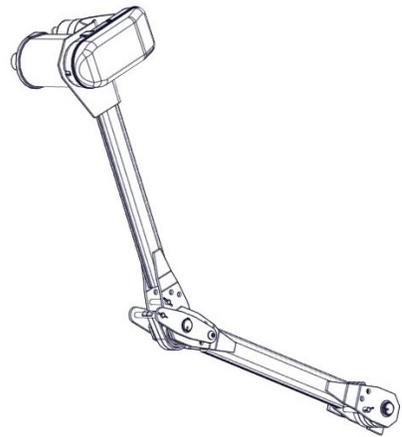


OPERATORS MANUAL



**Speed Tender
Electric Roll Tarp**



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To The Dealer

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

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

EXPRESS WARRANTY:

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

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

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

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

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

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

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

SERVICE:

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

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

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

Model No: Speed Tender Electric Roll Tarp **Serial No:** _____ **Date of Purchase:** _____

Purchased From: _____

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

TO THE OWNER:

The purpose of this manual is to assist you in operating and maintaining your Speed Tender Electric Roll Tarp 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.

Bolt Torque Chart

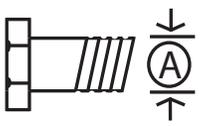
Always tighten hardware to these values unless a different torque or tightening procedure is listed for specific application.

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

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

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

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



SAE SERIES TORQUE CHART



SAE Grade 2
(No Dashes)

SAE Bolt Head
Identification

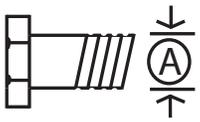


SAE Grade 5
3 Radial Dashes



SAE Grade 8
6 Radial Dashes

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



METRIC SERIES TORQUE CHART



8.8
Metric
Grade 8.8

Metric Bolt Head
Identification



10.9
Metric
Grade 10.9

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

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.
- 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

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. Travel speeds should be such that complete control and machine stability is maintained at all times. Where possible, avoid operating near ditches, embankments and holes. Reduce speed when turning, crossing slopes and rough, slick or muddy surfaces.
5. Collision of high speed road traffic and slow moving machines can cause personal injury or death. On roads, use flasher lights according to local laws. Keep slow-moving-vehicle emblem visible. Pull over to let faster traffic pass.
6. Make sure that the implement is fastened securely to the tractor /truck by using the proper hitch pin, clip and safety chains.
7. Before unhooking the implement from the towing unit, be sure to properly block the wheels to prevent the implement from moving.
8. Never overload the wagon. Overloading the wagon is dangerous and can cause extensive damage. Never add more sideboards to the gravity box than what is recommended, as the box is not designed to carry the additional weight. Do NOT exceed speeds in excess of 20 MPH. Rim, hubs and bearings are designed for heavy loads at slow speeds. Also be sure slow moving vehicle emblem is attached to the rear of the wagon.
9. **IMPORTANT:** Use caution when transporting. Be alert of the transport unit's overall width when approaching obstacles, such as post signs and poles, along the road. Check the transport width of the unit to ensure clearance before entering bridges.
10. Do not allow anyone to stand between tongue or hitch and towing vehicle when backing up.
11. Choose the most level route possible when transporting across fields.
12. Never adjust, service, clean, or lubricate speed tender until all power is shut off.
13. Keep all safety shields in place. Keep hands, feet, hair, and clothing away from the moving parts while the unit is in operation.
14. The service ladder is for service work only. If you must climb into the grain tank, be certain that all power is shut off and then use extreme caution when climbing into the grain tank. Never allow anyone in, near or on the speed tender during transporting or unloading grain. Moving grain is dangerous and can cause entrapment, resulting in severe injury or death by suffocation.
15. Make sure that everyone is clear of equipment before applying power or moving the machine.

14. COMPLY WITH ALL SAFETY WARNINGS AND CAUTIONS IN THIS MANUAL AND IN THE PLANTERS OPERATORS MANUAL WARNING: BE SURE ALL LIGHTS ARE WORKING PROPERLY BEFORE HIGHWAY TRAVEL.

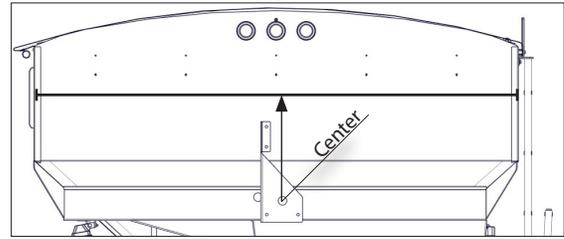
Set-up Instructions

NOTE: The left and right side of the Speed Tender is determined by standing behind and facing the rear of the Speed Tender.

Install the Mounting Bracket

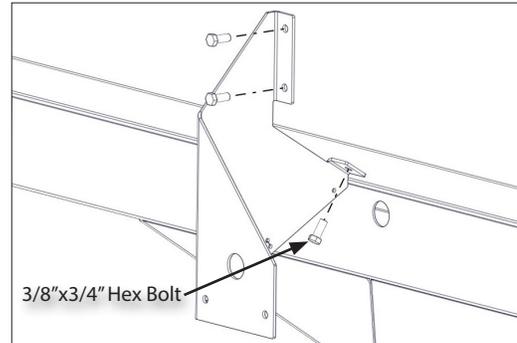
For Models 290 and 390

- Line up the big hole of the Mounting Bracket with the center of the Speed Tender Tank. Mark and drill the (3) holes using a 13/32" drill bit.
- Attach the Mounting Bracket using (3) 3/8" x 3/4" SF hex bolts and SF hex nuts.



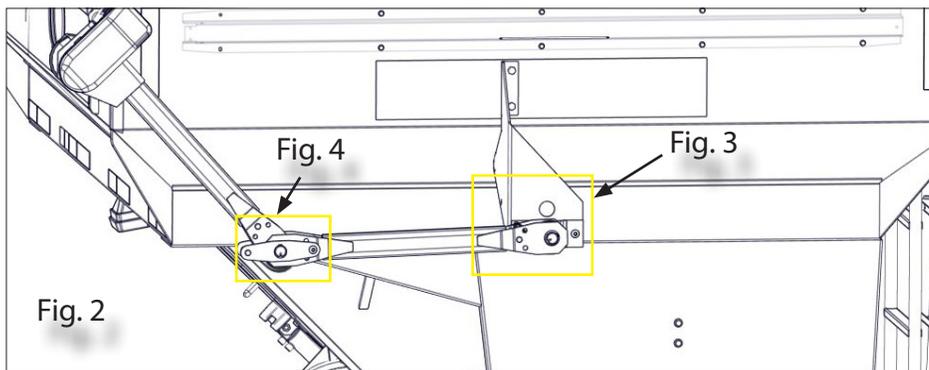
For Model 535

- Attach the Mounting Bracket to the Electric Tarp Mount using (4) 1/2" x 1-1/4" hex bolts and (4) 1/2" SF hex nuts.
- Insert a 1-1/2" x 3/16" grommet into the big center hole of the mounting bracket.



Install the Arm Assembly

NOTE: If installed, remove the Spring Return from the rear of the Speed Tender and plug the holes with (10) 1/4" x 3/4" SF hex bolts and SF nuts.



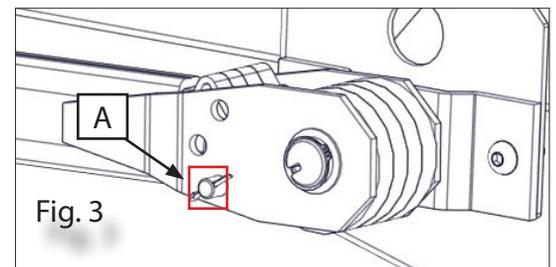
- Before attaching the Arm Assembly to the Speed Tender install the spring pins.

NOTE: Make sure the base of the Arm Assembly (Figure 3) has (2) springs installed. Also make sure the middle of the Arm Assembly (Figure 4) has (1) spring installed.

- Insert the medium length Spring Pin from the back of the Arm Assembly into the bottom hole A of the base.

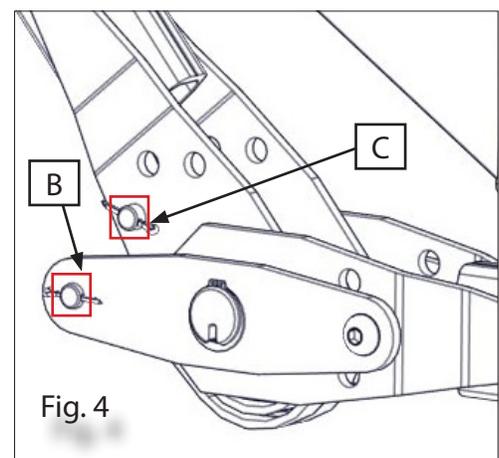
NOTE: Make sure that both of the springs rest on top of the pin.

- Place (2) 1/2" Flat Washers on the end of the Spring Pin and insert the Cotter Pin. (Figure 3)



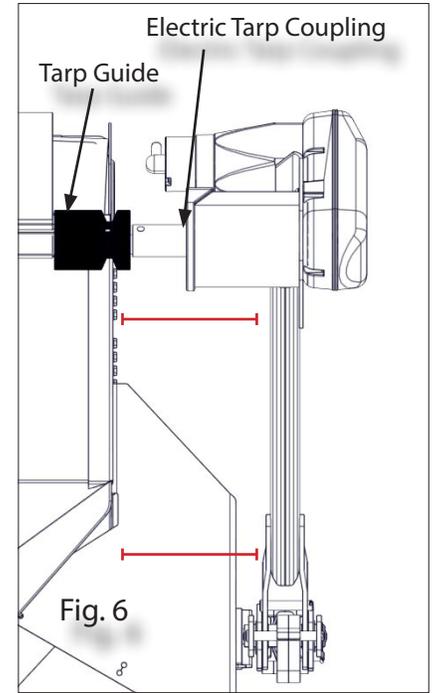
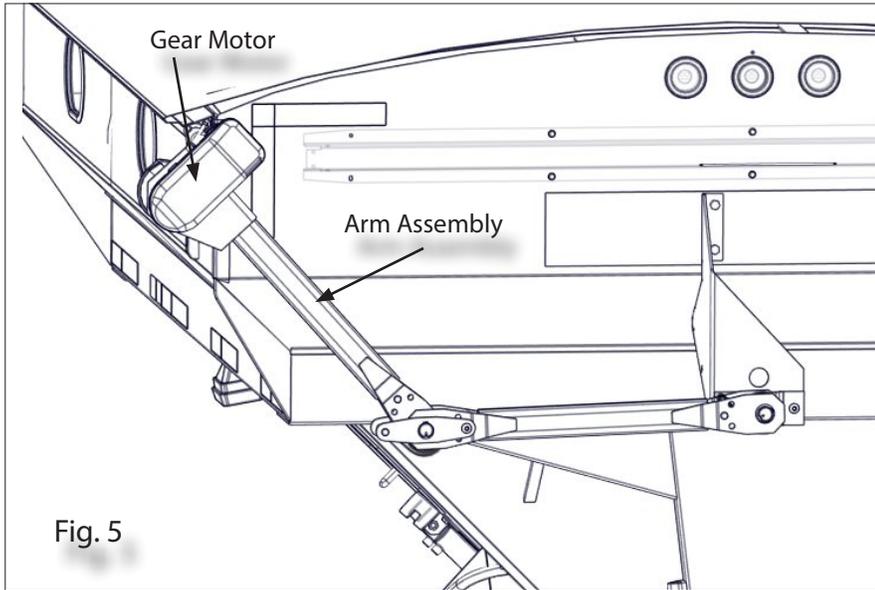
- Insert the longest Spring Pin from the back of the Arm Assembly into hole B and insert the cotter pin. (Figure 4)
- Insert the shortest Spring Pin from the back of the arm assembly into hole C and install the cotter pin. (Figure 4)

NOTE: Make sure that the spring rest on top of the pin in hole C.



Set-up Instructions

- Attach the Gear Motor to the Arm Assembly as shown in Figure 5 using (6) 5/16 bolts.
- Install the Electric Tarp Coupling on the Gear Motor using a 5/16" x 2-1/2" hex bolt and lock nut.
- Mount the Arm Assembly on the Mounting Bracket using (2) 1/2" x 1-1/4" bolts and SF hex nuts.
- Insert the spline end of the Roll Tarp Tube into the Gear Motor. Make sure that Assembly Arm is parallel to the side of the shell. (Figure 6)
Note: Make sure to keep the Tarp Guide in place when installing the Gear Motor.
(Figure 6)
- Using the hole in the Electric Tarp Coupling drill a 1/4" hole through the spline and attach the motor using a 1/4" x 2-1/2" hex bolt and lock nut.



Installing the Switch Plate Bracket

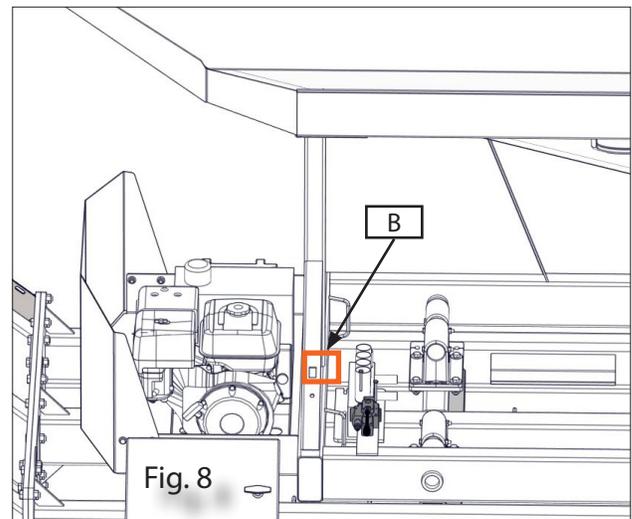
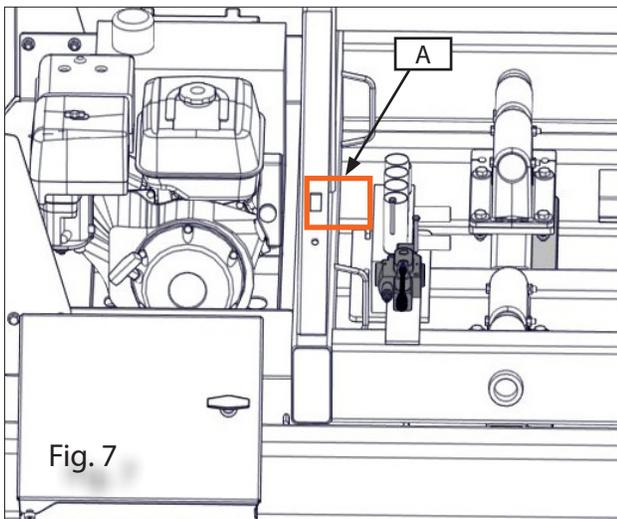
For Models 290 and 390

NOTE: If there is a work light switch in hole A, move the switch to the top hole and proceed with installation.

- Using the Switch Plate Bracket as a template line up the top hole with the hole marked A in Figure 7 and drill a 13/32" hole for the bottom hole of the Switch Plate Bracket. Attach the Switch Plate Bracket using (2) 3/8" x 3/4" SF hex bolts and nuts.

For 535 Model

- Place the Switch Plate Bracket in position B as shown in Figure 8. Using the Switch Plate Bracket as a template Drill (2) 13/32" holes and attach using (2) 3/8" x 3/4" SF hex bolts and nuts.
- Install the switch and 35 amp manual reset breaker.



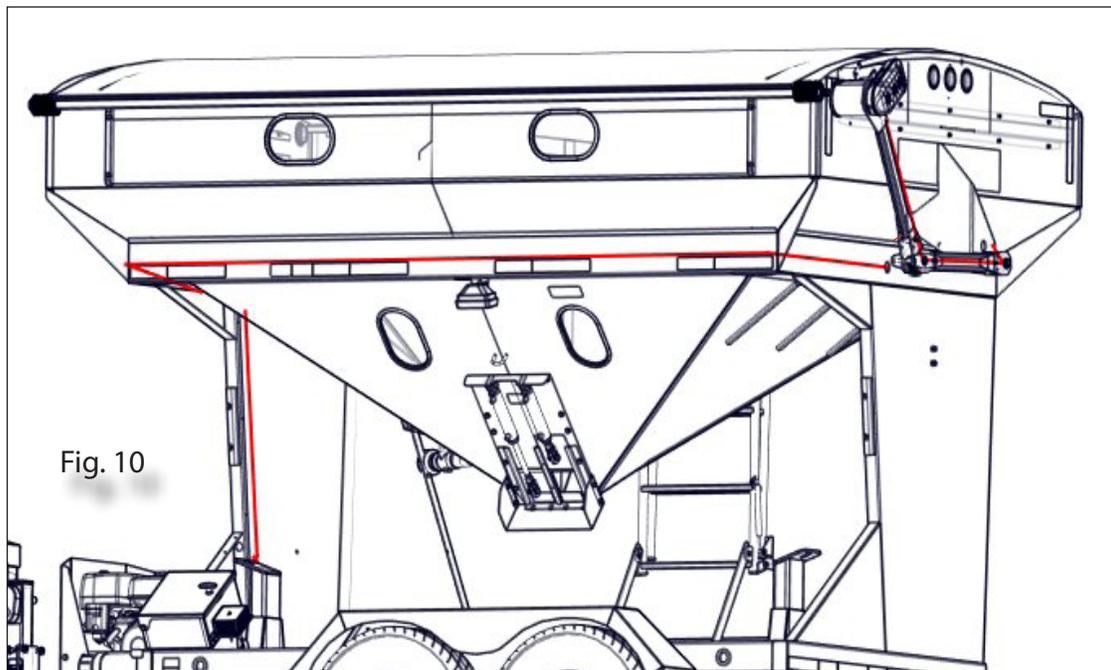
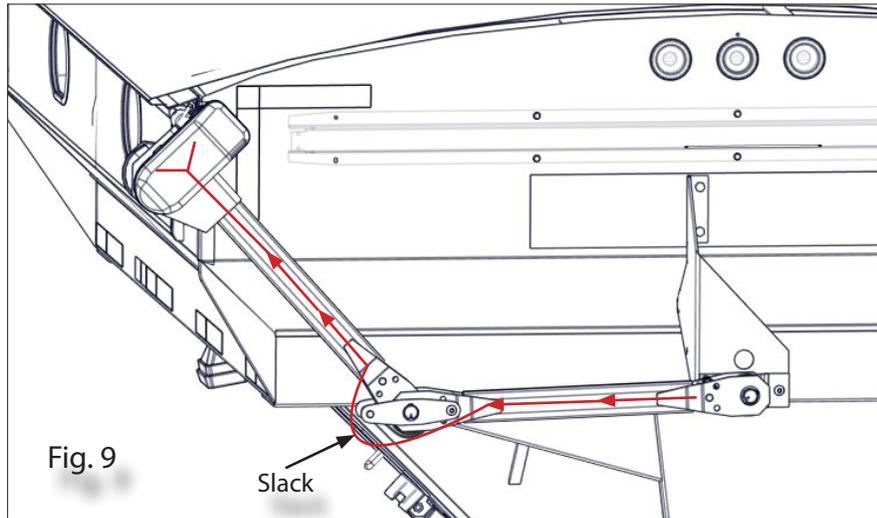
Set-up Instructions

Wiring

- Run the end of the black and white Power Cable, which already has the Eyelets installed, through the Arm Assembly as shown in Figure 9. Attach the white wire to M1 of the motor and the black wire to M2.

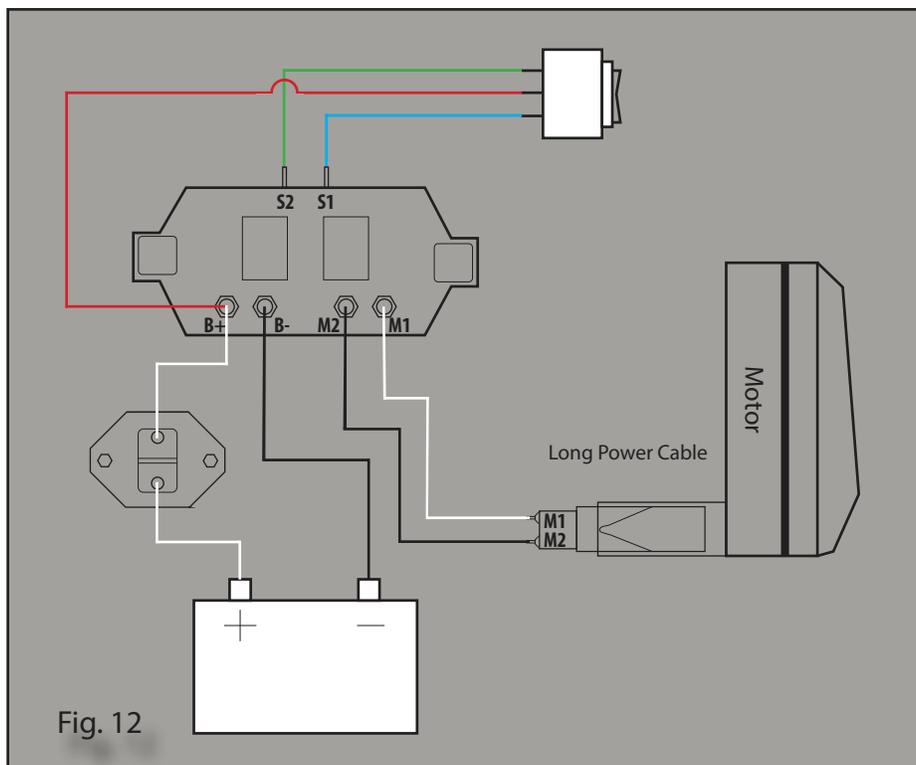
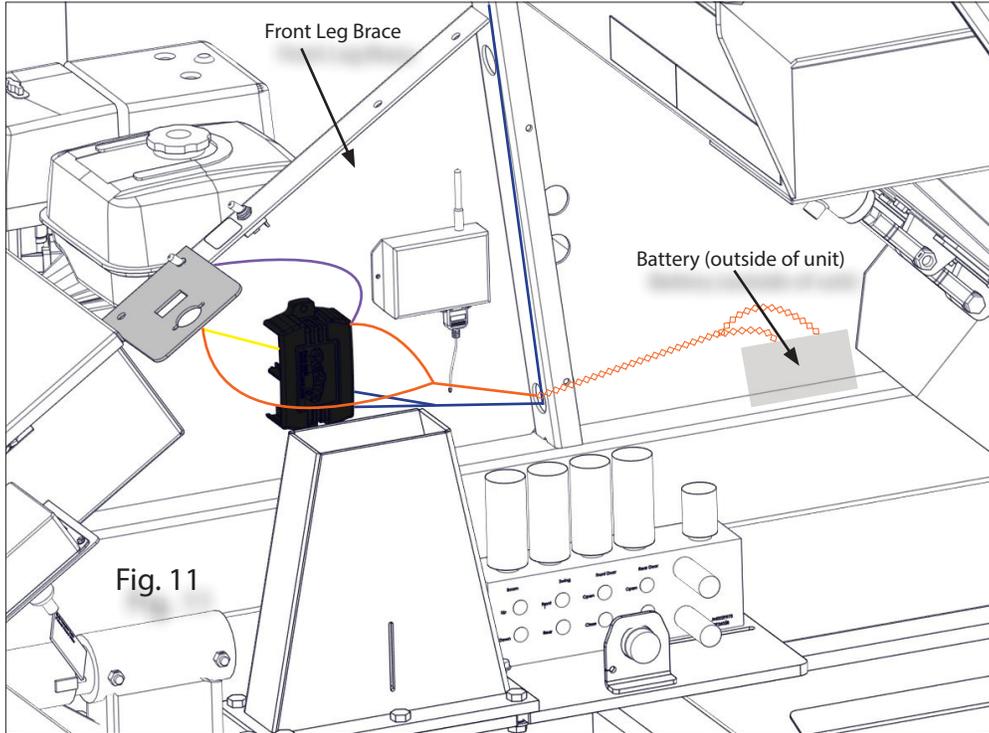
NOTE: Make sure to leave enough slack in the power cable so it can move freely when the Arm Assembly is in motion.

- Attach the Power Cable to Mounting Bracket using (3) zip ties and run it through the Shell Support Rails as shown in Figure 10.
- Cut off a 5' section from the front end of the Power Cable and then another 1 1/2' section. (The end of the cable without the eyelets).



Set-up Instructions

- Separate the black and white wires of the 5' section of Power Cable slide a Rubber Cap on to one of the wires and crimp (4) 3/8" Eyelets to all of the ends.
- Separate the black and white wires of the 1-1/2' Power Cable and discard the black wire. Using the white wire slide on a Rubber Cap and then crimp a 3/16" Eyelet on that end. Crimp a 3/8" Eyelet to the other end.
- Crimp (3) Pink Spade connectors on one end of the supplied red, green, and blue 3 Wire Segment. On the other end crimp (2) Blue 90 Degree Spade Connectors to the blue and green wires. On the red wire crimp a 3/8" Eyelet.
- On the long Power Cable running from the Roll Tarp Gear Motor crimp (2) 3/16" Eyelets to the black and white wires.
- Run the 5' Power Cable through the bottom hole of the front leg to the battery. (Figure 11)
- Make the connections following the schematic in Figure 12.
- Using the Motor Reversing Relay as a template drill (2) 1/4" holes in the front leg brace and install using (2) 1/4" x 1" bolts and SF hex nut (Fig. 11).



Troubleshooting

Problem	Solution
Roll tarp is not moving.	Check the manual reset breaker and reset if necessary.
The roll tarp is not moving in the right direction.	Make sure that the Unit is wired according to the schematic in figure 11.