



OPERATING MANUAL

MODEL 480
RAISED BED PLASTIC MULCH LAYER

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!! Safety First !!

- ⚠ Read and understand all caution labels on the machine.
- ⚠ No riders beyond the speed of 3 MPH.
- ⚠ Double check that everyone is clear before lowering the machine.
- ⚠ Use caution when turning around; machine is 9' long.
- ⚠ Do not crawl under the machine when lifted.
- ⚠ Disk blades are sharp; stay clear.
- ⚠ Do not sit on machine except designated seat.
- ⚠ Tractor operator is responsible for extra worker(s) around machine.
- ⚠ Rain-Flo is not responsible for accidents if any should occur.

480 Features

- Automatic steering correction (Ro-trak)
- 60” row centers, 80 hp FWD Minimum
- Adjustable bed height; 4” or 8”
- Automatically starts plastic film
- Manual plastic & drip tape cutters
- On the go plastic roll change
- On the go cover disks adjustment
- Adjustable crowned or flat bed top
- Adjustable brake tension on plastic roll carriers
- Adjustable row markers
- Category II, 3-point hitch
- With operator seat
- Replaceable, reversible plow share blades
- UHMW (replaceable) poly lined bed press
- Quality powder coated paint
- Lays standard 48” plastic only

Options

- Single or double drip attachment
- Hydraulic kit for cover disk adjustment

Soil Preparation

- * To build a full firm bed with no hollow spots, soil has to be prepared properly.
- * Proper soil moisture is important to form nice firm beds. For best results, soil should not be powder dry or in muddy condition.
- * There are many different types of soil. You will need to know what soil preparation works best with your soil.
- * Machine performs the best if plowed 6” to 8” deep.
- * Soil should be harrowed or roto-tilled until free of sod lumps.
- * Sandy loam soils are the easiest to make square, uniform beds.

Getting Started

1. Adjust 3-point top link to level machine.
2. Load plastic roll into bottom roll cradle and spare roll into top cradle.
3. Feed plastic through rollers (page 8).
4. Load driptape roll(s) onto carrier and feed through guides (page 9).
5. Compression rate regulates amount of soil between moldboards and can be adjusted using turn buckle on the left* (page 7).
6. Bed crown (peak) can be adjusted by turning center turn buckle (page 7).
7. Bed top width/bed height is adjusted by removing 4 hand pins on each side press plate, move plates to the desired height/width, and installing pins again. i.e For tall beds both side plates need to be dropped down. NOTE; double check both sides are adjusted equally (page 6).
8. Bed height can be fine tuned by using the turn buckle on the right* to raise or lower the press pan and adjusting the compression rate accordingly (page 6).

* Standing in back

Helpful Tips

- * Before laying plastic, we recommend using the machine without mulch or driptape. Make adjustments as needed for your soil type and become familiar with the machine. Spread moldboards as far as possible when making the second pass to lay the plastic mulch.
- * Let full weight of machine down and regulate amount of soil between moldboards using the compression rate turnbuckle.
- * It is not necessary to pull more soil than needed to fill the bed. Pulling too much soil may cause tractor slippage / side drifting.
- * Moldboards can be adjusted closer or farther apart depending on soil type.

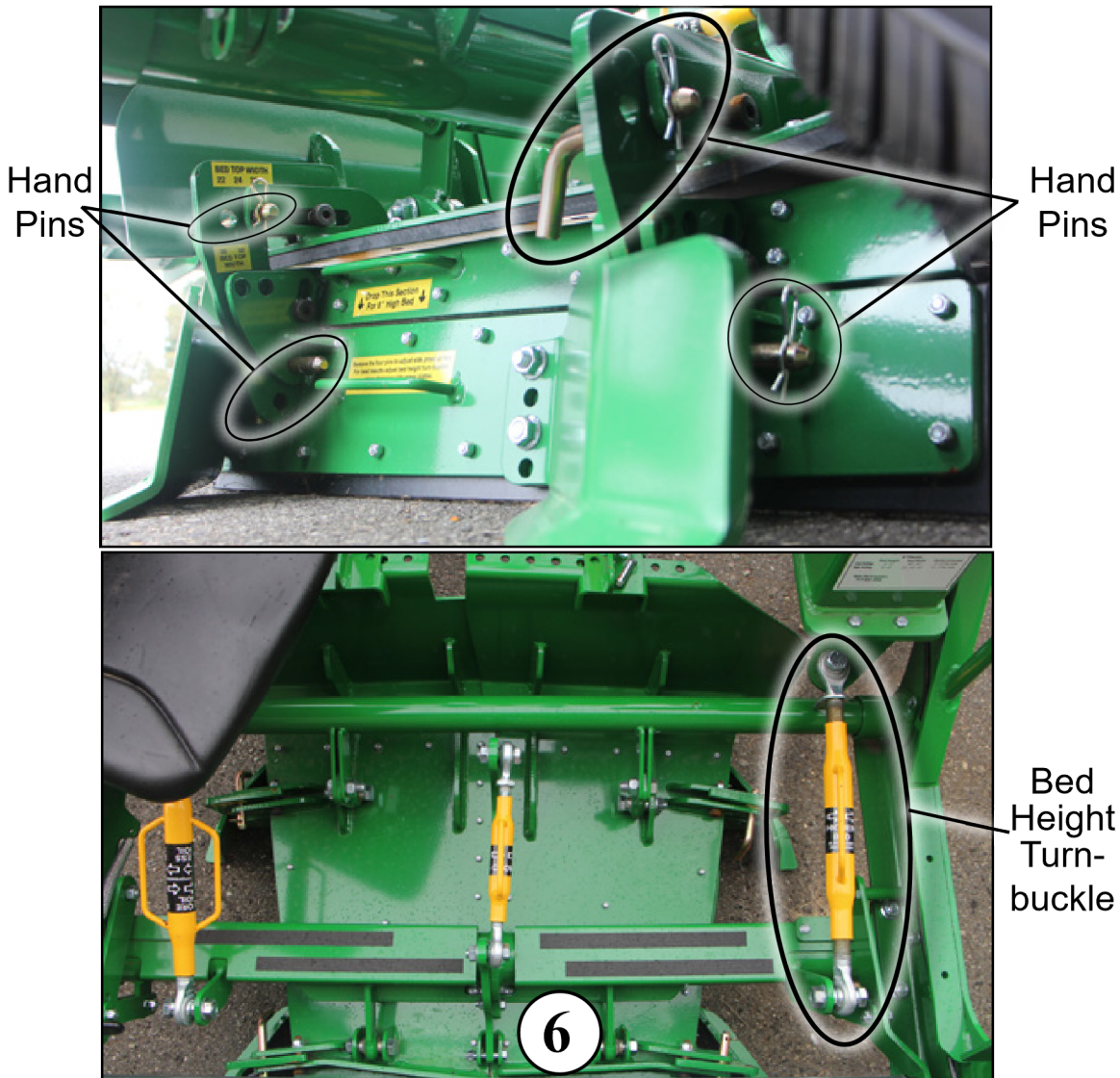
Bed Height & Width Adjustment

Bed height and width is adjusted with four hand pins located on each side of the bed press (See below).

To change from the 8" setting (pictured below) to a 4" setting use the steps below.

1. Using the tractor, raise the machine approx 12" off the ground.
2. Remove the four hand pins.
3. Use the handles on the side plates to lift the bottom section until the top section is in a flat position.
4. Reinstall the hand pins in the bed width setting preferred.
5. Repeat steps 1-4 for the other side.
6. Fine tune bed height using the turn buckle on the right side (see picture below).
7. Adjust press wheels to match new bed width (page 10).

4 Ft. Plastic	
Bed Height	Bed Top Width
4"	30", 32"
8"	22", 24", 26"



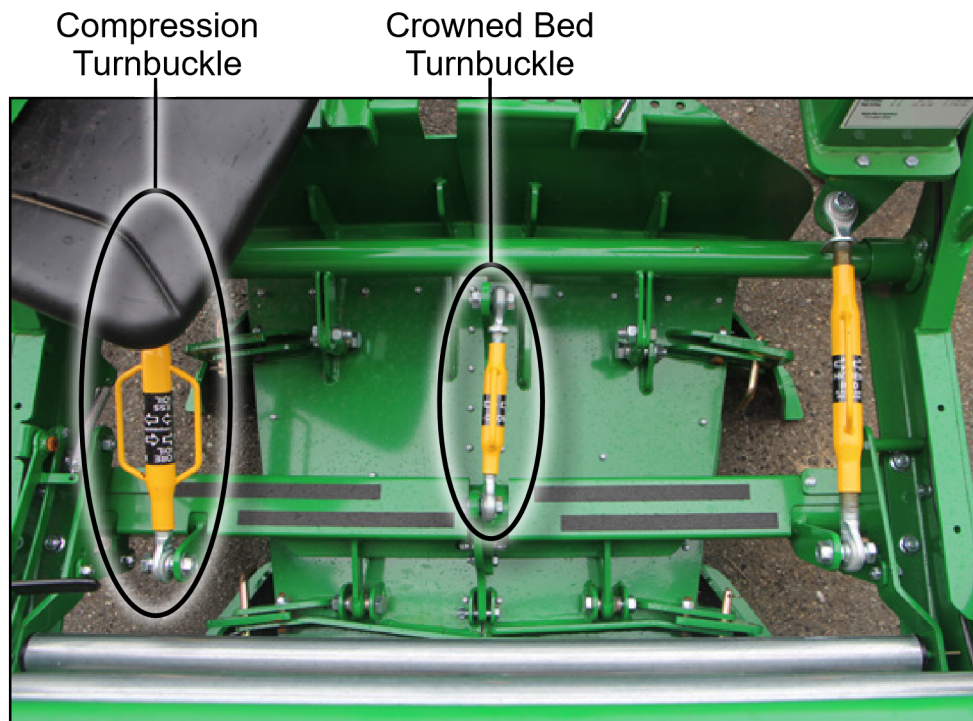
Compression Rate Adjustment

Compression rate or angle of the bed press regulates the amount of soil between the moldboards. It is adjusted using the turnbuckle on the left (see below).

If you have insufficient soil or a hollow bed use less compression by lowering the front of the bed press. If there is too much soil building up use more compression by raising the front of the bed press. Excessive compression does not form a firm bed and is not recommended.

Compression can be changed while laying as soil type and conditions change.

Important; Changing compression will change driptape bury depth.



Crowned Bed Adjustment

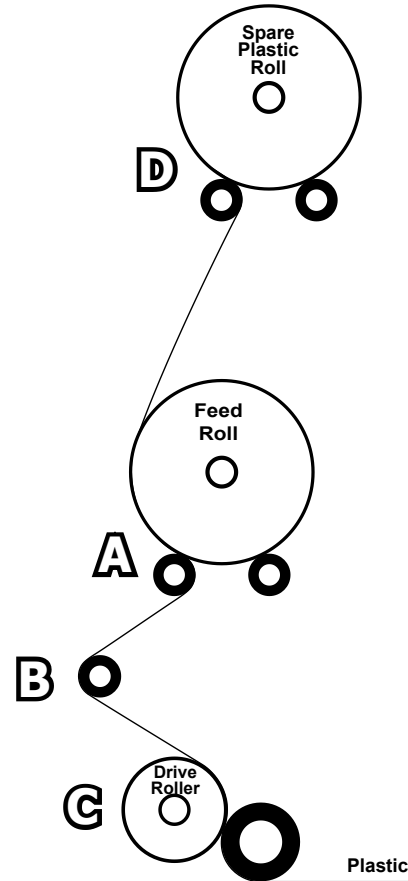
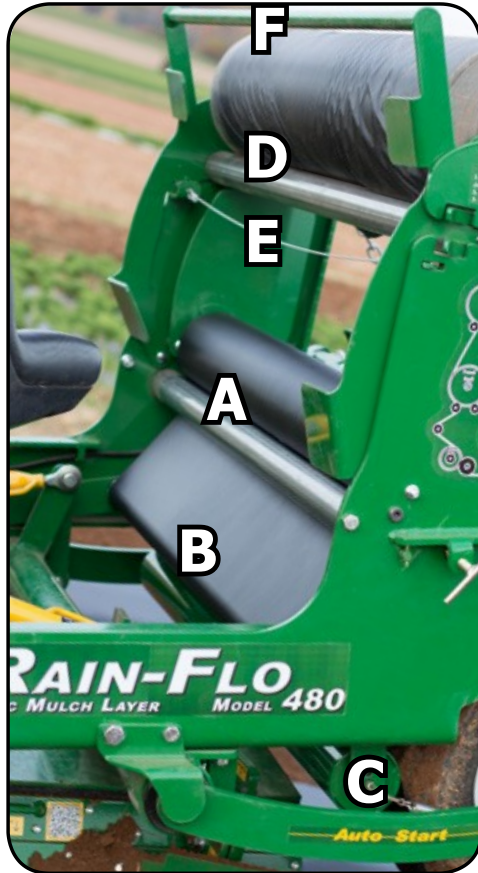
The crown or peak of the bed (see below) is useful to drain water off the top of the bed in level fields. It can be adjusted using the center turnbuckle (see above).



Installing Plastic Rolls

To install plastic rolls, place feed roll on top of rollers (A) and spare roll on rollers (D). Pull end of plastic down between rollers and in front of 2” roller (B). Next feed it between the 4” green and 3” silver rollers (C). See illustration below.

Make sure plastic mulch is between tires and green roller for Auto-Start.



On The Go Roll Change

When the feed roll is almost empty the spare roll can be started without stopping. This leaves only a seam across the bed.

1. Adjust the spare roll tension so it can spin freely (page 10).
2. Feed plastic through rollers (D) and pull out approx. 2' of plastic.
3. Feed wad of plastic through rollers (A) and (C). Plastic will now be feeding off of both rolls.
4. When feed roll is empty remove core from cradle.
5. Pull cable (E) to release latch.
6. Slowly pull handle (F) forward toward tractor to drop the plastic roll to the feed position. After it has dropped push handle back until it latches.
7. Place new spare roll on top rollers (D).

Caution; keep fingers clear of spinning rollers.

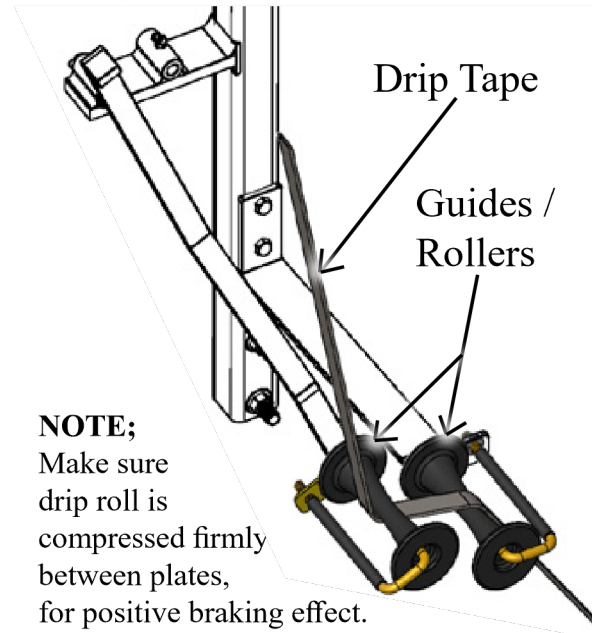
Installing Drip Tape Roll



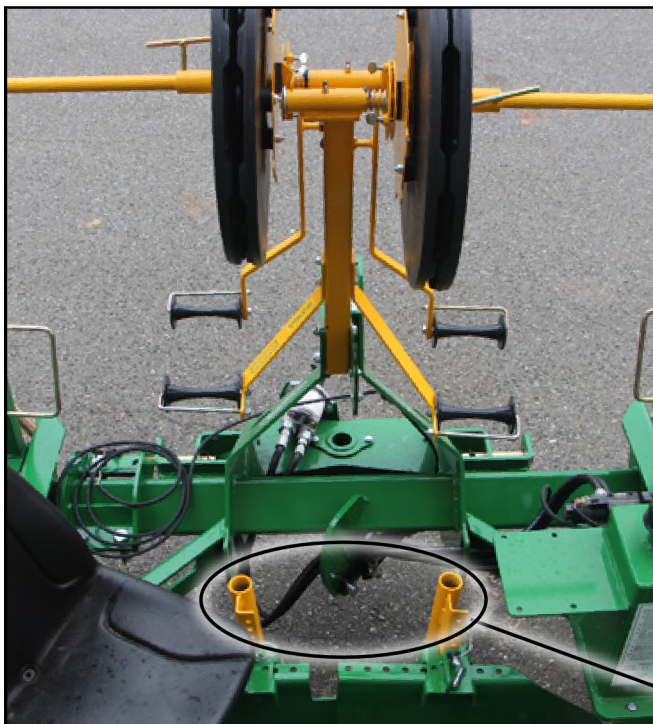
Shown with optional double drip attachment.

Slide drip roll onto roll carrier rod so that drip emitter will be turned up toward plastic (for less clogging).

Feed drip tape through the first guide on the swing arm and through the second guide that's bolted on the drip roll carrier frame. (See illustration below.)



Drip Irr. Tape Placement



Feed driptape through the guides on the spool carrier and into the driptape down pipe.

To avoid damaging driptape with the press pan, adjust top of down pipe about 1" to 2" below the plastic mulch.

Turn drip emitters up toward the plastic for less clogging.

Changing compression will change driptape bury depth.

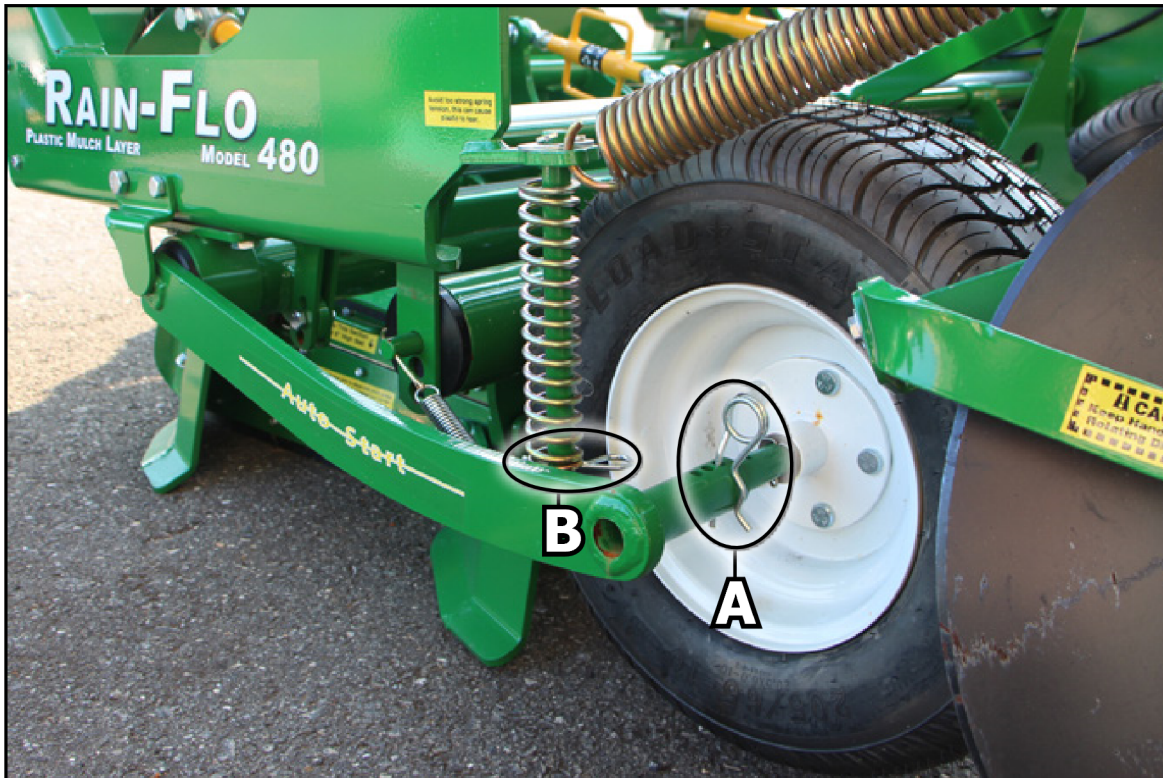
Driptape
Down Pipes

Press Wheel Adjustment

Press wheels need to run at the bottom of the trench and not on the side to stretch the plastic properly. Adjust the position of the press wheel using pin (A).

After bed height/width is changed press wheels need to be adjusted according.

The spring provides down pressure on the press wheel and is important for Auto-Start. Adjust the down pressure by using pin (B). Avoid excessive spring tension which can cause the plastic to tear.



Plastic Tension



Plastic rolls have a tension brake. *Just a slight tension is needed.*

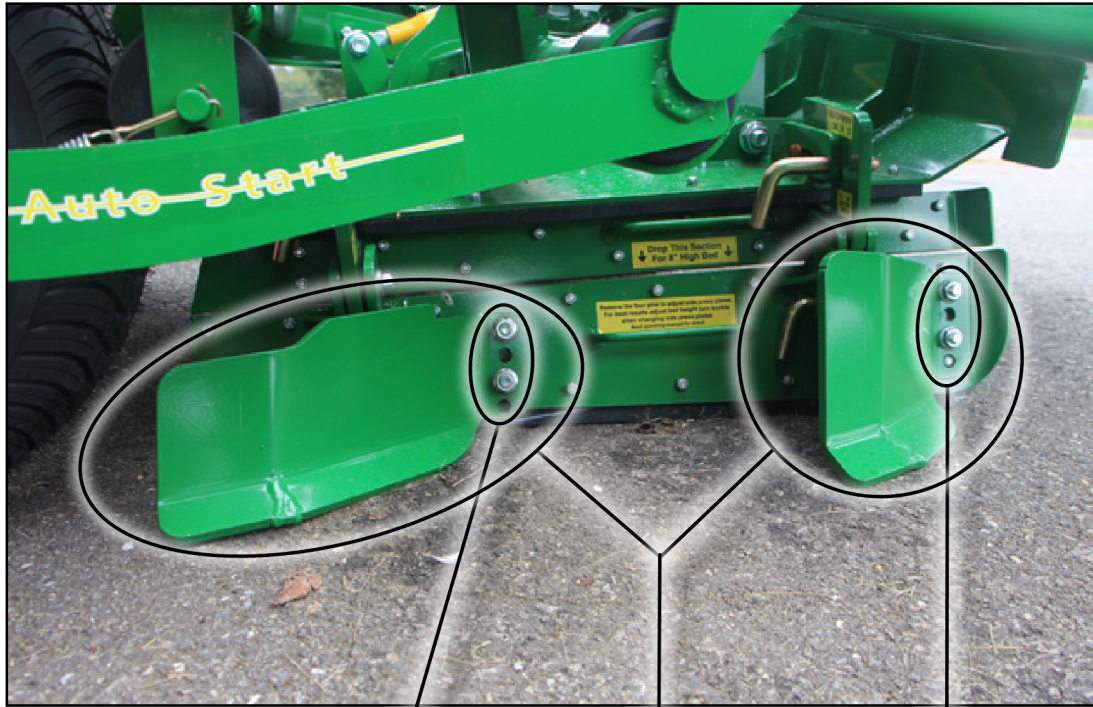
Setting brake tension too tight may affect the performance of the machine and can cause plastic to pull out from under press wheels.

Tension
Brake
Adjustment

10

Trench Opener Adjustment

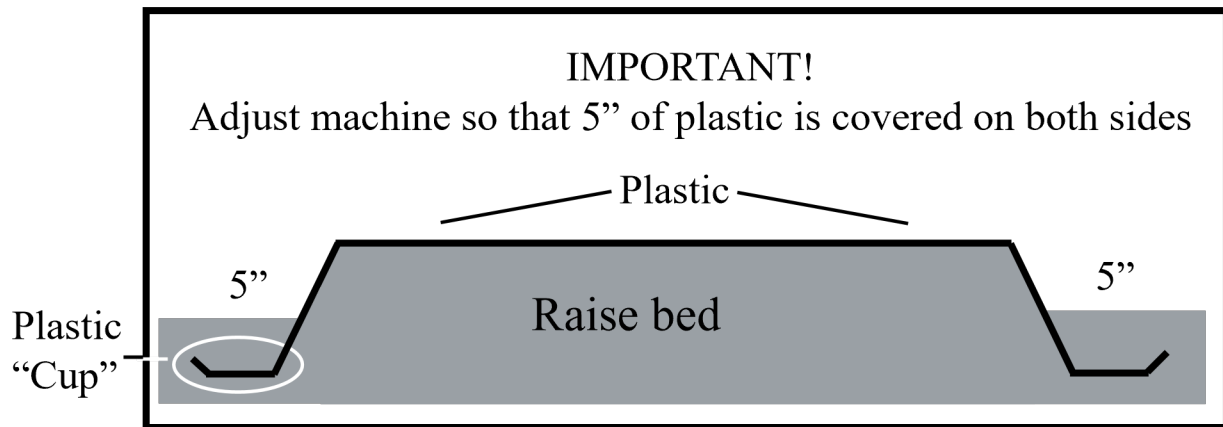
Trench openers cut a trench along the sides of the bed. This allows plastic edges to form a 'cup' when covered with soil and prevents the plastic from being lifted from wind.



Depth Adjustment

Trench Openers

Depth Adjustment



Cover Disk Adjustments

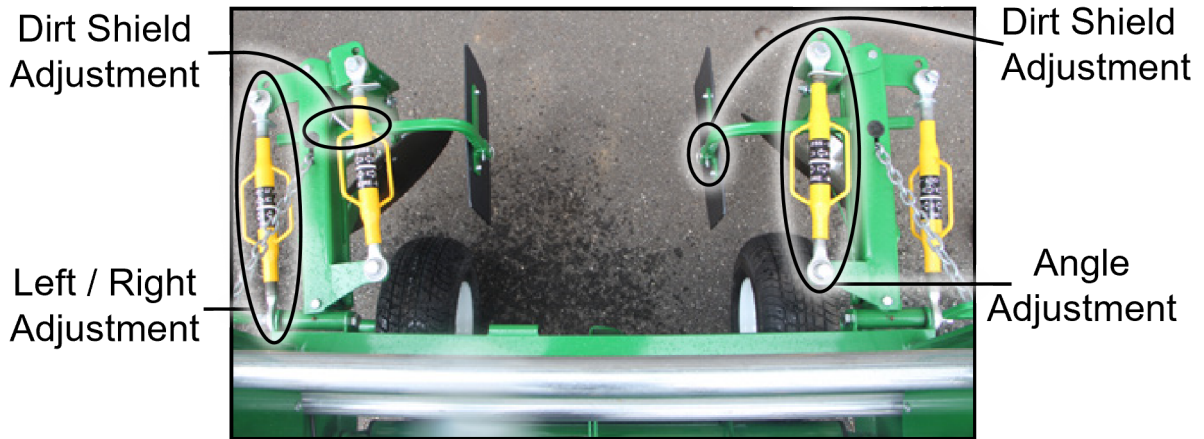
Cover disks and dirt shields are marked right and left side (standing in back). Install shields as marked and shown below.

Use inside turnbuckles to set disks on a 45 degree angle. Make left / right adjustment as needed using the outside turnbuckles.

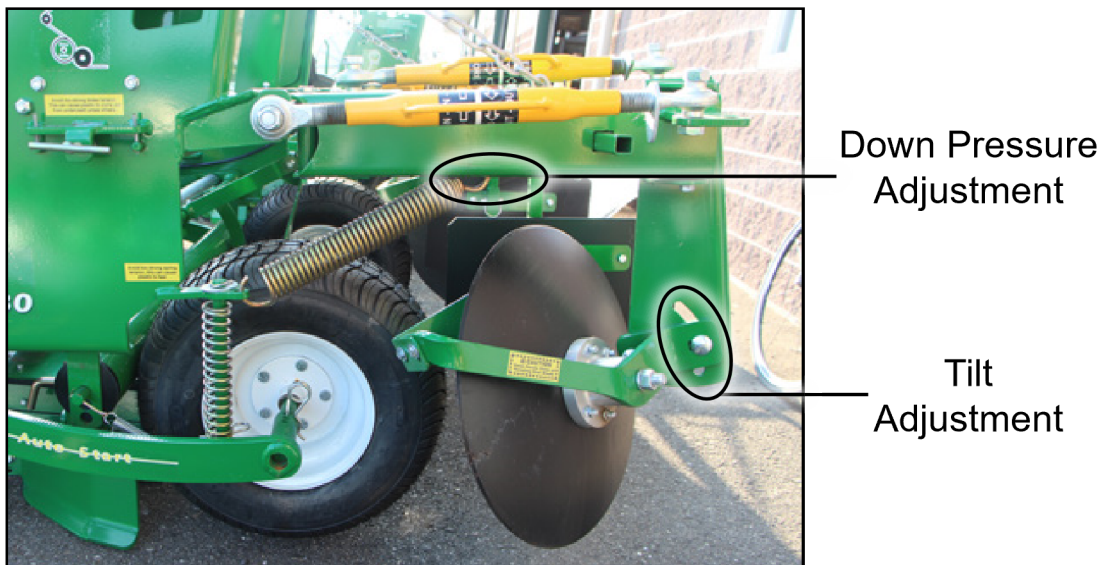
For more or less coverage, tilt disk forward or backward as decal shows (pictured at bottom). Springs can be hooked into different slots to adjust down pressure on the disks.

For heavy clay soil tilt disks upright and use more down pressure.

For sandy loam soil set disks flatter with less down pressure.



Left / right and angle adjustments can be made on the go without stopping tractor.



Optional Hyd. Disk Adjustment

There's a hydraulic kit available for the cover disks that is useful for fields that have varying soil types and conditions.

Adjustments can be made from the seat while on the go.

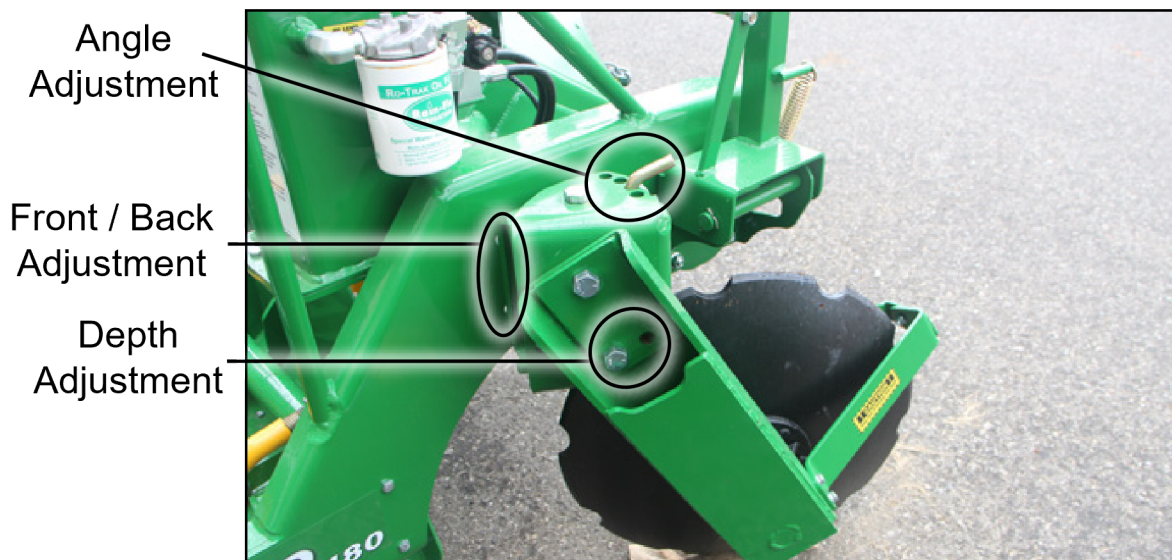


Front Disk Adjustment

Front disks help fill the bed and loosen more soil for the cover disks. Swing the disk out using the angle adjustment to get more soil. Swing disks in for narrow row centers.

Depending on soil type disks can be adjusted deeper for more soil.

In the front setting the disks transfer more soil to fill the bed and less for coverage. In the back setting they transfer more soil for the covering disks.



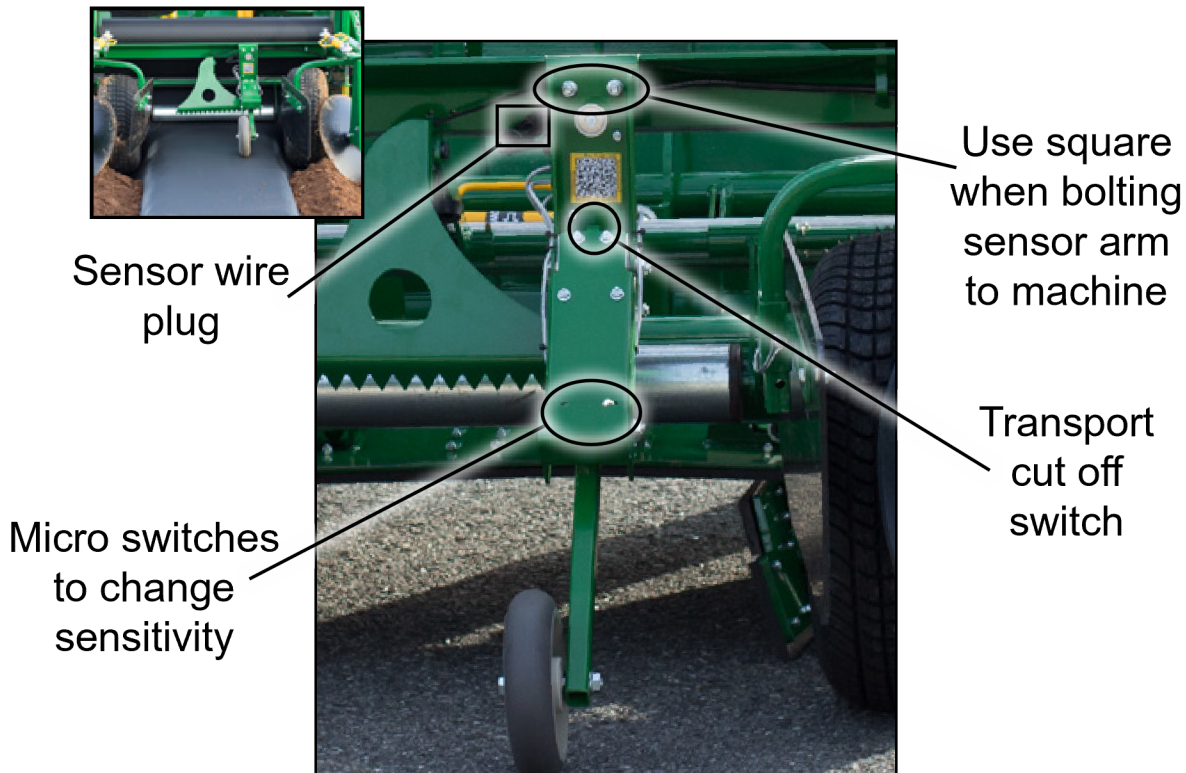
AUTO RO-TRAK

- *Ro-trak has the most benefits on hillsides and contours.
- *Automatically steers to correct machine side drifting.
- *Ro-trak is activated by a sensor at back of machine.

Helpful Tips

- *When installing Hyd pump, lead hoses through 3-point A frame.
- *Inspect and make sensor square to machine.
- *12 volts can be supplied by tractor or a separate battery.
- *Ro-trak requires only low RPM pto speed to function.
- *Ro-trak sensor folds up and is secured by magnet for transportation.
- *Hollow bed can effect Ro-trak performance.
- *If machine has not been used for a period of time, it may be necessary to manually move the valve spools several times to get oil through the system.
- *With pto pump running, use a Phillips screw driver and push the silver tip of the spool inward approximately 1/4" (Page 15.)
- *Manual Ro-trak is operated with tractor hydraulics and must be steered by tractor operator.

Ro-Trak Sensor



Auto Ro-Trak Maintenance

1. Periodically check oil level. Low oil level may cause air to come into the system and effect Ro-trak performance.
2. Change oil and filter every 200 hours or 3 years (ISO 46 Hyd. Oil).
3. Check for any damaged hoses or electric wires.

Ro-Trak not functioning? Check for these problems.

1. Is the PTO engaged?
2. Is a 12 volt battery properly connected?
3. Is sensor at the back of machine plugged in (page 14)?
4. Check oil level.
5. Check for any damaged hoses or wires.
6. Check for loose wire connections /plugs.
7. Is sensor lifted 3” or more? (Sensor has transport cut off switch).
8. Do the indicator lights in the sensor micro switches light up (page 14)?
9. Do the indicator lights in the wire plugs light-up (see below)?
10. If indicator lights light-up and Ro-trak doesn't function, push in both silver pins on solenoid spools several times using a screwdriver.
11. If indicator lights do not light up, remove lid of grey box on back of sensor and check for loose wires.
12. Call Rain-Flo at 717-445-3000.

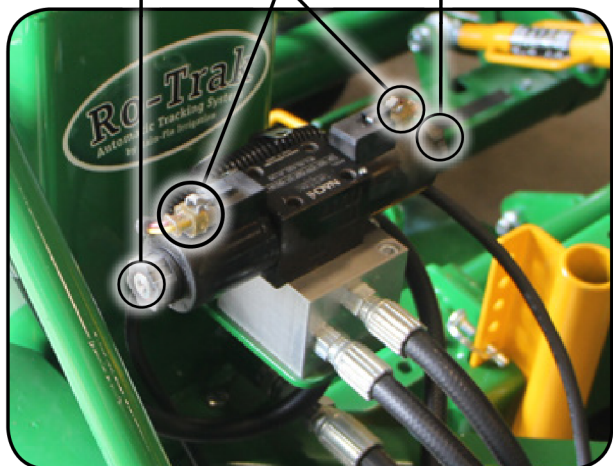
Oil Level

Hyd. Oil Level



Solenoid Valve

Valve Spool Silver Tip Indicator Lights Valve Spools Silver Tip



Plastic Mulch Cutter

The plastic mulch cutter enables the machine operator to cut the plastic film from the seat.

At the end of the row raise machine approximately 12" off the ground and pull handle to lower the cutter. Drive tractor forward several feet and plastic mulch will tear off.

Plastic mulch will start automatically at next row !!

Plastic Mulch
Cutter



Handle

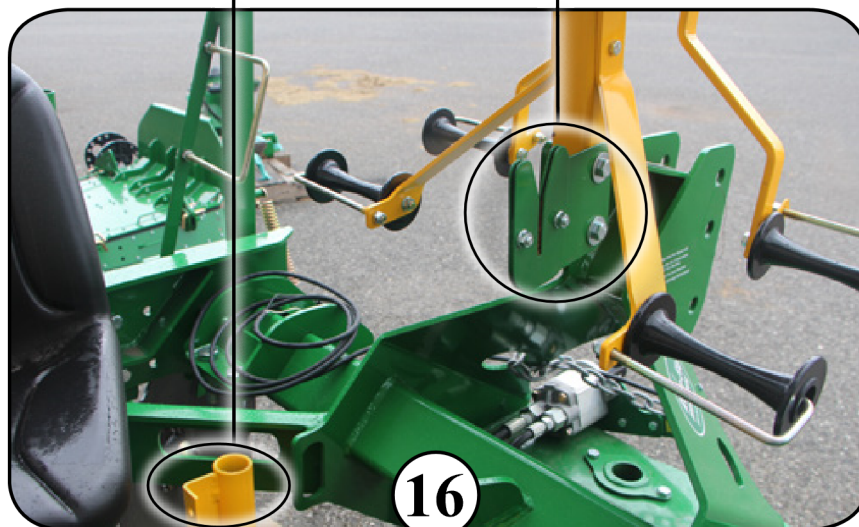


Drip Tape Cutter

Hold driptape with both hands approximately 4" apart. Swipe driptape down into slot to cut it.

Tip; After cutting driptape pull several feet off roll and feed into downpipe. When starting the next row spin driptape roll by hand until soil has enough resistance to prevent driptape from pulling along.

Driptape Downpipe Driptape Cutter



Helpful Tips

- * Adjust 3-point top link on tractor to level machine.
- * Periodically check for shallow spots in bed; hollow bed will effect planting and hinder plant growth.
- * We recommend two or more people when laying plastic mulch to maintain proper machine adjustment.
- * A sizable tractor is needed for stability and lifting power. Minimum tractor size for Model 480 is approximately 80 HP.
- * This machine can also be used for a bedder only, (without laying plastic). The rear cover disks and tires can be removed for this application.
- * Avoid over steering; rear cover disk will move far and cut into plastic. Careful steering will also provide more uniform coverage.
- * Stretching plastic in length and side to side will help prevent plastic from blowing off.
- * Check drip tape down pipe for wearing to avoid damaging drip tape from sharp edges.

Warranty

All Rain-Flo mulch layers have a two year warranty against defects in material and workmanship.

If any part is found defective, return the defective part with serial No. of the machine. If Rain-Flo finds it defective, it will be replaced or repaired at no charge.

Call Customer Service at (717) 445-3000 Fax (717) 445-8304

TROUBLESHOOTING

- 1. PROBLEM** Machine tends to drift sideways causing disks to cut into plastic mulch.
- SOLUTION**
- * Pull less soil. Pull just enough to fill a firm bed.
 - * Adjust 3-point top link and/or compression rate (page 7).
 - * If your machine has Manual Ro-Trak, make sure the sway bar is in place and machine centered.
 - * On Auto Ro-Trak machines, make sure Ro-Trak is functioning properly.
 - * Tractor may be too small.
- 2. PROBLEM** Cover disks not getting enough soil to cover plastic.
- SOLUTION**
- * Tilt disks back to dig in more (page 12).
 - * Adjust front disks deeper or move to back setting (page 13).
- 3. PROBLEM** Plastic edges not staying under press wheels.
- SOLUTION**
- * Tension too tight on plastic roll carrier (page 10).
 - * Adjust press wheels closer to bed (page 10).
- 4. PROBLEM** Ro-Trak not functioning.
- SOLUTION**
- * Follow Ro-Trak information, page 14 and 15.
- 5. PROBLEM** Beds aren't firm or have hollow spots in center.
- SOLUTION**
- * Tractor's 3-point or draft control might be lifting up.
 - * Adjust front disks deeper or move to front setting (page 13).
 - * Use less compression (page 7).
 - * Soil not tilled deep enough for bed height.

Call customer service at (717) 445-3000 with any other questions or feedback.

Rain-Flo Irrigation

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~2019 Edition~