
AgriDryLLC.com
GRAIN SPREADERS & CONTROLLERS
AGRIDRY GRAIN SPREADER
INSTALLATION MANUAL
AgriDry
ROTATING GRAVITY GRAIN SPREADER
www.AgriDryLLC.com | 419-459-4399 | PO Box 336 Edon, OH

CONTENTS

PREPARING FOR SPREADER INSTALLATION

WEIGHT SPECIFICATIONS AND LIFTING DEVICE DETERMINATION

It is best and usually easiest if the spreader is installed while the bin is empty. That being said, you will need some kind of lifting device that has the capability to raise the spreader to the top of the grain bin. Several different devices can be used to lift the grain spreader depending on the model of spreader and site access, clearance and capabilities. The chart below shows the fully assembled weights of all different grain spreader models to help you match the correct device needed with the rated lifting specifications.

Spreader Model #	Approx. Weight (Pounds)
4-3000	138
8-3000	230
10-3000	319
12-3000	363
16-3000	491
4-5000	266
8-5000	360
10-5000	420
12-5000	454
16-5000	638
4-12000	271
8-12000	365
10-12000	425
12-12000	459
16-12000	643
16-2-10000	1,245
16-2-12000	1,250
16-2-20000	1,275
16-2-40000	2,750

FIGURE 1. HAND WINCH ON OPEN TOP BIN

FIGURE 2. WORM GEAR WINCH W/POWER DRILL

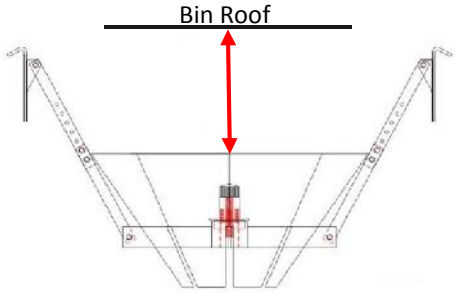
FIGURE 3. CRANE LIFT FOR COMMERCIAL SPREADER

REQUIREMENTS BEFORE GRAIN SPREADER INSTALLATION

- Must remove any existing grain spreader
- Must remove all fill spouting below roof cap (no more than 2” below roof cap)
- May need to remove fill transition, cushion box, dead head, cyclone, etc. above bin lid to give access for lifting device and spreader hanging capabilities
- May need to add inspection holes on the bin lid around the fill spouting to give access to hang the spreader and use for operation adjustments later
- May need to add extra support to hang double chute mega spreaders (16-2-10000, 16-2-12000, 16-2-20000, 16-2-40000). Refer to the chart on page 2 for weight specifications
- Responsibility of the customer to center the flow of grain into the spreader hopper by whatever means possible (fill spouting modifications, diverters, deflectors, etc.)
- Installing spreaders in empty Shivvers or Stirator bins, scaffolding will be needed to assemble the spreader above the Shivvers auger or Stirator

ADJUSTING THE CENTER SHAFT SUPPORT ARMS FOR PROPER HANGING DISTANCE

All AgriDry grain spreaders have adjustable support arms to allow proper clearance from the bin roof and structure to the top hopper of the spreader. All spreader support arms are adjusted to default lengths to reach the center cone for shipping purposes. You may want to measure the clearance under the roof on how the spreader will hang to adjust the support arms if needed. Figure 4 shows the area that needs clearance and the table to the right for the needed clearance for each series of spreaders. To reach the spreader adjustments on the leveling band and hopper tabs, the spreader needs to be installed as high in the bin as possible but low enough so it does not plug or backup the fill system.



Spreader Model Series	Minimum Clearance between bin roof/structure and top hopper
3000, 5000, 12000	9”
2-10000, 2-12000, 2-20000	12”
2-40000	18”

FIGURE 4. BIN ROOF AND HOPPER CLEARANCE

FIGURE 5. SPREADER SERIES 3000, 5000, 12000, 2-10000, 2-12000, & 2-20000 ADJUSTABLE ARMS

FIGURE 6. 2-40000 ADJUSTABLE ARMS

For large peak opening bins such as MFS bins, you will need to extend the support arms with longer support arms. AgriDry sells long lower hanger strap sets that are specifically made for bins with a peak opening larger than 48". The long lower hanger strap set replaces the lower support arms on the spreader and extends each arm approximately 10". Contact AgriDry to order these optional parts.

RAISING THE CENTER SHAFT ABOVE THE FLOOR

On the center shaft of the grain spreader, the support arms are rotated down and secured together for shipping purposes. Remove the shipping banding from the center shaft. Loosen the bolt where the support arm is attached to the bearing holder and rotate all four support arms 180° from shipping position to the upward hanging position. Retighten each of the bolts to hold the support arms in place. On any 2-40000 series spreader, you will want to place the arms at the exact dimension needed to mount the spreader and lock down all bolts on the support arms and eyebolts due to them being out of reach at the top of the bin. Set the steel hopper in place on the bearing holder **before** connecting the lift cable (see Figure 7). **Note: When installing the hopper, make sure the hopper slots where the bolts are located are NOT over any bearing holder arm. The slots are tighter where the hopper is bolted together which will not allow the hopper to sit all the way down on the bearing holder (see Figure 8). Some hoppers will have (4) notches cut out at the top of the hopper every 90° which will line up with the support arms.** Open the hopper tabs to the same diameter as the leveling band to prevent plugging during operation. If your spreader has any black tivar hopper insert, install it at this time inside the steel hopper that you just installed. Lower the cable on the lifting device through the top of the bin and connect to the bearing holder arms on the center shaft 180° from each other (see Figure 8). Lift the center shaft above the grain bin floor enough to attach the chutes to the center assembly. If the bottom of the center shaft is eye level (5-6' above the grain bin floor), it will be close to the correct distance off the floor to assemble all chutes and have it fully self-supported above the floor when complete. Refer to the next section "ASSEMBLING AND PREPPING CHUTES" if needed for your model of spreader. If you have any spreader models: 4-3000, 4-5000, 4-12000, 8-3000, 8-5000 or 8-12000, **NO** chute assembly required so refer to section "ENLARGING THE BACK BRACE SUPPORT HOLE" for continued installation.

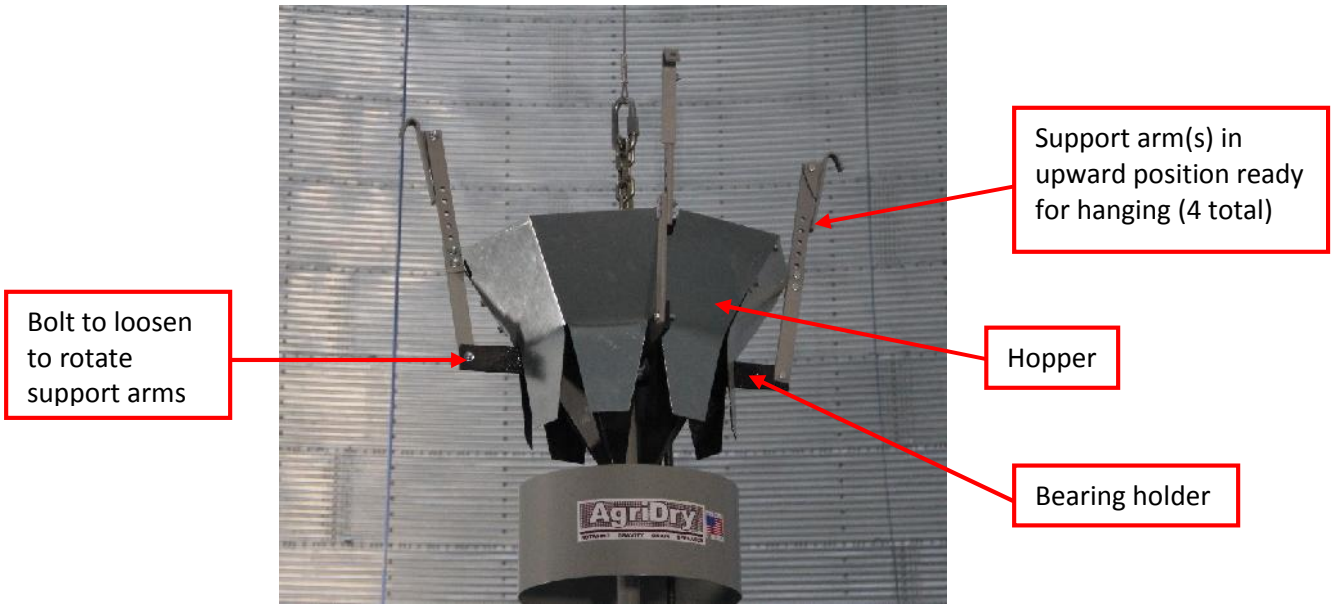


FIGURE 7. SUPPORT ARMS IN UPWARD POSITION AND HOPPER IN PLACE

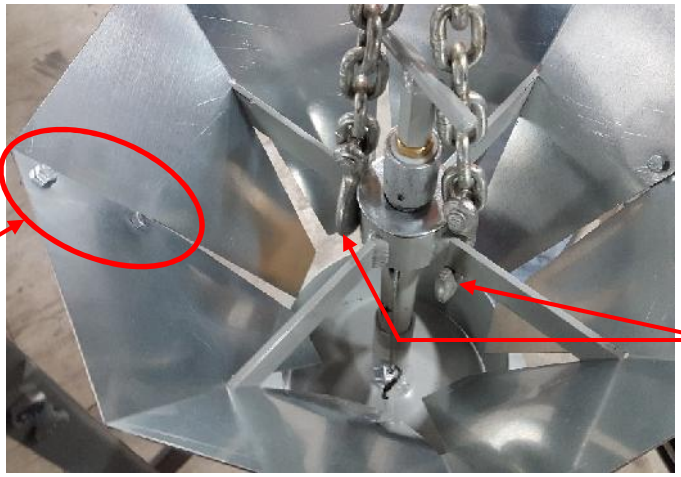


FIGURE 8. CHAINS FROM LIFTING DEVICE ATTACHED TO BEARING HOLDER

ASSEMBLING AND PREPPING CHUTES

CHUTE IDENTIFICATION AND PREPPING FOR ASSEMBLY

Depending on the model of spreader and what chutes they are, the chutes are shipped in bundles of 2, 4, or 8. Each bundle of chutes should have permanent label markings somewhere wrote on the chutes identifying them of the model of spreader and whether they are top or bottom chutes. Models 4-3000, 4-5000, 4-12000, 8-3000, 8-5000 and 8-12000 will just have the model number wrote on the chute bundles, no identification of top or bottom is necessary since they do not require chute assembly. The longest chutes manufactured are 8 feet long so if your model of spreader has longer than 8 foot chutes, top and bottom chutes will be sent and assembly will be required with the designated carriage bolts and nuts in the parts box. The top chutes will be identified by a "T" and bottom chutes will be identified with a "B" (see Figure 9). See the chart below to match what should be sent for you model of spreader.

FIGURE 9. MODEL NUMBER AND INDENTIFICATION OF TOP AND BOTTOM CHUTES

Spreader Model	Top Chutes	Bottom Chutes
4-3000,4-5000,4-12000	(8) Chutes – 4' Long	
8-3000,8-5000,8-12000	(8) Chutes – 8' Long	
10-3000,10-5000,10-12000	(8) Top Chutes – 8' Long	(8) Bottom Chutes – 2' Long
12-3000,12-5000,12-12000	(8) Top Chutes – 8' Long	(8) Bottom Chutes – 4' Long
16-3000,16-5000,16-12000	(8) Top Chutes – 8' Long	(8) Bottom Chutes – 8' Long
16-2-10000,16-2-12000, 16-2-20000	(16) Top Chutes – 8' Long w/4' Tivar Liner	(16) Bottom Chutes – 8' Long
16-2-40000	(16) Top Chutes – 8' Long w/8' Tivar Liner	(16) Bottom Chutes – 8' Long

CHUTE ASSEMBLY

Assembling top and bottom chutes works best if the chutes are supported off the floor or ground at a comfortable working height. Setup saw horses or something similar to support each chute and to keep them horizontal while assembling them together (see Figure 10). Keep the chutes as level as possible to help line up all connection points. Support the chutes so the backs of the chutes with back braces are facing in the upward position (see Figure 11). **Note: The bottom chutes of the 10-3000, 10-5000, 10-12000, 12-3000, 12-5000, and 12-12000 do not have any back brace on the chute, only the top chute has a back brace.**

FIGURE 10. TOP AND BOTTOM CHUTE SUPPORTED OFF THE GROUND

FIGURE 11. BOTTOMS OF THE CHUTES FACING UP

Place the connection ends of each chute together by overlapping them. The connection ends of the chutes have multiple square holes pre-punched on the bottoms and sides of the chutes like shown in Figure 12. Lift up the back brace on the top chute enough to slide the bottom chute under until all pre-punched holes line up with each other. The back braces on the top and bottom chute will butt up to each other, NOT overlap (see Figure 13).

FIGURE 12. BOTTOM CHUTE SLIDING UNDER TOP CHUTE BACK BRACE AT CONNECTION END

FIGURE 13. PRE-PUNCHED HOLES FULLY ALIGNED

Fill the holes with the carriage bolts and flange nuts supplied in the parts box. All spreaders will use the ¼" X ½" carriage bolts except the 16-2-40000, it will use 5/16" X ¾" carriage bolts that are supplied. Insert the carriage bolts so the heads of the bolts will be on the inside of the chutes where the grain flows and nuts on

the outside of the chutes (match to the other preinstalled carriage bolts). **Note: Make sure to fill the individual holes away from the connection ends that can be on each chute (see circled in Figure 13).** Tighten all the flange nuts with an impact to make secure. For spreaders 10-3000, 10-5000, 10-12000, 12-3000, 12-5000, 12-12000, skip to section "ENLARGING THE BACK BRACE SUPPORT HOLE". For all spreaders 16-3000, 16-5000, 16-12000, 16-2-10000, 16-2-12000, 16-2-20000, and 16-2-40000, refer to the next section "ATTACHING THE SPLICE BRACE".

ATTACHING THE SPLICE BRACE

The splice braces are only used on 16' long chutes. The parts box will have the 12" long splice braces to cover the connection joint to give it added strength and stability. Keep the entire chute straight and level while attaching the splice brace, this will allow the splice brace to fit tightly to the back braces. Ensure that there is equal coverage of the splice brace over the top and bottom chute. Use the supplied 14 X ¾" self-drilling screws to attach the splice brace to the back braces (see Figure 14). Use 4 screws on each side of the splice brace. Before removing the chute off the lift supports, refer to the next section "ENLARGING THE BACK BRACE SUPPORT HOLE".

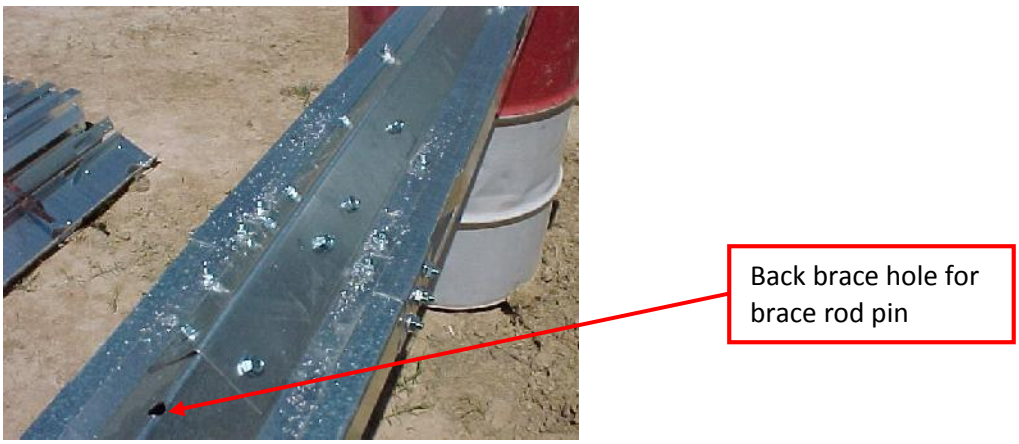


FIGURE 14. SPLICE BRACE ATTACHED WITH SELF-DRILLING SCREWS

ENLARGING THE BACK BRACE SUPPORT HOLE

The support hole on the back brace that the brace rod pin goes into will need enlarged on all models of spreaders (see example above on Figure 14). Use a punch to enlarge the hole slightly so the brace rod pin will slide in firmly. **Note: To ensure proper chute adjustment later, keep the hole as tight as possible to the brace rod pin. DO NOT drill out the hole, this will allow too much flexibility when trying to tilt the chutes and they will not hold their form.** The following spreader models will only have one hole in the back brace: 4-3000, 4-5000, 4-12000, and 16-2-40000. All other models of spreaders including 8-3000, 8-5000, 8-12000, 10-3000, 10-5000, 10-12000, 12-3000, 12-5000, 12-12000, 16-3000, 16-5000, 16-12000, 16-2-10000, 16-2-12000, and 16-2-20000 will have multiple holes in the back brace that you will have to determine which one to enlarge. Use Figure 15 to determine what hole is correct for your model of spreader.

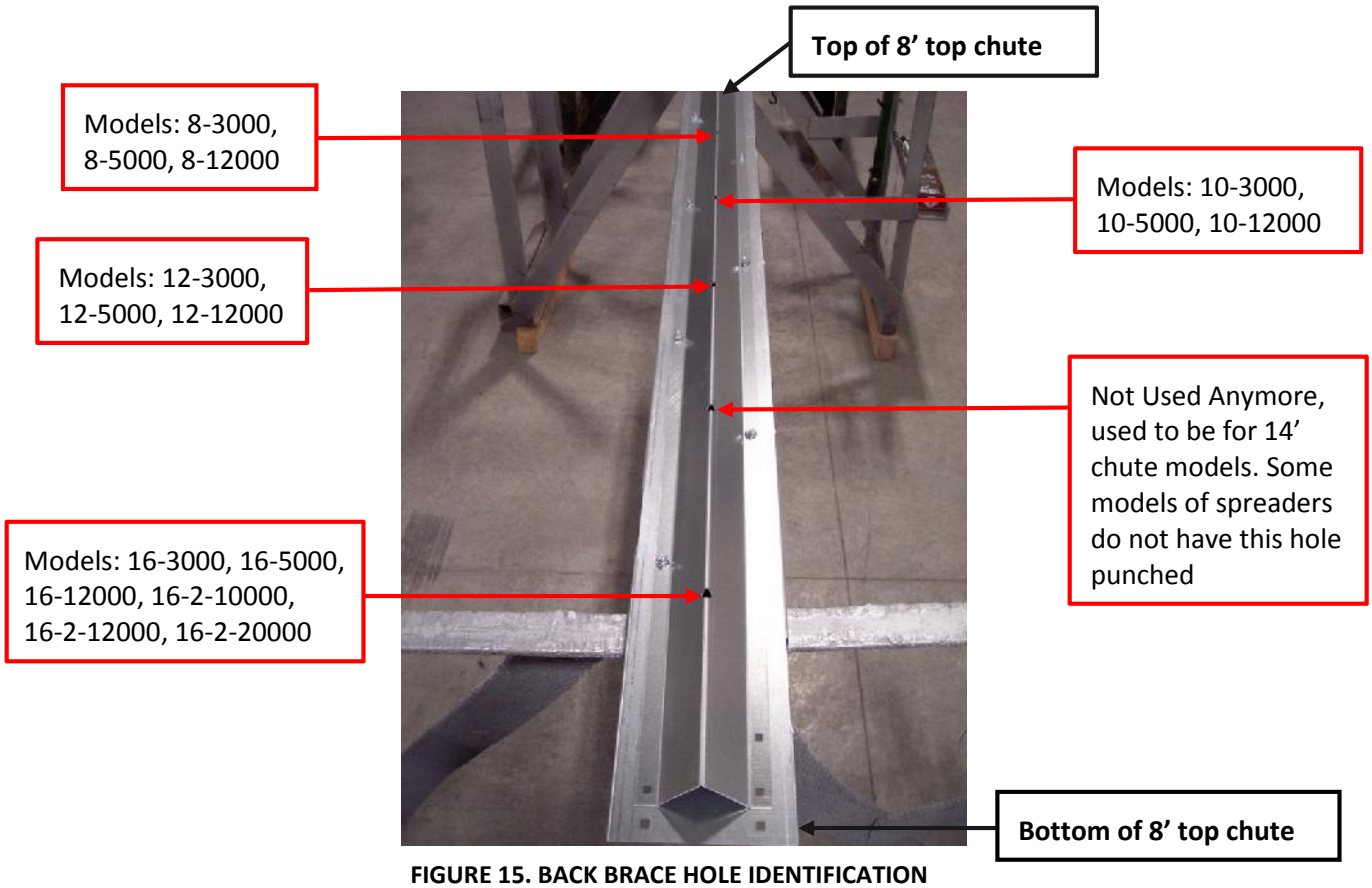


FIGURE 15. BACK BRACE HOLE IDENTIFICATION

ASSEMBLING CHUTES TO THE CENTER SHAFT

MODELS 4-3000, 4-5000, 4-12000, 8-3000, 8-5000, 8-12000, 16-3000, 16-5000, 16-12000

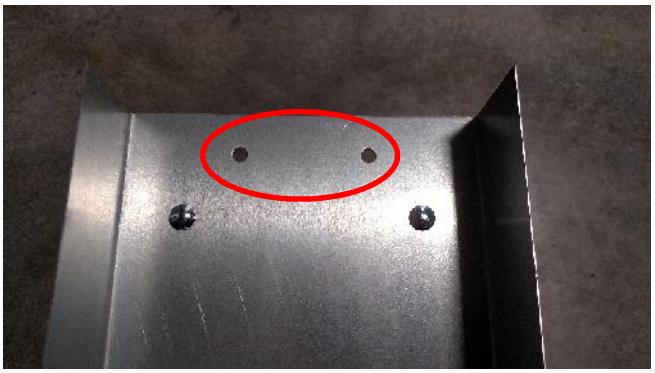


FIGURE 16. MOUNTING HOLES FOR CENTER SHAFT HINGE

On all of these models of spreaders, all the chutes can be attached to the center shaft first and then all the brace rods can be installed after. You may need a step ladder beside the center shaft to reach the mounting hinges for assembly of the chutes. Starting on any side, lift the top of the chute up to the hinge (the top of the chute is the end that has two round holes, see Figure 16). Lay the chute on top of the hinge but under the cone if needed so there is a step down transition from the cone to the chute (see Figure 17). On all models ending in 3000, use the ¼" X ½" hex bolts and flange nuts supplied in the parts box. For all models ending in 5000 or 12000, use the 5/16" X ¾" hex bolts and flange nuts supplied. Insert the bolts from the top so the flange nuts are under the hinge (see Figure 18). Tighten both bolts with an impact and leave the bottom end

of the chute laying on the grain bin floor. Move to the opposite side 180° from the first chute and repeat the above steps to help balance the spreader weight. Add the third chute beside the second chute that was added and then add the fourth chute 180° from the third chute. Continue this process until all chutes are attached to the center shaft.

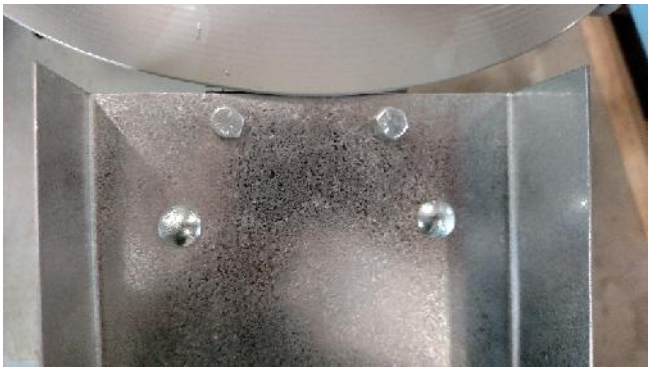


FIGURE 17. CHUTE ON TOP OF HINGE AND UNDER CONE

FIGURE 18. HINGE AND FLANGE NUTS

Before attaching any brace rods to the chutes, loosen the locking bolt on the spider so it allows alignment of the brace rods to the spider tabs. Make sure the locking bolts on both of the shaft collars are tight (see Figure 19). The spider and shaft collars should stay at the bottom of the center shaft pipe, this will allow the angle of the chutes to be approximately 30°. **Note: You will need a steeper chute angle for high temperature drying bins or high moisture grain, refer to section "ADJUSTING THE CHUTE ANGLE" for instructions.**

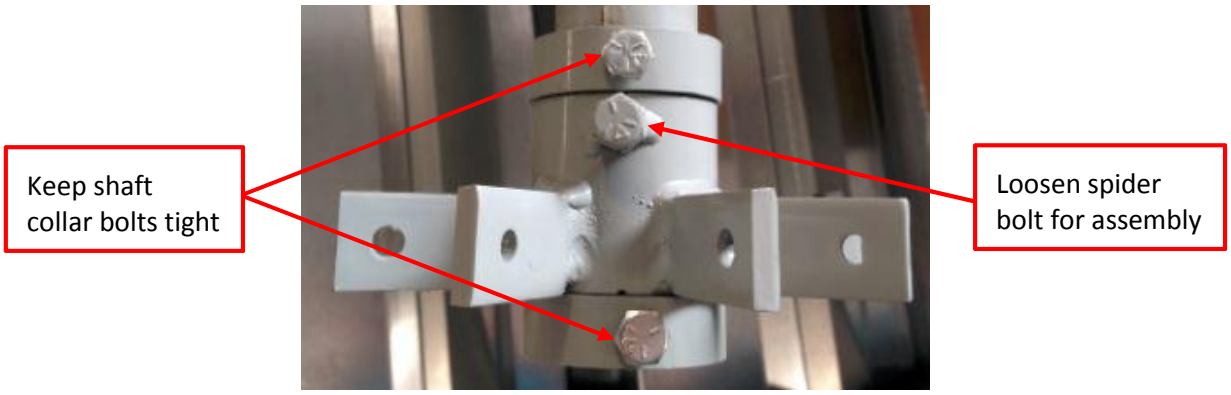


FIGURE 19. SHAFT COLLARS AND SPIDER ASSEMBLY

Starting with any chute, fully insert the brace rod pin into the back brace hole that you enlarged as shown in Figure 20. Pick up the chute with the brace rod and bring the other end of the brace rod to the spider and attach to one of the spider tabs using the ¼"x 1" bolt and flange nut supplied in the parts box (see Figure 21). Tighten down the bolt with an impact or wrench and allow the weight of the chute to be supported fully by the brace rod. Move to the opposite side of the spreader and install the brace rod to the chute 180° from the first one. Continue to assemble brace rods across from each other to help balance the weight of the spreader until all eight are installed. Tighten the locking bolt on the spider after tightening all brace rod bolts.

FIGURE 20. BRACE ROD PIN ASSEMBLED INTO BACK BRACE

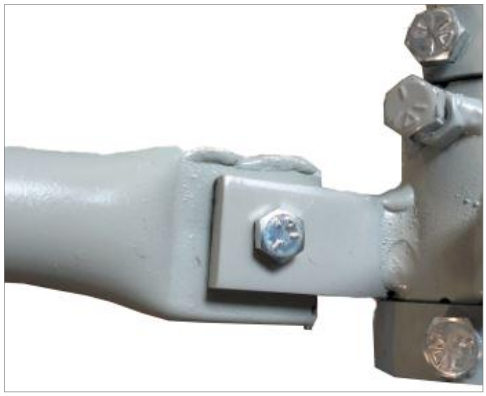


FIGURE 21. BRACE ROD CONNECTED TO SPIDER

MODELS 10-3000, 10-5000, 10-12000, 12-3000, 12-5000, 12-12000

Due to no back brace on the bottom chutes of all of these models of spreaders, you will need to help support each chute until each brace rod is installed to prevent the bottom tab cutouts from bending. You may need a step ladder beside the center shaft to reach the mounting hinges for assembly of the chutes. Begin prepping the center shaft by loosening the locking bolt on the spider so it will allow alignment of the brace rods to the spider tabs. Make sure the locking bolts on both of the shaft collars are tight (see Figure 22). The spider and shaft collars should stay at the bottom of the center shaft pipe, this will allow the angle of the chutes to be approximately 30°. **Note: You will need a steeper chute angle for high temperature drying bins or high moisture grain, refer to section "ADJUSTING THE CHUTE ANGLE" for instructions.**

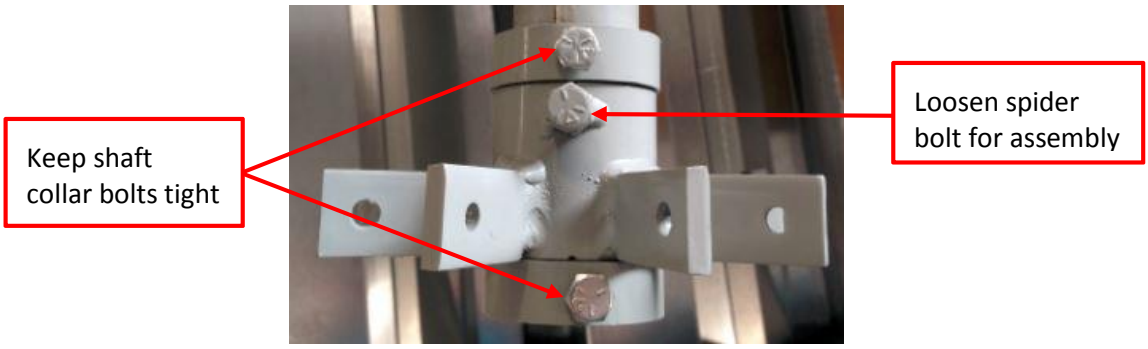


FIGURE 22. SHAFT COLLARS AND SPIDER ASSEMBLY

Starting on any side, lift the top of the chute up to the hinge (the top of the chute is the end that has two round holes, see Figure 23). Lay the chute on top of the hinge but under the cone if needed so there is a step down transition from the cone to the chute. On all models ending in 3000, use the ¼" X ½" hex bolts and flange nuts supplied in the parts box. For all models ending in 5000 or 12000, use the 5/16" X ¾" hex bolts and flange nuts supplied. Insert the bolts from the top so the flange nuts are under the hinge (see Figure 24).

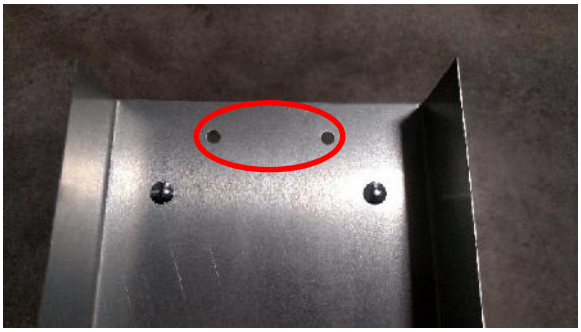


FIGURE 23. MOUNTING HOLES FOR CENTER SHAFT HINGE

Tighten both bolts with an impact and continue holding up the bottom of the chute. Fully insert the brace rod pin into the back brace hole that you enlarged as shown in Figure 25. Rotate the other end of the brace rod up to the spider and attach to one of the spider tabs using the ¼"x 1" bolt and flange nut supplied in the parts box (see Figure 26). Tighten down the bolt with an impact or wrench and allow the weight of the chute to be supported fully by the brace rod. Move to the opposite side 180° from the first chute and repeat the above steps to help balance the spreader weight. Add the third chute and brace rod beside the second chute that was added and then add the fourth chute and brace rod 180° from the third chute. Continue this process until all chutes and brace rods are attached to the center shaft. Tighten the locking bolt on the spider after tightening all brace rod bolts.

FIGURE 24. CHUTE MOUNTED ON HINGE WITH BOLT PLACEMENT

FIGURE 25. BRACE ROD PIN ASSEMBLED INTO BACK BRACE

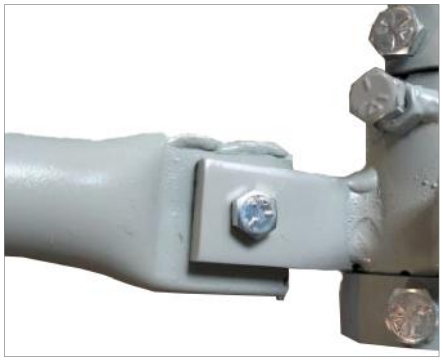


FIGURE 26. BRACE ROD CONNECTED TO SPIDER

MODELS 16-2-10000, 16-2-12000, 16-2-20000, 16-2-40000

These models of spreaders will have two layers of chutes and brace rods. Install the top layer of chutes first, followed by the bottom layer of chutes. After all the chutes are attached, install the top layer of brace rods followed by the bottom layer of brace rods. You may need a step ladder beside the center shaft to reach the mounting hinges for assembly of the chutes. To give better access for assembling the chutes to the top cone, lower the bottom cone and spacer down the center shaft. Do this by loosening the bolt in the shaft collar under the bottom cone and lower everything down until it stops at the spider assembly (see Figure 27 & 28).

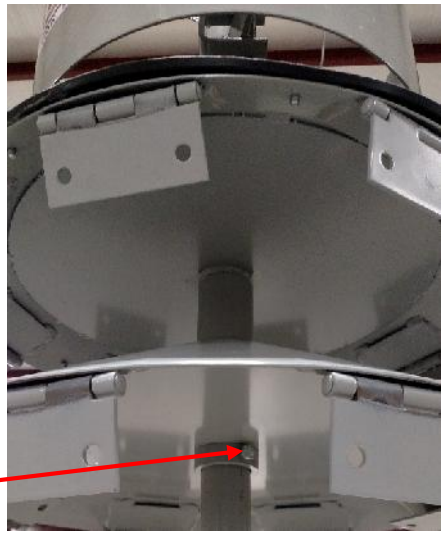


FIGURE 27. SHAFT COLLAR BELOW BOTTOM CONE

FIGURE 28. CONE AND SPACER LOWERED

Starting on any side, lift the top of the chute up to the hinge (the top of the chute is the end that has two round holes). Lay the chute on top of the hinge and bolt in place. On all models ending in 10000, 12000, or 20000, use the 5/1 " X 1" hex bolts and flange nuts supplied in the parts box. On models ending in 40000, use the 3/8" X 1" hex bolts and flange nuts supplied. Insert the bolts from the top so the flange nuts are under the hinge (see Figure 30). Tighten both bolts with an impact until the bolt heads are completely seated inside the tivar counter bore (see Figure 29). Leave the bottom end of the chute laying on the grain bin floor. Move to the opposite side 180° from the first chute and repeat the above steps to help balance the spreader weight. Add the third chute beside the second chute that was added and then add the fourth chute 180° from the third chute. Continue this process until all eight chutes are attached to the top cone of the center shaft.

FIGURE 29. CHUTE ON TOP OF HINGE

FIGURE 30. HINGE AND FLANGE NUTS

Raise the spacer, bottom cone and shaft collar back into the original position tightly against the top cone (see Figure 27 for original position). Tighten the shaft collar bolt to hold everything up in place. Rotate the bottom cone so the hinges are between the top cone hinges. This will place the bottom chutes between the top chutes. Repeat the above procedure to assemble all the bottom chutes to the bottom cone. With all the chutes fully assembled, it should look like Figure 31 with a chute approximately every 22.5° around the circle.

FIGURE 31. BOTTOM CHUTES ASSEMBLED BETWEEN TOP CHUTES

Before attaching any brace rods to the chutes, loosen the locking bolt on both spiders so it allows alignment of the brace rods to the spider tabs. Make sure the locking bolts on both of the shaft collars are tight (see Figure 32). The spiders and shaft collars should stay at the bottom of the center shaft pipe, this will allow the angle of the chutes to be approximately 30°.

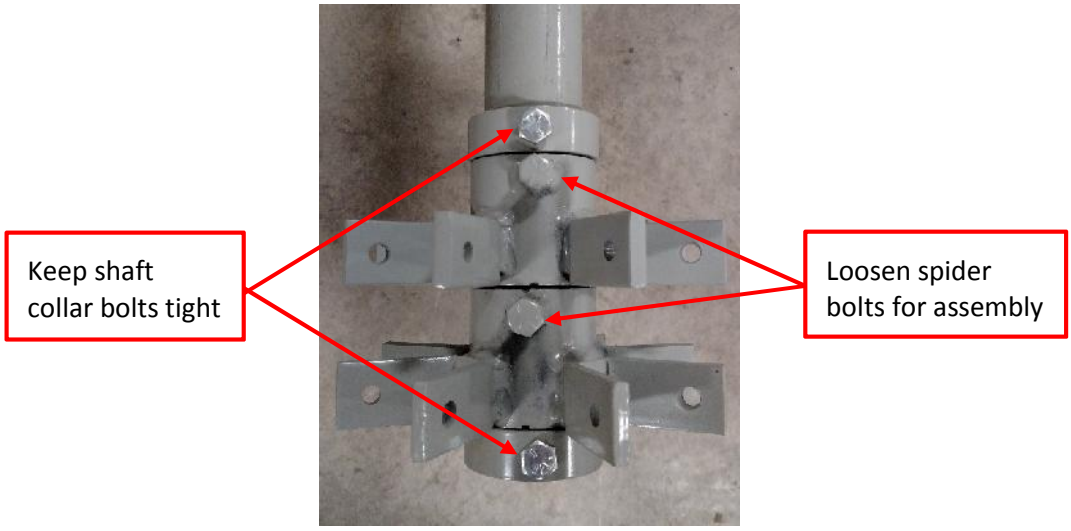


FIGURE 32. SHAFT COLLARS AND SPIDERS

Starting with any top chute, fully insert the brace rod pin into the back brace hole that you enlarged as shown in Figure 33. Pick up the chute with the brace rod and bring the other end of the brace rod to the top spider and attach to one of the spider tabs. Use the ¼"x 1" bolts and flange nuts supplied for spreader models ending in 10000, 12000, and 20000. For models ending in 40000, use the 5/1 " X 1¼" hex bolts and flange nuts supplied in the parts box. Tighten down the bolt with an impact or wrench and allow the weight of the chute to be supported fully by the brace rod. Move to the opposite side of the spreader and install the brace rod to the top chute 180° from the first one. Continue to assemble brace rods across from each other to help balance the weight of the spreader until all eight top brace rods are installed (see Figure 34). Tighten the locking bolt on the top spider after tightening all brace rod bolts. At this time all top chutes should be self-supported and off the grain bin floor, if they are not, raise the spreader so that they are.

FIGURE 33. BRACE ROD PIN ASSEMBLED INTO BACK BRACE

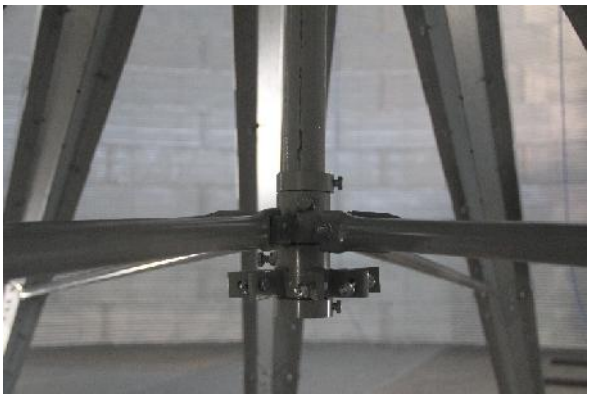


FIGURE 34. TOP BRACE RODS ASSEMBLED ON TOP SPIDER

Before assembling the bottom brace rods, tighten the locking bolt on the bottom spider to align the bottom spider tabs between the top spider tabs. Repeat the above procedure to assemble all the bottom brace rods to the bottom chutes. Figure 35 shows how the brace rods should end up off set between each other. Ensure that all sixteen chutes are self-supported and off the grain bin floor, if they are not, raise the spreader so that they are. If you have any optional equipment that needs installed like chute extensions and filler clips, refer to the next section. If you have no optional equipment to install, refer to the section "FINAL CHECKS ON SPREADER BEFORE RAISING" to complete the assembly.

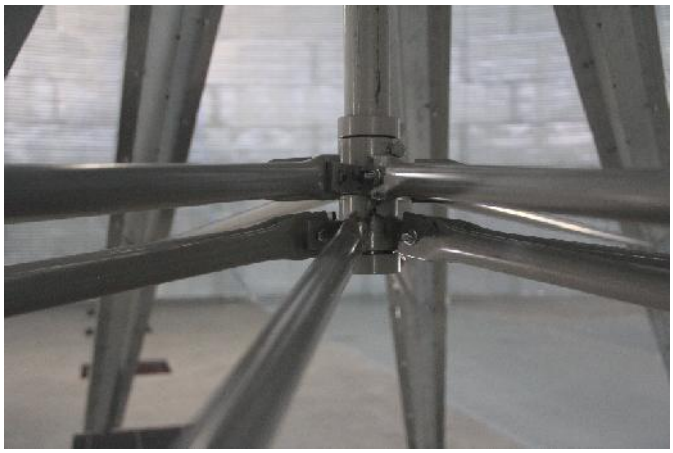


FIGURE 35. TOP AND BOTTOM BRACE RODS ASSEMBLED

OPTIONAL EQUIPMENT INSTALLATION

CHUTE EXTENSIONS

AgriDry offers 2' and 4' chute extensions for bins that are being filled with wet or hot grain. The chute extensions are only used on spreader models 16-3000, 16-5000, and 16-12000. The extensions come in a pack of four to assemble to every other chute. The entire spreader will need suspended above the floor to allow enough clearance for the extension chutes to be assembled at the bottom of the chutes. Starting with any chute, slide the extension into the bottom chute back brace until the extension chute flanges are over the bottom of the chute (see Figure 36). Use one supplied 14 X ¾" self-drilling screw to screw through the back brace to hold the extension chute in place as shown in Figure 37. Skip every other chute and attach the remaining extension chutes with the same procedure above.

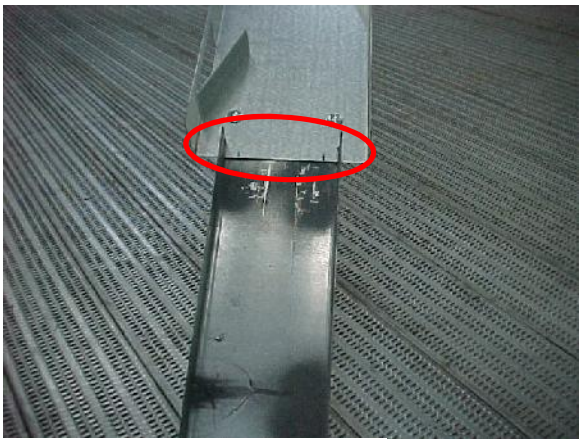


FIGURE 36. EXTENSION CHUTE FLANGES OVER BOTTOM CHUTE

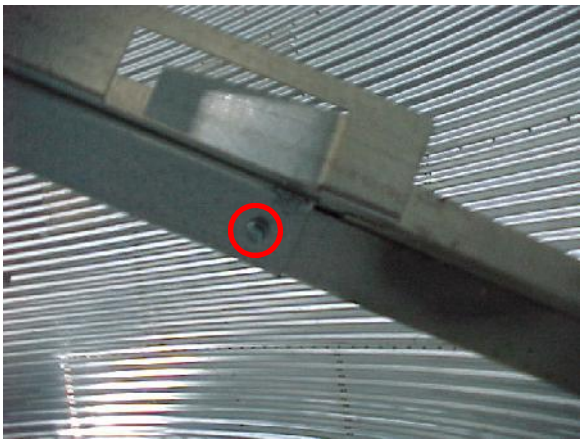


FIGURE 37. SELF-DRILLING SCREW THROUGH BACKBRACE

FILLER CLIPS

For bins that will be filled with a low rate from a dryer, air system, etc., AgriDry offers a filler clip assembly to prevent fines from sifting through openings on the cone. Filler clips can be used on any eight chute spreader models ending in 3000, 5000, and 12000. Filler clips come in a pack of eight to cover all eight openings on the cone. Stand the filler clip up on top of the cone and insert over the adjacent chutes. Use one supplied 14 X ¾" self-drilling screw to screw through the pre-punched hole on the filler clip and into the cone as shown in Figure 38. Continue this same procedure for all other filler clips around the cone.

FIGURE 38. ASSEMBLED FILLER CLIP

ADJUSTING THE CHUTE ANGLE

If the spreader is installed in a high temperature drying bin (Ex. Shivvers system, bins with Stirators, or any other continuous in-bin drying application) the angle of the chutes will need to be adjusted from factory setting. This change is also required if you are filling the bin with high moisture grain (over 25% corn). This change will allow the grain to slide down the chutes.

ADJUSTMENT BEFORE THE BRACE RODS HAVE BEEN ATTACHED

To increase the angle of the chutes, slide the upper and lower shaft collars and spider up the center shaft by loosening the set bolt on each one. For the correct placement of your model of spreader, measure down the center shaft from the bottom of the cone to set the top of the upper shaft collar (see Figure 39). Tighten the set bolt on the upper shaft collar at the listed measurement from the tables below. Position the spider against the upper shaft collar leaving the set bolt loose and then bring the lower shaft collar against the spider and tighten its' set bolt. This will make the chute angle approximately 35°. You are ready to attach the brace rods, refer back to the section "ASSEMBLING CHUTES TO THE CENTER SHAFT for instructions.

Spreader Model	Inches
4-3000	0"
8-3000	7"
10-3000	8"
12-3000	11"
16-3000	19"

Spreader Model	Inches
4-5000, 4-12000	4"
8-5000, 8-12000	16"
10-5000, 10-12000	5"
12-5000, 12-12000	12"
16-5000, 16-12000	16"

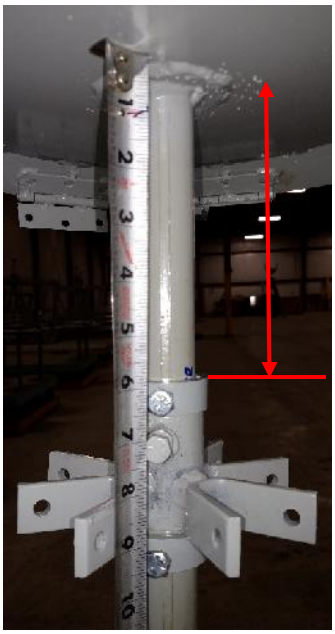


FIGURE 39. MEASUREMENT FROM THE BOTTOM CONE TO THE TOP SHAFT COLLAR

ADJUSTMENT AFTER THE BRACE RODS HAVE BEEN ATTACHED

To increase the angle of the chutes, make sure that the set bolt on the spider is tight, loosen the set bolt on the top shaft collar and move it up approximately 8" and tighten it down. Next, loosen the set bolt on the spider, slide it up against the top shaft collar and tighten the set bolt on the spider. Keep moving them together 8" at a time until the top of the upper shaft collar is at the correct measurement down from the bottom of the cone (refer to the chart above for each spreader model). You can also use an angle finder on the chutes to determine the correct angle. You will want the chute angle approximately 35°. **Warning: Do not loosen the locking bolts on the collar and the spider at the same time due to the chutes collapsing and result in injury. Once the spider goes over center, all the weight from the chutes will be pushing up the spider and you won't be able to hold on to it.** Once the top shaft collar and spider is locked down in the correct position, move the bottom shaft collar up to fit tight to the spider and lock down the shaft collar bolt.

FINAL CHECKS ON SPREADER BEFORE RAISING

SPREADERS THAT WILL ROTATE

Before raising any spreader to the top of the grain bin, you will need to do some final checks on the spreader to make sure everything is set properly. For spreaders that will rotate in the bin, check all chute tabs to make sure they are set to factory setting. Tabs can get bent in from shipping, handling, etc. which can cause issues with rotation. All chute tabs will have a permanent mark beside them to match the angle to (see Figure 40). If there are any tabs not matched to the permanent mark, adjust the tab(s) to match the mark exactly. At the top of each chute, the first tab on each side will be closed. The chute tabs will gradually open farther as you go down to the bottom of the chute.

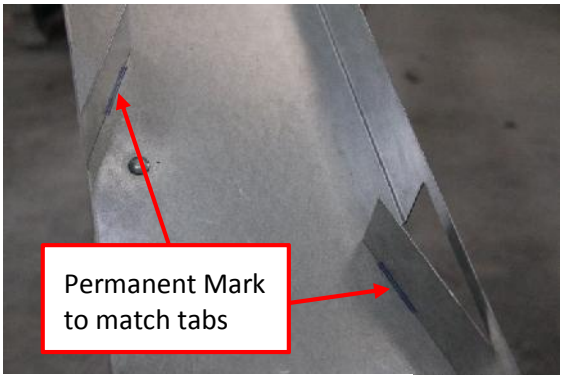


FIGURE 40. CHUTE TAB MARKINGS

To ensure rotation, all the chutes will need tilted approximately 5-7°. This angle will be measured on the chute above where the brace rod holds the chute (see Figure 42). Looking at the chute, all models of spreaders except 10-3000, 10-5000, and 10-12000 will have the chutes tilted to the left. The 10-3000, 10-5000, and 10-12000 will have the chutes tilted to the right. The direction to tilt is matched to the side of the chute where the last tab ends (see Figure 41). Grab the chute where the brace rod holds up the chute and tilt to the correct side, do this to all the chutes until all are set the same. You are now ready to raise the spreader to the top of the grain bin.

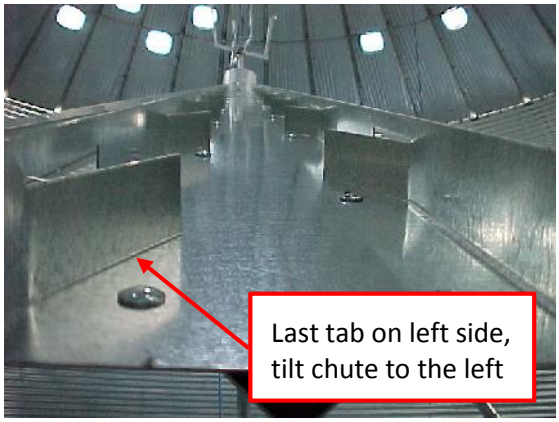


FIGURE 41. LAST TAB ON BOTTOM OF CHUTE

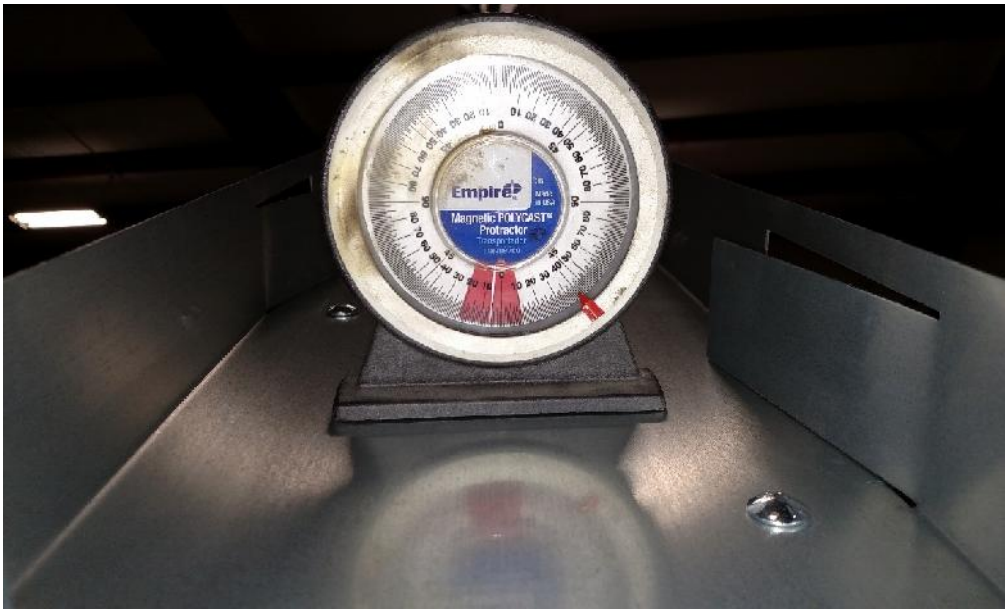


FIGURE 42. ANGLE ON CHUTE ABOVE THE BRACE ROD FOR ROTATING SPREADERS

SPREADERS THAT WILL NOT ROTATE

Some spreaders will not rotate in the bin due to objects within the rotation of the spreader (i.e. temperature cables in the center). If this is the case, the chute tabs on all chutes will need adjusted to help prevent rotation. On all models of spreaders except 10-3000, 10-5000, 10-12000, and 16-2-40000, the tabs on the right side of the chute need to be pushed in approximately ½" to match the left side tabs. On the 10-3000, 10-5000, and 10-12000 models, the tabs on the left side of the chute need pushed in approximately ½" to match the right side tabs. Spreader model 16-2-40000 will NOT need any chute tab adjustment so you can skip this procedure. With the chute tabs adjusted, there will not be as much force from the grain to cause rotation. If the spreader still happens to rotate, it will come against the object and stop. To also help from rotating, ensure the chutes are as level as possible. Instead of the chutes tilted to one side like shown in figure 42, keep the chute angle close to zero (level).

RAISING AND HANGING THE SPREADER

OPEN TOP BIN LID – PEAK RING MOUNT

Raise the spreader to the top of the bin. If the bin has an inner and outer peak ring, use the outer ring to hang the spreader if possible (see Figure 43). The outer ring will usually have more support and will allow the hopper to fit all the way down onto the bearing holder. **Note: The hopper MUST sit all the way down onto the bearing holder to eliminate movement and help with adjustments.** Position all four spreader hooks over the peak ring 90° from each other. Adjust the support arms or remove the bottom support arm if required to set the spreader at the correct distance from the bin lid (refer to the section "ADJUSTING THE CENTER SHAFT SUPPORT ARMS FOR PROPER HANGING DISTANCE" to get the needed measurements). Ensure there is clearance of 10" minimum from the roof/roof structure to the

spreader chutes. You can gain distance between the chutes and roof by either lowering the entire spreader or increasing the chute angle (see "ADJUSTING THE CHUTE ANGLE" section for instructions). Make sure the spreader support arms are directly across from each other and set the spreader in place by removing the weight off the lifting device (see Figure 44). You are ready to level the spreader for operation, refer to the section "LEVELING THE SPREADER" for instructions. **Note: If the diameter of the bin peak ring is too small and it makes the spreader support arms too narrow for the hopper to fit all the way down, you must install ½" X 6" eyebolts on the roof panels away from the peak ring to hang the spreader from. These eyebolts will be in the parts box sent with the spreader, refer to the next section about eyebolt placement and how to attach the spreader hooks to the eyebolts.**

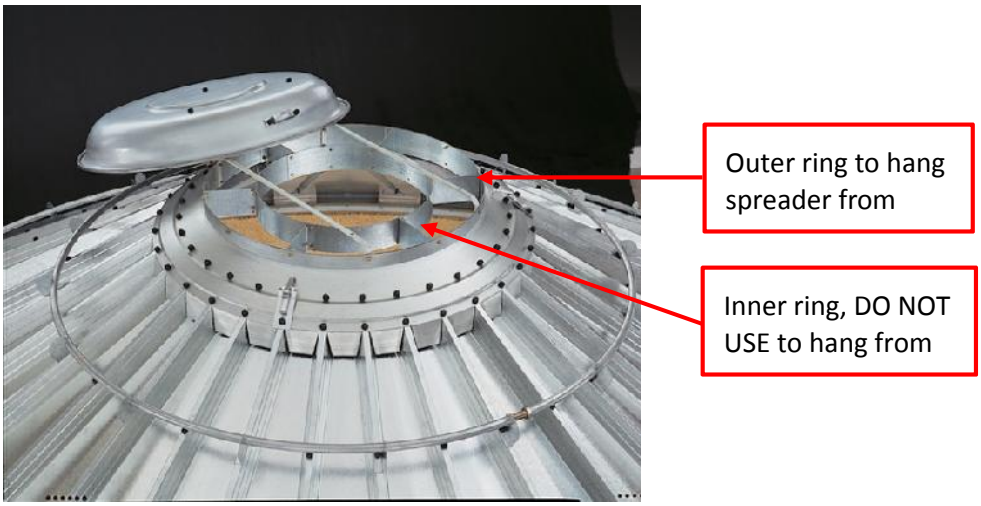


FIGURE 43. INNER AND OUTER PEAK RING

FIGURE 44. SPREADER HANGING FROM PEAK RING

OPEN TOP BIN LID – EYEBOLT MOUNT

Raise the spreader to the top of the bin. For bins with small diameter peak rings that make the spreader support arms too narrow for the hopper to fit all the way down, you must install ½" X 6" eyebolts on the roof panels away from the peak ring to hang the spreader from. These eyebolts will be

in the parts box sent with the spreader. Mount the eyebolts as close to the peak ring as possible to achieve maximum support but at the distance needed for the spreader support arms to allow the hopper to fit all the way down to the bearing holder. You may use existing bolt holes or create new to install the eyebolts in line with the four hooks from the spreader (every 90° from each other). Insert the four spreader hooks into the four eyebolts (see Figure 45). Hold back the hooks to the support arms and install the ¼" X 1" bolt and flange nut supplied to lock the hook in position. Tighten the ¼" and 5/1 " bolts on each hook to hold in place to the support arm. Install the 5/1 "X 1 ¼" safety bolt and flange nut through each hook to prevent the hook from escaping the eyebolt (see Figure 46). Adjust the support arms or remove the bottom support arm if required to set the spreader at the correct distance from the bin lid (refer to the section "ADJUSTING THE CENTER SHAFT SUPPORT ARMS FOR PROPER HANGING DISTANCE" to get the needed measurements). Ensure there is clearance of 10" minimum from the roof/roof structure to the spreader chutes. You can gain distance between the chutes and roof by either lowering the entire spreader or increasing the chute angle (see "ADJUSTING THE CHUTE ANGLE" section for instructions). Transfer all the weight to the spreader and remove the lifting device. You are ready to level the spreader for operation, refer to the section "LEVELING THE SPREADER" for instructions.

FIGURE 45. SPREADER HANGING FROM EYEBOLTS

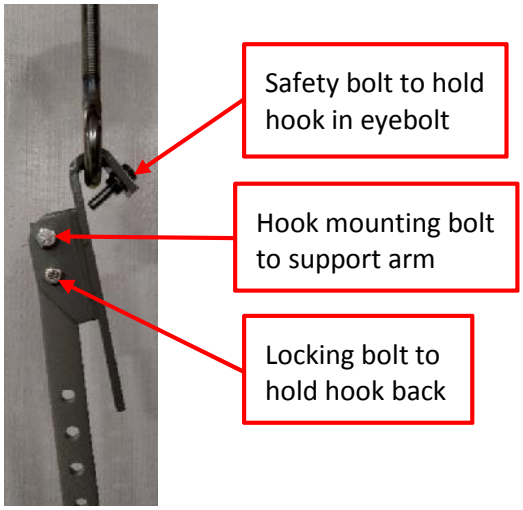


FIGURE 46. IDENTIFICATION OF HOOK BOLTS

CLOSED TOP BIN LID

Install inspection holes in the grain bin lid to give access for mounting the spreader and for operating adjustments later on. The inspection holes must be placed as close to the fill spouting as possible so the operator can reach all adjustments at the center of the spreader (see Figures 47 & 48). The exact location and size of inspection holes will depend on the bin lid, roof structure above and below the lid, etc. Try to install at least two inspection holes 180° from each other and if possible install an inspection hole every 90° around the fill spouting. Seal around every inspection hole that is added to prevent leakage. Use these inspection holes to install the ½" X 6" eyebolts on the roof panels to hang the spreader from. These eyebolts will be in the parts box sent with the spreader. Mount the eyebolts as close to the peak ring as possible to achieve maximum support but at the distance needed for the spreader support arms to allow the hopper to fit all the way down to the can bearing holder. You may use existing bolt holes or create new to install the eyebolts in line with the four hooks from the spreader (every 90° from each other). You may need to add extra support to the roof structure for the eyebolts depending on bin specifications and

spreader weight specifications (see Figure 49cc). Raise the spreader to the top of the bin. Insert the four spreader hooks into the four eyebolts (see Figure 45). Hold back the hooks to the support arms and install the ¼" X 1" bolt and flange nut supplied to lock the hook in position. Tighten the ¼" and 5/1 " bolts on each hook to hold in place to the support arm. Install the 5/1 " X 1 ¼" safety bolt and flange nut through each hook to prevent the hook from escaping the eyebolt (see Figure 46). Adjust the support arms or remove the bottom support arm if required to set the spreader at the correct distance from the bin lid (refer to the section "ADJUSTING THE CENTER SHAFT SUPPORT ARMS FOR PROPER HANGING DISTANCE" to get the needed measurements). Ensure there is clearance of 10" minimum from the roof/roof structure to the spreader chutes. You can gain distance between the chutes and roof by either lowering the entire spreader or increasing the chute angle (see "ADJUSTING THE CHUTE ANGLE" section for instructions). Transfer all the weight to the spreader and remove the lifting device. You are ready to level the spreader for operation, refer to the section "LEVELING THE SPREADER" for instructions.

FIGURE 47. INSPECTION HOLES ON FARM BIN 180° FROM EACH OTHER

FIGURE 48. INSPECTION HOLES ON COMMERCIAL BIN USING MAXIMUM OPENING

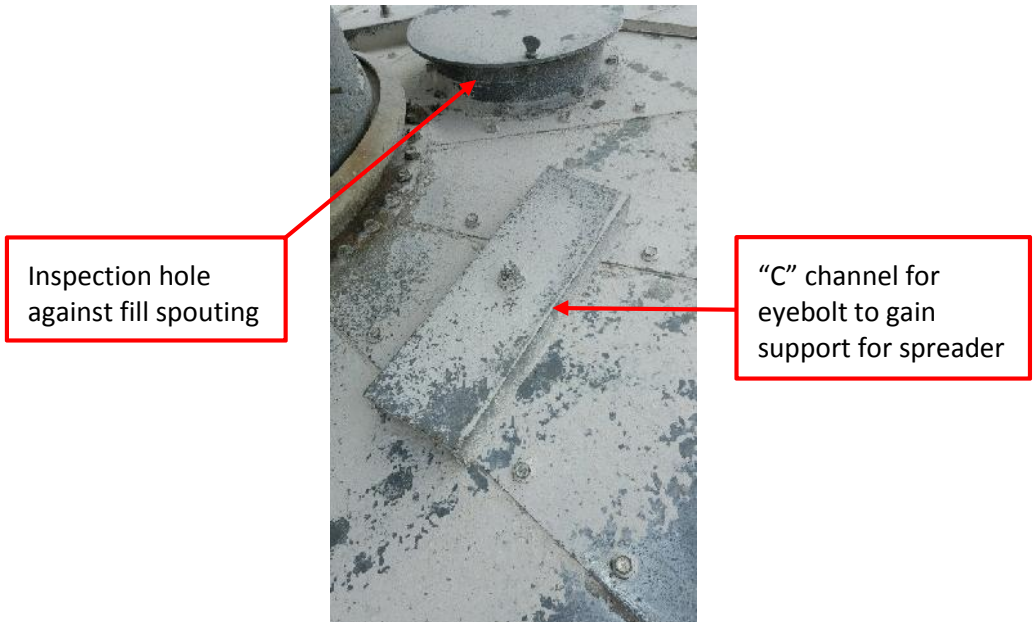


FIGURE 49. INSPECTION HOLE AND EXTRA SUPPORT FOR EYEBOLTS

HANGING ANY 2-40000 SERIES SPREADER

Install all needed support to hang the spreader from before raising the spreader to the top of the bin. This extra support will depend on what is available on top of the bin, the bin manufacture's specifications on roof loads, etc. (see Figure 50 & 51 for examples). Install inspection holes in the grain bin lid to give access for mounting the spreader and for operating adjustments later on. The inspection holes must be placed as close to the fill spouting as possible so the operator can reach all adjustments at the center of the spreader (see Figures 47, 48 & 51). The exact location and size of inspection holes will depend on the bin lid, roof structure above and below the lid, etc. Try to install at least two inspection holes 180° from each other and if possible install an inspection hole every 90° around the fill spouting. Seal around every inspection hole that is added to prevent leakage. Raise the spreader to the top of the bin. Insert the four 1" X 6" eyebolts into the designated support that the spreader will hang from and tighten down to hold in place. Ensure there is clearance of 10" minimum from the roof/roof structure to the spreader chutes. You can gain distance between the chutes and roof by either lowering the entire spreader or increasing the chute angle (see "ADJUSTING THE CHUTE ANGLE" section for instructions). Transfer all the weight to the spreader and remove the lifting device. You are ready to level the spreader for operation, refer to the section "LEVELING THE SPREADER" for instructions.

FIGURE 50. SPREADER EYEBOLTS MOUNTED IN "C" CHANNEL SUPPORTS

FIGURE 51. SPREADER EYEBOLTS AND SUPPORT ARMS THROUGH ROOF PANELS AND MOUNTED TO CROSS BEAMS

LEVELING THE SPREADER

To ensure the spreader will rotate and to help the grain distribute evenly, level the spreader after it is hanging. To level the spreader, use a torpedo level laying it diagonally across two bearing holder arms in both directions (see Figure 52). You will want to achieve ¾ of a bubble to perfect on the level all directions across the bearing holder. If the spreader is not within those specs of levelness, loosen all four bolts at the bearing holder and all four bolts at the hanger hooks. Shift the spreader in the direction needed by pushing down on the high side or lifting on the low side of the spreader. Once level, retighten all the bolts and verify levelness. If the spreader hangs from eyebolts, you can use the eyebolt threads to raise or lower the spreader on any side. Make sure you tighten all eyebolts and spreader bolts after complete. If there is nothing in the rotation of the spreader, rotate the spreader by hand to make sure it moves smoothly.

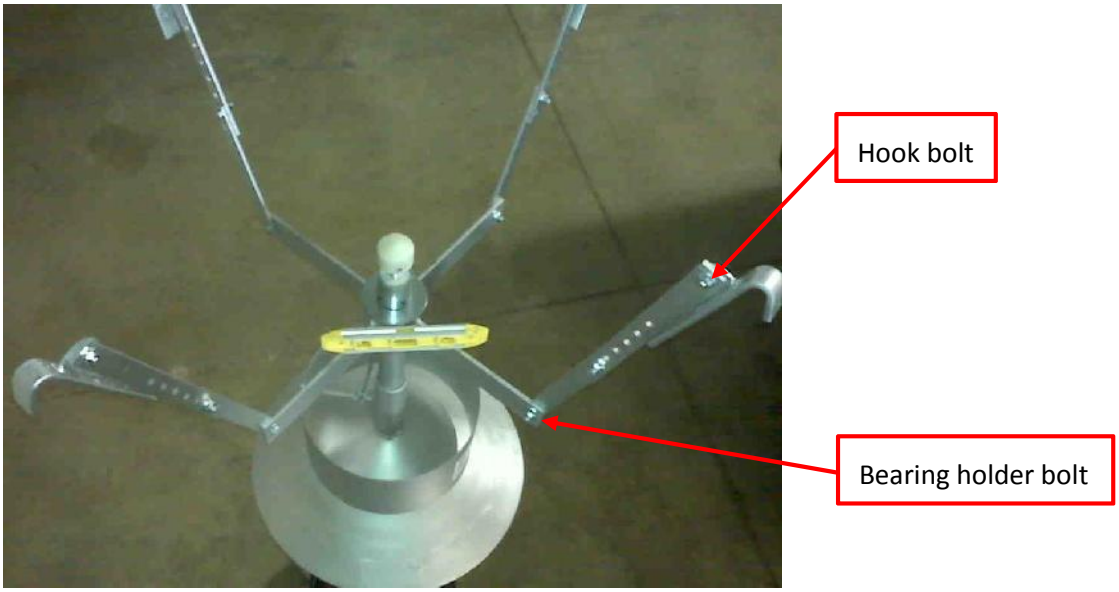


FIGURE 52. LEVEL ACROSS THE BEARING HOLDER

SETTING THE LEVELING BAND

You can adjust the leveling band close to the bushel per hour fill rate before any grain runs through the spreader. To make the final exact adjustments, grain will have to be flowing through the spreader. For spreaders with "T" handle adjustments, use the distance of threads between the jam nut and coupler to gauge the distance (see Figure 53). That distance is directly proportional to how far the leveling band is off the cone (see Figure 54). Turn the "T" handle clockwise to

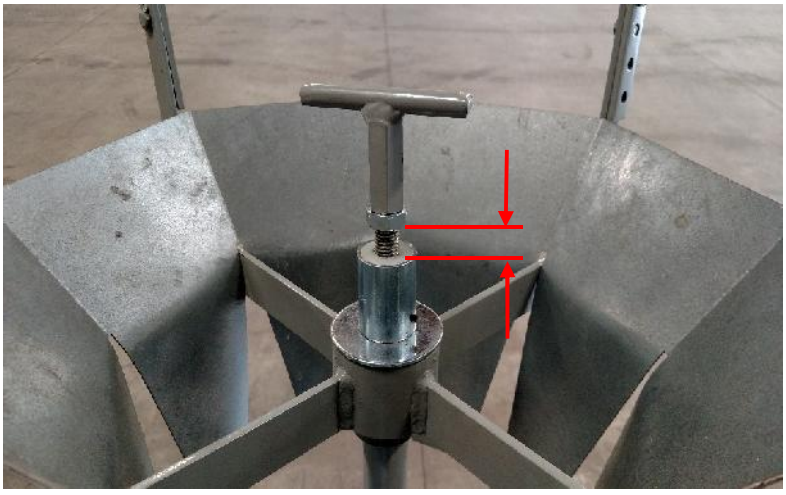


FIGURE 53. DISTANCE USED TO SET LEVELING BAND

lower the leveling band and turn it counter clockwise to raise the leveling band. For spreaders that have the acme thread adjustment, you will have to gauge the leveling band distance from the cone the best you can. You may be able to use a tape measure along one side of the leveling band and measure from the cone to the bottom of the leveling band. Use the universal adjustment rod that hooks to the acme thread nut to raise and lower the leveling band. Turn the rod clockwise to raise the leveling band and counter clockwise to lower the leveling band. Use the table below to adjust the leveling band as a starting height for the bushel per hour fill rate.

FIGURE 54. DISTANCE LEVELING BAND IS OFF CONE

Bushel/Hour Fill Rate	Leveling Band Distance off Cone
1200bph and less with tivar insert	Leveling band up 2”
1200bph and less without tivar insert	Leveling band all the way down
3000-4000bph (10” auger)	Leveling band up 1”
7000-8000bph (13” auger)	Leveling band up 1.5”
12,000bph	Leveling band up 2”
15,000bph	Leveling band up 3”
20,000bph	Leveling band up 3.5”
40,000bph	Leveling band up 4”

FIGURE 55. UNIVERSAL ADJUSTMENT ROD ON THE ACME THREAD