



# OVER-ROW SPRAY-HOOD™



Assembly and Operation  
Instructions



## OVER-ROW SPRAY-HOOD™

### TO THE OWNER

Congratulations on your selection of a Redball® OVER-ROW SPRAY-HOOD™. Redball® products have earned a reputation of providing a durable sprayer throughout the U.S. and Canada.

Redball® Sprayers have been designed to provide many years of profitable and dependable service. To assure maximum performance of your sprayer, it is mandatory that you thoroughly study the operator's manual and follow its recommendations. Proper operation and maintenance are essential for safety, to maintain performance, and to maximize the life of the sprayer.

### It is the owner's responsibility to :

- Operate and maintain this sprayer in a safe manner and in accordance with all applicable local, state, and federal codes and/or laws; and in compliance with labeling instructions furnished by the supplier of the chemical being used.
- Make sure each and every operator has read the operator's manual and thoroughly understands safe and correct operating procedures.
- Make sure unauthorized people do not operate or are in the vicinity of the sprayer while it is in operation.
- Maintain the sprayer in accordance with the maintenance schedule in this manual. Furthermore, as additional technology becomes available, the owner is responsible for improving the safety, and reliability of the system.
- Fulfill all warranty obligations so as not to void the warranties. Verify the unit is warranty registered prior to making any warranty claims. The warranty section at the back of this manual outlines the warranty policy of Redball, LLC.
- Abuse or modifications to the sprayer that change the performance other than original factory specifications void the warranty.

Redball, LLC reserves the right to make product improvements to the equipment at any time. It shall not be obligated to make such changes to machines already in service.

*\* The owner, manager and/or operator is responsible for safe, accurate operation and maintenance of the Redball® Sprayer.*

# OVER-ROW SPRAY-HOOD™

## Redball® OVER-ROW SPRAY-HOOD™ Spray Tip Configurations

### Standard Application

The spray hoods have five nozzle mounting parts provided, two are marked A, B and one on top with no marking. Assembly instructions specify when each part is used. It is always important that the spraying pressure and speed are followed.

The tee is at the top of the hood and the hose extends down each side of the hood. Install the elbow into the “A” or “B” nozzle parts. Ensure that you use both “A’s” and “B’s” for the proper width. Connect black hose to each barb and secure with clamps provided.

### Different Band Width.

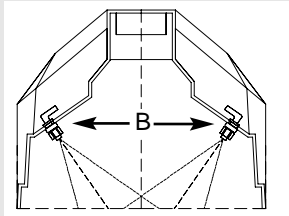


### NOTE

All band widths are at the base of the hood.

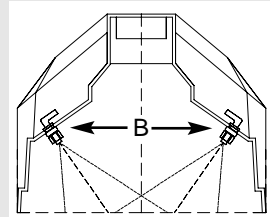
### 10” Band Width.

To achieve a 10” band place the nozzles in the “B” nozzles with a TP4001E-SS tip at 40 psi. The spray patterns cross the row 1-3/4” above the bottom of the hood.



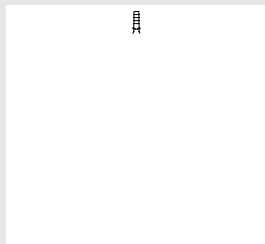
### 15” Band Width.

To achieve a 15” band place the nozzles in the “B” holes with a TP65015E tip at 40 psi. The spray patterns cross the row 3-1/4” above the bottom of the hood.



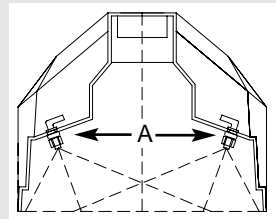
### 12” Band Width.

To achieve a 12” band place the nozzle in the “Top” hole with a TP40015E-SS tip at 40 psi.



### 20” Band Width.

To achieve a 20” band place the nozzles in the “A” holes with a TP9502E-VS tip at 40 psi. The spray patterns cross the row 3” above the bottom of the hood.

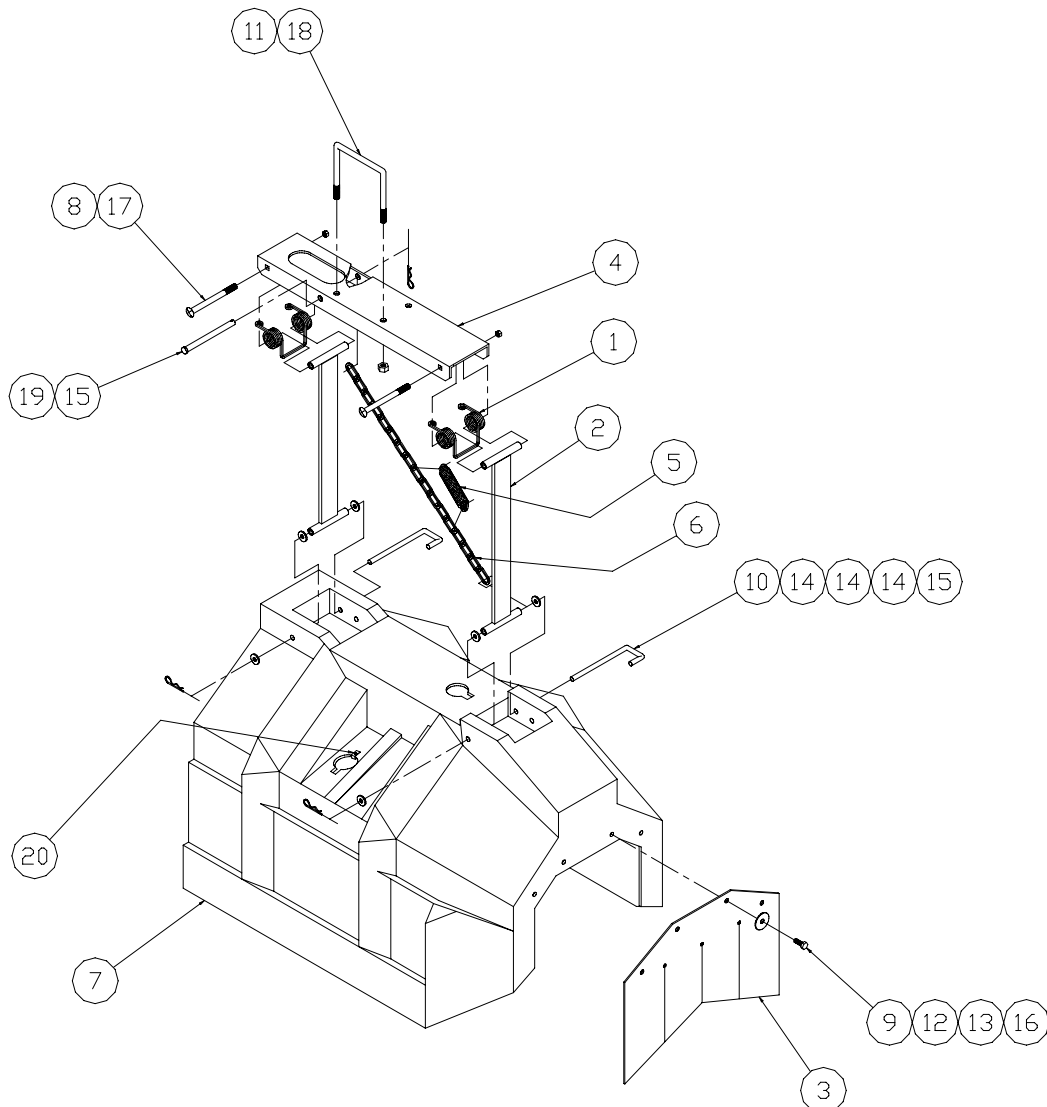


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## **Hood Assembly (See Below)**

Place the swing arms in the recess of the hood. Add 5/16" washers to each side of the swing arm and insert the J-pin through the washer and swing arm. Also add the chains to the front swing arm. The J-pin will fit into a preformed hole when properly installed. The expanded chain will fit over the swing arm. It is installed only on the front swing arm. Add another washer to the J-pin and insert the clip pin to fasten the swing arm. Repeat for the rear swing arm. The swing arms should swing freely without binding. Install torsion spring onto swing arm by spreading the spring and placing over the ends of the swing arm. The ends of the spring must be facing to the rear of the hood. The wire that connects the two springs must be to the rear of the flat arm of the swing arm. Next, attach the swing arms to the formed bracket using the 5/16" x 4" long carriage bolts and nuts. The large slot in the bracket will be at the rear as viewed from the front of the spray hood. The holes will be in the middle of the hood. Attach the spring and chain assembly using the clevis pin. Using the chain and spring, adjust to establish the desired mounting height. Attach the wind curtain to the hood and use the 1/4" x 3/4" long bolts, fender washers, and locknuts.

Adjust the height as necessary.



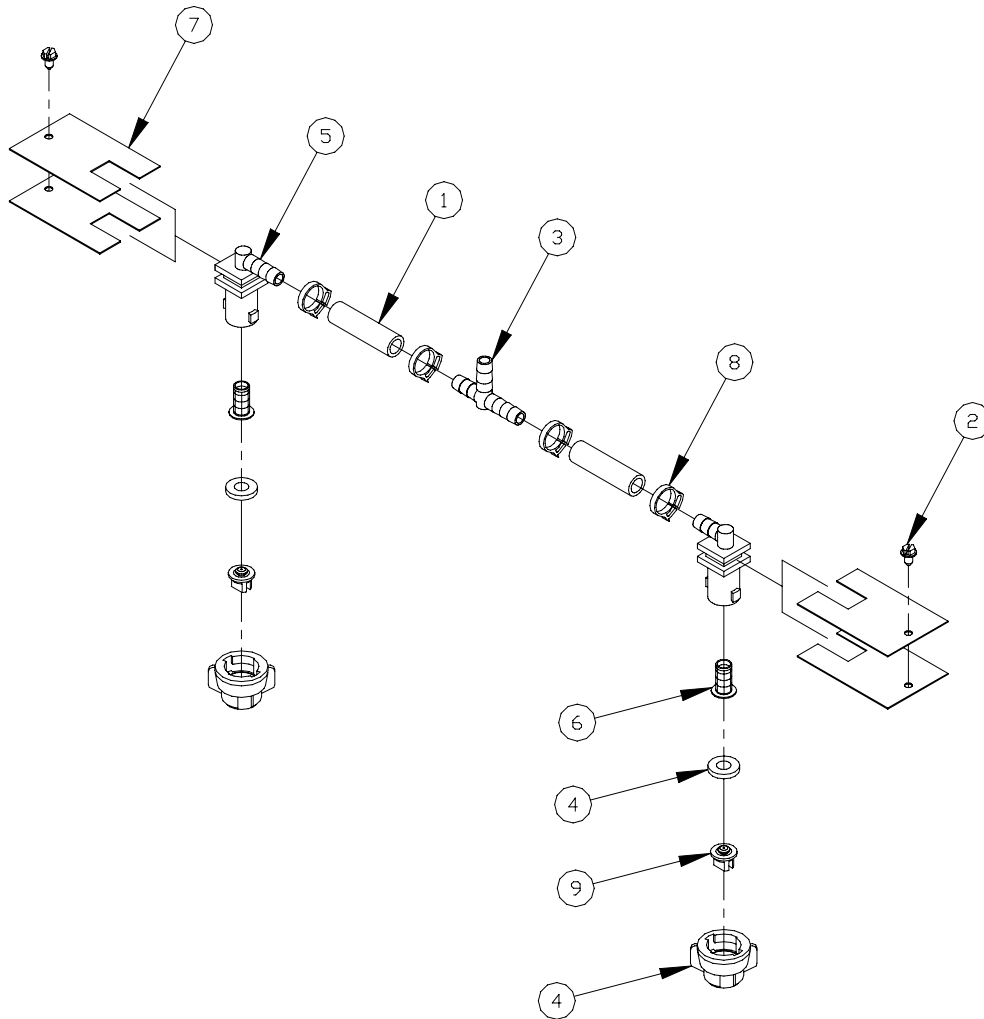
# OVER-ROW SPRAY-HOOD™

## Description: OVER-ROW SPRAY-HOOD™ Assembly Breakdown

Item#	Part #	Description	Quantity
1	001068	Spring, Torsion Bar Return	2
2	001238	Swing Arm; Heavy JD	2
3	001487	Curtain; 20" Over the Row	1
4	9000-0001	Bracket; Hood Support Channel	1
5	9000-0024	Spring; 4" (P/N 1000493-CAP)	1
6	9000-0027	Chain; 2/0 Pass 20 Link 18" PC	1
7	9000-1-20Y	Hood; 20" Over-Row (Yellow)	1
	9000-1-20GY	Hood; 20" Over-Row (Gray)	
8	BC-031-450-5	Bolt; 5/16-18 x 4 1/2 Carriage Gr 5	2
9	BH-025-075-2	Bolt; 1/4 x 3/4 Hex. Gr 2	14
10	BJ-031-600	Pin; 5/16 x 6, J-Pin-Hood	2
11	BU038-400-500	U-bolt; 3/8 x 4 x 5 Sq	2
12	FE-025	Washer; 1/4 Fender	14
13	FW-025	Flat Washer; 1/4	20
14	FW-031	Flat Washer; 5/16	6
15	HPC 216	Hitch Pin Clip; Channel Pin	3
16	LN-025-NI	Lock Nut; 1/4 Nylon Insert	22
17	LN-031-NI	Lock Nut; 5/16 Nylon Insert	2
18	LN-038-NI	Lock Nut; 3/8 Nylon Insert	4
19	PCL-038-450-5	Pin; 3/8 x 4 1/2 Gr 5 Zinc	1
20	9030-0042	Tinneman Nut; Over & Between Row	2

# OVER-ROW SPRAY-HOOD™

## Description: OVER-ROW SPRAY-HOOD™ Standard Plumbing Assembly Breakdown



REF-002827

Item#	Part #	Description	Quantity
1	000612	Hose; 3/8" 150# EPDM, L85	
2	1008KV	Screw; #10 x 1/2 Self Tap, S.S.	2
3	3T38G	Hose Barb; 3/8" HB Tee Poly	1
4	402900-1	Cap & Gasket; QT, Black	2
5	413111	Ell; Hose Shank, 3/8"	2
6	4193A-PP-5-50SS	Strainer; CK Valve, 5 PSI, 50M	2
7	9000-0019	Lock; Hood Nozzle Lock, .030	4
8	F	Clamp; Speedy Fits 3/8" Hose	4
9	TP9502EVS	Tip; TeeJet Spray Tip	2
	TP40015E-SS	Tip; TeeJet Spray Tip, SS	
	TP4001E-SS	Tip; TeeJet, SS	
	TP65015E	Tip; Brass, Even Spray Tip	

# OVER-ROW SPRAY-HOOD™

## General Operating Guidelines

### Redball® OVER-ROW SPRAY-HOOD™ Kits

As with all equipment, it is important that proper assembly has been done as per the instructions supplied. Failure to do so will result in unsatisfactory operation of this equipment. The spray hoods are provided with two nozzle mounting parts, which includes two spray tips.

### Nozzle recommendations:

For normal use with a single application system the "recommended" nozzles are matched for the most consistent spray pattern. Deviation from the recommended can result in poor spray distribution, i.e. over or under application.



### **IMPORTANT**

Redball, LLC recommends using the nozzles as indicated on the standard plumbing schematic. (See page 4)

Deviation from this recommendation by:

- position of the nozzles;
- different spray nozzle angles;
- different spray pressure;

will change the spray distribution and effect the spray pattern and may cause over or under application.

### **Hood Height:**

The "Over-Row" hoods are not designed to run on the ground continuously. Adjust the height to a minimum of 2" - 3" above the ground.

In the event the hood contacts the ground, the hood assembly can move on the swing arms to "ride" over the high spot. After the hood passes over the high spot, the hood falls back into place cushioned by the spring on the height adjustment chain.

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## Redball® Spray Monitors

For the best performance of your Redball® OVER-ROW SPRAY-HOOD™ and Redball® Hooded Sprayer Systems, Redball® strongly suggests the use of Redball® Spray Monitors. The Redball® Spray Monitor will visually show if one of the tips on the “OVER-ROW” hoods begins to plug up allowing you to verify your application rate. Be sure to follow the instructions when assembling the monitors and choosing the proper balls for use in the monitor columns in relation to the gallons per minute which is flowing through the columns in the monitor. When assembling the Redball® Spray Monitor, the red glass balls are to be used in most cases. If in question, check the flow rate. Please observe the operating instructions enclosed with the Redball® Spray Monitor.



### **NOTE**

The Redball® Spray Monitor is a flow indicator, it is not a flow regulator.

### **Hood Height Adjustment**

Hood height can be set by shortening or lengthening the chain-spring assembly supplied with each hood kit or by adjusting the gauge wheels. Adjustment of the chain-spring is quick and easy as you simply remove the pin in the channel. Determine the chain length needed for the desired hood height and re-install the pin through the channel and chain.

Gauge wheels adjust the height of the bar the hoods are on by increasing or decreasing the height of the bar above the ground.

It is important the bar is operated level from front to rear so that the hoods run level. If the hood digs into the ground, lengthen the top linkage of the 3 point hitch to raise the front portion of the hood.

### **Field Speed Recommendations**

It is recommended the speed of operation be maintained at 5 MPH or less.

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## Spray Hood Calibration

The instructions for the calibration of the spray hood offers you the required information to perform this task. For proper application it is important that you do this to assure that the correct output volume comes from the spray nozzles.



### **NOTE**

For best results, adhere to spraying pressure, travel speeds and nozzle placement.

## Calibration Instructions

Calibration guidelines are based on standard TeeJet Even Flat Fan Spray Tips.

1. Measure distance at your row spacing to be driven at your desired speed. (See estimate distance below.)

Row Space (In.)							
14	20	22	24	30	36	38	40
Distance (Ft.)							
290	204	186	170	136	113	107	102

2. Determine an average time (in seconds) needed to drive the distance at your desired speed. Two or more runs should be made and an average time taken.
3. Collect water from one nozzle for the length of the average time determined above and multiply the ounces by the number of tips for each band. Each ounce collected depicts 1 gallon per acre.

**Step 1.** Nozzle output for average time x number of nozzles = gallons per banded acre.

*Ex: 3.4 ounces collected from one nozzle (times 2 nozzles) for 15 seconds = 6.8 ounces or 6.8 gallons/banded acre output volume.*

4. To determine amount of chemical required, use the following formula:

**Step 2.** Tank capacity / output volume x  $\frac{\text{row width}}{\text{band width}}$  = Number of acres to treat per tank.

*Ex: 300 gallons divide by 6.8 gallon/banded acre x  $\frac{36}{20}$  = 79.4 acres treated.*

**Step 3.** Number of acres x manufacturer's recommended broadcast rate x  $\frac{\text{band width}}{\text{row width}}$  = Amount of chemical to add to tank.

*Ex: 79.4 acre x 16 ounces chemical/acre x  $\frac{20}{36}$  = 706 ounce chemical.*

In the example, 5.5 gallons of chemical per 300 gallons of water will treat 79.4 acres.



### **IMPORTANT**

Always read and follow chemical manufacturer's label directions.

# OVER-ROW SPRAY-HOOD™

## Useful Formulas

$$\text{GPM (Per Nozzle)} = \frac{\text{GPA} \times \text{MPH} \times \text{W}}{5,940}$$

$$\text{GPA} = \frac{5,940 \times \text{GPM (Per Nozzle)}}{\text{MPH} \times \text{W}}$$

GPM - Gallons Per Minute

GPA - Gallons Per Acre

MPH - Miler Per Hour

W - Nozzle spacing (in inches) for broadcast spraying

- Spray width (in inches) for single nozzle, band spraying for boomless spraying.

- Row spacing (in inches) divided by the number of nozzles per row for directed spraying.



### **NOTE**

Pressure adjustment will affect droplet sizes, impacting drift and coverage. When changing speeds, pressures, configuration, nozzles or formulations, recalibrate the system.

### **Application Guideline Summary**

- Redball® Spray Monitor functions as flow indicator only, not as flow regulator.
- Set Hood to run carried by chain at a minimum of 2" - 3" above the ground.
- Be sure that the rear wear wind curtain is in place and in good condition.
- Adjust the hood to desired height for optimum chemical coverage. The bottom of the front wind curtain is an excellent guide for hood height.
- Always read and follow chemical companies recommended application procedures and rates.
- Application speed not to exceed 6 MPH
- Band width is measured at the base of the hood.
- Application speed should fit ground conditions and tip size calibration speed.

### **Here are some helpful hints to follow to achieve top performance with your Redball® Hooded Sprayer and Spray Hoods.**

- Redball® Spray Monitors are recommended for use with the spray hoods. It is important that they be used to detect plugged spray tips.
- When equipment is not in use, cover the monitors with a dark plastic or other sun protective material if equipment is not stored inside. This will help prevent the poly body of the monitor from premature darkening.

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The balls in the Redball® Spray Monitor for the outside spray hoods may run at a lower level because the end hoods have a lower flow rate. Establish the level these balls run at when calibrating the spray bar and check that the nozzles are flowing properly. If the balls drop from that level, check for a plugged nozzle.



## **IMPORTANT**

Always calibrate your sprayer to determine for certain that the sprayer is giving the proper volume from the spray nozzles. Please follow the calibration instructions provided in this booklet.

- The maximum suggested field operating speed for the hooded sprayer is 5 MPH. Maintaining speeds at 5 MPH or lower than this limits the potential of drift and the possibility of getting onto the plant row with the equipment.
- Be sure that the toolbar is operated in a level position front to rear. This will ensure that the spray hoods run level for proper application and even wear on the hood wear slide.
- Spray hood swing arms, when toolbar height is properly set, should be angled back.
- Inspect the hood wear slide periodically and replace the slide as needed.
- The design of the pivot bolts in the channel that holds the hood and of the pins on the hood are to remain stationary.
- When replacing lower swing arm pivot pins in the hood, be sure to install the wear washer between the hood and the swing arm. Failure to do this will cause wear directly to the poly hood.
- Always operate the hoods with rear wind curtains in place. Replace them as wear or damage occurs.
- On wing model hooded sprayers, fold down the wings when the bar is stored or parked. This will limit premature twist and stress on the sing arms, hoods, and mounting channels.
- Always read and follow label directions provided with chemicals being used.

## **DISCLAIMER**

Redball, LLC does not claim any responsibility of application rates, type of spray tips used or any equipment that can cause crop injury, ineffectiveness of chemical or any other unintended damages because of weather conditions or application which are all beyond the control of Redball, LLC or the seller. All such risks shall be assumed by the buyer.



would like to thank you for purchasing this Redball®  
OVER-ROW SPRAY-HOOD™. We are proud of our quality  
and believe this product will exceed your expectations!

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