

510-ST

Speed Tender

## OPERATORS MANUAL



Rev. 2.23.2016

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## Table Of Contents

4-6 .....	General Information
5 .....	Specifications
7 .....	Safety Rules
8-9 .....	Decals
10-18 .....	Operations
19-33 .....	Service
34-36 .....	Hydraulics
37-41 .....	Wiring
42-55 .....	Repair Parts
43 .....	Ladder Parts
44 .....	Scale Parts
45 .....	Chassis Parts
46 .....	A-Frame / Goosneck Parts
47 .....	Boom Arm Parts
48-49 .....	Conveyor Parts
50 .....	Swing Cylinder
50 .....	Door Parts
51 .....	Shell Parts
52 .....	Roll Tarp Parts
53 .....	Hub Assembly
54 .....	Fender Parts
56-57 .....	Available Options
58-61 .....	Aftermarket Parts



## 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](http://dealer.jm-inc.com) and return it to J. & M. Mfg. Co., Inc. at the address indicated on the form. Warranty claims will be denied if the Warranty Registration has not been submitted.

### EXPRESS WARRANTY:

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

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

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

This warranty does not cover a component which fails, malfunctions or is damaged as a result of (i) improper modification or repair, (ii) accident, abuse or improper use, (iii) improper or insufficient maintenance, or (iv) normal wear or tear. This warranty does not cover products that are previously owned and extends solely to the original purchaser of the product. Should the original purchaser sell or otherwise transfer this product to a third party, this implied, with respect to tires or other parts or accessories not manufactured by J. & M. Mfg. Co., Inc. Warranties for these items, if any, are provided separately by their respective manufacturers.

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

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

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

### SERVICE:

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

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

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

**Model No:** 510 Speed Tender **Serial No:** \_\_\_\_\_ **Date of Purchase:** \_\_\_\_\_

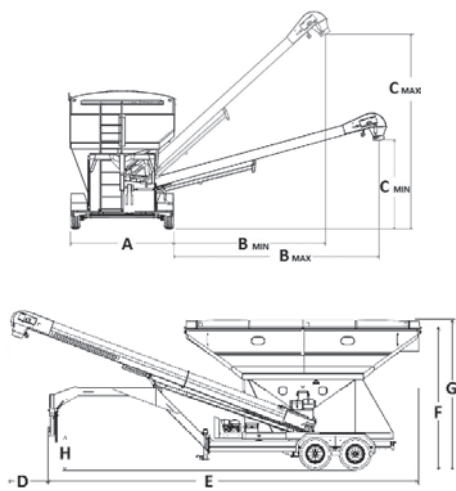
**Purchased From:** \_\_\_\_\_

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



## Specifications

	Capacity (total)	Weight (empty)	Tongue Wt. (loaded)	Conveyor/Auger	Unloading Rate	Conveyor/Auger Reach	Axles	Engine
<b>275ST</b>	275 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
<b>375ST</b>	375 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
<b>510ST</b>	510 Seed Units	10,400 lbs.	4,900 lbs.	24.5' Long, 10" Tube Conveyor w/V-Belt	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
<b>Pro C4-50</b>	Four (4), 50 Unit Boxes	6,300 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
<b>Pro 2-50</b>	Two (2), 50 Unit Boxes	3,800 lbs.	580 lbs.	16' Spout Height	4 Minutes per Box*	42' (w/optional 24' spout)	Two (2), 4,400 lb. Torsion-Flex Axles w/Electric Brakes	11 HP Honda Motor w/Electric Start
<b>Pro 4-50</b>	Four (4), 50 Unit Boxes	4,700 lbs.	1,600 lbs.	16' Spout Height	4 Minutes per Box*	42' (w/optional 24' spout)	Two (2), 7,000 lb. Torsion-Flex Axles w/Electric Brakes	11 HP Honda Motor w/Electric Start



510ST10BC w/ 10" Tube Conveyor	
<b>A</b>	8'-6"
<b>B</b>	15'-4" (min)
<b>B</b>	19'-6" (max)
<b>C</b>	8'-7" (min)
<b>C</b>	17'-3" (max)
<b>D</b>	3'-1"
<b>E</b>	29'-2"
<b>F</b>	11'-2"
<b>G</b>	11'-10"
<b>H</b>	2'-9" (min)
<b>H</b>	3'-4" (max)



### MODELS 510ST AND 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


### 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.

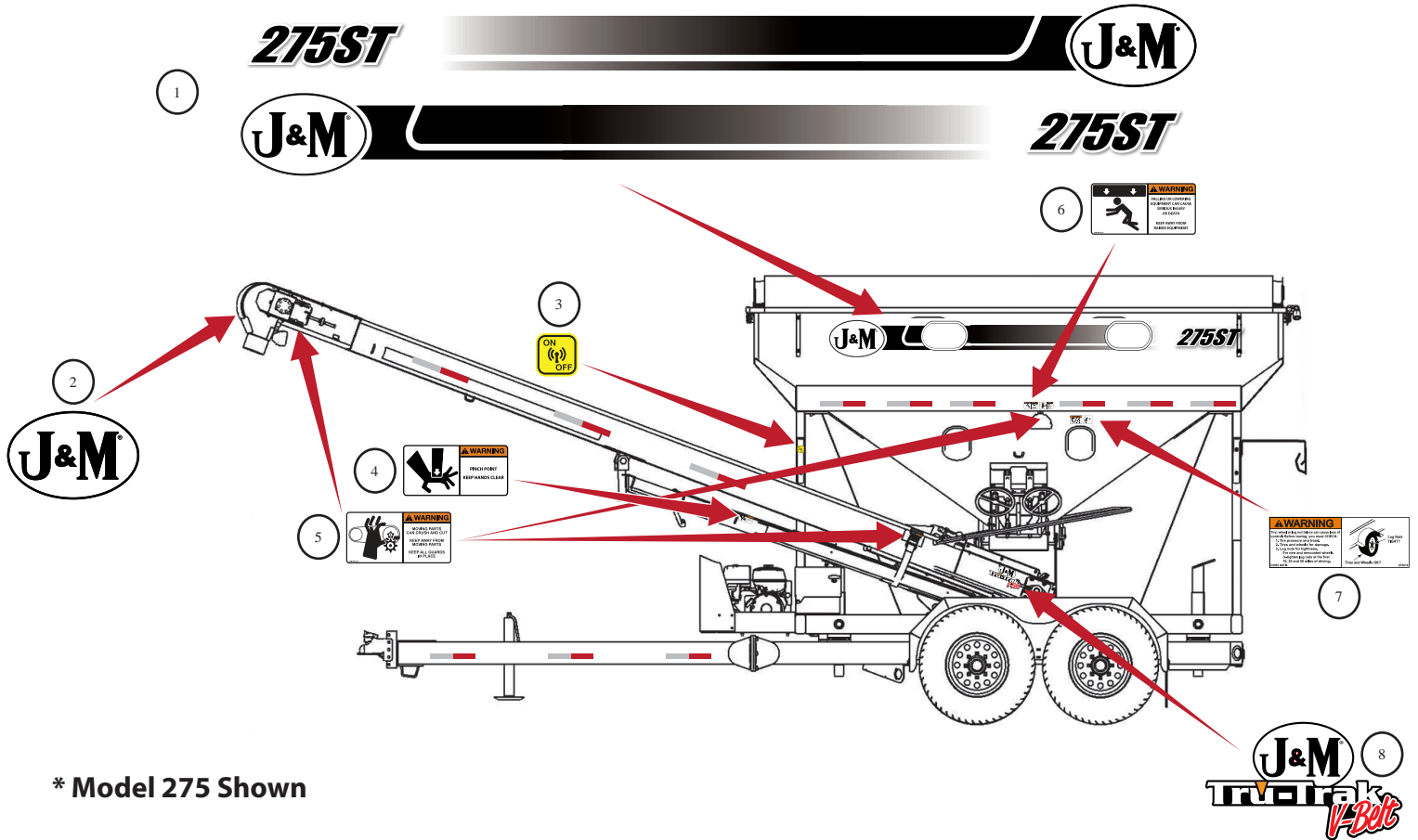
Read this manual before you operate this machine. If you do not understand any part of this manual, or need more information, contact the manufacturer or your authorized dealer.

**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/auger is fastened securely to the boom arm, and the boom arm is resting on the boom arm support with lynch pin 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 boom arm at all times.

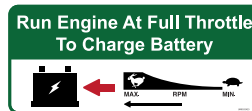
## Decals



\* Model 275 Shown

#	Description	Part #
1	Stripe Kit	Specify Model
2	J&M Oval Decal Medium	JM0010179
3	On/Off Decal	JM0014974
4	Warning, Pinch Point Decal	JM0014994
5	Warning, Moving Parts Decal	JM0014993
6	Warning, Falling/Lowering Decal	JM0014992
7	Warning, Lug Nuts Tight? Decal	
8	J&M Oval Tru-Trak Decal	
9	Danger, Flowing Grain Traps ST Decal	
10	Warning, Shut off Power Before Service	
11	Speed Tender Decal	JM0015002
12	J&M Oval Decal Large	JM0015151
13	Warning, High Pressure Fluid Decal	JM0010163
14	Warning, Keep Open Flames Away Decal	JM0014983
15	Run Engine At Full Throttle To Charge Battery	JM0032425
16	Danger, Electric Lines	JM0015099
17	www.jm-inc.com	JM0019239

## Decals



11

**SpeedTender**  
ADVANCED SEED DELIVERY



[www.jm-inc.com](http://www.jm-inc.com)

17

## 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 in service manual section.

### 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.

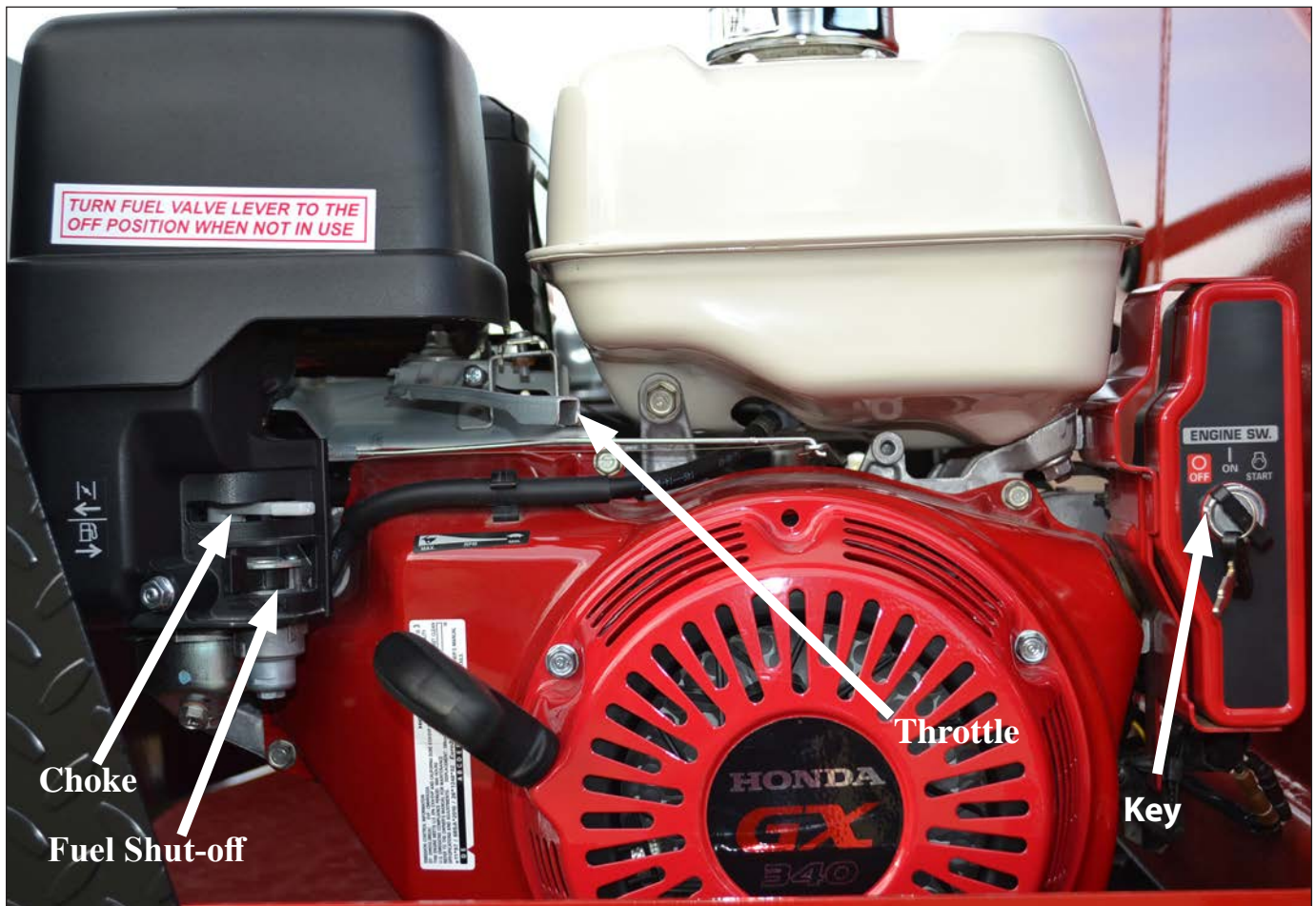
**⚠ WARNING:** Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.

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

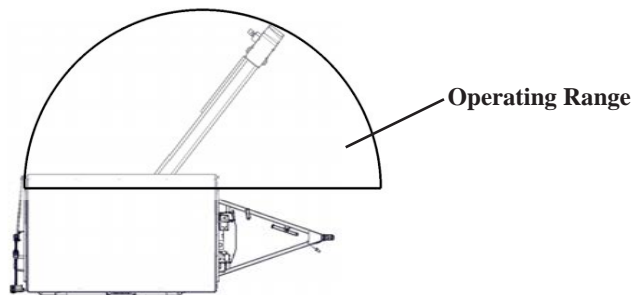
### 1.6 Field Operation

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

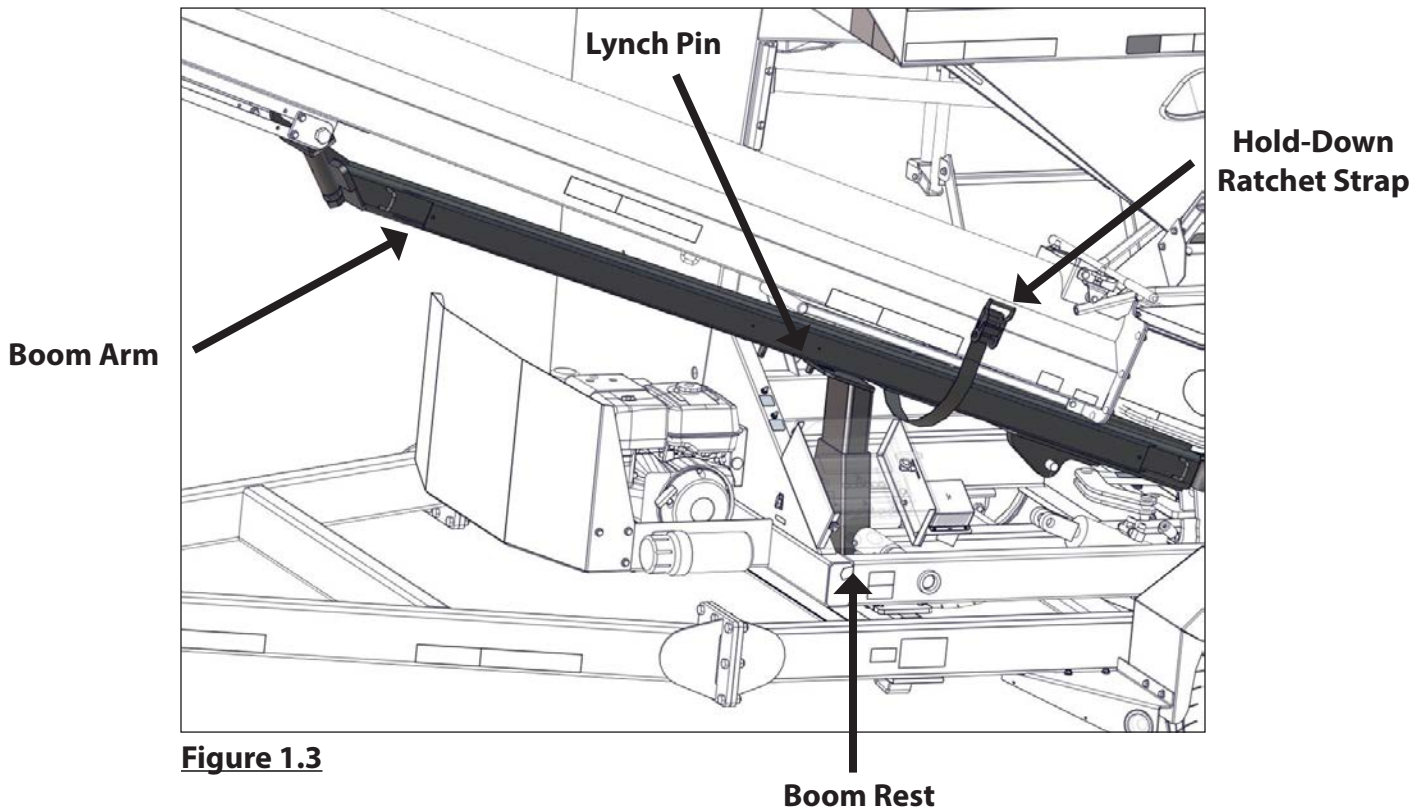
1. Position the Speed Tender next to the planter/drill so the conveyor/auger will reach the planter box.
2. Remove lynch pin from Boom Arm. (Figure 1.3).
3. Start the hydraulic power unit and increase throttle speed. (Allow hydraulic fluid to warm-up.)(Figure 1.2).
4. Raise the boom out of the Boom Rest 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**



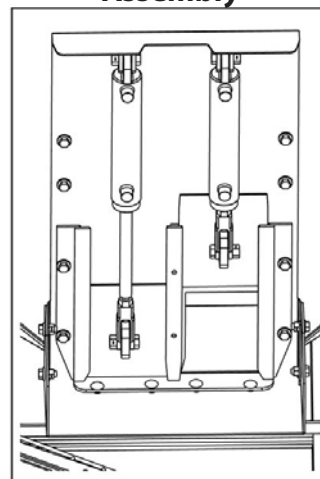
**Handheld Control**



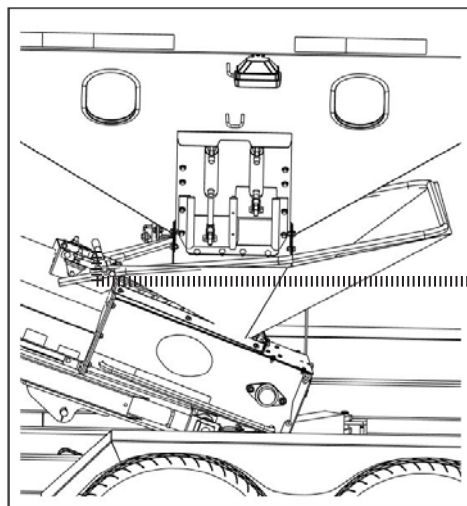
**Figure 1.4**

See Section 4.1 for Remote Options

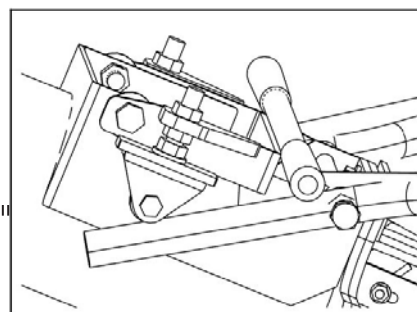
**Hydraulic Door Assembly**



**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/auger.
10. Fill the planter/drill to desired level then repeat.  
**NOTE: Adjusting engine throttle will regulate conveyor/auger 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/auger.

**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).

## 1.0 Operations

12. Position boom above boom rest and lower to allow its full weight on the boom rest.
13. Replace lynch pin in Boom Arm.
14. Make sure that the conveyor/auger hold down ratchet strap is tight enough that the conveyor auger will not move during transportation.
15. 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.**
16. 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.
17. Slide the fuel shut off lever to the "OFF" position. This will allow the engine to shutoff by running out of gas.
18. 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. Remove lynch pin from Boom Arm (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 boom out of boom rest using the handheld control. (Figure 1.4).  
**NOTE: Wireless options feature a Wireless Remote (Figure 1.4).**

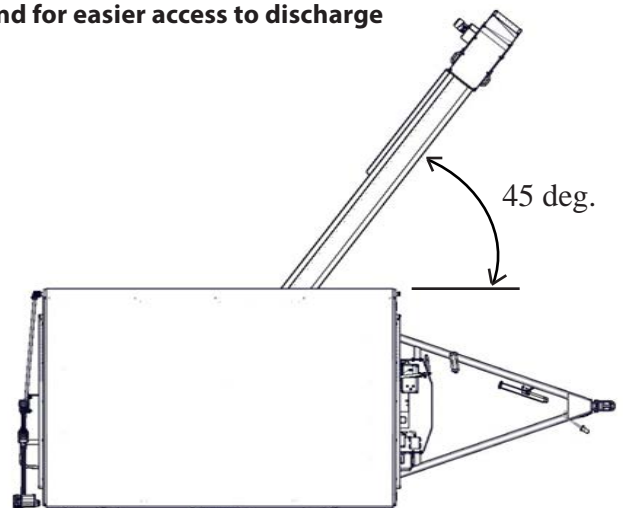
**! CAUTION:** If you are parked on an incline, the boom arm may swing freely. (It is advised that you do not use Speed Tender on uneven ground)

5. Rotate the conveyor to 45 deg. (Figure 1.8)
6. Lower the boom so you can remove the telescoping spout from the discharge end of the conveyor/auger.
7. Undo the conveyor hold down ratchet strap (Figure 1.3).
8. Swing the collapsible hopper end out from under the Speed Tender shell.
9. Position the discharge end over the Speed Tender.  
**NOTE: The conveyor/auger 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).**

10. Lock the Boom Arm in place.



**Figure 1.7**



**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 Boom Arm at a 45 deg. angle and locked, swing the conveyor back into the resting position on the boom arm (Figure 1.8).
19. Place the conveyor hold down ratchet strap around the conveyor and tighten the strap (Figure 1.3).


 **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.)

20. Position boom arm above the boom rest and lower to allow its full weight on the boom rest.
21. Replace lynch pin in boom arm pin.
22. Make sure that the conveyor hold down ratchet strap is tight enough that the conveyor will not move during transport.
23. 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.**
24. 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.
25. Slide the fuel shut off lever to the "OFF" position. This will allow the engine to shutoff by running out of gas.
26. Turn the key to the "OFF" position.

### 1.8 Cleaning out Collapsible Hopper and Conveyor/Auger

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

1. Remove lynch pin from Boom Arm (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 boom out of boom rest using the handheld control. (Figure 1.4).  
**NOTE: Wireless options feature a Wireless Remote (Figure 1.4).**
4. Move the boom lock handle to the unlock position. This will allow the boom to swing (Figure 1.3).

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

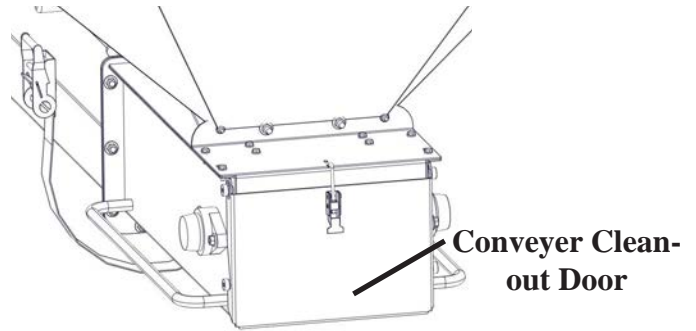
5. Rotate the conveyor to 45 deg. (Figure 1.8).

## 1.0 Operations

6. Lower the boom so you can remove the telescoping spout from the discharge end of the conveyor.
7. Undo the conveyor hold down ratchet strap (Figure 1.3).
8. Swing the collapsible hopper end out from under the Speed Tender shell.
9. Place the collapsible hopper in the up position (Figure 1.6)
10. 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.
11. 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**

12. Place collapsible hopper in the down position.

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

13. With the boom arm at a 45 Deg. angle, swing the conveyor back into the resting position on the boom arm (Figure 1.8).
14. Place the conveyor hold down ratchet strap around the conveyor and tighten the strap (Figure 1.3).
15. Position boom arm above boom rest and lower to allow its full weight on the boom rest.
16. Replace lynch pin in boom pin.
17. Make sure that the conveyor hold down ratchet strap is tight enough that the conveyor will not move during transportation.
18. 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.**
19. Slide the fuel shut off lever to the "OFF" position. This will allow the engine to shutoff by running out of gas.
20. 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.**

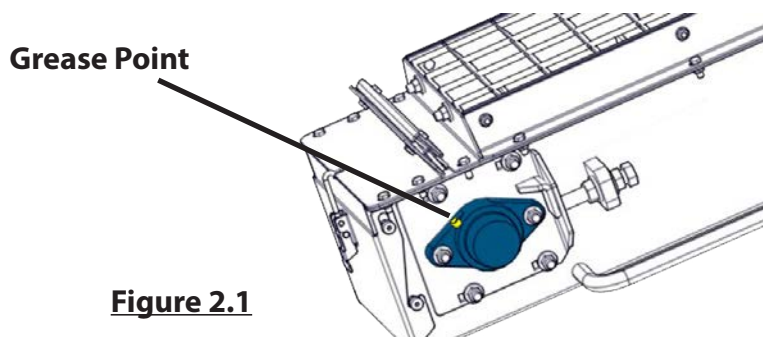


### 2.1 Grease Conveyor Bearings

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).**

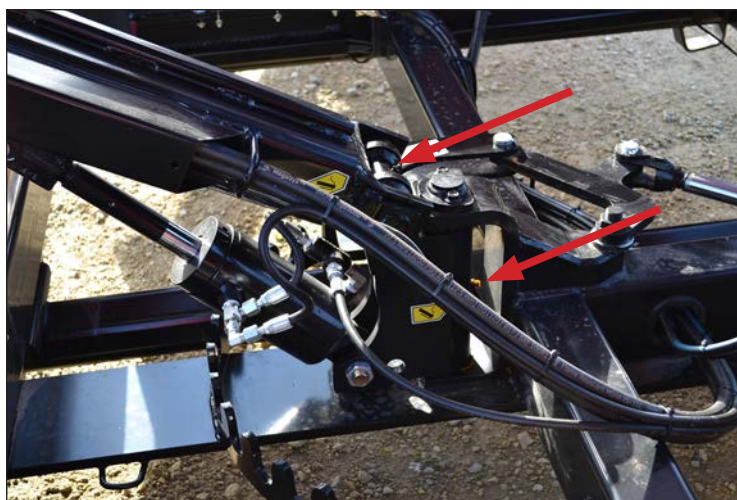


**Figure 2.1**

### 2.2 Grease Boom Arm

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

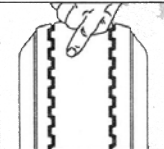
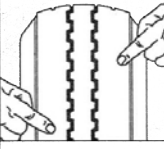
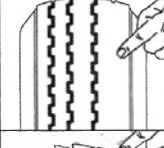
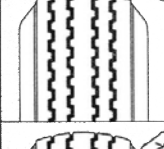
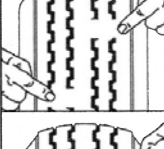
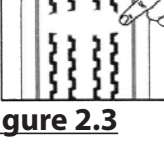
#### **Grease Points**



**Figure 2.2**

### 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. 80 psi is the cold rating on the tire that is standard for the 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 lug-nuts on new and removed wheels to 220 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.

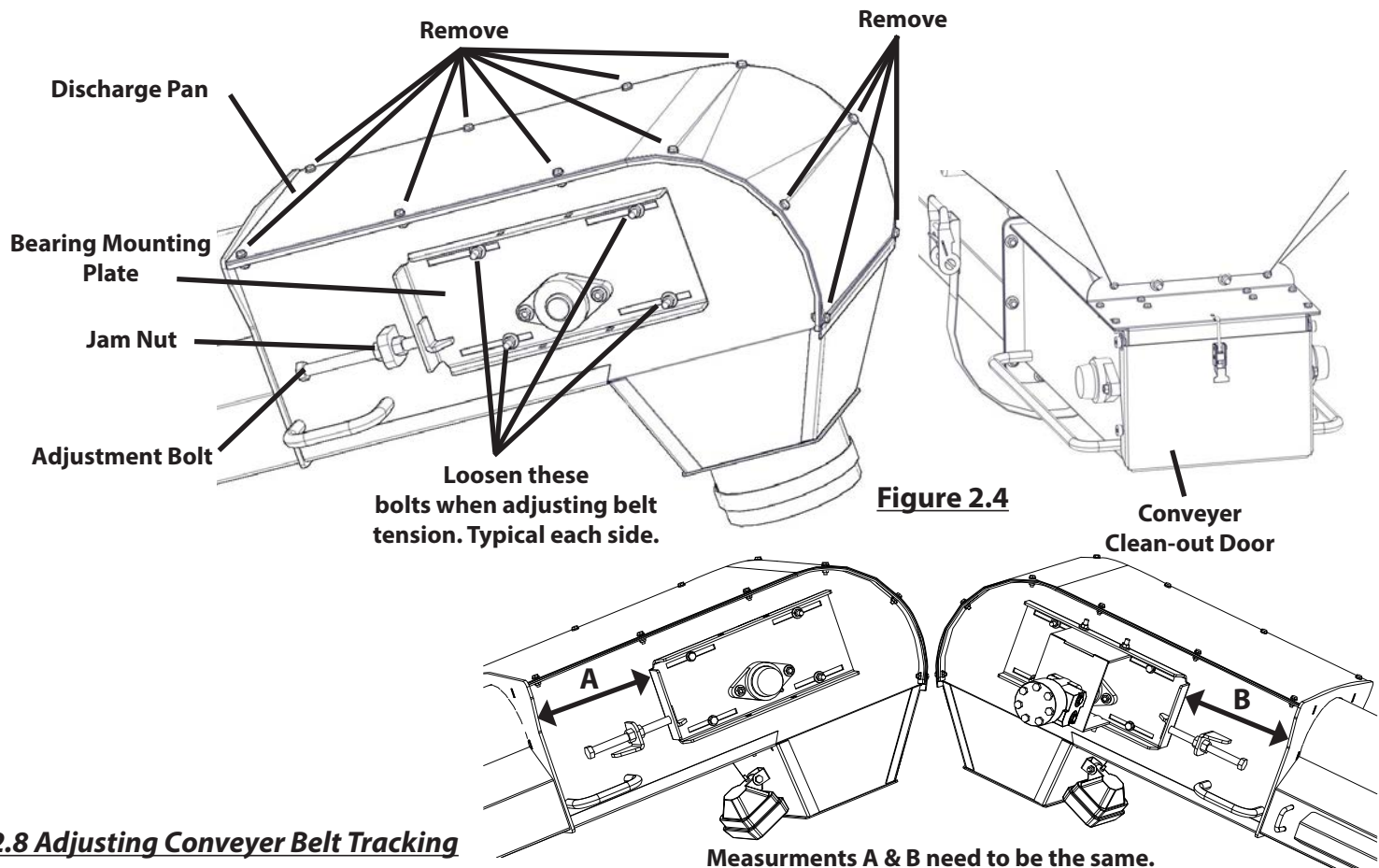
#### **Checking the belt tracking at collapsible hopper end:**

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

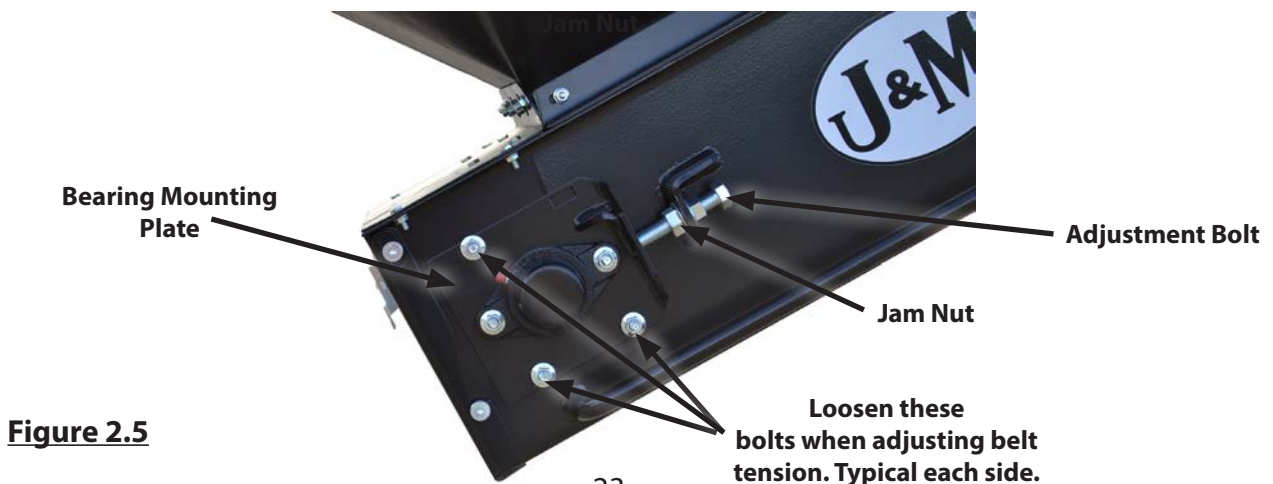


### 2.8 Adjusting Conveyor Belt Tracking

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.

### 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:

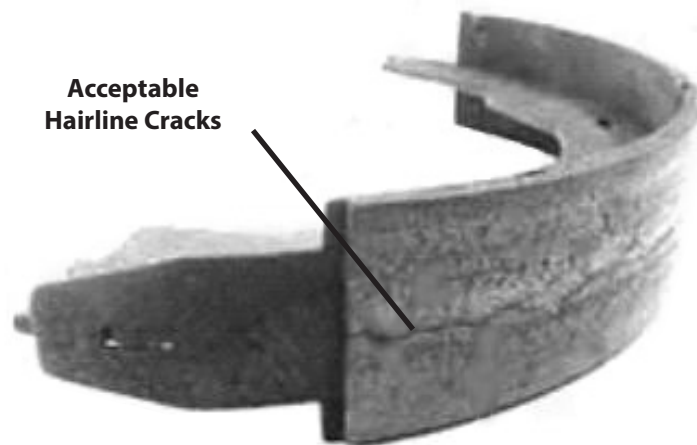
1. After the first 200 miles of operating when the brake shoes and drums have "seated."
2. At 3,000 mile intervals or once a year, whichever comes first.

### 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:

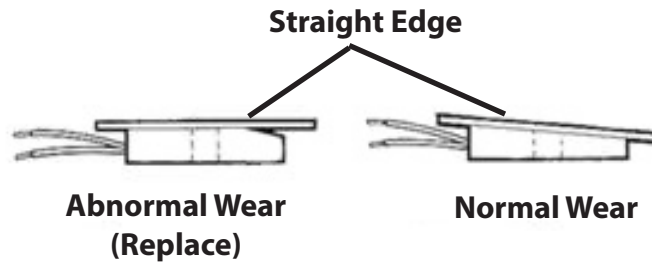
Most electric brake malfunctions that cannot be corrected by either brake adjustments or synchronization adjustments can generally be traced to electrical system failure. Mechanical causes are ordinarily obvious, bent or broken parts, worn out linings or magnets, seized lever arms or shoes, scored drums, 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). The auger is equipped with 1 bearing (at Hopper end) (See section 2.1).**
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 section 2.3).
10. Make sure wheel lug nuts are properly torqued (See section 2.4).
11. Make sure that the conveyor/auger 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 (Section 2.4).
6. Make sure that the tires are properly inflated.
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 (Section 2.4).
4. Make sure that the tires are properly inflated.
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

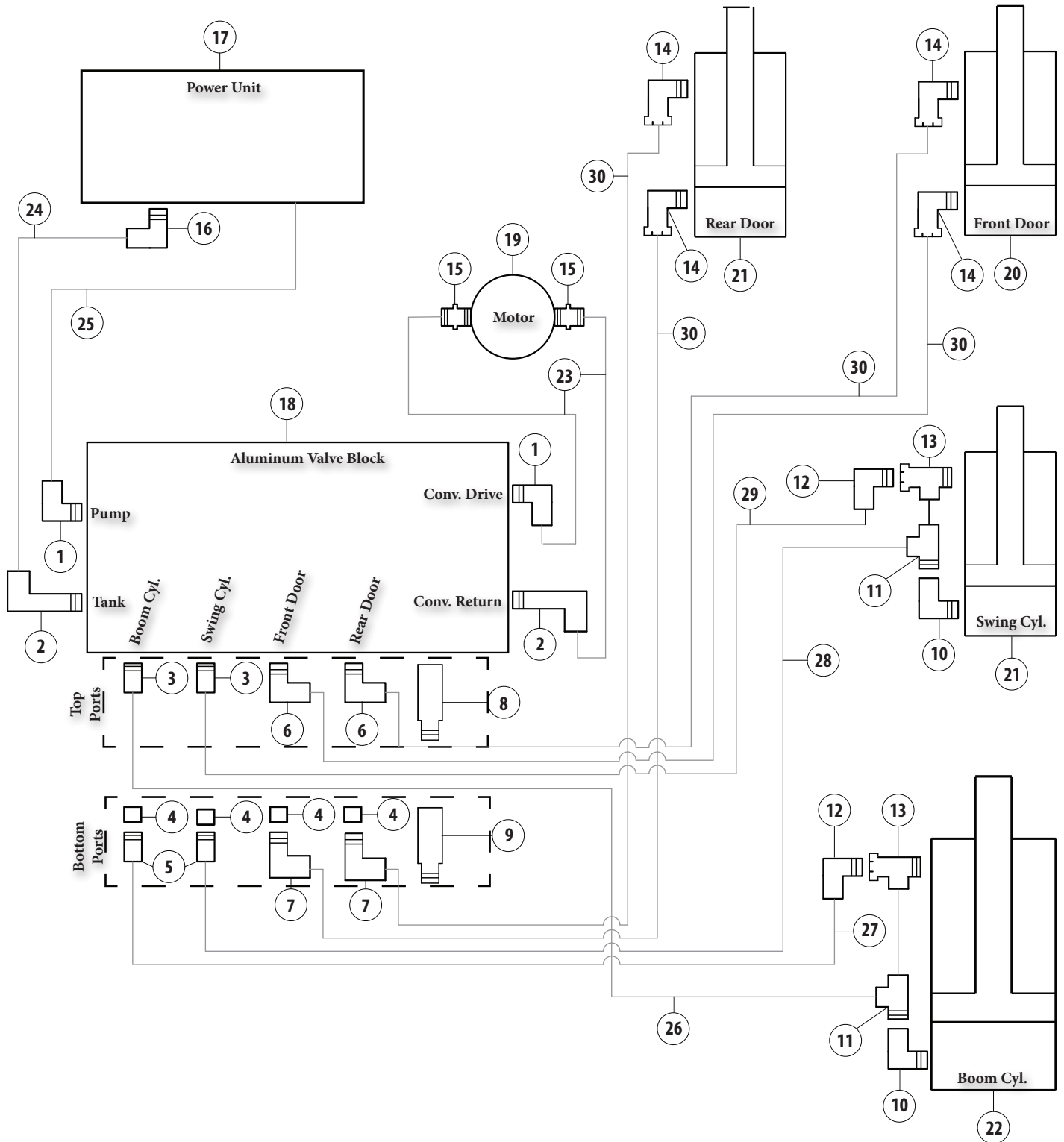
### 2.15 Bolt Torque Specifications

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

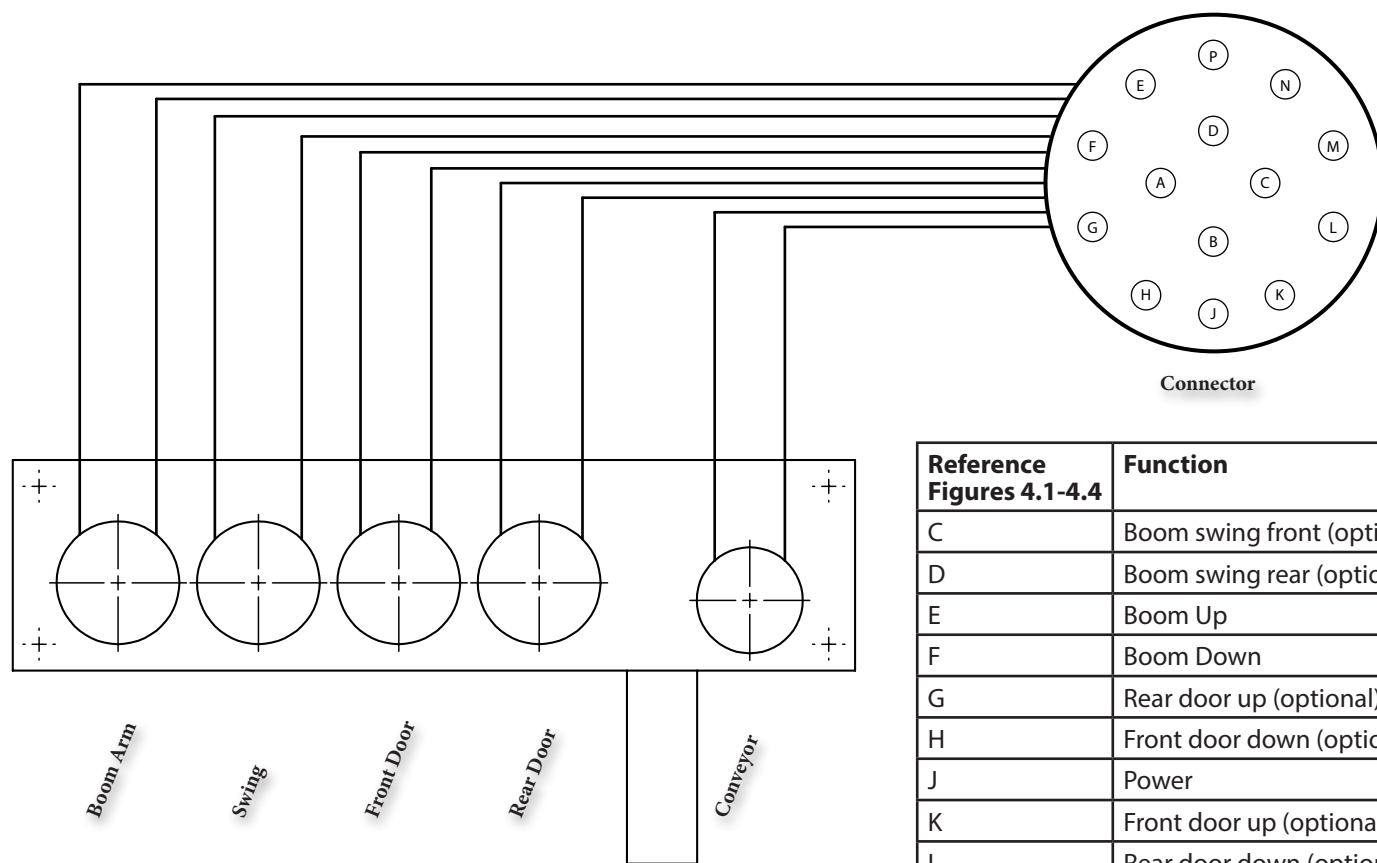
### 3.1 Hydraulic Schematic



### 3.0 Hydraulics

#	Description	Part. No.
1	1/2" male JIC x 1/2" male NPT ; 90 degree elbow	JM0033727
2	1/2" male JIC x 1/2" male NPT ; 90 degree elbow, extra long	JM0033728
3	3/8" male NPT x 3/8" female NPT, swivel, 0.042 orifice; straight	JM0033729
4	3/8" male NPT x 3/8" female NPT; straight	JM0033739
5	3/8" male NPT x 3/8" female NPT; swivel	JM0033730
6	3/8" male JIC x 3/8" male NPT ; 90 degree elbow	JM0033731
7	3/8" male JIC x 3/8" male NPT ; 90 degree elbow, extra long	JM0033732
8	Relief Valve 1800 PSI	JM0033733
9	Relief Valve 1600 PSI	JM0033734
10	1/2" male NPT X 3/8" female NPT; 90 degree elbow	JM0010292
11	Pilot Check Valve	JM0018233
12	3/8" male JIC X 3/8" female JIC swivel; 90 degree elbow	JM0010295
13	3/8" male JIC X 1/2" male NPT X 3/8" male JIC, tee.	JM0010291
14	1/4" male pipe x 1/4" female JIC	JM0010301
15	1/2" male JIC X 1/2" male NPT straight	JM0015201
16	1/2" male JIC X 3/4" male NPT; 90 degree elbow	JM0033775
17	Hydraulic Power Unit	JM0003027
18	5 Function Aluminum Valve Block	JM0029973
19	WR series Hydraulic Motor w/ keyed and cross drilled shaft	JM0010469
20	1-1/2" Bore x 7" Stroke Hydraulic Cylinder	JM0002882
21	3" x 14" Hydraulic Cylinder	JM0002261
22	4" Bore x 8" Stroke Cylinder w/ fittings	JM0003045
23	1/2" I.D. Hose; #8 female JIC swivel X #8 female JIC swivel; 326" OAL	JM0010286
24	1/2" I.D. Hose; #8 female JIC swivel X #8 JIC swivel; 27" OAL	JM0010287
25	1/2" I.D. Hose; 3/8" male NPT swivel X #8 female JIC swivel: 34" OAL	JM0010285
26	1/4" I.D. Hose; 3/8" male NPT rigid X 3/8" male NPT swivel; 99" OAL	JM0010284
27	1/4" I.D. Hose; 3/8" male NPT rigid X #6 female JIC swivel: 107" OAL	JM0010283
28	1/4" I.D. Hose; 3/8" male NPT rigid X 3/8" male NPT swivel; 98" OAL	JM0010305
29	1/4" I.D. Hose; 3/8" male NPT rigid X 3/8" male NPT swivel; 78.50" OAL	JM0010304
30	1/4" I.D. Hose; 1/4" male NPT rigid X #6 female JIC swivel; 192" OAL	JM0010300

### 3.2 Aluminum Valve Block



Reference Figures 4.1-4.4	Function
C	Boom swing front (optional)
D	Boom swing rear (optional)
E	Boom Up
F	Boom 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

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.

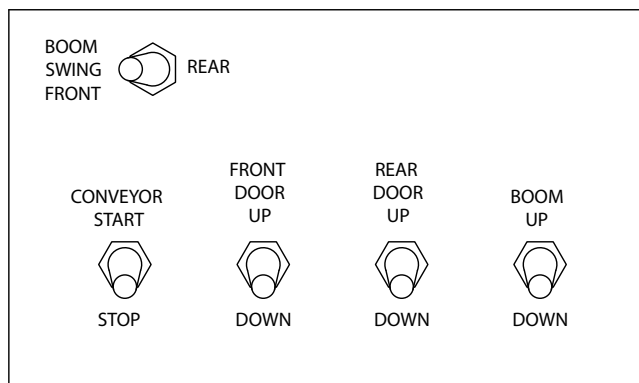
The lettering on the coils should always be facing up.



## 4.0 Wiring

### 4.1 Remote Options

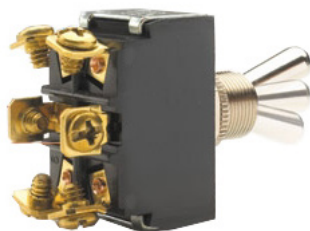
Controllers/Remotes			
Item #	Description	Part #	Qty.
1	Handheld Controller 1	JM0014991	1
2	Wireless Remote w/ Receiver	JM0015005	1



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



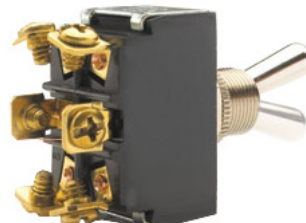
**JM0014991**  
**Handheld Controller**  
 Starts/Stops Motor  
 Raises/Lowers Conveyor  
 Opens/Closes Tank Doors  
 Hydraulic Conveyor Swing



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



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



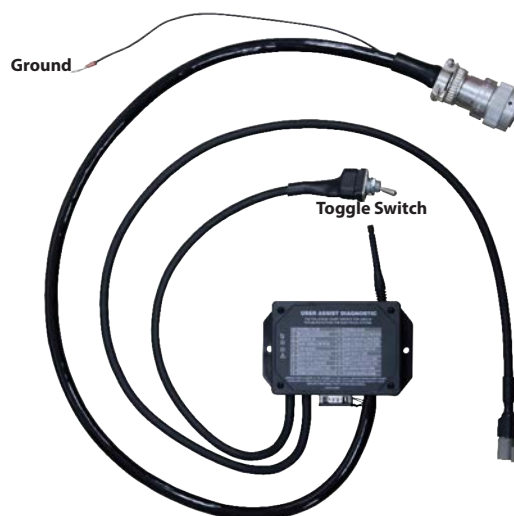
**JM0037125**  
**DPDT (On-On)**  
 Conveyor Start/Stop  
 (This is a momentary switch, once you let go of the switch it will turn off.)

**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.



**JM0036049**  
**Wireless Remote (optional)**  
 Starts/Stops Motor  
 Raises/Lowers Conveyor  
 Opens/Closes Tank Doors  
 Hydraulic Conveyor Swing  
 Electronic Auto Scale Shutoff

**JM0036050**  
**Wireless Receiver**



**JM0031012**  
**Stationary Control**  
 Raises/Lowers Conveyor  
 Opens/Closes Tank Doors  
 Hydraulic Conveyor Swing  
 On/Off Talc  
 Talc Speed  
 On/Off Conveyor  
 On/Off Lights

## 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.

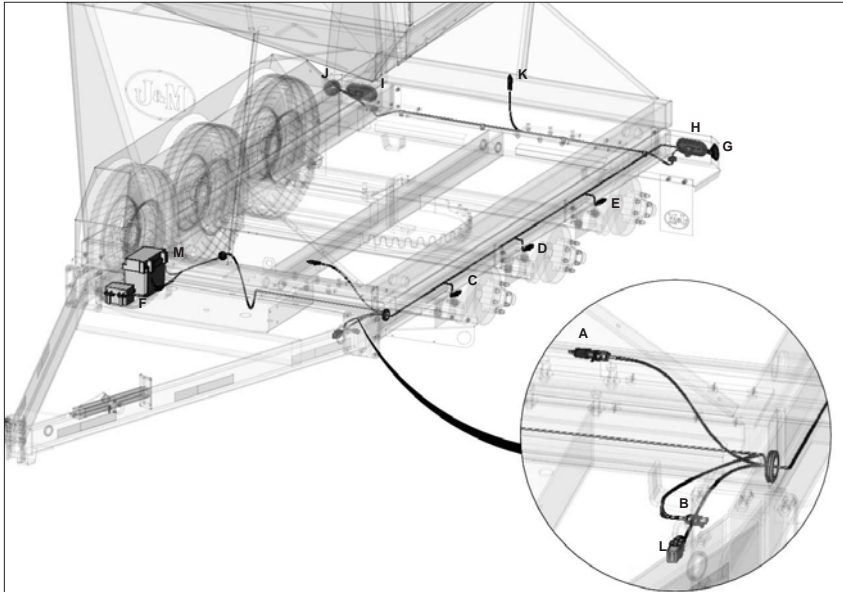
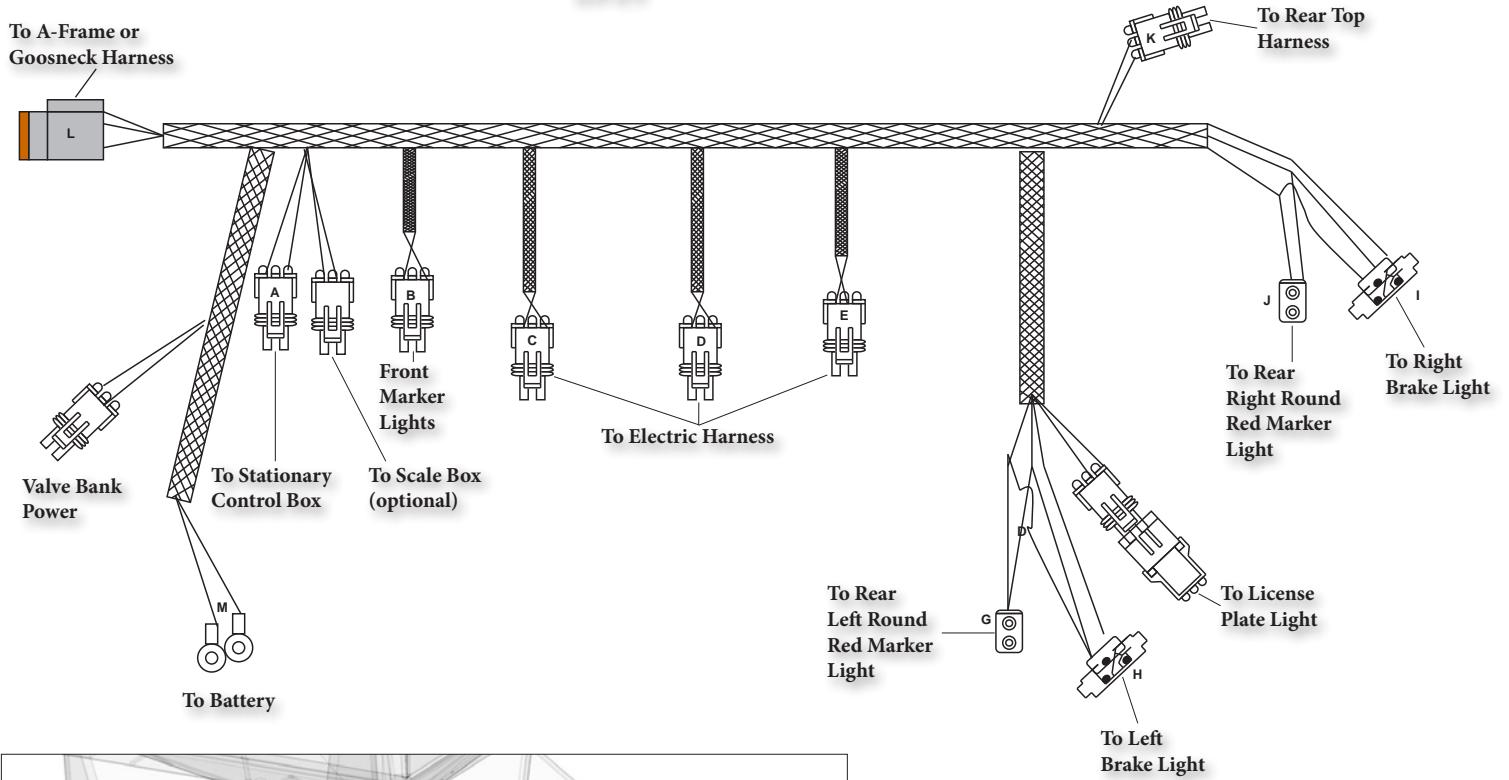


## 4.0 Wiring

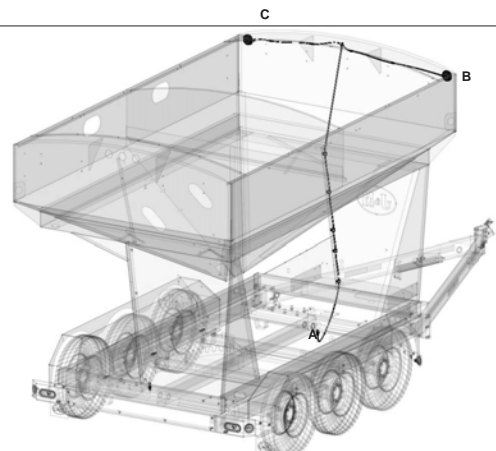
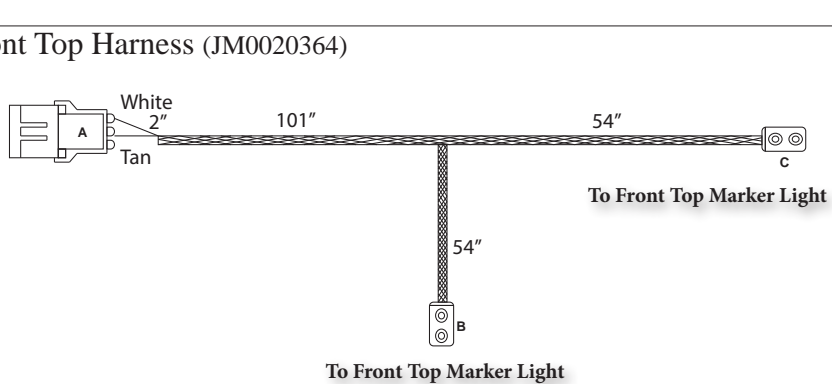
### 4.2 Light Wiring Harnesses-JM0033700

#### Main Harness

419-475

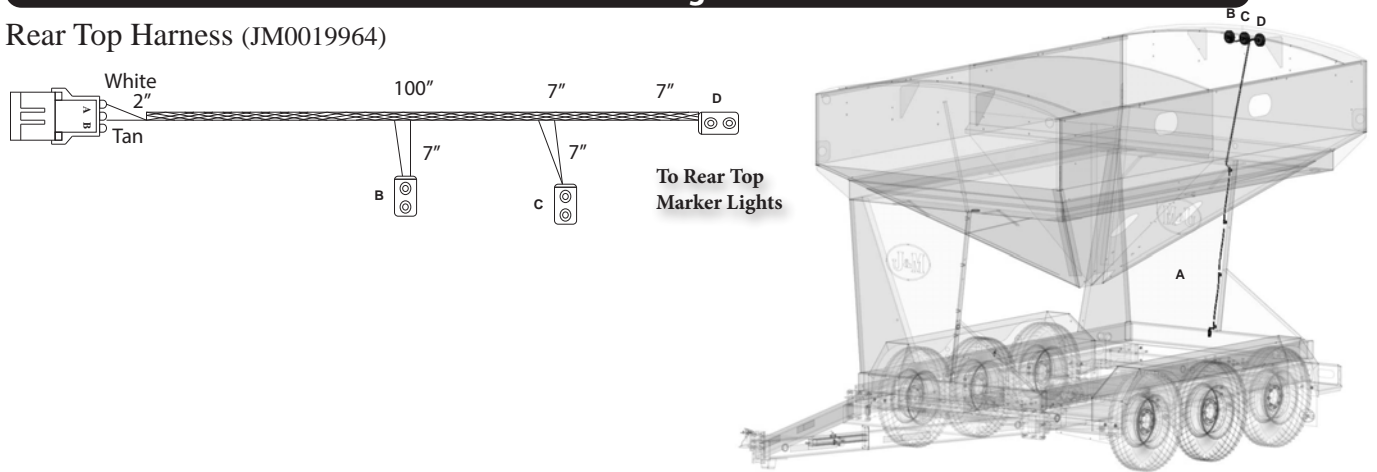


#### Front Top Harness (JM0020364)

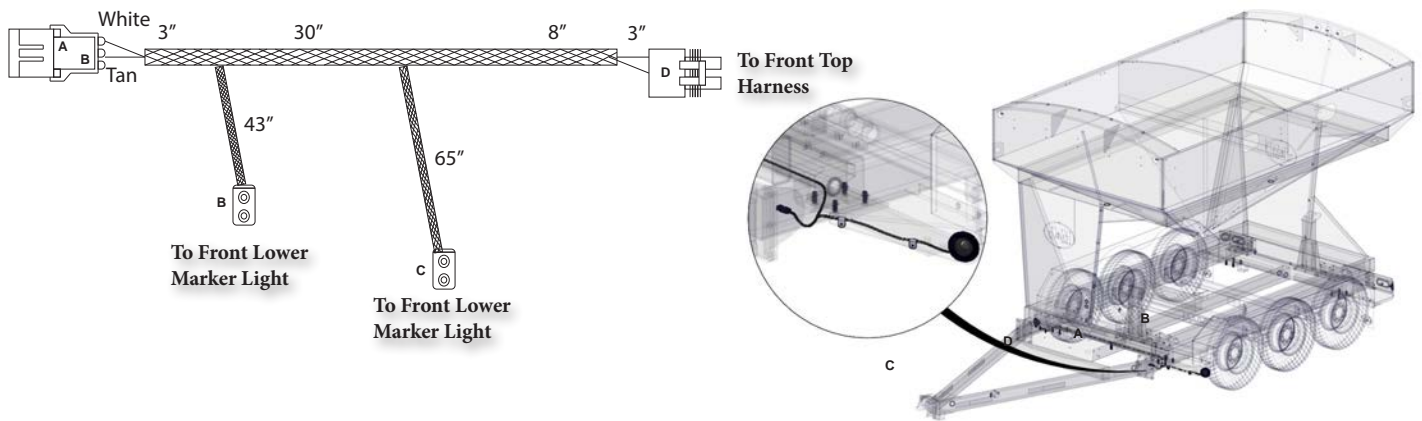


## 4.0 Wiring

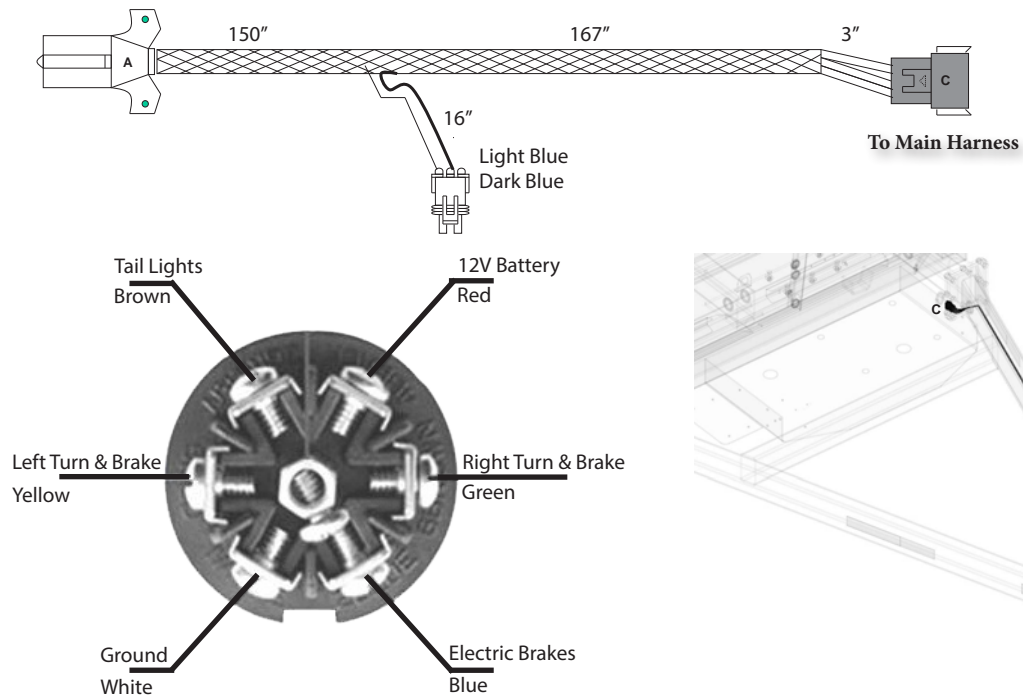
### Rear Top Harness (JM0019964)



### Front Harness (JM0019963)



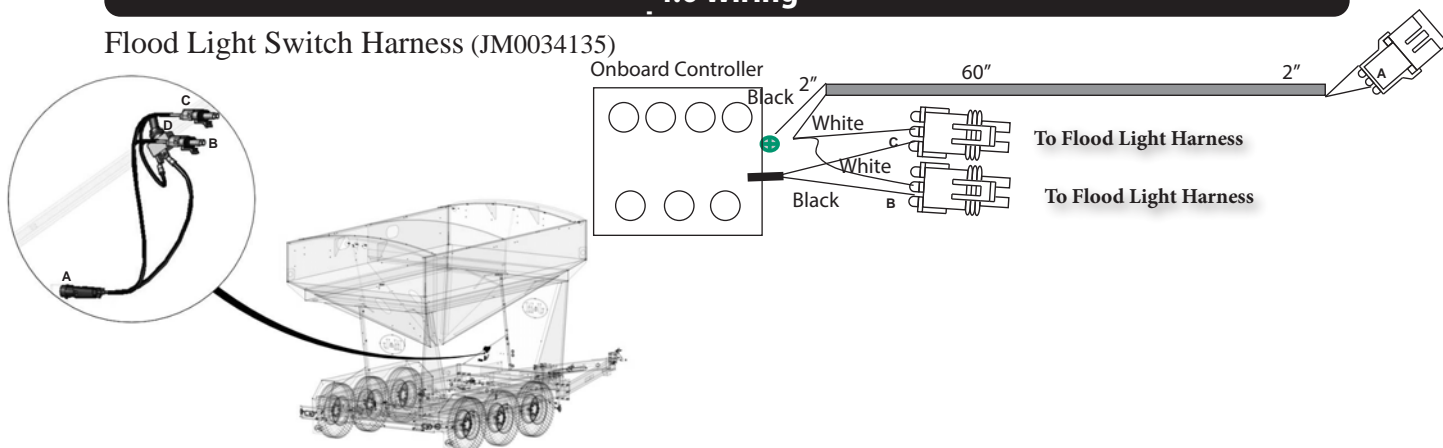
### 7-Way Trailer Connection (JM0019962 A-Frame) (JM0019961 Gooseneck)



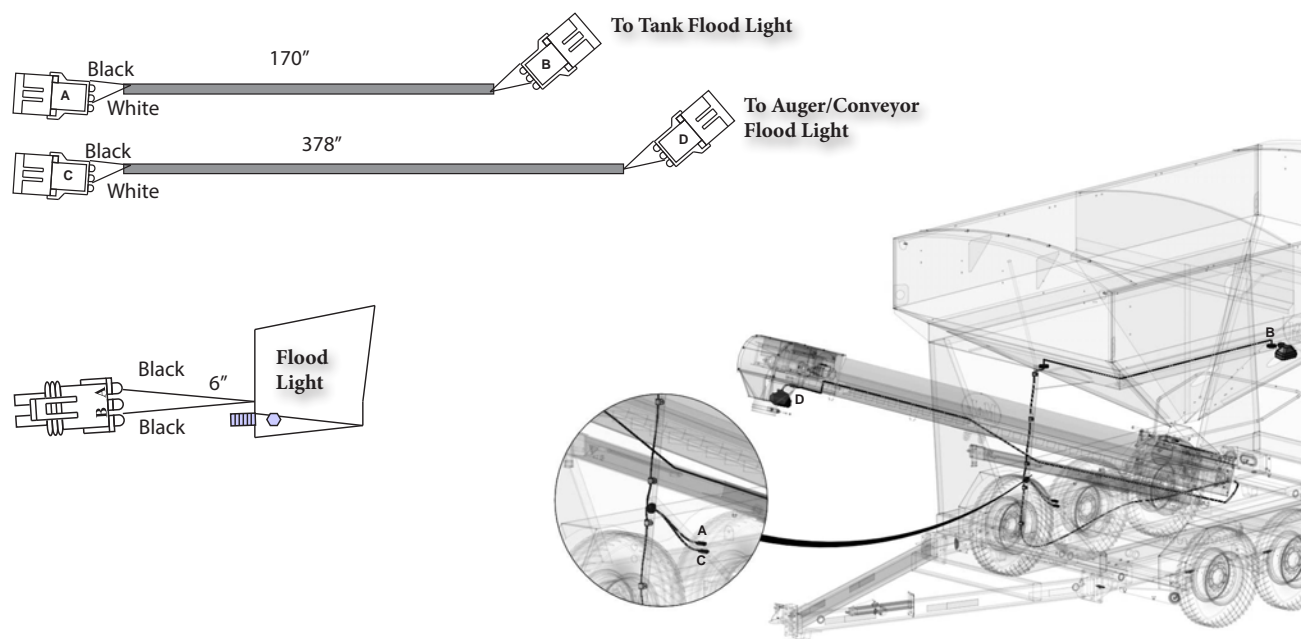


## 4.0 Wiring

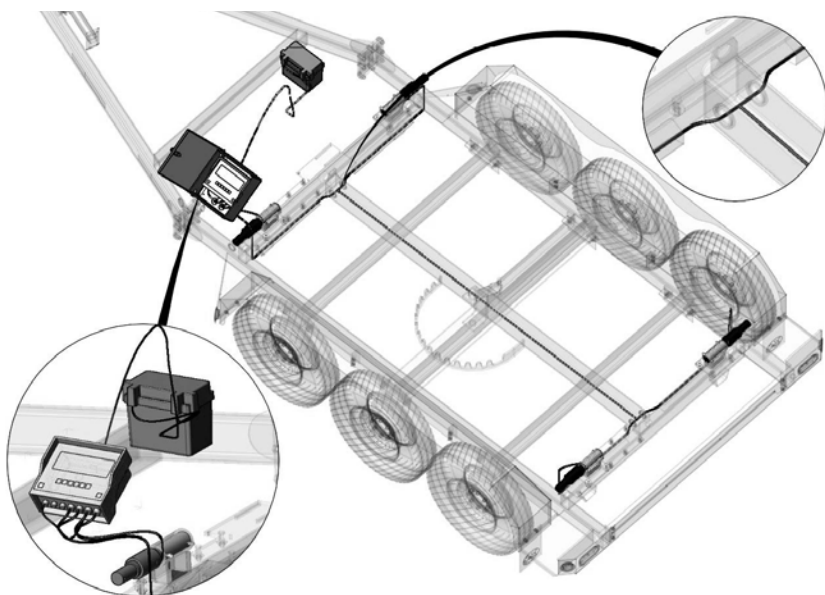
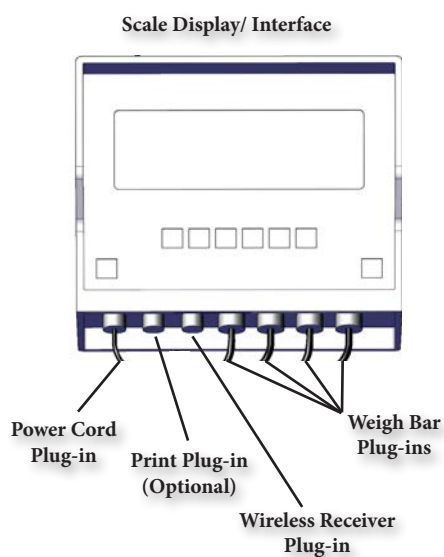
### Flood Light Switch Harness (JM0034135)



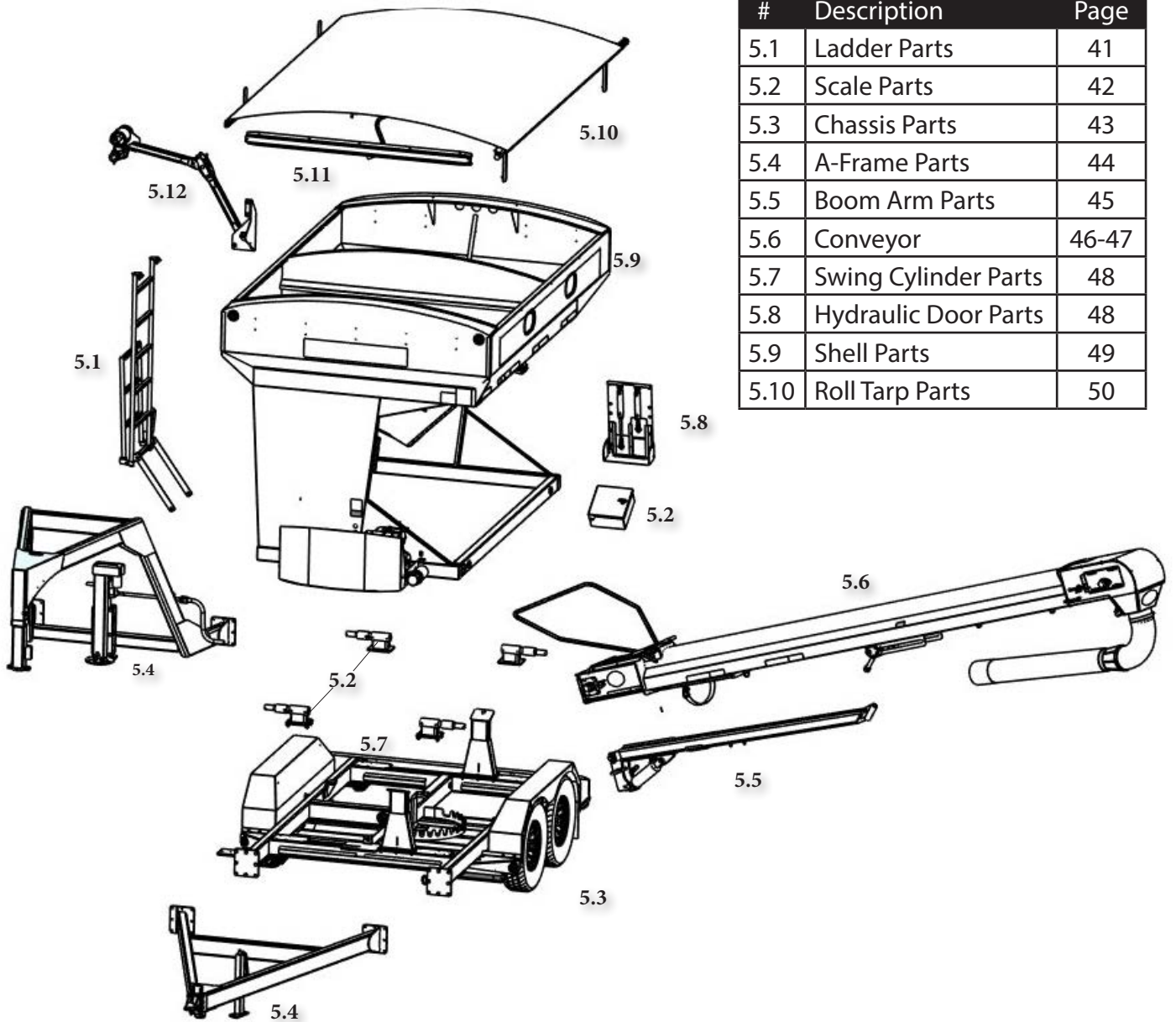
### Flood Light Harness (JM0019965)



## 4.3 Scale Wiring



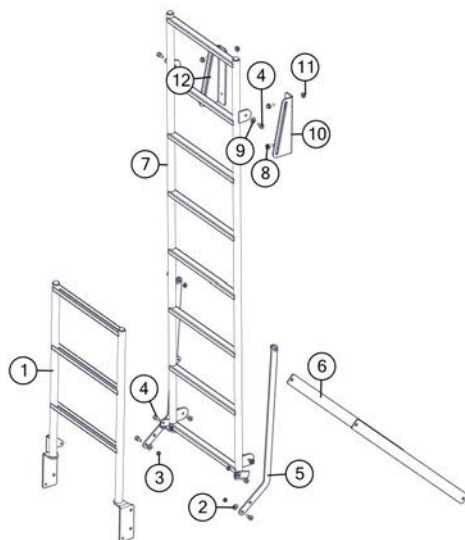
## Repair Parts



## 5.0 Parts

### 5.1 Ladder Parts

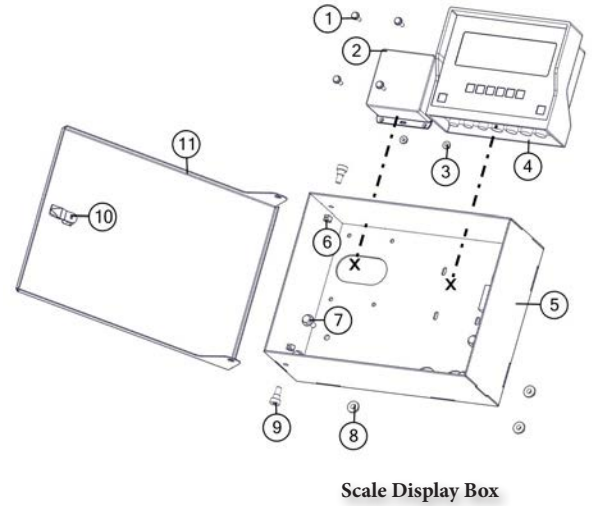
#	Description	Part. No.
1	3 Rung Ladder Assembly (510)	JM0031287
2	3/8" USS Flat Washer	JM0003061
3	3/8"-16 Gr5 Z Centerlock Hex Nut	JM0001512
4	1/2" x 3/8" Shoulder Bolt	JM0009998
5	Ladder Linkage (510)	JM0031279
6	Ladder Brace (510)	JM0026744
7	8 Rung Ladder Assembly (510)	JM0031154
8	3/8"-16 x 1" Gr5 Z SF Hex Bolt	JM0002092
9	3/8" USS Flat Washer	JM0003061
10	Right Slide Plate (510 Ladder Mount)	JM0031284
11	3/8"-16 Gr5 Z SF Hex Nut	JM0002152
12	Left Slide Plate (510 Ladder Mount)	JM0031175



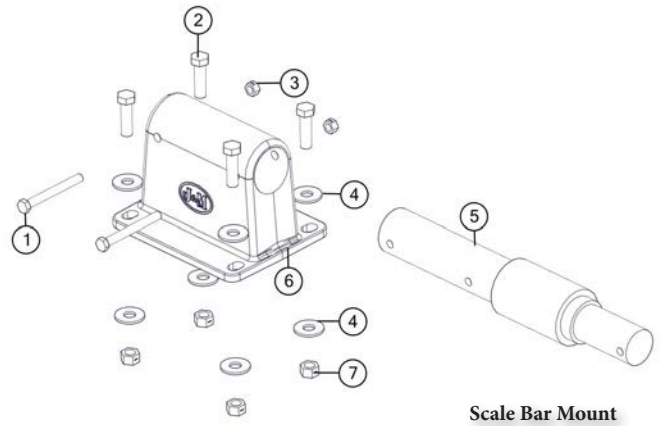
## 5.0 Parts

### 5.2 Scale Parts

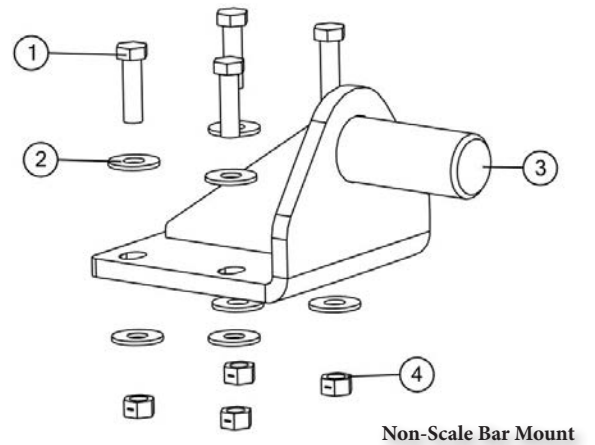
#	Description	Part. No.
1	1/4"-20 x 3/4" Gr5 Z SF Hex Bolt	JM0001642
2	Stationary Control Center	JM0031012
3	1/4"-20 Gr5 Z SF Hex Nut	JM0001630
4	Weight-Tronix Display	JM0019650
5	Scale Box Weldment	JM0029936
6	3/8"-16 Gr5 Z Centerlock Hex Nut	JM0001512
7	3/8"-16 X 1" Gr5 Z SF Hex Bolt	JM0002092
8	3/8"-16 Gr5 Z SF Hex Nut	JM0002152
9	1/2" x 3/8" Shoulder Bolt	JM0009998
10	Lock Handle for Scale Box	JM0001911
11	Scale Box Dooe Weldment	JM0029943
12	Scale Box Assembly (Items #5 & #11)	JM0029945



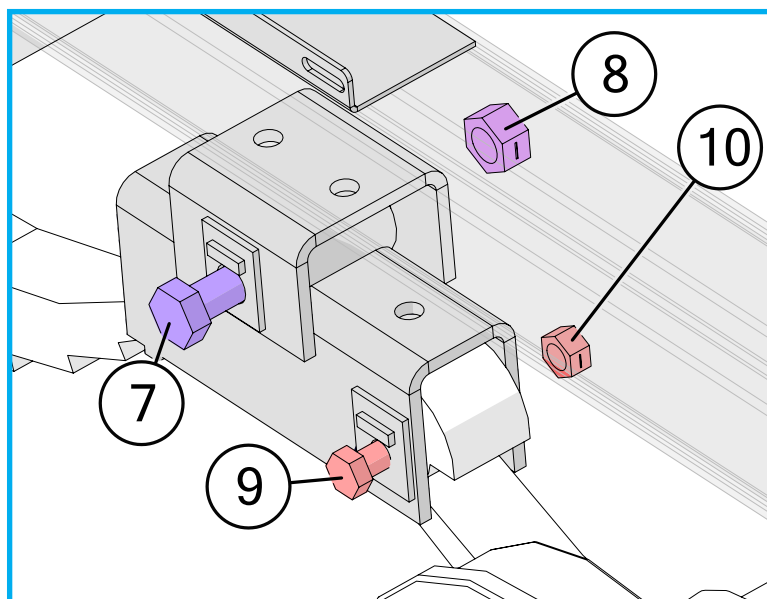
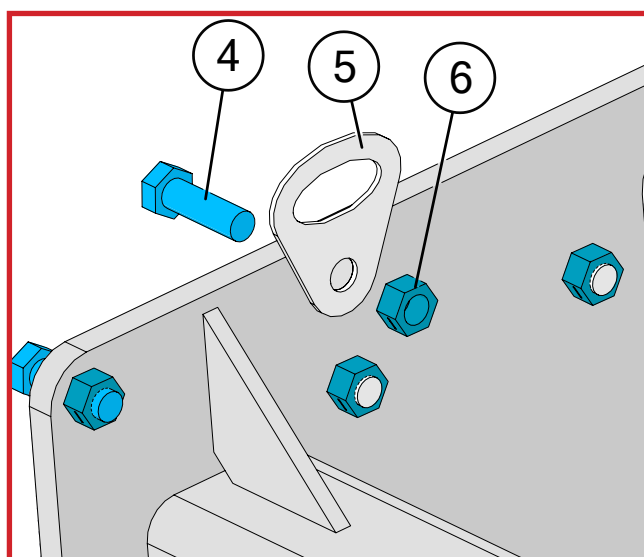
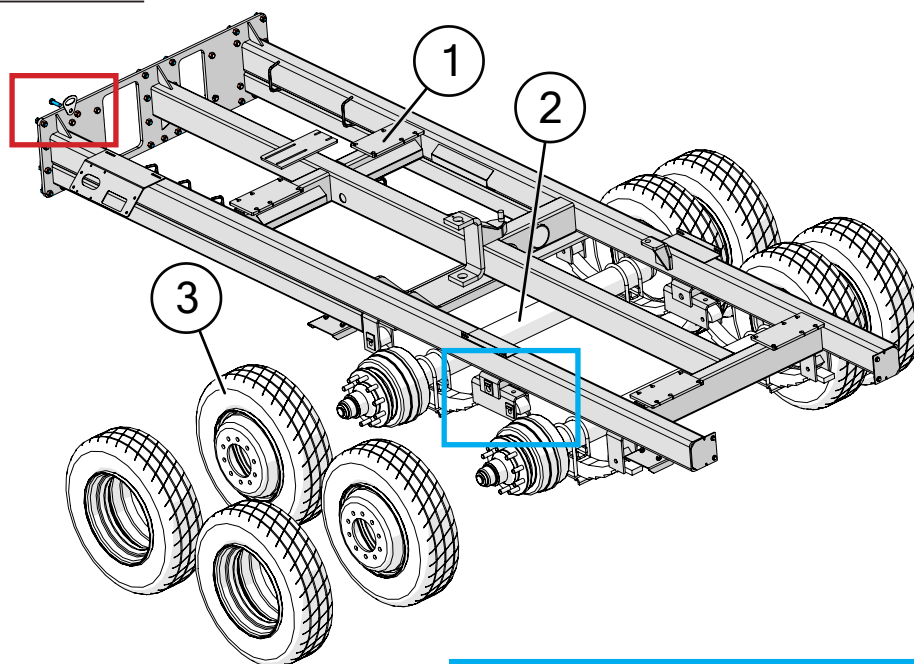
#	Description	Part. No.
1	3/8"-16 x 3-1/2" Gr5 Z Hex Bolt	JM0001986
2	1/2"-13 X 1-3/4" Gr5 Z Hex Bolt	JM0002101
3	3/8"-16 Gr5 Z Centerlock Hex Nut	JM0001512
4	1/2" USS Flat Washer	JM0003082
5	Avery Weigh-Tronix Weight Bar	JM0002797
6	Scale Mount Weldment	JM0014148
7	1/2"-13 Gr5 Z Centerlock Hex Nut	JM0001511



#	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



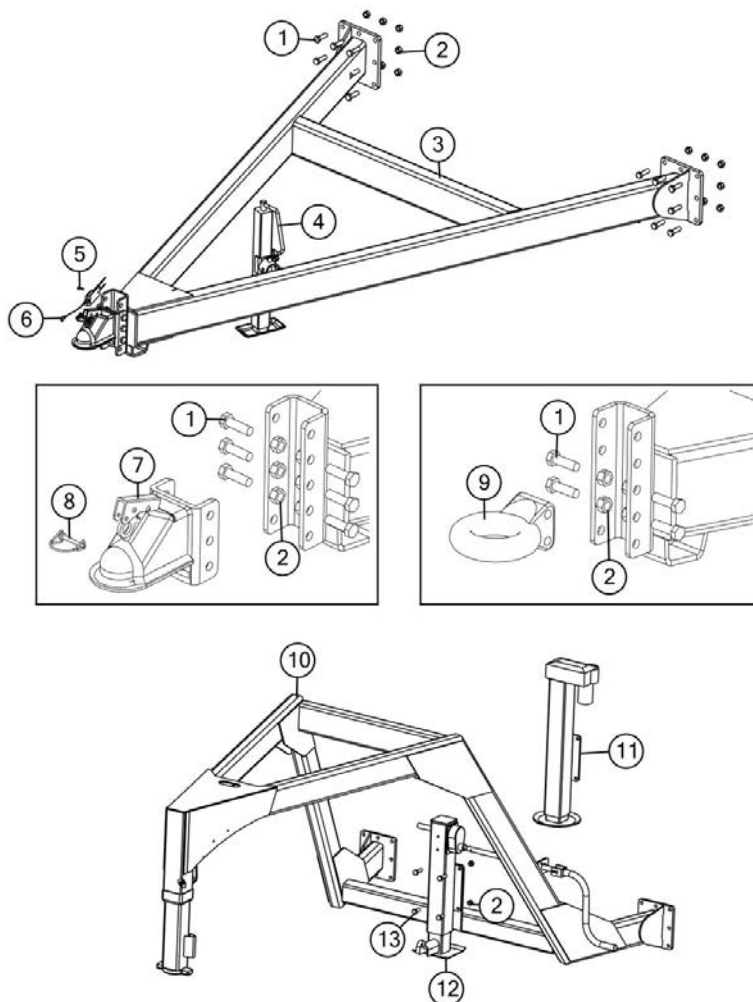


**5.3 Chassis Parts**

#	Description	Part. No.
1	510 Chassis Frame Weldment	JM0025839
2	16K Akle w/ Springs	JM0025808
3	New 215/75R17.5 Spare Tire & Wheel (Dual)	JM0026074
4	5/8"-11 x 2" Gr8 Z Hex Bolt	JM0001771
5	Wiring Hanger Tab (Seed Tender Chassis)	JM0002346
6	5/8"-11 Gr2 Z Centerlock Hex Nut	JM0002146
7	1"-8 x 6-1/2" Gr5 Z Hex Bolt	JM0014192
8	1"-8 Gr2 Z Centerlock Hex Nut	JM0002149
9	3/4"-10 x 4-3/4" Gr5 Z Hex Bolt	JM0041868
10	3/4"-10 Gr2 Z Centerlock Hex Nut	JM0002147

## 5.0 Parts

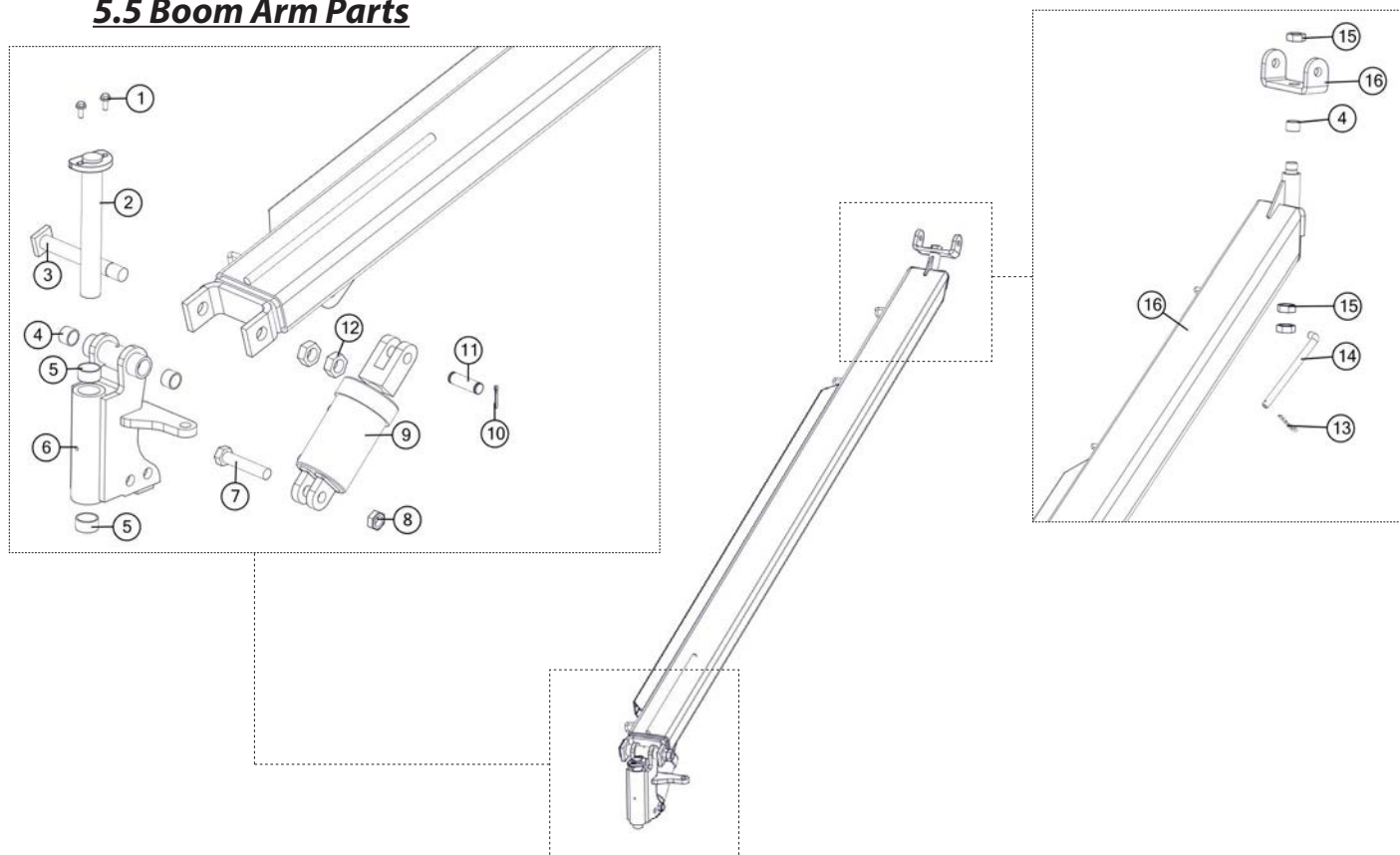
### 5.4 A-Frame Parts



#	Description	Part. No.
1	5/8"-11 x 2" Gr8 Z Hex Bolt	JM0001771
2	5/8"-11 Gr5 Z Centerlock Hex Nut	JM0002146
3	A-Frame Weldment	JM0002481
4	Jack Stand w/ Lynch Pin	JM0001480
5	1/4" x 3/4" Self Tapping Screw	JM0001570
6	Break Away Switch	JM0001843
7	2-5/16" Ball Coupler (21,000 Lbs)	JM0001893
8	1/4" x 1-3/4" Lynch Pin	JM0001478
9	Lunette Eye Hitch	JM0015884
10	Gooseneck Frame Weldment	JM0029497
11	Electric Jack	JM0016152
12	Seed Tender Gooseneck Jack	JM0007078
13	5/8"-11 x 1-3/4" Gr5 Z Hex Bolt	JM0016681

## 5.0 Parts

### 5.5 Boom Arm Parts

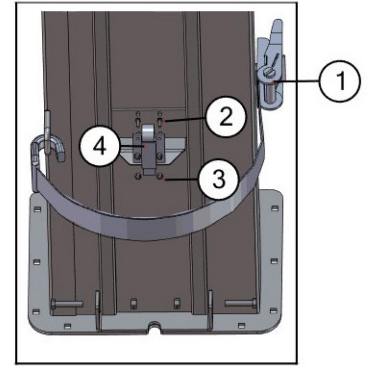
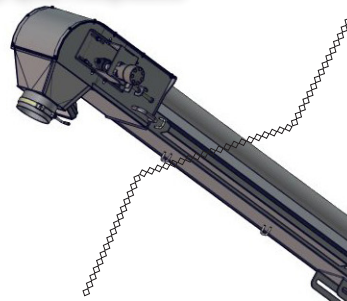


#	Description	Part. No.
1	3/8"-16 x 1" Gr8 Z SF Hex Bolt	JM0001509
2	Conveyor Swing Pin (12-1/2" x 1-3/4")	JM0002238
3	Horizontal Boom Pivot Pin (9-5/8" x 1-1/4")	JM0002456
4	1-1/4" ID x 1-1/2" OD x 1" Bronze Bushing	JM0002248
5	1-3/4" x 2" x 1" Bronze Bushing	JM0002244
6	Vertical Boom Pivot	JM0002241
7	1"-8 x 5" Gr8 Pn Hex Bolt	JM0001774
8	1"-8 Z Gr5 Hex Jam Nut	JM0001705
9	4-1/2" x 3-3/4" Hydraulic Cylinder	JM0016945
10	1-1/2" Cotter Pin	JM0015883
11	1" Cylinder Pin	JM0015882
12	1-1/4"-7 Gr5 Z Hex Nut	JM0001700
13	2-1/2" Cotter Pin	JM0001657
14	3/4" L Pin	JM0003076
15	1-1/4"-12 PN Gr5 Hex Jam Nut	JM0001606
16	Upper Boom Pivot Weldment	JM0001608

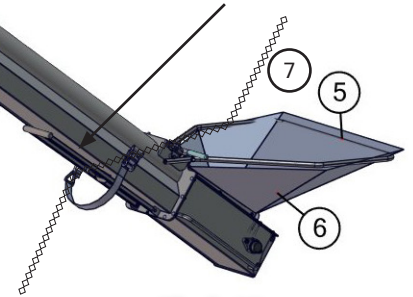
## Conveyor

### 5.6 Conveyor

Discharge Spout Components



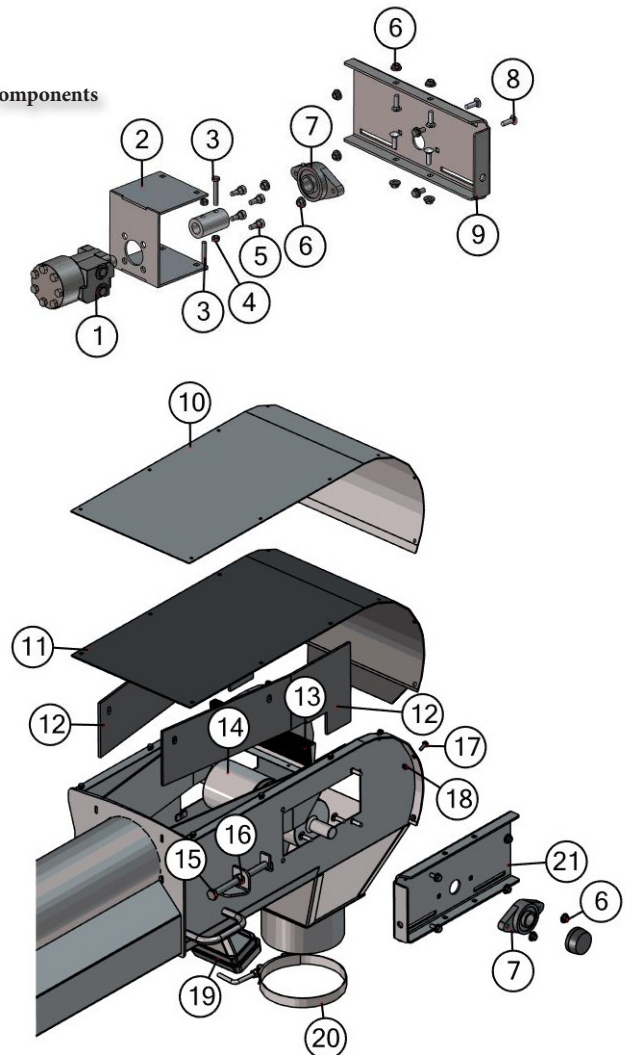
#	Description	Part. No.
1	2" Wide Ratchet 10,000 lb	JM0003084
2	#8-32 x 1/2" Slotted Hex Washer Head Machine Screw	JM0012333
3	#8-32 Z Nylon Locking Hex Nut	JM0012334
4	Leg Spring Plunger	JM0002789
5	510ST Conveyor Hopper Tube	JM0031734
6	10" tube conveyor hopper canvas	JM0031797
7	10" tube conveyor hopper cover	JM0031798



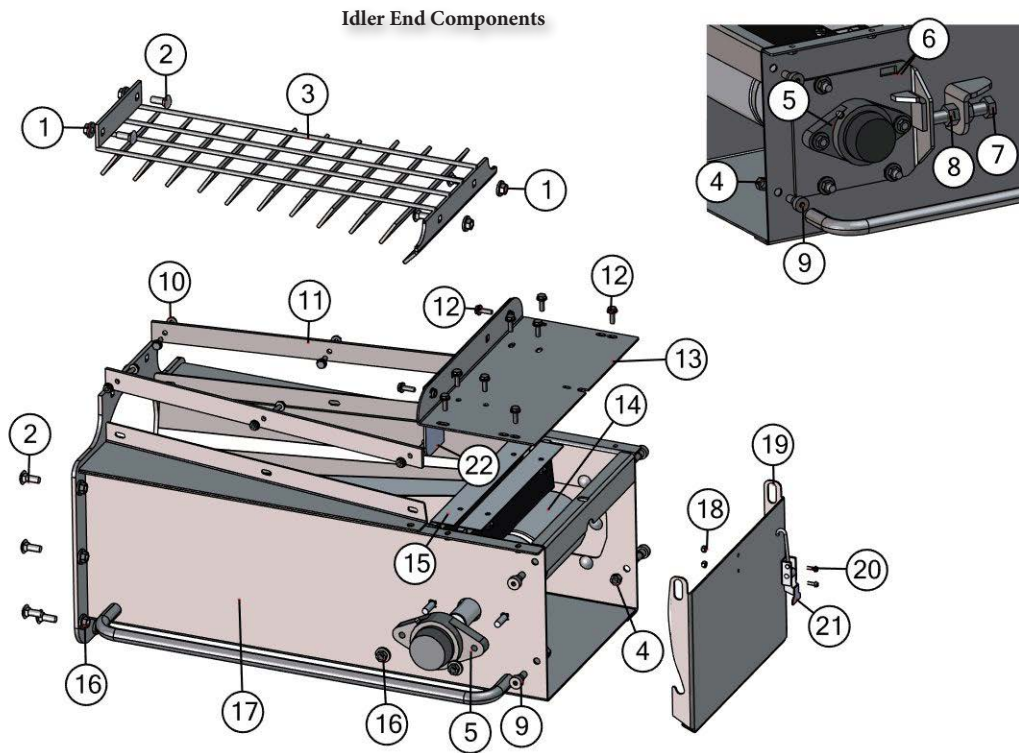
Idler End Components

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	JM0002772
11	Belt Conveyor Discharge Rubber Pad	JM0002771
12	Top Skirting	JM0021988
13	8" V-Guide Bottom Brush	JM0029585
14	Drivel Roller For V Guide Belt	JM0021425
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	8" Diameter Clamp	JM0002870
21	Bearing Mount Bracket (Left)	JM0002234



## 5.6 Conveyor

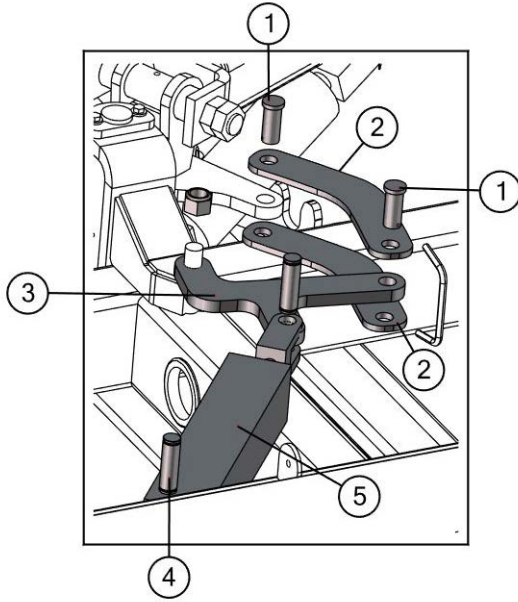


#	Description	Part. No.
1	3/8"-16 Gr5 Z SF Hex Nut	JM0002152
2	3/8"-16 x 1" Gr5 Z Carriage Bolt	JM0001632
3	Conveyor Guard Weldment	JM0002466
4	3/8"-16 Gr5 Z Centerlock Hex Nut	JM0001512
5	1-1/4" Diameter 2 Bolt Flange Bearing	JM0001811
6	Bearing Mount	JM0002199
7	5/8"-11 x 3-1/2" Gr5 Z Hex Bolt	JM0001650
8	5/8"-11 Gr5 Z Centerlock Hex Nut	JM0002146
9	1/2" Diamter x 3/8" LG Shoulder Bolt	JM0009998
10	1/4"-20 Gr5 Z SF Hex Nut	JM0001630
11	Clamp Bar - Conveyor Skirt	JM0002767
12	1/4"-20 x 3/4" Gr5 Z SF Hex Bolt	JM0001642
13	Conveyor Hopper Brush Mount	JM0027027
14	Tube Conveyor Roll, V-Guide, Idler	JM0021426
15	8" V-Guide Bottom Brush	JM0029585
16	3/8"-16 Gr5 Z SF Hex Nut	JM0002152
17	8" Tube Conveyor, V-Guide, 22ft (Lower Section)	JM0027363
18	#8-32 Z Nylon Locking Hex Nut	JM0012334
19	Cleanout Door	JM0027026
20	#8-32 x 1/2" Slotted Hex Washer Head Machine Screw	JM0012333
21	Adjustable Draw Latch	JM0010512
22	Seal - Hopper Skirt	JM0025263



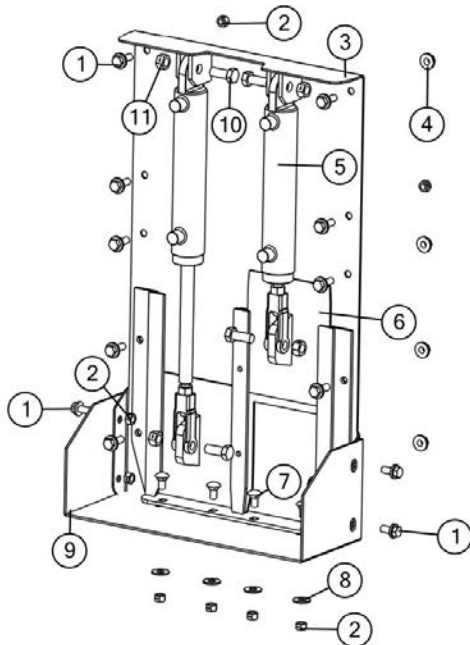
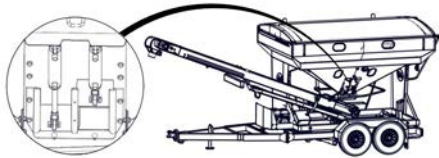
## 5.0 Parts

### 5.7 Swing Cylinder Parts



#	Description	Part. No.
1	1" x 2-1/4" Pin w/ Cotter Pin	JM0010201
2	Dual Swing Linkage	JM0002260
3	Single Swing Linkage	JM0002252
4	1" x 3.4" Clevis Pin w/ Cotter Pins	JM0001816
5	Cylinder 3" x 14" w/Pins and Clips and Fittings	JM0002261

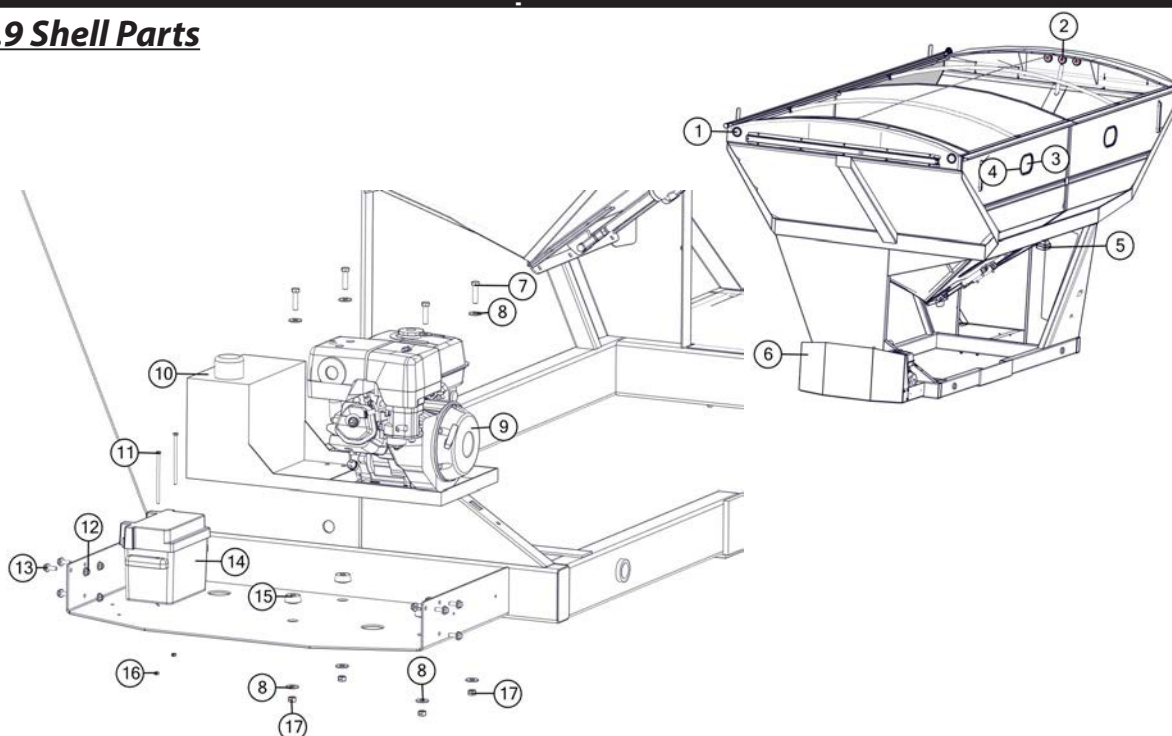
### 5.8 Hydraulic Door Parts



#	Description	Part. No.
1	3/8"-16 x 1" Gr5 Z SF Hex Bolt	JM0002092
2	3/8"-16 Gr5 Z Centerlock Hex Nut	JM0001512
3	Hydraulic Door Frame	JM0002872
4	3/8"-16 Gr5 Z SF Hex Nut	JM0002152
5	1-1/2" Bore x 7" Hydraulic Cylinder	JM0002882
6	Hydraulic Door Weldment	JM0002883
7	3/8"-16 x 3/4" Gr5 Z Carriage Bolt	JM0002172
8	3/8" Flat Washer	JM0003061
9	Rubber Chute	JM0002855
10	1/2"-13 x 1-1/4" Gr5 Z Hex Bolt	JM0001513
11	1/2"-13 Gr5 Z Centerlock Hex Nut	JM0001511

## 5.0 Parts

### 5.9 Shell Parts

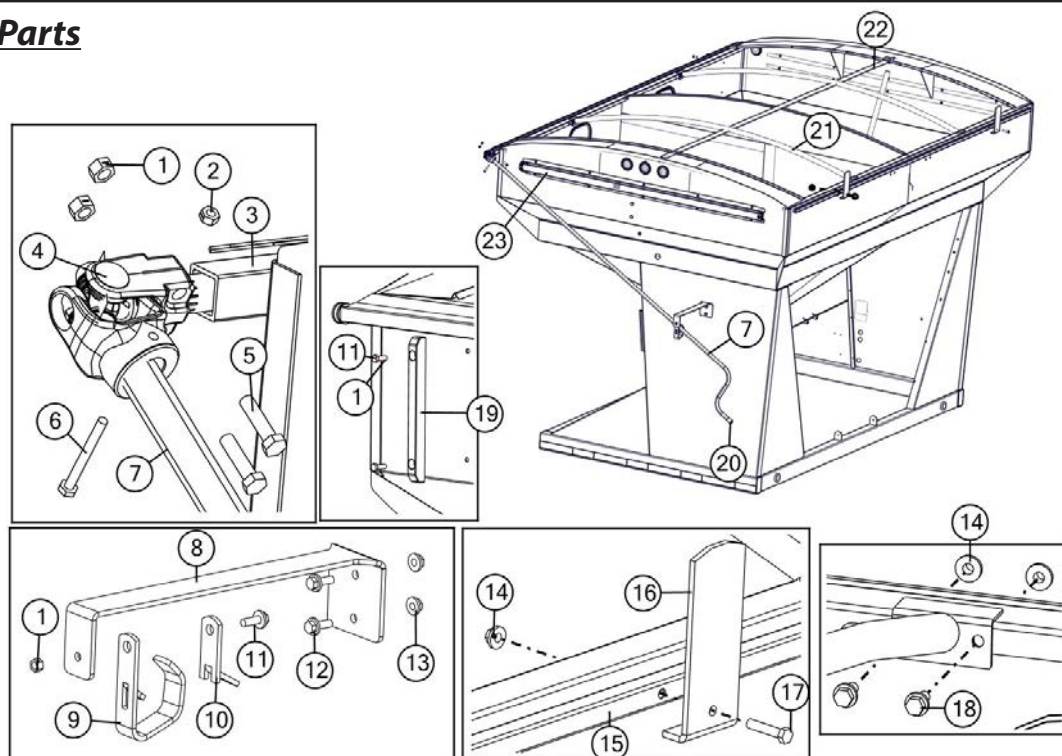


#	Description	Part. No.
1a	Amber Round Light Assembly	JM0001908
1b	Amber Round Light	JM0001895
1c	Round Light Grommet	JM0001902
2a	Red Round Light Assembly	JM0001905
2b	Red Round Light	JM0001901
2c	Round Light Grommet	JM0001902
3	Oval Window Grommet	JM0002454
4	Oval Window	JM0002455
5	Field Light Assembly	JM0001881
6	Hydraulic Power Unit Panel	JM0000327
7	1/2"-13 x 2" Gr8 Z Hex Bolt	JM0001620
8	1/2" USS Flat Washer	JM0003082
9	Speed Tender-Honda GX340 Engine	JM0001749

#	Description	Part. No.
10	Hydraulic Power Unit	JM0003027
11	1/4"-20 x 5-1/2" Gr5 Z Hex Bolt	JM0025773
12	3/8"-16 Gr5 Z SF Hex Nut	JM0002152
13	3/8"-16 x 1" Gr5 Z SF Hex Bolt	JM0002092
14	Battery Box	JM0001846
15	Neoprene Vibration Damping Mount	JM0001869
16	1/4"-20 Gr5 Z Centerlock Hex Nut	JM0001505
17	1/2"-13 Gr5 Z Centerlock Hex Nut	JM0001511
18	Motor Key (Not Shown)	JM0033534
19	Hydraulic Oil Filter (Not Shown)	JM0033705
20	Fuel Filter Basket (Not Shown)	JM0033704
20	3/8"-16 x 1" Gr5 Z SF Hex Bolt	JM0002092

## 5.0 Parts

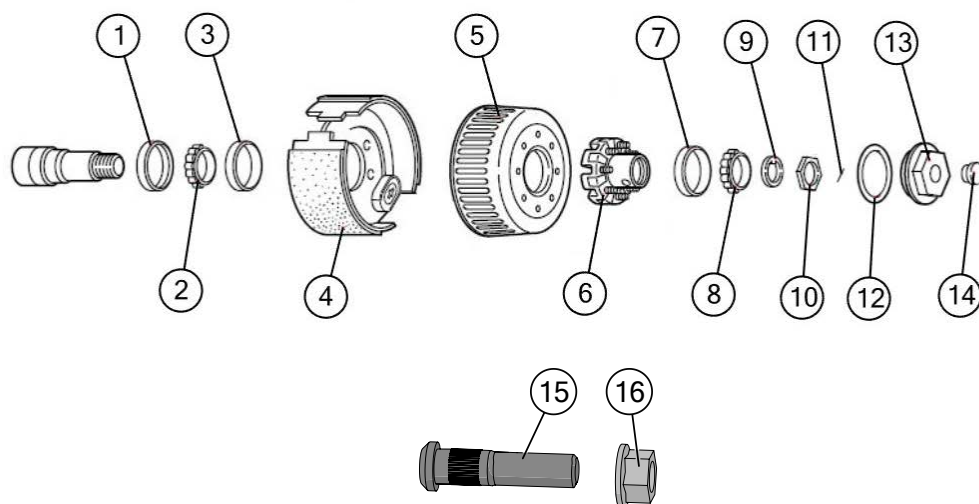
### 5.10 Roll Tarp Parts



#	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	JM0007041
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	JM0002903
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	JM0007469
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 - 92-1/4" Long	JM0010073
22	Strap for Tarp	JM0010074
23	Spring Return Assembly	JM0002437
24	Spring Return Cable (Not Shown)	JM0010307

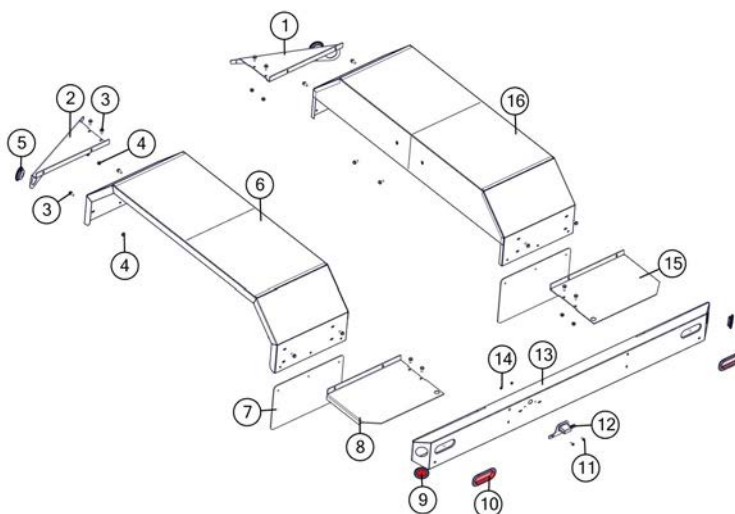


### 5.11 Hub Assembly



#	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

### 5.12 Fender Parts



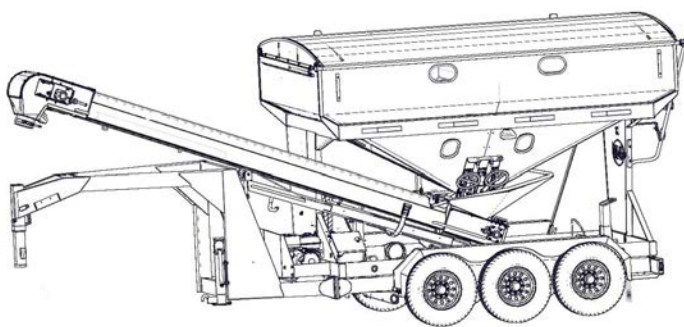
#	Description	Part. No.
1	Front Passenger Side Fender Step	JM0026994
2	Front Drivers Side Fender Step	JM0026842
3	3/8"-16 x 1" Gr5 Z SF Hex Bolt	JM0002092
4	3/8"-16 Gr5 Z SF Hex Nut	JM0002152
5	Amber Round Light	JM0001908
6	Fender Weldment	JM0027229
7	510 Mud Flap	JM0036332
8	Rear Fender Step Drivers Side	JM0026846
9	Red Round Light	JM0001905
10	Red Oval Brake Light	JM0001903
11	1/4"-20 x 3/4" Gr5 Z SF Hex Bolt	JM0001642
12	Lisence Plate Holder	JM0016084
13	Rear Bumper Weldment	JM0026933
14	1/4"-20 Gr5 Z SF Hex Nut	JM0001630
15	Rear Fender Step, Drivers Side	JM0026997
16	Fender Weldment	JM0027229



## 5.0 Parts

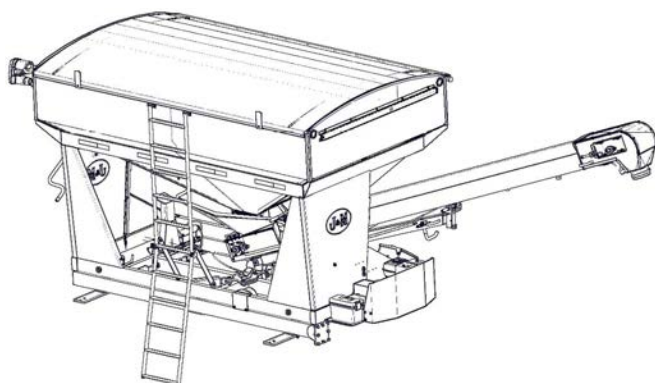
### 5.13 Available Options

Item #	Description	Product #
1	Gooseneck Frame and Hitch Assembly in place of standard A-Frame	375ST-GNO
2	5th Wheel Hitch on Gooseneck Frame Assembly in place of standard Truck Hitch. Includes 7-way Flat to 7-Way Round Adapter	375ST-5WH
3	Trailer Mount Kit in place of Standard Chassis (Deluxe All-Function Wireless Remote Control Option Recommended)	375ST-TM
See Section 4.3	Factory Installed Electronic Scale Package	375STWS
4	Roll Printer for Scale System	WTPR-1
5	New 235/85R16 Spare Tire and Wheel with Mounting Hardware (mounted to inside leg of tank)	ST235-16TW
6	36" Long Flexible Hose for End of Telescoping Spout	ST375FH-36
7	Vinyl Sock for End of Telescoping Spout	ST375SK
See Section 4.1	Deluxe All-Function Remote Control (with cord) in place of standard control. Features include handheld remote to hydraulically open/close tank doors, raise/lower boom and start/stop the auger or conveyor.	SPT-AF1
See Section 4.1	Deluxe Wireless Remote Control in place of standard control. Features include handheld remote to hydraulically open/close tank doors, raise/lower boom, start/stop the auger or conveyor, hydraulically rotate auger or conveyor, and automatic electronic scale shut-off for precise unloading.	SPT-WC1-D

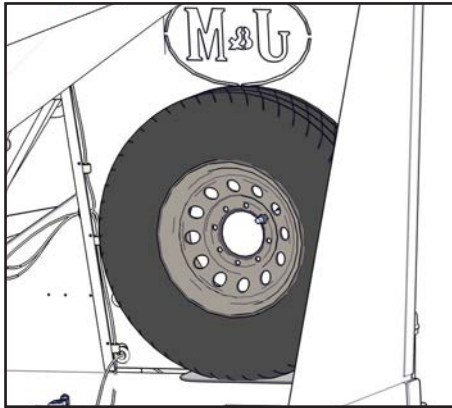


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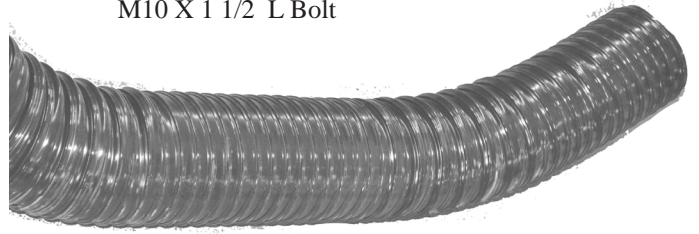
3 4



## 5.0 Parts



Includes 6" Dia. Clamp with  
M10 X 1 1/2 L Bolt



5	6
7	8/9

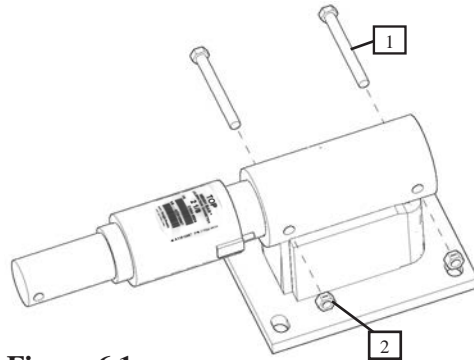


## 6.0 Aftermarket Installation Instructions

### 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).

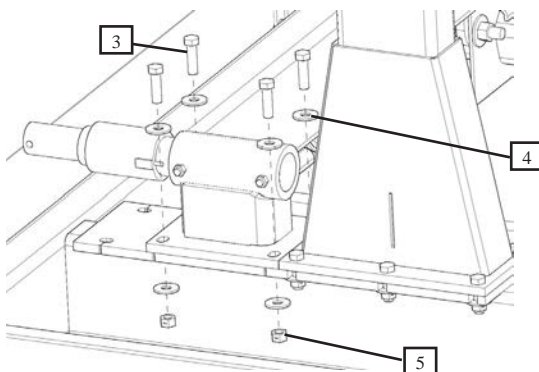


**Figure 6.1**

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).

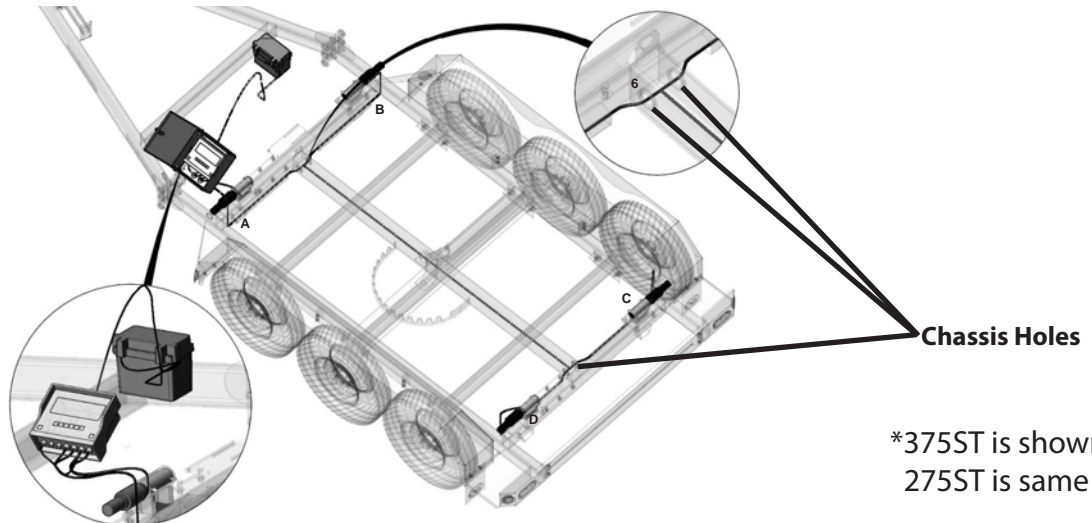


**Figure 6.2**

## 6.0 Aftermarket Installation Instructions

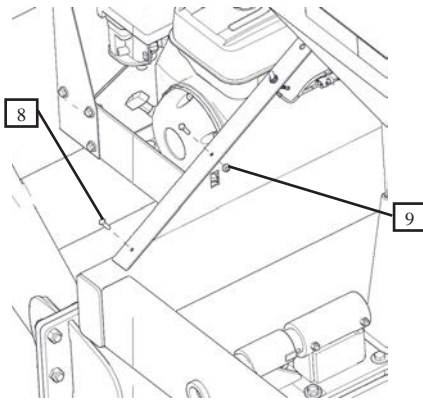
9. Remove the four 1 3/8" grommets located in the four chassis holes (Figure 6.3)
10. Slide one grommet on to each of the weigh bar wires of B,C, and D. (Figure 6.3)
11. Route each wire from B,C and D so they exit chassis hole (Figure 6.3).
12. Slide the grommet from chassis hole over the wires from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

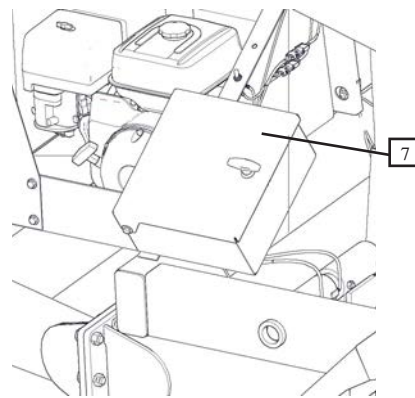


**Figure 6.3**

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**

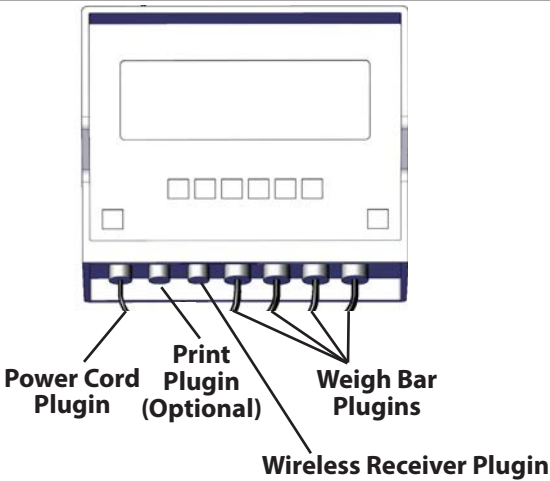
16. Insert the four wires from the weigh bars into the back of the scale indicator box. Insert weight bar wires through each grommet.
17. Remove the Back Plate from the 640XL Display Interface (Figure 6.6). Save the nuts and lock washers from the 640XL Display Interface.
18. Insert the 640XL Display 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



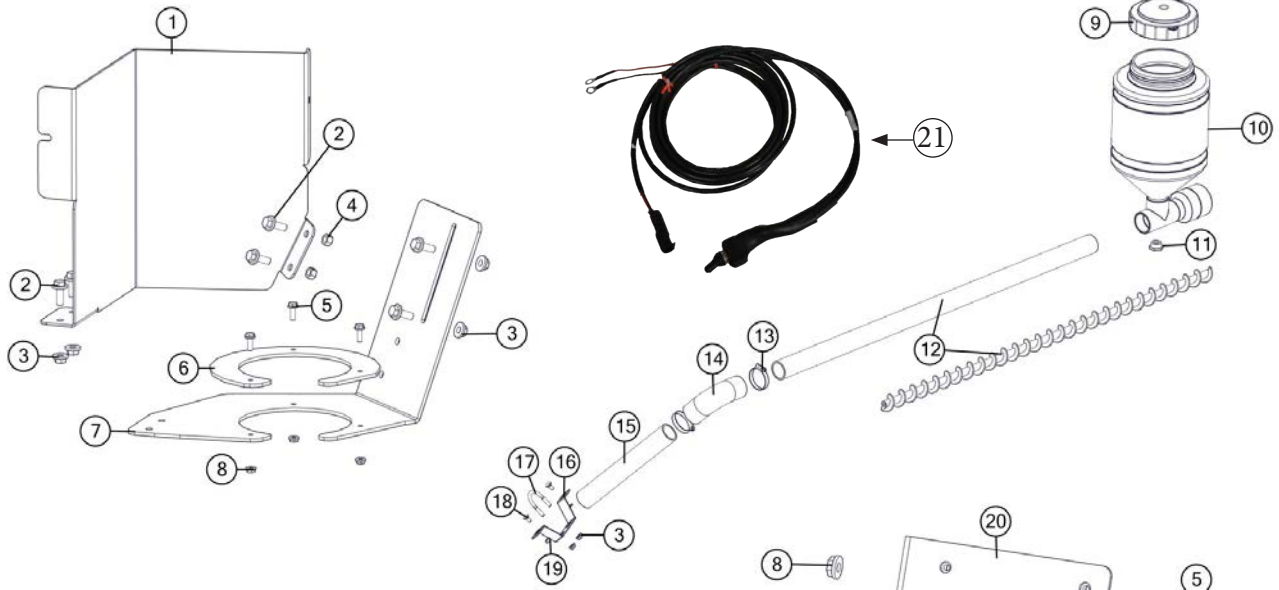
### Figure 6.7

## NOTES

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## 6.0 Aftermarket Installation Instructions

### 6.2 Talc Applicator Parts



#	Description	Part. No.
1	Tank Saddle	JM0029359
2	3/8" - 16 x 1" Gr5 Z SF Hex Bolt	JM0002092
3	3/8" - 16 Gr5 Z SF Hex Nut	JM0002152
4	3/8" - 16 Gr5 Z Centerlock Hex Nut	JM0001512
5	1/4"-20 x 3/4" Gr5 Z SF Hex Bolt	JM0001642
6	Black UHMW	JM0029386
7	Talc Hanger Plate	JM0029084
8	1/4"-20 Gr5 Z SF Hex Nut	JM0001630
9	Lid	JM0018071
10	Talc Applicator Power Unit w/ Variable Speed Dial	JM0031238
10	Talc Applicator Power Unit (no dial)	JM0031246
11	Talc Hole Cap Cleanout Port	JM0030546
12	Pro Box Pipe & Auger Kit	JM0031259
	2" x 16" PVC	JM0025294
	18" Auger	JM0029765
12	275ST Pipe & Auger Kit	JM0031257
	2" x 44" PVC	JM0030522
	46" Auger	JM0031254
12	375ST Pipe & Auger Kit	JM0031256
	2" x 55" PVC	JM0030521
	57" Auger	JM0031253
13	Screw Clamp For Rubber Boot	JM0030547
14	Rubber Elbow	JM0030528
15	2 Inch PVC Pipe 16 Inch	JM0025294
16	Talc Tube U-Bolt Brace	JM0026471
17	3/8" Round U-Bolt	JM0000351
18	3/8" - 16 x 3/4" Gr5 Z Carriage Bolt	JM0002172
19	3/8" - 16 Gr5 Z Centerlock Hex Nut	JM0001512
20	Onboard Control Bracket	JM0029641
21	Toggle Switch	JM0032074
22	Onboard Switch Assembly/Harness without Variable Speed (2014 & Older)	JM0029926
22	Onboard Switch Assembly/Harness w/Variable Speed (2015 & Newer)	JM0031012
22	Onboard Switch Assembly/Harness Pro Box w/Variable Speed	JM0029221

