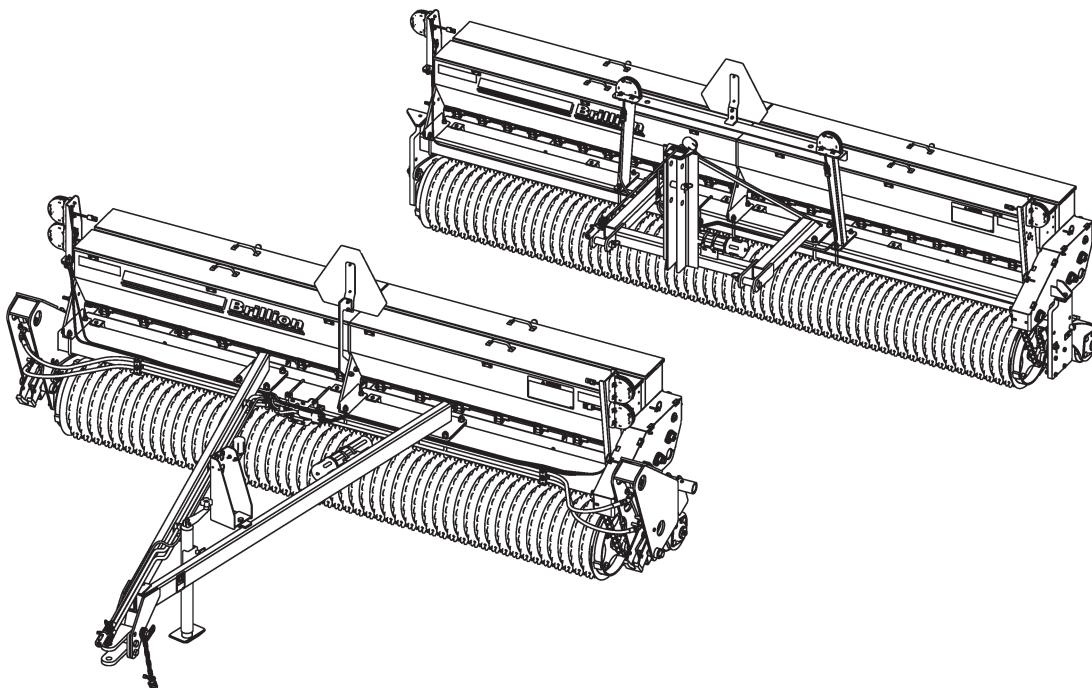




**Sure Stand Seeder
Models SSB8/SSB10/SSB12
SSBP8/SSBP10/SSBP12
Operator's Manual**



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**Manuals for Sure Stand Seeder,
Models SSB8/SSB10/SSB12 and SSBP8/SSBP10/SSBP12**

Manual Number	Manual Type
1P480	Operator's Manual
1P481	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 machine. Failure to comply with this warning can result in personal injury or death, damage to the machine or its components and inferior operation.

Description of Unit

The Brillion Sure Stand Agriculture Seeder provides precision seed metering and accurate seed depth placement, offering optimum germination. The SS Series Seeder utilizes a Front Seed Box with Micro-Meters for small seeds varieties and a Rear Seed Box with agitators for bulky and chaffy seed varieties, as well as small seeds at a high rate. Micro-Meters can be adjusted to permit precise metering with an infinite range of settings. Units are available in 3-PT Hitch and Drawbar.

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 the time of printing. Some parts may change to assure peak performance.
- Location reference: Right and Left designations in this manual are determined by facing the direction the machine 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 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 right front of the machine.

MODEL NUMBER

SERIAL NUMBER

DATE OF PURCHASE

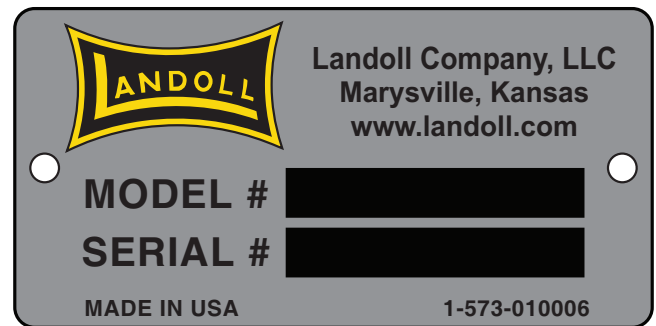


Figure 1-1: ID Plate

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 machine decals (signs) attached to the machine. 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 machine decals before you attempt to operate or maintain this equipment.

- Examine safety decals and be sure you have the correct safety decals for the machine. **See Figure 1-3.**
- 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 machine. Wash with soap and water or a cleaning solution as required.
- Replace decals that become damaged or lost. Also, be sure that any new machine components installed during repair include decals which are assigned to them by the manufacturer.

- When applying decals to the machine, 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 machine. Riders could be struck by foreign objects or thrown from the machine.**
- **Never allow children to operate equipment.**
- **Keep bystanders away from machine 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 machine on a road or highway, use adequate warning symbols, reflectors, lights and slow moving vehicle sign as required. Slow moving tractors and towed machines can create a hazard when driven on public roads. They are difficult to see, especially at night.
- Do not tow a machine 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 machine 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 machine 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 machine to shift sideways.
- Keep clear of overhead power lines and other obstructions when transporting. Know the transport height and width of your machine. **See “Specifications” on Pages 6-1 through 6-3.**

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 machine when attaching or detaching machine 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 the 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 machine so it will not roll when working on or under it.
- Transport Locks installed.
- Do not make adjustments or lubricate machine while it is in motion.
- Make sure all moving parts have stopped and all system pressure is relieved.
- Understand the procedure before doing the work. Use the proper tools and equipment.

Protective Equipment

- Wear protective clothing and 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.

Prepare for Emergencies

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

- Read chemical manufacturer's instructions and store or dispose of unused chemicals as specified. Handle chemicals with care and 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 machines.

A second chain should be used between each machine.

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. **See Figure 1-2.** 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.

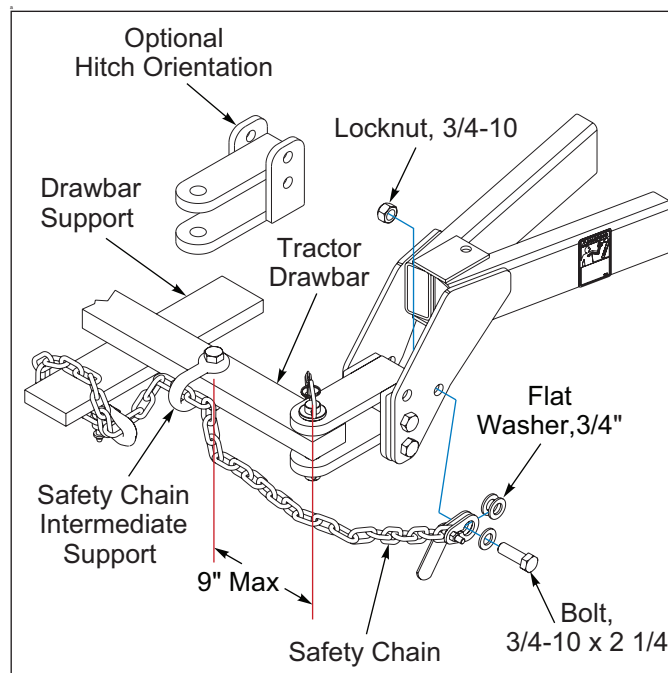


Figure 1-2: Safety Chain

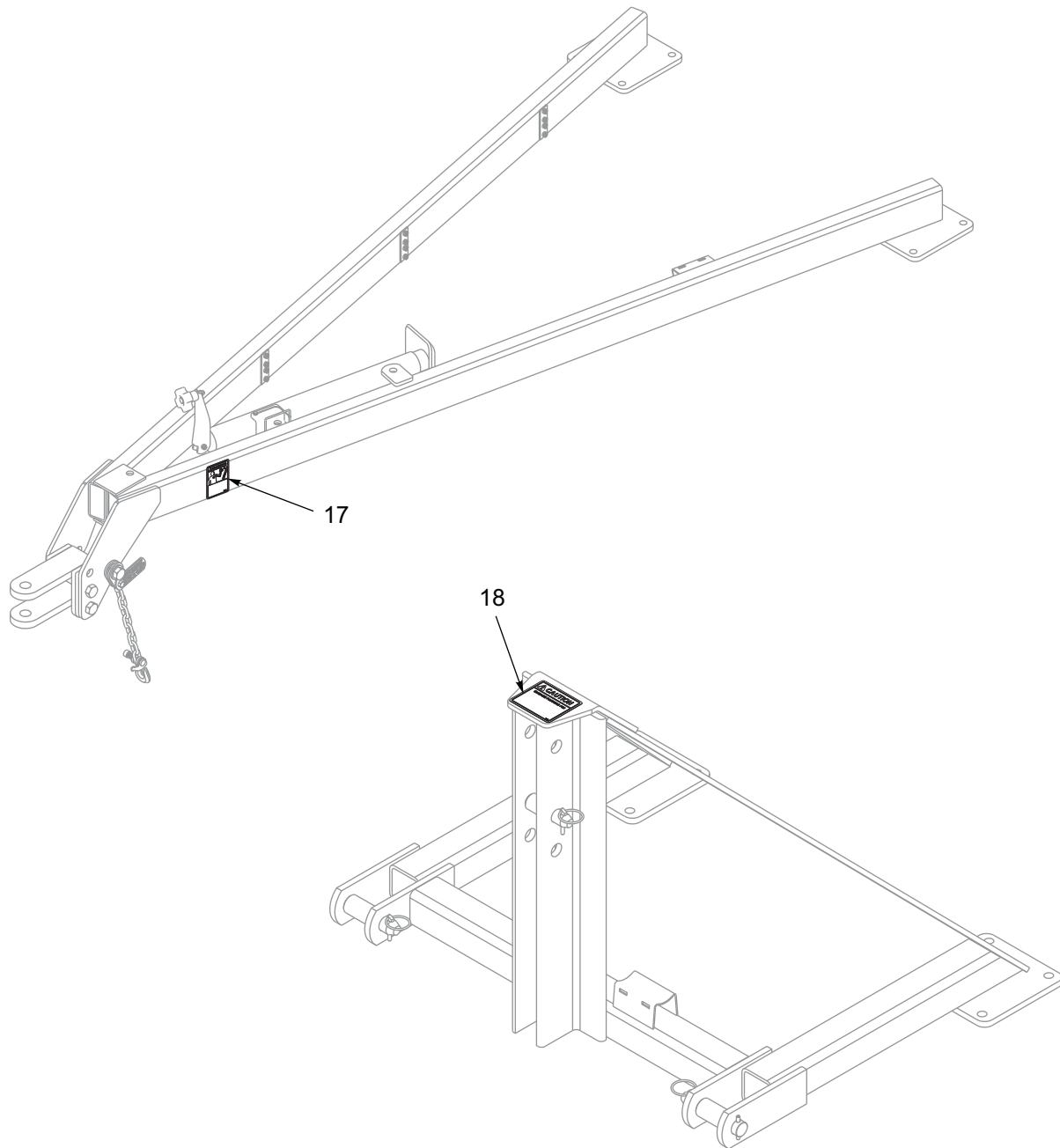


Figure 1-4: Decals Placement - Hitch

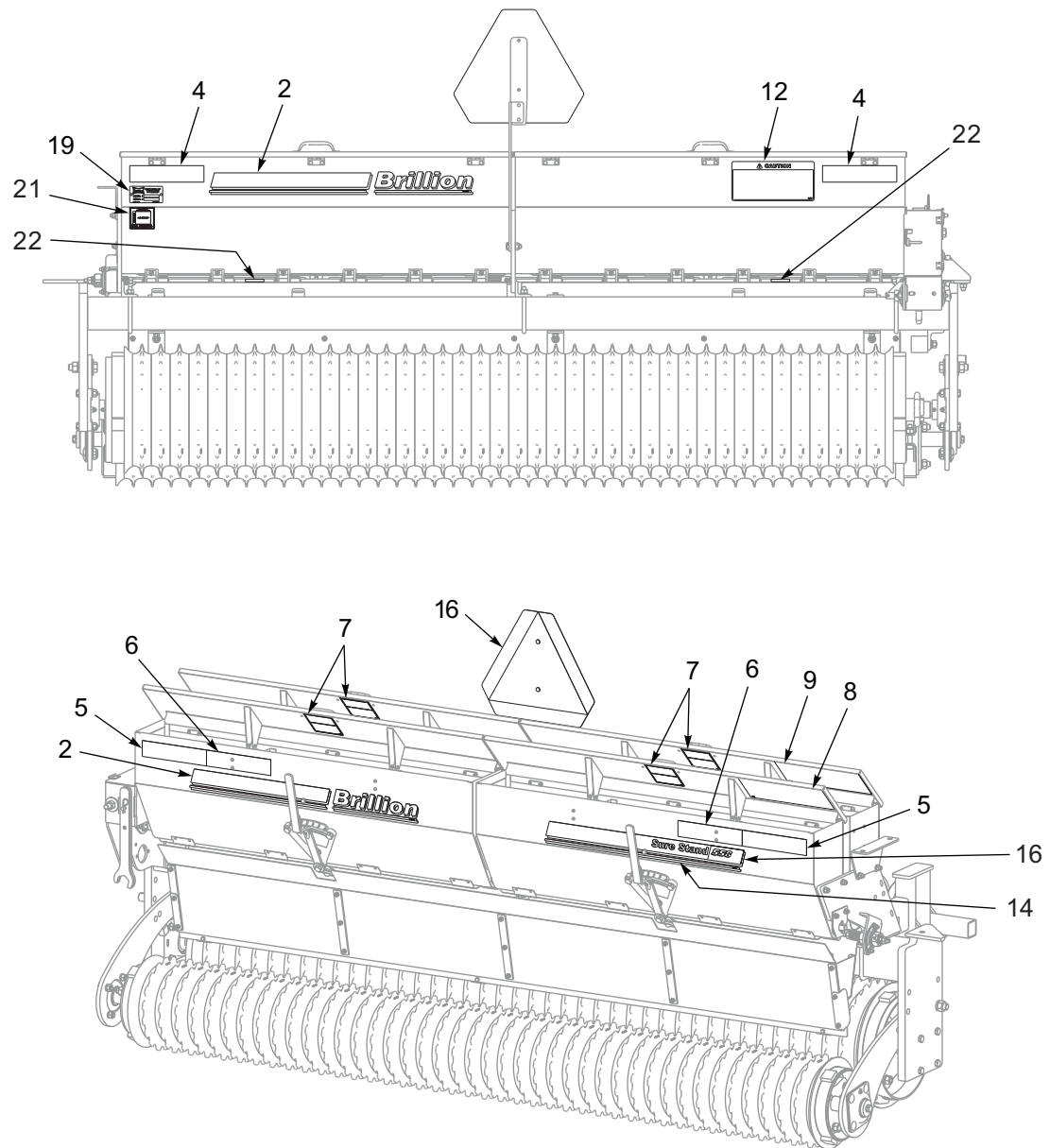


Figure 1-5: Decal Placement - 8FT

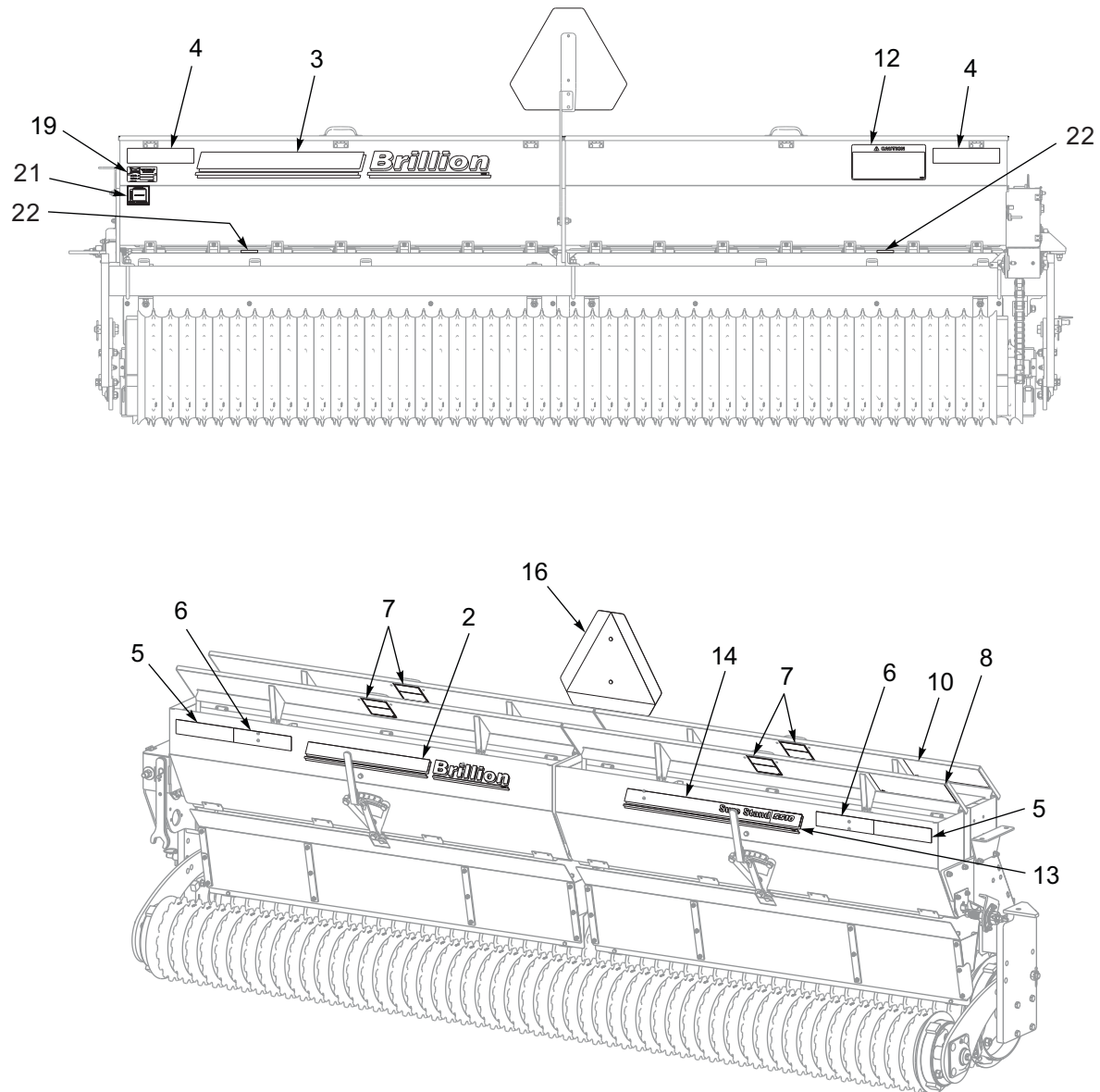


Figure 1-6: Decal Placement - 10FT

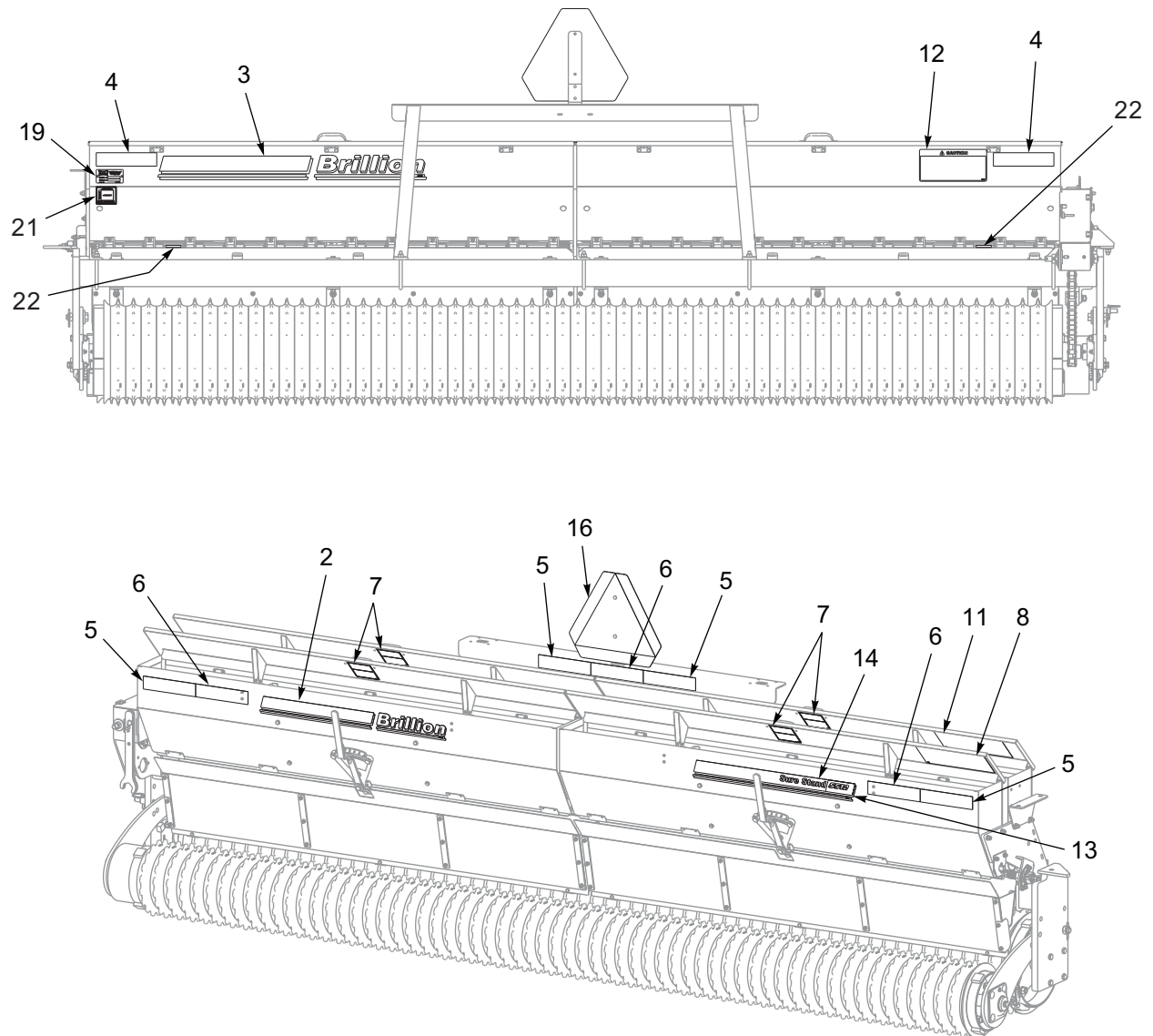


Figure 1-7: Decal Placement - 12FT

Decals - SD / SDP Models



ITEM 1 - 4K036



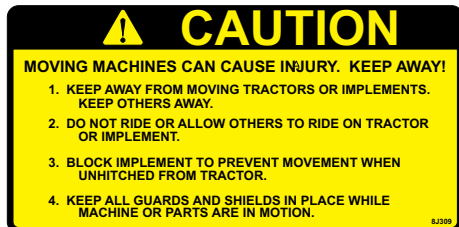
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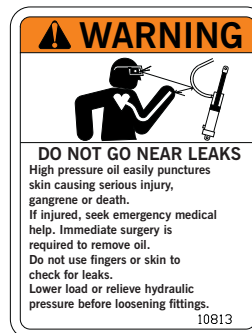
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ITEM 5
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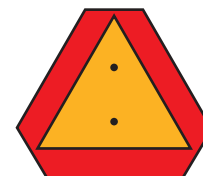
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ITEM 6
9J301



ITEM 7
2P151

Figure 1-8: Decals - SD / SDP Models

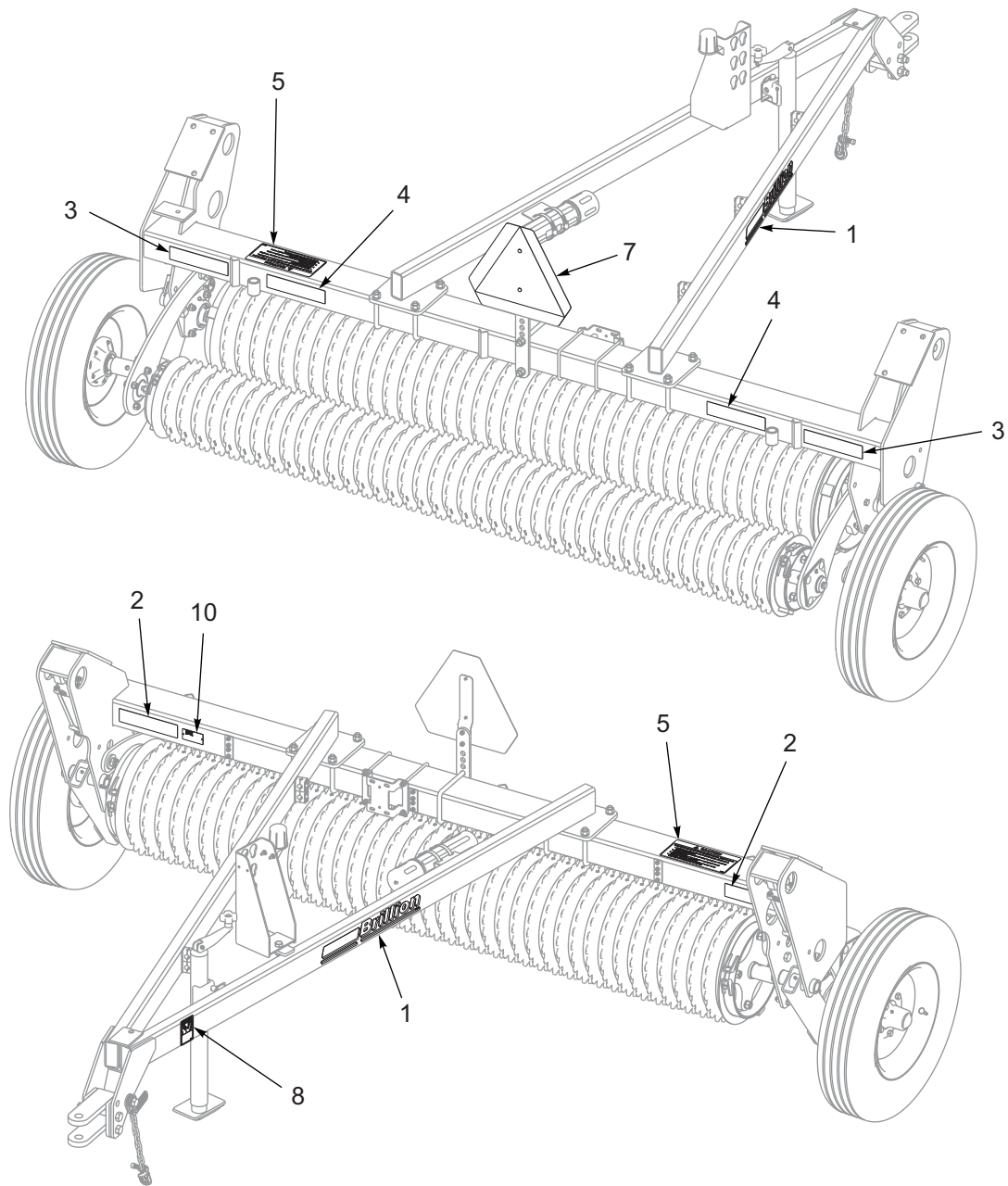


Figure 1-9: Decal Placement - SD8 Model

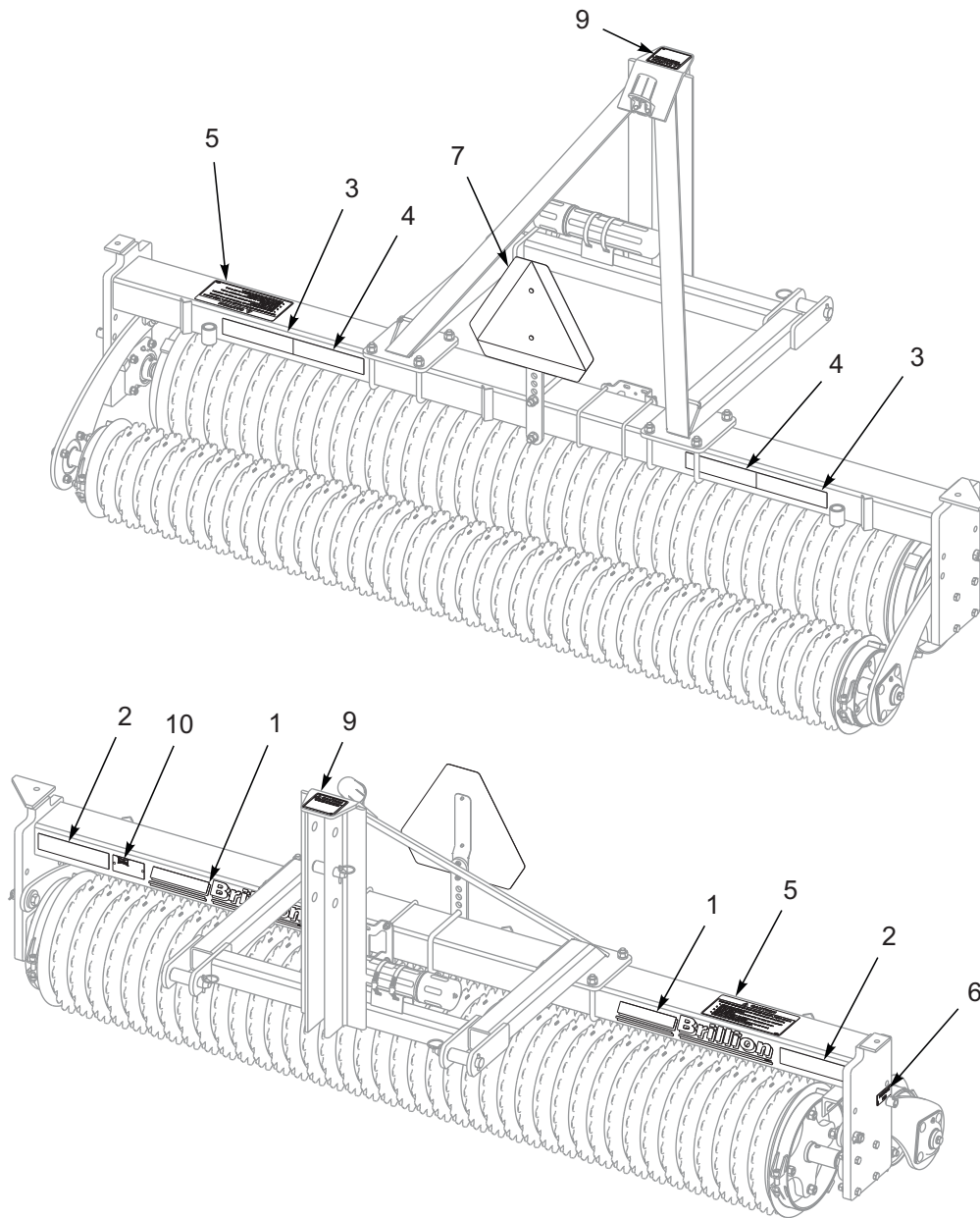


Figure 1-10: Decal Placement - SDP8 Model

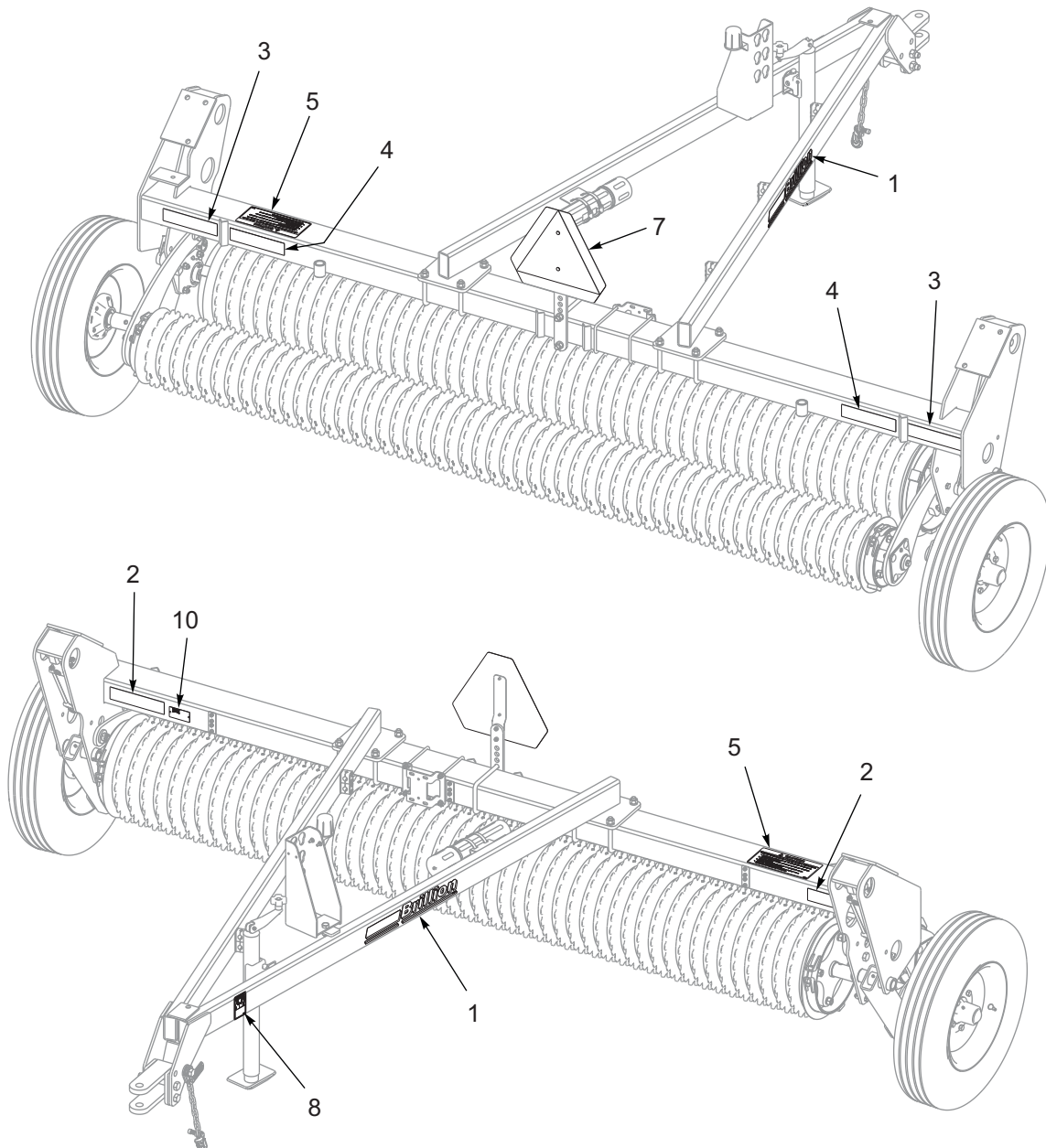


Figure 1-11: Decal Placement - SD10 Model

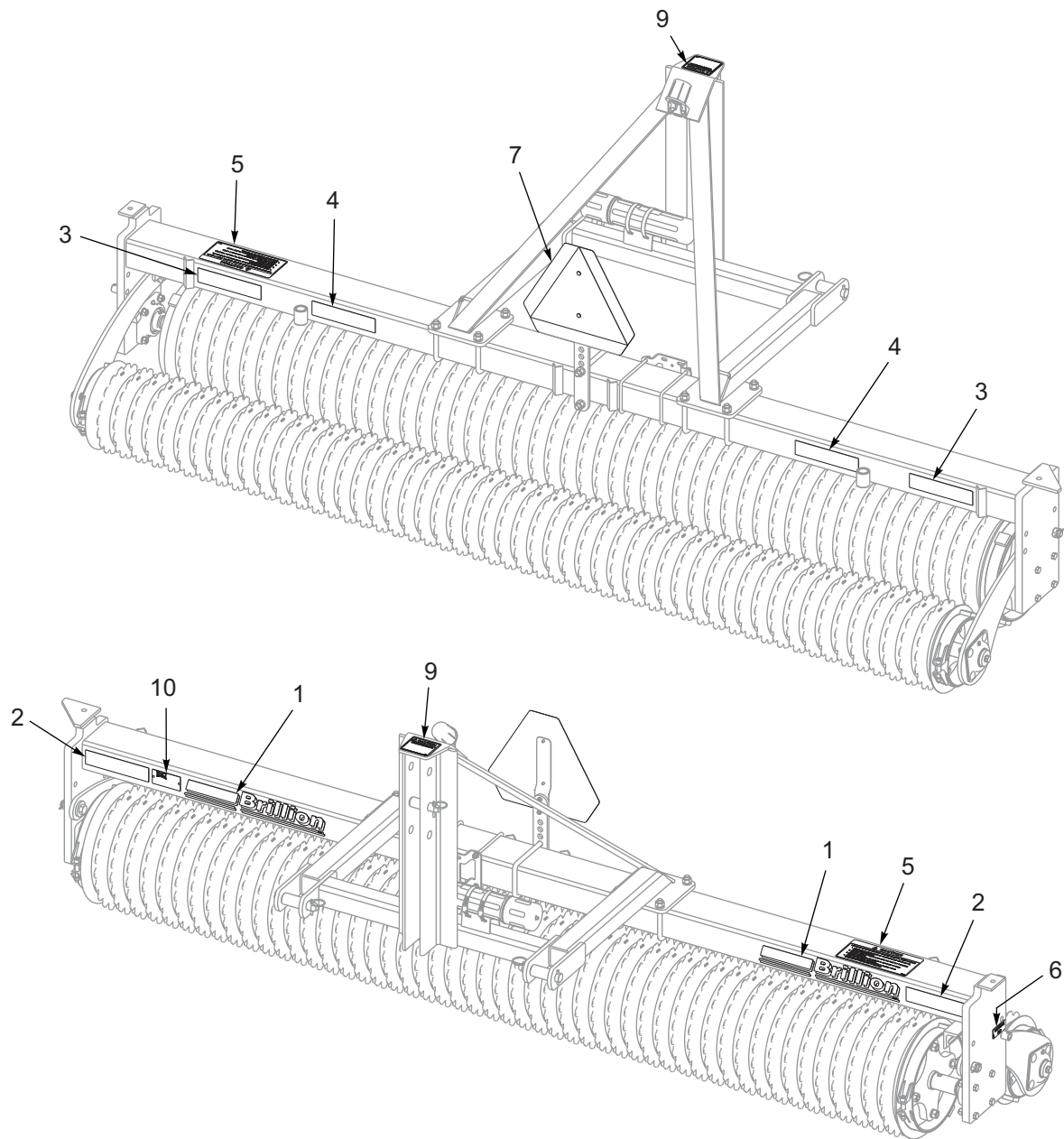


Figure 1-12: Decal Placement - SDP10 Model

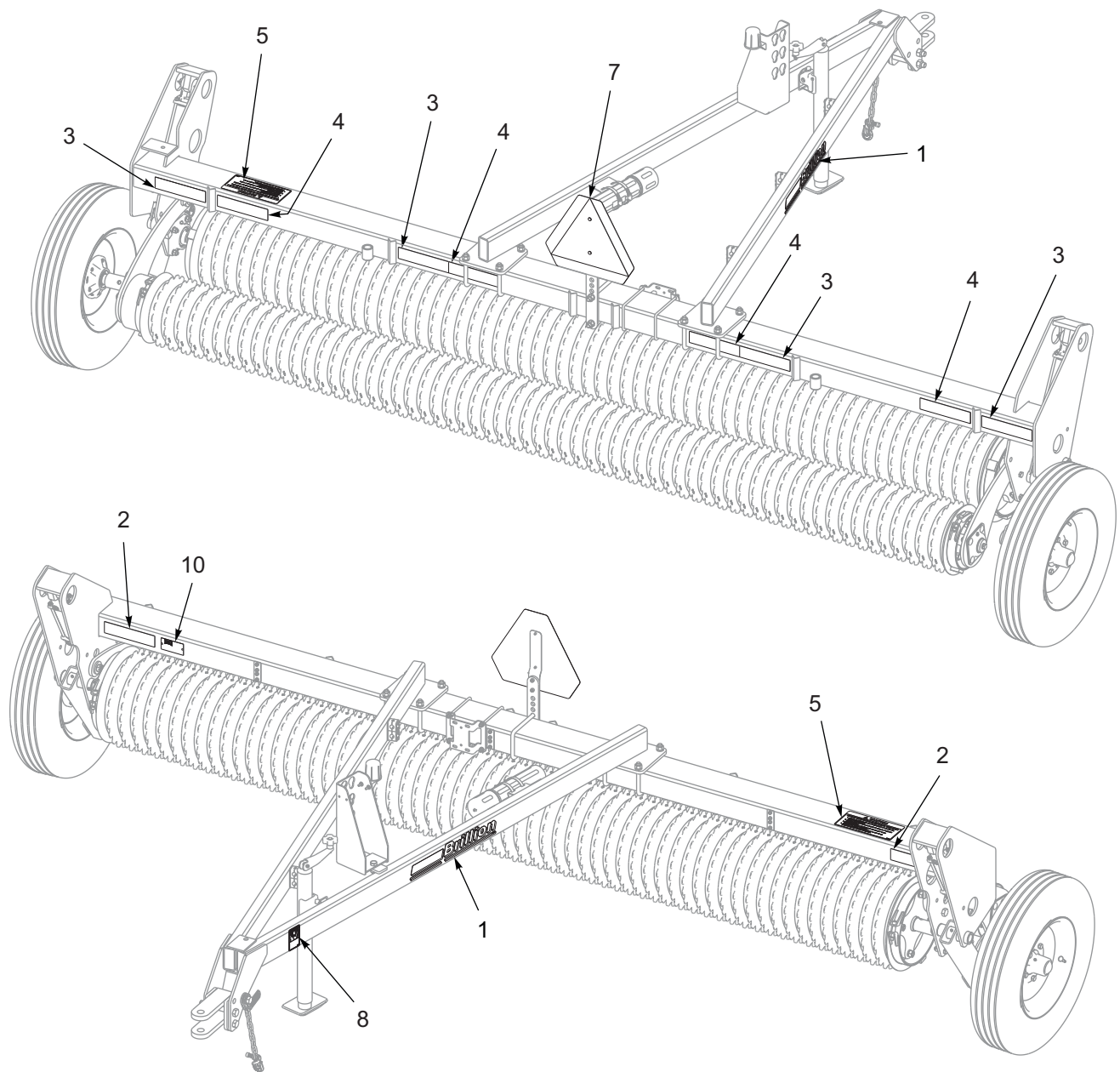


Figure 1-13: Decal Placement - SD12 Model

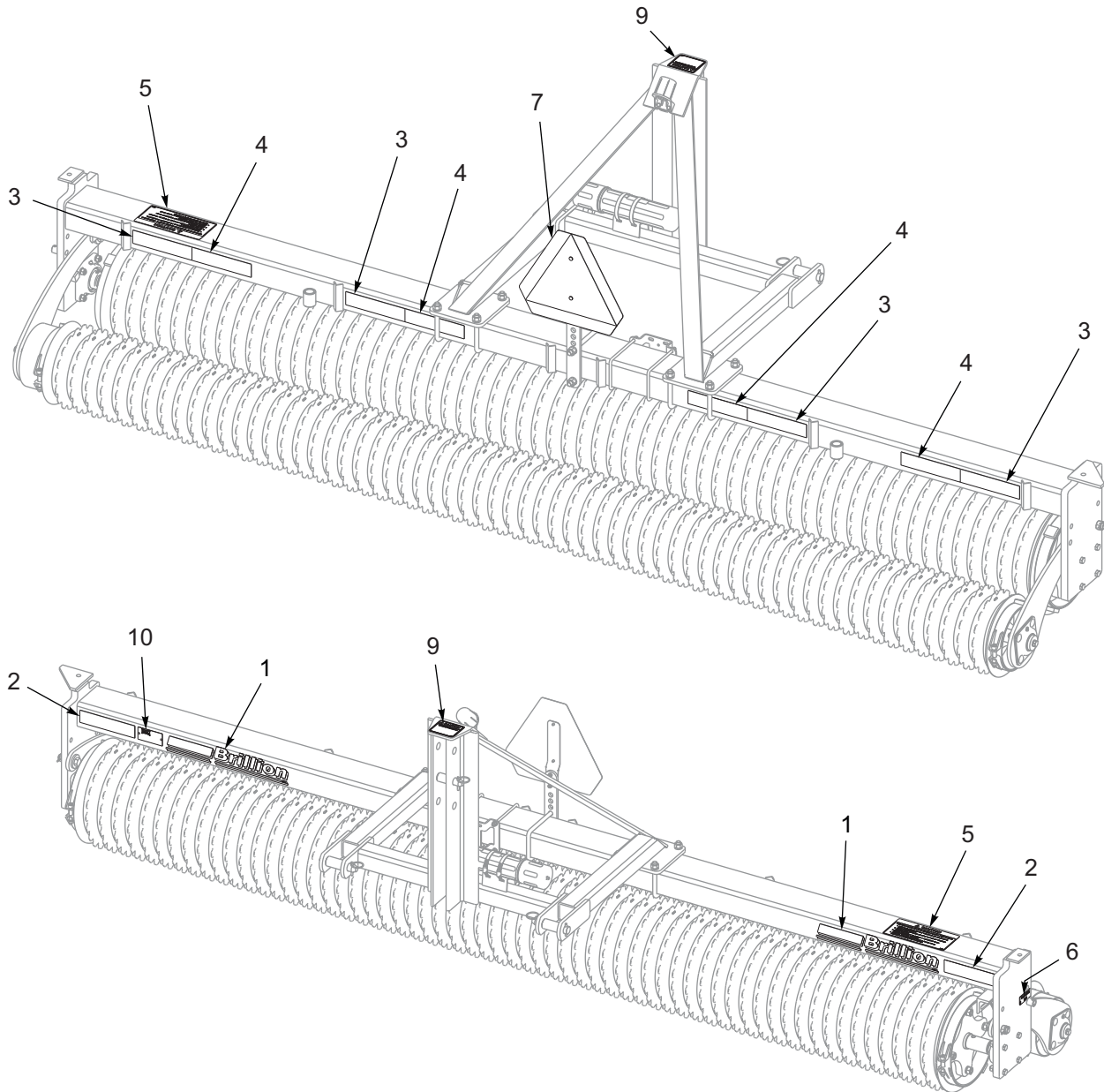


Figure 1-14: Decal Placement - SDP12 Model

Assembly



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 1P481 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 4-1.**

“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, 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 Seeder Assembly

When shipped, seeder comes assembled except for Lights and 3-PT Hitch.

1. Support Seeder Assembly with a hoist or by similar means capable of supporting its weight without tipping.
2. Center 3-PT Hitch Assembly in relationship with the Seed Box Center Bracket. Attach 3-PT Hitch to Seeder Frame Tube with 5/8-11 U-Bolts, Lock Washers and Nuts. **See Figure 2-1.**
3. Install Manual Holder to 3-PT Hitch with Hose Clamps.
4. 8FT and 10FT Seeders, install SMV Mount to Seed Box Center Bracket with 1/2-13 x 1-1/2 Bolts and Locknuts. **See Figure 2-1.**

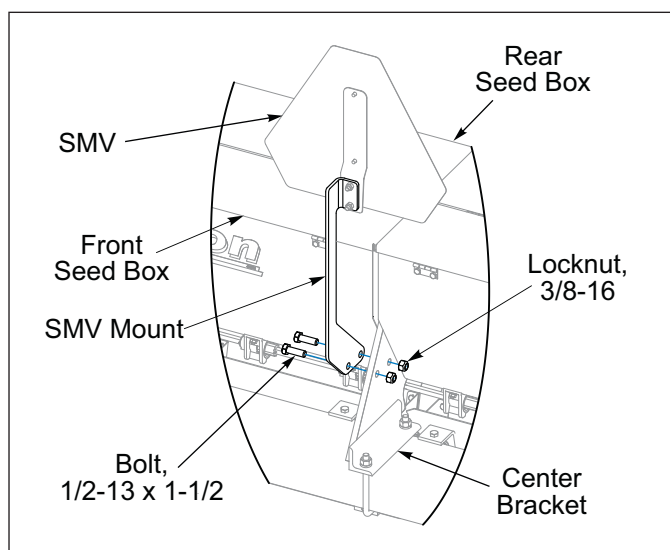


Figure 2-1: SMV Mount



CAUTION

Do not disengage pin unless seeder is fully attached to a tractor. Seeder may be rear-heavy and tip backward on frame.

5. Be sure Parking Pin is locking Rear Roller down and raise the Seeder. **See Figure 2-2.**

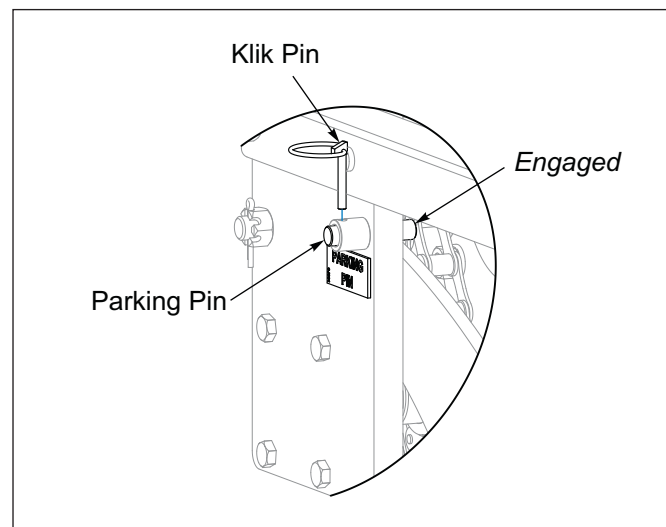


Figure 2-2: Parking Pin Engaged

6. On the right side of the Seeder Frame, in a similar position as the Parking Pin, remove the 5/8-11 Shipping Bolt that also locks the Rear Roller down. **See Figure 2-3.**

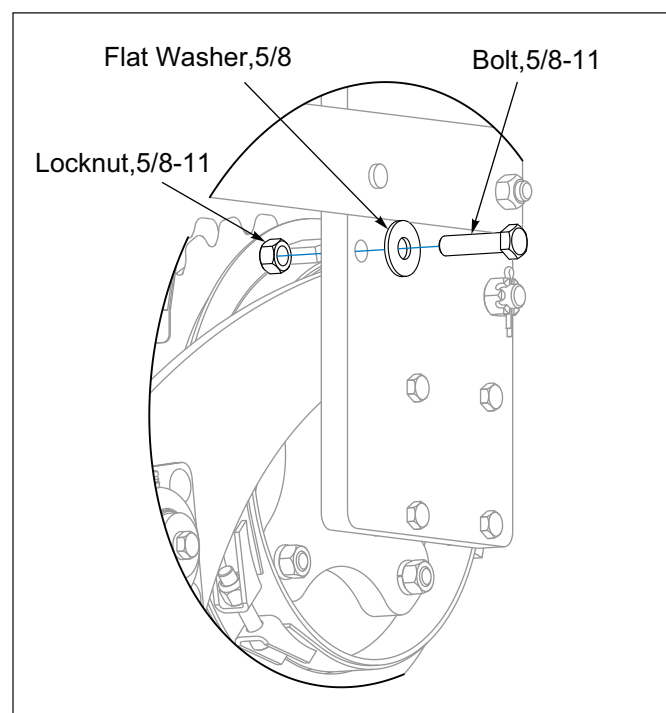


Figure 2-3: Shipping Bolt

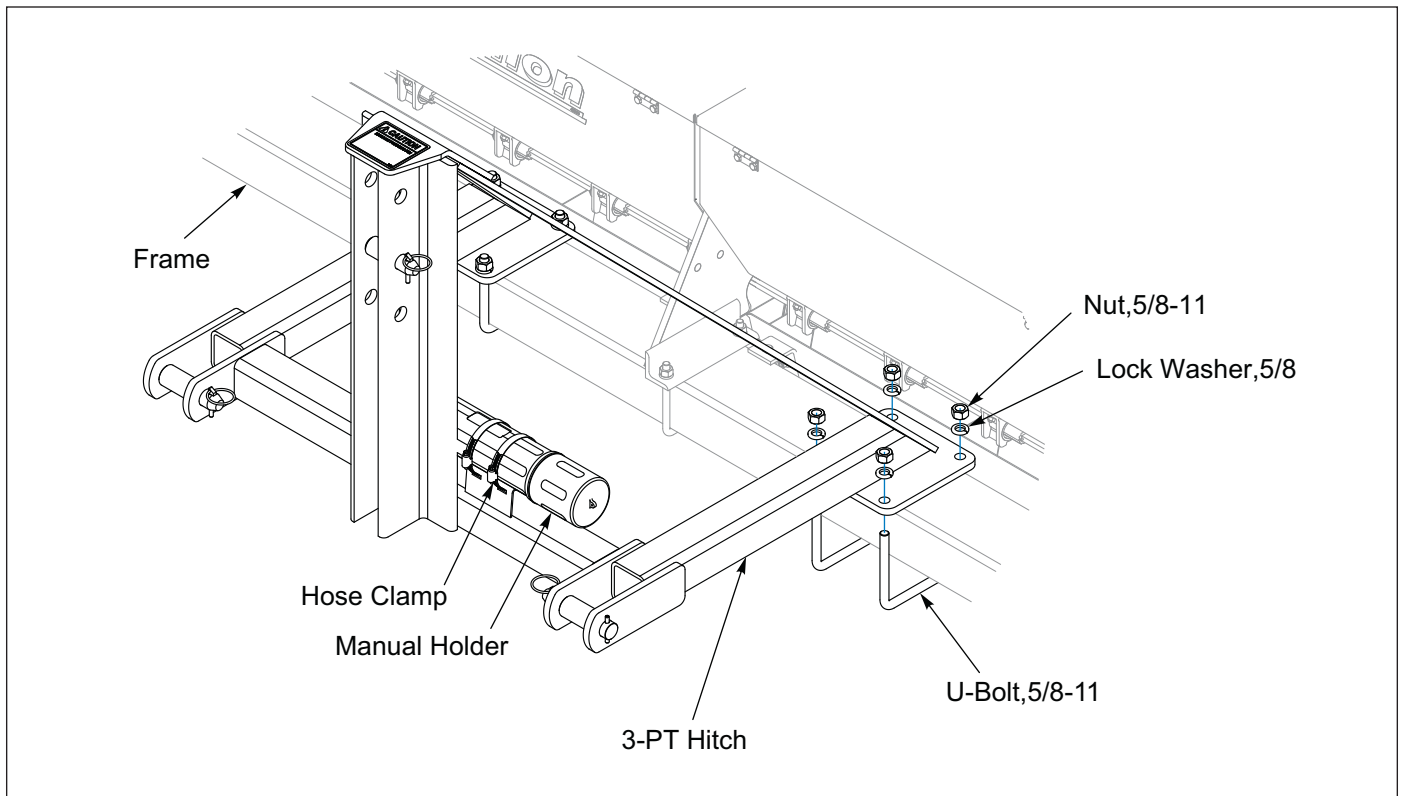


Figure 2-4: Attach 3-PT Hitch

Pull Type Seeder Assembly

When shipped, Seeder comes assembled except for Lights, Hub and Spindle Assemblies, Tire and Wheels Assemblies and Drawbar.

1. Untie the two rolled up Drawbar Hydraulic Hoses near the center of the Frame Tube. Ensure the hoses are not interfering with where the Drawbar is to be attached.
2. Center Drawbar in relationship with the Seed Box Center Bracket. Attach Drawbar to Seeder Frame Tube with 5/8-11 U-Bolts, Lock Washers and Nuts. **See Figure 2-6.**
3. Attach the Hose Holder to the Drawbar with 5/8-11 x 1-1/2 Bolt, Lock Washer and Nut.
4. Install Manual Holder to Drawbar with Hose Clamps.
5. 8FT and 10FT Seeders, install SMV Mount to Seed Box Center Bracket with 1/2-13 x 1-1/2 Bolts and Locknuts. **See Figure 2-5.**
6. Apply anti-seize to Spindles and insert a Hub and Spindle Assembly into each Wheel Arm. Secure in with 1/2-13 x 3 Bolts and Locknuts. **See Figure 2-8.**

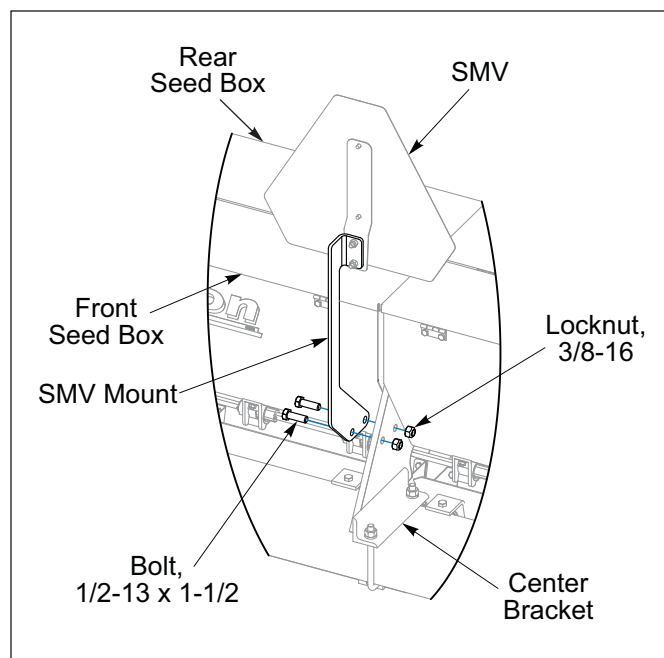


Figure 2-5: SMV Mount

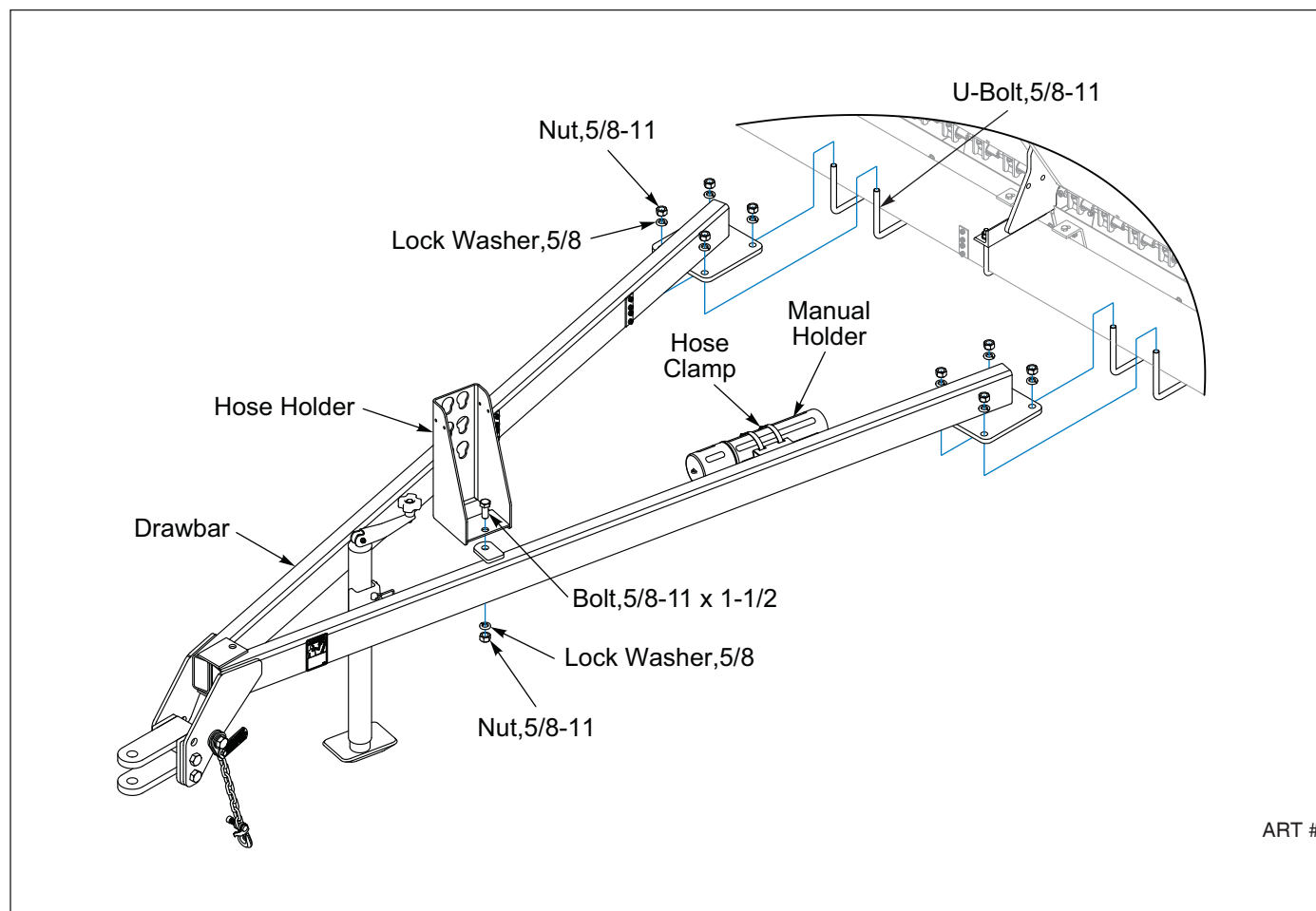


Figure 2-6: Drawbar Installation

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 9.5L-15, 8 Ply Rating Tires and should be inflated to 44 PSI.
- Install a Tire and Wheel Assembly onto each Hub with 1/2-20 x 1 Wheel Bolts and tighten Wheel Bolts to 50 Ft-Lbs using the sequence in **Fig and 2-7**. Then tighten to a full torque of 80-85 Ft-Lbs.

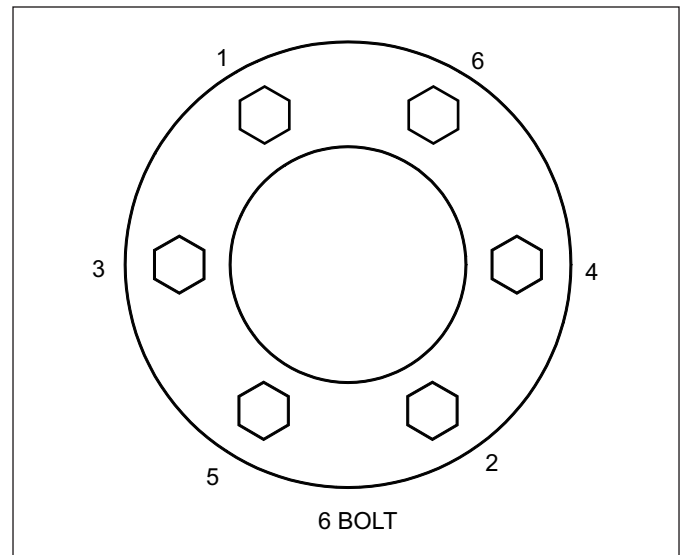


Figure 2-7: Tightening Sequence

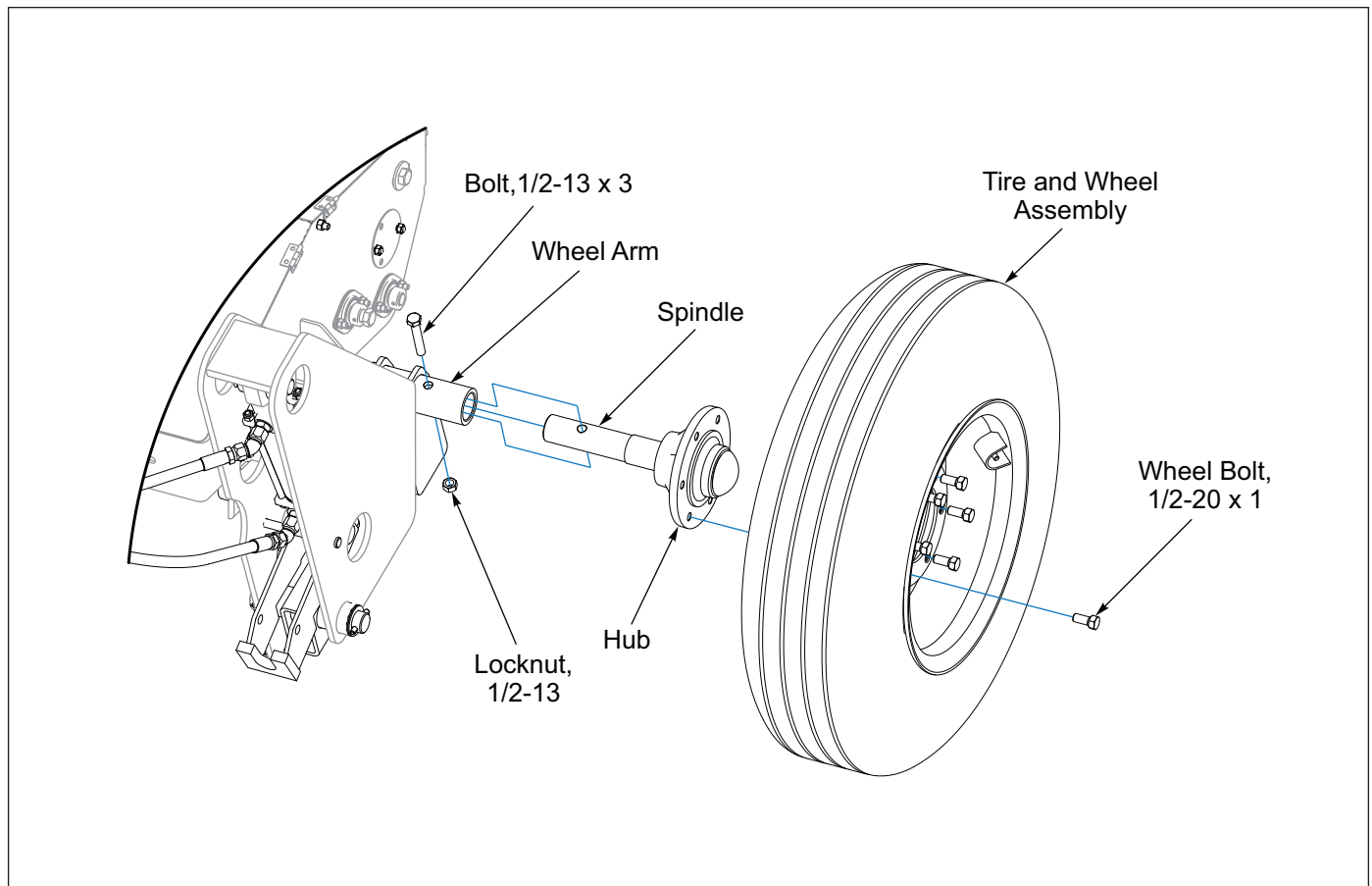


Figure 2-8: Hub and Spindle

Hydraulic Installation



WARNING

Escaping fluid under pressure can be nearly invisible and have enough force to penetrate the skin causing serious injury. Using a piece of cardboard, rather than your hands, to search for suspected leaks. (See Figure 2-9.) Wear protective gloves and safety glasses or goggles when working with hydraulic systems.

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 4-2.



Figure 2-9: Leak Detection

Hydraulic Assembly

1. Restrictors installed in Cylinder Ports, connect 45 Degree Fitting so they are free to swivel. Connect top Hydraulic Hose to the Cylinder Base and bottom Hydraulic Hose to the Cylinder Rod End. Position the Hydraulic Hoses so that the Cylinder Base End points downward and the Cylinder Rod End points upward. Merge Hydraulic Hoses together and Tie Wrap them together about 12 inches from the Hose End. See **Figure 2-10**. Be sure that the Hoses cannot sag and make contact with the Front Roller Wheels.

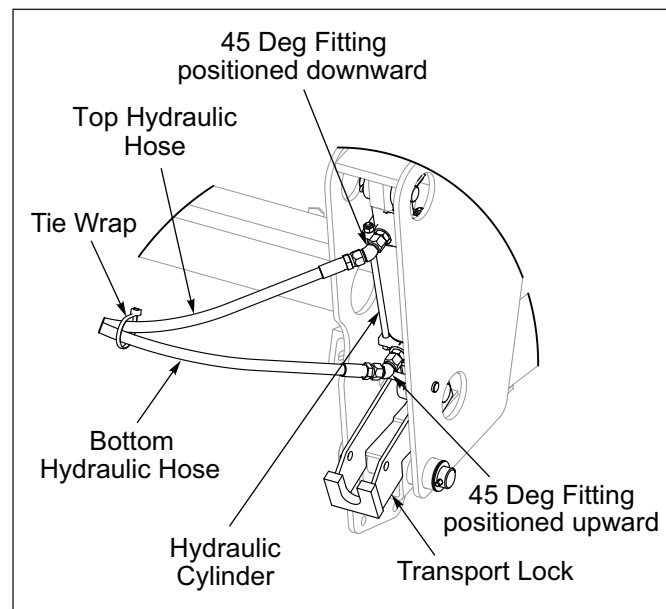


Figure 2-10: Cylinder Fittings Positioning

2. Route the Drawbar Hydraulic Hoses along Drawbar toward the Tractor. Secure Hoses to Drawbar with Hose Clamp Pairs, Top Plate and 1/4-20 x 1-1/2 Bolt. See **Figure 2-11**.

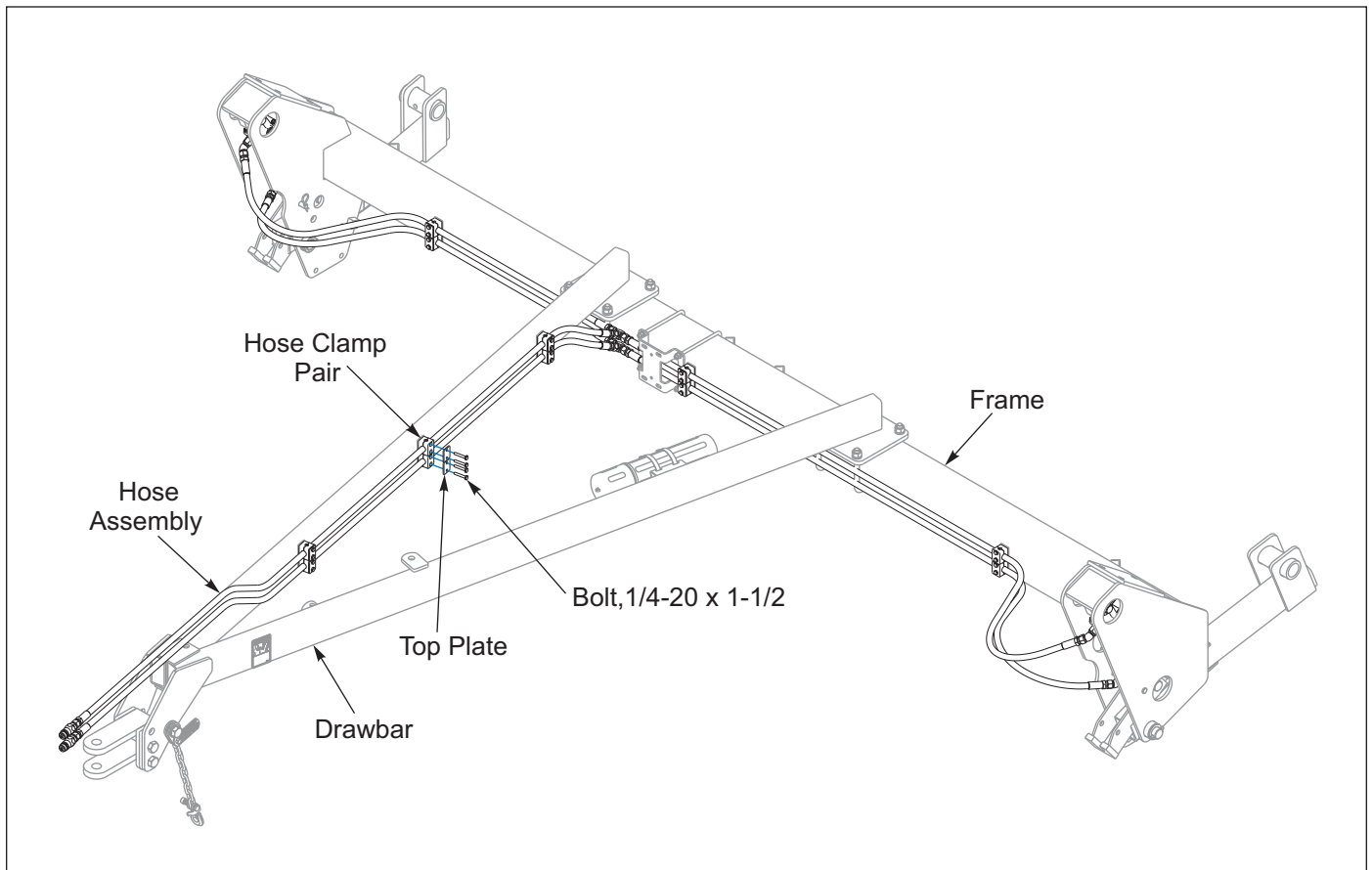


Figure 2-11: Drawbar Hydraulic Hoses

Purge the Hydraulic Lift System

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

Lift Circuit approximate oil requirement: 0.4 gallons.

1. Carefully Hitch the Seeder to the Tractor and connect the Hydraulic Lift Hoses.
2. Check to make sure the tractor hydraulic reservoir is full of the manufacturer's recommended oil.
3. Slowly raise the machine 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 Rod movement stops. Raise/Lower Seeder 5 times to purge air from the system.
4. Do Not loosen any Hydraulic Hoses or Fittings.
5. Recheck Tractor Reservoir to make sure it is within operating limits.
6. Raise the Seeder and install Transport Locks. **See Figure 2-12.**
7. Remove from the RH and LH Frame End Plate the 5/8-11 Shipping Bolts that locks the Rear Roller Arms Down. **See Figure 2-13.**

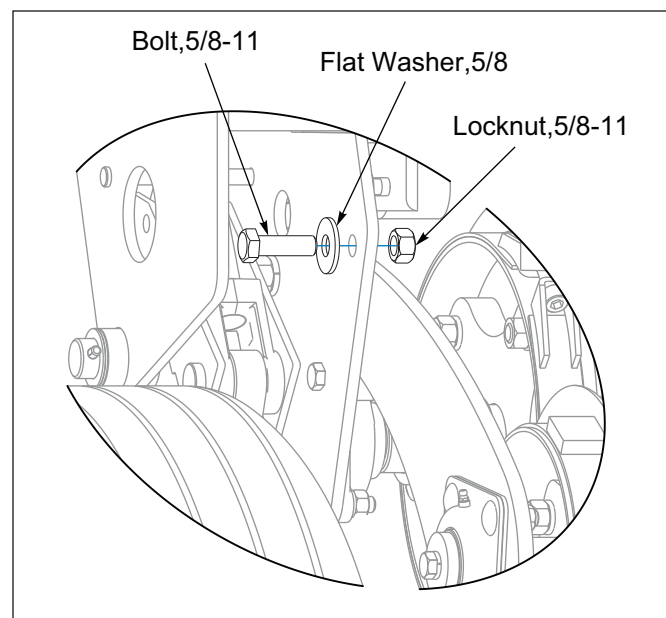


Figure 2-13: Shipping Bolt

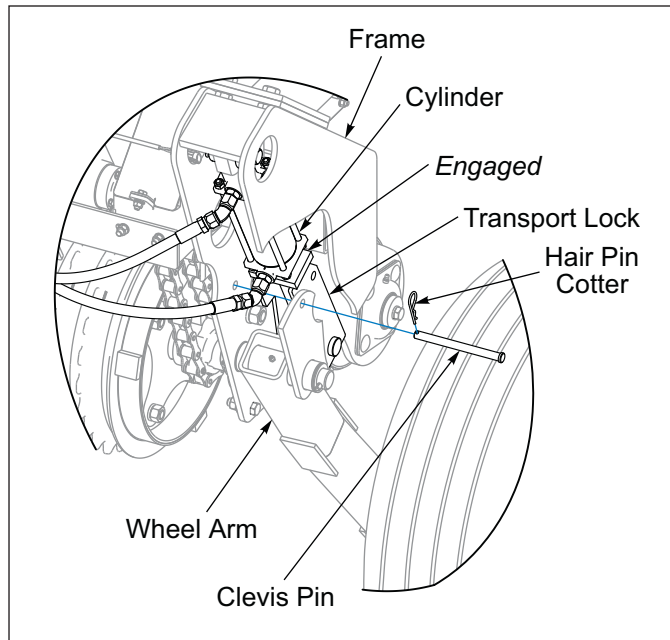


Figure 2-12: Transport Lock Engaged

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Table provided for general use.

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Warning Lamp Installation, 8FT and 10FT

NOTE

10FT Drawbar model is shown, 10FT 3-PT, 8FT Drawbar and 8FT 3-PT models similar.

1. Attach longer Light Bracket to the Transmission located on the left side of the Seeder, with 3/8-16 x 1-1/2 Bolts, Lock Washers and Nuts. **See Figure 2-15.**
2. Attach an Amber Lamp to the upper portion of the longer Light Bracket with 1/4-20 x 1-1/4 Bolts and Locknuts.
3. Attach an Red Lamp below the Amber Lamp with 1/4-20 x 1-1/4 Bolts and Locknuts. Ensure Red Lamp lenses faces rearward.
4. On the right side of the Seeder attach the shorter Light Bracket to the Angle Bracket with 1/2-13 x 1-1/4 Bolts, Lock Washers and Nuts.
5. Attach an Amber Lamp to the upper portion of the Light Bracket with 1/4-20 x 1-1/4 Bolts and Locknuts.
6. Attach an Red Lamp below the Amber Lamp with 1/4-20 x 1-1/4 Bolts and Locknuts. Ensure Red Lamp lenses faces rearward.
7. Attach the Flasher Control Module to the Module Bracket with 1/4-20 x 1-1/2 Bolts and Locknuts. **See Figure 2-14.**

IMPORTANT

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

8. Lay out the Lamp Harness along the Seeder Frame, Cords with Yellow Tape Left and Cords with Green Tape Right. Connect the Harness to the Flasher Control Module 6-Prong Connector.
9. Route the left and right cords along the front of the Frame Tube up to the outer Light Brackets. Connect the 2-Prong Connector to the Amber Lamps and the 3-Prong Connector to the Red Lamps.
10. Lay out the 7-Pin Harness along the 3-PT Hitch or Drawbar with the 4-Prong Connector towards the Seeder. 3-PT Hitch, route the 4-Prong Connector Cord through the Frame Loop to the Module. Drawbar, route the 7-Pin Harness along the Drawbar, through the Hose Support up to the Tractor. Connect 7-Pin Harness 4-Prong Connector to the Flasher Control Module.
11. Bundle and secure excess Cords to the Module Bracket with Tie Wraps. Along the Seeder Frame, secure Harness Cords with Tie Wraps to the frame end plate slots, Slotted Tabs and Hydraulic Hoses. Bundle and secure 7-Pin Harness to the Drawbar

Hydraulic Hoses or 3-PT Hitch Frame Slots allowing enough Harness length to reach the Tractor Socket.

NOTE

If equipped with optional Electrical Clutch, install, route and secure Electric Clutch Harness with the Warning Lamp Harness.

IMPORTANT

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

12. Attach the SMV sign to the SMV Mount located on the Center Bracket with 5/16-18 x 1 Bolts, Flat Washers, and Locknuts.
13. Attach the Connector Holder to the Drawbar Hose Holder or 3-PT Hitch with 1/4-20 x 1 Bolts, Flat Washers, and Locknuts.

NOTE

The 7-Pin Plug on the other end of the 7-Pin Harness connects to the Tractor Socket when in use. When not in use, it can be stored in the Connector Holder on the Drawbar Hose Holder or 3-PT Hitch. Allow enough Harness length to reach Tractor Socket and roll or fold up excess and secure to Drawbar Hydraulic Hoses or 3-PT Hitch.

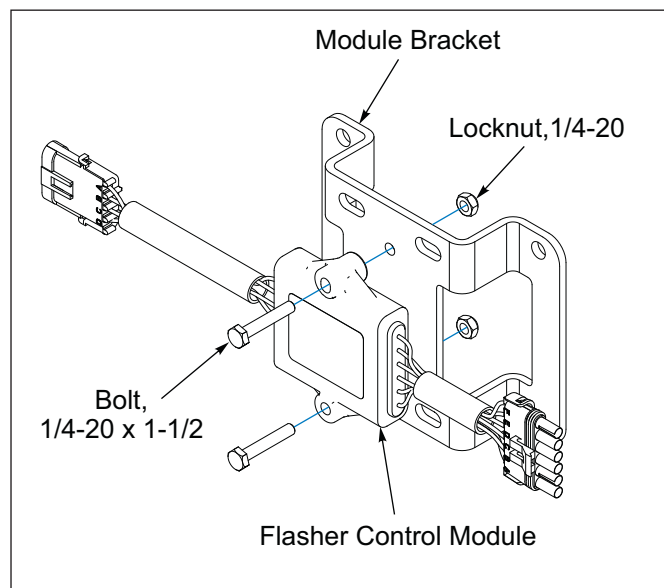


Figure 2-14: Flasher Control Module and Bracket

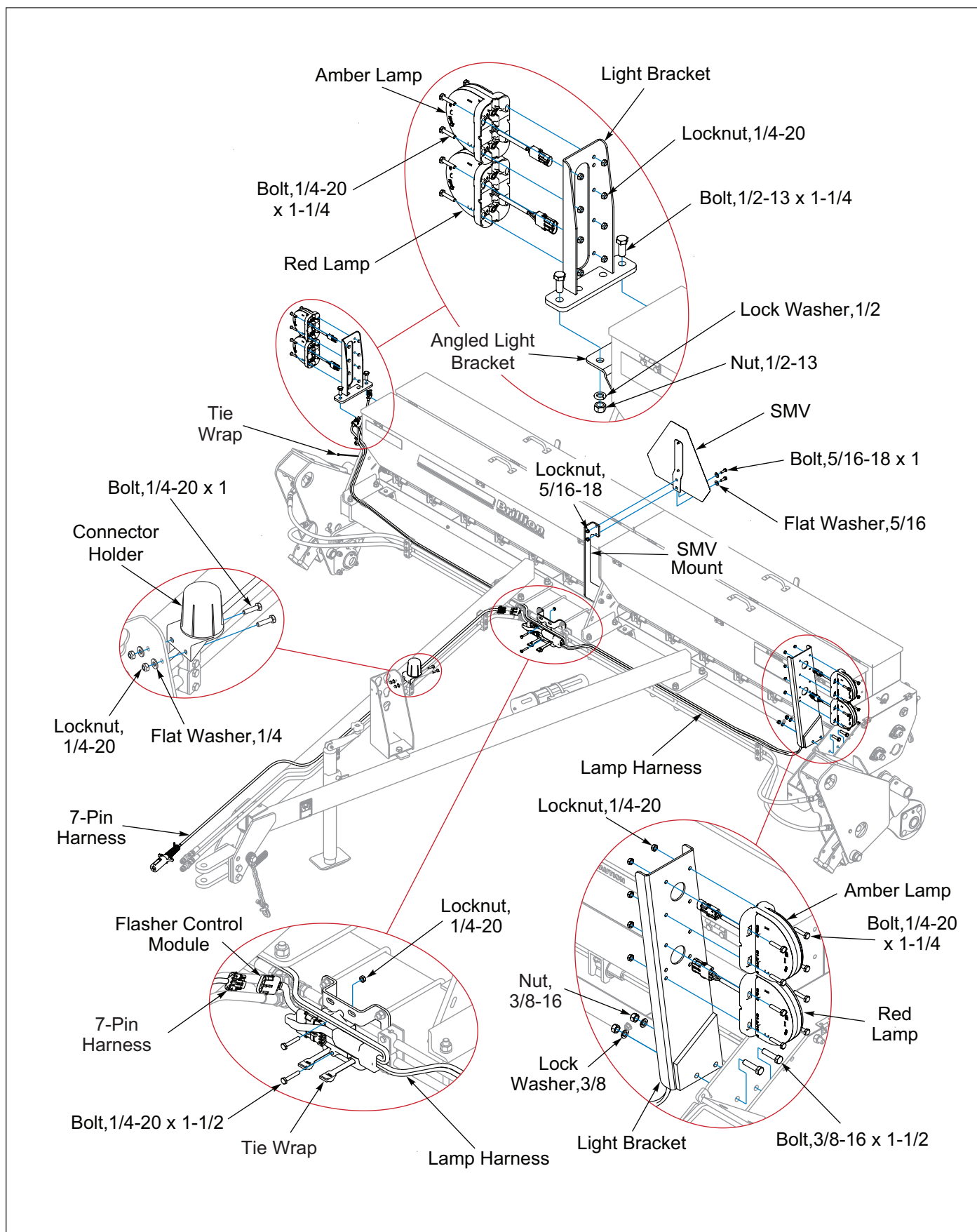


Figure 2-15: Warning Lamp Installation, 8FT and 10FT

Warning Lamp Installation, 12FT

NOTE

12FT 3-PT model is shown, drawbar model similar.

1. Place a Red Lamp at each end of the Light Bar and insert the Red Lamp cord into the Light Bar cutout. Secure Red Lamps to Light Bar with 1/4-20 x 1-1/4 Bolts and Locknuts. **See Figure 2-17.**
2. Attach longer Light Bracket to the Transmission located on the left side of the Seeder, with 3/8-16 x 1-1/2 Bolts, Lock Washers and Nuts.
3. Attach an Amber Lamp to the upper portion of the longer Light Bracket with 1/4-20 x 1-1/4 Bolts and Locknuts.
4. On the right side of the Seeder attach the shorter Light Bracket to the Angle Bracket with 1/2-13 x 1-1/4 Bolts, Lock Washers and Nuts.
5. Attach an Amber Lamp to the upper portion of the Light Bracket with 1/4-20 x 1-1/4 Bolts and Locknuts.
6. Attach the Flasher Control Module to the Module Bracket with 1/4-20 x 1-1/2 Bolts and Locknuts. **See Figure 2-16.**

IMPORTANT

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

7. Lay out the Lamp Harness along the Seeder Frame Tube, Cords with Yellow Tape Left and Cords with Green Tape Right. Connect the Harness to the Flasher Control Module 6-Prong Connector.
8. Route the left and right cords along the front of the Frame Tube. Route the 3-Prong Connector Cords into the Light Bar vertical tube openings up to the Red Lamps and connect. Continue routing the 2-Prong Connector Cord along the front of the frame, up the outer Light Bracket to the Amber Lamps and connect.
9. Lay out the 7-Pin Harness along the 3-PT Hitch or Drawbar with the 4-Prong Connector towards Seeder. 3-PT Hitch, route the 4-Prong Connector Cord through the Frame Loop to the Module. Drawbar, route the 7-Pin Harness along the Drawbar, through the Hose Support up to the Tractor. Connect 7-Pin Harness 4-Prong Connector to the Flasher Control Module.
10. Bundle and secure excess Cords to the Module Bracket with Tie Wraps. Along the Seeder Frame, secure Harness Cords with Tie Wraps to the frame end plate slots, Slotted Tabs and Hydraulic Hoses. Bundle and secure 7-Pin Harness to the Drawbar Hydraulic Hoses or 3-PT Hitch Frame Slots allowing enough Harness length to reach the Tractor Socket.

NOTE

If equipped with Electrical Clutch, install, route and secure Electric Clutch Harness with the Warning Lamp Harness.

IMPORTANT

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

11. Attach the SMV sign to the SMV Mount located on the center of the Light Bar with 5/16-18 x 1 Bolts, Flat Washers, and Locknuts.
12. Attach the Connector Holder to the 3-PT Hitch or Drawbar Hose Holder with 1/4-20 x 1 Bolts, Flat Washers, and Locknuts.

NOTE

The 7-Pin plug on the other end of the 7-Pin Harness connects to the Tractor Socket when in use. When not in use, it can be stored in the Connector Holder on the 3-PT Hitch or Drawbar Hose Holder. Allow enough Harness length to reach Tractor Socket and roll or fold up excess and secure to Drawbar Hydraulic Hoses or 3-PT Hitch.

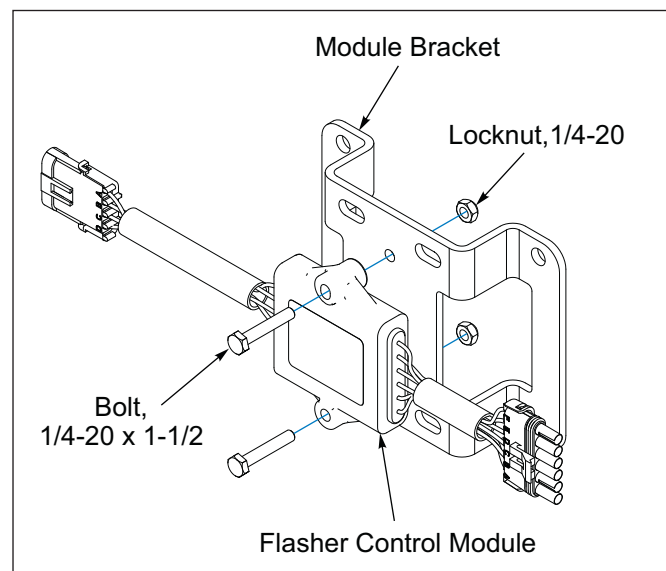


Figure 2-16: Flasher Control Module and Bracket

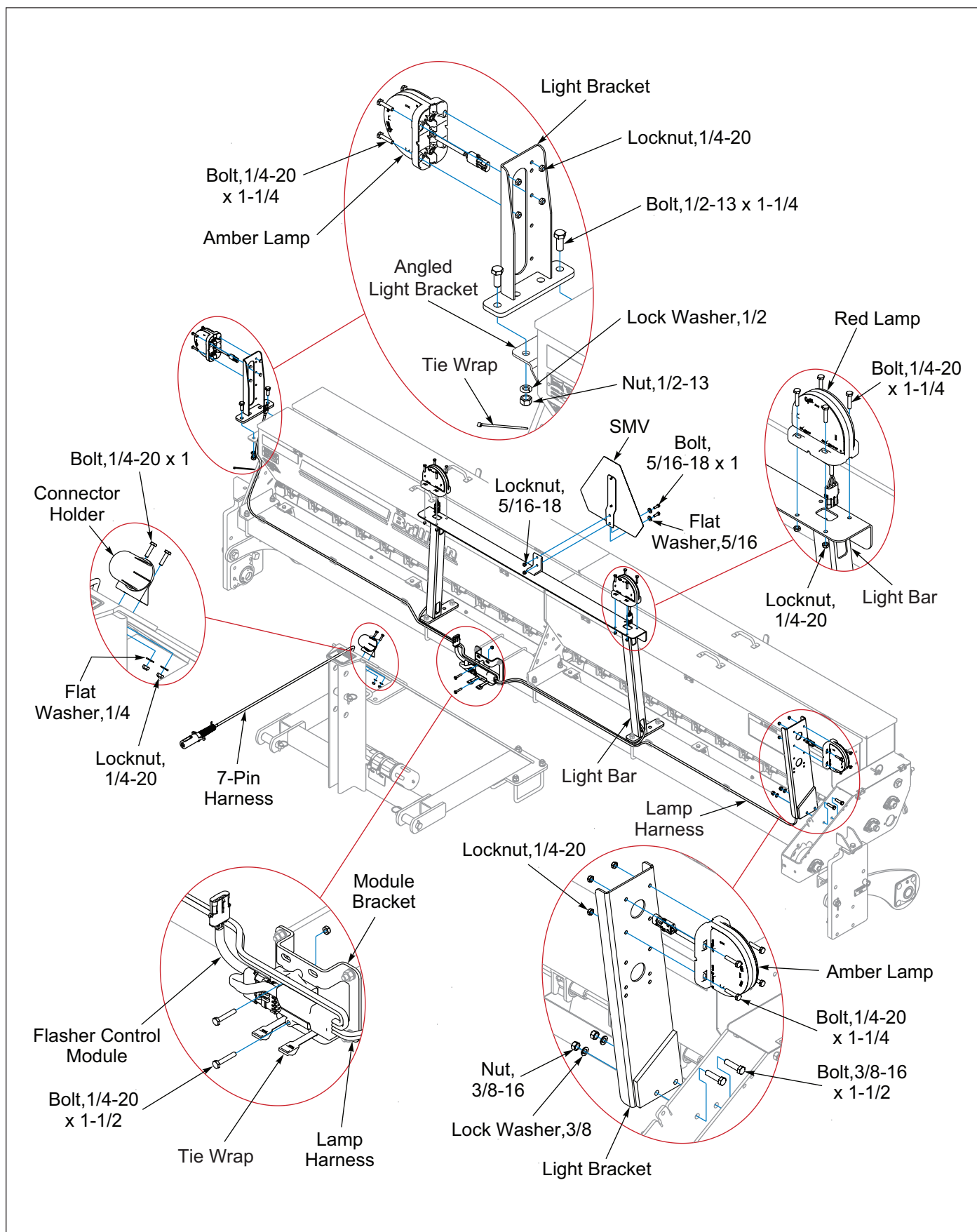


Figure 2-17: Warning Lamp Installation - 12FT

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Table provided for general use.

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Electric Clutch Kit - Optional

IMPORTANT

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

1. Verify that the Electric Clutch has 1/8" clearance between the Clutch Housing and Rubber Bumper Stop. Improper clearance may prevent the Clutch from engaging or disengaging. **See Figure 2-18.**

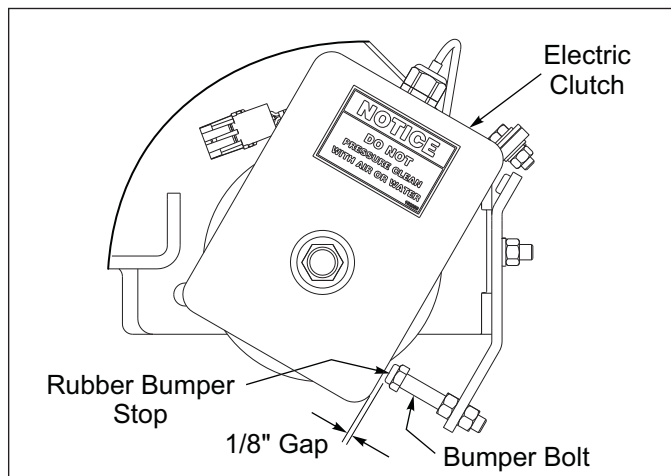


Figure 2-18: Clutch Detail

2. Connect Clutch Harness or Seeder Harness 2-Pin Connector to Clutch Lead and route along Frame and Drawbar/3-PT Hitch. Secure to Frame and Drawbar/3-PT Hitch or to Hydraulic Hoses and Warning Lamp Harness with tie wraps. **See Figure 2-19.**

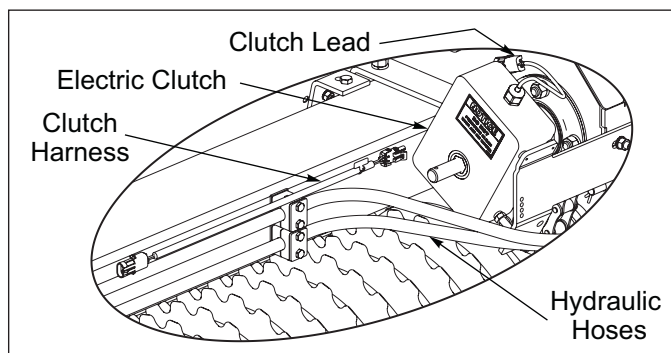


Figure 2-19: Clutch Harness

3. Install Clutch Switch Box or Monitor on Tractor in a convenient location with Hook and Loop Tape or Brackets included or another type of mount (not included).
4. **Clutch Switch Box:** Connect Clutch Harness to Clutch Switch Box Cord. Connect Clutch Switch Box Cord with Ring Terminals to tractor power source. **See Figure 2-20.** Ring Terminals can be removed and replaced with a different power source connector.

Brillion Elite Mini Monitor: 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. Connect 240" Extension Harness to Seeder Harness. Secure Harnesses with tie wraps.

5. Check Electric Clutch Operation. The Electric Clutch will disengage 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 to "ON/SEED" and "OFF/NO SEED". The Seed Shaft will stop rotating when Monitor or Toggle Switch is set to "OFF/NO SEED".
6. Set Monitor or Toggle Switch to "ON/SEED" position when Seeder is not used to shut off power to prevent possible overheating of Clutch Coil.

Electric Clutch Attributes:

- The Electric Clutch is controlled by a Touch Screen Monitor or a Toggle Switch Box mounted to the Tractor.

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

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

Console w/Clutch Control: Toggle Switch on the Console, turns the Seeder Clutch to "SEED" or "NO SEED".

- The Electric Clutch is disengaged when power (12 Volts) is applied. If there is a power failure or electrical problem, the Seeder will continue to operate, so the machine must be raised to stop seeding.
- Seed Shafts will not rotate when the machine is backed up.
- The Clutch Switch Box contains a 5 Amp Time-Delay Fuse.
- The Electric Clutch must be disengaged (power applied) when Seed Shafts are turned manually for Calibration.

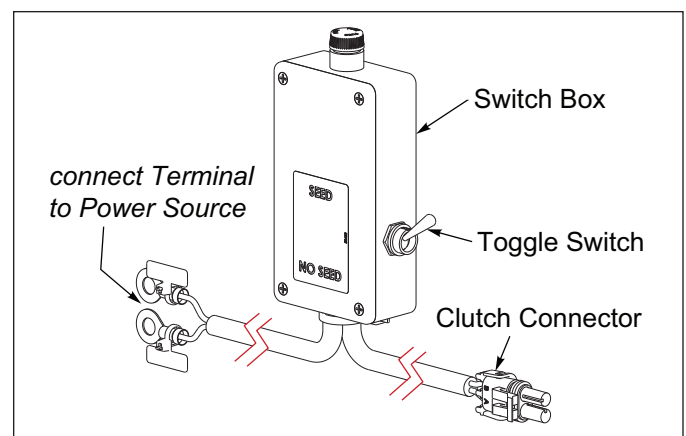


Figure 2-20: Switch Box Assembly

Brillion Elite Mini Monitor - Optional

Assembly instruction for models **equipped** with Clutch. Unit **MUST** have a Clutch to be compatible with the Brillion Elite Mini 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 is 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.

Refer to Brillion Elite Mini Monitor Electrical Schematic. See Figure 2-25.

1. Lay out the Seeder Harness on the front of the Seeder ensuring that the Electric Clutch 2-Pin Connector is on the left side. The Seeder Harness 24" Branch connects to the LH Bin Level Sensor.
2. Remove Seeder Clutch. Install Actuator Assembly onto the Quill Shaft outer diameter, securing with Actuator Assembly Set Screw. Reinstall Clutch. See Figure 2-26. Install Pick-Up Switch Bracket to the Transmission Input Shaft Bearing Flangette Hardware. Assemble Smart Shaft Sensor onto the Pick-Up Switch Bracket with sensor provided hardware and #8-32 Flange Locknuts. Adjust the Smart Shaft Sensor so that it is 1/8" Max away from the Actuator Assembly. See Figure 2-21. Connect Ground Speed Smart Shaft Sensor to the Center Seeder Harness.
3. Front RH side Seed Box between the 1st and 2nd Seed Meters, place 2 x 1/4 x 1/16 Magnet on the Seed Shaft. Secure with Magnet Collar. See Figure 2-27. Remove the 2nd and 3rd Seed Meter front Round Head Machine Screws that mounts the Seed Meter to the Seed Box and replace them with 1/4-20 x 3/4 Round Head Machine Screws. Install the Sensor Mount on the 1/4-20 x 3/4 Machine Screws. Secure with Flat Washers, Lock Washers and Nuts.

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 Magnet Collar on the Seed Shaft. See Figure 2-24. Connect the Smart Seed Shaft Sensor to the Seeder Harness.

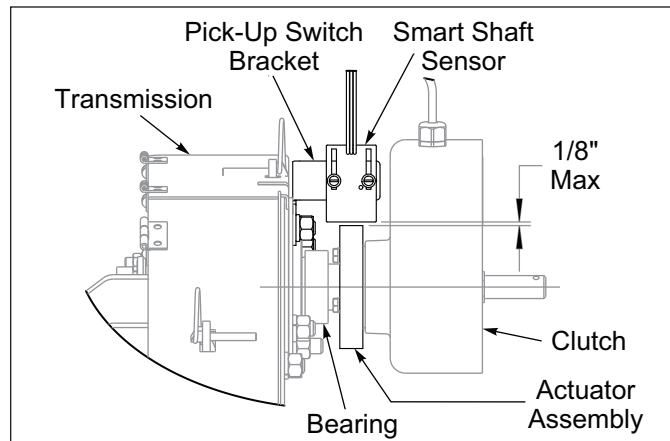


Figure 2-21: Ground Speed Sensor Detail

4. RH Brome Seed Box end, remove 3-Hole Retainer Plate and replace it with 5-Hole Retainer Plate. See Figure 2-28. Slide Magnet Mount Assembly onto Seed Shaft up tight against the Roll Pin. Secure to Seed Shaft by tightening Magnet Mount Assembly Set Screws. Install a Smart Shaft Sensor to the Retainer Plate with sensor provided hardware and #8-32 Flange Locknuts. Adjust the Smart Shaft Sensor so that it is 1/8" Max away from the Magnet Mount Assembly on the Seed Shaft. See Figure 2-22. Connect the Smart Shaft Sensor to the Seeder Harness.

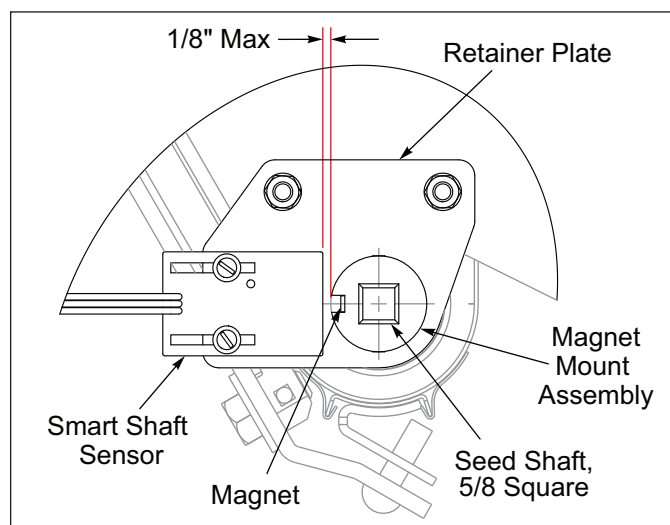


Figure 2-22: Rear Seed Box Smart Shaft Sensor Detail

5. The Seeder RH and LH ends only, remove the .803 Knockouts in the Seed Box. *Do Not remove the Knockouts in the Seed Boxes at the center of the Seeder.*

6. On the inside at either end of the Seed Box, install a Bin Level Sensor Bracket with the Seed Box Mounting 3/8-16 Hardware. **See Figure 2-29.** 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 2-23.** 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. Connect both Bin Level Sensors to the Seeder Harness.
7. 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.
8. Install Brillion Elite Mini Monitor on Tractor. **See "Brillion Elite Mini Monitor Tractor Installation - Optional" on Page 2-21.**
9. If not already installed, install Smart Clutch Relay into Elite Mini Tractor Harness 3-Pin Connectors.
10. 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.
11. Bundle and secure all Harnesses along the Seeder Frame and Drawbar/3-PT Hitch with Tie Wraps.
12. Program Bin Level Sensors and Smart Shaft Sensors if not already pre-programmed. **See "Brillion Elite Mini Monitor" on Page 4-1.**

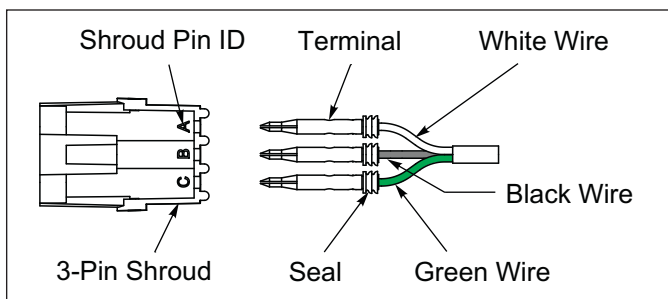


Figure 2-23: Bin Level Sensor Wire Detail

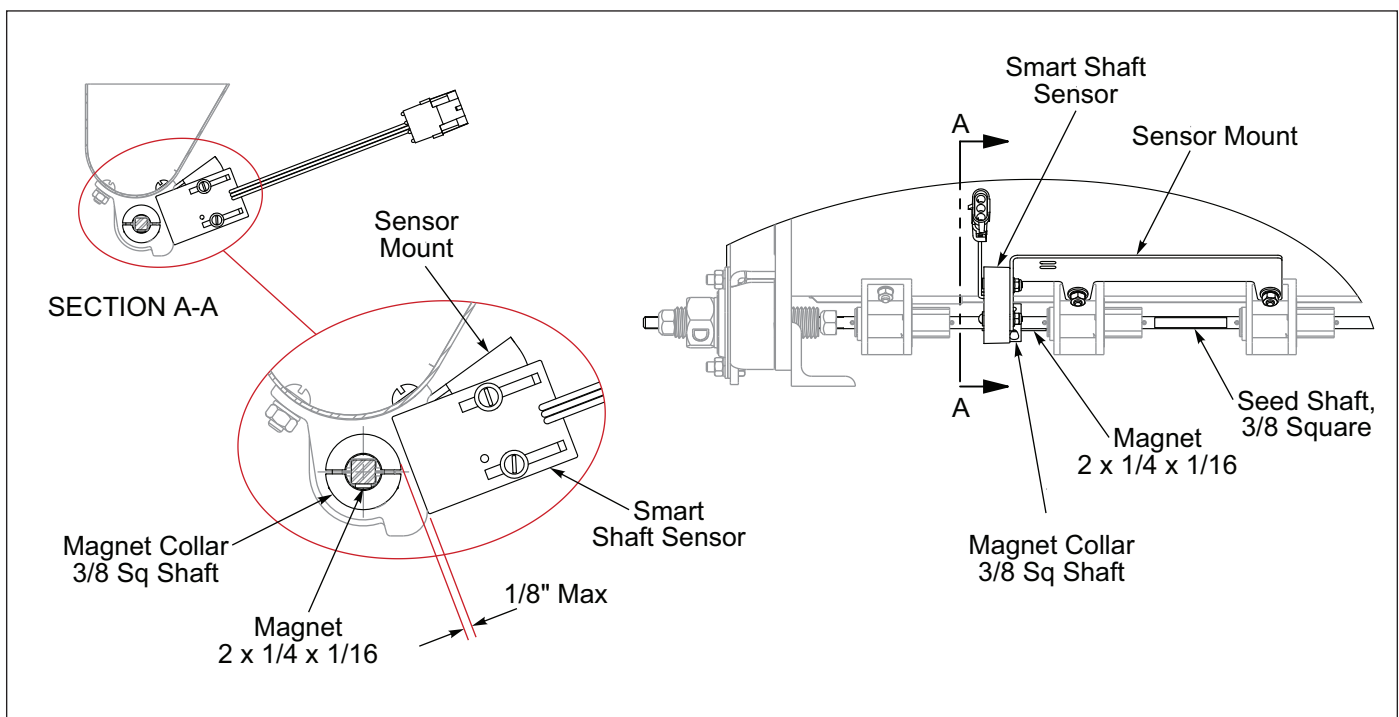


Figure 2-24: Front Seed Box Smart Shaft Sensor Detail

Brillion Elite Mini Monitor Electrical Schematic

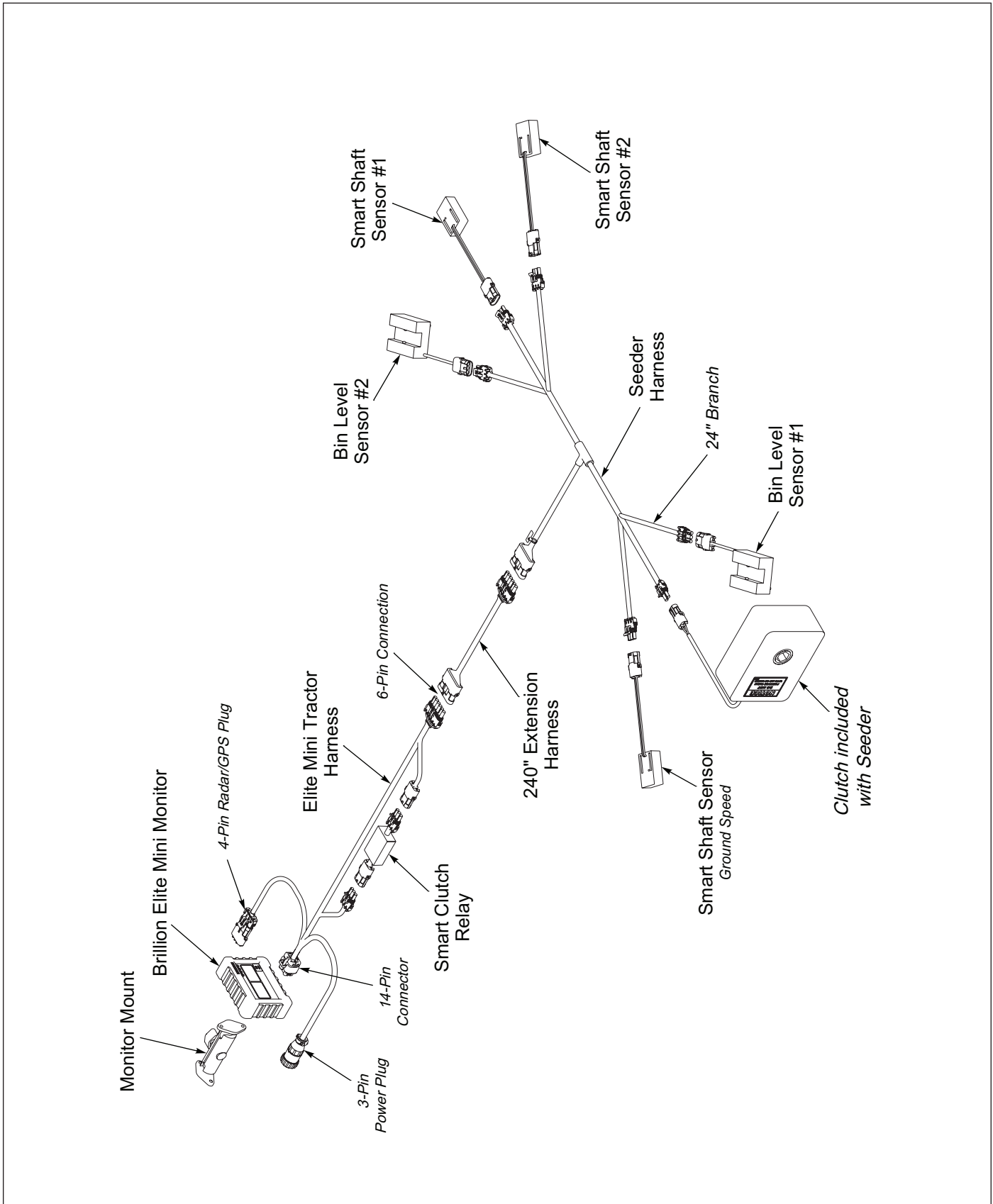


Figure 2-25: Brillion Elite Mini Monitor Electrical Schematic

Brillion Elite Mini Monitor - Ground Speed Sensor

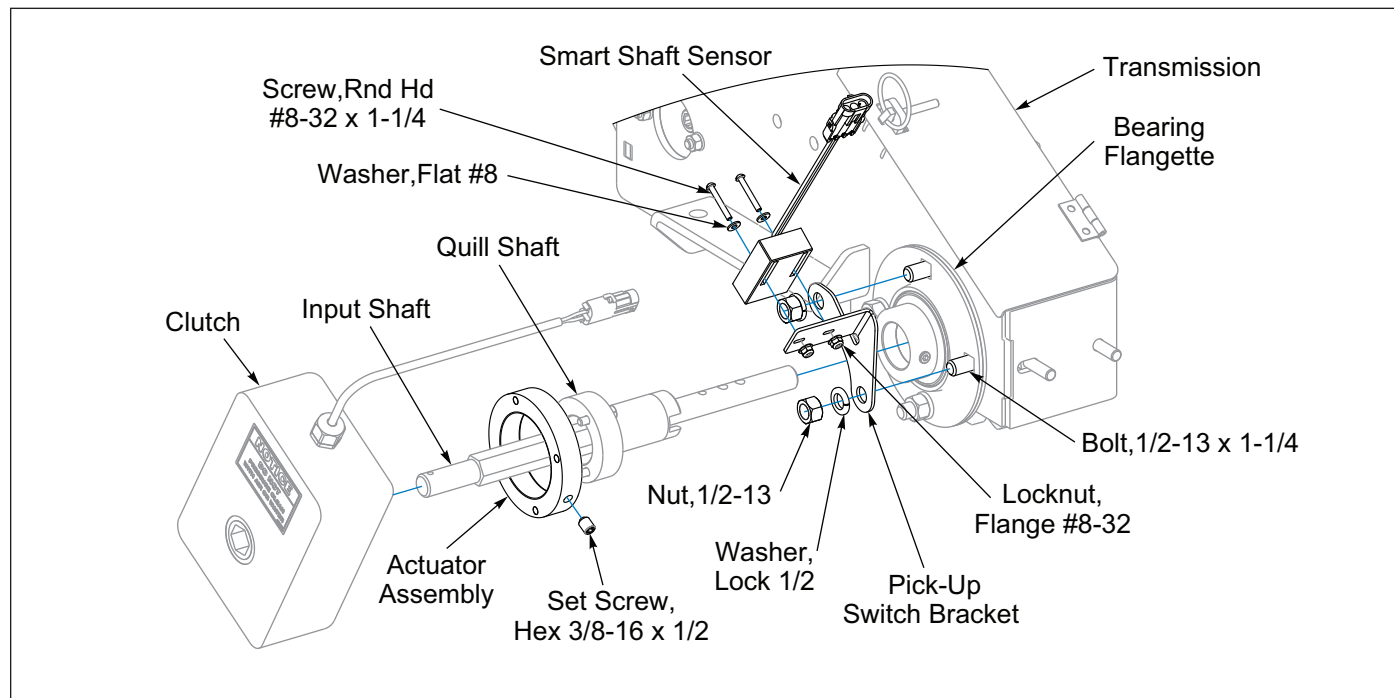


Figure 2-26: Brillion Elite Mini Monitor - Ground Speed Sensor

Brillion Elite Mini Monitor - Front Seed Box Seed Shaft Sensor

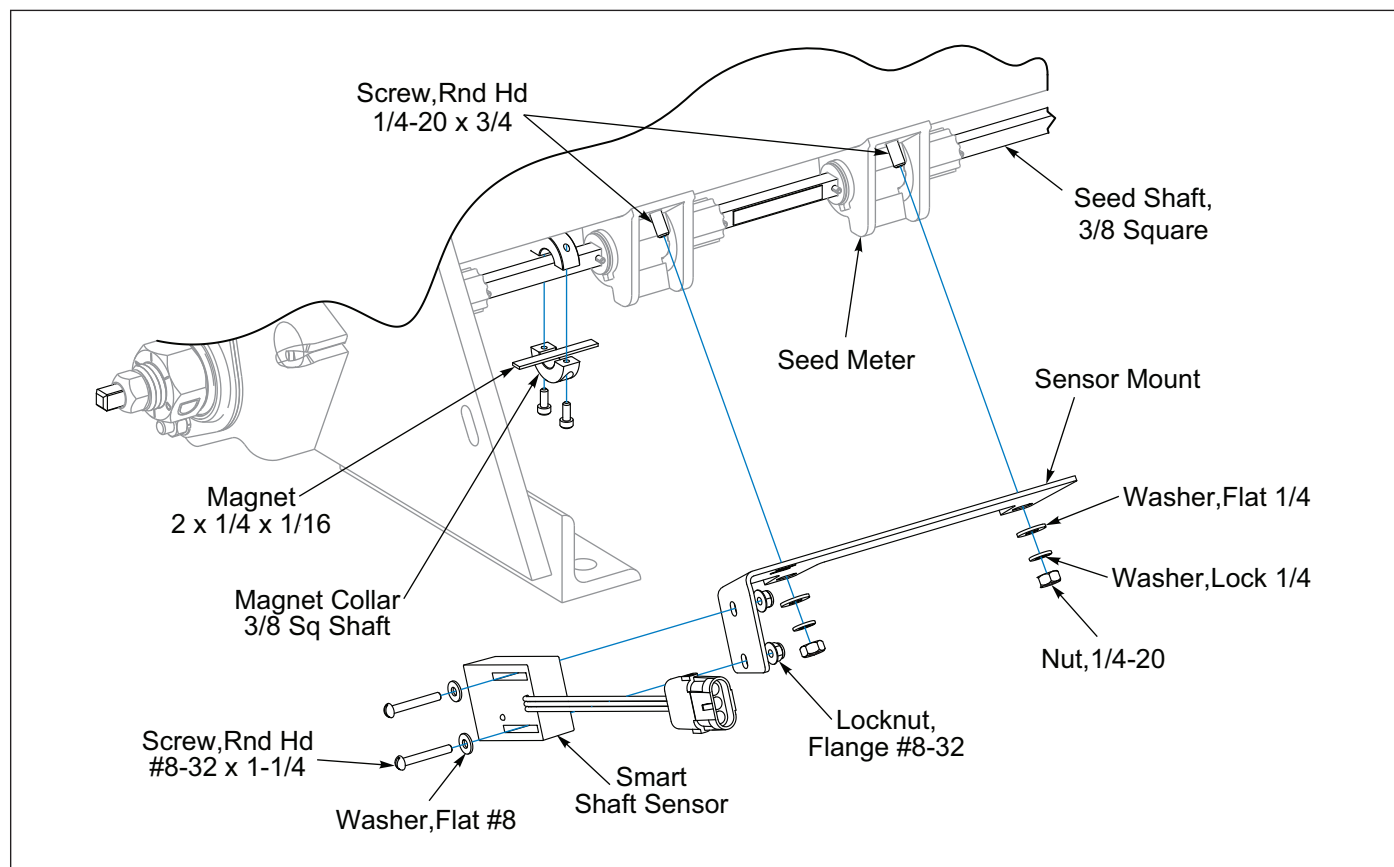


Figure 2-27: Brillion Elite Mini Monitor - Front Seed Box Seed Shaft Sensor

Brillion Elite Mini Monitor - Rear Seed Box Seed Shaft Sensor

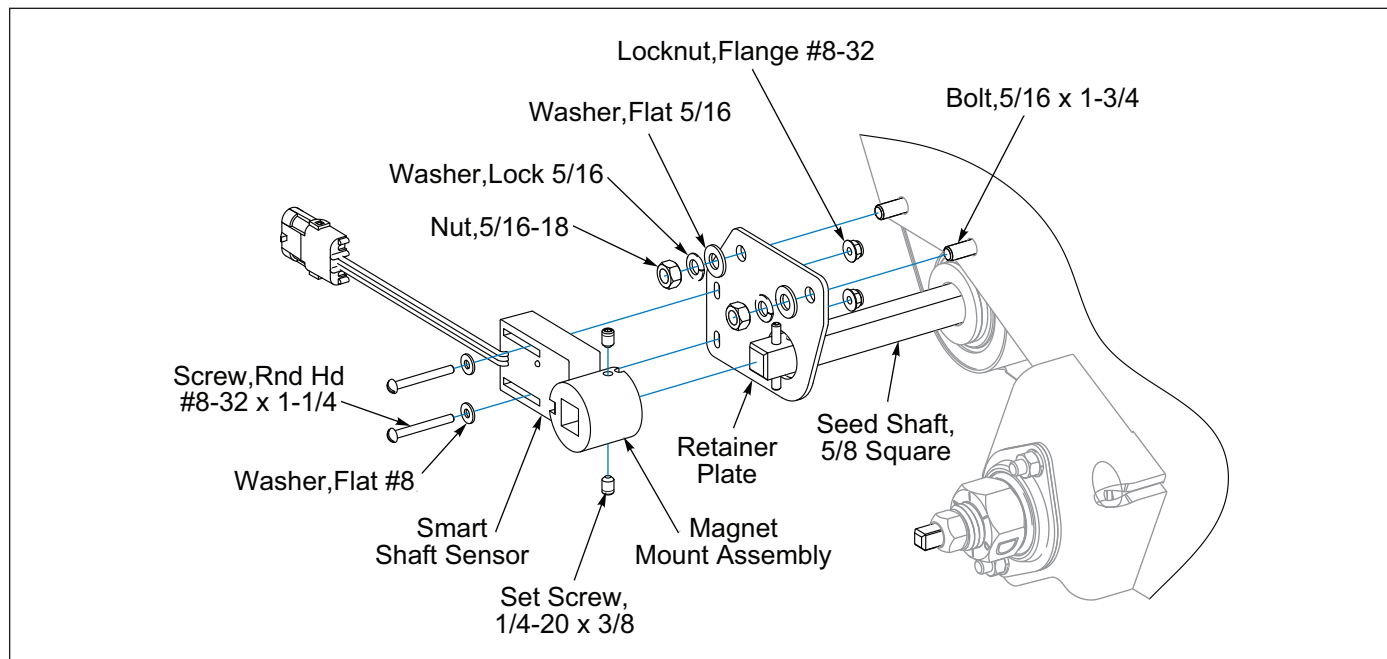


Figure 2-28: Brillion Elite Mini Monitor - Rear Seed Box Seed Shaft Sensor

Brillion Elite Mini Monitor - Bin Level Sensor

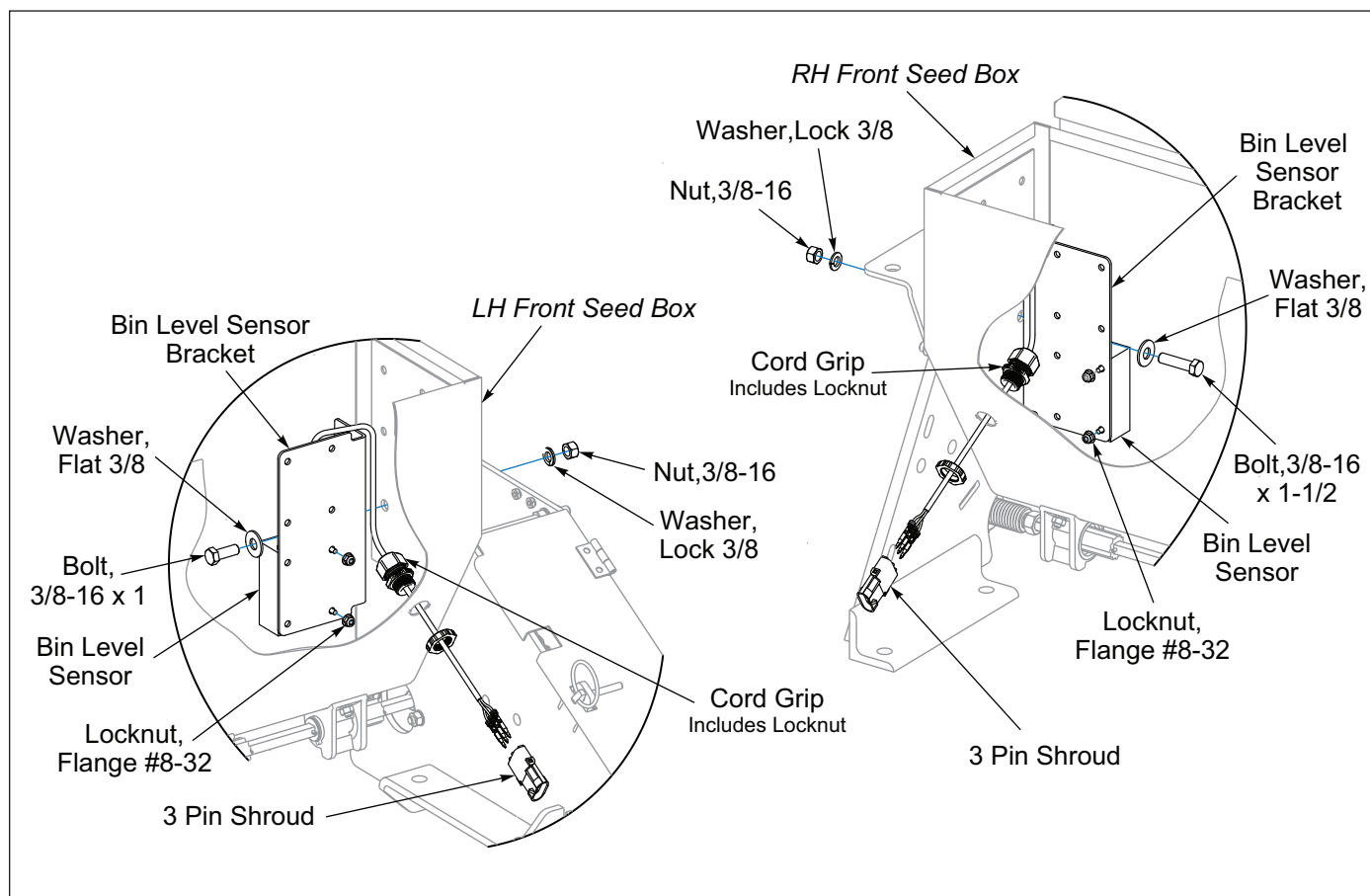


Figure 2-29: Brillion Elite Mini Monitor - Bin Level Sensor Bracket

Brillion Elite Mini Monitor Tractor Installation - Optional

1. Mount Angle Bracket onto Tractor where convenient for the operator. **See Figure 2-30.**
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.**

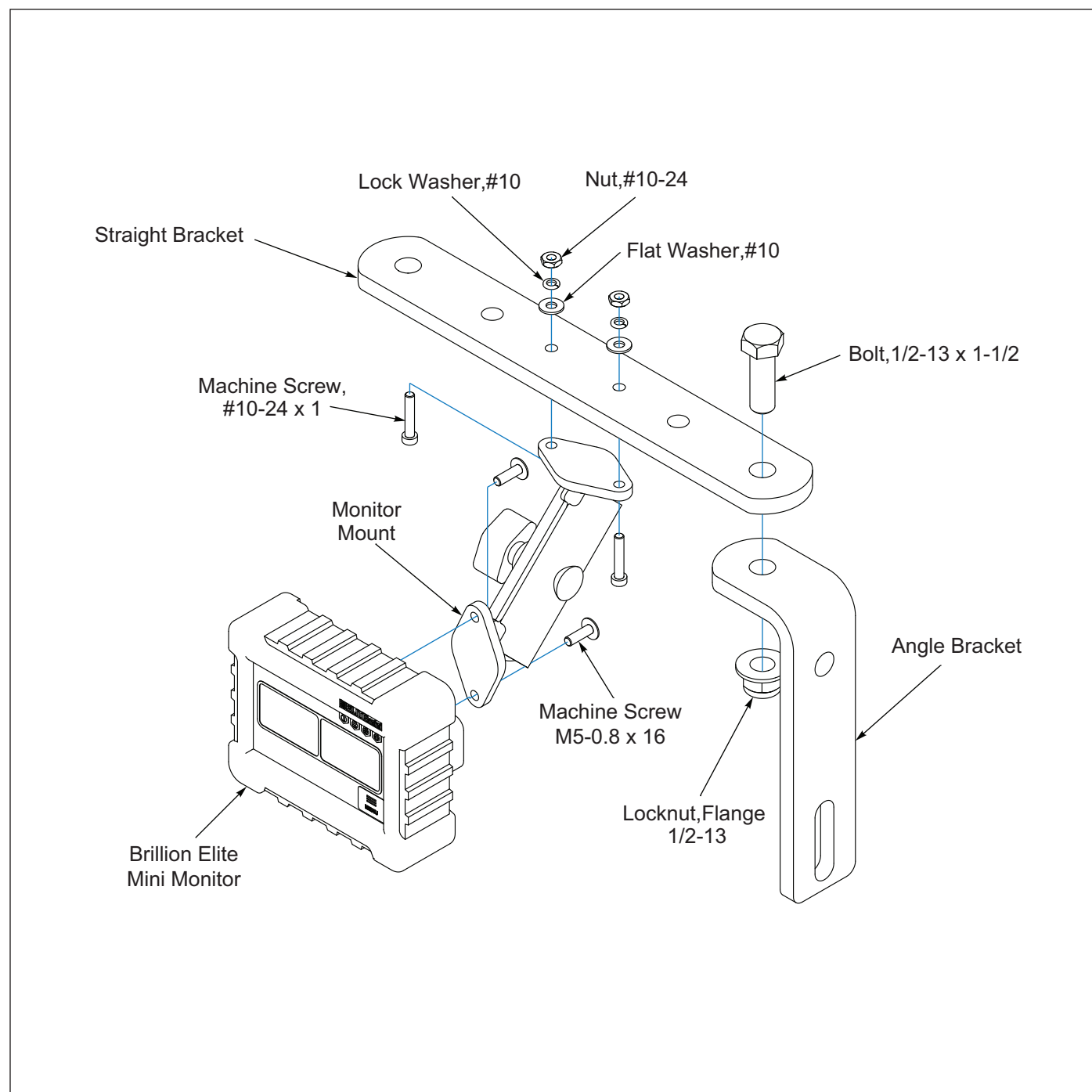


Figure 2-30: Brillion Elite Mini Monitor Tractor Installation - Optional

Acre Meter Kit - Optional

Not Used with Brillion Elite Mini Monitor

P/N 5K745 - Transmission w/o Clutches

P/N 5K275 - Transmission w/ Clutches

The Acre Meter Kit consists of three main parts, the Acre Meter, the Pick-Up Switch and the Magnet Wheel Assembly. The Acre Meter Assembly is mounted on the left side of the Front Seed Box.

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

1. Use the Acre Meter Bracket as a guide and drill two 13/32" holes into the left Seed Box.
2. Attach the Acre Meter Bracket to the Seed Box with 3/8-16 x 1 Bolts, Flat Washers, Lock Washers and Nuts. **See Figure 2-31.**

3. **Transmission w/o Clutch:** Attach the Pick-Up Switch Bracket to the front of the Transmission with 3/16 x 1-1/4 Bolts, Lock Washers and Nuts.

Transmission w/ Clutch - Optional: Attach the Pick-Up Switch Mount to the Clutch Bracket with #10-24 x 3/4 Screws, Lock Washers and Nuts. **See Figure 2-33.**

4. Attach the Pick-Up Switch to the top of the Pick-Up Switch Bracket/Mount with two #8-32 x 1-1/4 Machine Screws, Flat Washers, Lock Washers and Nuts. Do not tighten Screws at this time.
5. Press the Magnet Wheel Assembly onto the Transmission Shaft until it is vertically centered with the Pick-Up Switch.
6. Adjust the Pick-Up Switch and Pick-Up Switch Bracket so the centerline of the Magnet Wheel Assembly and Pick-Up Switch are horizontally and vertically aligned with maximum 1/8" between the Magnet Wheel Assembly and Pick-Up Switch. Tighten all Screws. **See Figures 2-32 and 2-33.**

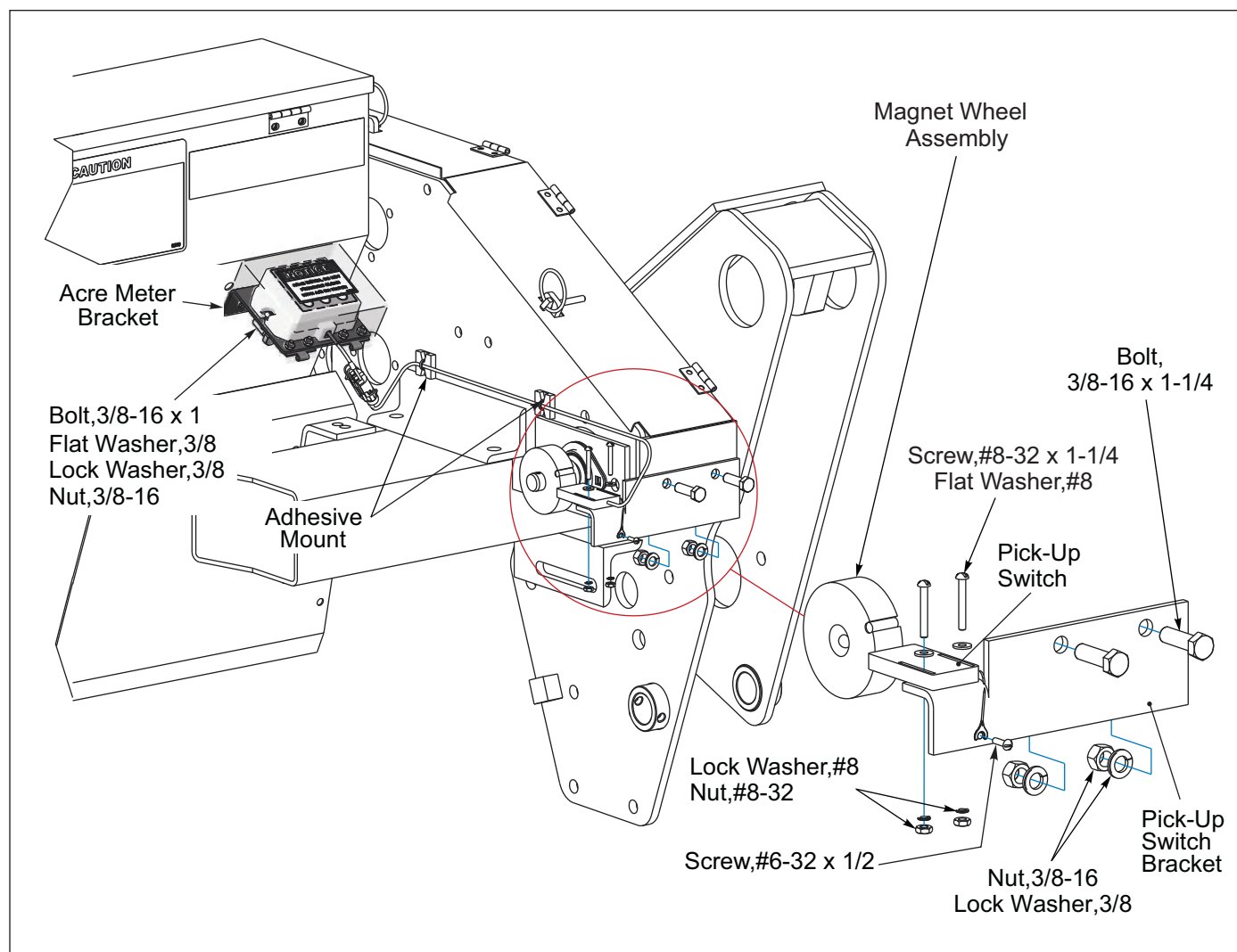


Figure 2-31: Electronic Acre Meter

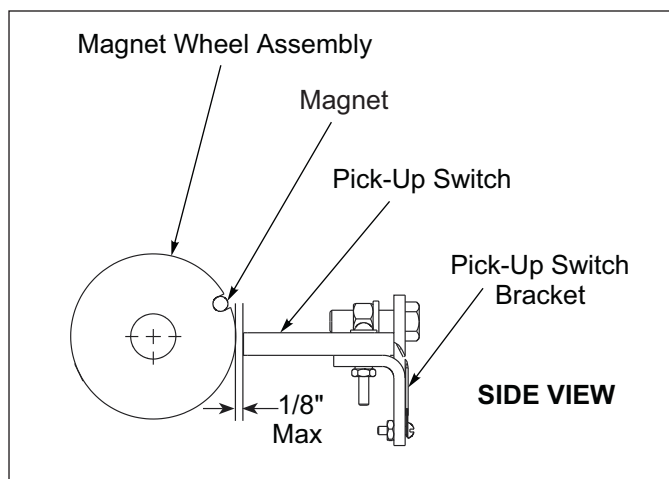


Figure 2-32: Pick-Up Switch Detail

7. Attach the Pick-Up Switch Ground Wire to the small hole in the Pick-Up Switch Mount with a #6-32 x 1/2 Screw, removing paint under the wire connector to assure a good electrical ground connection.
8. Plug the Extension Harness into the Acre Meter Cord.
9. Route the cord from the Acre Meter down the front of the Seed Box to the Pick-Up Switch and connect the mating plugs.
10. Securely fasten the cords to the Seed Box and Transmission with the Adhesive Mounting Plates and tie wraps to prevent the Cords from becoming entangled or rubbing moving parts.
11. Program the Acre Meter. See **“Settings for Loup Acre Meters”** on Page 3-19.

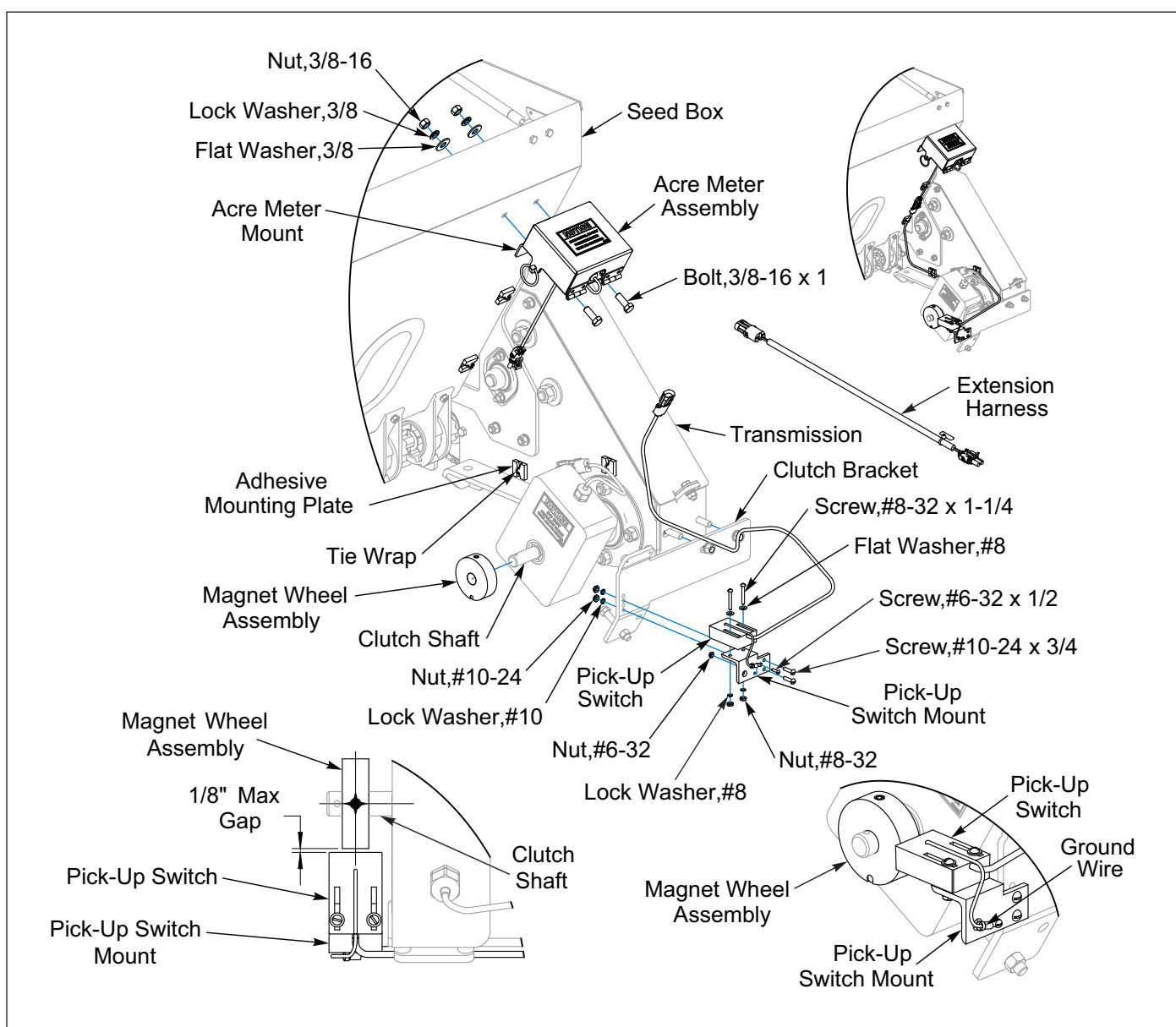


Figure 2-33: Electronic Acre Meter w/Clutch

Console w/Clutch Control Installation - Optional

Mount Console with Clutch Control on Tractor.

1. Route Console Harness with 9-Pin Connector to the Seeder Harness.
2. Attach 3-Pin Power Plug to Tractor.
3. Secure Console Harness with tie wraps.
4. Route Seeder Harness along front frame of seeder. Ensure Connector labeled "Electric Clutch Power" is on the left side.
5. On left side connect plug labeled "Electric Clutch Power" to the Electric Clutch lead. If you do not have

an Electric Clutch, seal the plug end using a 2-Pin Shroud and Cavity Plug to protect it from the environment. **See Figure 2-34.**

6. Connect plug labeled "Left Front Seed Shaft Sensor" to the left front Seed Shaft Sensor.
7. If you have a double box seeder connect the plug labeled "Left Rear Seed Shaft Sensor" to the left rear Seed Shaft Sensor. Otherwise, seal the plug end using a 3-Pin Tower and Cavity Plugs to protect it from the environment.
8. Repeat for the right side.
9. Secure all Harnesses and Wires with cable tie and tie wraps.

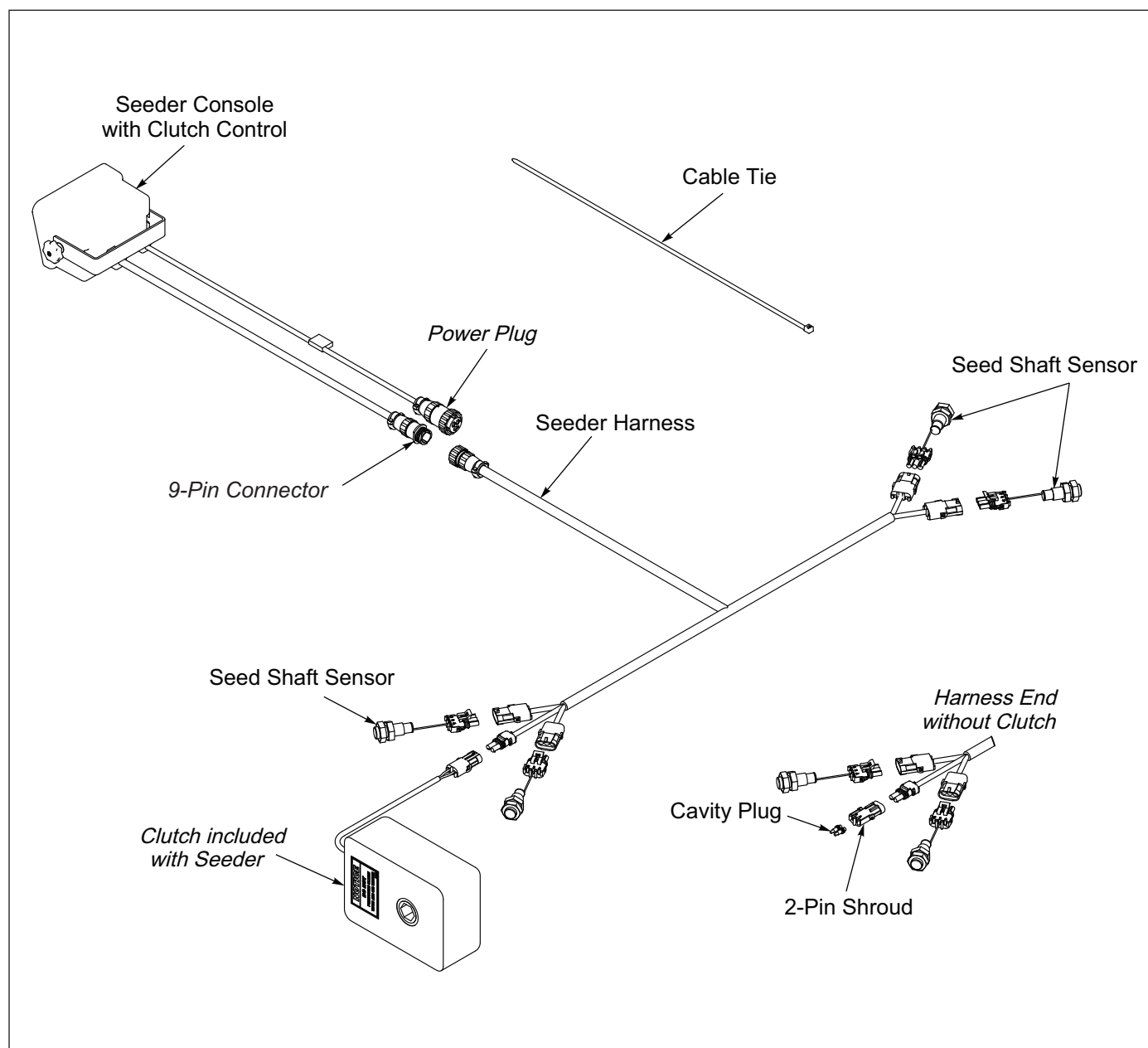


Figure 2-34: Sensor Schematic

Console w/Clutch Control - Front Seed Shaft Sensor - Optional

1. Remove the four 10-24 x 3/4 Self Tapping Screws from the Magnet Wheel Assembly. **See Figure 2-36.** Position the rounded half of the Magnet Wheel Assembly on the seed shaft. Ensure it fits squarely onto shaft. Mount magnet half to the rounded half. Ensure it fits squarely onto shaft.
2. Fasten the two halves together using four #10-24 x 3/4 Self Tapping Screws. *Do not over tighten.*
3. Identify the seed cups on either side of the Magnet Wheel Assembly and remove the 1/4-20 hardware.
4. Insert Sensor into Shaft Sensor Bracket slot. *Note: 8 and 10 foot seeders use Sensor Bracket with 8-1/2" spacing.*
5. Insert a 1/4-20 x 3/4 Machine Screw into each seed cup. Align the Shaft Sensor Bracket with the two 1/4-20 x 3/4 Screws. Secure with existing Lock Washers and Nuts.
6. Slide/Position Seed Shaft Sensor so it is 1/8" from the magnet. **See Figure 2-35.** Tighten both Retaining Locknuts.

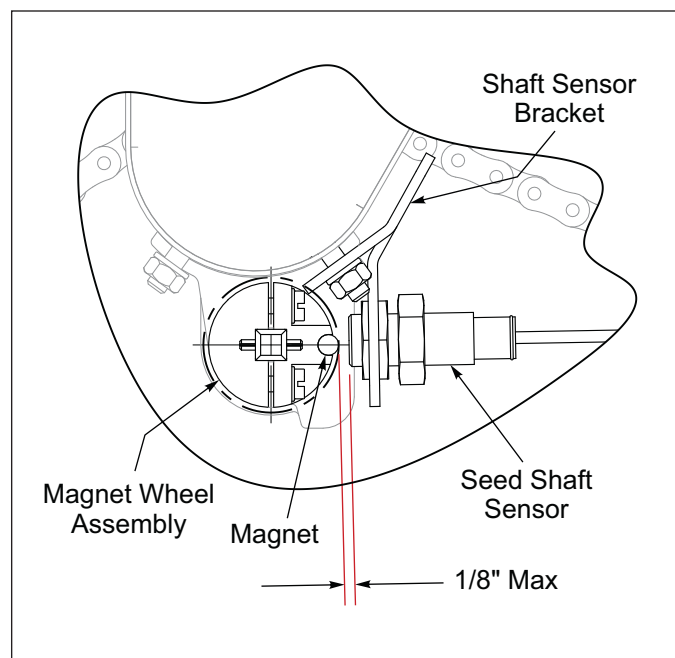


Figure 2-35: Console w/Clutch Control - Front Seed Box Shaft Sensor Detail

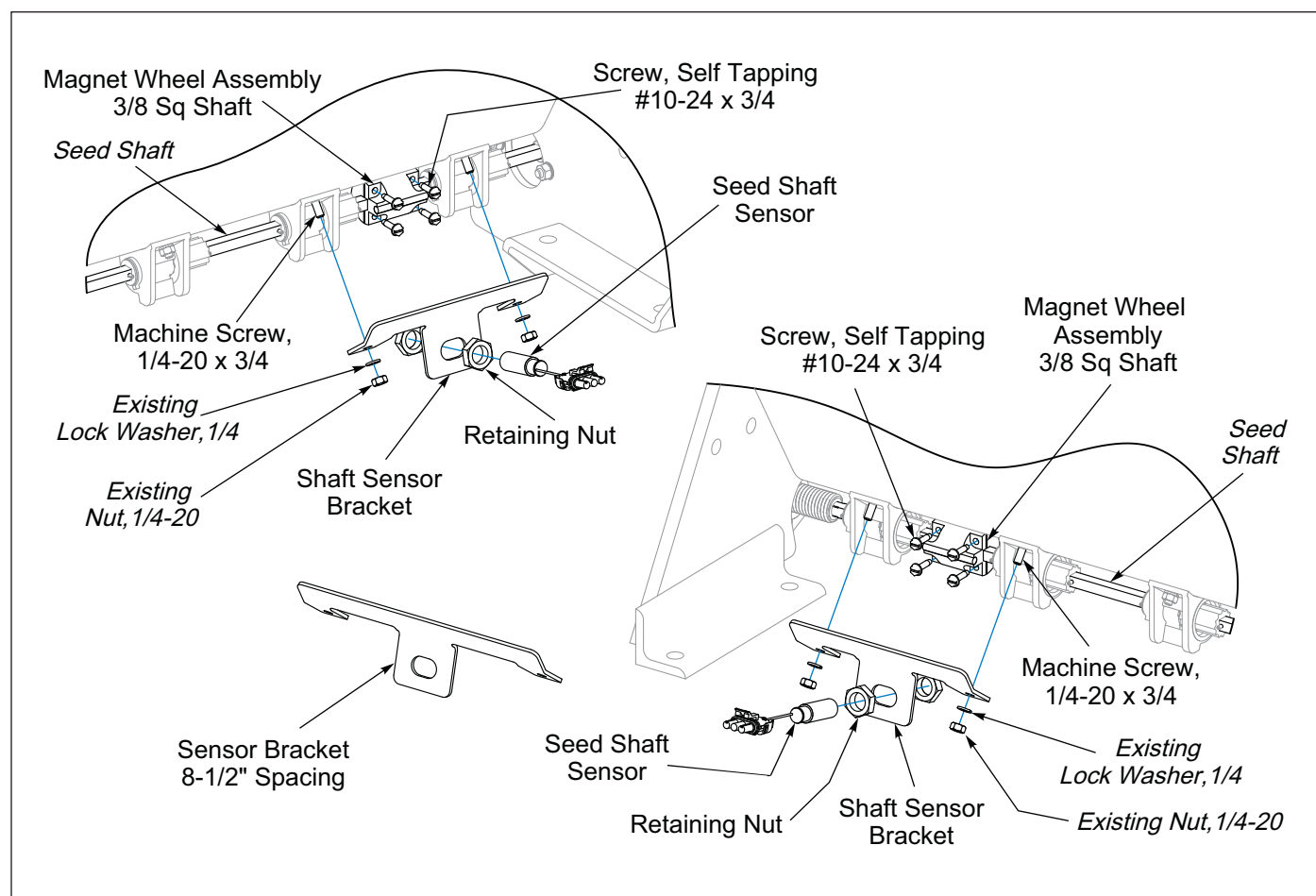


Figure 2-36: Console w/Clutch Control - Front Seed Box Seed Shaft Sensor

Console w/Clutch Control - Rear Seed Shaft Sensor - Optional

1. At the Transmission/left side of Seeder remove 1/4 x 1-1/2 Roll Pin from Seed Shaft Coupler. **See Figure 2-38.**
2. Replace Coupler with Coupler with Magnet, insert existing Roll Pin.
3. Insert Sensor into Shaft Sensor Bracket slot.
4. Insert 5/16-18 x 1" Bolts through Transmission Case.
5. Align the Shaft Sensor Bracket with the two Bolts. Secure with Flat Washers, Lock Washers and Nuts.
6. Slide/Position Seed Shaft Sensor so it is 1/8" from the magnet. **See Figure 2-37.**
7. Tighten both Retaining Nuts.

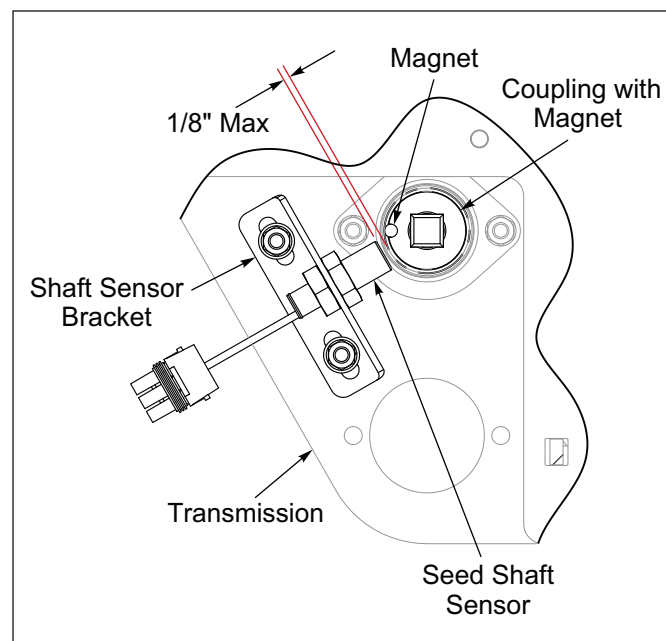


Figure 2-37: Console w/Clutch Control LH Rear Seed Shaft Sensor Detail

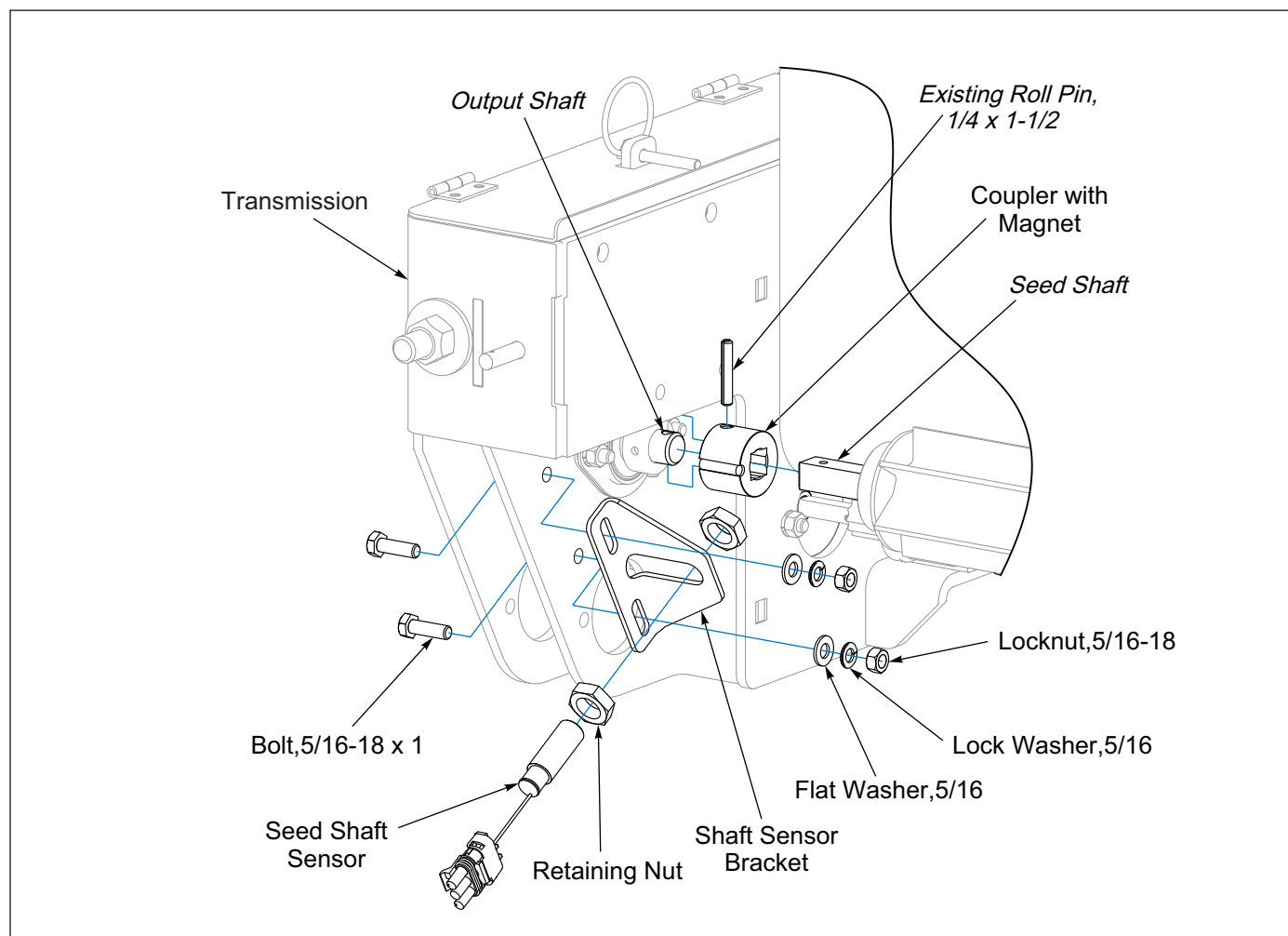


Figure 2-38: Console w/Clutch Control LH Rear Seed Box Seed Shaft Sensor

8. On the right hand side of Seeder, slide Magnet Mount Assembly onto Seed Shaft, ensure groove is aligned with Seed Shaft Roll Pin. Secure Set Screw to Seed Shaft. **See Figure 2-40.**
9. Remove 5/16-18 x 1-3/4 Bolts, Nuts and Lock Washers from the Seed Shaft Retaining Plate.
10. Replace with 5/16-18 x 2 Bolts. Align the Shaft Sensor Bracket with the two 5/16-18 x 2 Bolts. Secure with Flat Washers and existing Lock Washers and Nuts.
11. Insert Sensor into Shaft Sensor Bracket slot.
12. Slide/Position Seed Shaft Sensor so it is 1/8" from the magnet. **See Figure 2-39.** Tighten both Retaining Nuts.

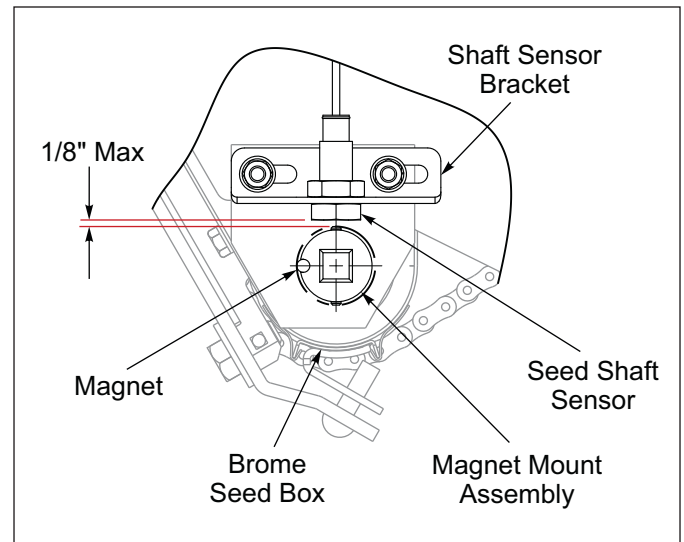


Figure 2-39: Console w/Clutch Control RH Rear Seed Shaft Sensor Detail

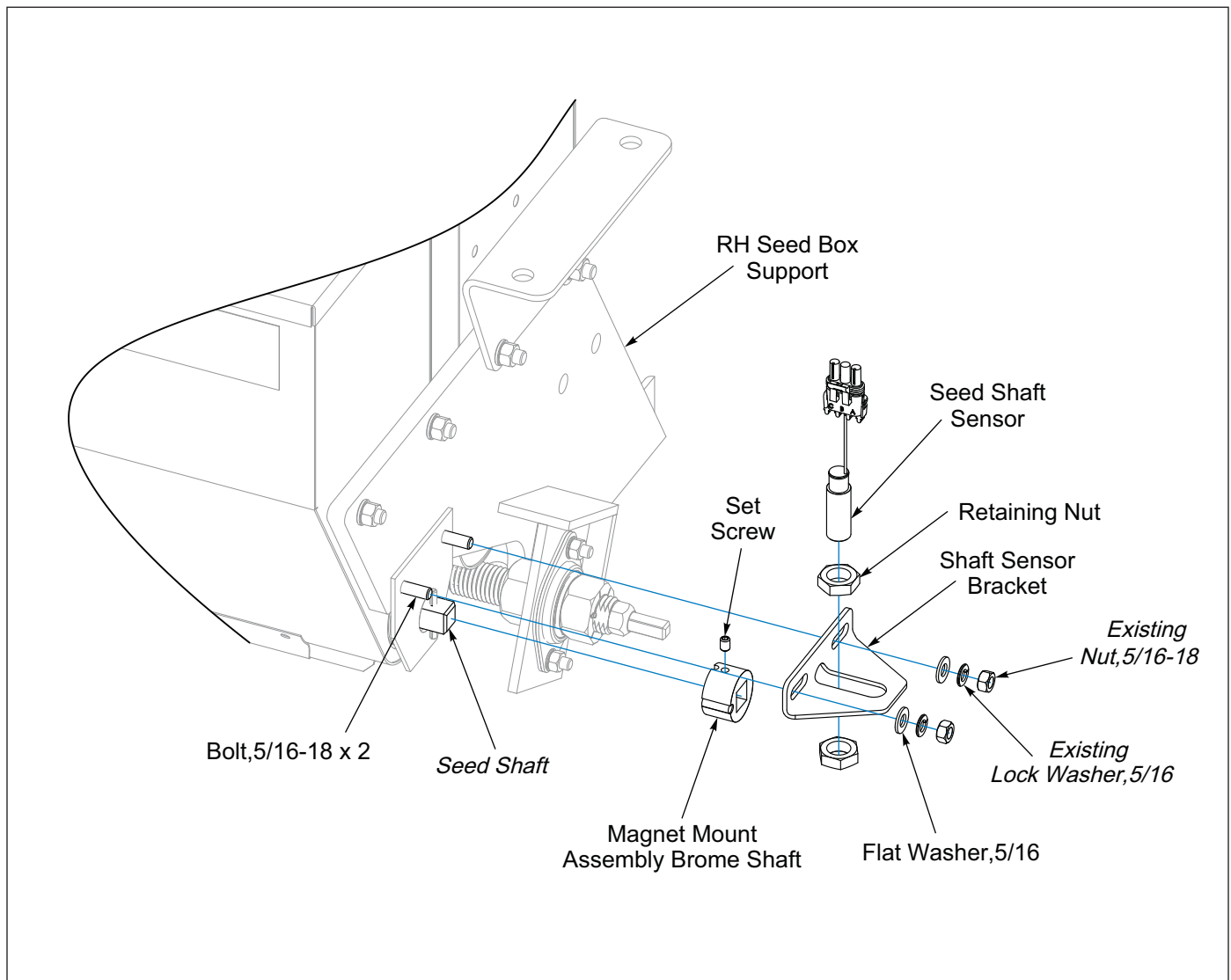


Figure 2-40: Console w/Clutch Control RH Rear Seed Box Seed Shaft Sensor

Console w/Clutch Control Tractor Installation - Optional

1. Mount Angle Bracket onto Tractor where convenient for the operator. **See Figure 2-41.**
2. Attach Straight Bracket to Angle Bracket with 1/2-13 x 1-1/2 Bolt and Flanged Ny-Lok Nut.
3. Attach the Console to the Straight Bracket with 1/4-20 x 1 Bolt, Flat Washers and Locknut.
4. Plug Console 3-Pin Power Cord into the Tractor Convenience Outlet and 9-Pin Cord into the Seeder Harness.
5. Check clutch operation: Clutch will disengage when power is applied. (Clutch will make a clicking sound). Set seeder on the ground and drive a short distance while turning switch on and off. The seed shaft will stop rotating when switch is turned to **"NO SEED"** position. **See "Console w/Clutch Control - Optional" on Page 3-8.**

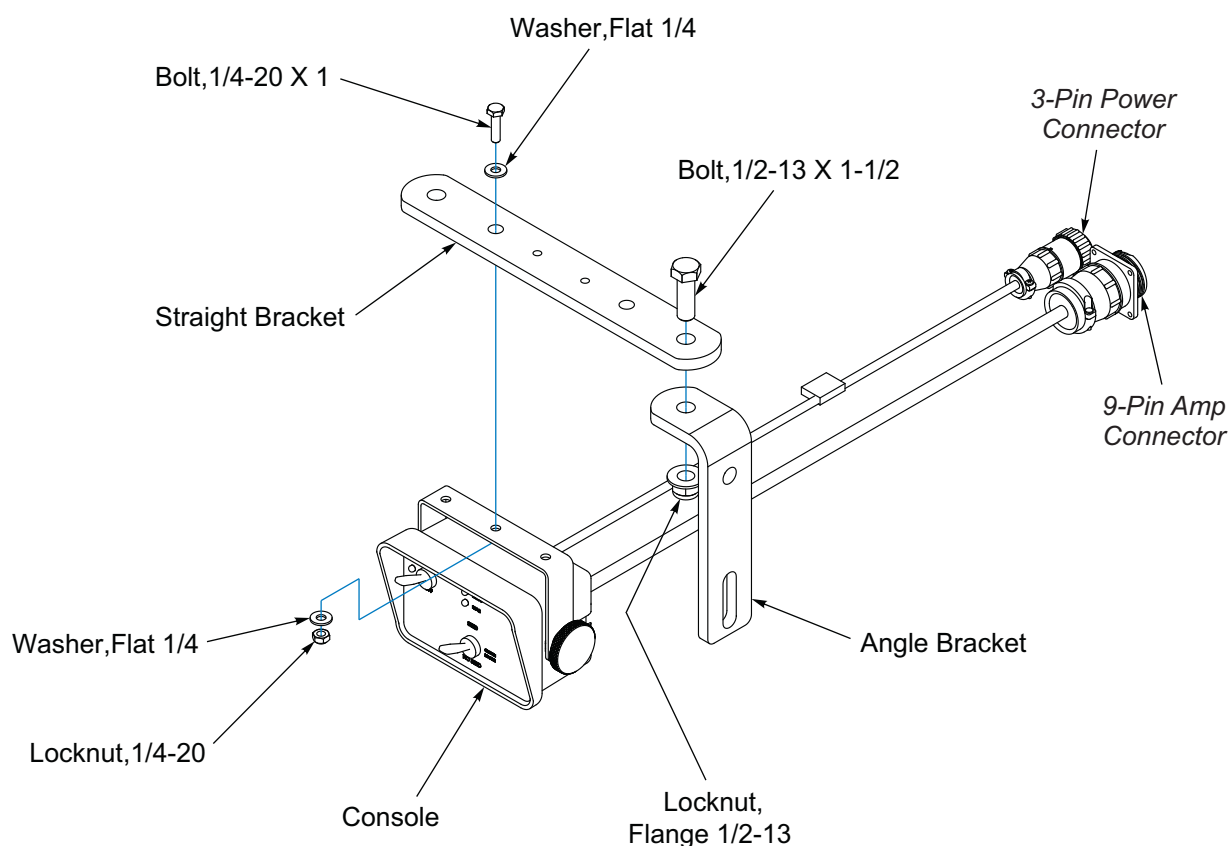


Figure 2-41: Console w/Clutch Control Tractor Installation

Agitator Box - (If Not Equipped)

1. Engage Parking Pin on 3-PT Models. Lower Seeder and empty front Seed Boxes.
2. Disconnect Acre Meter, if equipped and Warning Lamps from power source.
3. Remove the Rear Deflectors from the Deflector Assembly. Turn the Rear Deflectors around so that the upper lip flares rearward instead of forward. **See Figure 2-43.** Re-install Rear Deflectors to the Deflector Assembly.
4. Install Drive Coupler on Transmission Output Shaft with 1/4" x 1-1/2 Roll Pin. **See Figure 2-42.**
5. Support the front LH and RH Seed Boxes by using the holes in the Seed Box Dividers.
6. Remove SMV Bracket, if applicable from the Center Support Bracket.

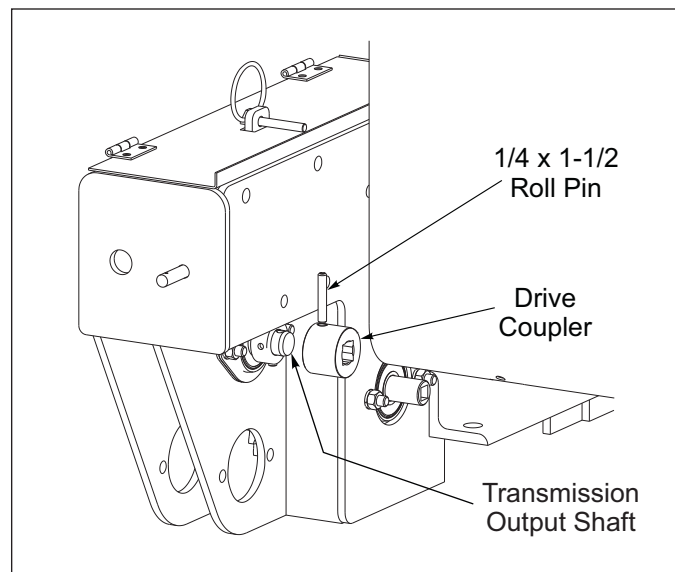


Figure 2-42: Coupling Transmission

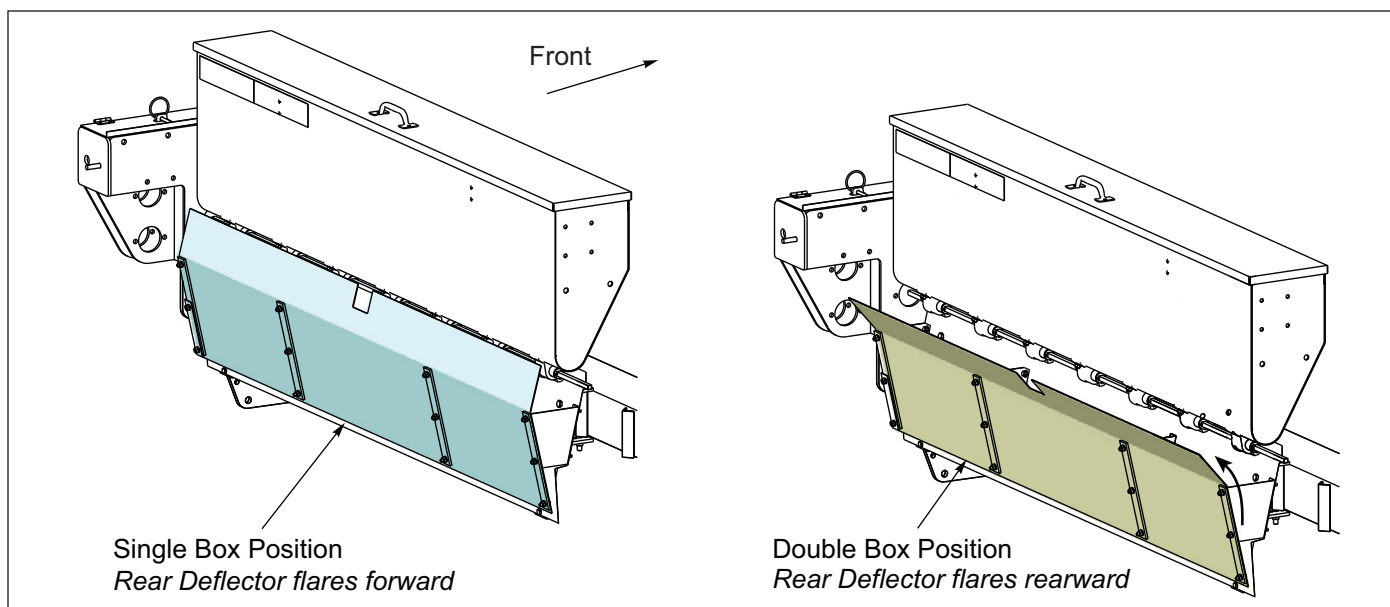


Figure 2-43: Deflector Shield

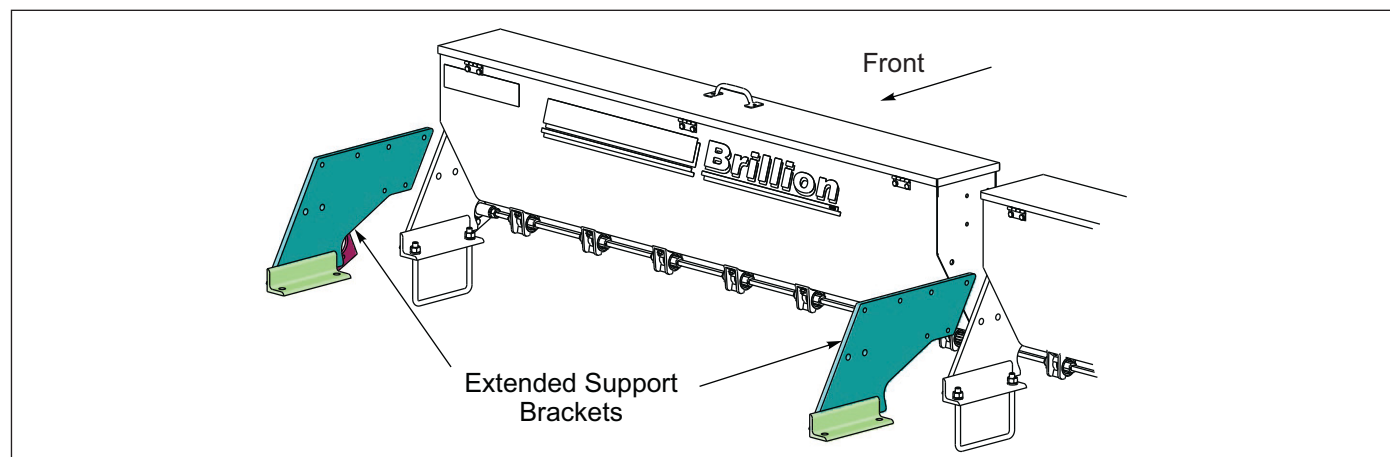


Figure 2-44: Extended Supports

7. Remove the 5/16-18 hardware that attaches the Seed Rate Adjusting Bearing Flangettes to the RH Support Bracket. Remove the 1/2-13 Locknut from the end of the Seed Shaft. Remove the Adjusting Screw, 1-8 Nut, Bearing with Flangettes and Seed Rate Adjusting Nut together as one assembly. **See Figure 2-45.**

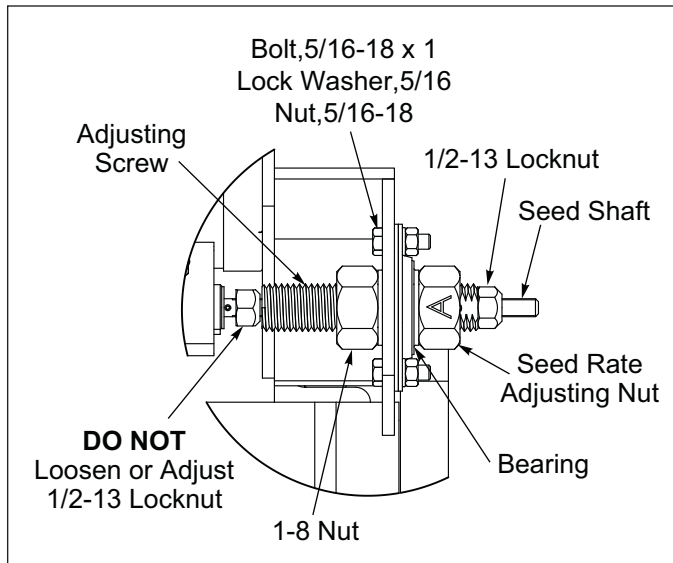


Figure 2-45: RH Support Bracket Detail

8. Remove the Warning Lamp Bracket and other Electrical Cords from the RH Support Bracket.
9. Remove the Center and RH Seed Box Support Brackets. Assemble the Center Extended Support Bracket between the front LH and RH Seed Boxes and the RH Extended Support Bracket on the end of the front RH Seed Box with 3/8-16 x 1-1/2 Bolts, Lock Washers and Nuts. **Do Not** tighten at this time.
10. Orient the Agitator Seed Boxes with the Shifter rearward. The LH Agitator Seed Box Assembly has a single hole in the LH end of the Shaft. The RH Agitator Seed Box Assembly has 2 holes in the RH end of the Shaft.
11. Support and position the LH Agitator Seed Box Assembly between the Transmission and the Center Extended Support Bracket. Align and insert the Agitator Shaft into the Transmission Drive Coupler.
12. Assemble the LH Agitator Seed Box Assembly to the Transmission top holes with 3/8-16 x 1-1/4 Bolts and bottom holes with 5/16-18 x 1-1/2 Bolts. Secure with Lock Washers and Nuts. **See Figure 2-47.**
13. Verify Agitator Shaft to Transmission Drive Coupler engagement. LH Agitator Seed Box Assembly end by the Center Extended Support Bracket, measure the distance from the end of the Agitator Shaft to the Square Bore Washer. It should be approximately 1". **See Figure 2-46.**

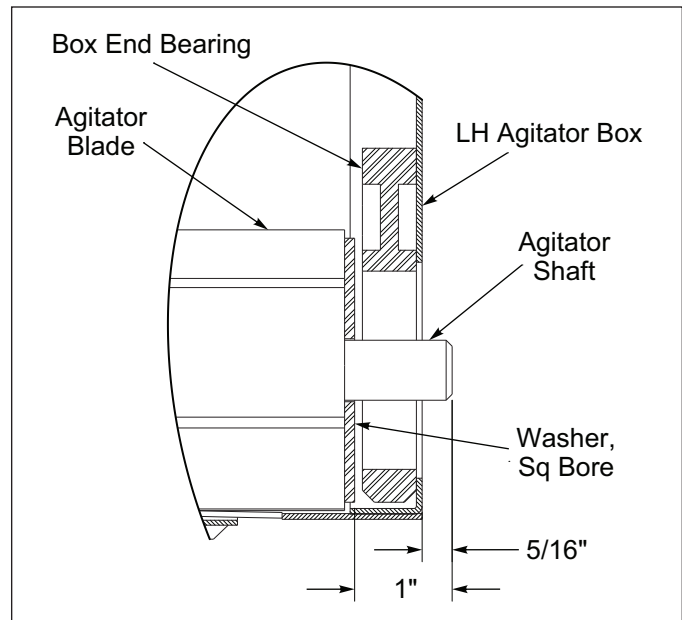


Figure 2-46: LH Agitator Box Center Detail

14. Slide Center Bushing Assembly onto the LH Agitator Shaft.
15. Support and position the RH Agitator Seed Box Assembly between the Center Extended Support Bracket and RH Extended Support Bracket. Align and insert RH Agitator Shaft into the Center Bushing Assembly.
16. Assemble the LH and RH Agitator Seed Box Assemblies to the Center Extended Support Bracket top holes with 3/8-16 x 1-1/2 Bolts and bottom holes with 5/16-18 x 2-1/4 Bolts, Lock Washers and Nuts. **Do not** tighten at this time.
17. Assemble the RH Agitator Seed Box Assembly to the RH Extended Support Bracket top holes with 3/8-16 x 1-1/4 Bolts, Lock Washers and Nuts. **Do not** tighten at this time.
18. Sight along Seed Boxes from ends, front to rear to ensure Seed Boxes are straight and level. Ensure that the front Seed Shafts and rear Agitator Shafts turn freely and are not binding. Tighten the Center and RH Extended Support Bracket 3/8-16 and 5/16-18 Hardware. Secure Center and RH Extended Support Brackets to Seeder Frame with U-Bolts, Lock Washers and Nuts.
19. On the RH end of the RH Agitator Seed Box Assembly, place two 7/8 Flat Washers on the Agitator Shaft. **See Figure 2-47.**
20. Install Retainer Plate to the RH Extended Support Bracket bottom holes with 5/16-18 x 1-3/4 Bolts, Lock Washers, and Nuts.
21. Install 3/16 x 1-1/2 Roll Pins on either side of the Retaining Plate to hold the Agitator Shaft in place.

22. Check Agitator Seed Box Shifter functionality in relationship with the Shifter Plate. **See “Agitator Box Slide Adjustment” on Page 5-8.**
23. Slide the assembly of the Adjusting Screw, 1-8 Nut, Bearing with Flangettes and Seed Rate Adjusting Nut onto the front Seed Shaft. Attach the Bearing Flangette to the RH Extended Support Bracket with 5/16-18 x 1 Bolts, Lock Washers, and Nuts. Thread 1/2-13 Locknut onto the end of the front Seed Shaft. **See Figure 2-45.**
24. Adjust the Seed Rate Adjuster so that all the front box Seed Meters are closed. Perform Seed Meter “0” adjustment. **See “Seed Meter Adjustment” on Page 5-7.**
25. Install SMV Bracket, if applicable to the Center Extended Support Bracket.
26. Attach the Warning Lamp Bracket and other Electrical Cords to the RH Extended Support Bracket.
27. Connect Acre Meter, if equipped and Warning Lamps to power source.

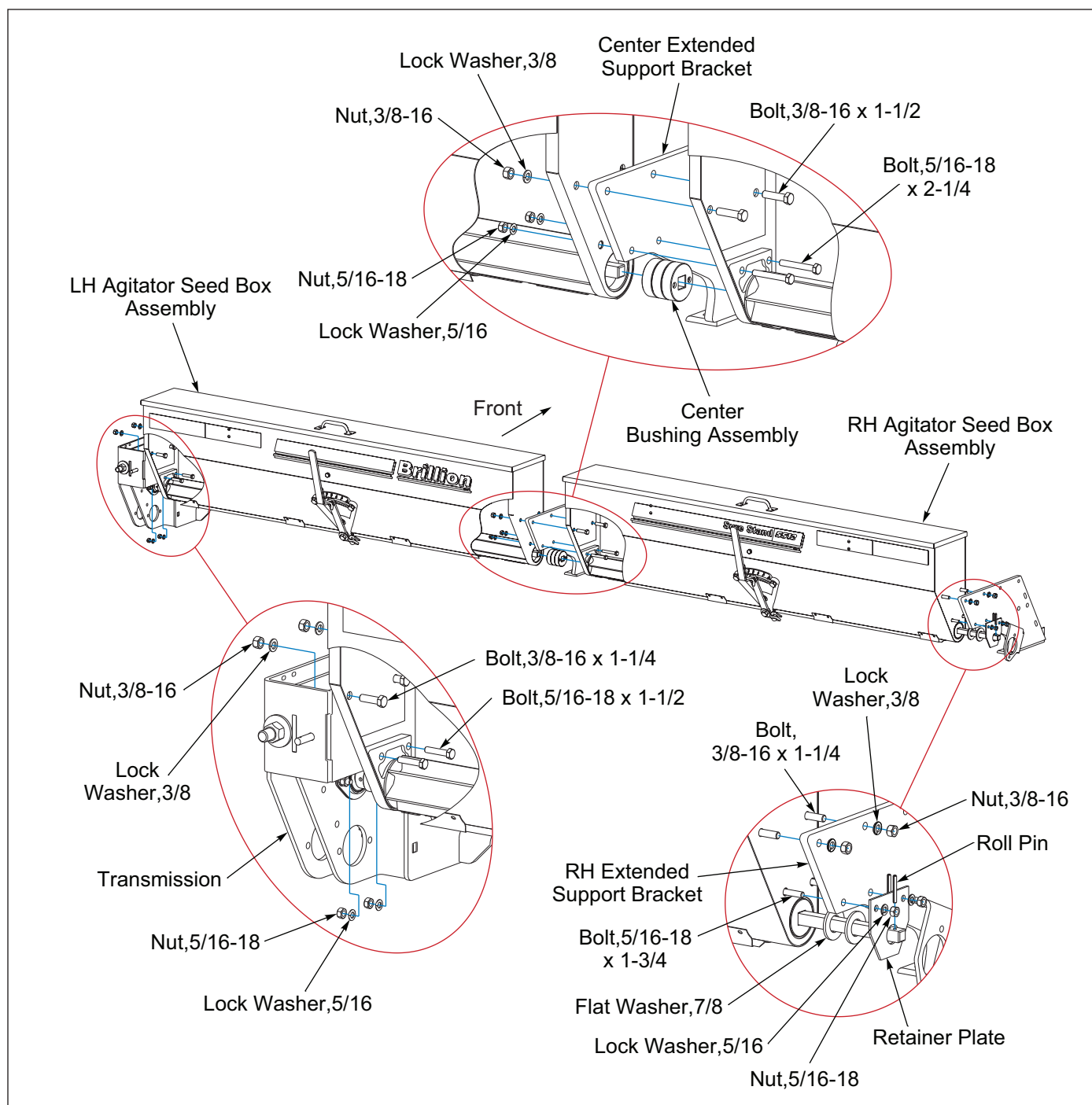


Figure 2-47: Left and Right Agitator Boxes

Agitator Installation - Optional

1. On the RH end of the Seed Box, remove the 5/16-18 x 1-3/4 Bolts, Lock Washers and Nuts that attach the Retainer Plate and Box End Bearing. **See Figure 2-52.**
2. Slide the RH Seed Shaft out of the RH end of the Seed Box. 7/8 Flat Washer and Bushing stay with the Seed Shaft.
3. Remove RH Seed Box Agitators, Square Bore Washers and the Center Bushing Assembly.
4. Slide the LH Seed Shaft out of the RH end of the Seed Box and remove LH Seed Box Agitators and Square Bore Washers.
5. See the above Shaft Rotation Diagram. **See Figures 2-48 and 2-49.** Brush/Blade agitators must be installed with careful attention to the direction of shaft rotation. The brushes must face backward, away from rotation to wipe over the seed openings.



CAUTION

The brushes will be destroyed if installed backwards.

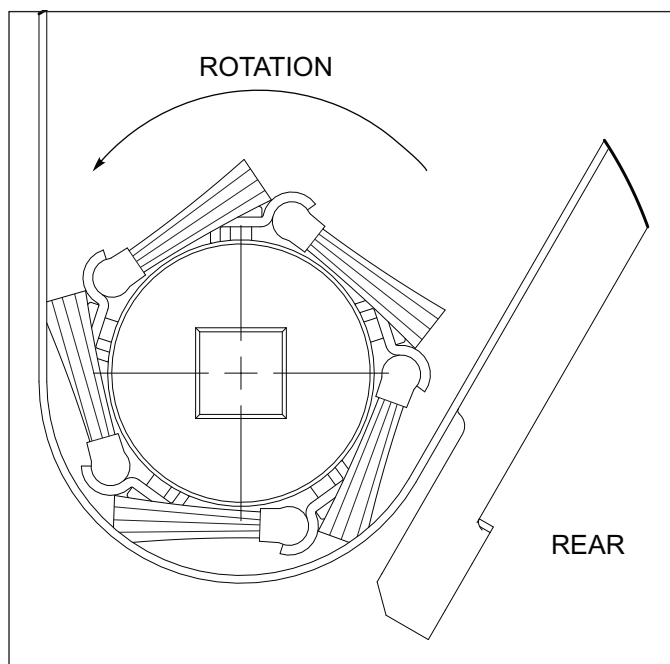


Figure 2-48: Brush Agitator Shaft Rotation

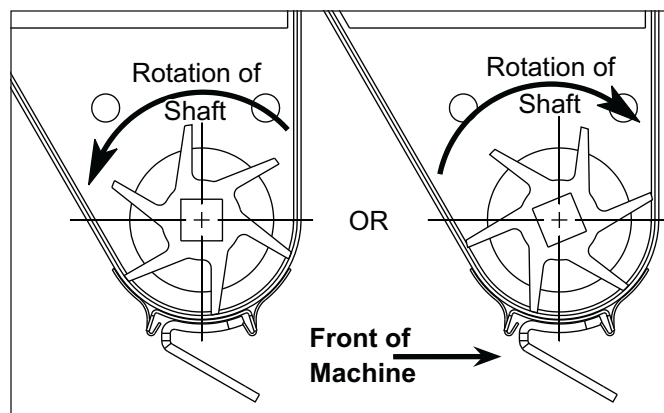


Figure 2-49: Blade Shaft Rotation

NOTE

Square Bore Washers are two thicknesses, 12 ga and 14 ga. It may be necessary to use more than one Square Bore Washer for proper fit between the Bearing Brackets. Never force to add a Square Bore Washer since it will cause binding.

6. Install the Agitators inside the LH Seed Box. Place Square Bore Washers on each end of the Agitators. Square Bore Washers on each end of the Seed Box prevent seed leakage. Install Square Bore Washers to reduce Agitator end play between the Bearing Brackets.
7. Reinstall LH Seed Shaft aligning Square Bore Washers, Agitators, Bushings, and Transmission Drive Coupler. Verify Seed Shaft to Transmission Drive Coupler engagement. Measure the distance from the end of the LH Seed Shaft to the center RH Seed Box End Bearing. It should be approximately 3/4". **See Figure 2-50.**

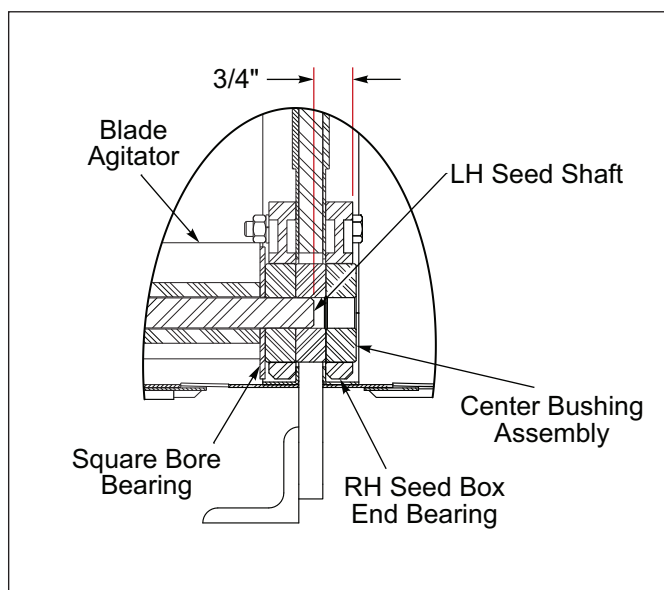


Figure 2-50: Agitator Dimension Detail

8. Install Center Bushing Assembly.
9. Install the Agitators inside the RH Seed Box. Place Square Bore Washers on each end of the Agitators. Square Bore Washers on each end of the Seed Box prevents seed leakage. Install Square Bore Washers to reduce Agitator end play between the Bearing Brackets.
10. Reinstall RH Seed Shaft aligning Bushings, Square Bore Washers, Agitators, and Center Bushing Assembly. Secure RH Box End Bearing and Retainer Plate with 5/16-18 x 1-3/4 Bolts, Lock Washers and Nuts.
11. If Installing Brush Agitators (5 Strip), apply Important Decal 5D505 to the front Seed Box visible by the Tractor Driver. **See Figure 2-51.**

IMPORTANT

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

5D505

Figure 2-51: Decal 5D505

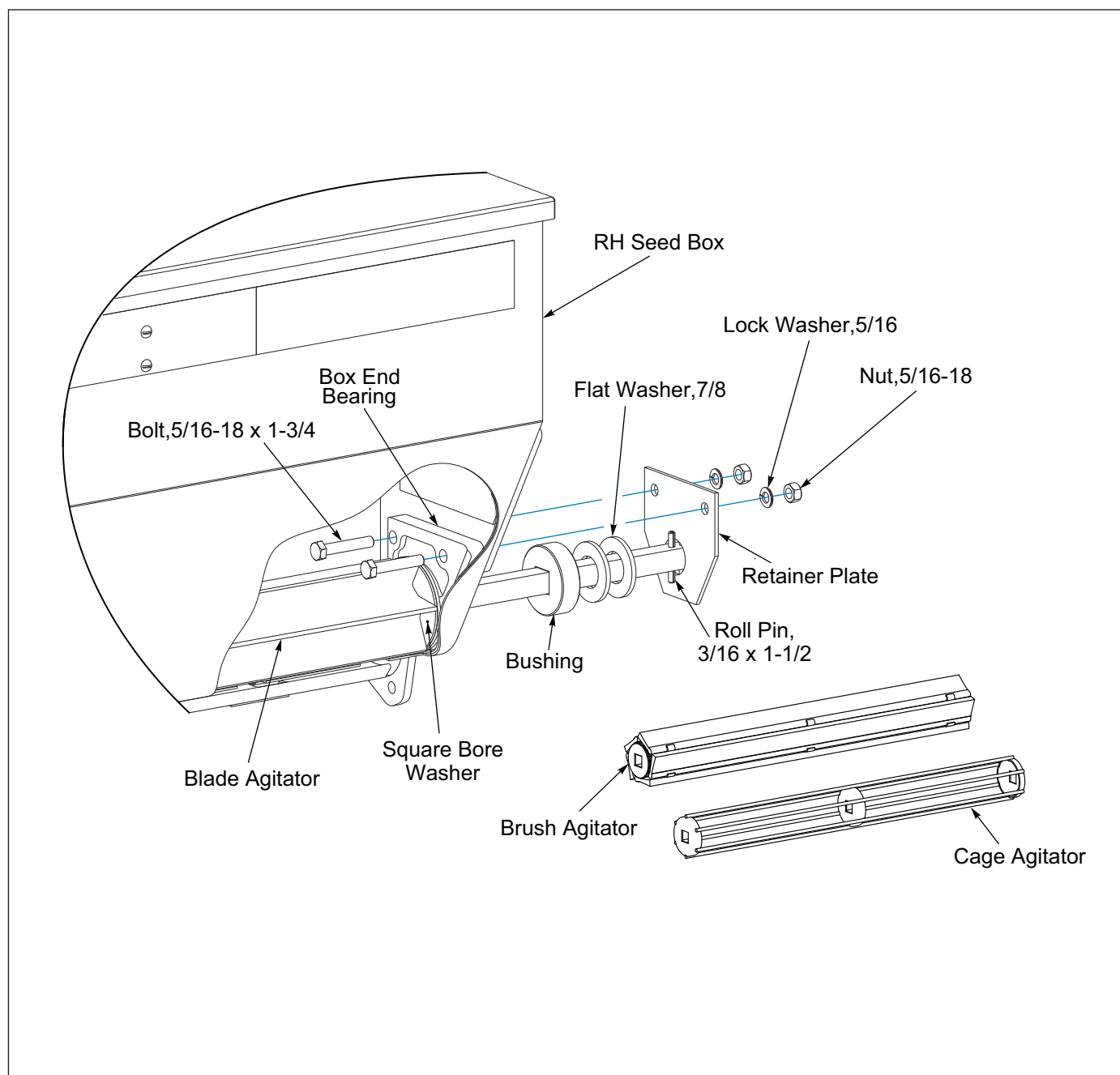


Figure 2-52: Agitator

Front Seed Box Dividers - Optional

1. Use upper and lower Threaded Rods and tighten nuts on each side of original and new dividers.
2. Install dividers over every other hole so that they are 12 inches apart.
3. Procedure same for both 10FT and 12FT Models.

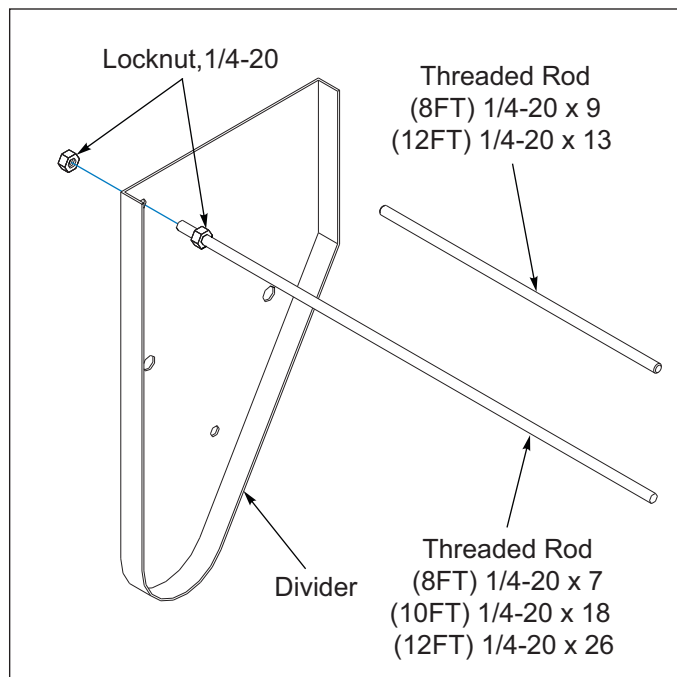


Figure 2-53: Seed Box Dividers

Rear Seed Box Dividers - Optional

Install a divider against the Agitator Bearing and then equally space the other dividers as equally as possible. Secure in place with silicone.

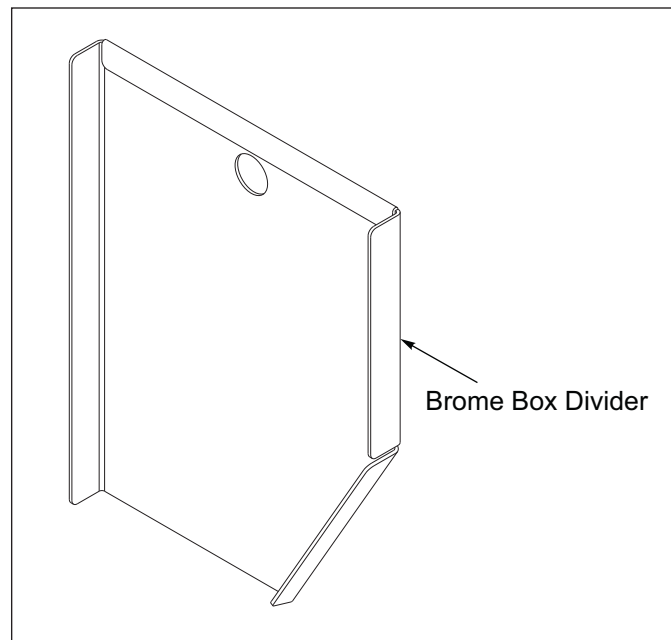


Figure 2-54: Brome Box Dividers

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Table provided for general use.

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SD Pulverizer Warning Lamp Installation - Drawbar

NOTE

On 8FT and 10FT Models both the Amber and Red Lamp's are attached to the Light Brackets located on the outer edges of the frame. On 12FT Models Only the Amber Lamp's are mounted on the outer edge and the Red Lamp's are attached left and right of center. See Figure 2-59.

1. **12FT Models:** Attach Red Lamps to the Light Brackets located left and right of center, with 1/4-20 x 1-1/4 Bolts and Locknuts for each lamp. (12FT Model Only)
2. **12FT Models:** Attach the Amber Lamps to the top portion of the Light Bracket, with 1/4-20 x 1-1/4 Bolts and Locknuts for each lamp. (12FT Model Only)
3. **8FT and 10FT Models:** Attach Amber Lamp to the upper portion of the Light Bracket with 1/4-20 x 1-1/4 Bolts and Locknuts.
4. **8FT and 10FT Models:** Attach Red Lamp below the Amber Lamp with 1/4-20 x 1-1/4 Bolts and Locknuts. Ensure Red Lamp lenses faces rearward.
5. Attach the Light Module to the Module Bracket with 1/4-20 x 1-1/2 Bolts and Locknuts. **See Figure 2-55.**
6. Lay out the Lamp Harness, noting that the connectors marked with Green Tape is Right Side and Yellow Tape is Left Side.
7. **12FT Models:** Connect the Lamp Harness into the Light Module, route the plugs with Green Tape along the front right side of the Frame Tube. Route the 3 prong cord up the Light Bracket and plug into the Red Lamp. Continue routing the 2 prong cord along the front of Frame Tube, up the outer Light Bracket and plug it into the Amber Lamp.
8. Repeat for the Left Side (Yellow Tape).
9. **8FT and 10FT Models:** Connect the Lamp Harness into the Light Module, route both plugs with Green Tape along the front right side of the frame. Route the 3 prong cord up the Light Bracket and plug into the Red Lamp. Plug the 2 prong cord into the Amber Lamp.
10. Repeat for the Left Side (Yellow Tape).
11. Connect the 7-Pin Harness into the Light Module, then route the Harness along the Drawbar with the Hydraulic Hoses and secure with tie wraps.
12. Bundle and secure excess cord to the Module Bracket with tie wraps. Secure cords along Frame and Drawbar using Adhesive Mounts and tie wraps.

IMPORTANT

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

13. Attach the SMV Mount to the center of frame with 3/8-16 U-Bolt, Lock Washers and Nuts.
14. Attach the SMV sign to the SMV Mount with 5/16-18 x 1 Bolts, Flat Washers, and Nuts.
15. Attach the Connector Holder to the Hose Support with 1/4-20 x 1 Bolts, Flat Washers, and Locknuts.

NOTE

The 7-Pin Plug on the other end of the 7-Pin Harness connects to the Tractor Socket when in use. When not in use, it can be stored in the Connector Holder on the Drawbar Hose Holder. Allow enough harness length to reach Tractor Socket and roll or fold up excess and secure to Drawbar Hydraulic Hoses.

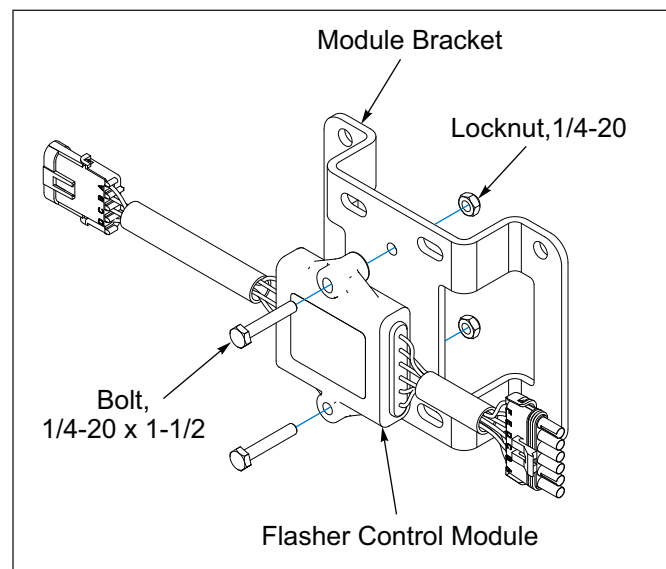


Figure 2-55: Light Module and Bracket

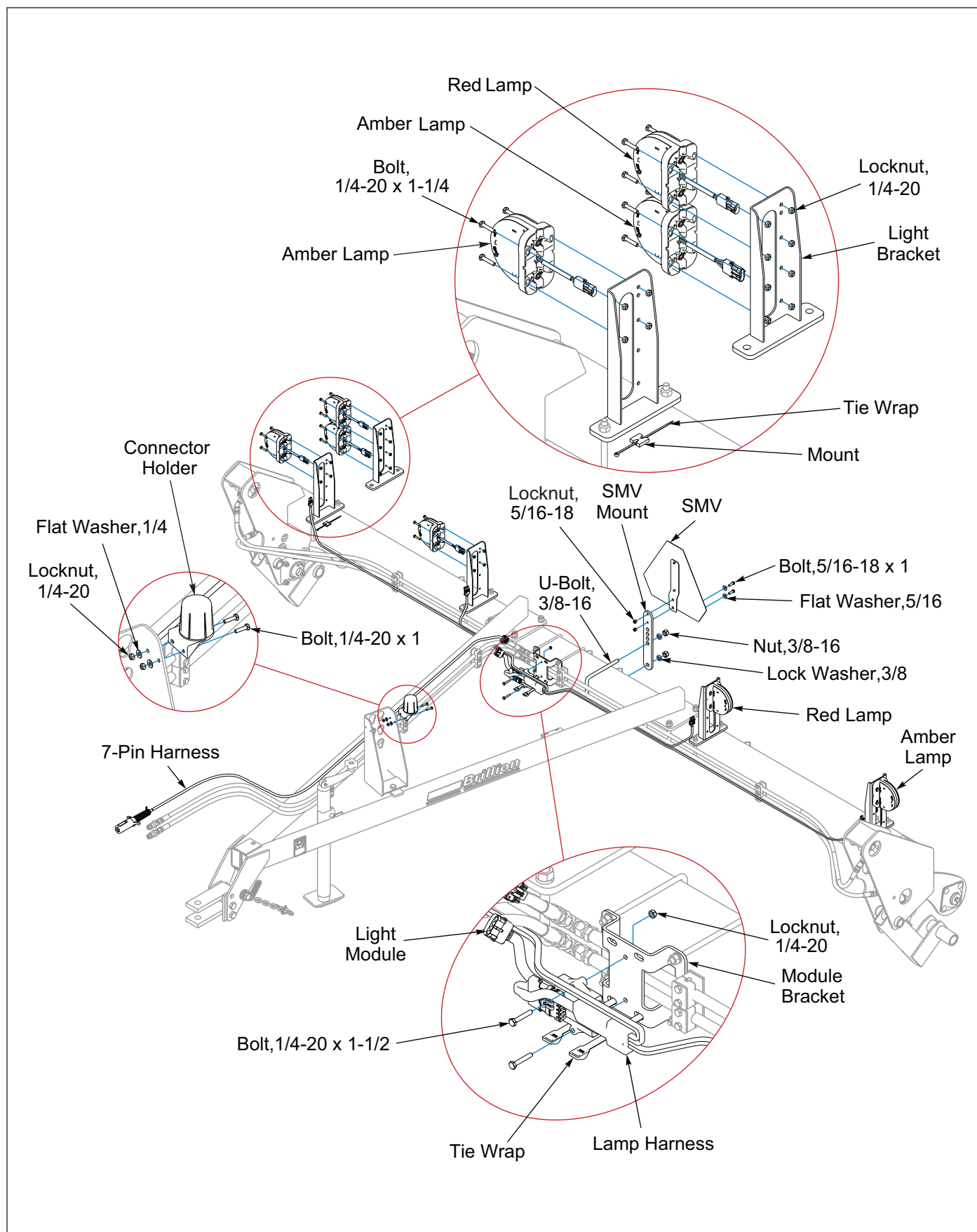


Figure 2-56: SD Pulverizer - Warning Lamp Installation, Drawbar Model

SD Pulverizer Warning Lamp Installation - 3-PT

NOTE

On 8FT and 10FT Models both the Amber and Red Lamp's are mounted to the Light Brackets on the outer edges of the frame. On 12FT Models only the Amber Lamp's are mounted on the outer edge and the Red Lamp's are attached left and right of center. See Figure 2-59.

1. **12FT Models:** Attach Red Lamps to the Light Brackets located left and right of center, with 1/4-20 x 1-1/4 Bolts and Locknuts.
2. **12FT Models:** Attach the Amber Lamps to the top portion of the light bracket, with 1/4-20 x 1-1/4 Bolts and Locknuts.
3. **8FT and 10FT Models:** Attach Amber Lamp to the top portion of the Light Bracket with 1/4-20 x 1-1/4 Bolts and Locknuts.
4. **8FT and 10FT Models:** Attach a Red Lamp below the Amber Lamp with 1/4-20 x 1-1/4 Bolts and Locknuts. Ensure Red Lamp lenses faces rearward.
5. Attach the Light Module to the Module Bracket with 1/4-20 x 1-1/2 Bolts and Locknuts. See Figure 2-57.
6. Lay out the Lamp Harness, noting that the connectors marked with Green Tape is Right Side and Yellow Tape is Left Side.
7. **12FT Models:** Connect the Lamp Harness into the Light Module, route the plugs with Green Tape along the front right side of the Frame Tube. Route the 3 prong cord up the Light Bracket and plug into the Red Lamp. Continue routing the 2 prong cord along the front of Frame Tube, up the outer Light Bracket and plug it into the Amber Lamp.
8. Repeat for the Left Side (Yellow Tape).
9. **8FT and 10FT Models:** Connect the Lamp Harness into the Light Module, route both plugs with Green Tape along the front right side of the Frame Tube. Route the 3 prong cord up the Light Bracket and plug into the Red Lamp. Plug the 2 prong cord into the Amber Lamp.
10. Repeat for the Left Side (Yellow Tape).
11. Connect the 7-Pin Harness into the Light Module, then route the harness along the 3-PT Hitch. Secure with tie wraps.
12. Bundle and secure excess cord to the Module Bracket with tie wraps. Secure cords along frame and 3-PT Hitch using Adhesive Mounts and tie wraps.

IMPORTANT

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

13. Attach the SMV Mount to the center of frame with 3/8-16 U-Bolt, Lock Washers and Nuts.
14. Attach the SMV sign to the SMV Mount with 5/16-18 x 1 Bolts, Flat Washers, and Locknuts.
15. Attach the Connector Holder to the 3-PT Hitch with 1/4-20 x 1 Bolts, Flat Washers, and Locknuts.

NOTE

The 7-Pin Plug on the other end of the 7-Pin Harness connects to the Tractor Socket when in use. When not in use, it can be stored in the Connector Holder on the 3-PT Hitch. Allow enough harness length to reach Tractor Socket and roll or fold up excess and secure to 3-PT Hitch.

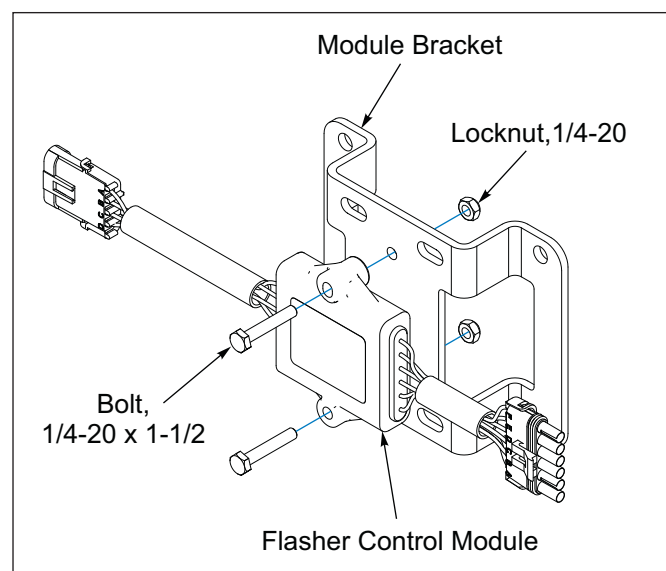


Figure 2-57: Light Module and Bracket

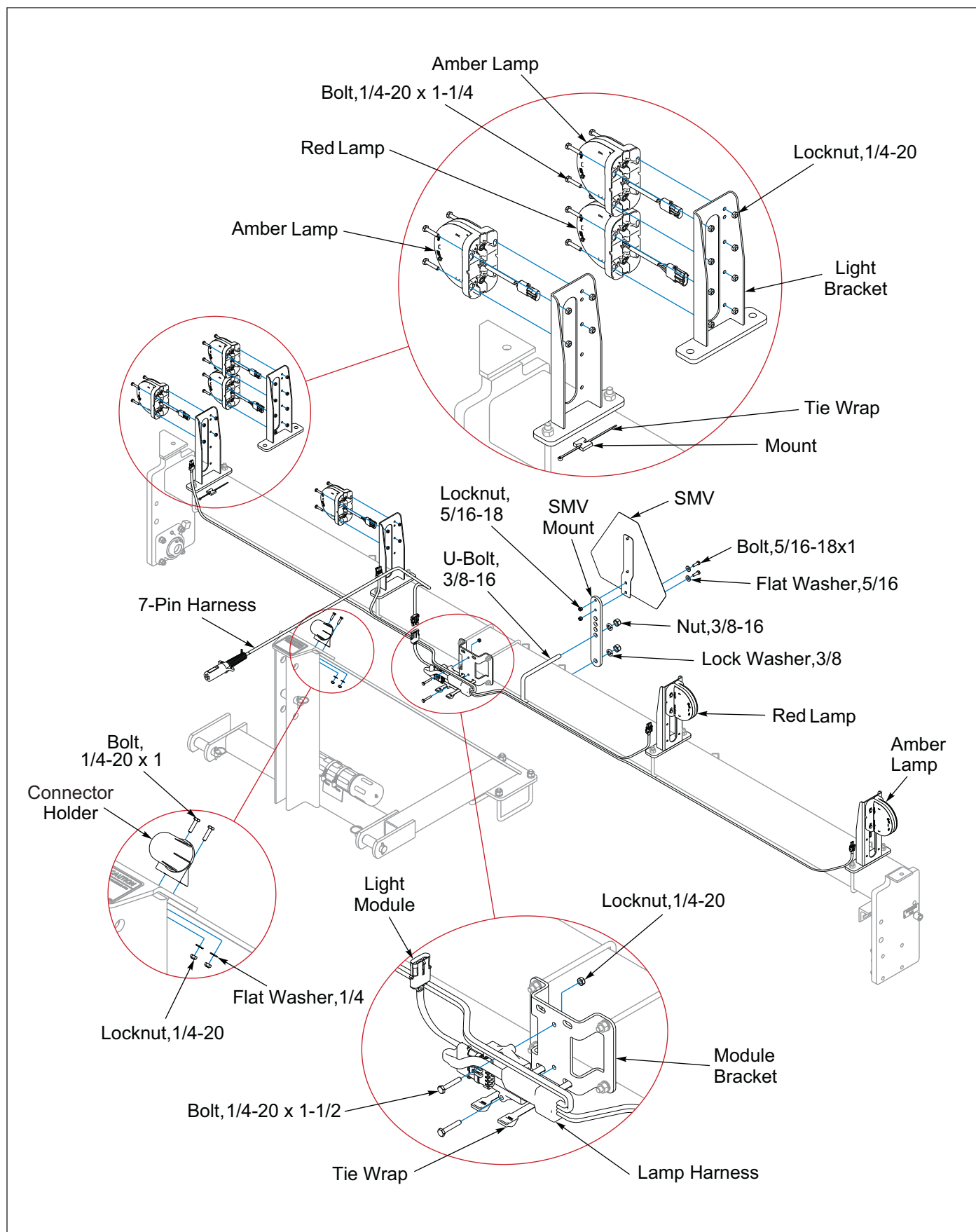


Figure 2-58: SD Pulverizer - 3-PT Model, LED Warning Lamp Installation

SD Pulverizer Warning Lamp Installation - Dimensions

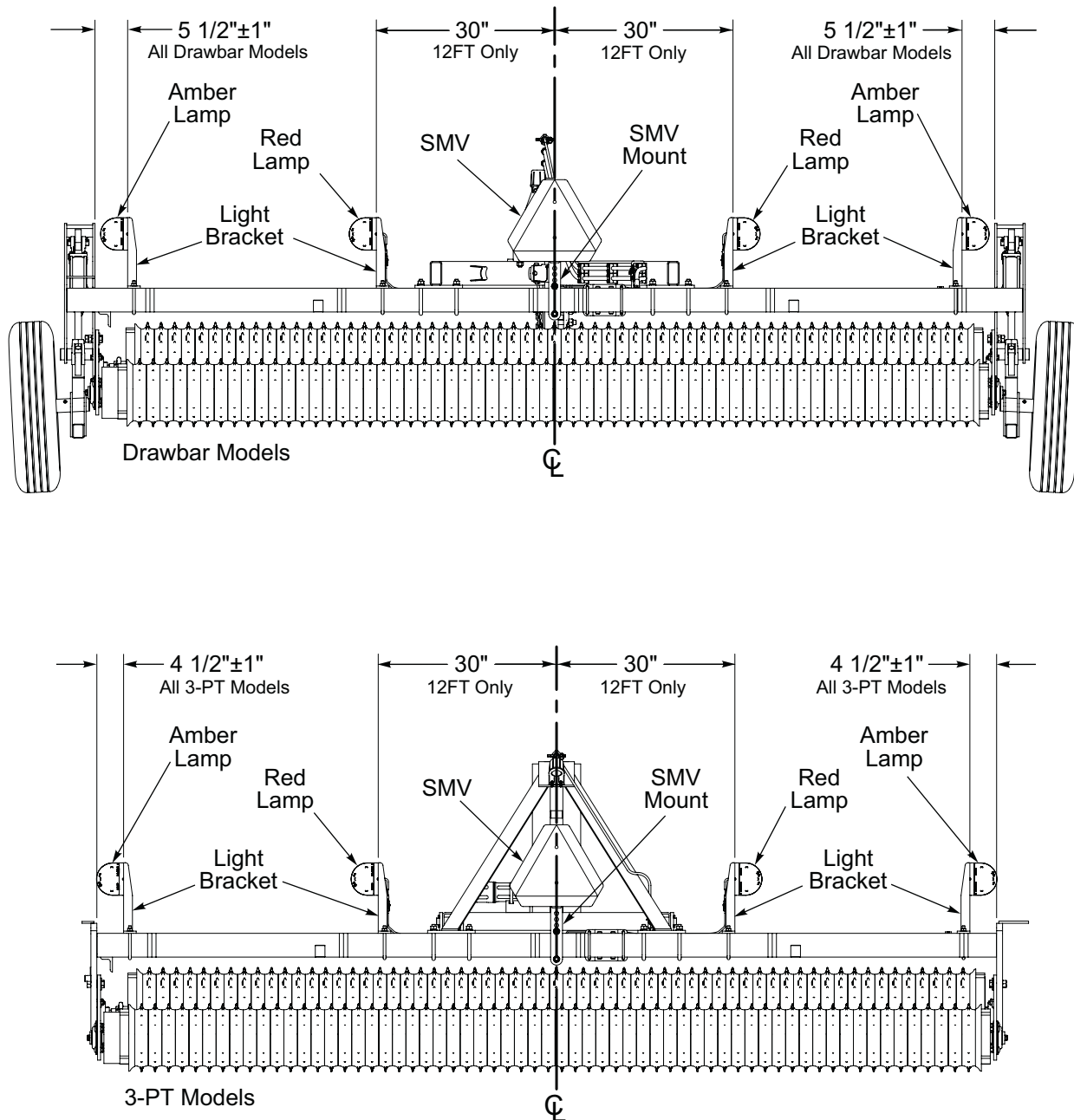


Figure 2-59: SD Pulverizer - Warning Lamp Installation Dimensions

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Table provided for general use.

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Scraper Kit, Tube Mounted - Optional

IMPORTANT

Cannot be used with Coil Tine Track Remover Kit.

NOTE

If Seeder has been used, check Front Roller Assembly Wheels that they are tight to one another before installing Scraper Kit. See “Front and Rear Roller Adjustment” on Page 4-5.

1. Lower implement onto level ground.
2. Position and assemble the Brackets with the 4-Hole Plate approximately as dimensioned on the front of the Seeder Frame Tube. See Figures 2-65 and 2-66. Secure with 1/2-13 x 4-1/2 x 7-1/2 U-Bolts and Flanged Locknuts.

NOTE

Scraper Brackets should be positioned per application. Use Figures 2-65 and 2-66 only as a reference.

- **12FT Machines with Drawbar Braces:**
Mount the Brackets with the 4-Hole Plate to the Drawbar Brace Plates with the Drawbar Brace Hardware. See Figure 2-61.
- **3rd Bracket:**
10FT and 12FT Models require a 3rd Bracket that is to be installed on the Seeder Frame Tube left of center in a place that clears the Drawbar or 3-PT Hitch. See Figure 2-62.

NOTE

S-Tine Tire Track Remover Kit can be used with Scraper Kit. Do Not mount the outer Brackets with the 4-Hole Plate to the front of the Seeder Frame Tube. Attach the outer Scraper Bracket Angle to the Tire Track Remover Kit S-Tine Bracket Tube with a 1/2-13 x 4-9/16 x 3-1/4 U-Bolt and Flange Locknuts. See Figure 2-63.

3. Attach the Scraper Brackets to the Bracket Tube with a 1/2-13 x 4-9/16 x 3-1/4 U-Bolt and Flange Locknuts. Do Not tighten at this time. See Figure 2-60.

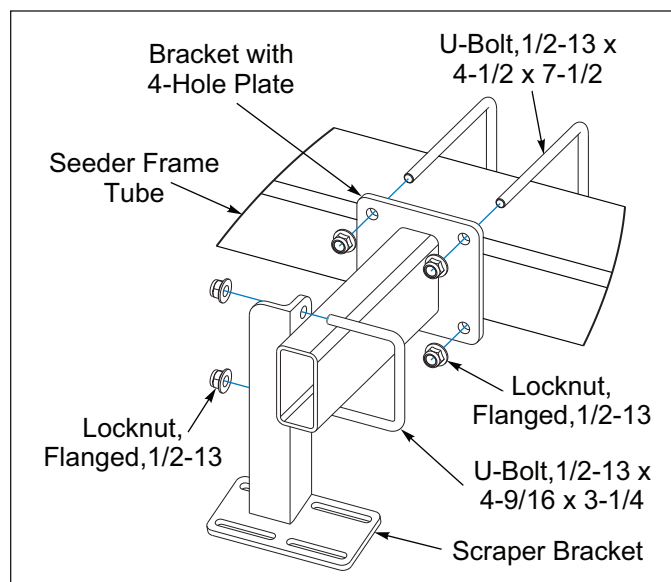


Figure 2-60: Scraper Brackets

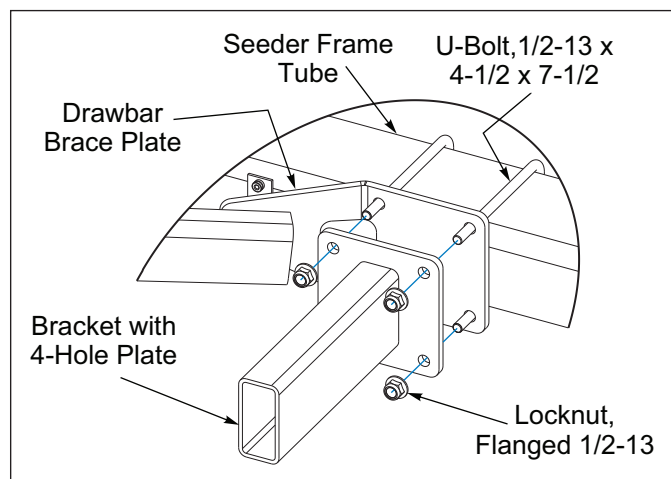


Figure 2-61: 12FT Drawbar with Braces

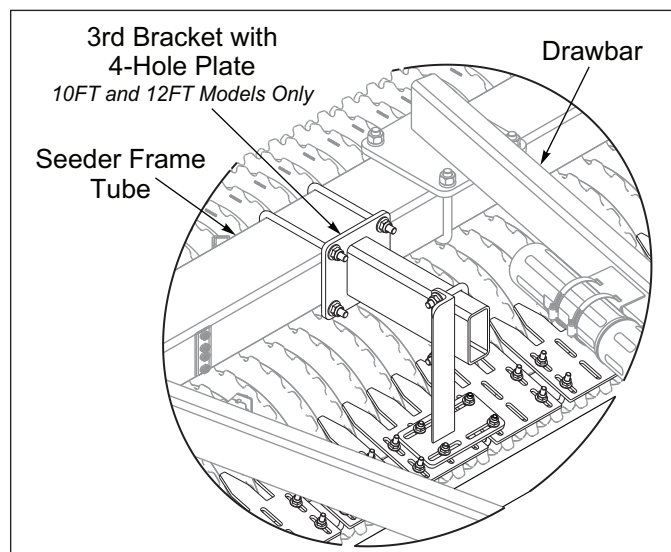


Figure 2-62: 3rd Bracket Placement - 10' & 12'

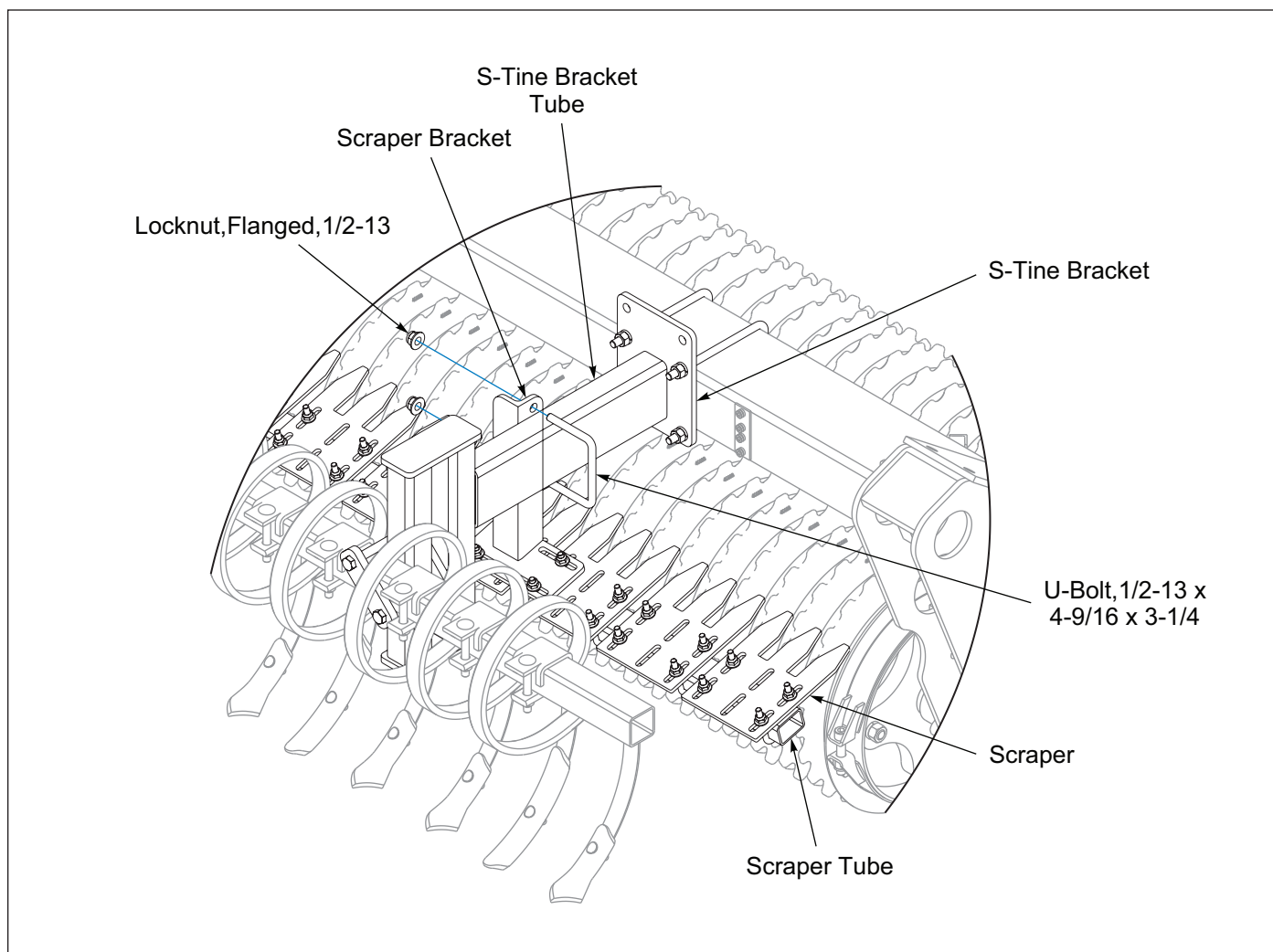


Figure 2-63: Tube Mounted Scrapers with S-Tine Tire Track Remover

4. Center Scraper Tube with the Seeder Front Roller.
5. Center the Scrapers between the Roller Wheels and attach them to the top of the Scraper Tube in the outer slots with 3/8-16 U-Bolts and Flange Locknuts. Attach the Single Scrapers to the end of the Scraper Tube as needed.
6. Align the Scraper Brackets Slotted Plate to the appropriate Scrapers and attach with the Scraper 3/8-16 Hardware. **See Figure 2-64.** It may be necessary to use the center pair and an outer pair of slots in the Scraper to attach the Scraper Bracket to the Scraper and Tube Assembly. **See Figures 2-65 and 2-66.**
7. Move the Scraper Bracket on the Bracket with 4-hole Plate Tube until the Scrapers are close enough to the Roller Wheels to be functional but without interference, about 3/16" to 1/4" gap between the Scraper and Roller Wheel.
8. Tighten all 1/2-13 Hardware. Adjustment may be required after use.

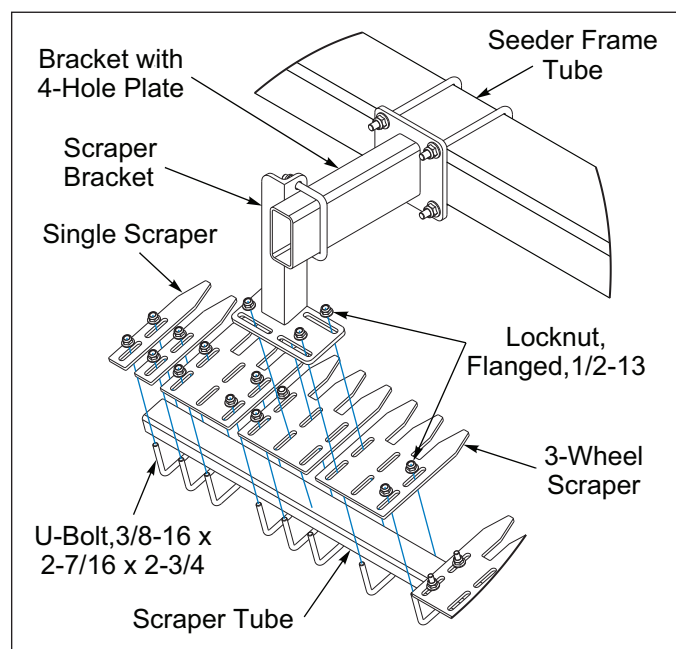


Figure 2-64: Scraper Assembly

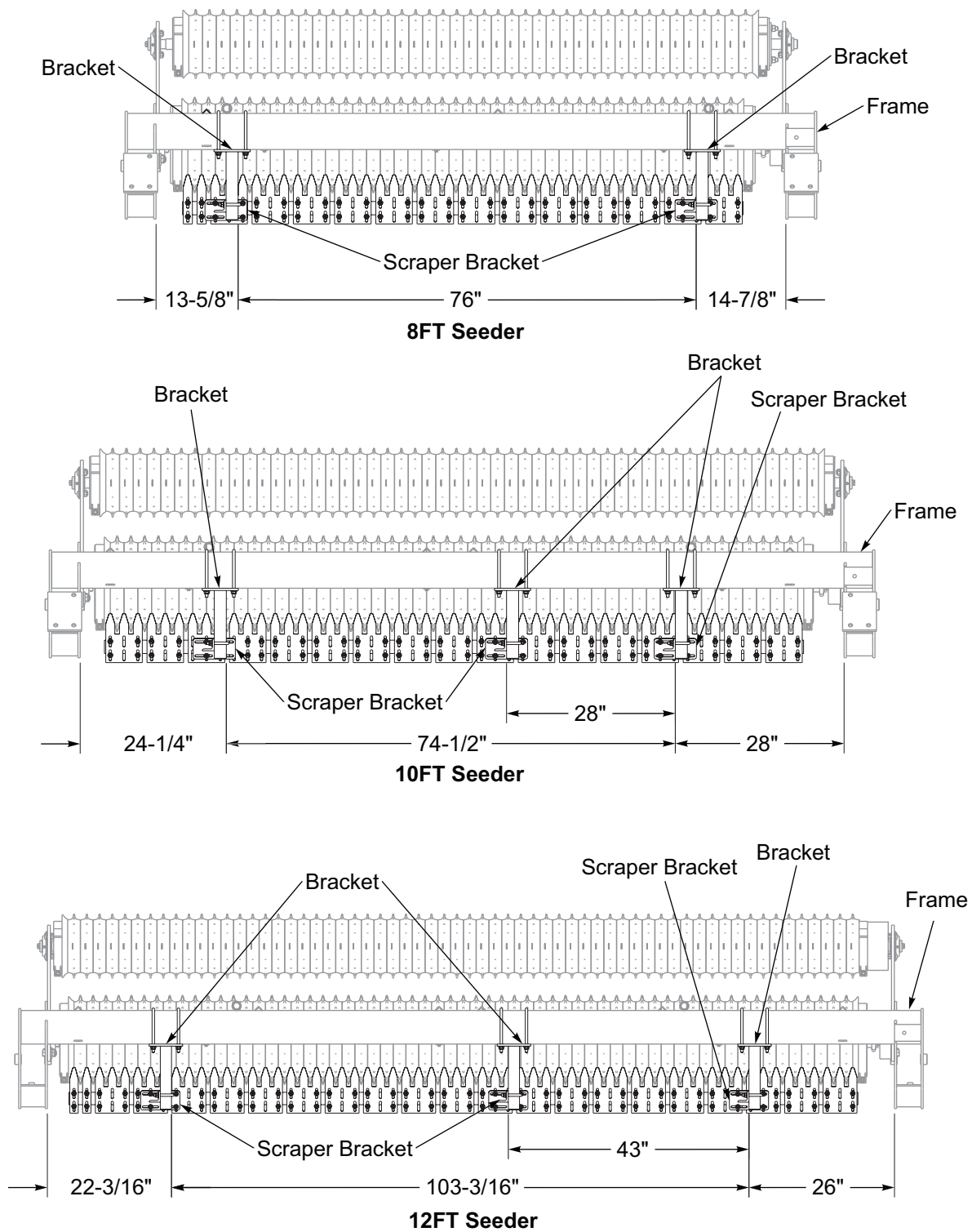


Figure 2-65: Scraper Mounting Dimensions - Pull-Type

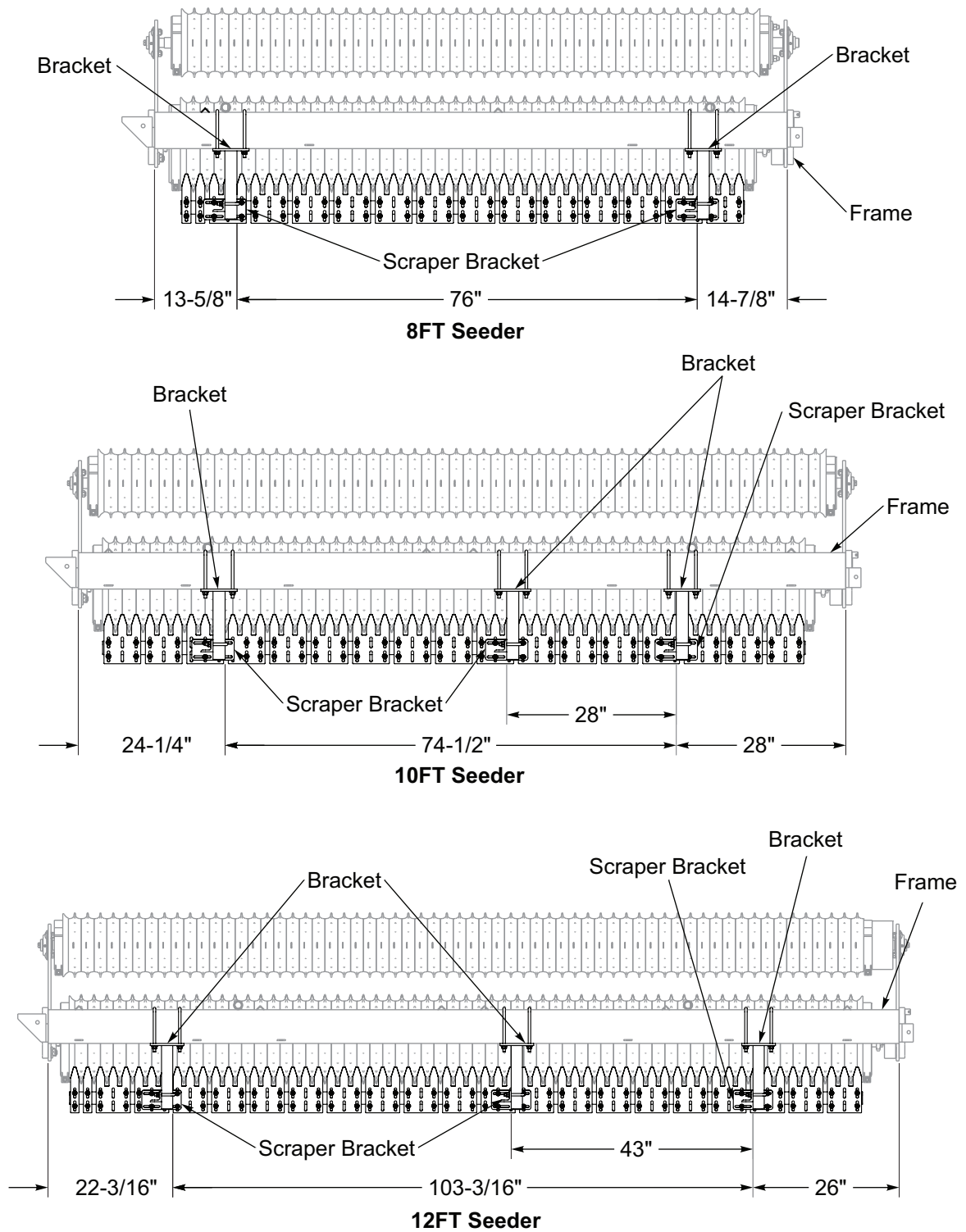


Figure 2-66: Scraper Mounting Dimensions - 3PT Hitch

S-Tine Tire Track Remover Kit - Optional

IMPORTANT

S-Tines should not be operated any deeper than necessary to remove Tractor Tire Tracks. Wet soil will stick to the Front Roller Wheels. As the S-Tine draft load is increased the S-Tines may deflect back and make contact with the Front Roller and break.

NOTE

S-Tine Tire Track Remover Kit includes six S-Tines. Additional S-Tines can be purchased and installed or fewer S-Tines can be used.

*S-Tine Brackets and S-Tines should be positioned per application. Use **Figure 2-69** only as a reference.*

1. Center and position the S-Tine Brackets in relationship with the center of the Drawbar or 3-PT Hitch to the front of the Seeder Frame Tube. **See Figure 2-69.** Secure S-Tine Brackets to the Seeder Frame Tube with 1/2-13 x 7-1/2 x 4-1/2 U-Bolts, Lock Washers and Nuts. **See Figure 2-68.**
2. Center the Tooth Tube between the S-Tine Brackets and attach with Straps, 1/2-13 x 6 Bolts, Lock Washers and Nuts.
3. Attach the S-Tines onto the Tooth Tube in the desired position to cover the Tractor Tire Tracks with Clamps, 7/16-14 x 3-1/2 Carriage Bolts and Locknuts.
4. Assemble the Points to the S-Tines. The suggested pattern is to assemble the Reversible Point onto the center S-Tine and a Duck Foot Point on the S-Tine on either side of the center S-Tine with 3/8-16 x 1-3/4 Plow Bolt and Flanged Locknut. **See Figure 2-67.**

NOTE

*Scraper Kit can be used with the S-Tine Tire Track Remover. Attach the outer Scraper Bracket Angle to the S-Tine Bracket Tube. Outer Scraper Kit Brackets with the 4-Hole Plate are not used. **See Figure 2-63.** It may be necessary to adjust the Scraper Brackets on the Scraper Assembly for proper positioning of the Scrapers to the Front Roller Wheels.*

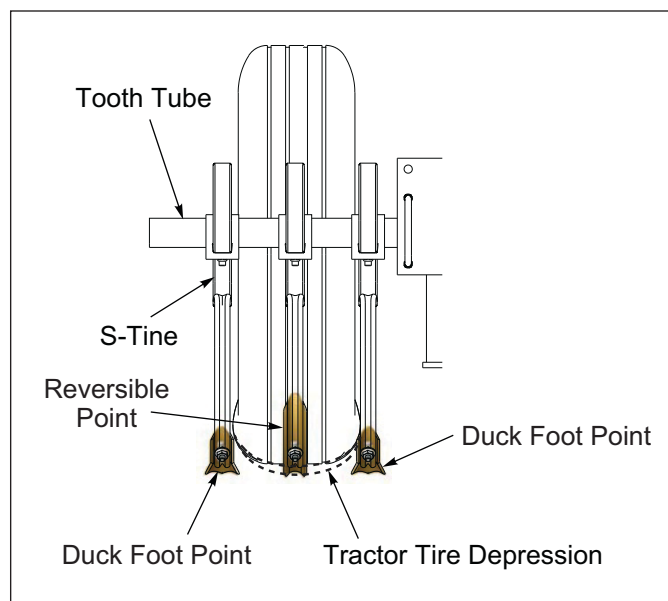


Figure 2-67: S-Tine Point Position

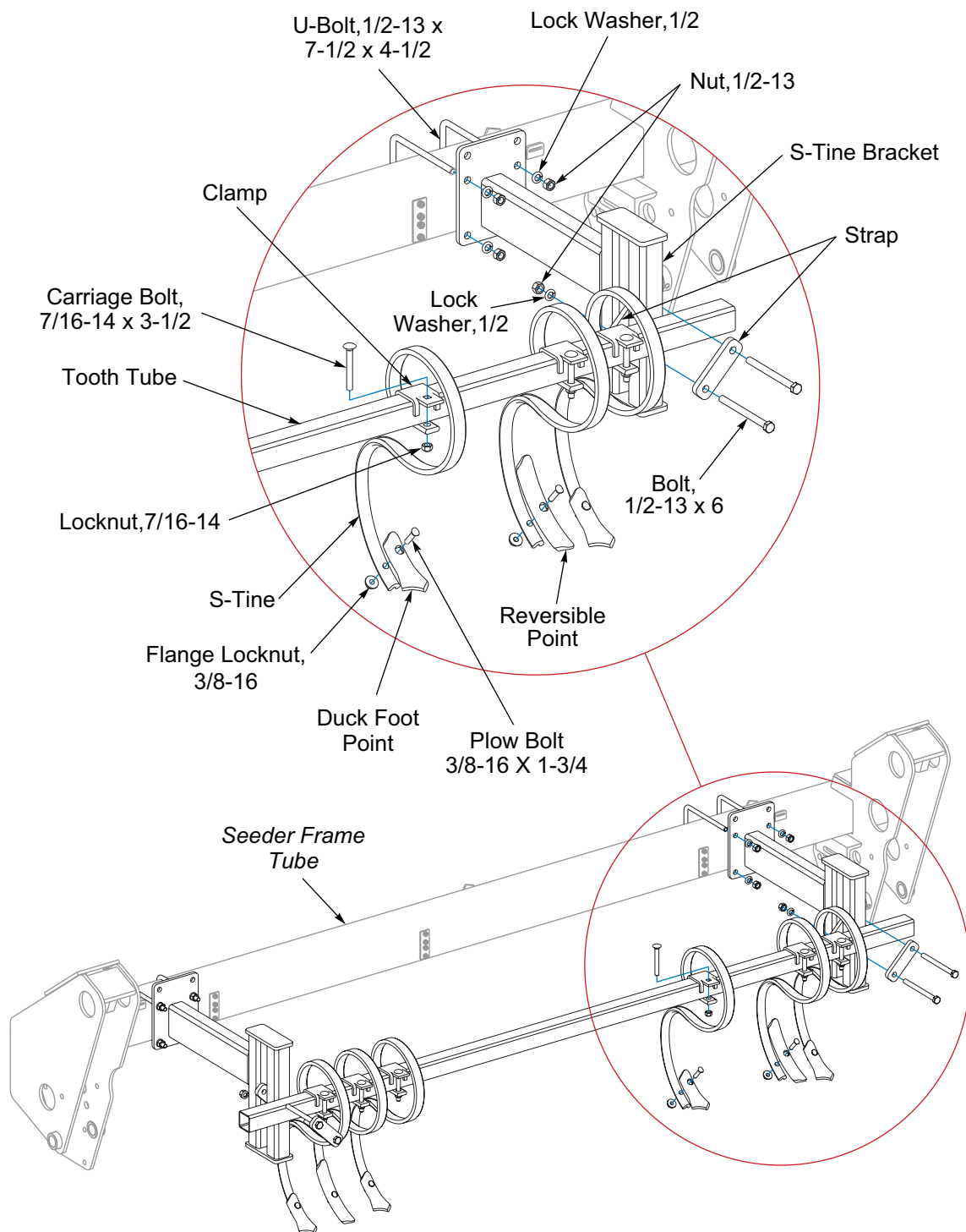


Figure 2-68: S-Tine Track Remover Kit - Optional

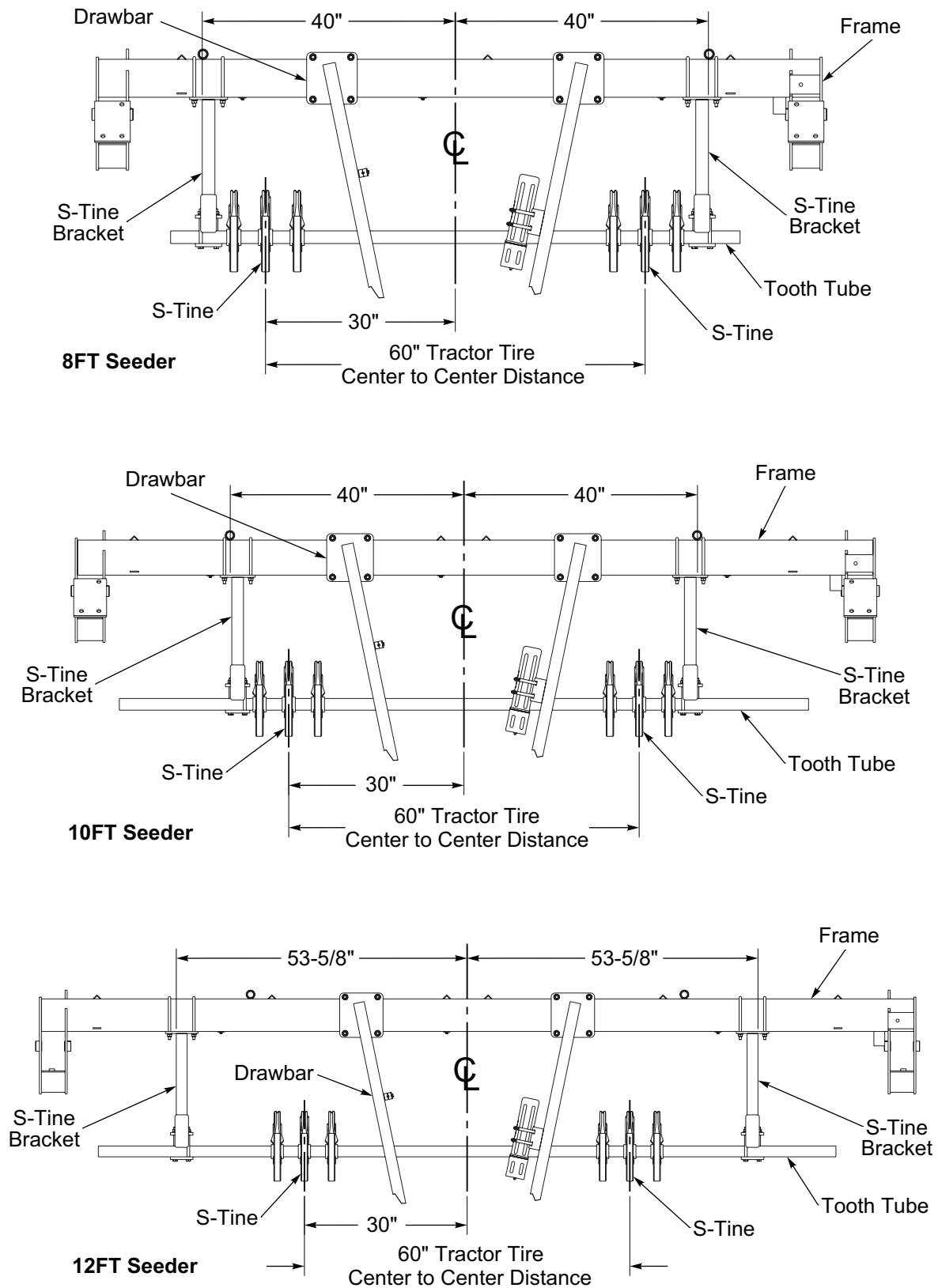


Figure 2-69: S-Tine Mounting Dimensions

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Table provided for general use.

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Coil Tine Track Remover - Optional

IMPORTANT

Cannot be used with the Scraper Kit.

1. Slide the Coil Tines onto the Round Bar so that the straight leg is frontward. **See Figure 2-70.**
2. Mount an Arm Weldment and a Coil Tine to the Round Bar second hole from the right end and the third hole from the left end with 3/8-16 x 3 Bolts, Flat Washers, Lock Washers and Nuts.
3. Mount the Coil Tines to the Round Bar with 3/8-16 x 2-1/2 Bolts, Flat washers, Lock Washers and Nuts.
4. Position the Brackets on the Seeder Frame Tube and attach with 1/2-13 U-Bolts, Lock Washers and Nuts. **Do not** tighten at this time.
5. Attach the Adjusting Angles to Brackets with Lock Screws. Secure the Adjusting Angles vertically to the Brackets with a 1/2 x 1-1/4 Clevis Pin and Hair Pin Cotter.
6. Attach the Arm Weldment to the Adjusting Angles with 1/2-13 x 1-3/4 Bolts and Locknuts. Tighten the Locknuts to allow free side to side swinging.
7. Center each Coil Tine Track Remover Assemble behind the Tractor Tires. Tighten the Bracket U-Bolts on the Seeder Frame Tube.
8. On each Coil Tine Track Remover Assemble, attach a Chain End Link to an Adjusting Angles with 3/8 x 1-1/4 Bolt, Flat Washer, Lock Washer and Nut. Drape the chain across to the other Adjusting Angle and place the Chain in the Adjusting Angle Slot ensure that the chain.

The vertical position can be changed by removing the Clevis Pins and Lock Screws and moving the Adjusting Angles up or down.

To inactivate the Coil Tines, remove the 1/2 x 1-1/4 Clevis Pins and loosen the Lock Screws. Swing the Coil Tine Bar Assembly upward and sideways. Hold Coil Tine Bar Assembly in place by wrapping the Chain under the Round Bar and placing the Chain into the Adjusting Angle Slot. Re-tighten the Lock Screws. Insert Clevis Pin into Adjusting Angle for storage.

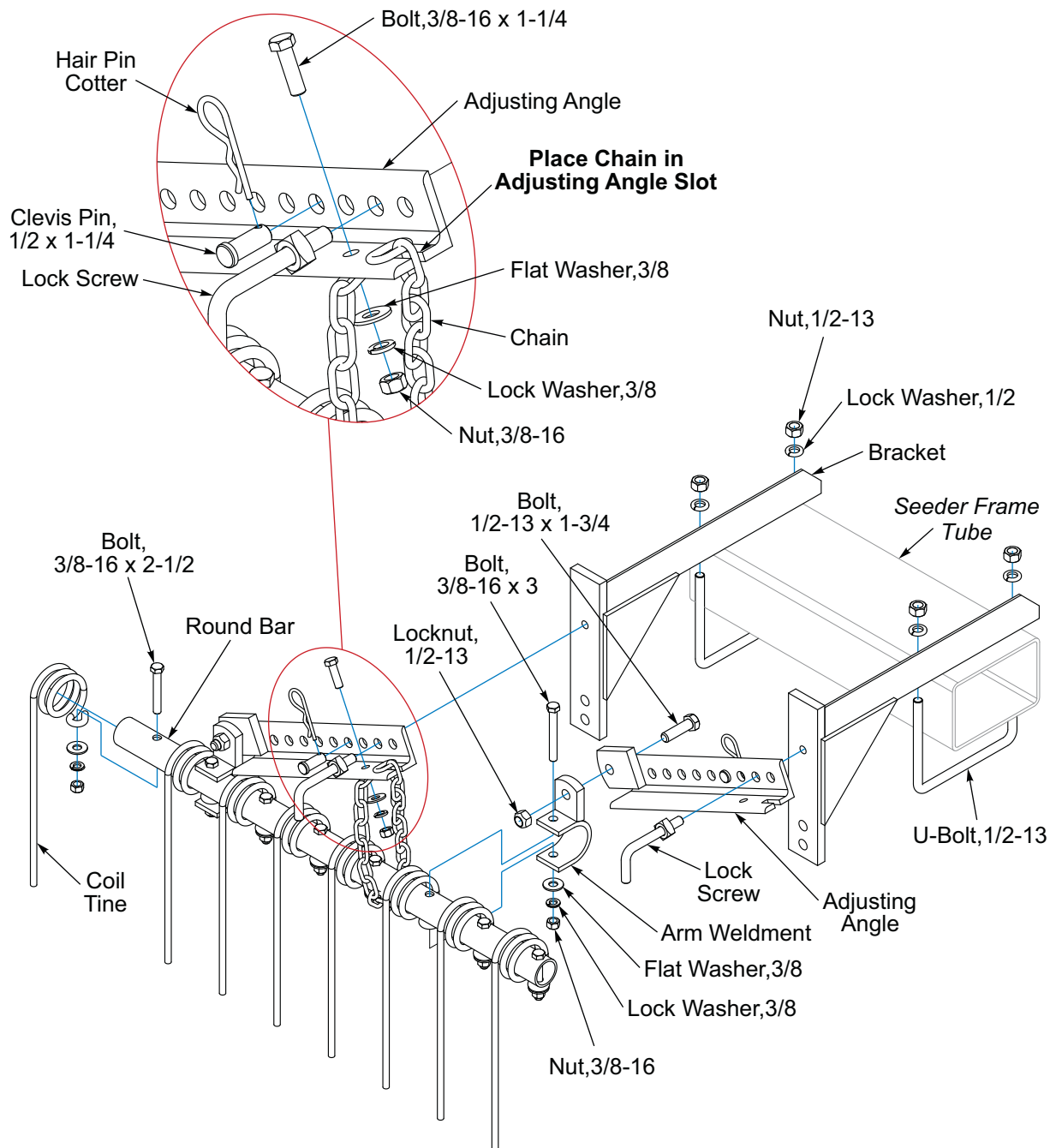


Figure 2-70: Coil Tine Setup

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Table provided for general use.

NOTES:

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 equipment.

**WARNING**

All hydraulically elevated equipment must have cylinder lockouts 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 cylinder lockouts in the transport lock position after fully extending the cylinders. Insert the lockout pins to secure the cylinder lockouts. Failure to lockout the cylinders can cause the unit to settle during transport, which can result in serious injury or death and cause damage to the equipment.

**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 or 3-PT mounted version.

- A Pull Type seeder is equipped to be pulled by a tractor with a drawbar, no clevis.
- A 3-PT mounted seeder is compatible with CAT 2 Free Link, CAT 2 Quick Coupler and CAT 3 Narrow Quick Coupler.

Tractor Preparation for Attaching 3-PT Hitch Seeder

1. Brillion 8, 10, and 12 Foot 3-PT Seeders are designed to be pulled with Category 2 Free Link and Category 2 or 3N 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 5-1.**) (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 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 Operation.



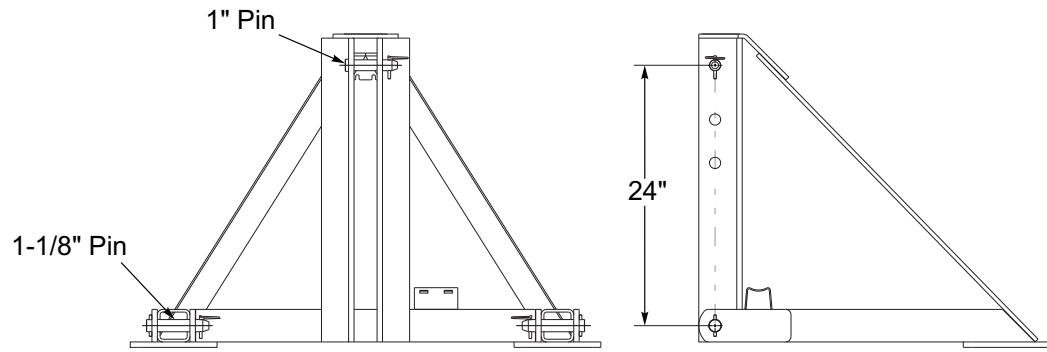
DANGER

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

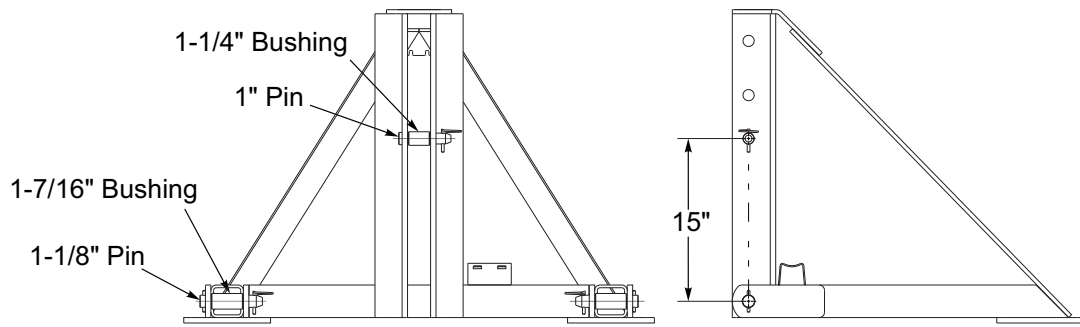
8. Connect 7-Pin Connector to Tractor Outlet, routing cable by avoiding pinch points.
 - Make sure the tractor has a good clean receptacle, free of dirt and corrosion.
 - Make sure the 7-Pin Connector is inserted ALL the way in. With tighter fitting pins, operator may think the Connector is all the way 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.
9. If equipped with a Clutch, install Clutch Switch Box or Brillion Elite Mini Monitor to tractor.

Clutch Switch Box: Connect Clutch Switch Box Cord with Ring Terminals to tractor power source. Ring Terminals can be removed and replaced with a different power source connector. Connect 2-Pin Connector to Clutch Harness.

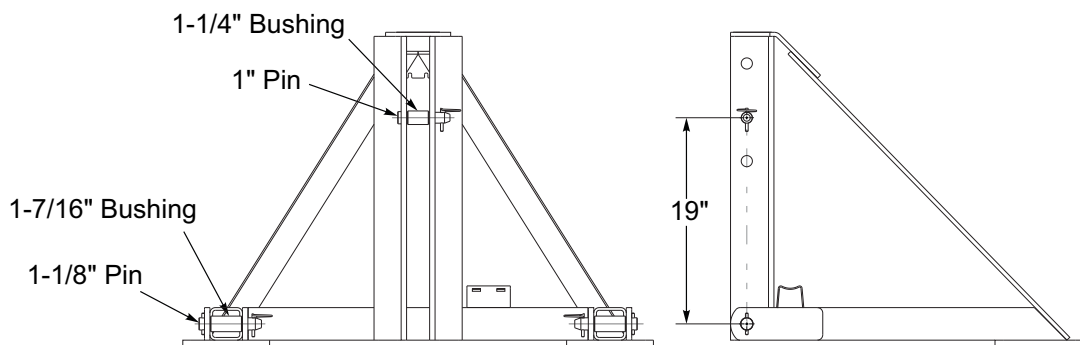
Brillion Elite Mini Monitor: Connect the Elite Mini Tractor Harness to 14-Pin Connector to Brillion Mini Monitor, 3-Pin Plug to the 12 Volt Tractor Convenience Outlet and 6-Pin Connector to 240" Extension Harness. Elite Mini Tractor Harness 4-Pin Connector is not used this time.
10. Raise seeder. Remove Parking Pin. **See Figure 3-3.** 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.**



Category 2 Free Link



Category 2 Quick Coupler



Category 3 Narrow Quick Coupler

Figure 3-1: 3-Point Hitch

Attaching/Detaching 3-PT Hitch Seeder



WARNING

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

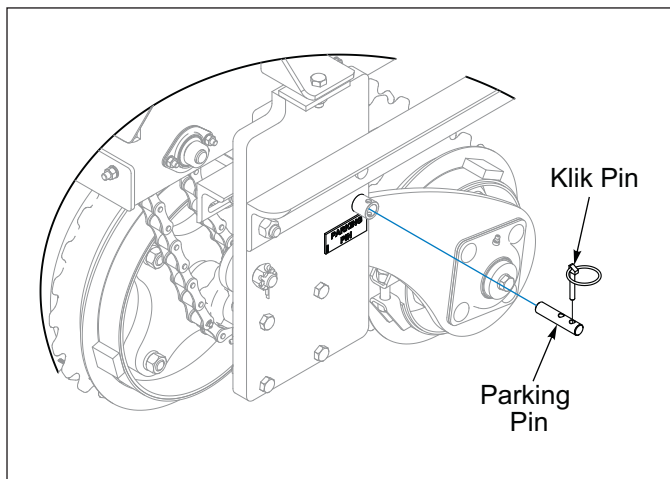


Figure 3-2: Parking Pin

Hooking Up the Seeder:

1. Attach Seeder to the Tractor.
2. Raise Seeder. Remove the Klik Pin, pull the Parking Pin into the outer position, replace the Klik Pin. **See Figures 3-2 and 3-3.**

Unhooking the Seeder:

1. With Seeder raised, remove the Klik Pin, push in the Parking Pin, replace the Klik Pin. **See Figures 3-2 and 3-4.**
2. Disconnect the Tractor from Seeder, lower Seeder.

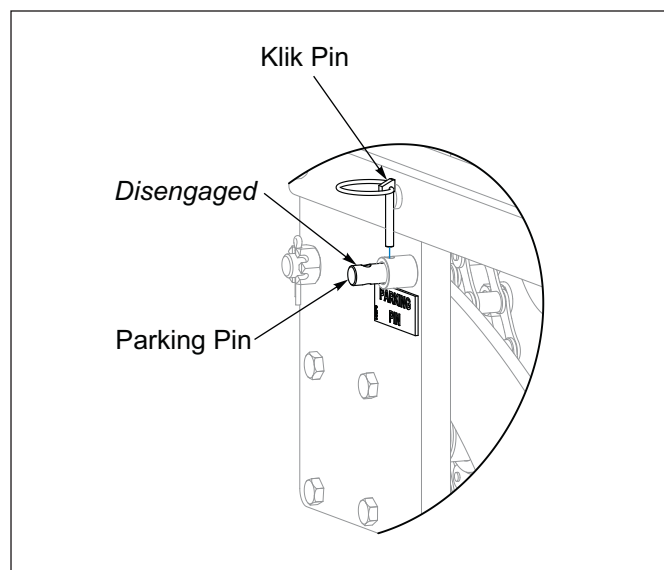


Figure 3-3: Parking Pin Disengaged

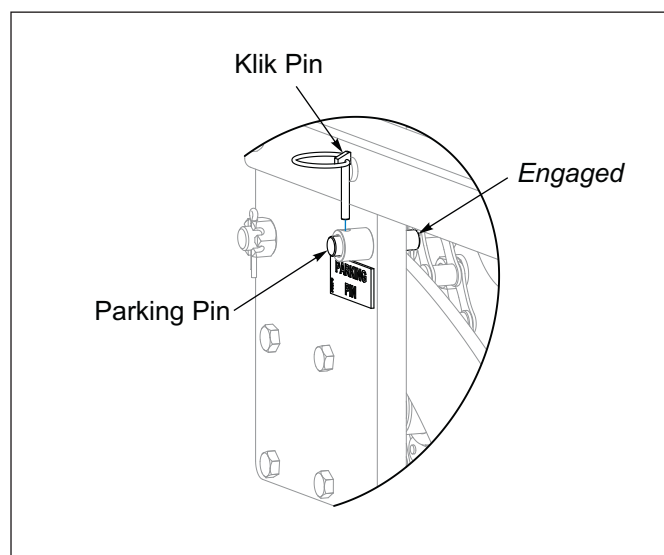


Figure 3-4: Parking Pin Engaged

Tractor Preparation for Attaching Pull Type Seeder



DANGER

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

1. Align the Tractor Drawbar with the machine. Raise or lower the Drawbar, as needed, using the Jack. Attach the unit with proper size Hitch Pin and Safety Clip.
2. Always move the Jack to the transport position before setting the machine in motion.
3. Clean all Hydraulic Couplings and attach to the Tractor.
4. Attach Safety Chain to tractor allowing plenty of movement for turning both directions. The Safety Chain should latch securely to prevent it from coming loose. **See Figure 3-5.**

IMPORTANT

If the Clevis Pin is not installed, the Transport Lock may bounce up and cause significant damage to the Cylinder and Hydraulic Fittings.

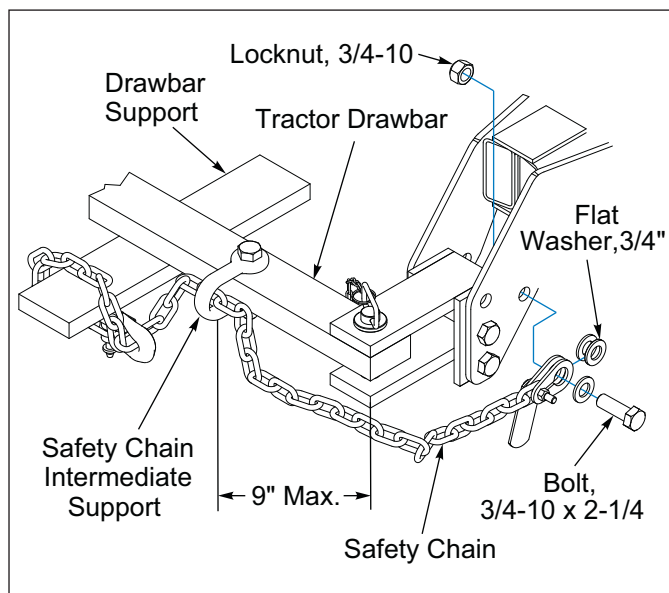


Figure 3-5: Safety Chain

5. 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 3-6.**

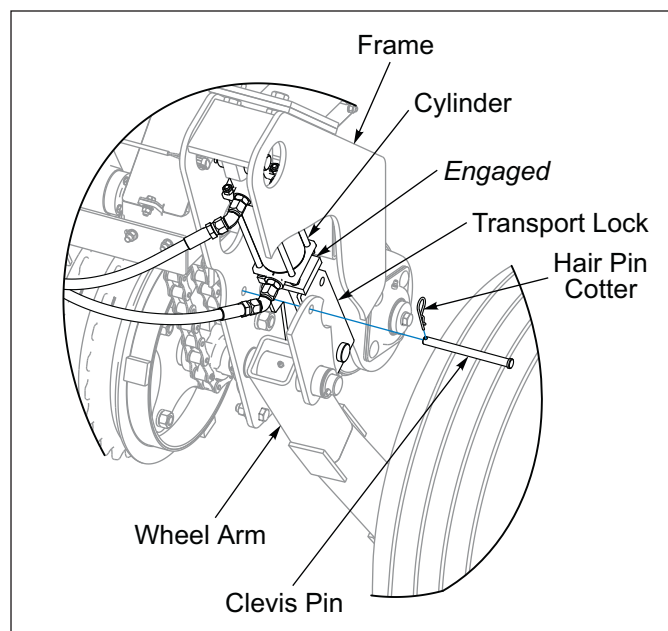


Figure 3-6: Transport Lock Engaged

6. 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.
7. If equipped with a Clutch, install Clutch Switch Box or Brillion Elite Mini Monitor to tractor.

Clutch Switch Box: Connect Clutch Switch Box Cord with Ring Terminals to tractor power source. Ring Terminals can be removed and replaced with a different power source connector. Connect 2-Pin Connector to Clutch Harness.

Brillion Elite Mini Monitor: Connect the Elite Mini Tractor Harness to 14-Pin Connector to Brillion Mini Monitor, 3-Pin Plug to the 12 Volt Tractor Convenience Outlet and 6-Pin Connector to 240" Extension Harness. Elite Mini Tractor Harness 4-Pin Connector is not used this time.

Attaching/Detaching Pull Type Seeder

Attaching the Seeder for Field Operations:

Seeder 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 3-5.**
3. Raise and rotate Drawbar 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 that the Transport Lock rests on the Wheel Arm. Insert the Clevis Pin in front of the Transport Lock. **See Figure 3-7.**

Seeder parked raised

1. Attach Seeder to the Tractor.
2. Raise and rotate Drawbar Jack to stored position before setting the machine in motion.
3. If not already done, raise 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 3-5.**
4. Transport the Seeder to the area to be seeded.
5. Disengage each Transport Lock so that the Transport Lock rests on the Wheel Arm. Insert the Clevis Pin in front of the Transport Lock. **See Figure 3-7.**

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 3-7.**
2. Lower Seeder, relieve pressure from Hydraulic Hoses.
3. Rotate and Lower Drawbar Jack.
4. 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 engaged position. Secure with the Clevis Pins and Hairpin Cotter. **See Figure 3-5.**
2. Relieve pressure from Hydraulic Hoses.
3. Rotate and lower Drawbar Jack.
4. Disconnect the Tractor from Seeder.

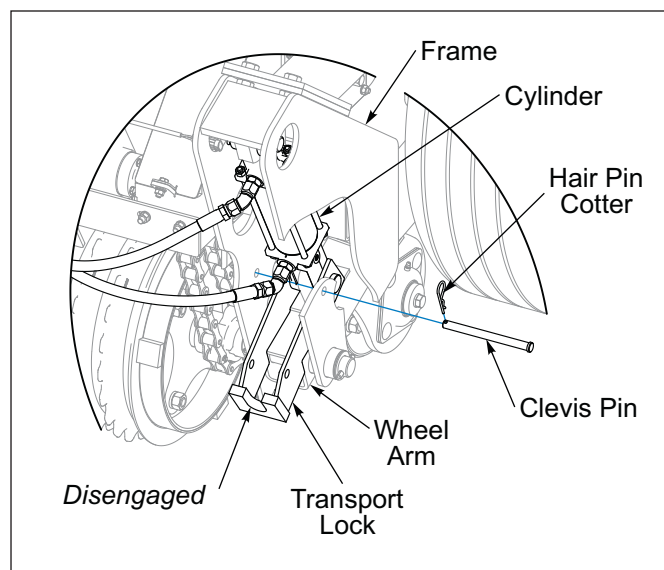


Figure 3-7: Transport Lock Disengaged

General Operation

1. The minimum horsepower requirements are typically 6-8 horsepower per foot. This will vary widely due to speed, 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.

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 personal 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 3-8.) Keep all components (cylinders, hoses, fittings, etc.) in good repair.

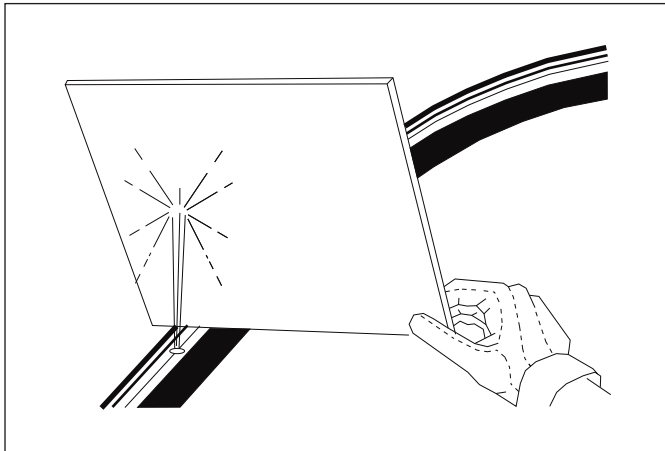


Figure 3-8: Hydraulic Leak Detection

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

1. Carefully hitch the Seeder to the Tractor and connect the Hydraulic Lift Hoses.
2. Check to make sure the Tractor Hydraulic Reservoir is full of the manufacturer's recommended oil.
3. If the Transport Lock are engaged, raise the Seeder and disengage the Transport Locks. **See Figure 3-7.**
4. Slowly raise the machine 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 machine 5 times to purge air from the system.
5. Do not loosen any 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 3-5.**

Lift Circuit approximate oil requirement: .4 gallons.

Transmission Electric Clutch - Optional

IMPORTANT

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

Clutch characteristics are as follows:

- The Electric Clutch is controlled by a Touch Screen Monitor or a Toggle Switch on the Switch Box mounted to the Tractor.
Brillion Elite Mini Monitor: Touch Screen Monitor provides the user the ability to turn the Seeder Clutch "ON" or "OFF".
Clutch Switch Box: Toggle Switch on the Switch Box, turns the Seeder Clutch to "SEED" or "NO SEED".
Console w/Clutch Control: Toggle Switch on the Console, turns the Seeder Clutch to "SEED" or "NO SEED".
- The Electric Clutch is disengaged when power (12 Volts) is applied. If there is a power failure or electrical problem, the Seeder will continue to operate, so the machine must be raised to stop seeding.
- Seed Shafts will not rotate when the machine is backed up.
- The Clutch Switch Box contains a 5 Amp Time-Delay Fuse.
- The Electric Clutch must be disengaged (power applied) when Seed Shafts are turned manually for Calibration.
- Check Electric Clutch Operation. The Electric Clutch will disengage 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 to "ON/SEED" and "OFF/NO SEED". The Seed Shaft will stop rotating when Monitor or Toggle Switch is set to "OFF/NO SEED".
- Set Monitor or Toggle Switch to "ON/SEED" position when Seeder is not used to shut off power to prevent possible overheating of Clutch Coil.

Brillion Elite Mini Monitor

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.

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 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 Seed Shafts are Smart Shaft Sensors. The front Seed Box Smart Shaft Sensor is installed on a Sensor Mount that is attached to the mounting Hardware of two seed cups. The High Powered Magnet is placed on the Seed Shaft and kept in place with a collar. The rear Seed Box Smart Shaft Sensor is installed on the box end retainer plate. The High Powered Magnet in the Magnet Mount Assembly is kept in place from rotating on the Seed Shaft with Set Screws. As the Seed Shafts rotate the Smart Shaft Sensors detect the Magnet. 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 Figure 2-25.** 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.

Console w/Clutch Control - Optional

Basic Operation:

During normal operation the Console LED for the Seed Shaft will not be illuminated. The Shaft Sensor will be activated by a Magnet Wheel installed on the Seed Shaft being monitored. The Shaft Sensor is a standard Loup Shaft Sensor, set to 20 second delay timing. When no signal is detected for 20 seconds by the sensor, the corresponding LED in the Console will illuminate and the audible alarm will sound indicating a fault. The alarm will become silent after 30 seconds and will not sound again until the Seed Shaft returns to a fully functional condition.

NOTE

If the Shaft Sensor stall alarm occurs, be aware that the Seeder has not been planting for 20 seconds.

- The Clutch Master toggle switch allows you to go from "SEED" to "NO SEED" operations. **See Figure 3-9.**

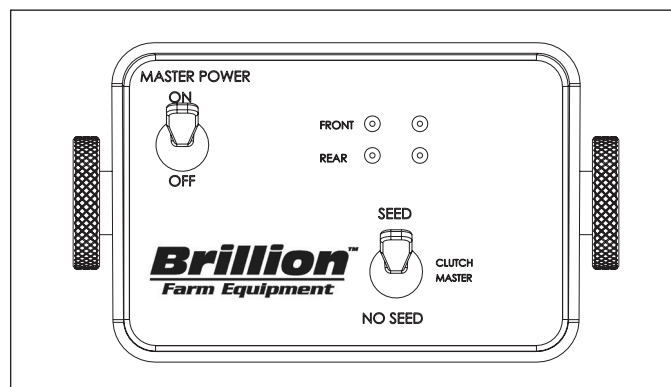


Figure 3-9: Console w/Clutch Control

Front Seed Box Seed Rate Adjustment



WARNING

- To prevent damage to seed meters, do not apply excessive force to 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 to prevent damage to the rotating washers and retainer rings in the seed meters.
- Do not attempt to open the 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.

NOTE

Before filling with seed be sure Seed Shaft turns freely and Seed Meters are free of any foreign matter. Wrenches for adjustment are stored on a Pin at the back of the Transmission. See Figure 3-10.

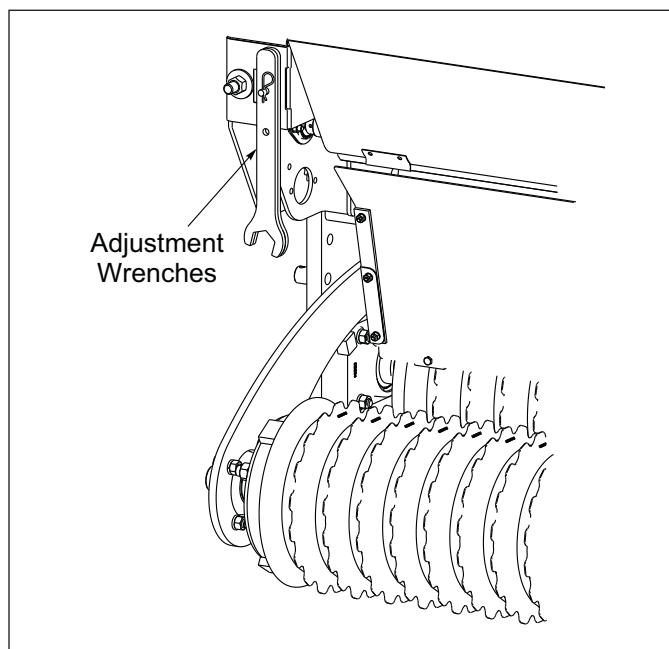


Figure 3-10: Adjustment Wrenches

IMPORTANT

If equipped, the Clutch must be disengaged when Seed Shafts are turned manually for Calibration.

Seed Rate Charts specific to Seeder Model are located inside the Seed Box Cover and in this manual. See Tables 3-1, 3-2 and 3-3. It should be used as a general guide only. Based upon your Seeder Model.

Because of seed variation, a more accurate rate can be determined by turning the 15/16" Hex Nut on the Transmission to calibrate the Seeder. (See "Calibration for Unlisted Seeds" on Page 3-13.)

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 3-11.

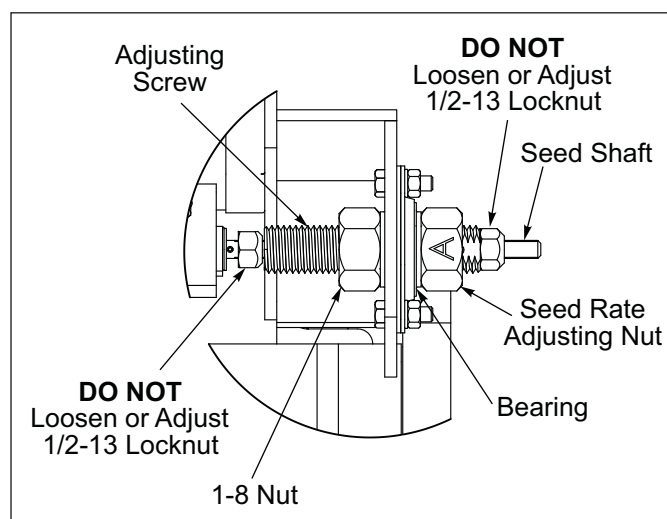


Figure 3-11: Seed Box Seed Rate Adjustment

IMPORTANT

Do Not Loosen or Adjust the 1/2-13 Locknut. See Figure 3-11.

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

Seed Meters discharge to the front of the machine to aid the operator in determining proper operation. In addition, reflective amber decals are placed on the seed shaft to indicate rotation.

Table 3-1: Front Seed Box 8FT

INDICATOR SETTING	1A	2A	3A	4A	5A	6A	7A	8A
ALFALFA (UNCOATED)	2	5	9	13	16	20	24	27
BAHIA	1	4	7	10	13	16	19	21
BERMUDA (HULLED)	2	5	9	14	17	21	24	28
BIRDSFOOT TREFOIL (BROADLEAF)	2	6	10	14	21	25	31	36
BLUEGRASS (KENTUCKY)	1	2	3	5	6	8	9	10
BLUE GRASS (PARK KENTUCKY)	1	3	5	8	10	13	15	17
BLUE GRASS (SHERMAN BIG)	-	1	3	4	5	6	7	8
CANOLA	1	5	8	12	15	18	21	25
CENTIPEDE	2	5	6	9	12	14	16	18
CLOVER,(ALSIKE, LADINO, SWEET, RED)	2	6	9	13	17	21	24	28
CLOVER, ALYCE, CALIFORINA BUR, CRIMSON, HUMBAM	2	5	8	12	17	20	24	30
CRESTED WHEAT	-	1	2	3	4	5	6	7
CROWN VETCH	2	7	11	15	20	24	29	34
FLAX	2	5	8	10	13	16	19	21
HARDING GRASS	1	4	6	9	11	14	16	18
KLEIN GRASS	2	5	10	13	18	23	28	31
LESPEDEZA (KOREAN UNHULLED)	1	4	7	10	14	17	21	24
LESPEDEZA (KOREAN HULLED)	2	5	9	13	16	21	25	28
LESPEDEZA (SERICEA UNHULLED)	1	3	5	8	11	13	15	17
LESPEDEZA (SERICEA HULLED)	2	6	10	15	19	24	29	32
LOVE GRASS (WEEPING)	1	6	10	13	17	22	26	31
LOVE GRASS (SAND)	2	5	8	11	15	19	23	27
MILLET	2	6	10	14	18	22	26	31
RED TOP	1	2	4	5	6	7	8	9
REED CANARY GRASS	1	2	4	6	7	9	10	13
SWITCH GRASS (CLEANED AND HULLED)	-	2	4	5	7	9	11	13
TEFF - TIFFANY COATED	3	7	10	15	20	22	28	32
TILLAGE RADISH	2*	6	10	14	18	22	26	30
TIMOTHY	2	4	7	11	14	18	22	25

Not recommended: Lentils, Sorghum Sudan grass.

* Will crack some seeds at these settings.

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 box cover or refer to the Operator's Manual. *The information listed in the above seed charts is subject to change without notice.*

Table 3-2: Front Seed Box 10FT

INDICATOR SETTING	1A	2A	3A	4A	5A	6A	7A	8A
ALFALFA (UNCOATED)	2	5	9	13	16	20	24	27
BAHIA	1	4	7	10	13	16	19	21
BERMUDA (HULLED)	2	5	9	14	17	21	24	28
BIRDSFOOT TREFOIL (BROADLEAF)	2	6	10	14	21	25	31	36
BLUEGRASS (KENTUCKY)	1	2	3	5	6	8	9	10
BLUE GRASS (PARK KENTUCKY)	1	3	5	8	10	13	15	17
BLUE GRASS (SHERMAN BIG)	-	1	3	4	5	6	7	8
CANOLA	1	5	8	12	15	18	21	25
CENTIPEDE	2	5	6	9	12	14	16	18
CLOVER,(ALSIKE, LADINO, SWEET, RED)	2	6	9	13	17	21	24	28
CLOVER, ALYCE, CALIFORNIA BUR, CRIMSON, HUMBAM	2	5	8	12	17	20	24	30
CRESTED WHEAT	-	1	2	3	4	5	6	7
CROWN VETCH	2	7	11	15	20	24	29	34
FLAX	2	5	8	10	13	16	19	21
HARDING GRASS	1	4	6	9	11	14	16	18
KLEIN GRASS	2	5	10	13	18	23	28	31
LESPEDEZA (KOREAN UNHULLED)	1	4	7	10	14	17	21	24
LESPEDEZA (KOREAN HULLED)	2	5	9	13	16	21	25	28
LESPEDEZA (SERICEA UNHULLED)	1	3	5	8	11	13	15	17
LESPEDEZA (SERICEA HULLED)	2	6	10	15	19	24	29	32
LOVE GRASS (WEEPING)	1	6	10	13	17	22	26	31
LOVE GRASS (SAND)	2	5	8	11	15	19	23	27
MILLET	2	6	10	14	18	22	26	31
RED TOP	1	2	4	5	6	7	8	9
REED CANARY GRASS	1	2	4	6	7	9	10	13
SWITCH GRASS (CLEANED AND HULLED)	0	2	4	5	7	9	11	13
TEFF - TIFFANY COATED	3	7	10	15	20	22	28	32
TILLAGE RADISH	2	6	10	14	18	22	26	30
TIMOTHY	2	4	7	11	14	18	22	25

Not recommended: Lentils, Sorghum Sudan grass.

* Will crack some seeds at these settings.

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 box cover or refer to the Operator's Manual. *The information listed in the above seed charts is subject to change without notice.*

Table 3-3: Front Seed Box 12FT

INDICATOR SETTING	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
BLUEGRASS (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)	-	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, HUMBAM	3	7	11	17	24	28	34	43
CRESTED WHEAT	-	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	23	26	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)	-	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

Not recommended: Lentils, Sorghum Sudan grass.

* Will crack some seeds at these settings.

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 box cover or refer to the Operator's Manual. *The information listed in the above seed charts is subject to change without notice.*

Transmission Drive Bolt

For Machines without Clutches

NOTE

#550 Chain connects Front Roller #550 Chain 7 Tooth Sprocket with Transmission #550 Chain 12 Tooth Sprocket.

Transmission Drive Bolt (1/4-20 x 2-1/2) from the #550 Chain 12 Tooth Sprocket, must be removed for Calibration and can also be removed if it is desired to use the Seeder as a Pulverizer, Rollers only. (The Acre Meter will not register when the Bolt is removed). **See Figure 3-12.**

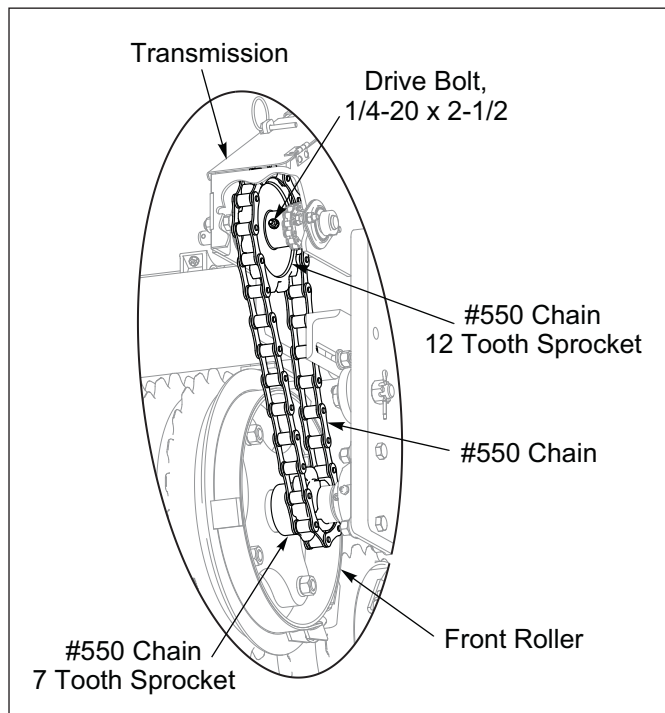


Figure 3-12: Transmission Drive Bolt

Calibration for Unlisted Seeds

IMPORTANT

If equipped, the Clutch must be disengaged when Seed Shafts are turned manually for Calibration. Electrical Power is required to disengage the Clutch.

Brillion/Landoll 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.**

NOTE

The information listed in the Seed Charts is subject to change without notice.

IMPORTANT

Rates are for the 13 Tooth Driver. Double these values for the 26 Tooth Driver. See Figure 3-14.

Front Seed Box may be Calibrated for Unlisted Seed as follows.

1. Transmission w/o Clutch

Remove Transmission Drive Bolt (1/4-20 x 2-1/2) from the #550 Chain 12 Tooth Sprocket. **See Figure 3-12.**

Transmission w/Clutch - Optional

Disengage Electrical Clutch. Electrical Power is required to disengage the Clutch.

- 2. Raise Seeder and install Transport Locks. See Figure 3-6.**
- 3. Close Rear Seed Box openings if they contain Seed.**
- 4. Place a Canvas or Tarp under the Machine to catch Seed.**
- 5. Turn 15/16 Hex on Transmission Shaft Clockwise(CW). See Figure 3-13.**

8FT Seeder: Use 50 turns if you follow Step 6. *Reference, the Seed Shaft rotates 250 Revolutions per Acre Seeded with 13 Tooth Driver.*

10FT Seeder: Use 40 turns if you follow Step 6. *Reference, the Seed Shaft rotates 200 Revolutions per Acre Seeded with 13 Tooth Driver.*

12FT Seeder: Use 33 turns if you follow Step 6. *Reference, the Seed Shaft rotates 167 Revolutions per Acre Seeded with 13 Tooth Driver.*

- 6. Weigh Seed (lbs) and Multiply by 5 (10 for 26 Tooth Driver) for approximate Planting Rate in Pounds per Acre.**

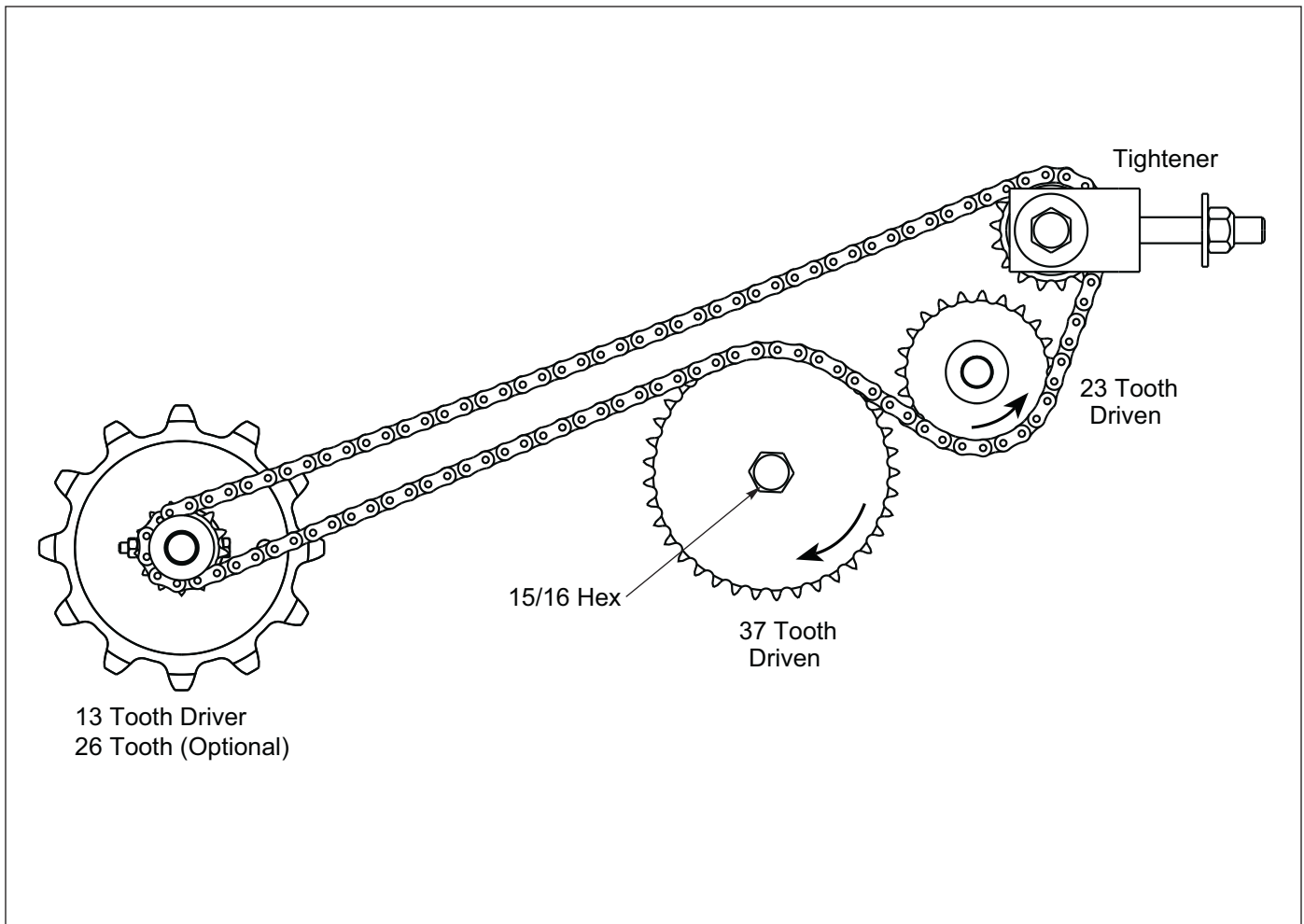


Figure 3-13: Transmission Drive

Speed-Up Kit - Optional

Seed rates can be doubled by using a 26 Tooth Sprocket and following the procedure below:

1. Loosen and remove #550 and #40 Drive Chains.
2. Remove 1/4-20 x 2 1/2 Bolt, Lock Washer and Nut from #550 chain 12 Tooth Sprocket Hub on Front Transmission Shaft.
3. Remove the 1/4 x 1-1/2 Roll Pin from 13 Tooth Sprocket Hub on the Front Transmission Shaft.
4. Remove the Locking Collar from the left side of the Front Transmission Shaft.
5. Move the shaft far enough to the right to remove the 13 Tooth Sprocket.
6. Install the new 26 Tooth Sprocket.
7. Replace all items (except #40 chain) in reverse order.
8. Add extra links to #40 chain.
9. Adjust chain tension. **See Figure 4-5.**

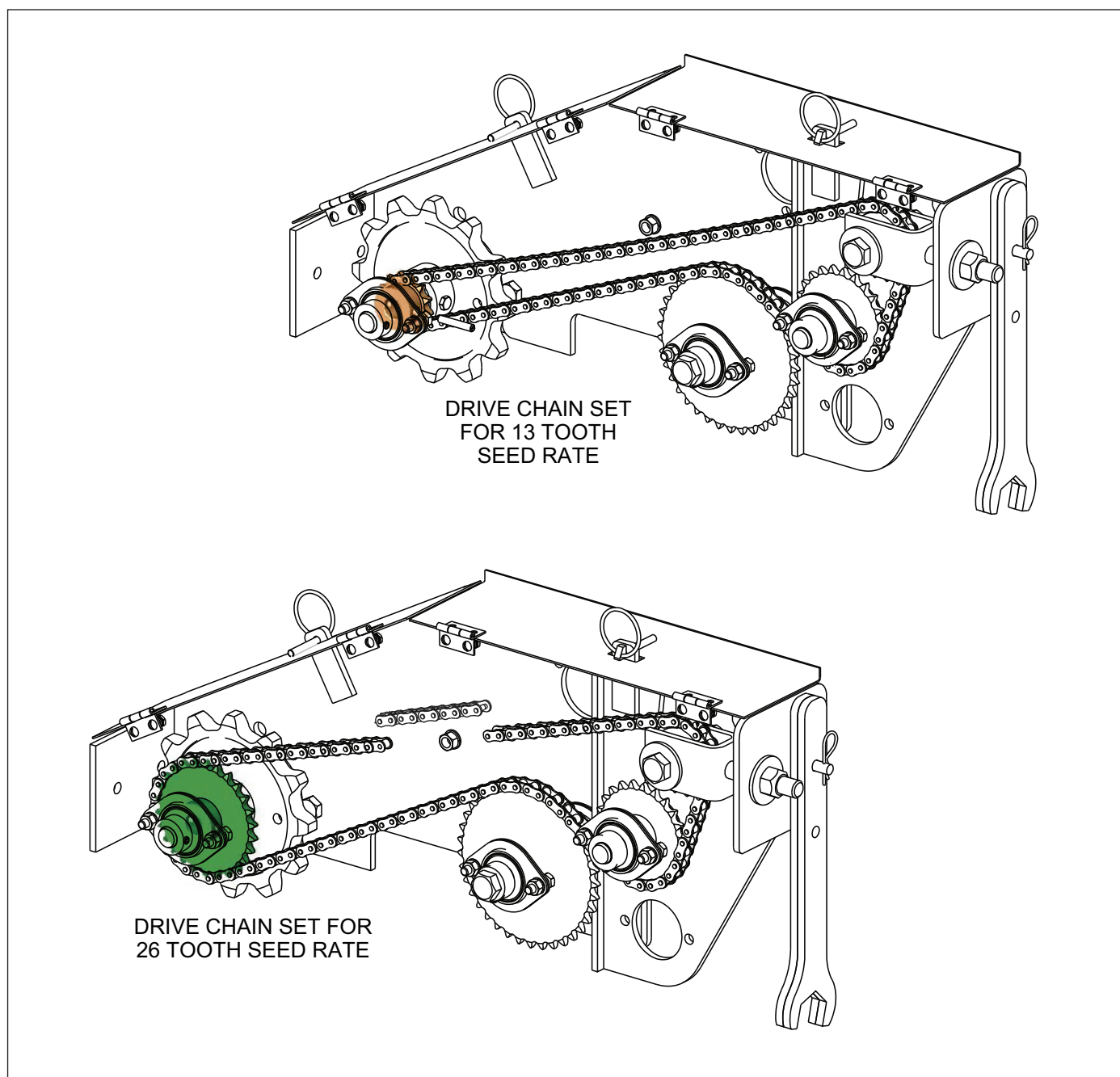


Figure 3-14: Speed-Up Kit

Rear Agitator Seed Box Seed Rate Adjustment



WARNING

Do Not use mixtures that contain small seeds such as clover, alfalfa, timothy with brush agitators. Brushes will be destroyed.

IMPORTANT

If the Agitator Brush Kit has been installed, always raise the Seeder fully before backing up. Brushes will be seriously damaged if they are rotated backwards.

The Agitator Seed Boxes are set by means of the Shifter Handles on the rear of each Seed Box. Loosen Wing Nut to move handles to desired setting and re-tighten Wing Nut. **See Figure 3-15.**

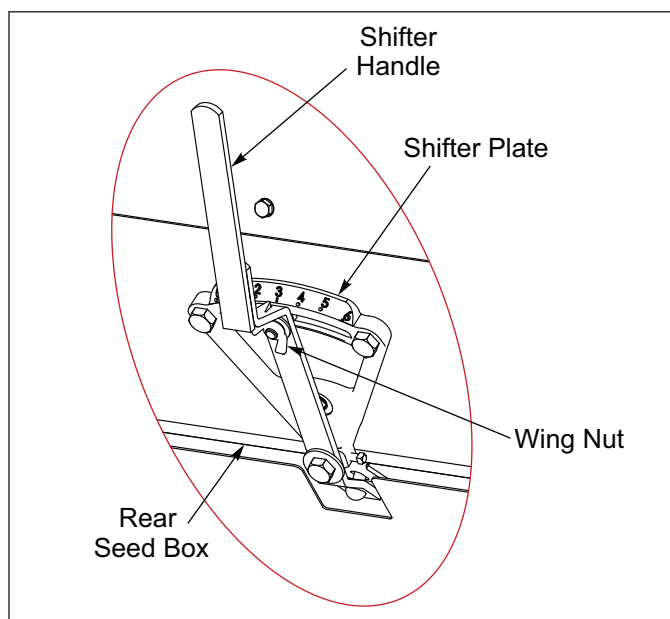


Figure 3-15: Agitator Box Adjuster

- A Seed Rate Chart is located inside the Seed Box Cover. As with the front box, calibration as shown in the next section will provide the most accurate seeding rate. Blade Agitators are standard on the seeders. Optional Brush Agitators and Blade Agitators are also available.
- Cage Agitators are provided with you seeder for versatility. Brush Agitators are also available to order for specific varieties.
- Cage Agitators can be used to plant cereal grains such as wheat, oats, rye, barley and others. However, Landoll does not recommend it as a harvestable crop because the seed will only be placed in the top 1/4" to 1/2" of soil which is too shallow for a harvestable crop.

Rear Agitator Seed Box Seed Rate Calibration

The provided chart was determined by laboratory tests on various samples. To find rates for specific seed lots or to calibrate for unlisted seeds, proceed as shown on the seed chart. **See Tables 3-4 and 3-5.**

NOTE

Planting Rates For Agitator (Rear) Box In Pounds Per Acre. Rates are for 13 Tooth Driver, double these values for 26 Tooth Driver.

1. Rates are intended as a guide only. Variations in seed size and cleanliness will affect rates. Check acreage and pounds of seed used for best results.
2. Calibration procedure is the same as for meter box.
See “Calibration for Unlisted Seeds” on Page 3-13.

Table 3-4: Additional Cage Agitator Rates

INDICATOR SETTING	1	2	3	4	5	6
BROME (ERECT MEADOW)	-	2	6	14	25	36
BROME (NORTHERN)	-	2	4	8	14	18
BROME (SOUTHERN)	-	1	2	7	11	13
DAHLIA GRASS	2	10	30			
DALLIS GRASS	2	11	29	61		
JOHNSON GRASS			1	2	4	8
RESCUE GRASS		2	4	9	16	21
RYE GRASS	1	8	28	69		
TRITICALE			113			

INDICATOR SETTINGS	AGITATOR	POUNDS PER ACRE						INDICATOR SETTINGS	AGITATOR	POUNDS PER ACRE							
		1	2	3	4	5	6			1	2	3	4	5	6		
Bent Grass (L-93 Creeping)	Blade	23	72	143	213	291	396	Buffel Grass	Blade	-	0.5	1	2	3	5		
	Cage		Not Recommended						Cage	-	0.5	1	2	3	5		
	Brush	32	78	140	201	262	309		Brush	-	0.7	2	3	6	7		
Blue Grass (Sherman Big)	Blade	4	19	49	79	126	170	Fescue (Creeping Red)	Blade	2	9	22	43	83	127		
	Cage	2	13	38	-	-	-		Cage		Not Recommended						
	Brush	7	25	57	90	132	147		Brush	5	14	31	55	100	139		
Blue Grass (Kentucky - Odyssey)	Blade	12	51	97	150	221	312	Fescue (Tall)	Blade	8	34	74	138	200	274		
	Cage		Not Recommended						Cage	2	8	27	82	142	-		
	Brush	20	58	107	157	210	242		Brush	12	43	89	174	249	274		
Bluestem (W/Beards) (Pawnee Big)	Blade	0.6	2	4	7	10	15	Festolium	Blade	10	28	66	97	181	245		
	Cage		Not Recommended						Cage		Not Recommended						
	Brush	2	3	7	13	27	37		Brush	15	42	78	143	247	283		
Bluestem (W/O Beards) (WW B. Dahl)	Blade	1	5	11	22	38	59	Grama (Side Oats)	Blade	1	3	7	12	22	30		
	Cage		Not Recommended						Cage	0.5	2	5	9	15	23		
	Brush	3	8	19	35	56	71		Brush	1	4	10	18	31	41		
Bluestem (W/O Beards) (Itasca Little)	Blade	-	0.6	2	3	6	10	Indian Grass	Blade	1	2	4	7	9	12		
	Cage		Not Recommended						Cage	1	2	5	8	12	23		
	Brush	0.6	2	4	9	12	15		Brush	2	4	10	16	26	38		
Brome (Meadow)	Blade	1	4	7	11	19	31	Orchard Grass (Unhulled)	Blade	3	10	24	49	85	136		
	Cage	1	4	6	12	19	29		Cage	1	6	18	43	-	-		
	Brush	2	6	10	19	33	54		Brush	5	16	36	68	129	147		
Brome (Smooth)	Blade	2	5	11	19	33	54	Rye Grass	Blade	3	20	45	77	126	174		
	Cage	2	4	10	17	28	46		Cage	1	8	28	69	-	-		
	Brush	3	9	18	30	51	84		Brush	10	28	59	110	186	209		
Buffalo Grass	Blade	3	14	42	72	106	143	Wheatgrass (Intermediate)	Blade	2	8	20	33	57	87		
	Cage	2	19	50	128	-	-		Cage		Not Recommended						
	Brush	5	19	52	89	119	133		Brush	4	15	29	52	102	133		

Table 3-5: Rear Agitator Seed Box Seed Chart

Loup Acre Meter Kit - Optional (After 05/15/2012)

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. See “Electric Clutch - Optional” on Page 5-10.

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 3-16.

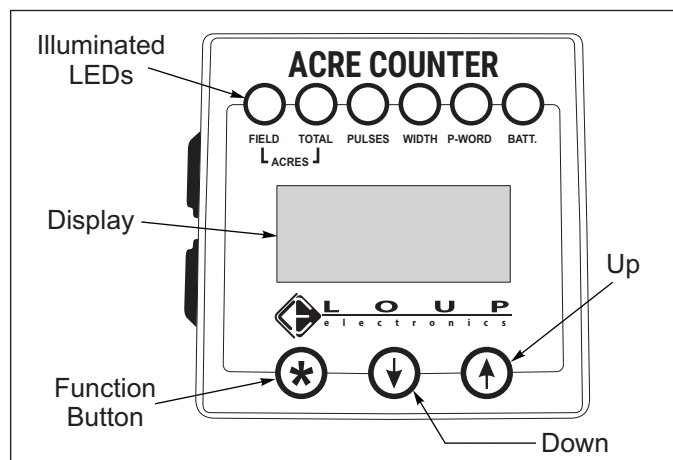


Figure 3-16: Acre Meter

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 3-6.
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 if equipped, 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 machine 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 machine 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 machine and undo the 4 screws on the back of the case. **See Figure 3-17.** 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.

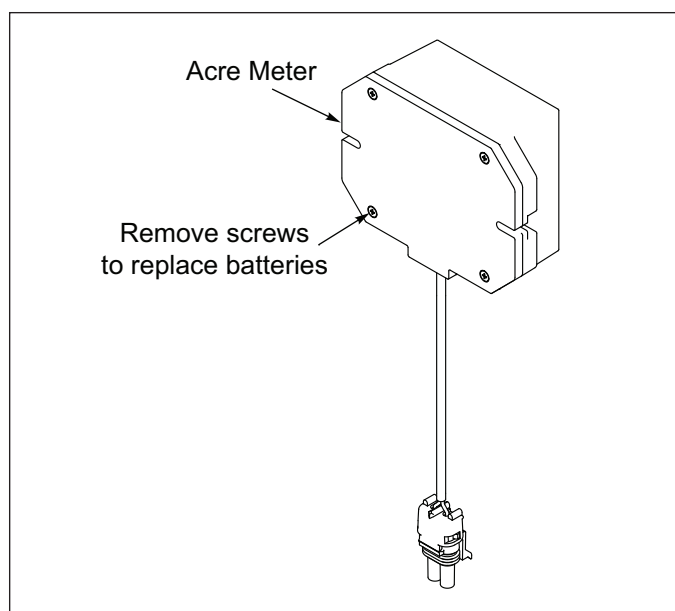


Figure 3-17: Battery Replacement

Loup Acre Meter Kit - Optional (Before 05/15/2012)

Settings

- When the meter is set to “count” mode in pulses screen, meter will register only magnetic wheel revolutions.
- The meter must be in sleep mode (blank screen) to calculate acres or to count pulses.
- The count screen must have a value other than zero (0000) to scroll to other modes or screens.
- To reset the FIELD ACRES screen to zero (0000), press the **UP** and **DOWN** buttons simultaneously.

To Program Meter

1. Press the **Function (FUNC)** button to scroll to pulses screen.
2. Enter the number of pulses using the **UP** or **DOWN** buttons for the model listed in the chart. **See Table 3-7.**
3. Press the **FUNC** to set the pulses. (If screen goes blank before you press **FUNC**, repeat steps 1 and 2).
4. Press the **FUNC** to scroll to the width screen.
5. Enter the width of seeder using the **UP** or **DOWN** buttons for the model listed in the chart. **See Table 3-7.**
6. Press the **FUNC** to set the width. (If screen goes blank before you press the **FUNC**, repeat steps 4 and 5).
7. Press the **FUNC** to scroll through the screens to check that the correct pulses and width have been entered.

To Enter Password

1. Press the **FUNC** to scroll to password screen.
2. Pick a numeric password and enter it by using the **UP** or **DOWN** buttons, until your password is displayed.
3. Press the **FUNC** to set password; screen will show **“(set)”**. Record number - it is required if you decide to disable password.
4. Let screen go blank - password is now entered.
5. Press the **FUNC** to scroll to the password screen it will show **“Ent”**. If the screen does not show **“Ent”**, repeat steps 2, 3 and 4.

To Disable Password

1. Press the **FUNC** to scroll to the password screen it will show **“Ent”**.
2. Use **UP** or **DOWN** button to enter password (number).
3. Press the **FUNC** to scroll around to pass screen again. Number entered in step 2 will appear.
4. Press **UP** or **DOWN** button to enter 0.
5. Press the **FUNC**; **(dis)** will appear. Password is now disabled.

Table 3-6: Acre Meter Settings (After 05/15/2012)

MODEL				Pulses per 400 FT	Width (Feet)
SSPT604				22	5.0
SSP4	SS4			44	4.0
SSP5				44	5.0
SSP6				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		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				128	5.0
LSP6				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
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

Table 3-7: Acre Meter Settings (Before 05/15/2012)

MODEL				PULSES	WIDTH
SSP T604				293	5
SSP4		SS4		578	4
SSP5				578	5
SSP6		SS6		578	6
SSP8		SS8		764	8
SSP10		SS10		764	10
SSP12		SS12		764	12
SSP108		SS108		760	8
SSP110		SS110		760	10
SSP112		SS112		760	12
SSP208	SSP2081	SS208	SS2081	764	8
SSP210	SSP2101	SS210	SS2101	764	10
SSP212	SSP2121	SS212	SS2121	764	12
SSP308		SS308		382	8
SSP310		SS310		382	10
SSP312		SS312		382	12
SLP8		SL8		4147	8
SLP10		SL10		4147	10
SLP12		SL12		4147	12
SLP204	SLP2041			1690	4
SLP206	SLP2061			1690	6
SLP304	SLP3041			845	4
SLP306	SLP3061			845	6
LSP5				1690	5
LSP6				1690	6
LSS6				1690	6
SLP208	SLP2081	SL208	SL2081	1528	8
SLP210	SLP2101	SL210	SL2101	1528	10
SLP212	SLP2121	SL212	SL2121	1528	12
SLP308	SLP3081	SL308	SL3081	764	8
SLP310	SLP3101	SL310	SL3101	764	10
SLP312	SLP3121	SL312	SL3121	764	12
BOS4F1	BOS4S1	BOS6F1	BOS6S1	600	4
BOSB4F1	BOSB4S1	BOSB6F1	BOSB6S1	600	6
BPS6	BPSB6			679	6
GLP643		SSLP643		917	5

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 machine 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 machine, reduced braking ability, or failure of the machine tire or structure. Do not exceed the machines 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 machines. 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 machine 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 Figure 1-2.** 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 "Transport Lock Engaged" on Page 3-5.)**



WARNING

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

- Check all tires for proper inflation, and that lug nuts are properly torque. **(See "Tires" on Page 4-3.)**
- Verify that all warnings lights, SMV sign, reflectors, and safety decals are clearly visible and functioning properly.
- 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 3-18.**

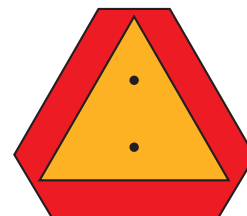


Figure 3-18: SMV Sign

TABLE OF CONTENTS

Table provided for general use.

NOTES:

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.

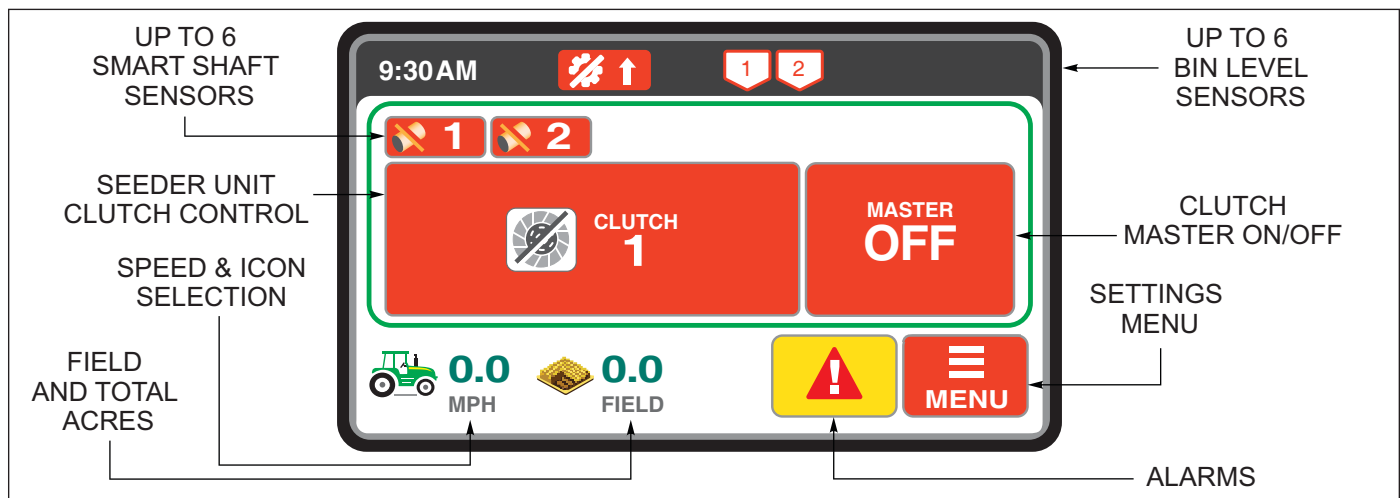


Figure 4-1: Main Screen Display (Sure Stand Seeder)

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.

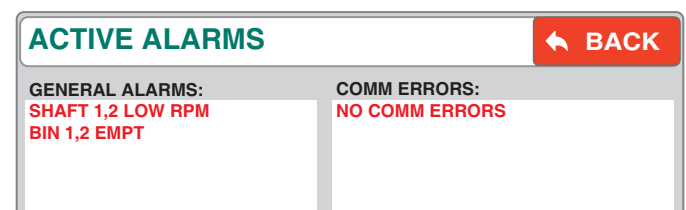




Figure 4-2: Settings Menu Display (Sure Stand Seeder)

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.



SPEED SETTINGS

Source: Shaft Sensor Speed

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



SHAFT SENSOR

Source: Radar Speed

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



RADAR

Source: GPS Receiver Speed

Uses a GPS receiver for your source of ground speed.



GPS RECEIVER

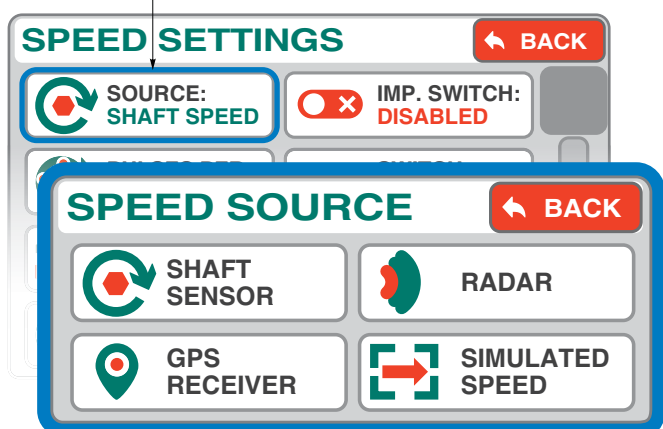
Source: Simulated Speed

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.



SIMULATED SPEED

CURRENT “SOURCE” BUTTON



Speed Source Displays

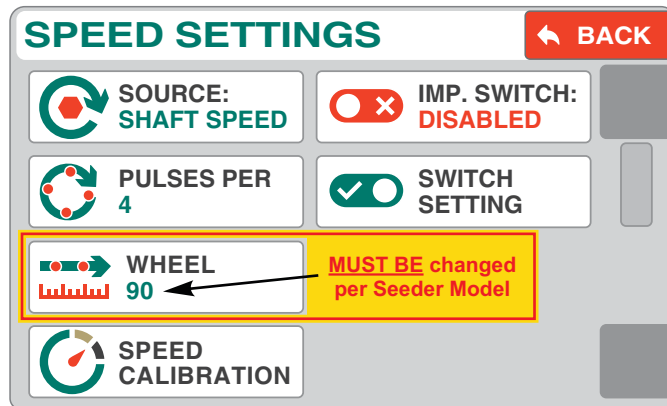


Figure 4-3: Source: Shaft Sensor Speed Display

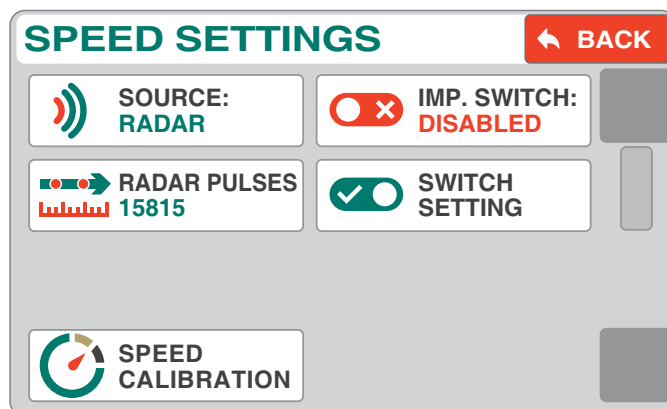


Figure 4-4: Source: Radar Speed Display

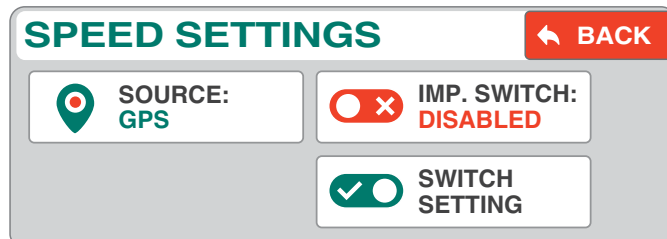


Figure 4-5: Source: GPS Receiver Display

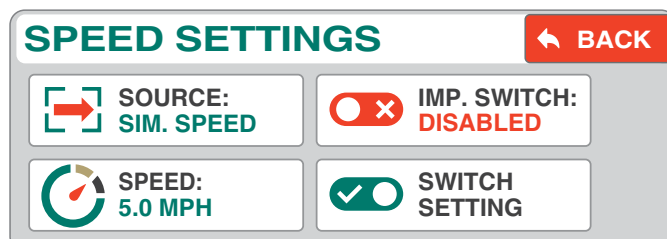


Figure 4-6: Source: Simulated Speed Display

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 an implement mounted speed sensor. See "Speed Calibration" for calibration instructions.



MUST BE changed per Seeder Model

The Default Number **MUST BE CHANGED** per specific seeder model. See Figure 4-7. 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.

MODEL	PULSES PER 400FT
SSB8/SSBP8	232
SSB10/SSBP10	232
SSB12/SSBP12	232

Figure 4-7: Pulse Number for Specific Seeder Model

Radar Pulses Per 400FT

This is the ground speed calibration number for a radar speed sensor. See "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.


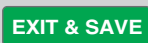
SPEED CALIBRATION

SPEED CALIBRATION

1. Measure 400ft distance
2. Select "START CALIBRATION" and begin driving.
3. Pulses will start accumulating below.
4. Select "EXIT AND SAVE" below to complete.

START

WHEEL PULSES RECEIVED : 0

RADAR PULSES RECEIVED : 0

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 Sure Stand Seeder.**

When the Monitor learns a "Lift Switch Sensor" toggle the "Implement Switch" button to "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".



IMP. SWITCH SETUP


RAISED: OPEN SET HIGHEST


CURRENT: OPEN

LOWERED: CLOSED SET LOWEST


Settings Menu - Clutch Setting






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

CLUTCH SETTINGS


CLUTCH 1 DETAILS:

 **CLUTCH ENGAGE AT: 0V**

SECTION WIDTH: 8.0 FT 

TOTAL CLUTCHES

1

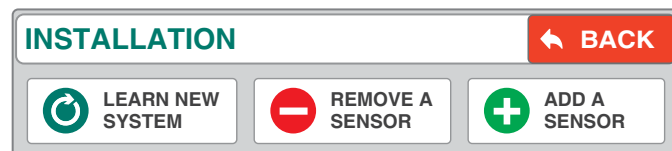
-
+

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: 0 Volts (Toggles between 0 and 12 Volts)
 - Section Width: 8.0 Feet, 10 Feet, or 12 Feet **Set to Model Width**
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 2-25.**

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.



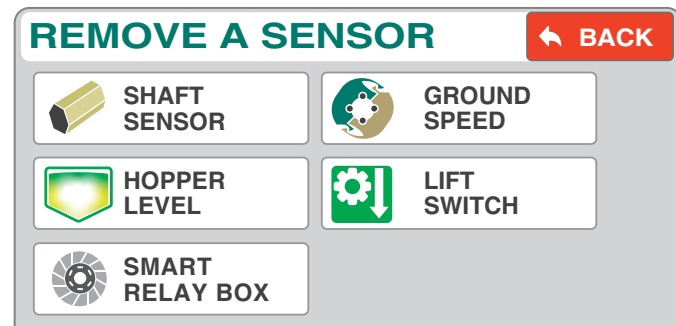
4. When you’ve reached the end of the list of sensors, you will be prompted with “**Manual Learn Complete**”. Push “**Ok**” to finish.

Remove A Sensor

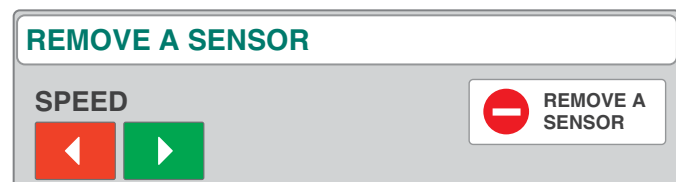
Select this option to remove a sensor from your existing system.



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.

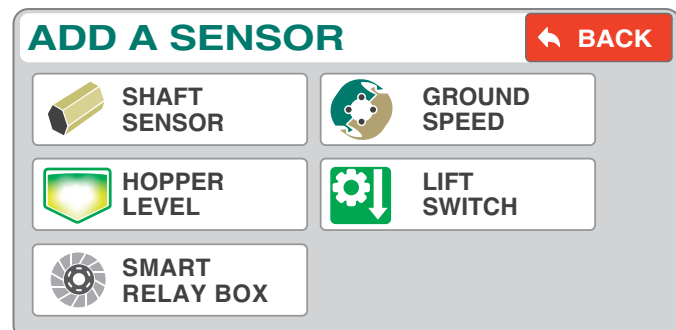


Add A Sensor

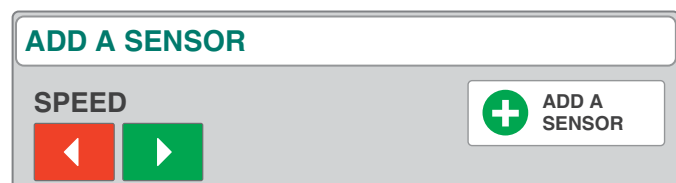
Select this option to add a new sensor to your existing system.



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



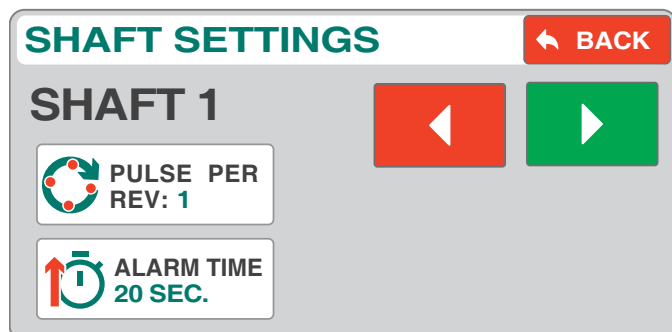
Seed Shaft Settings

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.

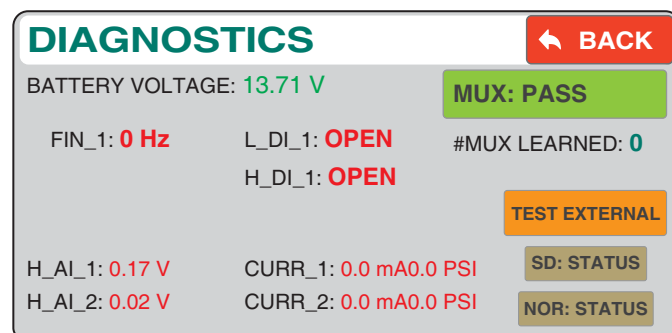
The 20 second Alarm Time is the estimated time it takes to turn around after each pass in the field without sounding the Alarm. This can be adjusted by the operator if more or less time is required before the Alarm Sounds.



Settings Menu - Diagnostics



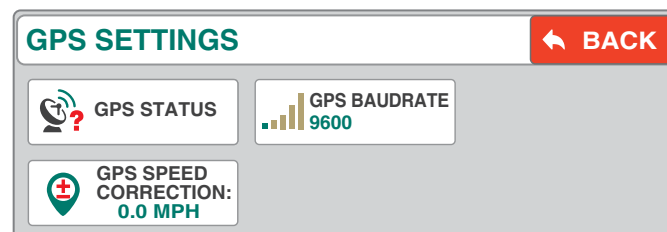
The Diagnostics screen can help in identifying issues with sensors, harnessing or other items. Status reports for Battery Voltage, Sensors Learned, MUX Communication speed and GPS Communication speed are displayed. Contact Loup Electronics if you need technical support.



Settings Menu - GPS Settings



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



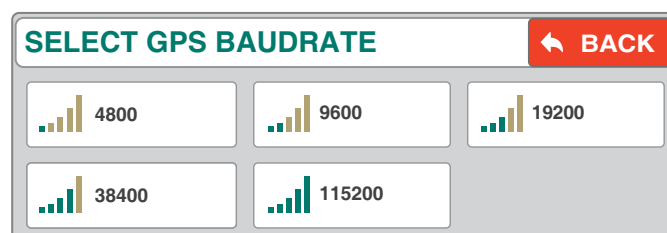
GPS Status

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.



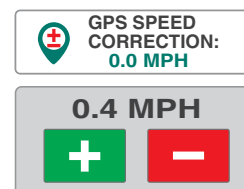
GPS Baudrate

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

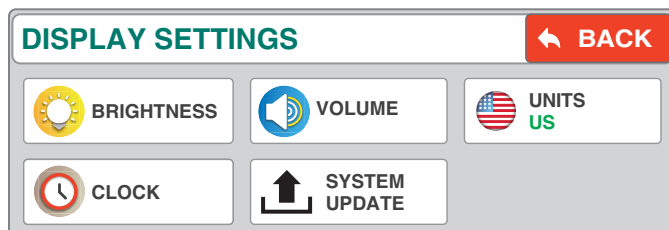


GPS Speed Correction

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.



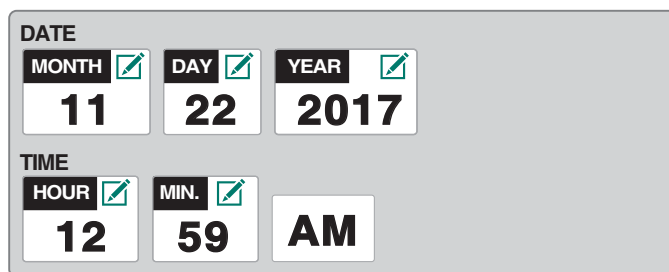
Units

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

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Table provided for general use.

[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

UNC SIZE	SAE Grade 2	SAE Grade 5	SAE Grade 8	UNC 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 FITTINGS

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

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

Seeder recommended Tire Size:

9.5L-15 - 8 Ply Rating

Tire Inflation Pressure: 44 PSI

When Re-Installing 1/2-20 x 1 Wheel Bolts tighten to 50 Ft-Lbs. using the sequence in **See Figure 5-1**. Then tighten to full torque of 80-85 Ft-Lbs.

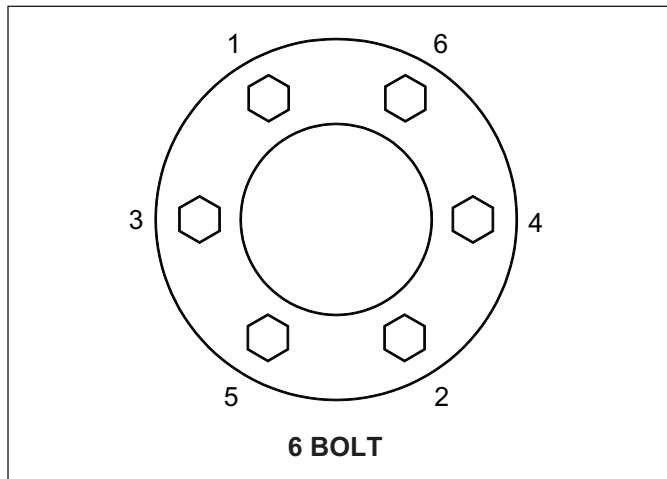


Figure 5-1: Tightening Sequence

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 and Slotted Nut.
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 Single 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 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

- Oil Roller Chains periodically.
- Seeder has Greaseable Bearings on the ends of the Front and Rear Rollers and should be greased every 20 hrs. **See Figure 5-2.**
- Pull Type Seeders Wheel Arm pivot point should be greased every 4 hrs.
- Grease Wheels Hubs every 50 hrs.
- 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.

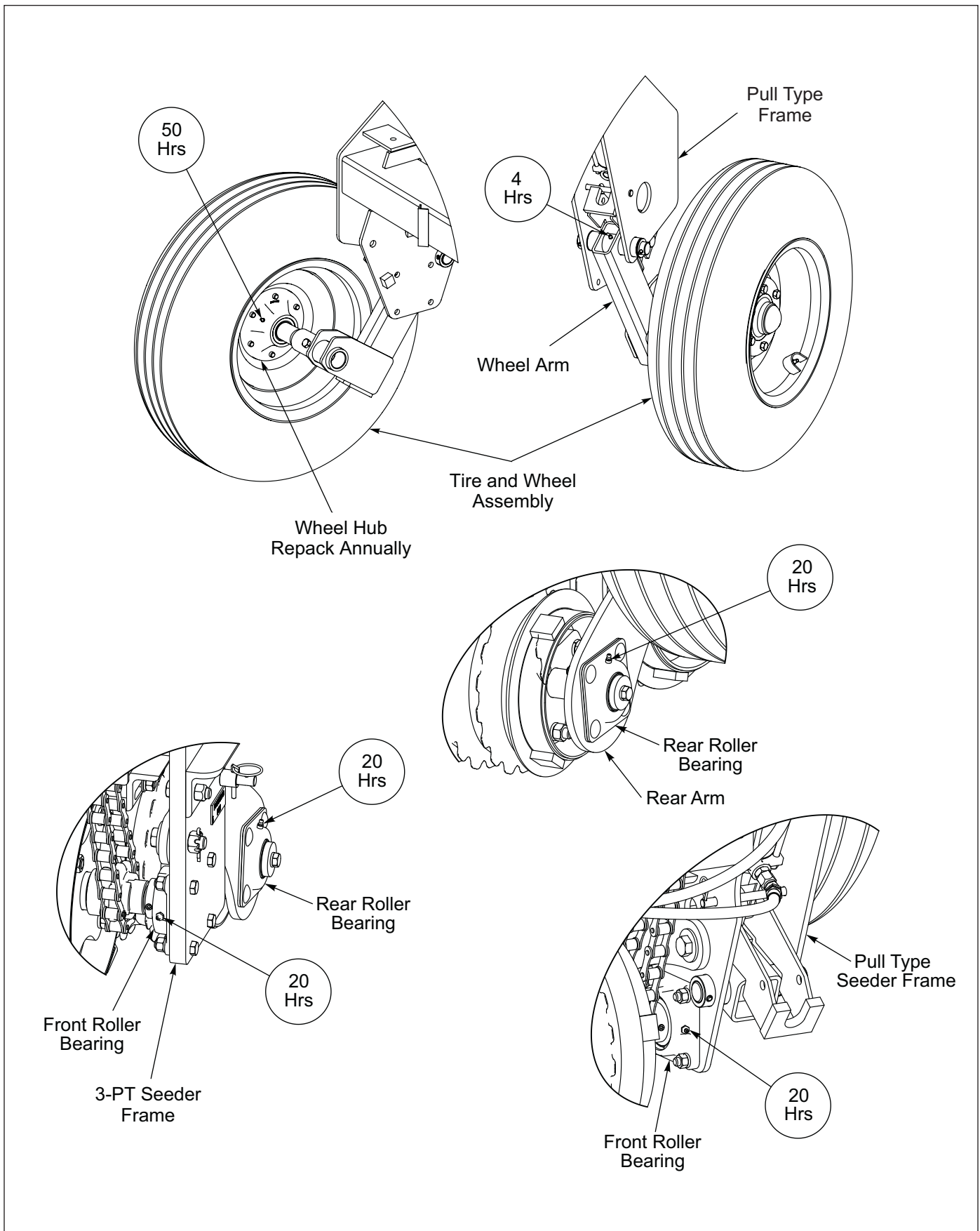


Figure 5-2: Lubrication Intervals

Hydraulic Maintenance

IMPORTANT

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



WARNING

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. Wear protective gloves and safety glasses or goggles when working with Hydraulic System.

1. Check the tractor hydraulic fluid level per tractor owner's manual and after any leakage. Check fluid level with the Hydraulic Cylinders in the extended position.
2. If a Hydraulic Cylinder leaks, disassemble the parts to determine the cause of the leak. Any time a Hydraulic 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. Do not attempt to perform any service work under the implement without first installing the Transport Locks. **See Figure 3-6.** 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 "Hydraulic Lift System" on Page 3-7.**

Front and Rear Roller Adjustment

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 Bands and slide the Roller Wheels snug against each other, centering the entire assembly under the Deflector.
2. Slide the Clamp Band against the End Wheel on each end of the Roller and tighten the Clamp Band Bolt to 75 Ft-Lbs.
3. Position the Clamp Band Socket Head Bolt (Clamp Band open section) over the weld seam on the Roller Drum. **See Figure 5-3.**
4. Adjust the Rear Roller Wheels in the same manner as you adjusted the Front Roller Wheels except, 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 as best as possible. This will provide the best alignment of worn Roller Wheels and maximize seed germination.

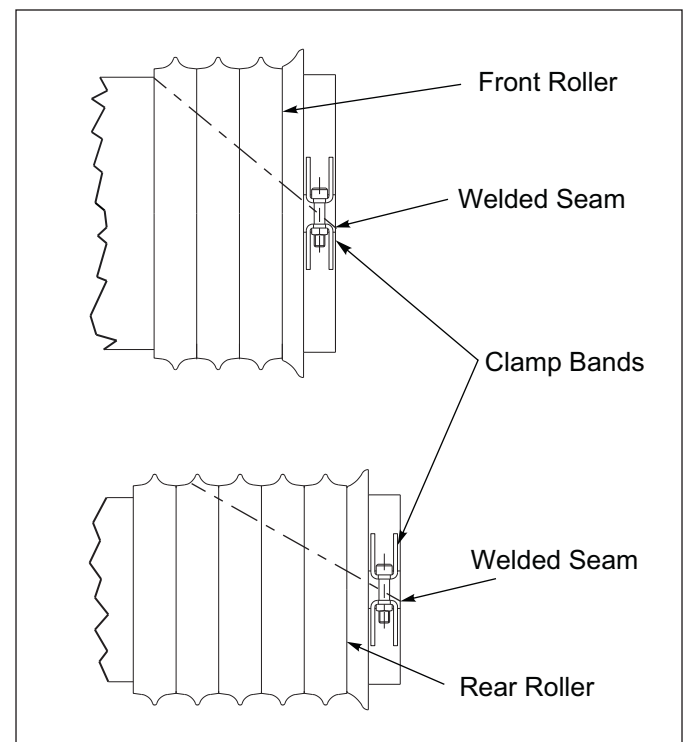


Figure 5-3: Roller Adjustment

Chain Tension

To adjust the Transmission Chain, loosen the 5/8" Idler Sprocket Axle Bolt and then adjust the Clevis Drawbolt Locknut to obtain about 1/8"-1/4" sag. Re-tighten the Idler Sprocket Axle Bolt. Be careful not to over-tighten this chain. **See Figures 5-4 and 5-5.**

Adjust the #550 Chain between the Front Roller and Transmission by adjusting the Nylatron Tension Idler to allow approximately 2" of Total Chain Deflection.

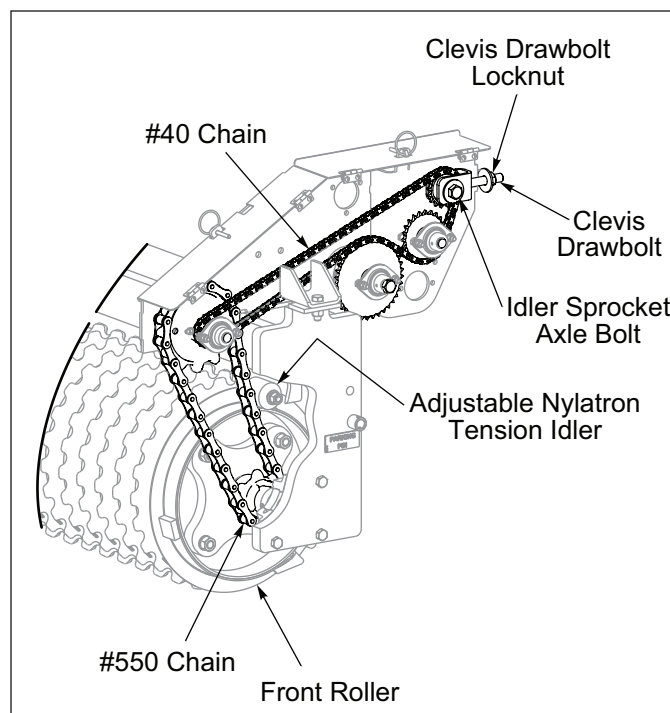


Figure 5-4: Loosen Idler Bolt

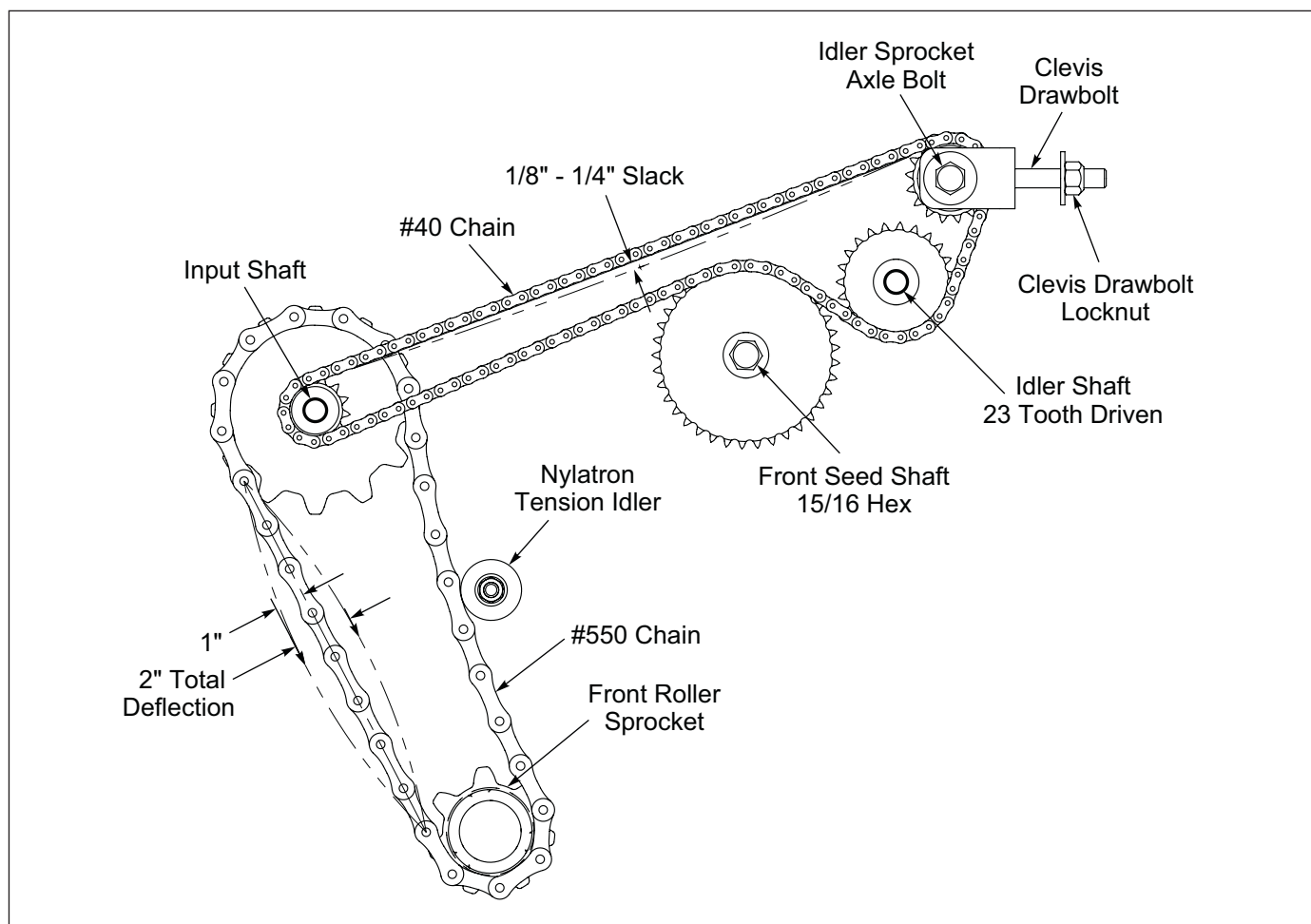


Figure 5-5: Chain Tension

Seed Meter Adjustment

IMPORTANT

The Clutch, if equipped must be disengaged 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 Cups.

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. **See Figure 5-6.**

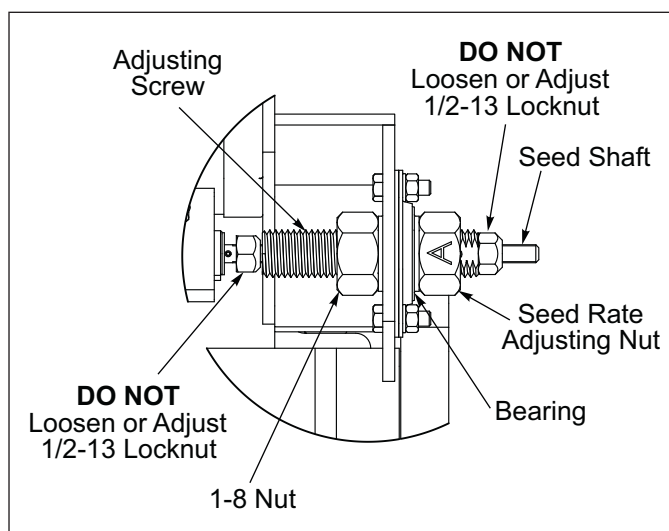


Figure 5-6: Seed Box Seed Rate Adjustment

All Seed Meters should be closed. Seed Meter Feed Shutoff against Seed Meter Cup Star Washer in Seed Meter Cup. **See Figure 5-7.** If not, there are three adjustments to make as needed.

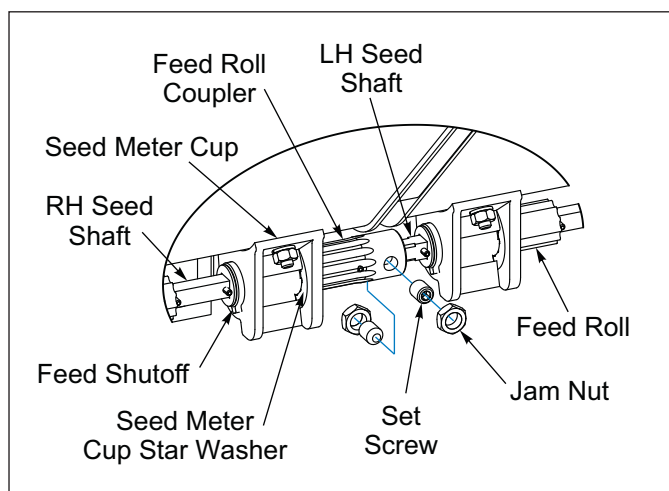


Figure 5-7: Seed Shaft Coupler

IMPORTANT

Ensure the Seed Shaft can turn freely without any binding when the Seed Meters are open or closed after servicing.

1. 1/2-13 Locknuts on both ends of the Adjusting Screw are used to adjust all Seed Meters the same amount. **See Figure 5-6.** To adjust Seed Meters to be closed at "0A", loosen 1/2-13 Locknuts and set Adjusting Screw to "0A". Slide Seed Shaft to close all Seed Meters. Tighten 1/2-13 Locknuts against Adjusting Screw.
2. Seed Box Feed Roll Coupling which joins the left and right Seed Shafts changes Seed Meters on the left Seed Box in comparison with Seed Meters on the right Seed Box. To adjust Feed Roll Coupling, loosen Jam Nuts and Set Screws on Coupling RH Seed Shaft is treaded into Coupling. Turn RH Seed Shaft threading it in or out as needed to equalize Seed Meters. Re-tighten Set Screws against flat side on Seed Shaft, re-tighten Jam Nuts. **See Figure 5-7.**
3. Individual Seed Meter Cups can be adjusted as required. Adjustments can be made by loosening the 1/4-20 x 5/8 Machine Screws that mount the Seed Meter Cup to the Seed Box. Adjust the affected Seed Meter Cup so the Feed Shutoff is against the Seed Meter Cup Star Washer in the Seed Meter Cup (closed). Be sure the Feed Roll stays engaged in the Seed Meter Cup Star Washer. **See Figure 5-8.**

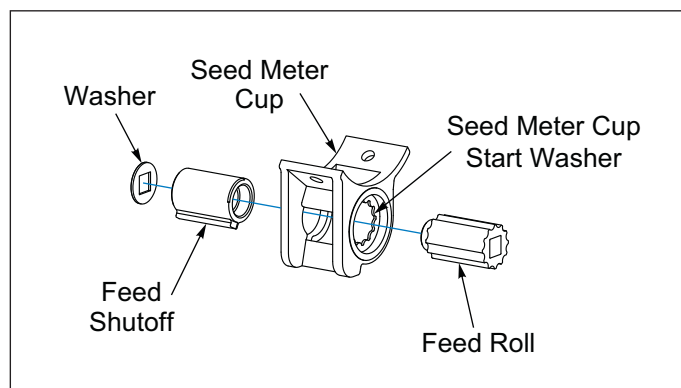


Figure 5-8: Small Seed Meter

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 5-9.**

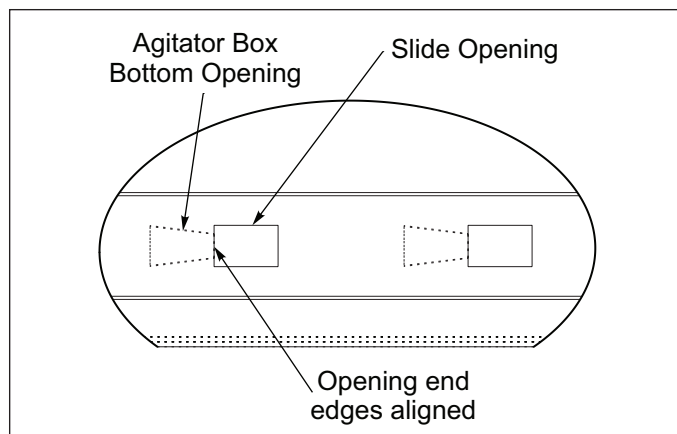


Figure 5-9: Shifter Handle Set at “0”

- 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 5-10.**

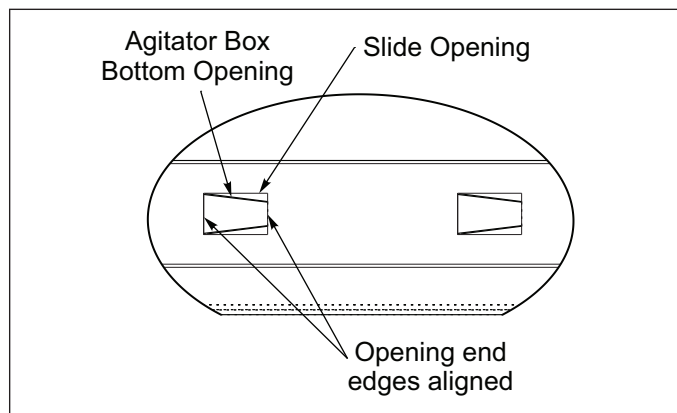


Figure 5-10: Shifter Handle Set at “6”

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.
- 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.
- Re-tighten the Shifter Plate Hardware.

- Check that the Shifter Handle functions properly in relationship with the Shifter Plate. **See Figure 5-11.**
 - Shift the Shifter Handle to “0”. The Agitator Box bottom opening should be fully closed.
 - Shift the Shifter Handle to “6”. The Agitator Box bottom opening should be completely open.
- Set the Shifter Handle to “0”. Tighten Shifter Handle Wing Nut.

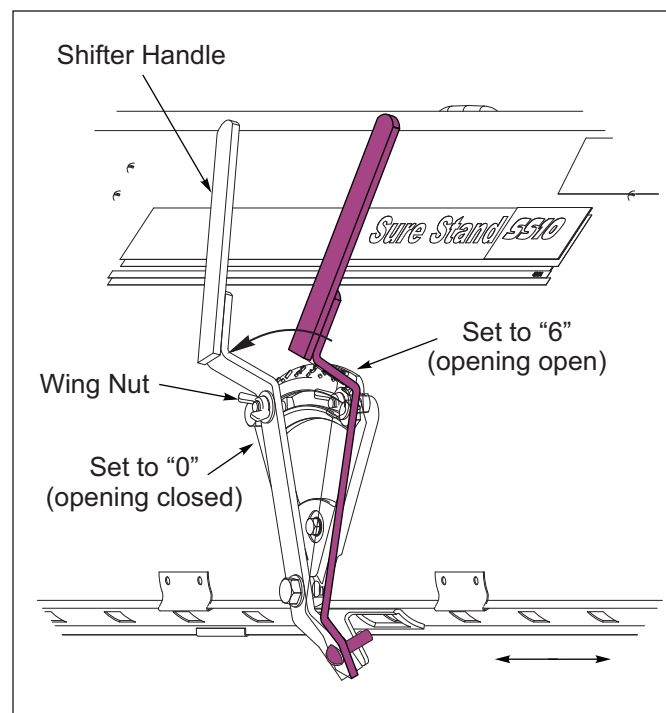


Figure 5-11: Shifter Handle

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 it 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.

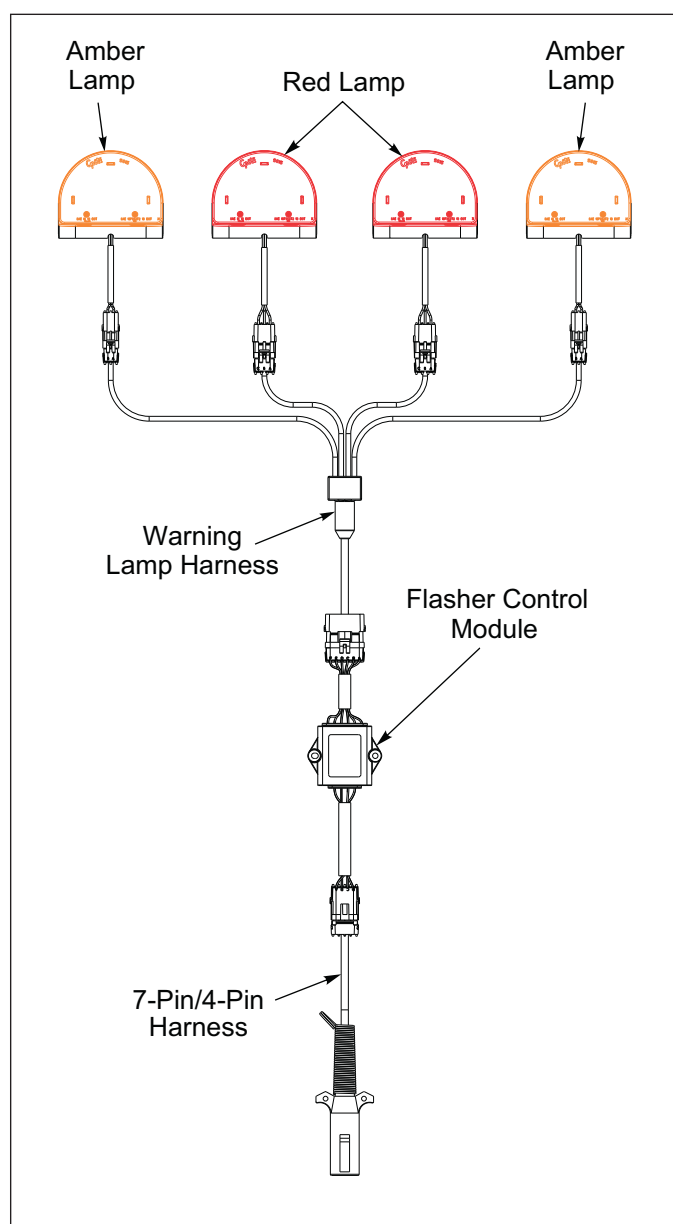


Figure 5-12: Warning Lamps

Scraper Adjustment

1. Check the Front Roller Assembly Wheels that they are tight to one another. **See "Front and Rear Roller Adjustment" on Page 5-5.**
2. Lower the implement onto level ground.
3. Verify that the Scrapers are centered as best as possible between the Roller Wheels and adjust if necessary. **See Figure 5-13.**

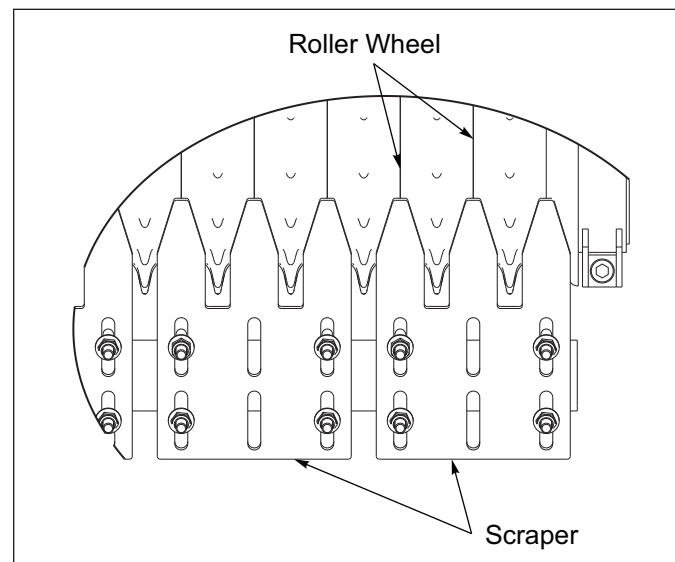


Figure 5-13: Scraper Alignment

4. Adjust the Scrapers as needed to achieve a 3/16" to 1/4" gap between the Scrapers and Roller Wheels. **See Figure 5-14.** Scrapers should be close enough to the Roller Wheels to be functional but without interference.

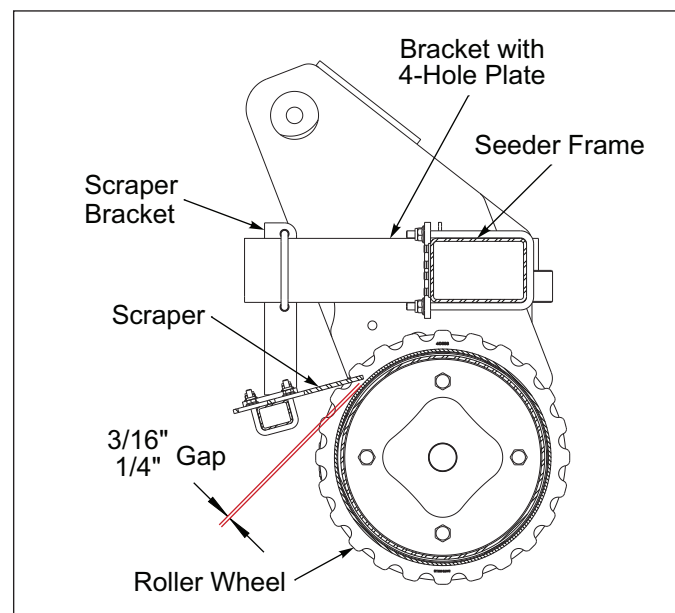


Figure 5-14: Scraper Dimensions

Electric Clutch - Optional

IMPORTANT

If your machine is equipped with an Electric Clutch at no time use high pressure water or air to clean it, as this can damage the unit.



Figure 5-15: High Pressure Warning

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. See Figure 5-15.

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 machine and then the 4 Screws on the back of the case. See Figure 3-17. Separate the housing from the rear plate. Replace with 3 quality AA batteries.

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 Kit - Optional” on Page 2-22.
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 zero ohms resistance.

Acre Meter cannot 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.
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, insert Parking Pin and Lower unit. Chock or block Roller Wheels before unhitching from Tractor.
4. **Pull Type Models:** Raise the machine and engage Transport Locks. See Figure 3-6. Lower Drawbar Jack.
 - Relieve Hydraulic Pressure in hoses after Transport Locks are installed.
 - Block Transport Wheels before unhitching from Tractor.

Service Tip for Brome Box

Problem – Brome Box Shaft working out to the right hand end of the Seeder and wearing out the roll pin and retainer plate.

To correct:

- Check that the Transmission Shaft that drives the Brome Box is square in the transmission (sprocket must be parallel with the outer case plate) and aligned with the Brome Box Shaft. Loosen bearings and adjust if necessary. **See Figure 5-16.**
- Check that Seed Boxes are level and straight from end to end. Loosen and adjust Seed Boxes from the center and right hand end brackets if necessary. It may also be necessary to make an adjustment of the Left Hand Seed Box on the Transmission. **See Figure 5-17.**
- When properly aligned, the Square Brome Box Shaft will slide into the drive coupling without binding. Coat the inside of the drive coupling with Never-Seize.
- Any or a combination of the above misalignment conditions can cause the problem.

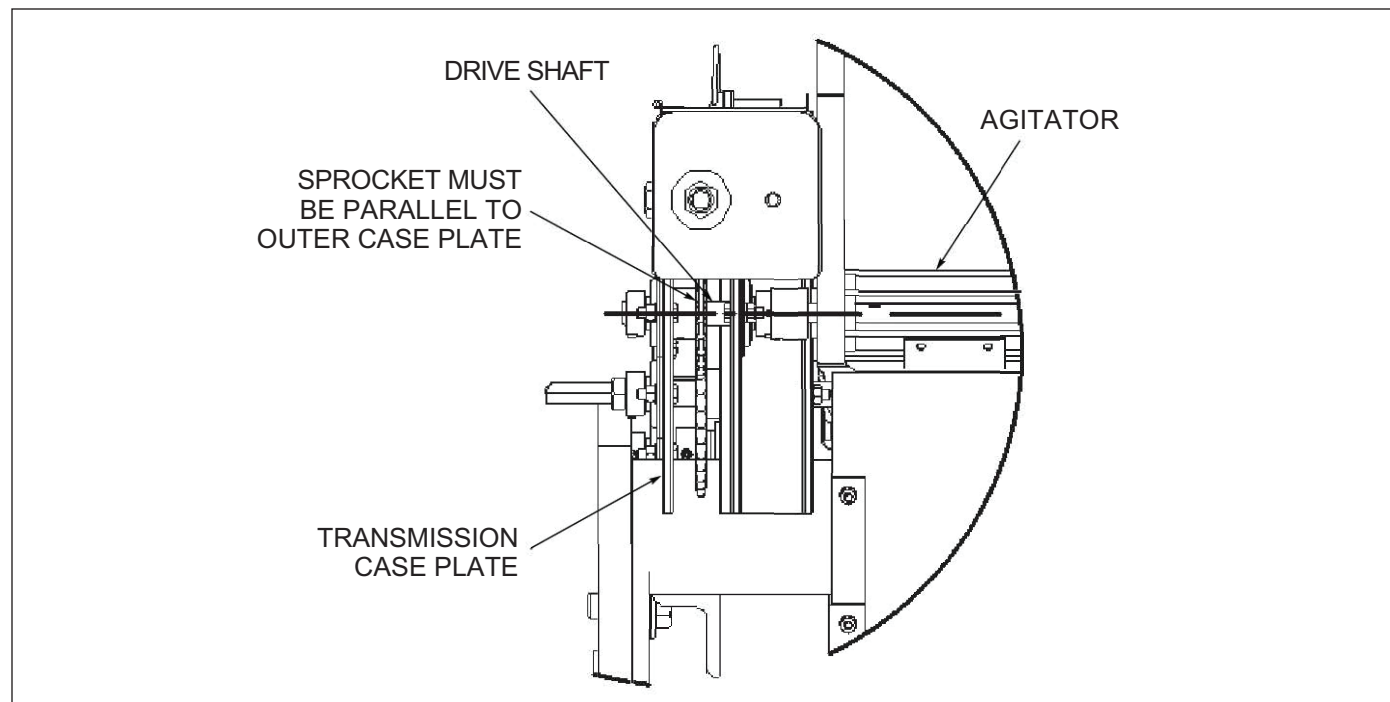


Figure 5-16: Transmission Shaft is Square in Transmission

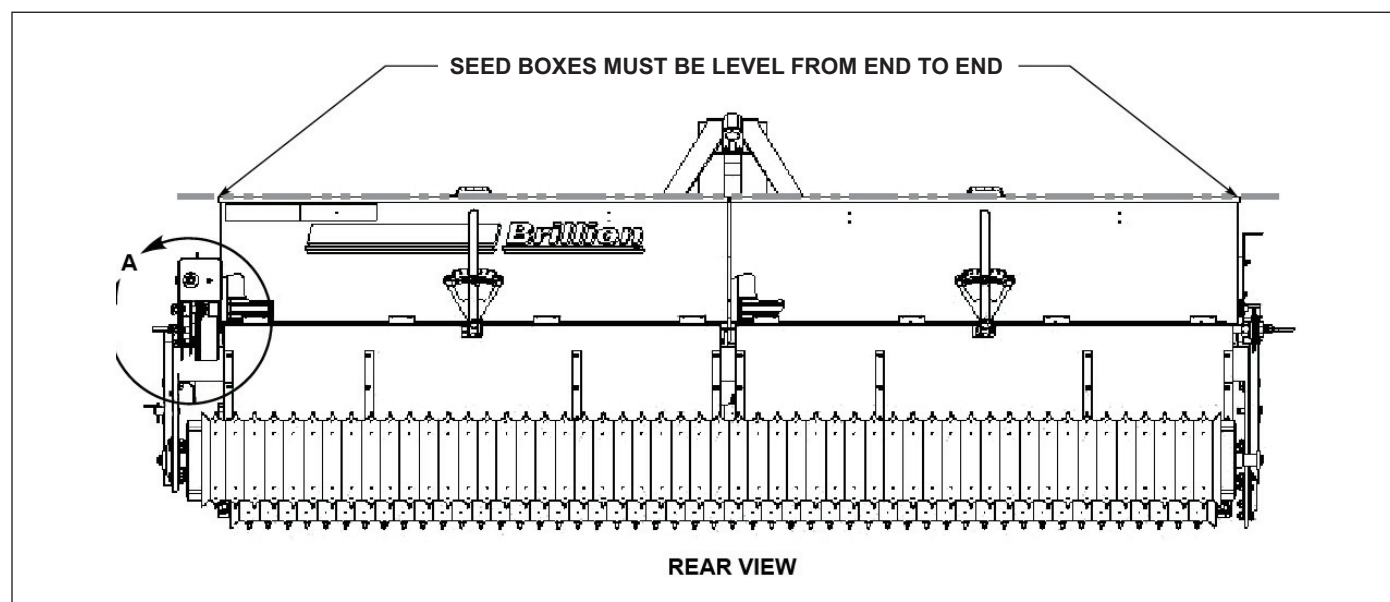


Figure 5-17: Seed Box Level and Straight

TABLE OF CONTENTS

Table provided for general use.

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Specifications

Product Attributes	SSB-10	SSBP-10
Approximate Weight	2,527 lbs. (1,137 kg)	2,207 lbs. (993 kg)
Working Width	10 ft. 0 in. (3.0 m)	10 ft. 0 in. (3.0 m)
Transport Width	12 ft. 11 in. (3.88 m)	11 ft. 4 in. (3.4 m)
Transport Height	5 ft. 2 in. (1.55 m)	Tractor Dependent
Road Clearance	10 in. (254 mm)	Tractor Dependent
Overall Height	3 ft. 4 in. (1.0 m)	3 ft. 4 in. (1.0 m)
Overall Length	10 ft. 1 in. (3.03 m)	4 ft. 10 in. (1.5 m)
Seed Box	All Steel Construction with Cover	All Steel Construction with Cover
Seed Box Capacity - Meter Box	4.375 bu.	4.375 bu.
Seed Box Capacity - Agitator Box	4.375 bu.	4.375 bu.
Front Box	"Micro-Meter"	"Micro-Meter"
Rear Box	Blade Agitator	Blade Agitator
Seed Meter Drive	Ground Driven	Ground Driven
Seed Meter/Opening Spacing	8.58 in. (218 mm) / 4.29 in. (109 mm)	8.58 in. (218 mm) / 4.29 in. (109 mm)
Seed Delivery	Broadcast with Wind Deflector Tray	Broadcast with Wind Deflector Tray
Pulverizer Roller - Front	15.75 in. (400 mm) Gray Cast Iron	15.75 in. (400 mm) Gray Cast Iron
Pulverizer Roller - Rear	11.5 in. (292 mm) Gray Cast Iron	11.5 in. (292 mm) Gray Cast Iron
Pulverizer Axle Bearings	Greaseable	Greaseable
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)
Hitch	Pull-Type with Hydraulic Transport	Three-Point Hitch - Cat. II Free Link; Cat. II, IIIN Quick Coupler Hitch
Hydraulic Equipment	Cylinders with Hoses to Hitch Point	N/A
Tire Size	9.5L x 15-8 Ply Implement Rib	N/A
Brush Agitator Kit for Brome Box	Optional	Optional
Blade Agitator Kit for Brome Box	Standard	Standard
Cage Agitator Kit for Brome Box	Standard	Standard
S-Tine Wheel Track Remover	Optional	Optional
Front Roller Scraper Kit	Optional	Optional
Legume Box Divider Kit	Standard	Standard
Electronic Acre Meter	Optional	Optional
Speed Up Kit (Doubles Output)	Optional	Optional
Factory Installed Electric Clutch	Optional	Optional
Seed Shaft Monitor Kit	Optional	Optional
Safety Warning Lights & SMV Emblem	Standard	Standard
Safety Chain Kit	Standard	N/A
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.
Recommended Operating Speed	3 to 6 MPH (5 to 10 km/h)	3 to 6 MPH (5 to 10 km/h)

Specifications subject to change with or without notice.

Table 6-1: 8FT Models

TABLE OF CONTENTS

Product Attributes	SSB-10	SSBP-10
Approximate Weight	2,527 lbs. (1,137 kg)	2,207 lbs. (993 kg)
Working Width	10 ft. 0 in. (3.0 m)	10 ft. 0 in. (3.0 m)
Transport Width	12 ft. 11 in. (3.88 m)	11 ft. 4 in. (3.4 m)
Transport Height	5 ft. 2 in. (1.55 m)	Tractor Dependent
Road Clearance	10 in. (254 mm)	Tractor Dependent
Overall Height	3 ft. 4 in. (1.0 m)	3 ft. 4 in. (1.0 m)
Overall Length	10 ft. 1 in. (3.03 m)	4 ft. 10 in. (1.5 m)
Seed Box	All Steel Construction with Cover	All Steel Construction with Cover
Seed Box Capacity - Meter Box	4.375 bu.	4.375 bu.
Seed Box Capacity - Agitator Box	4.375 bu.	4.375 bu.
Front Box	"Micro-Meter"	"Micro-Meter"
Rear Box	Blade Agitator	Blade Agitator
Seed Meter Drive	Ground Driven	Ground Driven
Seed Meter/Opening Spacing	8.58 in. (218 mm) / 4.29 in. (109 mm)	8.58 in. (218 mm) / 4.29 in. (109 mm)
Seed Delivery	Broadcast with Wind Deflector Tray	Broadcast with Wind Deflector Tray
Pulverizer Roller - Front	15.75 in. (400 mm) Gray Cast Iron	15.75 in. (400 mm) Gray Cast Iron
Pulverizer Roller - Rear	11.5 in. (292 mm) Gray Cast Iron	11.5 in. (292 mm) Gray Cast Iron
Pulverizer Axle Bearings	Greaseable	Greaseable
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)
Hitch	Pull-Type with Hydraulic Transport	Three-Point Hitch - Cat. II Free Link; Cat. II, IIIN Quick Coupler Hitch
Hydraulic Equipment	Cylinders with Hoses to Hitch Point	N/A
Tire Size	9.5L x 15-8 Ply Implement Rib	N/A
Brush Agitator Kit for Brome Box	Optional	Optional
Blade Agitator Kit for Brome Box	Standard	Standard
Cage Agitator Kit for Brome Box	Standard	Standard
S-Tine Wheel Track Remover	Optional	Optional
Front Roller Scraper Kit	Optional	Optional
Legume Box Divider Kit	Standard	Standard
Electronic Acre Meter	Optional	Optional
Speed Up Kit (Doubles Output)	Optional	Optional
Factory Installed Electric Clutch	Optional	Optional
Seed Shaft Monitor Kit	Optional	Optional
Safety Warning Lights & SMV Emblem	Standard	Standard
Safety Chain Kit	Standard	N/A
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.
Recommended Operating Speed	3 to 6 MPH (5 to 10 km/h)	3 to 6 MPH (5 to 10 km/h)

Specifications subject to change with or without notice.

Table 6-2: 10FT Models

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Product Attributes	SSB-12	SSBP-12
Approximate Weight	2,786 lbs. (1,254 kg)	2,602 lbs. (1,171 kg)
Working Width	12 ft. 0 in. (3.6 m)	12 ft. 0 in. (3.6 m)
Transport Width	15 ft. 0 in. (4.5 m)	13 ft. 3 in. (3.98 m)
Transport Height	5 ft. 2 in. (1.55 m)	Tractor Dependent
Road Clearance	10 in. (254 mm)	Tractor Dependent
Overall Height	3 ft. 4 in. (1.0 m)	3 ft. 4 in. (1.0 m)
Overall Length	10 ft. 1 in. (3.03 m)	4 ft. 10 in. (1.5 m)
Seed Box	All Steel Construction with Cover	All Steel Construction with Cover
Seed Box Capacity - Meter Box	5.25 bu.	5.25 bu.
Seed Box Capacity - Agitator Box	5.25 bu.	5.25 bu.
Front Box	"Micro-Meter"	"Micro-Meter"
Rear Box	Blade Agitator	Blade Agitator
Seed Meter Drive	Ground Driven	Ground Driven
Seed Meter/Opening Spacing	6 in. (152 mm) / 4 in. (102 mm)	6 in. (152 mm) / 4 in. (102 mm)
Seed Delivery	Broadcast with Wind Deflector Tray	Broadcast with Wind Deflector Tray
Pulverizer Roller - Front	15.75 in. (400 mm) Gray Cast Iron	15.75 in. (400 mm) Gray Cast Iron
Pulverizer Roller - Rear	11.5 in. (292 mm) Gray Cast Iron	11.5 in. (292 mm) Gray Cast Iron
Pulverizer Axle Bearings	Greaseable	Greaseable
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)
Hitch	Pull-Type with Hydraulic Transport	Three-Point Hitch - Cat. 2 Free Link; Cat. 2, 3N Quick Coupler Hitch
Hydraulic Equipment	Cylinders with Hoses to Hitch Point	N/A
Tire Size	9.5L x 15-8 Ply Implement Rib	N/A
Brush Agitator Kit for Brome Box	Optional	Optional
Blade Agitator Kit for Brome Box	Standard	Standard
Cage Agitator Kit for Brome Box	Standard	Standard
S-Tine Wheel Track Remover	Optional	Optional
Front Roller Scraper Kit	Optional	Optional
Legume Box Divider Kit	Standard	Standard
Electronic Acre Meter	Optional	Optional
Speed Up Kit (Doubles Output)	Optional	Optional
Factory Installed Electric Clutch	Optional	Optional
Seed Shaft Monitor Kit	Optional	Optional
Safety Warning Lights & SMV Emblem	Standard	Standard
Safety Chain Kit	Standard	N/A
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.
Recommended Operating Speed	3 to 6 MPH (5 to 10 km/h)	3 to 6 MPH (5 to 10 km/h)

Specifications subject to change with or without notice.

Table 6-3: 12FT Models

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Table provided for general use.

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Document Control Revision Log:

Date	Form #	Improvement(s): Description and Comments
07/2008	205rev0708	Initial Release
07/2011	205rev0711	Updated Pictures and Drawings. Incorporated ECN 35017
09/2013	205rev0913	Added LED Warning Lights
07/2018	1P480-0718	Update tractor preparation section, product attributes
06/2021	1P480-0621	ECN 47093 - Hub & Spindle Asm Update to 6 Bolt
05/2022	1P480-0522	Updated "Brush Agitator Installation" ECN 47474 - QR Code Decal ECN 47696 - Elite Mini Monitor *01/2023 - Changes to "Agitator Box - (If Not Equipped)", "Agitator Box Slide Adjustment", "Loup Acre Mete Kit"
06/2023	1P480-2306	Added "Tube Mounted Scraper Kits" *Revision Format "Year/Month"



Intertek

Equipment from Landoll Company, LLC is built to
exacting standards ensured by ISO 9001 registration
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**Sure Stand Seeder
Models SSB8/SSB10/SSB12
SSBP8/SSBP10/SSBP12**

Operator's Manual

Re-Order Part Number 1P480

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