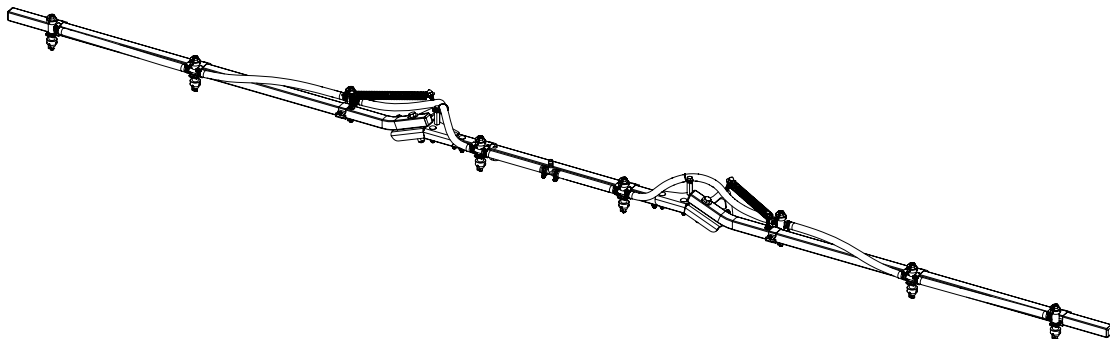




Owner's Manual

13' Manual Fold Boom

Model ATV-MX160



Manufactured PBZ LLC
A Paul B Zimmerman Inc. Company
www.CropCareEquipment.com

Form: ATV-MX160OM
Rev. A.1 Date 04/19

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Identification of Machine

- Model #'s: ATV-MX160
- The model number and revision identification decal is located on top of the tank .

Before You Begin



Please read and understand this manual and its instructions and warnings completely before operating.

- Be aware of all safety guidelines, warnings, and cautions including those of the tractor manufacturer.
- Read and understand the chemical manufacturer's labels, warnings, and instructions.
- Know and fulfill all state pesticide applicator license requirements.
- Familiarize yourself and other operators with the sprayer's components and how all parts are operated.

Safety Precautions



Before Operation

- Be aware of the location of all the safety and warning decals. Always replace any decals that are illegible or are missing.
- Carefully study and understand this owner's manual.
- Give the boom a visual inspection for any worn parts, loose bolts, or other visible problems, and make any necessary repairs. See the maintenance section (page 9).
- All maintenance should be performed with the sprayer unhooked from the tractor and clean of any harmful chemicals.
- Make sure the area is clear of any people or obstructions before using the sprayer.



During Operation

- To avoid injury from chemical hazards, wear the proper protective clothing. Each chemical manufacturer's clothing requirements are listed under the "Personal Protective Equipment (PPE) section in the chemical's instructions
- Always be aware of bystanders, particularly children! Always look before moving the sprayer or engaging the pump. Bystanders should never be allowed near the sprayer during operation.
- Be aware of dangerous terrain such as holes, slopes, drop-offs, banks, rocks, and hidden hazards. Operate the tractor and sprayer up and down slopes, not across.
- Allow for sprayer boom length when making turns.
- Remember that accidents can even happen to seasoned operators. Always take your time and follow all safety instructions.



Following Operation

- Completely rinse the entire boom and all of its components of all chemical residue after every use.
- Dispose of rinsate in accordance with chemical application guidelines.



Towing the Sprayer

- When transporting the sprayer, the sprayer's boom must be in the fully folded position.

Assembly Instructions

The model ATV-MX160 boom requires some assembly. Follow the step-by-step instructions to ensure proper assembly. Before assembling, ensure that you have all of the necessary components and parts.

160" Boom Kit Box		
Ref.	Qty.	Description
	1	Center boom section
	1	Right boom wing section
	1	Left boom wing section
	1	Boom hardware kit (Figure 1)
a	2	Boom mounting clip
b	2	1" x 8" extension spring
c	3	Stainless steel hose clamp
d	8	3/8" flange nut
e	4	3/8" flat washer
f	4	3/8" acorn nut
g	2	3/8" x 1" carriage bolt
h	6	3/8" x 2" carriage bolt
	1	Nozzle kit (Figure 2)
a	8	Purple polymer spray tip
b	8	Red mesh tip strainer
c	8	Rubber Washer
d	8	Black nozzle cap

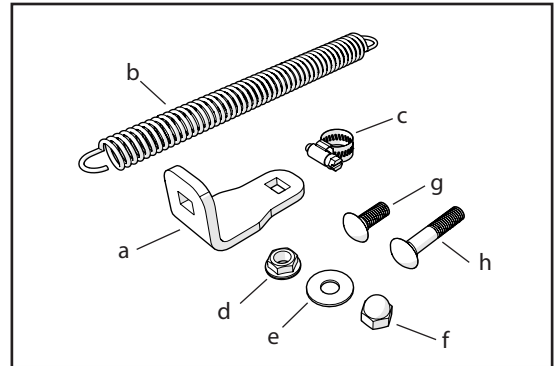


Figure 1: Boom hardware kit

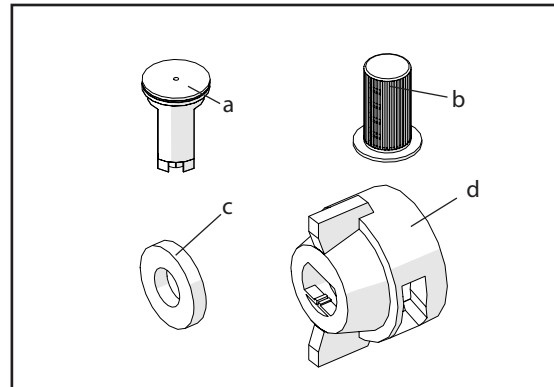


Figure 2: Nozzle kit

Assembly Instructions

1. Bolt the boom mounting clips (c) to the center section (a), using 3/8" x 2" bolts (d) and 3/8" flange nuts (e). Bolt the boom mounting clips to the sprayer frame using 3/8" x 1" bolts (b) and 3/8" flange nuts (e) (Figure 3).
2. Position the right boom wing (a) as shown and insert the 3/8" x 2" bolts (b) through the holes in the boom wing hinge and the center frame. Fasten the bolts with 3/8" flange nuts (c) (Figure 4).
3. Rotate the boom wing towards the center frame to the closed position.

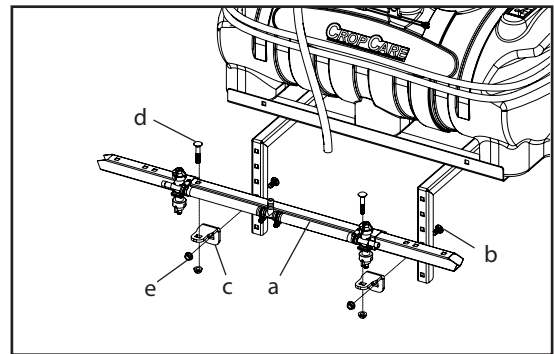


Figure 3: Center frame mounting

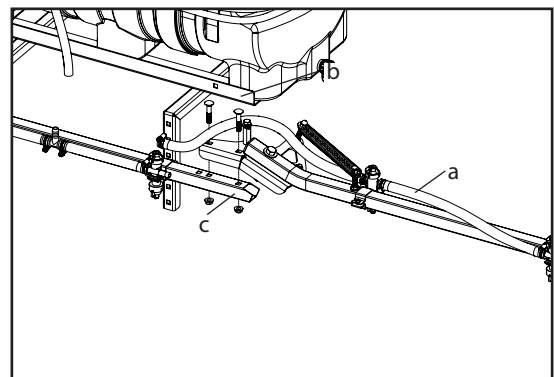


Figure 4: Boom wing mounting

Assembly Instructions

4. Attach the extension spring (a) to the brace on the center boom section and to the bolt on the boom wing using 3/8" flat washers (c) and 3/8" acorn nuts (b) (Figure 5).
5. Install the left boom wing using the same procedure.
6. Insert the spray tip (a) into nozzle cap (b), then push the rubber washer into the nozzle cap. Insert the tip strainer into the nozzle body with the mesh facing upward as shown and turn the spray cap onto the nozzle body (Figure 6).
7. Connect the boom supply hose (a) coming from the sprayer tank to the white barbed tee on the center boom section. Insert the 1/2" barbed tee (b) into the boom supply line and tighten with a hose clamp (c) (Figure 7).
8. Slide hose clamps (b) over the hoses on the boom wings. Connect the boom wing hoses (a) to the black nozzle body hose barbs (c) on the center boom section. Be sure that the boom wing can open and close with no pinching or stretching of the hose. Then position the hose clamp (b) directly over the barb and tighten (Figure 8).

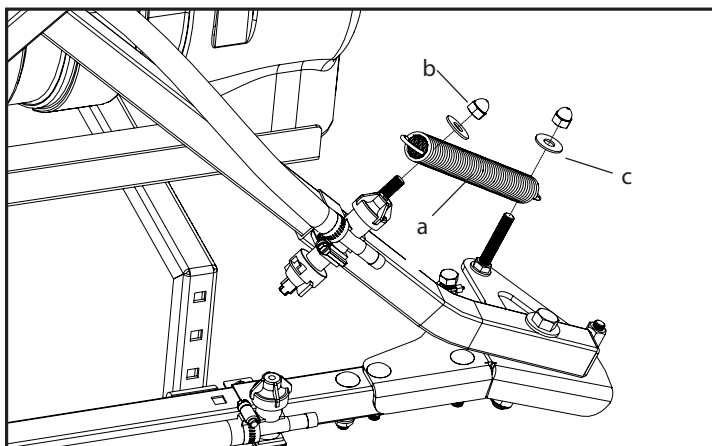


Figure 5: Extension spring mounting

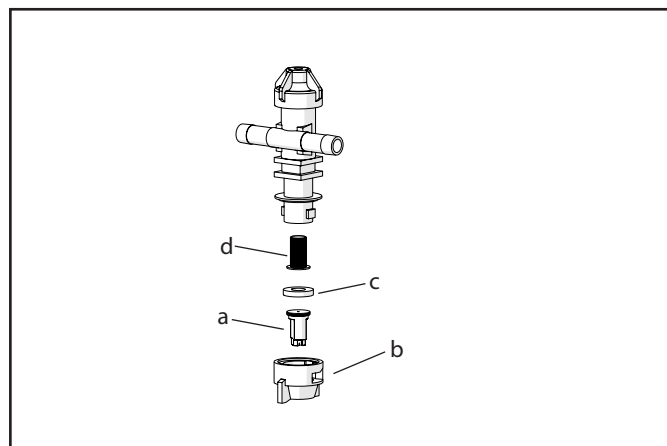


Figure 6: Nozzle assembly

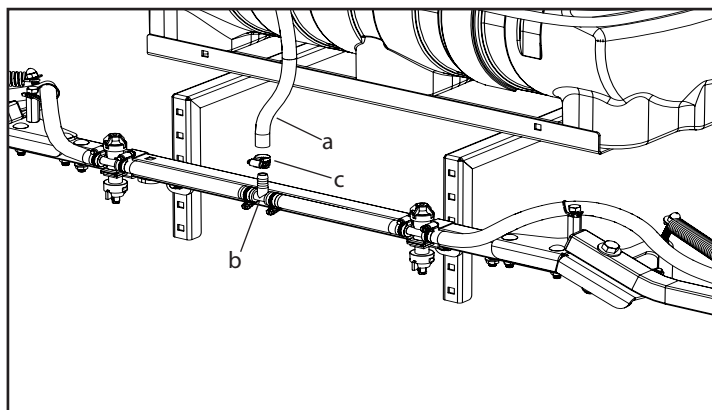


Figure 7: Tee/Supply hose

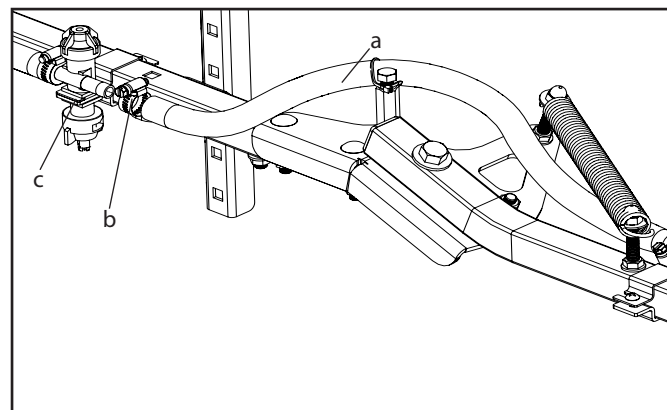


Figure 8: Spray hose installation

Operating Instructions

Operation

1. Unfold the boom by pulling the boom wings toward the rear of the sprayer as shown (Figure 1).
2. Note: Do not pull on the boom hoses or nozzle bodies, as this could cause damage to the components.
3. Engage the boom by operating the sprayer's control valve(s).
4. When folding the boom, fold the right side boom wing first, folding the wing until it rests against the stop on the hinge. Then fold the left side boom wing to complete the folding process.

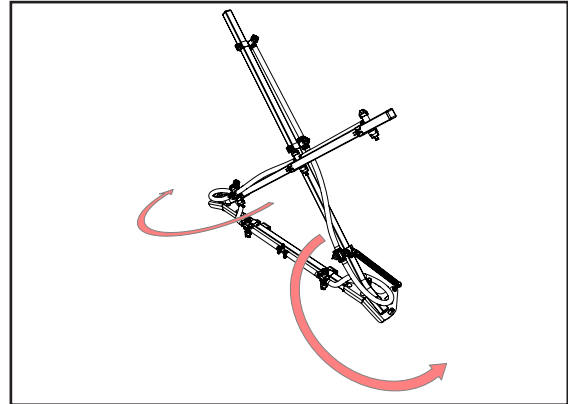


Figure 1: Unfolding the boom

Calibrating the Sprayer

Note: All calibration needs to be done with water only!

When spraying with the boom, the sprayer must be calibrated to ensure proper spray coverage. Before calibrating the sprayer, it is important to familiarize yourself with the operating instructions. The calibration process is simplified when broken down into the following steps:

1. Calculate the speed of the sprayer or equipment.
2. Determine the nozzle size and consult the calibration chart for the desired or instructed Gallons per Acre (GPA).

1. Calculating the Speed

It is important to determine what speed you will be traveling while spraying. Although some tractors may have speedometers, calculating speed is still recommended for accuracy purposes. To determine the speed follow these four steps:

1. Measure a 200 foot or 300 foot distance on a field or a surface similar to where you will be spraying.
2. Drive the equipment and sprayer (half-full is optimal) across the measured distance at a constant rate of speed. There should be no changes in speed while you are measuring the time. This should be a comfortable speed for spraying.
3. Have someone measure the amount of time (in seconds) it takes to travel the measured distance.
4. Your speed can be calculated by entering your data into the equation $\text{Speed (mph)} = (\text{Distance (ft)} \times 60) \div (\text{Time (seconds)} \times 88)$.

Note: It is helpful for future references to record the exact RPM and gear used to find your speed.

Calibrating the Sprayer

2. Determining Nozzle Size/Using Calibration Chart

The spray nozzles on your sprayer are color-coded to match up with the calibration chart. After you have determined your nozzle size, you need to look at the calibration chart. Using your calculated speed, nozzle size, and desired gallons per acre (GPA), find the pressure (psi) necessary to achieve your GPA. It is important to note that lower pressure settings will result in less spray drift.

Example: Assume you have found your calculated speed to be 5 MPH, your nozzles are lavender (110025), and you want to spray 13 GPA. Upon looking at the chart, you find that you should set the sprayer's pressure at about 29 psi in order to apply 13 GPA.

Tip Size	PSI	GPM of one nozzle	Gallons Per Acre (GPA)			
			3 MPH	4 MPH	5 MPH	6 MPH
Lavender 110025	15	0.15	14.8	11.1	8.9	7.4
	20	0.18	17.8	13.4	10.7	8.9
	30	0.22	21.8	16.3	13.1	10.9
	40	0.25	24.8	18.6	14.9	12.4

Please note: Flow rates are calculated using water.

Maintenance Instructions

Winterizing your Sprayer

It is essential that you winterize your sprayer to avoid damage and to allow for optimal performance. The winterization process should be undertaken before freezing conditions and/or after each season of use. Failure to winterize your sprayer will void the manufacturer's warranty.

Note: Please reference your sprayer owners manual for proper winterizing.

Maintenance Instructions

Routine Maintenance

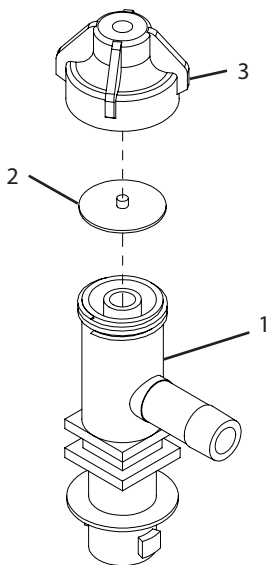
It is very important to perform routine maintenance on your sprayer boom before and after each use. Good maintenance practices will help to guard against any breakdowns or accidents.

Note: Always wear the proper Personal Protective Equipment (PPE) when performing maintenance on your sprayer.

1. It is recommended to perform a visual and physical inspection for worn parts, loose bolts, damaged hoses, or other visible problems. Make all necessary repairs before spraying. To order parts or receive technical help, please contact the original retailer
2. After each use it is important to rinse the boom and all components by running water through the entire system.
3. Tip strainers should be taken out and rinsed on a regular basis. Tip strainers are the small screens located behind each spray nozzle on the boom (Figure 6, page 6).
4. Check the amount of grease between the hinge plate and the boom wing. Add grease as needed to keep the wing folding smoothly and quietly.

Breakdowns & Parts Lists

TeeJet[®] Nozzle Body Breakdown & Parts List

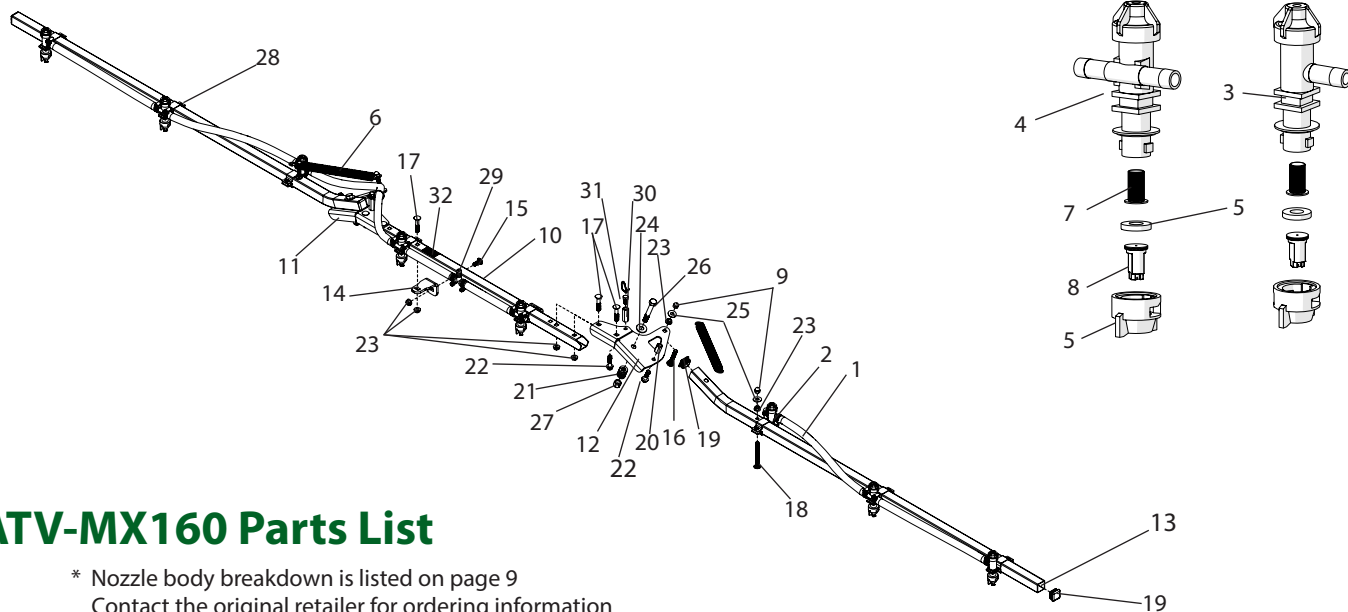


Ref #	Qty.	Part Number	Description
1	1	22251311500NYB	Elbow body, 1/2" (shown)
-	1	22252312500NYB	Tee body, 1/2"
2	1	CP21953EPR*	Rubber diaphragm
3	1	2195010NYB*	Diaphragm cap, 10 psi

Note: Items 2 & 3 are included with Item 1

Breakdowns & Parts Lists

ATV-MX160 Breakdown



ATV-MX160 Parts List

* Nozzle body breakdown is listed on page 9
Contact the original retailer for ordering information

Ref #	Qty.	Part Number	Description
1	12'	1208	Hose, EPDM Rubber 1/2" 200 PSI
2	17	6806052	Hose Clamp, 1/2" - 19/32" SS
3	2	22251311500NYB *	Body, Nozzle Elbow 1/2" QJ300
4	6	22252312500NYB *	Body, Nozzle Tee 1/2" QJ300
5	8	114441A1CELR	Cap & Gasket, Quick TeeJet Black
6	2	33*TS	Spring, Extension 1" x 8" (8.5" OAL)
7	8	8079PP50	Strainer, Tip 50 Mesh Red Poly Body SS Screen
8	8	AIXR110025VP	Tip, AIXR TeeJet Polymer Purple
8	8	AM110025	Tip, Air Mix, Poly, Greenleaf, Purple
9	4	AN38	Nut, Acorn 3/8-16
10	1	BF1220	13' Manual Fold Boom, center tube
11	1	BF1221	13' Manual Fold Boom, inner hinge, left
12	1	BF1222	13' Manual Fold Boom, inner hinge, right
13	2	BF1223	13' Manual Fold Boom, outer wing
14	2	BF1224	13' Manual Fold Boom, mounting brackets
15	2	CB38*1G5	Bolt, Carriage 3/8-16 x 1" Gr 5
16	2	CB38*212G5	Bolt, Carriage 3/8-16 x 2-1/2" Gr 5
17	6	CB38*2G5	Bolt, Carriage 3/8-16 x 2" Gr 5
18	2	CB38*312G5	Bolt, Carriage 3/8-16 x 3-1/2" Gr 5
19	4	CC5520	Cap, Poly Square 1-1/4" x 14-20 Ga Blk
20	2	CN38*118	Nut, Coupling 3/8-16 x 1 1/8"
21	2	D-1335	Spring, Die 1/2" Rod ID x 2" x .225x.158 Wire 840lbs/in
22	4	FB38*112G5	Bolt, Flange 3/8-16 x 1 1/2" Gr 5
23	12	FN38	Nut, Flange 3/8-16
24	2	FW12	Washer, Flat 1/2" USS
25	4	FW38	Washer, Flat 3/8"
26	2	H5C12*4	Bolt, Hex 1/2-13 x 4" Gr 5
27	2	NNC12	Nut, Lock Nylon 1/2-13
28	8	QJ1115Q114	Clamp, Nozzle Body 1-1/4" Sq Tube Steel
29	1	T12	Tee, 1/2" Hose Barbs Nylon
30	2	CN38	Nut, Coupling 3/8-16 x 1-3/4"
31	2	H5C38*34	Bolt, Hex 3/8-16 x 3/4" Gr 5
32	1	DE181	Decal, Model ATV-MX160, Rev. A.1

CropCare[®] Limited Warranty

Manual Fold Boom ATV-MX160

Warranty Coverage

CropCare[®] hereby provides a Limited One (1) Year Warranty on the Products manufactured by CropCare[®] that such Products shall be free from manufacturer's defects in any of the Product's components in the 12 month period following the original date of purchase from the authorized dealer (the "Warranty Period"). CROPCARE[®] HEREBY EXCLUDES AND DISCLAIMS ANY AND ALL OTHER WARRANTIES, STATUTORY, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE AND ANY WARRANTY ARISING FROM USAGE OF TRADE OR COURSE OF DEALING. Defective components will be repaired or replaced at the discretion of the manufacturer. It is the responsibility of the purchaser to return warranted components to the manufacturer. This Product Warranty is limited to the repair or replacement of Product components only. CROPCARE[®] IS NOT TO BE HELD LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND. This Product Warranty covers the purchaser of this Product and any other owners who own it during Warranty Period.

To retain the Product Warranty, the Product must be operated and maintained as set forth by its owner's manual. For warranty service, please have a copy of the purchase invoice available.

Warranty Is Void if:

1. The Product has been subjected to, in the opinion of CropCare[®], negligent handling, misuse, an accident or if the instructions in the owner's manual were not completely followed.
2. The Product's components have been altered in any manner or repairs have taken place with unapproved parts.
3. The Product and its components were subject to freezing or freezing conditions. The Product must have been winterized as per the maintenance instructions to retain the Product Warranty.
4. A non-compatible chemical was used and/or if the Product operator failed to rinse all chemical residue out of the Product's components after use.
5. A petroleum-based, oil-based, or flammable product was used and caused damage to the pump, tank, hoses, or any other component.

Getting Service

All Product Warranty claims must be made through the original retailer. All warranty claims must be submitted with an invoice or a proof of purchase that denotes the purchase date and place of purchase. If you have any questions or comments concerning this warranty, please contact the original retailer.

Ordering Parts

Please contact the original retailer to order replacement parts for your product.

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