5 Section Pull-Type NP Anhydrous Coulter

Models Affected: NP1540AA

General Information
Proper servicing and adjustment is key to the long life of all farm equipment. With careful and systematic inspection of equipment, costly maintenance, time and repair can be avoided. The following information will assist with recommended servicing and adjustments:
Unfolding 5 Section (Pull-Type):
1) Note: Before unfolding the applicator, ensure that the tractor is pointed into the wind.
2) Set the FOLD/FIELD switch to FOLD/UNFOLD and extend the fold cylinders to unfold the applicator and set the hydraulic lever to float when the wing gauge wheels contact the ground.
3) Once unfolded, extend the lift cylinders to fully raise the applicator off the ground.
4) Remove and store the center section and lift-assist transport locks. If transport locks were installed on the wing lift cylinders, remove them and re-engage the hydraulic depth stop.
5) Open the weight-transfer shut-off valve.
6) Now the applicator is ready for operation.

Fold Switch Adjustment: During unfold (Fold/Field switch in FOLD), the inner wing sections are intended to stop 0-5 degrees above wings-level relative to the center section. The stopping point is controlled by the vertical proximity sensors LFOSW (1) and RFOSW (2) at each center/wing hinge.
1) Verify that the misalignment is not caused by air in the hydraulic system. Note: Do not use the proximity adjustment to compensate for hydraulic problems.
2) Adjust switches per the dimensions in the illustrations to the right.
3) Set the FOLD/FIELD switch to FOLD and extend the fold/lift circuit to unfold the applicator until the inner wings stop.
4) To adjust the sensor gap, loosen the bolts securing the sensor to the bracket. To adjust the sensor position, loosen the bolts securing the bracket to the frame.
5) Secure the mounting bolts and preform and fold/unfold test to verify the sensor is in the right position.

Folding 5 Section (Pull-Type):
1) Close the weight-transfer shut-off valve.
2) Set the Fold switch to FOLD/UNFOLD and fully extend the lift cylinders. Re-install the transport locks onto the lift-assist and center section cylinders.
3) Retract the fold cylinders to fold the wings.
4) Once both wings have rested inside the transport nest, stop flow and put the hydraulic circuit in Neutral.
5) Leave the fold circuit in Neutral during transport.
Fold Stop Adjustment (Rectangle Proximity Sensors): During field fold (Fold/Field switch in FIELD) the inner wings are intended to stop 5-10 degrees above wings-level relative to the center section. The stopping point is controlled by the proximity sensors LFISW (3) and RFISW (4) at each center/wing hinge.

1) Verify that the misalignment is not caused by air in the hydraulic system. Note: Do not use the proximity adjustment to compensate for hydraulic problems.

2) Adjust the switches per the dimensions in the illustrations to the right.

3) Set the FOLD/FIELD switch to FOLD and extend the fold/lift circuit to unfold the applicator until the inner wings stop.

4) Set the FOLD/FIELD switch to FIELD and retract the fold/lift circuit until the wings stop at “gullwing” (5-10 degrees above wings-level).

5) To adjust the sensor gap, loosen the bolts securing the sensor to the bracket. To adjust the sensors position, loosen the bolts securing the bracket to the frame.

6) Secure the mounting bolts and perform and fold/unfold test to verify that the sensor is in the right position.

Adjusting 5 Section Weight Transfer: Adjust the weight transfer system to achieve consistent coulter depth along with keeping the wings level with the center section. If insufficient weight is transferred, outside (wing) coulters may run higher than the center section and if too much weight is transferred, the center section may run too high. Adjust the weight transfer per the following:

1) Unfold the applicator and lower it to the ground. Once on the ground, set the Fold/Field control box to Field.

2) Pull forward until the coulters are in the ground.

3) Set the tractor to half throttle and extend the fold/lift circuit to unfold. Lock the lever for continuous flow.

4) Adjust the tractor flow control valve so that the bypass gauge needle (5) is in the green zone (1000 to 1500 psi).

5) Release the locking disc (6) and adjust the knob (7) until an initial 1800 psi is read on the gauge (8). Re-tighten the locking disc (6).

6) Check that the bypass gauge (5) is still within the green zone. Adjust the tractor remote if any adjustments are needed. Re-check the reading on the pressure-reducing gauge (8).

7) Observe the applicator during operation and re-adjust the down pressure as necessary.
**Adjusting Hydraulic Depth Stop:** Pull-type applicators are equipped with a hydraulic depth stop located on the left gauge wheel. This will allow the operator to fix the desired depth per the following:

1) Mark the desired depth on a knife with a grease pen or chalk near the left outside row but not behind the gauge wheel.

2) Lower the applicator until the knives or tines just touch the ground and hold that height by setting the lift circuit to Neutral.

3) Adjust the knob (9) on the depth stop until the plunger just touches the stop clevis.

4) Raise the applicator all the way up and then fully lower the applicator.

5) Pull forward roughly 10 feet and stop.

6) Measure the depth at which the knives or tines are running. If the desired depth is achieved, no further adjustment is necessary.

7) If the desired depth still isn’t achieved, raise the applicator out of the ground and adjust the depth stop either up to increase the depth or down to reduce the depth. Adjust until the desired depth is achieved. Note: Always adjust the depth stop in small increments.

**Frame Mounted Coulter Adjustment:** Coulters are factory installed and are configured for in-row operation at knife or tine shoe depth. They can be set for fixed or limited castering. Coulter depth can be adjusted per the following:

1) Loosen the U-bolt nuts (10) and slide the shaft (11) up or down. Check the coulter-to-knife/tine alignment and re-tighten the nuts.

2) Adjust the coulters to have a running depth at the bottom of the knife or tine shoe. Roughly 3/4 inch below the application depth.

3) For fields that have frequent sharp turns, coulters can be adjusted to pivot at the pivot casting.

4) Loosen the jam nuts along with loosening the set screws just enough to allow the casting to swivel and re-tighten the jam nut. Note: Do not remove the center stop screw.

**Anhydrous Coulter Sealer Adjustments:** The spider wheels have three adjustments that may need to be altered from the factory setting based on soil conditions, crop residue and application speed.

1) Down pressure: T-handles (12) set the arm spring tension and have three adjustments (15).

2) Spacing: The arm weldments have 8 bolt holes (13) allowing 2 set back positions and 2 spacing positions.

3) Angle: The sealer mount plates (14) have 4 holes: 2 inline (16), and 2 extra holes (17) that provide angle adjustment.

Note: These adjustments are to be made with the applicator raised.
Rear Eye Bolt Adjustment: Side to side levelness at the rear of the applicator is controlled by the eye bolts located on the lift-assist cylinder bases. On pull-types the rear height is controlled by the cylinders, slaved to the hydraulic depth stop valve. Check to see that both eye bolts are set to the same distance.

1) The factory setting is 3.5 inches from the end of the eye bolt to the top face of the lug tube.

2) To adjust the eye bolt, loosen the hose guide nut and jam nut. Rotate the adjustment nut to until the eye bolt is at the desired length.

3) Check that the hose guide is on top and tighten the jam nut along with the hose guide nut.

Sealer Down Pressure Adjustment: The following trip down pressures are available. These values are per sealer arm and are with the coulters in the ground and arms slightly raised. Note: With the applicator raised, position (a) has minimal spring tension.

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Handle Slot</th>
<th>Down-Pressure</th>
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<tbody>
<tr>
<td>A</td>
<td>Rear/Lowest</td>
<td>12 pounds</td>
</tr>
<tr>
<td>B</td>
<td>Mid/Medium</td>
<td>17 pounds</td>
</tr>
<tr>
<td>C</td>
<td>Forward/Max</td>
<td>28 pounds</td>
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</tbody>
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Sealer Spacing or Setback Adjustment: For in-line (parallel) sealer wheel running, use the center holes (16) in the mount plates (14). In-line operation is recommended for high-residue fields.

Sealer Angle Adjustment: 10 degrees of leading toe-out (20 degrees total) is available by using the inner center hole of the mount plate and the leading offset hole (17). No setback adjustment is available when using toe-out. Toe-out is not recommended for high-residue fields.

Rear Eye Bolt Adjustment: Side to side levelness at the rear of the applicator is controlled by the eye bolts located on the lift-assist cylinder bases. On pull-types the rear height is controlled by the cylinders, slaved to the hydraulic depth stop valve. Check to see that both eye bolts are set to the same distance.

1) The factory setting is 3.5 inches from the end of the eye bolt to the top face of the lug tube.

2) To adjust the eye bolt, loosen the hose guide nut and jam nut. Rotate the adjustment nut to until the eye bolt is at the desired length.

3) Check that the hose guide is on top and tighten the jam nut along with the hose guide nut.

Pull-Type Wing Leveling: On pull-type applicators, wing levelness is controlled by the gauge wheel lift cylinders and the top eye bolt. If wings get out of level, re-phase the cylinders across the applicator. If the wings are still not level, check that the eye bolt length is still set at the factory setting.

1) The factory setting is 3.5 inches from the end of the eye bolt to the top face of the gauge wheel lug tube.

2) To adjust the eye bolt, loosen the hose guide nut and jam nut. Rotate the adjustment nut to until the eye bolt is at the desired length.

3) Check that the hose guide is on top and tighten the jam nut along with the hose guide nut.
Anhydrous Tine Recommendations:
Option1: Great Plains Manufacturing recommends using a single (417-396H) or dual (417-397H) Anhydrous Tine when applying NH3 into stalks.

Anhydrous Tine Recommendations:
Option2: Great Plains Manufacturing recommends using a single (417-487H) or dual (417-292H) Anhydrous Tine when applying NH3 into stubble or grass.

Recommended Anhydrous Tine Adjustment:
When using a high speed anhydrous coulter in buried residue, Great Plains Manufacturing recommends adjusting the anhydrous tine as close to the high speed coulter as possible without hitting it, along with adjusting the anhydrous tine all the way up to allow for proper trash flow.