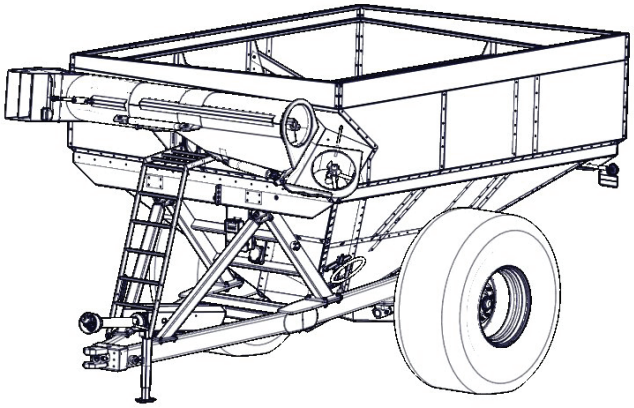
OPERATOR'S MANUAL

GRAIN CARTS

GC24t-1

Quality Made in the USA



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US-Rev:11.5.13

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TO THE DEALER:

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

The dealer must complete the Warranty Registration Card attached to the front inside cover of this manual and return to J. & M. Mfg. Co., Inc. at the address indicated on the card. Warranty claims will be denied if the Warranty Registration Card has not been completed and returned.

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 (attached to the inside of the Operator's Manual) 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 soley to the original purchaser of the product. Should the original purchaser sell or otherwise transfer this product to a third party, this 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.

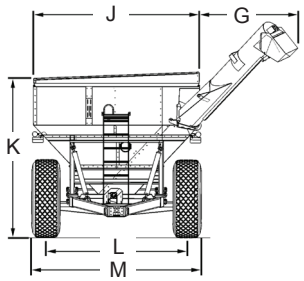
Use only genuine J. & M. service parts. Substitute parts may void warranty and may not meet standards required for safety and satisfactory operation. Record the model number and serial number of your equipment in the spaces provided:

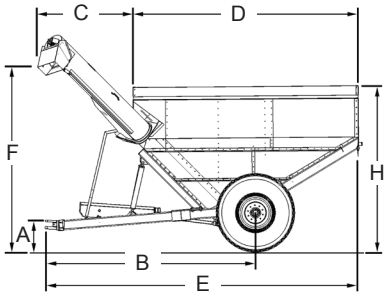
Model No: GC24t-1 Grain Cart **Serial No:** _____ **Date of Purchase:** _____

Purchased From: _____

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

GC24t-1 GRAIN CART SPECIFICATIONS





DIMENSIONS

A) 48,2cm
B) 446cm
C) 193cm to 221cm
235cm XL- tube
D) 487,7cm
E) 670cm
F) 380cm standard
421cm w/HS-18 option
439,5cm XL - tube
G) 221cm
266cm w/HS-18 option
288,5cm XL - tube
H) 350,5cm
J) 358,1cm
K) 337cm
L) 304,8cm
M) 381cm

SPECIFICATIONS

Capacity*	875 bushels (corn)
	22,3 metric tons (corn)
	23,82 metric tons (wheat)
Auger (one vertical)	18” (0,46m) diameter
Wheels	27x32 - 10 bolt
Hubs	10 bolt
Spindle Size	4 1/2” (0,12m) diameter
Weight (approx.)	12,320 lbs. (5600 kg)
PTO	1000 rpm
Tire Size	30.5x32 R1 Lug, 12 ply
Tongue Weight:	
Empty	1600 lbs. (575 kg)
Loaded	3900 lbs. (1700 kg)
Construction:	
Hopper	11 GA Steel
Undercarriage	8” x 4” x 5/16” Tubing
	20,32cm x 10,16cm x 0,79cm
Axle	5” x 5” x 1/2” Tubing
	12,70cm x 12,70cm x 1,27cm
Unload Time**	2 Minutes (approx.)

Note: Specifications are subject to change without notice or obligation.

* Bushel capacities measured with #2 corn at 15% moisture, 56 lb. (25,4 kg) test weight.

** Time varies with rpm and moisture content of grain.

GENERAL INFORMATION

TO THE OWNER:

The purpose of this manual is to assist you in operating and maintaining your grain cart 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, will 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.

GENERAL 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: SAE for SAE hardware and Metric for Metric hardware.

Make sure fastener threads are clean and you start thread engagement properly.

All torque values are given to specifications used on hardware defined by SAE J1701 & J1701M (JUL 96)

SAE SERIES TORQUE CHART

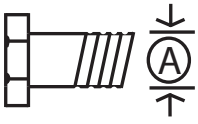
SAE Grade 2
(No Dashes)

SAE Bolt Head Identification

SAE Grade 5
3 Radial Dashes

SAE Grade 8
6 Radial Dashes

A Diameter (Inches)	Wrench Size	MARKING ON HEAD					
		SAE 2		SAE 5		SAE 5	
		LBS.-FT.	N-m	LBS.-FT.	N-m	LBS.-FT.	N-m
1/4	7/16″	6	8	10	13	14	18
5/16	1/2″	12	17	19	26	27	37
3/8	9/16″	23	31	35	47	49	67
7/16	5/8″	36	48	55	75	78	106
1/2	3/4″	55	75	85	115	120	163
9/16	13/16″	78	106	121	164	171	232
5/8	15/16″	110	149	170	230	240	325
3/4	1-1/8″	192	261	297	403	420	569
7/8	1-5/16″	306	416	474	642	669	907
1	1-1/2″	467	634	722	979	1020	1383



METRIC SERIES TORQUE CHART

Metric
Grade 8.8

Metric Bolt Head Identification

Metric
Grade 10.9

Diameter & (Millimeters) Thread Pitch	Wrench Size	COARSE THREAD				FINE THREAD				Diameter & (Millimeters) Thread Pitch
		MARKING ON THREAD				MARKING ON THREAD				
		Metric 8.8		Metric 10.9		Metric 8.8		Metric 10.9		
6 x 1.0	10 mm	8	6	11	8	8	6	11	8	6 x 1.0
8 x 1.25	13 mm	20	15	27	20	21	16	29	22	8 x 1.0
10 x 1.5	16 mm	39	29	54	40	41	30	57	42	10 x 1.25
12.1.75	18 mm	68	50	94	70	75	55	103	76	12.1.25
14 x 2.0	21 mm	109	80	151	111	118	87	163	120	14 x 1.5
16 x 2.0	24 mm	169	125	234	173	181	133	250	184	16 x 1.5
18 x 2.5	27 mm	234	172	323	239	263	194	363	268	18 x 1.5
20 x 2.5	30 mm	330	244	457	337	367	270	507	374	20 x 1.5
22 x 2.5	34 mm	451	332	623	460	495	365	684	505	22 x 1.5
24 x 3.0	36 mm	571	421	790	583	623	459	861	635	24 x 2.0
30 x 3.0	46 mm	1175	867	1626	1199	1258	928	1740	1283	30 x 2.0

TIGHTENING WHEEL NUTS

Standard 3/4” wheel studs and nuts should be tightented to torque 500 Ft.-Lbs. during initial operation of the grain cart 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. Standard 22mm studs with 900/60R32 tires should be tightened to torque 500 Ft.-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, judgement, 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. Also make certain that the operator(s) reviews and understands the operator's manual of the tractor prior to hooking up or operating the grain cart.

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

Understand that your safety and the safety of other persons is 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.

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.

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.

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.

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.

Hydraulic oil leaking under pressure can penetrate skin and cause infection or other injury. To prevent personal injury,

- Relieve all pressure, before disconnecting fluid lines,
- Before applying pressure, make sure all connections are tight and components are in good condition,
- Never use your hand to check for suspected leaks under pressure. Use a piece of cardboard or wood for this purpose.
- If injured by leaking fluid, see your doctor immediately.

When transporting the grain cart, always keep the auger in the stow position.

Use care when moving of operating the grain cart near electric lines as serious injury or death can result from contact.

Never adjust, service, clean, or lubricate the grain cart until all power is shut off. Keep all safety shields in place. Keep hands, feet, hair and clothing away from moving parts while the grain cart is in operation.

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 cart.

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

Make sure that the grain cart is fastened securely to the tractor by using a high strength hitch pin, clip and safety chains. Make sure that the grain cart hitch properly matches the hitch type of the tractor. Use a single prong (spade) grain cart hitch with a double prong (clevis) tractor hitch. Use a double prong (clevis) grain cart hitch with a single prong (spade) tractor hitch.

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

Never operate the auger system with anyone inside the grain tank. Hands, feet, hair and clothing can fit through the openings in and around the grate. Contact with the auger can cause severe injury or death. Make certain that all power is shut off before service work is performed.

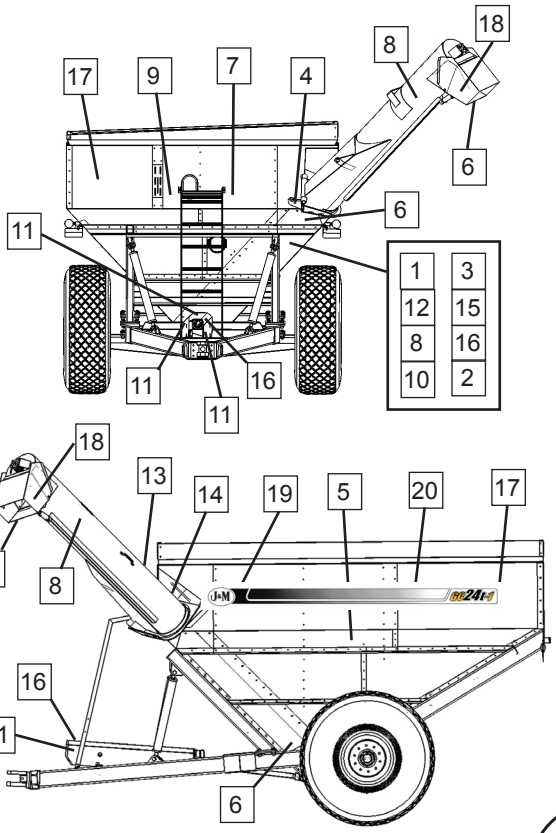
Before unhooking the grain cart from the tractor, be sure the jack stand is properly mounted and in place and the wheels are properly blocked to prevent the cart from moving.

SAFETY RULES

⚠ ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED! ⚠

Replace Immediately If Damaged or Missing

IMPORTANT: Install new safety signs if the old signs are destroyed, lost, painted over or cannot be read. When parts are replaced that have safety signs, make sure you install a new sign with each new part. New signs are available from the manufacturer or your authorized dealer.



#	Part #	Description
1	JM0018044	Operating Instructions
2	JM0010163	Warning, High Pressure
3	JM0014979	Warning, General
4	JM0018039	Warning, Keep Hands Away
5	JM0010150	Warning, Lug Nuts
6	JM0018035	Danger, Keep Hands Away
7	JM0018034	Danger, Keep Off Ladder
8	JM0015099	Danger, Electric Lines
9	JM0018033	Danger, Do Not Enter Tank
10	JM0018037	Danger, Suffocation
11	JM0018036	Danger, Rotating Driveline
12	JM0018038	Farm Use Only
13	JM0025433	Open
14	JM0025434	Closed
15	JM0025435	Check PTO Overlap
16	JM0018043	Warning, Check Lug Nuts
17	JM0015151	J&M Oval Decal, Large
18	JM0010179	J&M Oval Decal, Medium
19	ENG-119	OAS Black Fade Stripe
20	ENG-120	AS Black Fade Stripe

ENG-120

ENG-119

ENG-117

ENG-118

ENG-101

ENG-102

ENG-103

ENG-112

ENG-115

ENG-104

ENG-110

ENG-111

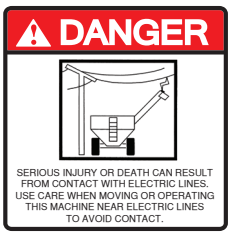
ENG-113

ENG-114

ENG-116

ENG-105

ENG-109



ENG-108

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INITIAL OPERATION AND MAINTENANCE

⚠WARNING

BE CERTAIN THAT ALL POWER IS SHUT OFF BEFORE SERVICING THE GRAIN CART.

Before the grain cart is put into service:

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

Has the gearbox been properly filled with EP-80-90 gearbox lubricant?

Have all nuts, bolts, bearings and braces been properly fastened?

Has the PTO been checked for proper overlap?

IMPORTANT: Has the slip clutch on the PTO been serviced? If the slip clutch is left unchecked, damagae to the power-take-off and drive shaft may result. Before using the grain cart, loosen the bolts around the slip clutch. Make sure the friction plates turn free of each other and are not corroded together. Retighten the tension bolts. Run the auger system EMPTY and check for proper engagement of the slip clutch.

CHECK PTO OVERLAP LENGTH. Overlap length may vary depending on the tractor model and type of hitch. Try to obtain the greatest possible overlap without bottoming out in the extreme operating conditions. **Too much overlap may cause the PTO to bottom out and damage driveline. Not enough overlap may cause the PTO front and back halves to separate.** See OPERATATING INSTRUCTIONS for more information on recommended overlap.

GREASE BEARINGS: Are all bearings on the drive line properly greased? Are all set screws in the bearings and U-joints tight? Has the power-take-off shaft been properly greased at all points including the cross bearings? Has the universal joint at the gearbox been greased? Have all grease points at the auger hinge area, including the hanger bushing assembly been greased?

TIRE PRESSURE: Are the tires properly inflated? The following is to be used as a **general guide** for tire inflation for cyclic use. Figures can vary depending on specific brand of tire used. **It is important that tires are inspected before and after the unit is loaded. The tire should stand up with no side wall buckling or distress as the tire rolls. Do Not Exceed The Tire Pressure Indicated Below:**

Tire Size	Maximum Pressure
30.5x32 R1 Lug (12 ply)	36-46 psi
30.5x32 R3 Diamond (14 ply)	36-46 psi
35.5x32 R3 Diamond (20 ply)	28-38 psi
900/60R32 R1 Lug (176 LI)	32-40 psi
66x43.00 R1 Lug (16 ply)	38 psi

VERY IMPORTANT: Under no circumstance is it recommended to tow a loaded grain cart in excess of 8 mph.

WHEEL NUTS: Are the wheel nuts properly fastened? **Torque to 500 Lbs.-Ft.** for standard 3/4" wheel studs and nuts. **Wheel studs and nuts should be checked after each load during initial operation of the cart and then after every 10 hours of use. Failure to do so may damage wheel studs and nuts.** Once the seats are damaged, it will become impossible to keep the lug nuts tight.

The drawing shows the proper way to mount the wheels using Budd-type nuts. The wheels supplied with your grain cart have straight holes and the Budd nuts will be mounted according to Figure 1. Wheels that are improperly installed on the grain cart, resulting in product failure, will nullify warranty and shift the burden of liability to the owner/operator. **We recommend you inspect your wheel nuts to make sure they are properly installed. Also, check the wheel nuts on a regular basis to ensure they are tight**.

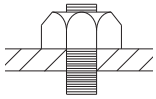


Figure 1

LIGHTING AND SAFETY DECALS: Are the rear, amber extremity lights properly positioned? Extend the lights within 16" (40,6cm) of the left and right extremities of the grain cart. Is an SMV Emblem attached to the rear of the grain cart?

Are the lights working properly? Are all lights and reflective decals clean, visible and properly placed?

OPERATING INSTRUCTIONS

BE CERTAIN THAT ALL POWER IS SHUT OFF WHEN HOOKING UP TO TRACTOR OR CONNECTING HYDRAULIC LINES TO TRACTOR.

Preparing the Grain Cart for Use: Model GC24t-1 Grain Cart requires a 150 hp tractor (minimum).

IMPORTANT: Do NOT pull loaded grain cart on highway. For incidental highway travel, observe the section below.

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 towed too fast can cause loss of control. Consider the total weight of the equipment and it's load.

Observe these recommended maximum road speeds, or local speed limits which may be lower.

Road Travel (grain cart empty): Do not travel more than 32 km/hr (20 mph) and do not tow loads more than 1.5 times the pulling unit's weight.

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

⚠**WARNING:** For greater stability on uneven or steep terrain, position non-scale wheel spindles at the furthest out setting.

IMPORTANT:

1) Connect grain cart hitch to tractor drawbar using a good quality hitch pin. Attach the safety chain to the tractor and around the A-frame of the cart as shown. Make sure the grain cart hitch properly matches the hitch of the tractor. Use a single prong (spade) grain cart hitch with a tractor double prong (clevis) hitch. Use a double prong (clevis) grain cart hitch with a single prong (spade) tractor hitch.

Safety Chain User Instruction

a) Secure the safety chain by looping it around the each side of the grain cart as shown and connecting to the towing machine's attaching bar.
b) Do Not allow no more slack than necessary for articulation (maximum 11 inches)
c) Do Not use any intermediate support as the attaching point.
d) Store the safety chain by securing it around the main axle A-frame of the grain cart.
e) Replace the safety chain if one or more links or end fittings are broken, stretched or otherwise damaged or deformed.

2) Attach the power-take-off shaft to the tractor. The PTO must have at least 12" (30,5cm) of engagement. Check tractor drawbar for clearance and length and adjust if necessary. **Make sure the PTO does not bottom out when making sharp turns as it may bend the drive shaft.**

3) Make sure the jack stand is removed from the lower support position before the cart is moved. Never use the jack to support a loaded grain cart.

4) Be sure that no debris or foreign objects are in the grain cart.

5) Attach the hydraulic lines to the tractor. Two hydraulic lines (green band) operate the inside gate mechanism. Connect these lines to one service outlet on the tractor. Two hydraulic lines (yellow band) operate the folding mechanism of the auger. Connect these lines to a second service outlet on the tractor. The remaining two hydraulic lines (red ban) operate the hydraulic flow control spout located at the end of the upper auger. Connect these lines to a third service outlet on the tractor. Make sure the air is bled from the hydraulic cylinders and hoses.

6) Run the auger system EMPTY before loading grain into the tank for actual use. Make certain that the slip clutch is operating and that the upper and lower augers are properly engaged.

7) Connect the lighting 7-prong connector end on the main wiring harness to the tractor electrical outlet. Make sure that all flasher and turn indicator lights are working properly before incidental highway travel.

LOADING AND UNLOADING THE GRAIN CART

1) With the gate indicator in the closed position, fill the tank with grain.

2) With the PTO disengaged, fold the discharge auger to the upright position.

3) **IMPORTANT:** After the upper auger is in the upright position, be sure to start the PTO at a SLOW RATE OF SPEED until the lugs on the upper auger engage the drive dog on the bottom auger. Failure to follow this procedure may cause extensive damage to both the drive dog and the drive line.

4) Increase the PTO speed and slowly open the inside tank gate until the gate indicator rod located above the upper auger is halfway between the Open and Closed position. When grain begins flowing from the discharge auger, continue to open the gate to obtain the desired unload rate.

5) To stop unloading grain, return the inside tank gate to the closed position and allow the material inside the auger to unload. **For complete cleanout, gradually close the inside tank gate.** Once the grain has ceased to flow, disengage the PTO and allow its rotation to come to a complete stop. The upper auger is now ready to be returned to the stow position. **IMPORTANT:** Do Not Pull the grain cart through the field with the unloading auger in the upright position. Failure to return the auger to the lowered stow position may damage the hinge and greatly reduce the life of the auger system.

TO THE OPERATOR(S)

⚠CAUTION

- Do NOT operate the grain cart before reading and understanding the Operator's Manual and ALL danger, warning and caution signs.
- Be sure that a Slow-Moving-Vehicle emblem is attached to the rear of the grain cart.
- Never exceed 1,000 rpm on the PTO and driveline system.
- Never fold or extend the auger until the PTO has come to a complete stop.
- Never fill the grain cart unless the gate indicator is in the closed position.
- Never allow foreign object (shovels, etc.) to be placed inside the grain cart.
- Never engage the lugs and drive dogs on the augers when the system is moving at a high rate of speed.
- Never perform maintenance work or service the grain cart with the tractor running.

LUBRICATION SERVICE SCHEDULE

IMPORTANT: Your grain cart has grease fittings at all critical points. These should be serviced before the grain cart is put into operation.

⚠WARNING

BE CERTAIN THAT ALL POWER IS SHUT OFF BEFORE SERVICING THE GRAIN CART

HITCH: There is a grease fitting located on the pivot shaft of the swivel hitch for grain carts equipped without an electronic weigh system (scales).

PTO & DRIVELINE: The grease fittings on the PTO should be serviced after every 8 hours of use. Service the grease fittings on each of the drive bearings and also the universal joint after every 8 hours of use.

AUGER FOLDING MECHANISM: One grease fitting is located on the pivot pin of the folding auger. This fitting should be serviced after every 8 hours of use. Service the grease fitting on the hanger bushing assembly (top end of the lower auger assembly) after every 8 hours of use or as needed.

SPRING LOADED UPPER AUGER BEARING: Service the grease fitting on the upper auger bearing (located at the top end of the upper auger assembly) after every 8 hours of use. Lubricate the springs and retaining bolts on the bearing before prolonged storage of the grain cart.

GEARBOX: Gearbox lubricant has been added to the gearbox during final assembly. Recheck the lubricant level before initial operation of the grain cart, then periodically according to use. An inspection plug is located in the center of the top of the gearbox mount plate. To check the fluid level, remove the vented inspection plug and drain plug at the bottom of the gearbox. Drain the lubricant. Return the drain plug and refill the gearbox with 24 ounces (0,71 liters) of gearbox lubricant. The gearbox is properly filled when half full of lubricant. DO NOT OVERFILL. Use EP 80-90 gearbox lubricant or equivalent.

ROUTINE MAINTENANCE

⚠WARNING

BE CERTAIN ALL POWER IS SHUT OFF WHEN SERVICING THE GRAIN CART

- Repack the wheel bearings at least once a year. Use Bearing Gard MK1 or equivalent lubricant. Also check the seal for wear and replace if necessary.
- Check the grain cart periodically for cracks in welds and for other structural damage. Have cracked welds fixed immediately. Failure to do so could result in extensive damage to the grain cart and greatly reduce the life of the cart.
- Lubricate the slides on the clean-out door.
- Check all hydraulic hoses for wear and replace as necessary.
- Make sure all tires are properly inflated. See INITIAL OPERATION AND MAINTENCE in the Owner's Manual for recommended instructions for tire pressure. It is important that tires are inspected before and after unit loaded.
- Check PTO for wear of plates in the slip clutch. Replace if needed.
- Make sure that all guards and shields are in place before operating the grain cart.

TROUBLE SHOOTING

⚠WARNING

MAKE SURE THAT ALL POWER IS SHUT OFF BEFORE SERVICING THE GRAIN CART. MAINTENANCE AND REPAIR SERVICE WORK TO BE PERFORMED BY QUALIFIED SERVICEMEN ONLY.

Trouble...	Possible Cause...	Possible Remedy...
Auger will not return to down position or move from stow position.	Dirt In Restrictor	Remove restrictor fittings from outside hydraulic cylinder and clean out dirt.
	Faulty Check Valve	Repair or Replace Check Valve
	Upper flighting and lower flighting are locked together	Bearing on top of upper auger flighting need adjusting. When the auger is in the engaged position, there must be 1/8" (0,32cm) gap between bottom of top bearing and top of upper tube housing (SEE ADJUSTING THE UPPER AUGER FLIGHTING)
Slip Clutch is not working properly.	Pressure plates (linings) corroded together	Loosen the bolts around the slip clutch on the PTO, run PTO, allow clutch to slip and retighten to proper tension
Hanger Bushing Assembly at the top of the lower auger flighting is hot	Top of the hanger bushing assembly is rubbing against the drive dog	Loosen the two bolts and re-adjust the position of the hanger bushing assembly. Retighten bolts.
*See Page 36 for lower auger tube liner installation instructions.		Remove the lower flighting assembly and place a shim between the spline coupler and the gearbox.
Excessive Vibration	Auger flighting or shaft is bent	Straighten or replace auger flighting
	Drive shaft is bent	Replace or straighten drive shaft
Grain flow stoppage	Bolt sheared in drive dog	Replace bolt in drive dog. Engage upper and lower flighting at a slow rate of speed. (Drive dogs and lugs are being engaged too fast.)
	Folding auger before complete stop	Upper and lower flightings are disengaging before auger comes to a complete stop. Replace bolt in the drive dog. Never engage or disengage the upper and lower flightings until the augers come to a complete stop.
	Slip clutch not working properly	Inspect slip clutch linings and replace if worn.
	PTO key sheared	Replace key and tighten set screw.
Auger tube is breaking away from the grain cart at the hinge area or the ram in the hydraulic folding cylinder is bent	Upper auger is extended in the upright position while traveling in the field	Repair or place folding cylinder if necessary. Remember to lower auger to the stow position after unloading.

ADJUSTING THE SLIP CLUTCH

After the first hour of operation, the slip-disc clutch on the PTO should be checked for overheating. After the first hour, the slip-disc clutch should be checked weekly or anytime there is excessive slippage of the friction discs. The slip-disc clutch should be checked for moisture, which could cause corrosion on the drive plates. If the grain cart has been idle for an extended period of time, or in wet weather, check to make sure that the friction lining plates are not rusted or corroded together. The friction lining plates are 1/8" (0,32cm) thick new. They should be replaced after 1/32" (0,08cm) of wear to ensure proper operation.

IMPORTANT: If the machine has never been used or has not been operated for one (1) season, the following is recommended.

When the grain cart has been idle for an extended period of time, it is important to check the slip-disc clutch to make sure that it will slip when an obstacle or load heavier than the torque setting is encountered. Use the following procedure to make certain that the slip-clutch will slip and give the overload protection required.

- Loosen the nut on the springs until the springs can rotate, yet remain secure on the bolts.
- Place a mark on the outer plate of the slip-disc clutch.
- Securely attach the PTO and the grain cart to the tractor and start the tractor.
- Engage the PTO for several seconds then quickly disengage it.
- Turn the tractor off.
- The friction lining plates should have been broken loose or "slipped". Check the marks placed on the outer plates of the slip-disc clutch. If the marks are aligned, the friction plates are not working properly.
- Adjust the nuts on the springs to set the spring compression height to 1.27 inches (3,23cm).

ADJUSTING THE LOWER FLIGHTING AND HANGER BUSHING ASSEMBLY

⚠ WARNING

MAKE SURE THAT ALL POWER IS SHUT OFF BEFORE ADJUSTING THE FLIGHTING ASSEMBLY.

If the drive-dog and hanger assembly are becoming excessively hot during unloading, the lower flighting and/or hanger may need adjusting. The hanger bushing assembly has elongated holes where it attaches to the outer tube assembly. Loosen the two 3/8" bolts on the hanger bushing assembly. Adjust the hanger either up or down and vertically center it between the flighting and drive dog. Retighten the bolts. Make certain that the flighting center and drive-dogs do not rub the hanger bushing assembly, causing them to become hot.

If the hanger can no longer be adjusted by moving it up or down on the elongated holes, both the hanger bushing assembly and the lower flighting will have to be removed. See instructions on pg. 36 for flighting removal. After removing them from the tube assembly, place a shim [between 1/8" (0,32cm) to 3/16" (0,48cm) thick] where the gearbox and the spline coupler (welded to the lower flighting). Replace the lower flighting and reattach the hanger to the tube assembly. Readjust the hanger assembly. NOTE: The bottom of the lower flighting is not attached to the gearbox with any bolts or set screws but may be 'frozen' fast. Be careful when removing the lower flighting from the gearbox. For easier removal of the lower flighting, keep the gearbox at the bottom intact, remove the 2 3/8" bolts from the hanger bushing assembly and pull the lower flighting off of the gearbox.

After adjusting the lower flighting, move the upper auger to the unload position and check the upper flighting for readjustment.

ADJUSTING THE UPPER AUGER FLIGHTING

⚠ WARNING

MAKE SURE ALL POWER IS SHUT OFF BEFORE ADJUSTING THE FLIGHTING ASSEMBLY

If the upper and lower augers to do not properly separate during the unfolding sequence, the upper flighting may need adjusting. Before making adjustment to the upper flighting, check to see if the lugs and drive dogs on the auger assemblies are locking together. If they are not locked together, check to see if dirt is in the restrictor or if a faulty check valve on the hydraulic cylinder used to raise and lower the upper auger assembly may be causing the problem. If dirt is in the restrictor, see "Removing Dirt From Restrictors On Hydraulic Cylinders" below.

Fold the upper tube assembly into the upright position. Position the upper flighting in the engaged position with the lower flighting. Locate the four-hole flange bearing on the top of the upper auger tube housing. With the upper flighting in the engaged position, check the spacing between the upper bearing and the upper tube housing. There must be an 1/8" (0,32cm) space between the base of the four-hole flange bearing and the upper tube housing. If there is NOT a space between the bearing and the upper tube housing, or if there is more than 1/8" (0,32cm) space, the upper flighting will need to be adjusted. To adjust the upper flighting, loosen the 1 1/4" hex nuts both above and below the four-hole flange bearing. Move the 1 1/4" hex nuts up or down the threaded shaft on the top of the auger flighting shaft until the bearing moves to approximately 1/8" (0,32cm) above the base of the upper tube housing. When the four-hole flange bearing is properly located, tighten both 1 1/4" hex nuts together to secure the bearing position.

If the upper and lower flighting still does not separate properly during the folding sequence, a small bevel may need to be removed from the inside of the lugs where they engage the drive dogs on the auger assemblies. Grind approximately 1/8" (0,32cm) from the corner of the lugs where they touch against the drive dogs.

REMOVING DIRT FROM THE RESTRICTORS ON THE HYDRAULIC CYLINDER

⚠ WARNING

MAKE SURE THAT ALL POWER IS SHUT OFF AND THE UPPER AUGER TUBE IS IN THE DOWN POSITION BEFORE REMOVING THE RESTRICTORS

Remove restrictors from the 90 degree street elbow on the hydraulic cylinder. Remove dirt from the fitting to allow hydraulic oil to flow through the restrictor. Reattach the restrictor to the street elbow. Use teflon sealant tape or equipvalent on the threads of the restrictor before reattaching.

If the restrictor continues to plug with dirt, replace the restrictor or filter the hydraulic oil in your system.

STORAGE PREPARATION

IMPORTANT: When the grain cart is not going to be used for a period of time, store the cart in a dry, protected place. Leaving your grain cart outside, open to the weather will shorten it's life.

Follow the procedure below when your grain cart is placed in storage for periods up to six months.

1. Cover electronic monitor (if equipped) with plastic before washing the grain cart. Wash or clean and completely lubricate the grain cart. See the lubrication service section in this manual.
2. Remove all grain from inside the grain tank, auger tube assemblies, and at the clean-out door.
3. Check the gearbox oil and replace with new EP 80-90 gearbox lubricant or equivalent if necessary.
4. Touch up areas where paint may have worn away. Use a good quality primer paint, especially before re-applying graphite paint to the interior slopes of the grain tank.
5. Retract all hydraulic cylinders to prevent the piston rods from rusting.
6. If the grain cart is equipped with an electronic weigh system, fully charge the battery to prevent freezing. Disconnect the negative (-) ground cable at the battery to prevent possible discharge.
7. Clean the tires before storage. Inflate the tires at regular intervals.
8. Open the clean-out door at the base of the grain tank.
9. Loosen the Slip Clutch Tension Bolts.

REMOVING FROM STORAGE

- Check the gearbox to make sure it has the appropriate amount of oil.
- If equipped with an electronic scale system, check the battery and make sure that it is fully charged. Reconnect the negative (-) cable.
- Inflate the tires to the correct operating pressure.
- Close the clean out door at the base of the grain tank.
- Make sure all safety shields are in the proper position.
- Tighten the Slip Clutch Bolts on the PTO until the spring length is 1.27 inches (3,23cm).

REPAIR PARTS LIST AND DIAGRAMS

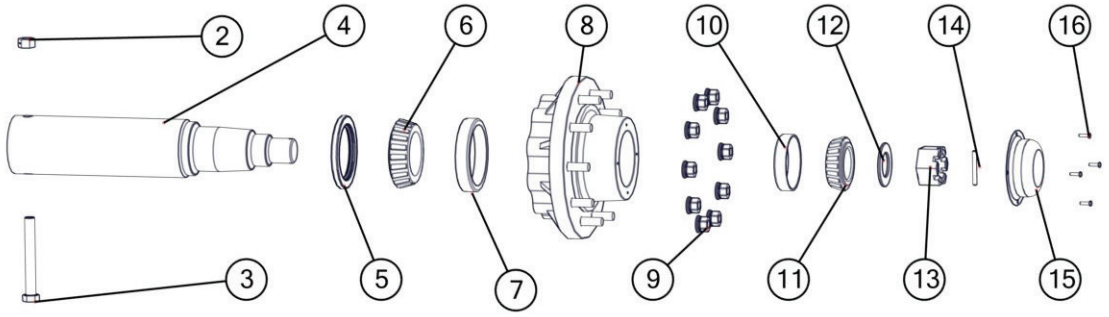
When performing maintenance work, wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing and head. Follow the Operator's Manual instructions to ensure safe and proper maintenance and repair.

Your local, authorized dealer can supply genuine replacement parts. Substitute parts may not meet original equipment specifications and may be dangerous.

⚠ WARNING

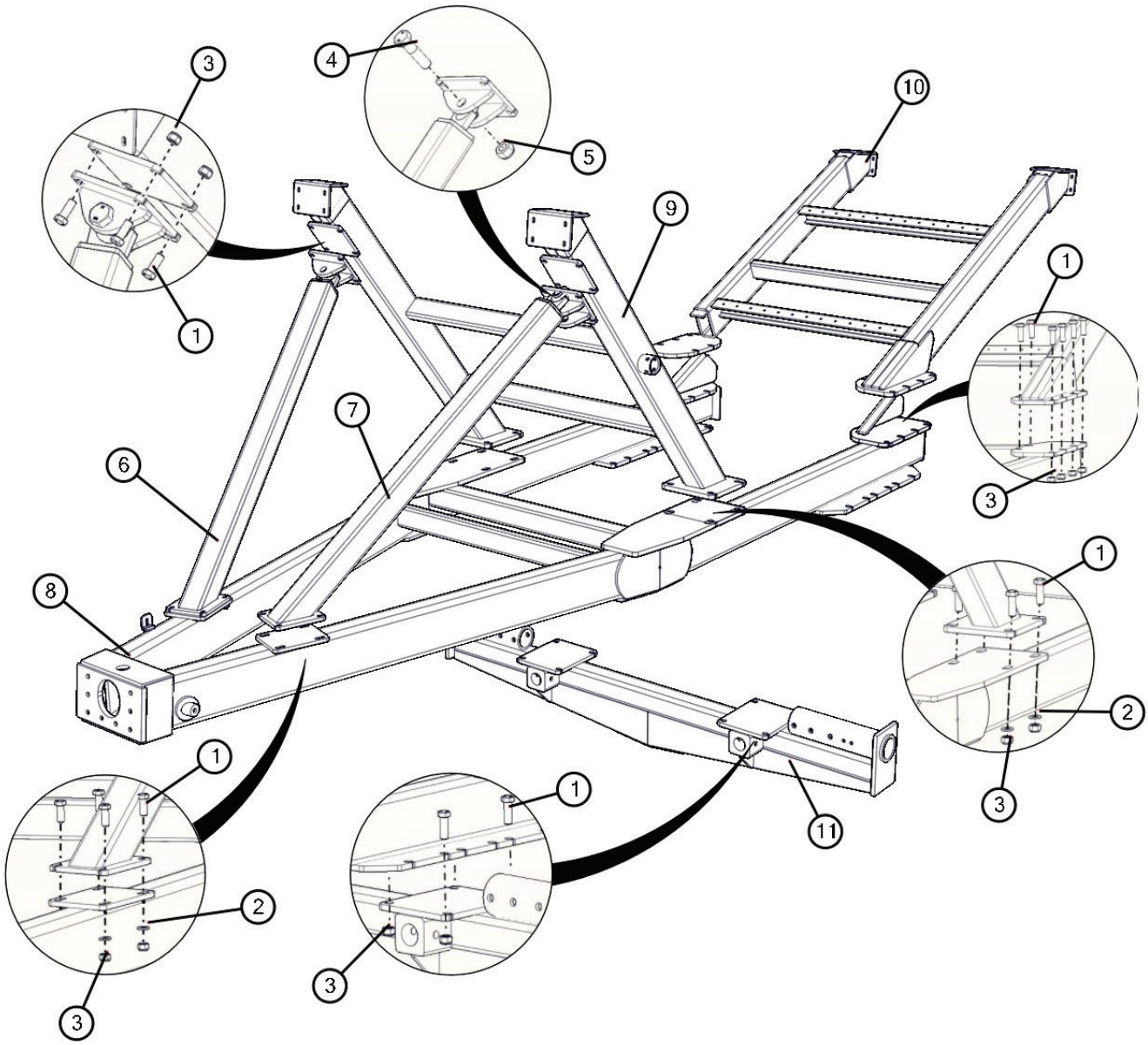
MAKE SURE ALL POWER IS SHUT OFF BEFORE PERFORMING ANY MAINTENANCE OR REPAIR WORK.

HUB AND SPINDLE ASSEMBLY



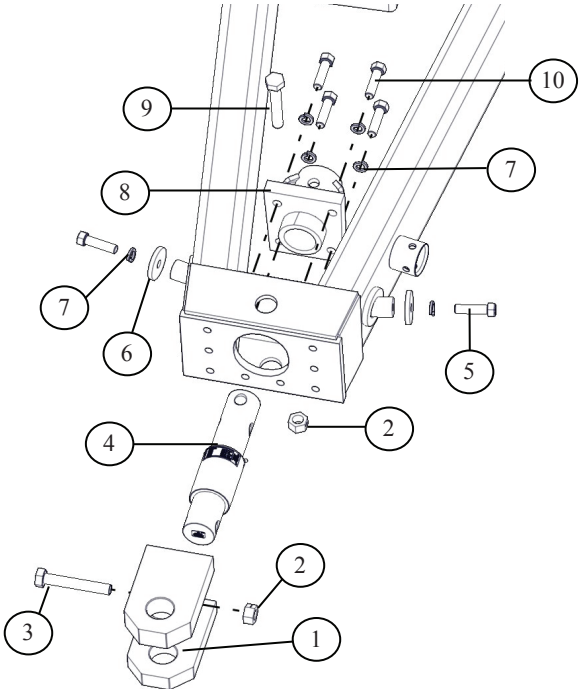
#	Descriptions	Part. No.
1	G250-10 Hub, Spindle, and Bearings Assembly	JM0019927
2	M24 x 165MM Hex Bolt	JM0002117
3	M24 Nylon Locking Hex Nut	JM0002165
4	4-1/2" Spindle	JM0018794
5	Seal 55179 (Type C) for G250-10,G300-10B, Spring-assisted	JM0015900
6	Large Bearing	JM0018849
7	Large Race (4T-33462)	JM0019198
8	G250-10 Hub (13.19 bolt circle & 11.13 pilot)	JM0019300
9	3/4" Lug Nut	JM0018958
10	Small Race (4T-453A)	JM0019195
11	Small Bearing	JM0018852
12	Large Spindle Washer	JM0015900
13	Large Castle Nut	JM0015899
14	3/8" X 2-7/8" Z ROLL PIN	JM0018956
15	Dust Cap	JM0018954
16	1/4"-20 X 3/4" Gr5 Z Hex Bolt	JM0001507

MAIN FRAME AND UNDERCARRIAGE AXLE ASSEMBLY



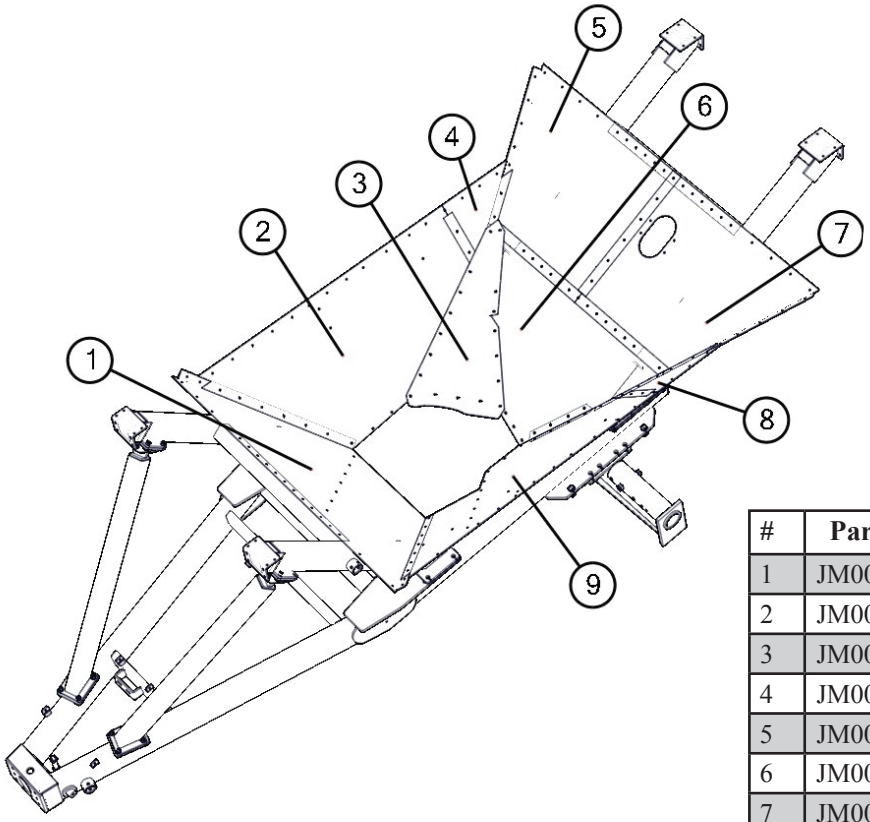
#	Part No.	Description
1	JM0002116	M16x45 Hex Bolt
2	JM0002909	M16 Flatwasher
3	JM0002164	M16 Nylon Lock Nut
4	JM0002119	M30 x 120 Bolt
5	JM0002166	M30 Nylon Locknut
6	JM0000370	Turnbuckle Leg
7	JM0000370	Turnbuckle Leg
8	JM0000008	Main Frame Weldment
9	JM0000009	Front Slope Frame Weldment
10	JM0000010	Rear Slope Frame Weldment
11	JM0000011	Standard Axle Weldment

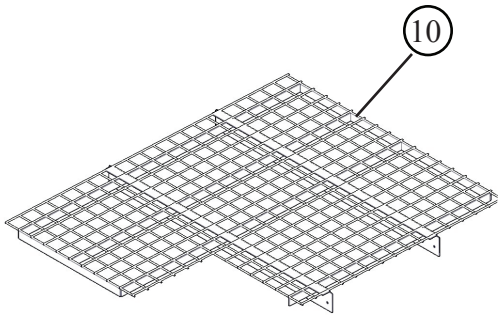
HITCH ASSEMBLY WITH SCALES



#	Part. No.	Description
1	JM0017978	Standard (Clevis)
1	JM0017976	Standard (Spade)
1	JM0020529	Cast Iron Clevis Hitch
1	JM0020527	Cast Iron Spade Hitch
2	JM0002149	1” Grade 5 Centerlock Nut
3	JM0002110	1” x 5 1/2” Grade 5 Bolt
4	JM0000355	2 7/8” Hitch Weigh Bar/Shank
5	JM0002106	3/4” x 2” Hex Bolt
6	JM0016798	Safety Chain Washer
7	JM0002436	3/4” Split Lock Washer
8	JM0000019	Weigh Bar Weldment
9	JM0016687	1” x 4 1/2” Grade 5 Bolt
10	JM0002107	3/4” x 3” Grade 8 Hex Bolt Fine Thread

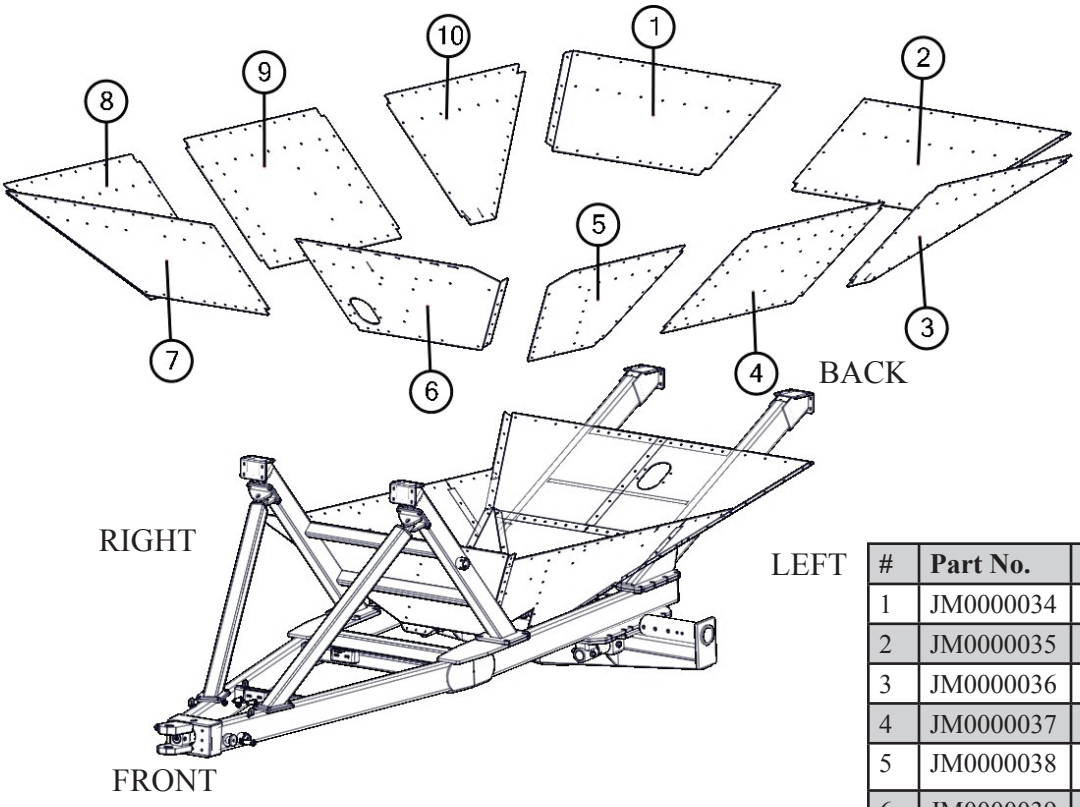
GRAIN TANK ASSEMBLY - LOWER LEVEL TANK PANELS





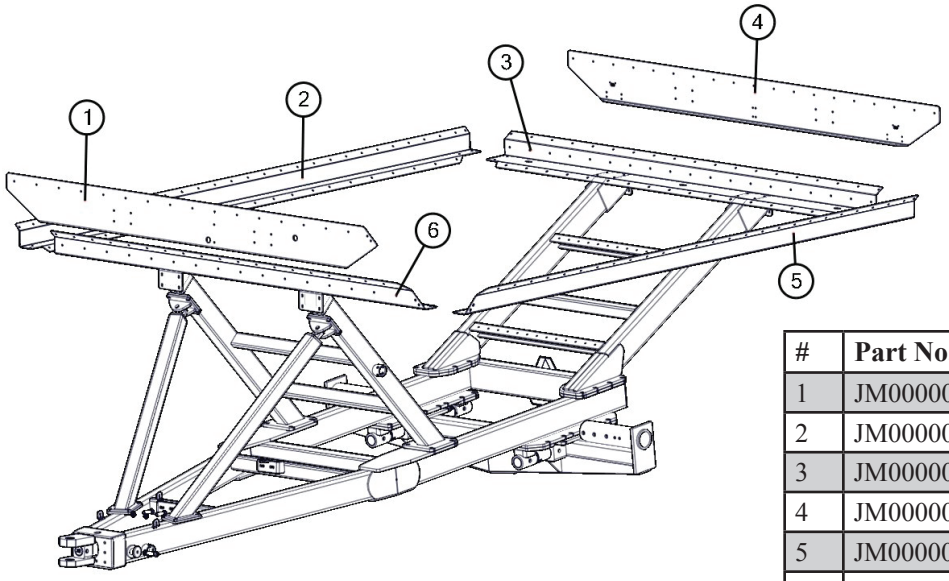
#	Part No.	Description
1	JM0000024	Front Lower Tank Panel
2	JM0000025	Right Lower Tank Panel
3	JM0000026	Rear Lower Sheddar Panel
4	JM0000027	Right Rear Lower Tank Panel
5	JM0000028	Mid-Rear Tank Panel, Right
6	JM0000029	Rear Lower Tank Panel
7	JM0000030	Mid-Rear Tank Panel, Left
8	JM0000027	Left Rear Lower Tank Panel
9	JM0000032	Left Lower Tank Panel
10	JM0000033	Tank Safety Screen

GRAIN TANK ASSEMBLY - MID LEVEL TANK PANELS



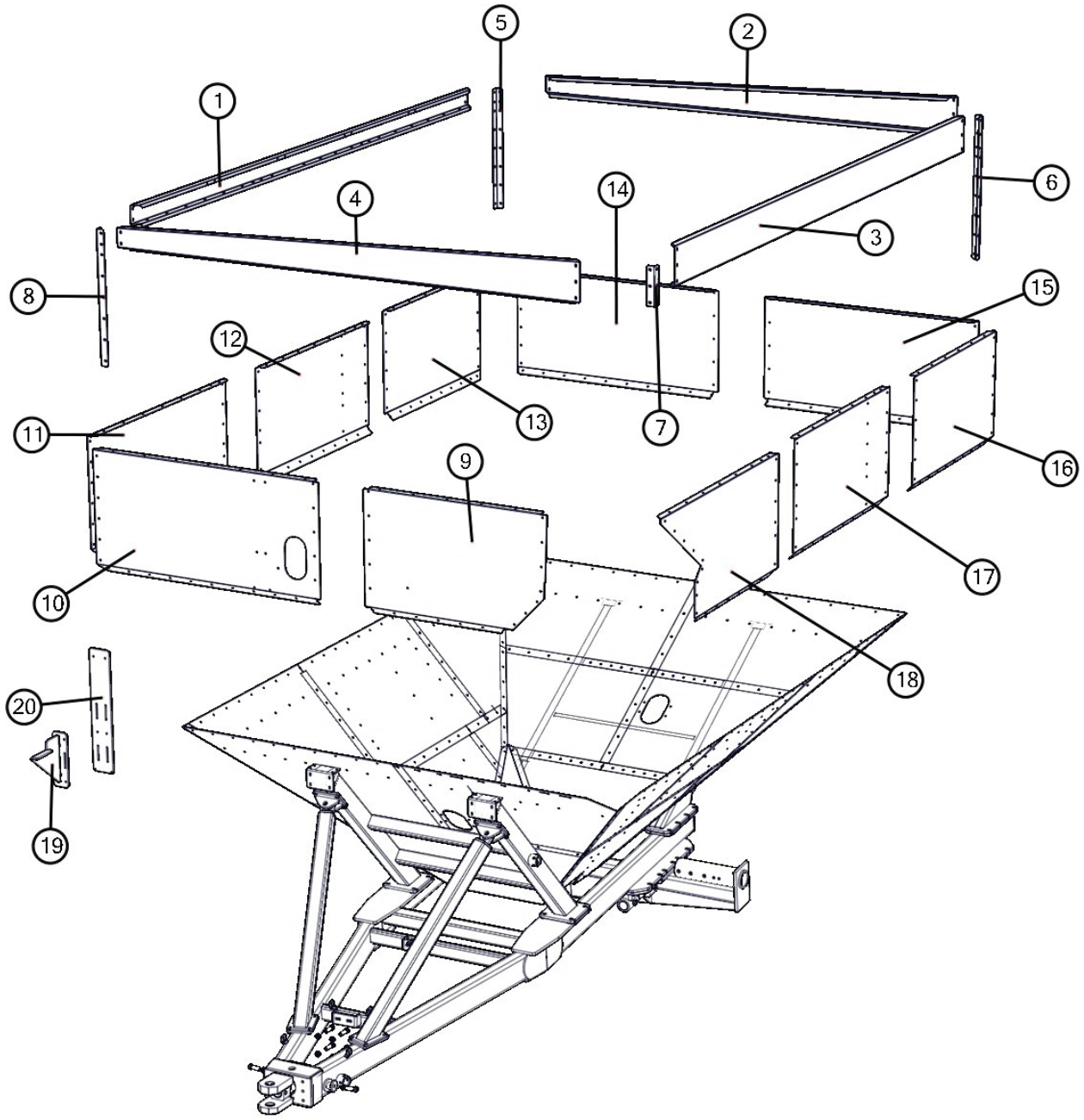
#	Part No.	Description
1	JM0000034	Mid-Rear Tank Panel, Right
2	JM0000035	Mid-Rear Tank Panel, Left
3	JM0000036	Mid-Left Tank Panel, Rear
4	JM0000037	Mid-Left Tank Panel, Middle
5	JM0000038	Mid-Left Tank Panel, Front
6	JM0000039	Mid-Front Tank Panel, Left
7	JM0000040	Mid-Front Tank Panel, Right
8	JM0000041	Mid-Right Tank Panel,Left
9	JM0000037	Mid-Right Tank Panel, Middle
10	JM0000036	Mid-Right Tank Panel, Rear

GRAIN TANK ASSEMBLY - RAIL ASSEMBLY



#	Part No.	Description
1	JM0000044	Front End Panel Brace
2	JM0000045	OAS Rail
3	JM0000046	Rear Rail
4	JM0000047	Rear End Panel Brace
5	JM0000048	AS Rail
6	JM0000049	Front Rail

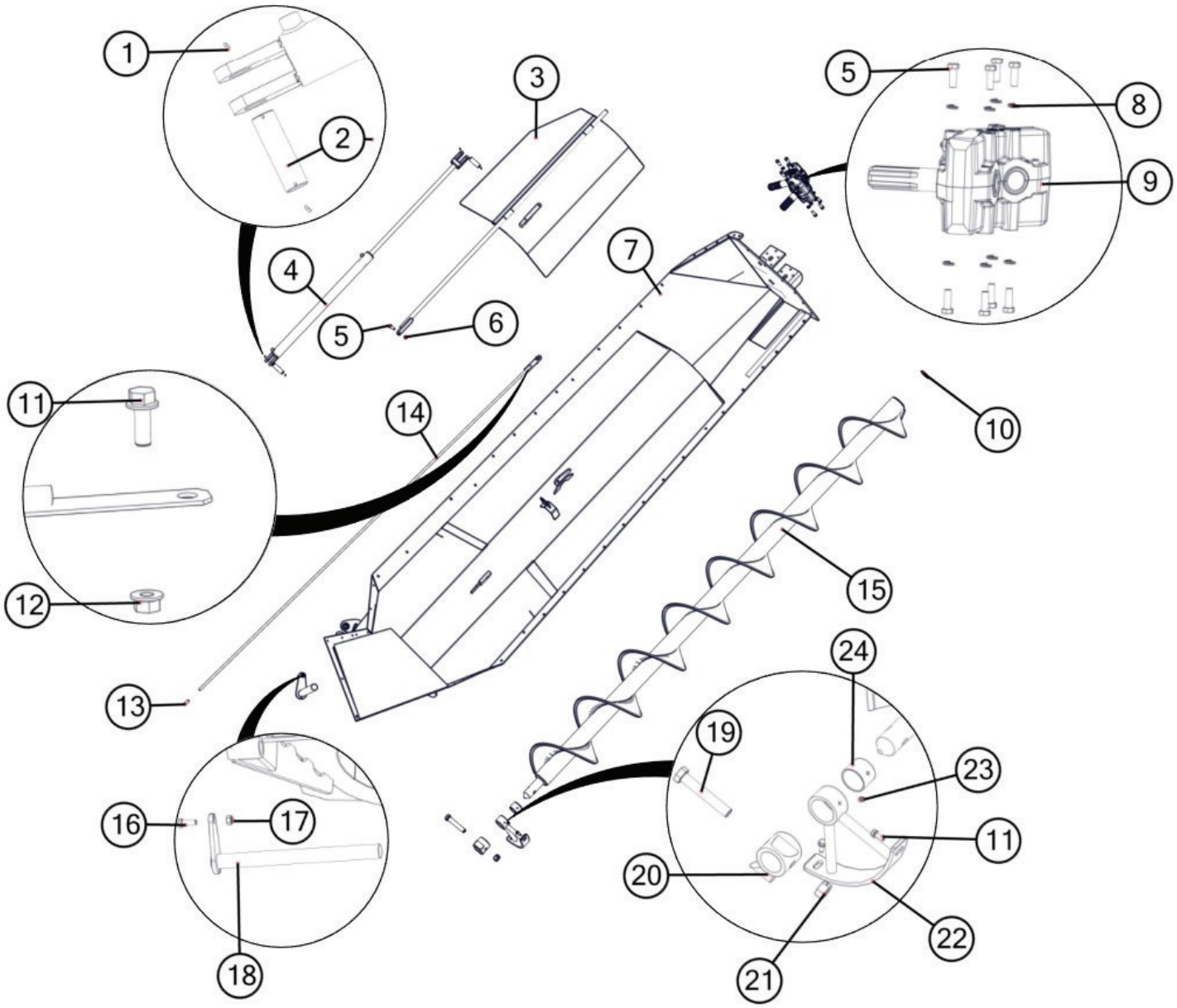
GRAIN TANK ASSEMBLY - SIDEBOARDS & UPPER LEVEL TANK PANELS



#	Part No.	Description
1	JM0000050	Low Side Endboard Panel
2	JM0000051	Rear Endboard Panel
3	JM0000052	High Side Endboard Panel
4	JM0000053	Front Side Enboard Panel
5	JM0000054	Tank Panel Corner Back
6	JM0000055	Tank Panel Corner (High Side)
7	JM0000056	Front High Sideboard Corner
8	JM0000054	Tank Panel Corner Front
9	JM0000058	Front Sideboard Panel Left
10	JM0000059	Front Sideboard Panel Right

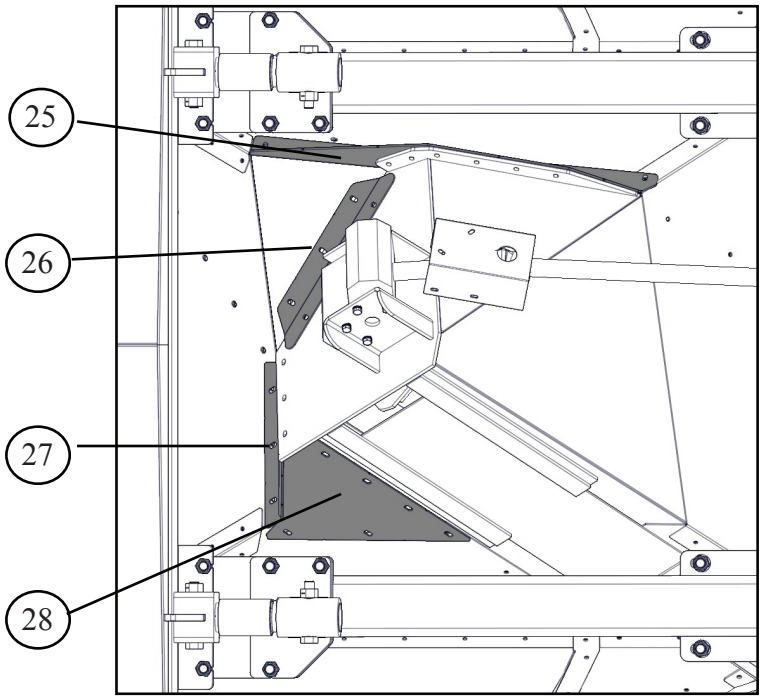
#	Part No.	Description
11	JM0000060	Upper Right Tank Panel Front
12	JM0000061	Upper Right Tank Panel Middle
13	JM0000062	Upper Right Tank Panel Rear
14	JM0000063	Upper Rear Tank Panel Right
15	JM0000064	Upper Rear Tank Panel Left
16	JM0000065	Upper Left Tank Panel Rear
17	JM0000066	Upper Left Tank Panel Middle
18	JM0000067	Upper Left Tank Panel Front
19	JM0000068	Triangle Auger Rest
20	JM0000069	Auger Rest Slide Plate

LOWER AUGER & TUBE ASSEMBLY

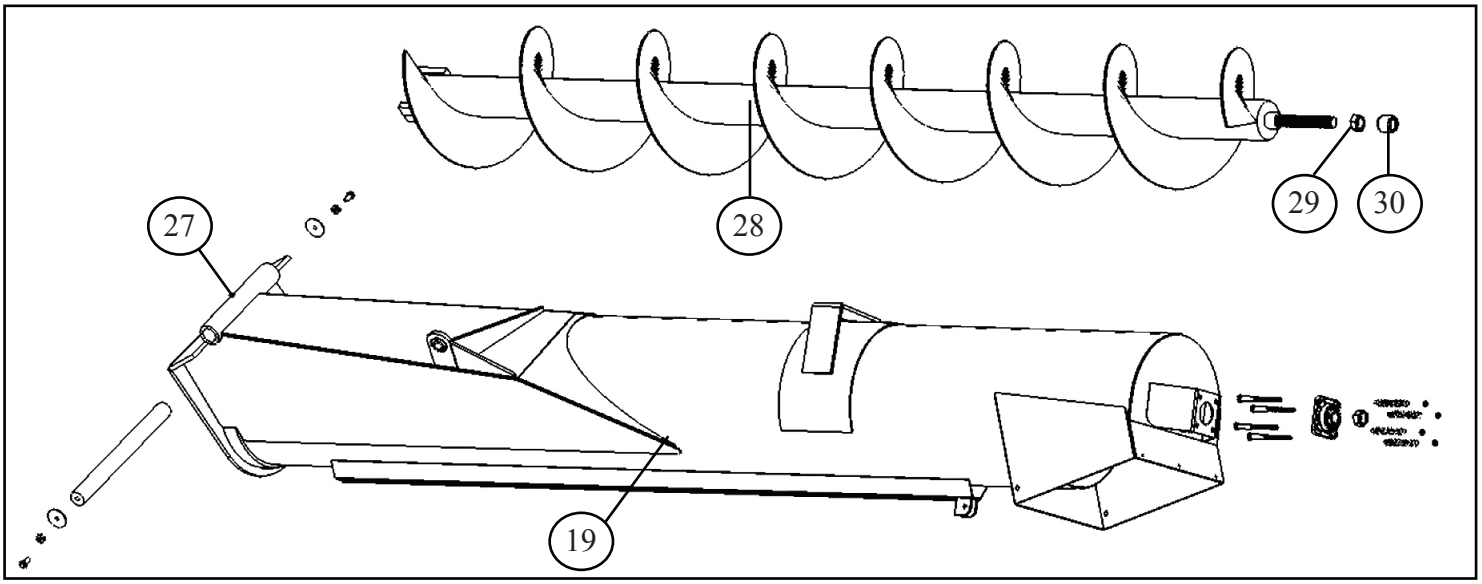


LOWER AUGER & TUBE ASSEMBLY

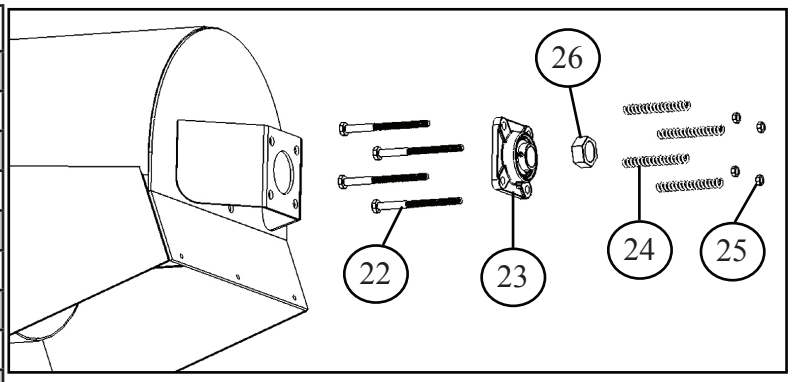
#	Part. No.	Description
1	JM0003064	1” X 3” Cotter Pin
2	JM0001816	1” X 3.4” Clevis Pin
3	JM0000076	Inner Gate GC24t
4	JM0018523	2” x 36” Welded Cylinder
5	JM0002100	1/2”-13 x 1-1/2” Gr5 Z Hex Bolt
6	JM0002124	1/2”-13 Gr5 Z Hex Nut
7	JM0000081	18” Lower Auger Tube Housing
8	JM0016059	1/2” Split Lock Washer
9	JM0017840	130 Deg. Gearbox (see page 27)
10	JM0000083	Gearbox Washer
11	JM0002093	M10-1-1/2” x 25 Gr8.8 YZ SF Hex Bolt
12	JM0002154	M10-1-1/2” Gr8.8 YZ SF Hex Nut
13	JM0016842	S-Cap Yellow - 1/2” ID x 1-1/4” x 0.065
14	JM0000079	Indicator Rod
15	JM0018425	GC24T 18 in. Lower Auger
16	JM0002116	M16-2 x 45 Gr8.8 YZ Hex Bolt
17	JM0002164	M16-2 Gr8.8 YZ Nylon Locking Hex Nut
18	JM0016377	1.75” Pivot Pin
19	JM0002111	1”-8 x 6” Gr5 Z Hex Bolt
20	JM0000093	2.5” Drive Dog Weldment, 18”
21	JM0002149	1”-8 Gr5 Z Centerlock Hex Nut
22	JM0000090	18” Auger Hanger
23	JM0009756	1/8” NPT
24	JM0016841	2-1/2” ID Bronze Bushing
25	JM0000095	Gearbox Top Plate
26	JM0000096	Gearbox-Inside Sheddar Panel Splice Plate
27	JM0000097	Gearbox-Rear Slope Splice Plate
28	JM0000098	Gearbox-Auger Side Slope Splice Plate

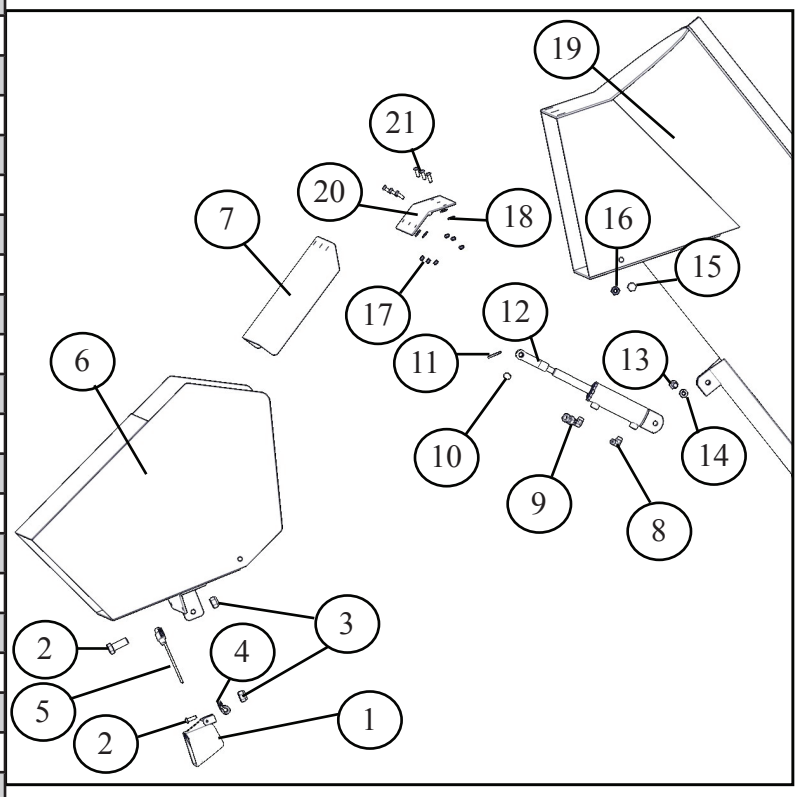


UPPER AUGER ASSEMBLY

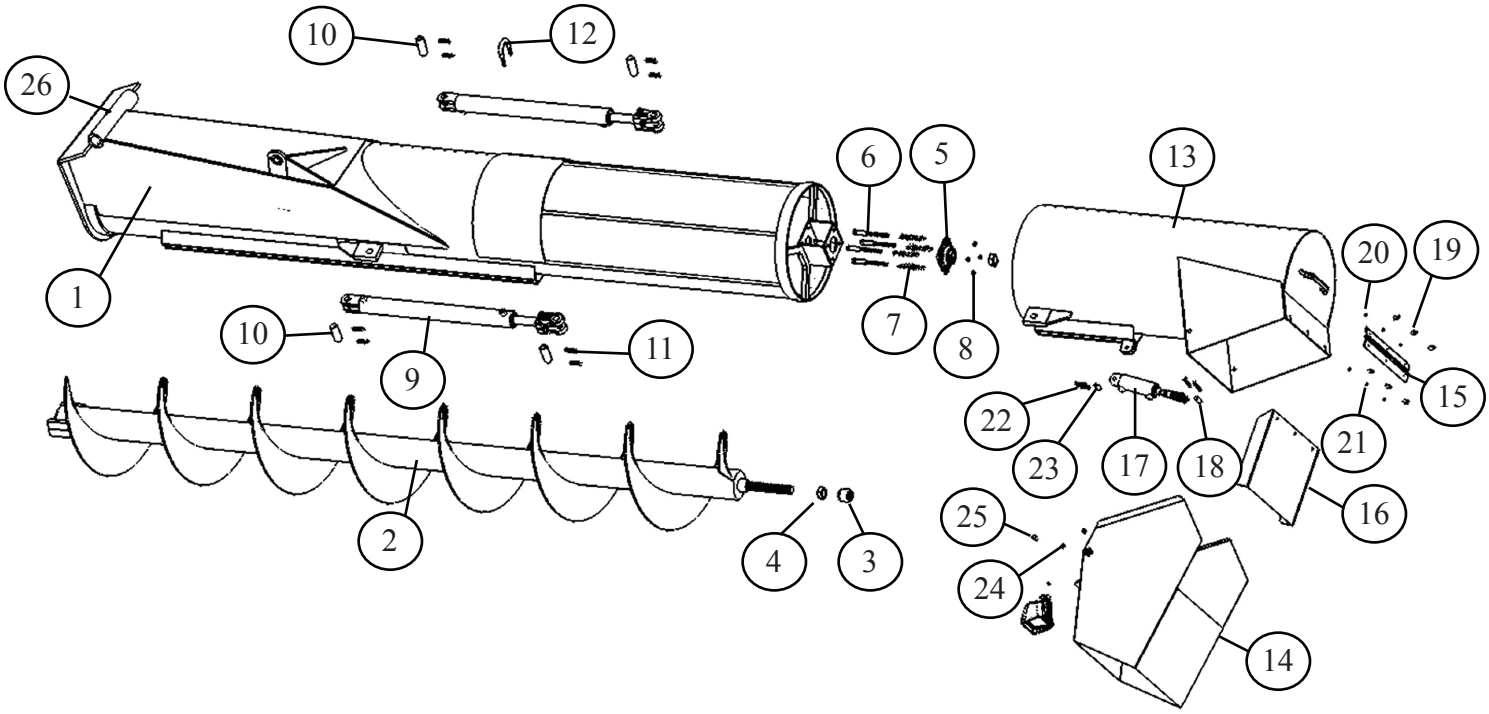


#	Part. No.	Description
1	JM0001881	Upper Auger Light Assembly
2	JM0000100	M10 x 20 Hex Head Bolt
3	JM0002162	M10 Nylon Lock Nut
4	JM0000102	Loom
5	JM0017896	Mercury Switch
6	JM0000104	Flow Control Spout Housing
7	JM0000105	Baffle Plate
8	JM0010301	1/4” Swivel Connector
9	JM0010303	1/4” St. Elbow
10	JM0018264	1/2” x 1 1/2” Clevis Pin
11	JM0003064	Cotter Pin
12	JM0018564	Hydraulic Cylinder with Clevis End
13	JM0001490	M12 x 50 Hex Head Bolt
14	JM0002163	M12 Nylon Lock Nut
15	JM0001490	M12 x 50 Hex Head Bolt
16	JM0001511	M12 Nylon Lock Nut
17	JM0002167	8.8M6 Nut
18	JM0019447	8.8M6 Flat Washer
19	JM0000117	Upper Auger Housing 18”
20	JM0018432	Hinge Plate
21	JM0002120	8.8M6 x 20MM Bolt
22	JM0001498	1/2” x 5 1/2” Bolt
23	JM0018560	1 1/4” Flange Bearing, 4 Hole
24	JM0018559	Compression Spring
25	JM0001511	1/2” Centerlock Hex Nut
26	JM0001700	1 1/4” Hex Nut
27	JM0009756	Grease Zerk
28	JM0000130	Upper Flighting
29	JM0016920	1 1/4” Jam Nut
30	JM0016792	1 1/2” Long Spacer



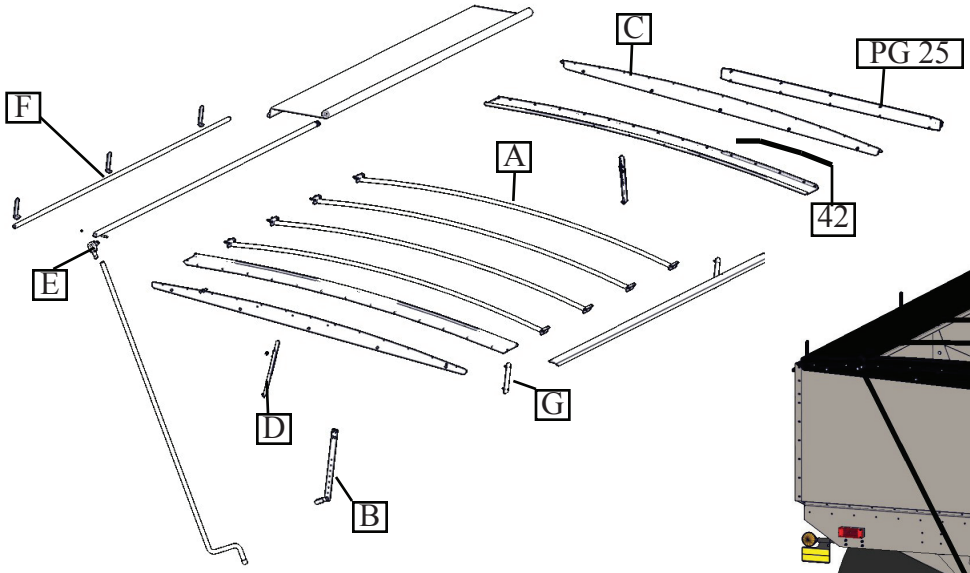


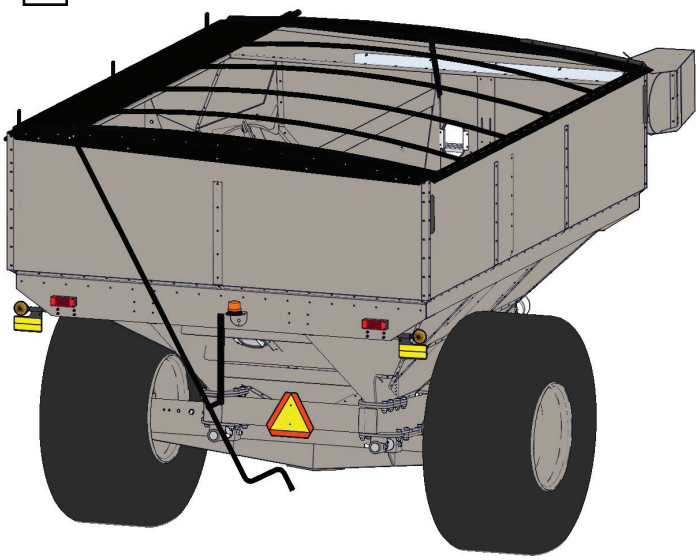
HYDRAULIC SLIDING UPPER AUGER, TUBE AND FLOW CONTROL SPOUT ASSEMBLY



#	Part. No.	Description
1	JM0000129	Upper Auger Housing, Lower (for optional hydraulic sliding auger)
2	JM0000126	18” Upper Flighting welded to 4 1/2” pipe (for optional hydraulic sliding auger)
3	JM0016920	1 1/2” Long Spacer
4	JM0002150	1 1/4” Jam Nut
5	JM0018560	1 1/4” Flange Bearing, 4 hole
6	JM0001498	1/2” x 5 1/2” Bolt
7	JM0018559	Compression Spring
8	JM0001511	1/2” Regular Nut
9	JM0018210	2” x 24” Hydraulic Cylinder
10	JM0001816	1” x 4” Pin
11	JM0003064	Roll Pin
12	JM0018627	3/8” Round U-Bolt 2” Pipe Size Extended
13	JM0000141	Upper Auger Housing, Upper (for optional hydraulic sliding auger)
14	JM0000142	18” Flow Control Spout Housing (for optional hydraulic sliding auger)
15	JM0000143	18” Hinge Plate
16	JM0000144	18” Baffle Plate (for optional hydraulic sliding auger)
17	JM0018575	Hydraulic Cylinder with Clevis End
18	JM0018264	1/2” x 1 1/2” Clevis Pin
19	JM0002120	8.8M6 x 20 mm Bolt
20	JM0002167	8.8M6 Nylon Locking Hex Nut
21	JM0003090	8.8M12 x 50 MM Bolt
22	JM0002163	8.8M12 Nylon Locking Hex Nut
23	JM0001490	8.8M12 x 50 MM Bolt
24	JM0000100	M10 x 20 Hex Head Bolt
25	JM0002162	M10 Nylon Lock Nut
26	JM0009756	Grease Zerk

ROLL TARP ASSEMBLY



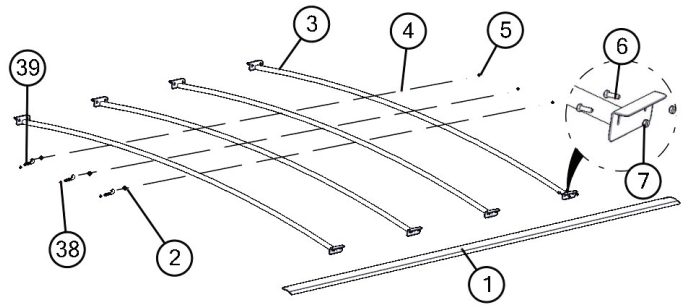


#	Part.No.	Description
1	JM0013653	Lock Panel
2	JM0025406	Large Cable Clamp
3	JM0000157	Tarp Bow
4	JM0021400	Tarp Support Cable (270”)
5	JM0001514	Small Cable Clamp
6	JM0002120	8.8 M6x20MM Hex Cap Screw
7	JM0002167	M6 Nylon Insert Locknut
8	JM0002093	M10x25MM Serrated Flange Bolt
9	JM0002154	M10-1.5 Serrated Flange Nut
10	JM0000164	Hanger Bracket Plate
11	JM0020955	8.8M12x35MM Hex Cap Screw 8.8 Full Thread
12	JM0002967	Hanger Bracket Hook
13	JM0002163	M12 Nylon Insert Locknut
14	JM0025416	M6x12MM Button SKT Cap Screw
15	JM0000169	Rear End Cap Plate
16	JM0002120	8.8M6x20MM Hex Cap Screw Full Thread
17	JM0002156	M6 Serrated Flange Nut Hard
18	JM0000172	Rear End Cap Arch
19	JM0002154	M10-1.5 Serrated Flange Nut
20	JM0002167	M6 Nylon Insert Locknut
21	JM0000091	M10x25MM Serrated Flange Bolt

#	Part.No.	Description
22	JM0000176	Prop-up Bar, Upper
23	JM0002154	M10-1.5 Serrated Flange Nut
24	JM0002093	M10x25MM Serrated Flange Bolt
25	JM0000179	Prop-up Bar, Lower
26	JM0002167	M6 Nylon Insert Locknut
27	JM0002121	8.8M6x65MM Hex Cap Screw Part Thread
28	JM0002162	M10 Nylon Insert Locknut
29	JM0001517	U-Joint
30	JM0001486	M10x50MM Hex Cap Screw, 18MM AF Full Thread
31	JM0000185	Tarp Crank Handle
32	JM0000186	M10x55MM Hex Cap Screw, 8.8 Full Thread
33	JM0000187	Stop Bracket
34	JM0000188	Square Tie Down Tube (264”)
35	JM0002162	M10 Nylon Insert Locknut
36	JM0001889	Stand Off
37	JM0001571	#14 x 1 1/2” Self Tapping Bolt
38	JM0001519	3/8” J-Bolt
39	JM0001512	3/8” J-Bolt Centerlock Nut
40	JM0000194	Front End Cap Plate
41	JM0000195	Front End Cap Arch
42	JM0000196	Nylon Riser

ROLL TARP ASSEMBLY

A



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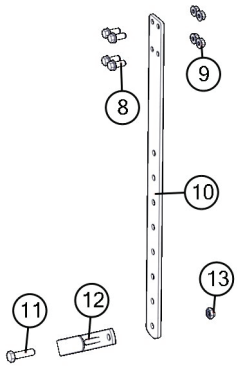

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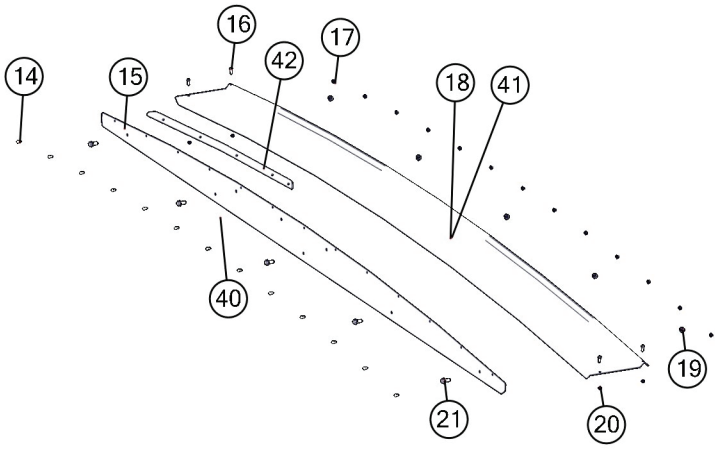

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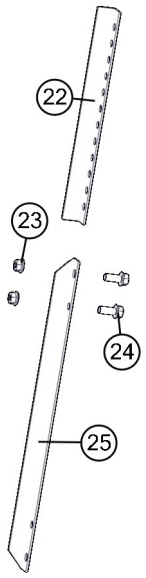

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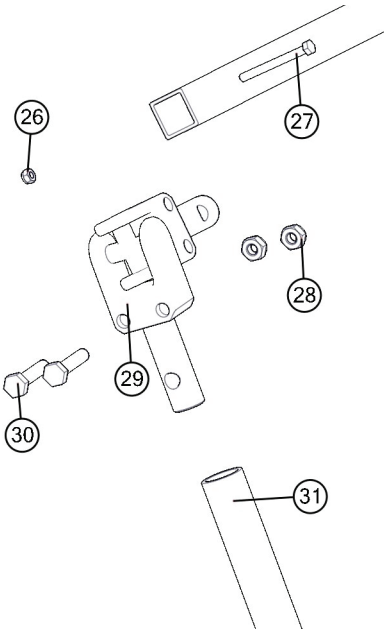

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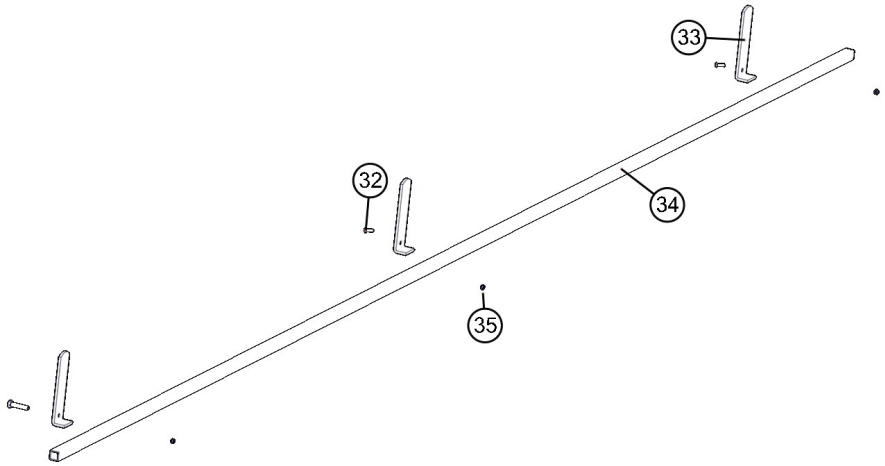

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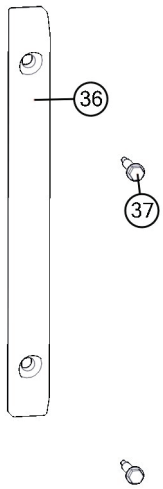
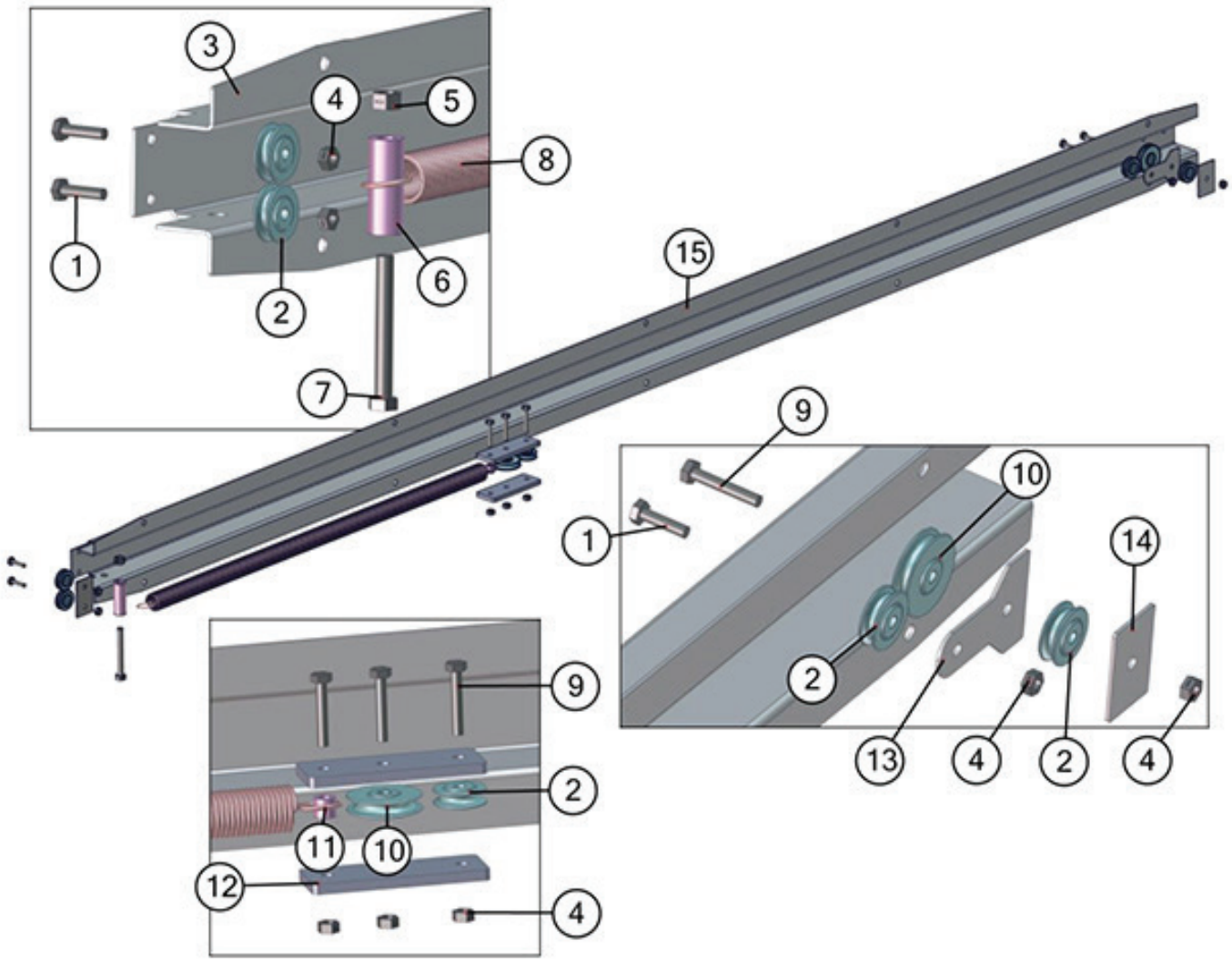
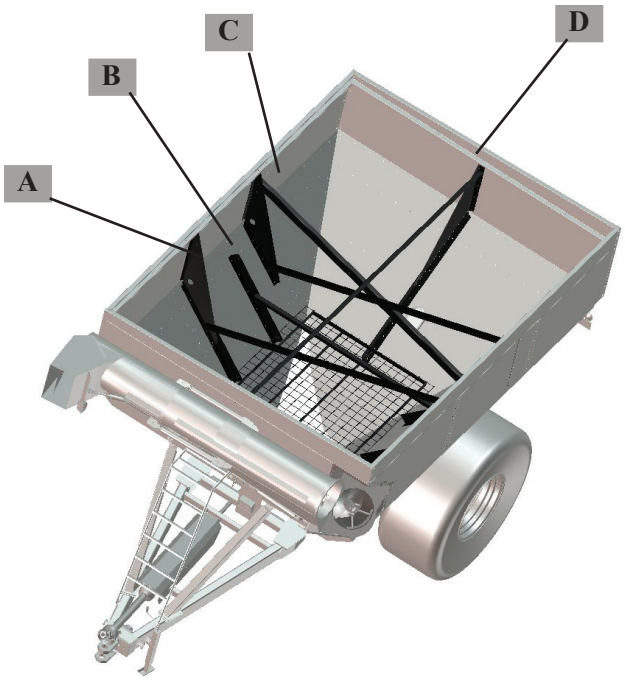


SPRING RETURN ASSEMBLY

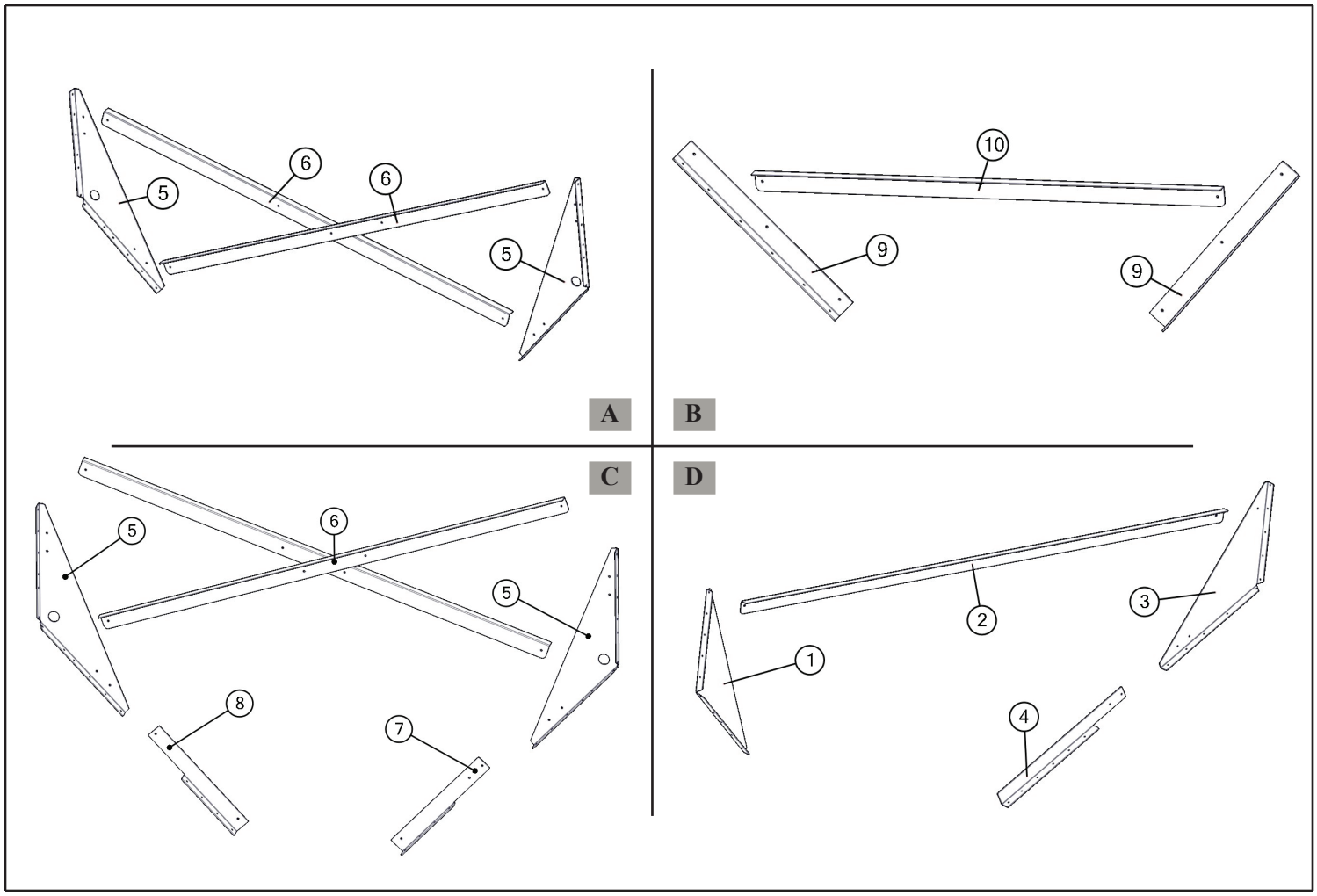


#	Part. No.	Description
1	JM0002095	1/4”-20 X 1.0” Gr5 Z Hex Bolt
2	JM0002439	Roller Small
3	JM0012974	Grain Cart Spring Return Housing
4	JM0001505	1/4”-20 Gr5 Z Centerlock Hex Nut
5	JM0001512	3/8”-16 Gr5 Z Centerlock Hex Nut
6	JM0002444	Tall Plastic Spacer
7	JM0001666	3/8”-16 X 3.0” Gr5 Z Hex Bolt
8	JM0000207	Spring Return Spring
9	JM0002447	1/4”-20 X 1-1/2” Gr5 Z Hex Bolt
10	JM0012970	Roller Large
11	JM0002442	Short Plastic Spacer
12	JM0012973	Rectangular Spacer Tab
13	JM0018897	Aluminum Spacer Tab
14	JM0002445	Aluminum Spacer Square
15	JM0012965	Spring Return Assembly

INTERIOR TANK BRACES

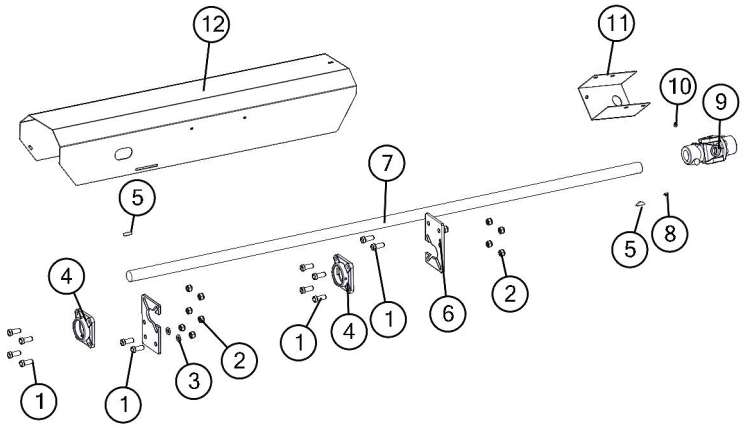


#	Part. No.	Description
1	JM0000212	Front Gusset
2	JM0000213	Front to Rear Brace
3	JM0000214	Rear Gusset
4	JM0000215	Rear Slope Brace
5	JM0000216	Side Gusset
6	JM0000217	Cross Brace
7	JM0000218	Front Auger Side Slope Brace
8	JM0000219	Front Opposite Auger Side Slope Brace
9	JM0000220	Rear Side Slope Brace
10	JM0000221	Side to Side Brace

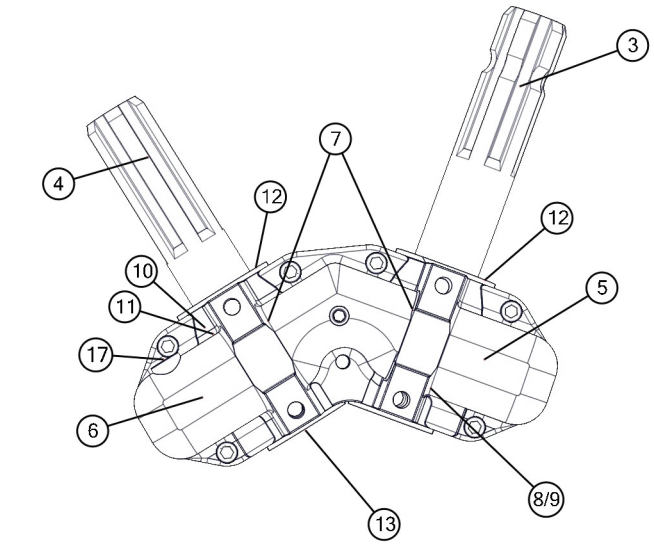


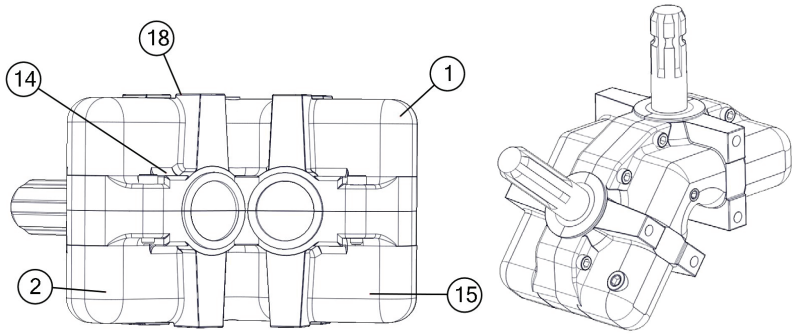
DRIVELINE ASSEMBLY

#	Part.No.	Description
1	JM0002116	8.8M16 x 45 MM Bolt
2	JM0002164	8.8M16 Lock Nut
3	JM0002909	16 MM Nylon Flat Washer
4	JM0018775	1 3/4” Flange Bearing, 4 Hole
5	JM0018772	3/8” x 1 1/2” Half Moon Key
6	JM0019550	Drive Shaft Support Plate
7	JM0000228	1 3/4” Diameter Drive Shaft x 150” Long
8	JM0019044	3/8” x 1/2” Set Screw
9	JM0017957	U-Joint with 5/8” x 3” Grade 5 Bolt & Lock Nut
10	JM0000231	1/2”-20 x 1/2” Set Screw
11	JM0012698	Shield over U-Joint
12	JM0012517	Drive Shaft Guard



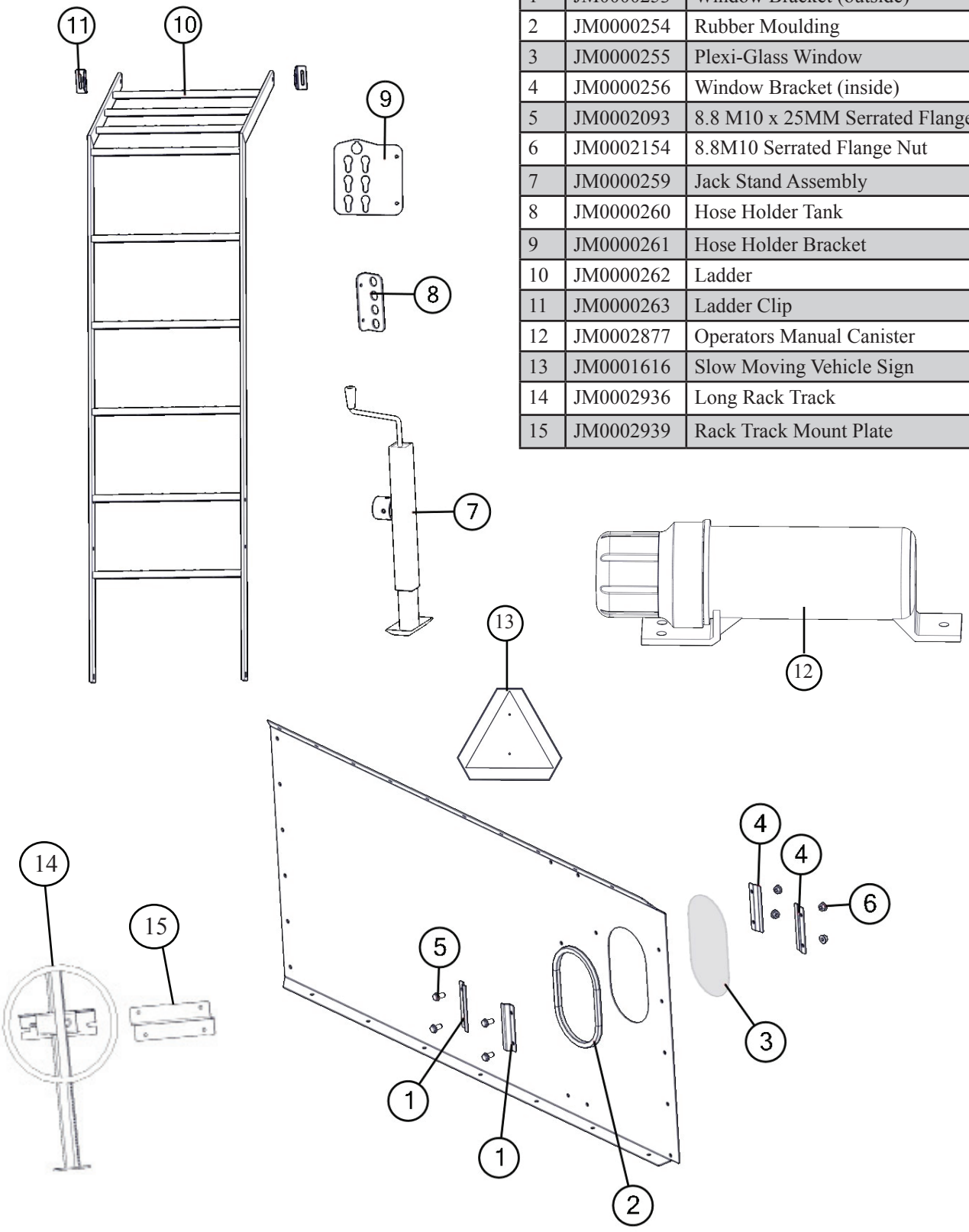
130 DEGREE GEARBOX ASSEMBLY



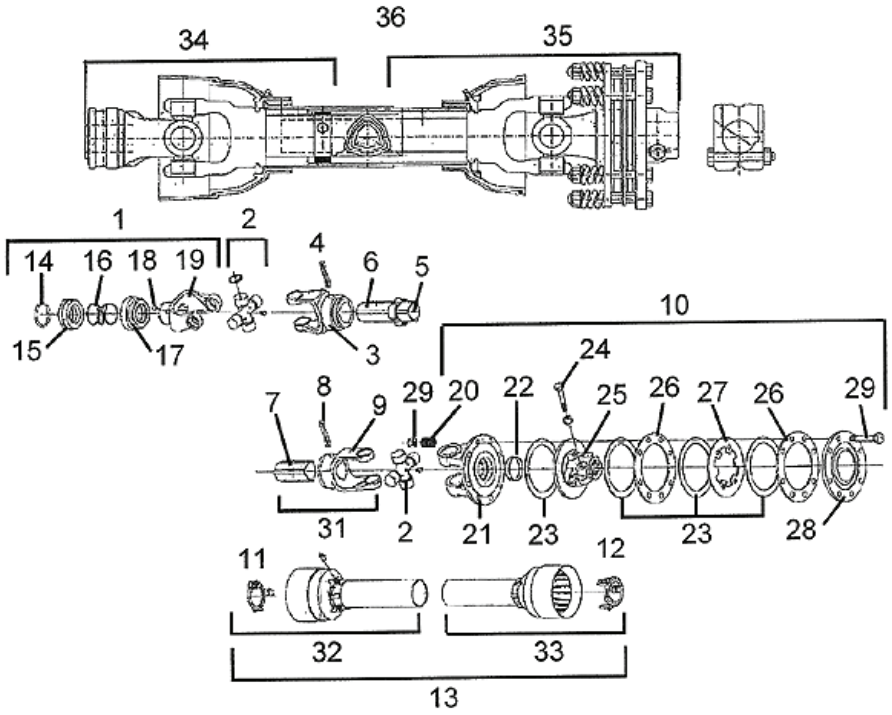


#	Part. No	Description
1	JM0025088	Casting. Upper Half
2	JM0025089	Casting, Lower Half
3	JM0025090	1 3/4" Input Shaft
4	JM0025091	1 3/4" Output Shaft
5	JM0025092	18 Tooth Gear
6	JM0025093	29 Tooth Gear
7	JM0025094	Shim, Arbor
8	JM0025077	Bearing Cup
9	JM0025078	Bearing Cone
10	JM0025095	Bearing Cup
11	JM0025096	Bearing Cone
12	JM0025097	Seal
13	JM0025076	End Cap
14	JM0025085	Bolt
15	JM0025080	Plug
16	JM0025073	Bushing
17	JM0025081	Plug, Vent
18	JM0025075	Plug
19	JM0017840	130 Degree Gearbox

#	Part No	Description
1	JM0000253	Window Bracket (outside)
2	JM0000254	Rubber Moulding
3	JM0000255	Plexi-Glass Window
4	JM0000256	Window Bracket (inside)
5	JM0002093	8.8 M10 x 25MM Serrated Flange Bolt
6	JM0002154	8.8M10 Serrated Flange Nut
7	JM0000259	Jack Stand Assembly
8	JM0000260	Hose Holder Tank
9	JM0000261	Hose Holder Bracket
10	JM0000262	Ladder
11	JM0000263	Ladder Clip
12	JM0002877	Operators Manual Canister
13	JM0001616	Slow Moving Vehicle Sign
14	JM0002936	Long Rack Track
15	JM0002939	Rack Track Mount Plate



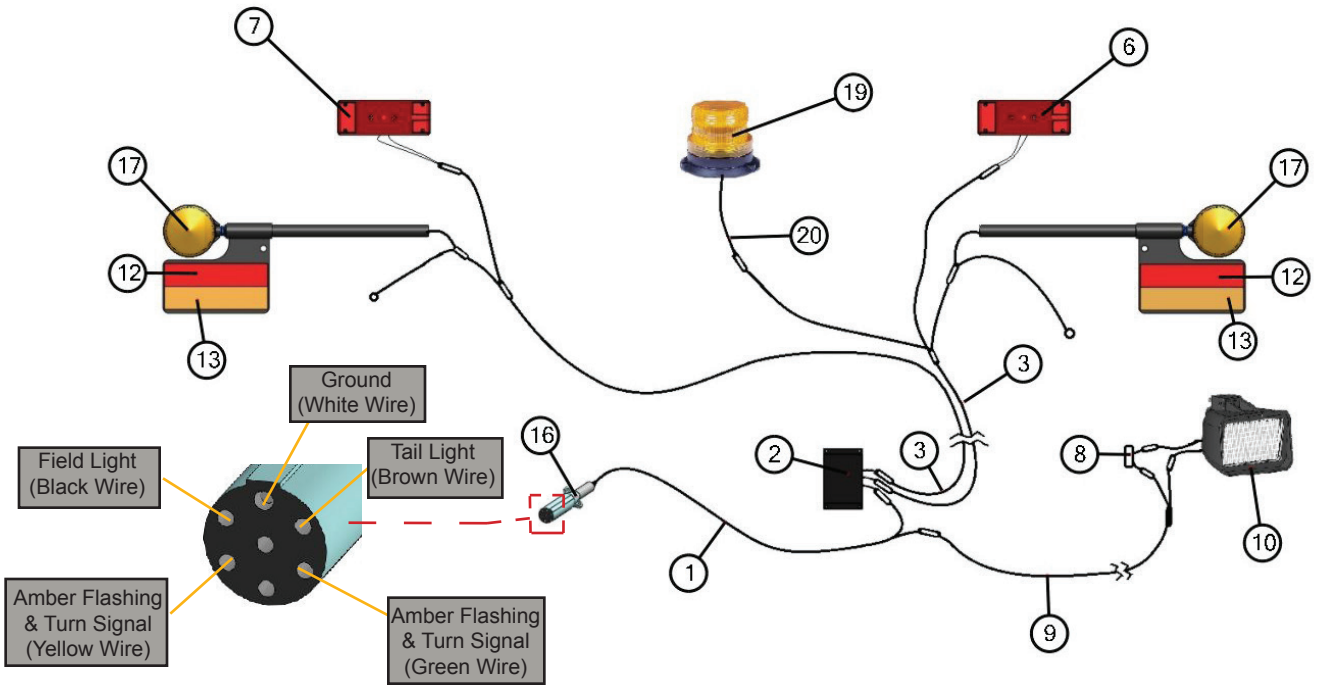
POWER TAKE OFF (PTO) SHAFT



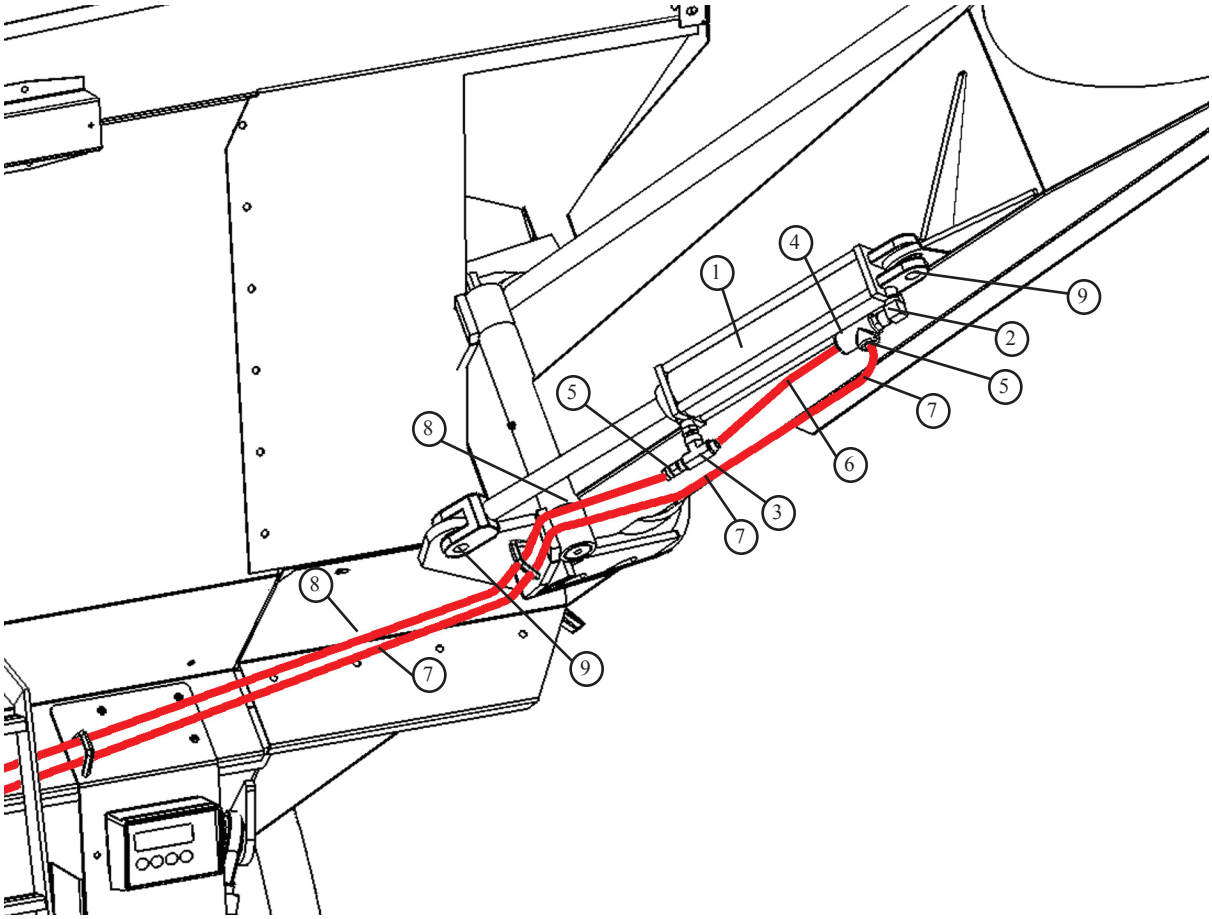
#	Part No.	Description
1	JM0025180	Complete Collar Yoke (1 3/4”)
1	JM0025181	Complete Collar Yoke (1 3/8”)
2	JM0025144	Cross Journal Set
3	JM0025145	Outer Yoke
4	JM0025146	Roll Pin for Outer Tube
5	JM0025147	Bushing with Grease Nipple
6	JM0025148	Complete Outer Tube
7	JM0025149	Inner Tube
8	JM0025150	Roll Pin for Inner Tube
9	JM0025151	Inner Yoke
10	JM0025152	Complete Slip Clutch
11	JM0025153	Retain Collar for Outer Tube
12	JM0025154	Retain Collar for Inner Tube
13	JM0025155	Complete Guard
14	JM0025156	Outer C - Clip
15	JM0025157	Sliding Sleeve Collar
16	JM0025158	Spring
17	JM0025159	Fixed Sleeve
18	JM0025160	Ball 5/8”
19	JM0025161	Yoke C15

#	Part No.	Description
20	JM0025162	Spring
21	JM0025163	Flanged Yoke
22	JM0025164	Bushing
23	JM0025165	Lining Ring (6” OD x 3 1/2” ID)
24	JM0025166	Bolt M12x1.25x65 with Nut
25	JM0025167	Clutch Support F40
26	JM0025168	Inner Plate
27	JM0025169	Intermediate Plate
28	JM0025170	Pressure Plate
29	JM0025171	Bolt and Nut M10x100
30	JM0025172	Female Tube and Yoke
31	JM0025173	Male Tube and Yoke with Roll Pin
32	JM0025174	Half Female Guarding
33	JM0025175	Half Male Guarding
34	JM0025176	Front Half 1 3/4” PTO
34	JM0025177	Front Half 1 3/8” PTO
35	JM0025178	Back Half of PTO with Slip Clutch
36	JM0020021	1 3/4” Complete PTO
36	JM0020024	1 3/8” Complete PTO
37	JM0025179	Tee Key for Plastic Retain Collar

LIGHT KIT ASSEMBLY

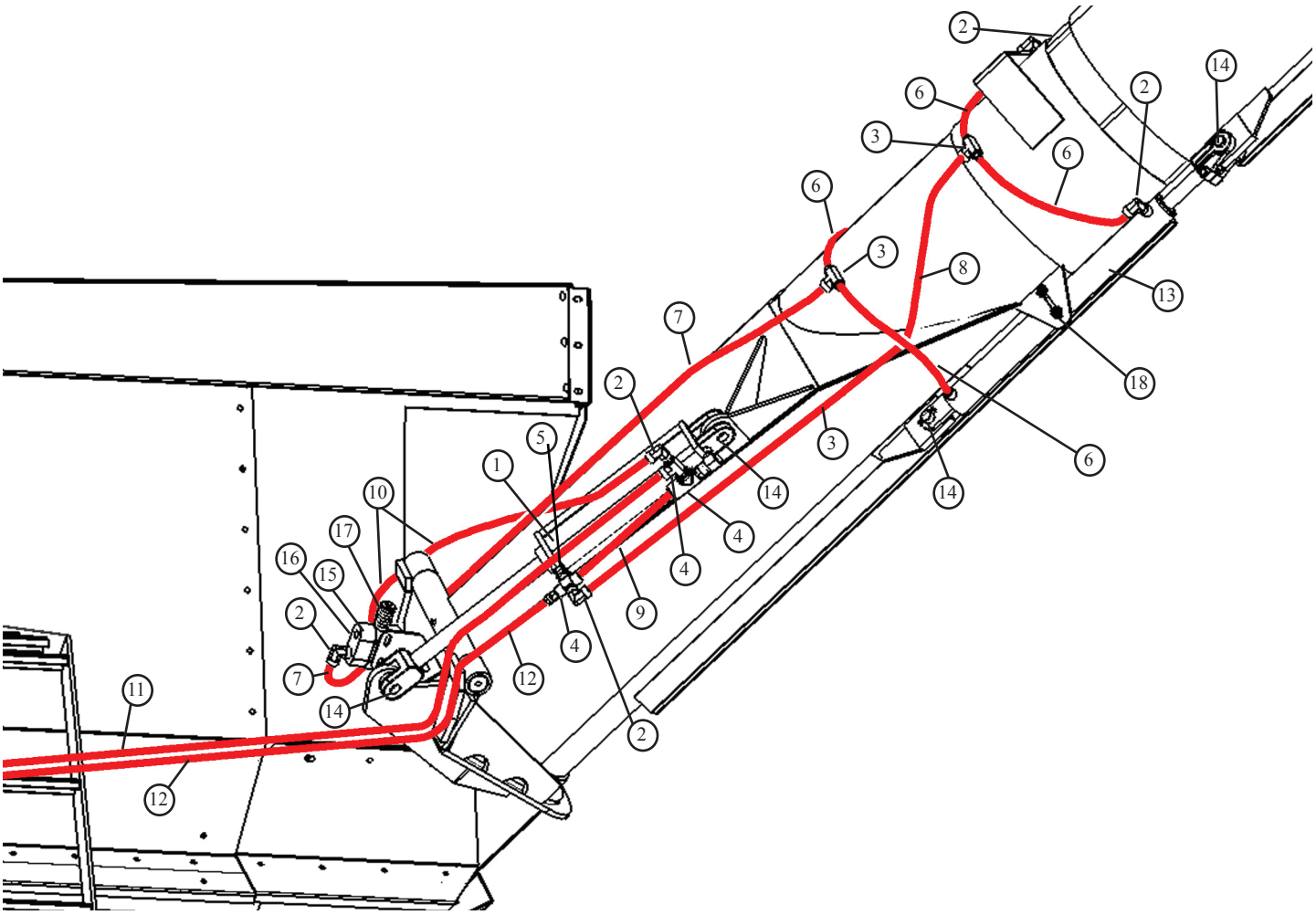


#	Part. No.	Description
1	JM0020439	Main Wiring Harness with 7-Prong Connector End
2	JM0010566	Light Enhancer
3	JM0020437	Wiring Harness for Rear Lights (Each)
4	JM0018817	Extendable Amber Light Assembly (Left Side)
5	JM0018826	Extendable Amber Light Assembly (Right Side)
6	JM0018838	Rear Red Light, Right Side
7	JM0018837	Rear Red Light , Left Side
8	JM0017896	Mercury Switch
9	JM0020438	Field Light Wire
10	JM0001881	Field Light
11	JM0009946	Reflective Amber Decal
12	JM0009945	Reflective Red Decal
13	JM0009944	Reflective Orange Decal
14	JM0001616	Slow Moving Vehicle Emblem
15	JM0016924	Rubber Grommet
16	JM0010528	7-Prong Connecter End Only
17	JM0018819	Amber Light Only
18	JM0020450	Wire Loom
19	JM0025193	Orange Strobe Light



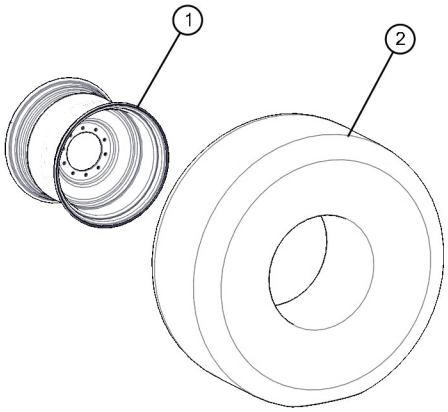
#	Part. No.	Description
1	JM0018243	3” x 14” Hydraulic Cylinder
2	JM0010292	3/8” Street Elbow 90
3	JM0018266	3/8” Street Tee
4	JM0018233	Pilot Check Valve
5	JM0018362	Orifice Restrictor (0.62)
6	JM0000329	1/4” x 9 1/2” Hydraulic Hose
7	JM0000330	1/4” x 240” Hydraulic Hose
8	JM0000331	1/4” x 228” Hydraulic Hose
9	JM0001816	1” x 3.4” Pin with Hair Pin
10	JM0025404	Seal Kit for 3” x 14” Hydraulic Cylinder

HYDRAULIC FOLDING CYLINDER WITH SLIDER OPTION



#	Part. No.	Description
1	JM0018243	3” x 14” Hydraulic Cylinder
2	JM0010292	3/8” Street Elbow 90
3	JM0018266	3/8” Street Tee
4	JM0018233	Pilot Check Valve
5	JM0018362	Orifice Restrictor (0.62)
6	JM0024932	1/2” x 16” Hydraulic Hose
7	JM0025206	1/2” x 77” Hydraulic Hose
8	JM0025194	1/2” x 57” Hydraulic Hose
9	JM0025211	1/4” x 12” Hydraulic Hose
10	JM0025207	1/2” x 54” Hydraulic Hose
11	JM0025222	1/4” x 222” Hydraulic Hose
12	JM0025221	1/4” x 206” Hydraulic Hose
13	JM0018210	2” x 24” Hydraulic Cylinder
14	JM0001816	1” x 3.4” Pin with Hair Pin
15	JM0018250	Hydraulic Flow Diverter Valve
16	JM0018261	Plug
17	JM0000350	Spring
18	JM0024894	2 1/2” Diameter x 4 3/4” Long U-Bolt with 3/8” Washer and Lock Nut
19	JM0025404	Seal Kit for 2” x 24” Hydraulic Cylinder

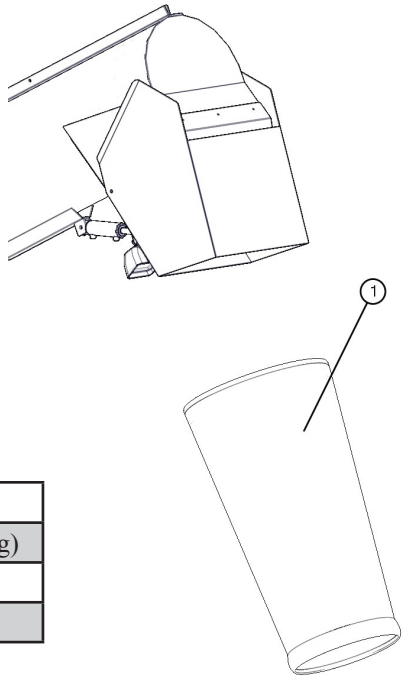
WHEEL RIMS AND TIRES



#	Part No.	Description
1	21x32-10HD	Wheel Rim, 10 hole, 21x32 (11.13 pilot) (13.19 bolt circle) (for 24.5x32 Tire)
1	27x32-10	Wheel Rim, 10 hole, 27x32 (11.13 pilot) (13.19 bolt circle) (for 30.5x32 Tire)
1	27x32-10HD	Wheel Rim, 10 hole, 27x32HD Heavy Duty (11.13 pilot) (13.19 bolt circle) (for 900/60R32 Tire)
1	31x32-10	Wheel Rim, 10 hole, 31x32 (3 piece) (11.13 pilot) (13.19 bolt circle) (for 35.5x32 Tire)
1	OR-3132	Rubber O-Ring Seal for 31x32-10 Wheel Rim
	25x36-10	Wheel Rim, 10 hole, 25x36 (11.13 pilot) (13.19 bolt circle) (for 66x43.00 Tire)
2	245x32-R3-16	24.5x32 Diamond Tread Tire, 16 ply (used with 21x32-10HD Wheel)
2	305x32-R1	30.5x32 Lug Tread Tire, 12 ply (used with 27x32-10 Wheel)
2	305x32-R3	30.5x32 Diamond Tread Tire, 14 ply (used with 27x32-10 Wheel)
2	900/60R32	900/60R32 Lug Tread Tire, 176 Load Index Rating (used with 27x32-10HD Heavy Duty Wheel)
2	355x32-R3	35.5x32 Diamond Tread Tire, 20 ply (used with 31x32-10 Wheel)
2	66x43.00-R1	66x43.00 Lug Tread Tire, 16 ply (used with 25x36-10 Wheel)

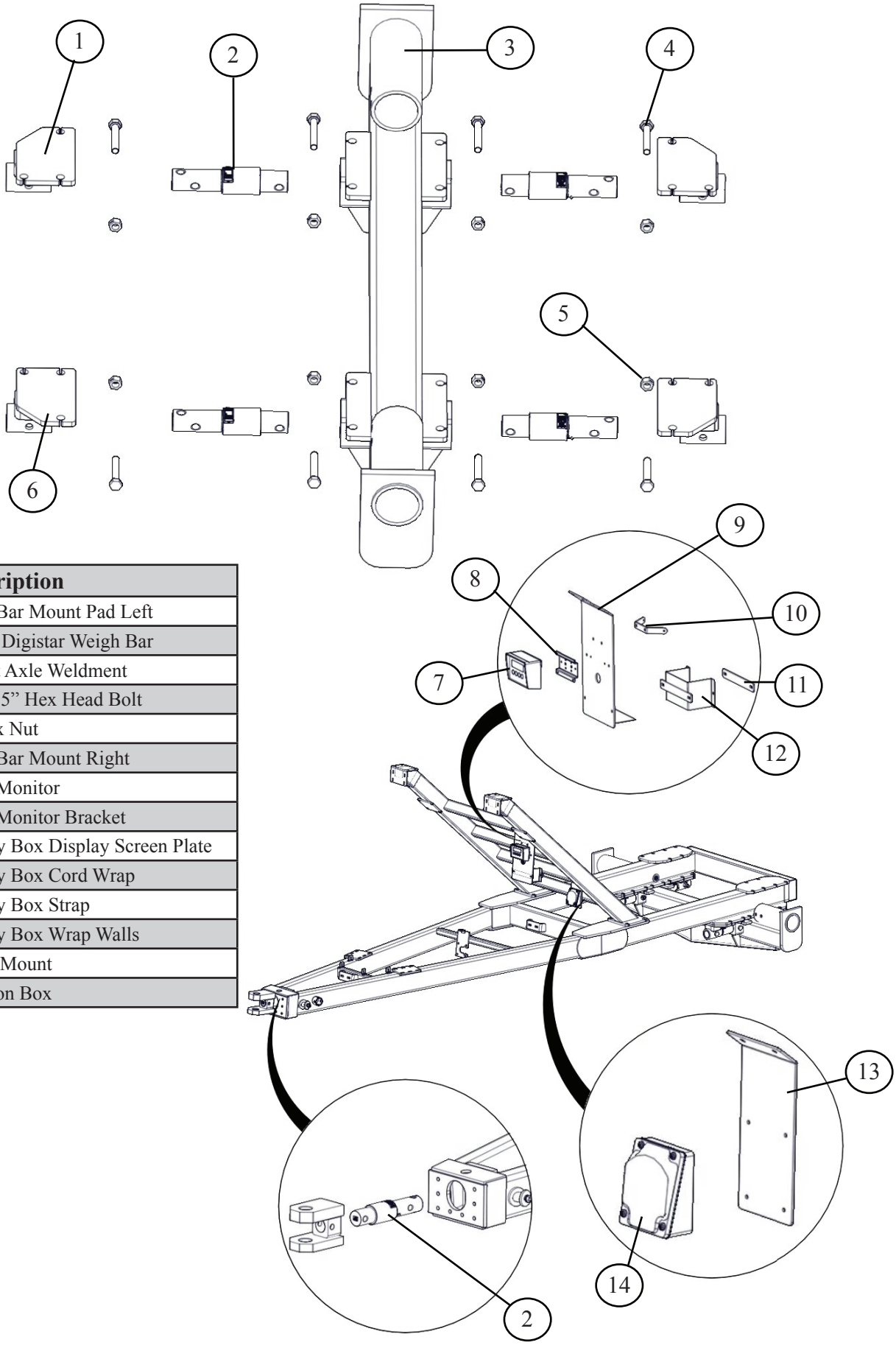
OPTIONAL VINYL SOCK (FOR END OF FLOW CONTROL SPOUT)

NOTE: Secure the Vinyl Sock using three (3) 1/4” x 3/4” Self tapping Screws and three (3) 1 3/8” One-Side Rubber Washer (12 total) at the end of each side of the Flow Control Spout.



#	Part No.	Description
1	818-VS42	22 ounce vinyl canvas sock for end of spout (42” Long)
2	1434-SDS	1/4” x 3/4” Self Drilling Screws
3	13814-1SRW	1 3/8” OD One Side Rubber Washer

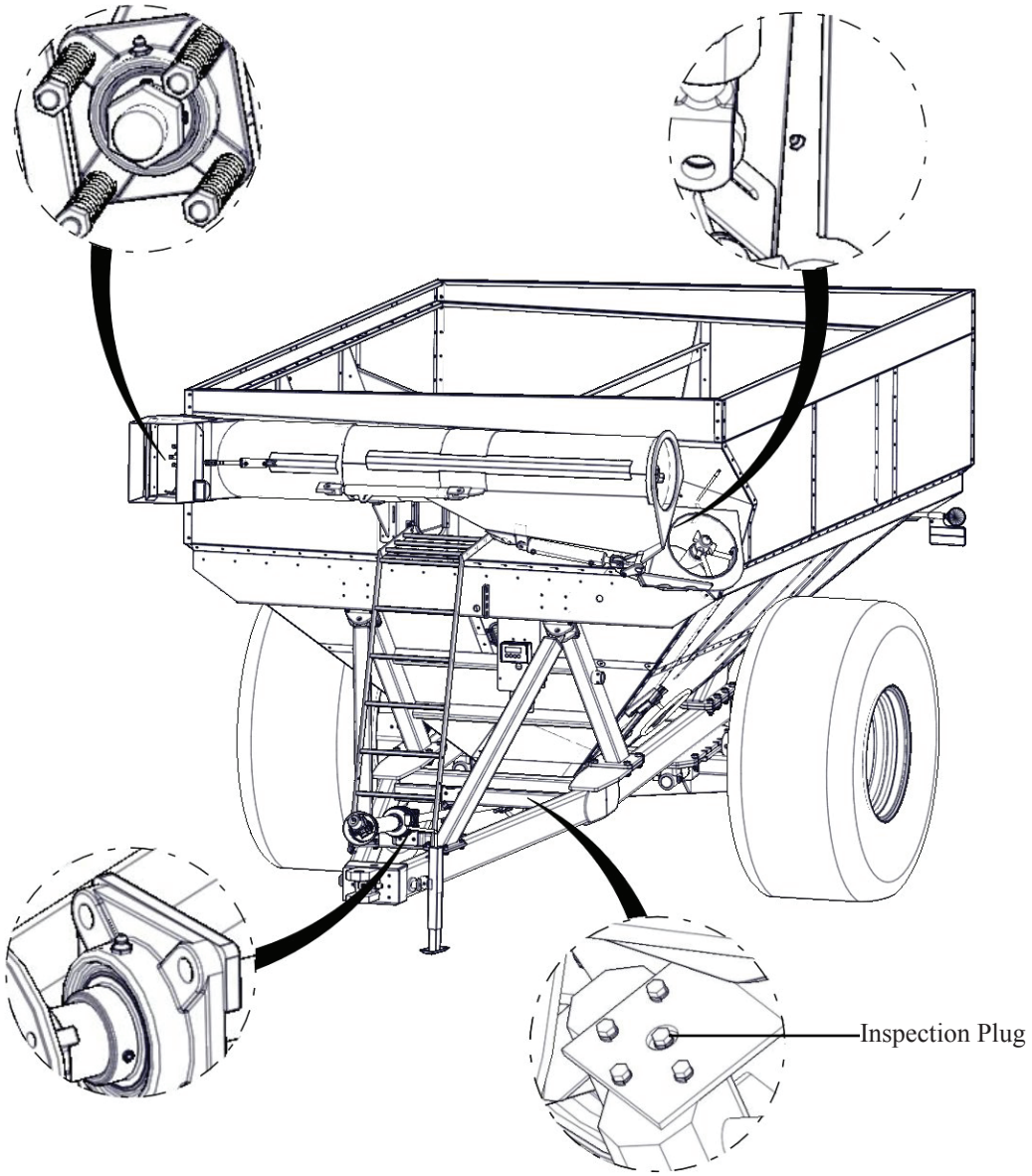
5 POINT SCALE SYSTEM



#	Part. No.	Description
1	JM0000354	Scale Bar Mount Pad Left
2	JM0000355	2 7/8” Digistar Weigh Bar
3	JM0022293	GC24t Axle Weldment
4	JM0002110	1” x 5.5” Hex Head Bolt
5	JM0002127	1” Hex Nut
6	JM0018985	Scale Bar Mount Right
7	JM0019040	Scale Monitor
8	JM0000361	Scale Monitor Bracket
9	JM0000362	Battery Box Display Screen Plate
10	JM0000363	Battery Box Cord Wrap
11	JM0000364	Battery Box Strap
12	JM0000365	Battery Box Wrap Walls
13	JM0000366	J-Box Mount
14	JM0000367	Junction Box

SPRING LOADED UPPER AUGER BEARING: Service the grease fitting on the upper auger bearing (located at the top end of the upper auger assembly) after every 8 hours of use. Lubricate the springs and retaining bolts on the bearing before prolonged storage of the grain cart.

AUGER FOLDING MECHANISM: One grease fitting is located on the pivot pin of the folding auger. This fitting should be serviced after every 8 hours of use. Service the grease fitting on the hanger bushing assembly (top end of the lower auger assembly) after every 8 hours of use or as needed.



PTO & DRIVELINE: The grease fittings on the PTO should be serviced after every 8 hours of use. Service the grease fittings on each of the drive bearings and also the universal joint after every 8 hours of use.

HITCH: There is a grease fitting located on the pivot shaft of the swivel hitch for grain carts equipped without an electronic weigh system (scales).

GEARBOX: Gearbox lubricant has been added to the gearbox during final assembly. Recheck the lubricant level before initial operation of the grain cart, then periodically according to use. An inspection plug is located in the center of the top of the gearbox mount plate. To check the fluid level, remove the vented inspection plug and drain plug at the bottom of the gearbox. Drain the lubricant. Return the drain plug and refill the gearbox with 24 ounces (0,71 liters) of gearbox lubricant. The gearbox is properly filled when half full of lubricant. DO NOT OVERFILL. Use EP 80-90 gearbox lubricant or equivalent.

LOWER AUGER TUBE LINER INSTALLATION

1. Remove lower auger. The auger is not pinned or held by any means to the gear box output shaft.
   The full weight of the auger rest on the output shaft.
   -The recommended method of pulling the auger off the shaft is to remove the 2 bolts from the auger hanger bushing weldment (this is the bracket at the top of the auger).
   -Using a 4x4 post or the like, place one end under the threaded end of the drive dog bolt and pry against the outer diameter of the auger tubing to lift the auger off the gear box shaft.

Measure your Auger Hanger and cut out the appropriate amount.
Give yourself an extra 1/4” inch of space on all sides.

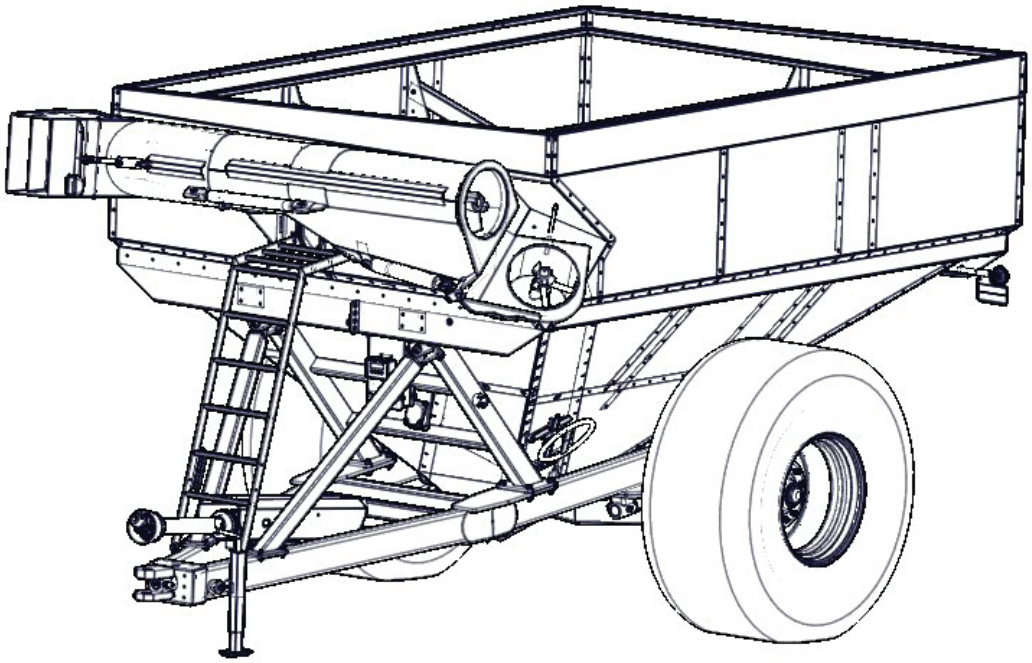
2. Cut a section of the liner out for the hanger bushing weldment to be bolted down to the original tube. If this is not done the auger will be off center in the tube.
3. Place the liner in the tube.
4. Cut or grind the small welds that hold the liner to a small diameter so it can expand to fit the tube.
5. Position the liner approximately a 1/2” inch short of each end.
6. Weld top and bottom ends of the liner to the tube. Weld every 6-8 inches with a 1/2 inch weld.
   Check the length of the liner for a good fit, if not tight to the tube press the liner outward and weld. It may be the best to position the seam of the liner in the 6 o’clock position to be able to weld the seam.

SERVICE RECORDS

DATE	SERVICE DESCRIPTION	NOTES

RIGHT
OAS (Opposite Auger Side)

REAR



FRONT

LEFT
AS (Auger Side)