

Series 400/450/600 Sprayers



LMC-Ag

1715 S. Slappey Blvd

Albany, Ga. 31701

229-639-1775

LMCAG.COM

LMC-Ag Warranty Policy

- One year (12 months) warranty from the date the implement is sold by the dealer for the implement to be put into service.
 - Aged Inventory Policy on Dealer Lot
 - 2 - 3 Years from Invoice to Dealer – 50% Coverage by LMC-Ag
 - 3 - 4 Years from Invoice to Dealer – 25% Coverage by LMC-Ag
 - 4+ Years from Invoice to Dealer – 0% Coverage by LMC-Ag
- Warranty will only be approved on LMC-Ag products that have a manufacturer's defect or parts defect.
 - The warranty does not cover normal wear items, including but not limited to, bearings, slip clutches, hoses, parts making contact with ground such as teeth, blades, cutting edges, tires.
 - The warranty does not cover adjustments or standard maintenance.
 - Liquid application pumps will be inspected by a certified LMC-AG employee for potential improper use before the warranty is approved.
 - Pumps can also be sent back to the manufacturer for inspection or repair at the customer's expense.
 - Warranty will be voided if the implement has been modified in any way.
- The warranty claim is to be completed entirely by dealer on LMC-Ag's Website.
 - The web address for warranty claim is as follows.
 - <https://www.lmcag.com/warranty-claim>
 - Warranty issue photos are required to complete the claim.
- Warranty labor performed by the dealership will only be paid the set LMC-Ag labor rate of \$69.00 per hour. LMC-Ag will only approve labor time within reason of what LMC-Ag deems necessary.
 - Warranty work performed prior to approval will not be paid. A decal is placed on the equipment stating this policy.
 - Prior approval by LMC-AG will be paid via invoice from the dealer service department.
 - Labor claims need to be sent to lmcag.warranty@lmcarter.com
- Parts will only be replaced with OEM LMC-Ag parts unless approved otherwise from territory rep from LMC-Ag.
- If parts are ordered from LMC-Ag for a repair, there must be a purchase order number on the invoice before the parts ship. The invoice will be credited back if and when the warranty claim has been submitted and approved.

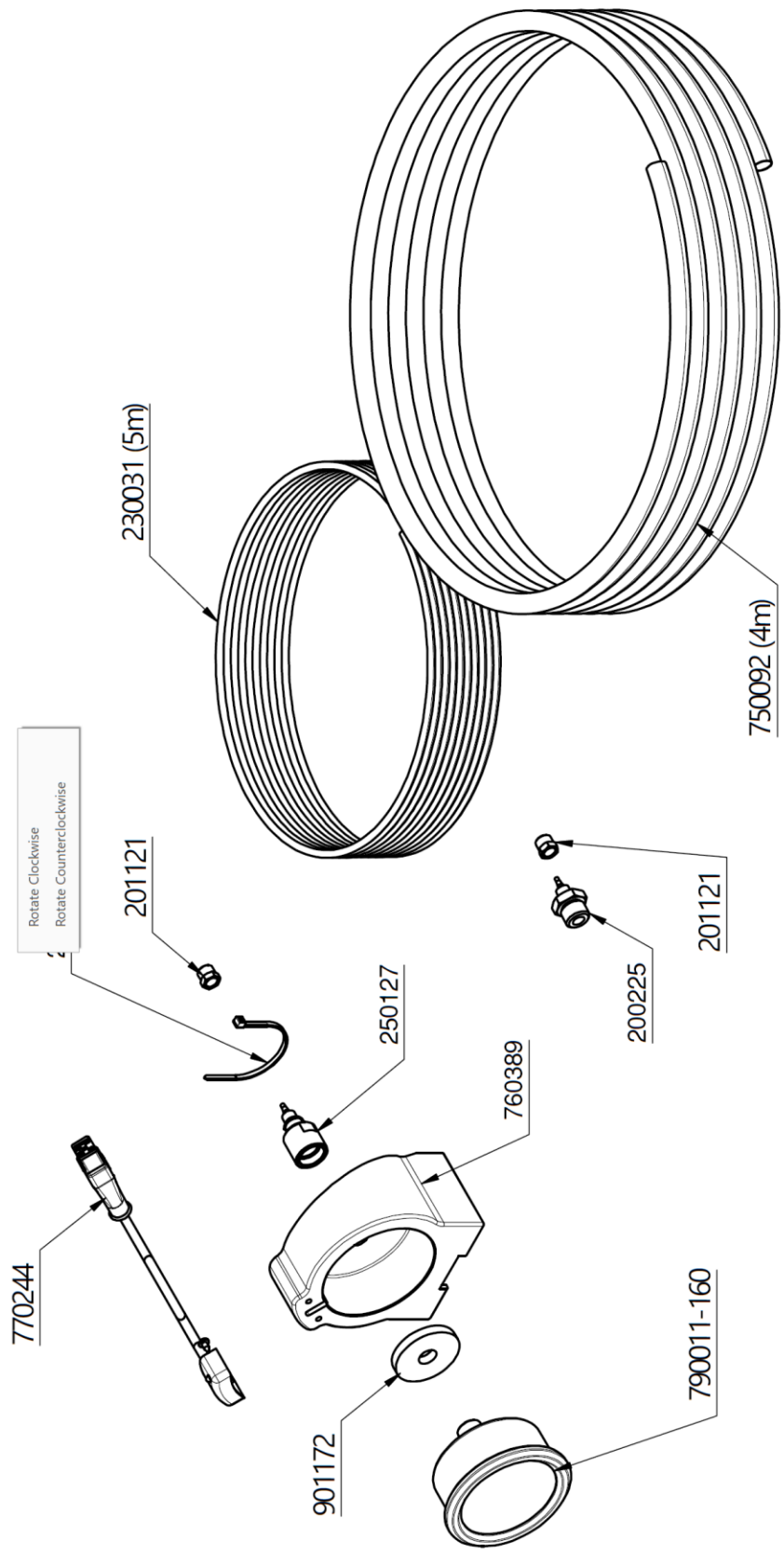
START-UP

- Unit inspection
 - Ensure the equipment is secure to the tractor at all its lifting points and that lifting pins and clip rings are all installed properly.
 - Ensure all your equipment hydraulic lines are hooked to the tractor properly and that all case drain lines are properly run to the case drain and not to the remote ports (check with manufacturer if you have questions).
 - Ensure all the control boxes are properly installed in the cab of the tractor and that they have power to each one (if you are not receiving proper power voltage you may have to hook the controls directly to the battery).
 - Ensure that all your bolts and fittings are tight and adjusted before running a cycle of the hydraulic system.
 - Make sure that your hydraulic flow to the remotes that are connected to the sprayer are turned down all the way to the lowest setting.
 - Engage your hydraulics that control the boom function and SLOWLY increase the flow until you can achieve proper function of the boom. Make sure that hydraulic flow does not exceed 3 gpm to the controls. Failure to check the flow could cause you to push o rings out of their seats and cause leaking on the valves or damage to the plungers in the hydraulics.
 - Then once the hydraulic functions are confirmed then check all of the plumbing and make sure everything is properly secure and tight.
 - Once the plumbing has been inspected, fill the tank up to 25% and run the pump and control valves to make sure everything is working properly and there are no leaks. If you are running a hydraulic drive pump, make sure to turn your flow down all the way on the remote it is connected to before starting the pump. Slowly bring the hydraulics up to speed making sure NOT TO EXCEED 7 GPM. Failure to do this could result in pump failure immediately or within the first use.
 - Once you have ensured that all hydraulic and spraying functions are working, mix chemical and start application.

*Due to various options sold on our machines there may be other steps that need to be taken during startup to ensure safe and proper usage of the equipment. If you have questions during these startups, please contact us at 229-639-1775.

WINTERIZING

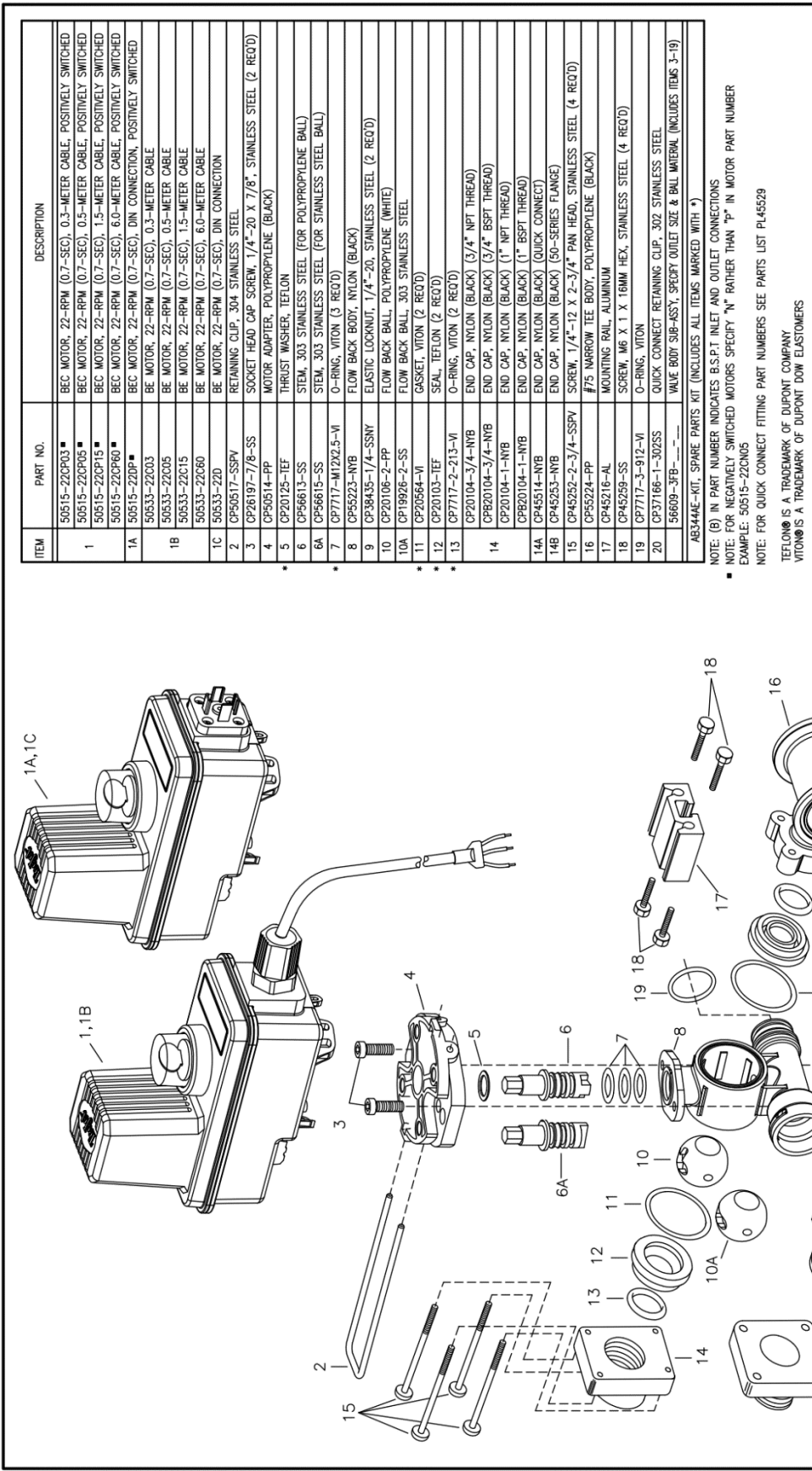
- When winterizing the entire unit, fill the tank to 3-4" over the bottom suction line fitting in the bottom of the tank with water. Then add ½ gallon of RV antifreeze to the water and run it through the system. Run the unit as you would be applying chemical but stationary. Run the unit until the system starts a pressure drop from cavitation. Once the pressure drop starts, immediately turn the pump off and shut down the control valves. Your system should now be winterized. Some units may take more or less antifreeze than others depending on the size of the system.



Descrizione:
KIT P90 PORTA MANOMETRO 0-160 PSI



Data:	03/08/20	Scala:	1:3	Materialé:		Peso:	1.02	
Disegnatore:		Disegnatori:	Perseguiti	Tratt. Superficiale:				
Lavorazioni non quotate: Smussi non Quotate: 0.5x45° Raccordi non Quotate: 1				Tratt. Termico:		Disegno:	906450	
							Rev.:	0



ITEM	PART NO.	DESCRIPTION
	50615-22CP03 ■	BEC MOTOR, 22-RPM (0.7-SEC), 0.3-METER CABLE, POSITIVELY SWITCHED
	50615-22CP05 ■	BEC MOTOR, 22-RPM (0.7-SEC), 0.5-METER CABLE, POSITIVELY SWITCHED
1	50615-22CP15 ■	BEC MOTOR, 22-RPM (0.7-SEC), 1.5-METER CABLE, POSITIVELY SWITCHED
	50615-22CP60 ■	BEC MOTOR, 22-RPM (0.7-SEC), 6.0-METER CABLE, POSITIVELY SWITCHED
1A	50615-22DP ■	BEC MOTOR, 22-RPM (0.7-SEC), DIN CONNECTION, POSITIVELY SWITCHED
	50633-22C03	BE MOTOR, 22-RPM (0.7-SEC), 0.3-METER CABLE
	50633-22C05	BE MOTOR, 22-RPM (0.7-SEC), 0.5-METER CABLE
1B	50633-22C15	BE MOTOR, 22-RPM (0.7-SEC), 1.5-METER CABLE
	50633-22C60	BE MOTOR, 22-RPM (0.7-SEC), 6.0-METER CABLE
1C	50633-22D	BE MOTOR, 22-RPM (0.7-SEC), DIN CONNECTION
2	CP0517-SSPV	RETAINING CLIP, 304 STAINLESS STEEL
3	CP26197-7/8-SS	SOCKET HEAD CAP SCREW, 1/4"-20 X 7/8", STAINLESS STEEL (2 REQ'D)
4	CP50514-PP	MOTOR ADAPTER, POLYPROPYLENE (BLACK)
5	CP20125-TEF	THRUST WASHER, TEFLON
6	CP56613-SS	STEM, 303 STAINLESS STEEL (FOR POLYPROPYLENE BALL)
6A	CP56615-SS	STEM, 303 STAINLESS STEEL (FOR STAINLESS STEEL BALL)
7	CP7717-M12X2.5-VI	O-RING, VITON (3 REQ'D)
8	CP55223-NYB	FLOW BACK BODY, NYLON (BLACK)
9	CP38435-1/4-SSNY	ELASTIC LOCKNUT, 1/4"-20, STAINLESS STEEL (2 REQ'D)
10	CP20106-2-PP	FLOW BACK BALL, POLYPROPYLENE (WHITE)
10A	CP19926-2-SS	FLOW BACK BALL, 303 STAINLESS STEEL
11	CP20564-VI	GASKET, VITON (2 REQ'D)
12	CP20103-TEF	SEAL, TEFLON (2 REQ'D)
13	CP7717-2-213-VI	O-RING, VITON (2 REQ'D)
14	CP20104-3/4-NYB	END CAP, NYLON (BLACK) (3/4" NPT THREAD)
	CPB20104-3/4-NYB	END CAP, NYLON (BLACK) (3/4" BSPT THREAD)
	CP20104-1-NYB	END CAP, NYLON (BLACK) (1" NPT THREAD)
14A	CPB20104-1-NYB	END CAP, NYLON (BLACK) (1" BSPT THREAD)
14B	CP45253-NYB	END CAP, NYLON (BLACK) (QUICK CONNECT)
15	CP45252-2-3/4-SSPV	SCREW, 1/4"-12 X 2-3/4" PAN HEAD, STAINLESS STEEL (4 REQ'D)
16	CP55224-PP	#75 NARROW TEE BODY, POLYPROPYLENE (BLACK)
17	CP45216-AL	MOUNTING RAIL, ALUMINUM
18	CP45259-SS	SCREW, M6 X 1 X 16MM HEX, STAINLESS STEEL (4 REQ'D)
19	CP7717-3-912-VI	O-RING, VITON
20	CP37166-1-302SS	QUICK CONNECT RETAINING CLIP, 302 STAINLESS STEEL
	50609-3FB----	VALVE BODY SUB-ASSY, SPECIFY OUTLET SIZE & BALL MATERIAL (INCLUDES ITEMS 3-19)
	AB344E-KIT	SPARE PARTS KIT (INCLUDES ALL ITEMS MARKED WITH *)

NOTE: (B) IN PART NUMBER INDICATES B.S.P.T INLET AND OUTLET CONNECTIONS
 ■ NOTE: FOR NEGATIVELY SWITCHED MOTORS SPECIFY "N" RATHER THAN "P" IN MOTOR PART NUMBER
 EXAMPLE: 50615-22CN05
 NOTE: FOR QUICK CONNECT FITTING PART NUMBERS SEE PARTS LIST PL45529
 TEFLON® IS A TRADEMARK OF DUPONT COMPANY
 VITON® IS A TRADEMARK OF DUPONT DOW ELASTOMERS

Description:
 450BEC-FB DIRECTVALVE®
 ELECTRIC INLET-OFF
 FLOW BACK BALL VALVE
 MANIFOLD

PRODUCT COVERED BY
 US PATENT #6189807

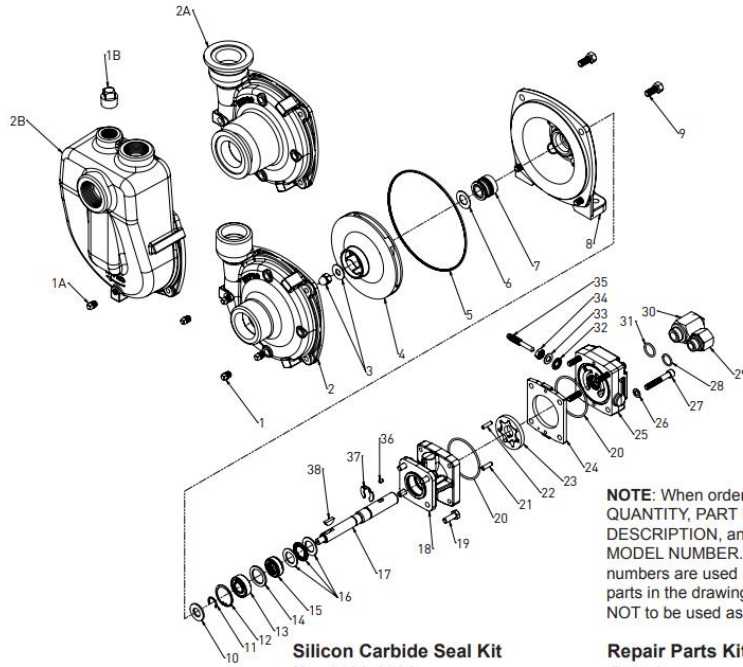
Spraying Systems Co.
 Spray Nozzles and Accessories
 P.O. Box 7900 - Wheaton, IL 60187-7901

Rev. No. ###
 Ref. ####

PARTS LIST
PL45529-FB
 Sheet ### of ###

Replacement Parts

The following drawings show the pumps and their replacement parts. **Only genuine replacement parts should be used. Failure to follow this warning can result in damage to property, serious injury or death.** If the pump malfunctions or is defective, it should be sent back to Hypro for service.



**Silicon Carbide Seal Kit
No. 3430-0589**

Contains:
Mechanical seal (Ref. 7) and o-ring (Ref. 5).

NOTE: When ordering parts, give QUANTITY, PART NUMBER, DESCRIPTION, and COMPLETE MODEL NUMBER. Reference numbers are used ONLY to identify parts in the drawing and are NOT to be used as order numbers.

Repair Parts Kit No. 3430-0332

Contains:
One mechanical seal (Ref. 7), one o-ring (Ref. 5) and one rubber gasket (Ref. 6).

9303C(S)-HM1C, 2, 3, 4, 5 & -U and 9303C(S)-SP-HM1, 2, 3, 4, 5

Adapter Kit No. 3430-0187 (HM2 and HM4 Modes Only) Contains one each:
No. 3360-0021 Pressure Port Adapter
No. 3373-0020 (Size #1)
No. 3373-0021 (Size #2)
No. 3373-0022 (Size #3)
No. 1720-0108 Adapter O-ring and No. 1720-0105 Orifice O-ring

SP Chamber Kit No. 3430-0480SP
Contains: One chamber with wear ring (Ref. 2B) one o-ring (Ref. 5), one drain vent plug (Ref. 1A) and one vent plug (Ref. 1B).

Parts Kit No. 3430-0881

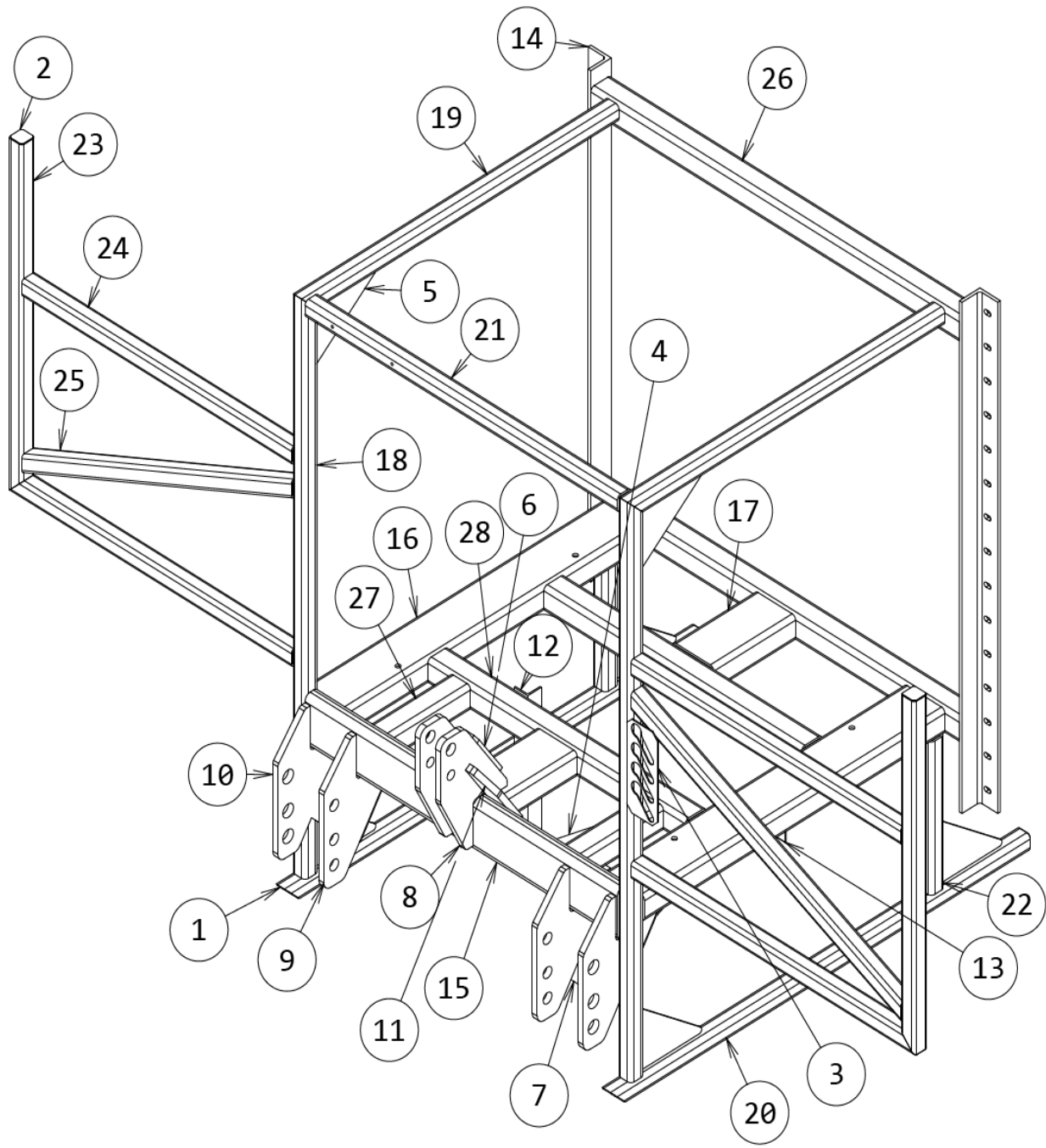
Contains: One each ball bearing (Ref. 13), motor shaft seal (Ref. 15), thread seal gasket (Ref. 32), and washer (Ref. 33); two each motor housing o-rings (Ref. 20), and port adapter o-rings (Ref. 28 & 31).

Hydraulic Motor Part Nos.

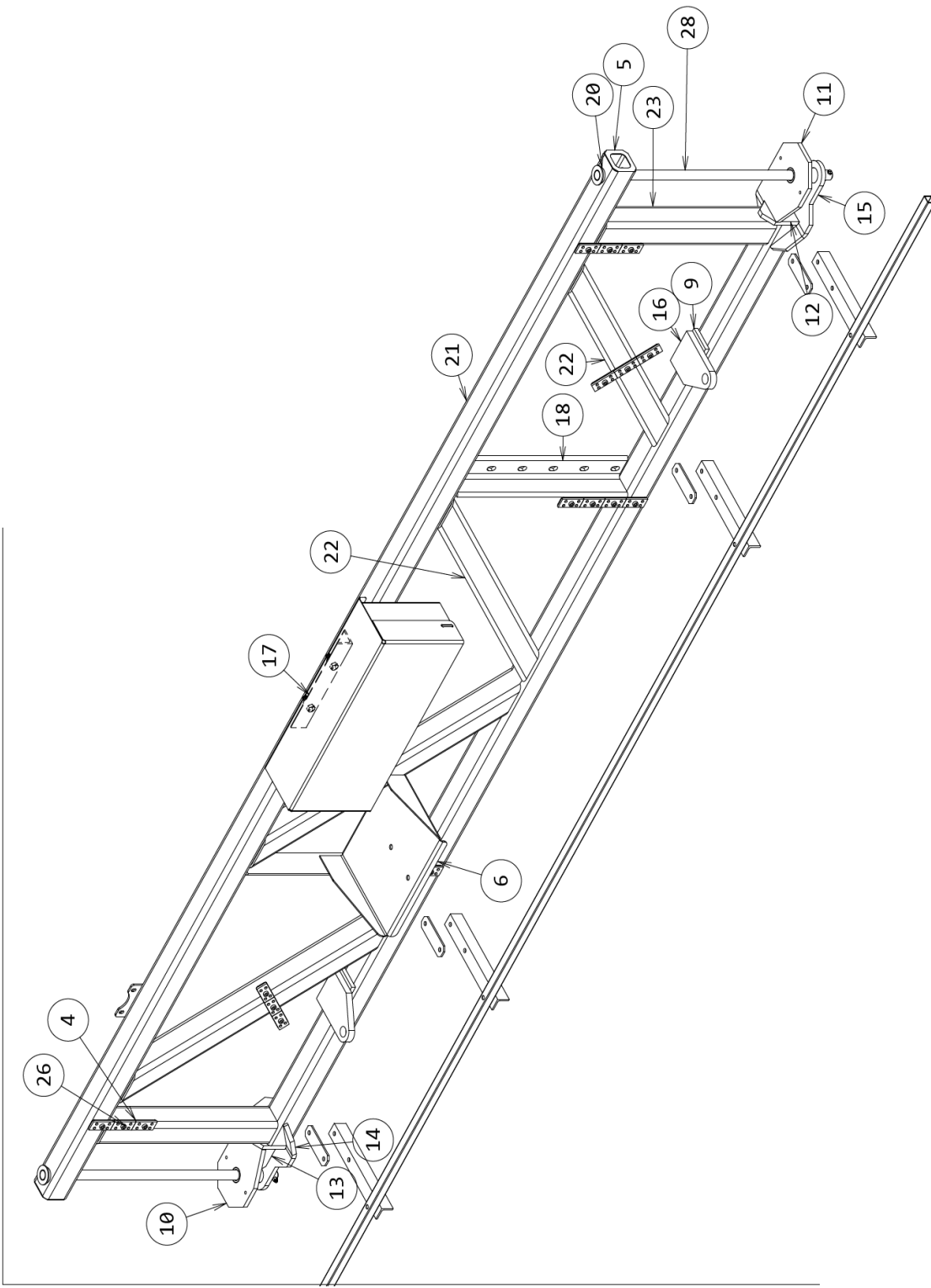
- 2540-0806C (HM1C Models)
- 2540-0401C (HM2C Models)
- 2540-1606C (HM3C Models)
- 2540-0503C (HM4C Models)
- 2540-1006C (HM5C Models)

Ref. No.	Qty. Req'd.	Part No.	Description
1	4	2406-0016	Drain/Vent plug
1A	1	2406-0016	Drain/Vent plug
1B	1	2406-0001	Vent Plug
2	1	0150-9000C	Pump Casing (9303C)
2	1	0150-9000S	Pump Casing (9303S)
2A	1	0153-9000C	Pump Casing (Universal Flange Model C-U)
2A	1	0153-9000S	Pump Casing (Universal Flange Model S-U)
2B	1	3430-0480SP	Pump Casing Self Priming Cast Iron
2B	1	0150-9070S	Pump Casing Self Priming Stainless
3	1	3430-0825	Impeller Nut and Washer (Stainless and Cast Iron)
4	1	0401-9100P	Impeller (Nylon std. 9303C)
4	1	0402-9100P	Impeller (Polypropylene Optional) (Std. 9303S)
5	1	3430-0332	O-ring
6	1	3430-0332	Gasket
7	1	3430-0332	Mechanical Seal (Viton/Ceramic) (Std. 9303C)
7	1	3430-0589	Mechanical Seal (Viton/Silicon Carbide) (Std. 9303S)
8	1	0750-9300C	Mounting Flange (9303 C)
8	1	0756-9300S	Mounting Flange (9303 S)
9	4	2210-0020	Hex Head Cap Screw (9303C)
9	4	2210-0125	Hex Head Cap Screw (9303S)
10	1	1410-0056	Slinger Ring
11	1	1810-0014	Snap ring
12	1	1820-0013	Retaining Ring
13	1	3430-0881	Ball Bearing
14	1	1410-0154	Seal Spacer
15	1	3430-0881	Lip Seal
16	1	2029-0014	Thrust Bearing Assembly
17	1	3430-0850	Shaft (HM2/HM4)
17	1	3430-0852	Shaft (HM1/HM5)
17	1	3430-0855	Shaft (HM3)
18	1	0150-2540C	Motor Body Non-Case Drain (Includes needle bearing)
18	1	0150-2542C	Motor Body Case Drain SAE -4 (Includes needle bearing)
19	4	2210-0005	Hex Head Cap Screw
20	1	3430-0881	O-ring
21	1	1600-0097	Dowel Pin (HM2/HM4)
21	1	1600-0095	Dowel Pin (HM1)

21	1	1600-0098	Dowel Pin (HM5)
21	1	1600-0096	Dowel Pin (HM3)
22	1	1600-0086	Dowel Pin (HM2/HM4)
22	1	1600-0084	Dowel Pin (HM1)
22	1	1600-0099	Dowel Pin (HM5)
22	1	1600-0085	Dowel Pin (HM3)
23	1	3900-0022	Gerotor (HM1)
23	1	3900-0023	Gerotor (HM2)
23	1	3900-0024	Gerotor (HM3)
23	1	3900-0025	Gerotor (HM4)
23	1	3900-0048	Gerotor (HM5)
24	1	0720-2601	Gerotor Housing (HM2)
24	1	0720-2602	Gerotor Housing (HM4)
24	1	0720-2603	Gerotor Housing (HM1)
24	1	0720-2604	Gerotor Housing (HM5)
24	1	0720-2606	Gerotor Housing (HM3)
25	1	0254-2500C2	Motor End Plate -8,-10 SAE, Bypass (Includes needle bearing)
25	1	0254-2500C3	Motor End Plate -8,-10 SAE, No Bypass (Includes needle bearing)
26	4	2270-0039	Washer
27	4	2220-0045	Cap Screw (HM2, HM4)
27	4	2220-0021	Cap Screw (HM1)
27	4	2220-0032	Cap Screw (HM5)
27	4	2220-0044	Cap Screw (HM3)
28	1	3430-0881	O-ring
29	1	3360-0021A	Pressure Port Adapter (Includes o-ring)
30	1	3320-0051A	Tank Port Adapter (Includes o-ring)
31	1	3430-0881	O-ring
32	1	3430-0881	Gasket
33	1	3430-0881	Washer
34	1	2250-0038	Lock Nut
35	1	3220-0029	Bypass Screw
36	1	1610-0032	Roll Pin (HM2/HM4)
36	1	1610-0031	Roll Pin (HM1/HM5)
36	1	1610-0055	Roll Pin (HM3)
37	1	1810-0026	Snap ring
38	1	1610-0012	Woodruff Key (9303C)
38	1	04432-SH1W	Woodruff Key (9303S)



ITEM	PART NUMBER	ITEM QTY	COMMENTS	Length
1	EC212x134	2	0.075 Sheetmetal	2 1/2
2	EC2x2	4	0.075 Sheetmetal	1 7/8
3	BULK-005	1	0.12 Sheetmetal	11
4	2005-01	1	0.25 Sheetmetal	18 1/2
5	2005-02	6	0.25 Sheetmetal	9 1/4
6	2021-W18	1	0.5 Sheetmetal	7
7	2021-W19	2	0.5 Sheetmetal	10
8	2005-03	2	0.75 Sheetmetal	14 1/8
9	2005-04	2	0.75 Sheetmetal	16 7/16
10	2005-05	2	0.75 Sheetmetal	16 7/16
11	2005-06	2	0.75 Sheetmetal	9
12	2021-20	2	AngleIron 2x2x3/16	19 1/2
13	2021-W13	1	AngleIron 2x2x3/16	4
14	2021-W12	2	AngleIron 2x2x3/16	60
15	2021-W1	1	RecTube 6x2x3/8	45 3/4
16	2021-W07	2	RecTube 6x3x1/4	44
17	2021-W08	2	RecTube 6x3x1/4	12
18	2021-W02	2	SqTube 2x1/4	68
19	2021-W03	2	SqTube 2x1/4	46
20	2021-W04	2	SqTube 2x1/4	61
21	2021-W05	1	SqTube 2x1/4	45 3/4
22	2021-W06	2	SqTube 2x1/4	18
23	S400-03	4	SqTube 2x1/4	41 1/2
24	S400-04	2	SqTube 2x1/4	39 1/2
25	S400-06	2	SqTube 2x1/4	43 3/4
26	2021-W09	2	SqTube 3x1/4	54
27	2021-W10	2	SqTube 3x1/4	12
28	2021-W11	2	SqTube 3x1/4	37 3/4



THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF LMC Ag. ANY REPRODUCTION OR USE OF THIS DRAWING WITHOUT THE WRITTEN PERMISSION OF LMC Ag IS PROHIBITED.
 DIMENSIONS ARE IN INCHES
 TOLERANCES (unless noted):
 DECIMAL: +/- .01 -1/32
 ANGULAR: +/- 1/2

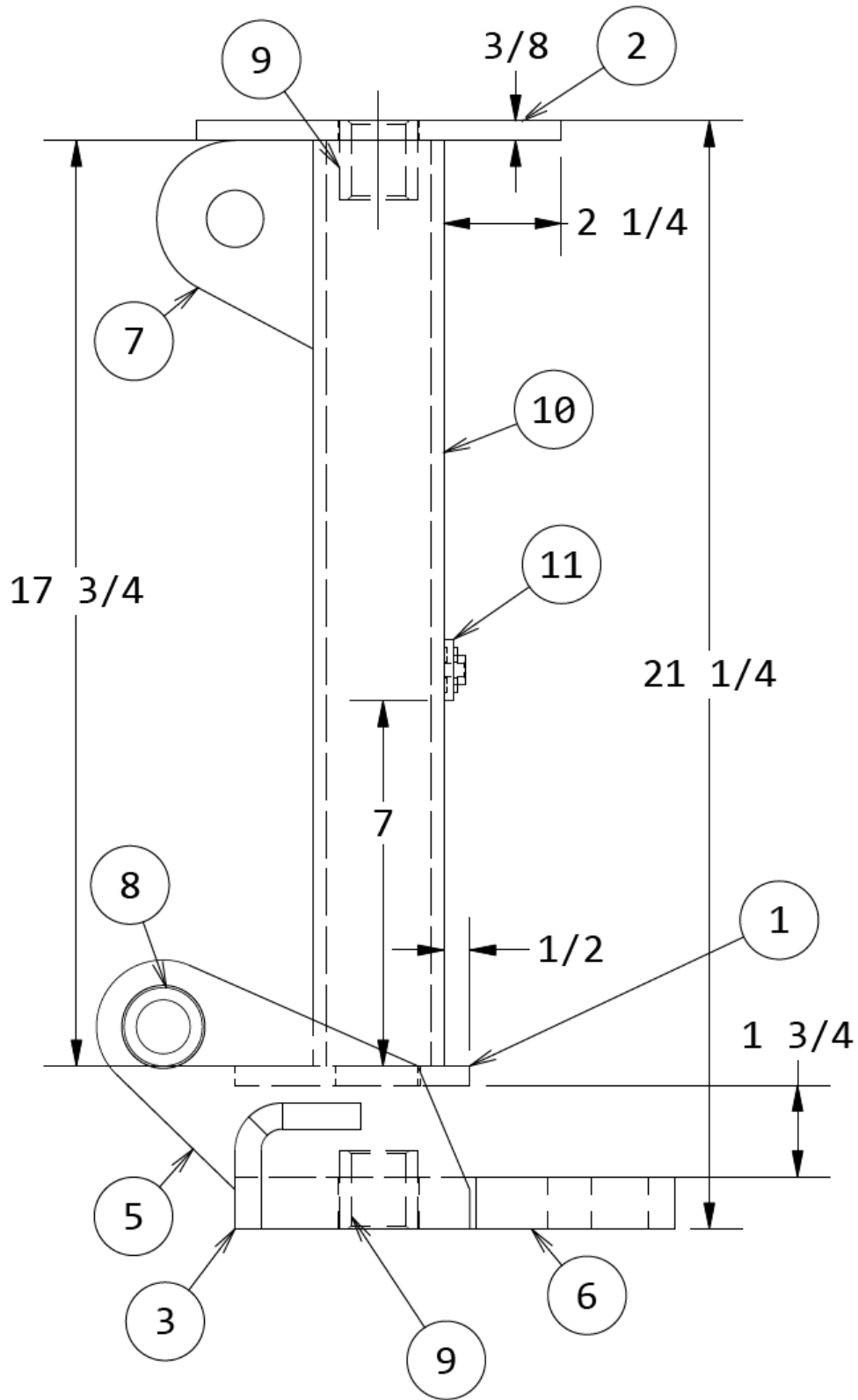
CREATED BY : aray
 CREATED : 08/09/19
 CHECKED BY : aray
 CHECKED : 02/01/23
 MFG APPROVED BY :
 MFG APPROVED :
 PART NUMBER : 85-9500-35 : HD 12' Center Section
 REVISION : M

1715 S. SLAPPEY
 ALBANY, GA. 31701
 PH: 229.639.1775

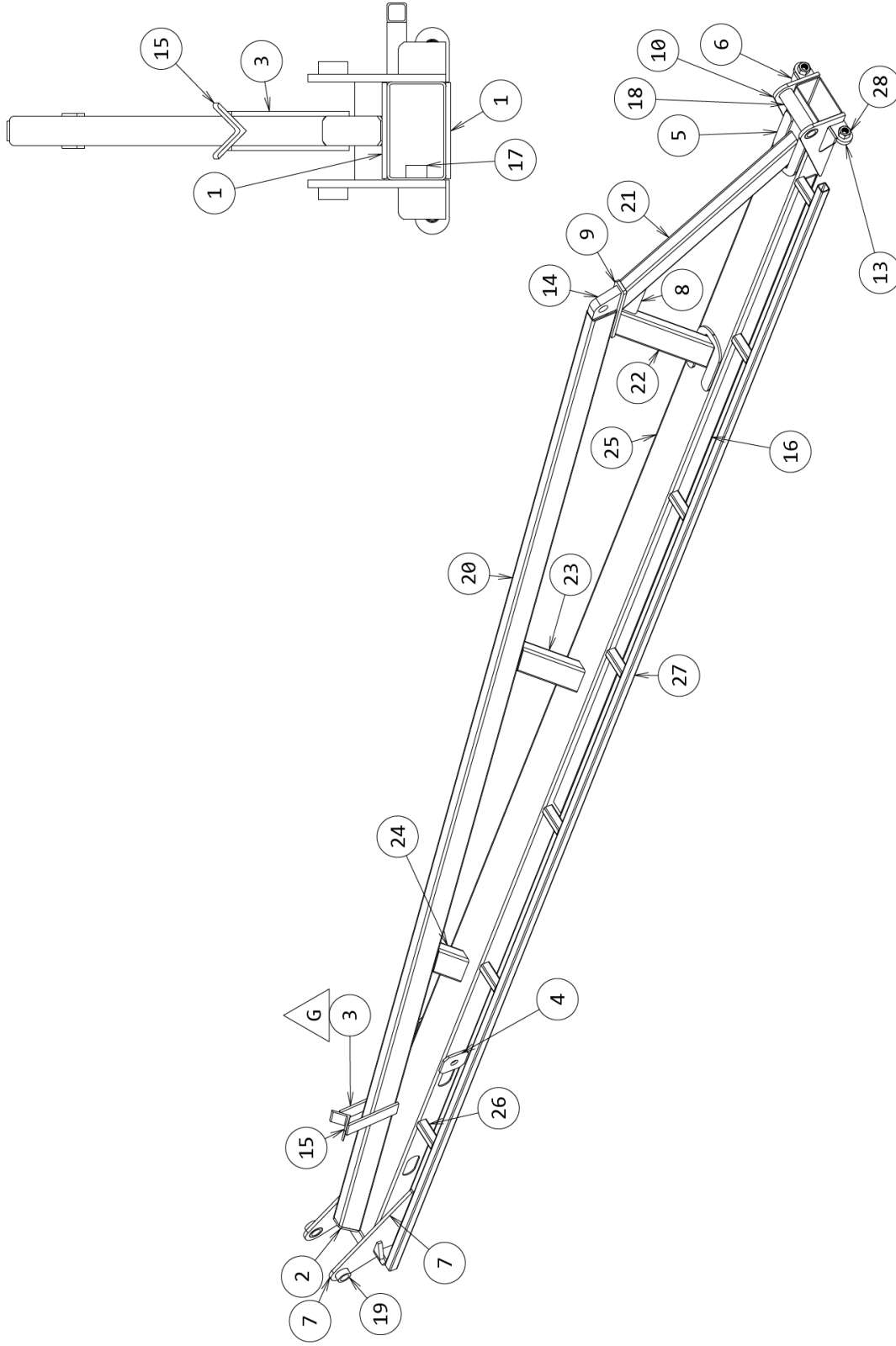


TITLE: Series 400

ITEM	PART NUMBER	ITEM QTY	COMMENTS	Length
1	9500-17	1	0.075 Sheetmetal	30 5/16
2	9500-18	1	0.075 Sheetmetal	10 1/8
3	9500-24	2	0.075 Sheetmetal	11
4	9500-25	4	0.075 Sheetmetal	8 1/4
5	9500-27	2	0.075 Sheetmetal	3
6	9500-26	1	0.135 Tread Plate	19 11/16
7	5019-21	1	0.188 Sheetmetal	4 1/2
9	9500-12	2	0.5 Sheetmetal	5
10	9500-29	1	0.5 Sheetmetal	6 1/2
11	9500-29R	1	0.5 Sheetmetal	0
12	9500-32	2	0.5 Sheetmetal	4 11/16
13	9500-33	2	0.5 Sheetmetal	4 7/16
14	9500-34	1	0.5 Sheetmetal	10 7/8
15	9500-34R	1	0.5 Sheetmetal	10 7/8
16	9500-05	2	0.75 Sheetmetal	6 7/8
17	9500-07	1	AI 2x2x3/16	12
18	9500-08	2	AI 3x3x3/8	22
20	9500-10	4	DOM TUBING 1-1/2 X 1 ID	3 1/2
21	9500-13	1	SQ. TUBING 3" x 1/4"	147 3/8
22	9500-15	4	SQ. TUBING 3" x 1/4"	34 1/8
23	9500-16	2	SQ. TUBING 3" x 1/4"	22
25	9500-31	1	SQtube:3x0.25	132
26	3252T6 Hose C	20	x-Twin 1" hose clamp	2 3/4
27	FW1-SAE	2	xPurchase	0
28	82-9500-01	2	xa-S400 Pivot Pin	



ITEM	PART NUMBER	ITEM QTY	COMMENTS	Length	Width
1	9501-01	1	0.375 Sheetmetal	5 7/8	4 1/2
2	9501-03	1	0.375 Sheetmetal	7	3 1/4
3	9501-02L	1	0.5 Sheetmetal	4	1 3/4
4	9501-02R	1	0.5 Sheetmetal	4	1 3/4
5	9501-04	2	0.5 Sheetmetal	8 1/4	4 1/4
6	9501-05	1	1 Sheetmetal	7 1/8	8 7/16
7	9501-06	1	1.000 in Sheetmetal	3	4
8	9501-09	2	DOM Tubing 1-1/2" x 1 ID	1	1 1/2
9	9501-11	2	DOM Tubing 1-1/2" x 1 ID	1 1/2	1 1/2
10	9501-10	1	SQ. TUBING 2-1/2"x1/4"	17 3/4	2 1/2
11	3252T6 Hose C	1	x-Twin 1" hose clamp	2 3/4	1 3/16



File: N:\ProductDrawings\JMIP\Series 400 Booms\85-9503 EH BOOM Sec A LONG.dwg

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF LMC Ag. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF LMC Ag IS PROHIBITED.
DIMENSIONS ARE IN INCHES
 TOLERANCES (unless noted):
 DECIMAL: +/- .01
 FRACTIONAL: +/- 1/32
 ANGULAR: +/- 1/2

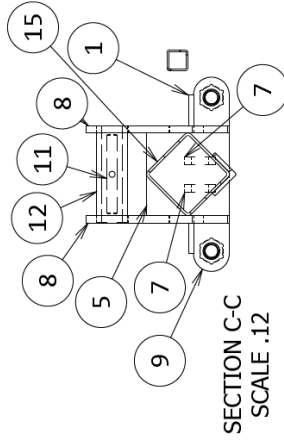
CREATED BY : aray
 CREATED : 03/21/19
 CHECKED BY : aray
 CHECKED : 12/15/22
 MFG APPROVED BY :
 MFG APPROVED :
 DRAWING #: 85-9503 EH BOOM Sec A Long.idw
 REVISION: J

1715 S. SLAPPEY
 ALBANY, GA. 31701
 PH: 229.639.1775

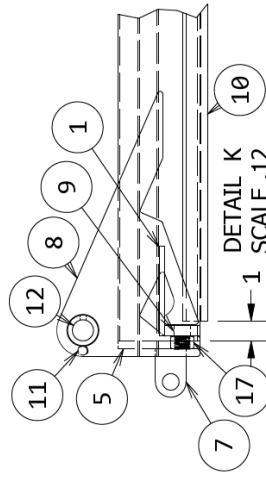


ITEM	PART NUMBER	ITEM QTY	COMMENTS	Length
1	9503-01	3	0.25 Sheetmetal	4 7/8
2	9503-02	1	0.25 Sheetmetal	3 7/8
3	9503-03	2	0.25 Sheetmetal	6
4	9503-05	2	0.25 Sheetmetal	3
5	9503-14	2	0.25 Sheetmetal	8
6	9504-17	2	0.25 Sheetmetal	4 7/16
7	9503-06	2	0.375 Sheetmetal	13 7/16
8	9503-07	1	0.375 Sheetmetal	6 3/16
9	9503-08	1	0.375 Sheetmetal	9
10	9503-17	2	0.375 Sheetmetal	11 9/16
11	9503-10	1	0.5 Sheetmetal	4
12	9503-10R	1	0.5 Sheetmetal	4
13	9503-11	2	0.5 Sheetmetal	1 3/4
14	9503-12	1	1 Sheetmetal	3 3/8
15	9503-31	1	ANGLE IRON 2""x 2"" x 3/16""	2
16	9503-26	1	Angle Iron:1.5x1/8	119
17	9503-012	1	Black Pipe 3/4" Sch40	1 1/16
18	9503-30	1	DOM Tubing 1-1/2" x 1 ID	5 3/4
19	9503-27	2	DOM Tubing 1-1/2" x 1 ID	1 1/2
20	9503-28	1	RecTube 3"x1-1/2"-11GA	185 3/4
21	9503-19	1	RecTube 3"x1-1/2"-11GA	28 1/8
22	9503-20	1	RecTube 3"x1-1/2"-11GA	25 1/8
23	9503-21	1	RecTube 3"x1-1/2"-11GA	17 1/2
24	9503-22	1	RecTube 3"x1-1/2"-11GA	10
25	9503-23	1	RecTube 5"x3"x1/8"	215 1/2
26	9503-32	7	SQ. Tubing 1" 14GA	3
27	9503-25	1	SQ. Tubing 1" 14GA	206
28	HN34CG5	2	xPurchase	1 5/16

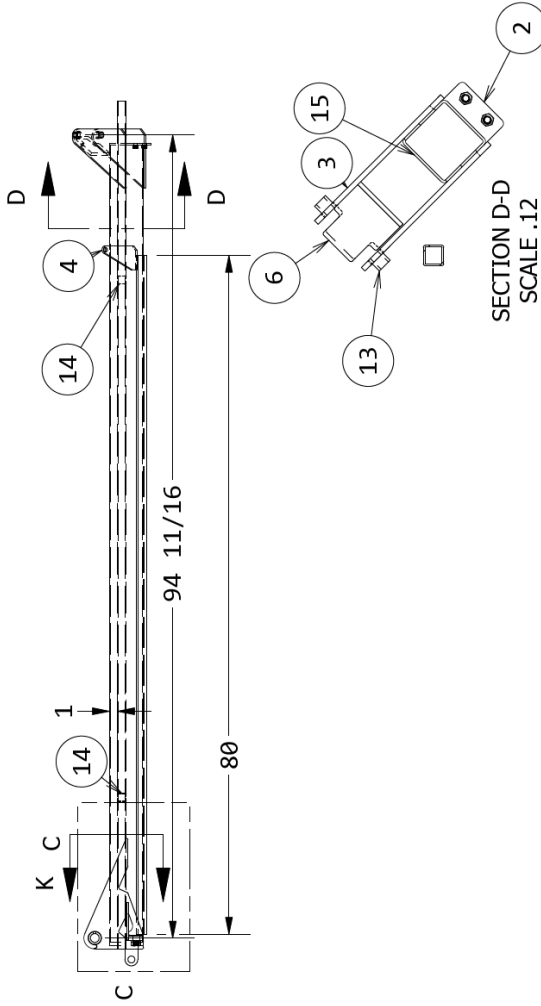
ITEM	PART NUMBER	ITEM QTY	COMMENTS	Length	DWG	REV
1	9504-17	2	0.25 Sheetmetal	4 7/16		G
2	9504-18	1	0.25 Sheetmetal	3		
3	9504-19	2	0.25 Sheetmetal	7		
4	BULK-016	1	0.25 Sheetmetal	2 13/16		
5	9504-20	1	0.375 Sheetmetal	4 1/16		
6	9504-21	1	0.375 Sheetmetal	2 15/16		
7	9504-22	2	0.375 Sheetmetal	1 1/2		
8	9504-25	2	0.375 Sheetmetal	13		
9	9503-11	2	0.5 Sheetmetal	1 3/4		
10	9504-16	1	Angle Iron:1.5x3/16	80		
11	9504-01	1	COLD ROLL 1/2"	3 7/8		
12	9504-09	1	DOM TUBING 1-1/2 X 1 ID	4 3/4	Detail	
13	9504-02	2	DOM TUBING 3/4" OD X .51" I.D.	3/4		
14	9504-13	2	SQ.Tube:lin-14Ga.	4	Detail	
15	9504-05	1	SQ. Tubing 3"11GA	94		
16	9504-04	1	SQ.Tube:lin-14Ga.	100		L
18	HN38CG5	2	xPurchase	0		



SECTION C-C
SCALE .12



DETAIL K
SCALE .12



SECTION D-D
SCALE .12

File:N:\ProductDrawings\MEP\Series_400_Booms\95-9504-35.tam

THIS INFORMATION CONTAINED IN
THIS DRAWING IS THE SOLE
PROPERTY OF LMC AG. ANY
REPRODUCTION IN PART OR AS A
WHOLE WITHOUT THE WRITTEN
PERMISSION OF LMC AG IS
PROHIBITED.

DIMENSIONS ARE IN INCHES
TOLERANCES (unless noted):
DECIMAL: +/- .01
FRACTIONAL: +/- 1/32
ANGULAR: +/- 1/2

CREATED BY :aray
:04/02/19
CHECKED BY :aray
:12/08/22

MFG APPROVED BY:
MFG APPROVED :

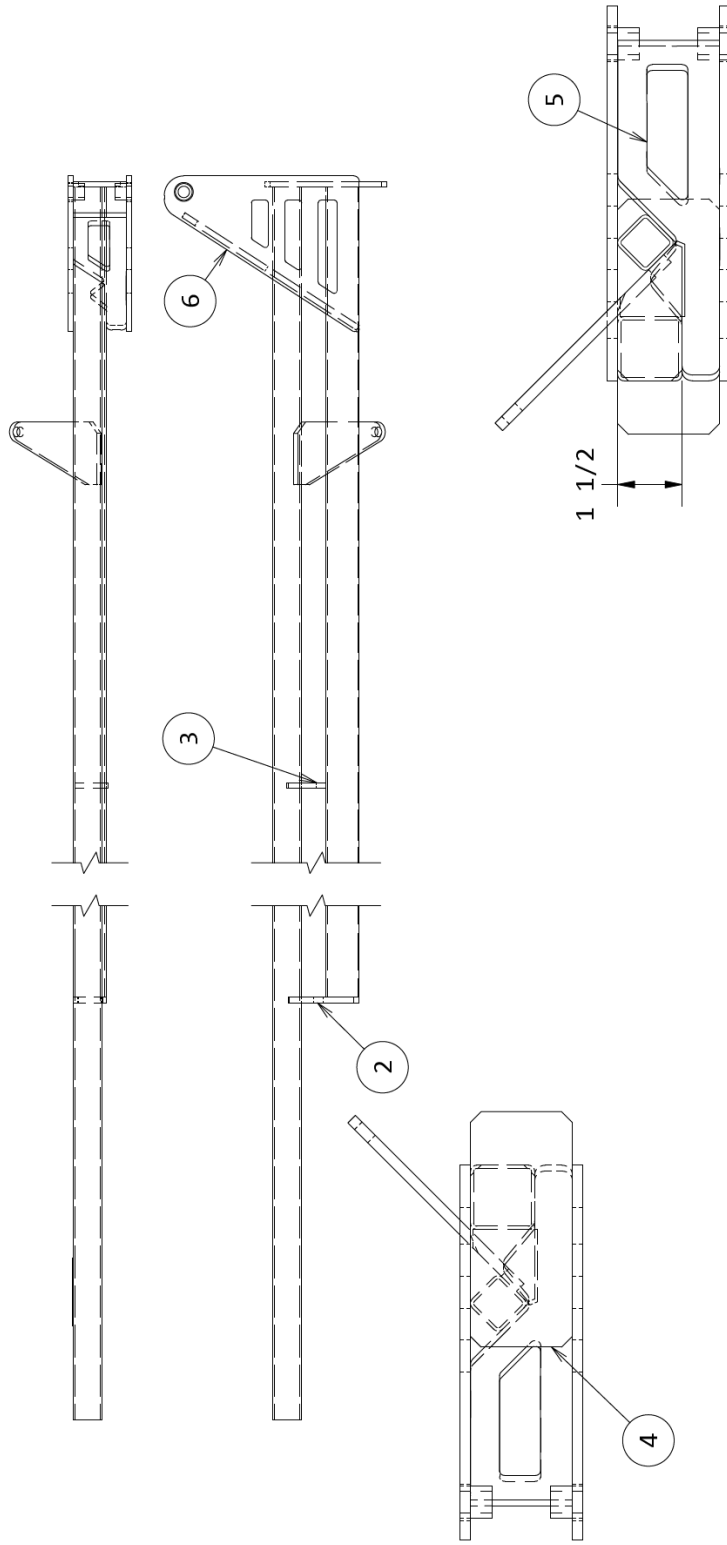
PART NUMBER :85-9504-35 S400 Boom SecB Long
REVISION :L

1715 S. SLAPPEY
ALBANY, GA, 31701
PH: 229.639.1775



TITLE: Series 400 Boom

ITEM	PART NUMBER	ITEM QTY	COMMENTS	Length	DWG
1	BULK-016	1	0.25 Sheetmetal	2 13/16	
2	9505-09	1	0.25 Sheetmetal	3 3/16	
3	9505-08	1	0.25 Sheetmetal	1 3/4	
4	9505-07	1	0.25 Sheetmetal	2 3/8	
5	9505-06	1	0.25 Sheetmetal	6 3/4	
6	9505-02	2	0.25 Sheetmetal	8 3/4	
7	9505-04	2	DOM TUBING 3/4" OD X .51" I.D.	3/4	
8	9505-01	1	SQ. Tubing 1"14GA	76	
9	9505-03	1	SQ. Tubing 1-1/2"14GA	57	



File: \\M:\ProductDrawings\WIP\Series_400_Booms\85-9505-35-.iam

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF LMC AG. IT IS TO BE USED ONLY FOR THE PART AND AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF LMC AG IS PROHIBITED.
DIMENSIONS ARE IN INCHES
 TOLERANCES (unless noted):
 DECIMAL: +/- .01
 FRACTIONAL: +/- 1/32
 ANGULAR: +/- 1/2

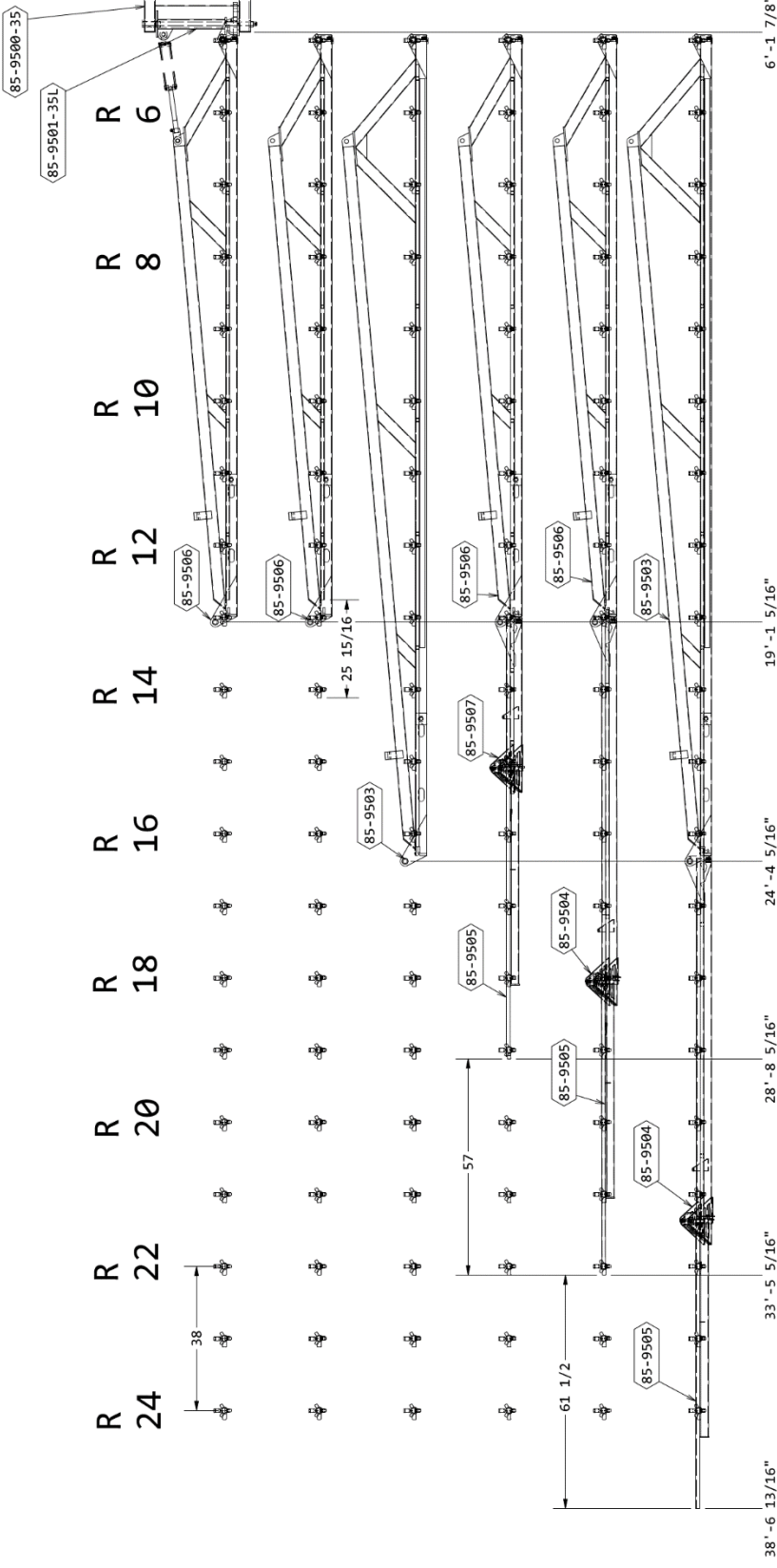
CREATED BY : aray
 CREATED : 04/03/19
 CHECKED BY : aray
 CHECKED : 12/12/22

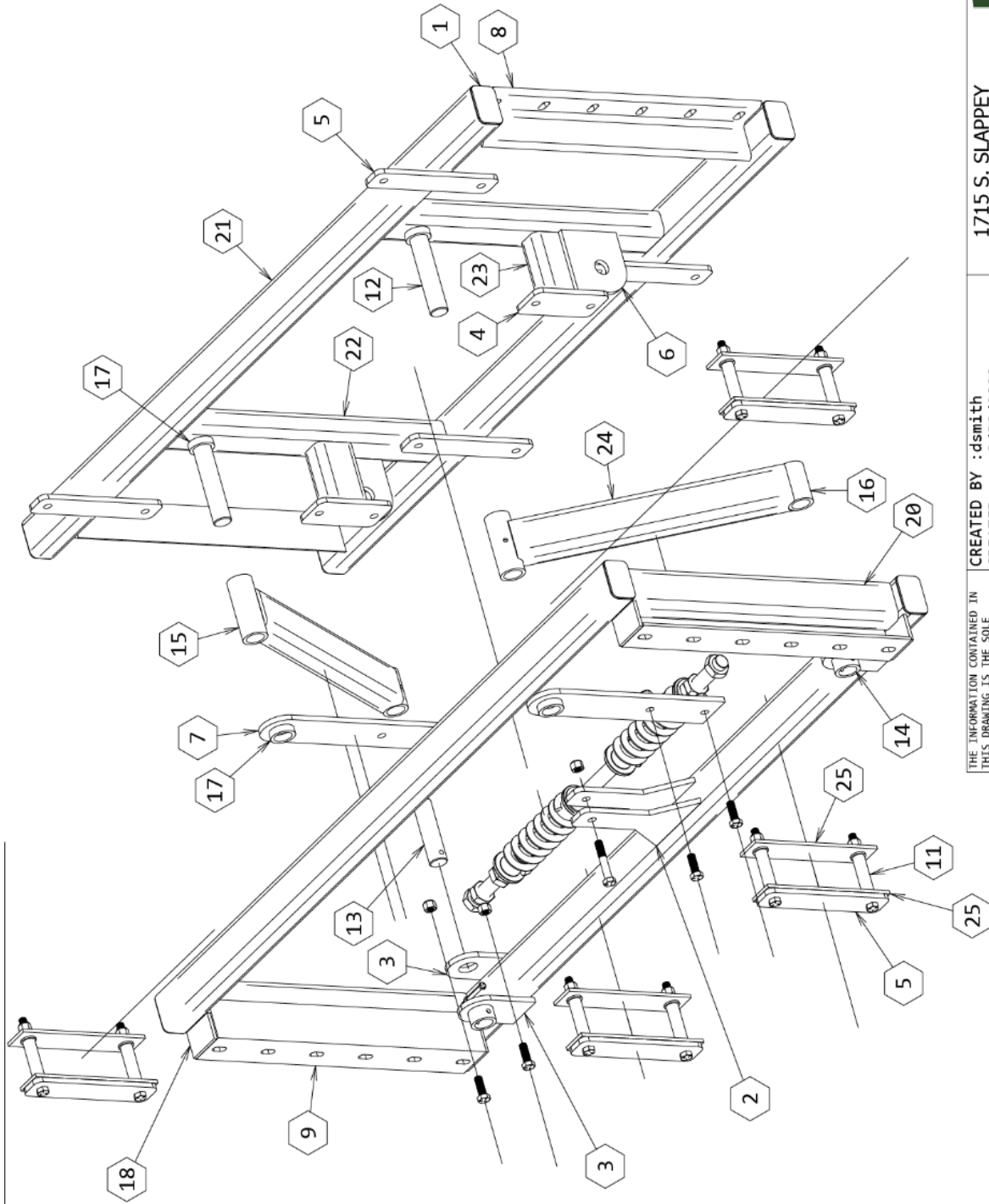
MFG APPROVED BY :
 MFG APPROVED :
 PART NUMBER : 85-9505-35L : S400 Boom Sec. C
 REVISION : E

1715 S. SLAPPEY
 ALBANY, GA. 31701
 PH: 229.639.1775



Product Line: Series 400 Boom





THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF LMC Ag. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF LMC Ag IS PROHIBITED.
 DIMENSIONS ARE IN INCHES
 TOLERANCES (unless noted):
 DECIMAL: +/- .01
 FRACTIONAL: +/- 1/32
 ANGULAR: +/- 1/2

CREATED BY : dsmith
 CREATED : 3/30/2020
 CHECKED BY : bwildes
 CHECKED : 3/6/2023

MFG APPROVED BY :
 PART NUMBER : 85-2002-35A : Self Leveler
 REVISION : A

1715 S. SLAPPEY
 ALBANY, GA. 31701
 PH: 229.639.1775



Product Line: Series 400

ITEM	PART NUMBER	ITEM QTY	COMMENTS	Length
1	2002-01	8	0.12 Sheetmetal	2 7/8
2	2002-29	2	0.375 Sheetmetal	8 3/8
3	2002-03	4	0.375 Sheetmetal	5 1/8
4	2002-06	2	0.375 Sheetmetal	6
5	2002-07	8	0.375 Sheetmetal	10
6	2002-12	2	0.375 Sheetmetal	4 3/4
7	2002-25	2	0.375 Sheetmetal	15
8	2002-14	2	Angle Iron 3" x 3/8"	22
9	2002-14v	2	Angle Iron 3" x 3/8"	22
10	2002-21	1	Black Pipe 1/2" Sch40	1 1/4
11	2002-22	8	Black Pipe 1/2" Sch40	3
12	2002-05	2	CRS-ROD:1 1/4	8 3/4
13	2002-24	2	CRS-ROD:1 1/4	4 3/4
14	2002-17	2	DOM:1 3/4 OD x 1 1/4 ID	1
15	2002-19	2	DOM:1 3/4 OD x 1 1/4 ID	4 1/2
16	2002-20	2	DOM:1 3/4 OD x 1 1/4 ID	2 7/8
17	2002-28	4	DOM:1 3/4 OD x 1 1/4 ID	1/2
18	2002-04	4	Flat Iron 1/4"x2"	2 3/4
19	2002-23	1	HOT ROLL 1	33 1/2
20	2002-16	2	RecTube 3"x2"x1/4"	22
21	2002-08	4	RecTube:3x2x0.25	60
22	2002-10	2	RecTube:3x2x0.25	22
23	2002-11	2	RecTube:3x2x0.25	4 3/4
24	2002-27	2	RecTube:3x2x0.25	19 3/8
25	2002-26	8	UHMW 2"x1/4" Strip	10
26	HB123CG5	1	x-1/2"x3" Bolt	
27	FW1-SAE	4	xPurchase	0
28	HN14CG5-NYL	2	xPurchase	0
29	79-452-33 Coi	2	xPurchase	7 1/2
30	77-004-85	4	xPurchase	2 3/8
31	FW12-SAE	16	xPurchase	1 1/16
32	HB12112CG5	4	xPurchase	1 13/16
33	HB12512CG5	8	xPurchase	5 13/16
34	HB14212CG5	2	xPurchase	0
35	HN12C-NYL	13	x-Lock Nut 1/2"	7/8
36	HN1CG5- HALF	7	xPurchase	1 3/4

TROUBLESHOOTING

- SPRAYING
 - Unit not wanting to prime up.
 - Check the strainers to ensure they are free from debris.
 - Check all suction lines to ensure clamps and hoses are tight and not pulling air around the ends.
 - Ensure the tank has enough water in it. (Too little water in the tank will cause the pump to pull air from the suction fitting as you are driving through the field and the water is moving away from the fitting in the bottom of the tank).
 - Ensure the hydraulic lines to the pump are attached correctly and the flow from the tractor is going the right direction.
 - Ensure the valve from the tank is in the open position.
 - Spray valves not opening and closing.
 - Ensure you have correct voltage running to the valve. (Power strips may not give you correct voltage and so you may have to run the power wire to the battery).
 - Make sure there is no trash or debris in the valves.
 - Hydraulic booms are not operating properly.
 - Make sure there are no hydraulic leaks on any of the hoses, cylinders, or valves.
 - Make sure that the hydraulic flow to the valves is not more than 3-5 gpm. High flow rates can cause the o rings to unseat causing improper function and leaking.
 - Make sure that there are orifice elbow fittings in the hydraulic cylinders to keep the hydraulics from over speeding boom functions.
 - Make sure that the pressure relief on the valve bank is adjusted properly.
 - Make sure that the electric connectors that are plugged to the solenoids are secured and not lose.

USEFUL FORMULAS

$$\text{GPM (per nozzle)} = \frac{\text{GPA} \times \text{MPH} \times \text{W}}{5,940}$$

$$\text{GPM (per nozzle)} = \frac{\text{GAL}/1000 \text{ ft}^2 \times \text{MPH} \times \text{W}}{136}$$

$$\text{GPA} = \frac{5,940 \times \text{GPM (per nozzle)}}{\text{MPH} \times \text{W}}$$

$$\text{GAL}/1000 \text{ ft}^2 = \frac{136 \times \text{GPM (per nozzle)}}{\text{MPH} \times \text{W}}$$

GPM – Gallons per minute

GPA – Gallons per acre

GAL/1000 ft² – Gallons per 1000 square feet

MPH – Miles per hour

W – Nozzle spacing (in inches) for broadcast spraying

– Spray width (in inches) for single nozzle, band spraying or boomless spraying

– Row spacing (in inches) divided by the number of nozzles per row for directed spraying



USEFUL FORMULAS FOR ROADWAY APPLICATIONS

$$\text{GPLM} = \frac{60 \times \text{GPM}}{\text{MPH}} \quad \text{GPM} = \frac{\text{GPLM} \times \text{MPH}}{60}$$

GPLM = Gallons per lane mile

Note: GPLM is not a normal volume per unit area measurement. It is a volume per distance measurement. Increases or decreases in lane width (swath width) are not accommodated by these formulas.

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 MPH, respectively. Determine the time required to travel the test course. To help ensure accuracy, conduct the speed check with a partially loaded (about half full) 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 at right to determine ground speed.

$$\text{Speed (MPH)} = \frac{\text{Distance (FT)} \times 60}{\text{Time (seconds)} \times 88}$$

SPEEDS

SPEED IN MPH	TIME REQUIRED IN SECONDS TO TRAVEL A DISTANCE OF:		
	100 FT	200 FT	300 FT
1.0	68	136	205
1.5	45	91	136
2.0	34	68	102
2.5	27	55	82
3.0	23	45	68
3.5	19	39	58
4.0	17	34	51
4.5	15	30	45
5.0	14	27	41
5.5	—	25	37
6.0	—	23	34
6.5	—	21	31
7.0	—	19	29
7.5	—	18	27
8.0	—	17	26
8.5	—	16	24
9.0	—	15	23

NOZZLE SPACING

If the nozzle spacing on your boom is different than those tabulated, multiply the tabulated GPA coverages by one of the following factors. Different application rate charts for different spacing can be found on pages 179–182.

20° SPACING	
OTHER SPACING (IN)	CONVERSION FACTOR
8	2.5
10	2
12	1.67
14	1.43
16	1.25
18	1.11
22	0.83
24	0.71
30	0.66

30° SPACING	
OTHER SPACING (IN)	CONVERSION FACTOR
26	1.88
28	1.67
32	1.5
34	1.25
36	1.07
38	0.94
40	0.83
42	0.68
44	0.63

40° SPACING	
OTHER SPACING (IN)	CONVERSION FACTOR
28	1.43
30	1.33
32	1.25
34	1.18
36	1.11
38	1.05
42	0.95
44	0.91
48	0.83

MISCELLANEOUS CONVERSION FACTORS

1 Acre	= 43,560 square feet = 43.56 1000 ft ² Blocks = 0.405 Hectare
1 Hectare	= 2.471 Acres
1 GPA	= 2.9 fl oz per 1000 ft ² = 9.35 L/ha
1 GAL per 1000 ft ²	= 43.56 GPA
1 Mile	= 5,280 ft; 1,610 m = 1.61 Kilometers
1 Gallon	= 128 fl oz; 8 Pints = 4 Quarts; 3.79 Liters = 0.83 Imperial Gallon
1 PSI	= 0.069 bar = 6.896 kilopascals
1 MPH	= 1.609 KPH

SUGGESTED MINIMUM SPRAY HEIGHTS

The nozzle height suggestions in the table below are based on the minimum overlap required to obtain uniform distribution. However, in many cases, typical height adjustments are based on a 1:1 nozzle spacing to height ratio. For example, 110° flat spray tips spaced 20" apart are commonly set 20" above the target.

TIP MODEL	ANGLE	HEIGHT (INCHES)		
		20° SPACING	30° SPACING	40° SPACING
TP, TJ	65°	22–24	33–35	NR*
TP, XR, TX, DG, TJ, AI, XRC	80°	17–19	26–28	NR*
TP, XR, DG, TT, TTI, TJ, DGTJ, AI, AIXR, AIG, XRC, TTJ, AITTJ, TT160, APTJ	110°	16–18	20–22	NR*
FullJet®	120°	10–18**	14–18**	14–18**
FloodJet® TK, TF, K, QK, QCTF, 1/4TTJ	120°	14–16***	15–17***	18–20***

* Not recommended.

** Nozzle height based on 30°–45° angle of orientation.

*** Wide angle spray tip height is influenced by nozzle orientation. The critical factor is to achieve a double spray pattern overlap.

SPRAYING LIQUIDS WITH A DENSITY OTHER THAN WATER

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



Example:

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

$$\text{GPA (liquid other than water)} \times \text{Conversion factor} = \text{GPA (from table in catalog)}$$

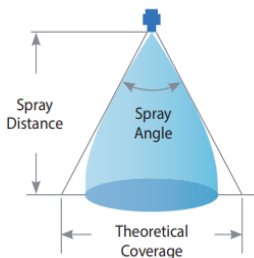
$$20 \text{ GPA (28\%)} \times 1.13 = 22.6 \text{ GPA (Water)}$$

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 FACTOR
7.0 lbs/gal	0.84	0.92
8.0 lbs/gal	0.96	0.98
8.34 lbs/gal	1.00–Water	1.00
9.0 lbs/gal	1.08	1.04
10.0 lbs/gal	1.20	1.10
10.65 lbs/gal	1.28–28% Nitrogen	1.13
11.0 lbs/gal	1.32	1.15
12.0 lbs/gal	1.44	1.20
14.0 lbs/gal	1.68	1.30

SPRAY COVERAGE INFORMATION

This table lists the theoretical coverage of spray patterns as calculated from the included spray angle of the spray and the distance from the nozzle orifice. These values are based on the assumption that the spray angle remains the same throughout the entire spray distance. In actual practice, the tabulated spray angle does not hold for long spray distances.

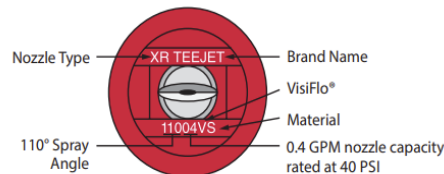


INCLUDED SPRAY ANGLE	THEORETICAL COVERAGE AT VARIOUS SPRAY HEIGHTS							
	8"	10"	12"	15"	18"	24"	30"	36"
15°	2.1	2.6	3.2	3.9	4.7	6.3	7.9	9.5
20°	2.8	3.5	4.2	5.3	6.4	8.5	10.6	12.7
25°	3.5	4.4	5.3	6.6	8.0	10.6	13.3	15.9
30°	4.3	5.4	6.4	8.1	9.7	12.8	16.1	19.3
35°	5.0	6.3	7.6	9.5	11.3	15.5	18.9	22.7
40°	5.8	7.3	8.7	10.9	13.1	17.5	21.8	26.2
45°	6.6	8.3	9.9	12.4	14.9	19.9	24.8	29.8
50°	7.5	9.3	11.2	14.0	16.8	22.4	28.0	33.6
55°	8.3	10.3	12.5	15.6	18.7	25.0	31.2	37.5
60°	9.2	11.5	13.8	17.3	20.6	27.7	34.6	41.6
65°	10.2	12.7	15.3	19.2	22.9	30.5	38.2	45.8
73°	11.8	14.8	17.8	22.0	27.0	36.0	44.0	53.0
80°	13.4	16.8	20.2	25.2	30.3	40.3	50.4	60.4
85°	14.7	18.3	22.0	27.5	33.0	44.0	55.4	66.4
90°	16.0	20.0	24.0	30.0	36.0	48.0	60.0	72.0
95°	17.5	21.8	26.2	32.8	40.3	52.4	65.5	78.6
100°	19.1	23.8	28.6	35.8	43.0	57.2	71.6	85.9
110°	22.8	28.5	34.3	42.8	51.4	68.5	85.6	103
120°	27.7	34.6	41.6	52.0	62.4	83.2	104	
130°	34.3	42.9	51.5	64.4	77.3	103		
140°	43.8	54.8	65.7	82.2	98.6			
150°	59.6	74.5	89.5					

NOZZLE NOMENCLATURE

There are many types of nozzles available, with each providing different flow rates, spray angles, droplet sizes and patterns. Some of these spray tip characteristics are indicated by the tip number.

Remember, when replacing tips, be sure to purchase the same tip type, angle, and capacity, thereby ensuring your sprayer remains properly calibrated.



FLOW RATE

Nozzle flow rate varies with spraying pressure. In general, the relationship between GPM and pressure is as follows:

$$\frac{GPM_1}{GPM_2} = \frac{\sqrt{PSI_1}}{\sqrt{PSI_2}}$$

This equation is explained by the illustration to the right. Simply stated, in order to double the flow through a nozzle, the pressure must be increased four times.

Higher pressure not only increases the flow rate through a nozzle, but it also influences the droplet size, spray angle, and the rate of orifice wear. As pressure is increased, the droplet size decreases and the rate of orifice wear increases.

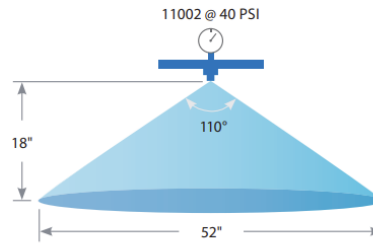
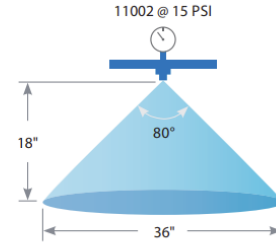
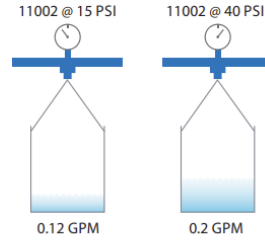
The values given in the tabulation sections of this catalog indicate the most commonly used pressure ranges for the associated spray tips. When information on the performance of spray tips outside of the pressure range given in this catalog is required, contact TeeJet Technologies or your local rep.

SPRAY ANGLE & COVERAGE

Depending on the nozzle type and size, the operating pressure can have a significant effect on spray angle and quality of spray distribution. As shown here for an 11002 flat spray tip, lowering the pressure results in a smaller spray angle and a significant reduction in spray coverage.

Tabulations for spray tips in this catalog are based on spraying water. Generally, liquids more viscous than water produce relatively smaller spray angles, while liquids with surface tensions lower than water will produce wider spray angles. In situations where the uniformity of spray distribution is important, be careful to operate your spray tips within the proper pressure range.

Note: Suggested minimum spray heights for broadcast spraying are based upon nozzles spraying water at the rated spray angle.



PRESSURE DROP THROUGH VARIOUS HOSE SIZES

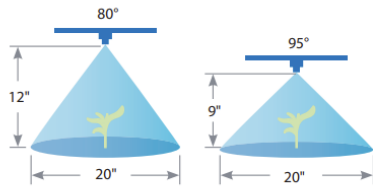
FLOW IN GPM	PRESSURE DROP IN PSI (10' LENGTH WITHOUT COUPLINGS)				
	¼" I.D.	3/8" I.D.	½" I.D.	¾" I.D.	1" I.D.
0.5	1.4	.2			
1.0		.7			
1.5		1.4	.4		
2.0		2.4	.6		
2.5		3.4	.9		
3.0			1.2		
4.0			2.0		
5.0			2.9	.4	
6.0			4.0	.6	
8.0				.9	.3
10.0				1.4	.4

HELPFUL REMINDERS FOR BAND SPRAYING

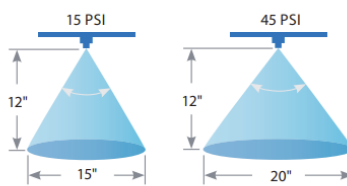
Wider angle spray tips allow the spray height to be lowered to minimize drift.

The spray angle of the nozzle and the resulting band width are directly influenced by the spraying pressure.

Example: Even Flat Spray



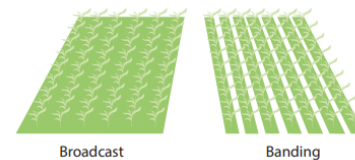
Example: 8002E Even Flat Spray



Use Care When Calculating:
Field Acres/Hectares vs.
Treated Acres/Hectares

$$\text{Field Acres/Hectares} = \frac{\text{Total Acres/Hectares of Planted Cropland}}{\text{Treated Acres/Hectares}}$$

$$\text{Treated Acres/Hectares} = \frac{\text{Field Acres/Hectares}}{\text{Band Width}} \times \text{Row Spacing}$$





BROADCAST APPLICATION

Sprayer calibration (1) readies your sprayer for operation and (2) diagnoses tip wear. This will give you optimum performance of your TeeJet tips.

Equipment Needed:

- TeeJet Calibration Container
- Calculator
- TeeJet Cleaning Brush
- One new TeeJet Spray Tip matched to the tips on your sprayer
- Stopwatch or wristwatch with second hand

STEP NUMBER 1



Check Your Tractor/Sprayer Speed!

Knowing your real sprayer speed is an essential part of accurate spraying. Speedometer readings and some electronic measurement devices can be inaccurate because of wheel slippage. Check the time required to move over a 100- or 200-foot strip on your field. Fence posts can serve as permanent markers. The starting post should be far enough away to permit your tractor/sprayer to reach desired spraying speed. Hold that speed as you travel between the “start” and “end” markers. Most accurate measurement will be obtained with the spray tank half full. Refer to the table on page 184 to calculate your real speed. When the correct throttle and gear settings are identified, mark your tachometer or speedometer to help you control this vital part of accurate chemical application.

STEP NUMBER 2

$$A = \frac{B+C}{D} \quad \text{The Inputs}$$

Before spraying, record the following: **EXAMPLE:**

Spray tip type on your sprayer..... TT11004 Flat Spray Tip
(All tips must be identical)

Recommended application volume..... 20 GPA
(From manufacturer’s label)

Measured sprayer speed 6 MPH

Tip spacing 20 inches



STEP NUMBER 3



Calculating Required Nozzle Output



Determine GPM tip output from formula.

$$\text{FORMULA: } \text{GPM} = \frac{\text{GPA} \times \text{MPH} \times \text{W}}{5,940 \text{ (constant)}}$$

$$\text{EXAMPLE: } \text{GPM} = \frac{20 \times 6 \times 20}{5,940} = \frac{2,400}{5,940}$$

ANSWER: 0.404 GPM

STEP NUMBER 4



Setting the Correct Pressure

Turn on your sprayer and check for leaks or blockage. Inspect and clean, if necessary, all tips and strainers with TeeJet brush. Replace one tip and strainer with an identical new tip and strainer on sprayer boom.

Check appropriate tip selection table and determine the pressure required to deliver the tip output calculated from the formula in Step 3 for your new tip. Since all of the tabulations are based on spraying water, conversion factors must be used when spraying solutions that are heavier or lighter than water (see page 185).

EXAMPLE: (Using above inputs) refer to TeeJet table on page 17 for TT11004 flat spray tip. The table shows that this spray tip delivers 0.40 GPM at 40 PSI.

Turn on your sprayer and adjust pressure. Collect and measure the volume of the spray from the new tip for one minute in the collection jar. Fine tune the pressure until you collect 0.40 GPM.

You have now adjusted your sprayer to the proper pressure. It will properly deliver the application rate specified by the chemical manufacturer at your measured sprayer speed.

STEP NUMBER 5



Checking Your System

PROBLEM DIAGNOSIS: Now, check the flow rate of a few tips on each boom section. If the flow rate of any tip is 10% greater or less than that of the newly installed spray tip, recheck the output of that tip. If only one tip is faulty, replace with new tip and strainer and your system is ready for spraying. However, if a second tip is defective, replace all tips on the entire boom. This may sound unrealistic, but two worn tips on a boom are ample indication of tip wear problems. Replacing only a couple of worn tips invites potentially serious application problems.



Banding and Directed Applications

The only difference between the above procedure and calibrating for banding or directed applications is the input value used for “W” in the formula in Step 3.

For single tip banding or boomless applications:

$$W = \text{Sprayed band width or swath width (in inches).}$$

For multiple nozzle directed applications:

$$W = \text{Row spacing (in inches) divided by the number of tips per row.}$$