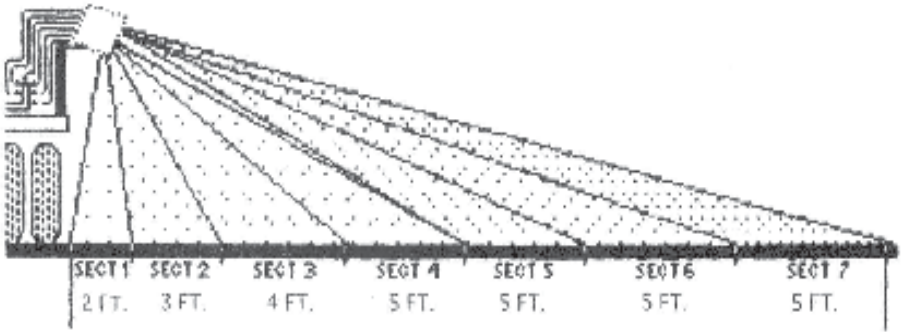
MOBILE SPRAY SYSTEMS



RI-2000 ROADSIDE SPRAYER

Manual for operation and maintenance.

Updated 3/04/04

Manufactured by:
Mobile Spray Systems
P.O. Box 617
450 S 300 E
(800) 585-7959
(435) 286-2229 (fax)

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Mobile Spray Systems

RI-2000 ROADSIDE SPRAYER

Congratulations on the purchase of your Mobile Spray Systems RI-2000 Roadside Sprayer. This is a state-of-the-art sprayer for the precise application of herbicides to roadside vegetation. The RI-2000 sprayer uses a TASC 6300 chemical injection system to automatically monitor and control the precise amount of chemical being applied per acre. The chemical is stored in separate chemical tanks, and then automatically injected into the water pump at the rate set by the operator. The use of the injection system eliminates the need for premixing the chemical in the sprayer tank. The mixed chemical is then applied through a low-drift boomless sprayhead. This allows the operator to make changes in rates as needed to achieve the ultimate in weed control with unsurpassed operator and environmental safety.

We are continually striving to make improvements on the Mobile Spray Systems RI-2000 system to keep it the best unit available today. To do this, we welcome input from our users. Please phone contact us at (800) 585-7959 with your suggestions.

MOBILE SPRAY SYSTEMS

GENERAL DESCRIPTION

The Mobile Spray Systems RI-2000 sprayer provides precise control application of chemicals from a boomless nutating sprayhead mounted behind the operator. The sprayhead contains seven individually controlled sections. The sprayhead can be tilted from the vehicle cab control to compensate for changes in ditch or embankment slopes.

With the injection control system, the sprayer has the capability of injecting one, two or three chemicals at a time depending on the roadside requirements. The control system injects the chemical accurately by using a computer to monitor vehicle ground speed, spray width, and the pre-set chemical application rates. The chemical is injected at the water pump inlet, thus insuring thorough mixing with water. The mixture is then distributed through the sprayhead manifold assembly and is sprayed out of each section. Regardless of changes in ground speed or spray width, the control system will maintain the chemical injection at the pre-set application rates.

4

Operation

WATER TANK FILTER

Install sack filter in 5-inch center fill hole in 16-inch tank fill lid. It is essential to fill water tank using sack filter.

OPERATION STARTUP

Note: Before initial startup of this machine, both this manual and the TASC 6300 manual should be read completely.

1. Before filling water in chemical tanks, make certain all valves are in the closed position.

2. Fill the main water tank with water.

Note: On the first initial startup and testing, it is recommended to use of water in place of the chemical until operator is comfortable with the machine.

3. Load chemical in correct chemical tank.

Note: Refer to CHEMICAL LOADING.

4. Clean chemical pump rollers and housing completely.

5. Lubricate pump tubes with tube lube. Carefully roll tubes in under the roller, and install pump cover.

6. Open chemical suction valve ONLY after installing pump tube.

7. Open water suction valves on main tank. Then open tank drain valve momentarily allowing water to run out. This will help purge the line of air for initial priming.

8. Start auxiliary engine if equipped or if hydraulic driven, start vehicle engine.

On the TASC 6300 set all chemical pumps to "OFF". Turn on at least 1 boom section and the master switch. Then turn your water pump switch on for 30 to 45 seconds. In that time, you should see water discharged through the active boom sections. If not, open small bleed draincock on top of water pump and allow it to run until air is bled, then retry above.

1. **WARNING: Do not run water pump dry or damage to pump seals will occur.**

2. Once the pump is primed, the boom section should be cycled a number of times to bleed the air out of the system. It may be necessary to briefly purge the system of air each time the water tank is ran dry.

3. Leave all boom sections off. Now set gas engine rpm to produce 90-100 psi on main pressure gauge in the center of the pressure manifold.

4. At this point, the machine is ready for calibration, and you should refer to the TASC 6300 manual for this.

WARNING: DO NOT ALLOW THE WATER PUMP TO RUN FOR MORE THAN A FEW MINUTES WITH ALL SECTIONS OFF, OR THE PUMP WILL OVERHEAT.

CALIBRATION SHOULD BE ONLY NECESSARY ON INITIAL STARTUP, OR IF A TUBE HAS BEEN MOVED, REPLACED, OR IF YOU BELIEVE THERE IS THE POSSIBILITY OF INACCURATE APPLICATION.

OPERATION SHUTDOWN

NOTE: With (optional) closed loading, select the water position from the panel valve and fill each chemical tank with water to flush each chemical pump and lines.

1. Run all chemical pumps, flush liberal amount of water through each boom section to remove remaining chemical in lines. If using dry flowables or dry powders be very thorough in flushing procedures

2. Shut off all water tank suction valves and all chemical tank suction valves.

WARNING: ALL VALVES MUST BE SHUT OFF WHEN UNIT IS NOT BEING OPERATED TO INSURE NO MIXING OF CHEMICAL WITH MAIN WATER TANK.

3. Carefully roll the pump tube out from under the rollers without moving the tube under the clamp.

CAUTION: IF THE TUBE POSITION IS MOVED UNDER THE CLAMP, RECALIBRATION IS NECESSARY.

4. Turn all control switches to the off position.

5. Unit is ready for storage at above freezing-temperature. For below freezing temperature, see Winterizing.

CHEMICAL RATES

NOTE: All rates are installed in TASC 6300 in ounces per acre except in the handgun position.

FLUID OUNCES CONVERSION TABLE

1 Pint	16 Fluid Ounces
2 Pints/1 Quart	32 Fluid Ounces
4 Pints/2 Quarts	64 Fluid Ounces
8 Pints/4 Quarts/1 Gallon	128 Fluid Ounces

MULTIPLE CHEMICALS IN ONE TANK

A number of chemicals can be mixed, but a small quantity should be tested before mixing the whole batch. The chemicals have to be installed in the ratio called out on the label. For example, if the ratio is 2 quarts per acre and 1 pint of another, it must be installed in the tank at that ratio. For every 1-gallon of the first chemical, we must add 1 quart of the second. The chemical rate will be installed in the computer at the total of the combined rate. The example, 2 quarts/64 ounces per acre and 1-pint/16 ounces per acre would be set at the rate of 80 ounces per acre.

WETTABLE POWDERS AND DRY FLOWABLES MIXING WITH WATER

These chemical applications rates are generally labeled in ounces or pounds per acre. A slurry will be made by mixing water with the wettable powder (or dry flowable) chemical in a chemical tank. Tanks have graduated gallonage markings on the tank exterior. We recommend a maximum of one and one-half (1-1/2) lbs of powder per gallon of slurry (water solution).

Example: Application rate is 3 lbs per acre
Acres to be sprayed = 10
Pounds of chemical to be applied = 10 x 3 = 30 pounds.
Gallons of slurry (solution) required = 30\ 1-1/2 = 20 gallons
Control Console application rate per acre = three divided by one and one-half (3\1-1/2) = 2 gallons (or 128 ozX 2 = 256 oz/acre)

NOTE: For lower powder rate per acre, mix at progressively larger water volume per pound of chemical.

NOTE: Multiple chemicals can be added as the liquids above using the same ratio relationship.

7WARNING: DO NOT ADD A DRIFT-CONTROL AGENT TO THE SLURRY MIXTURE OR PROBLEMS CAN OCCUR.

NOZZLE SETUP

The standard Spratronics RI-2000 nutating sprayhead is supplied set up with nozzles to apply the water at the rate of 23 gallons per acre at 12 mph. This is achieved at a pressure of 20 psi measured directly at the nozzle. Using all solid-stream nozzles reduces drift, but it is recommended to use a drift-control agent.

SECTION PRESSURE GAUGE SETTING

FOR 20 PSI AT THE NOZZLES

Note: Set main pump pressure to 90-100 psi when all sections are closed. Main pump pressure is adjusted by varying the pump engine throttle speed.

STANDARD NOZZLE SETTING

23 GPA @ 12 MPH

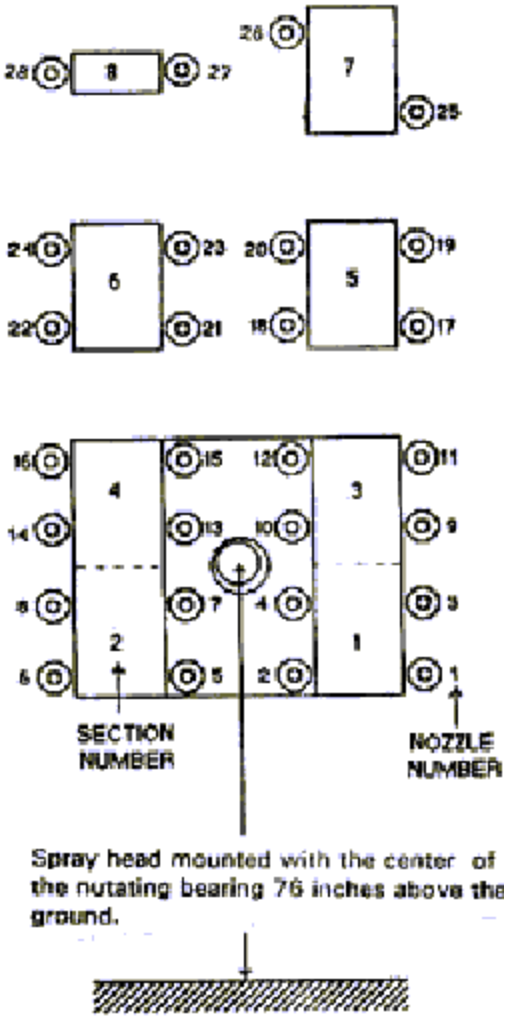
Spray Section	Qty.	Width	Nozzle Size	Approximate Regulator Setting
#1	4	2’	04	22
#2	4	3’	06	23
#3	4	4’	08	23
#4	4	5’	10	25
#5	4	5’	10	26
#6	4	5’	10	26
#7	2	5’	20	32
#8	2	15’	50/80	38
#9	1	4’	30	38

Note: The regulator pressure settings above are an average of a series of various roadside sprayers. Your exact setting will probably differ. Set each individual spray section to reflect 20 psi at the nozzle.

Note: On a dual sprayhead system, set the nozzle pressure to 20 psi on the side that is used most frequently.

NUTATING SPRAYHEAD SETUP

Step 1 Tilt Head to mid-travel.
Step 2 Disconnect power to nutating motor.
Step 3 Rotate nutating cam until nozzles spray closest to truck. (Retain during calibration.)
Step 4 Set respective nozzles at the distance shown in chart below.

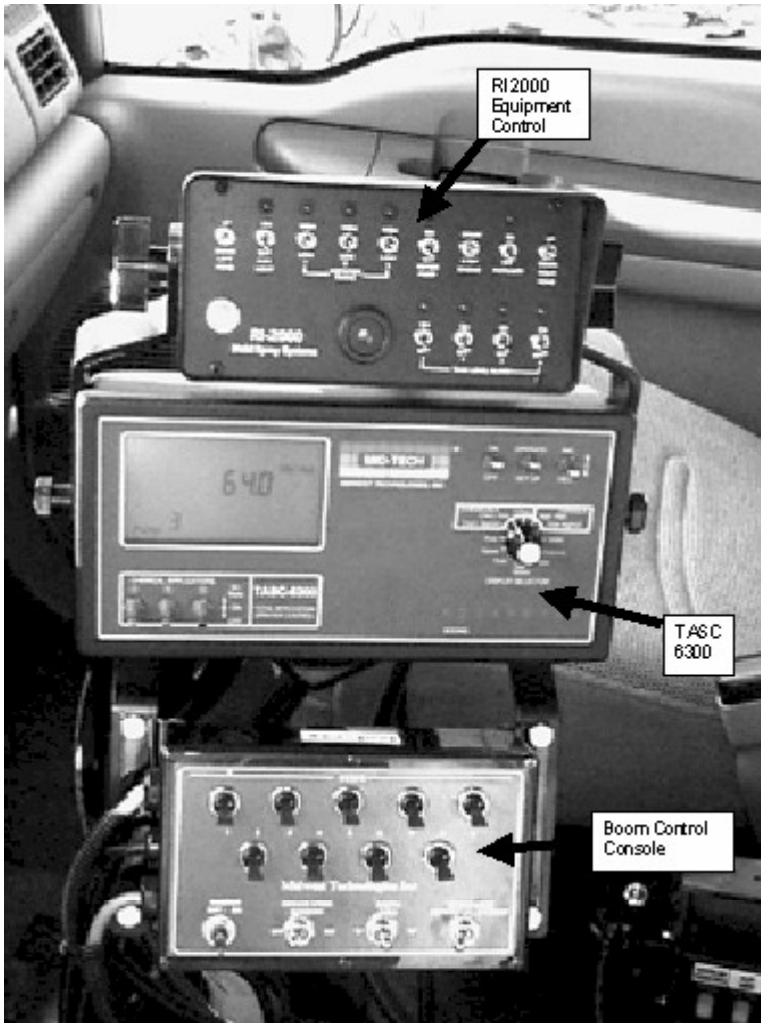


Section	Nozzle Number	Center line of Nozzle Distance*	Actual Total Spray Width (Feet)	Nozzle Size #
1	1 2 3 4	3" 9" 15" 21"	2	04
2	5 6 7 8	28" 37" 46" 56"	3	06
3	9 10 11 12	66" 78" 90" 102"	4	08
4	13 14 15 16	115" 130" 145" 160"	5	10
5	17 18 19 20	175" 190" 205" 220"	5	10
6	21 22 23 24	235" 250" 265" 280"	5	10
7	25 26	303" 333"	5	20
8 left Front Boom		Center to 52" Left	4.5	8010
9 Right Front Boom		Center to 52" right	4.5	8010

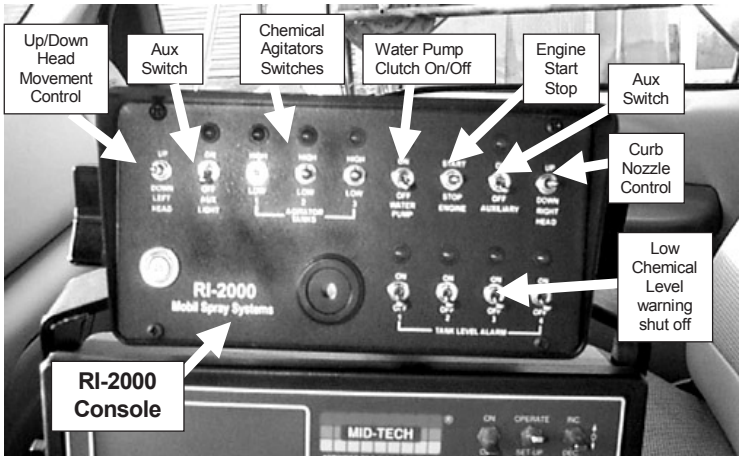
* Distance measured from edge of bed to center of solid streams.

** Extended Range Nozzles

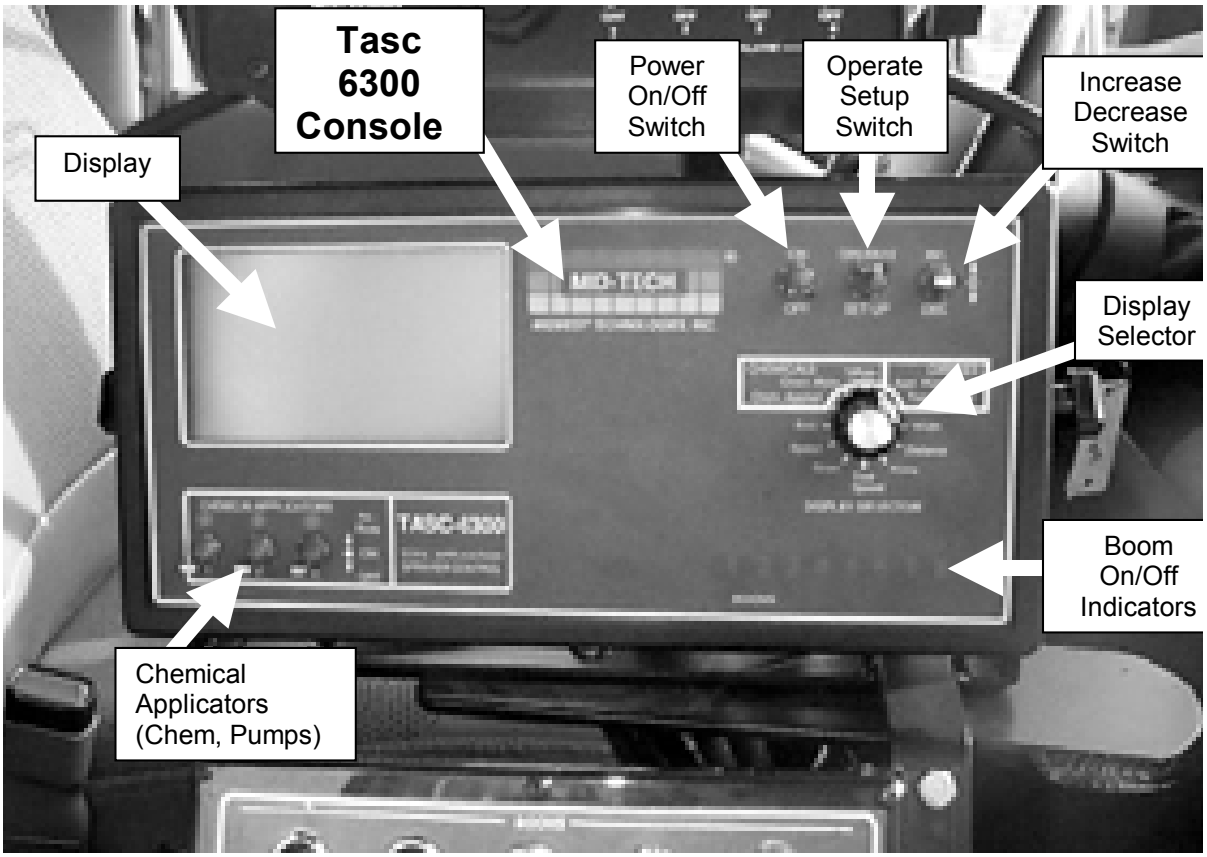
Cab Pedestal



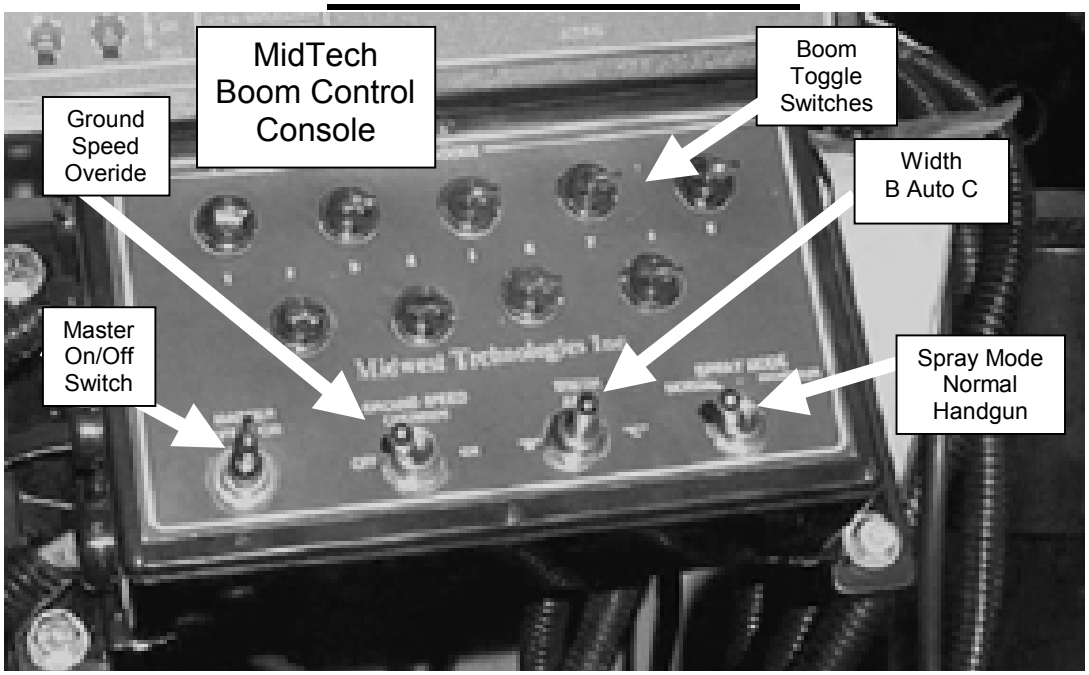
RI-2000 Control Console



Mid Tech Tasc 6300 Controller



Boom Control Box



Calibration

Set-up Procedures for the RI-2000 Roadside Sprayer with Mid-Tech TASC 6300

(MT-000) indicates subject in Mid-Tech Manual

1. Set Test Speed

Power	On
Mode Selector	Set-up
Display Selector	Test Speed

Inc/Dec to 10 mph.

2. Carrier Application Rate *(MT - 2.2.1)*

Power	On
Mode Selector	Set-up
Display Selector	Carrier, Appl. Rate

Inc/Dec to Zero (0) always keep set at Zero (0)
Then flip switch on boom control box from Normal to Handgun. Set that number to 0 also.
Be sure to return switch to normap position.

3. Setting Chemical Application Rate *(MT - 2.2.2)*

Power	On
Mode Selector	Set-up
Display Selector	Chemicals. Chem. Rate
Chemical Applicator (Pump)	Center ON Position

Display shows Current Application Rate in oz. per Acre.
Use Inc/Dec Switch to set desired application rate.

4. Setting Alternate Chemical Application Rate (*MT* - 2.2.3)
Same as above but, pump you are calibrating, flip switch up to ALT RATE position.

5. Setting Chemicals % Rate *(MT - 2.3)*
Increases of decreases by preset % rate on the go.

Power	On
Mode Selector	Set-up
Display Selector	Chemicals. %Rate

Use Inc/Dec Switch to set new % rate.
When Mode Selector is in operate setting, display should show 100.

6. Setting Boom Widths *(MT - 2.4)*

Set the ***Tasc 6300 Console*** as follows

Power	On
Mode Selector	Set-up
Display Selector	Width

Power	On
Mode Selector	Set-up
Display Selector	Width

Set ***the Boom Switch Console*** as follows

Master & all Boom Switches	Off

The Tasc 6300 display will cycle through each boom position. Use Inc/Dec switch to set the following boom widths while display shows individual boom #.

Boom Width Settings:

Boom #	Width
1	24"
2	36"
3	48"
4	60"
5	60"
6	60"
7	60"
8 Left front	54"
9 Right front	54"

When display cycles to boom C, INC/DEC to 456" - the total width of all Booms.
In operate mode with the master and all boom sections open, it will read in feet (38‘).

7. Flow Meter Calibration *(MT - 2.5)*

Power	On
Mode Selector	Set-up
Display Selector	Carrier, Total Applied

Calibration number for 1” flowmeter is 153.1.

.

8. Ground Speed Sensor Calibration (MT - 2.6.1)

All Boom Switches off. Measure and mark 400' of road. Fill main tank ½ full of clean water.

Power	On
Mode Selector	Set-up
Display Selector	Distance

Approximate calibration number will be 1000 (or 779 if you have the Mid Tech Radar)
Stop vehicle at starting mark. Inc/Dec to 1000.

Mode Selector	Operate

Inc/Dec display to Zero (0).
Drive between five and ten miles-per-hour.
Stop at end marker.
The display will show the accumulated distance. Compare to actual measured distance. Divide the measured distance by the accumulated distance shown on the display. Multiply by 1000.

Example of Ground Speed Calibration

Actual measure	/ Accumulated display	X Starting #	= Distance cal #
400'	Divided by 396'	Times 1000	= 1010

Return mode selector to setup.

Mode Selector	Setup

Inc/Dec, to the new distance calibration number. (1010) Save your number for future calibration.

9. Injection Pump Calibration ***(MT - 2.7.2)***

Boom Box Master switch **off** all booms **off**. Water carrier pump **off.**

Flush all injection lines, chemical tank and fill with clean water. Make sure the pump tube is properly installed and locked in the pump you are calibrating.

Power	On
Mode Selector	Setup
Display Selector	Chemicals. Chem, Applied
Chemical Applicator (Pump)	Center On Position

Pump Size	Approx. Calibration #
Tasc 200 w/ 1/2" tube	485
Tasc 200 w/ 3/8" tube	285
Tasc 150 or 100 3/8" tube	145
Tasc 50 w/ 1/4" tube	110
Tasc 50 w/ 3/16" tube	65
Tasc 20	32

Legacy pump	Approx Cal #
3/16 tube (red caps)	32
1/4 tube (blue caps)	55
3/8" tube (green caps)	110
1/2" tube (yellow caps)	180

Mode Selector	Operate

Accumulated volume for pump will be displayed.
Inc/Dec to display Zero (0).

Mode Selector	Setup

Return to Pump
Turn valve to redirect discharge flow.
Set magnet on (*) on top of the pump motor. (Don't set magnet until above procedures have been accomplished)
Let pump run to flush and refill with water. Get air out of the lines.
Make sure that the water stays right to the end of the hose.

Return to console.

Mode Selector	Operate

Inc/Dec display to Zero (0).

Mode Selector	Setup

Return to Pump
Set magnet on (*). Let it pump approximately 56 oz. of water into collection container.
Remove magnet to stop pumping.
56 ounces is just a target. If the collection container has 57.3 ounces in it, use 57.3 ounces as the actual measured reading. We are telling the computer exactly what went through the pump.

Return to console.

Mode Selector	Operate

Display will show the accumulated ounces pumped. If this number is the same as the amount of water in the collection container, the pump is correctly calibrated.

If the reading is different…
Divide the actual (measured) ounces by the number of ounces on the display; multiply by Calibration Constant (145).

Actual Oz	/ Indicated Oz	X Cal constant	=new cal #
56	Divided by 53	Times 145	= 153.2

Mode Selector	Setup

Inc/Dec display to new cal # 153.2.
Save your number for future calibration

HANDGUN SPRAYING PROCEDURE

for TASC 6300 CONTROL SYSTEM

When you are using the spray head, you are spraying using an “area” based system (i.e., gallons/acre). In order to use the handgun, you need to make a few console changes to convert the control to a “flow” based system (i.e., ounces/gallon).

Follow the steps listed below to change from spray head (area) control to handgun (flow) control.

At the ***Boom Console*** Set Toggle switches as shown below.

Master & All Boom switches	Off
Ground Speed Override	Off
Boom Width Switch	Auto
Mode Switch	Handgun

At the *TASC 6300 console*, **Set as shown below.**

Power	On
Mode Selector	Set-up
Display Selector	Chemicals. Chem. Rate
Chemical Applicator (Pump)	Center ON Position

The previously set application rate will show up in the viewing window as ounces, meaning ounces per 100 gallons of water. Behind this number you should see (Oz). If it shows (Oz-Ac), you need to check the boom console toggle settings. The mode switch toggle hasn’t been set to Handgun.
Inc/Dec to desired chemical application rate in ounces per 100 Gallons.

Mode Selector	Operate
Display Selector	Chem. Applied

Inc/Dec to Zero (0)

Display Selector	Carrier. Total applied

Inc/Dec to Zero (0)

When the mode selector switch is returned to the “OPERATE” mode, the display will show “FLOW CONTL OFF AUTO, HANDGUN”.

NOTE: When spraying with a handgun, make sure the console selector switch is not in the Chem. Applied or Chem. Rate position.

Open the hose reel ½-inch valve located on the side of the pressure manifold connected to the flow sensor switch.

Turn on desired chemical pump and water pump. You are now ready to spray with the handgun.

NOTE: If you are a one-person driver/operator, do not delay too long in unreeling the hose and moving to the area you will be spraying. Remember that your water pump is running, and the carrier/chemical mix has no place to go, and the pump can become overheated, causing premature seal failure.

If you are a two-person operation, the person remaining with the sprayer should turn the water pump “ON’ when the person doing the spraying is in position to spray.

NOTE: When you are finished spraying with the handgun, be sure to do the steps listed below in the following order.

1. Turn “OFF” the water pump as soon as possible.

2. Return the handgun valve, located on the manifold, back to the closed position, eliminating the hose reel hose acting as a pressure accumulator.

3. Switch the normal/handgun switch back to “NORMAL”.

4. Leave the “CARRIER, APPLICATION RATE” set at “ZERO”.

5. Turn “OFF” the pump switch.

6. Rewind the hose onto the hose reel and secure the handgun.

Maintenance

SCHEDULE

DAILY

1. Check oil in auxiliary engine or hydraulic tank if equipped.

2. Inspect nozzles on the sprayhead and spray pattern to assure uniform coverage. Check nozzles to ensure that there are no obstructions altering the spray pattern (the nutating motor may need to be temporarily disconnected).

3. Check operating pressures of boom sections at regulator gauges.

4. Inspect all chemical tanks and lines for possible wear or damage.

5. Clean and inspect chemical pump tubes for wear or damage.

6. Lubricate chemical pump tube with only the correct tube lube.

7. Check all calibration numbers and zero accumulated values if desired.

8. Check filter in tank fill lid. Wash, as required.

WEEKLY

1. Clean the face of the radar unit with damp cloth.

2. Clean strainers, more often might be necessary depending on water quality.

AS REQUIRED

1. Disassemble solenoid valves, clean and inspect, and replace diaphragm, if necessary.

2. Check pressures of individual boom sections using a calibration gauge directly at the nozzle.

Winterizing Procedure

Note: Two types of antifreeze are recommended depending on the anticipated severity of freeze that could occur. Be sure to check the temperature rating before using one of the two types below!

1. Recreational Vehicle Antifreeze This is a pink liquid in the non-frozen state and protects to –50 degrees F below zero. As the temperature drops below freezing, the antifreeze becomes “slushy”, similar to chipped ice. One advantage of RV antifreeze is that it is biodegradable and can be flushed out to the ground when putting the sprayer back in operation.

2. Windshield Washer Antifreeze. This is usually blue in color, protects to –20/25 degrees F below zero and remains in the liquid state.

DO NOT dilute the solution—use full strength for maximum protection.

It is not recommended to use regular antifreeze due to possible damage to “O” rings, etc., over a prolonged period of time.

FLUSHING THE SYSTEM

1. **Drain all chemicals from the system.**

2. **Rinse chemical tanks and fill chemical tanks with enough water to inject into system and flush out all hoses, pumps, etc., through the sprayhead nozzles. Use the engine/pump and set console on test speed at 10 mph.**

DRAINING SYSTEM

Water Tank

A. **Drain the main water tank.**

B. **Drain all water from the chemical tanks.**

C. **When all water has been drained, close the water tank shutoff valve, the tank drain valve, and the chemical drain valves.**

D. **Open all petcocks (you may have a petcock located on the bottom of your pressure manifold, and 2 petcocks located on the water pump.) When the components that have petcocks have been drained, close all petcocks before adding antifreeze to the chemical tanks.**

FILLING WITH ANTIFREEZE

Note: If your sprayer is equipped with a closed chemical loading system, use this system to add antifreeze to the chemical tanks. (This will also fill the closed loading system with antifreeze.)

If your sprayer does not have a closed chemical loading system, pour the antifreeze directly into each chemical tank.

1. **Fill each chemical tank with approximately 1/2 gallon of antifreeze, put the balance (approx 2 gallons) of what will be needed in one of the larger chemical tanks.**

2. **Turn sprayhead outward and lock in place similar to when you are spraying.**

3. **Set your injector pumps to the maximum application rate for each pump. This is to speed winterizing procedure.**

4. **Turn the 3-way pump calibration valve to inject output flow to into main water line. (Not out the clear calibration hose.) Open the master boom switch and all used boom sections.**

5. **Turn selector to test speed and mode selector to operate. You are operating the system with a simulated ground speed.**

6. **The chemical injector pumps are now running and forcing out any entrapped water, followed by pure antifreeze, out through the boomless sprayhead nozzles.**

7. **Continue this process until pure antifreeze of the proper color (undiluted) is dripping from all the nozzles. (It may be necessary to add more antifreeze to the chemical tanks to meet the demand.)**

8. **The lower nozzle sections will be purged first. When you are sure that pure antifreeze is exiting the lower sections, shut them off to winterize the upper sections. When you are confident that the sprayhead has been properly treated, turn off the master boom switch.**

9. **Next activate one chemical pump that has antifreeze in the chemical tank. Refer to sprayer operation manual section 9 (Injector pump calibration) for pump operation. Be sure that the 3-way calibration valve is directed so that the fluid being pumped will be discharged into the water pump suction line. Open the water suction valve so that antifreeze pushed back through the water suction hose into the tank.**

10. **If you sprayer is equipped with a hose reel, you need to flush with antifreeze in the following manner.**

A. **Check for available antifreeze in chemical tanks. Add antifreeze, if necessary. (A 90' – ½" ID hose reel will require approximately 1 gallon of antifreeze.)**

B. **Open the handgun valve located near the hose reel.**

C. **Be sure that the master boom switch is turned off.**

D. **Turn on one chemical pump that has antifreeze in the chemical tank. Refer to sprayer operation manual section 9 (Injector pump calibration) for pump operation. Be sure that the 3-way calibration valve is directed so that the fluid being pumped will be discharged into the water pump suction line.**

E. **Lock the trigger open on the handgun or squeeze the trigger "ON". Be sure your handgun trigger is open before you place the calibration magnet on the pump!**

F. **When pure antifreeze is emitted from the spray gun shut off pump & control console.**

2. **If your sprayer has a boom across the back of the truck bed, you need to flush with antifreeze in the following manner:**

A. **Remove nozzle caps from the bottom of all four-nozzle assemblies. Remove diaphragm check valve assemblies from the nozzle assemblies.**

B. **Make sure all sprayhead section switches are closed except for the switch corresponding the rear boom. (Usually section 8 or 9.)**

C. **Activate all pumps that have antifreeze in injector tanks using the same procedure for winterizing the sprayhead.**

D. **Pump antifreeze into the boom until you are confident all water has been pumped from the boom plumbing and antifreeze is flowing out the check valve openings.**

FINALIZING THE PROCEDURE

Note: The following steps are necessary to drain out as much of the residual antifreeze as possible and any entrapped water to prevent possible damage to hoses and valves.

1. **Open the water tank "shut-off" and "drain valves".**

2. **Remove filter, (you may have more than one filter).**

3. **Open both petcocks on the main water pump and the bottom of the pressure manifold (if so equipped).**

1. **Open drain valves and drain all antifreeze from chemical tanks. If Mid Tech chemical tanks are used, you may need to use the injector pumps to empty chemical tanks.**

2. **Disconnect all chemical injector pump tubes and remove from pumps. (Attach tags to mark the inlet and outlet lines to eliminate cross hook up errors when you place the sprayer back in operation.)**

3. **If you have a separate surfactant injector, disconnect line from surfactant tank and open drain valve on tank.**

IMPORTANT

4. **Drive the truck on terrain that has hills, and if possible, side tilting terrain to force as much liquid out of the system as possible.**

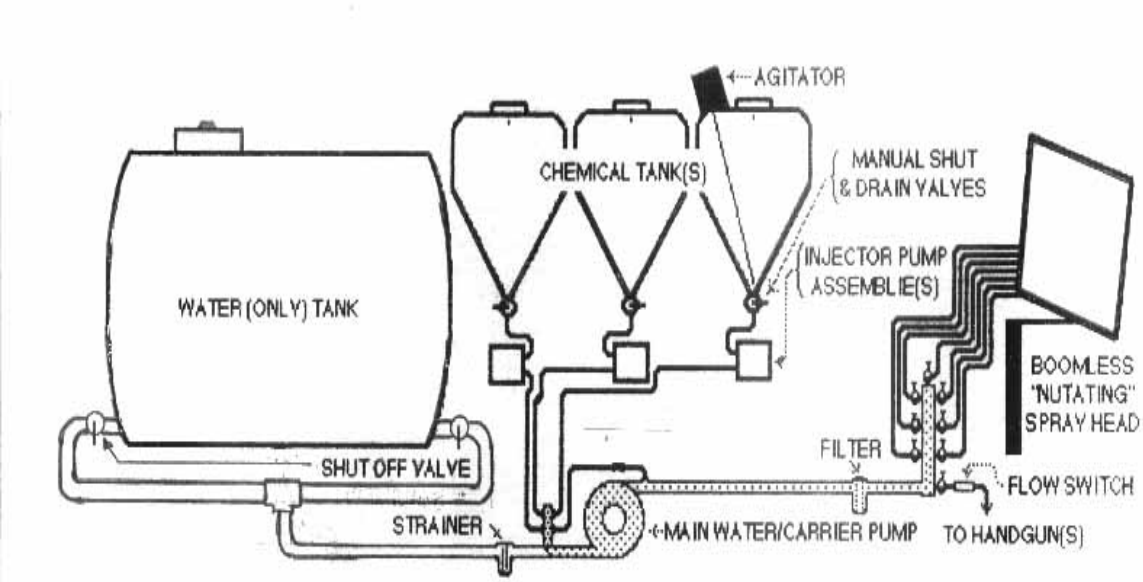
5. **When you return to the sprayer storage facility, turn "OFF" all switches, making certain all valves including the boom and hose reel valves are open.**

6. **Disconnect power leads from battery.**

If your sprayer will be stored in an environment that will allow snow/ice to contact the sprayer, it is recommended to use 3 heavy-duty plastic garbage bags and triple wrap the manifold, sprayhead, and any other accessory items that could be damaged by snow/ice conditions.

Note: This is also the best time to double check the tension of your tank hold-down hoops/bands for next year. Due to expansion/contraction of the tank during the season, the tightening nuts have a tendency to work loose. The hoops/bands need to be under tension to keep the tank from shifting.

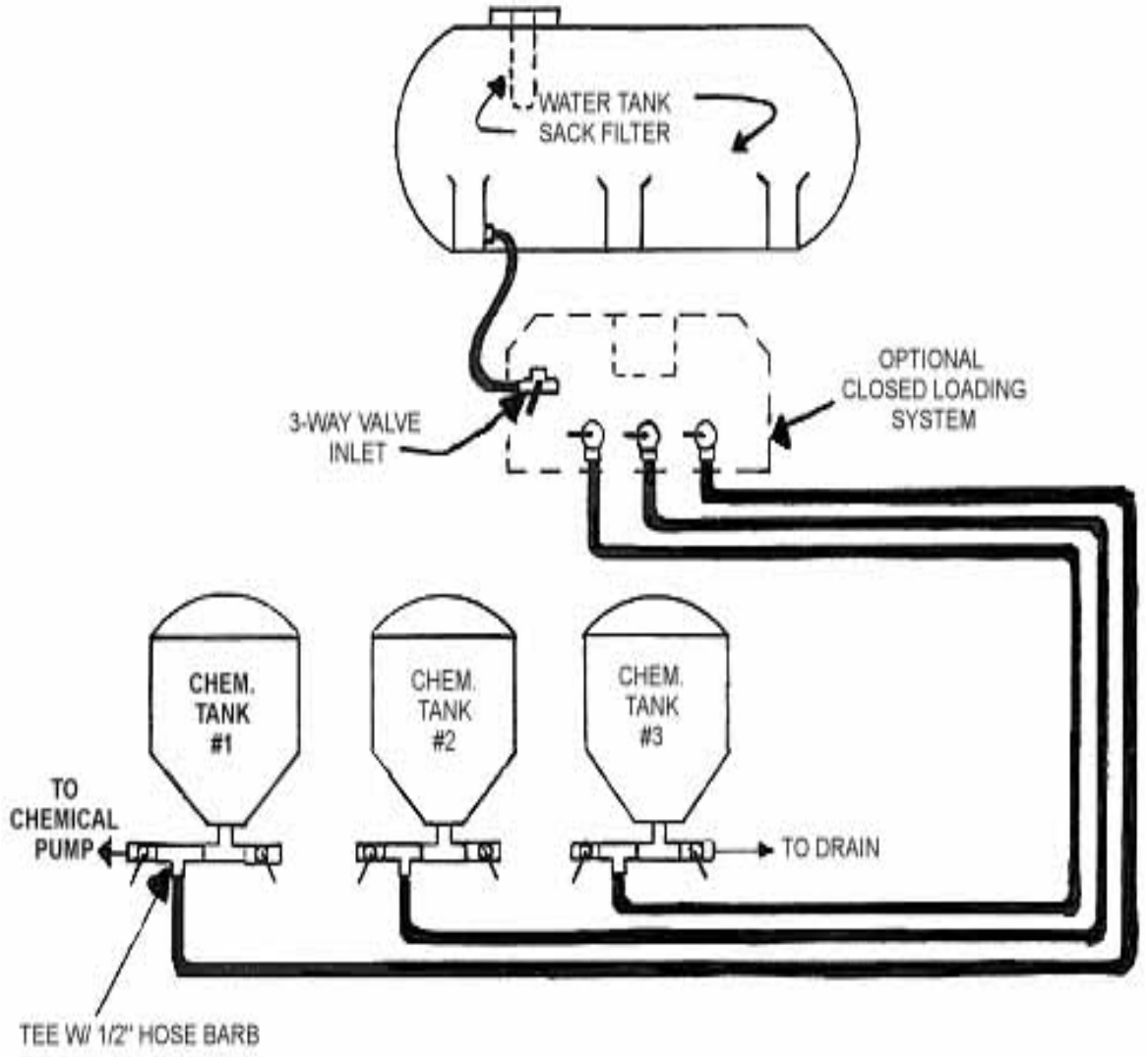
PLUMBING DIAGRAM



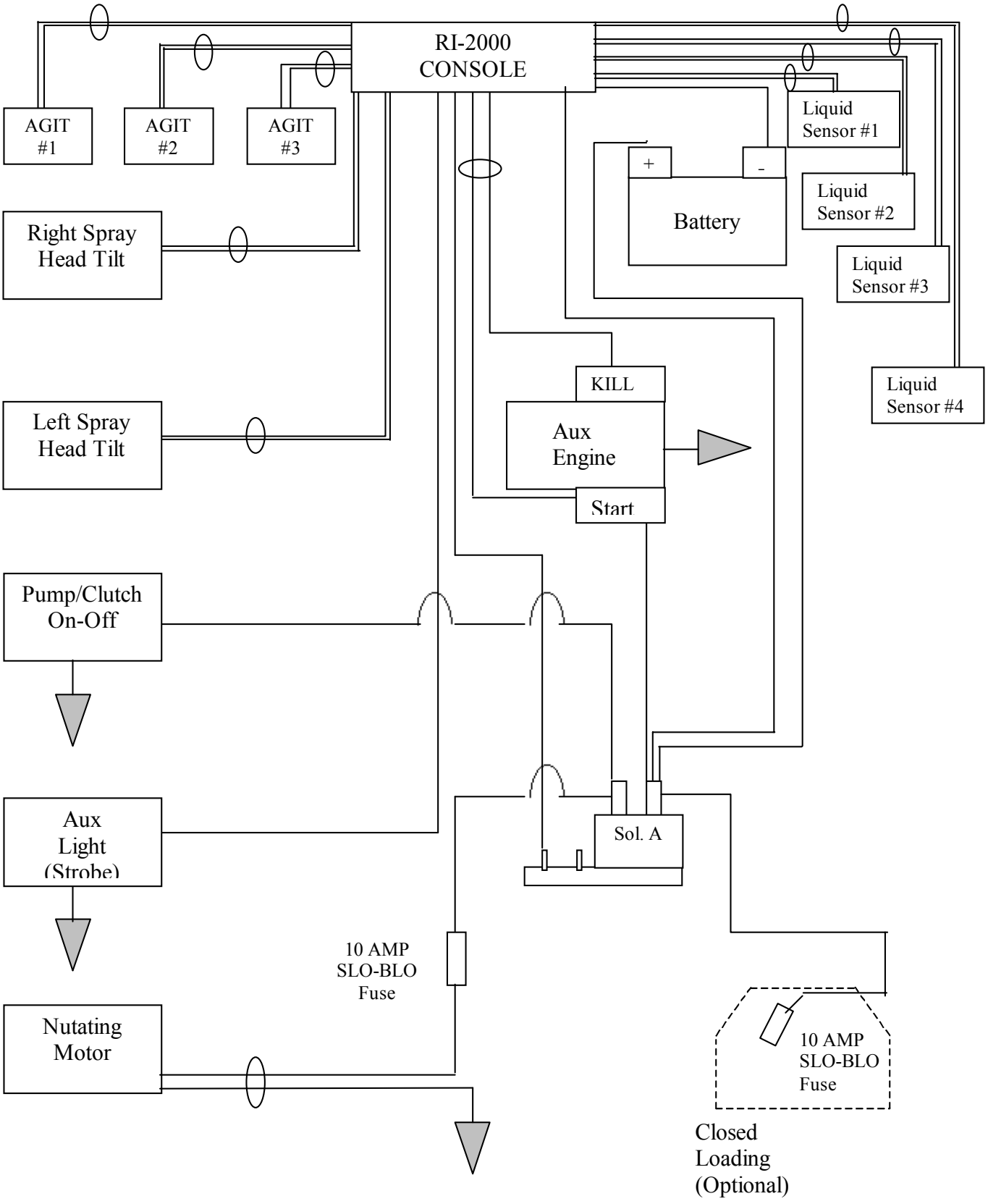
Mobile Spray System RI-2000 sprayer configuration

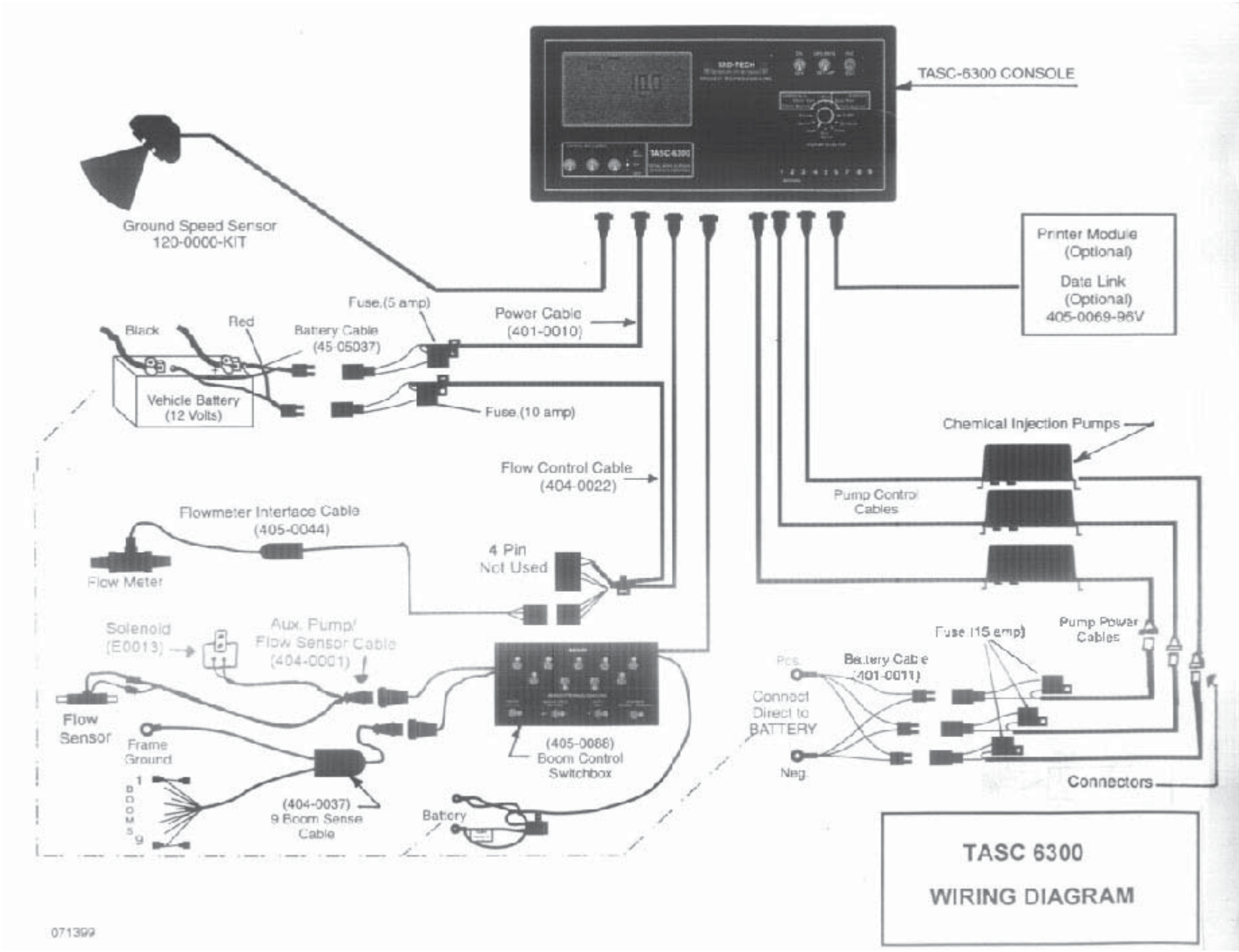
Note: Diagram is for 7-section unit. If your sprayer is equipped with 8 sections (vertical embankment or extended range), plumbing will be different then described above.

CLOSED LOADING PLUMBING DIAGRAM



RI-2000 WIRING DIAGRAM




TASC-6300 CONSOLE
Ground Speed Sensor
120-0000-KIT
Printer Module
(Optional)
Data Link
(Optional)
405-0069-96V
Fuse.(5 amp)
Power Cable
(401-0010)
Black
Red
Battery Cable
(45-05037)
Vehicle Battery
(12 Volts)
Fuse.(10 amp)
Chemical Injection Pumps
Flow Control Cable
(404-0022)
Pump Control
Cables
Flowmeter Interface Cable
(405-0044)
Flow Meter
4 Pin
Not Used
Solenoid
(E0013)
Aux. Pump/
Flow Sensor Cable
(404-0001)
Pump Power
Cables
Fuse (15 amp)
Pos.
Battery Cable
(401-0011)
Connect
Direct to
BATTERY
Neg.
Flow
Sensor
Frame
Ground
(405-0088)
Boom Control
Switchbox
Connectors
BOOMS 1 9
(404-0037)
9 Boom Sense
Cable
Battery
TASC 6300
WIRING DIAGRAM
071399

Mobile Spray Systems RI-2000 Parts List

Part#	Description
Computer Control System	
100-0011	Injector pump
114-0002	Tasc 6300 controller
120-0000kit	Radar & Base
120-0102	1" Flowmeter
405-0044	Flowmeter interface
405-0088	9 section boom box
RI-2000 Nutating Spray Head	
E0016	Nutating Motor
M0032	Nutating Motor Mounting Plate
M0001	Nutating Cam
A0003	Nutating Bearing
M0002	Nutating Plate
S0003	Manifold Sections 1-4
P0269	Hose barb 3/8 mpt X 1/2 hb
P0050	Plug 1/8
P0099	Street Ell 1/8
P0139	Nozzle Section 1
P0140	Nozzle Section 2
P0141	Nozzle Section 3
P0142	Nozzle Section 4
P0146	Vane Stabilizer
P0068	O-ring 11/16
M0003	Manifold Section 5 or 6
P0033	Street Ell 1/8 Brass
P0138	Nozzle Section 5 & 6
P0138	Nozzle Extension 1/8
P0047	Plug 3/8
P0274	Nipple 3/8 Brass
P0264	Bulkhead 3/8 Brass
M0059	Manifold Section 7
M0285	Street Ell 1/4 Brass
M0286	Nozzle Extension 1/4
P0290	Nozzle Section 7
P0288	Nipple 1/4 X 2 1/2 brass
P0289	Coupler 1/4
M0016	Pedestal Nutating Head
M0015	Cradle Nutating Head
M0042	Windscreen
E0018	Linear Actuator 4" Stroke
M0019	Cradle Trunnion
P0134	Hose barb 1/2
P0054	Nut 11/16
P0185	Hose barb 1/2 swivel
P052	Nut Swivel 11/16
S0008A	Pedestal Base w/swing arm
M0027	Handle Base
E0013	Solenoid Heavy Duty Cycle
RI-2000 Plumbing Pressure Manifold	
P0093	Regulator 1/2
E0014A	Solenoid Valve 144P
P0056	1" tee w/gauge port
P0059	100 psi pressure gauge
P0057	3/4 nipple
P0058	3/4 mpt X 3/4 hb 90
P0597	Swivel 1/2
P0598	Nipple 1/2 w/ bevel
RI-2000 Plumbing Pump	
P0323	Pump w/ 12V Clutch
P0027	Tee 1 1/4 poly
P0365	Reducing Nipple 1 1/2 X 1 1/4
P0060	Reducing Nipple 3/4 X 1/2
P0395	Reducing Nipple 1 1/4 X 3/4
P0061	1/2 Tee poly
P0122	1/2 mpt X 1/2 hb 90
P0600	3/4 mpt X 1/2 hb 90
P0340	1/4 mpt X 1/4 hb 90
P0338A	1/8 mpt X 1/4 hb 90
P0036	1/8 drain cock
P0223	1 1/4 hose saver
P0069	1 1/4 Filter 20 mesh
P0055	1" filter 80 mesh
P0026	1 1/4 ball valve poly
P0103	3/8” Flow Sensor
S0013	1/2 ball valve poly
P0201	3-way ball valve poly
RI-2000 Misc	
A0034	Engine Honda 8 hp elec start
A0045	7" Pulley
P0609	Swing arm pin 1" X 7 1/4"
P0116	2" mpt X 2" male camlock
P0117	2" female camlock cap
	2" ball valve poly
RI-2000 Consumable Parts	
006-0007	3/8 Python pump tube
89-04000	Tube Lube 5.3 oz
A0007	Belt A42
P0101	Sack Filter
A0078	Regulator repair kit
A0077	Solenoid valve repair kit

MOBILE SPRAY SYSTEMS

EQUIPMENT WARRANTY

WARRANTY

Mobile Spray Systems, (herein called Seller) warrants to the original purchaser that, if any part of the purchased spray equipment (herein called equipment) proves to be defective in material or workmanship, upon inspection and examination by Seller, within one year of the date of manufacture, and is returned to Seller, transportation prepaid, within thirty days after such defect is discovered, Seller will (at its option) either replace or repair said product, except that the warranty for expendable parts such as light bulbs and batteries is limited to thirty (30) days. The equipment will not be considered defective if it substantially fulfills the performance specifications. Purchaser shall be responsible for all maintenance services, if any, all in accordance with procedures outlined in Seller's maintenance literature.

EXTENDED WARRANTY

Mobile Spray Systems provides one-year minimum parts and factory warranty on all sprayers. Any components with a longer manufacturer's warranty will be honored. Warranty identification documents will be provided at the time of delivery. (WARRANTY PROVIDED FOR COMPUTER CONSOLE IS 2-1/2 YEARS.)

WARRANTY LIMITATION AND EXCLUSION

Seller will have no further warranty obligation hereunder if the equipment is subjected to abuse, misuse, improper or abnormal usage, faulty installation, improper maintenance as provided in Seller's maintenance literature, or any repairs other than those provided by the Seller and/or its authorized representatives or if damages or failure is caused by or attributable to acts of God. Seller neither assumes nor authorizes anyone to assume for it any other obligation or liability in connection with the equipment.

DISCLAIMER OF UNSTATED WARRANTIES

The warranty printed above is the only warranty applicable to this purchase. All other warranties expressed or implied including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose are disclaimed.

CUSTOMER SERVICE POLICY

Mobile Spray Systems customer service policy is to ship all replacement components within 48 regular scheduled working hours by the fastest delivery available.

LIMITATION OF LIABILITY

IT IS UNDERSTOOD AND AGREED THAT SELLER'S LIABILITY, WHETHER IN CONTRACT, IN TORT, UNDER ANY WARRANTY, IN NEGLIGENCE OR OTHERWISE, SHALL NOT EXCEED THE RETURN OF THE AMOUNT OF THE PURCHASE PRICE PAID BY PURCHASER AND UNDER NO CIRCUMSTANCES SHALL SELLER BE LIABLE FOR SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES. THE PRICE STATED FOR THE MOBILE SPRAY SYSTEMS EQUIPMENT IS A CONSIDERATION IN LIMITING SELLER'S LIABILITY. NO ACTION, REGARDLESS OF FORM, ARISING OUT OF THE TRANSACTIONS UNDER THIS AGREEMENT MAY BE BROUGHT BY PURCHASER MORE THAN ONE YEAR AFTER THE CAUSE OF ACTION HAS OCCURRED.