

# PULL TYPE OWNERS MANUAL

## 500 GALLON 16,18,&20 ROW PULL TYPE SPRAYER

### 1

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.

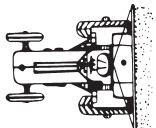
We now have the technology in house to create sprayer specific manuals and to print them only as needed. We think we have made a good beginning, but these manuals are still in the development stage. At this point we would appreciate the input of our end user customer and our dealers as to how we can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



**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**

# INDEX

| <b>PAGE NO.....</b> | <b>DESCRIPTION</b>  |
|---------------------|---|
| 1.....              | Model Overview and Description  |
| 2-6.....            | Mounting, Assembly, and Instructions                                  |
| 7.....              | Trouble Shooting  |
| 8.....              | Main Breakdown  |
| 9.....              | Boom and Center Section Breakdown                                     |
| 10.....             | Boom and Center Section Parts List                                    |
| 11.....             | Plumbing Breakdown,(1502 PTO Drive, & Manual Valve)                   |
| 12.....             | 1502 & Manual Valve Parts List  |
| 13 - 14.....        | Centrifugal Pumps 9006,9016, & 9018 Plumbing Breakdown and Parts List |
| 15.....             | Plumbing Breakdown,(9303C-HM4,Electric Valve)                         |
| 16-17.....          | 9303C-HM4 Electric Valves Parts List                                  |
| 18.....             | Plumbing High Pressure  |
| 19-20.....          | High Pressure Parts List  |
| 21-22.....          | RO-160 Breakdown  |
| 23-24.....          | BETA-150 Breakdown  |
| 25.....             | 1502 Breakdown  |
| 26.....             | AA6B Breakdown  |
| 27.....             | Spray Gun Breakdown   |
| 28.....             | Component Parts   |
| 29.....             | Centrifugal Pump Breakdown  |
| 30.....             | 1999 Breakdown  |
| 31.....             | AA17L Breakdown   |
| 32-33.....          | Tip Chart and Technical Information                                   |
| 35.....             | Hydraulic Plumbing Schematic  |

# 500 GALLON 18 ROW PULL TYPE SPRAYER



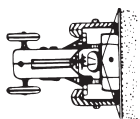
Van's 500 Gallon 18 Row Pull Type Sprayer is the largest Row Crop Sprayer in our line. We are very proud of its success as a Peanut Sprayer. Boom height capability is 60" maximum to meet the needs for other crop applications. Our unique Hydraulic Boom System is equipped with 5 Hydraulic Cylinders to raise and lower the Boom assembly and to level or fold either Boom individually. The Boom System can be used with tractors having only two hydraulic remote outlets. RO-160 Pump

|        | ROLLER PUMP | DIAPHRAGM PUMP | CENTRIFUGAL PUMP |
|--------|-------------|----------------|------------------|
|        | 1502C       | RO-160         | 9303C-HM4        |
| 16 ROW | PE50026QJ   | PE50046QJ      | PE50056QJ        |
| 18 ROW | PE50027QJ   | PE50045QJ      | PE50058QJ        |
| 20 ROW | PE50029QJ   | PE50069QJ      | PE50059QJ        |

**Standard Features include:**

- |  |  |
|--|--|
| 1) Polyethylene Tank                     | 8) 30" Ground Clearance                  |
| 2) 16 or 18 Row Double Breakaway Booms   | 9) New 11L-15 Rib Implement Tires        |
| 3) Hyd. Boom Height Adjustment           | 10) Variable Spacing Axle 60" - 76"      |
| 4) Individual Hyd. Fold & Leveling Booms | 11) Easy Access Step and Hand Rail       |
| 5) 60" Maximum Boom Height               | 12) Full Set 8003 Tips, Caps & Strainers |
| 6) 12 Foot Wide Center Section           | 13) Fully Assembled & Factory Tested     |
| 7) Udor Diaphragm Pump                   | 14) Full Five Year Structural Warranty   |

| Options      | Add: | Part No |
|--------------|------|---------|
| Sparger tube |      | ST-548  |



**van's**

**EQUIPMENT COMPANY**

*We Appreciate You and Your Business!*

(229) 985-1101  
P.O. BOX 3157 • 2169 SYLVESTER HIGHWAY • MOULTRIE, GEORGIA 31776-3157  
(PRICES SUBJECT TO CHANGE WITHOUT NOTICE)

## **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.

#### **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 encountered, 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 preceding 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 SAFETY 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 WITH SPRAYER IN OPERATION AND NEVER EXCEED 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 NOT CAUSE SPRAY PATTERN DISTORTION AND VARYING SPRAY VOLUME RATES. REPLACE NOZZLES AS OFTEN AS NEEDED TO ASSURE PROPER AND UNIFORM SPRAY 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**

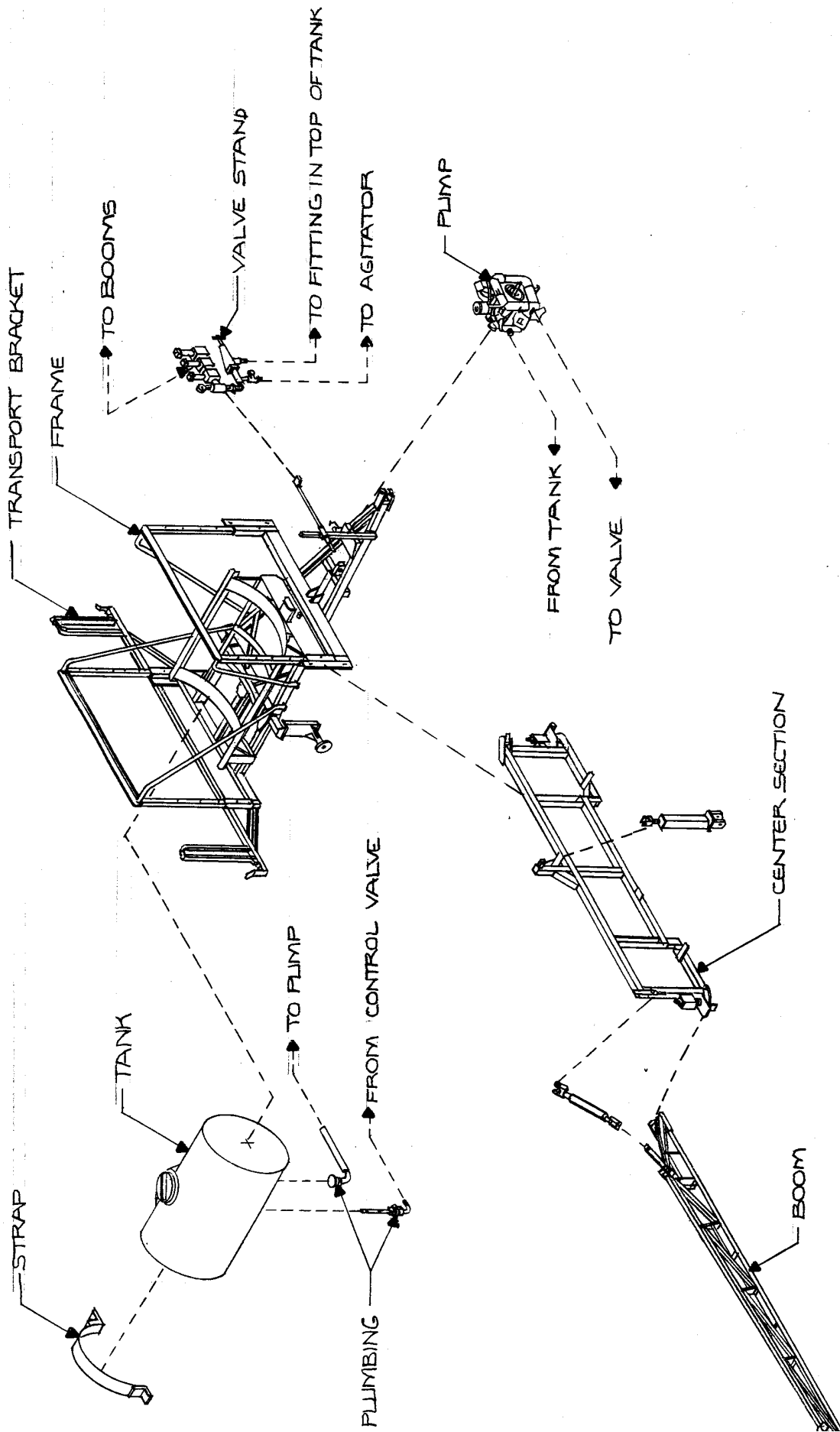
The least expensive thing you can do to prolong your new sprayers life is to keep it clean. Please follow these simple instruction after spraying job is done.

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 to25 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.

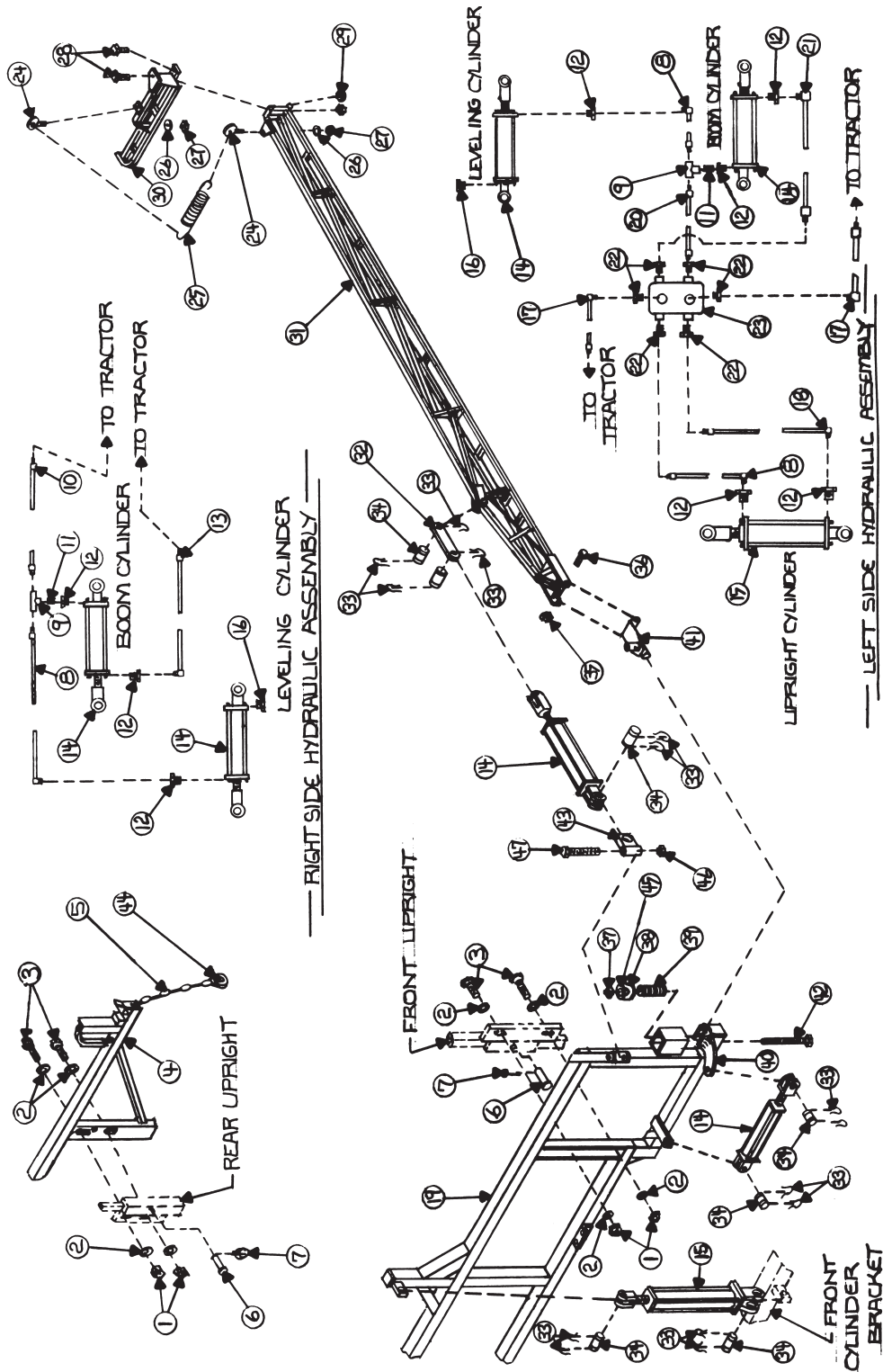
| <b>PROBLEM</b>                                | <b>PROBABLE CAUSE</b>  | <b>POSSIBLE REMEDY</b>  |
|---|--|---|
| Erratic pressure indication on pressure gauge | air leaking into suction line  | Tighten all fittings and hoses between pump and tank  |
|   | Trash in control valve or pressure gauge   | Remove and clean parts  |
|   | Suction line kinked or clogged   | Remove suction line and clean-check tank and strainer   |
|   | Air leak in suction hose   | Replace hose  |
|   | Suction hose collapsed   | Replace hose  |
| Pressure gauge fluctuates excessively         | Pump is sucking in air through the suction line or air has not been entirely evacuated from strainer | Examine the suction hose and make sure it is firmly secured. Run the pump with outlet hose open to evacuate air from pump |
| Pump loses suction                            | Suction strainer clogged   | Clean strainer and tank   |
|   | Air leak in suction hose   | Replace hose  |
|   | Suction hose collapsed   | Replace hose  |
|   | Pump air locked  | Remove discharge line and pump liquid through pump  |
|   | Pump worn and clearances too great   | Replace or repair pump  |
| Pump does not draw water                      | Seals worn out or deteriorated   | Replace pump seals  |
|   | One or more valves are seated improperly   | Examine the valve seatings and clean them   |
|   | Suction line is plugged or collapsed clogged strainer  | Examine suction line<br>Clean strained  |
| Noisy pump                                    | Excessive pump speed   | Slow the pump   |
|   | Air leak in suction line   | Replace suction hose  |
|   | Partially clogged strainer   | Clean strainer  |
| Pump shows decreased capacity                 | Suction strainer clogged   | Clean strainer  |
|   | Air leak in suction hose   | Replace suction hose  |
|   | Moving parts worn  | Replace worn parts  |
|   | Worn seal  | Replace seal  |
|   | Pump roller stuck  | Clean pump inside   |
|   | Pump operating too slow  | Speed up pump   |
|   | Nozzles too large for capacity of pump   | Use smaller nozzles or reduce number of nozzles on boom   |
| Pump leaks                                    | Worn out seal  | Replace seal  |

# 18 ROW MAIN BREAKDOWN

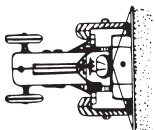
8



# 18 ROW BOOM & CENTER SECTION BREAKDOWN



(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!*

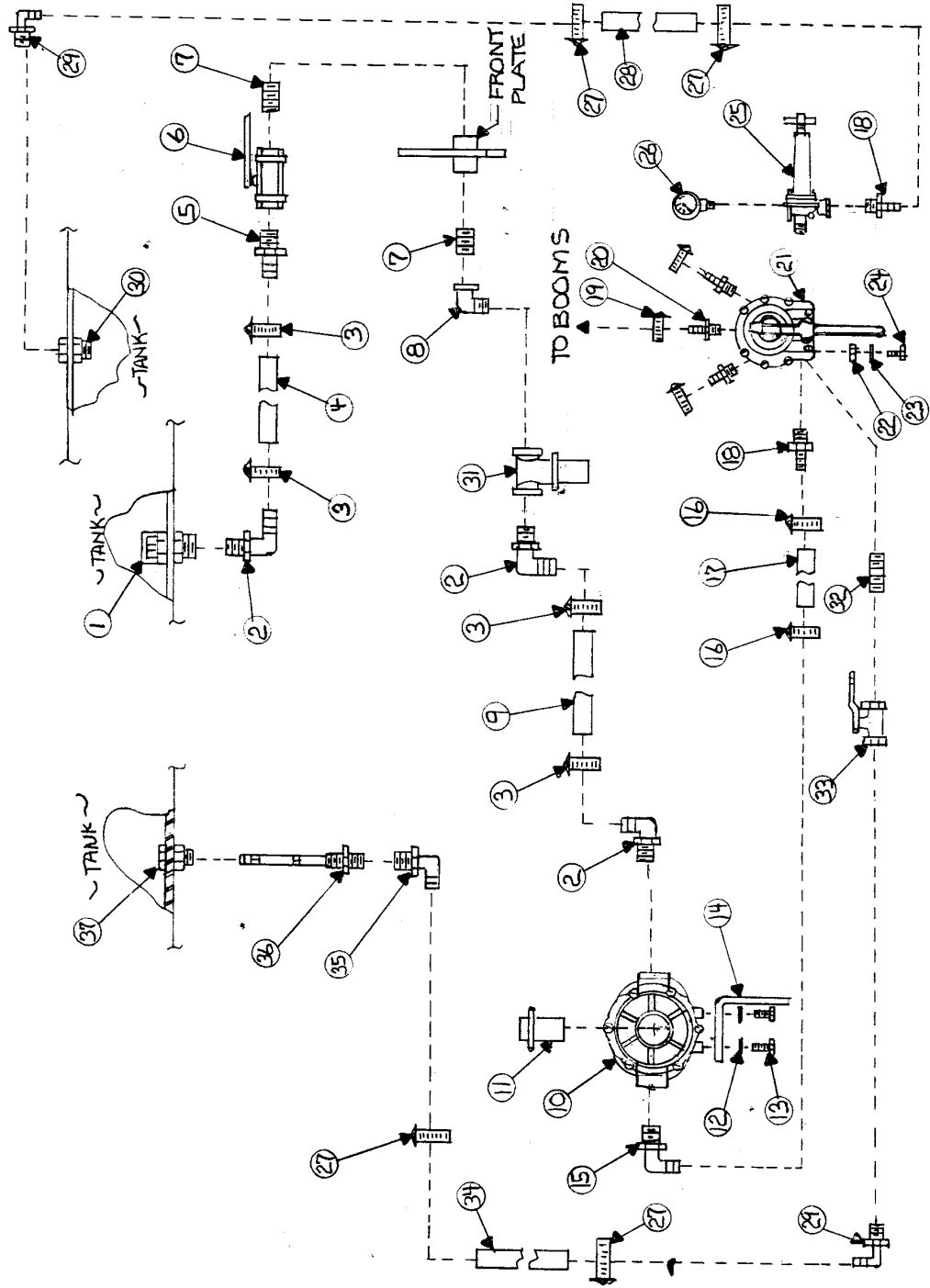
(229) 985-1101

# 18 ROW PARTS LIST

| ITEM NO. | DESCRIPTION                             | PART NO.    | QTY.  |
|----------|---|-------------|-------|
| 1        | Lock Nut 1/2"                           | HLN12C      | 8     |
| 2        | Fender Washer 1/2" x 2" OD x 1/4" Thick | FENDER 1200 | 16    |
| 3        | Bolt 1/2" x 2"                          | CS12200C    | 8     |
| 4        | Boom Transport Bracket                  | IY-217      | 1     |
| 5        | Blue Chrome Chain 3/16"                 | 2116-503-04 | 18in. |
| 6        | Top Link Pin                            | P772        | 4     |
| 7        | Linch Pin                               | 1924        | 4     |
| 8        | 4 1/2 Ft. Hydraulic Hose Assembly       | HY4.5-90    | 3     |
| 9        | Tee 1/4" Galvanized                     | GT1400      | 2     |
| 10       | 14 Ft. Hydraulic Hose Assembly          | HY14        | 1     |
| 11       | Nipple 1/4" Galvanized                  | GN141       | 2     |
| 12       | Restricted Orifice 3/8" x 1/4"          | 50349       | 8     |
| 13       | 15 Ft. Hydraulic Hose Assembly          | HY15-90     | 1     |
| 14       | 2 x 8 Hydraulic Cylinder                | 638010      | 4     |
| 15       | 3 x 36 Hydraulic Cylinder               | 638438      | 1     |
| 16       | Breather Plug                           | F38H        | 2     |
| 17       | 13 Ft. Hydraulic Hose Assembly          | HY13-90     | 2     |
| 18       | 3 1/2Ft. Hydraulic Hose Assembly        | HY3.5-90    | 1     |
| 19       | 18 Row Center Section                   | CS18        | 1     |
| 20       | 3 Ft. Hydraulic Hose Assembly           | HY3         | 1     |
| 21       | 4 Ft. Hydraulic Hose Assembly           | HY4-90      | 1     |
| 22       | Bushing 1/2"MPT x 1/4" FPT              | GB1214      | 6     |
| 23       | Selector Valve                          | SD4BADA1    | 1     |
| 24       | Eyebolt 3/8" x 1 1/4"                   | 38114EB     | 4     |
| 25       | Tension Spring                          | 75-7        | 2     |
| 26       | Flat Washer 3/8"                        | FW38        | 4     |
| 27       | Lock Nut 3/8"                           | HLN38C      | 4     |
| 28       | Bolt 1/2" x 1 1/2"                      | CS12112C    | 4     |
| 29       | Lock Nut 1/2"                           | HLN12C      | 4     |
| 30       | Outer Boom Section B Left               | B18LB       | 1     |
| 30A      | Outer Boom Section B Right              | B18LR       | 1     |
| 31       | Outer Boom Section A Left               | B18L        | 1     |
| 31A      | Outer Boom Section A Right              | B18R        | 1     |
| 32       | Boom Leveling Bracket                   | IY-218      | 2     |
| 33       | Cylinder Latch Pin                      | 640111      | 4     |
| 34       | Cylinder Pin                            | 640091      | 2     |
| 35       | Lock Nut 3/4"                           | HLN34C      | 42    |
| 36       | Bolt 3/4" x 8 1/2"                      | CS34812C    | 2     |
| 37       | Nut 7/8" ( Grade 8 )                    | HN78C       | 2     |
| 38       | Spring Collar                           | BY3A        | 2     |
| 39       | Compression Spring                      | 35-10       | 2     |
| 40       | Boom Cradle Left                        | TD18L       | 1     |
| 40A      | Boom Cradle Right                       | TD18R       | 1     |
| 41       | Boom Yoke                               | BY3         | 2     |
| 42       | Bolt 7/8" x 17" ( Grade 8)              | CS781700C   | 2     |
| 43       | Cylinder Hinge                          | IY-219      | 2     |
| 44       | Transport Lock pin                      | 231         | 2     |
| 45       | Flat Washer 7/8"                        | FW78        | 2     |
| 46       | Lock Nut 3/4"                           | HLN34C      | 2     |
| 47       | Bolt 3/4" x 5 1/2"                      | CS34512C    | 2     |

# 1502 MANUAL VALVE PTO DRIVE

11



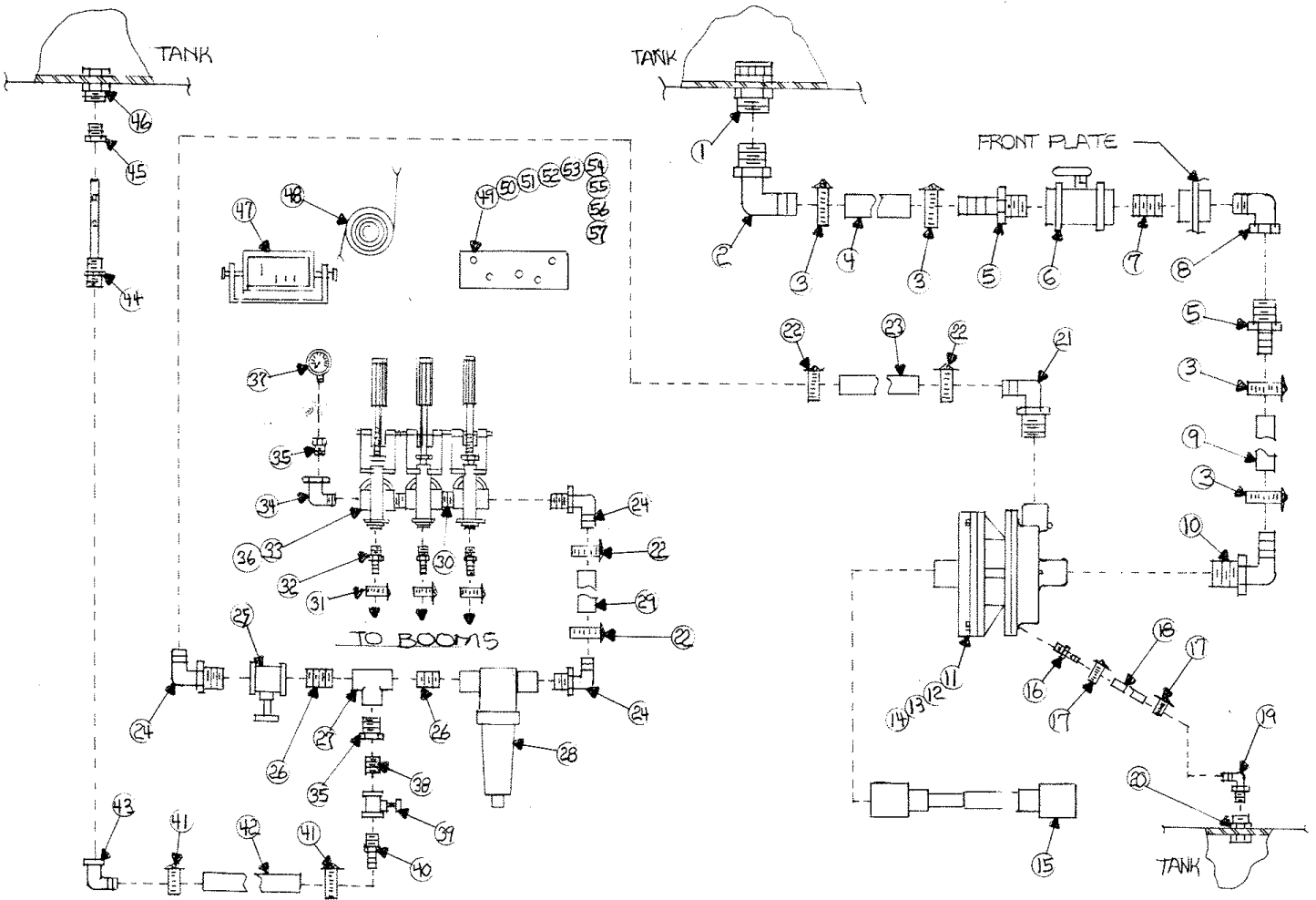
# 1502 MANUAL VALVE PTO DRIVE PARTS LIST

| <b>1502 PUMP MANUAL VALVE</b> |  |                 |
|-------------------------------|--|-----------------|
| <b>ITEM NO.</b>               | <b>DESCRIPTION</b>                     | <b>PART NO.</b> |
| 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                             | Hose Shank 1 1/2" MPT x Barb Nylon     | A112            |
| 6                             | Ball Valve 1 1/2" FPT Poly             | V-150           |
| 7                             | Nipple 1 1/2"x Close Galvanized        | GN1121.75       |
| 8                             | Street Elbow 1 1/2"FPT x MPT Nylon     | SE112           |
| 9                             | Hose Wire Coil 1 1/2"                  | 12003501        |
| 10                            | Pump 6 Roller                          | 1502C           |
| 11                            | Pump Coupler                           | 114-1500        |
| 12                            | Lock Washer 3/8"                       | LW38            |
| 13                            | Bolt 3/8" x 3/4"                       | CS3834C         |
| 14                            | Pump Stabilizer                        | PS              |
| 15                            | Elbow 1 "MPT x Barb 90 Nylon           | EL100           |
| 16                            | Hose Clamp 1"                          | 20H             |
| 17                            | Hose Black Ag. 1"                      | 10031660        |
| 18                            | Hose Shank 1" MPT x Barb Nylon         | A100            |
| 19                            | Hose Clamp 3/4"                        | 12H             |
| 20                            | Hose Shank 3/4"MPT x Barb Nylon        | A34             |
| 21                            | Control Valve                          | AA17L           |
| 22                            | Nut 3/8"                               | HN38C           |
| 23                            | Lock Washer 3/8"                       | LW38            |
| 24                            | Bolt 3/8" x 1 1/4"                     | CS38114C        |
| 25                            | Pressure Relief Valve 3/4"             | 84603/4         |
| 26                            | Pressure Gauge 0-300 PSI Liquid Filled | GG-300          |
| 27                            | Hose Clamp 3/4"                        | 12H             |
| 28                            | Hose Red Ag. 3/4"                      | 3204-0420       |
| 29                            | Elbow 3/4"MPT x Barb 90 Nylon          | EL34            |
| 30                            | Tank Fitting 3/4"                      | 60401           |
| 31                            | N/A                                    | N/A             |
| 32                            | Nipple 3/4"x 3" Galvanized             | GN341.5         |
| 33                            | Ball Valve 3/4" Brass                  | 34BBV           |
| 34                            | Hose Red Ag. 3/4"                      | 3204-0420       |
| 35                            | Elbow 3/4 " FPT x Barb 90 Nylon        | EL34F           |
| 36                            | Jet Agitator                           | 3371-0019       |
| 37                            | Tank Fitting 3/4"                      | 60401           |

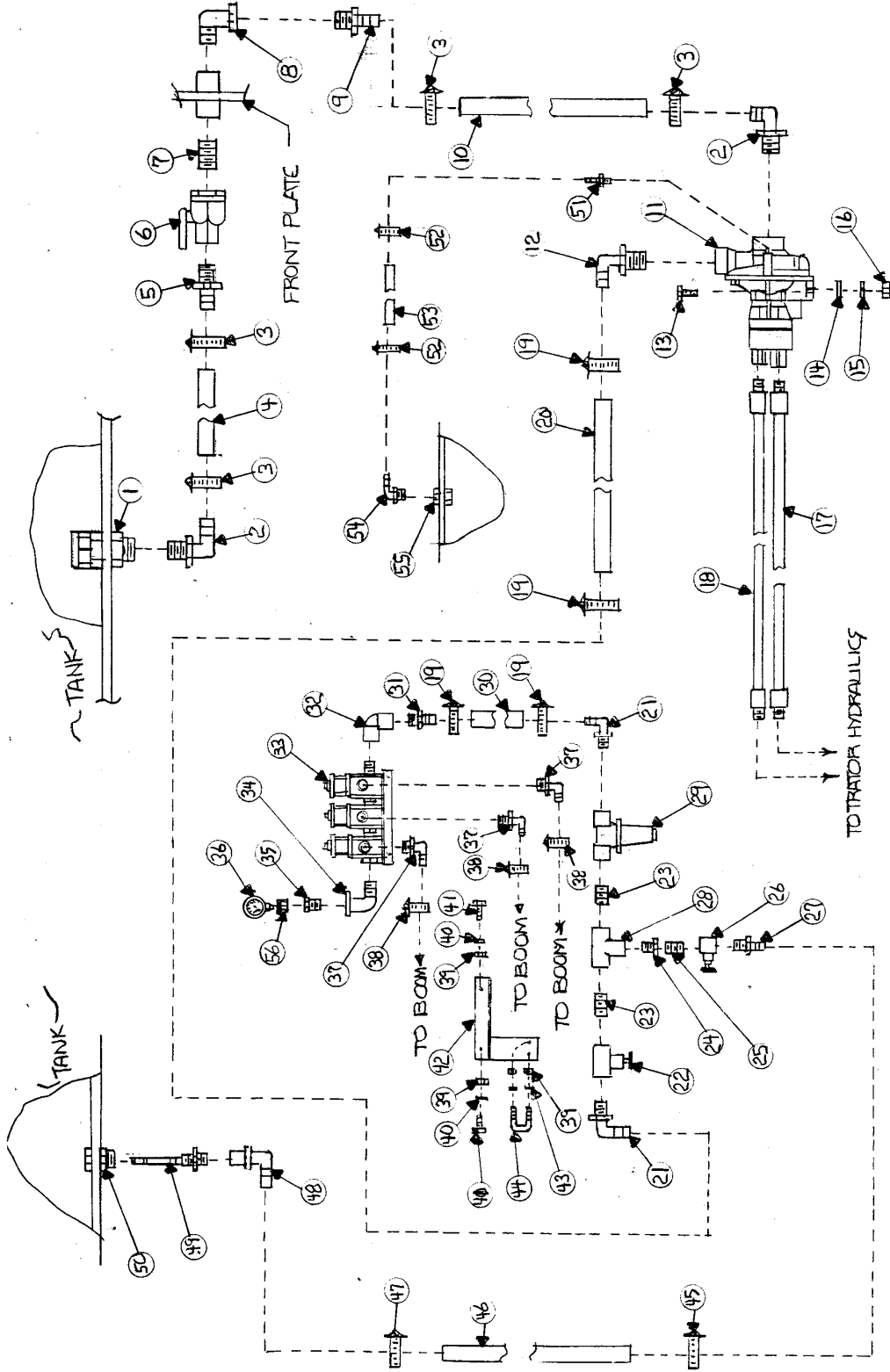
| ITEM NO. | DESCRIPTION                             | PART NO.       |
|----------|---|----------------|
| 1        | Tank fitting 1 1/4" anti-vortex poly    | 63065          |
| 2        | Elbow 1 1/4"mpt x 1 1/2" barb 90 nylon  | EL114112       |
| 3        | Hose clamp 1 1/2"                       | 28H            |
| 4        | Hose wire coil 1 1/2"                   | 12003501       |
| 5        | Hose shank 1 1/2" nylon                 | A112           |
| 6        | Ball valve 1 1/2" fpt poly              | V-150          |
| 7        | Nipple 1 1/2" x close galvanized        | GN1121.75      |
| 8        | Street elbow 1 1/2" nylon               | SE112          |
| 9        | Hose wire coil 1 1/2"                   | 12003501       |
| 10       | Elbow 1 1/2"mpt x 1 1/2" barb 90 nylon  | EL112          |
| 11       | Pump centrifugal,( 540 PTO)             | 9016C          |
| 11A      | Pump centrifugal,( 1000 PTO)            | 9018C          |
| 12       | Bolt 3/8" x 1"                          | CS38100C       |
| 13       | Nut 3/8"                                | HN38C          |
| 14       | Lock washer 3/8"                        | LW38           |
| 15       | Drive shaft ,(540 PTO)                  | 71016NN007602  |
| 15A      | Drive shaft ,(1000 PTO)                 | 7101061UCR8602 |
| 16       | Hose shank 1/4"mpt x 1/8"barb brass     | A1418B         |
| 17       | Hose clamp 1/4"                         | M4P            |
| 18       | Plastic tube 1/4"                       | CALL           |
| 19       | Elbow 1/2"mpt x 1/4"barb 90 nylon       | EL1214         |
| 20       | Tank fitting 1/2" poly                  | 62834          |
| 21       | Elbow 1 1/4"mpt x 1" barb 90 nylon      | EL1141         |
| 22       | Hose clamp 1"                           | 20H            |
| 23       | Hose black ag 1"                        | 10031660       |
| 24       | Elbow 3/4"mpt x 1"barb 90 nylon         | EL3410         |
| 25       | Gate valve 1" brass                     | 100BGV         |
| 26       | Nipple 1" x close galvanized            | GN1001.5       |
| 27       | Tee 1"fpt nylon                         | TT100N         |
| 28       | Strainer 1"fpt 50 mesh                  | AA126-ML-4-50  |
| 29       | Hose black ag 1"                        | 10031660       |
| 30       | Nipple 3/4" x close nylon               | M34            |
| 31       | Hose clamp 3/4"                         | 12H            |
| 32       | Hose shank 3/4" nylon                   | A34            |
| 33       | Shutoff valve                           | AA6B           |
| 34       | Street elbow 3/4" nylon                 | SE34           |
| 35       | Reducer bushing 3/4"mpt x 1/4"fpt nylon | RB3414         |
| 36       | Electric shutoff valve,(optional)       | 1999-1         |
| 37       | Pressure gauge 0-100 PSI liquid filled  | GG-100         |
| 38       | Nipple 3/4" x close galvanized          | GN341.5        |
| 39       | Gate valve 3/4" brass                   | 34BGV          |
| 40       | Hose shank 3/4" nylon                   | A34            |
| 41       | Hose clamp 3/4"                         | 12H            |
| 42       | Hose red ag 3/4"                        | 3204-0420      |
| 43       | Street elbow 3/4" nylon                 | SE34           |
| 44       | Jet agitator                            | 3371-0019      |



|    |   |           |
|----|---|-----------|
| 45 | Reducer bushing 1 1/4"mpt x 3/4"fpt nylon | RB11434   |
| 46 | Tank fitting 1 1/4" poly                  | 67155     |
| 47 | Control panel ( optional )                | 2628      |
| 48 | Wiring harness (optional )                | CALL      |
| 49 | Valve stand                               | VS6B2     |
| 50 | Bolt 3/8" x 1"                            | CS38100C  |
| 51 | Bolt 3/8" x 1 1/4"                        | CS38114C  |
| 52 | Lock washer 3/8"                          | LW38      |
| 53 | Flat washer 3/8"                          | FW38      |
| 54 | Nut 3/8"                                  | HN38C     |
| 55 | U-bolt square 5/16" x 2"                  | SQU516200 |
| 56 | Flat washer 5/16"                         | FW516     |
| 57 | Nut 5/16"                                 | HN516C    |



# 9303C-HM4 ELECTRIC VALVE



# 9303C-HM4 ELECTRIC VALVE PARTS LIST

16

| 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        | Hose Shank 1 1/2"MPT x 1 1/2" Barb Nylon | A112          |
| 6        | Ball Valve 1 1/2" Poly                   | V-150         |
| 7        | Nipple 1 1/2"x Close Galvanized          | GN1121.75     |
| 8        | Street Elbow 1 1/2" Nylon                | SE112         |
| 9        | Hose Shank 1 1/2"MPT x 1 1/2" Barb Nylon | A112          |
| 10       | Hose Wire Coil 1 1/2"                    | 12003501      |
| 11       | Pump Hydraulic Centrifugal               | 9303C-HM4     |
| 12       | Elbow 1 1/4"MPT x 1" Barb 90 Nylon       | EL114100      |
| 13       | Bolt 3/8"x 1 1/2"                        | CS38112C      |
| 14       | Flat Washer 3/8"                         | FW38          |
| 15       | Lock Washer 3/8"                         | LW38          |
| 16       | Nut 3/8"                                 | HN38C         |
| 17       | Hydraulic Hose Assembly                  | HY6.5-1/2     |
| 18       | Hydraulic Hose Assembly                  | HY6.5-3/4     |
| 19       | Hose Clamp 1"                            | 20H           |
| 20       | Hose Black Ag. 1"                        | 10031660      |
| 21       | Elbow 1"MPT x Barb 90 Nylon              | EL100         |
| 22       | Gate Valve 1" Brass                      | 100BGV        |
| 23       | Nipple 1"x Close Galvanized              | GN1001        |
| 24       | Reducer Bushing 1"MPT x 3/4" FPT Nylon   | RB10034       |
| 25       | Nipple 3/4"x Close Galvanized            | GN341.5       |
| 26       | Gate Valve 3/4" Brass                    | 34BGV         |
| 27       | Hose Shank 3/4"MPT x 3/4" Barb Nylon     | A34           |
| 28       | Tee 1" FPT Nylon                         | TT100N        |
| 29       | Strainer 1" Nylon FPT                    | AA126-ML-4-50 |
| 30       | Hose Black Ag. 1"                        | 10031660      |
| 31       | Hose Shank 1"MPT x 1" Barb Nylon         | A100          |
| 32       | Elbow 3/4" FPT Nylon                     | LL34          |
| 33       | Control Valve,( Electric)                | 2502-3        |
| 34       | Street Elbow 1" Nylon                    | SE100         |
| 35       | Reducer Bushing 1"MPT x 3/4" FPT Nylon   | RB10034       |
| 36       | Pressure Gauge 0-100 PSI Liquid Filled   | GG-100        |
| 37       | Elbow 3/4" MPT x 1/2" Barb 90 Nylon      | EL3412        |
| 38       | Hose Clamp 1/2"                          | 8H            |
| 39       | Nut 5/16"                                | HN516C        |
| 40       | Lock Washer 5/16"                        | LW516         |
| 41       | Bolt 5/16"x 1"                           | CS516100C     |
| 42       | Valve Stand                              | VS2500-3C     |
| 43       | Flat Washer 5/16"                        | FW516         |
| 44       | U-Bolt 5/16" x 2"x 3 1/4"                | RU516300      |
| 45       | Hose Clamp 3/4"                          | 12H           |
| 46       | Hose Red Ag. 3/4"                        | 3204-0420     |

|    |  |           |
|----|--|-----------|
| 47 | Hose Clamp 3/4"                          | 12H       |
| 48 | Elbow 3/4"FPTx Barb 90 Nylon             | EL34F     |
| 49 | Jet Agitator                             | 3371-0019 |
| 50 | Tank Fitting 3/4"                        | 60401     |
| 51 | Hose Shank 1/4" MPT x 1/8" Barb Brass    | A1418B    |
| 52 | Hose Clamp 1/4"                          | M4P       |
| 53 | Hose 1/8"                                | Call      |
| 54 | Elbow 1/2" MPT x 1/4" Barb 90 Nylon      | EL1214    |
| 55 | Tank Fitting 1/2"                        | 67158     |
| 56 | Reducer Bushing 3/4"MPT x 1/4" FPT Nylon | RB3414    |



# HIGH PRESSURE PARTS LIST

19

| PULL TYPE HIGH PRESSURE |   |                 |
|-------------------------|---|-----------------|
| ITEM NO.                | DESCRIPTION                             | PART NO.        |
| 1                       | Tank Fitting 1 1/4" Anit-Vortex         | 63065           |
| 2                       | Elbow 1 1/4"MPT x 1 1/2" Barb 90 Nylon  | EL114112        |
| 3                       | N/A                                     | N/A             |
| 4                       | Hose Clamp 1 1/2"                       | 28H             |
| 5                       | Hose Wire Coil 1 1/2"                   | 12003501        |
| 6                       | Hose Shank 1 1/2" MPT x Barb Nylon      | A112            |
| 7                       | Ball Valve FPT 1 1/2" Poly              | V-150           |
| 8                       | Nipple 1 1/2" x Close Galvanized        | GN1121.75       |
| 9                       | Street Elbow 1 1/2"FPT x MPT Nylon      | SE112           |
| 10                      | Strainer 1 1/2" FPT 20 Mesh             | 3350-012        |
| 11                      | Hose Wire Coil 1 1/2"                   | 12003501        |
| 12                      | Pump                                    | Beta-150        |
| 13                      | Drive Shaft                             | 7105061NN007007 |
| 14                      | Plug 3/8" Galvanized                    | GP3800          |
| 15                      | Lock Nut 7/16"                          | HLN716C         |
| 16                      | Bolt 7/16" x 1 1/4"                     | CS716114C       |
| 17                      | Street Elbow 3/4"FPT x MPT Galvanized   | GSE3490         |
| 18                      | Hydraulic Fitting 3/4" MPT Swivel       | HU1212MC        |
| 19                      | Hose 1/2" 800 PSI                       | 12-Y-800        |
| 20                      | Hose 3/4" 800 PSI                       | 34-Y-800        |
| 21                      | Nipple 3/4" x Close Galvanized          | GN341.5         |
| 22                      | Ball Valve FPT 1/2" Brass               | 34BBV           |
| 23                      | Street Elbow 1/2" FPT x MPT Galvanized  | GSE1290         |
| 24                      | Cross FPT 1/2" Galvanized               | GCR1200         |
| 25                      | Tee FPT 3/4"x 3/4"x 1/2" Galvanized     | GT343412        |
| 26                      | Relief Valve(Removed From Beta-150      | 6005.15         |
| 27                      | Hose Shank 3/4" MPT x Barb Nylon        | A34             |
| 28                      | Bolt 3/8"x 1 1/4"                       | CS38114C        |
| 29                      | Lock Washer 3/8"                        | LW38            |
| 30                      | Nut 3/8"                                | HN38C           |
| 31                      | Tee FPT 3/4" Galvanized                 | GT3400          |
| 32                      | Nipple 3/8" x 2" Galvanized             | GN382           |
| 33                      | Hose Clamp 3/4"                         | 12H             |
| 34                      | Hose Red Ag. 3/4"                       | 3204-0420       |
| 35                      | Elbow 3/4"MPT x Barb 90 Nylon           | EL34            |
| 36                      | Tank Fitting 3/4"                       | 60401           |
| 37                      | Elbow 3/8" 90 Galvanized                | GEL3490         |
| 38                      | Ball Valve 1/2" Brass                   | 12BBV           |
| 39                      | Coupling 1/2" Galvanized                | GCP1200         |
| 40                      | Hydraulic Fitting 1/2" MPT Swivel       | HU0808MC        |
| 41                      | Hose 1/2" 800 PSI                       | 12-Y-800        |
| 42                      | Reducer Bushing 1 1/4"x 1/2" Galvanized | GB11412         |
| 43                      | Elbow 1 1/4" Galvanized                 | GEL11490        |
| 44                      | Sparge Tube                             | ST-500          |

|    |                                      |            |
|----|--------------------------------------|------------|
| 45 | Plug 1/2" Stainless Steel            | SSP1200    |
| 46 | Tank Fitting 1 1/4"                  | 67114      |
| 47 | Nipple 1 1/4"x Close Stainless Steel | SSN1141.75 |
| 48 | Cap PVC 1 1/4"                       | 488-012    |
| 49 | Tank Fitting 1 1/4"                  | 67114      |
| 50 | Tank Fitting 1 1/4"                  | 67114      |
| 51 | Plug 1 1/4" Nylon                    | F114       |



# RO-160/C – RO-160/CC

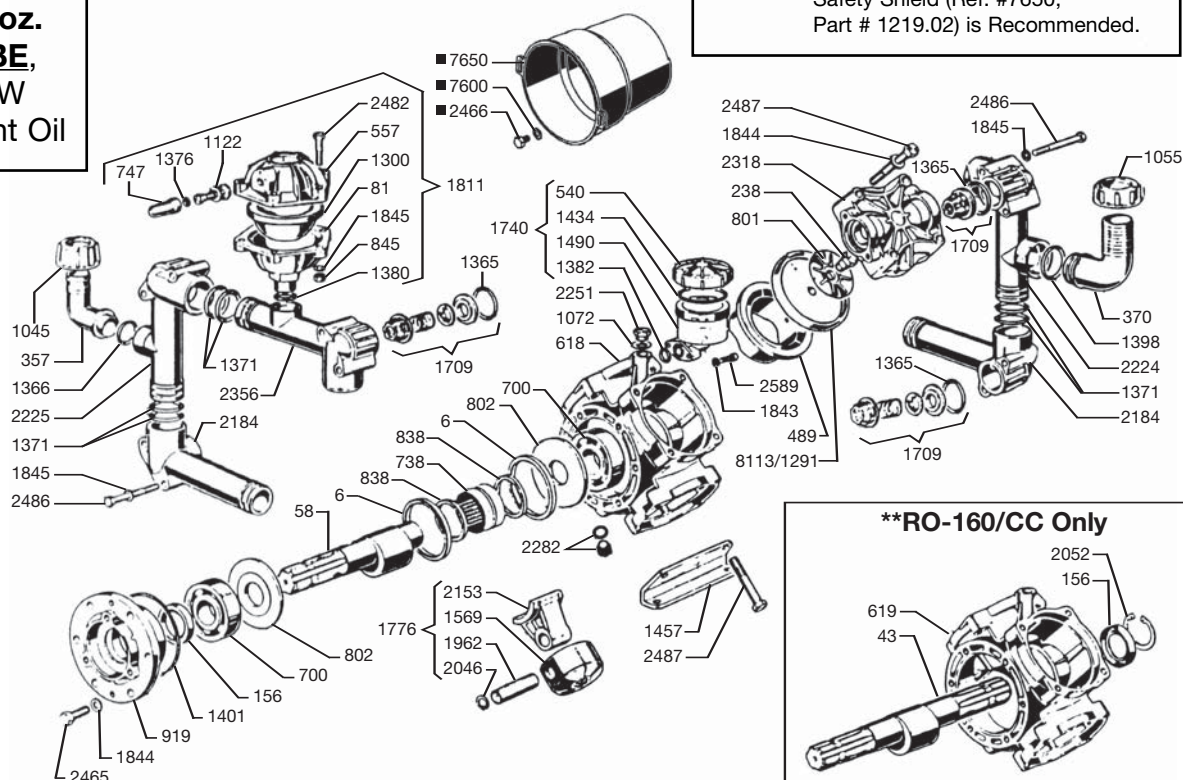
21

## 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.)





# RO-160/C – RO-160/CC

## Low Pressure Diaphragm Pumps

22

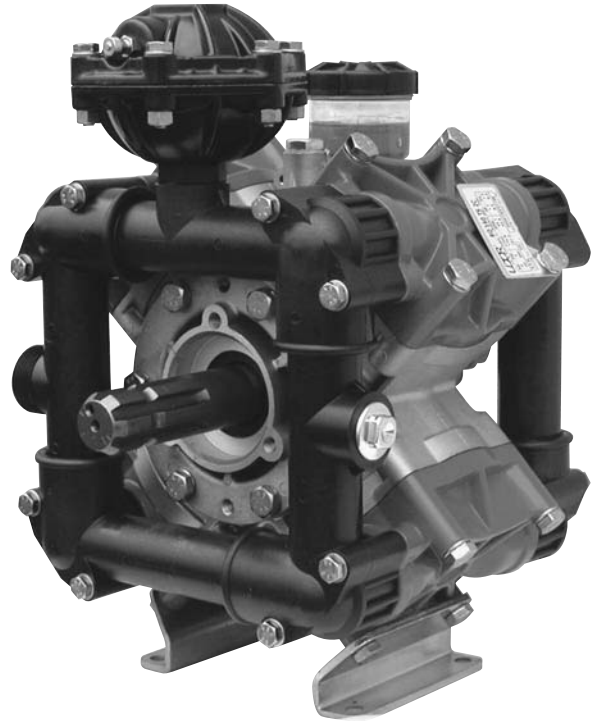
RO-160 low pressure diaphragm pumps are excellent for various horticultural and agricultural spraying applications. Simplicity of design and common parts allow easy and affordable maintenance.

Liquid handling parts are plasticized aluminum, glass-filled nylon and stainless steel. Built-in pulsation dampener is standard on all models.

Standard RO-160 comes with a 1-3/8" six-splined male PTO shaft. RO-160/CC comes with a dual 1-3/8" six-splined male PTO thru-shaft.

For industrial uses and spraying applications not listed, please consult UDOR U.S.A. For all PTO drive app. safety shield part # 1219.02 is recommended.

For Thrushaft protection, order part # 1219.15.



### SPECIFICATIONS

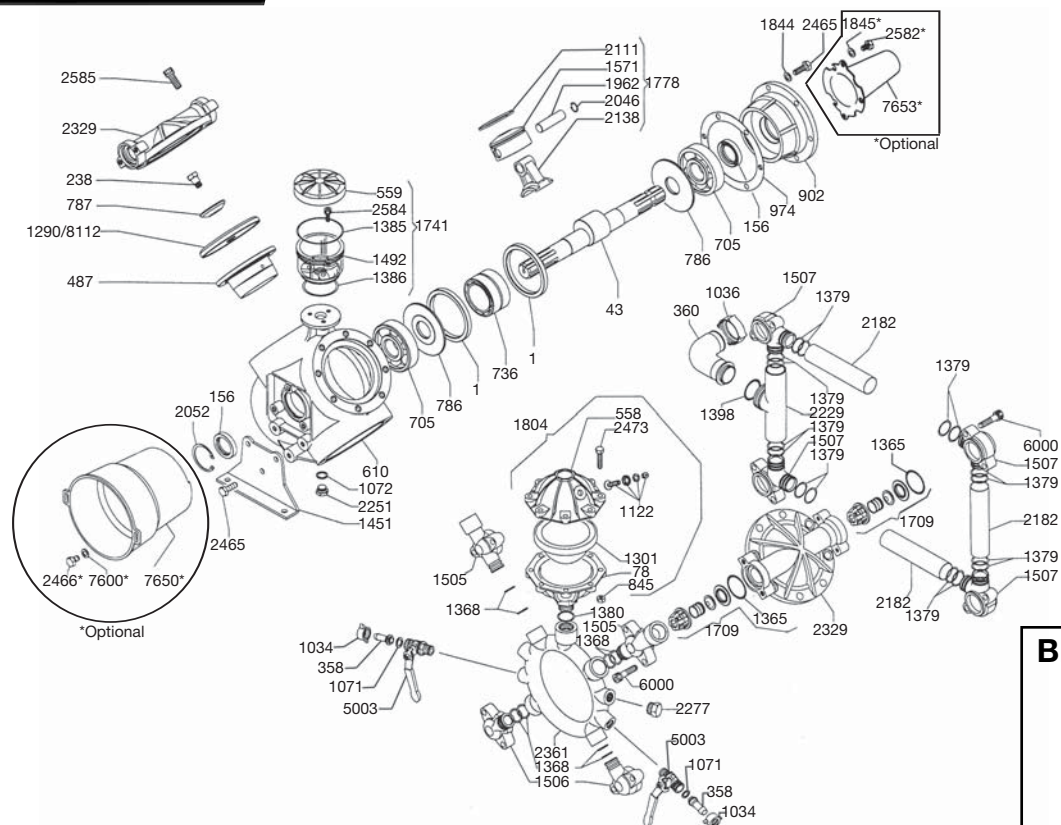
|                           |                         |
|---------------------------|-------------------------|
| Maximum Flow .....        | 42 GPM                  |
| Maximum Pressure .....    | 300 PSI                 |
| Maximum Pump Speed .....  | 540 RPM                 |
| Maximum Temperature ..... | 140°F                   |
| Ports                     |                         |
| Inlet .....               | 1-1/2" Hose Barb        |
| Discharge .....           | 1" Hose Barb            |
| Dimensions .....          | L-12" x W-15.5" x H-17" |
| Weight .....              | 56 lbs.                 |
| Diaphragm Material        |                         |
| Standard .....            | DESMOPAN                |
| Optional .....            | BUNA-N                  |

NOTE - Protect pumps from freezing. If freezing conditions exist, flush pump and system with a 50/50 mixture of antifreeze and water.



# BETA-150/CC

## Exploded View Diagram and Parts List



23

**BETA-150/CC PUMP**  
Requires 87 oz.  
**UDOT LUBE,**  
or SAE 30W  
Non-detergent Oil

| REF#   | PART#   | DESCRIPTION                  | QTY | REF#  | PART#   | DESCRIPTION                           | QTY |
|--------|---------|------------------------------|-----|-------|---------|---------------------------------------|-----|
| 1      | 0001.01 | Retainer ring                | 2   | 1505  | 1203.45 | Discharge Elbow, 3/4" F               | 2   |
| 43     | 0002.29 | Crank Shaft                  | 1   | 1506  | 1203.46 | Discharge Elbow                       | 2   |
| 78     | 0003.10 | Accumulator Body             | 1   | 1507  | 1203.54 | Suction Elbow                         | 4   |
| 156    | 0007.02 | Crank Shaft Seal             | 2   | 1571  | 1205.08 | Piston                                | 4   |
| 238    | 0102.03 | Diaphragm Bolt               | 4   | 1709  | 6006.08 | Valve Assembly                        | 8   |
| 358    | 0202.19 | 1/2" Barb                    | 2   | 1741  | 6033.02 | Oil Reservoir Kit                     | 1   |
| 360    | 0202.84 | Suction Hose Barb            | 1   | 1778  | 6015.01 | Piston & Rod Assembly                 | 4   |
| 487    | 0206.12 | Piston Sleeve                | 4   | 1804  | 6031.02 | Accumulator Assembly                  | 1   |
| 558    | 0208.21 | Accumulator Head             | 1   | 1844  | 1403.09 | Washer                                | 4   |
| 559    | 0208.22 | Oil Reservoir Cap            | 1   | *1845 | 1403.10 | Washer                                | 3   |
| 610    | 0209.17 | Pump Body                    | 1   | 1962  | 1502.01 | Connecting Rod Pin                    | 4   |
| 705    | 0214.11 | Ball Bearing                 | 2   | 2046  | 1506.02 | Snap Ring                             | 8   |
| 736    | 0216.02 | Needle Bearing               | 1   | 2052  | 1506.16 | Snap Ring                             | 1   |
| 786    | 0301.02 | Washer                       | 2   | 2111  | 1509.05 | Piston Ring                           | 4   |
| 787    | 0301.03 | Retainer Washer              | 4   | 2138  | 1519.03 | Connecting Rod                        | 4   |
| 845    | 0303.01 | Nut                          | 8   | 2182  | 1601.27 | Suction Tube                          | 3   |
| 902    | 0501.46 | Flange                       | 1   | 2229  | 1602.30 | Suction Tube                          | 1   |
| 974    | 0602.01 | Gasket                       | 1   | 2251  | 1603.02 | Oil Plug                              | 1   |
| 1034   | 0604.09 | Barb Nut                     | 2   | 2277  | 1603.34 | Plug                                  | 1   |
| 1036   | 0604.48 | Suction Nut                  | 1   | 2329  | 1604.54 | Head                                  | 4   |
| 1071   | 0605.05 | Rubber Gasket                | 2   | 2361  | 1605.22 | Discharge Manifold                    | 1   |
| 1072   | 0605.09 | Aluminum Gasket              | 1   | 2465  | 1804.03 | Bolt                                  | 10  |
| 1122   | 0608.16 | Air Valve Assembly           | 1   | *2466 | 1804.06 | Bolt                                  | 3   |
| 1290   | 0903.01 | Diaphragm (BUNA-N, Optional) | 4   | 2473  | 1804.54 | Bolt                                  | 8   |
| **1301 | 0903.16 | Accumulator Diaphragm        | 1   | *2582 | 1805.04 | bolt                                  | 3   |
| **1365 | 1101.01 | O-Ring                       | 8   | 2584  | 1805.06 | Bolt                                  | 3   |
| 1368   | 1101.04 | O-Ring                       | 8   | 2585  | 1805.08 | Bolt                                  | 32  |
| 1379   | 1101.31 | O-Ring                       | 16  | 5003  | 0608.46 | Ball Valve (Right)                    | 2   |
| 1380   | 1101.27 | O-Ring                       | 1   | 6000  | 1805.07 | Bolt                                  | 16  |
| 1385   | 1101.32 | O-Ring                       | 1   | *7600 | 1403.36 | Washer                                | 3   |
| 1386   | 1101.33 | O-Ring                       | 1   | *7650 | 1219.02 | PTO Safety Shield (optional)          | 1   |
| 1398   | 1101.42 | O-Ring                       | 1   | *7653 | 1219.15 | Shaft Protector Thru Shaft (optional) | 1   |
| 1451   | 1202.14 | Base Plate                   | 2   | *8112 | 0903.33 | Diaphragm (DESMOPAN, Standard)        | 4   |
| 1492   | 1203.30 | Oil Reservoir                | 1   |       |         |                                       |     |

\* Parts Included in Diaphragm Repair Kit - #8700.07. (Also available in BUNA-N - #8700.18.)



# BETA-150/CC

24

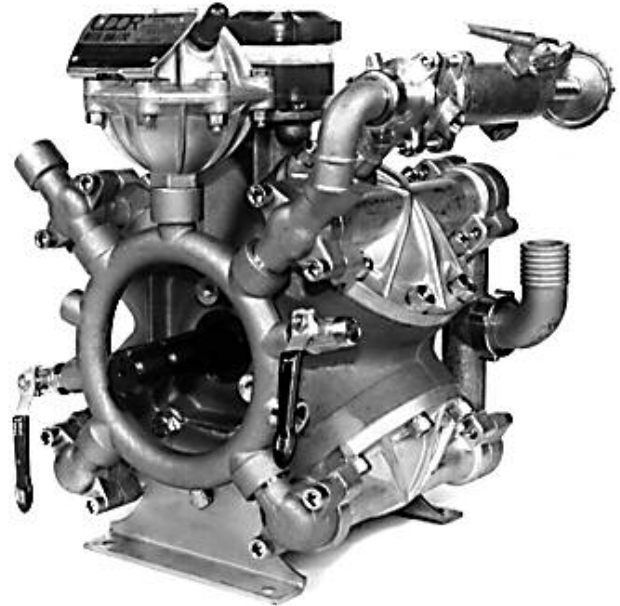
## High Pressure Diaphragm Pump

BETA-150/CC high pressure, high volume diaphragm pumps are excellent for various horticultural and agricultural spraying applications. Simplicity of design and common parts allow easy and affordable maintenance. Control valve, pulsation dampener and pressure gauge are standard.

The BETA-150/CC is constructed of aluminum, brass and stainless steel with brass and stainless steel liquid handling parts.

For industrial uses and spraying applications not listed, please consult UDOT U.S.A. For all PTO drive app. safety shield part # 1219.02 is recommended.

Splined Q-2 bushing for pulley drive is available upon request. For thru shaft protection part # 1219.15 is recommended.

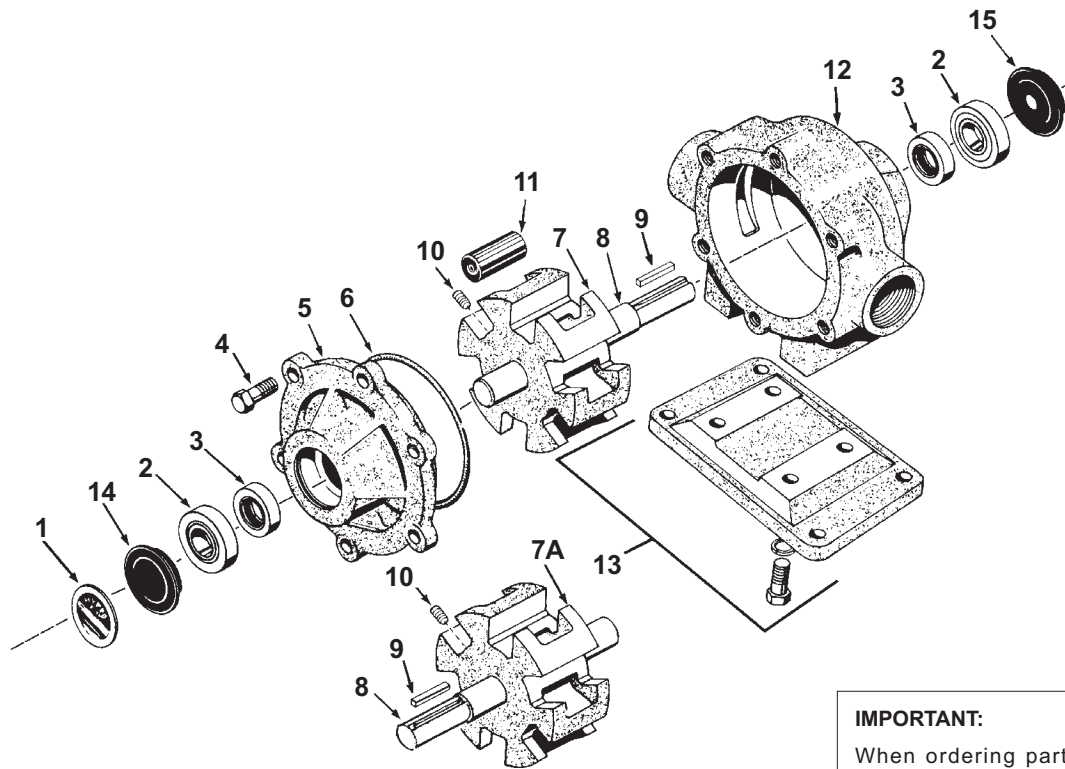


### SPECIFICATIONS

|   |                           |
|---|---------------------------|
| Maximum Flow .....                      | 42 GPM                    |
| Maximum Pressure.....                   | 700 PSI                   |
| Maximum RPM .....                       | 540 RPM                   |
| Maximum Temperature .....               | 140°F                     |
| Inlet Port Hose Barb .....              | 1-1/2"                    |
| Outlet Ports                            |                           |
| Hose Barb (Ball Valve Controlled) ..... | 1/2" (2)                  |
| FNPT .....                              | 3/4"                      |
| MNPT .....                              | 3/4"                      |
| Bypass Hose Barb.....                   | 1"                        |
| Dimensions.....                         | L-21.9" x W-15" x H-16.5" |
| Weight .....                            | 130 lbs.                  |
| Diaphragm Material                      |                           |
| Standard.....                           | DESMOPAN                  |
| Optional .....                          | BUNA-N                    |

NOTE - Protect pumps from freezing. If freezing conditions exist, flush pump and system with a 50/50 mixture of antifreeze and water.

## 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 — <b>Sold Separately</b><br>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.

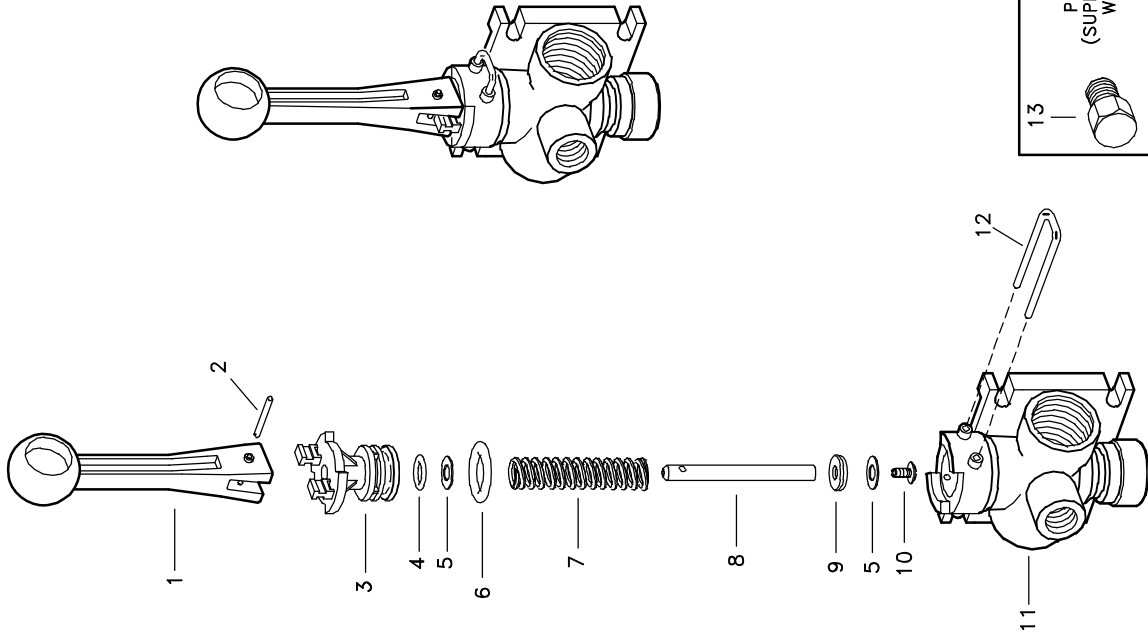
**Repair Parts Kit No. 3430-0162** Consists of: (6) Ref. 12 Polypropylene Rollers and (1) Ref. 7 O-Ring Gasket.

**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.



| 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 *) |                 |   |

13  
 PIPE PLUG  
 (SUPPLIED LOOSE  
 WITH UNIT)

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



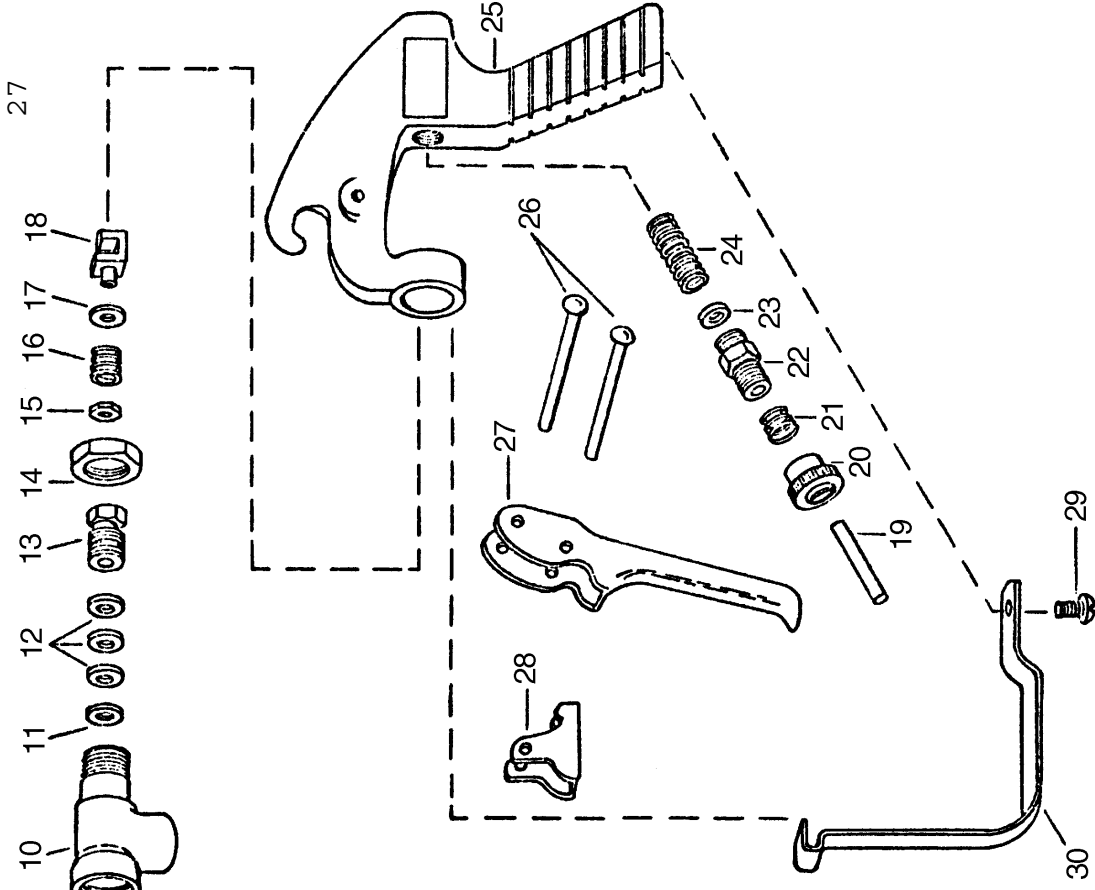
**Spraying Systems Co.**  
 Spray Nozzles and Accessories  
 P.O. Box 7900 • Wheaton, IL 60189-7900

Parts List No.  
**PL 68**

Rev. No. 1  
 Ref.

SHEET OF

# 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          |   |

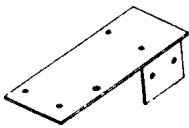


\*\*Specify Orifice Disk Size

**COMPONENT PARTS**

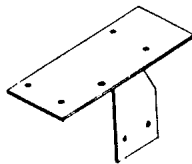
**FOR PULL TYPE SPRAYERS**

**1999 Electric Valve**  
Roller/Diaphragm Pump



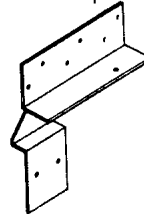
Part No. VS1999

C-Pump



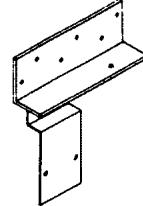
Part No. VS1999C

**2500 Electric Valve**  
Roller/Diaphragm Pump



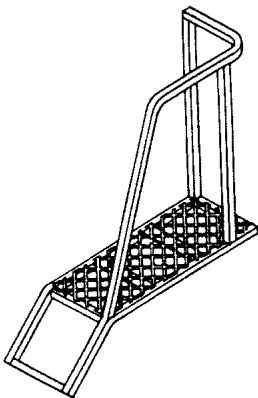
Part No. VS2500-3

C-Pump

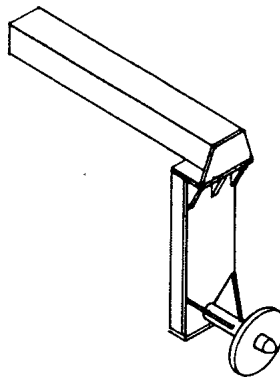


Part No. VS5200-3C

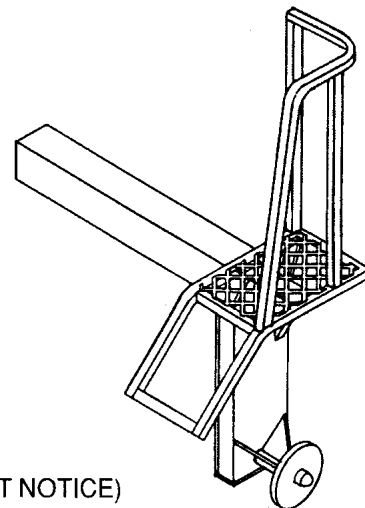
**PULL TYPE STAND**  
Part No. SP1



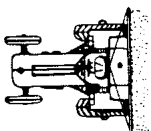
**LEFT SIDE SPRAYER LEG**  
Part No. IY-117



**RIGHT SIDE SPRAYER LEG**  
(With Stand)  
Part No. IY-117A



(PRICES SUBJECT TO CHANGE WITHOUT NOTICE)



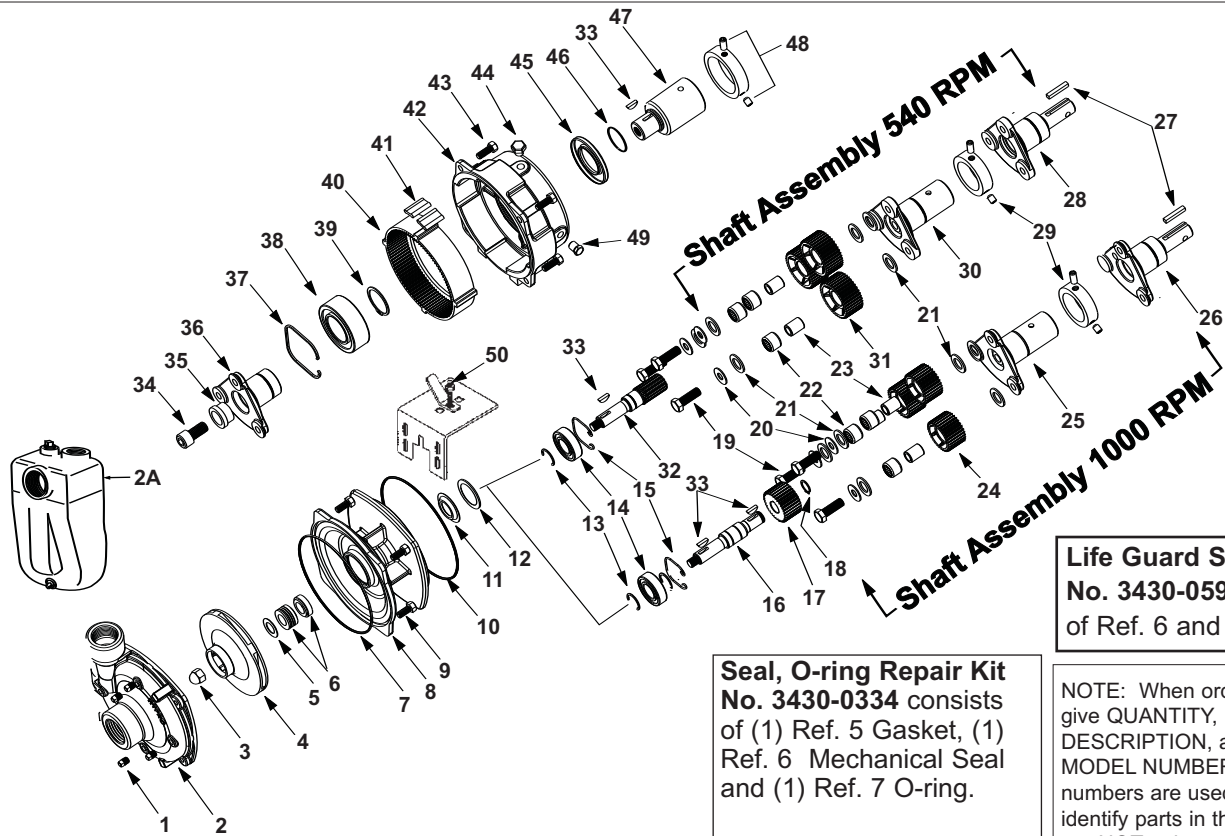
**var's**

**EQUIPMENT COMPANY**

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

*We Appreciate You and Your Business!*

(229) 985-1101



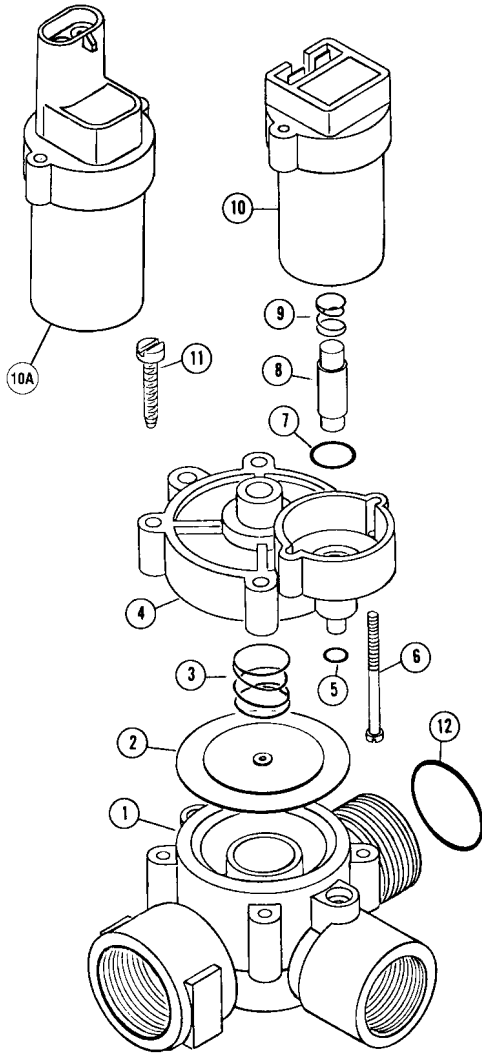
| Ref. No. | Qty. Req'd. | Part No.    | Description   |
|----------|-------------|-------------|---|
| 1        | 4           | 2406-0007   | Drain Plug  |
| 2        | 1           | 0150-9000C  | Pump Casing (w / SS wear ring)  |
| 2A       | 1           | 3430-0480SP | Pump Casing (Self-Priming Units)  |
| 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   |



# No. 1999A

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



### PARTS LIST

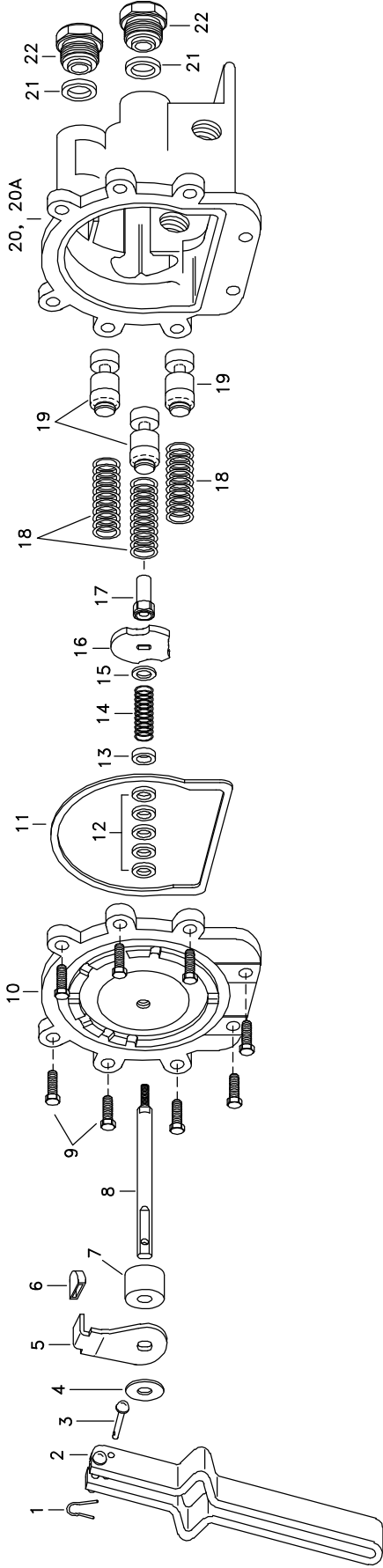
| Ref. | Part No. | Description                                     | No. Req. |
|------|----------|---|----------|
| 1    | 1962     | Valve Body.....                                 | 1        |
| 2    | *1974    | Viton Diaphragm Assembly, Standard ....         | 1        |
| 2    | (1)2109  | Aflas 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 Housing .....Glass Filled Nylon
- Wetted Metal Parts .....304 and 430 Stainless Steel
- Diaphragm, Seat and Seals.....Viton, Standard, Aflas, Optional
- Coil.....Epoxy Encapsulated
- Terminals.....1/4" Male Tabs or Weather Pack
- Voltage .....12 Volt. DC. (Other Available)
- Current.....1.1 AMP at 12 Volt.
- Pressure .....175 PSI Max., 10 PSI Min.
- Flow.....0-18 GPM 8 CV
- Actuating Pressure.....5 PSI

## TEXAS INDUSTRIAL REMCOR, INC.

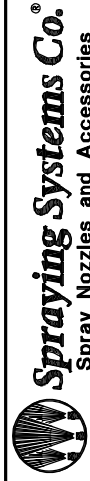
Box 3704 • Temple, Texas 76505 • (254) 982-4236



| ITEM | PART NO.      | DESCRIPTION   |
|------|---------------|---|
| *    | CP8012-1/2-SS | 1/16" x 1/2" Cotter Pin, Stainless Steel                          |
| *    | CP6849-1-IZP  | Handle and Rivet Sub-Asb., Steel, Zinc Plated and Stainless Steel |
| *    | CP7206-IZP    | Rivet, Steel, Zinc Plated   |
| *    | CP6976-IZP    | Handle Washer, Steel, Zinc Plated                                 |
| *    | CP12128-IZP   | Selector Shield, Steel, Zinc Plated                               |
| *    | CP12127-CE    | Selector Shield Tip, Celcon (Gray)                                |
|      | CP12129-CE    | Spacer, Celcon (Gray)   |
|      | CP6972-SS     | Main Stem, Stainless Steel  |
| *    | CP20607-IZP   | Hex Head Screw (1/4-20x3/4), Steel, Zinc Plated (8 Req'd)         |
| *    | CP12126-AL    | Cover Plate, Aluminum   |
| *    | CP6975-BU     | Gasket, Buna-N  |
| *    | CP5809-LEA    | Packing, Thermo-Leather (5 Req'd)                                 |

| ITEM  | PART NO.       | DESCRIPTION                             |
|---|----------------|---|
| 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              |
| 18  | CP6959-SS      | Valve Spring, Stainless Steel (3 Req'd) |
| 19  | CP6956-CE      | Valve Stem, Celcon (3 Req'd)            |
| 20  | CP6934-3/4-AL  | Body, Aluminum (For AA17L)              |
| 20A   | CP6934-13/4-AL | Body, Aluminum (For AA17Y)              |
| 21  | CP6958-POL     | Seal Plate, Polyethylene (3 Req'd)      |
| 22  | CP7902-AL      | Outlet Adapter, Aluminum (3 Req'd)      |
| No. AA17L, TeeValve Control Valve                               |                |   |
| No. AA17Y, TeeValve Control Valve                               |                |   |
| PK-AB17-KIT -Spare Parts Kit (Includes all items marked with *) |                |   |

DESCRIPTION:  
AA17  
TEEVALVE® CONTROL VALVE



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

Rev. No. 4  
Parts List No.  
PL 17  
SHEET OF

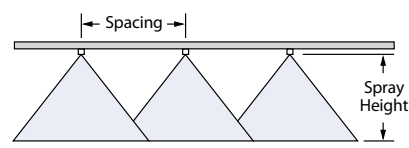


### Features:

- 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 01–015. 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.



| Tip        | PSI | DROP SIZE | CAPACITY ONE NOZZLE IN GPM | CAPACITY ONE NOZZLE IN OZ./MIN. | 20°   |       |       |       |        |        |        |        |       |       | GALLONS PER 1000 SQ. FT. |       |  |  |  |
|------------|-----|-----------|----------------------------|---------------------------------|-------|-------|-------|-------|--------|--------|--------|--------|-------|-------|--------------------------|-------|--|--|--|
|            |     |           |                            |                                 | GPA   |       |       |       |        |        |        |        |       |       |                          |       |  |  |  |
|            |     |           |                            |                                 | 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         | 0.11                       | 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         | 0.12                       | 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  | F         | 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   |  |  |  |



| 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

**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.



## 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/1000FT<sup>2</sup> – 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 1000FT<sup>2</sup> Blocks  
= 0.405 Hectare

One Hectare = 2.471 Acres

One Gallon Per Acre

= 2.9 Fluid Ounces per 1000FT<sup>2</sup>  
= 9.35 Liters Per Hectare

One Gallon Per 1000FT<sup>2</sup> = 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"***   |

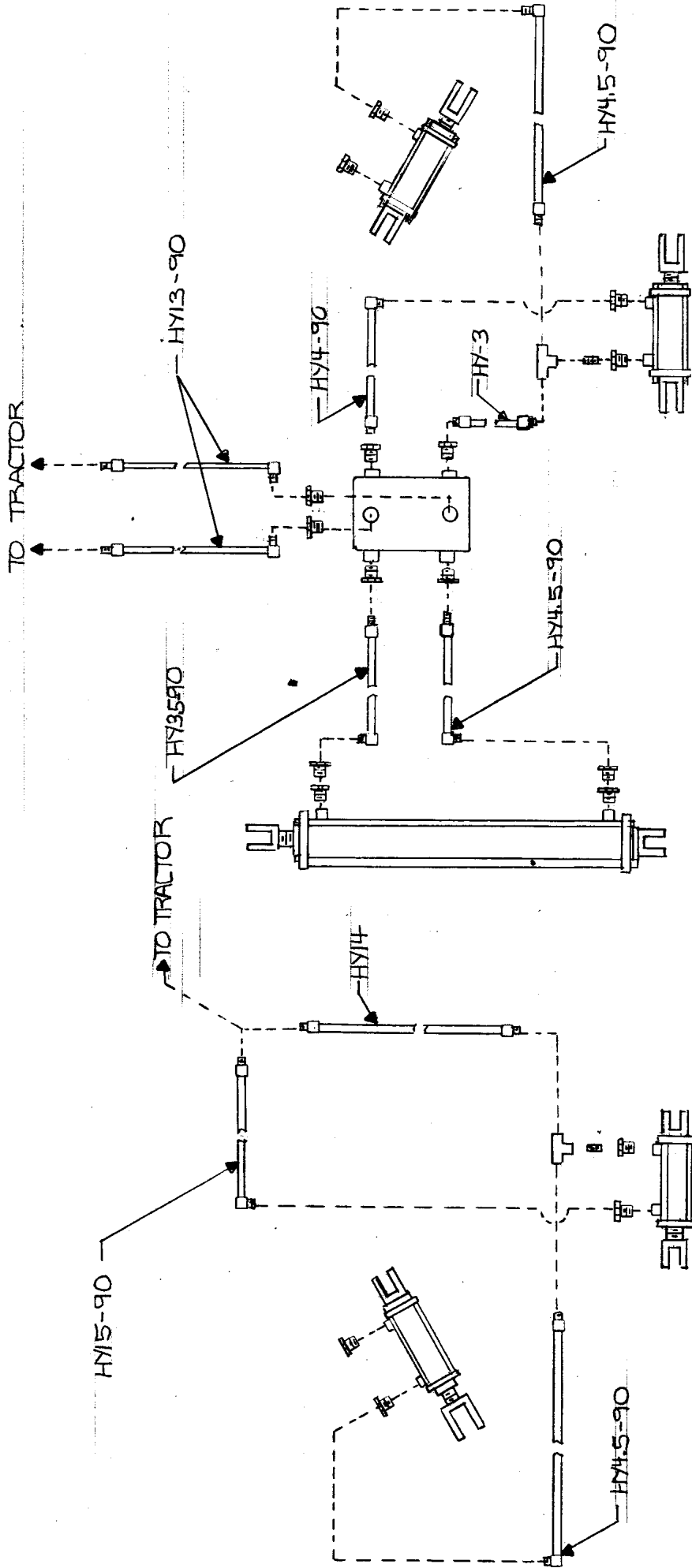
\* Not recommended.

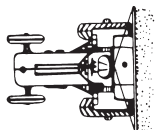
\*\* Nozzle height based on 30° to 45° angle of orientation (see page 30 of catalog).

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

# HYDRAULIC PLUMBING SCHEMATIC

34





**van's**

**EQUIPMENT COMPANY**

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

*We Appreciate You and Your Business!*

(229) 985-1101