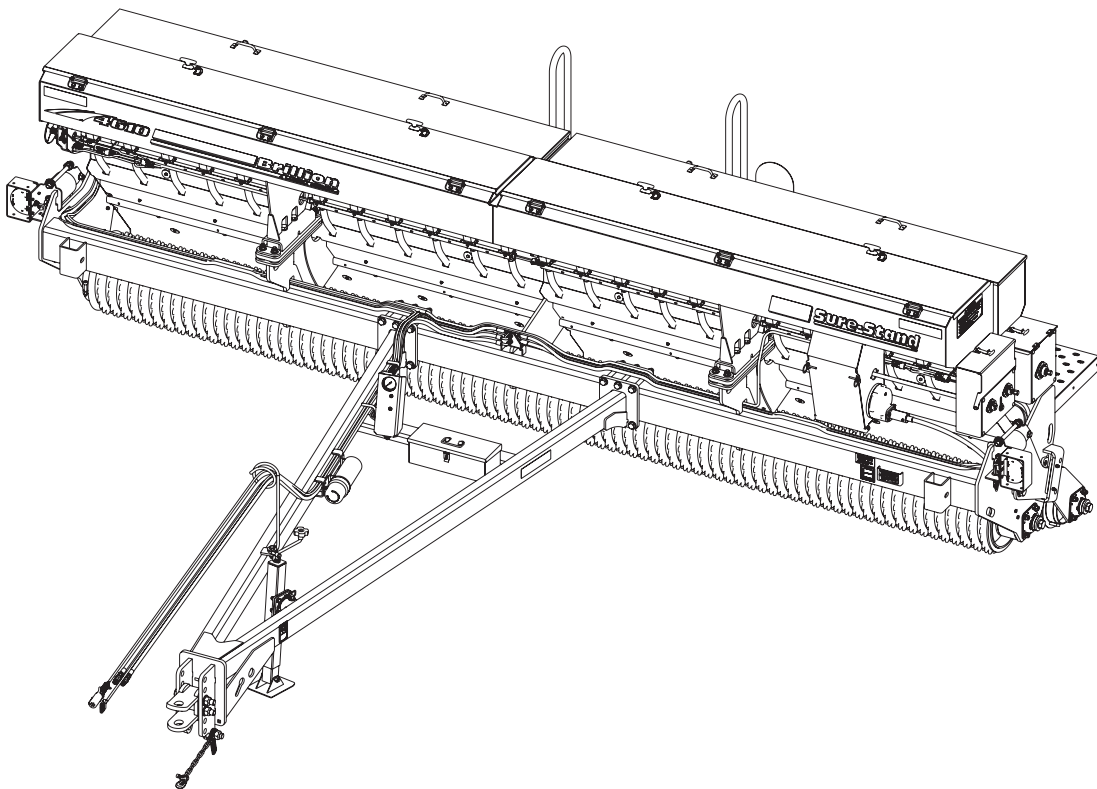




# Sure Stand Seeder Model 4610-16 Operator's Manual



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**Manuals for 4610-16 Seeder**

Manual Number	Manual Type
F-1134	Operator's Manual
F-1133	Parts Manual



**DANGER**

**DO NOT** operate or perform any maintenance tasks on this equipment until you have completed the following:

- 1. Receive proper training to operate this equipment safely.**
- 2. Read and understand the operator's manual.**
- 3. Be thoroughly trained on inspection and repair procedures.**

**Failure to comply with this warning may result in serious injury or possibly death.**





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# Safety Information

## Introduction

The implement described in this manual has been designed with care and built by skilled workers using quality materials and processes. Proper assembly, maintenance and safe operation will allow this machine to provide you with satisfactory use for seasons to come.



### DANGER

**Read this entire manual before attempting to assemble, adjust or operate this implement. Failure to comply with this warning can result in personal injury or death, damage to the implement or its components and inferior operation.**

## Description of Unit

The 4610-16 Sure Stand Agricultural Seeder features a 20-bushel capacity front Micro-Meter Seed Metering System Seed Box for small seed varieties. A 10-bushel capacity rear Agitator Seed Box for bulky and chaffy seed varieties is optional. A Heavy-duty Frame supports the larger Seed Boxes delivering more weight per foot on the Front and Rear Rollers. The Pneumatic Down Pressure on the Rear Roller provides better seed coverage while squeezing out air pockets in the seedbed. The Seeder is ground driven and equipped with an Electric Clutch. The 4610-16 Seeder is available in Pull-Type or 3-PT Hitch configurations. Optional equipment include Track Removers and full feature display monitor.

## Using this Manual

This manual will familiarize you with safety, assembly, operation, adjustment, and maintenance. Read this manual and follow the recommendations to help ensure safe and efficient operation.

- The information in this manual is current at time of printing. Some parts may have changed to assure top performance.
- Location reference: Right and Left designations in this manual are determined by facing the direction the implement will travel during field operation, unless otherwise stated.

## Owner Assistance

If customer service or repairs are needed, contact your Brillion dealer. Implement parts should only be replaced with Brillion parts. Have the Serial Number and complete Model Number available when ordering parts from your Brillion dealer. If items covered in this manual are not understood, contact your local Brillion dealer.

## Warranty Registration

Brillion Farm Equipment, by Landoll, shall have no warranty obligation unless each product is registered within 10 days of retail purchase, using the Landoll Company, LLC Ag Products on-line registration process. Please refer to the Ag Products Policy and Procedures Manual, accessible at [www.landoll.com](http://www.landoll.com) for step by step instructions regarding product registration.

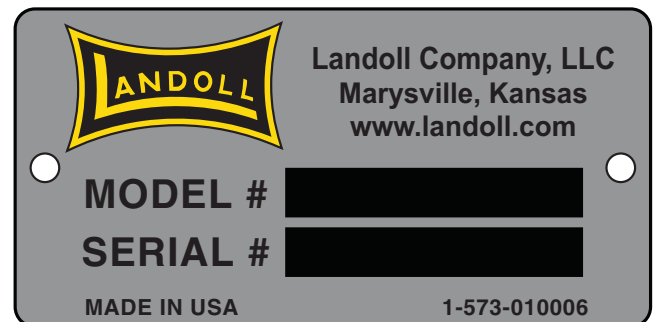
Enter your product information below for quick reference.

Refer to the ID Plate as shown in **Figure 1-1**. The ID Plate is located on the Frame Front Tube by the Electric Clutch.

MODEL NUMBER

SERIAL NUMBER

DATE OF PURCHASE



**Figure 1-1: ID Plate**

**SAFETY INFORMATION**

# Safety

## NOTE

*Investigation has shown that nearly 1/3 of all farm accidents are caused by careless use of machinery. Insist that all people working with you or for you abide by all safety instructions.*

## Understanding Safety Statements

You will find various types of safety information on the following pages and on the implement decals (signs) attached to the implement. This section explains their meaning.

### NOTICE

**Special notice - read and thoroughly understand.**

### CAUTION

**Proceed with caution. Failure to heed caution may cause injury to person or damage product.**

### WARNING

**Proceed with caution. Failure to heed warning will cause injury to person or damage product.**

### DANGER

**Proceed with extreme caution. Failure to heed notice will cause injury or death to person and/or damage product.**

## NOTE

*You should read and understand the information contained in this manual and on the implement decals before you attempt to operate or maintain this equipment.*

- Examine safety decals and be sure you have the correct safety decals for the implement. **See Figure 1-4**
- Order replacement decals through your Brillion dealer.
- Keep these signs clean so they can be observed readily. It is important to keep these decals cleaned more frequently than the implement. Wash with soap and water or a cleaning solution as required.
- Replace decals that become damaged or lost. Also, be sure that any new implement components installed during repair include decals which are assigned to them by the manufacturer.

- When applying decals to the implement, be sure to clean the surface to remove any dirt or residue. Where possible, sign placement should protect the sign from abrasion, damage, or obstruction from mud, dirt, oil etc.



### DANGER

- **Do not allow anyone to ride on the tractor or implement. Riders could be struck by foreign objects or thrown from the implement.**
- **Never allow children to operate equipment.**
- **Keep bystanders away from implement during operation.**

## High Power Magnet

The Brillion Elite Mini Monitor uses very powerful Neodymium Magnets. Read all the warnings before operating the machine.



### WARNING

1. **Neodymium Magnets are brittle; they can be broken or can splinter in a collision. One should wear gloves and protective glasses when handling these magnets, because splinters and/or spacers could disengage and fly from the magnets.**
2. **Normal Neodymium Magnets will lose their magnetic properties if heated above 175°F (80° C).**
3. **The strong magnetic fields of Neodymium Magnets can damage items such as televisions, computer monitors, credit cards, bank cards, computers, diskettes and other data carriers, video tapes, mechanical watches, hearing aides, loud speakers and VCRs. Pace-Makers may be damaged or switch to "Test Mode" in the presence of a strong magnetic force, if a Pace-Maker or other electrical body implant is in use, Keep a Minimum of 3 Feet Distance.**
4. **Children should not be allowed to handle Neodymium Magnets as they can be dangerous. Small magnets pose a choking hazard and should never be swallowed or inserted into any part of the body.**
5. **Under no circumstances should you try to cut, saw or drill the Neodymium Magnet! Not only would the magnet break, but the resulting dust from the magnet is very flammable. Neodymium Magnets should never be burned, as burning them will create toxic fumes.**

## Transporting Safety

### IMPORTANT

**It is the responsibility of the owner/operator to comply with all state and local laws.**

- When transporting the implement on a road or highway, use adequate warning symbols, reflectors, lights and slow moving vehicle sign as required. Slow moving tractors and towed implements can create a hazard when driven on public roads. They are difficult to see, especially at night.
- Do not tow an implement that, when fully loaded, weighs more than 1.5 times the weight of the towing vehicle.
- Carry reflectors or flags to mark the tractor and implement in case of breakdown on the road.
- Do not transport at speeds over 20 MPH under good conditions. Never travel at a speed which does not allow adequate control of steering and stopping. Reduce speed if towed load is not equipped with brakes.
- Avoid sudden stops or turns because the weight of the implement may cause the operator to lose control of the tractor.
- Use caution when towing behind articulated steering tractors; fast or sharp turns may cause the implement to shift sideways.
- Keep clear of overhead power lines and other obstructions when transporting. Know the transport height and width of your implement. **See "Specifications" in Chapter 6.**

## Safety Instructions for Towing Vehicles

The maximum travel speed is the lesser of

- The limit of the road conditions;
- The maximum specified ground speed;
  - for towing operations as indicated in this manual or SIS;
  - of the towed vehicle as indicated in its operator's manual, SIS, or information sign;
- The maximum ground speed of the towed equipment combination shall be limited to the lowest specified ground speed of any of the towed machines. This speed is the ground speed limitation.

**EXAMPLE:** If the tractor is capable of 25 mph, the first implement has a SIS for 19 mph, and the last implement's operator's manual states its specified ground speed is 15 mph, the towed equipment combination ground speed limitation is 15 mph.

## Attaching, Detaching and Storage

- Do not stand between the tractor and implement when attaching or detaching implement unless both are not moving.
- Before applying pressure to the hydraulic system, be sure all connections are tight and that hydraulic hoses are not damaged.
- Completely raise machine and install transport locks. If desired to store lowered and on unpaved surface, place hardwood blocks under roller to keep off ground.
- Block implement so it will not roll when unhitched from the tractor.
- Relieve pressure in hydraulic lines before uncoupling hydraulic hoses from tractor.
- Use a Safety Chain to help control drawn machinery should it separate from the tractor drawbar.

### NOTE

*To relieve hydraulic pressure: Depending on tractor hydraulic system, some can be relieved by actuating control lever after engine is stopped. If tractor has electric over hydraulic controls, it may be necessary to move the control lever to the float position. **Refer to Tractor's Operator's Manual.***

*Wear protective gloves and safety glasses or goggles when working with hydraulic systems.*

## Maintenance Safety

- Block the implement so it will not roll when working on or under it.
- Transport Locks installed.
- Do not make adjustments or lubricate the machine while it is in motion.
- Make sure all moving parts have stopped and all system pressure is relieved.
- Keep all guards in place. Replace any that become damaged.
- Understand the procedure before doing the work. Use the proper tools and equipment.

## Protective Equipment

- Wear protective clothing & equipment appropriate for the job. Avoid loose fitting clothing.
- Because prolonged exposure to loud noise can cause hearing impairment or hearing loss, wear suitable hearing protection, such as earmuffs or earplugs.



## **SAFETY INFORMATION**

### **Prepare for Emergencies**

- Keep a First Aid Kit and Fire Extinguisher handy
- Keep emergency numbers for doctor, ambulance, hospital and fire department near phone.

### **Tire Safety**

Tire changing can be dangerous and should be performed by trained personnel using correct tools and equipment.

- When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side, not in front of or over the tire assembly. Use a safety cage if available.
- When removing and installing wheels use wheel-handling equipment adequate for the weight involved.

### **Chemical Safety**

Agricultural chemicals can be dangerous. Improper use can seriously injure persons, animals, plants, soil & property.

- Read chemical manufacturer's instructions and store or dispose of unused chemicals as specified. Handle chemicals with care & avoid inhaling smoke from any type of chemical fire.
- Store or dispose of unused chemicals as specified by the chemical manufacturer.

### **High Pressure Fluid Safety**

Escaping fluid under pressure can be nearly invisible and have enough force to penetrate the skin causing serious injury. Use a piece of cardboard, rather than hands, to search for suspected leaks.

- Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.
- Avoid the hazard by relieving pressure before disconnecting hydraulic lines.

#### **NOTE**

*To relieve hydraulic pressure: Depending on tractor hydraulic system, some can be relieved by actuating control lever after engine is stopped. If tractor has electric over hydraulic controls, it may be necessary to move the control lever to the float position. **Refer to Tractor's Operator's Manual.***

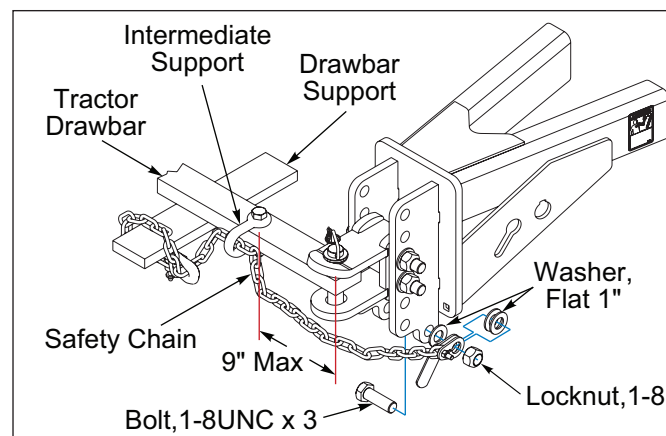
*Wear protective gloves and safety glasses or goggles when working with hydraulic systems.*

### **Safety Chain**

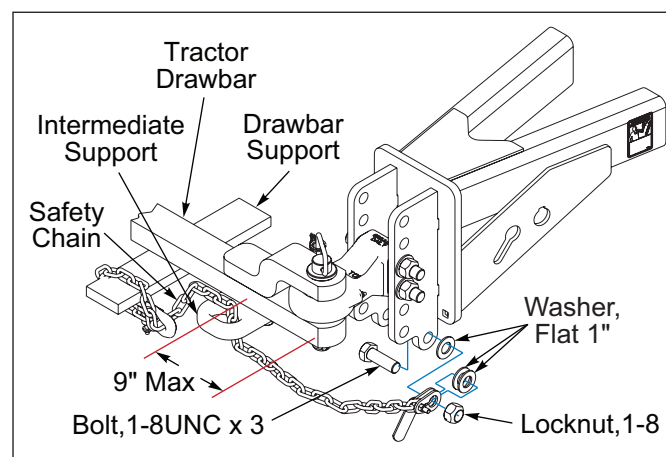
1. Use the Safety Chain to help control drawn machinery should it separate from the tractor drawbar.
2. Use a chain with a strength rating equal to or greater than the gross weight of towed machinery, in accordance with ASAE S338.2 specifications. If two or more machines are pulled in tandem, a larger chain may be required. Chain capacity must be greater than the total weight of all towed implements.

A second chain should be used between each implement.

3. Attach the chain to the tractor drawbar support or specified anchor location. Never attach the chain to an intermediate support. Allow only enough slack in the chain to permit turning. The distance from Hitch Pin to attachment point or intermediate support point should not exceed 9 inches. If the distance from the Drawbar Pin to either the front or rear chain attachment point exceeds 9 inches, intermediate chain support is required. **See Tractor Operator's Manual**
4. Replace chain if any links or end fittings are broken, stretched or damaged.
5. Do not use a Safety Chain for towing.



**Figure 1-2: CAT 2 Clevis Hitch**



**Figure 1-3: CAT 3 Ring Hitch**



## Decals



ITEM 1 - 242489



ITEM 3 - 218260



ITEM 2 - 170509

ITEM 4  
9K788

ITEM 5 - 528934



ITEM 6 - 528933



ITEM 7 - 528938

**MICROMETER CALIBRATION**

MACHINE MAY BE CALIBRATED FOR UNLISTED SEED AS FOLLOWS:

- SEED SHAFT TURNS 163 REVOLUTIONS PER ACRE SEED.
- RAISE MACHINE AND LOCK IN TRANSPORT POSITION.
- PLACE A CANVAS OR TARP UNDER MACHINE TO CATCH SEED.
- DISENGAGE ELECTRIC CLUTCH (POWER OFF), DISENGAGE AGITATOR BOX CLUTCH (IF EQUIPPED).
- TURN TRANSMISSION MICROMETER SHAFT CALIBRATION HEX 163 REVOLUTIONS COUNTER-CLOCKWISE (CCW) WITH PROVIDED CRANK. 41 TURNS MAY BE USED IF RESULTS ARE ADJUSTED AS INDICATED IN STEP 6.
- WEIGH SEED FOR APPROXIMATE PLANTING RATE IN LBS/ACRE. MULTIPLY WEIGHT BY 4 IF ONLY 41 TURNS WERE USED.

**PLANTING RATES FOR SS16 MICROMETER BOX IN POUNDS PER ACRE**

RATES ARE INTENDED AS A GUIDE ONLY. VARIATIONS IN SIZE AND CLEANNES WILL AFFECT RATES. CHECK ACREAGE AND POUNDS OF SEED USED FOR BEST RESULTS.

INDICATOR SETTINGS	1A	2A	3A	4A	5A	6A	7A	8A
ALFA (UNCOATED)	3	7	13	19	23	28	34	39
BAHA	1	6	10	14	19	23	27	30
BERMUDA (HULLED)	3	7	13	20	24	30	34	40
BIRMGHOTT (BROADLEAF)	3	9	14	20	26	36	44	51
BLUE GRASS (KENTUCKY)	1	3	4	7	9	11	13	14
BLUE GRASS (PARK KENTUCKY)	1	4	7	11	14	19	21	24
BLUE GRASS (SHERMAN BIG)	0	1	4	6	7	9	10	11
CANOLA	11	7	11	17	21	26	30	36
CENTROPE	3	7	9	13	17	20	23	26
CLOVER (ALSKA LADINO SWEET RED)	3	9	13	19	24	30	34	40
CLOVER (ALSKA CALIFORNIA BUR CRIMSON HUBAM)	7	11	17	24	28	34	43	
CROSTED WHEAT	0	1	3	4	6	7	9	10
CROWN VETCH	3	10	16	21	29	34	41	49
FLAX	3	7	11	14	19	23	27	30
HARDING GRASS	1	6	9	13	16	20	23	26
KELIN GRASS	3	7	14	19	28	33	40	44
LESPEDEZA (KOREAN UNHULLED)	1	6	10	14	20	24	30	34
LESPEDEZA (KOREAN HULLED)	3	7	13	19	23	30	36	40
LESPEDEZA (BERNICE UNHULLED)	1	4	7	11	16	19	21	24
LESPEDEZA (BERNICE HULLED)	3	9	14	21	27	34	41	46
LOVE GRASS (WEEPING)	1	9	14	19	24	31	37	44
LOVE GRASS (SAND)	3	7	11	16	21	27	33	38
MILLET	3	9	14	20	26	31	37	44
RED TOP	1	3	6	7	9	10	11	13
RED-TOPIARY GRASS	1	6	9	13	16	19	21	24
SWITCH GRASS (CLEANED AND HULLED)	0	3	6	7	10	13	16	19
TEFT - LEAFY (COATED)	4	9	14	20	27	31	38	44
TILLAGE RADISH	17	9	13	19	24	30	36	41
TIMOTHY	3	6	10	16	20	26	31	36

\*WILL CRACK SOME SEEDS AT THESE SETTINGS  
NOT RECOMMENDED: UNTILS, BOPHRA, SUDAN GRASS

241375

ITEM 8 - 241375

**AGITATOR CALIBRATION**

MACHINE MAY BE CALIBRATED FOR UNLISTED SEED AS FOLLOWS:

- SEED SHAFT TURNS 176 REVOLUTIONS PER ACRE SEED.
- RAISE MACHINE AND LOCK IN TRANSPORT POSITION.
- PLACE A CANVAS OR TARP UNDER MACHINE TO CATCH SEED.
- DISENGAGE AGITATOR BOX CLUTCH.
- TURN AGITATOR SHAFT CALIBRATION HEX 176 REVOLUTIONS COUNTER-CLOCKWISE (CCW) WITH PROVIDED CRANK. 44 TURNS MAY BE USED IF RESULTS ARE ADJUSTED AS INDICATED IN STEP 6.
- WEIGH SEED FOR APPROXIMATE PLANTING RATE IN LBS/ACRE. MULTIPLY WEIGHT BY 4 IF ONLY 44 TURNS WERE USED.

**PLANTING RATES FOR SSB16 AGITATOR BOX IN POUNDS PER ACRE**

RATES ARE INTENDED AS A GUIDE ONLY. VARIATIONS IN SIZE AND CLEANNES WILL AFFECT RATES. CHECK ACREAGE AND POUNDS OF SEED USED FOR BEST RESULTS.

SEED TYPE	AGITATOR	1	2	3	4	5	6
BENT GRASS (S3) (CROPPING)	BLADE	20	62	123	193	251	341
BLUE GRASS (SHERMAN BIG)	BLADE	3	16	42	68	108	147
BLUE GRASS (KENTUCKY - CODY SEED)	BLADE	11	44	84	128	190	269
BLUESTEM (PAVINE BIG) (WIBRARS)	BLADE	0.5	2	4	6	9	13
BLUESTEM (WWB) (DAHLVVO BEARDS)	BLADE	1	4	10	19	33	51
BLUESTEM (ITACCA LITTLE) (VVO BEARDS)	BLADE	0	0.5	2	3	5	9
BROME (MEADOW)	BLADE	1	4	6	10	16	26
BROME (SMOOTH)	BLADE	2	5	10	16	28	47
BUFFALO GRASS	BLADE	3	12	36	62	92	123
BUFFET GRASS	BLADE	0	0.4	1	2	3	4
FESCUE (CROPPING RED)	BLADE	2	8	19	37	72	109
FESCUE (TALL)	BLADE	7	29	64	119	172	236
FESTULUM	BLADE	9	24	57	83	156	211
GRAMMA (SIDE CATS)	BLADE	1	3	5	9	14	21
INDIAN GRASS	BLADE	1	2	4	6	8	10
ORCHARD GRASS (UNHULLED)	BLADE	3	9	21	42	73	117
RYE GRASS	BLADE	3	17	39	66	108	150
WHEAT GRASS (INTERMEDIATE)	BLADE	2	7	17	29	50	75

NOT RECOMMENDED: BLUESTEMS OTHER THAN SHOWN, ZORRO FESCUE

242431

ITEM 9 - 242431 (23T:40T) (Before 01/01/2024)

**AGITATOR CALIBRATION**

MACHINE MAY BE CALIBRATED FOR UNLISTED SEED AS FOLLOWS:

- SEED SHAFT TURNS 116 REVOLUTIONS PER ACRE SEED.
- RAISE MACHINE AND LOCK IN TRANSPORT POSITION.
- PLACE A CANVAS OR TARP UNDER MACHINE TO CATCH SEED.
- DISENGAGE AGITATOR BOX CLUTCH.
- TURN AGITATOR SHAFT CALIBRATION HEX 116 REVOLUTIONS COUNTER-CLOCKWISE (CCW) WITH PROVIDED CRANK. 29 TURNS MAY BE USED IF RESULTS ARE ADJUSTED AS INDICATED IN STEP 6.
- WEIGH SEED FOR APPROXIMATE PLANTING RATE IN LBS/ACRE. MULTIPLY WEIGHT BY 4 IF ONLY 29 TURNS WERE USED.

**PLANTING RATES FOR 4610-16 AGITATOR BOX IN POUNDS PER ACRE**

RATES ARE INTENDED AS A GUIDE ONLY. VARIATIONS IN SIZE AND CLEANNES WILL AFFECT RATES. CHECK ACREAGE AND POUNDS OF SEED USED FOR BEST RESULTS.

SEED TYPE	AGITATOR	1	2	3	4	5	6
BENT GRASS (S3) (CROPPING)	BLADE	14	43	88	128	173	238
BLUE GRASS (SHERMAN BIG)	BLADE	8	11	20	47	74	101
BLUE GRASS (KENTUCKY - CODY SEED)	BLADE	7	30	59	99	131	198
BLUESTEM (PAVINE BIG) (WIBRARS)	BLADE	0.5	1	2	4	6	9
BLUESTEM (WWB) (DAHLVVO BEARDS)	BLADE	1	3	7	13	23	38
BLUESTEM (ITACCA LITTLE) (VVO BEARDS)	BLADE	0	0.5	1	2	3	6
BROME (MEADOW)	BLADE	1	2	4	7	11	19
BROME (SMOOTH)	BLADE	1	3	7	11	19	32
BUFFALO GRASS	BLADE	2	5	20	42	63	99
BUFFET GRASS	BLADE	0	0.5	0.7	1	1	1
FESCUE (CROPPING RED)	BLADE	1	8	13	23	40	78
FESCUE (TALL)	BLADE	3	20	44	82	119	185
FESTULUM	BLADE	9	17	39	67	108	148
GRAMMA (SIDE CATS)	BLADE	1	2	4	7	13	17
INDIAN GRASS	BLADE	0.7	1.4	2	4	8	7
ORCHARD GRASS (UNHULLED)	BLADE	2	8	18	39	69	91
RYE GRASS	BLADE	2	11	27	48	74	103
WHEAT GRASS (INTERMEDIATE)	BLADE	1	5	12	23	34	52

NOT RECOMMENDED: BLUESTEMS OTHER THAN SHOWN, ZORRO FESCUE

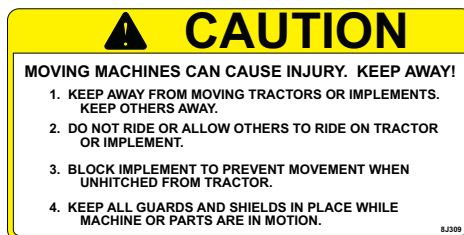
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ITEM 9 - 248388 (15T:40T) (After 01/01/2024)

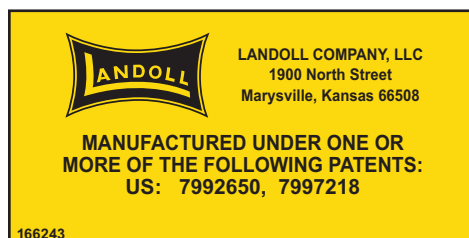
Figure 1-4: Decals (1 of 2)



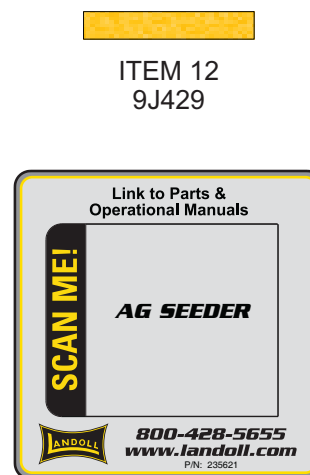
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ITEM 11 - 8J309



ITEM 13 - 166243



ITEM 12  
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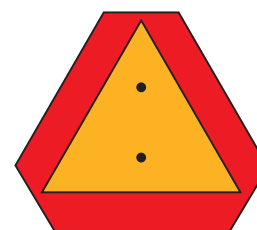
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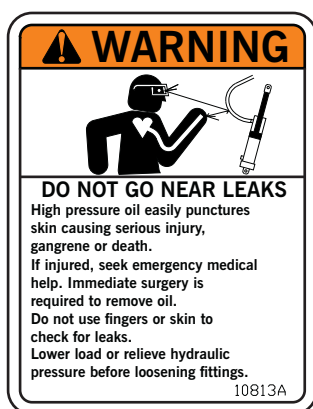
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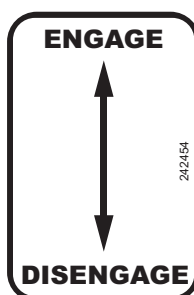
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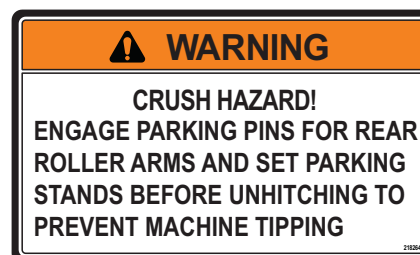
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ITEM 19 - 3K706



ITEM 20 - 242454



ITEM 21  
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ITEM 22 - 9J301

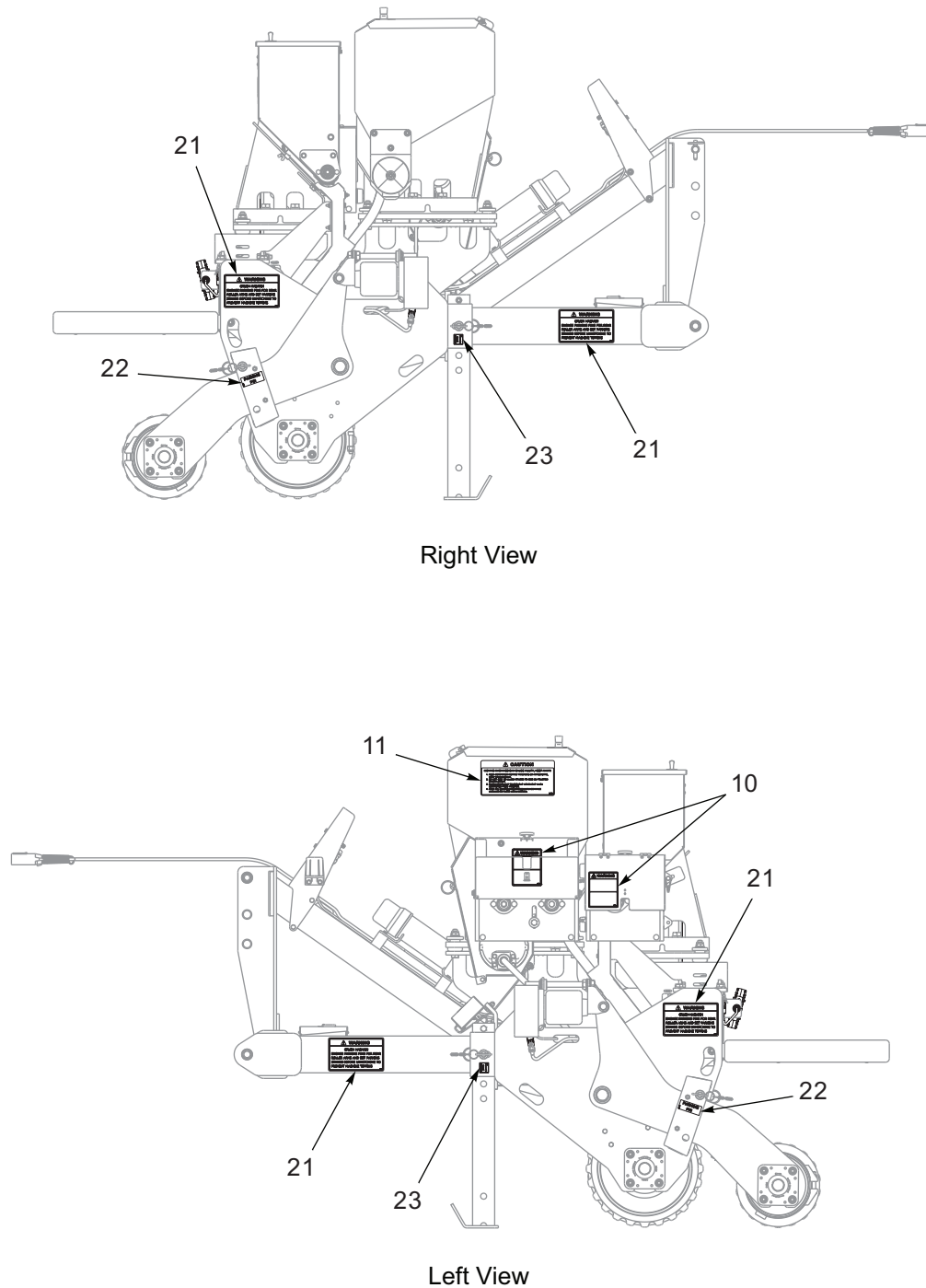


ITEM 23 - 3P078



ITEM 24 - 9K740

Figure 1-5: Decals (2 of 2)



**Figure 1-6: 3-PT Decals**

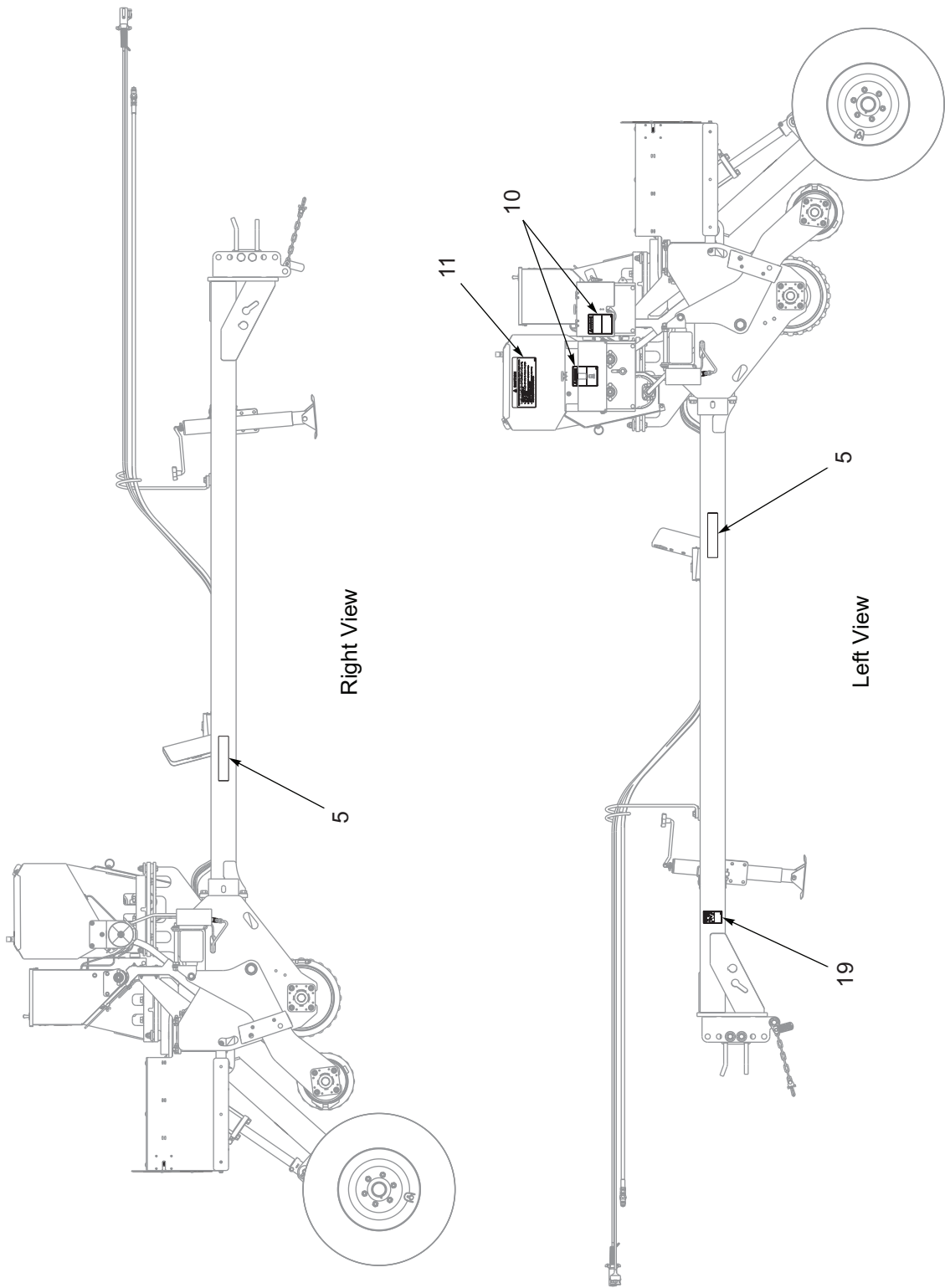
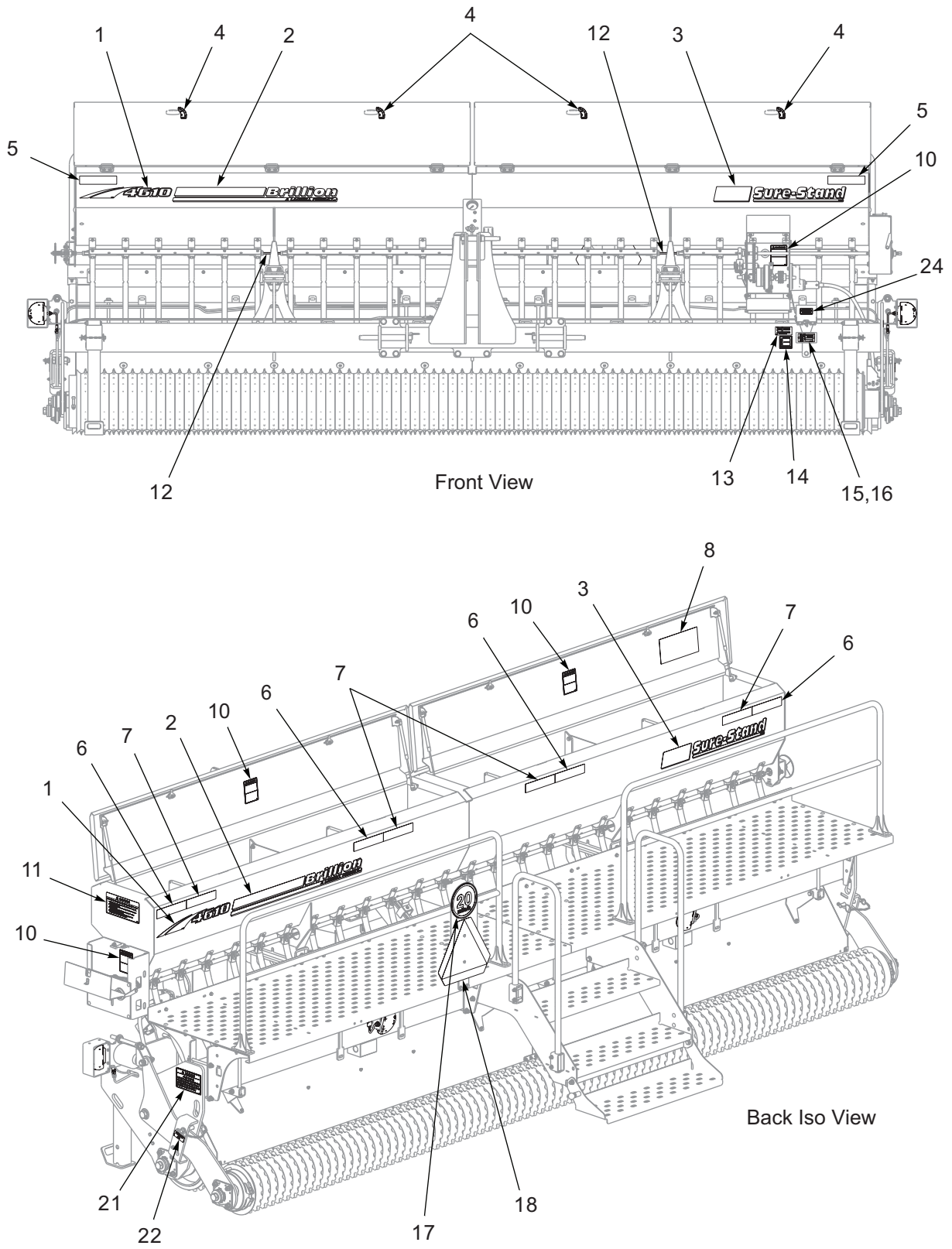
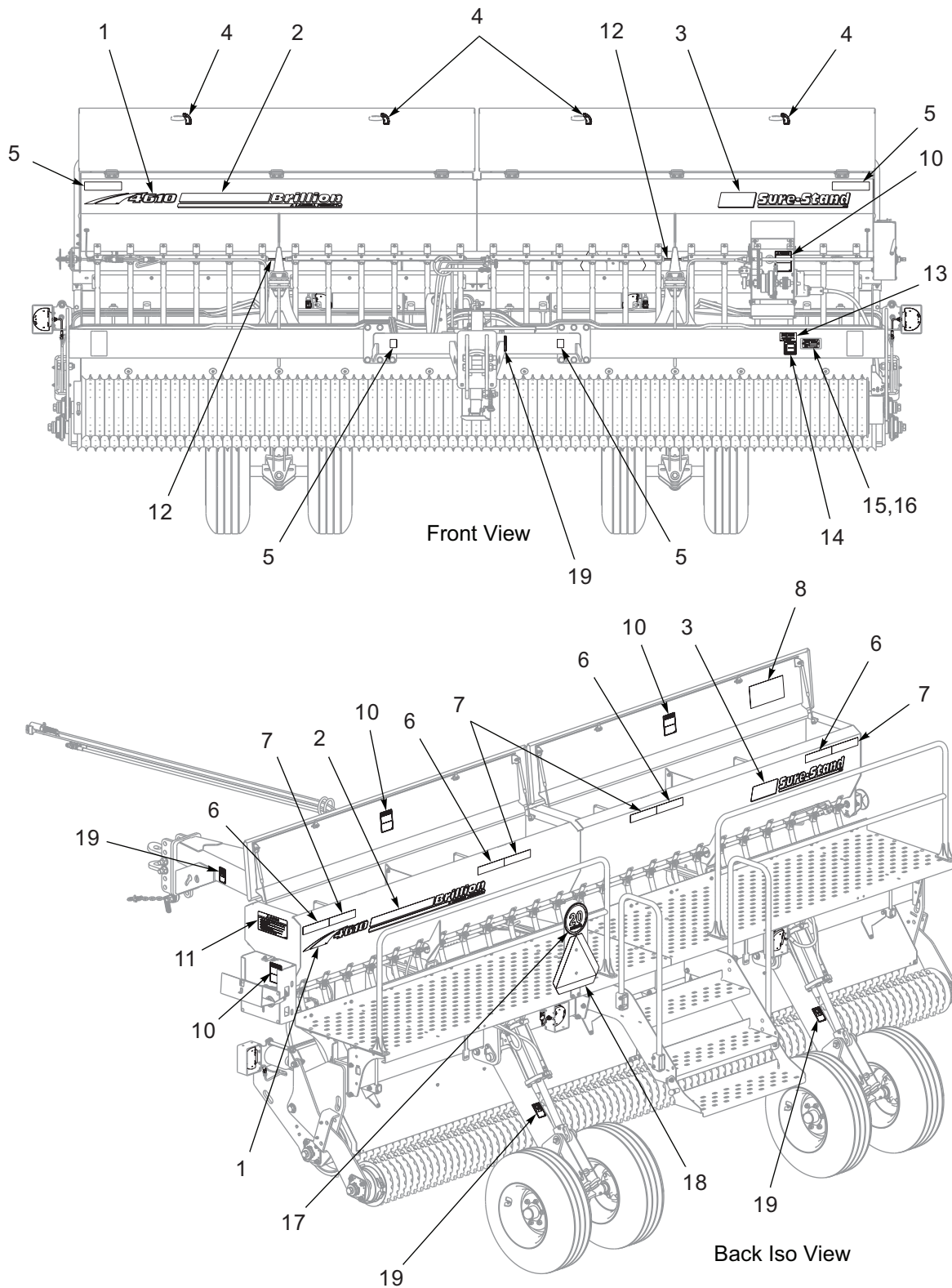


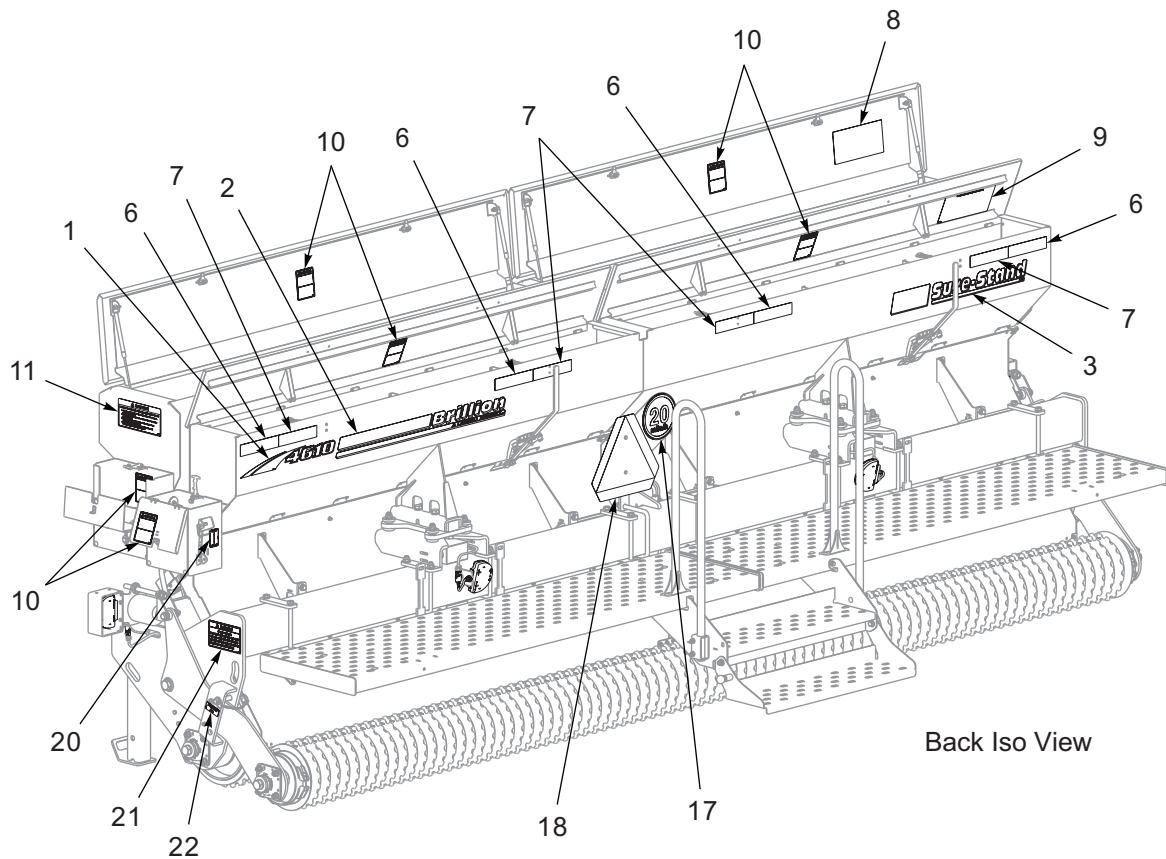
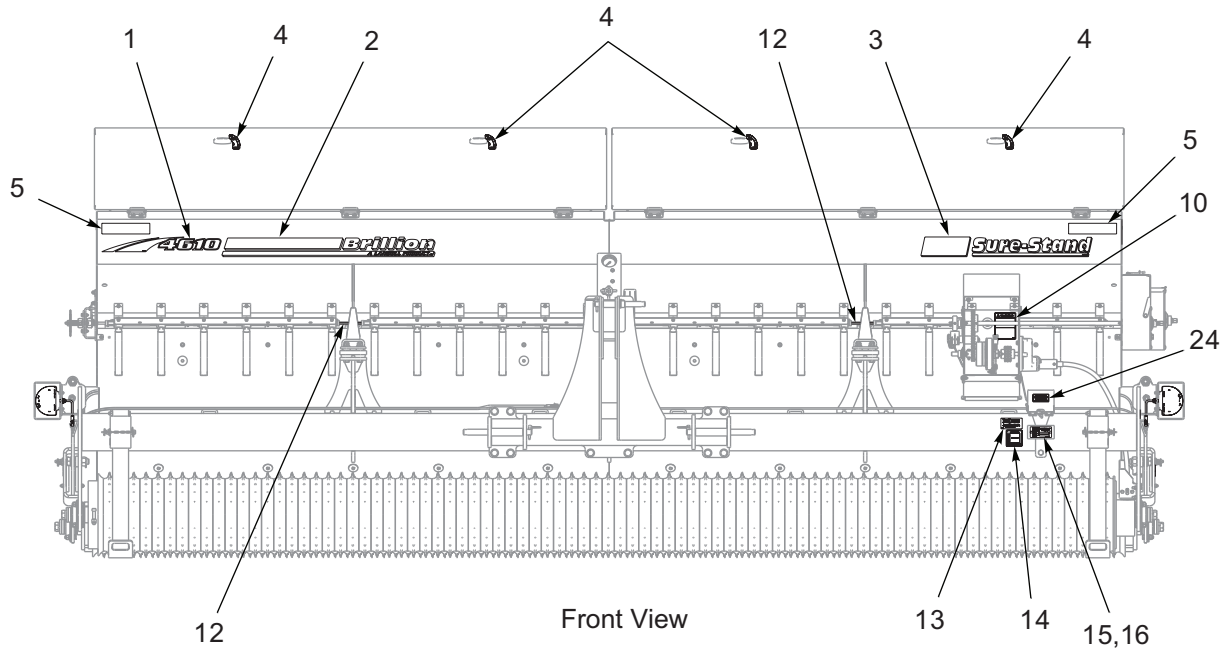
Figure 1-7: Drawbar Decals



**Figure 1-8: Single Box 3-PT Hitch Decal Locations**

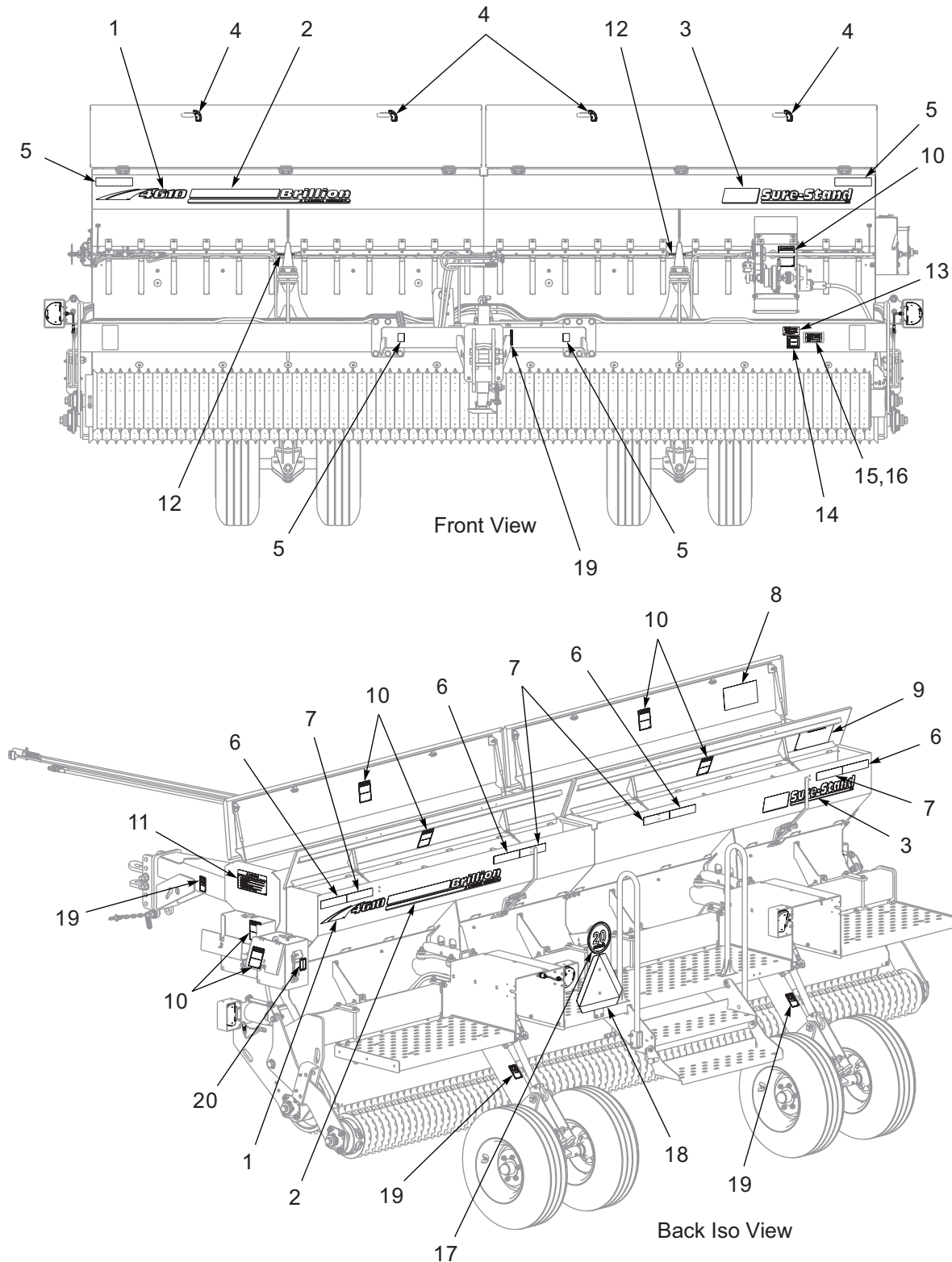


**Figure 1-9: Single Box Pull-Type Hitch Decal Locations**



**Figure 1-10: Double Box 3-PT Hitch Decal Locations**





**Figure 1-11: Double Box Pull-Type Decal Locations**





### CAUTION

Do not work on or under this machine unless securely blocked and supported by a hoist or tractor or by other sufficient means.



### WARNING

Do not attempt to lift heavy parts manually. Use a hoist or a fork lift to move these parts into position.

### NOTE

*Refer to the repair parts manual F-1133 for identification of parts and for the approximate relationship of the parts in assembly. Your exact Seeder Model may vary slightly from the illustration.*

To ensure alignment of assemblies, leave the nuts loose until completion of final assembly. Use lock washers or flat washers as specified. Spread all cotter pins.

After completion of final assembly, tighten all nuts evenly to prevent misalignment, distortion or binding. Tighten all screws and nuts to the recommended torques.

### IMPORTANT

- If pre-assembled parts or fasteners are temporarily removed, remember where they go. It is best to keep parts separated.
- Check that all working parts move freely, bolts are tight and cotter pins spread.
- Refer to the Torque Table for proper torque values. Note the different torque requirements for bolts with lock nuts. See Page 5-1.

“Left” and “Right” refer to directions seen as if standing behind the machine and facing in the direction of forward travel.

### IMPORTANT

All harnesses must be firmly attached to machine frame members, or nylon tubing, so they don't sag or become torn loose by field debris. Use the tie wraps provided.

Check to be sure the harnesses at center of machine is slack enough so as not to be stretched or interfered with while rotating frame from transport to field working position and vice versa.

## 3-PT Hitch Installation

### IMPORTANT

Before assembling the 3-PT Hitch onto the Seeder Assembly, make sure that the Assembled Seeder Parking Stands are down supporting the Seeder Assembly and the Parking Pins are locking the Rear Roller down. See Figure 2-1.

1. Center the 3-PT Hitch on the front Seeder Frame Tube. Attach with 2-Hole and 4-Hole Plates, 3/4-10 x 8 Bolts, Flat Washers and Locknuts. Tighten hardware. See Figure 2-2.
2. Attach the Air Manifold Bracket Assembly to the 3-PT Hitch with 3/8 x 16 x 5-1/4 Bolts, and Flanged Locknuts. **Do Not** tighten until harnesses are installed.
3. Attach the Toolbox to the 3-PT Hitch with 3/8-16 x 1 Bolts, Flat Washers and Flanged Locknuts.

4. Insert Top Link and lower 3-PT Pins. Secure with 7/16 Lynch Pins.

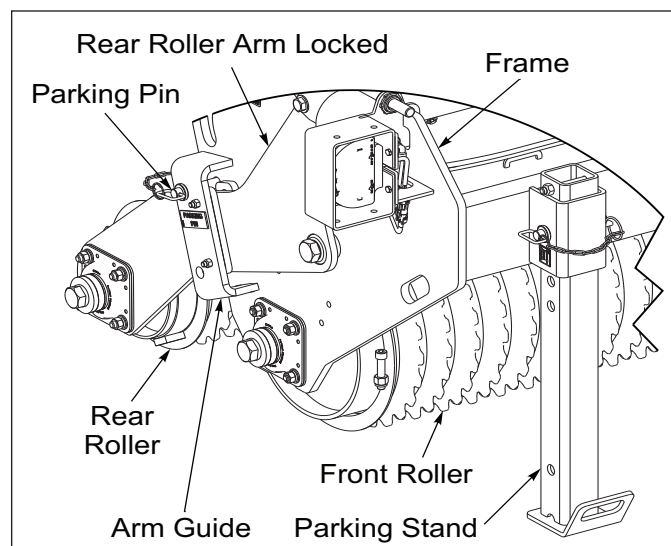


Figure 2-1: Parking Pin Engaged

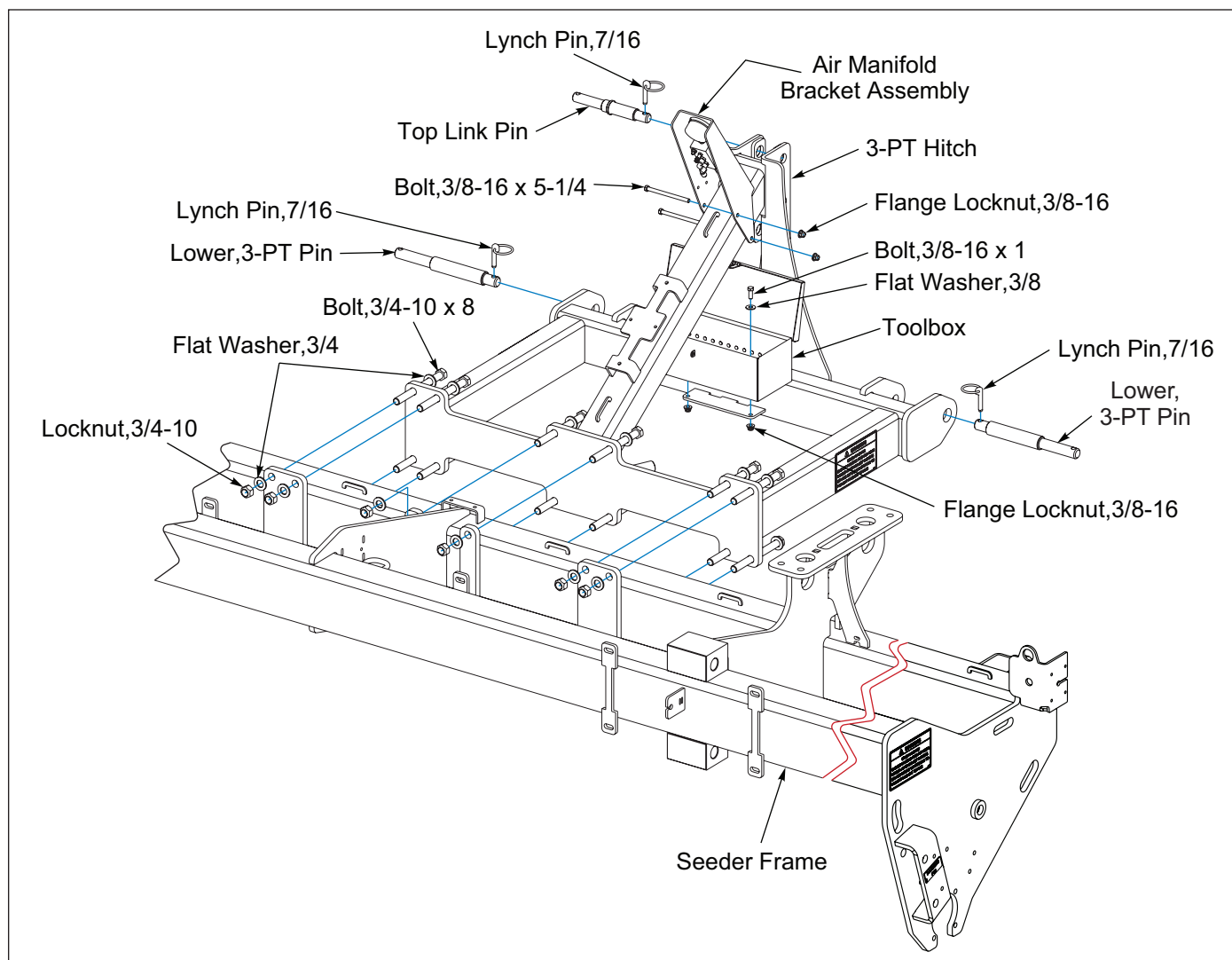


Figure 2-2: 3-PT Hitch Installation (1 of 2)

5. Attach the Manual Holder to the 3-PT Hitch with 1/4-20 x 1 Bolts, Flat Washers and Locknuts. **See Figure 2-3.**
6. Attach the Connector Holder to the Air Manifold Bracket Assembly with 1/4-20 x 3/4 Bolts, Flat Washers and Locknuts.
7. Place the Calibration Crank Assembly and Wrenches in the Toolbox.

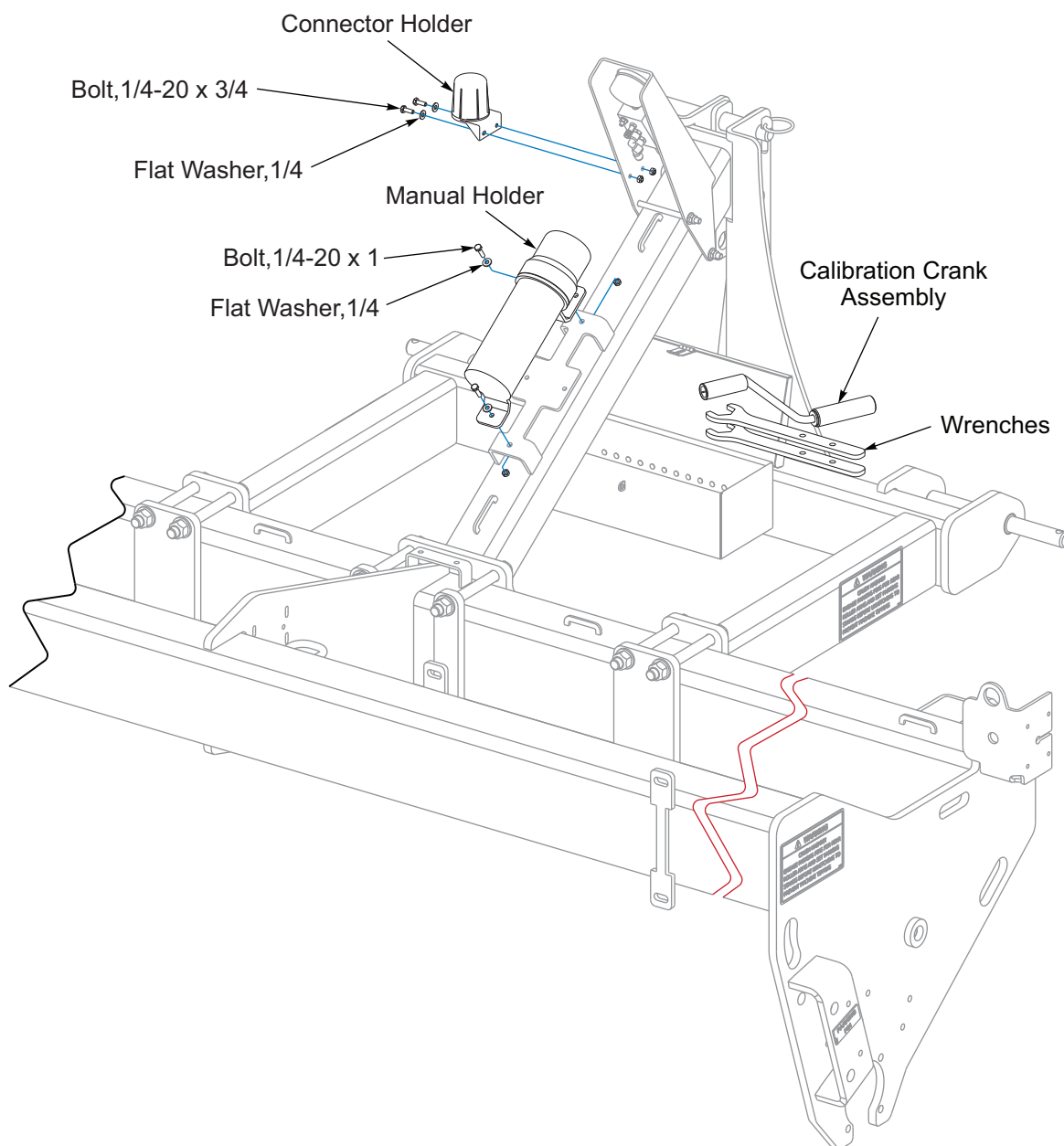


Figure 2-3: 3-PT Hitch Installation (2 of 2)

## 3-PT Hitch Air System Installation

1. Unbundle Nylon Tubing from the Seeder Assembly. Route the Nylon Tubing up the 3-PT Hitch to the Air Manifold Assembly. **See Figure 2-4.**
2. Cut off any excess Nylon Tubing and insert ends into the Air Manifold Assembly Push to Connect Elbows.

Cut ends of Nylon Tubing should be smooth and burr free. Burrs can cause slow leaks.

3. Secure Nylon Tubing with tie wraps after all Harnesses have been installed.
4. When Assembly is complete, pressurize the Rear Roller Air System. **See “Rear Roller Air System” on page 3-7.**

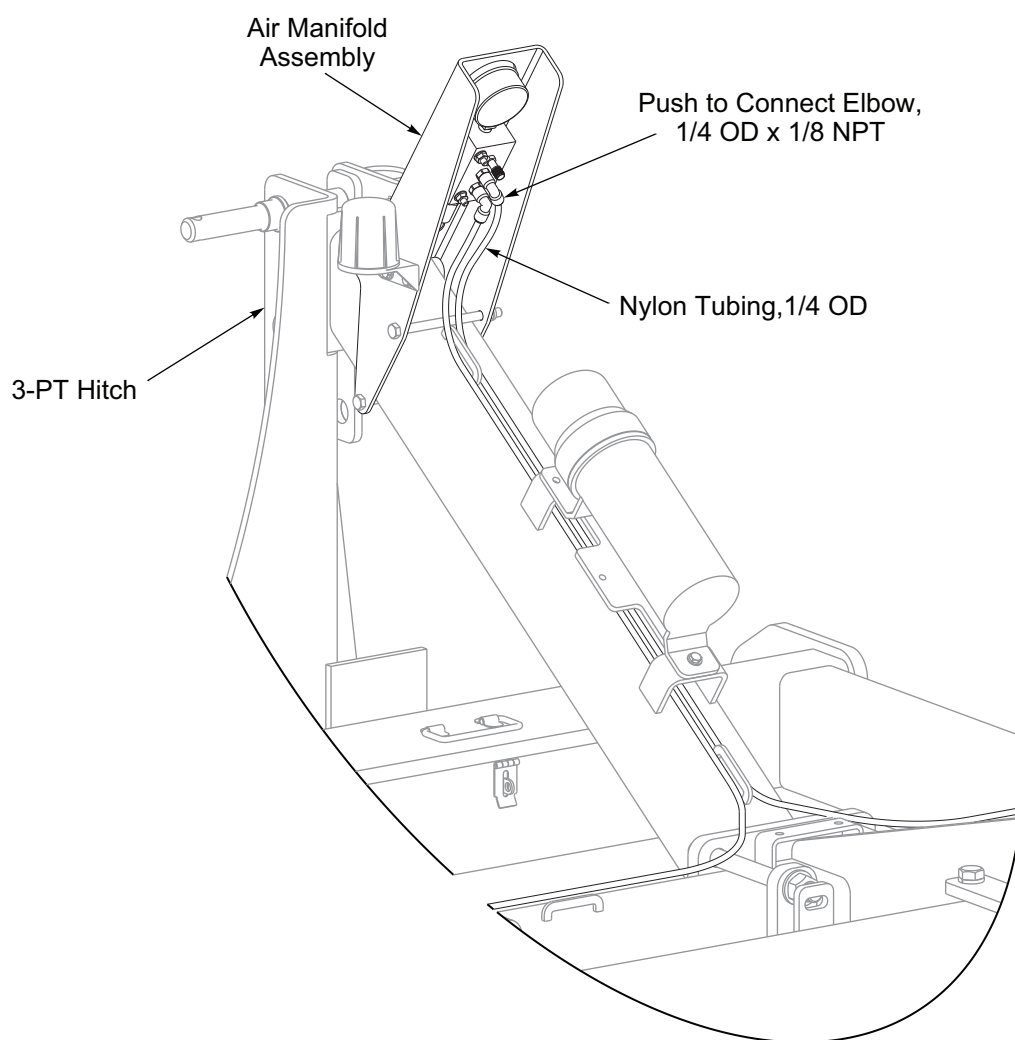


Figure 2-4: 3-PT Hitch Air System

## 3-PT Hitch Model Warning Lamps Installation

### IMPORTANT

Cords are marked Yellow Tape for Left and Green Tape for Right.

1. Lay out the 7-Pin Harness along the 3-PT Hitch with 4-Prong Connector towards Seeder. Route the 7-Pin Harness up to the Seeder Assembly. Connect 7-Pin Harness 4-Prong Connector to the Extension Harness. **See Figure 2-5.**
2. Bundle and secure with tie wraps after Nylon Tubing, and all Harnesses have been installed.
3. Connect 7-Pin Plug into Tractor and check Warning Lamp functions.

### IMPORTANT

All harnesses must be firmly attached to machine frame members, or nylon tubing, so they don't sag or become torn loose by field debris. Use the tie wraps provided.

Check to be sure the harnesses at center of machine is slack enough so as not to be stretched or interfered with while rotating frame from transport to field working position and vice versa.

### NOTE

The 7-Pin Harness connects to the tractor socket when in use. When not in use, it can be stored in the Plug Holder on the 3-PT Hitch. Allow enough harness length to reach tractor socket and roll or fold up excess and secure to Hydraulic Hoses or 3-PT Hitch.

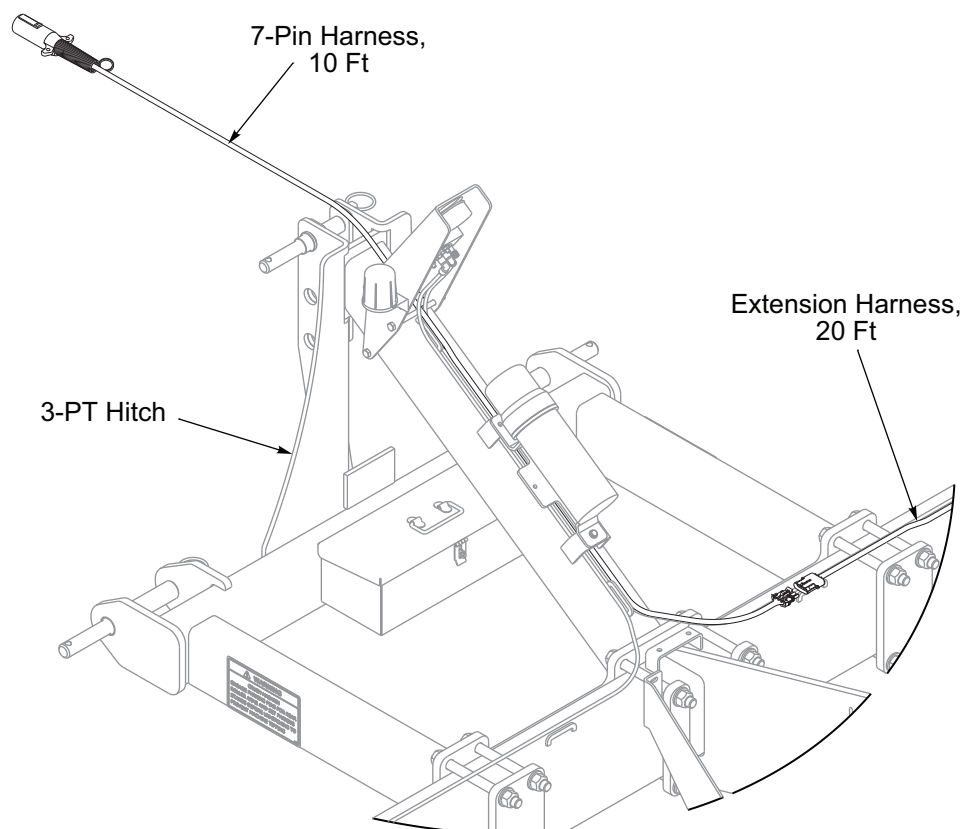


Figure 2-5: 3-PT Hitch Warning Lamps Installation

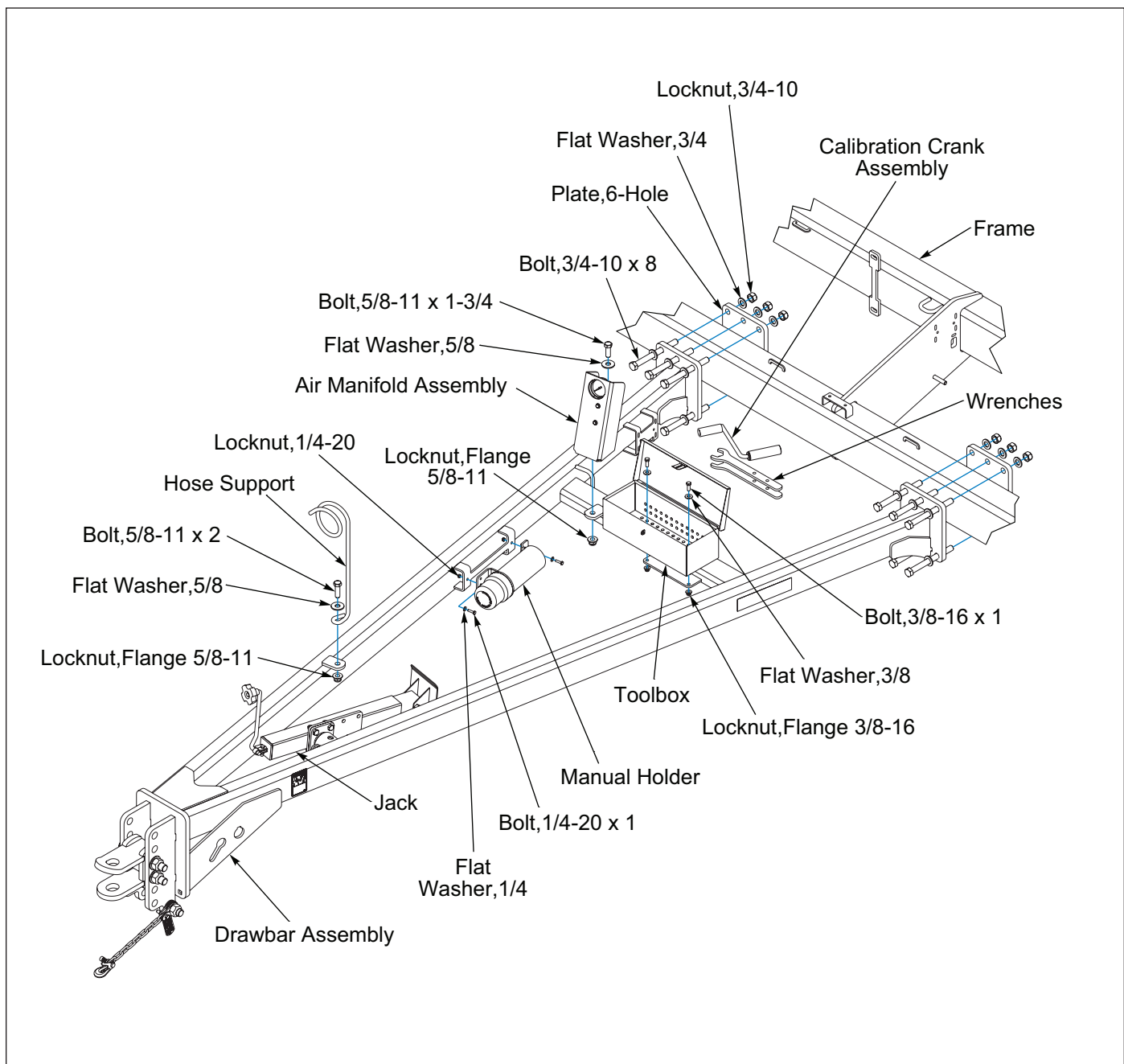
## Drawbar Installation



### WARNING

**Do not attempt to lift heavy parts manually. Use a hoist or a fork lift to move these parts into position.**

1. Center the Drawbar Assembly on the front Seeder Frame Tube. Attach with 6-Hole Plates, 3/4-10 x 8 Bolts, Flat Washers and Locknuts. Tighten hardware. **See Figure 2-6.**
2. Install Toolbox to Drawbar cross member with 3/8-16 x 1 Bolts, Flat Washers and Flanged Locknuts.
3. Attach Air Manifold Assembly to the Drawbar cross member with 5/8-11 x 1-3/4 Bolt, Flat Washer and Flanged Locknut.
4. Attach the Manual Holder to the Drawbar with 1/4-20 x 1 Bolts, Flat Washers and Locknuts.
5. Install Hose Support to the Drawbar with 5/8-11 x 2 Bolt, Flat Washer and Flanged Locknut.
6. Place Wrenches and Calibration Crank Assembly in Toolbox.
7. Lower Jack.



**Figure 2-6: Drawbar Installation**

## Hydraulic Installation



### WARNING

Escaping hydraulic fluid can cause serious personnel injury. Relieve system pressure before repairing, adjusting, or disconnecting. Wear proper hand and eye protection when searching for leaks. Use cardboard instead of hands (See Figure 2-7.) Keep all components (cylinders, hoses, fittings, etc.) in good repair.

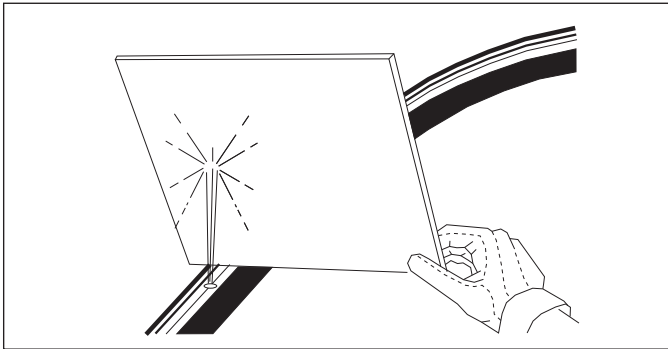


Figure 2-7: Leak Detection

#### Tightening Procedure for JIC 37 degree Swivel Female Nuts.

1. Check Fitting Flare and seat for defects.
2. Lubricate the connection.
3. Install Hydraulic Hoses without twists.
4. Hand Tighten until connections bottoms.

5. Using 2 wrenches to prevent twisting, rotate the Swivel Nut 2 wrench flats (1/3 turn).
6. For reassembly, follow the same procedure but tighten only 1 wrench flat (1/16 turn).

#### Tightening Procedure for Swivel O-Ring Fittings.

1. Lubricate O-Ring and install the Fitting until the Metal Washer which backs up the O-Ring contacts the face of the boss.
2. Orient the Fitting by turning counterclockwise up to 1 turn.
3. Tighten the Locknut using 50-60 Ft-Lbs of torque. See “Hydraulic Fitting Torque Specifications” on page 5-2.

## Hydraulic Lift Circuit

1. Lower Drawbar Jack.
2. Raise the Seeder Assembly with the Drawbar Jack enough to raise or remove Seeder Assembly Shipping Parking Stands.
3. Unbundle Hydraulic Hoses from the Seeder Assembly. Route the hoses up the Drawbar towards the Hitch. See Figure 2-8.
4. Attach the Seeder to the tractor. See “Tractor Preparation for Attaching Pull Type Seeder” on page 3-5.
5. Raise the Jack and rotate it to storage position.
6. Retract Lift Circuit 4 x 10 Hydraulic Cylinders, if not already retracted in preparation for Tire and Wheel Installation.

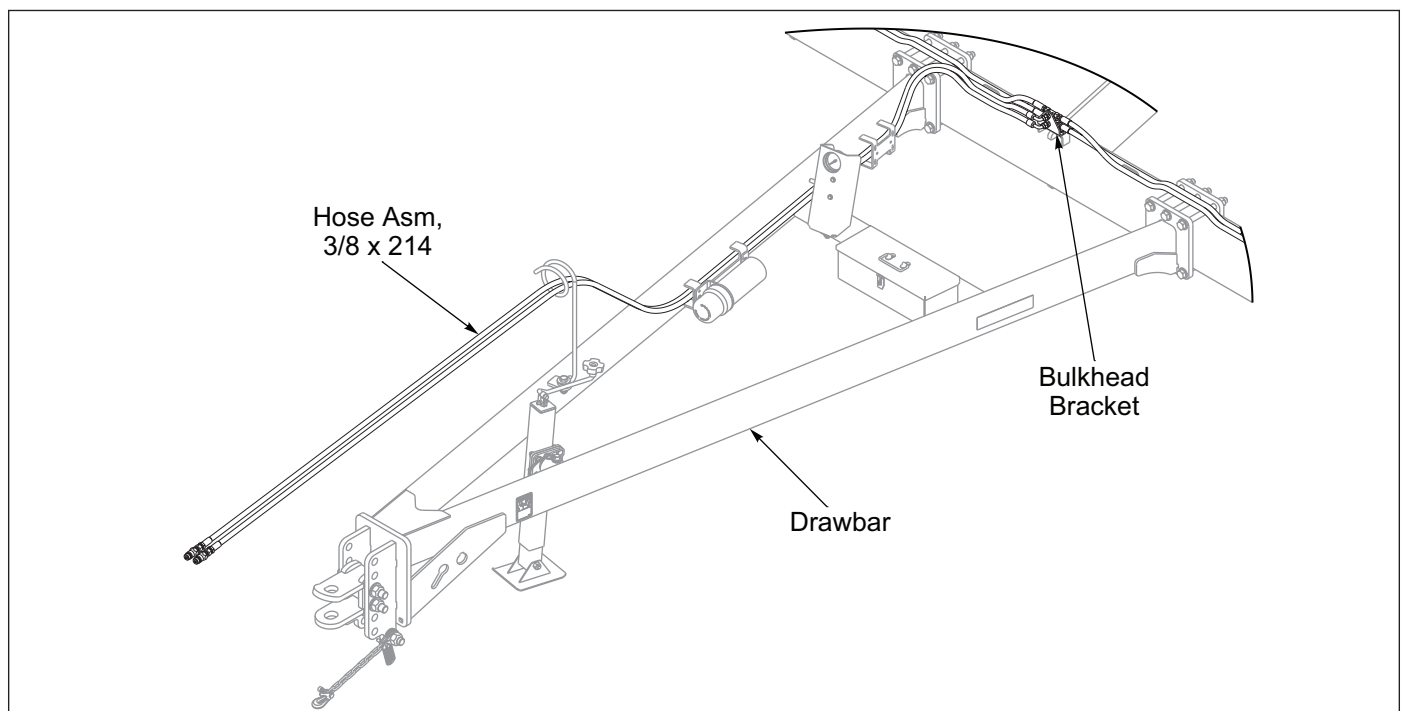


Figure 2-8: Hydraulic Installation



## Tire and Wheel Installation



### WARNING

Use a torque wrench to assure proper torque. Insufficient torque can cause stud breakage and damage the wheel pilots. Over torque can stress the bolts and strip the threads.

### NOTE

The tire/wheel assembly is mounted with the valve stem facing outward from Hub and Spindle.

### IMPORTANT

Torque will drop after the first 10 hours of operation. Check the Wheel Bolts for proper torque after this interval and re-tighten them.

- The Seeder uses 11L-15, 12 Ply Rating Tires and should be inflated to 52 PSI.

- Install a Tire and Wheel Assembly onto each Hub with 9/16-18 Wheel Nuts and tighten Wheel Nuts to 50 Ft-Lbs. using the sequence in **Figure 2-9**. Then tighten to a full torque of 90-100 Ft-Lbs.

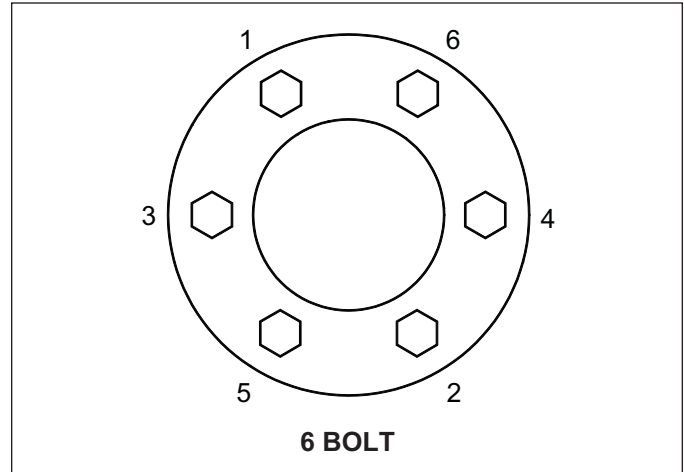


Figure 2-9: Tightening Sequence

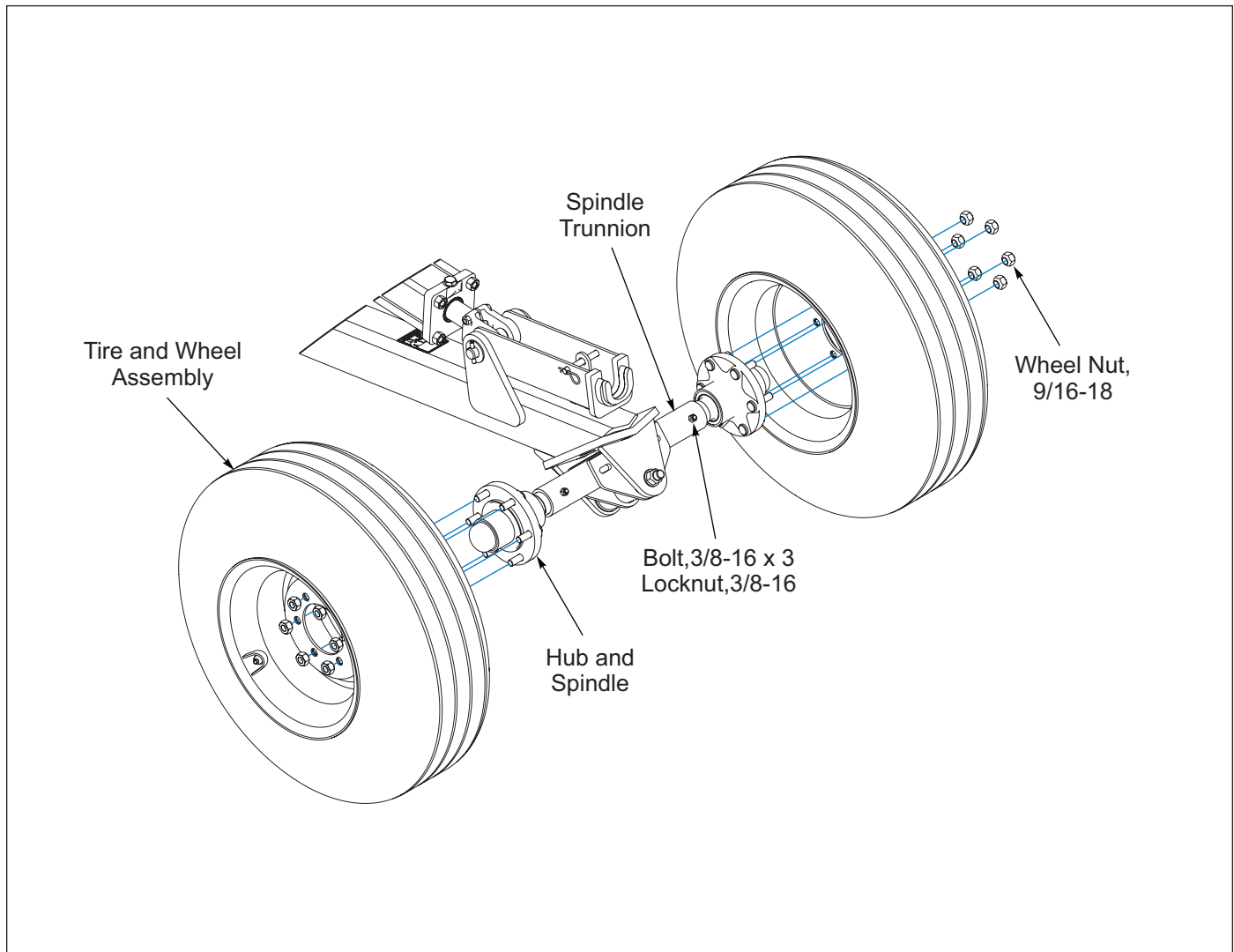


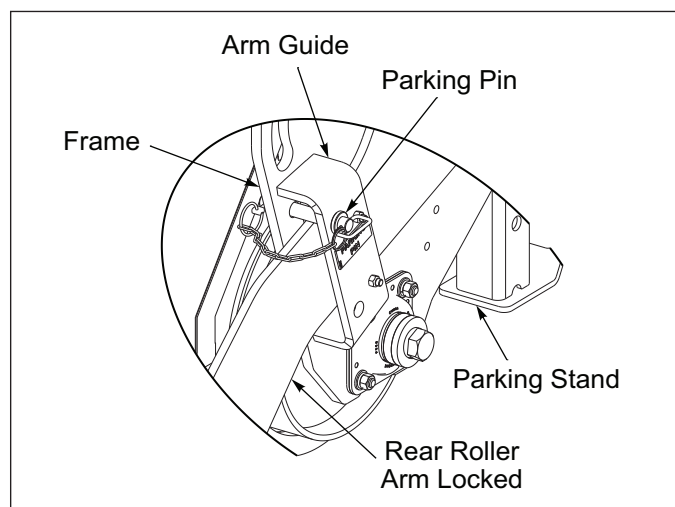
Figure 2-10: Tire and Wheel Assembly



## Purge the Hydraulic Lift System

The Hydraulic System is not filled with oil and should be purged of air before transporting and field operations.

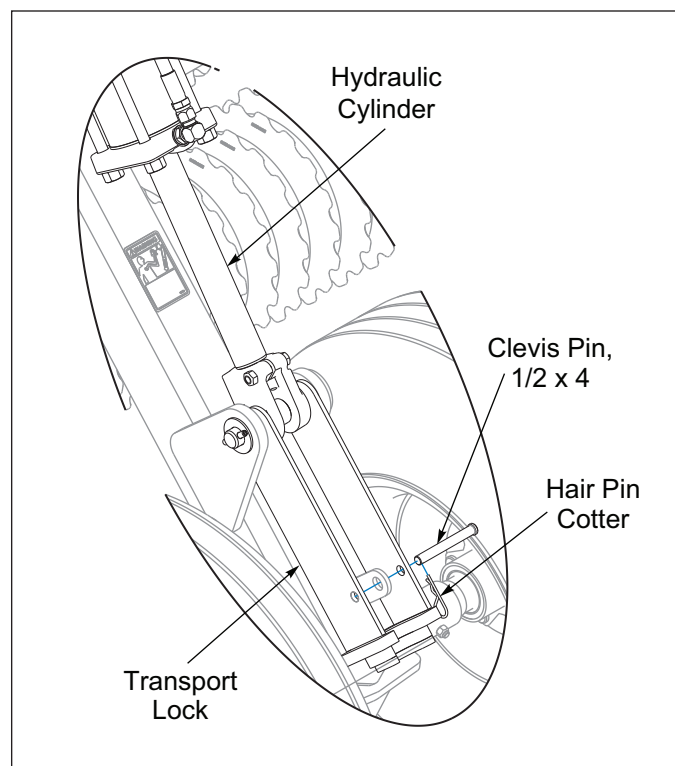
1. Tractor must be hitched to the Seeder Drawbar and Hydraulic Lift Hoses connected.
2. Check to make sure the tractor hydraulic reservoir is full of the manufacturer's recommended oil.
3. If the Transport Locks are engaged, raise the Seeder and remove the Transport Locks. **See Figure 2-12.**
4. Slowly raise the Seeder until both Lift Cylinders are fully extended. Remove the Parking Pins from the ends of the Seeder that locks the Rear Roller Arms down and place them in the Toolbox. **See Figure 2-11.**



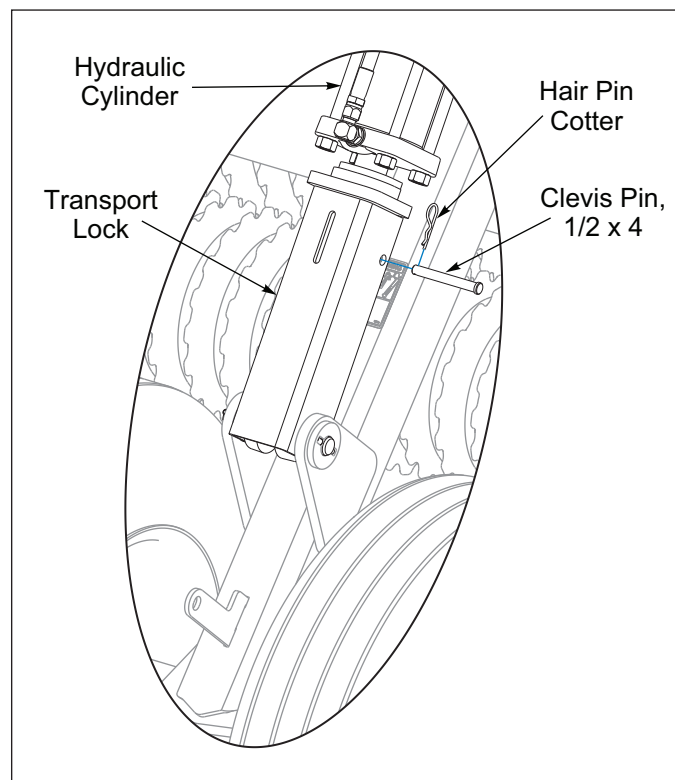
**Figure 2-11: Parking Pin Engaged**

5. Lower and raise the Seeder to verify that both Cylinders are working throughout the stroke. Fully extend the Lift Cylinders and continue to hold the lever until both Cylinder Rods movement stops. Raise/Lower Seeder 5 times to purge air from the system.
6. Do not loosen any Hydraulic Hoses or Fittings.
7. Recheck tractor reservoir to make sure it is within operating limits.
8. Raise the Seeder and install Transport Locks. **See Figure 2-13.**

**Lift Circuit approximate oil requirement: 1.67 gallons.**



**Figure 2-12: Transport Lock Stored**



**Figure 2-13: Transport Lock Engaged**

## Drawbar Air System Installation

1. Unbundle Nylon Tubing from the Seeder Assembly. Route the Nylon Tubing up Drawbar to the Air Manifold Assembly. **See Figure 2-14.**
2. Cut off the excess Nylon Tubing and insert ends into the Air Manifold Assembly Push to Connect Elbows.

Cut ends of Nylon Tubing should be smooth and burr free. Burrs can cause slow leaks.

3. Secure Nylon Tubing with tie wraps after all Harnesses and Hydraulic Hoses have been installed.
4. When Assembly is complete, pressurize the Rear Roller Air System. **See “Rear Roller Air System” on page 3-7.**

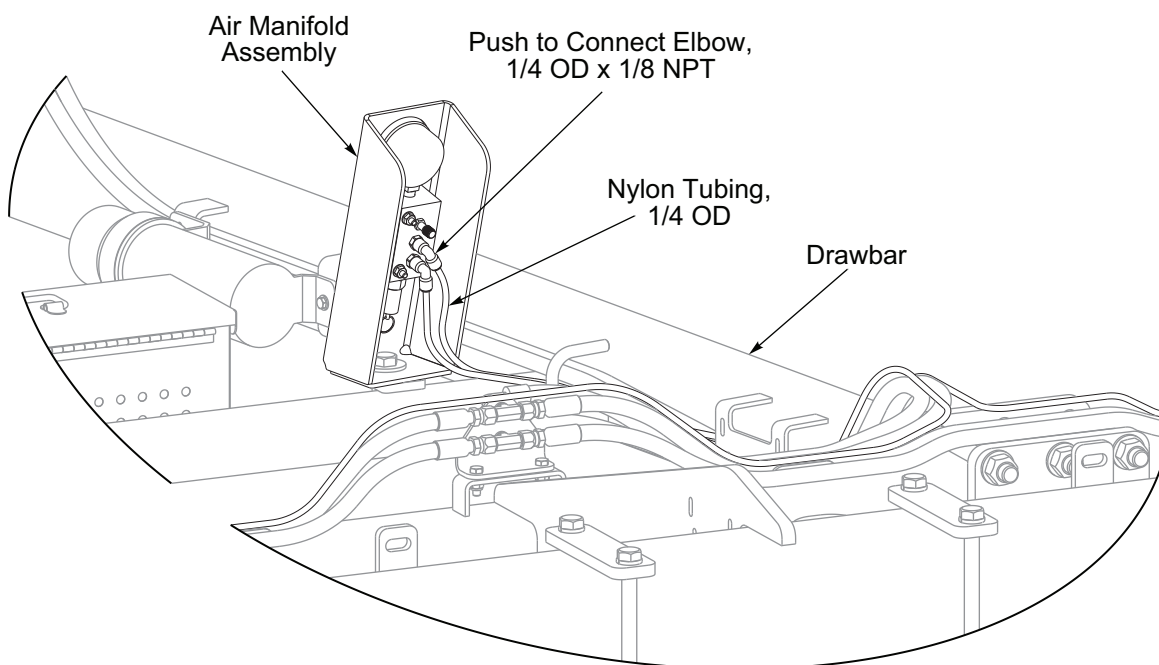


Figure 2-14: Drawbar Air System

## Drawbar Model Warning Lamps Installation

### IMPORTANT

Cords are marked Yellow Tape for Left and Green Tape for Right.

1. Lay out the 7-Pin Harness along the Drawbar with the 4-Prong Connector towards Seeder. Route the 7-Pin Harness through the Hose Support and up to the Seeder Assembly. Connect 7-Pin Harness 4-Prong Connector to the Extension Harness. See **Figure 2-15**.
2. Bundle and secure with tie wraps after Nylon Tubing, all Harnesses and Hydraulic Hoses have been installed.
3. Connect 7-Pin Plug into Tractor and check Warning Lamp functions.

### IMPORTANT

All harnesses must be firmly attached to machine frame members, or nylon tubing, so they don't sag or become torn loose by field debris. Use the tie wraps provided.

Check to be sure the harnesses at center of machine is slack enough so as not to be stretched or interfered with while rotating frame from transport to field working position and vice versa.

### NOTE

The 7-Pin Harness connects to the tractor socket when in use. When not in use, it can be stored in the Plug Holder Cut Outs on the left front side of the Drawbar. Allow enough harness length to reach tractor socket and roll or fold up excess and secure to hydraulic hoses or Drawbar.

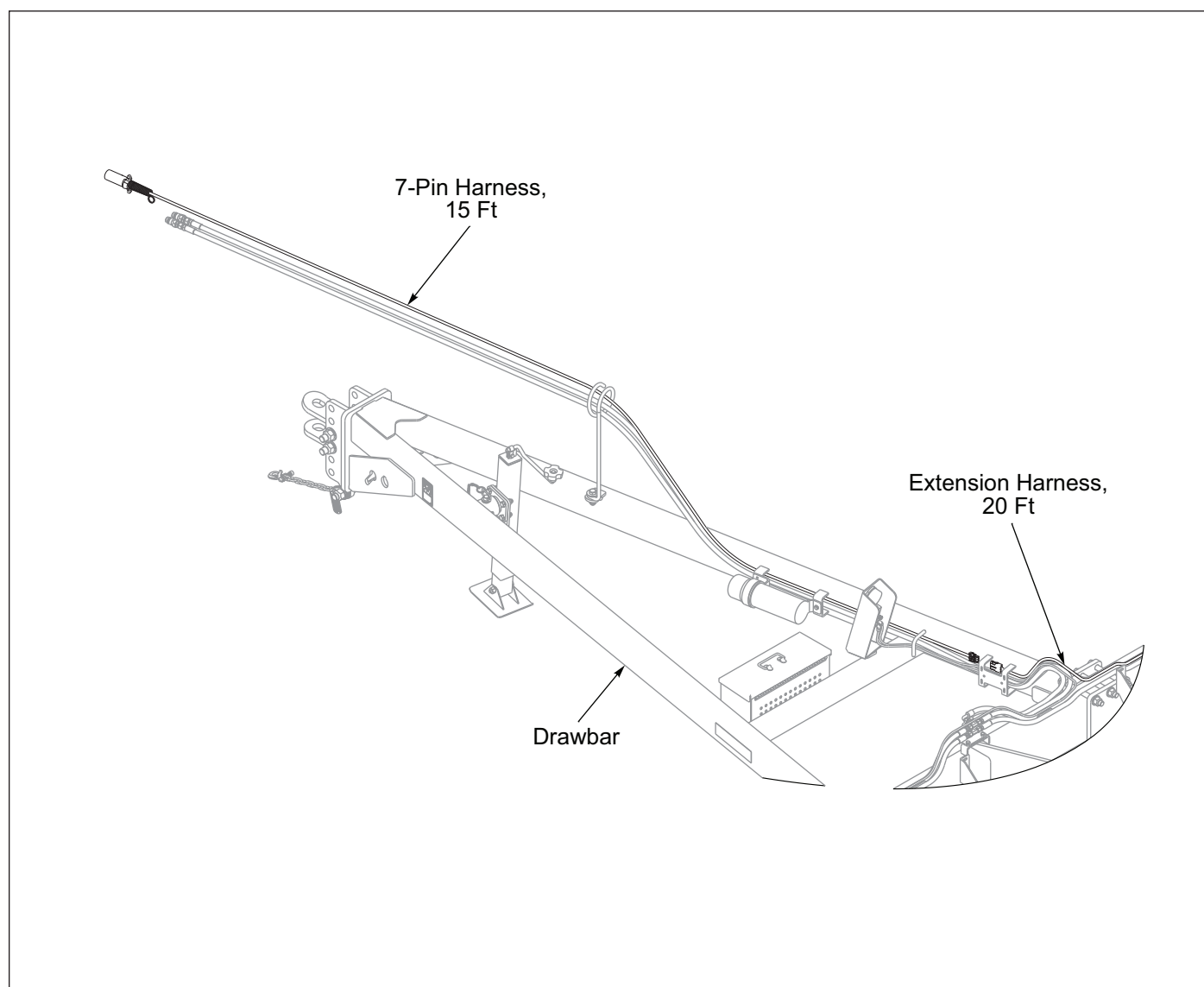


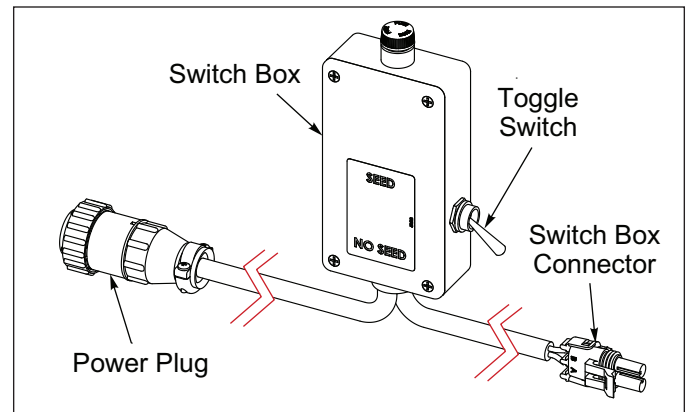
Figure 2-15: Drawbar Warning Lamps Installation

NOTES:

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## Basic Clutch Switch Box Assembly

1. Lay out the 20 Ft Cable Assembly along the Seeder Frame with the 2-Prong Connector by the Clutch Transmission Case. Route the Cable Assembly 2-Prong Connector through the opening in the back of the Clutch Transmission Case. Connect the Cable Assembly and Clutch Connectors. Secure cords to Clutch Transmission Case with Tie Straps. **See Figure 2-17.**
2. Route the Cable Assembly along the Seed Meter Support, down the Seed Box Mount and along the Frame Tube up to the 3-PT Hitch/Drawbar.
  - **3-PT Hitch:** Continue to route the 20 Ft Cable Assembly from the Frame up the 3-PT Hitch along the Warning Lamp Harnesses and Air Line Nylon Tubing.
  - **Drawbar:** Layout the 8 Ft Extension Harness along the Drawbar with the 2-Prong Connector towards the Seeder. Connect the Extension Harness to the Cable Assembly. Route the Extension Harness down the Drawbar along the Hydraulic Hoses, Warning Lamp Harnesses and Air Line Nylon Tubing.
3. Secure Harnesses to the Seeder, Hydraulic Hoses, Warning Lamp Harnesses, Air Line Nylon Tubing and 3-PT Hitch /Drawbar with Tie Wraps.
4. Install Clutch Switch Box on Tractor in a convenient location with the Hook and Loop Tape included or other type of mount (not included). **See Figure 2-16.**

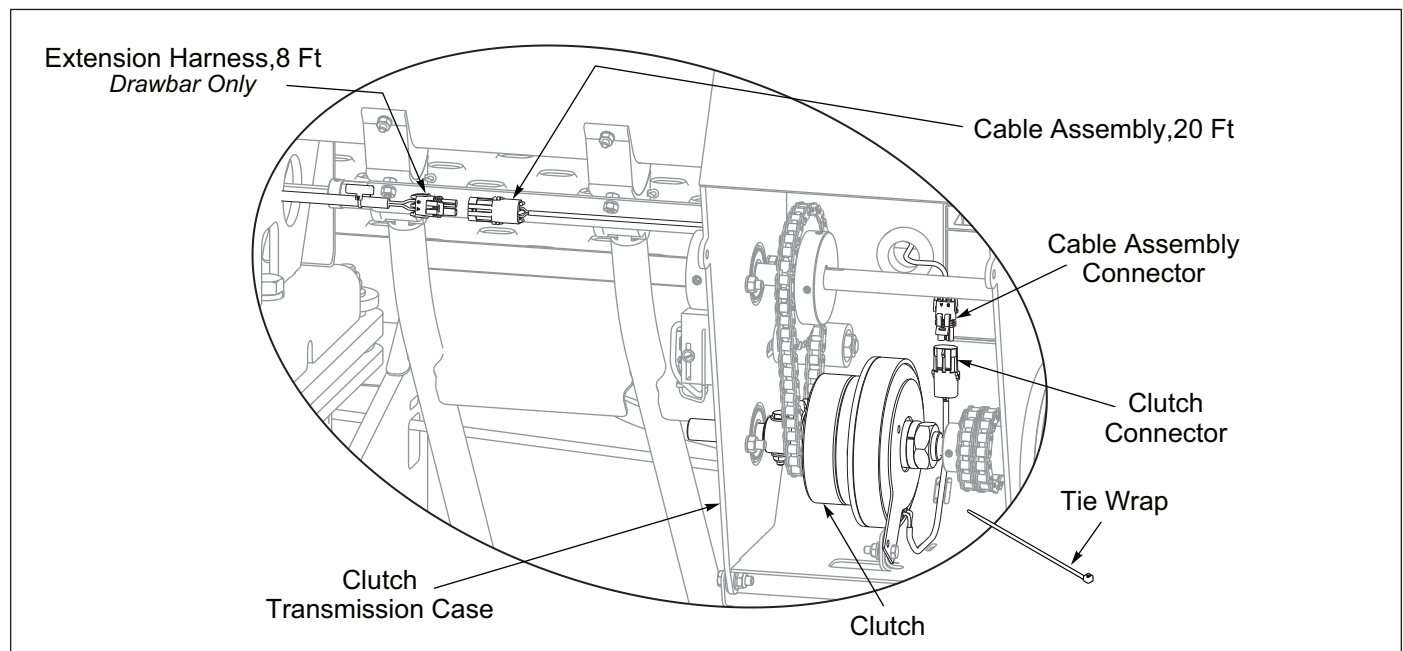


**Figure 2-16: Switch Box**

5. Connect 3-Pin Power Plug to 12 Volt Tractor Convenience Outlet.
6. Check Electric Clutch Operation. The Electric Clutch will engage when power is applied. (Clutch will make a clicking sound). Set Seeder on the ground and drive a short distance while toggling the Switch to "SEED" and "NO SEED". The Seed Shaft will stop rotating when Toggle Switch is set to "NO SEED".

### Electric Clutch Attributes:

- The Electric Clutch is controlled by a Toggle Switch on the Clutch Switch Box that is mounted to the Tractor.
- The Electric Clutch is engaged when power (12 Volts) is applied.
- The Clutch Switch Box contains a 5 Amp Time-Delay Fuse.
- The Electric Clutch must be disengaged (no seed, power off) when Seed Shafts are turned manually for Calibration.



**Figure 2-17: Basic Clutch Harness**

## Brillion Elite Mini Monitor - Optional

### IMPORTANT

The Brillion Elite Mini Monitor System by Loup utilizes a MUX communication line. Sensors must be learned into the Monitor. Location of each pre-learned Smart Shaft Sensor or Bin Level Sensor is important for proper Monitor display. Each Sensor utilizes 3 wires (+, -, MuxBus) to connect to the system. The Sensors do not require specific Harness connection points. Each Sensor is identified in the Monitor by its own signal.



### WARNING

High Power Magnet in use. See "High Power Magnet" on page 1-2.

### IMPORTANT

All Harnesses must be firmly attached to Machine Frame members so they do not sag or become torn loose by field debris.

These instructions are for a complete install. If your Seeder was purchased with the Brillion Elite Mini Monitor Option, some of the components may already be assembled on your Seeder.

Refer to Brillion Elite Mini Monitor Single Box and Double Box Schematics. See Figures 2-21 and 2-23.

1. Lay out the Seeder Harness on the Seeder Front Frame Tube ensuring that the Electric Clutch 2-Pin Connector is on the left side. See Figures 2-20 through 2-23. The Seeder Harness 24" Branch connects to the Front Meter Seed Box LH Bin Level Sensor or connects to the Splitter Harness that connects the Front Meter Seed Box and the Rear Agitator Seed Box LH Bin Level Sensors.
2. If equipped with a Rear Agitator Seed Box. Connect a Splitter Harness to the LH Seeder Harness 24" Branch. Connect a Splitter Harness on the RH Seeder Harness Branch, that will be used for the Rear Agitator Seed Box Seed Shaft Sensor and Bin Level Sensor.
3. Rear RH side of the Front Meter Seed Box, there is a Spacer w/Magnet between the 1st and 2nd Seed Meter Assembly. See Figure 2-24. Remove the 2nd and 3rd Seed Meter Assembly rear 1/4-20 x 3/4 Round Head Machine Screw that mounts the Seed Meter Assembly to the Seed Box and replace it with 1/4-20 x 1 Round Head Machine Screw. Place a 1/4 Flat Washer on each side of the Sensor Mount and install it on the 2nd and 3rd Seed Meter Screws. Secure with Lock Washers and Nuts. Attach a Smart

Shaft Sensor to the Sensor Mount with sensor provided hardware and #8-32 Flange Locknuts. Adjust the Smart Shaft Sensor so that it is 1/8" Max away from the Spacer w/Magnet on the Seed Shaft. See Figure 2-25. Connect the Smart Seed Shaft Sensor to the Seeder Harness.

4. RH Rear Agitator Seed Box end, install Sensor Mount with Bearing 1/4-20 x 3/4 Carriage Bolts Lock Washers and Nuts. See Figure 2-26. Install the Threaded Magnet Wheel Assembly onto the Seed Shaft tight against the 5/8-11 Jam Nut. Secure to Seed Shaft by tightening the Threaded Magnet Wheel Assembly Set Screw. Install a Smart Shaft Sensor to the Sensor Mount with sensor provided hardware and #8-32 Flange Locknuts. Adjust the Smart Shaft Sensor so that it is 1/8" Max away from the Threaded Magnet Wheel Assembly on the Seed Shaft. See Figure 2-18. Connect the Smart Shaft Sensor to the Splitter Harness that is connected to the Seeder Harness.

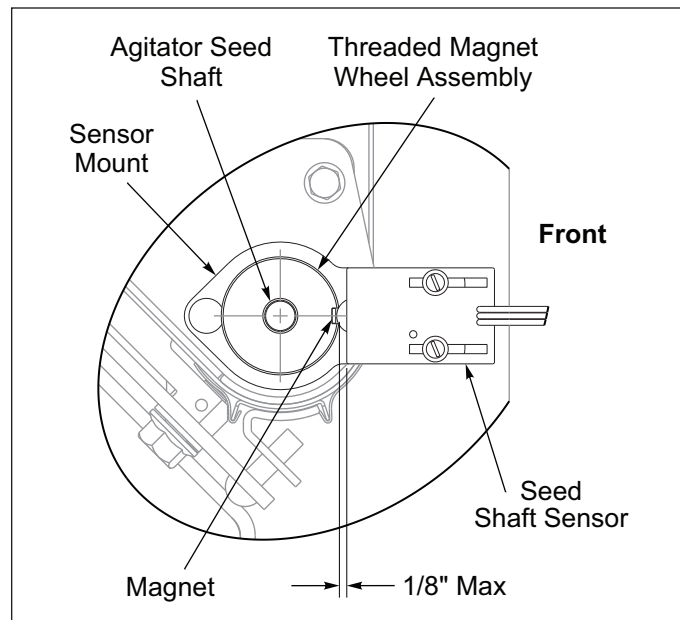
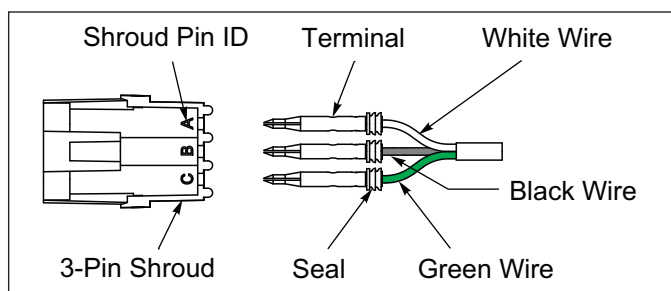


Figure 2-18: Agitator Shaft Sensor Dimensions

5. Remove the .803 Knockouts in the front RH and LH ends of the Front Meter Seed Box and if equipped, Rear Agitator Seed Box.
6. On the inside at either end of the Front Meter Seed Box and if equipped Rear Agitator Seed Box, install a Bin Level Sensor Bracket with the Seed Box Mounting 3/8-16 Hardware. See Figures 2-27 and 2-28. Determine the desired level for the alarm to be indicated on the Brillion Elite Mini Monitor and assemble the Bin Level Sensors to Bin Level Sensor Brackets with sensor provided hardware and #8-32 Flange Locknuts. If more adjustment is needed, the Bin Level Sensor Brackets can also be raised or lowered to the desired seed level. Install Cord Grips



from the inside of the Seed Box out and secure with supplied Locknut on the outside of the Seed Box. To get the Sensor Connector outside the Seed Box, feed the terminals through the Cord Grip. Install the terminals into the 3-Pin Shroud labeled "A", "B" and "C" as follows "A" White, "B" Black, "C" Green. **See Figure 2-19.** Inside the Seed Box, provide enough cord slack to the Bin Level Sensor Cord to allow for future adjustments of the Sensor. Secure the Bin Level Cord by tightening the Cord Grip Compression Nut.



**Figure 2-19: Bin Level Sensor Wire Detail**

- **Single Seed Box:** Connect Bin Level Sensors to the Seeder Harness.
  - **Double Seed Box:** Connect the RH Front Meter Seed Box Bin Level Sensor to the Seeder Harness. Connect the RH Rear Agitator Seed Box Bin Level Sensor to the RH Splitter Harness. Connect the LH Front Meter Seed Box and the LH Rear Agitator Seed Box Bin Level Sensors to the LH Splitter Harness.
7. Install Pickup Switch Bracket with Clutch Shaft Bearing 5/16 x 1 Carriage Bolts, Lock Washers and Nuts. **See Figure 2-29.** Place Actuator Assembly onto the Clutch Shaft, securing with Actuator Assembly Set Screw. Assemble Smart Shaft Sensor onto the Pickup Switch Bracket with sensor provided hardware and #8-32 Flange Locknuts. Adjust the Smart Shaft Sensor so that it is an 1/8" Max away from the Actuator Assembly. **See Figure 2-30.** Connect the Ground Speed Smart Shaft Sensor to the Seeder Harness.
  8. Single Seed Box Seeder unused Seeder Harness RH 3-Pin Connector needs to be sealed with a 3-Pin Shroud and Cavity Plugs to protect the Harness from the environment.
  9. Connect the 240" Extension Harness to the Seeder Harness. Route the 240" Extension Harness along the Seeder Frame and down the Drawbar/3-PT Hitch to the Tractor.
  10. Install Brillion Elite Mini Monitor on Tractor. **See "Brillion Elite Mini Monitor Tractor Installation - Optional" on page 2-24.**
  11. If not already installed, install Smart Clutch Relay into Elite Mini Tractor Harness 3-Pin Connectors.
  12. Connect the Elite Mini Tractor Harness 14-Pin Connector to Brillion Elite Mini Monitor, 3-Pin Power Plug to 12 Volt Tractor Convenience Outlet and 6-Pin Connector to the 240" Extension Harness. 4-Pin Connector is not used at this time.
  13. Bundle and secure all Harnesses to the Seeder, Hydraulic Hoses, Warning Lamp Harnesses, Air Line Nylon Tubing, and 3-PT Hitch/Drawbar with Tie Wraps.
  14. Program Bin Level Sensors and Smart Shaft Sensors if not already pre-programmed. **See "Brillion Elite Mini Monitor" on page 4-1.**

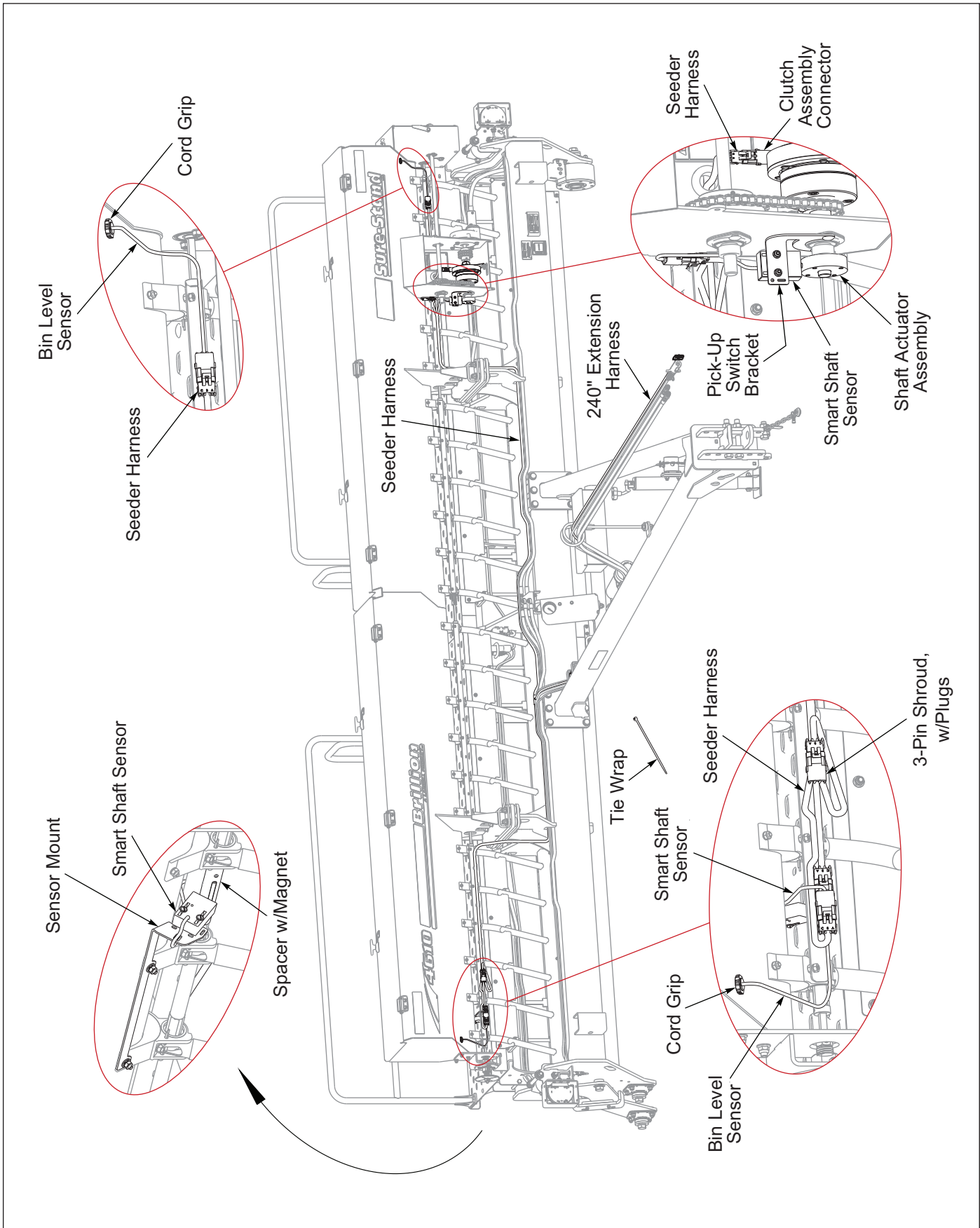


Figure 2-20: Brillion Elite Mini Monitor - Single Box Electrical Layout



## Brillion Elite Mini Monitor - Single Box Electrical Schematic

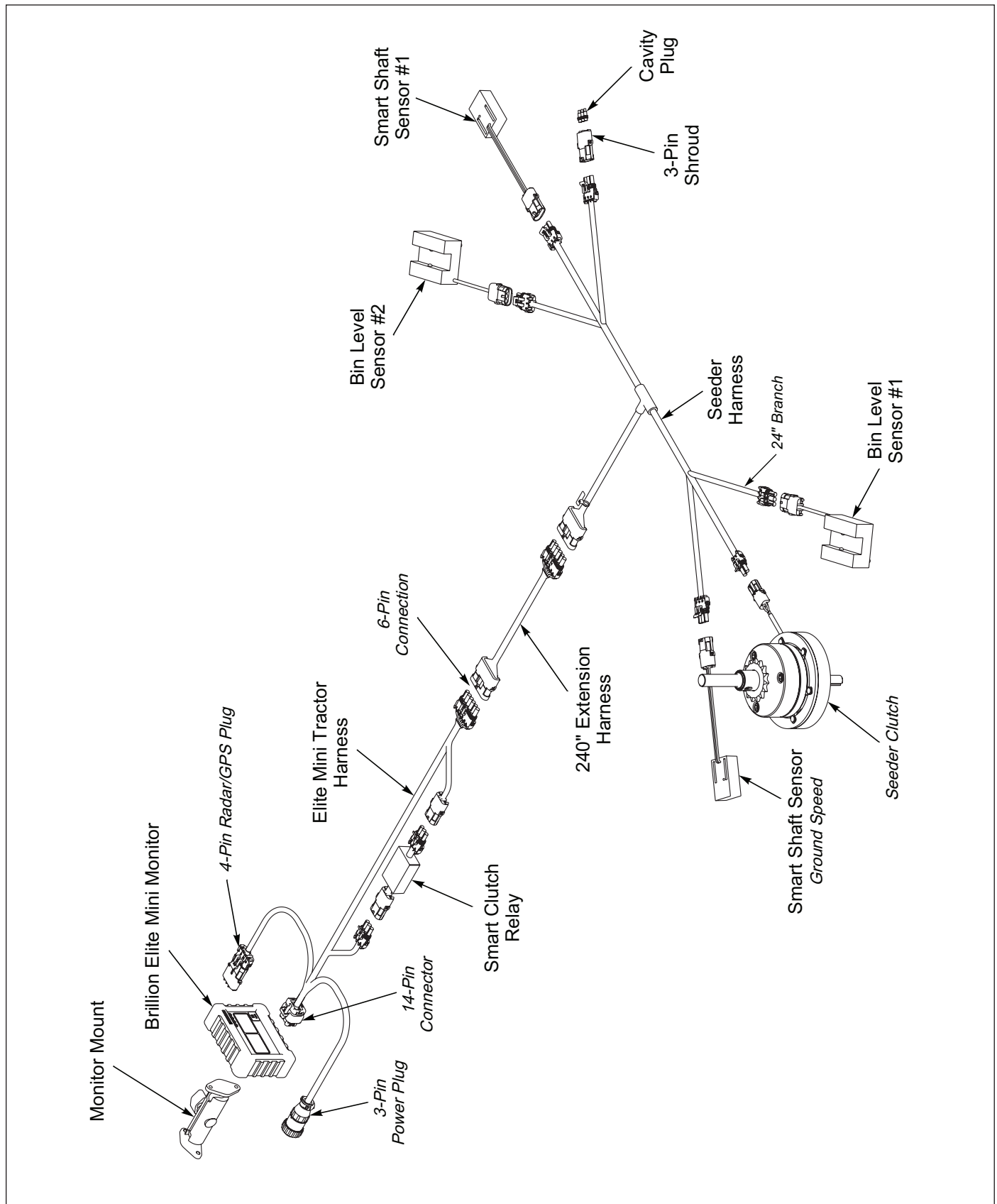


Figure 2-21: Brillion Elite Mini Monitor - Single Box Schematic

# Brillion Elite Mini Monitor - Double Box Electrical Layout

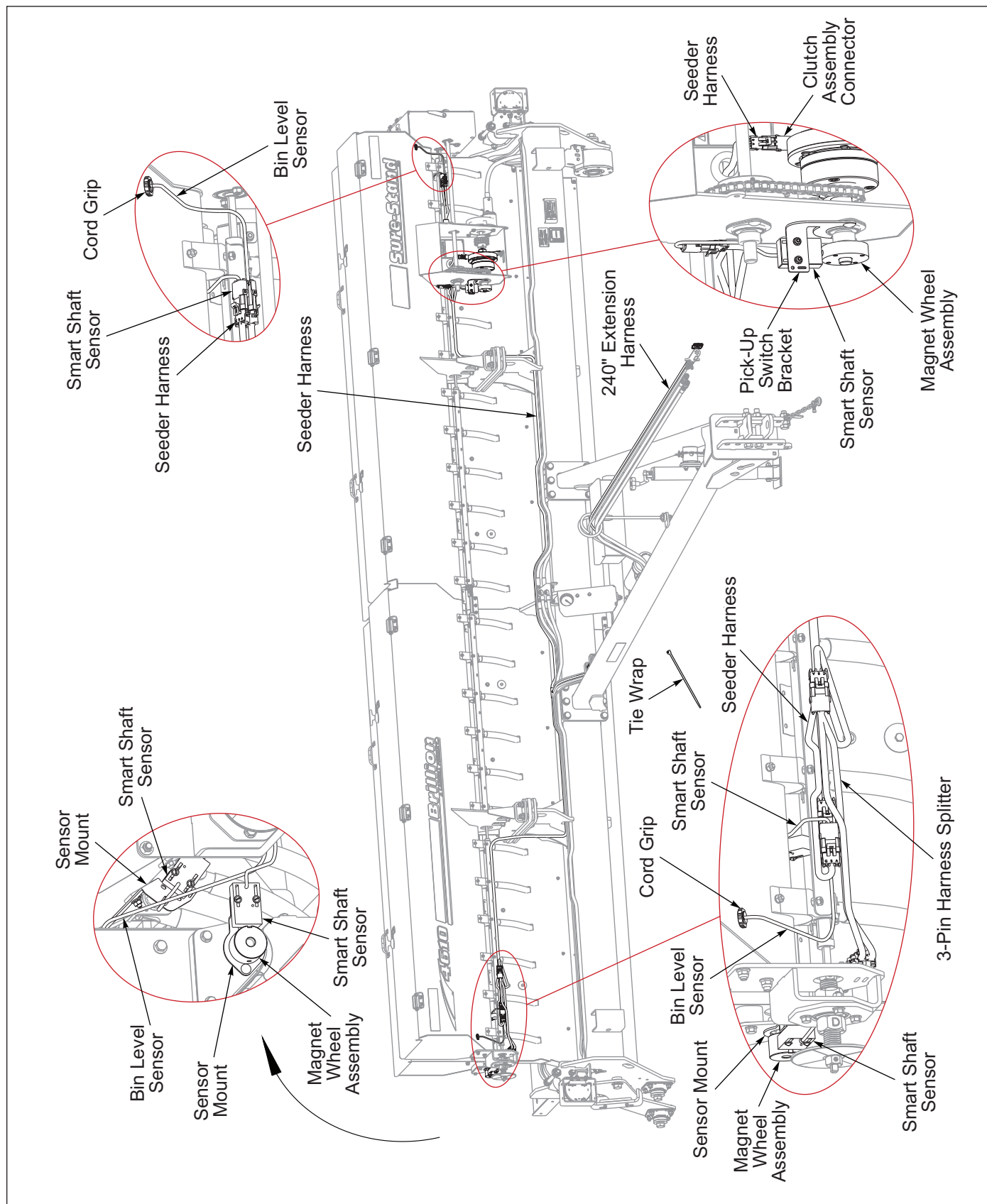


Figure 2-22: Brillion Elite Mini Monitor - Double Box Electrical Layout

## Brillion Elite Mini Monitor - Double Box Electrical Schematic

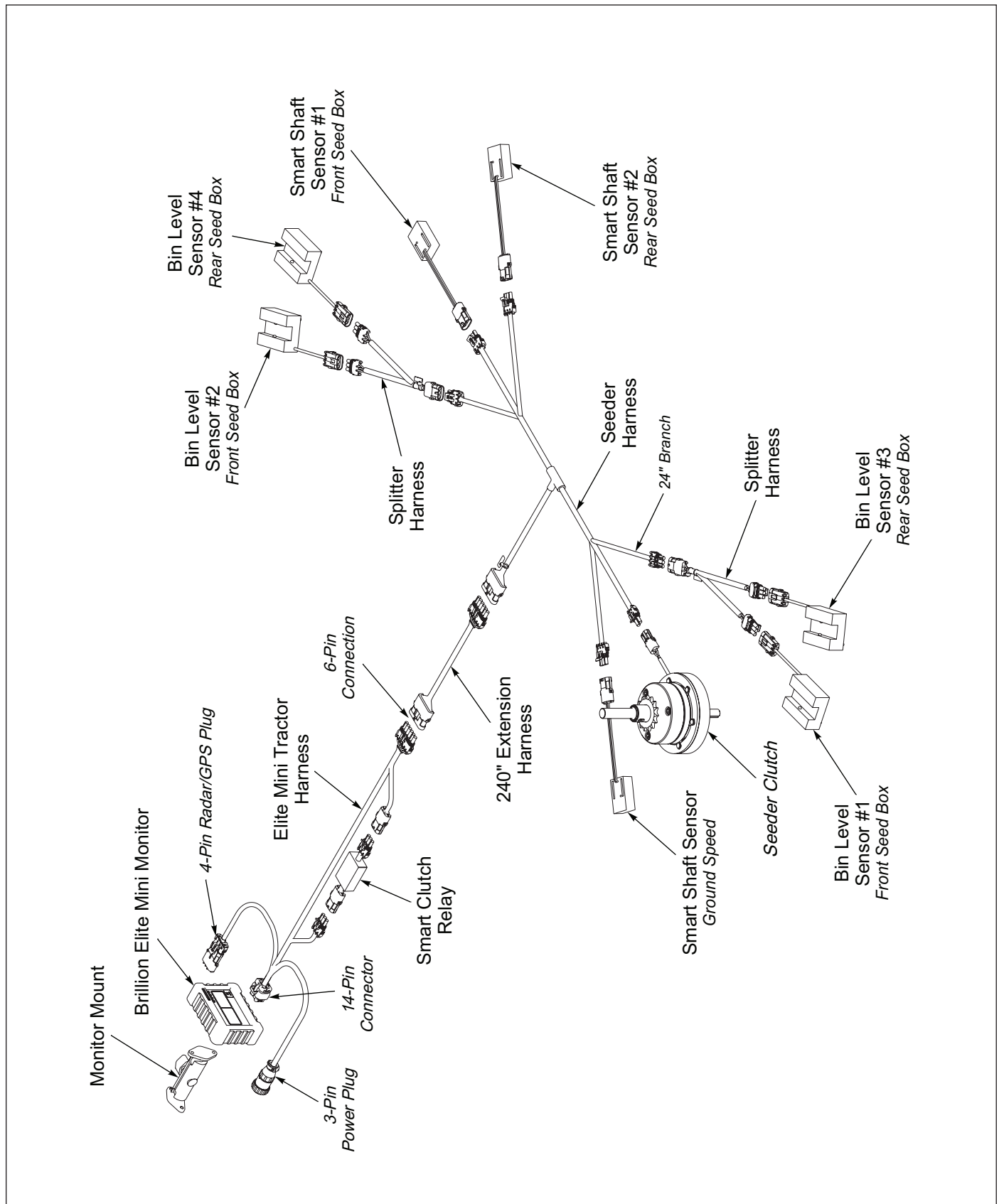
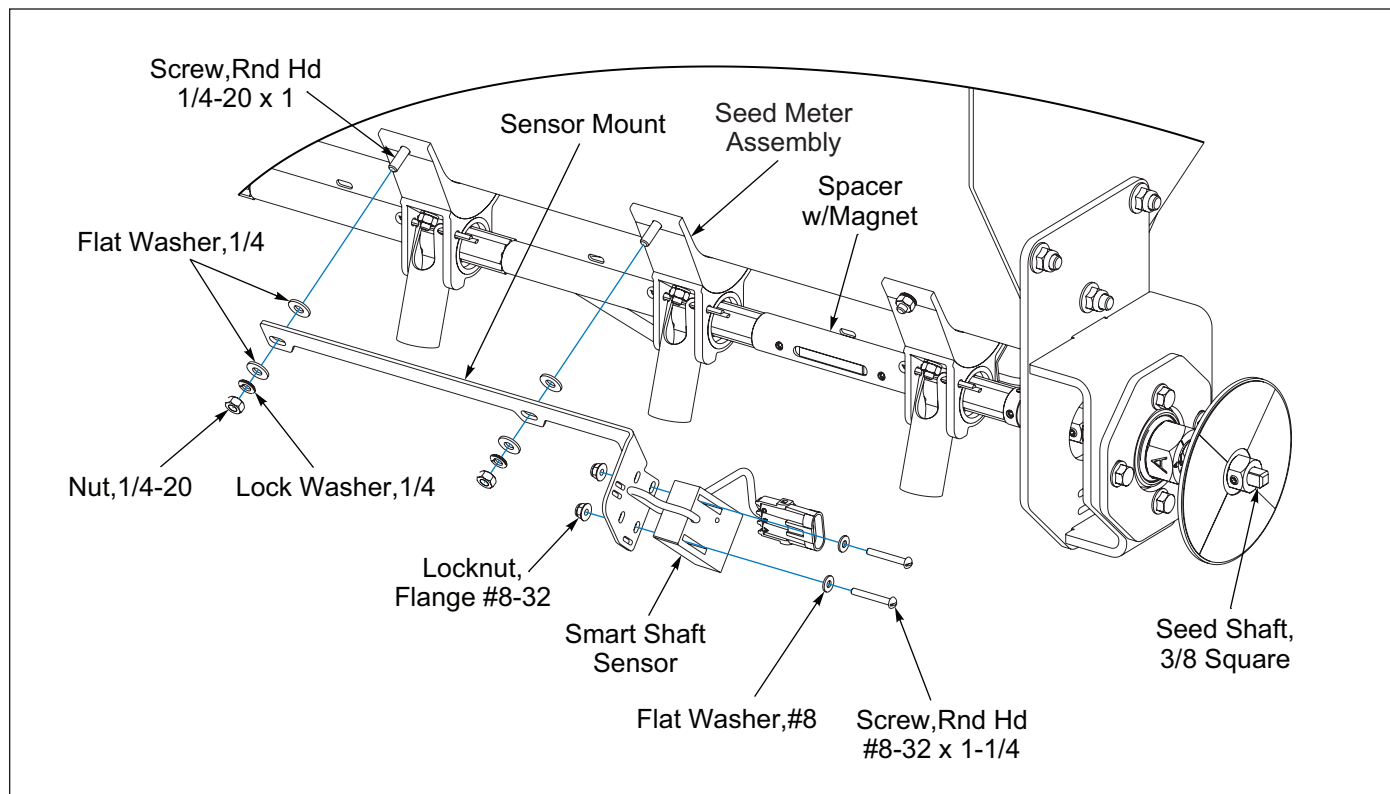
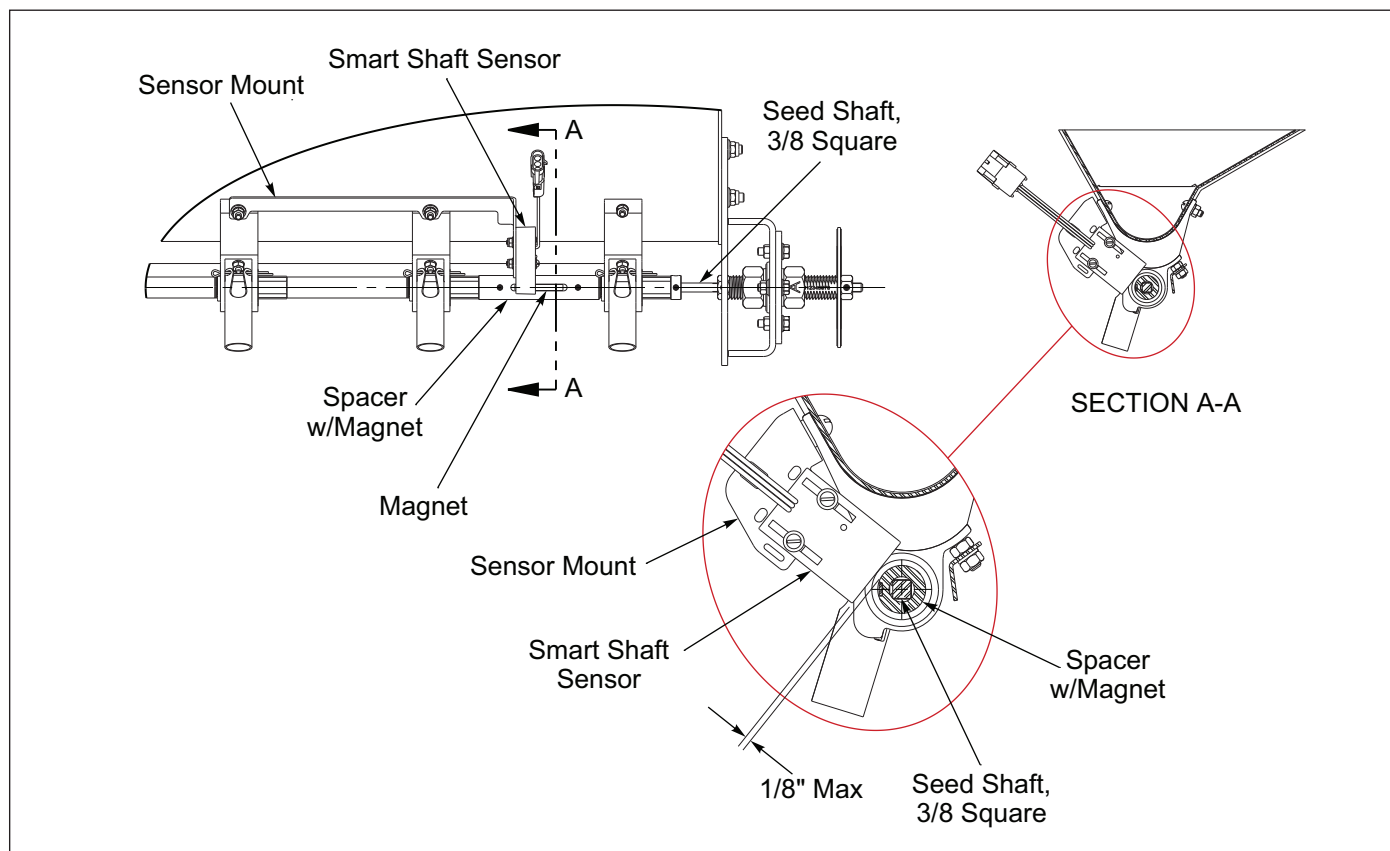


Figure 2-23: Brillion Elite Mini Monitor - Double Box Schematic

## Brillion Elite Mini Monitor - Seed Meter Box Shaft Sensor

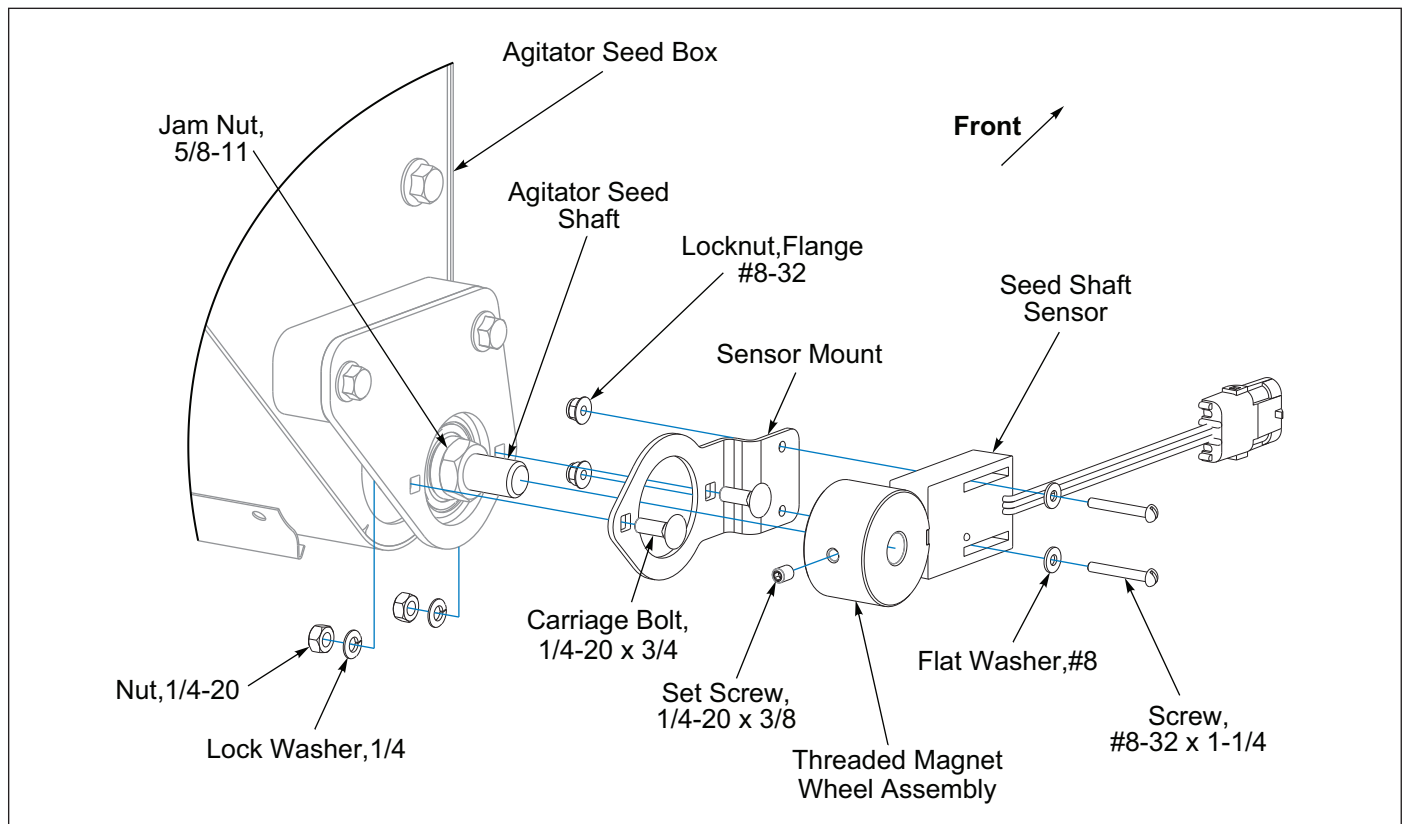


**Figure 2-24: Brillion Elite Mini Monitor - Seed Meter Box Shaft Sensor - Installation**



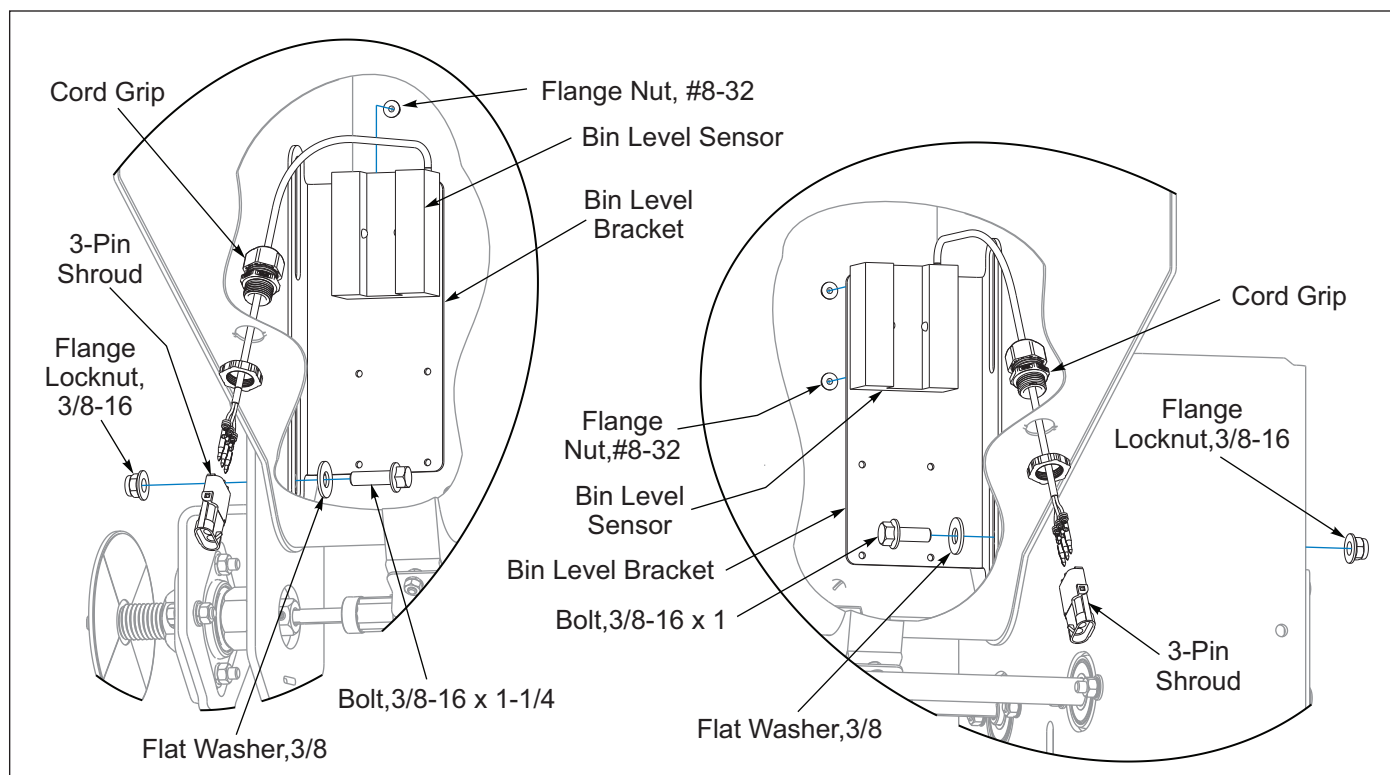
**Figure 2-25: Brillion Elite Mini Monitor - Seed Meter Box Shaft Sensor - Dimensions**

## Brillion Elite Mini Monitor - Agitator Box Shaft Sensor



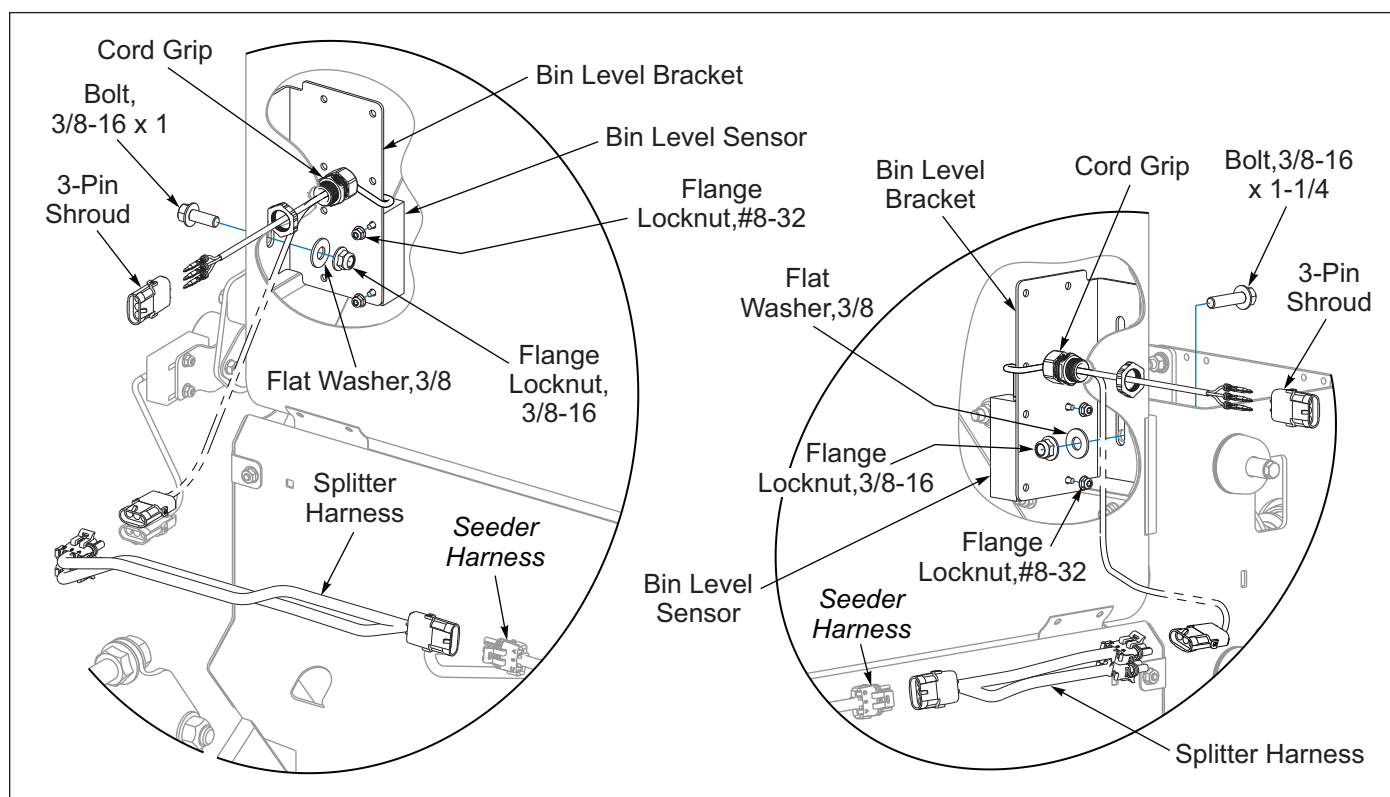
**Figure 2-26: Brillion Elite Mini Monitor - Agitator Box Shaft Sensor**

## Brillion Elite Mini Monitor - Seed Meter Box Bin Level Sensor



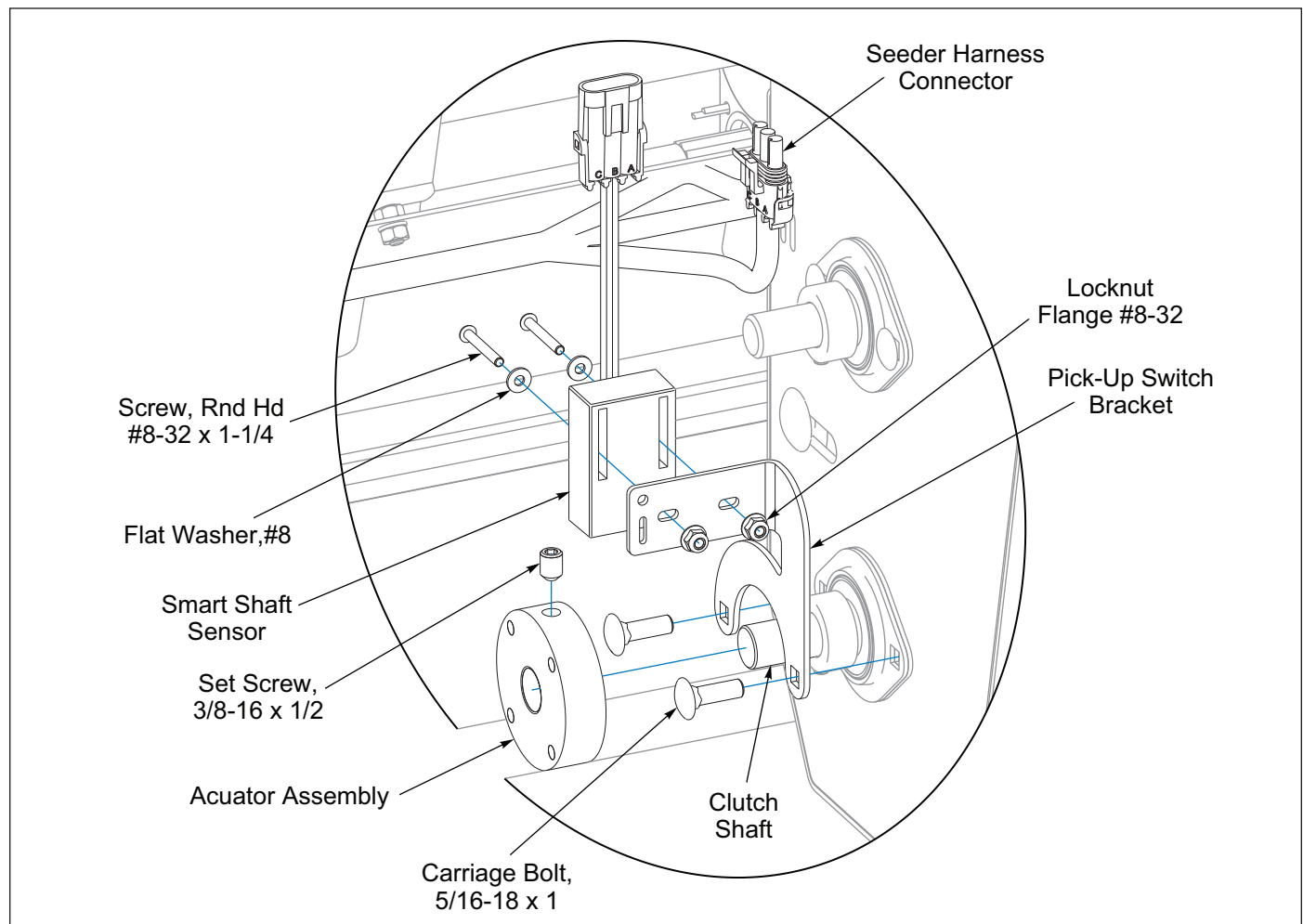
**Figure 2-27: Brillion Elite Mini Monitor - Seed Meter Box Bin Level Sensor**

## Brillion Elite Mini Monitor - Agitator Box Bin Level Sensor

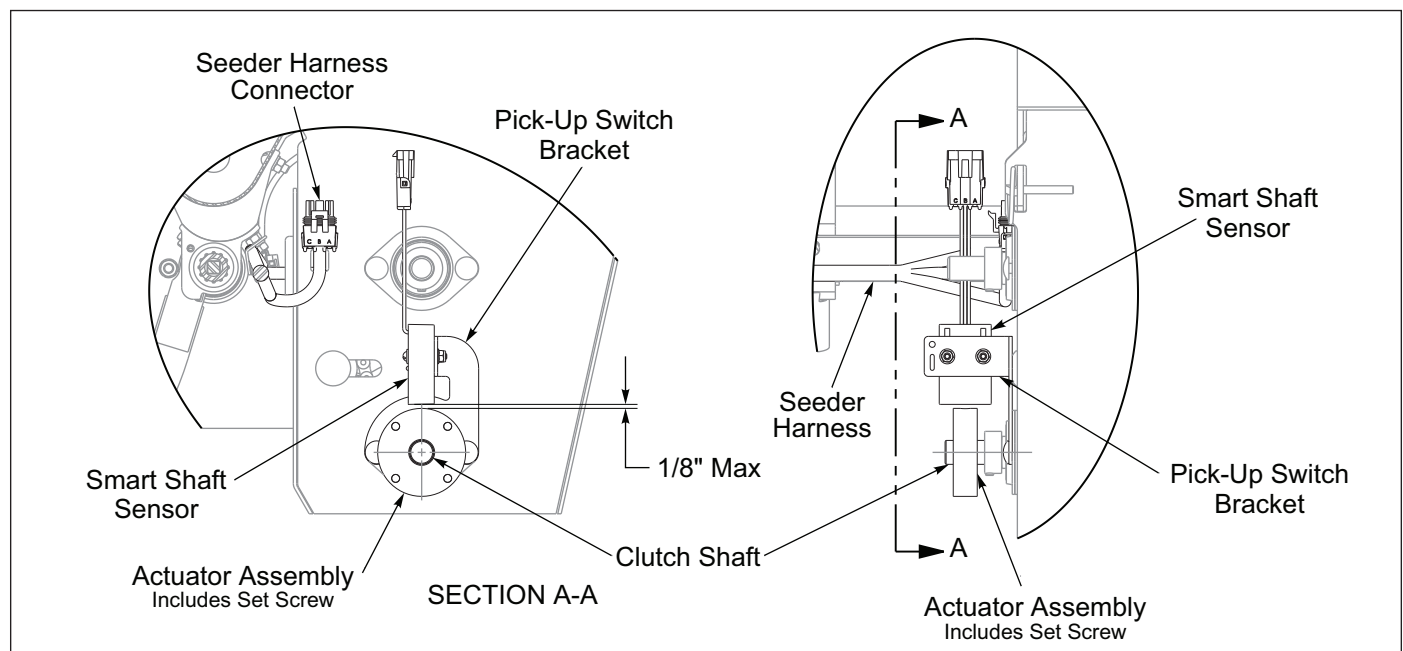


**Figure 2-28: Brillion Elite Mini Monitor - Agitator Box Bin Level Sensor**

## Brillion Elite Mini Monitor - Ground Speed



**Figure 2-29: Brillion Elite Mini Monitor - Ground Speed Installation**



**Figure 2-30: Brillion Elite Mini Monitor - Ground Speed Dimensions**



## Brillion Elite Mini Monitor Tractor Installation - Optional

1. Mount Angle Bracket onto Tractor where convenient for the operator. **See Figure 2-31.**
2. Attach Straight Bracket to Angle Bracket with 1/2-13 x 1-1/2 Bolt and Flanged Locknut.
3. Attach the Brillion Elite Mini Monitor to the Monitor Mount with Metric Machine Screws, provided with Monitor.
4. Attach the Monitor Mount to the Straight Bracket with #10-24 x 1 Machine Screws, Flat Washers, Lock Washers, and Nuts, provided with Monitor Mount.
5. With the Brillion Elite Mini Tractor Harness, plug the 14-Pin Connector into the Monitor, the 3-Pin Power Connector into the Tractor Convenience Outlet and the 6-Pin Connector into the 240" Extension Harness.
6. Check clutch operation: Clutch will engage when power is applied. (Clutch will make a clicking sound). **See "Brillion Elite Mini Monitor" on page 4-1.**

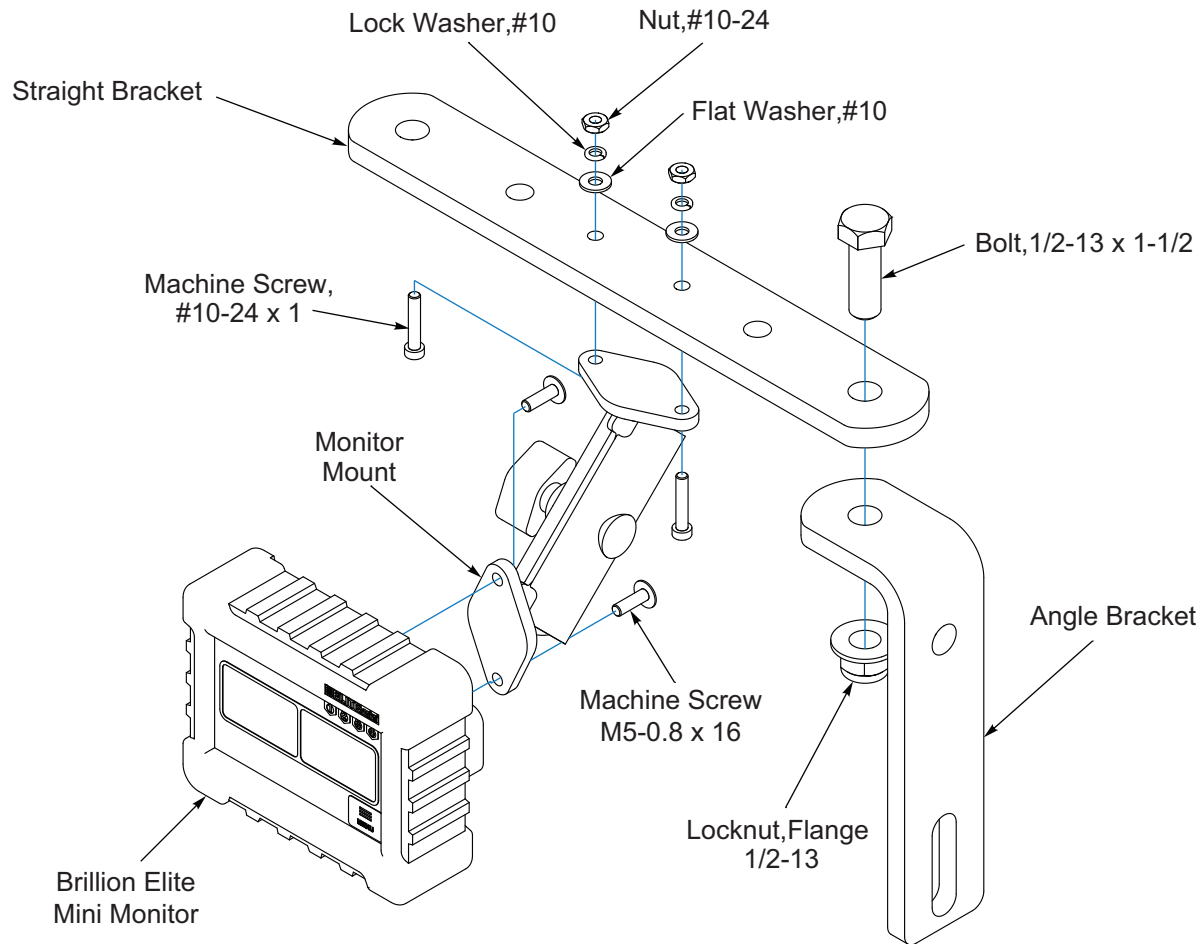


Figure 2-31: Brillion Elite Mini Monitor Tractor Installation - Optional



[illegible]

# Acre Meter Installation - Optional

Used with Basic Clutch Control

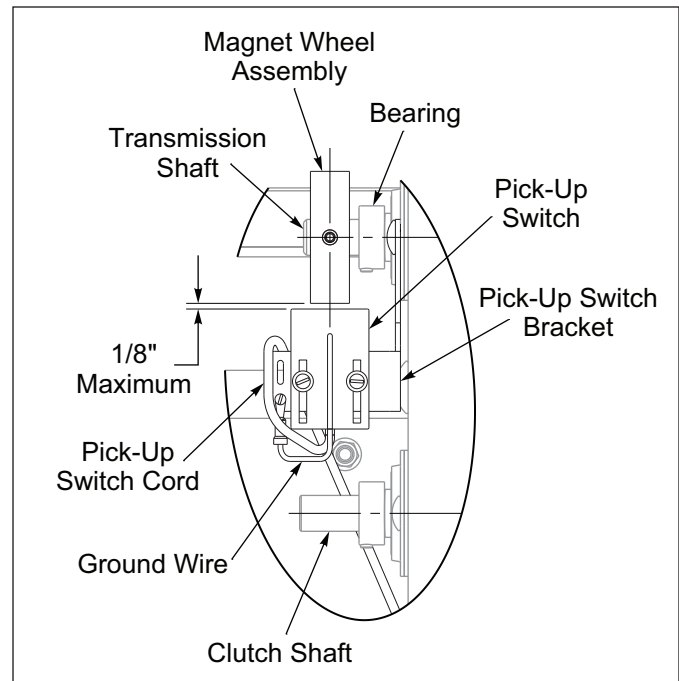
The Acre Meter consists of three main parts: the Acre Meter, the Pick-Up Switch and the Magnet Wheel Assembly.

1. Install Pick-Up Switch Bracket with Transmission Shaft Bearing Carriage Bolts, Lock Washers and Nuts. **See Figure 2-34.**
2. Slide the Magnet Wheel Assembly onto the Transmission Shaft. Secure with Magnet Wheel Assembly Set Screw.
3. Attach the Pick-Up Switch to the Pick-Up Switch Bracket with #8-32 x 1-1/4 Screws, Flat Washers and Flange Locknuts. Do not tighten at this time.
4. Attach the Pick-Up Switch short ground wire to the small hole on the Pick-Up Switch Bracket with a #6-32 x 1/2 Screw and Nut. Remove paint under the wire connector to assure a good electrical ground connection. **See Figure 2-32.**
5. Adjust the Pick-Up Switch on the Pick-Up Switch Bracket so the centerline of Magnet Wheel Assembly and Pick-Up Switch are horizontally and vertically aligned with maximum 1/8" between the Magnet Wheel Assembly and the Pick-Up Switch. Tighten #8-32 Screws.

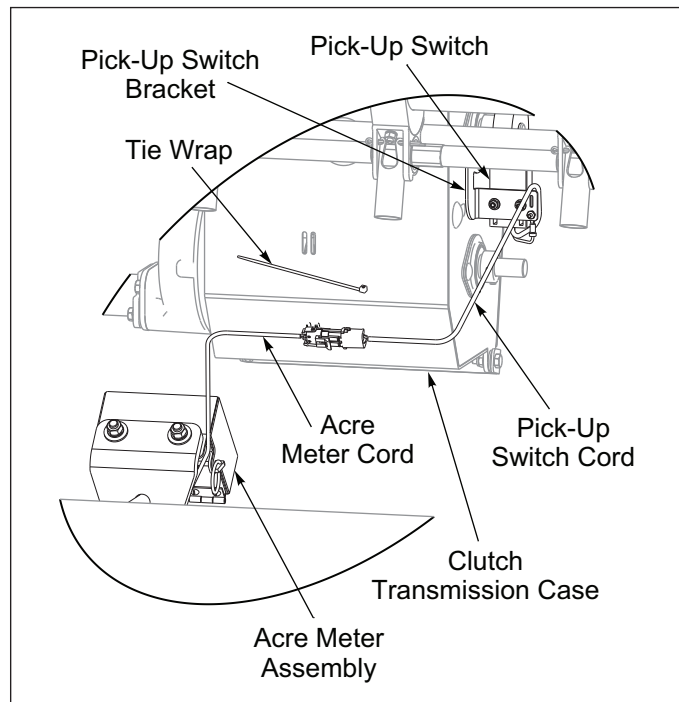
## NOTE

*Alignment of the Pick-Up Switch and Magnet Wheel Assembly is critical. Improper alignment will cause the Acre Meter to record acres erratically or not at all.*

6. Mount the Acre Meter Bracket to the Front Seeder Frame Tube behind the Serial Number Plate with 2-Hole Plate, 5/8-11 x 7 Bolts, and Flange Locknuts.
7. Attach the Acre Meter Assembly to the Acre Meter Bracket with 3/8-16 x 1-1/4 Bolt, Flat Washer, Lock Washer and Nut.
8. Connect the Acre Meter and Pick-Up Switch Connectors.
9. Securely fasten the cords the tie wraps to the back or bottom of the Clutch Transmission Case to prevent cords from becoming entangled or rubbing on moving parts. **See Figure 2-33.**
10. Program the Acre Meter. **See "Electronic Acre Meter Kit - Optional" on page 3-16.**



**Figure 2-32: Acre Meter Mounting Dimension**



**Figure 2-33: Secure Acre Meter**

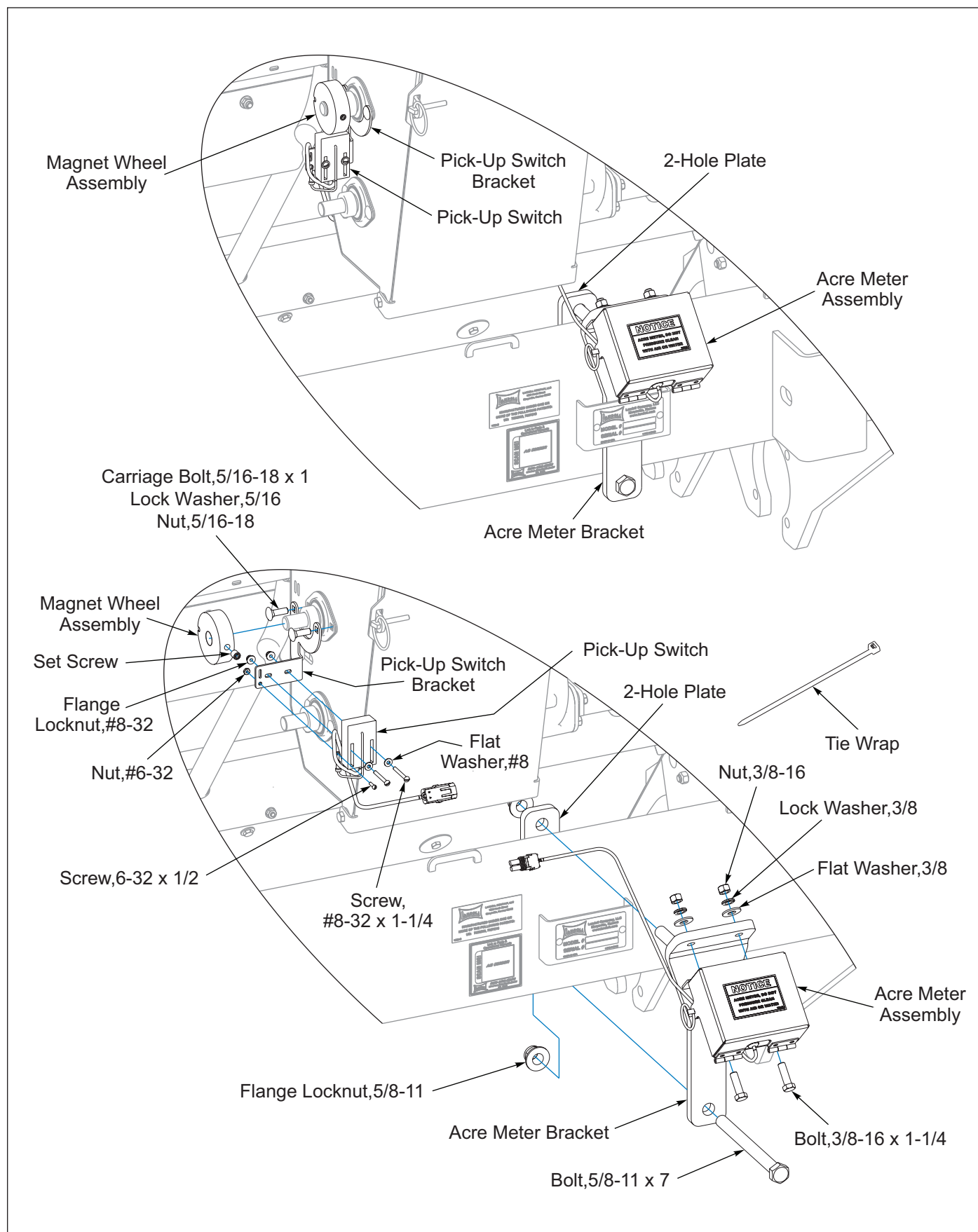


Figure 2-34: Acre Meter

# Front Seed Box Scale Installation - Optional



## CAUTION

Do not work on or under this machine unless securely blocked and supported by a hoist or tractor or by other sufficient means.



## WARNING

Do not attempt to lift heavy parts manually. Use a hoist or a forklift to move these parts into position.

### NOTE

The Seed Box must be lifted with a strap attached to the Seed Box dividers.

Refer to Scale Electrical Schematic. See Figure 2-38.

1. Lower the Seeder to the ground. Block Front and Rear Rollers or leave it hitched to the tractor.
2. On one side of the Seeder where the Seed Box Mounts to the Frame, loosen the Spacer Block top and bottom 3/4-10 x 2 Bolts approximately 3/4". See Figure 2-35.
3. On the opposite side of the Seeder where the Seed Box Mounts to the Frame, remove the Spacer Block top and bottom 3/4-10 x 2 Bolts and Lock Washers.
4. Raise the Seed Box with a strap attached to the Seed Box divider, about 2-1/2" and remove the Spacer Block.
5. Orient the Load Cell with the center surface up (top) and the Load Cell Cord towards the center. See Figure 2-36. Position the Load Cell in place of the Spacer Block. See Figure 2-37.
6. Apply anti-seize on 3/4-10 x 2 Bolt threads.
7. Attach the top of the Load Cell to the Seed Box Channel with 3/4-10 x 2 Bolts and Lock Washer leaving the Bolts loose. Ensure that the cutout on the channel goes over the Load Cell Cord.
8. Carefully lower the Seed Box to the Frame Seed Box Mounting Plate and attach with 3/4-10 x 2 Bolts and Lock Washer leaving the Bolts loose.
9. Repeat for the opposite side of the Seeder where the Seed Box Mounts to the Frame.
10. Tighten all the hardware.
11. Secure Scale Cords with Tie Wraps.

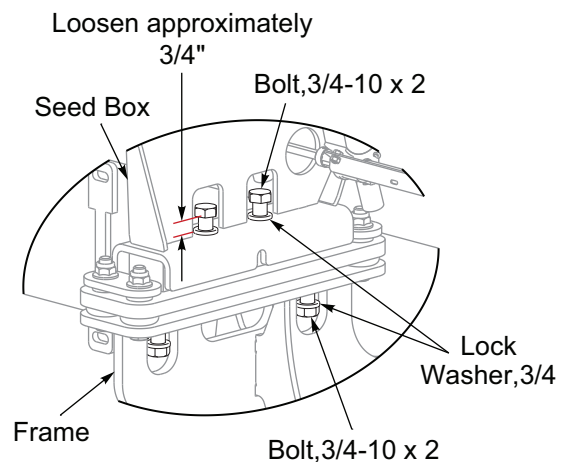


Figure 2-35: Seed Box Mount Hardware

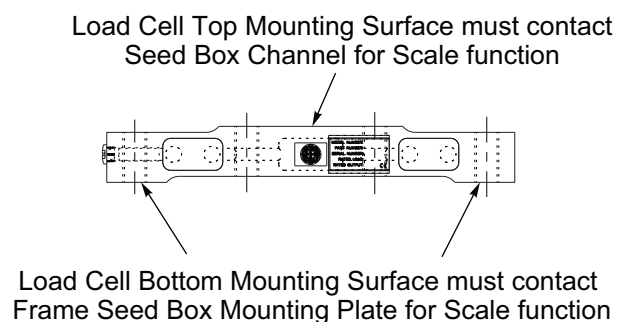


Figure 2-36: Load Cell

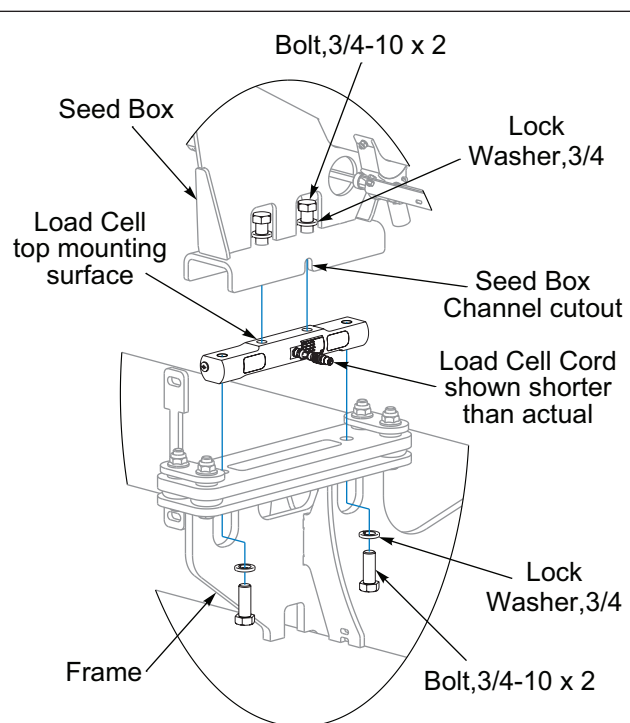
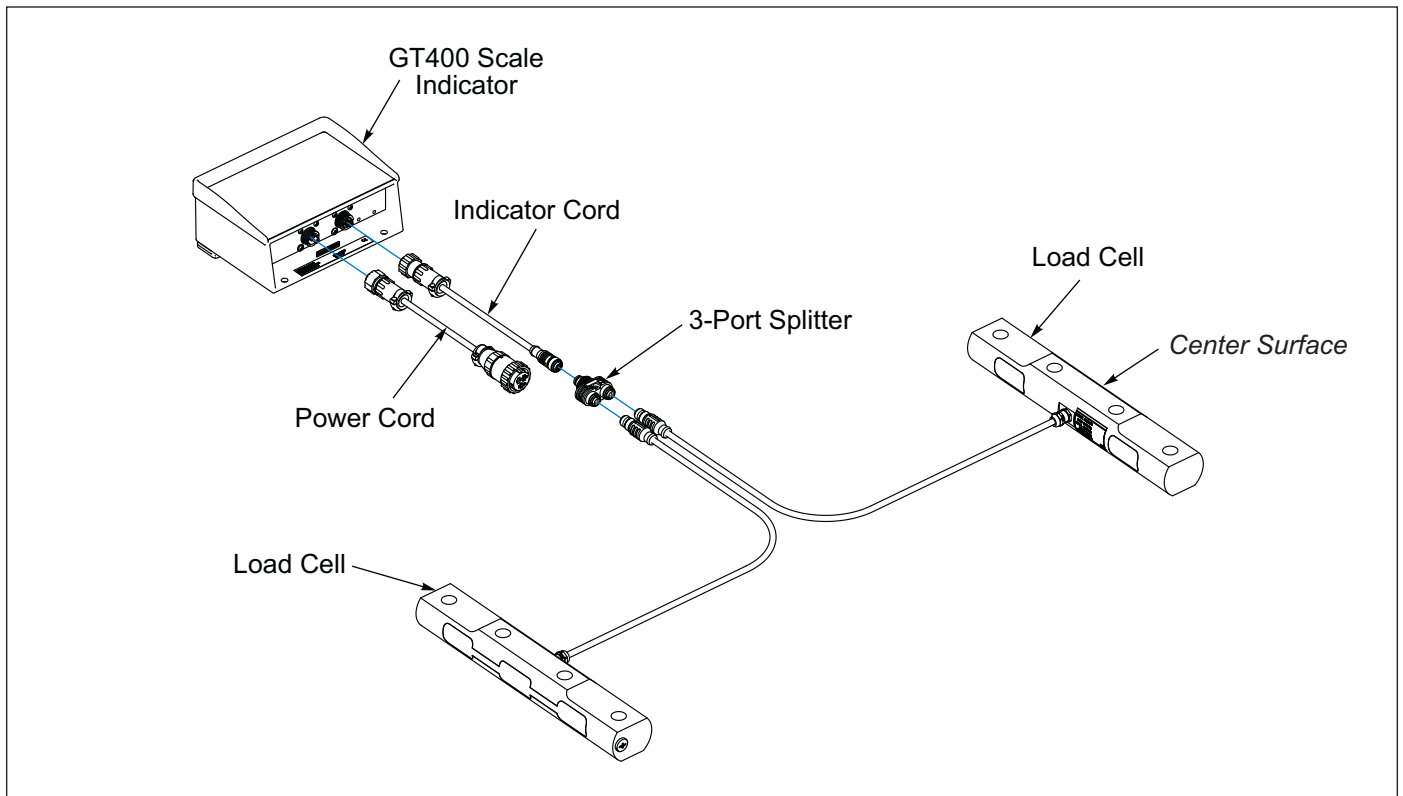


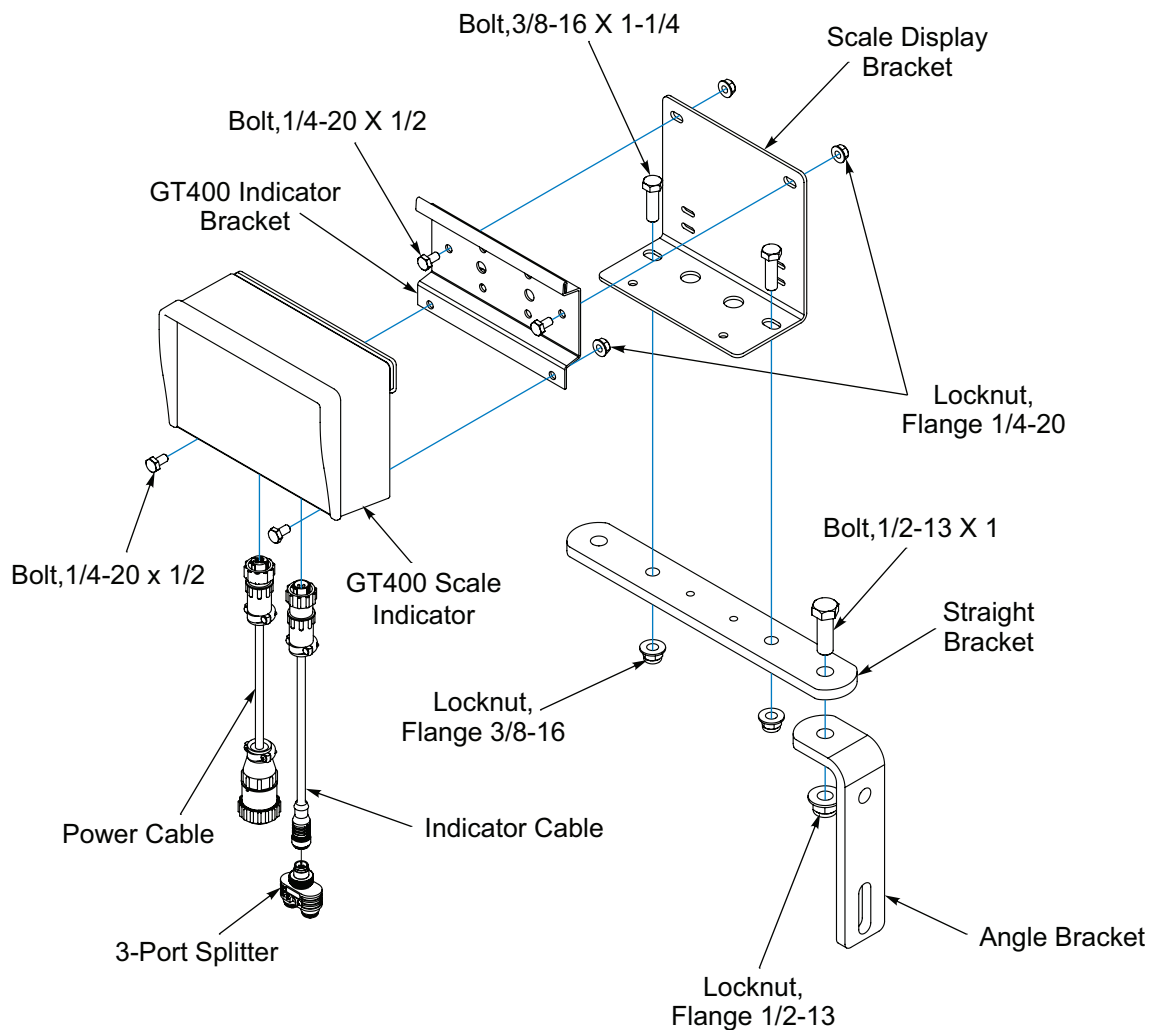
Figure 2-37: Load Cell Installation



**Figure 2-38: Scale Electrical Schematic - Optional**

# Scale Indicator Tractor Installation - Optional

1. Mount the Angle Bracket onto Tractor where convenient for the operator. **See Figure 2-39.**
2. Attach Straight Bracket to Angle Bracket with 1/2-13 x 1 Bolt and Flanged Locknuts.
3. Attach the Scale Display Bracket to Straight Bracket with 3/8-16 x 1-1/4 Bolts and Flanged Locknuts.
4. Attach the GT400 Indicator Bracket to Scale Display Bracket with 1/4-20 x 1/2 Bolts and Flanged Locknuts.
5. Tilt the GT400 Scale Indicator to latch the top of the GT400 Indicator Bracket. Secure bottom with 1/4-20 x 1/2 Bolts and Spiral Flanged Locknuts.
6. Plug the Power and Indicator Cables into the bottom of GT400 Scale Indicator.
7. Attach 3 Port Splitter to Indicator Cable.
8. Plug GT400 Scale Indicator Power Cable into the Tractor and connect each Load Cell Cable to 3 Port Splitter.
9. Secure cables with tie wraps.
10. Refer to GT400 Vendor Operator's manual for cabling and set-up instructions.



**Figure 2-39: Scale Indicator Tractor Installation**

[illegible]

## Coil Tine Harrow Installation - Optional



### CAUTION

**Do not work on or under this machine unless securely blocked and supported by a hoist or tractor or by other sufficient means.**

1. Attach the Harrow Mounting Brackets to the Frame Tube with 3/4-10 U-Bolts, Flat Washers and Locknuts. **See Figure 2-40.**
2. Slide the Harrow Adjuster up into the Harrow Mounting Bracket. Align the holes and insert Hitch Pin and secure with Hair Pin Cotter.
3. Insert the Harrow Assembly into the Harrow Adjuster Cutout. Ensure it's equally spaced from side to side. Secure with 5/8-11 U-Bolts, Thick Washers and Locknuts.
4. Attach the Sidewind Jack to the Harrow Mounting Brackets with 5/8-11 x 1-3/4 Bolts and Locknuts.
5. Attach the bottom of each Jack to the bottom of the Harrow Adjuster. Cranking the Jack up or down to align the holes. Secure with a 1/2-13 x 3-3/4 Bolt and Flanged Locknut.



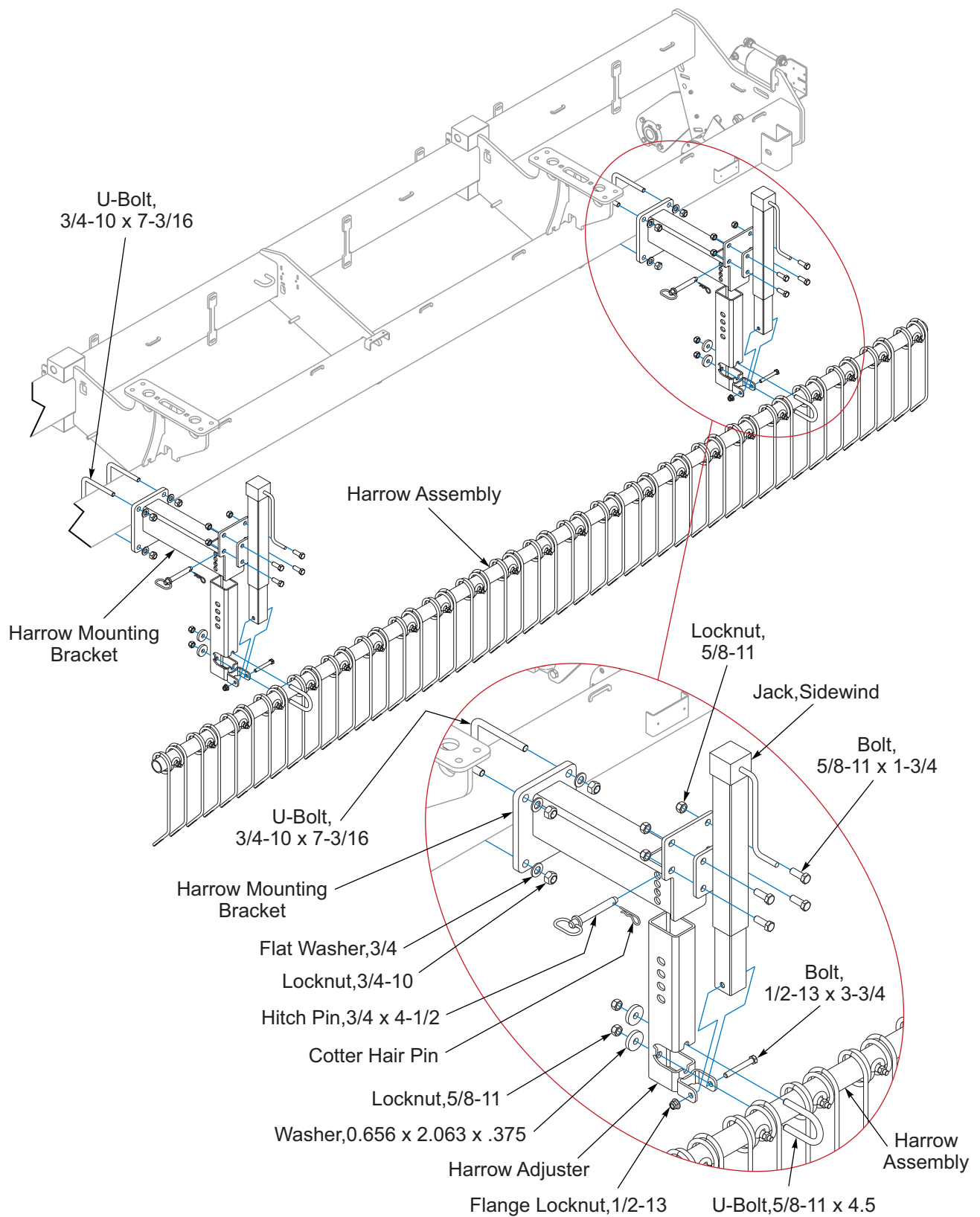


Figure 2-40: Coil Tine Harrow

## S-Tine Harrow Installation - Optional



### CAUTION

**Do not work on or under this machine unless securely blocked and supported by a hoist or tractor or by other sufficient means.**

1. Attach the Harrow Mounting Brackets to the Seeder Frame Tube with 3/4-10 U-Bolts, Flat Washers, and Locknuts. **See Figure 2-41.**
2. Slide the S-Tine Harrow Adjuster up into the Harrow Mounting Bracket. Align the holes and insert Hitch Pin and secure with Hair Pin Cotter.
3. Insert the 165" Square Tube into the Harrow Adjuster Cutout. Ensure that the 165" Square Tube is equally spaced from side to side. Secure with 5/8-11 U-Bolts, Thick Washers, and Locknuts.
4. Attach the Sidewind Jack to the Harrow Mounting Brackets with 5/8-11 x 1-3/4 Bolts and Locknuts.
5. Attach the bottom of each Jack to the bottom of the S-Tine Harrow Adjuster. Cranking the Jack up or down to align the holes. Secure with a 1/2-13 x 3-3/4 Bolt and Flanged Locknut.
6. Locate and install S-Tines as needed to cover Tractor Tire Tracks onto the 165" Square Tube with Clamps 7/16-14 Carriage Bolts and Locknuts. Attach Points to S-Tines with 3/8-16 x 1-3/4 Plow Bolts and Locknuts. Suggested pattern is to use 1-5/8" Reversible Points on center S-Tine and 2-1/2" Duckfoot Points on each side of Wheel Track. If needed, additional S-Tines and Points can be purchased and installed.

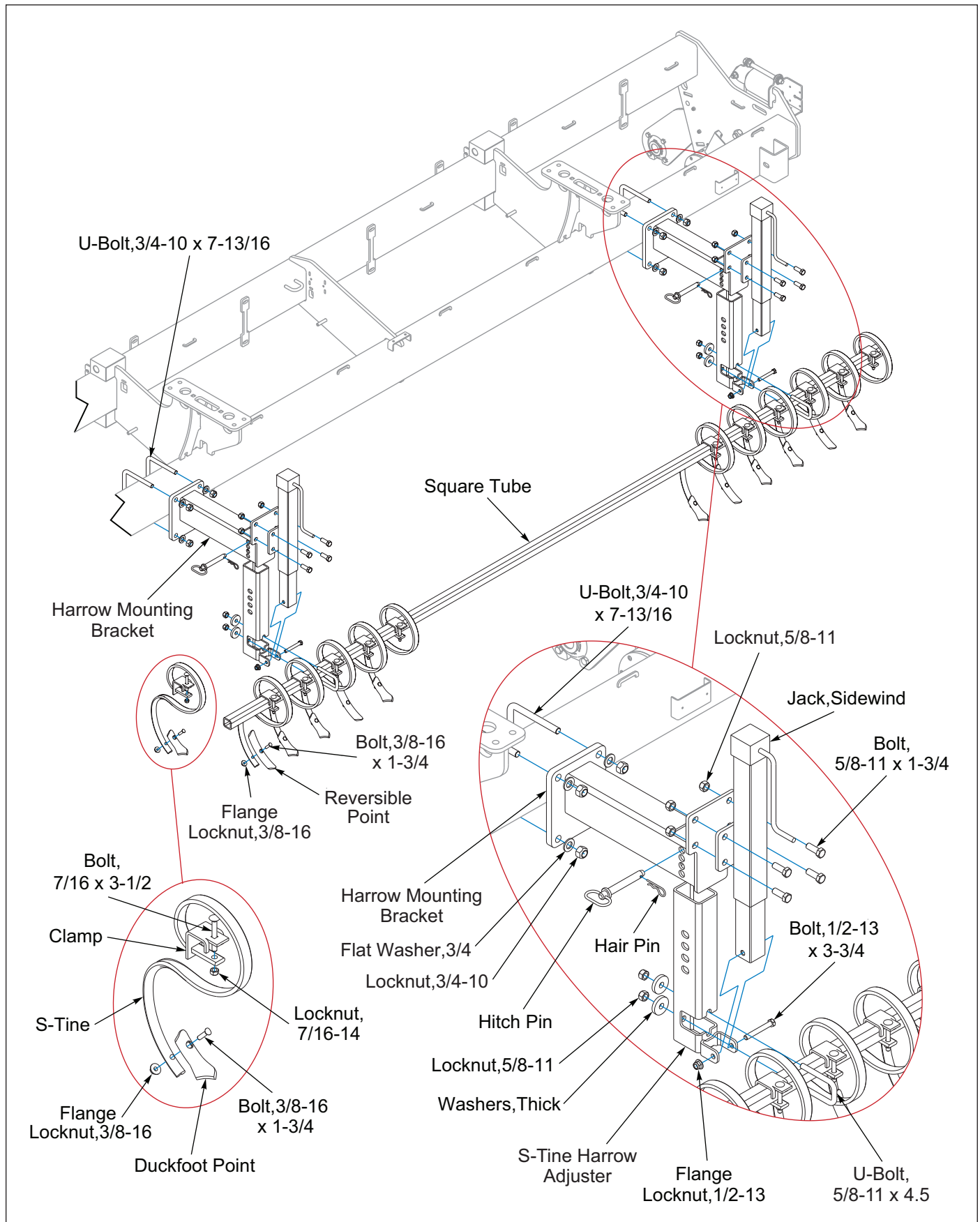
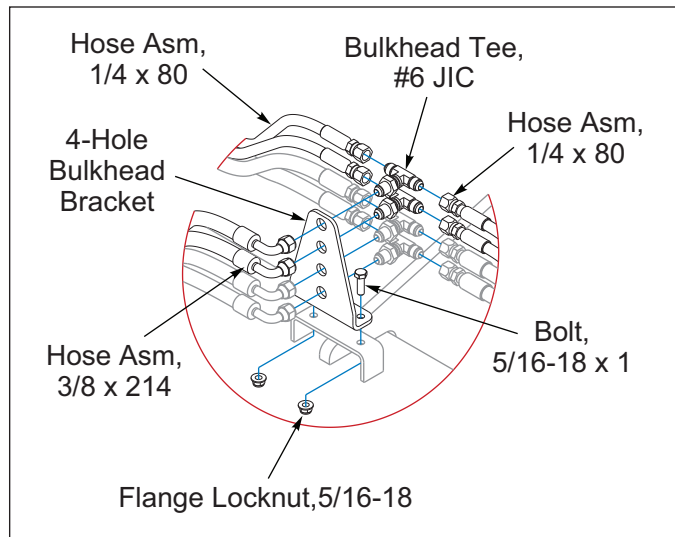


Figure 2-41: S-Tine Harrow

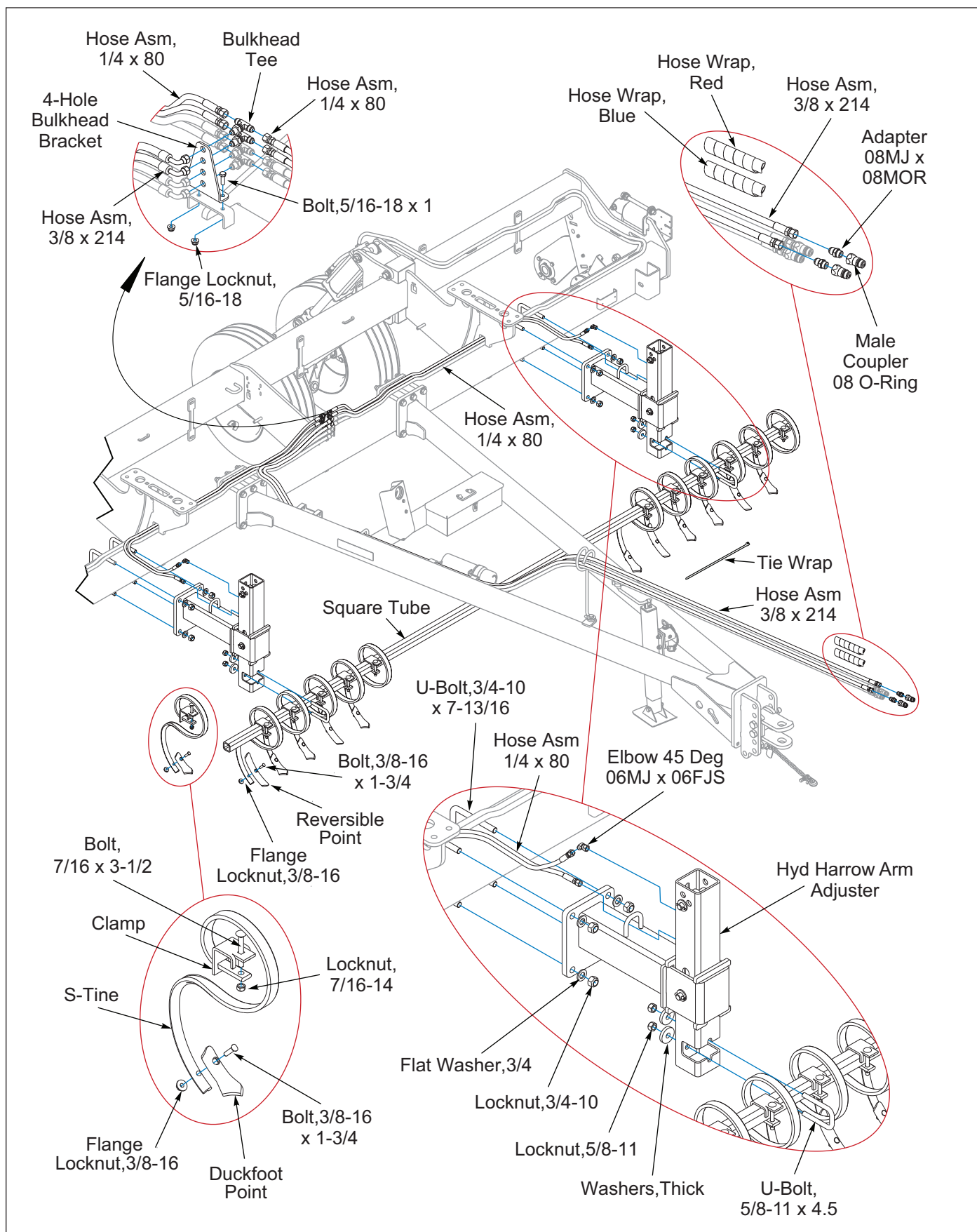
## S-Tine Hydraulic Harrow Installation – Optional

1. Install Hydraulic Harrow Mount Arm Assembly to Seeder Frame Tube with 3/4-10 U-Bolts, Flat Washers and Locknuts. **See Figure 2-43.**
2. Raise Seeder and engage Transport Locks. Relieve Hydraulic System pressure. Disconnect Lift Circuit Hoses that go to the tractor at the Bulkhead Tee Fittings at the center of the Seeder Frame.
3. Removed the Lift Circuit Bulkhead Tee Fittings from the Bulkhead Bracket. The Hoses that go to the Lift Cylinders can remain connected to the Bulkhead Tee Fittings.
4. Remove the Bulkhead Bracket from Seeder Frame Mount. Install the 4-Hole Bulkhead Bracket with the existing hardware. **See Figure 2-42.**
5. Reinstall Lift Circuit Bulkhead Tee Fittings into the 4-Hole Bulkhead Bracket bottom two holes. Install Harrow Bulkhead Tee Fittings into the 4-Hole Bulkhead Bracket top two holes.



**Figure 2-42: 4-Hole Bulkhead Bracket Detail**

6. Install a 45 degree Elbow Fitting on the base port each Harrow Arm 2 x 3 Cylinder.
7. Attach 1/4 x 80 Hoses to the Harrow Arm 2 x 3 Cylinders. Route Hoses along the Seeder Frame to the 4-Hole Bulkhead Bracket and attach to Bulkhead Tee Fittings.
8. Reconnect the Lift Hoses to the Bottom two Bulkhead Tee Fittings. Wrap both the Lift Circuit Hoses together near the Male Couplers with Blue Hose Wrap.
9. Connect a 3/8 x 214 Hose 90 Degree Hose End Fitting onto each Bulkhead Tee Fitting, route the hoses with the Lift Hoses up the Drawbar, through the Hose Holder to the tractor.
10. Install 08MJ x 08MOR Adapters and 08 Male Couplers into hose ends. Wrap both the Harrow Circuit Hoses together near the Male Couplers with Red Hose Wrap.
11. Secure all Hoses to the Seeder Frame and Drawbar with Tie Wraps.
12. Insert 165" Square Tube into the Hydraulic Harrow Mount Arm Assembly cutout. Ensure that the 165" Square Tube is equally spaced from side to side. Secure with 5/8-11 U-bolts, Thick Washers and Locknuts.
13. Locate and install S-Tines as needed to cover Tractor Tire Tracks onto the 165" Square Tube with Clamps, 7/16-14 X 3-1/2 Carriage Bolts and Locknuts. Attach Points to S-Tines with 3/8-16 x 1-3/4 Plow Bolts and Locknuts. Suggested pattern is to use 1-5/8" Reversible Point on the center S-Tine and 2-1/2" Duckfoot Points on each side of the Wheel Track. If needed, additional S-Tines and Points can be purchased.
14. Adjust Harrow Height if needed. **See "S-Tine Hydraulic Harrow - Optional" on page 3-20.**



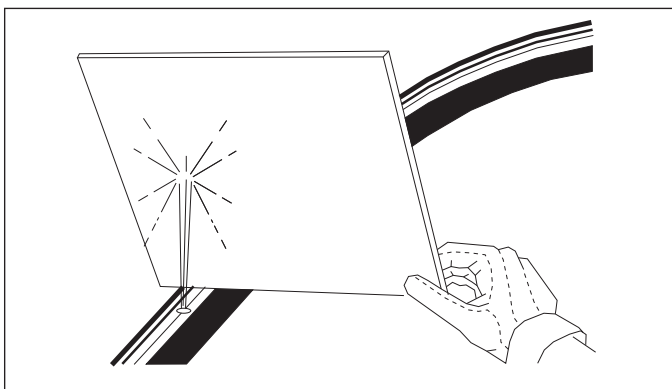
**Figure 2-43: S-Tine Hydraulic Tracker Remove - Optional**

## Purge S-Tine Hydraulic Harrow System

The S-Tine Hydraulic Harrow should be purged of air before operation.

### WARNING

Escaping hydraulic fluid can cause serious personnel injury. Relieve system pressure before repairing, adjusting, or disconnecting. Wear proper hand and eye protection when searching for leaks. Use cardboard instead of hands (See Figure 2-44.) Keep all components (cylinders, hoses, fittings, etc.) in good repair.



**Figure 2-44: Hydraulic Leak Detection**

1. Check to make sure that the tractor hydraulic reservoir is full of the manufacturer's recommended hydraulic oil before raising/lowering the S-Tine Hydraulic Harrow.
2. Slowly raise the S-tine Hydraulic Harrow until both Harrow Cylinders are fully extended. Lower and raise the Harrow to verify that both cylinders are working throughout the stroke. Fully extend the Harrow Cylinders and continue to hold the lever until both Cylinder Rods movement stops. Raise/lower Harrow 5 times to purge air from the system.
3. Do not loosen any hoses or fittings.
4. Recheck tractor reservoir to make sure it is within operating limits.

**S-Tine Hydraulic Harrow Circuit approximate oil requirement: 0.35 gallons**

## Agitator Installation

### CAUTION

Blade and 5-Strip Brush Agitators orientation is important. Be sure to determine the direction of shaft rotation before installation.

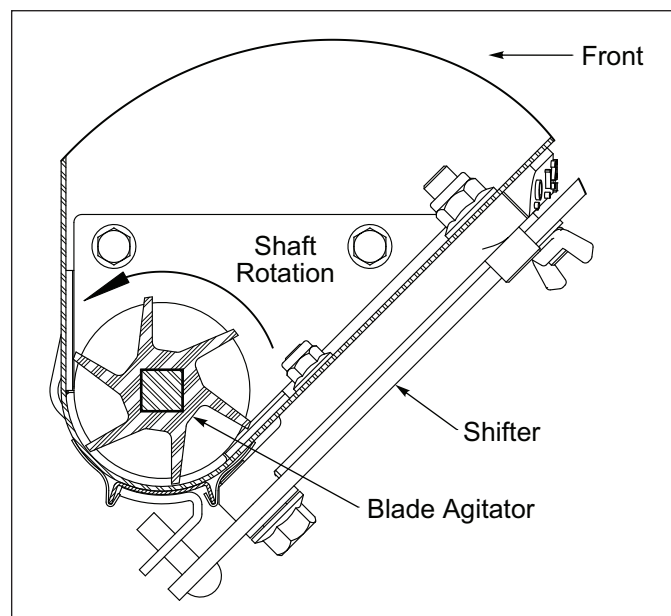
### WARNING

5-Strip Brushes will be destroyed if installed backwards.

### IMPORTANT

Never force to add a Square Bore Washer since it will cause binding. Agitators must be free to rotate.

Blade Agitators are standard. Blade Agitators must be installed with careful attention to the direction of Shaft Rotation. See Figure 2-45.

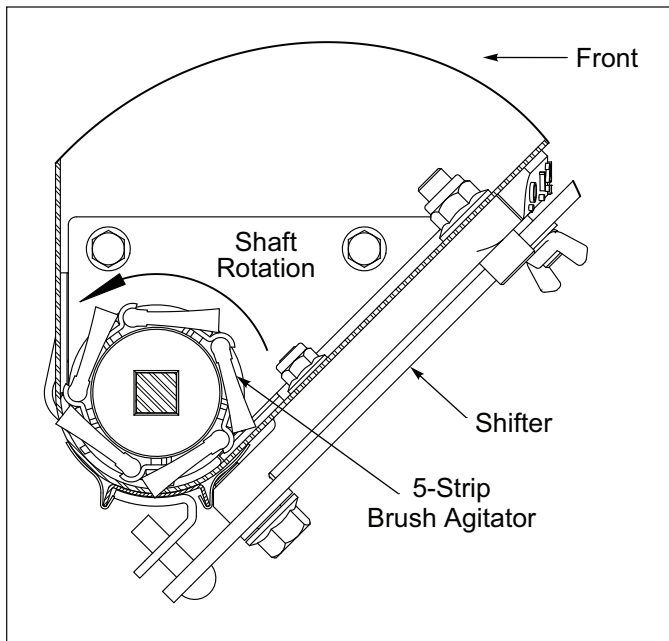


**Figure 2-45: Blade Agitator Orientation**

Optional 5-Strip Brush, Cage, and 8-Row Brush Agitators are available for specific varieties. Contact the Brillion office for rates and compatibility with unlisted seed varieties.

5-Strip Brush Agitators must be installed with the brushes facing backward, away from rotation to wipe over the seed openings. See Figure 2-46.



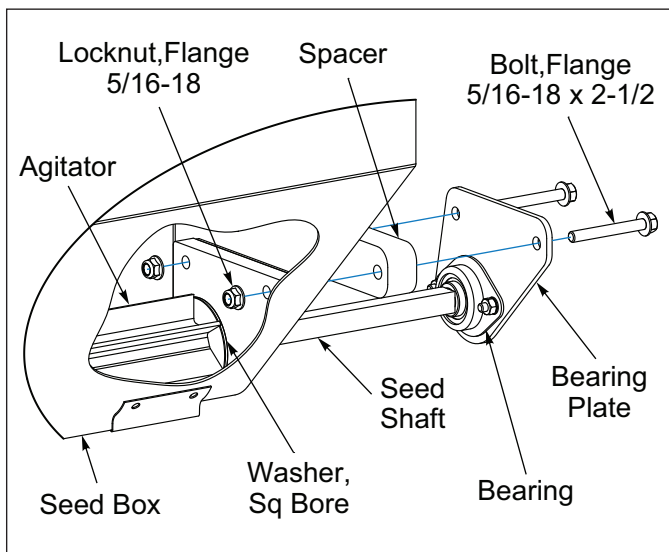


**Figure 2-46: 5-Strip Brush Agitator Orientation**

#### NOTE

Square Bore Washers are two thicknesses, 12ga and 14ga. It may be necessary to use more than one Square Bore Washer for proper fit between the Agitator Bearings.

1. On the RH end of the Seed Box, remove the Bearing Plate and Spacer 5/16-18 Hardware from the end of the Seed Box. **See Figure 2-47.**



**Figure 2-47: Agitator Assembly**

2. Slide the Seed Shaft out of the end of the Seed Box. Bearing Plate Bearing should be still attached to the Seed Shaft.
3. Remove existing Agitators and Square Bore Washers.

4. Orient if applicable and lay out the Agitators inside the Seed Box. Place Square Bore Washers on each end of the Agitators to prevent seed leakage and to reduce Agitator end play between the Agitator Bearings. Never force to add a Square Bore Washer since it will cause binding. Agitators must be free to rotate.
5. Reinstall the Seed Shaft aligning the Square Bore Bushings, Square Bore Washers, Agitators, and Manual Clutch Drive Shaft.
6. Reinstall the Bearing Plate and Spacer to the end of the Seed Box with 5/16-18 Hardware.
7. If 5-Strip Brush Agitators were installed, apply Important Decal 5D505 to the front Seed Box in a place visible by the tractor driver.

### IMPORTANT

DISENGAGE CLUTCH (IF SO EQUIPPED) OR RAISE SEEDER BEFORE BACKING UP, FAILURE TO DO SO WILL DAMAGE BRUSH AGITATORS.

5D505

**Figure 2-48: Brush Agitator Decal**



NOTES:

[illegible]

## Operation

**DANGER**

Never allow anyone to ride on the Seeder at any time. Allowing a person to ride on the machine can inflict serious personal injury or death to that person.

**DANGER**

Always lock the Tractor Drawbar in the center position when transporting the unit. Failure to do so can result in serious injury or death and cause damage to the machine.

**DANGER**

All hydraulically elevated equipment must have Transport Locks installed or be lowered to the ground, when servicing or when equipment is idle. Failure to take preventive measures against accidental lowering can result in serious personal injury.

**DANGER**

When transporting the unit, place Transport Locks in position after fully extending the Hydraulic Lift Cylinders. Insert Clevis Pin and Hairpin Cotter to secure the Transport Locks. Failure to use the Transport Locks can cause the unit to settle during transport, which can result in serious injury or death and cause damage to the equipment.

**WARNING**

Keep all bystanders away from the machine when folding/unfolding or transporting.

**CAUTION**

When transporting farm implements on public roads, it is the responsibility of the operator to abide by state and local laws concerning wide loads, speed, safety emblems and safety lighting equipment. Drive at safe speeds, particularly when rounding corners, crossing rough ground or driving on hillsides, to prevent tipping the tractor.

## Tractor Preparation

The Sure Stand Seeder is available as a Pull-Type Hitch or 3-PT Hitch version.

### Tractor Preparation for Attaching 3-PT Hitch Seeder

1. The Seeder is designed to be used with Category 2 or 3 Free Link, Category 2, 3N or 3 Quick Hitch Coupler. **See Figure 3-1.** Be sure Tractor's Hitch Capacity is not exceeded by the Laden Mass of the Seeder. **Refer to Tractor Operator's Manual.**
2. Be sure Tractor is properly ballasted. A minimum 25% of Tractor and Equipment Laden Mass must be on Tractor Front Wheels in transport position to maintain stability. Calculate the Loaded Seeder Mass. **See "Specifications" on page 6-1.** (Seeder weight plus the seed box capacity with desired seed.) **Refer to Tractor Operator's Manual.**
3. Check the Tractor tire inflation levels to ensure that they are properly inflated for the additional Laden Seeder Mass. Refer to the Tractor Operator's Manual. Be sure not to over ballast and exceed Tractor Tire Capacity.
4. Set Tractor 3-PT Lower Links to allow lateral (torsional) float. **Refer to Tractor Operator's Manual.** If left rigid, your Brillion Seeder may not follow ground contours resulting in poor germination.
5. Set Lift Rod length long enough to ensure Seeder can float downward in the case of a furrow or waterway. Lower Links should be the same height, leveling your Brillion Seeder side to side. Fine adjustments may need to be made after hookup is completed. **Refer to the Tractor Operator's Manual.**
6. Attach Seeder to the Tractor's 3-PT Free Link or Quick Hitch Coupler using the appropriate size pins and bushings. Be sure to use the hardware provided and is in good working order. **See Figure 3-1.**
7. Refer to the Tractor Operator's Manual for Quick Hitch Coupler Operation.



**DANGER**

**Do not allow any bystanders to stand between the tractor and the implement while backing up to the implement.**

8. Connect the 7-Pin Connector to Tractor Outlet, routing cable by avoiding pinch points.
  - Make sure the tractor has a good clean receptacle, free of dirt and corrosion.
  - Make sure the 7-Pin Connector is inserted ALL the way in. With tighter fitting pins, operator may think the Connector is all the way in, but really isn't.
  - Make sure the tractor receptacle cover latches over the keyway on the 7-Pin Connector to hold the Connector in place.
  - If an operator plugs in the 7-Pin Connector, but the lights do not seem to work right, check the above items to make sure there is a good connection with the 7-Pin Connector. **See "Warning Lamps" on page 5-10.**
9. Install Basic Clutch Switch or Brillion Elite Mini Monitor to tractor. Connect the 3-Pin Plug to the 12 Volt Tractor Convenience Outlet.
 

**Basic Clutch Switch:** Connect 2-Pin Connector to Cable Assembly.

**Brillion Elite Mini Monitor:** Connect 6-Pin Connector to 240" Extension Harness
10. Raise seeder. Remove Parking Pins from both sides and place them in the Toolbox. Raise Parking Stands, both sides. **See Figure 3-2.** Adjust or lock tractor sway stabilizers if equipped, centering the Seeder with the Tractor. **Refer to the Tractor Operator's Manual.**
11. Lower Seeder, if necessary level Seeder side to side (laterally) by adjusting Lift Rod length. Level Seeder front to back by adjusting the Tractor Upper Link length as required. **Refer to the Tractor Operator's Manual.**

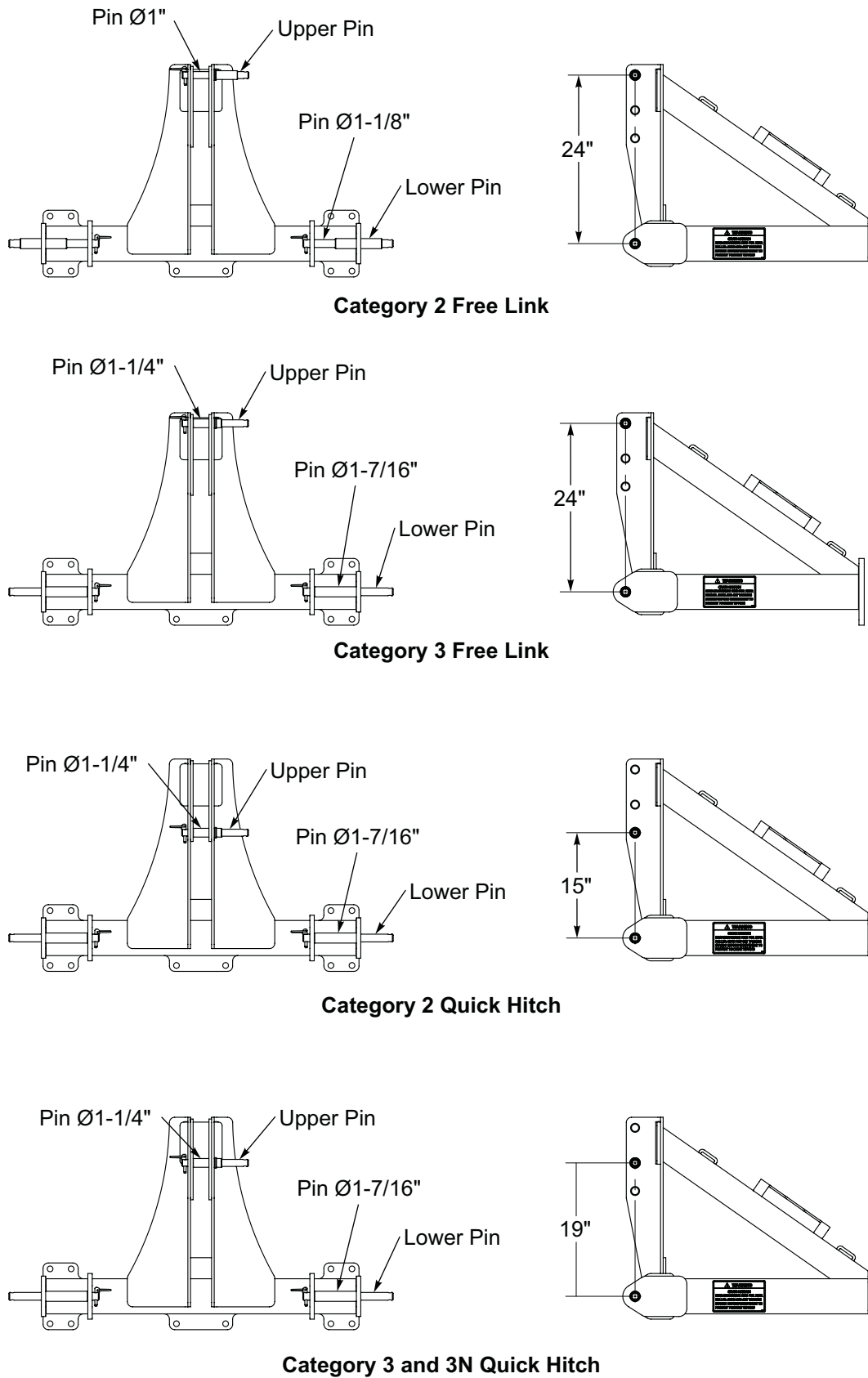


Figure 3-1: 3-PT Hitch

## Attaching/Detaching 3-PT Hitch Seeder



### **WARNING**

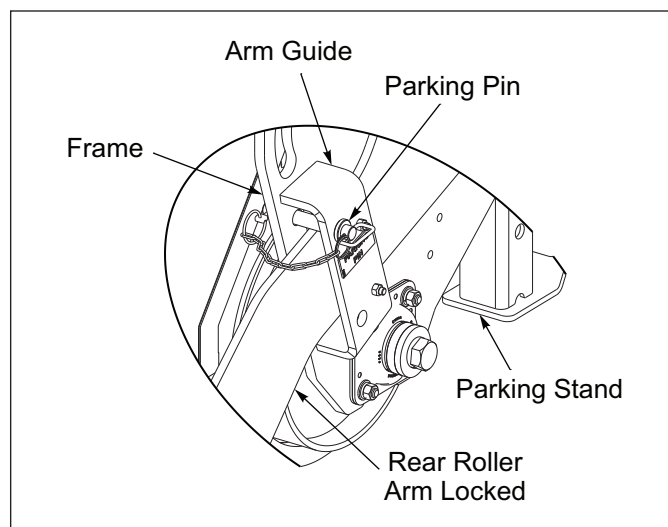
To prevent the implement from tipping forward on the frame, disengage parking stand only when the seeder is fully attached to the tractor. Be sure to observe the following sequences.

#### **Hooking Up the Seeder:**

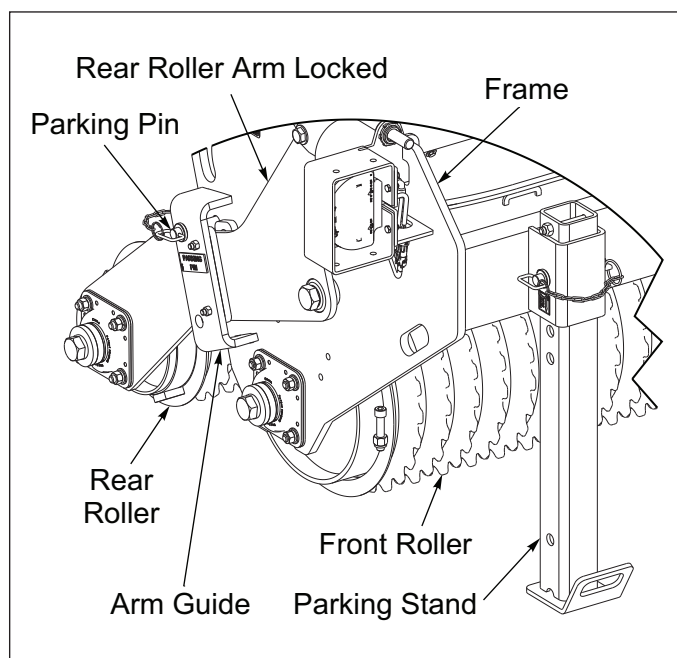
1. Attach seeder to the tractor. Raise the Seeder.
2. Raise Parking Stands by removing each Parking Stand 3/4" Pin and lifting the Parking Stand until the bottom hole is aligned with the bracket hole. Replace the 3/4" Pin. **See Figure 3-2.**
3. Remove both 3/4" Parking Pins from the Frame Arm Guides and place them in the Toolbox. **See Figure 3-3.**

#### **Unhooking the Seeder:**

1. Raise Seeder. Lower Parking Stands by removing each Parking Stand 3/4" Pin and lowering the Parking Stand. Align one of the three holes with the bracket hole depending upon the site ground, replace the 3/4" Pin. **See Figure 3-2.**
2. Both sides, insert 3/4" Parking Pin into the Frame Arm Guide to lock the Rear Roller Arm. **See Figure 3-3.**
3. Lower Seeder and disconnect the tractor from Seeder.



**Figure 3-3: Parking Pin Engaged**



**Figure 3-2: Parking Stand**

## Tractor Preparation for Attaching Pull Type Seeder



### DANGER

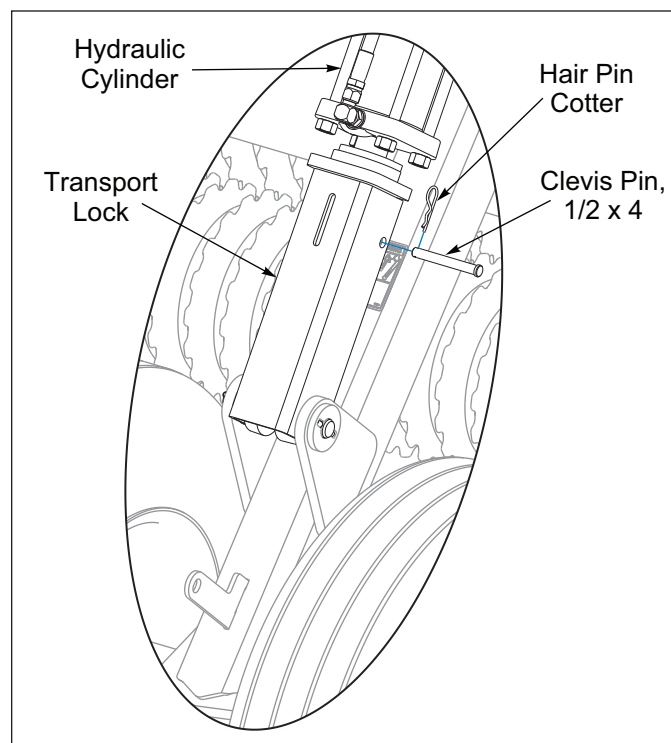
Do not allow any bystanders to stand between the tractor and the implement while backing up to the implement.

1. The Seeder is designed to be used with a Category 2 or 3 Drawbar Hitch.
2. Align the Tractor Drawbar with the machine. Raise or lower the Drawbar Hitch as needed using the Jack. Attach the unit with proper size Hitch Pin and Safety Clip. **See Table 3-1.**

DRAWBAR CAT	Min Pin Size	Max PTO HP
2	1-1/4" (30mm)	154 (115 Kw)
3	1-1/2" (38mm)	248 (185 Kw)

**Table 3-1: Pin Size**

3. Raise and rotate Jack to stored position before setting the machine in motion.
4. Clean all hydraulic couplings and attach to the tractor.
5. Attach Safety Chain to tractor allowing plenty of movement for turning both directions. The Safety Chain should latch securely to prevent it coming loose. **See "Safety Chain" on page 1-4.**
6. If Transport Locks are not engaged, fully extend the hydraulic lift cylinders and rotate Transport Locks in the engaged position over the Cylinder Rods. Secure with the Clevis Pins and Hairpin Cotter. **See Figure 3-4.**



**Figure 3-4: Transport Lock Engaged**

7. Connect the 7-Pin Connector to Tractor Outlet, routing cable by avoiding pinch points.
  - Make sure the tractor has a good clean receptacle, free of dirt and corrosion.
  - Make sure the 7-Pin Connector is inserted ALL the way in. With tighter fitting pins, operator may think the Connector is all the way in, but really isn't.
  - Make sure the tractor receptacle cover latches over the keyway on the 7-Pin Connector to hold the Connector in place.
  - If an operator plugs in the 7-Pin Connector, but the lights do not seem to work right, check the above items to make sure there is a good connection with the 7-Pin Connector.
8. If not already equipped, install Basic Clutch Control Switch Box or Brillion Elite Mini Monitor on tractor in a convenient location. Connect the Switch Box or Monitor 3-Pin Plug to the 12 Volt Tractor Convenience Outlet. **See "Basic Clutch Switch Box Assembly" on page 2-13 and "Brillion Elite Mini Monitor Tractor Installation - Optional" on page 2-24.**
9. Connect Clutch Control Harness or any other Optional Harnesses to the installed tractor displays as applicable.

**Basic Clutch Switch:** Connect 2-Pin Connector to Cable Assembly.

**Brillion Elite Mini Monitor:** Connect 6-Pin Connector to 240" Extension Harness

## Attaching/Detaching Pull Type Seeder

### Attaching the Seeder for Field Operations:

*Seeder is parked lowered*

1. Attach Seeder to the Tractor.
2. Raise the Seeder fully to extend the Hydraulic Lift Cylinders and rotate the Transport Locks in the engaged position over the Cylinder Rod. Secure with the Clevis Pins and Hairpin Cotter. **See Figure 3-4.**
3. Raise and rotate Jack to stored position before setting the machine in motion.
4. Transport the Seeder to the area to be seeded.
5. Disengage each Transport Lock so the Transport Lock rests on the Wheel Arm. Secure with Clevis Pin and Hairpin Cotter into the Wheel Arm Tab. **See Figure 3-5.**

*Seeder is parked raised*

1. Attach Seeder to the Tractor.
2. Raise and rotate Jack to stored position before setting the machine in motion.
3. If not already done, raise Seeder fully and engage Transport Locks. **See Figure 3-4.**
4. Transport the Seeder to the area to be seeded.
5. Disengage each Transport Lock so the Transport Lock rests on the Wheel Arm. Secure with Clevis Pin and Hairpin Cotter into the Wheel Arm Tab. **See Figure 3-5.**

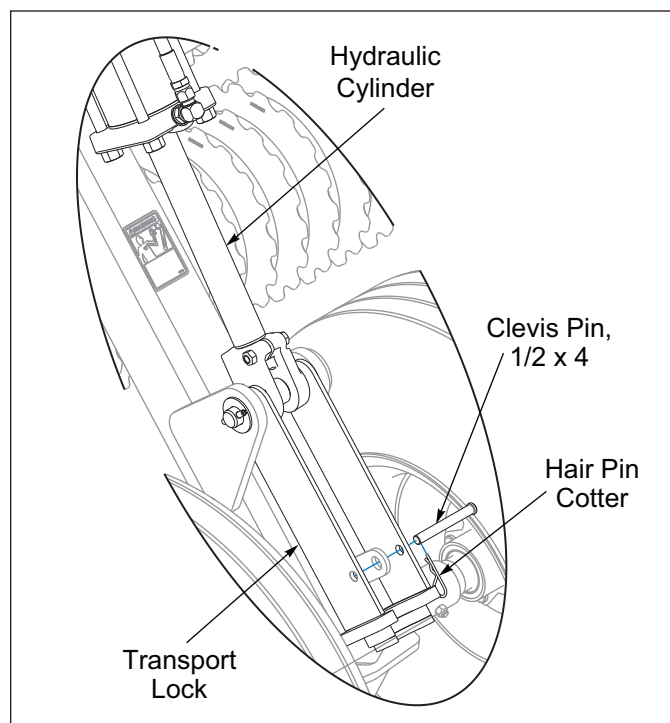
### Detaching the Seeder:

*Parking Seeder lowered*

1. Raise the Seeder fully to extend the Hydraulic Lift Cylinders and rotate the Transport Locks to the stored position. Secure with the Clevis Pins and Hairpin Cotter. **See Figure 3-5.** Lower Seeder, relieve pressure from Hydraulic Hoses.
2. Rotate and Lower Jack.
3. Disconnect the Tractor from Seeder.

*Parking Seeder raised*

1. Raise the Seeder fully to extend the Hydraulic Lift Cylinders and rotate the Transport Locks to the locked position. Secure with the Clevis Pins and Hairpin Cotter. **See Figure 3-5.**
2. Relieve pressure from Hydraulic Hoses.
3. Rotate and lower Jack.
4. Disconnect the Tractor from Seeder.



**Figure 3-5: Transport Lock Stored**

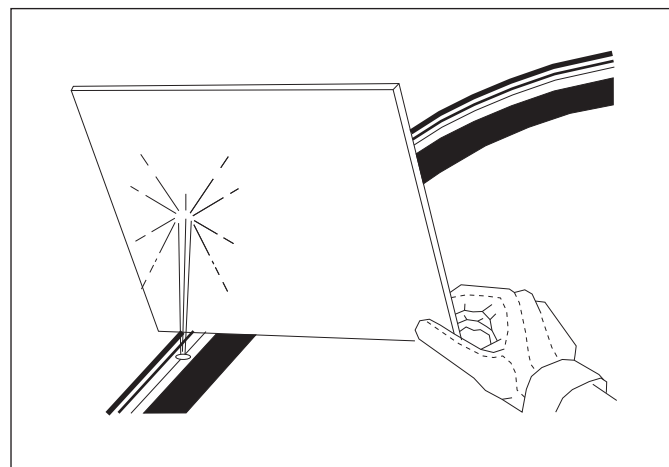
## Purge Hydraulic Lift System

The Drawbar Seeder is equipped with a Hydraulic Lift System to raise and lower the unit in the field.



### WARNING

Escaping hydraulic fluid can cause serious personnel injury. Relieve system pressure before repairing, adjusting, or disconnecting. Wear proper hand and eye protection when searching for leaks. Use cardboard instead of hands (See Figure 3-6.) Keep all components (cylinders, hoses, fittings, etc.) in good repair.



**Figure 3-6: Hydraulic Leak Detection**



The Hydraulic System is not filled with oil and should be purged of air before transporting and field operations.

1. Tractor must be hitched to the Seeder Drawbar and the Hydraulic Hoses connected.
2. Check to make sure the tractor hydraulic reservoir is full of the manufacturer's recommended oil.
3. If the Transport Locks are engaged, raise the Seeder and remove the Transport Locks. **See Figure 3-5.**
4. Slowly raise the Seeder until both Lift Cylinders are fully extended. Lower and raise the Seeder to verify that both Cylinders are working throughout the stroke. Fully extend the Lift Cylinders and continue to hold the lever until both Cylinder Rods movement stops. Raise/Lower Seeder 5 times to purge air from the system.
5. Do not loosen any Hydraulic Hoses or Fittings.
6. Recheck tractor reservoir to make sure it is within operating limits.
7. Raise the Seeder and install Transport Locks. **See Figure 3-4.**

**Lift Circuit approximate oil requirement: 1.67 gallons.**

## Rear Roller Air System

### IMPORTANT

**Do not at any time operate the Rear Roller Air System Air Pressure below 15psi. The Air Springs must maintain a minimum Air Pressure for proper operation. Too low of pressure will cause the Air Springs to rub internally and lead to failure.**



### WARNING

**Relieve Air System Pressure before attempting to adjust or service Air Springs and Air Lines. Wear protective gloves and safety glasses or goggles when working with Air System. High pressure air can propel debris at high speed, causing eye injury or blindness. If you are injured, obtain medical aid immediately.**

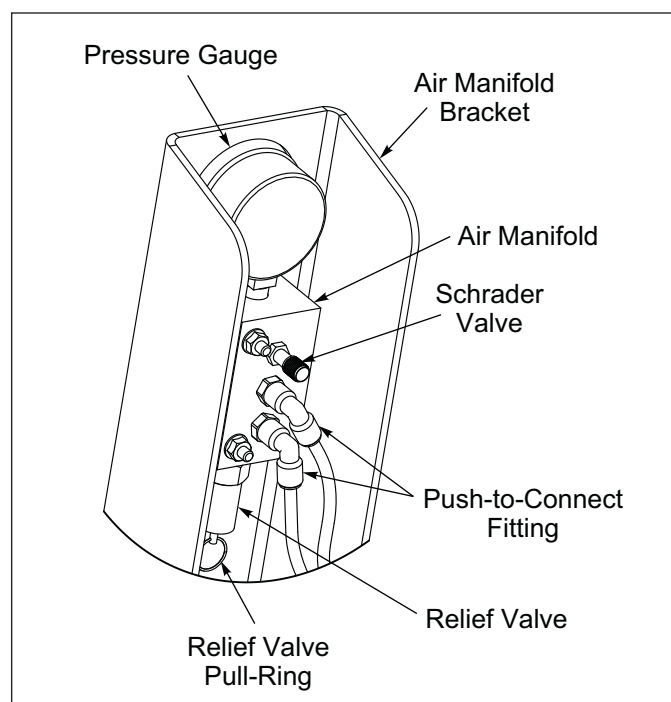
### IMPORTANT

**Do not pressurize the Rear Roller Air System unless all related components are installed.**

Each Rear Roller Arm has an Air Spring to increase down force on the Rear Roller which improves seed to soil contact.

- Air Pressure adjustments are made at the Air Manifold on either the 3-PT Hitch or Drawbar. The Manifold Schrader Valve allows Air Pressure to be increased from an external source such as shop air or allows Air Pressure to be decreased by releasing air

from the system. To relieve all System Air Pressure, pull Relief Valve Pull-Ring. **See Figure 3-7.**



**Figure 3-7: Air Manifold**

- The Rear Roller Air System can safely operate in a range from 15psi to 100psi.

### Recommended Air System Pressure is 90psi.

Do not exceed 100psi System Pressure which is the maximum recommended working pressure the Air Springs are rated for. Air Springs maximum jounce pressure rating is 200psi. A Relief Valve in the Manifold protects the Air System from excessive pressure.

- Do not remove or adjust the Relief Valve or damage to the Air System may occur. The system is maintenance free. Reduce Air Pressure to 15psi if stored for an extended period of time.



## Clutch Operation

**Brillion Elite Mini Monitor:** Touch Screen Monitor provides the user the ability to turn the Seeder Clutch "ON" or "OFF".

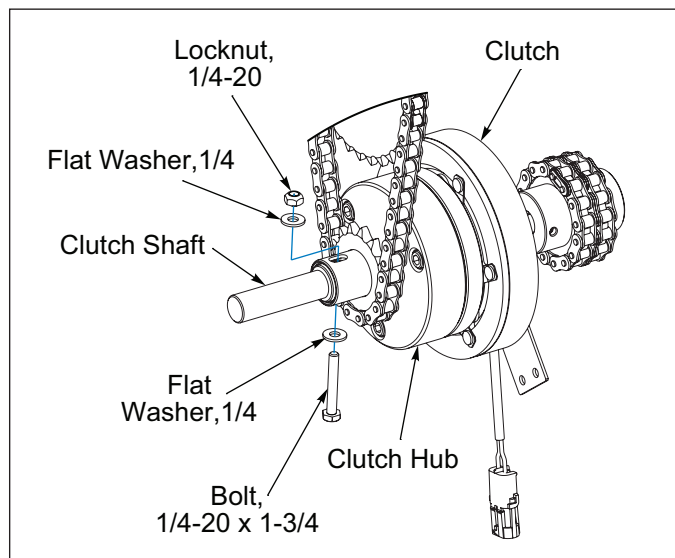
**Basic Clutch Switch Box:** Toggle Switch on the Switch Box, turns the Seeder Clutch to "SEED" or "NO SEED".

Clutch characteristics are as follows:

1. The Clutch is **engaged** when power (12 Volts) is applied.
2. The Seeder has provisions to mechanically lock the Clutch to drive the Seed Metering System, by aligning the hole in the Clutch Shaft with the slot in the Clutch Hub and securing with a 1/4 x 1-3/4 Bolt, Flat Washers and Locknut. **See Figure 3-8.**
3. The Clutch must be disengaged (power off) when Seed Shafts are turned manually for calibration.
4. Check clutch operation: Clutch will engage when power is applied. (Clutch will make a clicking sound). Set seeder on the ground and drive a short distance while toggling the Seeder Clutch "ON" and "OFF". The Seed Shaft will stop rotating when the Monitor or Toggle Switch is set to "OFF/NO SEED".

### IMPORTANT

At no time use high pressure water or air to clean the clutch as damage could occur.



**Figure 3-8: Clutch Lock Bolt**

## Micro-Meter Box - Seed Rate Adjustment



### WARNING

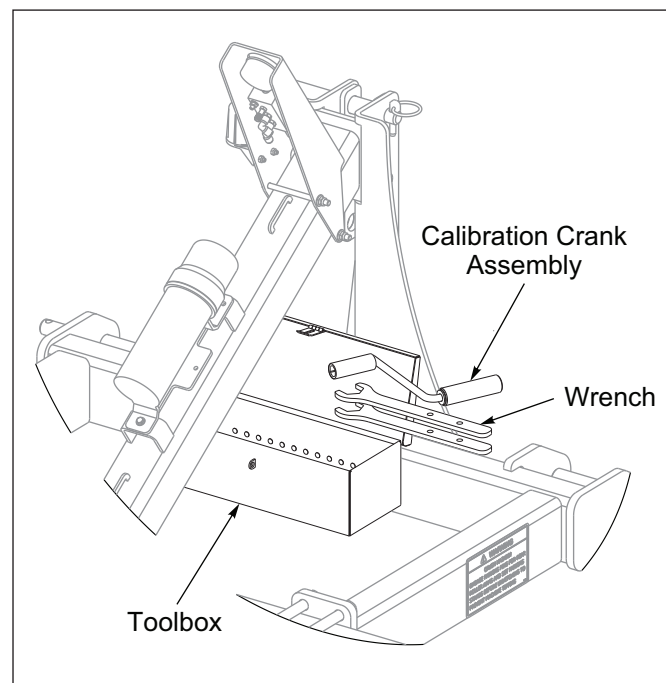
- To prevent damage to the seed meters, Do not apply excessive force to the adjusting nuts. Failure to do so may result in the seed being pinched between the cut-off and washer inside the seed cup.
- Do not close the meters more than 1/8" when there is seed in the meters without rotating the seed shaft. This prevents damage to the rotating washers and retainer rings in the seed meters.
- Do not attempt to open meters more than 1". (Feed rolls could become disengaged from washer in the seed cup.)

### NOTE

To avoid Seed Meter damage, if there is seed in the meters, decrease rate in small increments. Decrease rate no more than one nut revolution and rotate Seed Shaft to purge seed from meters. Continue adjustment as needed.

Before filling with seed be sure Seed Shaft turns freely and Seed Meters are free of any foreign matter.

Wrenches for adjustment and the Calibration Crank Assembly are stored in the toolbox. **See Figure 3-9.**



**Figure 3-9: Adjustment Wrenches**

**IMPORTANT**

The Electrically Controlled Clutch and if equipped the Agitator Box Manual Clutch must be disengaged (Power Off) when Seed Shafts are turned manually for Calibration.

The Seed Rate Chart is located inside the Seed Box Cover and in this manual. See Figure 3-12. It should be used as a general guide only. Because of seed variation, a more accurate rate can be determined by turning the 3/4" Hex on the Transmission to Calibrate the Seeder. See "Micro-Meter Box Calibration for Unlisted Seeds" on page 3-9.

On the right side, the Seed Rate for the Seed Meters can be set by adjusting the Seed Rate Adjusting Nut and Adjusting Screw. See Figure 3-10.

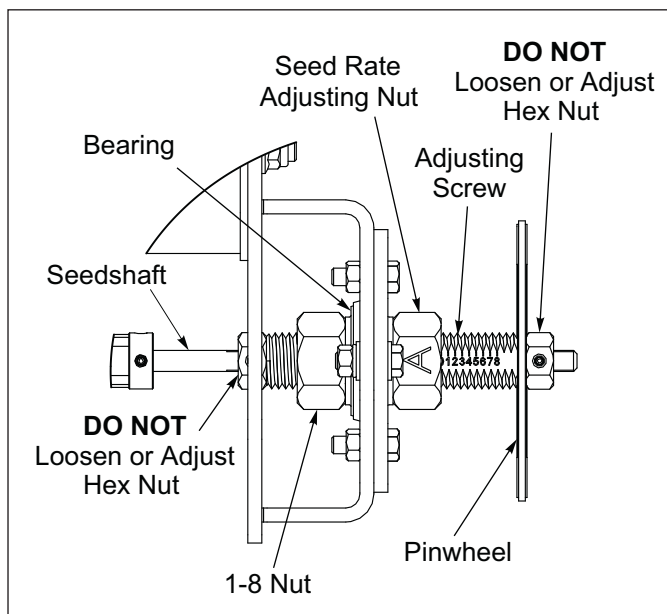


Figure 3-10: Seed Rate Adjustment

**IMPORTANT**

Do not Loosen or Adjust the Hex Nuts with Set Screws.

1. To **increase** the rate of seeding, loosen the 1-8 Nut and Seed Rate Adjusting Nut with the supplied wrenches. Set the Seed Rate Adjusting Nut appropriate letter with the Adjusting Screw corresponding number for the desired Seed Rate. Tighten the 1-8 Nut up to the Bearing.
2. To **decrease** the rate of seeding, loosen the 1-8 Nut and Seed Rate Adjusting Nut with supplied wrenches. Back the 1-8 Nut away from the Bearing. Set the Seed Rate Adjusting Nut appropriate letter with the Adjusting Screw corresponding number for the desired Seed Rate. Tighten the 1-8 Nut up to the bearing.

Pinwheel at the RH end of the Seed Shaft and Reflective Amber Decals on the Seed Shaft aid the operator in identifying Seed Shaft rotation.

## Micro-Meter Box Calibration for Unlisted Seeds

**IMPORTANT**

The Electrically Controlled Clutch and if equipped, the Agitator Box Manual Clutch must be disengaged (Power Off) when Seed Shafts are turned manually for Calibration.

Brillion assumes no liability pertaining to Seeding Rates achieved with this Seeder. Rates listed are general in nature and should be used as starting points only. Seed varieties and blends listed represent those calibrated through in-house test meters.

Variations in actual rates may be realized due to differences in seed lots. For accurate rates with seeds being used, follow the calibration instructions listed on the Seed Chart inside the Seed Box Cover or refer to this Manual. See Figure 3-12. The information listed in the Seed Chart is subject to change without notice.

### Calibrate Unlisted Seeds as follows:

1. Seed Shaft turns 163 revolutions per acre seeded.
2. Raise machine and lock in Transport Position.
3. Place a canvas or tarp under machine to catch seed.
4. Disengage Electronically Controlled Clutch and if equipped, Agitator Box Manual Clutch. (Power Off).
5. Turn Transmission Micro-Meter Shaft Calibration Hex 163 revolutions Counter-Clockwise (CCW) with provided Crank, 41 turns may be used if results are adjusted as stated in Step 6. See Figure 3-11.
6. Weigh seed for approximate planting rate in lbs/acre multiply weight by 4, if 41 turns were used.

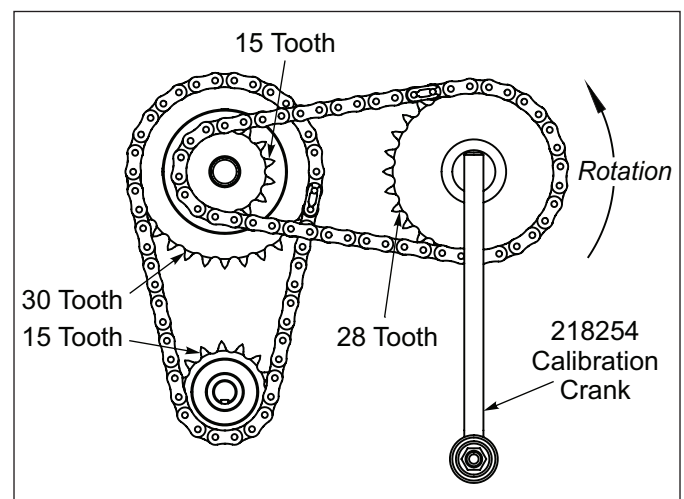


Figure 3-11: Micro-Meter Box Calibration

## Micro-Meter Box - Seed Rate Chart

### PLANTING RATES FOR 4610-16 - MICRO-METER BOX IN POUNDS PER ACRE

RATES ARE INTENDED AS A GUIDE ONLY. VARIATIONS IN SIZE AND CLEANLINESS WILL AFFECT RATES. CHECK ACREAGE AND POUNDS OF SEED USED FOR BEST RESULTS.

INDICATOR SETTINGS	1A	2A	3A	4A	5A	6A	7A	8A
ALFALFA (UNCOATED)	3	7	13	19	23	29	34	39
BAHIA	1	6	10	14	19	23	27	30
BERMUDA (HULLED)	3	7	13	20	24	30	34	40
BIRDSFOOT TREFOIL (BROADLEAF)	3	9	14	20	30	36	44	51
BLUE GRASS (KENTUCKY)	1	3	4	7	9	11	13	14
BLUE GRASS (PARK KENTUCKY)	1	4	7	11	14	19	21	24
BLUE GRASS (SHERMAN BIG)	0	1	4	6	7	9	10	11
CANOLA	1*	7*	11	17	21	26	30	36
CENTIPEDE	3	7	9	13	17	20	23	26
CLOVER (ALSIKE, LADINO, SWEET, RED)	3	9	13	19	24	30	34	40
CLOVER (ALYCE, CALIFORNIA BUR, CRIMSON, HUBAM)	3	7	11	17	24	28	34	43
CRESTED WHEAT	0	1	3	4	6	7	9	10
CROWN VETCH	3	10	16	21	29	34	41	49
FLAX	3	7	11	14	19	23	27	30
HARDING GRASS	1	6	9	13	16	20	23	26
KLEIN GRASS	3	7	14	19	26	33	40	44
LESPEDeza (KOREAN UNHULLED)	1	6	10	14	20	24	30	34
LESPEDeza (KOREAN HULLED)	3	7	13	19	23	30	36	40
LESPEDeza (SERICEA UNHULLED)	1	4	7	11	16	19	21	24
LESPEDeza (SERICEA HULLED)	3	9	14	21	27	34	41	46
LOVE GRASS (WEEPING)	1	9	14	19	24	31	37	44
LOVE GRASS (SAND)	3	7	11	16	21	27	33	39
MILLET	3	9	14	20	26	31	37	44
RED TOP	1	3	6	7	9	10	11	13
REED CANARY GRASS	1	3	6	9	10	13	14	19
SWITCH GRASS (CLEANED AND HULLED)	0	3	6	7	10	13	16	19
TEFF - TIFFANY COATED	4	9	14	20	27	31	38	44
TILLAGE RADISH	3*	9	13	19	24	30	35	41
TIMOTHY	3	6	10	16	20	26	31	36

\* WILL CRACK SOME SEEDS AT THESE SETTINGS  
NOT RECOMMENDED: LENTILS, SORGHUM, SUDAN GRASS

Figure 3-12: Micro-Meter Box - Seed Rate Chart

[illegible]

# Agitator Box - Seed Rate Adjustment

## IMPORTANT

Manual Clutch on Agitator Box must be disengaged when either Micro-Meter or Agitator Seed Shafts are turned for Calibration.



## WARNING

5-Strip Brush Agitator Brushes will be destroyed, if mixtures that contain small seeds such as Clover, Alfalfa and Timothy are used.



## CAUTION

On Seeders equipped with 5-Strip Brush Agitators, always disengage the Electrically Controlled Clutch or raise Seeder before backing up. Rotating the 5-Strip Brush Agitators backwards will cause damage.

The Seed Rate Chart is located inside the Seed Box Cover and in this manual. **See Figures 3-17 and 3-18.** It should be used as a general guide only. Because of seed variations, a more accurate rate can be determined by turning the Agitator Shaft Calibration Hex on the Transmission to Calibrate the Seeder. **See Figure 3-13.**

The Agitator Seed Box Seed Rate is adjusted by Shifting the RH and LH Shifter Handles on the back of the Agitator Seed Box. Loosen each Wing Nut to move each Shifter Handle to the desired setting. **See Figure 3-14.**

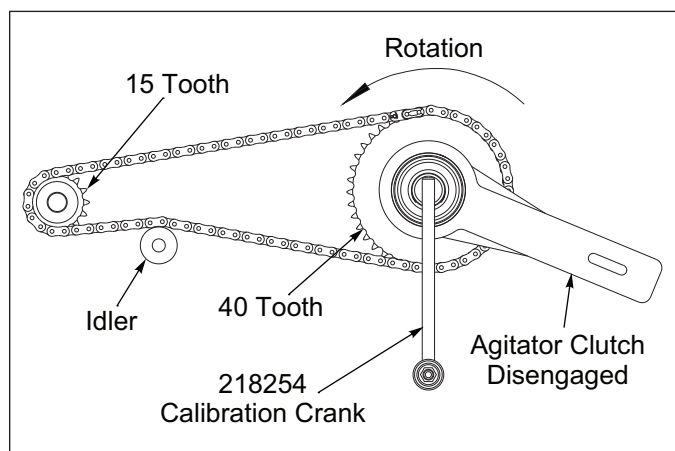


Figure 3-13: Agitator Box Calibration (15T Shown)

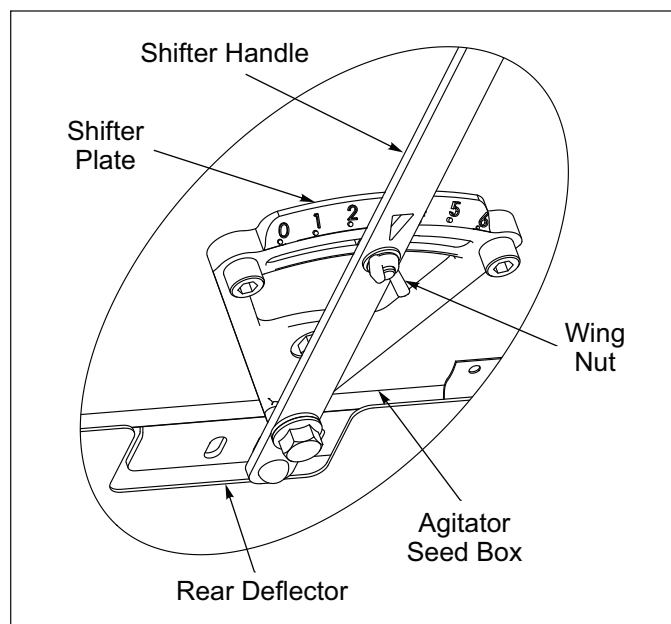


Figure 3-14: Agitator Box Adjuster

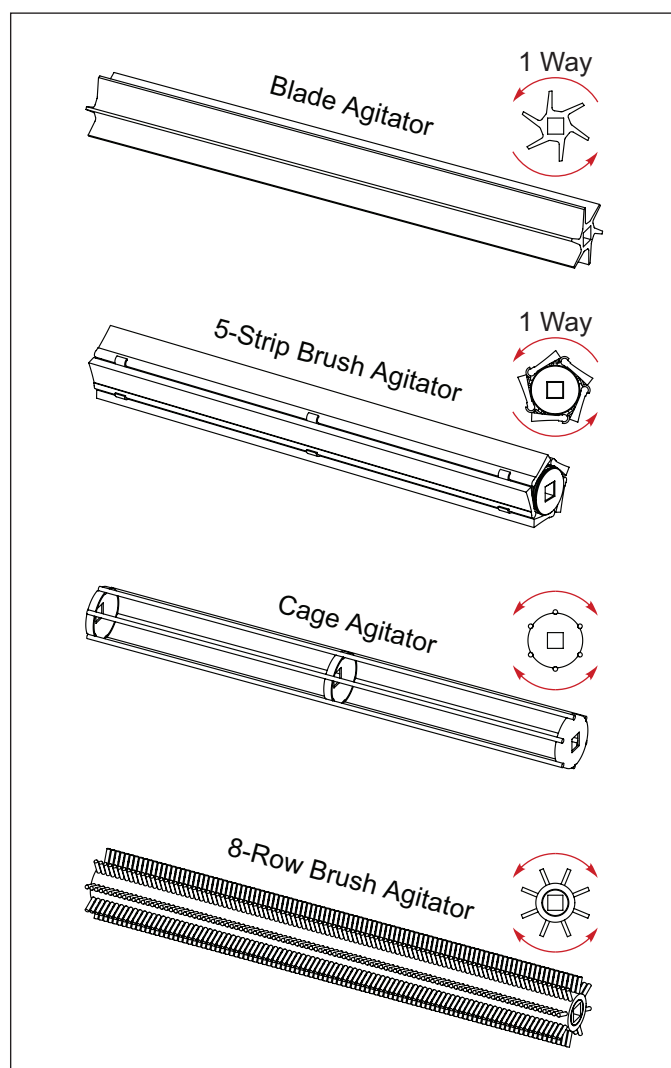
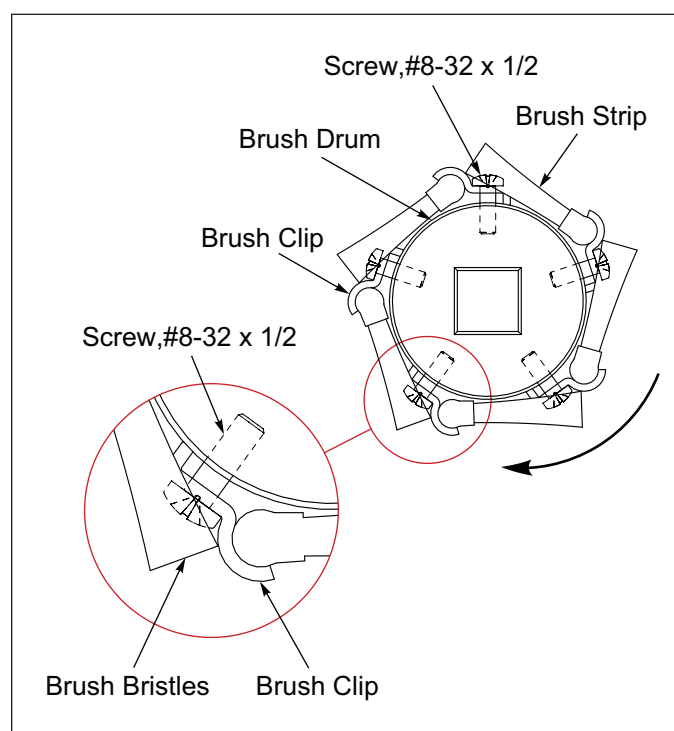


Figure 3-15: Seeder Agitators

Blade Agitators are standard. Optional Cage, 5-Strip Brush, and 8-Row Brush Agitators are available for specific varieties. **See Figure 3-15.** Contact the Brillion office for rates and compatibility of unlisted seed varieties.

- 5-Strip Brush Agitators are typically used for Fluffy Native Seeds. 5-Strip Brush Agitators should never be used with small seed varieties such as Clover, Alfalfa, or Timothy. Small seeds can cause the brushes to swell and pull out of Brush Clips. **See Figure 3-16.**
- Cage and 8-Row Brush Agitators can be used to plant cereal grains such as Wheat, Oats, Rye, and Barley. However, Brillion does not recommend this for a harvestable grain crop because the seed will be placed in the top 1/4" to 1/2" of soil.



**Figure 3-16: 5-Strip Brush Agitators**

## Agitator Box - Seed Rate Calibration

### IMPORTANT

**Manual Clutch on Agitator Box must be disengaged when either Micro-Meter or Agitator Seed Shafts are turned for Calibration.**

### NOTE

*Calibration Crank Assembly used for Calibration is stored in the toolbox.*

Brillion assumes no liability pertaining to Seeding Rates achieved with this Seeder. Rates listed are general in nature and should be used as starting points only. Seed varieties and blends listed represent those calibrated through in-house test meters.

Variations in actual rates may be realized due to differences in seed lots. For accurate rates with seeds being used, follow the calibration instructions listed on the seed chart inside the Seed Box Cover or refer to this manual. **See Figures 3-17 and 3-18.** *The information listed in the Seed Chart is subject to change without notice.*

### Calibrate Unlisted Seeds as follows:

1. Seed Shaft turns 176 revolutions per acre seeded.
2. Raise machine and lock in Transport Position.
3. Place a canvas or tarp under machine to catch seed.
4. Disengage Agitator Box Manual Clutch.
5. Turn Agitator Shaft Calibration Hex 176 revolutions counter-clockwise (CCW) with provided Crank. 44 turns may be used if results are adjusted as indicated in Step 6. **See Figure 3-13.**
6. Weigh seed for approximate planting rate in lbs/acre. Multiply weight by 4, if 44 turns were used.



**PLANTING RATES FOR 4610-16 AGITATOR BOX IN POUNDS PER ACRE**

RATES ARE INTENDED AS A GUIDE ONLY. VARIATIONS IN SIZE AND CLEANLINESS WILL AFFECT RATES. CHECK ACREAGE AND POUNDS OF SEED USED FOR BEST RESULTS.

SEED TYPE	AGITATOR	INDICATOR SETTINGS						AGITATOR		INDICATOR SETTINGS					
		1	2	3	4	5	6			1	2	3	4	5	6
BENT GRASS (L-93 CREEPING)	BLADE	14	43	85	126	173	235	5 STRIP BRUSH		19	46	82	118	154	181
BLUE GRASS (SHERMAN BIG)	BLADE	2	11	29	47	74	101	5 STRIP BRUSH		4	15	34	54	78	87
BLUE GRASS (KENTUCKY - ODYSSEY)	BLADE	7	30	58	88	131	185	5 STRIP BRUSH		12	34	64	93	125	143
BLUESTEM (PAWNESS BIG) (W/BEARDS)	BLADE	0.3	1	2	4	6	9	5 STRIP BRUSH		1	2	4	8	16	22
BLUESTEM (WW B. DAHL) (W/O BEARDS)	BLADE	1	3	7	13	23	35	5 STRIP BRUSH		2	5	11	21	33	42
BLUESTEM (ITASCA LITTLE) (W/O BEARDS)	BLADE	0	0.3	1	2	3	6	5 STRIP BRUSH		0.3	1.0	2	6	7	9
BROME (MEADOW)	BLADE	1	2	4	7	11	18	5 STRIP BRUSH		1	4	6	11	19	32
BROME (SMOOTH)	BLADE	1	3	7	11	19	32	5 STRIP BRUSH		2	5	11	18	30	50
BUFFALO GRASS	BLADE	2	8	25	42	63	85	5 STRIP BRUSH		3	11	31	53	71	79
BUFFEL GRASS	BLADE	0	0.3	0.7	1	2	3	5 STRIP BRUSH		0	0.4	1	2	3	4
FESCUE (CREEPING RED)	BLADE	1	5	13	25	49	75	5 STRIP BRUSH		3	8	18	32	60	82
FESCUE (TALL)	BLADE	5	20	44	82	118	163	5 STRIP BRUSH		7	26	53	103	148	163
FESTOLIUM	BLADE	6	17	39	57	108	145	5 STRIP BRUSH		9	25	46	85	146	168
GRAMA (SIDE OATS)	BLADE	1	2	4	7	13	17	5 STRIP BRUSH		1	2	6	10	18	24
INDIAN GRASS	BLADE	0.7	1.4	2	4	5	7	5 STRIP BRUSH		1	2	6	9	15	23
ORCHARD GRASS (UNHULLED)	BLADE	2	6	15	29	50	81	5 STRIP BRUSH		3	10	22	40	76	87
RYE GRASS	BLADE	2	11	27	46	74	103	5 STRIP BRUSH		6	16	35	65	110	124
WHEATGRASS (INTERMEDIATE)	BLADE	1	5	12	20	34	52	5 STRIP BRUSH		2	9	17	31	60	79

NOT RECOMMENDED: BLUESTEMS OTHER THAN SHOWN, ZOROO FESCUE

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**Figure 3-17: Agitator Box - Seed Rate Chart, 15T:40T (After 01/01/2024)**

**PLANTING RATES FOR 4610-16 AGITATOR BOX IN POUNDS PER ACRE**

RATES ARE INTENDED AS A GUIDE ONLY. VARIATIONS IN SIZE AND CLEANLINESS WILL AFFECT RATES. CHECK ACREAGE AND POUNDS OF SEED USED FOR BEST RESULTS.

SEED TYPE	AGITATOR	INDICATOR SETTINGS					
		1	2	3	4	5	6
BENT GRASS (L-93 CREEPING)	BLADE	20	62	123	183	251	341
BLUE GRASS (SHERMAN BIG)	BLADE	3	16	42	68	108	147
BLUE GRASS (KENTUCKY - ODYSSEY)	BLADE	11	44	84	128	190	269
BLUESTEM (PAWNESS BIG) (W/BEARDS)	BLADE	.05	2	4	6	9	13
BLUESTEM (WW B. DAHL) (W/O BEARDS)	BLADE	1	4	10	19	33	51
BLUESTEM (ITASCA LITTLE) (W/O BEARDS)	BLADE	0	0.5	2	3	5	9
BROME (MEADOW)	BLADE	1	4	6	10	16	26
BROME (SMOOTH)	BLADE	2	5	10	16	28	47
BUFFALO GRASS	BLADE	3	12	36	62	92	123
BUFFEL GRASS	BLADE	0	0.4	1	2	3	4
FESCUE (CREEPING RED)	BLADE	2	8	19	37	72	109
FESCUE (TALL)	BLADE	7	29	64	119	172	236
FESTOLIUM	BLADE	9	24	57	83	156	211
GRAMA (SIDE OATS)	BLADE	1	3	5	9	14	21
INDIAN GRASS	BLADE	1	2	4	6	8	10
ORCHARD GRASS (UNHULLED)	BLADE	3	9	21	42	73	117
RYE GRASS	BLADE	3	17	39	66	108	150
WHEATGRASS (INTERMEDIATE)	BLADE	2	7	17	29	50	75

NOT RECOMMENDED: BLUESTEMS OTHER THAN SHOWN, ZOROO FESCUE

242431

**Figure 3-18: Agitator Box - Seed Rate Chart, 23T:40T (Before 01/01/2024)**

## Brillion Elite Mini Monitor - Optional

Brillion Elite Mini Monitor provides information to the operator and acts as an interface for clutch control. The display shows seed shaft rotation, low bin levels, acres seeded, and clutch engagement. The touch screen allows the operator to engage the clutch.

See "Brillion Elite Mini Monitor" Chapter for more information and a detailed guide to the use of your monitor.

### IMPORTANT

**The Brillion Elite Mini Monitor System by Loup utilizes a MUX communication line. Sensors must be learned into the Monitor. Location of each pre-learned Smart Shaft Sensor or Bin Level Sensor is important for proper Monitor display. Each Sensor utilizes 3 wires (+, -, MuxBus) to connect to the system. The Sensors do not require specific Harness connection points. Each Sensor is identified in the Monitor by its own signal.**



### WARNING

**High Power Magnet in use. See "High Power Magnet" on page 1-2**

- Bin Level Sensors are installed on adjustable brackets in the outer ends of the Front Micro-Meter Seed Box and if equipped, Rear Agitator Seed Box. When the sensor is submerged in seed, no alarm will sound. As the seed level falls below the sensor eye, an alarm will be indicated on the Brillion Elite Mini Monitor. Raise or lower the Bin Level Sensor Bracket inside the Seed Box to the desired seed level.
- On the Seeder RH front and rear (if equipped) Seed Shafts are Smart Shaft Sensors. The front Micro-Meter Seed Box Smart Shaft Sensor is installed on a Sensor Mount that is attached to the mounting Hardware of two seed cups. The Smart Shaft Sensor is activated by a High Powered Magnet in a Spacer that is kept in place from rotating on the Seed Shaft with Set Screws. If equipped, the rear Agitator Seed Box Smart Shaft Sensor is installed on the Sensor Mount that is attached to the box end with the bearing hardware. The High Powered Magnet in the Magnet Wheel Assembly is threaded on the Seed Shaft and kept in place from rotating on the Seed Shaft with a Set Screw. As the Seed Shafts rotate the Smart Shaft Sensors detect the Magnets. When no signal is detected for pre-defined seconds, an alarm will be indicated on the Brillion Elite Mini Monitor.

### NOTE

*If the Smart Shaft Sensor stall alarm occurs, be aware that the Seeder has not been planting for the pre-defined time.*

- Brillion Elite Mini Monitor provides users the ability to toggle the seeder clutch on or off.
- Brillion Elite Mini Monitor will monitor field and total acres.
- Brillion Elite Mini Monitor is operated on a 12-Volt DC negative ground system. The monitor should be connected using the existing convenience plug connection.
- The Elite Mini Tractor Harness attaches to the Brillion Elite Mini Monitor and connects to the Seeder 240" Extension Harness. **See Figures 2-21 and 2-23.** The 6-Pin Connection may be plugged/unplugged at the front of the Seeder Hitch when hooking/unhooking the Seeder. This allows the monitor to stay in the tractor if so desired.
- A 4-Pin radar connection is provided as an optional connection for the speed sensor. The speed signal may be determined by either the tractor radar or the speed sensor located on the Seeder.

**For service or setup questions contact Loup Electronics Inc. See "Service And Technical Support" on page 4-8.**



## Electronic Acre Meter Kit - Optional

Used with Basic Clutch Control

### IMPORTANT

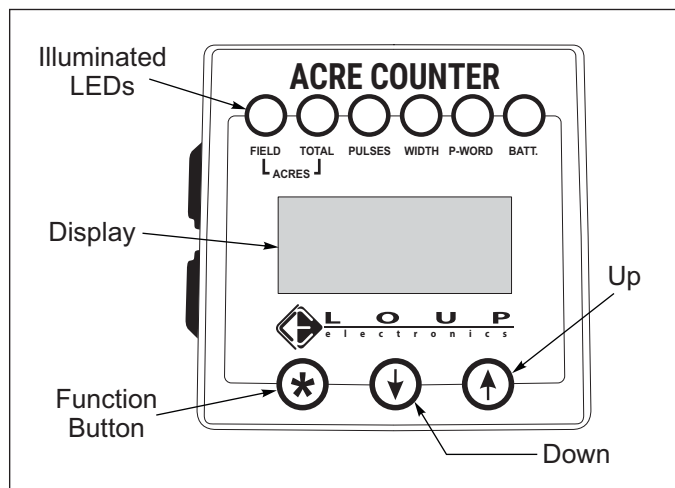
**Acre Meter is dust and splash resistant, under no circumstances should this unit be submerged in any conductive, corrosive, or flammable liquid. At no time use high pressure water or air to clean it, as this can damage the unit.**

### Settings for Loup Acre Meters

The battery operated Acre Meter operates in one of two modes.

1. In sleep mode, the display is blank and the counter is accumulating acres. Sleep mode will be entered if a button is not pressed for 20 seconds.
2. In entry mode, the display is on, and the operator can enter values. To get into entry mode, press the **\*/FUNC** button. If you continue to press the **\*/FUNC** button, the acre counter will cycle through the functions that it can perform. The LEDs above the display indicate which function is selected.

**The available functions are:** Field Acres, Total Acres, Pulses per 400 feet, Width, Password and Low Battery  
**See Figure 3-19.**



**Figure 3-19: Acre Meter**

### Field Acres

Press the **\*/FUNC** button until the “**FIELD**” LED is lit. The digits indicate the acres covered since the field acre counter was cleared.

To clear the field acre count, press the **UP** and **DOWN** buttons simultaneously for two seconds. If a password has been entered, you will not be able to clear the total acre count. Field acres will count in tenths of an acre up to 9999.9 acres.

### Total Acres

Press the **\*/FUNC** button until the “**TOTAL**” LED is lit. The digits indicate the acres covered since the total acre counter was cleared.

To clear the total acre count, press and hold the **UP** and **DOWN** buttons for two seconds. If a password has been entered, you will not be able to clear the total acre count.

Total acres will count from .1 to 99999 acres.

### Pulses Per 400 Feet

Press the **\*/FUNC** button until the “**PULSES**” LED is lit. The number in the display indicates how many pulses are generated for every 400 feet driven. There are two methods to enter the pulses per 400 feet:

1. If you know the number, select it using the **UP** and **DOWN** buttons. When you press the **\*/FUNC** button, the Acre Counter will accept the number in the display as the new pulses per 400 feet. **See Table 3-21.**
2. If you Do not know the pulses per 400 feet, press and hold the **UP** and **DOWN** buttons until the “0” appears in the display. The “**PULSES**” LED will blink. The acre counter is now counting shaft rotations. Enter the cab, lower seeder, engage clutch and drive 400 feet. Press the **\*/FUNC** button to wake up the acre counter. The “**PULSES**” LED will light. The number displayed is the pulses per 400 feet. Press the **\*/FUNC** button to accept the setting.

If a password is set, you will not be able to adjust the pulses.

### Width

Press the **\*/FUNC** button until the “**WIDTH**” LED is lit. The number displayed is the length of your implement in feet.

To adjust the width, press the **UP** and **DOWN** buttons. If a password has been entered, you will not be able to adjust the width.

The width can be adjusted from .1 to 99.9 feet, in tenths of a foot.

### Password

The password function allows you to protect the total acre count, pulses per 400 feet, and width settings with a password. This stops anyone from accidentally changing those settings. When the acre counter is shipped, the password is disabled. You can modify the pulses per 400 feet and implement width at any time.

Press the **\*/FUNC** button until the “**PASS**” LED is lit. The digits will display the word “**Ent**” or “**dis**”.

If the display shows “**dis**”. The password is disabled. The total acre count, pulses/400 feet, width, and password settings can be adjusted using the **UP** and **DOWN** buttons. The password can also be changed using the **UP** and **DOWN** buttons.

If the display shows “**Ent**”: You must enter your password using the **UP** and **DOWN** buttons. When your password is displayed, press the **\*/FUNC** button to test the password. If the password is correct, you will be able to change the acre counter settings. The password will be viewable until the acre counter enters sleep mode. When the acre counter is in entry mode again, you will have to re-enter the password to change settings.

If the password is not correct, you will not be able to change the acre counter settings. When the “**PASS**” function is selected again, “**Ent**” will appear in the display.

### Changing the Password

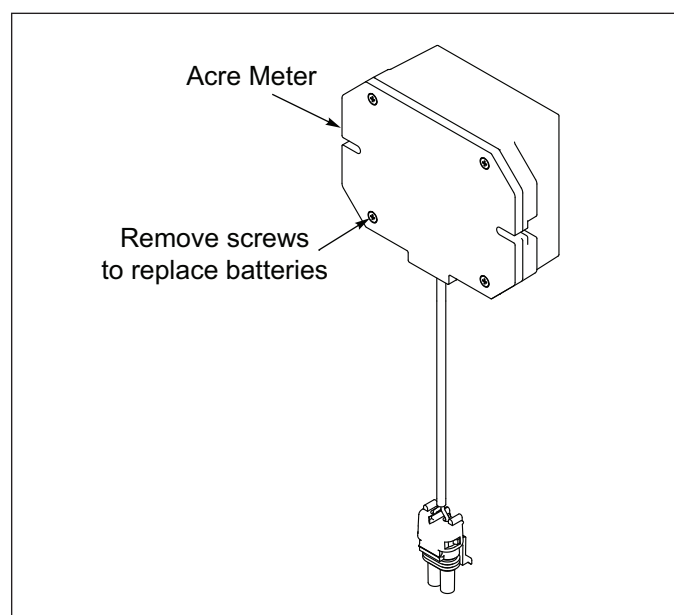
Select a new password using the **UP** and **DOWN** buttons. Press the **\*/FUNC** button until the word “**SEt**” appears in the display. Release the **\*/FUNC** button. The number in the display is your new pass code. Make sure you record this number. Press and hold the **\*/FUNC** button until the word “**dis**” appears in the display.

If the password is forgotten, it can be disabled by removing the batteries. The password is intended for rental units. It is recommended that a seal be affixed to the rear plate of the acre counter to determine if the settings have been tampered with.

### Battery Replacement

The battery operated acre counter uses 3 AA batteries. The “**BATT**” LED will light when the batteries require replacement. Remove the acre counter from the implement and undo the 4 screws on the back of the case. **See Figure 3-20.** This will separate the housing from the rear plate. Replace the batteries with 3 high quality AA alkaline batteries.

**See “Acre Meter Troubleshooting” on page 5-10.**



**Figure 3-20: Battery Replacement**

## Acre Meter Settings

MODEL				Pulses per 400 FT	Width (Feet)
SSPT604				22	5.0
SSP4	SSB4	SS4		44	4.0
SSP5	SSB5	SS5		44	5.0
SSP6	SSB6	SS6		44	6.0
SSP8	SSBP8	SS8	SSB8	58	8.0
SSP10	SSBP10	SS10	SSB10	58	10.0
SSP12	SSBP12	SS12	SSB12	58	12.0
SSP16	SS16	4610-16		45	16.0
SSP108	SS108			58	8.0
SSP110	SS110			58	10.0
SSP112	SS112			58	12.0
SSP208/2081	SS208/2081			58	8.0
SSP210/2101	SS210/2101			58	10.0
SSP212/2121	SS212/2121			58	12.0
SSP308/3081	SS308/3081			29	8.0
SSP310/3101	SS310/3101			29	10.0
SSP312/3121	SS312/3121			29	12.0
SLP8	SL8			314	8.0
SLP10	SL10			314	10.0
SLP12	SL12			314	12.0
SLP204/2041	SLPB204/2041			128	4.0
SLP206/2061	SLPB206/2061			128	6.0
SLP304/3041	SLPB304/3041			64	4.0
SLP306/3061	SLPB306/3061			64	6.0
LSP5	LS5			128	5.0
LSP6	LS6			128	6.0
LSS6				128	6.0
SLP208/2081	SLPB208/2081	SL208/2081	SLB208/2081	116	8.0
SLP210/2101	SLPB210/2101	SL210/2101	SLB210/2101	116	10.0
SLP212/2121	SLPB212/2121	SL212/2121	SLB212/2121	116	12.0
SLP308/3081	SLPB308/3081	SL308/3081	SLB308/3081	58	8.0
SLP310/3101	SLPB310/3101	SL310/3101	SLB310/3101	58	10.0
SLP312/3121	SLPB312/3121	SL312/3121	SLB312/3121	58	12.0
BOS4F1	BOS4S1	BOSB4F1	BOSB4S1	45	4.0
BOS6F1	BOS6S1	BOSB6F1	BOSB6S1	45	6.0
BPS6	BPSB6			51	6.0
BPS8				50	8.0
GLP643	SSLP643			69	5.0
4620-24				45	24.0
4630-36				per Seeder	36.0
X19-27	XL28-36	XXL38-46		90	per Model
WFP23-37	WFP38-52			90	per Model
FPSB-6				89	6.0

**Figure 3-21: Acre Meter Settings**

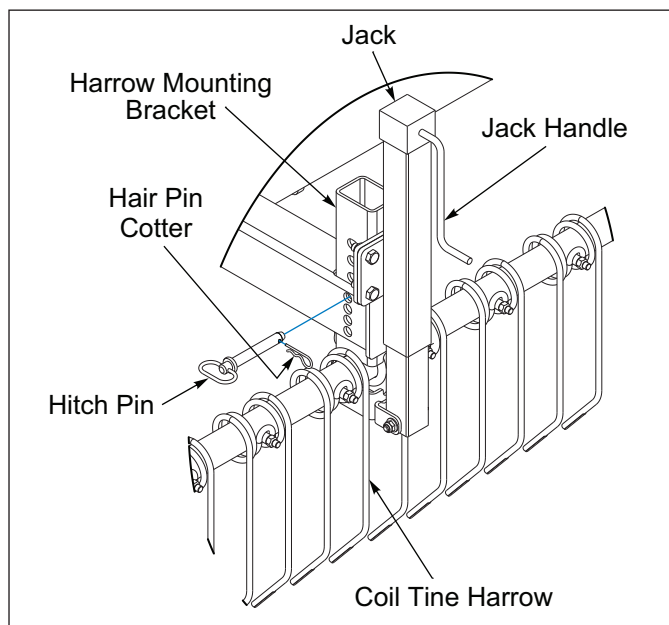
## Coil Tine Harrow - Optional

The Seeder has a Optional Coil Tine Harrow to remove tractor tire tracks before the seeder rollers compact the soil. The coils are individually mounted for flexibility and backup protection. The Tines depth should be adjusted so the tips are approximately 2" into the soil.

### NOTE

*The tines will hang straight down when the implement is raised.*

1. The Coil Tine can be adjusted up or down as needed.
2. Adjust the Coil Tine Harrow depth by removing the 3/4 x 4-1/2 Hitch Pin. Crank the Sidewind Jack up or down to achieve the desired depth. Re-Insert Hitch pin and secure with Hair Pin Cotter. Both sides should be set at the same depth. **See Figure 3-22.**



**Figure 3-22: Coil Tine Harrow Adjustment**

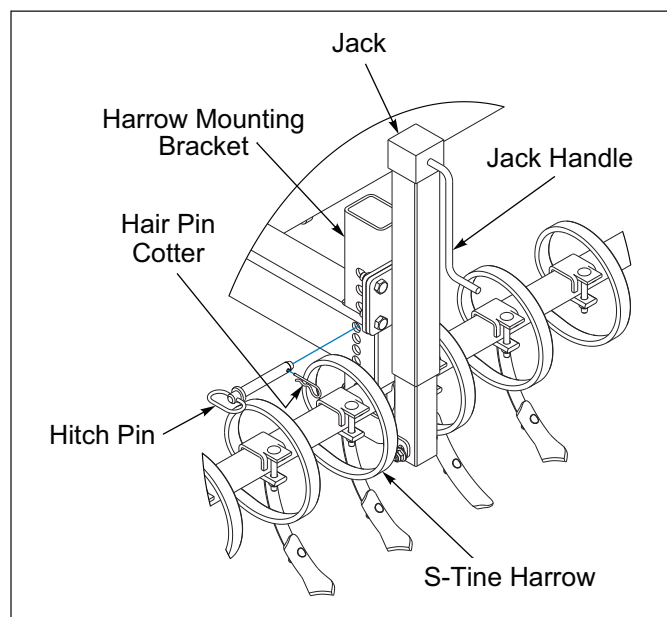
## S-Tine Harrow - Optional

The S-Tine Harrow removes the tractor tire tracks before the seeder rollers compact the soil.

### NOTE

*S-Tines should not be operated any deeper than necessary to remove tractor tire tracks. Otherwise, wet soil is brought up which will stick to the seeder rollers, draft load is increased, and under some conditions, S-Tines may deflect back to front rollers and break.*

1. The S-Tine Harrow depth can be adjusted for a deeper more aggressive depth or shallower for minimal disturbance.
2. Adjust the S-Tine Harrow depth by removing the 3/4 x 4-1/2 Hitch Pin. Crank the Sidewind Jack up or down to achieve the desired depth. Re-Insert Hitch pin and secure with Hair Pin Cotter. Both sides should be set at the same depth. **See Figure 3-23.**



**Figure 3-23: S-Tine Harrow Adjustment**

## S-Tine Hydraulic Harrow - Optional

The S-Tine Hydraulic Harrow removes the Tractor Tire Tracks before the Seeder Rollers compact the soil and allows the operator to raise the Harrow out of the ground when making turns on seeded headlands with seeder lowered.

Extending the Harrow Cylinders, raises the Harrow and retracting the Harrow Cylinders, lowers the Harrow.

### NOTE

*S-Tines should not be operated any deeper than necessary to remove tractor tire tracks. Otherwise, wet soil is brought up which will stick to the seeder rollers, draft load is increased, and under some conditions, S-Tines may deflect back to front rollers and break.*

The S-Tine Hydraulic Harrow depth can be adjusted for a deeper more aggressive depth or shallower for minimal disturbance. **See Figure 3-24.**

Adjust the S-Tines Harrow depth by removing the 3/4 x 5-5/16 Pin, Flat Washers and Hair Pin Cotter at the top of the Harrow Adjustment Tube. Select from the table below for the approximate depth. Harrow Adjustment Tube Holes are in 3/4" increments. Reinsert 3/4 x 5-5/16 Pin and Flat Washers. Secure with Hair Pin Cotter. Both sides should be set at the same depth.

Hydraulic S-Tine Harrow Depth Adjustment			
	Top Hole	2nd Hole	3rd Hole
Harrow raised clearance	1/8	5/8	1-3/8
Harrow lowered depth	2-5/8	1-7/8	1-1/8

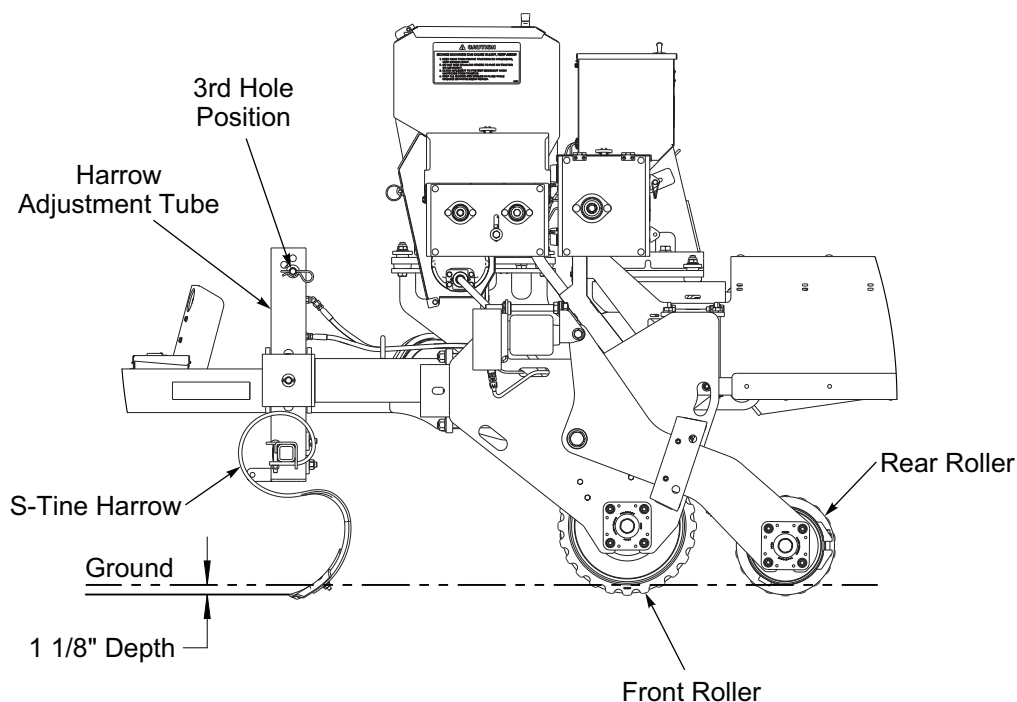


Figure 3-24: S-Tine Harrow Depth Adjustment

## General Operation

1. The minimum horsepower requirements are typically 6-8 horsepower per foot. This will vary widely due to speed, depth, moisture, and types of soils. Local dealers can help in making recommendations for your areas. For 3-PT Hitch models size tractor by 3-PT Hitch Capacity.
2. Operating speed is typically 4-6 mph. Excessive speed can result in undesirable germination, seeder bouncing, or other unpredictable results. Reduce speed in rocky conditions to prevent wheel breakage.

## Transporting the Seeder

1. Check and follow all federal, state, and local requirements before transporting the Seeder.
2. The Seeder should be transported only by tractor required for field operation. The implement weight should not exceed more than 1.5 times the tractor weight. Maximum transport speed for the Seeder is 20 mph.



### CAUTION

**Excessive speed may result in loss of control of the tractor and implement, reduced braking ability, or failure of the implement tire or structure. Do not exceed the implement maximum specified ground speed regardless of the capability of the maximum tractor speed.**

3. When towing equipment in combination, the maximum equipment ground speed shall be limited to the lowest specified ground speed of any of the towed implements.

Maximum transport speed shall be the lesser of travel speed specified in the operator's manual, speed identification symbol, information sign of towed equipment, or limit of road conditions.

4. Slow down when driving on rough roads. Reduce speed when turning, or on curves and slopes to avoid tipping. Equipment altered other than the place of manufacture may reduce the maximum transport speed. Additional weight, added tanks, harrowing attachments, etc. may reduce implement load carrying capabilities.
5. A Safety Chain is provided with the implement to ensure safe transport.
  - The Safety Chain should have a tensile strength equal to or greater than the gross weight of the implement. The chain is attached to the lower Hitch Clevis hole with two Flat Washers between the Clamp Plates to assure a tight connection.

Always use a 1" diameter Grade 8 bolt for this connection.

- Attach the Safety Chain to the tractor drawbar. **See Figures 1-2 and 1-3.** Provide only enough slack in the chain for turning. Do not use an intermediate chain support as the attaching point for the chain on the tractor. Do not pull the implement by the Safety Chain.
  - When unhitching from the tractor attach the hook end of the chain to a free link close to the hitch clevis for storage. This will keep the hook off the ground, reducing corrosion, and keep the hook functioning properly.
  - Regularly inspect the safety chain for worn, stretched, or broken links and ends. Replace the safety chain if it is damaged or deformed in any way.
6. Before transporting:
    - Know the height and width of the implement being towed. Markers, tanks, attachments, etc. can increase the height and width of the implement.



### DANGER

**Stay away from power lines when transporting, extending implement. Electrocutation can occur without direct contact.**

- Check to see that the tractor hitch capacity is rated to carry the weight of the Seeder Hitch. **Refer to Tractor Operator's Manual.**
- Use provided pins that properly fits the Lift Arms or Quick Hitch and Implement Hitch.
- Clean all Hydraulic Couplings and attach to tractor remotes.
- Connect Basic Clutch Switch Box or Brillion Elite Mini Monitor System to tractor.
- Connect the Safety Warning Lights 7-Pin Plug into tractor 7-Pin outlet, routing cord by avoiding pinch points.
- Fully raise the Seeder Hydraulic Lift or 3-PT Hitch.
- Make sure Transport Locks are installed and secured with Clevis Pins and Hair Pin Cotters. **See Figure 3-4.**



### WARNING

**Failure to use Transport Locks during transport may result in permanent equipment damage, serious injury, or death.**

**OPERATION**

---

- Check all tires for proper inflation, and that lug nuts are properly torque. **See “Tires” on page 5-3.**
- Verify that all warnings lights, SMV sign, reflectors, and safety decals are clearly visible and functioning properly.
- Raise the implement parking stands if applicable.
- Transport during daylight hours whenever possible. Always use flashing warning lights, except where such use is prohibited by law. Make sure lights, reflectors and SMV emblem are clearly visible and operating. Remove any obstructions such as dirt, mud, stalks or residue that restricts view before transporting. **See Figure 3-25.**



**Figure 3-25: SMV Sign**



# Brillion Elite Mini Monitor

## Overview

The Brillion Elite Mini Monitor is a full featured display designed to provide accurate information to the operator for Ground Speed and Acres Planted, Seeder Unit Clutch Control, Seed Shaft Rotation, and Bin Level. This Chapter will familiarize you with operation and technical information. All aspects and features are detailed but may not be applicable to your system configuration.

- **Ground Speed** (Implement mounted Ground Speed Sensor, Radar, GPS Speed or Simulated Speed)

- **Field Acres and Total Acres**
- **Clutch Control**
- **(Up to 6) Six Seed Shaft Rotation Sensors**
- **(Up to 6) Six Hopper Level Sensors**
- **Clutch Master On/Off Switch**



## WARNING

High Power Magnet in use. See "High Power Magnet" on 1-2.

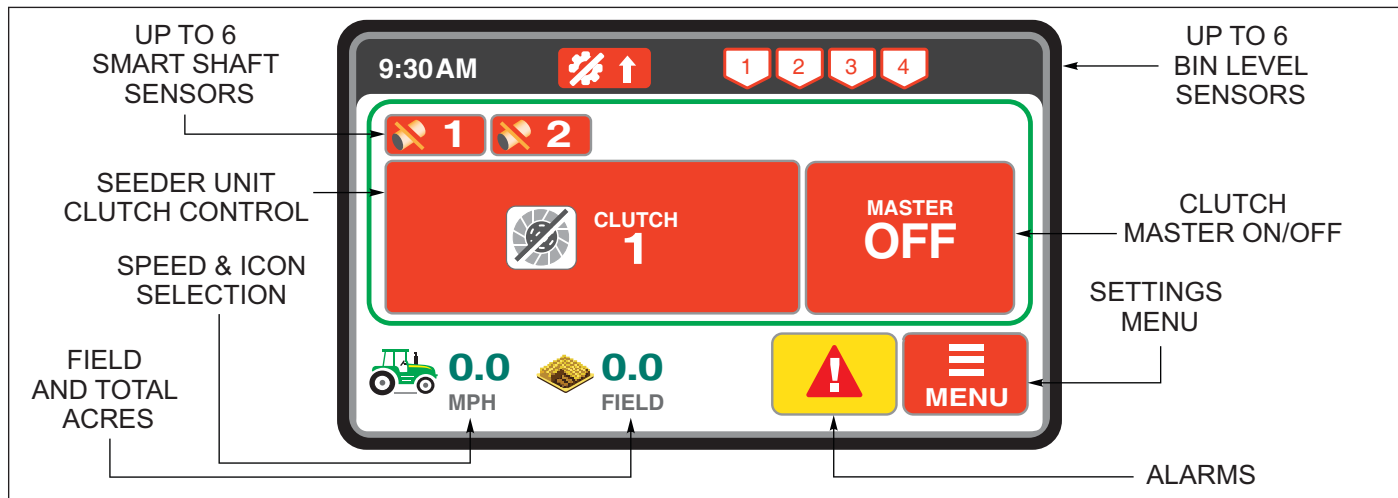


Figure 4-1: Main Screen Display (4610-16)

## Main Screen Layout

### Speed & Icon Selection

Implement Speed will display in lower left corner of the display. To change the tractor color, tap the tractor icon in the lower left corner to prompt a menu. From the pop-up, select the color.



### Field & Total Acres

#### NOTE

*Acres seeded accumulate only for the seeder sections that have the clutch engaged "ON/Green".*

Touch **Field or Total Acres** to toggle between them.

**Clear Field Acres:** Touch and hold field numbers for 3 seconds. Field Acres Reset Screen will pop-up. Select "Yes Confirm".

**Clear Total Acres:** Touch and hold total numbers for 3 seconds. Total Acres Reset Screen will pop-up, select "Reset Total Acres". Warning Screen will pop-up, select



"Yes Confirm". Password Screen will pop-up. Enter 4-digit password.

### Alarms

When an alarm is sounded a popup message will display the active alarm. You may choose to either clear that single alarm or clear all alarms to clear the popup and silence the display.



A flashing yellow button will display next to the Menu Button to signify alarm(s) that are currently active. Select the yellow alarm button to go to the Alarms Screen which will outline all current alarms active on the console. The flashing indicator will not disappear until all alarms have been resolved.

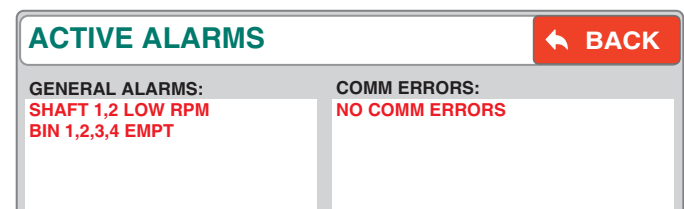






Figure 4-2: Settings Menu Display (4610-16)

## Settings Menu - Speed Settings

Located by selecting “Menu” and “Speed Settings”, these settings control the type of speed input being used as well as calibrating the speed displayed on the main screen.

### Speed Source

Change “Speed Source” by pressing the **Current “Source” Button**. Choose between Shaft Sensor, Radar, GPS Receiver, and Simulated Speed. Screen displays the new Source and options.



#### Source: Shaft Sensor Speed

Uses the Smart Shaft Sensor located on the Seeder Clutch Shaft to obtain ground speed.



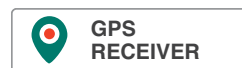
#### Source: Radar Speed

Uses a tractor equipped with radar to obtain your source of ground speed.



#### Source: GPS Receiver Speed

Uses a GPS receiver for your source of ground speed.

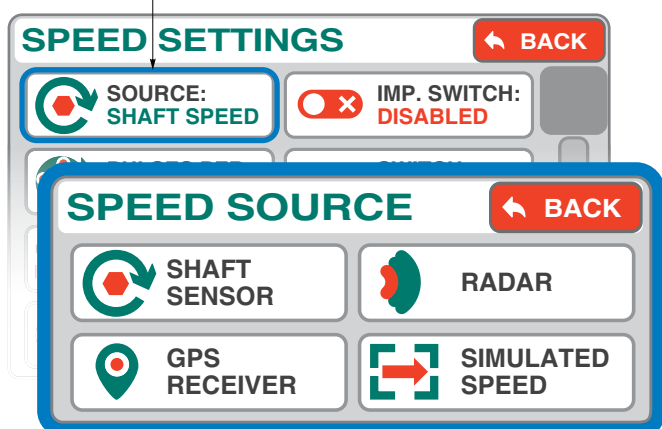


#### Source: Simulated Speed

Allows you to enter a static speed into the monitor without any other speed source. For use in more unique conditions such as a GPS/Radar failure, or other troubleshooting.



CURRENT “SOURCE” BUTTON



## Speed Source Displays

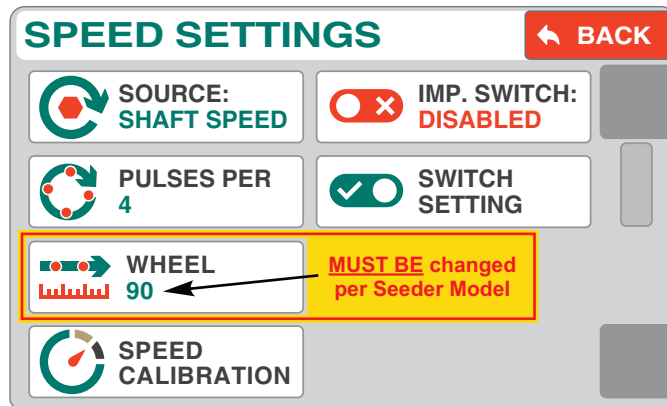


Figure 4-3: Source: Shaft Sensor Speed Display

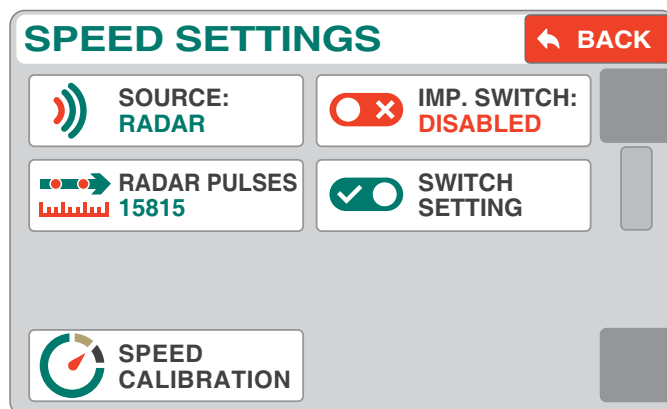


Figure 4-4: Source: Radar Speed Display

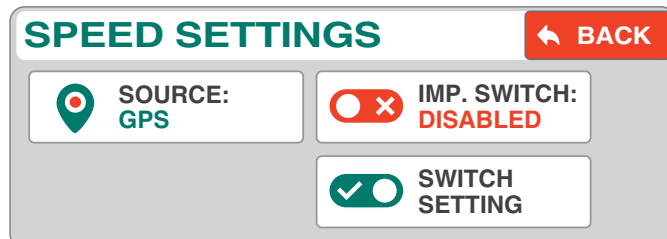


Figure 4-5: Source: GPS Receiver Display

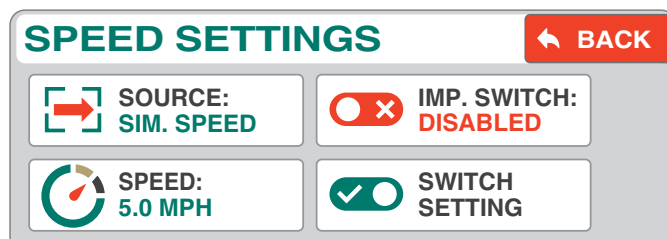


Figure 4-6: Source: Simulated Speed Display

## Speed Source Icon Features

### Pulses Per Revolution

Pulses Per Revolution are the number of magnets the implement mounted speed sensor sees in one revolution of the shaft being monitored. For Brillion Seeders this number is 4.

To change, enter a new number into the keypad and select “Exit & Save”.



### Wheel Pulses Per 400FT

This is the ground speed calibration number for a implement mounted speed sensor. Speed Calibration for calibration instructions.



The Default Number **MUST BE CHANGED** to 358. To change, enter a new number into the keypad and select “Exit & Save”. Increasing this number will cause the monitor to show a slower MPH, decreasing it causes the MPH to increase.

### Radar Pulses Per 400FT

This is the ground speed calibration number for a radar speed sensor. Speed Calibration for calibration instructions.



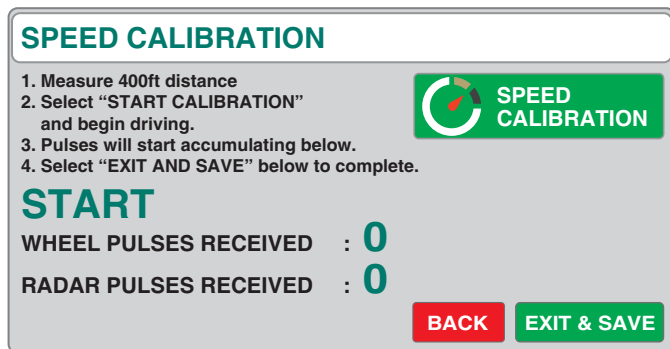
### Speed (Simulated Speed)

Enter the static speed of your choice. The monitor will continually display this speed at all times until otherwise specified.



## Speed Calibration

All new systems require a ground speed calibration to ensure accurate area totals and accurate ground speed readings. To complete the calibration, measure a course 400 long preferably on level ground with a start and finish point. The seeder must be in the down position throughout this procedure.



### NOTE

During the calibration the monitor is looking for the number of pulses produced from the seeder mounted sensor or in the case of radar, the number of radar pulses.

1. Select the “Start Calibration” button to begin.
2. As you drive the 400ft. distance, pulses for both Wheel Pulses and/or Radar Pulses will begin accumulating on-screen.
3. When you’ve reached the end of the 400ft. distance, select “EXIT & SAVE” to complete the calibration procedure. Depending on which “Speed Source” is selected, the monitor will store this value into either the “Wheel Pulses Per 400” or “Radar Pulses Per 400” area.

## Implement Switch

The implement switch is used to tell the monitor if a Lift Sensor is being used to determine when the machine is raised or lowered. The Lift Sensor is used when shaft rotation cannot be used or a variable rate drive such as common on air seeders, is being used. The “Imp. Switch” button toggles between “Disabled” or “Enabled”. **Set to “Disabled” for Brillion 4610-16 Seeder.**

When the Monitor learns a “Lift Switch Sensor” toggle the “Implement Switch” button to “Enabled”.



SPEED  
CALIBRATION



SPEED  
CALIBRATION

BACK

EXIT & SAVE



SPEED  
CALIBRATION



IMP. SWITCH:  
DISABLED



IMP. SWITCH:  
ENABLED

## Implement Switch Setup

Implement Switch Setup tells the monitor if the Implement Switch Lift Sensor is associated with the Implement Lift being raised or lowered.

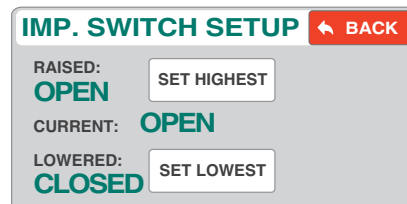
The Implement

Switch Setup toggles between “Open” or “Closed”.

Select icon “Set Highest” or “Set Lowest” to “Open” the Implement Switch, the other will automatically “Close”.



SWITCH  
SETTINGS

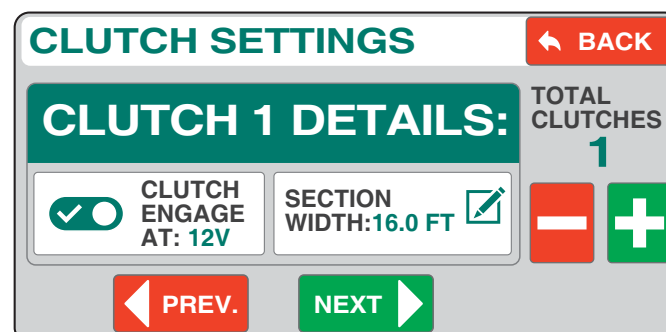


## Settings Menu - Clutch Setting



CLUTCH  
SETTINGS

The SS16 Seeder has a Clutch that is controlled by the Brillion Elite Mini Monitor. The Clutch must be set.

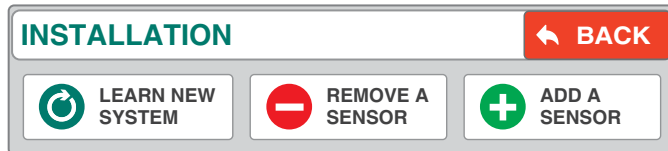


1. Set “Total Clutches” to 1 by pressing icon “-” or “+”
2. Set each “Clutch Details” as follows: to toggle between each Clutch Detail press icon **NEXT** or **PREV.**
  - Clutch engage at: 12 Volts (Toggles between 0 and 12 Volts)
  - Section Width: 16.0 Feet
3. Select “BACK” to get to the Setting Menu.

## Settings Menu - Install Setup



Select “**Install Setup**” icon to Learn New System, Add A Sensor, or Remove A Sensor to your machine.



### Learn New System

Select “**Learn New System**” if your monitor did not come pre-programmed or you wish to relearn all sensors.



1. Start by unplugging all sensors on the implement and then selecting “**Learn New System**”. A popup will warn you that all current sensors will be overwritten. Select “**Yes, Learn New System**”.
2. Refer to Brillion Elite Mini Monitor Electrical Schematic for Sensor Locations. **See Figure 2-18**  
The monitor will prompt “**Plug In Sensor**” (all sensors have a 3-Pin Connector with white, black and green wires) in the following order. The sensor being prompted will automatically be learned upon connecting the 3-Pin Connector.
  - “**Plug In Sensor - Speed**” Ground Speed Smart Shaft Sensor is installed on the Seeder Clutch Shaft.
  - “**Plug In Sensor - Clutch Box**” Clutch Smart Relay installed in the Elite Mini Tractor Harness
  - “**Plug In Sensor - Shaft 1-6**” Up to six Seed Shaft Smart Shaft Sensors can be installed.
  - “**Plug In Sensor - Bin 1-6**” Up to six Bin Level Sensors can be installed.
3. It is likely your system will not be configured for the maximum possible sensors or even certain types of sensors the Loup Elite is capable of.

Use the “**Skip this Sensor**” button to advance ahead one sensor at a time.



Use the “**Skip this Type of Sensor**” to advance to the next category of sensors.



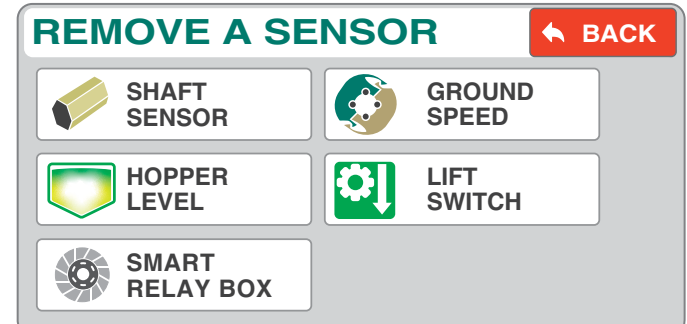
4. When you’ve reached the end of the list of sensors, you will be prompted with “**Manual Learn Complete**”. Push “**Ok**” to finish.

### Remove A Sensor

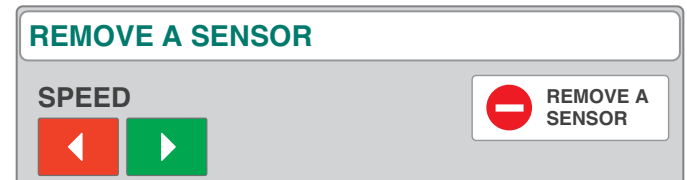
Select this option to remove a sensor from your existing system.



1. Select the type of sensor you wish to remove.



2. Use the **Left and Right Arrows** to navigate to the sensor number you wish to remove.
3. Select the “**Remove A Sensor**” button to complete the removal.

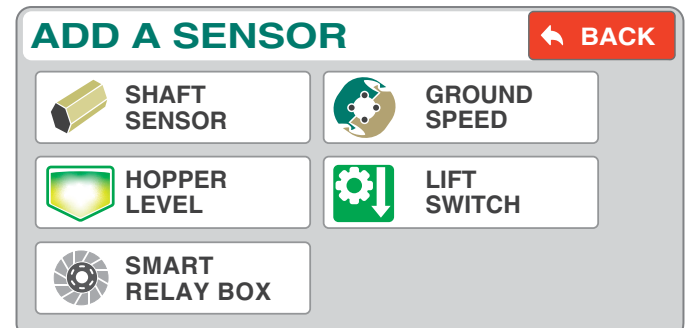


### Add A Sensor

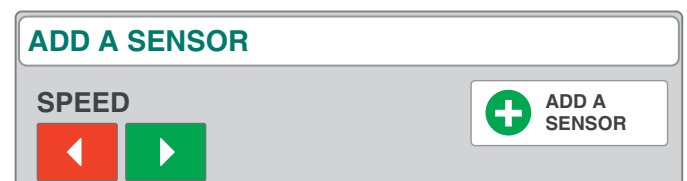
Select this option to add a new sensor to your existing system.



1. Select the type of sensor you wish to add.



2. Use the Left and Right arrow buttons to navigate to the sensor number you wish to add.
3. Select the “**Add A Sensor**” button to complete the sensor addition.



## Settings Menu - Shaft Settings



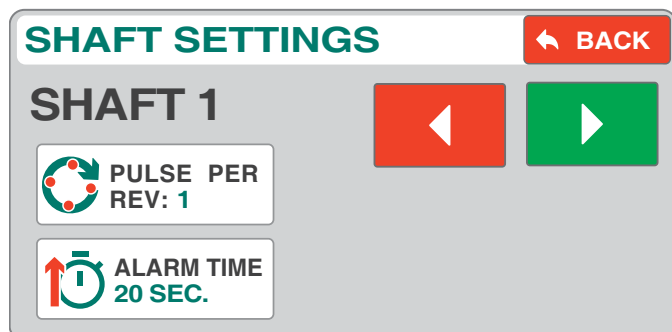
### Seed Shaft Settings

The Seeder can have up to six Smart Shaft Sensors that indicate shaft rotation. Each Smart Shaft Sensor must be set.

- Pulse per Rev: 1
- Alarm Time: 20 Sec.

Toggle between each “**Shaft**” by pressing icon “<” or “>”. Select “**Back**” to get to the Settings Menu.

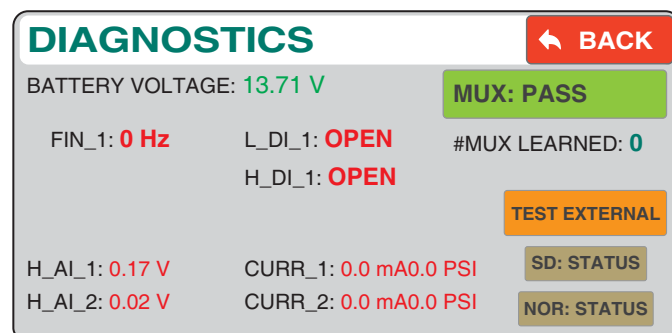
The 20 second Alarm Time is the estimated time it takes to turn around after each pass in the field without sounding the Alarm. This can be adjusted by the operator if more or less time is required before the Alarm Sounds.



## Settings Menu - Diagnostics



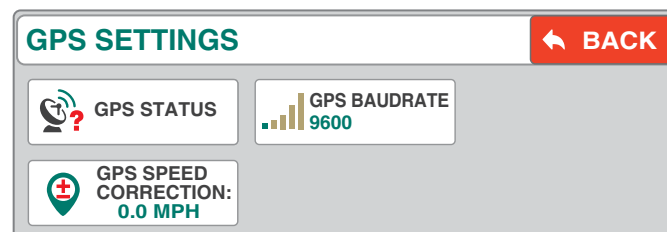
The Diagnostics screen can help in identifying issues with sensors, harnessing or other items. Status reports for Battery Voltage, Sensors Learned, MUX Communication speed and GPS Communication speed are displayed. Contact Loup Electronics if you need technical support.



## Settings Menu - GPS Settings



“**GPS Settings**” defines any Baudrate, Speed Corrections or the current GPS Status.



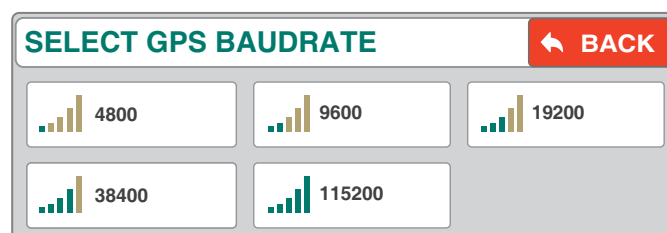
### GPS Status

The GPS Status screen gives a diagnostics report of the current Latitude, Longitude, Number of Satellites connected and the Type/Quality of the GPS Fix. If the GPS Icon on the top of screen is Yellow or Red, check this status page to help identify GPS signal issues.



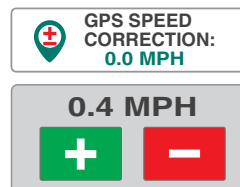
### GPS Baudrate

Sets the baudrate at which the console communicates with the GPS receiver you are using. Available speeds are **4800**, **9600**, **19200**, **38400**, and **115200**.

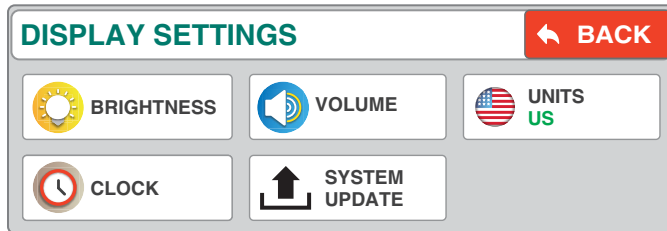


### GPS Speed Correction

If your GPS is displaying an incorrect speed reading, use this screen to add the desired correction in MPH.



## Settings Menu - Display Settings



### Brightness

Use the Plus or Minus keys to increase or decrease the brightness of the screen or the keypad backlight.



### Volume

Use the Plus or Minus keys to increase or decrease the volume to the desired level. An audible alarm will sound with each increment.



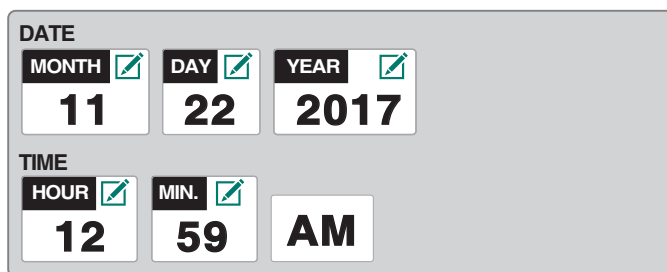
### Units

Toggles between US (feet) or Metric (meters) units.



### Clock (Date & Time)

To set the time, simply select the related buttons for Month, Day, Year, Hour and Minute and enter the appropriate value into each field. Lastly toggle the time between AM or PM and push “Save” to complete.



## System Update

The system update screen is used to update to newer versions of software or reset to factory default settings.



### Update App

The **Update App** button is used to perform a system update to newer version of software. To update follow the following steps:



1. On a Micro SD Card, create a folder titled “EliteUpdate” on the root level of the MicroSD Card. Within this folder place the update file from Loup Electronics, this should appear as a .srec file format.
2. Insert Micro SD Card into the Elite console and select the “Update App” button. From the popup window select the version you wish to update, newest software versions will appear at the top of the window.
3. Allow the application to load into the console and when finished, cycle power to the console. The update will finish installation upon startup.
4. Ensure the newest software is updated by selecting the “MENU” button and checking the “APP VER” number in the upper right corner.

### Factory Reset

Selecting this will reset all settings back to Factory Default. All existing implements and sensors will be removed from memory and need to be reinstalled if choosing to reset the console.



## Service And Technical Support

Contact: Loup Electronics Inc.

Address: 2960 N. 38th Street  
Lincoln, NE 68504

Phone: 877-489-LOUP(5687)  
402-464-7131

Fax: 402-464-7104

E-mail: info@loupelectronics.com

**AFTER HOURS/WEEKEND SUPPORT**  
402-318-6415 OR 402-853-6249

NOTES:

[illegible]



## Maintenance

## General Torque Specifications

(rev. 4/97)

This chart provides tightening torques for general purpose applications when special torques are not specified on process or drawing. Assembly torques apply to plated nuts and capscrews assembled without supplemental lubrication (as received condition). They do not apply if special graphite moly-disulfide or other extreme pressure lubricants are used. When fasteners are dry (solvent cleaned) add 33% to as received condition torque. Bolt head identification marks indicate grade and may vary from manufacturer to manufacturer. Thick nuts must be used on grade 8 capscrews. Use value in [ ] if using prevailing torque nuts

## TORQUE SPECIFIED IN FOOT POUNDS

UNF SIZE	SAE Grade 2	SAE Grade 5	SAE Grade 8	UNF SIZE	SAE Grade 2	SAE Grade 5	SAE Grade 8
1/4-20	4 [5]	6 [7]	9 [11]	1/4-28	5 [6]	7 [9]	10 [12]
5/16-18	8 [10]	13 [13]	18 [22]	5/16-24	9 [11]	14 [17]	20 [25]
3/8-16	15 [19]	23 [29]	35 [42]	3/8-24	17 [21]	25 [31]	35 [44]
7/16-14	24 [30]	35 [43]	55 [62]	7/16-20	27 [34]	40 [50]	60 [75]
1/2-13	35 [43]	55 [62]	80 [100]	1/2-20	40 [50]	65 [81]	90 [112]
9/16-12	55 [62]	80 [100]	110 [137]	9/16-18	60 [75]	90 [112]	130 [162]
5/8-11	75 [94]	110 [137]	170 [212]	5/8-18	85 [106]	130 [162]	180 [225]
3/4-10	130 [162]	200 [250]	280 [350]	3/4-16	150 [188]	220 [275]	320 [400]
7/8-9	125 [156]	320 [400]	460 [575]	7/8-14	140 [175]	360 [450]	500 [625]
1-8	190 [237]	408 [506]	680 [850]	1-14	210 [263]	540 [675]	760 [950]
1-1/8-7	270 [337]	600 [750]	960 [1200]	1-1/8-12	300 [375]	660 [825]	1080 [1350]
1-1/4-7	380 [475]	840 [1050]	1426 [1782]	1-1/4-12	420 [525]	920 [1150]	1500 [1875]
1-3/8-6	490 [612]	1010 [1375]	1780 [2225]	1-3/8-12	560 [700]	1260 [1575]	2010 [2512]
1-1/2-6	650 [812]	1460 [1825]	2360 [2950]	1-1/2-12	730 [912]	1640 [2050]	2660 [3325]

## METRIC:

Coarse thread metric class 10.9 fasteners and class 10.0 nuts and through hardened flat washers, phosphate coated, Rockwell "C" 38-45. Use value in [ ] if using prevailing torque nuts

Nominal thread diameter (mm)	Newton Meters (Standard Torque)	Foot Pounds (Standard Torque)	Nominal Thread Diameter (mm)	Newton Meters (Standard Torque)	Foot Pounds (Standard Torque)
6	10 [14]	7 [10]	20	385 [450]	290 [335]
7	16 [22]	12 [16]	24	670 [775]	500 [625]
8	23 [32]	17 [24]	27	980 [1105]	730 [825]
10	46 [60]	34 [47]	30	1330 [1470]	990 [1090]
12	80 [125]	60 [75]	33	1790 [1950]	1340 [1450]
14	125 [155]	90 [115]	36	2325 [2515]	1730 [1870]
16	200 [240]	150 [180]	39	3010 [3210]	2240 [2380]
18	275 [330]	205 [245]			

# Hydraulic Fitting Torque Specifications

## 37 degree JIC, ORS, &ORB (REV. 10/97)

This chart provides tightening torques for general purpose applications when special torques are not specified on process or drawing. Assembly torques apply to plated nuts and capscrews assembled without supplemental lubrication (as received condition). They do not apply if special graphite moly-disulfide or other extreme pressure lubricants are used. When fasteners are dry (solvent cleaned) add 33% to as received condition torque. Bolt head identification marks indicate grade and may vary from manufacturer to manufacturer. Thick nuts must be used on grade 8 capscrews. Use value in [ ] if using prevailing torque nuts.

### TORQUE SPECIFIED IN FOOT POUNDS

PARKER® BRAND FITTINGS			
Dash Size	37 Deg. JIC	O-Ring (ORS)	O-Ring Boss
-4	11-13	15-17	13-15
-5	14-16	-----	21-23
-6	20-22	34-36	25-29
-8	43-47	58-62	40-44
-10	55-65	100-110	58-62
-12	80-90	134-146	75-85
-16	115-125	202-218	109-121
-20	160-180	248-272	213-237
-24	185-215	303-327	238-262
-32	250-290	-----	310-340

GATES® BRAND FITTINGS			
Dash Size	37 Deg. JIC	O-Ring (ORS)	O-Ring Boss
-4	10-11	10-12	14-16
-5	13-15	-----	-----
-6	17-19	18-20	24-26
-8	34-38	32-40	37-44
-10	50-56	46-56	50-60
-12	70-78	65-80	75-83
-14	-----	65-80	-----
-16	94-104	92-105	111-125
-20	124-138	125-140	133-152
-24	156-173	150-180	156-184
-32	219-243	-----	-----

AEROQUIP® BRAND FITTING			
Dash Size	37 Deg. JIC	O-Ring (ORS)	O-Ring Boss
-4	11-12	10-12	14-16
-5	15-16	-----	16-20
-6	18-20	18-20	24-26
-8	38-42	32-35	50-60
-10	57-62	46-50	75-80
-12	79-87	65-70	125-135
-14	-----	-----	160-180
-16	108-113	92-100	200-220
-20	127-133	125-140	210-280
-24	158-167	150-165	270-360

Valve Torque Values		
Part Number	Description	Torque (Ft-Lbs)
175159	Relief	24-26
171000	Shutoff	19-21

## Fasteners

Before operating your Brillion machine, check all hardware for tightness. Use the Tightening Torque Table as a guide. **See Page 5-1.**

After a few hours of use, check entire machine and tighten any loose nuts or bolts. Daily or periodic checks should be made thereafter.

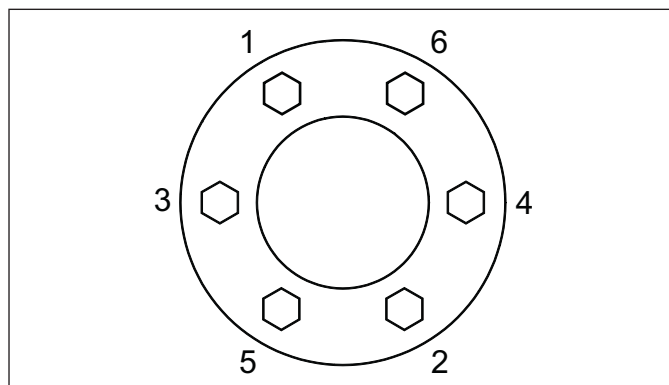
When replacing bolts, be sure to use fasteners of equal grade.

## Tires

**Recommended Tire Size:** 11L x 15, 12Ply Implement Rib Rating

**Tire Inflation Pressure:** 52 PSI

When Re-Installing the 9/16-18 Wheel Nuts tighten to 50 foot-pounds using the sequence in **See Figure 5-1**. Then tighten to full torque of 90-100 ft-lbs.



**Figure 5-1: 6 Bolt Tightening Sequence**

## Wheel Hub Bearing Maintenance

Wheel Bearing maintenance should be performed at the beginning of every season of use. Check the Wheel Bearings periodically for excessive end play. If needed, adjust or replace them using the following procedure:

1. Place the Frame on blocks or stands sufficient to lift the Tire clear of the ground.
2. Remove the Tire.
3. Remove the Hub Cap, Cotter Pin, Slotted Nut and Washer.
4. Remove the Hub. Clean and inspect the Bearings and Hub Cavity. Replace any worn or defective parts.
5. Repack the Bearings using a high-quality Wheel Bearing Grease.
6. Install the inner bearing into the hub and install the grease seal. Use a driver to install the seal, to avoid damaging the outer edge of the seal. Drive the seal squarely into the hub to avoid any seal distortion.

### NOTE

*The Triple Lip Seals should point away from the Hub to keep contaminants out and allow grease to pass.*

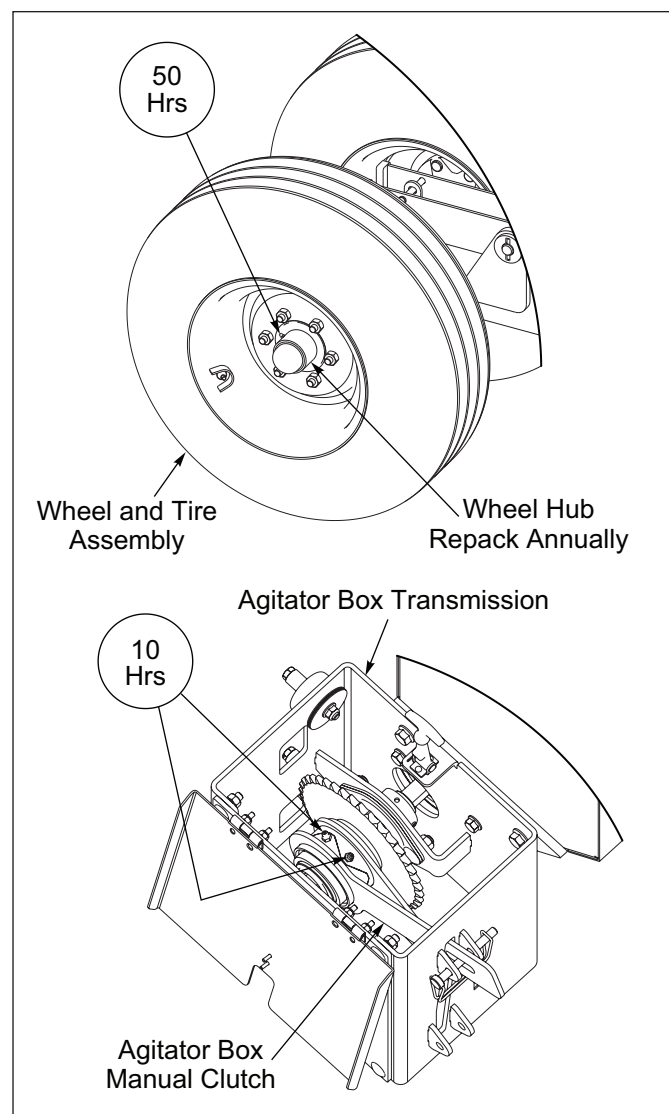
7. Slide the hub, bearing, and seal onto a clean spindle.
8. Install the Outer Bearing Cone, Washer and Slotted Nut.
9. Tighten the Slotted Nut while rotating the Hub until there is a slight resistance to wheel rotation. Then, back the Slotted Nut off one notch, until the wheel rotates freely without end play.

10. Install a new Cotter Pin and re-install the Hub Cap.

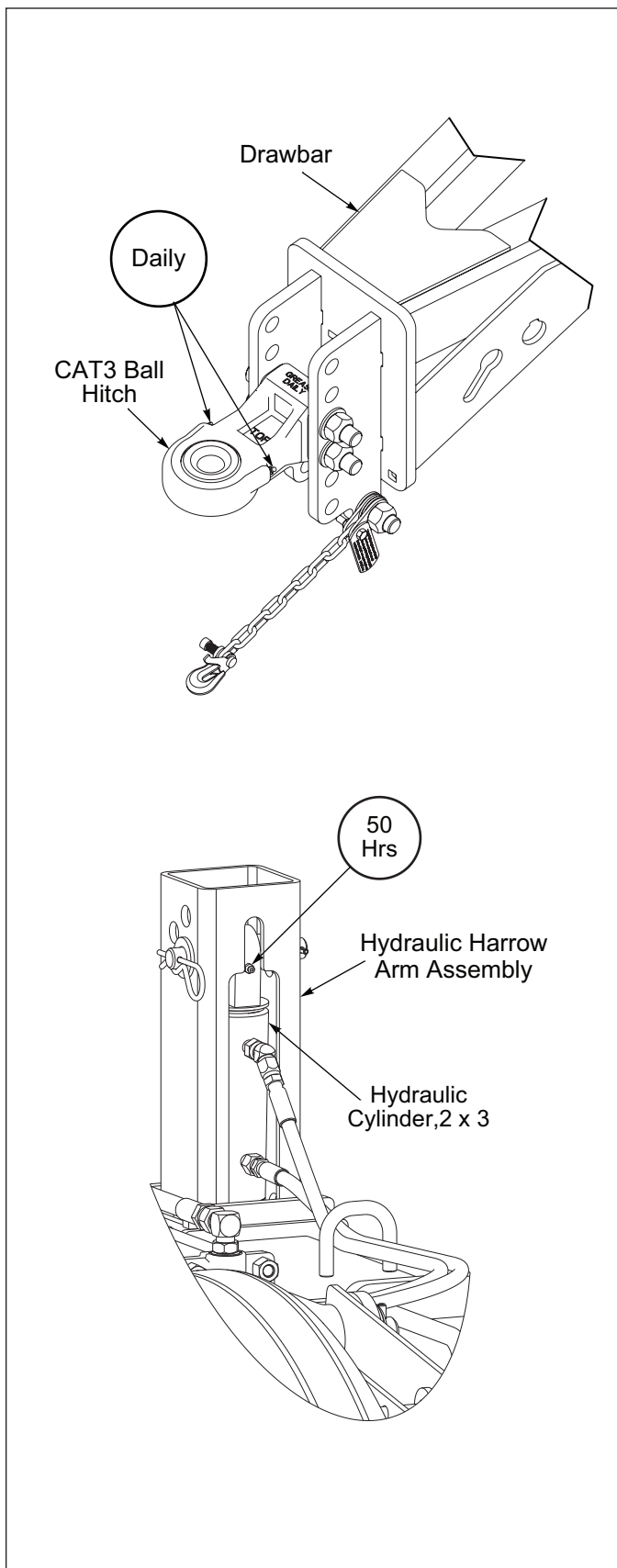
## Lubrication Maintenance

The 4610-16 Seeder is equipped with maintenance free Bearings. These areas require no lubrication.

- Oil Roller Chains periodically
- Grease Wheels Hubs every 50 hrs. **See Figure 5-2.**
- Grease Agitator Box Manual Clutch Arm and Torque Arm every 10 hrs. **See Figure 5-2.**
- Grease Optional Cat3 Ball Hitch Daily. **See Figure 5-3.**
- Grease Optional S-Tine Hydraulic Harrow 2 x 3 Hydraulic Cylinders every 50 hours. **See Figure 5-3.**
- When the Machine is not used for some time, exposed portions of the Hydraulic Cylinder Rods must be cleaned and covered with a thick coat of grease to prevent corrosion, which will damage the seal.



**Figure 5-2: Lubrication Points and Intervals**



**Figure 5-3: Lubrication Points and Intervals - Optional**

## Hydraulic Maintenance

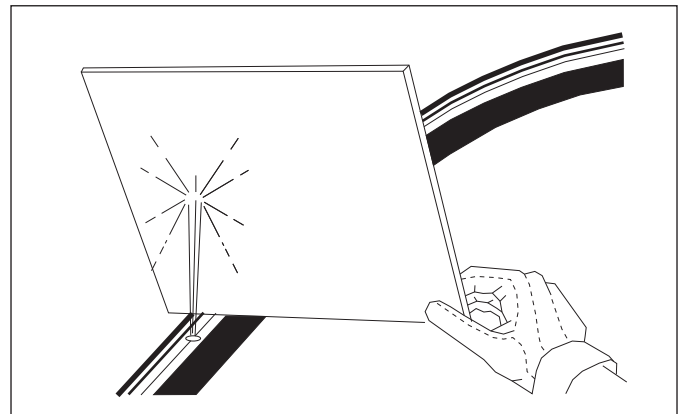
### IMPORTANT

Lower the unit to the ground, and relieve hydraulic pressure before attempting to service any hydraulic component.



### WARNING

Escaping hydraulic fluid can cause serious personnel injury. Relieve system pressure before repairing, adjusting, or disconnecting. Wear proper hand and eye protection when searching for leaks. Use cardboard instead of hands (See Figure 5-4.) Keep all components (cylinders, hoses, fittings, etc.) in good repair.



**Figure 5-4: Hydraulic Leak Detection**

1. Check the tractor hydraulic fluid level per tractor owner's manual and after any leakage. Check fluid level with the cylinders in the retracted position.
2. If a cylinder or valve leaks, disassemble the parts to determine the cause of the leak. Any time a cylinder is opened up, or whenever any seal replacement is necessary, it is advisable to clean all parts and replace all seals. Seal kits are available from your Brillion dealer.
3. Check all hydraulic hoses weekly. Look for binding or cracking. Replace all worn or defective parts immediately.
4. Transport locks are provided to hold the implement in a raised position. **See Figure 3-4.** Do not attempt to perform any service work under the implement without first installing the transport locks. Before servicing any hydraulic component, lower the implement to the ground and relieve all system pressure. If a hydraulic component is disconnected, repaired, or replaced, it will be necessary to purge the system of air before operation. **See "Purge Hydraulic Lift System" on page 3-6.**

## Front and Rear Roller Adjustment

### IMPORTANT

To maximize seed germination, peaks on Rear Roller Wheels should line up with valleys on the Front Roller Wheels. This will require adjusting the Clamp Bands on each end of the Rear Roller Drum and moving the Wheels until valleys and peaks line up.

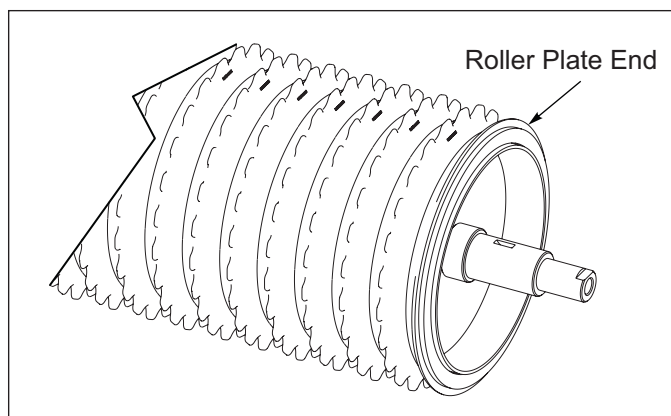
### NOTE

Failure to position the Clamp Band Socket Head Bolt (Clamp Band open section) over the Roller Drum weld seam will cause Clamp Band to loosen and slide.

After an initial run of 5-10 hours, check the Front and Rear Roller Assemblies to ensure that the Wheels are tight to one another and that the Clamp Bands are tight. If not, slide the Roller Wheels tight together and adjust the Roller Clamp Bands per **Roller Adjustment Procedure**. Tighten the Clamp Band Socket Head Bolt (Clamp Band open section) over Roller Drum weld seam to 75 Ft-Lbs. Thereafter check Front and Rear Roller Assemblies every 50-100 hours.

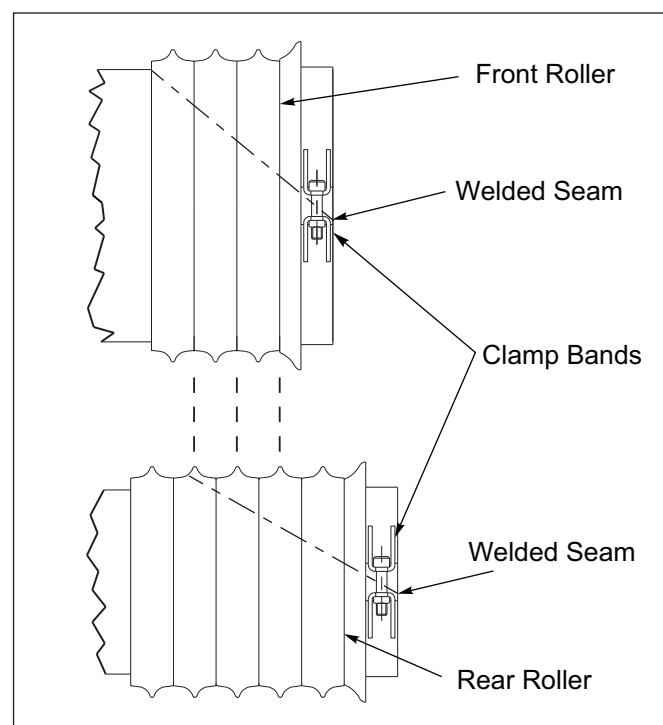
### Roller Adjustment Procedure

1. Adjust the Front Roller Wheels first. Loosen Clamp Band and slide the Roller Wheels snug against welded Roller End Plate. **See Figure 5-5.**



**Figure 5-5: Front Roller Assembly**

2. Position the Clamp Band Socket Head Bolt (Clamp Band open section) over the weld seam on the Roller Drum. **See Figure 5-6.**



**Figure 5-6: Roller Adjustment**

3. Slide the Clamp Band against the End Wheel of the Roller and tighten the Clamp Band Bolt to 75 Ft-Lbs.
4. Adjust the Rear Roller Wheels by loosening the Clamp Bands. Start at the center of the Rear Roller and align the peaks of the Rear Roller Wheels with the valleys of the Front Roller Wheels. This will provide the best alignment of worn Roller Wheels and maximize seed germination.
5. Position the Clamp Band Socket Head Bolt (Clamp Band open section) over the weld seam on the Roller Drum.
6. Slide the Clamp Band against the End Wheel on each side of the Rear Roller and tighten the Clamp Band Bolt to 75 Ft-Lbs.

## Rear Roller Air System Maintenance

### IMPORTANT

Do not at any time operate the Rear Roller Air System Air Pressure below 15psi. The Air Springs must maintain a minimum Air Pressure for proper operation. Too low of pressure will cause the Air Springs to rub internally and lead to failure.



### WARNING

Relieve Air System Pressure before attempting to adjust or service Air Springs and Air Lines. Wear protective gloves and safety glasses or goggles when working with Air System. High pressure air can propel debris at high speed, causing eye injury or blindness. If you are injured, obtain medical aid immediately.

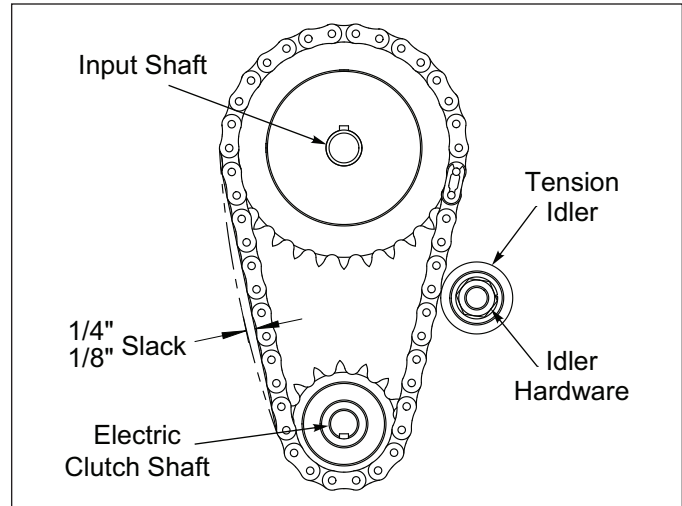
Air System should remain pressurized at 90psi.

- If Air System loses air pressure, pressurize Air System to 90psi and check for leaks by spraying soapy water on Push-to-Connect Fitting connections and Air Springs. Repair as required.
- Check Nylon Tubing for rubbing and kinks. Repair as required. Nylon Tubing ends should be smooth, burr free. Burrs can cause slow leaks.
- Check Air Spring Guide Rod and Guide Rod Bushing for excess wear. Relieve all System Air Pressure by pulling Relief Valve Pull-Ring before attempting to adjust or service Air Springs and Air Line Nylon Tubing.

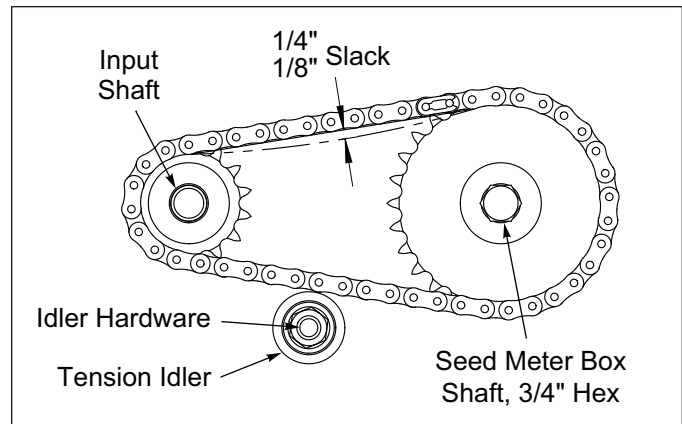
## Chain Tension

Seeder Electric Clutch, Seed Meter Box, and Agitator Box Transmission Chain Tension should have about 1/8" to 1/4" Slack. See Figures 5-7, 5-8 and 5-9.

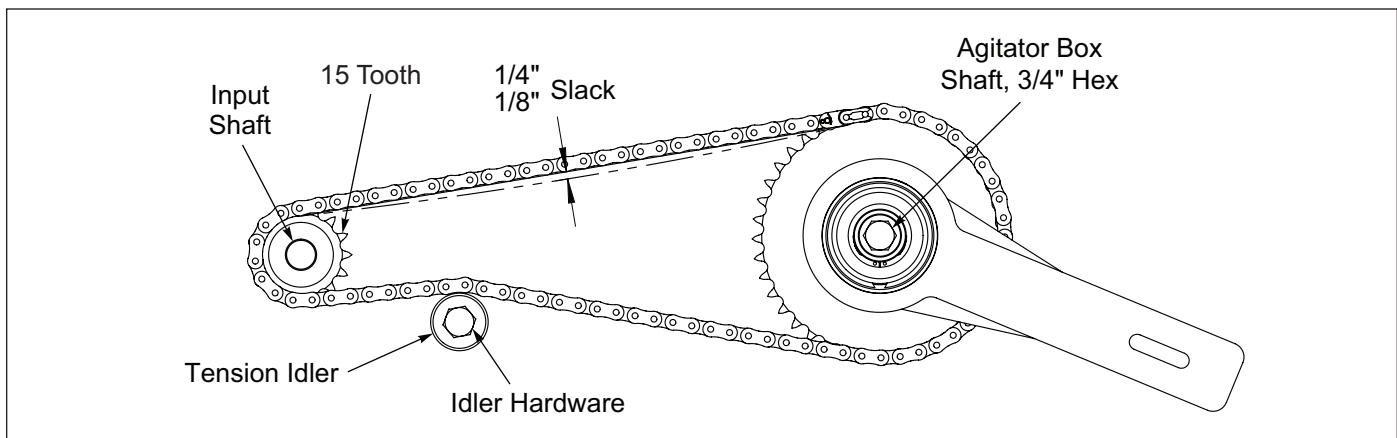
To adjust, loosen the appropriate Tension Idler Hardware and move the Tension Idler until 1/8" to 1/4" Sag is achieved. Retighten the Tension Idler Hardware.



**Figure 5-7: Chain Tension, Electric Clutch**



**Figure 5-8: Chain Tension, Seed Meter Box**



**Figure 5-9: Chain Tension, Agitator Box**



## Seed Meter Adjustment

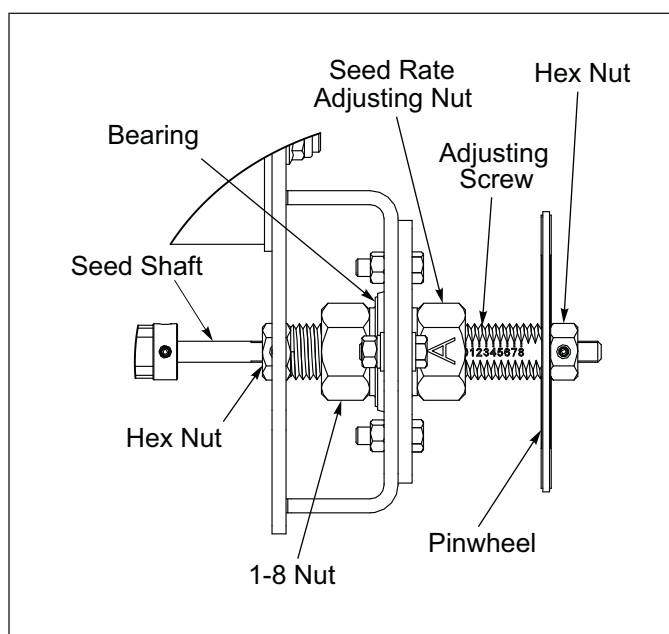
### IMPORTANT

The Clutch must be disengaged (power off) when Seed Shafts are turned manually for Calibration.

### IMPORTANT

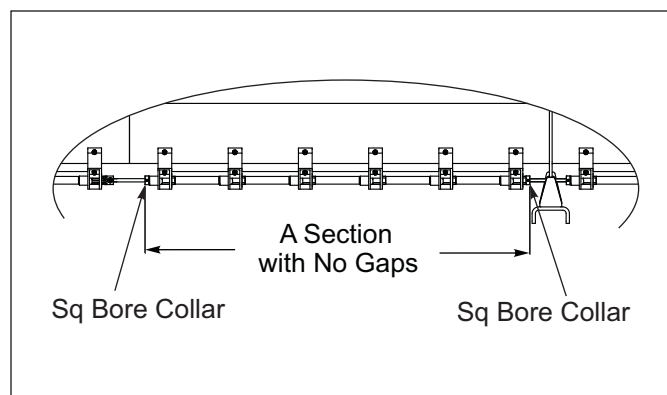
All the Seed Meters **MUST BE CLOSED!** It may be necessary to individually adjust Seed Meter Adapter with Seed Meter attached or Seed Meter.

All Seed Meters must be set the same to ensure uniform seeding. To check, set the Seed Rate Adjusting Nut to 0-A. The "A" on the Seed Rate Adjusting Nut is positioned over the "0" (the nut covers half of the "0") and snug against the bearing. All Seed Meter Cups should be closed. If not, there are three adjustments to make as needed. See Figure 5-10.



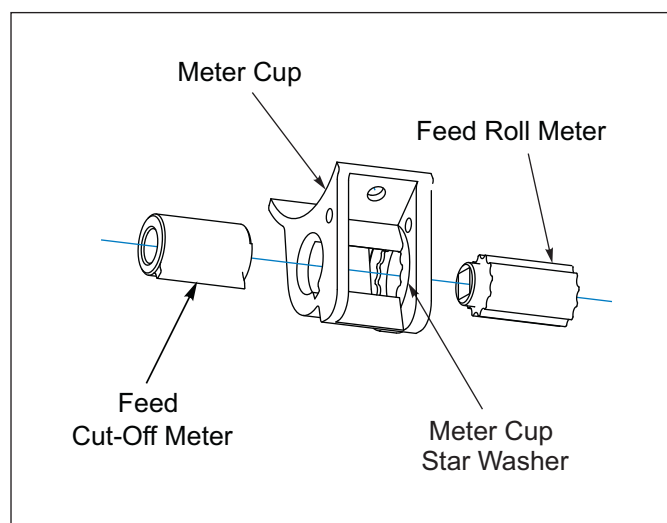
**Figure 5-10: Seed Rate Adjuster**

1. Hex Nuts with Set Screws on both ends of the Adjusting Screw are used to adjust all Seed Meters the same amount. See Figure 5-10. To adjust Seed Meters to be closed at "0A", loosen Hex Nuts with Set Screws (remove set screws first) and set adjusting screw to "0A". Slide Seed Shaft to close all Seed Meters. Tighten Hex Nuts with Set Screws against Adjusting Screw and install set screws to lock against Seed Shaft flats. **Once Adjusted DO NOT Loosen or Adjust Hex Nuts.**
2. There are 4 sections of Seed Meters grouped together. On each end of each section there are 3/8 Square Bore Collars with Set Screws. Loosen Collar Set Screws to move that particular section as needed. See Figure 5-11.



**Figure 5-11: Seed Meter Section**

3. Individual Seed Meter Adapters with Seed Meter Cup attached or Seed Meter Cups can be adjusted as required. Adjustments can be made by loosening the 1/4-20 x 3/4 Machine Screws that mount the Seed Meter Adapter or Seed Meter Cup to the Seed Box and the 1/4-20 Nut that attaches the Seed Meter Support to the Seed Meter Cup. Adjust the affected Seed Meters so the Feed Cut Off is against the star washer in the Seed Meter Cup (closed). Be sure the Meter Feed Roll stays engaged in the Seed Meter Star Washer. See Figure 5-12. After adjustments have been made seal the Seed Meter Adapter to Seed Box with clear Silicone.



**Figure 5-12: Individual Seed Meter Cup**



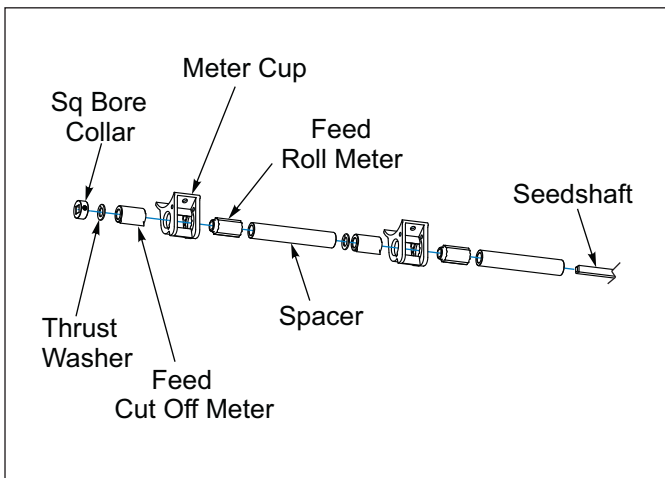
## Servicing Seed Shaft Assembly

### IMPORTANT

The Clutch must be disengaged (power off) when Seed Shafts are turned manually.

After you have serviced a Seed Shaft, Seed Meters or related components you will need to Zero out the Seed Meters to ensure that you are seeding uniformly. Refer to Seed Meter Adjustment. The following is a list of things to be conscience of when re-assembling the Seed Shafts.

- Ensure that the Thrust Washers are adjacent to Seed Meter Feed Cut Offs and Spacers or Square Bore Collars. **See Figure 5-13.**



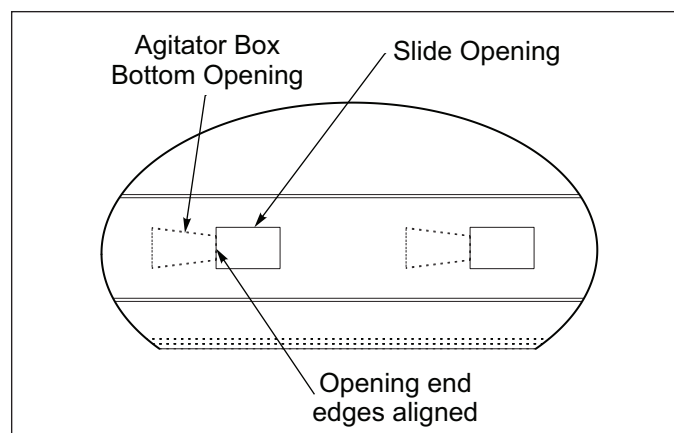
**Figure 5-13: Seed Shaft Assembly**

- Ensure RH Seed Shaft is threaded into the Feed Roll Coupling Assembly between 1/2" to 3/4". Seed Shaft should be visibly past the set screw hole when the set screw is removed from the Coupler. Tighten Feed Roll Coupler Assembly Set Screws against the flats of the Seed Shaft.
- Ensure that the Seed Shaft can turn freely without any binding when the Seed Meters are open or closed after servicing. You may need to make adjustments to the Seed Meter Supports at each Seed Meter.

## Agitator Box Slide Adjustment

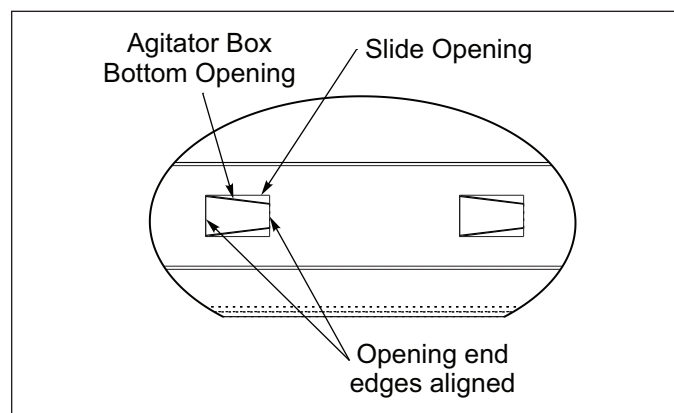
When the Agitator Box Slide is properly adjusted, the following should occur.

- When the Shifter Handle is set to "0" (closed), the Agitator Box bottom opening end edge is aligned with the Slide opening end edge. **See Figure 5-14.**



**Figure 5-14: Shifter Handle Set at "0"**

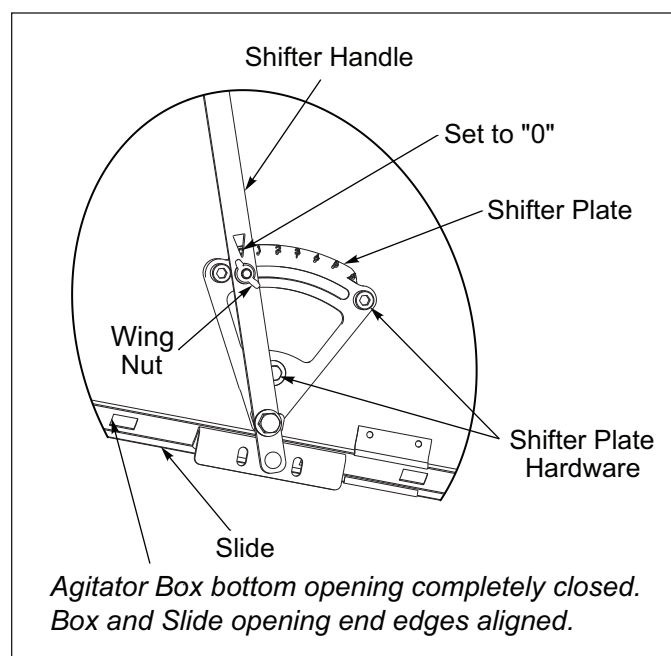
- When the Shifter Handle is set to "6" (open), the Agitator Box bottom opening end edges are aligned with the Slide opening end edges. Agitator Box bottom opening is completely visible. **See Figure 5-15.**



**Figure 5-15: Shifter Handle Set at "6"**

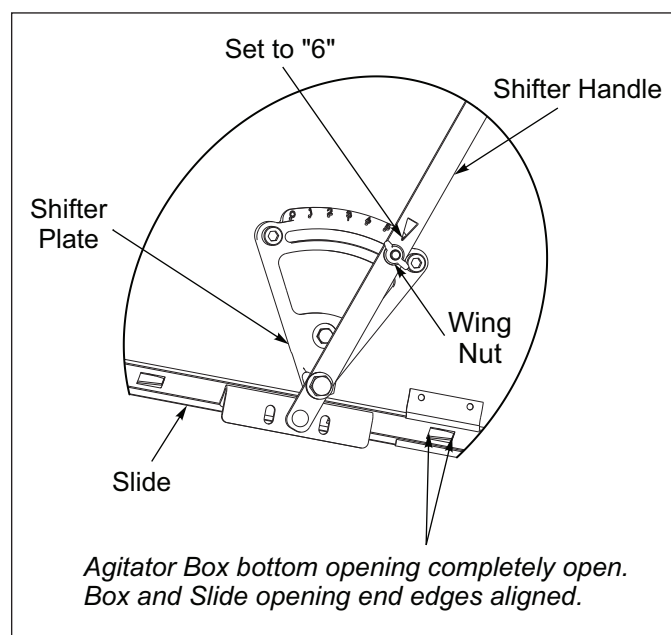
### Adjusting the Agitator Box Slide

- Loosen the Shifter Handle Wing Nut and move the Shifter Handle until the Slide opening edge is aligned with the Agitator Box bottom opening edge. The Agitator Box opening should be completely closed. **See Figure 5-16.**
- The Shifter Handle should be at "0" and the opening in the bottom of the Agitator Box should be completely closed. If not, loosen the hardware that attaches the Shifter Plate to the Agitator Box. Move the Shifter Plate slightly until the Shifter Handle reads "0" in the triangular cutout.



**Figure 5-16: Agitator Box Completely Closed.**

- Re-tighten the Shifter Plate Hardware.
- Check that the Shifter Handle functions properly in relationship with the Shifter Plate.
  - Shift the Shifter Handle to "0". The Agitator Box bottom opening should be fully closed. **See Figure 5-16.**
  - Shift the Shifter Handle to "6". The Agitator Box bottom opening should be completely open. **See Figure 5-17.**



**Figure 5-17: Agitator Box Completely Open.**

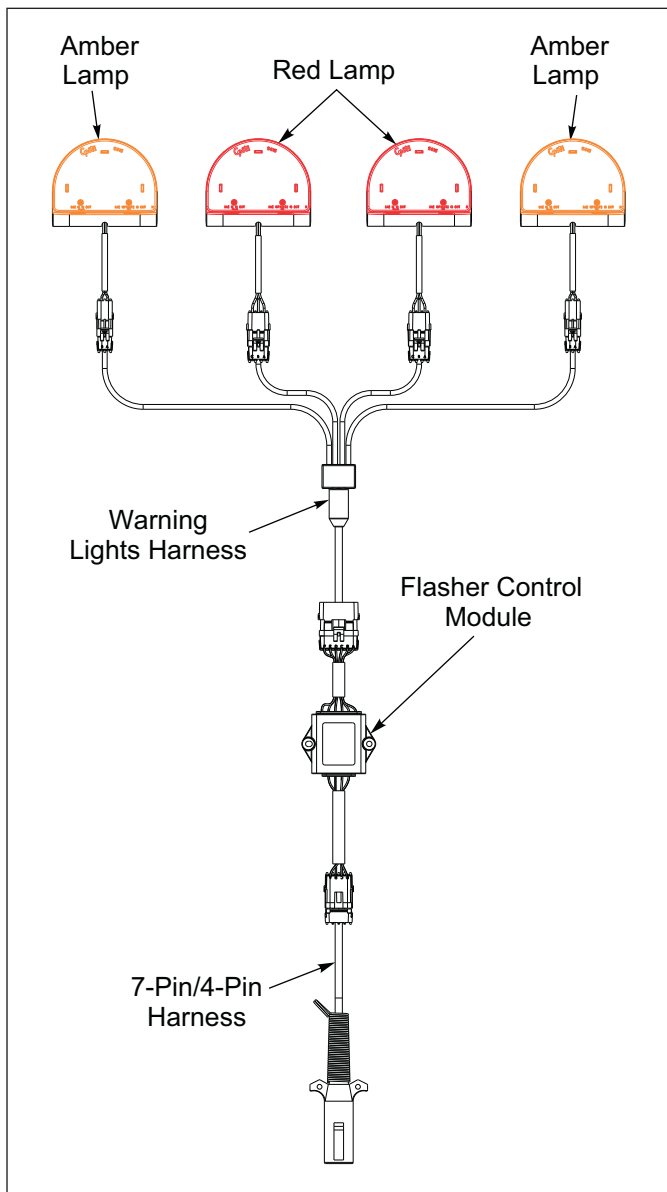
- Set the Shifter Handle to "0". Tighten Shifter Handle Wing Nut.

## Warning Lamps

When plugging in the 7-Pin Warning Lamp Connector:

1. Make sure the tractor has a good clean receptacle, free of dirt and corrosion.
2. Make sure the 7-Pin Connector is inserted ALL the way in. With tighter fitting pins, operator may think the Connector is all the way in, but really isn't.
3. Make sure the tractor receptacle cover latches over the keyway on the 7-Pin Connector to hold the Connector in place.

If an operator plugs in the 7-Pin Connector, but the lights Do not seem to work right, check the above items to make sure there is a good connection with the 7-Pin Connector.



**Figure 5-18: Warning Lamps**

## Acre Meter Troubleshooting

### IMPORTANT

**Acre Meter is dust and splash resistant, under no circumstances should this unit be submerged in any conductive, corrosive, or flammable liquid. At no time use high pressure water or air to clean it, as this can damage the unit.**

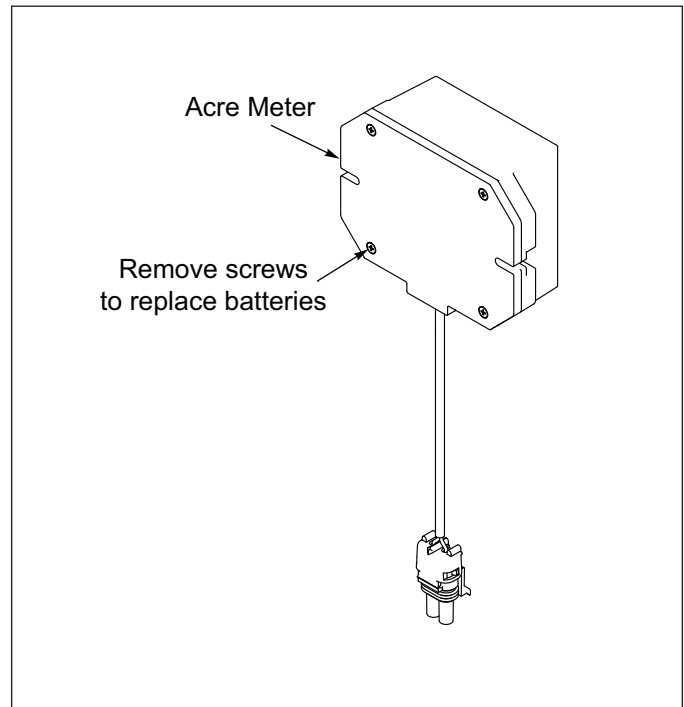


**Figure 5-19: Acre Meter**

### NOTE

*The ground wire is for static discharge protection and has no effect on the ability of the sensor to function properly under normal conditions.*

The battery operated Acre Meter uses 3 AA batteries. The Acre Meter will display "LObat" when the batteries require replacement. Remove the Acre Meter from the implement and then the 4 Screws on the back of the case. **See Figure 5-20.** Separate the housing from the rear plate. Replace with 3 quality AA batteries.



**Figure 5-20: Battery Replacement**

### Acre Meter does not count pulses during calibration or does not count acres during operation.

1. Check the position of the Magnet Wheel Assembly and Pick-Up Switch against the set-up instructions in this manual. **See “Acre Meter Installation - Optional” on page 2-26**
2. Verify that the magnet in the Magnet Wheel Assembly has not come out.
3. Place the Acre Meter display in “Calibrate” mode by pressing the **\*(FUNC)** key until the **“P-WORD”** indicator is lit and then press the up/down arrow keys until the display shows 0 and the LED is blinking. Break the connection between the display and the Pick-Up Switch and short between pins A and B on the display harness connector. You should see the display increment +1 with each contact of the connector terminals.
4. If step 3 works then wave a magnet in front of the Pick-Up Switch face with it re-connected to the display and see if the display increments up. If not, put an ohm meter or continuity tester on the contacts of the Pick-Up Switch harness and place a magnet in front of the Pick-Up Switch face. The Pick-Up Switch should show continuity or near 0 ohms resistance.

### Acre Meter can not change the width or pulse count settings or clear the field and total acres.

1. Check to see if a password needs to be entered by pressing the **\*(FUNC)** key until the **“P-WORD”** indicator LED is lit. If **“dis”** is displayed (password disabled) no password is set.
2. If **“Ent”** is displayed a password must be entered to change the settings or the password must be disabled as instructed in the setup section of this manual.

## Storage

1. The service life of the Seeder will be extended by proper off-season storage practices. Prior to storing the unit, complete the following procedures:
  - Completely clean the unit, blow all seed out of Seed Meters.
  - Inspect the machine for worn or defective parts. Replace as needed.
  - Repaint all areas where the original paint is worn off.
  - Apply a light coating of oil or grease to exposed cylinder rods to prevent them from rusting.
  - Lubricate each point of the machine as stated in **“Lubrication Maintenance” on page 5-3.**
  - Reduce Rear Roller Air System Air Pressure to 15psi if stored for an extended period of time.
2. Store the unit in a shed or under a tarpaulin to protect it from the weather. The ground engaging components and tires should rest on boards, or some other object, to keep them out of the soil.
3. **3-PT Hitch Models:** Raise track removers, lower Parking Stands, and insert Parking Pin before unhitching from tractor.
4. **Pull Type Models:** Raise the machine and install Transport Locks. **See Figure 3-4.** Lower Drawbar Jack.
  - Relieve Hydraulic Pressure in hoses after Transport Locks are installed.
  - Block transport wheels before unhitching from tractor.

NOTES:

## Specifications

Product Attributes	4610-16 / SSP16	4610-16 / SS16
Approximate Weight	6,125 lbs. (2,778 kg)	7,450 lbs. (3,379 kg)
Working Width	16 ft. 0 in. (4.9 m)	16 ft. 0 in. (4.9 m)
Transport Width	18 ft. (5.5 m)	18 ft. (5.5 m)
Transport Height	Tractor Dependent	7 ft. 6 in. (2.3 m)
Transport Length	8 ft. 3 in. (2.5 m)	17 ft. 7 in. (5.4 m)
Road Clearance	Tractor Dependent	16 in. (406 mm)
Working Overall Height	5 ft. 9 in. (1.8 m)	5 ft. 9 in. (1.8 m)
Working Overall Length	8 ft. 3 in. (2.5 m)	18 ft. 8 in. (5.7 m)
Seed Boxes	All Steel Construction with Cover	All Steel Construction with Cover
Seed Box Capacity (Micro-Meter)	20 bu.	20 bu.
Seed Box Capacity (Agitator)	N/A	N/A
Seed Metering System	"Micro-Meter"	"Micro-Meter"
Seed Metering System Drive	Ground Driven	Ground Driven
Seed Meter/Agitator Opening Spacing	8 in. (203 mm)	8 in. (203 mm)
Seed Delivery	Broadcast with Wind Deflector	Broadcast with Wind Deflector
Pulverizer Roller - Front	15.75 in. (400 mm) Cast Iron	15.75 in. (400 mm) Cast Iron
Pulverizer Roller - Rear	11.5 in. (292 mm) Cast Iron	11.5 in. (292 mm) Cast Iron
Pulverizer Axle Bearings	1.75 in. (45 mm) Flange Bearing Sealed	1.75 in. (45 mm) Flange Bearing Sealed
Pulverizer Axle Size - Front	12.75 in. (324 mm)	12.75 in. (324 mm)
Pulverizer Axle Size - Rear	8.625 in. (219 mm)	8.625 in. (219 mm)
Rear Roller Pneumatic Down Pressure	Standard	Standard
Hitch Type	Three-Point Hitch	Drawbar with Hydraulic Transport
Hitch Category	Cat. 2, 3 Free Link; Cat. 2, 3N, 3 Quick Coupler Hitch	Cat. 2, 3 Hitch
Tire Size	N/A	(4) 11L x 15, 12 Ply Implement Rib
Blade Agitator	N/A	N/A
Cage Agitator	N/A	N/A
5-Strip Brush Agitator	N/A	N/A
8-Row Brush Agitator	N/A	N/A
S-Tine Wheel Track Remover	Optional	N/A
Hydraulic S-Tine Track Remover	Optional	Optional
Coil Tine Wheel Track Remover	Optional	Optional
Electric Clutch	Standard	Standard
Electronic Acre Meter	Optional	Optional
Electronic Loup Elite Mini Monitor System	Optional	Optional
Seed Box Scale System	Optional	Optional
Safety Warning Lights & SMV Emblem	Standard	Standard
Safety Chain Kit	N/A	Standard
Powder Coat Paint, Red	Standard	Standard
Horsepower Requirements	6 to 8 HP (4.5 to 6 kW) per ft.	6 to 8 HP (4.5 to 6 kW) per ft.
Required 3-PT Hitch Lift Capacity	8,000 lbs. (3,629 kg) Minimum	N/A
Recommended Operating Speed	4.5 to 6.0 MPH (7.2 to 9.7 km/h) Dependent on Conditions	4.5 to 6.0 MPH (7.2 to 9.7 km/h) Dependent on Conditions

Specifications subject to change with or without notice.

Figure 6-1: Model Specifications (1 of 2)

Product Attributes	4610-16 / SSBP16	4610-16 / SSB16
Approximate Weight	6,610 lbs. (2,998 kg)	8,030 lbs. (3,642 kg)
Working Width	16 ft. 0 in. (4.9 m)	16 ft. 0 in. (4.9 m)
Transport Width	18 ft. (5.5 m)	18 ft. (5.5 m)
Transport Height	Tractor Dependent	7 ft. 0 in. (2.1 m)
Transport Length	7 ft. 5 in. (2.3 m)	17 ft. 7 in. (5.4 m)
Road Clearance	Tractor Dependent	16 in. (406 mm)
Working Overall Height	5 ft. 7 in. (1.7 m)	5 ft. 7 in. (1.7 m)
Working Overall Length	7 ft. 5 in. (2.3 m)	18 ft. 8 in. (5.7 m)
Seed Boxes	All Steel Construction with Cover	All Steel Construction with Cover
Seed Box Capacity (Micro-Meter)	20 bu.	20 bu.
Seed Box Capacity (Agitator)	10 bu.	10 bu.
Seed Metering System	"Micro-Meter" / Agitator	"Micro-Meter" / Agitator
Seed Metering System Drive	Ground Driven	Ground Driven
Seed Meter/Agitator Opening Spacing	8 in. (203 mm) / 4 in. (102 mm)	8 in. (203 mm) / 4 in. (102 mm)
Seed Delivery	Broadcast with Wind Deflector	Broadcast with Wind Deflector
Pulverizer Roller - Front	15.75 in. (400 mm) Cast Iron	15.75 in. (400 mm) Cast Iron
Pulverizer Roller - Rear	11.5 in. (292 mm) Cast Iron	11.5 in. (292 mm) Cast Iron
Pulverizer Axle Bearings	1.75 in. (45 mm) Flange Bearing Sealed	1.75 in. (45 mm) Flange Bearing Sealed
Pulverizer Axle Size - Front	12.75 in. (324 mm)	12.75 in. (324 mm)
Pulverizer Axle Size - Rear	8.625 in. (219 mm)	8.625 in. (219 mm)
Rear Roller Pneumatic Down Pressure	Standard	Standard
Hitch Type	Three-Point Hitch	Drawbar with Hydraulic Transport
Hitch Category	Cat. 2, 3 Free Link; Cat. 2, 3N, 3 Quick Coupler Hitch	Cat. 2, 3 Hitch
Tire Size	N/A	(4) 11L x 15, 12 Ply Implement Rib
Blade Agitator	Standard	Standard
Cage Agitator	Optional	Optional
5-Strip Brush Agitator	Optional	Optional
8-Row Brush Agitator	Optional	Optional
S-Tine Wheel Track Remover	Optional	Optional
Hydraulic S-Tine Track Remover	Optional	Optional
Coil Tine Wheel Track Remover	Optional	Optional
Electric Clutch	Standard	Standard
Electronic Acre Meter	Optional	Optional
Electronic Loup Elite Mini Monitor System	Optional	Optional
Seed Box Scale System	Optional	Optional
Safety Warning Lights & SMV Emblem	Standard	Standard
Safety Chain Kit	N/A	Standard
Powder Coat Paint, Red	Standard	Standard
Horsepower Requirements	6 to 8 HP (4.5 to 6 kW) per ft.	6 to 8 HP (4.5 to 6 kW) per ft.
Required 3-PT Hitch Lift Capacity	9,000 lbs. (4,082 kg) Minimum	N/A
Recommended Operating Speed	4.5 to 6.0 MPH (7.2 to 9.7 km/h) Dependent on Conditions	4.5 to 6.0 MPH (7.2 to 9.7 km/h) Dependent on Conditions

*Specifications subject to change with or without notice.*

**Figure 6-2: Model Specifications (2 of 2)**



Document Control Revision Log:

Date	Form #	Improvement(s): Description and Comments
01/2023	F-1134-0123	Initial Release
06/2023	F-1134-2306	ECN 49125 - Walk Plank, Flip-Down Step *Revised Format "Year/Month"
08/2023	F-1134-2308	ECN 49197 - Transport Lock *10/16/2023 - Updated
01/2024	F-1134-2401	ECN 49689 - Revisions to Sprockets, Roller Chain, Decals, Seed Rates



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# **Sure Stand Seeder Model 4610-16 Operator's Manual**

## **Re-Order Part Number F-1134**

### **LANDOLL COMPANY, LLC**

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