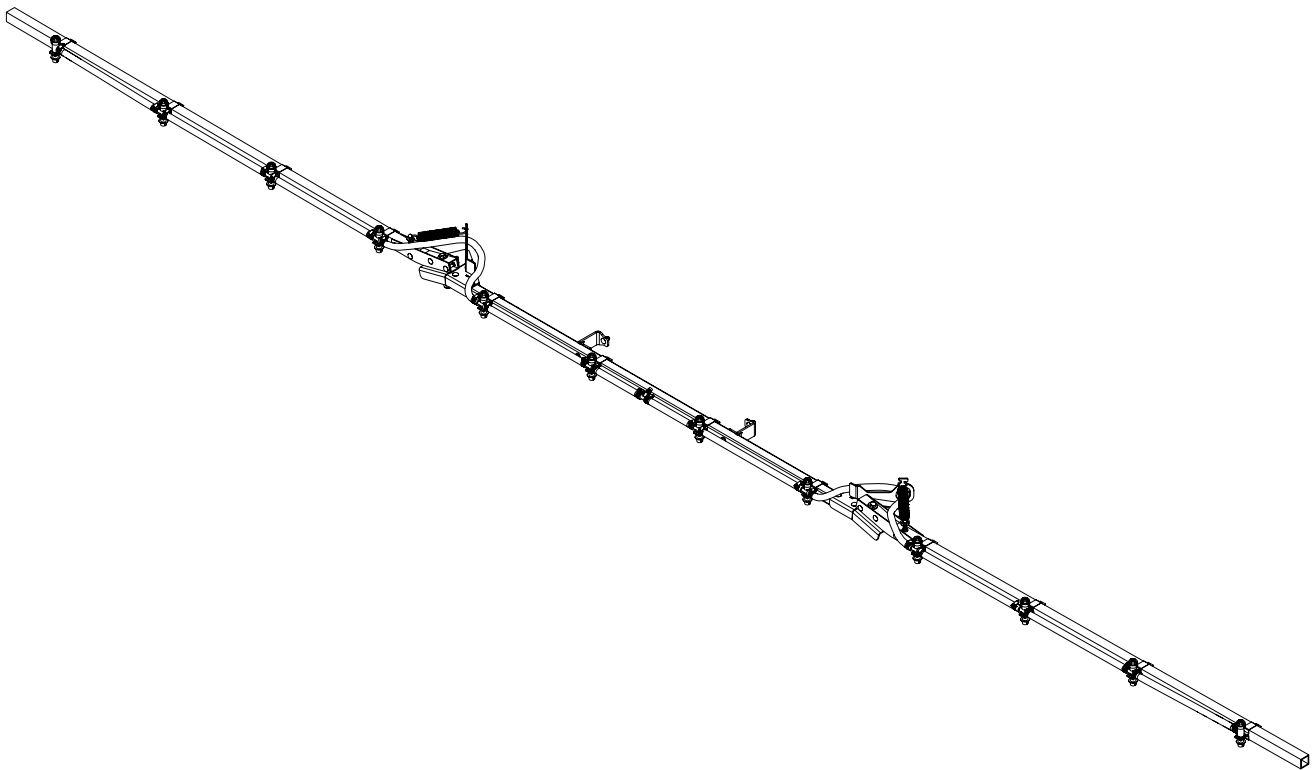




Owner's Manual

20' Manual Fold Boom

Model ATV-MX240



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

Form: ATV-MX240OM
Rev. A.1 Date 04/19

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Identification of Machine

- Model #'s: ATV-MX240
- 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.



Transporting the Sprayer

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

Assembly Instructions

ATV-MX240 Kit Contents

ATV-MX240 Boxed Contents			
Ref #	Qty.	Part Number	Description
1	1	--	Center Frame
2	1	--	Left Wing
3	1	--	Right Wing
4	1	HDKMX240	Hardware & Nozzle Kit
5	1	ATV-MX240OM	Manual, Owner's ATV Manual Fold Boom 20'

HDKMX240 Hardware & Nozzle Kit Contents (Figure 1)			
Ref #	Qty.	Part Number	Description
6	3	6806052	Hose Clamp, 1/2" - 29/32" SS
7	2	AN38	Nut, Acorn 3/8-16
8	2	C-267	Spring, Hard Drawn Zinc, 26 lbs/in
9	2	CB38*1G5	Bolt, Carriage 3/8-16 x 1" Gr 5
10	6	CB38*214G5	Bolt, Carriage 3/8-16 x 2-1/4" Gr 5
11	8	FN38	Nut, Flange 3/8-16
12	2	FW38	Washer, Flat 3/8"
13	2	MX2023	20' Manual Fold Boom, Mount Bracket
14	12	114441A1CELR	Kit, Cap & Gasket Quick TeeJet Black
15	12	8079PP50	Strainer, Tip 50 Mesh Red Poly Body SS Screen
16	12	AIXR110025VP	Tip, AIXR TeeJet Polymer Purple
17	2	AA1115SQ112+	Clamp, Square Assembly Boom 1-1/2" Tube
18	4	875UV	Cable Tie, 8" 75 Lb UV Black

+Only used if installing an F2500 foam marker kit onto the 20' manual fold boom.

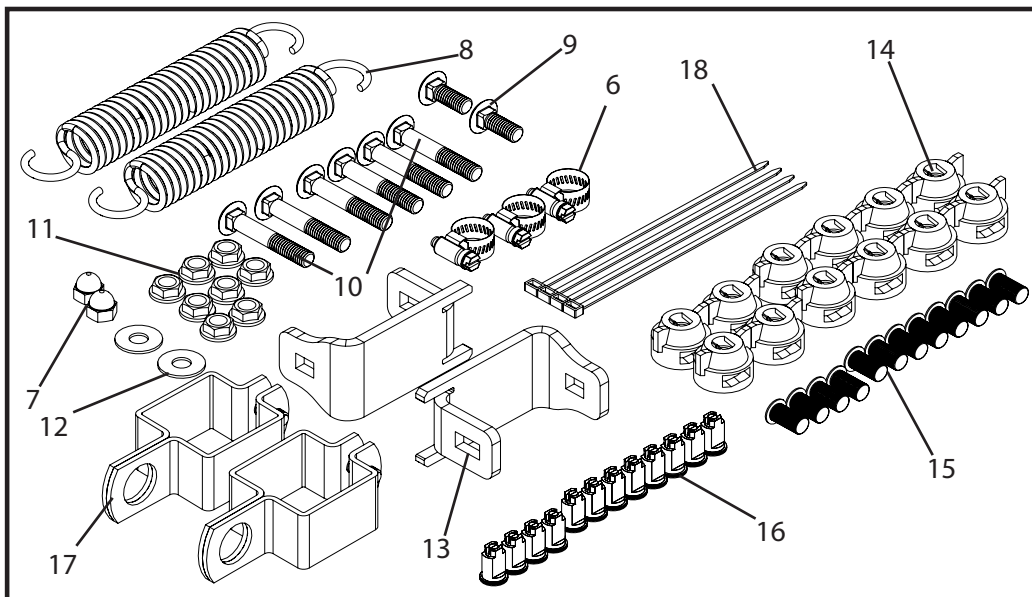


Figure 1: Boom hardware and nozzle kit

Assembly Instructions

This ATV-MX240 boom kit requires some assembly. Follow the step-by-step instructions to ensure proper assembly. Before assembling, make sure that all of the necessary components and parts are present as shown in the tables on page 5.

ATV-MX240 Assembly Instructions

1. Bolt the boom mount brackets (13) (Figure 1 & 3, pg 5 & 6) to the center frame (1) (Figure 3) using two long carriage bolts (10) (Figure 1 & 3, pg 5 & 6) and two flange nuts (11) (Figure 1 & 3, pg 5 & 6). Note: The boom mount bracket bent flanges (13) need to be pointed in toward the center of the boom so that the steel fingers on the brackets slide around the center frame tube as shown in figure 3.
2. Take the center frame with bolted on boom mount brackets from step 1 and bolt onto sprayer frame at the desired height shown in figure 3. Use two carriage bolts (9) (Figure 1 & 3, pg 5 & 6) and two flange nuts (11) (figure 1 & 3, pg 5 & 6).
3. Position the left wing (2) (Figure 4) onto the center frame as shown in figure 4. Take two long carriage bolts (10) (Figure 1 & 4, pg 5 & 6) and insert them through the hinge plate holes and center frame holes. Bolt two flange nuts (11) (Figure 1 & 4, pg 5 & 6) onto previously inserted carriage bolts.
4. Bolt flat washer (12) and acorn nut (7) (Figure 1 & 5, pg 5 & 6) onto the vertical wing bolt as shown in figure 5.
5. Rotate the boom wing towards the center frame to the closed position.
6. Attach the extension spring (8) (Figure 1 & 5, pg 5 & 6) to the mounting bracket on the hinge and to the vertical wing bolt as shown in figure 5 using the washer (12) and acorn nut (7).
7. Install the right boom wing using step 3 through 6.
8. Install nozzle tips onto boom. Insert nozzle tip (16) (Figure 1 & 6, pg 5 & 6) into spray cap (14) (Figure 1 & 6, pg 5 & 6). Then insert strainer (15) (Figure 1 & 6, pg 5 & 6) into the nozzle body with the mesh side up. Turn the spray cap onto the nozzle body.

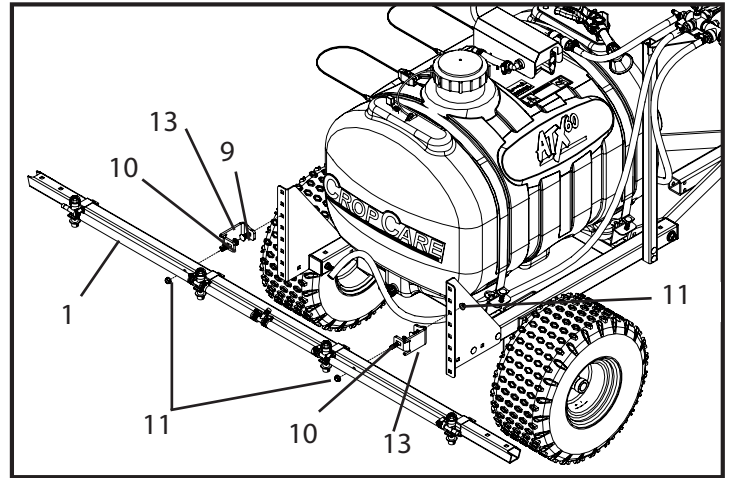


Figure 3: Center frame mounting

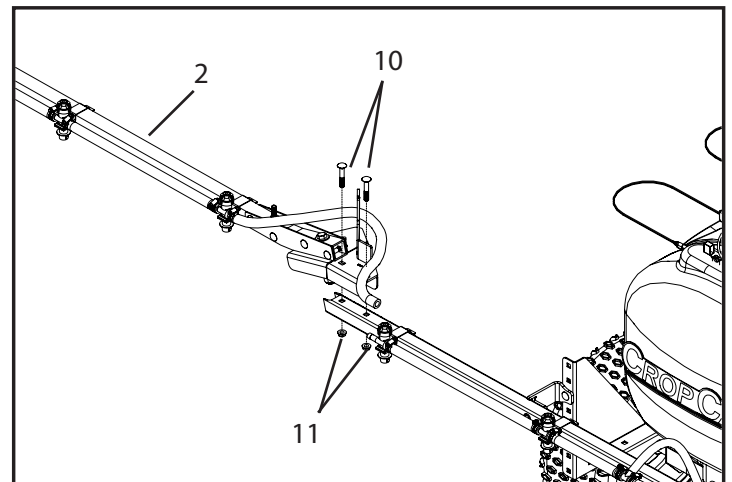


Figure 4: Boom wing mounting

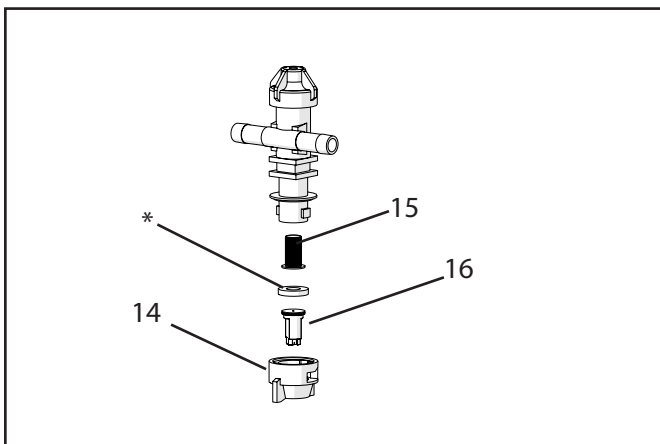


Figure 6: Nozzle assembly
*Included with reference #15

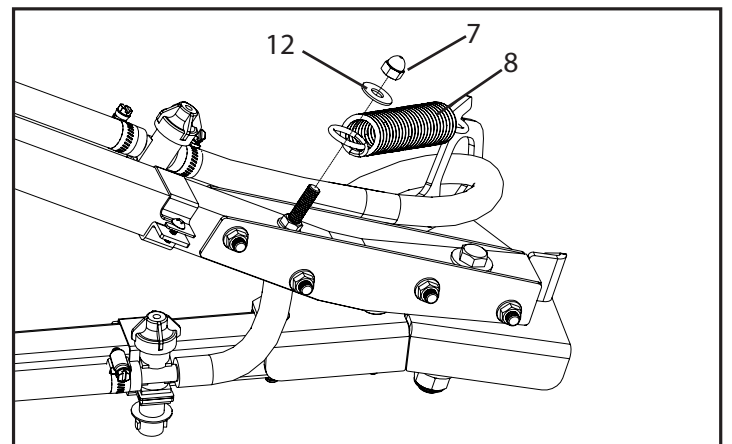


Figure 5: Extension spring mounting

Assembly Instructions

9. Connect the hose coming from the controls to the tee on the center frame as shown in figure 7. Slide a loose hose clamp (6) (Figure 1 & 7, pg 5 & 7) onto the hose coming from the controls. Push the hose onto the tee on the center frame. Tighten the hose clamp around the hose and tee.
10. Connect the wing hoses to the center frame nozzle bodies as seen in figure 8 & 9. Take the outer wing hose and slide a hose clamp (6) (Figure 1 & 8, pg 5 & 7) onto it. Route the outer wing hose through the hose guide hole on the hinge (a) (Figure 9, pg 7). Then push the hose onto the center frame nozzle body as shown in figure 8. Note: Exerting too much force onto the nozzle bodies when installing the hoses could potentially cause them to break.

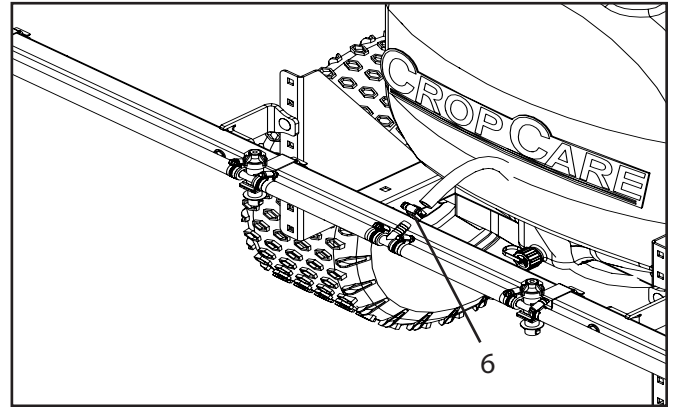


Figure 7: Tee/Supply hose

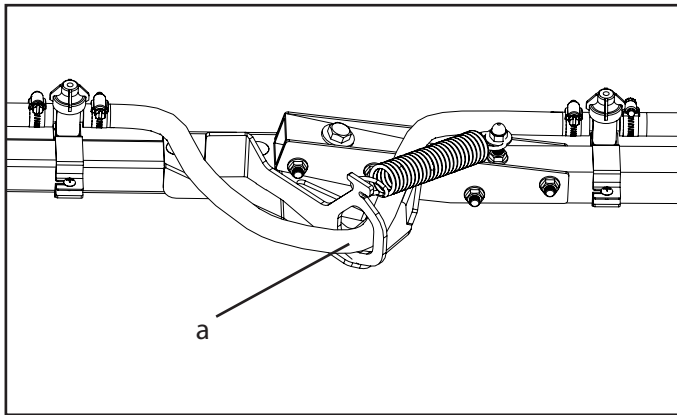


Figure 9: Spray hose routing

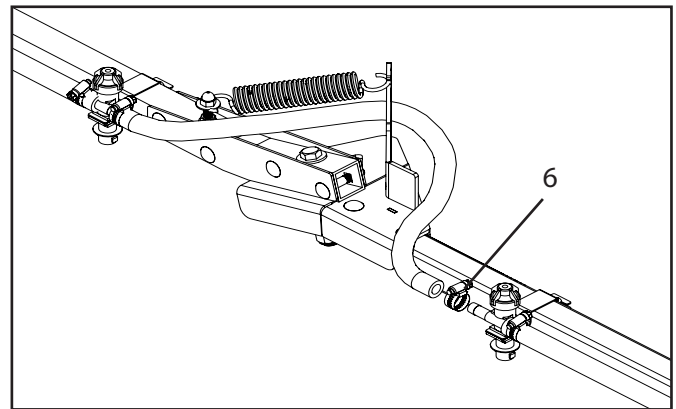


Figure 8: Spray hose installation

Assembly Instructions

***This assembly step is only for assembling an F2500 foam marker kit onto the 20' manual fold boom. ***

F2500 Foam Marker Kit on ATV-MX240 Assembly Instructions

1. Bolt foam marker pan onto ATV-MX240 center frame with using the (1) carriage bolts and (2) flange nuts provided in the F2500 foam marker kit.
2. Assemble the (4) drop tubes using the (3) 1 1/2" nozzle body clamps.
3. Route foam marker hoses along boom wings.

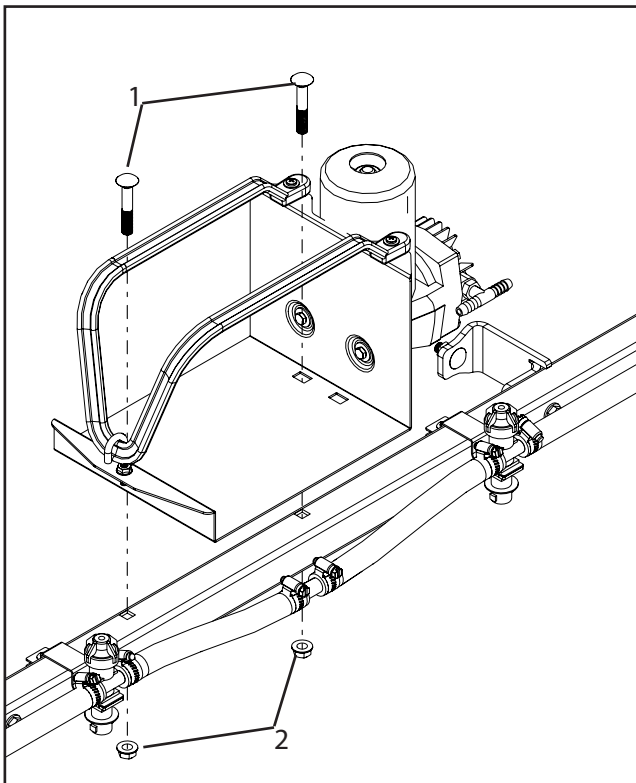


Figure 1: Mounting foam marker on center frame

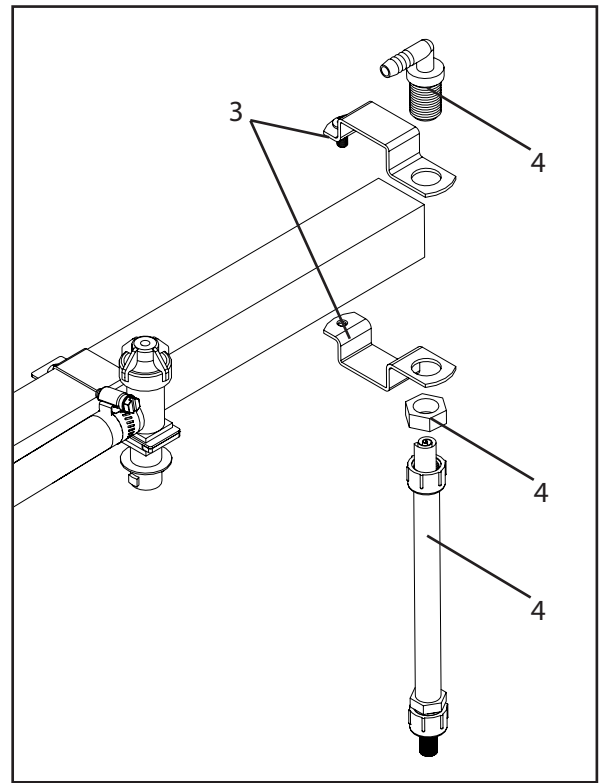


Figure 2: Mounting drop tubes on outer wings

Ref#	Qty.	Part Number	Description
1	2	CB38*214G5**	Bolt, Carriage 3/8-16 x 2-1/4" Gr 5
2	2	FN38**	Nut, Flange 3/8-16
3	2	AA1115Q112*	Clamp, Square Assembly Boom 1-1/2" Tube
4	2	F2504**	Tube, Foam Discharge

*Included in the HDKMX240 hardware kit.

**Sourced from the F2500 foam marker kit.

Operating Instructions

Boom Operation

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

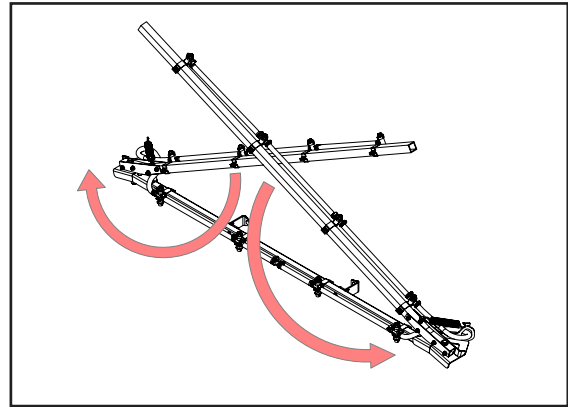


Figure 1: Unfolding the boom

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.

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.

Routine Maintenance

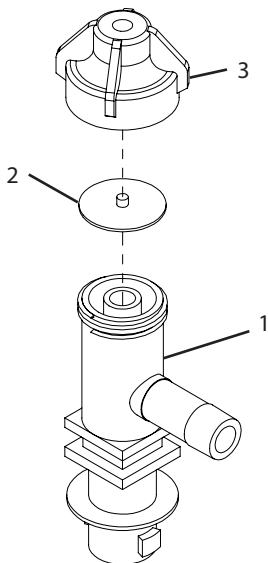
It is very important to perform routine maintenance on your sprayer boom before and after each use. Good maintenance practices will help to guard against any breakdowns or accidents.

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

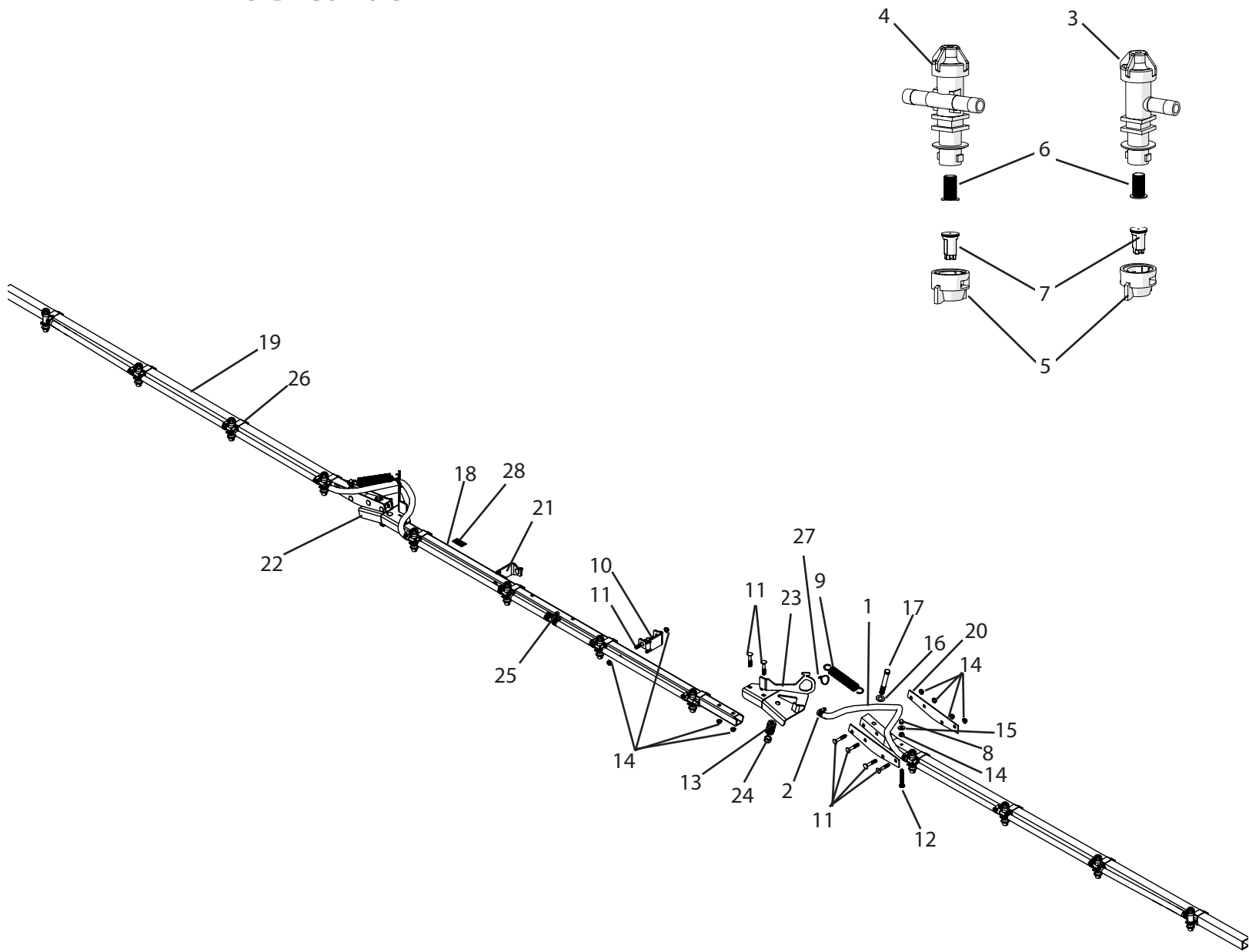


Ref #	Qty.	Part Number	Description
1	1	22251311500NYB	Elbow body, 1/2" (shown)
-	1	22252312500NYB	Tee body, 1/2"
2	1	CP21953EPR*	Rubber diaphragm
3	1	2195010NYB*	Diaphragm cap, 10 psi

Note: Items 2 & 3 are included with Item 1

Breakdowns & Parts Lists

ATV-MX240 Breakdown



Breakdowns & Parts Lists

ATV-MX240 Parts List

* Nozzle body breakdown is listed on page 9
 Contact an authorized CropCare® dealer for ordering information

Ref#	Qty.	Part Number	Description
1	19FT	1208	Hose, EPDM Rubber 1/2" 200 PSI
2	25	6806052	Hose Clamp, 1/2" - 29/32" SS
3	2	22251311500NYB*	Body, Nozzle Elbow 1/2" QJ300
4	10	22252312500NYB*	Body, Nozzle Tee 1/2" QJ300
5	12	114441A1CELR	Kit, Cap & Gasket Quick TeeJet Black
6	12	8079PP50	Strainer, Tip 50 Mesh Red Poly Body SS Screen
7	12	AIXR110025VP	Tip, AIXR TeeJet Polymer Purple
7	12	AM110025	Tip, Air Mix, Poly, Greenleaf, Purple
8	2	AN38	Nut, Acorn 3/8-16
9	2	C-267	Spring, Hard Drawn Zinc, 26 lbs/in
10	2	CB38*1G5	Bolt, Carriage 3/8-16 x 1" Gr 5
11	14	CB38*214G5	Bolt, Carriage 3/8-16 x 2-1/4" Gr 5
12	2	CB38*3G5	Bolt, Carriage 3/8-16 x 3" Gr 5
13	2	D-1247	Die Spring, 0.625" rod diameter, 639 lbs max deflection force
14	18	FN38	Nut, Flange 3/8-16
15	2	FW38	Washer, Flat 3/8"
16	2	SW58	Washer, Flat 5/8" SAE
17	2	H5C58*412	Bolt, Hex 5/8-11 x 4-1/2" Gr 5
18	1	MX2020	20' Manual Fold Boom, Center Frame
19	2	MX2021	20' Manual Fold Boom, Wing
20	4	MX2022	20' Manual Fold Boom, Wing Support Bracket
21	2	MX2023	20' Manual Fold Boom, Mount Bracket
22	1	MX2024	20' Manual Fold Boom, boom hinge, left
23	1	MX2025	20' Manual Fold Boom, boom hinge, right
24	2	NNC58	Nut, Lock Nylon 5/8-11
25	1	T12	Tee, 1/2" Hose Barbs Nylon
26	12	QJ111SQ112	Clamp, Nozzle Body 1-1/2" Sq Tube Zinc
27	2	875UV	Cable Tie, 8" 75 Lb UV Black
28	2	DE182	Decal, Model ATV-MX240, Rev. A.1

CropCare[®] Limited Warranty

Manual Fold Boom ATV-MX240

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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