

# WORKHORSE

S P R A Y E R S

a Division of Green Leaf, Inc®

*Assembly / Operation Instructions / Parts*

## BK005 & BK007

### 5 & 7 Nozzle Boom Kit



MODEL# BK005 & BK007

#### 5 & 7 Nozzle Boom Kit

- 5 Nozzle Boom Assembly with 100 inch coverage
- 7 Nozzle Boom Assembly with 140 inch coverage

**\* These boom kits are designed to be used with any sprayer with a pump capable of 2.0 gpm flow or more, that has a garden hose accessory port.**

#### — GENERAL INFORMATION

The purpose of this manual is to assist you in assembling, operating and maintaining your Hitch Mount Boom Kit. Please read it carefully as it furnishes information which will help you achieve years of dependable trouble-free operation.

#### — WARRANTY / PARTS / SERVICE

Workhorse products are warranted for one year from the date of purchase against manufacture or workmanship defects for personal or homeowner usage with proof of purchase. Workhorse products are warranted for 90 days for commercial users. Any unauthorized modification of a Workhorse brand sprayer will void warranty.

Your authorized dealer is the best source of replacement parts and service. To obtain prompt, efficient service, always remember to give the following information: 1) Correct part description and part number. 2) Model number and serial number of your sprayer.

Part description and part numbers can be obtained from the illustrated parts list section of this manual.

Whenever you need parts or repair service, contact your distributor / dealer first. For warranty work always take your original sales slip, or other evidence of purchase date, to your distributor / dealer.

#### — ASSEMBLY INSTRUCTIONS

**Tools required:**

- 1 - Phillips Screwdriver
- 2 - 1/2" End Wrenches
- 1 - 7/16" End Wrenches

#### — OPERATION

(Recommended to be used with a LG25DSS or similar 2.0 GPM or greater spot sprayer.)

Refer to your original spot sprayer operating instructions.

Pressure may be regulated by opening or closing the valve located on the top of your tank. Refer to your original instructions, or see some common "Valve Operations" illustrated in this manual.

**Regularly inspect the suction supply screen on the inside of the tank. Flush with water to clear any accumulated debris.**

## — CALIBRATION

Chemical product labels may show application rates in gallons per acre, gallons per 1000 square feet, or gallons per 100 square feet. The tip chart for your sprayer shows all three rates for your convenience.

After determining how much mixed solution you are going to spray for your job, select the spraying pressure (PSI) and spraying speed (MPH) needed.

Current weather and terrain conditions must be considered when setting up the sprayer. Do not spray on windy days (over 11 MPH), and protective clothing must be worn with some products.

Be sure to read the chemical label carefully.

To determine the ground speed of your sprayer, measure and mark driving distances of 100, 200, or 300 feet. Our speed chart indicates the number of seconds needed to travel these distances. Set your throttle, and with a rolling start, drive the measured distance of your choice. Adjust your throttle until you can match the number of driving seconds needed. Mark the throttle setting and note the gear range so you can use them while spraying.

Add water and chemicals in the proper amounts in the spray tank and drive to your starting point. When you are ready to spray, turn your boom control valve to the "ON" position. Once the pump is turned on, the unit will begin spraying. The system pressure will decrease slightly when you see solution flowing from the spray nozzles. This is normal, the pressure will return as before when you turn the control valve to the "OFF" position.

You will find optimal spraying in the 20 to 30 PSI range.

## — AFTER SPRAYING

After use, fill the sprayer part way with water. Start the sprayer and allow clear water to be pumped through the plumbing system and out through the spray nozzles.

Refill the tank about half full with plain water and use a chemical neutralizer such as Nutra-Sol® or equivalent and repeat cleaning instructions. Flush the entire sprayer with the neutralizing agent. Follow the chemical manufacturer's disposal instructions of all wash or rinsing water.

Remove tips and screens from the boom. Wash tips thoroughly with water or cleaning solution (appropriate for chemical used). Blow out orifice, clean and dry. If orifice remains clogged clean it with a fine bristle (not wire) brush, or with a toothpick. Do not damage the orifice. Water rinse and dry tips before storing.

## — WINTER STORAGE

Drain all water and chemical out of sprayer, paying special attention to pump and valves. These items are especially prone to damage from chemicals and freezing weather.

The sprayer should be winterized before storage by pumping a solution of RV antifreeze through the entire plumbing. Proper care and maintenance will prolong the life of the sprayer.

### RATE CHART FOR 80/110-02 SPRAY TIP

Pressure (PSI)	Capacity (GPM)	GALLONS PER ACRE BASED ON WATER - 20" SPACING							
		1 MPH 88 FPM	2 MPH 176 FPM	3 MPH 264 FPM	4 MPH 352 FPM	5 MPH 440 FPM	7.5 MPH 660 FPM	10 MPH 880 FPM	
20.0	0.14	41.8	20.9	14.0	10.5	8.4	5.6	4.2	
30.0	0.17	51.2	25.6	17.2	12.9	10.3	6.9	5.1	
40.0	0.20	59.2	29.6	19.8	14.9	11.9	7.9	5.9	
50.0	0.23	66.4	33.2	22.2	16.6	13.3	8.8	6.6	

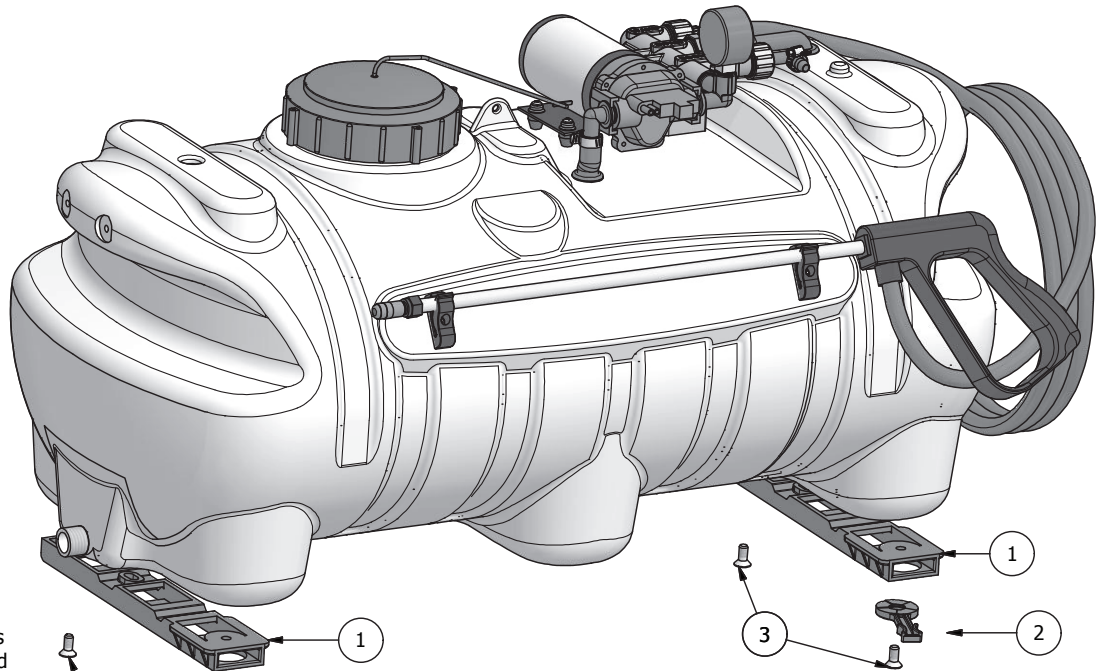
  

Pressure (PSI)	Capacity (GPM)	GALLONS PER 1000 SQ. FT. BASED ON WATER - 20" SPACING							
		.96	.48	.32	.24	.19	.13	.10	
20.0	0.14	.96	.48	.32	.24	.19	.13	.10	
30.0	0.17	1.18	.59	.39	.30	.24	.16	.12	
40.0	0.20	1.36	.68	.45	.34	.27	.18	.14	
50.0	0.23	1.52	.76	.51	.38	.31	.20	.15	

Pressure (PSI)	Capacity (GPM)	GALLONS PER 100 SQ. FT. BASED ON WATER - 20" SPACING							
		.096	.048	.032	.024	.019	.012	.009	
20.0	0.14	.096	.048	.032	.024	.019	.012	.009	
30.0	0.17	.117	.059	.039	.029	.024	.015	.011	
40.0	0.20	.135	.066	.045	.034	.027	.018	.013	
50.0	0.23	.152	.076	.050	.038	.030	.020	.015	

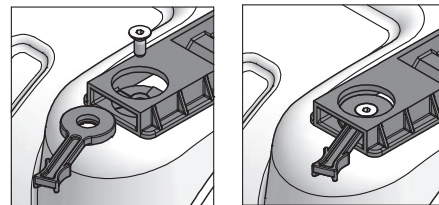
MPH- Miles Per Hour • FPM- Feet Per Minute • PSI- Pounds Per Square Inch • GPM- Gallons Per Minute



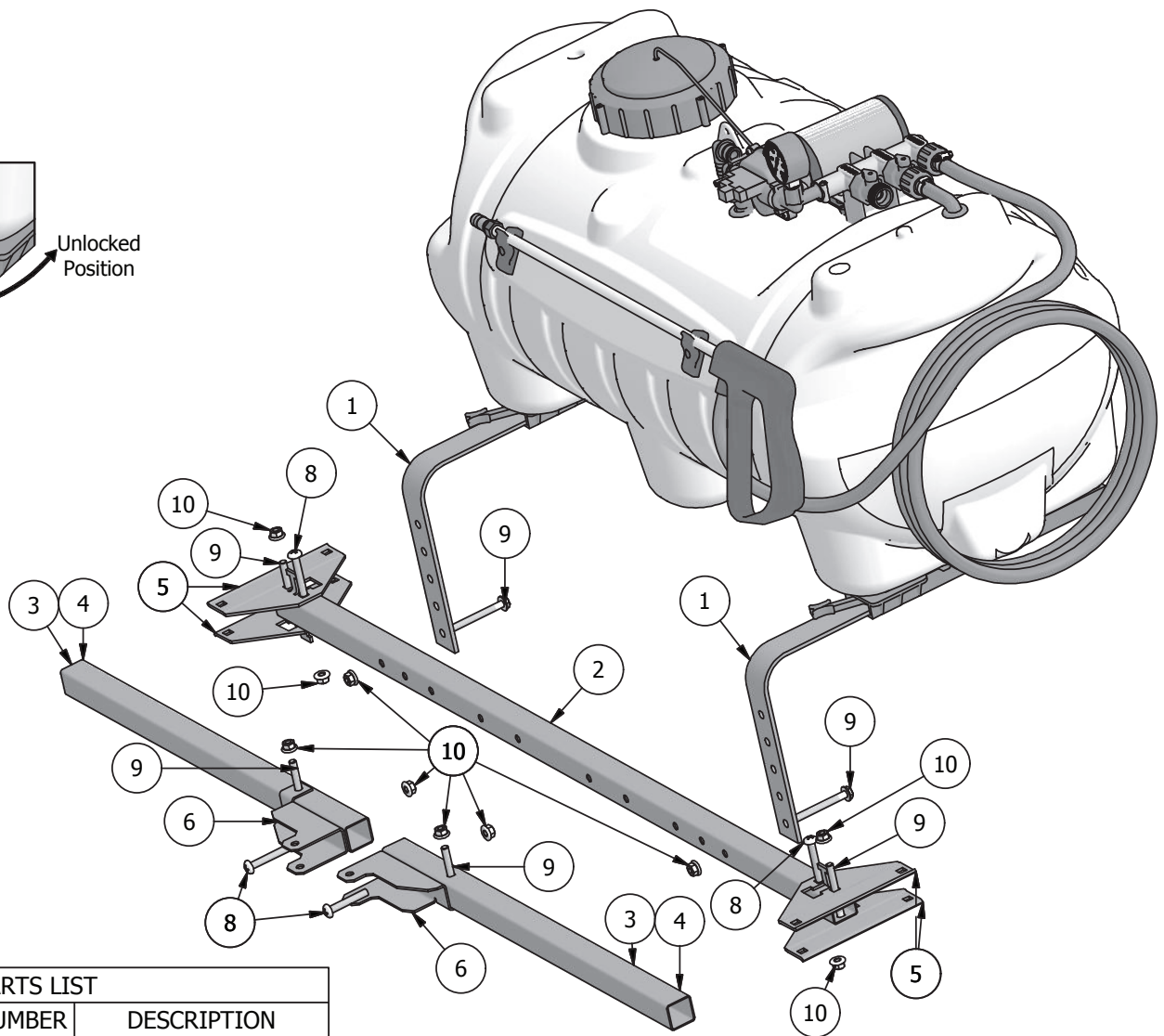
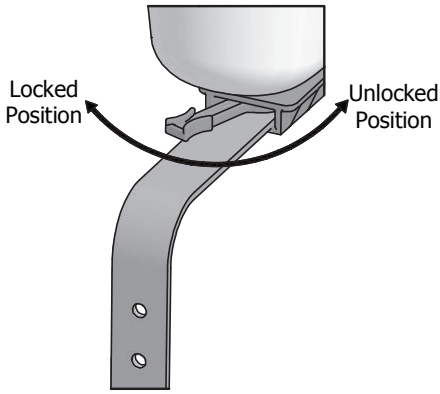
#### Assembly Instructions

- 1.0--Install ATV Boom Mounts & ATV Helix Levers in two places on bottom of tank as illustrated using 5/16" Flat Head Screws. Note the orientation of all parts as their orientation is essential for proper assembly.

PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	600189	ATV Boom Mount
2	2	600190	ATV Helix Lever
3	4	600188	5/16-18 Flat Head Screws

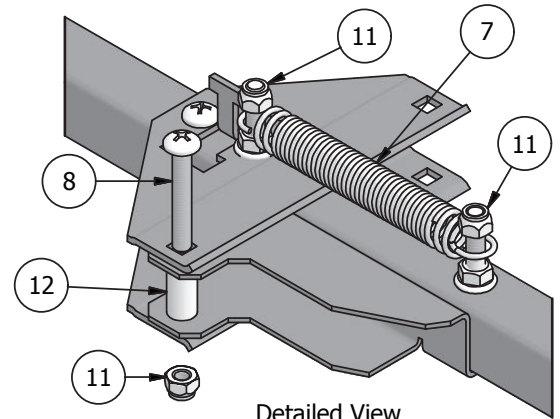


Locked Position      Unlocked Position



PARTS LIST				
ITEM	QTY	PART NUMBER	DESCRIPTION	
1	2	600191	Angle Bracket	
2	1	640414	Center Section	
3	2	640412	23" End Section	5 Nozzle Only
4	2	640413	38" End Section	7 Nozzle Only
5	4	640416	Center Bracket	
6	2	640417	End Bracket	
7	2	640428	Spring	
8	6	640423	5/16 x 2" Screw	
9	6	640426	5/16 x 2.75" Bolt	
10	10	600172	5/16 Nut	
11	6	620106	5/16 Lock Nut	
12	2	640459	Spacer	

5 Nozzle Only  
7 Nozzle Only

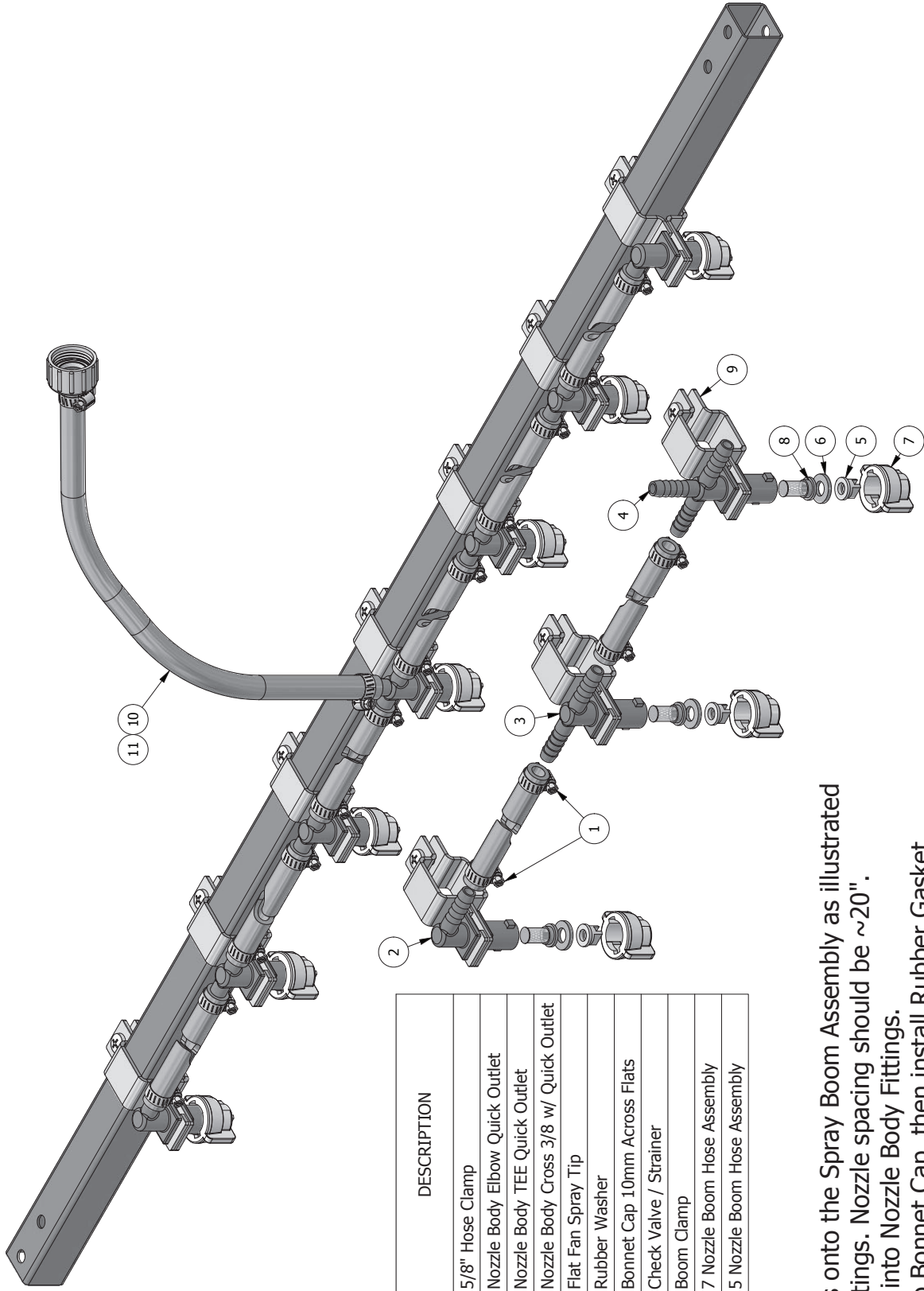


Detailed View

#### Assembly Instructions

- 2.0 -- Insert Angle Brackets into Mounting Brackets and rotate lever to the locked position to secure in place
- 2.1 -- Install the Center Section onto the Angle Brackets at the desire high using 5/16 x 2.75" bolts and 5/16 nuts.
- 2.2 -- Install (2) Center Brackets to each end of the Center Section using 5/16 x 2" Screws and 5/16 nuts.  
Note orientation of brackets as it is essential for proper assembly.
- 2.3 -- Install End Brackets to End Sections (23" for 5 Nozzle Boom, 38" for 7 Nozzle Boom) using 5/16 x 2" screws, 5/16 x 2.75" bolts and 5/16 nuts. Note orientation of brackets and the bolts as it is essential for proper assembly.
- 2.4 -- Install the End Sections to the Center Section using 5/16 x 2" Bolts, 5/16 Lock Nuts and Spacer, as shown in the detailed view. Make sure to not over tighten the bolts, so that the boom ends can rotate freely.
- 2.5 -- Install Boom Springs to 5/16 x 2.75" bolts like shown in the detailed view.
- 2.6 -- Install 5/16 Lock Nuts onto 5/16 x 2.75" Bolts to secure spring in position as shown in the detailed view.

# Complete Assembly



ITEM	5 Nozzle	7 Nozzle	PART NUMBER	DESCRIPTION
1	10	14	600120	5/8" Hose Clamp
2	2	2	640491	Nozzle Body Elbow Quick Outlet
3	2	4	640492	Nozzle Body TEE Quick Outlet
4	1	1	640498	Nozzle Body Cross 3/8" w/ Quick Outlet
5	5	7	640432	Flat Fan Spray Tip
6	5	7	600276	Rubber Washer
7	5	7	640497	Bonnet Cap 10mm Across Flats
8	5	7	600117	Check Valve / Strainer
9	5	7	640435	Boom Clamp
10	1	1	640494	7 Nozzle Boom Hose Assembly
11	1	1	640495	5 Nozzle Boom Hose Assembly

## Assembly Instructions

- 2.0**--Install Boom Clamps onto the Spray Boom Assembly as illustrated with Nozzle Body Fittings. Nozzle spacing should be ~20".
- 2.1**--Insert Check Valves into Nozzle Body Fittings.
- 2.2**--Insert Spray Tip into Bonnet Cap, then install Rubber Gasket.
- 2.3**--Attach Bonnet Cap to Nozzle Body fitting.
- 2.4**--Install Hose Assembly onto inline valve on the Pump Manifold.