

Hillside Cultivator Co. LLC

Operators Manual

Blueberry Model

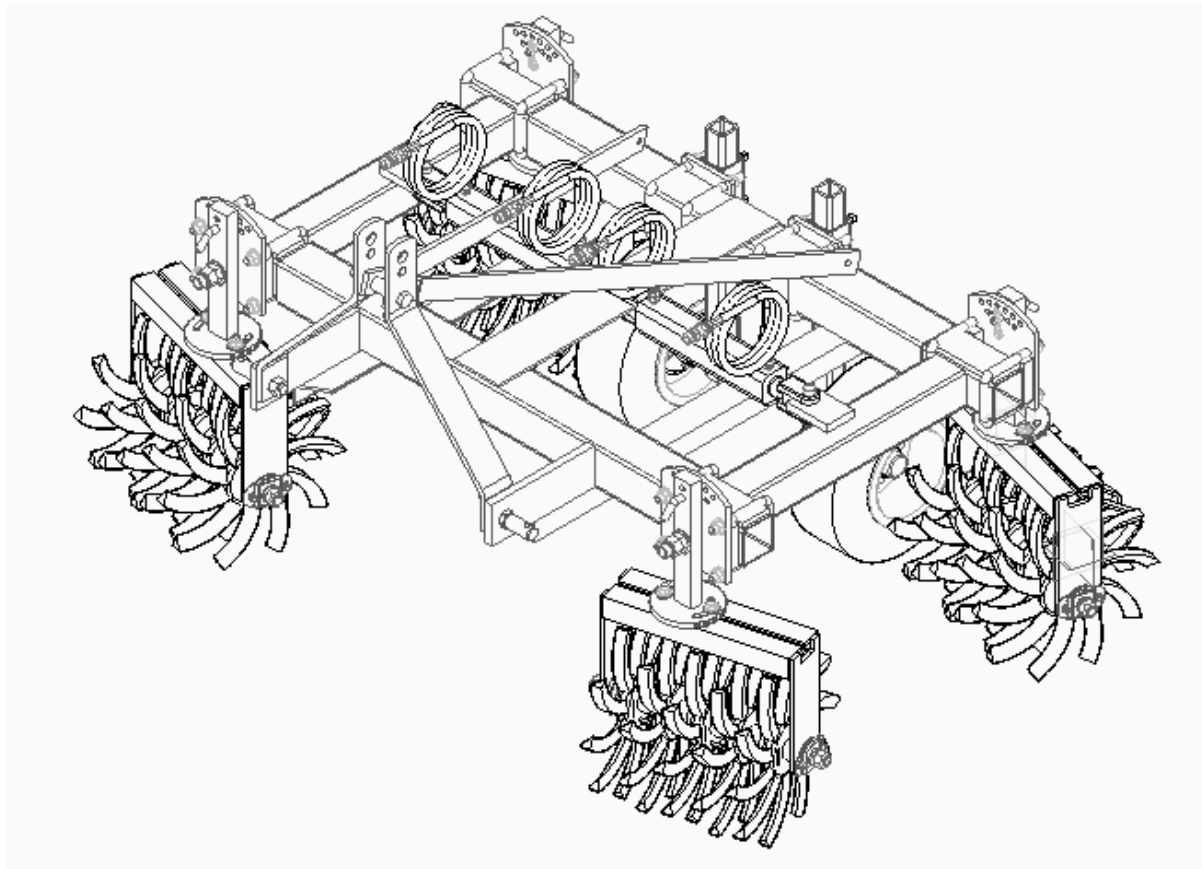


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Safety

Read the entire manual before unpacking or operating the cultivator.

- Always follow any requirements or recommendations in the tractor's operator manual to which the cultivator is attached.
- Keep all persons a safe distance from the cultivator when operating. Do not allow riders.
- Stop tractor and relieve any hydraulic pressure before working on cultivator.
- Regularly check the cultivator for damaged or excessively worn parts.

Warning: Be aware of areas where fingers, hands, and feet could be pinched, crushed or cut.

- Always wear appropriate gloves when making any adjustments or handling spider and disc gangs.
- When handling spider or disc gangs, keep fingers out of areas where they could be pinched against the yoke or scrapers.
- Make sure the cultivator is properly mounted to the tractor and safely supported before making any adjustments.
- Keep feet and all other body parts out from under the cultivator when the cultivator is off the ground.
- Never put arms or legs between the sliding sub-frame and the main frame if there is power to the hydraulic cylinders or any other potential for the sub-frame to move.
- Never put fingers in cylinder mounting holes when attaching cylinders or any other time.

Warning: Hydraulic fluid under pressure can be hazardous.

- Never touch leaks or test for leaks with hands.
- Relieve all pressure before loosening connections or performing maintenance.
- Regularly check hoses, fittings, and cylinders for damage. Replace any damaged parts.

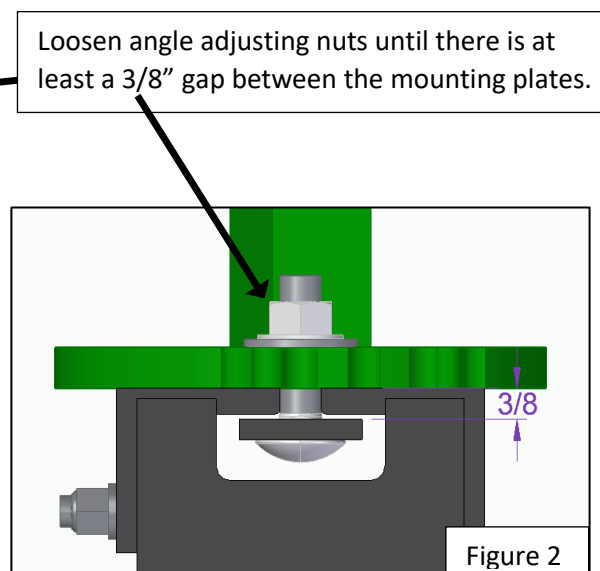
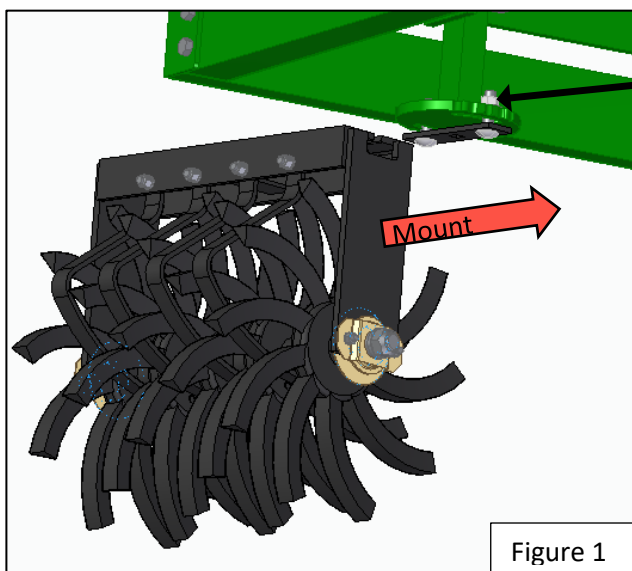
Unpacking a Shipped Cultivator

If the cultivator has been shipped by truck, it will arrive with the spider gangs and/or disk gangs disconnected from their mounting plates and placed inside of the frame on a pallet.

- Cut off any plastic wrap and banding securing the cultivator.
- Wearing gloves carefully remove the gangs from the pallet.
- Be attentive to keep fingers out of tight spaces where they could be pinched.
- Handle the gangs either by the ends of the axle or to pick them up by the spider itself.
- Lift the frame from the pallet by attaching it to the three point hitch of the tractor.

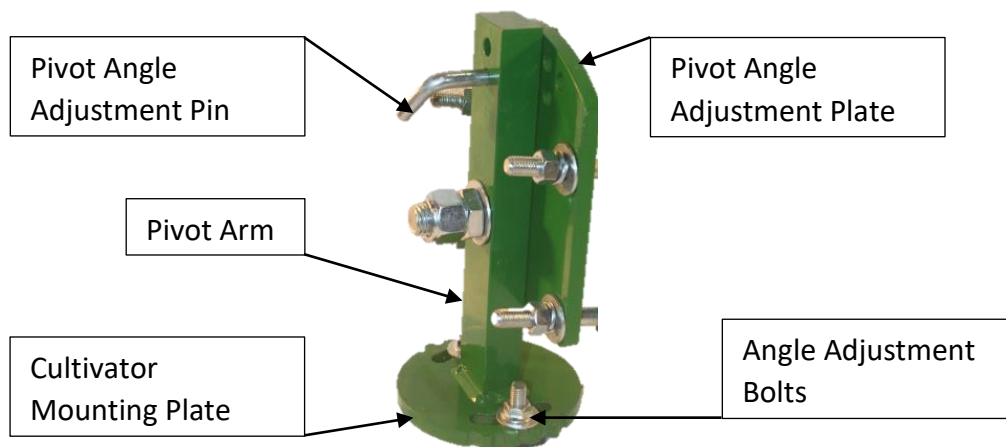
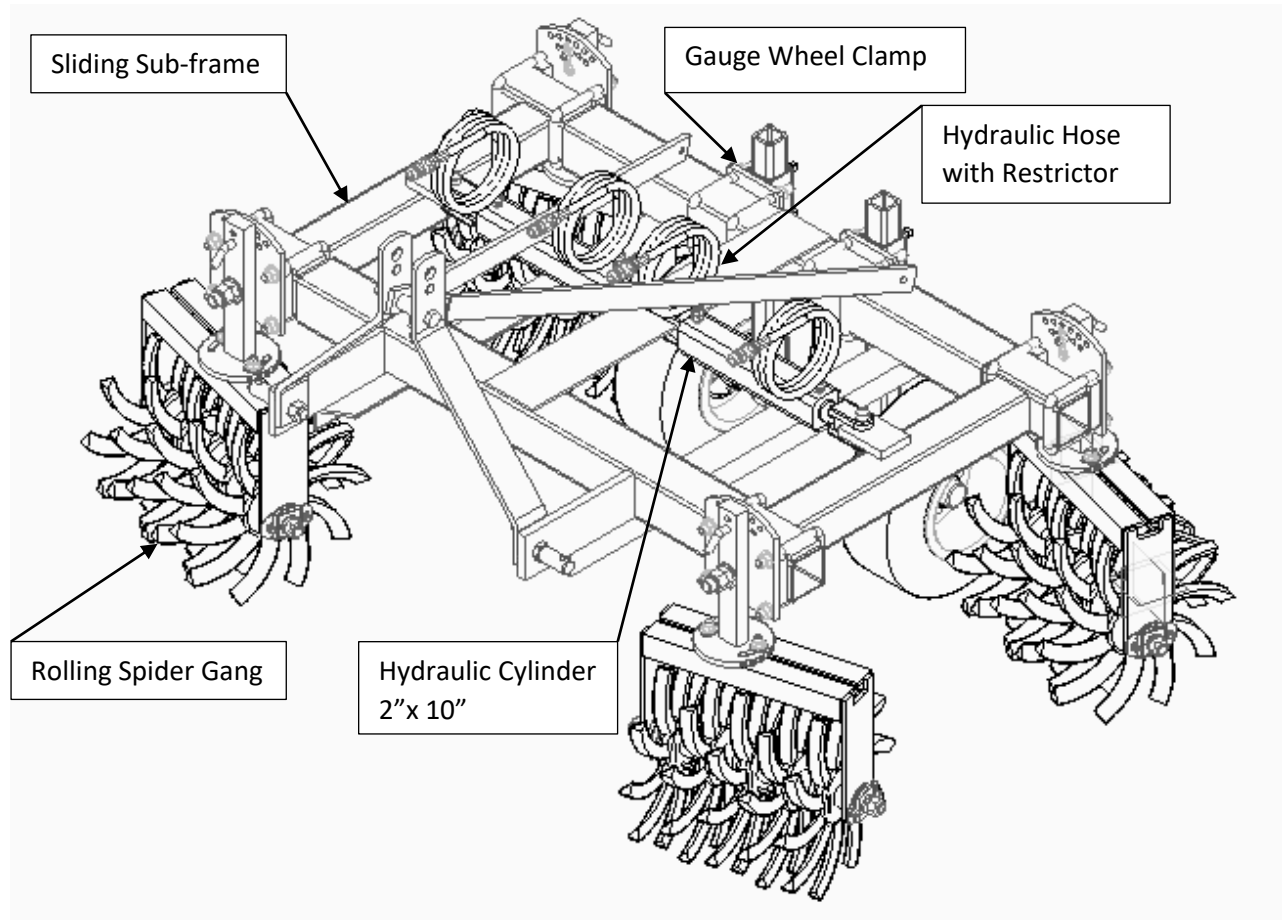
Mounting Spider and Disc Gangs

- Gangs are numbered 1 or 2. The typical placement of gangs is shown on a sticker located on the back of the cultivator frame.
- Lift the cultivator off the ground using the three point hitch on the tractor.
- Loosen the angle adjustment nuts shown in Figure 2.
- Slide the appropriately numbered gang onto the mounting plate (Figure 1).
- Retighten angle adjustment nuts. (Note: there is a weld bead on the bottom of the pivot arm that must be positioned in the slot of the gang or the gang will not mount tight to the pivot arm.)



Cultivator Parts and Description

The Terminology used in the diagrams below will be used throughout the manual to identify parts and describe setup and adjustment.



Using Rolling Spider Cultivators

- Rolling spider cultivators are ground driven.
- Cultivators move through the soil at an adjustable angle in relationship to the direction of travel.
- The spider gangs operate as a pair, consisting of a right and a left gang.
- Designated by a sticker on the yoke labeled either 1 or 2 the label identifies which direction a gang may be angled.
- Gangs are always oriented with the scrapers towards the rear.

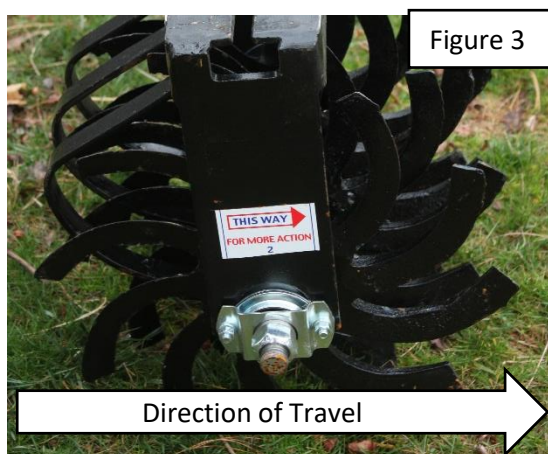


Figure 3

The number 2 label on the gang in Figure 3 illustrates that the near side of the yoke should be moved forward for more action.

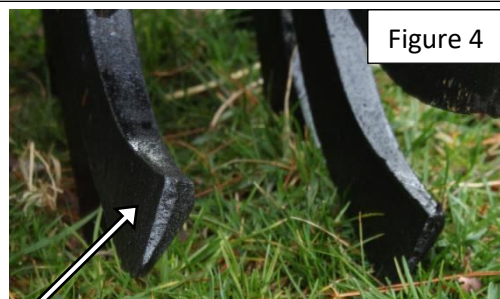


Figure 4

Figure 4 shows the profile of a single spider. The working face of the profile is the flat side shown by the arrow in the picture. The flat working face is analogous to the concave of a disc and should be leading into the soil.

Typical Setup

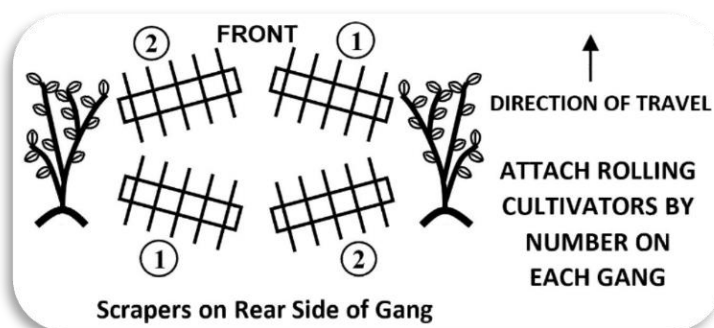
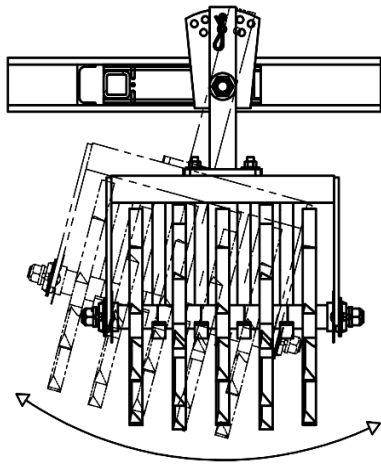


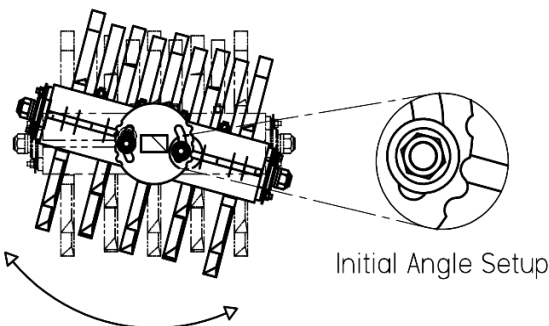
Figure 5

The typical setup for cultivating two edges uses gangs in the front moving soil away from plants and gangs in the rear moving soil towards plants. The diagram in figure 5 identifies where to place No. 1 and No. 2 gangs for this setup. Figure 5 also appears as a sticker on the frame.

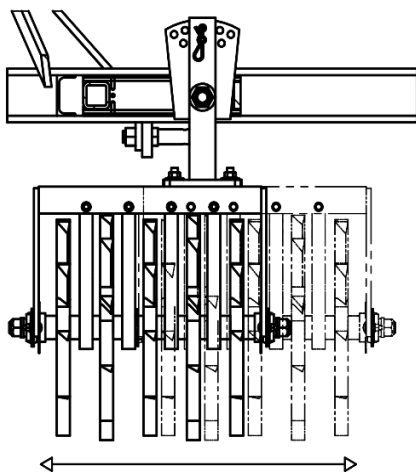
Adjustments



Adjusting Pitch of Gangs



Adjusting Angle of Gangs



Adjusting Gangs Laterally
on Pivot Arm

Pitch

Pitch is changed by pulling the angle adjustment pin and reinserting into another hole.

This adjustment is used to match the side of an existing bed or ridge.

Pitch is also useful when using the cultivator to create a ridge.

Angle

Adjusting the angle of a gang affects how aggressively it cultivates and moves soil.

Loosen the angle adjustment nuts and rotate the gang to the desired angle.

Use the indexing cutouts on the cultivator attachment plate to match the angle of other gangs.

For a good starting point align the slot in the top of the gang with the first semicircle cutout (15 deg. off center).

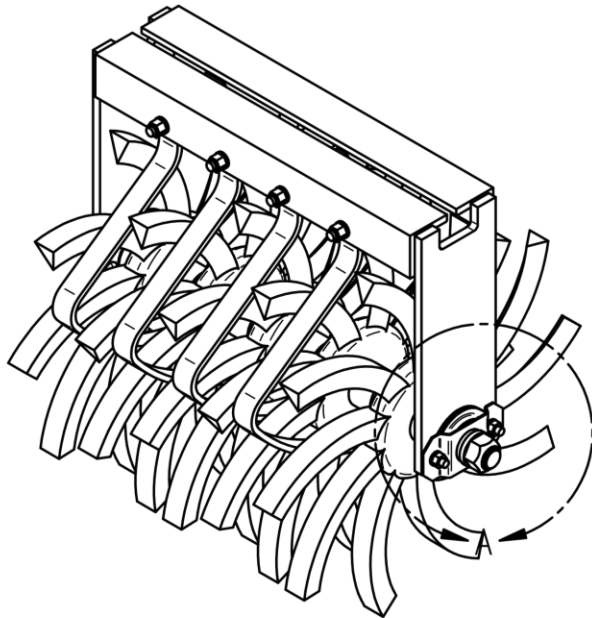
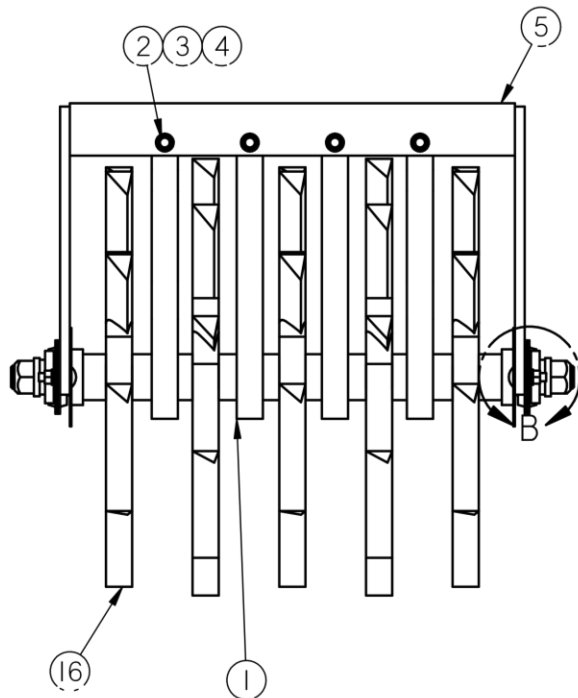
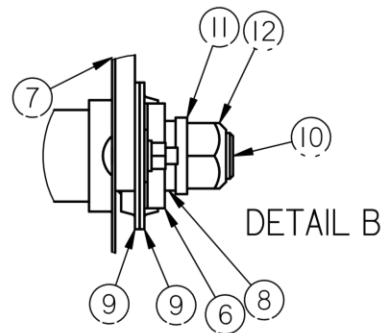
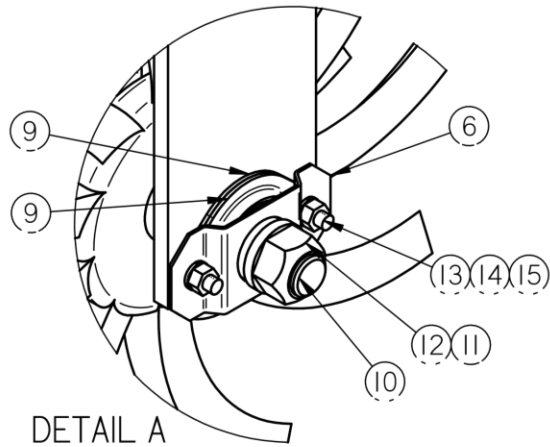
Lateral

Adjust by loosening the angle adjustment nuts and sliding the gang right or left.

We recommend setting the rear gangs a couple inches closer than the front gangs.

Spider Gang Replacement Parts

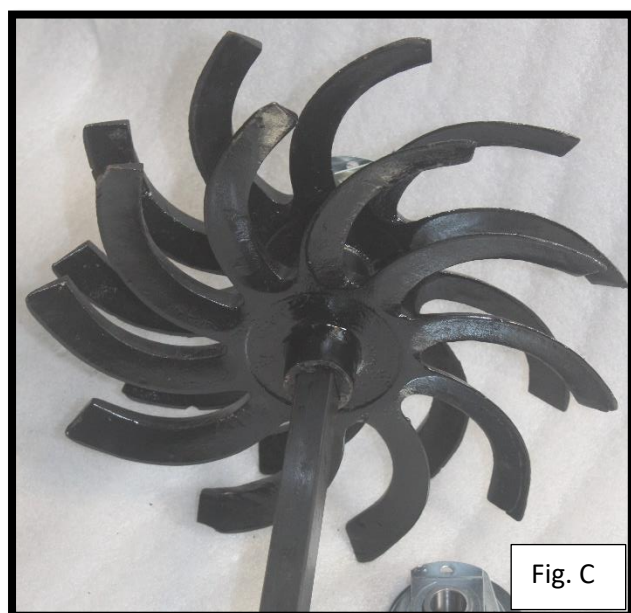
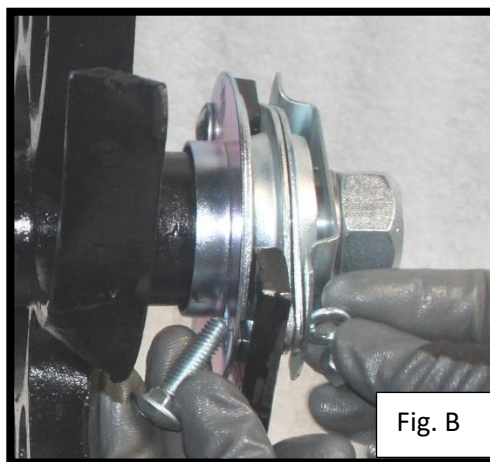
Item Number	Description	Quantity
1	Scraper Spider Gang	4
2	Carriage Bolt 3/8" x 1-1/4" Lg	4
3	Lock Washer 3/8"	4
4	Nylon Lock Nut 3/8"	4
5	Weld - Yoke 17"	1
6	Outer Bearing Shield	2
7	Cultivator Inner Brg Shield	2
8	Fafnir Bearing 205PPB7	2
9	Single 52 MST Flange	4
10	Axle 5-Spider Gang	1
11	Lock Washer 3/8"	2
12	Steel Lock Nut 7/8"	2
13	Carriage Bolt 5/16" x 1-1/4" Lg	4
14	Lock Washer 5/16"	4
15	Hex Nut 5/16"	4
16	Single Spider 16" No. 2	5



Item 16: Single Spider 16" can be ordered as a No. 1 or No. 2.

Disassembling a Spider Gang

1. Unbolt and remove scrapers.
2. Loosen Axle nuts but leave them on the axle. A piece of 2x4 can be placed between the yoke and spiders to prevent the gang from turning. (Fig. A)
3. Remove carriage bolts holding the bearing flanges to the yoke.
4. Lift the axle out of the yoke. Remove the axle nuts and replace parts.
5. When replacing spiders, make sure each spider wheel is placed on the shaft so that the tines are out of phase with the adjacent wheel. (Fig. C)
6. Pay close attention to the order of flanges at the bearings and then put on the axle nut loose. (Fig. B)
7. Make sure the axle is placed in the yoke such that the orientation of the spiders relative to the scrapers will be as shown in Fig. D. The bearing flanges mount to the outside of the yoke as seen in Fig B.
8. Reinstall the carriage bolts holding the bearings but tighten the axle nuts before making the carriage bolts tight.
9. Bolt on the scrapers. Scrapers can be adjusted with a prybar to where they do not rub the spiders.



Setup Checklist

- ❑ Rolling cultivator gangs should always be mounted with scrapers towards the back of the cultivator.
- ❑ Check that no scrapers are rubbing on the spiders. Adjust as needed with a prybar. A rubbing scraper will make a screeching noise when running.
- ❑ Confirm gangs are located and angled correctly for their labels of #1 or #2.
 - #1 gangs should be angled to move soil from right to left viewed from the rear.
 - #2 gangs should be angled to move soil from left to right viewed from the rear.
- ❑ Gangs must be angled to achieve cultivating action. For a good starting point align the slot in the top of the gang with the first semicircle cutout 15 deg. off center. Increase angle as needed to uproot weeds or move soil.
- ❑ For most applications set the front gangs a couple inches farther from the row than the rear gangs.
- ❑ Adjust the tractor's top link so the rear gangs touch the ground first when the cultivator is lowered. Proper top link adjustment will prevent overloading and damaging the front cultivator gangs.
- ❑ Set the gauge wheel height. The ideal height will depend on the profile of the rows. Start with the wheels holding some of the cultivator's weight when the gangs are engaged in the soil. Raise the wheels as needed to get more aggressive soil movement and weed removal.
- ❑ When cultivating against the side of ridged rows, move the pitch adjustment pins in the array of holes to match the slope.