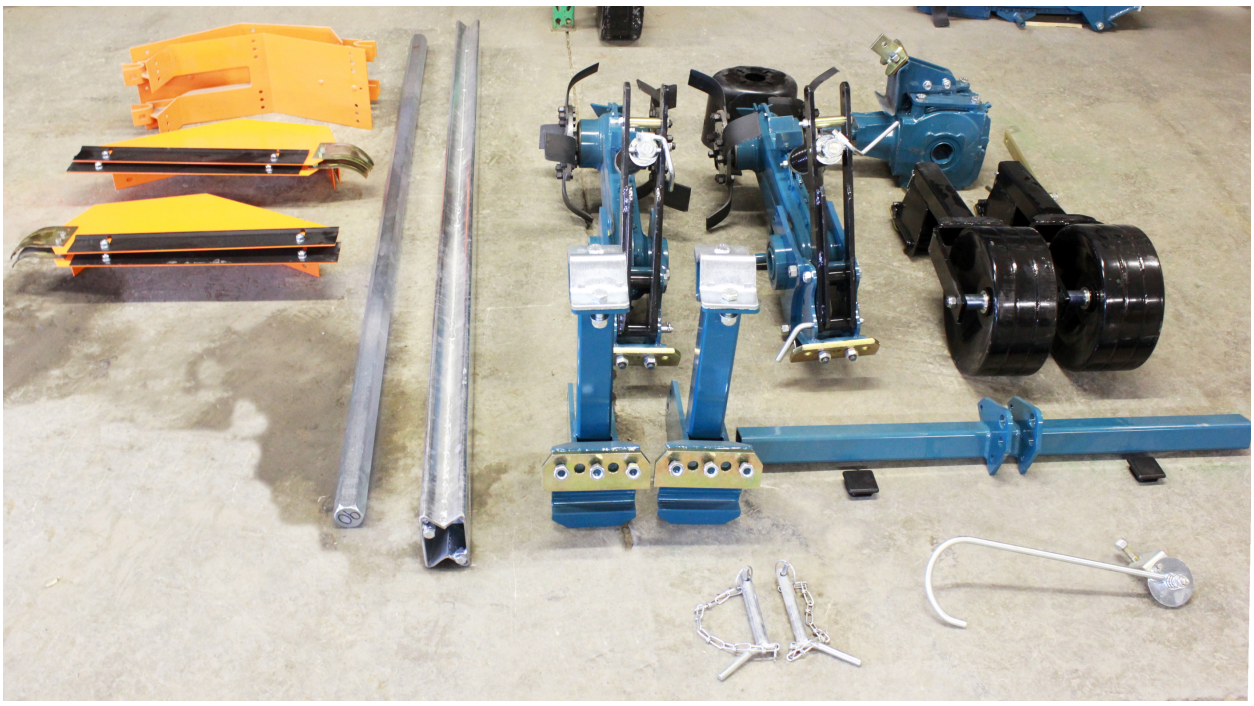
Multivator Assembly Instructions

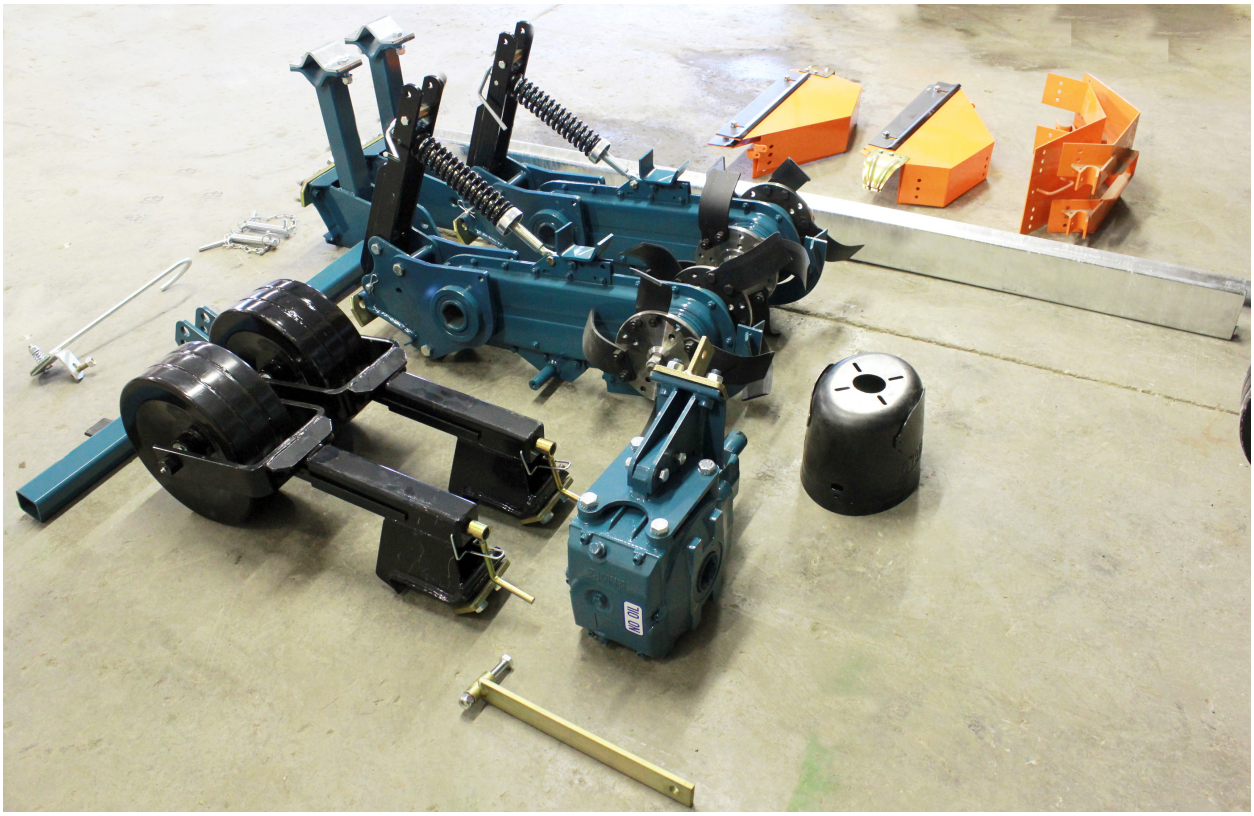
To assist you in assembling your Multivator we have provided these assembly instructions. If at anytime you need assistance please give us a call at 888-222-8455 and we can help walk you through one, or more of these steps. If you are missing a component in your shipment, or something got damaged in transit, please call us right away to rectify the issue.

1. Unpack your shipment and lay out the components in a clean work area. The Multivator is made up of the following basic components: a frame assembly comprising a tool bar, hexagonal shaft, gearbox, three point mounting system, one pair of gauge wheels, a PTO shaft assembly; tillage heads comprising a drive case, rotors with blades attached, shielding, clamping system for mounting to the tool bar.



2. For this instruction sheet we are assembling a basic machine with two tillage heads. Note that your machine may have a different style three point hitch. We use A-frame style hitches on lighter FL and FLA machines, and we use wider three point hitches with two additional upright supports in addition to the two supports shown in the picture above. The components in the above picture are standard for FP and FPSR 66” and 90” wide frame packages.

3. Pictured below is another view of the Multivator components. Note that the gearbox, the tillage heads, the wheel assemblies, and the hitch brackets all have tool bar clamp plates loosely attached to each component. These clamp plates will allow you to attach the component to the tool bar in the appropriate location. You will also receive a hardware kit with nuts and bolts to assemble the shielding, as well as decals to attach to the machine after assembly. Hitch pins, PTO shaft hook, and the center element clamping bar are supplied loose in the set-up box. Again, please call us immediately if you feel you are missing any items in the shipment.



4. The frame components should be assembled first. We like to start by raising the tool bar on the fork lift so that it is at a comfortable height. You can use two saw horses or other sturdy supports to get the tool bar off the ground.

5. It is important to remember that the tool bar has a front side and a back side. The picture below illustrates how to determine the front side. Locate the nut that is welded nearest the V-shaped corner of the tool bar. This nut is on the leading edge of the tool bar. You can also hold one of the flat end guards up to the end of the tool bar to identify front and back. These guards will be pointing down and to the rear of the machine when properly installed. Do not install the guards until the machine is fully assembled.

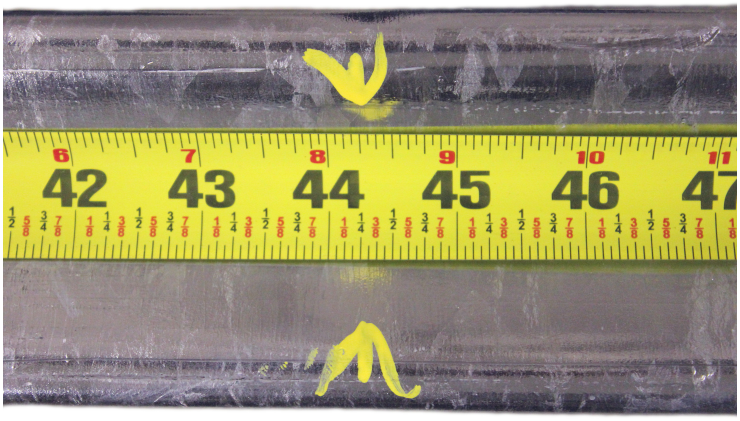
Tool bar front side

Tool bar back side

6. The next step is to start attaching components to the tool bar. Start by attaching the heads and the wheels first. Once the heads and the wheels are attached, the tool bar will be supported and you can remove the fork lift, or blocks, that are supporting the machine.

7. It is important to place the heads close to the desired working position that you require. For example, if your row centers are spaced at 40”, then the heads will be positioned on the bar at 40” on center. First, mark the center of the tool bar. The center element can either be the gearbox assembly, or a head assembly. if you have an odd number of heads the center element will usually be a tillage head. For example, if you are going to cultivate two rows at a time and you have three heads to accomplish this, then the center element will be a tillage head.

Mark the center of the tool bar, and measure out from the center to mark the location of the tillage heads. Head location is determined by row center and number of heads. Remember to determine if your center element is a tillage head, or the gearbox assembly.



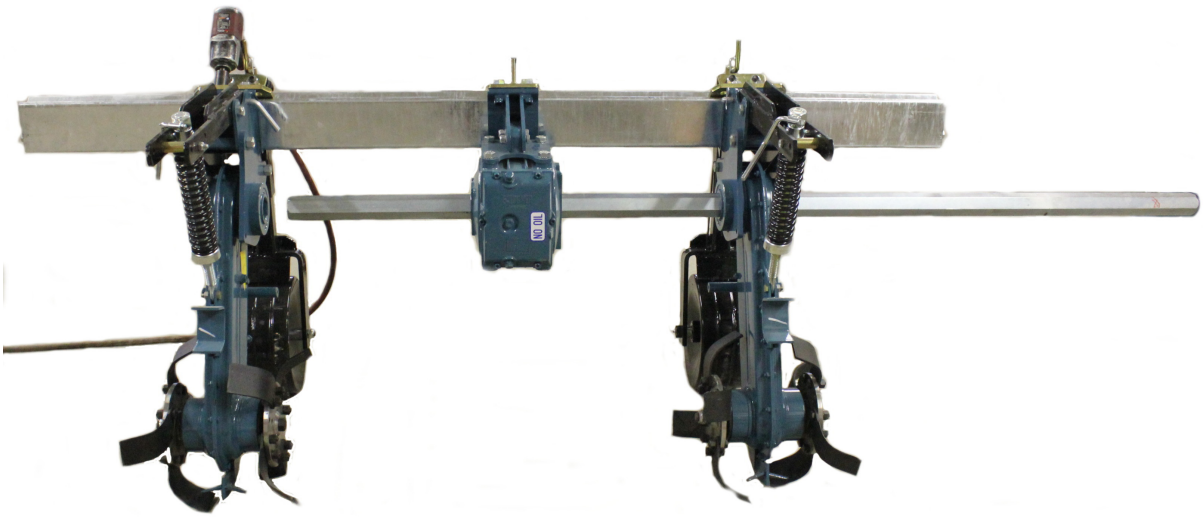
Attach the heads on the back side of the tool bar at the locations that have been marked. Note: the clamp plate for your head may look different than the 5-hole clamp plate shown in the picture. Remove the clamp plate from the head, bring the head up from underneath the bar, attach the clamp plate and secure the nuts tightly using an impact wrench.

Attach the wheels to the front of the tool bar. The wheels may be located directly behind the tractor tires. They may be located in other positions as well. Some units are set up with the wheels directly in front of the outboard tillage heads. For wide machines this may not be practical. If you are working in raised beds, the wheels will typically be located in a furrow row. There is no right or wrong position for the gauge wheels!

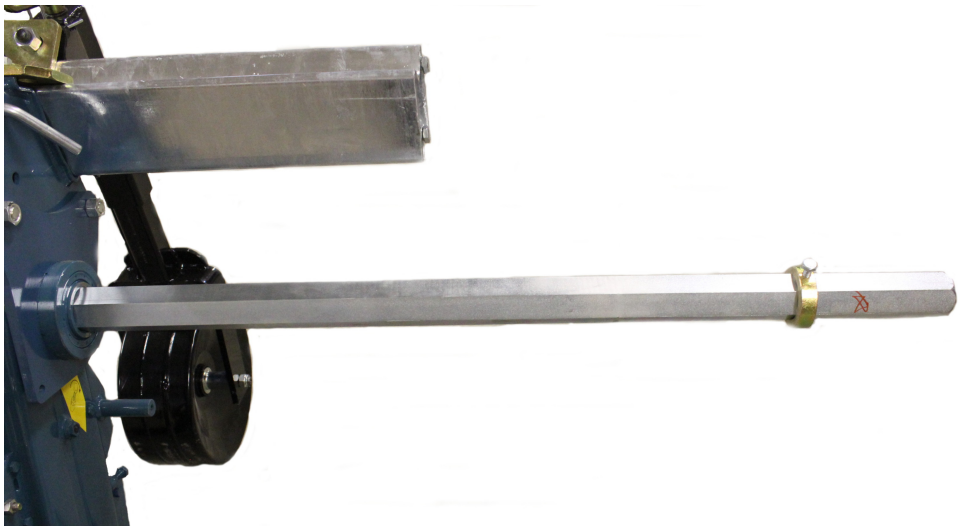
8. Once you have the heads and the wheels mounted on the tool bar the Multivator will stand up resting on the wheels and the blades. At this point you can attach the gearbox to the tool bar. The gearbox clamp plate is T-shaped to allow for attachment of the third point linkage arm. If the gearbox is to be located in the center of the tool bar, use the T-clamp plate to attach the gearbox. If the gearbox is offset to the left or right of a centrally mounted head, swap the T-clamp plate with the flat clamp plate of the center head.

It helps to have an additional pair of hands to hold the elements in place while another person operates the impact gun. NOTE: once you attach the gearbox to the tool bar, you MUST leave the horizontal gearbox mounting bracket bolts loose. Do not tighten these bolts until after installing the hex bar! This allows the gearbox to float to the correct position and not bend the hex bar.

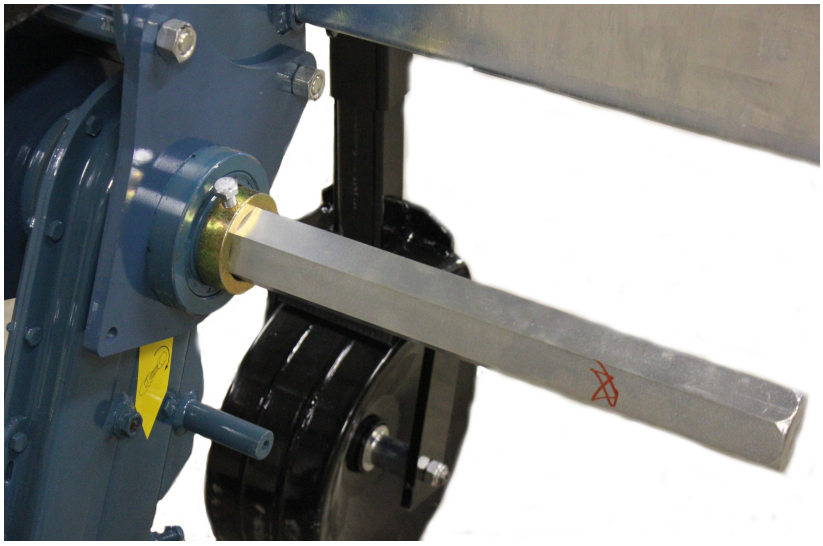
9. Now it is time to install the hexagonal drive shaft through the hexagonal bore sprockets in the heads, and through the hexagonal bore sleeve in the gearbox. This step will be the most challenging part of the assembly. The more elements you have, the more challenging it will be to push the hex bar through all of the elements. Our advice is to firmly block one side of the machine against a very solid object. You can then use a tractor or fork lift to push the bar through carefully. Make sure you do not hammer on the end of the bar directly as it will mushroom out. Remember to let the gearbox float to the correct position so that the hex shaft is not in a bind.



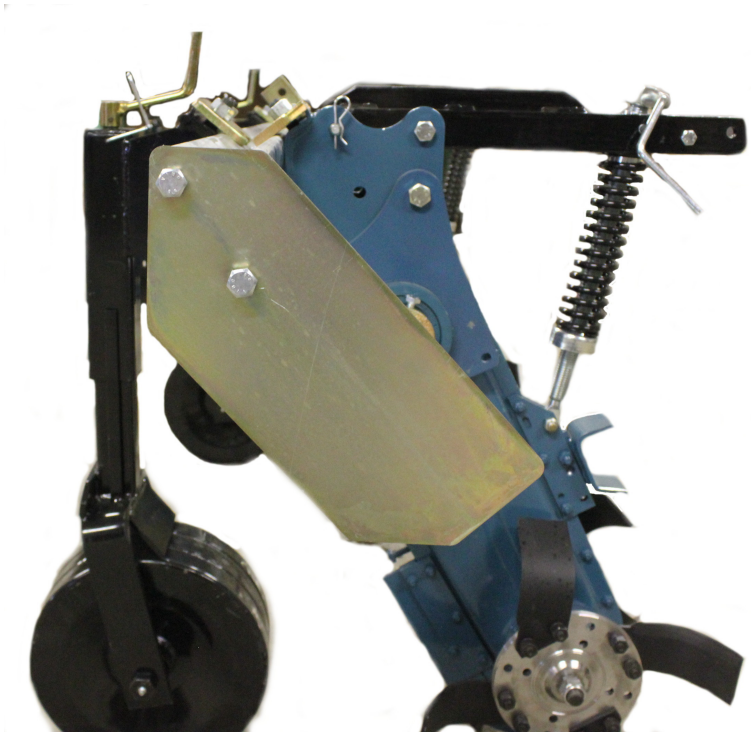
10. One helpful hint before installing the hex shaft is to install one of the outboard locking collars on the hex shaft before pushing the hex shaft through the elements. This will ensure that the locking collar is in place in case you manage to deform the end of the hex bar by pounding on it!



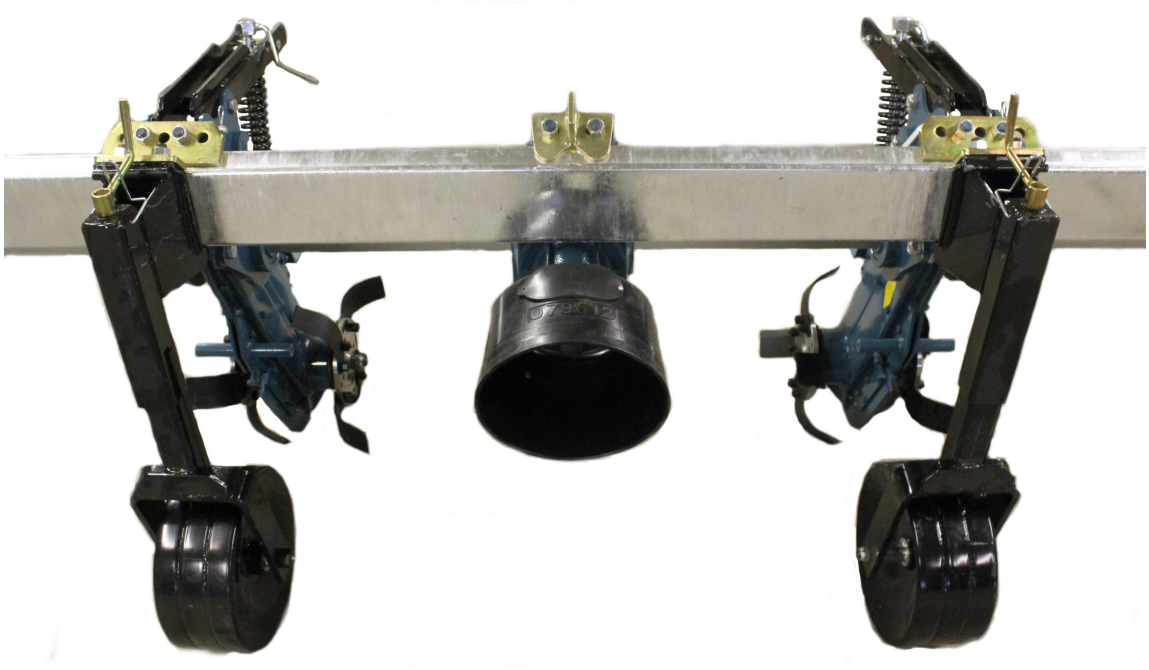
11. Once the hex drive shaft is through all of the elements and centered with the tool bar, install the hex locking collars on either side of the outboard heads. The locking collars will help prevent the hex bar from walking to the left or right during operation. Tighten the set screw in the collar firmly against the hex shaft.



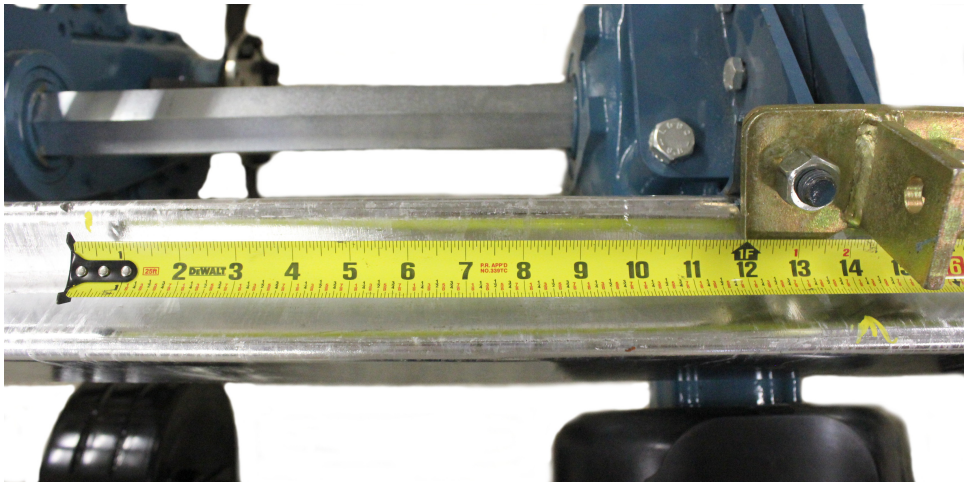
12. Install the guard plates at each end of the tool bar. If the hex bar is centered correctly there should be adequate clearance between the end guard and the hex bar.



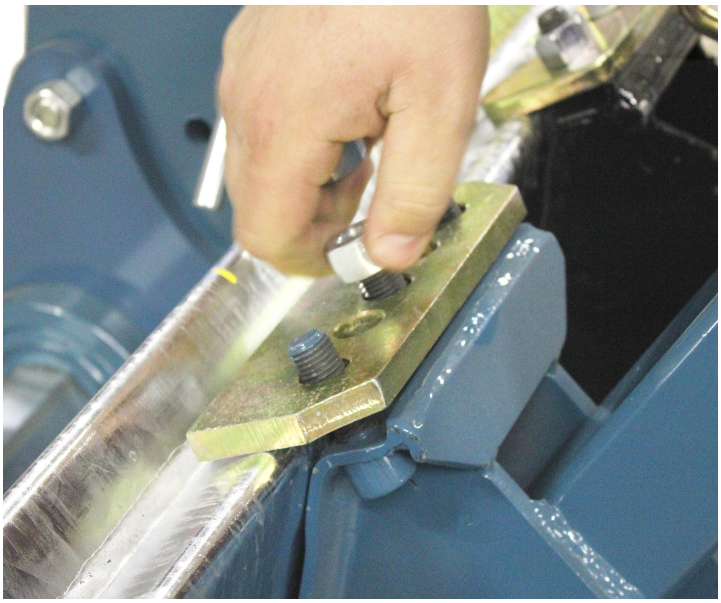
13. Install the PTO shaft cover to the front of the gearbox. At this point your machine should look something like the picture below. The next step is to install the three point hitch.



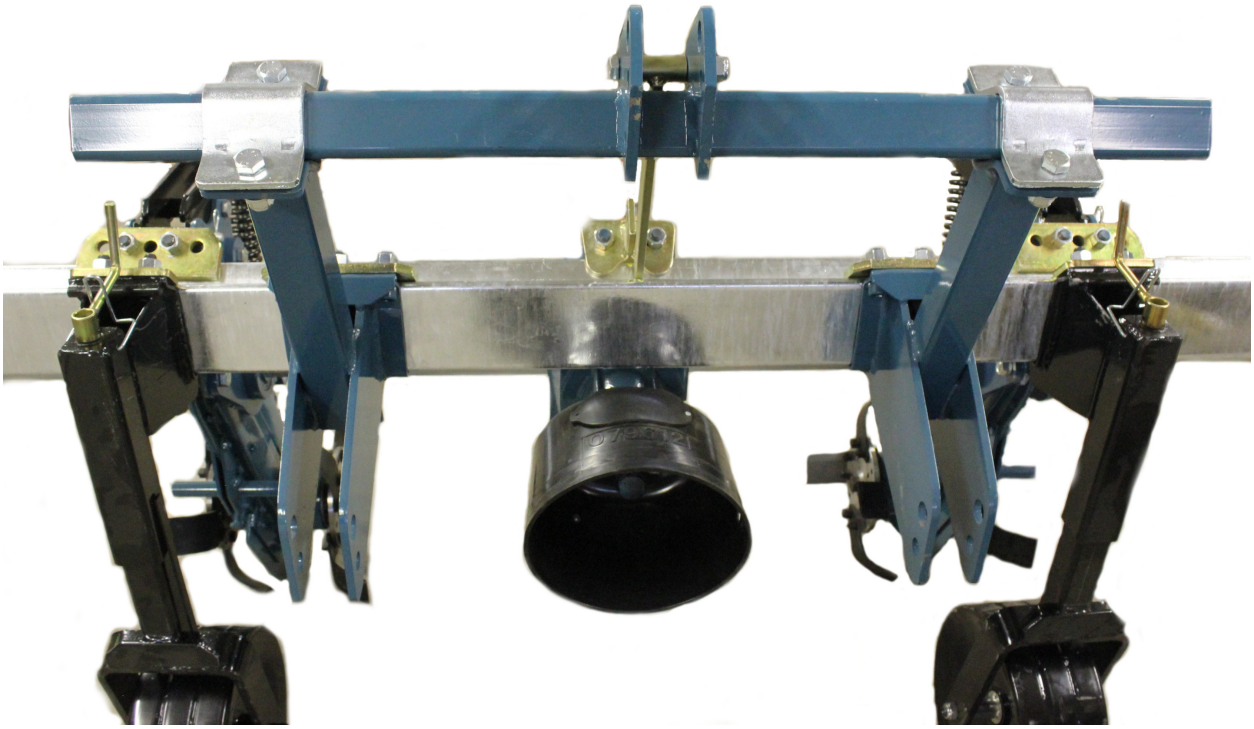
14. The three point hitch varies depending on the width of the frame. In this example the three point hitch is made up of two upright members and a top tube. Your three point hitch may be an A-frame style, or a wider version of the hitch shown in these instructions. In this example we are going to install the three point hitch uprights at 28” on center to accommodate a Cat 1 tractor hitch. Start by measuring 14” out from the centerline and mark the tool bar. Attach one upright at each point.



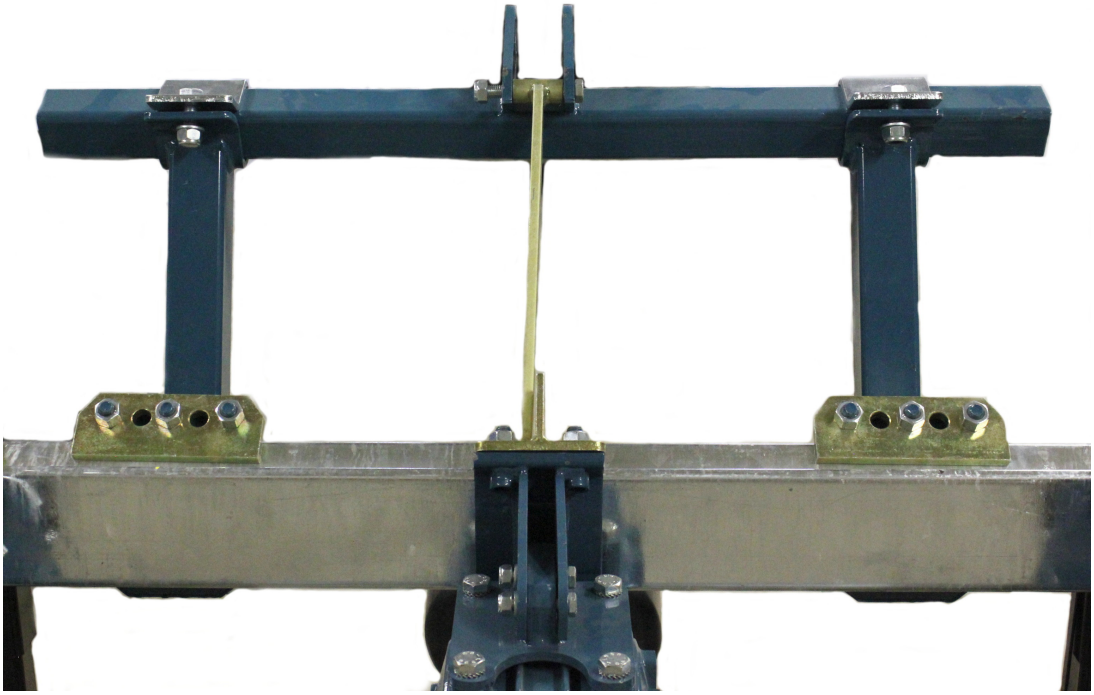
Hitch brackets are secured with clamp plates and hex nuts. Note that the tool bar design allows for elements to be moved on the tool bar as needed and front side and back side elements can slide past each other.



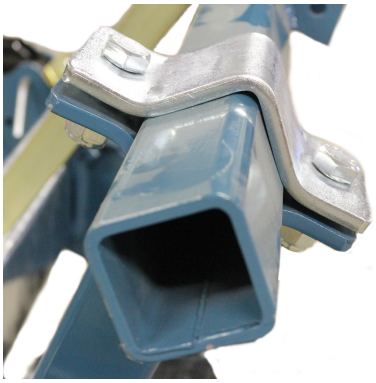
15. The completed three point hitch will resemble the picture below. The top tube has been installed and secured with clamp plates. The last step in assembling the three point hitch is to insert the square plastic caps into the top tube.



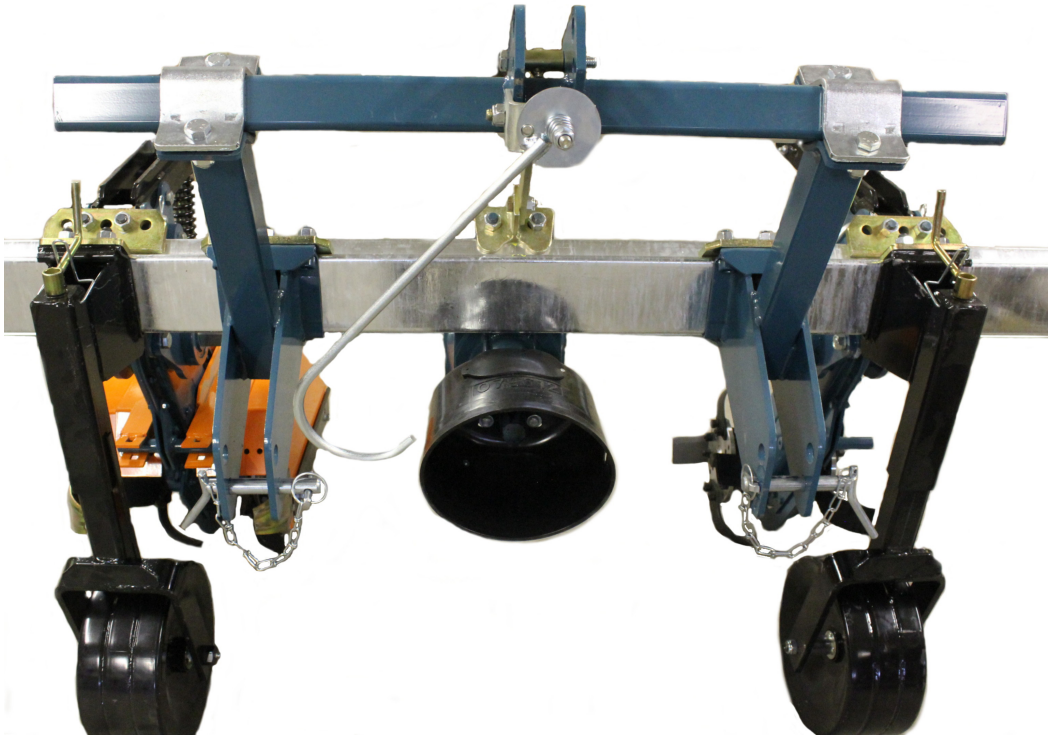
16. The rear view of the three point hitch (below) shows how the top hitch linkage bar is installed. In this example the linkage bar is attached to the gearbox which is the center element. In many cases a tillage head will be the center element, and the linkage bar will be attached to the tillage head, instead of the gearbox.



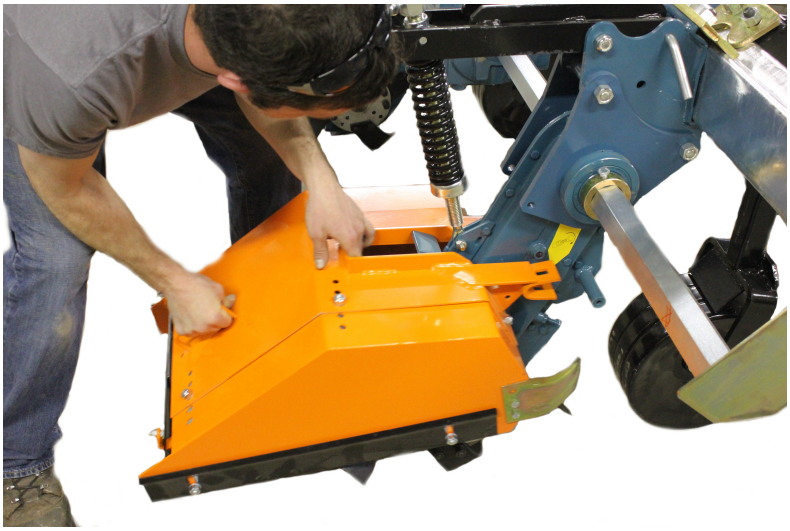
The pictures below show a close up view of the top tube clamping plates, and the plastic end cap installed in the top tube.



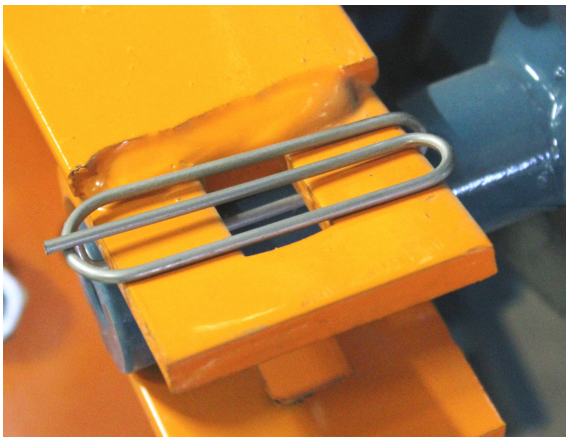
17. The final steps with the three point hitch are installing the PTO shaft storage hook, and the lower hitch pins (we do not supply a top link hitch pin). The PTO shaft hook is optional but can be useful to hold up the PTO shaft when the machine is not in use.

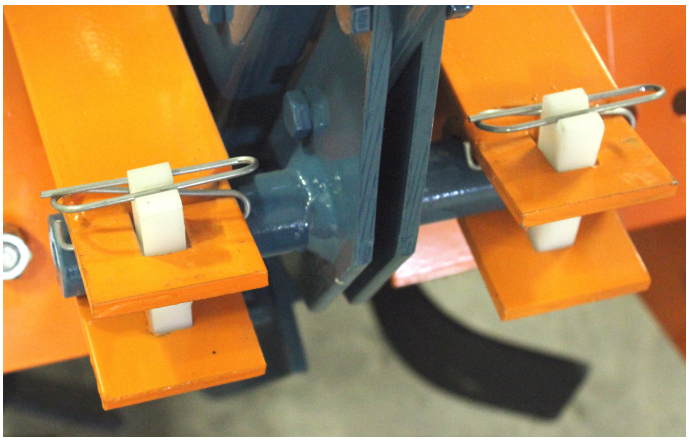


18. Assemble the shielding to the desired width. The shielding comes in three sections - a center section, a right hand side, and a left hand side. It is easier to bolt the shielding together before attaching it to the tillage head. When the shielding is assembled, hook the front shield hooks over the rod shaped bracket on the front of tillage head, and slide the rear of the shielding into the U-shaped support on the rear of the tillage head.



19. Insert the wedge pins and clips into the square holes in the front edge of the shielding.





20. Before using your Multivator make sure that the central gearbox is filled to the correct level with 90 weight gear oil. The center plug is the level plug, the top plug is the fill plug, and the bottom plug is the drain plug.

21. Final steps include attaching the decals. The pictures below show placement of the various decals.

Caution decal is placed on the tool bar directly above the input shaft

Model designation and small Multivator decals are placed on the end guard flaps.

Guage wheel height adjustment decal is placed on the leading edge of the gauge wheel assembly

Serial number tag is usually placed on the three point hitch arm.

The final touch is to attach the large Multivator decals to each tillage head. Please contact us with any questions you might have during assembly.