PATRIOT™

Patriot 100
2 Box Conveyor Seed Tender™
Operator's Manual

Manufactured by
Minden Machine Shop Inc.
1302 K Road
Minden, NE 68959
308-832-0220

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INTRODUCTION

Thank you for choosing the Patriot Seed Tender delivery system. This manual covers the operation and maintenance of the Patriot Seed Tender. All information in this manual is based on the latest production information available at the time of printing. For the latest version of this catalog please call: 1-308-832-0220 or visit www.patriotequip.com

Please become familiar with all safety, operating, maintenance and troubleshooting information. This will ensure your safety and long life for the system.

Minden Machine Shop Inc. reserves the right to make changes at any time without notice and without incurring any obligation.

Purpose:

The Patriot Seed Tender serves as a bulk transfer system for seed and other dry flowable products. It allows the user to move their product from point A to point B via the Patriot Seed Tender on a trailer. This process accelerates delivery and handling time. For example: a mini bulk bag weighing from 1,000 to 3,000 lbs., can be emptied into the Patriot Seed Tender in seconds, the equivalent when transferred in 50 lb. bags would take 20 minutes. The Patriot Seed Tender also allows you to draw seed directly from bins.

The Patriot Seed Tender, full of seed, is transferred to the location where the drill/planter is located. The user parks beside the planter/drill and uses the telescopic movable spout to load the planter/drill. The tender uses a conveyor powered by a gas motor with a clutch system to transfer the product. The conveyor is activated by a manual switch located at the end of the telescopic spout or remotely depending on the application.

Features:

1. Hopper – Designed for flow-ability in cone and proper angle of repose on top. All Patriot Seed Tenders are sized to compliment bulk bags or other measuring used in bulk handling.
2. Ground Controlled Lid – This unique design protects the seed from moisture and is easily opened and closed from the ground.
3. Roll Over Tarp Covers – Some models will use a roll over tarp cover to protect the seed from moisture. The roll over tarp cover is easily rolled and unrolled from the ground.
4. Transfer Conveyor – The transfer conveyor delivers up to 500 Bu./hr. and is very gentle on the product.
5. Ladders – Allows the user to look into the hopper and access seed boxes or seed bags.
6. Site glass – Allows you to monitor the product level within the tanks from eye level.
7. Telescopic spout – The 3-tier model allows extension of nearly 17 ft. reach, with 15 ft. lateral reach.
8. Throttle/Clutch control – The switch located at the end of the telescopic spout controls the variable speed actuator. It controls flow and stops and activates the flow without motor shutdown. The throttle can also be controlled remotely if desired.
9. Shut off gate – The feature allows you to choose which hopper you want to empty and handle different varieties of seed on the same load.

Reference Numbers and Date of Purchase

Seed Tender

Serial Number: _____

Date of Purchase: _____

Trailer

Serial Number: _____

Date of Purchase: _____

Minden Machine Shop Inc
LIMITED WARRANTY

Minden Machine Shop Inc. warrants all products manufactured by it to be free of defect in material and workmanship for a period of one (1) year from the date of purchase.

This Minden Machine Shop Inc. warranty does not cover:

1. Parts and accessories supplied by Minden Machine Shop Inc. but manufactured by others. Minden Machine Shop Inc. will facilitate the other manufacturer warranty for the benefit of the purchaser but will not be bound thereby (example: augers, motors, trailers, tanks, etc.).
2. Products that have been altered by anyone other than a Minden Machine Shop Inc. employee or are used by the purchaser, for purposes other than what was intended at time of manufacture or used in excess of the "built specifications".
3. Products that are custom manufactured by Minden Machine Shop Inc. utilizing the purchaser's design which deviates from Minden Machine Shop Inc. normal production line manufactured or customized features of the products.
4. Malfunctions or damages to the product from misuse, negligence, customer alteration, accidents or product abuse due to incoming material or poor material flow ability or lack of required performance or required maintenance (e.g., poor material flow ability caused by incoming wet fertilizer or hot soybean meal, etc).
5. Loss of time, inconvenience, loss of material, down time or any other consequential damage.
6. Product use for a function that is different than designed intent (e.g., storing soybean meal in grain bin, unacceptable material in the bin such as hot bean meal when product originally designed for other application, etc).
7. Minden Machine Shop Inc is not responsible for any equipment that this product is attached to or mounted on.

To activate this warranty, the purchaser must make contact in writing with Minden Machine Shop Inc. with in one (1) year of date of purchase. After contact, Minden Machine Shop Inc. has the right to determine the cause and qualify the legitimacy of the claim. Minden Machine Shop Inc., upon acceptance of a warranty claim, shall have a reasonable time to plan any repair or replacement and may affect repair or replacement out of its factory or through contract with a local repair service. If a purchaser after warranty notice is made, chooses to make the repair itself, Minden Machine Shop Inc. must approve any expenses before they are incurred to be responsible for customer reimbursement. Minden Machine Shop Inc. shall be liable on a warranty claim for repair or replacement of any defective products and this is the purchaser's sole and exclusive remedy. Minden Machine Shop Inc. will not be liable for any other or further remedy including claims for personal injury, property damage or consequential damage. The law of the Sate of Nebraska shall govern and any such claim and any issues with regard to the same shall be resolved in the Nebraska District Court for the county of Kearney.

RETURN OF MERCHANDISE

Merchandise may not be returned without written approval from the factory. All returns must have a return authorization number. Obtain this number before the return and show it on all return items. A 15% restocking charge is made on merchandise returned. Returned merchandise must be shipped pre-paid.

RECEIVING MERCHANDISE AND FILING CLAIMS

When receiving merchandise it is important to check both the number of parts and their description with packing slip. The consignee must make all claims for freight damage or shortage within 10 days from the date of delivery.

When the material leaves the factory it becomes the property of the consignee. It is the responsibility of the consignee to file a claim on any possible damage or loss. Please list your preferred routing on purchase orders.

MODIFICATIONS

It is the policy of Minden Machine Shop Inc. to improve its products whenever possible and practical to do so. We reserve the right to make changes, improvements and modifications at any time without incurring the obligation to make such changes, improvements and modifications on any equipment sold previously.

WARRANTY REGISTRATION

To register equipment, or file a claim, fill out the appropriate information completely, copy and email it to larry@mindenmachine.com with the subject as EQUIPMENT WARRANTY, or fill it out and fax it to 308-832-1340 or fill the form out and mail to:

Minden Machine Shop, Inc
PO Box 356
Minden, NE 68959

Dealer Information: Not Applicable, check here: [ ]

Dealer Name:

Address:

City:

State:

Zip Code:

Phone #:

Email:

End User Information:

Purchaser:

Address:

City:

State:

Zip Code:

Phone #:

Email:

Equipment:

Serial #:

Date Of Purchase: / /

Equipment:

Trailer Model Number:

Trailer VIN Number:

Date Of Purchase: / /

Dealer Name:

Please fill out the table below with the tire identification numbers located on the tires on the purchased trailer. The tire identification number is the US DOT Tire Identification Number (see pages 41 and 43 of this manual for location of number on the tire).

TIRE IDENTIFICATION NUMBERS

QTY	1	2	3	4	5	6	7	8	9	10	11	12
1												
2												
3												
4												
5												
6												
7												
8												

Please return within 14 days of purchase

WARRANTY CLAIM FILE

Please Describe the Defect:

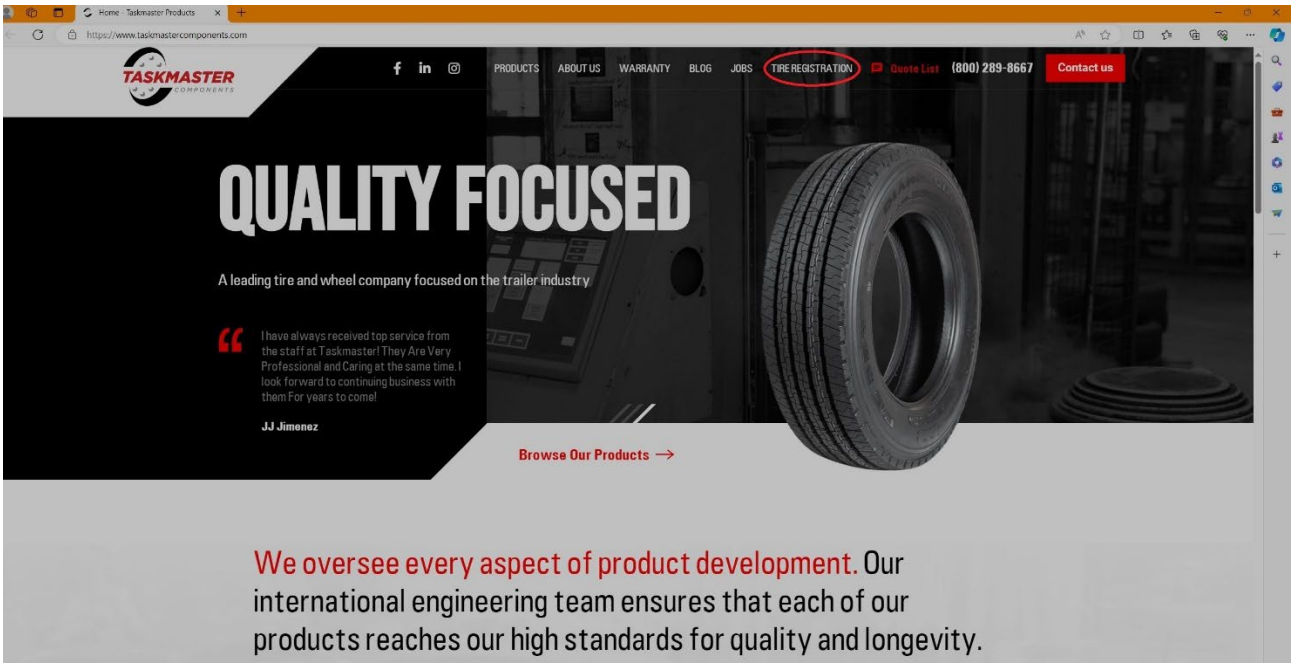
TIRE REGISTRATION – ELECTRONIC

In the event of a tire recall, it is important to have the tire purchaser's information on file to be able to replace the tires immediately. To register the tires electronically please go to the following website:

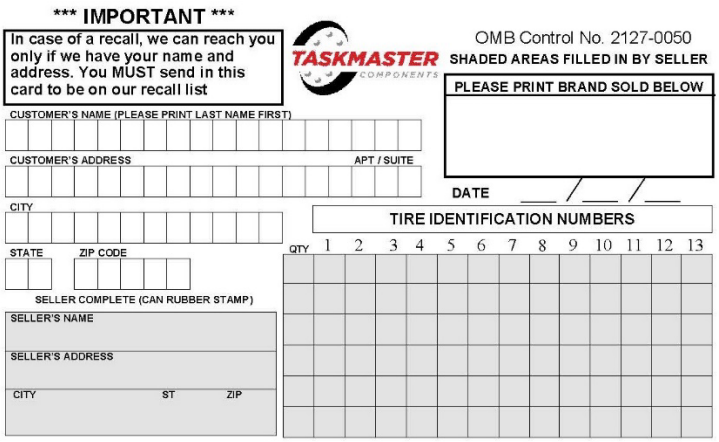
https://www.taskmastercomponents.com/

Scan the QR code to the left to be taken directly to the Taskmaster website

Once at the website, go to the "Tire Registration" tab and click on it.

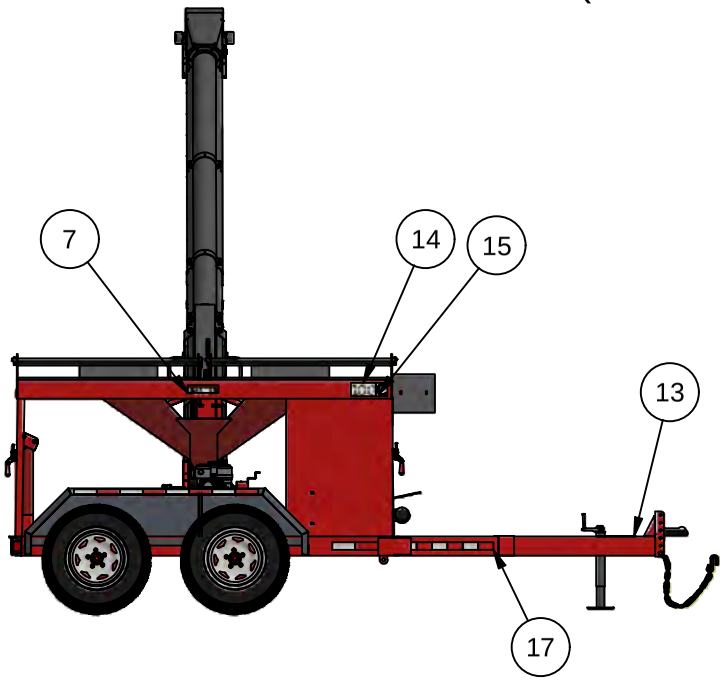


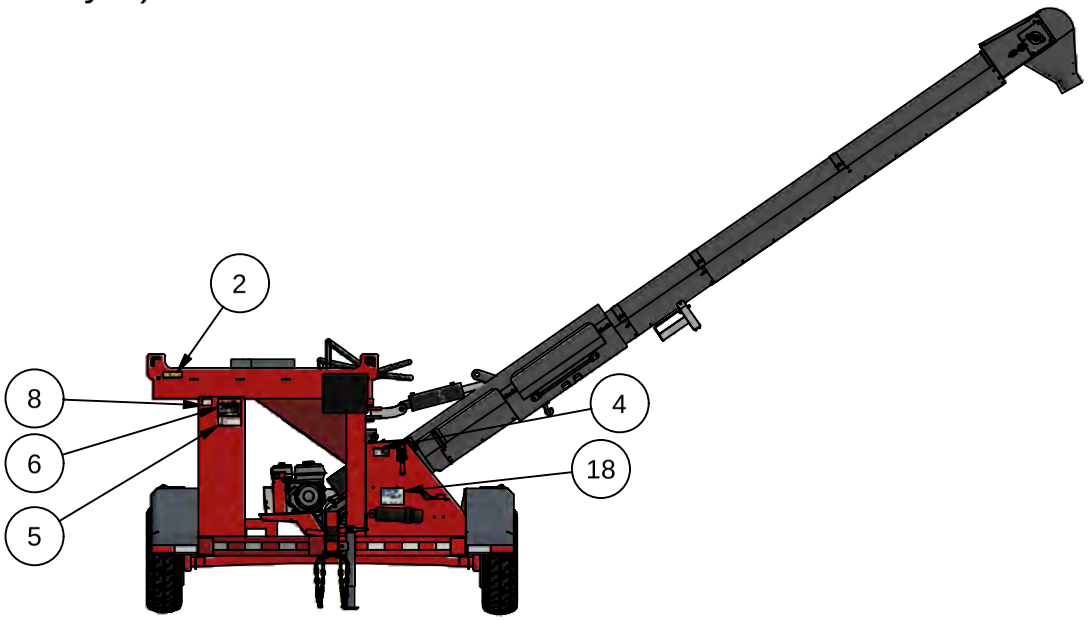
From here, you will be able to fill out the form below by answering the questions listed as A-B-C.

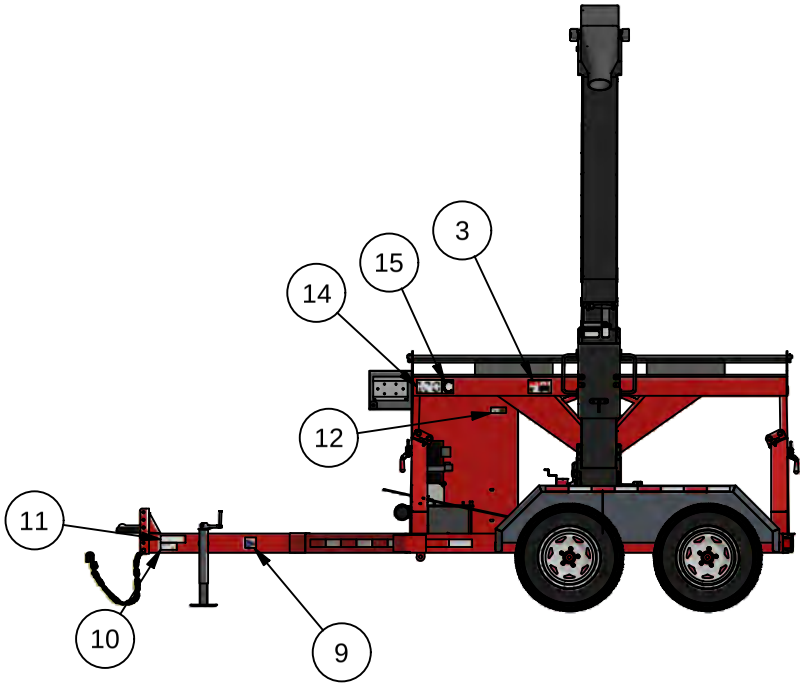


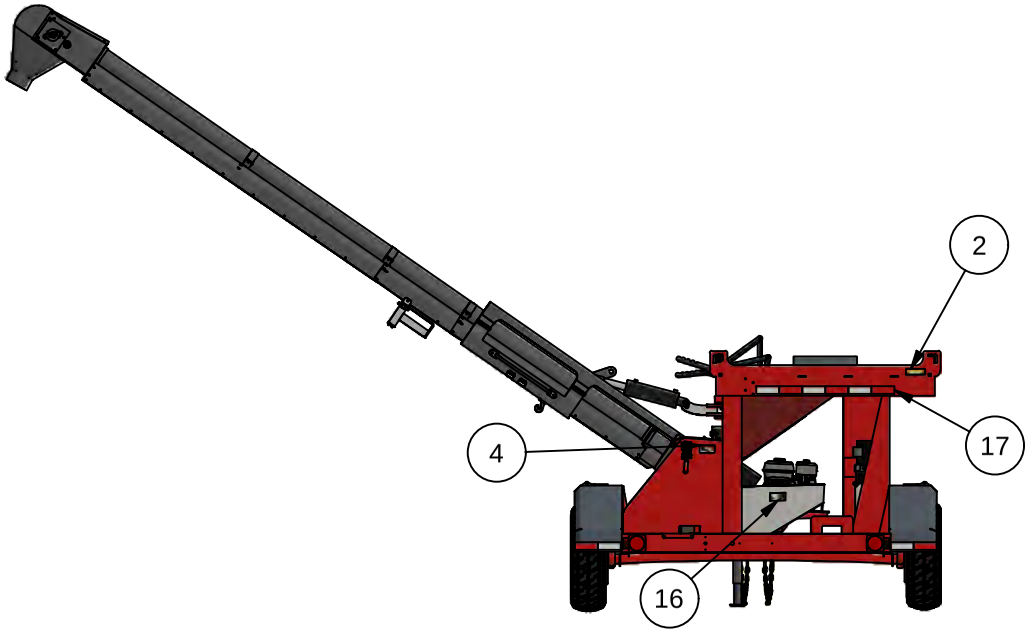
When the form is completed, please click "Submit Form".

100C (2 Box Conveyor) Seed Tender Decals









Patriot Equipment
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308-832-0220

100C (2 Box Conveyor) Decals			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	ST-100C	2 Box Conveyor Combo
2	2	TS6009	Caution Loading Bags
3	1	TS6013	Danger Auger in Electrical Lines
4	2	TS2012	Single Pinch Point
5	1	BC2515	Hydraulic Oil Warning
6	1	TS6010	Caution Machine Operation
7	2	TS2004	Patriot Decal
8	1	TS2018	P65 California Warning
9	1	NATM	NATM Decal
10	1	Tire Information	Tire Information
11	1	VIN GVWR	VIN GVWR
12	1	TS2003	Serial Number Decal
13	1	TS1006	Slide Style Coupler Bumper Pull
14	2	TS6000	100 Decal
15	2	TS6006	"C" Decal
16	1	CSP152	Pinch Point
17	23	DOT RW Strip	Cut from Bulk
18	1	TS6015	Receiver Power Switch

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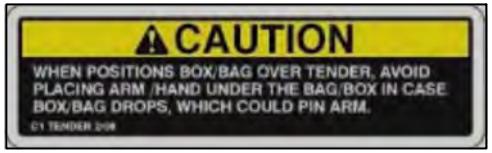
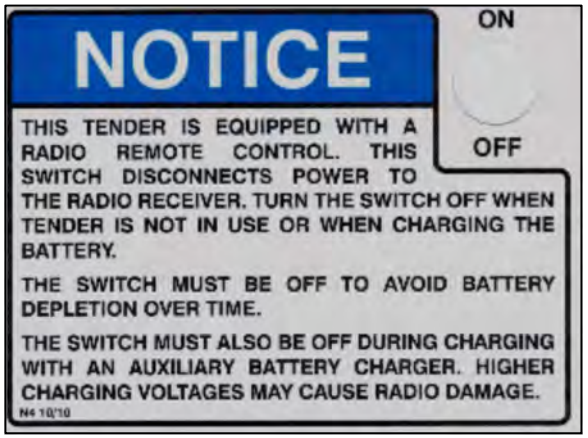


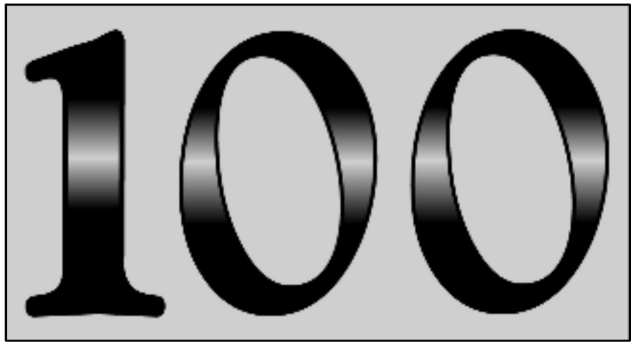
TS6009

TS2003

TS6013



TS6015

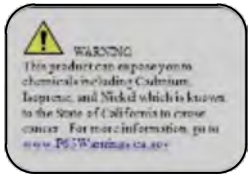


TS6000

TS2012

TS6010

TS2004



TS2018

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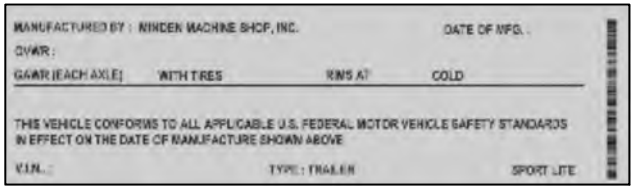
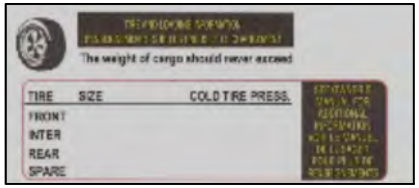
BC2515

DOT Strip



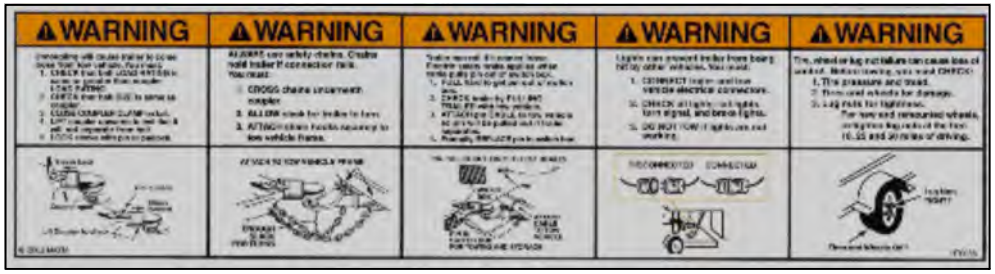
VIN GVWR

NATM



Tire Information

CSP152



TS1006

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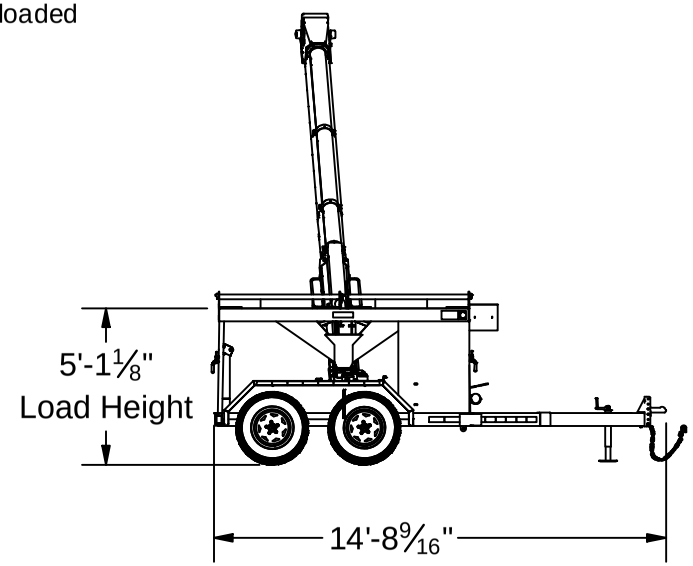
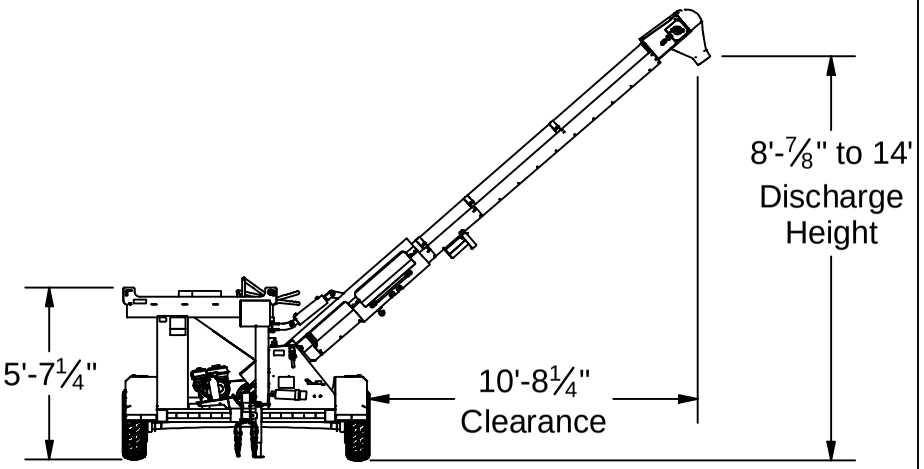
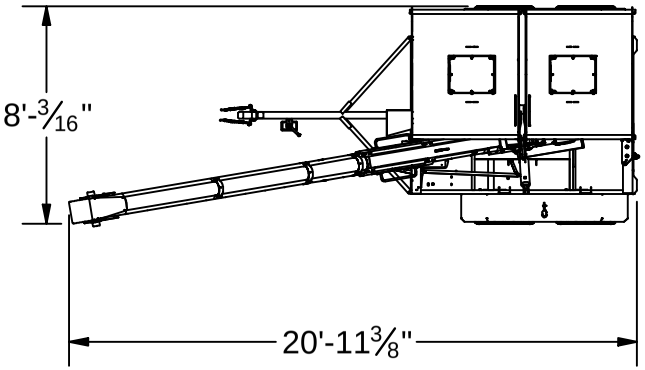
308-832-0220

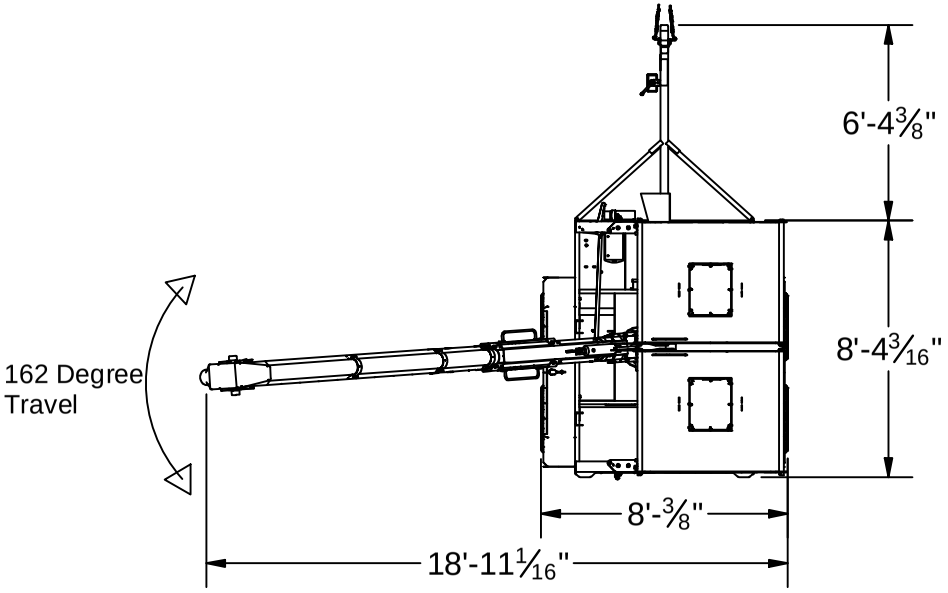
ST-100C 2 Box Conveyor Dimensions

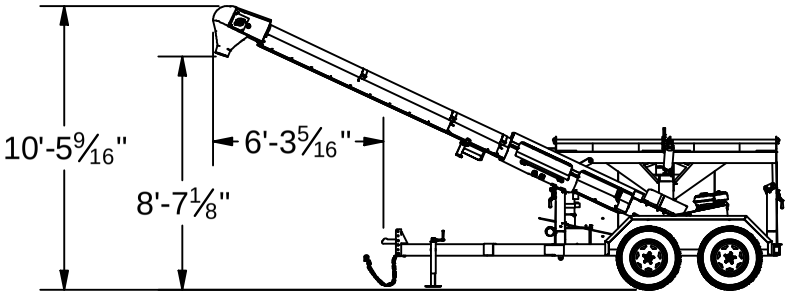
Weight: 4,082 lbs. Unloaded











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Torque Data for Standard Nuts, Bolts, and Capscrews

Tighten all bolts to torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt chart as guide. Replace hardware with some grade bolt.

Note: Unless otherwise specified, high-strength Grade 5 hex bolts are used throughout assembly of equipment.

Bolt Torque for Standard Bolts

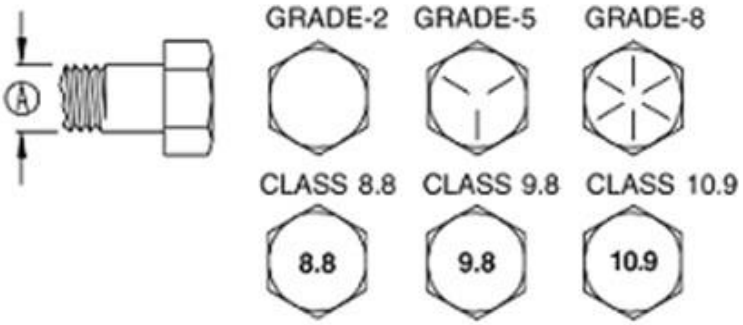
	Grade 2		Grade 5		Grade 8	
Bolt Size A	lb-ft	(N.m)	lb-ft	(N.m)	lb-ft	(N.m)
1/4"	6	8	9	12	12	16
5/16"	10	13	18	25	25	35
3/8"	20	27	30	40	45	60
7/16"	30	40	50	70	80	110
1/2"	45	60	75	100	115	155
9/16"	70	95	115	155	165	220
5/8"	95	130	150	200	225	300
3/4"	165	225	290	390	400	540
7/8"	170	230	420	570	650	880
1"	225	300	630	850	970	1310

Bolt Torque for Metric Bolts

	Class 8.8		Class 9.8		Class 10.9	
Bolt Size A	lb-ft	(N.m)	lb-ft	(N.m)	lb-ft	(N.m)
6	9	13	10	14	13	17
7	15	21	18	24	21	29
8	23	31	25	34	31	42
10	45	61	50	68	61	83
12	78	106	88	118	106	144
14	125	169	140	189	170	230
16	194	263	216	293	263	357
18	268	363	..	..	364	493
20	378	513	..	..	515	689
22	516	699	..	..	702	952
24	654	886	..	..	890	1206

Torque figures indicated are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or capscrews unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

Grade or Class value for bolts and capscrews are identified by their head markings.



OPERATING PROCEDURES

Operation Recommendations

- One person must be in a position to monitor the operation of the conveyor at ALL times. That person should visually inspect the conveyor before and during operation and be alert to any unusual vibrations, noises, and loosening of any fasteners.
- For smoother startups, keep the conveyor from starting totally full.
- In cold weather, run empty conveyor for five minutes to warm up belt. Otherwise, do not operate the conveyor empty for long periods of time.
- You must “break-in” the conveyor when it is new and at the beginning of each season.
- Make sure the drive end is empty before shutting down the conveyor.
- Shut off power and lockout drive to adjust, service, or clean.

 Do not stop or start the conveyor under load because the belt has a tendency to slip on the drive pulley, especially if the belt and tube have not become polished.

Emergency Shutdown

- If you have to immediately shutdown the conveyor under load, **be sure to disconnect and lockout the power source.**
- Remove as much grain as possible from the hopper and the conveyor before restarting.
- **Never** attempt to restart the conveyor when it is full.
- When as much grain as possible has been cleared from the hopper and the conveyor, reconnect the power source and clear the remaining grain gradually.

 Important: Do not stop and restart the conveyor when it is fully loaded. This may damage the conveyor.

- Be certain to close ALL clean-out and inspection doors in the main conveyor hopper before operating.
- The operator should not add power before viewing the entire work area and checking that ALL personnel are clear of the designated work area.
- The operator should be alert to any unusual vibrations or noises that might indicate the need for service or repair during the initial startup and break-in period.
- The operator should regulate the grain flow to the main conveyor by controlling the amount of grain fed into the hopper. Avoid plugging the main conveyor by overfeeding the hopper.
- Be certain that all safety shields and devices remain in place during operation.
- Ensure that hands, feet, and clothing are kept away from moving parts.
- Stop the motor and lockout the power source whenever the equipment must be serviced or adjusted.

Start-up and Break-In

- Any conveyor that is new or has set idle for a season needs to go through a “break-in” period.
- Engage the Conveyor at a slow RPM to minimize shock loads.
- Do not allow the conveyor belt to “load up” at a low speed. If this occurs, high torque must be used to turn the belt and this can damage the conveyor.
- Run the conveyor at partial capacity until several hundred bushels of grain have been conveyed and the belt and tube are polished.
- Retighten belt to restore original belt tension.
- When the belt and tube are polished and smooth, slowly work up to the recommended speed and run the conveyor at full speed.

BULK SEED TENDER INSTALLATION

Caution!

- Because the center of gravity is much higher with a loaded tender on a truck bed, additional care should be taken in the way the truck is driven and parked.
- If the tender is to be used in hilly country, do not unhitch a loaded or partial loaded tender as it could roll away and cause it to flip.
- The unit should sit evenly and squarely on the bed of the truck or trailer. It may be necessary to also block the base to keep it from moving around.
- When transporting, keep in mind the conveyor extends forward, be aware of objects to tall in the towing vehicle. Use caution when passing oncoming traffic or going near obstructions like wires or doors.

OPERATING GUIDELINES

The Patriot Seed Tender is designed to safely and efficiently transport bulk seed to the field to be filled into your planter or drill. Following all safety and operating guidelines should ensure many years of safe and affordable use.

PRE-OPERATION CHECKLIST

When operating this unit for the first time and each time you use it, the following information should be reviewed.

- Make sure the unit is secured to a base and will not slide or roll off.
- Make sure lids are properly latched.
- Make sure the shields are properly installed.
- Make sure the conveyor is secure before transporting.
- Make sure the throttle cable is free from tangles.
- Make sure you understand the operation of the gas engine.
- Carefully study and understand this manual.
- Do not wear loose-fitting clothing which may catch in moving parts.
- Always wear protective clothing and appropriate shoes.
- It is recommended that suitable protective hearing and eye protection be worn.
- The operator may come in contact with certain materials which may require specific safety equipment, relative to the handling of such materials (examples: extremely dusty, molds, fungus, bulk fertilizers, etc.).
- Keep wheel lug nuts or bolts tightened to specified torque.
- Assure that the tires are inflated evenly and to the proper PSI.
- Give the unit a visual inspection for any loose bolts, worn part or cracked welds, and make necessary repairs. Follow the maintenance safety instructions included in this manual.
- Be sure there are no tools lying on or in the equipment.

- Do not use the unit until you are sure that the area is clear, especially of children and animals.
- Because it is possible that this equipment may be used in dry areas or in the presence of combustibles, special precautions should be taken to prevent fires and firefighting equipment should be readily available.
- Don't hurry the learning process or take the unit for granted. Ease into it and become familiar with your new equipment.
- Practice operation of your seed tender and its attachments. Completely familiarize yourself and other operators with its operation before using.
- Do not allow anyone to stand between the tongue or hitch and the towing vehicle when backing up to the equipment.
- Securely attach the unit to the towing vehicle using the appropriate ball with the proper rating and always use safety chains.

DURING OPERATION

- Beware of bystanders, **PARTICULARLY CHILDREN!** Always look around to make sure it is safe to start the engine of the unit or the towing vehicle to move the seed tender.
- **NO PASSENGERS ALLOWED**- Do not carry passengers anywhere on, or in, the equipment.
- Keep hands and clothing clear of moving parts.
- Do not clean, lubricate, or adjust your seed tender while the motor is running.
- When halting operation, even periodically, set the towing vehicles breaks, disengage the PTO and shut off the engine, and remove the ignition key.
- Be especially observant of the operating area and terrain – look for holes, rocks or other object that may cause you to trip and fall. Always inspect area prior to operation.
- Pick the most level as possible route when transporting across fields. Avoid the edges of ditches or gullies and steep hillside.
- Maneuver the Seed Tender at safe speeds.
- Avoid overhead wires or other obstacles. Contact with overhead lines could cause serious injury or death.
- Allow for the units length when making turns.
- Do not walk under or work on raised components or attachment unless securely positioned and blocked.
- Keep all bystanders, pets and livestock clear of the work area.
- Never leave running equipment unattended.
- As a precaution, always recheck the hardware on the equipment following every 100 hours of operation. Correct all problems. Follow the maintenance safety procedures.

OPERATING PROCEDURE

1. Start motor (see motor manual)
2. Throttle/Clutch control should be in neutral.
3. Move telescopic spout above target.
4. Activate the conveyor by pushing the up arrow button on the keyfob at the end of the spout. This in turn will cause the gas motor to increase in speed engaging the centrifugal clutch attached to the motor. When the desired RPM has been attained let go of the green button.
5. Before container is completely filled, return engine to idle by pressing the down arrow button on the keyfob until the conveyor stops turning, as some product may be in the spout.
6. Move to next target and repeat process.
7. When finished empty conveyor on the last box, shut off engine and latch conveyor.
8. Put fuel lever in "off "position prior to transporting the unit.

SHUTDOWN

Normal Shutdown

When shutting down the conveyor to ready for transportation, make certain that the hopper and conveyor are empty before stopping the unit. Before positioning the conveyor, the power source needs to be turned off.

Emergency Shutdown

- If you have to immediately shutdown the conveyor under load, **be sure to disconnect and lockout the power source.**
- Remove as much grain as possible from the hopper and the conveyor before restarting.
- **Never** attempt to restart the conveyor when it is full.
- When as much grain as possible has been cleared from the hopper and the conveyor, reconnect the power source and clear the remaining grain gradually.

LOCKOUT

The conveyor must be stopped and the power source turned off if the operator must leave the work area or whenever servicing or adjusting. Precaution should be made to prevent anyone from operating the conveyor when the operator is absent from the work area or inside the tender.

Conveyor Maintenance

Conveyor Belt Adjustment

Belt tension and tracking will need periodic adjustment. Follow the guidelines under “Tracking the Belt” to make adjustments.

Conveyor Belt Care

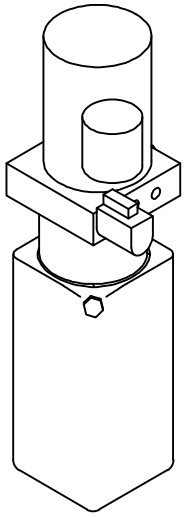
- It is recommended that the conveyor belt be washed off and the tail end be cleaned out at the end of the season. This will help prevent material residue from building up and causing damage to the belt.
- In order for water to drain from the conveyor belt, the splice must be parked on the top side of the circuit. To obtain this condition, open the door at the tail end. Run the conveyor until the belt splice appears. Turn off the conveyor immediately. The splice will now be on the top side.

Lubrication

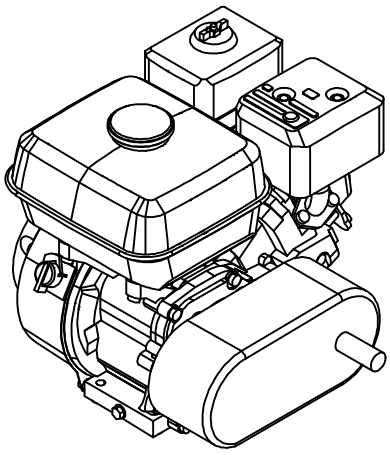
- Winches require the following maintenance:
    - All gears must be covered by a film of grease at all times.
    - The nut holding the handle assembly must be tight.
    - The two (2) bushings found at the end of the drum shaft, the ratchet pawl, and the bushing at the ends of the pinion shaft should be wet with oil.
    - The teeth of the ratchet lock should be sharp, and not worn, so they can hold the load.
- Bearings (25 Hr. Interval)
    - Lubricate four (4) bearings on belt drive/idler rollers.
- Use a good quality lithium soap base E.P. grease meeting the N.L.G.I. #2 specifications and containing no more than 1% molybdenum disulfide to lubricate all fittings (Example: Shell super duty or equivalent.)

Lubricants for Patriot Seed Tenders

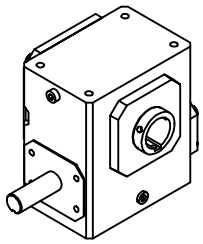
Seed Tender Lubricants		
Equipment	Lubricant Type	Quantity
Engines		
Honda GX160	SAE 10W-30	0.63 quart
Honda GX270	SAE 10W-30	1.16 quarts
Kohler CH255	Kohler Pro 10W-50 Synthetic or SAE 10W-30	0.63 quart
Kohler CH395	Kohler Pro 10W-50 Synthetic or SAE 10W-30	1.16 quarts
Reducing Gear		
Honda 2:1	SAE 10W-30	17 ounces
Kohler 2:1	20W-40 or 20W-50	0.52 quart
Hydraulic Power Unit	ISO 32 Hydraulic Oil	3.0 quarts
Gearbox		
Dodge 4:1	Synthetic PAG460 Gear Lubricant	28 ounces



Hydraulic Power Unit
(Conveyor Equipped Seed Tenders)



Engine and Reducing Gear
(Honda or Kohler)



Gearbox
(Auger Type Seed Tenders)

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Troubleshooting

Problem	Possible Cause	Solution
The conveyor is vibrating	A. Damage can occur to the belting causing a noise. Damage usually is caused from foreign material being run through the conveyor B. The belt is not tracking in the center of the conveyor	A. It may be necessary to remove the belting for inspection. B. Track the belt
Capacity is too low	A. There may not be enough grain reaching the conveyor B. Conveyor belt is moving too slow.	A. Make sure the intake has not bridged over, restricting flow. The belt needs to be covered to achieve maximum capacity. B. Check the belt speed. Low capacity will result from speeds slower than recommended. B2. Belt needs tightening
The conveyor plugs	A. The conveyor may be "jamming" because too much grain is reaching the conveyor. B. The grain may be wet. C. The conveyor may be jammed with foreign material. D. The discharge end may be plugged. E. Pulley has spun out and burned into the belt in two.	A. Decrease the amount of grain the conveyor is gathering. B. If wet grain or other hard to move materials is being conveyed, reduce the amount of grain being fed into hopper. C. Remove any foreign material in the conveyor. D. Unplug any plugs at the discharge end of the conveyor. E. Cut and resplice the belt. An additional piece of belting may be required. Tighten and retrack the belt.
Cleated belt is slipping or loose	A. Belt tension too low. B. Belt is extremely dirty.	A. Tension belt to 10-13 ft. lbs. on the adjustment bolts. B. Clean traction side of belt.
Cleated belt is rubbing side of housing or cleats are coming loose or wearing.	A. Belt misaligned.	A. Align Belt so it tracks center of idle and drive rollers.
Excessive damage.	A. Belt speed too slow. B. Belt misaligned.	A. Run belt at 400 fpm. (Belt splice passes every 6 seconds.) B. Align belt so it tracks center of idle and drive rollers.

Tracking the Belt

1. Basic rule: ***the belt moves toward the end of the roller that it contacts first.***
2. Rollers must be square with the housing and parallel to each other.
3. Belt tension must be great enough to prevent slippage, tension to10-13 ft.-lbs. on adjustment bolts.

Caution: Make sure everyone is clear of machine before running.

4. Run the conveyor. Check to see that the belt runs centered on the drive roller. Turn off the machine. Adjust drive roller if necessary.

Warning: Do not run the machine while adjusting. Failure to heed may result in personal injury or death.

5. To adjust drive roller, loosen the four nuts on the bearing holder plate, and the jam nut on the threaded adjuster. Retighten after adjusting is complete.

Caution: Make sure everyone is clear of machine before running.

6. Run the machine for two minutes. Make sure belt runs centered on drive pulley.
7. Open the Tail End Door to view the idler.
8. Run the machine. Check to see that the belt is running centered on the idler roller. Turn the machine off.

Warning: Do not run the machine while adjusting. Failure to heed may result in personal injury or death.

9. If adjustment is necessary, adjust the tensioning bolts on the idler housing to 10-13 ft.-lbs. torque.
10. Check adjustment by running the machine. Make sure belt runs centered on idler pulley. The clearance between the belt and the housing should be the same on both sides.
11. Close the Tail End Door when complete.

Please see the Owner/Operator Manual for:
KSI Conveyors, Inc.
Model 080617 Minden Conveyor at:

https://patriotequip.com/manuals/

or scan below:

HIGHWAY AND TRANSPORT OPERATIONS

1. Always drive at a safe speed relative to local conditions and ensure that your speed is low enough for an emergency stop to be safe and secure. Keep speed to a minimum.
2. Reduce speed prior to turns to avoid the risk of overturning.
3. Avoid sudden uphill turns on steep slopes.
4. Always keep towing vehicle in gear to provide engine braking when going downhill. Do not coast.
5. Do not drink and drive.
6. Comply with state and local laws governing highway safety and movement of farm machinery on public roads.
7. Use approved accessory lighting, flags, and necessary warning devices to protect operators of other vehicles on the highway during daylight and nighttime transport.
8. The use of flashing amber lights is acceptable in most localities. However, some localities prohibit their use. Local laws should be checked for all highway lighting and marking requirements.
9. When driving the equipment on the road or highway under 20 MPH at night or during the day. Use flashing amber warning lights and slow moving vehicle (SMV) identification emblem.
10. Plan your route to avoid heavy traffic.
11. Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc.
12. Be observant of bridge load ratings. Do not cross bridges rated lower than the gross weight at which you are operating.
13. Watch for obstructions overhead and to the side while transporting.
14. Always operate equipment in a position to provide maximum visibility at all times. Make allowances for increased length and weight of the equipment when making turns, stopping the unit, etc.

 **WARNING**: **TIRE SAFETY**

1. Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious injury or death.
2. Do not attempt to mount a tire unless you have the proper equipment and experience to do the job
3. Inflating or servicing tires can be dangerous. Whenever possible, trained personnel should be called to service and/ or mount tires.
4. Always order and install tires and wheels with appropriate capacity to meet or exceed the anticipated weight to be placed on the equipment.

 **TRANSPORTING SEED TENDER**

DANGER: Do not transport Seed Tender at speeds in excess of 50 MPH and comply with your state and local regulations governing marking, towing and maximum width. Observe safe driving and operation practices.

 **DANGER: OVERHEAD ELECTRICAL LINES/OBSTRUCTIONS**

DANGER: Be alert to overhead obstructions and electrical wires. Failure to do so may result in electrocution. Always lower the conveyor into the stowed position before moving. Maintain at least ten (10) feet of clearance. See the dimensions chart showing the height of the conveyor in the up position. Check the chart to determine the height of you conveyor. Make certain everyone is clear of the work area before moving.

Maintenance

 **WARNING!**

1. WARNING Keep all safety shields and devices in place. Never clean, adjust or lubricate a machine that is in operation.
2. Make sure there is plenty of ventilation. Never operate the engine in an enclosed building. The exhaust fumes may cause asphyxiation.
3. Always use the proper tools or equipment for the job at hand.
4. Honda engine – refer to manual for information on maintenance products and schedules.
5. Cosmetic – any exposed metal where paint or powder has been chipped, gouged, scratched or worn should be lightly sanded, then primed and painted with good enamel paint. If color is hard to match contact Minden Machine Shop Inc.
6. To prevent stone chips on units being pulled by a truck, you should have a set of mud flaps large enough to remedy possible chipping.
7. Bearings should be examined annually for wear and tear.
8. Replace all shields and guards after servicing and before moving.
9. After servicing, be sure all tools, parts and service equipment are removed.
10. Do not allow grease or oil to build up on any step or platform.
11. Never replace hex bolts with less than grade five bolts unless otherwise specified. Refer to bolt torque chart for head identification markings.
12. Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. The manufacturer will not claim responsibility for use of unapproved parts and/or accessories and other damages as a result of their use.
13. If equipment has been altered in any way from original design, the manufacture does not accept any liability for injury or warranty.
14. A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this or any equipment.

OPERATING & ADJUSTMENT OF VARIABLE SPEED THROTTLE ACTUATOR

The Throttle controller is simple to operate when you keep these few points in mind.

BEFORE STARTING THE ENGINE

1. Always keep the battery fully charged. When storing the unit for an extended period of time such, as over winter, you should remove the battery and store it in a place where it can be trickle charged periodically to keep it on good condition. Note: the battery needs to be charged at the start of the season to ensure that you will not have problems when you are in the field.
2. Check operation of the actuator before starting the engine. To do this press the green and red buttons on the switch and watch the arm move left or right depending on which button is pressed. Make sure that the actuator arm is closest to the motor before starting engine. This will prevent the motor from being at full throttle and discharging product.
3. Make sure that there is no obstruction in the discharge tube.

AFTER STARTING THE ENGINE

1. Once the engine is started, let it warm up for a few minutes before operating the actuator. The engine should idle smoothly with the choke in the “off” position, once the engine has warmed up.
2. Press the green button on the switch.
3. The engine should increase in speed, and the auger should begin to operate.
4. To avoid premature wear of the auger, do not operate the unit empty unless cleaning out the auger.
5. To adjust the top speed of the engine, adjust the top end RPM screw that the throttle lever comes against when at full throttle. If the motor has a rough bouncy top end RPM screw has been adjusted too much. Turn the top end RPM screw clockwise to get rid of the surging.

TROUBLE SHOOTING THROTTLE CONTROL

1. Engine does not come up to speed properly when you press the switch.
    a. Check the battery to see if it is fully charged.
    b. Check electrical connections.
    c. Check for any obstruction at the throttle lever.
    d. Check that the throttle spring is properly adjusted.
    e. If you are at a higher altitude you may have to adjust the carburetor (see engine manual).
2. Nothing happens when you press the switch.
    a. Check that the battery is fully charged.
    b. Check all wire connections and plugs.
    c. Check the switch.

Warning

1. The conveyor should be frequently checked and serviced to operate freely.
2. Keep all guards and shields in place. Replace any that are damaged or lost.
3. The Patriot Seed Tenders are well made and we are proud of our line of equipment. We would like you, as our customer, to do your part in using caution and good judgment in using the equipment as well as any other machinery.
4. Any parts needing replacement should be replaced with parts of the same type and size.
5. Do not modify or alter any of the conveyor components.

GENERAL TRAILER MAINTENANCE

BRAKE ADJUSTMENT

Brakes should be adjusted (1) after the first 200 miles of operation when the brake shoes and drums have "seated," (2) at 3000 mile intervals, (3) or as use and performance requires. The brakes should be adjusted in the following manner.

1. Jack up trailer and secure on adequate capacity jack stands. Follow the recommendations for lifting and supporting the unit. Check that the wheel and drum rotate freely.
2. Remove the adjusting access cover from the adjusting slot on the bottom of the brake backing plate.
3. With a flat blade screwdriver or standard adjusting tool, rotate the star wheel of the adjuster assembly to expand the brake shoes. Adjust the brake shoes out pressure of the linings against the drum makes the wheel very difficult to turn.
   Note: With drop spindle axles, a modified adjusting tool with about an 80 degree angle should be used.
4. Then rotate the star wheel in the opposite direction until the wheel turns freely with a slight lining drag.
5. Replace the adjusting access cover and lower the wheel to the ground. Repeat the above procedure on all brakes.

 Caution

Never get under the trailer unless it is resting on properly placed jack stands. Follow the recommendations for lifting and supporting the unit. Do not lift or place supports on any part of the suspension system.

BRAKE CLEANING AND INSPECTION

Your trailer 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 adjust springs of stretch or deformation and replace if required.

 Caution

ASBESTOS DUST HAZARD!
Since some brake shoe friction materials contain asbestos, certain precautions need to be taken when servicing brakes:

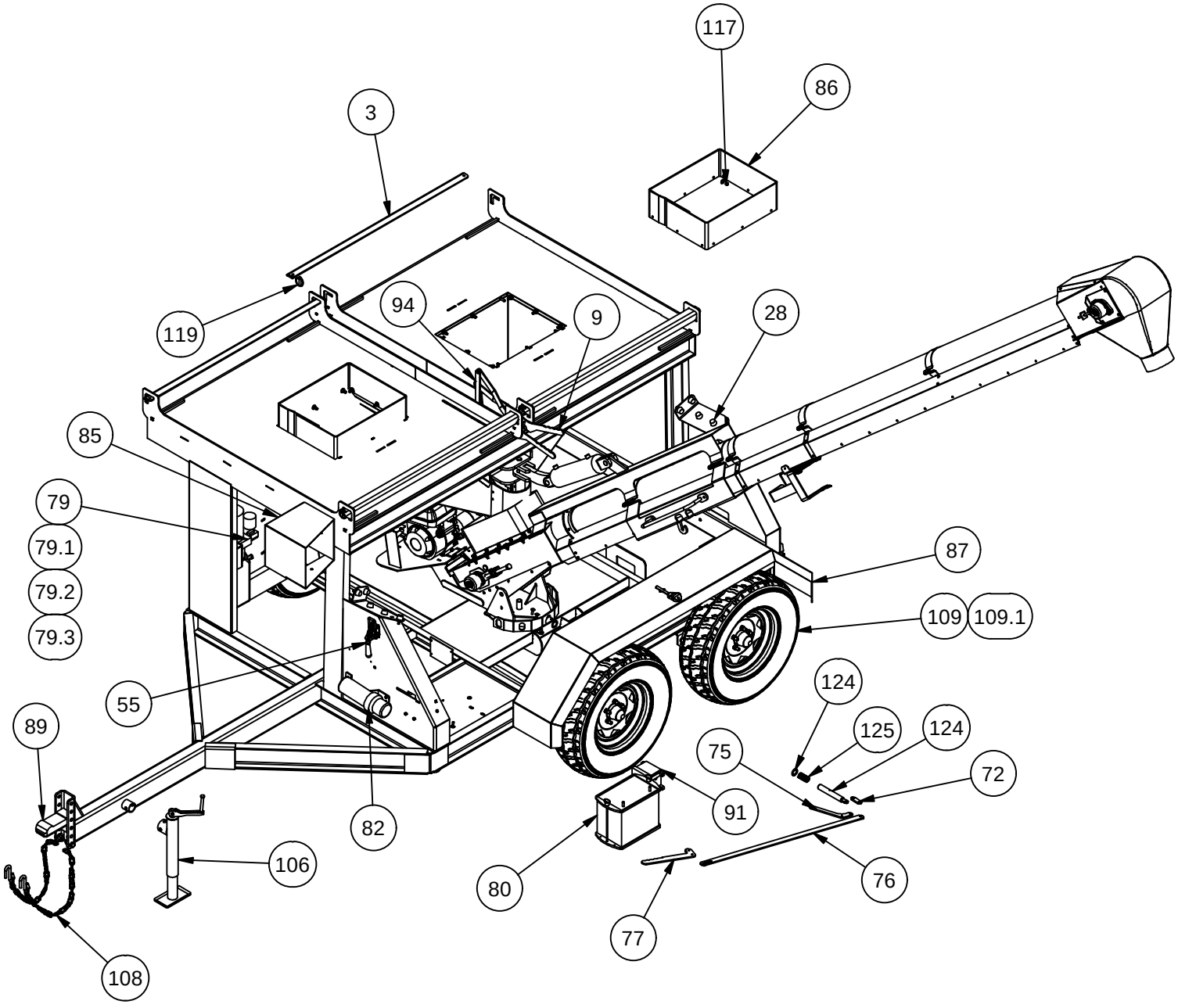
1. Avoid creating or breathing dust.
2. Avoid machining, filing or grinding the brake linings.
3. Do not use compressed air or dry brushing for cleaning. (Dust can be removed with a damp brush).

Inspections

- Inspect front hitch for wear, replace if wear prevents for correct coupling if ball hitch or oblong hole for trailer hitch pin.
- Check the trailer frame for cracks and/or deformities and have them repaired.
- Inspect lights and repair/replace if broken or damaged.
- Check wheel bearings. Repair or replace if loose or damaged.
- Inspect the suspension system for the trailer. Replace damaged or broken springs or axles.

See tire safety section for tire information.

ST-100C 2 Box Conveyor Seed Tender Parts List



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ST 100 C Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	ST-100C-A0005	2 Box Conveyor Combo
2	2	ST-100C-P0018	2 Box Conveyor Gate
3	4	ST-CP-P0018	Lock Bar
6	2	ST-CP-P0116	Chute Boot
8	1	ST-100C-P0021	Gate Handle
9	1	ST-100C-P0022	Gate Handle Rear
28	10	S4804	Rubber Foot
55	2	S4803	Locking Clamp
72	1	ST-CP-P0111	Pin Link
75	1	ST-CP-P0112	Pull to Pin Link
76	1	ST-CP-P0113	Rotation Drag Link
77	1	ST-CP-P0114	Pivot Lock Handle
79	1	S31035P	Vertical Hyd. Pump Unit
79.1	1	S31035-1	Hyd. Tank
79.2	1	S31035-4	Hyd. Pump Coil
79.3	1	S31035-9	Hyd. Pump Solenoid
80	1	S4000	Battery
80.1	1	S2044	Battery Tray
82	1	TR1590	Manual Holder
85	1	ST-CP-A0053	Scale Head Box
86	2	S2038	Box Seal
87	2	ST-CP-A0046	Fender
89	1	TR115	Trailer Coupler 2-5/16"
91	1	TR1800	Breakaway Battery
93	1	ST-100C-P0042	Tube Mount
94	2	ST-100C-P0041	Gate Link Arm Formed
104	1	TR3005	Left Tail Light
105	1	TR3004	Right Tail Light

ST 100 C Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
106	1	TR1600	Topwind 10" Jack
108	2	TR1595	Safety Chain
109	4	TR1095	15" Tire and Rim
109.1	2	TR1040	3500# Axle
110	20	N1/2NYL	Nylock Nut
111	3	PR316x0.5L	Rivet
113	1	ST-CP-P0095	Wire Bracket
114	1	ST-CP-A0038	Belt Shield Conveyor V2
115	32	B5/16x1.0	Hex Bolt
116	42	W5/16F	Flat Washer
117	42	N5/16NYL	Nylock Nut
118	1	TR3002	Right Fender Light
118.1	1	TR3003	Left Fender Light
119	6	PC1003	7/16" x 1-1/2" Lynch Pin
121	2	B5/8x1.5	Hex Bolt
122	2	W5/8F	Flat Washer
123	2	N5/8NYL	Nylock Nut
124	1	ST-CP-A0033	Rotation Lock Pin Weldment
125	1	SP4006	Pivot Point Spring
126	6	B5/16x1.0CB	Carriage Bolt
127	2	B1/4x1	Bolt
128	2	W1/4F	Plain Washer
129	2	N1/4L	Lock Nut

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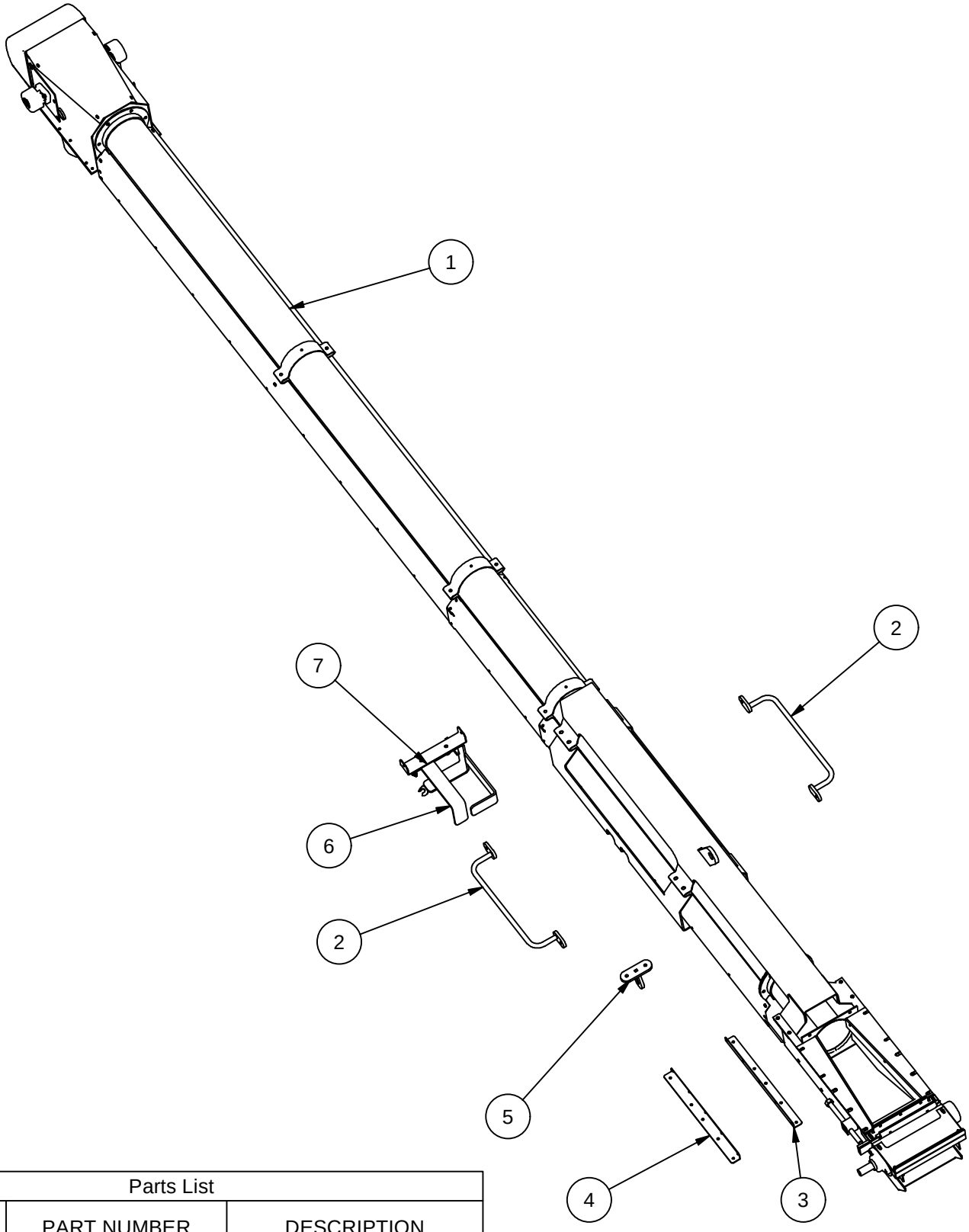
Seed Tender Conveyor Assembly



Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	S3000	6"Conveyor Assembly
2	2	ST-CP-A0031	Handle Weldment
3	1	ST-245D-P0059	Angle Flap Mount Front
4	1	ST-245D-P0060	Angle Flap Mount Rear
5	1	ST-CP-A0032	Transport Latch Weldment
6	1	ST-CP-A0036	6IN Spout Mount
7	1	ST-CP-P0132	Spout Mount

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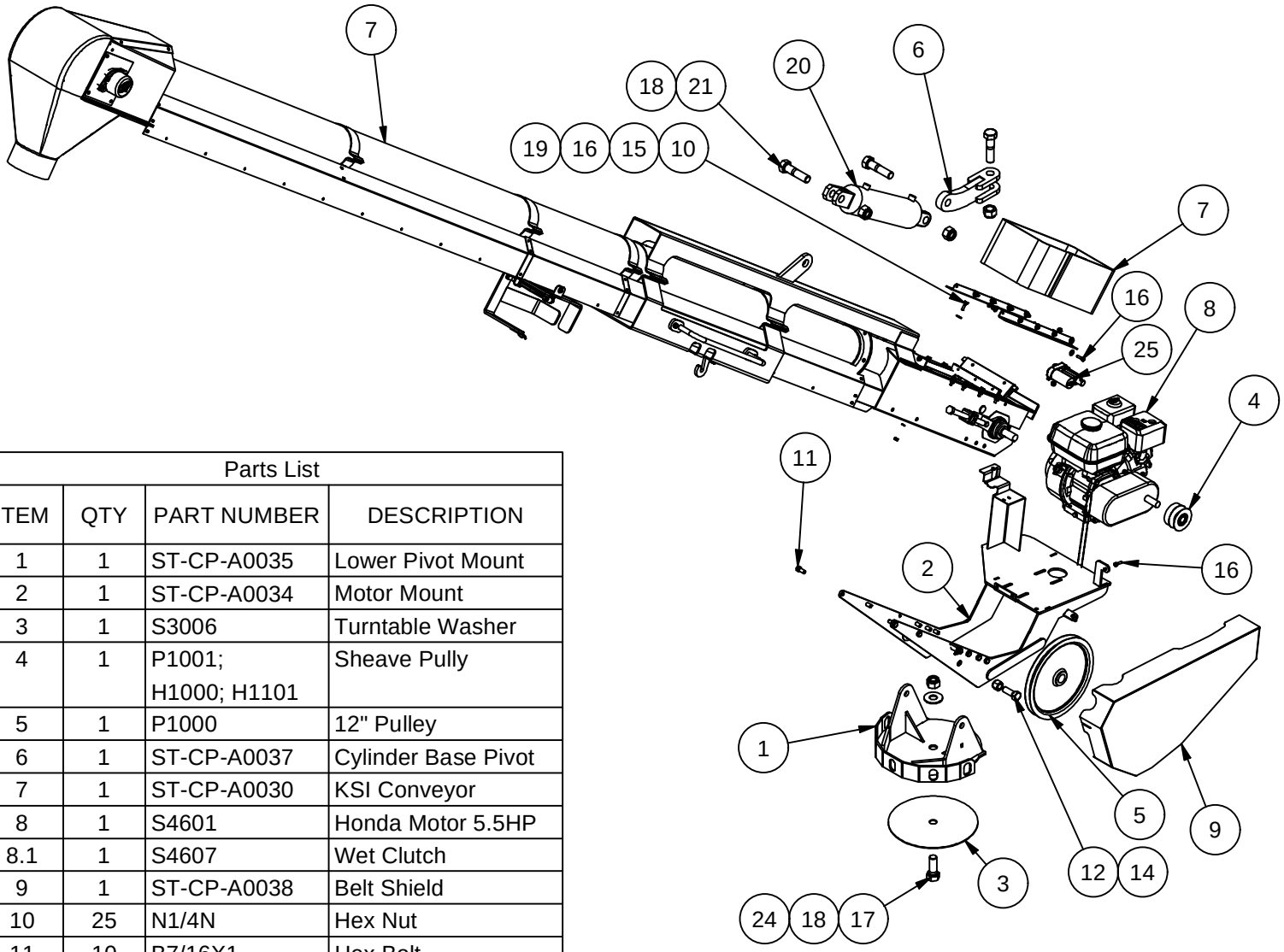
Conveyor Parts List



Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	ST-CP-A0035	Lower Pivot Mount
2	1	ST-CP-A0034	Motor Mount
3	1	S3006	Turntable Washer
4	1	P1001; H1000; H1101	Sheave Pully
5	1	P1000	12" Pulley
6	1	ST-CP-A0037	Cylinder Base Pivot
7	1	ST-CP-A0030	KSI Conveyor
8	1	S4601	Honda Motor 5.5HP
8.1	1	S4607	Wet Clutch
9	1	ST-CP-A0038	Belt Shield
10	25	N1/4N	Hex Nut
11	10	B7/16X1	Hex Bolt
12	2	B3/4X2	Hex Bolt
13	2	W3/4F	Plain Washer
14	2	N3/4NYL	Nylock Nut
15	35	W1/4F	Plain Washer
16	27	B1/4X1	Hex Bolt
17	1	W1F	Plain Washer
18	4	N1NYL	1 Std NC Nylock Nut
19	26	W1/4L	Lock Washer
20	1	HCY1015	3.5 x 8 Hyd. Cylinder
21	3	B1x4	Hex Bolt
22	6	B3/8X1	Hex Bolt
23	6	N3/8N	Hex Nut
24	1	B1x2.75	Hex Bolt
25	1	S4103	Motor Actuator
28	1	S2039	Acutator Rod
30	1	S4604	Carb Kit Holder
29	1	S4605	E-Clip
31	1	4mm x 6mm	Actuator Screw
26	1	N5/16NYL	Nylock Nut
27	1	B5/16X1.5	Hex Bolt

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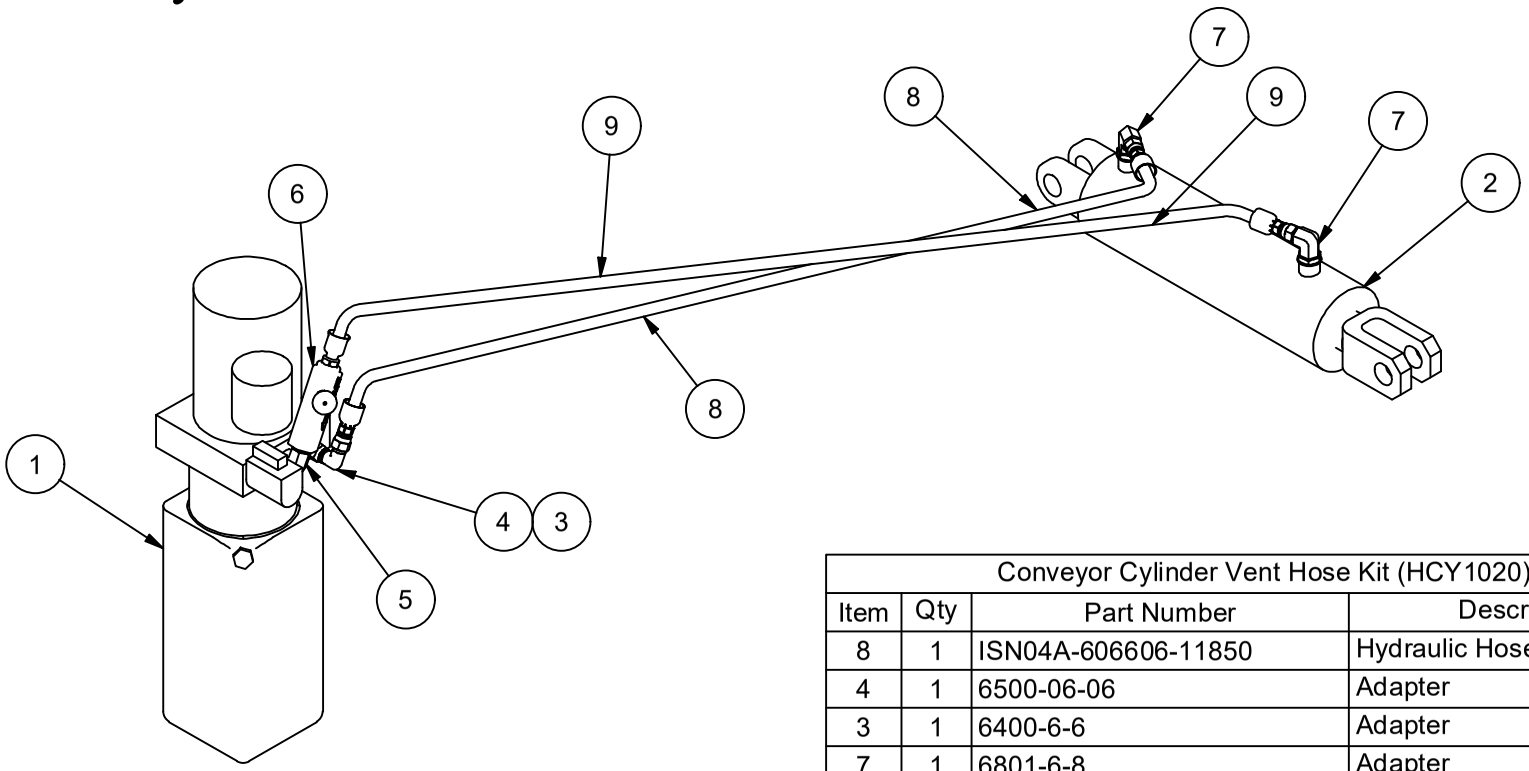
Seed Tender Conveyor
Hydraulic System



Hydraulic pump mounting and hose routing will vary with seed tender model.
The diagram defines where hoses are connected and the parts of the assembly.

Conveyor Cylinder Vent Hose Kit (HCY1020)			
Item	Qty	Part Number	Description
8	1	ISN04A-606606-11850	Hydraulic Hose Assembly
4	1	6500-06-06	Adapter
3	1	6400-6-6	Adapter
7	1	6801-6-8	Adapter

Conveyor Pump Kit			
Item	Qty	Part Number	Description
1	1	S31035P	Vert. Hyd. Power Unit 12V
2	1	HCY1015	3.5 x 8 Hyd. Cylinder
5	1	S3009	6806-06-06 Adapter
6	1	S3033	Flow Control Valve
7	1	6801-06-08	Adapter
9	1	S3008-1	R1604A-606106-12450 Hyd. Hose

The Conveyor Cylinder Vent Hose Kit and the Conveyor Pump Kit are made of the Master Parts List.

Master Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	S31035P	Vert. Hyd. Power Unit 12V
2	1	HCY1015	3.5 x 8 Hyd. Cylinder
3	1	6400-6-6	Adapter
4	1	6500 06 06	Adapter
5	1	S3009 (6806 6 6)	Adapter
6	1	S3033	Flow Control
7	2	6801-6-8	Adapter
8	1	ISN04A-606606-11850	Hydraulic Hose Assembly
9	1	S3008-1 (R1604A-606106-12450)	Hydraulic Hose Assembly

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Seed Tender Flexible Spout Options

6" Flexible Poly Spouts		
Part Number	Length	Description
S5002	4'	Standard spout
S5001	4'10"	Spout with no handle
S5014	4'10"	Spout with handle for Rowe
S5000	7'19"	Spout with no handle
S5012	7'19"	Spout with handle for Rowe

7" Flexible Poly Spouts		
Part Number	Length	Description
S5502	4'	Standard spout
S5501	4'10"	Spout with no handle
S5514	4'10"	Spout with handle for Rowe
S5500	6'16"	Spout with no handle
S5512	6'16"	Spout with handle for Rowe

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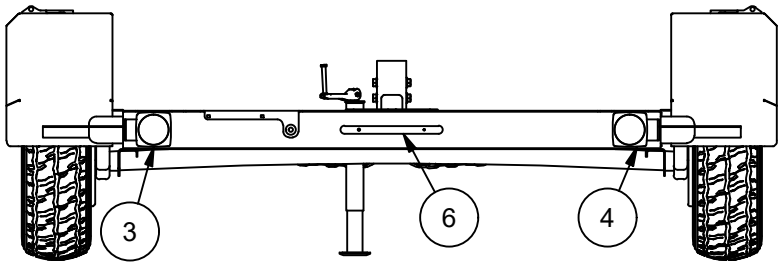
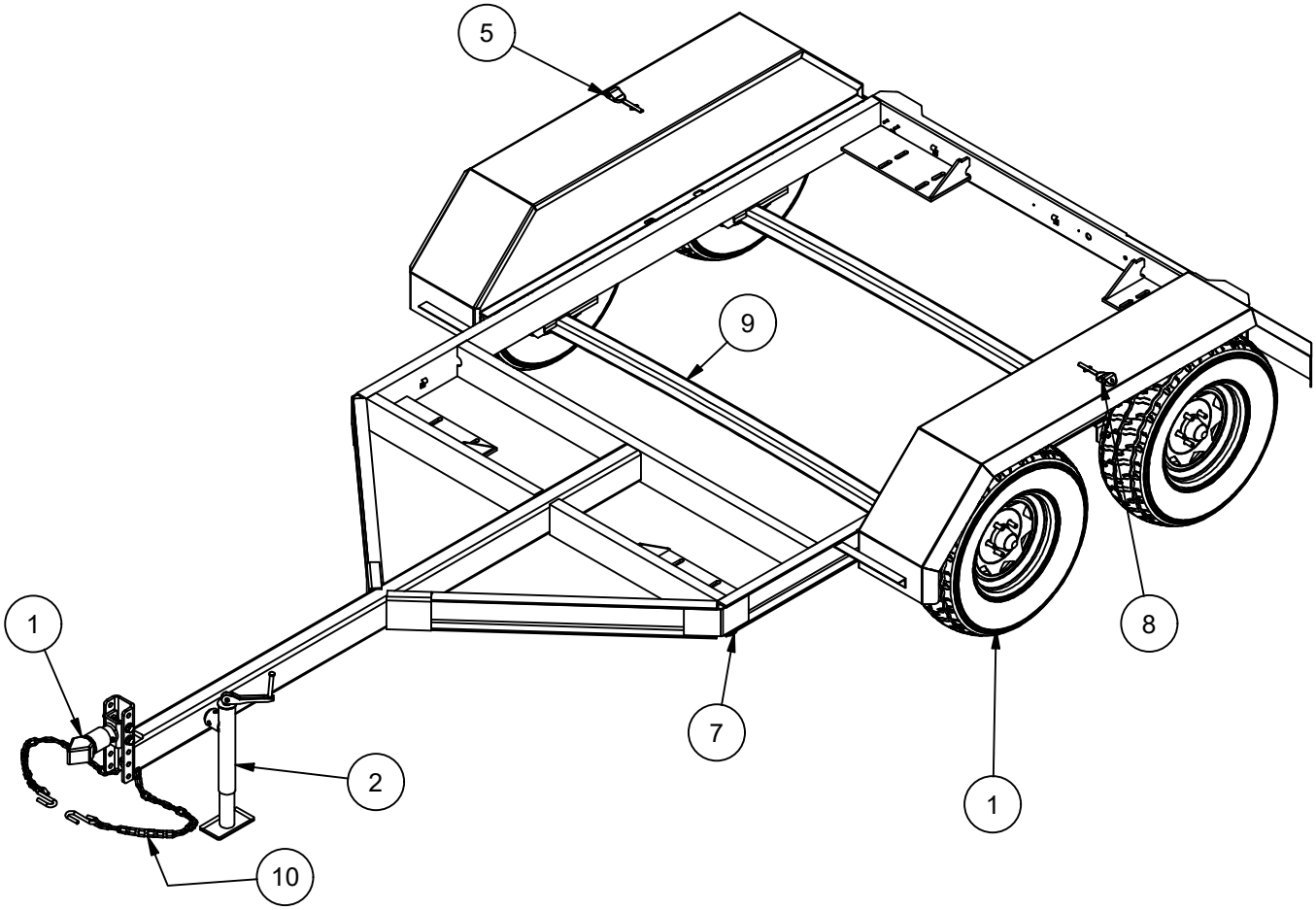
ST-100CD-A0001
2 BOX CONVEYOR TRAILER





Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	ST-100CD-A0001	2 Box Conveyor Deck Mount Trailer
2	1	TR1610	15" 2K Topwind Jack
3	1	TR3005	Driver's Side Tail Light
4	1	TR3004	Curb Side Tail Light
5	2	TR3002	Red/Amber Fender Light RH
6	1	TR3008	Rear Triple Light
7	2	TR3000	3/4" LED Amber Clearance Light
8	1	TR3003	Red/Amber Fender Light LH
9	2	TR1040	3.5K Axle
10	2	TR1595	Safety Chain

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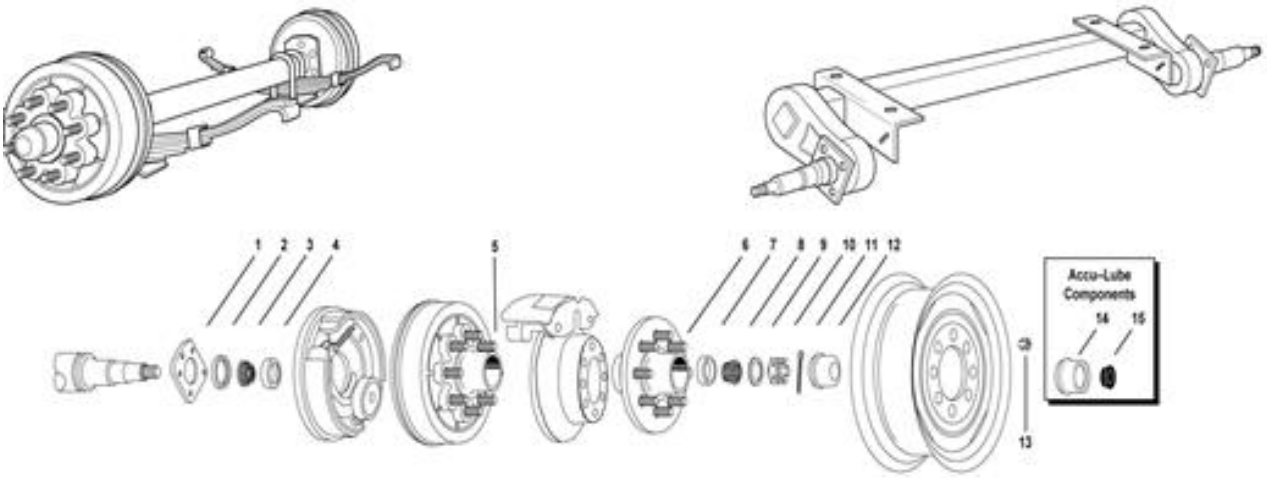
Axle Parts



Axle Parts							
Axle Size	Axle PN	Hub	Grease Seal	Inner Bearing	Inner Race	Outer Race	Outer Bearing
3500#	TR1040	5 on 4.5	171255TB	L-68149	L-68111	L-44610	L-44649
6000#	TR1060	8 on 6.5	2233TBN	25580	25520	14276	14125A
7000#	TR1074	8 on 6.5	22333TBN	25580	25520	14276	14125A
8000#	TR1095	8 on 6.5	22333TBN	25580	25520	02420	02475
10000#	TR1096	8 on 6.5	CR27438	28580	28521	25520	25580
12000#	TR1080	8 on 6.5	CR31281	39590	39520	JM205110	JM205149
16000#	TR1092	8 on 275 mm	CR31281	39590	39520	JM205110	JM205149

Axle Parts							
Axle Size	Spindle Washer	Spindle Nut	Cotter Pin	Grease Cap	EZ Lube Cap	Rubber Plug	Cone Wheel Nut
3500#	4753	TR1045	4755	TR1041	TR1044	RP-100	4756
6000#	4753	TR1065	TR1070	TR1064	TR1072	TR1072-1	4756
7000#	4753	4754-12	4755	1605-PL	-	RP-100	4756
8000#	4753	4754-12	4755	1605-PL	-	RP-100	4756-1
10000	4798	4797	CP-3	12011-1	-	-	568216
12000#	47128	47127	CP-3	12011-1	-	-	568216
16000#	47128	47127	CP-3	12011-1	-	-	WN7516PTFEC

Axle Parts			
Axle Size	Brake Drum Back Plate	Brake Drum w/ Bearings/Seal	Brake Set Up
3500#	TR1042 (L, R, 2-1/4"?)	TR1043	-
6000#	TR1062 (L or R)	TR1063	TR1061
7000#	4704-L/4704-R	92865A-1	-
8000#	4739-L/4739-R	90865-GP	-
10000#	4739-L/4738-R	99865-OBE	
12000#	4741-L/4741-R	912865-OBE	-
16000#	4741-L/4741-R	916810-OBE	-

Axle Parts		Axle Parts	
Description	Part Number	Description	Part Number
1/2" Stud 6k Axle	TR1073	9/16-18 Lug Nut	TR1076
9/16" Stud 6K Axle	TR1074	1/2 Stud & Nut	TR1085-1
1/2-20 Lug Nut	TR1075	12 x 2" Brake Pad	TR1071

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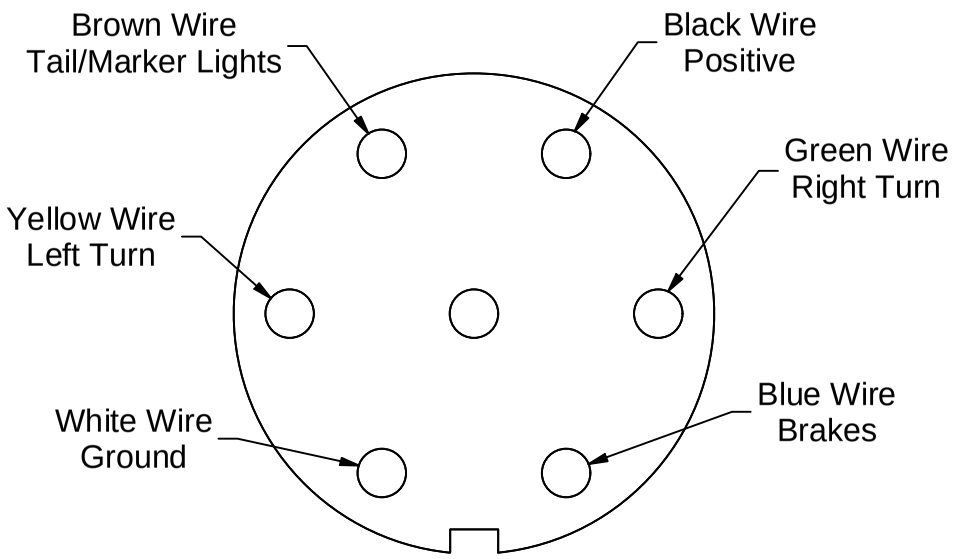
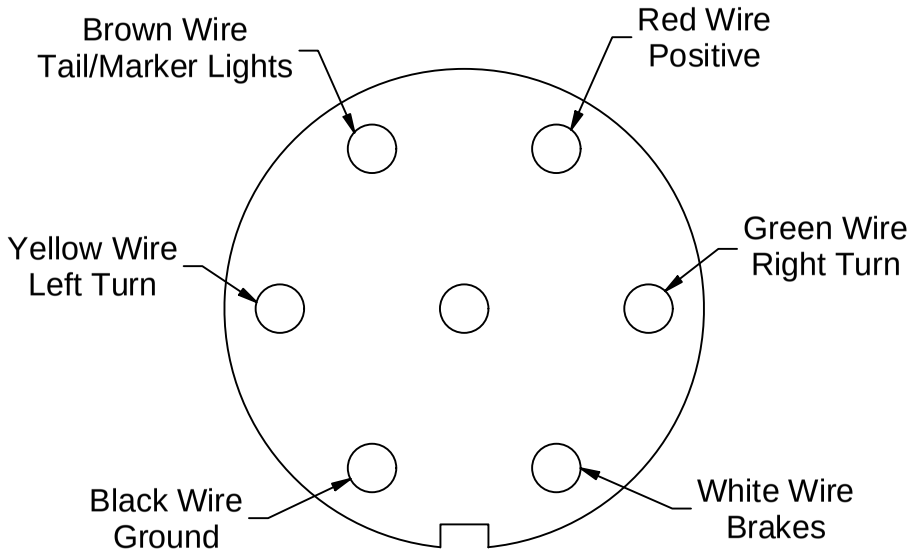
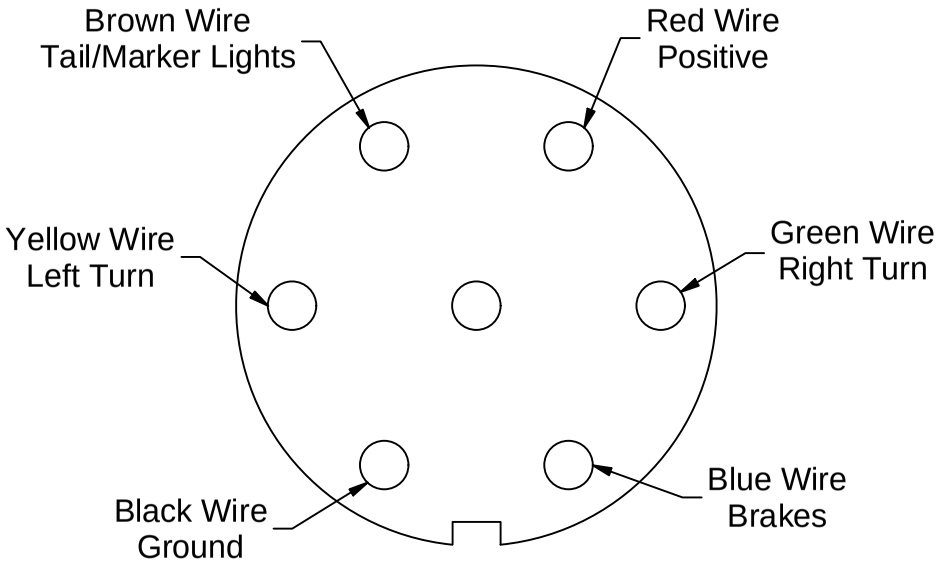
ELECTRONICS

Trailer Plug Wiring



Regular Plug





View is looking at the rear of the trailer plug

Match the color of the wiring on the trailer with the color of the wiring on the trailer plug

Trailer plugs are detailed to reflect wire that is available at time of manufacture.

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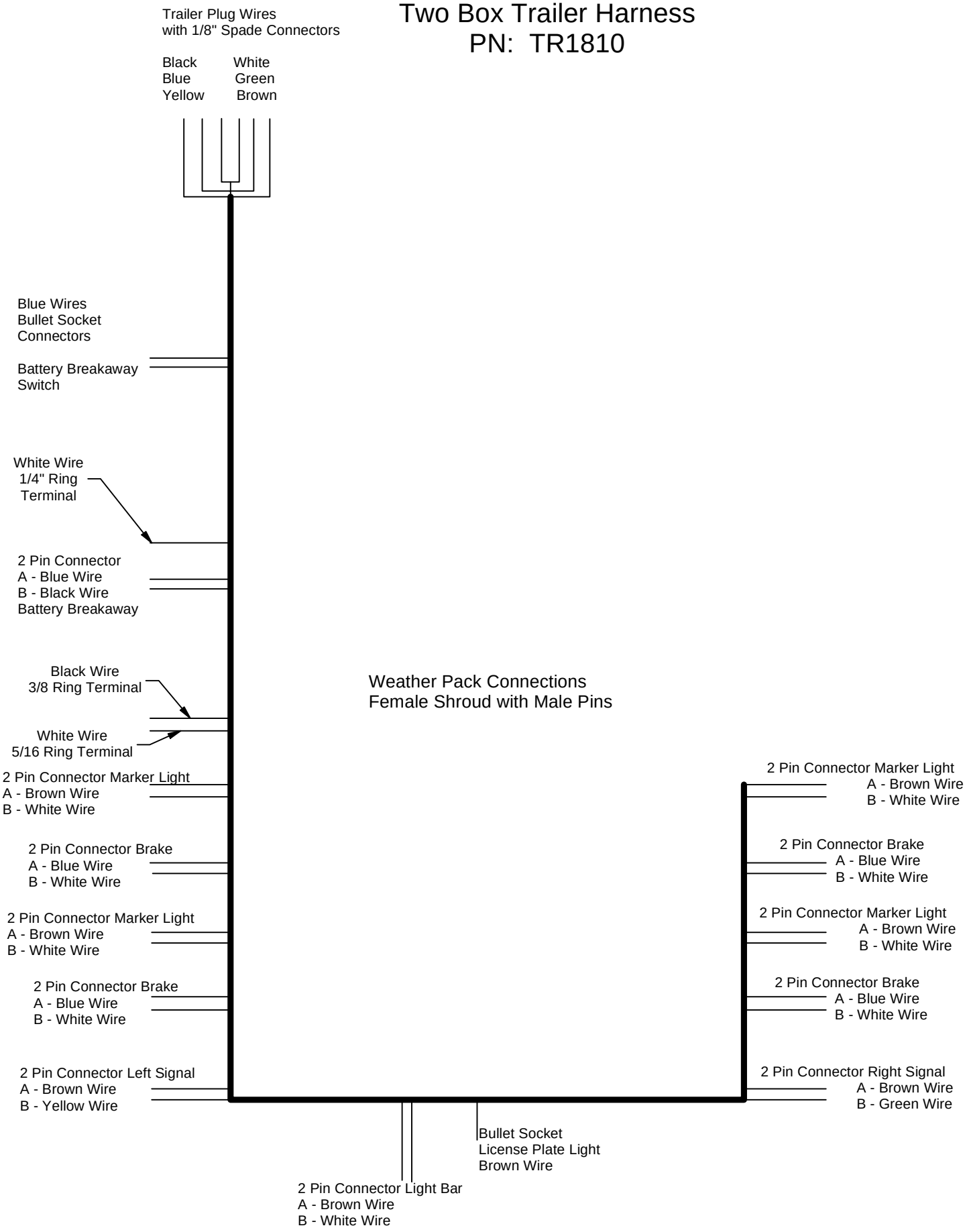
Two Box Trailer Harness
PN: TR1810



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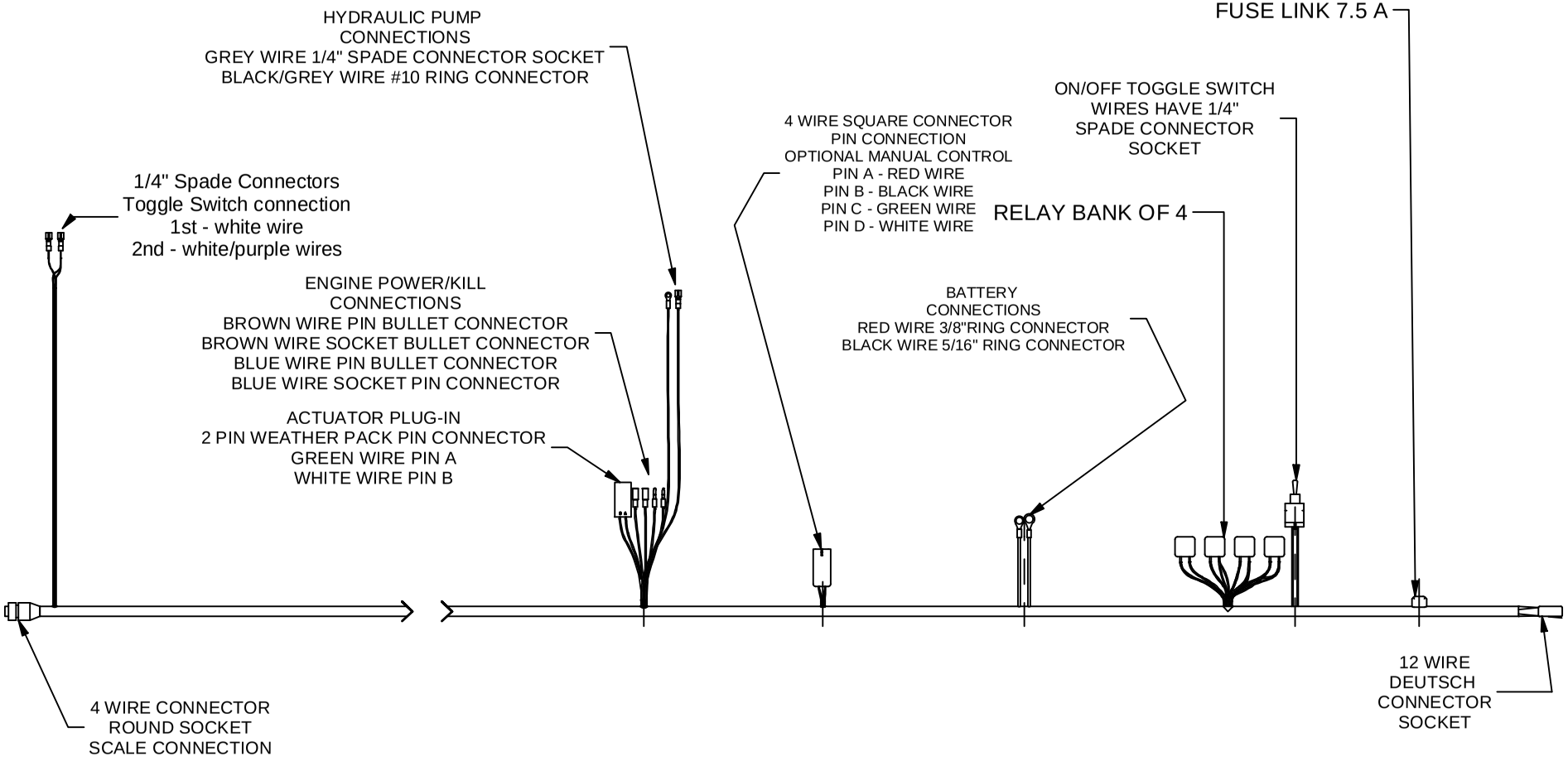
Rowe Wiring Harness for Conveyor and Scale
PN: S4522



4 Wire Round Connector
(Scale Connector)
1 - Red Wire
2 - Black Wire
3 - Yellow Wire
4 - Open

12 SOCKET DEUTSCH CONNECTOR WIRING

1 - RED WIRE	7 - BLACK WIRE
2 - GREY WIRE	8 - GREEN WIRE
3 - BROWN WIRE	9 - OPEN
4 - BLUE WIRE	10 - YELLOW WIRE
5 - WHITE WIRE	11 - BLACK/WHITE WIRE
6 - OPEN	12 - OPEN

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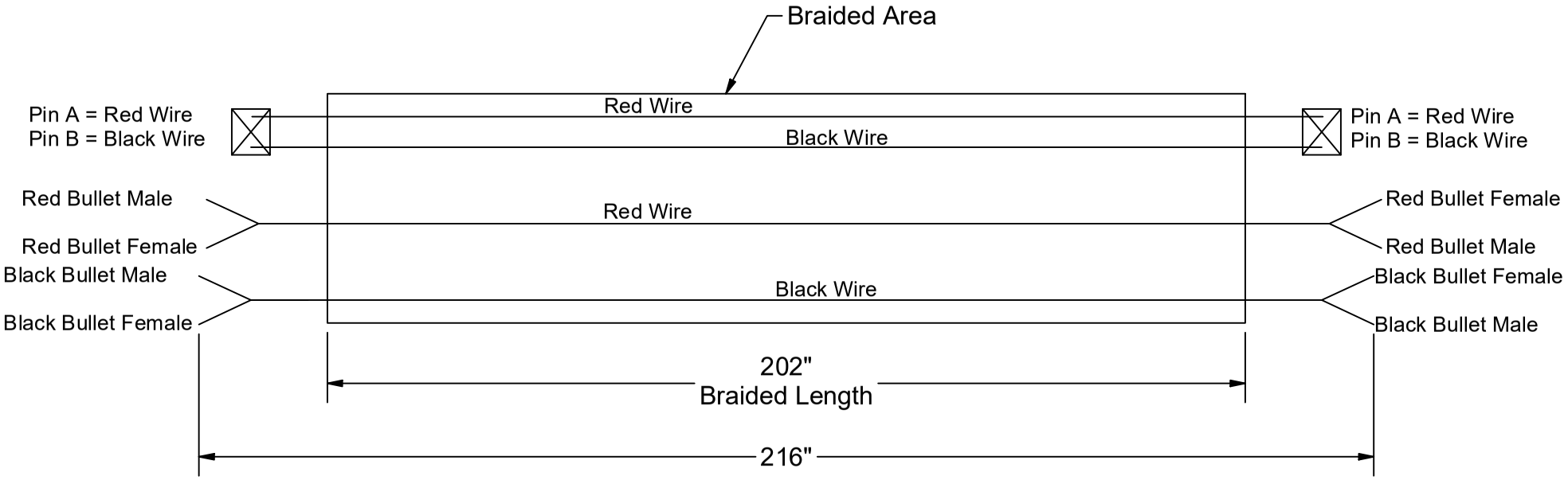
Actuator, Start, and Stop Motor Extension Harness

Heat Shrink and Crimp Bullet Terminal
Male and Female, 0.156", 16-14 ga.

Pin A = Red Wire
Pin B = Black Wire

Pin A = Red Wire
Pin B = Black Wire



All Wires are 14 ga.

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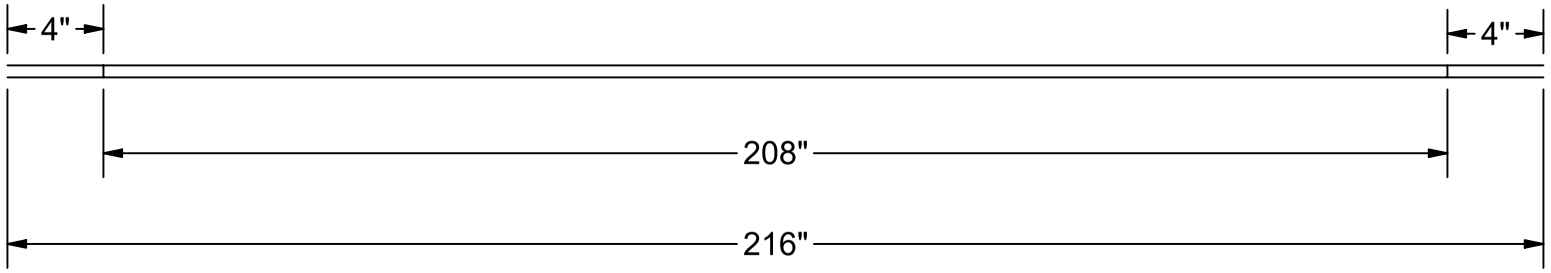
Battery Extension Wire

Ring Terminal
12-10 ga.
Heat Shrink
3/8" Stud

Red Wire = 10 ga.
Black Wire = 12 ga.

Ring Terminal
12-10 ga.
Heath Shrink
1/4" Stud



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