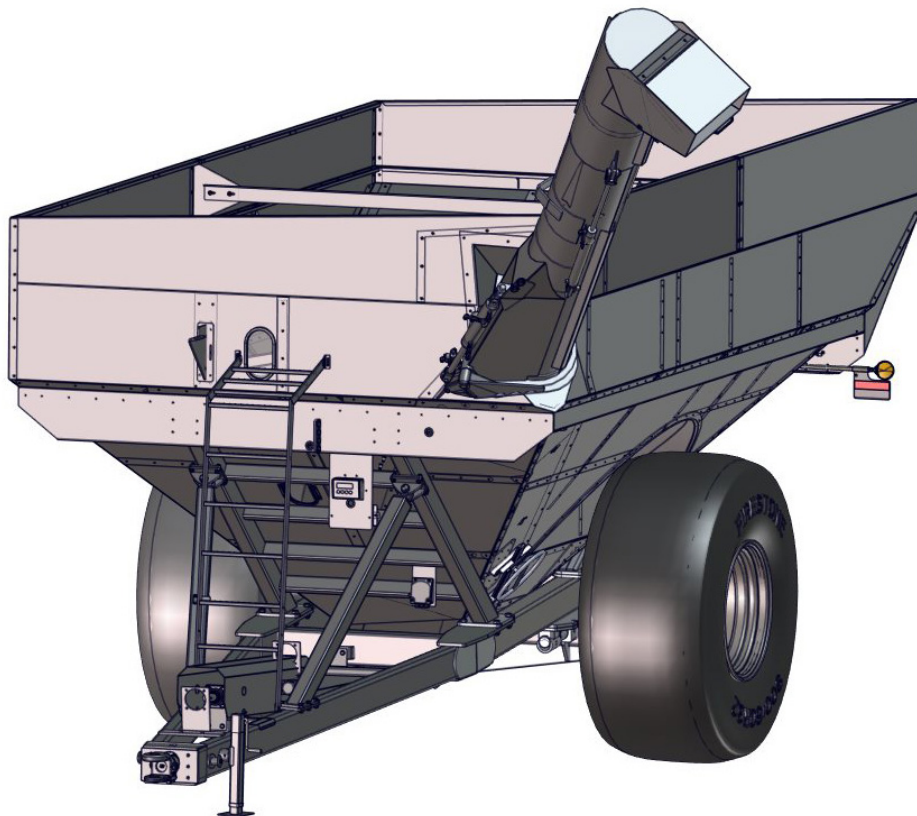




Manual

GRAIN CART OPERATOR'S MANUAL

MODEL GC31t-1



Rev. 2.21.2024

J&M Manufacturing Co, Inc

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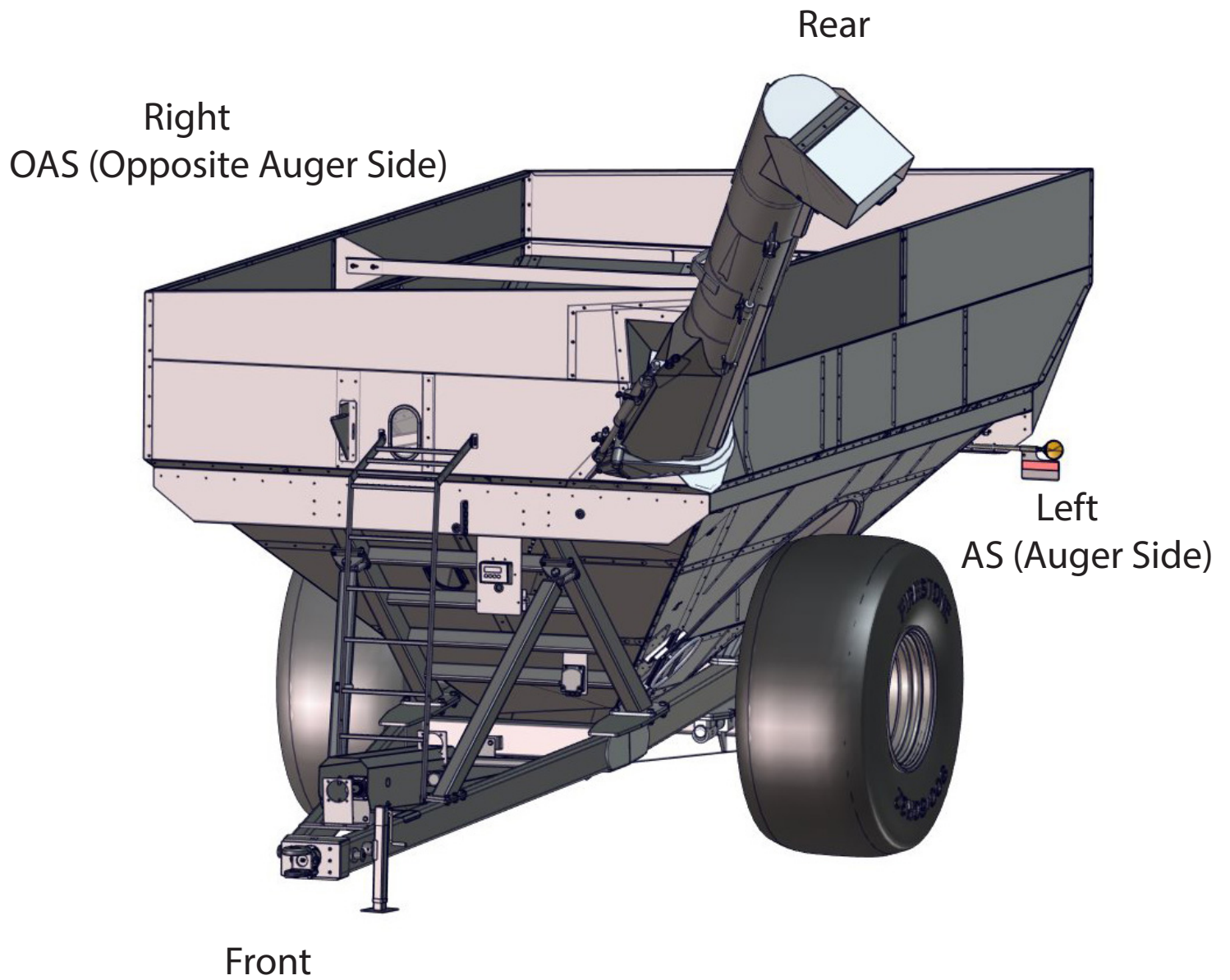


Table of Contents

To The Dealer	4
General Information	5
Specifications.....	6
Bolt Torque Chart	7
Safety Rules.....	8
Safety Decals	9
Initial Operation & Maintenance	10
Operating Instructions	11
Loading and Unloading the Grain Cart.....	12
Routine Maintenance	12
Lubrication Service Schedule.....	13
Troubleshooting	14
Removing Dirt from the Restrictors on the Hydraulic Cylinder	15
Adjusting the Slip Clutch	15
Adjusting the Lower and Upper Flighting	15
Storage Preparation/Removing from Storage	16
Repair Parts & Diagrams	
Wheel Rims and Tires for Grain Carts.....	17
Hub & Spindle Assembly	17
130 Degree Gearbox	18
Seed Discharge Attachment Option	18
Power Take Off (PTO) Shaft Assembly	19
Driveline Assembly.....	20
Main Frame & Undercarriage Axle Assembly	21
Hitch Assembly	22
Lower and Mid Level Track Parts	23
Lower Level Tank Panels.....	23
Mid-Level Tank Panels.....	24
Rail Assembly.....	24
Upper Level Tank Panels.....	25
Sideboards	25
Interior Tank Braces	26
Lower Auger & Tube Assembly	27
Upper Auger Assembly.....	28
Sliding Upper Auger, Tube & Flow Control Spout Assembly	29
Hydraulic Hoses, Cylinders & Fittings for Standard Upper Auger	30
Hydraulic Hoses, Cylinders & Fittings for Hydraulic Sliding Upper Auger.....	32
Hydraulic Schematics for Sliding Upper Auger (LEGACY)	34
Auto-Gate Shut-Off Hydraulic Schematic	36
Auto-Gate Shut-Off Assembly	38
Auto-Gate Shut-Off Wiring Schematic	39
Lights and Wiring	40
5 Point Scale System	41
Inspection Windows	42
Miscellaneous	42
Door Wheel Assembly (2016 & Newer)	43
Roll Tarp Assembly	44
Spring Return Assembly.....	46
Disc Brake	47

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

EXPRESS WARRANTY:

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

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

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

This warranty does not cover a component which fails, malfunctions or is damaged as a result of (i) improper modification or repair, (ii) accident, abuse or improper use, (iii) improper or insufficient maintenance, or (iv) normal wear or tear. This warranty does not cover products that are previously owned and extends solely to the original purchaser of the product. Should the original purchaser sell or otherwise transfer this product to a third party, this 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: GC31t-1 Grain Cart **Serial No:** _____ **Date of Purchase:** _____

Purchased From: _____


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


TO THE OWNER:


The purpose of this manual is to assist you in operating and maintaining your 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.

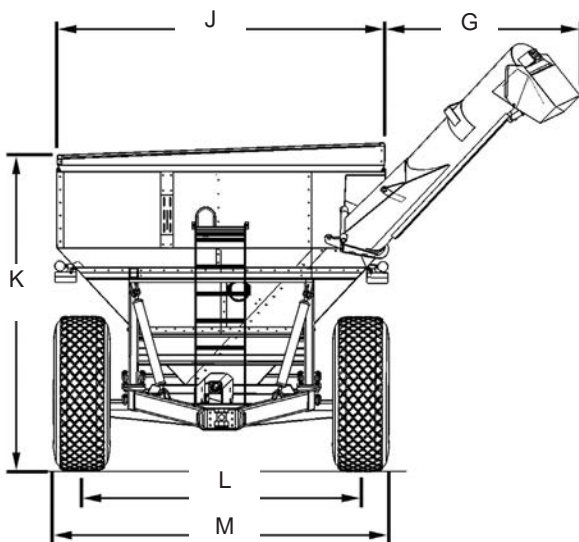
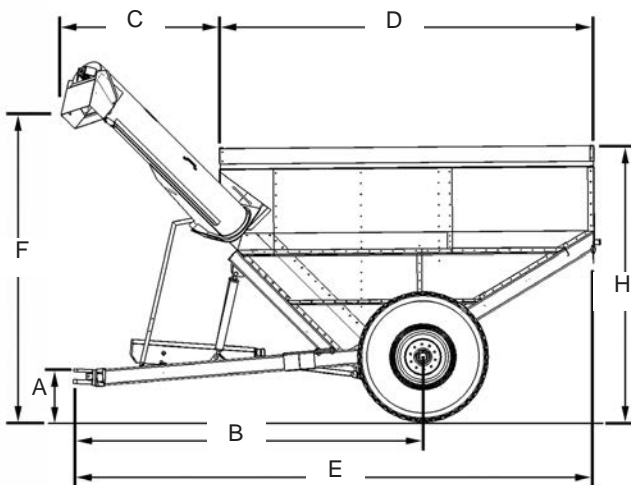
 **CAUTION** Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury.

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

NOTE Indicates helpful information.

Specifications

SPECIFICATIONS	GC24t-1	GC31t-1
Capacity	23,8 Tons (30,8 m3)	31,3 Tons (40,5 m3)
Auger, One Vertical	45,7 cm diameter	45,7 cm diameter
Unload Rate	11,3 tons (14,3 m3) per minute	11,3 tons (14,3 m3) per minute
Unload Time	2,1 minutes	2,8 minutes
Wheels	27x32 or 30x32	30x32 or 44x32
Tires	30.5x32 or 900/60R32 (176LI)	900/60R32 (185LI) or 76x50.00
Hubs	10 Bolt	10 Bolt
Spindle Size	11,4 cm diameter	15,2 cm diameter
PTO	1000 rpm	1000 rpm
Tongue Weight		
Empty	575 kg	1300 kg
Loaded	1700 kg	1900 kg
Total Weight (approx.)	4900 kg	6525 kg



DIMENSIONS

GC24t-1	GC31t-1
A 48,2 cm	45,7 cm
B 446 cm	574 cm
C 193 cm (standard) 221 cm (with HS-18) 235 cm (with HS-18XL)	237 cm (standard) 275 cm (with HS-18) 294 cm (with HS-18XL)
D 487,7 cm	670,6 cm
E 670 cm	901,7 cm
F 379 cm (standard) 412 cm (with HS-18) 429 cm (with HS-18XL)	410 cm (standard) 442 cm (with HS-18) 455 cm (with HS-18XL)
G 221 cm (standard) 259 cm (with HS-18) 276 cm (with HS-18XL)	181 cm (standard) 212 cm (with HS-18) 225 cm (with HS-18XL)
H 350,5 cm	370,8 cm
J 358,1 cm	358,1 cm
K 337 cm	353,1 cm
L 304,8 cm	289 cm to 304 cm
M 381 cm	380 cm to 431 cm

Specifications are subject to change without notice or obligation.

* Registered Trademark of J. & M. Mfg., Co., Inc.

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

Bolt Torque Chart

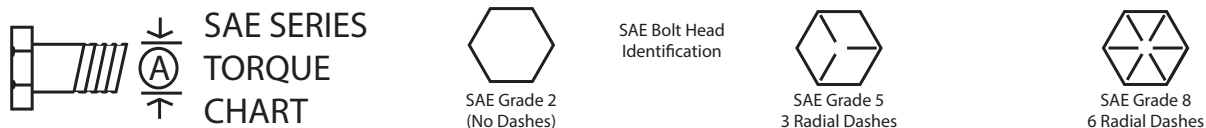
Always tighten hardware to these values unless a different torque or tightening procedure is listed for specific application.

Fasteners must always be replaced with the same grade as specified in the manual parts list.

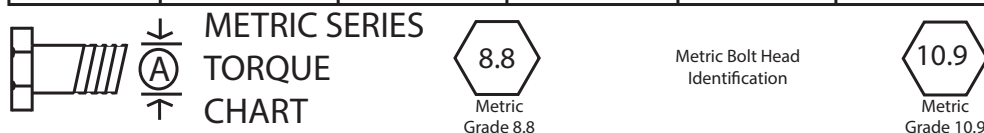
Always use the proper tool for tightening hardware: SAE for SAE hardware and Metric for Metric hardware.

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)



(A) Diameter (Inches)	Wrench Size	MARKING ON HEAD					
		SAE 2		SAE 5		SAE 8	
		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



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 tightened to torque 500 Ft.-Lbs and standard 22mm studs should be tightened to torque 700 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.

Safety Rules

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

Safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be erased by an operator's single careless act. In addition, hazard control and accident prevention are dependent upon the awareness, concern, judgment, and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.

Make certain that the operator(s), prior to operating is instructed in safe and proper use and reviews and understands the manual(s) pertaining to this machine. 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 or 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 Decals

⚠ 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.

⚠ DANGER

NEVER PLAY IN OR ON GRAIN CART

YOU CAN DIE IN SECONDS IN FLOWING GRAIN!

FLOWING GRAIN TRAPS AND SUFFOCATES VICTIM IN SECONDS!

SERIOUS INJURY OR DEATH CAN RESULT WITH ELECTRIC LINES. USE CARE WHEN MOVING OR OPERATING MACHINE NEAR ELECTRIC LINES TO AVOID CONTACT.

⚠ WARNING

Do not adjust, service, clear, or lubricate the machine until all power is shut off.

Keep all safety shields in place.

Keep people and objects clear of equipment before applying power or moving machine.

Before highway travel, secure a slow moving vehicle emblem to the rear of the machine in accordance to the state and local laws.

Make sure all flashers and turn/brake lights are working properly BEFORE incidental highway travel.

CHECK TIRE INFLATION Do not inflate tires more than 4 PSI over the recommended pressure printed on the side of the tire.

CHECK ALL WHEEL NUTS Dealer or manufacturer is not responsible for damage caused by loose wheel nuts.

HIGH-PRESSURE FLUID HAZARD To prevent serious injury or death:

- R relieve pressure on system before repairing, adjusting or disconnecting.
- W wear proper hand and eye protection when searching for leaks.
- K keep all components in good repair.

IMPORTANT

OPERATING INSTRUCTIONS

With the gate indicator in the closed position, fill the box with grain.

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

After auger is in the upright position, start the PTO at a SLOW RATE OF SPEED until the pin on the upper auger engages the drive dog on the bottom auger/follower to follow this procedure may cause extensive damage to both the drive dog and the pin.

Increase PTO speed to 1000 RPM and open inner gate until the pointer is in the halfway position. When grain begins flowing from the discharge auger, open gate to the full position.

Once the grain has ceased to flow, return the gate to the closed position (for complete clean-out, gradually close gate, allowing the opening to be reduced). Disengage the PTO and allow its rotation to come to a complete stop. Auger is now ready to be returned to the lowered position.

Do not operate or service machine until you read and understand operator's manual!

FOR FARM USE ONLY



2



3



4



5



6



7



8



9



10



11



12 & 13



14



15



16

Description	Part No.
1 Danger_Warning_Important	JM0037665
2 Danger, Keep Hands and Clothing Away Decal (Small)	JM0076817
3 Warning, Keep Hands Away Decal	JM0018039
4 Warning, Keep Lug Nuts Tightened Decal 1-5/8" x 4"	JM0010150
5 Danger, Keep Hands and Clothing Away Decal	JM0018035
6 Danger, Keep Off Ladder Decal	JM0018034
7 Danger, Electric Lines Decal	JM0015099
8 Danger, Do Not Enter Grain Tank Decal	JM0018033
9 Danger, Rotating Driveline Decal	JM0018036
10 Open Decal	JM0025433
11 Closed Decal	JM0025434
12 J&M Oval Decal (Large) 9-1/2" x 15"	JM0015151
13 J&M Oval Decal (Medium) 5-1/2"x8-1/2"	JM0010179
14 GC31t-1 OAS Stripe Complete	JM0046656
15 GC31t-1 AS Stripe Complete	JM0046655
16 Check PTO Overlap Decal	JM0025435



Initial Operation & 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, damages 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. Re-tighten 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 hitch setting. 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 the driveline. Not enough overlap may cause the PTO front and back halves to separate. From the fully compressed (shortest) length the PTO should be telescoped (extended) between 10" and 22". Different PTO lengths may need to be purchased to accommodate your terrain. A 4" shorter or a 10" longer PTO can be ordered through your dealer from J&M Manufacturing.

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:**

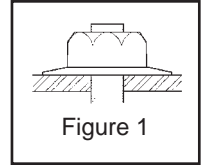
Tire Size	psi
900/60R32 Lug Tires, 193 Load Index Rating (Alliance)	67
1050/50R32 Lug Tires (185LI) (Alliance)	63
1250/50R32 Lug Tires (188B LI) (Firestone)	23

Operating Instructions

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 700 Lbs.-Ft. for standard 22mm wheel studs and nuts. Torque to 500 Lbs.-Ft. for 3/4" wheel studs and nuts. Torque to 350 Lbs.-Ft. for 5/8" 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.**



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?

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 812 and 24t-1 requires a 150+ HP tractor. Models 1012, 1112, 1122 and 31t-1 requires a 225+ HP tractor. Models 1222, and 1312 requires a 250+ HP tractor. Models 1412 and 1522 require a 300+ HP tractor.

⚠ IMPORTANT: Do NOT pull a 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 its 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 through one chain loop provided on either side of the grain cart frame 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

- 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.
- Do Not allow any more slack than necessary for articulation.
- Do Not use any intermediate support as the attaching point.
- Store the safety chain by securing it around the main axle A-frame of the grain cart.
- 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 10" 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.

Continues on next page.



Operating Instructions (Continued)

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 band) 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.

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.

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.

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 MAINTENANCE 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.

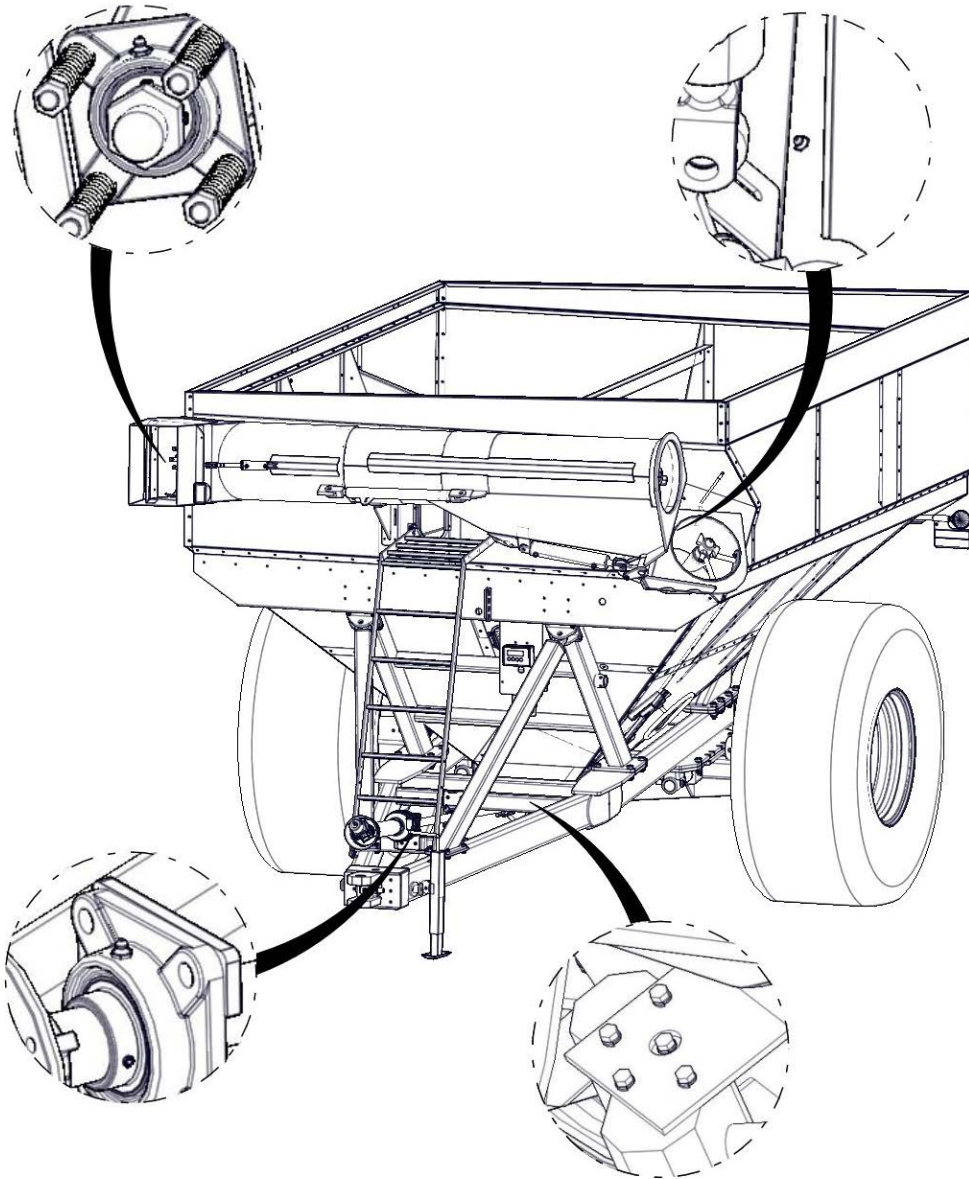
Lubrication Service Schedule

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

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.

Troubleshooting

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 (see pg. 15) Faulty Check Valve Upper flighting and lower flighting are locked together (see pg. 15)	Remove restrictor fittings from outside hydraulic cylinder and clean out dirt Replace Check Valve 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)
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. Re-tighten bolts. Remove the lower flighting assembly and place a shim between the spline coupler and the gearbox.
Excessive Vibration	Auger flighting or shaft is bent Drive shaft is bent	Straighten or replace auger flighting Replace or straighten drive shaft
Grain flow stoppage	Bolt sheared in drive dog Folding auger before complete stop Slip clutch not working properly PTO key sheared	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.) 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. Inspect slip clutch linings and replace if worn. 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 field position after unloading.
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

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 equivalent on the threads of the restrictor before re-attaching.

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

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.

1. Loosen the nut on the springs until the springs can rotate, yet remain secure on the bolts.
2. Place a mark on the outer plate of the slip-disc clutch.
3. Securely attach the PTO and the grain cart to the tractor and start the tractor.
4. Engage the PTO for several seconds then quickly disengage it.
5. Turn the tractor off.
6. 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.
7. Adjust the nuts on the springs to set the spring compression height to 1.27 inches (3,23cm).

Adjusting the Lower and Upper Flighting



WARNING

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

LOWER FLIGHTING

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. Re-tighten 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. 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 Lower and Upper Flighting

UPPER FLIGHTING

If the upper and lower augers 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.

Storage Preparation/Removing from Storage

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 its life.

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

STORAGE PREPARATION

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

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

Repair Parts & 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.

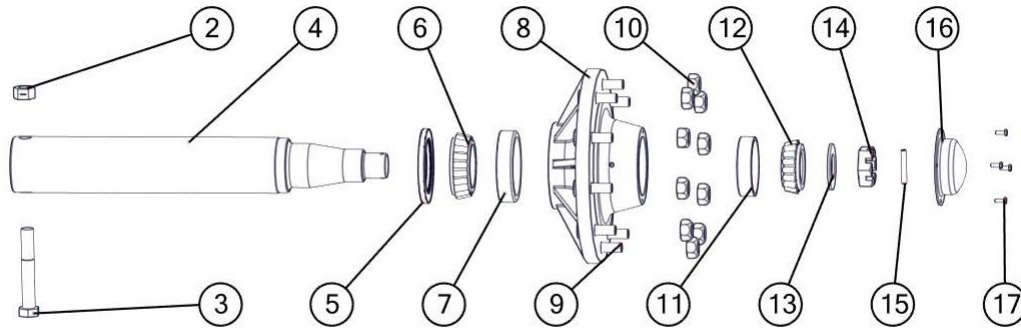
⚠ WARNING: MAKE SURE ALL POWER IS SHUT OFF BEFORE PERFORMING ANY MAINTENANCE OR REPAIR WORK.

Wheel Rims and Tires for Grain Carts

Description	Part No.
Wheel Rim, 10 hole, 32" x 30" (30x32-10)	JM0020005
32x36-10 Hole Wheels	JM0020052
40x32-10 Hole Wheels	JM0020056

Description	Part No.
900/60R32 Lug Tires (192D LI) (Alliance)	JM0047182
1050/50R32 Lug Tires (185LI) (Alliance)	JM0045024
1250/50R32 Lug Tires (188B LI) (Firestone)	JM0032060

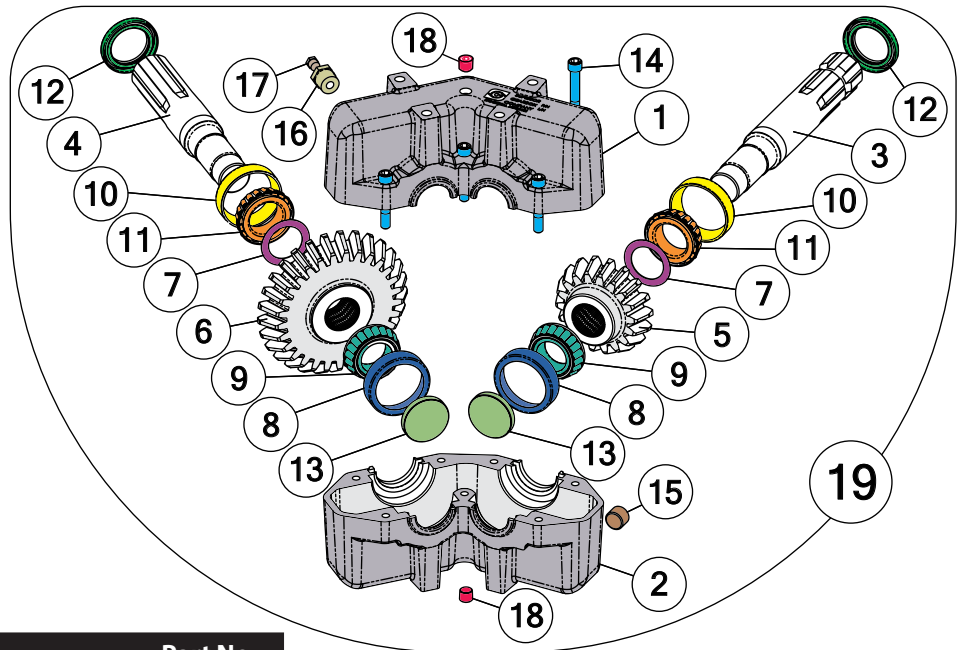
Hub & Spindle Assembly



Description	Part No.
1 G250-10 Hub, Spindle, and Bearings Assembly with 22mm Studs, Races and Nuts (HSA-1075-22)	JM0019927
2 1"-8 Gr5 Z Centerlock Hex Nut	JM0002149
3 1"-8 x 8" Gr5 Z Hex Bolt	JM0001487
4 Spindle, 6" x 29-3/4" (628)	JM0019102
5 Seal 55179 (Type C) for G250-10,G300-10B, Spring-assisted (CR55179)	JM0019179
6 Large Bearing (71455)	JM0019112
7 Large Race (25,000#) (71750)	JM0019198
8 Hub with races, 22mm studs & nuts (13.19 bolt circle) (11.13 pilot) (H25000)	JM0019300
9 Wheel Stud (22mm x 90mm) (22-MMS)	JM0019178
10 Wheel Nut 22mm with Washer (22-MMNW)	JM0019192
11 Small Race (25,000#) (653)	JM0019195
12 Small Bearing (663)	JM0019177
13 3/16" Spindle Washer (2.5" ID, 4.5" OD) (H25000) (EM-25M)	JM0019106
14 2-7/16"-12 Gr5 Z Slotted Spindle Nut (SF-2512)	JM0019108
15 3/8" x 3-1/2" Z Roll Pin (3754)	JM0020001
16 Dust Cap with Gasket (Bolt-on) 7-3/4" OD (D-25000)	JM0019109
17 1/4"-20 x 1" Gr5 Z Hex Bolt	JM0002095

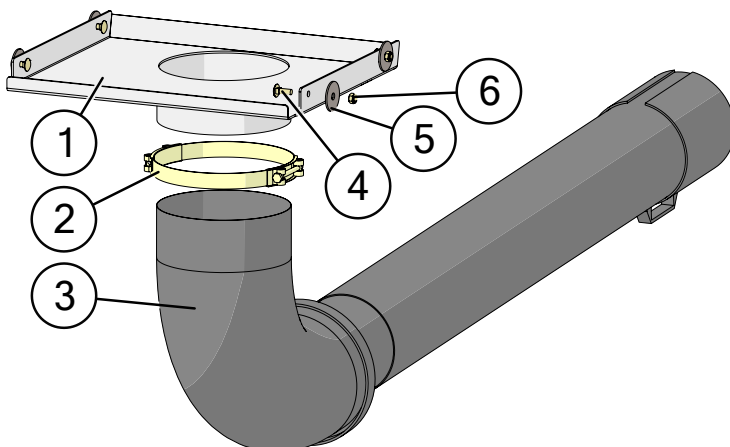
130 Degree Gearbox

Takes 24 ounces of SAE 80W-90 Gearbox Lubricant.



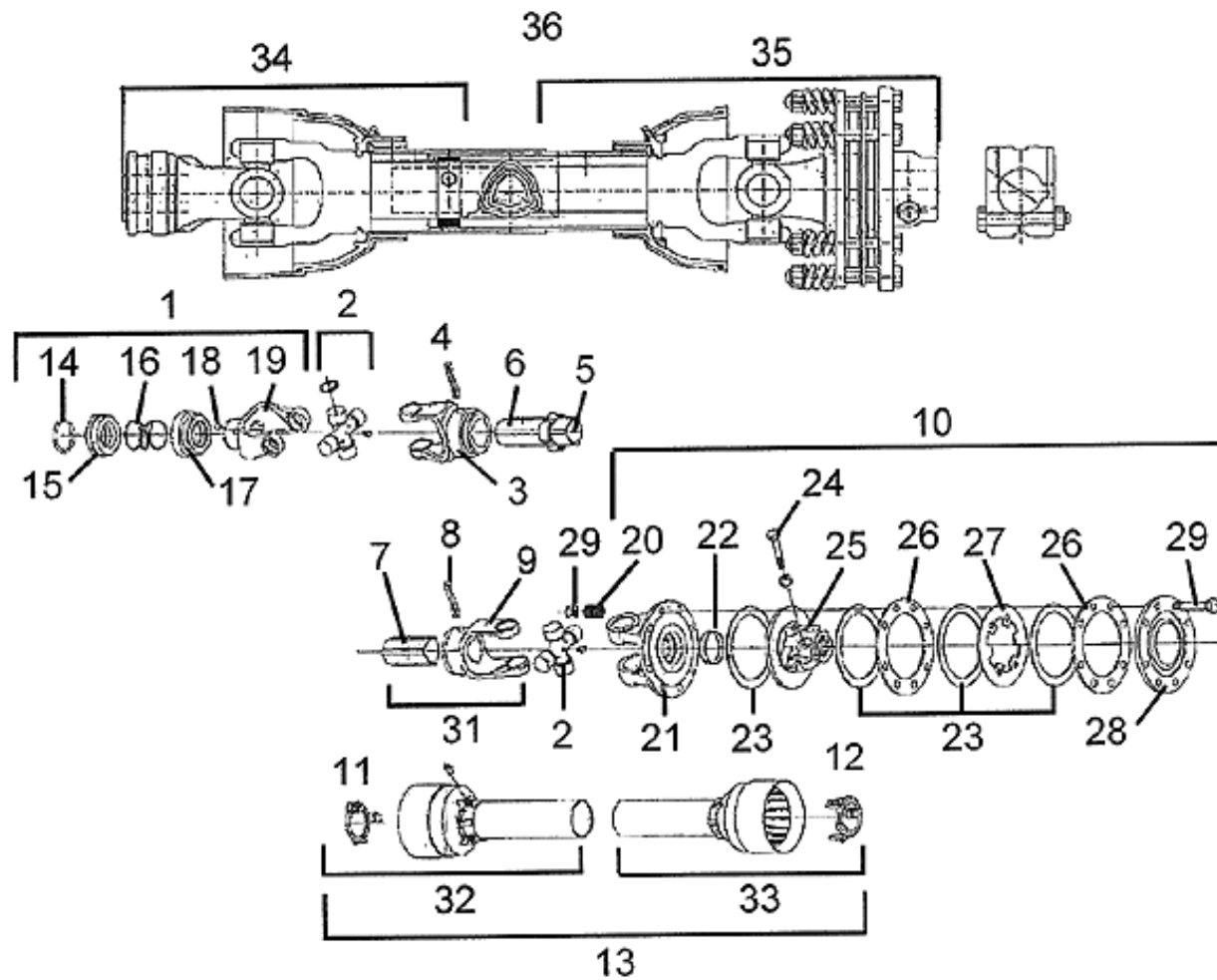
Description	Part No.
1 Casting, Upper Half for Superior Gearbox (18-20") (A0150)	JM0025088
2 Casting, Lower Half for Superior Gearbox (18-20") (A0149)	JM0025089
3 1-3/4" Input Shaft for Superior Gearbox (18-20") (A0142)	JM0025090
4 1-3/4" Output Shaft for Superior Gearbox (18-20") (A0143)	JM0025091
5 18 Tooth Gear for Superior Gearbox (18-20") (H61S18)	JM0025092
6 29 Tooth Gear for Superior Gearbox (18-20") (H61S29)	JM0025093
7 Shim, Arbor for Superior Gearbox (18-20") (H00101-01)	JM0025094
8 Bearing Cup for Superior Gearbox (14-20") (414276)	JM0025077
9 Bearing Cone for Superior Gearbox (14-20") (514137)	JM0025078
10 Bearing Cup for Superior Gearbox (18-20") (413620)	JM0025095
11 Bearing Cone for Superior Gearbox (18-20") (413687)	JM0025096
12 Seal for Superior Gearbox (18-20") (617285)	JM0025097
13 End Cap for Superior Gearbox (14-20") (400301)	JM0025076
14 2-1/4" Bolt for Superior Gearbox (438225)	JM0025085
15 Solid Plug for Superior Gearbox (14-20") (400300)	JM0025080
16 Bushing (1/2" x 1/4" reducer) for Superior Gearbox (4003VB)	JM0025073
17 Vented Plug for Superior Gearbox (2003PR)	JM0025081
18 Plain Plug for Superior Gearbox (200300)	JM0025075
19 130 Degree Gearbox Complete (Superior) (18-20) (H130-9)	JM0017840

Seed Discharge Attachment Option



Description	Part No.
1 24T, 31T Spout for Sliders to Seed Discharge Weldment	JM0042473
1 24T, 31T Spout to Seed Discharge Weldment	JM0077585
2 10" Diameter Hose Clamp (500ST)	JM0010502
3 10.0 dia x 12' Long 2 Stage Tele Spout with Handle	JM0030265
4 M10-1.5 x 30 Gr8.8 YZ Carriage Bolt	JM0037071
5 1/2" ID x 2-1/4" OD Flat Washer - 1/8" Thick	JM0019081
6 M10-1.5 Gr8.8 YZ Nylon Locking Hex Nut	JM0002162

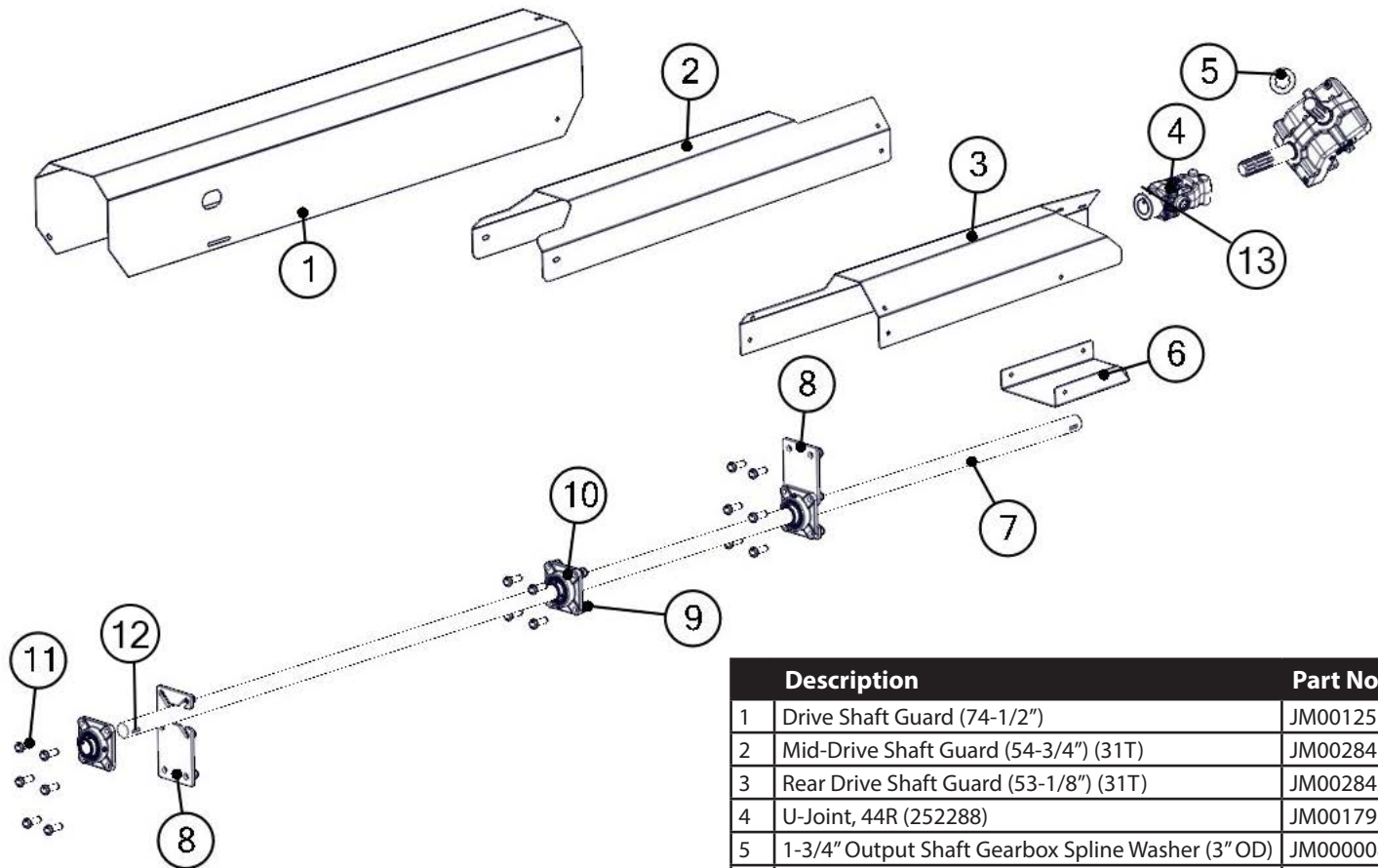
Power Take Off (PTO) Shaft Assembly



Description	Part No.
1 Complete Collar Yoke C15 (Comer) 1 3/4"-20 (28428)	JM0025180
1 Complete Collar Yoke C15 (Comer) 1-3/8" (28426)	JM0025181
2 Cross Journal Set (Comer PTO)(18130)	JM0025144
3 Outer Yoke (Comer PTO)(18133)	JM0025145
4 Roll Pin for Outer Tube (Comer PTO)(00243)	JM0025146
5 Bushing with grease nipple (Comer PTO)(18210)	JM0025147
6 Complete Outer Tube (Comer PTO)(30710)	JM0025148
7 Inner Tube (Comer PTO)(90010)	JM0025149
8 Roll Pin for Inner Tube (Comer PTO)(00271)	JM0025150
9 Inner Yoke (Comer PTO)(18134)	JM0025151
10 Complete Disc Clutch (Comer PTO)(84033)	JM0025152
11 Retain Collar for Outer Tube (Comer PTO)(19121)	JM0025153
12 Retain Collar for Inner Tube (Comer PTO)(19122)	JM0025154
13 Complete Guard (Comer PTO)(27820)	JM0025155
14 Outer Circlip (Comer PTO)(00452)	JM0025156
15 Sliding Sleeve Collar (Comer PTO)(16490)	JM0025157
16 Spring for Spring Lock Yoke (Comer PTO)(15107)	JM0025158
17 Fixed Sleeve (Comer PTO)(16489)	JM0025159
18 Ball 5/8" (Comer PTO)(00085)	JM0025160
19 Yoke C15 (Comer PTO)(18428)	JM0025161
20 Spring (Comer PTO) (Compression for Slip Clutch) 7/8" x 1-1/2"(14022)	JM0025162

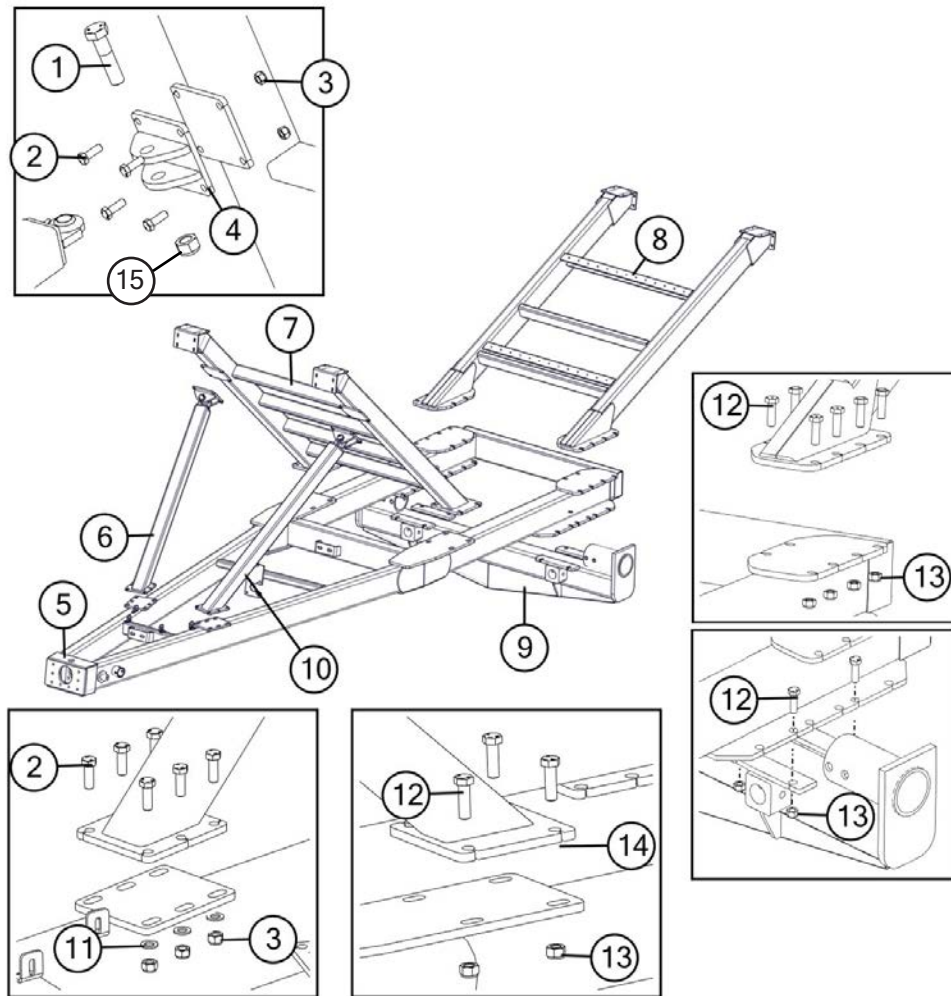
Description	Part No.
21 Flanged Yoke (Comer PTO)(18016)	JM0025163
22 Bushing (Comer PTO)(1909)	JM0025164
23 Lining Ring (Comer PTO) 3-1/2" ID x 6" OD(19018)	JM0025165
24 Metric Bolt (12 mm x 1-1/4 mm x 65 mm) & Lock Nut(00502)	JM0025166
25 Clutch Support F40 (Comer PTO)(18453)	JM0025167
26 Inner Plate (Comer PTO)(19014)	JM0025168
27 Intermediate Plate (Comer PTO)(19115)	JM0025169
28 Pressure Plate (Comer PTO) (19116)	JM0025170
29 Metric Bolt (10 x 1.5 x 100) & Nut (Comer PTO) (00548)	JM0025171
30 Female Tube & Yoke (Comer PTO) (80039)	JM0025172
31 Male Tube & Yoke with Roll Pin (Comer PTO) (80529)	JM0025173
32 Half Female Guarding (Comer PTO) (67820)	JM0025174
33 Half Male Guarding (Comer PTO) (37820)	JM0025175
34 Front Half PTO, 1-3/4" (Comer) (21110)	JM0025176
34 Front Half PTO, 1-3/8" (Comer) (21110-138)	JM0025177
34 Front Half PTO, 1-3/4" XL, (20 Spline) 4" Longer	JM0077173
35 Back Half PTO, 1-3/4" (Comer) Including Clutch (36510)	JM0025178
36 Complete 1-3/8" PTO (Comer) (103555)	JM0020021
36 Complete 1-3/4" PTO (Comer) (103600)	JM0020024
37 Tee Key for Plastic Retain Collar (PTK-2)	JM0025179

Driveline Assembly



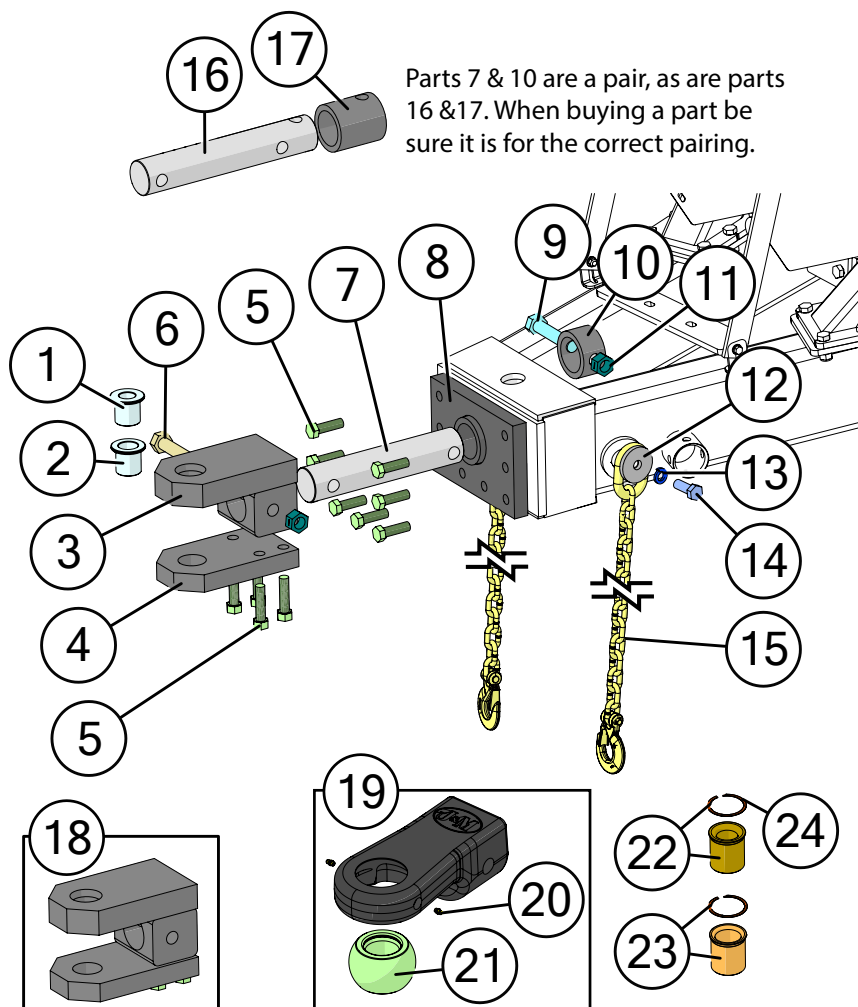
	Description	Part No.
1	Drive Shaft Guard (74-1/2")	JM0012517
2	Mid-Drive Shaft Guard (54-3/4") (31T)	JM0028415
3	Rear Drive Shaft Guard (53-1/8") (31T)	JM0028426
4	U-Joint, 44R (252288)	JM0017957
5	1-3/4" Output Shaft Gearbox Spline Washer (3" OD)	JM0000083
6	U-Joint Shield (14") (31T)	JM0028443
7	Drive Shaft 1-3/4" x 150"	JM0021345
8	Drive Shaft Support Plate (10-7/8")	JM0019550
9	M16-2 Gr8.8 YZ Nylon Locking Hex Nut	JM0002164
10	1-3/4" 4 Bolt Flange Bearing, 5/8" Bolt Hole	JM0018774
11	M16-2 x 45 Gr8.8 YZ Hex Bolt	JM0002116
12	3/8" x 1-1/2" Half Moon Key	JM0018772
13	3/8"-16 x 1/2" Hex Head Set Screw	JM0019044

Main Frame & Undercarriage Axle Assembly



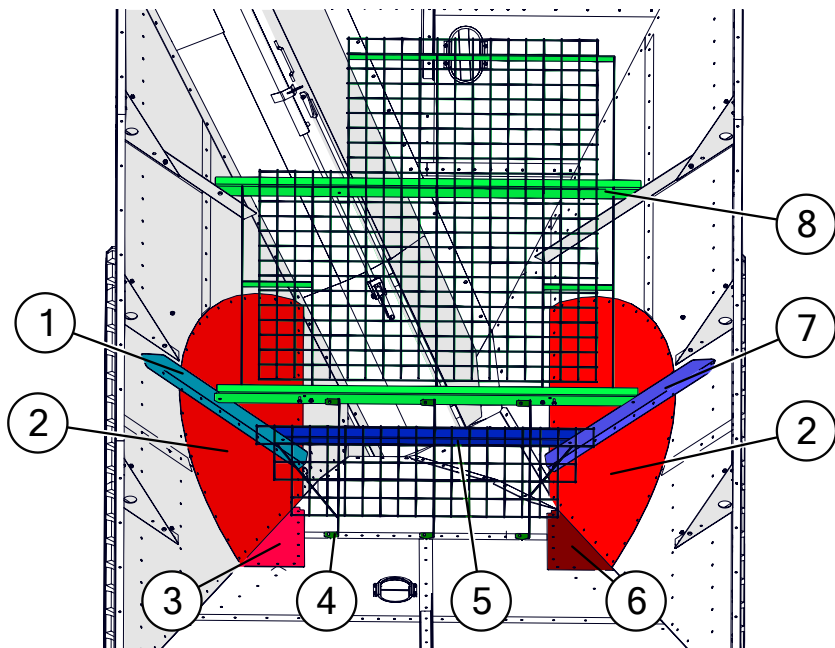
	Description	Part No.
1	M30-3.5 x 120 Gr8.8 YZ Hex Bolt	JM0002119
2	M16-2 x 45 Gr8.8 YZ Hex Bolt	JM0002116
3	M16-2 Gr8.8 YZ Nylon Locking Hex Nut	JM0002164
4	Ear Mount Weldment, Front Leg Brace	JM0017153
5	Main Frame Weldment (31T)	JM0000372
6	Turnbuckle Leg	JM0000370
7	Front Slope Frame Weldment (31T)	JM0000373
8	Rear Slope Frame Weldment (31T)	JM0000374
9	Standard Axle Weldment (31T)	JM0002627
10	Turnbuckle Leg	JM0000370
11	M16 Flat Washer	JM0002909
12	M24-3 x 75 Gr8.8 Hex Bolt	JM0002118
13	M24-3 Gr8.8 YZ Nylon Locking Hex Nut	JM0002165
14	M24 Flat Washer	JM0002788
15	M30-3.5 Gr8.8 YZ Nylon Locking Hex Nut	JM0002166

Hitch Assembly



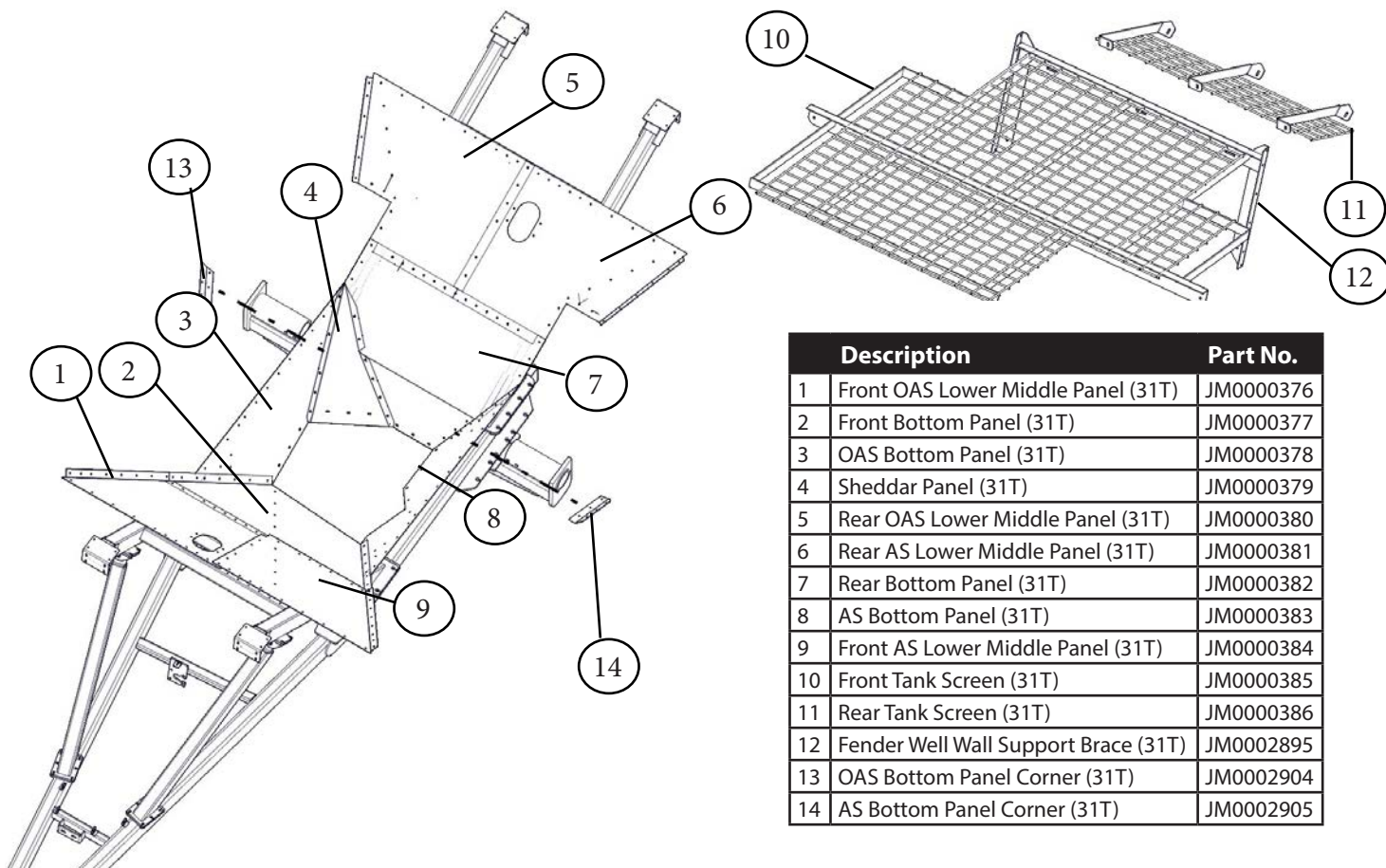
	Description	Part No.
1	1-1/4" Pin adapter for GC Spade Hitch (1 Adapter)	JM0019032
2	1-1/2" Pin adapter for GC Spade Hitch (1 Adapter)	JM0014203
3	Bolt On Spade Hitch with 2-1/4" Hourglass Pin Hole	JM0017978
4	Tang with 4 Bolts (2-1/4" Hourglass Pin Hole)	JM0017976
5	3/4"-16 x 3" Gr8 YZ Fine Thread Hex Bolt	JM0002107
6	1"-8 x 8" Gr8 YZ Hex Bolt	JM0042652
7	2-7/8" x 14" Non-Scale Hitch Bar	JM0025787
8	2-7/8" Hitch Spool Plate (HSPS-2)	JM0025783
9	1"-8 x 5" Gr5 Z Hex Bolt	JM0016688
10	2-7/8" Diameter Hitch Spindle Collar	JM0025785
11	1"-8 Gr2 Z Centerlock Hex Nut	JM0002149
12	3/8" x 3" OD x 3/4" ID Safety Chain Washer	JM0016798
13	3/4" Split Lock Washer	JM0002436
14	3/4"-10 x 2" Gr5 Z Hex Bolt	JM0002106
15	40k Lb Safety Chain	JM0029261
16	2-7/8" x 15-7/8" Non-Scale Hitch Bar	JM0025227
17	2-7/8" Diameter Hitch Spindle Collar 4-1/4" Long	JM0077508
18	Clevis Bolt-On Hitch Assembly (2-1/4" Hourglass Pin Hole)	JM0018191
19	2-7/8" Cast Swivel Ball Spade Hitch CAT 4 - 2" Pin (GC)	JM0076296
20	CAT 4 (2") Swivel Hitch Ball	JM0077126
21	1/4"-28 Male, 0.547 Length, Zinc Grease Fitting	JM0074580
22	Swivel Hitch CAT 4 to CAT 2 (1-1/4") Sleeve Kit	JM0077917
23	Swivel Hitch CAT 4 to CAT 3 (1-1/2") Sleeve Kit	JM0077906
24	2-1/4" Housing Diameter VH-225-S02 Retaining Ring	JM0077338

Lower and Mid Level Track Parts



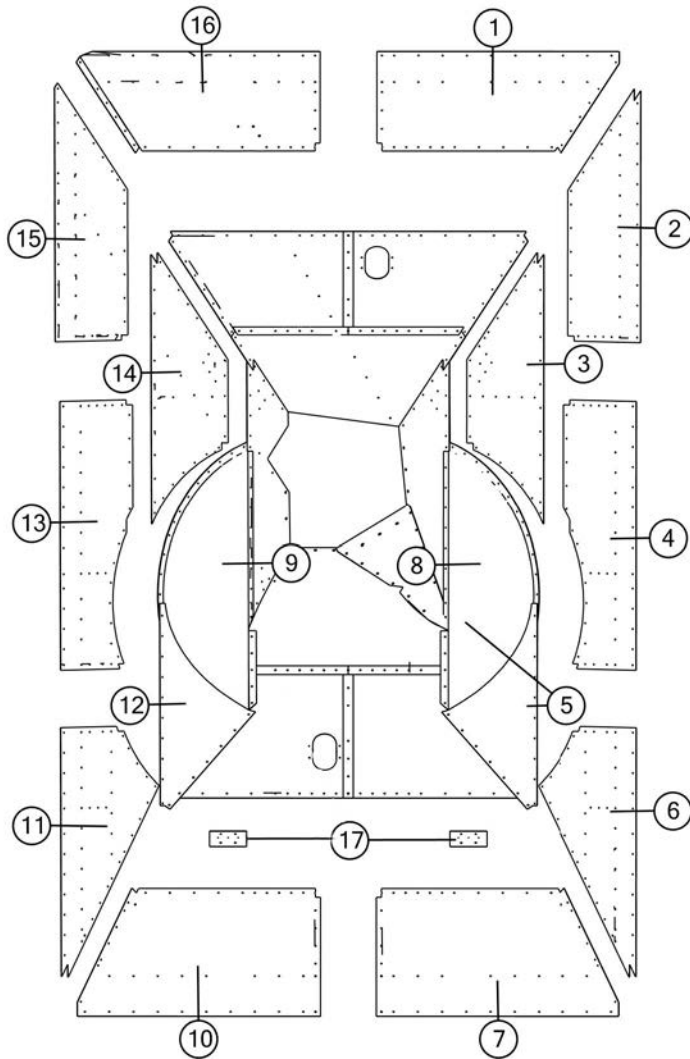
Description	Part No.
1 GC31T Track Large Side Slope Brace (AS)	JM0021479
2 GC31T Track Big Wheel Well Fill	JM0021467
3 GC31T Track Small Wheel Well Fill (AS)	JM0021482
4 GC31T Track Rear Tank Screen	JM0021483
5 GC31T Track Lower Cross Brace	JM0021485
6 GC31T Track Small Wheel Well Fill (OAS)	JM0021486
7 GC31T Track Large Side Slope Brace (OAS)	JM0021470
8 GC31T Track Tank Screen	JM0021463

Lower Level Tank Panels



Description	Part No.
1 Front OAS Lower Middle Panel (31T)	JM0000376
2 Front Bottom Panel (31T)	JM0000377
3 OAS Bottom Panel (31T)	JM0000378
4 Sheddar Panel (31T)	JM0000379
5 Rear OAS Lower Middle Panel (31T)	JM0000380
6 Rear AS Lower Middle Panel (31T)	JM0000381
7 Rear Bottom Panel (31T)	JM0000382
8 AS Bottom Panel (31T)	JM0000383
9 Front AS Lower Middle Panel (31T)	JM0000384
10 Front Tank Screen (31T)	JM0000385
11 Rear Tank Screen (31T)	JM0000386
12 Fender Well Wall Support Brace (31T)	JM0002895
13 OAS Bottom Panel Corner (31T)	JM0002904
14 AS Bottom Panel Corner (31T)	JM0002905

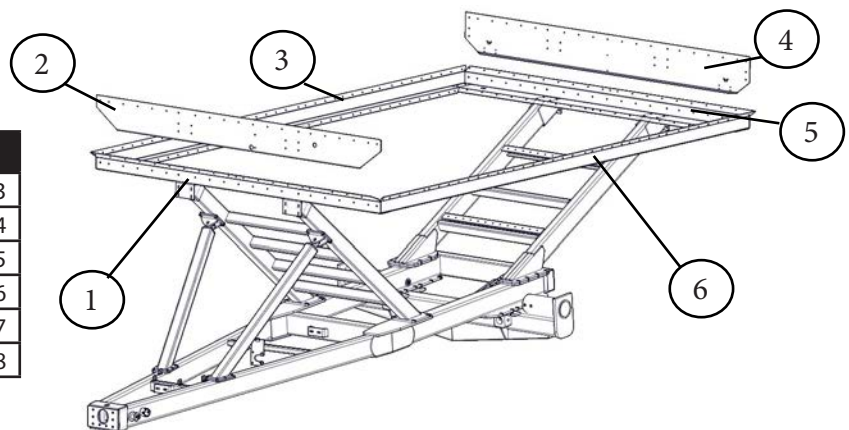
Mid-Level Tank Panels



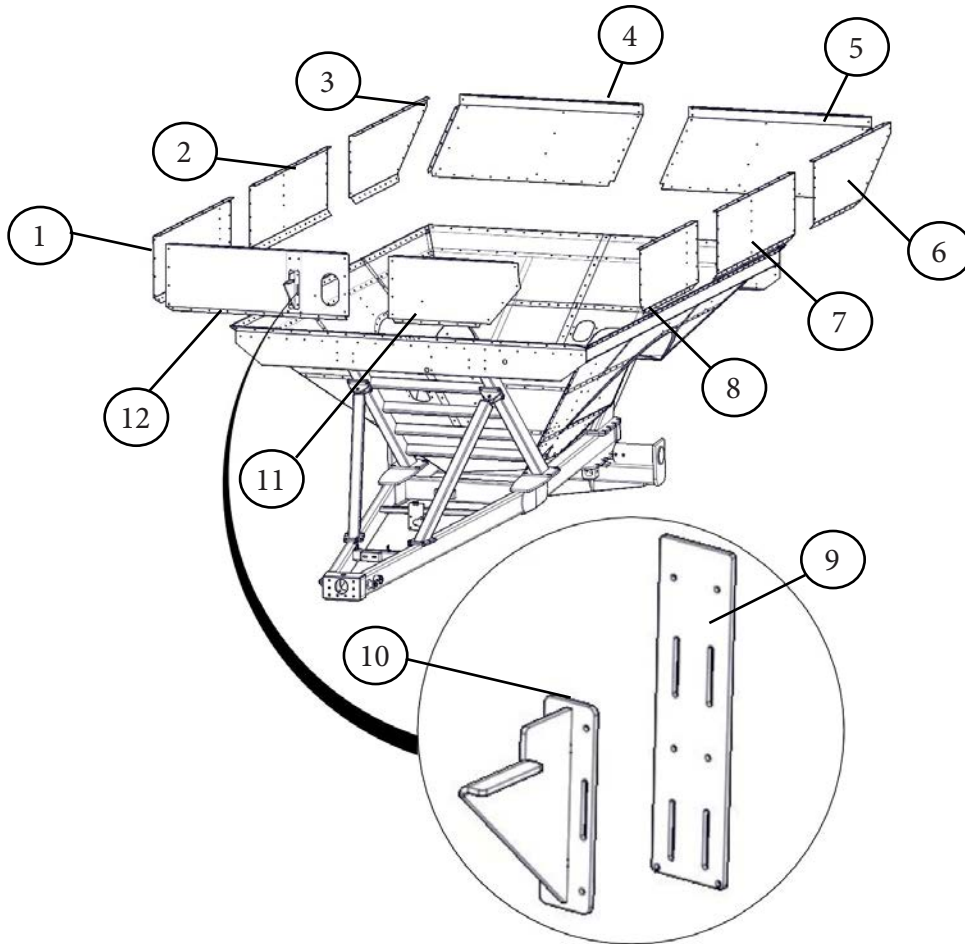
	Description	Part No.
1	Front OAS Upper Middle Panel (31T)	JM0000387
2	OAS Front Upper Middle Panel (31T)	JM0000388
3	OAS Front Lower Middle Panel (31T)	JM0000389
4	OAS/AS Center Upper Middle Panel (31T)	JM0000390
5	OAS Rear Sheddar Panel (31T)	JM0000391
6	OAS/AS Rear Upper Middle Panel (31T)	JM0000392
7	Rear OAS Upper Middle Panel (31T)	JM0000393
8	OAS Wheel Well (31T)	JM0000394
9	AS Wheel Well (31T)	JM0000395
10	Rear AS Upper Middle Panel (31T)	JM0000396
11	OAS/AS Rear Upper Middle Panel (31T)	JM0000392
12	AS Wheel Well Sheddar Panel (31T)	JM0000398
13	OAS/AS Center Upper Middle Panel (31T)	JM0000390
14	AS Front Lower Middle Panel (31T)	JM0000400
15	AS Front Upper Middle Panel (31T)	JM0000401
16	Front AS Upper Middle Panel (31T)	JM0000402
17	Wheel Well Corners (11" x 3")	JM0002891

Rail Assembly

	Description	Part No.
1	Front Rail 138" x 12-5/8" (31T)	JM0000403
2	Front End Panel Brace 138" x 14" (31T)	JM0000404
3	OAS Rail 228" x 10-1/4" (31T)	JM0000405
4	Rear End Panel Brace 138" x 16-1/2" (31T)	JM0000406
5	Rear Rail 138" x 17-7/8" (31T)	JM0000407
6	AS Rail 227-3/5" x 12-3/10" (31T)	JM0000408

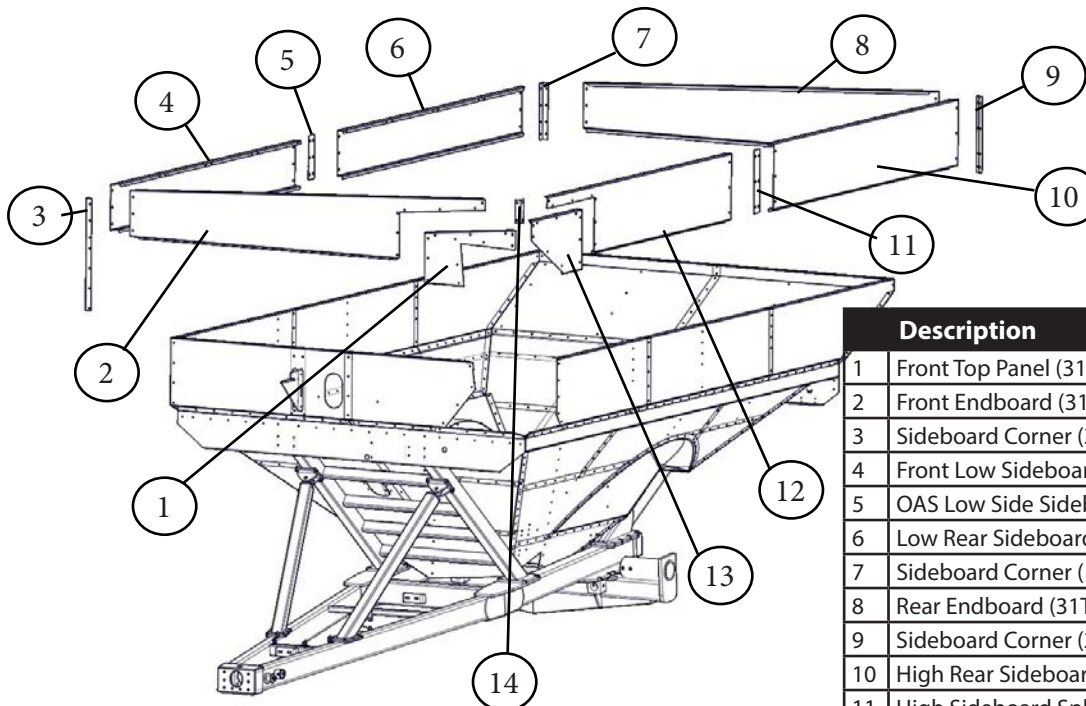


Upper Level Tank Panels



	Description	Part No.
1	OAS Front Top Panel (31T)	JM0000409
2	OAS Center Top Panel (31T)	JM0000410
3	OAS Rear Top Panel (31T)	JM0000411
4	Rear OAS Top Panel (31T)	JM0000412
5	Rear AS Top Panel (31T)	JM0000413
6	AS Rear Top Panel (31T)	JM0000414
7	AS Center Top Panel (31T)	JM0000415
8	AS Front Top Panel (31T)	JM0000416
9	Adjustable Auger Rest Pad (31T)	JM0000417
10	Triangle Auger Rest	JM0000068
11	Front AS Top Panel (31T)	JM0000419
12	Front OAS Top Panel (31T)	JM0000420

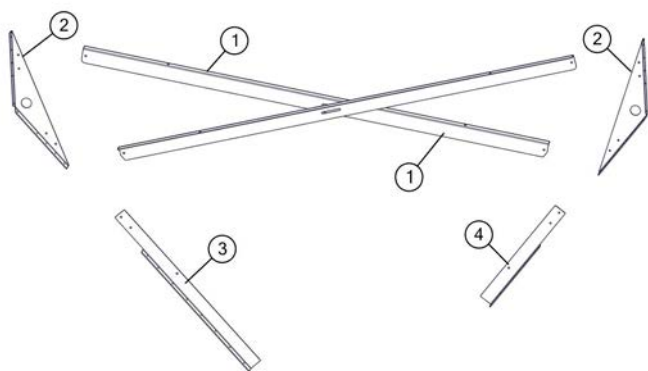
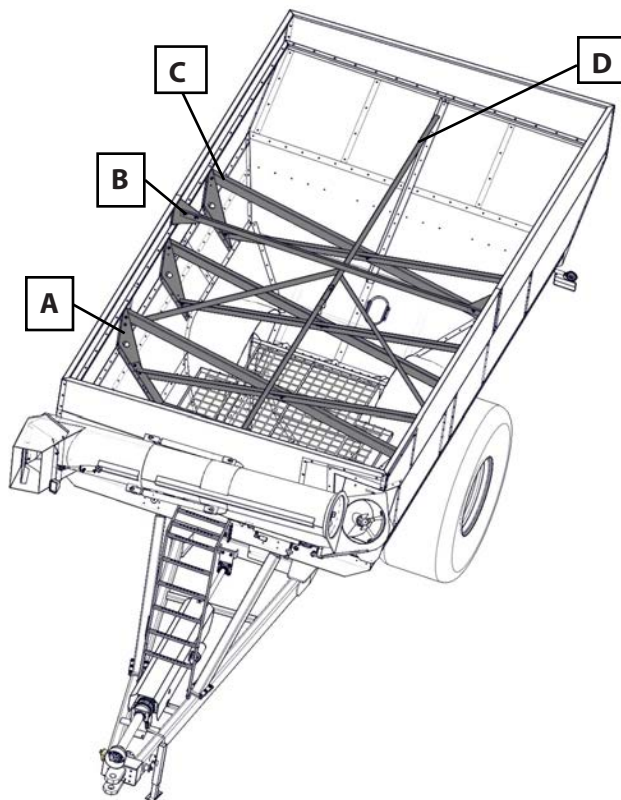
Sideboards



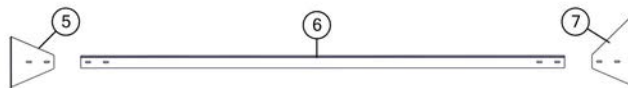
	Description	Part No.
1	Front Top Panel (31T)	JM0002753
2	Front Endboard (31T)	JM0002751
3	Sideboard Corner (39" x 2" x 2")	JM0002758
4	Front Low Sideboard (31T)	JM0002760
5	OAS Low Side Sideboard Splice Plate 15-1/2" x 4"	JM0015093
6	Low Rear Sideboard (31T)	JM0002762
7	Sideboard Corner (19-5/8" x 2" x 2")	JM0002759
8	Rear Endboard (31T)	JM0002763
9	Sideboard Corner (26-5/8") (31T)	JM0002756
10	High Rear Sideboard (31T)	JM0002764
11	High Sideboard Splice Plate (22-1/4" x 4") (31T)	JM0015091
12	High Front Sideboard (31T)	JM0002765
13	AS Small Front Panel (31T)	JM0002754
14	Sideboard Corner (8" x 2" x 2")	JM0002757

Interior Tank Braces

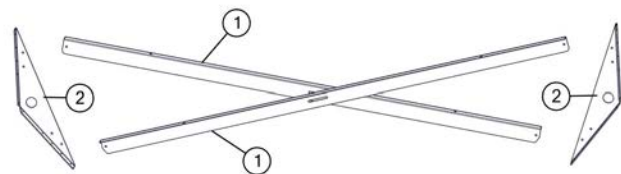
Description	Part No.
1 31T X-Bracing	JM0002673
2 31T Side Tri Gusset	JM0002674
3 31T OAS Slope Brace	JM0002675
4 31T AS Slope Brace	JM0002676
5 Low Sideboard Brace End 15" (1150, 1112, GC31t-1)	JM0015083
6 Sideboard Brace (1000-1151)(31T)	JM0002678
7 High Sideboard Brace End 22" (1150, 1112, GC31t-1)	JM0002679
8 31T Front Slope Brace	JM0002680
9 31T Front Gusset	JM0002681
10 Front-To-Rear Brace (Male) (31T) 141"	JM0002682
11 Front-to-Rear Assist Bracing (31T) 98" x 2-3/4"	JM0002684
12 Front-to-Rear Brace(Female) (31T) 140-1/2"	JM0002685
13 Rear Slope Brace (31T) 83-1/2"	JM0002686



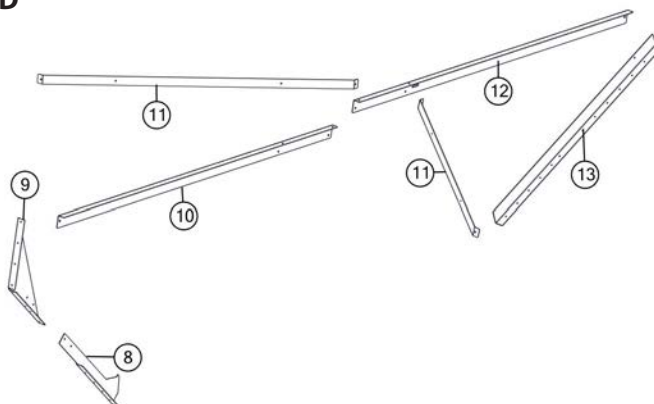
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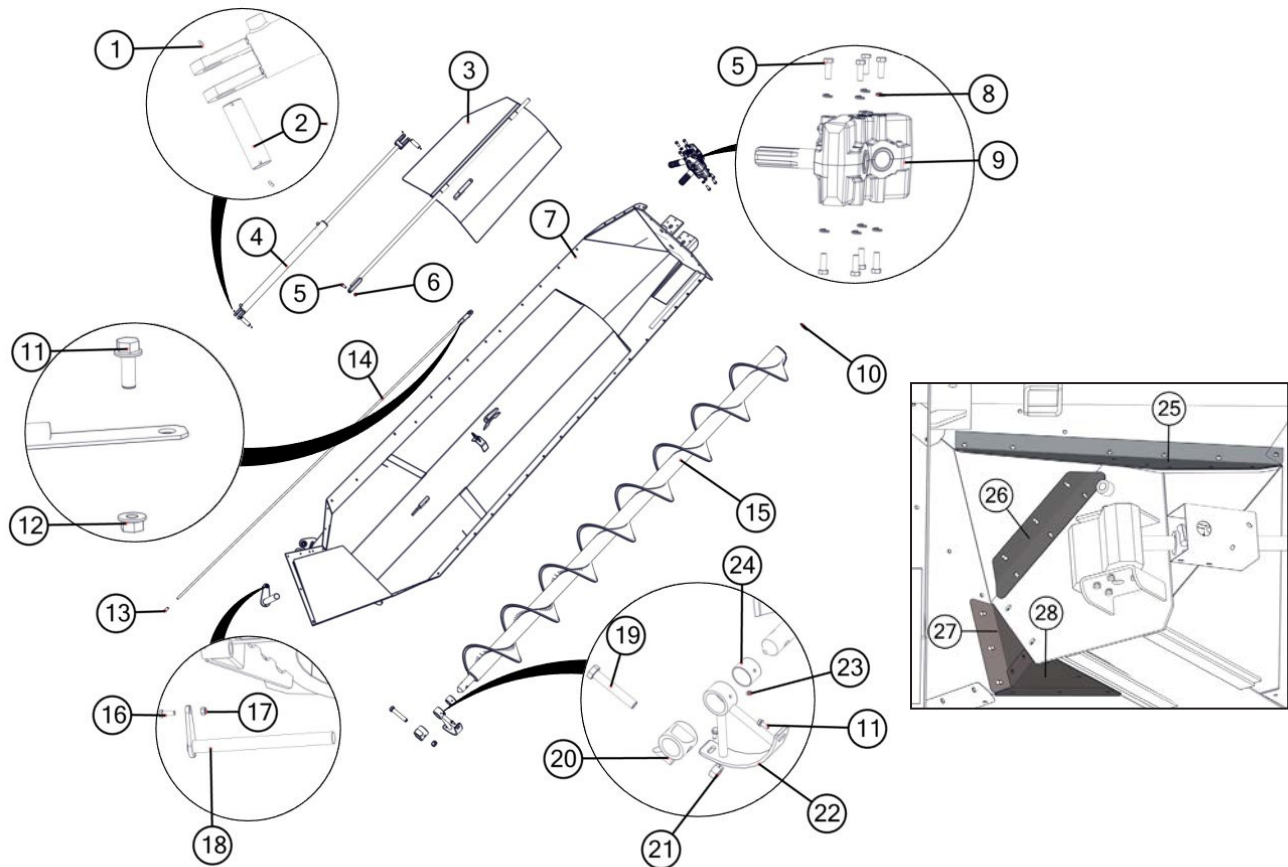


C



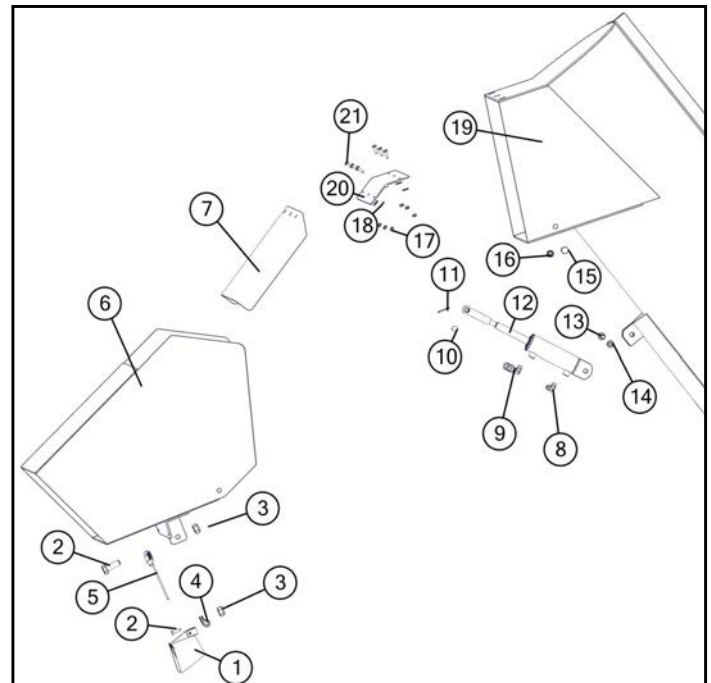
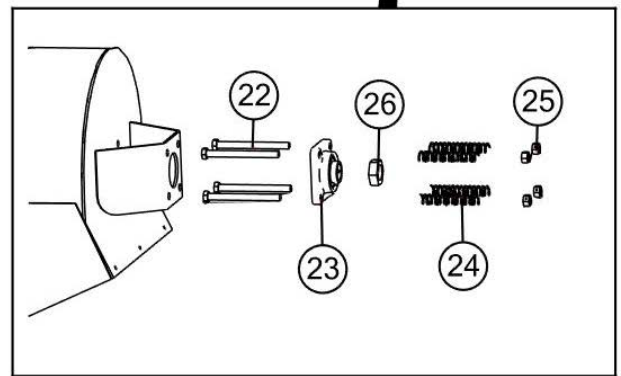
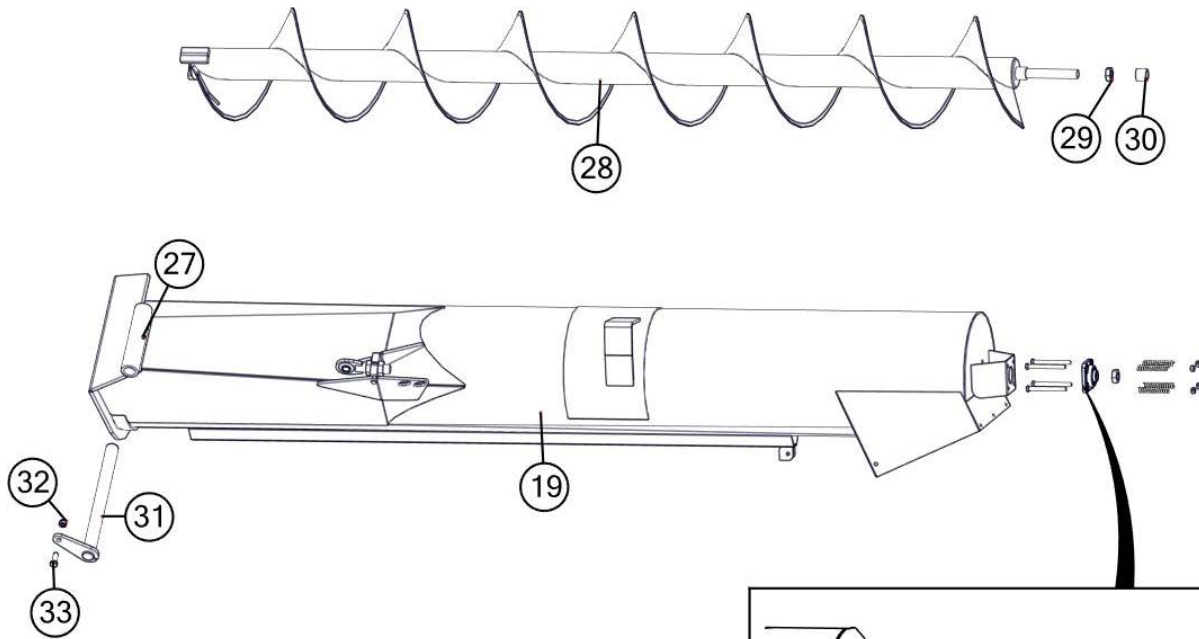
D

Lower Auger & Tube Assembly



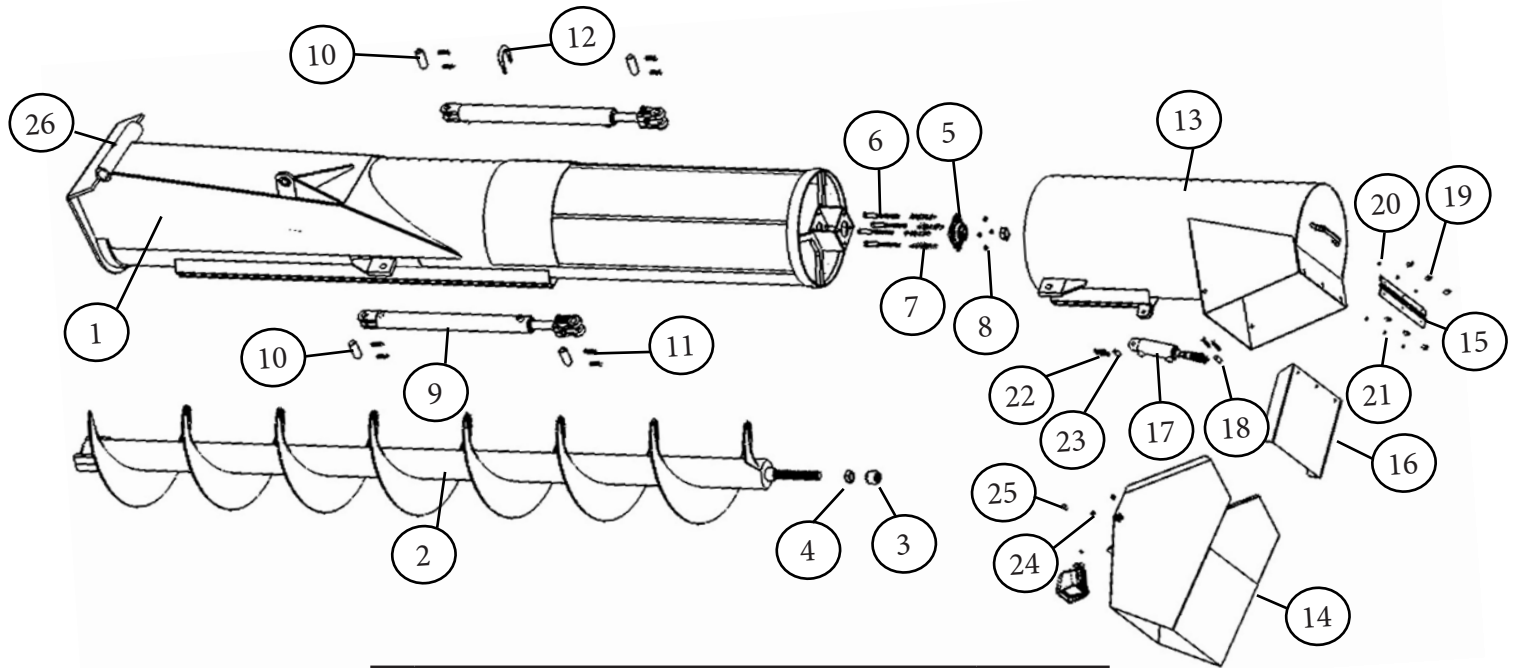
Description	Part No.
1 1" x 3" Cotter Pin	JM0003064
2 1" x 3-2/5" Clevis Pin	JM0001816
3 Inner Gate (24t)	JM0000076
4 2" x 36" Hydraulic Cylinder (JD236)	JM0018523
5 1/2"-13 x 1-1/2" Gr5 Z Hex Bolt	JM0002100
6 1/2"-13 Gr5 Z Hex Nut	JM0002124
7 18" Lower Auger Tube Housing (31T)	JM0016124
8 1/2" Split Lock Washer	JM0016059
9 130 Degree Gearbox Complete (Superior) (18-20") (H130-9)	JM0017840
10 1-3/4" Output Shaft Gearbox Spline Washer (3" OD)	JM0000083
11 M10-1.5 x 25 Gr 8.8 YZ SF Hex Bolt	JM0002093
12 M10 x 1.50 Gr8.8 YZ SF Hex Nut	JM0002154
13 S-Cap Yellow - 1/2" ID x 1-1/4" x 0.065" (REC-1)	JM0016842
14 Indicator Rod 132" (31T)	JM0018424
15 GC31T 18" Lower Auger 147-5/8" Long	JM0018425
16 M16-2 x 45 Gr8.8 YZ Hex Bolt	JM0002116
17 M16-2 Gr8.8 YZ Nylon Locking Hex Nut	JM0002164
18 1-3/4" x 21" Pivot Pin	JM0016377
19 1"-8 x 6" Gr5 Z Hex Bolt	JM0002111
20 Drive Dog Weldment, 2-1/2" ID (18" & 20") (DDW-21218)	JM0000093
21 1"-8 Gr5 Z Centerlock Hex Nut	JM0002149
22 Hanger Bushing Assembly (18") (includes bronze bushing) (HBA-18)	JM0000090
23 1/8" NPT Grease Zerk (1610BL)	JM0009756
24 2-1/2" ID Bronze Bushing (BB-212)	JM0016841
25 Gearbox Top Plate (31T)	JM0002669
26 Gearbox-Inside Sheddar Panel Splice Plate (31T)	JM0002670
27 Gearbox-Rear Slope Splice Plate (31T)	JM0002671
28 Gearbox-Auger Side Slope Splice Plate	JM0001672

Upper Auger Assembly



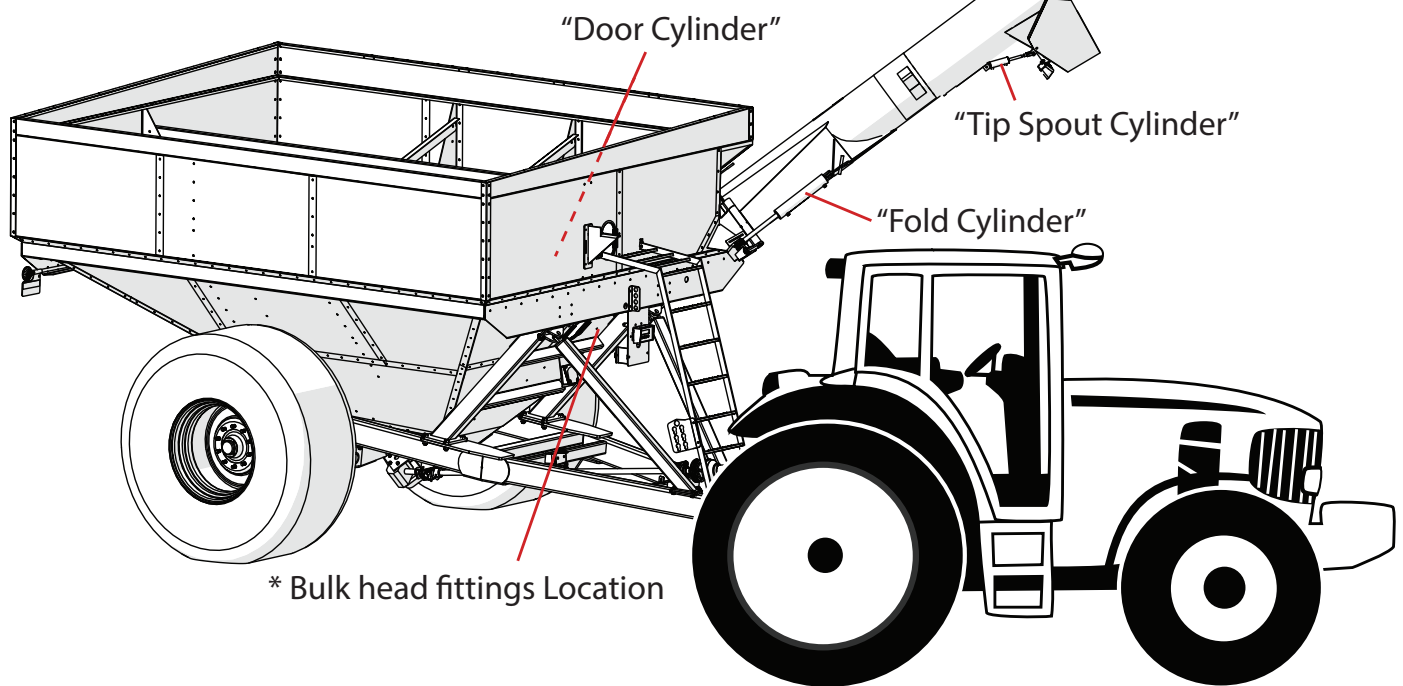
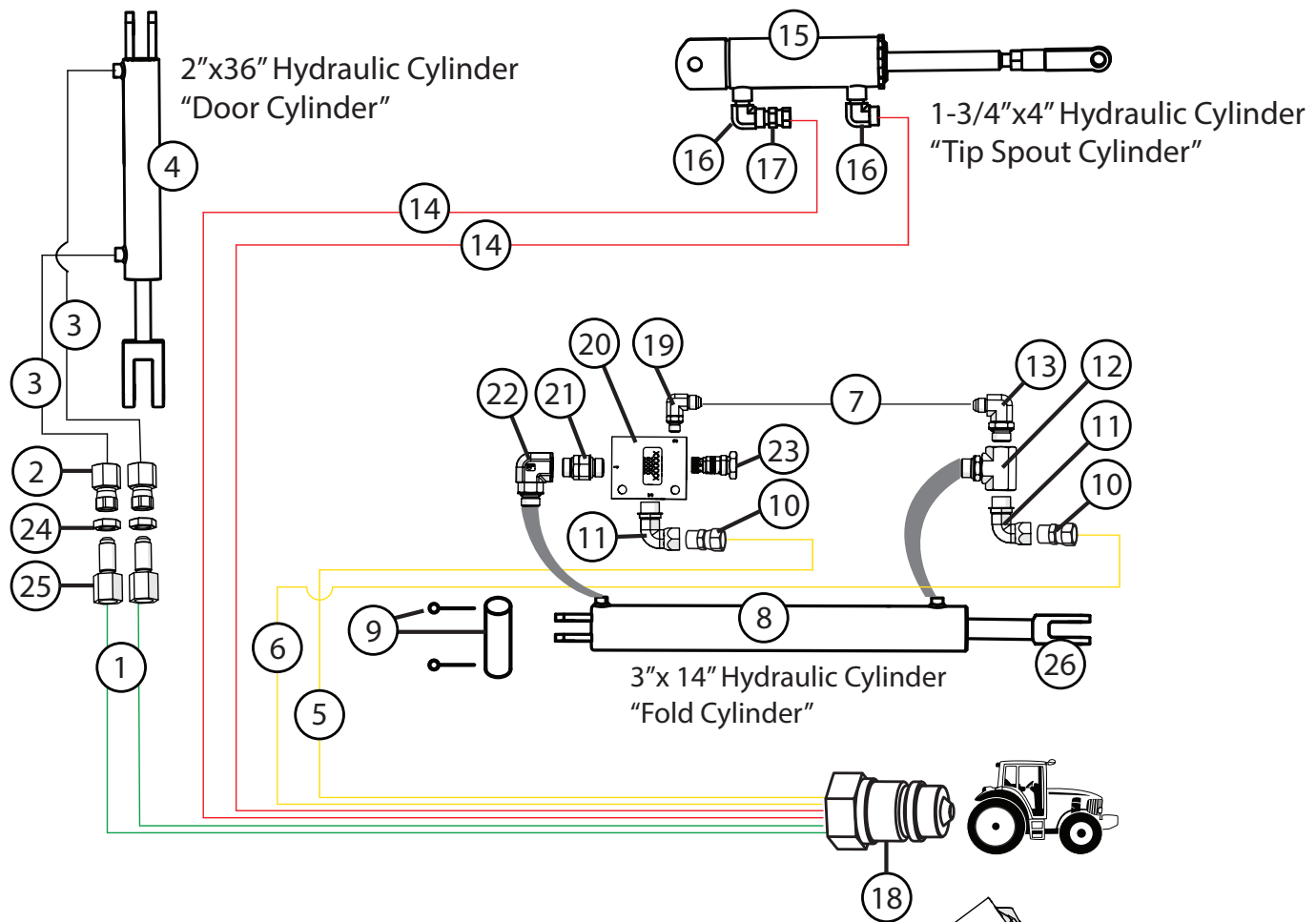
Description	Part No.
1 LED Field Light	JM0001881
2 M10-1.5 x 20MM Gr8.8 YZ Hex Bolt	JM0000100
3 M10-1.5 Gr8.8 YZ Nylon Locking Hex Nut	JM0002162
4 Loom Clamp (1/4" hole size) (LCMS-1)	JM0000102
5 Mercury Switch (MS-1)	JM0017896
6 Flow Control Spout Housing (18") (FSH-18NS)	JM0018335
7 Baffle Plate (18") for Flow Control Spout (rectangular) (BP-18NS)	JM0013373
8 1/4" Male NPTSwivel with .032 Orifice (restrictor)	JM0020113
9 1/4" Male NPT x 1/4" Female NPT, 90 Degree Elbow	JM0020115
10 1/2" x 1-3/4" Clevis Pin, Usable Length 1-1/2"	JM0018264
11 1" x 3" Cotter Pin	JM0003064
12 1-3/4" x 4" Hydraulic Cylinder (1/2" Clevis and Tab ends)	JM0018564
12 Seal Kit for 1-3/4" x 4" Hydraulic Cylinder	JM0024892
13 M12-1.75 x 50 Gr8.8 YZ Hex Bolt	JM0001490
14 M12-1.75 Gr8.8 YZ Nylon Locking Hex Nut	JM0002163
15 M12-1.75 x 50 Gr8.8 YZ Hex Bolt	JM0001490
16 M12-1.75 Gr8.8 YZ Nylon Locking Hex Nut	JM0002163
17 M6 x 1.0 Gr8.8 YZ Nylon Locking Hex Nut	JM0002167
18 8.8M6 Flat Washer	JM0019447
19 18" Upper Auger Housing	JM0000117
20 Hinge Plate - 18" (HP-18)	JM0018432
21 M6 x 1.0 x 20MM Grade 8.8 Hex Bolt	JM0002120
22 1/2"-13 x 5-1/2" Gr5 Z Hex Bolt	JM0001498
23 1-1/4" Flange Bearing, 4 Hole (GRAF-206)	JM0018560
24 4-1/2" Compression Spring (CMSUAA-4)	JM0018559
25 1/2"-13 Gr5 Z Centerlock Hex Nut	JM0001511
26 1-1/4"-7 Gr5 Z Centerlock Hex Nut	JM0002150
27 1/8" NPT Grease Zerk (1610BL)	JM0009756
28 Upper Flighting complete, R/H (18) (UF-18)	JM0018356
29 1-1/2" Bearing Spacer	JM0016920
30 1-1/2" Long Spacer (1.28" ID, 1-3/4" OD, .235" Thick)	JM0016792
31 1-3/4" x 21" Pivot Pin	JM0016377
32 M16-2 Gr8.8 YZ Nylon Locking Hex Nut	JM0002164
33 M16-2 x 45 Gr8.8 YZ Hex Bolt	JM0002116

Sliding Upper Auger, Tube & Flow Control Spout Assembly



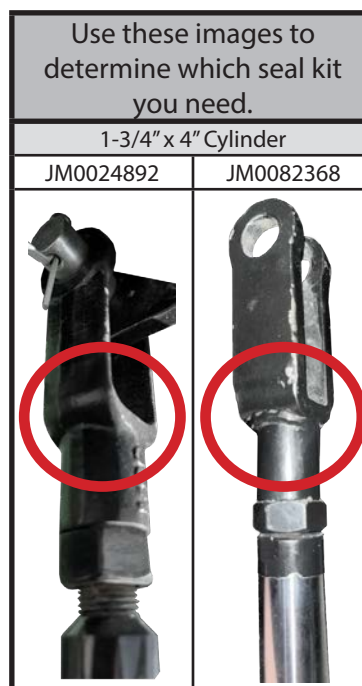
	Description	Part No.
1	18" Upper Auger Housing, Lower	JM0000129
1	Upper Auger Housing, Lower XL Slider	JM0031842
2	Upper Flighting complete, Slider R/H	JM0000126
2	Upper Flighting Complete XL (UF- 18- 126-5/8"- RH)	JM0031881
3	1-1/2" Bearing Spacer	JM0016920
4	1-1/4"-7 Gr5 Z Centerlock Hex Nut	JM0002150
5	1-1/4" Flange Bearing, 4 Hole (GRAF-206)	JM0018560
6	1/2"-13 x 5-1/2" Gr5 Z Hex Bolt	JM0001498
7	4-1/2" Compression Spring (CMSUAA-4)	JM0018559
8	1/2"-13 Gr5 Z Centerlock Hex Nut	JM0001511
9	2" x 24" Hydraulic Cylinder (JD20024)	JM0018210
9	Seal Kit for 2" x 24" Hydraulic Cylinder (JD244)	JM0024894
10	1" x 3-2/5" Clevis Pin	JM0001816
11	1" x 3" Cotter Pin	JM0003064
12	3/8" Round U-Bolt 2" Pipe Size Extended	JM0018627
13	Upper Auger Housing for 18" Slider	JM0000141
14	18" Flow Control Spout Housing for Slider	JM0000104
15	18" Hinge Plate for Slider	JM0000143
16	18" Baffle Plate for Slider	JM0000144
17	1-3/4" x 4" Hydraulic Cylinder (1/2" Clevis and Tab ends)	JM0018564
18	1/2" x 1-3/4" Clevis Pin, Usable Length 1-1/2"	JM0018264
19	M6 x 1.0 x 20MM Grade 8.8 Hex Bolt	JM0002120
20	M6 x 1.0 Gr8.8 YZ Nylon Locking Hex Nut	JM0002167
21	1/4" ID, 3/4" OD Z Flat Washer	JM0003090
22	M12-1.75 Gr8.8 YZ Nylon Locking Hex Nut	JM0002163
23	M12-1.75 x 50 Gr8.8 YZ Hex Bolt	JM0001490
24	M10 x 20 Hex Head Bolt	JM0000100
25	M10-1.5 Gr8.8 YZ Nylon Locking Hex Nut	JM0002162
26	1/8" NPT Grease Zerk (1610BL)	JM0009756

Hydraulic Hoses, Cylinders & Fittings for Standard Upper Auger

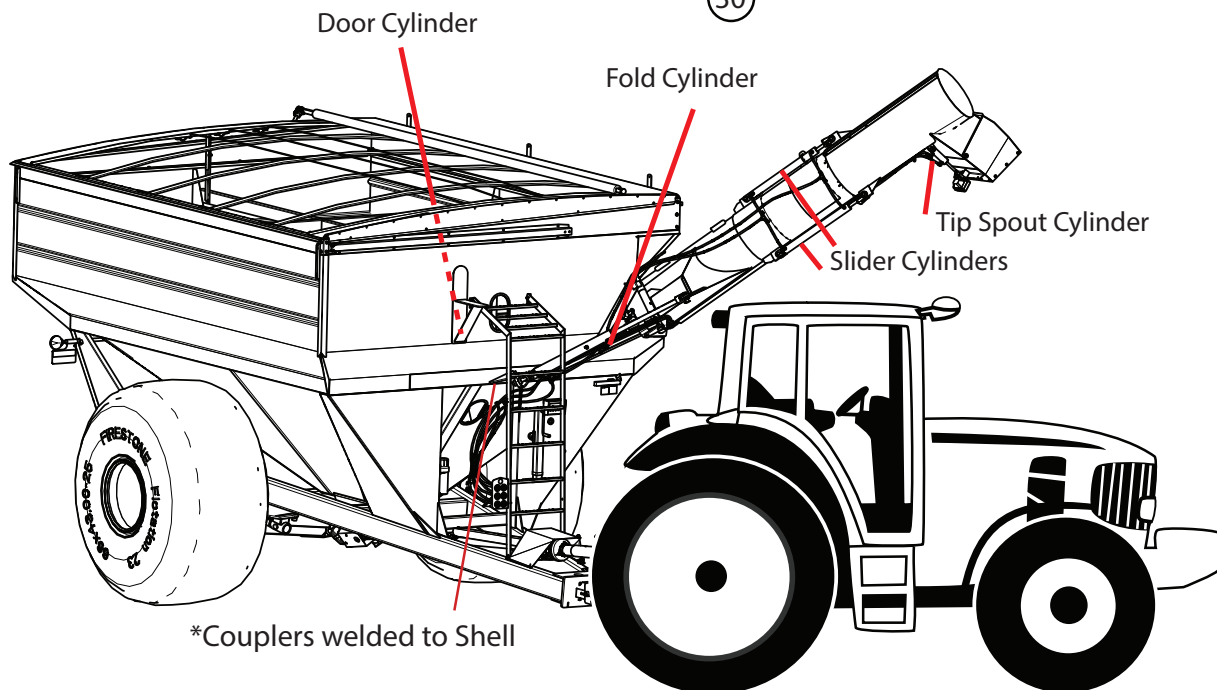
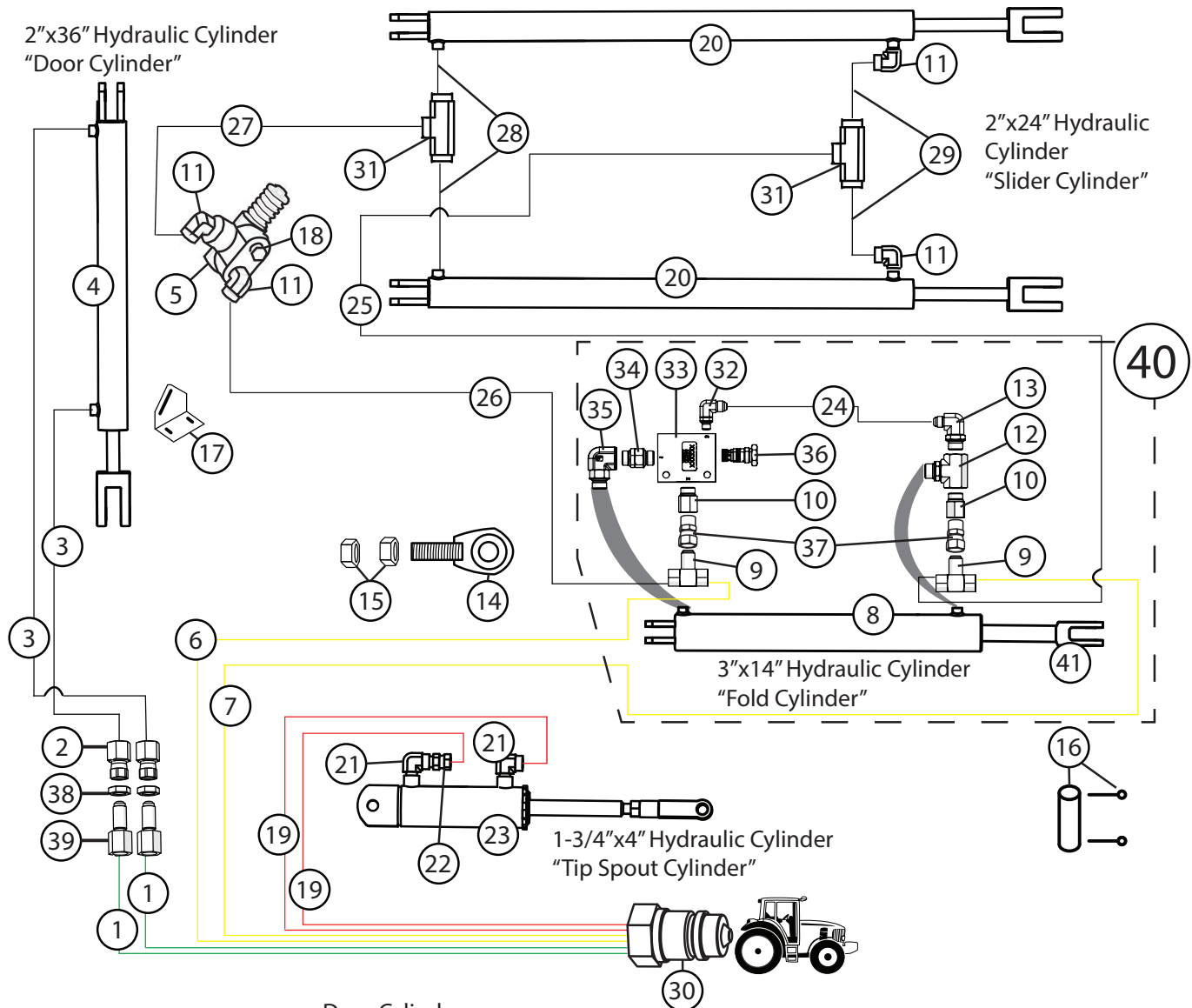


Hydraulic Hoses, Cylinders & Fittings for Standard Upper Auger

	Description	Part No.
1	1/4" x 188" Hydraulic Hose 188inch4M3k-4G-8MP-4G-6MP	JM0047098
2	3/8" Female NPT x 3/8" 37 JIC Female Swivel Nut	JM0018430
3	1/4" x 42-1/2" Hydraulic Hose 42.5inch4M3k-4G-6MP-4G-8MP	JM0025220
4	2" x 36" Hydraulic Cylinder (JD236)	JM0018523
4	Seal Kit for 2" x 36" Hydraulic Cylinder	JM0026544
5	1/4" x 238" Hydraulic Hose 238inch4M3k-4G-8MP-4G-6MP	JM0047099
6	1/4" x 222" Hydraulic Hose 222inch4M3k-4G-8MP-4G-6MP	JM0047090
7	1/4" x 10-1/2" Hydraulic Hose 10-1/2inch4m3k-4G-6MPX-4G-4MP	JM0046659
8	3" x 14" Welded Non-Cushion JD Cylinder	JM0035057
8	Seal Kit for 3" x 14" Hydraulic Cylinder	JM0025404
9	1" x 3-1/2" Clevis Pin with Cotter Pins	JM0001817
10	3/8" Male NPT x 3/8" Female NPT Swivel; with .040 Orifice	JM0027081
11	1/2" Male ORB x 3/8" Female NPT - Swivel; 90 Degree Elbow	JM0054917
12	1/2" Female ORB x 1/2" Male Adjustable ORB x 1/2" Female ORB; Tee	JM0058419
13	3/8" Male JIC x 1/2" Male ORB; 90 Degree Elbow	JM0058424
14	1/4" x 388" Hydraulic Hose 388inch4M3k-4G-8MP-4G-4MP	JM0024909
15	1-3/4" x 4" Hydraulic Cylinder (1/2" Clevis and Tab ends)	JM0018564
15	Seal Kit for 1-3/4" x 4" Hydraulic Cylinder	JM0024892
15	Seal Kit for 1-3/4" x 4" Cylinder (17504S-SK)	JM0082368
16	1/4" Male NPT x 1/4" Female NPT, 90 Degree Elbow	JM0020115
17	1/4" Male NPT Swivel with .032 Orifice (restrictor)	JM0020113
18	1/2" Female NPT Pioneer (PQC-1)	JM0018254
19	3/8" Male JIC x 1/4" Male ORB; 90 Degree Elbow	JM0058422
20	Pilot Operated Check Valve Assembly	JM0054914
21	1/2" Male Adjustable ORB x 1/2" Male ORB; Straight	JM0058416
22	1/2" Male Adjustable ORB x 1/2" Female ORB; 90 Degree Elbow	JM0058415
23	Pilot Check Valve Hyd (FA/VBBA-5) (FA/LNL)	JM0050870
24	3/8" JIC Bulk Head Jam Nut	JM0048580
25	3/8" Female NPT x 3/8" Compression Bulk Head Fitting	JM0048582
26	3" x 14" Welded Non-Cushion JD Cylinder Clevis End Only	JM0078026

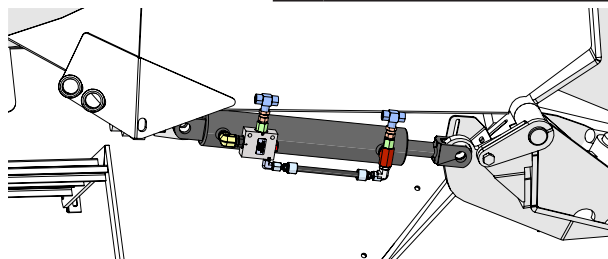


Hydraulic Hoses, Cylinders & Fittings for Hydraulic Sliding Upper Auger



Hydraulic Hoses, Cylinders & Fittings for Hydraulic Sliding Upper Auger

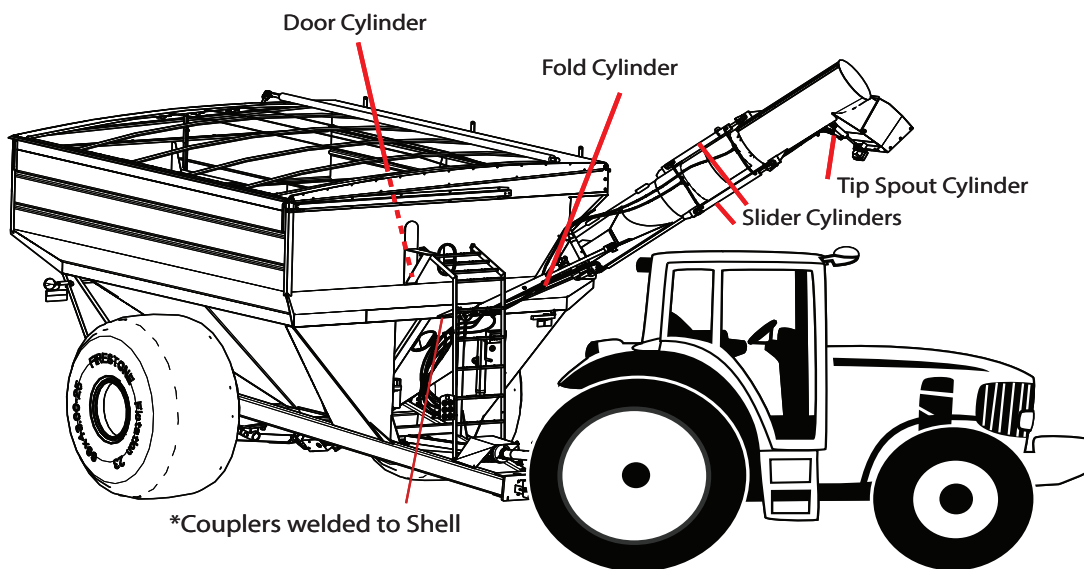
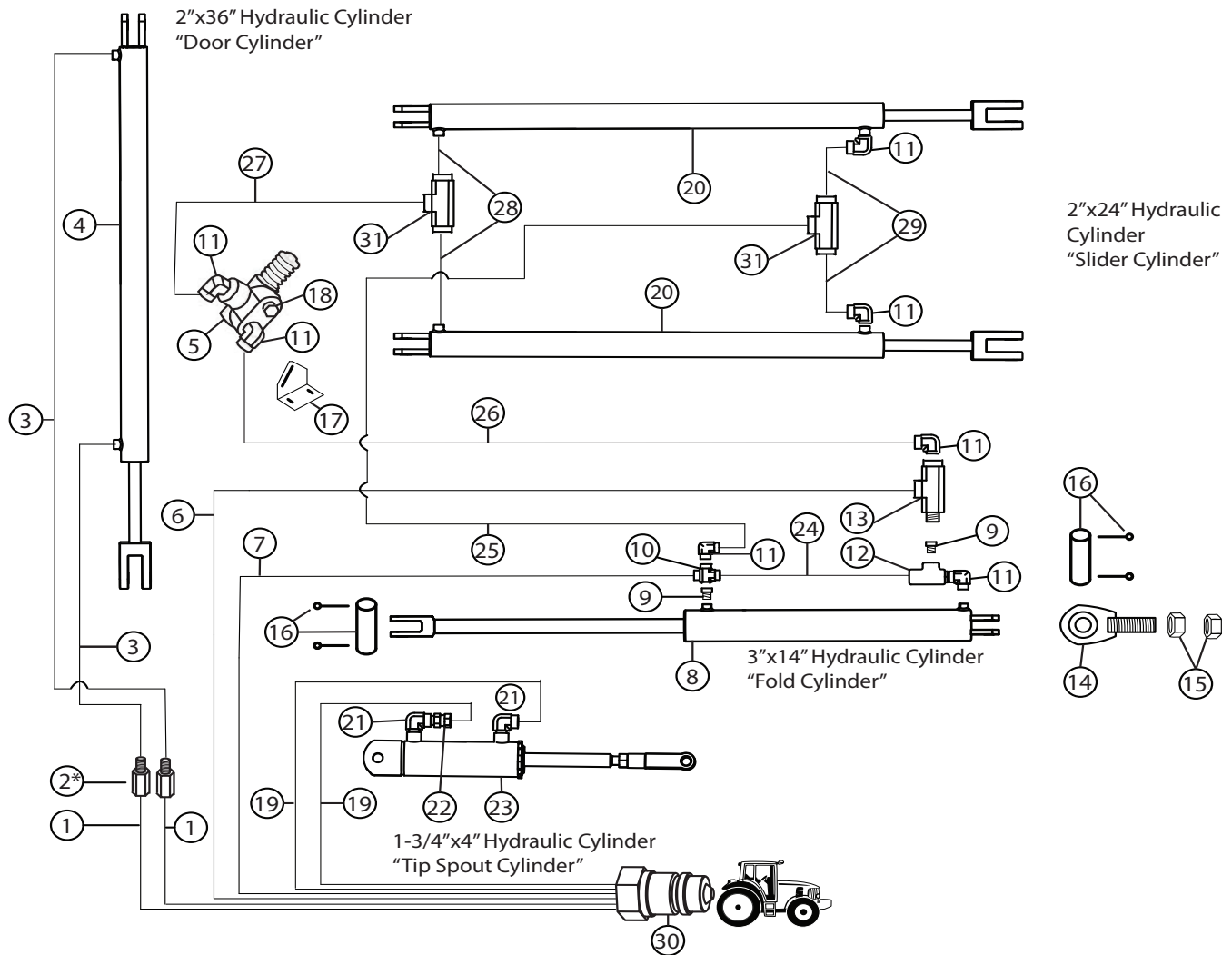
	Description	Part No.
1	1/4" x 188" Hydraulic Hose 188inch4M3k-4G-8MP-4G-6MP	JM0047098
2	3/8" Female NPT x 3/8" 37 JIC Female Swivel Nut	JM0018430
3	1/4" x 42-1/2" Hydraulic Hose 42.5inch4M3k-4G-6MP-4G-8MP	JM0025220
4	2" x 36" Hydraulic Cylinder (JD236)	JM0018523
4	Seal Kit for 2" x 36" Hydraulic Cylinder	JM0026544
5	Diverter Valve	JM0018250
6	1/4" x 238" Hydraulic Hose 238inch4M3k-4G-8MP-4G-6MP	JM0047099
7	1/4" x 222" Hydraulic Hose 222inch4M3k-4G-8MP-4G-6MP	JM0047090
8	3" x 14" Welded Non-Cushion JD Cylinder	JM0035057
8	Seal Kit for 3" x 14" Hydraulic Cylinder	JM0025404
9	3/8" Female NPT x 3/8" Female NPT x 3/8" Male NPT; Tee	JM0027116
10	1/2" Male ORB x 3/8" Female NPT; Straight	JM0061437
11	3/8" Male NPT x 3/8" Female NPT; 90 Degree Elbow	JM0030059
12	1/2" Female ORB x 1/2" Male Adjustable ORB x 1/2" Female ORB; Tee	JM0058419
13	3/8" Male JIC x 1/2" Male ORB; 90 Degree Elbow	JM0058424
14	Ball Joint Weldment	JM0007386
15	1-1/4"-12 Z Gr5 Hex Jam Nut	JM0002158
16	1" x 3-1/2" Clevis Pin with Cotter Pins	JM0001817
17	Diverter Valve Mount Bracket	JM0010855
18	3/8" Male NPT Plug	JM0018261
19	1/4" x 388" Hydraulic Hose 388inch4M3k-4G-8MP-4G-4MP	JM0047091
20	2" x 24" Hydraulic Cylinder (JD20024)	JM0018210
20	Seal Kit for 2" x 24" Hydraulic Cylinder (JD244)	JM0024894
21	1/4" Male NPT x 1/4" Female NPT, 90 Degree Elbow	JM0020115
22	1/4" Male NPT Swivel with .032 Orifice (restrictor)	JM0020113
23	1-3/4" x 4" Hydraulic Cylinder (1/2" Clevis and Tab ends)	JM0018564
23	Seal Kit for 1-3/4" x 4" Hydraulic Cylinder	JM0024892
24	1/4" x 10-1/2" Hydraulic Hose 10-1/2inch4m3k-4G-6MPX-4G-4MP	JM0046659
25	1/2" x 57" Hydraulic Hose 57inch8M3k-8G-6MPX-8G-6MP	JM0025194
25	1/2" x 69" Hydraulic Hose (XL Upper Auger) 69inch8M3K-8G-6MP-8G-6MPX	JM0025225
26	1/2" x 54" Hydraulic Hose 54inch8M3k-8G-6MPX-8G-6MP	JM0025207
27	1/2" x 77" Hydraulic Hose 77inch8M3k-8G-6MPX-8G-6MP	JM0025206
27	1/2" x 89" Hydraulic Hose (XL Upper Auger) 89inch8M3K-8G-6MP-8G-6MPX	JM0025226
28	1/2" x 16" Hydraulic Hose 16inch8M3k-8G-6MP-8G-6MPX	JM0024923
29	1/2" x 17" Hydraulic Hose 17inch8M3K-8G-6MP-8G-6MPX	JM0025195
30	1/2" Female NPT Pioneer (PQC-1)	JM0018254
31	3/8" Female NPT x 3/8" Female NPT x 3/8" Female NPT; Street T	JM0046965
32	3/8" Male JIC x 1/4" Male ORB; 90 Degree Elbow	JM0058422
33	Pilot Operated Check Valve Assembly	JM0054914
34	1/2" Male Adjustable ORB x 1/2" Male ORB; Straight	JM0058416
35	1/2" Male Adjustable ORB x 1/2" Female ORB; 90 Degree Elbow	JM0058415
36	Pilot Check Valve Hyd (FA/VBBA-5) (FA/LNL)	JM0050870
37	3/8" Male NPT x 3/8" Female NPT Swivel; with .040 Orifice	JM0027081
38	3/8" JIC Bulk Head Jam Nut	JM0048580
39	3/8" Female NPT x 3/8" Compression Bulk Head Fitting	JM0048582
40	3" x 14" Welded Fold Cylinder Assembly Complete (No NPT Fittings)	JM0058434
41	3" x 14" Welded Non-Cushion JD Cylinder Clevis End Only	JM0078026



"Fold Cylinder" shown for orientation

Hydraulic Schematics for Sliding Upper Auger (LEGACY)

Using Cushion Cylinder on "Fold Cylinder"

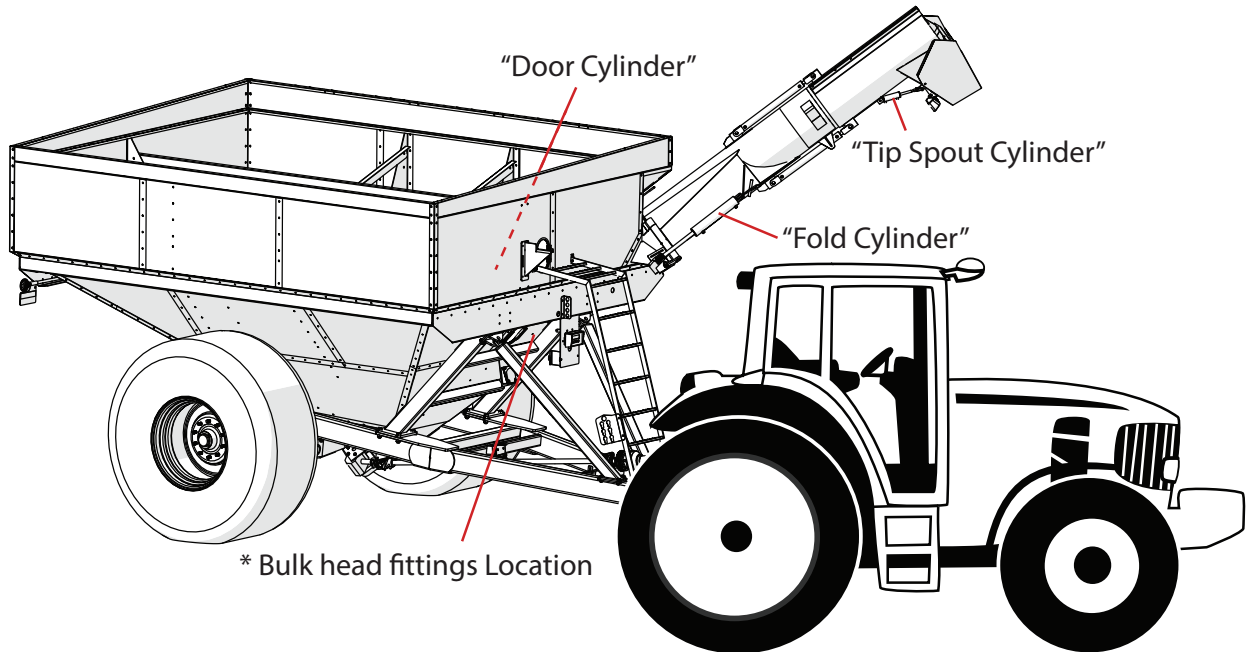
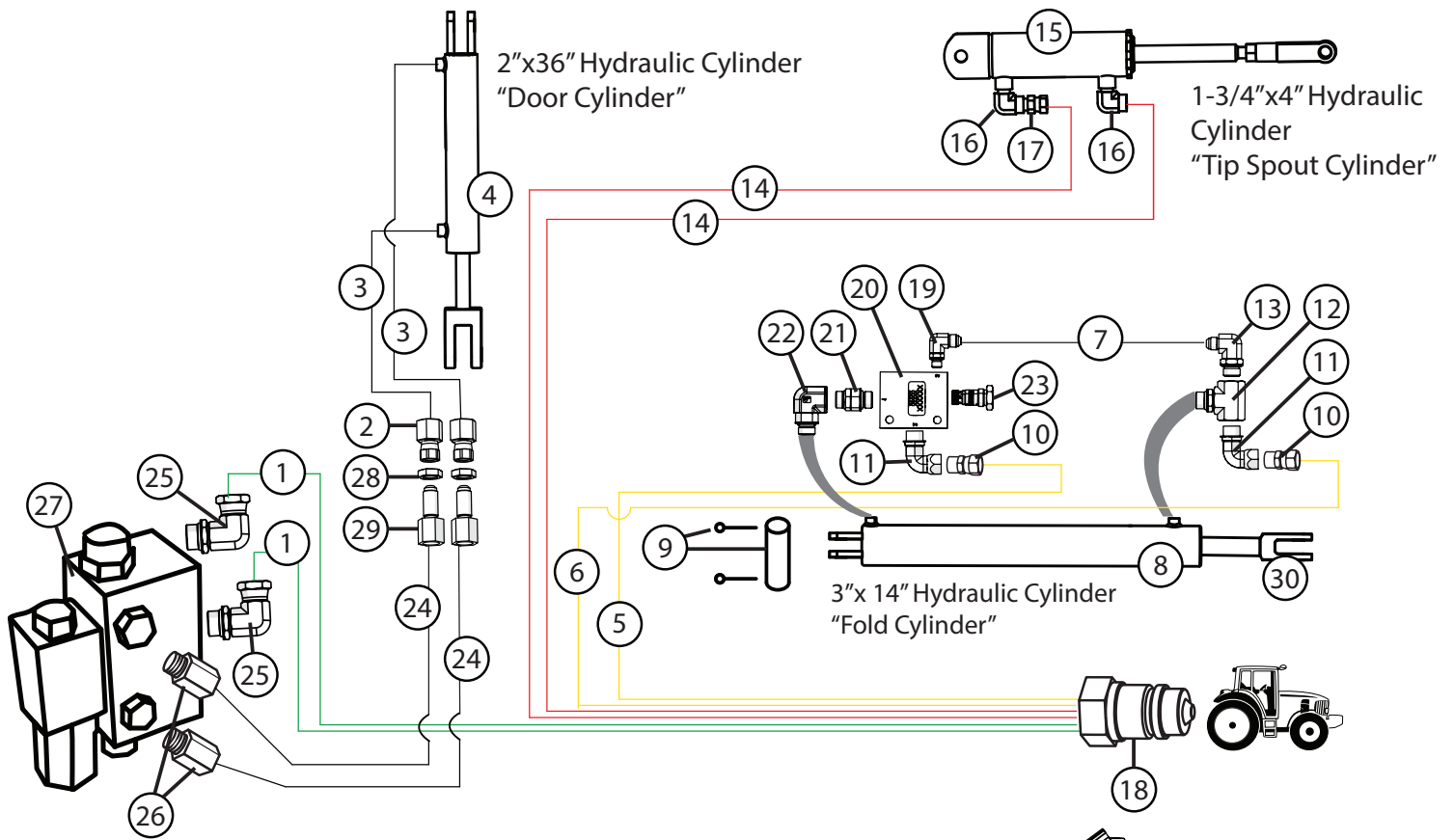


Hydraulic Schematics for Sliding Upper Auger (LEGACY)

Using Cushion Cylinder on "Fold Cylinder"

	Description	Part No.
1	1/4" x 188" Hydraulic Hose 188inch4M3k-4G-8MP-4G-6MP	JM0047098
2	3/8" Female NPT x 3/8" Compression Bulk Head Fitting	JM0018430
3	1/4" x 43" Hydraulic Hose 43inch4M3k-4G-6MPX-4G-6MP	JM0024904
4	2" x 36" Hydraulic Cylinder (JD236)	JM0018523
4	Seal Kit for 2" x 36" Hydraulic Cylinder	JM0026544
5	Diverter Valve	JM0018250
6	1/4" x 238" Hydraulic Hose 238inch4M3k-4G-8MP-4G-6MP	JM0047099
7	1/4" x 222" Hydraulic Hose 222inch4M3k-4G-8MP-4G-6MP	JM0047090
8	3" x 14" Welded Double Cushion Cylinder	JM0018243
8	Seal Kit for 3" x 14" Hydraulic Cylinder	JM0025404
9	3/8" Male NPT x 3/8" Female NPT Swivel; with .062 orifice	JM0018362
10	3/8" Male NPT x 3/8" Female NPT x 3/8" Female NPT x 3/8" Female NPT Cross	JM0018262
11	3/8" Male NPT x 3/8" Female NPT; 90 Degree Elbow	JM0030059
12	PC-37 Check Valve	JM0018233
13	3/8" male NPT x 3/8" female NPT x 3/8" female NPT; Street T	JM0018266
14	Ball Joint Weldment	JM0007386
15	1-1/4"-12 Z Gr5 Hex Jam Nut	JM0002158
16	1" x 3-1/2" Clevis Pin with Cotter Pins	JM0001817
17	Diverter Valve Mount Bracket	JM0010855
18	3/8" Male NPT Plug	JM0018261
19	1/4" x 388" Hydraulic Hose 388inch4M3k-4G-8MP-4G-4MP	JM0024909
20	2" x 24" Hydraulic Cylinder (JD20024)	JM0018210
20	Seal Kit for 2" x 24" Hydraulic Cylinder (JD244)	JM0024894
21	1/4" Male NPT x 1/4" Female NPT, 90 Degree Elbow	JM0020115
22	1/4" Male NPT Swivel with .032 Orifice (restrictor)	JM0020113
23	1-3/4" x 4" Hydraulic Cylinder (1/2" Clevis and Tab ends)	JM0018564
23	Seal Kit for 1-3/4" x 4" Hydraulic Cylinder	JM0024892
24	1/4" x 12" Hydraulic Hose 12inch4M3k-4G-6MPX-4G-4MP	JM0025211
25	1/2" x 57" Hydraulic Hose 57inch8M3k-8G-6MPX-8G-6MP	JM0025194
25	1/2" x 69" Hydraulic Hose (XL Upper Auger) 69inch8M3K-8G-6MP-8G-6MPX	JM0025225
26	1/2" x 54" Hydraulic Hose 54inch8M3k-8G-6MPX-8G-6MP	JM0025207
27	1/2" x 77" Hydraulic Hose 77inch8M3k-8G-6MPX-8G-6MP	JM0025206
27	1/2" x 89" Hydraulic Hose (XL Upper Auger) 89inch8M3K-8G-6MP-8G-6MPX	JM0025226
28	1/2" x 16" Hydraulic Hose 16inch8M3k-8G-6MP-8G-6MPX	JM0024923
29	1/2" x 17" Hydraulic Hose 17inch8M3K-8G-6MP-8G-6MPX	JM0025195
30	1/2" Female NPT Pioneer (PQC-1)	JM0018254
31	3/8" Female NPT x 3/8" Female NPT x 3/8" Female NPT; Street T	JM0046965

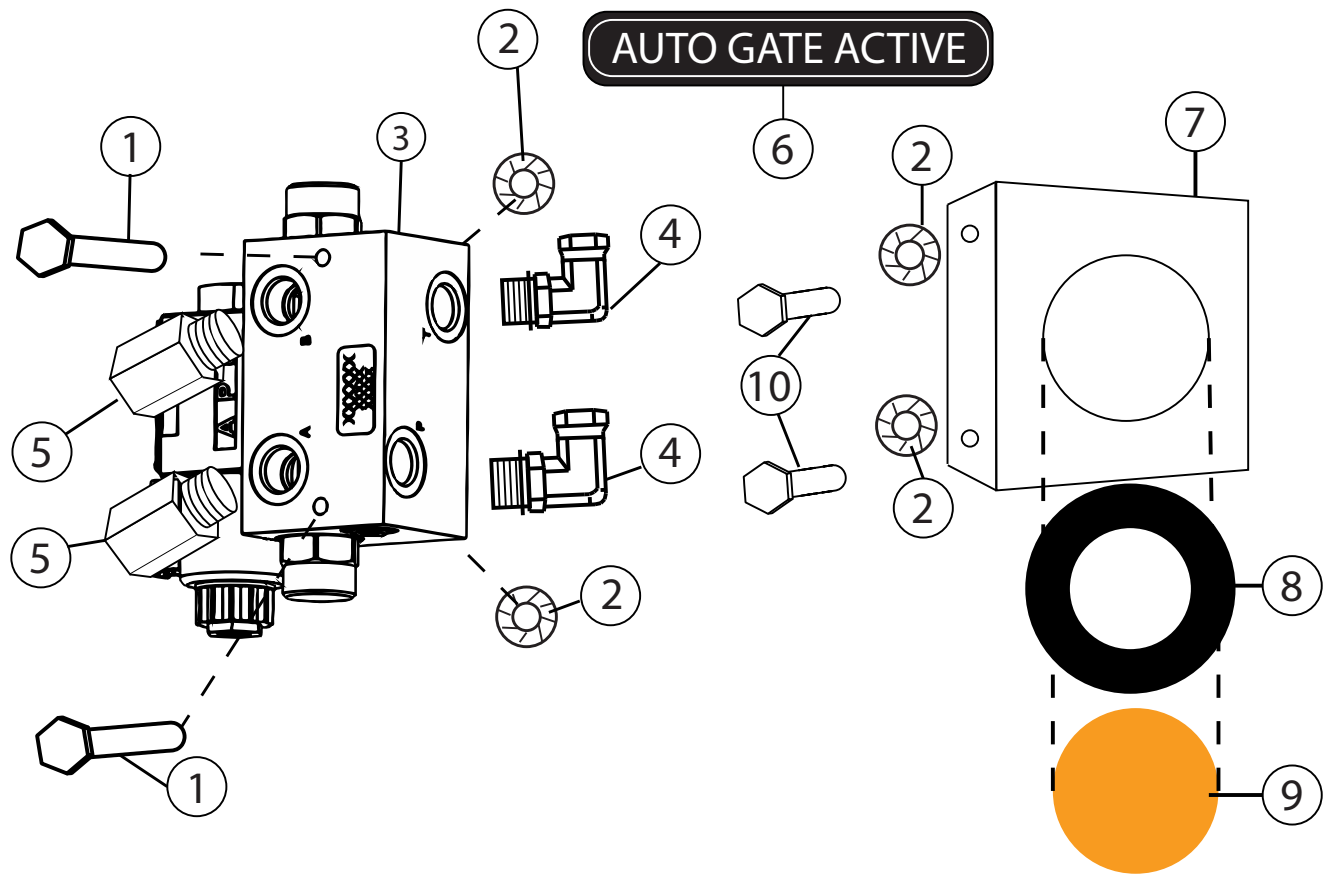
Auto-Gate Shut-Off Hydraulic Schematic



Auto-Gate Shut-Off Hydraulic Schematic

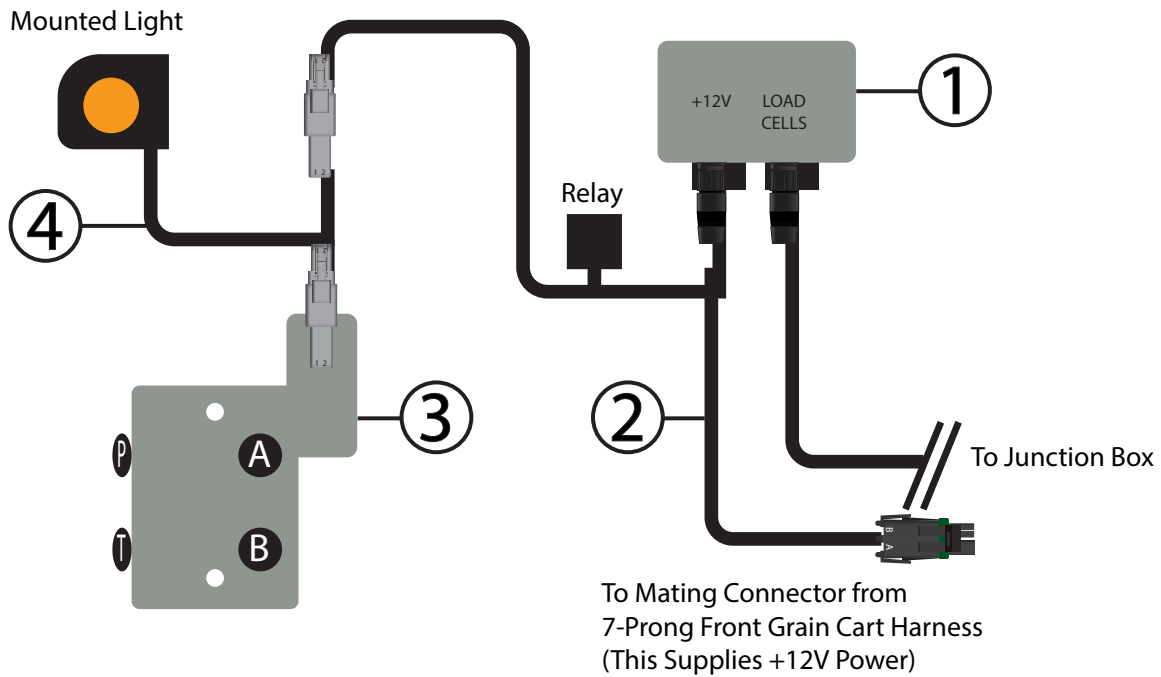
	Description	Part No.
1	1/4" x 188" Hydraulic Hose 188inch4M3k-4G-8MP-4G-6MP	JM0047098
2	3/8" Female NPT x 3/8" 37 JIC Female Swivel Nut	JM0018430
3	1/4" x 42-1/2" Hydraulic Hose 42.5inch4M3k-4G-6MP-4G-8MP	JM0025220
4	2" x 36" Hydraulic Cylinder (JD236)	JM0018523
4	Seal Kit for 2" x 36" Hydraulic Cylinder	JM0026544
5	1/4" x 238" Hydraulic Hose 238inch4M3k-4G-8MP-4G-6MP	JM0047099
6	1/4" x 222" Hydraulic Hose 222inch4M3k-4G-8MP-4G-6MP	JM0047090
7	1/4" x 10-1/2" Hydraulic Hose 10-1/2inch4m3k-4G-6MPX-4G-4MP	JM0046659
8	3" x 14" Welded Non-Cushion JD Cylinder	JM0035057
8	Seal Kit for 3" x 14" Hydraulic Cylinder	JM0025404
9	1" x 3-1/2" Clevis Pin with Cotter Pins	JM0001817
10	3/8" Male NPT x 3/8" Female NPT Swivel; with .040 Orifice	JM0027081
11	1/2" Male ORB x 3/8" Female NPT - Swivel; 90 Degree Elbow	JM0054917
12	1/2" Female ORB x 1/2" Male Adjustable ORB x 1/2" Female ORB; Tee	JM0058419
13	3/8" Male JIC x 1/2" Male ORB; 90 Degree Elbow	JM0058424
14	1/4" x 388" Hydraulic Hose 388inch4M3k-4G-8MP-4G-4MP	JM0024909
15	1-3/4" x 4" Hydraulic Cylinder (1/2" Clevis and Tab ends)	JM0018564
15	Seal Kit for 1-3/4" x 4" Hydraulic Cylinder	JM0024892
16	1/4" Male NPT x 1/4" Female NPT, 90 Degree Elbow	JM0020115
17	1/4" Male NPT Swivel with .032 Orifice (restrictor)	JM0020113
18	1/2" Female NPT Pioneer (PQC-1)	JM0018254
19	3/8" Male JIC x 1/4" Male ORB; 90 Degree Elbow	JM0058422
20	Pilot Operated Check Valve Assembly	JM0054914
21	1/2" Male Adjustable ORB x 1/2" Male ORB; Straight	JM0058416
22	1/2" Male Adjustable ORB x 1/2" Female ORB; 90 Degree Elbow	JM0058415
23	Pilot Check Valve Hyd (FA/VBBA-5) (FA/LNL)	JM0050870
24	3/8" x 41" Hydraulic Hose 41inch4M3K-6G-6MPX-6G-6MP	JM0046627
25	1/2" Male NPT ORB x 3/8" Female NPT Swivel; 90 Degree Elbow	JM0027285
26	3/8" Male NPT x 3/8" Female JIC	JM0046869
27	Auto-Gate Hydraulic Valve	JM0026247
28	3/8" JIC Bulk Head Jam Nut	JM0048580
29	3/8" Female NPT x 3/8" Compression Bulk Head Fitting	JM0048582
30	3" x 14" Welded Non-Cushion JD Cylinder Clevis End Only	JM0078026

Auto-Gate Shut-Off Assembly



	Description	Part No.
1	1/4"-20 x 3-1/2" Gr5 Z Hex Bolt	JM0046621
2	1/4"-20 Gr5 Z SF Hex Nut	JM0001630
3	Auto-Gate Hydraulic Valve	JM0026247
4	1/2" Male NPT ORB x 3/8" Female NPT Swivel; 90 Degree Elbow	JM0027285
5	3/8" Male NPT x 3/8" Female JIC	JM0046869
6	Auto Gate Active Decal	JM0046612
7	3-1/2" Round LED Mount	JM0034956
8	3-1/2" Round LED Grommet	JM0001902
9	3-1/2" Amber Round LED Light	JM0001895
10	1/4"-20 x 3/4" Gr5 Z SF Hex Bolt	JM0001642

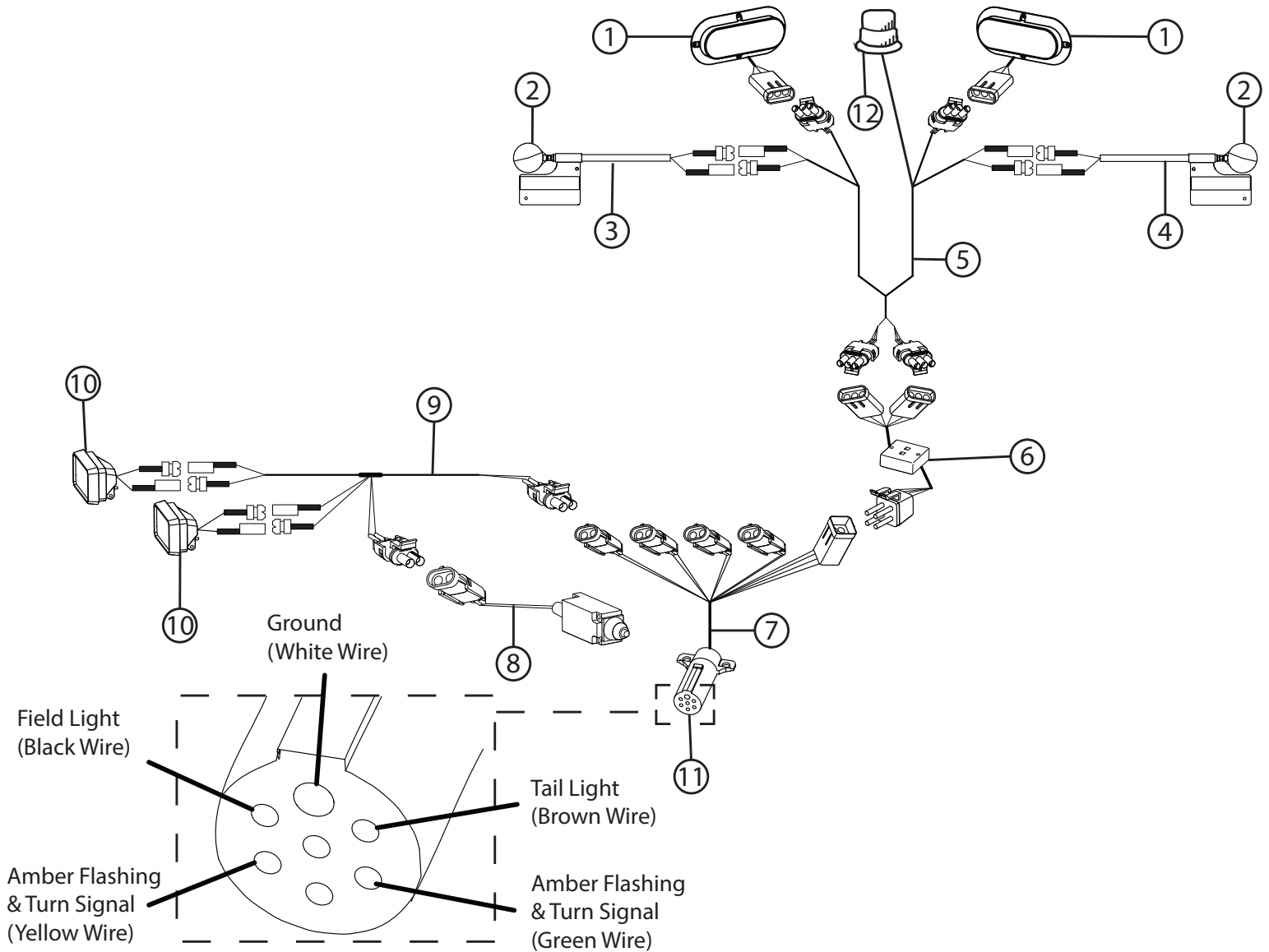
Auto-Gate Shut-Off Wiring Schematic



Note: Mount the hydraulic valve after all the hoses are attached but not tightened.

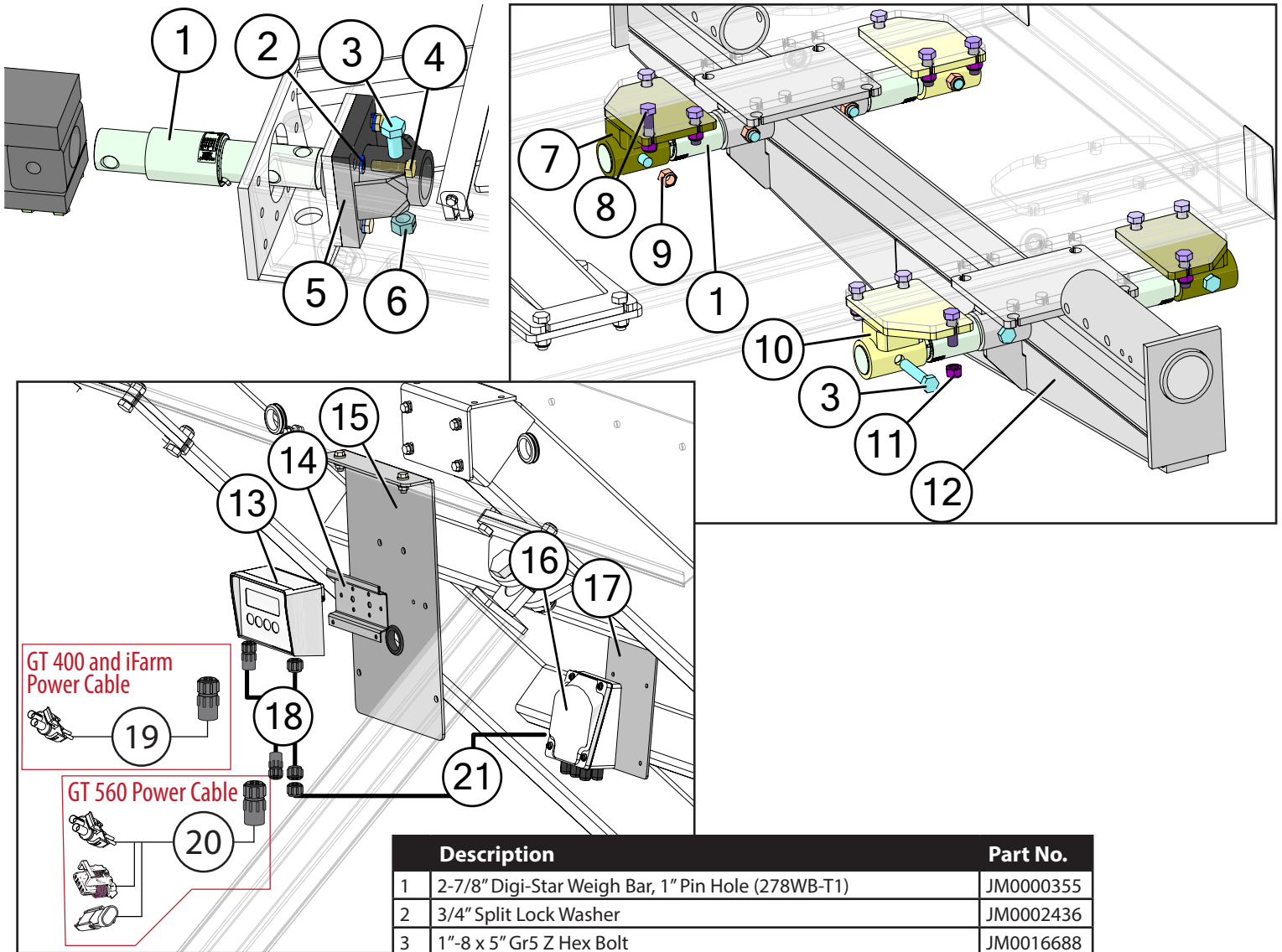
Description		Part No.
1	GT 400 Digi-Star Scale Display Monitor	JM0019040
1	GT 560 Digi-Star Scale Display Monitor	JM0044177
2	Auto-Gate Harness (Standard GT-560)	JM0026813
2	J&M Relay Harness (1 per IFM-GS-1P(auto-gate))	JM0037374
3	Auto-Gate Hydraulic Valve	JM0026247
4	Auto Gate Light Harness (LED light "Y" Cable)	JM0046624

Lights and Wiring



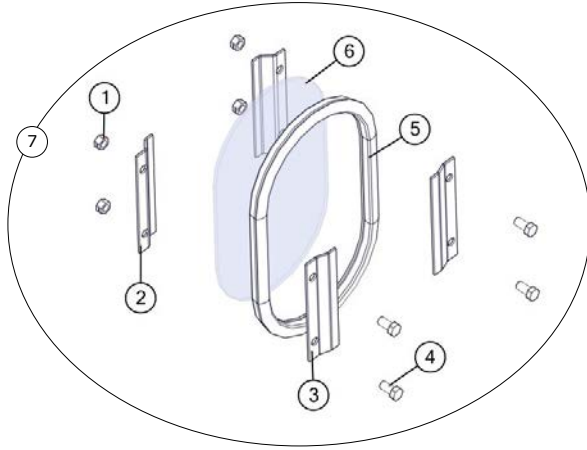
Description	Part No.
1 Red Light (LED)	JM0034389
2 Amber Light Only	JM0018819
3 Extendable Amber Light Assembly (Left Side)	JM0018817
4 Extendable Amber Light Assembly (Right Side)	JM0018826
5 Wiring Harness, Rear Half of Grain Cart	JM0020437
6 Light Enhancer and Adapter Kit (3 wires)	JM0010566
7 Main Harness with 7-Prong Connector End for Grain Cart	JM0020439
8 Limit Switch for Field Light (ME-8111)	JM0036040
9 Field Light Wire Harness	JM0020438
10 Field Light (LED, Grain Cart)(Bullet Lead Ends)	JM0001881
11 7 Prong Connector	JM0010528
12 Orange Strobe Light	JM0000322

5 Point Scale System



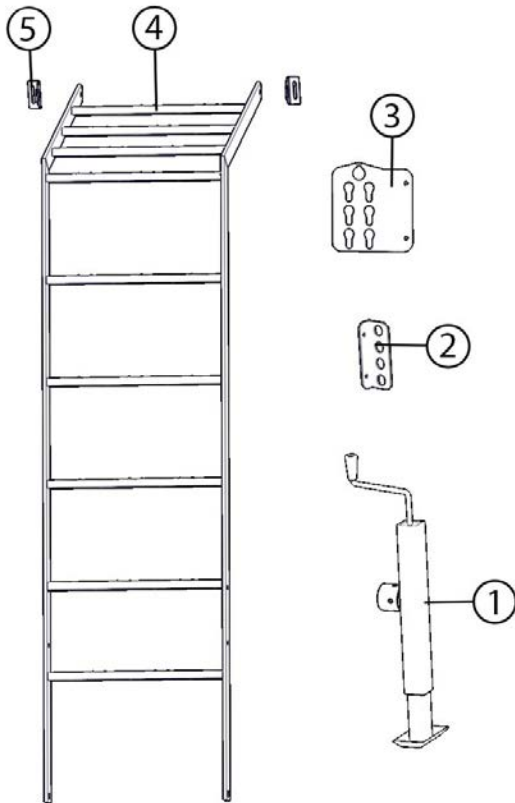
Description	Part No.
1 2-7/8" Digi-Star Weigh Bar, 1" Pin Hole (278WB-T1)	JM0000355
2 3/4" Split Lock Washer	JM0002436
3 1"-8 x 5" Gr5 Z Hex Bolt	JM0016688
4 3/4"-16 x 3" Gr8 YZ Fine Thread Hex Bolt	JM0002107
5 2-7/8" Weigh Bar Receiver Weldment (WBW-278)	JM0000019
6 1"-8 Gr2 Z Centerlock Hex Nut	JM0002149
7 2-7/8" Weigh Bar Weldment, Rear Left, Front Right (6-1/8" Spool)	JM0000354
8 M24-3.0 x 75 Gr8.8 Hex Bolt	JM0002118
9 1"-8 Gr5 Z Nylon Locking Hex Nut	JM0002161
10 2-7/8" Weigh Bar Weldment, Rear Right, Front Left (6-1/8" Spool)	JM0018985
11 M24-3.0 Gr8.8 YZ Nylon Locking Hex Nut	JM0002165
12 Standard Axle Weldment (31T)	JM0002627
13 GT400 Digi-Star Scale Display Monitor	JM0019040
13 GT 560 Digi-Star Scale Display Monitor	JM0044177
14 GT 400 Scale Monitor Display Bracket	JM0000361
14 GT 560 Scale Monitor Display Bracket	JM0046976
15 Scale Monitor Bracket Mounting Plate	JM0000362
16 Digi-Star 6-Point Junction Box (JB-5)	JM0019038
17 Bolt Together Junction Box Mount	JM0000366
18 30' Extension Cable Kit (Load Cell and Power) (ECI-3)	JM0041218
19 iFarm and GT400 Standard Power Cable 18" (74132)	JM0041060
20 Power Cable for GT 560 Indicator	JM0078634
21 8' Cable from J-Box to Indicator (Digi-Star)	JM0047238

Inspection Windows

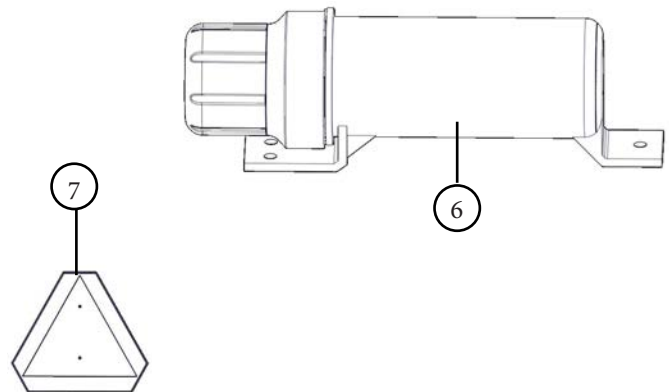


	Description	Part No.
1	3/8"-16 Gr5 Z Centerlock Hex Nut	JM0001512
2	Inside Window Clip - Deep	JM0000253
3	Outside Window Clip - Shallow	JM0000256
4	3/8"-16 x 3/4" Gr5 Z Hex Bolt	JM0001663
5	Window Seal 3/4 "5" Strip	JM0000254
6	Standard Inspection Window	JM0000255
7	Inspection Window Kit	JM0025752

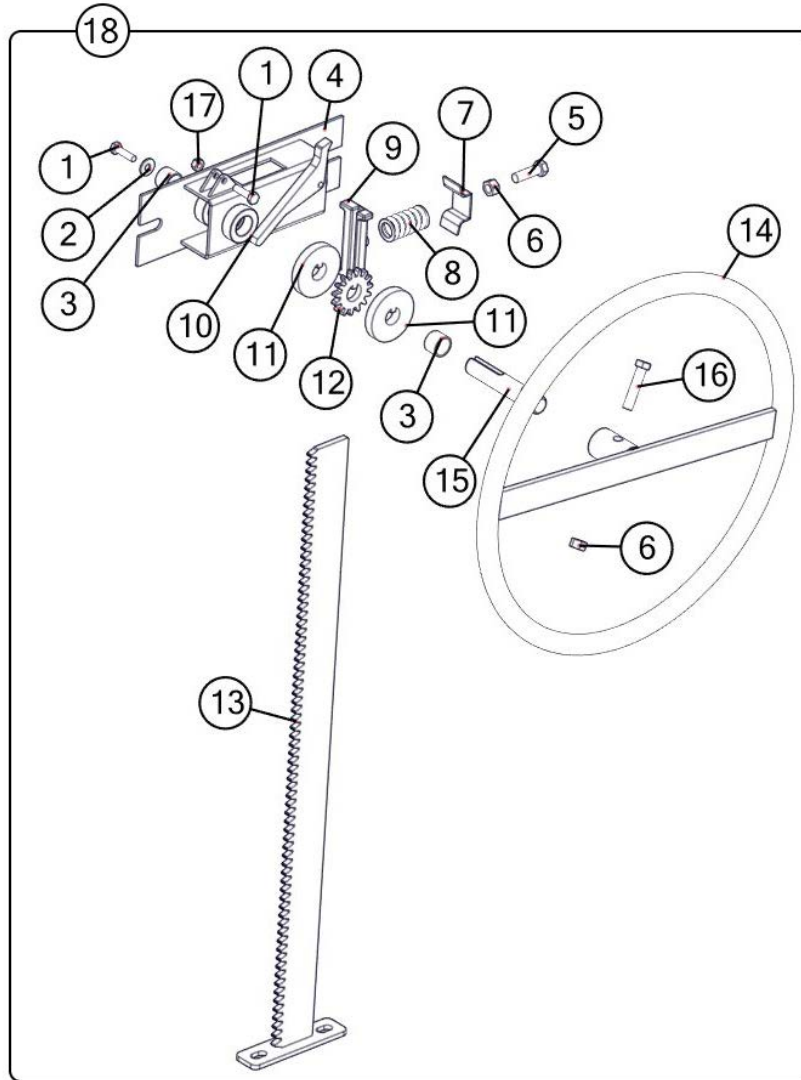
Miscellaneous



	Description	Part No.
1	Jack Stand Assembly including 5/8" pin (7,000 lbs.) (TWL-200)	JM0010191
2	Hose Holder Tank	JM0000260
3	Hose Holder Bracket w/ key slots	JM0000261
4	Ladder w/ 3 Rung Platform	JM0000262
5	Ladder Clip	JM0016922
6	Operator's Manual Canister	JM0010115
7	Slow Moving Vehicle Sign	JM0001616

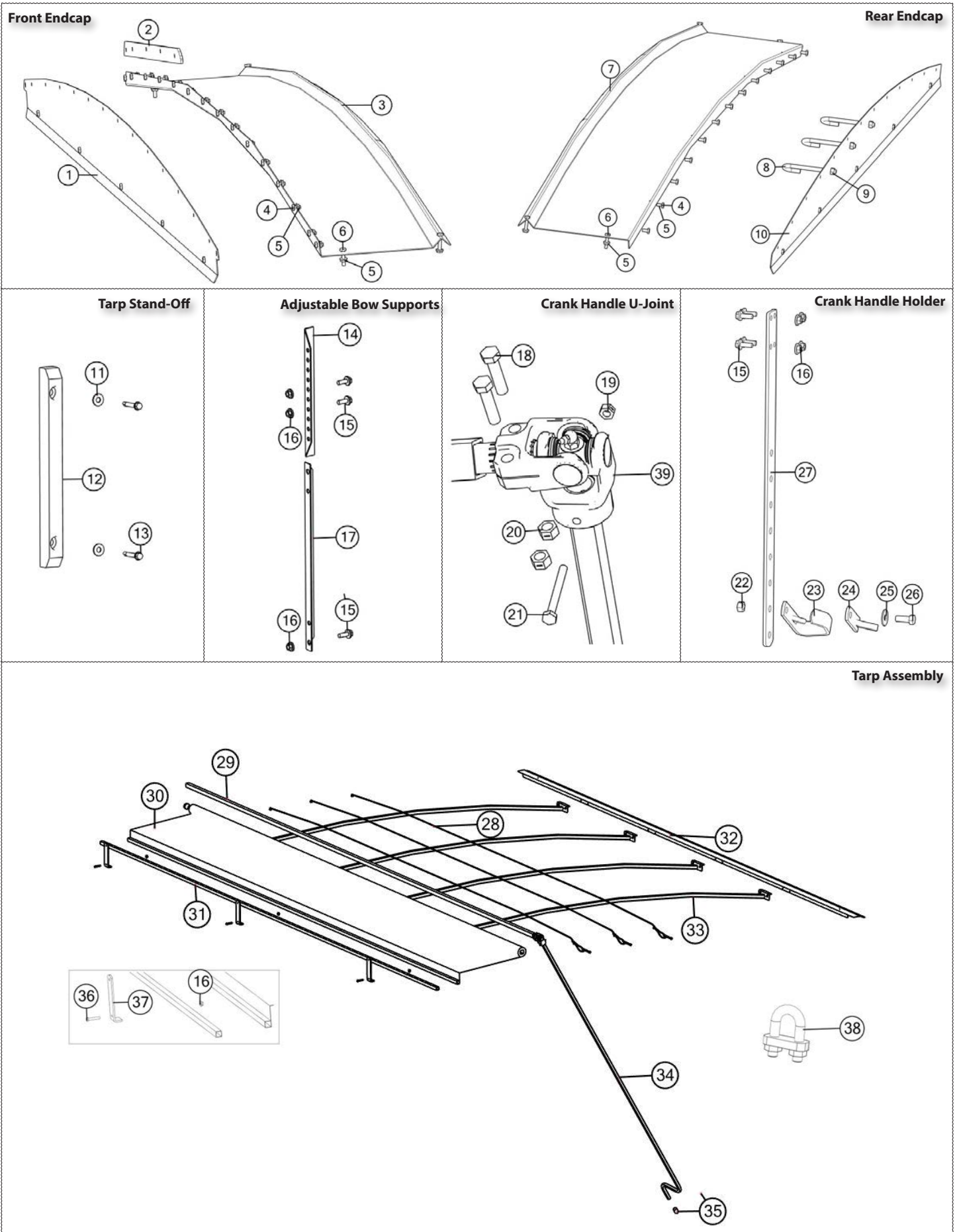


Door Wheel Assembly (2016 & Newer)



	Description	Part No.
1	1/4"-20 x 1" Gr5 Z Hex Bolt	JM0002095
2	1/4" ID, 3/4" OD Z Flat Washer	JM0003090
3	.754 ID x .874 OD x .625 LG Bronze Bushing (BB-34)	JM0009455
4	Nylon Guided Rack Housing Weldment	JM0030635
5	3/8"-16 x 1-1/4" Gr5 Z Hex Bolt	JM0016675
6	3/8"-16 Gr5 Z Hex Nut	JM0001707
7	Scrubber Spring Plate (ST Manual Door) (Door Wheel)	JM0002851
8	Compression Spring (1" x 1-3/4") for Door Assembly & Tongue Latch	JM0001688
9	Nylon Track Guide For Door Wheel	JM0029354
10	Flip Lock For Door Rack	JM0029459
11	Keyway Washer for Door Rack	JM0029454
12	15 Tooth Sprocket - 3/4" Bore w/ Key	JM0029455
13	Rack Track Weldment for Door (27-1/2")	JM0030634
14	Rack Wheel Weldment	JM0028897
15	Stub Shaft 3/4" x 4 1/8" w/ Threaded End	JM0029440
16	3/8"-16 x 1-3/4" Gr5 Z Hex Bolt	JM0002097
17	1/4"-20 Gr2 Z Centerlock Hex Nut	JM0001505
18	Complete Door Wheel Assembly (27-1/2") (2016 & Newer)	JM0029460

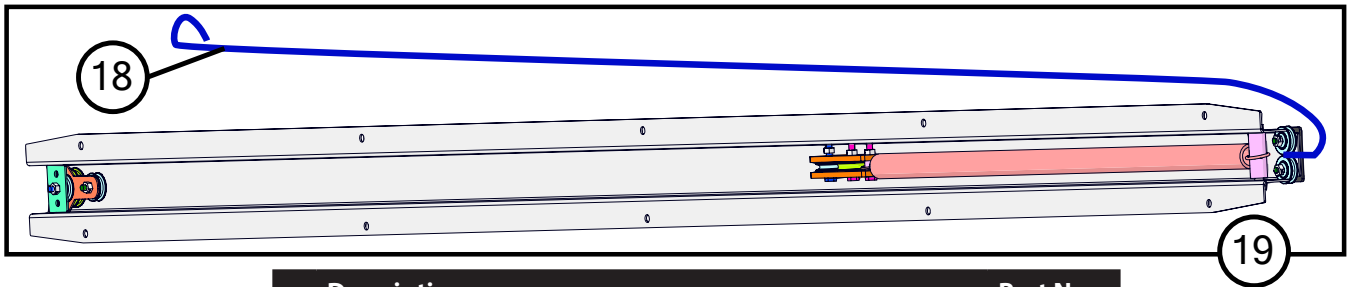
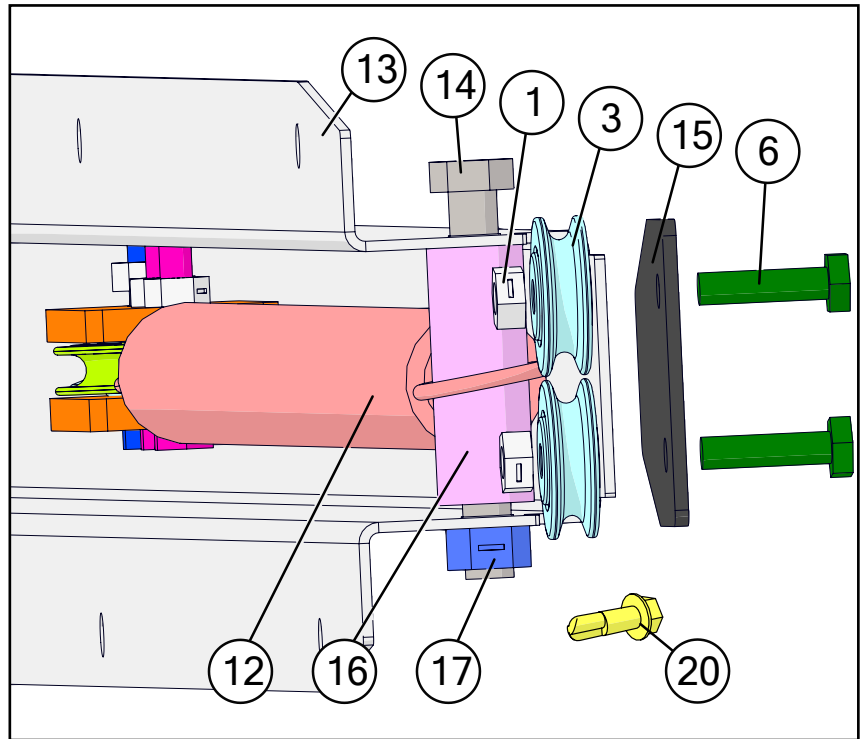
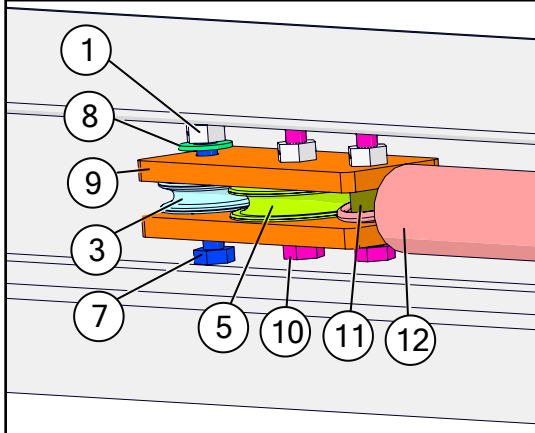
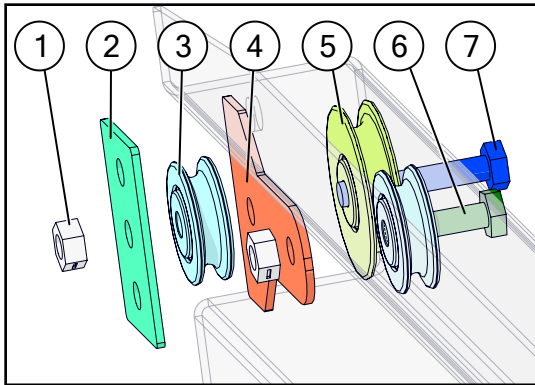
Roll Tarp Assembly



Roll Tarp Assembly

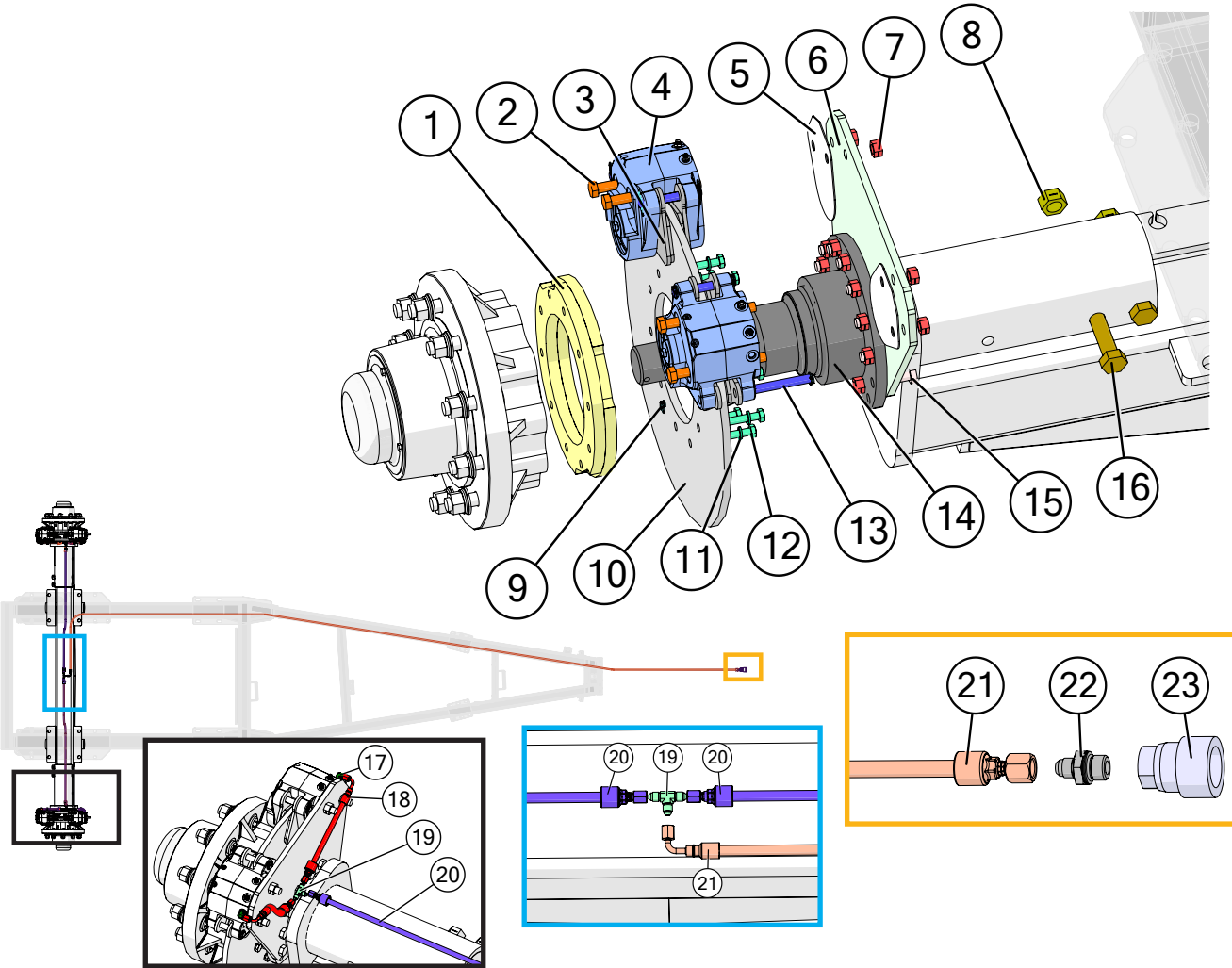
	Description	Part No.
1	Front End Cap Plate, Grain Cart 140"	JM0000194
2	Tarp Nylon Riser	JM0000196
3	Front End Cap Arch, Grain Cart 140"	JM0000195
4	M6 x 1.0 x 20MM Grade 8.8 Hex Bolt	JM0002120
5	M6 x 1.0 Gr8.8 YZ SF Hex Nut	JM0002156
6	M6 x 1.0 x 20MM Grade 8.8 Hex Bolt	JM0002120
7	Rear End Cap Arch, Grain Cart 140"	JM0000172
8	3/8"-16 Gr5 Z J-Bolt	JM0001519
9	3/8"-16 Gr5 Z Centerlock Hex Nut	JM0001512
10	Rear End Cap Plate, Grain Cart 137-1/4"	JM0000169
11	1/4" ID, 3/4" OD Z Flat Washer	JM0003090
12	Tarp Standoff	JM0001889
13	1/4" x 1-1/2" Self Tapping Screw	JM0001571
14	End Cap Prop 13" - Upper	JM0021404
15	M10 x 1.5 x 25MM Gr8.8 YZ Hex Bolt	JM0031355
16	M10 x 1.50 Gr8.8 YZ SF Hex Nut	JM0002154
17	Endcap Prop - 27" Long	JM0021403
18	M10 x 1.5 x 50MM Gr8.8 YZ Hex Bolt	JM0001486
19	M6 x 1.0 Gr8.8 YZ Nylon Locking Hex Nut	JM0002167
20	M10 x 1.50 Gr8.8 YZ SF Hex Nut	JM0002154
21	M6 x 1.00 x 65MM Hex Bolt	JM0002121
22	M12-1.75 Gr8.8 YZ Nylon Locking Hex Nut	JM0002163
23	Crank Holder (zinc plated)(CH-1)	JM0002967
24	Roll Tarp - Handle Hanger Rubber Flap	JM0002551
25	1/2" ID, 1-3/8" OD Z Flat Washer	JM0003082
26	M12 x 1.75 x 35MM Gr8.8 YZ Hex Bolt	JM0020955
27	1/4" x 2" x 29" Adj. Bar for Crank Handle Holder	JM0000164
28	3/16" Cable x 270" (1000-1151, 1012,1112, 1222, 2431, GC31t-1) (316C-1050)	JM0021408
29	1-1/4" x 270" Roll Tube for Roll Tarp (1000-1151, 1012-1222, 2431)(1050RT)	JM0021334
30	21'8" x 13'6" Tarp w/ 10 Rivets (1050T)	JM0021336
31	1" x 264" Square Tie-Down Tube (1000-1151, 1012, 1112, 1122, 1222, 2431)(1050TT)	JM0021331
32	Tightening Lip 132" (1000 - 1151) (Since 2000) Front	JM0013654
32	Tightening Lip 132" (1000 - 1151) (Since 2000) Rear	JM0013653
33	137" Arched Tarp Bows (Regular)	JM0000157
34	12' Crank with Splined U-Joint	JM0019888
35	S-Cap Yellow - 1.062 ID x 1.5 x 0.065	JM0018963
36	M10-1.5 x 50" Gr8.8 YZ Hex Bolt	JM0001486
37	Tarp Stop Bracket (TSB-1)	JM0000187
38	1/8" Cable Clamp	JM0001514
39	Universal Joint - Roll Tarp	JM0001517

Spring Return Assembly



	Description	Part No.
1	1/4"-20 Gr2 Z Centerlock Hex Nut	JM0001505
2	Aluminum Spacer for Spring Return (1-3/8" x 2-3/16") Rectangular	JM0002445
3	1-1/4" Idler Pulley (1/4" ID)	JM0002439
4	Large Spring Return Pulley Spacer (2 Holes)	JM0018897
5	1-5/8" Idler Pulley (Long Spring Return)	JM0012970
6	1/4"-20 x 1" Gr5 Z Hex Bolt	JM0002095
7	1/4"-20 x 1-1/2" Gr5 Z Hex Bolt	JM0002447
8	1/4" ID, 3/4" OD Z Flat Washer	JM0003090
9	Rectangular Plastic Spacer for Spring Return	JM0012973
10	1/4"-20 x 1-1/4" Gr5 Z Hex Bolt	JM0016673
11	2" Black Plastic Spacer (1/4" ID x 1/2" OD)	JM0002442
12	Spring Return Spring	JM0000207
13	Spring Return Housing for Grain Cart Roll Tarp	JM0012974
14	3/8"-16 x 3" Gr5 Z Hex Bolt	JM0001666
15	Spring Return Stiffening Plate	JM0034548
16	3/4" x 2" Plastic Spacer	JM0002444
17	3/8"-16 Gr2 Z Centerlock Hex Nut	JM0001512
18	Spring Return Cable (Grain Carts)	JM0012981
19	Spring Return Assembly Complete (Grain Cart)	JM0002911
20	1/4" x 3/4" Self Tapping Screw	JM0001570

Disc Brake



Description	Part No.
1 1-1/2" Rotor Spacer Weldment - Grain Cart Disc Brake	JM0074485
2 5/8"-11 x 6" Gr8 Z Hex Bolt	JM0001603
3 AUSCO Products, Hydraulic Caliper, Stator Assembly	JM0078359
4 AUSCO Products, Hydraulic Caliper, Main Assembly	JM0074255
5 AUSCO Brake Caliper Shim Plate, 9 ga (0.015")	JM0077212
5 AUSCO Brake Caliper Shim Plate, 14 ga (0.075")	JM0077205
6 Angled Caliper Mount Plate - 2 Calipers	JM0077049
7 5/8"-11 Gr2 Z Centerlock Hex Nut	JM0002146
8 1"-8 Gr2 Z Centerlock Hex Nut	JM0002149
9 AUSCO Products, Hydraulic Caliper, Rue Clip	JM0078361
10 22in Rotor Plate - 1/2" Thick	JM0036128
11 1/2" Gr2 Z Lock Washer	JM0019021
12 M12-1.75 X 120 Gr8.8 YZ Hex Bolt	JM0076245
13 AUSCO Products, Hydraulic Caliper, Stator Pin	JM0078360
14 6" Bolt Together Brake Spindle Assembly	JM0002453
15 5/8"-11 x 2" Gr8 Z Hex Bolt	JM0001771
16 1"-8 x 8" Gr8 YZ Hex Bolt	JM0042652
17 1/4" Male SAE-ORB x 1/4" Male 37deg Flare; 90 Degree Elbow	JM0074311
18 1/4" x 18" Hydraulic Hose 18inch4IA3K-4G-4FJX-4G-4FJX90S	JM0077063
19 1/4" Male 37deg Flare; Tee	JM0074319
20 1/4" x 60" Hydraulic Hose 60inch4IA3K-4G-4FJX-4G-4FJX	JM0074328
21 1/4" x 291" Hydraulic Hose 291inch4IA3K-4G-4FJX-4G-6FJX	JM0077224
22 3/8" Male 37deg Flare x M18x1.5 Male with O-Ring; Straight	JM0077227
23 ISO 5676 Female Brake Coupling	JM0077062