

**HINIKER CULTIPRO**  
**ROW CULTIVATOR-ROW UNIT**

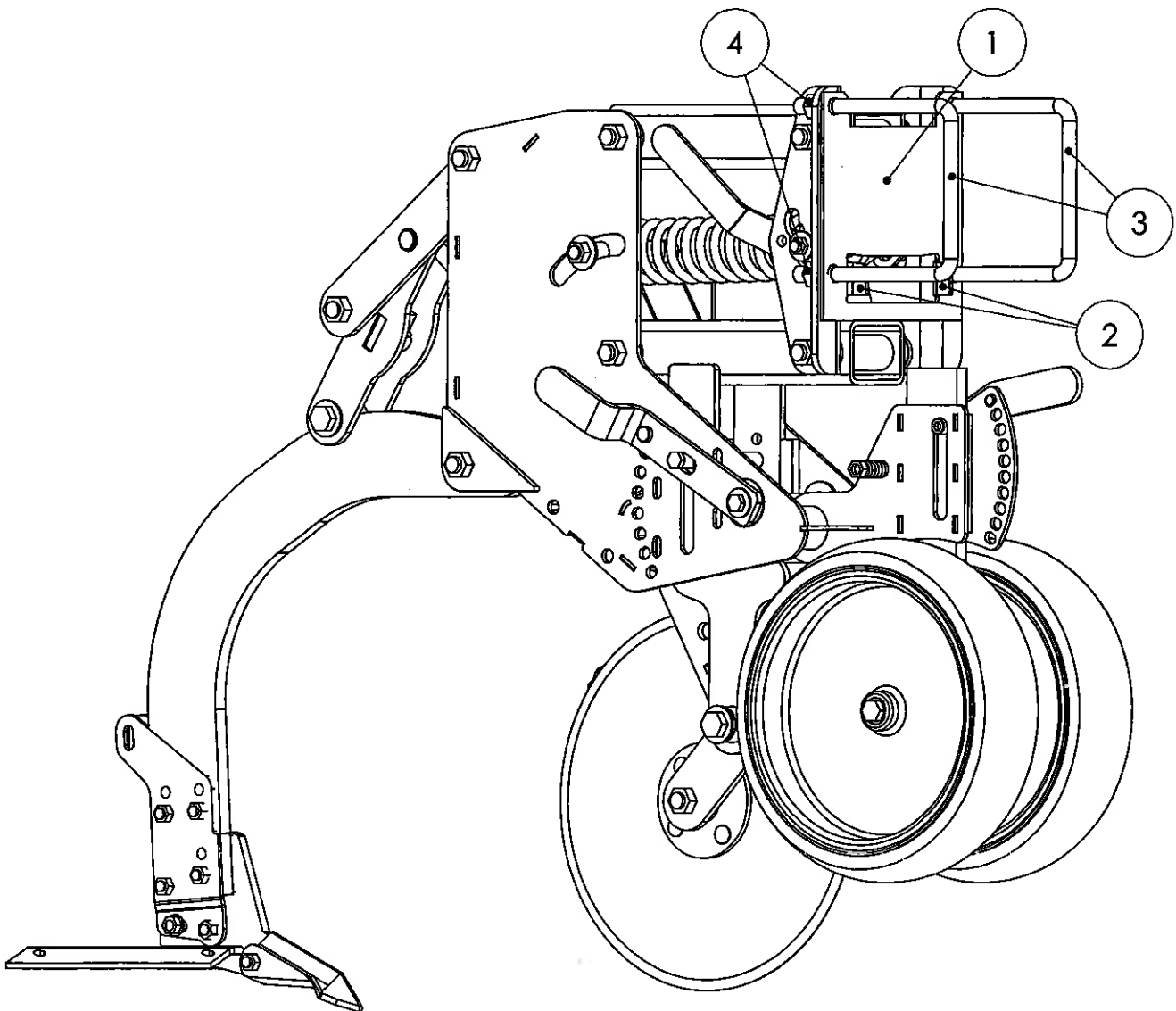
**INSTALLATION**  
**and**  
**OPERATION INSTRUCTIONS**

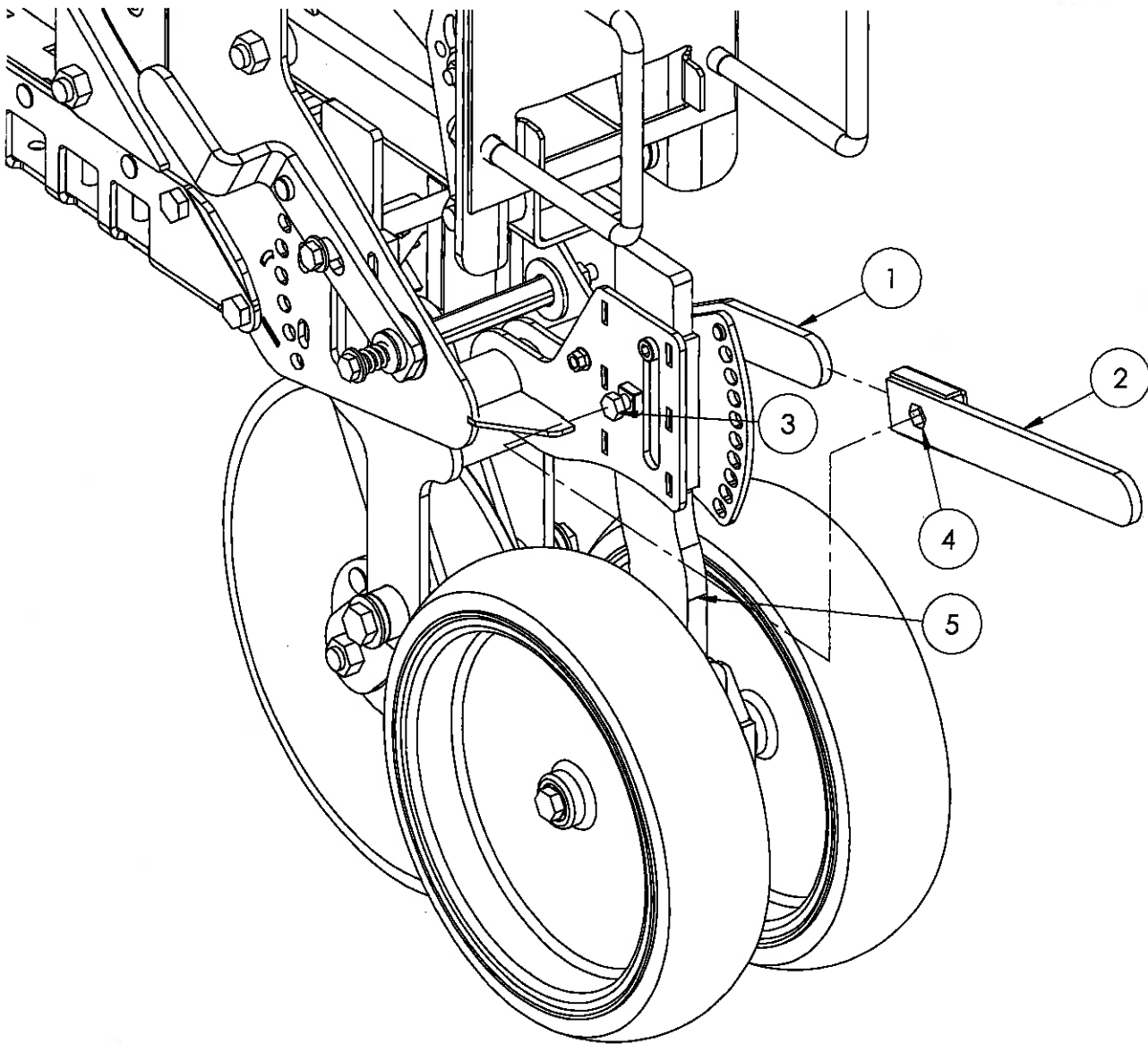
**P/N 81007568**

## MOUNTING THE CULTIPRO ROW UNIT TO THE TOOLBAR

The Cultipro row unit bundle is shipped with all the necessary hardware to mount it to the toolbar. To mount the row unit to the toolbar first remove the u-bolts, nuts, lockwashers, and locking plate (Items 1,3, and 4) from the row unit shipping bundle. Position the row unit in its location on the toolbar according to the desired row spacing dimension. Place the locking plate (Item 1) between the row unit mount angles and the rear of the toolbar. Note that the locking tabs (Item 2) face forward and go under the rear of the toolbar. Install the u-bolts (Item 3) over the toolbar from the front and through the holes in the row unit mount angles. Secure the row unit to the toolbar using the u-bolts (Item 3) and the 3/4" nuts and lockwashers provided (Items 4). Repeat this procedure with all of the row units.

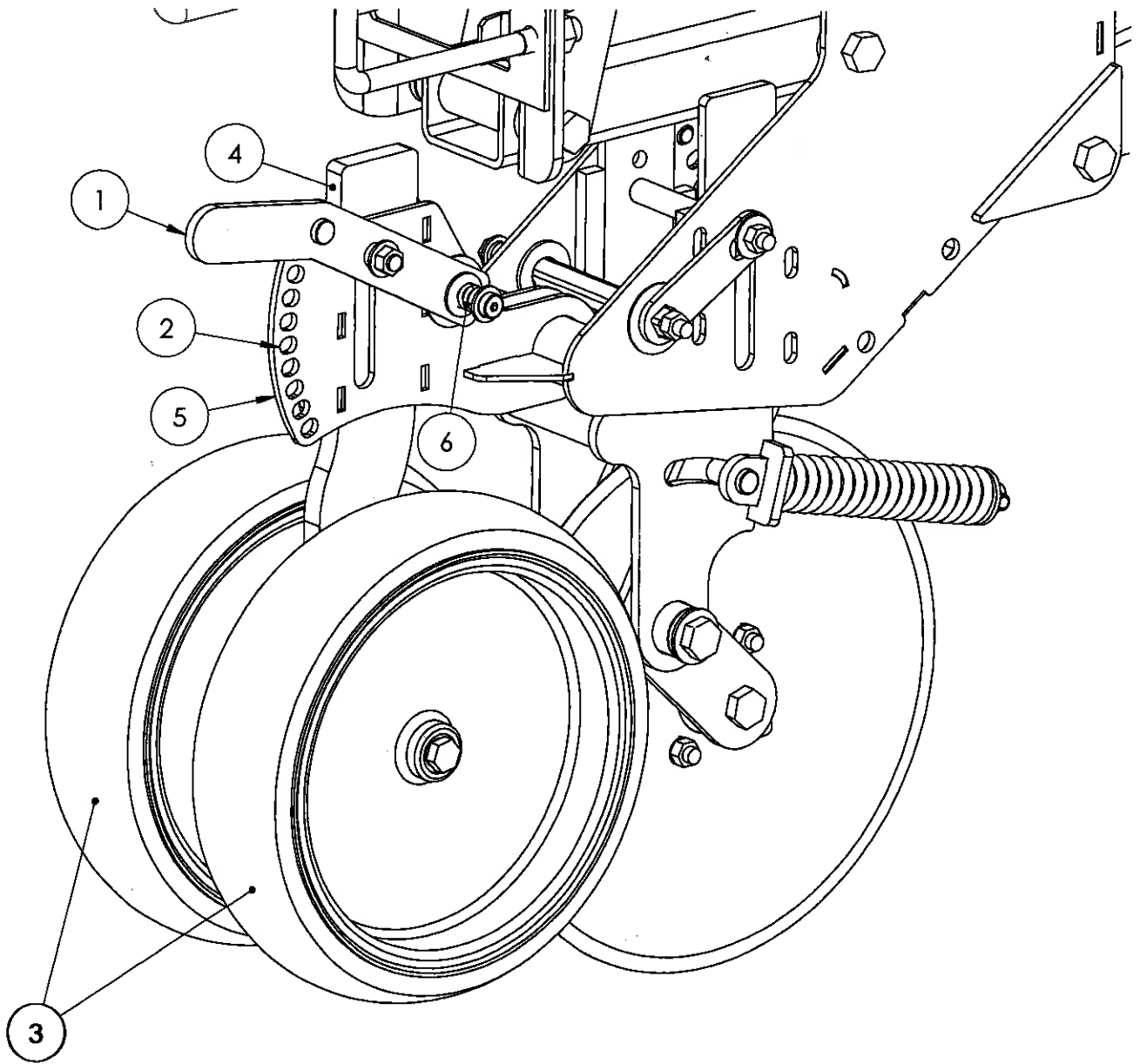
Note: In some cases the row units installed in the hinge areas of the folding toolbars require the use of straight bolts to mount them rather than the u-bolts provided with the row unit bundle. In those cases the straight bolts are provided with the toolbar bundle.





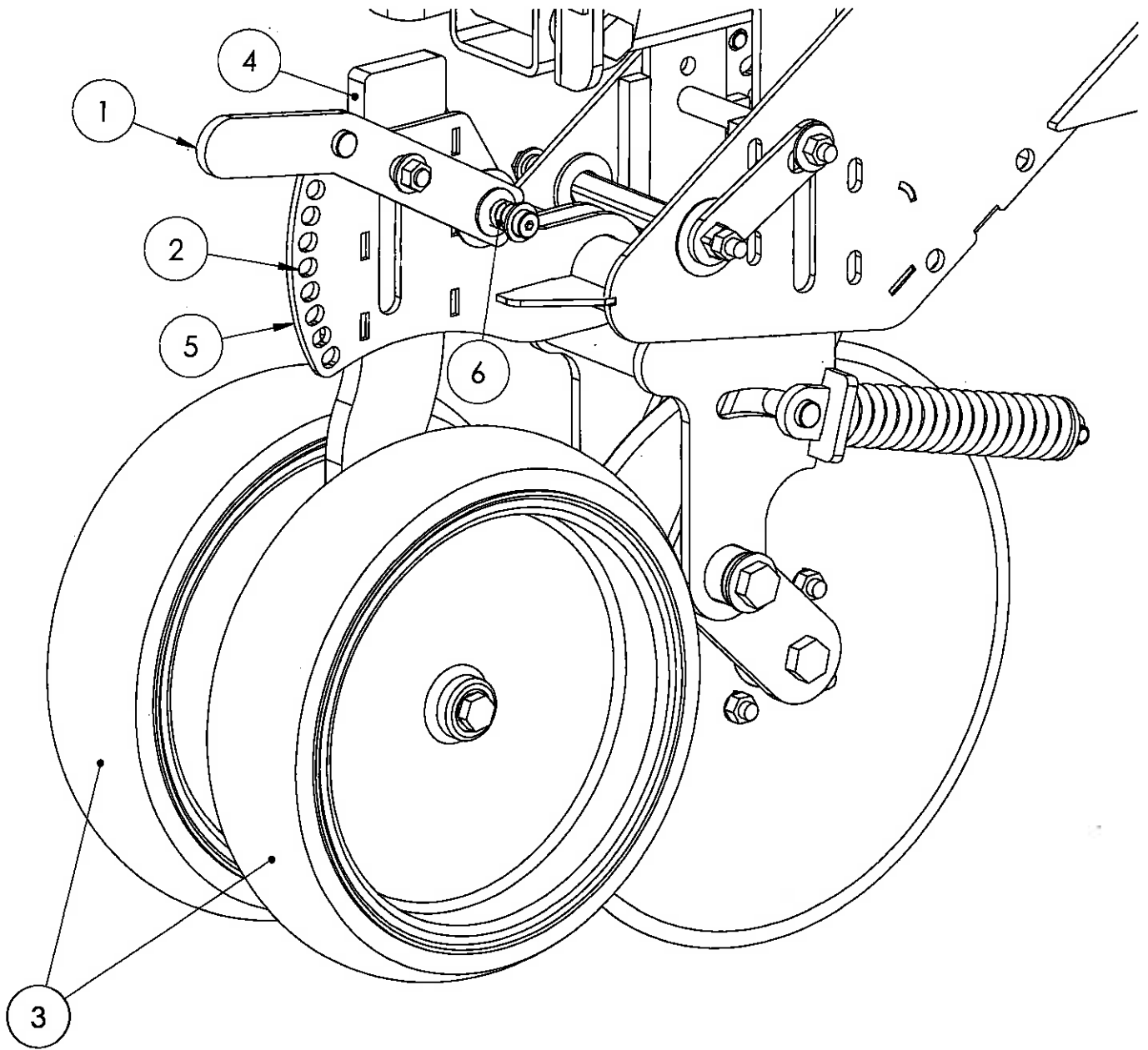
### EXTENSION HANDLE FOR GAUGE WHEEL ADJUSTMENT

An extension handle is being provided to assist in the adjustments on the Cultipro row unit. The handle (Item 2) is provided with a hex cut out (Item 4) that can be used to tighten and loosen the clamp bolt (Item 3). To adjust the row unit depth using the extension handle, first loosen the clamp bolt (Item 3) using the hex cut out (Item 4) in the extension handle (Item 2). Slide the extension handle (Item 2) over the gauge wheel adjustment handle (Item 1) and adjust the gauge wheel height by following the ROW UNIT DEPTH ADJUSTMENT procedure which is following these instructions. Once the proper adjustment has been reached tighten the lock bolt (Item 3).



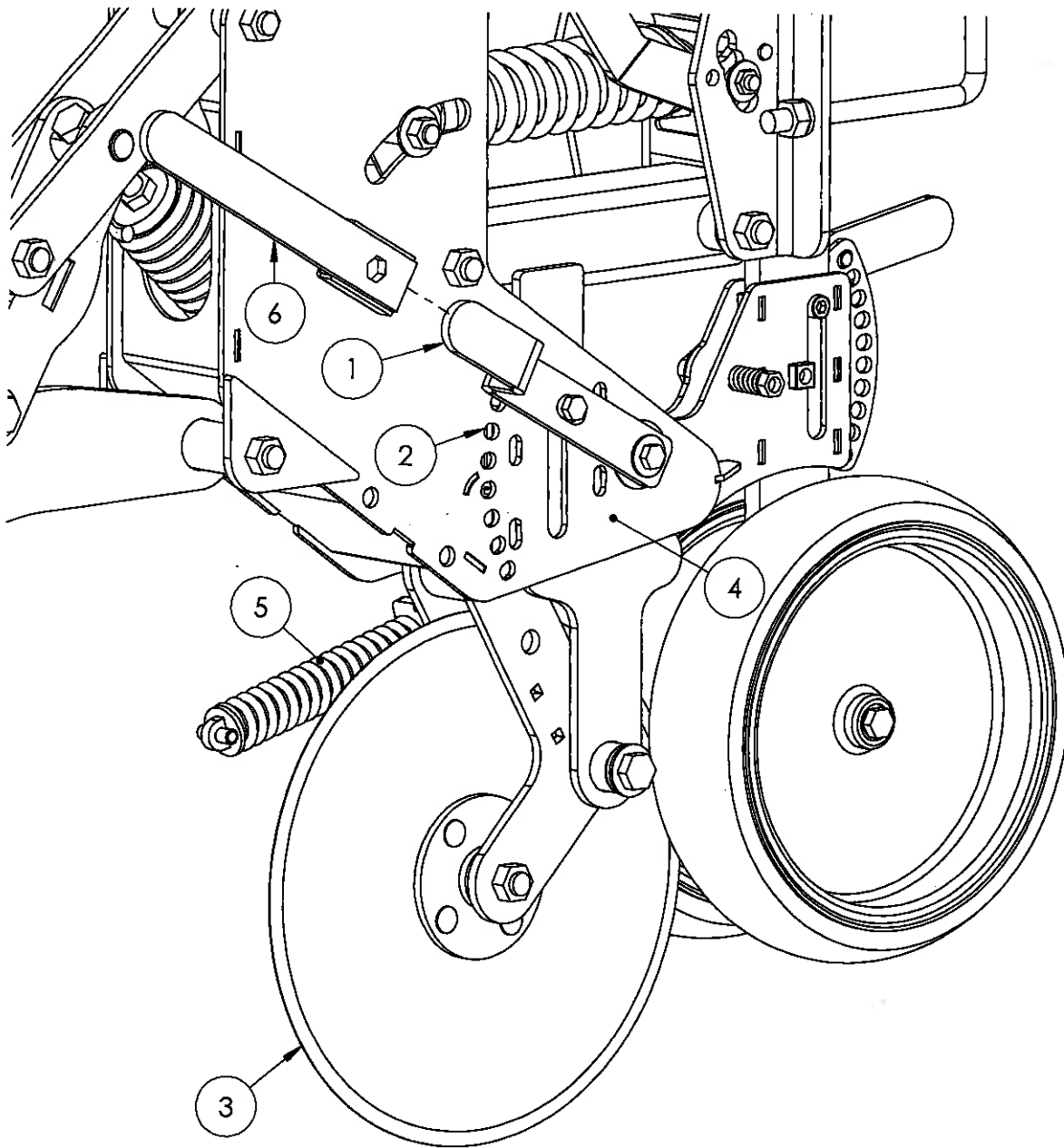
### ROW UNIT DEPTH ADJUSTMENT

The operating depth of the Cultipro row unit sweep is controlled by moving the depth gauge wheels (Item 3) up to make the sweep go deeper or down to make the sweep go shallower. To adjust the sweep operating depth grab the handle (Item 1) and move it to the right, when facing the front of the row unit, away from the quadrant plate (Item 5). Moving the handle down lowers the depth gauge wheels (Item 3) by moving the vertical bar (Item 4) that they are attached to. Moving the handle up raises the wheels. Moving from one slot (Item 2) to the next slot changes the gauge wheel height or operating depth approximately  $7/16$ ". Move the handle (Item 1) to the desired depth location and reset its locking pin into one of the corresponding slots (Item 2). The spring loaded feature (Item 6) of the adjustment handle will keep it in the desired position.



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### CUTTING COULER DEPTH ADJUSTMENT

It is important that the cutting couler only be set as deep as necessary to cut the trash completely. Setting the couler too deep could apply negative pressure to the row unit down pressure system causing the row unit to ride up. This could affect the sweep operating depth. To set the couler depth (Item 3) grab the adjustment handle (Item 1) and pull it out and away from the row unit side plate (Item 4). NOTE: The extension handle (Item 6) that is provided can be slid over the adjustment handle (Item 1) to assist in the adjustment. Select the position where you would like the couler to be set and place the pin on the adjustment handle will hold it in the slot. Raising the adjustment handle makes the couler position shallower and lowering the handle makes the couler go deeper. Each slot increment moves the couler approximately 1/2". The cutting couler is spring cushioned (Item 5) to allow protection when encountering rocks or other obstacles and to maintain sweep depth during these encounters.

## ROW UNIT DOWN PRESSURE ADJUSTMENT

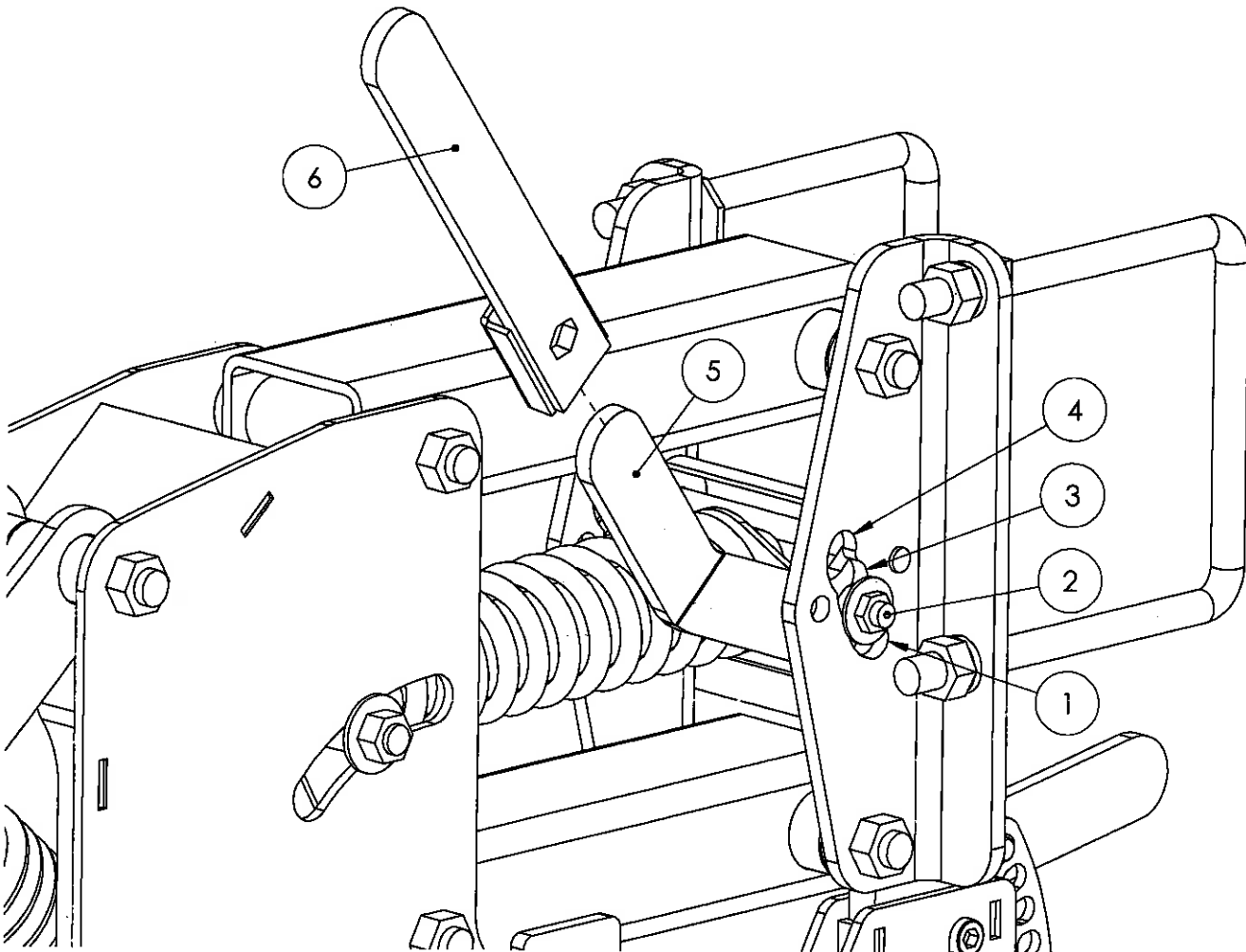
It is important that the row unit down pressure be adjusted with the cultivator toolbar in the raised position. This allows the row unit to be in a lowered position which makes the spring pressure adjustment easier because the compression spring is in a more relaxed position. The row unit down pressure should be adjusted so that the dual rubber gauge wheels on the row unit stay in firm contact with the ground during the cultivating operation.

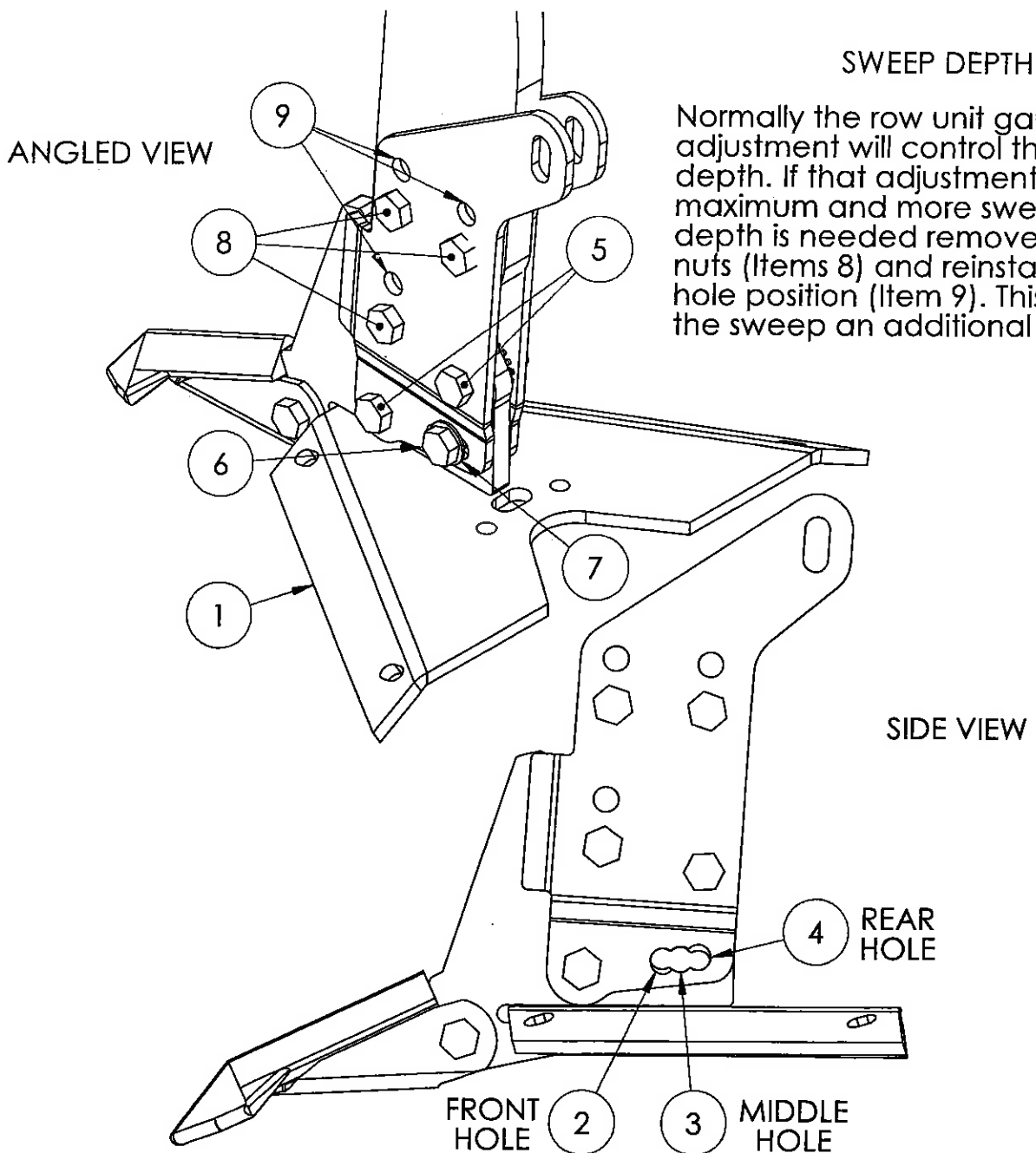
Row unit down pressure settings are :

- Position 1. Approx. 510 lbs. Lowest setting.
- Position 2. Approx. 580 lbs.
- Position 3. Approx. 660 lbs.
- Position 4. Approx. 710 lbs. Highest setting.

Note: The above down pressure rates are with the cultivator row unit in the working position. This is when the linkage on the row unit is running parallel to the ground.

To adjust the row unit down pressure move adjustment handle (Item 5) up to increase down pressure or down to decrease down pressure. NOTE: The extension handle (Item 6) that is provided can be slid over the adjustment handle (Item 5) to assist in the adjustment. When the chosen down pressure position is reached the spring cross tube will snap into the notch in that position and will be held there by the spring pressure.





**SWEEP DEPTH**

Normally the row unit gauge wheel adjustment will control the sweep depth. If that adjustment is at its maximum and more sweep operating depth is needed remove bolts and nuts (Items 8) and reinstall them in the hole position (Item 9). This will lower the sweep an additional 1".

**SWEEP ANGLE ADJUSTMENT**

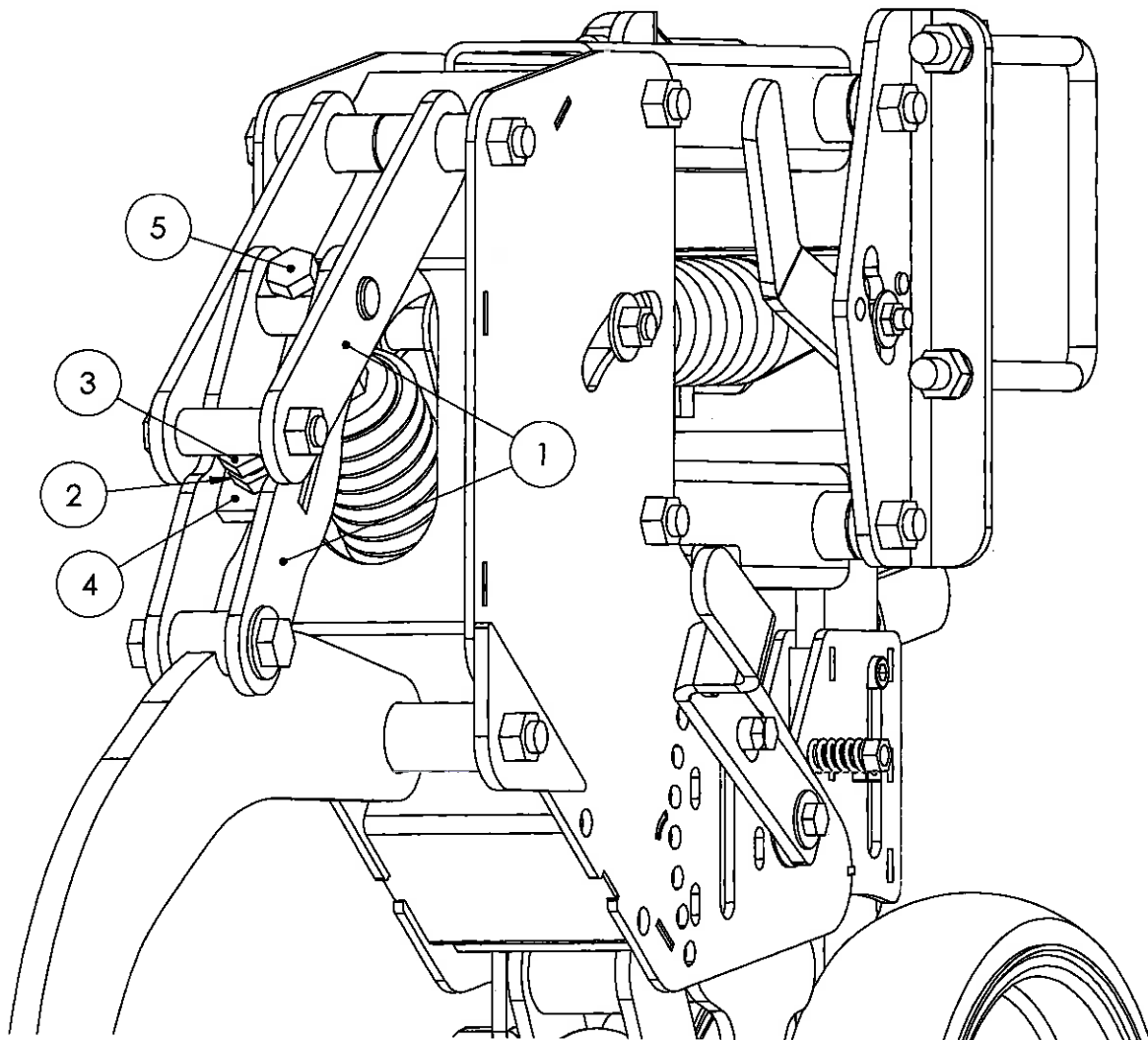
With the cultivator toolbar level, the sweep angle (Item 1) can be adjusted from running in a flat position to a nose down position of up to 6 degrees. To adjust the sweep angle first remove the bolt, nut, and washers (Items 6&7) and loosen the bolts and nuts (Item 5) as shown on the ANGLED VIEW. Refer to the SIDE VIEW for hole alignment. When the holes align at the FRONT HOLE (Item 2) the sweep should run parallel to the ground surface or flat. When the holes align at the MIDDLE HOLE (Item 3) the sweep should be running in a nose down position at a 3 degree angle. When the holes align at the REAR HOLE (Item 4) the sweep should be running at a nose down position of 6 degrees. The greater the angle of the sweep should result in more soil movement toward the crop row. Once the desired sweep angle is achieved replace the bolt, washers, and nut (Items 6&7) and tighten. Also tighten bolts (Item 5).

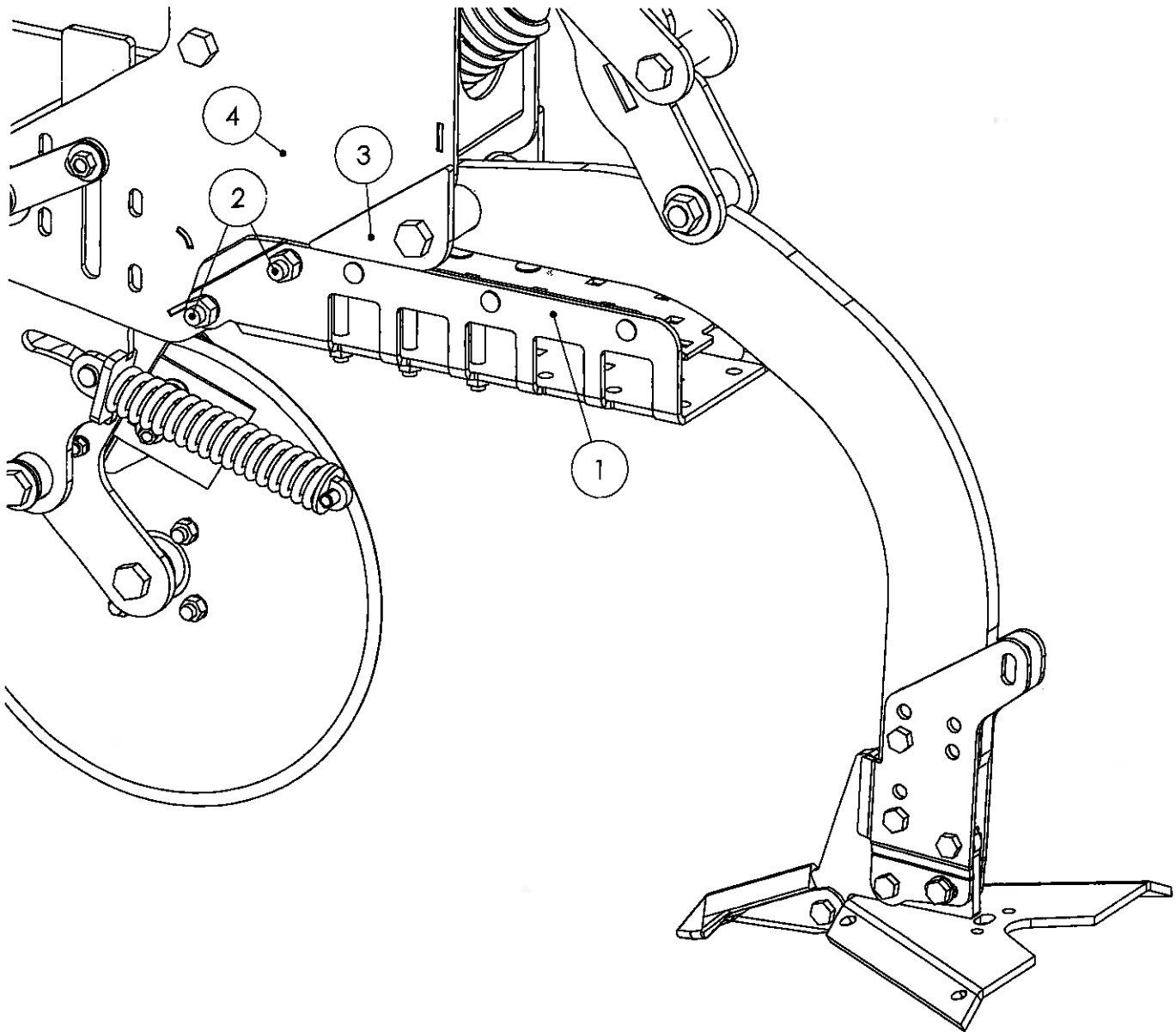


## TRIP LINK ADJUSTMENT

The toggle trip mechanism (Item 1) for the Cultipro row unit shank is preset at the factory and will trip properly in most conditions. The distance from the top of the bolt head (Item 3) to the top of the bolt mount plate (Item 4) should be  $1 \frac{3}{16}$ " and no less. If it is desired to have the shank trip easier it can be achieved by making the  $1 \frac{3}{16}$ " dimension greater. For example: increasing the dimension to  $1 \frac{5}{16}$ ". An increase of  $\frac{1}{8}$ ". Never make the  $1 \frac{3}{16}$ " dimension less and never adjust the trip spring pressure (Item 5). The spring trip pressure bolt (Item 5) has a lock plate installed at the factory and should not be tampered with. Doing so could cause permanent damage to the Cultipro row unit.

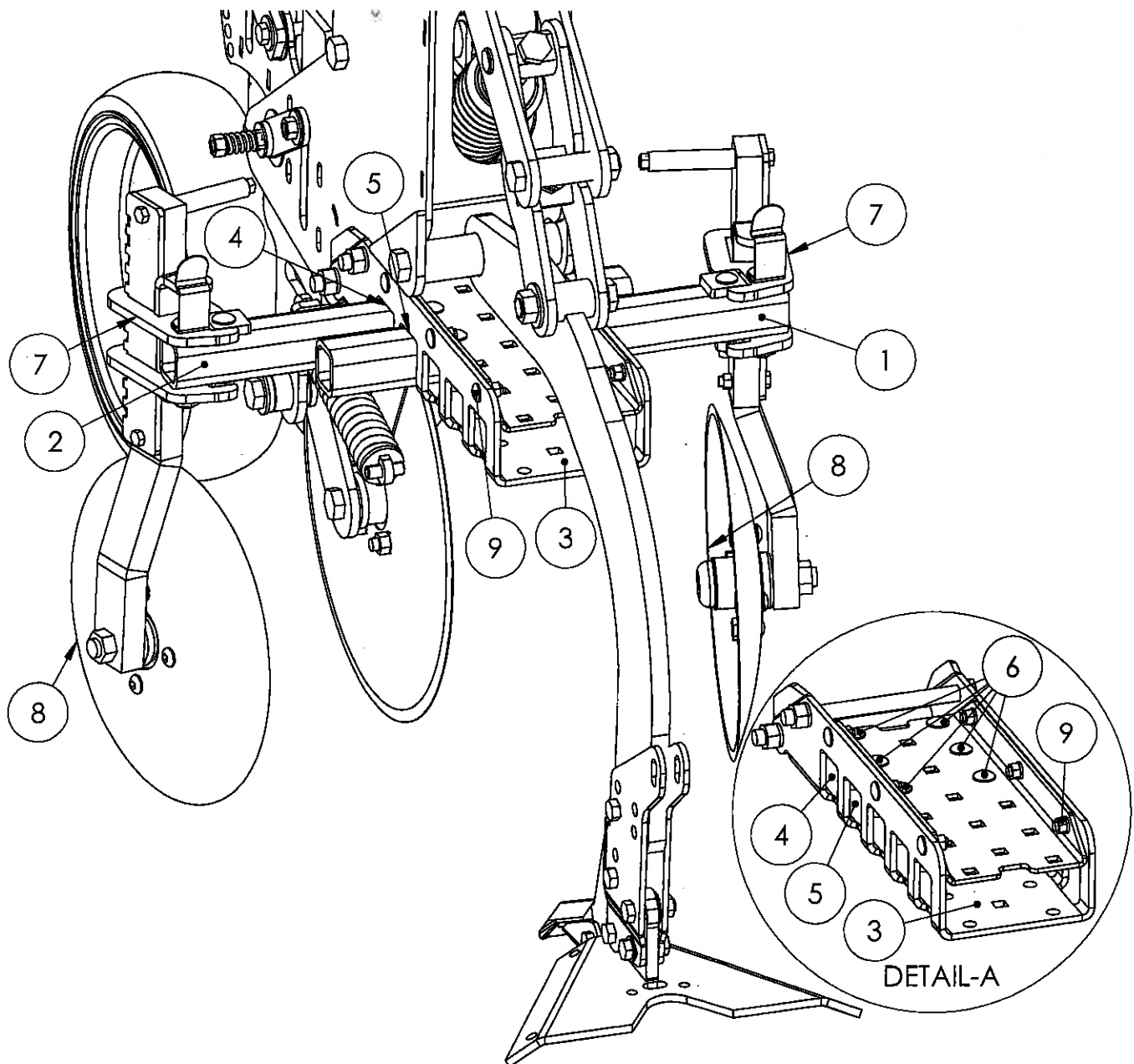
To decrease the trip pressure on the shank loosen the lock nuts (Item 2) on either side of the bolt mount plate (Item 4). Increase the  $1 \frac{3}{16}$ " dimension to desired length from the top of the bolt head (Item 3) to the top of the bolt mount plate (Item 4). Retighten the lock nuts (Item 2).





### ATTACHMENT MOUNT CHANNEL INSTALLATION

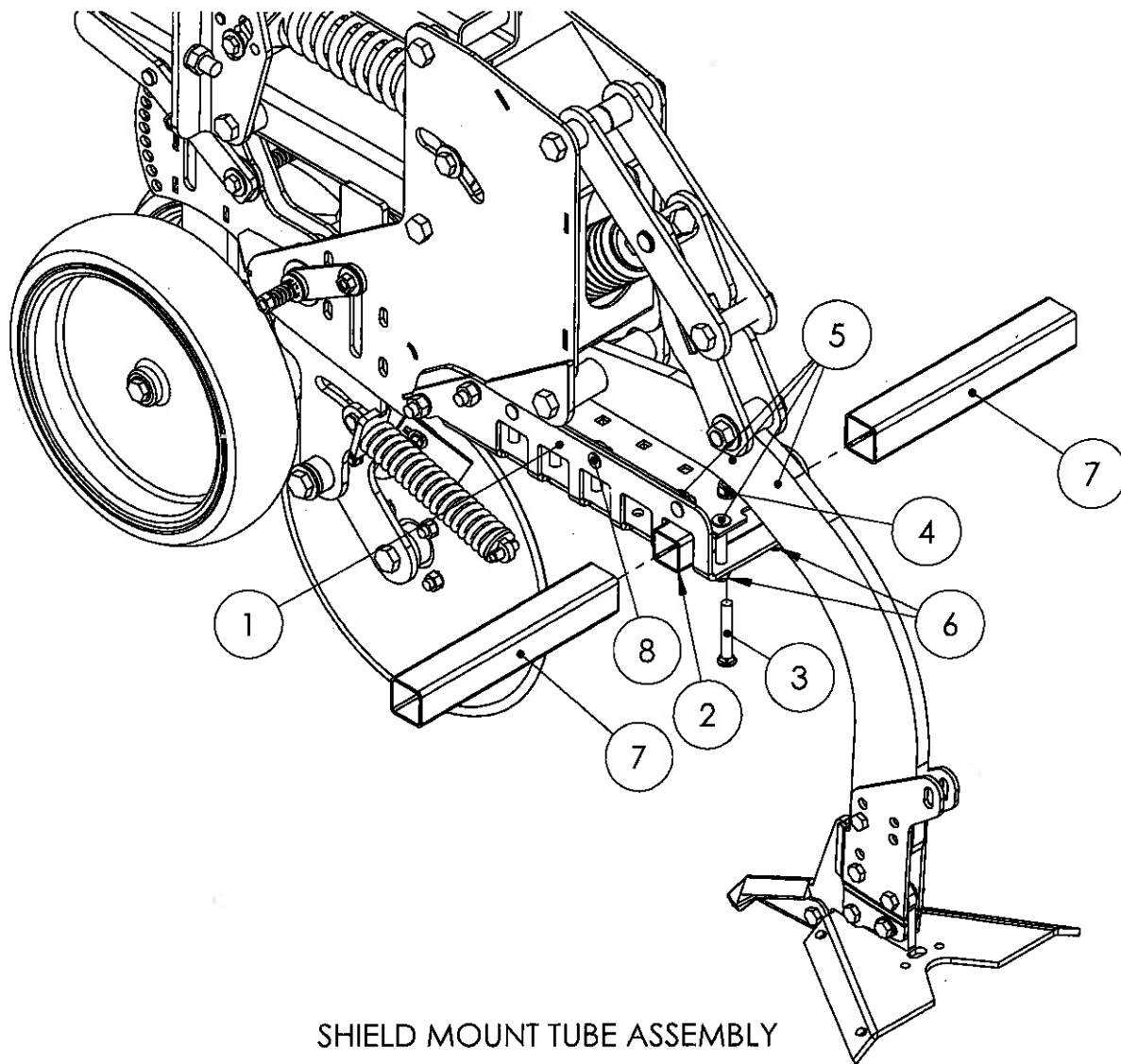
The mount channel (Item 1) is used to mount the optional cutaway (barring off) discs and row shield options. It is shipped with the necessary hardware to install it. To install the mount channel first remove the bolts, nuts, and lockwashers (Item 2) from the shipped channel assembly. Place the channel (Item 1), with the open side of the channel up, under the shank pivot plates (Item 3) and align the holes in the mount channel with the holes provided in the row unit side plates (Item 4). The mount channel (Item 1) straddles the row unit side plates (Item 4). Install the bolts, nuts, and lockwashers (Item 2), that were previously removed from the shipped mount channel, and tighten. The top of the mount channel (Item 1) should fit snug against the bottom of the shank pivot plates (Item 3). The mount channel is now ready to receive the optional attachments.



### CUTAWAY DISC ASSEMBLY INSTALLATION

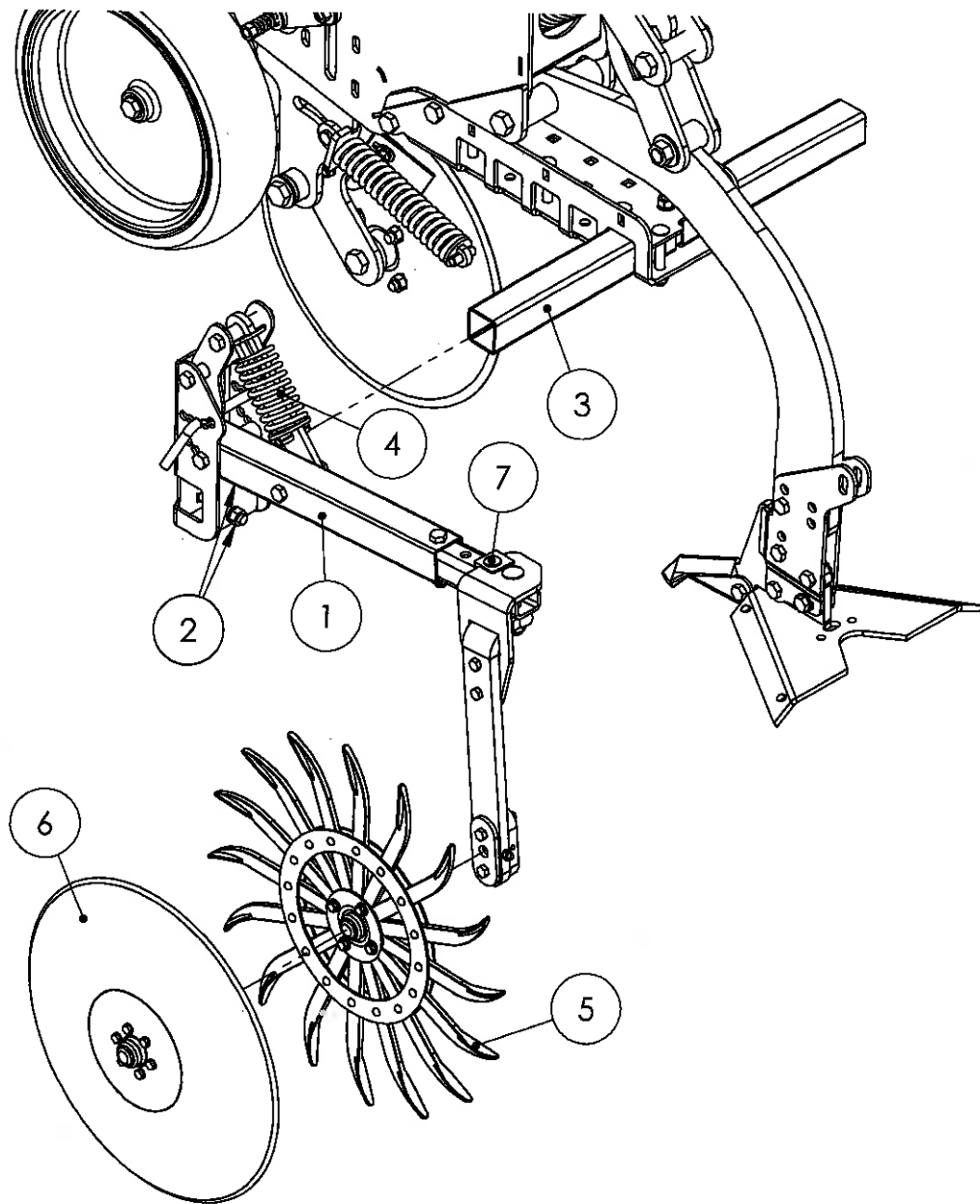
The RH and LH cutaway (barring off) discs (Items 1 & 2) are pre-assembled at the factory. To install the disc assemblies first loosen the carriage bolts (Items 6 and 9) located in the mount channel assembly (Item 3). Locate the LH cutaway assembly (Item 2). Slide 2x2 square tube of the LH disc assembly (Item 2) into the front square hole (Item 4) on the LH side of the mount channel (Item 3) and slide the tube through the mount channel until it protrudes through the RH side of the mount channel. Install the RH disc assembly (Item 1) into the 2nd square hole (Item 5) on the RH side of the mount channel (Item 3) and slide it through the mount channel until it protrudes through the LH side of the mount channel. Note: The square hole locations (Items 4&5) and the bolt locations (Item 6) in the mount channel (Detail A). The cutaway discs can also be mounted rearward further from the square holes (Items 4&5) by choosing another set of square holes. The other holes may or may not be available to use depending on which additional optional attachments were ordered and their mounting position. After the cutaway assemblies are positioned tighten the carriage bolts (Items 6 and 9).

When assembled the adjustment portion (Item 7) of the RH and LH cutaway assemblies should be facing forward and the leading edge of the discs (Item 8) should be the widest point of the assembly. Adjustment of the cutaway disc assemblies will be covered in another step.



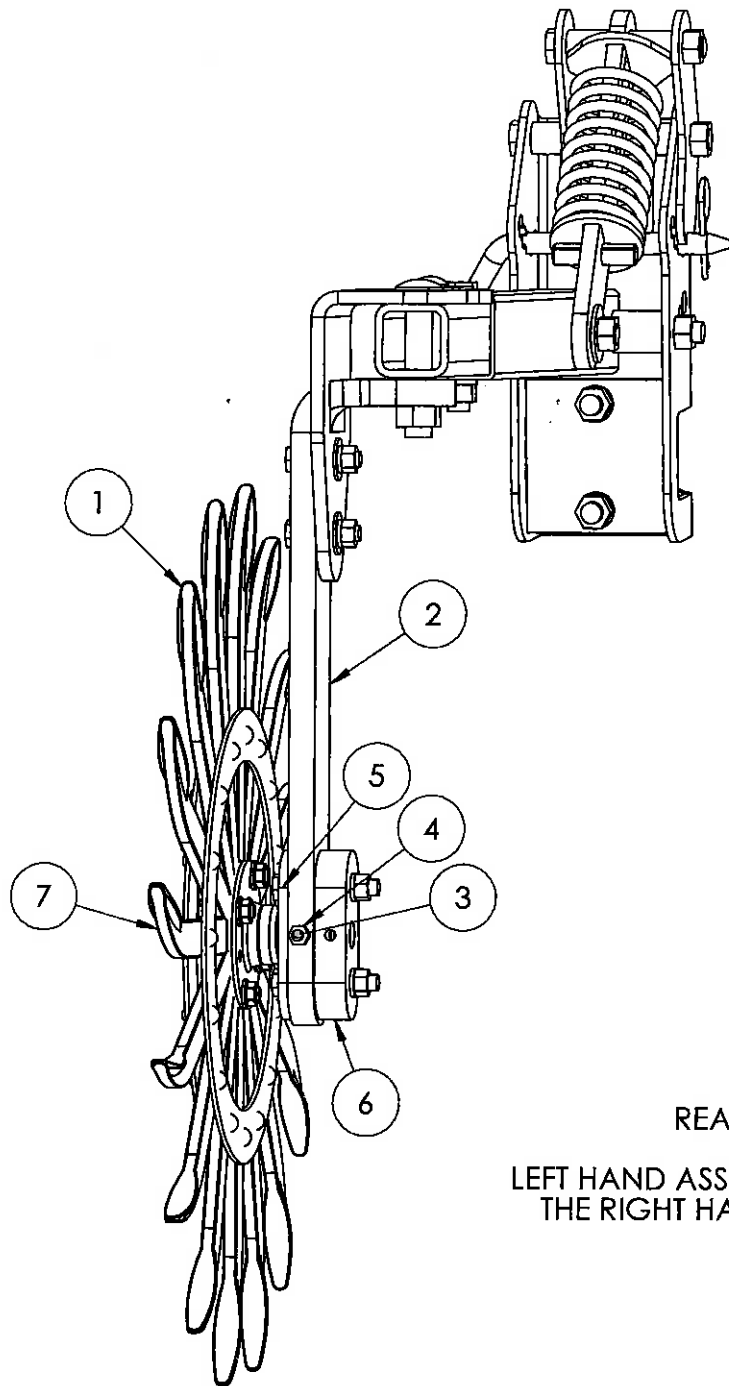
SHIELD MOUNT TUBE ASSEMBLY

The shield mount tubes must be installed before you can install the hoe shield, cutaway shield, or open top shield options. The mount kit comes with the necessary mount tubes and hardware to do one row. Before you can install the shield mount tubes you must make sure that the options mount channel (Item 1) has been installed. The installation for the mount channel is described in a previous step. First loosen the carriage bolts (Item 8). There are qty.-6 of them. Install the center tube. It is identified as the tube with the hole in it. Place the center tube (Item 2) through the rear most square hole in the mount channel (Item 1). Align the center tube hole with the single center hole in the rear of the mount channel. Place one of the carriage bolts (Item 3) supplied in the mount kit up through the bottom of the mount channel, through the center tube, and through the top plate of the mount channel (Item 1). Secure the bolt using a nut and lock washer (Item 4) that were provided in the kit. Note: Do not over tighten the nut holding the center tube in place and crush the mount channel. The center tube is meant tube be loose in the mount channel when installed. Next install 4 carriage bolts (Item 5) from the top down through the mount channel (Item 1). They are placed to either side of the center bolt that holds the center tube in place. Install the nuts and lock washers (Item 6) to those bolts on the bottom side of the mount channel (Item 1). Do not tighten these carriage bolts at this time. Install the two outside shield support tubes (Items 7) by sliding them over the previously installed center tube (Item 2) and through the rear most square holes in the mount channel (Item 1). Slide them in from either side until they are tight against the carriage bolt (Item 3) used to mount the center tube. Secure the outside shield support tubes by tightening the four nuts (Item 6). The shield support tubes should now be fixed in place. Now tighten the 6 previously loosened carriage bolts (Item 8). Repeat this procedure for the remaining row units.



### ROLLING SHIELD INSTALLATION (LEFT HAND SIDE SHOWN)

If the hoe shield (Item 5) or disc shield (Item 6) option was ordered for your CULTIPRO row unit the installation is as follows. Locate the shield mount arm assemblies (Item 1) in the shipped bundle. There will be a left and right hand arm assembly in the bundle. The left hand side is shown in these assembly instructions. Note the position of the spring (Item 4) to identify the right and left hand assemblies. The right hand side assembly will be opposite of what is described here. First loosen the nuts (Items 2) and slide the arm assembly (Item 1) over the previously installed mount tube assembly (Item 3). Temporarily tighten the nuts (Items 2) securing the mount arm assembly (Item 1) to the mount tube (Item 3). The hoe shield (Item 5) and disc shield (Item 6) installation is covered in the steps following this arm installation. To adjust the working angle of the hoe or disc shield option simply loosen the carriage bolt (Item 7) and rotate the square adjustment washer to the desired position to achieve the proper working angle. Repeat this adjustment for all of the assemblies. The side to side adjustment is accomplished by loosening the nuts (Items 2) and sliding the arms along the mount tube (Item 3) and then retightening.

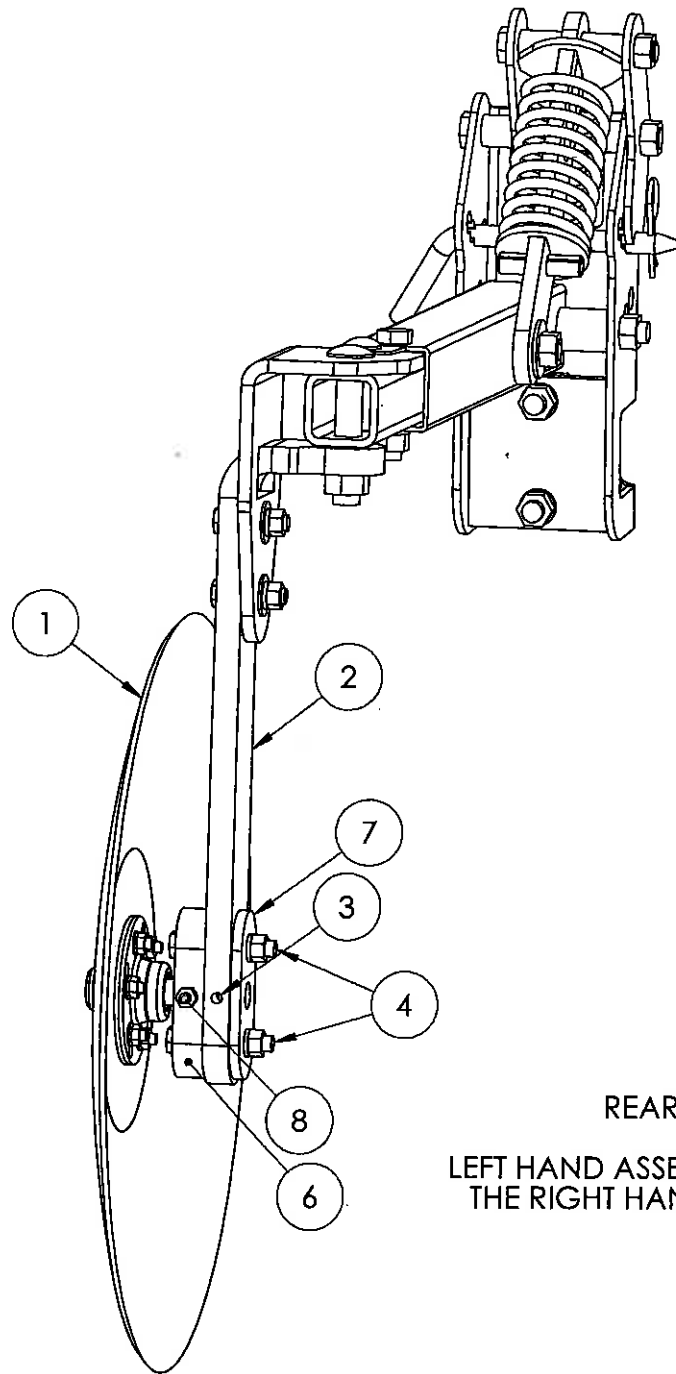


REAR VIEW

LEFT HAND ASSEMBLY IS SHOWN.  
THE RIGHT HAND IS OPPOSITE

### ROTARY HOE WHEEL INSTALLATION

To install the rotary hoe wheel (Item 1) to the shield arm (Item 2) first remove the nut, lockwasher, and bolt (Items 3&4). Slide the shaft on the rotary hoe wheel bearing into the shield arm (Item 2) until the cross hole in the rotary hoe wheel bearing shaft aligns with the the cross hole in the shield arm from which the bolt was previously removed (Item 3). Install the previously removed bolt (Item 3) through the shield arm (Item 2) cross hole, through the cross hole in the rotary hoe wheel bearing shaft, and secure with the previously removed nut and lock washer (Item 4). Note the position of the thin backing plate (Item 5) and the thick backing plate (Item 6). Also note the position of the cupped tooth on the rotary hoe wheel (Item 7).

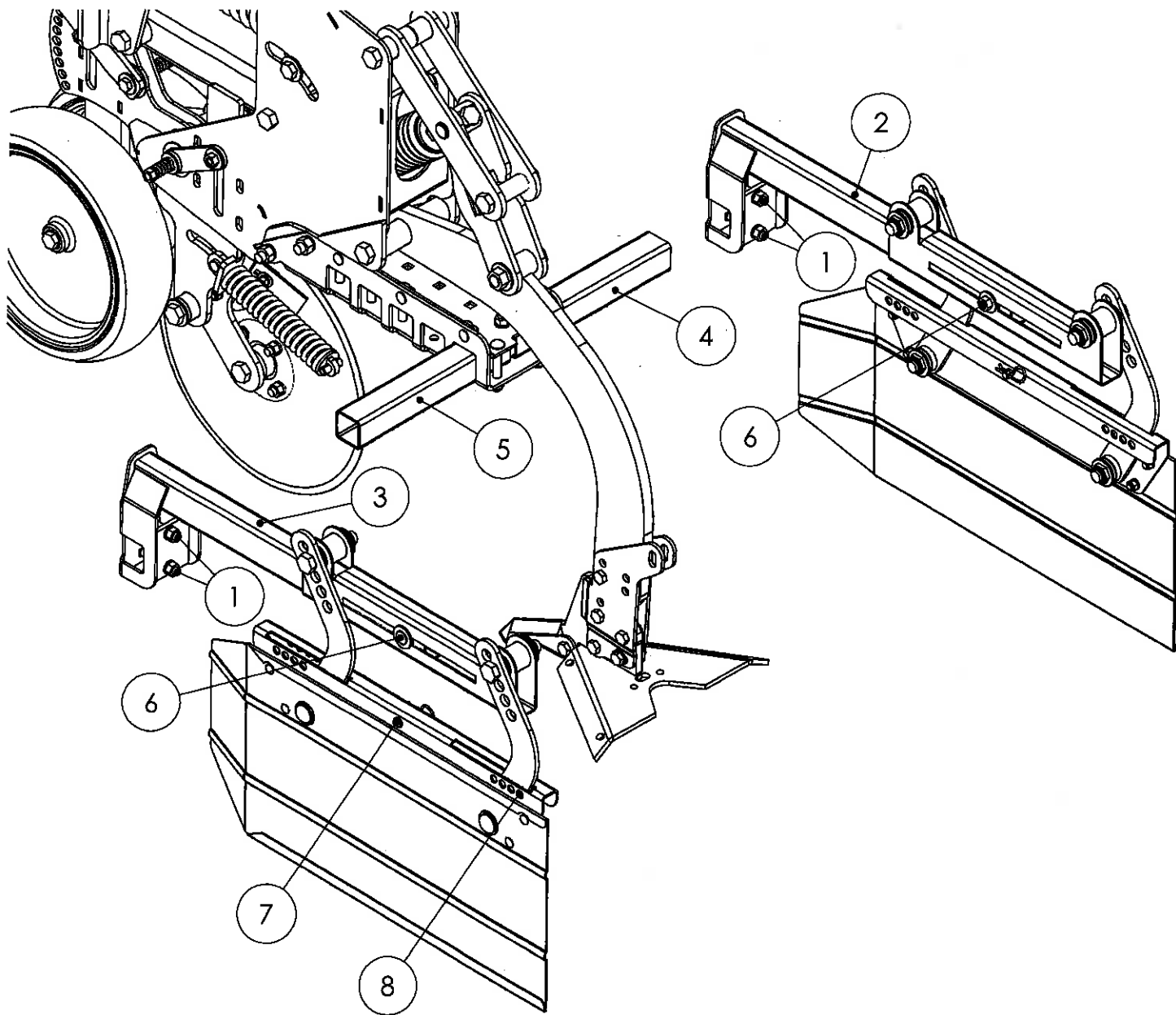


REAR VIEW

LEFT HAND ASSEMBLY IS SHOWN  
THE RIGHT HAND IS OPPOSITE

### DISC SHIELD INSTALLATION

To install the disc shield (Item 1) to the shield arm (Item 2) first remove the nut, lockwasher, and bolt located at position (Item 3). Next remove the nuts, lockwashers and bolts (Items 4) to disassemble the backing plates from the arm (Item 2). Reinstall the thick backing plate (Item 6) to the outside of the shield arm (Item 2) by placing the previously removed bolts (Items 4) through the backing plate as shown. Place thin backing plate (Item 7) over the bolts (Items 4) at the inside of the shield arm (Item 2) and secure using the previously removed nuts and lockwashers. Slide the bearing shaft on the disc assembly (Item 1) into the center hole of the thick backing plate (Item 6) and align the cross hole in the bearing shaft with the cross hole in the thick backing plate (Item 6). Place the bolt that was previously removed from location (Item 3) through the cross hole in the backing plate (Item 6) and through the bearing shaft cross hole. Secure the disc shield bearing shaft to the thick backing plate using the previously removed nut and lock washer.

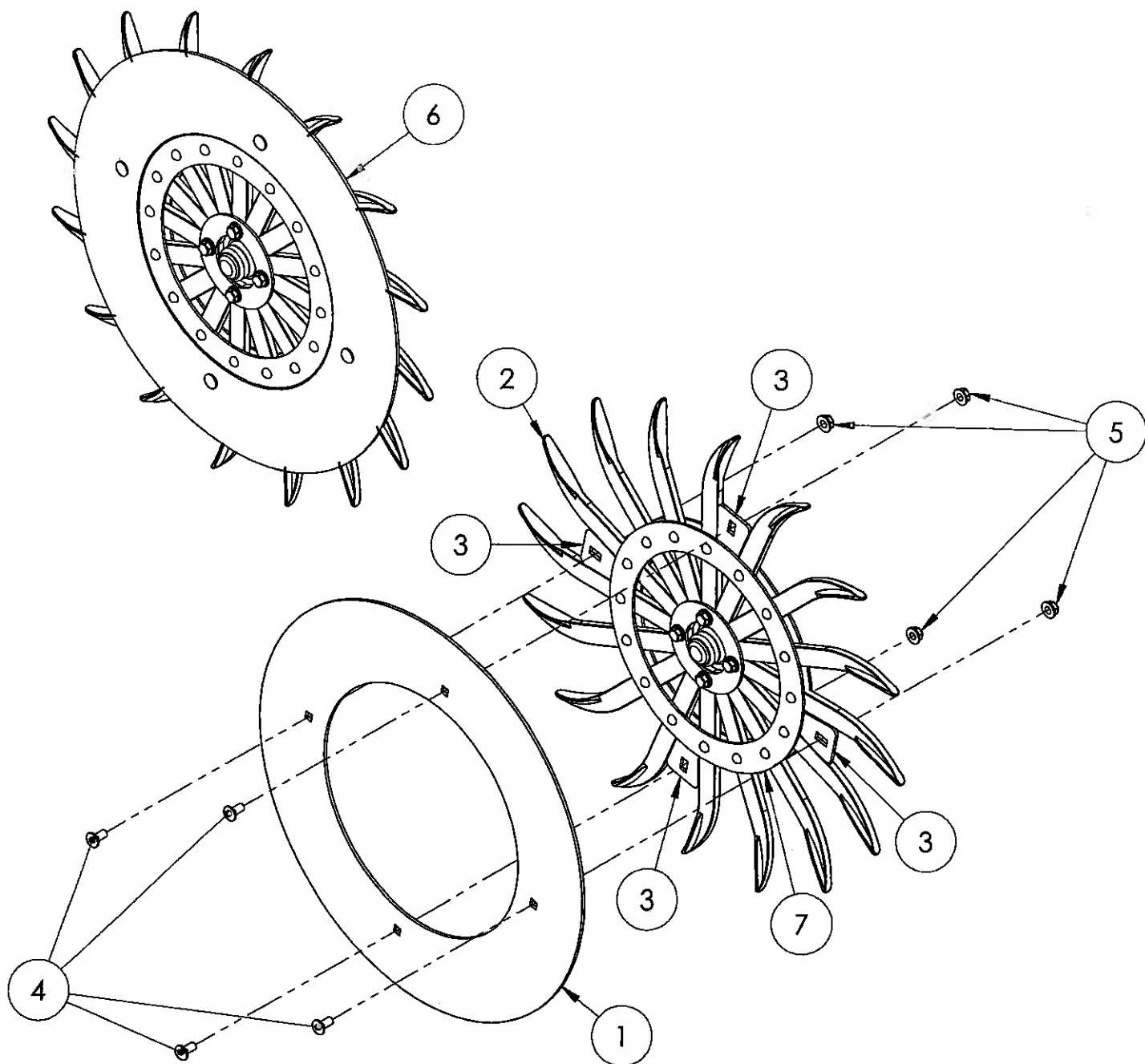


### OPEN TOP SHIELD INSTALLATION

If the open top shield option was ordered for your CULTIPRO cultivator you would have received them as bundles of right and left hand shield assemblies. To install the shield assemblies to the row unit first unbundle and identify the right and left shield assemblies by referring to the diagram. (Item 2) is the right hand assembly and (Item 3) is the left hand assembly. First loosen the nuts (Item 1) on the shield assemblies. Slide the right hand shield assembly (Item 2) over the previously installed mount tube (Item 4). Slide the left hand shield assembly (Item 3) over the previously installed mount tube (Item 5). Temporarily fasten the right and left hand shields to the mount tubes by tightening the nuts (Item 1.) They each should be positioned equal distances from the center of the row unit. The final width adjustment will most likely need to be established in field operating conditions.

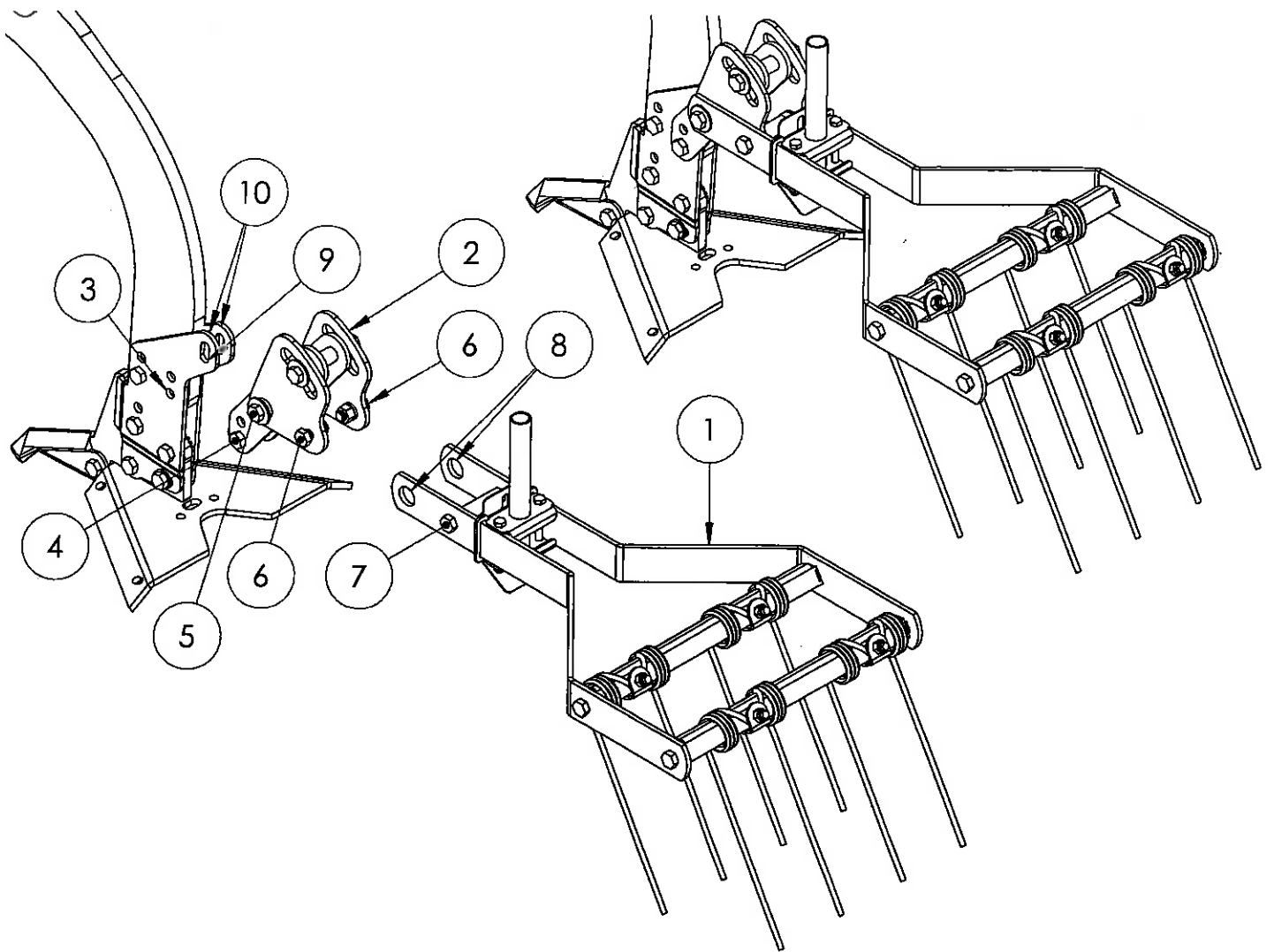
The shields can be adjusted front to rear by loosening the fasteners (Item 6) and sliding the shields to the desired position and retightening the fasteners (Item 6). The shield operating height is adjusted by moving pin (Item 7) to one of the desired hole positions (Item 8). When placed in one of the hole positions (Item 8) the downward travel of the shield is limited but the shield can still travel upward or float.





### HOE WHEEL DISC INSTALLATION

If the hoe wheel disc option was purchased for your CULTIPRO row cultivator unit the following instructions will show you how to install it. The hoe wheel disc option is shipped as a pair of disc assemblies per row unit. The hoe wheel discs come assembled and need to be disassembled before they can be installed onto the hoe wheel (Item 2). To disassemble them first remove the bolts, clips, and nuts (Items 3, 4, and 5) from the disc (Item 1). Next place the disc (Item 1) over the hoe wheel ring (Item 7). It should lie flat on the hoe wheel teeth. Evenly space the four clips (Item 3) to the inside of the hoe wheel ring and interlock them on the inside surface of the wheel ring (Item 7) while aligning them with the holes in the disc (Item 1). Place the four carriage bolts through the holes in the disc (Item 1) and clips (Item 3). Place the nuts (Item 5) onto the carriage bolts and tighten. The disc should now be securely fastened to the hoe wheel. (Item 6) shows the hoe wheel with the disc installed. Repeat this installation procedure for all of the hoe wheels on your cultivator.



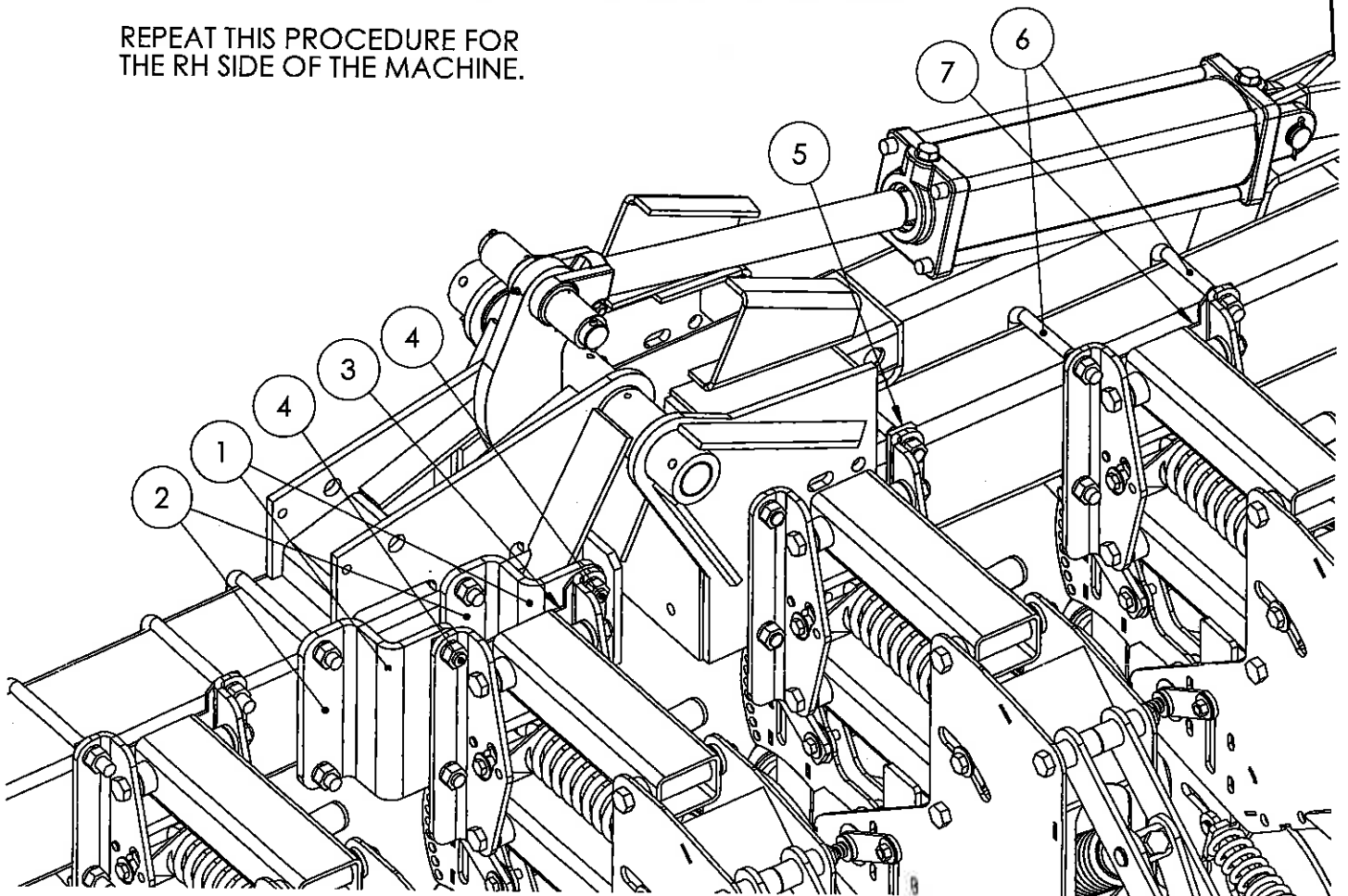
## HARROW ATTACHMENT INSTALLATION

The harrow attachment option for your CULTIPRO cultivator unit comes shipped in two different assemblies, the harrow assembly (Item 1) and the harrow mount assembly (Item 2). To install the harrow first remove the bolt and lock nut at location (Item 3) at the rear of the cultivator shank assembly. Remove the shipping bolt, spacer, and nut (Item 7) from the harrow assembly (Item 1). This hardware will not be reused. Remove the bolt and nut (Item 4) from the mount assembly. These will be reinstalled. Remove the bolts, nuts, and lockwashers (Item 6) from the harrow mount assembly. Retain this hardware it will be reused in a later step. Remove the bolt, nut, washers, and spacers (Item 5) from the mount assembly (Item 2). Note the position of the spacers and bolt arrangement because they will have to be reinstalled in the same position in a later step. Slide the mount assembly (Item 2) over the shank side plates until the the holes (Item 3) and (Item 4) align. Replace the bolt and nut previously removed from the location at (Item 4) in these aligned holes. Slide the straps of the harrow assembly (Item 1) over the slotted plates of the mount assembly (Item 2) until holes (Item 8) align with holes (Item 5) and holes (Item 7) align with holes (Item 6). Replace the bolts, nuts, and lock washers previously removed (Item 6). Replace the previously removed bolt, washers, bushings and nut in their original positions (Item 5). The bolt travels through the mount bracket and through the bottom of the slot (Item 9) in the shank side plates. The center bushing of the assembly goes between the slotted shank plates (Item 10). Tighten all hardware when assembly is complete. Repeat this assembly procedure for all of the remaining harrow assemblies. The completed assembled view is shown in the upper right hand corner of the diagram.

### HINGE AREA CULTIPRO ROW UNIT INSTALLATION FOR 24 ROW - 20" ROW SPACING (LH SIDE SHOWN)

Extra brackets are required to install the Hiniker Cultipro row units at the hinge area of the folding toolbar. These brackets and hardware are provided in the mount kit P/N 81007636. To install the hinge area row units first locate the offset brackets (Item 1) in the mount kit provided. Two offset brackets will be used for one LH row unit and two will be used for one RH hinge area row unit. Before attaching the offset brackets to the row unit the locking plate (Item 3) must be reversed so that the formed tabs on the locking plate are facing the row unit or the rear of the machine. Attach the offset brackets (Item 1) to the row unit as shown in the diagram using the bolts nuts and lockwashers (Items 4) provided in the kit. The bolt heads should face the front of the machine with the nuts and lockwashers facing the rear of the machine or the backside of the row unit mount angles. Also the long leg of the offset brackets should be attached to the row unit which places the short leg of the offset brackets (Items 2) against the toolbar. With the offset brackets attached to the row unit position the row unit in its 20" spacing location on the wing portion of the toolbar as shown in the diagram. The holes on the inner offset bracket should align with the holes provided in the wing hinge plate if the row unit is spaced properly. Use the U-bolts, nuts, and lockwashers provided with the row unit assembly to attach the row unit with the offset brackets to the wing of the toolbar. A 1/2" thick spacer (Item 5) is provided to install the row unit at the hinge area of the main frame toolbar. Also U-bolts (Item 6) to fit the 5x7 main frame toolbar are provided in the mount kits shipped with the toolbar. The formed tabs on the locking plates (Item 7) should face the front of the machine and interlock with the toolbar for the rest of the row units.

REPEAT THIS PROCEDURE FOR  
THE RH SIDE OF THE MACHINE.



ROW UNIT ADAPTER PLATE INSTALLATION  
LOWER 3 POINT AREA

On a 24 Row 20" Cultipro cultivator assembly there are interference issues with the u bolts when mounting the row units by the welded lower lower 3 point mounts (Item 5) on the center frame toolbar. When mounting the Cultipro row unit (Item 4) at the lower 3 point location (Item 5) adapter plates (Items 1) must be used to allow for u bolt clearance. The adapter plates are contained in the Mount Kit P/N 81007636 provided with the toolbar assembly for your 24 Row 20" cultivator. Install the two adapter plates (Items 1) and row unit (Item 4) as shown in the diagram using the the u bolts (Items 2) for the 5x7 toolbar and the 3/4" carriage bolts (Items 3) that are provided in the mount kit along with the 3/4" nuts and lockwashers. Note: The carriage bolt heads must face the toolbar side. The Left Hand Side of center is shown in the diagram. Repeat this procedure for the Right Hand Side which is opposite.

NOTE: The black row unit locking plates provided with the row unit assemblies are not used when these adapter plates are installed in these two locations.

