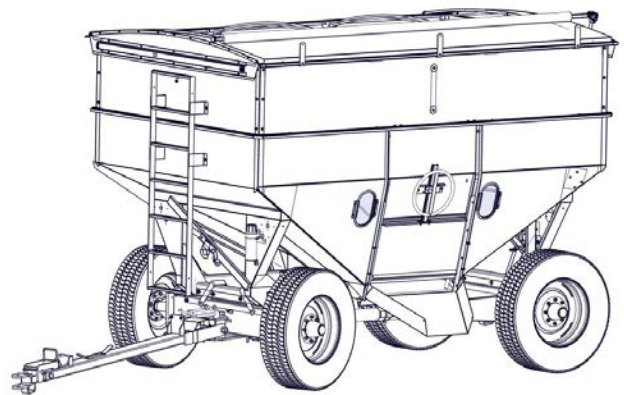


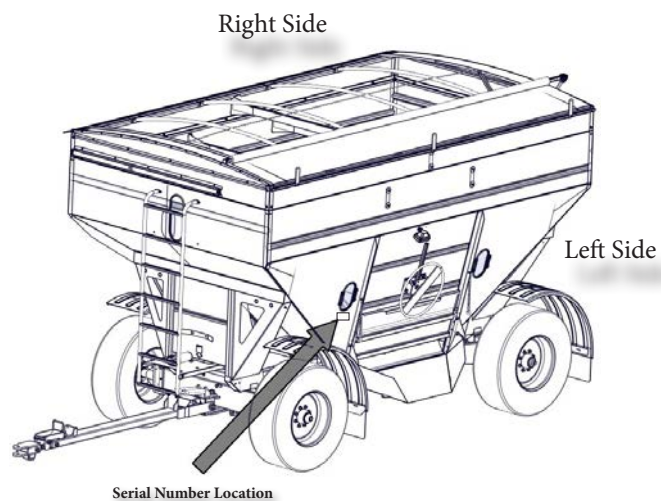


Rev. 1.2.2026

J. & M. Mfg. Co., Inc.
284 Railroad Street - P.O. Box 547
Fort Recovery, OH 45846
Ph: (419) 375-2376 Fax: (419) 375-2708
www.jm-inc.com

Table of Contents

3	To the Dealer
4-5	General Information
6	Specifications
7	Safety Rules
8-9	Safety Signs
10-11	Initial Operation & Maintenance
12-19	Set Up Instructions
20	Bleeding the Brake Lines
21	Trail Adjustments
22-30	Parts



To The Dealer

Read manual instructions and safety rules. Make sure all items on the Dealer's Pre-Delivery and Delivery Check Lists are completed before releasing equipment to the owner.

The dealer must complete the Warranty Registration found on the Dealer Portal website located at dealer.jm-inc.com and return it to J&M Mfg. Co., Inc. at the address indicated on the form. Warranty claims will be denied if the Warranty Registration has not been submitted.

EXPRESS WARRANTY:

J&M Mfg. Co., Inc. warrants against defects in construction or materials for a period of ONE year. We reserve the right to inspect and decide whether material or construction was faulty or whether abuse or accident voids our guarantee.

Warranty service must be performed by a dealer or service center authorized by J&M Mfg. Co., Inc. to sell and/or service the type of product involved, which will use only new or remanufactured parts or components furnished by J&M Mfg. Co., Inc. Warranty service will be performed without charge to the purchaser for parts or labor based on the Warranty Labor Times schedule. Under no circumstance will allowable labor times extend beyond the maximum hours indicated in the Warranty Labor Times schedule for each warranty procedure. The purchaser will be responsible, however, for any service call and/or transportation of the product to and from the dealer or service center's place of business, for any premium charged for overtime labor requested by the purchaser, and for any service and/or maintenance not directly related to any defect covered under the warranty. Costs associated with equipment rental, product down time, or product disposal are not warrantable and will not be accepted under any circumstance.

Each Warranty term begins on the date of product delivery to the purchaser. Under no circumstance will warranty be approved unless (i) the product warranty registration card has been properly completed and submitted to the equipment manufacturer, and (ii) a warranty authorization number has been issued by the equipment manufacturer. This Warranty is effective only if the warranty registration card is returned within 30 days of purchase.

This Warranty does not cover a component which fails, malfunctions or is damaged as a result of (i) improper modification or repair, (ii) accident, abuse or improper use, (iii) improper or insufficient maintenance, or (iv) normal wear or tear. This Warranty does not cover products that are previously owned and extends solely to the original purchaser of the product. Should the original purchaser sell or otherwise transfer this product to a third party, this Warranty does not transfer to the third party purchaser in any way. J&M Mfg. Co., Inc. makes no Warranty, express or implied, with respect to tires or other parts or accessories not manufactured by J&M Mfg. Co., Inc. Warranties for these items, if any, are provided separately by their respective manufacturers.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS, IMPLIED OR STATUTORY, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE.

In no event shall J&M Mfg. Co., Inc. be liable for special, direct, incidental or consequential damages of any kind. The exclusive remedy under this Warranty shall be repair or replacement of the defective component at J&M Mfg. Co., Inc.'s option. This is the entire agreement between J&M Mfg. Co., Inc. and the Owner about warranty and no J&M Mfg. Co., Inc. employee or dealer is authorized to make any additional warranty on behalf of J&M Mfg. Co., Inc.

The manufacturer reserves the right to make product design and material changes at any time without notice. They shall not incur any obligation or liability to incorporate such changes and improvements in products previously sold to any customer, nor shall they be obligated or liable for the replacement of previously sold products with products or parts incorporating such changes.

SERVICE:

The equipment you have purchased has been carefully manufactured to provide dependable and satisfactory use. Like all mechanical products, it will require cleaning and maintenance. Lubricate the unit as specified. Observe all safety information in this manual and safety signs on the equipment.

For service, your authorized J&M dealer has trained mechanics, genuine J&M service parts, and the necessary tools and equipment to handle all your needs.

Use only genuine J&M service parts. Substitute parts may void warranty and may not meet standards required for safety and satisfactory operation. Record the model number and serial number of your equipment in the spaces provided:

Model No: 385 Gravity Wagon **Serial No:** _____ **Date of Purchase:** _____

Purchased From: _____

Provide this information to your dealer to obtain correct repair parts.

TO THE OWNER:

The purpose of this manual is to assist you in operating and maintaining your gravity wagon in a safe manner. Read it carefully. It furnishes information and instructions that will help you achieve years of dependable performance and help maintain safe operating conditions. If this machine is used by an employee or is loaned or rented, make certain that the operator(s), prior to operating:

1. Is instructed in safe and proper use.
2. Reviews and understands the manual(s) pertaining to this machine.

Throughout this manual, the term **IMPORTANT** is used to indicate that failure to observe can cause damage to equipment. The terms **CAUTION**, **WARNING** and **DANGER** are used in conjunction with the Safety-Alert Symbol, (a triangle with an exclamation mark), to indicate the degree of hazard for items of personal safety. When you see this symbol, carefully read the message that follows and be alert to the possibility of personal injury or death.



This Safety-Alert symbol indicates a hazard and means
ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



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, and includes hazards that are exposed when guards are removed.



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

IMPORTANT Indicates that failure to observe can cause damage to equipment.

NOTE Indicates helpful information.

Bolt Torque Chart

Always tighten hardware to these values unless a different torque or tightening procedure is listed for specific application. Fasteners must always be replaced with the same grade as specified in the manual parts list. Always use the proper tool for tightening hardware. Make sure fastener threads are clean and you start thread engagement properly. **Use these values when tightening all bolts and nuts with the exception of wheel nuts.**

SAE Fasteners

Coarse Thread Series				
	Grade 5		Grade 8	
<i>Diameter and Pitch (Inches)</i>	<i>Dry</i>	<i>Oiled</i>	<i>Dry</i>	<i>Oiled</i>
1/4"-20	8 ft-lbs	6 ft-lbs	12 ft-lbs	9 ft-lbs
5/16"-18	17	13	25	18
3/8"-16	31	23	44	33
7/16"-14	49	37	70	52
1/2"-13	75	57	106	80
9/16"-12	109	82	154	115
5/8"-11	150	113	212	159
3/4"-10	267	200	376	282
7/8"-9	429	322	606	455
1"-8	644	483	909	681
Fine Thread Series				
<i>Diameter and Pitch (Inches)</i>	<i>Dry</i>	<i>Oiled</i>	<i>Dry</i>	<i>Oiled</i>
1/4"-28	10 ft-lbs	7 ft-lbs	14 ft-lbs	10 ft-lbs
5/16"-24	19	15	27	20
3/8"-24	35	26	49	37
7/16"-20	55	41	78	58
1/2"-20	85	64	120	90
9/16"-18	121	91	171	128
5/8"-18	170	127	240	180
3/4"-16	297	223	420	315
7/8"-14	474	355	669	502

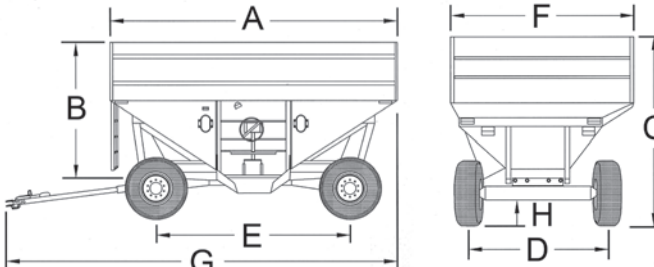
Stud and Wheel Nut Specifications

Always tighten hardware to these values unless a different torque or tightening procedure is listed for specific application. Fasteners must always be replaced with the same grade as specified in the manual parts list. Always use the proper tool for tightening hardware. Make sure fastener threads are clean and you start thread engagement properly. **Use these values when tightening all studs and wheel nuts.**

Stud	Tightening Torque
1/2"-20	120 ft-lbs
9/16"-18	170 ft-lbs
5/8"-18	300 ft-lbs
3/4"-16	400 ft-lbs
20mm	475 ft-lbs
22mm	640 ft-lbs

TIGHTENING WHEEL NUTS: Standard 9/16" wheel studs and nuts should be tightened to torque 170 ft-lbs. During initial operation of the gravity wagon and then checked for proper torque after every 10 hours of use. Failure to do so may damage wheel nut seats. Once seats are damaged, it will become impossible to keep nuts tight.

Specifications

								
	A	250-7S	250-7SB	385SD	440SD	540SD	680SD	760SD
	A	10'-3"	10'-3"	12'-4"	15'-0"	15'-0"	16'-6"	16'-6"
	B	4'-9"	6'-0"	7'-2"	6'-9"	7'-10"	7'-11"	8'-7"
	C	6'-7"	8'-4"	9'-2"	8'-11"	10'-0"	10'-2"	10'-10"
	D	5'-8"	6'-2"	6'-10"	7'-4"	7'-4"	7'-8"	7'-8"
	E	7'-4"	7'-9"	8'-7"	10'-4"	10'-4"	11'-2"	11'-2"
	F	7'-3"	7'-3"	7'-10"	8'-4"	8'-4"	9'-6"	9'-6"
	G	15'-7"	16'-0"	17'-11"	20'-8"	20'-8"	24'-0"	24'-0"
	H	1'-5"	1'-7"	1'-3"	1'-3"	1'-3"	1'-5"	1'-5"

Wagon Specifications	250-7S	250-7SB	385SD	440SD 540SD	680SD 760SD
Capacity - Box*	165 Bushels	250 Bushels	385 Bushels	440 or 540 Bushels	680 or 760 Bushels
Door Width	30"	30"	36"	48"	48"
Chute Height	15"	20"	17"	Adjustable 14" to 19"	Adjustable 14" to 19"
Hopper Construction	14 GA Steel	14 GA Steel	14 GA Steel	12 GA Steel	12 GA Steel
Understructure	3" x 6" Runners	3" x 6" Runners	3" x 6" Runners	3" x 6" Runners	3" x 6" Runners
Taillights	Standard	Standard	Standard	Standard	Standard
Front Ladder	Standard	Standard	Standard	Standard	Standard
Center Dump Deflector	N/A	N/A	Optional	Optional	Optional
Capacity - Running Gear	8 Ton	10 Ton	13 Ton	16 Ton	24 Ton
Spindles	1 3/4" Diameter	2" Diameter	2 1/2" Diameter	3" Diameter	3 3/8" Diameter
Wheels	15 x 8 - 6 Bolt	15 x 10 - 6 Bolt	22.5x8.25 or 22.5x13.5 - 8 Bolt	22.5x13.5 - 8 Bolt	22.5x13 - 10 Bolt
Tires	11L-15	12.5L-15	11-22.5 or 15-22.5	15-22.5 or 16.5-22.5	16.5-22.5 or 18-22.5
Hydraulic Brakes	N/A	N/A	Opt. 2-Whl Drum	Optional 2-Whl Drum	Optional 4-Whl Drum
Weight (complete unit)	1,760 lbs.	2,200 lbs.	3,640 lbs.	4,850 lbs. or 5,250 lbs.	6,800 lbs. or 7,050 lbs.

Safety Rules

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

- Safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be erased by an operator's single careless act. In addition, hazard control and accident prevention are dependent upon the awareness, concern, judgment, and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.
- Make certain that the operator(s), prior to operating is instructed in safe and proper use and reviews and understands the manual(s) pertaining to this machine.
- Read this manual before you operate this machine. If you do not understand any part of this manual, or need more information, contact the manufacturer or your authorized dealer.

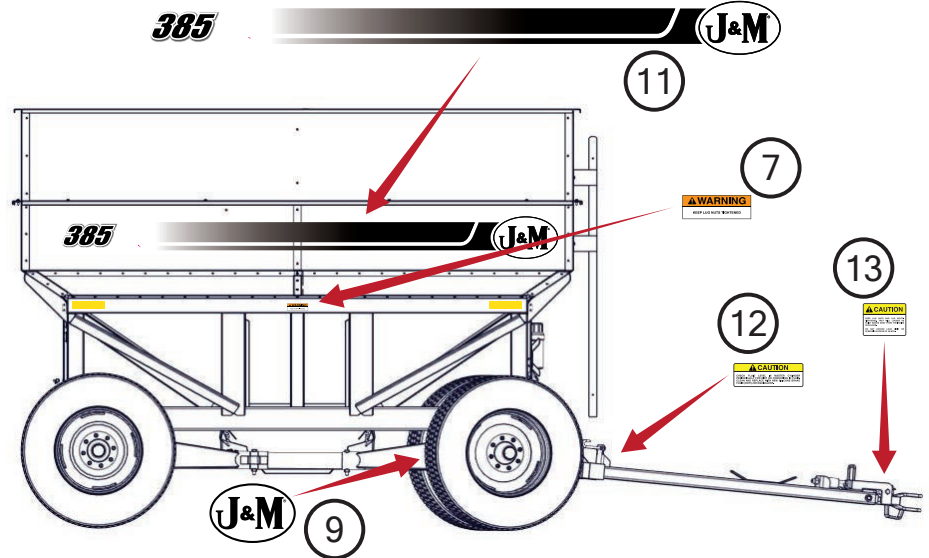
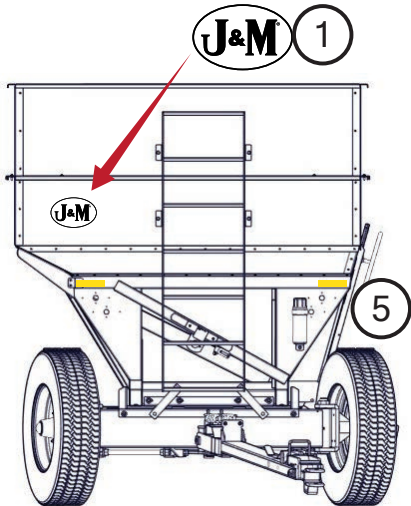
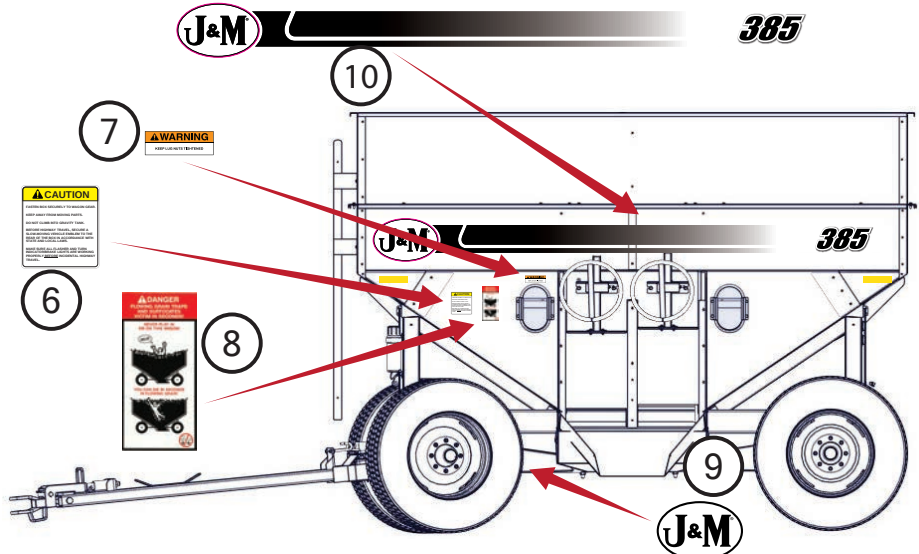
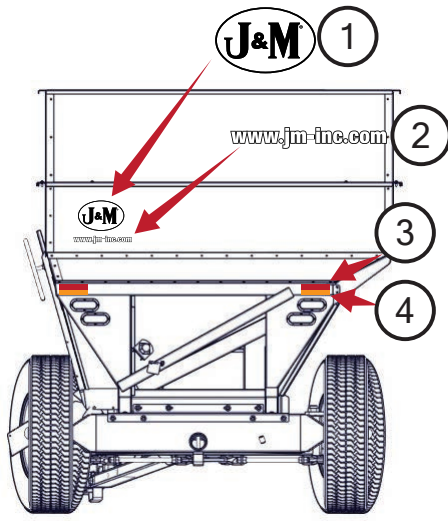
SAFETY RULES

1. Understand that your safety and the safety of other persons are measured by how you service, and operate this machine. Know the positions and functions of all controls before you try to operate them. Make sure to check all controls in a safe area before starting your work.
2. The safety information given in this manual does not replace safety codes, federal, state or local laws. Make certain your machine has the proper equipment as designated by local laws and regulations.
3. A frequent cause of personal injury or death is from persons falling off equipment and being run over. Do not permit persons to ride on this machine.
4. Travel speeds should be such that complete control and machine stability is maintained at all times. Where possible, avoid operating near ditches, embankments and holes. Reduce speed when turning, crossing slopes and rough, slick or muddy surfaces.
5. Collision of high speed road traffic and slow moving machines can cause personal injury or death. On roads, use flasher lights according to local laws. Keep slow-moving-vehicle emblem visible. Pull over to let faster traffic pass.
6. Make sure that the implement is fastened securely to the tractor /truck by using the proper hitch pin, clip and safety chains.
7. Before unhooking the implement from the towing unit, be sure to properly block the wheels to prevent the implement from moving.
8. Never overload the wagon. Overloading the wagon is dangerous and can cause extensive damage. Never add more sideboards to the gravity box than what is recommended, as the box is not designed to carry the additional weight. Do NOT exceed speeds in excess of 20 MPH. Rim, hubs and bearings are designed for heavy loads at slow speeds. Also be sure slow moving vehicle emblem is attached to the rear of the wagon.
9. **IMPORTANT:** Use caution when transporting. Be alert of the transport unit's overall width when approaching obstacles, such as post signs and poles, along the road. Check the transport width of the unit to ensure clearance before entering bridges.
10. Do not allow anyone to stand between tongue or hitch and towing vehicle when backing up.
11. Choose the most level route possible when transporting across fields.
12. Never adjust, service, clean, or lubricate gravity box until all power is shut off.
13. Keep all safety shields in place. Keep hands, feet, hair, and clothing away from the moving parts while the unit is in operation.
14. The service ladder is for service work only. If you must climb into the grain tank, be certain that all power is shut off and then use extreme caution when climbing into the grain tank. Never allow anyone in, near or on the gravity box during transporting or unloading grain. Moving grain is dangerous and can cause entrapment, resulting in severe injury or death by suffocation.
15. Make sure that everyone is clear of equipment before applying power or moving the machine.

**14. COMPLY WITH ALL SAFETY WARNINGS AND CAUTIONS IN THIS MANUAL AND IN THE COMBINE OPERATORS MANUAL
WARNING: BE SURE ALL LIGHTS ARE WORKING PROPERLY BEFORE HIGHWAY TRAVEL.**

Safety Signs

⚠ ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED! ⚠
 Replace Immediately If Damaged or Missing



Safety Signs

	Description	Part No.
1	J&M Oval Decal (Large) 9-1/2" x 15"	JM0015151
2	www.jm-inc.com Decal	JM0019239
3	Red Reflective Decal 2" x 9"	JM0009945
4	Orange Reflective Decal 2" x 9"	JM0009944
5	Amber Reflective Decal 2" x 9"	JM0009946
6	Caution, Fasten Box Securely Decal	JM0019228
7	Warning, Keep Lug Nuts Tightened Decal 1-5/8" x 4"	JM0010150
8	Danger, Flowing Grain Traps GW Decal	JM0019223
9	J&M Oval Decal (Medium) 5-1/2" x 8-1/2"	JM0010179
10	385 Driver's Side Decal	JM0101077
11	385 Passenger's Side Decal	JM0101079
12	Caution, Check Fluid Level in Master Cylinder Decal	JM0019229
13	Caution, Keep Lug Nuts and Lug Bolts Tightened Decal	JM0019220

Initial Operation / Maintenance

 **WARNING BE CERTAIN THAT ALL POWER IS SHUT OFF BEFORE SERVICING THE GRAVITY BOX.**

Before the gravity box is put into service:

Has the track assembly (opens door) been lubricated for less wear on the sprocket and track and for easier door operation.

Has the SMV (Slow Moving Vehicle) Emblem been positioned with a point of the triangle upward and as near to the rear and centered or as near to the left of center of the unit as practicable? Is it located two to ten feet above the ground measured from the lower edge of the emblem?

Has the gravity box been properly attached to the running gear? If no rocking bolster is used, bolt all four corners (use 1/2" bolts provided) of the gravity box runners to the running gear. (If the box is used in rough terrain, bolt a minimum of two corners and chain (or cable) the remaining corners to allow more box flexibility.

Have all braces, bolts, nuts, lug bolts, and lug nuts been checked to ensure that they are properly fastened?

Have the safety instructions been read and clearly understood by the operator(s) of this machine.

Do the lights work properly? Are all reflective decals clean and visible? Are they positioned correctly?

Are the tires properly inflated?

BRAKING SYSTEM REQUIREMENTS

 **WARNING Tow Loads Safely**

Stopping distance increases with speed and weight of towed loads, and on slopes. Towed loads with or without brakes that are too heavy for the tractor or are too fast can cause loss of control. Consider the total weight of the equipment and its load.

For towed equipment WITHOUT brakes, the following is recommended:

Do NOT tow equipment that does not have brakes at speeds over 20 mph (32 km/h); or that, when fully loaded, has a mass (weight) over 1.5t (3300 lb) and more than 1.5 times the mass (weight) of the towing unit.

For towed equipment WITH brakes, the following is recommended:

Do NOT tow equipment that has brakes at speeds over 25 mph (40 km/h) ; or that, when fully loaded, has a mass (weight) more that 4.5 times the mass (weight) of the towing unit.

Ensure the load does not exceed the recommended weight ratio. Use additional caution when towing loads under adverse conditions, when turning and on inclines.

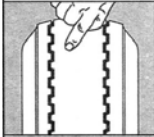
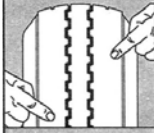
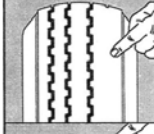
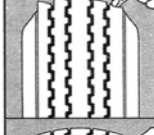
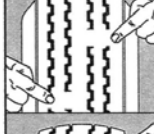
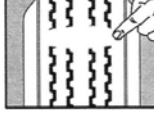
 **WARNING**

Before filling the gravity box, make certain that no one is inside the grain tank. Never allow children or anyone in, near, or on the gravity box during transport or during loading or unloading of grain. Be aware that moving grain is dangerous and can cause entrapment, resulting in severe injury or death by suffocation.

After hauling corrosive materials such as fertilizers, be sure to wash out the grain tank to prevent premature rusting. Bare spots on metal should be primer coated before applying the outer surface paint.

Check the box periodically for cracks in welds and for other structural damage. Have cracked welds fixed immediately. Failure to do so could result in extensive damage and greatly reduce the life of the gravity box.

IMPORTANT: Keep the tires properly inflated. Both under inflation and over inflation can greatly reduce tire life.

	Condition	Possible Cause	Remedy
	Even Center Wear	Over Inflation	Check & Adjust Pressure When Cold
	Inside & Outside Wear	Under Inflation	Check & Adjust Pressure When Cold
	Smooth, Side Wear - One Side	Loss of Camber or Overloading	Check & Unload As Necessary Have Alignment Checked
	"Feathering" Across The Face	Axle Not Square To Frame or Incorrect Toe In	Square Axles Have Alignment Checked
	Cupping	Loose Bearings or Wheel Balance	Check Bearing Adjustment and Wheel & Tire Balance
	Flat Spots	Wheel Lockup	Adjust Brakes

- Inspect bracing and welds and repair if needed. Failure to repair could cause extensive damage and greatly reduce the life of the unit.
- Inspect tie rods and replace the bronze bushings in the steering assembly when needed.
- Repack the bearings in the hub assembly once a year or as needed. Use a good quality LS EP2 Severe Duty, High Shock Load, Lithium based grease.

NOTE: Grease zerks on hub caps are for between scheduled service lubrication.

- If equipped with brakes, inspect the drums periodically for wear and for brake line damage. Check fluid in the master cylinder and inspect for dirt or corrosion on the inside wall of the master cylinder. Clean and replace with new Silicone Brake Fluid (DOT 3) if needed. Wagons with brakes should be stored in a clean, dry place when not in use.

ADJUSTING THE DRUM BRAKES

IMPORTANT: When adjusting drum brakes, rotate the wheel and drum in a forward rotation only.

- The brake adjustment nut is located behind a slot at the bottom of the backing plate. Tighten the nut until you cannot rotate the wheel by hand, then back off the adjustment 18 to 20 notches.

Set Up Instructions

NOTE: The left and right side of the Gravity Wagon is determined by standing behind and facing the rear of the wagon.

Inspection Window

- Install the Oval Window Grommets in the window cutouts of the Gravity Wagon. When installed properly the thicker part of the Oval Window Grommet will be on the inside of the Wagon.
- Insert the Oval Window into the Oval Window Grommet.
- Attach the Inside and Outside Window Brace using (2) 3/8" x 3/4" hex bolts and Lock nuts.
- Repeat for other Window Braces.

Complete Door Wheel Assembly

- For 2015 and older wagons **ONLY**, when attaching the Complete Door Wheel Assembly to the wagon use a 1/2" x 2-1/4" Flat Washers in-between the wagon and Complete Wheel Assembly.
- Attach the Complete Wheel Assembly(s) to the wagon and the Door(s) using (4) 3/8" x 1" SF bolts and SF nuts.

Sideboards

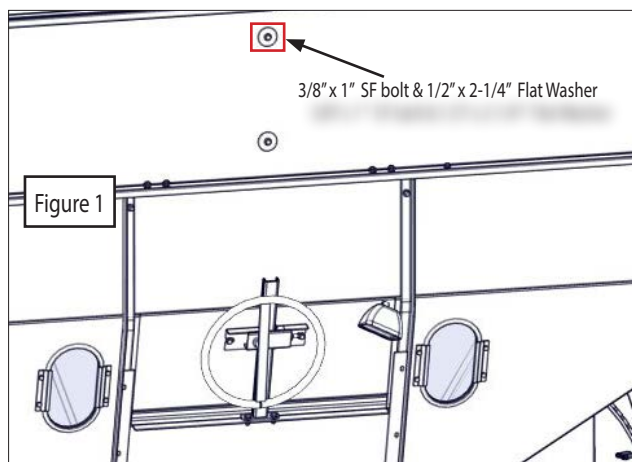
NOTE: Do Not tighten any of the nuts and bolts until all of the corners are attached.

For Divider Gravity Wagons

- Using (4) 3/8" x 1" SF bolts and nuts, attach the Center Divider Board to the center of the Gravity Wagon.
- Attach the Divider Board Mounting Brackets to the Center Divider Board using (4) 3/8" x 1" SF bolts and nuts.
- Attach one of the long sideboards to the left side of the Wagon using (4) 3/8" x 1" SF bolts and SF nuts. Repeat for the right side. Now using (2) 3/8" x 1" SF bolts and SF nuts attach the front and rear sideboards.
- Attach the Center Divider Board to the left and right side boards using (4) 3/8" x 1" SF bolts, (4) 1/2" x 2-1/4" Flat Washers, and (4) 3/8" SF nuts. (Figure 1)

For NON Divider Gravity Wagons

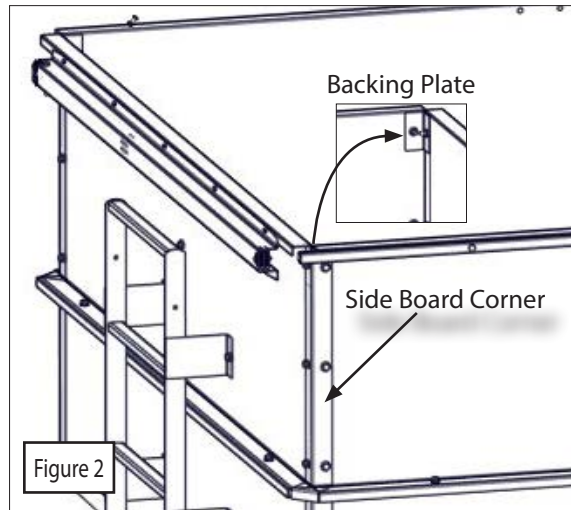
- Using (2) 1/2" x 6" J-bolts and (4) 1/2" hex nuts install the Reinforcing Chain Assembly.
NOTE: The chain should not have slack but it should not be so tight that it pulls in the sides of the Gravity Wagon.
- Attach one of the long sideboards to the left side of the Wagon using (4) 3/8" x 1" SF bolts and SF nuts. Repeat for the right side. Now using (2) 3/8" x 1" SF bolts and SF nuts attach the front and rear sideboards.
- Attach the Center Sidebrace to the left and right side boards using (4) 3/8" x 1" SF bolts, (4) 1/2" x 2-1/4" Flat Washers, and (4) 3/8" SF nuts. (Figure 1)



Set Up Instructions

Corners

- Bolt sideboard between sideboard corner and backing plate using (6) 3/8" x 1" SF bolts and SF nuts. (Figure 2)
- Now tighten all of the nuts and bolts.



Ladder

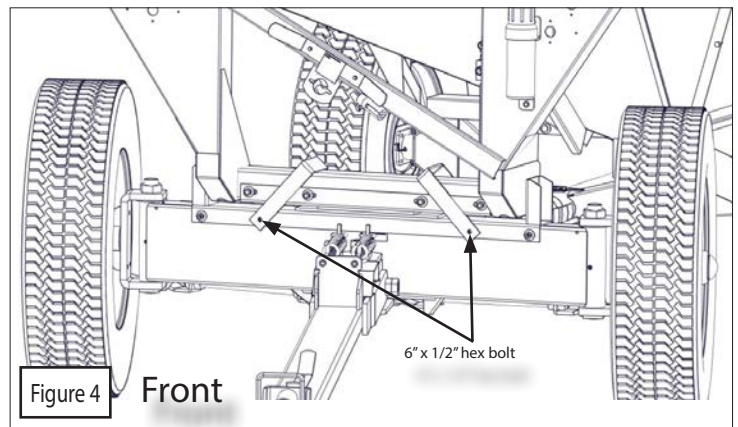
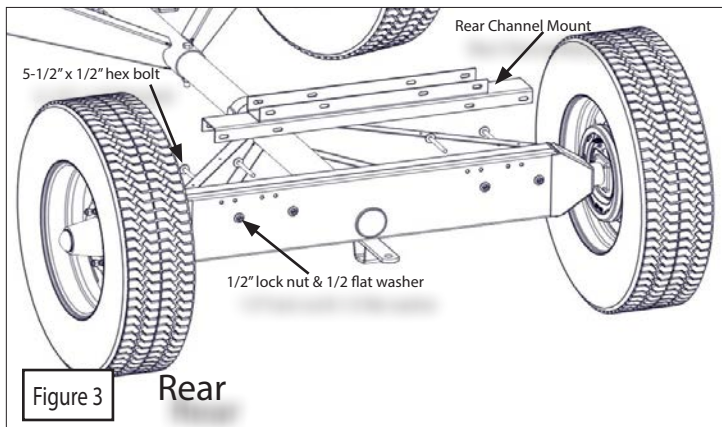
- Attach the ladder to the front of the wagon using (4) 3/8" x 1" SF bolts and SF nuts.

Rocking Bolsters

- Attach the Rear Channel Mount to the back of the running gear using (4) 1/2" x 5-1/2" bolts, (4) 1/2" lock nuts, and (8) 1/2" flat washers.
- Attach the Lower Rocking Bolster Mount to the front of the running gear using (2) 1/2" x 5-1/2" bolts, (2) 1/2" lock nuts, and (4) 1/2" flat washers through the two outside holes.
- Using (4) 1/2" x 5-1/2" hex bolts, (4) 1/2" lock nuts, and (8) 1/2" flat washers attach the Upper Rocking Bolster Mount to the front of the Gravity Wagon.
- Lower the Gravity Wagon onto the Running Gear.
- In the front of the Gravity Wagon attach the U-Straps using (2) 1/2" x 6" bolts, (2) 1/2" lock nuts, and (4) 1/2" flat washers.

NOTE: Do Not over tighten the U-Straps, they should move freely.

- In the rear of the Gravity Wagon attach the Rear Channel Mount using (4) 1/2" x 5-1/2" bolts, (4) 1/2" lock nuts, and (8) 1/2" flat washers.



Set Up Instructions

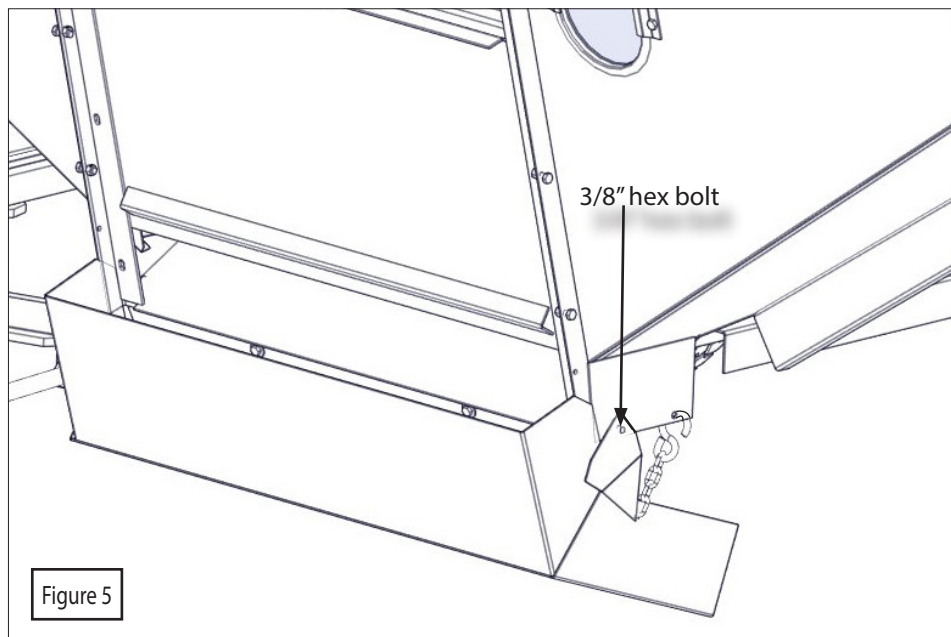
Chute

- Attach the chute to the Gravity Wagon using (2) 3/4" x 1" hex bolts and (2) lock nuts.

NOTE: Do Not over tighten the bolts, the chute should move freely.

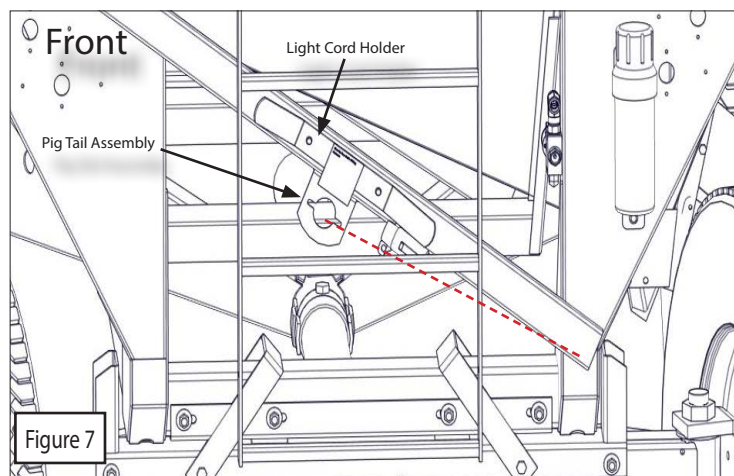
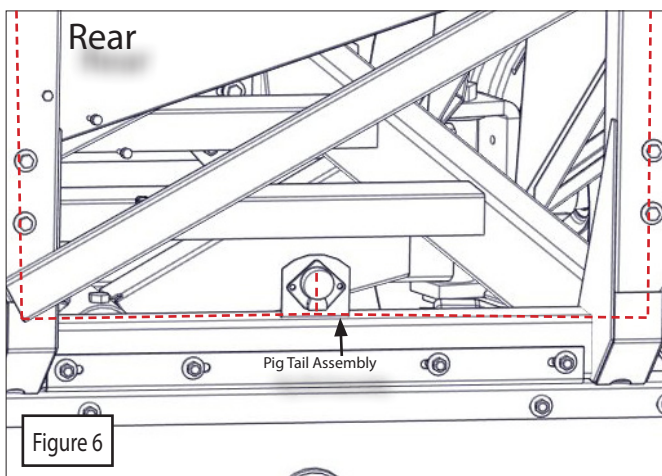
Optional Center Dump Chute

- Position and secure the Side Dump Chute in the transport position. Locate the Side Plates on the left and right sides of the door. There are two pre-drilled holes located on each plate. Attach the ears on each side of the Center Dump Chute to the outward most pre-drilled hole on the side plate using one 3/8" hex bolt, washer and lock nut. Insert the S-hook of the center dump chute chain into the inward most hole on each Side Plate. (Figure 5)



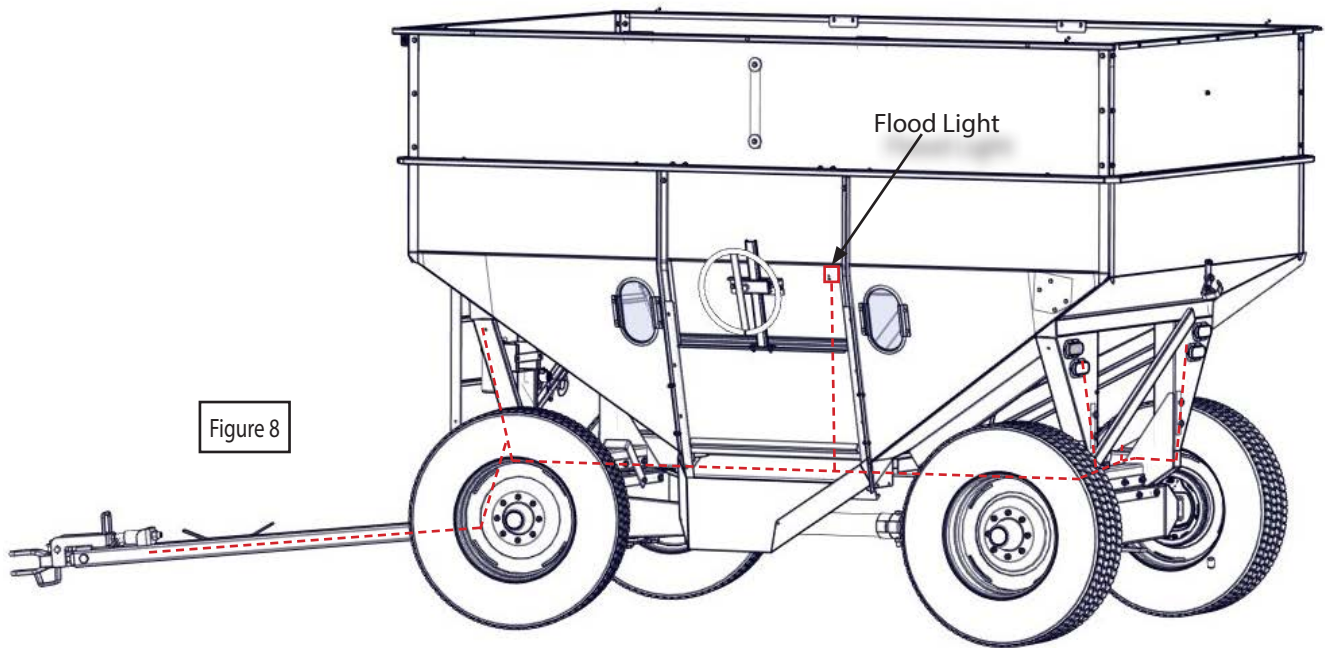
Lights

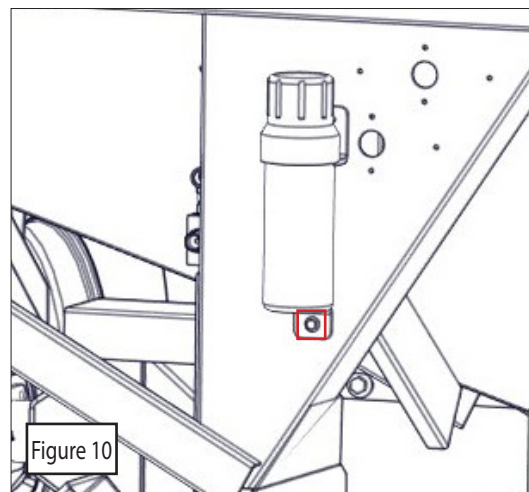
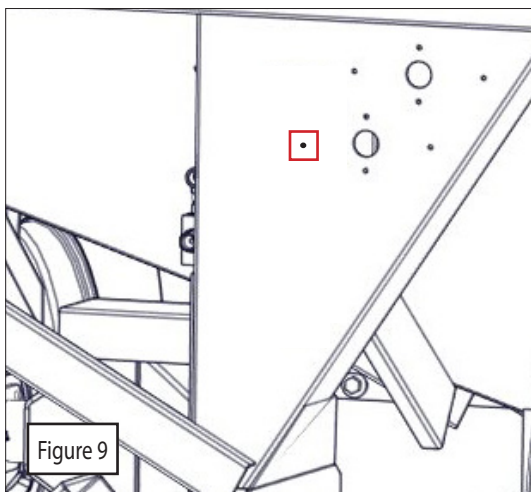
- Mount a Pig Tail Assembly on the back of the Gravity Wagon Using (2) 1-1/2" self tapping screws. (Figure 6)
- Attach the Wire Harness Storage Bracket and a Pig Tail Assembly to the front of the Gravity Wagon using (2) 1-1/2" self tapping screws as shown in (Figure 7)



Set Up Instructions

- Route the 7-Wire Connector End of the Main Harness through the Rear Pig Tail Assembly and secure the 7-Wire Nose Box to the Rear Angle Bracket using (2) 1/4" x 1" carriage bolt and flange nut. (Figure 6)
- Pull the 7-Wire Connector End through left-hand steel runner and through the Front Pig Tail Assembly. Install the Plastic Grommet on the Front Pig Tail Assembly. (Figures 7 & 8)
- Mount Red and Amber lights onto the rear legs using (4) 10-24 x 3/4" slotted hex washer head machine screws and (4) 10-24 serrated flange nuts. Attach the Wire Guard using (2) 10-24 serrated flange nuts.
- Connect Light Wiring Harness to the Light Enhancer and the red and amber lights on the rear leg above. To connect the opposite side red and amber lights, run the Light Wiring Harness along the gravity box bracing connecting the steel runners. Secure the Light Wiring Harness using the three Wire Loom Clamps and 1-1/2" Self Tapping Screws.
- Connect Main Wiring Harness to the Light Enhancer.
- Attach Flood Light to Gravity Wagon using the provided hardware. (Figure 8)
- Run Black and White wires to Flood Light and make connections.
- Test Lights.
- Store the Light Enhancer and the slack in the Main Wiring Harness in the conduit or steel runner.





Manual Storage Container

- Mount the Operator's Manual Storage Container to the outside face of the front leg using a 1/4" x 1" bolt and a 1/4" flange nut to the hole highlighted in figure 9.
- Drill a 9/32" hole through the hole highlighted in figure 10.
- Mount the Operator's Manual Storage Container using a 1/4" x 1" bolt and a 1/4" flange nut.

Set Up Instructions

IMPORTANT: Set-up work must be preformed by qualified servicemen only.

- Mount tires on the wheels and inflate the 325/65 R22.5 tires to 75 PSI or for 385/65 R22.5 tires the correct pressure is 70 PSI.
- Mount the wheels to the hubs and tighten the flat hub nuts to 190 ft. lb. torque.

NOTE: Check the hub nuts after the first hour of operation, then every 10 hours of operation for the first 40 hours of use. These nuts must be kept tight at all times. Wheels that are improperly installed on the running gear, resulting in product failure, will nullify the warranty and shift the burden of liability to the owner/operator of the equipment.

- Slide the coupling pole into the front and back assemblies, slipping the collar in the back assembly. The distance between the holes of the Front and Rear Running Gears should be approximately 24". (Figure 1)
- Insert (2) 3/4" x 6" hex bolts and 3/4" center lock nuts in to the Coupling Pole.

NOTE: Do not over tighten the Bolts. You should still be able to spin the bolts when tightened.

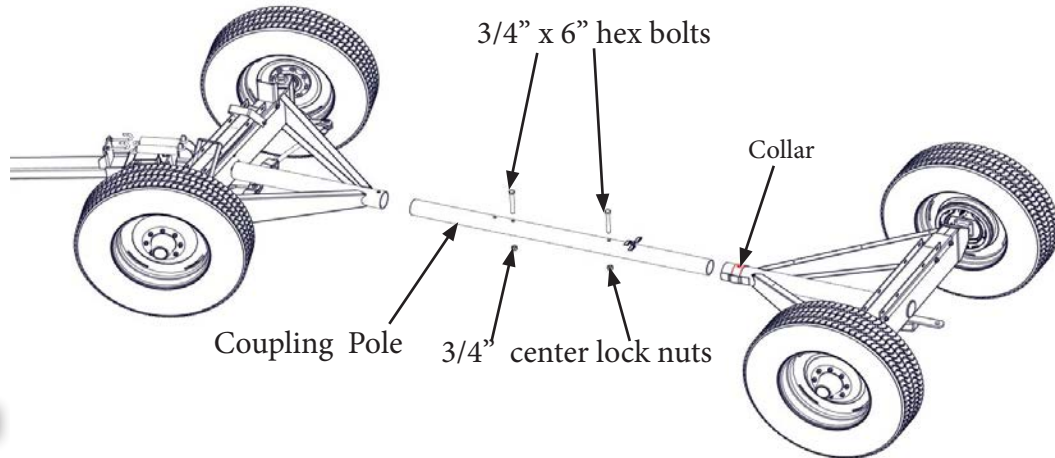


Fig. 1

- Fasten the tongue to the front of the assembly using a 1-1/4" x 9-1/2" King Pin, (2) 1-1/4" Hex Nuts and a 1-1/4" Flat Washer. (Figure 2)

Note: Make sure that the King Pin is inserted so the square top of the King Pin rest against the Flat Bolt Keeper.

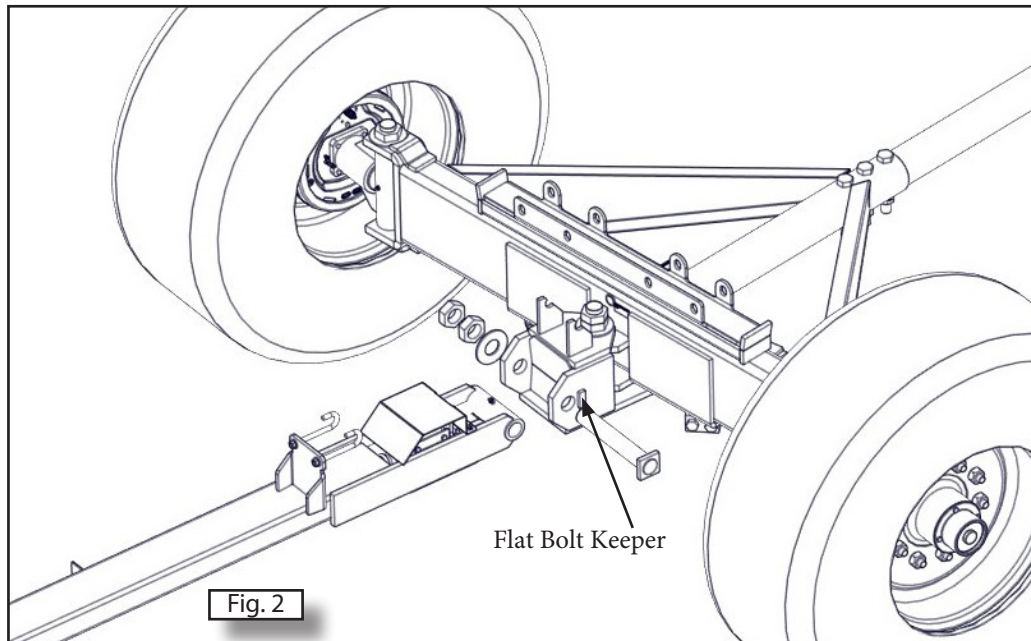
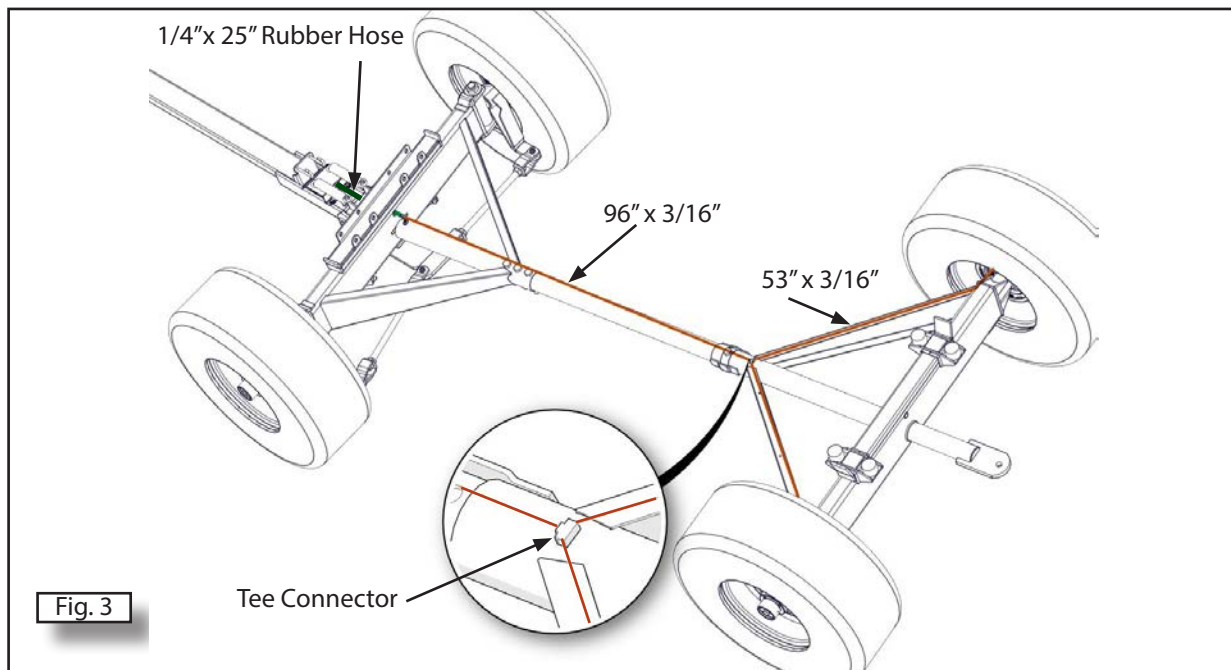


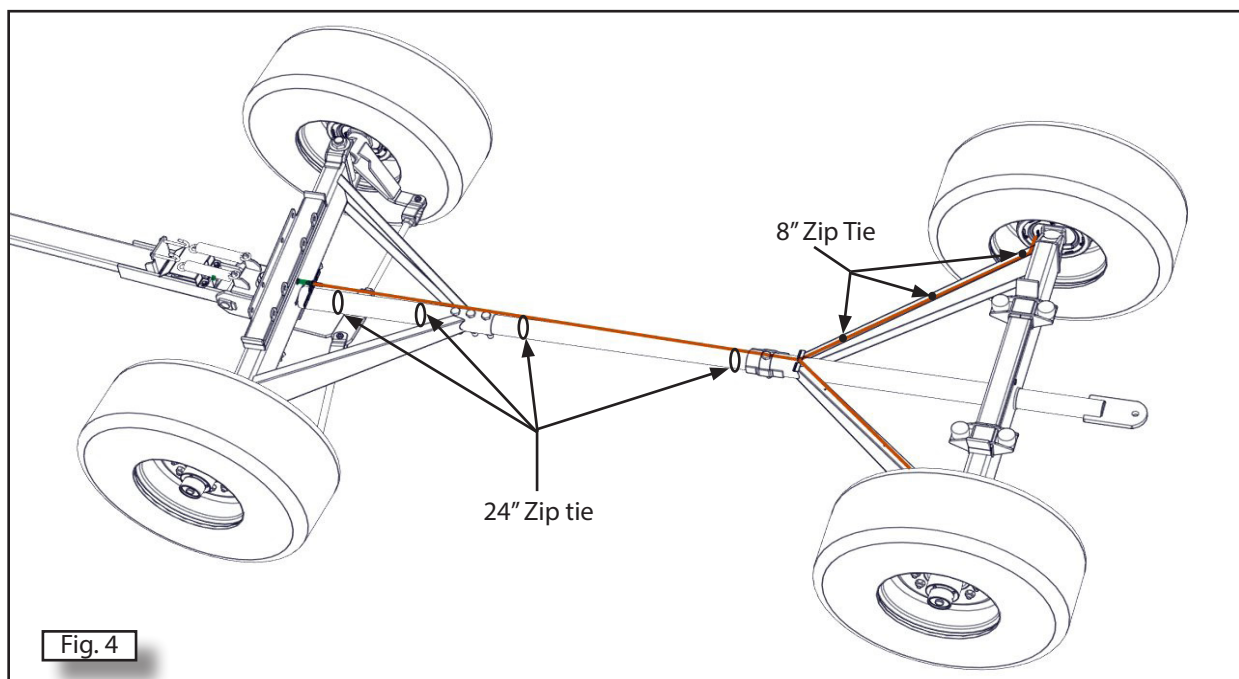
Fig. 2

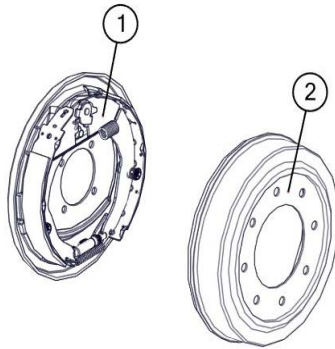
13 Ton Running Gear With Optional Brakes

- Mount the brakes lines from the rear of the master cylinder to the Drum Brakes. Be careful not to over tighten the fittings and strip the threads. Use care in shaping brake lines to avoid sharp bends or kinks. Be sure to use a "Double-Flaring" type of tool on steel tubing to assure tight leak proof connections. Be sure and use hydraulic rubber hoses at points of flexing. Anchor hose ends to avoid stress on tubing. (Figure 3)



- Using (6) 8" zip ties to secure the brake line to the rear A frame, and use (4) 24" zip ties to secure the brake line to the front A frame and coupling pole. Attach the rubber hose to the A frame using (2) 1/4" x 3/4" self tapping screw and cable clamp. (Figure 4)





#	Description	Part. No
1	Drum Cluster Left (includes wheel cylinder)(DRBA-L)	JM0027922
1	Drum Cluster Right (includes wheel cylinder)(DRBA-R)	JM0027931
2	Brake Drum	JM0027928
	Brake Line Tee	JM0027967

Bleeding The Brake Lines

IMPORTANT: Use DOT 3 brake fluid for all gravity wagons with a serial number 2630100 and higher.

METHOD ONE (requires two people)
Close all bleed screws.

Start with the wheel furthest from the master cylinder. Slip a transparent bleed hose on the bleeder stem and place the other end of the hose in a clean container which is partially filled with fluid at all times.

The first person depresses the brake plunger SLOWLY (take 3-5 seconds). THEN the second person opens the bleed screw. He then closes the bleed screw BEFORE the first person SLOWLY releases the plunger (3-5 seconds). Continue until there is no evidence of air in the bleed hose. Continue with remaining wheels working from the longest to the shortest distance from the master cylinder. Top off master cylinder as needed to prevent reintroducing air into the lines.

IMPORTANT:

- 1) Depress plunger slowly
- 2) Open bleed screw
- 3) Close bleed screw
- 4) Release plunger slowly

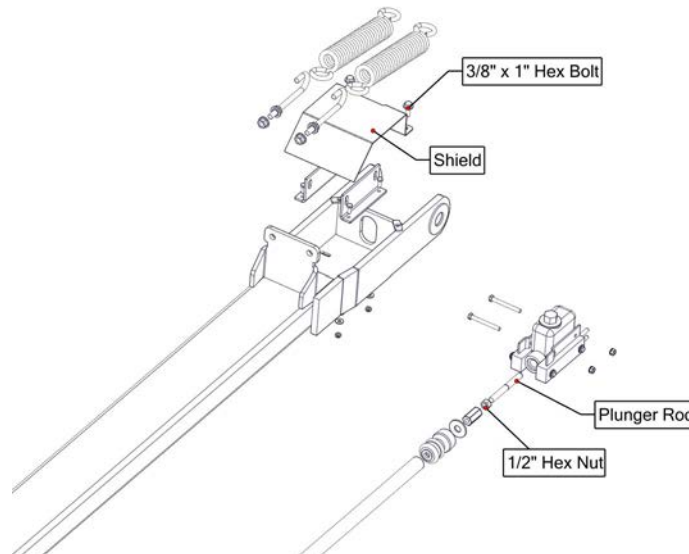
METHOD TWO (one person)

Attach bleed hose to rear wheel as in method one. Open bleed screw. SLOWLY depress plunger (3-5 seconds). Repeat until line is air free. Close bleed screw. Top off master cylinder as needed to prevent reintroducing air into the lines.

Repeat with remaining wheels.

 **DANGER:** Contamination with dirt, water, petroleum products or other materials may result in brake failure or costly repairs.

Adjusting the Brake Master Cylinder



- 1) Remove the shield. Use a 9/16" wrench to remove the (2) 3/8" x 1" serrated hex head bolts from shield.
- 2) Loosen the 1/2" nut on the plunger pin. Use a 3/4" wrench.
- 3) Rotate the plunger rod to adjust.
 - For more aggressive braking action turn the plunger rod counterclockwise. (This will lengthen the assembly)
 - For less aggressive braking action turn the plunger rod clockwise. (This will shorten the assembly)

 **DANGER:** Do not adjust all the "Play" out of the plunger system. This will cause the brakes to be activated at all times and over heat the drums causing failure.

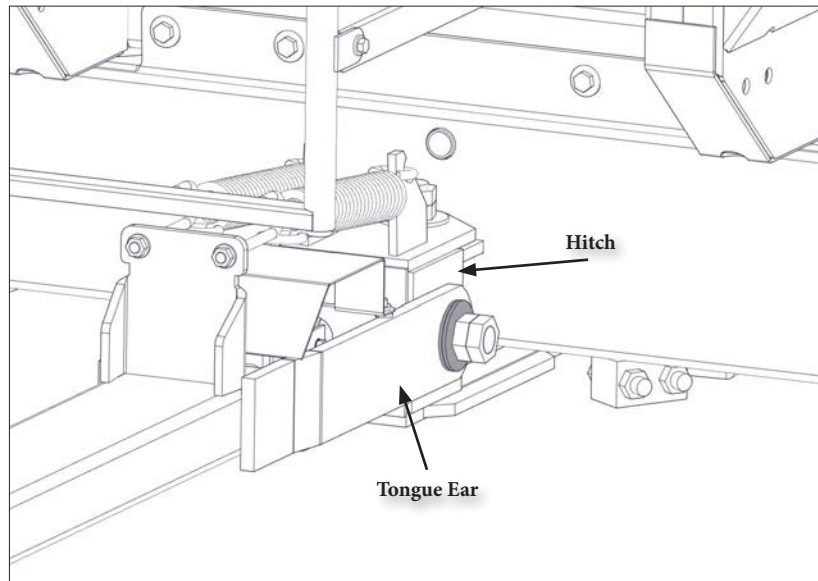
NOTE: This braking system is to assist the pull vehicle in the braking mode, not to take the place of it.

The braking plunger system should have approximately a 1/4" of "play" when adjusted for level road travel.

- 4) Tighten the 1/2" hex nut to keep plunger rod in place.
- 5) Put the shield back on and tighten both 3/8" x 1" SF hex bolts.

Gravity Wagon Trail Adjustment

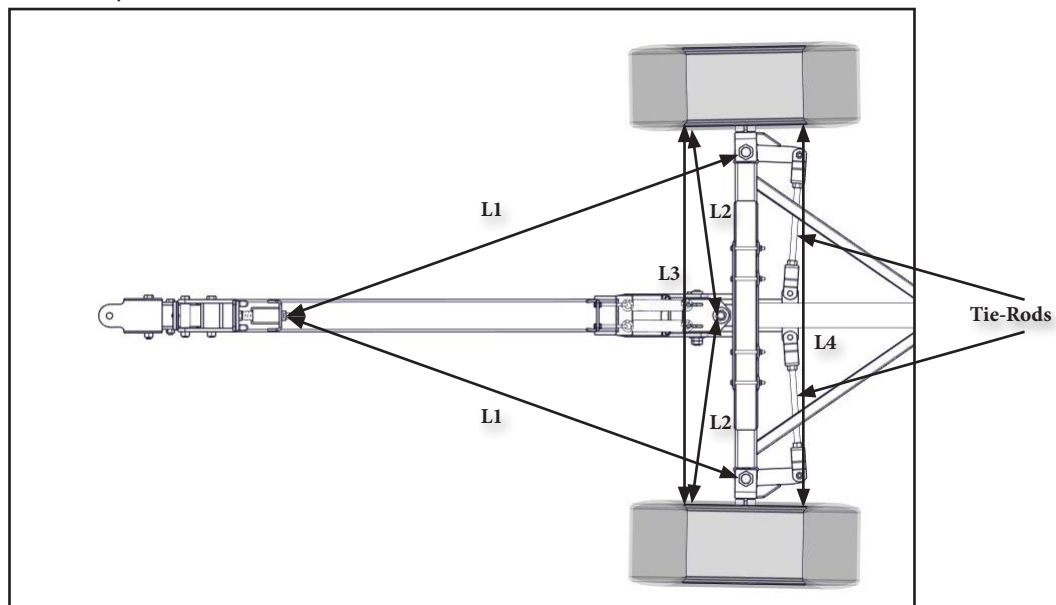
- Keep tongue bolt tightened. The tongue bolt should be as tight as possible without over restricting the vertical motion of the hitch.
- An extra washer (shown below) can be added if the nut is tightened so far that it runs out of threads before the tongue bolt is as tight as possible.

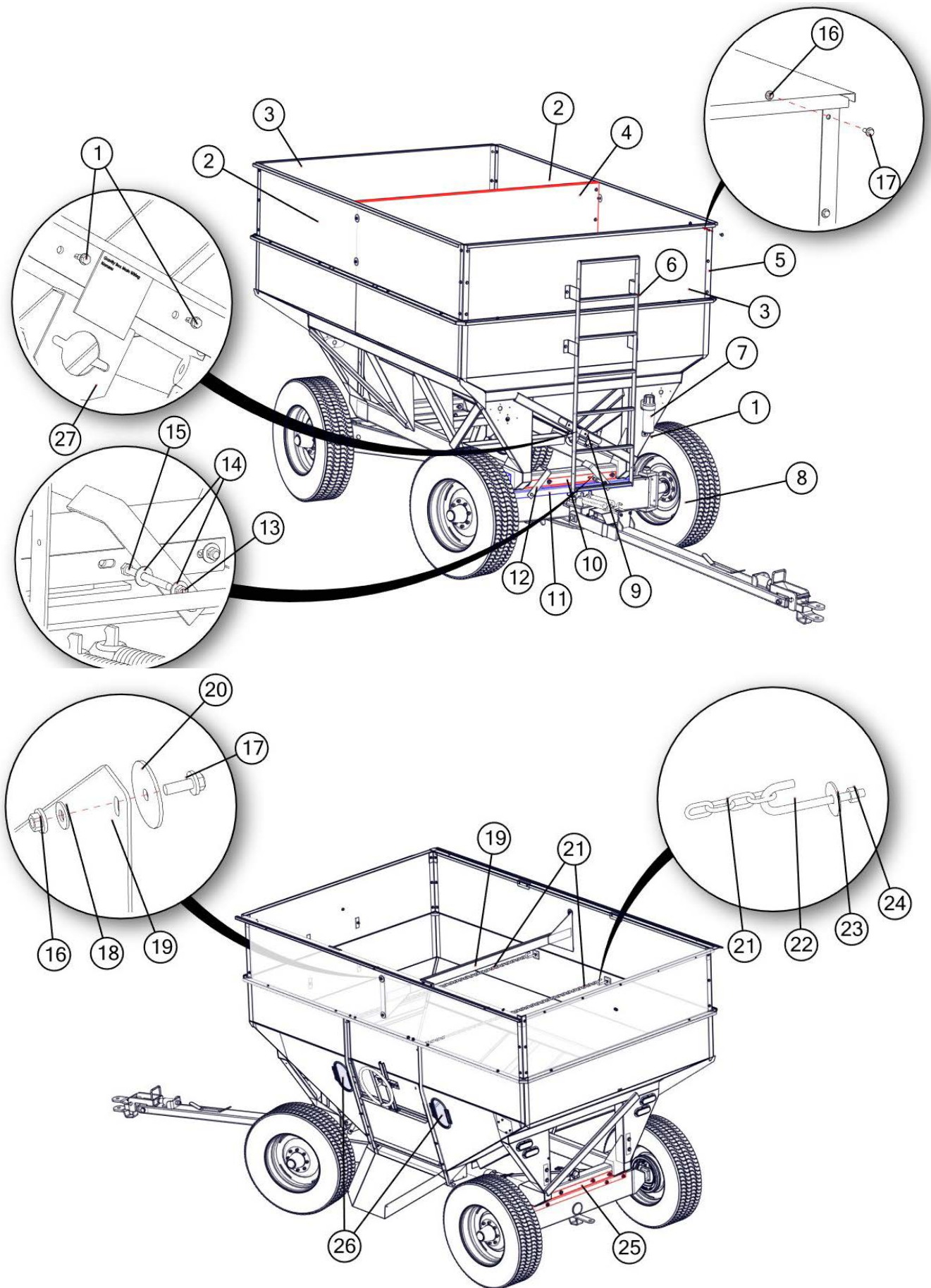


- Tires should be inflated to the manufactures specifications.
- For running gears equipped with used tires, If either of the front tires look to be excessively worn or unevenly worn they should be rotated with a less worn rear tire, if possible.
- The front tires should be towed in 3/16" on front overall, from rim to rim. 1/8" Min to 1/4" Max.

Adjusting Runnig Gear Toe-In

- Locate the tongue in the straight and horizontal position. Check this by measuring both "L1" locations. Once both locations are the same length, move onto the next step.
- Measure both "L2" locations. Adjust both tie-rods to assure both measurements are equal, if necessary.
- Finish with taking measurements for "L3" and "L4." L3 should be set 3/16" smaller than L4 by adjusting the tie-rods in equal amounts.
- Measure both "L2" locations again. If both measurement are the same you are finished. If measurements are not the same, repeat the entire process.

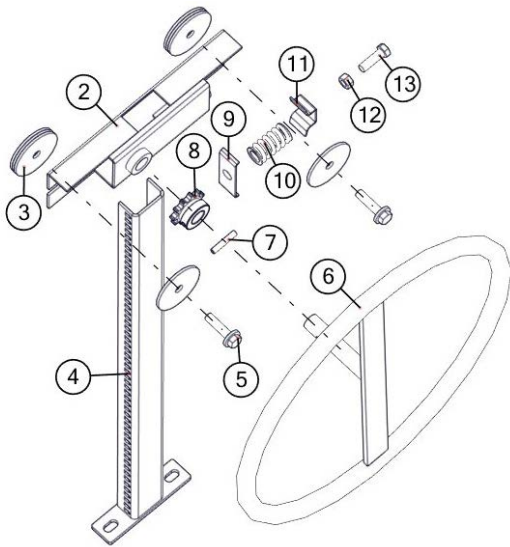




Parts

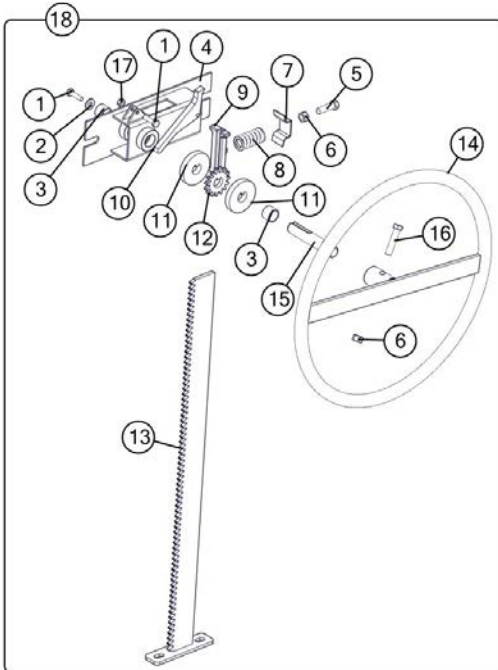
#	Description	Part No.
1	1/4"-20 x 3/4" Gr5 Z Hex Bolt	JM0001507
2	385 SD Sideboard	JM0017295
3	385 SD Endboard	JM0017294
4	385 SD Divider Assembly	JM0017315
5	385 SD Sideboard Corner	JM0017322
6	7 Rung Gravity Wagon Ladder Weldment	JM0019104
7	Manual Canister	JM0010115
8	Wheel & Tire 11-225x825-4	JM0027965
9	Light Cord Holder	JM0001438
10	Upper Rocking Bolster	JM0027867
11	Front Lower Rocking Bolster	JM0027866
12	1/4" x 2" U-Strap	JM0027868
13	1/2"-13 Gr5 Z Centerlock Hex Nut	JM0001511
14	1/2" USS Flat Washer	JM0003082
15	1/2"-13 x 5-1/2" HHMB Grade 5 Zinc	JM0001498
16	3/8" -16 Gr5 Z SF Hex Nut	JM0002152
17	3/8"-16 x 1" Gr5 Z SF Hex Bolt	JM0002092
18	3/8" USS Flat Washer	JM0003061
19	Center Side Brace	JM0027875
20	7/16 ID x 2 1/2 O.D. x 1/8 ZN USS Flat Washer	JM0018982
21	1/4 Coil Chain - Z (80in)	JM0027890
22	1/2" - 13 Gr5 Z J-Bolt	JM0002168
23	1/2 ID x 2.0 OD Flat Washer - 0.125 Thick	JM0026973
24	1/2" - 13 Gr5 Z Hex Nut	JM0002124
25	Rear Rocking Bolster Channel Mount	JM0027863
26	Inspection Window Kit	JM0025752
27	Pig Tail Assembly	JM0017239

Door Wheel Assembly (2015 & Older)



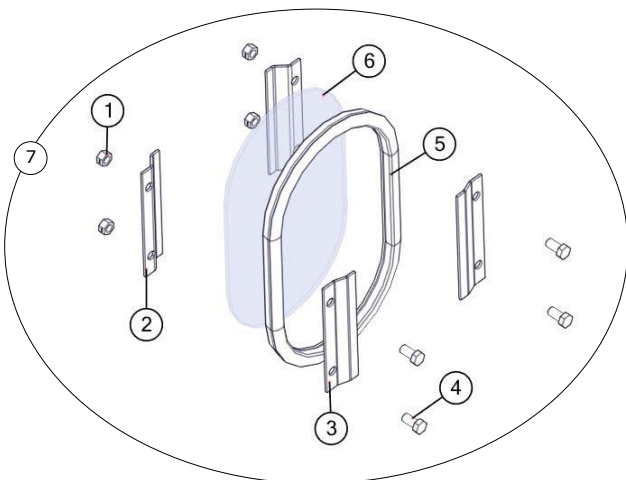
#	Description	Part. No.
1	Complete Door Wheel Assembly (20-1/4")(CWA250)	JM0018884
1	Complete Door Wheel Assembly (28")(CWA750)	JM0018879
2	Welded Guide Assembly (WGA-1034)	JM0018864
3	2-1/2" USS Flat Washer	JM0018982
4	Track Assembly (20-1/4")(TA-2014)	JM0018861
5	3/8-16 X 1-1/2" Gr5 Z SF Hex Bolt (161200)	JM0001633
6	Wheel Pin & Strap Assembly (WPS-250)	JM0018871
7	1-3/8" Roll Pin (138RP)	JM0009896
8	11 Tooth Sprocket (11T40)	JM0018872
9	Galvanized Clip (GL-250)	JM0002850
10	Small Compression Spring (DS-250)	JM0001688
11	Metal Clip (MC-250)	JM0002851
12	3/8"-16 Gr5 Z Hex Nut (161850)	JM0001707
13	3/8"-16 x 1-1/4" Gr5 Z Hex Bolt (161160)	JM0016675

Door Wheel Assembly (2016 & Newer)



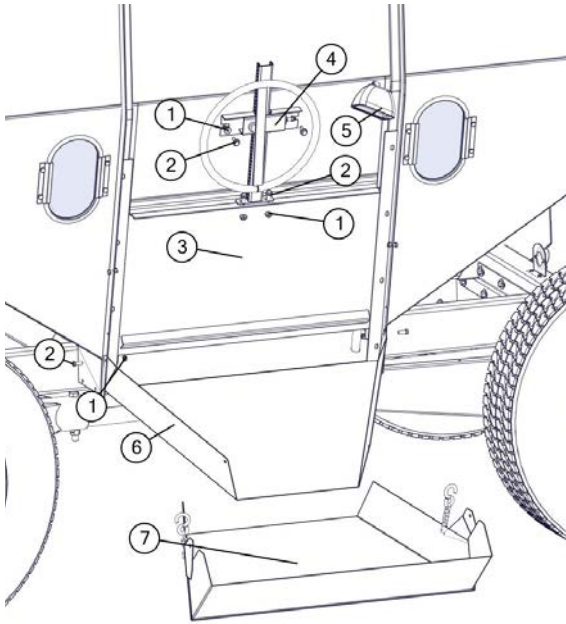
#	Description	Part No.
1	1/4"-20 x 1" Gr5 Z Hex Bolt	JM0002095
2	1/4" ID, 3/4" OD Z Flat Washer	JM0003090
3	.754 ID x .874 OD x .625 LG Bronze Bushing (BB-34)	JM0009455
4	Nylon Guided Rack Housing Weldment	JM0030635
5	3/8"-16 x 1-1/4" Gr5 Z Hex Bolt	JM0016675
6	3/8"-16 Gr5 Z Hex Nut	JM0001707
7	Scrubber Spring Plate (ST Manual Door) (Door Wheel)	JM0002851
8	Compression Spring (1" x 1-3/4") for Door Assembly & Tongue Latch	JM0001688
9	Nylon Track Guide For Door Wheel	JM0029354
10	Flip Lock For Door Rack	JM0029459
11	Keyway Washer for Door Rack	JM0029454
12	15 Tooth Sprocket - 3/4" Bore w/ Key	JM0029455
13	Rack Track Weldment for Door (20-1/4")	JM0030651
14	Rack Wheel Weldment	JM0028897
15	Stub Shaft 3/4" x 4 1/8" w/ Threaded End	JM0029440
16	3/8"-16 x 1-3/4" Gr5 Z Hex Bolt	JM0002097
17	1/4"-20 Gr2 Z Centerlock Hex Nut	JM0001505
18	Complete Door Wheel Assembly (20-1/4") (2016 & Newer)	JM0018884

Inspection Windows

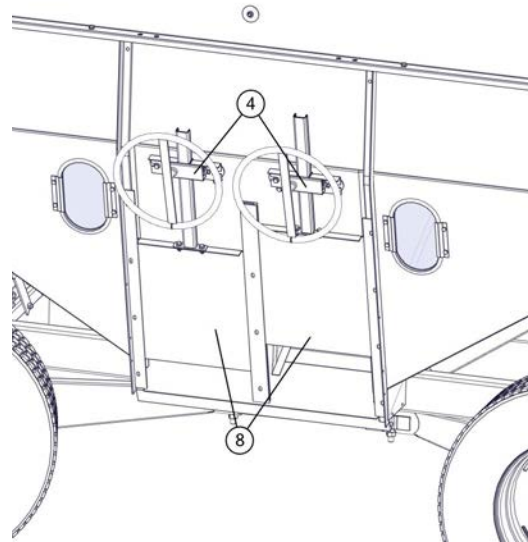


#	Description	Part. No.
1	3/8"-16 Gr5 Z Centerlock Hex Nut (161900)	JM0001512
2	Inside Window Brace (WB-4)	JM0000253
3	Outside Window Brace (WB-4B)	JM0000256
4	3/8"-16 x 3/4" Gr5 Z Hex Bolt (161000)	JM0001663
5	Oval Window Grommet (62095-7)	JM0000254
6	Oval Window (IW-71212)	JM0000255
7	Inspection Window Kit (IWK-1)	JM0025752

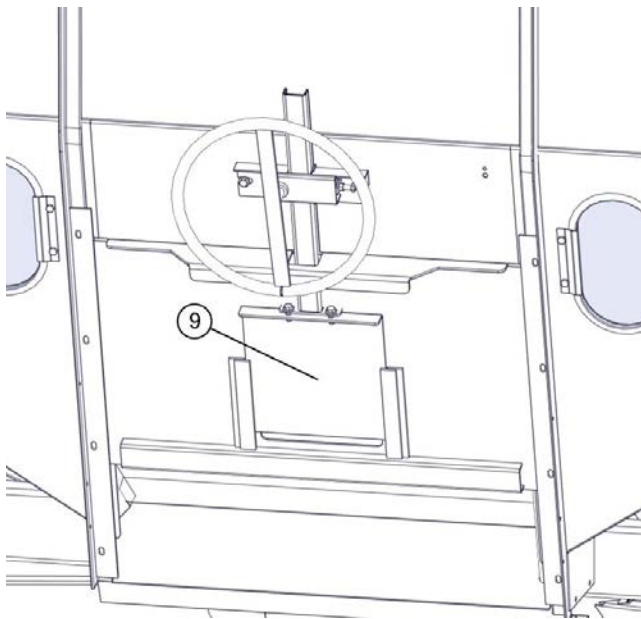
Door Assembly



**Non-Divider
Option**



Divider Option

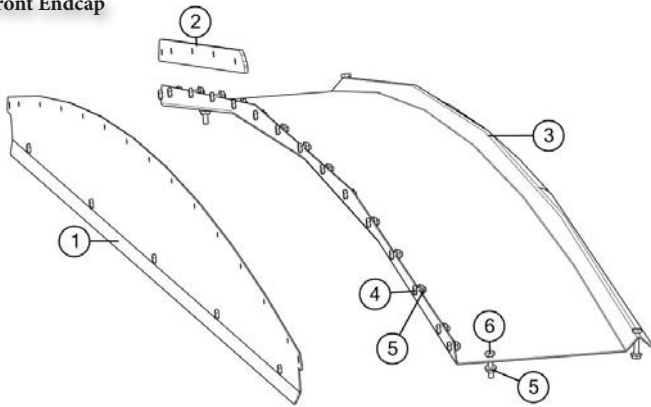


Metering Door

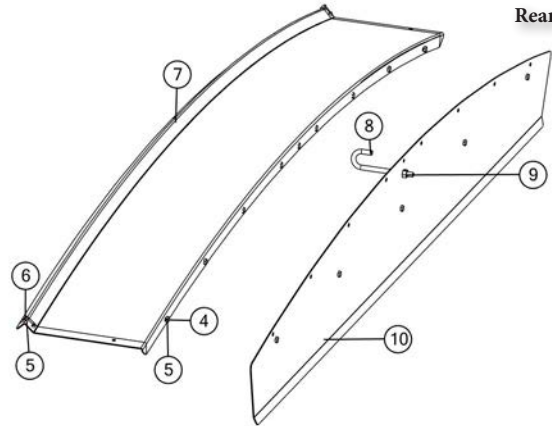
#	Description	Part. No
1	3/8" -16 Gr5 Z SF Hex Nut	JM0002152
2	3/8"-16 x 1" Gr5 Z SF Hex Bolt	JM0002092
3	385 Door	JM0017279
4	Rack Assmebly w/ Short Track	JM0018884
5	Flood Light	JM0050949
6	385 SD Chute	JM0017314
7	Center Dump Chute Weldment - 385	JM0027879
8	Divider Box Door	JM0017328
9	Metering Door	JM0030156

Roll Tarp

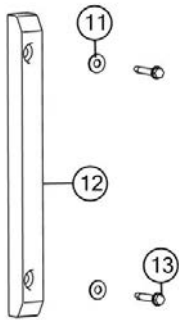
Front Endcap



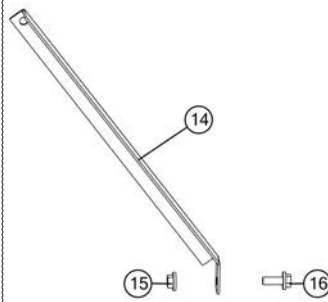
Rear Endcap



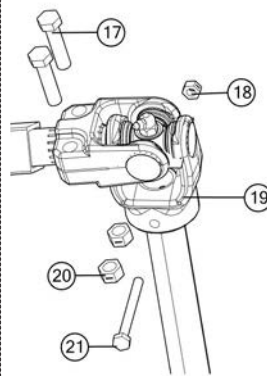
Tarp Stand-Off



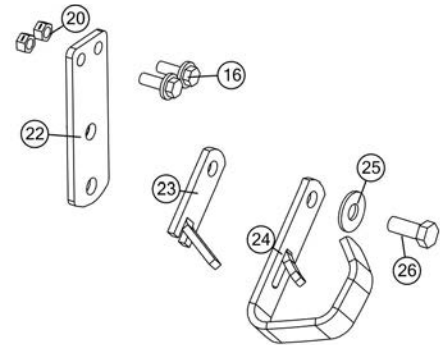
Bow Support



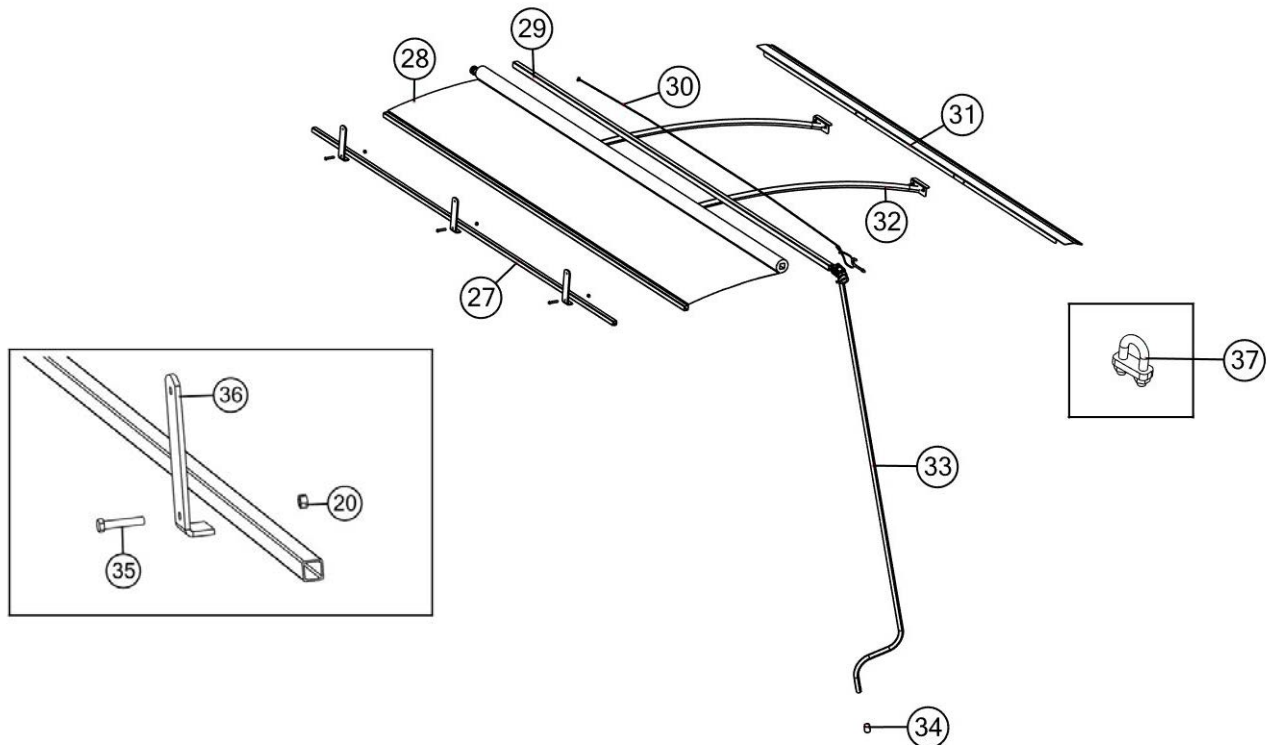
Crank Handle U-Joint



Crank Handle Holder



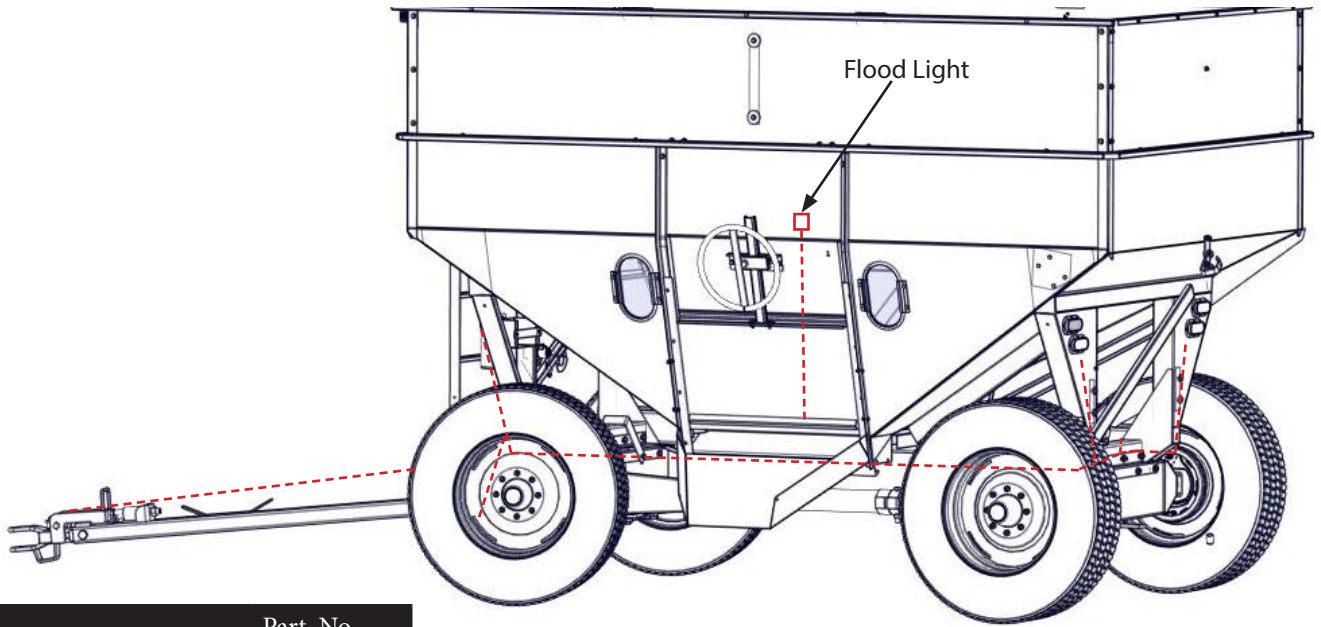
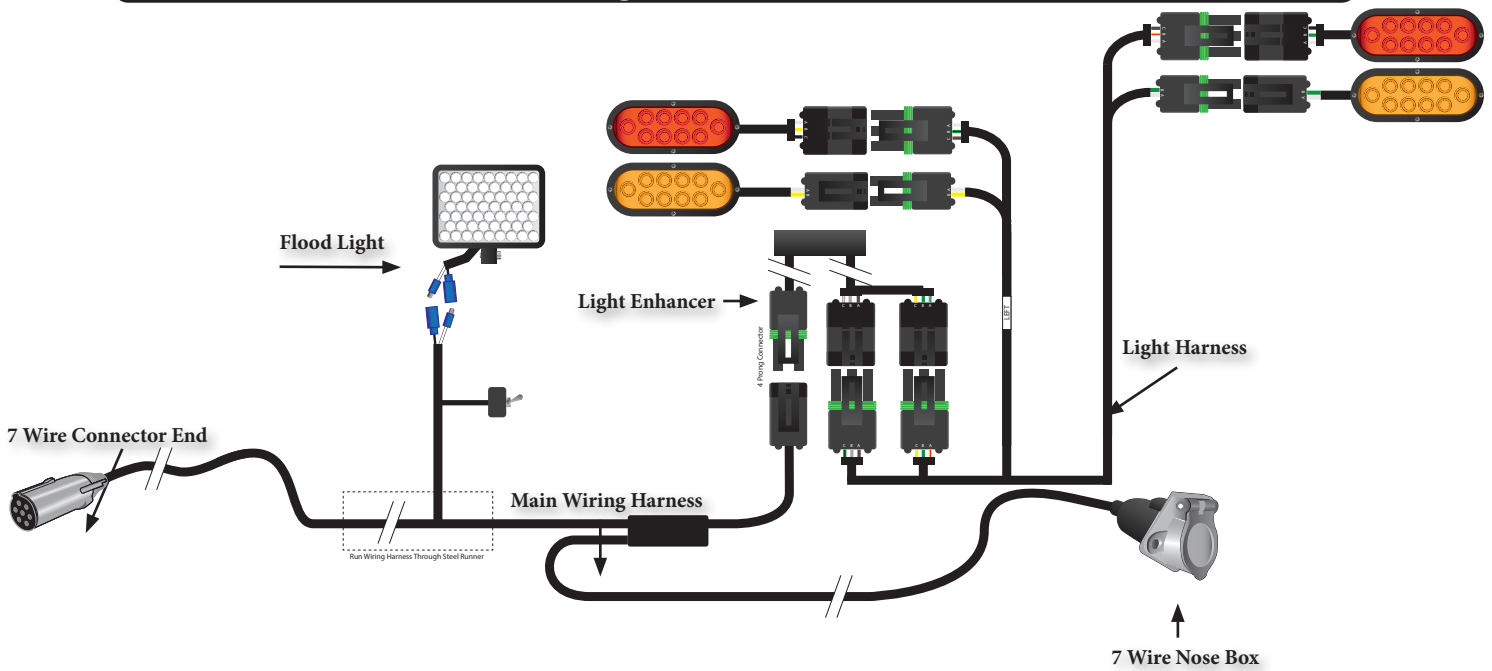
Tarp Assembly



Roll Tarp

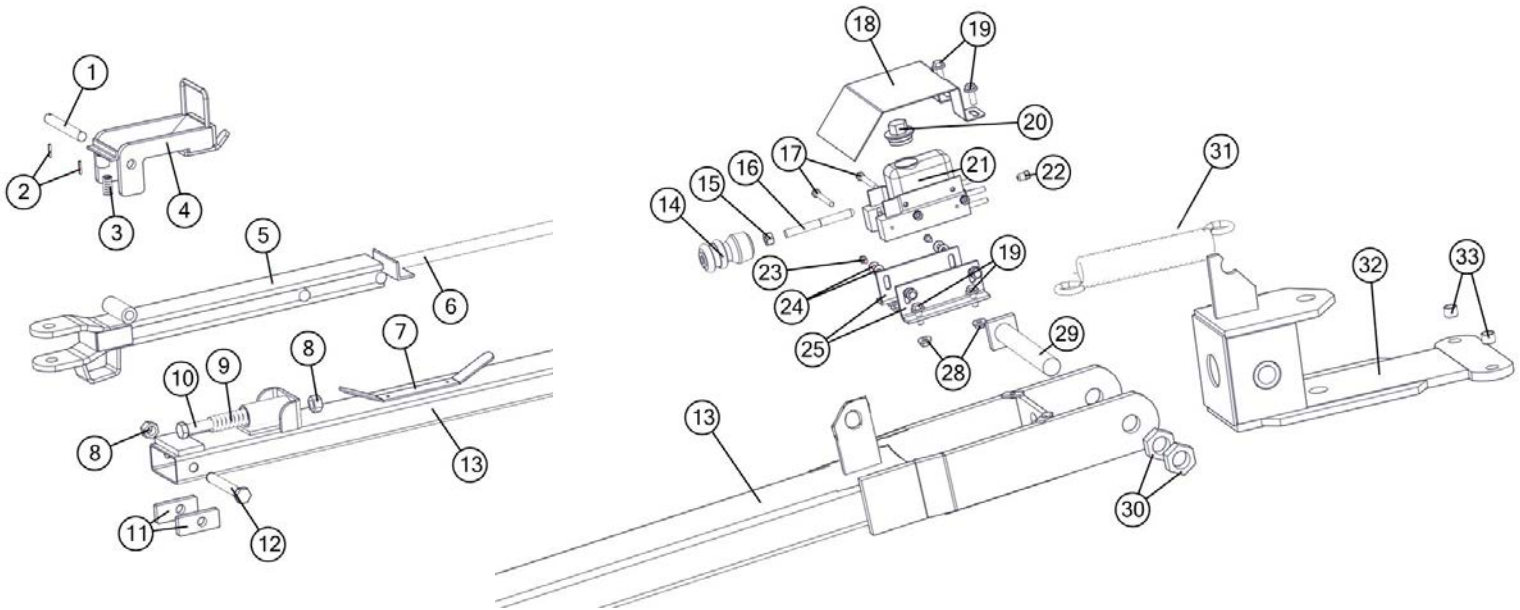
#	Description	Part. No.
1	385 Front Face Plate	JM0001555
2	Tarp Nylon Riser	JM0000196
3	385 Endcap Front (Top)	JM0001550
4	1/4"-20 x 1/2" Gr5 Z Hex Bolt	JM0001481
5	1/4"-20 Gr5 Z Serrated Flange Hex Nut	JM0001630
6	1/4"-20 x 5/8" Gr5 Z Hex Bolt	JM0001479
7	385 Endcap Rear (Top)	JM0001554
8	3/8"-16 Gr5 Z J-Bolt	JM0001519
9	3/8"-16 Gr5 Z Centerlock Hex Nut	JM0001512
10	385 Rear Faceplate	JM0001551
11	1/4" ID, 3/4" OD Z Flat Washer	JM0003090
12	Tarp Standoff	JM0001889
13	1/4" x 1-1/2" Self Tapping Screw	JM0001571
14	Box Tarp Prop	JM0000917
15	3/8"-16 Gr5 Z Serrated Flange Nut	JM0002152
16	3/8"-16 x 1" Gr5 Z Serrated Flange Hex Bolt	JM0002092
17	3/8"-16 x 1-1/2" Gr5 Z Hex Bolt	JM0001659
18	1/4"-20 Gr5 Z Centerlock Hex Nut	JM0001505
19	Universal Joint - Roll Tarp	JM0001517
20	3/8"-16 Gr5 Z Centerlock Hex Nut	JM0001512
21	1/4"-20 x 2-1/2" Gr5 Z Hex Bolt	JM0001506
22	Adj. Bar for Crank Holder for Gravity Box True-Lock Roll Tarp	JM0000815
23	Handle Hanger Rubber Flap	JM0002551
24	Pinless Crank Holder (zinc plated)	JM0002967
25	1/2" Z Flat Washer	JM0003082
26	1/2"-13 x 1 1/4" Gr5 Z Hex Bolt	JM0001513
27	144in Tarp Tie Down Tube	JM0021364
28	385 Canvas Tarp	JM0001588
29	Square Roll Tube Weldment	JM0024498
30	148" Cable	JM0001524
31	Roll Tarp Lip Lock	JM0001552
32	385 Box Bow Weldment	JM0001584
33	Crank handle	JM0002907
34	Yellow Cap	JM0018963
35	3/8"-16 x 2" Gr5 Z Hex Bolt	JM0001510
36	Tarp Stop	JM0000187
37	1/8" Cable Clamp	JM0001514

Light Harness Guide



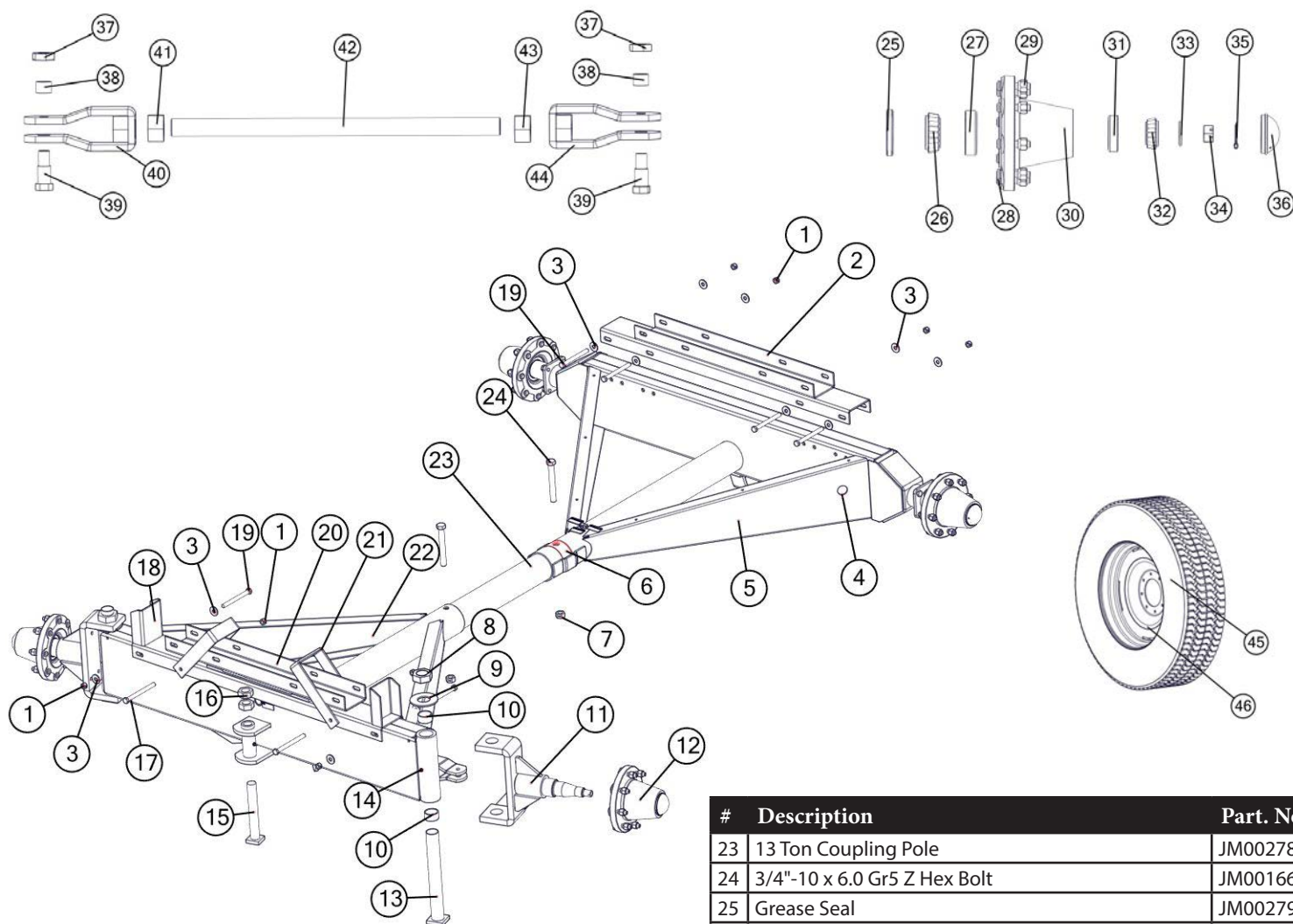
Description	Part. No.
Red Light LED	JM0034389
Amber Light LED	JM0034392
Light Harness	JM0027773
Light Enhancer	JM0010566
Main Wiring Harness	JM0027774
Flood Light	JM0050949
Pig Tail Assembly	JM0017239
1/4" x 1" Carriage Bolt	JM0002169
1/4" Flange Nut	JM0001499
1/4" x 3/4" Self-Tapping Screw	JM0001570
Wire Harness Storage Bracket	JM0001438
Wire Guard for Rear Lights	JM0013938

13 Ton Running Gear Parts



#	Description	Part. No.
1	Tongue Latch Pin	JM0027836
2	1/4" x 1 3/8" Roll Pin	JM0009896
3	Tongue Latch Spring	JM0001688
4	Tongue Latch	JM0019289
5	Tongue Hitch Insert	JM0019304
6	Brake Plunger	JM0019344
7	Light Cord Holder	JM0001438
8	1"-8 Gr5 Z Hex Nut	JM0002127
9	3/8" WIRE x 1 1/8" DIA x 7.0" LONG - 1/2 PITCH	JM0019293
10	1"-8 x 9" Gr8 Z Hex Bolt	JM0001708
11	Tongue Slide Guides	JM0019306
12	1"-8 x 7.0 Gr5 Z Hex Bolt	JM0016689
13	Hitch Tongue	JM0019261
14	Master Cylinder Rubber Boot	JM0019358
15	1/2 -13 Gr5 Z Hex Nut	JM0002124
16	Master Cylinder Push Pin	JM0019341
17	5/16"-18 x 3.0 Gr5 Z Hex Bolt	JM0019359
18	Plunger Cover	JM0019273
19	3/8"-16 x 1" Gr5 Z SF Hex Bolt	JM0002092
20	Master Cylinder Cap	JM0019357
21	Master Cylinder With Spring Bracket	JM0019356
22	.015 Orifice Restrictor Fitting for Drum Brake Master Cylinder	JM0027857
23	1/4"-20 x 1/2" Gr5 Z Hex Bolt	JM0001481
24	1/4" USS Flat Washer	JM0003090
25	Master Cylinder Mounting Bracket	JM0019340
28	3/8" -16 Gr5 Z SF Hex Nut	JM0002152
29	Horizontal Tongue KING PIN	JM0019324
30	1 1/4"-12 GR5 PR RH Hex Nut	JM0019930
31	Tongue Spring	JM0014200
32	Tongue Yolk	JM0027828
33	3/4 ID x 7/8 OD x 5/8 LG Bronze Bushing	JM0009455

13 Ton Running Gear Parts



#	Description	Part. No.
1	1/2"-13 Gr5 Z Centerlock Hex Nut	JM0001511
2	Rear Rocking Bolster	JM0027863
3	1/2" USS Flat Washer	JM0003082
4	Rubber Grommet	JM0031895
5	13 Ton Rear Gear Weldment	JM0027795
6	Running Gear Retaining Ring	JM0015724
7	3/4"-10 Gr5 Z Centerlock Hex Nut	JM0002147
8	1 3/4"-5 Gr5 Hex Nut	JM0019334
9	1 3/4" USS Flat Washer	JM0029723
10	1 3/4" x 2" x 1" LG Bronze Bushing	JM0002244
11	Spindle and U-Arm Weldment	JM0027816
12	G819 Hub with Studs, Lugs & Races	JM0027913
13	U-Arm King Pin	JM0019321
14	Greese Zerk	JM0009756
15	Tunge King Pin	JM0019332
16	1 1/4"-12 GR5 PR RH Hex Nut	JM0019930
17	1/2"-13 x 6.0 Gr5 Z Hex Bolt	JM0016679
18	Front Lower Rocking Bolster	JM0027866
19	1/2"-13 x 5-1/2" HHMB Grade 5 Zinc	JM0001498
20	Front Upper Rocking Bolster	JM0027867
21	1/4" x 2" U-Strap	JM0027868
22	13 Ton Front Gear Weldment	JM0027794

#	Description	Part. No.
23	13 Ton Coupling Pole	JM0027819
24	3/4"-10 x 6.0 Gr5 Z Hex Bolt	JM0016683
25	Grease Seal	JM0027911
26	Inner Large Cone Bearing	JM0027906
27	Inner Large Bearing Cup	JM0027905
28	9/16" x 2-1/4" Stud Non-Brakes (WB-41)	JM0037502
28	9/16" x 2-1/2" Stud for Brake Hub (WB-41L)	JM0037503
29	9/16"-18 Conical Lugnut - 1" Hex	JM0080091
30	G819-8 Hub	JM0027904
31	Outer Small Cup	JM0027908
32	Outer Small Cone Bearing	JM0027910
33	1.075 x 2.0 Flat Spindle Washer	JM0027916
34	7/8" Gr5 Z Castle Hex Nut	JM0002138
35	.156 x 1.5 Cotter Pin	JM0014348
36	Dust Cap	JM0027914
37	3/4" Shoulder Bolt Nut	JM0003184
38	3/4 ID x 7/8 OD x 5/8 LG Bronze Bushing	JM0009455
39	3/4" x 2-1/2" Shoulder Bolt	JM0003181
40	13 - Ton Clevis Weldment (Left)	JM0019189
41	1.0-14 GR5 LH P Hex Nut	JM0014281
42	Tie Rod	JM0019190
43	1.0-14 GR5 RH P Hex Nut	JM0014282
44	13 - Ton Clevis Weldment (Right)	JM0001822
45	Tire 11 x 22.5 Used Tire	JM0027932
45	15 -22.5 New Tire, 385/65R22.5	JM0036259
45	15 -22.5 Used Tire	JM0039060
46	22.5x8.25-8 Bolt Wheel	JM0027933

