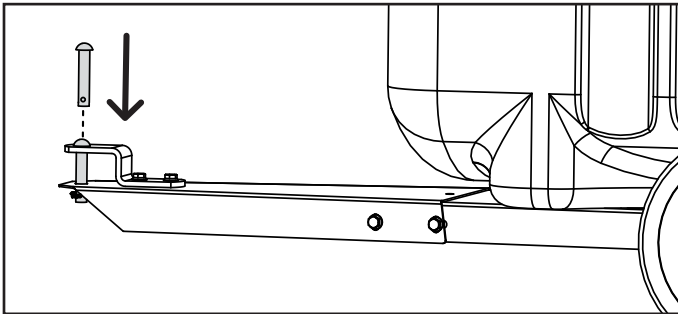


OPERATION

INSTALLING SPRAYER



CAUTION: Avoid injury!

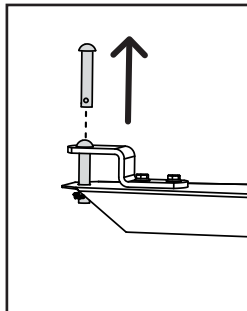
Before installing sprayer, make sure the towing vehicle is parked safely.

1. Park machine safely.
(See *Towing Machine manual*.)
2. Align sprayer drawbar with towing machine drawbar.
3. Install Hitch Pin (44) through sprayer drawbar and machine drawbar. Secure Hitch Pin with Hairpin Cotter (48).

REMOVING SPRAYER

NOTE: Refer to illustrations in the Installing Section, earlier in this manual.

1. Park machine safely.
(See *Towing Machine manual*.)
2. Unload sprayer tank before disconnecting hitch towing vehicle.



CAUTION: Avoid injury! Keep body parts away from underneath towbar.

3. Remove hairpin cotter and hitch pin.
4. Push sprayer away from machine. Block sprayer wheels.
5. Install hitch pin and hairpin cotter pin in sprayer drawbar for storage.

DETERMINING WEIGHT FOR SPRAYER



CAUTION: Avoid injury! Excessive towed load can cause loss of traction and loss of control on slopes. Stopping distance increases with speed and weight of towed load. Total towed weight must not exceed combined weight of pulling machine, ballast and operator.

The following maximum loaded weight capacity is the average weight loaded with water to the 25 gallon mark on the sprayer tank.

Model Sprayer	Weight Capacity
ST-251BH	207 lbs. Maximum load
(25 Gal. Tank)	260 lbs. Combined Towed Weight (Attachment + Load)



CAUTION: Avoid injury! If additional weight is required when towing, add weight at or forward of the rear wheels. Adding weight behind the rear wheels can affect machine steering. Refer to your towing machine manual.

Towing capacity will vary with weight of towing machine and operator.

EXAMPLE:

If Towing Machine Weighs:	400 lbs.
Add Your Weight:	200 lbs.
Combined Weight Equals:	600 lbs.

To maintain stability using the machine in this example, you cannot safely tow more than 600 lbs. without first adding additional ballast to the towing machine.

OPERATION

INSTALLING ELECTRICAL CONNECTIONS

CAUTION: Avoid injury!



Care should be used when working around batteries. Use insulated tools when making battery connections. Heavy gloves and eye protection should be worn when making battery connections.

1. Select the proper tools to remove the leads to the battery terminals. *Note: If you do not have insulated tools, use electrical tape to wrap all exposed non-working surfaces of the tools. It is important to take steps to reduce the risk of causing an electrical spark.*
2. Put on gloves and eye protection.
3. Verify that the red lead is attached to the positive (+) battery terminal and the black lead is attached to the negative (-) battery terminal.
4. Remove the battery leads.
5. Attach the red lead (with the fuse) of the Battery Connecting Wiring Harness and the red lead from your engine to the positive (+) battery terminal.
6. Using the Battery Connection Wiring Harness (6) attach the black lead and the black lead from your engine to the negative (-) battery terminal.

NOTE: The Battery Connection Wiring Harness contains a 15 amp blade type fuse.

NOTE: If the battery is underneath the seat, ensure that both battery terminals and battery leads do not make contact with seat.

7. Attach the Wiring Harness with Switch (5) to the connector terminal end of the Battery Connection Wiring Harness (6).

NOTE: In most instances the terminal connector with the shorter leads from the Wiring Harness with Switch (5) are connected to the terminal connector on the Battery Connection Wiring Harness (6). Most users like the switch to lie in their laps or be convenient to the towing vehicle operator. The Wiring Harness with Switch (5) terminal connectors can be reversed to suit the need of the user.

NOTE: Switch wire harness colors do not need to match mating connector wire colors for the pump to function.

CAUTION: Avoid Injury! *Care should be used when routing the wiring harness to the sprayer.*



Do not place the wiring harness in areas that the wires can be pinched or damaged.

Place the wires to minimize a tripping hazard when getting on or off the towing vehicle.

8. Attach the other end of remaining terminal lead connector from the Wiring Harness with Switch (5) to the terminal lead connector coming from the Pump (4). If the pump begins to run, use the switch to turn the pump off

NOTE: The Battery Connection Wiring Harness (6) can remain connected to the battery of the towing vehicle when spraying operations are complete. Simply detach the Wiring Harness with Switch (5) terminal connector from the Battery Connection Wiring Harness (6) terminal connector.

PUMP OPERATIONS

The pump motor supplied with your sprayer is a “demand flow” type pump. An internal pressure switch in the pump turns the pump off when the pressure reaches approximately 75psi. When the pump senses that pressure has dropped (by triggering the wand) the pump will again start and continue to run until 75psi is reached.

NOTE: Pump surge should be avoided. It can cause the pump motor to overheat resulting in damage to the pump. Refer to the Wand Operations Section for tips on how to avoid pump surge.

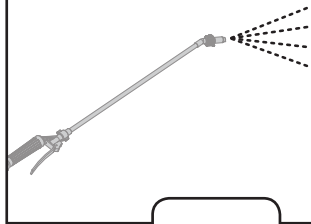
OPERATION

WAND OPERATIONS

The wand can be used for spraying in various applications from a steady stream to a fine mist.

Adjust the spray pattern by turning the Wand Tip (31) clockwise for a fine mist or counterclockwise for a course spray.

For spraying in a vertical orientation such as along fences or hedges, use the wand operation.



CAUTION: Avoid Injury!

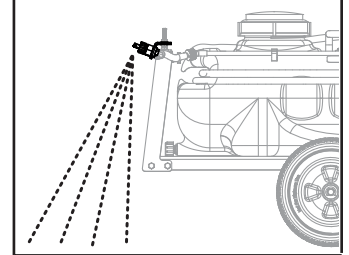
Always turn the pump off when making adjustments to the Wand Tip. Wear eye protection.

BOOM OPERATIONS

Boom spraying is the normal spraying configuration and is controlled by the operator in the seated position.

For spraying in a vertical orientation such as along fences or hedges, use the wand operation.

Normal downward spraying configuration and is controlled by the operator in the seated position.



PUMP SURGE

Pump surge may occur when using the wand for fine mist applications. Do not allow this to occur. The pump is designed for continuous duty. Intermittent starting and stopping will cause the pump motor to overheat. To eliminate pump surge:

- Open the wand tip to a higher flow rate
- Create a bypass that allows the pump to run continuous by removing one of the boom hoses near the tip (See Step 11). Remove the tank fill cap and place the hose in the tank. Open the valve for the boom slowly until the pump runs continuously. Adjust the wand tip to the desired mist.

APPLICATION RATE

WAND

Understanding the following information about your sprayer will help to calibrate the application rate. The sprayer operates at a fixed pressure of 75 psi. This results in actual spraying time of 30 minutes using the handgun.

BOOM

Product	Gallons Per Acre			
ST-251BH	2 mph	3 mph	4 mph	5 mph
	56.5	37.5	28.0	22.5
	Gallons Per 1,000 SQ FT			
	2 mph	3 mph	4 mph	5 mph
	1.3	0.9	0.6	0.5

OPERATION

TOWING VEHICLE REQUIREMENTS

The lawn sprayer requires towing equipment with a 12-volt battery and charging system, and a towbar hitch in order to operate properly.

The towing equipment should have operable brakes capable of controlling the loaded sprayer and towing vehicle.

CALIBRATION OF SPEED

By measuring off a distance of 50 or 100 feet, the speed of the towing vehicle can be calibrated by selecting a gear and throttle position to cover the prescribed distance in the specified time as shown:

Speed (mph)	Seconds required to travel	
	50 feet	100 Feet
2	17	34
3	11	22
4	9	17
5	7	14

CALCULATION PROCEDURE FOR SPRAYER APPLICATION

Chemical labels normally show application rates in gallons per acre or gallons per square feet. Using the following method, one can determine the appropriate amount of water to use and speed to travel to adequately follow the manufactures recommended instructions.

1. Based on the size of your yard, select the amount of water to be used. Use the formula:

Application Rate x Area to be sprayed = Amount of water (from the Table1).

Example 1

Yard Size= 4 acres

Using the Table 1 and the above formula:

56.5 gal/ acre x 4 acres= 225.6 gal@ 2mph 1.3 gal/ 1000 x 20,000sf= 26 gal@ 2mph
37.5 gal/ acre x 4 acres= 149.6 gal@ 3mph 0.9 gal/ 1000 x 20,000sf= 18 gal@ 3mph
28.0 gal/ acre x 4 acres= 112.0 gal@ 4mph 0.6 gal/ 1000 x 20,000sf= 12 gal@ 4mph
22.5 gal/ acre x 4 acres= 90.00 gal@ 5mph 0.5 gal/ 1000 x 20,000sf= 10 gal@ 5mph

2. Choose the speed / amount of water you want to use.

Example 1

A comfortable speed
for a lawn tractor is
3 mph.

Choice = 149.6 ~ 150 gal@ 3mph

Example 2

Since 18 gallons can be
done with only one filling:

Choice = 18 gallons @ 3mph

3. Determine how many tanks are required to complete the total job:

Amount of Water / Tank Capacity = Number of tanks from Step 1.

If the number of tanks is less than 1.0 use 1.0

Example 1

150 gal/ 25 = 6.0 tanks

Example 2

18 gal/ 25 = 0.7 tanks use 1.0 tank

4. Determine how much chemical is to be used:

Rate From Manufacturer's Label X Area to be Sprayed = Amount of Chemical Required

Example 1

Label = 20 ounces/acre
20 oz. x 4 acres = 80 oz.

Example 2

Label = 1/2 pint/ 1000 sq. ft.
1/2pt/1000 x 20,000 sf = 10 pints

5. Determine how much chemical per tank:

Amount of Chem (from Step 4.) # of Tanks (from Step 3.) Amount of Chemical per tank

Example 1

80oz./ 6.0 tanks = 13.3 oz./tank

Example 2

10 pints/ 1 tank = 10 pints

MAINTENANCE

LUBRICATING WHEEL BEARINGS

Lubricate each wheel bearing with multipurpose grease or an equivalent.

SPECIFICATIONS

Maximum Towing Speed	5 mph
Tank Capacity	25 gal
Maximum Pump Pressure	75 psi
Fuse (Blade Type)	15 amp.
Empty Weight	53 lbs.
Maximum Towed Weight	260 lbs.

TIRES

Size	10.5 x 3.5 in
Inflation Pressure	14 psi

CHEMICAL DISPOSAL



**IMPROPER CHEMICAL
WASTE DISPOSAL CAN POLLUTE
THE ENVIRONMENT AND CAUSE HEALTH ISSUES.**

Follow the disposal directions on the chemical manufacturer's label. Dispose of chemicals and containers in accordance to local / state / federal laws.

SERVICE



QUALITY CONTINUES WITH QUALITY SERVICE

If you have installation questions, are missing parts or need replacement parts, don't go back to the store!

Please find your product serial number and model number, then contact our Customer Service department:



In North America and Canada call
Toll-Free: **877-728-8224**



Chat online: **www.brinly.com**



Email: **customerservice@brinly.com**