

User Guide for Truax No-Till Drill Model # 812, Serial # 879

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Drill Specifications

- DO NOT BACK DRILL ON/OFF TRAILER. DO NOT BACK WHILE PLANTING.
- VACUUM OUT THE BOXES AND CLEAN DISC OPENERS WHEN FINISHED.
- LOWER DRILL HYDRAULICS ON TRAILER BEFORE DETACH FROM TRACTOR.
- Drill has separate seed boxes for small seeds & legumes, cool-season grasses & grains, and fluffy native species. Calibrate boxes in that order, if using multiple seed boxes.
- Planter Width: 8 ft. Row Spacing: 8 in. # of Openers: 12 Drill Wt.: 2,940 lbs.
Tractor HP Required: 50 hp. Ground clearance of disc blades in transit: 10 in.

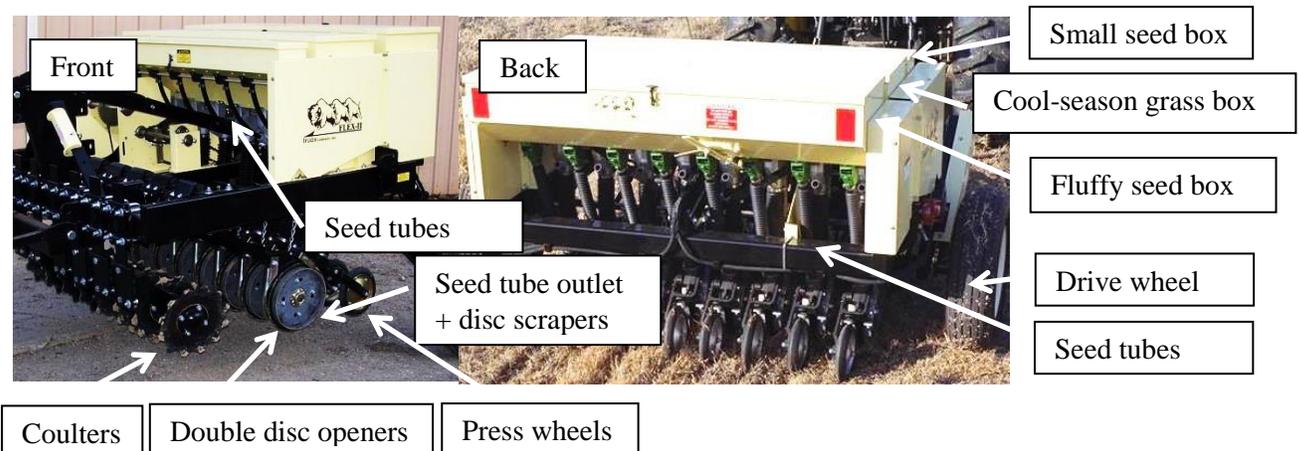


Fig. 1: Flex II drill, manufactured by Truax Company, Inc, New Hope, MN.

Inspecting and Cleaning the Drill -- Before and After Use (done by landowners/users)

1. Before use check that the seed tubes are clear and the seed boxes are clean of seed. Seed boxes can be cleaned with a vacuum cleaner. Seed tubes will need to be removed (loosen the clamps and replace them when done). Compressed air can be used to clear the tubes.
2. To prevent the spread of invasive and undesirable plant species the no-till drill must be completely cleaned of seed and plant material after use. Clean the discs and outer drill components using a water hose. Check the seed tubes and seed boxes for leftover seed.
3. Also inspect the following points before and after use, according to the equipment loan agreement: seed tubes, seed tube outlet, coulters, double disk openers, press wheels, small seed box, cool-season grass box, fluffy seed box, drive wheel, and disc scrapers.

Attaching the Drill to the Tractor (done by landowner/user)

Summarized from Truax Operator's Manual #5999

1. Secure the drill tongue to the tractor drawbar with a pin that has a cross-locking device. Use a pin that fits the drill tongue without being loose.
2. Tractor drawbar height may require the clevis height to be adjusted. Adjust the drawbar height to apply equal force on the planter discs and press wheels.
3. The drill frame should be nearly level when the drill openers are in the planting position. This can be checked by positioning the drill on a flat surface with a 2" x 6" under each wheel. Lower the drill planting units to the ground surface and check to see if the disk openers and no-till drill coulters are touching the ground surface equally.
4. You can adjust the leveling spring assembly in the tongue. Turn both the upper and lower sets of nuts downward toward the tongue to raise the front of the drill. Turn both the upper and lower sets of nuts upward toward the drill to lower the front of the drill.
5. Be sure the hydraulic hoses are secured and out of the way of the tongue and the tires. A hose guide is attached to the tongue to help support the hydraulic hoses.

Unloading and Loading the Drill (done by landowner/user)

1. Do not back the drill onto the trailer. Damage to the press wheels will occur.
2. Center the drill on the plywood sheet to protect the discs and the trailer. Use the marks on the plywood to help you line up the drill.
3. Lower the hydraulics after loading and before disconnecting the tractor from the drill. Check that hydraulic hoses are not pinched by the frame above the wheels after loading.

Operating the Drill (done by landowner/user)

1. Each seed box can be calibrated independently. Keep in mind that how full the seed box is affects the flow rate of seed. Refer to the step-by-step instructions in the handout "How to Calibrate a No-Till Planter" and calibrate the boxes from front-back, relative to tongue.
2. The seed box agitators are operated by the drive wheel on the right-hand side (Fig. 1). The pin of the drive wheel must be locked to operate the drill. Remove the pin of the drive wheel while transporting the drill.
3. Do not back the drill up when the drive wheel is locked and/or the disc openers are in the planting position. This will damage the seed box agitators, bend and damage the press wheels, and also cause dirt to plug the double disk openers.
4. Operate the drill at a ground speed of 4-5 mph. The seeding rate in ac/hr is about equal to the operating speed of the tractor in mi/hr.
5. Check seeding rates and placement (depth) for all of the disk openings after using the drill at operating speed. Check that the press wheels are closing the slits. The press wheels operate independently from the planter assembly.
6. If using the drill for large acreages, check the wheel lug nuts periodically. Torque is 75-85 lbs. and should be checked after the 1st and 2nd day of use and again after 50 and 100 acres. After that, check periodically to ensure lug nuts are tight.
7. Store the equipment in a building or under a tarp if loaned for an extended period of time.
8. Once you are finished with the loan, complete the sections of the User Guide on "Inspecting and Cleaning the Drill" and "Unloading and Loading the Drill."

Safety Tips for Tractor Operation

Summarized from “Safe Tractor Operation” by David E. Baker, University of Missouri Extension

- ✓ If the tractor has a rollover protective structure, fasten your seat belt. Don't wear a seat belt if your tractor is not equipped with a protective structure.
- ✓ Avoid operating the tractor near ditches, embankments, and holes. If you must operate near a ditch or riverbank, stay a distance as far away from the ditch as the ditch is deep.
- ✓ Reduce speed when turning or crossing slopes and on rough, slick, or muddy ground. Traveling twice as fast equals four times the risk of turnover.
- ✓ Stay off slopes too steep for safe operation. Hitting a rock on a 15° slope at a high rate of speed can flip a tractor. Keep the tractor in gear when going downhill (select the lowest speed gear and shift before you start downhill) to allow the engine to serve as a break.
- ✓ Watch where you are going, especially at row ends, on roads, and around trees. On public roads, the law may require a Slow Moving Vehicle emblem, and front and rear lights.
- ✓ Don't permit others to ride, including children.
- ✓ Operate the tractor smoothly – no jerky turns, starts, or stops. Make sure no people or obstructions are ahead of or behind you before you start the tractor moving.
- ✓ Hitch only to the drawbar and recommended hitch points. Hitching above normal drawbar height may tip a tractor backward. Always use a safety-hitch pin for fastening a pulled implement to the drawbar of the tractor.
- ✓ When the tractor is stopped, set brakes and use the parking brake. Don't rely on leaving the tractor in gear to keep the tractor from rolling.

Planting Tips for Prairie Seed Mixes

- ✓ Ensure that the no-till drill is calibrated to match the Pure Live Seed (PLS) weight of the seed mix that is being planted. Since most prairie seeds are much lighter than cool-season grasses, this is vital step to ensure that seed is evenly distributed across the planting site.
- ✓ Set planting depth at 1/4" or less for native warm-season grass and forb seed mixes. If seed is planted too deep it will not germinate! Check planting depth after using the drill at operating speed.
- ✓ Seed mixes are usually distributed in separate bags with one containing the grass (fluffy) seed and the other containing the forb (wildflower) seed. The grass seed should be put into the fluffy seed box and the forb seed put into the small seed box (Fig. 1).

Delivery and Pick-Up of the Trailer (done by U.S. Fish and Wildlife Service)

1. Align the truck and trailer in a flat location with at least 100 feet length, 50 feet width. This provides space to extend the trailer and align a tractor at a right angle to the trailer.
2. Before extending the trailer, disconnect the trailer break light cables (press in on the plastic lock mechanisms to release the cables), loosen and remove the red clamps on each side of the trailer frame, and lock the trailer wheels. Place the brake light cables out of the way under the drill on the trailer deck while extending the trailer; don't wrap the brake light cables around anything before extending the trailer.
3. The trailer usually takes several tries to extend. If there's difficulty, lubricate the rollers.
4. Once the trailer is extended, remove the chains from the four corners of the drill body and the strap from the drill tongue. Roll them up and place them in the toolbox on the trailer.
5. The drill tongue is folded during transport. Attach the support arms to the tongue with the bolts stored in the toolbox on the trailer and tighten them like lug nuts.
6. Upon pick-up: Check that the drill is aligned and is lowered onto the plywood. Fold the drill tongue, secure it with a strap. Secure the drill to the trailer by looping chains through (1) each of the red rings at the ends of the trailer and (2) the chassis of the drill, and then attaching the hooks at the end of the chains to opposite ends of each chain tightener.

Routine Maintenance (done by Southwest Badger and/or U.S. Fish & Wildlife Service)

1. Check the seed boxes for debris. Vacuum out loose seed.
2. Check the seed tubes. Detach the tubes and blow compressed air down them.
3. Grease the zerks/fittings for the wheel bearings with a grease gun.
4. Inspect and lubricate with lithium grease aerosol: the drive chains and calibration levers for the seedbox agitators, pin for the drive wheel, and hinges for the seed boxes.
5. Check the depth of disc openers: replace them when wear reduces the diameter to 13".
6. Also inspect the following points: tire pressure, coulters, press wheels, disc scrapers.
7. Check the tail lights of the trailer, trailer tire pressure, and clean and organize the toolbox.