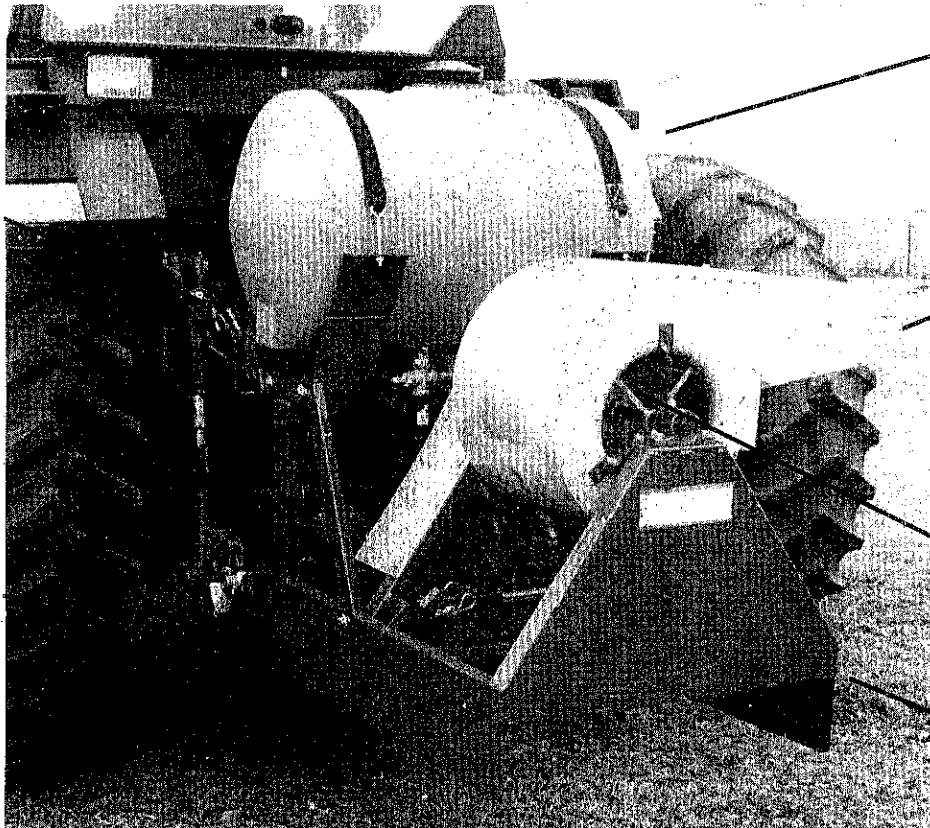


BIG JOHN MIST SPRAYER

OWNER'S/OPERATOR'S MANUAL



BIG JOHN MFG. CO., INC

PO Box 456 Osmond, NE 68765

800-658-4471

THANK YOU AND CONGRATULATIONS!

You are now the proud new owner of America's #1 low volume Mist Sprayer from BIG JOHN MANUFACTURING CO., INC. Please take the time to read this operator's manual carefully to be sure you understand the proper OPERATION and MAINTENANCE of our mist sprayer.

Big John will provide warranty on all of our new Mist Sprayers. To be eligible for our warranty, the warranty registration card must be completed and returned to Big John within 15 days after delivery. If you do not have a warranty card contact your distributor or dealer. The completed warranty card must be on file with BIG JOHN MANUFACTURING CO., INC., Osmond, Nebraska before any warranty claims are honored. Big John will not provide warranty on any mist sprayer that has been altered in any way or damaged in shipment! Big John Manufacturing Co., Inc. mist sprayers and products are warranted to be free of defects in materials and workmanship. Vendor items are warranted by vendor. Big John reserves the right to make changes in price, design, materials and specifications or to withdraw any product without notice or liability thereof.

BIG JOHN MANUFACTURING CO., INC.

OSMOND, NEBRASKA 68765

*****SAFETY PRECAUTIONS (Before operation)*****

- A. Carefully read, study and understand the operators manual for the Big John mist sprayer and the gasoline engine operators manual before operation.
- B. Check to make sure all guards and safety shields are in place and properly functioning.
- C. Be ABSOLUTELY sure there are no foreign objects or tools lying in or on the Big John mist sprayer.
- D. DO NOT wear loose fitting clothing which may catch in the PTO shaft or other moving parts.
- E. Make sure the mist sprayer is hitched or mounted correctly to the tractor or truck.
- F. Do not start the mist sprayer until you are SURE everyone is clear of the machine and away from the VOLUTE .
- G. Inspect the fly wheel and the blower wheel daily. Any accumulations of foreign material and/or dirt may cause excessive vibration or imbalance. Clean thoroughly daily.

*****DURING OPERATION

- 1. NOTICE: Keep hands, feet and clothing away from all moving parts, especially the PTO shaft, and the air intake area of the fan.
- 2. Do not step over or around the PTO shaft while the machine is running.
- 3. Stay way clear of the mist sprayer fan discharge area.
- 4. Do not adjust, clean or lubricate your mist sprayer while it is running.
- 5. Do not stand, sit or ride on the mist sprayer while it is running.
- 6. Never leave any running mist sprayer unattended.

*****SAFETY PRECAUTIONS (Industrial and Agricultural Chemicals)*****

1. Always keep chemicals out of reach of children, irresponsible people, livestock and pets. Always store industrial and agricultural chemicals away from your home, groundwater sources, feed, and food products. When possible place under lock and key.
2. Please read the MFG label with care. Always choose the correct industrial or agricultural chemical for your application. Remember before opening any chemical container, pay close attention to the MFG warnings and cautions on these labels.
3. Always store chemicals in their original containers.
4. Never eat, drink, smoke or take medication while applying any chemicals.
5. Always avoid direct contact and inhalation of any chemical.
6. Avoid spills when possible. When and if a spill does occur, please follow the MFG decontamination procedures on their label.
7. Always avoid contamination of all water supplies.
8. Avoid chemical contamination of livestock, feed and water supplies when spraying chemicals. We recommend covering the containers when possible.
9. Always bathe and change to clean clothing after every chemical application.
10. Never apply chemicals under any wind conditions which could create a chemical drift to a non-target area.
11. Always empty chemical containers and rinse them 3 or 4 times before disposing of them. Always add the rinse to the mist sprayer tank and dispose of excess chemicals and their containers according to federal, state and local regulations to avoid chemical hazards to animals, environment and most importantly, to mankind.
12. Never enter the chemical application area! Always check local, state and federal requirements for the correct re-entry time period.

Big John mist sprayers are engineered and designed to provide maximum safety and efficiency to the chemical applicator. However, the user must exercise reasonable care when using the mist sprayer to achieve desired results.

*****INSPECTION CHECK LIST*****
for
Distributor - Dealer - Operator

This inspection check list must be made on all new Big John mist sprayers prior to any operation. Please check each item listed. Some adjustment may be necessary before operation.

- A. () Check PTO shaft and shield to make sure it turns freely and is in good operation order.
- B. () Check and make sure all guards and shields are in their proper place and secure.
- C. () Check all mist sprayer belts for cracks and alignments.
- D. () Check any and all hydraulic connections for any loose connections or missing parts.
- E. () Check all nuts and bolts and tighten if necessary.
- F. () Check volute and blower wheel for any loose connections and foreign material.
- G. () Check all sheaves, sprockets and set screws for proper tightness and for loose or missing parts.
- H. () Check hyd. cylinder hoses, hyd. cyl. and electric actuator if your machine has one for proper alignment and loose connections.
- I. () Check hyd. cyl. set screw bolt to make sure its OUT when you install your hyd. cyl. (very important)
- J. () Check your poly tank for foreign material.
- K. () Check the gasoline engine to make sure it's bolted down and secure and in proper working order. (see gasoline operators manual.)
- L. () Check PTO shaft for right length! If the PTO shaft has to be shorter make sure to cut both ends the same length.
- M. () Check blower fan for proper timing. If the fan needs to be timed turn to Page 7 and make necessary adjustments.

BIG JOHN MIST SPRAYERS are engineered and designed for easy serviceability and maintenance. During the break-in period always check the PTO, all shields, nuts and bolts and belts for looseness and proper alignment. Some additional adjustment may be necessary during the break-in period. All nozzles, belts and strainer screens should be checked and cleaned daily.

*****SAFETY PRECAUTIONS*****

All ag and industrial chemicals can be Hazardous! Always select the proper chemical for the job. Any improper selection or use of ag or industrial chemicals may seriously injure animals, water sources, plants, soil, neighbors, property and man himself. Always follow MFG instructions on the chemical label. BE SAFE!

Most all farm equipment may be inherently dangerous to all children and adults unfamiliar with the machinery operation. All mist sprayers contain various moving parts that can be extremely hazardous. All necessary precautions should be taken to assure the safety of the operator and people around the equipment. Big John recommends that no one person or persons be permitted to operate the mist sprayer unless they completely understand how the mist sprayer works and have observed all safety precautions.

BE SAFE: Big John's prime consideration is the safety of it's mist sprayer's operator. Big John follows the ASAE guidelines for guarding its mist sprayers for safe use by our customers. Guards and shields are provided for your safety and protection and should never be removed. If removed for maintenance replace immediately or prior to any mist sprayer operation.

BE SAFE: Your best insurance against accidents or property damage is a capable, responsible adult operator. Any careless operator is a liability to you or himself and all that work with or around him.

BE SAFE: Big John strongly recommends that any operator read and thoroughly understand our operators manual prior to operating our mist sprayer. And if there is any portion of our operator manual or any phase of our mist sprayer operation you do not understand, please contact your local distributor, dealer or BIG JOHN MANUFACTURING CO., INC., PO Box 456, Osmond, Nebraska 68765.

*****PROPER HOOK - UP*****

Skid units - 3 Point units - Trailer units

SKID UNITS - Make sure your skid unit is centered on your pick-up or truck and properly bolted down before operation.

3 POINT UNITS - When attaching the Big John mist sprayer to the 3 point of a tractor make sure the forged steel pins and the center link are properly secured. Then attach the PTO shaft to the tractor PTO. Be sure the PTO and its shield are properly locked in place before operation. Always keep Big John mist sprayers as level as possible during operation.

NOTICE!!!

- A. 3 point units - when attaching an 8" stroke cylinder make sure the air is out of the hoses. Big John highly recommends putting in 2 (two) restrictors to slow down oil flow. (They are not standard equipment.)
- B. Be sure to remove slide lock BOLT and attach 8" stroke cylinder and hoses to the stationary mounting bracket. Operate the cylinder slowly to make sure chain linkage in in TIME. Timing may be changed by loosening bolt on chain bracket, raising chain off SPROCKET, and turning blower fan to the CORRECT POSITION. The blower fan should rotate 210 degrees on full stroke of 8" cylinder without coming in contact with the frame or damage may result.

TRAILER UNITS - All Big John trailer units are engineered to connect to all SAE - ASAE standard tractor drawbars. Always adjust the drawbar so that the horizontal distance from the end of the tractor PTO shaft to the center of the hitch pin hole is approximately 14" for 540 RPM PTO. All drawbars should be 14" to 20" maximum above level ground. Always lock your drawbar in the crossbar, parallel with tractor centerline. Place either the proper bolts or locking pins on both sides of drawbar for proper trailing and stabilization.

NOTICE!!

(VERY IMPORTANT) An incorrectly located trailer hitch (drawbar) point may cause damage to the trailer tongue and or power take-off shaft which may lead to personal injury.

*****CAUTION NOTICE*****

BE SAFE: Any accumulation of foreign material or dirt in the fly or blower wheel may cause excessive vibration or wheel imbalance. Thoroughly clean and inspect daily!

STARTING UP PHASE

BE SAFE: Big John mist sprayers should never be operated without liquid in the tank! It may cause premature or excessive heating and wear on the pump. When you have selected the proper ag or industrial chemical for the job and the mist sprayer tank is filled with the correct amount of water and concentration leveler the Big John mist sprayer can then be put to use. Big John mist sprayers should be run at the correct 540 RPM PTO speed for PTO units. For gas engine models see the operators manual. When this is done set the correct pressure on the pressure regulator. 30 PSI to 60 PSI in most cases is sufficient. This can be done by loosening the lock nut on the pressure regulator "T" handle. Then turn the "T" handle clockwise until the correct pressure is reached. After the correct pressure has been reached remember to re-tighten the lock nut on the pressure regulator. Don't forget to adjust the volute to the correct spraying direction. You then turn on your supply valve and you are ready to start MIST SPRAYING.

BLOCKAGE

BE SAFE: Most blockages can be detected early. If there is a blockage remove and clean the nozzles, screen and lines.

IMPORTANT

DECONTAMINATION OF SPRAYERS

BE SAFE: Most chemicals can be effectively cleaned and flushed out of a sprayer. (Check federal, state and local regulations). If in doubt about any chemical call your chemical supplier or your local agricultural agent about the latest decontamination procedures.

NOTICE!!!

Never run a Big John Mist Sprayer at 1000 RPM! They are not designed to run at 1000 RPM.

540 RPM PTO ONLY!!!

*****CALIBRATING FLAT TYPE NOZZLES*****

To effectively determine the application rate use the following procedure:

- A. Select the GPA (gallons per acre) of spray mixture required. Refer to chemical mfg. label directions and recommendations.

Example: 1.5 GPA

- B. Select suitable sprayer speed. For tractors, decide which gear will be used; then determine the exact speed for that gear when traveling at an engine speed that turns the PTO 540 RPM. It may be necessary to drive the tractor in a straight line for one minute at 540 PTO speed and measure the feet traveled. The number of feet traveled in one minute divided by 99 equals MPH (miles per hour).

Example:
$$\frac{440 \text{ ft}}{88} = 5 \text{ MPH}$$

For truck mounted or trailered gas engine powered sprayers, decide on a gear and read the speedometer or check as above if in doubt of the accuracy of the speedometer.

NOTE: Normal PTO operating speed is 540 RPM ; However, for fragile crops, susceptible to wind damage, the sprayer should be calibrated at a lower PTO speed.

- C. Select the swath width to be used.
Example: 60 ft.
- D. Calculate the total flow rate in GPM required using the following formula.

$$\frac{\text{GPA} \times \text{MPH} \times \text{swath width}}{495} = \text{total flow rate in GPM}$$

Example:
$$\frac{1.5 \text{ GPA} \times 5 \text{ MPH} \times 60 \text{ ft.}}{495} = .91 \text{ GPM}$$

- E. Calculate flow rate of each nozzle using the following formula:

$$\frac{\text{Total flow rate in GPM}}{\text{number of nozzles}} = \text{Flow rate of each nozzle}$$

Example:
$$\frac{.91 \text{ GPM}}{3 \text{ nozzles}} = .30 \text{ GPM per nozzle}$$

NOTE: Some volutes use five flat nozzles, or eight flood jet tips.

*****LUBRICATION*****

!!!! CAUTION !!!!

Never attempt to lubricate or service Big John Mist Sprayers until the PTO has been disengaged, the tractor engine has been turned off and all motion has stopped.

VOLUTE ROTATION ROLLER CHAIN

The roller chain on the fan rotation should be oiled daily.

BIG JOHN BEARINGS

There are six bearings located on the PTO mist sprayer; one on each side of the fan and two on the main shaft located under the tank and fan. There are two bearings located on the gas engine mist sprayer; one on each side of the fan. These are sealed bearings and as a general rule require no lubrication; however, the bearing manufacturer recommends regreasing before one third (1/3) of the bearing calculated life elapses.

Usually just a pump of grease per bearing before starting up each season will be sufficient.

DO NOT OVER GREASE! Over greasing can cause damage to the bearing seals.

BIG JOHN PTO

Telescoping sections should be greased semi-annually.

GAS ENGINE

See engine owners manual for proper lubrication.

*****OPERATION*****

CALIBRATING BIG JOHN MIST SPRAYERS

FLAT NOZZLES

Big John Sprayers with nozzles have #3 (brass 8003) nozzle orifices, #25 cores and #20 nozzle strainers installed at the factory. Additional orifices, cores, nozzles and strainers can be provided to obtain various calibration rates.

Orifices, cores, nozzles and strainers should be removed and thoroughly cleaned at regular intervals to insure accuracy and prevent blockages. Once a day is recommended.

FILLING THE SPRAYER

Determine the chemical concentration required according to chemical label directions. Generally these directions give a range of low to high concentrations for a specific use. Big John sprayers perform well using the light to medium concentrations.

Wettable powders should be premixed with water to eliminate lumps. This premixed solution should be strained through no larger than a 40 mesh screen when adding to the tank.

When filling the spray tank be sure to have the tank half full of water then add the required chemical and finish filling the tank to the desired capacity. Use only clean water and fresh chemicals for best results.

Most chemicals deteriorate rapidly after mixing so mix only the amount you intend to use immediately. Never leave unused chemicals in the tank or lines of the sprayer. Drain and flush after each use.

*****ABBREVIATIONS AND SPRAYING FORMULAS*****

- A.
$$\text{MPH} = \frac{\text{Number of feet traveled in one minute}}{88}$$
- B.
$$\text{Total GPM} = \frac{\text{GPA} \times \text{MPH} \times \text{swath width}}{495}$$
- C.
$$\text{Flow rate per nozzle} = \frac{\text{Total GPM}}{\text{Number of nozzles}}$$
- D.
$$\text{GPA} = \frac{495 \times \text{GPM (total)}}{\text{MPH} \times \text{swath width}}$$
- E.
$$\text{Acres per minute} = \text{MPH} \times \text{swath width} \times .002$$
- F. GPA = Gallons per acre
- G. PTO = Power take off
- H. RPM = Revolutions per minute
- I. MPH = Miles per hour
- J. GPM = Gallons per minute
- K. PSI = Pounds per square inch (gauge pressure)

CONVERSION FACTORS

1 yard	= 3 feet	= 0.91 metre
1 metre	= 39.37 inches	= 1.09 yards
1 statute mile	= 0.87 nautical mile	= 1.61 kilometres
1 nautical mile	= 1.15 statute miles	= 1.85 kilometres
1 kilometre	= 0.62 statute mile	= 0.54 nautical mile
1 statute mile	= 1760 yards	= 5280 feet
1 nautical mile	= 2027 yards	= 6081 feet
1 kilometre	= 1094 yards	= 3282 feet

1 acre	= 43560 sq feet	= 4840 yards
1 acre	= 4047 sq metres	= 0.40 hectare
1 hectare	= 107600 sq feet	= 35866 sq yards
1 hectare	= 10000 sq metres	= 2.50 acres
1 sq mile	= 640 acres	= 256 hectares
1 sq kilometre	= 247 acres	= 100 hectares

1 US Gal	= 0.83 Imp gal	= 3.78 litres
1 Imp gal	= 1.20 US gal	= 4.54 litres
1 litre	= 0.26 US gal	= 0.22 Imp gal
1 US pint	= 16 US fl ounces	= 0.47 litre
1 Imp pint	= 20 Imp fl ounces	= 0.57 litre

1 US gal/acre	= 8 US pints/acre	= 9.45 litres/hectare
1 Imp gal/acre	= 8 Imp pints/acre	= 11.35 litres/hectare
1 litre/hectare	= 0.11 Us gal/acre	= 0.081 Imp gal/acre

1 pound	= 16 ounces	= 0.45 kilogram
1 kilogram	= 2.20 pounds	= 35.2 ounces
1 ounce	= 28.41 grams	

1 pound/sq inch	= 0.068 atmosphere	= 0.067 bar
1 atmosphere	= 14.70 pounds/sq in	= 1.01 bars
1 bar	= 14.50 pounds/sq in	= 0.98 atmosphere

**BIG JOHN
APPROXIMATE
METERING INFORMATION**

Based on tank capacity of 55 gallon with a tractor speed of 4MPH and using two (2) spray nozzles.

Tip #	Pressure	GPH	Feet of Coverage	Acres per Tank	Feet of coverage	Acres per tank
8003	60 PSI	42.5	100'	59.74	75'	44.0
8003	50 PSI	37.5	100'	67.7	75'	50.6
8002	50 PSI	22.5	100'	121.0	75'	83.6
8002	40 PSI	20.8	100'	127.6	75'	94.6
8001	30 PSI	7.5	100'	330.0	75'	246.4

Note: A tractor speed of 2 MPH cuts in half the above coverage per tank. A speed of 3 MPH with 100' coverage equals the same acres per tank as 75' at 4 MPH.

NOTE: All Big John Mist Sprayers are equipped with 3 8003 Brass nozzles. To obtain the above results you must plug the center nozzle.

Tip No.		Liquid Pressure in PSI	Capacity		Tip No.		Liquid Pressure in PSI	Capacity	
Strainer Screen Size 80° Series	110° Series		Capacity 1 Nozzle in GPM	1 Nozzle in oz./min.	Strainer Screen Size 80° Series	110° Series		Capacity 1 Nozzle in GPM	1 Nozzle in oz./min.
8001VS 100 Mesh	11001VS 100 Mesh	30	.09	11	8004VS 50 Mesh	11004VS 50 Mesh	30	.35	45
		35	.09	12			35	.37	47
		40	.10	13			40	.40	51
		45	.11	14			45	.42	54
		60	.12	15			60	.49	63
							70	.53	68
							80	.57	73
							90	.60	77
							100	.63	81
80015VS 100 Mesh	110015VS 100 Mesh	30	.13	17	8005VS 50 Mesh	11005VS 50 Mesh	30	.43	55
		35	.14	18			35	.47	60
		40	.15	19			40	.50	64
		45	.16	20			45	.53	68
		60	.18	23			60	.61	78
		70	.20	26			70	.66	84
		80	.21	27			80	.71	91
							90	.75	96
							100	.79	101
8002VS 50 Mesh	11002VS 50 Mesh	30	.17	22	8006VS 50 Mesh	11006VS 50 Mesh	30	.52	67
		35	.19	24			35	.56	72
		40	.20	26			40	.60	77
		45	.21	27			45	.64	82
		60	.25	32			60	.74	95
		70	.26	33			70	.79	101
		80	.28	36			80	.85	109
							90	.90	115
							100	.95	122
8003VS 50 Mesh	11003VS 50 Mesh	30	.26	33	8008VS 50 Mesh	11008VS 50 Mesh	30	.69	88
		35	.28	36			35	.75	96
		40	.30	38			40	.80	102
		45	.32	41			45	.85	109
		60	.37	47			60	.98	125
		70	.40	51			70	1.06	136
		80	.42	54			80	1.13	145
							90	1.20	154
							100	1.26	161

Type		Liquid Pressure in PSI	Capacity in GPM
Flood Jet Tip No.	Flood Jet Nozzle No.		
TK-SS-50 (100 Mesh)	1/4 K-SS-50	10	—
		20	.07
		30	.08
		40	.10
TK-SS-75 (100 Mesh)	1/4 K-SS-75	10	.075
		20	.11
		30	.13
		40	.15
TK-SS-100 (100 Mesh)	1/4 K-SS-1	10	.10
		20	.14
		30	.17
		40	.20
TK-SS-150 (50 Mesh)	1/4 K-SS-1.5	10	.15
		20	.21
		30	.26
		40	.30
TK-VS-2 (50 Mesh)	1/4 K-SS-2	10	.20
		20	.28
		30	.35
		40	.40
TK-VS-2.5 (50 Mesh)	1/4 K-SS-2.5	10	.25
		20	.35
		30	.43
		40	.50
TK-VS-3 (50 Mesh)	1/4 K-SS-3	10	.30
		20	.42
		30	.52
		40	.60
TK-VS-4	1/4 K-SS-4	10	.40
		20	.57
		30	.69
		40	.80
TK-VS-5	1/4 K-SS-5	10	.50
		20	.71
		30	.87
		40	1.0

*****BIG JOHN MIST SPRAYER-STORAGE*****

When the Big John Mist Sprayer will be stored for any period of time use the following procedure to insure proper operation when it needs to be used again.

- A. Follow Federal, State and Local decontamination regulations.
- B. Wash all foreign materials, dirt, debris, chemicals, etc. from the outside of the sprayer.
- C. Drain and flush the entire Big John spray system with anti-freeze leaving some in the system during storage.
- D. Fill the pump with anti-freeze and turn it over 2 or 3 times to make sure the anti-freeze is all through the pump.
- E. Lubricate all greasable fittings.
- F. Brush the fan rotation gear and roller chain with a light oil.
- G. Remove nozzles or sprayhead and cover or plug openings. The nozzles or sprayheads should be cleaned and stored separately.
- H. Store the Big John Mist Sprayer in a dry place. If it is to be stored outside, cover it.

Big John Mist Sprayers use a high velocity AIR STREAM instead of water to transport the CHEMICAL to the targeted area being sprayed. The chemical is pumped through nozzles into the air stream creating a mist which envelopes the targeted area being sprayed. NOTICE: The nozzle size, number of nozzles, chemical concentration and pressure determine the amount of chemical to be delivered.

NOTICE: OPERATING HINTS:

- A. Engage 540 RPM PTO shaft only at a SLOWER RPM. Then increase the RPM to an operating speed of 540 RPM.
- B. Keep the Big John Mist Sprayer as level as possible.
- C. NOTICE! Make sure PTO drive shaft is connected correctly and that shields are in place.
- D. Make sure fan rotation is correct.

NOTICE! NOTICE! NOTICE! NOTICE!

1. Keep nozzles, strainers, filters and hoses CLEAN!
2. Always flush sprayer after each use. It will add to the life of the pump and is in accordance with Local, State and Federal regulations.
3. Never let concentrate and water freeze in the Mist Sprayer during cold weather.
4. Never let any pump run dry.
5. Keep children and all personnel away from fan discharge area!
6. Not recommended for use with STRONG WINDS.

SOME GENERAL USES FOR MIST SPRAYERS

- ** Spraying pasture and range ground for weed and brush control
- ** Beef cattle spraying and cow-calf herds - no penning and no hassle
- ** Dairy spraying for flies
- ** Disinfecting of farrowing sheds and confinements and fly control in swine
- ** Spraying mosquitoes to control West Nile Virus
- ** All types of vegetable crops, fruit, shade and wind break trees
- ** Corn bore control, ear worm control, afid and green bug control in corn and alfalfa
- ** Fence rows, road rightways and ditches for weed and brush control

MIXING HERBICIDES

Most herbicide labels give mixing sequences for tank mix combinations. If directions are not given, follow these steps:

1. Add approximately one-half of the needed water to the tank with agitation on.
2. If called for, add compatibility agents, anti-foaming agents, wetting agents, fertilizer, or other additives except crop oil.
3. Add flowables, dry flowables, or wettable powders, and agitate.
4. If needed, add emulsifiable concentrates, crop oils and/or surfactants, and agitate. Don't over agitate.
5. Finish filling tank with water while continuing agitation.
6. Apply as soon as possible after mixing. Avoid holding overnight whenever possible.

Sprayers should provide good agitation of spray solution and be equipped with appropriate strainers and screens to avoid nozzle clogging. DO NOT MIX HERBICIDES NEAR WATER SOURCES. HERBICIDES MAY NOT ALWAYS MIX READILY. CONDUCT A COMPATIBILITY TEST IF IN DOUBT.

CLEANING THE SPRAYER

First rinse the sprayer with a material which acts as a solvent for the herbicide. Apply rinsate on registered crop or site. Kerosene and fuel oils dissolve oil-soluble herbicides such as 2,4-D ester. Chemicals which form emulsions when mixed with water are oil-soluble. After the oil rinse, a rinse with water containing detergent will help remove the oil. Oil-soluble herbicides are the most difficult to remove. For most water-soluble herbicides, repeated rinsing with water is usually enough. Hormone type compounds require extra precautions. 2,4-D amine salts are water-soluble.

CLEANUP PROCEDURES

2,4-D Banvel, Clarity, Curtail, FallowMaster, Landmaster, Marksman, Tordon

Fill the tank with water and ammonia. Add one quart of household ammonia to 25 gallons of water. Approved tank cleaner can be used instead of ammonia as specified on product label. Pump enough solution through the hose and nozzles to fill these parts completely. Then fill the tank, close and leave for 24 hours before rinsing thoroughly with water.

Activated charcoal can be used after the preliminary rinsing to decontaminate the sprayer. A 3% suspension absorbs the 2,4-D. Agitate the suspension for two to three minutes and drain, then rinse thoroughly with clear water.

Atrazine, Bicep, Bladex, Extrazine II, Lariat, Laddok, Lexone, Sencor, Sutazine

See that none of the powder remains in the tank or spraying system. Thoroughly clean all equipment immediately after use.

Accent, Ally, Amber, Beacon, Classic, Finesse Gemini, Glean, Pinnacle, Canopy, Preview

1. Drain tank, then flush tank, boom and hoses with clean water for a minimum of 10 minutes.
2. Fill the tank with clean water, then add one gallon ammonia per 100 gallons of water. Flush through boom and hoses, allow to sit for 15 minutes with agitation, then drain.
3. Repeat Step 2.
4. Nozzles and screens should be removed and cleaned separately. To remove traces of ammonia, rinse the tank thoroughly with clean water and flush through hoses and boom.

THIS CHART IS FOR TOTAL APPLICATION WITH A SINGLE PASS OVER THE SWATH WIDTH.
 For spraying foliages from both sides refer to chemical label charts.

APPLICATION RATES FOR ONE SIDE OF ONE ROW

SPRAYER VOLUME OUTPUT REQUIRED AT 50 FEET SWATH WIDTH COVERAGE
 OUTPUTS ARE IN GALLONS PER MINUTE FOR ALL NOZZLES USED TOTALLED

GROUND SPEED	GALLONS PER ACRE												
	0.50	1.00	1.50	2.00	2.50	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
IN MPH	OUTPUT IN GALLONS PER MINUTE												
1.00	0.05	0.10	0.15	0.20	0.25	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
1.50	0.08	0.15	0.23	0.30	0.28	0.45	0.60	0.75	0.90	1.05	1.20	1.35	1.50
2.00	0.10	0.20	0.30	0.40	0.50	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00
2.50	0.13	0.25	0.38	0.50	0.63	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50
3.00	0.15	0.30	0.45	0.60	0.75	0.90	1.20	1.50	1.80	2.10	2.40	2.70	3.00
3.50	0.18	0.35	0.53	0.70	0.88	1.05	1.40	1.75	2.10	2.45	2.80	3.15	3.50
4.00	0.20	0.40	0.60	0.80	1.00	1.20	1.60	2.00	2.40	2.80	3.20	3.60	4.00
4.50	0.23	0.45	0.68	0.90	1.13	1.35	1.80	2.25	2.70	3.15	3.60	4.05	4.50
5.00	0.25	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00
5.50	0.28	0.55	0.83	1.10	1.38	1.65	2.20	2.75	3.30	3.85	4.40	4.95	5.50
6.00	0.30	0.60	0.90	1.20	1.50	1.80	2.40	3.00	3.60	4.20	4.80	5.40	6.00
6.50	0.33	0.65	0.98	1.30	1.63	1.95	2.60	3.25	3.90	4.55	5.20	5.85	6.50
7.00	0.35	0.70	1.05	1.40	1.75	2.10	2.80	3.50	4.20	4.90	5.60	6.30	7.00
7.50	0.38	0.75	1.13	1.50	1.88	2.25	3.00	3.75	4.50	5.25	6.00	6.75	7.50
8.00	0.40	0.80	1.20	1.60	2.00	2.40	3.20	4.00	4.80	5.60	6.40	7.20	8.00
8.50	0.43	0.85	1.28	1.70	2.13	2.55	3.40	4.25	5.10	5.95	6.80	7.65	8.50
9.00	0.45	0.90	1.35	1.80	2.25	2.70	3.60	4.50	5.40	6.30	7.20	8.10	9.00
9.50	0.48	0.95	1.43	1.90	2.38	2.85	3.80	4.75	5.70	6.65	7.60	8.55	9.50
10.00	0.50	1.00	1.50	2.00	2.50	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00

REFER TO CHARTS FOR THE TIPS YOU USE TO DETERMINE PRESSURE NEEDED FOR YOUR RATE

THIS CHART IS FOR TOTAL APPLICATION WITH A SINGLE PASS OVER THE SWATH WIDTH.

For spraying foliages from both sides refer to chemical label charts

APPLICATION RATES FOR ONE SIDE OF ONE ROW

SPRAYER VOLUME OUTPUT REQUIRED AT 75 FEET SWATH WIDTH COVERAGE

OUTPUTS ARE IN GALLONS PER MINUTE FOR ALL NOZZLES USED TOTALLED

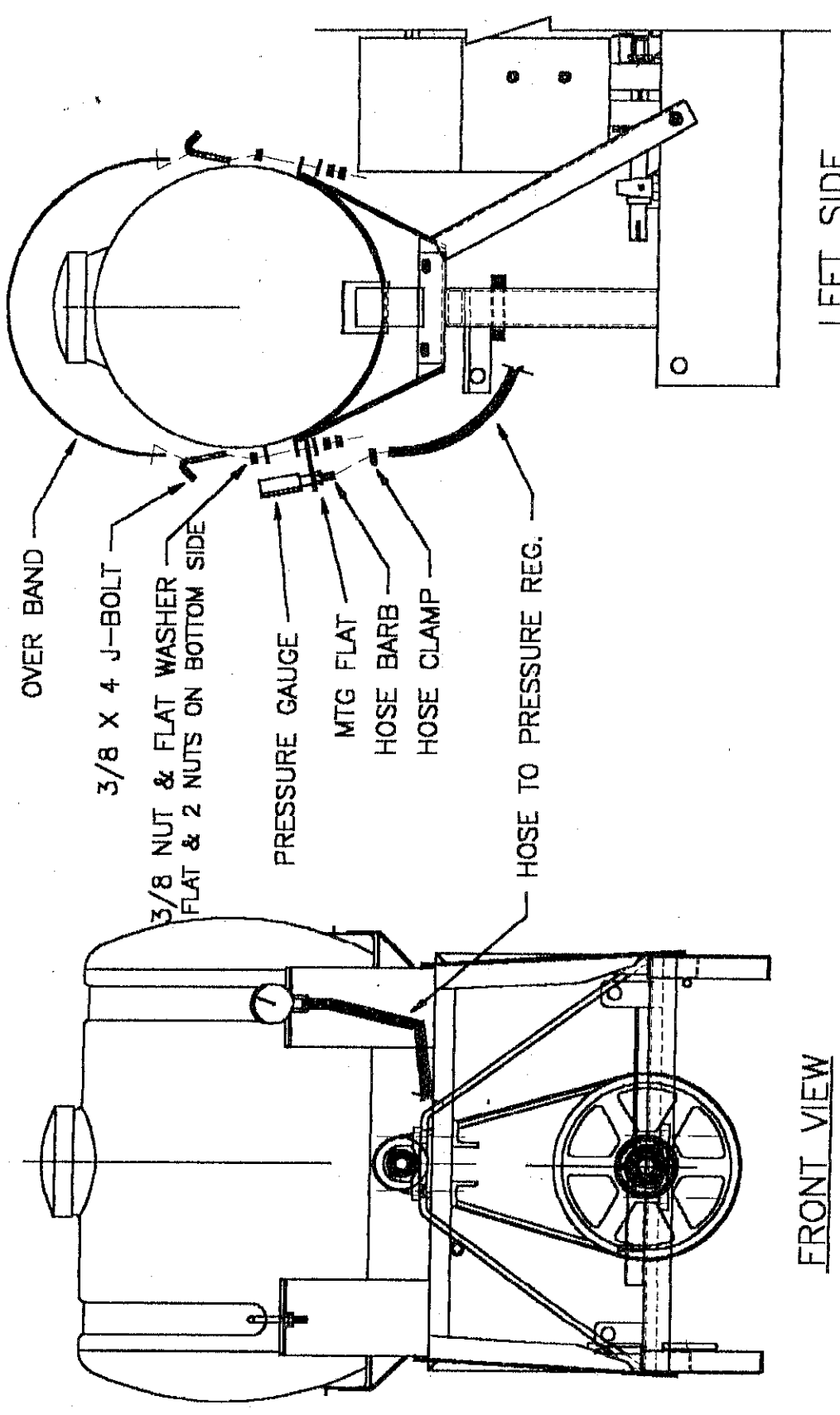
GROUND SPEED	GALLONS PER ACRE												
	0.50	1.00	1.50	2.00	2.50	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
IN MPH	OUTPUT IN GALLONS PER MINUTE												
1.00	0.08	0.15	0.23	0.30	0.38	0.45	0.60	0.75	0.90	1.05	1.20	1.35	1.50
1.50	1.11	1.23	0.34	0.45	0.56	1.68	0.90	1.13	1.35	1.58	1.80	2.03	2.25
2.00	0.15	0.30	0.45	0.60	0.75	0.90	1.20	1.50	1.80	2.10	2.40	2.70	3.00
2.50	0.19	0.38	0.56	0.75	0.94	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75
3.00	0.23	0.45	0.68	0.90	1.13	1.35	1.80	2.25	2.70	3.15	3.60	4.05	4.50
3.50	0.26	0.53	0.79	1.05	1.31	1.58	2.10	2.63	3.15	3.68	4.20	4.73	5.25
4.00	0.30	0.60	0.90	1.20	1.50	1.80	2.40	3.00	3.60	4.20	4.80	5.40	6.00
4.50	0.34	0.68	1.01	1.35	1.69	2.03	2.70	3.38	4.05	4.73	5.40	6.08	6.75
5.00	0.38	0.75	1.13	1.50	1.88	2.25	3.00	3.75	4.50	5.25	6.00	6.75	7.50
5.50	0.41	0.83	1.24	1.65	2.06	2.48	3.30	4.13	4.95	5.78	6.60	7.43	8.25
6.00	0.45	0.90	1.35	1.870	2.25	2.70	3.60	4.50	5.40	6.30	7.20	8.10	9.00
6.50	0.49	0.98	1.46	1.95	2.44	2.93	3.90	4.88	5.85	6.83	7.80	8.78	9.75
7.00	0.53	1.05	1.58	2.10	2.63	3.15	4.20	5.25	6.320	7.35	8.40	9.45	10.50
7.50	0.56	1.13	1.69	2.25	2.81	3.38	4.50	5.63	6.75	7.88	9.00	10.13	11.25
8.00	0.60	1.20	1.870	2.40	3.00	3.60	4.80	6.00	7.20	8.40	9.60	10.80	12.00
8.50	0.64	1.28	1.91	2.55	3.19	3.83	5.10	6.38	7.65	8.93	10.20	11.48	12.75
9.00	0.68	1.35	2.03	2.70	3.38	4.05	5.40	6.75	8.10	9.45	10.81	12.15	13.50
9.50	0.71	1.43	2.14	2.85	3.56	4.28	5.70	7.13	8.55	9.98	11.40	12.83	14.25
10.0	0.75	1.50	2.25	3.00	3.75	4.50	6.00	7.50	9.00	10.50	12.00	13.50	15.00

REFER TO CHARTS FOR THE TIPS YOU USE TO DETERMINE PRESSURE NEEDED FOR YOUR RATE

THIS CHART IS FOR TOTAL APPLICATION WITH A SINGLE PASS OVER THE SWATH WIDTH
 For spraying foliage from both sides refer to chemical label charts
 APPLICATION RATES FOR ONE SIDE OF ONE ROW
 SPRAYER VOLUME OUTPUT REQUIRED AT 100 FEET SWATH WIDTH COVERAGE
 OUTPUTS ARE IN GALLONS PER MINUTE FOR ALL NOZZLES USED TOTALLED


GROUND SPEED	GALLONS PER ACRE												
	0.50	1.00	1.50	2.00	2.50	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
IN MPH	OUTPUT IN GALLONS PER MINUTE												
1.00	0.10	0.20	0.30	0.40	0.50	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00
1.50	0.15	0.30	0.45	0.60	0.75	0.90	1.20	1.50	1.80	2.10	2.40	2.70	3.00
2.00	0.20	0.40	0.60	0.80	1.00	1.20	1.60	2.00	2.40	2.80	3.20	3.60	4.00
2.50	0.25	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00
3.00	0.30	0.60	0.90	1.20	1.50	1.80	2.40	3.00	3.60	4.20	4.80	5.40	6.00
3.50	0.35	0.70	1.05	1.40	1.75	2.10	2.80	3.50	4.20	4.90	5.60	6.30	7.00
4.00	0.40	0.80	1.20	1.60	2.00	2.40	3.20	4.00	4.80	5.60	6.40	7.20	8.00
4.50	0.45	0.90	1.35	1.80	2.25	2.70	3.60	4.50	5.40	6.30	7.20	8.10	9.00
5.00	0.50	1.00	1.50	2.00	2.50	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
5.50	0.55	1.10	1.65	2.20	2.75	3.30	4.40	5.50	6.60	7.70	8.80	9.90	11.00
6.00	0.60	1.20	1.80	2.40	3.00	3.60	4.80	6.00	7.120	8.40	9.60	10.80	12.00
6.50	0.65	1.30	1.95	2.60	3.25	3.90	5.20	6.50	7.80	9.10	10.40	11.70	13.00
7.00	0.70	1.40	2.10	2.80	3.50	4.20	5.60	7.00	8.40	9.80	11.20	12.60	14.00
7.50	0.75	1.50	2.25	3.00	3.75	4.50	6.00	7.50	9.00	10.50	12.00	13.50	15.00
8.00	0.80	1.60	2.40	3.20	4.00	4.80	6.40	8.00	9.60	11.20	12.80	14.40	16.00
8.50	0.85	1.70	2.55	3.40	4.25	5.10	6.80	8.50	10.20	11.90	13.60	15.30	17.00
9.00	0.90	1.80	2.70	3.60	4.50	5.40	7.20	9.00	10.80	12.60	14.40	16.20	18.00
9.50	0.95	1.90	2.85	3.80	4.75	5.70	7.60	9.50	11.40	13.30	15.20	17.10	19.00
10.00	1.00	2.00	3.00	4.00	5.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00

REFER TO CHARTS FOR THE TIPS YOU USE TO DETERMINE PRESSURE NEEDED FOR YOUR RATE

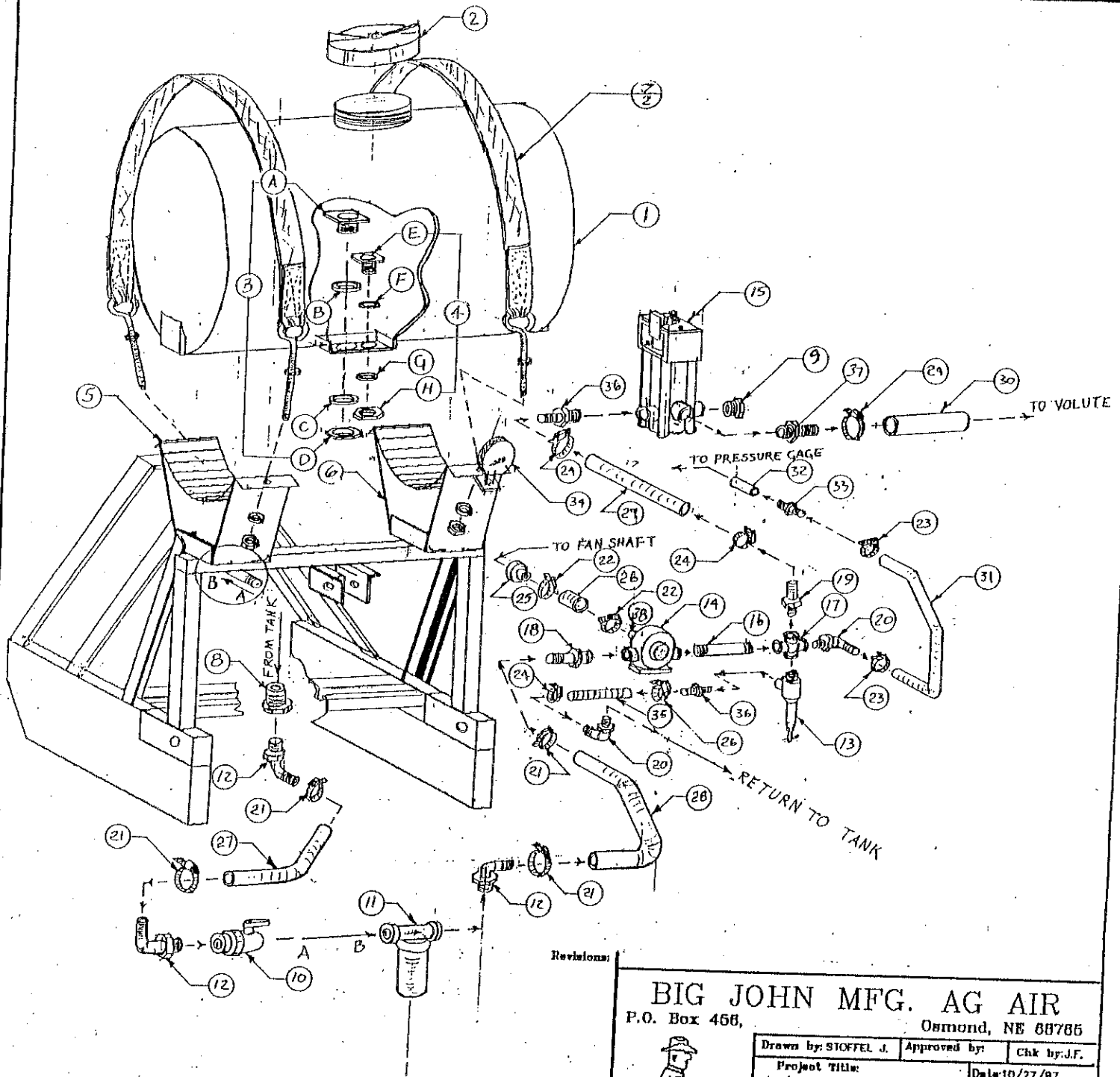


FRONT VIEW

LEFT SIDE

		BIG JOHN Mfg. INC.		DRN BY	J. STOFFEL
		OSMOND, NEBRASKA		REV.	
SCALE	1=12	APPROVED BY		DATE	
DATE	08/02/02			DATE	
DESC.		ASS'Y, PRESSURE GAUGE			
MATL.		DATE		DWG NO.	1800159

PERCUT THIS ON 02/02



Revisions:

BIG JOHN MFG. AG AIR
 P.O. Box 468, Osmond, NE 68766



Drawn by: STOFFEL J.	Approved by:	Chk by: J.F.
Project Title: ASS'Y. PLUMBING ROLLER PUMP		Date: 10/27/97
Mat'l PAGE 1 OF 2 ASSEMBLY		Scale: NONE
		Drawing No. 180-2-0160

QTY	PART NUMBER	ITEM	DESCRIPTION
38	180-6-0123	1	ADAPTOR 4 ROLLER PUMP
37	800-1-0012	1	12PT12H FITTING
36	800-1-0017	2	34PT12H FITTING
35	180-6-0468	1	RETURN PRES. REG. - TANK
34	899-1-0003	1	PRESSURE GAGE 160
33	800-1-0011	1	12PT38H FITTING
32	805-1-0111	1	14PT COUPLING
31	180-6-0457	1	PRESSURE PUMP-PRES. GAGE
30	180-6-0466	1	PRESSURE 144 V. TO VOLUTE
29	180-6-0465	1	PRESSURE PUMP TO 144 VAL
28	180-6-0464	1	SUCTION STRAINER TO PUMP
27	180-6-0463	1	SUCTION FROM TANK TO VAVE
26	180-6-0462	1	MNT HUB ROLLER PUMP DRIVE
25	180-6-0122	1	HUB, ROLLER PUMP DRIVE
24	810-1-0004	6	8H 1/2 HOSE CLAMP
23	810-1-0003	2	6H 3/8 HOSE CLAMP
22	810-1-0008	2	24H 1 HOSE CLAMP
21	810-1-0006	4	12H 3/4 HOSE CLAMP
20	800-1-0117	1	L34PT38H FITTING
19	800-1-0118	2	L34PT12H FITTING
18	800-1-0019	1	34PT34H STRAIGHT
QTY	PART NUMBER	ITEM	DESCRIPTION

BILL OF MATERIAL

QTY	PART NUMBER	ITEM	DESCRIPTION
17	805-1-0141	1	34PT CROSS GALV.
16	805-1-2081	1	34FT X 4.5 NIPPLE
15	850-1-3000	1	3/4 ELECTRIC SHUT OFF VALVE
14	820-1-3030	1	445111 4RC 1800RPM 6.5GPM
13	68153/4AL	1	PRESSURE REGULATOR
12	800-1-0120	3	L34P34H FITTING
11	870-1-2002	1	34TNYGLAS 80 MESH STRAINER
10	850-1-1021	1	34 NPT UNION BALL VALVE
9	800-1-0485	1	34PP 3/4FT
8	800-1-0245	1	BUSHING 1 1/4 - 3/4
7	180-2-0146	2	ASS'Y TANK STRAPS
6	180-3-0060	1	WELD, 55 GAL. SADDLE LH
5	180-3-0051	1	WELD, 55 GAL. SADDLE RH
G	800-1-1551	1	SOLAR PLASTIC WASHER 3/4
F	800-1-1547	1	SOLAR RUBBER WASHER 3/4
4	800-1-1543	1	SOLAR TANK FITTING E & F
C	800-1-1552	1	SOLAR PLASTIC WASHER 1 1/4
B	800-1-1548	1	SOLAR RUBBER WASHER 1 1/4
3	800-1-1544	1	SOLAR TANK FITTING A & D
2	800-1-1538	1	LID, SOLAR TANK 55 GAL.
1	830-1-0004	1	SOLAR TANK 55 GAL.
QTY	PART NUMBER	ITEM	DESCRIPTION

BILL OF MATERIAL

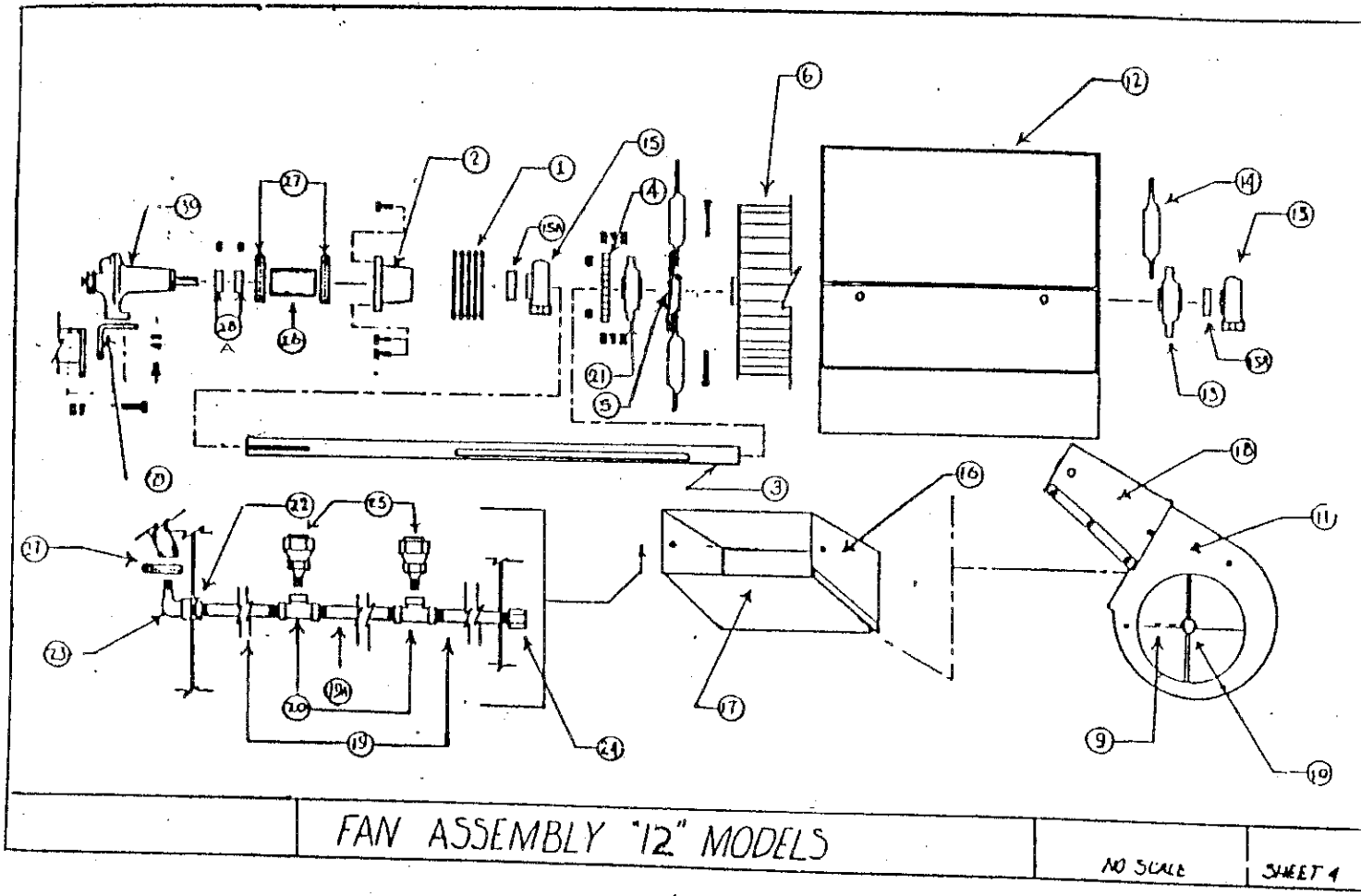
BIG JOHN MFG.

P.O. Box 456,



Osmond, NE 68765

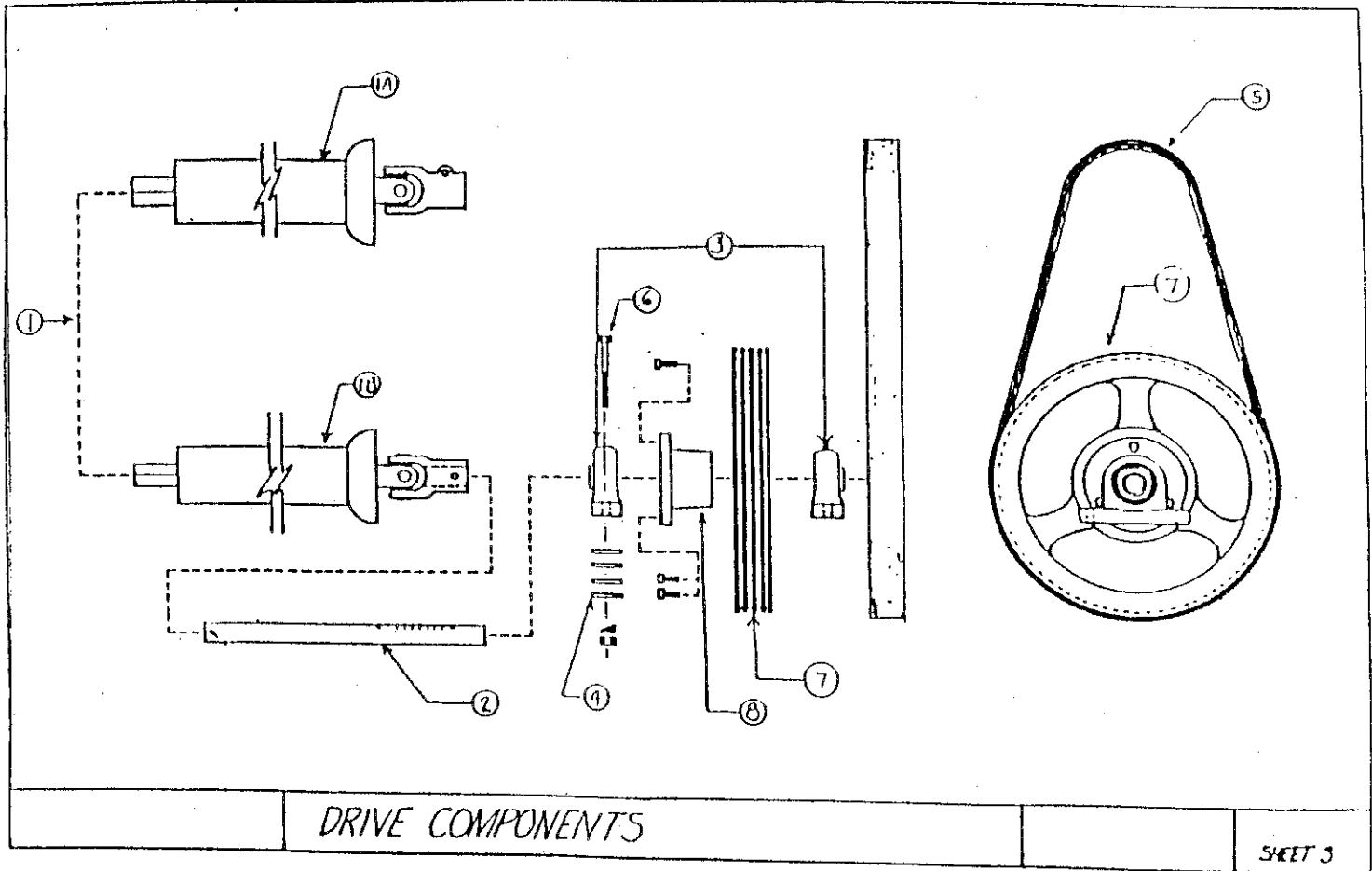
Drawn by: STOFFEL J	Approved by:	Chk by: J.F.
Project Title:	Date: 10/27/97	
ASS'Y. PLUMBING ROLLER PUMP	Scale: NONE	
Mat'l PAGE 2 OF 2	Drawing No.	180-2-0160



FAN ASSEMBLY "12" MODELS

NO SCALE SHEET 4

REF. #	FAN ASSEMBLY COMPONENTS	PART NO.	REF. #	FAN ASSEMBLY COMPONENTS	PART NO.
1	DRIVE PULLEY	841-1-0012	20	SPRAY BAR TIE	805-1-0139-G
2	DRIVE PULLEY BUSHING & BOLTS	841-1-0013	21	FLANGE BEARING	841-1-0009
3	FAN SHAFT	180-1-0058	22	SPRAY BAR NUT	810-1-0063
4	TURNOVER SPROCKET 4026	841-1-0017	23	GALV. STREET EL	805-1-0129-G
5	FLANGETTS STAR	180-9-0093	24	SPRAY BAR CAP PLUG	805-1-0171-G
6	FAN WHEEL (COMPLETE ASSEMBLY)		25	NOZZLE ASSEMBLY	180-9-0108
7	FAN WHEEL	180-8-0205	26	PUMP DRIVE SHAFT (RUBBER)	180-6-0462
8	FAN RING		27	PUMP DRIVE SHAFT CLAMP	810-1-0008
9	FAN SPIDER		28	PUMP DRIVE COLLAR (ROLLER PUMP)	180-6-0123
10	FAN COLLAR (SPIDER CENTER)		28A	PUMP DRIVE COLLAR (ROLLER PUMP)	180-6-0122
11	FAN HOUSING	180-8-0204	29	PUMP BRACKET	180-3-0350
12	FAN HOUSING PLATE	815-1-0003	30	ROLLER PUMP	820-1-3030
13	FLANGE BEARING	841-1-0009	N/S	TURNOVER CHAIN, ASS'Y	180-2-0095
14	TWIST BRACKET	180-8-0093	N/S	TURNOVER CHAIN BOLT & NUTS	180-8-0096
15	FAN SHAFT BEARING	841-1-0007	N/S	CONNECTING LINK TO CHAIN	841-1-0019
15A	BEARING LOCK		N/S		
16	UPPER SHROUD	180-8-0104	N/S	BELT GUARD	
17	LOWER SHROUD	180-8-0105	N/S	SHROUD BOLTS	180-8-0134
18	COMPLETE SHROUD ASSEMBLY	180-9-0075	N/S	TWIST BRACKET BOLTS	
19	OUTER SPRAY BAR PIPE	805-1-2039-G	N/S	FLANGETTE SPROCKET CARRAGE BOLTS	
19A	CENTER SPRAY BAR PIPE	805-1-2037-G	N/S	FAN SHAFT BEARING BOLTS	
			N/S	REAR FLANGE BEARING CARRAGE BOLTS	



REF. #	P15 DRIVE COMPONENTS	PART NO.
1	PTO SHAFT (COMPLETE)	899-1-0095
1A	PTO SHAFT (TRACTOR END)	
1B	PTO SHAFT (SPRAYER END)	
2	FLYWHEEL SHAFT MAIN DRIVE	180-8-0057
3	FLYWHEEL BEARING	841-1-0008
4	BEARING SPACERS (AS REQUIRED)	810-1-0065
5	DRIVE BELT	841-1-0006
6	BEARING BOLT	810-1-0104
7	DRIVE PULLEY	841-1-0014
8	DRIVE PULLEY BUSHING & BOLTS	841-1-0015

Big John Manufacturing Co., Inc.

203 N. State Street P.O. Box 456

Osmond, NE 68765

Phone: (402) 748-3860 or (800) 658-4471 Fax: (402) 748-3235

Web site: www.bigjohnmfg.com E-mail: fritzj@bigjohnmfg.com

OFFICIAL RETURN POLICY

Restocking Fees and Charges

Big John Mfg. Co., Inc. will charge a 25% restocking fee and will assess charges for damages and/or unreasonable use prior to the product's return. Any sprayer or sprayer part that has been used with or exposed to any chemical will **NOT** be considered a new unit under any circumstances, as defined by EPA Rules and Regulations.

Return Date _____ Returned Equipment _____

Serial # _____

Reason for return _____

Return authorized by _____

Refund check # and amount _____

Product received and damages assessed by _____

Refund received by X _____

Please enclose a copy of this form with your return and the original invoice at the time of purchase.

Leadership you can depend on! Equipment for the 21st century!
1 in Quality # 1 in Cost Efficiency # 1 in Dependability

Big John Manufacturing Company, Inc.

WARRANTY REGISTRATION

Company Name _____

Name _____ Phone _____

Address _____

City _____ State _____

Zip _____ Country _____

Product Name _____

Serial # _____ PGM # _____

Dealers Name Where Purchased _____

City _____ State _____

Zip _____ Country _____

Date of Purchase _____

Decision to buy based on: _____ Comments/Recommendations:
(Please check all that apply)

Price _____

Reliability _____

Product Features _____

Dealer recommendation _____

Product Review _____

Advertising _____

Please return this card to the address on the other side within 30 days of purchase to ensure your registration. Our record of your purchase assures you warranty coverage as explained in the product manual.

BIG JOHN MFG. CO., INC.
Sprayers, Trailers, Hose & Access.
P.O. Box 456 Osmond, NE 68765
(402) 748-3860 748-3868

