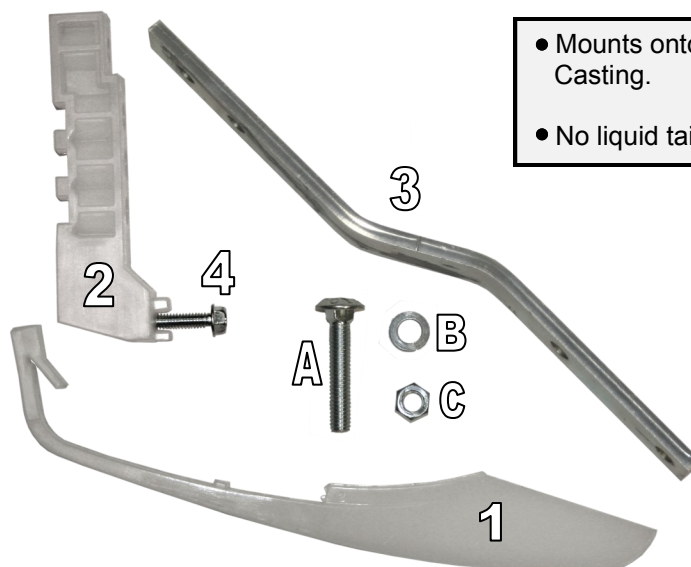


Mounting Instructions for a Sunflower Drill

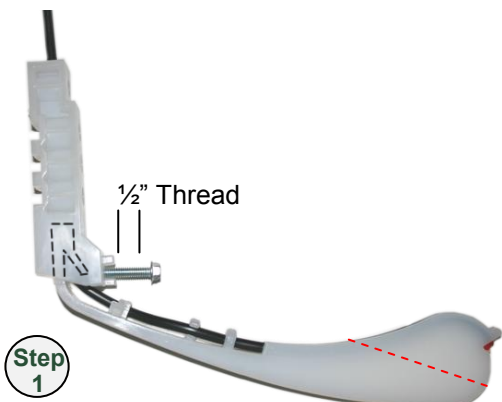
Parts List

1. Firmer Tail (Modified), (120838)
 2. Poly Mounting Bracket,
 3. Metal Mounting Bracket, (150050)
 4. Tension Screw, (32411)
- Hardware Kit Includes (160016)
- A) 1 - $\frac{3}{8}$ x 2" Carriage Bolt, (21361)
 - B) 1 - $\frac{3}{8}$ " Lock Washer, (33622)
 - C) 1 - $\frac{3}{8}$ " Nuts, (36306)



- Mounts onto the drill's Casting.
- No liquid tail.

Installation Instructions



Step 1

Assemble 2-piece liquid firmer by inserting the Tail into the Poly Mounting Bracket as shown above. Make sure tension screw is below the tab on Tail section. Then tighten the tension screw leaving a $\frac{1}{2}$ " of thread showing between the bracket and the head of the tension screw.

Note

The liquid tube and tip of tail has been removed to avoid interference with the press wheel.



Step 2

Lower the drill so the opening discs rest on a flat surface. Remove the outside disc opener from the row unit.

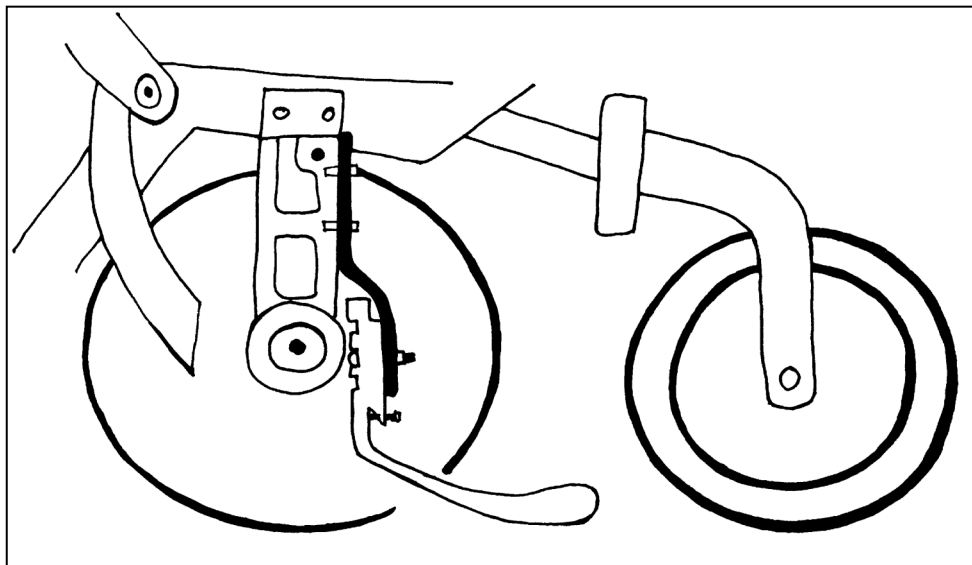
First, bolt the end of the mounting bracket with the holes further apart to the back of the drill's casting. Bolt the end of the mounting bracket with the holes closer together to the Firmer. To determine which hole to use on the Firmer, hold the firmer between the seed tube and mounting bracket.

The tension screw should be $4\frac{1}{2}$ " above the ground.

Questions? Check the website: www.precisionplanting.com or call us at 309-925-5050.

Continued Installation Instructions

- Step 3** Bolt the mounting bracket to the back of the casting as shown below. After mounting the Firmer, replace the opening disk and repeat for all rows.



After mounting the first unit on the drill, measure the height from the Firmer's tension screw to the ground. That distance should be approximately 4" to 4-1/2". Repeat the procedures for each unit.

- Step 4** **Reinstall disk openers:** Check your operators manual for proper shimming and contact of your double disk openers. Replace the disks and gauge wheels and tighten all bolts.

- Step 5** **Adjusting Firmer tension:** Ideal firmer tension is 12-20 ounces of force when set on a hard level surface. To determine if the tension is correct, lower the drill to the ground. Attach a small hanging scale (i.e. fish scale) to the firmer near the end. Lift until the firmer just comes off the ground. Tighten the tension screw until it takes 20 ounces or 1 1/4 lbs to raise the firmer. Tension should be checked before every season and if tension is weak, tighten screw. For additional information, see Keeton Seed Firmer: Preparation for Planting (955665).

Note: Trim the length of the tail if it is making contact with the Press wheel.



Backing Up tractor while drill is not fully raised can result in damage to the Keeton Seed Firmers.

Storage: Installed Firmers should not be stored touching the ground between planting seasons.

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Troubleshooting Guide

Problem	Solution
Firmer not centered in trench.	1 ► Check to see if row unit is trailing straight.
Groove worn on side of firmer.	2 ► Verify that mounting bracket is installed correctly.
	3 ► Check to see that disc openers are shimmed equally.
	4 ► Check to see if firmer is bent or damaged.
Dirt builds up on firmers.	1 ► Some build-up on firmers is acceptable as long as it is on the sides and top of the firmer, and does not get wider than the V-trench sidewalls.
	2 ► If build-up happens on the bottom of the firmer, check for proper tension.
	3 ► Check for damage or rough spots on the bottom of the firmer.
Uneven wear on bottom.	1 ► Check opener disk contact and shim if necessary.
	2 ► Make sure firmer tail is trailing down center of trench.

Warranty: Precision Planting®, Inc. warrants this product to be free from defects in material or workmanship during the first year of service. Our obligation under this warranty shall be limited to repairing or replacing, free of charge to the original purchaser, any part that in our judgment shall show evidence of such defect, provided further that such part shall be returned within thirty (30) days from the date of failure – routed through the dealer from whom the purchase was made. Shipping charges prepaid.

Precision Planting shall have no obligation or liability of any kind on account of any of its equipment and shall not be liable for special or consequential damages. This warranty does not extend to loss of crops, loss because of planting delays or any expense or loss incurred for labor, supplies, substitute machinery, rental or for any other reason. Precision Planting makes no other warranty, express or implied.

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