



PM-EVT-1

March 5, 2015  
ECR: 101408R

# BALZER



## ELIMINATOR VACUUM TANKS (TANDEM) PARTS MANUAL

Serial Number:

---

Date of Purchase:

---

Purchased From:

---

Dealer's Address:

---

Dealer's Telephone:

---

# INDEX

<b>Company Statements . . . . .</b>	<b>1</b>	<b>Braking System . . . . .</b>	<b>39</b>
Accuracy Statement . . . . .	1	Disc Brake Assembly . . . . .	40
Instructions for Ordering Parts . . . . .	1	Hydraulic Brake Return . . . . .	41
Instructions for Receiving Replacement Parts . . . . .	1	<b>Electrical . . . . .</b>	<b>43</b>
Contact Information . . . . .	1	Light Location . . . . .	44
<b>Safety Statement . . . . .</b>	<b>3</b>	Lighting Assemblies . . . . .	45
Mandatory Shut Down Procedure . . . . .	4	Wiring Diagram . . . . .	47
Additional Safety Reminders . . . . .	5	<b>Vacuum Tank . . . . .</b>	<b>49</b>
Personal Safety . . . . .	5	Float . . . . .	50
Towing Safety . . . . .	5	Top Caps and Seals . . . . .	51
Operation Safety . . . . .	6	Primary and Secondary Covers . . . . .	52
Boom Safety . . . . .	6	Hydraulic Hatch . . . . .	53
Hydraulic Safety . . . . .	7	Primary & Secondary Shut-Offs . . . . .	54
Safety Signs and Decals . . . . .	7	Discharge Tube . . . . .	55
<b>Technical Data . . . . .</b>	<b>9</b>	Recirculation Connection . . . . .	56
Specifications . . . . .	10	<b>Boom System . . . . .</b>	<b>57</b>
Vacuum Pump Specifications . . . . .	12	Boom Mount . . . . .	58
Main Components . . . . .	13	Boom Arm . . . . .	59
<b>Frame . . . . .</b>	<b>15</b>	Boom Suction Tube . . . . .	60
Tandem Frame . . . . .	16	Boom Suction Tip . . . . .	61
Tandem Frame Assembly . . . . .	17	<b>Vacuum System . . . . .</b>	<b>63</b>
Tongue Assembly . . . . .	18	Vacuum Pump . . . . .	64
Bull Pull Hitch Inserts . . . . .	19	Vacuum Line . . . . .	65
<b>Suspension . . . . .</b>	<b>21</b>	<b>Slurry Pump . . . . .</b>	<b>67</b>
Tandem Suspension Hydraulics . . . . .	22	Pump System . . . . .	68
Tandem Suspension Hydraulic Ports . . . . .	23	Pump with Hydraulic Drive . . . . .	69
Tandem Suspension Hydraulic Fittings . . . . .	24	Pump Drain Plug . . . . .	70
Tandem Suspension Hydraulic Connections . . . . .	25	Pump . . . . .	71
<b>Steering . . . . .</b>	<b>27</b>	Discharge System . . . . .	73
Straight Axle Assembly . . . . .	28	Discharge System with Flow Control . . . . .	74
Steering Axle Assembly . . . . .	29	Rite Rate Flow Control . . . . .	75
Steering Hydraulics . . . . .	32	<b>Decals . . . . .</b>	<b>77</b>
<b>Wheels . . . . .</b>	<b>35</b>	Placement . . . . .	78
Spindle and Wheel Hub Assembly . . . . .	36	Listing . . . . .	79
Tires . . . . .	38		



## Accuracy

Balzer Incorporated is dedicated to providing the most reliable and durable agricultural related products available. We have made every attempt to provide the most accurate and readily understandable information on our equipment. Due to our continuing efforts to produce the best products available, updates and improvements to our equipment may precede updates to this and other manuals. Therefore, the contents of this manual are based on the information in effect at the time of publication and are subject to change without notice.

It is the policy of Balzer Incorporated to constantly improve its products whenever it is practical to do so. Therefore, Balzer Incorporated reserves the right to redesign or change its equipment or component parts thereof without incurring the obligation to install or furnish such changes on equipment manufactured prior to date of redesign or change.

## Instructions for Ordering Parts

To enable our customer service department to provide you with the correct replacement parts promptly, follow the ordering instructions as listed below:

1. Identify your equipment by serial number whenever possible
2. Use the illustrations and parts lists included in this manual to correctly identify the parts needed
3. Use Part Numbers and Descriptions from the illustrations and parts lists included in this manual
4. Include the appropriate quantity of each replacement part needed
5. Owners must order all replacement parts through your local dealer
6. All parts being replaced under warranty are to have a Return Merchandise Authorization (RMA)
7. All parts being replaced under warranty are to be returned to Balzer Incorporated within 15 days of receiving the replacement parts
8. Dealers must indicate their company name, shipping point, mailing address (if different than shipping point), and desired shipping method (freight, express, parcel, or other handling)

## Instructions for Receiving Replacement Parts

Instructions for dealers and customers (when applicable):

1. Dealers must inspect all parts immediately when received
2. Shortages or damages should be noted by the carrier's agent at the time parts are accepted by the dealer
3. Shipper's responsibility ceases upon delivery of shipment to the customer in good order
4. Claims for damage, loss, or malfunction are to be reported within 30 days for warranty consideration
5. All parts being returned must have a Return Merchandise Authorization (RMA), a copy of the original packing list, and shipping prepaid

## Contact Information

Telephone Numbers	Toll-Free:	(800) 795-8551 (800) 727-3133
	Outside North America:	(507) 427-3133
	Fax:	(507) 427-3640
Replacement Parts	Ken Classen	Ext. 104
	Doug Wellman	Ext. 108
Service	Dave Bennett	Ext. 134
Mailing/Shipping	Balzer Inc. County Road 27 East PO Box 458 Mountain Lake, MN 56159	
Website	<a href="http://www.balzerinc.com">www.balzerinc.com</a>	



**BALZER**

# Safety

The following Safety Alert Symbols mean **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!** They stress an attitude of “**HEADS UP FOR SAFETY**” and can be found throughout this manual and on the equipment itself.

**BEFORE YOU ATTEMPT TO OPERATE, MAINTAIN, OR SERVICE THIS EQUIPMENT, READ AND STUDY THE FOLLOWING SAFETY INFORMATION. IN ADDITION, MAKE SURE THAT EVERY INDIVIDUAL WHO OPERATES, WORKS WITH, OR OTHERWISE USES THIS EQUIPMENT IS FAMILIAR WITH THESE SAFETY PRECAUTIONS.**

Our company **ALWAYS** takes operator safety into consideration when designing its machinery, guards, and exposed moving parts for operator protection. However, some areas can **NOT** be guarded or shielded in order to assure proper operation. In addition to this manual, decals on the machine warn of further danger and should be read and observed closely.

**READ** and **FOLLOW** the instructions on all decals.

**REMEMBER** it is the owner’s responsibility for communicating all information on the safe use and proper maintenance of this machine! This includes providing understandable interpretation of these instructions for operators who are not fluent in reading or understanding English.

	<b>DANGER</b>	<b>DANGER</b> indicates an imminently hazardous situation which if not avoided will result in serious injury or death or irreparable damage to the machine.
---	---------------	---

	<b>WARNING</b>	<b>WARNING</b> indicates a potentially hazardous situation which if not avoided may result in serious injury or death or moderate to severe damage to the machine.
--	----------------	--

	<b>CAUTION</b>	<b>CAUTION</b> indicates a potentially hazardous situation which if not avoided may result in minor to moderate injury or minor to moderate damage to the machine.
--	----------------	--

## Mandatory Safety Shutdown Procedure

**BEFORE** cleaning, adjusting, lubricating, or servicing this equipment:

1. Remove the ignition key from the power unit engine.
2. Make sure ALL movement throughout this equipment has ceased! ONLY when you have taken these precautions can you be sure it is safe to proceed. Failure to follow the above procedure may lead to serious injury or death.
3. Properly attach the jack to this equipment and raise up to transfer weight to the jack.
4. Keep the hitch pin attached to help prevent this equipment from moving.
5. Disconnect the PTO shaft from the power unit.



## Additional Safety Reminders

**USER/OPERATOR SAFETY PRACTICES** are included in this manual and are intended to promote SAFE OPERATION of this equipment.

These guidelines do not preclude the use of good judgment, care, and common sense as may be indicated by the particular job site work conditions.

It is essential that all operators be physically and mentally free of any mind altering drugs and chemicals and thoroughly trained in the safe operation of this equipment. Such training should be presented completely to all new operators and **NOT** condensed for those claiming previous experience.

**FOR ILLUSTRATION PURPOSES ONLY** some photographs and images in this manual may show doors, guards, and shields open or removed. **BE SURE** all doors, guards, and shields are in their proper operating positions **BEFORE** operating this equipment. **NEVER** operate this equipment with any guards or shields damaged or not in place. **REPLACE** any damaged or missing guards and shields.

### **KEEP HANDS AND FEET AWAY FROM ALL MOVING PARTS!**

The operator **MUST** know the capabilities and work applications for this equipment and operate it at speeds slow enough to ensure complete control at all times. When working on uneven ground or near the edge of roadbeds there is no substitute for good judgment and only operators with sufficient experience should attempt such work.

**NEVER** assume everyone is as safety conscious as you are.

## Personal Safety

**NEVER** allow minors and/or any unqualified personnel to operate or be near this equipment unless properly supervised.

**NEVER** allow anyone to ride on this equipment at any time.

**NEVER** leave this equipment running unattended.

**NEVER** wear loose or torn clothing while working around moving parts.

**NEVER** step on the PTO drive shaft at any time.

**ALWAYS** wear appropriate personal safety equipment and gear as called for by the job or working conditions.

**ALWAYS** be aware of pinch point areas on this equipment.

**ALWAYS** keep hands, feet, hair, and clothing away from moving parts.

**ALWAYS** stop and disengage the PTO and shut off the tractor before doing any adjusting or servicing to this equipment.

## Towing Safety

### **THE MAXIMUM SPEED FOR TOWING THIS EQUIPMENT IS 20 MPH.**

Observe the recommended maximum road speed limit, local speed limit, or maximum recommended towing speed whichever is the lesser speed.

### **ALWAYS MOVE THIS EQUIPMENT WITH A FARM TRACTOR ONLY.**

Always engage power steering (on equipment with steering capabilities) before turning with a load.

**DO NOT DISENGAGE** power steering (on equipment with steering capabilities) before the turning process is completed.

Tractor must be heavy and powerful enough and have adequate braking power for the towed load.

**STOPPING DISTANCE** increases with speed and weight of towed loads and on slopes. Towed loads, with or without brakes, which are too heavy for the tractor or are towed too fast can cause loss of control. Consider the total weight of all equipment and the load.

Use additional caution when towing loads under adverse surface conditions (ice, mud, loose gravel, etc.), turning, or slopes.

## Operation Safety

Before each tow check the electrical connection, tail lights, brake lights, and turn signals. Damaged lights or improper electrical connection between the tractor and this equipment will result in inoperable lights and/or inoperable electric brakes.

Do not operate on public roads after dark without warning lights. Be alert and avoid loose, soft, or icy surface conditions which could cause tipping or loss of control.

Be sure the rear of this equipment has a visible and clean "Slow Moving Vehicle" emblem properly displayed. If towing at speeds less than 20 MPH on any public roadway at night, proper warning and running lights are necessary as required by state law! **MAXIMUM TOWING SPEED IS 20 MPH.**

**DO NOT** pull this equipment without having safety chains securing this equipment to the tractor. Refer to local transportation laws for regulation on safety chain use.

The tractor must be of sufficient size to maintain vehicle stability when this equipment is fully loaded. Never use a tractor that is not recommended for this equipment's application.

ALWAYS use a hitch pin which has a safety clip pin!

If this equipment includes a braking system, check oil level and braking capacity with a full load before operating or moving this equipment.

Check the wheel lug bolts and lug nuts daily and tighten as needed.

Replace any parts showing signs of excessive wear, cracking, or likelihood of failure with original equipment service parts.

Be familiar with all valves, doors, gates, and hydraulic controls.

**BEFORE USE** make sure this equipment does **NOT** have any foreign objects or materials which can cause equipment damage or personal injury.

**NEVER ENTER THIS EQUIPMENT UNLESS ABSOLUTELY NECESSARY!** If entry is necessary, take proper safety precautions to include but not limited to:

- Additional person on site and on the outside near the point of entry
- Safety harness and ropes where appropriate or required by law
- Proper life support system where appropriate or required by law
- Mechanical and electrical power disconnected
- Contacting your Balzer dealer for more information before entering

Check that the PTO slides freely, is not damaged, and is properly secured to the tractor and this equipment. Make sure there is approximately 1/3 overlap of engagement.

When possible, travel straight up or down a slope. Avoid traveling along side of hills, ditches, or other sloped surfaces. Slow down prior to going down any steep grade. Never take tractor out of gear when going up or down a hill.

Always check the job site for hazardous terrain, obstructions, or bystanders.

Do not exceed the maximum weight carrying capacity of the equipment or the tractor manufacturer's maximum towing capacity, whichever is the lesser weight. If you have any questions, contact your Balzer dealer.

When agitating a pit, always make sure there is adequate ventilation in any confined area.

Do not stand in front, behind, or along side this equipment when it is in operation or in motion.

When parking this equipment, securely block the wheels before unhitching from the tractor.

## Boom Safety

The boom on this unit can extend upward and outward away from the unit. Before operating boom, check surrounding area, including above the unit, for any electrical power sources or lines. Electrocutation can result if unit comes into contact with electrical power sources.



# DANGER

**ELECTROCUTION can result if unit comes into contact with electrical power sources or lines. Check overhead and surrounding areas to make sure unit is clear of any possible electrical source contact.**

## Boom Safety (Continued)

Before moving this unit, make sure boom is properly resting in the boom saddle. Moving this unit with the boom not resting in the boom saddle can result in damage to the unit, other equipment, or buildings. It could also create an unbalanced load which could lead to the unit rolling onto its side.

## Hydraulic System Safety

**DO NOT** smoke when working on hydraulic systems.

**NEVER** use your hand to search for hydraulic fluid leaks. Escaping fluid under pressure can be invisible and can penetrate the skin causing serious injury and other health hazards. Escaping fluid can also be extremely hot causing severe burns.

Use a scrap piece of cardboard to check for leaks.

**IF ANY FLUID IS INJECTED INTO YOUR SKIN, SEEK MEDICAL ATTENTION IMMEDIATELY!** Notify medical staff that there is an injection injury with hydraulic fluid. Injected fluid must be surgically removed by a doctor familiar with this type of injury or gangrene may result.

**DO NOT** attempt to loosen or disconnect any lines, hoses, or fittings without first relieving hydraulic circuit pressure. Be careful not to touch any hydraulic components recently in operation because they can be extremely hot.

**ALWAYS** replace hydraulic components with manufacturer recommended replacement parts. Improperly rated components may result in system failure and/or injuries.

Contact your local Balzer dealer to order replacement parts.

## Safety Signs and Decals

Safety signs or decals provide very important information and instructions designed to alert you to dangers and hazards which can be present during operation of this equipment. These safety signs and decals **MUST** be read, understood, and followed to be effective.

### Replacement of Safety Signs and Decals

Safety signs and decals must be kept clean and readable. If they become unreadable for any reason, they must be replaced with an identical replacement sign or decal. Safety signs and decals must also be replaced if damaged when repairing this equipment or if not included with the replacement part.

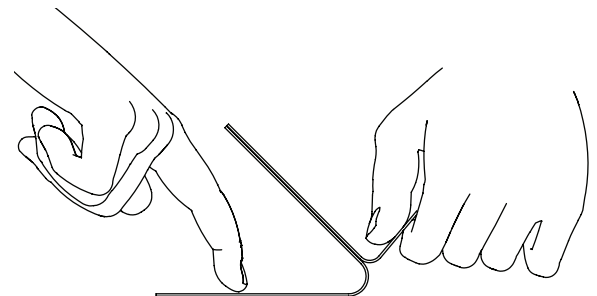
### Application of Safety Decals

Surface preparation is very important for the safety decals to properly adhere. Grease, oil, and dirt must be removed and the surface must be smooth and dry. After wiping the surface clean, use an ammonia-free window cleaner to provide the best surface for decal adherence.

Most decals have a split backing which is meant to be removed from the split outward. To apply decals, follow these steps:

1. Position the decal in the proper location and hold firmly over the largest portion of the backing.
2. Use one hand to hold the decal in position. With the other hand, carefully roll the loose end over and peel the backing outward. When the backing is removed as shown in Figure 1 and with even and gradual pulling, the decal will roll onto the surface smooth and wrinkle free,
3. With the smallest portion of the decal attached, the repeat Step 2 for the other half of the decal.

When the decal has been attached in place, use a cloth or soft paper towel to burnish the decal onto the cleaned surface. Work gently from the middle outwards to avoid creating any wrinkles and to remove any air bubbles.

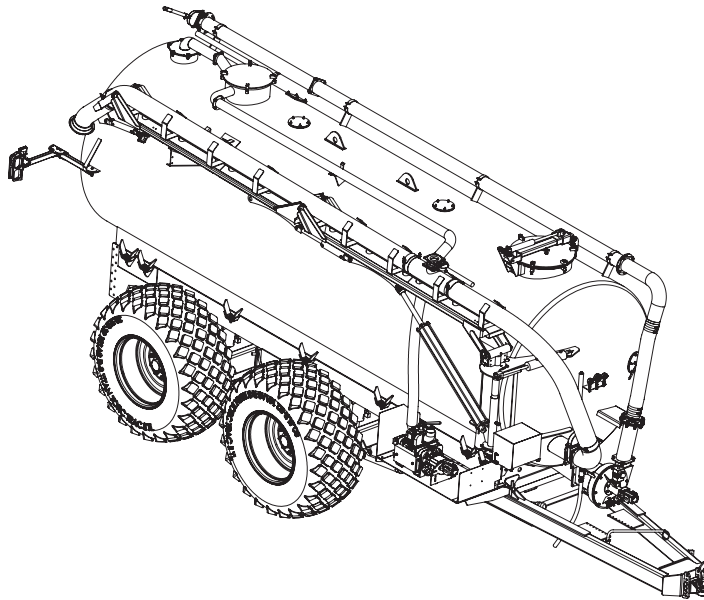




The logo for BALZER, featuring the word in a bold, italicized, sans-serif font with a white outline and a grey drop shadow. The logo is positioned on a green diagonal band that runs from the top left towards the bottom right.

**BALZER**

# Technical Data

**Dimensions**

See "Dimensions" on page 13

**Tire Pressure**

28L X 26 R3	26 PSI (180 kPa)
28LR26 R3	54 PSI (372 kPa)
30.5 X 32 R1	33 PSI (228 kPa)
30.5 X 32 R3	33 PSI (228 kPa)
30.5LR32 R1	52 PSI (359 kPa)
30.5LR32 R3	52 PSI (359 kPa)
850/50 30.5	37 PSI (256 kPa)
900/60 R1	35 PSI (242 kPa)

Lug Nuts                      Torque to 450 FT/LBS

Brake Type                      Disc

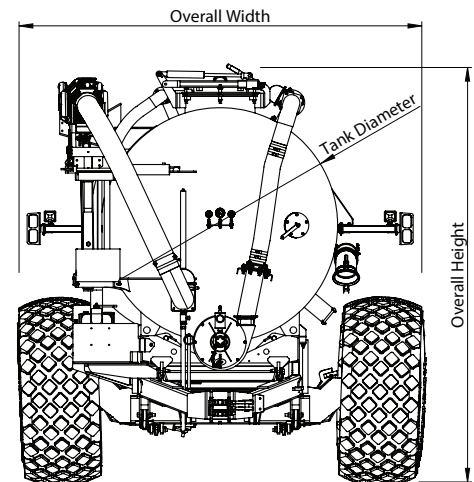
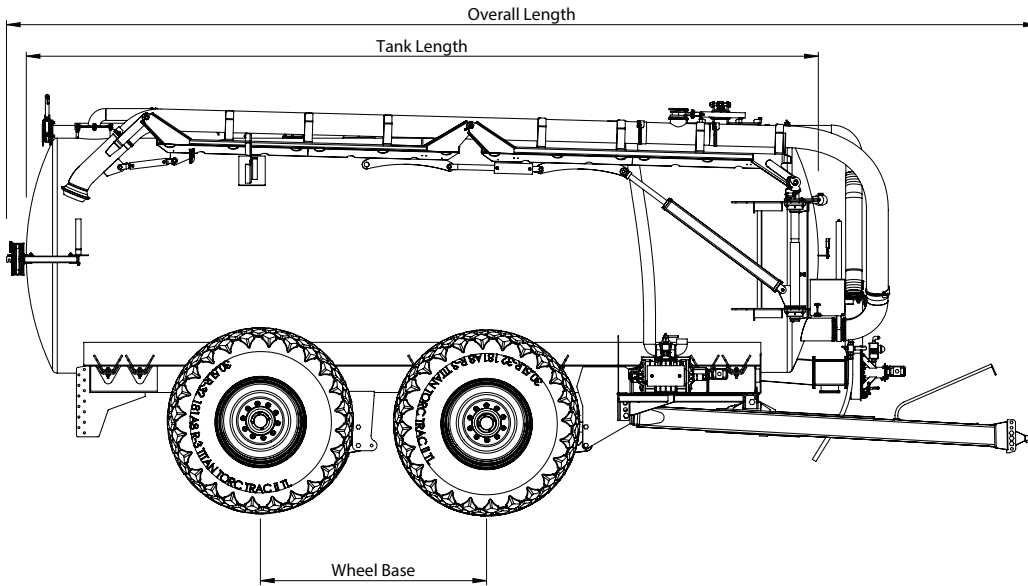
Hydraulic Operating Pressure    Up to 3000 PSI  
(20.68 MPa)

Electrical System                      12 VDC

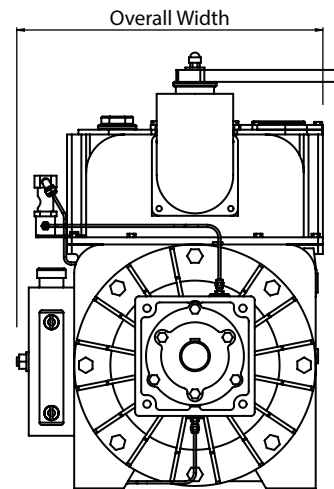
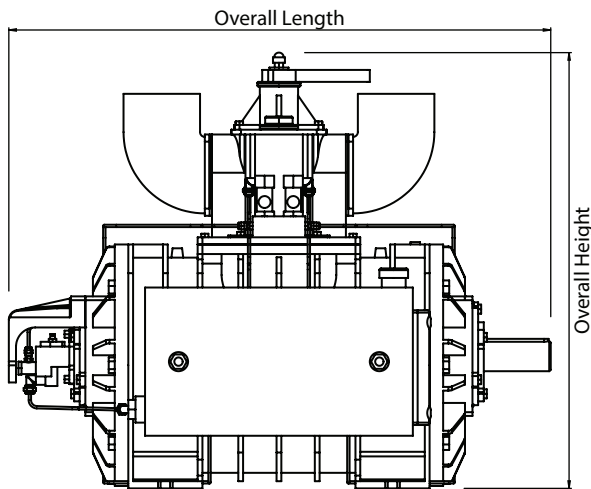
Electrical Connection                7-Way Receptacle

Maximum Tow Speed                      20 MPH  
(32 KPH)

PTO Speed                                1000 RPM



Eliminator Vacuum Tank				
Specification	6800	6500N	7650	7350N
Overall Length	390 1/2" (991.9 cm)	390 1/2" (991.9 cm)	390 1/2" (991.9 cm)	390 1/2" (991.9 cm)
Overall Width	152 1/2" (387.4 cm)	132 1/2" (336.5 cm)	152 1/2" (387.4 cm)	132 1/2" (336.5 cm)
Overall Height	152" (386 cm)	152" (386 cm)	157" (398.8 cm)	157" (398.8 cm)
Tank Length	300" (762 cm)	300" (762 cm)	300" (762 cm)	300" (762 cm)
Tank Diameter	84" (213.4 cm)	84" (213.4 cm)	89" (226.1 cm)	89" (226.1 cm)
Wheel Base	86" (218.5 cm)	86" (218.5 cm)	86" (218.5 cm)	86" (218.5 cm)
Clearance	19" (48.25 cm)	19" (48.25 cm)	19" (48.25 cm)	19" (48.25 cm)
Capacity	6800 Gallons (25,740 Liters)	6500 Gallons (24,605 Liters)	7650 Gallons (28,960 Liters)	7350 Gallons (27,825 Liters)
Empty Weight	~23,850 lbs (~10,820 kgs)	~23,850 lbs (~10,820 kgs)	~24,000 lbs (10,885 kgs)	~24,000 lbs (10,885 kgs)



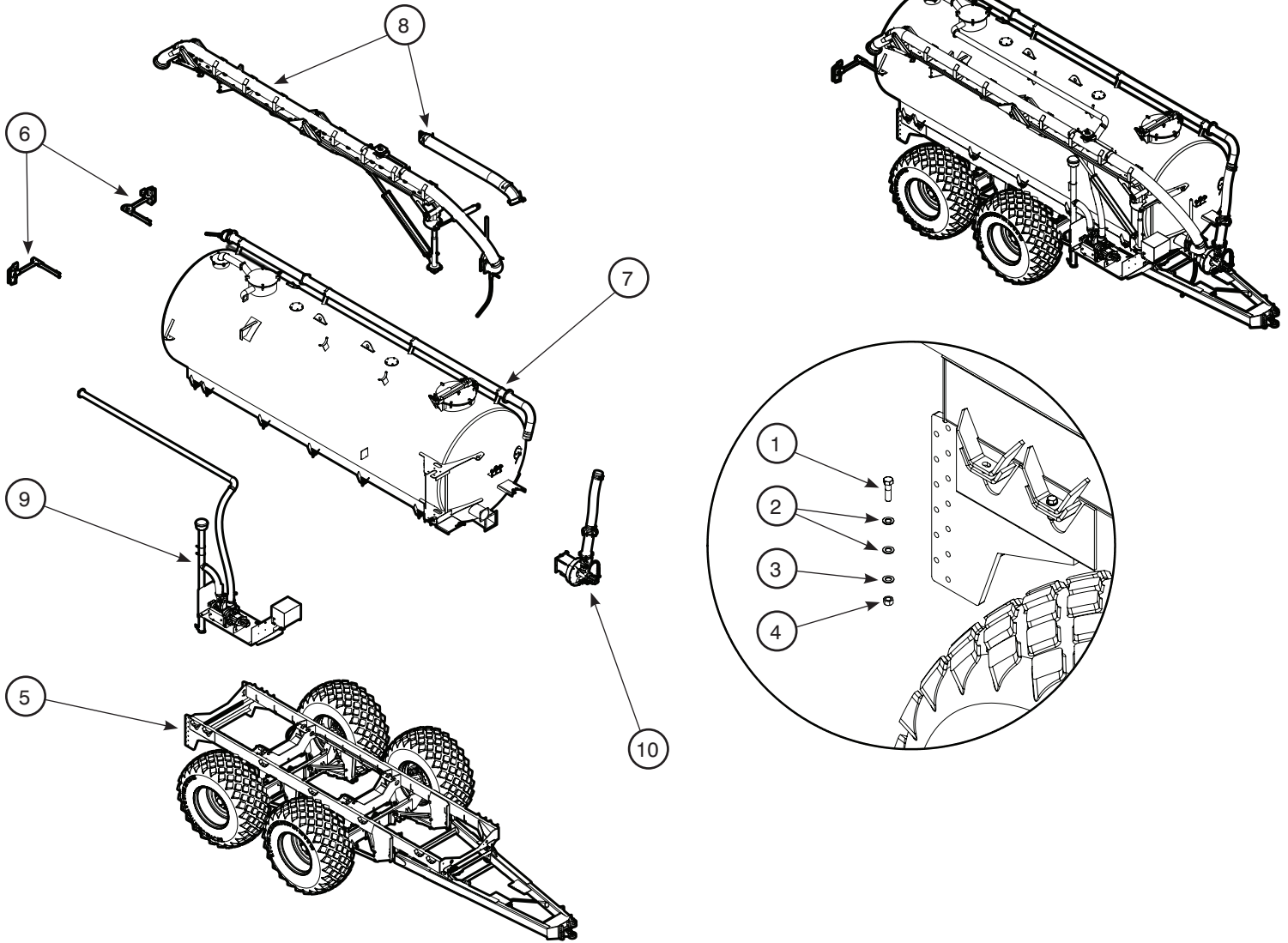
### Dimensions

Overall Length	28 5/16" (71.9 cm)
Overall Width	16" (40.6 cm)
Overall Height	22 3/4" (57.8 cm)
Port Diameter	4" (10.2 cm)
RPM Range	800-1000
Maximum Vacuum	27 inHg / 90%
Maximum Continuous Vacuum	18 inHg / 60%
Flow Rate at 60%	452 CFM (12,800 l/min)
Flow Rate at Free Air	500 CFM (14,200 l/min)
Maximum Pressure	30 PSI (206.8 kPa)
Horsepower	28 HP
Oil Tank Capacity	4.23 qt (4 l)



# TECHNICAL DATA

## Main Components



Item	Description	Quantity	Part Number
1	Bolt, Hex Head, 3/4"-10 X 2 3/4" GR5	14	1314
2	Flat Washer, 3/4"	28	1603
3	Lock Washer, 3/4"	14	1641
4	Nut, 3/4" GR5	14	1727

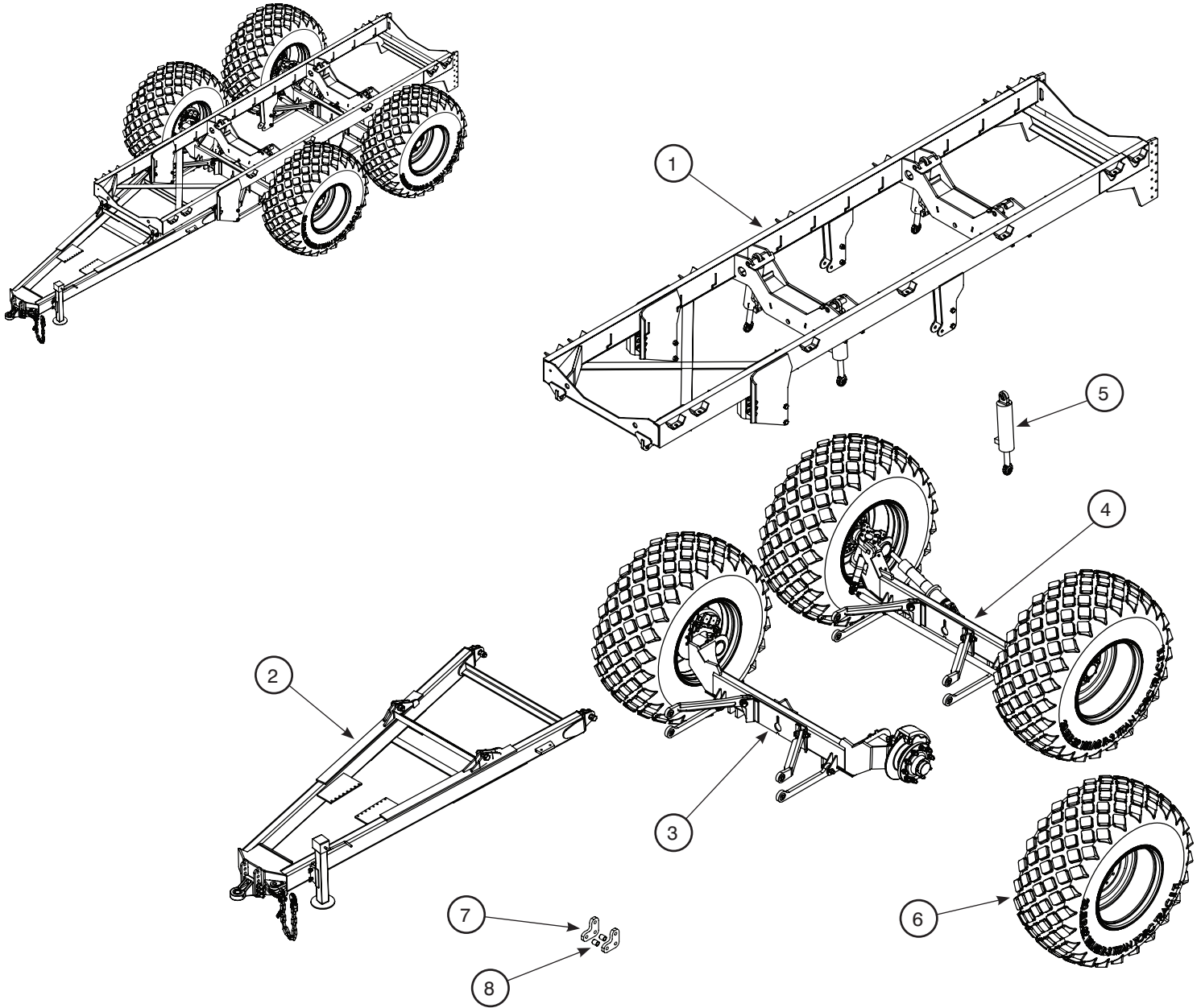
Item	Description	Reference
5	Frame	Page 15
6	Electrical/Lights	Page 43
7	Vacuum Tank	Page 49
8	Boom	Page 57
9	Vacuum System	Page 63
10	Slurry Pump	Page 67



**BALZER**

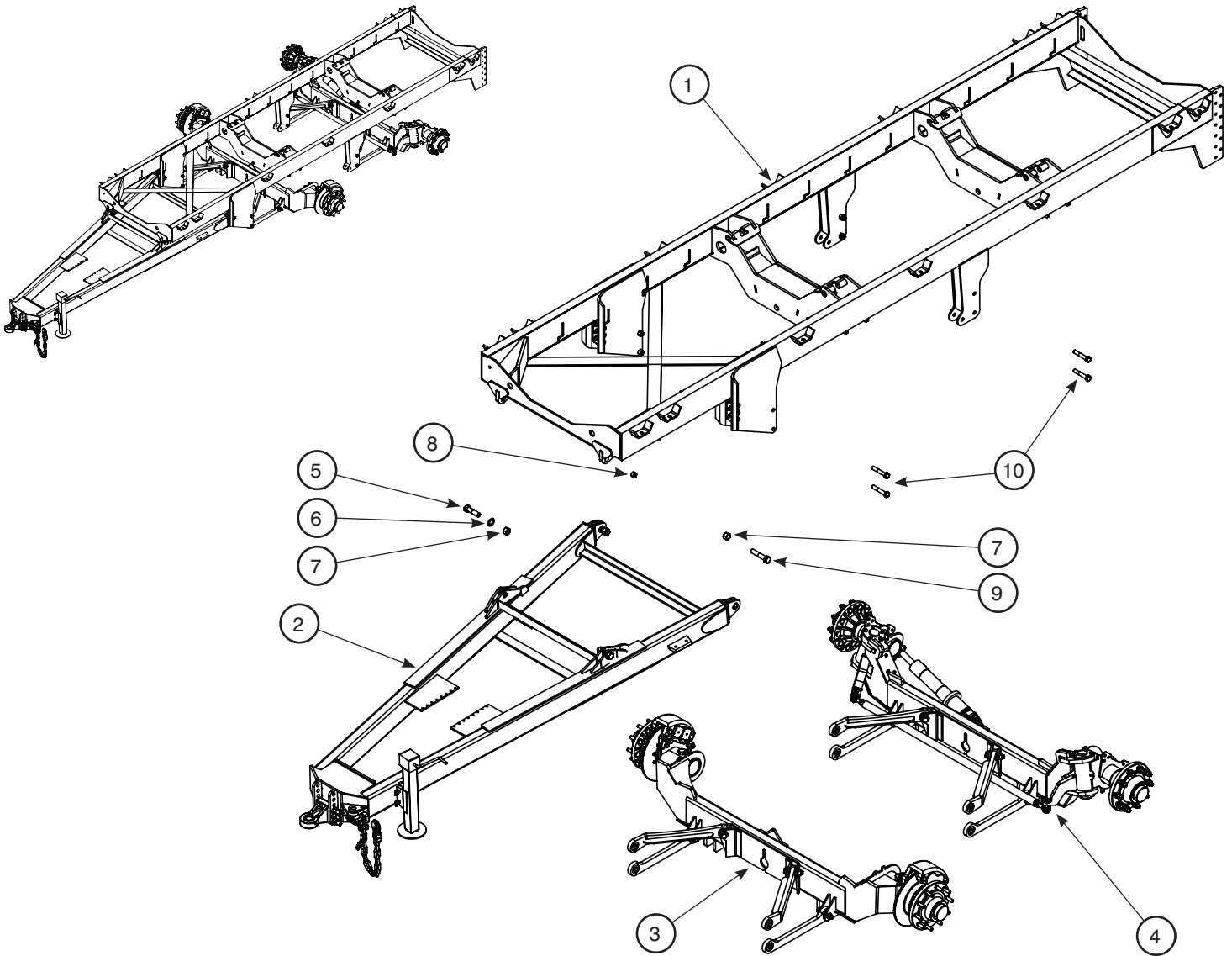
# Frame

## Tandem Frame



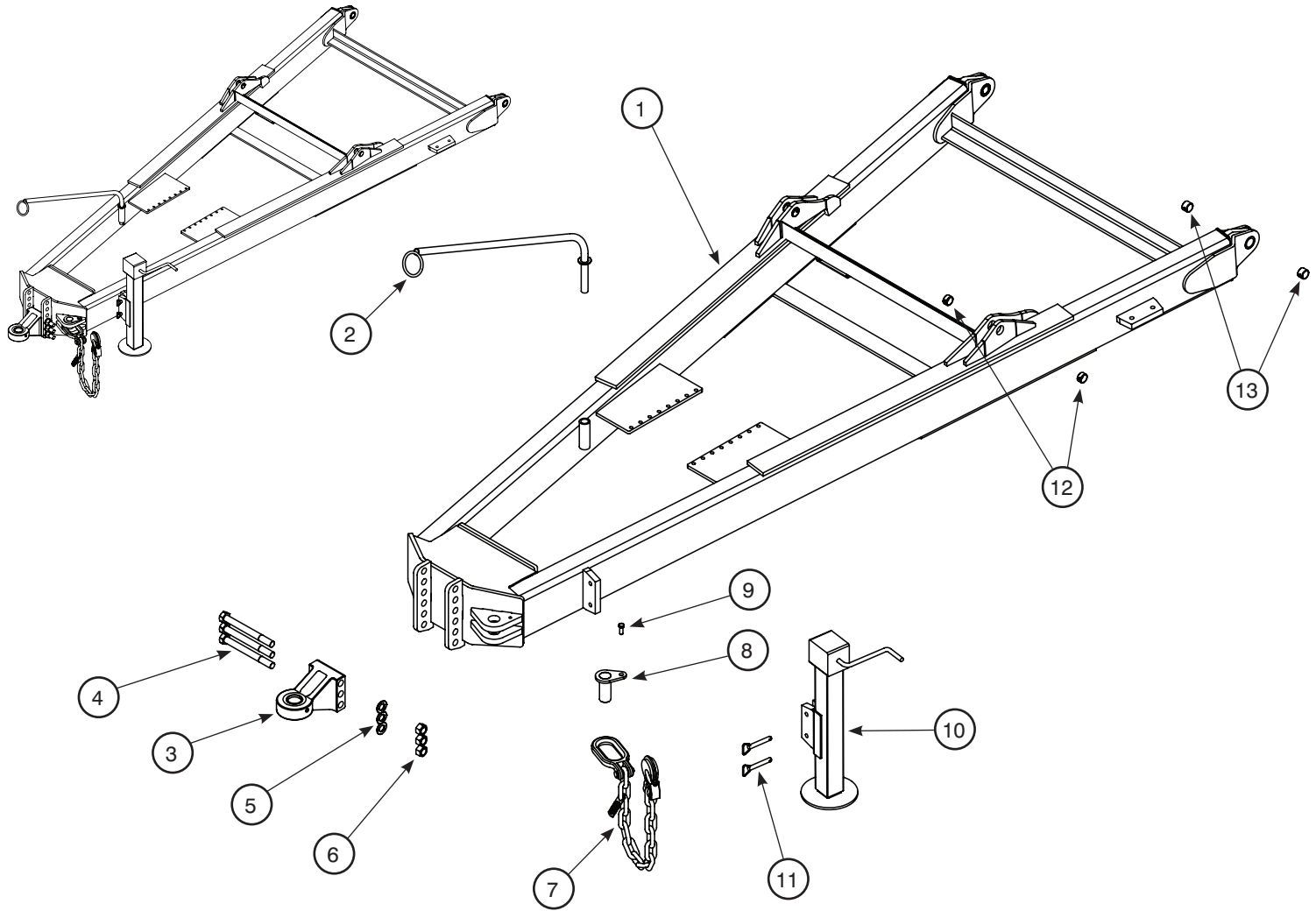
Item	Description	Quantity
1	Frame Assembly	1
2	Tongue Assembly	1
3	Straight Axle Assembly	1
4	Steering Axle Assembly	1
5	Suspension System, Hydraulic Cylinder	4
6	Tires, 10 Bolt, 13 3/16" Bolt Circle	4
7	Suspension Adapter Plate (900/60 32 R1 Tires Only)	8
8	Suspension Adapter Bushing (900/60 32 R1 Tires Only)	8

## Tandem Frame Assembly



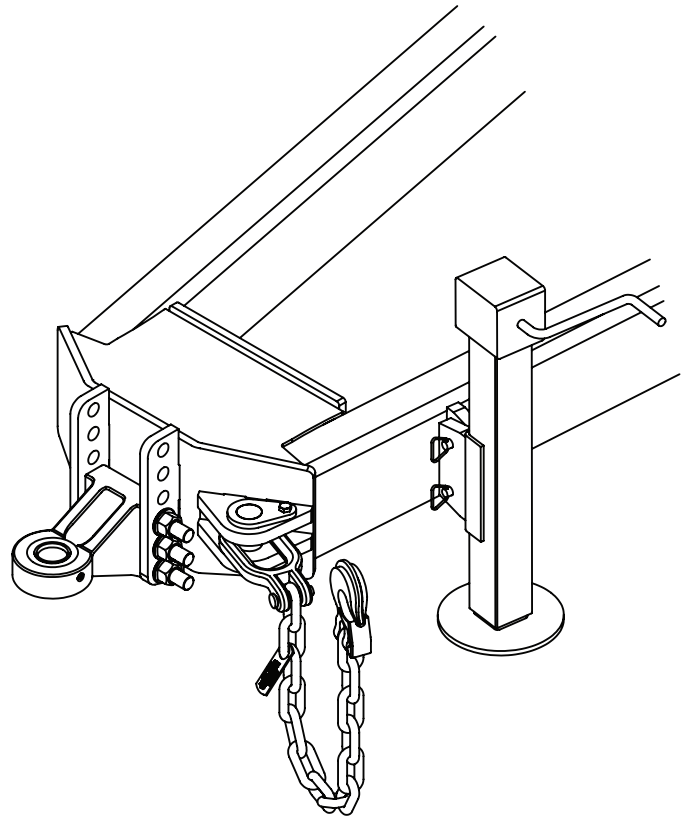
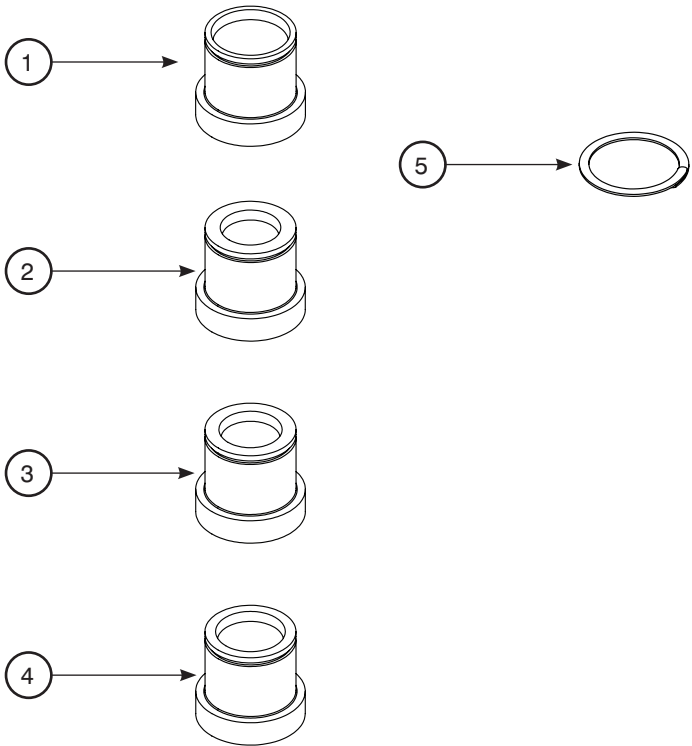
Item	Description	Quantity	Standard Frame	Narrow Frame
			Part Number	Part Number
1	Tandem Tank Frame	1	122021	122024
2	Tongue Assembly	1	Page 18	
3	Straight Axle Assembly	1	Page 28	
4	Steering Axle Assembly	1	Page 29	
5	Bolt, Hex Head, 1 1/4"-7 X 4 1/2" GR8	2	2563	
6	Flat Washer, 1 1/4"	2	125045	
7	Nut, Top Lock, 1 1/4"-7	4	1780	
8	Spring Bushing, 1 1/2" OD X 1 1/4" ID X 1"	4	27728	
9	Bolt, Hex Head, 1 1/4"-7 X 6" GR8	2	808003	
10	Bolt, Hex Head, 1"-8 X 5 1/2" GR8	8	1348	

## Tongue Assembly



Item	Description	Quantity	Part Number
1	Tongue Frame Weldment (Standard)	1	122816
	Tongue Frame Weldment (Narrow)	1	122817
2	Hose Hanger (For Optional Hydraulic Motor)	1	83078
3	Hitch, Bull Pull, 3-Bolt	1	85945
4	Bolt, Hex Head, 1"-8 X 10" GR8	3	85936
5	Lock Washer, 1"	3	1643
6	Nut, Top Lock, 1"-8	3	1779
7	Safety Chain, Agricultural, 80,000 lbs (ASAE S338.5)	1	96169
8	Pin, Safety Chain	1	902500
9	Bolt, Hex Head, 3/8"-16 X 1 1/4" GR5	1	1207
10	Jack Crank w/Bracket	1	83338
11	Ball Lock Pin with Chain, 5/8" X 3"	2	90646
12	Spring Bushing, 1 1/2" OD X 1 1/4" ID X 3/4"	4	60786
13	Spring Bushing, 1 1/2" OD X 1 1/4" ID X 1"	4	27728

## Bull Pull Hitch Inserts



Item	Description	Quantity	Part Number
1	Bull Pull Insert, 2" (Standard)	1	85947
2	Bull Pull Insert, 1 1/2" (Optional)	1	85948
3	Bull Pull Insert, 40mm (Optional)	1	85949
4	Bull Pull Insert, 1 3/4" (Optional)	1	85974
5	Spiral Retaining Ring, Bull Pull Insert	1	85978

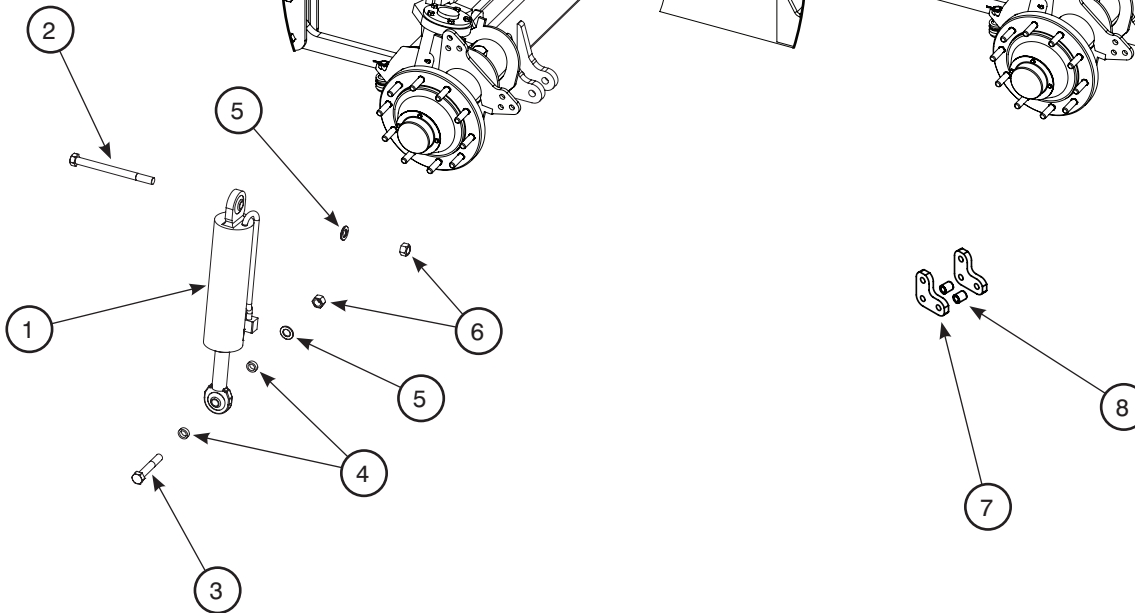
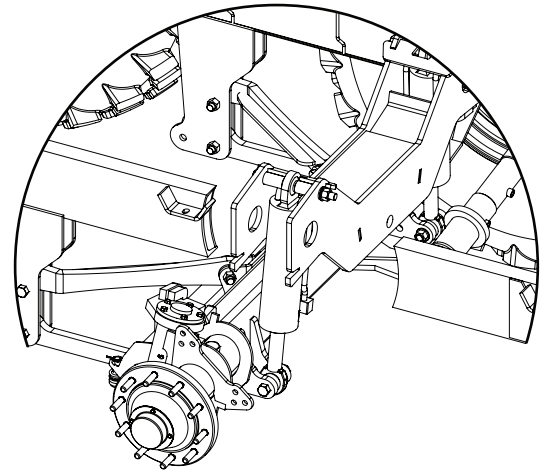
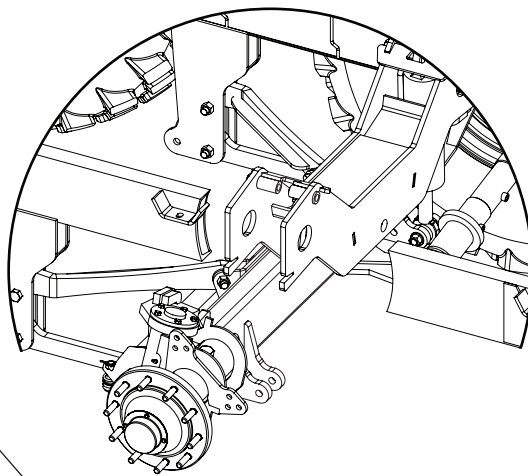
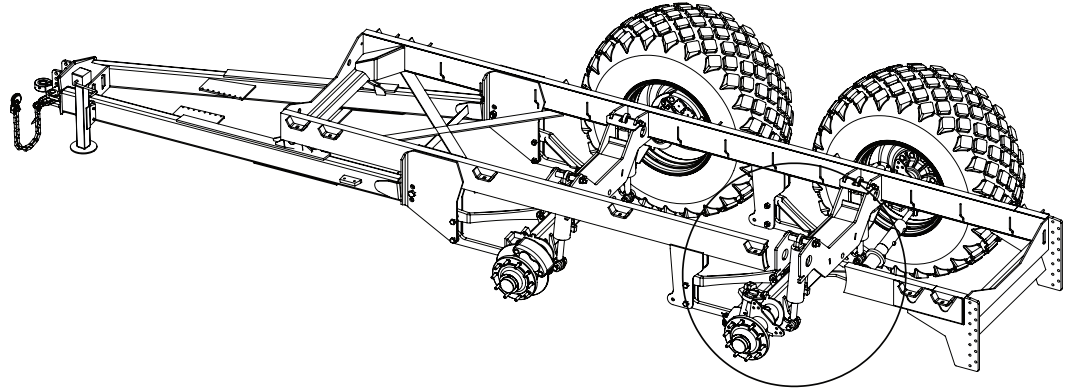




**BALZER**

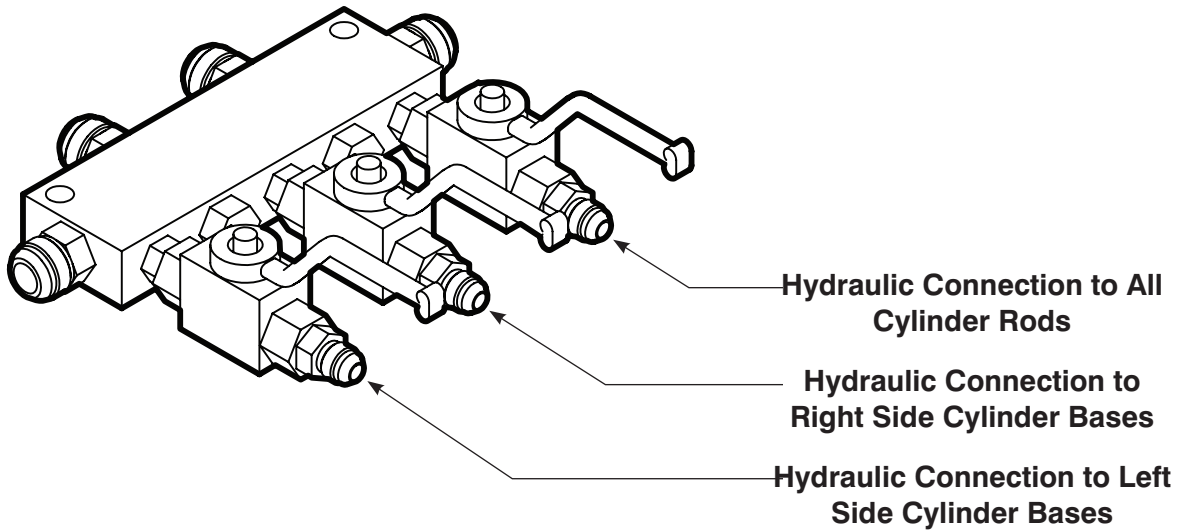
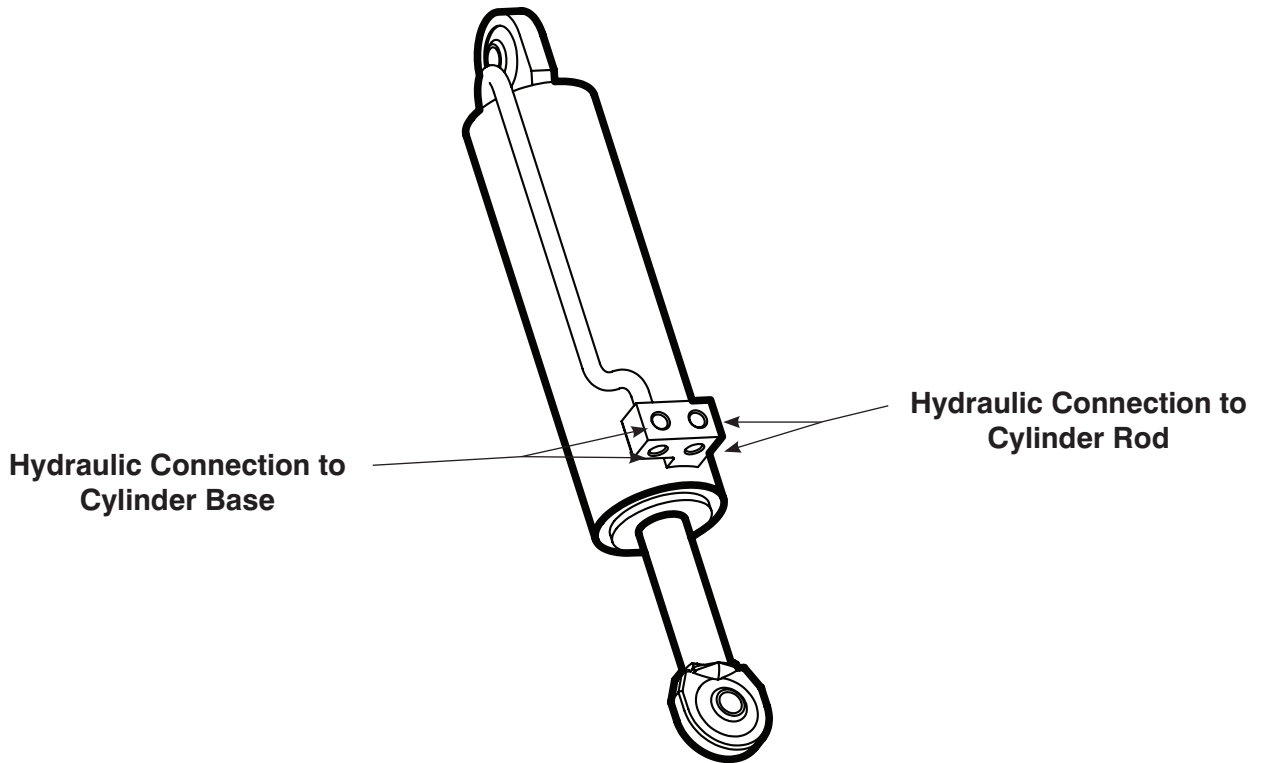
# Suspension

## Tandem Suspension Hydraulics



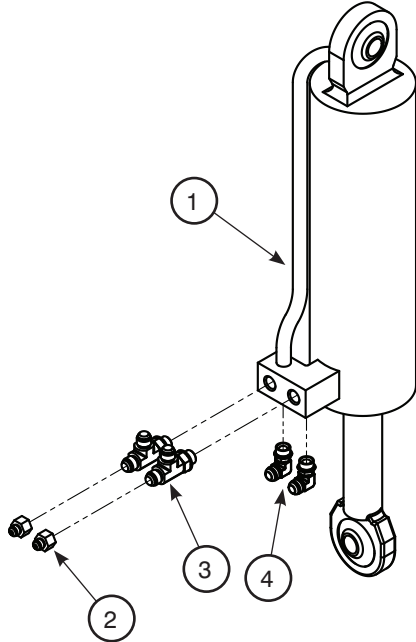
Item	Description	Quantity	Part Number
1	Hydraulic Suspension Cylinder	4	900335
2	Bolt, Hex Head, 1"-8 X 12" GR8	4	1358
3	Bolt, Hex Head, 1"-8 X 8" GR8	4	1349
4	Spacer, 1 1/2" OD X 1/2" Long	8	83329
5	Lock Washer, 1"	8	1643
6	Nut, 1"-8	8	1699
7	Suspension Adapter Plate (900/60 32 R1 Tires Only)	8	214007
8	Suspension Adapter Bushing (900/60 32 R1 Tires Only)	8	900420

**Tandem Suspension Hydraulic Ports**

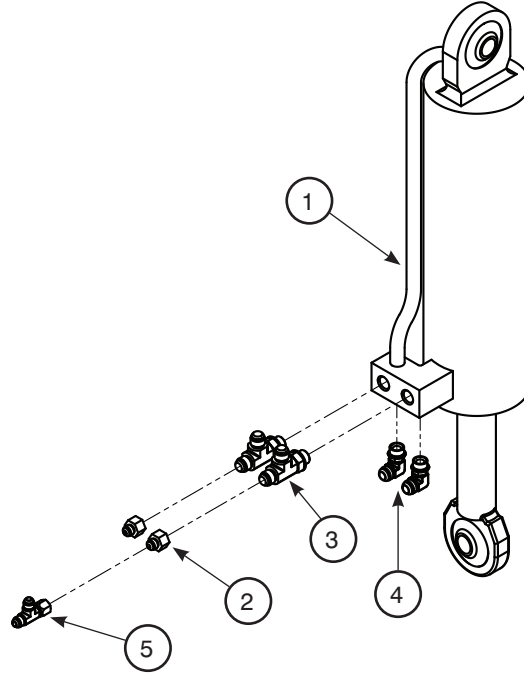


## Tandem Suspension Hydraulic Fittings

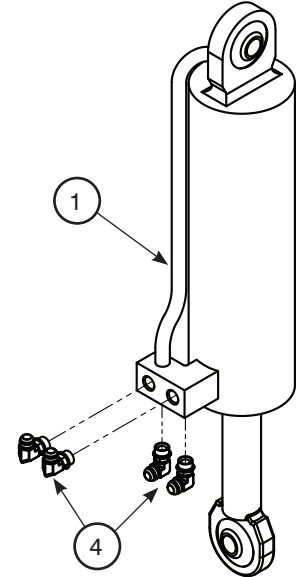
Left Front Cylinder Assembly



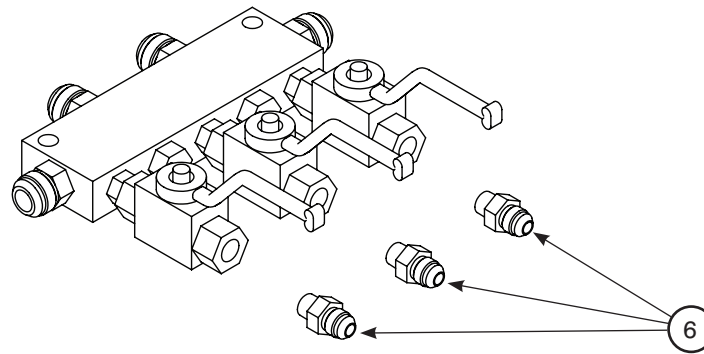
Right Front Cylinder Assembly



Rear Cylinder Assemblies

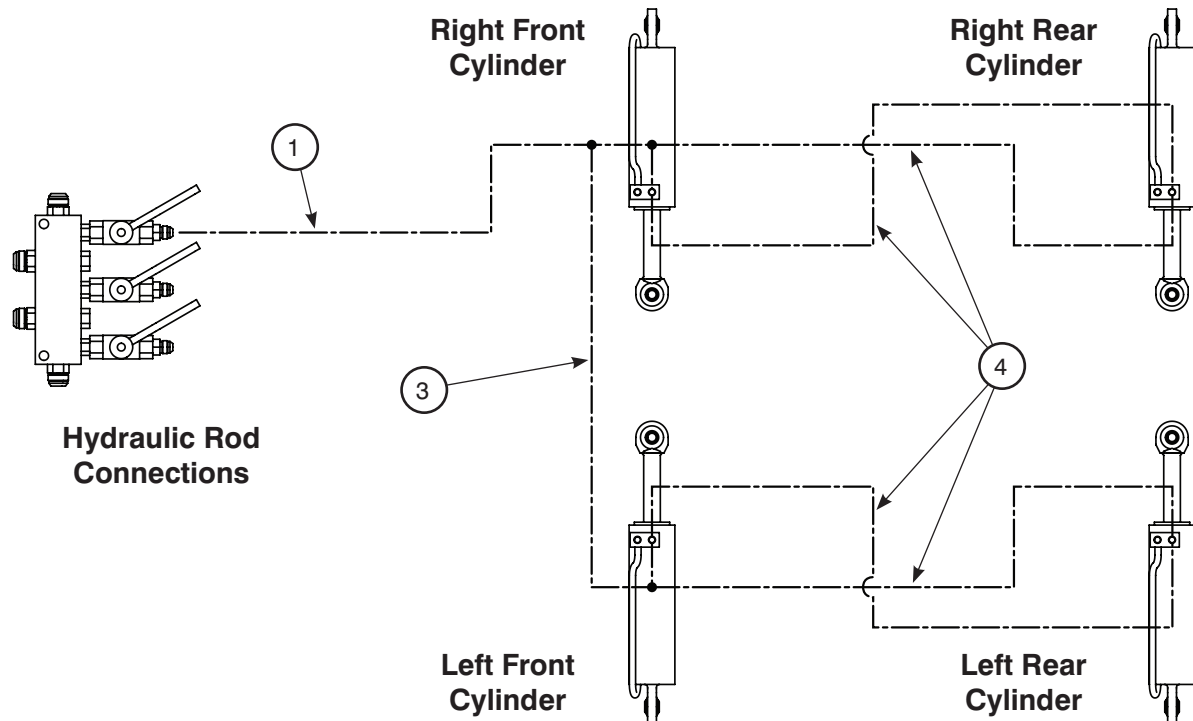
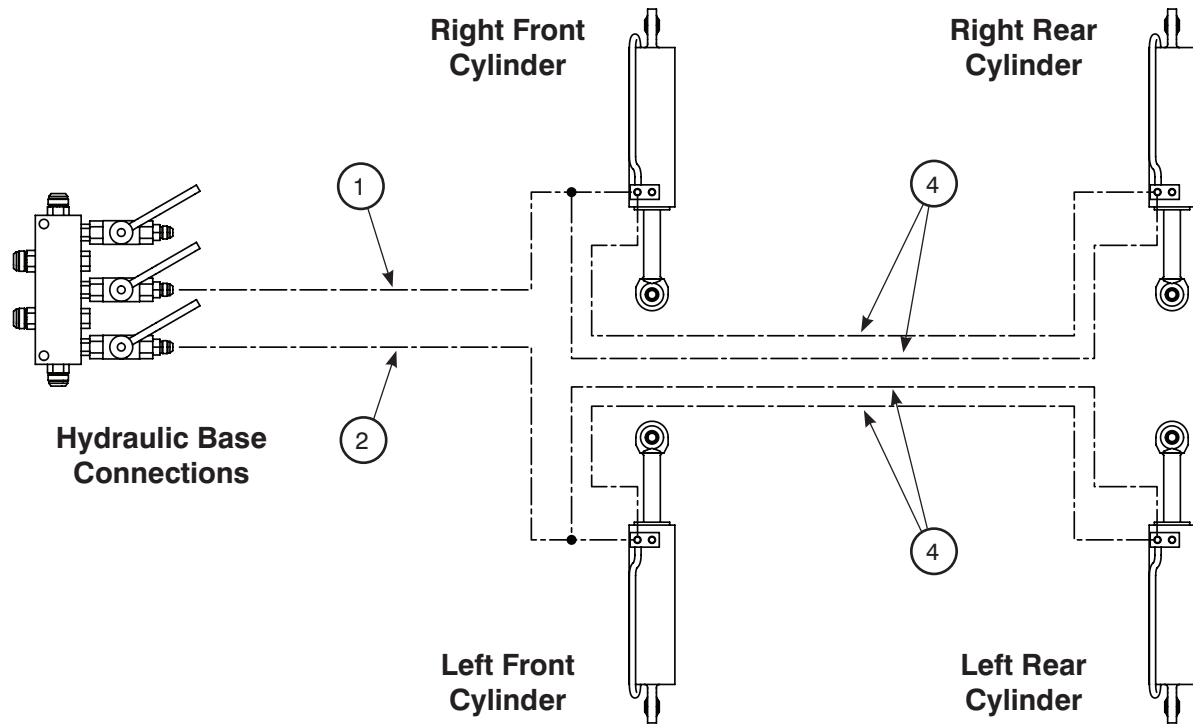


Hydraulic Suspension Manifold



Item	Description	Quantity	Part Number
1	Hydraulic Suspension Cylinder, 5" X14", BAL-SOC, 5,000 PSI	4	900335
2	Hydraulic Reducer, 3/4" JICFM X 9/16" JICM	6	847004
3	Hydraulic Tee, 3/4" JICM X 3/4" ORM X 3/4" JICM	4	849001
4	Hydraulic Elbow, 3/4" JICM X 3/4" ORM, 90°	8	72831
5	Hydraulic Tee, 9/16" JICM X 9/16" JICFMS X 9/16" JICM	1	72152
6	Hydraulic Nipple, 9/16" JICM X 1/4" NPTM	3	33842

## Tandem Suspension Hydraulic Connections



Item	Description	Quantity	Part Number
1	Hydraulic Hose, 1/4" X 9/16" JICFMS X 9/16" JICFMS 90° X 132" Long	2	852132
2	Hydraulic Hose, 1/4" X 9/16" JICFMS 90° X 9/16" JICFMS 90° X 168" Long	1	852168
3	Hydraulic Hose, 1/4" X 9/16" JICFMS X 9/16" JICFMS 90° X 48" Long	1	852048
4	Hydraulic Hose, 1/2" X 3/4" JICFMS 90° X 3/4" JICFMS X 132" Long	8	855132

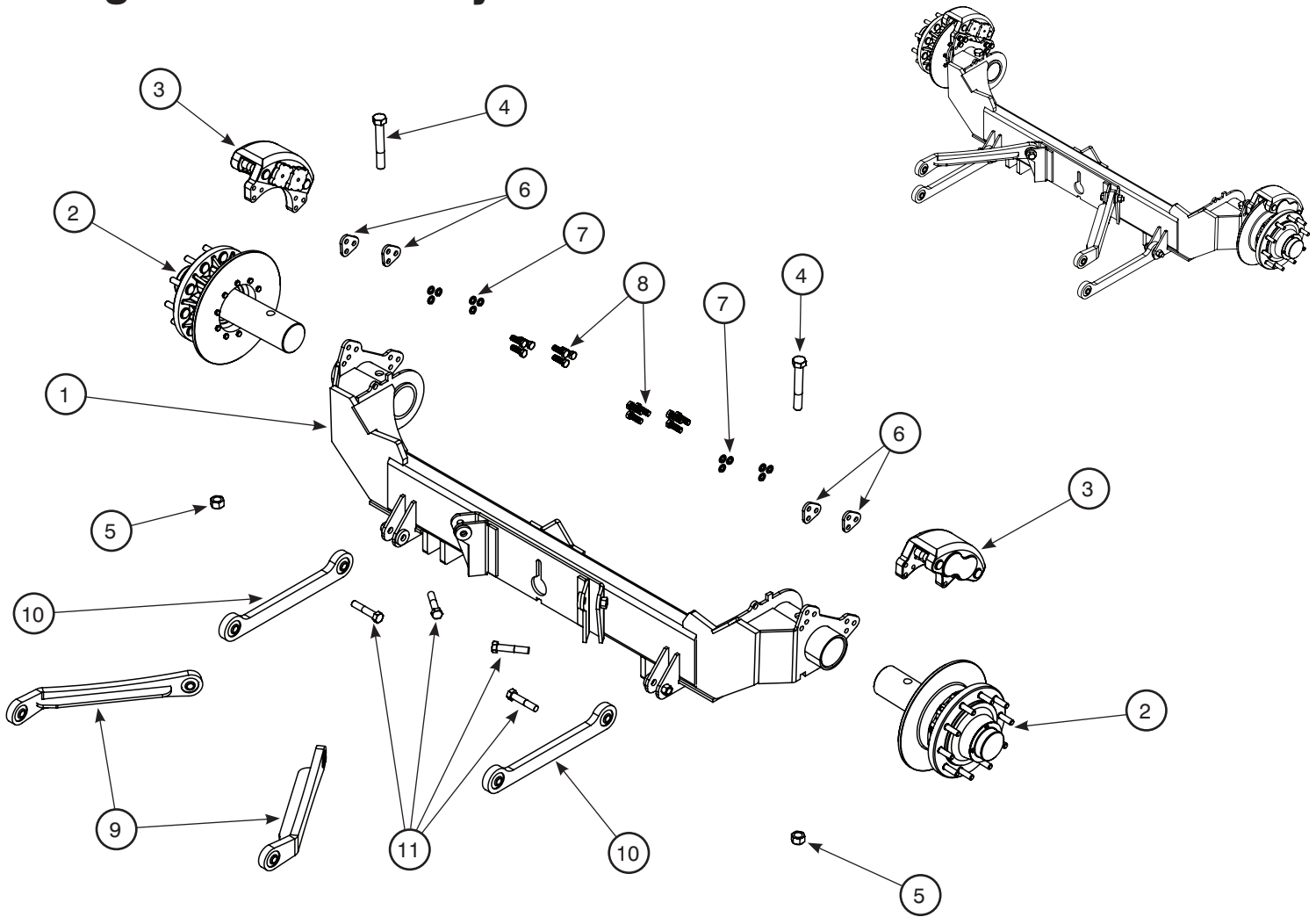


The logo for BALZER is rendered in a bold, italicized, sans-serif font. The letters are black with a white outline and a slight drop shadow, giving it a three-dimensional appearance. It is positioned at the top of the page, partially overlapping a green diagonal band that runs from the top left towards the center right.

**BALZER**

# Steering

## Straight Axle Assembly



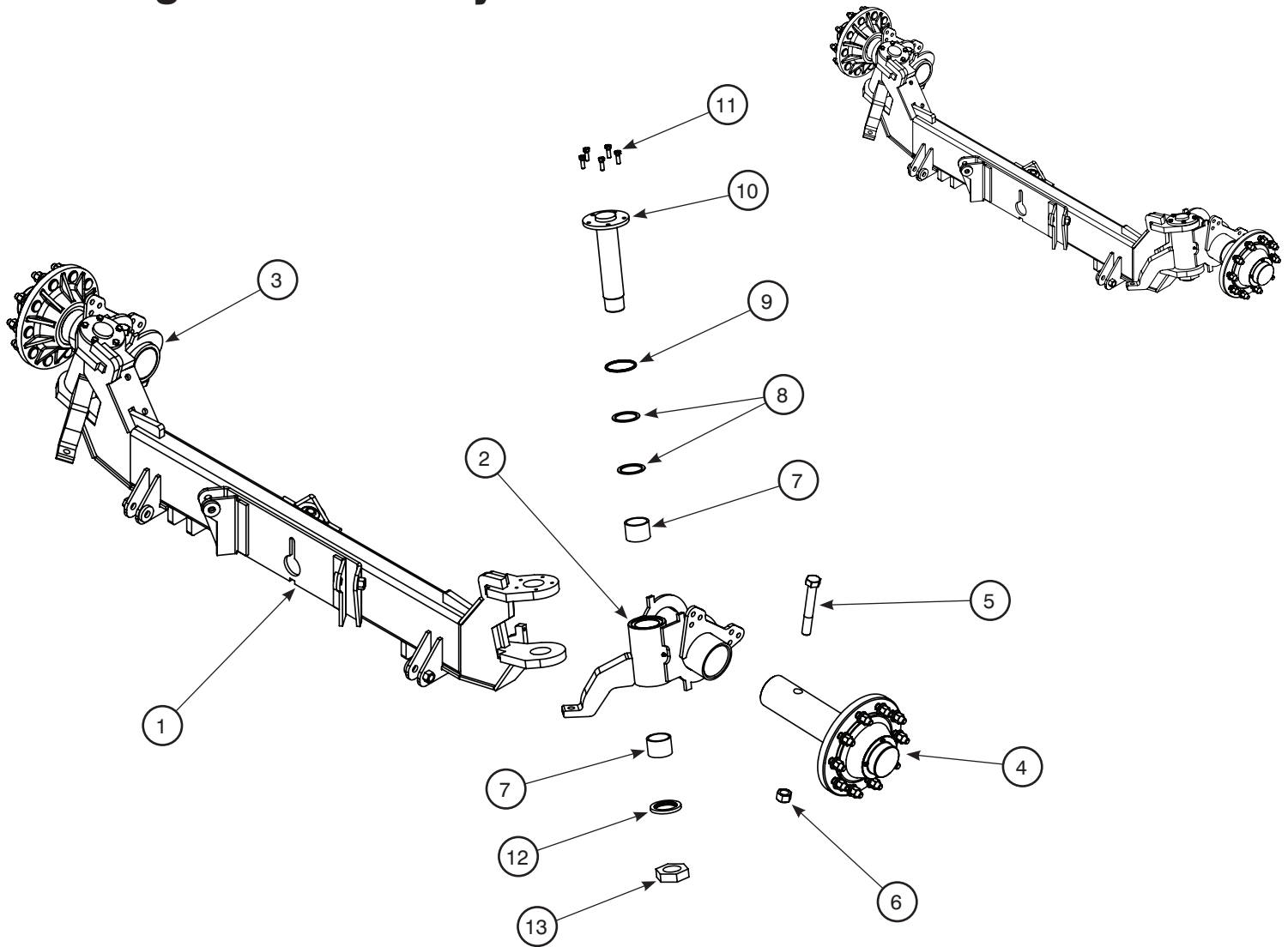
Item	Description	5" Ultra - 13 3/16" Bolt Circle		6" Ultra - 13 3/16" Bolt Circle	
		Quantity	Part Number	Quantity	Part Number
1	Straight Axle Weldment, 60	1	902509	1	902511
	Straight Axle Weldment, 40 (Narrow Frame)	1	900244	1	900245
2	Wheel Hub and Spindle Assembly with Rotor	2	900126	2	900124
3	Brake Caliper	2	91853	2	91853
4	Bolt, Hex Head, 1 1/4"-7 X 8 1/2" GR8	2	33870	2	33870
5	Lock Nut, Nylon Insert, 1 1/4"-7	2	819000	2	819000
6	Brake Caliper Spacer, 1/8" (10 ga.) *	4 to 8	950015	4 to 8	950015
	Brake Caliper Spacer, 3/8" *	4	950016	4	950016
	Brake Caliper Spacer, 1/2" *	4	950017	4	950017
7	Split Lock Washer, 3/4"	12	1641	12	1641
8	Bolt, Hex Head, 3/4"-16 X 2 1/4"	12	1312	12	1312
9	Axle Drag Bar Assembly, Upper	2	900052	2	900052
10	Axle Drag Bar Assembly, Lower	2	900098	2	900098
11	Bolt, Hex Head, 1"-8 X 5" GR8	4	1347	4	1347

\* May not be used with every assembly



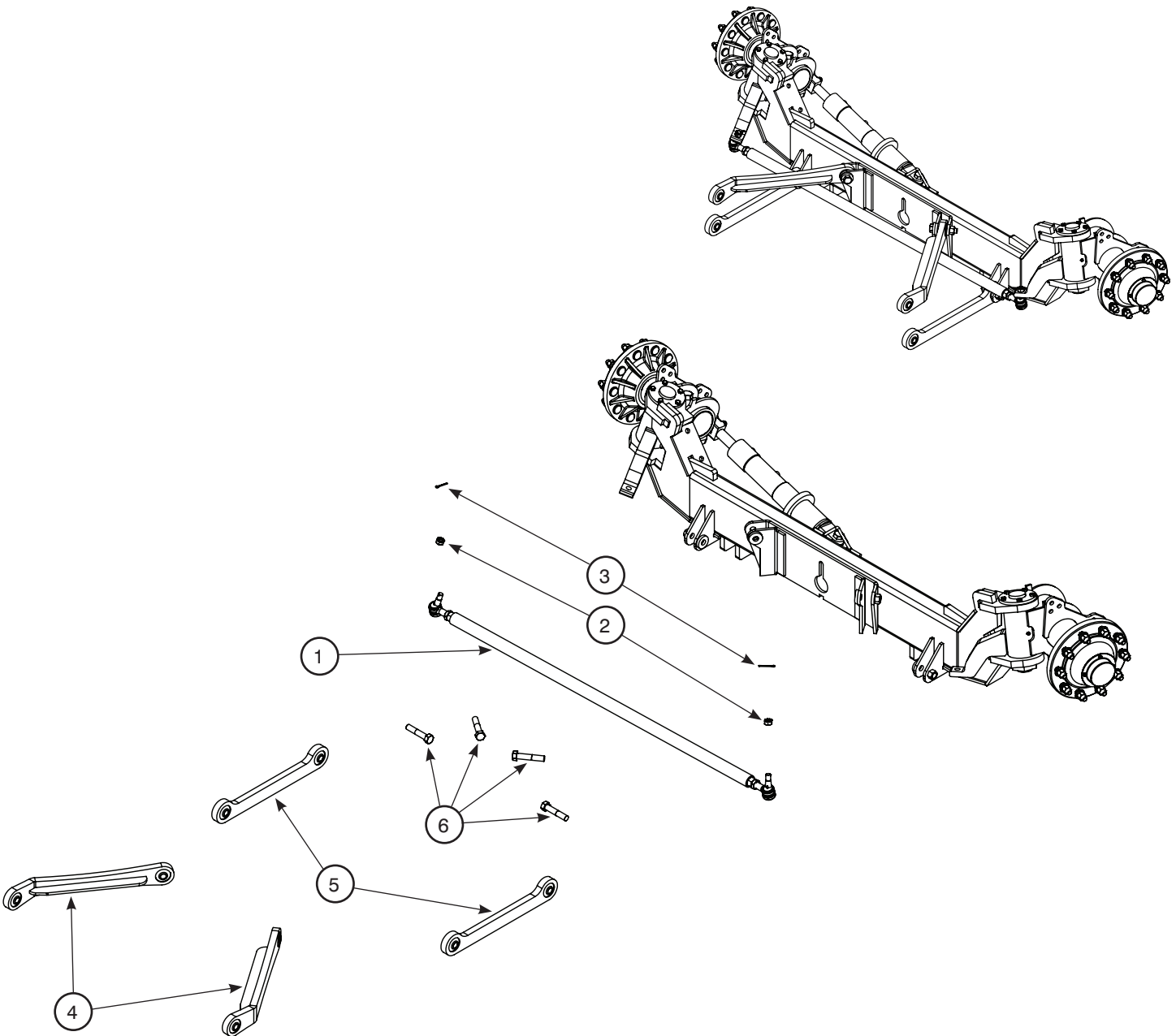
# STEERING

## Steering Axle Assembly



Item	Description	5' Ultra - 13 3/16" Bolt Circle		6' Ultra - 13 3/16" Bolt Circle	
		Quantity	Part Number	Quantity	Part Number
1	Steering Axle Weldment, 60	1	902510	1	902510
	Steering Axle Weldment, 40 (Narrow Frame)	1	900248	1	900248
2	Steering Knuckle Assembly, Left	1	900065	1	900067
3	Steering Knuckle Assembly, Right	1	900066	1	900068
4	Wheel Hub and Spindle Assembly	2	900282	2	900124
5	Bolt, Hex Head, 1 1/4"-7 X 8 1/2" GR8	2	33870	2	33870
6	Lock Nut, Nylon Insert, 1 1/4"-7	2	819000	2	819000
7	Bushing, Polygon	4	865045	4	865045
8	Thrust Washer	4	70123	4	70123
9	X-ring, 4.10" ID X 0.21" CS (-346)	2	900116	2	900116
10	Bolt, King Pin	2	900082	2	900082
11	Bolt, Hex Head, 1/2"-13 X 1 1/2" GR5	10	1250	10	1250
12	Seal, 3" x 4 1/2" x 7/16" - Bun a-N	2	900117	2	900117
13	Nut, Jamb, 2 3/4"-12 UNF	2	900085	2	900085

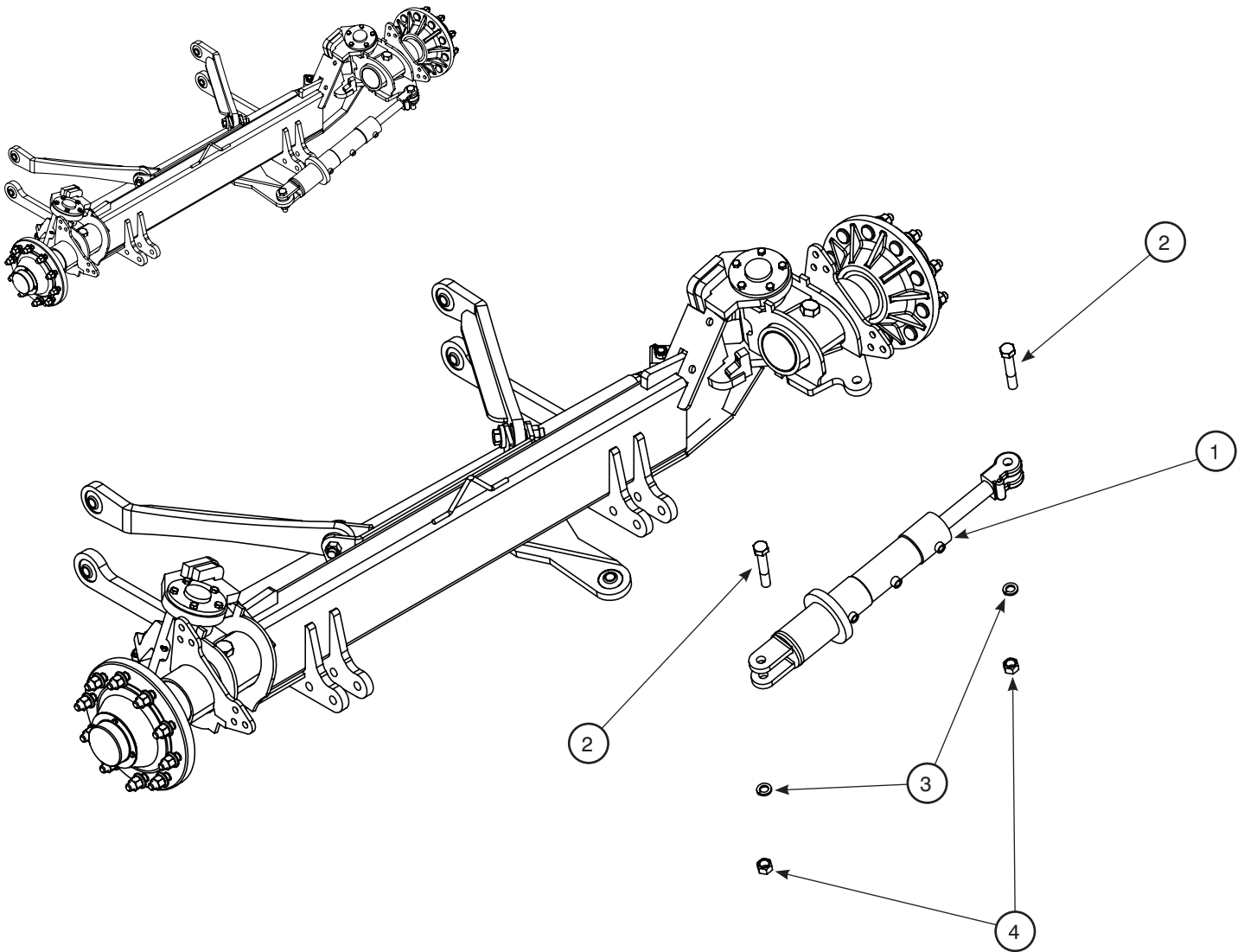
## Steering Axle Assembly



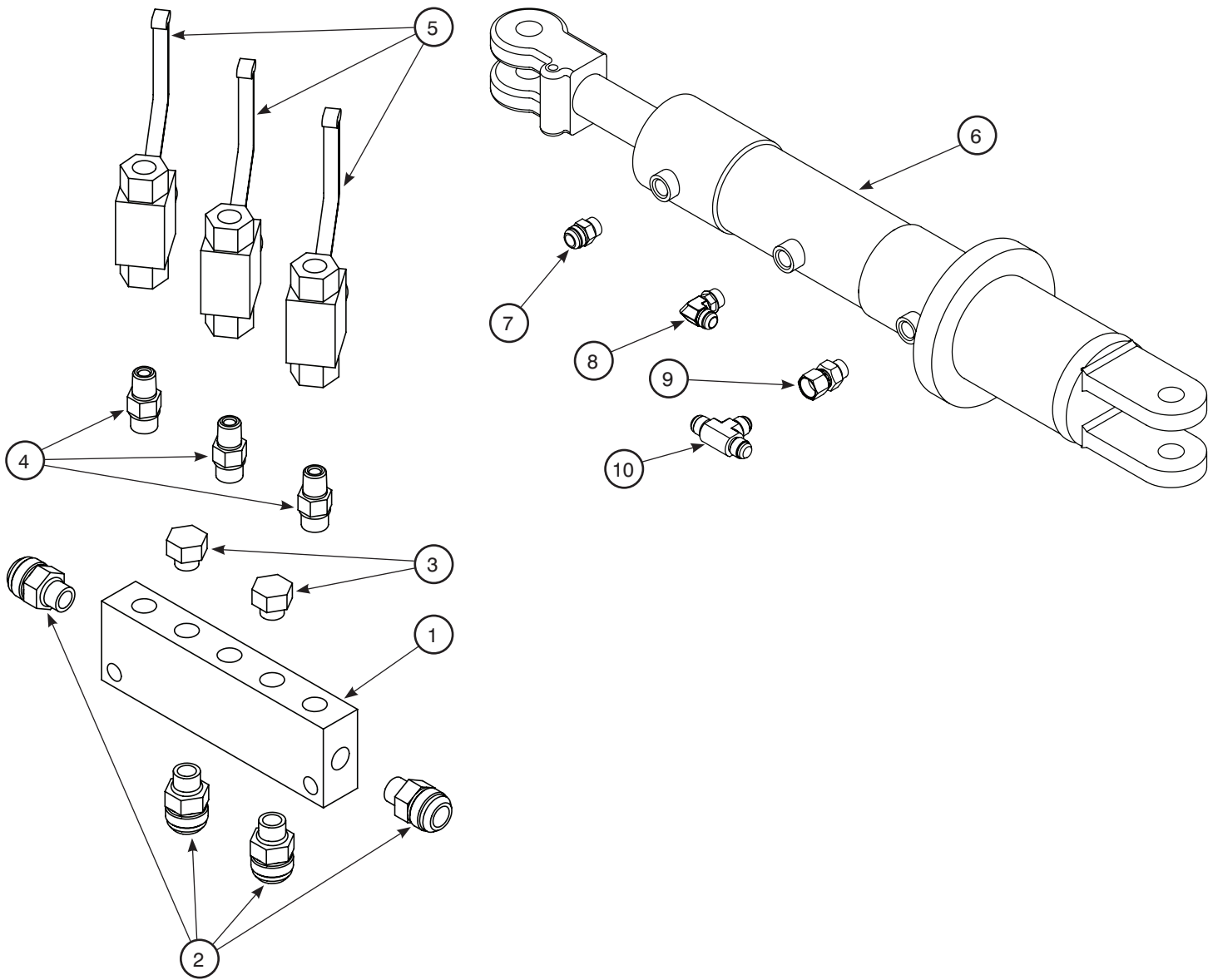
Item	Description	Quantity	Part Number
1	Tie Rod Assembly, 60" Axle	1	900061
	Tie Rod Assembly, 40" Axle (Narrow Frame)	1	900063
2	Nut, Castle, 7/8"-14	2	1753
3	Cotter Pin, 3/16" x 2 1/4"	2	2056
4	Axle Drag Bar Assembly, Upper	2	900052
5	Axle Drag Bar Assembly, Lower	2	900098
6	Bolt, Hex Head, 1"-8 X 5" GR8	4	1347

# STEERING

## Steering Axle Assembly



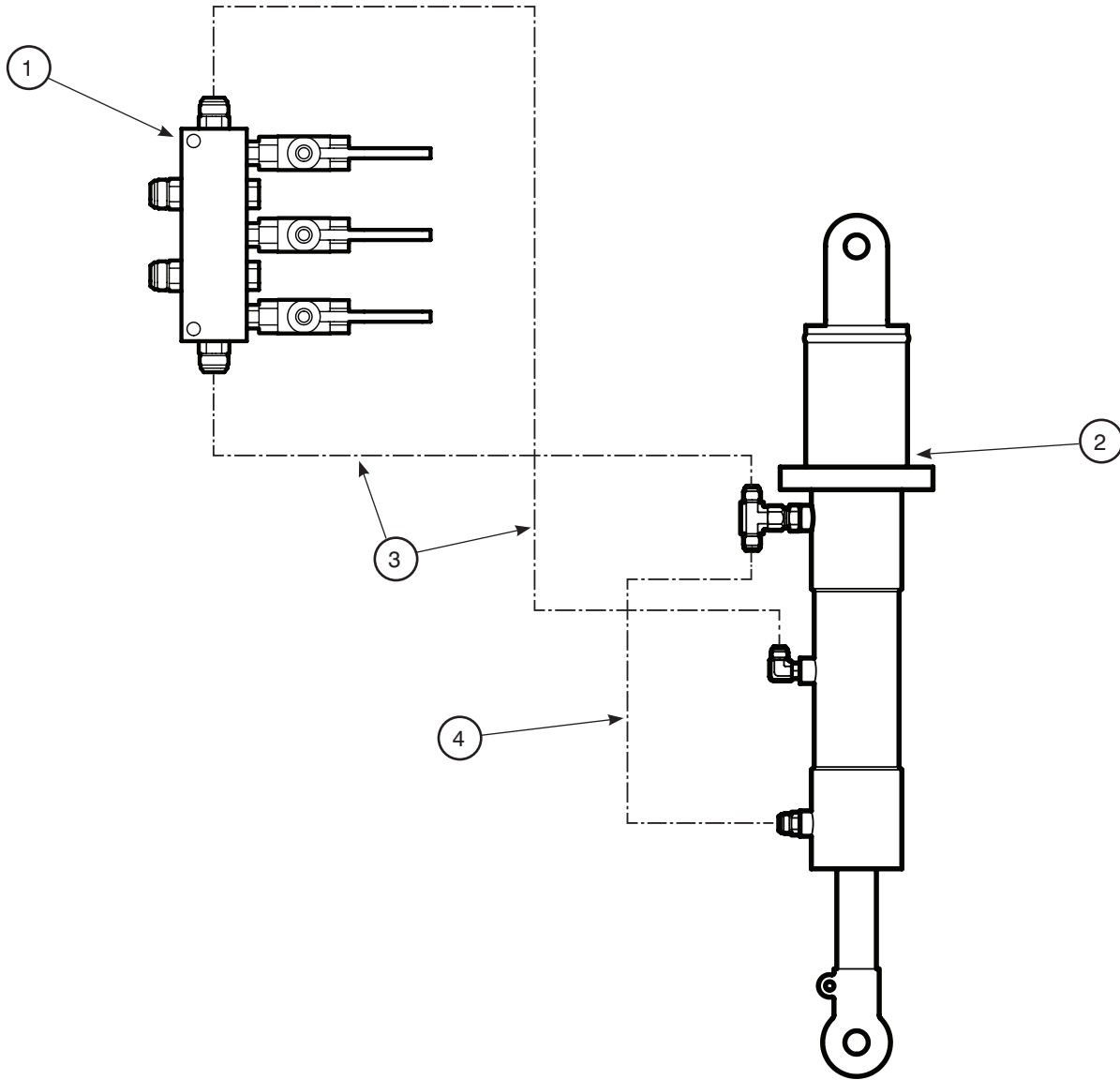
Item	Description	Quantity	Part Number
1	Hydraulic Steering Cylinder	1	85300
2	Bolt, Hex Head, 1"-8 X 6" GR8	2	1349
3	Split Lock Washer, 1"	2	1643
4	Nut, 1"-8	2	1699



Item	Description	Quantity	Part Number
1	Hydraulic Manifold, Suspension Block	1	840000
2	Hydraulic Nipple, 3/4" JIC X 9/16" ORM	4	72581
3	Hydraulic Plug, 9/16" ORM	2	36896
4	Hydraulic Nipple, 9/16" ORM X 1/4" NPTM	3	33839
5	Hydraulic Ball Valve, 1/4" NPTFM X 1/4" NPTFM, 3000 PSI	3	71105
6	Cylinder, Hydraulic Steering	1	85300
7	Hydraulic Nipple, 3/4" JICM x 3/4" ORM	1	847001
8	Hydraulic Elbow, 3/4" JICM X 3/4" ORM, 90°	1	72831
9	Hydraulic Coupler, 3/4" ORM X 3/4" JICFMS	1	839001
10	Hydraulic Tee, 3/4" JICM X 3/4" JICM X 3/4" JICM	1	849000

# STEERING

## Steering Hydraulics



Item	Description	Quantity	Part Number
1	Hydraulic Suspension Manifold Assembly	1	
2	Hydraulic Steering Cylinder Assembly	1	
3	Hydraulic Hose, 1/2" X 3/4" JICFMS X 3/4" JICFMS, 90°, 264" LONG	2	855264
4	Hydraulic Hose, 1/2" X 3/4" JICFMS X 3/4" JICFMS, 90°, 14" LONG	1	855014

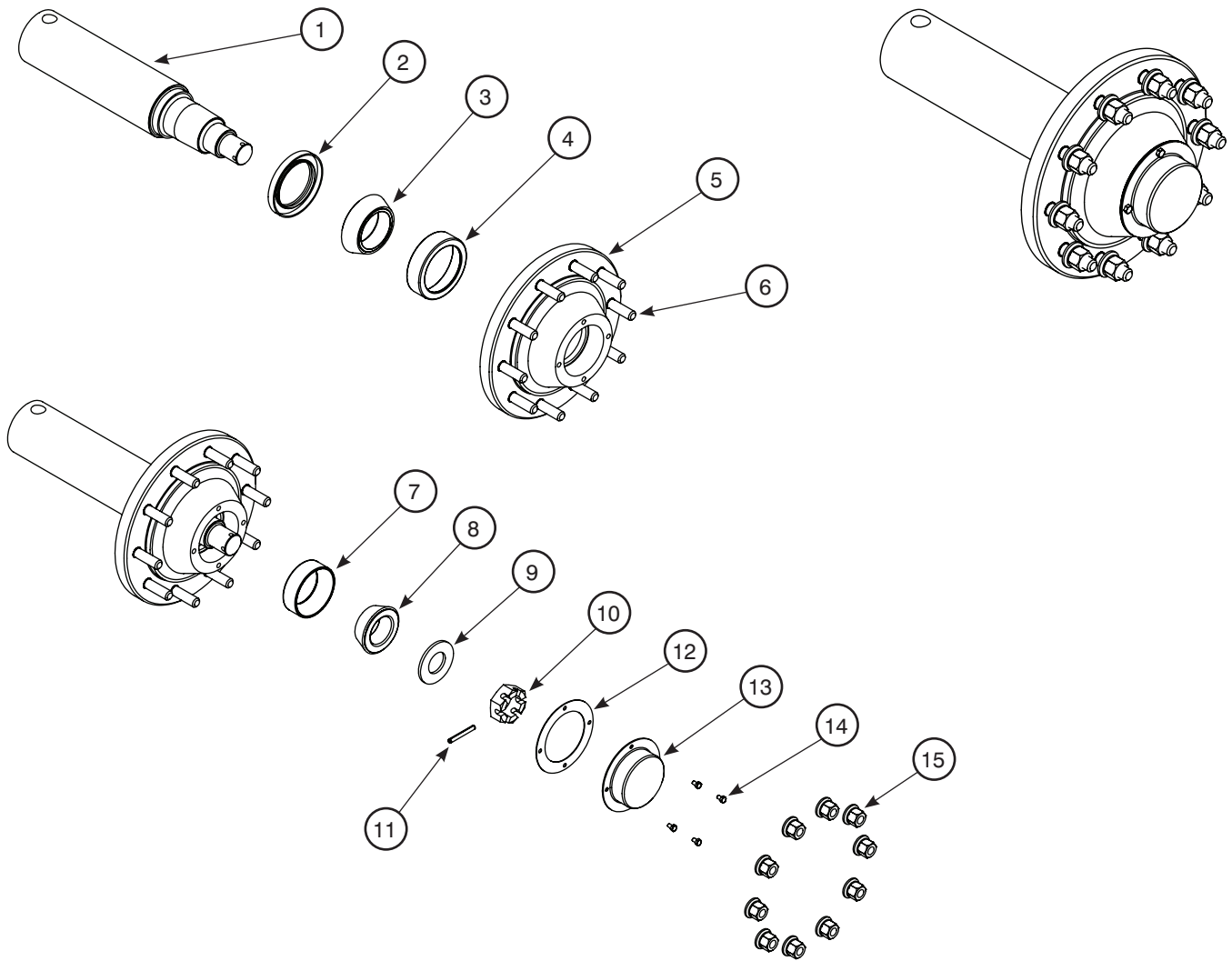


The logo for BALZER, featuring the word in a bold, italicized, sans-serif font with a white outline and a grey drop shadow. The logo is positioned on a green and white diagonal graphic element.

**BALZER**

# Wheels

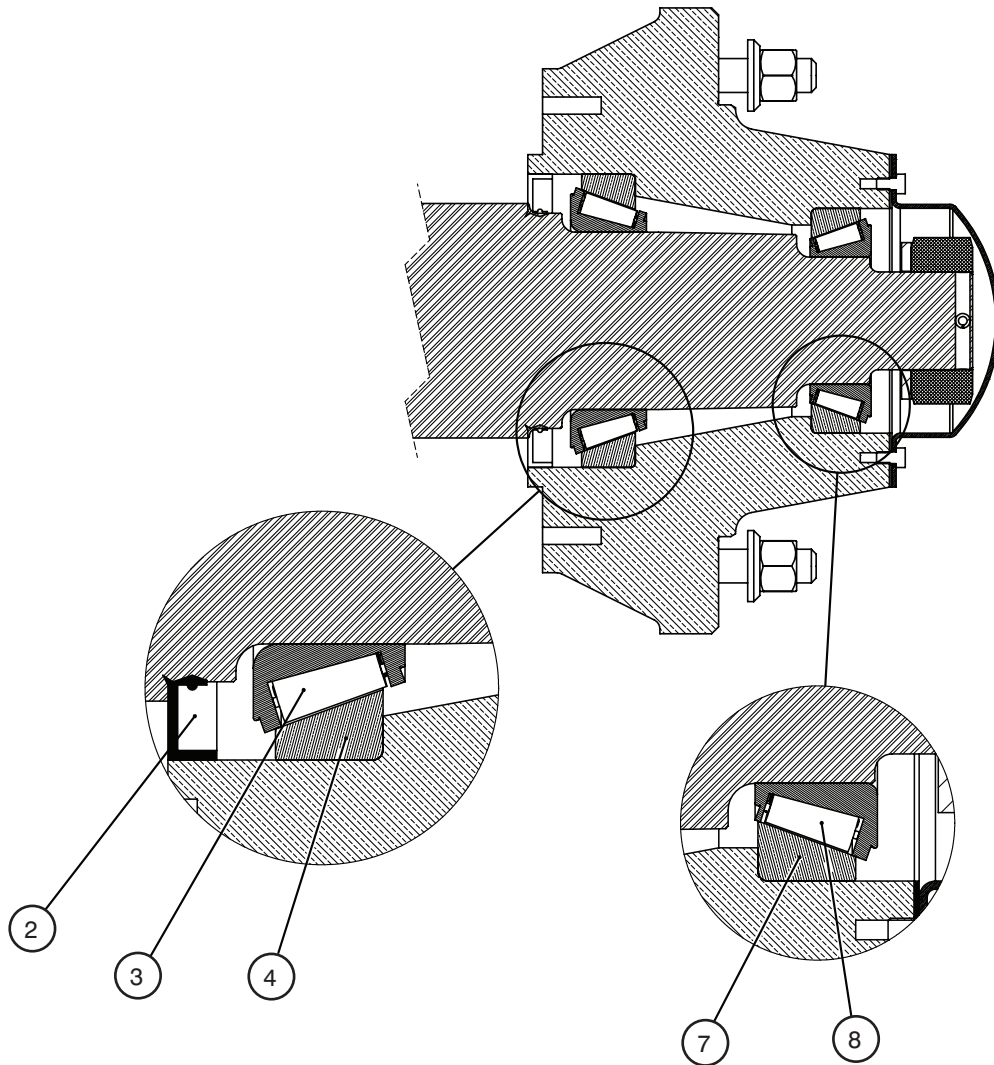
## Spindle and Wheel Hub Assembly



Item	Description	5" Ultra - 13 3/16" Bolt Circle		6" Ultra - 13 3/16" Bolt Circle	
		Quantity	Part Number	Quantity	Part Number
1	Spindle	1	50816	1	50826
2	Seal	1	50815	1	50825
3	Inner Taper Bearing Cone	1	21622	1	50821
4	Inner Taper Bearing Cup	1	21651	1	50819
5	Wheel Hub (with Studs and Wheel Bearing Cups)		50814		50818
6	Stud, M22-1.5 X 100mm GR8	10	50400	10	50400
7	Outer Taper Bearing Cup	1	21652	1	50820
8	Outer Taper Bearing Cone	1	21621	1	50822
9	Flat Washer	1	11814	1	50828
10	Castle Nut	1	50817	1	50827

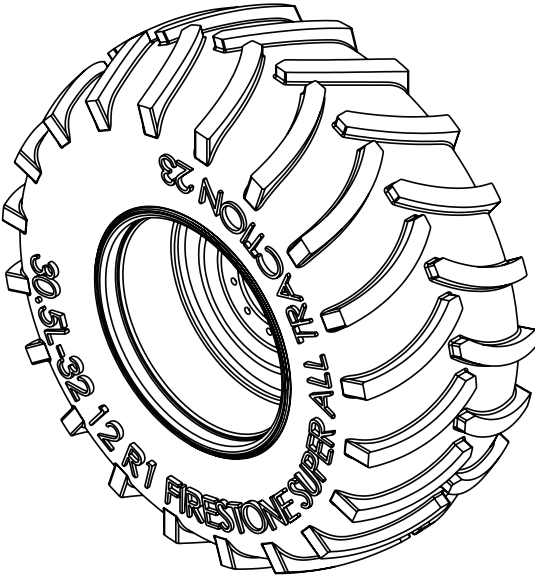


## Inner and Outer Taper Wheel Bearings

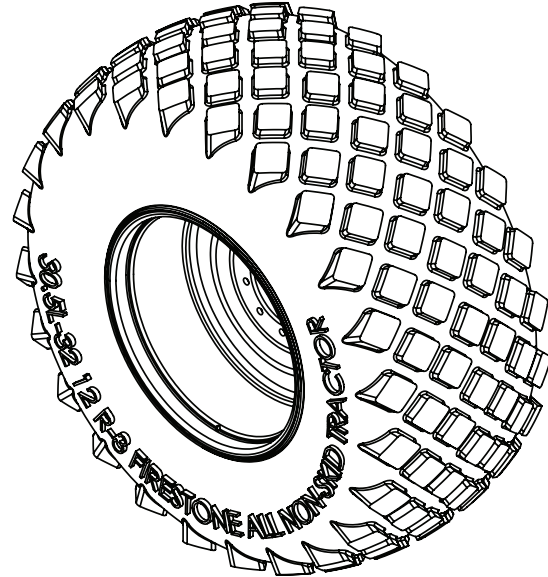


Item	Description	5" Ultra - 13 3/16" Bolt Circle		6" Ultra - 13 3/16" Bolt Circle	
		Quantity	Part Number	Quantity	Part Number
11	Locking Pin (Cotter Pin or Roll Pin)	1	81767	1	1953
12	Hub Cap Gasket	1	17147	1	50824
13	Hub Cap	1	17149	1	50823
14	Hub Cap Bolt	4	1181	4	1181
15	Lug Nut, M22 X 1.5	10	91849	10	91849
	Spindle and Wheel Hub		91834		91855
	Spindle and Wheel Hub (for Brake Rotor)		82189		82192
	Complete Spindle Assembly		91856		91857
	Complete Wheel Hub Assembly		91850		91851

## Tires



**R1 - Lug**



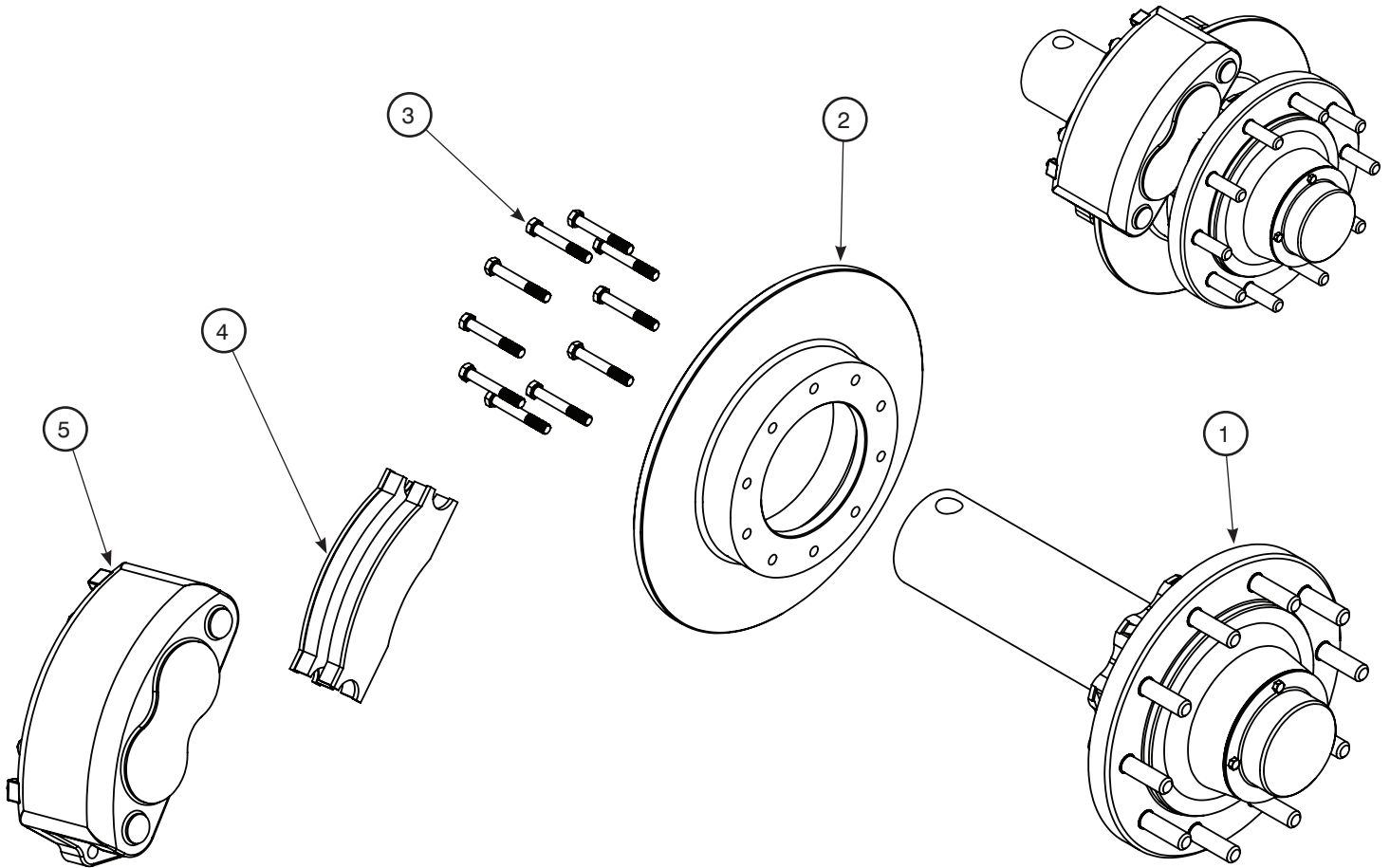
**R3 - Diamond**

Description	Part Number			Tire Pressure
	Tire and Rim	Tire Only	Rim Only	
28L X 26 R3 - 10 Bolt, 13 3/16" Bolt Circle	28386	17611	28387	26 (180 kPa)
28LR26 R3 - 10 Bolt, 13 3/16" Bolt Circle	91882	92639	28387	54 (372 kPa)
30.5x32 R1 - 10 Bolt, 13 3/16" Bolt Circle	91340	91341	27385	33 (228 kPa)
30.5x32 R3 - 10 Bolt, 13 3/16" Bolt Circle	27674	22692	27385	33 (228 kPa)
30.5LR32 R1 - 10 Bolt, 13 3/16" Bolt Circle	91586	94587	27385	52 (359 kPa)
30.5LR32 R3 - 10 Bolt, 13 3/16" Bolt Circle	92640	92641	27385	52 (359 kPa)
850/50 30.5 - 10 Bolt, 13 3/16" Bolt Circle, 10 Ply	40976	40977	40978	37 (256 kPa)
900/60 32 R1 - 10 Bolt, 13 1/4" Bolt Circle	91900	91901	27385	35 (241 kPa)

The logo for BALZER is rendered in a bold, italicized, sans-serif font. The letters are black with a white outline and a grey drop shadow, giving it a three-dimensional appearance. It is positioned at the top of the page, partially overlapping a green and white diagonal graphic element.

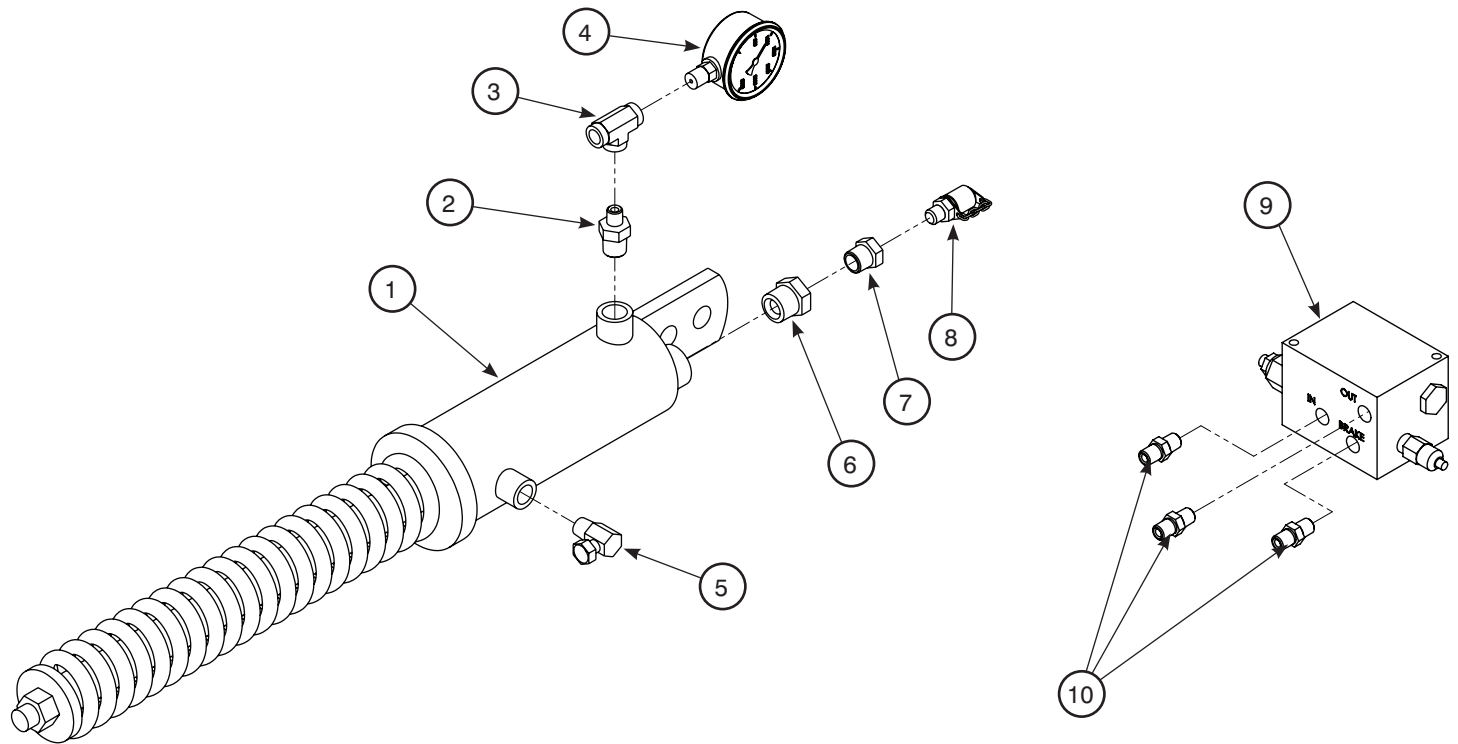
# Brakes

## Disc Brake Assembly



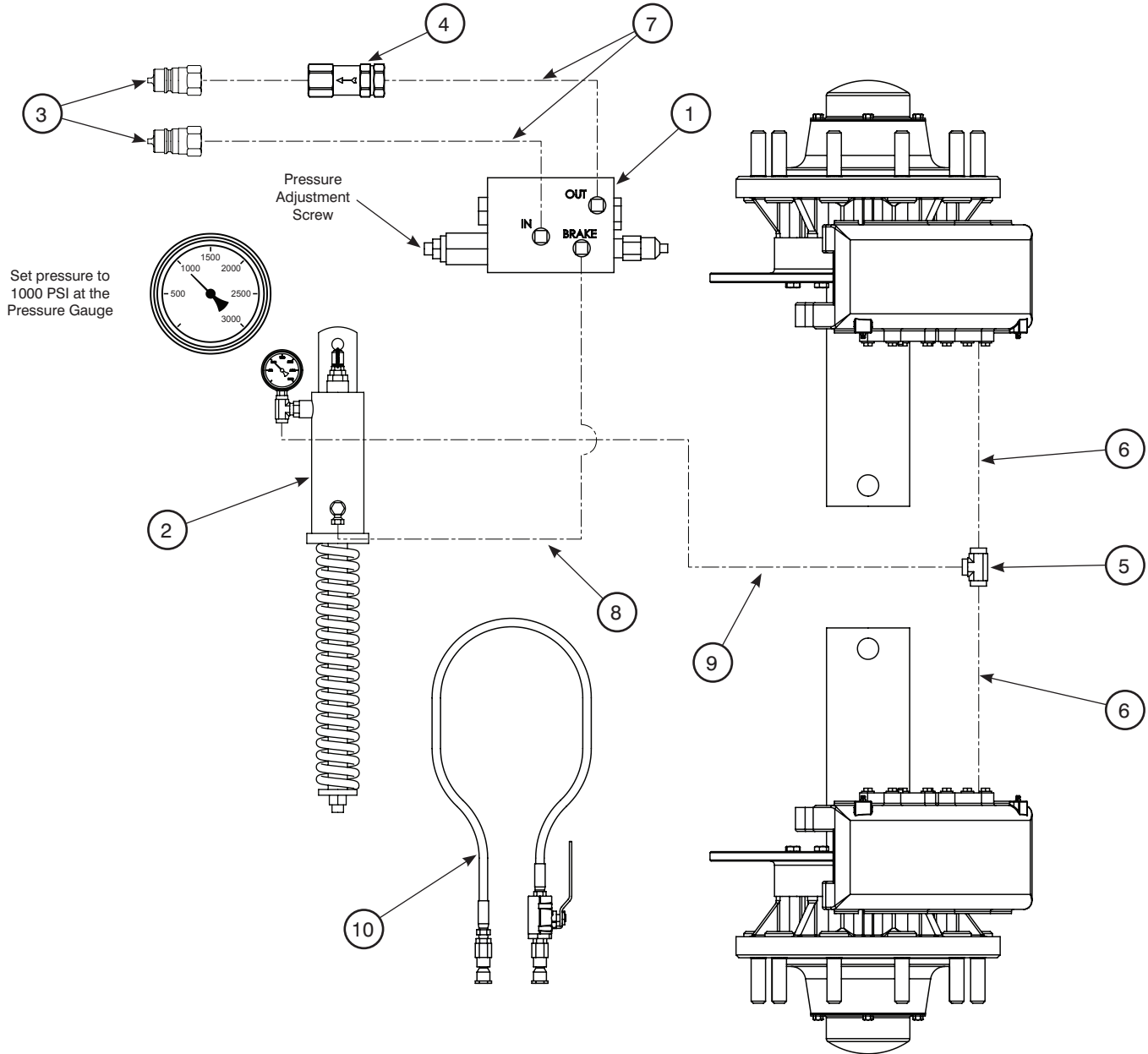
Item	Description	5" Ultra - 13 3/16" Bolt Circle		6" Ultra - 13 3/16" Bolt Circle	
		Quantity	Part Number	Quantity	Part Number
1	Spindle and Wheel Hub Assembly	1	82189	1	82192
2	Brake Rotor	1	91859	1	91858
3	Brake Rotor Bolt, 1/2"-20 X 3 1/2" GR8	10	2622	10	2622
4	Brake Pads	1 Set	52013	1 Set	52013
5	Brake Caliper	1	91853	1	91853

## Hydraulic Brake Return



Item	Description	Quantity	Part Number
1	Brake Spring, Hydraulic	1	82548
2	Hydraulic Nipple, 1/2" NPTM X 1/4" NPTFM	1	8622
3	Hydraulic Tee, 1/4" NPTFM X 1/4" NPTFM X 1/4" NPTFM	1	9957
4	Hydraulic Pressure Gauge	1	8638
5	Hydraulic Elbow, 3/8" NPTM X 1/4" NPTFMS, 90°	1	21171
6	Hydraulic Reducer, 3/4" NPTM X 1/2" NPTFM	1	8622
7	Hydraulic Reducer, 1/2" NPTM X 1/4" NPTFM	1	12190
8	Hydraulic Test Point with Cap	1	37521
9	Hydraulic Brake Valve Manifold	1	82550
10	Hydraulic Nipple, 1/4" NPTM X 1/4" NPTM	3	21664

## Hydraulic Brake Return

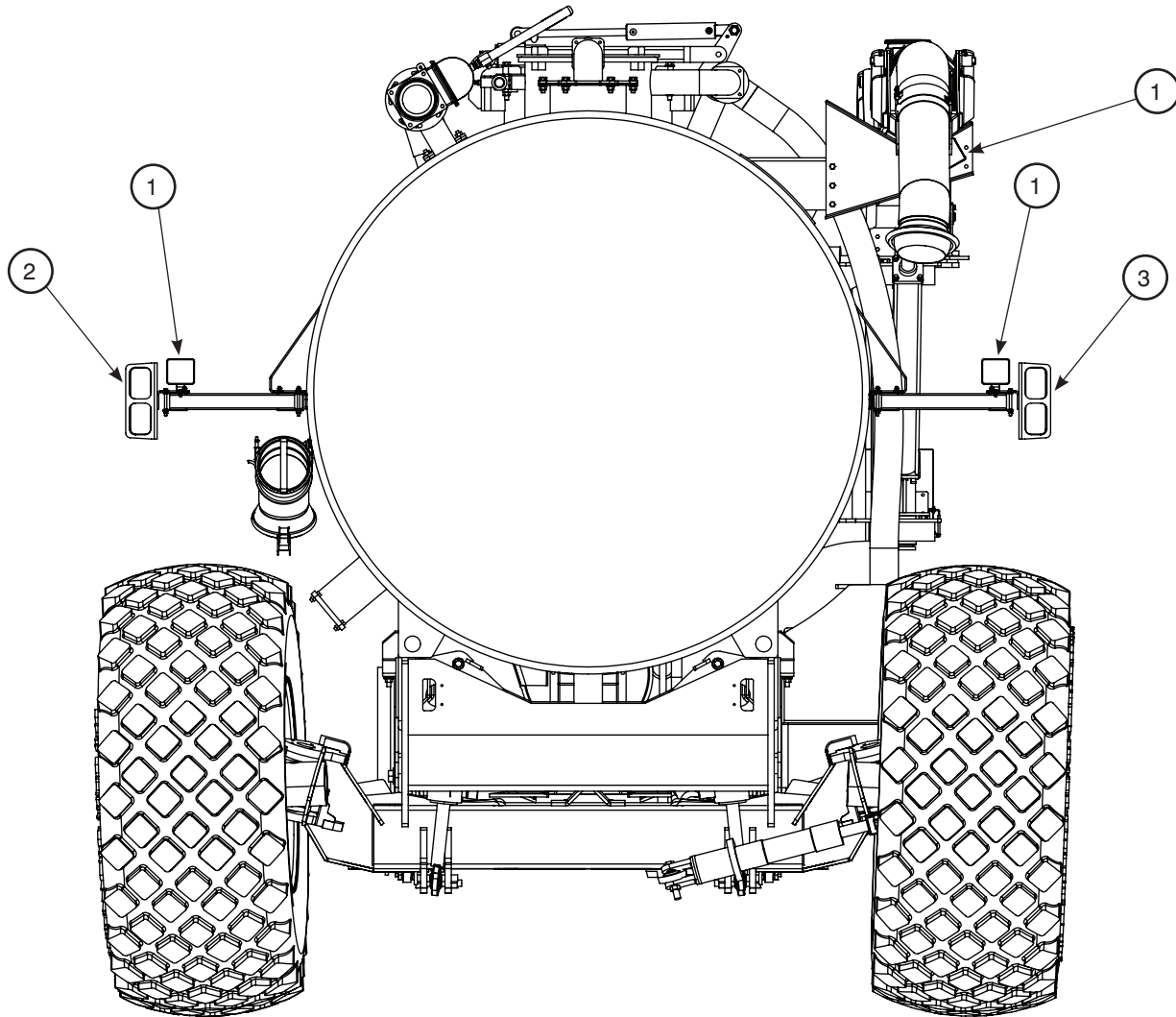


Item	Description	Quantity	Part Number
1	Hydraulic Brake Valve Manifold Assembly	1	
2	Hydraulic Brake Spring Assembly	1	
3	Coupler, Quick Connect, 1/2" NPTM	2	8634
4	Hydraulic Check Valve, 1/2" NPTFM X 1/2" NPTFM	1	10459
5	Hydraulic Tee, 1/4" NPTFM X 1/4" NPTFM X 1/4" NPTFM	1	36069
6	Hydraulic Hose Line, 1/4" NPTFM X 1/4" NPTMS, 84" LONG	2	22201
7	Hydraulic Hose Line, 1/4" NPTFM X 1/4" NPTMS, 144" LONG	2	13893
8	Hydraulic Hose Line, 1/4" X 9/16" JICFMS X 9/16" JICFMS 90°, 36" LONG	1	852036
9	Hydraulic Hose Line, 1/4" X 9/16" JICFMS X 9/16" JICFMS 90°, 132" LONG	1	852132
10	Bleeder Hose	1	72182

**BALZER**

# Electrical

## Light Location

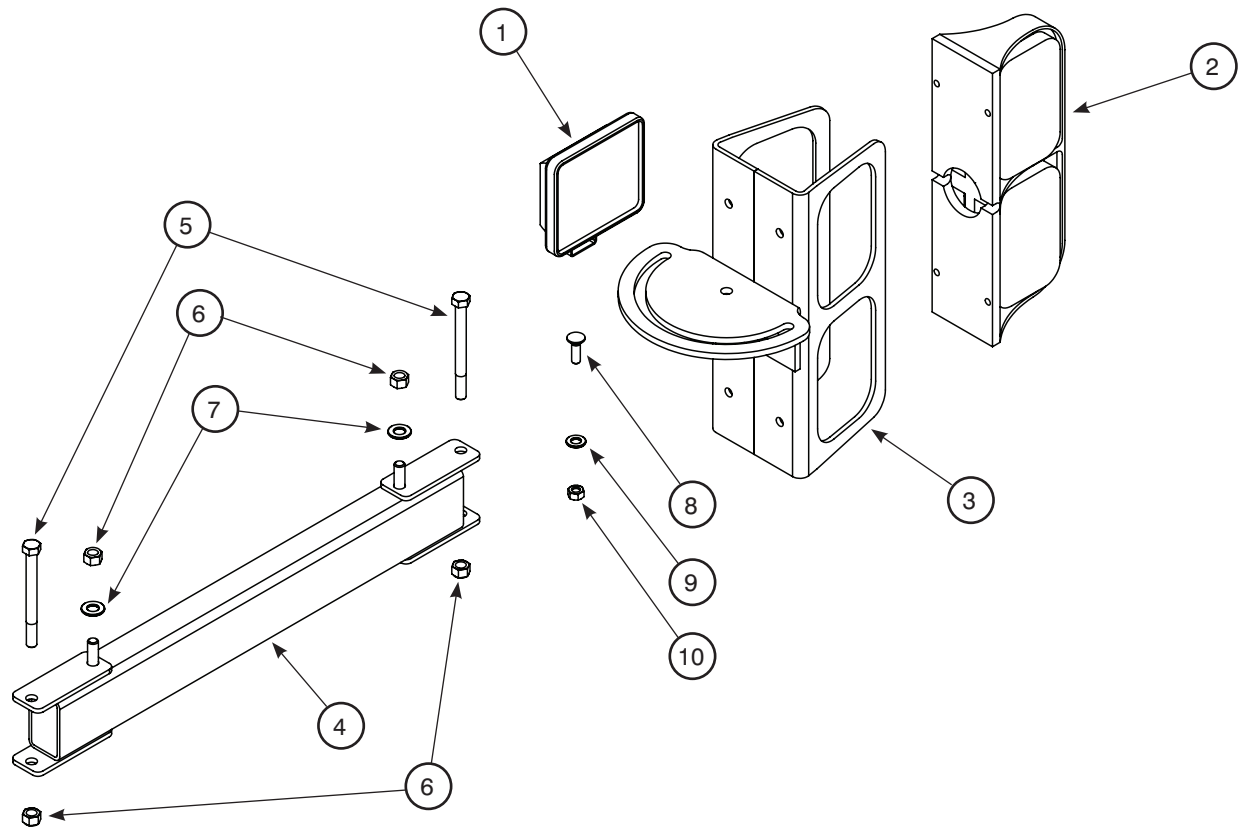


Item	Description	Quantity	Part Number
1	Work Light, LED	3	60984
2	Turn Light Assembly, Left	1	40763
3	Turn Light Assembly, Right	1	40764



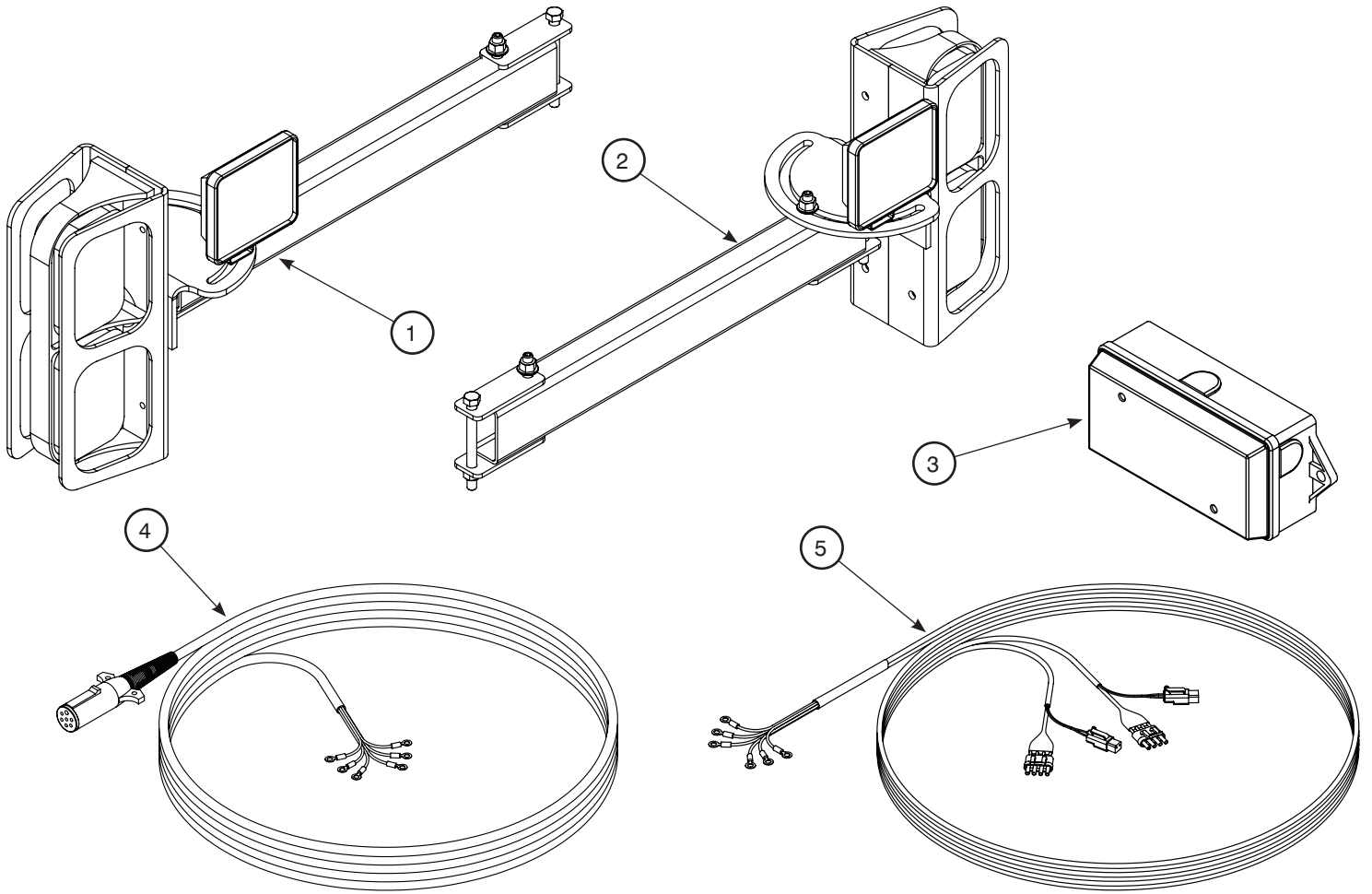
# ELECTRICAL

## Lighting Assemblies



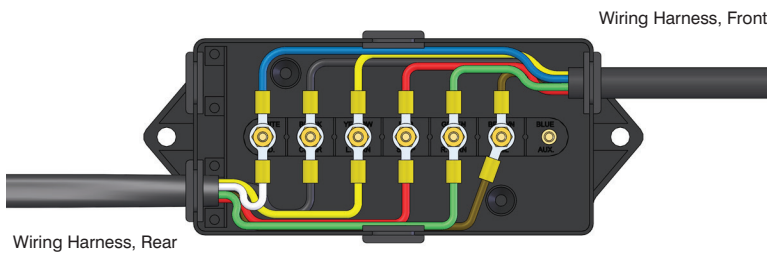
Item	Description	Quantity *	Part Number
1	Work Light, LED	1	60984
2	Turn Light Assembly, Right	1	40764
	Turn Light Assembly, Left		40763
3	Light Bracket Weldment	1	72786
4	Light Kit Arm, 21 3/4"	1	85769
5	Bolt, Hex Head, 3/8"-16 X 4", GR5	2	1218
6	Nut, Top Lock, 3/8"-16, GR5	4	2496
7	Flat Washer, 3/8"	2	1598
8	Carriage Bolt, 5/16"-18 X 1", GR5	1	1025
9	Flat Washer, 5/16"	1	1597
10	Nut, 5/16"-18	1	1691

\* Quantity is for each Light Arm Assembly



Item	Description	Quantity	Part Number
1	Light Kit, Left	1	72785
2	Light Kit, Right	1	72786
3	Junction Box, 7-Way	1	72663
4	Wiring Harness, Front	1	34171
5	Wiring Harness, Rear	1	34159

### Junction Box Wiring Diagram

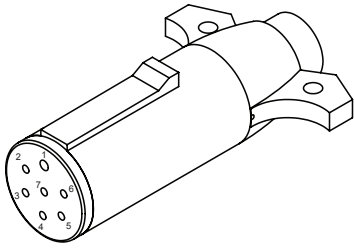


Wiring Harness, Rear		Wiring Harness, Front
Wire Color	Purpose	Wire Color
White	Ground	Blue or White*
Black	Work Lights	Black
Yellow	Left Turn Signal	Yellow
Red	Brake Lights	Red
Green	Right Turn Signal	Green
Brown	Tail Lights	Brown

\* Must be connected to Ground (Pin 1) on 7-Way Connector  
See Next Page for 7-Way Connector Wiring

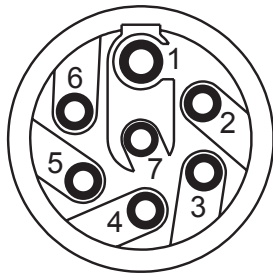
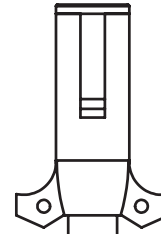
# ELECTRICAL

## Wiring Diagram



**7-Way Plug**  
(Part # 27701)

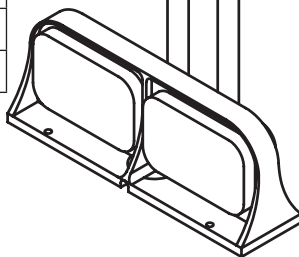
7-Way Plug Terminal Wiring		
Pin	Wire Color	Usage
1	White or Blue	Ground
2	Black	Work Lights
3	Yellow	Left Turn Signal
4	Red	Brake Lights
5	Green	Right Turn Signal
6	Brown	Running/Tail Lights
7	Not Used	



7-Way Plug  
Wire Terminals

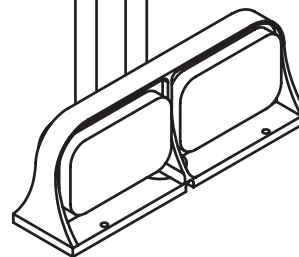
**Left Turn Light Assembly**  
(Part # 40763)

Pin	Wire Color
1	Brown
2	Yellow
3	White
4	Red



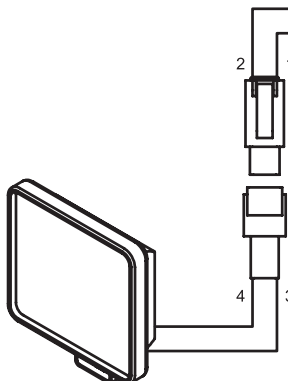
**Right Turn Light Assembly**  
(Part # 40764)

Pin	Wire Color
1	Brown
2	Green
3	White
4	Red



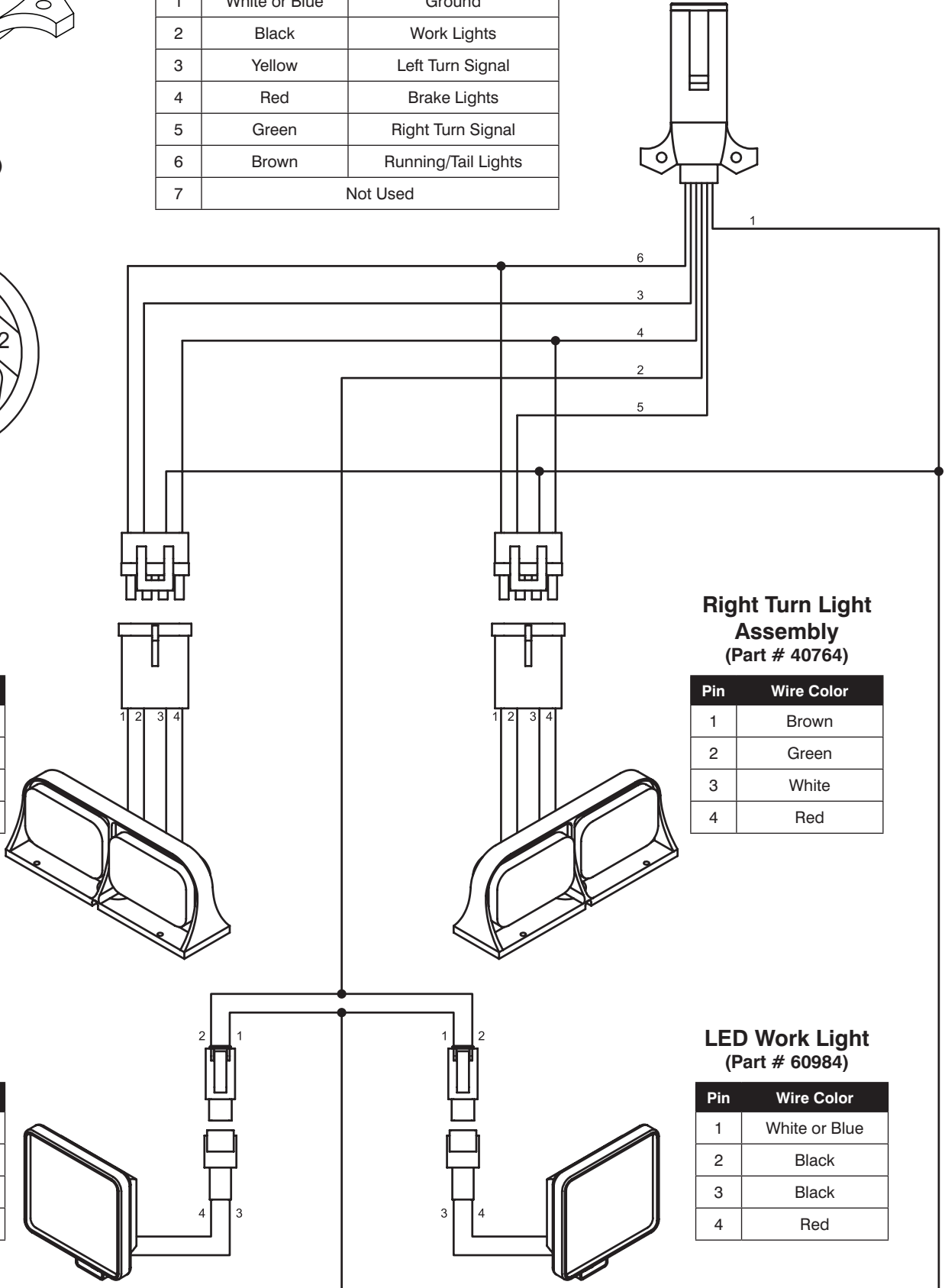
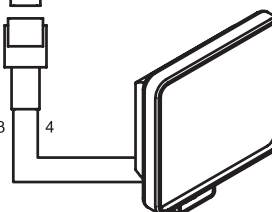
**LED Work Light**  
(Part # 60984)

Pin	Wire Color
1	White or Blue
2	Black
3	Black
4	Red



**LED Work Light**  
(Part # 60984)

Pin	Wire Color
1	White or Blue
2	Black
3	Black
4	Red

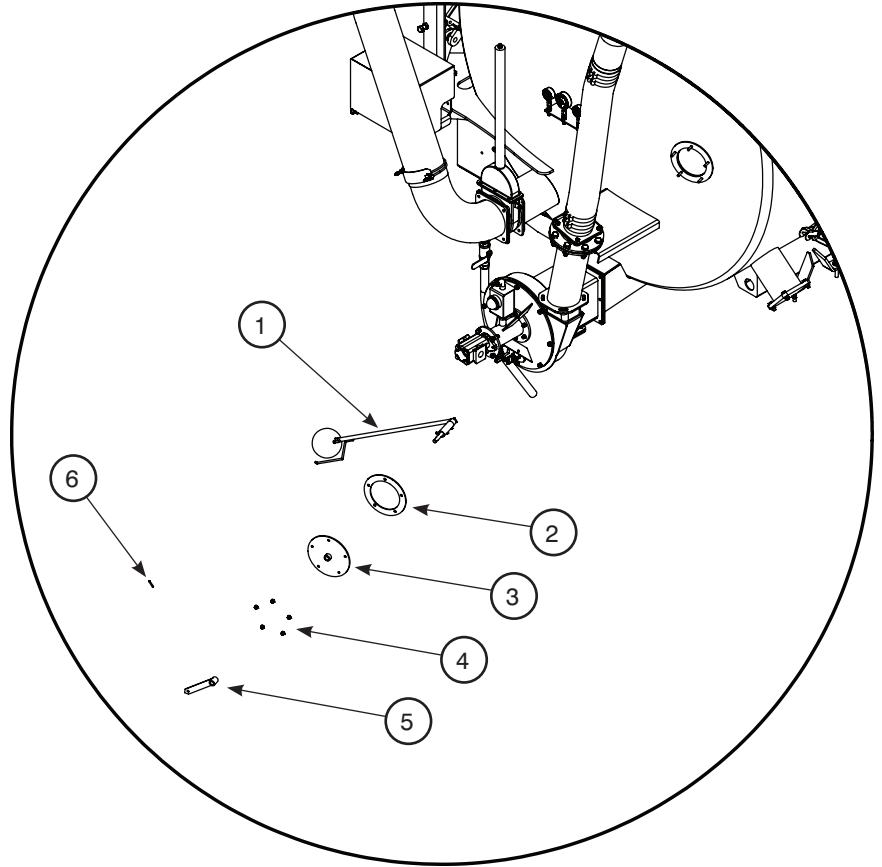
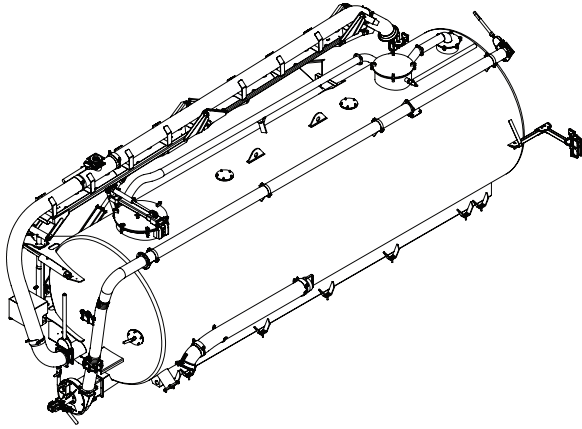




**BALZER**

# **Vacuum Tank**

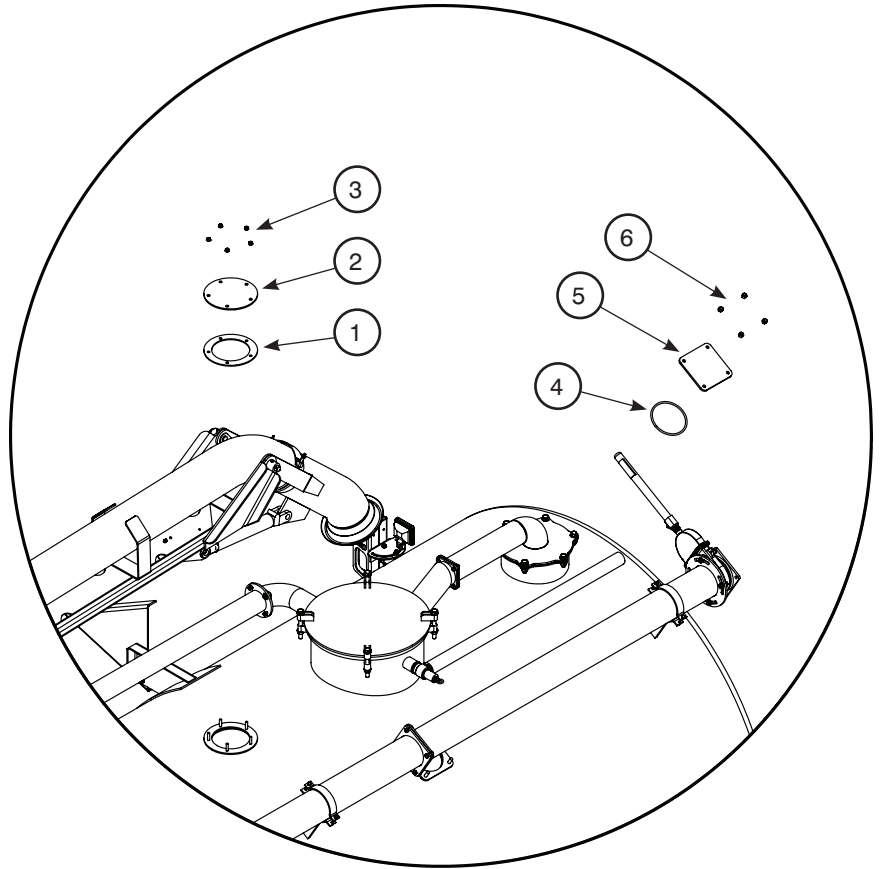
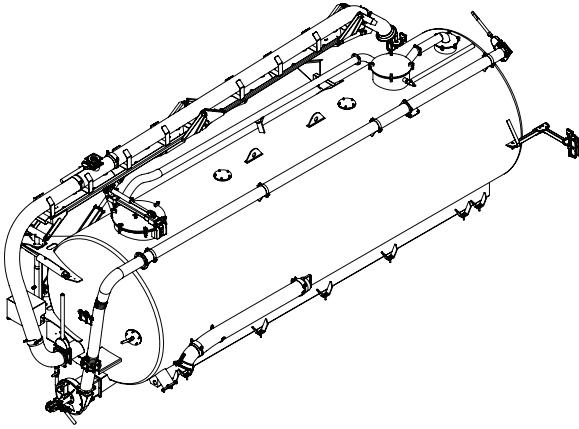
## Float



Item	Description	Quantity	Part Number
1	Float Assembly, Ball	1	22807
2	Gasket	1	15961
3	Cover	1	15904
4	Flange Nut, 3/8"-16 GR5	5	2082
5	Needle, Level Indicator	1	10949
6	Roll Pin, 1/4" x 1 1/2"	1	1908

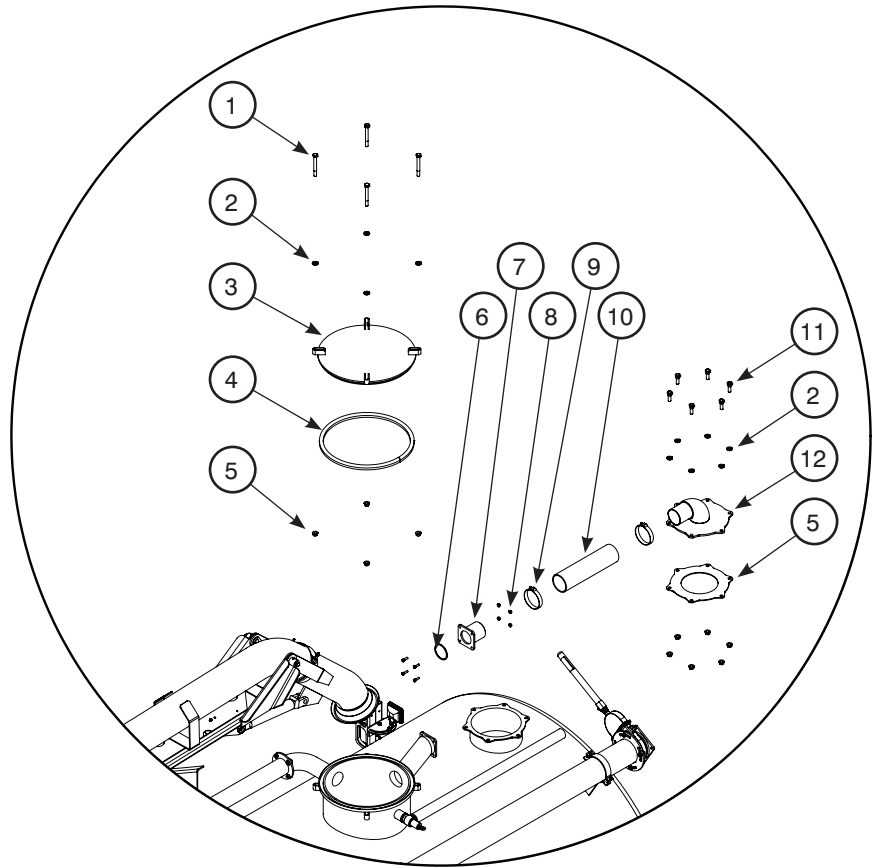
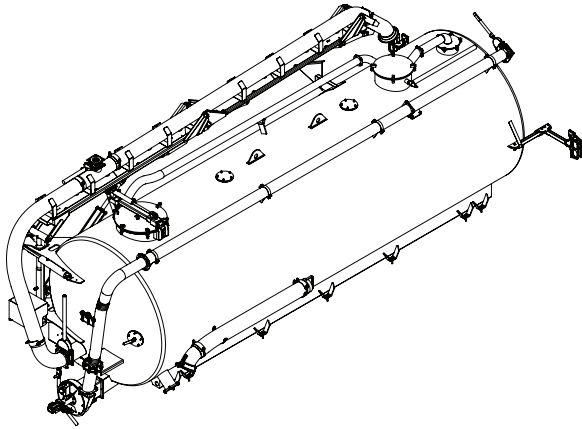
# VACUUM TANK

## Top Caps and Seals



Item	Description	Quantity	Part Number
1	Gasket	2	15961
2	Cover	2	17354
3	Flange Nut, 3/8"-16 GR5	10	2082
4	O-ring, AS568-438	1	15621
5	Cap, Recirculation Port	1	15785
6	Nut, Hex, 1/2"-20	4	1704

## Primary and Secondary Covers

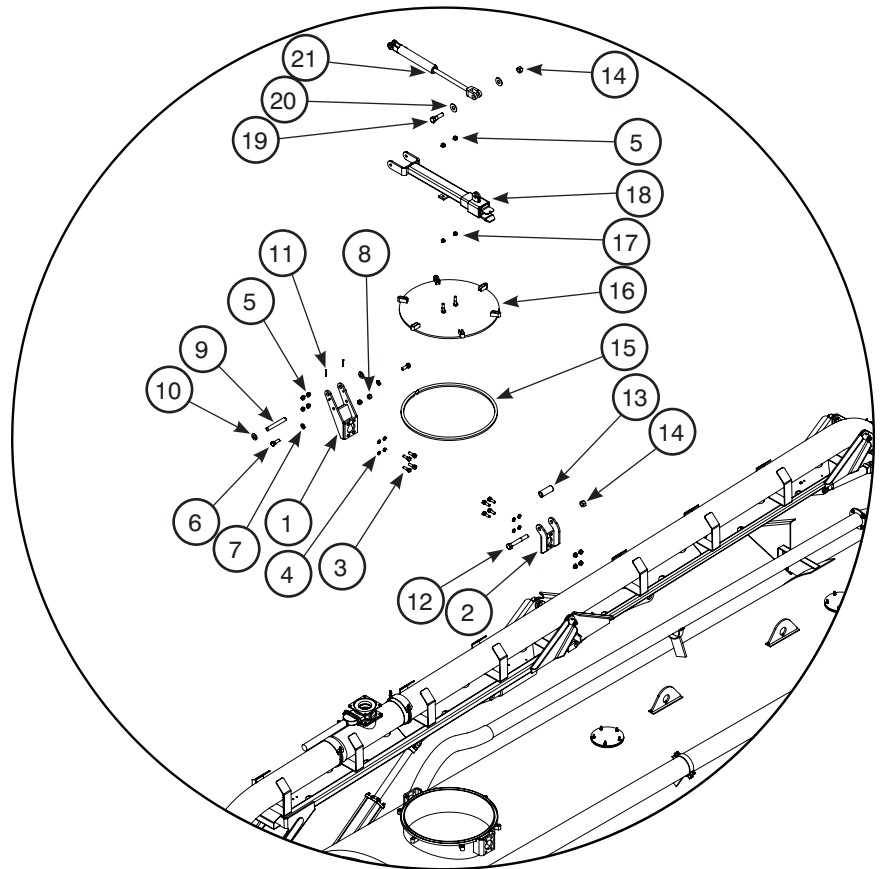
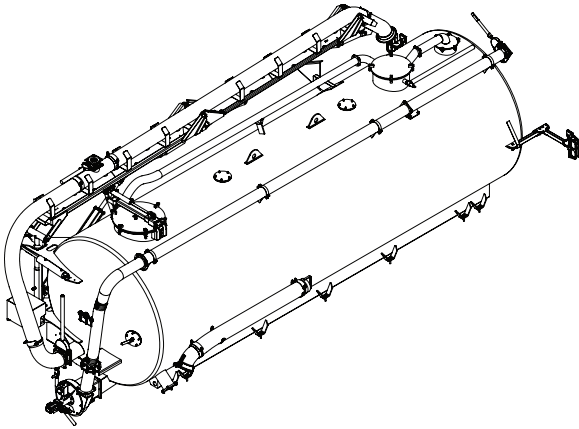


Item	Description	Quantity	Part Number
1	Bolt, Hex Head, 5/8"-11 X 5 1/2" GR5	4	1302
2	Flat Washer, 5/8"	10	1602
3	Secondary Cover	1	15565
4	Gasket, Secondary Cover	1	13162
5	Flange Nut, 5/8"-11	10	2085
6	Bolt, Hex Head, 3/8"-16 X 1 1/4" GR5	4	1207
7	O-Ring, AS568A-342	1	95566
8	Second Shut-off Flange with Hose Barbs, 4"	1	96511
9	Flange Nut, 3/8"-16	4	2082
10	Hose Clamp, 4"	2	4311
11	Hose, 4" X 17"	1	862001
12	Bolt, Hex Head, 5/8"-11 X 2" GR5	6	1291
13	Primary Cover, 4"	1	113015
14	Gasket, Primary Cover	1	115004



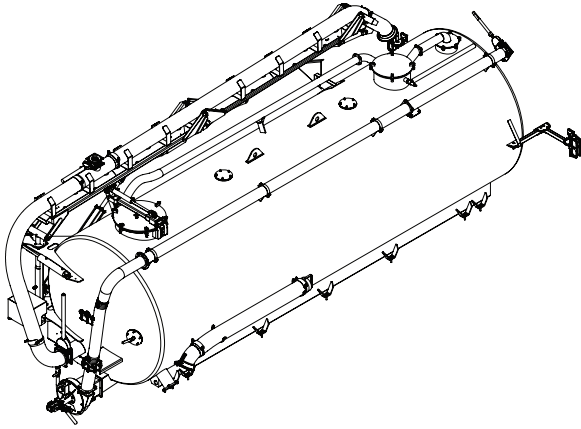
# VACUUM TANK

## Hydraulic Hatch

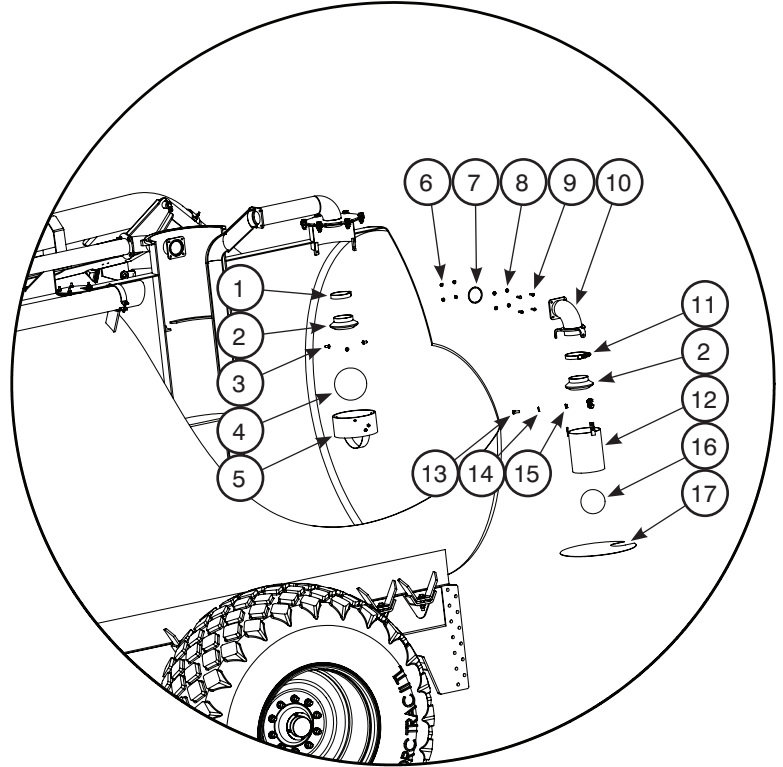
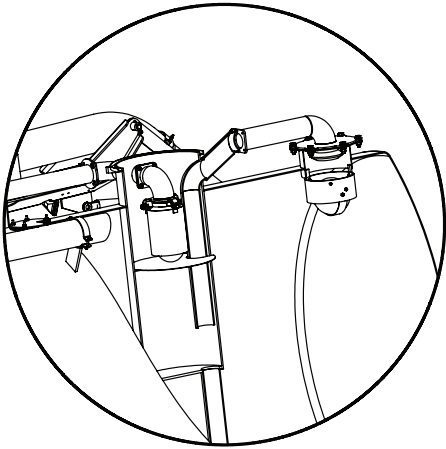


Item	Description	Quantity	Part Number
1	Mounting Bracket, Hydraulic Hatch	1	96183
2	Roller Latch Bracket, Hydraulic Hatch	1	96192
3	Bolt, Hex Head, 5/8"-11 X 2" GR5	8	1291
4	Lock Washer, 5/8"	8	1640
5	Flange Nut, 5/8"-11	10	2085
6	Bolt, Hex Head, 3/4"-10 X 2 1/4" GR5	2	1312
7	Flat Washer, 3/4"	2	1603
8	Hex Nut, 3/4"-10	2	1697
9	Pin, 1" X 7 1/2"	1	15987
10	Flat Washer, 1"	2	1627
11	Spring Pin, 1/4" X 2 1/4"	2	1909
12	Bolt, Hex Head, 1"-8 X 7" GR5	1	1351
13	Latch Roller	1	96191
14	Hex Nut, 1"-8	1	1699
15	Gasket, Hydraulic Hatch	1	96135
16	Hatch Cover	1	96136
17	Hex Nut, 5/8"-11	2	1696
18	Sliding Latch Assembly, Hydraulic	1	96139
19	Bolt, Hex Head, 1"-8 X 3 1/2"	1	1344
20	Flat Washer, 1"	1	1623
21	Hydraulic Cylinder, 12"	1	20808

## Primary & Secondary Shut Offs



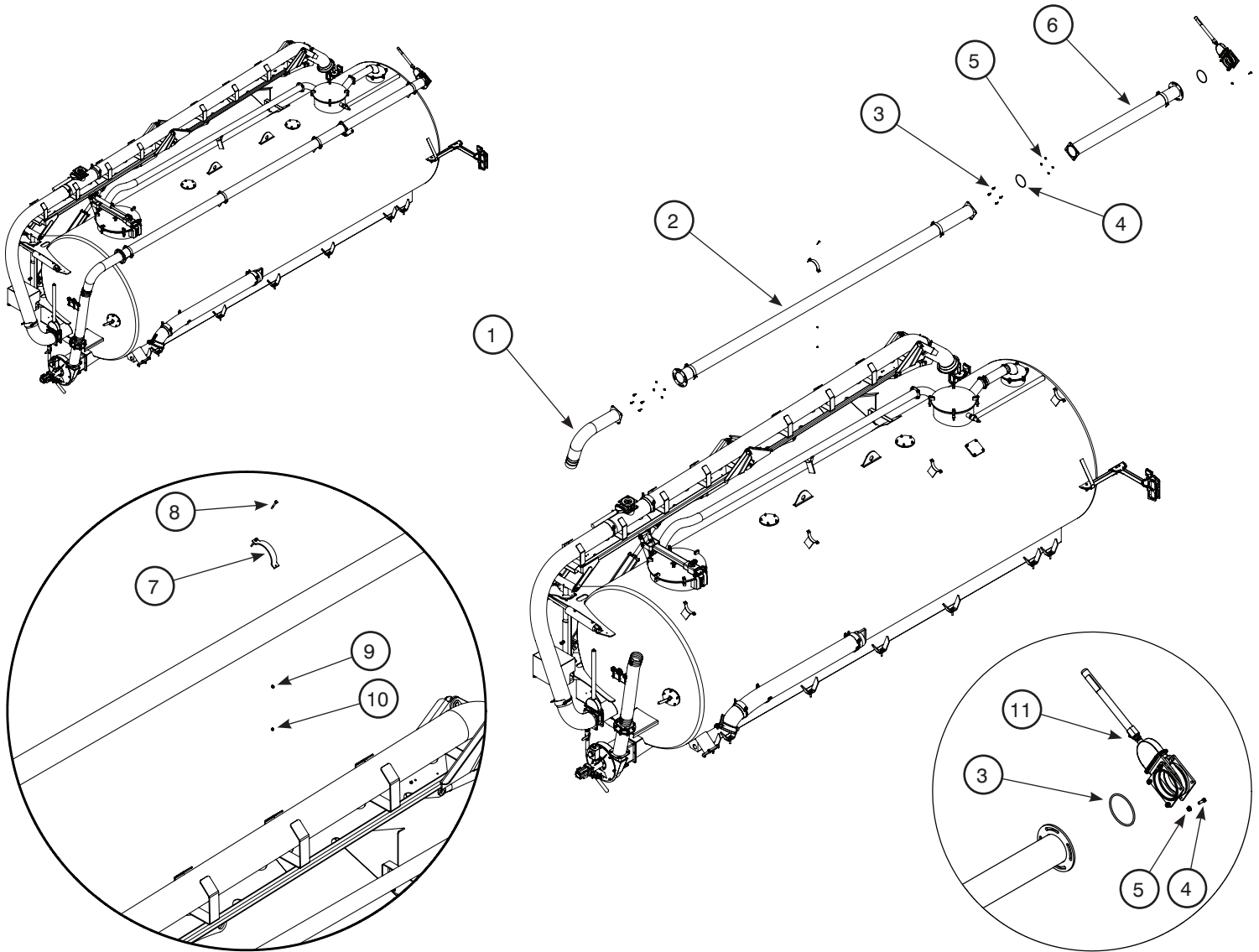
Assembled Primary and Secondary Shut-offs



Item	Description	Quantity	Part Number
1	Hose Clamp, 4"	1	4311
2	Ball Seat	2	80462
3	Machine Screw, Slotted Round Head, 1/2"-13 X 1", Stainless Steel	3	80472
4	Float, 8" Ball	1	80461
5	Primary Float Basket	1	80466
6	Flange Nut, 3/8"-16 GR5	4	2082
7	O-Ring, AS568A-342	1	95566
8	Flat Washer, 3/8"	4	1598
9	Bolt, Hex Head, 3/8"-16 X 1 1/4" GR5	4	1207
10	Secondary Shut-off Vacuum Tube	1	96508
11	Hose Clamp, 4 3/4"	1	16584
12	Secondary Float Tube	1	80453
13	Bolt, Hex Head, 1/2"-13 X 1 1/4" GR5	3	1249
14	Flat Washer, 1/2"	3	1600
15	Flange Nut, 1/2"-13	3	2084
16	Float, 6" Ball	1	80444
17	Screen, Perforated, 14 Ga.	1	95559

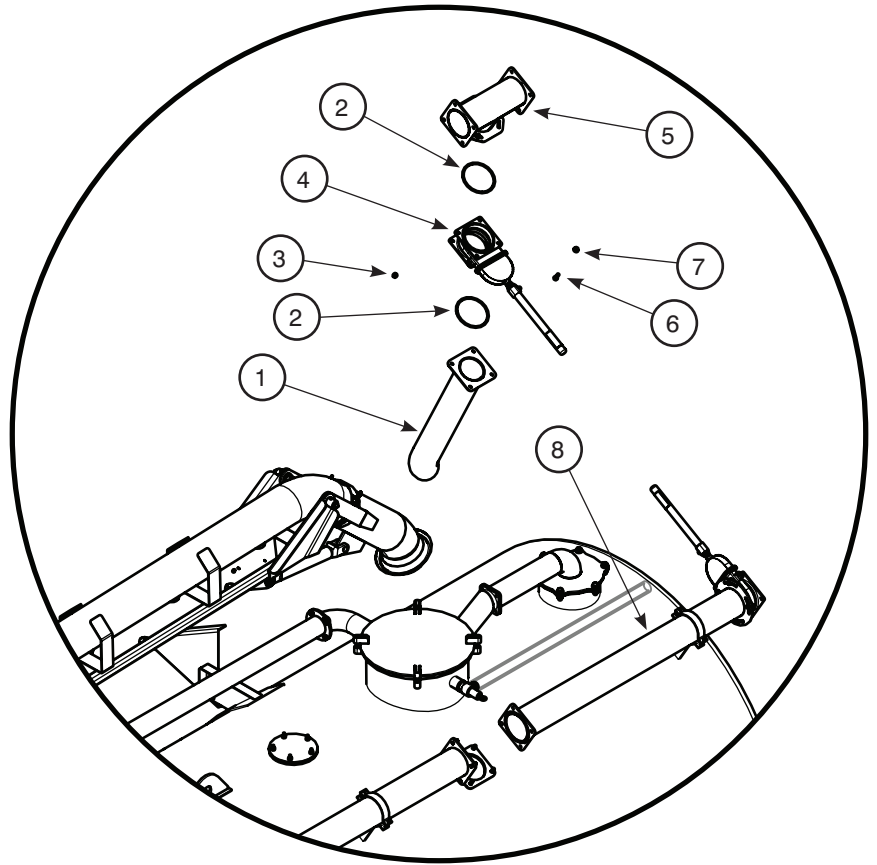
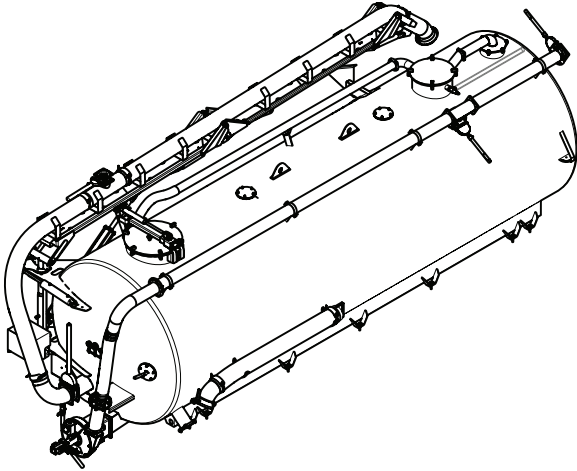
# VACUUM TANK

## Discharge Tube



Item	Description	Quantity	Part Number
1	Fitting, 6" Hose Barb, 25 1/4" Long, 90°	1	15924
2	Discharge Tube, 6" X 204 3/4"	1	102011
3	O-ring, AS568-438	3	15621
4	Bolt, Hex Head, 1/2"-13 X 1 1/4" GR8	12	2656
5	Flange Nut, 1/2"-13	12	2081
6	Discharge Tube, 6" X 73 3/4"	1	166002
7	Bracket, Discharge Tube	4	15870
8	Bolt, Hex Head, 5/16"-18 X 2 3/4" GR5	8	1192
9	Flat Washer, 5/16"	8	1597
10	Hex Nut, 5/16"-18	8	1691
11	Valve, 6" Gate, 2" Flange	1	15678

## Recirculation Connection (Optional)

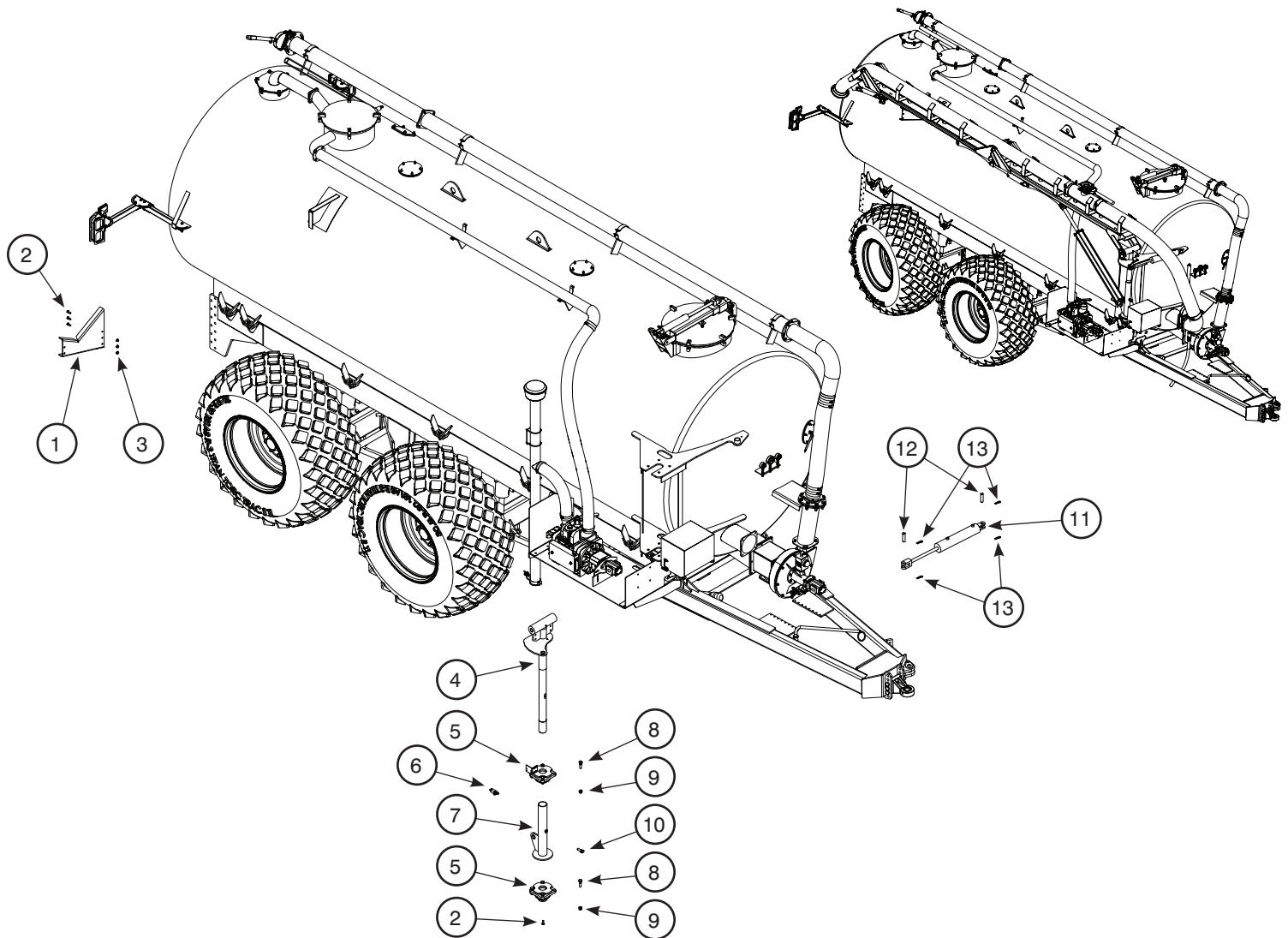


Item	Description	Quantity	Part Number
1	Intake Elbow, w/Flange and Piping	1	102009
2	O-ring, AS568-438	4	15621
3	Nut, Hex, 1/2"-20	4	1704
4	Valve, 6" Gate, 2" Flange	1	15678
5	Discharge Tube, Tee, 6" X 16"	1	94650
6	Bolt, Hex Head, 1/2"-13 X 1 1/4" GR8	4	1249
7	Flange Nut, 1/2"-13	4	2084
8	Discharge Tube, 6" X 60 1/4"	1	102012

**BALZER**

# Boom System

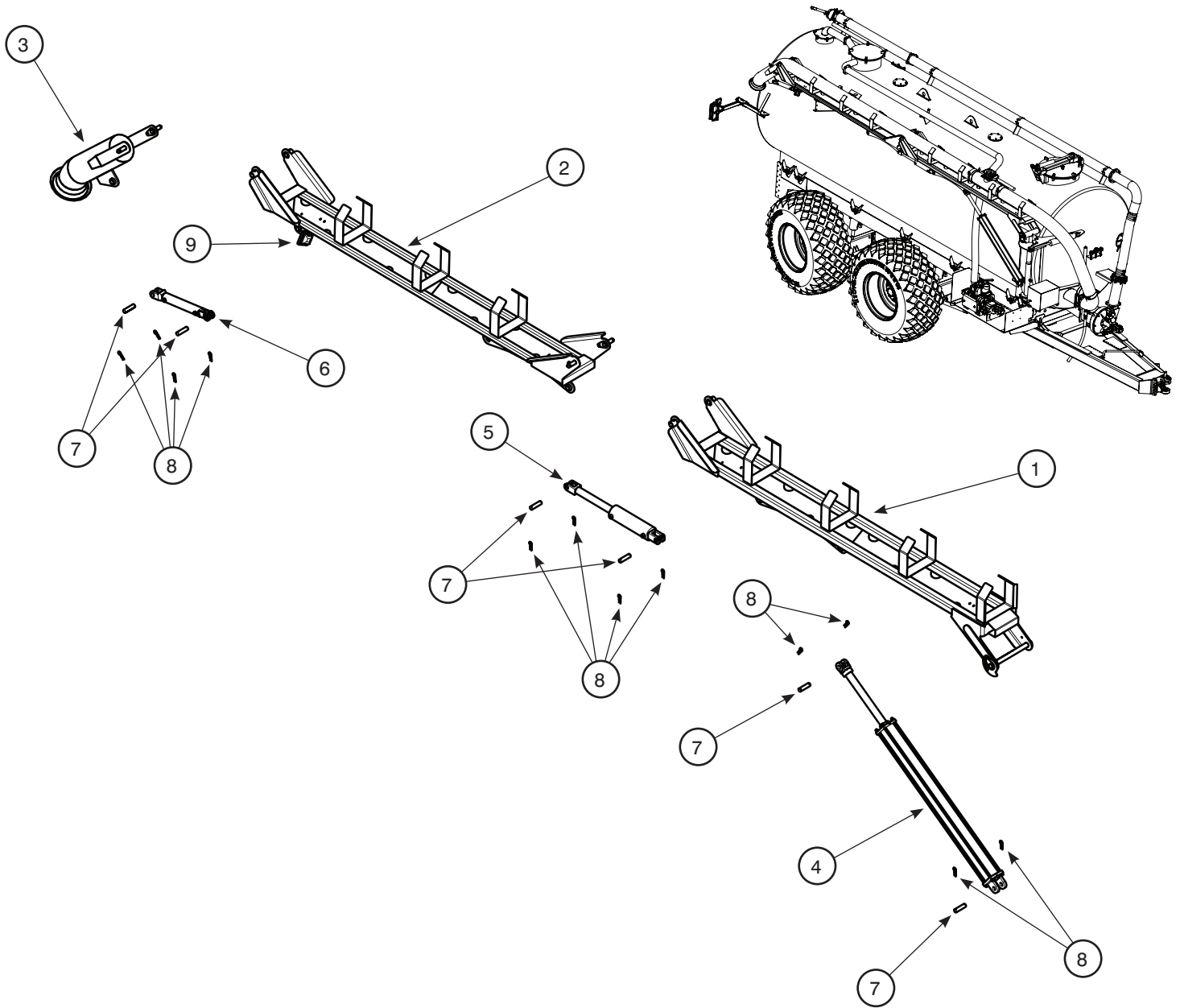
## Boom Mount



Item	Description	Quantity	Part Number
1	Saddle	1	72835
2	Bolt, Hex Head, 1/2"-13 X 1 1/4" GR5	4	1249
3	Flange Nut, 1/2"-13	3	2084
4	Boom Pivot, Main Weldment	1	91509
5	Bearing Pillow, 3" X 6", with Cam Lock	2	72447
6	Limit Switch	1	91564
7	Boom Pivot, Elevation Tube Weldment	1	91533
8	Bolt, Hex Head, 3/4"-10 X 2 1/2" GR5	8	1313
9	Nut, Top Lock, 3/4"-10	8	1777
10	Bolt, Hex Head, 3/4"-10 X 2" GR5	1	1311
11	Hydraulic Cylinder, 2 1/2" X 10"	1	72832
12	Hydraulic Cylinder Pin, 1" X 3 7/8"	2	8802
13	Cotter Pin, Hairpin, 1/8" X 2 3/4"	4	2611

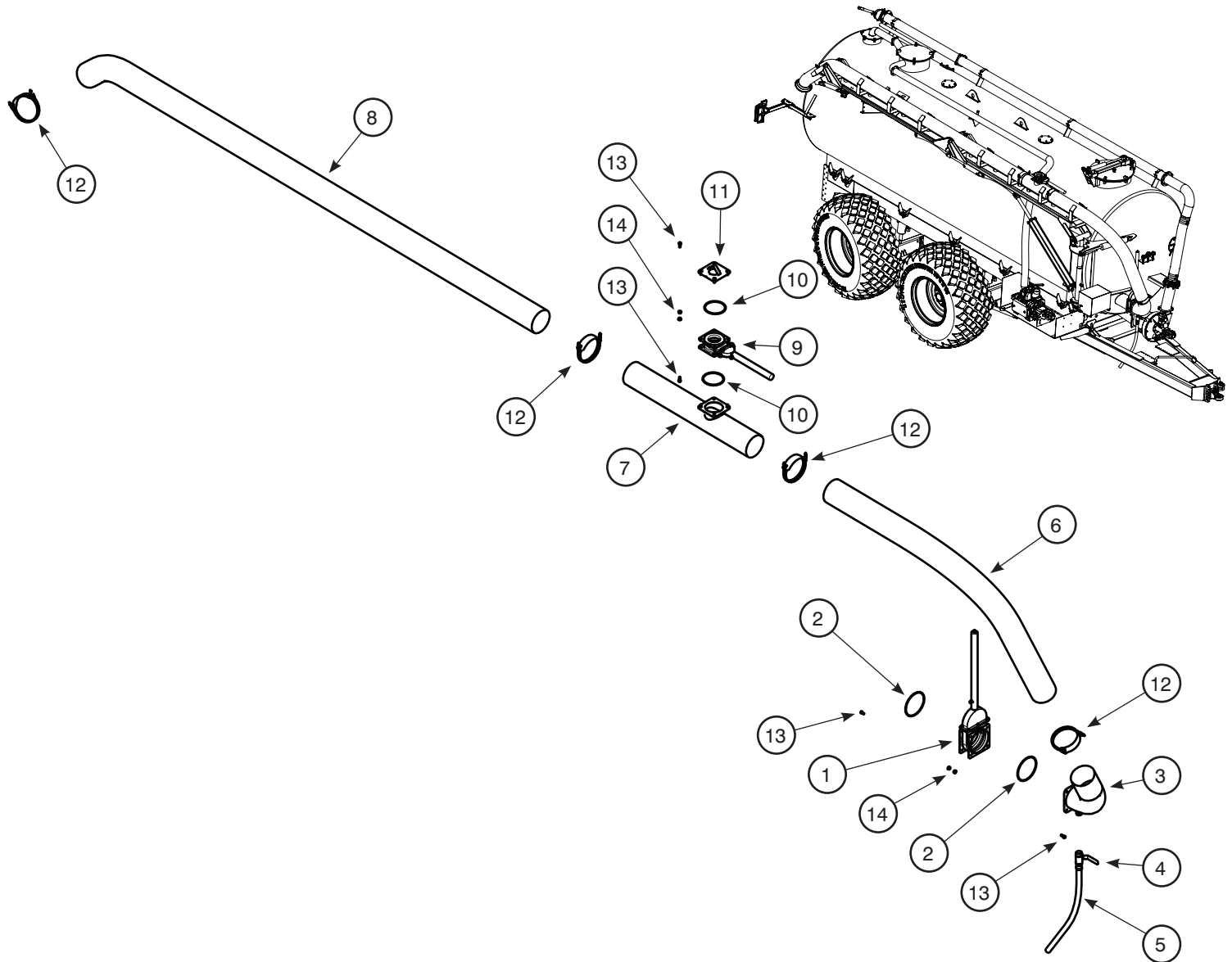
# BOOM SYSTEM

## Boom Arm



Item	Description	Quantity	Part Number
1	Boom Arm, First Section Weldment	1	91501
2	Boom Arm, Second Section Weldment	1	91502
3	Boom Arm, Third Section Weldment	1	91503
4	Hydraulic Cylinder, 3" X 48"	1	83340
5	Hydraulic Cylinder, 2 1/2" X 10"	1	83330
6	Hydraulic Cylinder, 2 1/2" X 10"	1	20808
7	Hydraulic Cylinder Pin, 1" X 3 7/8"	6	8802
8	Cotter Pin, Hairpin, 1/8" X 2 3/4"	12	2611
9	Work Light, LED	1	60984

## Boom Suction Tube

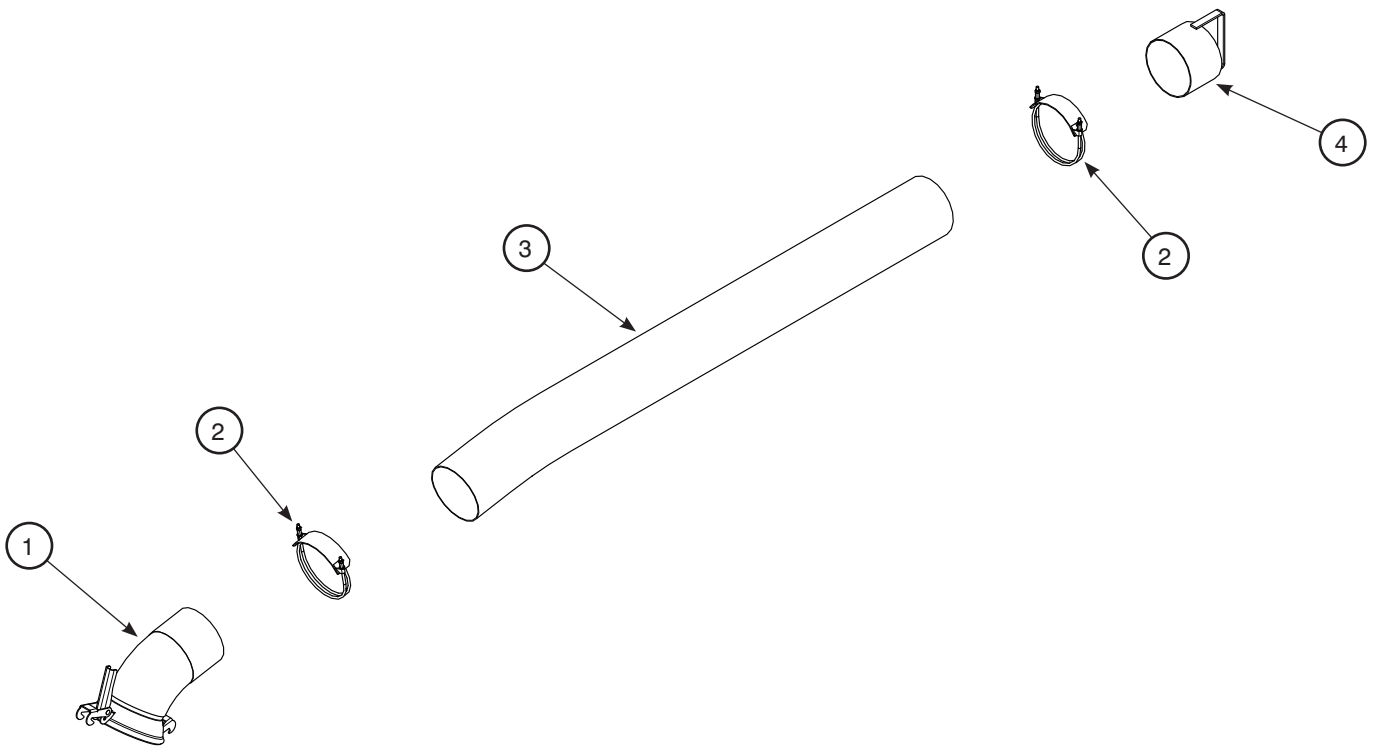
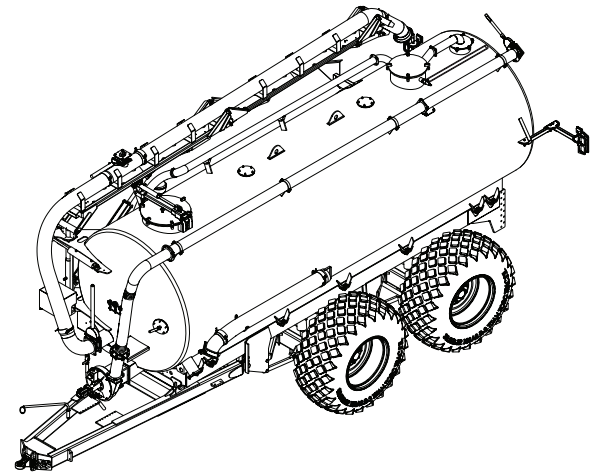


Item	Description	Quantity	Part Number
1	Valve, 8" Gate	1	91521
2	O-ring, AS568-445	2	16604
3	Tube Fitting, 8" Elbow	1	91522
4	Ball Valve with Handle, 1 1/4" NPT and Hose Barb, 1 1/4" X 1 1/4" NPT	1	91491/16890
5	Hose, Clear, 1 1/4" X 48"	1	82374
6	Hose, Kanaflex, 8" X 108"	1	50083
7	Tee, 8" OD X 8" OD X 6" OD Flange	1	81462
8	Hose, Kanaflex, 8" X 192"	1	50084
9	Valve, 4" Gate	1	91487
10	O-ring, AS568-439	2	15621
11	Secondary Conversion Flange	1	21283
12	Spiral Clamp, 8"	4	50509
13	Bolt, Hex Head, 1/2"-13 X 1 1/4" GR5	16	1249
14	Flange Nut, 1/2"-13	16	2084



# BOOM SYSTEM

## Boom Suction Tip

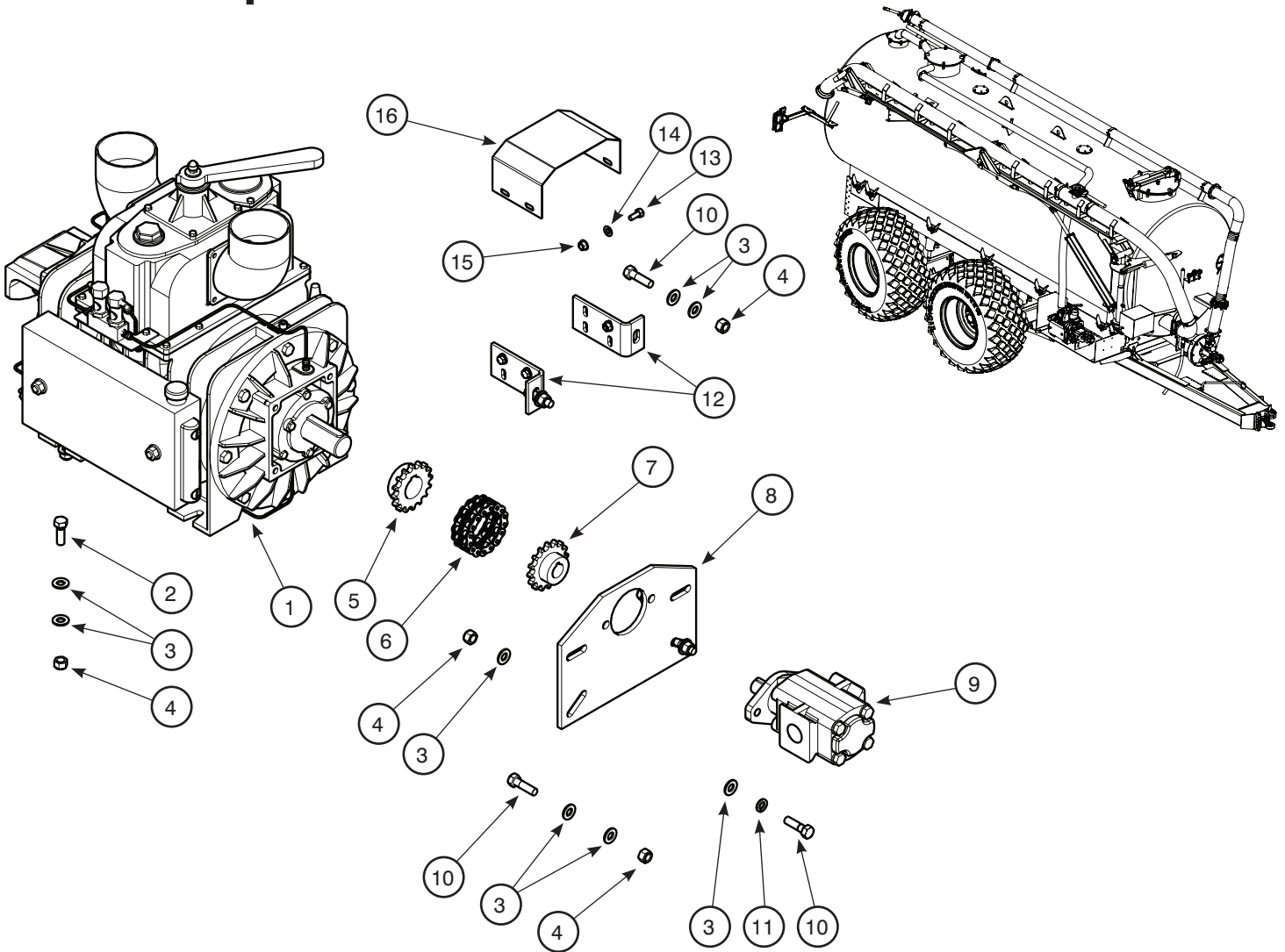


Item	Description	Quantity	Part Number
1	Coupler, 8" X 45° with Hose Barb	1	92380
2	Spiral Clamp, 8"	2	50509
3	Hose, Kanaflex, 8" X 84"	1	50085
4	Ball Valve with Handle, 1 1/4" NPT and Hose Barb, 1 1/4" X 1 1/4" NPT	1	36554



**BALZER**

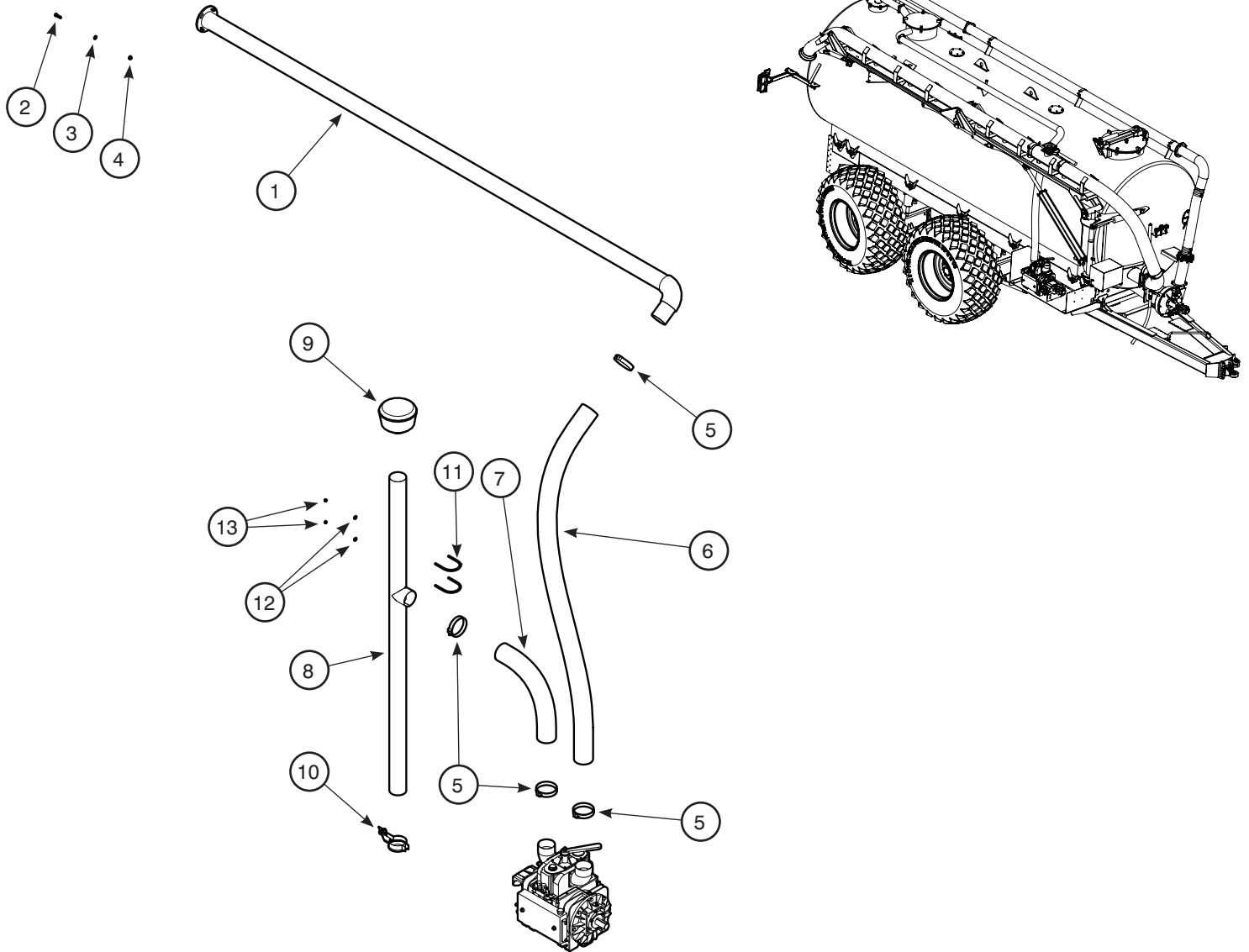
# Vacuum System



Item	Description	Quantity	Part Number
1	Vacuum Pump, Jurop PNR142D	1	33343
2	Bolt, Hex Head, 1/2"-13 X 1 1/2" GR5	4	1250
3	Flat Washer, 1/2"	20	1639
4	Nut, Top Lock, 1/2"-13	10	2349
5	Drive Sprocket, Vacuum Pump, 50B16 - 1 9/16" (40mm) Bore	1	22532
6	Drive Roller Chain, 50H-2	1	15984
7	Drive Sprocket, Hydraulic Motor, 50B16 - 1" Bore	1	15982
8	Motor Mount Plate, SAE "A"	1	20140
9	Hydraulic Motor, Parker CI	1	20474
10	Bolt, Hex Head, 1/2"-13 X 1 3/4" GR5	6	1251
11	Lock Washer, 1/2"	2	1638
12	Shield Mount	2	20141
13	Bolt, Hex Head, 5/16"-18 X 3/4" GR5	4	1183
14	Flat Washer, 5/16"	4	1597
15	Flange Nut, 5/16"	4	2081
16	Shield, Vacuum/Hydraulic Drive	1	15986

# VACUUM SYSTEM

## Vacuum Line

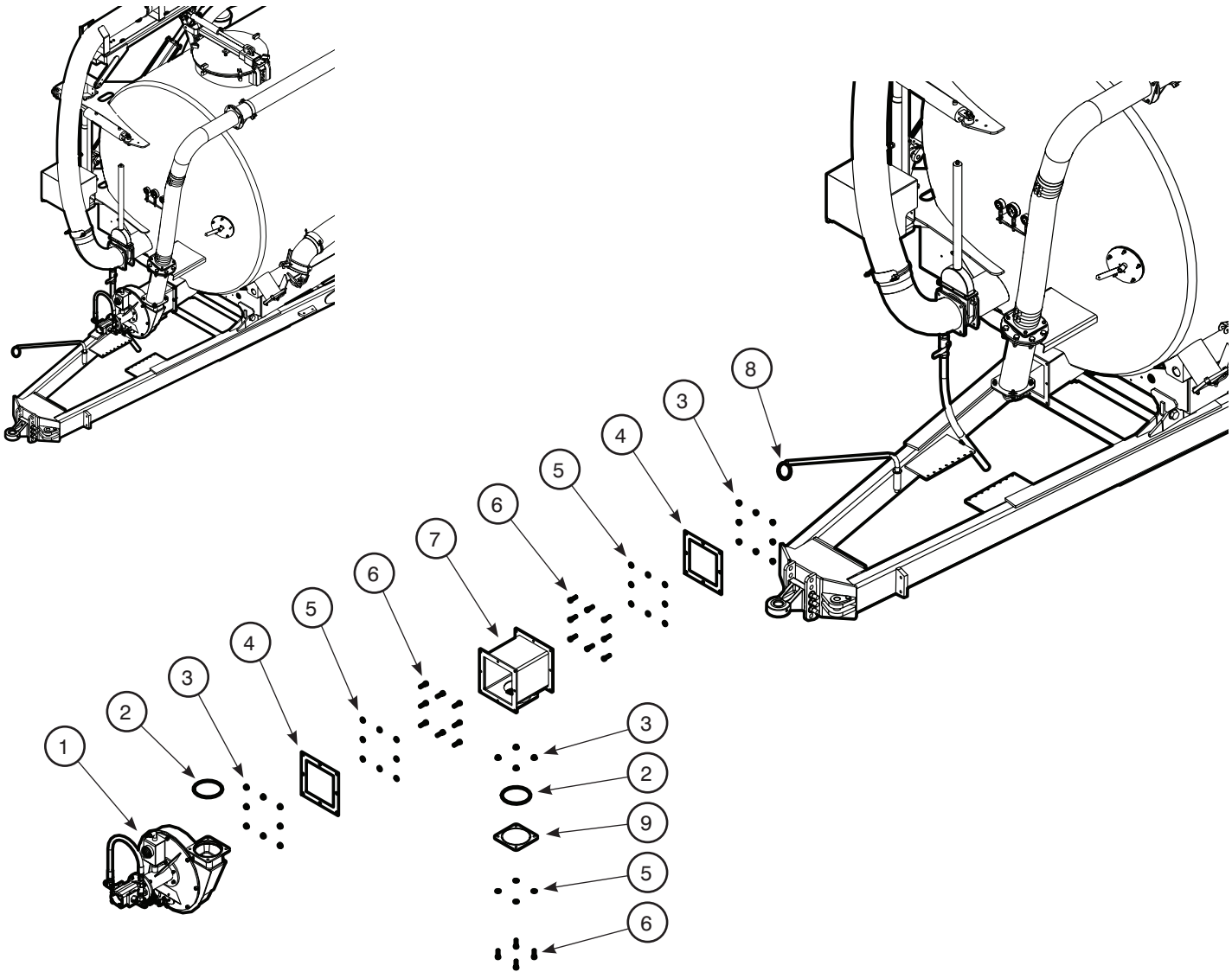


Item	Description	Quantity	Part Number
1	Vacuum Tube, Rigid, 4"	1	113006
2	Bolt, Hex Head, 3/8"-16 X 1 1/2" GR5	4	1208
3	Flat Washer, 3/8"	4	1598
4	Flange Nut, 3/8"-16	4	2082
5	Hose Clamp, T-Bolt, 4"	4	4311
6	Vacuum Hose, Wire Re-enforced, 4" X 90"	1	33203
7	Vacuum Hose, Wire Re-enforced, 4" X 30"	1	33203
8	Exhaust Tube, 4"	1	90817
9	Pre-Cleaner Filter, Exhaust, 4"	1	50510
10	Rain Cap, 4"	1	81601
11	U-Bolt, 5/16" X 4"	2	33553
12	Flat Washer, 5/16"	4	1597
13	Hex Nut, 5/16"-18	4	1691



**BALZER**

# Slurry Pump

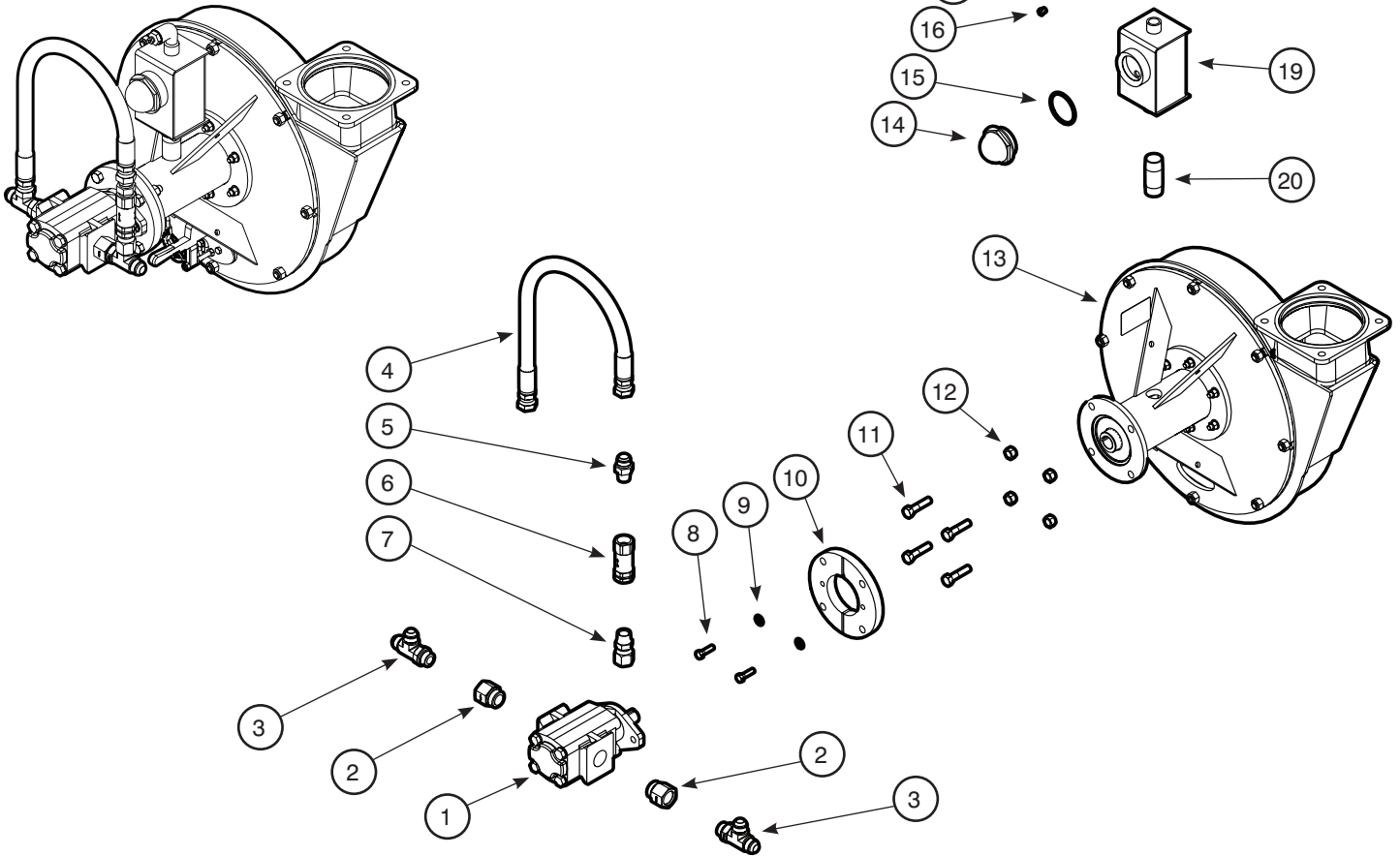


Item	Description	Quantity	Part Number
1	Slurry Pump with Hydraulic Motor	1	
2	O-ring, AS568-438	2	15621
3	Flange Nut, 1/2"-13	20	2084
4	Gasket, 12" X 12"	2	16036
5	Flat Washer, 1/2"	20	1600
6	Bolt, Hex Head, 1/2"-13 X 1 3/4" GR5	20	1251
7	Sump Extension, 12"	1	91796
8	Hose Hanger	1	83078
9	Cover, 7 1/2" X 7 1/2"	1	15785



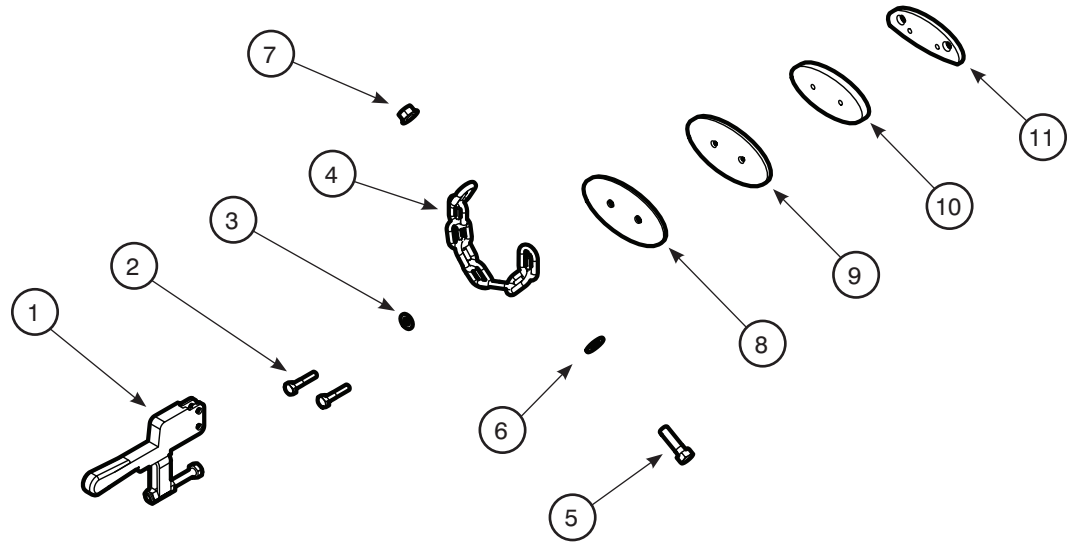
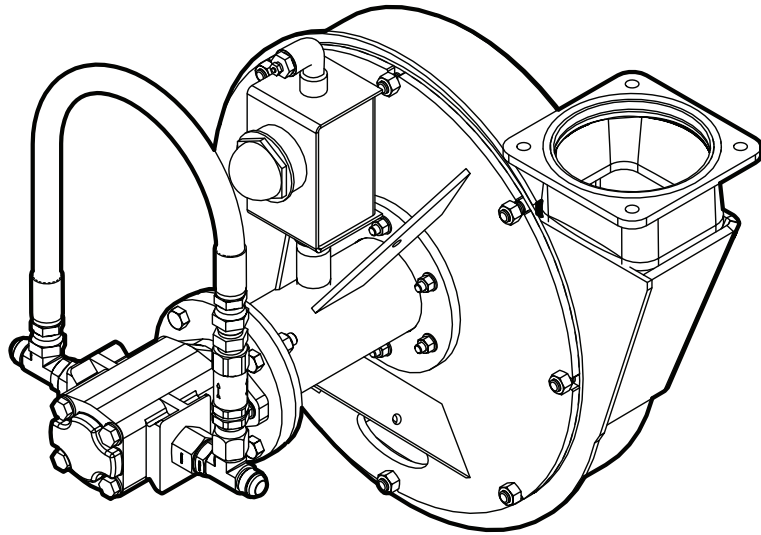
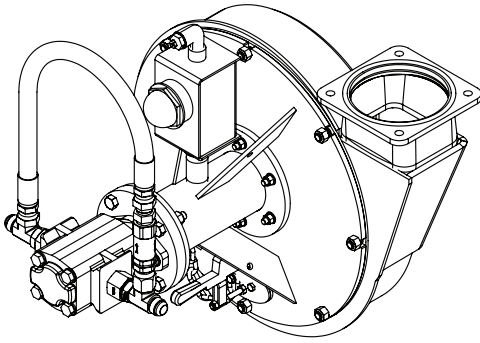
# SLURRY PUMP

## Pump with Hydraulic Drive



Item	Description	Quantity	Part Number
1	Hydraulic Motor, 3.94 CU IN	1	20474
2	Hydraulic Reducer, 1 5/16" ORB X 1 1/16" ORB	2	839012
3	Hydraulic Tee, 1 1/16" JICM X 1 1/16" ORB X 1 1/16" JICM	2	849006
4	Hydraulic Hose, 3/4" x 1 1/16" JICFMS X 1 1/16" JICFMS, 24" Long	1	857025
5	Hydraulic Nipple, 1 1/16" JIC X 3/4" NPTM	1	839008
6	Hydraulic Check Valve, 3/4" NPTFM X 3/4" NPTFM	1	8893
7	Hydraulic Coupler, 1 1/16" JICFM X 3/4" NPTM	1	839007
8	Bolt, Hex Head, 3/8"-16 X 1 1/4" GR5	2	1207
9	Flat Washer, 3/8"	2	1598
10	Hydraulic Motor Mount, Slurry Pump - 3.94 CU IN Hydraulic Motor (Standard)	1	36917
11	Bolt, Hex Head, 1/2"-13 X 2" GR5	4	1252
12	Nut, Top Lock, 1/2"-13	4	2539
13	Slurry Pump with Hydraulic Motor Drive Shaft (See Page 71)	1	
14	Sight Glass, 2" NPT	1	4061
15	O-ring, AS568-229	1	4062
16	Breather, 1/8" NPT, Brass	1	13097
17	Reducer, 1/2" NPTM X 1/8" NPTFM	1	13038
18	Pipe, Elbow, 1/2" NPTM X 1/2" NPTFM, 90°	1	8215
19	Oil Reservoir	1	36930
20	Pipe Nipple, 1" NPTM X 1" NPTM X 3"	1	36065

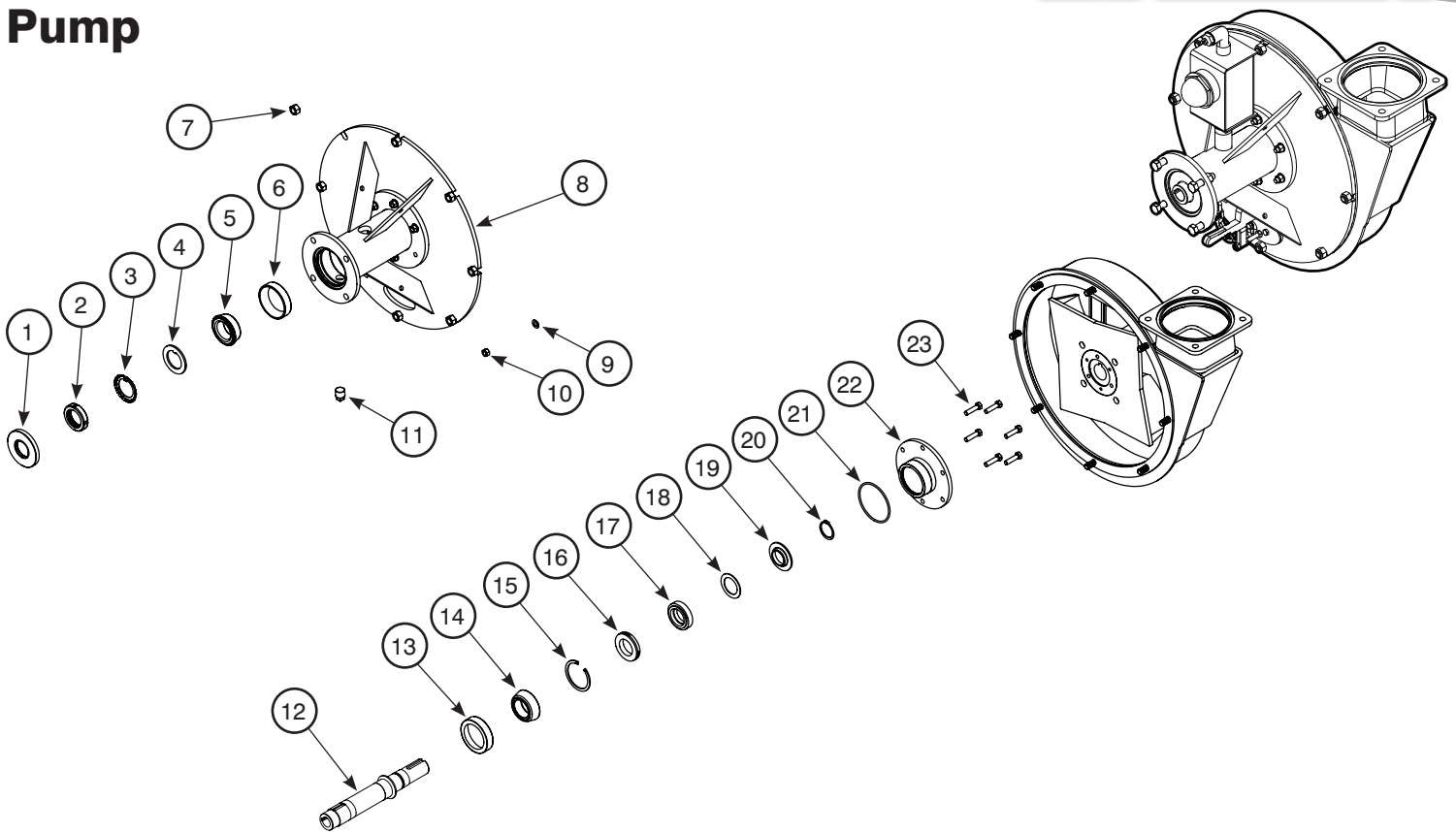
## Pump Drain Plug



Item	Description	Quantity	Part Number
1	Toggle Clamp Assembly	1	33001
2	Bolt, Hex Head, 1/4"-20 X 1 1/4" GR5	2	1165
3	Flat Washer, 1/4"	1	1596
4	Chain, 5/0 Straight Link	1	71896
5	Bolt, Hex Head, 3/8"-16 X 1 1/4" GR5	1	1207
6	Flat Washer, 3/8"	1	1598
7	Flange Nut, 3/8"-16	1	2082
8	Outer Cover, Drain Plug	1	71888
9	Drain Plug Gasket, 3/16" Neoprene	1	71887
10	Outer Drain Plug	1	71876
11	Inner Drain Plug	1	71877

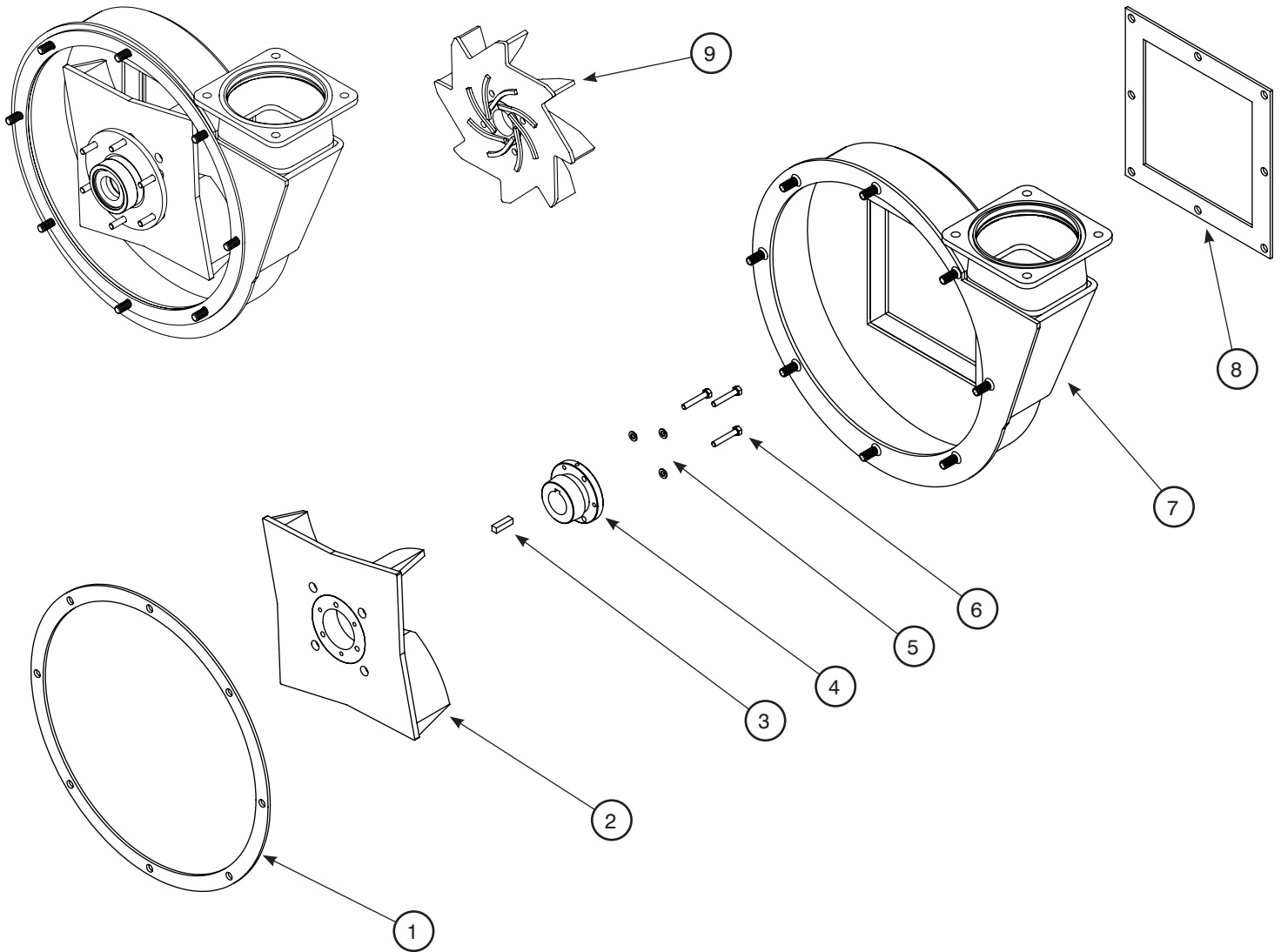
# SLURRY PUMP

## Pump



Item	Description	Quantity	Part Number
1	Seal	1	40095
2	Nut, Spanner, 1 3/4"-18 Class 2B	1	36920
3	Washer, Spanner, 1 3/4"	1	36921
4	Washer, 1 3/4", Tongued	1	36919
5	Taper Bearing, Cone	1	40098
6	Taper Bearing, Cup	1	8491
7	Nut, Top Lock, 1/2"-13 GR8	8	2539
8	Seal Chamber Housing	1	36909
9	Flat Washer, 3/8"	6	1598
10	Nut, Top Lock, 3/8"-16 GR8	6	2496
11	Plug, 1/2"-14 NPTF, Square Head	1	8907
12	Pump Shaft, Hydraulic	1	83719
13	Taper Bearing, Cup	1	8491
14	Taper Bearing, Cone	1	40098
15	Snap Ring, Internal, 68mm X 2.4mm	1	6509
16	Seal, Mechanical Rotating, 40mm, Front	1	17945
17	Seal, Mechanical Rotating, 40mm, Back	1	17941
18	Shim, 1 5/8" ID X 18ga	1	61441
19	Splash Guard, 40mm	1	17054
20	Snap Ring, External, 40mm X 1.6mm	1	6506
21	O-ring, AS568-239	1	36918
22	Cap, Slurry Seal	1	81290
23	Bolt, Hex Head, 3/8"-16 X 1 1/2" GR5	6	1208

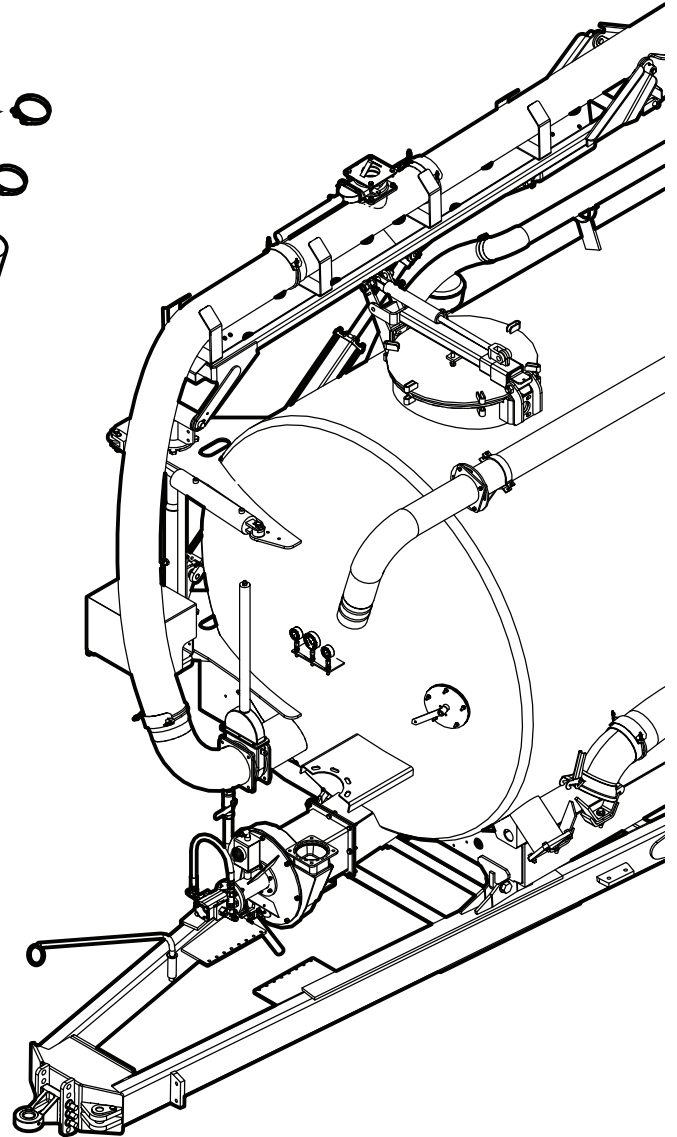
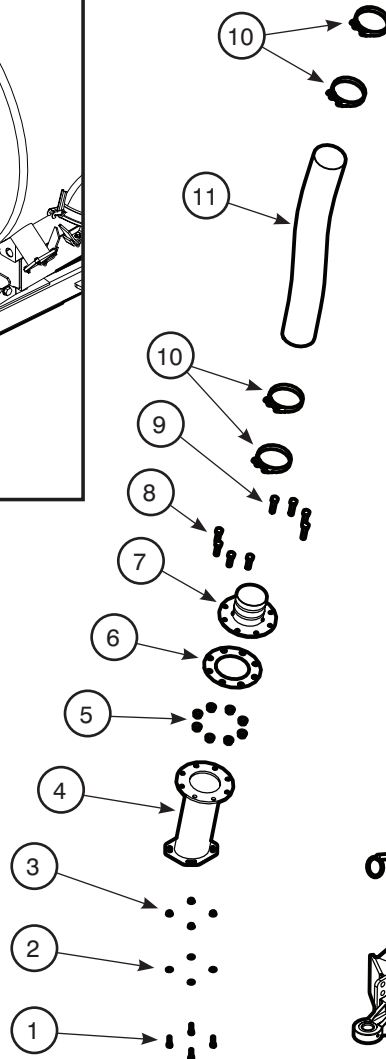
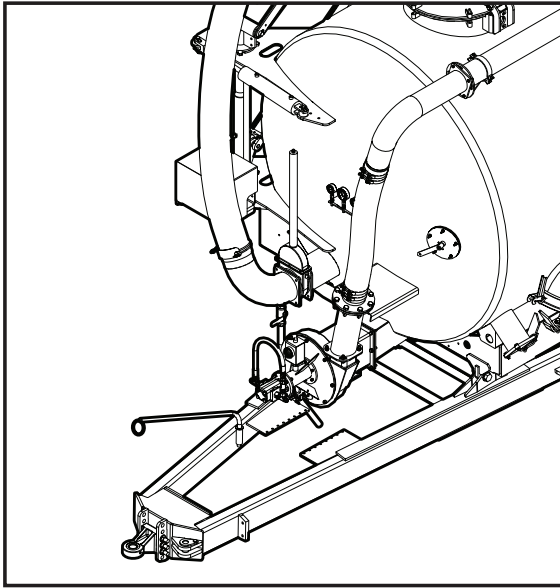
## Pump



Item	Description	Quantity	Part Number
1	Gasket, Rubber, 19 5/8" OD X 3/16" TH	1	16034
2	Impeller, 4-Blade, 15" (Standard)	1	81300
3	Key, 3/8" X 3/8" X 1 3/8"	1	2400
4	QD Bushing	1	81770
5	Split Lock Washer, 5/16"	3	1635
6	Bolt, Hex Head, 5/16"-18 X 1 7/8", Stainless Steel	3	18911
7	Magnum Pump Housing	1	71931
8	Gasket, 12" X 12"	1	16036
9	Impeller, 8-Blade, 17 1/2" (Optional)	1	33049

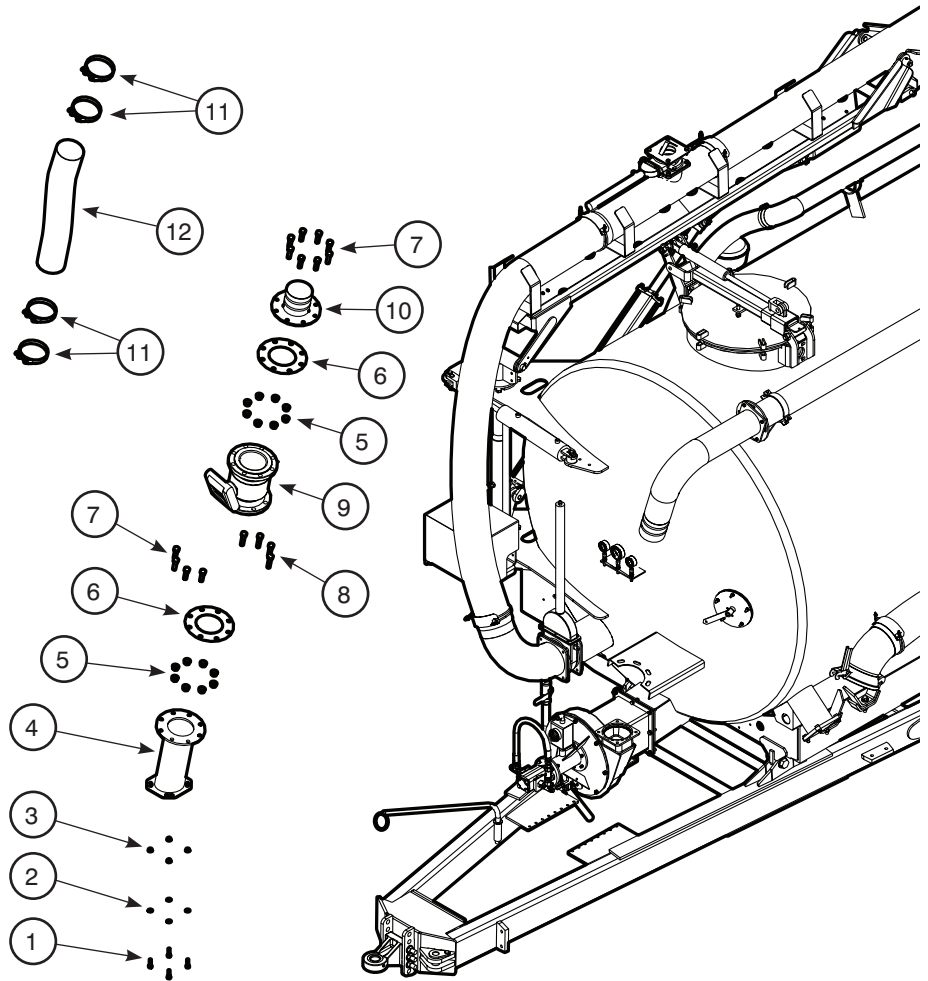
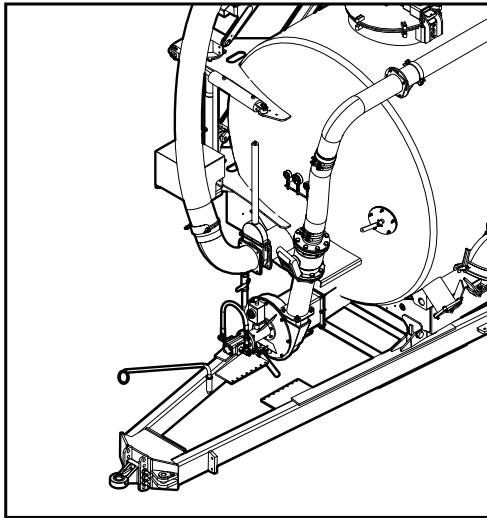
# SLURRY PUMP

## Discharge System



Item	Description	Quantity	Part Number
1	Bolt, Hex Head, 1/2"-13 X 1 3/4" GR5	4	1251
2	Flat Washer, 1/2"	4	1600
3	Flange Nut, 1/2"-13 GR5	4	2084
4	Transition Tube	1	102013
5	Flange Nut, 3/4"-10 GR5	8	2086
6	Gasket, 11" OD X 6 1/2" ID Round, 8 Hole	1	65256
7	Pipe Extension, 8-Hole to Hose Barb, 6"	1	86030
8	Bolt, Hex Head, 3/4"-10 X 2 1/2" GR5	4	1313
9	Bolt, Hex Head, 3/4"-10 X 3" GR5	4	1315
10	T-Clamp, Hose, 144-166mm	4	16009
11	Hose, Layflat, 6" X 42", Brick Red	1	14454

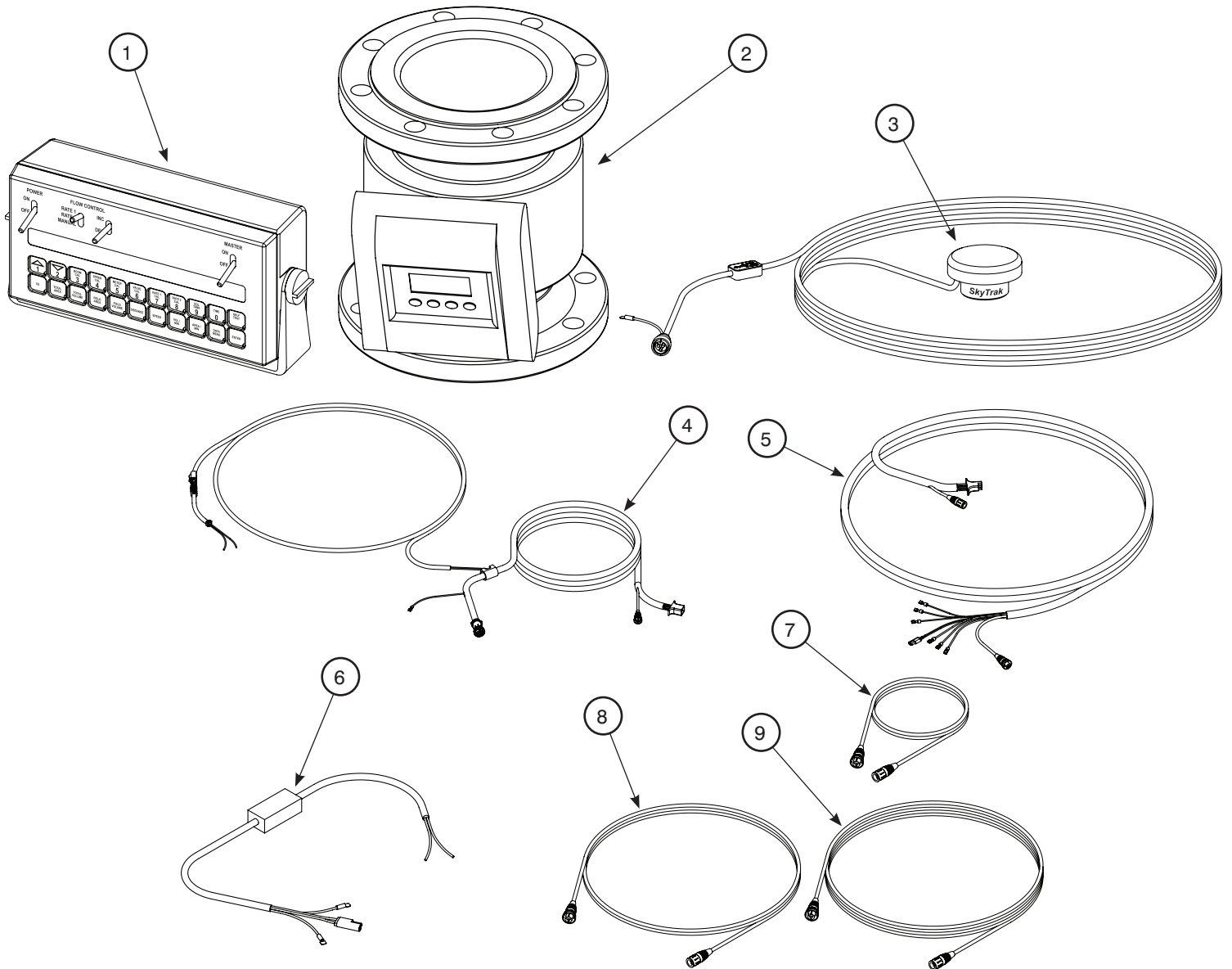
## Discharge System with Optional Rite Rate Flow Control



Item	Description	Quantity	Part Number
1	Bolt, Hex Head, 1/2"-13 X 1 3/4" GR5	4	1251
2	Flat Washer, 1/2"	4	1600
3	Flange Nut, 1/2"-13 GR5	4	2084
4	Transition Tube	1	102013
5	Flange Nut, 3/4"-10 GR5	16	2086
6	Gasket, 11" OD X 6 1/2" ID	2	835506
7	Bolt, Hex Head, 3/4"-10 X 2 1/2" GR5	4	1313
8	Bolt, Hex Head, 3/4"-10 X 3" GR5	4	1315
9	Flow Meter	1	65256
10	Pipe Extension, 8-Hole to Hose Barb, 6"	1	86030
11	T-Clamp, Hose, 144-166mm	4	16009
12	Hose, Layflat, 6" X 42", Brick Red	1	14454

# SLURRY PUMP

## Rite Rate Flow Control (Optional)



Item	Description	Quantity	Part Number
1	Raven SCS660 NVM Programmable Flow Controller	1	65255
2	Krohne Optiflux 4100C Electromagnetic Flow Sensor with Signal Converter	1	65256
3	SkyTrak GPS Velocity Sensor	1	863105
4	Raven SCS660 Console Cable	1	60680
5	Raven Flow Control Cable	1	65225
6	Raven 660 PWM Boost Box	1	65986
7	Raven Flow Meter Extension Cable, 6' (1.83m) (Standard)	1	863097
8	Raven Flow Meter Extension Cable, 12' (3.66m) (Optional)*	1	863098
9	Raven Flow Meter Extension Cable, 24' (7.32m) (Optional)*	1	863099

\* Available for use with rear mounted pumps.





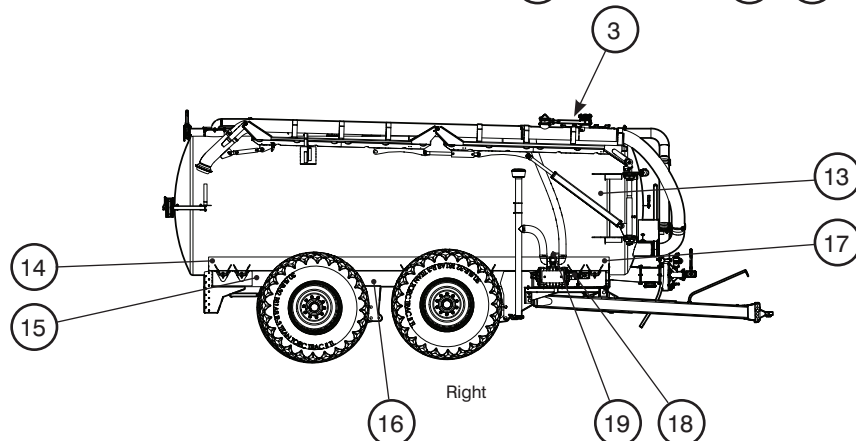
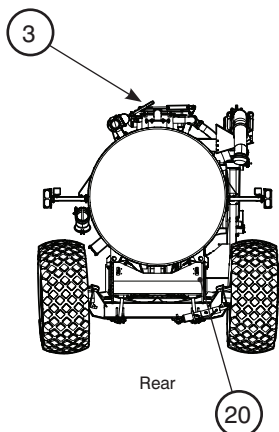
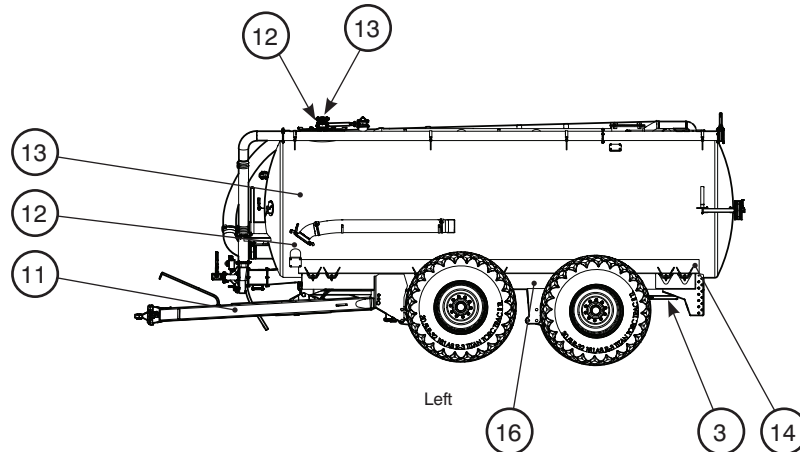
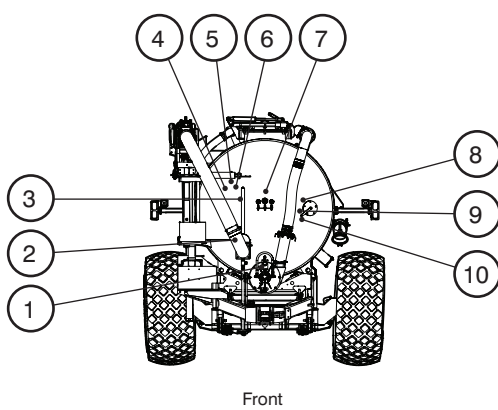
The logo for BALZER is rendered in a bold, italicized, sans-serif font. The letters are black with a white outline and a grey drop shadow, giving it a three-dimensional appearance. It is positioned at the top of the page, partially overlapping a green and white diagonal graphic element.

**BALZER**

# Decals

## Decal Placement

Item	Type	Description	Location	Quantity	Part Number
1	Informational	Oil Requirement	Slurry Pump - Oil Reservoir	1	71976
2	Danger	Electrocution Hazard	Front - Boom to Tank Tube	1	82571
3	Warning	Gate Under Pressure	Gate Valve Handle	4	15694
4	Warning	Operational Information	Tank - Front Left	1	20277
5	Danger	Confined Space	Tank - Front Left	1	72725
6	Informational	Operational Information	Tank - Front Left	1	71702
7	Informational	Gauge Identification	Tank - Front Center	1	860011
8	Informational	Full	Tank - Front Right	1	11039
9	Informational	Half Full	Tank - Front Right	1	11630
10	Informational	Empty	Tank - Front Right	1	11038
11	Warning	Operational Information	Jack Stand	1	860006
12	Warning	Relieve Pressure	Tank - Hydraulic Hatch and Front Left	2	11231
13	Danger	Lethal Gases	Tank - Hydraulic Hatch and Left/Right Front	3	40076
14	Danger	Injector	Frame - Left/Right Rear	2	60306
15	Maintenance	Wheels	Frame - Right Rear	1	700001
16	Maintenance	Steering System	Frame - Between Axles	2	37601
17	Informational	Serial Number	Tank - Left Front	1	12484
18	Danger	Moving Parts Hazard	Vacuum Pump Hydraulic Motor Shield	1	21730
19	Informational	Vacuum/Pressure	Vacuum Pump	1	700006
20	Informational	Injector Connections	Frame - Rear	1	700005



# DECALS

## Decal Listing

1

**FILL ONLY**  
**TEXAS REFINERY CORP.**  
**890 VARI-PURPOSE**

BALZER, INC.  
 MOUNTAIN LAKE, MN  
 507-427-3133

Do NOT paint over, cover, or remove this decal 11221

5

**DANGER**

**CONFINED SPACE**  
**DO NOT ENTER**

12

**WARNING**

ALWAYS RELIEVE ALL PRESSURE IN TANK BEFORE ATTEMPTING TO OPEN

Do NOT paint over, cover, or remove this decal 11222

2

**ELECTROCUTION HAZARD**

**DANGER**

USE EXTREME CAUTION WHEN PASSING UNDER LOW HANGING POWER LINES.

LOOK FOR OVERHEAD ELECTRICAL HAZARDS BEFORE OPERATING BOOM.

SERIOUS INJURY OR DEATH FROM ELECTROCUTION MAY RESULT.

DO NOT ATTEMPT TO FREE EQUIPMENT FROM POWER LINES. STAY AWAY FROM MACHINE AND ALL ATTACHED EQUIPMENT.

ALWAYS KEEP BOOM IN TRANSPORT (DOWN) POSITION WHEN NOT IN USE.

Do NOT paint over, cover, or remove this decal 11223

6

**NOTICE**

WHEN USING THE CONSTANT DOWN PRESSURE SYSTEM, THE LEVER IN THE CAB MUST REMAIN ENGAGED WHILE INJECTING

RETURNING THE CONTROL LEVER TO NEUTRAL WILL LOCK THE TOOLBAR AT THE PRESENT DEPTH AND MAY CAUSE DAMAGE TO THE TANK AND/OR THE INJECTOR SYSTEM

NEVER EXCEED 1500 PSI OF DOWN PRESSURE

**WARNING**

DO NOT EXCEED 18 GPM TO HYDRAULIC MOTOR OR DAMAGE TO SEALS WILL OCCUR

WHEN HYDRAULIC MOTOR IS IN BACK OF TANK AN ADDITIONAL 1/2" HOSE MUST BE CONNECTED TO THE BACK FITTING ON THE MOTOR AND DRAINED TO THE TRACTOR'S HYDRAULIC OIL TANK DIRECTLY AND NOT TO THE VALVE

**MOTOR BYPASS LINE**  
 CONNECT TO THE TRACTOR'S HYDRAULIC OIL RESERVOIR TANK DIRECTLY  
 MAXIMUM BACK PRESSURE: 20 PSI  
 DAMAGE TO MOTOR WILL RESULT IF NOT CONNECTED

13

**DANGER**

THIS TANK CONTAINS GASES THAT ARE LETHAL AND MAY CAUSE DEATH. DO NOT BREATHE GASES THAT MAY BE EXHAUSTED FROM TANK OPENINGS. UNDER NO CIRCUMSTANCES SHOULD YOU ENTER THIS TANK. FOR MORE INFORMATION CONTACT BALZER INC.

**ADVERTENCIA**

ESTE TANQUE CONTIENE GASES QUE SON MORTALES Y QUE PUEDEN CAUSAR LA MUERTE. NO RESPIRES LOS GASES QUE PUEDEN SER EXHAUSTADOS DEL TANQUE EN NINGUNA CIRCUNSTANCIA DEBE ENTRAR ESTE TANQUE. PARA MAS INFORMACION LLAMA A BALZER INC.

3

**WARNING**

**GAS SPRING CYLINDER UNDER 1000 PSI PRESSURE**

DO NOT DISASSEMBLE VALVE/GAS CYLINDER WITHOUT REFERRING TO OPERATOR'S MANUAL FOR SAFETY INSTRUCTIONS

Do NOT paint over, cover, or remove this decal 15694

7

**VACUUM PRESSURE**

**DOWN PRESSURE**      **BRAKE PRESSURE**

14

**DANGER**

4

**LIQUID SPREADER**

FOR MOST EFFICIENT OPERATION, OPERATE TRACTOR PTO AT 75% OF RATED SPEED WHEN:

- AGRIATING
- FILLING
- OPERATING WITH SPREADER ATTACHMENT

FOR MOST EFFICIENT FIELD OPERATION WITH INJECTION ATTACHMENT, OPERATE TRACTOR PTO UP TO, BUT NOT EXCEEDING, RATED SPEED.

**DO NOT:**

1. OPERATE THIS UNIT UNTIL USER IS FAMILIAR WITH ALL CONTROLS AND HAS READ AND UNDERSTANDS OPERATORS MANUAL.
2. OPERATE PUMP WITHOUT OIL.
3. EXCEED 15 PSI IN TANK
4. TOW UNIT AT EXCESSIVE SPEEDS

**WARNING**

1. KEEP ALL SHIELDS IN PLACE
2. STOP ENGINE BEFORE LEAVING OPERATOR'S POSITION TO ADJUST, OIL, CLEAN, OR UNCLOG MACHINES UNLESS OTHERWISE SPECIFICALLY RECOMMENDED IN THE "OPERATORS MANUAL"
3. WAIT FOR ALL MOVEMENT TO STOP BEFORE SERVICING THIS MACHINE
4. KEEP HANDS, FEET, HAIR, AND CLOTHING AWAY FROM POWER DRIVEN PARTS
5. KEEP OFF EQUIPMENT UNLESS SEAT OR PLATFORM FOR OPERATIONS AND OBSERVATION IS PROVIDED
6. KEEP ALL OTHERS OFF
7. USE FLASHING WARNING LIGHTS WHEN OPERATING ON HIGHWAYS EXCEPT WHEN PROHIBITED BY LAW
8. MAKE CERTAIN EVERYONE IS CLEAR OF MACHINE BEFORE STARTING ENGINE OR OPERATION

**SUGGESTED DRAWBAR ADJUSTMENT**

Do NOT paint over, cover, or remove this decal 15694

8

**FULL**

15

**IMPORTANT**

**KINGPIN GREASE POINT**

THE KINGPIN REQUIRES GREASE EVERY DAY THE UNIT IS USED.

POSITION WHEELS TO LEFT, THEN RIGHT, AND THEN CENTER TO DISTRIBUTE THE GREASE.

GREASE WELL AFTER WASHING AND AT END OF SEASON.

Do NOT paint over, cover, or remove this decal 700001

9

**1/2**

16

**IMPORTANT**

**WHEEL BOLTS/LUG NUTS**  
 TIGHTEN TO 450 FT/LBS FOR THE FIRST 5 DAYS WITH THE UNIT EMPTY

**HUB BEARING ADJUSTMENT**  
 1. FRONT DRIVE  
 2. REARLY (UNTIL) NO END PLAY CAN BE DETECTED  
 3. OPERATE MANUALLY

**GREASE ALL STEERING SYSTEMS**  
 THE KINGPIN AND THE PTO REQUIRE GREASE EVERY DAY THE UNIT IS USED IN THE FIELD.

KINGPIN GREASE POINT IS ON RIGHT SIDE REAR OF FRAME. GREASE SUFFICIENTLY THE GREASE POINT OF KINGPIN. POSITION ALL WHEELS TO LEFT, THEN TO RIGHT, THEN CENTER TO EVENLY DISTRIBUTE GREASE. GREASE WELL AFTER WASHING AND AT END OF SEASON.

Do NOT paint over, cover, or remove this decal 12484

10

**EMPTY**

17

**BALZER**

MOUNTAIN LAKE, MINNESOTA 56159

SERIAL NUMBER

Do NOT paint over, cover, or remove this decal 12484

11

**WARNING**

**DO NOT USE WHEN UNIT IS LOADED**

Do NOT paint over, cover, or remove this decal 800004

18

**DANGER**

**MOVING PARTS HAZARD**

- KEEP HANDS, HAIR, AND CLOTHING AWAY FROM BELTS, CHAINS, AND OTHER MOVING PARTS
- REPLACE GUARD BEFORE OPERATING

Do NOT paint over, cover, or remove this decal 800004

## Decal Listing (Cont'd)

19



20



The logo for BALZER is rendered in a bold, italicized, sans-serif font. The letters are black with a white outline and a grey drop shadow, giving it a three-dimensional appearance. It is positioned at the top of the page, partially overlapping a green and white diagonal graphic element.

# Notes

Date

Notes

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---



Date

Notes

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---







## **Eliminator Vacuum Tanks (Tandem)**

Parts Manual

PM-EVT-1



Balzer Incorporated reserves the right to make changes to their product and/or this manual to improve reliability, function, design, or safety without further notice. Balzer Incorporated is under no obligation, implied or otherwise, to upgrade, modify, or otherwise make changes to product manufactured prior to any design change.

Balzer Incorporated does not assume any liability arising out of the application or use of any product and neither does it convey any license under its patent rights. Balzer Incorporated does not assume any liability arising out of the use of their product for applications outside those for which it is expressly designed for.

© 2015 Balzer Inc. All Rights Reserved