

300 and 400 GALLON 16,18,&20 ROW 3 POINT HITCH SPRAYER

Since VAN'S EQUIPMENT'S beginnings we have used a generic owners manual. It was just too costly to have printed and keep on hand owner manuals specific to each size and type sprayer we manufacture.

We now have the technology in house to create sprayer specific manuals and to print them only as needed. We think we have made a good beginning, but these manuals are still in the development stage. At this point we would appreciate the input of our end user customer and our dealers as to how we can make these manuals more useful and user friendly.

This is the prototype manual. Please look over the manual and give us your input.

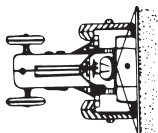
CALL VANS EQUIPMENT AT 1-800-765-1101 AND ASK FOR CRAIG

We appreciate your input on these manuals.

Thanks Vans Equipment



(PRICES SUBJECT TO CHANGE WITHOUT NOTICE)



van's

EQUIPMENT COMPANY

P.O. BOX 3157 • 2169 SYLVESTER HIGHWAY • MOULTRIE, GEORGIA 31776-3157

We Appreciate You and Your Business!

(229) 985-1101

**VAN'S EQUIPMENT
BUILT FOR FARMING INTEGRITY**

WHEN SELECTING EQUIPMENT FOR FARMING THE NAME VAN'S means availability, reliability, and proven superiority. Maintaining a close association with farming customers has resulted in equipment design and manufacturing philosophy that reflects the exacting requirements of our customers.

Van's Equipment Company, Inc. appreciates your purchase of a new spray unit. This unit, is designed to give years of service with proper care. The following pages will be helpful in set-up and maintenance of your new unit.

PLEASE READ THIS MANUAL CAREFULLY BEFORE INITIAL START-UP IS ATTEMPTED.

**WE APPRECIATE YOU
AND YOUR BUSINESS**

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MODEL DESCRIPTION and OVERVIEW

300 & 400 GALLON 18 ROW 3 POINT HITCH



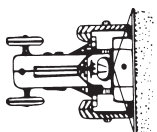
VAN'S 300 & 400 gallon 3 point hitch sprayer,18 row sprayers. The booms and center section on this sprayer fold ,level, and raise and lower hydraulically.

Standard Features Include:

- 1)300 & 400 Gallon Polyethylene Tank
- 2)Choice of Nylon or Quick Jet Boom Plumbing
- 3) Variable spacing Nozzle Outlets
- 4) Full Set or Tips(8003 standard),Caps, and Strainers
- 5) Choice of Pumps
- 6) Fully Assembled and Factory Tested
- 7) 5 Year Structural Warranty

Options:	Part No.
Hand Gun w/Hose Rack	H11F
Boomless Nozzle	BNN
Electric Boom Control	V1999

BOOM MODEL	ROLLER PUMP	CETRIFUGAL PUMP	DIAPHRAGM PUMP	HY. CENT. PUMP
16 ROW NYLON 300 GALLON	L30026	L30056	L30066	N/A
16 ROW QUICKJET 300 GALLON	L30026QJ	L30056QJ	L30066QJ	N/A
18 ROW NYLON 300 GALLON	L30027	L30057	L30067	L30058
18 ROW QUICKJET 300 GALLON	L30027QJ	L30057QJ	L30067QJ	L30058QJ
16 ROW NYLON 400 GALLON	L40026	L40056	L40066	N/A
16 ROW QUICKJET 400 GALLON	L40026QJ	L40056QJ	L40066QJ	N/A
18 ROW NYLON 400GALLON	L40027	L40057	L40067	L40058
18 ROW QUICKJET 400 GALLON	L40027QJ	L40057QJ	L40067QJ	L40058QJ



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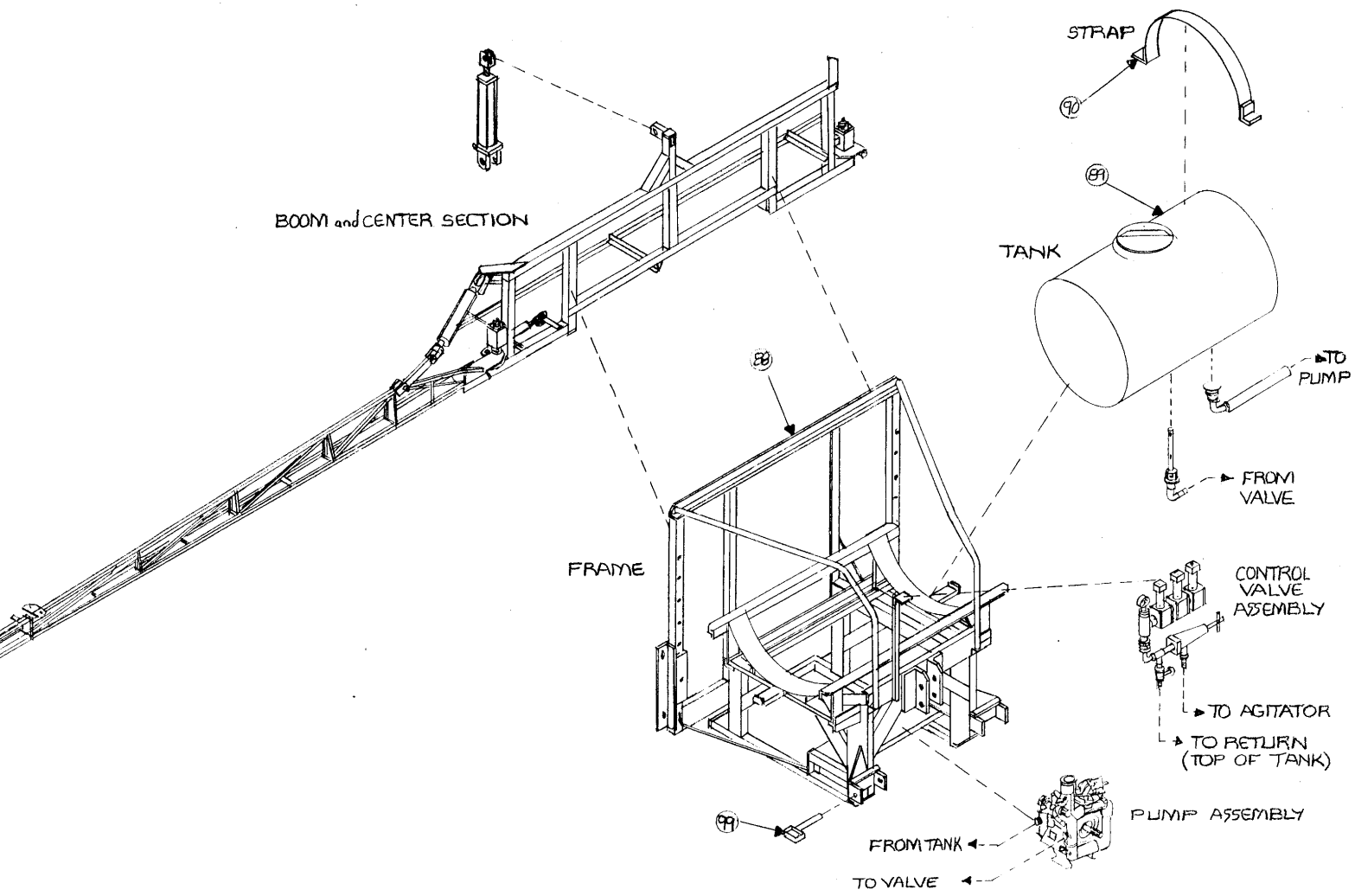
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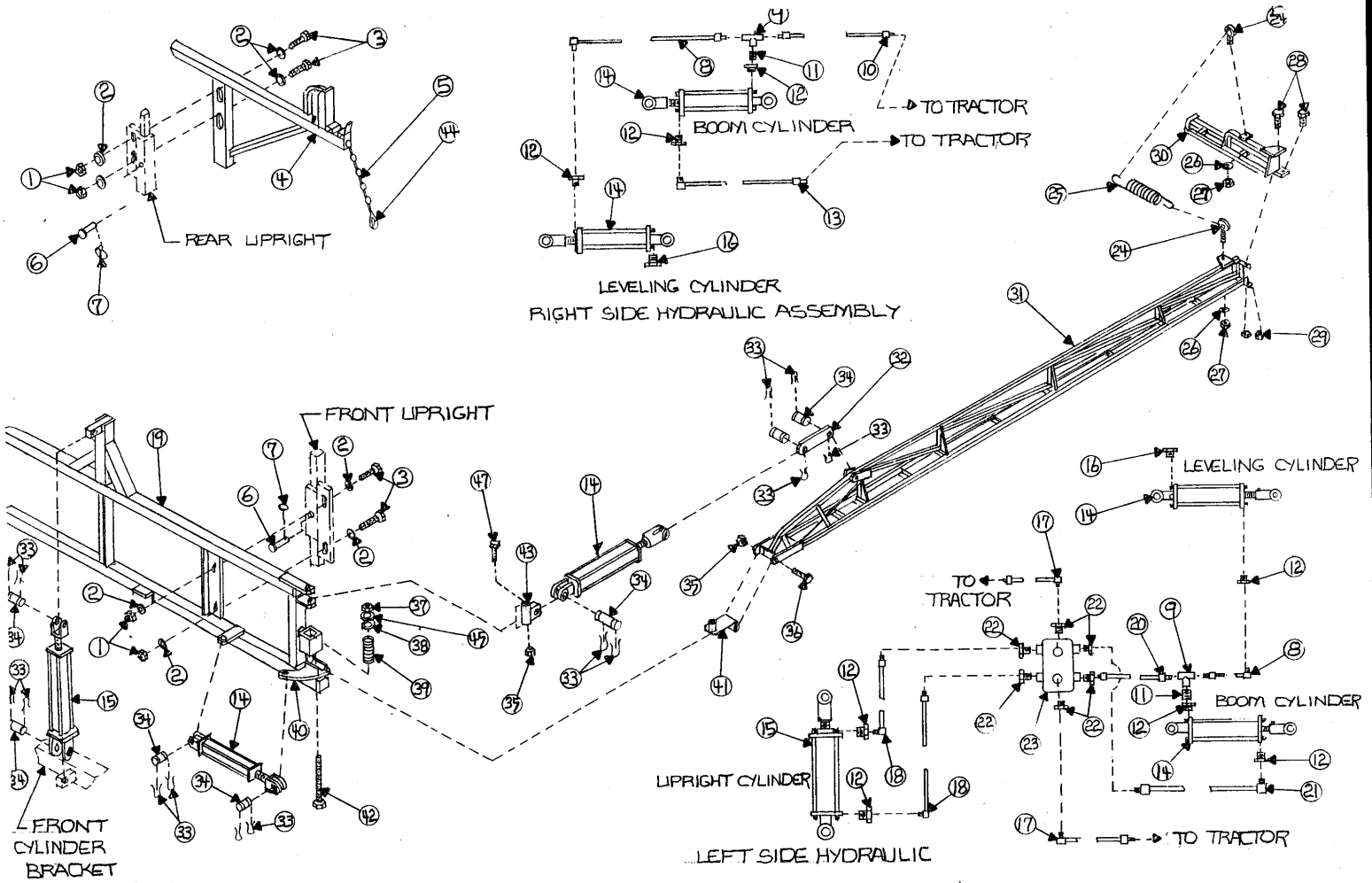
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ITEM NO.	DESCRIPTION	PART NO.
88	18 Row Lift Type Frame,(300 Gallon Raven Tank #37375	L30018
88A	18 Row Lift Type Frame,(400 Gallon Raven Tank #47331	L40018
89	300 Gallon Raven Horizontal Tank	37375
89A	400 Gallon Raven Horizontal Tank	47331
90	300 Gallon Tank Strap for 37375	SP68
90A	400 Gallon Tank Strap for 47331	SP84



ITEM NO.	DESCRIPTION	PART NO.
1	Lock Nut 1/2"	HLN12C
2	Fender Washer 1/2"x 2"OD x 1/4" Thick	FENDER12200
3	Bolt 1/2"x 2"	CS12200C
4	Boom Transport Bracket	IY-217
5	3/16" Blue Chrome Chain	2116-503-04
6	Top Link Pin	P772
7	Linch Pin	1924
8	4 1/2 Ft. Hydraulic Hose Assembly (Straight x 90)	HY4.5-90
9	Tee 1/4" Galvanized	GT1400
10	14 Ft. Hydraulic Hose	HY14
11	Nipple 1/4"x 1" Galvanized	GN141
12	Restricted Orifice 3/8"x 1/4"	50349
13	15 Ft. Hydraulic Hose(Straight x 90)	HY15-90
14	Hydraulic Cylinder (2x8)	638010
15	Hydraulic Cylinder (3"x 36")	638438
16	Breather Plug	F38H
17	13 Ft. Hydraulic Hose(Straight x 90	HY13-90
18	3 Ft. Hydraulic Hose (Straight x 90)	Hy3-90
19	18 Row Center Section , (Lift Type)	CS18L
20	3 Ft. Hydraulic Hose	HY3
21	4 Ft. Hydraulic Hose (Straight x 90)	HY4-90
22	Reducer Bushing 1/2" x 1/4" Galvanized	GB1214
23	Selector Valve	SD4BADA1
24	Eyebolt 3/8" x 1 1/4" Galvanized	38114EB
25	Tension Spring	75-7
26	Flat Washer 3/8"	FW38
27	Lock Nut 3/8"	HLN38C
28	Bolt 1/2"x1 1/2"	CS12112C
29	Lock Nut 1/2"	HLN12C
30	Outer Boom Section B (left)	B18LB
30A	Outer Boom Section B (Right)	B18LR
31	Outer Boom Section A (Left)	B18L
31A	Outer Boom Section A (Right)	B18R
32	Boom Leveling Bracket	IY-218
33	3" Cylinder Latch Pin	640111
34	3" Cylinder Pin	640091
35	Lock Nut 3/4"	HLN34C
36	Bolt 3/4" x 8 1/2"	CS34812C
37	Nut 7/8" (Grade 8)	HN78C
38	Spring Collar	BY3A
39	Compression Spring	35-10
40	Boom Cradle Left	TD18L
40A	Boom Cradle Right	TD18R
41	Boom Yoke	BY3
42	Bolt 7/8"x 17"(Grade 8)	CS781700C
43	Cylinder Hinge	IY-219

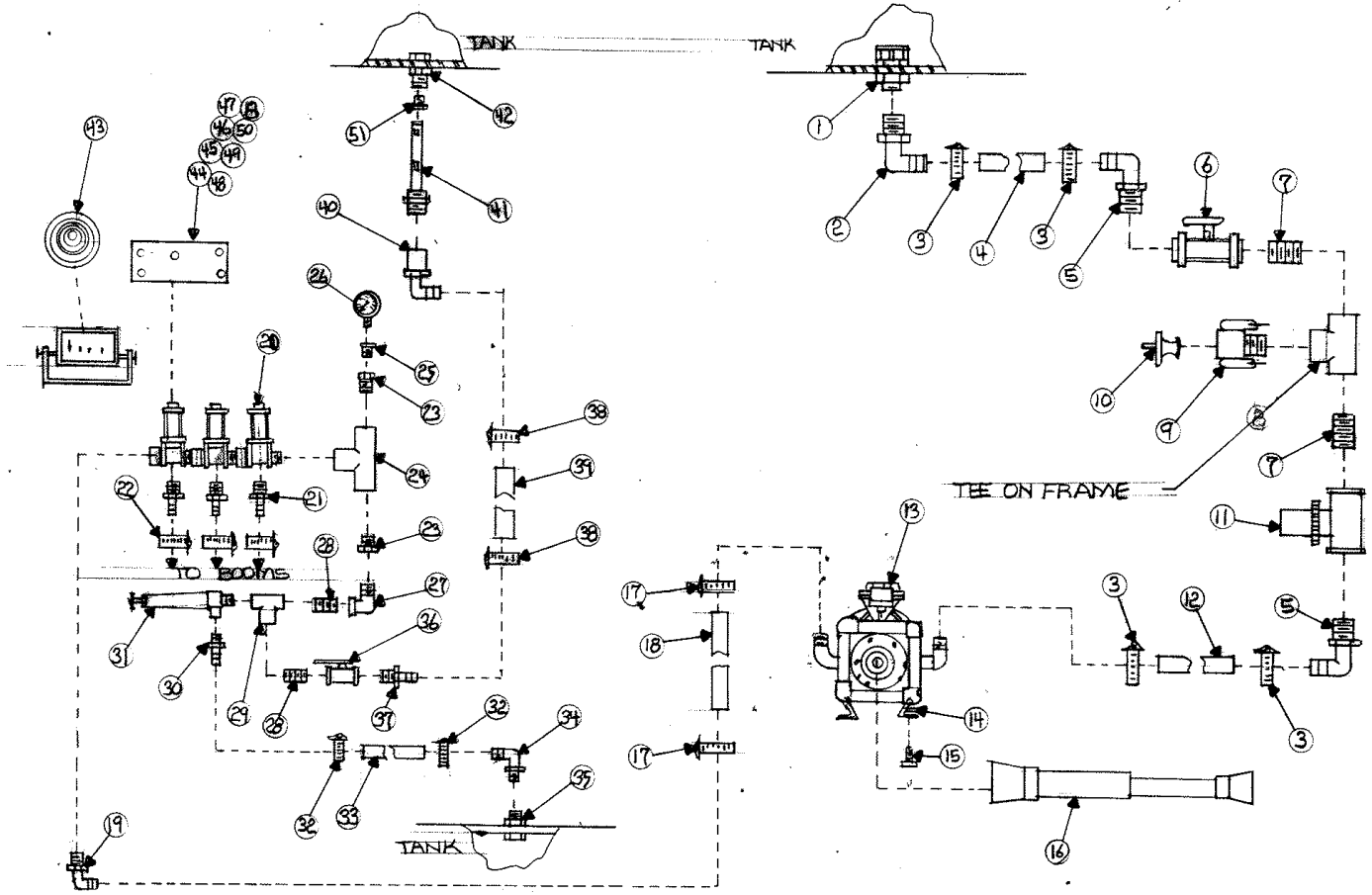
44	Transport Lock Pin	231
45	Flat Washer 7/8"	FW78
46	Lock Nut 3/4"	HLN34C
47	Bolt 3/4" x 5 1/2"	CS34512C



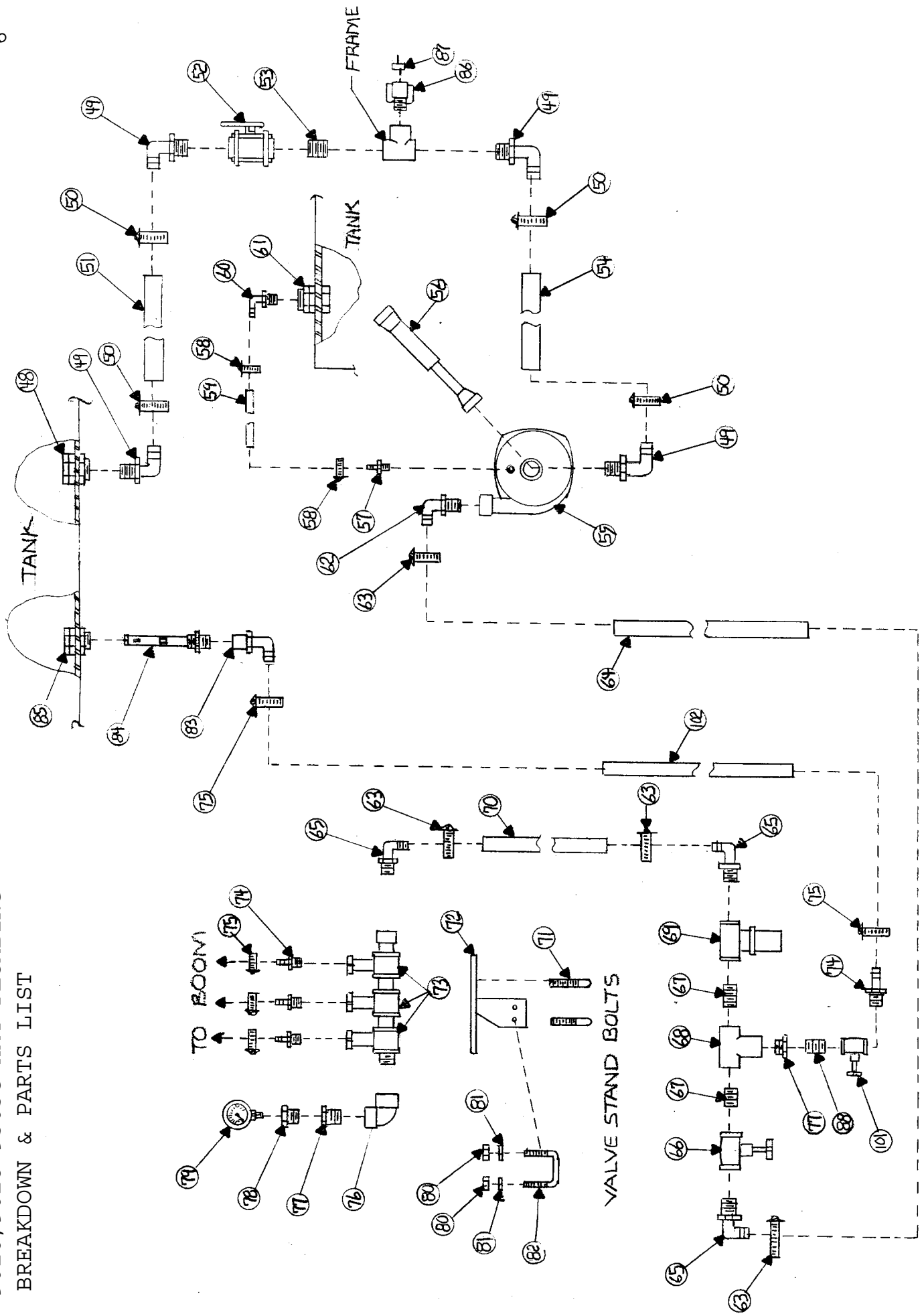
RO-160 Diaphragm Pump Electric Boom Shutoff Shaft Drive

ITEM NO.	DESCRIPTION	PART NO.
1	Tank fitting 1 1/4" anti-vortex poly	63065
2	Elbow 1 1/4"mpt x 1 1/2" barb 90 nylon	EL114112
3	Hose clamp 1 1/2"	28H
4	Hose wire coil 1 1/2"	12003501
5	Elbow 1 1/2"mpt x 1 1/2" barb 90 nylon	EL112
6	Ball valve 1 1/2" fpt poly	V-150
7	Nipple 1 1/2" x close galvanized	GN1121.75
8	Valve stand	VS1999
9	Cam lock coupling 1 1/2"x mpt	150-B
10	Cam lock plug 1 1/2"	150-PL
11	Strainer 1 1/2" fpt 20 mesh	3350-0112
12	Hose wire coil 1 1/2"	12003501
13	Pump	RO-160
14	Lock nut 7 16"	HLN716C
15	Bolt 7/16" x 1 1/4"	CS716114C
16	Drive shaft	7101061NN007007
17	Hose clamp 1"	20H
18	Hose black ag. 1" 300psi	10031660
19	Elbow 1" mpt x barb 90 nylon	EL100
20	Control valve	1999-1
21	Elbow 3/4"mpt x barb 90 nylon	EL100
22	Hose clamp 3/4"	12H
23	Reducer bushing 1"mpt x 3/4"fpt	RB10034
24	Tee 1" fpt nylon	TT100N
25	Reducer bushing 3/4"mpt x 1/4"fpt	RB3414
26	Pressure gauge 0-300psi liquid filled	GG-300
27	Street elbow 3/4" nylon	SE34
28	Nipple 3/4" x close galvanized	GN341.5
29	Tee 3/4" fpt nylon	TT34
30	Hose shank 3/4"mpt x 1/2" barb	A3412
31	Pressure relief valve 300psi	3/4/8460
32	Hose clamp 3/4"	12H
33	Hose red ag. 1/2"	3204-0410
34	Elbow 3/4"mpt x barb 90 nylon	EL34
35	Tank fitting 3/4" double thread poly	60401
36	Ball valve 3/4" fpt brass	34BBV
37	Hose shank 3/4"mpt x 1/2" barb	A3412
38	Hose clamp 1/2"	8H
39	Hose red ag. 1/2"	3204-0410
40	Elbow 3/4"fpt x barb 90 nylon	EL34F
41	Jet agitator	3371-0019
42	Tank fitting 3/4" double thread poly	60401
43	Control panel w/wiring harness	2628
44	Bolt 3/8" x 1 1/4"	CS38114C
45	Lock washer 3/8"	LW38
46	Nut 3/8"	HN38C

47	U-Bolt 5/16" x 2" x 3 1/4"	RU516300
48	U-Bolt 5/16" x 2" x 1 1/8"	SQU516200
49	Nut 5/16"	HN516C
50	Flat washer 5/16"	FW516
51	Reducer bushing 1 1/4"mpt x 3/4"fpt nylon	RB11434



9016, 9018 9303C-HM4 PLUMBING
 BREAKDOWN & PARTS LIST

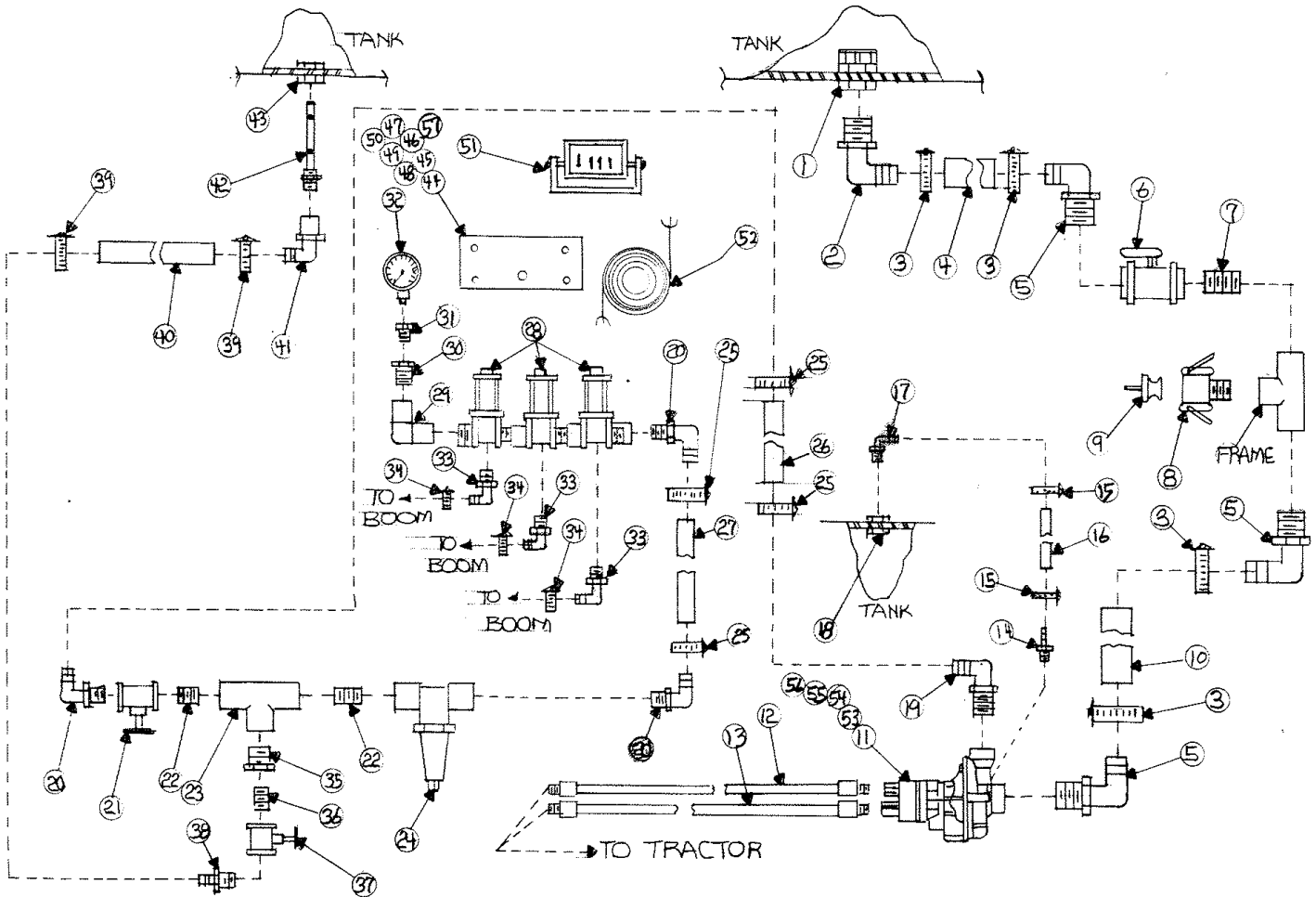


ITEM NO.	DESCRIPTION	PART NO.
48	Tank Fitting 1 1/2" Anti-Vortex	67151
49	Elbow 1 1/2"MPT x Barb 90 Nylon	EL112
50	Hose Clamp 1 1/2"	28H
51	Wire Coil Hose 1 1/2"	12003501
52	Ball Valve 1 1/2" Poly	V-150
53	Nipple 1 1/2" x Close Galvanized	GN1121.75
54	N/A	
55	Centrifugal Pump,(540 RPM, Shaft Drive)	9016C
56	Drive Shaft for 9016C	7101061NN007007
55A	Centrifugal Pump,(1000 RPM , Shaft Drive)	9018C
56A	Drive Shaft for 9018C	7101061UCR08602
55B	Centrifugal Pump,(Hydraulic Driven)	9303C-HM4
55B-1	Hydraulic Hose, 1/2",(9303C-HM4)	HY6.5-1/2
55B-2	Hydraulic Hose, 3/4",(9303C-HM4)	HY6.5-3/4
57	Hose Shank 1/8" MPT x 1/4" Barb Brass	A1814B
58	Hose Clamp 5/8"	M4P
59	Hose 1/8"	Call For Information
60	Elbow 1 2"MPT x 1/4" Barb 90 Nylon	EL1214
61	Tank Fitting 1/2"	67158
62	Elbow 1 1/4"MPT x 1" Barb 90 Nylon	EL114100
63	Hose Clamp 1"	20H
64	Hose Black Ag. 1"	10031660
65	Elbow 1"MPT x Barb 90 Nylon	EL100
66	Brass Gate Valve 1"	100BGV
67	Nipple 1 " x Close Galvanized	GN1001.5
68	Tee 1"FPT	TT100N
69	Strainer 1"FPT Poly 50 Mesh	AA126-ML-4-50
70	Hose Black Ag. 1"	10031660
71	U-Bolt 5/16"x 2"x 3 1/4"	RU516300
72	Valve Stand ,(1999 w/ Roller or Diaphragm Pump)	VS1999
72A	Valve Stand ,(1999 w/ Centrifugal Pump)	VS1999C
73	Electric Shut Off Valve	1999-1
74	Hose Shank 3/4" MPT x 3/4" Barb 90 Nylon	EL34
75	Hose Clamp 3/4"	12H
76	Elbow 1"FPT 90 Nylon	LL100
77	Reducer Bushing 1"MPT x 3/4" FPT	RB10034
78	Reducer Bushing 3/4"MPT x 1/4" FPT	RB3414
79	Pressure Gauge 0-100 Liquid Filled	GG-100
80	Nut 5 1/16"	HN516C
81	Flat Washer 5/16"	FW516
82	U-Bolt 5/16"x 2" Square	SQU516200
83	Elbow 3/4" FPT x 3/4" Barb 90 Nylon	EL34F
84	Jet Agitator	3371-0019
85	Tank Fitting 3/4"	60401
86	Cam Lock Coupler 1 1/2" x 1 1/2" MPT	150-B
87	Cam Lock Coupler Dust Plug 1 1/2"	150-PL

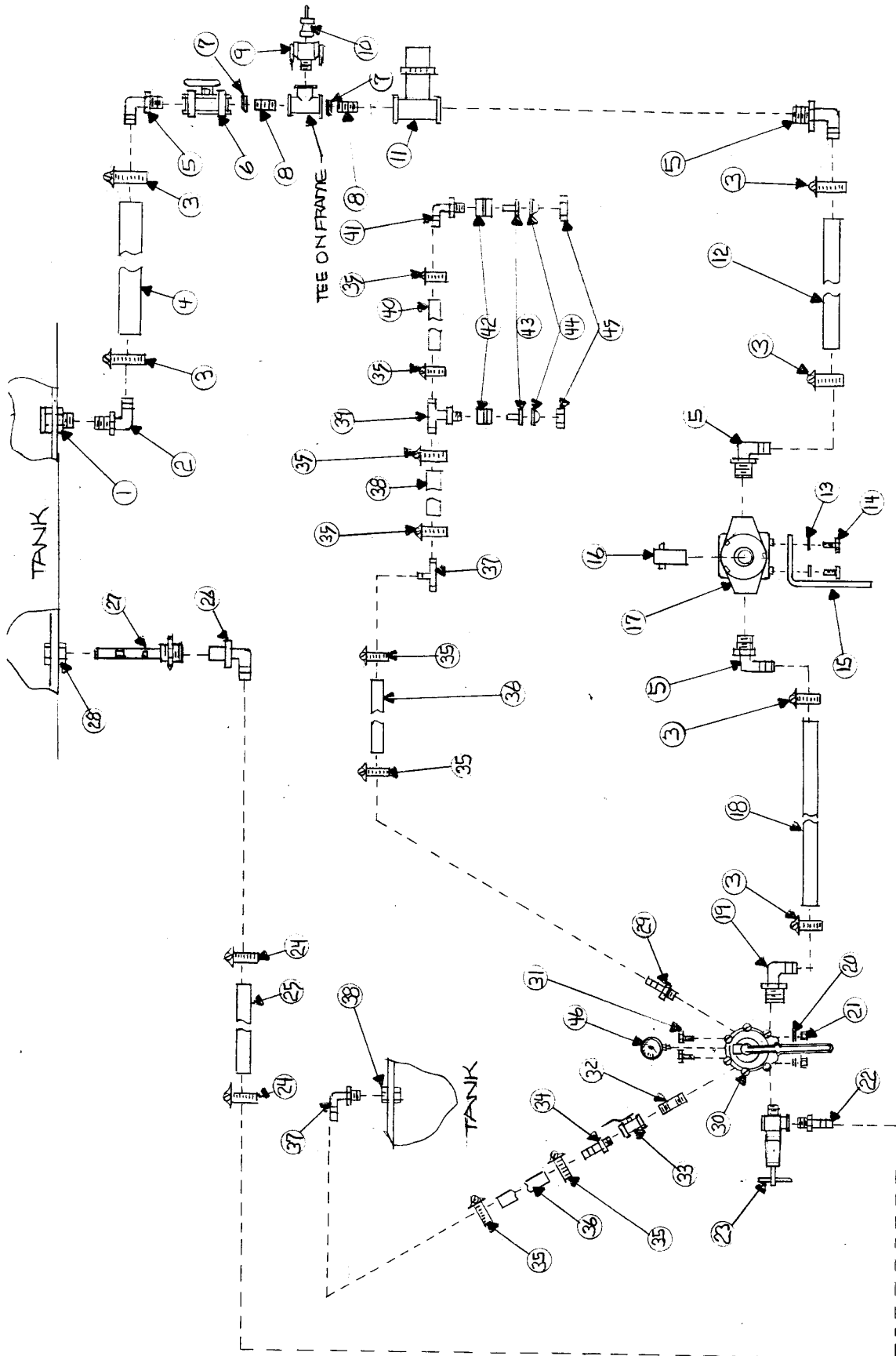
HYDRAULIC CENTRIFUGAL PUMP ELECTRIC BOOM SHUTOFF

ITEM NO.	DESCRIPTION	PART NO.
1	Tank fitting 1 1/4" anti-vortex poly	63065
2	Elbow 1 1/4"mpt x 1 1/2" barb 90 nylon	EL114112
3	Hose clamp 1 1/2"	28H
4	Hose wire coil 1 1/2"	12003501
5	Elbow 1 1/2"mpt x barb 90 nylon	EL112
6	Ball valve 1 1/2" fpt poly	V-150
7	Nipple 1 1/2" x close galvanized	GN1121.75
8	Cam lock coupling x mpt 1 1/2"	150-B
9	Cam lock coupling x plug 1 1/2"	150-PL
10	Hose wire coil 1 1/2"	12003501
11	Pump hydraulic centrifugal	9303C-HM4
12	Hydraulic hose assembly	HY6.5-1/2
13	Hydraulic hose assembly	HY6.5-3/4
14	Hose shank 1/8"mpt x 1/4" barb brass	A1814B
15	Hose clamp 1/4"	M4P
16	Clear tube 1/4"	CALL
17	Elbow 1/2"mpt x 1/4" barb 90 nylon	EL1214
18	Tank fitting 1/2" poly	62384
19	Elbow 1 1/4"mpt x 1" barb 90 nylon	EL1141
20	Elbow 1"mpt x 1" barb 90 nylon	EL100
21	Gate valve 1" fpt brass	100BGV
22	Nipple 1 " x close galvanized	GN1001.5
23	Tee 1" fpt nylon	TT100N
24	Strainer 1" fpt 50 mesh nylon	AA126-ML-4-50
25	Hose clamp 1"	20H
26	Hose black ag. 1"	10031660
27	Hose black ag. 1"	10031660
28	Control valve	1999-1
29	Elbow 1"fpt 90 nylon	LL100
30	Reducer bushing 1"mpt x 3/4"fpt nylon	RB10034
31	Reducer bushing 3/4"mpt x 1/4"fpt nylon	RB3414
32	Pressure gauge 0-100 psi liquid filled	GG-100
33	Elbow 3/4"mpt x barb 90 nylon	EL34
34	Hose clamp 3/4"	12H
35	Reducer bushing 1"mpt x 3/4"fpt nylon	RB10034
36	Nipple 3/4" x close galvanized	GN341.5
37	Gate valve 3/4" fpt brass	34BGV
39	Hose clamp 3/4"	12H
40	Hose red ag. 3/4"	3204-0420
41	Elbow 3/4"fpt x barb 90 nylon	A34F
42	Jet agitator	3371-0019
43	Tank fitting 3/4" poly	60401
44	Valve stand	VS1999C
45	Bolt 3/8" x 1 1/4"	CS38114C
46	Nut 3/8"	HN38C
47	Lock washer 3/8"	LW38

48	U-Bolt Square 5/16" x 2"	SQU516200
49	Lock nut 5/16"	HLN516C
50	Flat washer 5/16"	FW516
51	Control panel w/ wiring harness	2628
53	Bolt 3/8" x 1 1/2"	CS38112C
54	Nut 3/8"	HN38C
55	Lock washer 3/8"	LW38
56	Flat washer 5/16"	FW516
57	U-Bolt Round 5/16" x 3"	RU516300



18 ROW LIFT TYPE 1502 PUMP AA17L VALVE BREAKDOWN & PARTS LIST



ITEM NO.	DESCRIPTION	PART NO.
1	Tank Fitting 1 1/4" Anti- Vortex	63065
2	Elbow 1 1/4" MPT x 1 1/2" Barb 90 Nylon	EL114112
3	Hose Clamp 1 1/2"	28H
4	Hose Wire Coil 1 1/2"	12003501
5	Elbow 1 1/2" MPT x 1 1/2" Barb 90 Nylon	EL112
6	Ball Valve 1 1/2 " Poly	V-150
7	Reducer Bushing,(As Needed)	N/A
8	Nipple 1 1/2"x Close Galvanized	GN1121.75
9	Cam Lock Coupling x MPT 1 1/2"	150-B
10	Cam Lock Dust Plug 1 1/2"	150-PL
11	Strainer 1 1/2"	3350-0112
12	Hose Wire Coil 1 1/2"	12003501
13	Lock Washer 3/8"	LW38
14	Nut 3/8"	HN38C
15	Pump Stabilizer	PS
16	Pump Coupler 15/16" Steel 540 RPM	114-1500
17	Pump 6 Roller,(540 RPM,62 GPM,150 PSI)	1502C
18	Hose Black Ag. 1"	10031660
19	Elbow 3/4"MPT x 1" Barb 90 Nylon	EL10034
20	Lock Washer 3/8"	LW38
21	Nut 3/8"	HN38C
22	Hose Shank 3/4"MPT x 1/2" Barb 90 Nylon	A3412
23	Pressure Relief Valve	8460/34
24	Hose Clamp 1/2"	8H
25	Hose Red Ag.1/2"	3204-0410
26	Elbow 3/4"FPT x 1/2" Barb 90 Nylon	EL3412F
27	Jet Agitator	3371-0019
28	Tank Fitting 3/4"	60401
29	Hose Shank 3/4"MPT x 3/4" Barb Nylon	A34
30	Boom Shut Off Valve	AA17L
31	Bolt 3/8" x 1 1/4"	CS38114C
32	Nipple 3/4"x 3" Galvanized	GN343
33	Ball Valve 3/4 " Brass	34BBV
34	Hose Shank 3/4"MPT x 3/4" Barb Nylon	A34
35	Hose Clamp 3/4"	12H
36	Hose Red Ag.3/4"	3204-0420
37	Insert Tee 3/4" Nylon	T34
38	Hose Black Ag. 3/4"	10031750
39	Hose Connector 3/4" Tee Quickjet	22252-312-500-NYB
40	Hose Black Ag. 3/4"	10031750
41	Hose Connector 3/4" Elbow Quickjet	22251-311-500-NYB
42	Boom Clamp 1"	QJ111SQ-1
43	Tip Strainer 50 Mesh	8079-PP-50
44	Tip Brass	TP8003
45	Tip Cap Quickjet	25612-6-NYR



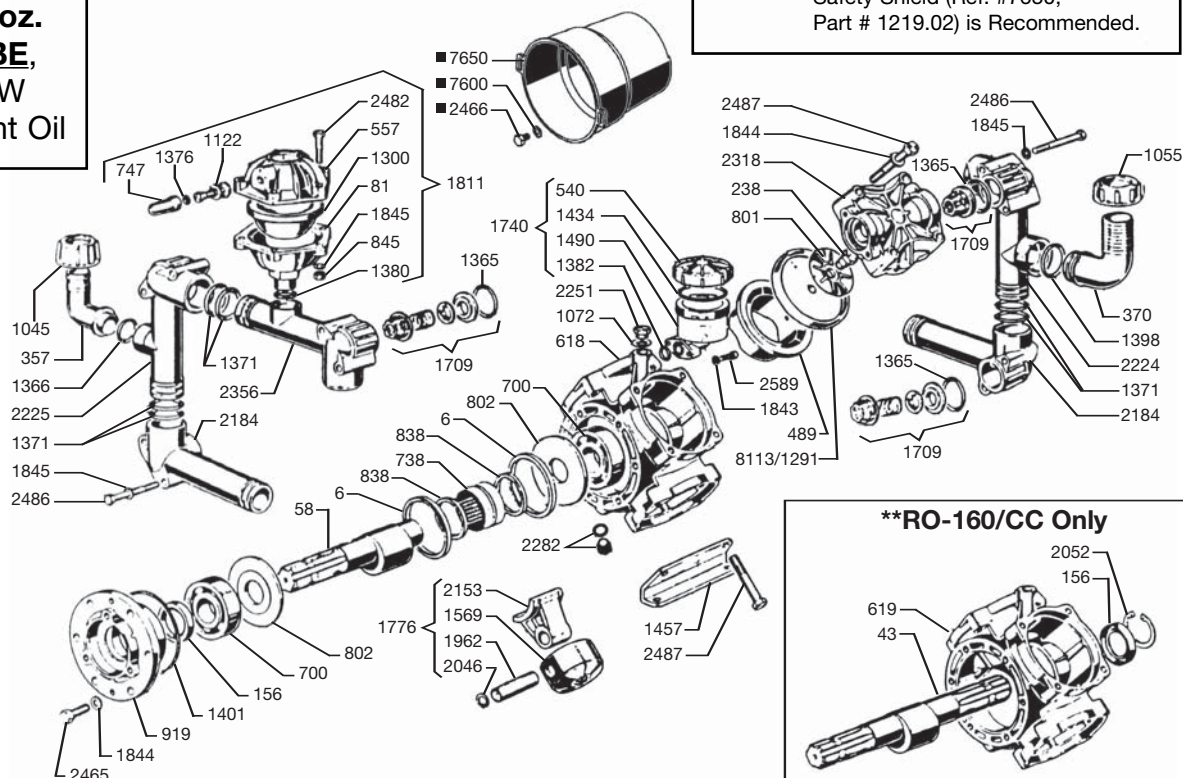
RO-160/C – RO-160/CC

Exploded View Diagram and Parts List

RO-160 PUMPS

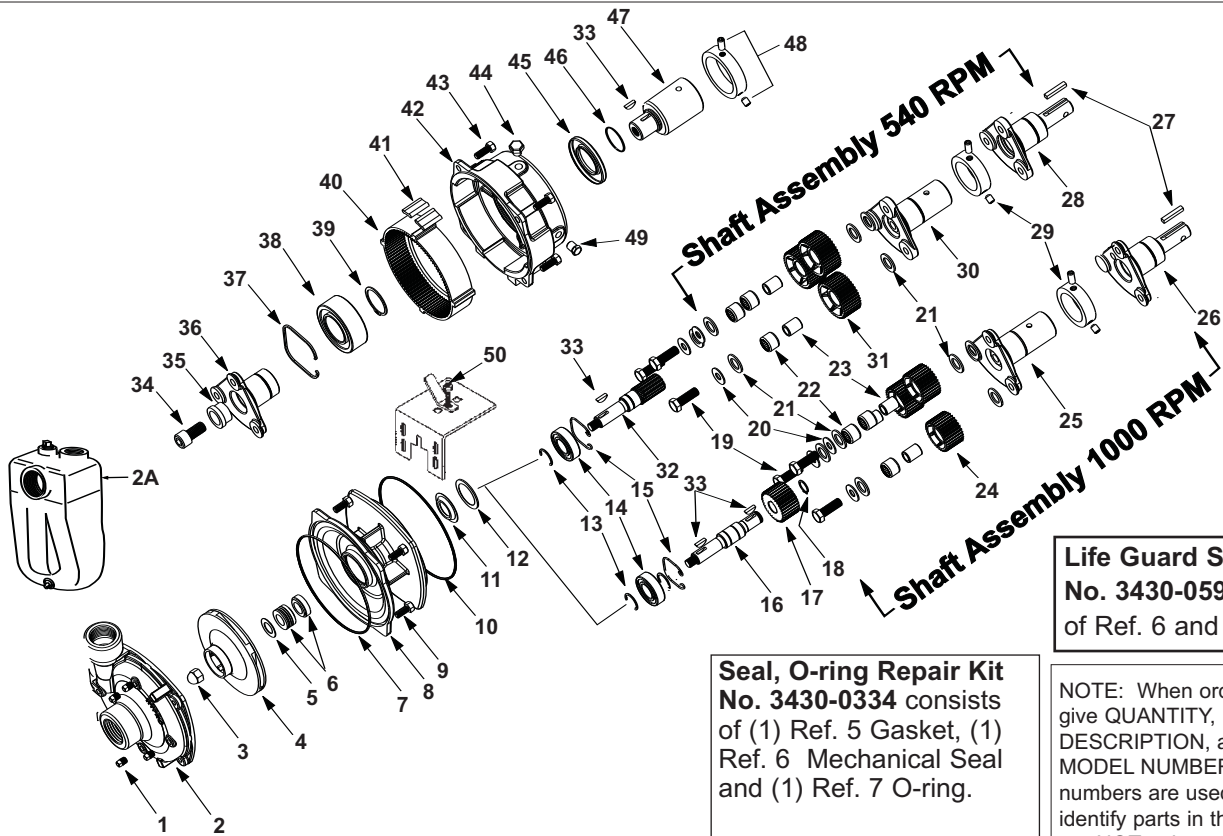
Require **44 oz.**
UDOR LUBE,
or SAE 30W
Non-detergent Oil

■ **NOTE** - For ALL PTO Drive Applications,
Safety Shield (Ref. #7650,
Part # 1219.02) is Recommended.



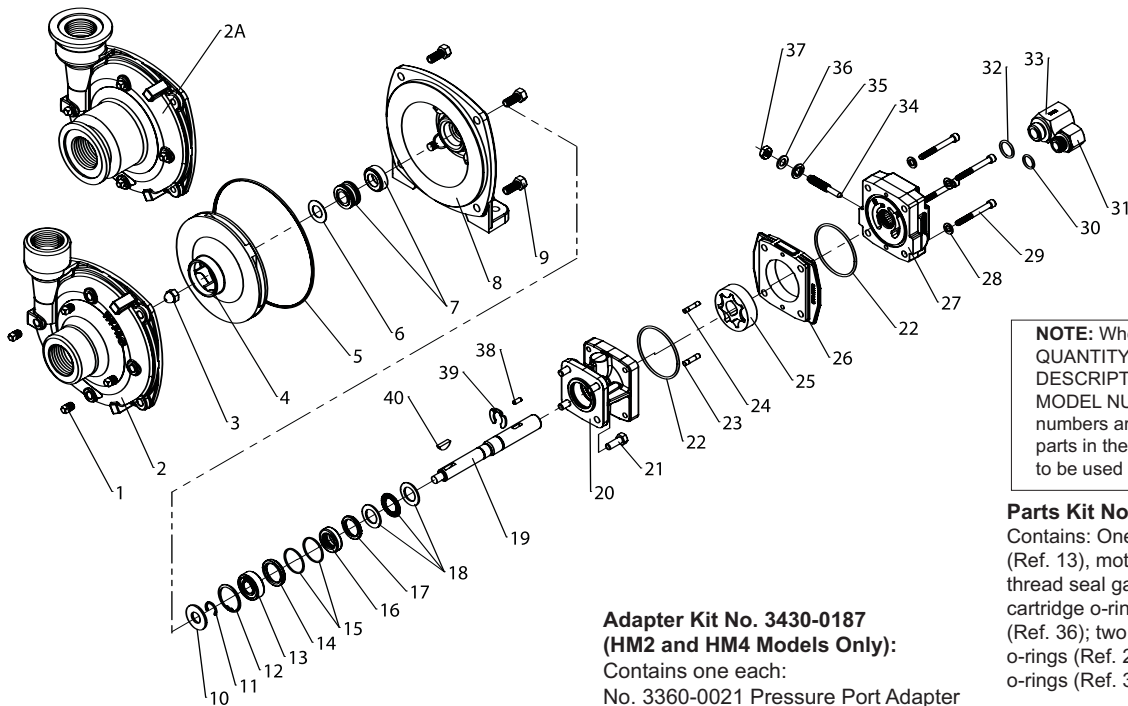
REF#	PART#	DESCRIPTION	QTY	REF#	PART#	DESCRIPTION	QTY
6	0001.08	Retainer Ring	2	1398	1101.42	O-Ring	1
**43	0002.29	Crankshaft (RO-160/CC)	1	1401	1101.58	O-Ring	1
58	0002.46	Crankshaft (RO-160/C)	1	1434	1101.D1	O-Ring	1
81	0003.15	Pressure Accumulator	1	1457	1202.29	Mounting Rail	2
156	0007.02	Seal (Qty. 2 for RO-160/CC)	1	1490	1203.27	Oil Reservoir	1
238	0102.03	Diaphragm Bolt	4	1569	1205.06	Aluminum Piston	4
357	0202.18	Discharge Elbow	1	1709	6006.08	Valve Assembly	8
370	0202.78	Suction Elbow	1	1740	6033.01	Oil Reservoir Assembly	1
489	0206.14	Piston Sleeve	4	1776	6015.30	Piston & Rod Assembly	4
540	0208.98	Oil Reservoir Cap	1	1811	6031.09	Accumulator Assembly	1
557	0208.20	Accumulator Head	1	1843	1403.07	Washer	2
618	0209.25	Pump Body (RO-160/C)	1	1844	1403.09	Washer	18
**619	0209.26	Pump Body, T.S. (RO-160/CC)	1	1845	1403.10	Washer	22
700	0214.04	Ball Bearing	2	1962	1502.01	Connecting Rod Pin	4
738	0216.07	Roller Bearing	1	2046	1506.02	Snap Ring	8
747	0218.01	Air Valve Cap	1	**2052	1506.16	Snap Ring	1
801	0301.07	Retainer Washer	4	2153	1519.20	Connecting Rod	4
802	0301.28	Washer	2	2184	1601.12	Manifold	5
838	0302.59	Spacer Ring	2	2224	1602.20	Suction Manifold	1
845	0303.01	Hex Nut	6	2225	1602.21	Discharge Manifold	1
919	0501.67	Bearing Flange	1	2251	1603.02	Oil Plug	1
1045	0604.32	Barb Nut	1	2282	1603.50	Drain Plug	1
1055	0604.50	Barb Nut	1	2318	1604.36	Head	4
1072	0605.09	Aluminum Gasket	1	2356	1605.15	Discharge Manifold	1
1122	0608.16	Air valve Assembly	1	2465	1804.03	Bolt	6
1291	0903.02	Piston Diaphragm, BUNA-N Optional	4	■ 2466	1804.06	Bolt	3
*1300	0903.14	Accumulator Diaphragm	1	2482	1804.09	Bolt	6
*1365	1101.01	O-Ring	8	2486	1804.79	Bolt	16
1366	1101.02	O-Ring	1	2487	1804.25	Bolt	16
1371	1101.07	O-Ring	16	2589	1805.31	Bolt	2
1376	1101.16	O-Ring	1	■ 7600	1403.36	Washer	3
1380	1101.25	O-Ring	1	■ 7650	1219.02	PTO Safety Shield optional	1
1382	1101.29	O-Ring	1	*8113	0903.34	Piston Diaphragm, DESMOPAN Standard	4

* Parts Included in Diaphragm Repair Kit - #8700.09. (Also available in BUNA-N - #8700.16.)



Ref. No.	Qty. Req'd.	Part No.	Description
1	4	2406-0007	Drain Plug
2	1	0150-9000C	Pump Casing (w / SS wear ring)
2A	1	3430-0480SP	Pump Casing (Self-Priming Units)
3	1	2253-0001	Impeller Nut
4	1	0400-9000P	Impeller (Nylon)
5	1	1700-0101	Gasket
6	1	2120-0010	Mechanical Seal (Optional Buna-N)
6	1	2120-0011	Mechanical Seal (Standard Viton)
7	1	1720-0083	O-ring
8	1	0752-9000C	Mounting Flange Adapter
9	4	2210-0020	Hex Head Capscrew
10	1	1720-0139	O-ring
11	1	2130-0018	Bearing Lip Seal
12	1	1700-0098	Gasket
13	*	1810-0013	Retaining Ring — (1) required for 540 rpm, (2) for 1-3/8" and (3) for 1-3/4" 1000 rpm
14	1	2008-0001	Ball Bearing
15	1	1820-0025	Retaining Ring
15	3	2210-0046	Capscrew
16	1	0500-9002	Impeller Shaft (1000 rpm)
17	1	3900-0013	Sun Gear (1000 rpm)
18	1	1810-0011	Retaining Ring (1000 rpm)
19	3	2210-0046	Hex Head Capscrew
20	3	2270-0003	Washer
21	6	2265-0003	Thrust Washer
22	3	2007-0052	Bearing (included with driver gear)
23	3	2007-0022	Bearing Inner Race
24	3	3900-0040	Driver Gear w/Bearing (1000 rpm) 32 teeth, Dia. 2.13"

Ref. No.	Qty. Req'd.	Part No.	Description
25	1	0562-9002D	Driver Hub (Model 9008C-O)
26	1	0501-9018D	Driver Hub (Model 9018C-O)
27	1	1610-0005	Key
28	1	0501-9016D	Driver Hub (Model 9016C-O)
29	1	3435-0058	Locking Collar Kit (hollow shaft)
30	1	0562-9000D	Driver Hub (Model 9006C-O)
31	3	3900-0039	Driver Gear w/Bearing (540 rpm) 39 teeth, Dia. 2.6"
32	1	3900-0010	Impeller Shaft/Pinion Gear (540 rpm)
33	**	1610-0012	Woodruff Key ** (1) req'd for 540 rpm, (2) req'd for 1000 rpm models.
34	1	2220-0035	Capscrew (Model 9028C)
35	1	2403-0012	Bushing (Model 9028C)
36	1	0501-9018D1	Driver Hub (Model 9028C)
37	1	1800-0014	Retaining Ring
38	1	2005-0002	Ball Bearing
39	1	1810-0001	Retaining Ring
40	1	3900-0009	Ring Gear
41	8	1450-0004	Cushion Bumper
42	1	0754-9000C	Gear Casing
43	4	2210-0026	Hex Head Capscrew
44	1	2404-0193	Breather Vent
45	1	2102-0025	Oil Seal
46	1	1720-0022	O-ring
47	1	0550-1322F4	Driver Hub (9028C) 1-3/4" Hub 20 Teeth
48	1	3430-0190	Locking Collar Kit (Model 9028C)
49	4	2406-0019	Oil Plug
50	1	1520-0034	Mounting Clip



Repair Parts Kit No. 3430-0332
 Contains: One o-ring (Ref. 5), one rubber gasket (Ref. 6), and one mechanical seal (Ref. 7).

Silicon Seal Kit No. 3430-0589
 Contains one each: 1720-0083 o-ring (Ref. 5) and one mechanical seal (silicon carbide) (Ref. 7).

Adapter Kit No. 3430-0187 (HM2 and HM4 Models 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 (Qty 3).

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.

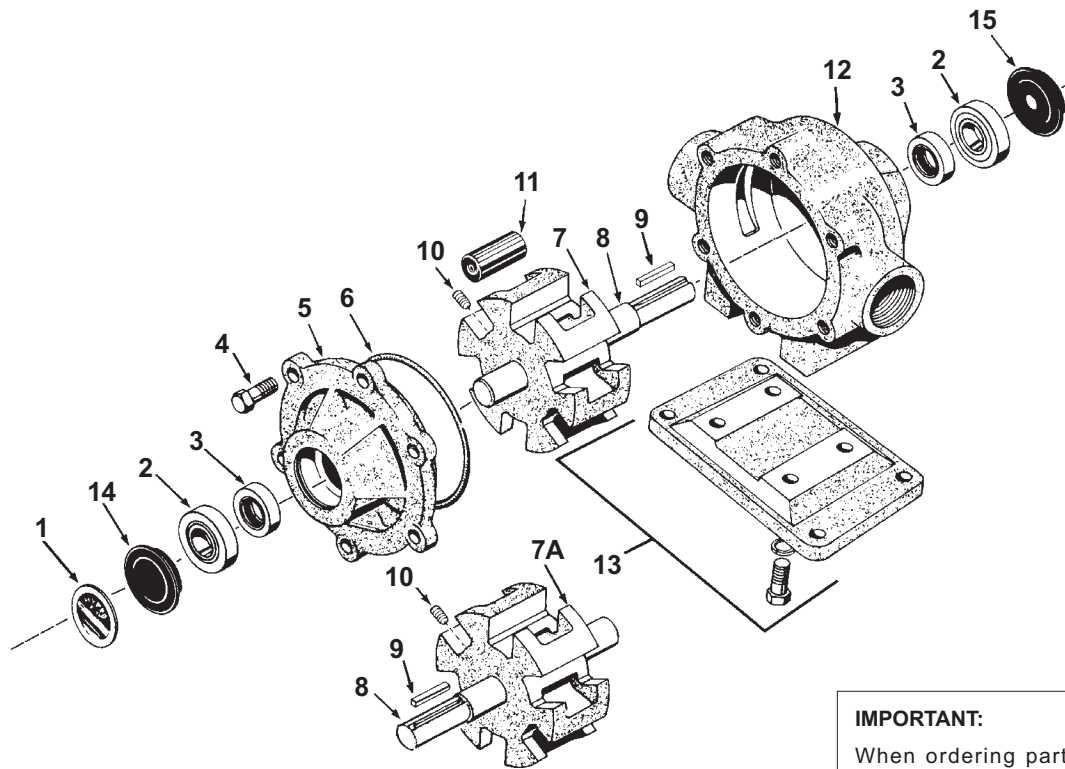
Parts Kit No. 3430-0748
 Contains: One each ball bearing (Ref. 13), motor shaft seal (Ref. 16), thread seal gasket (Ref. 35), two cartridge o-rings (Ref. 15) and washer (Ref. 36); two each motor housing o-rings (Ref. 22), and port adapter o-rings (Ref. 30 & 32).

Hydraulic Motor Part Nos.
 2500-0081C (HM1C Models)
 2500-0082C (HM2C Models)
 2500-0083C (HM3C Models)
 2500-0084C (HM4C Models)
 2500-0085C (HM5C Models)

Ref. No.	Qty. Req'd.	Part No.	Description
1	4	2406-0007	Drain/Vent Plug (9303C)
1	4	2406-0016	Drain/Vent Plug (9303S)
2	1	0150-9000C	Pump Casing (Model 9303C)
2	1	0150-9000S	Pump Casing (Model 9303S)
2A	1	0153-9000C	Pump Casing (Universal Flange Model C-U)
3	1	2253-0002	Impeller Nut (9303C)
3	1	2253-0006	Impeller Nut (9303S)
4	1	0401-9100P	Impeller (Nylon Std. 9303C)
4	1	0402-9100P	Impeller (Polypropylene Optional) (Std 9303S)
5	1	1720-0083	O-ring
6	1	1700-0100	Gasket
7	1	2120-0009	Mechanical Seal (Viton/Ceramic) (Std 9303C)
7	1	3430-0589	Mechanical Seal (Silicon Carbide) (Std 9303S)
8	1	0750-9300C	Mounting Flange (9303C)
8	1	0756-9300S	Mounting Flange (9303S)
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	2000-0010	Ball Bearing
14	1	1410-0131	Cartridge, Front
15	2	1720-0268	O-ring
16	1	2104-0010	Lip Seal
17	1	1410-0130	Seal Spacer
18	1	2029-0014	Thrust Bearing Assembly
19	1	0531-2500	Shaft (HM2C/HM4C)
19	1	0533-2500	Shaft (HM1C/HM5C)
19	1	0536-2500	Shaft (HM3C)
20	1	0150-2500C	Motor Body (includes needle bearing)
21	4	2210-0005	Hex Head Cap Screw
22	2	1720-0110	O-ring
23	1	1600-0045	Dowel Pin (HM2C / HM4C)
23	1	1600-0044	Dowel Pin (HM1C/HM5C)
23	1	1600-0052	Dowel Pin (HM3C)

Ref. No.	Qty. Req'd.	Part No.	Description
24	1	1600-0042	Dowel Pin (HM2C / HM4C)
24	1	1600-0037	Dowel Pin (HM1C/HM5C)
24	1	1600-0068	Dowel Pin (HM3C)
25	1	3900-0022	Gerotor (HM1C)
25	1	3900-0023	Gerotor (HM2C)
25	1	3900-0024	Gerotor (HM3C)
25	1	3900-0025	Gerotor (HM4C)
25	1	3900-0048	Gerotor (HM5C)
26	1	0701-2500C1	Gerotor Housing (HM2C Models) 1/4" wide
26	1	0700-2500C1	Gerotor Housing (HM1C Models) 1/2" wide
26	1	0703-2500C1	Gerotor Housing (HM4C Models) 5/16" wide
26	1	0702-2500C1	Gerotor Housing (HM3C Models) 1" wide
26	1	0704-2500C1	Gerotor Housing (HM5C Models) 5/8" wide
27	1	0254-2500C2	Motor End Plate (includes needle bearing)
28	4	2270-0039	Washer
29	4	2220-0045	Cap Screw (HM2C / HM4C Models)
29	4	2220-0021	Cap Screw (HM1C Models)
29	4	2220-0044	Cap Screw (HM3C Models)
29	4	2220-0032	Cap Screw (HM5C Models)
30	1	1720-0108	O-ring
31	1	3360-0021A	Pressure Port Adapter (includes o-ring)
32	1	1720-0262	O-ring
33	1	3320-0051A	Tank Port Adapter (includes o-ring)
34	1	3220-0029	Bypass Adjusting Screw
35	1	1700-0047	Gasket
36	1	2270-0027	Washer
37	1	2250-0038	Lock Nut
38	1	1610-0032	Roll Pin (HM2C / HM4C)
38	1	1610-0031	Roll Pin (HM1C / HM5C)
38	1	1610-0055	Roll Pin (HM3C)
39	1	1810-0026	Snap Ring
40	1	1610-0012	Woodruff Key (9303C)
40	1	04432	Woodruff Key (9303S)

Models 1500C, 1500N, and 1500XL



IMPORTANT:

When ordering parts, give PART NUMBER and PART DESCRIPTION. Reference Numbers are used ONLY to point out parts in the drawing and are NOT to be used as ordering numbers.

Ref. No.	Qty. Req'd.	Part Number	Description
1	1	6031-0258	Name Plate (Specify Pump Model #)
2	2	2008-0001	Sealed Ball Bearing
3	2	2112-0001	Buna-N Seal (Standard)
3	2	2112-0003	Viton Seal (Optional) (Std. for SilverCast)
4	6	2210-0026	Bolt
5	1	0200-1500C	Endplate (Cast Iron) with Seal
5	1	0200-1500N	Endplate (Ni-Resist) with Seal
5	1	0200-1500X	Endplate (SilverCast) with Seal
6	1	1720-0003	O-ring Gasket for Endplate
7	1	0300-1502C	Rotor (Cast Iron) with shaft (Std. Rotation)
7	1	0300-1502N	Rotor (Ni-Resist) with shaft (Std. Rotation)
7	1	0300-1502X	Rotor (SilverCast) with shaft (Std. Rotation)
7A	1	0301-1502C	Rotor (Cast Iron) w/shaft (Reverse Rot.)
7A	1	0301-1502N	Rotor (Ni-Resist) w/shaft (Reverse Rot.)
7A	1	0301-1502X	Rotor (SilverCast) w/shaft (Reverse Rot.)
8	1	0500-1502	Shaft Only

Ref. No.	Qty. Req'd.	Part Number	Description
9	1	1610-0005	Key
10	1	2230-0018	Set Screw
10	1	2230-0034	Set Screw (SilverCast Only)
11	6	1005-0005	Super Roller (Standard)
11	6	1002-0005	Polypropylene Roller (Optional)
11	6	1055-0005	Teflon Roller (Optional)
12	1	0100-1500C	Body (Cast Iron) with Seal
12	1	0100-1500N	Body (Ni-Resist) with Seal
12	1	0100-1500X	Body (SilverCast) with Seal
13	1 kit	3420-0004	Base Kit — Sold Separately Includes: (1) Base, (4) Bolts and (4) Lockwashers
14	1	2300-0020	Bearing Cover
15	1	2300-0022	Shaft Bearing Cover

See Page 17 for the proper coupler or adapter.

Repair Parts Kit No. 3430-0383 (Universal) Consists of: (6) Ref. 12 Super Rollers, (2) Ref. 7 O-Ring Gaskets, and (2) Ref. 4 Viton Seals.

Repair Parts Kit No. 3430-0388 Consists of: (6) Ref. 12 Super Rollers and (1) Ref. 7 O-Ring Gasket.

Repair Parts Kit No. 3430-0386 Consists of: (6) Ref. 12 Super Rollers, (1) Ref. 7 O-Ring Gasket, and (2) Ref. 4 Viton Seals.

Repair Parts Kit No. 3430-0387 Consists of: (6) Ref. 12 Super Rollers, (1) Ref. 7 O-Ring Gasket, and (2) Ref. 4 Buna-N Seals.

Repair Parts Kit No. 3430-0162 Consists of: (6) Ref. 12 Polypropylene Rollers and (1) Ref. 7 O-Ring Gasket.

Repair Parts Kit No. 3430-0204 Consists of: (6) Ref. 12 Teflon Rollers, (1) Ref. 7 O-Ring Gasket, and (2) Ref. 4 Buna-N Seals.

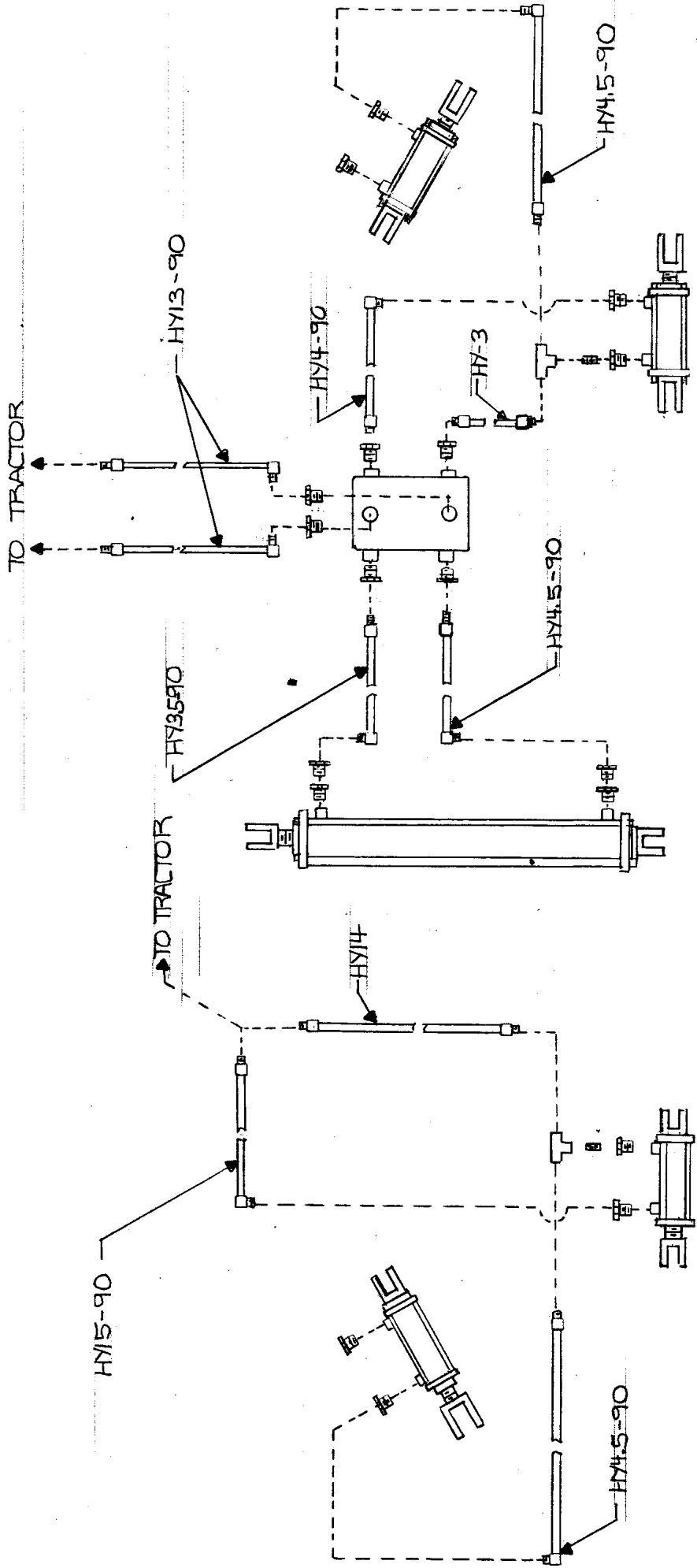
Repair Parts Kit No. 3430-0164 Consists of: (6) Ref. 8 Polypropylene Rollers, (1) Ref. 7 O-Ring Gasket, and (2) Ref. 4 Viton Seals.

Repair Parts Kit No. 3430-0163 Consists of: (6) Ref. 8 Polypropylene Rollers, (1) Ref. 7 O-Ring Gasket, and (2) Ref. 4 Buna-N Seals.

Repair Parts Kit No. 3430-0406 Consists of: (6) Ref. 12 Super Rollers, (1) Ref. 7 O-Ring Gasket, (2) Ref. 4 Viton Seals and (2) Ref. 3 Sealed Ball Bearings.

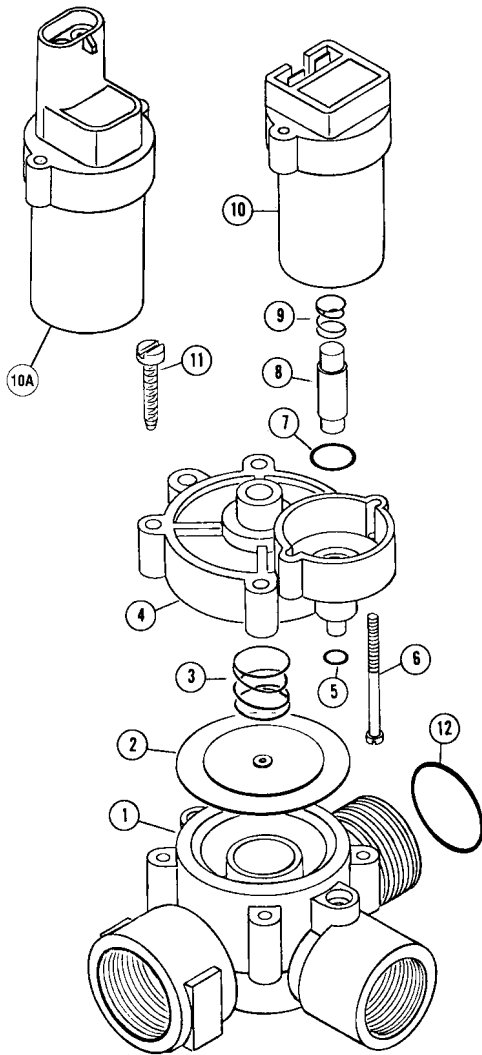
HYDRAULIC PLUMBING SCHEMATIC 18 ROW

14



No. 1999A

Solenoid Valve - 18 GPM, 175 PSI, 12 Volt. DC.



PARTS LIST

Ref.	Part No.	Description	No. Req.
1	1962	Valve Body.....	1
2	*1974	Viton Diaphragm Assembly, Standard	1
2	(1)2109	Aflas Diaphragm Assembly, Optional	1
3	(1)*1975	Spring	1
4	1963	Valve Cover	1
5	(1)*1976	Viton "O" Ring 010	1
6		6-32 x 2 5/8 Screw w/Hex Nut	2
7	(1)*1977	Viton "O" Ring 014	1
8	*2239	Plunger w/Viton Seat, Standard.....	1
8	(1)2240	Plunger w/Aflas Seat, Optional.....	1
9	(1)*1979	Plunger Spring	1
10	2515	Coil Assembly	1
10A	2520	Coil Assembly, Weather Pack	1
11		No. 8 x 1 1/2 Screw.....	4
12	2168	"O" Ring 022	1
	2517	Viton Repair Kit – consists of items marked *	
	2518	Aflas Repair Kit – consists of items marked (1)	

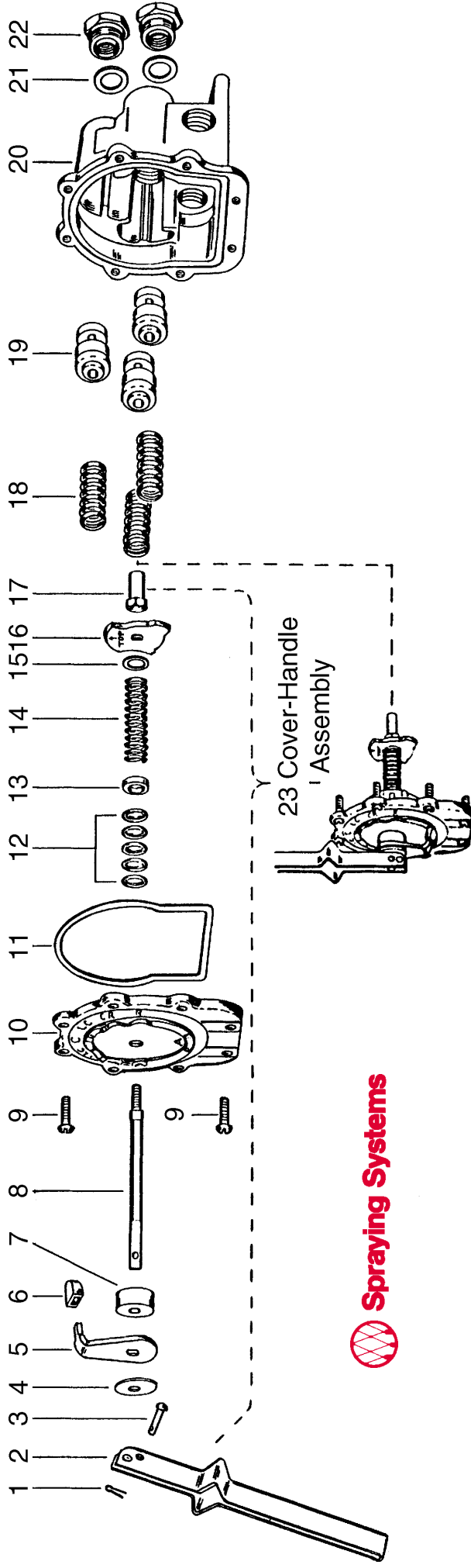
SPECIFICATIONS

- Valve HousingGlass Filled Nylon
- Wetted Metal Parts304 and 430 Stainless Steel
- Diaphragm, Seat and Seals.....Viton, Standard, Aflas, Optional
- Coil.....Epoxy Encapsulated
- Terminals.....1/4" Male Tabs or Weather Pack
- Voltage12 Volt. DC. (Other Available)
- Current.....1.1 AMP at 12 Volt.
- Pressure175 PSI Max., 10 PSI Min.
- Flow.....0-18 GPM 8 CV
- Actuating Pressure.....5 PSI

TEXAS INDUSTRIAL REMCOR, INC.

Box 3704 • Temple, Texas 76505 • (254) 982-4236

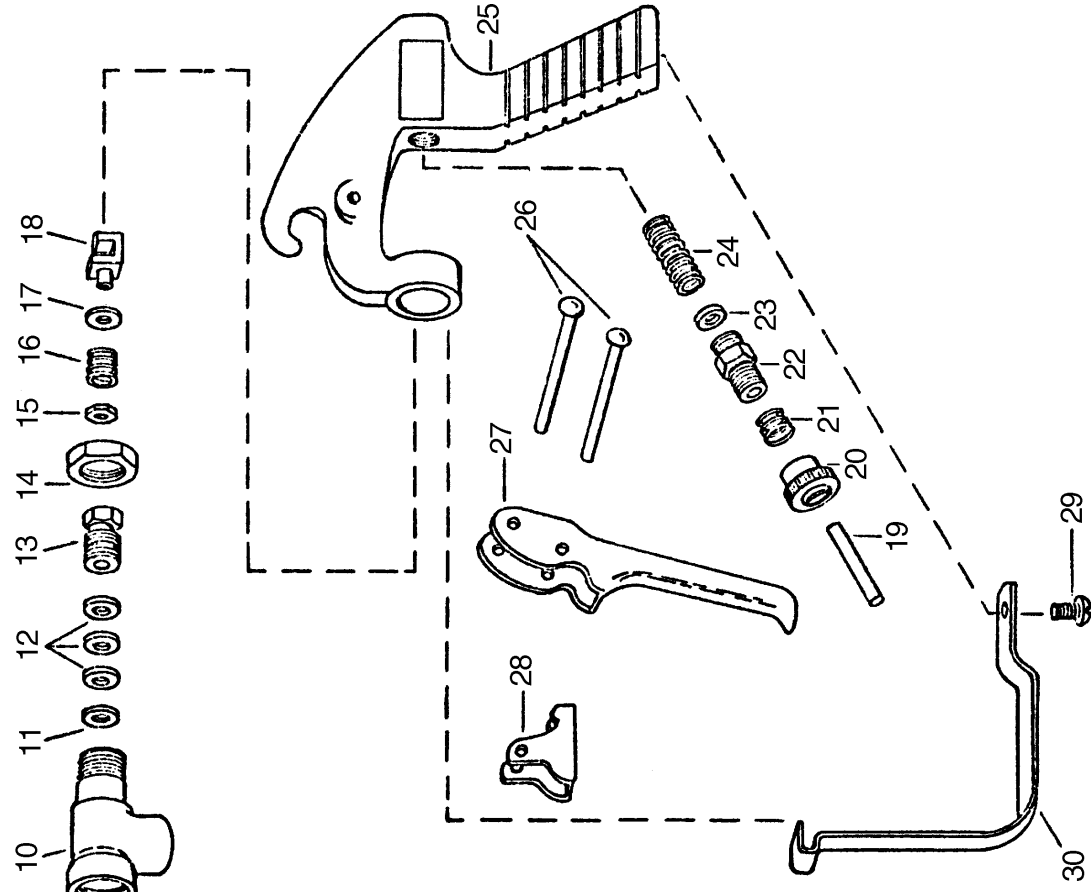
NO. AA17 - TEEVALVE



Item	Part No.	Description
*1	CP8012-1/2-SS	1/16" x 1/2" Cotter Pin, Stainless Steel
2	CP6849-1-IZP	Handle, Steel, Zinc Plated
*3	CP7206-IZP	Rivet, Steel, Zinc Plated
*4	CP6976-IZP	Handle Washer, Steel, Zinc Plated
5	CP12128-IZP	Selector Shield, Steel, Zinc Plated
*6	CP12127-CE	Selector Shield Tip, Celcon (Gray)
7	CP12129-CE	Spacer, Celcon (Gray)
8	CP6972-SS	Main Stem, Stainless Steel
*9	CP7980-IZP	Screws, Steel, Zinc Plated (8 Req'd)
10	CP12126-AL	Cover Plate, Aluminum
*11	CP6975-BU	Gasket, Buna-N
*12	CP5809-LEA	Packing, Thermo-Leather (5 Req'd)
13	CP12130-SS	Packing Gland, Stainless Steel
14	CP7254-SS	Main Spring, Stainless Steel
15	CP7987-SS	Washer, Stainless Steel
16	CP6971-AL	Selector Cam, Aluminum
17	CP6973-SS	Guide Nut, Stainless Steel

Item	Part No.	Description
18	CP6959-SS	Valve Spring, Stainless Steel (3 Req'd)
19	CP6956-CE	Valve Stem, Celcon (3 Req'd)
20	CP6934-1/2-AL	Body, Aluminum (For Models 17A thru 17F)
	CP6934-3/4-AL	Body, Aluminum (For Models 17G thru 17L)
	CP6934-1 1/2-AL	Body, Aluminum (For Models M thru S)
	CP6934-1 3/4-AL	Body, Aluminum (For Models T thru Y)
*21	CP6958-POL	Seat Plate, Polyethylene (3 Req'd)
22	CP7261-AL	Outlet Adapters, Aluminum (3 Req'd.) (For #17A, G, M, T)
	CP6957-AL	Outlet Adapters, Aluminum (3 Req'd.) (For #17B, H, N, U)
	CP7262-AL	Outlet Adapters, Aluminum (3 Req'd.) (For #17C, I, P, V)
	CP7350-AL	Outlet Adapters, Aluminum (3 Req'd.) (For #17D, J, Q, W)
	CP7735-AL	Outlet Adapters, Aluminum (3 Req'd.) (For #17E, K, R, X)
	CP7902-AL	Outlet Adapters, Aluminum (3 Req'd.) (For #17F, L, S, Y)
23	AB17-KIT	Cover Handle Assembly (Includes all items 1 thru 17)
	AB17-1-KIT	Spare Parts Kit (Includes all items with *)
	AB17-1-KIT	Spare Parts Kit (Includes #AB17 - Kit plus item #10 cover plate)

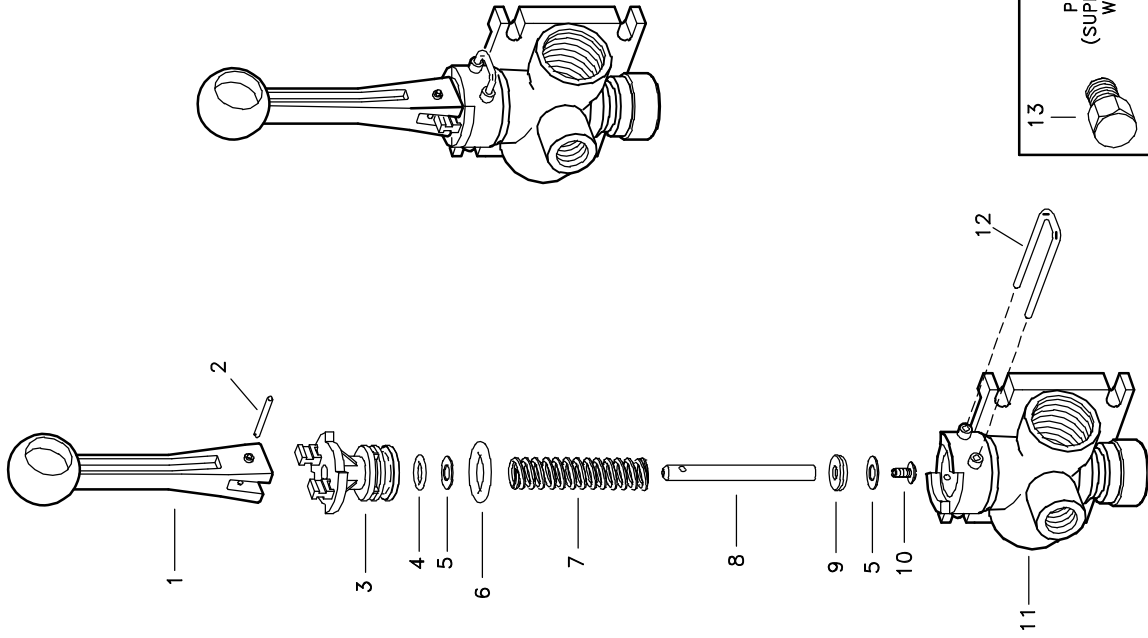
No. 43L & No. 43H GUNJETS (13" Extension)



Item	Part No.	Description
1	Brass (#43-)	
2	Aluminum (#43-AL)	
3	1325-AL	Cap, Brass or Aluminum
4	D-**	Orifice disc, hardened stainless steel
5	4743-NY	Gasket, nylon
6	10566-AL	Nozzle housing, brass or aluminum
7	10565-AL	Seat plug, seat plate, washer & core subassy.
8	10571-AL	Guide vane, brass or aluminum
9	6943-AL	Gasket, aluminum (2 Req'd)
10	19238-416SS	Stem, type 416 stainless steel
11	6604-AL	Tubing, brass or aluminum
12	6492-AL	Inlet body, brass or aluminum
13	6601-302SS	Packing washer, type 302 stainless steel
14	6602-LEA	Packing, leather (3 Req'd) (Standard)
15	6602-TEF	Packing, teflon (3 Req'd) (Optional)
16	19237-AL	Packing screw, brass or aluminum
17	6599-IZP	Locknut, brass or steel-zinc plated
18	9641-INP	Stem nut, steel-nickel plated
19	6595-SS	Trigger stop spring, stainless steel
20	7991-IZP	Washer, steel-zinc plated
21	6597-INP	Trigger guide, steel-nickel plated
22	6591-SS	Spring stud, stainless steel
23	6589-IZP	Stop adj nut, steel-zinc plated
24	6594-SS	Spring for Stop adj nut, stainless steel
25	6588-IZP	Spring screw, steel-zinc plated
26	6592-302SS	Spring guide washer, type 302 stainless steel
27	6593-1-SS	Main spring, stainless steel (For #43L-)
28	6593-2-SS	Main spring, stainless steel (For #43H-)
29	14477-1-AL	Handle body, aluminum
30	7623-IZP	Rivet, steel-zinc plated (2 Req'd)
31	6509-INP	Trigger, steel-nickel plated
32	6510-INP	Trigger stop, steel-nickel plated
33	11757-INP	Screw, steel-nickel plated
34	13798-INP	Trigger Guard, steel-nickel plated
35	Gunjet No. 43L- Brass, complete, for pressures up to 200 PSI	
36	Gunjet No. 43L-AL- Aluminum, complete, for pressures up to 200 PSI	
37	Gunjet No. 43H- Brass, complete, for pressures from 200 to 800 PSI	
38	Gunjet No. 43H-AL- Aluminum, complete, for pressures from 200 to 800 PSI	
39	AB43-KIT Spare Parts Kit (Includes all items marked with *)	
40	AB43-AL-KIT Spare Parts Kit (Includes all items marked with *)	
41	ABCK43-KIT (Conversion kit for Adj. stem) - items 8, 13 & 15	
42	ABCK43-AL-KIT (Conversion Kit for Adj. Stem) - Items 8, 13 & 15	



**Specify Orifice Disk Size



ITEM	PART NO.	DESCRIPTION
1	CP36301-NY	HANDLE, NYLON (GRAY)
2	CP36308-SS	GROOVE PIN, TYPE 303 STAINLESS STEEL
3	CP36302-PP	BODY INSERT, POLYPROPYLENE (BLACK)
4	CP7717-2/108-VI	O-RING, VITON
5	CP36307-PPB	WASHER, POLYPROPYLENE (BLACK) 2 REQ'D
6	CP7717-2/209-VI	O-RING, VITON
7	CP36306-302SS	SPRING, TYPE 302 STAINLESS STEEL
8	CP36304-SS	STEM, TYPE 303 STAINLESS STEEL
9	CP38726-VI	SHUT-OFF WASHER, VITON
10	CP38725-SS	PHILLIPS HEAD SCREW, TYPE 302 STAINLESS STEEL
11	CP36303-PP	BODY (NPT), POLYPROPYLENE (BLACK) (FOR MODEL AA6B)
	CPB36303-PP	BODY (BSPT), POLYPROPYLENE (BLACK) (FOR MODEL AAB6B)
12	CP36309-302SS	RETAINING CLIP, TYPE 302 STAINLESS STEEL
	8400-1/4-PPB	PIPE PLUG (NPT), POLYPROPYLENE (BLACK) (FOR MODEL AA6B)
13	B8400-1/4-PPB	PIPE PLUG (BSPT), POLYPROPYLENE (BLACK) (FOR MODEL AAB6B)
No. AA6B DIRECTOVALVE MANUAL CONTROL VALVE (NPT THREADS)		
No. AAB6B DIRECTOVALVE MANUAL CONTROL VALVE (BSPT THREADS)		
PK-AB6B-KIT SPARE PARTS KIT (INCLUDES ALL ITEMS MARKED WITH *)		

* * *



DESCRIPTION:
AA(B)6B
DIRECTOVALVE®
MANUAL CONTROL VALVE
(NPT & BSPT VERSIONS)



Spraying Systems Co.
Spray Nozzles and Accessories
P.O. Box 7900 - Wheaton, IL 60189-7900

Parts List No.
PL 68
SHEET OF

Rev. No. 1
Ref.

MOUNTING AND ASSEMBLY INSTRUCTION

FOR 3 POINT HITCH SPRAYERS 200 AND 300 GALLON 12 ROW

Mount the sprayer on tractor and use top link to level frame. Use the lift arm adjustments to level tank and frame laterally. Install lift arm stabilizer to eliminate side sway. Attach the pump to tractor.

FOR PTO ROLLER PUMPS:

IF YOU EVER INTEND TO USE ROUND-UP OR ANY SUCH CHEMICAL YOU MUST USE THE ROUND-UP READY PUMP.

Install the pump on the tractor PTO shaft and make sure that the pump you are using is recommended for PTO speed which you intend to use. If in doubt ask your dealer.

If your pump is equipped with a quick coupler, make sure that it is locked onto tractor PTO shaft and tighten set screw.

Fasten the stabilizer to a fixed point on the tractor so that pump will not rotate with shaft.

FOR PTO DRIVEN CENTRIFUGAL PUMPS:

Make sure pump is recommended for the PTO speed which you intend to use. If in doubt ask your dealer for assistance.

Slip the PTO coupler all the way up on the splined tractor shaft and tighten all set screws making sure the pump is properly centered on the shaft to eliminate wobble.

Make sure the outlet(discharge) port on the pump is mounted in the VERTICAL POSITION. If you are unable to mount the pump in this manner as is, the rear housing plate may be removed and rotated to a vertical position. This is necessary to insure proper priming of pump.

Fasten the stabilizer to a fixed point on the tractor so the pump will not rotate with shaft.

FOR HYDRAULIC DRIVEN CENTRIFUGAL PUMPS:

Mount a hydraulic centrifugal pump only after reading the complete instruction manual provided by pump manufacturer.

If you do not have this manual, ask your dealer for assistance.

A hydraulic motor driven centrifugal pump is extremely versatile in regard to where it may be mounted, however, one thing you must keep in mind is that the pump must be mounted at /or below liquid level of the tank.

IMPORTANT: Be sure to connect hydraulic hoses from the tractor outlet to the hydraulic motor inlet and the tractor return line to the outlet of the hydraulic motor. These hoses must be hooked correctly to

achieve the correct rotation on the pump and to prevent damage to the unit or system. Pump rotation is clockwise when facing the suction port of pump.

If Your Tractor Has Flow Control, It Can Be Used To Find Tune Flow Through Pump. **(DO NOT USE FLOW CONTROL TO SHUT OFF FLOW THROUGH PUMP COMPLETELY)**. The 1" Brass Gate Valve ,That Serves As Inlet Control To Valve Assembly,And The ¾" Brass Gate Valve,That Controls Flow To Agitator, Can Be Used For Large Adjustments To Flow And Pressure. First Open 1" Inlet Valve All The Way Then Close a Quarter Turn ,Then Use ¾" To Set Desired Adgitation,Next Close 1" Valve To Set Desired Pressure. Then Make Smaller Adjustments With Tractor Flow Control.

FOR DIAPHRAGM PUMPS:

Always mount pump with the oil sight tube in an upwards position. DO NOT OPERATE without safety shields in place.

BEFORE RUNNING THE PUMP:

- A. Be sure that oil is halfway up the sight tube. If necessary,fill to correct level with 20W-30W non detergent oil.
- B. Be sure the suction hose barb is tightly screwed onto the suction union.
- C. Do not restrict the pump on the suction side. Use a 2-braid suction hose of at least the same inside diameter as the pump ports—larger with long suction lines. Keep the line as short as possible. Avoid all unnecessary bends,elbows or kinks in hose. Make sure all connections are tight and do not leak air.
- D. Be sure to use line strainer with 20 mesh,this comes standard on any VAN,S sprayer with diaphragm pumps
- E. Be sure to check charge in pulsation damper. Damper should be charged with air to 20 % of operating pressure. Minimum charge should be 5 PSI.
- F. RUN THE PUMP AT ZERO PRESSURE for one minute to remove air from the system.Do not exceed the pump's recommended maximum speed and pressure. There will be no performance advantage and pump life will be reduced. Pumps run over recommended speed or pressure are not subject to warranty.
- G. MAINTENANCE:
 1. After use,flush pump with clean water.
 2. Change oil every 200 hours or at the end of every spray season. To drain oil from pump,remove the drain plug,(see manufacturers manual),and slowly turn pump shaft until all oil is drained.To fill pump with oil,slowly pour oil into sight tube while turning the pump shaft.Turning the pump shaft purges air out of the crankcase.
 3. For winter storage or if freezing conditions will be incountered, flush pump with 50/50 mixture of water and antifreeze.

NOTES TO REMEMBER FOR ALL PUMPS:

- A. Be sure to check all arrows on the pump that indicate proper rotation of pump.

- B. Be sure pump is correct for the PTO speed you intend to use.
- C. Be sure that the suction hose from tank to pump is as short as possible—cut if necessary—and be sure that hose is not kinked or collapsed—run it as straight as possible.
- D. Be sure that all hose clamps are tight and in place.
- E. **NEVER OPERATE ANY SPRAYER PUMP DRY**—Be sure pump is primed and supplied with liquid when it is operating. Damage will occur to the seals in a roller pump and also to the rollers. Damage will occur to seal of a centrifugal pump if operated dry.

When starting a new pump and every time it is operated thereafter, the pump should start displacing liquid within 18 seconds. If it does not, stop the pump and check all hoses, valves, and strainer between pump and tank.

BOOM ASSEMBLY AND SETUP:

The boom on the 200 and 300 gallon 12 row sprayers are detached from boom yoke, (item 20 page 8), for shipping, the chains, (item 14 page 8), are left connected. Reattached booms, with bolt, (item 21 page 8), and nut, (item 19 page 8), if Necessary. Make sure the tip bodies face to the rear of sprayer. Be sure boom feed line hoses are correctly connected to control valve. You can determine this by operating sprayer with clear water, and switching hoses if necessary. **BE SURE YOU DO NOT SWITCH ANY HOSES OTHER THAN BOOM FEED LINES.**

Adjust booms to proper height for job you wish to do. If you are unable to determine what is correct for your job, please contact your local county agent or ask your vans dealer. In most cases nozzles are placed 19-20 inches above surface to be sprayed.

Be sure that your booms are level so that the nozzles on outer ends are exactly the same height as those in center.

Before going to the field look at each and every nozzle, make sure they are all the same size, and have tip strainers in place and are clean.

BEFORE GOING TO THE FIELD:

1. Look inside your new sprayer tank and make sure it is clean.
2. Fill tank about half full with clean water—DO NOT ADD ANY CHEMICALS.
3. Make sure all valves in the suction line on bottom of tank are full open.
4. Turn adjusting screw on pressure regulator valve in the counter-clockwise direction until it is almost all the way out.
5. Start pump slowly and increase speed of tractor to about 1200 RPM while checking to make sure liquid is passing through the pump and back into tank.
6. Turn adjusting screw on pressure regulator clockwise and increase pressure to approximately 10 PSI above the pressure you expect to use in field.
7. Open boom control valve and check all fittings for possible leaks. Check all hose connections and make sure all clamps are tight.

- 8. MAKE SURE AT NO TIME WILL THE PRESSURE EXCEED THE CAPACITY OF THE PRESSURE GAUGE.**
9. Inspect the inside of your tank for good agitation while pump is in operation. Your VAN,S Sprayer gives full time agitation while pump is unning. If you do not have good agitation, it is possible that some piece of foreign material can enter the system and clog agitator. Check if necessary by removing the agitator for inspection.

If the preceeding steps have been followed properly and all corrective action necessary has been taken, you are now ready to calibrate your unit for field operation.

CALIBRATION:

It is necessary to calibrate your sprayer before beginning the spray job. We will not attempt here to give you a calibration procedure, however we suggest the section in the Spraying System catalog on calibration, your local or state pesticide manual, or calling your VAN's dealer. You can also look on page 11 of this manual for the application table for our standard tip, which unless you specified another tip, is a **TP8003 brass fan tip**.

No matter what method you use, or what you use, please remember the following points:

1. Always calibrate with clean water only.
2. Always calibrate under field conditions.
3. Never rely on a tractor speedometer for accuracy.
4. Make sure all nozzles are the same size, are spraying properly, and all strainers are clean.
5. Due to long boom lines, there can be a loss of pressure between pressure gauge and tips. It is usually normal to indicate a slightly higher reading on gauge, (approximately 5-8 PSI) than that indicated by application chart. For this reason calibrate your sprayer often.

CAUTIONS AND PRE-CAUTIONS, (PLEASE READ CAREFULLY)

If you have followed all the instructions up to this point, your new VAN'S SPRAYER is ready to go to work and do a good job. These last instructions can and will make your spraying job more pleasant.

- A. NEVER OPERATE SPRAYER WITHOUT PROPER SAFTEY PRECAUTIONS.**
- B. ALWAYS FILL TANK AT LEAST HALF FULL AND HAVE PUMP OPERATING BEFORE ADDING CHEMICALS. IF YOU ARE USING WETTABLE POWDER, PRE-MIX IN A BUCKET OF WATER BEFORE ADDING TO TANK.**
- C. NEVER OPERATE PUMP AFTER TANK IS EMPTY-DO NOT OPERATE DRY.**
- D. ALWAYS ADJUST PRESSURE REGULATOR WITHSPRATER I OPERATION AND NEVER EZCEED THE CAPACITY OF THE GAUGE.**
- E. NEVER USE A METAL OBJECT TO CLEAN A NOZZLE, A TOOTHPICK, TOOTHBRUSH, MATCH, OR AIR WILL DO A BETTER AND SAFER JOB.**

- F. **WHEN TRANSPORTING YOUR SPRAYER ON A ROAD OR HIGHWAY, BE SURE TO SECURE THE BOOMS IN THE BRACKETS PROVIDED FOR THIS PURPOSE. ALWAYS USE FLASHER LIGHTS OR OTHER DEVICES TO GIVE ADEQUATE WARNING TO OTHER VEHICLES.**
- G. **REMEMBER-NOZZLES DO WEAR CAUSING SPRAY PATTERN DISTORTION AND VARYING SPRAY VOLUME RATES. REPLACE NOZZLES AS OFTEN AS NEEDED TO ASSURE PROPER AND UNIFORM SPARY COVERAGE AND RATES. CALIBRATE DAILY. STAINLESS STEEL NOZZLES PROVIDE THE MOST WEAR RESISTANCE WHEN COMPARED TO OTHER TIP MATERIAL.**
- H. **ALWAYS USE CLEAN WATER AND CHECK STRAINER DAILY.**
- I. **CHECK AGITATION IN TANK FREQUENTLY—AT LEAST TWICE DAILY.**
- J. **KEEP ALL HOSES IN GOOD SHAPE – REPLACE WORN OR DAMAGED HOSE AS NEEDED-BE SURE SUCTION HOSE IS IN GOOD CONDITION.**
- K. **CLEAN UP WHEN JOB IS DONE. ALWAYS CLEAN SPRAYER AFTER EACH USE.**
- L. **NEVER CHANGE FROM ONE CHEMICAL TO ANOTHER WITHOUT THOROUGHLY CLEANING SPRAYER.**

CLEANING- STORING-MAINTENANCE

The least expensive thing you can do to prolong your new sprayers life is to keep it clean. Please follow these simple instruction after spraying job is done.

1. Clean thoroughly-Remove any chemical residues from tank,pump,boom strainers,and nozzles by flushing completely the entire system with clean water and follow with a solution of approximately ONE QUART of household AMMONIA to 25 gallons water.
2. Remove all nozzle tips and strainers from booms and clean thoroughly with a toothbrush or toothpick. Leave nozzle tip to soak in can of oil or diesel fuel.
3. DRAIN TANK COMPLETELY and leave it to dry outside. Make sure all chemical has been removed THIS IS VERY IMPORTANT WITH WETTABLE POWDERS.
4. Remove pump and make sure no liquid is left inside. Fill pump with radiator rust inhibitor and plug outlets keep inside during storage.
5. Drain complete system and fill with antifreeze during winter storage to prevent freezing.
6. Store complete sprayer in dry place out of weather. Keeping sprayer out sunlight will lessen the UV effects on tank.
7. Caution: Never change from one type of chemical to another without thoroughly cleaning sprayer.

TeeJet® VisiFlo® Flat Spray Tips

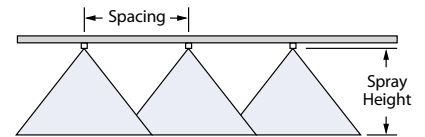
Features:

- Tapered edge flat spray pattern for uniform coverage in broadcast spraying.
- VisiFlo color-coded version available in stainless steel, ceramic and polymer in 80° or 110° spray angles in selected sizes.
- Available in ceramic 80° capacities 01–20 and 110° capacities 01–15. See XR and XRC TeeJet® tips on pages 12 and 13 for larger capacities.
- Standard version (not color-coded) available in 15°, 25°, 40°, 50° and 65° spray angles in brass, stainless steel or hardened stainless steel.
- See page 39 for TeeJet even flat spray tips.
- Automatic spray alignment with 25612*-NYR Quick TeeJet® cap and gasket. Reference page 63 for more information.
- Automatic spray alignment for sizes 10 through 20 with 25610*-NYR Quick TeeJet cap and gasket. Reference page 63 for more information.



Icon	PSI	DROP SIZE	CAPACITY ONE NOZZLE IN GPM	CAPACITY ONE NOZZLE IN OZ./MIN.	20°										GALLONS PER 1000 SQ. FT.				
					GPA										GALLONS PER 1000 SQ. FT.				
					4 MPH	5 MPH	6 MPH	8 MPH	10 MPH	12 MPH	15 MPH	20 MPH	2 MPH	3 MPH	4 MPH	5 MPH			
TP650050†	30		0.043	5.5	3.2	2.6	2.1	1.6	1.3	1.1	0.85	0.64	0.15	0.10	0.07	0.06			
TP800050†	35		0.047	6.0	3.5	2.8	2.3	1.7	1.4	1.2	0.93	0.70	0.16	0.11	0.08	0.06			
TP1100050†	40		0.050	6.4	3.7	3.0	2.5	1.9	1.5	1.2	0.99	0.74	0.17	0.11	0.09	0.07			
	50		0.056	7.2	4.2	3.3	2.8	2.1	1.7	1.4	1.1	0.83	0.19	0.13	0.10	0.08			
	60		0.061	7.8	4.5	3.6	3.0	2.3	1.8	1.5	1.2	0.91	0.21	0.14	0.10	0.08			
TP650067†	30		0.058	7.4	4.3	3.4	2.9	2.2	1.7	1.4	1.1	0.86	0.20	0.13	0.10	0.08			
TP800067†	35		0.063	8.1	4.7	3.7	3.1	2.3	1.9	1.6	1.2	0.94	0.21	0.14	0.11	0.09			
TP1100067†	40		0.067	8.6	5.0	4.0	3.3	2.5	2.0	1.7	1.3	0.99	0.23	0.15	0.11	0.09			
	50		0.075	9.6	5.6	4.5	3.7	2.8	2.2	1.9	1.5	1.1	0.26	0.17	0.13	0.10			
	60		0.082	10	6.1	4.9	4.1	3.0	2.4	2.0	1.6	1.2	0.28	0.19	0.14	0.11			
TP6501†	30	F	0.087	11	6.5	5.2	4.3	3.2	2.6	2.2	1.7	1.3	0.30	0.20	0.15	0.12			
TP8001	35	F	0.094	12	7.0	5.6	4.7	3.5	2.8	2.3	1.9	1.4	0.32	0.21	0.16	0.13			
TP11001	40	F	0.10	13	7.4	5.9	5.0	3.7	3.0	2.5	2.0	1.5	0.34	0.23	0.17	0.14			
	50	F	VF	14	8.2	6.5	5.4	4.1	3.3	2.7	2.2	1.6	0.37	0.25	0.19	0.15			
	60	F	VF	15	8.9	7.1	5.9	4.5	3.6	3.0	2.4	1.8	0.41	0.27	0.20	0.16			
TP65015†	30	F	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			
TP80015	35	F	0.14	18	10.4	8.3	6.9	5.2	4.2	3.5	2.8	2.1	0.48	0.32	0.24	0.19			
TP110015	40	F	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	F	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	F	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			
TP6502†	30	M	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			
TP8002	35	M	0.19	24	14.1	11.3	9.4	7.1	5.6	4.7	3.8	2.8	0.65	0.43	0.32	0.26			
TP11002	40	M	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	F	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	F	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			
TP6503†	30	M	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			
TP8003	35	M	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			
TP11003	40	M	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	M	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	F	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			
TP6504†	30	M	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			
TP8004	35	M	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			
TP11004	40	M	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	M	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	M	0.49	63	36	29	24	18.2	14.6	12.1	9.7	7.3	1.7	1.1	0.83	0.67			
TP6505†	30	C	0.43	55	32	26	21	16.0	12.8	10.6	8.5	6.4	1.5	0.97	0.73	0.58			
TP8005	35	M	0.47	60	35	28	23	17.4	14.0	11.6	9.3	7.0	1.6	1.1	0.80	0.64			
TP11005	40	M	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	M	0.56	72	42	33	28	21	16.6	13.9	11.1	8.3	1.9	1.3	0.95	0.76			
	60	M	0.61	78	45	36	30	23	18.1	15.1	12.1	9.1	2.1	1.4	1.0	0.83			
TP6506†	30	C	0.52	67	39	31	26	19.3	15.4	12.9	10.3	7.7	1.8	1.2	0.88	0.71			
TP8006	35	C	0.56	72	42	33	28	21	16.6	13.9	11.1	8.3	1.9	1.3	0.95	0.76			
TP11006	40	C	0.60	77	45	36	30	22	17.8	14.9	11.9	8.9	2.0	1.4	1.0	0.82			
	50	C	0.67	86	50	40	33	25	19.9	16.6	13.3	9.9	2.3	1.5	1.1	0.91			
	60	C	0.73	93	54	43	36	27	22	18.1	14.5	10.8	2.5	1.7	1.2	0.99			
TP6508†	30	C	0.69	88	51	41	34	26	20	17.1	13.7	10.2	2.3	1.6	1.2	0.94			
TP8008	35	C	0.75	96	56	45	37	28	22	18.6	14.9	11.1	2.6	1.7	1.3	1.0			
TP11008	40	C	0.80	102	59	48	40	30	24	19.8	15.8	11.9	2.7	1.8	1.4	1.1			
	50	C	0.89	114	66	53	44	33	26	22	17.6	13.2	3.0	2.0	1.5	1.2			
	60	M	0.98	125	73	58	49	36	29	24	19.4	14.6	3.3	2.2	1.7	1.3			
TP6510†	30		0.87	111	65	52	43	32	26	22	17.2	12.9	3.0	2.0	1.5	1.2			
TP8010†	35		0.94	120	70	56	47	35	28	23	18.6	14.0	3.2	2.1	1.6	1.3			
TP11010†	40		1.00	128	74	59	50	37	30	25	19.8	14.9	3.4	2.3	1.7	1.4			
	50		1.12	143	83	67	55	42	33	28	22	16.6	3.8	2.5	1.9	1.5			
	60		1.22	156	91	72	60	45	36	30	24	18.1	4.1	2.8	2.1	1.7			
TP6515†	30		1.30	166	97	77	64	48	39	32	26	19.3	4.4	2.9	2.2	1.8			
TP8015†	35		1.40	179	104	83	69	52	42	35	28	21	4.8	3.2	2.4	1.9			
TP11015†	40		1.50	192	111	89	74	56	45	37	30	22	5.1	3.4	2.6	2.0			
	50		1.68	215	125	100	83	62	50	42	33	25	5.7	3.8	2.9	2.3			
	60		1.84	236	137	109	91	68	55	46	36	27	6.3	4.2	3.1	2.5			
TP6520†	30		1.73	221	128	103	86	64	51	43	34	26	5.9	3.9	2.9	2.4			
TP8020†	35		1.87	239	139	111	93	69	56	46	37	28	6.4	4.2	3.2	2.5			
TP11020†	40		2.00	256	149	119	99	74	59	50	40	30	6.8	4.5	3.4	2.7			
	50		2.24	287	166	133	111	83	67	55	44	33	7.6	5.1	3.8	3.0			
	60		2.45	314	182	146	121	91	73	61	49	36	8.3	5.6	4.2	3.3			

Note: Always double check your application rates. Tabulations are based on spraying water at 70°F (21°C). †Available in all brass, stainless steel and hardened stainless steel only.



Optimum Spray Height

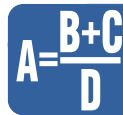
65°	35"
80°	30"
110°	20"

See pages 173–187 for drop size classification, useful formulas and information.

How to order:

Specify tip number.

- Examples:
- TP8002VS – Stainless Steel with VisiFlo color-coding
 - TP11002VP – Polymer with VisiFlo color-coding
 - TP11001VK – Ceramic with VisiFlo polymer color-coding
 - TP11002-HSS – Hardened Stainless Steel
 - TP8002-SS – Stainless Steel
 - TP8002 – Brass



Technical Information

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/1000FT² – 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

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.

20"	
Other Spacing (Inches)	Conversion Factor
8	2.5
10	2
12	1.67
14	1.43
16	1.25
18	1.11
22	.91
24	.83
30	.66

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 Feet	200 Feet	300 Feet
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

30"	
Other Spacing (Inches)	Conversion Factor
26	1.15
28	1.07
32	.94
34	.88
36	.83
38	.79
40	.75
42	.71
44	.68

40"	
Other Spacing (Inches)	Conversion Factor
28	1.43
30	1.33
32	1.25
34	1.18
36	1.11
38	1.05
42	.95
44	.91
48	.83

Miscellaneous Conversion Factors

One Acre = 43,560 Square Feet
 = 43.56 1000FT² Blocks
 = 0.405 Hectare

One Hectare = 2.471 Acres

One Gallon Per Acre

= 2.9 Fluid Ounces per 1000FT²
 = 9.35 Liters Per Hectare

One Gallon Per 1000FT² = 43.56 GPA

One Mile = 5,280 Feet
 = 1,610 Meters
 = 1.61 Kilometers

One Gallon = 128 Fluid Ounces
 = 8 Pints
 = 4 Quarts
 = 3.79 Liters
 = 0.83 Imperial Gallon

One Pound Per Square Inch






= 0.069 bar
 = 6.896 Kilopascals

One Mile Per Hour

= 1.609 Kilometers Per Hour

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 to 1 nozzle spacing to height ratio. For example, 110° flat spray tips spaced 20 inches apart are commonly set 20 inches above the target.

	(Inches)			
				
TeeJet® Standard, TJ	65°	22–24"	33–35"	NR*
TeeJet, XR, TX, DG, TJ	80°	17–19"	26–28"	NR*
TeeJet, XR, DG, TT, TTI, TJ, DGTJ, AI, AIXR	110°	16–18"	20–22"	NR*
FullJet®	120°	10–18"***	14–18"***	14–18"***
FloodJet® TK, TF	120°	14–16"***	15–17"***	18–20"***

* Not recommended.

** Nozzle height based on 30° to 45° angle of orientation (see page 30 of catalog).

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

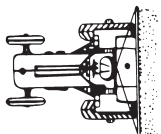
NOTES

300 and 400 GALLON 16,18, & 20 ROW 3POINT HITCH SPRAYER



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