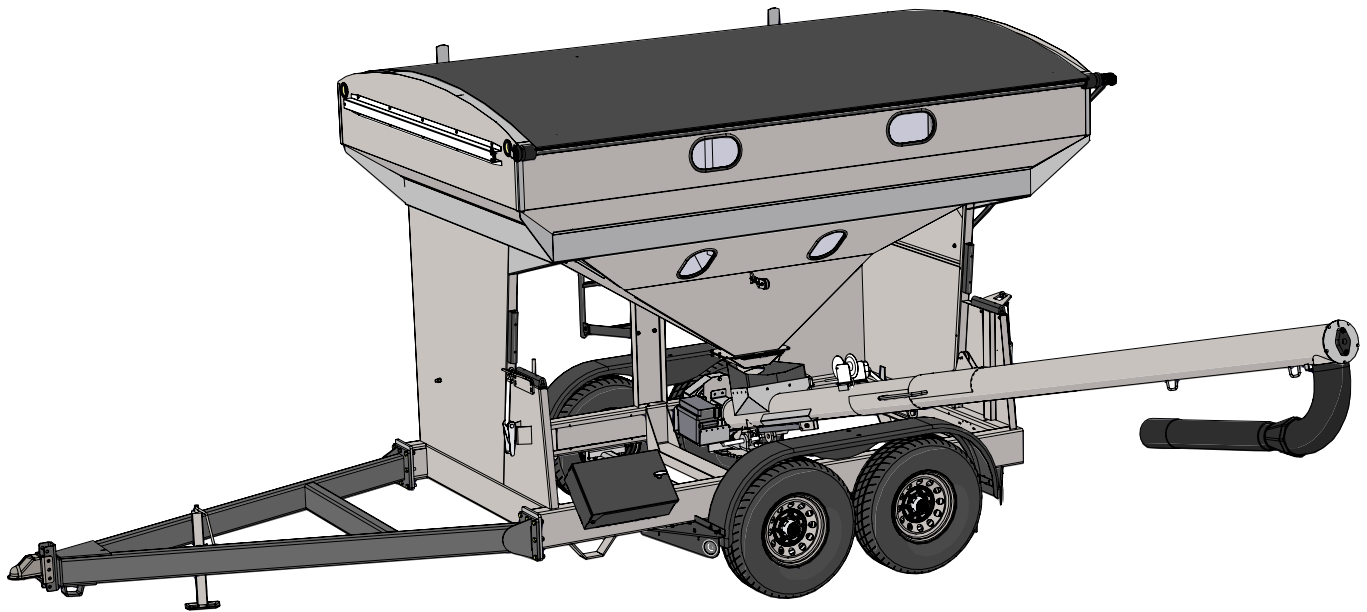




Manual

SPEEDTENDER OPERATOR'S MANUAL

MODEL **EC270**



Rev. 7.14.2022

J&M Manufacturing Co, Inc

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To the Dealer

TO THE DEALER

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

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

EXPRESS WARRANTY:

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

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

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

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

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

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

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

SERVICE:

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

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

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

Model No: EC270 SpeedTender **Serial No:** _____ **Date of Purchase:** _____

Purchased From: _____

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

General Information

TO THE OWNER:

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

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

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



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



DANGER

Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.



WARNING

Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed.



CAUTION

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

IMPORTANT

Indicates that failure to observe can cause damage to equipment.

NOTE

Indicates helpful information.

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 tow vehicle prior to hooking up or operating the SpeedTender.

Read this manual before you operate this machine. If you do not understand any part of this manual, or need more information, contact the manufacturer or your authorized dealer.

Safety Rules Continued on Next Page

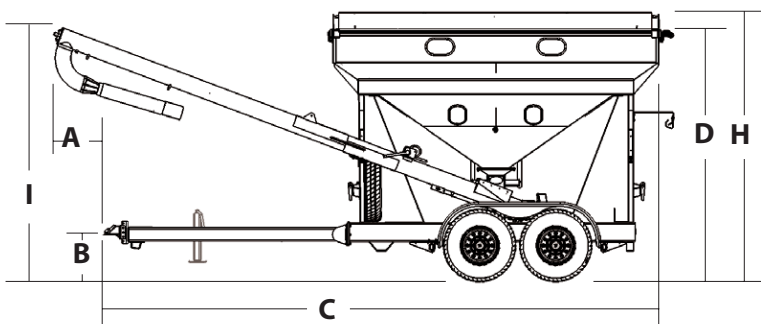
Safety Rules

1. Understand that your safety and the safety of other persons are measured by how you service and operate this machine. Know the positions and functions of all controls before you try to operate them. Make sure to check all controls in a safe area before starting your work.
2. The safety information given in this manual does not replace safety codes, federal, state, or local laws. Make certain your machine has the proper equipment as designated by local laws and regulations.
3. A frequent cause of personal injury or death is from persons falling off equipment and being run over. Do not permit persons to ride on this machine.
4. Secure SpeedTender safety chain to towing vehicle before transporting. Do not transport without safety chains being attached to tow vehicle.
5. Make sure the auger is on the rest before transport.
6. Use good judgment when transporting SpeedTender on a highway. Maintain complete control at all times. Regulate speed to road conditions. Do not transport unit with rear compartment full and front compartment empty. The unit may not be properly balanced, offsetting the tongue weight of the SpeedTender.
7. When transporting on public roads, the auger must be folded in.
8. Do not travel faster than 10 mph during off highway travel. Drive slowly over rough ground, hill sides, and around curves to avoid tipping. Use extreme care when operating close to ditches, fences, or on hillsides.
9. Use care when moving or operating SpeedTender near electric lines as serious injury or death can result from contact.
10. Never adjust, service, clean, or lubricate SpeedTender until all power is shut off and the battery is disconnected. Keep all safety shields in place.
11. Carbon monoxide can cause severe nausea, fainting, or death. Do not operate engine in closed or confined work area.
12. Explosive fuel can cause fires and severe burns. Stop engine before filling fuel tank.
13. Hot parts can cause severe burns. Do not touch engine while operating or just after stopping.
14. Make sure that everyone is clear of equipment before applying power or moving the SpeedTender.
15. Never allow children or anyone in, near, or on the SpeedTender during transport or during loading and unloading of seed. Be aware that moving seed is dangerous and can cause entrapment, resulting in severe injury or death by suffocation.
16. Before unhooking the SpeedTender from the transport vehicle, be sure to properly block the wheels to prevent the SpeedTender from moving.

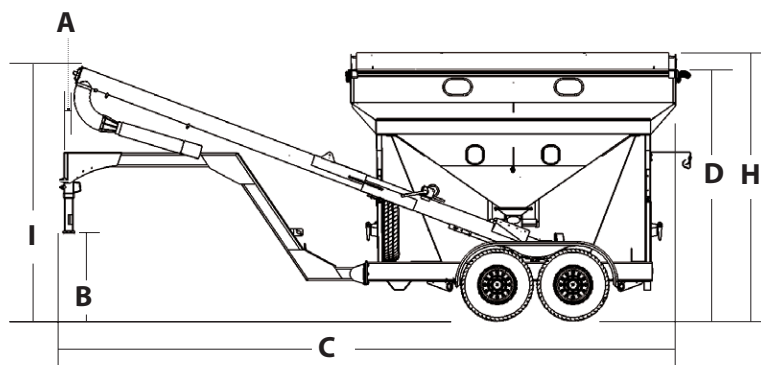
Specifications

Capacity (Total)	Weight (Empty)	Tongue Weight (Loaded)	Auger	Unloading Rate	Auger Reach	Axles	EC270 Engine
270 Seed Units	4,400 lbs.	1,086 lbs.	19' Long 7" Diameter	16 Bushels/ Min	44' (Front to Rear Swing)	Two (2), 7,000 lb. Torsion-Flex Axles with Electric Brakes	4.8 HP Honda Motor with Electric Start

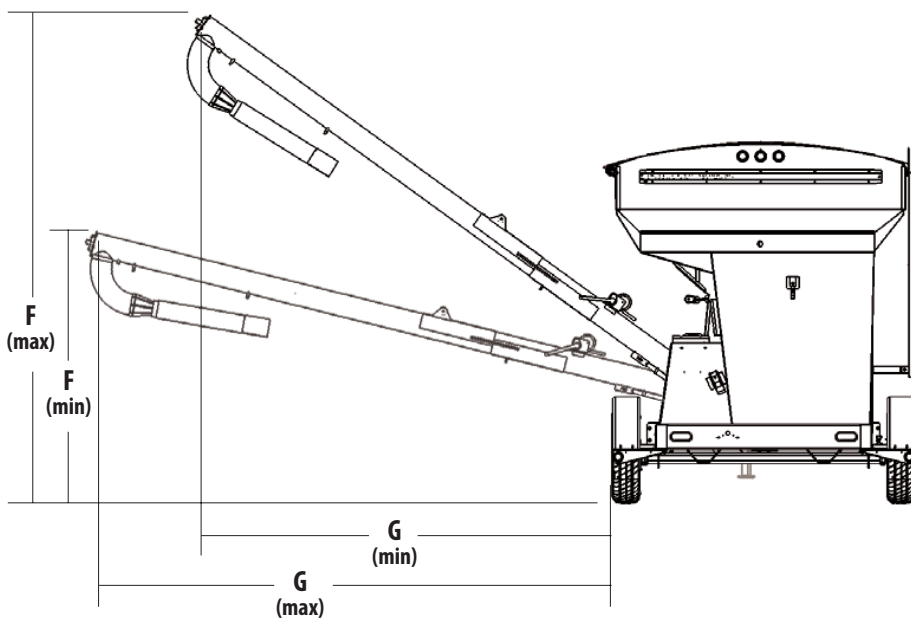
A-Frame



Gooseneck

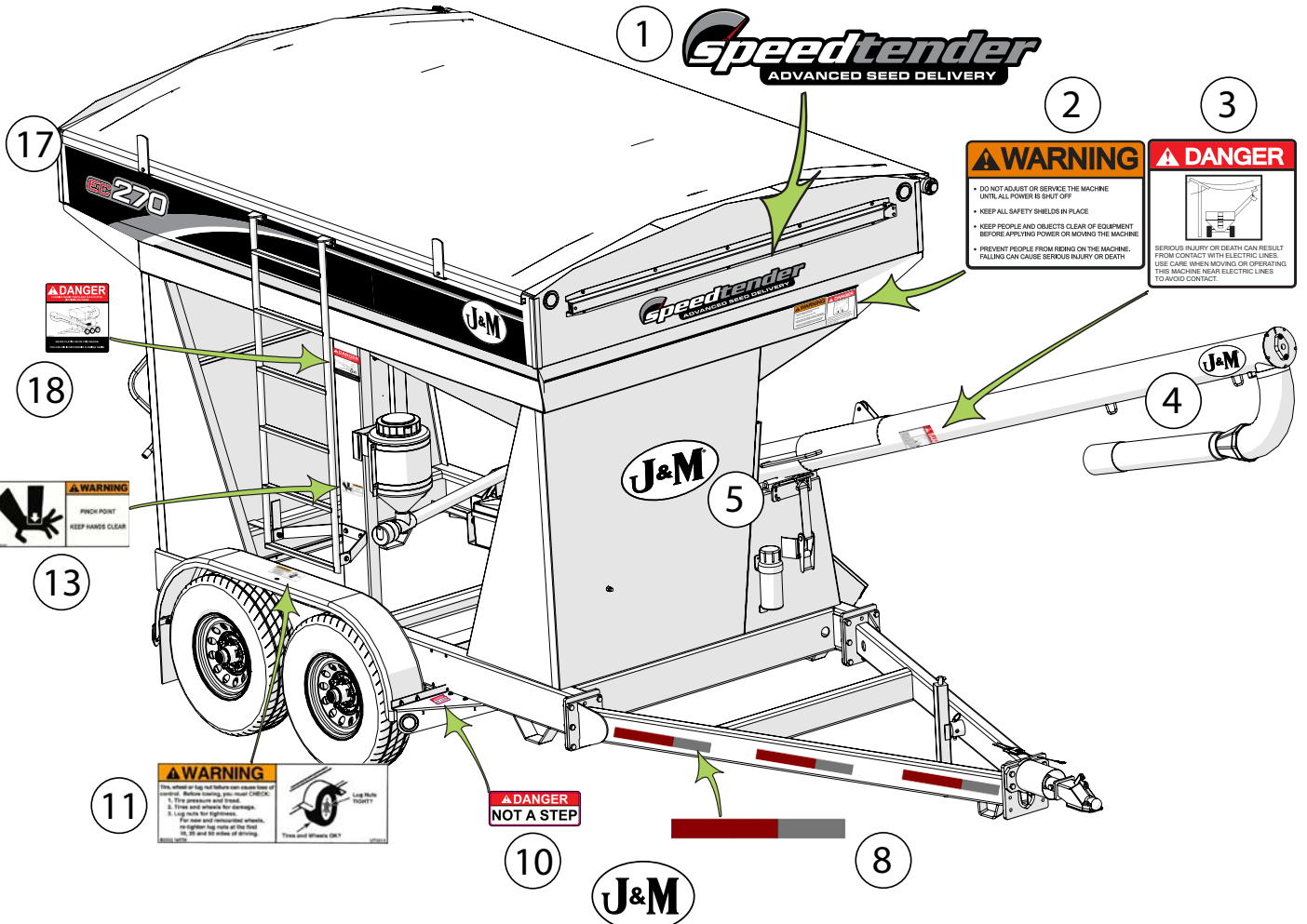
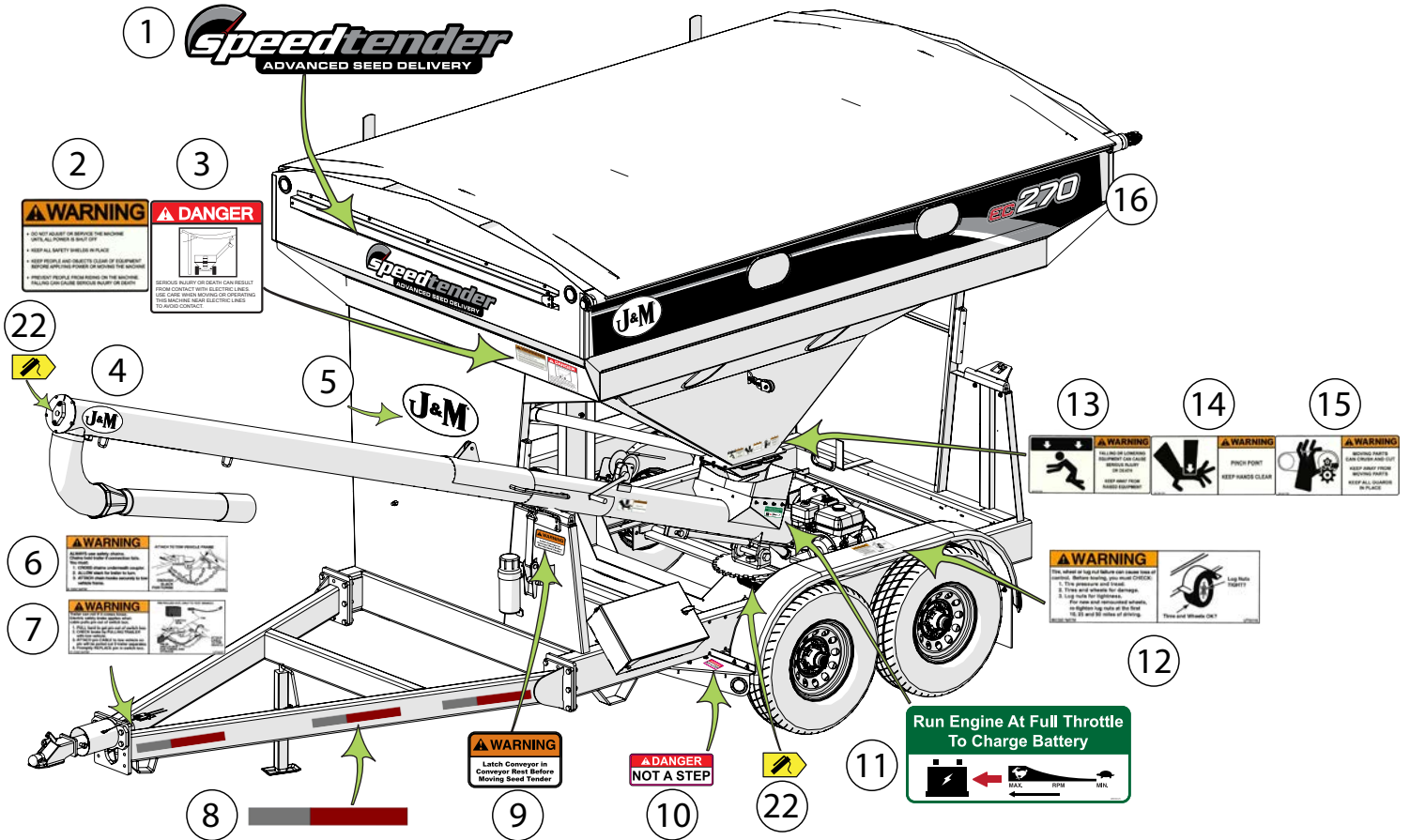


	A-Frame Option	Gooseneck Option
A	2'-6"	-0'-3"
B	1'-6" (Min.)	2'-5" (Min.)
B	1'-10" (Max.)	3'-1" (Max.)
C	20'-8"	23'-3"
D	9'-4"	9'-4"
E	8'-4"	8'-4"
F	7'-0" (Min.)	7'-0" (Min.)
F	13'-0" (Max.)	13'-0" (Max.)
G	12'-4" (Min.)	12'-4" (Min.)
G	15'-0" (Max.)	15'-0" (Max.)
H	9'-10"	9'-10"
I	9'-5"	9'-5"



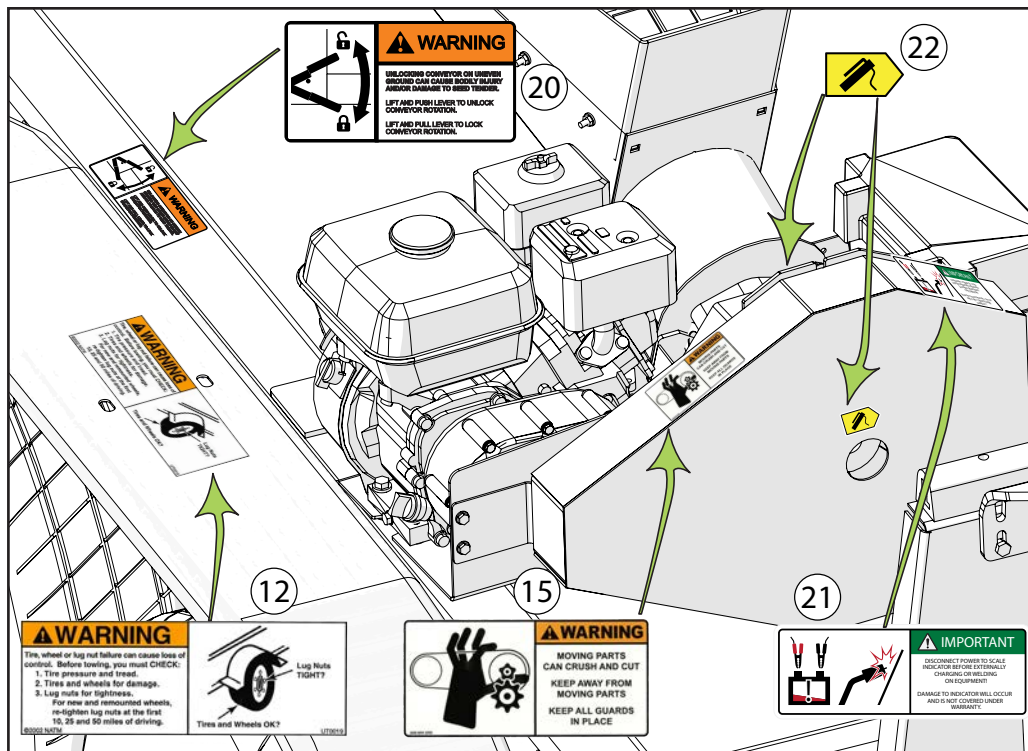
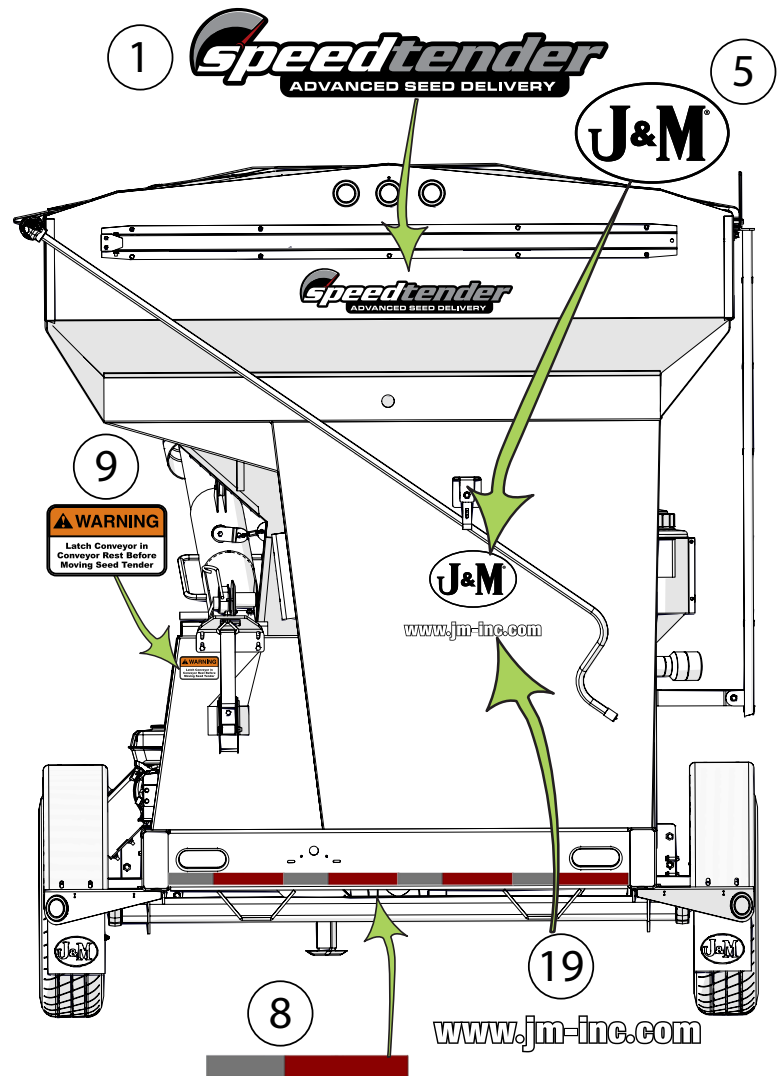
speedtender
ADVANCED SEED DELIVERY

Decals



Decals

Description	Part No.
1 SpeedTender Advanced Seed Delivery	JM0040057
2 Warning, Do Not Adjust (4 Bullets) Decal	JM0018040
3 Danger, Electric Lines Decal	JM0015099
4 J&M Oval Decal (Medium) 5-1/2" x 8-1/2"	JM0010179
5 J&M Oval Decal (Large) 9-1/2" x 15"	JM0015151
6 Warning, Always Use Safety Chains Decal	JM0014995
7 Warning, Trailer Can Roll Decal	JM0014997
8 2" x 18" Red and White Reflective Strip	JM0015079
9 Warning, Latch Auger Decal	JM0051006
10 Danger, Not a Step Decal	JM0051005
11 Run Engine At Full Throttle To Charge Battery Decal	JM0032425
12 Warning, Tire Wheel or Lug Nut Failure Decal	JM0014996
13 Warning, Falling Or Lowering Decal	JM0014992
14 Warning, Pinch Point Decal	JM0014994
15 Warning, Moving Parts Can Crush and Cut Decal	JM0014993
16 EC 270 AS Decal Kit Colored Box	JM0051008
17 EC 270 OAS Decal Kit Colored Box	JM0051009
18 Danger, Flowing Grain Traps ST Decal	JM0014969
19 www.jm-inc.com Decal	JM0019239
20 Warning, Unlocking Auger on Uneven Ground Decal	JM0051004
21 Important, Disconnect Power To Scale Decal	JM0040056
22 Grease Point Decal	JM0040055



Bolt Torque Specifications

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

SAE Fasteners

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

Stud and Wheel Nut Torque Specifications

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

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

TIGHTENING WHEEL NUTS: Torque 9/16"-18 lug nuts on wheels to 170 ft-lbs after the first 10, 25, and 50 miles of driving, then recheck torque every 50 hours or every year, whichever comes first. Failure to do so may damage wheel nut seats. Once seats are damaged, it will become impossible to keep nuts tight.

Operations

Preparing the Towing Vehicle

1. Before towing the SpeedTender, refer to towing vehicle's owner's manual for information concerning hitch capacities, hitch adjustments, and tire inflation.
2. Towing vehicle must be equipped with proper electric braking components.
NOTE: The SpeedTender is equipped with LED lights. The towing vehicle may require a flasher upgrade for lights to operate properly.
3. Do not exceed towing vehicles GVWR (Gross Vehicle Weight Rating) or GCWR (Gross Combination Weight Rating), or the maximum hitch load.

Preparing SpeedTender

1. Lubrication: Lubricate SpeedTender as outlined in the service section of this manual.
2. Refer to engine manual for proper fluid levels in engine.
3. Check tire pressures and maintain at recommended operating pressure.
4. It is important to check wheel nut/bolts for proper torque as recommended.
NOTE: You can find proper tire pressure and wheel torque located in "Tire Service" on page 16.

Connecting SpeedTender to the Towing Vehicle

! WARNING: Do not stand between the SpeedTender and tow vehicle when hooking up.

NOTE: The SpeedTender comes standard with a 2-5/16" ball coupler and has an optional 3" lunette eye. Also, the SpeedTender can come with an optional Gooseneck Frame in place of the A-Frame. The Gooseneck Frame can feature either a 2-5/16" ball coupler or a 5th Wheel hook up.

1. Back towing vehicle up to SpeedTender.
2. Align the vehicle's ball or lunette eye with the coupler or ring on the SpeedTender.
3. Lift tongue latch lever.
4. Lower jack to set SpeedTender coupler down on ball or lunette eye hook.
5. Latch coupler and insert pin. Check to make sure that coupler is securely latched.
6. A-Frame - Pivot jack to transport position and pin in place. Gooseneck - Raise the "drop leg" of the jack.
7. Attach 7-way plug to tow vehicle. Check the length of the SpeedTender 7-way plug to make sure that it is long enough to turn, but not too long to touch the ground.

NOTE: Check to make sure that lights are in proper operating condition and repair or replace if necessary.

8. Connect the brake breakaway cable to towing vehicle.
9. Attach safety chains to tow vehicle by crossing chains. Allow enough slack in chains necessary for turning.
10. Test the brakes and all the lights on the SpeedTender

! WARNING: Check safety chains for broken, stretched or damaged link or end fittings. Replace chains if found to be damaged. Do not weld safety chains.

Transporting

1. Ensure the jack is in the horizontal position before transporting.
2. Secure the auger on the auger rest and strap down.

! WARNING: Travel at a safe speed that allows you to maintain complete control of towing vehicle and SpeedTender at all times.



Operations

Power Unit Operation

1. Check to make sure all fittings and hardware are in proper operating condition. Replace if worn or broken. Check engine fluid levels and sight gauge on reservoir for proper operating levels.
2. Slide the Fuel Shut-off Lever to the "ON" position.
3. Slide Choke Lever to the "ON" position.
4. Turn the key to the start position. Once engine starts, release key.
5. After starting, allow the engine to warm up. Slide choke to the "OFF" position, and increase throttle speed.
6. To turn the engine off, slide the Fuel Shut-off to the "OFF" position.
7. Turn key off.

NOTE: In extremely cold weather, it is best to allow engine to warm up before increasing throttle speed.

NOTE: See Engine manual for more details on upkeep and service.

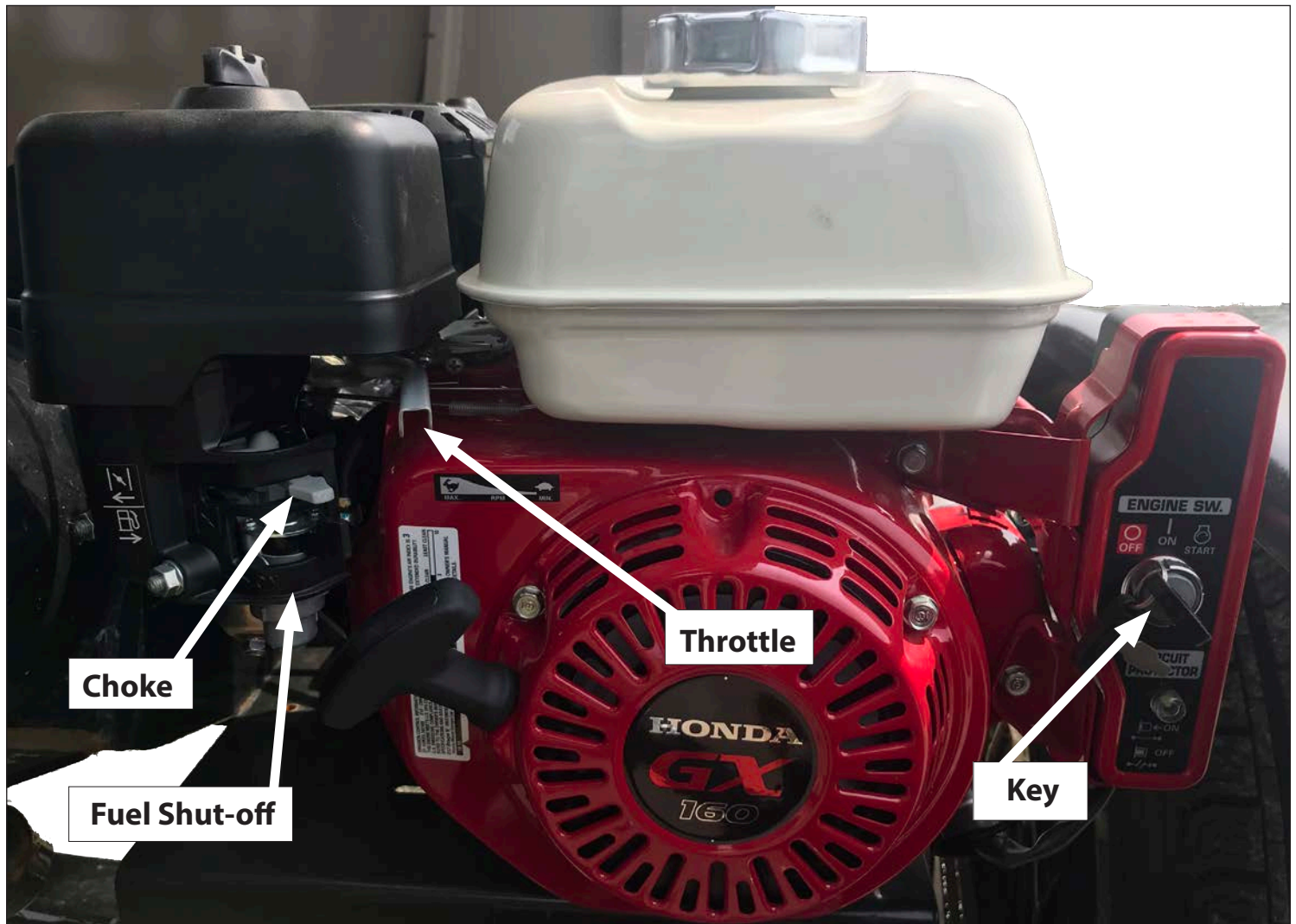
⚠ WARNING: Explosive fuel can cause fires and severe burns. Stop engine before filling fuel tank.

⚠ WARNING: Carbon monoxide can cause severe nausea, fainting or death. Do not operate engine in an enclosed or confined area.

⚠ WARNING: Hot parts can cause severe burns. Do not touch engine while operating or just after stopping.

⚠ WARNING: Acid from battery can cause fires and severe acid burns. Make sure to charge battery in well-ventilated area.

⚠ WARNING: Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.



Operations

Field Operation



WARNING: The SpeedTender must be hooked to the towing vehicle during loading and unloading.

1. Position the SpeedTender next to the planter/drill so the auger will reach the planter box.
2. Start the motor and increase throttle speed (allow engine to warm up in cold weather).
3. Extend the auger to unload position.
4. Use the Handheld Control or Wireless Remote to start the auger.
5. Fill the planter/drill to desired level, then repeat.



WARNING: Fill the front compartment first to help prevent the chance of flipping.



CAUTION: If you are parked on an incline, the auger may swing freely. It is advised that you do not use SpeedTender on uneven ground.

6. The engine must throttle at, or above 80% throttle for 3 seconds to begin charge. After the 3 seconds at 80% throttle the battery will continue to charge until the engine is turned off.

NOTE: Adjusting engine throttle will regulate auger speed.

7. Slide the fuel shut off lever to the "OFF" position. This will allow the engine to shutoff by running out of gas.
8. Turn the key to the "OFF" position.

Reprogramming the Key Fob and Receiver:

Power up the unit. The LED on the receiver unit will flash red four times, indicating the unit has received power. Magnetically controlled switching circuitry is embedded in the receiver unit. Place a fairly powerful magnet on the back of the receiver for 3 seconds and remove it. The LED will change to a constant red state. Now press any button on the transmitter you are attempting to reprogram. The LED will change to a green/yellow color, confirming the receiver has picked up a signal from the transmitter, and subsequently learned that signal. Communication has been established and the key fob will function properly.

Troubleshooting:

If the above procedure does not complete successfully, wait until the LED light goes out and repeat the procedure. If you experience a second failure of the reprogramming, place the magnet on the back of the receiver. The LED will change to a constant red state. Leave the magnet in place on the receiver until the LED light goes out (approximately 10 seconds), which completely clears the receiver's memory. Once you have cleared the memory, proceed with the standard reprogramming procedure for the key fob transmitters.

Servo Controller Operation

Setting the Servo Range

1. Start and warm up engine.
2. Turn speed dial on the echo dispense control box to the lowest setting.
3. Press and hold the "echo" button on the remote or control box and power on the unit. Continue to hold "echo" for 6 secs until the Manual LED light blinks. Release the "echo" button.
4. Slowly adjust the speed dial until the engine rpm increases to engage the clutch and turns the auger. You will have to adjust this slightly higher to compensate for a loaded auger.
5. Press the "echo" button to save.
6. Slowly adjust the speed dial until the throttle is positioned to its max throttle setting. Ensure the servo does not cause the mounting plate to deflect or bend. This will damage the servo for long durations.
7. Press the "echo" button to save.

Manual Operation

- Start and warm up engine. Power on the unit and select your desired auger speed using the speed dial.
- Pressing the "MANUAL" button will increase the speed of the engine and hold it at the set speed setting.
- Releasing the "MANUAL" button will return the engine to idle.

Unloading with Echo Dispense

- Start and warm up engine. Power on the unit and select your desired auger speed using the speed dial.
- Press and hold the "MANUAL" button to unload the amount desired.
- Press and release the "echo" button. The unit will automatically unload the previously desired amount based on the time of the manual.



Operations

Basic Scale Operations

1. Turn the scale "ON" by pressing the on/off button. The display shows "Hello" then the current weight value is displayed.
2. Press G/N to access the gross mode. (Live scale weight is displayed in the G/N weighing mode.)
3. In the gross mode, press the ZERO/CLEAR key to zero the indicator when the SpeedTender is empty.
4. After initial amount is placed on the scale, press the TARE Key. (Weight is tared off and goes into net mode, showing weight).
5. Load or unload material as needed (Shows + when loading and a - value when unloading).
6. When the display reaches the proper amount, stop loading or unloading.
7. Repeat steps 2 through 4 until complete.

NOTE: For more information, refer to the scale manual.

Auger Cleanout

1. Raise the clean out door on the auger.
2. Run the auger in reverse until all of the grain is removed.
3. Close the clean out door.

Adjusting the Tarp Tension in Hanger Bracket

1. Fully unroll the tarp as shown on the right.
2. Remove the two bolts that hold the tarp U-Joint on the splined shaft.
3. Remove the U-Joint from the spline shaft.
4. Rotate U-Joint and handle three or four spline teeth.
NOTE: Clockwise to tighten the tarp or counter-clockwise to loosen it.
5. Slide the U-Joint and handle back onto the spline shaft.
6. Replace and tighten the two bolts.



General Service

Daily Service (5 -10 Hours of Use)

NOTE: J&M recommends the following service to be performed daily (every 5-10 hours of use)

1. Check all fittings, bolts, and hardware to make sure that they are secure and properly tightened.
2. Check engine oil level. See Engine operator's manual for details on oil levels, oil types and service intervals.
3. Check SpeedTender brakes and lights before towing.
4. Check the SpeedTender periodically for cracks in welds and for other structural damage. Have cracked welds fixed immediately.

NOTE: Failure to have cracked welds fixed immediately could result in extensive damage to the SpeedTender and greatly reduce its life.

5. Make sure tires are properly inflated.
6. Make sure wheel lug nuts are properly torqued.
7. Clean out the auger at the end of every day of use.

End of the Year Service

IMPORTANT: When the SpeedTender is not going to be used for a length of time, J&M recommends that you store the SpeedTender in a dry, protected place. Leaving your SpeedTender outside and open to the weather will shorten its life.

1. The wheel bearings need to be cleaned, inspected, repacked, and adjusted. Use a number 2 wheel bearing grease to repack the bearings.
2. Inspect and service the brakes (magnets and shoes). They must be changed when they become worn or scored, thereby preventing inadequate vehicle braking. Clean the backing plate, magnet arm, magnet, and brake shoes. Make certain that all the parts removed are replaced in the same brake and drum assembly. Inspect the magnet arm for any loose or worn parts. Check shoe return springs, hold down springs, and adjuster springs for stretch or deformation, replace as needed.
3. If equipped with talc, be sure to empty talc box entirely and run the talc auger to completely empty talc from the auger pipe.
4. Torque lug-nuts (See "Bolt Torque Specifications" on page 10).
5. Make sure that the tires are properly inflated.
6. Remove all grain from inside the grain tanks.
7. Clean out the auger at the end of every season
8. Check the SpeedTender periodically for cracks in welds and for other structural damage. Have cracked welds fixed immediately.

NOTE: Failure to have cracked welds fixed immediately could result in extensive damage to the SpeedTender and greatly reduce its life.

9. Remove battery from the SpeedTender and place in a cool dry place.

NOTE: Attaching a trickle charger to the battery will help ensure a long life for your battery.

IMPORTANT: Be sure to disconnect the scales from the battery before charging.

10. Check motor oil level. See Engine operator's manual for details on oil levels, oil types, and service intervals.
11. Touch-up spots where paint has been worn away (use good quality primer paint - especially before applying graphite paint to the inside of the grain tank).

Removing From Storage

1. Torque lug-nuts (See "Bolt Torque Specifications" on page 10).
2. Make sure that the tires are properly inflated.
3. Check oil level.
4. Check all fittings, bolts, and hardware to make sure that they are secure and properly tightened.
5. Check engine oil level. See Engine operator's manual for details on oil levels, oil types, and service intervals.
6. Check SpeedTender lights before each use.
7. Reattach battery and check to make sure it is fully charged.

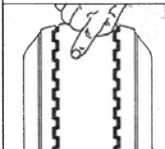
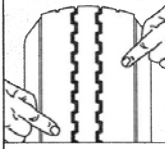
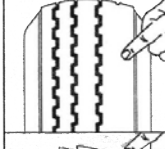
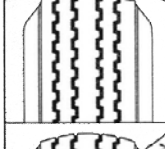
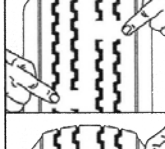
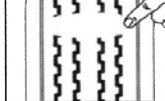
IMPORTANT: Be sure to disconnect the scales from the battery before charging.



Tire Service

Tire Pressure

The following is to be used as a general guide for tire inflation. Figures can vary depending on specific brand of tire used. It is important that tires are inspected before and after unit is loaded. Start with the minimum pressure indicated. The tire should stand up with no side wall buckling or distress as tire rolls. Do not exceed maximum recommended tire pressure. 235-85-R16 tires are standard on the SpeedTender and should be inflated to 80 psi. J&M also recommends to rotate your tires front to back (not side to side) every 1,200 miles or 12 months (whichever comes first) for longer tire life. The image below is a troubleshooting chart used to ensure the tires wear evenly.

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

Tightening Lug Nuts

Torque 9/16"-18 lug-nuts on new and removed wheels to 170 ft-lbs after the first 10, 25, and 50 miles of driving, then recheck torque every 50 hours or every year, whichever comes first. Failure to do so may damage wheel nut seats. Once seats are damaged, it will become impossible to keep nuts tight.

Wheel Bearing Service

The wheel bearings need to be cleaned, inspected, and repacked every 12 months or 12,000 miles. Use a number 2 wheel bearing grease to repack the bearings.

Bearing Inspection and Service:

1. Jack up SpeedTender.
2. Remove wheel lug nuts.
3. Remove wheel from hub.
4. Remove grease cap.
NOTE: Be careful not to dent or cut a hole in grease cap.
5. Remove the cotter pin, nut, and washer.
6. Wiggle the hub to take the outer wheel bearing out.
7. Pull hub assembly straight off the axle. If you want to reuse the grease seal, (which is not recommended), be careful to support the weight of the hub so that the end of the axle does not ruin the rubber part of the grease seal.
8. To remove the inner bearing, you must remove the grease seal.
9. Remove inner bearing.
10. Wash all grease and oil from the bearing cone using a suitable solvent. Dry the bearing with a clean, lint-free cloth and inspect each roller completely. If any pitting, scalding, or corrosion is present, then the bearing must be replaced. The bearing cups inside the hub must be inspected.
NOTE: Bearings must always be replaced in sets of a cone and a cup.
11. Repack inner bearing with new grease.
 - A. Place a moderate amount of grease in the palm of one hand.
 - B. Hold the inner bearing, large side down, in your other hand
 - C. Using the edge of the bearing like an ice-cream scoop, work it in until you see fresh grease come out of the top side of the bearing.
 - D. Rotate 1/8 of a turn and repeat until the whole bearing is full of fresh grease.
12. Place the inner bearing in the back of the wheel hub and add a liberal dose of grease.
13. Position the new wheel seal in its recess and lightly set it with a hammer.
NOTE: Be careful to not deform the metal part of the seal.
14. Slide the hub assembly onto the spindle and push it back into position.
15. Grease the outer bearings by hand. (See step 11)
16. Slide it and the spindle washer onto the spindle and into the hub recess.
17. Install and bottom out the spindle nut, then back it off 1/4 turn.
18. Reinstall the spindle nut and replace the cotter pin with a new one.
NOTE: If the castle nut does not line up with the hole in the spindle, then loosen the nut slightly until it does.
19. Pack the bearing cap with fresh grease and lightly drive it into the hub recess with a hammer.
20. Reinstall the wheel onto the hub and torque the wheel lug-nuts.
NOTE: See "Bolt Torque Specifications" on page 10.

Bearing cup replacement:

1. Place the hub on a flat work surface with the cup to be replaced on the bottom side.
2. Using a brass drift punch, carefully tap around the small diameter end of the cup to drive it out.
3. After cleaning the hub bore area, replace the cup by tapping it with the brass drift punch. Be sure the cup is seated all the way up against the retaining shoulder in the hub.

Brakes Service

The SpeedTender is equipped with electric brakes. They need to be inspected and serviced immediately if a loss of performance is experienced. You need to service your SpeedTender brakes at least once a year with normal use.

How to use your electric brakes properly:

Your SpeedTender brakes are designed to work in synchronization with your tow vehicle brakes. Never use your tow vehicle or SpeedTender brakes alone to stop the combined load.

Your SpeedTender and tow vehicle will seldom have the correct amperage flow to the brake magnets to give you comfortable, safe braking unless you make proper brake system adjustments. Changing trailer load and driving conditions, as well as uneven alternator and battery output, can mean unstable current flow to your brake magnets. It is therefore imperative that you maintain and adjust your brakes as set forth in this manual, use a properly modulated brake controller, and perform the synchronization procedure noted below.

In addition to the synchronization adjustment detailed below, electric brake controllers provide a modulation function that varies the current to the electric brakes with the pressure on the brake pedal or amount of deceleration of the tow vehicle. It is important that your brake controller provide approximately 2 volts to the braking system when the brake pedal is first depressed and gradually increases the voltage to 12 volts as brake pedal pressure is increased. If the controller “jumps” immediately to a high voltage output, even during a gradual stop, then the electric brakes will always be fully energized and will result in harsh brakes and potential wheel lockup.

To synchronize:

To ensure safe brake performance and synchronization, read the brake controller manufacturer’s instruction completely before performing the synchronization procedure.

Make several hard stops from 20 mph on a dry, paved road that is free of sand and gravel. If the SpeedTender brakes lock and slide, decrease the gain setting on the controller. If they do not slide, slightly increase the gain setting. Adjust the controller just to the point of impending brake lockup and wheel skid.

How to adjust electric brakes:

1. Park the SpeedTender on firm and level ground.
2. Block the trailer tires on the opposite side securely so that no forward or rearward movement is possible.
3. Jack up the SpeedTender.
4. Secure the front and rear of the trailer on jack stands of adequate capacity.
5. At the back of the wheel, on the brake backing plate, there is a small rubber plug near the bottom of the backing plate. Pry out this plug to give access to the star wheel adjuster.
6. Insert the brake adjuster tool and maneuver it so that the tool engages with the teeth in the star wheel. The star wheel looks like a gear with exposed teeth on the perimeter.
7. Turn the adjuster until the brake locks up (you can no longer rotate the wheel by hand). This centers the brake shoes on the brake drum so they are in the correct position.
8. Back off the star wheel 8-10 clicks or as specified by the manufacturer. The wheel should spin freely with no apparent drag to slow it down. A slight scraping noise is normal as the wheel turns.
9. Repeat this procedure for all the wheels.

When to adjust brakes:

1. After the first 200 miles of operating when the brake shoes and drums have “seated.”
2. At 3,000 mile intervals or once a year, whichever comes first.

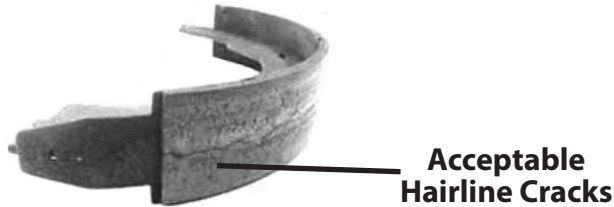
Brake Cleaning and Inspection:

Your SpeedTender brakes must be inspected and serviced at yearly intervals, (or more often as use and performance requires). Magnets and shoes must be changed when they become worn or scored, which causes inadequate vehicle braking. Clean the backing plate, magnet arm, magnet, and brake shoes. Make certain all the parts removed are replaced in the same brake and drum assembly. Inspect the magnet arm for any loose or worn parts. Check shoe return springs, hold down springs, and adjuster springs for stretching or deformation and replace if required.

Brakes Service

Brake Shoe and Lining Inspection:

A simple visual inspection of your brake linings will tell if they are usable. Replacement is necessary if the lining is worn (to within 1/16" or less), contaminated with grease or oil, or abnormally scored or gouged. Hairline heat cracks are normal in bonded linings and should not be cause for concern. When replacement is necessary, it is important to replace both shoes on each brake and both brakes of the same axle. This will help retain the "balance" of your brakes.



Replacing Brake Linings:

1. Remove the brake shoe retract spring.
2. Remove the shoe hold down assembly by holding the back of the pin with one hand and pushing against the spring and twisting with a hold down spring tool until the cup is released.
3. Remove both shoes together leaving the adjuster assembly and spring intact.
4. Clean the backing plate and lever arm.
5. Inspect magnet arm for any loose or worn parts.
6. Replace springs that are broken, bent, or weak.
7. Apply a light film of lubricant to the anchor pin and shoe rest pads & backing plate areas that are in contact with the lever arm.
8. Attach the adjuster screw and spring to the new brake shoes. The star wheel and adjuster must be positioned as before.
9. Install the new shoes on the backing plate and reinstall shoe retract spring.

After replacement of brake shoes and linings, the brake must be re-burnished to seat in the new components. This should be done by applying the brakes 20-30 times from an initial speed of 40 mph, slowing the vehicle to 20 mph. Allow ample time for brakes to cool between applications. This procedure allows the brake shoes to seat into the drum surface.

Brake Lubrication:

Before reassembling, apply a light film of lubrication or similar grease, or anti-seize compound on the brake anchor pin, the actuating arm bushing and pin, and the areas of the backing plate that are in contact with the brake shoes and magnet lever arm. Apply a light film of grease on the actuating block mounted on the actuating arm.

Troubleshooting:

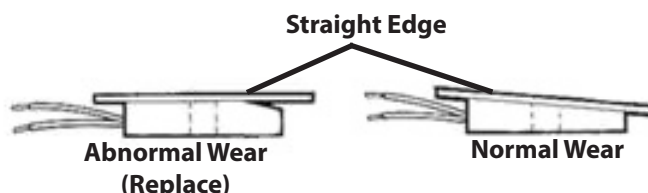
Mechanical causes are ordinarily obvious, bent or broken parts, worn out linings or magnets, seized lever arms or shoes, scored drums, loose parts, etc. Most electric brake malfunctions that cannot be corrected by either brake adjustments or synchronization adjustments can generally be traced to electrical system failure. Voltmeter and ammeter are essential tools for proper troubleshooting of electric brakes.

How to Measure Voltage:

System voltage is measured at the magnets. Connect the voltmeter to the two magnet lead wires at any brake. This may be accomplished by using a pin probe inserted through the insulation of the wires dropping down from the chassis or by cutting the wires. **The engine of the towing vehicle should be running when checking the voltage (so that a low battery will not affect the readings).**

Brake Magnet Inspection:

Your electric brakes are equipped with high quality electromagnets that are designed to provide the proper force and friction. Your magnets should be inspected and replaced if worn unevenly or abnormally (as shown below). Even if wear is normal as indicated by your straightedge, the magnets should be replaced if any part of the magnet coil has become visible through the friction material facing of magnet. It is also recommended that the drum armature surface be re-faced when replacing magnets. Magnets should also be replaced in pairs - both sides of an axle.



Brakes Service

Voltage in the system should begin at 0 volts. As the controller bar is slowly actuated, the voltage should gradually increase to approximately 12 volts, which is referred to as modulation. No modulation means when the controller begins to apply voltage to brakes, it applies an immediate high voltage, which causes the brakes to apply instantaneous maximum power.

The threshold voltage of a controller is the voltage applied to the brakes when the controller first turns on. The lower the threshold voltage, the smoother the brakes will operate. Threshold voltage in excess of 2 volts (quite often found in heavy duty controllers) can cause grabbing, resulting in harsh braking.

How to Measure Amperage:

System amperage is the amperage being drawn by all brakes on the trailer. **The engine of the towing vehicle should be running when checking amperage.**

One place to measure system amperage is at the blue wire of the controller, which is the output to the brakes. The blue wire must be disconnected and the amp meter put in series into the line. System amperage draw should be as noted in the table below. Make sure your ammeter has sufficient capacity and note polarity to prevent damaging your amp meter.

Brake Size	Amps/Magnet	Two Brakes	Four Brakes	Six Brakes	Magnet Ohms
12 X 2	3.0	6.0	12.0	18.0	3.2

Replacing brake magnet:

1. Orient the magnet over the lever arm post such that the magnet leads are in the correct position for routing.
2. Push the magnet over the lever arm post by compressing the magnet spring between the magnet and the lever arm.
3. Insert the magnet clip in the slot of the magnet. Be sure to orient the magnet clip so it will "snap" into place.
4. Press down on the magnet and install the magnet clip.
5. Be sure that the magnet moves up and down freely on the lever arm post.
6. Route the wiring in the same manner noted on removal. Be sure that wires cannot bind, pinch, or rub. Manually actuate lever arm to ensure there is no interference.
7. Install strain relief bushing, allowing enough slack in the wiring to allow the lever arm to move without straining the wires. Be sure the wire cannot come in contact with the armature.
8. Connect the magnet leads to the trailer wiring harness and then reinstall hub and drum.

Brake Drum Inspection:

There are two areas of the brake drum that are subject to wear and require inspection. These two areas are the drum surface where the brake shoes make contact during stopping and the armature surface where the magnet contacts (only in electric brakes).

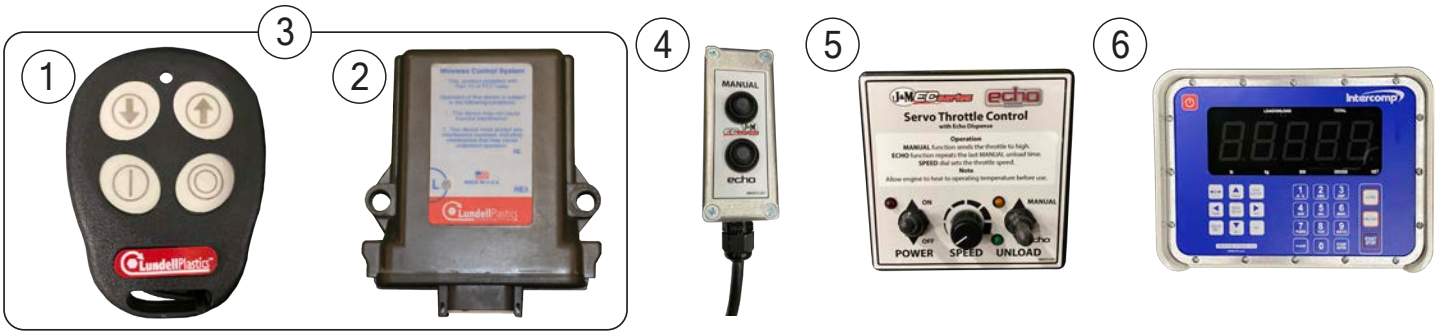
The drum surface should be inspected for excessive wear or heavy scoring. If worn more than .020" oversized, or if the drum has worn out of round by more than .015", then the drum surface should be turned. If scoring or other wear is greater than .090" on the diameter, the drum must be replaced. When turning the drum surface, the maximum re-bore diameter for a 12" brake drum is 12.090"

The machined inner surface of the brake drum that contacts the brake magnet is called the armature surface. If the armature surface is scored or worn unevenly, it should be refaced to a 120 micro inch finish by removing not more than .030" of material. To ensure proper contact between the armature face and the magnet face, the magnets should be replaced whenever the armature surface is refaced and the armature surface should be refaced whenever the magnets are replaced.

Troubleshooting

Problems	Solutions
Unit sways during travel	a. Check tire pressure. b. Check tow vehicle for loosened hitch parts. c. Check tow vehicle's hitch height. d. Reduce towing speed. e. Check wheel lug nuts. f. Check wheel bearings for adjustment (See "Wheel Bearing Service" on page 17).
Tires show excessive wear	a. Check tire pressure. b. Rotate tires (See "Tire Service" on page 16). c. Check wheel bearings for adjustment. (See "Wheel Bearing Service" on page 17).
Wheel makes grinding or squeaking noise	a. Service wheel bearings. (See "Wheel Bearing Service" on page 17).
Noisy when brakes are being applying	a. Properly adjust brakes. b. Replace any weak or broken springs in brakes. c. Replace the brake linings if excessively worn or contaminated. d. Check wheel bearings for adjustment (See "Wheel Bearing Service" on page 17).
No brakes	a. Properly adjust brakes. b. Check for short in electric circuit. c. Replace any brake magnets that are worn or defective.
Weak brakes	a. Properly adjust brakes. b. Replace any excessively worn or contaminated linings. c. Check for short in electric circuit. d. Replace bent backing plate.
Dragging brakes	a. Properly adjust brakes. b. Replace any weak or broken springs in brakes. c. Clean and lubricate the brake assemblies.
Locking brakes	a. Replace any weak or broken springs in brakes. b. Replace any excessively worn or contaminated linings.
Grabbing brakes	a. Replace any excessively worn or contaminated linings.
Surging brakes	a. Trailer is not adequately grounded.
Auger motor is not producing sufficient power	a. Increase engine RPM. b. Charge battery.
Auger is not moving - Obstructed auger	a. Make sure auger is not clogged .
Auger has insufficient output speed or RPM	a. Check telescoping spout and auger for a clog. b. Remove material from clean out door.

Controls

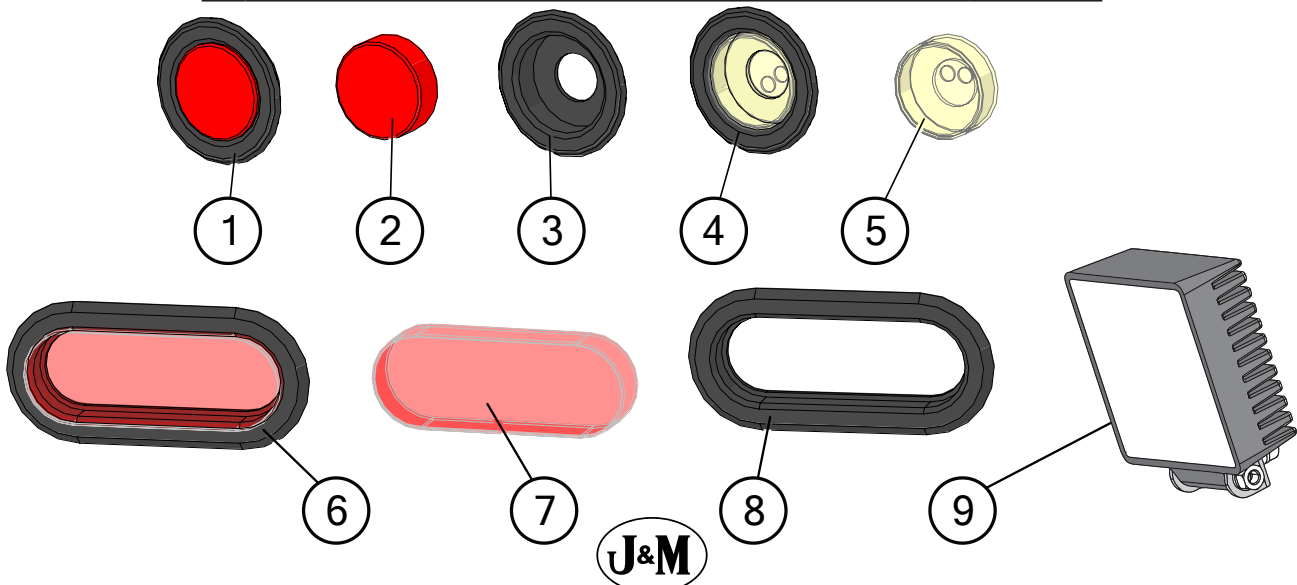


	Description	Part No.
1	Lundell Key Fob	JM0037939
2	Lundell Wireless Receiver	JM0029227
3	Lundell Wireless Receiver with Key Fob	JM0051396
4	EC 270 Wired Controller with Rubber Housing	JM0051411
5	EC Echo Dispense Onboard Controller	JM0055260
6	Intercomp LD720 Indicator	JM0074410

Lights and Wiring

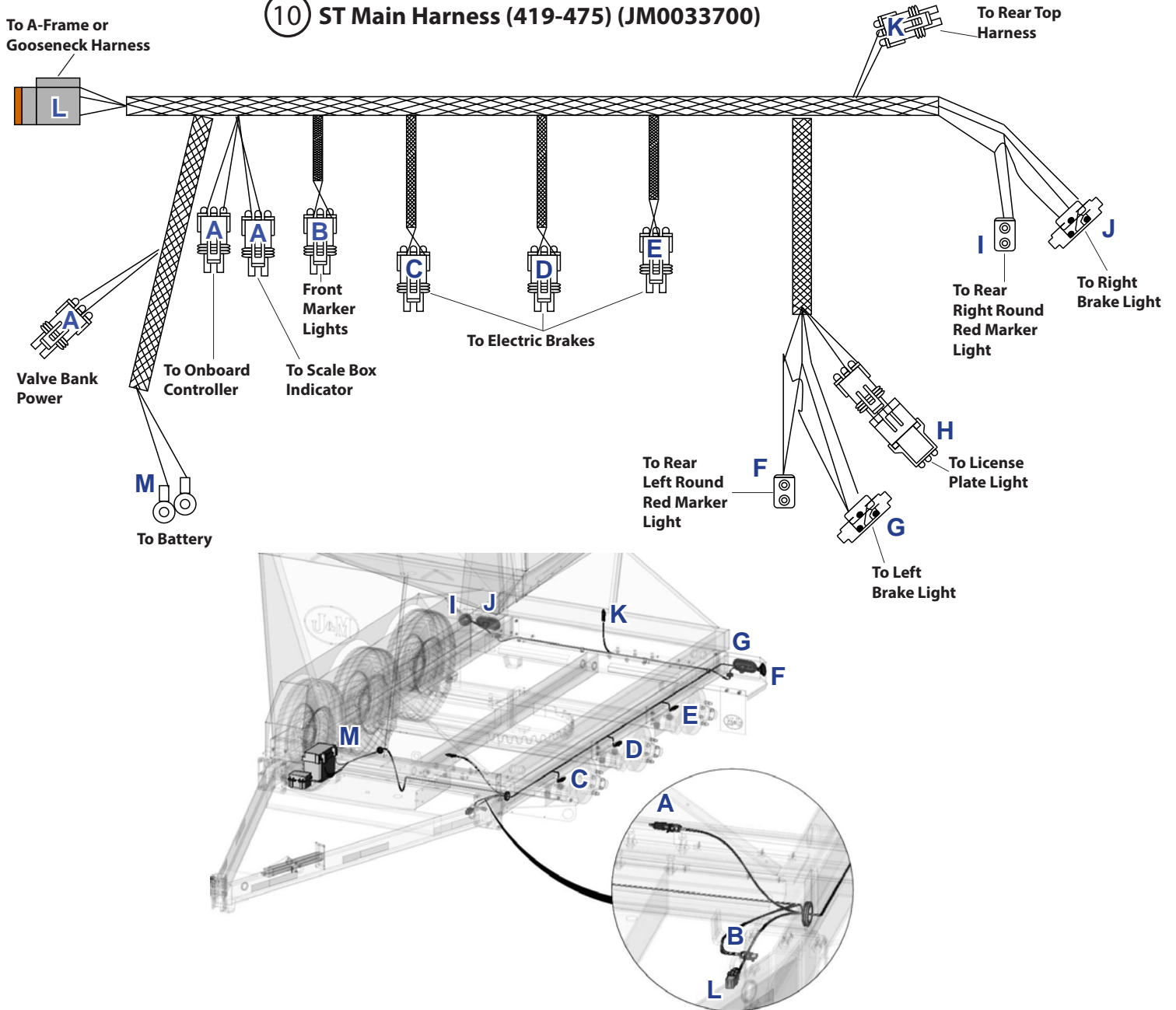
This table will be used for the following section, Lights and Wiring, on Pages 22-25:

	Description	Part No.
1	2-1/2" Red Round LED Light/Reflector Assembly (RRLA1)	JM0001905
2	2-1/2" Red Round LED Light/Reflector (RRLR1)	JM0001901
3	Round Grommet for LED 2-1/2" Light/Reflector	JM0001902
4	2-1/2" Amber Round LED Light/Reflector Assembly (ARLA1)	JM0001908
5	2-1/2" Amber Round LED Light/Reflector	JM0001895
6	Red Oval Brake Light LED Assembly (BLSTOA1)	JM0001903
7	Red Oval Brake Light LED (BLSTOL1)	JM0007114
8	Oval Grommet for Brake Light LED (OVLG1)	JM0001897
9	LED Field Light with Weather Pack Connectors (SpeedTender, NitroGro)	JM0050942
10	ST Main Harness (419-475)	JM0033700
11	ST Front Chassis Wiring Harness (419-385)	JM0019963
12	ST Front Top Lights Harness (419-380)	JM0020364
13	ST Rear Top Lights Harness (419-390)	JM0019964
14	V-Belt A-Frame 7-Way Trailer Connection	JM0046142
15	V-Belt Gooseneck 7-Way Trailer Connection	JM0046143
16	Breakaway Switch with Cable (BAS-1)	JM0001843
17	ST Flood Light Harnesses (Sold As A Pair) (419-410)	JM0019965



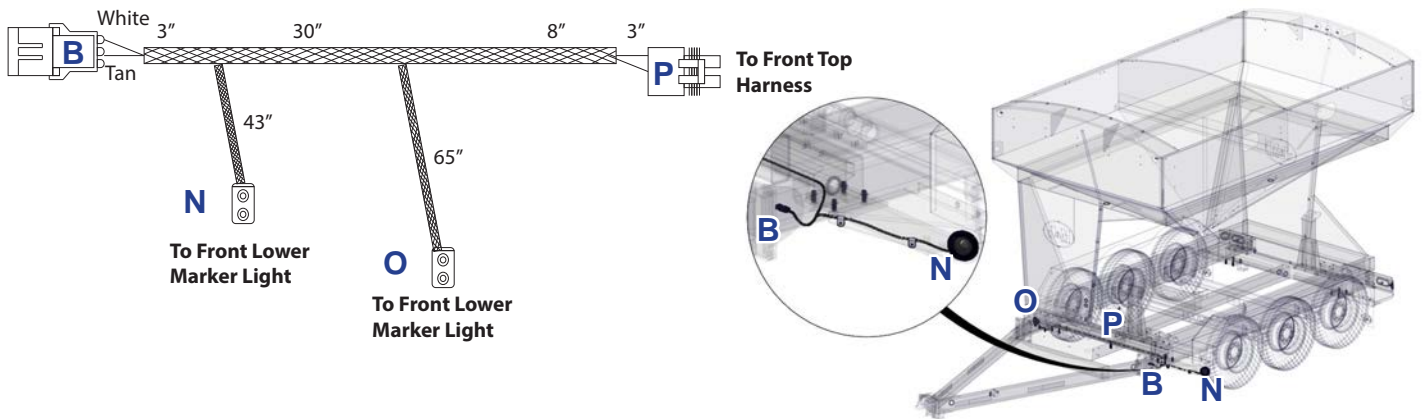
Lights and Wiring

10 ST Main Harness (419-475) (JM0033700)

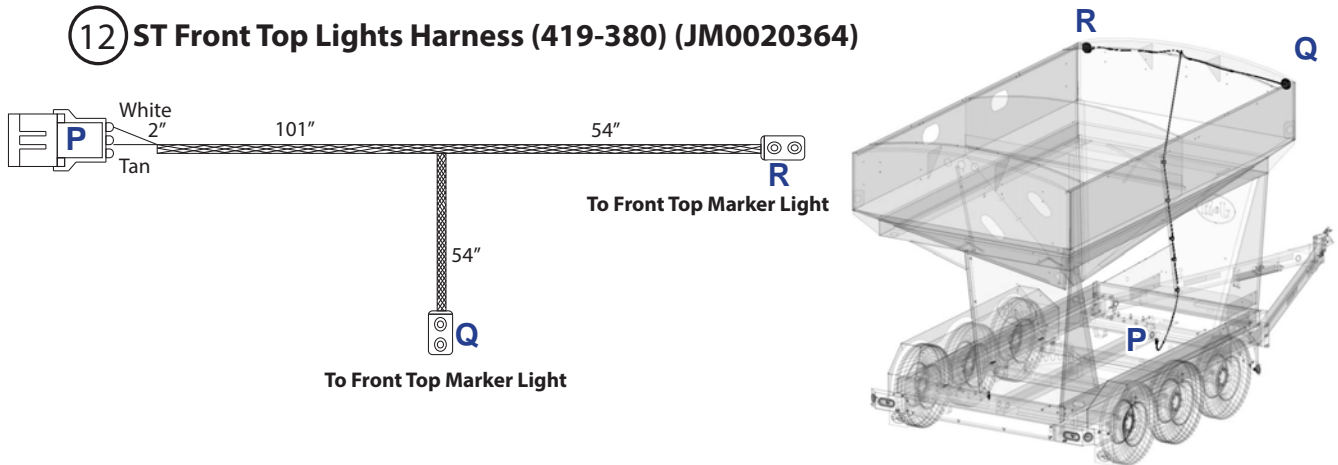


Lights and Wiring

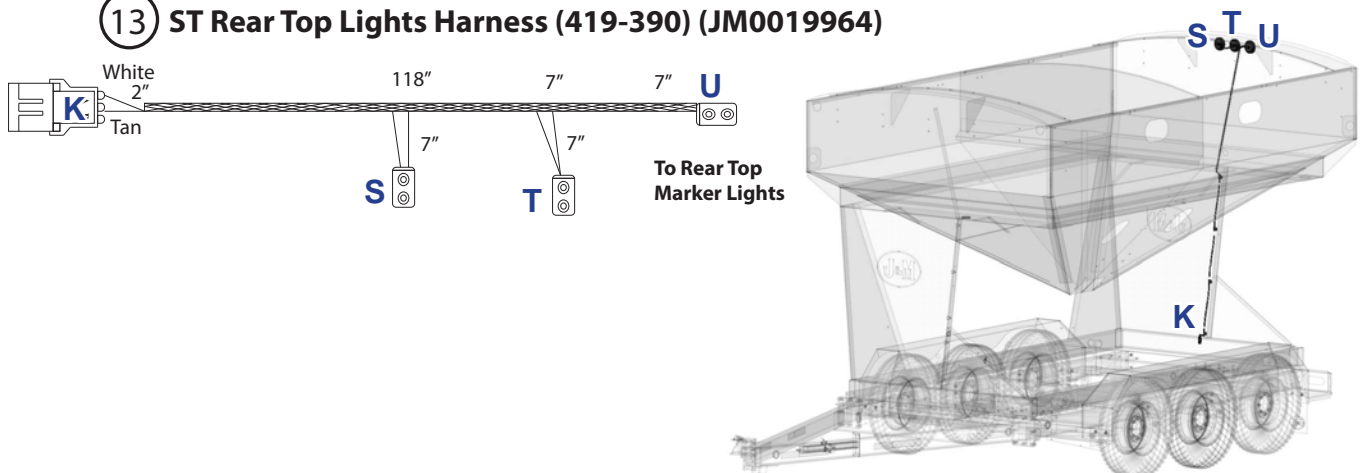
11 ST Front Chassis Wiring Harness (419-385) (JM0019963)



12 ST Front Top Lights Harness (419-380) (JM0020364)



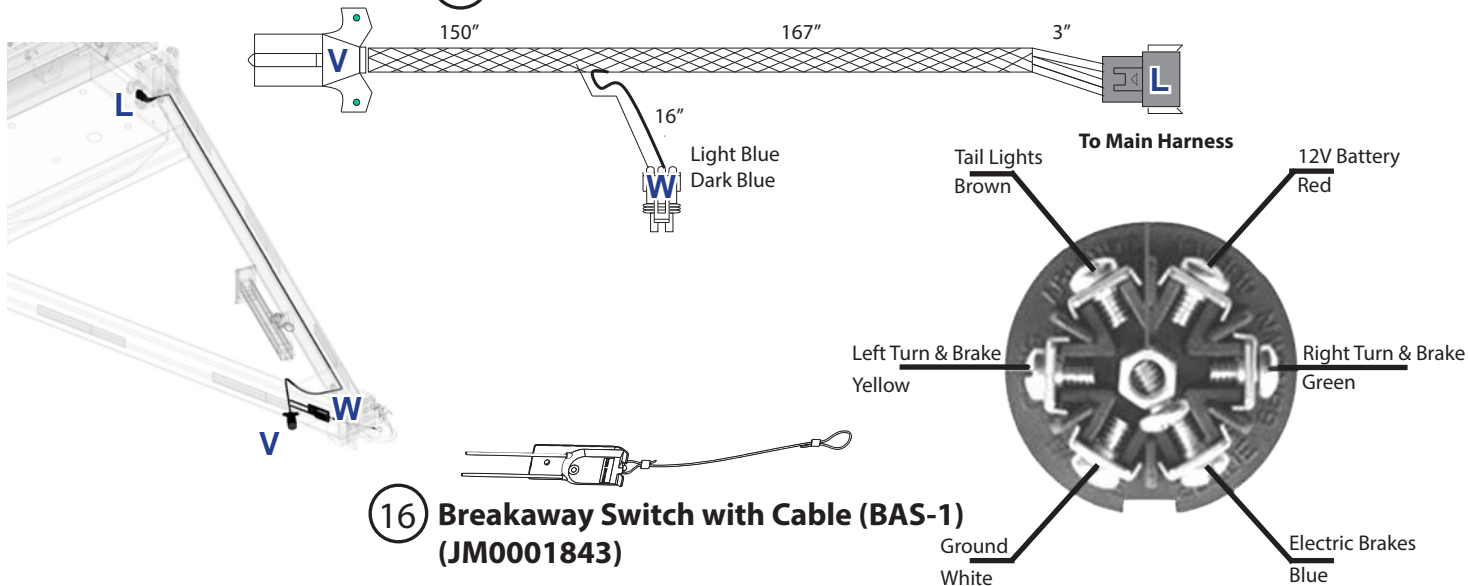
13 ST Rear Top Lights Harness (419-390) (JM0019964)



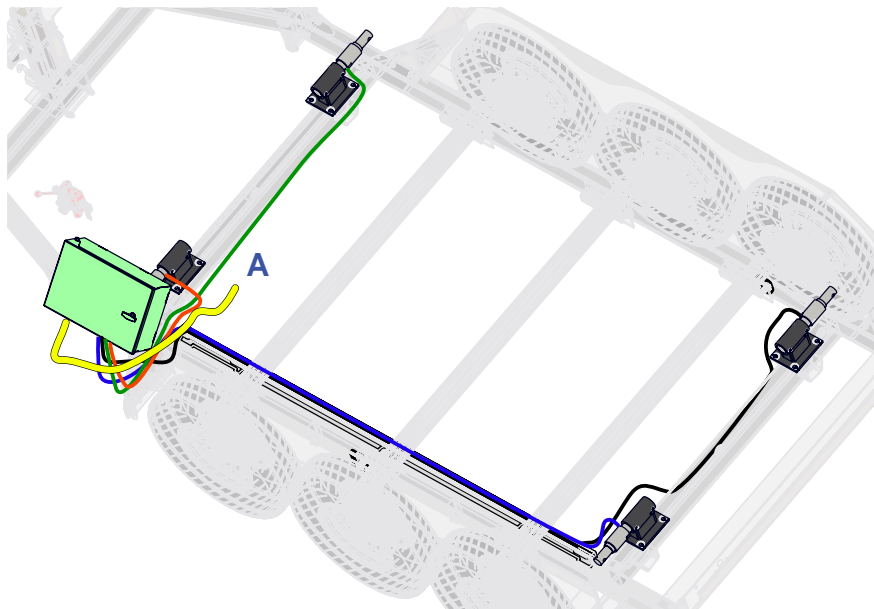
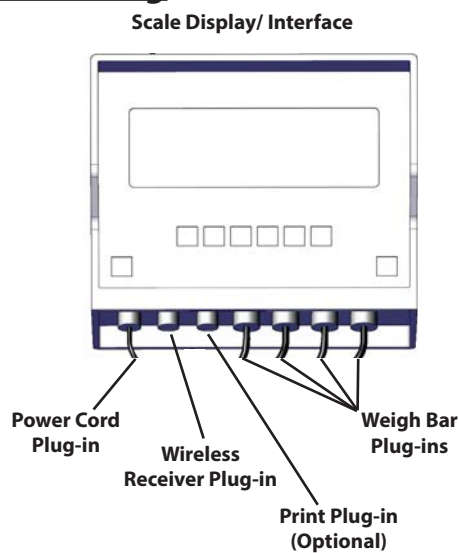
Lights and Wiring

①④ **V-Belt A-Frame 7-Way Trailer Connection (JM0046142)**

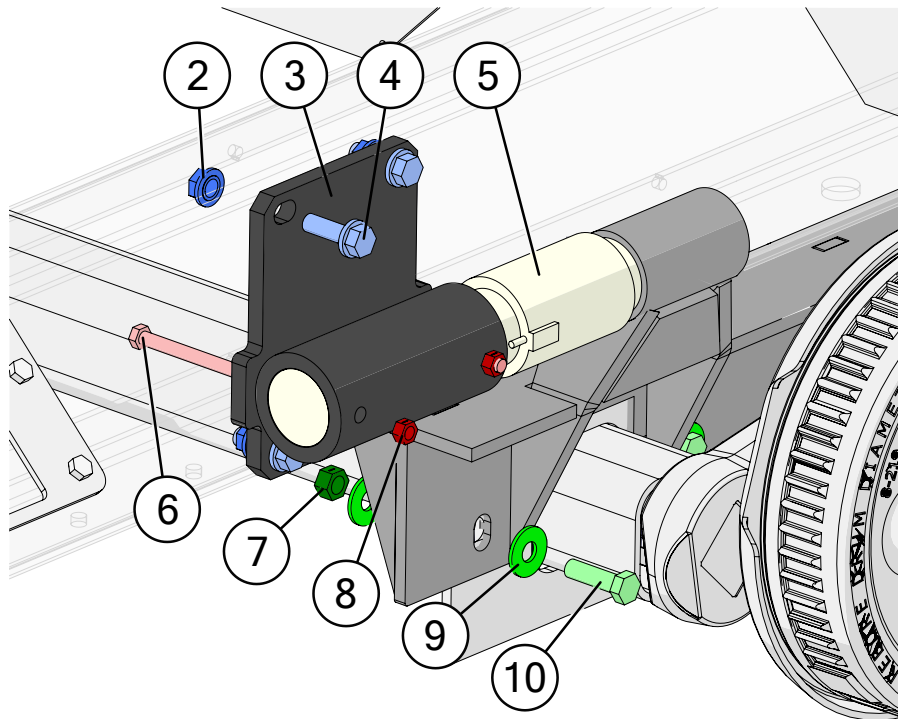
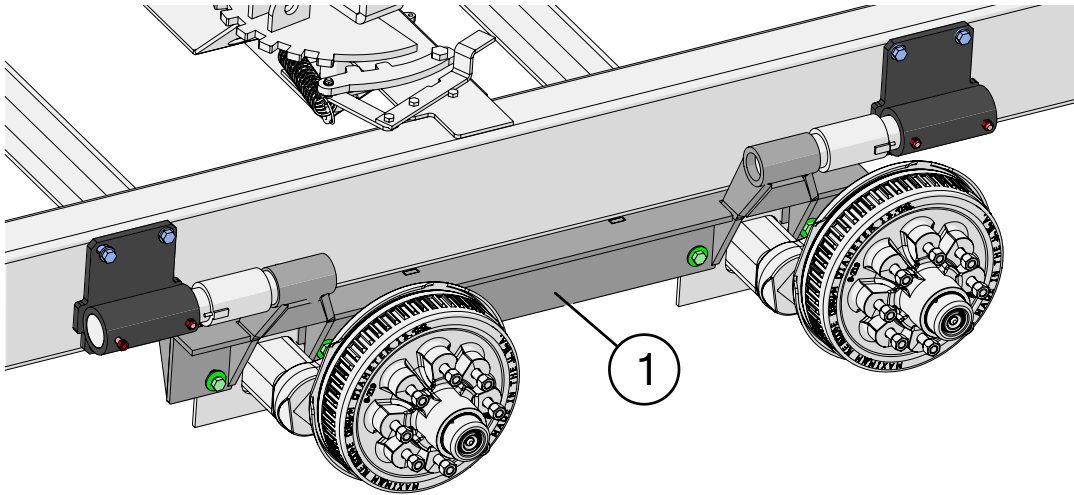
①⑤ **V-Belt Gooseneck 7-Way Trailer Connection (JM0046143)**



Scale Wiring

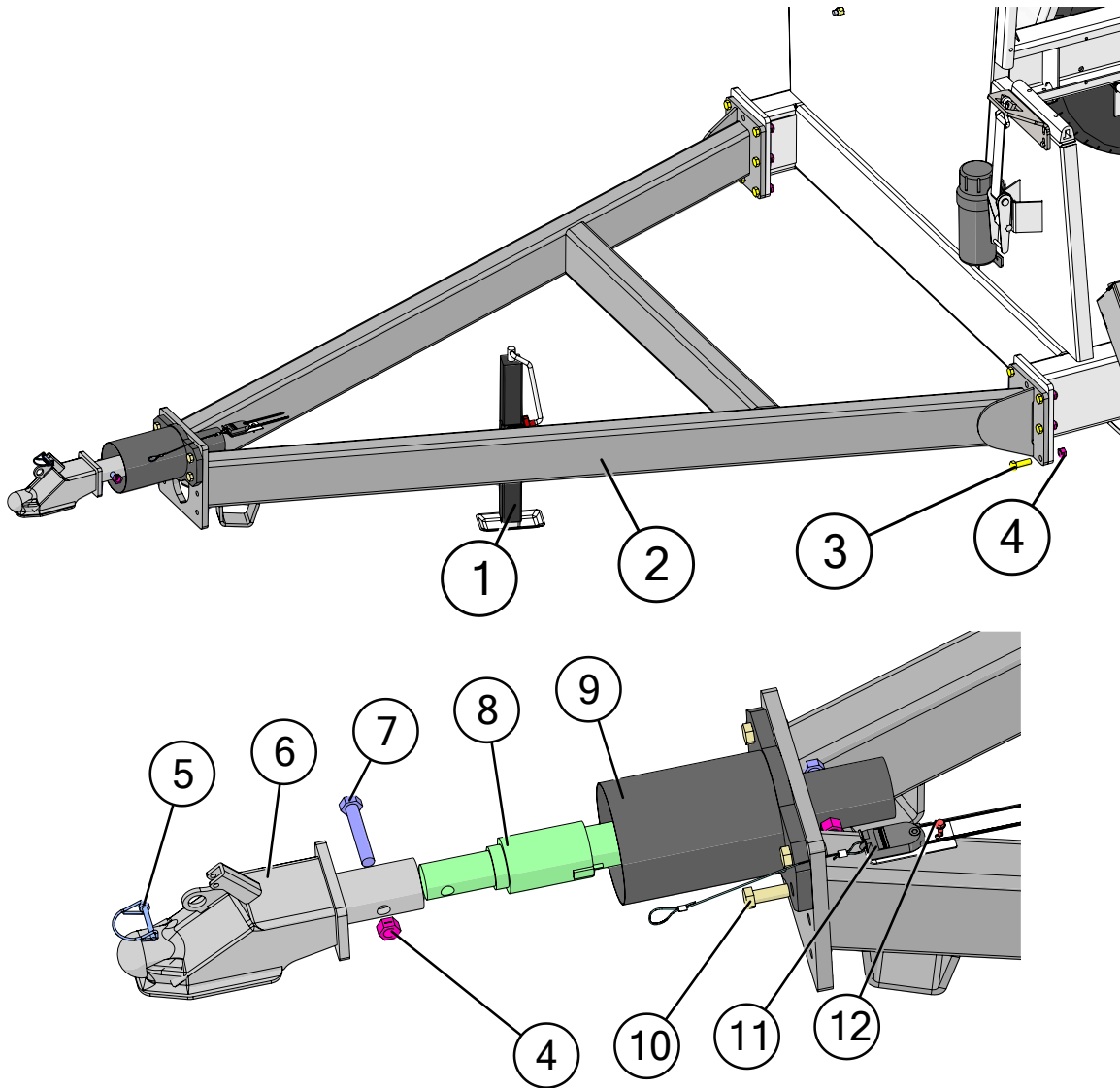


Scales



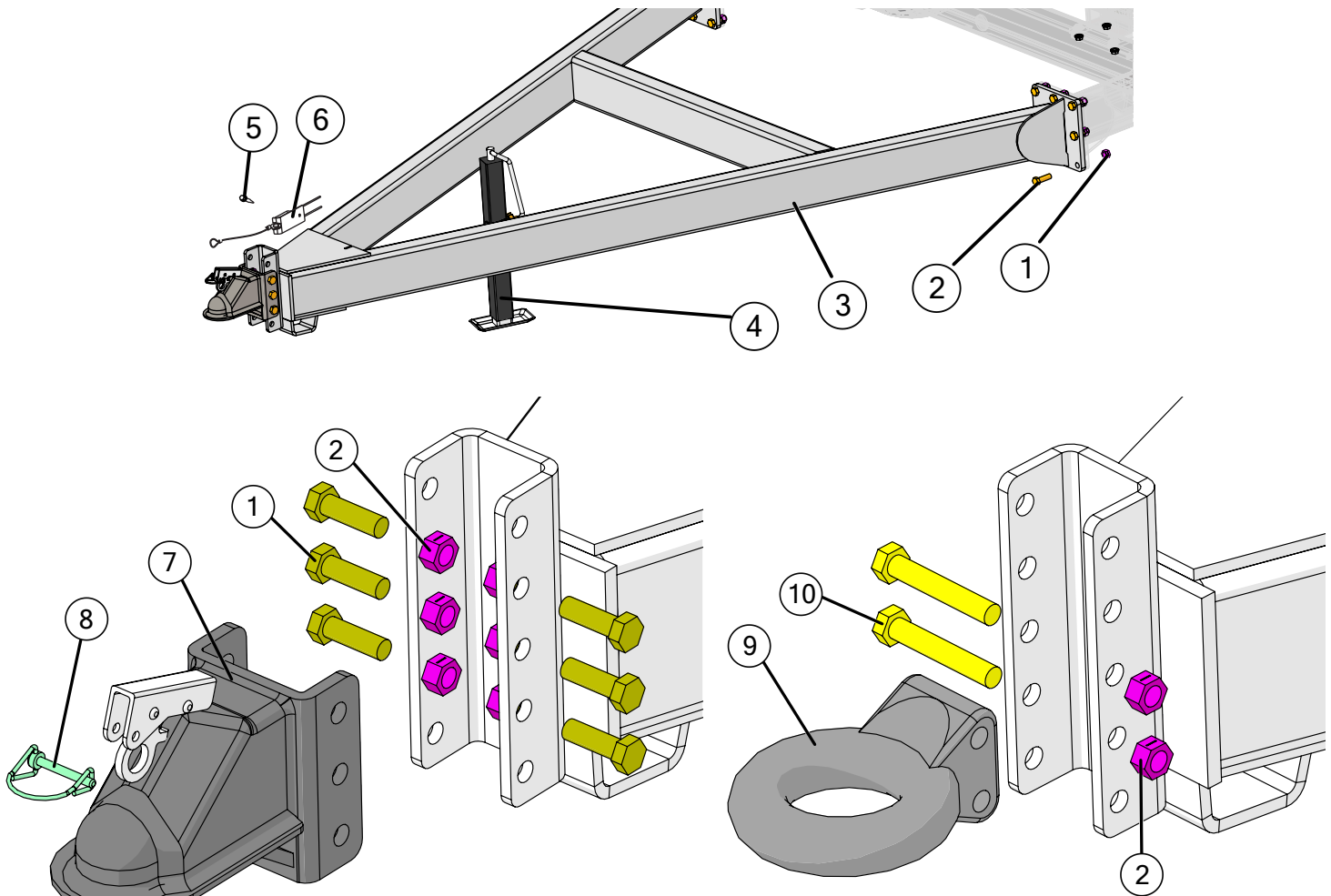
	Description	Part No.
1	EC 270 Scale Bar Axle Mount Weldment	JM0058367
2	1/2"-13 Gr5 Z SF Hex Nut	JM0002153
3	EC 270 Scale Frame Mount	JM0050277
4	1/2"-13 x 1-1/2" Gr5 Z SF Hex Bolt	JM0051480
5	Intercomp 2-1/8" Weigh Bar	JM0041719
6	3/8"-16 x 3-1/2" Gr5 Z Hex Bolt	JM0001986
7	5/8"-11 Gr2 Z Centerlock Hex Nut	JM0002146
8	3/8"-16 Gr2 Z Centerlock Hex Nut	JM0001512
9	5/8" USS Flat Washer	JM0003073
10	5/8"-11 x 1-3/4" Gr5 Z Hex Bolt	JM0016681

A-Frame and Hitch with Scales

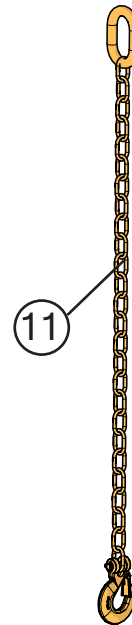


	Description	Part No.
1	5,000 lb Max Lift Capacity Jack (TWL-178T)	JM0001480
2	EC 270 Scale A-Frame	JM0048844
3	5/8"-11 x 2" Gr8 Z Hex Bolt	JM0001771
4	5/8"-11 Gr2 Z Centerlock Hex Nut	JM0002146
5	1/4" x 1-3/4" Lynch Pin	JM0001478
6	Bolt-on Scale Hitch	JM0050571
7	5/8"-11 x 3-1/2" Gr5 Z Hex Bolt	JM0001650
8	Intercomp 2-1/8" Weigh Bar	JM0041719
9	Adjustable Scale Bolt-on Plate	JM0050575
10	5/8"-18 x 1-3/4" Gr8 Z Hex Bolt	JM0043433
11	Breakaway Switch with Cable (BAS-1)	JM0001843
12	1/4" x 3/4" Self Tapping Screw	JM0001570

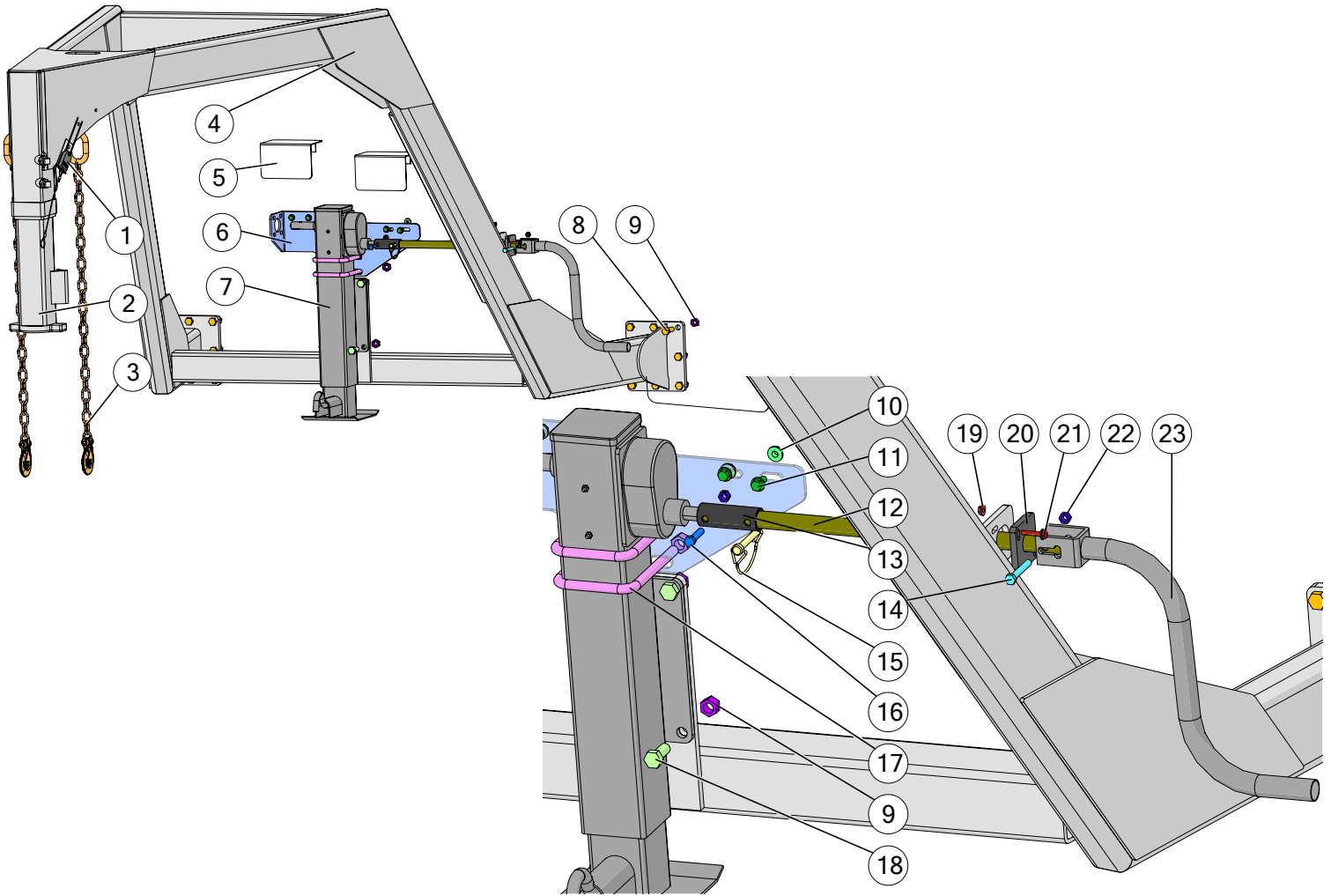
A-Frame and Hitch with No Scales



	Description	Part No.
1	5/8"-11 x 2" Gr8 Z Hex Bolt	JM0001771
2	5/8"-11 Gr2 Z Centerlock Hex Nut	JM0002146
3	Seed Tender - Chassis A-Frame Weldment	JM0002481
4	5,000 lb Max Lift Capacity Jack (TWL-178T)	JM0001480
5	1/4" x 3/4" Self Tapping Screw	JM0001570
6	Breakaway Switch with Cable (BAS-1)	JM0001843
7	2-5/16" Ball Coupler 21,000lb (BHST375)	JM0001893
8	1/4" x 1-3/4" Lynch Pin	JM0001478
9	Lunette Eye (30,000# 3" Forged Eye)	JM0015884
10	5/8"-11 x 6" Gr8 Z Hex Bolt	JM0001603
11	12,500 Lb Safety Chain (SCST375)	JM0015061

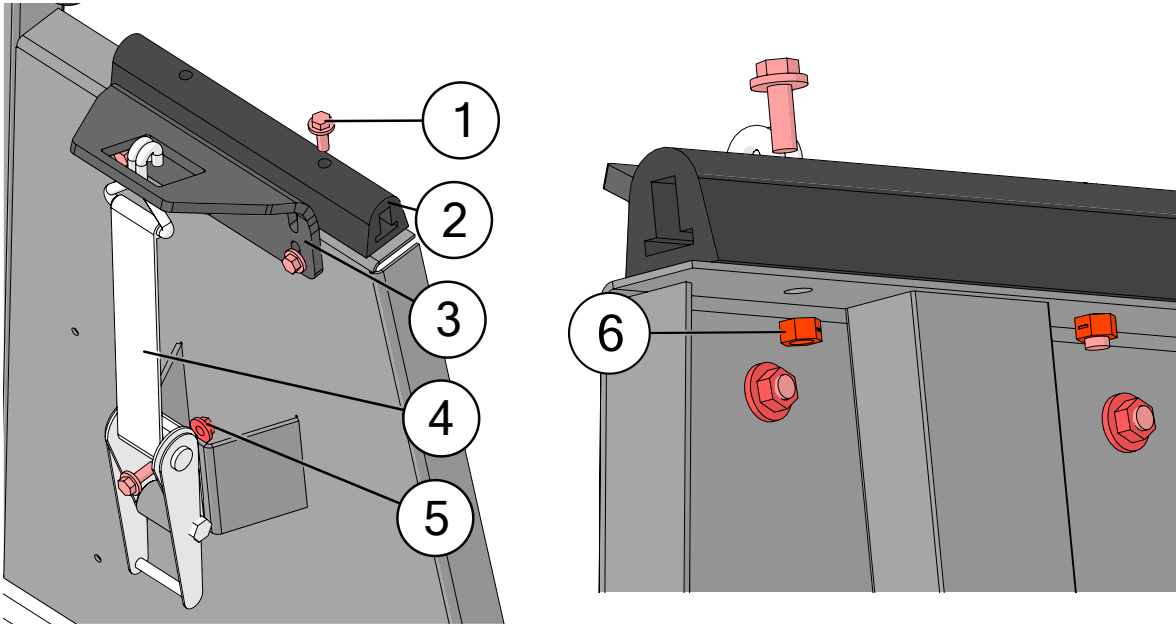


Gooseneck



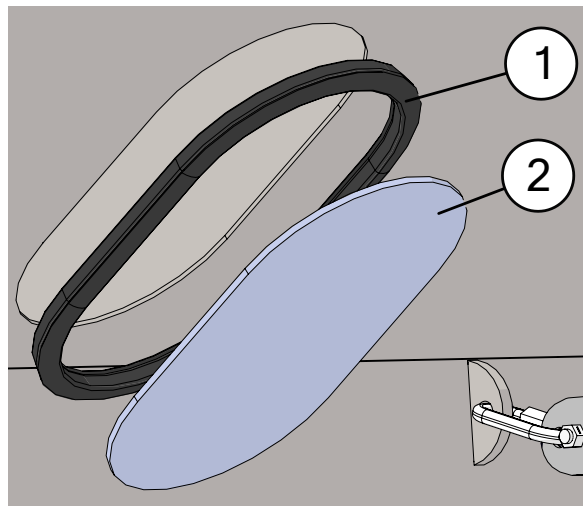
Description	Part No.
1 Breakaway Switch with Cable (BAS-1)	JM0001843
2 Square Gooseneck Coupler Tube 30,000 LB CAP	JM0007076
3 12,500 Lb Safety Chain (SCST375)	JM0015061
4 Gooseneck Frame Weldment for Seed Tenders Less than 500 Seed Units	JM0029497
5 ST Cover Plate (4-11/16" x 7-1/2" x 4-3/4")	JM0034699
6 Jack Brace for ST Gooseneck	JM0034697
7 Gooseneck Manual Jack with Custom Mounting Plate (10,000#)	JM0007078
8 5/8"-11 x 2" Gr8 Z Hex Bolt	JM0001771
9 5/8"-11 Gr2 Z Centerlock Hex Nut	JM0002146
10 3/8"-16 Gr5 Z SF Hex Nut	JM0002152
11 3/8"-16 x 3/4" Gr5 Z SF Hex Bolt	JM0001750
12 Jack Crank Extension Tube	JM0014132
13 Jack Coupler	JM0029606
14 3/8"-16 x 2-1/2" Gr5 Z Hex Bolt	JM0001647
15 3/8" x 2-1/2" Wire Lock Pin (38212WLP)	JM0014929
16 3/8"-16 x 1-1/2" Gr5 Z Hex Bolt	JM0001659
17 Square U-bolt 4-1/8" Inside Width x 6" Length, 5/8"-11TH	JM0014190
18 5/8"-11 x 1-1/2" Gr5 Z Hex Bolt	JM0002103
19 1/4"-20 Gr5 Z SF Hex Nut	JM0001630
20 Jack Crank Locator	JM0025756
21 1/4"-20 x 1-1/4" Gr5 Z SF Hex Bolt	JM0001646
22 3/8"-16 Gr2 Z Centerlock Hex Nut	JM0001512
23 Gooseneck Jack Handle	JM0007061

Auger Rest



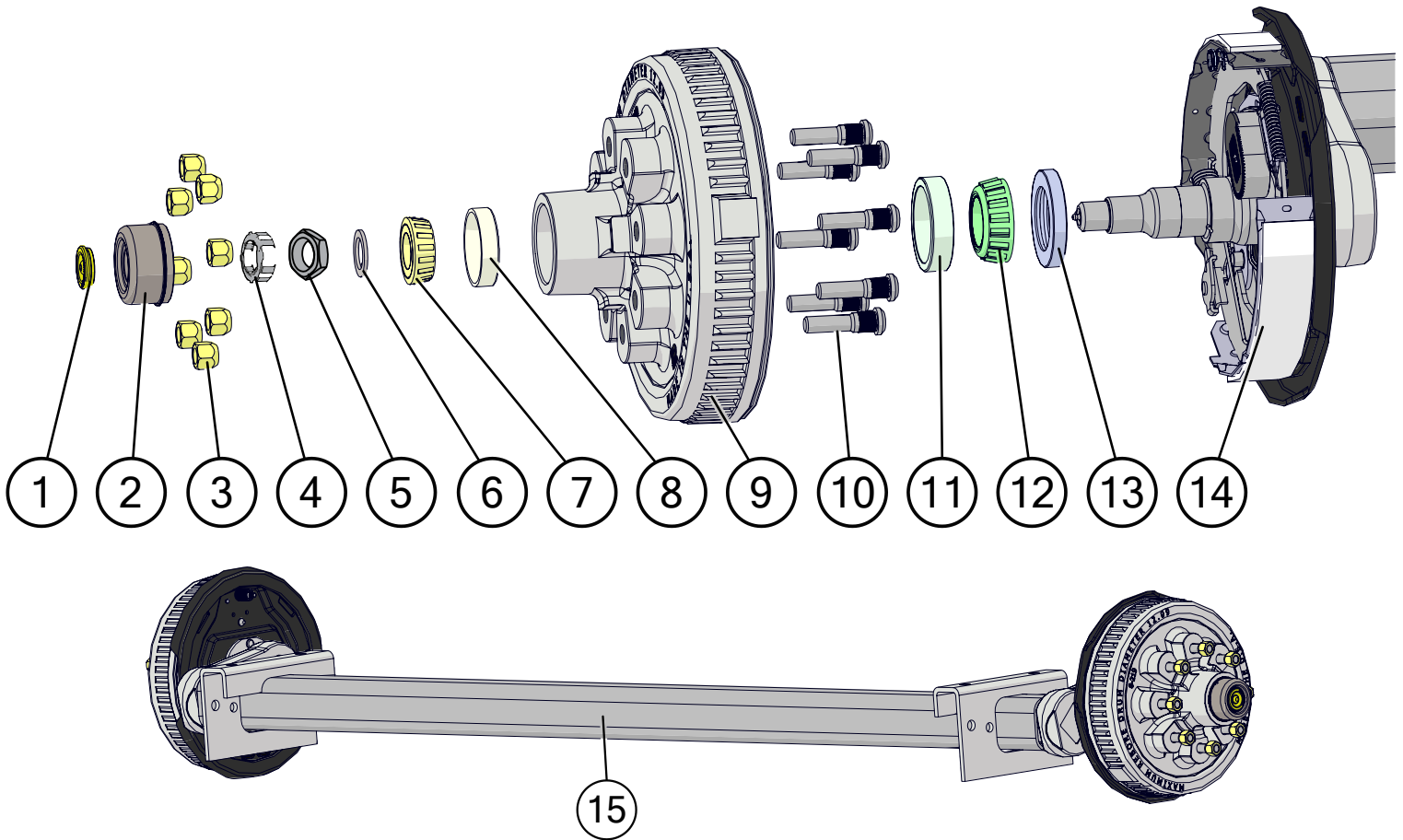
	Description	Part No.
1	3/8"-16 x 1" Gr5 Z SF Hex Bolt	JM0002092
2	12" x 2" Auger Rest Triangle Pad	JM0047648
3	Conveyor/Auger Pin Latch	JM0042768
4	2" x 42" Ratchet Strap - Long Handle	JM0043363
5	3/8"-16 Gr5 Z SF Hex Nut	JM0002152
6	3/8"-16 Gr2 Z Centerlock Hex Nut	JM0001512

Windows



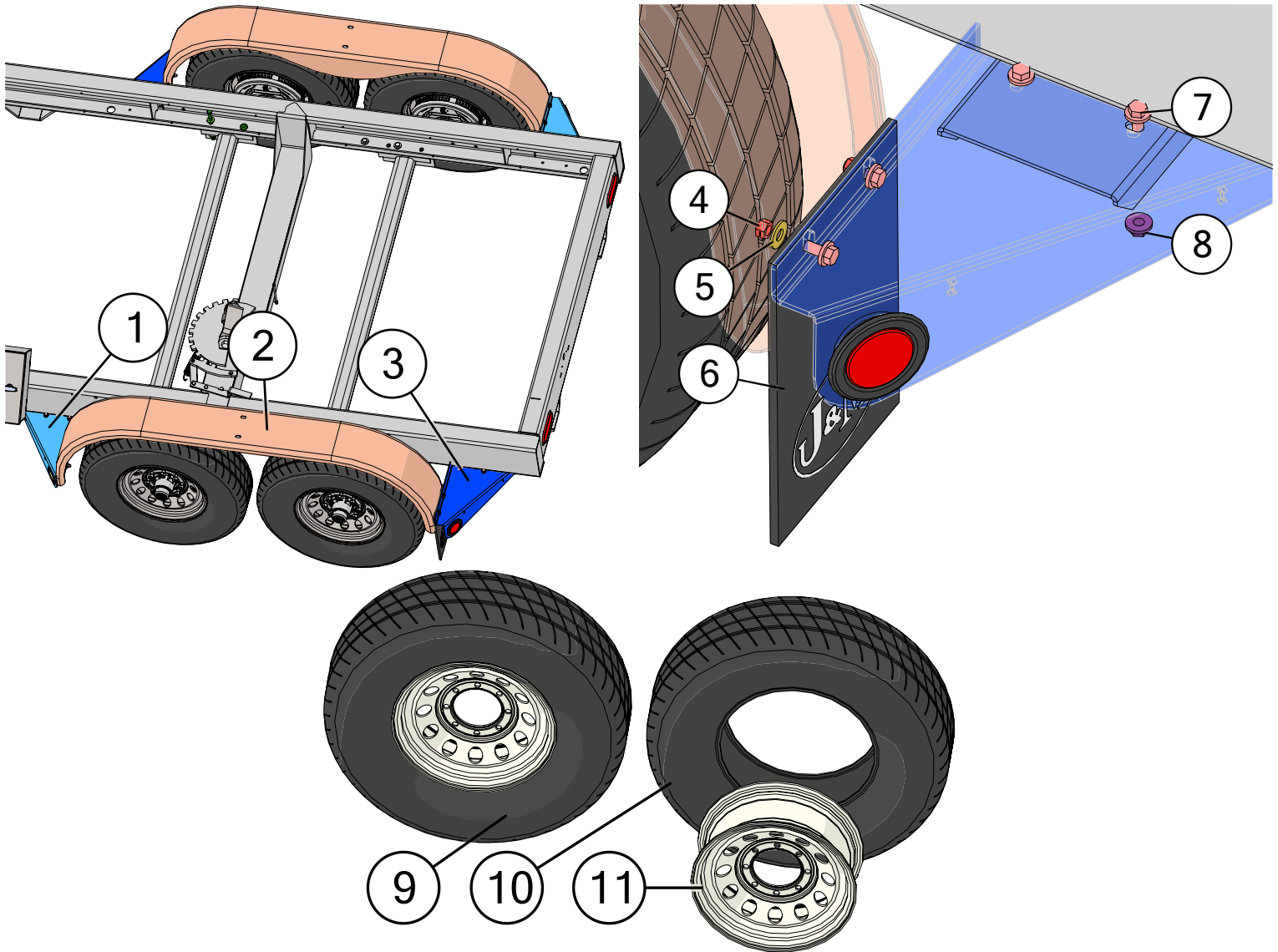
	Description	Part No.
1	Window Seal 3/4 "S" Strip	JM0000254
2	Standard Inspection Window	JM0000255

Brake and Hub Assembly



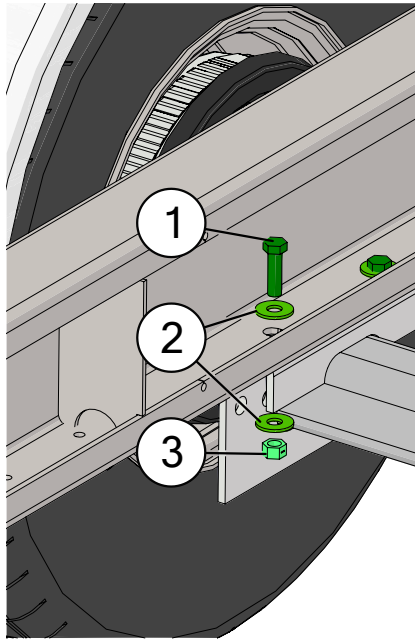
Description		Part No.
1	Rubber Plug for Dust Cap	JM0039538
2	Dust Cap for EZ Grease (7,000lb)	JM0035957
2	Aluminum Wheel Dust Cap	JM0049437
3	9/16"-18 Conical Lugnut (4WS) (ST)	JM0008525
3	9/16 RH 7/8 Hex 2.40 XL (Lug Nut to Aluminum Wheel)	JM0044721
4	Spring Steel Retaining Clip	JM0051458
5	Special 1" Jam Nut for 5.2k, 7k Axles	JM0035955
6	D Washer (1" ID)	JM0039578
7	14125A Roller Bearing	JM0039542
8	Bearing Cup for Superior Gearbox (14-20") (414276)	JM0025077
9	7K Hub-Drum with Studs, Nuts and Races	JM0041461
10	Stud 9/16"-18 x 2-13/16"	JM0020625
11	Cup, Large Inner, 12 Ton, 25520	JM0018102
12	Tapered Bearing Cone 25580, 12 Ton	JM0018104
13	2-1/4" ID Grease Seal 10-36	JM0035951
14	RH Brake Assembly Complete for SpeedTender (ST375RAC)	JM0035974
14	LH Brake Assembly Complete for SpeedTender (ST375LAC)	JM0035973
15	7,000 lb. Axle with Brakes	JM0001957

Fenders and Tires



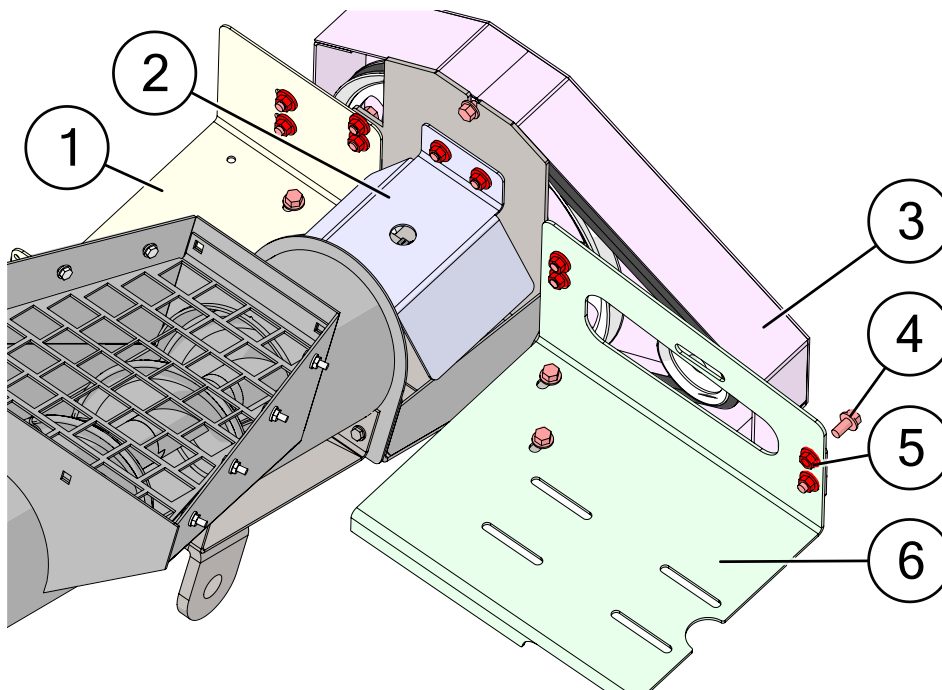
	Description	Part No.
1	Front Driver Side Step/Fender Mount (Seed Tender)	JM0002339
2	2-Wheel Fender (72-1/2" Length) (WF-1)	JM0030412
3	Front Passenger Side Step/Fender Mount (Seed Tender)	JM0002336
4	3/8"-16 Gr2 Z Centerlock Hex Nut	JM0001512
5	3/8" ID, 1" OD Z Flat Washer	JM0003061
6	J&M Mud Flap	JM0001910
7	3/8"-16 x 1" Gr5 Z SF Hex Bolt	JM0002092
8	3/8"-16 Gr5 Z SF Hex Nut	JM0002152
9	Wheel & Tire (235-85-R16 Load Range E Tire and 16x6-8 Hole Wheel Rim)	JM0009977
9	Wheel & Tire (235-85-R16 Load Range E Tire and 16x6-8 Hole Aluminum Wheel Rim)	JM0049427
10	235-85-R16 Load Range E Tire	JM0003232
11	Wheel Rim, 8 Hole, 16" x 6" (16x6-8)	JM0003233
11	Aluminum Wheel Rim, 8 Hole, 16" x 6" (16x6-8)	JM0049426

Axle Attachment



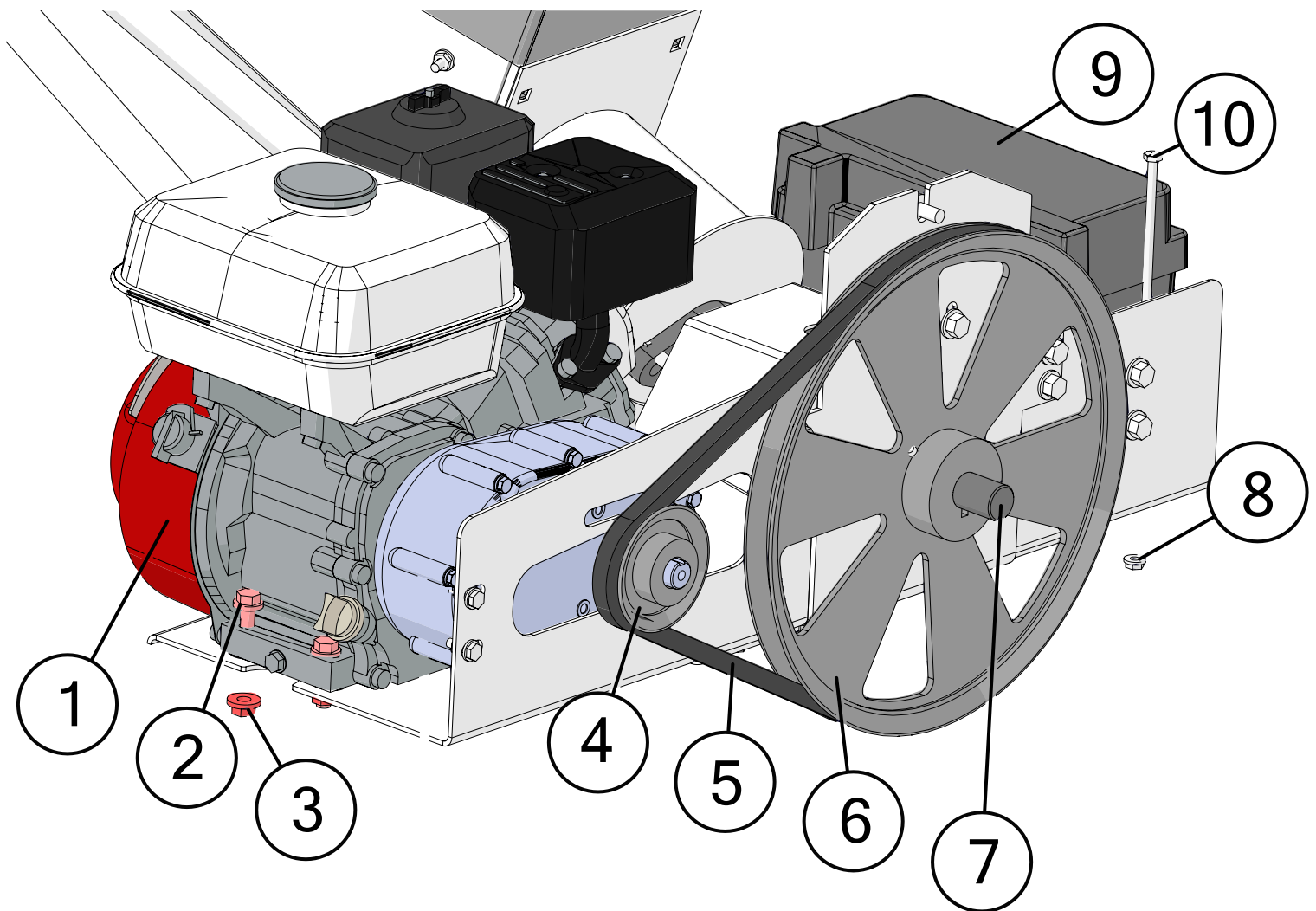
	Description	Part No.
1	1/2"-13 x 1-3/4" Gr5 Z Hex Bolt	JM0002101
2	1/2" ID 1-3/8" OD Z Flat Washer	JM0003082
3	1/2"-13 Gr2 Z Centerlock Hex Nut	JM0001511

Motor and Battery Mounts



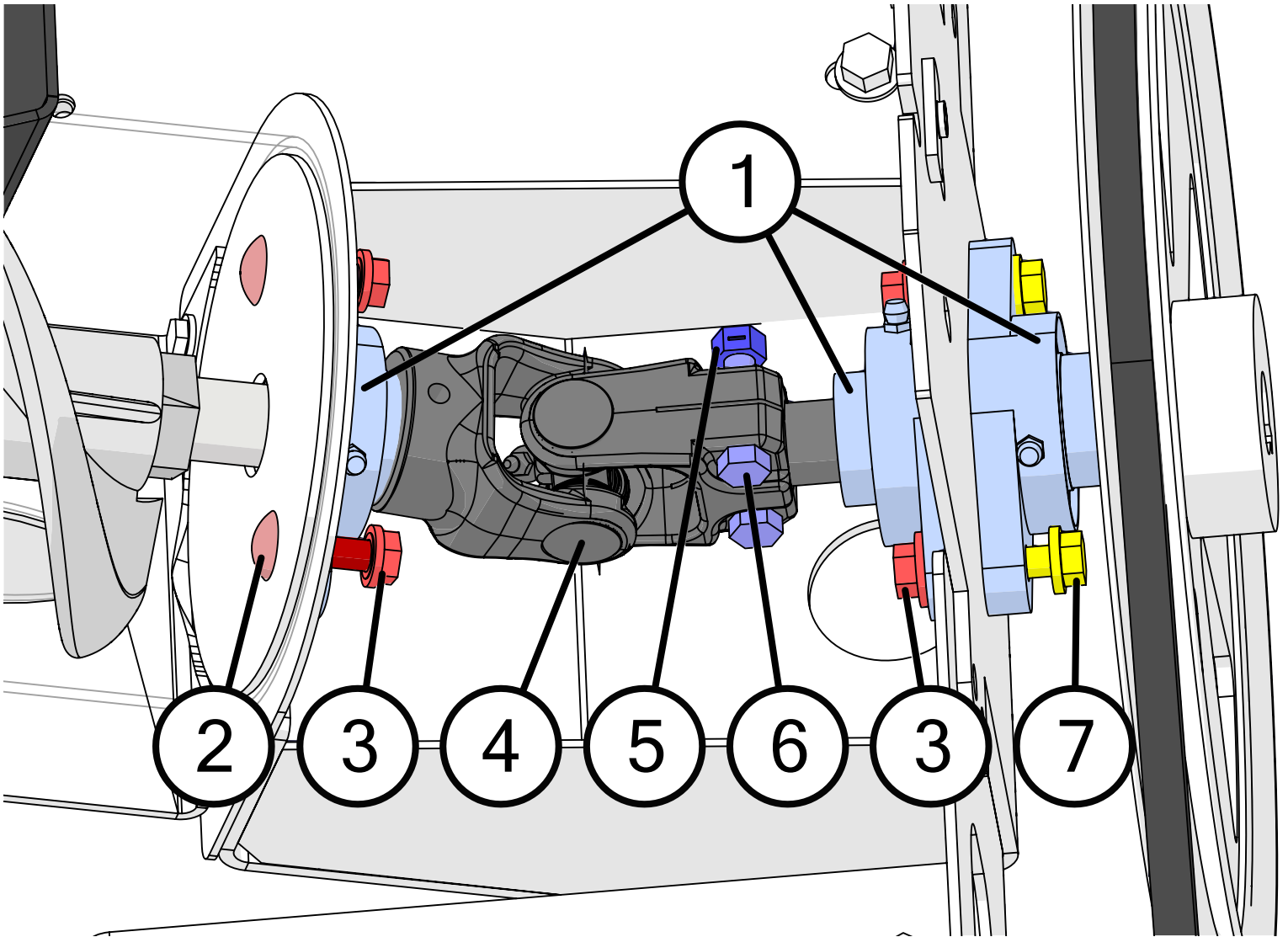
	Description	Part No.
1	Electrical Mount Bracket	JM0048052
2	U-Joint Guard (EC 270)	JM0048331
3	Belt Wheel Guard	JM0048324
4	3/8"-16 x 3/4" SF Hex Bolt	JM0001750
5	3/8"-16 Gr5 Z SF Hex Nut	JM0002152
6	Motor Mount Bracket	JM0047120

Motor and Fly Wheel



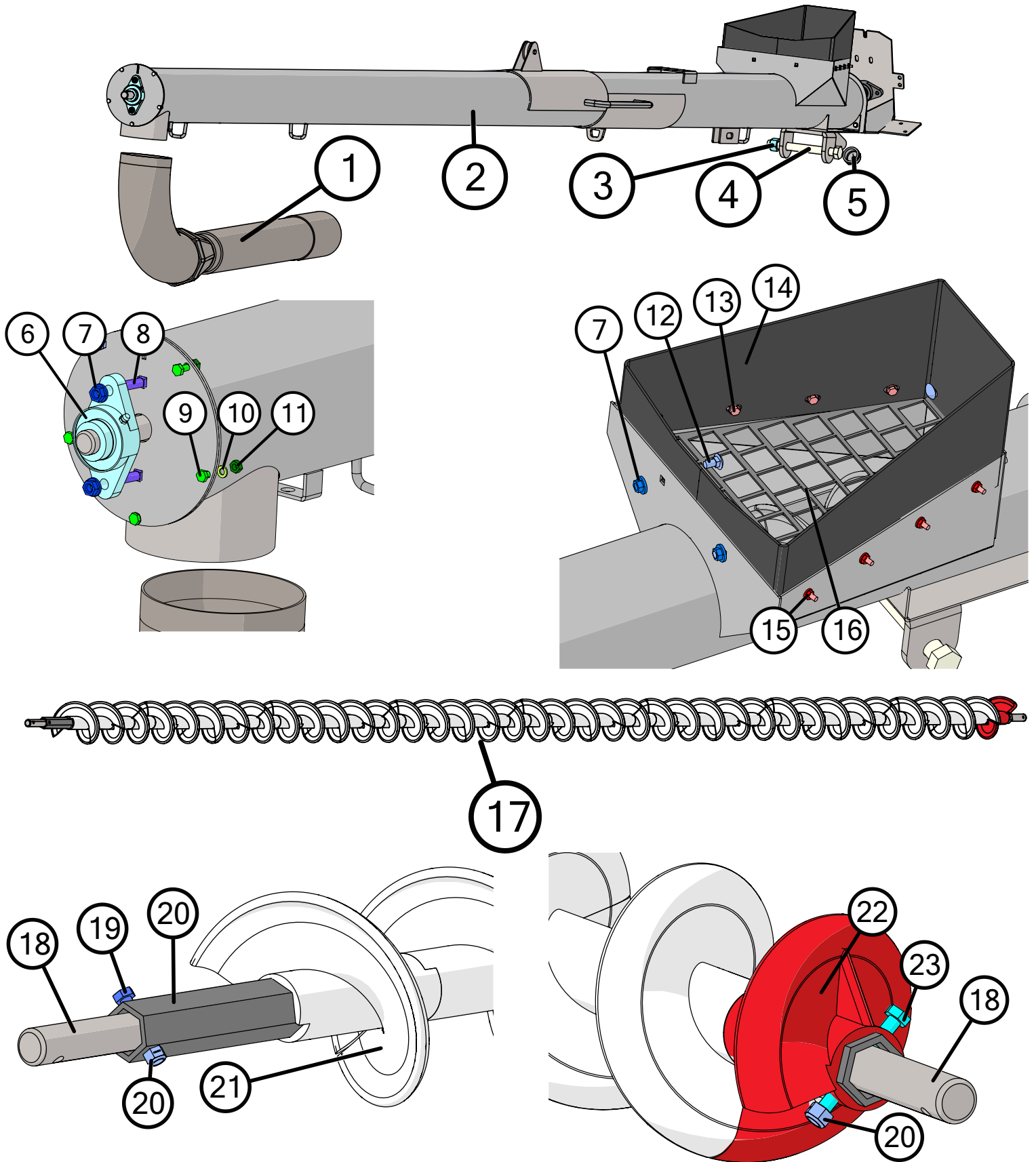
	Description	Part No.
1	Honda GX160 Motor	JM0048470
2	3/8"-16 x 1-1/2" Gr5 Z SF Hex Bolt	JM0001633
3	3/8"-16 Gr2 Z Centerlock Hex Nut	JM0001512
4	Pulley (2-1/2" OD)	JM0048475
5	A49 Classical V-Belt	JM0051246
6	Pulley (14" OD)	JM0048474
7	Spline Shaft (6-1/2" Length, 1" Diameter)	JM0048236
8	1/4"-20 Gr5 Z Flange Nut	JM0001499
9	Battery Box (SpeedTender)	JM0001846
10	1/4"-20 x 6" Gr5 Z Hex Bolt	JM0049441

U-Joint



	Description	Part No.
1	1" Flange Bearing (2 Bolt)	JM0051241
2	3/8"-16 x 1-1/2" Gr5 Z Carriage Bolt	JM0001638
3	3/8"-16 Gr5 Z SF Hex Nut	JM0002152
4	Universal Joint - Honda Direct Drive Auger (SUJ-1)	JM0048472
5	3/8"-16 Gr2 Z Centerlock Hex Nut	JM0001512
6	3/8"-16 x 1-1/2" Gr5 Z Hex Bolt	JM0001659
7	3/8"-16 x 1-1/2" Gr5 Z SF Hex Bolt	JM0001633

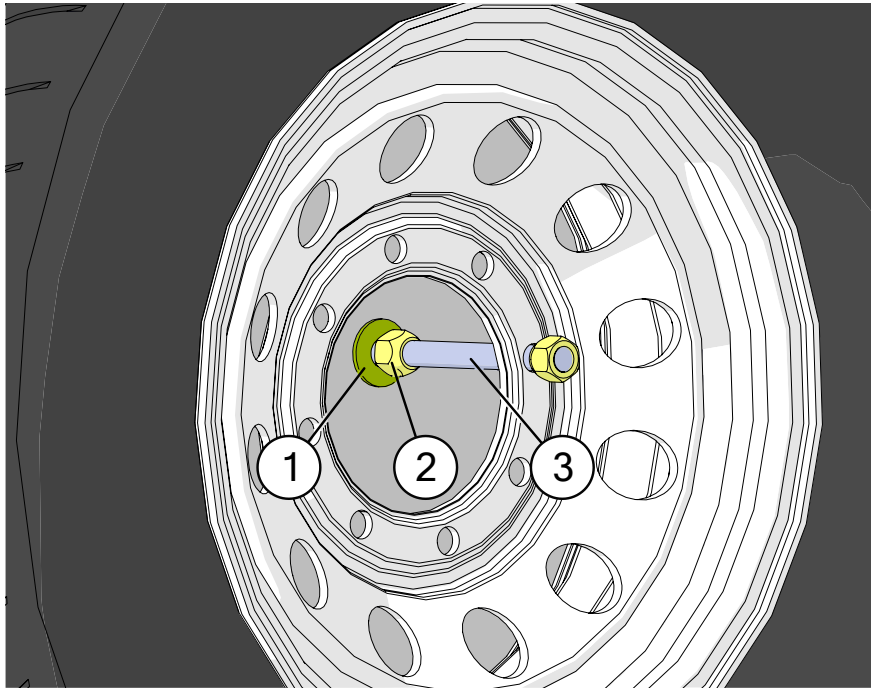
Auger Assembly



Auger Assembly

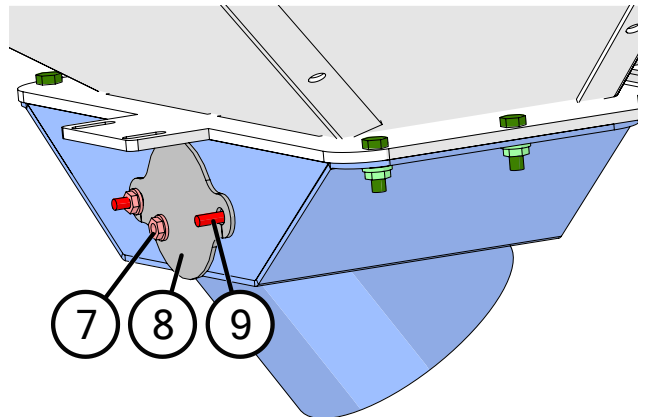
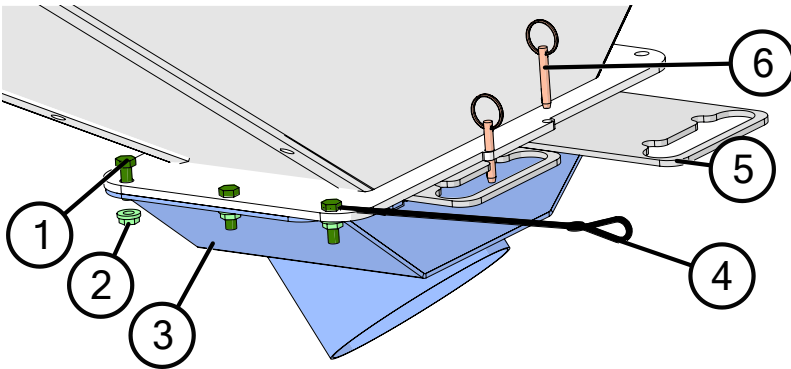
	Description	Part No.
1	6" Telescoping Spout 11' Long with Handle	JM0030254
2	Auger Weldment Assembly (EC 270)	JM0046909
3	1"-8 Gr5 Z Nylon Locking Hex Nut	JM0002161
4	1"-8 x 9-1/2" Gr8 Z Hex Bolt	JM0021709
5	1-1/4" Pipe Cap for Cleanout (2C-1)	JM0028291
6	1" Flange Bearing (2 Bolt)	JM0051241
7	3/8"-16 Gr5 Z SF Hex Nut	JM0002152
8	3/8"-16 x 1-1/2" Gr5 Z Carriage Bolt	JM0001638
9	1/4"-20 x 1/2" Gr5 Z Hex Bolt	JM0001481
10	1/4" Split Lock Washer	JM0027421
11	1/4"-20 Gr5 Z Hex Nut	JM0002122
12	3/8"-16 x 3/4" Gr5 Z Carriage Bolt	JM0002172
13	1/4"-20 x 3/4" Gr5 Z SF Hex Bolt	JM0001642
14	Rubber Auger Shroud (EC 270)	JM0048064
15	1/4"-20 Gr5 Z SF Hex Nut	JM0001630
16	Auger Screen (EC 270)	JM0048434
17	19' Auger Assembly (EC 270)	JM0051380
18	Polycup Auger Shaft	JM0048173
19	5/16"-18 x 1-3/4" Gr5 Z Hex Bolt	JM0048135
20	5/16" - 18 Gr5 Z Nylon Locking Hex Nut	JM0049059
21	6" x 5-1/2" Cupped Plastic Flighting Section	JM0018339
22	6" x 5-1/2" Cupped Plastic Flighting with Brace - Bottom of Top	JM0032529
23	5/16"-18 x 2-1/2" Gr5 Z Hex Bolt	JM0028310

Spare Tire Mount



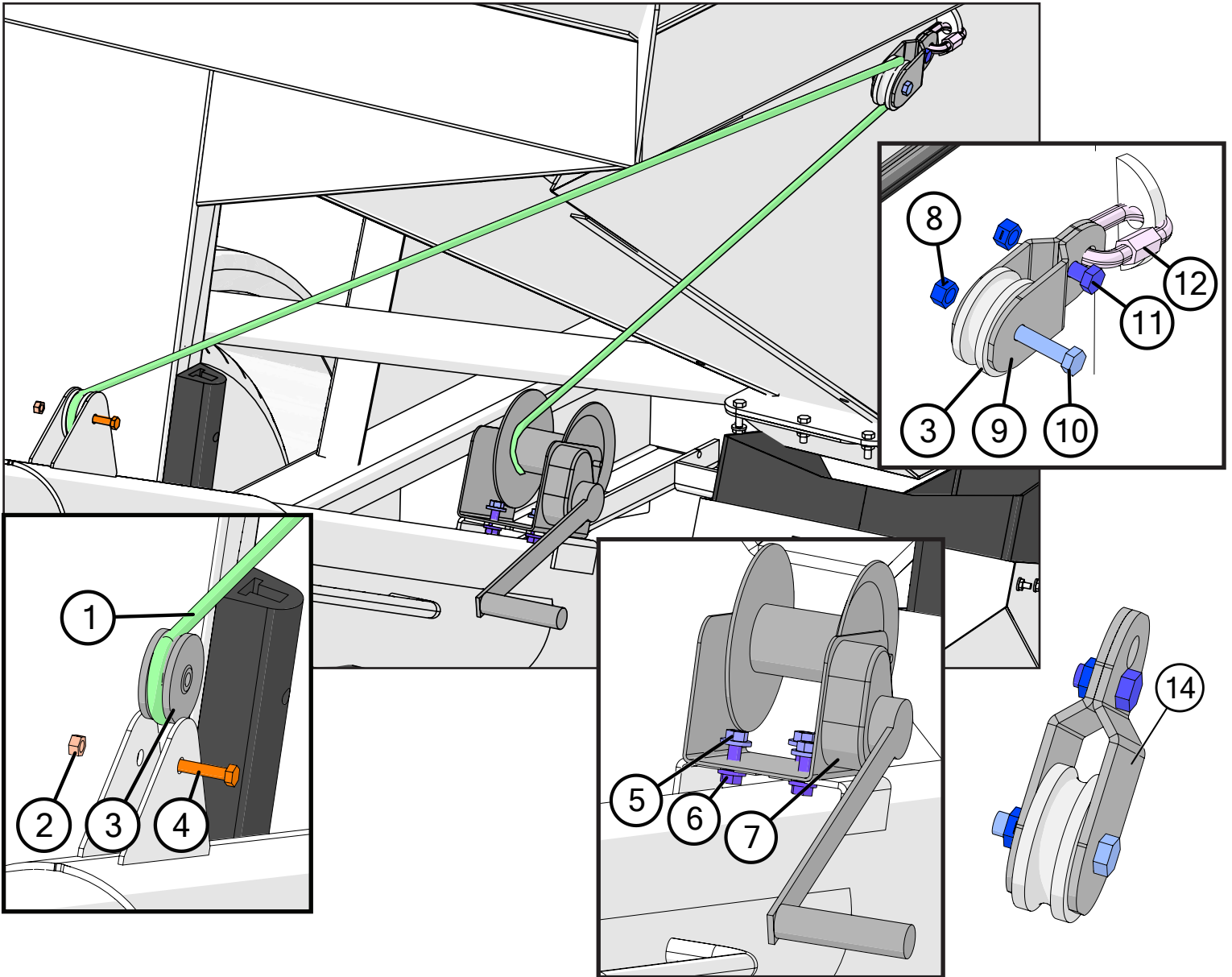
	Description	Part No.
1	9/16" USS Flat Washer	JM0050968
2	9/16"-18 Conical Lugnut (4WS) (ST)	JM0008525
3	9/16"-18 x 7-1/2" Full Thread Stud	JM0010068

Door Assembly



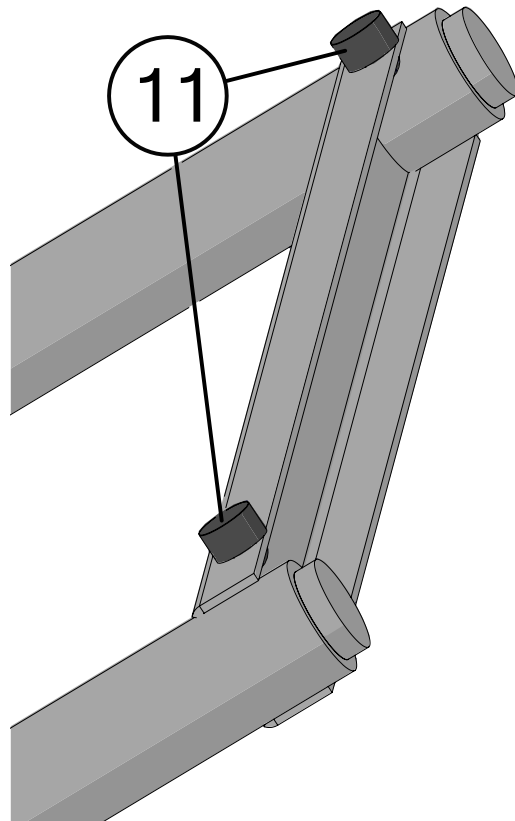
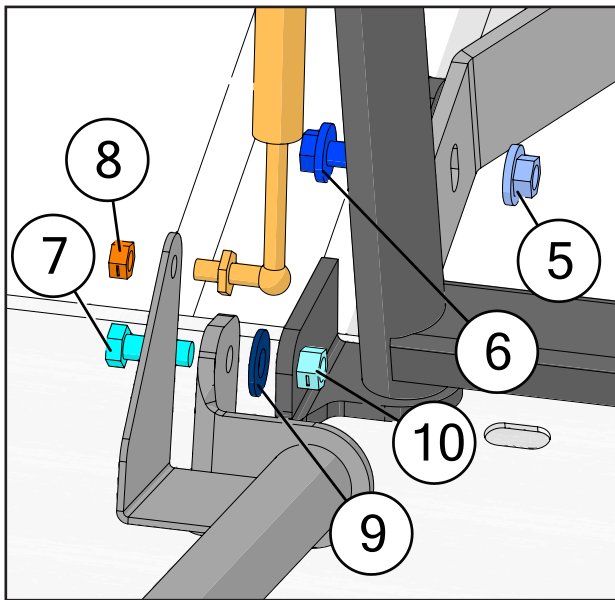
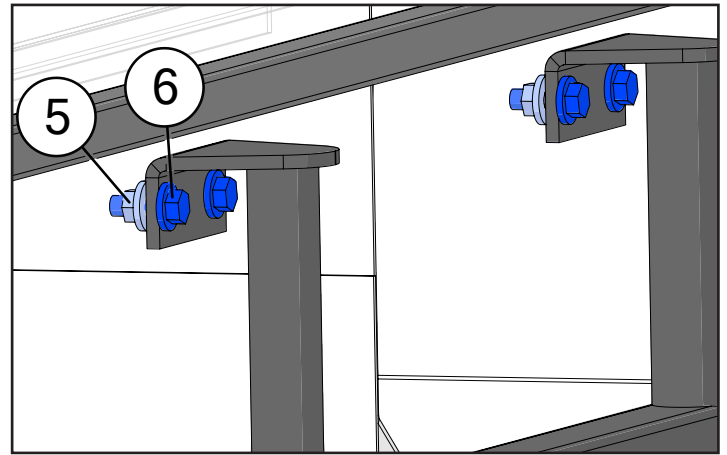
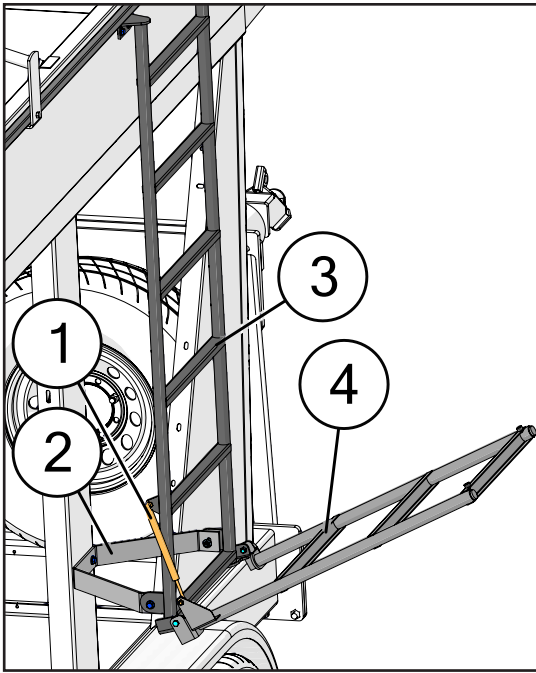
	Description	Part No.
1	5/16"-18 x 1" Gr5 Z Hex Bolt	JM0001743
2	5/16"-18 Gr5 Z SF Hex Nut	JM0014049
3	EC 270 Door Assembly	JM0047103
4	Plastic Lanyard with Plastic Plug	JM0041431
5	EC 270 Feed Gate Door	JM0047110
6	1/4" x 1-1/4" Effective Length Z Pull Ring Detent Pin	JM0051486
7	1/4"-20 Gr5 Z SF Hex Nut	JM0001630
8	Talc Hole Cover	JM0024959
9	1/4"-20 x 3/4" Gr5 Z SF Hex Bolt	JM0001642

Winch System



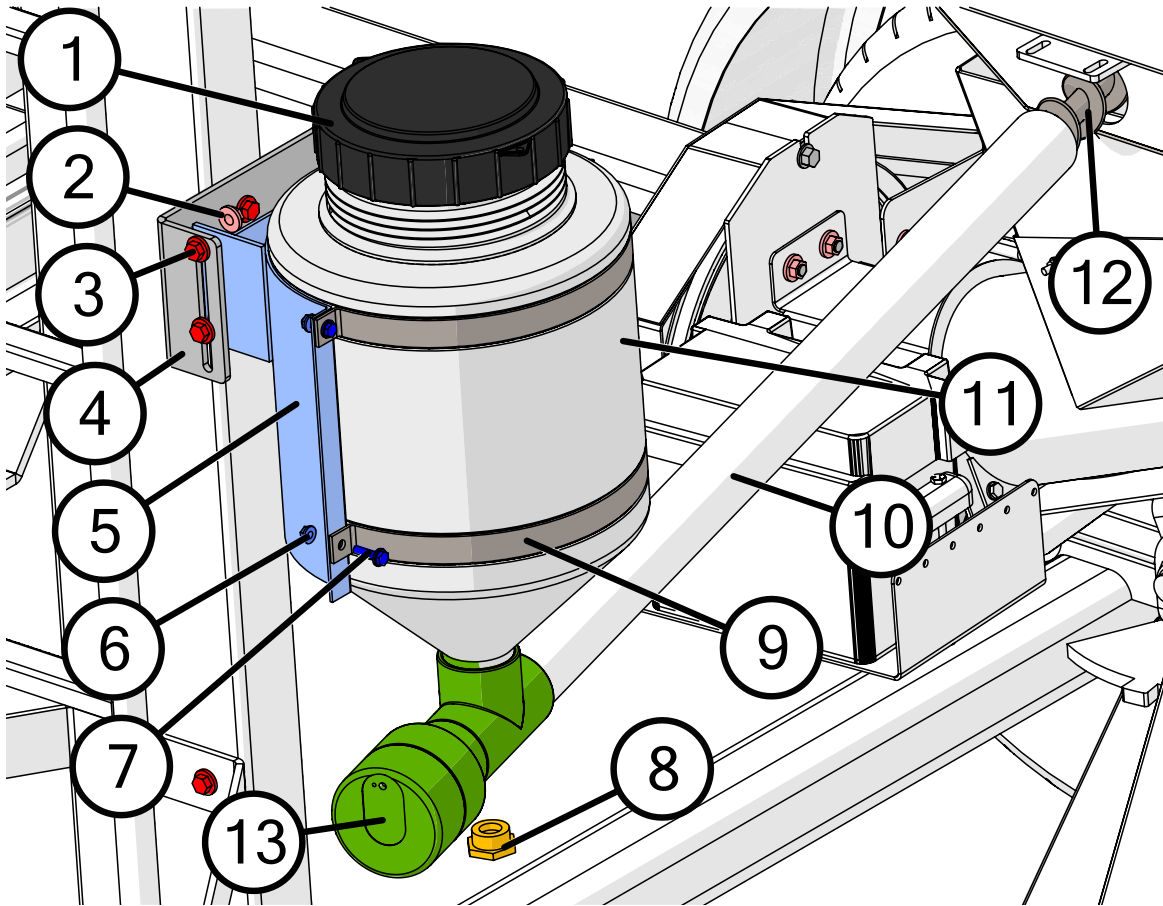
	Description	Part No.
1	3/16" Winch Cable 13'-6" Long (EC 270)	JM0049115
2	5/16"-18 Gr2 Z Centerlock Hex Nut	JM0002143
3	2-3/8" OD, 3/8" ID Pulley Wheel	JM0028266
4	5/16"-18 x 1-3/4" Gr5 Z Hex Bolt	JM0048135
5	3/8"-16 Gr5 Z SF Hex Nut	JM0002152
6	3/8"-16 x 3/4" Gr5 Z SF Hex Bolt	JM0001750
7	1200 lb Automatic Brake Winch	JM0050643
8	3/8"-16 Gr2 Z Centerlock Hex Nut	JM0001512
9	Pulley Bracket	JM0016201
10	3/8"-16 x 1-3/4" Gr5 Z Hex Bolt	JM0002097
11	3/8"-16 x 3/4" Gr5 Z Hex Bolt	JM0001663
12	5/16" x 4/5" Inside Diameter Carabiner	JM0049114
13	6" USA - 1/2" Pulley	JM0028267

Ladder



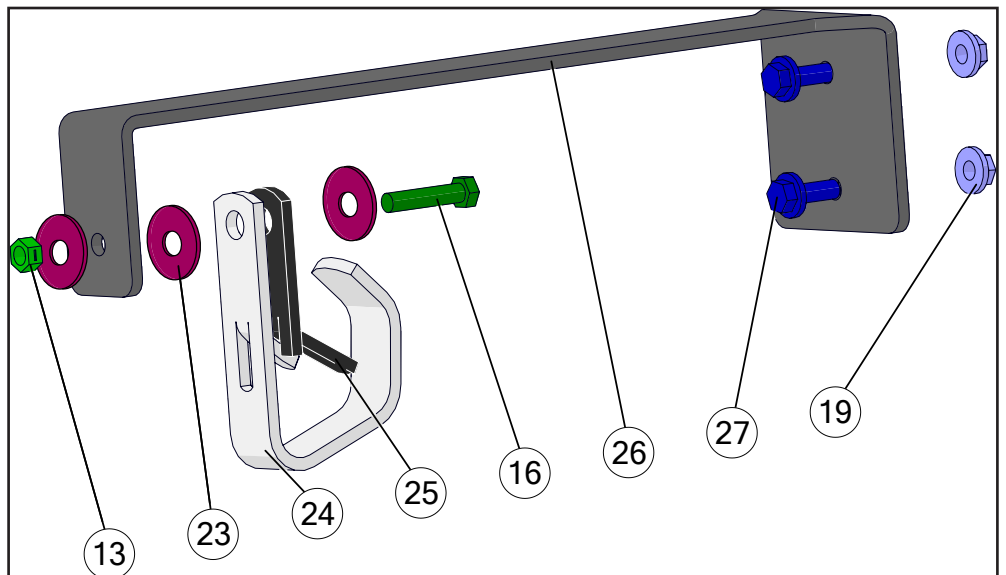
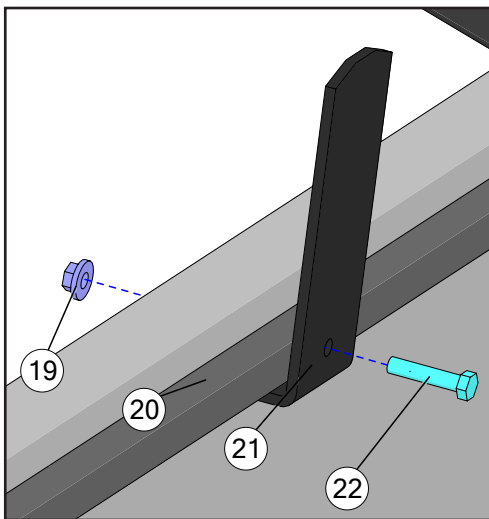
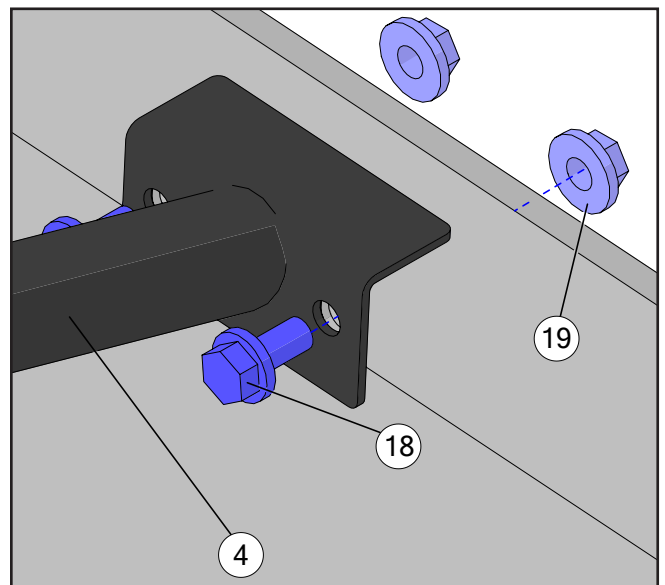
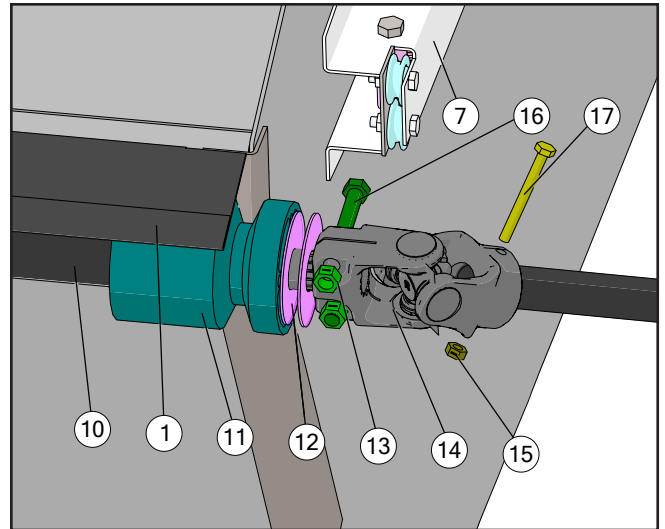
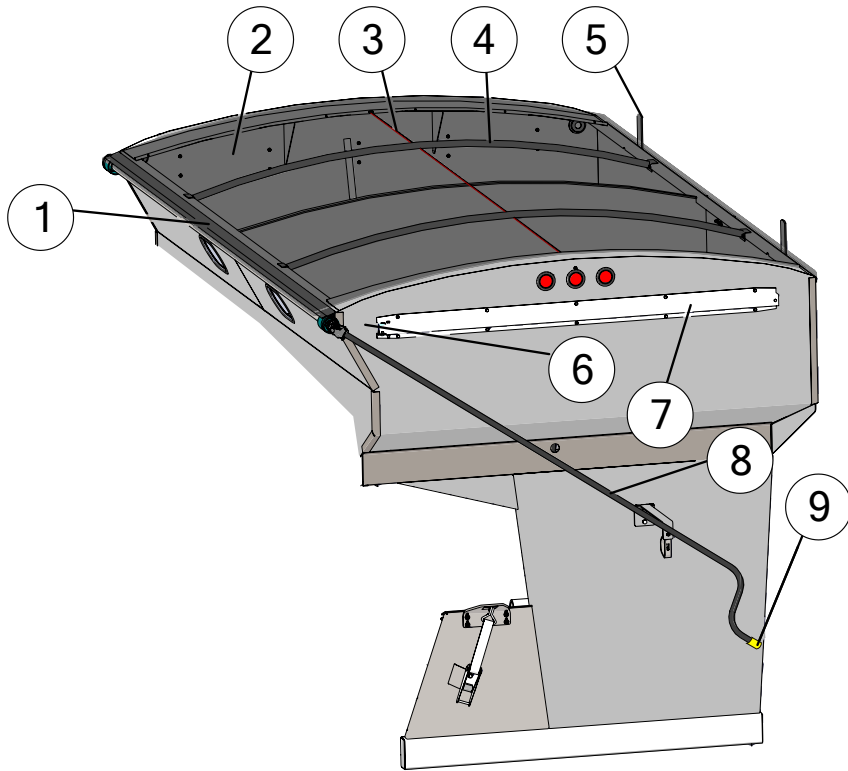
	Description	Part No.
1	Gas Spring (15-1/4" Extended x 9-3/4" Retracted) (120 lbs)	JM0001961
2	Ladder Bolt-on Plate (EC 270)	JM0048046
3	SpeedTender - Upper Ladder Assembly	JM0002950
4	SpeedTender - Lower Ladder Assembly	JM0002359
5	3/8"-16 Gr5 Z SF Hex Nut	JM0002152
6	3/8"-16 x 1" Gr5 Z SF Hex Bolt	JM0002092
7	3/8"-16 x 1" Gr5 Z Hex Bolt	JM0001592
8	5/16"-18 Gr2 Z Centerlock Hex Nut	JM0002143
9	3/8" ID, 1" OD Z Flat Washer	JM0003061
10	3/8"-16 Gr2 Z Centerlock Hex Nut	JM0001512
11	Rubber Bumper (5/8" Diameter)	JM0002920

Talc Applicator



Description	Part No.
1 Lid for Talc on SpeedTender Pro (Lundell)	JM0018071
2 3/8"-16 Gr5 Z SF Hex Nut	JM0002152
3 3/8"-16 x 1" Gr5 Z SF Hex Bolt	JM0002092
4 EC 270 Auger Rest Plate	JM0050287
5 Talc Saddle SpeedTender Pro (Lundell)	JM0022323
6 1/4"-20 Gr5 Z Flange Nut	JM0001499
7 1/4"-20 x 1" Gr5 Z SF Hex Bolt	JM0001643
8 Talc Hole Cap Cleanout Port	JM0030546
9 Talc Tank Strap for SpeedTender Pro (Lundell)	JM0028905
10 2"x 48-1/4" PVC Pipe	JM0050645
11 Talc Applicator Power Unit and Tank (No Variable Speed Dial)	JM0031246
12 50" Talc Auger Flighting	JM0050652
13 20-80 lb Drive Unit (Motor Assembly for Talc) with Dial Less Agitator	JM0029054
13 20-80 lb Drive Unit (Motor Assembly for Talc) Less Dial Less Agitator	JM0031277

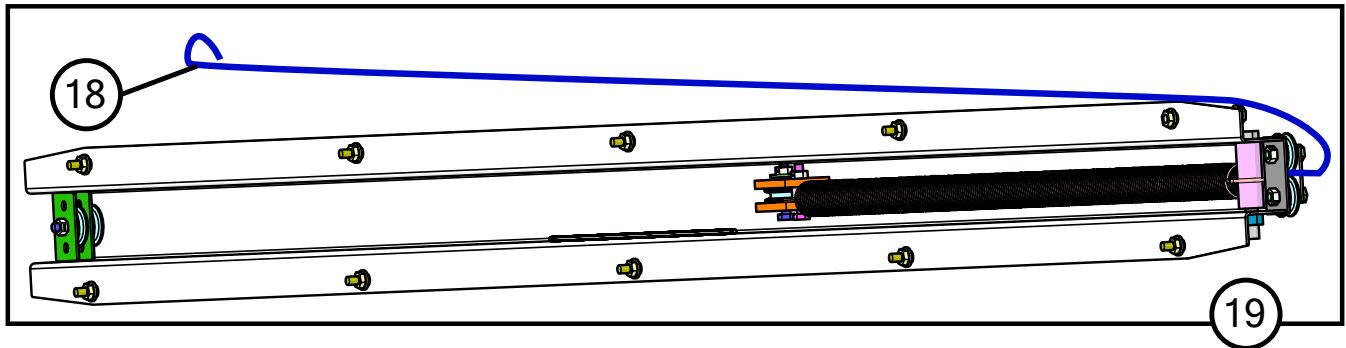
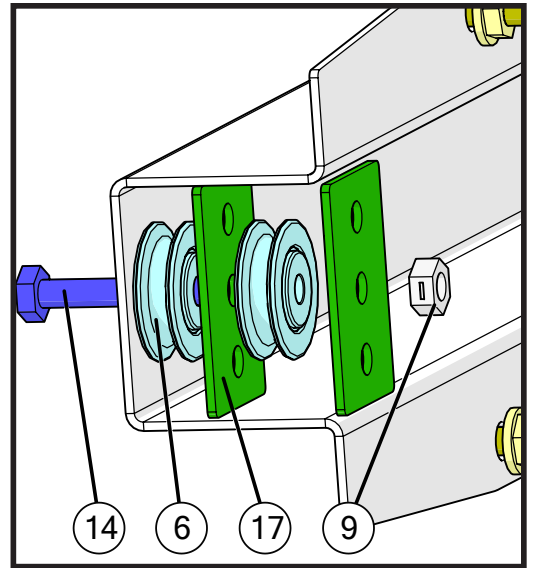
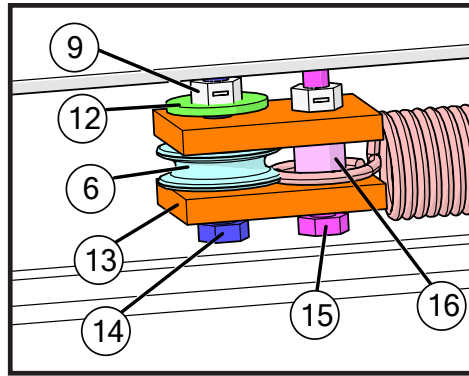
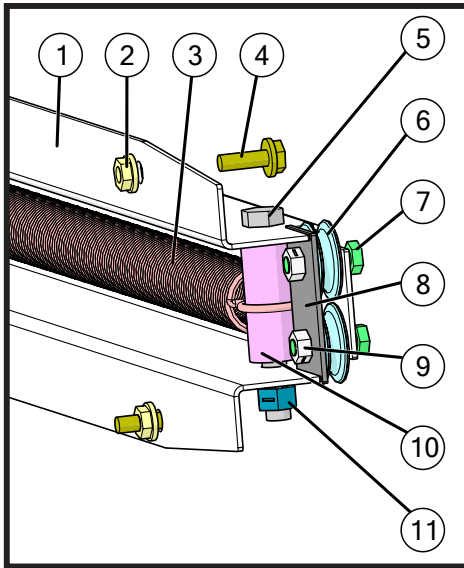
Roll Tarp



Roll Tarp

	Description	Part No.
1	Tightening Lip x 145-1/2" (290)	JM0007039
2	9'6" x 11'7" Tarp with Rivets (290)	JM0007020
3	3/16" Cable x 148" (290)	JM0041578
4	92-1/4" Arched Tarp Bows (270, 290, 390)	JM0010073
5	Tarp Stop Bracket (TSB-1)	JM0000187
6	Spring Return Cable (Seed Tender and Gravity Boxes)	JM0010307
7	Spring Return Assembly for Seed Tender (ST375TSW)	JM0002437
8	93-1/4" Crank Handle (ST375CH)	JM0002907
9	S-Cap Yellow - 1.062" ID x 1-1/2" x 1/16"	JM0018963
10	1-1/4" x 148" Roll Tube (290)	JM0007041
11	Roll Tarp Guide Roller	JM0038446
12	1" USS Flat Washer	JM0003063
13	3/8"-16 Gr2 Z Centerlock Hex Nut	JM0001512
14	Universal Joint - Roll Tarp (SUJ-1)	JM0001517
15	1/4"-20 Gr2 Z Centerlock Hex Nut	JM0001505
16	3/8"-16 x 1-1/2" Gr5 Z Hex Bolt	JM0001659
17	1/4"-20 x 2-1/2" Gr5 Z Hex Bolt	JM0001506
18	3/8"-16 x 3/4" Gr5 Z SF Hex Bolt	JM0001750
19	3/8"-16 Gr5 Z SF Hex Nut	JM0002152
20	1" x 140" Square Tie-Down Tube (290)	JM0007040
21	Tarp Stop Bracket (TSB-1)	JM0000187
22	3/8"-16 x 1-3/4" Gr5 Z Hex Bolt	JM0002097
23	1/2" ID 1-3/8" OD Z Flat Washer	JM0003082
24	Crank Holder (Zinc Plated) (CH-1)	JM0002967
25	Roll Tarp - Handle Hanger Rubber Flap	JM0002551
26	Seed Tender Tarp Handle Holder Standoff Weldment (THHSST375W)	JM0002903
27	3/8"-16 x 1" Gr5 Z SF Hex Bolt	JM0002092

Spring Return



Description	Part No.
1 Spring Return Housing for Seed Tender and Gravity Box Roll Tarp	JM0002446
2 1/4"-20 Gr5 Z SF Hex Nut	JM0001630
3 Spring Return Spring	JM0000207
4 1/4"-20 x 3/4" Gr5 Z SF Hex Bolt	JM0001642
5 3/8"-16 x 3" Gr5 Z Hex Bolt	JM0001666
6 1-1/4" Idler Pulley (1/4" ID)	JM0002439
7 1/4"-20 x 3/4" Gr5 Z Hex Bolt	JM0001507
8 Spring Return Pulley Brace Plate	JM0013484
9 1/4"-20 Gr2 Z Centerlock Hex Nut	JM0001505
10 3/4" x 2" Plastic Spacer	JM0002444
11 3/8"-16 Gr2 Z Centerlock Hex Nut	JM0001512
12 1/4" ID, 3/4" OD Z Flat Washer	JM0003090
13 1/4" x 1-1/2" x 2" Plastic Spacer - 2 Hole (Seed Tender and Gravity Box)	JM0002443
14 1/4"-20 x 1-1/2" Gr5 Z Hex Bolt	JM0002447
15 1/4"-20 x 1" Gr5 Z Hex Bolt	JM0002095
16 2" Black Plastic Spacer (1/4" ID x 1/2" OD)	JM0002442
17 Aluminum Spacer for Spring Return (1-3/8" x 2-3/16") Rectangular	JM0002445
18 Spring Return Cable (Seed Tender and Gravity Boxes)	JM0010307
19 Spring Return Assembly for Seed Tenders and Gravity Boxes (ST375TSW)	JM0002437

