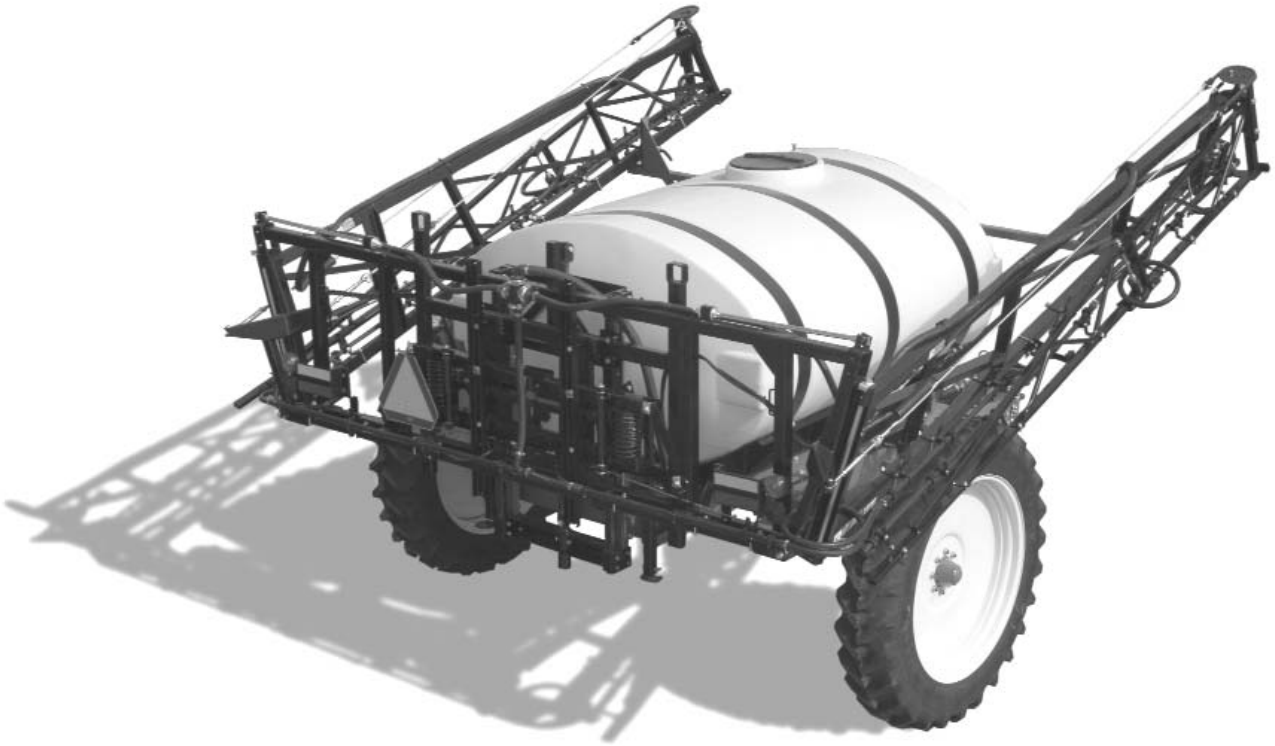
REDBALL™

565 Trailer Sprayer



Parts and Operator's Manual

565 Trailer Sprayer

Patent Pending

TO THE OWNER

Congratulations on your selection of a Redball® Model 565 Trailer Sprayer. Redball® Sprayers 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 not 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.*

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Safety First

Accidents can be prevented by recognizing the causes or hazards before an accident occurs..... and doing something about them.

Regardless of the care used in the design and construction of this equipment, there are some areas that cannot be completely safeguarded without interfering with the accessibility and efficiency of operation.

THIS MESSAGE ALERT SYMBOL IDENTIFIES IMPORTANT MESSAGES IN THIS MANUAL. WHEN YOU SEE THIS SYMBOL, BE ALERT TO THE POSSIBILITY OF PERSONAL INJURY AND CAREFULLY READ THE MESSAGE THAT FOLLOWS.

In this manual and on labels used on the machine the words " DANGER", "WARNING", and "CAUTION", are used to indicate the following:

DANGER: Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.

WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury.

CAUTION: Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury.

THIS MESSAGE ALERT SYMBOL IDENTIFIES INFORMATION THAT MUST BE HEEDED FOR PROPER OPERATION OF EQUIPMENT AND TO PREVENT DAMAGE OR DETERIORATION OF THE EQUIPMENT.

In this manual the words **"IMPORTANT"** and **"NOTE"** are used to indicate the following:

IMPORTANT: Highlights information that must be heeded.

NOTE: A reminder of other related information that needs to be considered.

Safety Instructions for Operation

1. DO NOT ALLOW ANYONE TO OPERATE THIS REDBALL SPRAYER UNTIL HE OR SHE HAS READ THIS MANUAL AND IS COMPLETELY FAMILIAR WITH ALL SAFETY AND OPERATION PROCEDURES.

WARNING

Observe the IMPORTANT SAFETY INSTRUCTIONS listed below at all times!
THE BEST KIND OF SAFETY IS A CAREFUL OPERATOR

CAUTION

Always wear protective clothing, goggles, respirator and gloves when handling chemicals.

DANGER

Safety instructions furnished by the chemical manufacturer must be followed exactly to prevent serious harm to individuals and / or the environment.

WARNING

Observe all Federal and State EPA regulations and all Local, State and Federal codes and / or laws regarding licensing, handling, storage, transportation, application and waste disposal of chemicals.

2. If any safety devise on the sprayer itself is not functioning properly, DO NOT use the sprayer. Remove it from service until it has been properly repaired by a qualified service technician.

3. Do not allow the following people to operate or repair this equipment.

   * Children
   * Irresponsible persons
   * People under the influence of alcohol, medications or other drugs that can cause drowsiness or impaired judgement.
   * Persons unfamiliar with equipment or people who are careless or unfamiliar with safe operating procedures.

4. People who are allergic to any of the chemicals used must never be allowed in or near the sprayer.

5. Always park the sprayer on a level surface, and lock the tractor brakes,or block the tires, before making adjustments or repairs.

6. Before operating this equipment, thoroughly inspect the unit to insure it is in good working order.

7. Do not operate this unit if any defect or malfunction exists. Pay particular attention to safety features such as PTO guards and safety chains.

8. Verify that the sprayer is securely hitched to the tractor and safety chains are in place.

9. Always position the sprayboom in cradles prior to disconnecting the trailer hitch from the tractor.

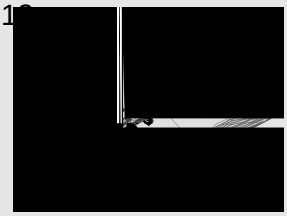
WARNING

Never disconnect the sprayer from the tractor hitch while the sprayboom wings are in the spray position. This action will cause this sprayer to tip backwards with a high probability of injury to the operator and damage to the unit.

10. **Stopping distance increases as the square of the speed.** For example : It will take twice as much distance to stop a unit traveling15 mph as one going 10 mph; and four times the distance at 20 mph! (more than eight times the distance at 25 mph!) Road surface will influence stopping distance. Dry pavement is usually considerably better than gravel road. Materials (such as ice, snow, water, oil or mud) on the surface can greatly increase stopping distance.

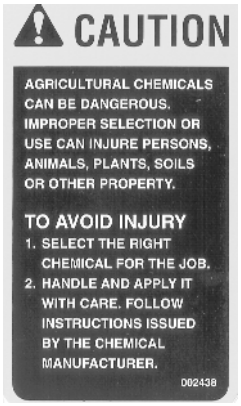
    Road slope has a significant impact on stopping distance and can greatly magnify the other factors mentioned above. Under some downhill conditions stopping can be very difficult or impossible.

11. Do not replace components or parts with those other than genuine Redball® Factory Service Parts. To do so may reduce the effectiveness of safety features or decrease the accuracy of the unit.

12.  Read the Operator Instructions section of this manual for further necessary information relating to the safe operation of the applicator.

SAFETY DECALS ON A REDBALL®
565 TRAILER SPRAYER

1



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2

P/N 002439

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P/N 004772

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P/N 004773

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P/N 30000000

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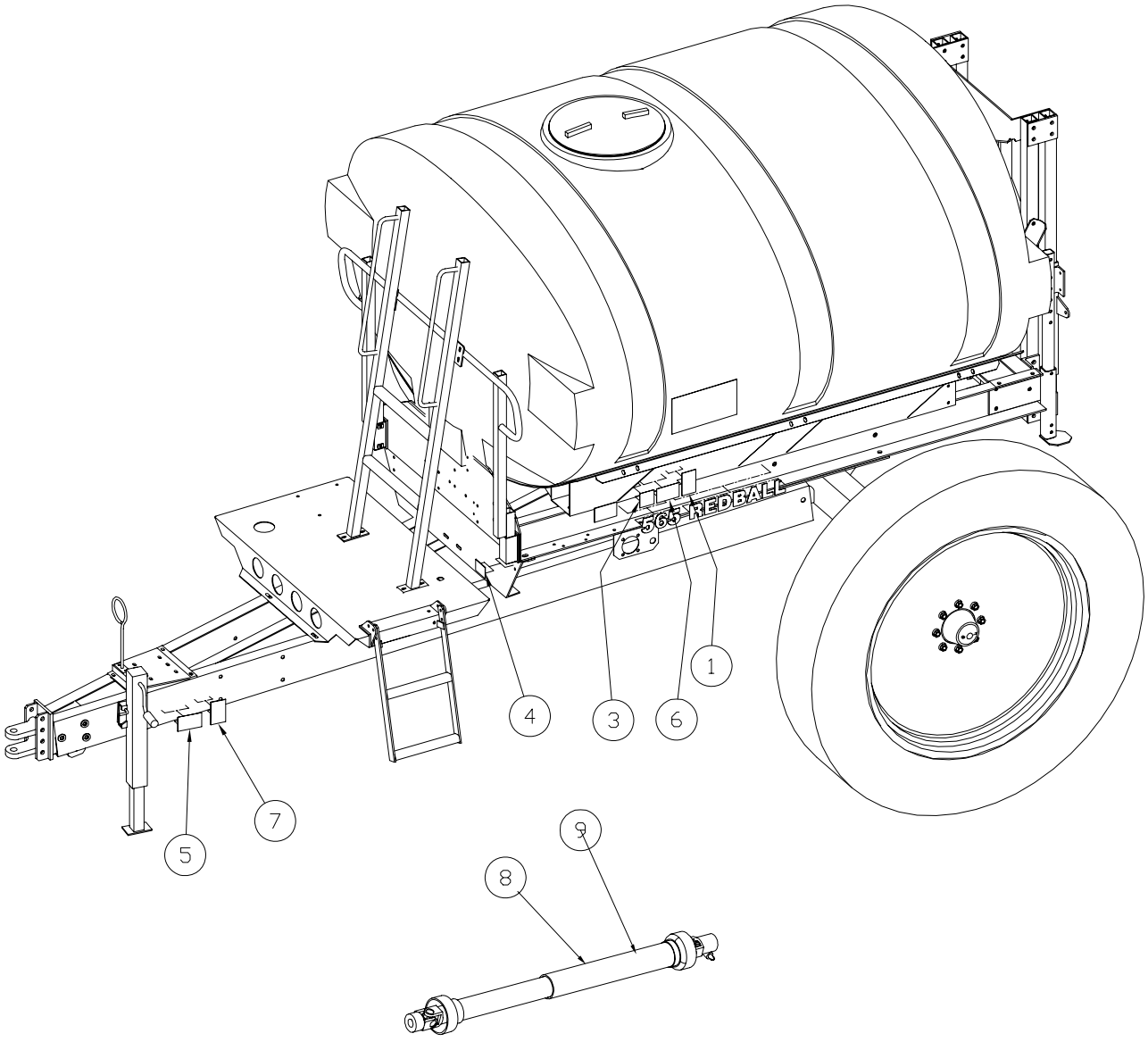
P/N 30000001

SAFETY DECAL PLACEMENT



SAFETY DECALS ON A REDBALL®
565 TRAILER SPRAYER
Boom Decals

1 P/N 002439

2 P/N 005499

3

4

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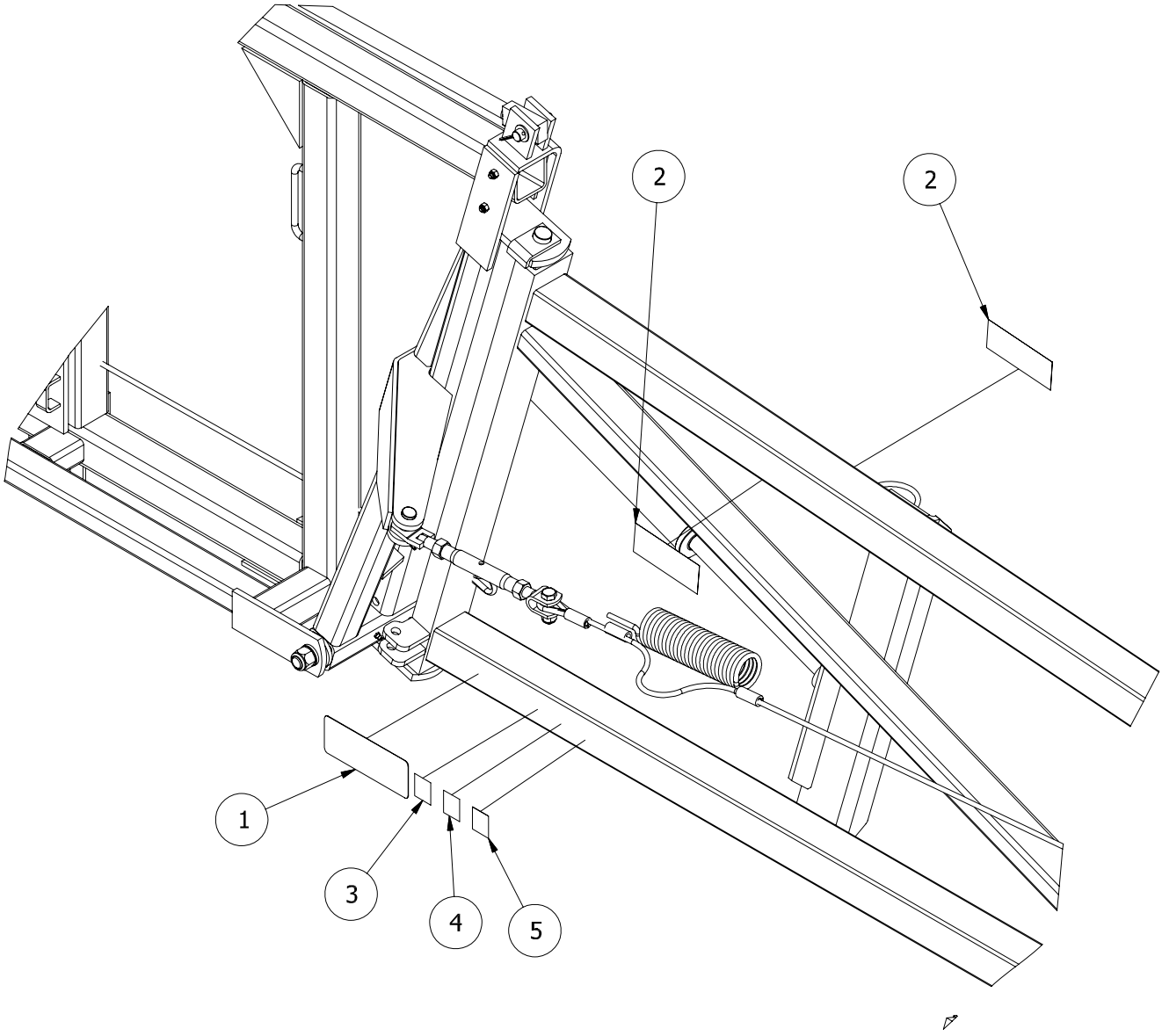
SAFETY DECAL PLACEMENT



NOTES:

Inspect Unit

IMPORTANT Check machine thoroughly for screws, bolts, fittings, etc., which may have come loose during transport or operation.

CAUTION Prior to loading with chemical, the operator needs to test the sprayer with water only to ensure the system is intact prior to putting chemical into the system. Test to verify application at the desired rate and all components work correctly.

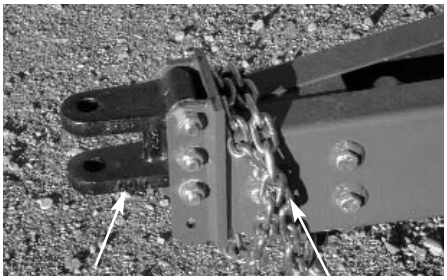
System Overview

The Redball® Model 565 Trailer Sprayer could be comprised of the following subsystems:

- Hitch
- Liquid Tanks & Saddle
- Sprayboom and Nozzles
- Liquid Pumping
- Hydraulics
  - Centrifugal Pump
  - Sprayboom Folding
- PTO Pump
- Solution Spray Control System
- Light and Marking System
- Foam Marker

Hitch

Verify hitch is correctly attached to the tractor. See Section C for connection procedures.



Clevis Hitch *Safety Chain*

IMPORTANT

1.) Towing tractor must weigh 12,000 pounds to ensure adequate stopping ability. Refer to your tractor manufacturer rating capabilities.
2.) Do not tow sprayer over 20 MPH.

Main Product Liquid Tank & Steel Saddle

A polyethylene tank is supported by a structural steel saddle. The tank is strapped in the saddle.

WARNING

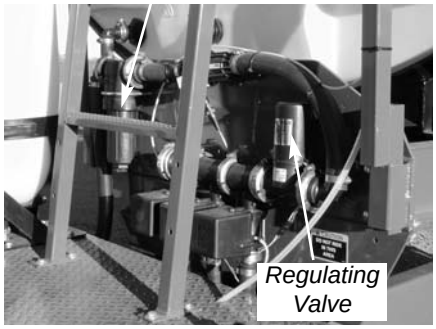
Never allow the clean water safety tank to become contaminated with chemical. Use the clean water for skin and eye rinse in case of accidental chemical contact.

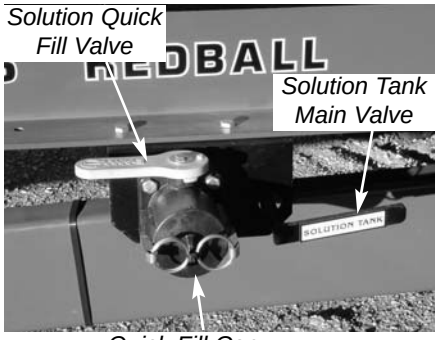
Sprayboom and Nozzle(s)

The boom comes in one configuration with a boom size of 60'. Hydraulic cylinders, powered via the tractor hydraulics, achieve folding of the sprayboom.

Your sprayer will not come with nozzle tips. Your application may require a different size or type of tip as it relates to the speed and application rate you desire. Choose the proper size and type of nozzle for your application. See your nozzle supplier for correct selection and required spacing.

Main Line Filter



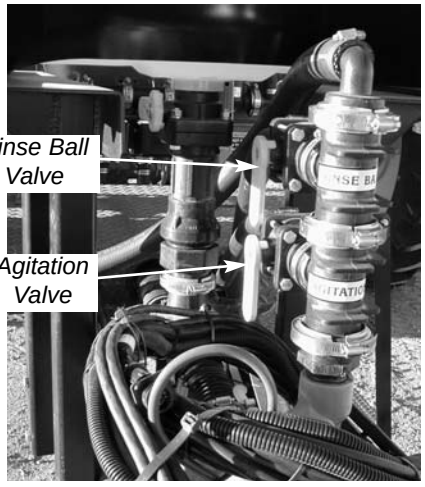


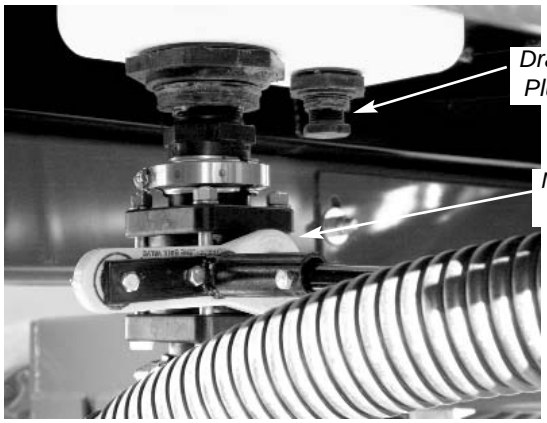
Liquid Pumping & Plumbing

The liquid system begins with a suction line supplying a centrifugal pump. This pump is powered via tractor hydraulics or PTO shaft and provides flow to the sprayer. The pump and plumbing have been configured to provide for the following functions:

- Fill Solution Tank
- Fill Solution Tank, Utilizing Eductor
- Fill Solution Tank, With Tank Agitation
- Fill Clean Water Rinse Tank
- Rinse Agitation System
- Rinse Solution Tank
- Rinse Sprayboom Plumbing
- Spray
- Unload

Actual valve configuration will vary, depending on options purchased.





Valve Position Chart

Centrifugal Pump

Pump operation is very important. The following must be followed when operating a centrifugal pump. Proper pump operation will make your system operate with minimal maintenance and down time. **Failure to follow the manufacturer's pump operation instructions will void the pump warranty.**

The pump must never be run in a non-flooded condition. Operating the pump in a non-flooded condition will cause extensive seal damage and possible pump damage. To verify the pump is flooded, visually check pump vent line for fluid, fluid will appear in vent line when pump is flooded.

A "flooded" condition is when the centrifugal pump is completely full of fluid and no pockets of air are present in the pump. In order to get maximum pump efficiency the mounting and plumbing must meet the guidelines stated below.

1. The pump inlet must be mounted below the product tank(s) sump to allow gravity to naturally fill the pump with liquid. See Figures 1 - 3.
2. The suction line must have a continual rise from the pump inlet to the tank sump.
3. The pump must have the vent line plumbed to it.

Figure 1

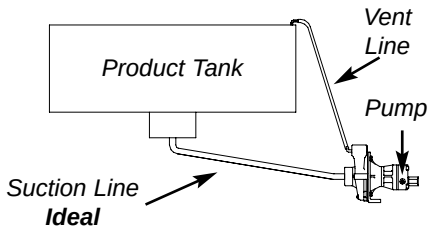


Figure 2

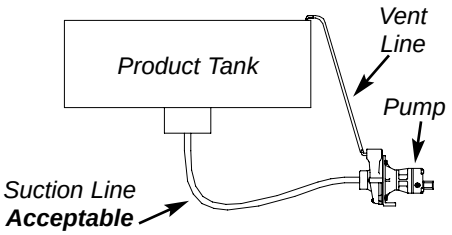
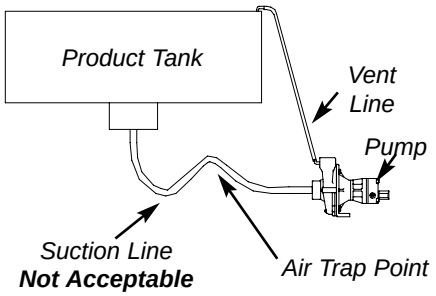


Figure 3



IMPORTANT The vent line is designed to prevent air lock by bleeding off trapped air. This allows the pump to prime and keeps some fresh solution circulating by the seal.

IMPORTANT For proper venting, the vent line must continually rise from the pump to the top of the tank. A small amount of solution will move through this line back to the solution tank indicating a primed pump.

Hydraulically Driven Centrifugal Pump: It is very important that the proper oil flow is supplied to the hydraulic motor which powers the pump. Excessive flow will over-speed the motor and cause motor damage. **To regulate the correct oil flow to the pump motor see the pump manufacturer's manual.**

Hydraulically Driven Centrifugal Pump

IMPORTANT

There are two basic rules to follow when operating a hydraulically driven centrifugal pump:

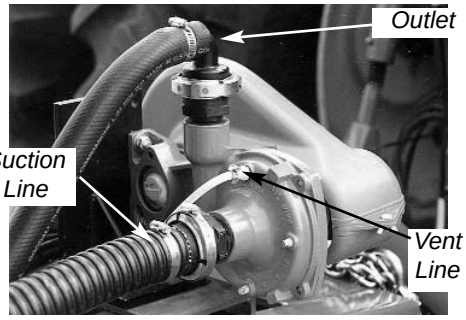
1. Never run the pump in a "non-flooded" condition.

2. Always have the correct oil flow to the pump motor.

Always read and follow the pump manufacturer's operational instructions.

IMPORTANT

Turn off a hydraulically driven centrifugal pump using the "float" position of the tractor's hydraulic valve. This allows the motor to stop slowly helping to protect the motor and motor seals.



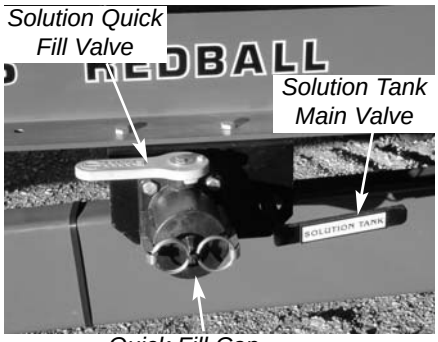
PTO Driven Centrifugal Pump

PTO Driven Centrifugal Pump: Make sure your desired tractor speed turns the PTO shaft at the correct speed. See the pump manufacturer's manual for further operational information.

Fill Solution Tank:

Load the solution tank without using the trailer sprayer pump via the following steps.

1. **Close** all valves.
2. Remove solution quick fill cap & connect load hose.
3. **Open** solution quick fill valve and solution tank main valve, located at the sump of the solution tank.
4. **Open** valve on loading reservoir (i.e. nurse tank).
5. Start the remote transfer pump.
6. Run remote transfer pump until the desired amount of solution is transferred into the trailer sprayer.
7. **Close** valves on loading reservoir.
8. **Close** solution quick fill valve on trailer sprayer.
9. Remove load line & replace cap on trailer quick fill.



CAUTION

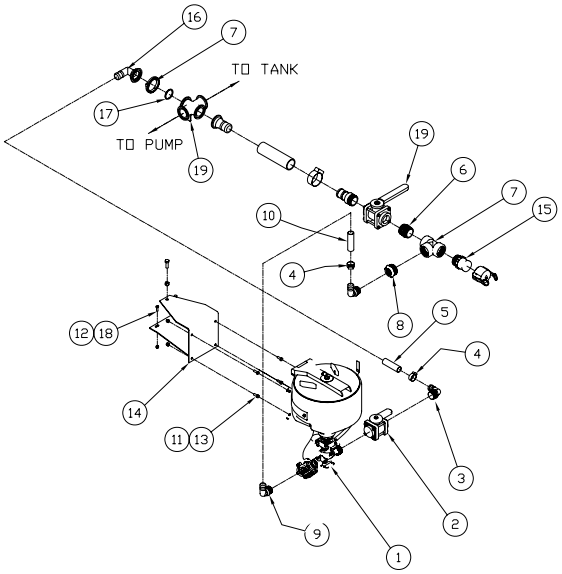
Small amounts of liquids will remain in the load hose. Splashing of this liquid can cause a safety hazard to you and to those in the vicinity of the trailer sprayer.

CAUTION

Overfilling will cause a failure of the tank lid causing splashing of solution from the tank lid, which may be hazardous to you and the environment.

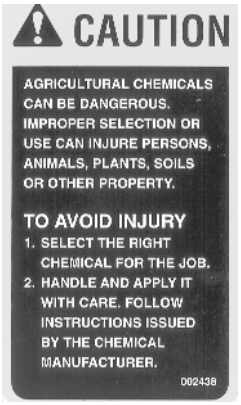
Fill Solution Tank, Utilizing Optional Eductor:
Load the solution tank using the optional eductor via the following steps:

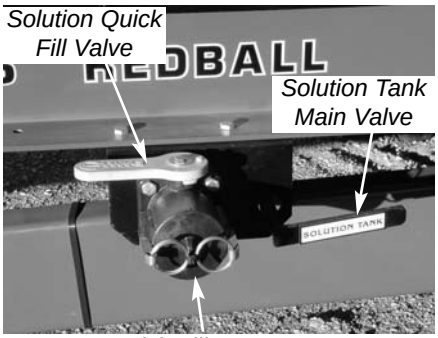
1. **Close** all valves.
2. Remove solution quick fill cap & connect load hose.
3. **Open** solution quick fill valve and solution tank main valve.
4. **Open** valve on loading reservoir (i.e. nurse tank)
5. Fill eductor with desired amount of chemical to be pulled into the solution tank. **CLOSE Eductor Lid**.
6. Start the remote transfer pump.
7. Once there is a steady flow rate from the nurse tank to the solution tank, open the eductor valve and close the solution quick fill valve. Once there is a steady flow rate again, **open** the eductor tank valve for 15-30 seconds.
8. **Close** the eductor tank valve and verify the chemical has been completely removed from the eductor tank. Repeat steps 7 and 8 if chemical remains in the eductor tank.
9. Run remote transfer pump until the desired amount of solution is transferred into the sprayer.
10. **Close** valves on the loading reservoir.
11. **Close** solution quick fill valve, solution tank main valve and the eductor valve on the sprayer.
12. Remove load line & replace cap on sprayer quick fill.



CAUTION

DO NOT open the lid of the eductor while in operation as splashing of chemical may occur.



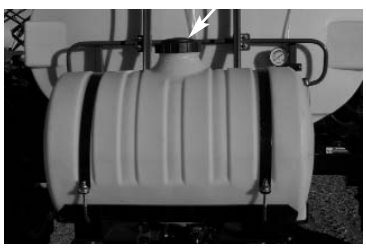


Fill Solution Tank, With Tank Agitation: Loading of the solution tank, using tank agitation, is accomplished via the following steps:

1. **Close** all valves.
2. Remove solution quick fill cap & connect load hose.
3. **Open** solution quick fill valve and the solution tank main valve.
4. **Open** valve on loading reservoir (i.e. nurse tank).
5. Start the remote transfer pump.
6. **Open** the agitation valve.
7. Engage the liquid pump of the trailer sprayer.
8. Disengage the liquid pump of the trailer sprayer when adequate agitation is achieved.

IMPORTANT Turn off a hydraulically driven centrifugal pump using the “float” position of the tractor’s hydraulic valve. This allows the motor to stop slowly helping to protect the motor and motor seals.

9. Run remote transfer pump until the desired amount of solution is transferred into the trailer sprayer.
10. **Close** the agitation valve.
11. **Close** valves on loading reservoir.
12. **Close** the solution quick fill and the solution tank main valves.
13. Remove load line and replace cap on sprayer quick fill.



Fill Freshwater Rinse Tank

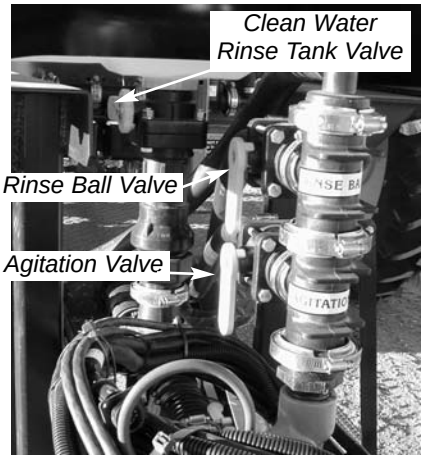
1. Close all valves.
2. Remove the freshwater rinse tank cap.
3. Fill tank to desired level.
4. Replace the freshwater rinse tank cap.

Rinse Solution Tank

Using the clean water rinse tank system (optional on 665), rinsing the solution tank with clean water is accomplished via the following steps:

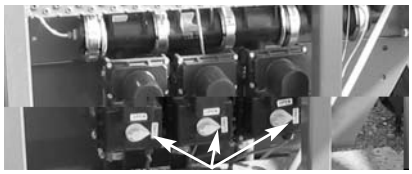
IMPORTANT Only you, the operator can determine the length of time required to completely rinse all chemical residue from the sprayer tanks and plumbing systems.

1. **Close** all valves.
2. **Open** the clean water rinse tank valve.
3. **Open** the rinse ball valve.
4. Power **ON** the liquid pump of the sprayer.
5. Run for 15-30 seconds to thoroughly rinse the insides of the solution tank. Repeat if needed.
6. Power **OFF** the liquid pump of the trailer sprayer.



IMPORTANT Turn off a hydraulically driven centrifugal pump using the “float” position of the tractor’s hydraulic valve. This allows the motor to stop slowly helping to protect the motor and motor seals.

7. **Close** the clean water rinse tank valve.
8. **Close** the rinse ball valve.

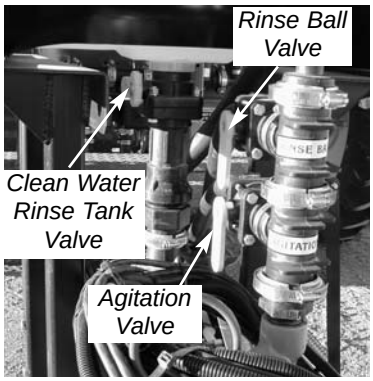


Sprayboom Section Valves

Rinse Sprayboom Plumbing
Using the clean water rinse tank system (optional on 665), rinse the sprayboom plumbing with clean water via the following steps:

IMPORTANT

Only you, the operator can determine the length of time required to completely rinse all chemical residue from the sprayer tanks and plumbing systems.



1. **Close** all valves.
2. **Open** the clean water rinse tank valve.
3. **Open** all sprayboom section valves with the solution spray controller.
4. Power **ON** the liquid pump of the trailer sprayer.
5. Run for 15-30 seconds to thoroughly rinse. Repeat if needed.

IMPORTANT

Turn off a hydraulically driven centrifugal pump using the “float” position of the tractor’s hydraulic valve. This allows the motor to stop slowly helping to protect the motor and motor seals.

Agitation Valve

6. Power **OFF** the liquid pump of the trailer sprayer.
7. **Close** the clean water rinse tank valve.
8. **Close** all sprayboom section valves.

Rinse Agitation System
Rinse the agitation plumbing via the following steps:
1. **Close** all valves.
2. **Open** the clean water rinse tank valve.
3. **Open** the agitation valve.
4. Power **ON** the liquid pump of the trailer sprayer.
5. Run for 15-30 seconds to thoroughly rinse the insides of the agitation plumbing.
6. Power **OFF** the liquid pump of the trailer sprayer.

IMPORTANT

Turn off a hydraulically driven centrifugal pump using the “float” position of the tractor’s hydraulic valve. This allows the motor to stop slowly helping to protect the motor and motor seals.

7. **Close** the clean water rinse tank valve.
8. **Close** the agitation valve.

IMPORTANT

Only the operator can determine the length of time required to completely rinse all chemical residue from the sprayer tanks and plumbing systems.

Spraying

Spraying is accomplished via the following steps:

1. **Close** all valves.
2. **Open** the the solution tank main valve.
3. Setup control system. (Setup and operation of the control system is covered in the manual provided by the controller manufacturer.)
4. Power **ON** the liquid pump of the trailer sprayer.
5. **Open** desired spray boom section valves.
6. Perform spraying according to the control system provided.
7. To stop spraying, **close** all sprayboom section valves.
8. Power **OFF** the liquid pump of the trailer sprayer.

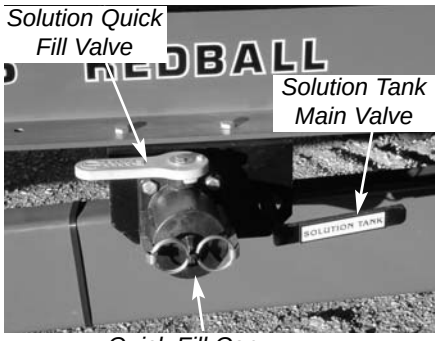
Solution Tank Main Valve

Sprayboom Section Valves

IMPORTANT Turn off a hydraulically driven centrifugal pump using the “float” position of the tractor’s hydraulic valve. This allows the motor to stop slowly helping to protect the motor and motor seals.

Spraying with Agitation: Certain chemicals require continuous agitation. If agitation is required during spraying, open the agitation valve provided. If severe foaming of your chemical occurs, check the chemical label or your supplier to determine if agitation is required or reduce the opening of the agitation valve to limit the flow rate back to the solution tank. Reduce agitation if adequate spray pressure cannot be maintained.

Agitation Valve



Unload

Three processes can be utilized for unloading of liquid remaining in the solution tank.

Option A: Spray remaining liquid out the sprayboom plumbing.

Option B: Remove Quick Fill Cap, open the solution quick fill valve and the solution tank valves and let remaining liquid drain via gravity from the solution tank.

Option C: Remove plug in main solution tank.

IMPORTANT Always dispose of chemical or diluted chemical according to your local, state, and federal regulations.

Hydraulics

Hydraulic power for the trailer sprayer is supplied from the tractor hydraulic system. The hydraulically driven centrifugal pump and the sprayboom fold operations are powered by the tractor hydraulics. The pressure return line for the liquid pump has red tape wrapped around the ends, with two wraps on the pressure line and one wrap on the return line. The pressure and return line for each of the boom fold cylinders are wrapped with color coded tape near the ends as well. A minimum requirement of 25 absolute micron filtration should be incorporated into the tractor hydraulics to assure adequate filtration of the oil supplied to the trailer sprayer components.

IMPORTANT Make certain to correctly connect the pressure and return lines between the sprayer and the tractor. See pump manufacturer's manual for open center and closed center hydraulic system instructions.

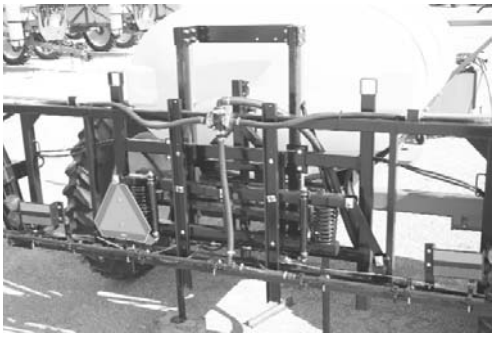
Solution Spray Control System (Optional)
See the controller manufacturer's manual for operation instructions.

Light and Marking System

The light system on the sprayer works with the tractor's light system. Amber lights flash in unison with the tractor amber flashing lights. If a turn is not being signaled, both amber lights flash. When the operator signals a right turn with the tractor's turn signal switch, the left amber light stops flashing and remains on and the right amber flashes at the same flashing rate as the tractor's right amber turn light. If a left turn is signaled, the opposite takes place.

Red taillights also follow the tractor lights in their function. If road lights are on and the taillights of the tractor are lit, the red taillights will be lit on the implement. In a turn, the red, high intensity portion of the taillight will come on. As with the amber, in a right turn the left red, high intensity portion of the taillight will remain on and the right taillight flashes at the same rate as the tractor's red turn signal light. If a left turn signal is turned on, the opposite takes place. In a turn situation, this lighting system produces the effect of a vehicle braking and turning in the direction of the flashing light. The turn signal module, "The Black Box", produces the turn signal/stop effect with the red lights. See Section F for the location of this module.

The light and marking system also incorporates reflective decals front and rear of proper size and location for night travel and fluorescent decals of proper size and location for daylight travel.



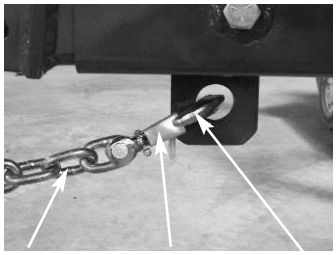
Lights and Rear Facing Reflective and Florescent Decals

Foam Marker (Optional)

Refer to the foam marker manual for operational instructions.

NOTES:

Clevis Hitch



Safety Chain *Hook Latch* *Safety Chain Hook*

Connection

Hitch

Redball® provides a clevis style hitch. Connect the sprayer to the tractor according to the tractor manufacturer's instruction via the clevis.

Safety Chain

Make certain that the safety chain is securely fastened to both the tractor and the sprayer. The tractor end must be attached according to the tractor manufacturer's instructions. The sprayer end is attached as shown in the picture to the left with the chain hook hooked through the hole prevented from falling out by the "hook latch". Allow no more chain slack than necessary for articulation and do not attach either chain hook to an intermediate point not specified for hooking to. The safety chain can be stored by detaching it from the tractor and draping it over the tongue of the sprayer.

WARNING

Towing of the sprayer by any type of vehicle requires the safety chain properly attached to both tractor and sprayer. Replace safety chain if one or more links or end fittings are broken, stretched, or otherwise damaged or deformed.

Pivot Pin

Jack

Hitch Jack

Jack position when sprayer is connected to tow vehicle - Using the hand crank, retract the hitch jack enough to allow for pivoting of the jack assembly. Pull the pin and rotate until horizontal and the pin is re-engaged.

Jack position when sprayer is not connected to a tow vehicle - pull the pin and rotate hitch jack verticle and the pin is re-engaged. Using crank, extend the jack enough to support the hitch weight on the jack.

CAUTION

Prior to loading with chemical, the operator needs to test the sprayer with water only to ensure the system is intact prior to putting chemical into the system. Test to verify application at the desired rate and all components work correctly.

Visual Inspection

All steps of the inspection should be performed with the tractor engine turned off and the brakes correctly set, or the tires blocked. A visual inspection of the entire sprayer should be made. The visual inspection should include, but not be limited to, the review of the following (See the maintenance section of this manual for further instructions):

- Corrosion of all metal (parts & structure)
- Weld joints are sound (no cracking or tears)
- Plumbing connections are solid
- Plumbing hoses have no visual damage
- Poly tanks have no cuts or punctures
- Poly tanks are free of debris, (may damage pump)
- Poly tank lids are secure
- Spray bar structure is solid

IMPORTANT Any damage identified by the operator should be repaired prior to connecting the sprayer to the tractor.

Axles

Fixed Row Crop Width Axles

The Redball® Model 565 Trailer Sprayer has an option of fixed axles. These axles are ordered at a pre-set width and are not adjustable.

565 Tire & Rim

Tire Weight Capacities - 20 MPH

NOTE

Use this chart as a guide to determine the maximum amount of various solutions your sprayer tires are rated for. 8 MPH is the service or field speed for this sprayer. 20 MPH is used here to demonstrate a speed used to transport the sprayer, **NOT** as a service or field speed. Only the operator can determine the maximum safe operating speed of the sprayer.

Maximum Solution Tank Capacity in Gallons at 20 MPH with 320/85R38 138A8/B Load Index Tires

Solution Weight Per Gallon	750 Gallon Tank	1000 Gallon Tank
8.3 lb/gal (Water)	750	845
10.0 lb/gal	708	701
12.0 lb/gal	590	585
14.0 lb/gal	505	501
16.0 lb/gal	442	438

Spindle and Hub Assembly: 8-Bolt

Recommended tire pressure for 320/85R38 138A8/B Load Index Tires is 41 PSI at 20 MPH transport speed.

IMPORTANT

Exceeding the weight capacity of the sprayer may result in structural failure and will void the warranty.

Tire Weight Capacities - 8 MPH

NOTE

Use this chart as a guide to determine the maximum amount of various solutions your sprayer tires are rated for. 8 MPH is the service or field speed for this sprayer. 20 MPH is used here to demonstrate a speed used to transport the sprayer, **NOT** as a service or field speed. Only the operator can determine the maximum safe operating speed of the sprayer.

Maximum Solution Tank Capacity in Gallons at 8 MPH with 320/85R38 138A8/B Load Index Tires

Solution Weight Per Gallon	750 Gallon Tank	1000 Gallon Tank
8.3 lb/gal (Water)	750	1000
10.0 lb/gal	750	1000
12.0 lb/gal	750	1000
14.0 lb/gal	750	877
16.0 lb/gal	750	768

Spindle and Hub Assembly: 8-Bolt

Recommended tire pressure for 320/85R38 138A8/B Load Index Tires is 41 PSI at 8 MPH field speed.

IMPORTANT

Exceeding the weight capacity of the sprayer may result in structural failure and will void the warranty.

Hydraulics

Tractor Hydraulic System Pressure

The hydraulic system on the Redball® Model 565 Trailer Sprayer requires from the tractor's hydraulic system a pressure of at least 2200 PSI. A system pressure less than this may not provide the force necessary for boom functions or pump output. If you have difficulty running the pump and/or boom functions at the same time, check your tractor's hydraulic pressure. Recommended pressure is 2500 PSI.

Hydraulically Driven Centrifugal Pump

Refer to the manufacturer's recommendations to set the hydraulic oil flow from the tractor to the hydraulic motor driving the centrifugal pump. Make sure the hydraulic flow from your tractor does not exceed these specifications causing the pump to "over speed". Over speeding will decrease the motor seal life.

Connect the hydraulically driven pump to a tractor hydraulic circuit with a "float" position. Use the float position to turn off the hydraulic pump to protect the hydraulic seals.

IMPORTANT Turn off a hydraulically driven centrifugal pump using the "float" position of the tractor's hydraulic valve. This allows the motor to stop slowly helping to protect the motor and motor seals.

For tractors with an open hydraulic system, connect the hydraulically driven pump to the priority circuit in the hydraulic system. The priority circuit prioritizes the oil to that circuit first and then to the others. The priority circuit allows the pump to maintain a more consistent output in case you need to operate a boom function while operating the pump. If you do not have a priority hydraulic circuit, the pump output will decrease when you operate both the pump and a boom function.

Hydraulic SprayBoom Control

In reference to the hydraulic control functions, the hydraulic hoses that connect to the tractor have been marked for your convenience to indicate what function a particular hose serves. See the identification method to the right.

Direct Tractor Hookup (Option on 565)

Quick couplers should be connected to the tractor. Make certain to correctly connect the pressure and return line hoses to the tractor hydraulic ports. As with all the steps of installation, this should be completed with the tractor engine turned off to assure no high pressure exists. It is assumed that adequate filtration, hydraulic flow and hydraulic pressure exists on the tractor, for top performance of this sprayer. The system comes with three hydraulic quick coupler sets for the three hydraulic cylinders. Connect each set of couplers to the tractor hydraulic valves. Operate the tractor's hydraulic levers or switches for these hydraulic valves to operate the cylinders.

Redball® Multiplier Valve (Standard on 565)

An optional hydraulic multiplier valve that can provide two hydraulic functions from one tractor hydraulic valve. See Section F, Parts and Schematics for more information. The multiplier valve bank connects to one hydraulic valve on the tractor with quick couplers. The multiplier valve takes the flow from this one tractor valve and divides it to one of the two ports in the valve. One tractor hydraulic valve can provide two cylinder functions via electric solenoids. The operator will need to actuate the tractor hydraulic lever or switch for the tractor hydraulic valve the multiplier connects to and then activate the multiplier's toggle switch to open the solenoids allowing hydraulic oil out of one of the two ports. The multiplier valve allows one set of solenoids to operate at a time. When the operation is complete, the operator will release the multiplier valve toggle switch and return the tractor hydraulic lever or switch to the neutral position. See Section F Parts & Schematics for further information.
To install, connect hydraulic multiplier valve to one set of tractor hydraulic remote connectors. Mount switch box in a convenient location and then connect proper wires of the valve to a 12-volt power source, and a chassis ground.

Hydraulic Controller

This controller provides a way to operate three hydraulic circuits with one tractor hydraulic valve. The hydraulic controller is mounted to the sprayer near the center mast and is meant to remain with the sprayer.

(continued)

Tractor Connections
Hydraulic Marking

Sprayer Pump Pressure - Red, Two Wraps
Sprayer Pump Return - Red, One Wrap
Center Boom Lift Butt - White, One Wrap
Left Boom Rod - Blue, One Wrap
Left Boom Butt - Blue, Two Wraps
Right Boom Rod - Yellow, One Wrap
Right Boom Butt - Yellow, Two Wraps

It has a set of hoses leading from the hydraulic valve bank to the tractor hydraulics connecting with a pair of hydraulic hoses with quick couplers. The operator needs to actuate the tractor hydraulic controls for the valve the hydraulic controller connects first, then actuate the toggle switch on the hydraulic controller's switch box for the function needed. The hydraulic controller could operate three sets of solenoids at one time allowing hydraulic oil out of both valve bank ports at the same time provided the tractor can supply enough hydraulic flow to operate three circuits at once.

When the action is complete, the operator will release the toggle switch on the controller switch box and return the tractor hydraulic lever or switch to the neutral position.

The hydraulic controller also has the provision for a foam marker activation with a fourth 3-position switch in the switch box. The center position is off and moving the toggle to one side or the other will operate the foam marker for one side or the other of the sprayer.

Boom fold control switch needs to be wired into the cab. Redball® provides a harness that needs to be routed from the hitch area into the cab. This is then connected to the boom control switch box provided. A power source of 12V DC and a chassis ground capable of 15 amps is required for this panel. The wire with the inline fuse is positive.

IMPORTANT

DO NOT remove the fuse or fuse holder from this power source. These are for the protection of these components and removal will void the warranty.

Solution Spray Control System (Optional)

Install the solution spray control console in the cab and route the wire harness to the back of the tractor per installation instructions provided by the control manufacturer.

Install the speed sensor or radar (if necessary) and connect them to the solution controller according to the speed sensor, radar and solution controller manufacturer’s instructions. For tractors with radar systems built in, interface cables are available from your Redball® Dealer.

Correct connection of the radar, speed sensor, flow meter, control valve to the console should be made according to control manufacturer’s instructions.

Calibration of the radar or speed sensor is necessary to ensure accurate readings. Calibrate the speed sensor or radar according to the manufacturer's instructions or the instructions provided with the solution controller. Even with a radar or speed sensor, calibration of the spray output is necessary to assure correct application. Follow the control manufacturer's guidelines for this calibration.

IMPORTANT **DO NOT** remove the fuse or fuse holder from this power source. These are for the protection of these components and removal will void the warranty.

IMPORTANT Full testing of the sprayer including the controller, plumbing and electrical connections should be completed using water prior to loading with chemical.

Light System

Connect the seven-pin male connector to the tractors seven-pin female connector at the rear of the tractor. The connector for the sprayer is located near the hitch. If the tractor is not equipped with such a connector, see your tractor dealer.

Seven Pin Connector located near the hitch

Test the operation of the lighting system. Correct any situation where the lights do not work properly. Reference Section B, Operation Instructions of this manual for proper lighting operation.

Foam Marker (Optional)

If not already done, attach the foam marker tank and compressor assembly to the frame of the sprayer. Refer to the foam marker manual and foam marker installation manual for mounting instructions.

NOTES:

Storage

When storing the sprayer for longer periods of time, the following procedures must be followed to lessen the chance of rust and corrosion on the unit. It may be easier to perform functions 1 - 5 while the unit is connected to the tractor. This will allow for pumping and spray rinsing power.

CAUTION Block and support the trailer sprayer when working on a unit that has been removed from the tractor

1. Make certain tank is completely empty.
2. Thoroughly flush the inside of the poly tank with clean water.
3. Flush clean water through all areas of the plumbing, pumping valving and nozzle system.
4. If the sprayer will be exposed to possible freezing temperatures, the final flush of the system should be made with an anti-freeze liquid that is compatible with the sprayers components.
5. Open all drain points and let as much liquid drain as possible.
6. Remove and clean the strainers.
7. Remove and clean nozzles.
8. Check for loose hardware and fittings and tighten accordingly.
9. Replace all caps, tank lids and plug nozzle outlets prior to storage.
10. Poly tanks can become damaged when subjected to direct sunlight. For longer life of this system it is best to store it in a cool dry location or drape with a sun protective tarp.
11. Store sprayer with booms folded resting in the cradles. Coat all exposed cylinder shafts with a rust inhibitor to prevent corrosion. Verify with the manufacturers of the rust inhibitor and your tractor's hydraulic oil that the two are compatible before use.

DANGER All chemical contaminated rinse material must be collected and disposed of according to product label instructions and in accordance with all Local, State, and Federal Laws.

Sprayer Winterization

Proper winterization is an important step in extending the life of your sprayer investment and preparing it for operation next season. The following steps are a guideline to assist in the winterization of your sprayer.

DANGER All chemical contaminated rinse material must be collected and disposed of according to product label instructions and in accordance with all local, state, and federal laws.

CAUTION During the winterization process, maintain a minimum amount of solution in the plumbing system. Running the pump dry may cause severe damage to the pump seals.

1. Essential to optimum winterization is to thoroughly clean and rinse the interior of the tank and flush out the plumbing. This process can be completed with the aid of a tank-cleaning compound available from most farm and spray equipment centers. Fill with an adequate amount of cleaning solution to allow for circulation through the rinse balls while maintaining the solution level above the bulkhead fitting in the sump of the tank. This cleaning will remove any residual chemical left in the system.

2. The success of the winterization process is dependent upon the amount of water removed from the system. Excessive water left in the system will dilute the antifreeze solution and reduce its effectiveness.
    a. Open all valves to the rinse ball, agitation and the booms.
    b. Drain out any remaining solution from the main tank.
    c. Drain out any remaining water from the clean water rinse tank.
    d. Remove inline strainer bowls and dump out water; reinstall the strainers.
    e. Remove the plug from the bottom of the pump, drain and reinstall the plug.
    f. Raise the booms and at the bottom end of the plumbing of each boom section, remove a diaphragm check valve to drain the boom. Replace the diaphragm check valve.

3. Begin the process of protecting the plumbing with the addition of RV antifreeze.
    a. Close all of the valves in the system, including the solution tank valve located between the tank and the pump.
    b. Add a minimum of 10 gallons of RV antifreeze to the rinse tank.
    c. Open the rinse tank valve to let the antifreeze solution flow from the rinse tank to the pump. Make sure that the pump is charged with solution. The line out of the top of the pump should fill with antifreeze.
    d. Start the solution pump. A minimum of 20 - 30 pounds of pressure is required to adequately circulate the antifreeze through the system.

4. With the pump running, begin to winterize each of the segments in the plumbing system.
    a. One at a time, slightly open the manual valves that feed the agitation and rinse system to allow the solution to circulate through those segments of the plumbing. Allow the solution to flow through the lines until the lines are full of the antifreeze solution. Close the valve and repeat through the other segments of the plumbing.
    b. The next step is done with the controller set in the manual mode. If the system does not work in the manual mode, enter a test speed into the console and operate as normal for field operation. With a Raven system this is done by:
        i. Touch the "self test" button.
        ii. Touch the "enter" button.
        iii. Touch the numbers "5" and "0".
        iv. Touch the "enter" button. The console has now been told that the sprayer is traveling at 5 mph.
        v. Upon the completion of the winterization, the test speed can be cancelled by repeating steps one and two, then enter "0" in step three instead of "5" and "0".

c. One at a time, turn on each of the boom sections to allow the antifreeze solution to be pumped through the controls and the boom valves. Run enough solution that the antifreeze begins to spray out the boom sections.
d. Turn off the solution pump. Cycle the spray boom valves open and closed to allow the antifreeze solution that is trapped in the hoses to drain back. Remove the strainers, clean and reinstall.

5. If the sprayer is equipped with an eductor or foam marker, these must be winterized as well.

6. Verify that the antifreeze solution has been circulated through the whole system.

7. Disconnect the electrical connections. Apply a coating of dielectric grease to the terminals to help prevent corrosion.

8. Inspect the complete machine for necessary repairs, grease all fittings and lubricate moving parts.

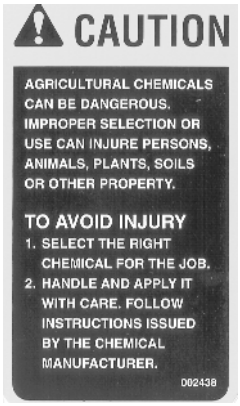
NOTES:

565 Trailer Sprayer - Maintenance, Service & Troubleshooting

Section E

IMPORTANT

Proper maintenance of the Sprayer and the tractor is critical for peak performance, reliability and accuracy of this system. The following is a guideline of the type of maintenance and servicing that should be performed on this unit. Your environment and uses may require additional maintenance and service beyond this list to assure a reliable and safe unit. The operator of this unit has ultimate responsibility to identify areas of concern and rectify them before they become a hazard or safety issue. There is no substitute for a trained, alert operator.



Liquid Tank, Frame, and Plumbing

1. Check tank visually for obvious cuts, cracks, punctures or leaks that could contribute to tank failure.
2. Check fittings for broken parts, cracks or wear marks and potential leaks.
3. Check gaskets of the bulk head fitting located on the sump for wear or weathering.
4. Inspect valves and pump for solid connections and correct mounting.
5. Inspect the tank lids for cracks and verify they tighten securely in place.
6. Remove any debris from inside the tanks as they may become lodged in the strainer or pass into the pump.
7. Clean strainer daily, more frequently if your liquid supply is not "free of debris".
8. Inspect all welds and structural components for tears, bends, cracks or damage. This unit operates in a corrosive environment. Make certain corrosion is quickly removed and painted. If corrosion is deep, replace component or add adequate plating with welding operation.

DANGER

If any of the above inspections, or others identified, are discovered **REPAIR IMMEDIATELY.**
Do not put this unit into operation with any questionably maintained parts. Poor performance or a hazard may occur.

Hydraulics

1. Inspect cylinder shafts for corrosion or damage. Repair or replace shaft to avoid hydraulic leaks or cylinder failure.
2. Inspect hydraulic hoses. Replace any hose that shows signs of wear or damage.
3. Removing hydraulic hoses for any reason requires that you plumb them back to their original position. Failure to do this may result in incorrect operation and may damage the sprayer. See Section F for the hydraulic plumbing schematic.

IMPORTANT Failure to plumb the parallel cylinders correctly may cause damage to the Henschen Suspension.

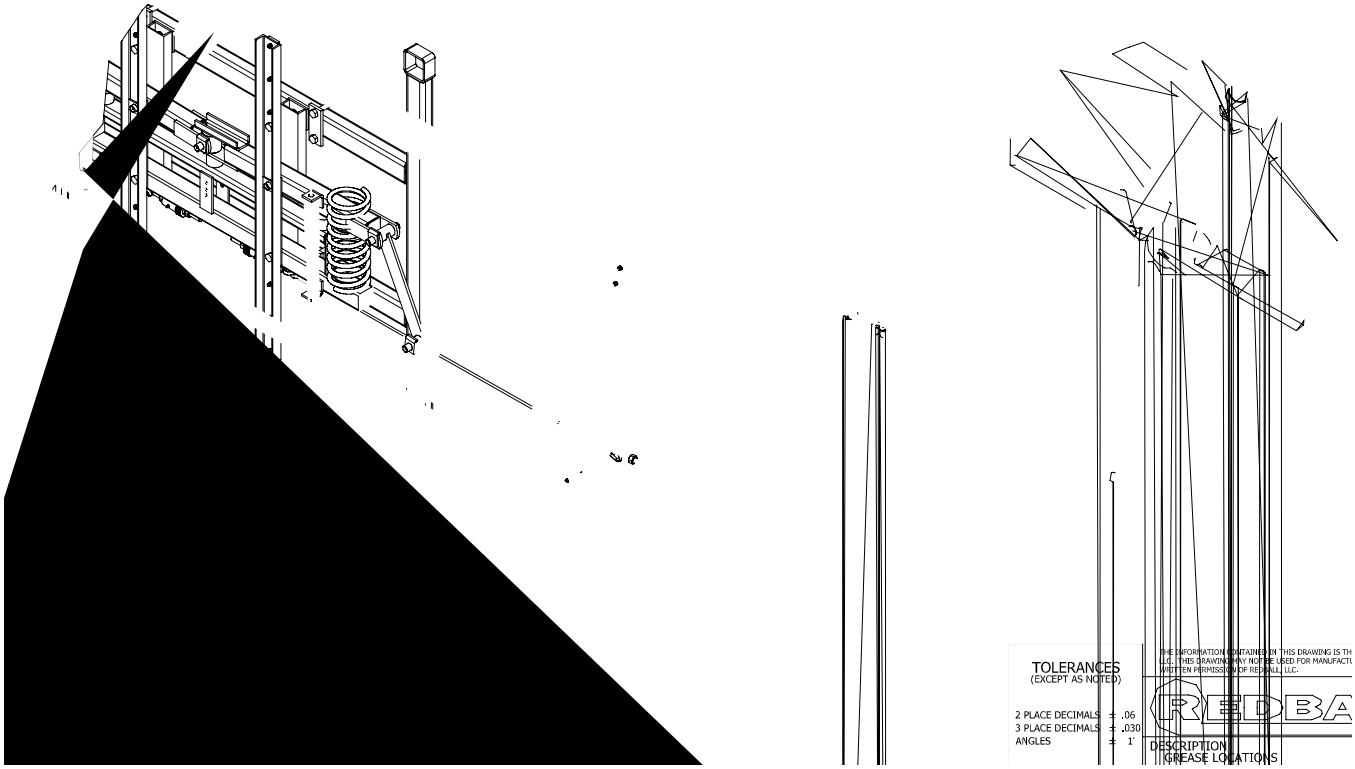
Electrical & Control System

Use of dielectric grease is strongly urged for all electrical wire connections. All connections should be greased at the beginning of the season. Poor electrical connections due to corrosion is the leading cause of failure of sprayer equipment in this environment.

Packard style connections on certain options are designed to be weather resistant. This feature greatly reduces the corrosion associated with electric connectors. Use of dielectric grease is recommended on these connections.

Lubrication

1. Always lubricate the 565 Trailer Sprayer before bringing the machine to the field.
2. Stop the tractor, set the parking brake and turn off the engine before performing maintenance or lubricating the machine.
3. Grease fittings every 10 hours of use. See drawing below.
4. Clean grease fittings before lubricating.
5. If grease fittings are missing or damaged, replace the fittings to ensure lubrication.
6. Use a high quality lubricating grease per the intervals shown on the drawing.



NOTE Failure to check and maintain the proper lug nut torque could result in elongation of rim and/or broken lug-bolts. We recommend checking lug nut torque at regular maintenance intervals to ensure proper wheel tightness on your Redball® 565 Trailer Sprayer.

Wheel Lug Nut Torque

When receiving your sprayer or replacing a tire, follow these steps for ensuring proper lug-nut torque:

NOTE DO NOT lubricate threads.

1. Tighten lug nuts to correct torque specifications using a criss-cross pattern.

Size	Torque ft./lbs.
3/4-16 UNF	250 - 265
5/8-18 Bolt	140 - 170

2. After tightening, pull the Redball® 565 Trailer Sprayer approximately one (1) mile.
3. Retighten lug nuts to correct torque specs.
4. Use the sprayer, stopping after three (3) hours and again after ten (10) hours to retighten lug nuts to correct torque specifications.
5. At regular maintenance intervals recheck lug nut tightness.

Again, we recommend checking lug nut torque at regular maintenance intervals to ensure proper wheel tightness on your Redball® 565 Trailer Sprayer.

NOTE **DO NOT** use undersized tires. Use the right size tires for the job and properly match tires to wheels.

WARNING

Do Not use values in place of those specified in other sections of this manual or contained in information published by the manufacturer of the components in question.

WARNING

Mechanical fasteners must be torqued to recommended specifications during repair to prevent personal injury or equipment damage.

Bolt Torque Data

The chart provided contains information concerning standard hardware used on this machine. It is recommended that all fasteners be tightened to the torque values specified.The grade of the bolt is identified by the markings on the head of the bolt .

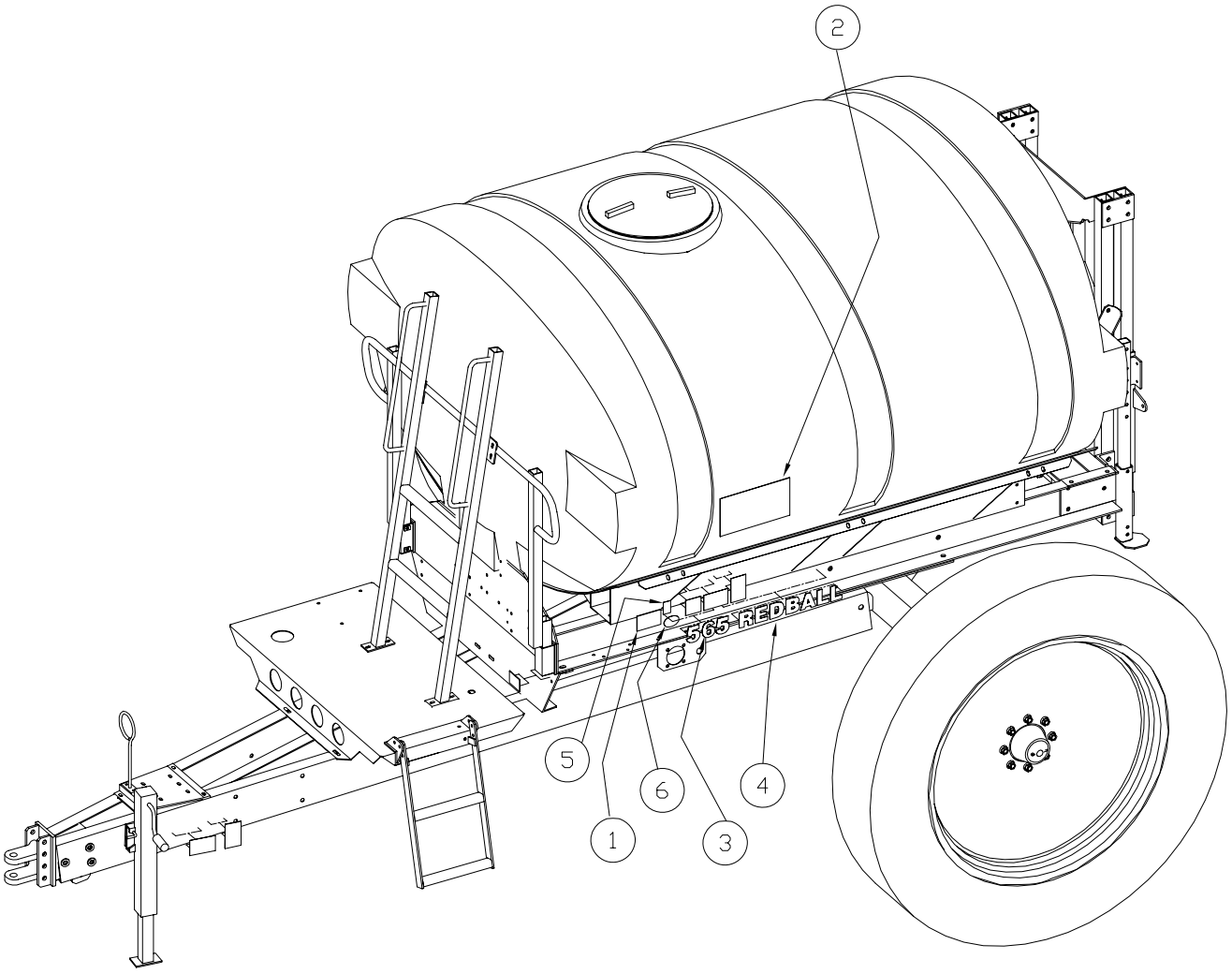
GENERAL BOLT TORQUE DATA IN FT./LB.

	SAE - GRADE 5		SAE - GRADE 8	
BOLT SIZE	DRY	LUB	DRY	LUB
1/4-20	8	6	12	9
1/4-28	9	7	13	10
5/16-18	17	13	25	18
5/16-24	19	14	25	20
3/8-16	30	23	45	35
3/8-24	35	25	50	40
7/16-14	50	35	70	50
7/16-20	55	40	80	60
1/2-13	78	55	110	80
1/2-20	90	65	120	90
9/16-12	110	80	150	110
9/16-18	120	90	170	130
5/8-11	150	110	220	170
5/8-18	170	130	240	180
3/4-10	260	200	380	280
3/4-16	300	220	420	320
7/8-9	430	320	600	460
7/8-14	470	350	660	500
1-8	640	480	900	680
1-14	700	530	1000	740

SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
Loss of hydraulic fluid due to leakage	Fittings and tubes leaking	Tighten loose fittings and replace worn hoses or cracked tubing.
	Leakage between flange and housing	Repair or replace
Hydraulic liquid pump Low discharge	Pump not primed	Check vent line for proper installation. Clean if necessary.
	Air leaks in suction line	Check and reseal inlet fittings
	Blocked/clogged line or boom strainer	Clean out and replace
	Impeller plugged or loose	Inspect and clear obstruction or tighten
	Bypass adjustment set improperly	Adjust bypass screw on side of hydraulic motor to manufacturer's specifications
Poor spray pattern - Nozzles dribble	Nozzles too large	See nozzle supplier
	Strainer / nozzle clogged	Clean strainer
- Spray atomizing & blowing around	Nozzle too small	See nozzle supplier
	Tractor speed too fast	Reduce speed
- Spray streaming (No uniform pattern)	Nozzle partially clogged	Remove and clean nozzles and strainer
- Won't spray	Controller not setup	See Control Manual
	Valves not in correct position	See Section B
	Poor hydraulics or no hydraulic power	Troubleshoot hydraulic system
	Liquid supply blocked	Clean strainer
	Suction line collapsed	Inspect and replace

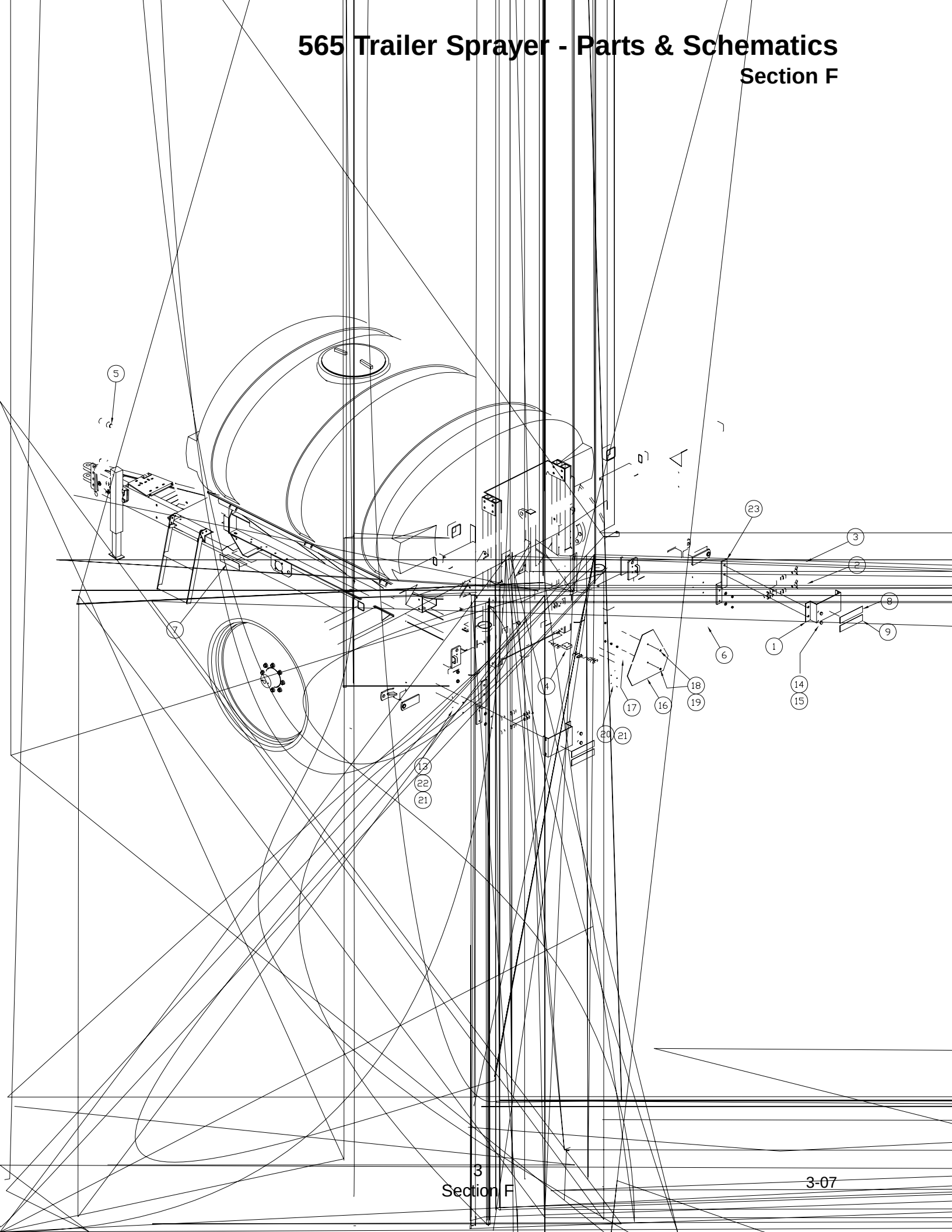
NOTES:

Description: Decal Placement



Description: Decal Placement

Item#	Part #	Description	Quantity
1	007527	Decal; Tighten Straps	1
2	010879	Decal; Valve Chart	1
3	012293Y	Decal; 565 Black/Yellow	2
4	9030-0021	Decal; Black & Yellow 2 x 13” Redball	2
5	001	Decal; FEMA	1
6	013046	Decal; Made In USA	1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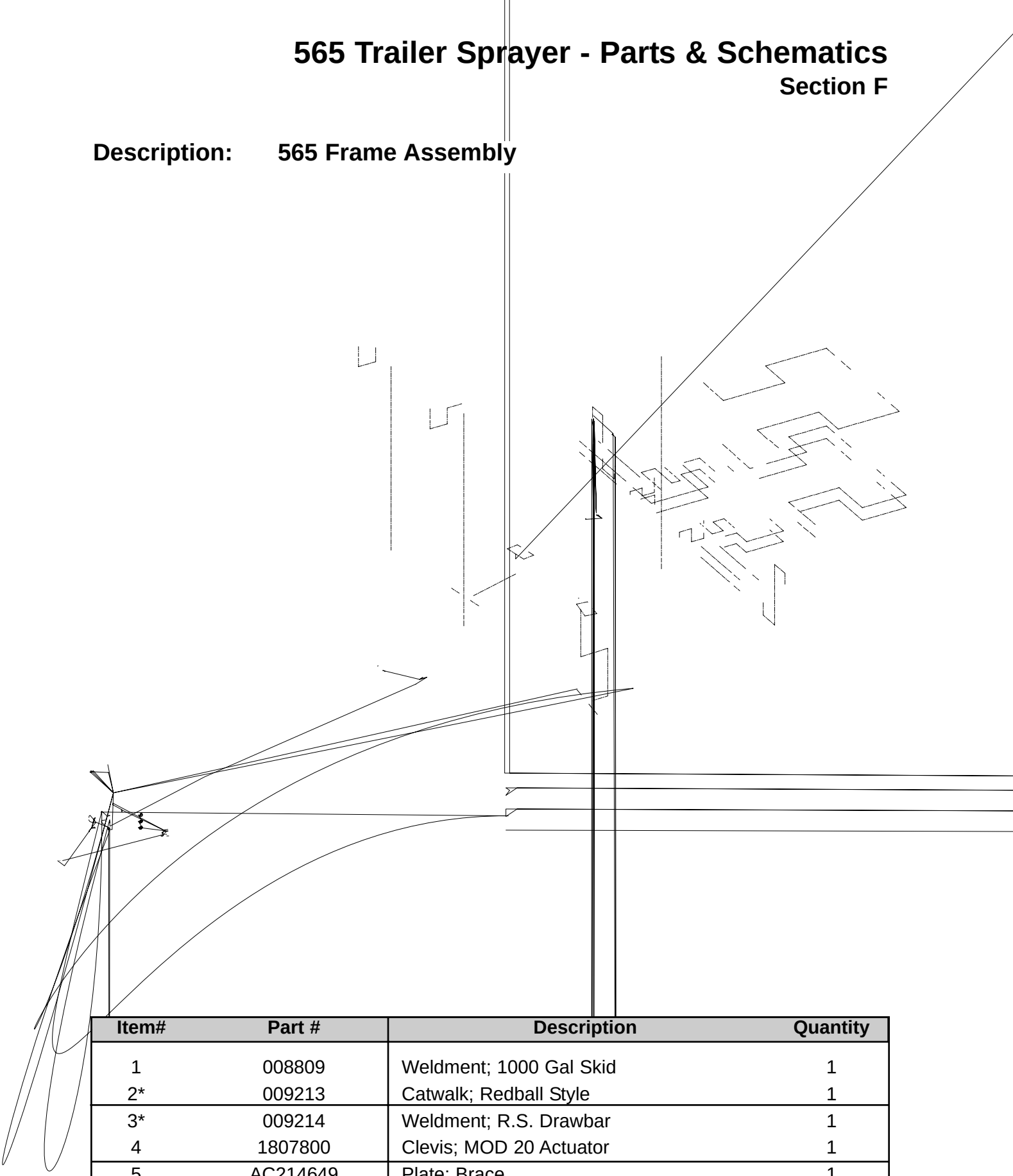
Description: Lighting and Marking Placement

Item#	Part #	Description	Quantity
1	001186	Bracket; Light Mounting	2
2	004560	Lamp; Turn/Tail, Red	2
3	004561	Lamp; Flash/Warn Tail, Amber	2
4	006978	Turn Signal Module II	1
5	007179	Harness; Tractor/Implement	1
6	007206	Harness; Light - 3 PT LG Equip	1
7	17-5910	Reflector; Amber 2” x 9” Night	4
8	17-5915	Reflector; Red 2” x 9” Night	2
9	17-5920	Reflector; Orange 2” x 9” Day	2
10*	LN-10/24-NI	Locknut; 10/24 Nylon Insert	2
11*	BH-10/24-125	Bolt; Mach. 10/24 x 1 1/14” HEX	2
12*	005394	Plate; Light Mount	2
13	BU031-300-400-2	U-Bolt; 5/16 x 3 x 4 GR. 2	2
14	BH-050-150-2	Bolt; 1/2” x 1 1/2” GR. 2	4
15	LN-050-NI	Locknut; 1/2” Nylon Insert	4
16	JD5403	SMV; Slow Moving Sign, Galvan.	1
17	004092	Bracket; SMV Angle BRKT	1
18	BH-025-075-2	Bolt; 1/4” x 3/4” GR. 2	2
19	LN-025-NI	Locknut; 1/4” Nylon Insert	2
20	BU031-200-275	U-Bolt; 5/16” x 2 x 2 3/4 SQ	1
21	LN-031-NI	Locknut; 5/16” x Nylon Insert	6
22	FW-031	Flat Washer; 5/16”	4
23	016206	Plate; .375 x 2 FRMD w/Holes	2

* Not Shown

Description: 565 Frame Assembly



Item#	Part #	Description	Quantity
1	008809	Weldment; 1000 Gal Skid	1
2*	009213	Catwalk; Redball Style	1
3*	009214	Weldment; R.S. Drawbar	1
4	1807800	Clevis; MOD 20 Actuator	1
5	AC214649	Plate; Brace	1
6	AC215366	Stand Weldment; R.H.	1
7	AC215367	Stand Weldment; L.H.	1

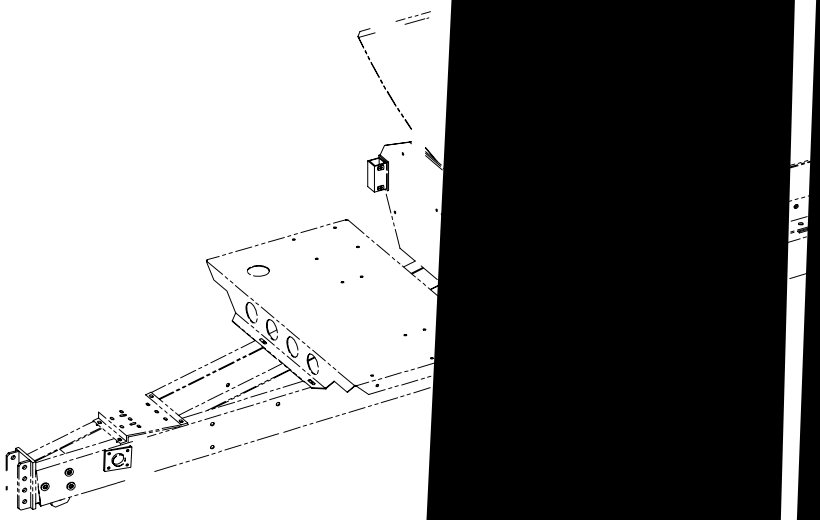
Description: 565 Frame Assembly

Item#	Part #	Description	Quantity
9	016660	Brace; Frame	2
10*	AC313003	Rail; Tongue L.H. Weldment	1
11*	AC313193	Hitch; Weldment - 750	1
12*	AC313296	Frame Mount Weldment	1
13	AC313309	Stand Mount Weldment L.H.	1
14	AC313310	Stand Mount Weldment R.H.	1
15	AC412204	Mount; Pump	1
16*	AC412584	Riser	1
17*	AC412585	Frame Weldment	1
18	006933	Safety Chain	1
19*	AC216429	Angle; Rail Brace	1
20	017413	Assembly, 88” Fixed Axle w/Hub	
	016929	Assembly, 120” Fixed Axle w/Hub	
	017414	Assembly, 144” Fixed Axle w/Hub	
21	BH-062-450-5	Bolt; 5/8” x 4 1/2” Hex. Gr. 5	7
22	FW-062	Flat Washer; 5/8”	9
23	LN-062-CL	Lock Nut; 5/8” Center Lock	3
24	BH-062-200-5	Bolt; 5/8” x 2” Hex. Gr. 5	6
25	LN-062-NI	Lock Nut; 5/8” Nylon Insert	6
26	BH-038-125-5	Bolt; 3/8” x 1 1/4” Hex. Gr. 5	12
27	FW-038	Flat Washer; 3/8”	28
28	LN-038-NI	Lock Nut; 3/8” Nylon Insert	14
29	BH-038-150-5	Bolt; 3/8” x 1 1/2” Hex. Gr. 5	2
30	BH-075-350-5	Bolt; 3/4” x 3 1/2” Hex. Gr. 5	2
31	LN-075-NI	Lock Nut; 3/4” Nylon Insert	2
32	BH-050-350-5	Bolt; 1/2” x 3 1/2” Hex. Gr. 5	2
33	BH-050-150-5	Bolt; 1/2” x 1 1/2” Hex. Gr. 5	20
34	LN-050-NI	Lock Nut; 1/2” Center Lock	26
35	FW-050	Flat Washer; 1/2”	22
36	PLI-031-250	Pin; Linch Pin; 5/16” x 2 1/2”	2

*Specify Color

565 Trailer S [redacted] &

Description: **565 Tank & Spray [redacted] y**
Tank/Handrail/La[redacted]

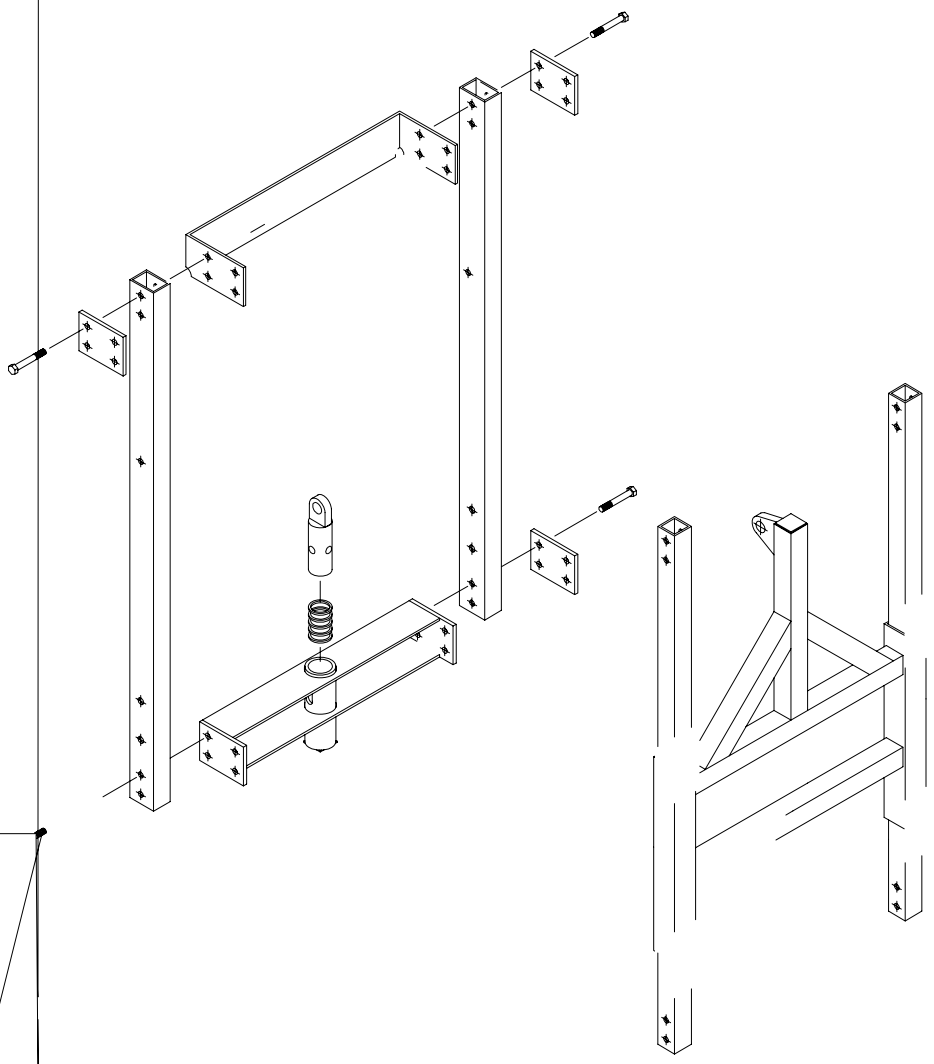


Description: 565 Tank & Sprayer Front Assembly
Tank/Handrail/Ladder

Item#	Part #	Description	Quantity
6	AC217944	Weldment; Ladder Mount	1
7*	016062	Weldment; Cradle 565	1
8	AC313519	Weldment; Ladder	1
9	AC607449	Jack; Swivel, Side Wind, 2000#	1
10	AC607451	Snap Ring; Part of AC607449	1
11	NW60012	Rim for 16” Lid	1
12	SFPI-10ST	Screw; 1”x #10 FH PH Self Tap, SS	8
13	0254-1035	Rope; 1/8” Nylon	
14	NW60011	Lid; 16” with Air Vent	1
15	BT-038-500-2	Bolt; Tap, 3/8” x 5” Hex. GR.2	12
16	FW-038	Flat Washer; 3/8”	36
17	NUT-038	Nut; 3/8”	28
18	PLI-038-250	Pin; Linch Pin; 3/8” x 2 1/2”	1
19	BH-075-600-5	Bolt; 3/4” x 6” Hex. GR. 5	1
20	FW-075	Flat Washer; 3/4”	2
21	LN-075-CL	Lock Nut; 3/4” Center Lock	1
22	BH-038-125-5	Bolt; 3/8” x 1 1/4” Hex. GR. 5	8
23	LN-038-NI	Lock Nut; 3/8” Nylon Insert	16
24	BH-038-100-5	Bolt; 3/8” x 1” Hex. GR. 5	8
25	BU031-150-250-2	U-Bolt; 5/16” x 1 1/2” x 2 1/2”	4
26	014159	Manual Bracket, Bent	1
27	013049	Tube; Manual Storage	1
28	NW60401	Bulkhead Fitting; 3/4”	2
29	HB-075-90	Hose Barb ELL; 3/4MPT x HB Poly	2
30	SIGHT-34	Hose; 3/4 I.D. x 1/8 Sight Hose	
31	#12J	Clamp; 3/4” x 1/2” Stainless	2
32*	007679	Weldment; Pigtail	1
33	BH-031-100-2	Bolt; 5/16” x 1” Hex. GR. 2	2
34	LN-031-NI	Lock Nut; 5/16” Nylon Insert	10
35	NW60019	Air Vent Assembly	1
36	NW60038	16” Lid, Ring, & Fill Cap	1
37	#64J	Clamp; 4” x 1/2” Stainless	2
38	171-C	Screw; TEK 410HSS CAD Plated	8
39	016059	Plastic; Vertical Boom Pad	2
40	016180	Plastic; Cradle Horizontal	2

* Specify Color

Description: Vertical Mast Assembly



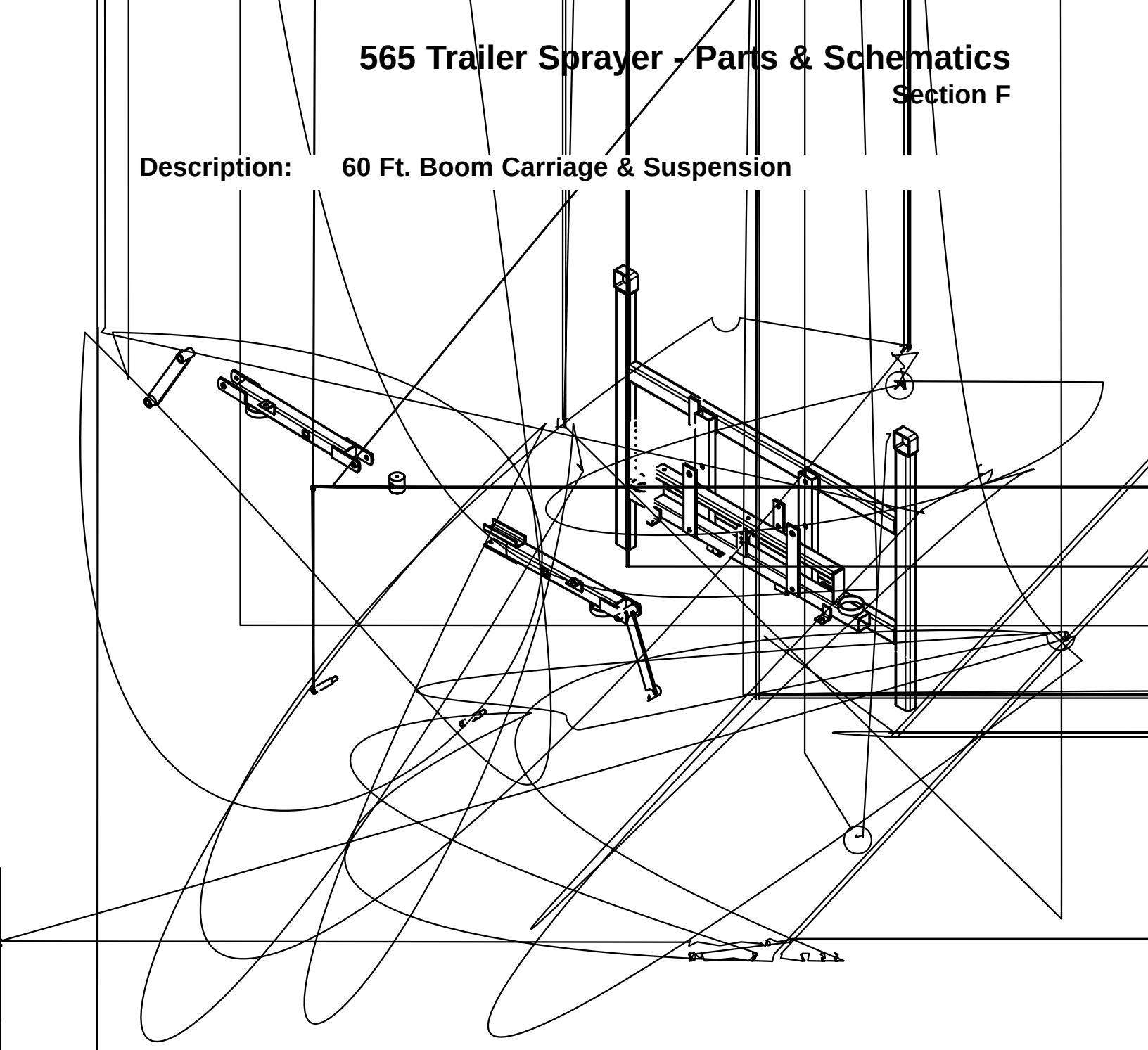
VERTICAL

NO.	QTY	DWG NO. PART NO
1	2	016346
2	1	AC3133C
3	1	
4	4	AC21745
5	2	AC31329
6	16	BH-050-35
7	16	LN-050-I
8	4	FW-10C
9	5	G1641
10	1	BH-062-35
11	2	FW-062
12	1	AC21783
13	1	AC51925
14	1	LN-062-(
15	1	01582C

Description: Vertical Mast Assembly

Item#	Part #	Description	Quantity
1	016346	Weldment; Mast Tube Front	2
2	AC313308	Channel Upper Support	1
3	AC313384	Lower Lift Weldment	1
4	AC217453	Plate Side	4
5	AC313298	Tube Slider	2
6	BH-050-350-5	Bolt, 1/2” x 3 1/2” Hex. GR. 5	16
7	LN-050-NI	Locknut; 1/2” Nylon Insert	16
8	FW-100	Flatwasher, 1”	4
9	G1641	Zerk, Grease, 1/4” -28 Straight	5
10	BH-062-350-5	Bolt, 5/8” x 3 1/2” Hex Gr 5	1
11	FW-062	Flatwasher, 5/8”	2
12	AC217830	Cylinder Mount Weldment	1
13	AC519258	Spring Compression 2.00 x 3.00	1
14	LN-062-CL	Locknut, 5/8” Center Lock	1
15	015820	Weldment; Sliding Mast, Black	1

Description: 60 Ft. Boom Carriage & Suspension

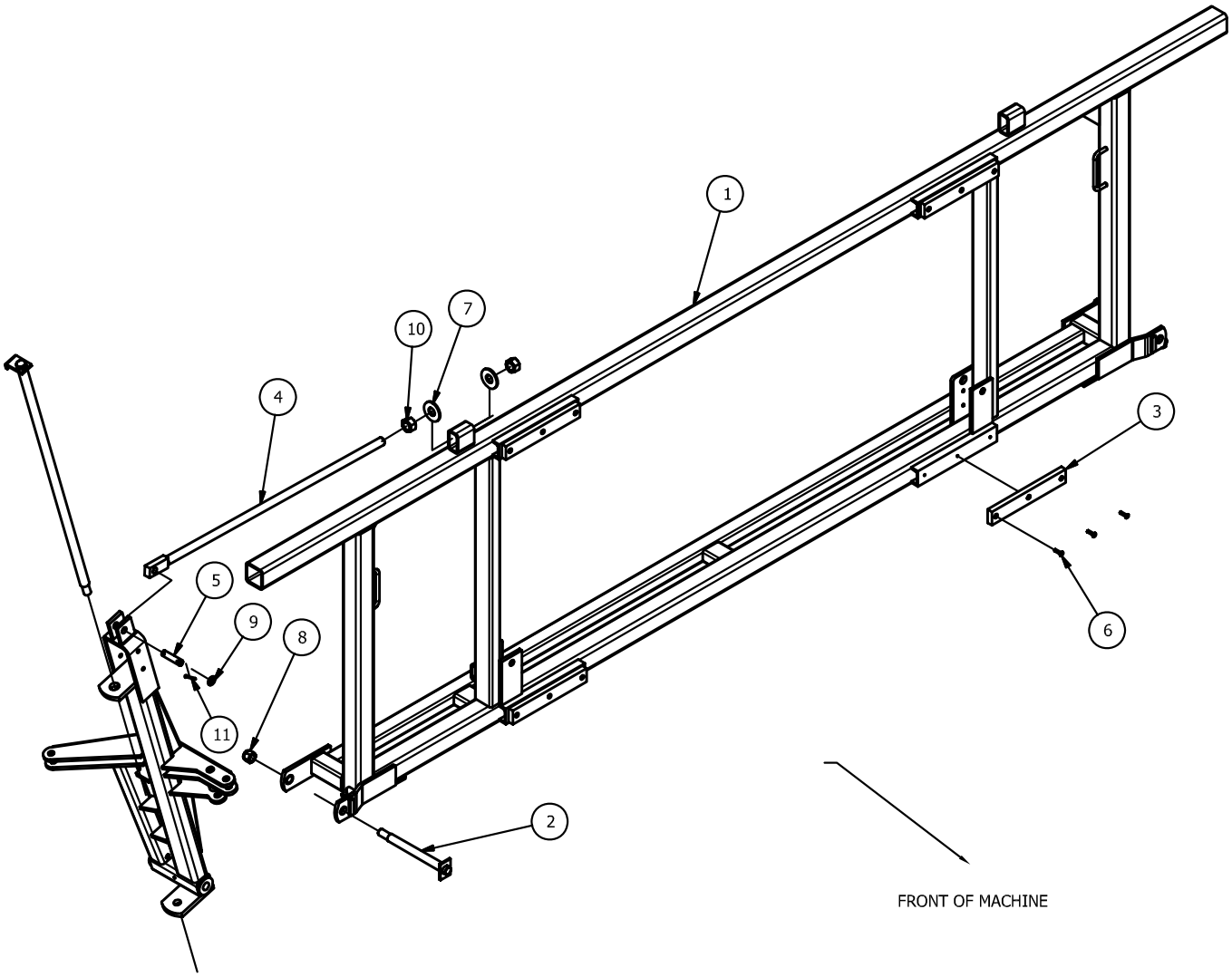


Description: 60 Ft. Boom Carriage & Suspension

Item#	Part #	Description	Quantity
1	014896	Weldment; Boom Carriage	1
2	014906	Bushing; 1.06 OD Stepped x .650 ID	2
3	014908	Flat; .375 x 2.00 x 5.25 w/holes	4
4	014911	Spring; 5.25 OD x 12.75 Lg, .56 Wire	2
5	014919	Washer, Belleville; 7/8 ID x 1 3/4 OD 14 Ga.	16
6	014921	Weldment; Linkage, Suspension	2
7	014929	Weldment; Stabilizer Arm LH W/Mount	1
8	014930	Weldment; Stabilizer Arm RH	1
9	014931	Rubber; 2.375 OD x 2.438 Lg W/ CRSHOL	1
10	014935	Assembly; Cable 54”	2
11	014938	Shock Absorber; 10.73 Closed 17.11 Open	2
12	014939	Threaded Rod; 5/8-11 w/Flat & Hole	2
13	014941	Weldment; .875 Pin w/Threads	2
14	014943	Weldment; .875 Pin w/Formed Tab	5
15	014952	Channel; 3” 4.1# x 32.75	2
16	014964	Urethane, Bumper; 2.00 x 1.60 w/3/8 Thread	2
17	015772	Slide; UHMW .438 x 1.75 x 11.00 w/HOLS	4
18	015810	Clevis, Screw; 3/8”	2
19	015887	Plug, Plastic; 2 1/2”	2
20	016253	Urethane, Bumper; 95A 2.00 x 1.60 w/Thread	1
21	016273	Tube, Rd; 7/8 x 12 Ga. x 2.88	2
22	BH-038-400-5	Bolt; 3/8 x 4 Grade 5	1
23*	BH-062-350-5	Bolt, Hex, 5/8 x 3 1/2 Gr. 5	8
24	BH-062-400-5	Bolt, Hex, 5/8 x 4 Gr. 5	4
25	BM-025-100-CS	Screw, 1/4-20 x 1.00	12
26	G1641	Zerk; Grease; 1/4” - 28 Straight	9
27	LN-025-NI	Locknut; 1/4” Nylon Insert	12
28	LN-038-NI	Locknut; 3/8” Nylon Insert	4
29	LN-062-NI	Locknut; 5/8” Nylon Insert	19
30	NUT-062	Nut; 5/8” Nut	4

* Not Shown

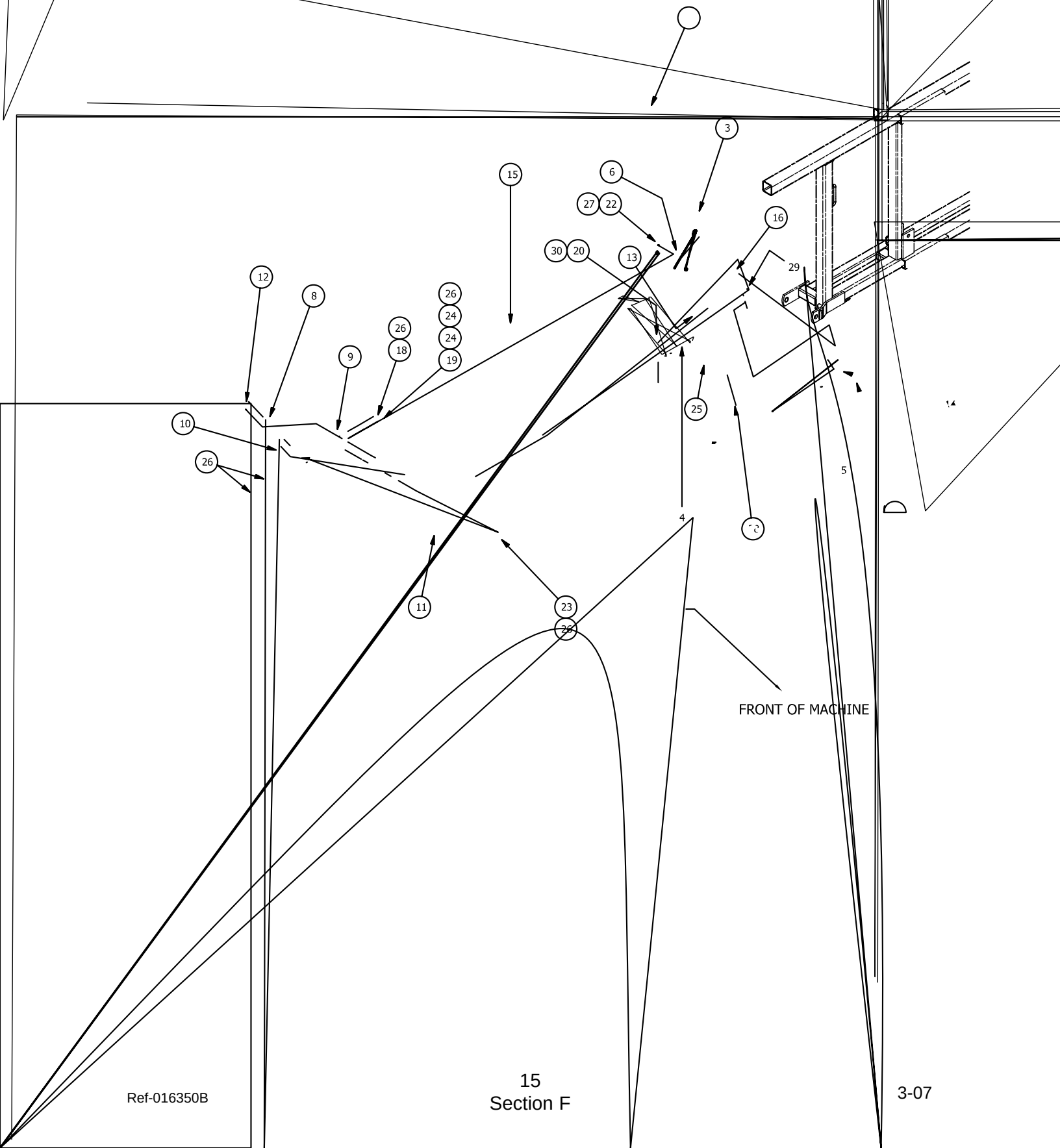
Description: Center Boom Assembly



Description: Center Boom Assembly

Item#	Part #	Description	Quantity
1	014855	Weldment; Boom Center	1
2	014871	Weldment; Pin 10.125 w/Threads	2
3	014937	Slide; UHMW .625 x 1.75 x 11.00 w/HOLS	4
4	014947	Weldment; Wing Tilt Adj Rod	2
5	014951	Round, CR; .625 x 2.625 w/HOLS	2
6	015812	Screw, Torx; 1/4-20 x 1.00	12
7	FW-087	Flatwasher; 7/8”	4
8	LN-075-NI	Locknut; 3/4” Nylon Insert	2
9	MB-062-100-14	Bushing, Machine 5/8 x 1.00	4
10	NUT-087	Nut; 7/8” Nut	4
11	PCT-015-150	Pin; Cotter, 5/32 x 1 1/2	11

Description: **Pivot to Primary**

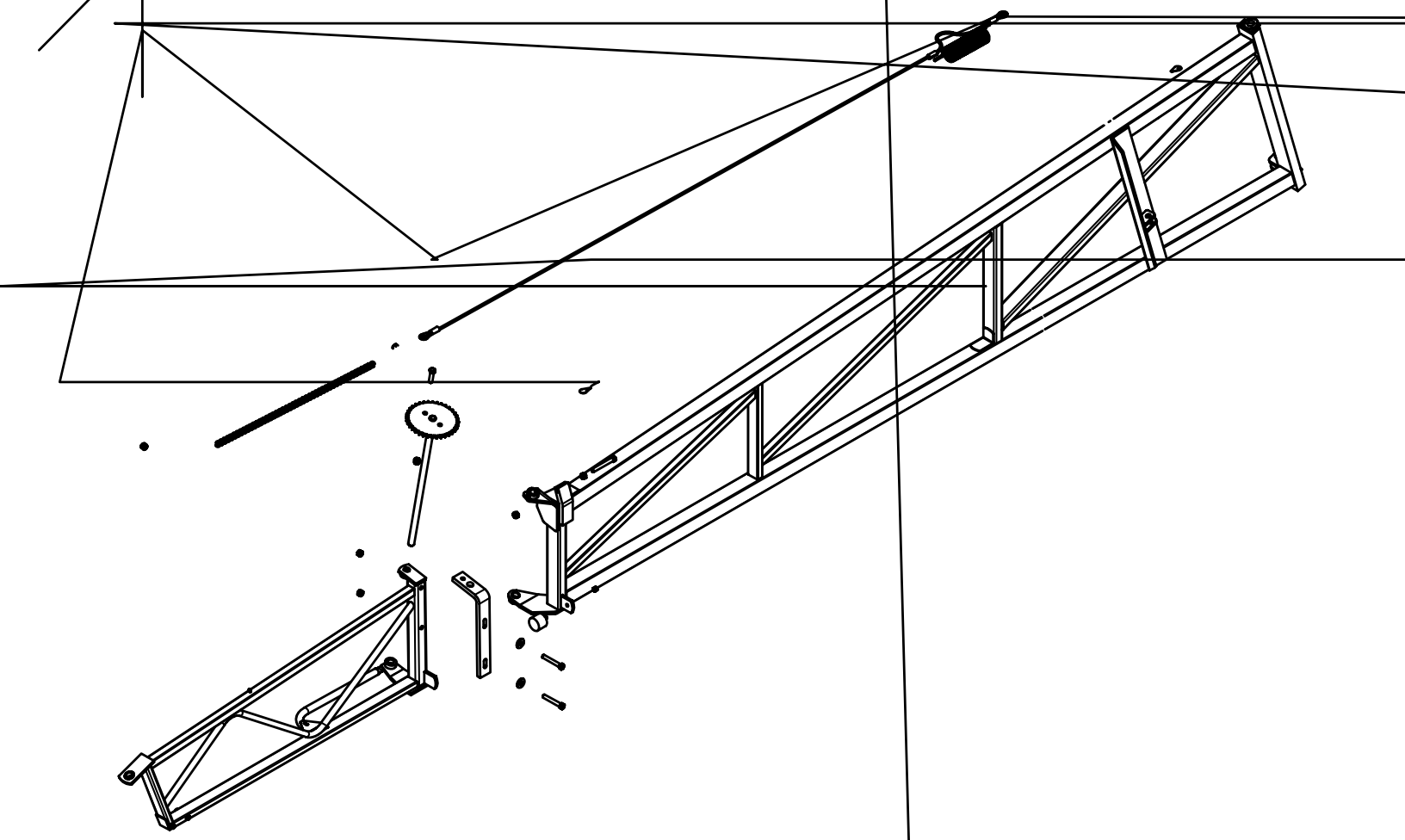


Description: Pivot to Primary

Item#	Part #	Description	Quantity
1*	014880	Weldment; Boom Pivot LH	1
2*	015000	Weldment; Boom Primary LH 150”	1
3	014878	Weldment; Boom Pivot RH	1
4	014909	Turnbuckle, Closed Body, 5/8”	4
5	014910	CYL; U-60 Boom Fold (1.50” x 11.62”)	2
6	014936	Slide; UHMW .218 x 1.50 x 4.0 w/HOLS	4
7	014944	Weldment, Pivot Pin; 1.00 Pin w/Formed	2
8	014950	Urethane; 90A .63 x 1.88 x 3.38 w/HOL	2
9	014959	Plate; .25 FRMD w/Slots	2
10	014962	Weldment; Boom Stop BRKT	2
11	015001	Weldment; Boom Primary RH 150”	1
12	016157	Screw; 1/4 x 1.00 FH SH	4
13	016158	Tube, RD; 7/8 OD x 12 GA x .500	4
14	016234	Tube, RD; 7/8 OD x 12 GA x .250	4
15	016235	Pin, Cylinder; .625 x 3.5 w/3 Holes	2
16	016236	Pin, Cylinder; .625 x 4.0 w/Holes	2
17	6801-6-6R.015	HYD Fittings; 3/8 EL, Restricted	4
18	BH-031-100-5	Bolt; 5/16 x 1.00 Grade 5	2
19	BH-031-125-5	Bolt; 5/16 x 1.25 Grade 5	2
20	BH-050-175-5	Bolt; 1/2 x 1.75 Grade 5	8
22	BL-025-100	Bolt; Elevator, 1/4 x 1	8
23	BU031-250-325-2	U-Bolt; 5/16 x 2.50 x 3.25 GR 2	2
24	FW-031	Washer; Flat, 5/16	6
25	G1641	Zerk; Grease; 1/4” - 28 Straight	12
26	LN-031-NI	Locknut; 5/16” Nylon Insert	10
27	LN-050-CL	Locknut; 1/2” Centerlock Steel	4
28	LN-087-CL	Locknut; 7/8 Centerlocknut	2
29	PCL-062-200	Pin; Clevis 5/8 x 2” Plated	4
30	PCT-015-150	Pin; Cotter, 5/32 x 1 1/2	16

* Not Shown

Description: **Secondary Boom Fold**



Description: Secondary Boom Fold

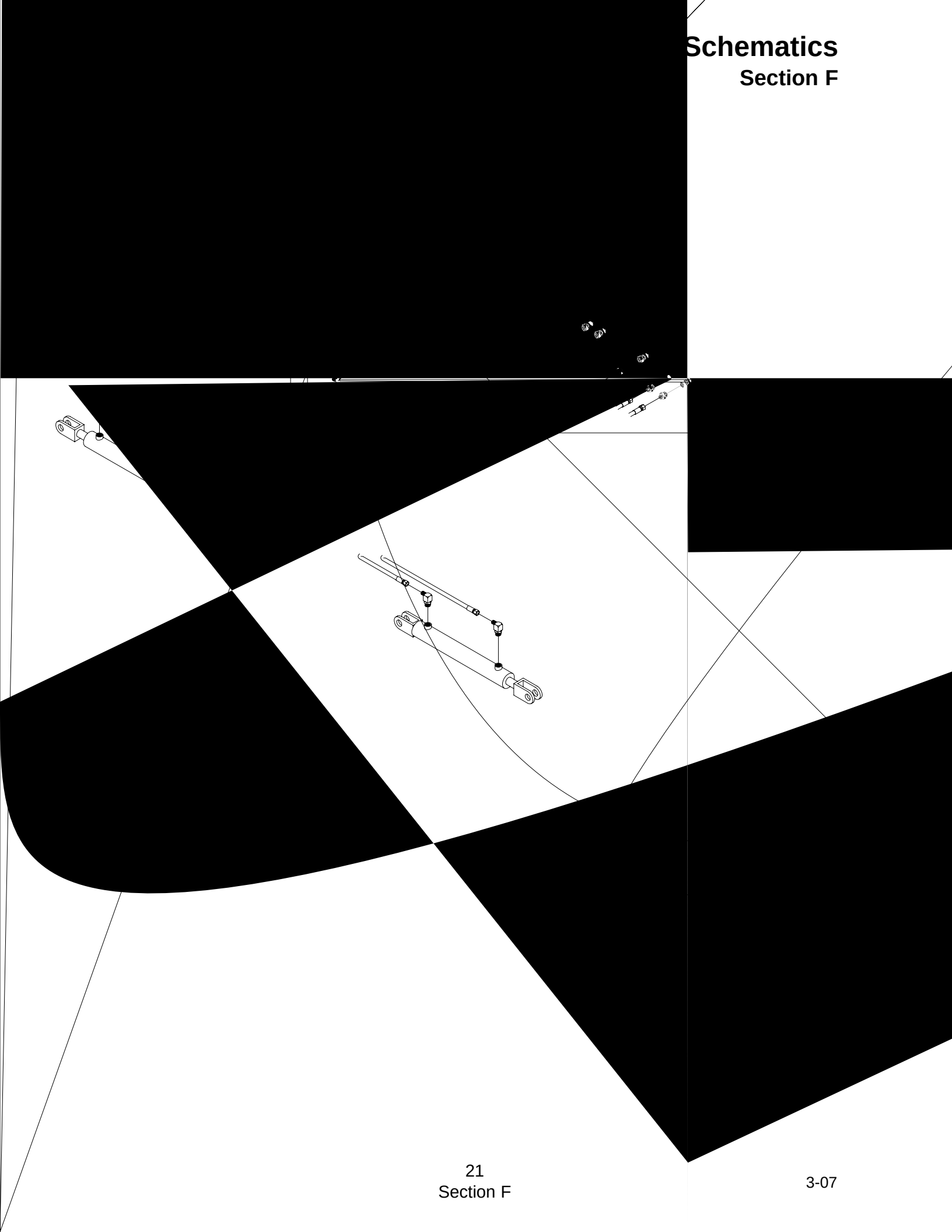
Item#	Part #	Description	Quantity
1*	015000	Weldment; Boom Primary LH 150”	1
2	008053	Connecting Link; #50	4
3	014933	Assembly; Cable 191” with LRG Spring	2
4	014934	Assembly; Cable 114” with SM Spring	2
5	014964	Urethane, Bumper; 2.00 x 1.60 with 3/8” THRD	2
6	014979	Flat; .625 x 2.00 FRMD	2
7	014980	Weldment; Boom Sec., RH 51”	1
8	014985	Weldment; Sprocket w/.875 PIN	2
9	015001	Weldment; Boom Primary RM 150”	1
10	015816	Chain, Roller; #50 x 33.75	2
11	016340	Weldment; Chain Connector	4
12	BH-050-175-5	Bolt; 1/2 x 1.75 Grade 5	6
13	BH-050-200-5	Bolt; 1/2 x 2 Grade 5	2
14	BH-050-325-5	Bolt; 1/2 x 3.25 Grade 5	2
15	BH-050-350-5	Bolt; 1/2 x 2.00 Grade 5	2
16	BT-050-400-5	Bolt; 1/2 x 4 Grade 5	2
17	FW-050	Flatwasher; 1/2 - 28 per #	4
18	G1641	Zerk; Grease; 1/4” -28 Straight	4
19	LN-038-NI	Locknut; 3/8” Nylon Insert	10
20	LN-050-CL	Locknut; 1/2” Centerlock Steel	4
21	LN-050-NI	Locknut; 1/2” Nylon Insert	8
22	LN-062-CL	Locknut; 5/8” Centerlocknut	1
23	NUT-050	Nut; 1/2 Nut	4

* Not Shown

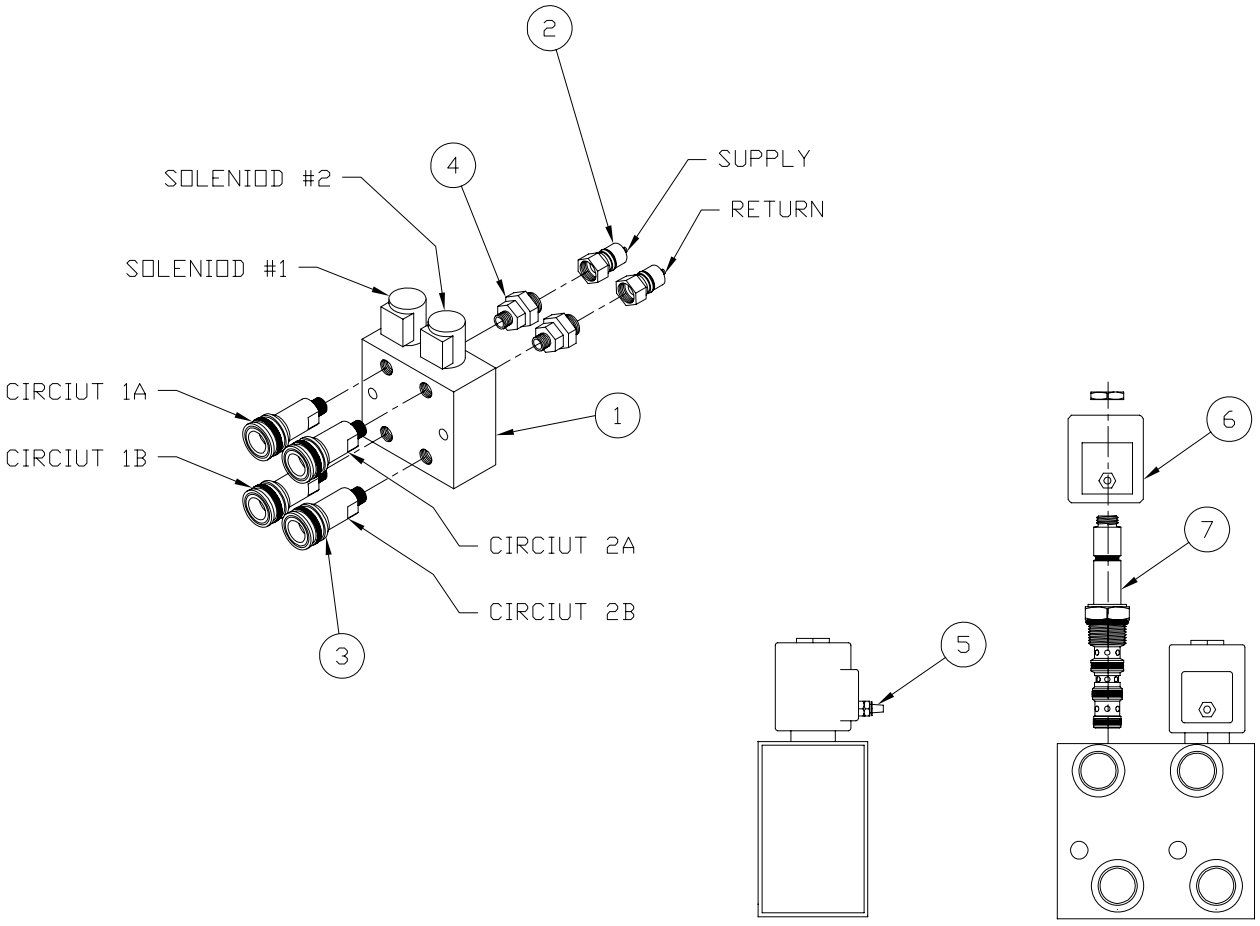
Description: Breakaway Assembly

Item#	Part #	Description	Quantity
1*	014917	Weldment; Boom Section, LH 51”	1
2	014958	Weldment; Breakaway 98”	2
3	014980	Weldment; Boom Section, RH 51”	1
4	015797	Weldment; Lower Breakaway Clutch	2
5	015803	Weldment; Upper Breakaway Clutch	2
6	015804	Pin; Threaded Breakaway Shaft	2
7	015806	Spring; .375 Wire 2” DIA x 4” LG	2
8	015807	Spring Cup; 2.219 ID x .50DP	2
9	BH-038-350-5	Bolt; 3/8” x 3.50 Grade 5	8
10	BH-050-325-5	Bolt; 1/2” x 3.25 Grade 5	2
11	G1641	Zerk; Grease; 1/4”-28 Straight	12
12	LN-038-NI	Locknut; 3/8” Nylon Insert	10
13	LN-050-CL	Locknut; 1/2” Centerlock Steel	4
14	LN-062-CL	Locknut; 5/8 Centerlocknut	1
15	LN-062-NI	Locknut; 5/8” Nylon Insert	3
16	NUT-075	Nut; 3/4” Nut”	2
17	NUT-075-J	Nut; 3/4” Jamnut	2

* Not Shown



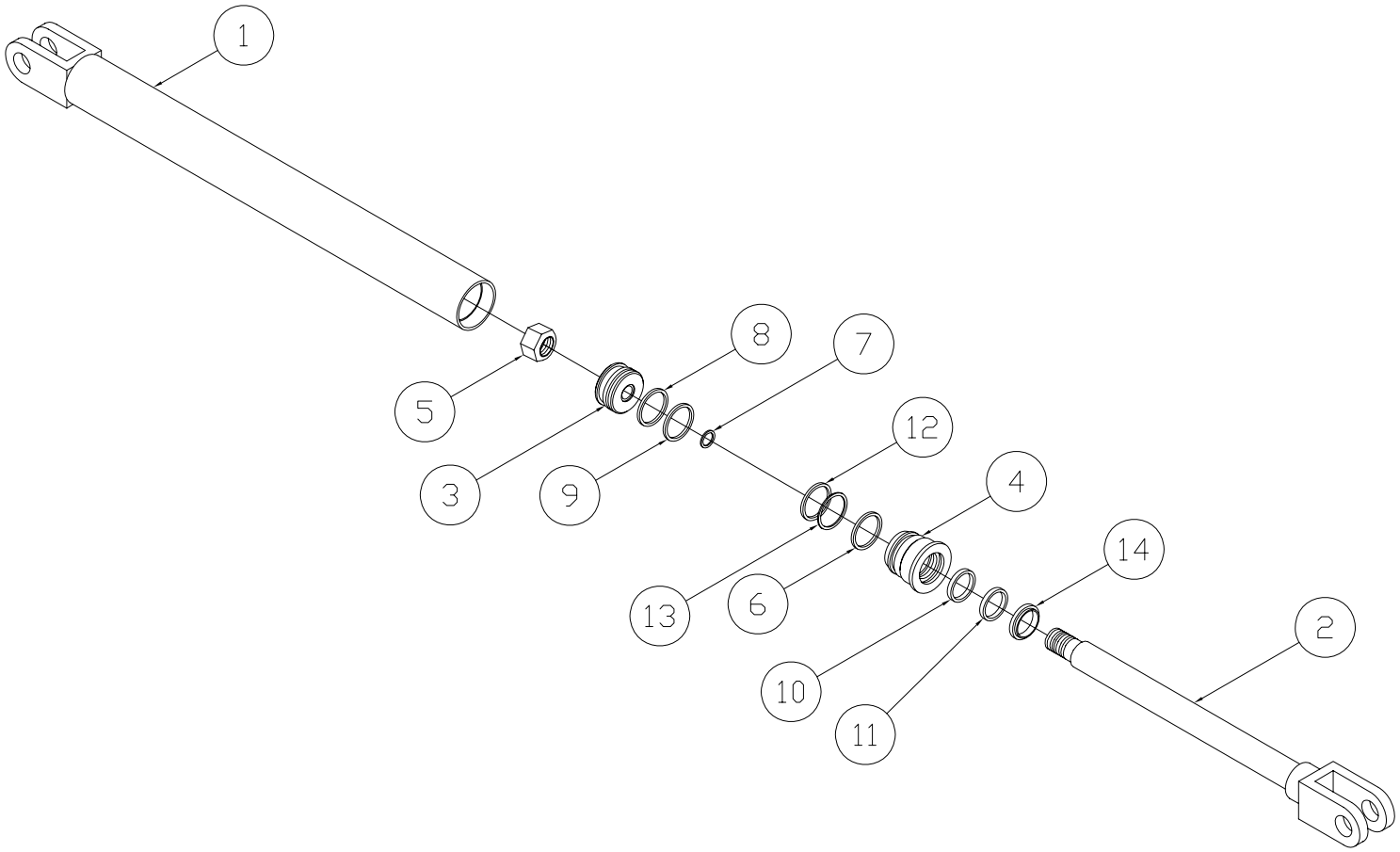
Description: Hydraulic Multiplier Valve Breakdown



Item#	Part #	Description	Quantity
1	270-058	Block M10937-1 1510/BP	1
2	272-019	Coupling Fasse ISO Poppet Male Tip	2
3	272-018	Coupling Fasse ISO Poppet Female	4
4	210-180	Fitting Fasse Orbit Eccentric	2
5	230-095	Cap #3	2
6	253-003	Coil 6354012 DD	2
7	273-004	Cart SV10-44-0-N-00	2

Notes:
1. Torque HFCART (Item 15) to 25 Ft. Lbs.
2. Torque Coil Nuts (Item 13) to 5 Ft. Lbs.

Description: **Vertical Mast Cylinder**

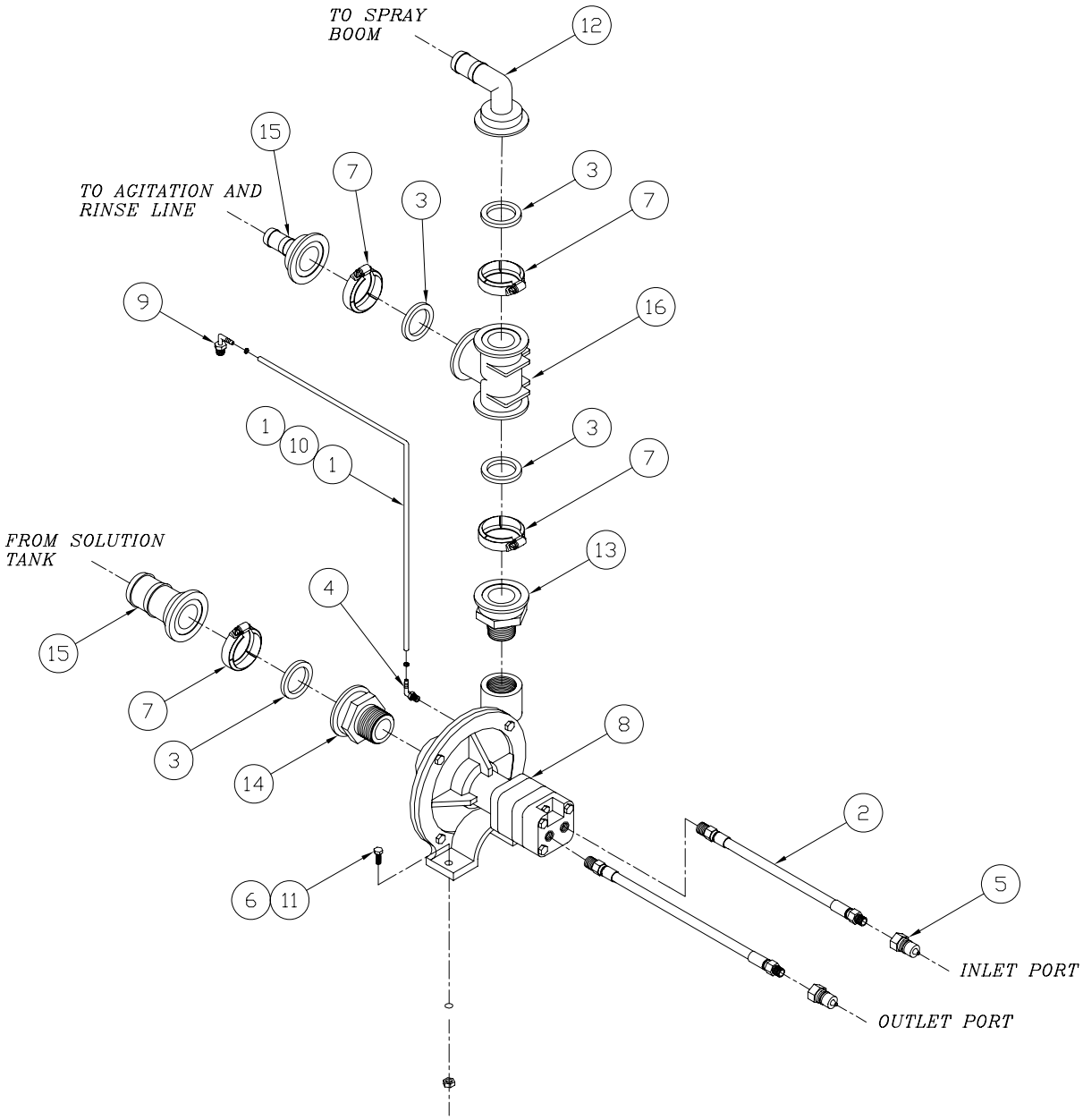


Description: Vertical Mast Cylinder

Item#	Part #	Description	Quantity
1	TA-02053	Tube Assembly	1
2	RA-01163	Rod	1
3	PI-00002	Piston	1
4	HE-00040	Head	1
5	PP-00014	Locknut, 3/4-16	1
6	MM-00036	Retaining Ring	1
7*		O-Ring	1
8*		O-Ring	1
9*		Back-up	2
10*		O-Ring	1
11*		Back-up	1
12*		O-Ring	1
13*		Back-up	1
14*		Wiper	1
	SK-00924	Seal Kit	

* Not Sold Separately, Only Available as a Seal Kit.

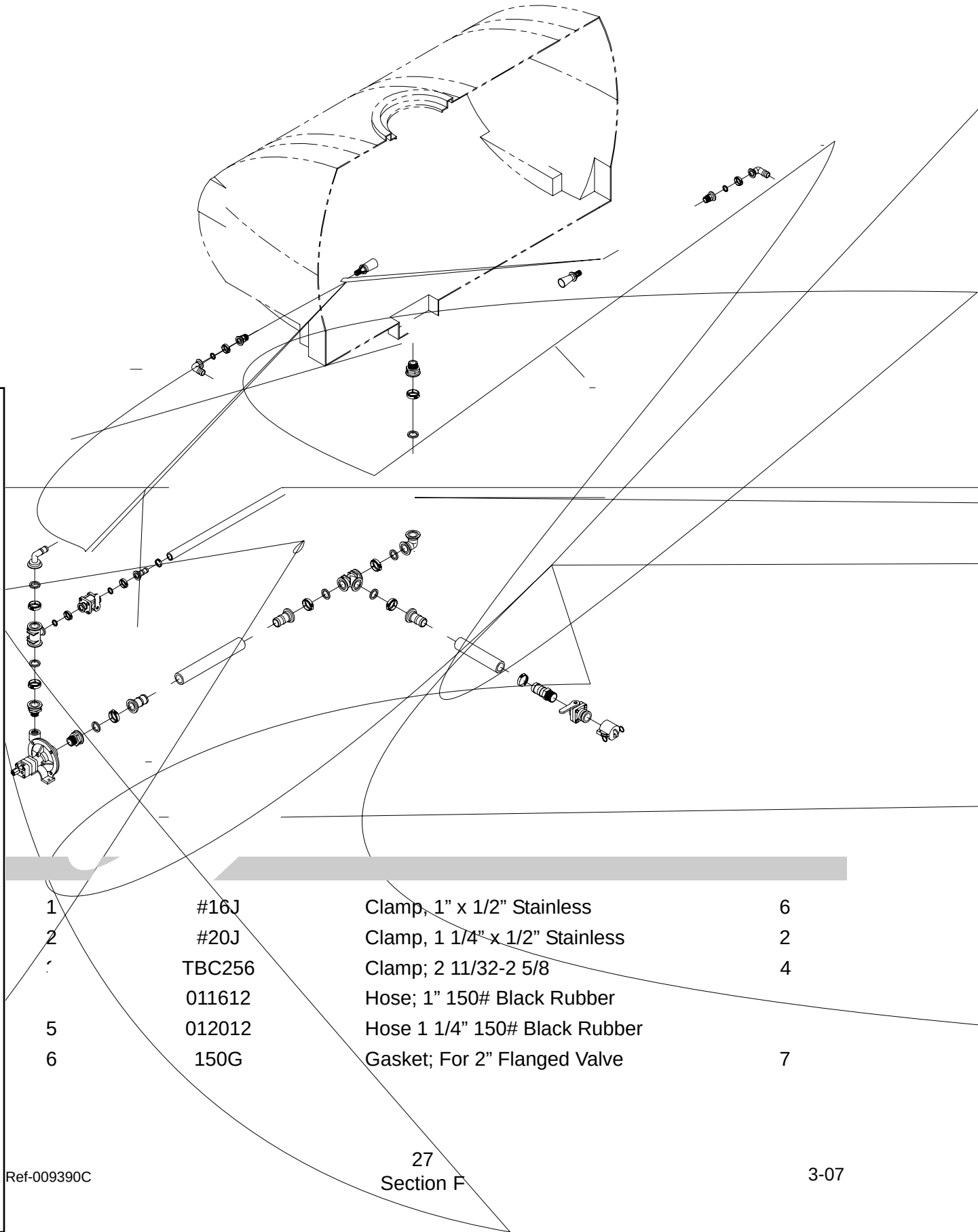
Description: Ace Hydraulic Pump



Description: Ace Hydraulic Pump

Item#	Part #	Description	Quantity
1	#4JM	Clamp; 1/4 x 5/16 Stainless	2
2	004627	Hyd Hose; 1/2 x 68” MORBX1/2MPT	2
3	150G	Gasket; For 2” Flanged Valve	4
4	3A1814	Hosebarb; 1/8 x 1/4, Poly	1
5	8010-15P	Hyd Quick Coupler; Univ. Poppet	2
6	BH-038-150-2	Bolt; 3/8” x 1 1/2” Hex. Gr. 2	2
7	FC200BJ	Clamp; 2”	4
8	FMCSC150HYD206	Pump; Ace Cent. w/SII Seal/SSTK	1
9	HB-025-90	Hose Barb Ell; 1/4MPT x 1/4 HB	1
10	K3150-025	Hose; 1/4” Vinyl Reinforce Clear	18
11	LN-038-NI	Lock Nut; 3/8” Nylon Insert	2
12	M200/125BRB90	Elbow; 2” x 1 1/4” 90°	1
13	M200125MPT	Manifold; 2” x 1 1/4” Male Thread	1
14	M200150MPT	Manifold; 2” x 1 1/2” Male Thread	1
15	M200BRB	Hose Barb; 2” Flanged Straight	1
16	M200TEE	Tee; Flanged 2” Manifold Fitting	1

Description: 565 Standard Plumbing

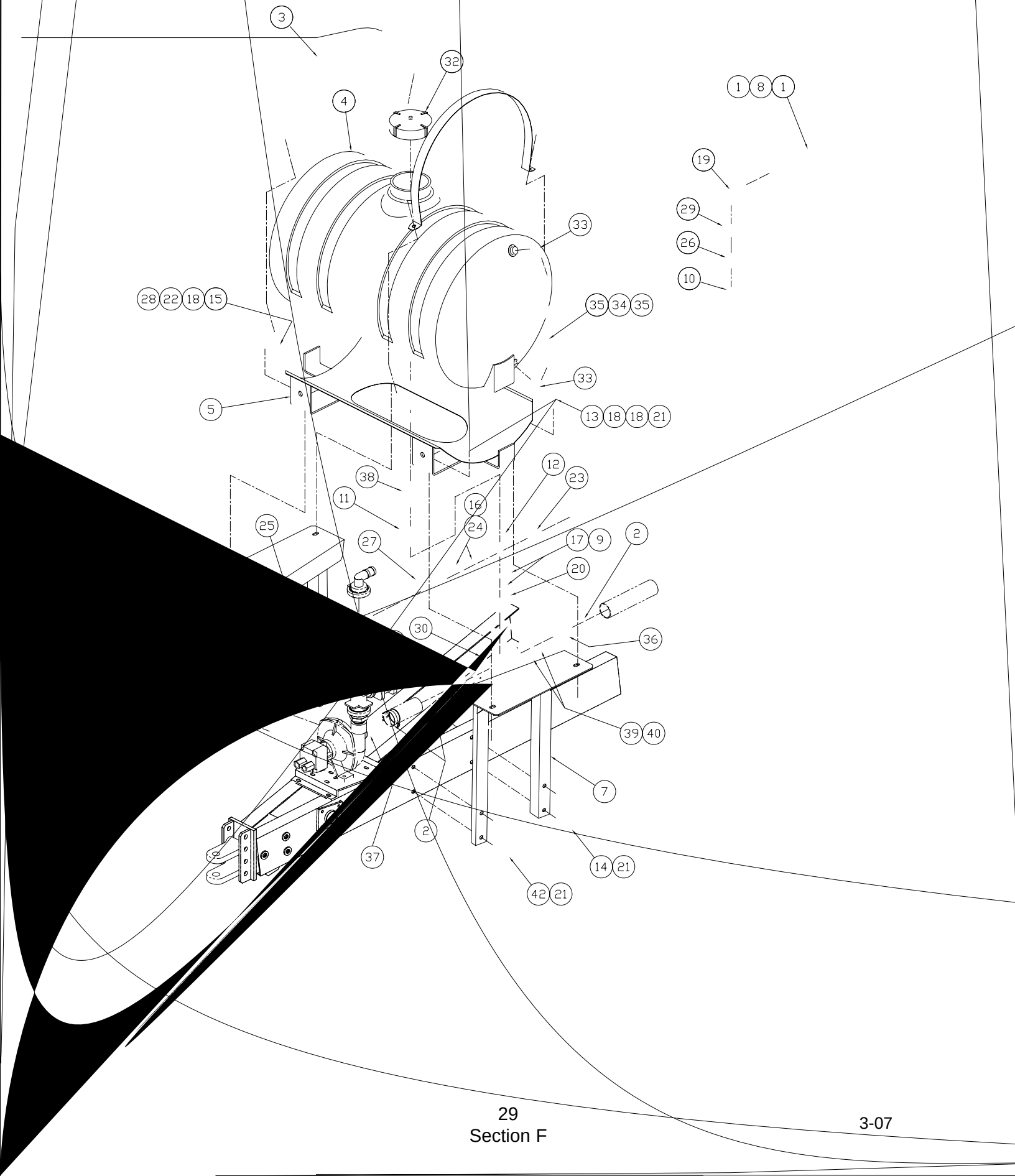


1	#16J	Clamp, 1” x 1/2” Stainless	6
2	#20J	Clamp, 1 1/4” x 1/2” Stainless	2
3	TBC256	Clamp; 2 11/32-2 5/8	4
4	011612	Hose; 1” 150# Black Rubber	
5	012012	Hose 1 1/4” 150# Black Rubber	
6	150G	Gasket; For 2” Flanged Valve	7

Description: 565 Standard Plumbing

Item#	Part #	Description	Quantity
7	3371-0028	Jet Agitator; High Capacity	2
8	600432	Hose; 2” Enforcer, Fertilizer Solution	
9	BU038-375-500-2	U-Bolt; 3/8 x 3 3/4 x 5 Gr. 5 RND	1
10	CAP200	Cap; 2” Poly Pipe Cap	1
11	FC100BJ	Clamp; 1”	4
12	FC200BJ	Clamp; 2”	7
13	HB-200	Hose Barb; 2MPT x HB Poly	1
14	HBT100	Hose Barb Tee; 1” HB x HB x HB	1
15	MLST150-HB	Strainer; 2” T-Head & Body Flanged	1
16	LST1550	Screen; 50 Mesh, 1 1/4 & 1 1/2	1
17	M100BRB	Hose Barb; 1” Flange Straight	1
18	M100BRB90	Hose Barb; 1” w/90° Elbow	2
19	M100G	Gasket; For 1” Flanged Valve	4
20	M100MPT	Manifold; 1” x 1” Male Thread	2
21	M200/125BRB90	Elbow; 2 x 1 1/4, 90°	1
22	M200100TEE	Tee; 2” x 1” Tee	1
23	M200MPT	Manifold, 2” x 2” Male Thread	1
24	M200BRB	Hose Barb; 2” Flanged Straight	3
25	M200CPG90	Elbow; Flange, 2” x 2” Poly	1
26	M200TEE	Tee; Flanged 2” Manifold Fitting	1
27	MV100CF	Valve; 1” Viton Flanged Valve	1
28	MV200CF	Valve; 2” Viton Flanged Valve	1
29	NW60401	Bulkhead Fitting; 3/4”	1
30	NW60427	Bulkhead Fitting; 1”	2
31	BF200BD	Bulkhead Fitting; Bottom Drain	1
32	PLUG075	Plug; 3/4 MPT Poly	1
33	RB100-075	Reducer Bushing; 1 x 3/4 Poly	2
34	VSF200	Valve; Stub, 2” M ADPT x 2” FPT	1
35	LN-038-NI	Locknut; 3/8” Nylon Insert	2
36	004781	Extension Mount Weld	1
37	009203	Weldment; Tank Shutoff Handle	1
38	BH-025-150-2	Bolt; 1/4” x 1 1/2” Hex. Gr. 2	1
39	BH-025-100-5	Bolt; 1/4” x 1” Hex. Gr. 5	2
40	LN-025-NI	Locknut; 1/4” Nylon Insert	3

Description: 565 Rinse Tank Kit For Hydraulic Pump

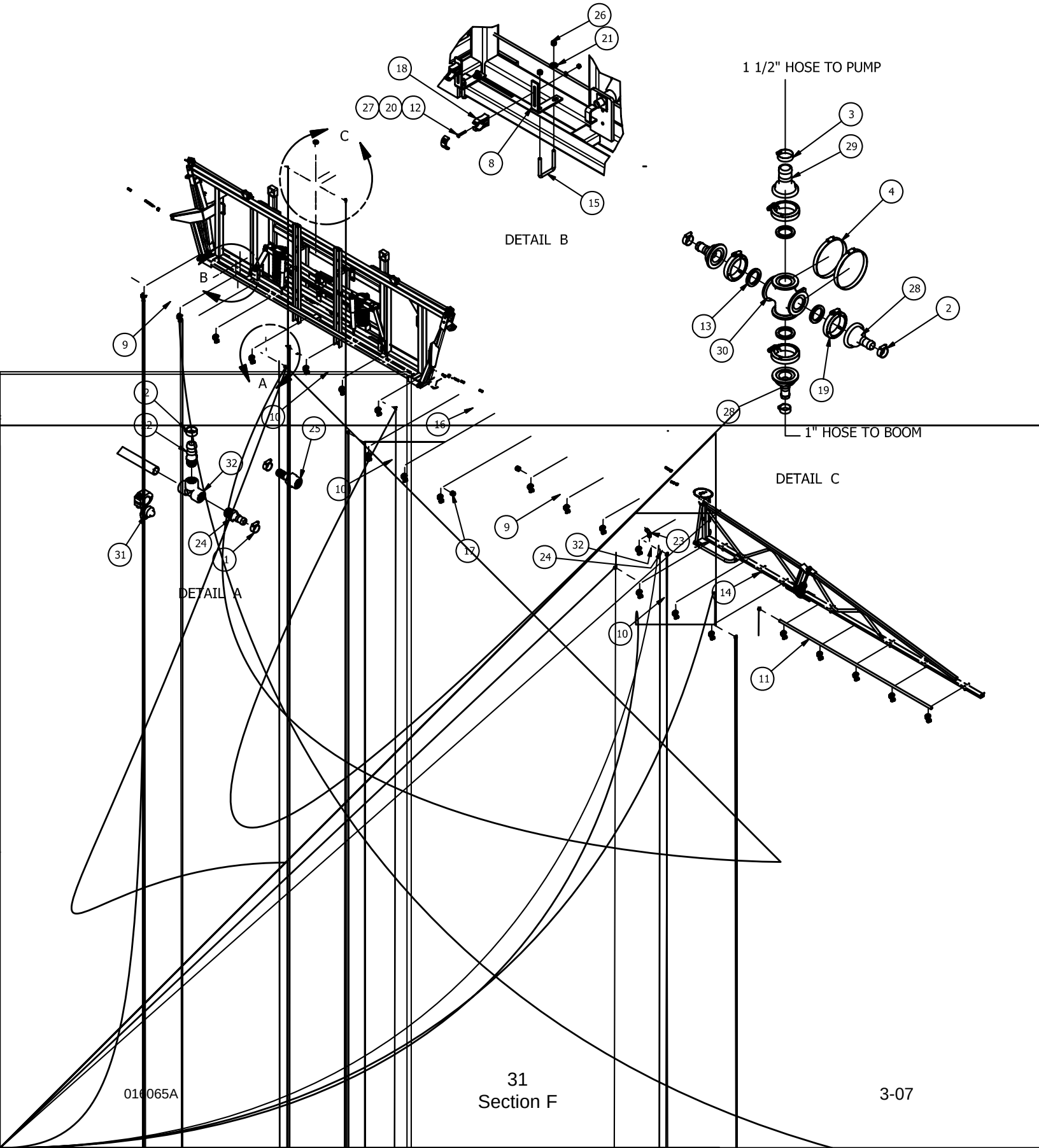


Description: 565 Rinse Tank Kit For Hydraulic Pump

Item#	Part #	Description	Quantity
7	008956	Weldment; Rinse Stand L.S.	1
8	011612	Hose; 1” 150# Black Rubber	
9	150G	Gasket; For 2” Flanged Valve	2
10	2000-6	Rinse Nozzle; Tank Rinse	1
11	504-019	Check Valve; 2” (Must be Glued)	1
12	M200FPT	Manifold; 2” x 2” Female Thread	1
13	BH-050-150-2	Bolt; 1/2” x 1 1/2” Hex. GR. 2	4
14	BH-050-300-2	Bolt; 1/2” x 3” Hex. GR. 2	4
15	BJ-050-700	J-Bolt; 150 & 300 Gal.	4
16	FC100BJ	Clamp; 1”	2
17	FC200BJ	Clamp; 2”	2
18	FW-050	Flatwasher; 1/2”	12
19	HB-075-100-90	Hose Barb ELL; 3/4MPT x 1 HB	1
20	M220200CPG	Flange; 2” FPx2”STD Port Red.FL	1
21	LN-050-NI	Locknut; 1/2” Nylon Insert	12
22	LW-050	Lockwasher; 1/2” lockwasher	4
23	M100BRB	Hose Barb; 1” Flange STR	1
24	M100G	Gasket; For 1” Flanged V	2
25	M200100TEE	Tee; 2” x 1” Tee	1
26	MM3410	Reducing Nipple; 1 x 3/4 TH	1
27	MV100CF	Valve; 1” Vivton Flanged	1
28	NUT-050	Nut; 1/2” nut	4
29	NW60401	Bulkhead Fitting; 3/4”1	
30	M220TEE	Tee; 2” Full Port Manifold Tee	1
31	VSMT200	Valve; Stub 2”M NPT x 2” F NPT	1
32	3542010	Lid; 6” Vented	1
33	EL38	Hose Fitting; 3/8 MPT x 3/8 HB	2
34	SIGHT 38	Hose; 3/8 x 1/16 Clear Sight	
35	#6JM	Clamp; 3/8” x 5/16” SS	2
36	M220BRB	Hose Barb; 2” w/Full Port FLNG	2
37	HB-150-200	Hose Barb; 1 1/2” MPT x 2” HB Poly	1
38	NIP200-4	Nipple; 2” x 4” MPT, Poly	1
39	FC220	Clamp; 2” Series Worm Screw	3
40	200G	Gasket; 2” Coupling EPDM	3
41+	004767	Decal; Rinse Ball	1
42	BH-050-200-2	Bolt; 1/2” x 2” Hex. GR. 2	4

* Specify Color
\+ Not Shown

Description: Wet Boom Plumbing; 3 Section



Description: Wet Boom Plumbing; 3 Section

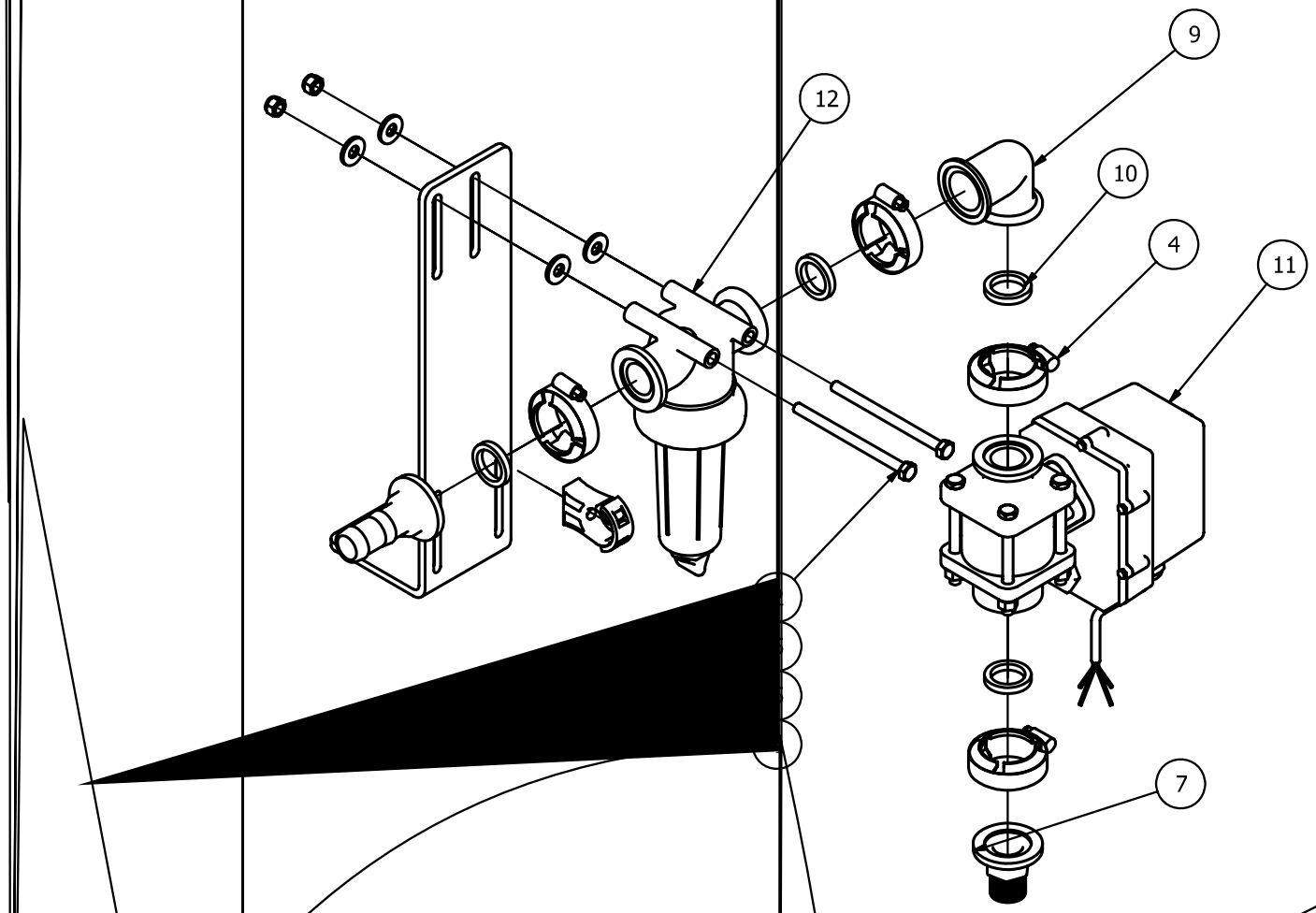
Item#	Part #	Description	Quantity
1	#12J	Clamp, 3/4” Hose Worm Screw	14
2	#16J	Clamp; 1” x 1/2 Stainless	5
3	#24J	Clamp, 1 1/2” Hose Worm Screw	1
4	#80J	Clamp, Hose, 5” x 1/2” Stainless	2
5*	001212	Hose; 3/4” 150# EPDM	
6*	011612	Hose; 1” 150# Black Rubber	
7*	012412	Hose; 1 1/2” 150# EPDM	
8	015814	Flat; .188 x 1.00 Framed Bracket	34
9	016026	Pipe; 3/4 x 64” Long w/ 4 Holes	3
10	016027	Pipe; 3/4 x 44” Long w/ 3 Holes	5
11	016028	Pipe; 3/4 x 84” Long w/ 5 Holes	2
12	016047	Screw; 10-24 x 1.25 FH SH	34
13	150G	Gasket; For 2” Flanged Valve	4
14	BU031-200-175-2	U-Bolt; 5/16 x 2.00 x 1.75 Gr. 2	14
15	BU031-200-250-2	U-Bolt; 5/16 x 2.00 x 2.50 Gr. 2	6
16	BU031-250-325-2	U-Bolt; 5/16 x 2.50 x 3.25 Gr. 2	14
17	CAP075	Cap; 3/4” Poly Pipe Cap	4
18	CPC-075	Clamp; Cobra Poly Pipe	34
19	FC200BJ	Clamp; 2”	4
20	FW-#10	Washer, Flat, #10	34
21	FW-031	Washer, Flat, 5/16	34
22	HB-075-100	Hose Barb; 3/4MPT x 1 HB Poly	1
23	HB-075-100-90	Hose Barb Ell; 3/4 MPT x 1 HB El	1
24	HB075	Hose Barb; 3/4 MPT x 3/4 HB Poly	2
25	HBF075	Hose Barb; 3/4” Female NPT x 3/4” HB	13
26	LN-031-NI	Locknut; 5/16” Nylon Insert	68
27	LN-10-24-NI	Locknut; 10/24 Nylon Insert	34
28	M200100BRB	Hose Barb; 2”x1” Straight	3
29	M200150BRB	Hose Barb; 2” Flange x 1 1/2 HB	1
30	M200CR	Cross; 2” Standard Port Flange	1
31	QJ17560A-3-4-NYB	Quick TeeJet Split Eyelet Nose	37
32	TEE075	Fitting; 3/4” Tee Poly	2

* Not Shown

Description: Raven Controls

Item#	Part #	Description	Quantity
1	#24J	Clamp, 1 1/2” Hose Worm Screw	2
2	003667	Plate; Gauge Mount	1
3	006367	Cable; Flow, 12’ w/Packards	1
4	012012	Hose; 1 1/4” 150# Black Rubber	
5	063-0171-220	Console Assembly; 450	1
6	063-0171-793	Flow Meter, RFM 60P	1
7	063-0171-894	Valve; Control, 1 1/2” Poly	1
8	106-0159-437	Mounting Bracket	1
9	115-159-492	Cable; Raven Control Cable	1
10	150G	Gasket; for 2” Flanged Valve	8
11	4030-0016	Hose Barb; 1/4 FB3	1
12	4030-0017	Hose Barb; 1/8 B3	1
13	4030-0018	Tubing; 3/16 x .124ID Yellow	1
14	ASG1604-REDBALL	Gauge; 4” Logo, 160 PSI	1
15	BU031-200-250-2	U-Bolt; 5/16 x 2.00 x 2.50 Gr. 2	1
16	BUR025-075-125-2	U-Bolt; Rnd 1/4 x 3/4 x 1 1/4	1
17	BUR038-250-400-2	U-Bolt; 3/8 x 2 1/2 x 4 Rnd Zinc	1
18	BUR038-375-500-2	U-Bolt; 3/8 x 3 3/4 x 5 Rnd Zinc	1
19	FC200BJ	Clamp; 2”	8
20	LN-025-NI	Locknut; 1/4” Nylon Insert	2
21	LN-031-NI	Locknut; 5/16” Nylon Insert	2
22	LN-038-NI	Locknut; 3/8” Nylon Insert	4
23	M200150BRB90	Hose Barb, 2” Flange x 1 1/2 HB, EL	1
24	M200125BRB	Hose Barb; 2” x 1 1/4” Straight	3
25	M200CPG	Coupling, 2” Flange	1
26	M200PLG025	Plug; Banjo Flange 2”	1
27	M200TEE	Tee, 2” Flange, Banjo	1
28	RB1418-SS	Reducer Bushing; 1/4MPT x 1/8	1

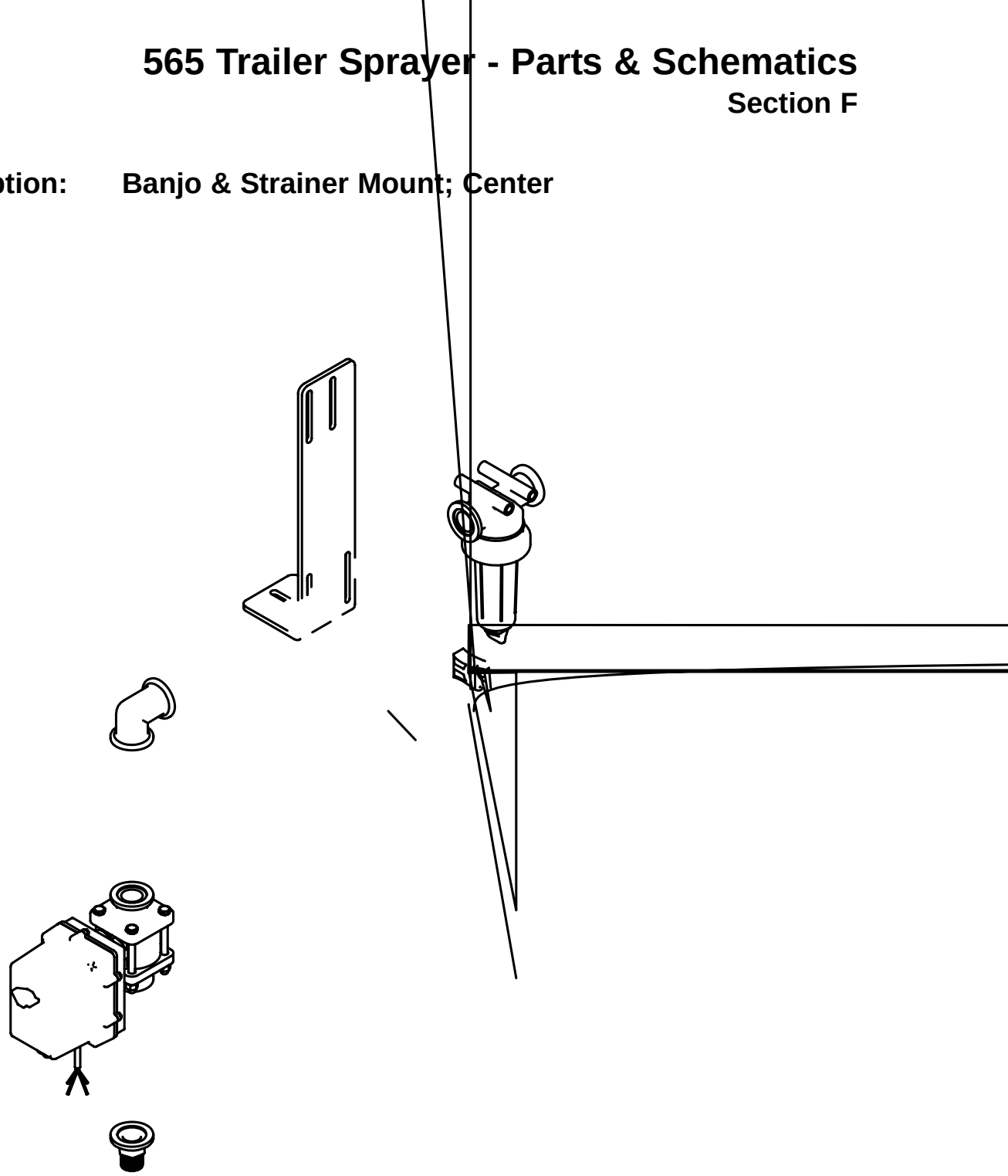
Description: **Banjo and Strainer Mount; Outer**



Description: Banjo and Strainer Mount; Outer

Item#	Part #	Description	Quantity
1	016023	Plate; Ball Valve & Strainer Mount	1
2	BH-031-450-5	Bolt; 5/16 x 4 1/2” Grade 5	2
3	CPC-075	Clamp; Cobra Poly Pipe	1
4	FC100	Coupling; 1” FPT	4
5	FW-031	Washer, Flat, 5/16	4
6	LN-031-NI	Locknut; 5/16” Nylon Insert	2
7	M100075MPT	Fitting; 1” Flange x 3/4” MPT	1
8	M100BRB	Hose Barb; 1” x 1” Straight	1
9	M100CPG90	Fitting; 1” 90° Coupling	1
10	M100G	Gasket for 1” Flanged Valve	4
11	2123683	Manifold 1-Valve Assembly, 1” Flange	1
12	MLST100-50	Strainer; T-Line Flanged	1

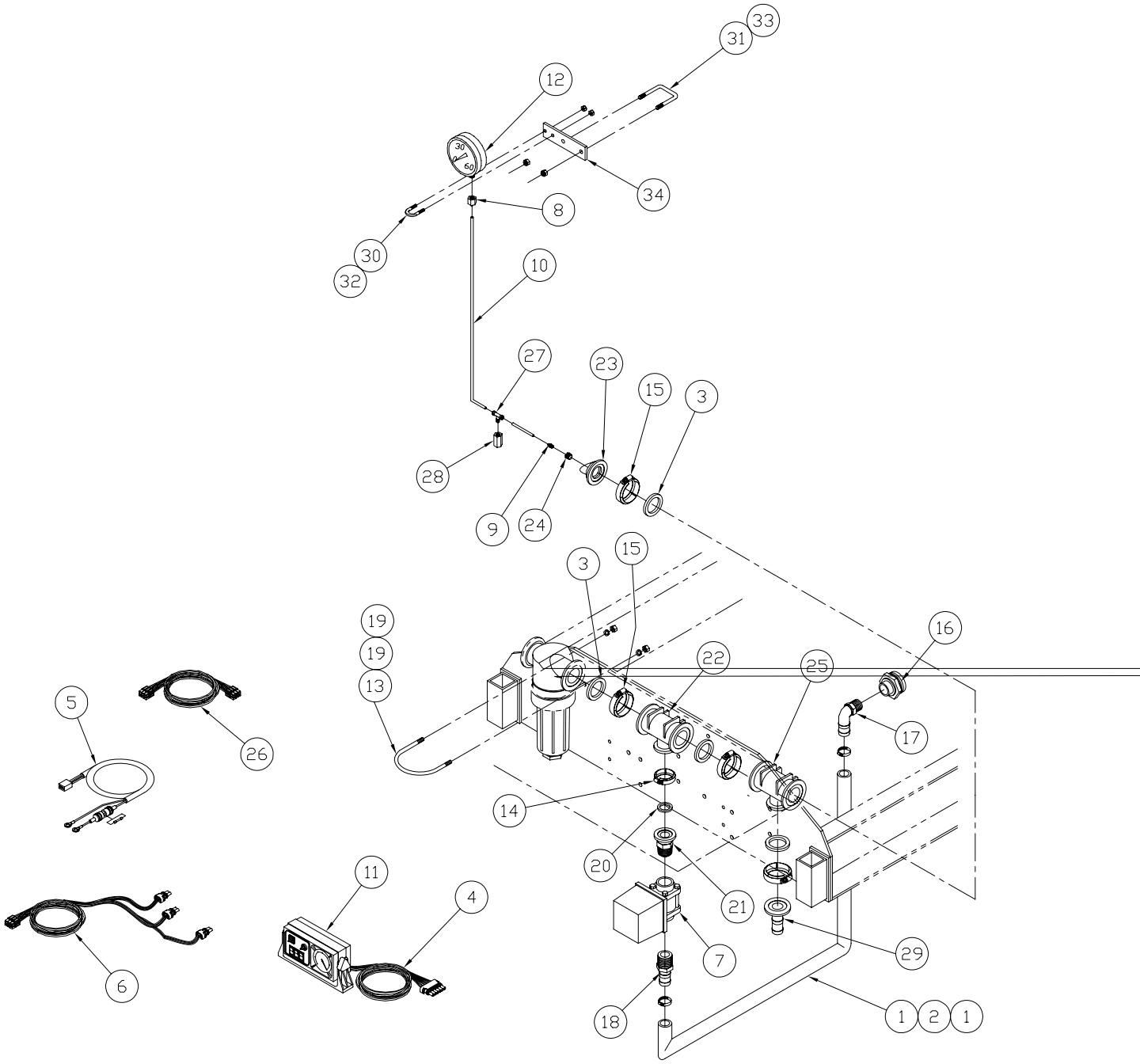
Description: **Banjo & Strainer Mount; Center**



Description: Banjo & Strainer Mount; Center

Item#	Part #	Description	Quantity
1	016023	Plate; Ball Valve & Strainer Mount	1
2	BH-031-450-5	Bolt; 5/16 x 4 1/2” Grade 5	2
3	CPC-075	Clamp; Cobra Poly Pipe	1
4	FC100	Coupling; 1” FPT	5
5	FW-031	Washer, Flat, 5/16	4
6	HB075	Hose Barb; 3/4MPT x 3/4 HB Poly	1
7	LN-031-NI	Locknut; 5/16” Nylon Insert	2
8	M100075MPT	Fitting; 1” Flange x 3/4” MPT	1
9	M100CPG	Flange; 1 x 1	1
10	M100CPG90	Fitting; 1” 90° Coupling	1
11	M100G	Gasket; for 1” Flanged Valve	5
12	2123683	Manifold 1-Valve Assembly, 1” Flange	1
13	MLST100-50	Strainer; T-Line Flanged	1
14	TEE075	Fitting; 3/4” Tee Poly	1
15	M100BRB90	Hose Barb; 1” Flange Elbow	1

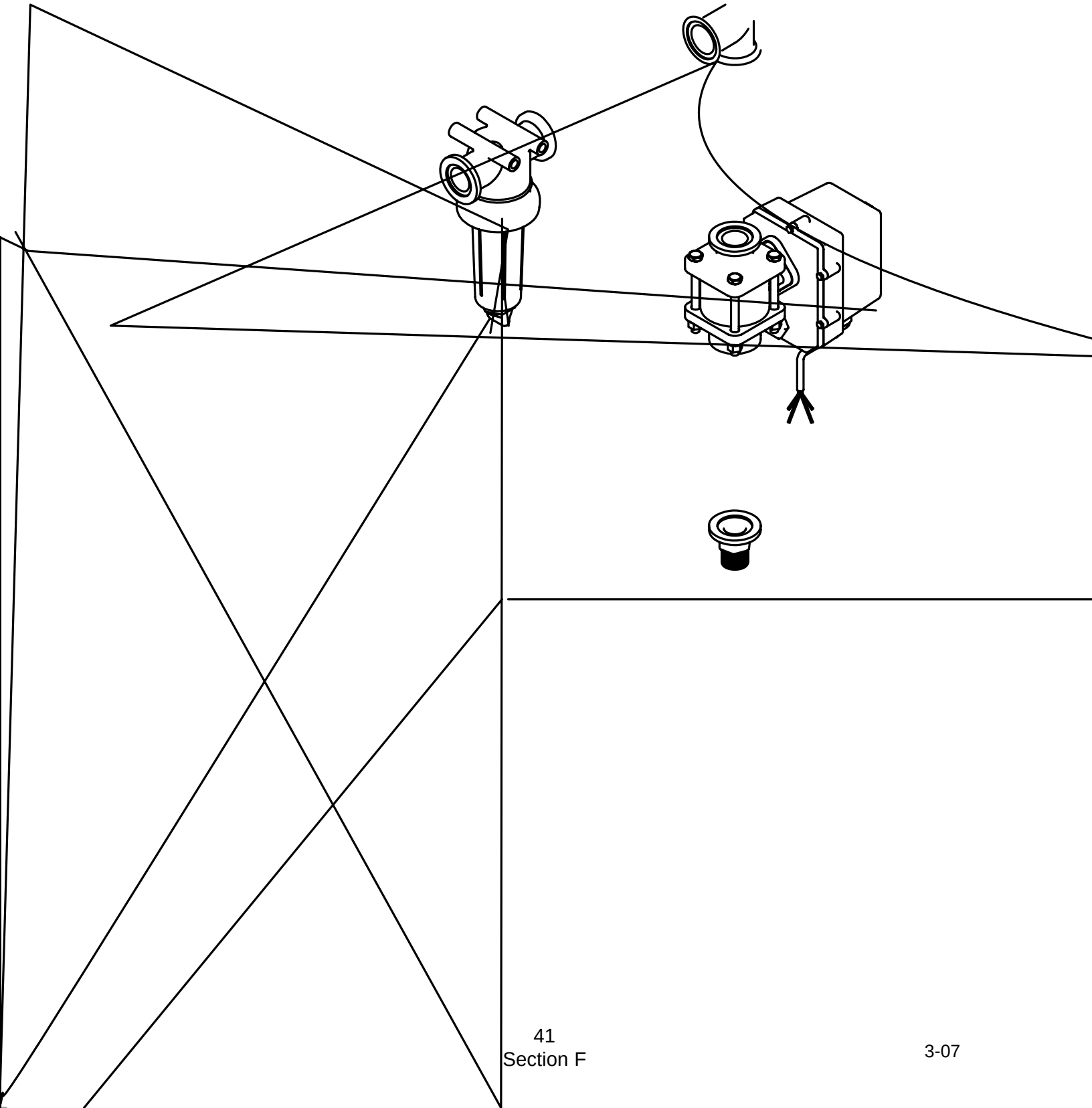
Description: **TeeJet 744 w/ TeeJet Valves w/Flanged Fittings**



Description: TeeJet 744 w/ TeeJet Valves w/Flanged Fittings

Item#	Part #	Description	Quantity
1	#16J	Clamp; 1” x 1/2” Stainless	3
2	011612	Hose; 1” 150# Black Rubber	
3	150G	Gasket; for 2” Flanged Valve	5
4	21720-15	Cable Assembly; 15’ Ext. 744 -35 Switch	1
5	37208-12	Cable; Power/For Controllers	1
6	37209-15	Cable; Power/For Controllers	1
7	38550-344AE2RL1	Valve; Regulating Valve ASB 1	1
8	4030-0016	Hose Barb; 1/4 FB3	1
9	4030-0017	Hose Barb; 1/8 B3	1
10	4030-0018	Tubing; 3/16 x .124ID Yellow	
11	744A-100D-3	Controller; 3-Sw. Controller	1
12	ASG1604-REDBALL	Gauge; 4” Logo, 160 PSI	1
13	BUR038-375-500	U-Bolt; 3/8” x 3 3/4” x 5” Round Zinc	1
14	FC100BJ	Clamp; 1”	1
15	FC200BJ	Clamp; 2”	4
16	NW6401	Bulkhead; 3/4”	1
17	HB-075-100-90	Hose Barb Ell; 3/4” MPT x 1 HB Elbow	1
18	HB-100	Hose Barb; 1” MPT x HB	1
19	LN-038-NI	Lock Nut; 3/8” Nylon Insert	2
20	M100G	Gasket; For 1” Flanged Valve	4
21	M100MPT	Manifold; 1” x 1” Male Thread	1
22	M200100TEE	Tee; 2” x 1” Tee	1
23	M200PLG025	Plug; Flange 2” w/1/4 Port	1
24	RB1418-SS	Reducer Bushing; 1/4” MPT x 1/8”	1
25	M200TEE	Tee; Flanged 2” Manifold Fitting	1
26	21478	Controller Power Cable	1
27	172PL-3-2	Auto Loc; 3/16 O.D. x 1/8 MPT	1
28	66PL-2-2	Auto Loc; 1/8 OD x 1/8 FPT	1
29	M200150BRB	Flange; 2” FLG x 11/2HB, Poly	1
30	BU025-100-175-2	Hose Barb; 2” x 1” Straight	1
31	BU031-200-250-2	U-Bolt; 5/16 x 2 x 2 1/2 - Gr. 2	1
32	LN-025-NI	Locknut; 1/4” Nylon Insert	2
33	LN-031-NI	Locknut; 5/16” Nylon Insert	2
34	003667	Plate, Gauge Mount	1

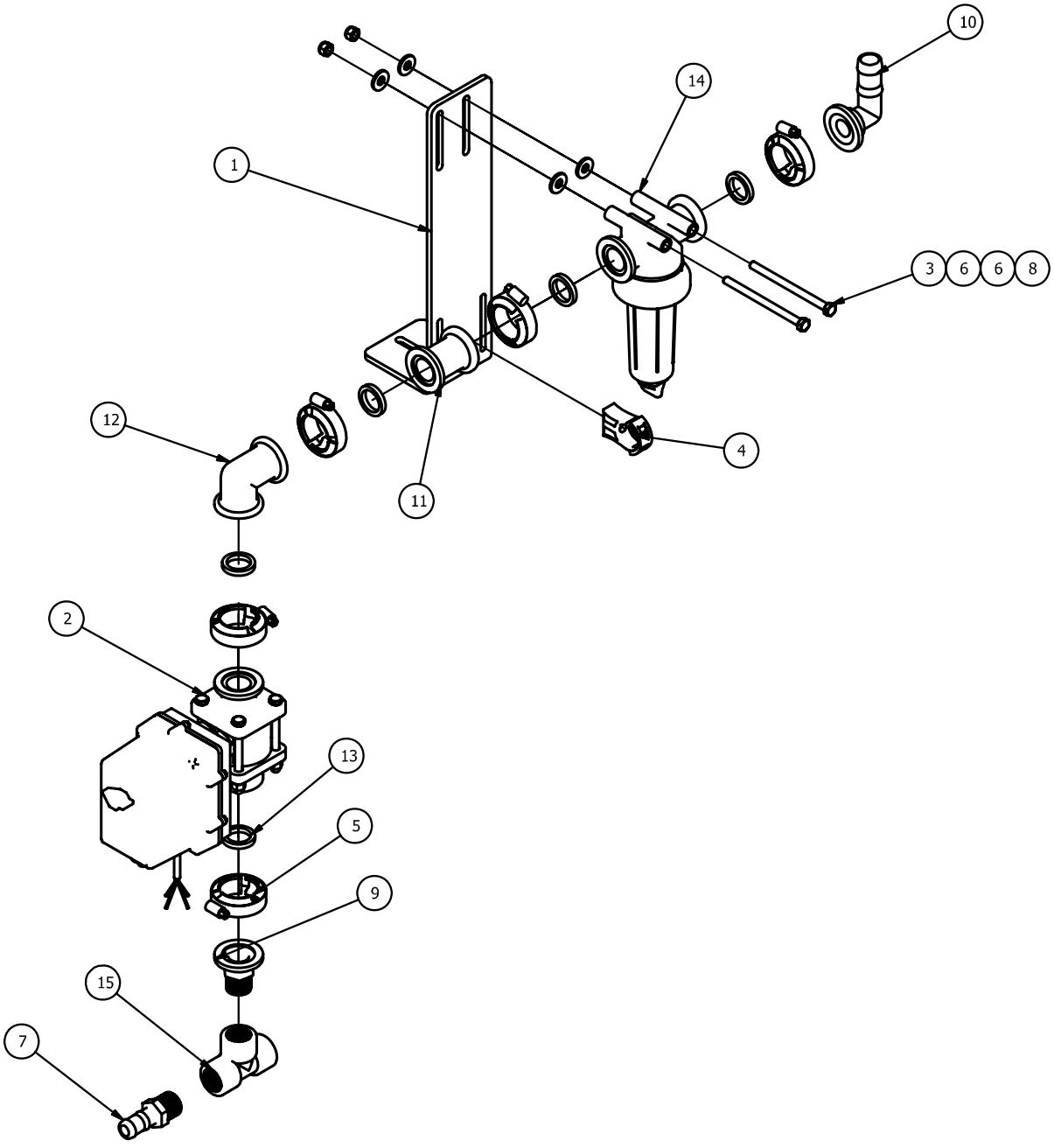
Description: **TeeJet & Strainer Mount; Outer**



Description: TeeJet & Strainer Mount; Outer

Item#	Part #	Description	Quantity
1	016023	Plate; Ball Valve & Strainer Mount	1
2	016790	Valve; 1” Elec. TeeJet w/Packard	1
3	BH-031-450-5	Bolt; 5/16 x 4 1/2” Grade 5	2
4	CPC-075	Clamp; Cobra Poly Pipe	1
5	FC100	Coupling; 1” FPT	4
6	FW-031	Washer, Flat, 5/16	4
7	LN-031-NI	Locknut; 5/16” Nylon Insert	2
8	M100075MPT	Fitting; 1” Flange x 3/4” MPT	1
9	M100BRB	Hose Barb; 1” x 1” Straight	1
10	M100CPG90	Fitting; 1” 90° Coupling	1
11	M100G	Gasket for 1” Flanged Valve	4
12	MLST100-50	Strainer; T-Line Flanged	1

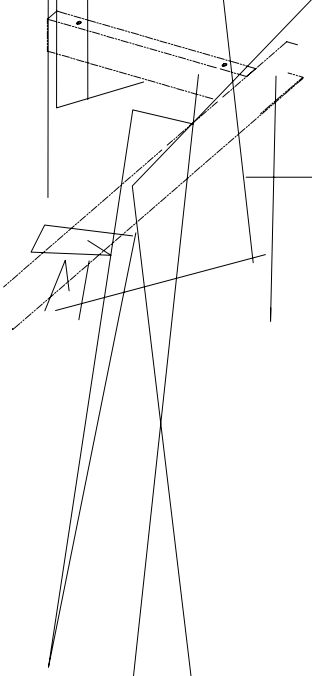
Description: **TeeJet & Strainer Mount; Center**



Description: TeeJet & Strainer Mount; Center

Item#	Part #	Description	Quantity
1	016023	Plate; Ball Valve & Strainer Mount	1
2	016790	Valve; 1” Elec. TeeJet w/Packard	1
3	BH-031-450-5	Bolt; 5/16 x 4 1/2” Grade 5	2
4	CPC-075	Clamp; Cobra Poly Pipe	1
5	FC100	Coupling; 1” FPT	5
6	FW-031	Washer, Flat, 5/16	4
7	HB075	Hose Barb; 3/4MPT x 3/4 HB Poly	1
8	LN-031-NI	Locknut; 5/16” Nylon Insert	2
9	M100075MPT	Fitting; 1” Flange x 3/4” MPT	1
10	M100BRB90	Hose Barb; 1” Flange Elbow	1
11	M100CPG	Flange; 1 x 1	1
12	M100CPG90	Fitting; 1” 90° Coupling	1
13	M100G	Gasket; for 1” Flanged Valve	5
14	MLST100-50	Strainer; T-Line Flanged	1
15	TEE075	Fitting; 3/4” Tee Poly	1

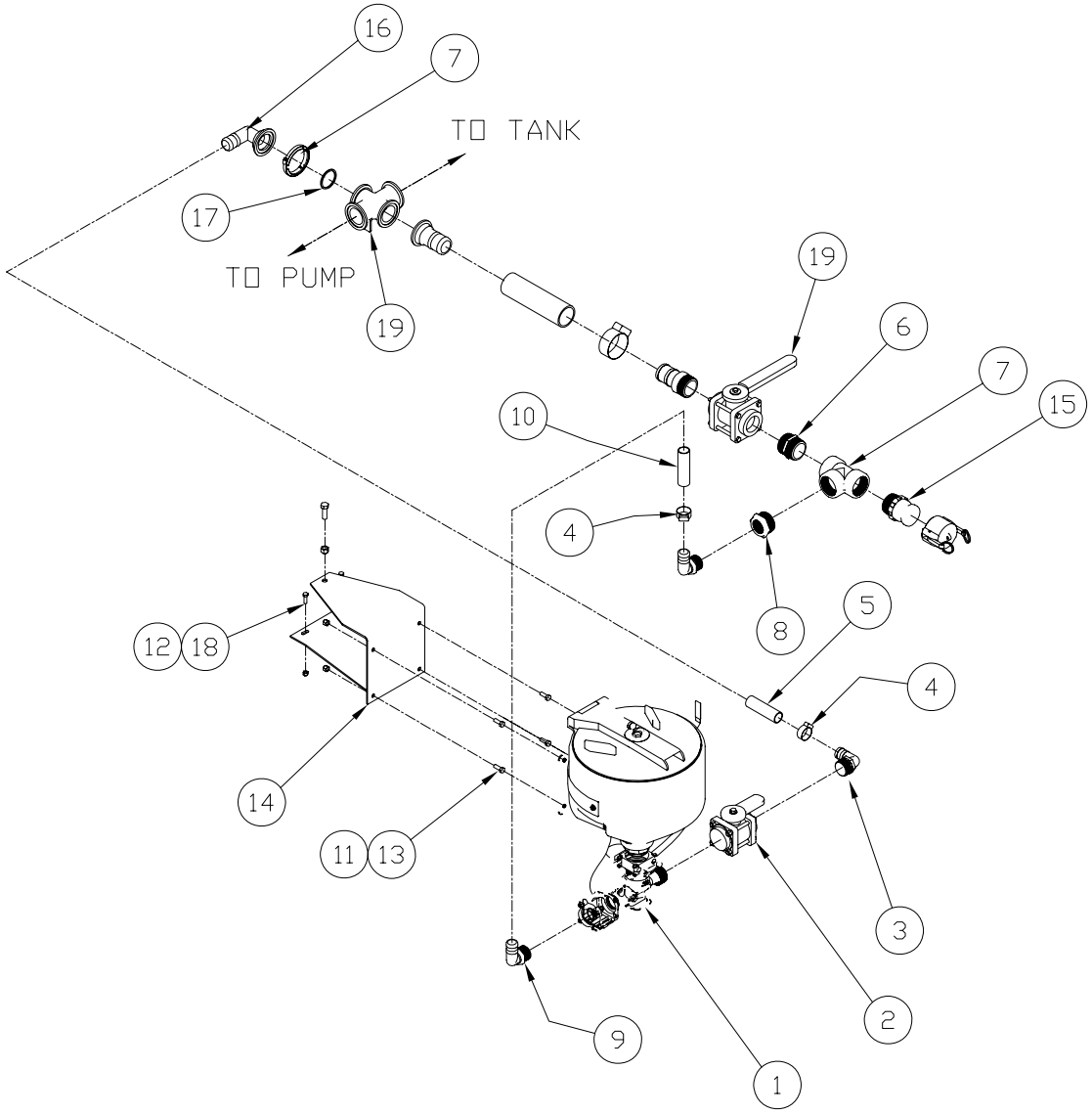
Description: **9 Gallon Tank Assembly**



Description: 9 Gallon Tank Assembly

Item#	Part #	Description	Quantity
1	016201	Weldment; Safety Tank Mount, 565	1
2	6000-30Y	Tank; 9 Gal. Rinse Tank, Yellow	1
3	0009-UY	Tank; 9 Gal. Tank, Molded (Yellow)	1
4	RW01	Rivet Washer, 3/8 OD x 3/16 ID	4
5	000016	Cover, 9 Gal. Tank Molded	1
6	0001-U	Lid, 9 Gal. Tank Molded	1
7	0710	Latch, 07-70-201-12 Living BK	1
8	1253	Spigot, Natural 3/4”	1
9	30200	Hinge, Butt H03-30200-171-ZINC	2
10	38-504-08-13	Rivet, Drive 1/8 x .234-.266	2
11	38-504-12-13	Rivet, Drive 1/8 x .359-.391	2
12	400	Rivet, 3/16 x AD64-AH Closed	4
13	600	Rivet, 3/16 x .440 LG Domehead	4
14	A3412	Hose Fitting; 3/4MPT x 1/2” HB	1
15	EL3412	Hose Fitting; 3/4MPT x 1/2” HB	1
16	H	Clamp, Speedy Fits 1/2” Hose	1
17	SIGHT-12	Hose, 1/2” ID x 1/8” Wall Sight	-
18	BH-031-075-2	Bolt; 5/16 x 3/4 GR 2	4
19	FW-031	Flatwasher; 5/16”	4
20	LW-031	Lockwasher; 5/16”	4
21	BH-038-5-5	Bolt, 3/8” x 5” GR 5	3
22	LN-038-NI	Locknut; 3/8” Nylon Insert	3

Description: Sprayer Eductor



Description: Sprayer Eductor

Item#	Part #	Description	Quantity
1	013487	Eductor, Hypro Clean Load	1
2	V-150	Valve, 1 1/2 Bolt, FNPT	1
3	HB-150-90	Hose Barb, 1 1/2 MNPT, 1 1/2 HB, EL	1
4	#28J	Clamp; 1 1/2 Hose	4
5	012412	Hose, 1 1/2” 150# EPDM	6
6	NIP200-SH	Nipple, 2” Short	1
7	FC200BJ	Clamp, 2” FLG	1
8	RB200-125	Reducer Bushing; Poly 2 x 1 1/4	1
9	HB-125-90	Hose Barb, 1 1/4 MPT x 1 1/4 HB	2
10	012012	Hose; 1 1/4 150# EPDM	3
11	BH-038-100-5	Bolt, Hex, 3/8 x 1 Gr. 5	4
12	BH-031-100-5	Bolt, Hex, 5/16 x 1 Gr. 5	2
13	LN-038-NI	Locknut, 3/8 Nylon Insert	4
14	013504	Weldment; Eductor Mount	1
15	200F	Coupling, 2” MPT, 2” ADPT	1
16	M200150BRB90	Hose Barb, 2” FLG, 1 1/2” HB, EL	2
17	150G	Gasket, 2” FLG	1
18	LN-031-NI	Locknut, 5/16 Nylon Insert	2
19	V-200	Valve, 2” Bolted	1
20	M200CR	Cross, 2” FLG	1

* Not Shown

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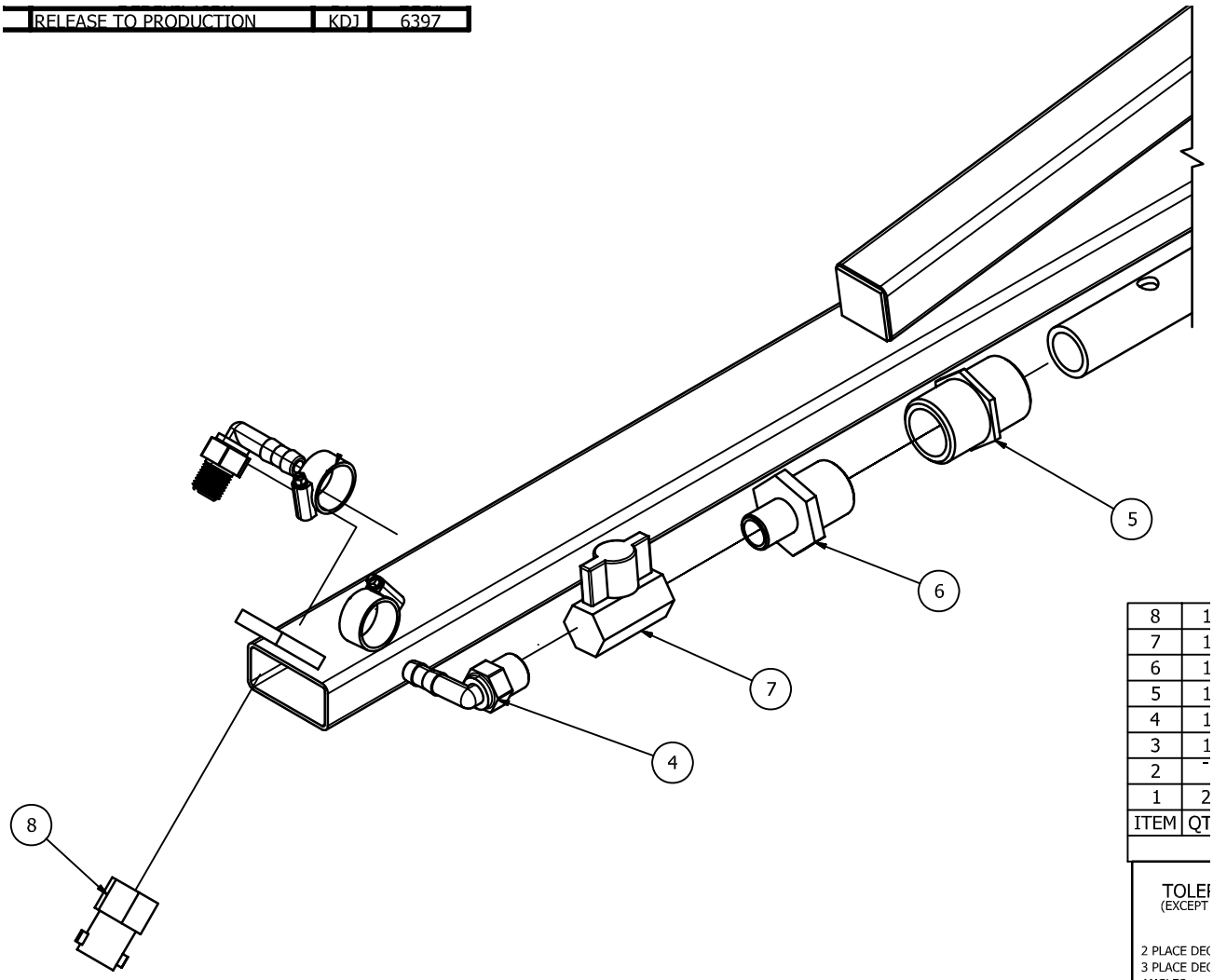

ITEM	QT
8	1
7	1
6	1
5	1
4	1
3	1
2	
1	2

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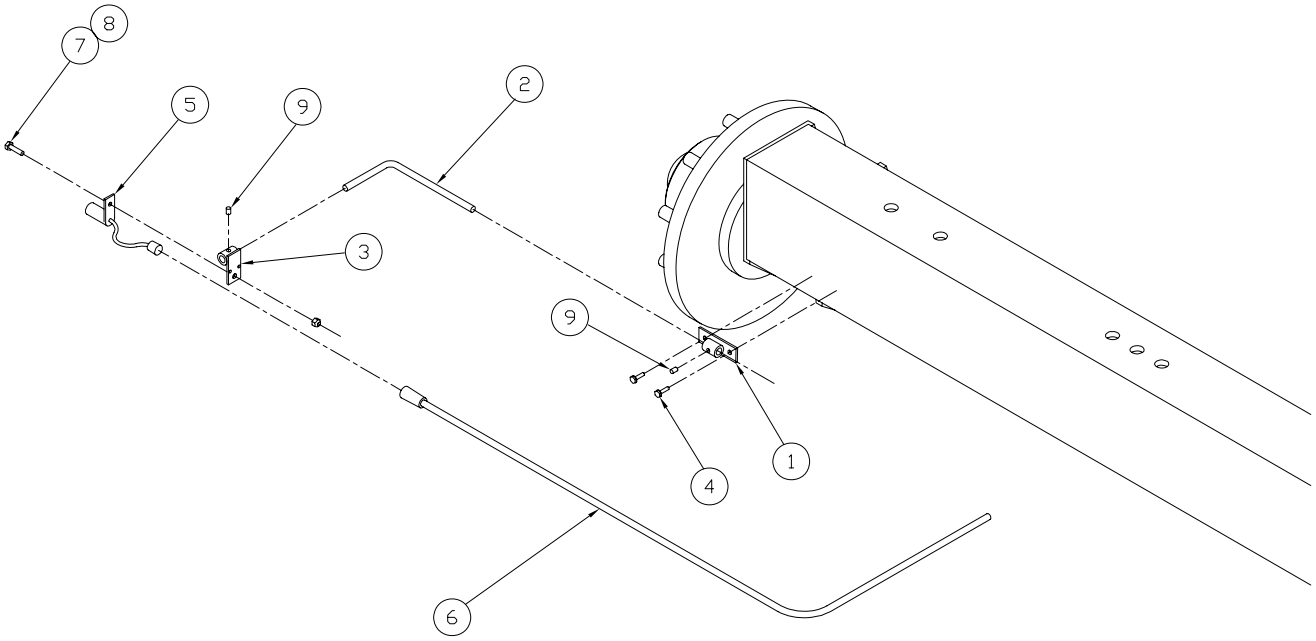
(EXCEPT

2 PLACE DEC
3 PLACE DEC
ANGLES

Description: Manual Fence Row Nozzle Assembly

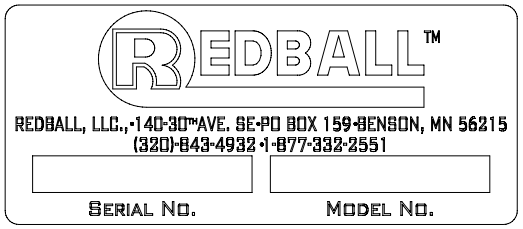
Item#	Part #	Description	Quantity
1	#12J	Clamp, 3/4” Hose Worm Screw	2
2	000612	Hose; 3/8” 150# EPDM(Not Shown)	-
3	3EL1438	Elbow; 1/4MPT x 3/8 ELHB	1
4	3EL38	Hose Fitting: 3/8 MPT x 3/8 HB	1
5	3FC34	Coupling; 3/4, FPT, Poly	1
6	3M3438	Nipple; 3/4 x 3/8, Reduc, Poly	1
7	90FFB38	Valve; 3/8 Female NPT, Brass	1
8	QJ1/4T-NYB	QJ-1/4T Quickjet Body	1

Description: Raven Proximity Sensor

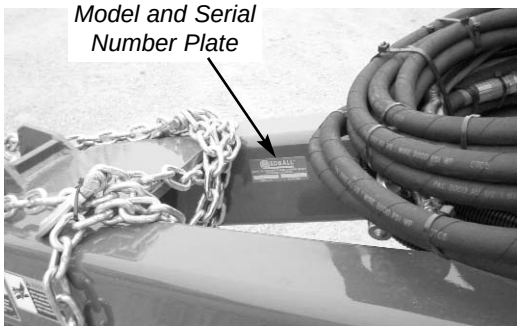


Item#	Part #	Description	Quantity
1	010439	Weldment; Axle Mount	1
2	010442	Rod; Adjustment	1
3	010443	Weldment; Sensor Mount	1
4	171-C	Screw; TEK 410HSS Cad Plated	2
5	063-0159-982	Sensor; Gear Tooth Speed	1
6	115-0159-018	Cable; Speed Sensor 24’ Ext. Cable	1
7	BH-025-075-2	Bolt; 1/4 x 3/4 Gr. 2	1
8	LN-025-NI	Locknut; 1/4” Nylon Insert	1
9	STS-025-038	Setscrew; 1/4 x 3/8 Allen Hd	2

Serial and Model Number Location



Model and Serial Number Plate



Hitch/Drawbar Tubes (Front of Sprayer)

The following page contains a space for you to record the information about your sprayer found on this plate. Please record this information here for future reference.

SERIAL NUMBER INFORMATION

Redball® Model Number: _____

Redball® Serial Number: _____

Component Serial Numbers:

Manufacturer	Part Number	Serial No.	Notes:

IMPORTANT The binder containing this manual is sub-component of the sprayer and should go with the sprayer in the event of a future sale. This information contained within this binder is specific to this specific sprayer and cannot easily be replaced.

NEW PRODUCT WARRANTY

Redball, LLC warrants each new Redball® product to be free under normal use and service from defects in workmanship and materials for a period of one (1) year from the date of first use. This warranty shall be fulfilled by the repairing or replacing free of charge any part that shows evidence of defect or improper workmanship, provided the part is returned to Redball, LLC within thirty (30) days of the date that such defect or improper workmanship is discovered, or should have been discovered. Parts shall be returned through the selling representative and the buyer must pre-pay transportation charges. No other express warranty is given and no confirmation, by words or action, shall constitute a warranty.

Redball, LLC limits its warranty to only those products manufactured by Redball, LLC and does not warrant any part or component not manufactured by Redball, LLC, such parts or components are subject to their manufacturer's warranties, if any. This warranty shall not apply to parts, which are subjected to accident, alteration, or negligent repair or use.

Redball, LLC will not be responsible for repairs or replacements, which are necessitated, in whole or part, by the use of parts not manufactured by or obtainable from Redball, LLC. Customer acknowledges that he/she is not relying on Redball, LLC's skill or judgment to select or furnish goods for any particular purpose and that there are no warranties which are not contained in this agreement.

This warranty shall not be interpreted to render Redball liable for injury or damages of any kind or nature to person or property. This warranty does not extend to loss of crops, or any expense or loss incurred for labor, substitute machinery, rental or for any other reason.

Labor to perform warranty repairs to Redball, LLC manufactured products will be paid only at the discretion of Redball, LLC. If labor is payable, the time to perform a warranty repair and the amount paid will be determined per the job by Redball, LLC. Redball, LLC issues credit to the dealer or distributor's account for warranty labor. Invoices sent to Redball, LLC for unauthorized repairs will not be approved or paid by Redball, LLC.

If the customer decides to purchase a replacement component before the warranty disposition is known, Redball LLC will bill the customer for components shipped to replace suspected warranty components. If the manufacturer's warranty covers the suspect components, Redball LLC will credit the replacement invoice. If the component is not deemed a warranty issue, the replacement invoice is subject to the terms of the invoice.

This warranty is subject to any existing conditions of supply, which may directly affect our ability to obtain materials or manufacture replacement parts.

In no event shall Redball, LLC, contract or warranty liability exceed the purchase price of the product.

Redball, LLC shall not be liable for damages, including special, incidental or consequential damages arising from or in connection with the performance of the equipment or its use by customer, and Redball, LLC shall not be liable for any special, incidental or consequential damages arising from or in connection with Redball, LLC's failure to perform its obligations hereunder. Redball, LLC entire liability and the customer's exclusive remedy shall be repair or replacement of parts covered under this warranty. This warranty is in lieu of all other warranties, expressed or implied.

The Employees of

would like to thank you for purchasing this Redball® 565 Trailer Sprayer. We are proud of our quality and believe this product will exceed your expectations!

For More Information Contact:

Redball, LLC
140 30th Avenue SE
PO Box 159
Benson, MN 56215
1-877-332-2551 (Toll Free)
FAX: 320-843-2503

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To Our Valued Redball Customer:

I would like to take this opportunity to personally thank you for your recent Redball® purchase. In an effort to serve you better, please take a moment to warranty register your new Redball® product. Warranty registration provides Redball, LLC the information necessary to contact and inform you through Redball® Customer Services. Redball® Customer Services will inform you on topics regarding:

- Safety
- Product Notifications
- Technical Notices

By warranty registering your new Redball® product, you are assured that Redball, LLC can contact you.

Locate the serial number plate on the product or serial number information included with your product. Use this information to fill in the warranty registration card below and return it to Redball, LLC.

The Warranty Section of each operators manual has a page indicating where the model and serial number plate's location is on the equipment along with a place to record this information. This page also has space for recording other component model and serial numbers, the pump or controller for example. This is for your convenience and should be filled out for your future reference.

In the event that you need to contact your dealer regarding Redball® product service, please have the serial number information ready to assure prompt handling.

The operators manual is a sub-component of the equipment and should remain with it in the event of a future sale.

Thank you for choosing Redball® products.

Sincerely,

Steve Claussen
President
Redball, LLC

Perforated Lines

Redball® Product Warranty Registration

To warranty register your Redball product, simply complete and return this card within 30 days of product receipt to Redball, LLC at the address printed on the front side of this card. All information requested below must be supplied before warranty can be granted on the Redball product you have purchased.

Owner's Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____

Name of Dealer Purchased From: _____

Address: _____

City: _____ State: _____ Zip: _____

List below information from serial no. plate on product.

_____ Serial No.

_____ Model No.

Date Product was received: _____

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Place
Stamp
Here

Redball, LLC
140 30th Ave SE
PO Box 159
Benson, MN 56215

WARRANTY
INFORMATION