



## **Installation Manual**

**Things to remember**

**- Page 1 -**

**The Technotill Seeding System**

**- Page 2 -**

**Assembling an Opener**

**- Page 3 -**

**Technotill Seeding System Installation**

**- Page 4 -**

**Opener Position and Packer Plate Angle**

**- Page 5 -**

**Maintenance**

**- Page 8 -**

**Farmers' Tips**

**- Page 9 -**

**Manufacturers' Instructions for Bourgault Tillage Tools  
and Atom Jet Industries**

**- Appendix A -**

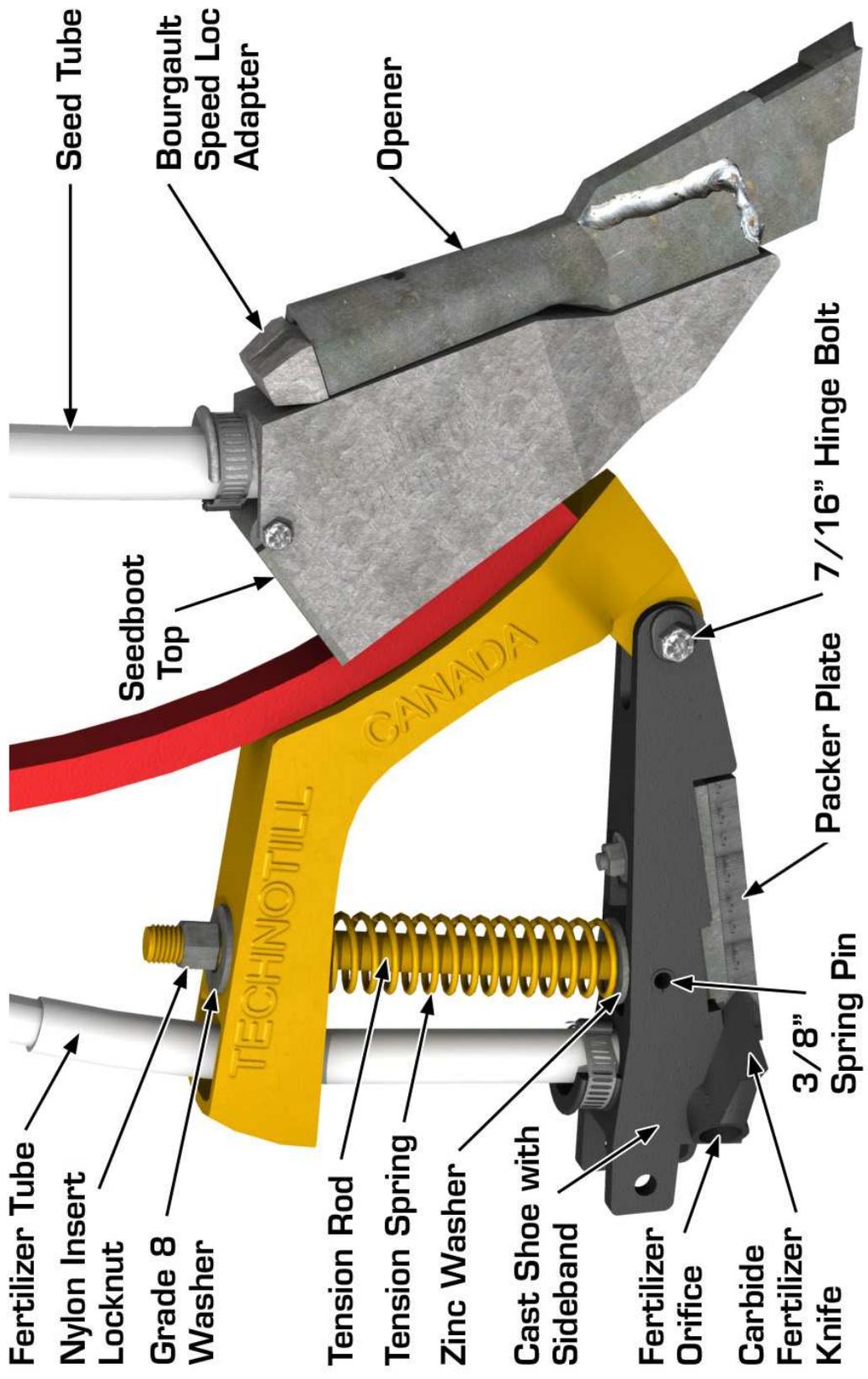
**Updated January, 2013**

## **Things to Remember**

IF YOU HAVE QUESTIONS, CALL TECHNOTILL FOR ASSISTANCE (780 352-9890)

1. Slow down and read the directions. Allow time to install and test the Technotill Seeding System before beginning seeding. Expect to set each packer individually to allow for differences in the shanks.
2. **BEFORE BEGINNING INSTALLATION:**
  - a. Level each section of the cultivator from front to back. Block in that position.
  - b. Check the shanks to ensure that all are the same length and angle.
  - c. Repair and adjust the alignment of the shanks, if necessary.
3. **FLEXICOIL MODELS 800, 820 AND 830 HAVE AN ADJUSTMENT MECHANISM TO CORRECT SHANK ANGLES. PLEASE CONSULT THE MACHINE MANUAL.**
4. **ATTACHING THE SEEDING SYSTEM TO THE SHANK**
  - a. Tighten the top shank bolt first.
  - b. If necessary, shim between the seedboot and shank at the bottom shank bolt.
  - c. Recommended torque for Grade 8, course thread, plain bolts is 106 ft.lbs.
  - d. Check after 300 acres and retighten, if necessary.
5. **FERTILIZER SIDEBAND**
  - a. **Granular, liquid and NH<sub>3</sub> fertilizer can be sidebanded using Technotill.**
  - b. **Customers should consult local dealers regarding recommended rate applications.**
6. **Please review 'Maintenance' on page 8.**

# Technotill Seeding System



# **Assembling an Opener for the Technotill Seeding System**

There are several openers suitable for use with the Technotill Seeding System. Instructions for installation follow.

## **A. Technotill Knock-On Opener**

- Instructions from Bourgault Tillage Tools are provided with the Speed Loc Adapter to explain how to attach the adapter to the seedboot.
- Install the point, using the Bourgault Driver to protect the carbide point.
- Align the shank bolt openings, seed tube opening, and point to ensure that the knife is properly aligned with the seedboot.
- Tighten the bolts to firmly attach the Speed Loc Adapter to the seedboot.
- Attach the seedboot cover, using the cotter pin, after the system is installed on the shank.

## **B. Atom Jet CB15 Single Shoot**

- A 'focus strip' is used to direct seed to the front of the opener.
- Hook the focus strip to the rear of the seed tube on the opener and hold in place with the seed hose, secured by a hose clamp.
- Attach the seedboot cover using the provided bolt and nut after the system is installed.

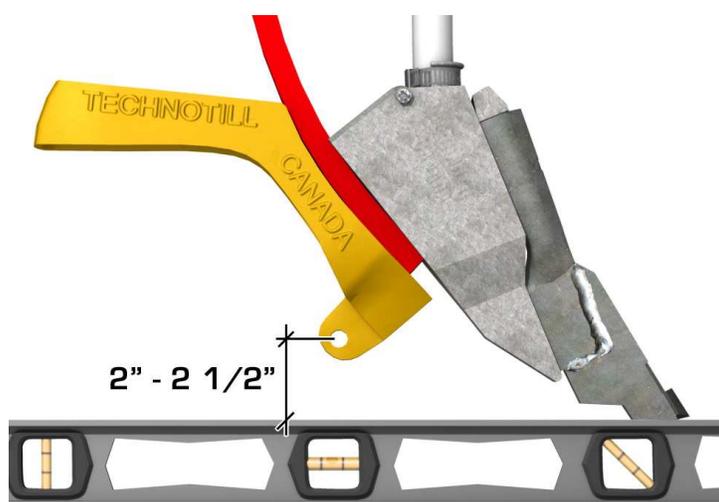
# Technotill Seeding System Installation

## 1) Prepare the tool bar for installation.

- Level, from front to back, each section of the toolbar. Block in that position.
- Check the shanks for alignment. Repair and the align shanks, if necessary

## 2) Assemble the opener according to manufacturer directions.

## 3) Attach the opener and packer top to the shank, using Grade 8 shank bolts.



- The opener may need to be shimmed at either the top or bottom shank bolt to ensure the point is properly positioned in relation to the packer plate.

**SEE ILLUSTRATION: PAGE 6 - OPENER POSITION AND PACKER PLATE ANGLE**

## 4) Tighten the top shank bolt first.

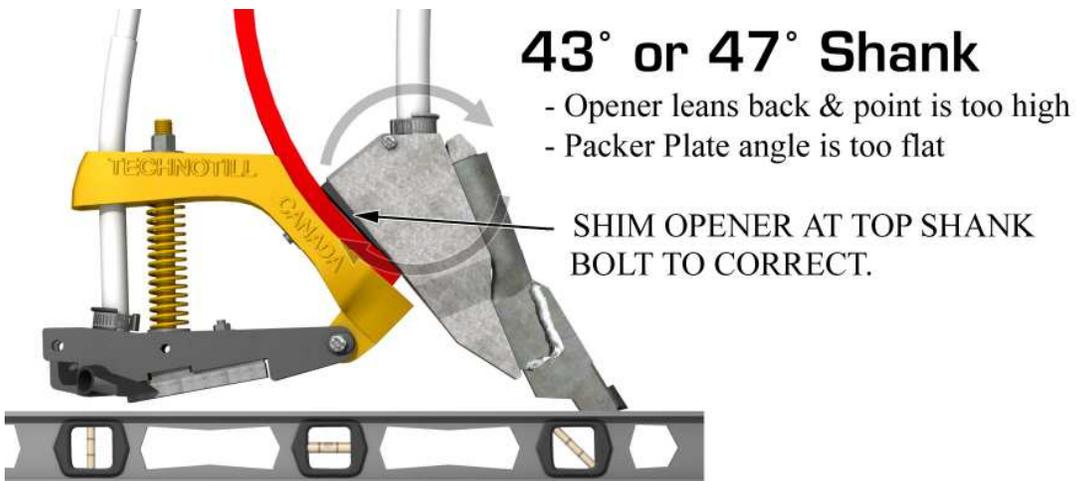
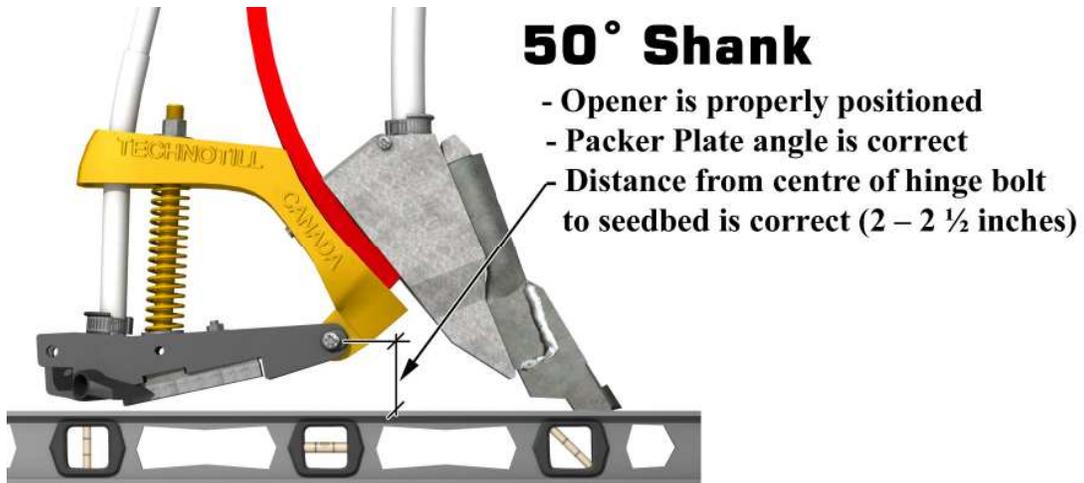
## 5) Attach the tension rod to the packer bottom with the $\frac{3}{8}$ inch roll pin.

## 6) Place zinc washer under the spring, Grade 8 washer at the top of the spring. Place over the tension rod and position the rod through the hole in the packer top. Place Grade 8 washer and start the $\frac{3}{4}$ inch nut on the tension rod.

## 7) Attach the packer to the shank using the $\frac{7}{16}$ hinge bolt.

## Opener Position & Packer Plate Angle

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## 8) Setting the pack thickness

- Choose the desired pack thickness.

In general, pack thickness is set according to soil type.

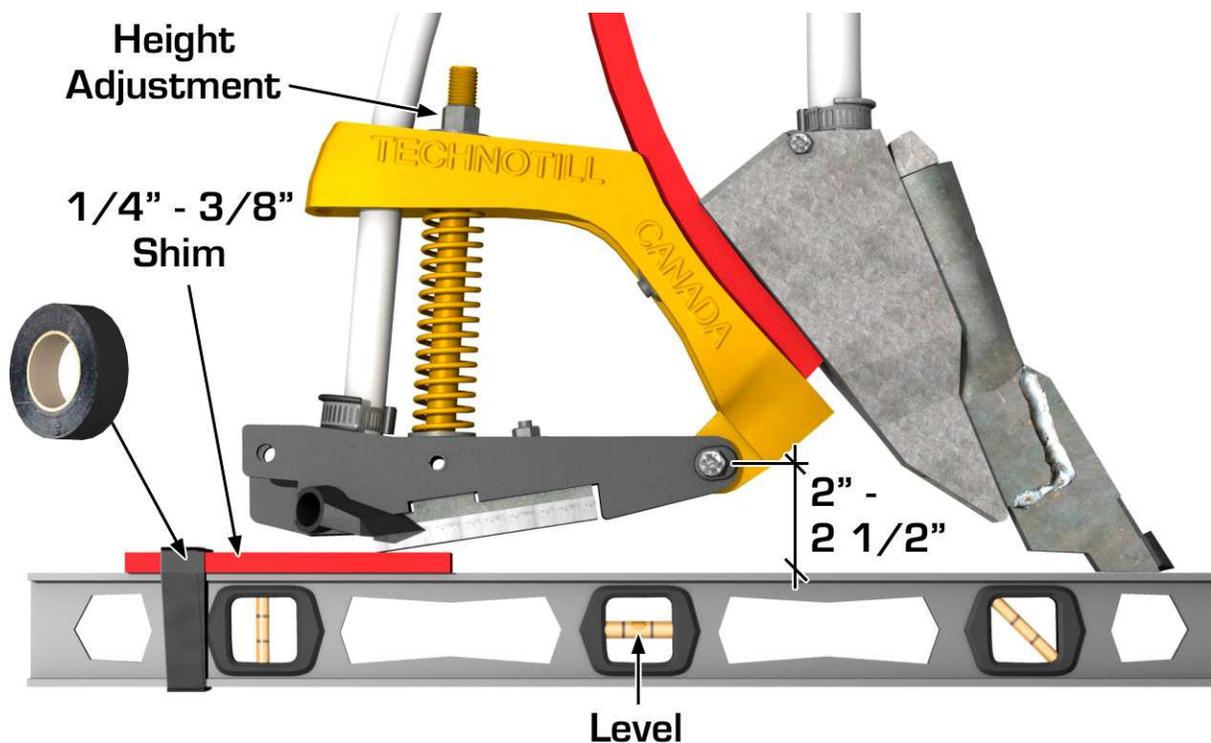
- Clay soil –  $\frac{1}{4}$  inch
- Sandy/loamy soil –  $\frac{3}{8}$  inch

Special conditions:

- Very wet conditions –  $\frac{1}{4}$  inch
- Legumes and grasses –  $\frac{1}{8}$  inch

- Set the pack thickness.

- i) Tape a shim of the desired pack thickness (for example,  $\frac{1}{4}$  inch) to one end of the level.
- ii) Place the level below the opener point and the shim under the back of the packer plate. Tighten or loosen the nut on the rod until the bubble is at the level position.



## **9) Spring Compression**

- The uncompressed spring is 7¼ inches long. 1/2 INCH TO 3/4 INCH COMPRESSION IS RECOMMENDED. THIS PRODUCES APPROXIMATELY 50-55 LBS PRESSURE ON THE PACKER PLATE. Add washers below the spring, if necessary, to increase compression.

## **10) Attach the seed tube and fertilizer tube with hose clamps.**

- Fertilizer tube
  - i) Insert the fertilizer tube through the packer top and down into the fertilizer orifice.
  - ii) Fasten the tubing with a hose clamp. Smaller tubing should be shimmed before being fastened.
  - iii) Liquid and NH<sub>3</sub> fertilizer tubing should be inserted into a larger tube and extended downward so that the tube extends past the fertilizer orifice in the packer bottom.
  - iv) As a precaution, always use larger tubing extending upward about 12 inches through the packer top to protect the smaller tube from possible damage in stony conditions.

## **11) Field test the system to check pack thickness and firmness.**

TIGHTEN THE SHANK BOLTS SECURELY AND RETIGHTEN, IF NECESSARY, AFTER SEEDING 300 ACRES.

## **Maintenance**

Very little maintenance is required, but to ensure performance, we recommend:

### **ANNUALLY, BEFORE SEEDING:**

1. Check for wear on the packer plate, carbide wing in front of the fertilizer orifice, and wear on the packer hinge bolts, and roll pin.
2. Check for wear on the opener: condition of the carbide tip, wear on the sides of the tip and on the seed boot.
3. Check Speed Loc adapter to ensure that it is centred on the seed boot and that the bolts holding it to the seedboot are tight.
4. Check that the shank bolts are tight.
5. Check pack thickness and adjust to correct for wear on the packer plate, shank linkage, or seedboot tips.

### **DURING SEEDING:**

1. In the field, check that the cultivator is level.
2. Periodically, check that the packer plates are intact, the hinge bolt is tight, and the roll pin is properly placed.

## **Farmers' Tips**

### **1) Technotill's priority is germination.**

Our technology is designed to:

- i) Provide the best possible moist soil to seed contact.
- ii) Encourage quick emergence by limiting the amount of packed soil over the seed.

It is important to seed into moisture to allow seed placement on a moist, unfractured seedbed. Seeding into moisture allows a small amount of moist soil to be packed over the seed. The loose soil that falls over the pack protects it from drying in hot, windy conditions.

IN IDEAL CONDITIONS, THE SEEDBED WILL BE APPROXIMATELY 1 ½ INCHES BELOW THE SOIL SURFACE AND ¾ TO 1 INCH OF LOOSE SOIL WILL BE OVER THE PACK. REMEMBER, WITH TECHNOTILL, YOU WILL WANT TO SEED INTO MOISTURE, NOT SEED SHALLOW.

### **2) Technotill places sidebanded fertilizer slightly above the seed row and approximately 1 ¼ to 1 ½ inches to the side of the seedrow.**

Consult local fertilizer suppliers for recommended fertilizer application rates.

### **3) Field testing:**

When in the field, check:

- i) Are you seeding into moisture?
- ii) Is there a thin, firm layer of packed soil over the seed?
- iii) How much loose soil is over the pack?
- iv) Where is the fertilizer placed?

**Appendix A - Manufacturers Assembly Instructions**