

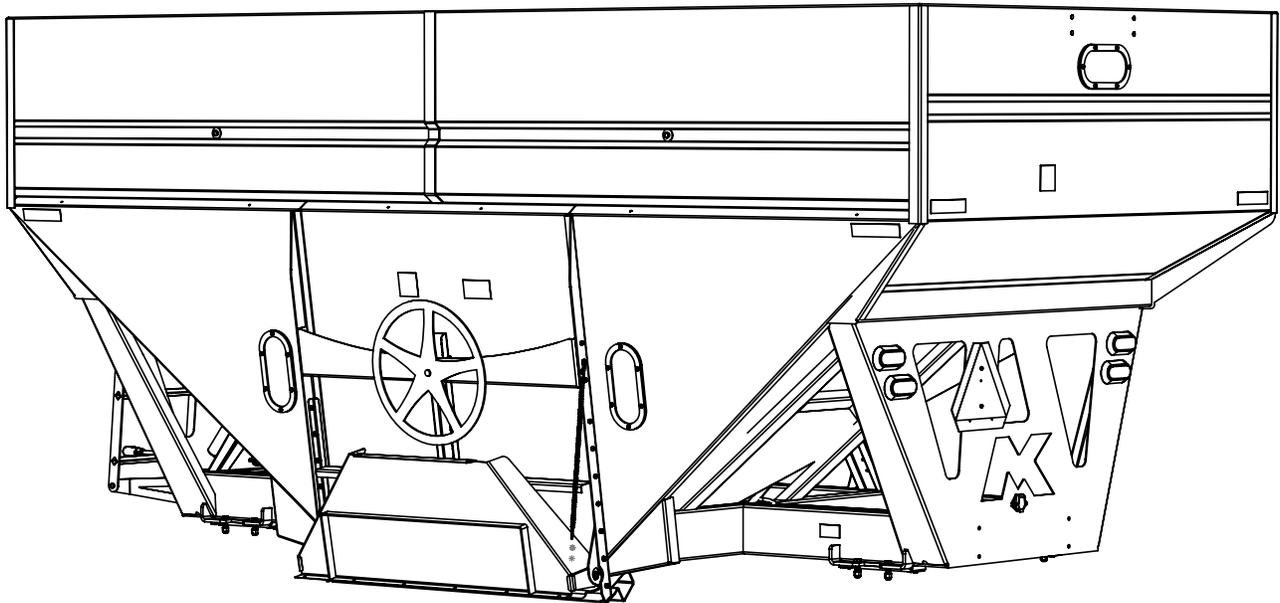


3200

5000

6500

Gravity Box Operator's / Parts Manual



MK Martin Enterprise Inc.
3950 Steffler Rd Elmira, ON, Canada N3B 2Z3

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REV: 18-1

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3950 Steffler Rd. • Elmira • Ontario, Canada • N3B 2Z3 • Email : sales@mkmartin.ca • Fax : (519)-664-3695 • Tel : (519)-664-2752

Warranty

Effective on products retailed on or after November 1, 2017

Two Year Limited Consumer Warranty

Five Year Limited Consumer Warranty on Gearboxes

90 Day Limited Commercial Warranty including Gearboxes

Commercial includes rental and industrial applications.

Warranty begins at the time of customer delivery and is activated upon warranty registration receipt at MK Martin Enterprise Inc.

Warranty coverage is null and void unless the Warranty Registration form has been completed in full and is on file at MK Martin Enterprise Inc.

Keep your registration copy in a safe place, it is required as proof of warranty activation.

This new and unused product is warranted by MK Martin Enterprise Inc. to be free from defects in material and workmanship under normal use and regular service as described in the owner's manual, for a consumer period of 2 years and 5 years for gearboxes, from the date of delivery, and commercial period of 90 days, including gearboxes, from the date of delivery. Warranty is limited to the replacement of parts and / or repair of the product.

If issues develop within the warranty period with the product, contact the local dealer from which you purchased the unit. Only MK Martin authorized dealers may make repairs to the product or affect the replacement of defective parts, unless otherwise approved by MK Martin. Repairs / replacement will be done at no charge within a reasonable time after the receipt of the product.

This warranty does not cover the following items:

1. Normal replacement of service items.
2. Normal maintenance or adjustments.
3. Machines or parts lost or damaged during shipment,
4. Accessory items / parts not supplied by MK Martin
5. Damages resulting from:
 - misuse, negligence, accident, theft or fire
 - use of improper or insufficient fuel, fluids or lubricants
 - use of after market parts or accessories, unless approved by MK Martin
 - modifications, alteration, tampering or improper repair
 - any device or accessories installed by other than an authorized dealer.
6. Tires are covered by the manufacturer of the tire and the warranty period specified by that manufacturer. **Please contact the tire manufacturer for warranty on these items.**

MK Martin Enterprise Inc. shall not, in any event, be liable for any losses, damages or costs; to include profits, travel, transportation, pick up, delivery, towing cost, tow vehicle, loss of use, whether special, incidental, consequential or otherwise, in any way. Unit or parts are returned at the customer's expense.

Include a copy of your completed Warranty Registration form with any claim as proof of warranty activation.

There are no warranties, expressed or implied, other than those specified herein. No agent, employee or other person has any authority to vary any of the foregoing provisions.

Warranty coverage is null and void unless the Warranty Registration form has been completed in full and is on file at MK Martin Enterprise Inc. Warranty begins at the time of customer delivery and is activated upon Warranty Registration receipt at MK Martin Enterprise Inc.

M K Martin Enterprise Inc
3950 Steffler Rd
Elmira ON CA N3B 2Z3

Purchaser's warranty protection is valid only when this completed form or a copy of this form is on file at M K Martin Enterprise Inc. By filling out this form the purchaser has acknowledged delivery of equipment and owner's / operator's manual and has accepted the condition of the equipment.

Date of delivery to purchaser -----

Type of Equipment -----

Model # ----- **Serial #** -----

Retailer's Signature Indicates

- *Equipment was properly assembled as directed by manufacturer*
- *Equipment was tested for functionality and operates properly*
- *Purchaser was instructed in safe and proper operating procedures*
- *Warranty was explained to purchaser*
- *Purchaser was given the operators manual*

Retailer

Signature -----

Company -----

Address -----

Purchaser's signature indicates

- *Acceptance of equipment fully assembled*
- *Received operator's manual*
- *Clearly understands conditions of warranty*
- *Received instructions of safe and proper operation of equipment*

Purchaser

Signature -----

Company -----

Mailing address -----

City ----- **Prov/State** ----- **Postal Code/Zip** -----

Available phone number -----

Warranty is valid only when it has been received by manufacturer at address above

Warranty Registration

Please Cut and Return to M K Martin Enterprise Inc

Fold And Tape here

Do not tape all edges or use staples

Fold Here

Postage
Stamp

M K Martin Enterprise Inc
3950 Steffler Rd
Elmira ON CA N3B 2Z3

Safety

Take Note! This safety symbol is found throughout this manual to call your attention to instructions involving yourself and others working around the machine.

- **Failure to follow these instructions can result in injury or death**



This symbol means

- **Attention!**
- **Become Alert!**
- **Your Safety is involved!**

Signal words are used in this manual.

Caution: Indicates a potentially hazardous situation that may result in injury.

Warning: Indicates a hazardous situation that could result in serious injury or death.

Danger: Indicates a hazardous situation that needs to be avoided. It is you the operator that needs to be aware of these dangers.

If you have any questions not answered in this manual please contact your dealer or

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Safety -- It's in your interest!

Before using this equipment!

Be sure that you know the dangers and safety concerns while operating this equipment!

Understand that your safety and the safety of other persons are measured by how you service and operate this machine.

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 designed by local laws and regulations.



Warning!

Never allow anyone in, near, or on gravity box during transporting or unloading of grain. Moving grain is dangerous and can cause entrapment, resulting in severe injury or death by suffocation.

Operator should be a responsible adult. Do not allow persons to operate or assemble this unit until they have developed a thorough understanding of safety precautions and how it works.

Before unhooking the implement from the towing unit, be sure to properly block the wheels to prevent the implement from moving.

Do not allow anyone to stand between tongue or hitch and towing vehicle when backing up.

Never overload the wagon. Overloading the wagon is dangerous and can cause extensive damage. Never add more sideboards to the gravity box than is recommended, as the box is not designed to carry the additional weight. **Do not exceed the rating of the gear or load rating of the tires**, whichever is less.

If equipment has been altered in any way from original design, manufacturer does not accept any liability for injury or warranty.

Do not wear loose-fitting clothing which may catch moving parts.

Always wear protective clothing and substantial shoes.

It is recommended that hearing and eye protection be worn.

Never adjust, service, clean, or lubricate gravity box until all power is shut off.

Ensure that anybody present is clear before applying power to any machinery used in conjunction with wagon box or when moving the box.



Safety -- It's in your interest!

Lighting and Marking

It is the responsibility of the customer to know lighting and marking requirements of local highway authorities and to install and maintain equipment to provide compliance with regulations. Add extra lights when transporting at night or during periods of limited visibility.

Inspect all the lights to ensure they are all working.

Inspect all the reflectors and SMV emblem to ensure that they are all visible and in the proper place.

Keep safety signs clean and legible at all times.



Transportation and Highway Operation

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.

Check the owners manual of the running gear for operating and maintaining the equipment.

When towing always have the draw-pin locked and secured, always have the safety chain fastened in the proper position.

When towing equipment without brakes.

Do Not travel at speeds over 32 km/h (20 mph); or when fully loaded weighs more than 1.5t (3300 lbs) and more than 1 1/2 times the weight of the towing unit.

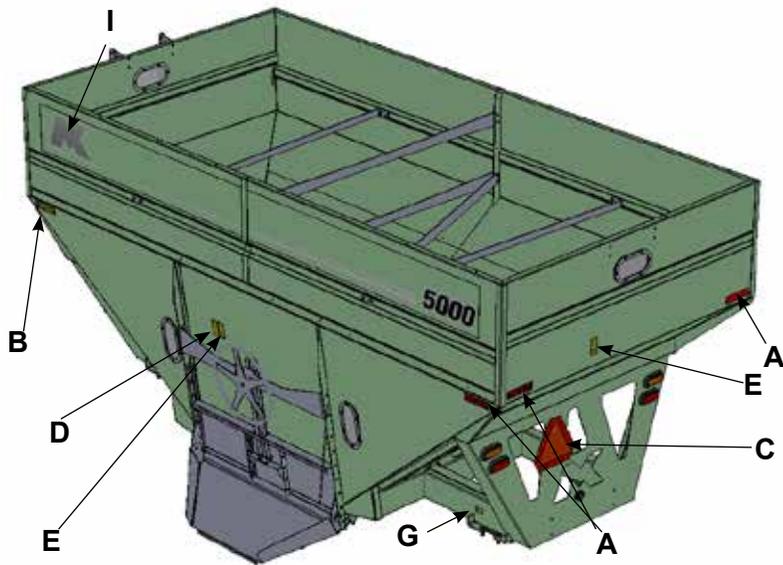
When towing equipment with brakes.

Do Not tow equipment with brakes over 40km/h (25 mph) when fully loaded, that weighs more than 4 1/2 times the weight of the towing unit.

Be observant of bridge load ratings. Do not cross bridges rated lower than gross weight at which you are operating.

If the Gravity Box has a tarp, ensure that it is secured before traveling on the road.

Decal Location



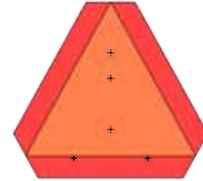
A -- Red Reflector - Part # 24349



B -- Amber Reflector - Part # 24350



C -- SMV Symbol - Part # smv



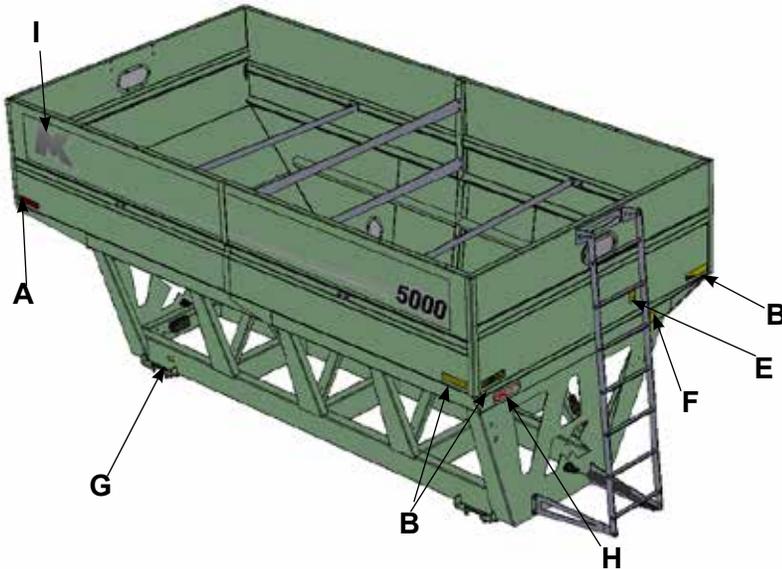
D -- Read operators manual
Part # F9



E -- Never enter box
containing grain. Flowing
grain traps and suffocates
victims



F -- Shut off engine and remove key
before preforming maintenance or
repair work - Part # 226



H -- One at end of box
Part # 53800



G -- Secure box to running
gear

I -- One ea side

Part # 53793



Part # 24342



Part # 24340



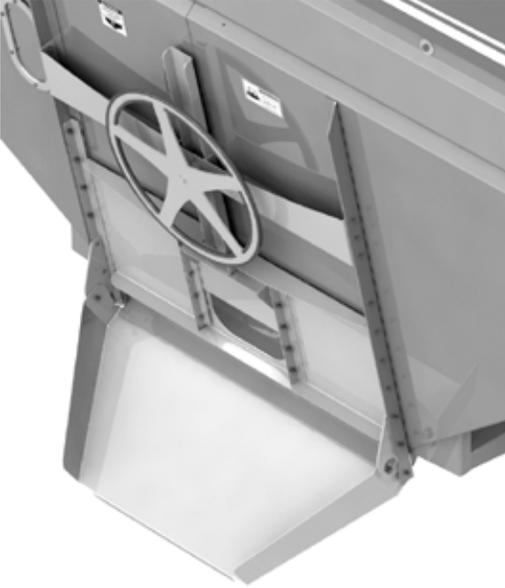
Assembly Information

This equipment may be shipped without the ladder, chute and door-opener installed.

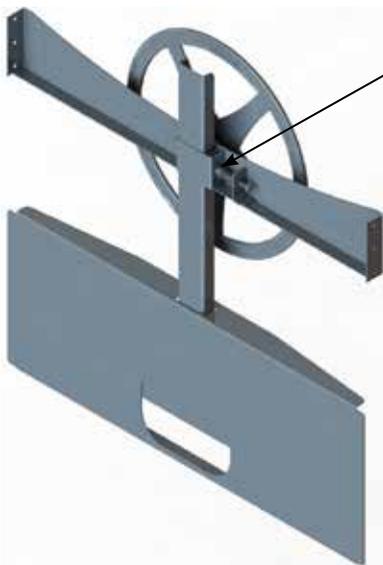
Install Door Opener as Illustrated Below

Install Ladder as Illustrated Below

Chute: See parts list for list and order of parts



Door Opener Illustrated from Back



To Adjust Tension:
unlock Jam Nuts
and tighten nut
against spring, lock
Jam Nuts

On wagons with a rocking bolster fasten all four corners of the box to the wagon.

On wagons without rocking bolsters, fasten either both front OR both rear sills to the bolster and on the opposite end loop a chain around the bolster and box sill allowing a few inches movement between the bolster and sill.



Before Operation

Before filling the box with grain ensure that the door-opener has been lubricated and moves freely.

Assure that agricultural implement tires are inflated evenly.

Give unit a visual inspection for any loose bolts, worn parts, or cracked welds, and make necessary repairs.

Be sure there are no tools lying on or in equipment.



Operating

Warning: Before filling the gravity box, make certain that no one is inside the grain tank. Never allow children or anyone in, 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.

Choose the most level route possible when transporting across fields.

To unload; Lower the chute, Notice chute height can be changed by changing the pivot position on the horseshoe shaped slots on the chute sides.

When the hand wheel is turned the small metering door will open first allowing for better control on a smaller capacity auger or grain handling device. After the small door contacts the main door it will lift the main door allowing grain to flow from the full width. When finished unloading close the door and raise the chute and secure with the chain.

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.

Caution! Depending on how the grain flows inside the bin during unloading, the center of gravity will change, causing the wagon and box to become unstable and may upset!
Be very cautious when unloading.

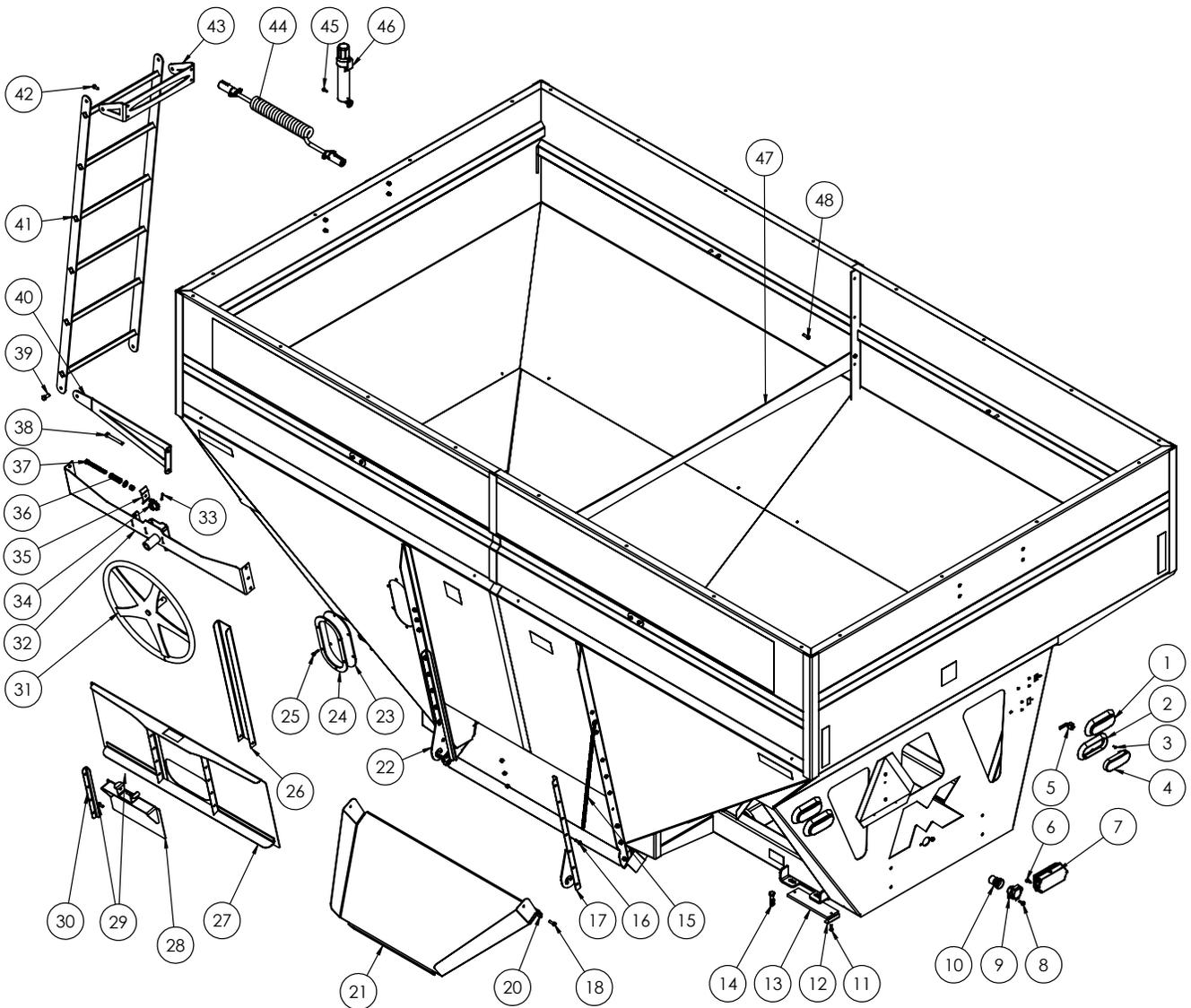
Make sure that everyone is clear of equipment before applying power or moving the machine.

Comply with state and local laws governing highway safety and movement of farm machinery on public roads.

Comply with all safety warnings and cautions in this manual and in combine operators manual.

Warning; Be sure all lights are working properly before highway travel.

3200 Gravity Box Parts



Item #	Part #	Description	3200 Qty
1	grt54173	Amber Lamp	2
2	grt42152	Lamp Bracket	4
3	OL	10-24 x 1/2 RD Head Machine Screw	16
4	grt54172	Red Lamp	2
5	grt67000	Light Pigtail	4
6	OL	Self drilling Bolt 1/4 x 1 c/w fw	2
7	grt82-1000	Terminal Box	1
8	OL	Bolt 5/16 x 1 c/w fw, ln	4
9	grt82-2145	7 pin Socket	2
10	grt82-2144	Socket Cover	2
11	OL	Bolt 5/16 x 1	8
12	52526	Clamp	8
13	51419	Rubber Block	4
14	OL	Bolt 5/8 x 2 1/2 c/w lw	8
15	OL	3/16 Chain c/w S Hook	1
16	OL	Bolt 3/8 x 1 c/w lw, n	20

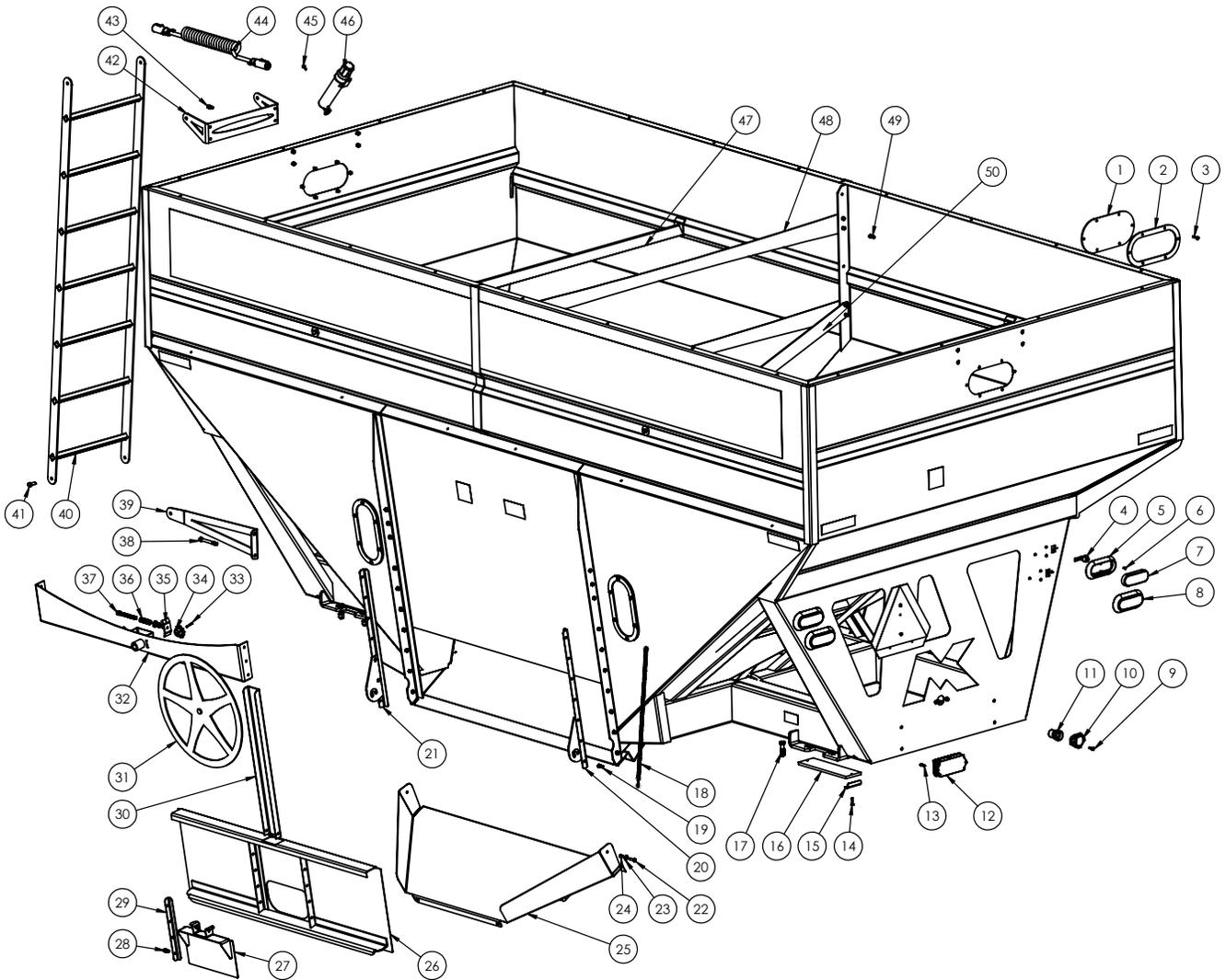
3200 Gravity Box Parts

Item #	Part #	Description	3200 Qty
17	51036	Left Door Slide	1
18	knp364-021	1/2 x 1/2 Socket head shoulder bolt	2
20	xznylnut37	3/8" Lock nut	2
21	51300	3200 Chute	1
22	51035	Right Door Slide	1
23	33556	Sight Glass	1
24	33094	Sight Glass Retainer	1
25	OL	Bolt 5/16 x 1 1/4 c/w In	6
26	50989	Door Opener Lift Slider	1
27	51279	3200 Main Door	1
28	50995	Metering Door	1
29	OL	Bolt 3/8 x 1 c/w lw, n	10
30	50992	Meter Door Slide	2
31	53223	Door Opener Hand Wheel	1
32	53398	3200 Door Adjuster Bracket	1
33	OL	1/4 x 2 Spring Pin	1
34	51283	Chain Sprocket 50B11	1
35	51005	Slider Pressure Pad	1
36	sprc2223-376	Pressure Spring	1
37	OL	Bolt 1/2 x 5 Full Thread c/w fw, In	1
38	OL	Bolt 1/2 x 4 c/w In	4
39	OL	Bolt 1/2 x 1 1/4 c/w In	4
40	51029	Bottom Ladder Bracket	2
41	53752	Ladder	1
42	OL	Bolt 3/8 x 1 c/w In	4
43	51028	Upper Ladder Bracket	1
44	grt87111	Connector Cord	1
45	OL	Bolt 1/4x3/4 Flange head c/w Flange Nut	2
46	DJA7011	Op Manual Tube	1
47	53738	Tie-Bar	2
49	OL	Bolt 3/8x1 1/4 c/w In	8

Note

OL - Obtain Locally
c/w - Complete With
fw - Flatwasher
lw - Lockwasher
ln - Locknut
n - Nut

5000 - 6500 Gravity Box Parts



Item #	Part #	Description	5000 Qty	6500 Qty
1	33556	Sight Glass	4	1
2	33094	Sight Glass Retainer	4	1
3	OL	Bolt 5/16 x 1 1/4 c/w In	24	6
4	grt67000	Light Pigtail	4	4
5	grt42152	Lamp Bracket	4	4
6	OL	10-24 x 1/2 RD Head Machine Screw	16	16
7	grt54173	Amber Lamp	2	2
8	grt54172	Red Lamp	2	2
9	OL	Bolt 5/16 x 1 c/w fw, In	4	4
10	grt82-2145	7 pin Socket	2	2
11	grt82-2144	Socket Cover	2	2
12	grt82-1000	Terminal Box	1	1
13	OL	Self drilling Bolt 1/4 x 1 c/w fw	2	2
14	OL	Bolt 5/16 x 1	8	8
15	52488	Clamp	8	8
16	51305	Rubber Block	4	4

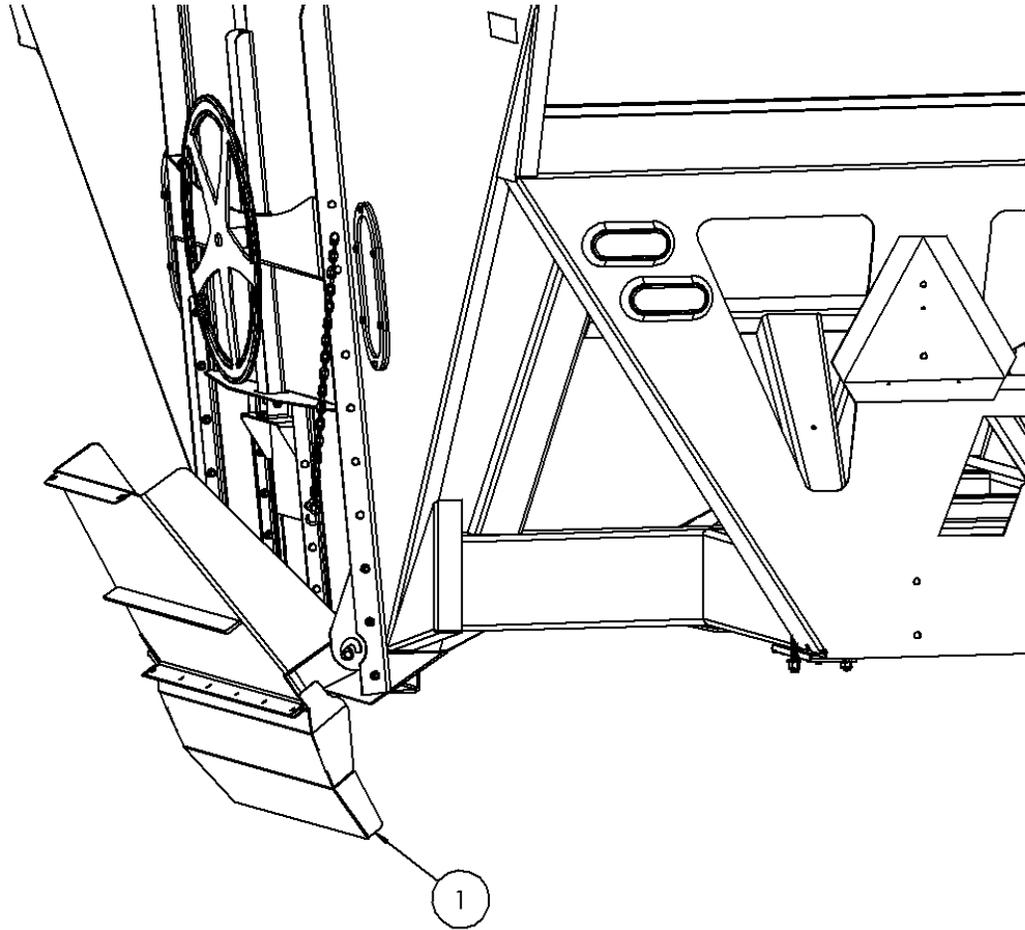
5000 - 6500 Gravity Box Parts

Item #	Part #	Description	5000 Qty	6500 Qty
17	OL	Bolt 5/8 x 2 1/2 c/w lw	8	8
18	OL	3/16 Chain c/w S Hook	1	1
19	OL	Bolt 3/8 x 1 c/w lw, n	20	20
20	51036	Left Door Slide	1	1
21	51035	Right Door Slide	1	1
22	knp364-021	1/2 x 1/2 Socket head shoulder bolt	2	2
24	xznylnut37	3/8" Lock nut	2	2
25	51226	Chute	1	1
26	51176	Main Door	1	1
27	50995	Metering Door	1	1
28	OL	Bolt 3/8 x 1 c/w lw, n	10	10
29	50992	Meter Door Slide	2	2
30	50989	Door Opener Lift Slider	1	1
31	53223	Door Opener Hand Wheel	1	1
32	53400	Door Adjuster Bracket	1	1
33	OL	1/4 x 2 Spring Pin	1	1
34	51283	Chain Sprocket 50B11	1	1
35	51005	Slider Pressure Pad	1	1
36	sprc2223-376	Pressure Spring	1	1
37	OL	Bolt 1/2 x 5 Full Thread c/w fw, ln	1	1
38	OL	Bolt 1/2 x 4 1/2 c/w ln	4	4
39	51029	Bottom Ladder Bracket	2	2
40	51027	5000 Ladder	1	
	51027	6500 Ladder		1
41	OL	Bolt 1/2 x 1 1/4 c/w ln	4	4
42	51028	Upper Ladder Bracket	1	1
43	OL	Bolt 3/8 x 1 c/w ln	4	4
44	grt87111	Connector Cord	1	1
45	OL	Bolt 1/4x3/4 Flange head c/w Flange Nut	2	2
46	DJA7011	Op Manual Tube	1	1
47	53767	Tie-Bar	2	
48	51287	5000 Center Tie-Bar	2	
	51185	6500 Center Tie-Bar		4
49	OL	Bolt 3/8x1 1/2 c/w ln	18	20
50	52265	5000 Lower Center Tie-Bar	1	
	51186	6500 Lower center Tie-Bar		2

Note

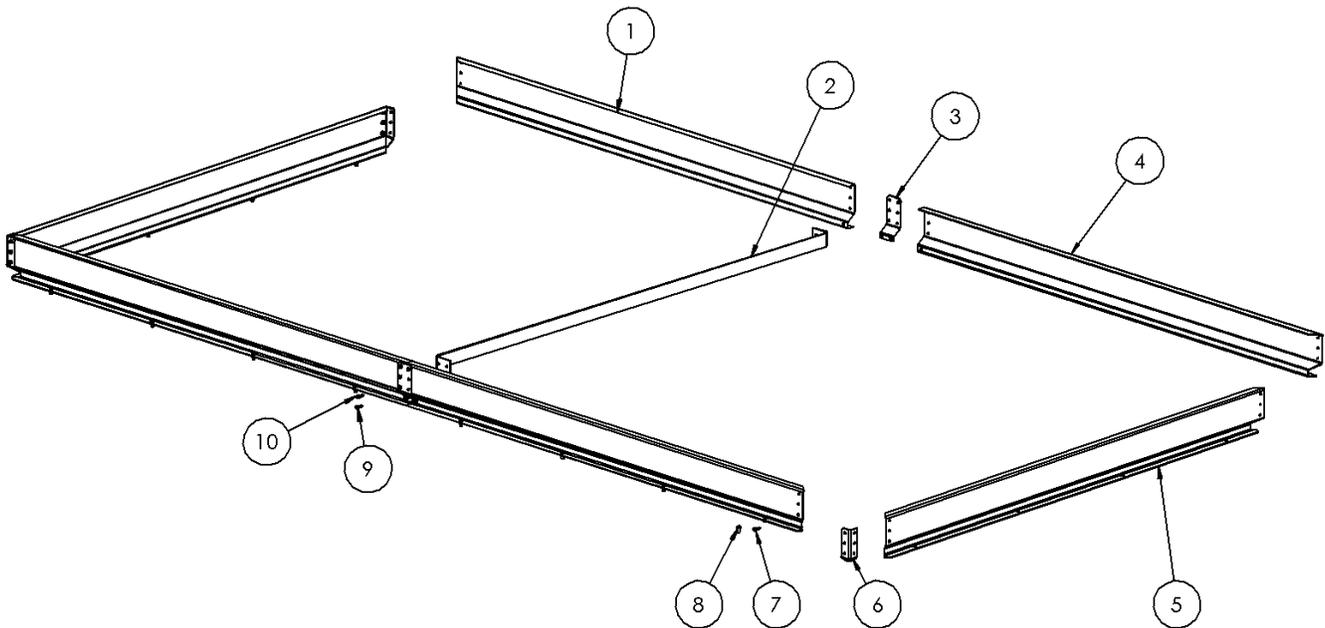
OL - Obtain Locally
c/w - Complete With
fw - Flatwasher
lw - Lockwasher
ln - Locknut
n - Nut

Optional Center Dump Deflector



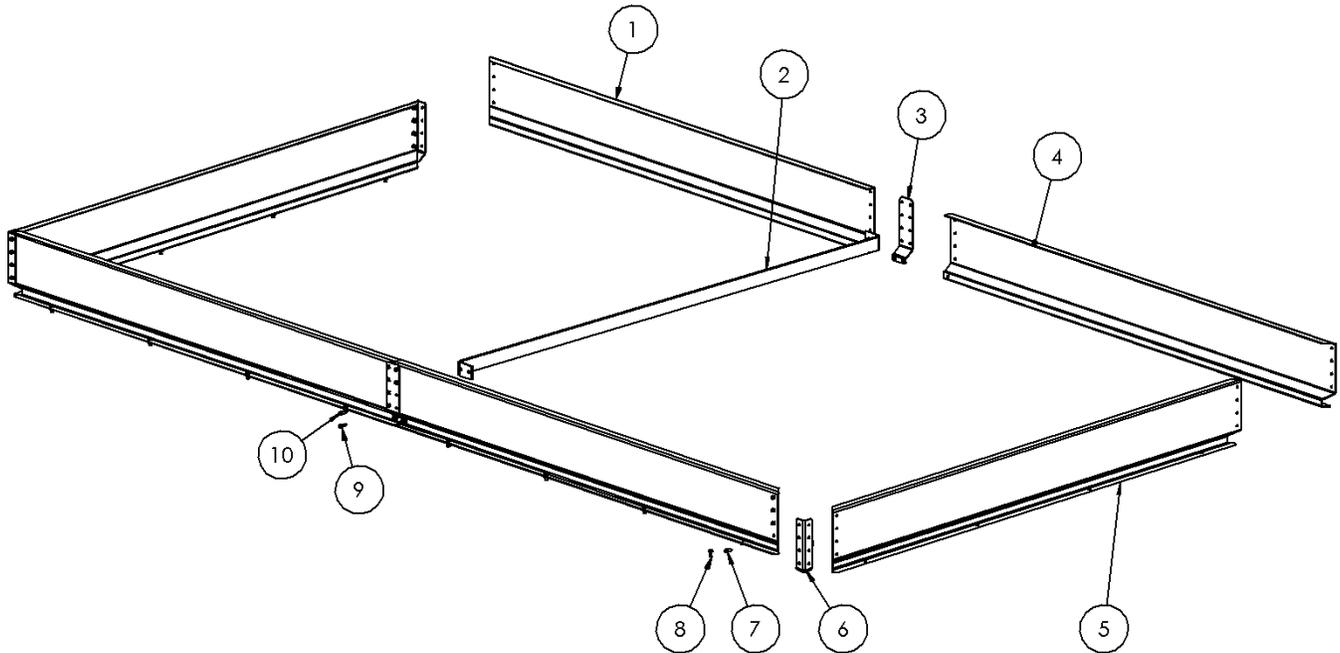
Item #	Part #	Description	Qty
1	51350	3200 Center Dump Deflector	1
	51380	5000 - 6500 Center Dump Deflector	1
	OL	Bolt 3/8x1 c/w lw, n	6

Gravity Box Low Extensions



Item #	Part #	Description	Qty 3200	Qty 5000	Qty 6500	
1	53756	3200 Side Extension Panel #1	2			
	52268	5000 Side Extension Panel #1		2		
	51249	6500 Side Extension Panel #1			2	
2	53758	3200 Tie Bar	1			
	52272	5000 Tie Bar		1		
	51251	6500 Tie Bar			1	
3	51163	8" Side Extension Connector	2	2	2	
	4	51792	3200 Side Extension Panel #2	2		
		52269	5000 Side Extension Panel #2		2	
51248		6500 Side Extension Panel #2			2	
5	53754	3200 End Extension Panel	2			
	52271	5000 End Extension Panel		2		
	51247	6500 End Extension Panel			2	
6	51160	8" Corner Bracket	4	4	4	
7	OL	Bolt 3/8 x 1 c/w ln	24	24	24	
8	OL	Bolt 3/8 x 1 c/w ln	24	24	44	
9	OL	Bolt 3/8 x 1 c/w lw, n	12	12	12	
10	OL	Bolt 3/8 x 1 1/4 c/w lw, n	4	4	4	

Gravity Box High Extensions



Item #	Part #	Description	Qty 3200	Qty 5000	Qty 6500
1	53761	3200 Side Extension Panel #1	2		
	52273	5000 Side Extension Panel #1		2	
	53138	6500 Side Extension Panel #1			2
2	53765	3200 Tie Bar	2		
	52272	5000 Tie Bar		1	
	53142	6500 Tie Bar			1
3	51343	12" Side Extension Connector		2	2
	53764	19" Side Extension Connector	2		
4	53762	3200 Side Extension #2	2		
	52274	5000 Side Extension #2		2	
	53139	6500 Side Extension #2			2
5	53759	3200 End Extension Panel	2		
	51912	5000 End Extension Panel		2	
	53141	6500 End Extension Panel			2
6	52276	12" Corner Bracket		4	4
	53763	19" Corner Bracket	4		
7	OL	Bolt 3/8x1 c/w lw, n	40	32	32
8	OL	Bolt 3/8x1 c/w ln	24	24	44
9	OL	Bolt 3/8x1 c/w lw, n	16	16	16
10	OL	Bolt 3/8x1 1/4 c/w lw, n	8	4	4

Maintenance

Good maintenance is your responsibility. Poor maintenance is an invitation for trouble.

Occasionally grease the door opener to allow it to operate freely.

Check for missing paint and scratches, prime and paint to keep the metal from rusting.

Replace any caution, warning, danger or instruction safety decal that is not readable or is missing.

Inspect wiring for cracks or worn spots, repair as needed.

Inspect lights, ensure they are all working and in good condition.

Always use safety support and block wheels. Never use a jack to support machine.

For the running gear use their recommended maintenance schedule.

After servicing, be sure all tools, parts and service equipment are removed.



SAFETY INSTRUCTIONS

Observe all safety regulations and precautions.

Always wear safety glasses and other protective gear.

Ladders used in the installation of the tarp must be of sufficient capacity to support the weight of the person and the tarp component.

If using a lifting platform assure that it is of the capacity required for the weight of all persons and material. Make sure all safety rails or restraints are in place.

Ensure running gear is properly blocked to prevent movement of gravity box.

Roll Lock Tarp Operation

Hold crank firmly with both hands while opening and closing tarp

Uncovering load

Release crank from crank retainer.

Turn crank clockwise (counter-clockwise for reverse roll) until tarp has rolled up against stops.

Place crank back in to crank retainer.

Covering load

Release crank from crank retainer.

Turn crank Counter-clockwise (clockwise for reverse roll) until tarp is unrolled over edge of trailer.

Continue to roll tarp up under latch plate.

Bring crank arm down to a vertical position.

Swing crank arm up and place into crank retainer.

Keep tarp tension to 40 to 60 lbs. of tension in crank retainer or excessive tarp wear may occur.

if the tarp is too loose or too tight with the handle in lock position, it may need to be adjusted. To adjust tension remove the Universal joint from the winding tube and reinsert it after reorienting in the desired direction.

Secure U-joint on crank arm to splined shaft on roll tube with wire lock pin before opening or closing tarp.

Close tarp at all times except when loading or unloading, to extend the tarp life.

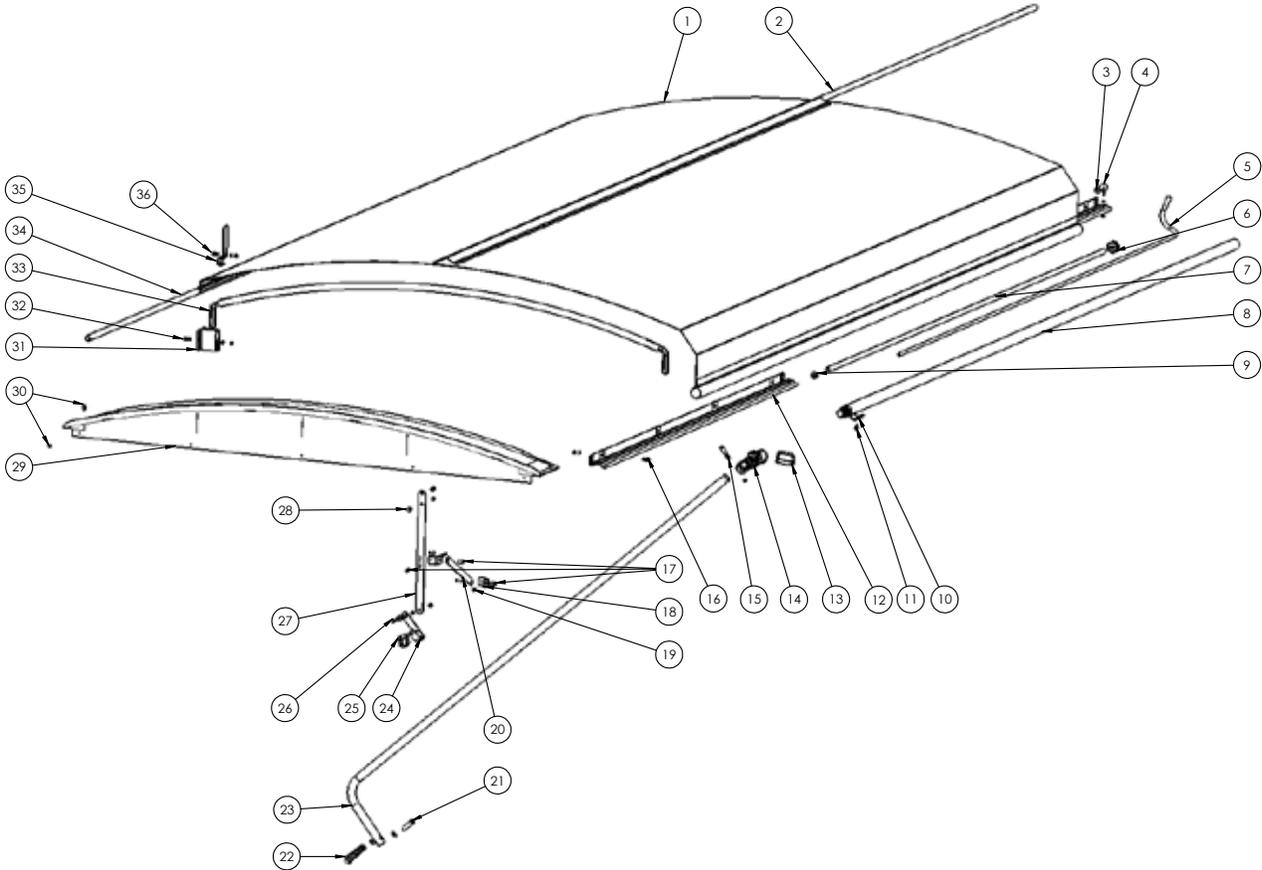
Open tarp while unloading box. Unloading box with tarp closed will create a vacuum which could cause system damage.

Do not drive vehicle at highway speeds with tarp open.

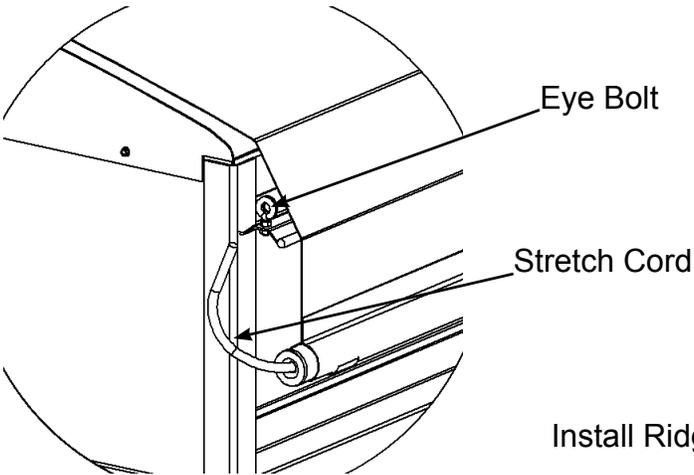
Installing Grain Shield Tarp

1. Install End Guide Cap #29 on each end of Grain Box, fasten securely with specified number of Self drilling screws.
2. Next install Hoops #33, center of Hoops should be the same height as the end-caps. To do this clamp or temporarily secure one of the long tubes on top of the end caps to act as a height guide.
3. First determine the number of Hoops used for the size tarp to be installed (see parts break down for correct number) divide distance between end caps by number of Hoops, this is where the hoops should be located. (note the center one may be moved toward the front or back 6 inches to make installation easier)
4. Determine the height location of the Hoop Socket and drill bolt holes for 3/8 bolts in the proper location to fasten the Hoop.
5. Lay the Tarp on a clean flat area and insert the long tubes in the pockets of the Tarp. Note; item #2 is a little shorter than #34.
6. Insert the winding tube with the Stretch Cord at the front. It may be easier to slide the tube in from the front as you don't have to deal with the cord getting in the way.
7. Place the plastic tarp retainers in the bottom of the winding tube (imagine the tarp hanging down off the side of the box) space them evenly and secure them with screws supplied.
8. Install Tarp Lock Rail 2 1/2" below top edge of box.
9. Place the Tarp on the Box, ensure it is straight and square with the box.
10. Fasten Pole #34 with Tarp Stop Brackets #35 (24-30 inches from each end and one close to the center hoop with 3/8x1 bolts, lockwashers and nuts.
11. Insert Stretch Cord through the eyebolt and flatwasher and tie a secure knot in the cord (to prevent it from sliding out of the eyebolt).
12. Bolt the Handle Lock to the rear of the box as shown.
13. To insure product stays dry silicone box extension joints or where water has a possibility of seeping in.

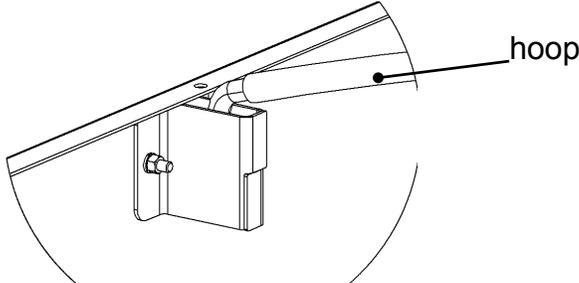
Grain Shield Tarp



Tarp Lock Rail

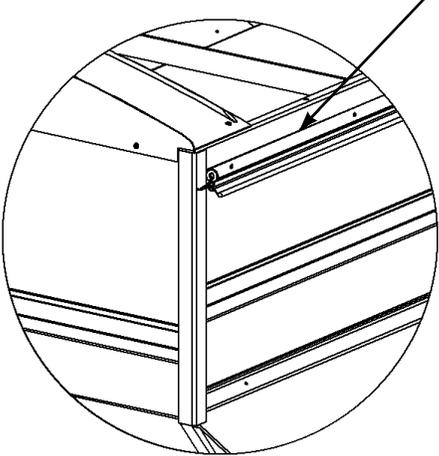


Install Ridge Pole See #2-5 Page 1

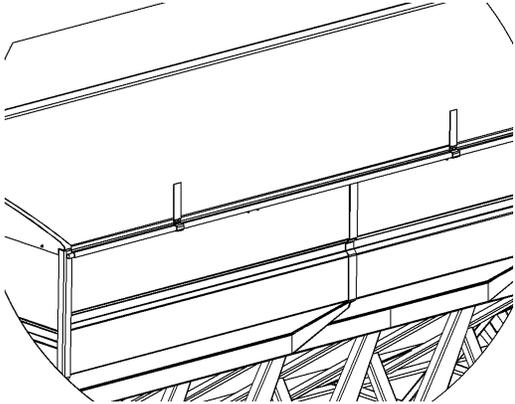


Grain Shield Tarp

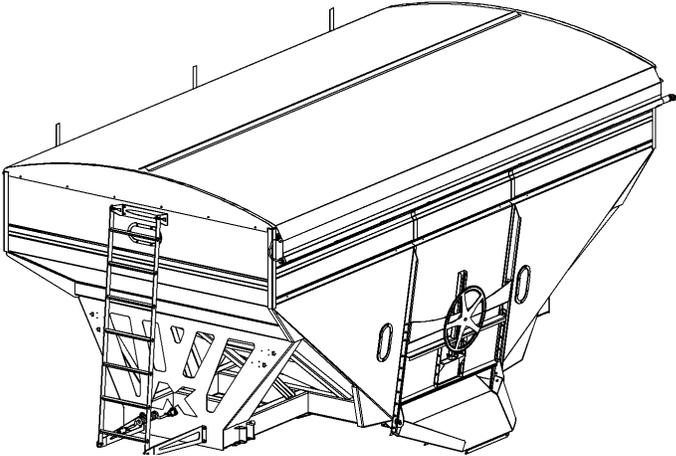
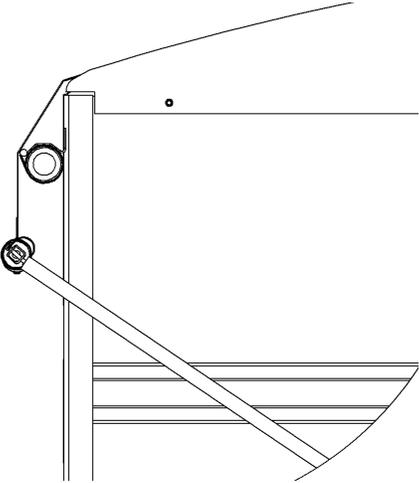
Install Tarp Lock Rail 2 1/2" down from top Edge of Box



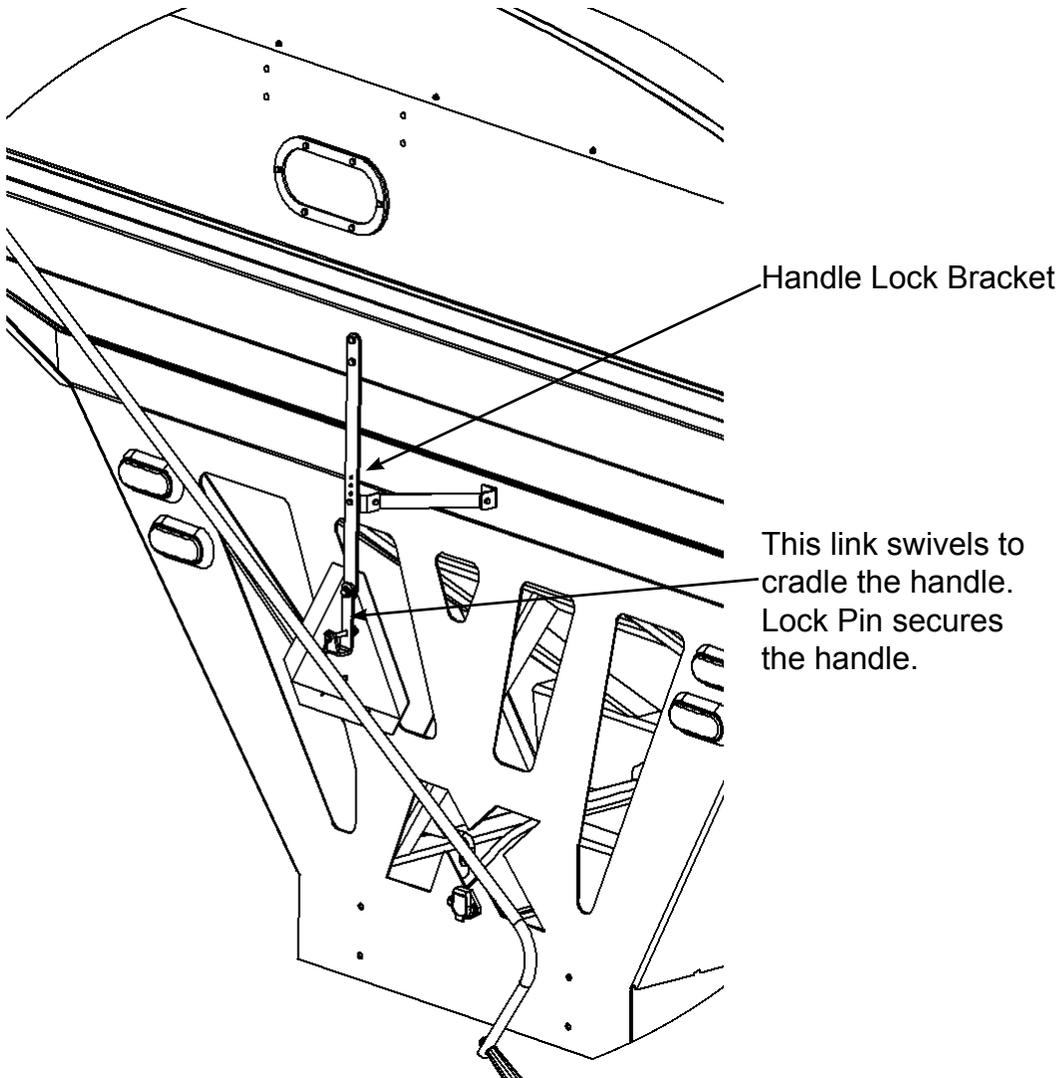
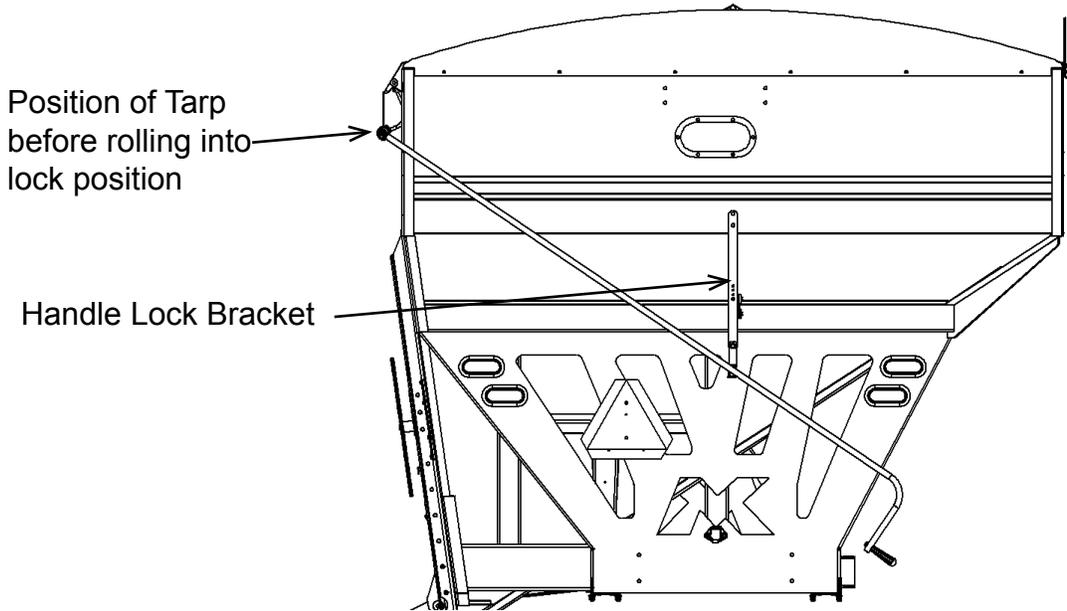
See #10 above for tarp stop bracket



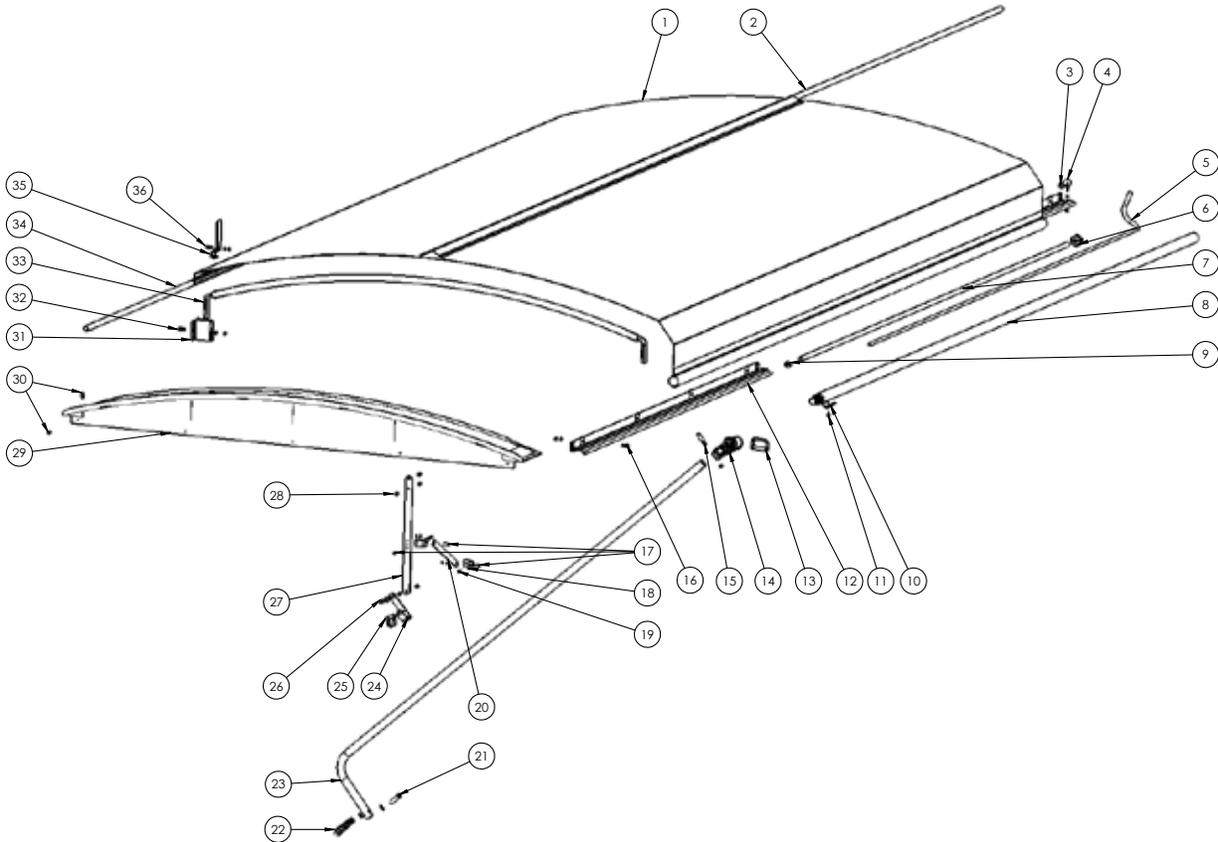
Keep turning until Tarp is wound tight then secure handle into lock bracket. (See operation above)



Grain Shield Handle Lock



Grain Shield Tarp Parts



Item#	Part#	Description	Qty 3200	Qty 5000	Qty 6500
1	53780	3200 Tarp	1		
	52450	5000 Tarp		1	
	51699	6500 Tarp			1
2	53778	3200 Long ridge pole	1		
	52451	5000 Long ridge pole		1	
	51682	6500 Long ridge pole			1
3	OL	Flatwasher 1/2"	1	1	1
4	OL	5/16 x 1 Eyebolt c/w n,n	1	1	1
5	51700	Short stretch cord	1	1	1
6	52639	End plug			
7	51702	Short inner tube	1	1	1
8	53785	3200 Wrap tube	1		
	52454	5000 Wrap tube		1	
	52675	6500 Wrap tube			1
9	OL	Flatwasher 1/2"	1	1	1
10	51689	Plastic clip	4	5	6
11	OL	#8x3/4 Self-drilling pan head screw	4	5	6
12	53783	3200 Tarp lock rail	2		
	52458	5000 Tarp lock rail		2	
	51698	6500 Tarp lock rail			2

Grain Shield Tarp Parts

Item#	Part#	Description	Qty 3200	Qty 5000	Qty 6500
13	OL	3/8 PTO pin	1	1	1
14	52638	Universal	1	1	
15	OL	Bolt 3/8 x 2 1/2 c/w ln	1	1	1
16	OL	Bolt 3/8 x 1 c/w lw,n	6	8	8
17	OL	Bolt 1/4 x 1 c/w lw,n	3	3	3
18	51705	Angle bracket	2	2	2
19	OL	1/4 x 1 self-drilling screw	1	1	1
20	51704	Tie bar	1	1	1
21	OL	Bolt 1/2 x 2 1/2 c/w fw,	1	1	1
22	52637	Crank handle	1	1	1
23	51667	Top Crank	1	1	1
	53397	Bottom Crank	1	1	1
24	51706	Crank hanger	1	1	1
25	OL	3/8 PTO pin	1	1	1
26	OL	Bolt 3/8 x 1 1/4 c/w fw,n,ln	1	1	1
27	51703	Crank hanger drop	1	1	1
28	OL	Bolt 3/8 x 1 c/w ln	2	2	2
29	53771	3200 End cap	2		
	52444	5000 End cap		2	
	52662	6500 End cap			2
30	OL	1/4 x 1 Self-drilling screw	12	14	16
31	51666	Hoop holder gravity box	4	8	8
32	OL	Bolt 3/8 x 1 c/w lw,n	8	16	16
33	53777	3200 Hoop	2		
	52447	5000 Hoop		4	
	51677	6500 Hoop			4
34	53779	3200 Base bar	1		
	52452	5000 Base bar		1	
	51679	6500 Base bar			1
35	51678	Tarp stop	2	3	3
36	OL	Bolt 3/8 x 1 c/w lw,n	4	6	6

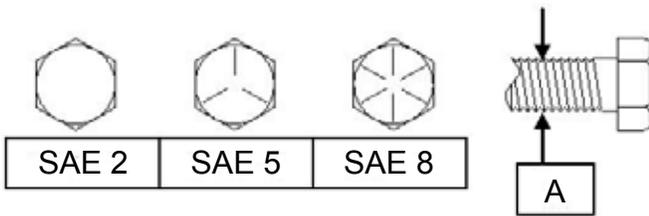
Bolt Torque

As used on this machine

- Bolt torque table shown below gives torque values for various bolts used.
- This chart is for non-lubricated threads.
- Replace with same strength bolt.

Torque Specifications. Torque values are identified by their head markings.

Diameter	SAE 2		SAE 5		SAE 8	
	<i>ft-lb</i>	<i>N.m</i>	<i>ft-lb</i>	<i>N.m</i>	<i>ft-lb</i>	<i>N.m</i>
"A"						
1/4	6	(8)	8	(11)	12	(16)
5/16	11	(15)	17	(24)	25	(33)
3/8	20	(27)	31	(42)	44	(59)
7/16	32	(43)	49	(67)	70	(95)
1/2	49	(66)	76	(105)	105	(145)
5/8	97	(130)	150	(205)	210	(285)
3/4	144	(195)	265	(360)	375	(510)
7/8	165	(225)	430	(585)	605	(820)
1	250	(340)	645	(875)	910	(1230)
1 1/8	355	(480)	795	(1080)	1290	(1750)
1 1/4	500	(680)	1120	(1520)	1820	(2460)
1 1/2	870	(1180)	1950	(2640)	3160	(4290)



Allen head cap screw are similar to SAE 8 quality

These torques are for reference only. Not all these sizes and grades are necessarily used in this machine. Bolts that are used as a pivot or hinge have to be used with a locknut, therefore only tighten enough to secure the bolt and still allowing the part to rotate freely.



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