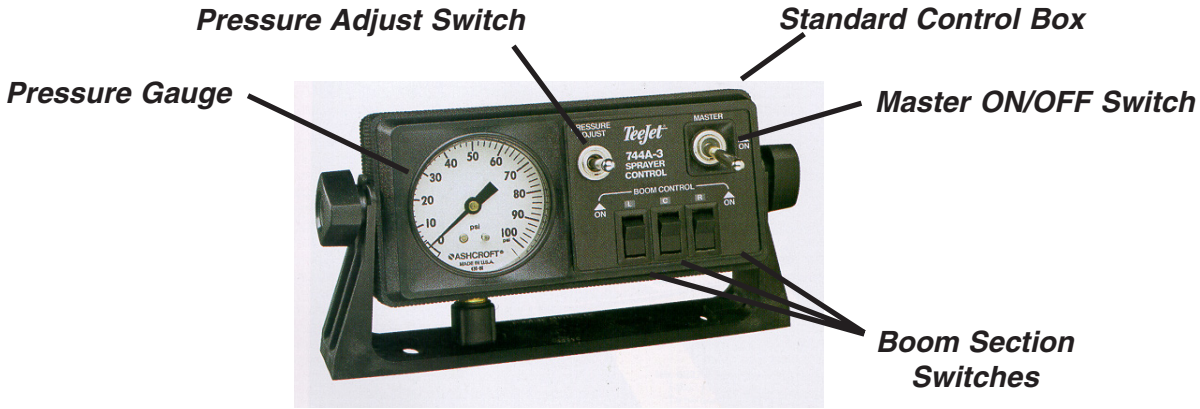
NOTE: The toggle switches for the individual boom sections must be ON to energize the valves.

- Individual toggle switches which allow the operator to control flow to the individual boom sections (L, left; C, center; and R, right). Turning a switch OFF allows the valve for that section to close.
- PRESSURE ADJUST toggle switch which allows the operator to INCREASE (+) or DECREASE (-) the pressure of the liquid supplied to the boom sections. When the operator releases the switch after adjusting the pressure, the switch automatically returns to its center NEUTRAL position.

NOTE: When making adjustments, monitor pressure carefully. The control system does not have automatic HIGH or LOW pressure limit switches.

- PRESSURE GAUGE which indicates the pressure of the liquid supplied to the operating boom sections.

If the operator shuts OFF a boom section, the pressure of liquid supplied to the other two boom sections will increase because the same volume of liquid is being pumped through fewer nozzles. The operator must use the pressure adjust switch on the control box to manually reduce the pressure to the operating pressure desired.



Optional Automatic Rate Controller

Automatic rate controllers are an optional accessory on all sprayers. Refer to the separate owners manual for detailed instructions for using the system.

Optional Four-Way Electric Control System with RAVEN Rate Control System Only

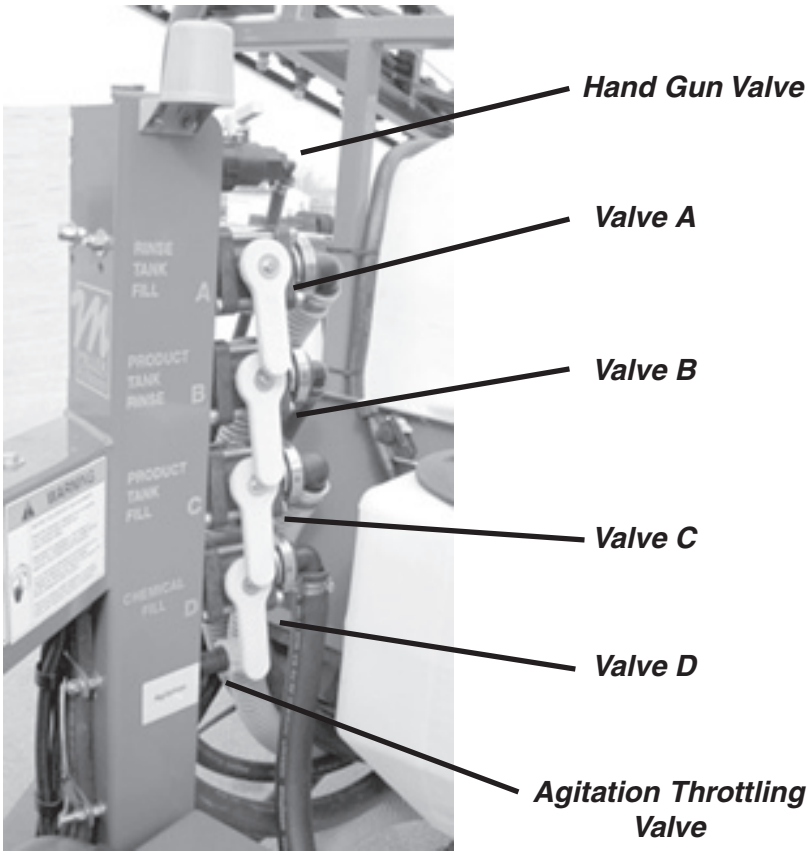
The four-way electric control system has the same features as the three-way control system. However, it uses four motorized ball valves which allow the boom to be split into four sections: Left, Left Center, Right Center and Right. The control box has additional switches to provide four section boom control.

Valve Control Center

The valve control center is located in front of the sprayer platform. The number of valves on the control center will vary, depending upon if the sprayer is equipped with group “A” or “C” option package.

Each valve controls the following (top to bottom):

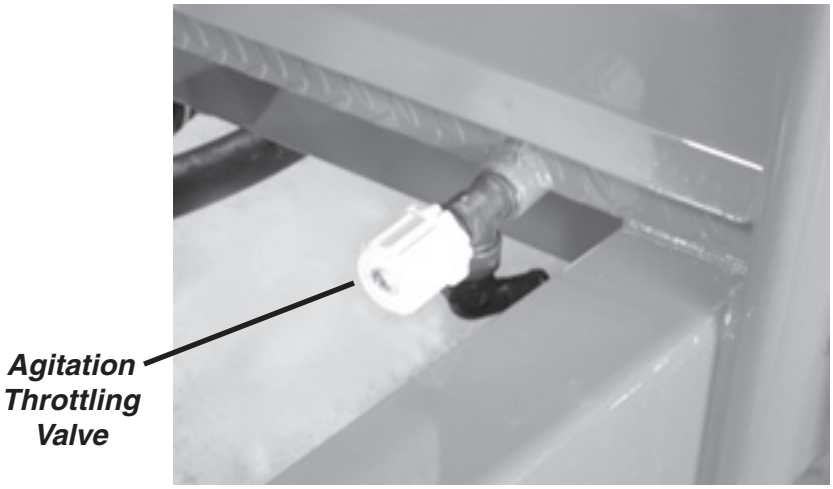
- **Top Valve** is for hand spray gun
- **Valve A** is for rinse tank fill
- **Valve B** is for product tank rinse
- **Valve C** is for product tank fill
- **Valve D** is for the chemical inductor
- **Bottom Valve** is the agitation throttling valve



Agitation System

Your sprayer is equipped with an adjustable agitation system. The throttling valve to adjust the system can be located in one of two locations, depending on which accessories your sprayer is equipped with.

If the sprayer does not have a self cleaning filter, the agitation throttling valve will be located near the front left corner of the sprayer platform.



If the sprayer has a self cleaning filter, the agitation throttling valve will be the first valve located at the bottom of the valve control center tower. See preceeding page for location.

There are four agitation jets inside the product tank. Two are located in the sump near the front of the tank and two are located at the rear of the tank.

NOTE: If the sprayer is equipped with a self cleaning filter the two jets at the rear of the tank will be controlled by the self cleaning filter. See the self cleaning filter section for details.

It is recommended that you have the agitation throttling valve completely OPEN unless foaming occurs.

Standard Primary Filter

Your sprayer is equipped with a primary filtration system. This filter could be in the form of a "Y" strainer (standard) or a self cleaning filter (optional). The filter is located on the right side of the sprayer under the sprayer platform. The filter is installed on the pressure side of the pump and has a 50 mesh screen. Other size mesh screens are available through your local Miller dealer parts department.

Self Cleaning Filter (Optional)

Refer to the "Maintenance" section of this manual for filter maintenance interval and procedures

A self cleaning filter is an optional accessory. This filter has a throttling valve located in the front left hand side of the sprayer. A quick coupler system and hose is mounted to the bottom of the filter cannister. The unmixed chemical that does not go through the 50 mesh screen is returned to the product tank through the rear agitation jets, reagitated and sent back through the system.

- The throttling valve should remain completely open for the self cleaning filter to operate properly.
- When the cannister is removed from the filter head, the throttling valve MUST be closed.

To clean the filter screen:

DANGER

Agricultural chemicals are TOXIC, chemicals not safely used, handled, stored and disposed of can cause serious injury or death to individuals or harm the environment.

Wear protective clothing and equipment.

Read, understand and follow the chemical manufacturer's label.

Contact your chemical supplier, county extension agent or other qualified person if you have questions on chemical usage.

1. Turn the product pump OFF.
2. Turn the emergency shut off valve (located under tank) OFF.
3. Turn the agitation throttling valve (located in front of sprayer) OFF.
4. Turn self cleaning filter on/off (located in front of sprayer) OFF - If so equipped.
5. Place a container under the filter, remove the canister and screen, rinse the screen off with clean water.
6. Lightly oil the O-ring on the canister. Reinstall the canister and screen. DO NOT over tighten.
7. OPEN all valves previously closed.
8. Dispose of all captured chemicals properly.

Filling The Product Tank

NOTE: All poly tanks are not identical in capacity due to different tank molds, heat and/or cold. Tank sizes can and do vary. It is recommended that you measure by an independent means the amount of liquid being loaded.

The sprayer can be equipped in one of three ways:

- No fast fill attachment - Standard configuration
- 2" Fast Fill via transfer pump - Optional (Group A)
- 2" Fast Fill via transfer pump or sprayer pump - Optional (Group C)

NOTE: If Group C is ordered, you have the option of Manual or Electric controls for the rinse system. Refer to the appropriate set of instructions that follows, depending on your sprayers configuration.

Fill Through Top Lid (Standard Configuration)

1. Remove the lid from the top of the product tank. Fill the tank using a garden hose or similiar means.
2. Replace the lid when complete.

Filling With Transfer Pump

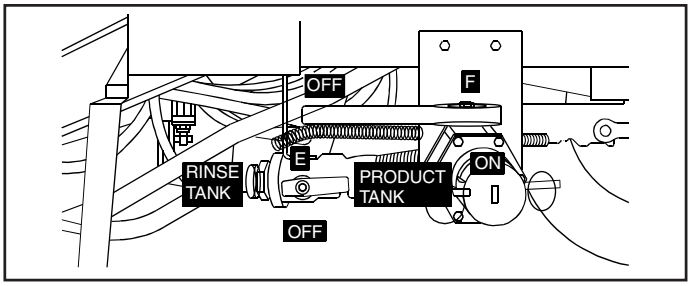
Your sprayer is equipped with a 2" male fast fill connector and a ON/OFF valve (identified as “Valve F”) located on the left side of the sprayer, directly behind the step.

Fill as follows:

1. Connect the fill hose to the 2" connector.
2. Charge the fill hose with water using the transfer pump.

<u>If Equipped With Manual Control Rinse System:</u>

- Turn the manual three way ball valve identified as “Valve E” (located under the platform on left side of sprayer) to “Product Tank” (handle pointed toward rear of sprayer).

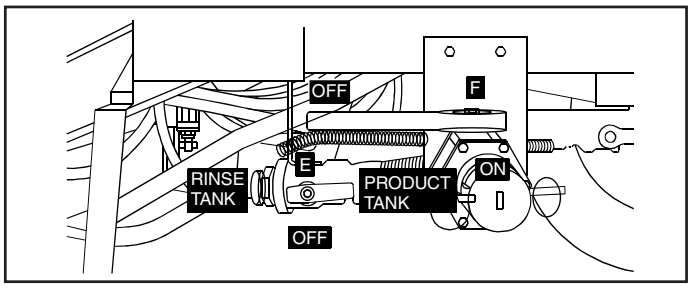


<u>If Equipped With Electric Control Rinse System:</u>

- Locate the electric rinse control switch on the tractor control box and move the switch to the “Product Tank” position.

3. Slowly open the “Fast Fill” valve, marked as “Valve F” and let run until the product tank is full, turn off the “Fast Fill” valve. There is a breather on the product tank lid to allow air to escape during the filling operation.

IMPORTANT: If you are filling with a high volume transfer pump, it may be necessary to remove the center lid from the manhole cover.



4. Close the “Fast Fill” Valve.

5. Disconnect the fill hose and replace the dust cap. Use care when removing the fill hose from the connector, there could still be liquid in the line.

6. Replace the center lid on the manhole cover, if it was removed.

Filling With Sprayer Pump

Your sprayer has the ability to fill itself by using the sprayer product pump.

Your sprayer is equipped with a 2" male fast fill connector and a ON/OFF valve (identified as “Valve F”) located on the left side of the sprayer, directly behind the step.

Fill as follows:

1. Connect the fill hose to the 2" connector.

2. Open the water supply valve to fill the hose.

IMPORTANT: The water source <u>MUST</u> be higher than the sprayer pump. <u>NEVER</u> run the sprayer pump dry. The sprayer pump will not draw water from a source lower than the pump, until the pump is primed.

<u>If Equipped With Manual Control Rinse System:</u>

- Turn the manual three way ball valve identified as “Valve E” (located under the platform on left side of sprayer) to the “OFF” position (handle pointed down).

<u>If Equipped With Electric Control Rinse System:</u>

- Located under the operator platform on the left side of the sprayer is an electric three way ball valve. Directly behind this valve is a manual ON/OFF valve with a yellow handle. Turn this valve OFF (handle should point toward rear of sprayer). When handle is pointed toward right side of sprayer the valve is ON.

3. Open the “Fast Fill” valve marked as “Valve F.”

4. Start the product pump and run at full capacity.

5. Slowly open the “Product Tank Fill” valve marked “Valve C” located on the front control stand. Let run until the product tank is full, then turn OFF “Product Tank Fill” valve. There is a breather on the product tank lid to allow air to escape during filling.

6. Stop the product pump.

7. Close the “Fast Fill” valve.

<u>If Equipped With Manual Control Rinse System:</u>

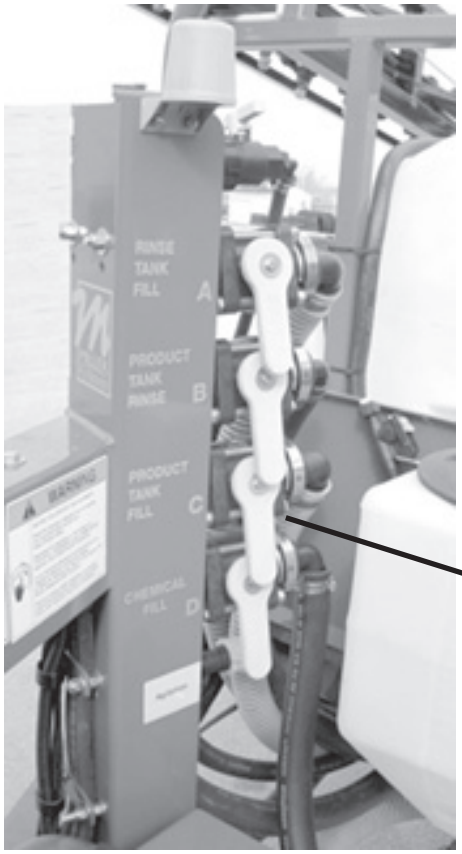
- Turn the manual three way ball valve identified as “Valve E” (located under the platform on left side of sprayer) to the “Product Tank” position (handle pointed toward rear of sprayer).

<u>If Equipped With Electric Control Rinse System:</u>

- Located under the operator platform on the left side of the sprayer is an electric three way ball valve. Directly behind this valve is a manual ON/OFF valve with a yellow handle. Turn this valve ON (handle should point toward right side of sprayer). When handle is pointed toward rear of sprayer the valve is OFF.

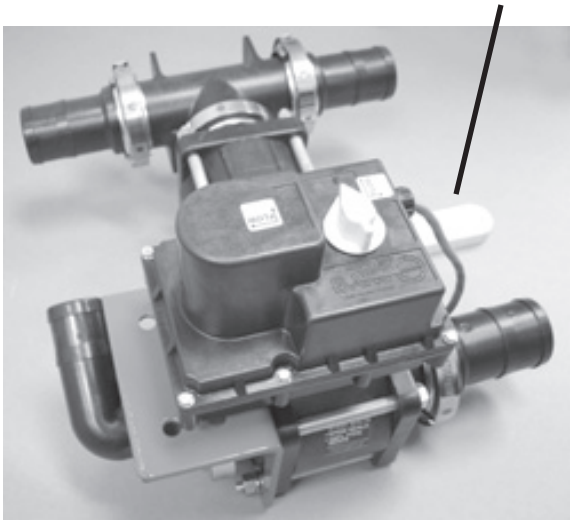
8. Turn off the external water source.

9. Remove the fill hose and replace the dust cap. Be careful when removing the fill hose from the connector, there could still be some liquid in the line.



Valve C

Yellow Handle



Electric 3 Way Ball Valve

Priming The Sprayer

NOTE: Before you prime the sprayer, make sure you are familiar with the information in the pump owner's manual.

1. Determine appropriate operating pressure for the sprayer system.
2. Fill the sprayer tank half full of water. **DO NOT** add chemicals.

IMPORTANT: Water must be in pump before pump is started. Pump may be damaged if pump and suction lines are empty. Use the transfer pump or fill through top port.

3. Open the emergency shut-off valve to allow water to flow from the tank into the suction line and pump. Make sure the three-way valve (if so equipped) is open to the product tank.
4. Fold out the boom. (Refer to the "Hydraulic Booms" section of this manual for instructions).
5. Start the tractor. Start the pump and operate at desired speed.
6. Toggle the MASTER switch on the sprayer control box to the ON position to open the boom control valves. The individual boom switches on the control box must also be ON.
7. Make the pressure adjustment using the PRESSURE ADJUST switch on the control box.
8. Check and adjust for adequate agitation in the sprayer tank. If the pressure drops, adjust the pressure setting at the sprayer control box.
9. Check for uniform flow at all the spray nozzles.

The sprayer is now ready for calibration.

Priming The Sprayer Equipped With A RAVEN Rate Controller

If your sprayer is equipped with a RAVEN rate controller, you must do the following to allow the spray boom to function while standing still.

1. Disconnect the radar cable between the tractor and the sprayer.
2. Turn RAVEN console master switch ON.
3. Press the “Self Test” button so the red light stays on.
4. Press “Enter” so the red light stays on.
5. Press the No.5 key and the No. 0 key.
6. Press “Enter” again.

Now the RAVEN rate controller is programmed with a signal telling it that it is moving, allowing the spray boom to operate while standing still.

To Disengage Signal

1. Reconnect the radar cable between the tractor and the sprayer.
2. Move the tractor and sprayer or turn the rate controller OFF and then back ON.

Calibrating The Sprayer

Your sprayer will be equipped with one of two different control systems:

- TeeJet Electric Control System (standard)
- Raven Rate Control System (optional)

The two systems need to be calibrated in different ways.

TeeJet Electric Control System (standard)

1. Make sure sprayer is clean.
2. Select nozzle and pressure.
3. Fill sprayer half full with water. **DO NOT** add chemical.
4. Set up two stakes at the following measurements, depending on nozzle spacing:
    - 272 feet apart for 15" nozzle spacing
    - 204 feet apart for 20" nozzle spacing
    - 136 feet apart for 30" nozzle spacing
    - 102 feet apart for 40" nozzle spacing
5. Under field conditions and at spraying speed, drive the distance and note both engine RPMs and the time. Do this at least twice to get the average time.
6. Stop the tractor. Put the tractor in park.
7. Unfold the sprayer booms. (Refer to the “Hydraulic Booms” section of this manual for instructions).
8. Start the sprayer and run at desired RPMs and pressure.
9. While parked, collect the liquid from the nozzle. Hold a container (Miller Calibration Jar Part No. 07.11360) graduated in ounces below a nozzle. Record the output for the same time period as the average driving time determined in step 5. The average output in ounces is equivalent to the application rate in gallons per acre (GPA).

NOTE: Measuring the output from each tip helps assure balanced spraying from the tips. It will also help you identify worn tips which may need replacement.

10. Repeat the procedures for the remaining nozzles.
11. Compare the actual application rate with the intended rate. If the actual rate varies from the desired rate, you must adjust the pressure or speed or change tip size to compensate.

Raven Rate Control System (optional)

The rate controller is normally pre programmed from Miller for your sprayer. You should verify that the programming matches your sprayer specifications. It is very important that the radar gun calibration number is correct. Refer to the Raven owner’s manual.

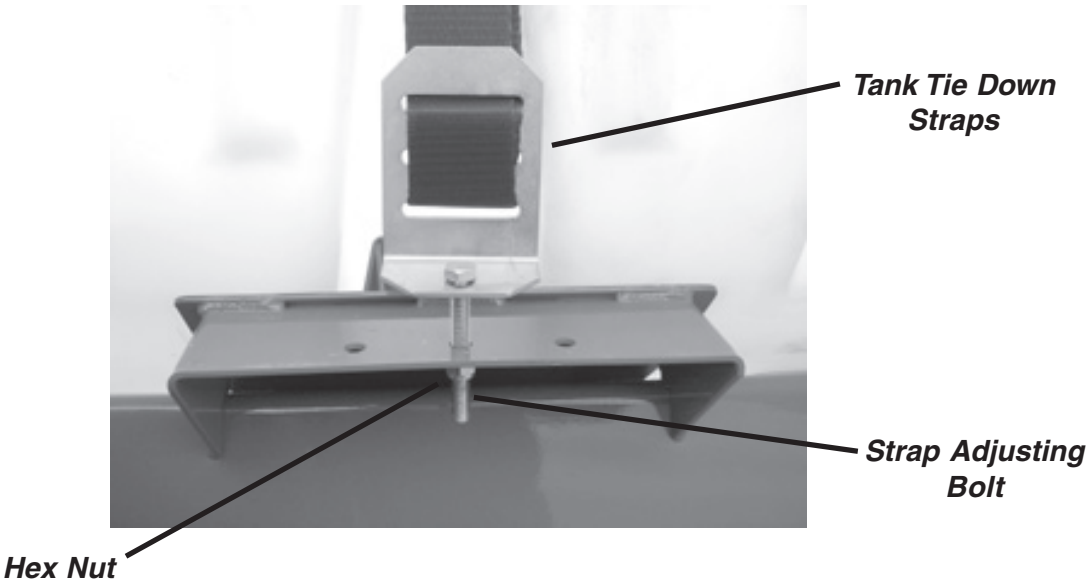
Tank Tie Down Straps

IMPORTANT NOTE: Sprayer tanks will change shape and "Settle In" to the tank saddle when fully loaded. Retighten the tank tie down straps on all the tanks when the tanks are filled the first time each year.

Check all the tie down straps for proper tightness.

1. Fill all tanks completely.
2. Check the straps for proper tighness. Straps should be snug around the tank.
3. If straps require tightening, adjust each strap by tightening the hex nut on the appropriate strap adjusting bolt.

NOTE: Check the tension of the tie down straps periodically during the spraying season and tighten as required.



Valve Setting Instructions

Refer To The Operator's Manual For Detailed Instructions

FAST FILL VIA SPRAYER PUMP

1. To Fill Product Tank:

Valves: A, B, D & E (OFF)
Valves: C & F **(ON)**

Start Sprayer Pump

2. To Fill Rinse Tank:

Valves: B, C, D & E (OFF)
Valves: A & F **(ON)**

Start Sprayer Pump

FAST FILL VIA TRANSFER PUMP

1. To Fill Product Tank:

SPRAYER PUMP OFF
Valves: A, B, C & D (OFF)
Valve: E **(PRODUCT TANK)**
Valve: F **(ON)**

Start Transfer Pump

2. To Fill Rinse Tank:

SPRAYER PUMP OFF
Valves: A, B, C & D (OFF)
Valve: E **(RINSE TANK)**
Valve: F **(ON)**

Start Transfer Pump

CHEMICAL INDUCTOR

Start Sprayer Pump

Valves: A, B, C & F (OFF)
Valve: D **(ON)**
Valve: E **(PRODUCT TANK)**

RINSE SYSTEM

1. To Rinse Pump, Controls And Boom Only:

Valves: A, B, C, D & F (OFF)
Valve: E **(RINSE TANK)**

Start Sprayer Pump
Boom Controls ON - Spray Water On Field

NOTE: *To prevent rinse water from entering the product tank, the agitation and self-cleaning filter valves (if so equipped) must be turned OFF.*

2. To Rinse Pump And Product Tank Only:

Valves: A, C, D & F (OFF)
Valve: B **(ON)**
Valve: E **(RINSE TANK)**

Start Sprayer Pump
After Tank Has Been Rinsed

Valves: A, B, C, D & F (OFF)
Valve: E **(PRODUCT TANK)**

Start Sprayer Pump
Boom Controls ON - Spray Water On Field

07.09306

Chemical Inductor (Optional)

The 5 gallon Chemical Inductor is an optional accessory and is mounted on the front left corner of the spray platform. The chemical inductor is used to add chemical to the product tank from ground level.

DANGER

Handle ALL agricultural chemicals with care. Use chemicals ONLY as directed on the manufacturer's warning label.

Wear protective clothing (such as goggles, rubber or chemical resistant gloves and a respirator) while handling chemicals. Keep protective clothing clean and in good condition or discard.

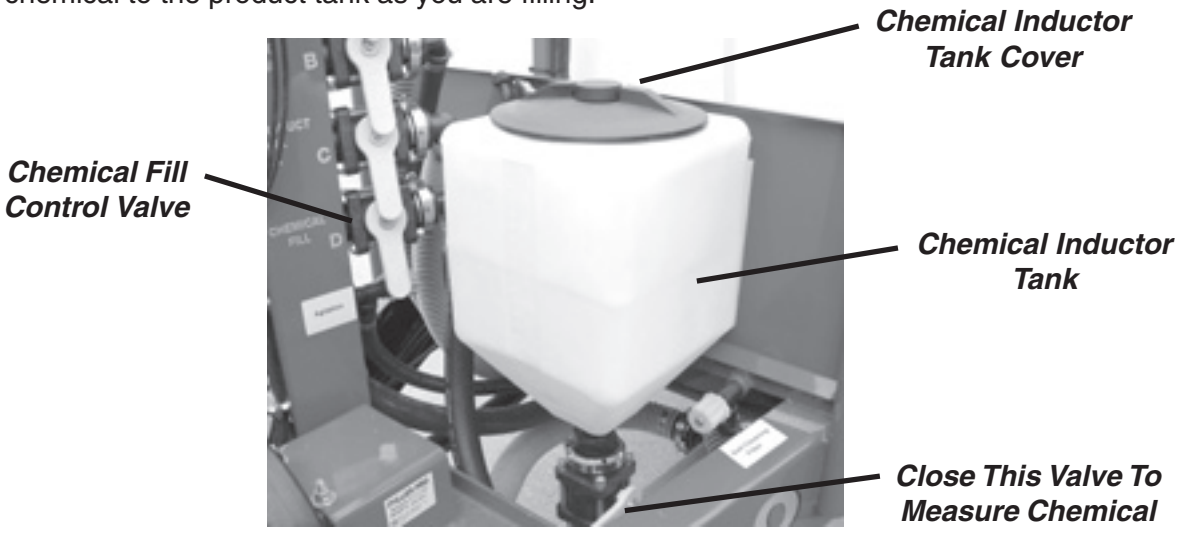
Wash hands and face thoroughly with clean water after handling chemicals. Never eat, smoke, drink or put hands to mouth before washing.

Follow these procedures to properly use the chemical induction system:

1. Sprayer product tank MUST have at least 50 gallons of water.
2. Check that the emergency shut off valve located under the product tank is OPEN.
3. Start the product pump and run at rated speed.
4. OPEN the Chemical Fill Control valve.
5. If you are going to use the measuring marks on the chemical inductor tank to measure the amount of chemical being added, make sure the valve on the bottom of the chemical inductor tank is CLOSED. Add desired amount of chemical, then OPEN the valve at the bottom of the chemical inductor tank. The chemical will be transferred from the chemical inductor tank to the product tank.

NOTE: Poly tanks can vary in size and expand and contract from hot to cold weather. It is not recommended to use the measuring marks on the chemical inductor tank for precise measuring.

If you do not need to use the chemical inductor tank to measure, you can OPEN the valve at the bottom of the chemical inductor tank prior to adding the chemical. The chemical inductor will transfer the chemical to the product tank as you are filling.



6. When transfer is complete, use the hand rinse gun to rinse the chemical inductor tank. Allow the rinse water to go through the chemical inductor into the product tank.

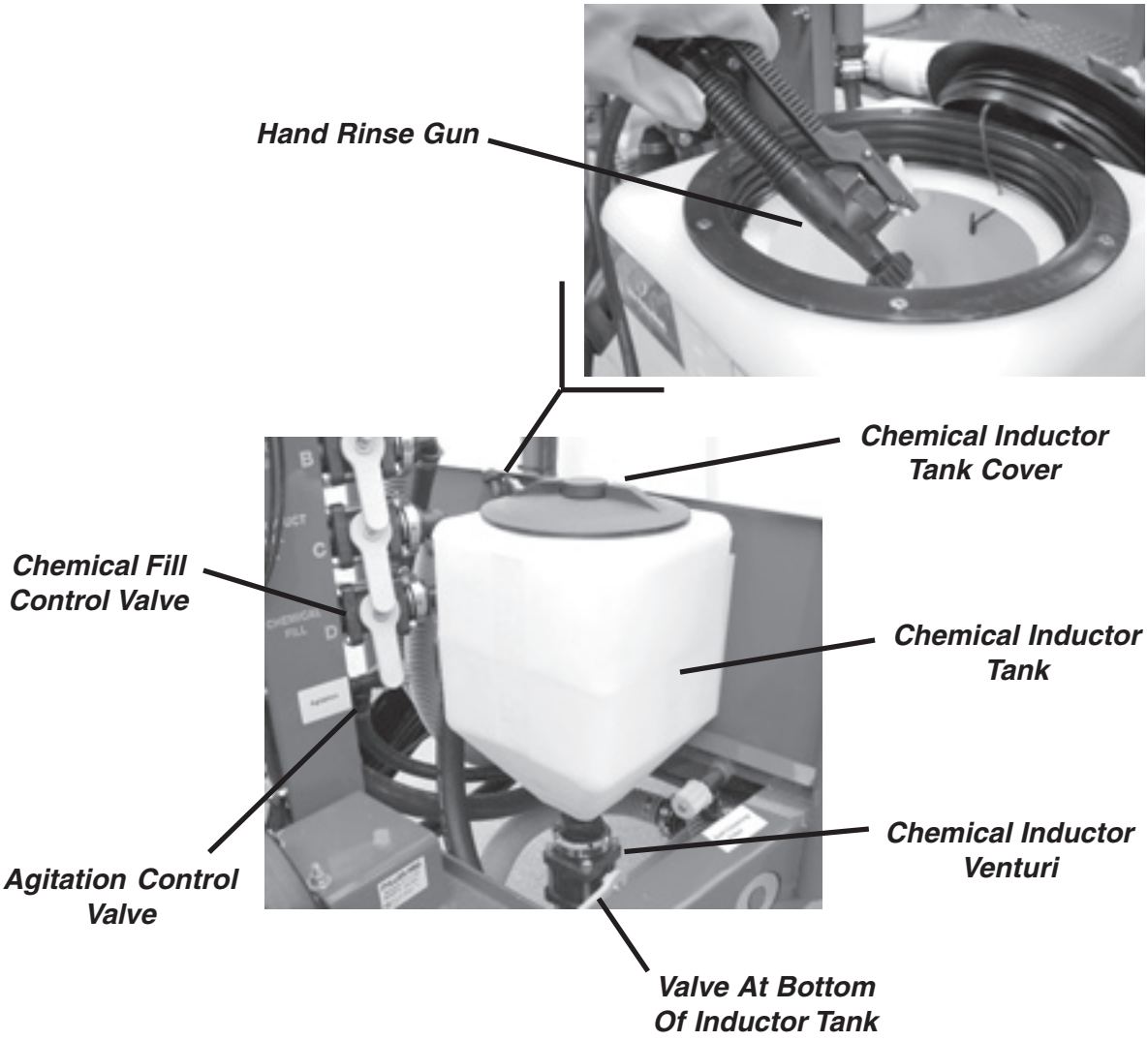
NOTE:

- If the hand rinse gun is supplied with water from the product pump, the water will come from the product tank and will be contaminated with diluted chemical.
- If the hand rinse gun is supplied with water from the optional 12 volt electric pump, the water will come from the rinse tank.

7. Always turn the valve under the chemical inductor tank OFF before turning the “Chemical Fill” valve OFF.

8. Replace the chemical inductor tank lid.

9. Fully OPEN the “Agitation” valve and allow the product pump to run long enough to thoroughly mix the product tanks contents.



NOTE: Some chemicals tend to foam when agitated. If foaming occurs, throttle back the agitation valve until the foaming stops. If you change the agitation valve setting, you may have to adjust the pressure on the tractor control box. This adjustment would not be necessary with a RAVEN rate controller.

NOTE: There are anti foaming agents available:

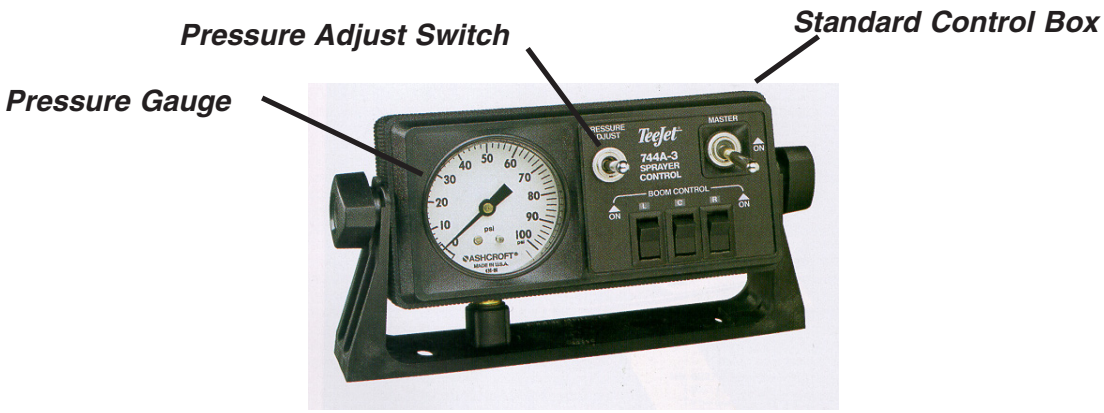
- Part No. 07.06881 Shakedown, Liquid - 1 Pint
- Part No. 07.06880 Shakedown, Dry - 1/2 lb. jar
- Part No. 07.06879 Shakedown, Water Soluble Packets - 30 per case

10. If you are mixing more than one chemical into the product tank, you should check with your chemical supplier to make sure you add the chemicals in the correct sequence to insure proper mixing.

11. Be certain to clean and dispose of empty chemical containers properly. Follow the instructions on the container.

NOTE: DO NOT use the chemical inductor system for powder type chemicals. Flowable granular chemicals are acceptable.

IMPORTANT: The "Tee" fitting at the bottom of the chemical inductor is a special fitting with a venturi nozzle on the inside. NEVER operate the chemical inductor without the venturi nozzle installed.



Hand Rinse Gun for Chemical Inductor (Optional)

The chemical inductor is supplied with a hand gun with approximately 5 feet of hose to rinse the chemical inductor tank.

There are two ways the hand gun can be supplied with water:

- Standard system via the product pump
- Optional electric system via a 12 volt electric pump

Standard System

- The standard system supplies water from the sprayer tank via the product pump and has an ON/OFF valve located at the top of the control center. The control center is located at the front of the sprayer.
- The water supplied will be contaminated with diluted mixed chemical.

To Operate:

1. Start the product pump. Be certain to have water in the product tank and the emergency shut off valve under the product tank is open.
2. Open the ON/OFF valve located at the top of the control center.
3. Remove the hand gun from the storage bracket and rinse the chemical inductor tank.
4. When finished close the ON/OFF valve, point the hand gun into the chemical inductor tank and squeeze the trigger to drain the pressure from the hand gun and hose.
5. Replace the hand gun to the storage bracket and replace the lid on the chemical inductor tank.

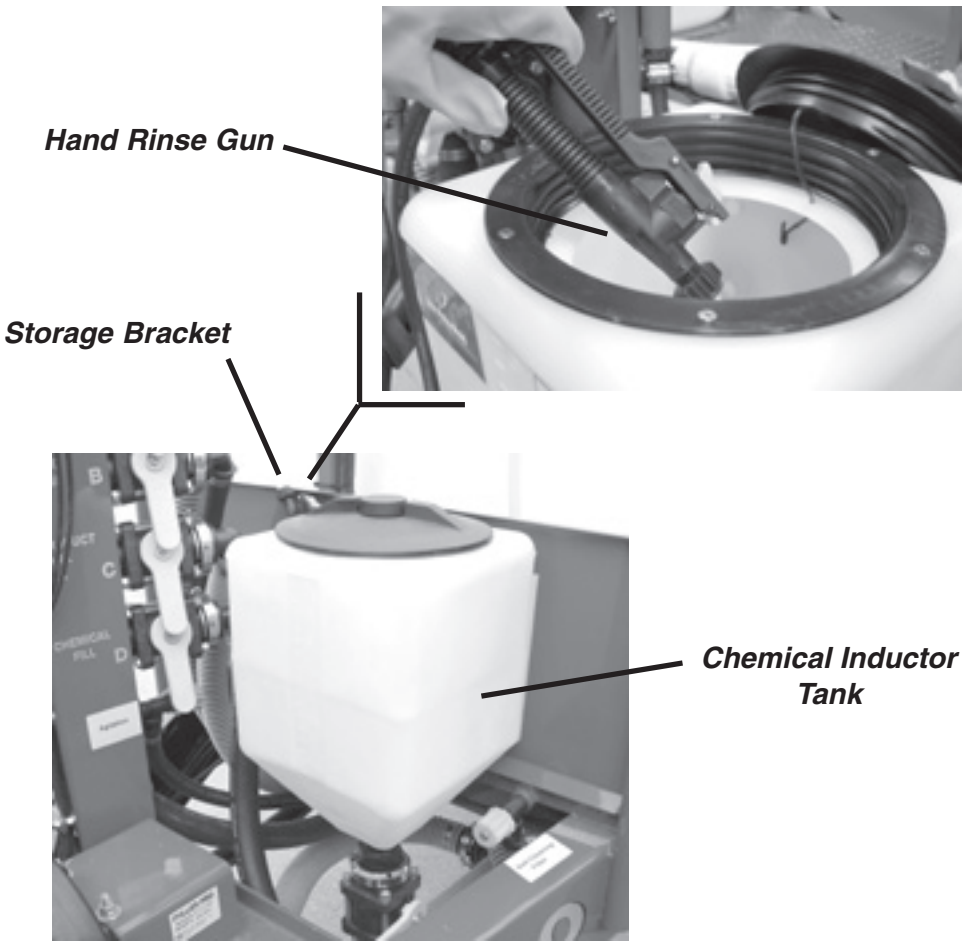
Optional Electric System

- The optional electric system has a 12 volt pump located under the 50 gallon rinse water tank.
- There is an electric ON/OFF switch located at the top of the control center.
- The water is supplied from the 50 gallon rinse water tank.

To Operate:

1. There must be water in the 50 gallon rinse water tank.
2. Turn ON the electric switch located at the top of the control center.
3. Remove the hand gun from the storage bracket and rinse the chemical inductor tank.
4. When finished turn OFF the electric switch, point the hand gun into the chemical inductor tank and squeeze the trigger to drain the pressure from the hand gun and hose.
5. Replace the hand gun to the storage bracket and replace the lid on the chemical inductor tank.

NOTE: There is a filter assembly located on the electric 12 volt pump. This filter should be serviced at least once per season. Rinse tank must be empty to remove filter.



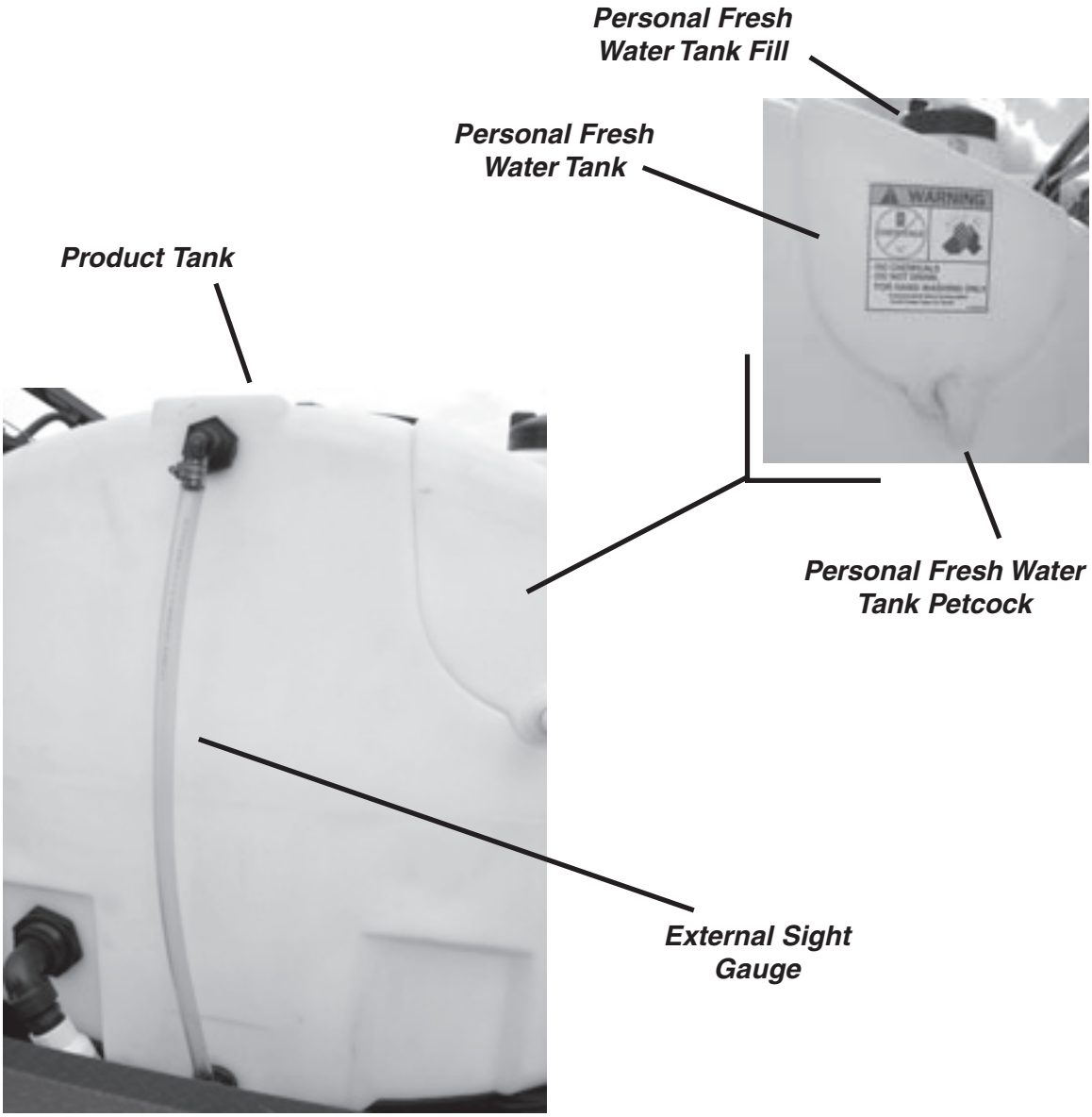
Personal Fresh Water Tank

For your safety all Miller sprayers have a personal 5 gallon fresh water tank as standard equipment. The fresh water tank is an intregal part of the product tank. This tank is a source for clean, chemical free water for washing hands or other personal use. Use a water hose to fill the tank with clean water from an uncontaminated source.

External Sight Gauge (Optional)

An external sight gauge is available for the product tank of your sprayer. This sight gauge is a clear tube mounted to the product tank on the front side. This gauge is visible from the operators position and is used as an indicator as to how much water is left in the tank. This gauge indicates the amount of water in the tank by volume only. It does not indicate gallons.

NOTE: If the external sight gauge tube becomes discolored, it can be replaced by ordering Part No. 07.13402 (order per foot) from your local Miller dealer.



Rinse Tank Flush System (Optional)

A 50 gallon fresh water rinse system is an optional accessory. The major components consist of:

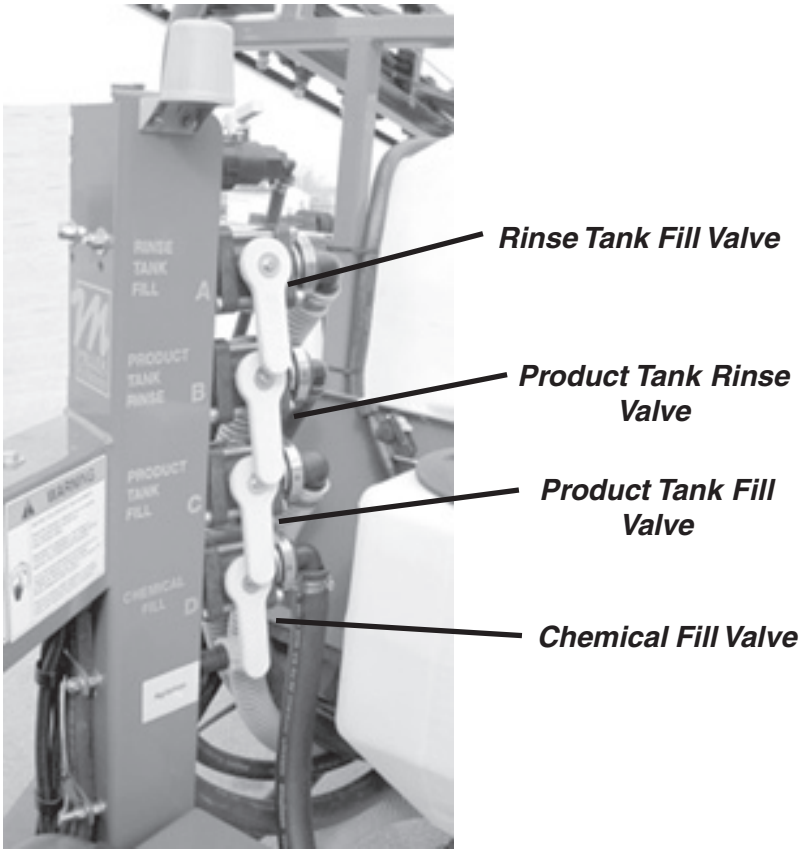
- A 50 gallon clean water tank located on the right side of the sprayer.
- Three way ball valve located on the left side of the sprayer under the operator platform.
- ON/OFF valve located at the front of the sprayer on the control stand.
- (3) rinse balls located in the product tank.

The rinse system can do two different functions:

- Rinse the product pump, controls and boom lines and leave the product tank undisturbed.
- Rinse the product pump, product tank, controls and boom lines.

There are two types of control systems available for the rinse system:

- Manual controls located on the sprayer - Standard
- Electric controls located on the tractor - Optional



Manual Control System

Filling The Rinse Tank

The 50 gallon rinse tank can be filled 3 different ways:

Fill Through Top Lid

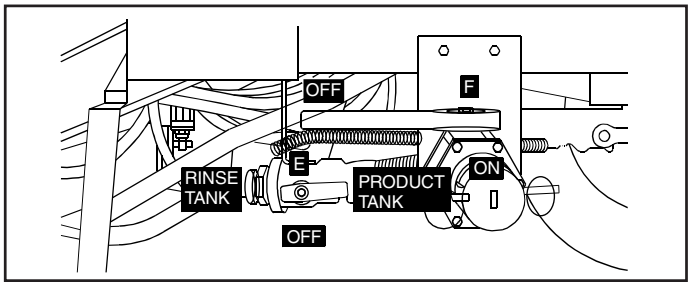
1. Remove the lid from the top of the rinse tank. Fill the tank using a garden hose or similiar means.
2. Replace the lid when complete.

Filling With Transfer Pump

Your sprayer is equipped with a 2" male fast fill connector and a ON/OFF valve (identified as “Valve F”) located on the left side of the sprayer, directly behind the step.

Fill as follows:

1. Connect the fill hose to the 2" connector.
2. Charge the fill hose with water using the transfer pump.



3. Turn the manual three way ball valve identified as “Valve E” (located under platform on left side of sprayer) to “Rinse Tank” (Point handle forward).
4. Slowly open the “Fast Fill” valve marked as “Valve F” and let run until rinse tank is full. Turn off “Fast Fill” valve. There is a breather hose on the rinse tank to allow air to escape.

IMPORTANT: If you are filling with a high volume transfer pump, be careful NOT to open the “Fast Fill” valve to full flow.

5. Disconnect the fill hose and replace the dust cap. Be careful removing the fill hose from the connector - there could be some liquid in the line.

Filling With Sprayer Pump

Your sprayer has the ability to fill the clean water rinse tank its self by using the sprayer product pump.

Your sprayer is equipped with a 2" male fast fill connector and a ON/OFF valve (identified as “Valve F”) located on the left side of the sprayer, directly behind the step.

Fill as follows:

1. Connect the fill hose to the 2” connector.

2. Open the water supply valve to fill the hose.

IMPORTANT: The water source <u>MUST</u> be higher than the sprayer pump. <u>NEVER</u> run the sprayer pump dry. The sprayer pump will not draw water from a source lower than the pump, until the pump is primed.

3. Turn the manual 3 way ball valve identified as “Valve E” (located under platform on left side of sprayer to the “OFF” position (Point handle down).

4. Open the “Fast Fill” valve marked as “Valve F.”

5. Start the product pump and run at full capacity.

6. Slowly open the “Rinse Tank” valve marked as “Valve A” located on the front control stand and let run until the rinse tank is full. Turn off the “Rinse Tank Fill” valve. There is a breather hose on the rinse tank to allow air to escape.

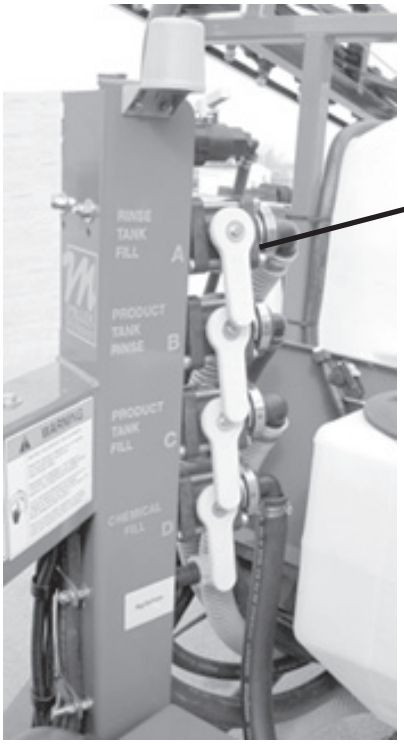
7. Stop the product pump.

8. Return the 3 way ball valve to the desired position (“Rinse Tank” or “Product Tank”).

9. Close the “Fast Fill” valve.

10. Shut off the external water source.

11. Disconnect the fill hose and replace the dust cap. Be careful removing the fill hose from the connector - there could be some liquid in the line.



Electric Control System

Filling The Rinse Tank

The 50 gallon rinse tank can be filled 3 different ways:

Fill Through Top Lid

1. Remove the lid from the top of the rinse tank. Fill the tank using a garden hose or similiar means.

2. Replace the lid when complete.

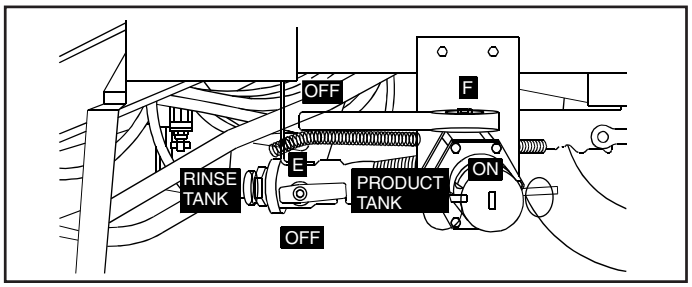
Filling With Transfer Pump

Your sprayer is equipped with a 2" male fast fill connector and a ON/OFF valve (identified as “Valve F”) located on the left side of the sprayer, directly behind the step.

Fill as follows:

1. Connect the fill hose to the 2" connector.

2. Charge the fill hose with water using the transfer pump.



3. Locate the electric rinse control switch on the control box on the tractor. Move the switch to “Rinse Water” or “Rinse Tank” (depending on which control switch your sprayer has).

4. Slowly open the “Fast Fill” valve marked as “Valve F” and let run until rinse tank is full. Turn off “Fast Fill” valve. There is a breather hose on the rinse tank to allow air to escape.

IMPORTANT: If you are filling with a high volume transfer pump, be careful NOT to open the “Fast Fill” valve to full flow.

5. Disconnect the fill hose and replace the dust cap. Be careful removing the fill hose from the connector - there could be some liquid in the line.

Filling With Sprayer Pump

Your sprayer has the ability to fill the clean water rinse tank its self by using the sprayer product pump.

Your sprayer is equipped with a 2" male fast fill connector and a ON/OFF valve (identified as “Valve F”) located on the left side of the sprayer, directly behind the step.

Fill as follows:

1. Connect the fill hose to the 2” connector.

2. Open the water supply valve to fill the hose.

IMPORTANT: The water source <u>MUST</u> be higher than the sprayer pump. <u>NEVER</u> run the sprayer pump dry. The sprayer pump will not draw water from a source lower than the pump, until the pump is primed.

3. Located under the operator platform on the left side of the sprayer is an electric 3 way ball valve. Directly behind this valve is a manual ON/OFF valve with a yellow handle. Turn this valve “OFF” (handle pointed toward rear of sprayer).

4. Open the “Fast Fill” valve marked as “Valve F.”

5. Start the product pump and run at full capacity.

6. Slowly open the “Rinse Tank” valve marked as “Valve A” located on the front control stand and let run until the rinse tank is full. Turn off the “Rinse Tank Fill” valve. There is a breather hose on the rinse tank to allow air to escape.

7. Stop the product pump.

8. Close the “Fast Fill” valve.

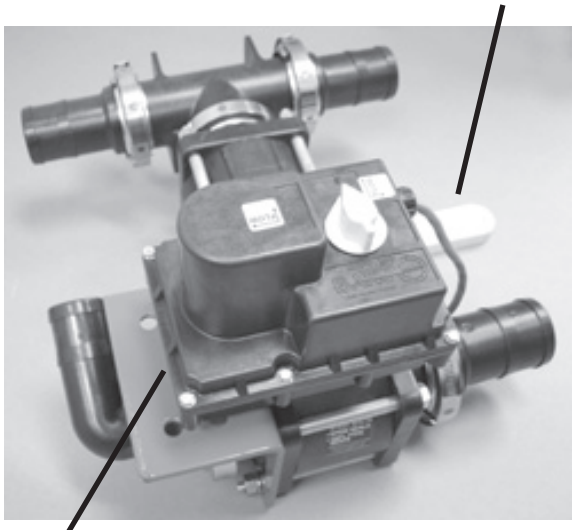
9. Turn the valve under the platform “ON” (handle pointed toward right side of sprayer).

10. Shut off the external water source.

11. Disconnect the fill hose and replace the dust cap. Be careful removing the fill hose from the connector - there could be some liquid in the line.

Valve A

Yellow Handle



Electric 3 Way Ball Valve

Cleaning The Sprayer

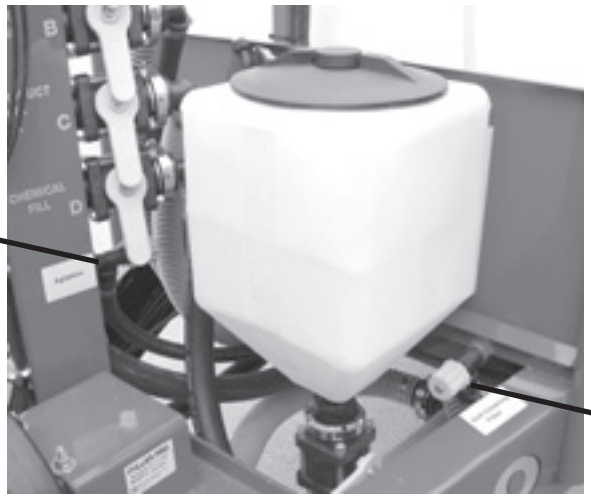
Keeping your sprayer clean helps assure a long service life. Many pesticides can quickly corrode metal parts in the spraying system. Chemicals remaining in the sprayer can react with a second chemical introduced to the system and offset its effectiveness.

Manual Control Rinse System

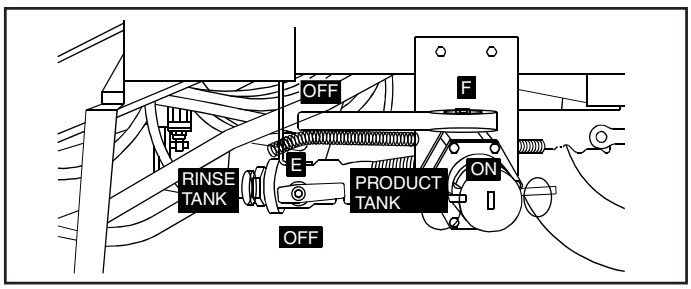
Short Term Shutdown

Rinsing the Product Pump, Controls and Boom Lines Leaving the Product Tank Undisturbed:

1. Turn OFF the “Agitation Valve” located on the front control stand - If so desired.
2. Turn OFF the Self Cleaning Filter valve located at the front left corner of the operator platform - If so desired.



3. Turn the manual 3 way ball valve identified as “Valve E” (located under platform on left side of sprayer) to “Rinse Tank” (Point handle forward).
4. Start product pump, drive at normal speed, turn complete boom ON and spray as normal until clean liquid comes out of sprayer tips.
5. Turn boom OFF, stop the product pump and stop the tractor.
6. Turn the manual 3 way ball valve identified as “Valve E” (located under platform on left side of sprayer) to “Product Tank” (Point handle toward rear of sprayer).



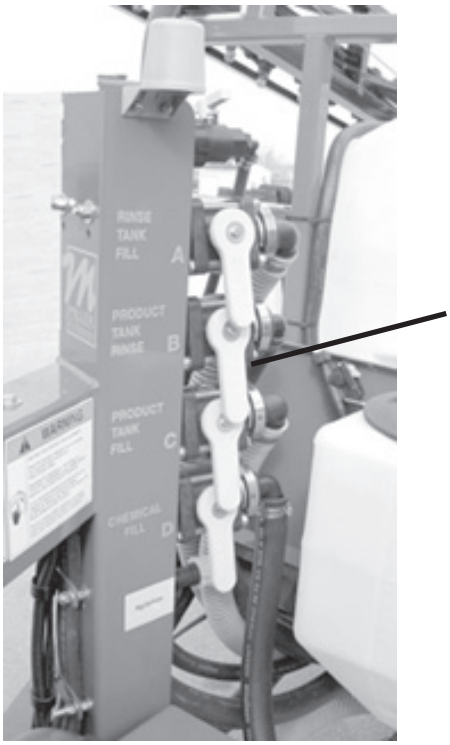
7. Turn ON the “Agitation Valve” located on the front control stand - If so desired.
8. Turn ON the Self Cleaning Filter valve located at the front left corner of the operator platform.

Long Term Shutdown

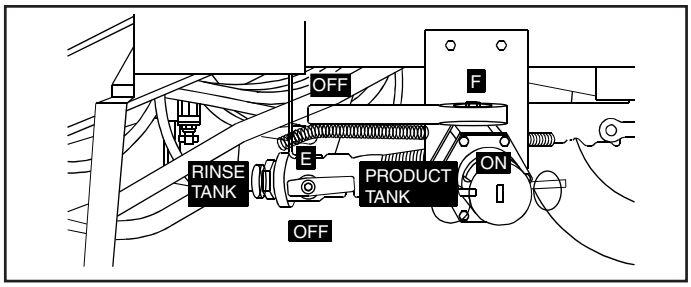
Rinsing the Product Pump, Product Tank, Controls and Boom Lines:

NOTE: It is important to "Triple" rinse the system to insure proper cleaning. The use of a Neutralizer is recommended for cleaning when changing chemicals.
Part no. 07.06876 Neutralize Liquid (1 gallon) or Part No. 07.06877 Neutralize Dry (2 lb. jar) are available from your Miller dealer.

1. Add the recommended amount of Neutralizer to the clean water rinse tank.
2. Turn the manual 3 way ball valve identified as "Valve E" (located under platform on left side of sprayer) to "Rinse Tank" (Point handle forward).
3. Start the product pump and run at full speed.
4. Open "Valve B" located in the front of the sprayer on the control stand. Let the pump run until you have used a third of the water in the clean water rinse tank.
5. Close "Valve B" located in the front of the sprayer on the control stand.
6. Turn the manual 3 way ball valve identified as "Valve E" (located under platform on left side of sprayer) to "Product Tank" (Point handle toward rear of sprayer).
7. Drive at normal speed, turn complete boom on and spray as normal until product tank is empty.
8. Repeat the cleaning procedure two more times to ensure proper cleaning.



Valve B

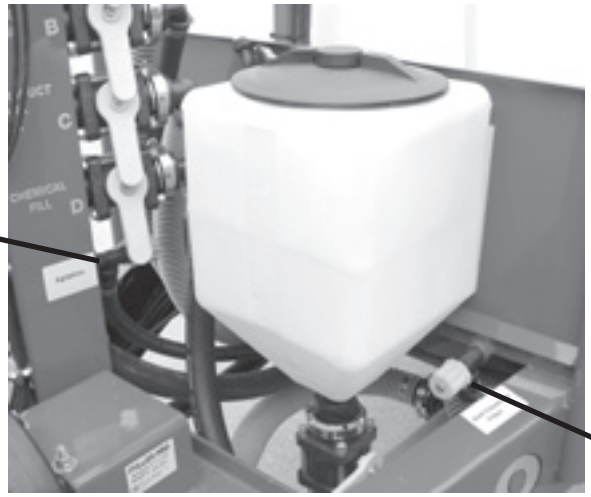


Electric Control Rinse System

Short Term Shutdown

Rinsing the Product Pump, Controls and Boom Lines Leaving the Product Tank Undisturbed:

1. Turn OFF the “Agitation Valve” located on the front control stand - If so desired.
2. Turn OFF the Self Cleaning Filter valve located at the front left corner of the operator platform - If so desired.



3. Locate the electric rinse control switch on the control box on the tractor. Move the switch to “Rinse Water” or “Rinse Tank” (depending on which control switch your sprayer has).
4. Start product pump, drive at normal speed, turn complete boom ON and spray as normal until clean liquid comes out of sprayer tips.
5. Turn boom OFF, stop the product pump and stop the tractor.
6. Move the electric rinse switch on the tractor control box to the “Product Tank” position.
7. Turn ON the “Agitation Valve” located on the front control stand - If so desired.
8. Turn ON the Self Cleaning Filter valve located at the front left corner of the operator platform.

Long Term Shutdown

Rinsing the Product Pump, Product Tank, Controls and Boom Lines:

NOTE: It is important to "Triple" rinse the system to insure proper cleaning. The use of a Neutralizer is recommended for cleaning when changing chemicals.
Part no. 07.06876 Neutralize Liquid (1 gallon) or Part No. 07.06877 Neutralize Dry (2 lb. jar) are available from your Miller dealer.

1. Add the recommended amount of Neutralizer to the clean water rinse tank.
2. Locate the electric rinse control switch on the control box on the tractor. Move the switch to "Rinse Water" or "Rinse Tank" (depending on which control switch your sprayer has).
3. Start the product pump and run at full speed.
4. Locate the electric control switch on the tractor control box and move the switch to "Rinse Balls" or "Product Tank Rinse" and let run until you have used a third of the water in the clean water rinse tank.
5. On the tractor control box, move the "Rinse Balls" switch to the "Product Tank" position (HC control) and/or "Product Tank Rinse" switch to the "OFF" position and the "Product Tank"/ "Rinse Tank" switch to the "Product Tank" position (Standard electric control).
6. Drive at normal speed, turn complete boom on and spray as normal until product tank is empty.
7. Repeat the cleaning procedure two more times to ensure proper cleaning.

Cleaning Your Sprayer Manually

Keeping your sprayer clean helps assure a long service life. Many pesticides can quickly corrode metal parts in the spraying system. Chemicals remaining in the sprayer can react with a second chemical introduced to the system and offset its effectiveness.

Following are instructions for cleaning your sprayer if it is not equipped with a factory installed rinse system.

1. Select an area where the cleaning solution can be safely sprayed out of the system.
2. Check the label on the chemical container for specific cleaning instructions.
3. Wash the entire sprayer system using a water hose and a brush. Use a soft brush to clean nozzle tips and screens.
4. Flush with clean water.
5. Dispose of the cleaning solution properly according to local regulatory agency requirements.

Hydraulic Boom Operation

Three types of hydraulically operated booms are available. They are EF Booms, EFT Booms and HC Booms.

DANGER

To avoid personal injury or death, KEEP clear of ALL electrical power lines when operating sprayer or when folding or unfolding booms.

WARNING

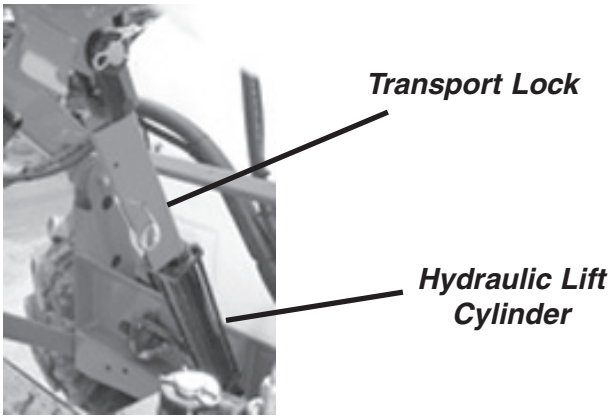
To avoid personal injury, make sure that everyone is at a safe distance from the sprayer before folding or unfolding the sprayer boom. Keep a safe distance from the boom while in operation. Hydraulic booms may move suddenly without warning.

EF & EFT Boom

After the sprayer and hydraulic hoses have been properly attached to the tractor, unfold the boom using the following procedure:

1. Raise the complete boom until the boom wings clear the transport rest.
2. Place the tractor in park and/or set the brakes and stop the engine.
3. Remove the transport lock from the lift cylinder at the rear of the sprayer and place in the storage position provided.
4. Restart the tractor and unfold the boom wings until the boom is in the working position.
5. Lower the entire boom to the desired height.

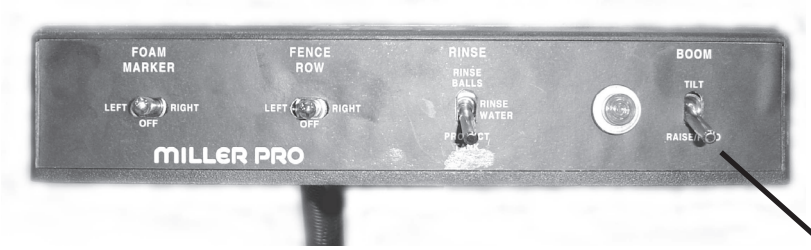
IMPORTANT: DO NOT lower boom to the full down position. There must be a minimum of 1-1/2" of hydraulic lift cylinder shaft showing before the suspension can work properly.



EFT Boom

After the sprayer booms have been unfolded and lowered to the correct height, tilt the boom wings using the following procedure:

1. Flip the wing tilt switch on the control box to the tilt position.
2. Using the tractor hydraulic controls tilt the individual wings up or down to the desired position.
   a. The tractor control for the single hose control will tilt the left wing.
   b. The tractor control for the dual hose control will tilt the right wing.

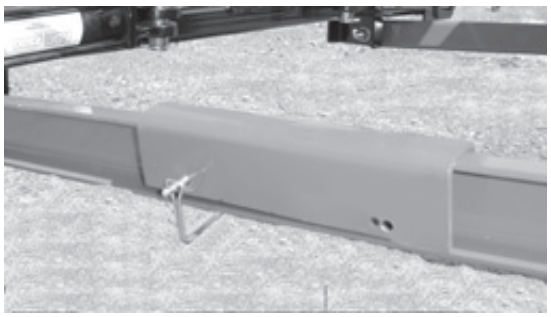


Wing Tilt Switch

Fold the boom using the following procedure:

NOTE: For EFT booms, level both boom wings before proceeding.

1. Raise the boom to the full lift height.
2. Fold the boom inward until the boom is over the top of the transport rest.
3. Place the tractor in park and/or set the brakes and stop the engine.
4. Remove the transport lock from the storage position on the boom stabilizer arm and put in place on the hydraulic lift cylinder.
5. Restart the tractor and lower the boom on to the boom transport rest.



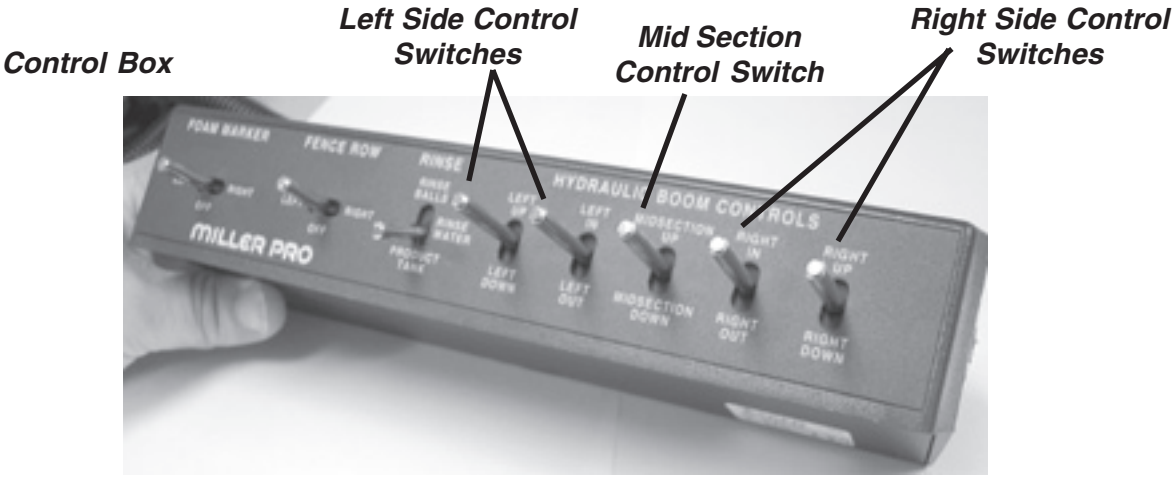
Transport Lock In Storage Position On Boom Stabilizer Arm

HC Boom

The HC Boom uses five separate hydraulic cylinders which allow the operator maximum control of the boom. Boom components are controlled independently with the boom control box mounted on the tractor.

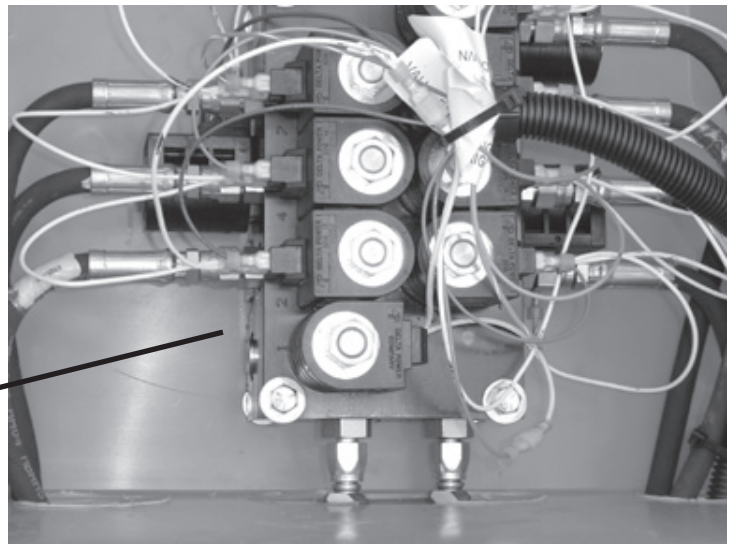
The switches on the control box operate the following boom functions:

- The MID SECTION control raises or lowers the complete boom.
- The two FOLD controls fold the respective wings IN or OUT depending on the position of the switch.
- The RIGHT and LEFT controls tilt their respective wing UP or DOWN.



The HC Boom controls are designed for a tractor with a open or closed center hydraulic system. Refer to page 19 “HC Boom Hydraulic Hose and Electrical Connections” for a detailed explanation of the hydraulic settings.

Whenever the HC boom is in use, the tractor hydraulic valve on the tractor MUST be locked open to assure a constant supply of oil to the cylinder valve control bank at the back of the sprayer.



Lubrication

WARNING

Before attempting any lubrication, adjustment or servicing of the sprayer, be sure to shut down the sprayer and lock out the power source. Contact with moving parts or hydraulic fluid under pressure can cause death or personal injury.

WARNING

DO NOT adjust or lubricate the machine while it is in motion. ALWAYS shut off the tractor first.

WARNING

ALWAYS securely block the sprayer up when servicing requires working under it.

Daily Lubrication Interval

PTO Shaft

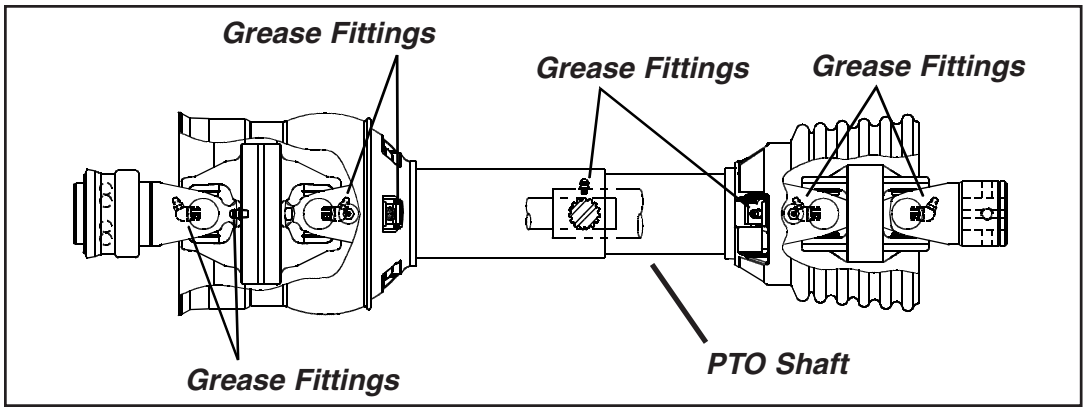
There are a total of 8 grease fittings on the PTO assembly.

Grease with a high quality grease before starting work each day or after every 8 hours of operation.

Clean and grease PTO shaft before each prolonged period of nonuse.

Grease the shield tubes to prevent seizing.

Follow any other service instructions from the manufacturer.



Sprayer Pump

WARNING

ALWAYS replace any shielding after any servicing or lubrication of the pump. NEVER operate the sprayer unless ALL shielding is in place and secure. Contact with rotating parts can cause death or personal injury.

Your sprayer may be equipped with one of several pumps. To help assure proper lubrication, refer to the pump owner's manual for detailed lubrication information

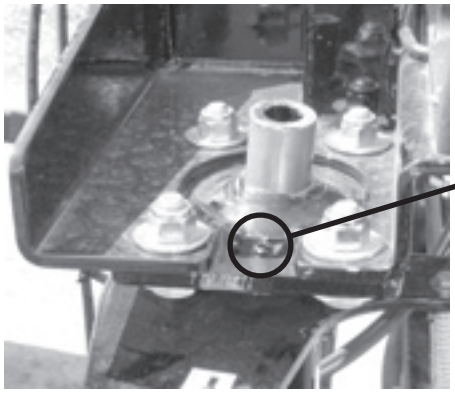
Weekly Lubrication Interval

EF & EFT Boom Primary and Secondary Boom Pivot Points

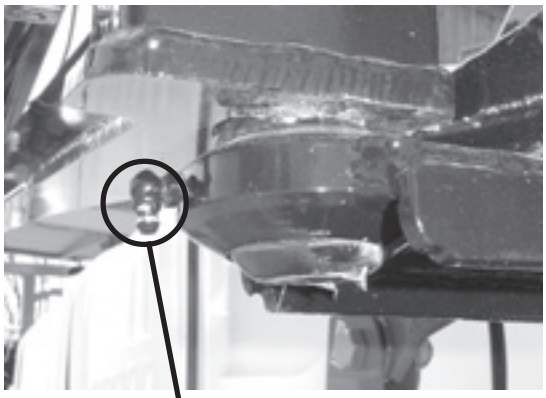
Lubricate ALL the pivot points on each side of the boom assembly using a good quality grease. Clean off grease fittings before attaching grease gun. Wipe up any excess grease when finished.

NOTE: There are a total of 9 grease fittings on the EF boom assembly and 11 grease fittings on the EFT boom assembly.

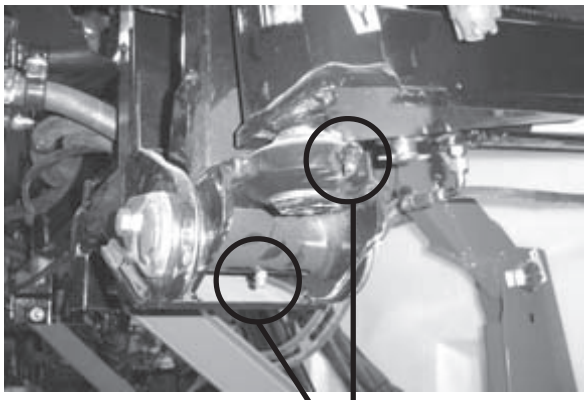
Boom Pivots Upper



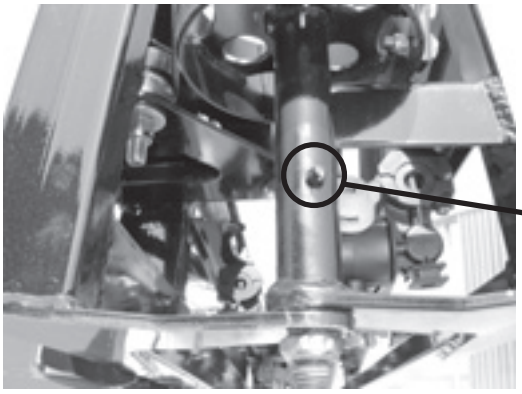
Boom Pivots Lower EF Boom



Boom Pivots Lower EFT Boom



Boom Pivots Secondary Boom

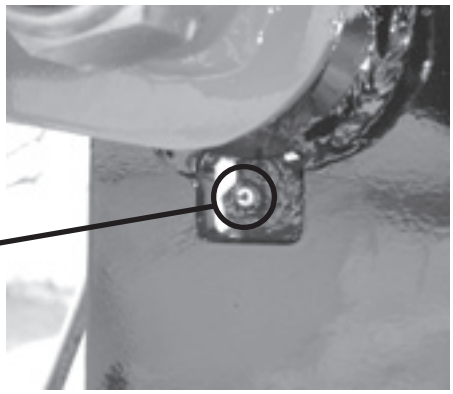


EF & EFT Boom Center Boom Mounting Arm Pivot Points

Lubricate ALL the pivot points on each mounting arm and the center pivot using a good quality grease. The center pivot is located directly behind the slow moving vehicle (SMV) emblem. Clean off grease fittings before attaching grease gun. Wipe up any excess grease when finished.

Boom Pivot Center

Grease Fitting

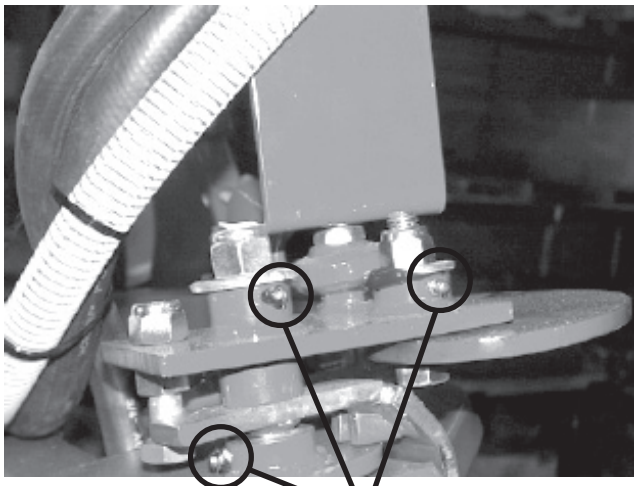


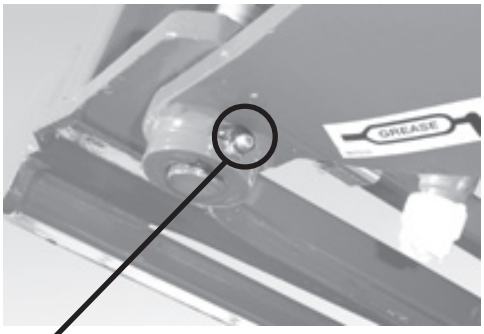
Grease Fittings

Mounting Arm Pivots (Left and Right Sides)

HC Boom

Lubricate ALL the pivot points on each side of the boom assembly using a good quality grease. Clean off grease fittings before attaching grease gun. Wipe up any excess grease when finished.

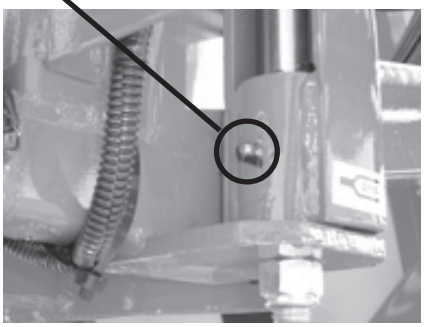




Grease Fittings (three at top and one at lower pivot on each side)

Secondary Boom Wing Pivot Point

Boom Pivots (three on each side of sprayer)



Boom Tower Slides (HC Boom Only)

Weekly lubricate the boom tower slides with liquid graphite. If operating in extremely dusty conditions, shorten the lubrication interval as required.

Boom Tower Slides

200 Hour Lubrication Interval

Wheel Bearings

Every 200 hours (or yearly), repack the wheel bearings using a good quality wheel bearing grease.

Maintenance

General

Repair or replace damaged or broken parts immediately.

Check all safety and operating decals. If any decals are illegible or missing, replace any decals immediately. DO NOT operate sprayer with missing or damaged decals. Refer to the “Safety Decal” section of this manual for all safety decal locations. Refer to your parts manual for all operating decals.

Fasteners

After the first hour of use, check all the fasteners and tighten any found to be loose. Thereafter, check all fasteners periodically and tighten as required.

Tire Pressure

Check the tire pressure daily.

The recommended tire pressure is:

12.4-24 6 ply tires ..... 24 psi

11.2-38 4 ply tires ..... 18 psi

Filters

Remove and clean the water filters daily. Clean the filters on the optional foam marking system at intervals as specified in the foam system owner’s manual.

IMPORTANT: Always wear gloves and eye protection while servicing the sprayer.

To manually clean the self cleaning filter:

1. Make sure the product pump is turned OFF.
2. Close the emergency shut off valve under the product tank.
3. Make sure the agitation valve and self cleaning filter bypass agitation valve are both closed.
4. Place a clean empty container under the filter base to catch any water and chemicals.
5. Very carefully disconnect the bypass line from the bottom of the filter and allow the water and chemicals to flow into the container.
6. Remove the canister from the filter head by rotating counter clockwise.
7. Rinse the canister and screen in clean water.

8. Before reinstalling the canister to the filter head, lubricate the canister o-ring with clean engine oil. Reinstall the canister and hand tighten only.

9. Connect the bypass hose to the bottom of the filter, open the bypass and agitation valves. Open the emergency shut off valve at the bottom of the product tank.

10. Start the sprayer pump with water in the tank and check for leaks.

11. This procedure also applies to sprayer equipped with the standard filter.

Sprayer Tips

Refer to the information found on page 25 “Spray Tip Wear” for tip cleaning.

Storing and Winterizing

Storing your sprayer properly during the off season will help reduce the time needed to get the sprayer ready for the next spraying season. If at all possible, store your sprayer in a dry building to protect it from the harmful effects of the weather. Ultraviolet light in the sun’s rays softens and weakens rubber used for hoses and tires.

WARNING

Wear protective clothing (such as goggles, rubber or chemical resistant gloves and a respirator) while handling or working with chemicals. Keep protective clothing clean and in good condition or discard.

IMPORTANT: It is very important that you thoroughly clean the sprayer inside and out.

Cleaning the Inside of the sprayer

1. Add about 50 gallons of clean water along with a Neutralizing agent into the sprayer product tank. Refer to “Cleaning the Sprayer” in this manual.

2. Start the product pump and run at rated volume.

3. Open and close ALL valves on the sprayer to ensure you have clean water through the entire system.

NOTE: The pressure gauge hose is supplied from the rear of the sprayer and is a “dead end” circuit. The following procedure is recommended for cleaning.

   a. With the sprayer pump turned off, carefully remove the pressure line from the bottom of the pressure gauge.

   b. Hold the end of the hose above a bucket and have an assistant start the sprayer pump momentarily at an idle ONLY. Leave run at idle until clean liquid comes out of the hose. Be careful of any “splash back” in the bucket.

   c. Stop the sprayer pump and reattach the hose to the gauge.

4. Spray liquid out through the boom at a proper location. Manually drain as much water as possible. Dispose of liquid properly.

5. Check entire sprayer for worn or damaged components. Replace as necessary.

6. Add approximately 20 gallons of environmentally safe antifreeze suitable for the climate in your area.

7. Start the product pump and run at rated volume.

8. Open and close ALL valves on the sprayer to ensure you have clean antifreeze through the entire system.

NOTE: The pressure gauge hose is supplied from the rear of the sprayer and is a “dead end” circuit. The following procedure is recommended for winterizing.

   a. With the sprayer pump turned off, carefully remove the pressure line from the bottom of the pressure gauge.

   b. Hold the end of the hose above a bucket and have an assistant start the sprayer pump momentarily at an idle ONLY. Leave run at idle until clean antifreeze comes out of the hose. Be careful of any “splash back” in the bucket.

   c. Stop the sprayer pump and reattach the hose to the gauge.

9. Turn on the boom until antifreeze begins spraying from the spray tips. Shut off the sprayer and let the antifreeze remain in the system.

Chemical Inductor

Be sure to drain the chemical inductor system, flush with clean water then run environmentally safe antifreeze (RV antifreeze) through the system. Open all inductor valves to insure antifreeze has been run through the entire inductor system.

Foam Marker

IMPORTANT: The liquid lines and tank must be drained completely prior to storage. If liquid in this system is allowed to freeze, several components may be damaged.

1. Remove the in-line filter bowl at the bottom of the tank and flush tank with warm water.

2. Replace the filter bowl. Fill the tank with at least 2 gallons of hot water. Turn on the machine and allow to run out each side until no foam is generated. Repeat if necessary.

3. Add RV type antifreeze to the tank. Do not use windshield washer fluid because it can clog the foamer.

4. Turn on machine until antifreeze solution reaches each foamhead.

5. Check the air and liquid lines for holes and replace as required. Be sure to flush and drain all liquid from the system prior to storage in freezing temperatures.

Cleaning the outside of the sprayer

1. Thoroughly clean the outside of the sprayer with soap and water until all surfaces are clean. A high pressure washer would help this process.

2. Paint all scratched or rusty surfaces.

3. Check all safety decals, reflectors and lights that they are in good condition and function properly. Replace or repair as needed.

4. Grease and lubricate all fittings and slide areas. Refer to the “Lubrication” section of this manual.

Boom Adjustments

HC Boom Only

Boom Slides

The poly slides on the boom tend to wear over time. Adjust the pressure on the poly slides as needed to compensate for wear.

To adjust the pressure on the poly slide pads, locate the large locknuts (located by each pad) on the tank side of the slide tower. Tighten the locknuts to increase the pressure on the poly slide pads. Tighten all the pads equally.

Boom Breakaways

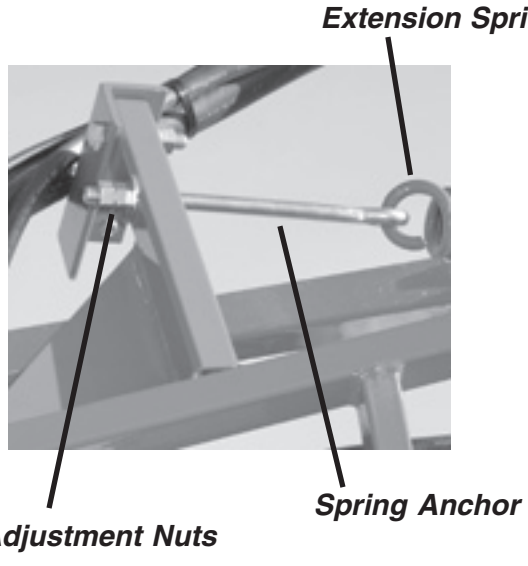
The tension of the boom breakaways should be checked and adjusted as needed. If the tension on the breakaways is too great, the boom may be damaged if it strikes a stationary object. Tightening the nuts on the extension spring for the breakaway increases the tension. Turning the nuts out decreases the tension. The springs are located between the primary and secondary boom wings.

Boom Level

If the boom does not hang level, secure the boom with an overhead hoist or other suitable means. Loosen the six nuts on the bolts which hold the boom to the tower slides. These bolts fit through slotted holes. Level the boom and retighten the nuts.

Boom Wing Alignment

Align boom inner and outer wings with the parallel connecting link. Remove the pin from the clevis on the end of the link. Turn the clevis in or out on the threaded shaft intil the link is properly aligned. Reinstall the pin.



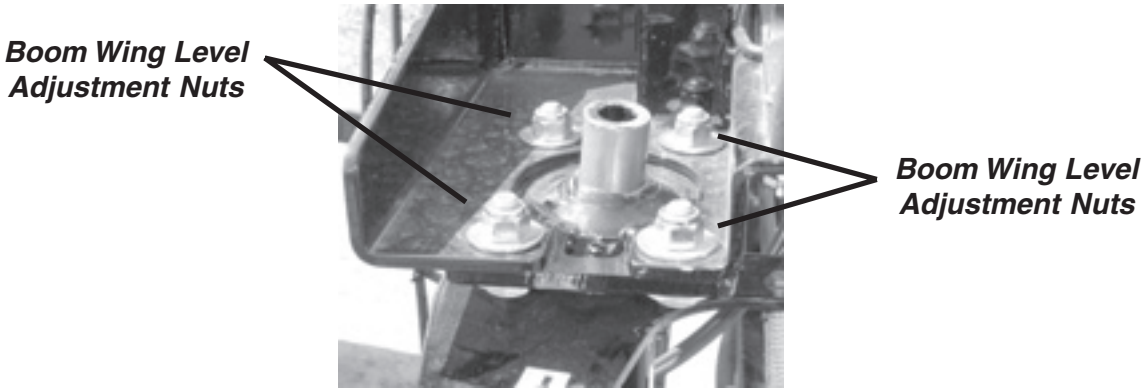
EF & EFT Boom Only

Boom Level

If the entire boom is not level side to side adjust the threaded rod and spring assembly at the rear of the center boom. Tighten the locknuts after adjustment is complete.

Boom Wing Assembly Alignment

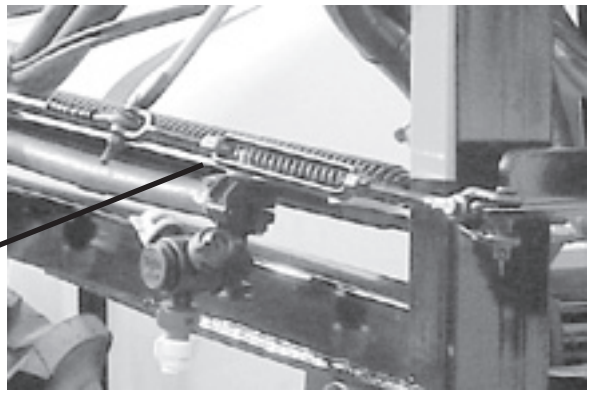
If the wing assemblies are not aligned (up or down), the wing assemblies can be raised or lowered. Secure the boom wing assembly with an overhead hoist or other suitable means. Loosen the four nuts at the pivot between the center boom and the primary boom wing. Use the overhead hoist to level the boom wing assembly. Tighten the four nuts securely.



EF & EFT Boom (continued)

Boom Wing Fold Out Adjustment

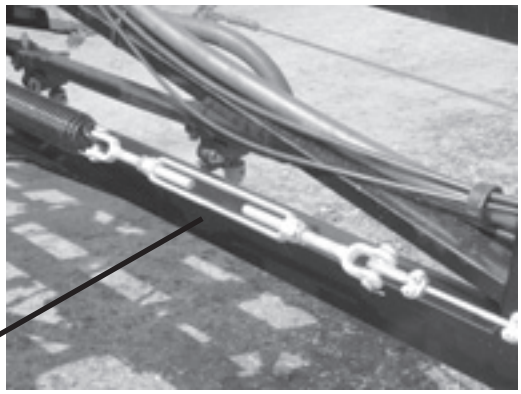
If the secondary boom wings do not unfold properly, with the boom in the folded position, adjust the turnbuckle at the rear of the primary boom wing until the cable is tight. Recheck the boom breakaway tension and adjust if necessary.



Boom Fold Out Turnbuckle

Boom Breakaways

The tension of the boom breakaways should be checked and adjusted as needed. If the tension on the breakaways is too great, the boom may be damaged if it strikes a stationary object. Adjust the tension as needed by turning the turnbuckles located on the front side of the boom wings (when boom is completely unfolded). Adjust as required. Tighten the locknuts against the turnbuckle when complete.



Boom Breakaway Turnbuckle

Troubleshooting Guides

Following are troubleshooting guides to help you solve common operating problems. If you have difficulty resolving operating problems, call your dealer for assistance.

Problem	Possible Cause	Solution
No pressure in spray system	Air leak in suction line	Tighten clamps, check hoses for cracks or breaks
	Dirty or clogged filter	Clean filter
	Kinked hose	Straighten hose, route hose for gradual bends
	Pump not primed	Prime pump (see priming pump and pump owners manual)
	Water not flowing from tank	Empty tank; refill
		Check tank outlet; clear debris if any
		Make sure emergency shut off valve is open
		Make sure throttling valve is open
		Pump is defective; repair or replace
Spray system pressure low	Primary filter beginning to plug	Clean filter
	Pressure regulating or throttling valve out of adjustment	Adjust valve
	Spray tips to large	Verify spray tip size
	Speed to slow	Increase travel speed
	Pump running to slow	Increase pump speed
Erratic spray system pressure	Air leaks in suction line	Tighten clamp; check hoses for cracks or breaks
	Tank getting empty	Refill tank
	Vacuum developing in tank	Remove tank cover; clean tank vent
Spray system pressure can't be regulated	Pressure regulating valve not working	Check electric wiring to valve; tighten electrical connections
		Replace valve if defective
Spray system pressure increasing	Tips plugging	Clean tips
	Tip screens plugging	Clean screens
	In line filter plugging	Clean in line filter
Application rate to low	Sprayer not calibrated properly	Calibrate sprayer
	Speed sensor not calibrated correctly	Calibrate speed sensor
	Spray tip to small	Verify spray tip size

Troubleshooting Guides (continued)

Problem	Possible Cause	Solution
RAVEN Controller		
No speed reading	Blown out fuse	Check and replace fuse
	Poor wire connection or bad wire	Clean and check connection
		Check for break in wire
Speed reading to slow or to fast	Wrong calibration number	Verify calibration number
	SP-1 or SP-2 setting wrong SP-1 Wheel drive SP-2 Radar gun	Verify setting - See RAVEN owners manual
No rate in rate window	Flow meter not working	Check connections and wires
		Check for foreign material in roto
		Check transducer
		See RAVEN owners manual for instructions
Rate will not change or adjust	Regulating valve not working	Check connections and wiring
		Check for foreign material in valve
		See RAVEN owners manual for instructions
Nozzle output not equal	Tips plugging	Clean tips
	Tip screens plugging	Clean screens
	In line filter plugging	Clean in line filter
	Nozzle check valve sticky or swollen	Clean or replace check valve
Boom section output not equal	ON/OFF valve not opening completely	Clean or replace ON/OFF valve
Boom section will not turn on	No signal from control box	Check connections and wires for breaks
	Circuit breaker released in ON/OFF boom ball valve	Unplug ON/OFF valve connection on sprayer for one minute and replug
Poor tank agitation	Agitation valve closed	Open valve
	Agitation valve not completely open	Open valve
	Self cleaning filter ON/OFF valve not open	Open valve
	Plugged agitation nozzle(s)	Clean nozzles
Hydraulic drive pump keeps stopping	To much oil flow from tractor	Reduce oil flow from tractor
		See pump owners manual for details

Troubleshooting Guides (continued)

Problem	Possible Cause	Solution
EF & EFT Boom		
Boom bounces excessively	Low pressure in accumulator	See dealer for service
	Field to rough	Slow down
	Weak shock absorber	Replace shock absorber
Boom settles	Bad seals in lift cylinder	Replace seals
	Tractor hydraulic valve leaks	Replace seals in valve
Boom not level	Coil spring out of adjustment	Adjust coil spring
	Boom wing sagging	Adjust top boom wing support
HC Boom		
Boom bounces excessively	Weak S-Tine(s)	Replace S-Tine(s)
	Weak shock absorbers	Replace shock absorbers
	Field to rough	Slow down
	Tower slides out of adjustment or worn	Adjust tower slide and/or replace
Boom not level	Tower slides out of adjustment	Adjust tower slide
Boom settles or creeps up	Bad cylinder seals	Replace seals
	Dirt in HC valve block spool	Clean spool

Torque Specifications

NOTE: Use these torque values when tightening hardware (excluding: locknuts and self tapping, thread forming and sheet metal screws) unless specified otherwise.

All torque values are in lb-ft except those marked with an (*) which are lb-in (for metric torque value Nm, multiply lb-ft value by 1.355 or for lb-in multiply by 0.113).

Unified National Thread	Grade 2		Grade 5		Grade 8	
	Dry	Lubed	Dry	Lubed	Dry	Lubed
8-32 8-36	19* 20*	14* 15*	30* 31*	22* 23*	41* 43*	31* 32*
10-24 10-32	27* 31*	21* 23*	43* 49*	32* 36*	60* 68*	45* 51*
1/4-20 1/4-28	66* 76*	50* 56*	9 10	75* 86*	12 14	9 10
5/16-18 5/16-24	11 12	9 9	17 19	13 14	25 25	18 20
3/8-16 3/8-24	20 23	15 17	30 35	23 25	45 50	35 35
7/16-14 7/16-20	32 36	24 27	50 55	35 40	70 80	55 60
1/2-13 1/2-20	50 55	35 40	75 90	55 65	110 120	80 90
9/16-12 9/16-18	70 80	55 60	110 120	80 90	150 170	110 130
5/8-11 5/8-18	100 110	75 85	150 180	110 130	220 240	170 180
3/4-10 3/4-16	175 200	130 150	260 300	200 220	380 420	280 320
7/8-9 7/8-14	170 180	125 140	430 470	320 360	600 660	460 500
1-8 1-14	250 270	190 210	640 710	480 530	900 1000	680 740
Metric Course Thread	**Grade 8.8**		**Grade 10.9**		**Grade 12.9**	
	Dry	**Lubed**	**Dry**	**Lubed**	**Dry**	**Lubed**
M6-1	8	6	11	8	13.5	10
M8-1.25	19	14	27	20	32.5	24
M10-1.5	37.5	28	53	39	64	47
M12-1.75	65	48	91.5	67.5	111.5	82
M14-2	103.5	76.5	145.5	108	176.5	131
M16-2	158.5	117.5	223.5	165.5	271	200

Tightening Hydraulic Fittings

CAUTION

Escaping fluid under pressure can penetrate the skin causing serious injury. Relieve pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Keep hands and body away from pin holes and nozzles which eject fluids under high pressure. Use a piece of cardboard or paper to search for leaks. DO NOT use your hand.

Tightening O-Ring Fittings*

1. Inspect O-ring and seat for dirt or obvious defects.
2. On angle fittings, back the locknut off until washer bottoms out at top of groove.
3. Hand tighten fitting until backup washer or washer face (if straight fitting) bottoms on face and O-ring is seated.
4. Position angle fittings by unscrewing no more than one turn.
5. Tighten straight fittings to torque shown.

* Torque values shown are based on lubricated connections as in reassembly.

Thread Size	Nut Size Across Flats	Torque Value*		Recommended Turns To Tighten (After Finger Tightening)	
(In.)	(In.)	(Nm)	(lb-ft)	(Flats)	(Turns)
3/8	1/2	8	6	2	1/3
7/16	9/16	12	9	2	1/3
1/2	5/8	16	12	2	1/3
9/16	11/16	24	18	2	1/3
3/4	7/8	46	34	2	1/3
7/8	1	62	46	1-1/2	1/4
1-1/16	1-1/4	102	75	1	1/6
1-3/16	1-3/8	122	90	1	1/6
1-5/16	1-1/2	142	105	3/4	1/8
1-5/8	1-7/8	190	140	3/4	1/8
1-7/8	2-1/8	217	160	1/2	1/12

Tightening Flare Type Fittings*

1. Check flare and flare seat for defects that might cause leakage.
2. Align hose end with fitting before tightening.
3. Lubricate connection and hand tighten swivel nut until snug.
4. To prevent twisting the hose, use two wrenches. Place one wrench on the hose end body and with the second wrench, tighten the swivel nut to the torque shown in this chart.

* Torque values shown are based on lubricated connections as in reassembly.

Tube Size OD	Nut Size Across Flats	Torque Value*		Recommended Turns To Tighten (After Finger Tightening)	
(In.)	(In.)	(Nm)	(lb-ft)	(Flats)	(Turns)
3/16	7/16	8	6	1	1/6
1/4	9/16	12	9	1	1/6
5/16	5/8	16	12	1	1/6
3/8	11/16	24	18	1	1/6
1/2	7/8	46	34	1	1/6
5/8	1	62	46	1	1/6
3/4	1-1/4	102	75	3/4	1/8
7/8	1-3/8	122	90	3/4	1/8

Optional Accessories

In Line Filter Kit

The In Line Filter Kit is an optional accessory.

The in line filters are located on the mid section of the boom and are attached to the ON/OFF valves. There will be one filter per ON/OFF valve and are equipped with 50 mesh screens. Optional size screens are available through your Miller parts dealer.

WARNING

Wear protective clothing (such as goggles, rubber or chemical resistant gloves and a respirator) while handling or working with chemicals. Keep protective clothing clean and in good condition or discard.

To clean screens:

1. Use caution when removing filter canisters or boom lines. There could be residual pressure in the filter or boom lines.
2. Place a container under the filter canister.
3. SLOWLY loosen and remove the drain plug from the bottom of the canister and let filter drain completely.
4. Unscrew the filter canister, remove the screen and rinse in clean water.
5. Wipe the inside of the canister with a clean rag.
6. Lightly oil the o-rings on the filter canister and the drain plug.
7. Reassemble the filter screen into the canister and the canister to the filter head. DO NOT over tighten.
8. Reinstall the drain plug into the canister. DO NOT over tighten.
9. Dispose of the waste material properly.

Fence Line Kit(s)

The fence line kit(s) are an optional accessory.

There are three different styles of fence row kits available:

- Manual ON/OFF valve
- Electric solenoid ON/OFF valve
- Electric Ball ON/OFF valve

You may order a fence line nozzle for the left, right or both sides of the boom. (right side is the most common).

Manual Fence Row Nozzle Operation:

1. Before operating sprayer, with the boom unfolded, adjust the spray body to the desired position (located at end of spray boom).
2. With the spray boom turned OFF walk to the end of the boom and turn ON the fence row nozzle valve. When handle is at a right angle from the valve it is in the OFF position.
3. Start the sprayer and spray as normal.
4. When finished turn OFF the boom, stop the tractor and walk to the end of the boom and turn OFF the fence row nozzle valve.
5. Resume spraying as normal.

Electric Fence Row Nozzle Operation:

1. Before operating sprayer, with the boom unfolded, adjust the spray body to the desired position (located at end of spray boom).
2. Locate the electric switch marked “Fence Row” located on the sprayer control panel.
3. This switch can be turned ON or OFF at any time. You will have the ability to spray with this nozzle if the boom is turned ON or OFF.

NOTE: The Electric Fence Row Nozzle is supplied with a non drip check valve to prevent the line from draining.

WARRANTY

MILLER-ST. NAZIANZ, INC. warrants each new Miller Trailer Sprayer to be free from defects in material and workmanship under recommended use and service, as stated in the Operator's Manual, as follows:

1. **Base Warranty**. Miller will replace, F.O.B. St. Nazianz, Wisconsin, or repair, as Miller elects, any part of a new Miller Trailer Sprayer which is defective in material or workmanship:

   (a) without charge for either parts or labor during the first year following delivery to the original retail customer; and
   (b) without charge for parts only (not labor) during the second year following delivery to the original retail customer.

   Items not manufactured by Miller (pumps, tanks, controls, monitors, etc.) for the second year will be subject to its own manufacturer's warranty policy.

   Notwithstanding the above, Miller does not warrant tips and nozzle bodies against wear and breakage as these items are expected to wear and extent of wear or breakage depends on operating practices.

All warranties on the new Miller Trailer Sprayer shall apply only to the original retail purchaser from an authorized Miller dealer.

Repair Parts
Miller warrants that it will replace, F.O.B. St. Nazianz, Wisconsin, or repair, as Miller elects, without charge, any genuine Miller Sprayer spare part purchased after the expiration of the new Sprayer warranty, or to any subsequent owners, that is defective in material or workmanship, within ninety (90) days of the installation date.

Misuse
The provisions of this warranty shall not apply to any Miller Sprayer which has been subject to misuse, negligence, alteration or accident, or which shall have been repaired with parts other than those obtainable through Miller.

Authorized Dealer
Repairs eligible for labor warranty must be made by Miller or an authorized Miller dealer. The purchaser is responsible for transportation of the equipment to the dealership for warranty service or for any service call expense.

Exclusive Effect of Warranty and Limitation of Liability
The remedies of the customer set forth herein are exclusive. Miller neither assumes nor authorizes any person to assume any other obligation or liability in connection with the sale of covered equipment. Correction of defects and malfunctions in the manner and for the applicable period of time provided above, shall constitute fulfillment of all responsibilities of Miller to the customer and Miller shall not be liable for negligence, under contract, or in any other manner with respect to such equipment. IN NO EVENT SHALL THE OWNER BE ENTITLED TO RECOVER FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES SUCH AS BUT NOT LIMITED TO. LOSS OF CROPS, LOSS OF PROFITS OR REVENUE, OTHER COMMERCIAL LOSSES, INCONVENIENCE OR COST OF RENTAL OF REPLACEMENT EQUIPMENT.

THIS WARRANTY IS IN LIEU OF ALL WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PURPOSE OR OTHER WARRANTIES, EXPRESS OR IMPLIED.

Warranty Requirements
To be covered by warranty, each machine must be properly registered with Miller within 30 days of date of original retail delivery.