Sunflower 9412 (10 foot) No-Till Drill

Operating Instructions

A large machine in a field

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**Drill transport**

The drill can be transported on a ¾ ton truck or tractor with a pin and a 3-point hitch. When you attach the drill to your truck, make sure the hydraulics on the drill are lowered. Hook the drill up to your truck or tractor by backing up the truck or tractor to meet the transport hitch. Once the drill is hooked up to a truck, attach the hydraulics to a nearby tractor, and lift the machine up. The planter wheels should be lifted up, and the transport wheels on the ground. Place the black safety blocks on the hydraulics. If you are transporting the drill on a tractor, also make sure to put in the safety blocks. Tuck the jack away and secure it with the pin provided.

A red truck

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Safety blocks will go here

Transport wheel

Planting wheel

Next, plug in the four-flat hook up for the lights that connect to the drill. There is an adapter stored on the tractor if you need it. If neither of those options will work, please make sure you have an adapter available! You must travel with the lights on, regardless of time of day.

A picture containing indoor, bicycle, ground

Description automatically generated A picture containing building, red, outdoor

Description automatically generated A close up of a red building

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Four flat hook up Adapter available Storage of adapter plug

Before you start driving, do a walk-around and make sure everything is ready to go on the drill. In particular, double check that the opener discs, press wheels, and planting wheels are not touching the ground, and the transport wheels are down.

The drill will extend wider than your truck or tractor, and will take up more than one lane of traffic. Please drive carefully – no faster than 25 mph.

**Hooking the drill up to your tractor**

You will need at least a 90 hp tractor. The harder your soil, the harder it will be to pull the drill through it, the more horsepower you will need. Make sure that your tractor has a pin hitch drawbar, and two hydraulic hook ups. The hydraulic lines on the drill have a universal hook-up; if your tractor does not have that hook-up, you will need to supply an adapter or temporarily replace the hook-ups with ones that match your tractor. Please make sure to put the universal hook-ups back on the hydraulics when you pass the drill on to the next user.

**Do not climb on the back of the drill until it is fully hooked up to your tractor.**

Lift the drill up with the hydraulics, remove the transportation safety blocks, and secure them to the back of the tractor. Move the jack out of the way.

**Pic of hydraulic safety blocks – will insert when made**

**Drill calibration**

*Adjusting the level of the drill*

Once you have the drill attached to your tractor and the hydraulics lowered, make sure that the drill is level with the ground. Use the adjustment in the picture below to change the angle of the drill. Make sure that the top of the big seed box is level with the ground.

A close up of a machine

Description automatically generated A picture containing truck, red, building, outdoor

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Use this to adjust the level of the drill

Make sure the top of the big seed box is level with the ground

*Adjusting the seed openings*

The Sunflower no-till drill has two seed boxes – one in the front, for larger seed (like oats, barley, alfalfa, or wheat & rye), and one in the back, for smaller seed (like clovers, birdfoot trefoil, and grasses).

There is a chart on the inside lid of each box that will tell you how big to make the opening depending on the type of seed and the desired seeding rate.

A close up of text on a white surface

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Seeding rate chart for grass box

A close up of text on a white background

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With 10” row spacing & a 1:1 sprocket ratio (already set on the drill), if you set the opening at 9/16”, wheat & rye will be seeded at approximately 77 lbs per acre

Seeding rate chart for the grain box

**How far apart are the seed tubes right now? 7.5 inches or 10 inches? (I think that’s the difference between the two calibration charts)**

To operate the calibration wheel, loosen the bolt on the outside of the wheel, and the two bolts directly on the other side of drill. It is very important that you loosen both bolts; the calibration wheel will still turn if you don’t loosen in the inside bolt, but it can strip the shaft that runs the length of the seed box.

A red suitcase

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This shaft can quickly strip if the bolts are not loosened before calibrating

Loosen these bolts (wrench in toolbox) before you spin the wheel – two on the inside, one on the outside

Once you have the bolts loose, twisting the wheel will change the size of the opening from the seed box into the hose.

A picture containing red, building, floor

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Seed opening is as large as possible in this picture

On the larger seed box, you can tell how big the opening is with the ruler next to the opening closest to the calibration wheel.

A close up of a machine

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Ruler that shows size of opening for large seed box

You may put a mix of seeds in a single box. This will require careful calibration, and likely involve watching the drill as it moves to make sure that the seed is moving freely through the opening.

The seeding chart on the seed box is a good place to start; if you’d like to be even more accurate, you can put a measured quantity (lbs) of seed in the drill, travel a known distance, and the vacuum out and weigh the remaining seed.

Another options is to count the number of wheel revolutions in a given length (say, 200 ft), and then with the planter wheels lifted, move the wheel by hand and catch the seed in some way.

*Depth Control Adjustment*

**A picture containing motorcycle

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Depth control adjustment

The seeding depth of each opener is controlled by the position of the depth cam assembly located on the back of the opener frame, as shown in the picture above. A is the shallowest; G is the deepest. To change the setting, pull the spring-loaded T-handle out of the notch while rotating the cam to a different setting, and release the T-handle in the new notch.

*Opener down pressure*

A close up of an engine

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4

3

2

1

Opener down pressure adjustment

The first notch, 1, provides the least down pressure; in the picture, the drill is set at notch 1. The rear notch, 4, provides the most down pressure. To adjust, stop the tractor and raise the drill until the openers are off the ground. Move the adjustment bolt from one notch to the other by grasping each end of the bolt and moving it to the new notch setting. All the openers should be set at the same notch.

**Tips for success**

* Don’t just set it and forget it – especially in the beginning, make sure you get off the tractor and look at where the drill has been to make sure the depth, seeding rate, and seed to soil contact are appropriate; refer to troubleshooting guide, found in the operator’s manual on page 43 for further guidance
* If your seed is not perfectly clean, bits of chaff can block the seed openings inside the hoppers, or chaff could stop the seed from flowing freely along the hose. Use the long skinny tool in the toolbox to move the seed around in the box when you re-load. You can also loosen the bolts that connect the hose to the coulters and clean out any blockages from there.

**A close up of an engine

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If you loosen this bolt, you can disconnect the hose and clean out any blockages

* DO NOT BACK UP WITH THE DRILL SET DOWN.
* You may turn with the drill, but only wide, sweeping turns; no sharp turns please.