

# Food Plot Seeder Models: FPS-6, FPSA-6, FPSB-6, FPST-6, FPSAT-6 and FPSBT-6 Operator's Manual



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## Chapter 1

# **Introduction and 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 and maintenance will provide you with satisfactory use for seasons to come.

#### DANGER

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

#### **Description of Unit**

The Brillion FPS6 Food Plot Seeder is designed with the versatility to operate under a wide variety of soil and seeding conditions as well as the ability to plant the widely varying seed sizes of grasses, legumes and other mixes and blends. The FPS6 features the Brillion micro-metering seedbox system to ensure accurate planting rates. The meters are driven off the rear roller to allow for constant seed metering regardless of operating speed. This metering system works very well with smaller seeds such as clovers, alfalfas and wildlife plot seed mixtures that are available on the market today.

#### **Using this Manual**

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

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

#### **Owner Assistance**

If customer service or repairs are needed, contact your Brillion dealer. They have trained personnel, parts and service equipment specially designed for Brillion products. Your implement's parts should only be replaced with Brillion parts. 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 <u>www.landoll.com</u> for step by step instructions regarding product registration.

Enter your product information below for quick reference.

MODEL NUMBER

SERIAL NUMBER

DATE OF PURCHASE

Refer to the ID plate as shown. See Figure 1-1.



Figure 1-1: ID Plate

#### NOTE

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

### **Understanding Safety Statements**

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

#### NOTICE

Special notice - read and thoroughly understand.

### 

Proceed with caution. Failure to heed caution <u>may</u> cause injury to person or damage product.

### 

Proceed with caution. Failure to heed warning <u>will</u> cause injury to person or damage product.



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

#### NOTE

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

Examine safety decals and be sure you have the correct safety decals for the implement.

Order replacement decals through your Brillion dealer.

Keep these signs clean so they can be observed readily. It is important to keep these decals cleaned more frequently than the implement. Wash with soap and water or a cleaning solution as required.

Replace decals that become damaged or lost. Also, be sure that any new implement components installed during repair include decals which are assigned to them by the manufacturer. When applying decals to the implement, be sure to clean the surface to remove any dirt or residue. Where possible, sign placement should protect the sign from abrasion, damage, or obstruction from mud, dirt, oil etc.

#### DANGER

• Do not allow anyone to ride on the tractor or implement. Riders could be struck by foreign objects or thrown from the implement.

- Never allow children to operate equipment.
- Keep bystanders away from implement during operation.

### **Transporting Safety**

#### IMPORTANT

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

When transporting the implement on a road or highway, use adequate warning symbols, reflectors, lights and slow moving vehicle sign (purchased separately) as required. Slow moving tractors and towed implements can create a hazard when driven on public roads. They are difficult to see, especially at night.

Do not tow an implement that, when fully loaded, weighs more than 1.5 times the weight of the towing vehicle.

Carry reflectors or flags to mark the tractor and implement in case of breakdown on the road.

Do not transport at speeds over 20 MPH under good conditions. Never travel at a speed which does not allow adequate control of steering and stopping. Reduce speed if towed load is not equipped with brakes

Avoid sudden stops or turns because the weight of the implement may cause the operator to lose control of the tractor. Use a tractor heavier than the implement.

Use caution when towing behind articulated steering tractors; fast or sharp turns may cause the implement to shift sideways.

Keep clear of overhead power lines and other obstructions when transporting. Know the transport height and width of your implement. See Table 5-1 and Table 5-2.

### Attaching, Detaching and Storage

- Do not stand between the tractor and implement when attaching or detaching implement unless both are not moving.
- Block implement so it will not roll when unhitched from the tractor.

#### **Maintenance Safety**

- Block the implement so it will not roll when working on or under it to prevent injury.
- Do not make adjustments or lubricate the machine while it is in motion.
- Make sure all moving parts have stopped.
- Understand the procedure before doing the work. Use proper tools and equipment.

#### **Protective Equipment**

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

#### **Chemical Safety**

- Agricultural chemicals can be dangerous. Improper use can seriously injure persons, animals, plants, soil & property.
- Read chemical manufacture's instructions and store or dispose of unused chemicals as specified. Handle chemicals with care & avoid inhaling smoke from any type of chemical fire.
- Store or dispose of unused chemicals as specified by the chemical manufacturer.

### **High Pressure Fluid Safety**

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

Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.

Avoid the hazard by relieving pressure before disconnecting hydraulic lines.

#### **Prepare for Emergencies**

- · Keep a First Aid Kit and Fire Extinguisher handy
- Keep emergency numbers for the 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.

#### Safety Chain

Use the safety chain to help control drawn machinery should it separate from the tractor drawbar.

Use a chain with a strength rating equal to or greater than the gross weight of towed machinery, which is 10,100 pounds minimum in accordance with ASAE S338.2 specifications. If two or more implements are pulled in tandem, a larger chain may be required. Chain capacity must be greater than the TOTAL weight of all towed implements.

A second chain should be used between each implement.

Attach the chain to the tractor drawbar support or specified anchor location. 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.

Replace the chain if any links or end fittings are broken, stretched or damaged.

Do not use a safety chain for towing.

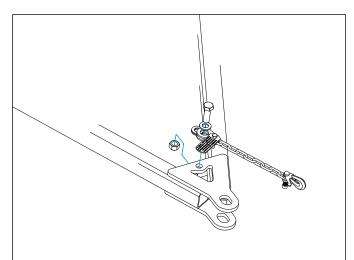
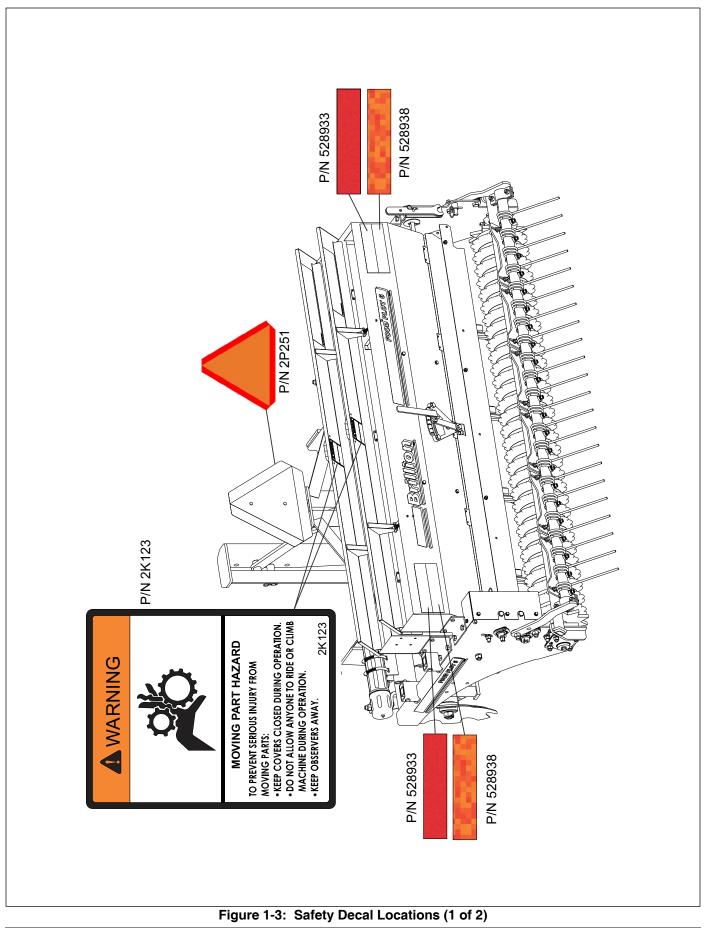


Figure 1-2: Safety Chain



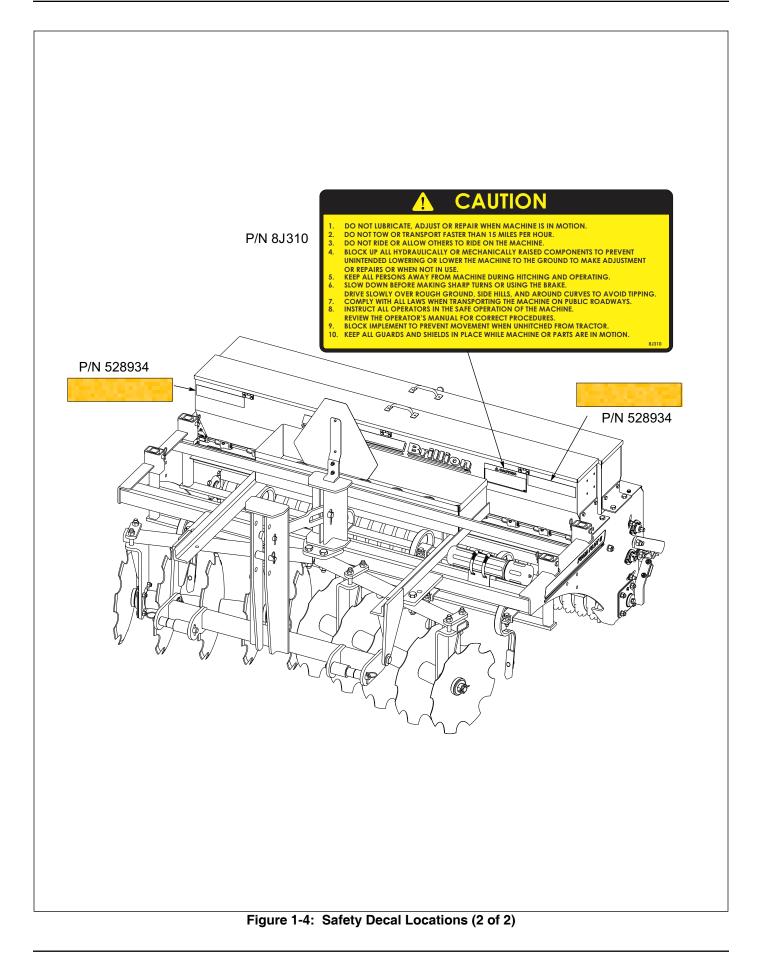


Table provided for general use.

NOTES:	

# **Chapter 2**

# Operation

### **OPERATION OF THE FPS6**

This chapter will cover the basic operation and procedures for the Landoll Brillion Food Plot Seeder. Be sure to read and understand the Safety Procedures and Cautions starting on page 1-1.

#### **Attaching to Tractor**

The FPS6 is designed to be used with Category I or Category II 3 Point Hitch and Quick Attach Category I and II. The hitch can be adjusted easily by using the proper sleeves provided. See Figure 2-1.

#### Initial setting of Tractor Top Link for proper float:

With the machine positioned on level ground and attached to a tractor, adjust the tractor top link so that the Floating Link Pin is halfway into the Floating Link Slot.

#### NOTE

The Floating Link Pin must be in the center of the slot for proper floating during operation.

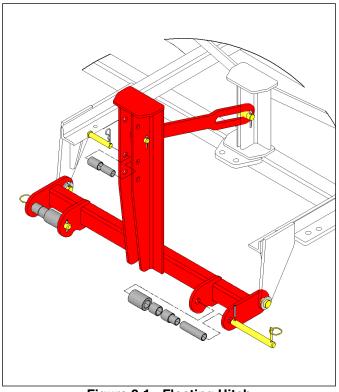


Figure 2-1: Floating Hitch

#### **Transporting Pull-Type Seeder**

For operation remove Bent Pin and rotate Transport Lock so that it lines up with the hole in Rockshaft Lug. Install Bent Pin. See Figure 2-2.

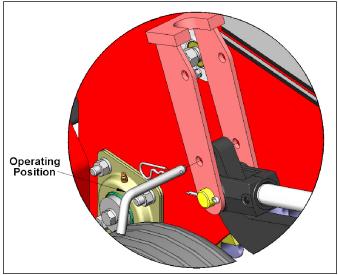


Figure 2-2: Hydraulic Cylinder Operating Position

For transport raise the machine so that the cylinder is fully extended. Remove Bent Pin and rotate Transport Lock so that the slot rests on the cylinder rod. Install Bent Pin under the Cylinder Rod. See Figure 2-3.

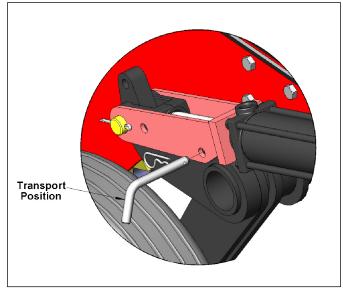


Figure 2-3: Hydraulic Cylinder Transport Position

For operation the Drawbar link must be free to float. Remove Klik Pin and Clevis Pin and install it in the bottom hole under the link. See Figure 2-4.

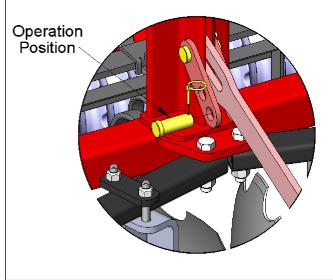


Figure 2-4: Link Operating Position

For transporting the Drawbar Link needs to be secured. Remove Klik Pin and Pin. Lower the Jack and raise it until both straps 2nd hole from the bottom lines-up with slot. Install pin. See Figure 2-5.

#### NOTE

When doing this, the Drawbar must be attached to tractor. It may be necessary to put a block under the Jack to prevent the Jack from sinking into the ground.

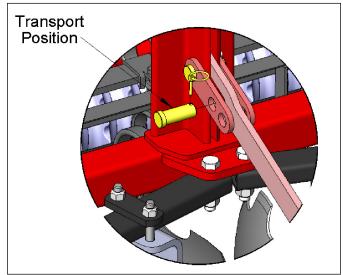


Figure 2-5: Link Transport Position

#### **Disc Gang Adjustment**

Disc Gang Adjustment is accomplished by loosening the inner gang 3/4" - 10 bolt and removing the outer gang 3/4" - 10 bolt. Move the outer bolt to either the front hole for 15 degrees and to the rear hole for 10 degrees. Be sure to tighten these bolts before operating the seeder. See Figure 2-6. The depth can be controlled by the adjustment of the Three Point Hitch on the tractor. To increase penetration of the Disc Gangs in hard soil, up to 200 pounds may be added to the optional Rock Box.

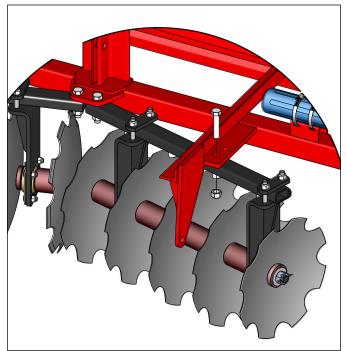


Figure 2-6: Disc Gang Angle Adjustment

#### NOTE

It may take several trips across the ground until the soil condition meets your planting specifications. Disc Gangs should be set approximately 1/2" deep in the soil during seeding.

#### S-Tine Depth Adjustment

S-Tine Adjustment is done by removing the pins that hold the S-Tine bars in place and moving the bar up or down to reach the desired depth (typically level with Disc Gangs). In instances where you may not want to use the S-Tine, you may raise them all the way up. In some cases, lateral adjustment of the S-Tines can be done by sliding the S-Tines on the tooth bar. See Figure 2-7.

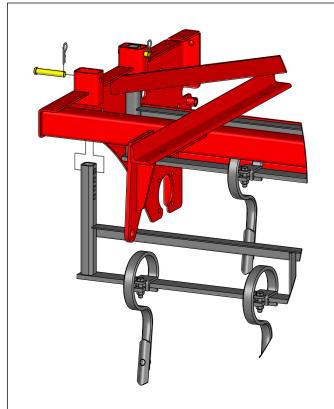


Figure 2-7: S-Tine Depth Adjustment

#### **Firming Roller**

The drive sprocket on each end of the firming roller provides positive ground drive for the seed meters. The sprockets clamp assembly serves a dual purpose. It holds the sprocket on the shaft and provides a means of adjustment to keep the roller segments snug to each other as they wear. Optimum performance is achieved when the roller segments are operated snugly together. See Figure 2-8.

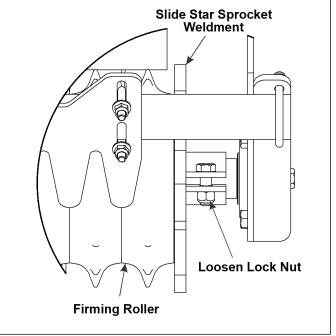


Figure 2-8: Firming Roller

#### **Disengaging and Engaging Seeding**

The Seedbox drive can be disconnected when the operator wants to use the machine just for tillage passes only. Disengage the seeding by removing the Klik Pin and inserting it in the hole provided at the end of the shaft. Engage seeding by inserting the Klik pin back into the Sprocket Hub. See Figures 2-9 and 2-10.

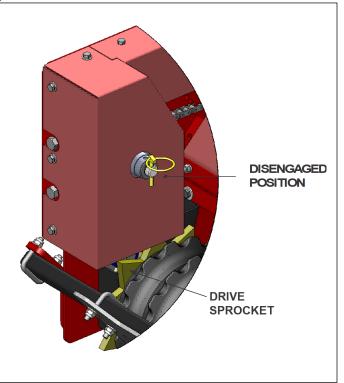


Figure 2-9: Gear Box Disengaged

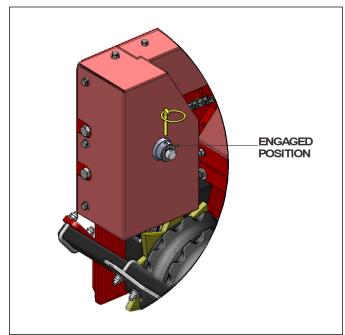


Figure 2-10: Gear Box Engaged

### **Chain Tension**

The chain drive is covered. Chain tension is maintained by loosening and sliding the idlers. Keep chains snug and lubricated for best results. Refer to Chapter 4 Maintenance Section Transmission Chain Tension and Chain Maintenance.

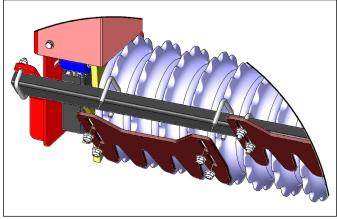


Figure 2-11: Scrapper Blades

#### **Firming Roller Scrapers**

The roller scraper is designed to keep the roller from building up with moist soil during operation. Adjustment of the scraper will be necessary as the roller and/or the scraper wears. Adjustment is done by loosening the 3/8-16 flange nuts on the U-bolts and sliding the blade side to side or up and down as needed. The blade should be kept 1/8" from the roller wheel. See Figure 2-11.

#### **Optional Rear Coil Tine**

Optional Rear Coil Tine floats freely helping to disperse soil and residue over seeded soil and follow the contour of the land. The angle at which the tines come into contact with the soil can be adjusted by loosening the cap screws on the end brackets and rotating the pipe and tine assembly clockwise or counterclockwise. To inactivate the tines, raise the assembly until the hole in the Coil Tine Bracket aligns with the hole in the Frame Side Plate. Remove the Klik Pin and slide the Pin into the hole in Coil Tine Mounting Bracket. Install the Klik Pin into the sleeve and end hole of the Pin. See Figure 2-12.

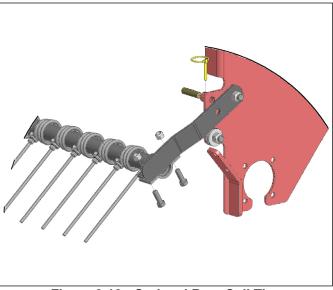


Figure 2-12: Optional Rear Coil Tine

#### Storage

At the end of the season, empty Seedboxes and Seedmeter before cleaning your machine for storage. Avoid spraying high pressure washer directly at bearing seals. Grease machine after washing to displace any residual water. Repaint areas where paint has worn off. Repair or replace any broken or damaged parts. Store in a dry, protected place.

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4         10         16         18         23         28         33         37         0.10         0.23           fide         4         9         11         14         17         21         26         30         0.10         0.20           Force         4         9         11         14         17         21         26         30         0.10         0.20           Plot         4         9         13         17         21         26         30         34         0.10         0.20           R Gro         0*         4         6         9         17         21         26         30         34         0.10         0.20 $\mathfrak{R}$ Gro         0*         4         6         9         11         13         14         17         0.00*         0.10         0.20 $\mathfrak{A}^{\text{cold}}$ Discus         5         2         28         24         40         0.13         0.23	0.33 0.42 0.52	0.62 0.75 0.85
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0.36 0.42 0.52	0.75
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0.26 0.33 0.39	0.49 0.59 0.68
us 6 10 14 15 9 11 13 14 17 0.00* 0.10 115 6 10 14 18 23 28 24 40 0.13 0.23	0.29 0.39 0.49	70.0 0.68
6 10 11 18 22 28 24 A0 012 023	0.13 0.20 0.26	0.33
	0.33 0.42 0.52	0.78 0.
4 9 11 18 23 28 34 40 0.10 0.20	0.26 0.42 0.52	0.78
10 16 20 26 30 36 41 0.13 0.23 2 7 10 12 16 19 21 0.00 0.07	0.36 0.46 0.59	0.68 0.82 0.95
LAUENIE 0 2 1 10 10 10 10 10 10 10 10 00 000 00	0.10 0.23 0.23 0.59	
3 7 10 13 16 17 20 21 0.07 0.16 0. 	0.23 0.29 0.36	0.46 0.65
9 13 11 ZU Z4 Z0 31 0.10 0.20 0.	04.0 60.0 67.0	ß

OPERATION

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ESS VARIATIONS IN SIZE AND CLEANLINE ID POUNDS OF SEED USED FOR BEST C  $\boldsymbol{c}$ ē ď, C ENDE п ഷ Z  $^{\circ}$ < ARE 1 1 S S S **RA** RE N

BRUSH AGITATOR BOX		R	POUNDS PER ACRE	ER ACRE				POU	INDS PER	POUNDS PER 1000 SQ FT	F	
INDICATOR SETTINGS	×	2	3	4	5	6		2	3	4	5	9
Bartey	2	31	99	105	147	189	0.15	0.72	1.51	2.41	3.37	4.33
Buckwheat	0	40	68	147	220	283	0.00	0.91	205	3.37	5.05	6.50
Com (Bin-Run)	0	£	35	19	106	159	0.00	0.25	0.80	1.53	243	3.65
Fescue	÷	6	19	33	48	88	0.03	0.21	0.44	0.75	1.11	1.38
Oats	0	13	28	\$	09	87	00.0	0.29	0.64	1.06	1.38	1.8
Peas	0	80	27	19	116	144	00.0	0.19	0.63	1.53	265	3,30
Rye Grain	G3	39	83	131	181	256	0.21	06.0	1.91	3.01	4.15	5.88
Ryegrass	co,	26	2	82	118	160	0.21	0.61	1.24	2.10	271	3.68
Soybeans	0	25	8	126	173	250	0.00	0.58	1.47	2.90	3.98	5.74
Red Wheat Treated	17	61	122	199	280	376	0.39	1.41	279	4.56	6.43	8.64
Deer Creek - Game Bird Mix	D	0	0	0	0	0	00.0	0.00	00.00	00.0	0.00	00.0
Evolved Harvest, Buck'n Oats	4	17	\$	25	22	105	0.10	0.39	17.0	1.24	1.71	2.41
Evolved Harvest, Thro & Gro	1	28	57	8	130	<del>1</del> 8	0.17	0.65	1.31	2.13	299	3.73
Whitetail Institute, Extreme	22	51	98	126	187	241	0.51	1.18	1.96	2.90	4.29	5.53
Mhite tail Institute, No-Plow	7	33	58	\$	113	148	0.17	0.76	1.33	2.16	260	3.39
White tail Institute, Pure Attraction	en	14	35	ß	83	111	20.0	0.33	0.80	1.27	1.91	2.54

Figure 2-14: Planting Rates Agitator Box

#### **Seeding Techniques**

When seeding larger seeds such as soybeans or peas, it may be necessary to make additional trips after planting with the tillage unit to position the seed deeper in the soil.

If planting both large and small seeds it is recommended the larger seeds are planted first and the smaller seeds such as clover, alfalfa and bursitis are planted on the last trip over the soil to ensure the small seeds are not placed too deep in the soil.

### Seed Rate Adjustment

#### IMPORTANT

- To prevent damage to the seed meters, do not apply excessive force to adjusting nuts. This is especially important when closing meters as seed in the flutes can be pinched between cut-off and washer in seed cup.
- Do not close 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 meters more than 1". (Feed rolls could become disengaged from washer in seed cup).

Seed rate chart is located in this manual. See Figures 2-13 and 2-14. It should be used as a general guide only. Because of seed variation, a more accurate rate can be determined by calibrating the seeder. See Figures 2-21 and 2-22.

#### Seed Rate Adjustment Front Box

Adjusting the Seed Cups: All cups must be set the same to seed uniformly.

To check uniformity: Set the inner and outer adjusting nuts to close the seed cups. All cups should be completely closed. If not, individual cups can be adjusted by loosening their mounting bolts, moving the cups and then re-tightening using the provided wrenches. See Figures 2-16 and 2-17.

#### Pointer Adjustment

With cups completely closed, pointer should point to the groove in hex shaft marked"0". If it does not, turn the Angle Bracket slightly until it does. See Figure 2-15.

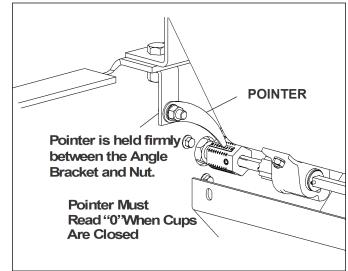


Figure 2-15: Pointer Adjustment

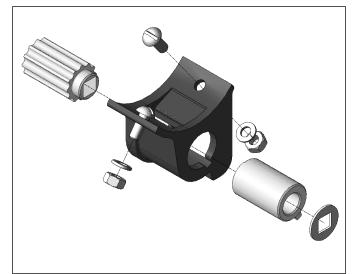


Figure 2-16: Seed Rate Adjustment Cups (1 of 2)

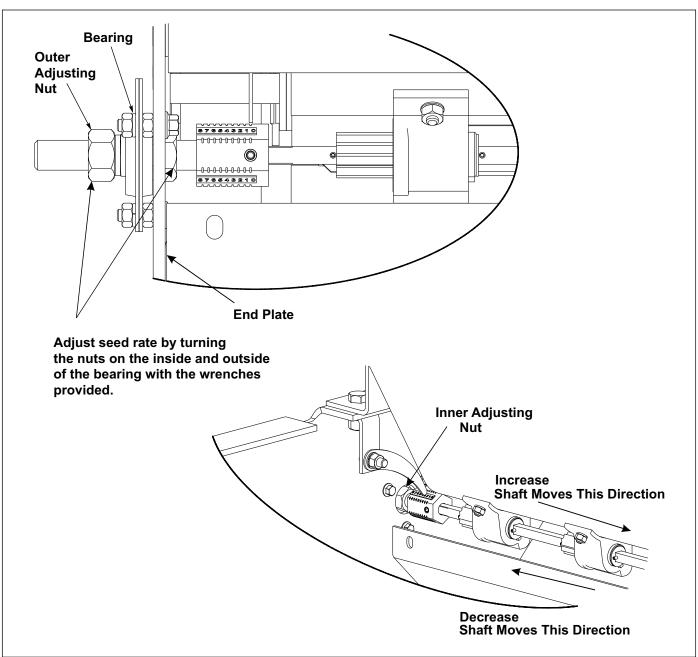


Figure 2-17: Seed Rate Adjustment (2 of 2)

# Seed Rate Adjustment - Rear Agitator Box

Adjusting the Box Slide: When properly adjusted the holes in the slide should line up with the holes in the box, with the control handle set at "6". To make an adjustment or loosen the control handle on the box, move the slide until the holes line up. When the handle in moved to "0" the holes in the box should be completely covered. If the holes are not covered, loosen the three bolts holding the seedmeter casting and shift it slightly so that the "0" mark is farther from the control handle. Re-tighten the bolts. Move control handle to "0". Holes in the box should then completely covered. See Figures 2-18, 2-19 and 2-20.

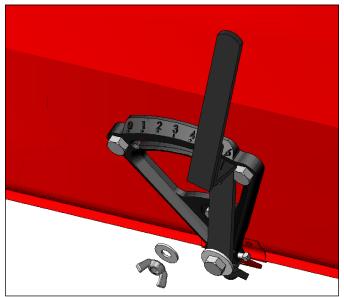


Figure 2-18: Seed Rate Max Adj Rear Agitator (1 of 3)

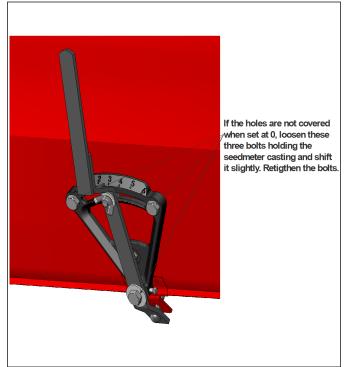


Figure 2-20: Seed Rate Adj. Rear Agitator (3 of 3)



Figure 2-19: Seed Rate Min Adj Rear Agitator (2 of 3)

#### Seed Rate Calibration

See Figures 2-21 and 2-22 for detailed seed rate calibration instructions. The wrench provided with the machine can be used for calibration purposes.

Machine May Be Calibrated For Unlisted Seeds As Follows: 1. Remove Exposed Klik-pin Behind Seedbox To Disconnect Roller. 2. Place A Canvas Or Tarp On The Ground To Catch Seed. 3. Set Seeder On Ground With Seedbox Over Tarp. 4. Turn 5/8" Hex On Transmission 62 Revolutions Ccw. (ccw Based On Operator Standing Beside Seeder Facing Hex Shaft) 5. Weigh Seed And Multiply By 10. This Is The Approx Pounds/acre. Meter Box Klik-pin Drive Take-up Disconnect 5/8 Hex On Frame Exterior 00000000000000 26 Tooth Driven 37 Tooth 10 Tooth Driver Driven 23 Tooth Driven Take-up 17 Tooth Driver (roller Axle)

Figure 2-21: Front Meter Box

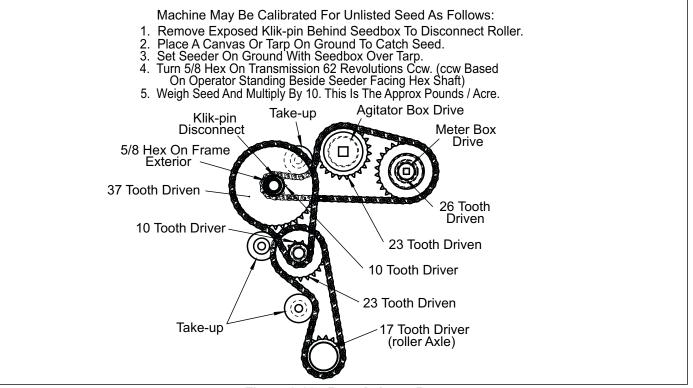


Figure 2-22: Rear Agitator Box

## **Chapter 3**

### 

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

The intent of this chapter is to provide instruction, allowing you to safely and correctly assemble your Brillion product.

#### IMPORTANT

If a pre-assembled component or fastener is temporarily removed, ensure it is correctly re-installed per these instructions.

• Check that all working parts move freely, bolts are tight and cotter pins are spread.

• Park the seeder in a work area that has a level surface and make sure it is blocked securely so that it cannot roll.

### Seeder Assembly

Support the frame and seedbox assembly with a hoist or by similar means capable of supporting its weight without tipping.

#### NOTE

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

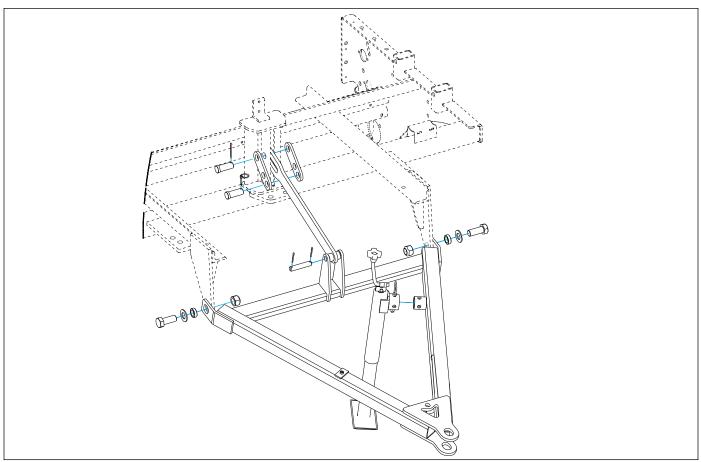


Figure 3-1: Pull Type Seeder Drawbar Installation

#### **Drawbar Installation**

- 1. Remove 3-Point Hitch Assembly and Link Weldment.
- Attach Drawbar to the outside of the Frame with two 1-8 X 2-1/2" Capscrews, Bushings, Flat Washers and Lock Nuts. See Figure 3-1.
- Install Drawbar Link's slotted end between the Frame Mast and place the Transport Lock Straps on each side of the Mast. Secure in place with 1" X 2-1/2" Clevis Pin and 3/16" x 2" Cotter Pin. Install Bushing End onto the Drawbar with 3/4" x 3-7/8" Pin and two 5/32" x 1-1/2" Cotter Pins.
- 4. Install the second 1" x 2-1/2" Clevis Pin and Klik Pin into the bottom hole of the Straps for Operation or into the second hole from the bottom of the Straps and thru the slot in the Drawbar Link for Transport.
- 5. Attach Safety Chain with 3/4-10 X 2-1/4" Capscrew, Flat Washers and Lock Nut.
- 6. Install Jack.

#### **Rockshaft Installation**

- Fasten Rockshaft to Frame end plates with 1/2-13 x 1-1/4" Capscrews and Lock Nuts.
- Align Cylinder Mount lug with Rockshaft lug. Attach Cylinder Mount onto Frame tube with 1/2-13 U-bolts and Lock nuts.
- Install either the Hydraulic Cylinder, See Figure 3-2. or the Ratchet Jack, See Figure 3-3. between the two Lugs. If installing a Hydraulic Cylinder also attach the manual Transport Lock to the rod end of Cylinder with 1" x 3-5/8" Pin and 3/16 x 2 Cotter Pins.
- 4. Bent Pin and Hair Pin Cotter are used to Lock the Transport Lock in position during operation and transport. For operation the bent pin goes thru top hole on rockshaft cylinder lug and for transport bent pin goes under cylinder rod. **See Figure 3-2.**

# Hub and Spindle, Wheel and Tire Installation

- 1. Install a Hub and Spindle into each Rockshaft sleeve. Secure with 3/8-16 x 2-1/2 Capscrew and Lock Nut.
- 2. Mount a Wheel and Tire Assembly onto each hub with 1/2-20 x 1" Wheel Bolt. See Figure 3-2.

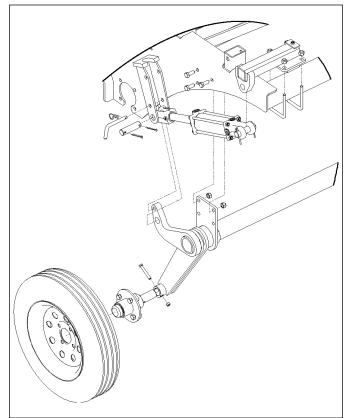


Figure 3-2: Rockshaft Installation

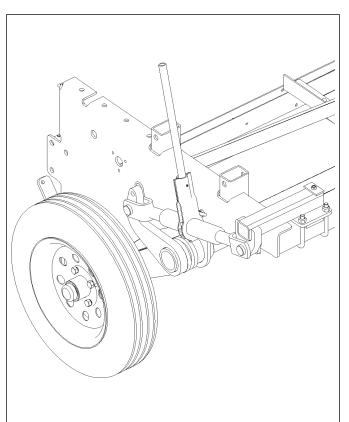


Figure 3-3: Ratchet Jack Installation

#### 

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 your hands, to search for suspected leaks. Wear protective gloves & safety glasses or goggles when working with hydraulic systems.

Avoid the hazard by relieving pressure before disconnecting hydraulic lines.

#### NOTE

On most tractors this can be done by putting the valve controls in the float position before the engine is stopped.

#### Hydraulic Hose Installation

- 1. Turn O-Ring end of Restrictor into the cylinder ports. Install Elbow Fitting onto Restrictor.
- Attach longer hose to Cylinder rod end Elbow Fitting and shorter hose to Cylinder base end Elbow Fitting. Run hoses along the frame and down the drawbar towards the tractor securing hoses with twin clamps.

- Turn O-Ring end of each Adapter Fitting into each Coupler. Insert JIC end of Adapter into the end of each hose. See Figure 3-4. Tightening Procedure For JIC 37° Swivel Female Nuts
- 1. Check flare and seat for defects.
- 2. Lubricate the connection.
- 3. Install hoses without twists.
- 4. Hand tighten until connection 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 (1/6 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. Then orient the fitting by turning counterclockwise up to 1 turn.
- 3. Tighten the lock nut using 50-60 foot pounds torque.

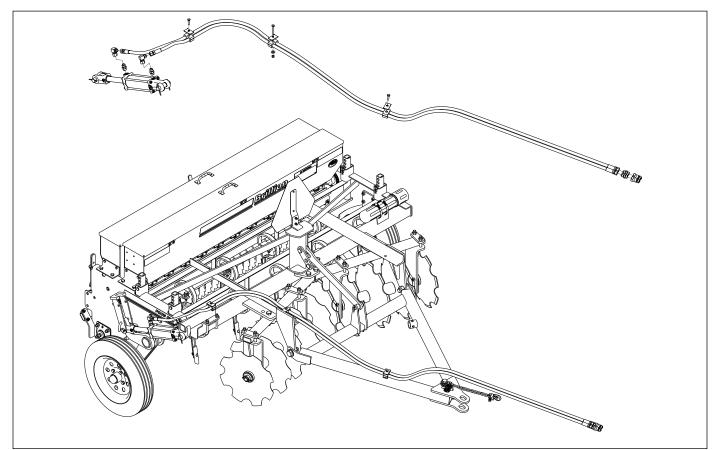
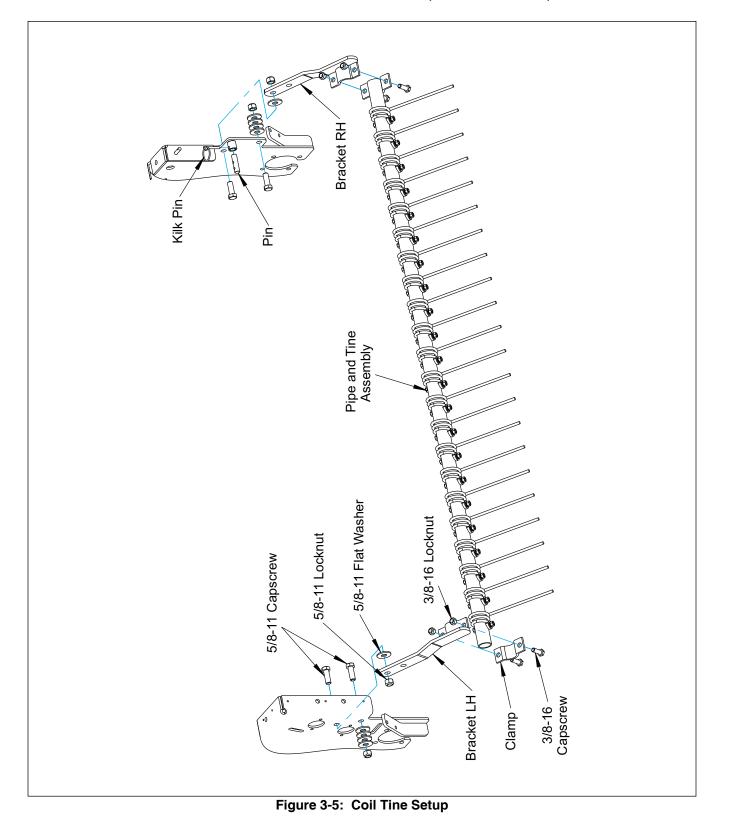


Figure 3-4: Hydraulic Hose Installation

### **Optional Coil Tine**

- Install into each Frame End Plates lower 21/32" hole a 5/8-11 x 1-3/4" Capscrew, four Flat Washers and Lock Nut. See Figure 3-5.
- Assemble RH and LH Coil Tine Brackets into Frame End Plates upper 21/32" hole with 5/8-11 x 1-3/4 Capscrews, Flat Washer and Locknut.
- 3. Attach Pipe and Tine Assembly to Brackets with Clamp, 1/2-13 x 1-1/2 Capscrew, and Locknut.



#### Field Installation of Meter Box

Remove existing Seedbox Drive Chain which is no longer needed.

- 1. Attach the mounting brackets to the sides of the box using four 3/8 16 x 1" capscrews, lock washers and hex nuts. **See Figure 3-7.**
- 2. Slide Sprocket Hub onto smooth end of Seed Shaft.
- 3. Position the box onto the frame and secure to the frame with four 1/2 13 x 1-1/4" capscrews, lock washers and hex nuts.
- 4. Secure Sprocket and Hub Assembly with 5/8-11 hex nut and lock washer.
- 5. Turn 5/8-11 hex nut onto Seed Shaft Extension as far as you can.
- 6. Apply Seed Rate Number Decal to Seed Shaft Extension on every other flat surface of the Hex by aligning the #8 end of the Decal with the edge of the Hex on the thread end.
- Slide seed shaft so that the cups are completely closed. Turn Seed Shaft Extension onto threaded end of seed shaft until the distance between the hex end of the shaft and the Feed Roll measures 1-13/32". Install set screws. See Figure 3-6.

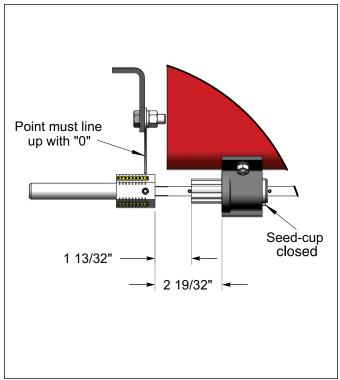


Figure 3-6: Seed Shaft Extension

 Install Bearing on to Frame Side Plate with 1/4-20 x 1" flange head capscrew, lock washer, and hex nut. Note that an additional Hex Nut is between the Frame Side Plate and Bearing Flangette.

- 9. Turn 5/8-11 hex nut onto Seed Shaft Extension.
- 10. Take 56 Pitch Chain and add the 4 pitch section to it. Install Chain. **See Figure 3-10.**
- 11. Attach Indicator Bracket to the front 1/2-13 x 1-1/4 Capscrew already used for mounting Seedbox to Frame. Secure with lock washer and hex nut.
- 12. Install Indicator Pointer onto Bracket with 3/8-16 x 1" capscrew, lock washer and hex nut.

Refer to Operation Seed Rate Section in this manual for proper setting of seed rate.

- 13. Install cover with six 1/4-20 x 1/2" capscrews.
- 14. Slip each Cover Lock Pivot into each Cover Bracket so the ears protrude out of both sides of the bracket.
- 15. Apply Seed Chart and Warning Decal to Seedbox Cover.
- Apply Amber Reflective Decal, Caution Decal and Brillion Decal to the Front of the Seedbox. See Figure 3-7.

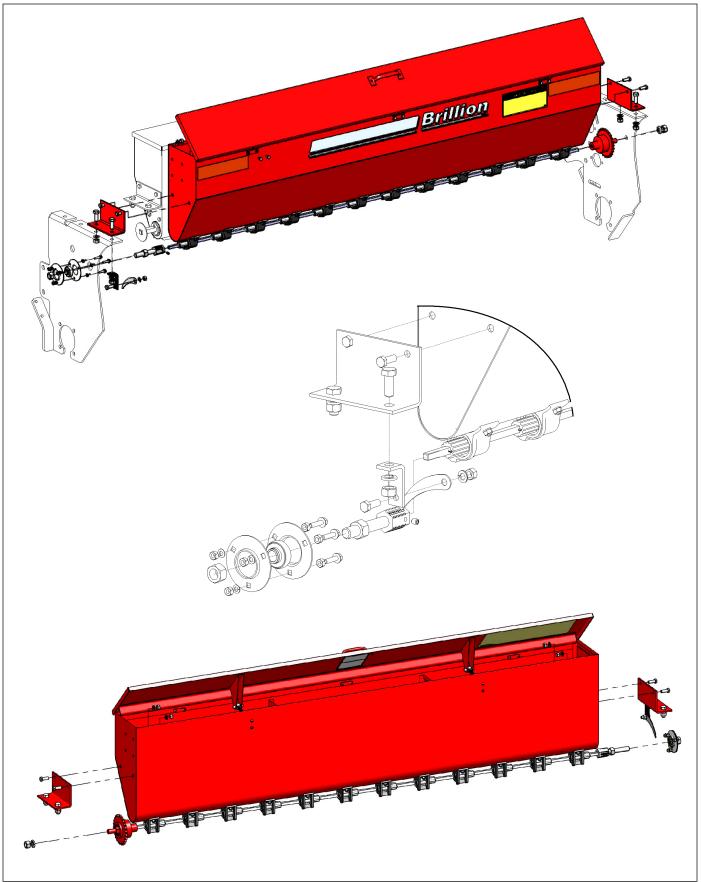


Figure 3-7: Meter Box Front and Rear View

#### Field Installation Agitator Box

The deflector on the front box must be reversed prior to installing the Agitator Box.

Remove the four  $5/16-18 \times 3/4$ " capscrews, lock washers and hex nuts and reverse the deflector so that the upper flare edge faces rearward instead of forward. Re-insert the removed hardware with the head of the bolts to the inside. **See Figure 3-8.** 

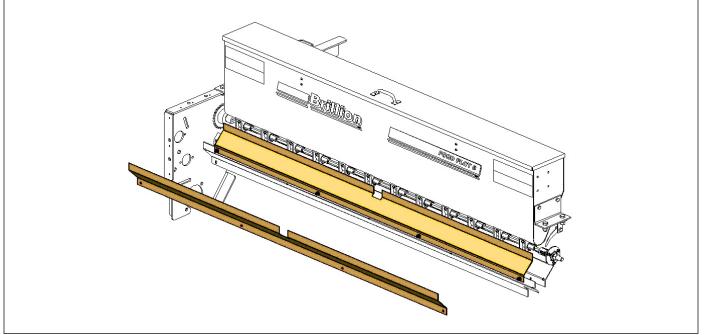


Figure 3-8: Deflector

- 1. Remove existing Seedbox Drive Chain and add the 4 pitch section to it. Set it aside.
- 2. Attach the mounting brackets to the sides of the box using four 3/8 16 x 1" capscrews, lock washers and hex nuts. **See Figure 3-9.**
- 3. Slide Rear Box 12 GA Washer onto the Cotter Pin end of the Seed Shaft. *If washer keeps falling off the shaft, you may need to remove the cotter pin and re-insert it after you have the box mounted to the frame.*
- Position the box onto the frame and secure with four 1/2 - 13 x 1 1/4" capscrews, lock washers and hex nuts.
- 5. Install chain. See Figure 3-10.
- Remove Wing Nut and Flat Washer from Shifter Plate. Insert Shifter Pin into Seed Box Slide and attach to Shifter Plate with 1/2-13 x 1" Capscrew and Flat Washer. Re-install Wing Nut and Flat Washer.
- 7. Attach the Seedbox Cover, using six 1/4 20 x 1/2" capscrews.
- 8. Slip each Cover Lock Pivot into each Cover Bracket so the ears protrude out of both sides of the bracket.
- 9. Apply Seed Chart and Warning Decal to Seedbox Cover.

 Apply Red Reflective Decal, Red-Orange Decal, Food Plot Decal and Brillion Decal to the Rear of the Seedbox.



Figure 3-9: Agitator Box Assembly

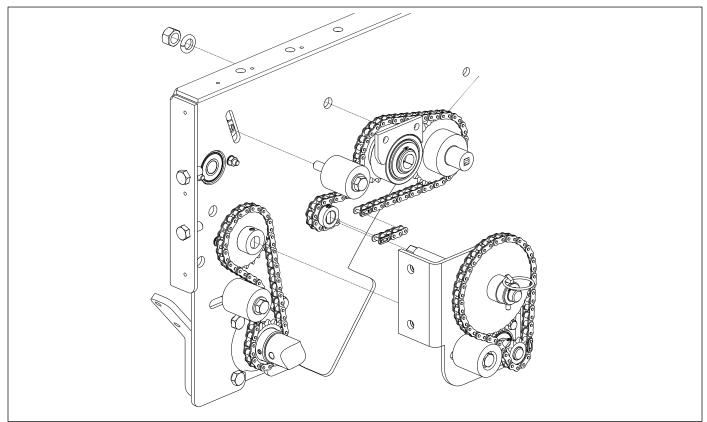


Figure 3-10: Double Seedbox Drive Chain

### **Optional Rock Box**

• Attach Rock Box to Frame angles just in front of the Seedbox with 1/2-13 x 1-1/2 capscrews, flat washers and lock nuts. See Figure 3-11.

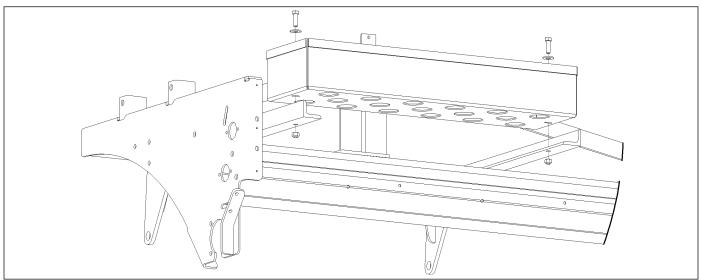


Figure 3-11: Rock Box

#### **Optional Positive Drive Roller**

- 1. Remove Scraper Assembly and set it aside.
- 2. Remove Upper and Lower Chain Guards, Primary Drive Chain and Firming Roller.
- 3. Remove Sprocket from Firming Roller and re-install it onto Positive Drive Roller in the same position.
- 4. Install roller, chain and guards onto the Frame in reverse order of disassembly.
- 5. Starting with the left side of the scraper assembly, move the second scraper so the gap between it and the first is 3-5/16". Continue to adjust gap between each scraper to 3-5/16". Do not tighten hardware. One scraper will need not be used with positive drive roller.
- 6. Reinstall scraper assembly to seeder and fine tune scraper adjustment. Tighten scraper hardware with roller lowered on level surface. **See Figure 3-12.**

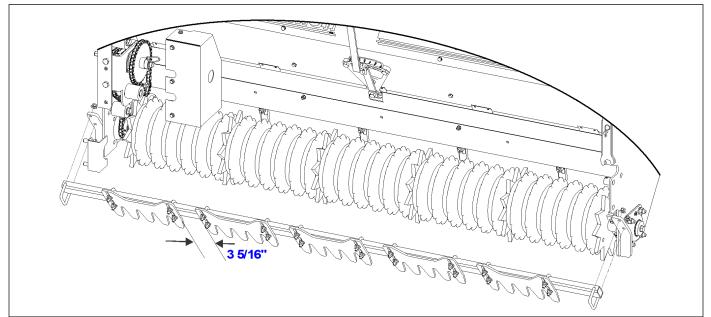


Figure 3-12: Positive Drive Roller

Table provided for general use.

NOTES:	

### **General Torque Specifications**

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

UNC SIZE	SAE Grade 2	SAE Grade 5	SAE Grade 8	UNF SIZE	SAE Grade 2	SAE Grade 5	SAE Grade 8
1/4-20	4 [5]	6 [7]	9 [11]	1/4-28	5 [6]	7 [9]	10 [12]
5/16-18	8 [10]	13 [13]	18 [22]	5/16-24	9 [11]	14 [17]	20 [25]
3/8-16	15 [19]	23 [29]	35 [42]	3/8-24	17 [21]	25 [31]	35 [44]
7/16-14	24 [30]	35 [43]	55 [62]	7/16-20	27 [34]	40 [50]	60 [75]
1/2-13	35 [43]	55 [62]	80 [100]	1/2-20	40 [50]	65 [81]	90 [112]
9/16-12	55 [62]	80 [100]	110 [137]	9/16-18	60 [75]	90 [112]	130 [162]
5/8-11	75 [94]	110 [137]	170 [212]	5/8-18	85 [106]	130 [162]	180 [225]
3/4/10	130 [162]	200 [250]	280 [350]	3/4-16	150 [188]	220 [275]	320 [400]
7/8-9	125 [156]	320 [400]	460 [575]	7/8-14	140 [175]	360 [450]	500 [625]
1-8	190 [237]	408 [506]	680 [850]	1-14	210 [263]	540 [675]	760 [950]
1-1/8-7	270 [337]	600 [750]	960 [1200]	1-1/8-12	300 [375]	660 [825]	1080 [1350]
1-1/4-7	380 [475]	840 [1050	1426 [1782]	1-1/4-12	420 [525]	920 [1150]	1500 [1875]
1-3/8-6	490 [612]	1010 [1375]	1780 [2225]	1-3/8-12	560 [700]	1260[1575]	2010 [2512]
1-1/2-6	650 [812]	1460 [1825]	2360 [2950]	1-1/2-12	730 [912]	1640[2050]	2660 [3325]
1-3/4-5	736 [920]	1651 [2063]	2678 [3347	1-3/4-12	920 [1150]	2063 [2579]	3347 [4183]

#### **TORQUE SPECIFIED IN FOOT POUNDS**

#### **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]			

#### Fasteners

Before operating your Brillion machine, check all hardware for tightness. Use the Tightening Torque Table below as a guide.

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

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

#### Tires

Recommended inflation pressure is as follows: 4.80 x 12 LRC bias tire: maximum pressure is 90 PSI.



Figure 4-1 Wheel Hub

#### Lubrication

Lubricate bearings with quality grease per recommended lubrication frequency intervals indicated or if machine is not used for an extended period. Greaseable components are the same on each side.

#### Lubricating Wheel Hub:

Grease Wheel Hubs every 40-60 hours. Repack Wheel Hub bearings annually before each season usage. See Figure 4-1.

#### Lubricating Disc Assemblies:

Grease Disc Gang Assembly Bearings at the start of each work day. See Figure 4-2.

#### Lubricating Firming Roller Bearings:

Grease Firming Roller Bearings every 20 hours. See Figure 4-3.

### 

Over lubrication of these bearings can cause premature bearing failure.

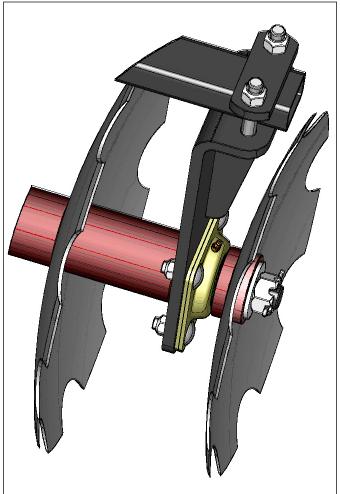


Figure 4-2: Lubricating Disc Assemblies

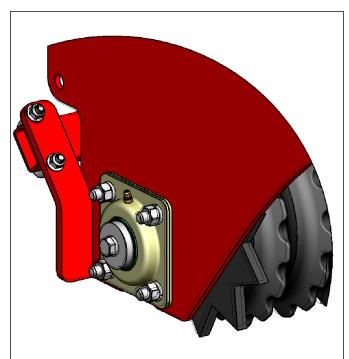


Figure 4-3: Lubricating Firming Roller Bearings

# Transmission Chain Tension Adjustment

The Seedbox Drive Chain is properly adjusted when it has 1/8" - 3/16" deflection across the sprockets. See Figure 4-4.

If adjustment is needed loosen the hex nut on the Idler and slide the Idler until the proper sag is achieved.

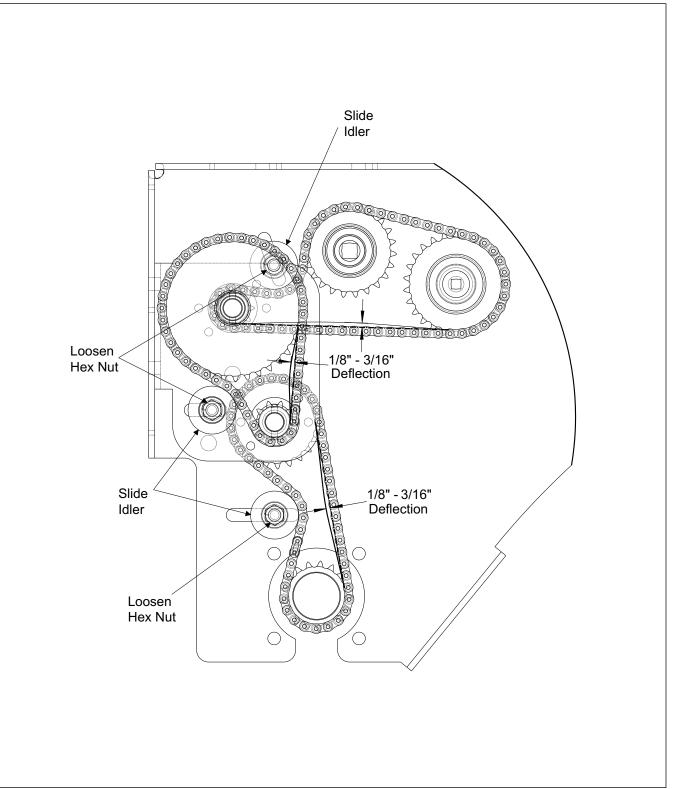


Figure 4-4: Transmission Chain Tension Adjustment

#### **Chain Maintenance**

Do not lubricate chain while machine is in motion. If any guards are removed for lubrication, they must be replaced before operating

• Lubricate Roller Chains periodically with quality chain oil.

• For best penetration, lubricate chain immediately after use while chain is still warm. See Figure 4-5.

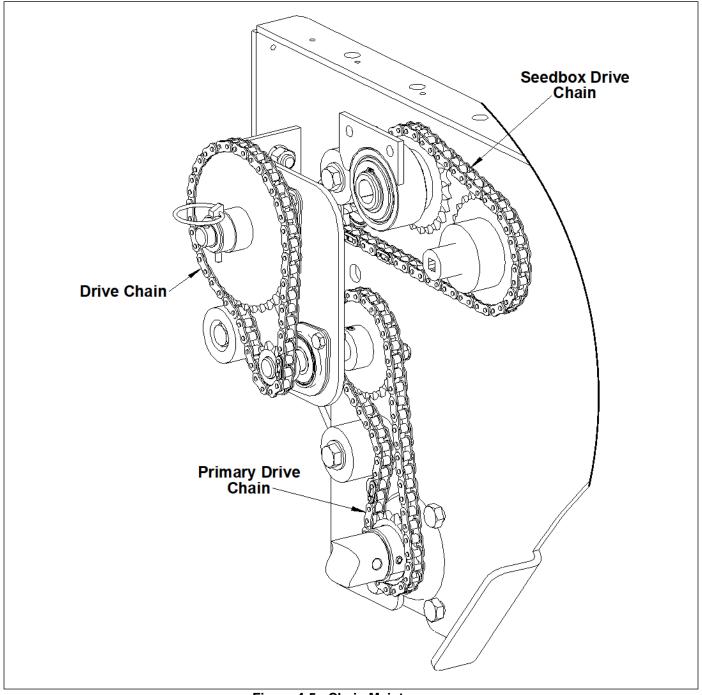


Figure 4-5: Chain Maintenance

### **Firming Roller**

Check Firming Roller regularly for tightness between wheel, if adjustment is needed loosen the Lock Nut and slide the Star Sprocket weldment over. Re-tighten the Lock Nut. See Figure 4-6.

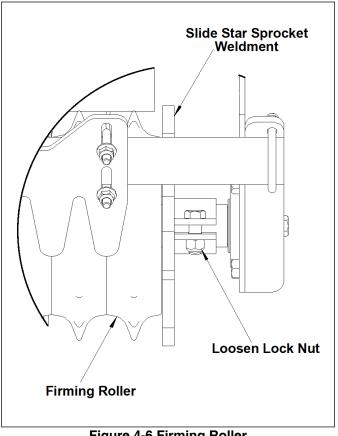


Figure 4-6 Firming Roller

## **Chapter 5**

# **General Reference and Specifications**

Food Plot Seeder Specifications						
	FPS-6	FPSA-6	FPSB-6			
Approximate Weigh	1,284 lbs. (578 kg)	1,266 lbs. (570 kg)	1,389 lbs. (625 kg)			
Working Width	6 ft. 0 in. (1.8 m)	6 ft. 0 in. (1.8 m)	6 ft. 0 in. (1.8 m)			
Overall Width	6 ft. 10 in. (2.05 m)	6 ft. 10 in. (2.05 m)	6 ft. 10 in. (2.05 m)			
Road Clearance	NA	NA	NA			
Overall Transport Height	Dependent Upon Tractor	Dependent Upon Tractor	Dependent Upon Tractor			
Overall Height (Working)	3 ft. 5 in. (1.03 m)	3 ft. 5 in. (1.03 m)	3 ft. 5 in. (1.03 m)			
Overall Length	5 ft. 8 in. (1.7 m)	5 ft. 8 in. (1.7 m)	5 ft. 8 in. (1.7 m)			
Tire Size	NA	NA	NA			
Hydraulic Lift	NA	NA	NA			
Hydraulic Requirement	NA	NA	NA			
Manual Ratchet Jack Lift	NA	NA	NA			
Transport Lock	NA	NA	NA			
Disc Assembly		•	•			
Blade Spacing	7.5 in. (191 mm)	7.5 in. (191 mm)	7.5 in. (191 mm)			
Blade Size (Main)	18 in. (457 mm) x 9 ga.	18 in. (457 mm) x 9 ga.	18 in. (457 mm) x 9 ga.			
Blade Size (End)	16 in. (406 mm) x 11 ga.	16 in. (406 mm) x 11 ga.	16 in. (406 mm) x 11 ga.			
Arbor Bolt	1.125 in. (28.6 mm) Square	1.125 in. (28.6 mm) Square	1.125 in. (28.6 mm) Square			
Gang Bearings	1.125 in. (28.6 mm) Greaseable	1.125 in. (28.6 mm) Greaseable	1.125 in. (28.6 mm) Greaseable			
Angle of Operation	10 or 15 Degrees	10 or 15 Degrees	10 or 15 Degrees			
Harrow Assembly						
Tooth Bars	2	2	2			
Type of Teeth	10" Mini S-Tines	10" Mini S-Tines	10" Mini S-Tines			
Tooth Spacing	Nominal 7.5 in (191 mm)	Nominal 7.5 in (191 mm)	Nominal 7.5 in (191 mm)			
	0 to 3 in. (76.2 mm) in.	0 to 3 in. (76.2 mm) in.	0 to 3 in. (76.2 mm) in.			
Tooth Depth of Operation	1 in. (25.4 mm) Increments	1 in. (25.4 mm) Increments	1 in. (25.4 mm) Increments			
Under Bar Clearance	11.5 in. (292 mm)	11.5 in. (292 mm)	11.5 in. (292 mm)			
Seeder Assembly						
Seed Box Type	All Steel Construction with Cover	All Steel Construction with Cover	All Steel Construction with Cover			
Seed Box Capacity	2.625 bu.	2.625 bu.	2.625 bu. Each Box			
Seed Meters	"Micro-Meter"	Brush Agitator	"Micro-Meter" and Brush Agitator			
Seed Meter Drive	Positive Ground Driven with Disconnect	Positive Ground Driven with Disconnect	Positive Ground Driven with Disconnect			

#### Table 5-1: Pick-Up Type Seeders

Food Plot Seeder Specifications				
	FPS-6	FPSA-6	FPSB-6	
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	Broadcast with Wind Deflector Tray	
Pulverizer Assembly				
Working Width of Pulverizer	6 ft. 0 in. (1.8 m)	6 ft. 0 in. (1.8 m)	6 ft. 0 in. (1.8 m)	
Pulverizer Wheels	9.5 in. (241 mm) Gray Cast Iron	9.5 in. (241 mm) Gray Cast Iron	9.5 in. (241 mm) Gray Cast Iron	
Number of Wheels	31	31	31	
Pulverizer Scraper	Standard	Standard	Standard	
Pulverizer Axle Bearings	1.5 in. (38.1 mm) Greaseable	1.5 in. (38.1 mm) Greaseable	1.5 in. (38.1 mm) Greaseable	
Axle Size	1.75 in. (44.5 mm)	1.75 in. (44.5 mm)	1.75 in. (44.5 mm)	
Floating Hitch	Cat. I-II Quick Hitch Compatible	Cat. I-II Quick Hitch Compatible	Cat. I-II Quick Hitch Compatible	
Hitch Jack	NA	NA	NA	
"Micro-Meter" Seed Box Kit	Standard	Optional	Standard	
Brush Agitator Seed Box Kit	Optional	Standard	Standard	
Coil Tine Drag Kit	Optional	Optional	Optional	
Cargo/Rock Box Kit	Optional	Optional	Optional	
Posi-Drive Pulverizer Roller	(In Lieu of Standard Pulverizer Assembly)	(In Lieu of Standard Pulverizer Assembly)	(In Lieu of Standard Pulverizer Assembly)	
Horsepower Requirements	35 HP (26.88 kW) and up	35 HP (26.88 kW) and up	35 HP (26.88 kW) and up	
Recommended Operating Speed	3 to 5 MPH (5 to 8.3 km/h)	3 to 5 MPH (5 to 8.3 km/h)	3 to 5 MPH (5 to 8.3 km/h)	

#### Table 5-2: Pull Type Seeders

Food Plot Seeder Specifications					
	FPST-6	FPSAT-6	FPSBT-6		
Approximate Weigh	1,460 lbs. (670 kg)	1,398 lbs. (641 kg)	1,585 lbs. (727 kg)		
Working Width	6 ft. 0 in. (1.8 m)	6 ft. 0 in. (1.8 m)	6 ft. 0 in. (1.8 m)		
Overall Width	8 ft. 0 in. (2.43 m)	8 ft. 0 in. (2.43 m)	8 ft. 0 in. (2.43 m)		
Road Clearance	10 in. (25.4 mm)	10 in. (25.4 mm)	10 in. (25.4 mm)		
Overall Transport Height	3 ft. 9 in. (1.14 m)	3 ft. 9 in. (1.14 m)	3 ft. 9 in. (1.14 m)		
Overall Height (Working)	2 ft. 10 in. (0.86 m)	2 ft. 10 in. (0.86 m)	2 ft. 10 in. (0.86 m)		
Overall Length	9 ft. 2 in. (2.79 m)	9 ft. 2 in. (2.79 m)	9 ft. 2 in. (2.79 m)		
Tire Size	4.80 X 12 Bias Ply Load Range C	4.80 X 12 Bias Ply Load Range C	4.80 X 12 Bias Ply Load Range C		
Hydraulic Lift	Standard	Standard	Standard		
Hydraulic Requirement	Double Acting with ISO Couplers	Double Acting with ISO Couplers	Double Acting with ISO Couplers		
Manual Ratchet Jack Lift	Optional in Lieu of Hydraulic Lift	Optional in Lieu of Hydraulic Lift	Optional in Lieu of Hydraulic Lift		
Transport Lock	Standard	Standard	Standard		
Disc Assembly					
Blade Spacing	7.5 in. (191 mm)	7.5 in. (191 mm)	7.5 in. (191 mm)		
Blade Size (Main)	18 in. (457 mm) x 9 ga.	18 in. (457 mm) x 9 ga.	18 in. (457 mm) x 9 ga.		
Blade Size (End)	16 in. (406 mm) x 11 ga.	16 in. (406 mm) x 11 ga.	16 in. (406 mm) x 11 ga.		

#### **GENERAL REFERENCE AND SPECIFICATIONS**

Food Plot Seeder Specifications				
	FPST-6	FPSAT-6	FPSBT-6	
Arbor Bolt	1.125 in. (28.6 mm) Square	1.125 in. (28.6 mm) Square	1.125 in. (28.6 mm) Square	
Gang Bearings	1.125 in. (28.6 mm) Greaseable	1.125 in. (28.6 mm) Greaseable	1.125 in. (28.6 mm) Greaseable	
Angle of Operation	10 or 15 Degrees	10 or 15 Degrees	10 or 15 Degrees	
Harrow Assembly	1			
Tooth Bars	2	2	2	
Type of Teeth	10" Mini S-Tines	10" Mini S-Tines	10" Mini S-Tines	
Tooth Spacing	Nominal 7.5 in (191 mm)	Nominal 7.5 in (191 mm)	Nominal 7.5 in (191 mm)	
	0 to 3 in. (76.2 mm) in.	0 to 3 in. (76.2 mm) in.	0 to 3 in. (76.2 mm) in.	
Tooth Depth of Operation	1 in. (25.4 mm) Increments	1 in. (25.4 mm) Increments	1 in. (25.4 mm) Increments	
Under Bar Clearance	11.5 in. (292 mm)	11.5 in. (292 mm)	11.5 in. (292 mm)	
Seeder Assembly				
Seed Box Type	All Steel Construction with Cover	All Steel Construction with Cover	All Steel Construction with Cover	
Seed Box Capacity	2.625 bu.	2.625 bu.	2.625 bu. Each Box	
Seed Meters	"Micro-Meter"	Brush Agitator	"Micro-Meter" and Brush Agitator	
Seed Meter Drive	Positive Ground Driven with Disconnect	Positive Ground Driven with Disconnect	Positive Ground Driven with Disconnect	
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	Broadcast with Wind Deflector Tray	
Pulverizer Assembly	•	•	•	
Working Width of Pulverizer	6 ft. 0 in. (1.8 m)	6 ft. 0 in. (1.8 m)	6 ft. 0 in. (1.8 m)	
Pulverizer Wheels	9.5 in. (241 mm) Gray Cast Iron	9.5 in. (241 mm) Gray Cast Iron	9.5 in. (241 mm) Gray Cast Iron	
Number of Wheels	31	31	31	
Pulverizer Scraper	Standard	Standard	Standard	
Pulverizer Axle Bearings	1.5 in. (38.1 mm) Greaseable	1.5 in. (38.1 mm) Greaseable	1.5 in. (38.1 mm) Greaseable	
Axle Size	1.75 in. (44.5 mm)	1.75 in. (44.5 mm)	1.75 in. (44.5 mm)	
Floating Hitch	Cat. I-II Quick Hitch Compatible	Cat. I-II Quick Hitch Compatible	Cat. I-II Quick Hitch Compatible	
Hitch Jack	NA	NA	NA	
"Micro-Meter" Seed Box Kit	Standard	Optional	Standard	
Brush Agitator Seed Box Kit	Optional	Standard	Standard	
Coil Tine Drag Kit	Optional	Optional	Optional	
Cargo/Rock Box Kit	Optional	Optional	Optional	
Posi-Drive Pulverizer Roller	(In Lieu of Standard Pulverizer Assembly)	(In Lieu of Standard Pulverizer Assembly)	(In Lieu of Standard Pulverizer Assembly)	
Horsepower Requirements	35 HP (26.88 kW) and up	35 HP (26.88 kW) and up	35 HP (26.88 kW) and up	
Recommended Operating Speed	3 to 5 MPH (5 to 8.3 km/h)	3 to 5 MPH (5 to 8.3 km/h)	3 to 5 MPH (5 to 8.3 km/h)	

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