



Electric 200, 300 & 400 Gallon

B.O.S.S. Space Saver Sprayers



OPERATOR'S MANUAL

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FORWARD

The GNC line of sprayers is designed to provide professional pest, lawn & turf grass managers with reliable spray equipment. This manual presents the operating and maintenance instructions necessary to keep your GNC sprayer at peak efficiency. If properly operated and maintained, your GNC sprayer will provide years of dependable service.

NOTE: The battery and hose reel manufacturers are responsible for their issues with regards to performance, power rating, specifications, warranty and service. For more information, please refer to the owner's/operator's manual included with your unit.

SAFETY PRECAUTIONS

A. General

1. No one should operate or maintain this sprayer who has not read this manual.
2. Keep adults, children and pets away from the sprayer and the area to be sprayed.
3. If truck or trailer mounted, make certain the sprayer is properly secured.
4. When spraying pesticides:
 - a. ALWAYS FOLLOW THE DIRECTIONS ON THE LABEL.
 - b. Avoid breathing vapors.
 - c. Avoid contact with the skin, eyes and clothing.
 - d. Wear rubber boots or rubberized shoes.
 - e. Wear work clothes with long-sleeved shirts and long-legged pants.
 - f. Change to clean clothing daily.
 - g. Wash hands and face before eating or smoking.
 - h. Bathe thoroughly as soon after spraying as possible.
5. Wear a face shield and rubber gloves when handling concentrates.
6. Do NOT remove any shields, guards or safety devices from the sprayer. If a shield, guard or safety device is damaged or does not function, repair or replace it before operating the sprayer.

B. Related to Batteries

1. ELECTRICITY IS HIGHLY DANGEROUS -RESPECT IT!
2. The electrolyte in a lead-acid battery is dilute sulfuric acid which is a very dangerous and corrosive liquid. Always wear safety glasses or goggles and rubber gloves when working on a lead-acid battery.
3. Do not overfill a lead-acid battery when filling the cells with distilled water. *
4. Lead-acid batteries generate hydrogen and oxygen gases which form an explosive mixture. Keep sparks and flames away at all times.*

* 3 & 4 only apply to vented lead-acid filled batteries.

SPECIFICATIONS

TANKS

Polyethylene Space Saver Tanks are sturdy, rotationally molded, with 200, 300 and 400 gallon capacities. All tanks are approximately 1/4 inch thick. The fillwell is equipped with a strainer basket and hinged lockable lid. The 200, 300 and 400 gallon tanks have a 16 inch fillwell equipped with strainer basket and hinged lockable lid.

FRAME

The motor/pump unit and hose reel bases are constructed from stainless steel.

MOTOR

24 Volt motor (50 State Approved)

PUMP

P530 Piston pump equipped with micro-switch

CHARGING SYSTEM

40 Amp, 4-Bank, On-Board Battery Charger (10 amp per bank) on-board battery charger for charging and maintaining four 12-volt batteries independently.

IN-LINE STRAINER

All sprayers have a suction strainer with a 20-mesh stainless steel screen located on the inlet side of the pump.

AGITATION

All Space Saver Sprayers are equipped with Ventura style jet agitation.

PRESSURE REGULATOR

Adjustable pressure regulating valve with a glycerin dampened pressure gauge. Includes smart automatic shut off micro-switch communications .

MICRO-SWITCH

Units are equipped with a micro-switch sensor which allows the unit to operate in power save mode.

HOSE REEL

Electric hose reel constructed of commercial poly-carbonate and stainless steel. Roller Guides are included. Dual speed operation and on/off power button.

SPRAY GUN

Includes Mag-1 Do-All spray gun kit with 3 lawn nozzle and 4 metal tree and shrub nozzles.

DIMENSIONS

200 Gallon:

Base foot print: 48" Wide x 40-1/2" Deep

Top of Tank: 60" Wide x 40-1/2" Deep

Height to top of Tank: 28" (at cab)

Height to top of Reel: 50"

300 Gallon:

Base foot print: 48" Wide x 42" Deep

Top of Tank: 70" Wide x 42" Deep

Height to top of Tank: 35-1/2" (at cab)

Height to top of Reel: 53"

400 Gallon:

Base foot print: 48" Wide x 59" Deep

Top of Tank: 80" Wide x 40-1/2" Deep

Height to top of Tank: 35-1/2" (at cab)

Height to top of Reel: 53"

OPERATING INSTRUCTIONS

A. SET-UP

1. General

Open the tank lid and remove information packet and spray gun. Check all the bolts on the sprayer for tightness. Make certain all hose clamps are tight. Check that the tank straps are tight on poly-tank sprayers. If applicable, check that the pulleys and belts are tight and aligned on sprayer. (For pulley and belt adjustment see the Maintenance Section on page 7) Check that electrical connections are sound on electric sprayers and electric reels.

2. Install Spray Gun

The spray-gun may have a garden hose adapter on the grip. If needed, remove this adapter and expose the 1/2" female NPT threads. The end of your hose is equipped with a 1/2" male NPT fitting. Use a sealant tape and make 2-3 rounds on the fitting threads. Install the gun grip on the hose fitting by turning the gun clockwise until it is secure. Do not over tighten.

3. Installation in a Van or Pickup Truck

Once the sprayer is in the desired position in your van or pickup truck, it should be securely bolted through the truck bed to the vehicle's frame. Bolts should be used at each corner of the sprayer's frame and should have cap screws placed through the holes punched in the frame for this purpose. Bolts of at least 3/8" diameter should be used. Mounting hardware is not supplied for the sprayer because the installation will vary.

4. Charge System

Once the sprayer is installed. Plug the charging system into a standard 110 wall outlet. Let the system charge over night. The charging system has display lights to show when the charge is complete. Each bank has its own light. When the bank light is green charging is complete. Once charge is complete, unplug the charger from the outlet and secure the cord. You must charge the system every night after use.

B. Operation

1. Starting the Sprayer

- a. Check the level of the oil in the pump. It should be halfway up the sight tube.
- b. Clean the in-line suction strainer, if it is dirty.
- c. Fill the tank one third full with clean water.
- d. Pull "Manual" switch out to start the system.
- e. Engage the spray gun and spray back into the tank for approximately one minute to remove any air from the system.
- f. Check the flow rate out of the application device with a calibrated container. (See Calibration)
- g. Adjust the flow rate by adjusting the pressure regulator. When the flow rate is correct, it should stay set until something in the system is changed.

A slight increase in pressure is normal when the application device is turned off. This will vary according to the length and diameter of the hose used.

2. Calibration

a. Hand Spraying

There are two keys to proper calibration of hand spraying. One is knowing your spraying pace, that is the time it consistently takes you to spray an even application of product on each 1000 sq ft area. The other is always knowing the current flow rate out the application device on your sprayer. The first step is to set up your sprayer to spray two gallons per minute (GPM). This is a common flow rate that can be used to check your spraying pace. To do this, you need a graduated container. Fill the sprayer tank one third full with clean water and start it up. Using the gun or wand that is mounted on your sprayer, spray into the graduated container for one minute. Check how much water you collected. Adjust the flow rate by adjusting the pressure regulator if necessary, until you can collect two gallons in one minute. (Make sure nozzle is rated within your pump spec)

The next step is to determine how long it takes you to evenly spray 1000 sq ft. Measure an area 20 ft x 50 ft on a paved surface. Spray the area evenly with clean water. Use a stop watch to time your application. After the water evaporates, spray the area again.

Repeat this several times and average the application times. Spraying on asphalts or concrete will permit you to see the pattern you are applying and will give you a better conception of even application.

Once you have trained your applicator to walk 1,000 square feet per minute and your truck is calibrated to spray two gallons per minute, your spray volume is two gallons per 1,000 square feet based on walking speed and lawn output.

*****READ YOUR CHEMICAL LABEL*****

Example: the herbicide label says to apply two ounces of product per 1,000 square feet. It is important to notice that the label does not state the amount of product to add per gallon of water. Therefore, before adding anything to the tank we must first determine how many square feet we can spray with our tank.

Assume that you have a truck with a 500-gallon tank and an output of two gallons per 1000 square feet. How many square feet will the tank cover if the pump is calibrated to deliver two gallons of water per 1000 square feet? The answer is 250,000 square feet:

$$\begin{array}{l} \text{Total Sq ft covered} \\ \text{By spray tank} \end{array} = \frac{500\text{-gal.spray tank}}{2 \text{ gal.}} \times 1,000 \text{ sq ft}$$

Adding product to the tank:

Because the herbicide label requires X ounces of product to be applied per 1,000 square feet, you'll need to figure out just how many 1,000 square-foot areas exist within your larger 250,000-square-foot area. The answer is 250 (250,000 square feet divided by 1,000 square feet). For our example, two ounces of product are needed per 1000 square-foot area. Since you have 250 of those 1000-square-foot areas, you will need to mix 500 ounces of product (multiply 250 by two ounces) with your 500 gallons of water. In case you think you'll get tired measuring all 500 ounces by hand, just divide those 500 ounces by 128 ounces (there are 128 ounces in 1 gallon), and you'll come up with about four gallons of herbicide as the proper mix for 500 gallons of water. Understanding how we arrived at the final number allows us to use this formula to calculate how many gallons of product are needed based on tank size, gallons of water per thousand square feet, and labeled rate.

$$\begin{array}{l} \text{Ounces of Product} \\ \text{needed} \end{array} = \frac{\text{Your tank size}}{\text{Your calibration rate}} \times \begin{array}{l} \text{Label rate} \\ \text{(per 1,000 sq ft)} \end{array}$$

(gallons water/1,000 sqft)

In reading the instructions for application rates on most herbicide containers, you'll note that suggested rates vary significantly. Experience and professional recommendations will help you determine the proper rate for your situation.

AFTER CHANGING OUTPUT—RECALIBRATE

CAUTION: AVOID ACCIDENTS!

FOR SAFETY, READ THE ENTIRE PRODUCT LABEL INCLUDING PRECAUTIONARY STATEMENTS, USE ALL PRODUCTS ONLY AS DIRECTED.



3. Operating in Automatic Mode

After you have calibrated your unit, you may choose operate the unit in automatic/power save mode. To do this you first must push in the manual button. (turn off) and pull out the automatic/power save button. NEVER have both buttons engaged at the same time. When operating the unit in automatic/power save mode, the motor will turn off when the gun is disengaged for ≈10 seconds and will turn on once the gun is engaged.

When operating in manual mode the motor will stay engaged at all times.

4. Operating GNC Hose Reel

Prior to pulling hose out, set side lever to "DISENGAGE". Pull out the hose as needed. When it is time to power wind the hose, switch lever to "ENGAGED". Turn hose reel on and press either slow or fast rewind operation. Once hose has been rewound **TURN HOSE REEL OFF!**

5. Cleaning the Sprayer

After use, flush the sprayer tank, and the entire system, pump, plumbing, hose and gun, wand or boom with Nutra-Sol or some comparable cleaner to neutralize chemicals and reduce pump problems.

Follow the instructions on the label. Extra cleaning care should be taken after spraying herbicides to prevent possible damage to turf or plants when next spraying insecticides or fungicides. After the sprayer has been flushed, clean the in-line strainer. Hose off the outside of the sprayer to wash off dust and dirt. Do NOT spray water on the motor if it is hot.

MAINTENANCE INSTRUCTIONS

A. BATTERY

The battery provided on the BOSS electric sprayers are sealed lead acid and DO NOT require maintenance. This includes checking any fluid level. They will require periodic terminal inspections for corrosion. If corrosion is found, clean the terminals.

CHARGE BATTERIES ON A NIGHTY BASES. Failure to charge the batteries will cause interruptions during operation. To charge, connect to an extension cord (12 gauge or larger) and plug into a standard AC outlet. Charging will be complete once each charging bank light turns green. Suggested charge time is 8 hours. The sprayer is equipped with a smart charger so once the batteries are fully charged the charger, will kick off to prevent over charging.



DANGER: ALWAYS WEAR SAFETY GLASSES AND RUBBER GLOVES WHEN WORKING ON THE BATTERY, KEEP SPARKS AND FLAMES AWAY AT ALL TIMES.

B. PUMP

Piston pumps require minimal maintenance. The procedures that are required are listed in the pump Installation/Operation Instructions furnished with the sprayer.

Every 200-Hours and at the End of Each Spray Season: Change the oil.

C. AGITATOR

Sprayers with jet agitation are equipped with a Ventura type agitator specifically engineered to operate with your pump. This tip is designed to hold approximately 30 to 50 PSI on the return flow into the tank for good agitation. You will see this pressure when the bypass on the regulator is in the bypass position. If the bypass agitation is very weak, change the agitation tip. This should be a regular replacement item once per year.

D. BELT ADJUSTMENT

The pump on a BOSS sprayer is belt driven. These belts will stretch when new and it is very important that the belts be checked for proper tension daily for the first three or four days of operation.

NOTE: DO NOT TIGHTEN THE BELTS MORE THAN NECESSARY.

The proper procedure for tightening the belts are as follows:

1. Loosen the pump mounting bolts.
2. Tighten the belt by pushing the pump forward. Until the desired tension is achieved.
3. Tighten the pump mounting bolts.



DANGER: DO NOT ATTEMPT TO ADJUST THE BELTS WHILE THE ENGINE IS RUNNING

F. TANK

The spray tank requires no scheduled maintenance.

The inside of the tank should be flushed out after each use as described in the section on Cleaning the Sprayer. The outside of the tank should be hosed off after use and scrubbed occasionally with soapy water to remove ground-in dirt.

G. IN-LINE STRAINER

The in-line strainer should be cleaned each day after the sprayer has been flushed. Place a flat pan under the strainer bowl to catch the liquid and unscrew the bowl.

Clean filter screen and replace it in the strainer. Prior to reinstalling the strainer bowl, use a small amount of petroleum jelly on the o-ring/gasket.

NOTE: DO NOT LOSE THIS O-RING/GASKET! It must be installed or you will NOT be able to operate your sprayer. Check o-ring/gasket for damage. If any damaged is observed REPLACE IT.

H. HOSE

Inspect your hose monthly. Hose should not be driven over or snagged on sharp objects. This will break the lining of the hose and cause kinking and pin hole leaks. The hose should be flushed out daily as described in the section on Cleaning the Sprayer.

TIPS: DO Not drop and drag your application device. Hold the application device and walk it back to the unit. This will allow you to confirm it has not been snagged an obstacle.

I. STORAGE AND WINTERIZING

If the sprayer will not be used for 10 days or more, it should be thoroughly flushed out and cleaned as described in the section on Cleaning the Sprayer. The sprayer should be stored in a clean, dry area which should be heated if freezing weather will occur during the time of storage. If storing in a heated room is not possible, winterize the sprayer. Pour a gallon of RV antifreeze and a gallon of clean water into the sprayer. Start the unit and agitate the mixture. Then pump the antifreeze mixture through the plumbing and discharge it from the application device back into the one gallon container. Store the 50/50 antifreeze mixture for future use. If a boom is your application device, spray a small amount of the antifreeze mixture from the boom and then shut it off and drain or pump the rest of the mixture from the tank.

TROUBLESHOOTING GUIDE

PROBLEM	CAUSE	SOLUTION
Pump does not draw water.	The in-line strainer is clogged. The suction line is plugged or collapsed. Valve in suction line closed. One or more valves are sealing improperly. Suction line or strainer is not sealed.	Clean the in-line strainer. Examine the suction line. Open gate valve. Examine the valve seating and clean them or replace if scored or worn. Replace suction filter o-ring/gasket.
The pressure gauge fluctuates excessively.	The pump is sucking in air somewhere in the suction line. Air has not been entirely evacuated from the pump.	Examine the suction line and make certain all parts are firmly secured. Run pump with the outlet hose open to evacuate air from the pump.
The liquid flow is irregular.	One or more pump valves are not seating properly.	Examine the valve seating and clean them or replace them if scored or worn.
The output drops and the pump is noisy.	The oil level is too low. Suction has a leak and is sucking air. Suction valves are worn.	Add oil to the correct level for the pump. Check for suction leak. Replace valves.
No agitation	If no agitation when spraying, the spray nozzle is too large. Pump RMP to slow	Check the agitator line to the agitator. Replace agitator nozzle. Use smaller spray nozzle. Charge batteries.

For more information visit GNC's support page. :

<https://gncindustries.com/support/>



Limited Warranty for New GNC Commercial Sprayer Equipment (U.S.A. ONLY)

A. GENERAL PROVISIONS — The warranties described below are provided to the original purchaser of new GNC equipment from GNC Industries, Inc. or authorized dealers. Under these warranties, the authorized GNC brand servicing dealer will repair or replace any covered part which is found to be defective in material or workmanship during the applicable warranty term. Warranty service must be performed by an authorized GNC dealer or service center authorized by GNC to sell and/or service the type of product involved, which will only use new or remanufactured parts or components furnished by GNC. The purchaser will be responsible, for any service call and/or transportation of product to and from the authorized GNC Dealer's place of business, for any premium charged for overtime labor requested by the purchaser, and for any service and/or maintenance not directly related to any defect covered under the warranties below.

B. WHAT IS WARRANTED — All GNC Industries, Inc. manufactured pumps, parts and accessories are warranted for the number of months as set forth below. All other branded products, such as engines, pumps, parts, reels and accessories are warranted by their respective manufacturers as specified in the original manufacturer's manuals.

GNC Commercial Sprayers – 12 Months

GNC P-Series Pumps – 12 Months

GNC Mag-1 Series Spray Guns – 12 Months

GNC Measuring Wheel – 90 Days

Warranty statements required by law covering engine emission-related parts and components are found in the Operator's Manual.

C. WHAT IS NOT WARRANTED — GNC IS NOT RESPONSIBLE FOR THE FOLLOWING:

1. Used Products.
2. All branded products; engines, pumps, hose reels which are warranted by respective manufacturers.
3. Any product that has been altered or modified in ways NOT approved by GNC.
4. Depreciation or damage caused by normal wear, lack of reasonable and proper maintenance, failure to follow operating procedures, misuse, lack of proper protection during storage or accident.
5. Normal maintenance parts and service.
6. Loss of profits or any other consequential damages.

D. SECURING WARRANTY SERVICE — To accrue warranty service, the purchaser must:

1. Report the product defect to an authorized GNC dealer and request repair within the applicable warranty; **and**
2. Present evidence of the warranty start date; **and**
3. Make the product available to GNC or authorized GNC service dealer within a reasonable period of time.

NOTE: All warranty claims **must** be pre-approved by GNC Industries, Inc.

E. LIMITATION OF IMPLIED WARRANTIES AND OTHER REMEDIES—COMMERCIAL EQUIPMENT- To the extent permitted by law, neither GNC nor any company affiliated with it makes any warranties, representations or promises as to the quality, performance or freedom from defect of the GNC Commercial Equipment covered by this warranty.

IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, TO THE EXTENT APPLICABLE, SHALL BE LIMITED IN DURATION TO THE APPLICABLE PERIOD OF WARRANTY SET FORTH ON THIS PAGE. THE PURCHASER'S ONLY REMEDIES IN CONNECTION WITH THE BREACH OR PERFORMANCE OF ANY WARRANTY ON THE GNC COMMERCIAL EQUIPMENT ARE THOSE SET FORTH ON THIS PAGE. IN NO EVENT WILL THE GNC BRAND RETAILER OR ANY COMPANY AFFILIATED WITH GNC BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. (Note: some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages so the above limitations and exclusions may not apply to you.) This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.)

F. NO RETAILER WARRANTY — The selling retailer makes no warranty of its own and the retailer has no authority to make any representation or promise on behalf of GNC or to modify the terms or limitations of this warranty in any way.

G. If further information is desired, contact your selling GNC brand Retailer.