

Proper Use of the Model 77 No-Till Drill

Operation considerations

- **No Fertilizer or Lime** will be placed in any of the seed boxes
- **Always raise drill before making any sharp turns** (Leaving the drill in the ground for gently turns and for contours is acceptable.
- **Never put more down pressure on the down pressure springs than necessary.** Shallow planted seeds will require less down pressure. In any case never tighten the down pressure springs more than you can turn the nuts with a deep well socket. Lubercate these nuts frequently so they turn easily.
- **Always notify the conservation district of any issues with the drill,** so they can be addressed before the next producer uses the drill.
- **Read the owners manual for the drill before operating.** As a minimum read the abbreviated pages that are provided. The following sections should be provided: Pages 1-9, 21-34 and 41-49.

Seeding rates and adjustment

- **Setting the seeding rates.** Seeding rates and settings are found on the inside of the grass/legume box lid and the inside of the rear box. These setting serve as a starting point. Calibration of the drill may be performed by putting a tarp under the drill and catching all seed while turning the drive wheel until a tenth of an acre is planted. Note that **operating speed can affect the seeding rate, especially from the two large seed boxes.**
- If one is filling the seed box or can mark the seed level on the box, then plant an acre or two, depending on seeding rate and then refill to the original mark the amount of seed use for the acres planted can be determined and adjustment made as necessary.
- **Every time the drill is used the type of seed, drill setting and actual seeding rate should be recorded** so that a history of rates and settings can be developed for producers to use to help get more accurate settings.

Using the correct seed box for different types of seedings

This drill is equipped with three seed boxes to provide a maximum of seeding options. From front to rear you will find the following:

1. Small seed (legume box) for small grass seed and legumes, such as clover, timothy, alfalfa and ryegrass (seed the seeding rate chart for more information. Seed from this box is placed behind the double disk openers and pressed into the soil by the closing wheel so the seed is not placed too deep. There may be times when the seed needs to be placed thru crop residue, duff from prior sod etc. In this case seed tubes can be placed to place this seed between the double disk openers. Generally spring planted seeds should be placed more shallow and when planting fall seeded crops it may be better to plant them a little deeper by using the alternate tubes to place seed between the double disk openers.
2. The middle box is for larger seeds such as small grains, soybeans, buckwheat or also to handle larger volumes of smaller seeds or mixtures the middle box should be used. It places seed between the double disk openers and the depth is adjusted by setting the depth gauge or closing wheels and the number and size of donuts on the hydraulic cylinder as described elsewhere in this document.
3. The rear box or fluffy seed box is equipped with large seed tubes to handle large fluffy seed. These tubes place the seed, near the soil surface, and behind the double disk openers where it is pressed into the soil by the closing wheels. Do not put any seed in this box that needs to be

seeded over a quarter of an inch deep. The double disk openers where it is pressed into the soil by the closing wheels. Do not put any seed in this box that needs to be seeded over a quarter of an inch deep.

Depth Adjustment and considerations

- Determine the depth you want to plant the seed you are planting.
- At this point washers on each unit should be adjusted up or down to allow for proper depth by the double disks. If the **disks do not penetrate so that the closing wheel is snug against the soil**, then down pressure should be increased by tightening the nuts on the down pressure springs. If there is excess pressure on the closing wheel, then down pressure should be reduced by loosening the nuts on the down pressure springs. A deep well 15/16 socket and ratchet should always be kept with the drill.
- **Excess pressure on closing wheel** (which functions as a depth gauge wheel), **is likely to cause soil crusting and compaction** and may reduce the success of seedling emergence and vigor.
- **Any time the rear wheels are not on the ground**, excess down pressure exists and the drill should not be run until down pressure is reduced as described above. This most likely to occur when doing shallow seedings with small seeds.
- When the drill is operated the **parallel linkages on each unit should be parallel to the ground surface**. Adjustment of washers and adding or subtracting donuts on the cylinder that raises and lowers the drill should be made so the parallel linkages are **parallel to the soil surface**.
- The amount of crop residue or grass cover will impact depth settings. Always check seed depth when planting into different ground covers.
- Depth bands, if on the drill, limit seed depth to a maximum depth of .5 inches. They should only be used in low residue situations or when planting small seeds. This may be good or bad, depending on the depth you are planting to use for your planting. When it is desirable to **plant deeper than the depth bands allow**, remove the depth bands. They should be removed when seeding mixtures of large and small seed or when planting large seeds such as small grain for cover cropping (note: Jim Huber and I both suggest you remove the depth bands and keep them for special seeding considerations) If you do so then this section can be eliminated.

Operational Checklist

- Check all runs to be sure disks turn freely, depth (washers and down pressure springs) are all adjusted to be equal.
- Has seed been cleaned from all seed boxes, If not use shop vac and or the clean out mechanism for the large boxes. Small box must be vacuumed. If the clean out feature is used be sure that the **boxes are closed before adding seed!**
- Check tires for adequate air pressure.
- Check hydraulic hoses for leaks or any spots where they have been damaged.
- Have moving parts of the drill been greased and the chains lubricated?
- Lubrication suggestions: I would convert hours to acres and simplify a bit. Use 3 ac per hour. I would simplify so that all but the shaft are greased every 50 acres
- Decals that you may wish to order extra would be 3,7,10 & 12 (pg 98 op manual)