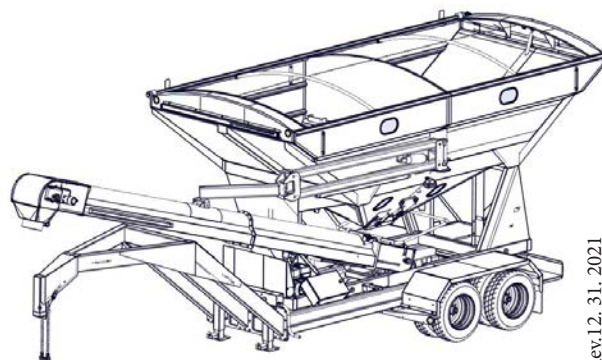


Speed Tender

535-ST

OPERATORS MANUAL



Rev.12. 31. 2021

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General Information

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: 535 Speed Tender **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 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 Speed Tender.

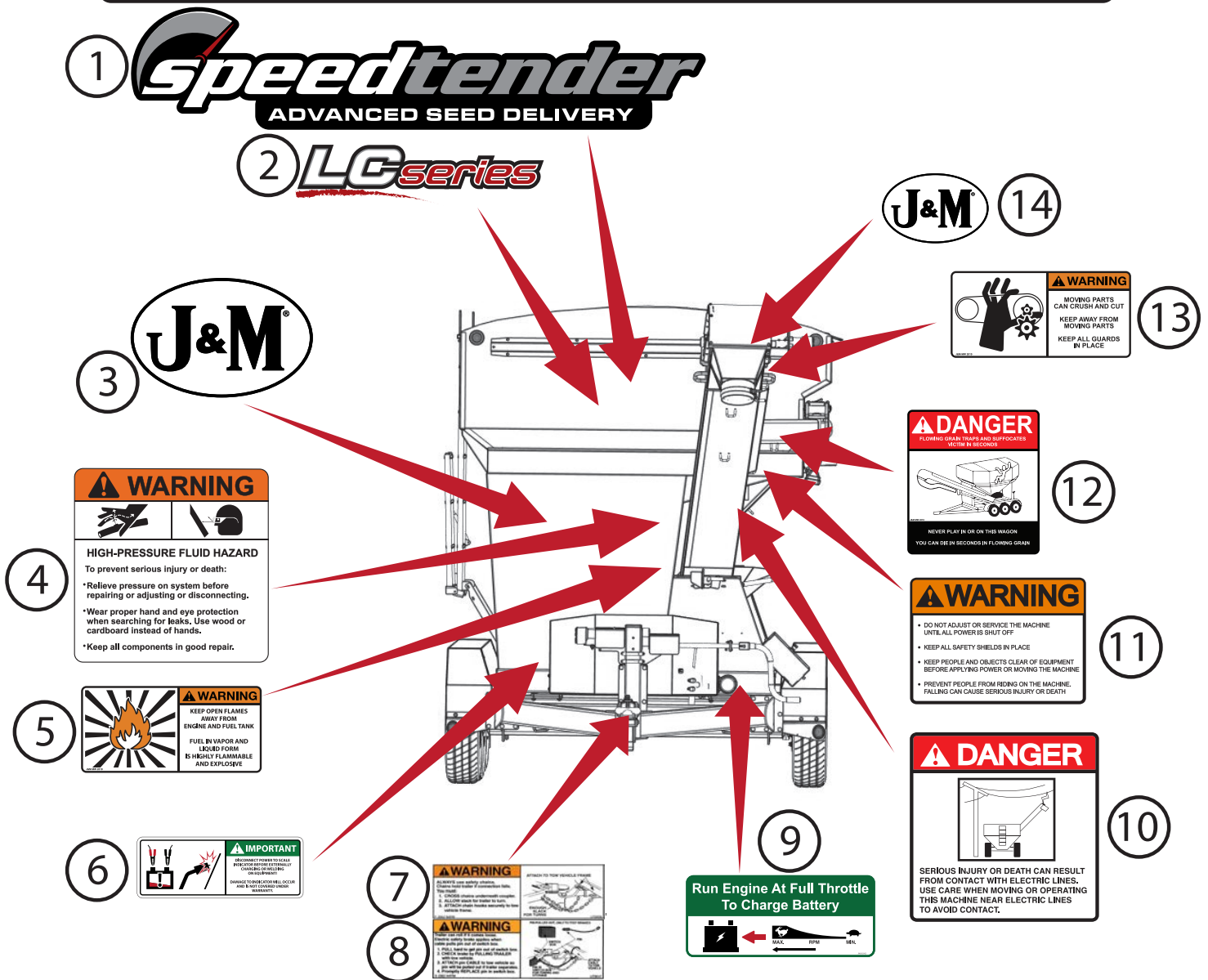
Read this manual before you operate this machine. If you do not understand any part of this manual, or need more information, contact the manufacturer or your authorized dealer.

Safety Rules Next Page

Safety Rules

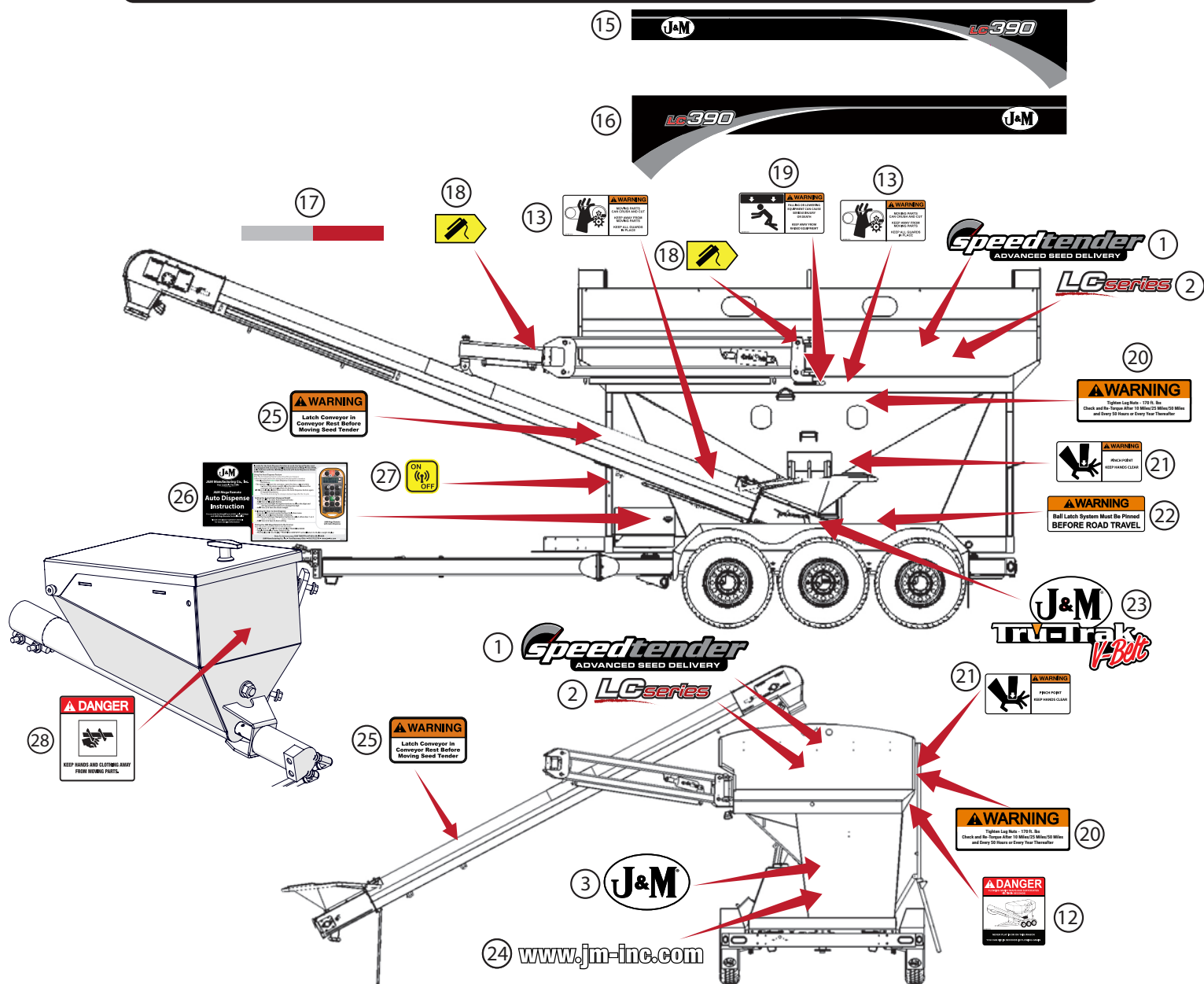
1. Understand that your safety and the safety of other persons are measured by how you service and operate this machine. Know the positions and functions of all controls before you try to operate them. Make sure to check all controls in a safe area before starting your work.
2. The safety information 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 Speed Tender safety chain to towing vehicle before transporting. Do not transport without safety chains being attached to tow vehicle.
5. Make sure that the conveyor is resting on the conveyor support with spring latch in place before transport.
6. Use good judgment when transporting Speed Tender 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 Speed Tender.
7. When transporting on public roads, the conveyor must be in the forward position to meet with lighting and visibility marking requirements.
8. Do not travel faster than 10 m/h. 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 Speed Tender near electric lines as serious injury or death can result from contact.
10. Never adjust, service, clean, or lubricate Speed Tender 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. Hydraulic oil leaking under pressure can penetrate skin and cause infection or other injury.
15. To prevent personal injury when working with hydraulic power unit:
 - a. Relieve all pressure before disconnecting fluid lines.
 - b. Before applying pressure, make sure all connections are tight and components are in good condition.
 - c. Never use your hand to check for suspected leaks under pressure. Use a piece of cardboard or wood for this purpose.
16. Make sure that everyone is clear of equipment before applying power or moving the Speed Tender.
17. Before filling the Speed Tender, make certain that no one is inside the grain tanks. Never allow children or anyone in, near, or on the Speed Tender 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.
18. Before unhooking the Speed Tender from the transport vehicle, be sure to properly block the wheels to prevent the Speed Tender from moving.
19. When using the conveyor swing option be sure to stand clear of the swinging conveyor at all times.

Decals



Description	Part No.
1 SpeedTender Advanced Seed Delivery	JM0040057
2 LC Series Decal	JM0049466
3 J&M Oval Decal (Large) 9-1/2" x 15"	JM0015151
4 Warning, High Pressure Fluid Hazard Decal 4" x 4"	JM0010163
5 Warning, Keep Open Flames Away Decal	JM0014983
6 Important, Disconnect Power To Scale Decal	JM0040056
7 Warning, Always Use Safety Chains Decal	JM0014995
8 Warning, Trailer Can Roll Decal	JM0014997
9 Run Engine At Full Throttle To Charge Battery Decal	JM0032425
10 Danger, Electric Lines Decal	JM0015099
11 Warning, Do Not Adjust (4 Bullets) Decal	JM0018040
12 Danger, Flowing Grain Traps ST Decal	JM0014969
13 Warning, Moving Parts Can Crush and Cut Decal	JM0014993
14 J&M Oval Decal (Medium) 5-1/2" x 8-1/2"	JM0010179

Decals

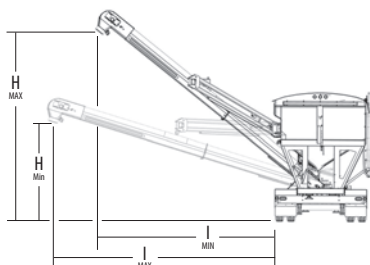
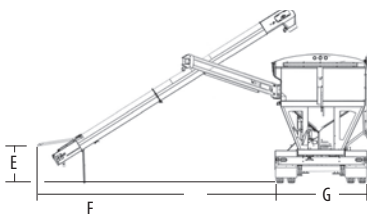
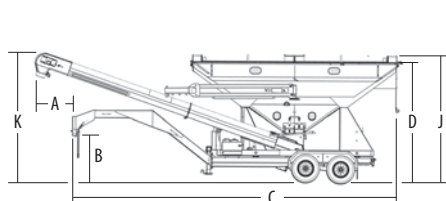


*Model 390 Shown

Description	Part No.
15 LC390 Conveyor Side Stripe	JM0045611
16 LC390 Opposite Conveyor Side Stripe	JM0045612
17 2" x 18" Red and White Reflective Strip	JM0015079
18 Grease Point Decal	JM0040055
19 Warning, Falling Or Lowering Decal	JM0014992
20 Warning, Tire Wheel or Lug Nut Failure Decal	JM0014996
21 Warning, Pinch Point Decal	JM0014994
22 Warning, Ball Latch System Decal	JM0040058
23 J&M Oval, Tru-Trak V-Belt Combo Decal	JM0037730
24 www.jm-inc.com Decal	JM0019239
25 Warning, Latch Conveyor Decal	JM0040054
26 Auto Dispense Instructions Decal	JM0037816
27 On/Off Decal (ST)	JM0014974
28 Danger, Keep Hands and Clothing Away Decal	JM0018035

Specifications

	LC290	LC390	LC535
A	5'-1" (A-Frame)	4'-9" (A-Frame)	-----
A	2'-10" (Gooseneck)	2'-8" (Gooseneck)	3'-6" (Gooseneck)
B	1'-6" (min) (A-Frame)	1'-6" (min) (A-Frame)	-----
B	2'-7" (min) (Gooseneck)	2'-7" (min) (Gooseneck)	2'-9" (min) (Gooseneck)
B	1'-10" (max) (A-Frame)	1'-10" (max) (A-Frame)	-----
B	3'-3" (max) (Gooseneck)	3'-3" (max) (Gooseneck)	3'-4" (max) (Gooseneck)
C	21'-3" (A-Frame)	22'-1" (A-Frame)	-----
C	23'-5" (Gooseneck)	24'-4" (Gooseneck)	29'-2" (Gooseneck)
D	9'-3"	9'-8"	10'-8"
E	3'-10"	3'-10"	4'-0"
F	17'-11"	17'-11"	20'-2"
G	8'-6"	8'-6"	8'-6"
H	16'-4" (max)	16'-4" (max)	17'-0" (max)
H	8'-7" (min)	8'-7" (min)	8'-7" (min)
I	17'-4" (max)	17'-4" (max)	20'-4" (max)
I	12'-10" (min)	12'-10" (min)	16'-2" (min)
J	9'-9"	10'-2"	11'-5"
K	11'-0"	11'-0"	11'-0"



MODEL C4-50 CONTROLS A) Standard All-Function Remote

- ★ Starts/Stops Conveyor
- ★ Raises/Lowers Conveyor
- ★ Opens/Closes Tank Doors
- ★ Hydraulically Swings Conveyor

B) Optional Deluxe Wireless Remote

- ★ Starts/Stops Conveyor
- ★ Raises/Lowers Conveyor
- ★ Opens/Closes Tank Doors
- ★ Hydraulically Swings Conveyor
- ★ Electronic Scale Shut-Off

LC290 LC390 LC535

	Capacity (total)	Weight (empty)	Tongue Wt. (loaded)	Conveyor/Auger	Unloading Rate	Conveyor/Auger Reach	Axles	Engine
LC290	290 Seed Units	6,100 lbs.	1,650 lbs.	22' Long, 8" Tube Conveyor	30 Bushels/Min	49' (front to rear swing)	Two (2), 7,000 lb. Torsion-Flex Axles w/Electric Brakes	11 HP Honda Motor w/Electric Start
LC390	390 Seed Units	7,500 lbs.	1,380 lbs.	22' Long, 8" Tube Conveyor	30 Bushels/Min	49' (front to rear swing)	Three (3), 7,000 lb. Torsion-Flex Axles w/Electric Brakes	11 HP Honda Motor w/Electric Start
LC535	535 Seed Units	10,400 lbs.	4,900 lbs.	24.5' Long, 10" Tube Conveyor	45 Bushels/Min	50' (front to rear swing) (w/telescoping spout)	Two (2), 16,000 lb. Dual Wheel, Spring Ride w/Electric Brakes	11 HP Honda Motor w/Electric Start

1.0 Operations

1.1 Preparing the Towing Vehicle

Before towing the Speed Tender, refer to towing vehicle's owner's manual for information concerning hitch capacities, hitch adjustments, and tire inflation.

Towing vehicle must be equipped with proper electric braking components.

NOTE: The Speed Tender is equipped with LED lights. The towing vehicle may require a flasher upgrade for lights to operate properly.

Do not exceed towing vehicles GVWR (Gross Vehicle Weight Rating) or GCWR (Gross Combination Weight Rating), or the maximum hitch load.

1.2 Preparing Speed Tender

Hydraulics: Check routing of all hydraulic hoses. Hoses should not be kinked, twisted or rubbing against sharp edges. Check all hoses and fittings for hydraulic leaks. Tighten and /or repair or replace as required.

Lubrication: Lubricate Speed Tender as outlined in Service section 2.1. Refer to engine manual for proper fluid levels in engine.

Tires/Wheels: Check tire pressures and maintain at recommended operating pressure. It is important to check wheel nut/bolts for proper torque as recommended. You can find proper tire pressure and wheel torque located on page 19 of this manual.

1.3 Connecting Speed Tender to the Towing Vehicle

 **WARNING: Do not stand between the Speed Tender and tow vehicle when hooking up.**

NOTE: The Gooseneck Frame can feature either a 2 5/16" ball coupler or a 5th Wheel hook up.

1. Back tow vehicle up to Speed Tender.
2. Align the vehicle's ball or lunette eye with the coupler or ring on the Speed Tender.
3. Lift tongue latch lever.
4. Lower jack to set Speed Tender coupler down on ball or lunette eye hook.
5. Latch coupler and insert pin. Check to make sure that coupler is securely latched.
6. Raise the "drop leg" of the gooseneck jack.
7. Attach 7-way plug to tow vehicle. Check the length of the Speed Tender 7-way 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 (Figure 1.1). Allow enough slack in chains necessary for turning.
10. Test the brakes and all the lights on the Speed Tender

 **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.**

1.0 Operations



Figure 1.1

1.4 Transporting

NOTE: Make sure the jack is fully retracted before transporting.

NOTE: Check to make sure the boom arm is in the boom rest and the lynch pin is in place with the conveyor ratchet strap securely fastened.

NOTE: Make sure that the collapsible hopper is in the up position.

When transporting the Speed Tender on public roads, it is recommended to have the boom in the forward facing position. The rearward facing position may not comply with state law for lighting and marking requirements.

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

1.5 Hydraulic Power Unit Operation

⚠ 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: Make sure to relieve hydraulic pressure before working on hydraulic system.

1.0 Operations

⚠ WARNING: Purge hydraulic system of air before operating Speed Tender to prevent serious injury or death.

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

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 (Figure 1.2).
3. Slide Choke Lever to the "ON" position (Figure 1.2).
4. Turn the key to the start position. Once engine starts, release key (Figure 1.2).
5. After starting, allow the engine to warm-up. Slide choke to the "OFF" position, and increase throttle speed (Figure 1.2).
6. To turn the engine off, slide the Fuel Shut-off to the "OFF" position (Figure 1.2).
7. Turn key off.

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

NOTE: If a hydraulic leak appears, turn off immediately and take appropriate action.

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

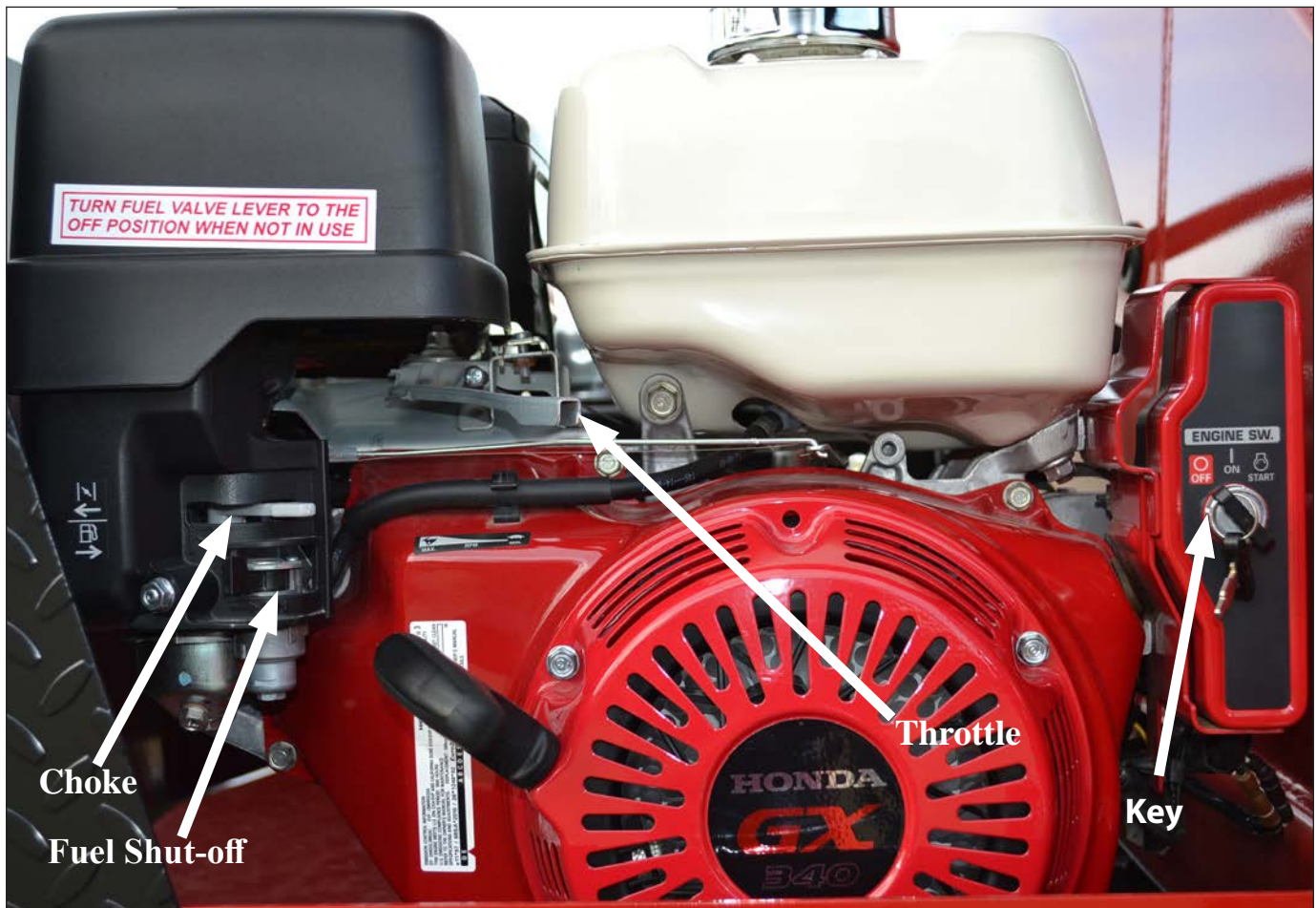


Figure 1.2

1.0 Operations

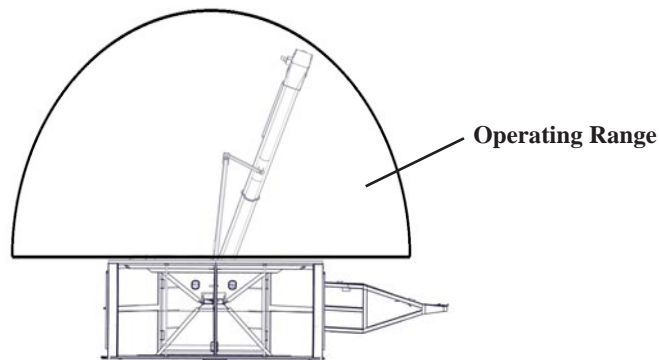
1.6 Field Operation

⚠ WARNING: The Speed Tender must be hooked to the towing vehicle during loading and unloading.

1. Position the Speed Tender next to the planter/drill so the conveyor will reach the planter box.
2. Release the spring latch from the conveyor. (Figure 1.3).
3. Start the hydraulic power unit and increase throttle speed. (Allow hydraulic fluid to warm-up.)(Figure 1.2).
4. Raise the conveyor off the conveyor rest using the handheld control (Figure 1.4).

NOTE: Wireless options feature a Wireless Remote (Figure 1.4).

⚠ WARNING: When operating the hydraulic swing option, Do not stand in the operating range of the Conveyor.



5. Check to make sure the hopper is in the up position (Figure 1.6)

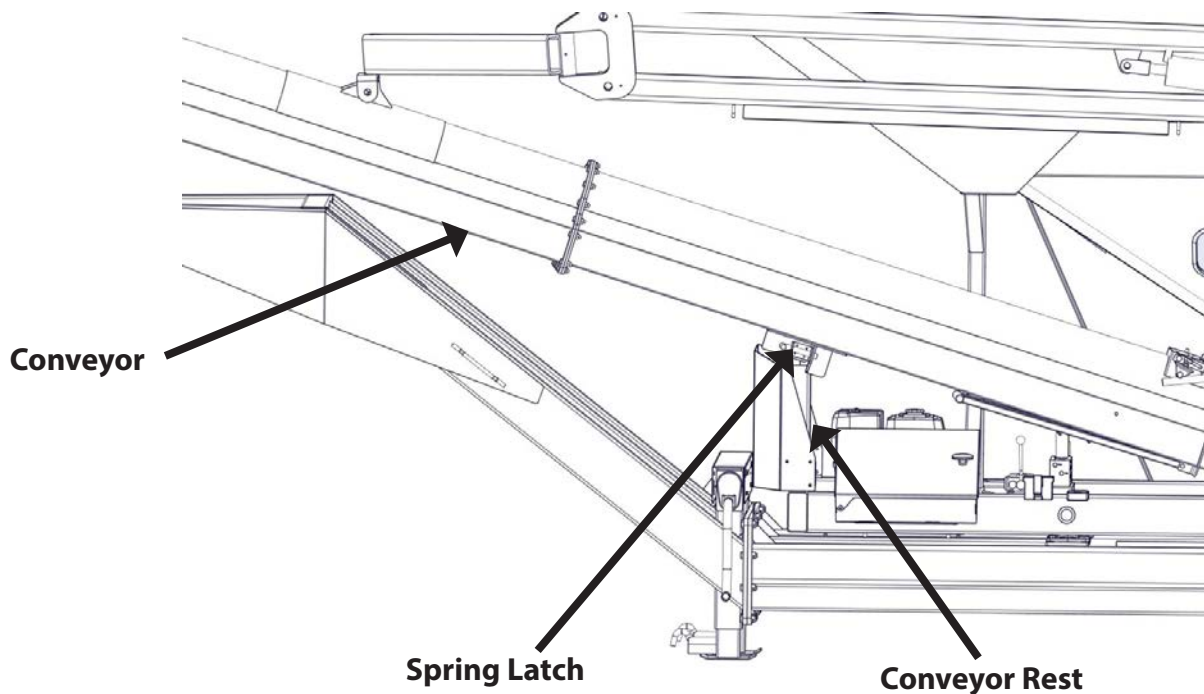


Figure 1.3

1.0 Operations

Wireless Remote



Handheld Control



Hydraulic Door Assembly

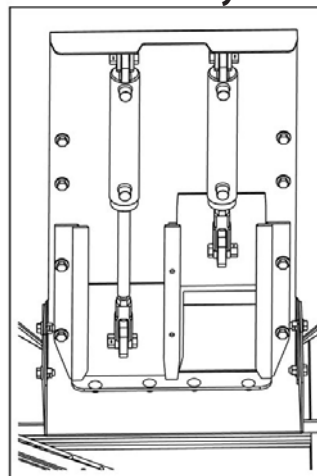
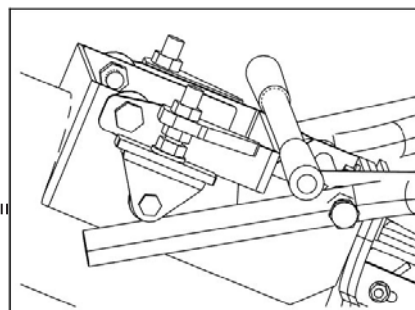
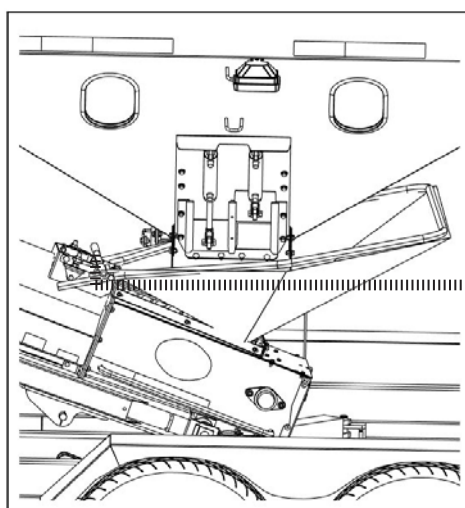


Figure 1.4

See Section 4.1 for Remote Options

Figure 1.5



Hopper Up

Figure 1.6

8. Open door on Speed Tender using supplied remote. (Figure 1.4).

WARNING: Empty-out the rear compartment first to help prevent the chance of flipping the Speed Tender.

9. Use the Handheld Control or Wireless Remote to start the conveyor.
10. Fill the planter/drill to desired level then repeat.
NOTE: Adjusting engine throttle will regulate conveyor speed.
11. Close door on Speed Tender before the last planter seed box is full so you can completely empty-out collapsible hopper and conveyor.

CAUTION: If you are parked on an incline the conveyor may swing freely. (It is advised that you do not use the Speed Tender on uneven ground).

1.0 Operations

12. Position conveyor above conveyor rest and lower to allow its full weight on the conveyor rest.
13. Engage spring latch into conveyor rest. **Be sure spring latch is fully engaged.**
14. Make sure the collapsible hopper is in the up position for storage (Figure 1.6).
NOTE: If you are not using an optional hopper cover this will help the water drain out of the hopper.
15. 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.
16. Slide the fuel shut off lever to the "OFF" position. This will allow the engine to shutoff by running out of gas.
17. Turn the key to the "OFF" position.

1.7 Filling Speed Tender From Another Wagon or Bulk Container

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

1. Release spring latch from conveyor rest. (Figure 1.3).
2. Start the hydraulic power unit and increase throttle speed. (Allow hydraulic fluid to warm up.)

NOTE: Make sure collapsible hopper is in the down position.

3. Raise the conveyor off the conveyor rest using the handheld control. (Figure 1.4).

NOTE: Wireless options feature a Wireless Remote (Figure 1.4).

CAUTION: If you are parked on an incline, the conveyor may swing freely. (It is advised that you do not use Speed Tender on uneven ground)

5. Rotate the conveyor to 45 deg. (Figure 1.8)
6. Lower the conveyor so you can remove the telescoping spout from the discharge end of the conveyor.
7. Remove pins and raise up both handles to release ball from latch system.
Slide the ball away from the middle of the tender then swing the collapsible hopper end out from under the Speed Tender shell.
8. Position the discharge end over the Speed Tender.

NOTE: The conveyor is equipped with a stand (Figure 1.7). (It is recommended for use whenever possible to maximize conveyor performance and for easier access to discharge point on bulk seed containers).

9. Lock the conveyor in place.



Figure 1.7

Conveyer Stand

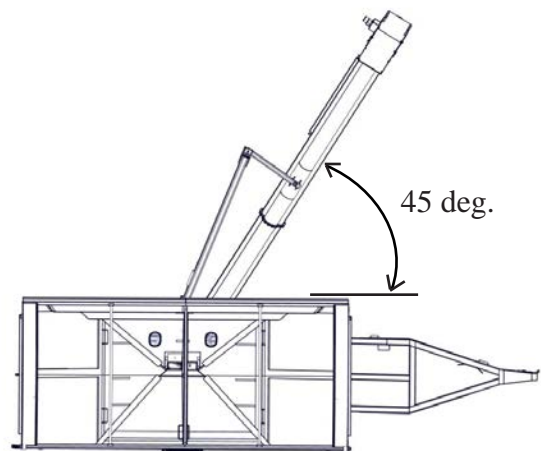


Figure 1.8

1.0 Operations

11. Lock collapsible hopper in the up position (Figure 1.6).
12. Position the wagon or bulk seed container over the collapsible hopper.
13. Use the handheld controller or wireless remote to start the conveyor.
14. Fill the Speed Tender to desired level.

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

15. Run the conveyor until the collapsible hopper is empty.
16. When finished loading seed into the Speed Tender, move the wagon or bulk seed container away from conveyor.
17. Place collapsible hopper in the down position.
18. With the conveyor at a 45 deg. angle, swing the conveyor hopper back under the tank and slide ball back into latch system. Replace both pins on latch handles.

 **CAUTION:** If you are parked on an incline, the boom arm may swing freely. (It is advised that you do not use the Speed Tender on uneven ground.)

19. Position conveyor above the conveyor rest and lower to allow its full weight on the rest.
20. Engage spring latch into the conveyor rest. **Be sure spring latch is fully engaged.**
21. Make sure the collapsible hopper is in the up position for storage (Figure 1.6).
NOTE: This will help the water drain out of the hopper.
22. 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.
23. Slide the fuel shut off lever to the "OFF" position. This will allow the engine to shutoff by running out of gas.
24. Turn the key to the "OFF" position.

1.8 Cleaning out Collapsible Hopper and Conveyor

 **WARNING:** The Speed Tender must be hooked to the towing vehicle during loading and unloading.

1. Release spring latch from conveyor rest. (Figure 1.3).
2. Start the hydraulic power unit and increase throttle speed. (Allow hydraulic fluid to warm up if it is cold outside) (Figure 1.2).
NOTE: Make sure collapsible hopper is in the down position.
3. Raise the conveyor out of conveyor rest using the handheld control. (Figure 1.4).
NOTE: Wireless options feature a Wireless Remote (Figure 1.4).

 **CAUTION:** If you are parked on an incline, the conveyor may swing freely. (It is advised that you do not use Speed Tender on uneven ground).

4. Rotate the conveyor to 45 deg. (Figure 1.8).

1.0 Operations

5. Lower the conveyor so you can remove the telescoping spout from the discharge end of the conveyor.
6. Swing the collapsible hopper end out from under the Speed Tender shell.
7. Place the collapsible hopper in the up position (Figure 1.6)
8. With the discharge end lower than the collapsible hopper end, place the discharge end into a 5 Gal. bucket (Figure 1.9). Using the hand held controller, start the conveyor and run until completely empty.
9. Lower the collapsible hopper end back down to the ground. This will allow you to open the clean-out door. (Figure 1.10)



Figure 1.9

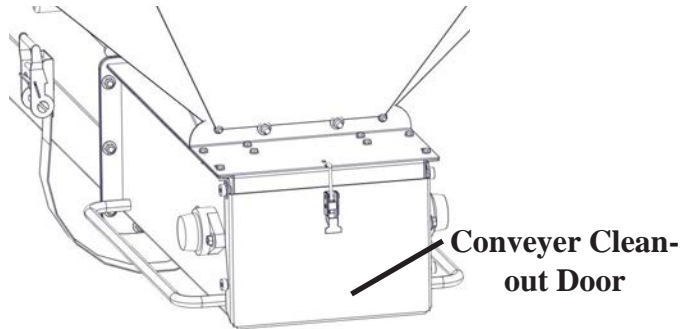


Figure 1.10

10. Place collapsible hopper in the down position.

⚠ CAUTION: If you are parked on an incline, the conveyor may swing freely. (It is advised that you do not use Speed Tender on uneven ground).

11. With the conveyor at a 45 Deg. angle, swing the conveyor hopper back under the tank and slide ball back into latch system. **Replace both pins on latch handles.**
12. Position conveyor above conveyor rest and lower to allow its full weight on the conveyor rest.
13. Engage spring latch into conveyor rest. **Be sure spring latch is fully engaged.**
14. Make sure the collapsible hopper is in the up position for storage (Figure 1.6).
NOTE: This will help the water drain out of the hopper.
15. Slide the fuel shut off lever to the "OFF" position. This will allow the engine to shutoff by running out of gas.
16. Turn the key to the "OFF" position.

1.0 Operations

1.9 Adjusting the Tarp Tension in Hanger Bracket

1. Fully unroll the tarp as shown in Figure 1.11.
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.



Figure 1.11

1.10 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 Speed Tender is empty.
4. After initial amount is placed on the scale, press the TARE Key. (Weight is tarred 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.

2.1 Grease Conveyor Bearings

Grease the conveyor bearings every 10 hours of operation and before storage. Use only two pumps of grease per bearing (Figure 2.1).

NOTE: Over lubrication of these bearings will result in premature failure.

NOTE: The conveyor has four bearings that need grease (two at each end). The auger is equipped with one bearing (at hopper end).

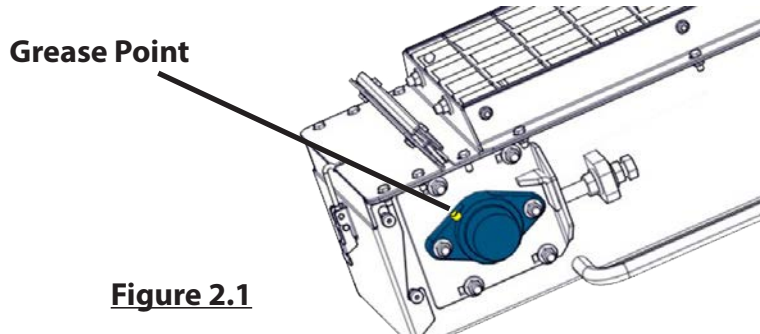


Figure 2.1

2.2 Grease Boom Arm

Grease pivot points on boom arm every 50 hours and before storage (Figure 2.2).

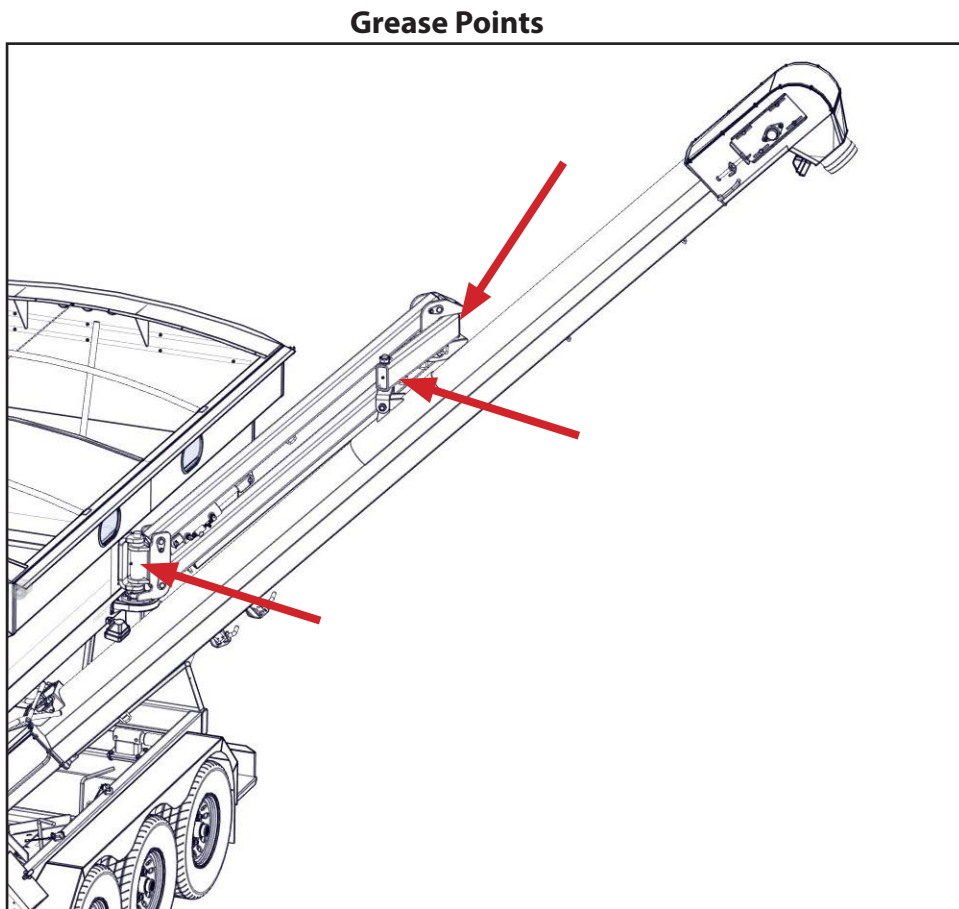


Figure 2.2

2.0 Service

2.3 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. 125 psi is the cold rating of the 215/75R17.5 tire that is standard for the 535 Speed Tender. 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. Figure 2.3 below is a troubleshooting chart used to ensure the tires wear evenly.

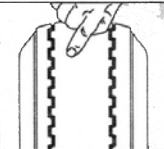
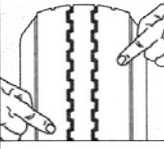
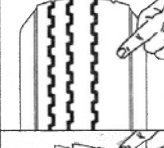
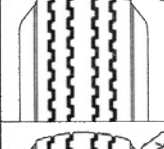
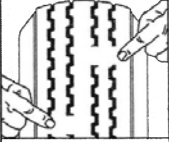
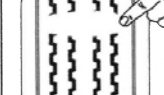
	Condition	Possible Cause	Remedy
	Even Center Wear	Over Inflation	Check & Adjust Pressure When Cold
	Inside & Outside Wear	Under Inflation	Check & Adjust Pressure When Cold
	Smooth, Side Wear - One Side	Loss of Camber or Overloading	Check & Unload As Necessary Have Alignment Checked
	"Feathering" Across 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

Figure 2.3

2.4 Tightening Lugnuts

Torque the 3/4" swivel flange nuts on new and removed wheels to 350 - 400 ft. lbs. after the first 10, 25, and 50 miles of driving, then recheck torque every 50 hours or every year, whichever comes first.

2.5 Wheel Bearings

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 Speed Tender.
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 (See bearing cup replacement on following page.)
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 wheel nut/bolt torque requirements located in section 2.4.

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.

2.6 Hydraulic Power Unit

Daily (every 5 hours of use):

1. Check oil level.
2. Inspect for oil leaks and repair as necessary.
3. Check all hoses, fittings, bolts and hardware to make sure that they are secure and properly tightened.
4. Check motor oil level. See Engine operator's manual for details on oil levels, oil types, and service intervals.

Once per season (every 20-25 hours of use):

Change hydraulic oil filter element with either a NAPA 155Z or a FRAM P1654A Filter.

Every two to three years (every 75-80 hours of use):

Drain oil reservoir and refill with clean, good quality hydraulic AW 32 oil. (It is not recommended to refill with tractor hydraulic oil).

Replacing hydraulic parts:

Check parts section for proper part description and part # for replacement.

Purge air from system as follows:

1. Disconnect the rod end clevis of all cylinders in a circuit and block up cylinders so the rod can completely extend and retract without contacting any other components.
2. Pressurize the system and maintain system at full pressure for at least 5 sec. after cylinder rods stop moving. Check that all cylinders have fully extended or retracted.
3. Check hydraulic reservoir and refill as needed.
4. Pressurize system again to reverse the motion of step 2. Maintain pressure on system for at least 5 sec. after cylinder rods stop moving. Check that cylinders have fully extended or retracted.
5. Check for hydraulic leaks using cardboard or wood. Tighten connections according to the torque chart. (pg.28)
6. Repeat steps 2, 3, 4 and 5 (3 to 4 times).
7. Depressurize hydraulic system and connect cylinder rod clevises to their mating lugs.

2.7 Conveyor Belt Tracking

Conveyor belt must run in the center of the pulley at both the discharge end and the collapsible hopper end. Failure to do so will lead to unnecessary wear and shortening of belt life. We recommend that you check your belt for proper tracking every 10 hours of use and before every season.

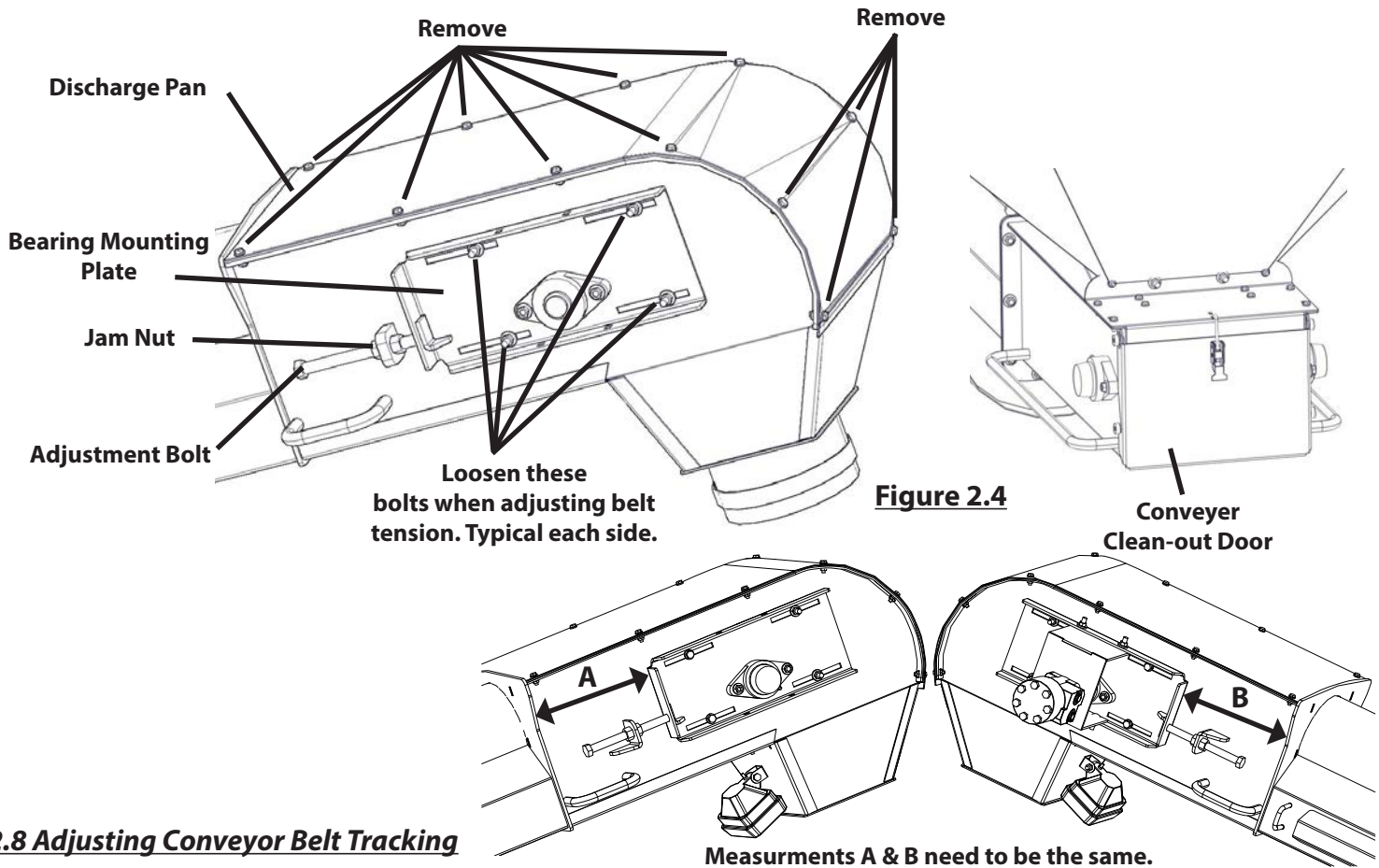
Checking the belt tracking at collapsible hopper end:

1. Open clean out-door located under collapsible hopper (Figure 2.4). This will allow you to see if the belt is centered on the pulley.
2. If the tracking is ok, close the clean out-door. If tracking is off, see (Section 2.8).

Checking the belt tracking at discharge end:

1. Remove the 12 bolts located at the discharge end (Figure 2.4).
2. Remove the Discharge Pan and Rubber Discharge Pan. This will allow you to see if the belt is centered on the pulley.
3. If the belt tracking is good, reinstall the head pan. If tracking is off, see Section 2.8.

2.0 Service

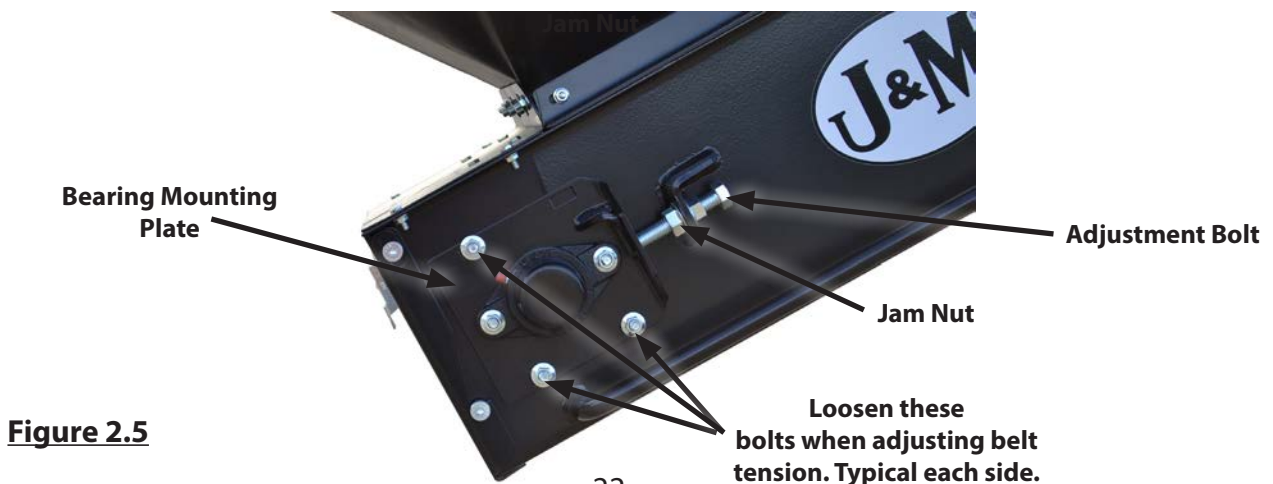


2.8 Adjusting Conveyor Belt Tracking

1. Loosen (Do Not Remove) the 4 bolts on the two bearing mounting plates located at the collapsible hopper end of the conveyor (Figure 2.5). **NOTE: Only adjust conveyor in normal position, do not adjust in self-fill position.**
2. Operate the conveyor at a slow speed.

⚠ CAUTION: Keep hands and clothing away from moving parts.

3. Loosen jam nut on adjustment bolt (Figure 2.5).
4. Tighten the adjustment bolt slowly until belt is running in the center of the pulley.
NOTE: Do not loosen the Adjustment bolt.
5. Tighten all bolts on bearing mounting plate, and adjustment bolts jam nuts.
6. Repeat at discharge end.
7. When belt is running in center of the pulley on both ends of conveyor, allow the Speed Tender to run for 10 min, and recheck belt for proper tracking.



2.9 Belt Tensioning

NOTE: You need to adjust your belt tension at least once a year.

1. Remove the head pan and head pan gasket (Figure 2.3).
2. Loosen (Do Not Remove) the 4 bolts on the two bearing mounting plates located at the discharge end of the conveyor (Figure 2.3).
3. Loosen jam nut on adjustment bolt at discharge end (Figure 2.3).
4. Torque threaded adjustment bolt to 23 ft-lb.
5. Operate the conveyor at a slow speed.

 **CAUTION: Keep hands and clothing away from moving parts.**

6. If the belt is tracking properly go to step 7. If tracking is off, see Section 2.8.
7. Open the clean-out door located under collapsible hopper (Figure 2.4). This will allow you to see if the belt is centered on the pulley.
8. If the tracking is ok, close the clean-out door, tighten all hardware and go to step 9. If tracking is off, see Section 2.8.
9. Run the belt at medium speed for 10 min. and recheck the tracking at both the discharge and collapsible hopper end.
10. If tracking is off, see section 2.8.
11. If the belt is still tracking in the center of both pulleys, reinstall the head pan.

2.10 Electric Brakes

The Speed Tender 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 Speed Tender brakes at least once a year with normal use.

How to use your electric brakes properly:

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

Your Speed Tender 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 insure safe brake performance and synchronization, read the brake controller manufacturer’s instruction completely before performing the synchronization procedure.

Make several hard stops from 20 m/h on a dry paved road that is free of sand and gravel. If the Speed Tender 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.

2.0 Service

How to adjust electric brakes:

1. Park the Speed Tender 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 Speed Tender.
4. Secure the trailer on jack stands of adequate capacity front and rear.
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 that they are in the correct position.
8. Now back off the star wheel 8 to 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 Speed Tender 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 thereby preventing adequate 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 and replace if required.

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 (Figure 2.6). 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.

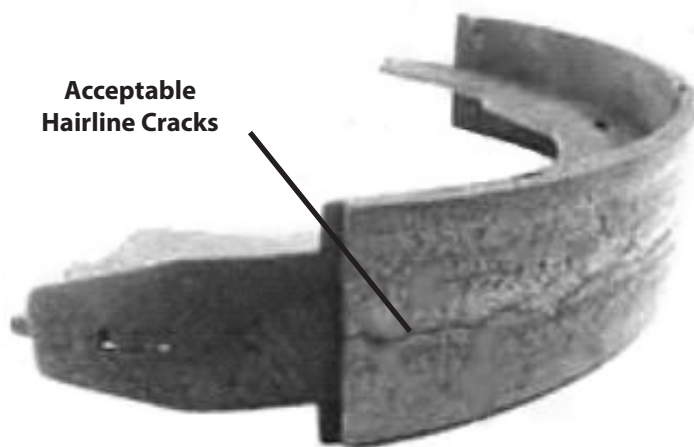


Figure 2.6

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 to 30 times from an initial speed of 40 m/h, slowing the vehicle to 20 m/h. 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:

Most electric brake malfunctions that cannot be corrected by either brake adjustments or synchronization adjustments can generally be traced to electrical system failure. Mechanical causes are ordinarily obvious, bent or broken parts, worn out linings or magnets, seized lever arms or shoes, scored drums, loose parts, etc. 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 (Figure 2.7). 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.

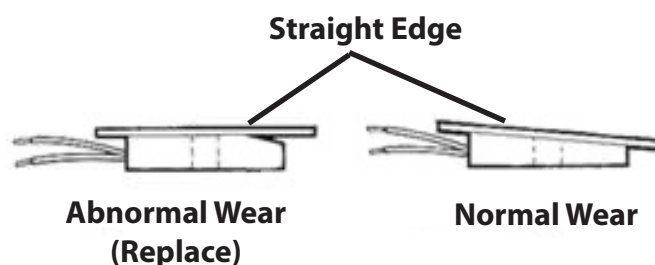


Figure 2.7

Voltage in the system should begin at 0 volts. As the controller bar is slowly actuated, the voltage should gradually increase to about 12 volts. This is referred to as modulation. No modulation means that 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 insure 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.

2.0 Service

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 insure 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.

2.11 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. Grease the conveyor bearings every 10 hours. Use only two pumps of grease per bearing

NOTE: Over lubrication of these bearings will result in premature failure.

NOTE: The conveyor has 4 bearings that need greased (2 at each end). 2. Check your belt for proper tracking every 10 hours of use and before every season. For steps to properly track your belt see section 2.7.

NOTE: When checking the belt for tracking you should empty out the clean-out door (Figure 2.4).

3. Check hydraulic oil level.
4. Inspect for oil leaks and repair as appropriate.
5. Check all hoses, fittings, bolts, and hardware to make sure that they are secure and properly tightened.
6. Check engine oil level. See Engine operator's manual for details on oil levels, oil types and service intervals.
7. Check Speed Tender breaks and lights before towing.
8. Check the Speed Tender 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 Speed Tender and greatly reduce its life.

9. Make sure tires are properly inflated (See page 19).
10. Make sure wheel lug nuts are properly torqued (See page 19).
11. Make sure that the conveyor hopper guard is in place. Do not remove.
12. Clean out the Conveyor at the end of every day of use (Section 1.8).

2.12 End of the Year Service

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

1. Grease the conveyor bearings. Use only two pumps of grease per bearing.
NOTE: Over lubrication of these bearings will result in premature failure.
NOTE: The conveyor has four bearing that need greased (two at each end).
2. Grease pivot points on boom arm before storage.
3. The wheel bearings need to be cleaned, inspected, repacked, and adjusted. Use a number 2 wheel bearing grease to repack the bearings.
4. 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.

2.12 End of the Year Service(Continued)

5. Torque lug-nuts (See page 19).
6. Make sure that the tires are properly inflated (See page 19).
7. Remove all grain from inside the grain tanks.
8. Clean out the conveyor at the end of every season (Section 1.8).
9. Tension and track the conveyor belt. (Section 2.7).
10. Check the Speed Tender 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 Speed Tender and greatly reduce its life.
11. Check hydraulic hoses for wear and replace if needed.
12. Make sure that the conveyor hopper guard is in place.
13. Remove battery from the Speed Tender 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.
14. Change hydraulic oil filter element with either a NAPA 155Z or a FRAM P1654A Filter.
15. Top off hydraulic oil tank with good quality hydraulic AW 32 oil.
NOTE: If the Hydraulic Oil appears to be "Milky" in color it should be changed immediately. Otherwise, the Hydraulic Oil should be changed every 2-3 years. If the environment is extremely dusty or dirty the Hydraulic Oil should be changed more often.
15. Check motor oil level. See Engine operator's manual for details on oil levels, oil types, and service intervals.
16. Retract all hydraulic cylinders to prevent the piston rods from rusting.
17. 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).

2.13 Removing From Storage

1. Grease the conveyor bearings. Use only two pumps of grease per bearing
NOTE: Over lubrication of these bearings will result in premature failure.
NOTE: The conveyor has four bearings that need greased (two at each end). The auger is equipped with one bearing (at Hopper end) (See section 2.1).
2. Grease pivot points on boom arm.
3. Torque lug-nuts (See page 19).
4. Make sure that the tires are properly inflated (See page 19).
5. Check your belt for proper tracking every 10 hours of use and before every season. For steps to properly track your belt (Section 2.7).
6. Check oil level.
7. Inspect for hydraulic oil leaks and repair as appropriate.
8. Check all hoses, fittings, bolts, and hardware to make sure that they are secure and properly tightened.
9. Check engine oil level. See Engine operator's manual for details on oil levels, oil types, and service intervals.
10. Check Speed Tender lights before each time you tow.
11. Make sure that the conveyor hopper guard is in place.
12. Reattach battery and check to make sure that it is fully charged.
IMPORTANT: Be sure to disconnect the scales from the battery before charging.

2.0 Service

2.14 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 section 2.5).
Tires show excessive wear	a. Check tire pressure.
	b. Rotate tires. (See section 2.3)
	c. Check wheel bearings for adjustment. (See section 2.5).
Wheel makes grinding or squeaking noise	a. Service wheel bearings. (See section 2.5).
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 section 2.5).
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
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
Belt is not moving - Hydraulic pump is not producing sufficient pressure or volume to belt motor.	a. Check for pinched or leaking hydraulic line
	b. Allow hydraulic oil to warm up
	c. Increase engine R.P.M.
	d. Charge battery or plug in to tow vehicle
	e. Hydraulic fluid level low
	f. Hydraulic filter clogged
	g. Check for proper oil viscosity
	h. Check hydraulic output pressure.
Belt is not moving - Obstructed conveyer	a. Make sure conveyor is not clogged
Belt has insufficient output speed or R.P.M. - Hydraulic pump is not producing sufficient pressure or volume to belt motor.	a. Check for pinched or leaking hydraulic lines.
	b. Allow hydraulic oil to warm up
	c. Increase engine R.P.M.
	d. Hydraulic fluid level low
	e. Hydraulic filter clogged
	f. Check for proper oil viscosity
	g. Repair or replace worn out pump.
Belt has insufficient output speed or R.P.M. - Belt is slipping	a. Adjust belt tension and tracking (See section 2.8).
	b. Check telescoping spout and conveyor for a clog.
	c. Remove material from clean out door.

2.0 Service

2.14 Troubleshooting

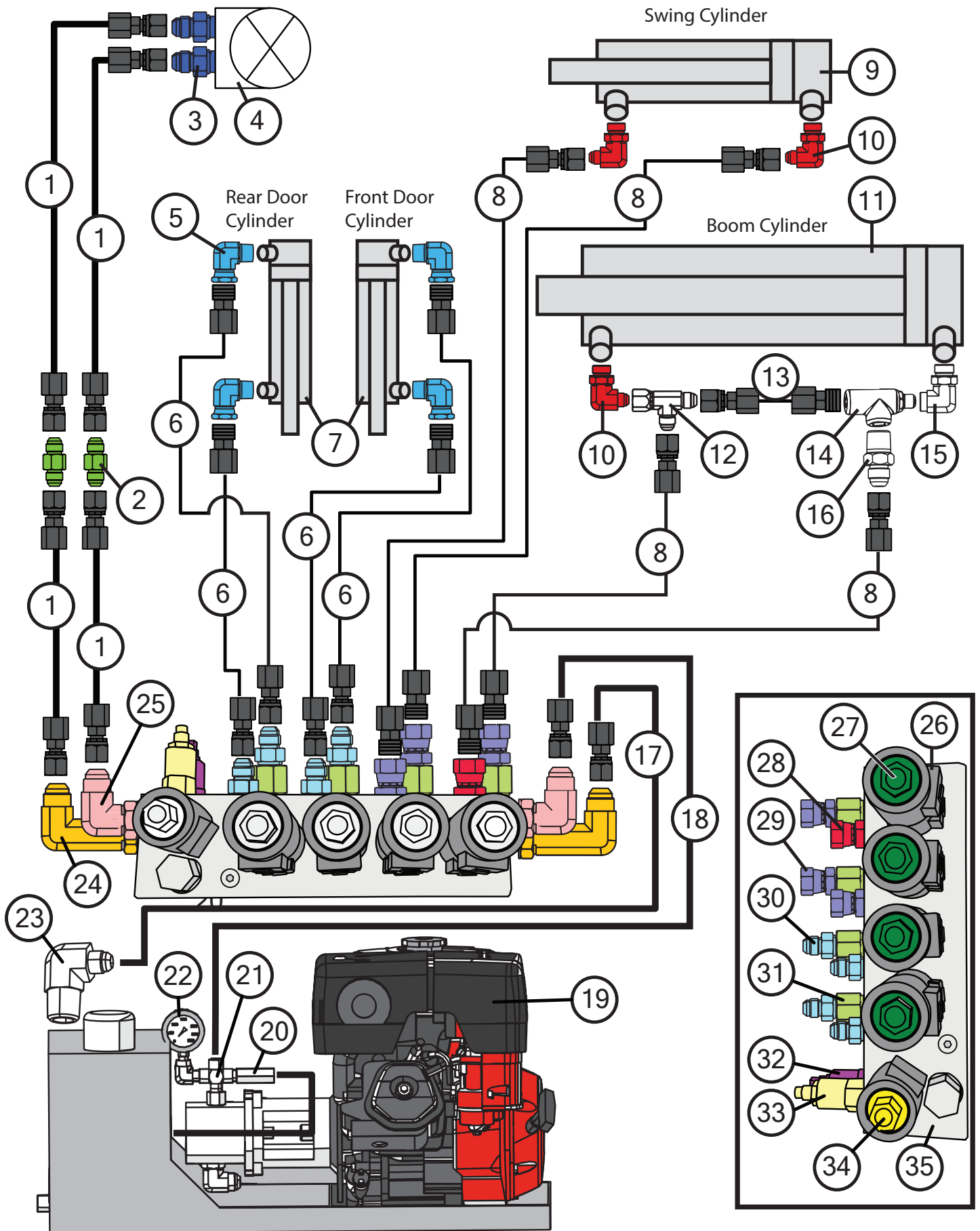
Problems	Solutions
Belt has insufficient output speed or R.P.M. - Air in hydraulic system.	a. Bleed air out of hydraulic system and fill reservoir (See section 2.6).
	b. Look for leaking or cracked fittings.
Belt has insufficient output speed or R.P.M. - Leak in motor, valve body, or bypass valves.	a. Replace or repair motor, valve body, or bypass valves.
	b. Check for proper oil viscosity.
	c. Clean and lubricate the brake assemblies
Excessive wear to belt edge - Tracking is off.	a. Adjust belt tension and tracking (See section 2.8).
Excessive wear to belt edge - Rubber skirting is worn or out of place.	a. Replace rubber skirting.
	b. Adjust rubber skirting.
Boom arm will not move up or down - Engine R.P.M. slow.	a. Increase engine R.P.M.
Boom arm will not move up or down - Hydraulic pump is not producing sufficient pressure or volume to hydraulic cylinder.	a. Check for pinched or leaking hydraulic lines.
	b. Allow hydraulic oil to warm up.
	c. Increase engine R.P.M.
	d. Hydraulic fluid level low.
	e. Hydraulic filter clogged.
	f. Check for proper oil viscosity.
	g. Check to see if hydraulic pump is worn out
	h. Make sure battery is fully charged.
	i. Check wiring to valve body and hydraulic pump
Hydraulic unit squeals	a. Check sight glass on hydraulic unit reservoir and fill if necessary.
	b. Run engine at reduced speed for 5-10 minutes to warm up oil.
	c. Clean/replace filler cap/breather.
	d. Clear obstruction in suction hose.
	e. Replace plugged/dirty oil filter element.
Hydraulic unit has poor performance at high R.P.M.	a. Clean pressure relief in control valve or replace
	b. Check sight glass on hydraulic unit reservoir and fill if necessary.
	c. Replace plugged/dirty oil filter element
	d. Charge Battery

2.0 Service

2.15 Bolt Torque Specifications

Bolt Dia. (in.)	Pitch (threads/ inch)	Standard Dry Torque in Foot-Pounds					
		SAE Grade 0-1-2 74,000 psi Low Carbon Steel	SAE Grade 3 100,000 psi Med. Carbon Steel	SAE Grade 5 120,000 psi Med. Carbon Heat T. Steel	SAE Grade 6 133,000 psi Med. Carbon Temp. Steel	SAE Grade 7 133,000 psi Med. Carbon Alloy Steel	SAE Grade 8 150,000 psi Med. Carbon Alloy Steel
1/4	20	6	9	10	12.5	13	14
5/16	18	12	17	19	24	25	29
3/8	16	20	30	33	43	44	47
7/16	14	32	47	54	69	71	78
1/2	13	47	69	78	106	110	119
9/16	12	69	103	114	150	154	169
5/8	11	96	145	154	209	215	230
3/4	10	155	234	257	350	360	380
7/8	9	206	372	382	550	570	600
1	8	310	551	587	825	840	700
1-1/8	7	480	872	794	1304	1325	1430
1-1/4	7	375	1211	1105	1815	1825	1975
1-3/8	6	900	1624	1500	2434	2500	2650
1-1/2	6	1100	1943	1775	2913	3000	3200
1-5/8	5.5	1470	2660	2425	3985	4000	4400
1-3/4	5	1900	3463	3150	5189	5300	5650
1-7/8	5	2360	4695	4200	6980	7000	7600
2	4.5	2750	5427	4550	7491	7500	8200

3.0 Hydraulics

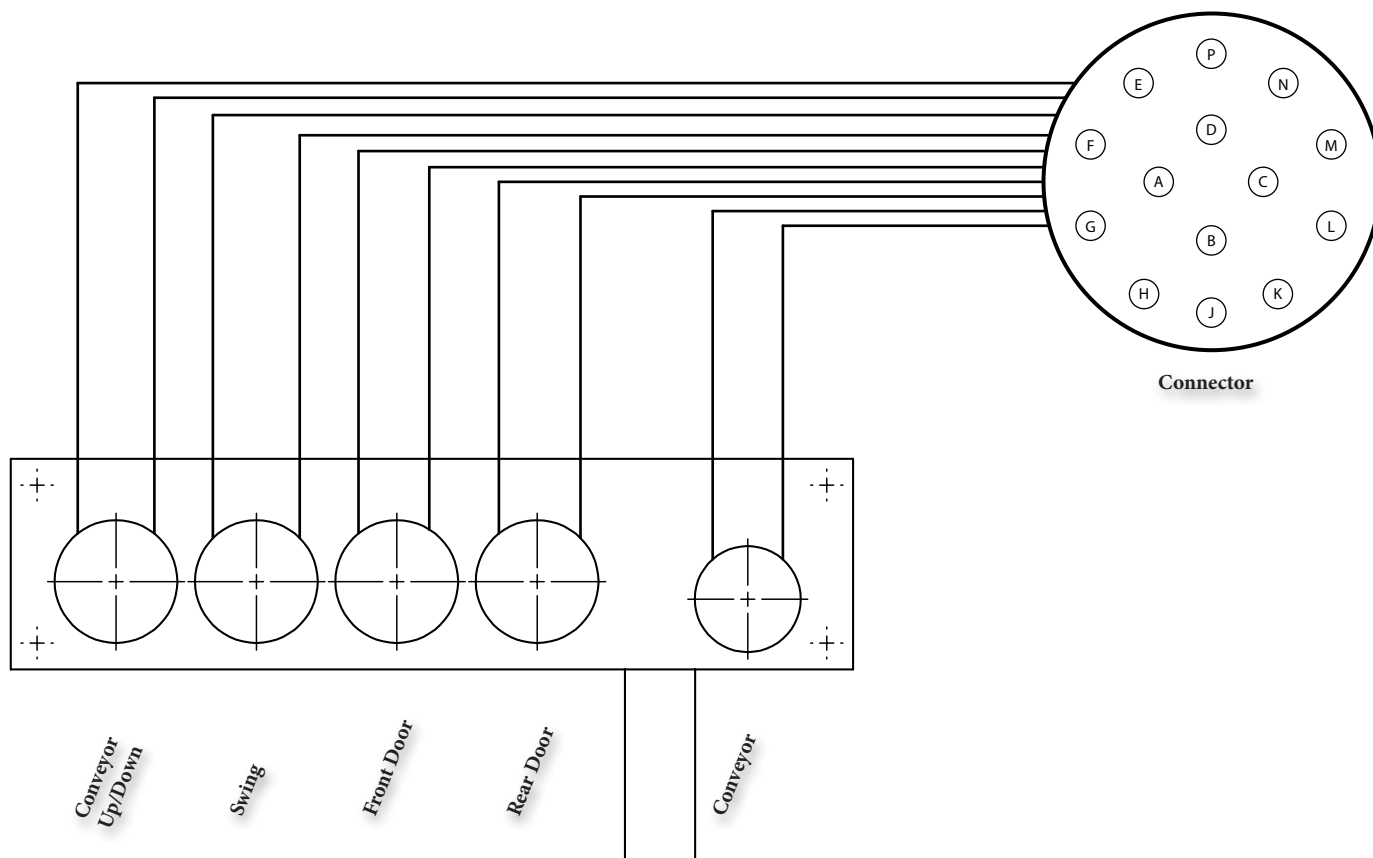


3.0 Hydraulics

	Description	Part No.
1	1/2" x 210" Hydraulic Hose 210inch8M3k-8G-8FJX-8G-8FJX	JM0041443
2	1/2" Male JIC x 1/2" Male JIC; Straight	JM0041452
3	1/2" Male JIC x 1/2: Male NPT; Straight	JM0015201
4	WR Series Hydraulic Motor with Keyway and Pinhole (15100F30N6AAAAA)	JM0010469
4	Seal Kit for 15100F30N6AAAAA WR Series Hydraulic Motor	JM0042773
5	1/4" Male NPT x 1/4" Female NPT-Swivel; 90 Degree Elbow	JM0010301
6	1/4" x 194" Hydraulic Hose 194inch4M3k-4G-4MP-4G-6FJX	JM0010300
7	1-1/2" Bore x 7" Stroke Hydraulic Cylinder (157HC)	JM0002882
7	Seal Kit for 1-1/2" Bore x 7" Stroke Hydraulic Cylinder (JD571)	JM0046352
8	1/4" x 194" Hydraulic Hose 194inch4M3k-4G-6MP-4G-6FJX	JM0041444
9	3" x 14" Welded Cylinder (No Rod, Clevis)	JM0041255
9	Seal Kit for 3" x 14" Welded Cylinder (No Rod, Clevis)	JM0025404
10	3/8" Male JIC x 1/2" Male ORB; 90 Degree Elbow	JM0037159
11	4" x 6" Welded Cylinder	JM0040425
11	Seal Kit for 4" x 6" Welded Cylinder	JM0046354
12	3/8" Male JIC x 3/8" Female JIC Swivel x 3/8" Male JIC Tee	JM0037163
13	1/4" x 12" Hydraulic Hose 12inch4M3k-4G-4MP-4G-6FJX	JM0010282
14	PC-37 Check Valve	JM0018233
15	1/2" Male ORB x 3/8" Female NPT; 90 Degree Elbow	JM0049446
16	3/8" Male JIC x 3/8" Male NPT; Straight	JM0037167
17	1/2" x 34" Hydraulic Hose 34inch8M3k-8G-8FJX-8G-8FJX	JM0010287
18	1/2" x 34" Hydraulic Hose 34inch8M3k-8G-6MPX-8G-8FJX	JM0010285
19	Honda GX390 Engine	JM0001749
20	Vonberg 2100 PSI Blowoff Valve	JM0037492
21	3/8" Male NPT x 3/8" Female NPT x 3/8" Female NPT x 3/8" Female NPT; Cross	JM0027115
22	Pressure Gauge 0-3000 PSI (P562713)	JM0037742
23	1/2" Male JIC x 3/4" Male NPT; 90 Degree Elbow	JM0033775
24	1/2" Male JIC x 1/2" Male ORB; Extra Long 90 Degree Elbow (6801-LL-08-08)	JM0046935
25	1/2" Male JIC x 1/2" Male ORB; 90 Degree Elbow	JM0010297
26	Replacement Sleeve (6352012) (Solenoid) (Open/Close) (SL-1)	JM0033735
27	Large Cartridge SV10-57 (Aluminum Valve Block)	JM0033737
28	3/8" Male ORB x 3/8" Female NPSM, 0.042 Restrictor; Straight (6900-06-06-R.042)	JM0033729
29	3/8" Male ORB x 3/8" Female NPSM Swivel; Straight	JM0044256
30	3/8" Male JIC x 3/8" Male ORB; Straight	JM0043614
31	3/8" Male ORB x 3/8" Female ORB; Straight Reducer	JM0039051
32	Relief Valve 1600 PSI (for Aluminum Valve Block) RV2	JM0033734
33	Relief Valve 1800 PSI (for Aluminum Valve Block) RV1	JM0033733
34	Small Cartridge SV10-21 (Aluminum Valve Block)	JM0033736
35	5 Function Aluminum Manifold Valve Block	JM0029973

5 - Function Manifold Valve Schematic (Aluminum) 2015 & Newer

3.2 Aluminum Valve Block



Use good set of allen wrenches when changing orifices.

The cartridge should be tightened with 25 lbs. of torque.

The Coil nut should be tightened with 5 lbs. of torque.

There is a spring, poppit, and ball bearing at the bottom of each coil.

Top Coil operates bottom port.

Bottom Coil operates top port.

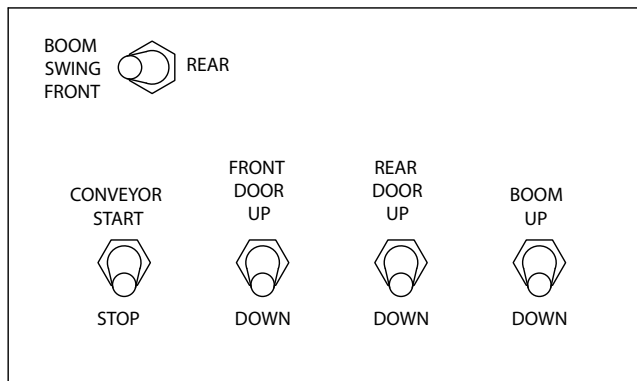
When changing cartridge make sure all functions are at rest.

The lettering on the coils should always be facing up.

Letter	Function
C	Conveyor swing front (optional)
D	Conveyor swing rear (optional)
E	Conveyor Up
F	Conveyor Down
G	Rear door up (optional)
H	Front door down (optional)
J	Power
K	Front door up (optional)
L	Rear door down (optional)
M	Pump In
N	Conveyor Start

4.0 Wiring

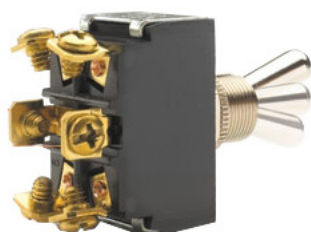
4.1 Remote Options



Pin	Description
A	N/C
B	N/C
C	Conveyor Swing Front
D	Conveyor Swing Rear
E	Boom Up
F	Boom Down
G	Rear Door Up
H	Front Door Down
J	Red - Power
K	Front Door Up
L	Rear Door Down
M	Dump
N	Dump
O	Conveyor Start
P	N/C



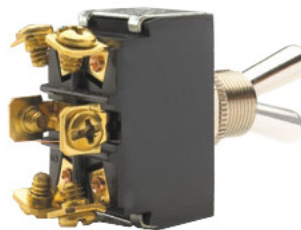
JM0014991
Handheld Controller
Starts/Stops Motor
Raises/Lowers Conveyor
Opens/Closes Tank Doors
Hydraulic Conveyor Swing



JM0037124
DPDT (On-Off-On)
Conveyor Swing Front/Rear
Front Door Up/Down
Rear Door Up/Down
Conveyor Up/Down
(Three position switch)



JM0028114
DPST (On-Off)
Conveyor Start/Stop
(This is a throw switch, it is either on or off.)



JM0037125
DPDT (On-On)
Conveyor Start/Stop
(This is a momentary switch, once you let go of the switch it will turn off.)

Note: If replacing Conveyor Start/Stop switch, both JM0028114 & JM0037125 will work. If operator wants the switch to be on and off then select JM0028114. If operator wants the conveyor to only run while he is holding the switch then select JM0037125.

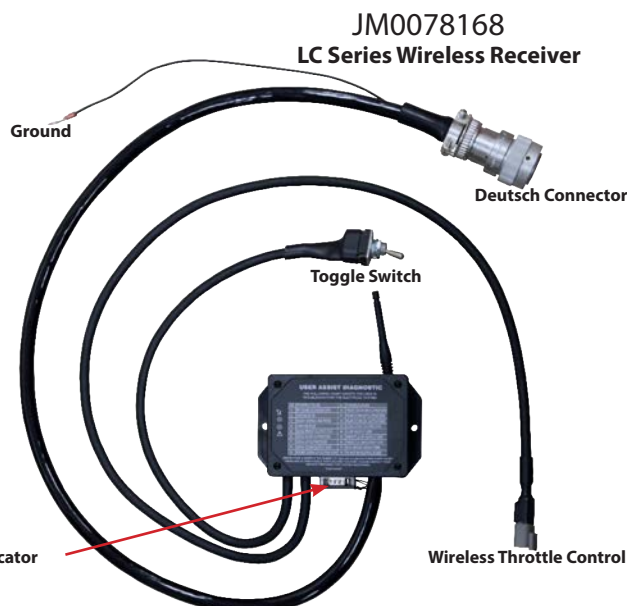


JM0040666
Stationary Control J&M Talc
Raises/Lowers Conveyor
Opens/Closes Tank Doors
Hydraulic Conveyor Swing
On/Off Talc
Talc Speed
On/Off Conveyor
On/Off Lights

JM0078169
Deluxe Wireless Remote and LC Series Receiver Kit



JM0078167
Wireless Remote (optional)
Starts/Stops Motor
Raises/Lowers Conveyor
Opens/Closes Tank Doors
Hydraulic Conveyor Swing
Electronic Auto Scale Shutoff



Auto Scale Shutoff

In order for the Auto Dispense function to work, the Speed Tender must be equipped with a factory installed and powered on Weigh-Tronix 640XL scale indicator with the J&M Mega Remote with Auto Dispense as shown to the right.

Using the Auto Dispense Feature

Note: The Auto Dispense Feature is only active after you change or confirm the weight and/or door settings each time the receiver is turned on

- Simply press the Green Auto Dispense(1) button to activate the feature.
- The system will Start the conveyor, open the door, unload within 2-4 Lbs of the desire weight, close the door and cleanout the conveyor with a single press of a button.
- If filling multiple planter boxes, press the Auto Dispense button again to repeat the process. This can be done during the conveyor cleanout stage

Setting the desired Auto Dispense Weight

- Press Scroll (2) to enter Auto Dispense menu
- Hold Tare (3) till weight flashes
- Use the Left and Right Navigation buttons to select the digit and the Up and Down buttons to change the digit
- Hold Tare (3) to Save the desire weight

Selecting the Door to Auto Dispense

- Press Scroll (2) twice to enter the Door Selection menu
- Hold Tare (3) until Door Number is flashing
- Use the Up and Down Navigation buttons to select either door 1 or 2
Door 1 = Front Door Door 2 = Rear Door
- Hold Tare (3) to Save to door setting

Pairing the J&M Mega Remote to the Receiver

Note: The wireless switch should be in the off position

- Hold Power (4) until the screen displays TEACHING MODE
- Toggle the Wireless Power Switch to On
- The Display will now display "TEACHING COMPLETE" and will return to the live weight display.

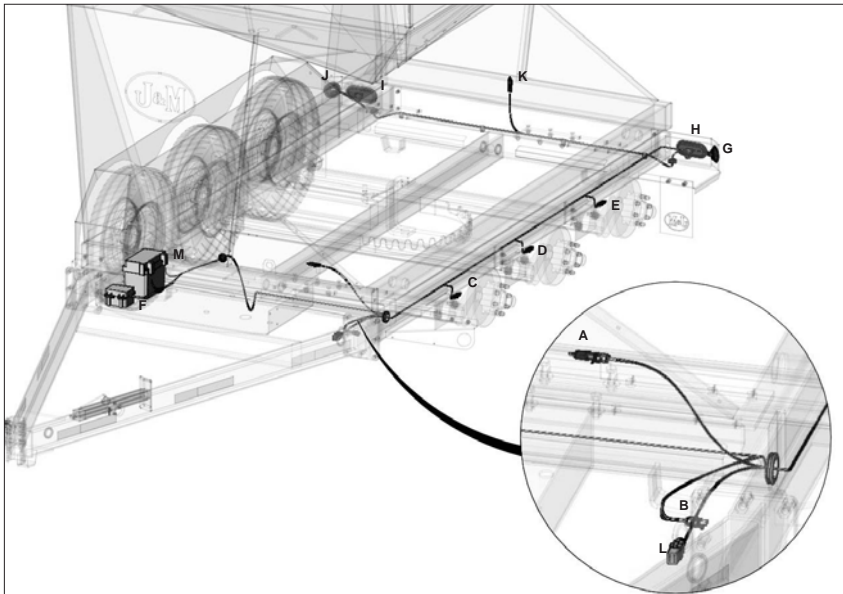
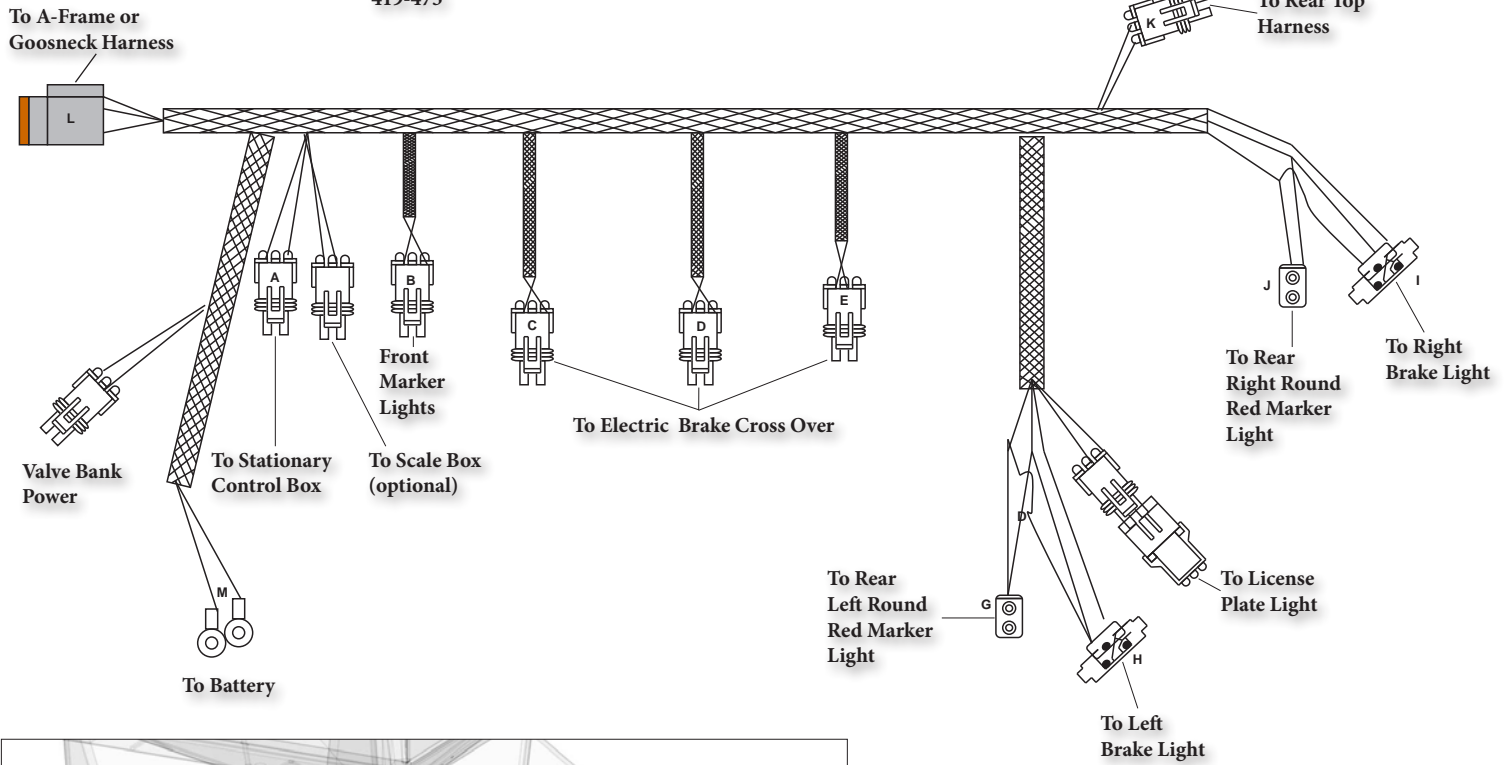


4.0 Wiring

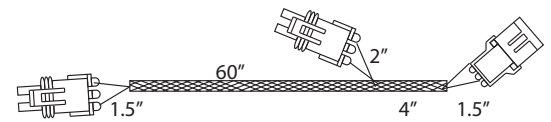
4.2 Light Wiring Harnesses

Main Harness (JM0033700)

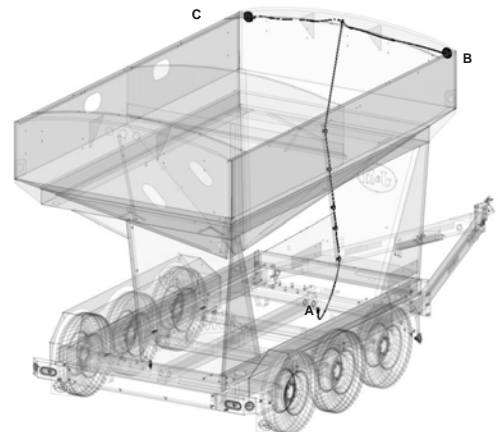
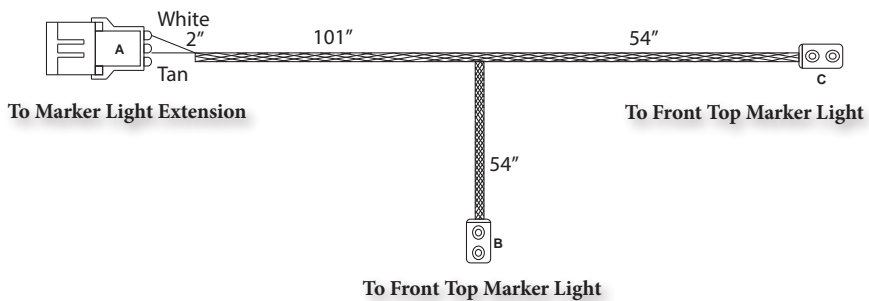
419-475



Electric Brake Cross Over (535 Only) (JM0033700)

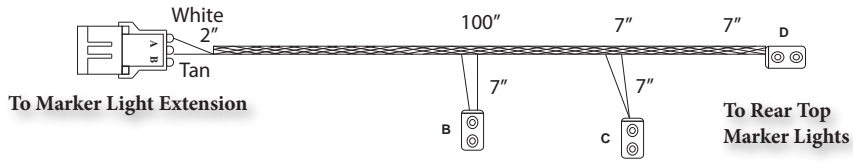


Front Top Harness (JM0020364)

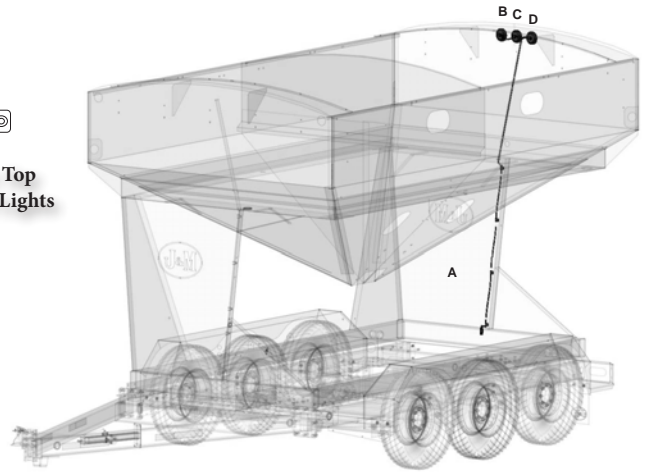
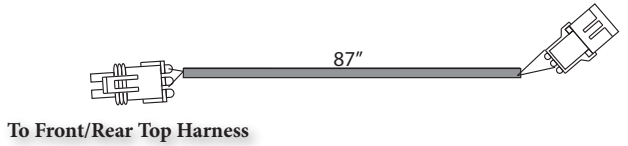


4.0 Wiring

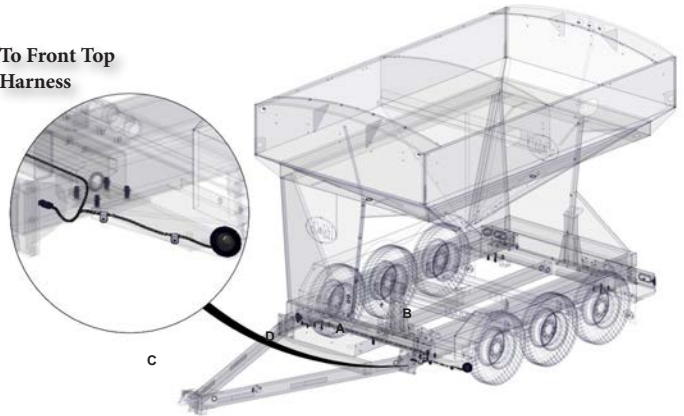
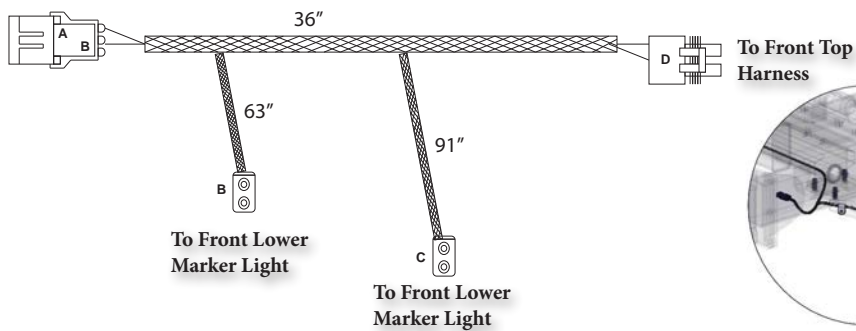
Rear Top Harness (JM0019964)



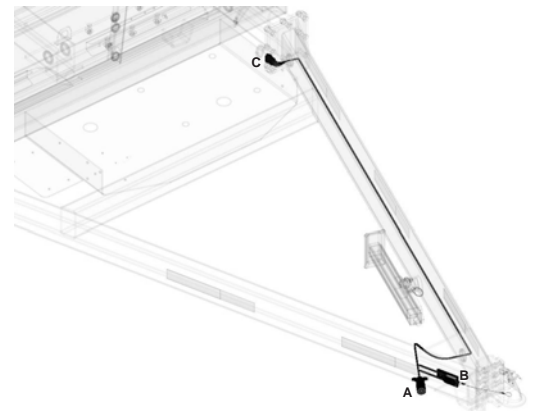
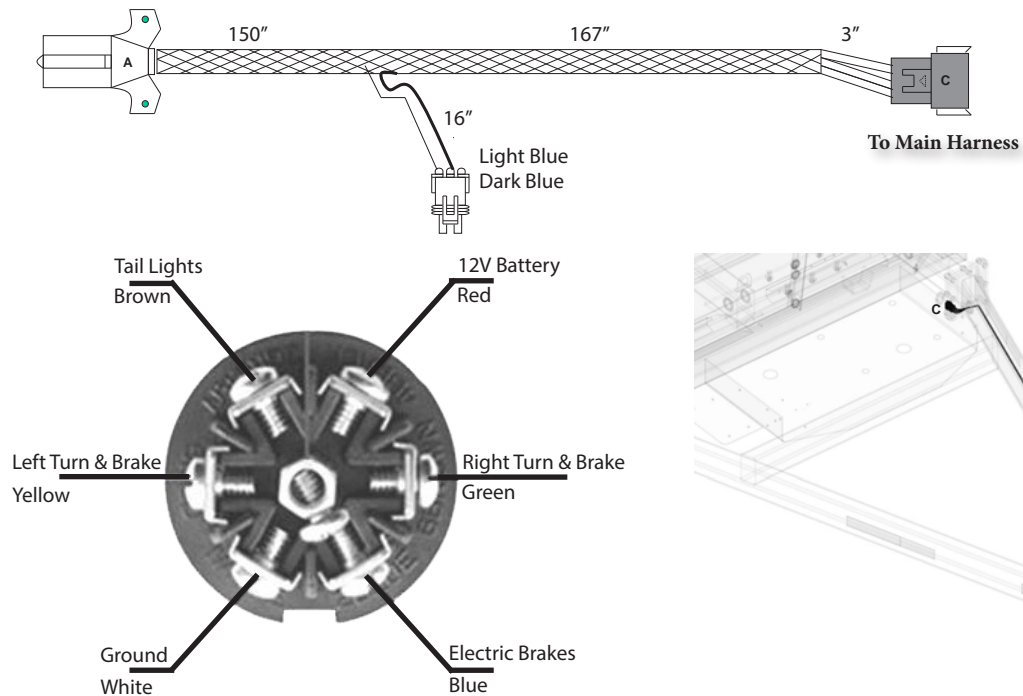
Marker Light Extension (JM0042081)



Front Harness (JM0042074)

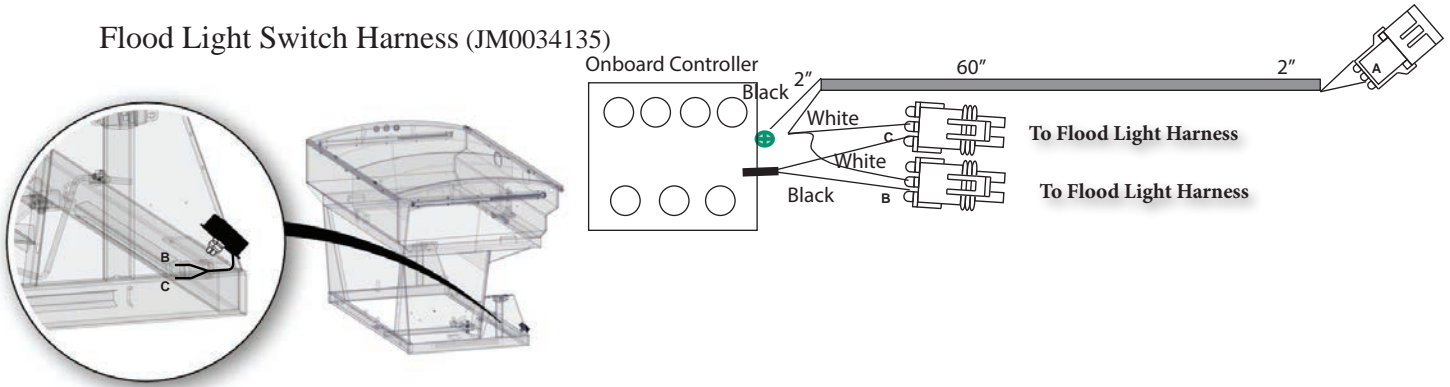


7-Way Trailer Connection (JM0046142 A-Frame) (JM0046143 Gooseneck)

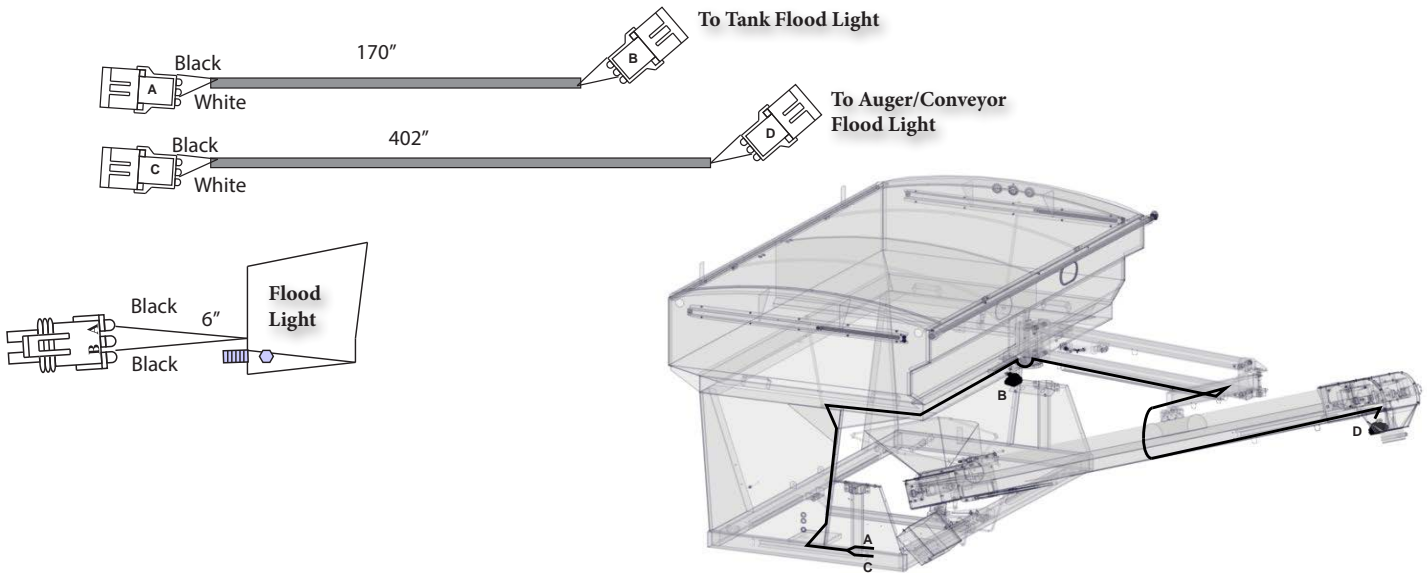


4.0 Wiring

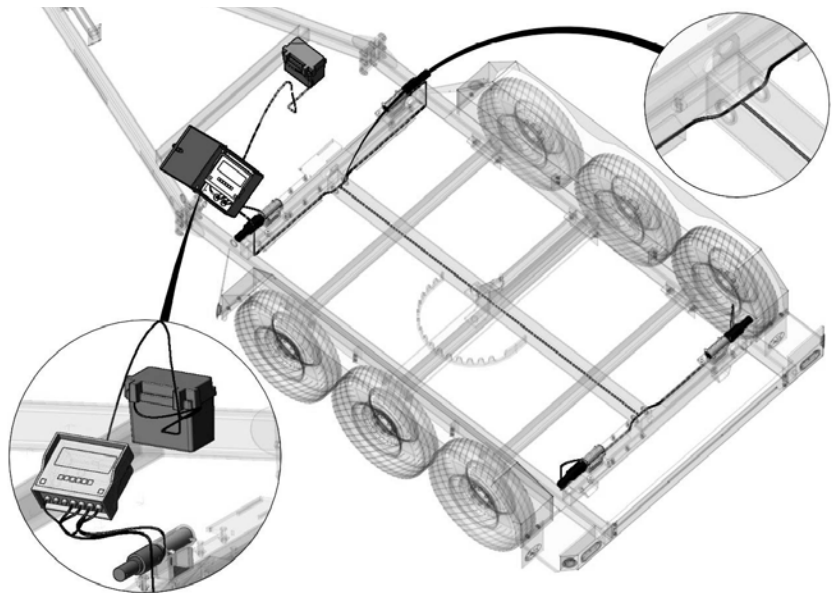
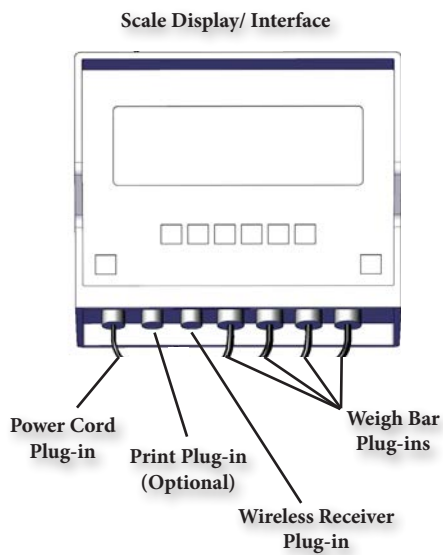
Flood Light Switch Harness (JM0034135)



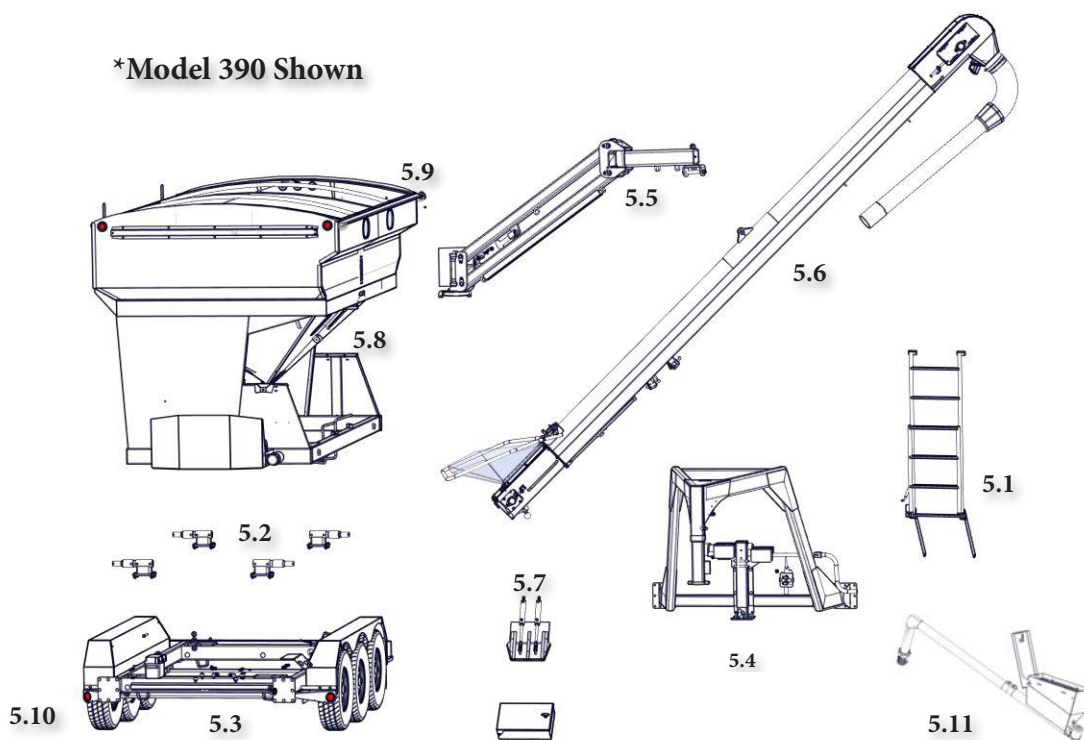
Flood Light Harness (JM0019965)



4.3 Scale Wiring



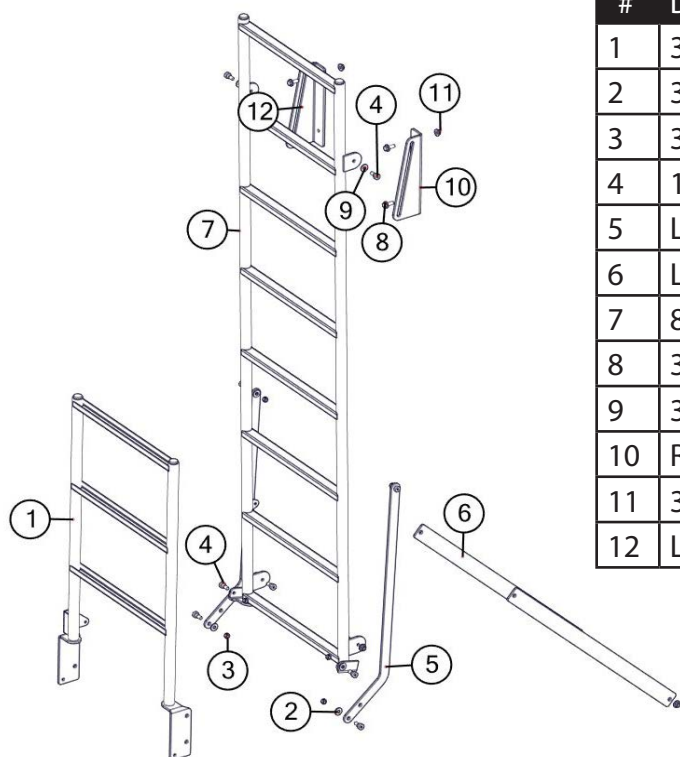
*Model 390 Shown



#	Description	Page
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5.0 Parts

5.1 Ladder Parts

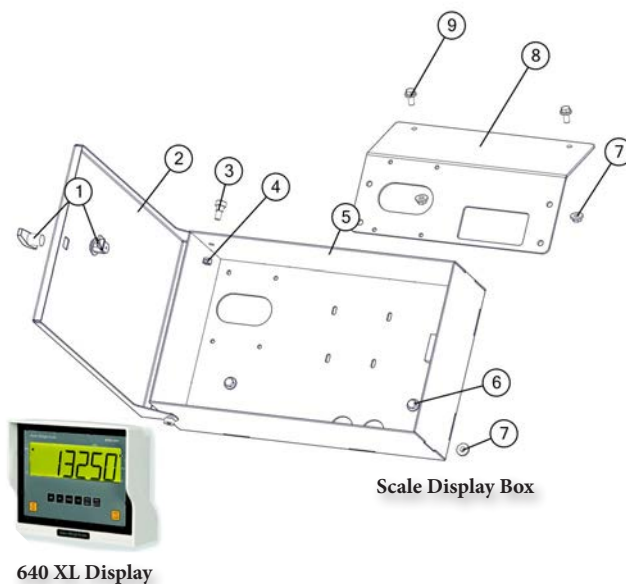


#	Description	Part. No.
1	3 Rung Ladder Assembly (535)	JM0031287
2	3/8" USS Flat Washer	JM0003061
3	3/8"-16 Gr5 Z Centerlock Hex Nut	JM0001512
4	1/2" x 3/8" Shoulder Bolt	JM0009998
5	Ladder Linkage (535)	JM0031279
6	Ladder Brace (535)	JM0026744
7	8 Rung Ladder Assembly (535)	JM0031154
8	3/8"-16 x 1" Gr5 Z SF Hex Bolt	JM0002092
9	3/8" USS Flat Washer	JM0003061
10	Right Slide Plate (535 Ladder Mount)	JM0031284
11	3/8"-16 Gr5 Z SF Hex Nut	JM0002152
12	Left Slide Plate (535 Ladder Mount)	JM0031175

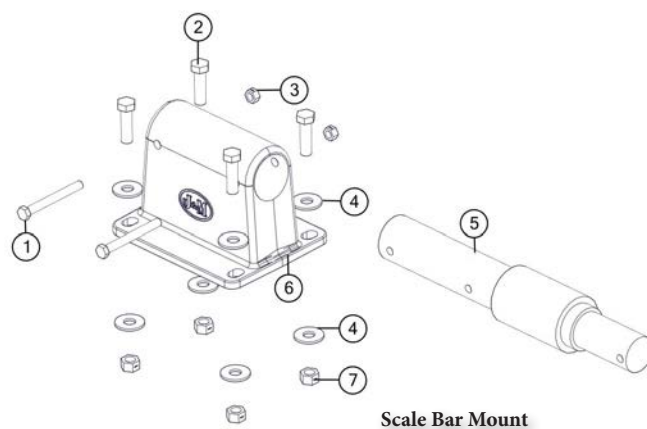
5.0 Parts

5.2 Scale Parts

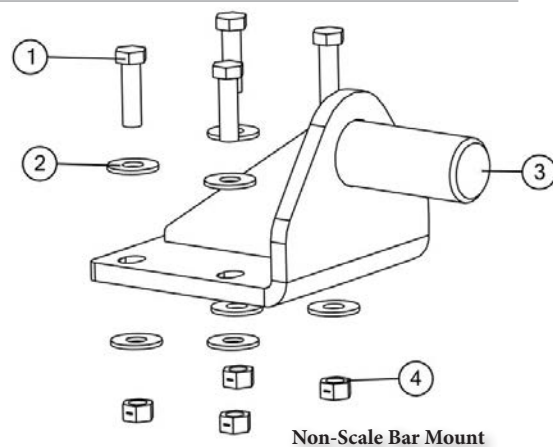
#	Description	Part. No.
1	Chrome T-Handle Non-Locking	JM0001911
2	Scale Box Door	JM0029943
3	1/2"-13 x 1-1/2 , 3/8" Shoulder Bolt	JM0009998
4	3/8"-16 Gr5 Z Centerlock Hex Nut	JM0001512
5	Scale Box	JM0029936
6	3/8"-16 X 1.0 Gr5 Z SF Hex Bolt	JM0002092
7	3/8"-16 Gr5 Z SF Hex Nut	JM0002152
8	Scale Mount Bracket	JM0031823
9	3/8"-16 x 3/4" Gr5 Z SF Hex Bolt	JM0001750
10	XL Scale Box Assembly	JM0029945
11	640XL Display	JM0007293



#	Description	Part. No.
1	3/8"-16 x 3-1/2" Gr5 Z Hex Bolt	JM0001986
2	1/2"-13 X 1-3/4" Gr5 Z Hex Bolt	JM0002101
3	3/8"-16 Gr5 Z Centerlock Hex Nut	JM0001512
4	1/2" USS Flat Washer	JM0003082
5	Avery Weigh-Tronix Weight Bar	JM0002797
6	Scale Mount Weldment	JM0014148
7	1/2"-13 Gr5 Z Centerlock Hex Nut	JM0001511

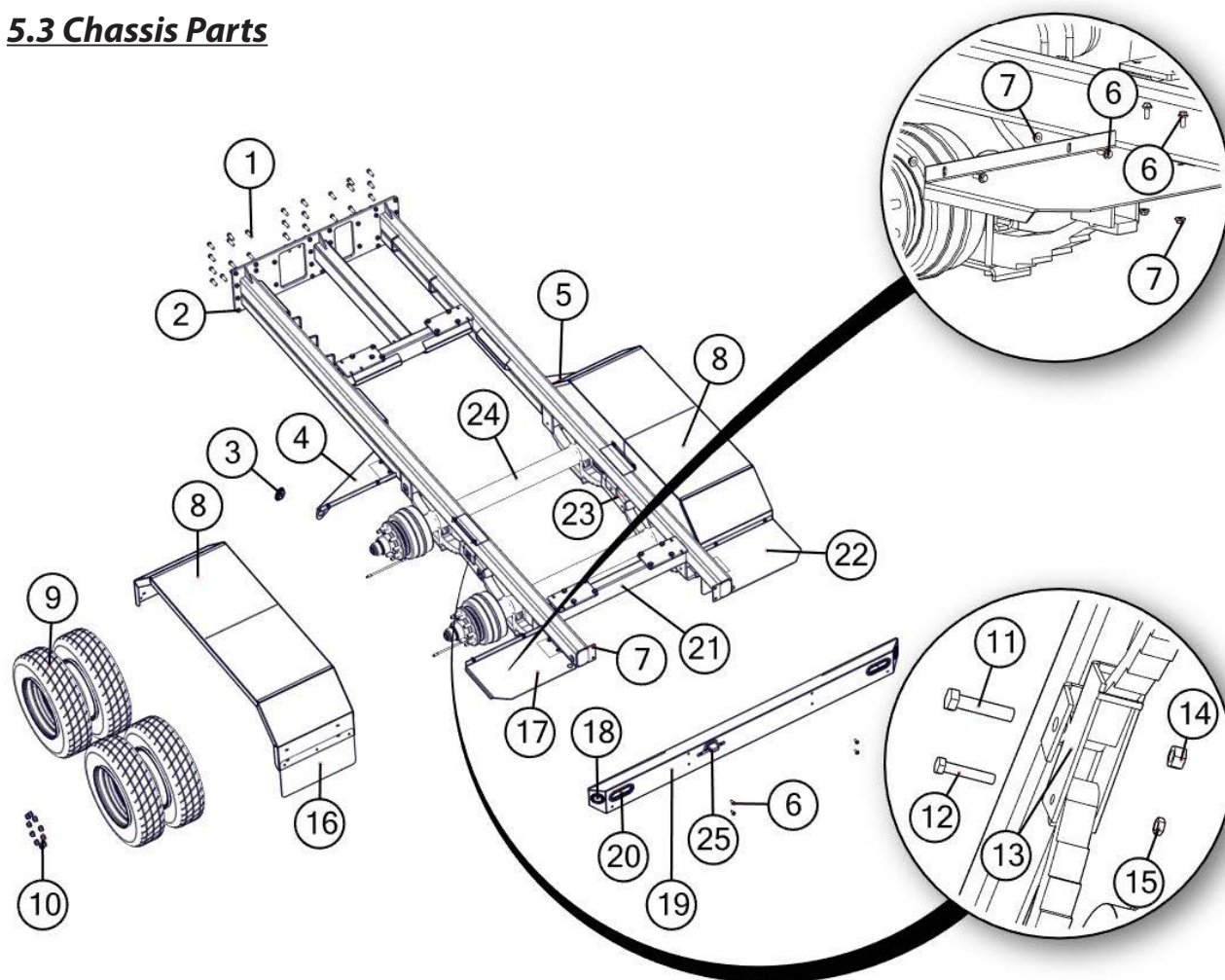


#	Description	Part. No.
1	1/2"-13 x 1-3/4" Gr5 Z Hex Bolt	JM0002101
2	1/2" USS Flat Washer	JM0003082
3	Non-Scale Weldment	JM0002514
4	1/2"-13 Gr5 Z Centerlock Hex Nut	JM0001511



5.0 Parts

5.3 Chassis Parts



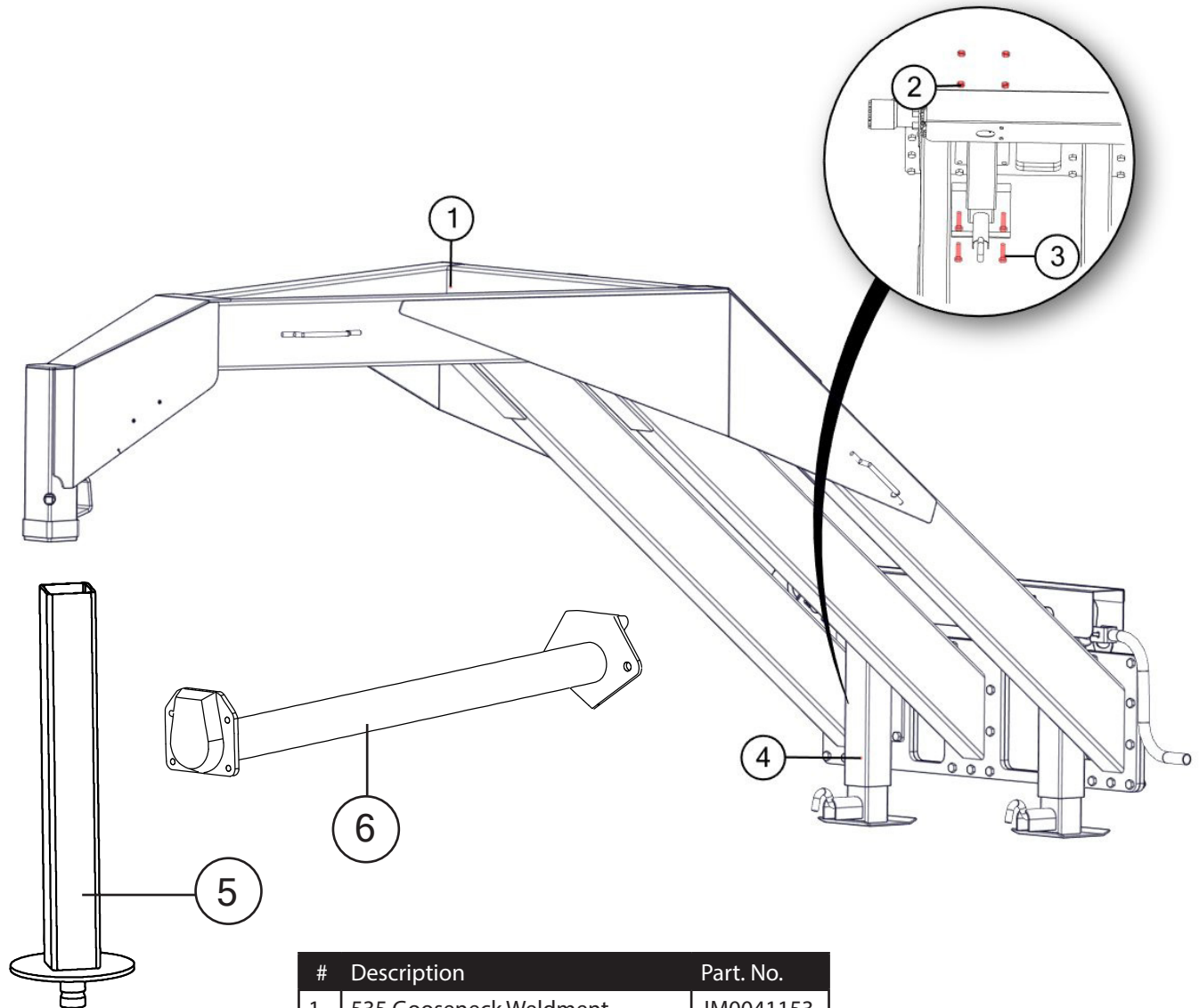
#	Description	Part. No.
1	5/8"-11 x 2" Gr8 Z Hex Bolt	JM0001771
2	5/8"-11 Gr5 Z Centerlock Hex Nut	JM0002146
3a	Amber Round Light Assembly	JM0001908
3b	Amber Round Light	JM0001895
3c	Round Light Grommet	JM0001902
4	Front Drive Side Step Fender Mount	JM0026842
5	Front Passenger Side Step Fender Mount	JM0027229
6	3/8"-16 x 1" Gr8 Z SF Hex Bolt	JM0001509
7	3/8"-16 Gr5 Z SF Hex Nut	JM0002152
8	Drivers Side Fender Weldment	JM0005874
9	215/75R17.5 LRH TL Dual Wheel and Tire	JM0026074
10	3/4" Lug Nut	JM0042044
11	1.0-8 X 6.5 Gr5 Z Hex Bolt	JM0014192
12	0.75-10 X 4.75 Gr5 Z Hex Bolt	JM0041868
13	Right Hand Equalizer	JM0026795
14	1.0-8 Gr5 Z Centerlock Hex Nut	JM0002149
15	0.75-10 Gr5 Z Centerlock Hex Nut	JM0002147

#	Description	Part. No.
16	535 Mud Flap	JM0036332
17	Rear Driver Step	JM0026846
18a	Red Round Light Assembly	JM0001905
18b	Red Round Light	JM0001901
18c	Round Light Grommet	JM0001902
19	Bumper Weldment	JM0026933
20a	Red Oval Brake Light Assembly	JM0001903
20b	Red Oval Brake Light	JM0007114
20c	Red Oval Brake Light Grommet	JM0001897
21	Chassis Frame Weldment	JM0040592
22	Rear Passenger Step	JM0026997
23	Left Hand Equalizer	JM0026794
24	16K Axle with Electric Brakes	JM0025802
25	License Plate Light & Bracket (Optional)	JM0010305

*Typical Other Side

5.0 Parts

5.4 Goose Neck Parts

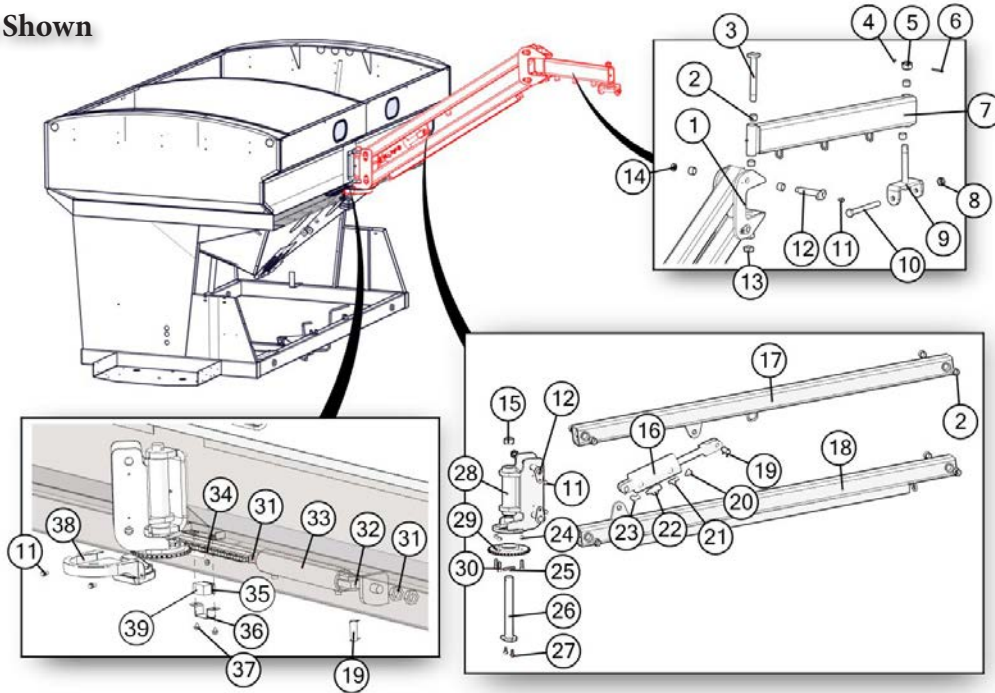


#	Description	Part. No.
1	535 Gooseneck Weldment	JM0041153
2	5/8"-11 Gr5 Z Centerlock Hex Nut	JM0002146
3	5/8"-11 x 2 1/4" Grd 5 Z Hex Bolt	JM0001493
4	Seed Tender Gooseneck Jack	JM0007078
5	5th Wheel Hitch	JM0016068
6	5th heel Harness Adaptor	JM0016178

5.0 Parts

5.5 Swing Arm Parts

*Model 390 Shown



#	Description	Part. No.
1	Swing Arm "C" Weldment	JM0040283
2	1-1/4" x 1-1/2" x 2" LG Sleeve Composite Bearing	JM0040288
3	Horizontal Axis Boom Pivot Pin	JM0002456
4	5/16"-18 Gr5 Z Centerlock Hex Nut	JM0002143
5	1-1/4"-12 Gr5 Z Castle Hex Nut	JM0010113
6	5/16"-18 x 2-1/2" Gr5 Z Hex Bolt	JM0028310
7	Swivel Arm	JM0040253
8	1"-8 Gr5 Z Hex Jam Nut	JM0001705
9	Upper Boom Pivot Weldment	JM0001605
10	1"-8 x 9" Gr8 Z Hex Bolt	JM0001708
11	3/8"-16 x 3/4" Gr5 Z SF Hex Bolt	JM0001750
12	1-1/4" x 6-3/4" Pin Keeper Weldment	JM0040322
13	1-1/4"-7 Gr5 Z Hex Nut	JM0001700
14	1"-14 Gr5 Z Nylon Locking Hex Jam Nut	JM0040430
15	1-3/4" x 2" x 1" LG Bronze Bushing	JM0002244
16	4 x 6 Welded Cylinder ASM	JM0040425
17	Upper Support Arm	JM0041094
18	Bottom Support Arm	JM0041092
19	1 x 3.4 Clevis Pin with Cotter Pins	JM0019407
20	#6 Male JIC X #8 Male O-Ring; 90 Degree Elbow	JM0037159

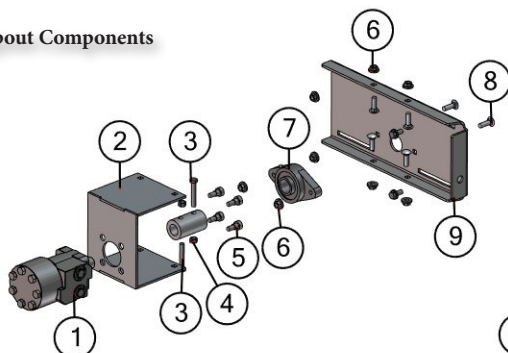
#	Description	Part. No.
21	#6 Male JIC x #6 Female JIC Swivel x #6 Male JIC Tee	JM0037163
22	PC-37 Check Valve	JM0018233
23	#8 O-Ring x 3/8 NPT Female Swivel 90 Degree	JM0027285
24	1/2"-13 Gr5 Z Centerlock Hex Nut	JM0001511
25	.4375 x 2.75 Z Roll Pin	JM0009895
26	Pin Conveyor Swing	JM0040354
27	3/8"-16 x 1" Gr5 Z SF Hex Bolt	JM0002092
28	Parallel Linkage Spool Assembly	JM0040192
29	Conveyor Swing Sprocket	JM0040445
30	1/2"-13 x 1-3/4" Gr5 Z Hex Bolt	JM0002101
31	1-1/4"-12 Z Gr5 Hex Jam Nut	JM0002158
32	Adjustable Cylinder Mount Weldment	JM0040907
33	3 x 14 Welded JD Cylinder, No Rod Clevis	JM0041255
34	Roller Chain #60 - 18"	JM0040451
35	Scrubber Plate for Seed Tender Conveyor Swing	JM0040268
36	Scrubber Holder for Conveyor Swing Door Rack	JM0040303
37	3/8"-16 x 1/2" Gr5 Z SF Hex Bolt	JM0040150
38	Guard - Conveyor Swing Sprocket	JM0040567

5.6 Conveyor

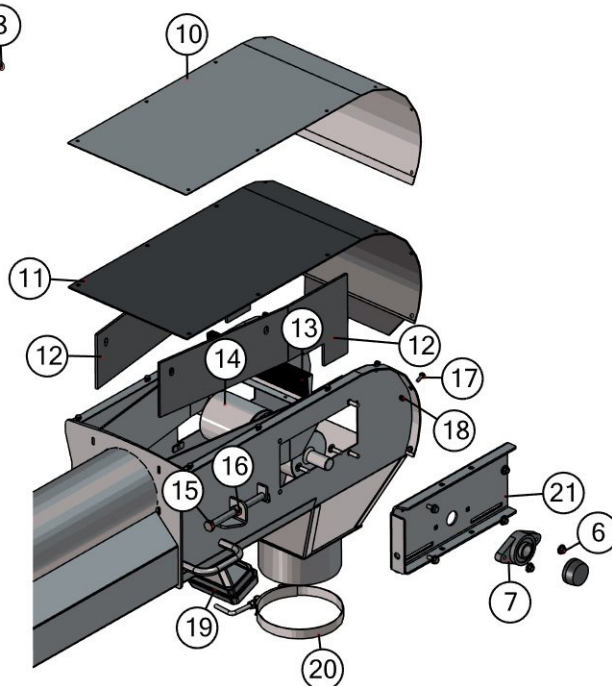
#	Description	Part. No.
1	Spring Latch	JM0040544
2	#8-32 x 1/2" Slotted Hex Washer Head Machine Screw	JM0012333
3	#8-32 Z Nylon Locking Hex Nut	JM0012334
4	Leg Spring Plunger	JM0002789
5	535 Hopper Hoop Weldment	JM0041871
6	Seed Tender Hopper Tarp 535	JM0041927
7	Seed Tender Hopper Cover 535	JM0041930
8	24.5' x 10" Tube Conveyor	JM0040697
9	10" tube conveyor belt	JM0030878



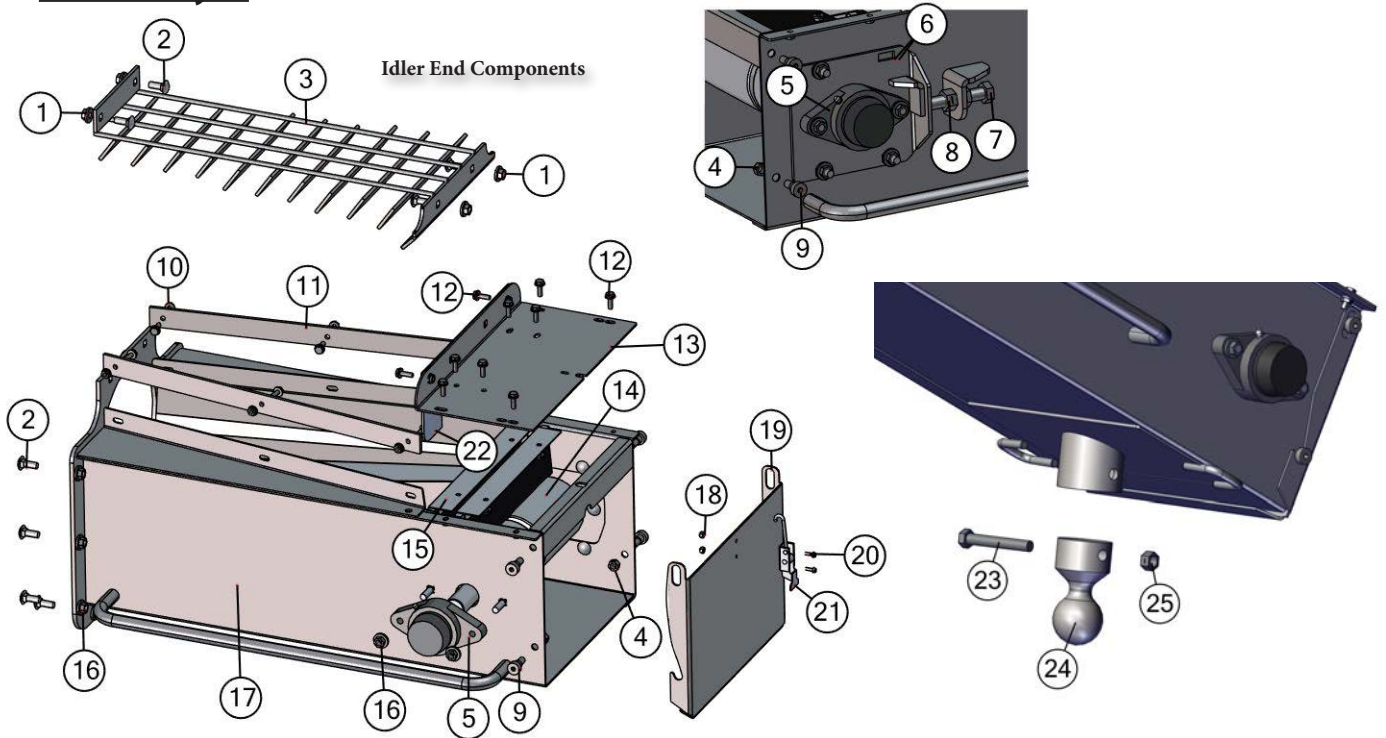
Discharge Spout Components



#	Description	Part. No.
1	White Drive WR Series Hydraulic Motor	JM0010469
2	Hydraulic Motor Mount	JM0002225
3	3/8" x 1-3/4" SKT Shoulder Bolt	JM0033449
4	5/16"-18 Gr5 Z Centerlock Hex Nut	JM0002143
5	1/2" Dia. x 3/8" Long Shoulder Bolt	JM0009998
6	3/8"-16 Gr5 Z SF Hex Nut	JM0002152
7	1-1/4" Diameter 2 Bolt Flange Bearing	JM0001811
8	3/8"-16 x 1-1/4" Gr5 Z Carriage Bolt	JM0001639
9	Bearing Mount Bracket (Right)	JM0002235
10	Belt Conveyor Discharge Cover	JM0025379
11	10" conveyor head pan rubber	JM0025374
12	Top Skirting	JM0030506
13	10" V-Guide Bottom Brush	JM0030852
14	Drive Roller For V Guide Belt	JM0025414
15	5/8"-11 x 7-1/2" Gr5 Z Hex Bolt	JM0001631
16	5/8"-11 Gr5 Z Hex Nut	JM0001522
17	1/4"-20 x 3/4" Gr5 Z SF Hex Bolt	JM0001642
18	1/4"-20 Gr5 Z SF Hex Nut	JM0001630
19	Field Light (LED) Assembly	JM0001881
20	10" Diameter Clamp	JM0042060
21	Bearing Mount Bracket (Left)	JM0002234



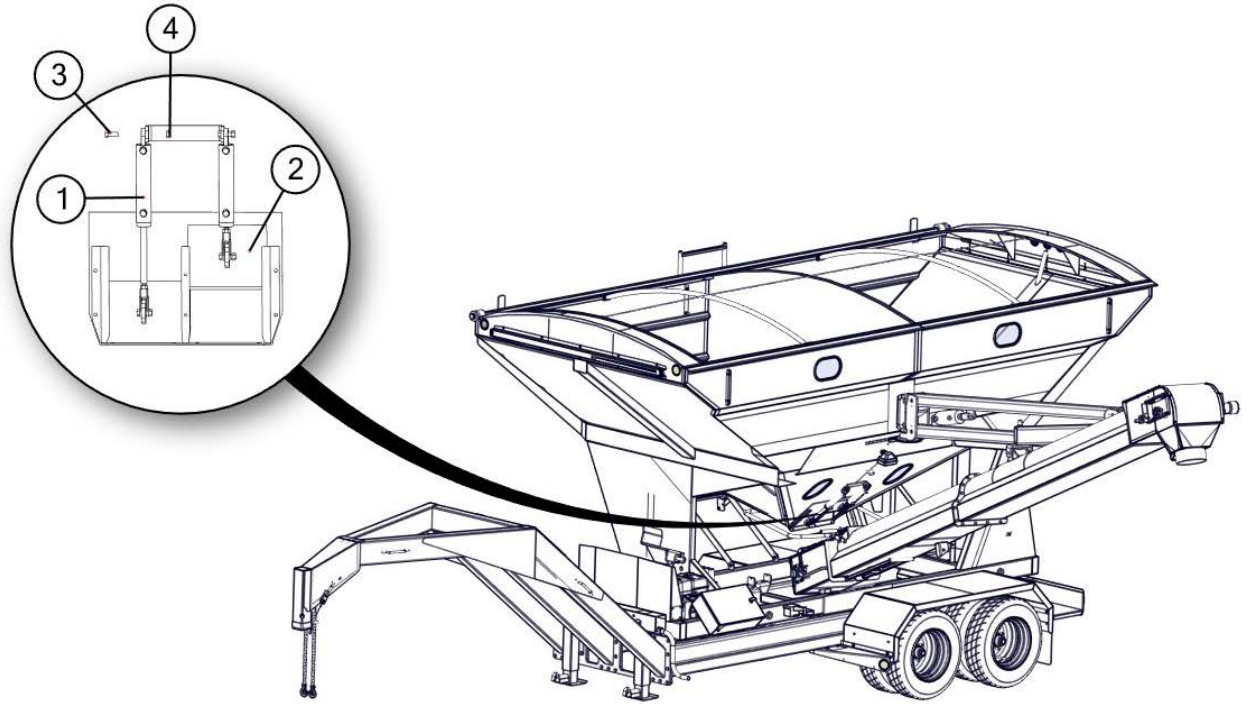
5.6 Conveyor



#	Description	Part. No.
1	3/8"-16 Gr5 Z SF Hex Nut	JM0002152
2	3/8"-16 x 1" Gr5 Z Carriage Bolt	JM0001632
3	Conveyor Guard Weldment	JM0025667
4	3/8"-16 Gr5 Z Centerlock Hex Nut	JM0001512
5	1-1/4" Diameter 2 Bolt Flange Bearing	JM0001811
6	Bearing Mount	JM0002199
7	5/8"-11 x 3-1/2" Gr5 Z Hex Bolt	JM0001650
8	5/8"-11 Gr5 Z Centerlock Hex Nut	JM0002146
9	1/2" Diameter x 3/8" LG Shoulder Bolt	JM0009998
10	1/4"-20 Gr5 Z SF Hex Nut	JM0001630
11	Clamp Bar - Conveyor Skirt	JM0025652
12	1/4"-20 x 3/4" Gr5 Z SF Hex Bolt	JM0001642
13	Conveyor Hopper Brush Mount	JM0025616
14	Tube Conveyor Roll, V-Guide, Idler	JM0025430
15	10" V-Guide Bottom Brush	JM0025633
16	3/8"-16 Gr5 Z SF Hex Nut	JM0002152
17	10" Tube Conveyor, V-Guide Weldment(Lower Section)	JM0025402
18	#8-32 Z Nylon Locking Hex Nut	JM0012334
19	Cleanout Door	JM0025727
20	#8-32 x 1/2" Slotted Hex Washer Head Machine Screw	JM0012333
21	Adjustable Draw Latch	JM0010512
22	Seal - Hopper Skirt	JM0025263
23	1/2"-13 x 3-1/2" Gr5 Z Hex Bolt	JM0009914
24	Goose Ball - Bolt In	JM0040884
25	1/2"-13 Gr5 Z Centerlock Hex Nut	JM0001511

5.0 Parts

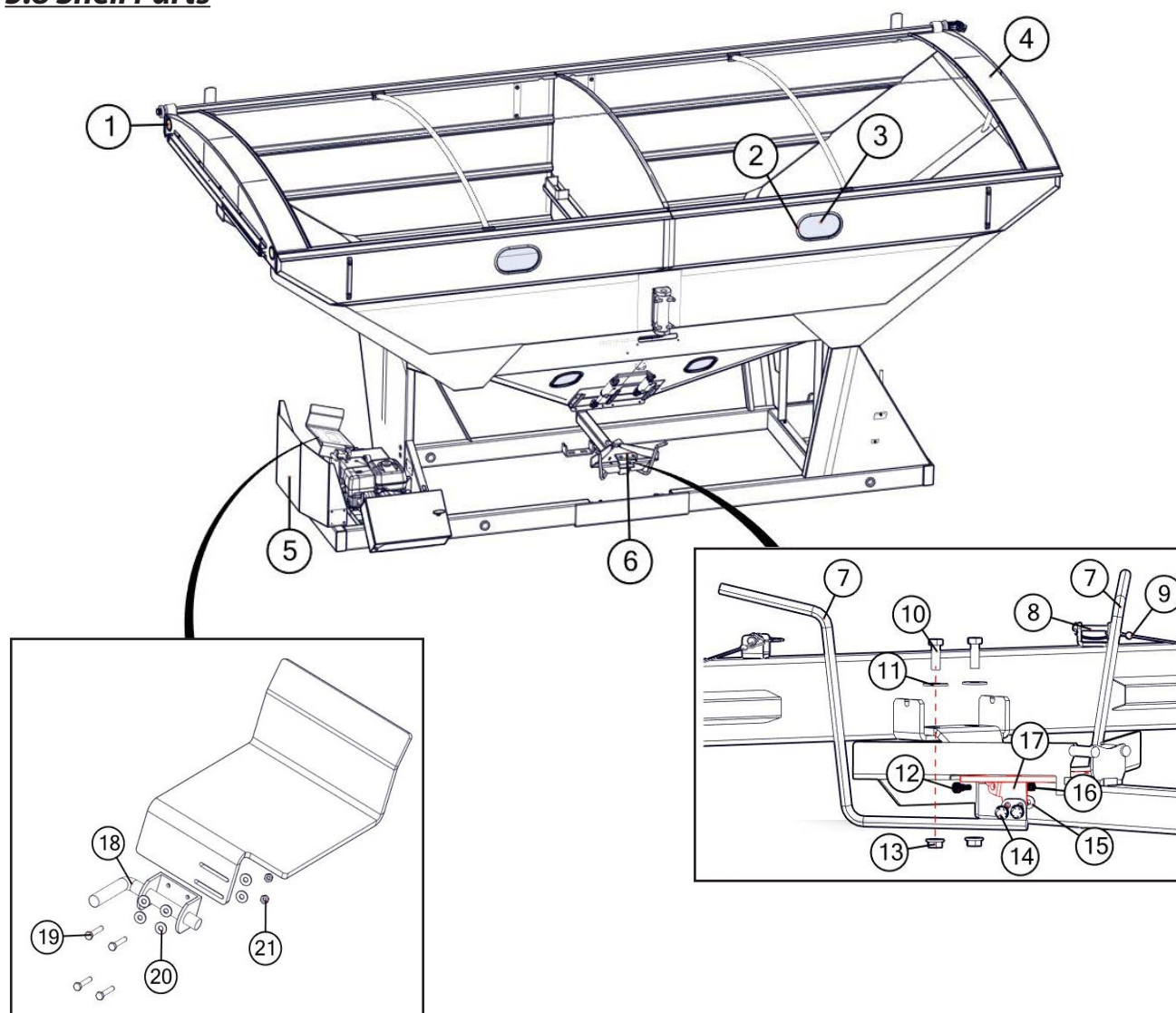
5.7 Hydraulic Door Parts



#	Description	Part. No.
1	1-1/2" Bore x 7" Hydraulic Cylinder	JM0002882
2	Hydraulic Door Weldment	JM0026704
3	1/2"-13 x 1-1/4" Gr5 Z Hex Bolt	JM0001513
4	1/2"-13 Gr5 Z Centerlock Hex Nut	JM0001511

5.0 Parts

5.8 Shell Parts

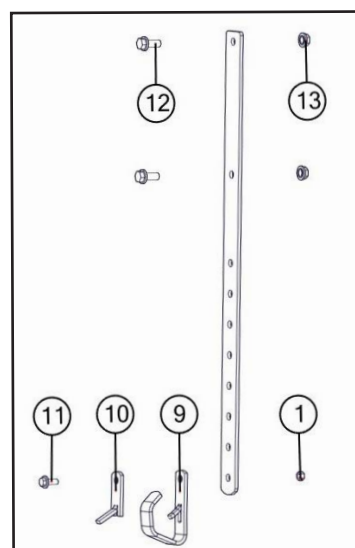
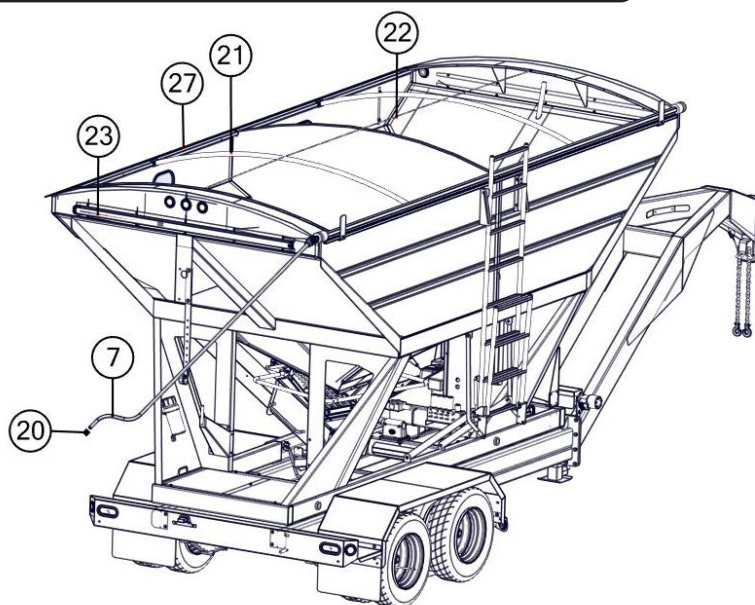
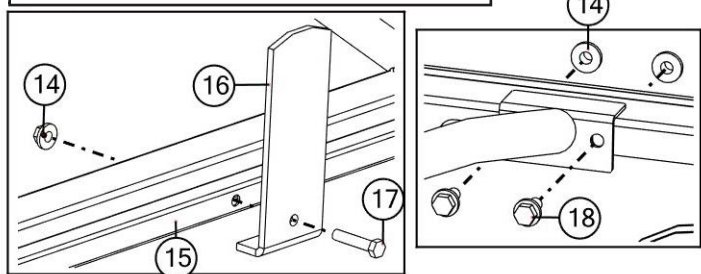
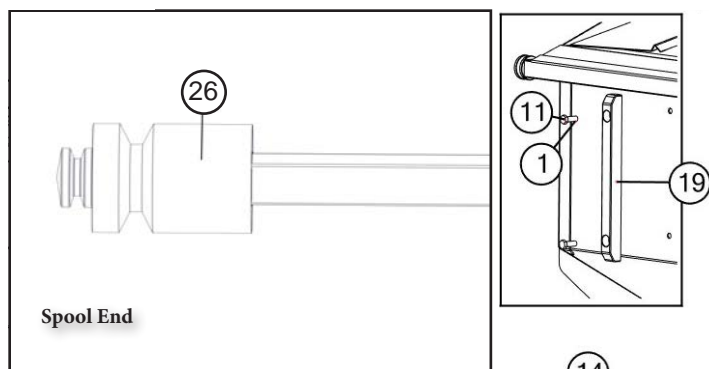
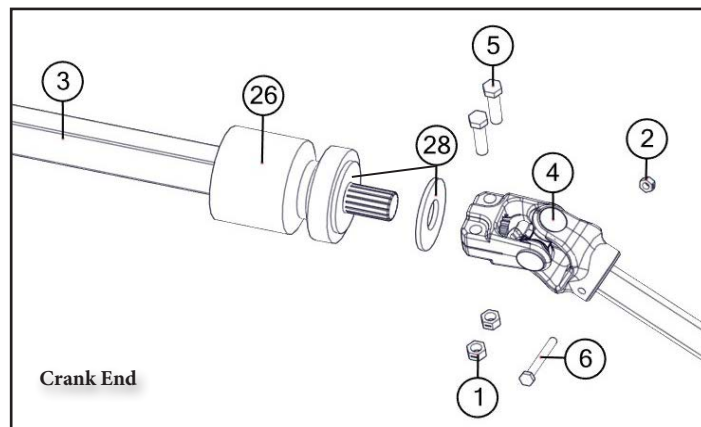


#	Description	Part. No.
1a	Amber Round Light	JM0001908
1b	Round Amber Light	JM0001895
1c	Round Rubber Light Fixture	JM0001902
2	Oval Window Grommet	JM0000254
3	Oval Window	JM0000255
4a	Red Round Light	JM0001905
4b	Round Red Light	JM0001901
4c	Round Rubber Light Fixture	JM0001902
5	Power Unit Guard	JM0000327
6	Ball Support Weldment / Assembly	JM0040369
7	Ball Handle Weldment	JM0041266
8	3/8" x 2-1/2" Z Round Wire Lynch Pin	JM0014929
9	Plastic Lanyard with Plastic Plug	JM0041431
10	5/8"-11 x 1-3/4 Gr5 Z Hex Bolt	JM0016681
11	5/8" USS Flat Washer	JM0003073

#	Description	Part. No.
12	1/2" x 3/8" LG .3/8"-16th Shoulder Bolt	JM0009998
13	5/8"-11 Gr5 Z SF Hex Nut	JM0002151
14	3/8"-16 x 1" Gr5 Z SF Hex Bolt	JM0002092
15	3/8 -16 Gr5 Z SF Hex Nut	JM0002152
16	3/8"-16 Gr5 Z Centerlock Hex Nut	JM0001512
17	Ball Latch Lock	JM0041464
18	Spring Latch	JM0040544
19	1/4"-20 X 1-1/2" Gr5 Z Hex Bolt	JM0002447
20	1/4" USS Flat Washer	JM0003090
21	1/4"-20 Gr5 Z Centerlock Hex Nut	JM0001505
22	Hydraulic Oil Filter (Not Shown)	JM0033705
23	Fuel Filter Basket (Not Shown)	JM0033704

5.0 Parts

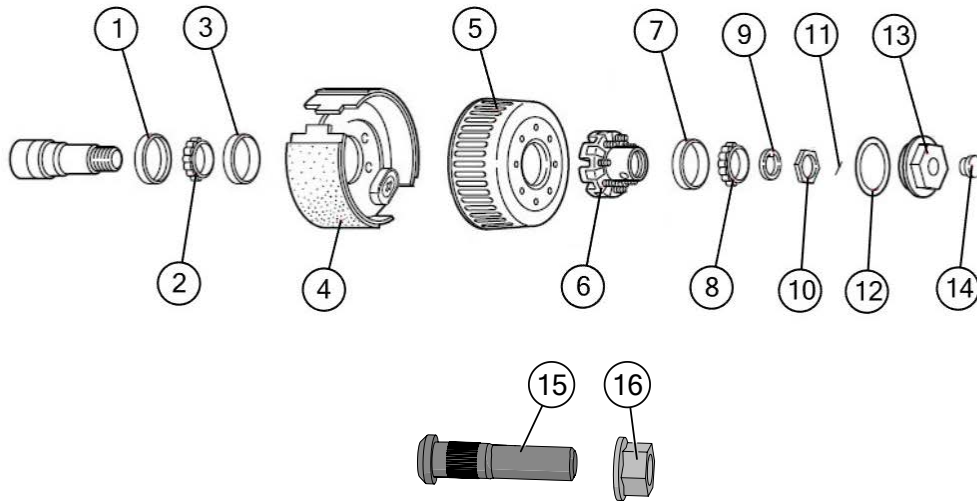
5.9 Roll Tarp Parts



#	Description	Part. No.
1	3/8"-16 Gr5 Z Centerlock Hex Nut	JM0001512
2	1/4"-20 Gr5 Z Centerlock Hex Nut	JM0001505
3	Roll Pipe Weldment (535)	JM0013891
4	Universal Joint	JM0001517
5	3/8"-16 x 1-1/2" Gr5 Z Hex Bolt	JM0001659
6	1/4"-20 x 2-1/2" Gr5 Z Hex Bolt	JM0001506
7	Crank Handle	JM0002907
8	Tarp Handle Hanger Bracket	JM0036728
9	Tarp Hanger Hook	JM0002967
10	Rubber Flapper	JM0002551
11	3/8"-16 x 1" Gr5 Z SF Hex Bolt	JM0002092
12	1/2"-13 x 1" Gr5 Z Hex Bolt	JM0010225
13	1/2"-13 Gr5 Z Centerlock Hex Nut	JM0001511
14	3/8"-16 Gr5 Z SF Hex Nut	JM0002152
15	Tie-Down Tube (535)	JM0013896

#	Description	Part. No.
16	Tarp Stop	JM0002448
17	3/8"-16 x 1-3/4" Gr5 Z Hex Bolt	JM0002097
18	3/8"-16 x 3/4" Gr5 Z SF Hex Bolt	JM0001750
19	Tarp Standoff	JM0001889
20	Yellow Cap	JM0010047
21	Tarp Bow (535)	JM0026952
22	Ridge Cable ASM (535)	JM0016622
23	Spring Return Assembly	JM0002437
24	Spring Return Cable (Not Shown)	JM0010307
25	Canvas Tarp (535) (Not Shown)	JM0015905
26	Tarp Guide	JM0038446
27	Lip Lock (535)	JM0026788
28	1.0" USS Flat Washer	JM0031050

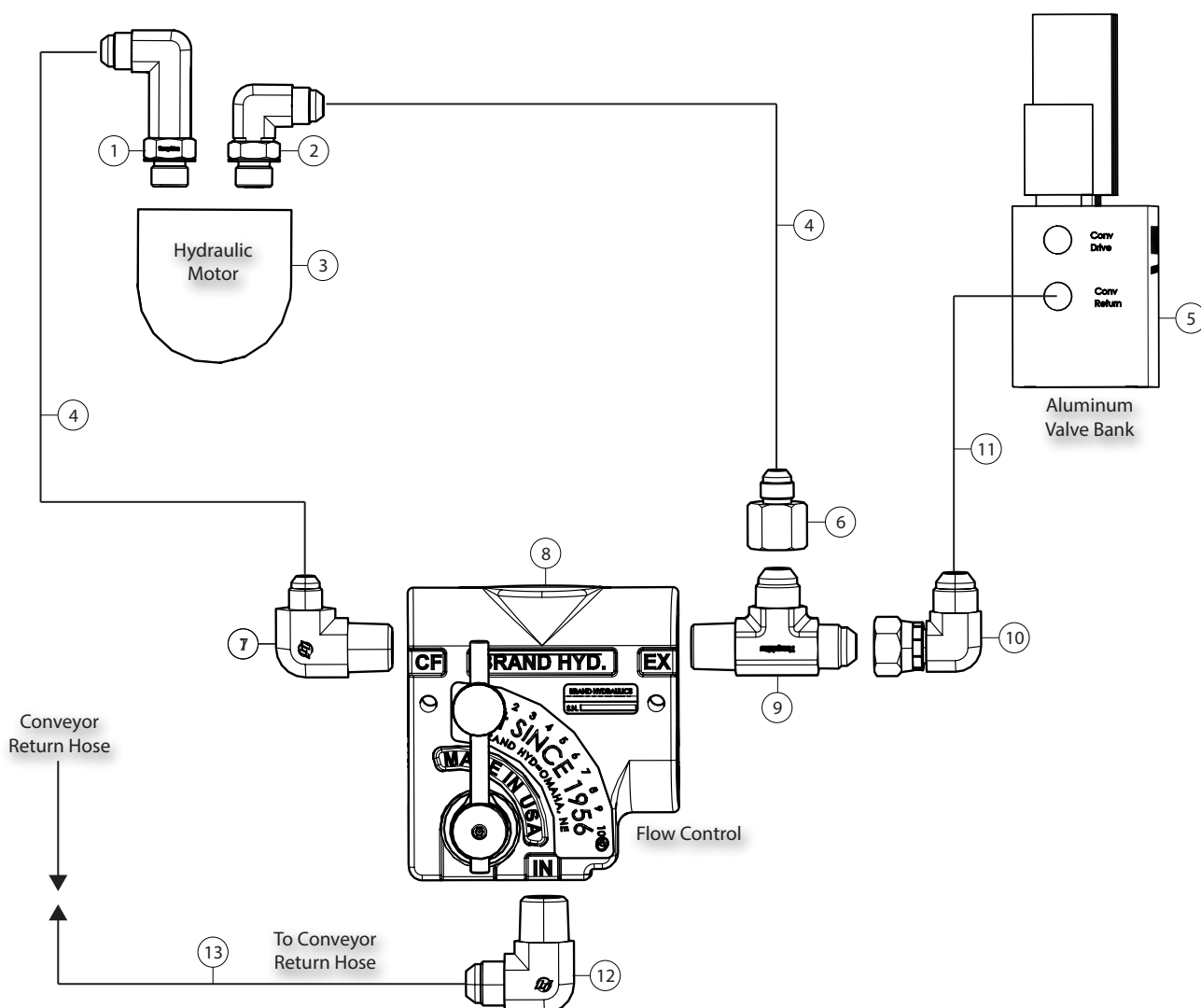
5.10 Hub Assembly



#	Description	Part. No.
1	16k Oil Seal	JM0042017
2	16K Large Bearing	JM0042014
3	16k Large Race	JM0042013
4	Electric Brake Assembly LH	JM0042047
4	Electric Brake Assembly RH	JM0042049
5	16k Drum	JM0042046
6	16k Hub 10 on 8.75	JM0042045
7	16k Small Race	JM0042015
8	16k Small Bearing	JM0042016
9	Spindle Washer 3" OD	JM0042050
10	16k Spindle Nut	JM0042055
11	16k Cotter Pin	JM0042054
12	16k O-Ring (Oil Cap)	JM0042051
13	16k Oil Cap Kit	JM0042053
14	16k Plug (Oil Cap)	JM0042052
15	3/4" x 4" Stud for 16K	JM0042043
16	3/4" Flange Nut with Washer for 16K	JM0042044

6.0 Aftermarket Parts

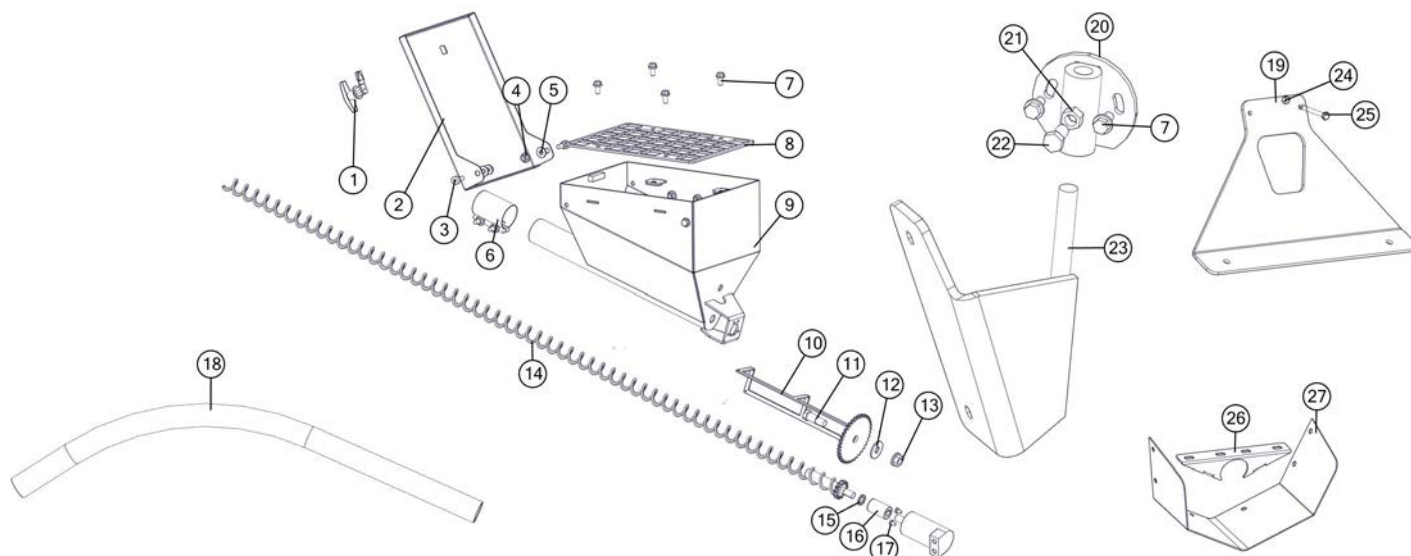
Talc Applicator



Description		Part No.
1	#6 male JIC X #6 male o-ring – Extra Long 90 degree elbow	JM0039050
2	#6 male JIC X #6 male o-ring – 90 degree elbow	JM0026121
3	White Drive Hydraulic Motor - 125032JL5C3AAAAA or Danfoss equivalent	JM0042491
4	116" Long x 3/8" Hydraulic Hose (4M3K-4G-6FJX-4G-6FJX-116in)	JM0042861
5	5 Function Aluminum Valve Block	JM0029973
6	#8 female JIC x #6 male JIC reducer (2406-08-06)	JM0026117
7	#6 male JIC x 1/2" male NPT; 90 degree elbow (2501-06-08)	JM0042849
8	Flow Control Talc Applicator FC51 - .5 (0-2 GPM)	JM0026104
9	#8 male JIC x 1/2" male NPT x #8 male JIC tee (2605-08-08-08)	JM0026119
10	#8 male JIC x #8 female JIC swivel; 90 degree elbow (6500-08-08)	JM0010296
11	30" Hydraulic Hose x 3/8" (8M3K8G8FJX8G8FJX-30)	JM0042863
12	#8 male JIC x 1/2" male NPT; 90 degree elbow (2501-08-08)	JM0042847
13	20" Hydraulic Hose x 3/8" (8M3K8G8MJ8G8FJX-20)	JM0042862

6.0 Aftermarket Parts

Talc Applicator



	Description	Part No.
1	T-Handle Non-Locking Chrome	JM0001911
2	17 Deg. Talc Box Door	JM0037237
3	1/2" x 3/8" LG Shoulder Bolt	JM0009998
4	3/8"-16 Gr5 Z SF Hex Nut	JM0002152
5	3/8 USS Flat Washer	JM0003061
6	2" Exhaust Clamp w/ fasteners	JM0037668
7	3/8-16 x 3/4" Gr5 Z SF Hex Bolt	JM0001750
8	Large Talc Box Screen	JM0037456
9	17 Deg. Talc Box Weldment	JM0037538
10	Large Agitator 17 Degree	JM0037241
11	3/4" x 2-1/2" Shoulder Bolt	JM0003181
12	3/4" USS Flat Washer	JM0010006
13	5/8"-18 Gr5 Z SF Hex Nut	JM0043101
14	290 Flex Auger Flighting Weldment	JM0042838
14	390 Flex Auger Flighting Weldment	JM0042587
15	3/4" Flatwasher Nylon	JM0035079
16	5/8" Keyed Shaft Coupling	JM0042842
17	1/4"-28 x 3/8" Gr5 Z Hex Bolt	JM0043100
18	290 Flex Auger Heat Bent PVC Pipe	JM0042809
18	390 Flex Auger Heat Bent PVC Pipe	JM0042810
19	290/390 Hydraulic Talc Flow Control Mounting Bracket	JM0043097
20	Talc Rotation Bracket Weldment	JM0038395
21	1/2"-13 Gr5 Z Hex Nut	JM0002124
22	1/2"-13 x 1" Gr5 Z Hex Bolt	JM0010225
23	275/375 Mounting Bracket Weldment	JM0037272
24	1/4"-20 Gr5 Centerlock Hex Nut	JM0001505
25	1/4"-20 x 2-1/2" Gr5Z Hex Bolt	JM0001506
26	Spout Clamp	JM0042542
27	Rubber Door Skirt	JM0042688

5.0 Parts

5.12 Available Options

Description	Product #
5th Wheel Hitch on Gooseneck Frame Assembly in place of standard Truck Hitch. Includes 7-way Flat to 7-Way Round Adapter	535ST-SH
Trailer Mount Kit in place of Standard Chassis (Deluxe All-Function Wireless Remote Control Option Recommended)	535ST-TM
Electric Roll Tarp in place of standard Roll Tarp	RT-535ST-E
Spare 215/75R17.5 Tire and Wheel with Mounting Hardware (mounted to rear leg of tank)	535ST-1DTW
10" Diameter Telescoping Spout (2 Stage)	10-TS-2
10" Diameter Canvas Sock (for telescoping spout)	10-CS-TS
10" Diameter x 36" Long Flex Hose	10-36-FH
10" Diameter Flex Hose Sock	10-CS-FH
Dual Hydraulic Jack Kit in place of standard manual jack	JM0036731
LCD Color Monitor and Camera Kit	RV7001K
Licensing Package for SpeedTender. Includes License plate bracket with light, VIN number decal and Certificate of Origin document for licensing	ST-LVC-1
Factory Installed Electronic Scale Package with Standard WT 640XL Indicator	535STWS
Avery Weigh-Tronix 2060 Indicator (includes USB export and Field Data Storage capabilities) in place of 640XL Indicator	AWT-2060-E
XLR Remote Display (7 1/2" x 27") with bright red LED 3 1/2" alphanumeric matrix display (4 1/2" overall, including graph bar). Includes cord for Weigh Tronix 640XL Indicator and mounting bracket.	XLR-8-640XL
Thermal Printer for Weigh Tronix Indicator (Indicator must have serial port)	CP103
Deluxe Wireless Remote Control in place of standard control (With Yellow Button). Features include handheld remote to hydraulically open/close tank doors, raise/lower boom, start/stop the auger or conveyor, hydraulically turn auger or conveyor, and automatic electric scale shut-off for precise unloading.	SPT-WC1-D3
Optional Speed Control for SPT-WC1-D3 Remote includes actuator and control module to adjust engine throttle	JM0040893
Optional Hydraulic Flow Valve to manually control conveyor speed.	JM0015202
J&M Talc Applicator with Mounting Brackets and Accessories for 535ST SpeedTender	TA-535-16

6.0 Aftermarket Installation Instructions

6.1 Scales Installation

Note: For Scale parts see Section 5.3

1. Slide the weigh bar into the scale mount. Making sure that the Weigh bar sticker is facing up (Figure 6.1).
2. Insert two 3/8"-16 x 3-1/2" Grade 5 Zinc Hex Bolt (#1) into scale mount and tighten using 3/8"-16 Centerlock Hex Nut (#2) (Figure 6.1).

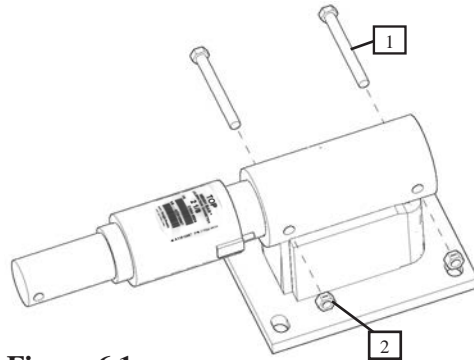


Figure 6.1

3. Remove the 4 bolts from each of the Dummy Scale Mounts and remove it from the unit.



WARNING: With the 4 bolts removed from each of the Dummy Scale Mounts. The Chassis and Shell are not attached and can slide apart.

4. Lift the shell approximately 2-3". This will allow enough clearance to slide the weigh bars into the Shell/Leg Weldment Spools. (Figure 6.2).
5. Slide Weigh Bars into the Shell/Leg Weldment Spools and lower the Shell/Leg Weldment down so the Weigh Bar Mounts set on the Scale Mounting Plates.
6. Use a punch to align the Weigh Bar Mount holes with the Scale Mounting Plate holes.
7. Insert 1/2"-13 X 1 3/4" Grade 5 Hex Head Bolt (#3) with two 1/2" Zinc USS Washers (#4) and 1/2"-13 Grade 5 Zinc Centerlock Hex Nut (#5) (Figure 6.2)
- IMPORTANT:** Be careful not to pinch wires between the Speed Tender chassis and the Scale Mounting Plates.
8. Torque each bolt down to 85 ft-lbs on all 4 Scale Mounting plates (Figure 6.3).

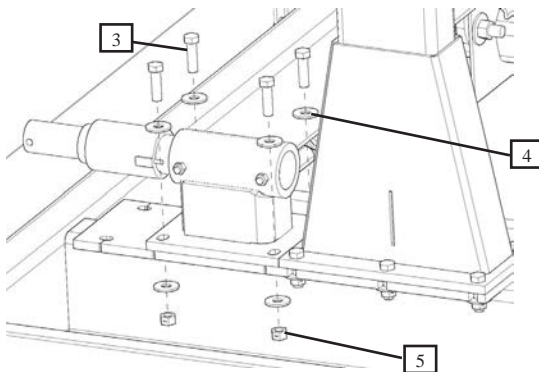


Figure 6.2

6.0 Aftermarket Installation Instructions

9. Remove the four 1 3/8" grommets located in the four chassis holes (Figure 6.3)
10. Slide one grommet on to each of the weigh bar wires of B,C, and D. (Figure 6.3)
11. Route each wire from B,C and D so they exit chassis hole (Figure 6.3).
12. Slide the grommet from chassis hole over the wires from B, C, and D. (Figure 6.3).
13. Reinstall the grommets back into the chassis holes. (Figure 6.3).
14. Push excess wires into chassis hole (Figure 6.3).

NOTE: Spray the grommet with a lubricant spray for ease of installation.

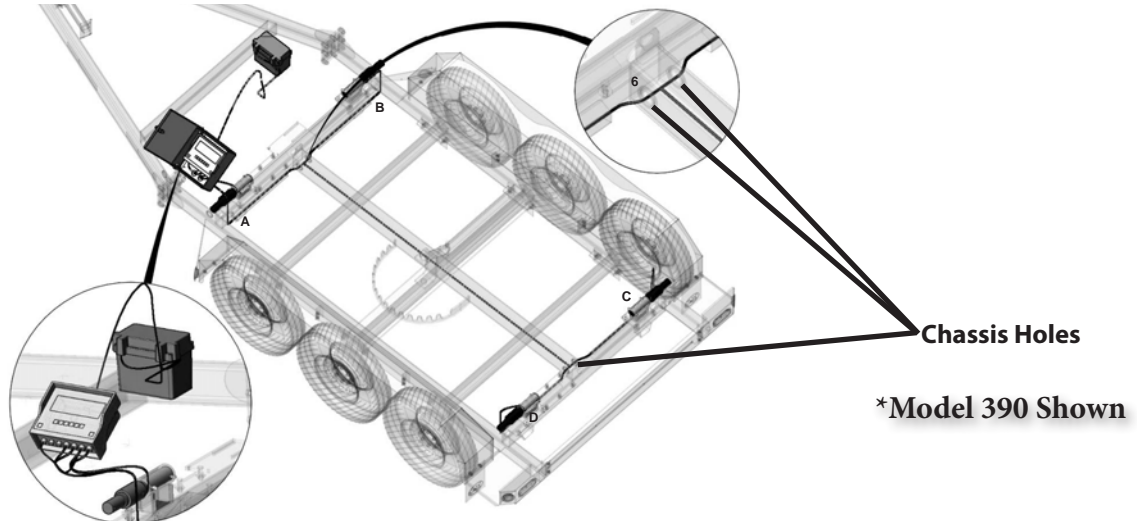


Figure 6.3

15. Attach Scale Display Box (#7) onto the Shell/Leg Weldment (Figure 6.5) with 1/4"-20 X 1" Grade 5 Zinc Hex Bolt (#8) and 1/4"-20 Grade 5 Zinc Serrated Flange Hex Nut (#9) (Figure 6.4). Remove the Stationary control box from the Leg and attach to the outside of the Scale Display Box (#7).

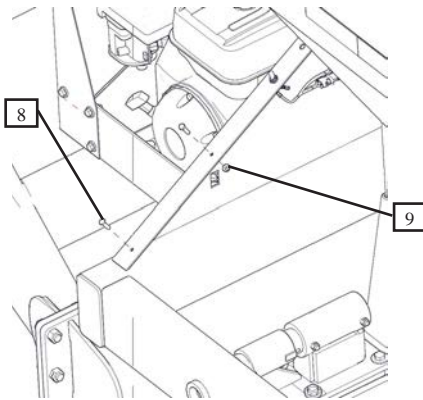


Figure 6.4

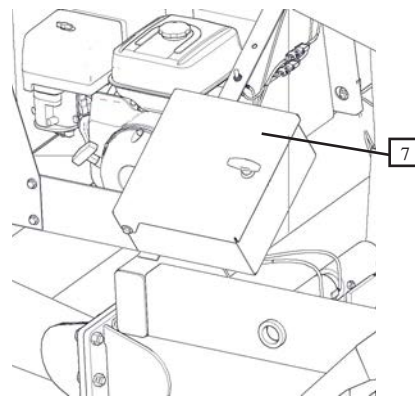


Figure 6.5

16. Insert the four wires from the weigh bars into the back of the scale indicator box. Insert weight bar wires through each grommet.
17. Remove the Back Plate from the 640XL Display Interface (Figure 6.6). Save the nuts and lock washers from the 640XL Display Interface.
18. Insert the 640XL Display Power Cord into grommet hole closest to the door hinge of the scale indicator box.
19. Attach all 5 wires to the bottom of the 640XL Display Interface. (Figure 6.7)
20. Use the nuts and lock washers from step 17 to attach the indicator to the scale indicator box.
21. Connect the indicator box power wire to the battery. The white wire is positive and the black wire is negative.
22. Push extra wire back into chassis holes. (Figure 6.3)
23. Secure Weigh Bar Wires running from the chassis holes with the 4 large wire ties provided.
24. Secure the Weigh Bar Wires running from the indicator box to chassis hole with a wire tie.
25. Power up unit to confirm function. Use scale manual to calibrate the scale system.

6.0 Aftermarket Installation Instructions



Figure 6.6

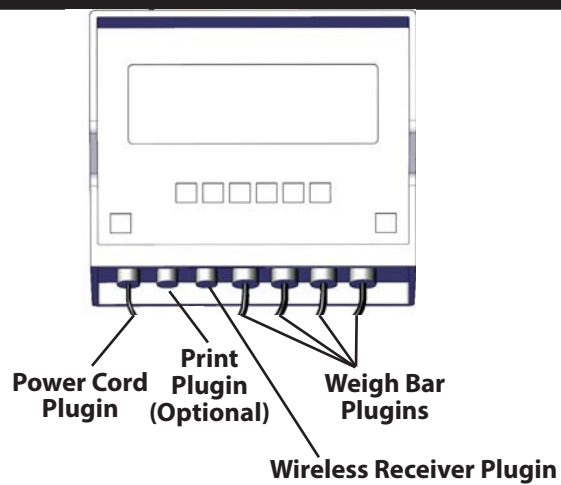


Figure 6.7

NOTES