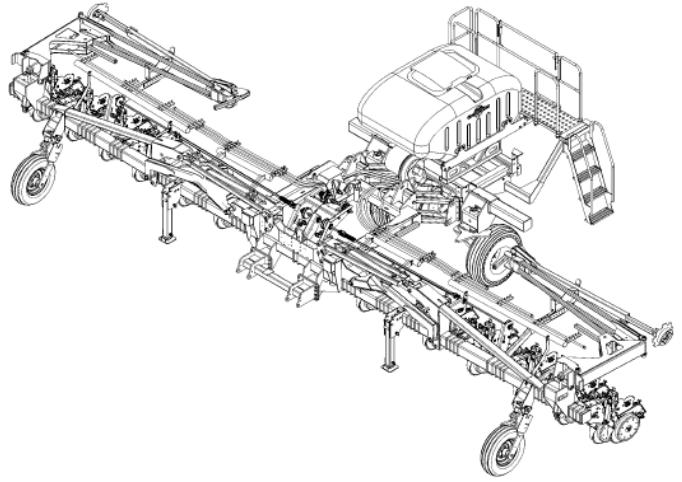


FIELD ADJUSTMENTS

YIELD-PRO PLANTER

3PYP



ADJUSTMENTS BEFORE GOING TO THE FIELD

General Maintenance:

- 1.) Refer to the operator's manual for proper lubrication intervals and maintenance schedules.
- 2.) Inspect the tire pressure of all tires.

Tire Pressure		
Size	Location	Pressure
32-15.5L x 16.5	Lift Assist	115 PSI
7.60 x 14.5 6-Ply	Ground Drive – Gauge Wheel	35 PSI
9.5L x 15 6-Ply	Non-Drive (Hyd. Drive) – Gauge Wheel	30 PSI

NOTE: The pressure of the ground drive gauge wheel is especially important, as deviating from the proper setting will affect the seeding rate.

- 3.) Inspect all drive chains for tension and free movement. Improperly adjusted or stiff chains can climb or bind on the drive sprockets and cause erratic seed spacing.

General Information:

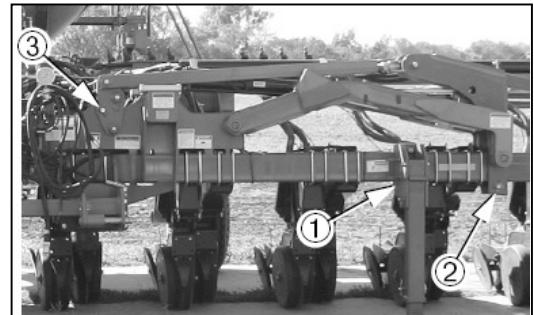
- 1.) Be certain that all 3-point hitch latches are properly fastened and that all safety lighting is properly installed and functioning correctly.
- 2.) Hook up hydraulic hoses. Yield-Pro planters require 3 tractor outlets if they are contact drive, and 4 if equipped with hydraulic drive. A "Power Beyond Kit" must also be installed on the tractor for the hydraulic steering.

Hydraulic Hookup				
Outlet	Color	System	Flow (gal./min.)	Timer
1	Blue	Lift Assist	12 gal. / min.	Full lift less $\frac{1}{2}$ sec.
2	White	Fold / Marker Tilt / Marker Fold	6 gal. / min.	Full Cycle
3	Orange	Fan	Set for 3800 RPM	Continuous
4	Yellow	Hydraulic Drive (Optional)	12 gal. / min.	Continuous
Motor Return	N/A	Fan & Steering; Motor Return	N/A	N/A
Case Drain	N/A	Fan & Steering; Case Drain	N/A	N/A
Power Beyond Pressure	N/A	Hydraulic Steering	4 gal. / min.	N/A
Power Beyond Load Sense	N/A	Hydraulic Steering	N/A	N/A

NOTE: If equipped with hydraulic weight transfer to the wings, this system is plumbed into the "lift assist" circuit (#1/ Blue) and will require flow of 12 gal./min. but run on "continuous".

1.) Initial Planter Leveling:

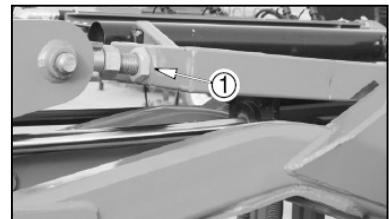
- Unfold the planter on a level surface.
- Remove wing pins from storage position ①.
- Install wing lock pin ②.
- Leave wing flex lock pin ③ in position.
- Raise gauge wheels up. (Not touching the ground)
- Set 3-Point Control. Place tractor 3-point control in “Depth Control” not “Draft Control”
- Set Frame Height. Lower frame and set 3-point stop so frame is 26” from the ground to bottom of 7x7 mainframe.
- Level Center Frame End to End. Check both ends of center frame for 26” dimension, if one is high and one low, adjust arms on 3-point.
- Recheck Toolbar Height on both ends of center frame for 26” dimension.
- Level the Wings with gauge wheel off of the ground or lightly touching to achieve the 26” dimension under the 7x7 toolbar. This is accomplished by lengthening or shortening the “T” bolt in Fig. III. ①
- Reset the Gauge Wheels to match frame height by lowering them to the ground. Extend the adjustment until the gauge wheel tries to raise the wing. Loosening ① and tightening ③ will lower the gauge wheels. (See Operator’s Manual for more detail.)



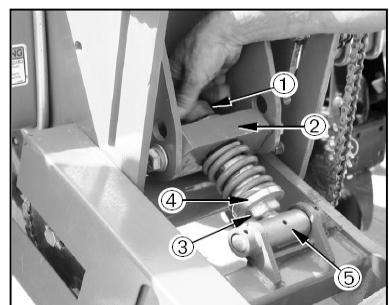
Wing Lock Pin Locations



Frame Height 26"



(Fig. III) Leveling Wing with Arm Link



Adjusting Gauge Wheel Height

2.) Level the Planter Front-to-Back:

On flat ground when the 3-point is holding the toolbar 26” off of the ground and the lift assist cylinders are retracted, the frame should be level front-to-back. When operating in beds, cylinder “donuts” must be added to keep the lift assist cylinders extended to maintain level.

3.) Pre-Set Fan Speed:

Fan Hydraulics should be on hoses with orange tie straps and plugged into the 3rd outlet. This valve needs to be set on “CONTINUOUS” and flow adjusted to pre-set fan speed to 3800 RPM’s.

NOTE: Make sure both the “Motor Return” and “Case Drain” hoses are plumbed into the tractor before engaging the fan.

4.) Set Flexibility:

There are three (3) options for wing frame flex.

- a.) Rigid (no flex)
- b.) 8° flex up and down
- c.) Hydraulic down pressure to the wings.

3PYP Field Adjustments - *continued*

4.) Set Flexibility: (*continued*)

The planter was ordered with one of these options:

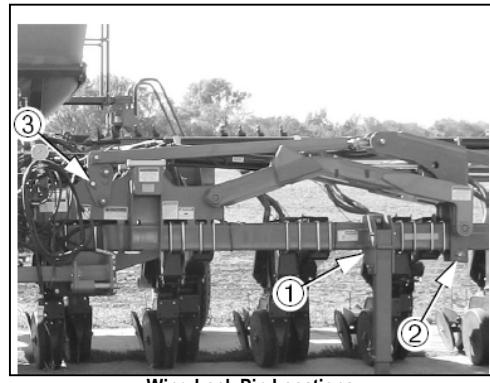
a.) Rigid (No Flex) –

Each wing has two removable pins in position (2) and (3).
Depending on requirements they can be stored in the parking stand (1).

The pin in position (3) must be in to fold/unfold; and the pin in position (2) must be out to fold/unfold.

When planting on flat ground, planter performance is best when the frame is rigid.

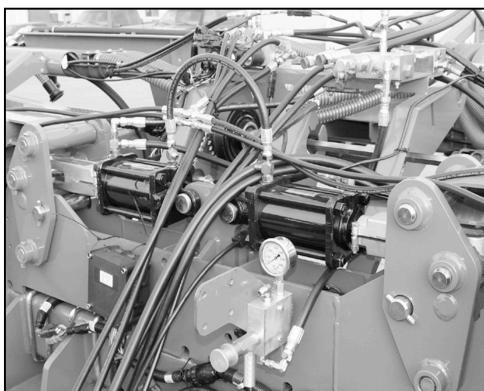
In field position both pins should be in position (2) and (3).



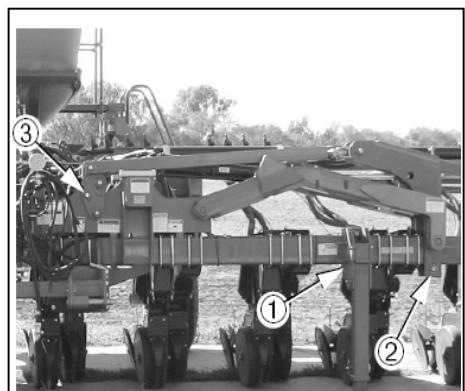
Wing Lock Pin Locations

b.) 8° Flex Up and Down –

When the planter is ordered to “flex”, the rigid links for “no flex” are replaced by two (2) short cylinders. On the rod end the normal clevis is replaced by a “slotted” clevis, and in planting position the cylinders are extended allowing the wing to flex up 8° or down 8°. When in planting position pin (3) is removed from the frame and stored in the parking stand.



Wing Coupling Cylinders

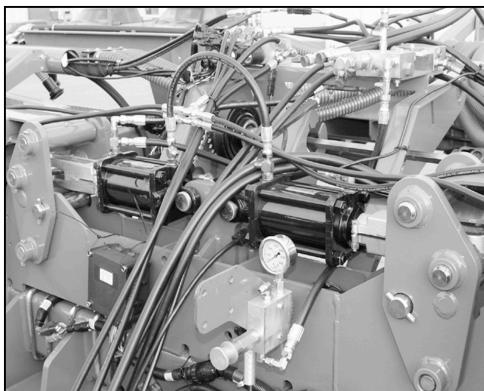


Wing Lock Pin Locations

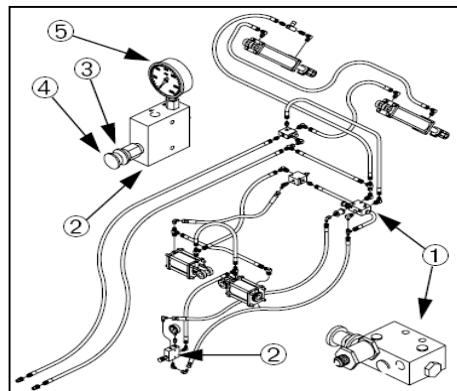
c.) Hydraulic Down Pressure –

Hydraulic down pressure allows the wings to flex, yet allows weight from the center to be transferred to the wings so all row units have enough weight for uniform penetration and accurate seed placement. This option utilizes the same cylinders used in the 8° flex option, but adds a bypass valve and pressure reducing valve and requires Outlet #1 (Blue) which also powers the lift assist cylinders to be run in “Continuous Flow”. When in planting position, pin (3) is removed and stored in the parking stand.

(See Operator’s Manual for details on setting valves.)



Wing Coupling Cylinders



Hydraulic Down Pressure System

5). Meter Drives:

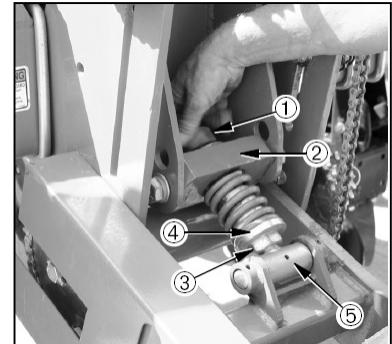
The meters can be driven with the standard “Ground Drive” gauge wheels or the optional “Hydraulic Drive”.

a.) Ground Drive –

If the planter is equipped with ground drive there will be drives on both gauge wheels that drive a common shaft with over running clutches. The gauge wheel is adjusted up or down by loosening nut (1) then adjusting nut (3) up or down. Up lowers the gauge wheel; down raises it. Retighten nut (1).

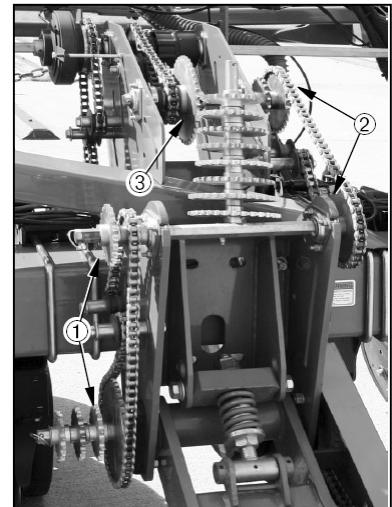


Gauge Wheel – Ground Drive



Adjusting Gauge Wheel Tension

There are three (3) sprocket combinations that can be changed for a wide variety of populations. (1) Is for range changes; (2) adjusts the transmission; and (3) doubles or halves the upper drive. See the “Seed Rate Chart”. Each specific chart will explain where all three (3) of these combinations should be set for a specific population.



Ground Drive Chains

b.) Hydraulic Drive –

When the planter is equipped with hydraulic drive, a non-drive gauge wheel is used. It is adjusted up or down like a “ground drive” gauge wheel. For details on Hydraulic Drive and setting a given seed for a given population, refer to the Hydraulic Drive section of the “Seed Rate Manual”.



Gauge Wheel – Hydraulic Drive

6.) Hydraulic Steering System:

The steering system on the 3PYP planter is designed to control the position of the lift assist casters in accordance with the position of the front tractor wheels. This provides the ability to make smooth turns both forward and reverse without the lift assist casters freely rotating and without excessive use of the tractor brakes.

There are two modes of operation for the steering system on the 3PYP planters. Which mode of operation to use is based on whether the tractor is manually steered or has an auto steer system.

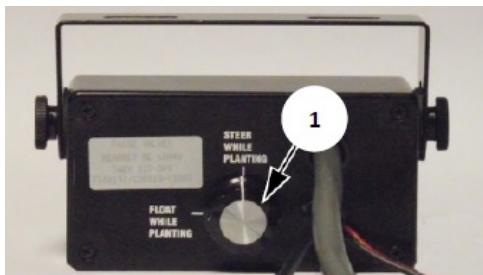


Figure 133
s/n A1056S+ Module Rear View 31698

1. If the tractor is manually steered, then the planter steering system should be set to “Steer While Planting” mode with the rotary knob (1) located on the back of the cab console. In this mode, the steering will be active whenever the tractor is running and traveling below 8 mph.
2. If the tractor is steered with an auto-steer system, then the planter steering system should be set to “Float While Planting” mode with the rotary knob (1) located on the back of the cab console. In this mode, the steering will be active when the tractor is running, the planter is in the raised position, and traveling below 8 mph.

The system has an active steering speed limit of 8 mph. At speeds below 8 mph the system is active. At transport speeds above 8 mph the system is inactive. The system uses two opposing double acting hydraulic cylinders to provide the force to control the casters. Two linear position sensors are used: (One) is mounted in one of the two hydraulic steering cylinders on the rear of the planter to detect the position of the lift assist wheels, and (One) is to be mounted on the front axle assembly of the tractor to detect position of the front tractor wheels. Mounted on the front of the toolbar near the hitch is a hydraulic manifold that contains all the valves needed to operate the system. Also mounted nearby is the Electronic Control Unit (ECU) that processes all the data and controls the valves.

The cab control box allows the operator to turn the system on and off, perform initial calibration, monitor the operating mode, and to communicate error codes. For planters with a serial number of GP-A1056S and newer, the cab console now includes a rotary knob (1) located on the back to change the mode of operation the system will use. (See the description above to identify the correct mode to use for your application.)

The forward steering system operates off the power beyond kit on the tractor and is independent of all other hydraulic systems on the planter. With the use of the load sense line the system goes into a low pressure standby mode when there is no demand for oil. This reduces oil cooling demand on the tractor. By using the power beyond it frees up one of the SCV circuits, and when starting there is no need for the operator to engage one of the SCV's in order to make the system function.

3PYP Field Adjustments - *continued*

Whenever a speed greater than 8 MPH is detected the system switches to the float mode. The float light illuminates on the switch box and the lift assist wheels can caster freely between the mechanical stops. When the detected speed goes below 8 MPH the steering once again becomes active and the float light goes off.

When a problem is detected the system switches to the float mode, the float light illuminates, and the “On” light in the switch box flashes in a set pattern. The flash pattern indicates the error code. This code indicates the problem that the ECU is detecting. Once the error is corrected the system switches back to the active mode. If there are multiple faults occurring at the same time, then the system will flash up to five codes in the order in which they were detected, then repeat.

Setup:

- a) The lift assist tie rod is installed at the factory, but alignment needs to be checked and adjusted once final assembly is complete.

- 1) Pivot both casters until the tires are close to full trailing (straight running) orientation. All measurements must be made with the tires in a position to have the planter traveling straight forward.
- 2) Measure the distance (D) from the center of one tire to the center of the other tire both in front of the tires as well as behind the tires.
- 3) The measurements are to be equal. If the front measurement is less than the rear, lengthen the tie rod. If the rear measurement is less than the front, shorten the tie rod.
- 4) Make the appropriate adjustment then re-center the tires and repeat the process

NEVER set the tires for a toe-in.

- 5) Tighten the lock nuts on the ends of the tie rod once satisfied with the alignment. (Right side is right-handed thread and left side is left-handed thread.)

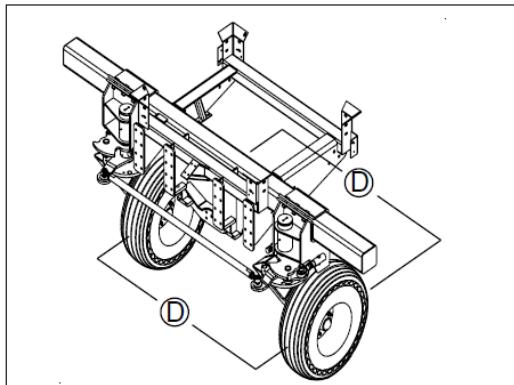


Figure 41
Tie Rod Adjustment

31679

- b) The linear sensor needs to be installed on the front wheel of the tractor. Installation on the left side is preferred. When installing the sensor on the left side it must be in front of the axle. When installing it on the right side it must be behind the axle. In no instance can the travel of the sensor be over $7 \frac{3}{4}$ ". With the tractor wheels positioned straight forward, the sensor should be at the middle of its stroke. Illustrated mounting instructions and mounting brackets for Case MX and JD 8000 series tractors are provided. Run and secure the extension cable from the sensor to the mating plug on the tractor harness. Plug the extension harness to the sensor and the tractor harness.
- c) The tractor harness includes the switch box. Mount the switch box in a convenient location in the cab, and connect the power wires directly to the battery. Do Not plug into an auxiliary power port. With the implement harness and the front wheel extension harnesses plugged in the system can now be powered up. With the power switch “On”, the power light should show a constant bright red light. The system is now ready to have the front and rear position sensors calibrated. Reference the “Steering Calibration” section in the Pre-Delivery or Operator’s Manual for this procedure. The system will not function without being calibrated.

3PYP Field Adjustments - *continued*

7.) Finger Pickup Meters:

Finger pickup meters are very trouble-free, but do require general maintenance. Meters should be run annually on a test stand to verify they are in top condition.

The brush in the finger pickup is adjustable for seed size and shape. Adjust the brushes per the chart below to match the seed you are planting.



Finger Meter Brush Lever

Brush Settings Chart

Brush Setting	Seed Shape	Bag Weight (80,000 seeds)	Seeds Per Pound	Comments
1	rounds	65 lbs.	1231 or less	Use this setting for larger seeds
	flats	45 lbs.	1778 or less	
2	rounds	55 lbs.	1455	Use this setting for 1231-1355 round seeds/lb.
	rounds	65 lbs.	1231	
	flats	35 lbs.	2286	Use this setting for 1778-2286 flat seeds/lb.
	flats	45 lbs.	1778	
3	rounds	45 lbs.	1778	Use this setting for 1455-1778 round seeds/lb.
	rounds	55 lbs.	1455	
	flats	45 lbs.	1778 or more	Use this setting for 1778 and smaller flat seeds
4	rounds	35 lbs.	2286	Use this setting for 1778-2286 round seed/lb.
	rounds	45 lbs.	1778	
5	rounds	35 lbs.	2286 or more	Use this setting for 2286 and small round seeds

6-Finger and 12-Finger Corn Meters can be “timed to stagger seeds in Twin Rows. Refer to the “Seed Charts” for timing meters to a specific population.

8.) Singulator Plus Meters:

Singulator Plus meters are very low maintenance, trouble-free meters. The meter seed cut-off slide should be inspected annually for wear. If wear grooves appear, replace the slides. Clean out the meter thoroughly before charging with new seed. These meters can singulate a wide variety of seed like soybeans, milo, and cotton; and can volumetrically meter cereal grains. There are specific meter wheels that need to be matched to seed type, seed size and population required. Refer to the “Seed Rate Charts” for details. Talc/ Graphite is used as a seed lubricant in the Singulator Plus meter.

3PYP Field Adjustments - *continued*

SEED AND THE USE OF INOCULANTS AND TREATMENTS

Precision Planting Finger-Pickup Meters:

- 1). Use only approved graphite powder available from Great Plains (EZ-Slide) 821-042C to ensure proper lubrication of finger-pickup meters.
- 2). Recommended usage:
 - a). For finger-pickup meters, add one tablespoon of graphite for each unit of seed corn (80,000 kernels).
 - b). In high humidity conditions or if you are using seed box seed treatments, or seed corn treated with any insecticides or polymers (Poncho, Prescribe, Cruiser, etc.), add one tablespoon of graphite for each unit of seed corn (80,000 kernels).

NOTE: If delivery of seed from the hopper to the finger meter is an issue, then add Ezee Glide Plus at a rate of 1 cup per 4 units (320,000 kernels) or adjust amount until delivery issues are solved.

Great Plains Singulator plus Precision Meters:

- 1). Talc/Graphite lubricant is mandatory for all seeds, especially treated or inoculated seed.
Recommended usage:
 - a). For clean seeds, sprinkle one cup of Great Plains Ezee Glide Plus per 4 bushels of seed.
 - b). Adjust this rate as necessary so all seeds become coated while avoiding an accumulation of lubricant in the bottom of the hopper.
- 2). For Milo Planting Only: Mix 1 cup of Ezee Glide Plus per 2 units/bushels of seed. Adjust this rate as necessary so all seeds become coated while avoiding an accumulation of lubricant in the bottom of the seed hopper.

Great Plains Ezee Glide Plus #: 5 Gallon 821-069C

Great Plains Graphite #: 1 Pound 821-042C, (5 pound 821-060C)

NOTE: For the first use, it is advisable to thoroughly mix approximately 5 gallons or a unit of seed with a high rate (2-3x) of the appropriate lubricant (Graphite for corn; Ezee Glide Plus for beans) and place in the air box prior to loading the hopper or probox.

9.) Setting Up Monitor:

The 3PYP uses a DICKIE-john IntelliAg Monitor. This is a CAN-Bus monitor that meets ISO11783 standards. Its operation is covered in a separate manual supplied with the planter. A "Quick Reference" is also supplied, which will simplify setup. IntelliAg controls or monitors the following items:

- Hydraulic Drive Control (optional)
- Seed Rate Calibration
- Planting Rate
- Setting Rate Limits
- GPS Integration
- Fan RPM
- Bin Level Sensor

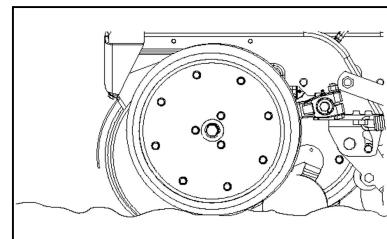
10.) Pre-Set Openers:

- Check Eliminator Arm Adjustment.

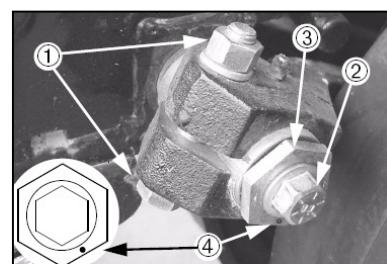
The tire should be “tightest” at the bottom between 5 o’clock and 7 o’clock. To adjust, loosen (2) and turn (3). Observe where the tire is tightest; adjust the blade as it is rotated.

Set so it is “tightest” at the bottom. Retighten (2) then pull up on the tire and drop it.

The tire should rub on the disk but drop freely. If the tire won’t drop, it is too tight. Loosen (1) and tap the arm out. If too loose, loosen (1) and tap the arm in. Retighten.



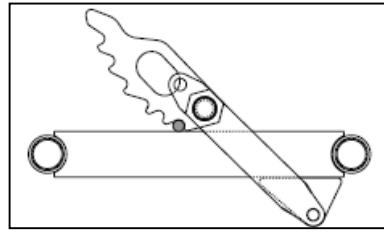
Opener Gauge Wheel Contact



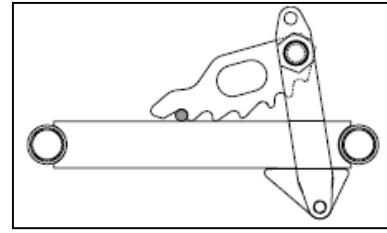
Disk / Gauge Wheel Adjustment

- Set Opener Down Pressure.

The opener down pressure is adjustable from 200 lbs. per row to 500 lbs. per row. Using a 1½" open end wrench or the wrench supplied under the walk board, pull back on the 1½" hex on the cam and preset in the 2nd notch from lightest. In hard no-till or heavy residue it may need to be adjusted higher; in fluffy seedbeds with little residue, it may need to be reduced.



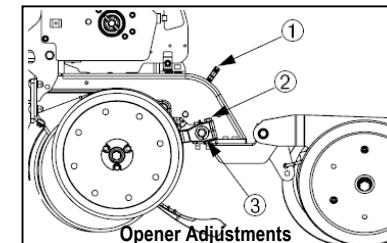
Row Unit Minimum Pressure



Row Unit Maximum Pressure

- Set Seed Depth.

Preset seed depth by adjusting the “T” handle higher or lower. As a starting point, set the “T” handle so 7 holes are open above the “T” handle (3 on one side, 4 on the other). Moving “T” up will cause the row unit to plant shallower, moving down will cause it to plant deeper.

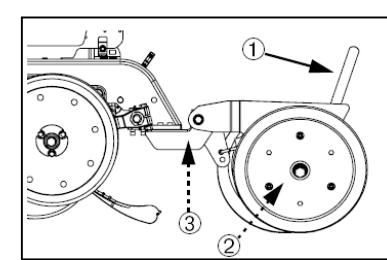


Opener Adjustments

- Set Closing Wheels.

There are 3 adjustments on closing wheels. Handle (1) increases or decreases spring pressure. Start in the forward or lightest setting.

NOTE: Do not use more closing pressure than required because excessive closing pressure works against the opener down pressure and may cause the opener to “Float” resulting in poor depth control.



Press Wheel Adjustments

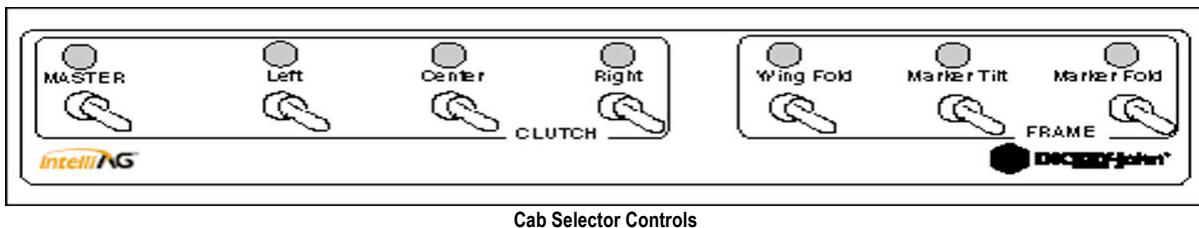
(2) Shows the ability to stagger the closing wheels. The planter is shipped with the wheels staggered and Great Plains recommends this setting since it aids in residue flow. They can be run straight across.

(3) How the closing wheel assembly mounts to the opener. Two ½" bolts attaches it to the opener; the front bolt goes through a “cam”. By slightly loosening both bolts and turning the cam, the press wheels can be aligned with the center of the opener. Preset as close as possible and fine tune when the planter is put in the field.

3PYP Field Adjustments - *continued*

11.) Pre-Set Markers: (optional)

- If the 3PYP has markers, they are controlled by the 2nd outlet (white) that also controls wing fold, and marker tilt.



The control box mounted with the IntelliAg console lists all 3 of these functions. When in planting mode the “marker fold” switch will be powered and #2 remote will raise and lower the markers.

When done planting and after the markers are folded, switch off “Marker Fold” and switch on “Marker Tilt”. When #2 remote is engaged the marker will lay back flat or “Tilt” reducing the height of the planter for transport. At this point switch off “Marker Tilt” and switch on “Wing Fold” and stack the planter for transport.

FIELD ADJUSTMENTS & GENERAL OPERATING INSTRUCTIONS

- 1.) Unfold the planter.
- 2.) Depending on the “Flex” option, install or store “Wing Flex Pins” and “Wing Lock Pins”.
 - If unit will run rigid both “Wing Flex Pins” and “Wing Lock Pins” are installed.
 - If unit will flex, the “Wing Flex Pins” are remove from frame and stored in the parking stand; “Wing Lock Pins” are installed.
 - If the 3PYP has hydraulic down pressure, remove the “Wing Flex Pins” and store, install “Wing Lock Pins”, set bypass valve and set pressure reducing valve at 450 psi for a starting point. This function will require remote #1 (main lift) to be run in “continuous” with a flow of 12 gal./minute.
- 3.) Fill unit with seed.
- 4.) Lower planter to the ground and recheck the 26" frame height dimension in the center and on both wings.
- 5.) Check frame for level front-to-back; reset if necessary.
- 6.) Check frame for level side-to-side; reset if necessary.
- 7.) Engage Remote #3 (Fan); set flow to achieve 3800 RPM; set for “Continuous”.
- 8.) If the planter has “Hydraulic Drive”, set remote #4 for 10 to 12 gal./minute and lock on “Continuous”.
- 9.) Recheck Gauge Wheels for proper height.
- 10.) Recheck:
 - Range Sprockets
 - Transmission Sprockets
 - Top Shaft SprocketsDo they match the “Seed Rate chart” for the population required?
- 11.) Is row unit down pressure in 2nd notch?
- 12.) Does T-handle have 7 holes showing above?
- 13.) Are the closing wheels in the 1st (lightest) setting (forward notch)?
- 14.) If the planter has unit mounted coulters, they should be set to run approx. $\frac{1}{4}$ " shallower than the opener.
- 15.) If the planter has unit mounted row cleaner, with or without coulters they should be set (carried) so the points engage the ground approximately 1".

NOTE: Row cleaners should not run on the depth bands!!