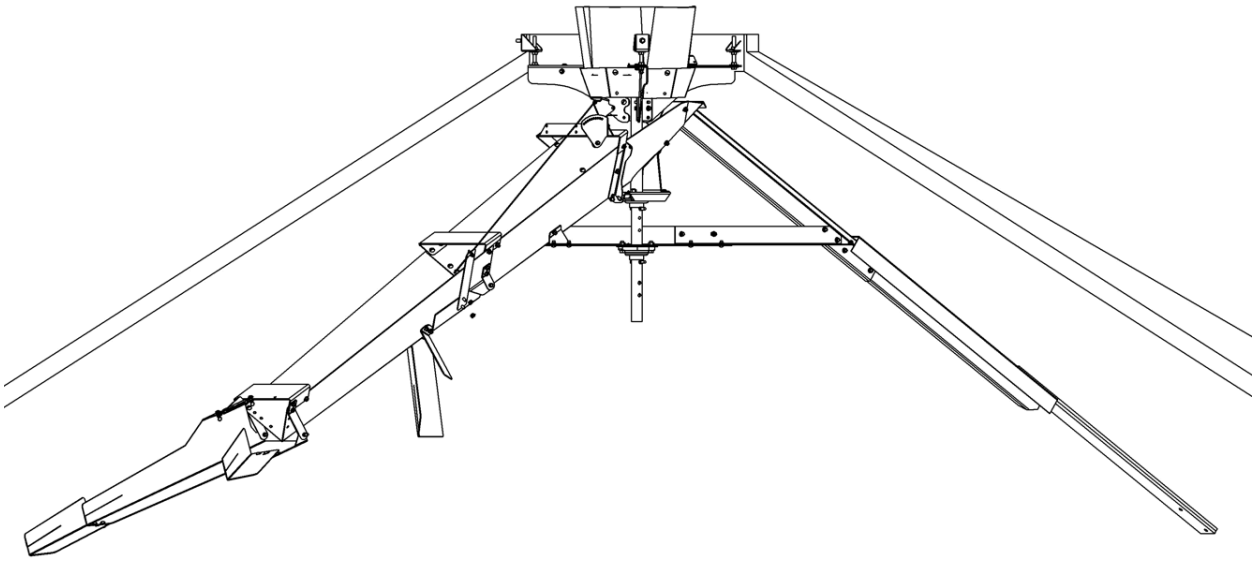
Cornado™

(Model 50/50T/55/100/100T/150/200/200T/250)

ASSEMBLY MANUAL



READ COMPLETE MANUAL BEFORE STARTING TO MAKE SURE YOU ARE AWARE OF YOUR SPECIFIC MODELS/OPTIONS REQUIREMENTS DURING ASSEMBLY

For more information/VIDEOS, please visit our website: ***cornadograinspreader.com***

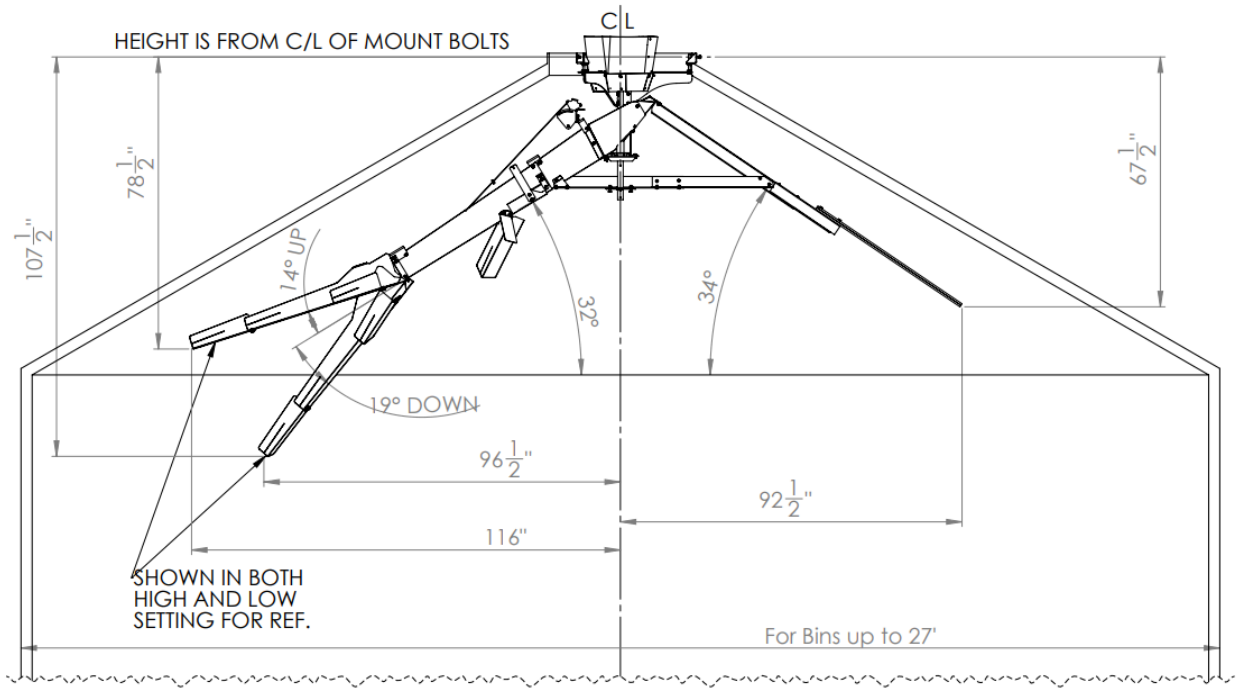
(Highly recommended to watch video!)

MODEL NUMBERS AND OPTIONS:

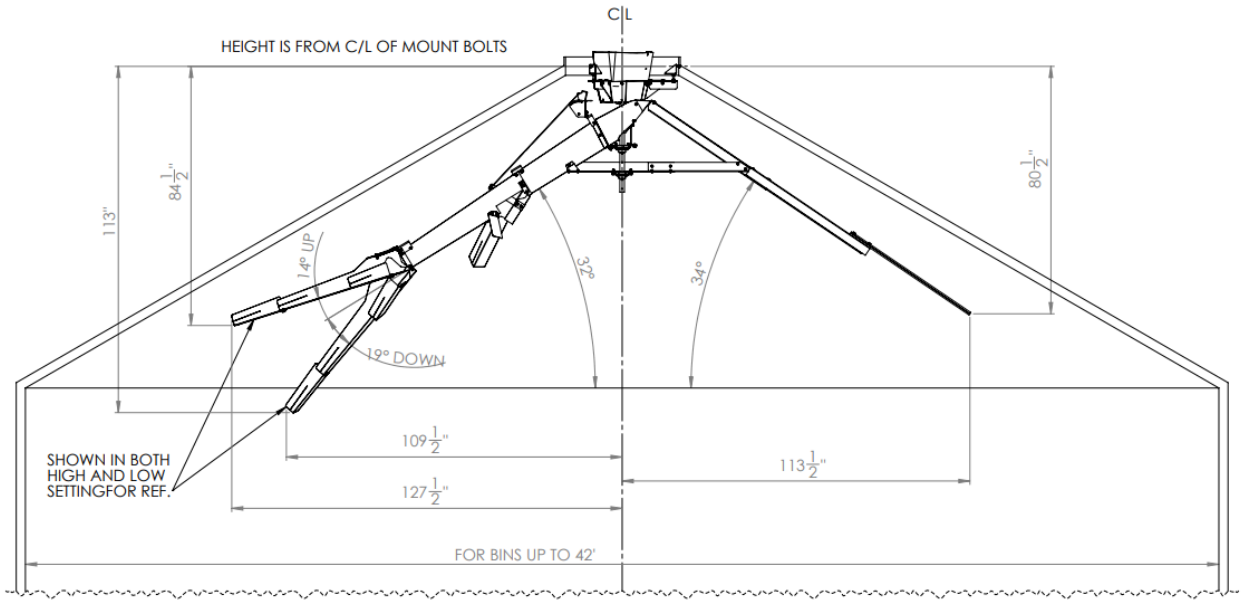
Model 50: Grain Spreader for Grain Bins up to 27’
Model 50T: Grain Spreader for Grain Bins up to 27’ with Temp Cable Capability
Model 55: Grain Spreader with Stirator Mount for Grain Bins 27’
Model 100: Grain Spreader for Grain Bins up to 42’
Model 100T: Grain Spreader for Grain Bins up to 42’ with Temp Cable Capability
Model 150: Grain Spreader with Stirator Mount for Grain Bins 27’-42’
Model 200: Grain Spreader for Grain Bins 42’ to 48’
Model 200T: Grain Spreader for Grain Bins 42’ to 48’ with Temp Cable Capability
Model 250: Grain Spreader with Stirator Mount for Grain Bins to 48’

Approximate Dimensions for Reference Purposes only:

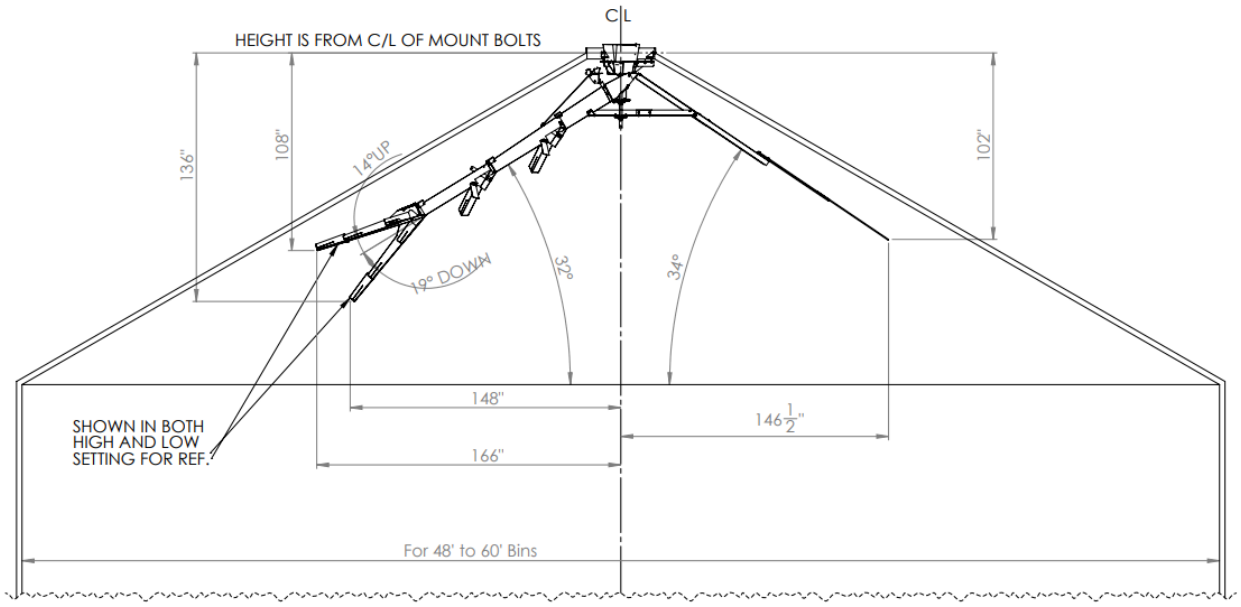
Models 50, 50T, & 55:



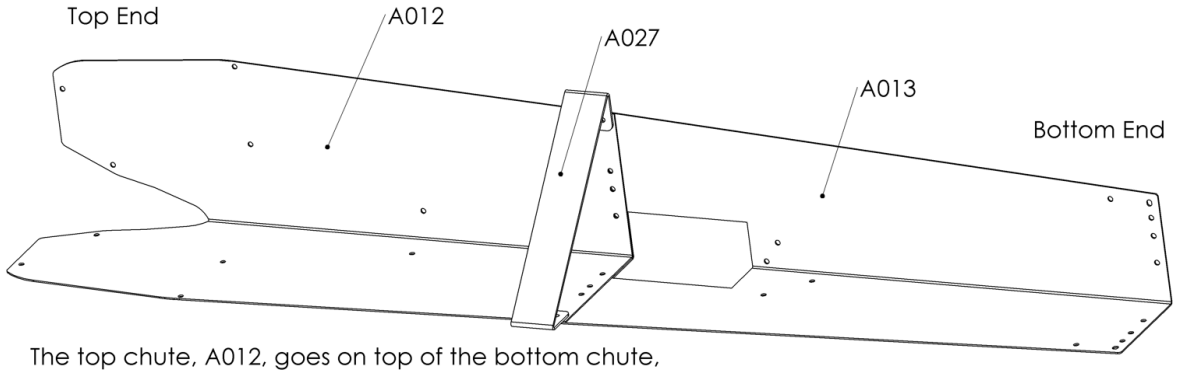
Models 100, 150T, & 150:



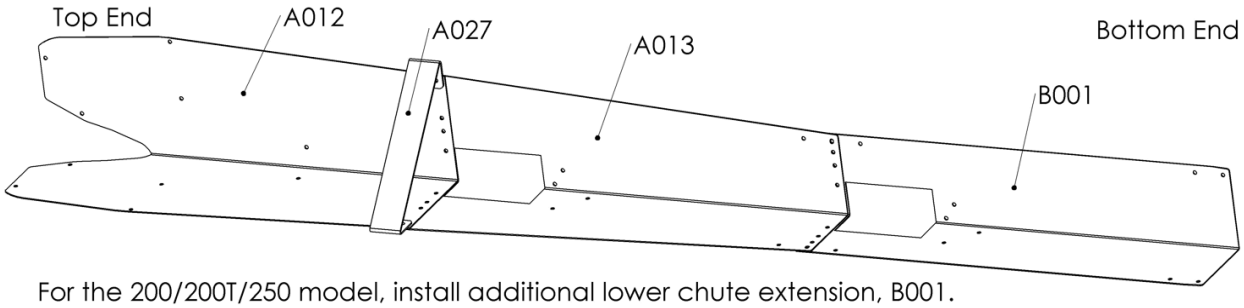
Models 200, 250T, & 250:



STEP 1:

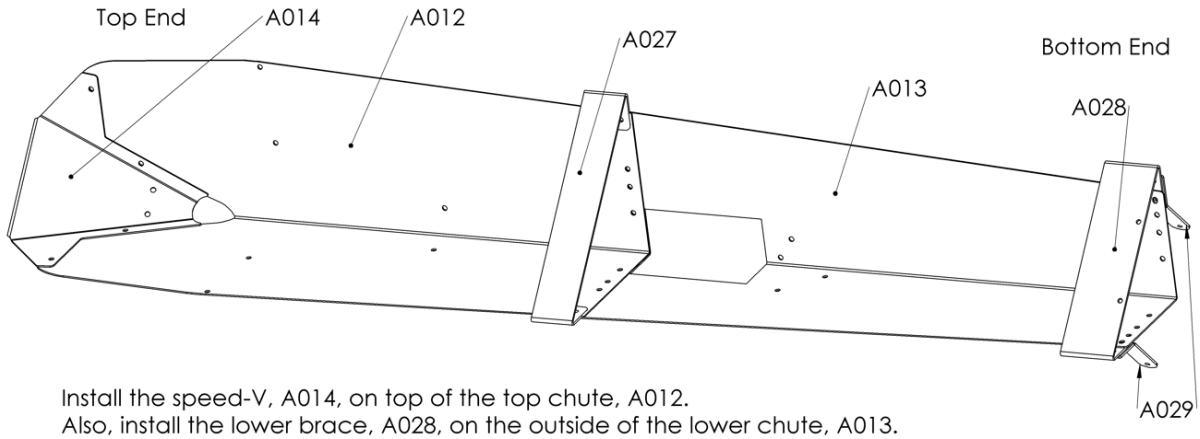


The top chute, A012, goes on top of the bottom chute,
A013. Install brace A027 on the inside of both chute members. Round bolt
heads go inside. Tighten. For 50/50T/55 models, substitute L001 for A012 and L002 for A013.

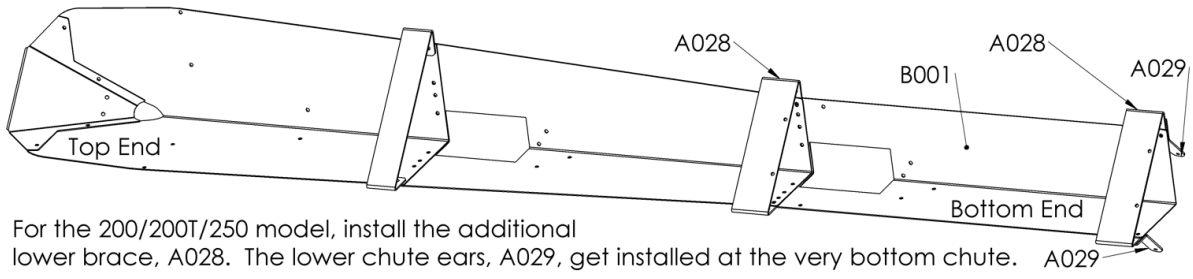


For the 200/200T/250 model, install additional lower chute extension, B001.

STEP 2:

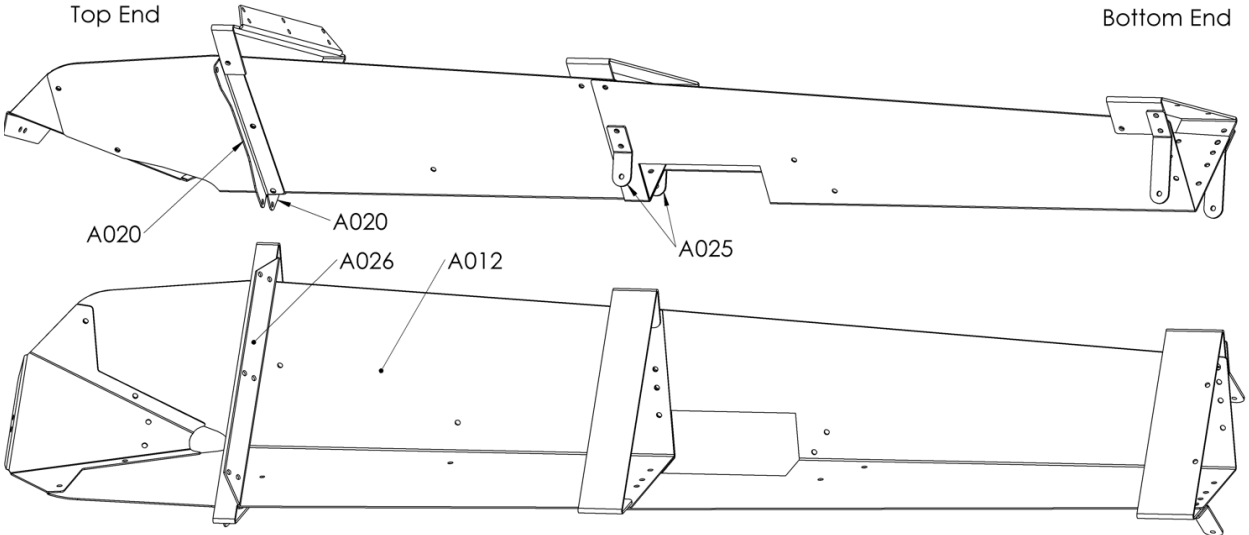


Install the speed-V, A014, on top of the top chute, A012.
Also, install the lower brace, A028, on the outside of the lower chute, A013.
4 of the bolts used to attach the lower brace will also be used to attach the lower chute ears, A029.



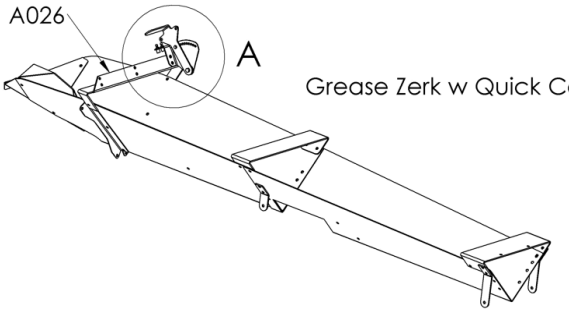
For the 200/200T/250 model, install the additional
lower brace, A028. The lower chute ears, A029, get installed at the very bottom chute.

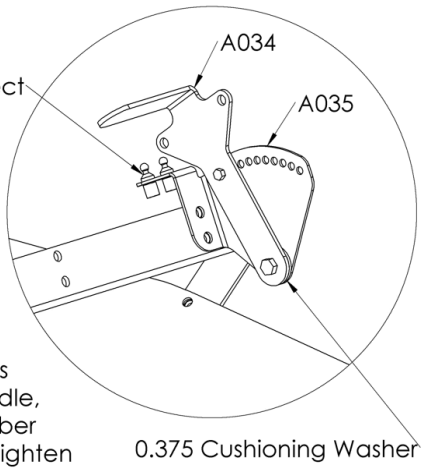
STEP 3:



Install the trap door ears, (2) A025, to the v-chutes as shown above. Install the angle iron bracing, (2) A020, on the underside of A012, near the to pend. Then install the adjustment mount bracket, A026 on the ouside of the angle iron bracing, A020.
For the 200/200T/250 models, there will be an extra set of the trap door ears to install, (2) A025.

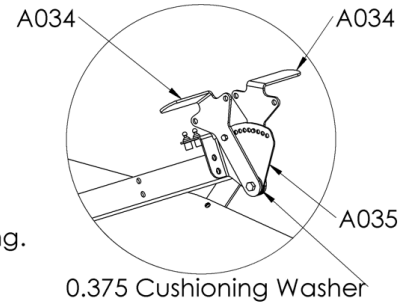
STEP 4:



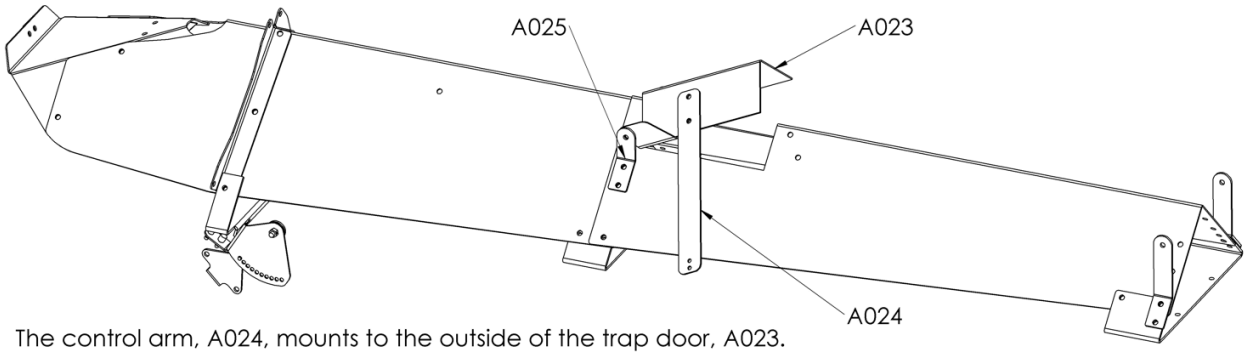


Install the door adjustment mechanism by mounting the adjustment plate, A035, to the cross angle iron, A026. Then install the adjustment handle, A034, to the adjustment plate, A035, with the rubber cushion washer in between. Use a lock nut and tighten until handle is firm, but freely moving. Install the 1/4" bolt and nut in the middle of the handle, A034 as the peg. Install the (2) grease zerks with quick connects to the adjustment plate, A035.

For the 200/200T/250 model, there will be a second handle, A034, for controlling the second trap door. It will need installed on the opposite side of the adjustment plate, A035. Again, use the rubber cushion washer in between the handle and plate and tighten with lock nut until firm, but still freely moving.

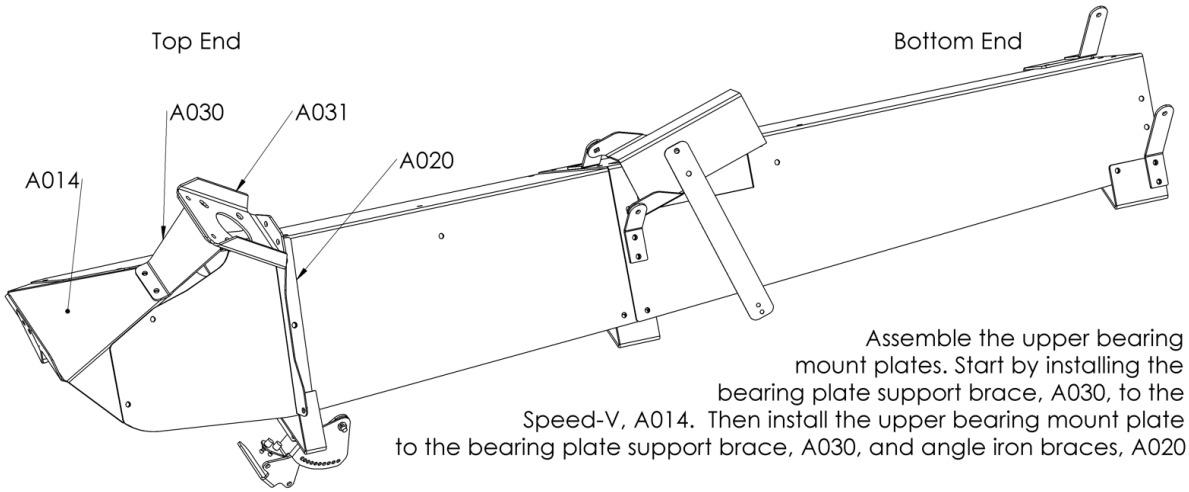


STEP 5:



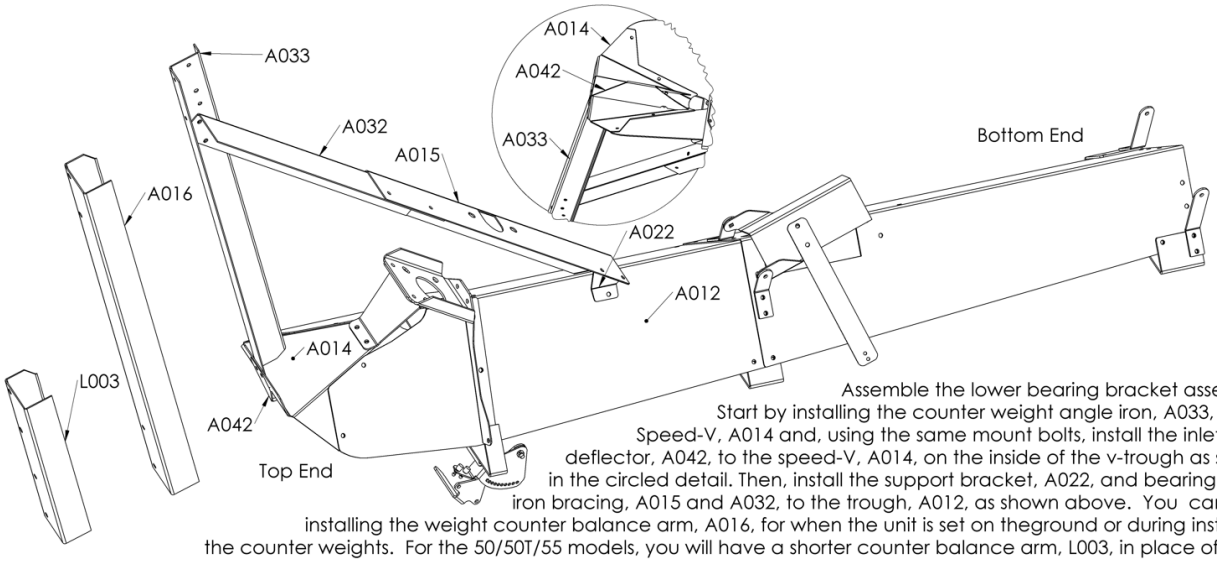
The control arm, A024, mounts to the outside of the trap door, A023.
Use (2) 3/8" carriage bolts and lock nuts with 1/2" washers to install the trap door to the ears.
Tighten until the trap door is firm, but still moves freely. For 200/200T/250 models, there will be a second set.

STEP 6:



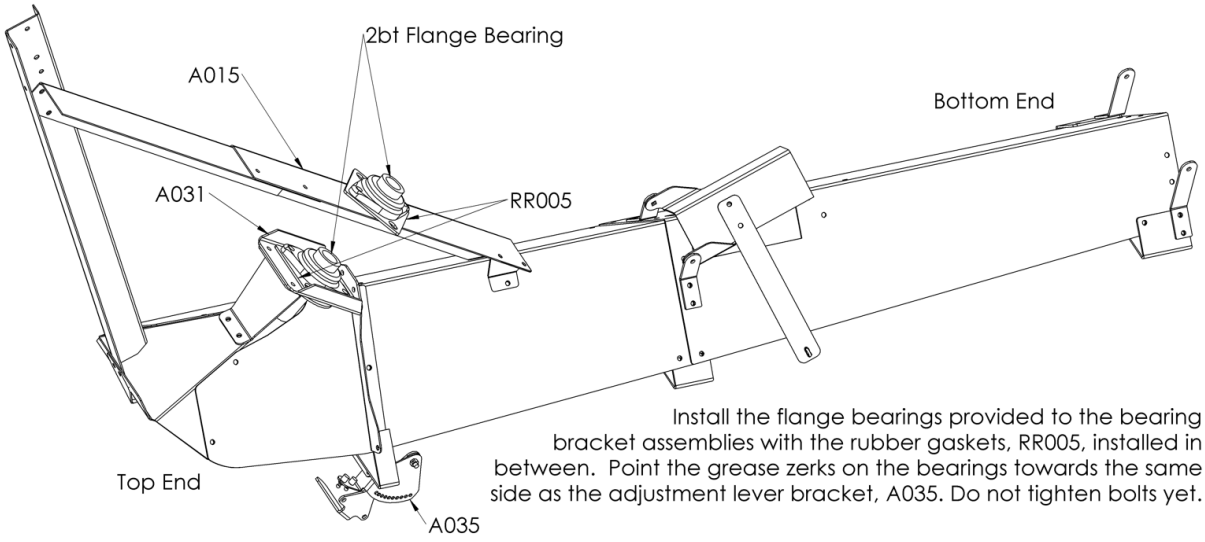
Assemble the upper bearing mount plates. Start by installing the bearing plate support brace, A030, to the Speed-V, A014. Then install the upper bearing mount plate to the bearing plate support brace, A030, and angle iron braces, A020

STEP 7:



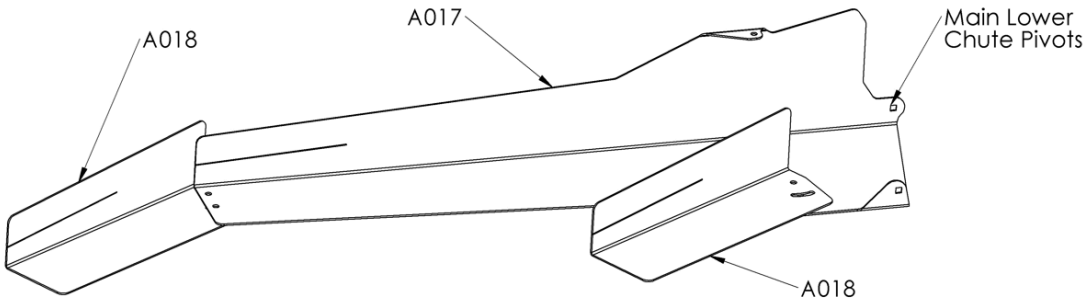
Assemble the lower bearing bracket assembly. Start by installing the counter weight angle iron, A033, to the Speed-V, A014 and, using the same mount bolts, install the inlet grain deflector, A042, to the speed-V, A014, on the inside of the v-trough as shown in the circled detail. Then, install the support bracket, A022, and bearing angle iron bracing, A015 and A032, to the trough, A012, as shown above. You can save installing the weight counter balance arm, A016, for when the unit is set on theground or during installing the counter weights. For the 50/50T/55 models, you will have a shorter counter balance arm, L003, in place of A016.

STEP 8:



Install the flange bearings provided to the bearing bracket assemblies with the rubber gaskets, RR005, installed in between. Point the grease zerks on the bearings towards the same side as the adjustment lever bracket, A035. Do not tighten bolts yet.

STEP 9:

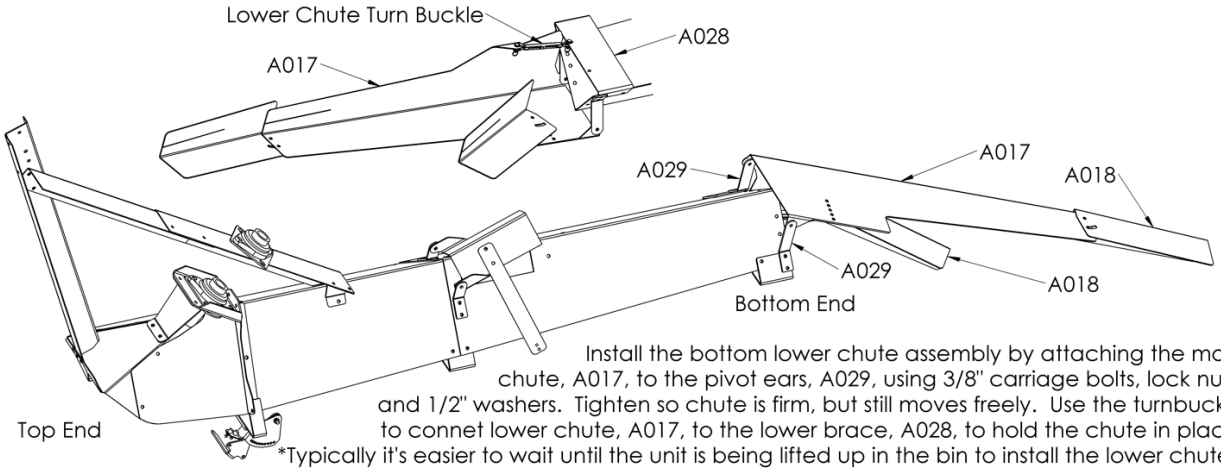


-Install the lower deflector plates, (2) A018, to the lower adjustment chute, A017. The deflector plate further from the main lower chute pivots mounts under the chute, and the deflector plate closer to the main lower chute pivots goes on top of chute.

-Angle and placement of the adjustment chutes will vary based on unload rates, moisture, type of grain, and diameter of bin. Generally speaking, faster flowing grains and smaller diameter bins will want more angle on the deflectors, and slower flowing grains and larger diameter bins will less angle on deflectors. As bins fill you will quickly notice where too much flow is or more flow is needed. Make notes to fine tune adjustments for the next season. Fines and debris will still be spread evenly throughout the bin, but it may not fill as level until this is set propertly.

Suggest settings for various set-ups can be seen in assembly video @ *cornadograinspreader.com*

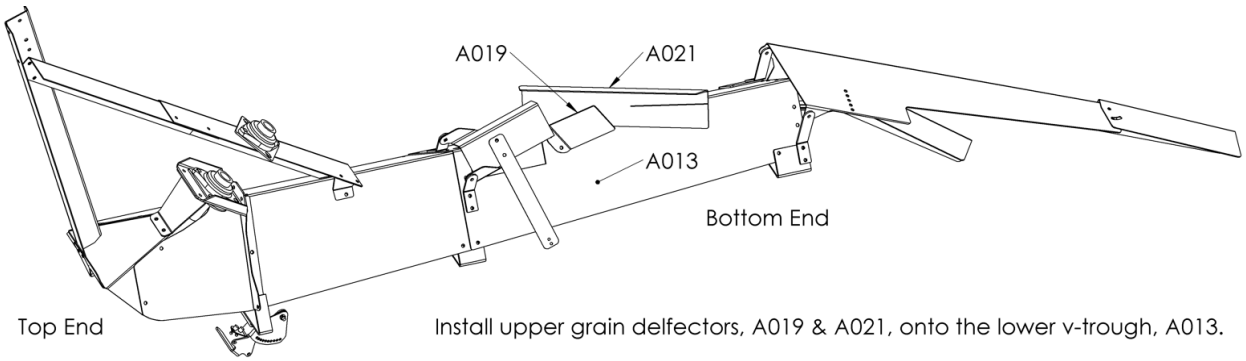
STEP 10:



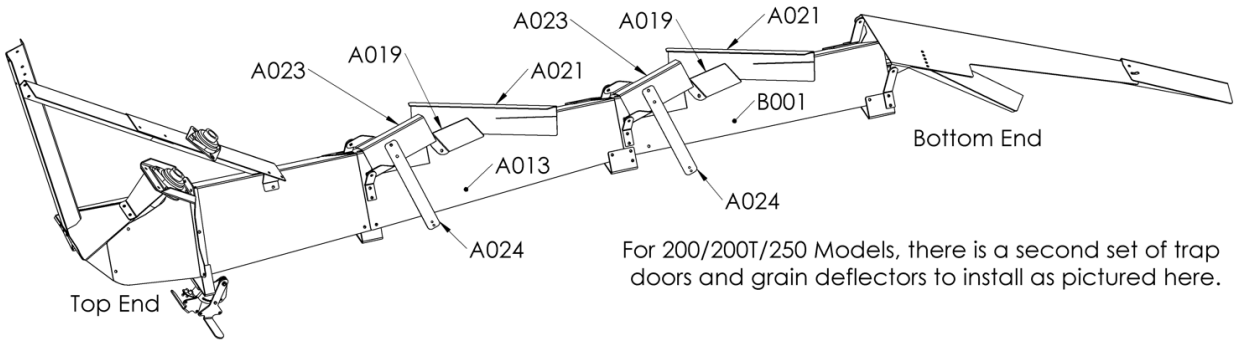
Install the bottom lower chute assembly by attaching the main chute, A017, to the pivot ears, A029, using 3/8" carriage bolts, lock nuts, and 1/2" washers. Tighten so chute is firm, but still moves freely. Use the turnbuckle to connet lower chute, A017, to the lower brace, A028, to hold the chute in place.

Typically it's easier to wait until the unit is being lifted up in the bin to install the lower chute.

STEP 11:

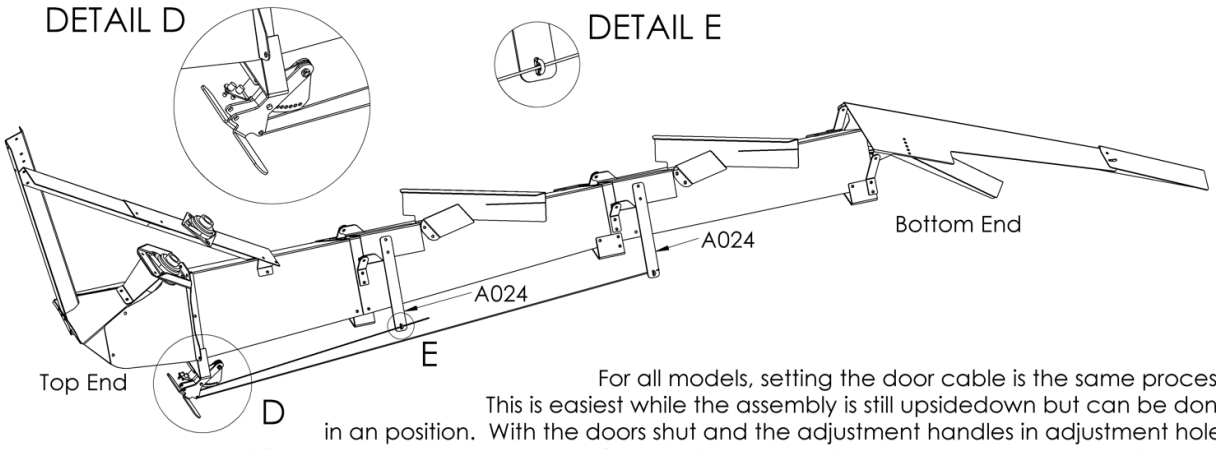


Install upper grain delfectors, A019 & A021, onto the lower v-trough, A013.



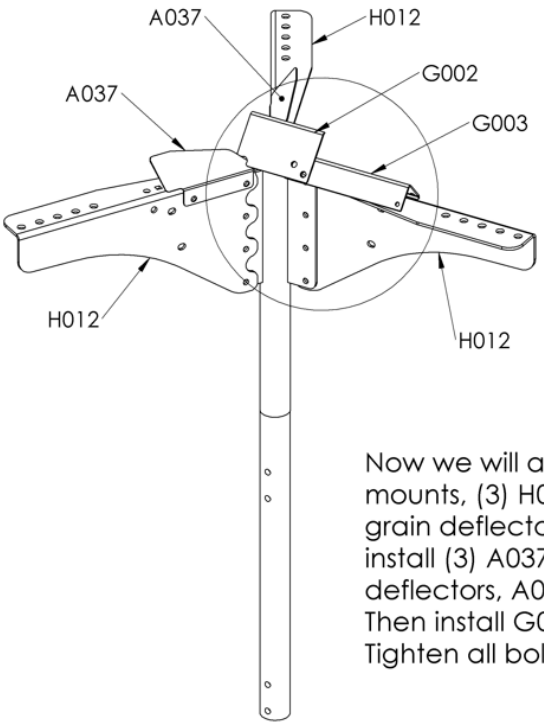
For 200/200T/250 Models, there is a second set of trap doors and grain deflectors to install as pictured here.

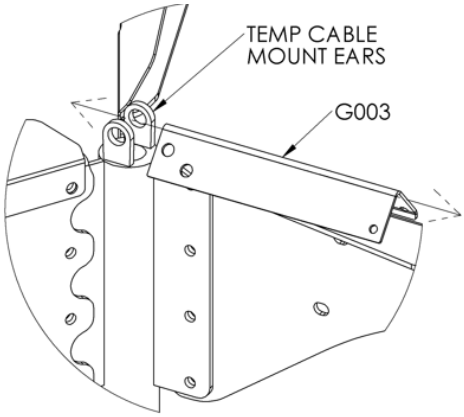
STEP 12:



For all models, setting the door cable is the same process. This is easiest while the assembly is still upsidedown but can be done in an position. With the doors shut and the adjustment handles in adjustment holes positiioned closest to the top end of the grain spreader, insert the cables thru the adjustment handle holes that are closest to the bottom end and then pull tight down to the trap doors control arm. Use the provied cable clamp inserted through the 2 holes on the control arm to secure the cable in this position.

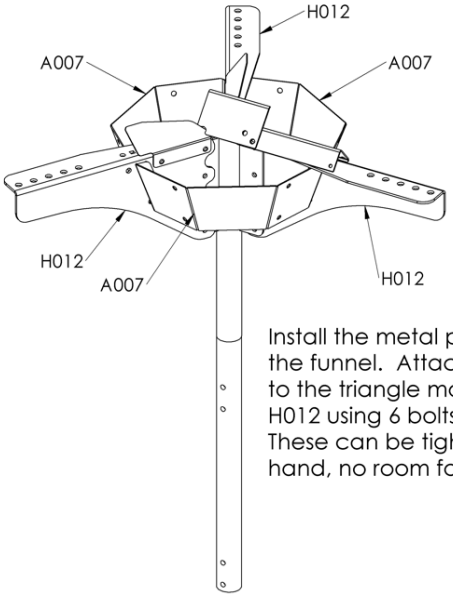
STEP 13:



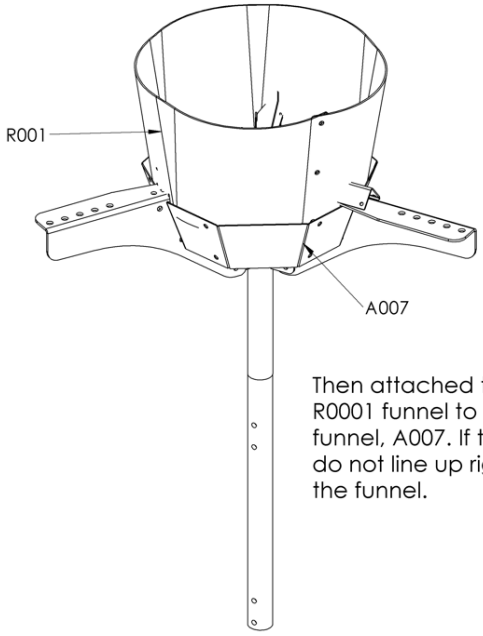


Now we will assemble the Hanger Assembly. Attach the triangle mounts, (3) H012, to the main shaft weldment. Next, install the grain deflectors, A037. If no temp wire option is being used, install (3) A037. For temp wire options, you will only use (2) grain deflectors, A037. Then pre-assmeble G002 to G003 and tighten. Then install G003 in line with the temp cable mount ears. Tighten all bolts now before moving on.

STEP 14:

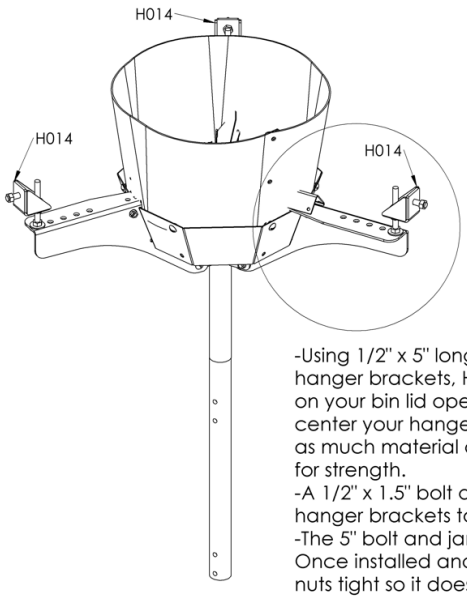


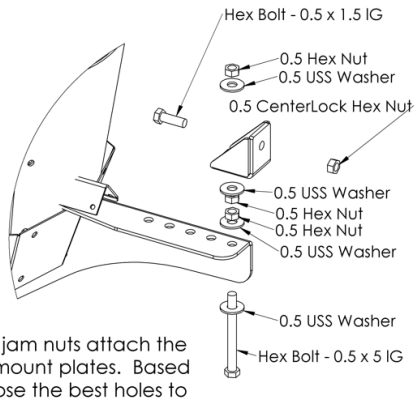
Install the metal portion of the funnel. Attach (3) A007 to the triangle mount plates, H012 using 6 bolts all around. These can be tightened (by hand, no room for impact).



Then attached the rubber, R0001 funnel to the metal funnel, A007. If the holes do not line up right, invert the funnel.

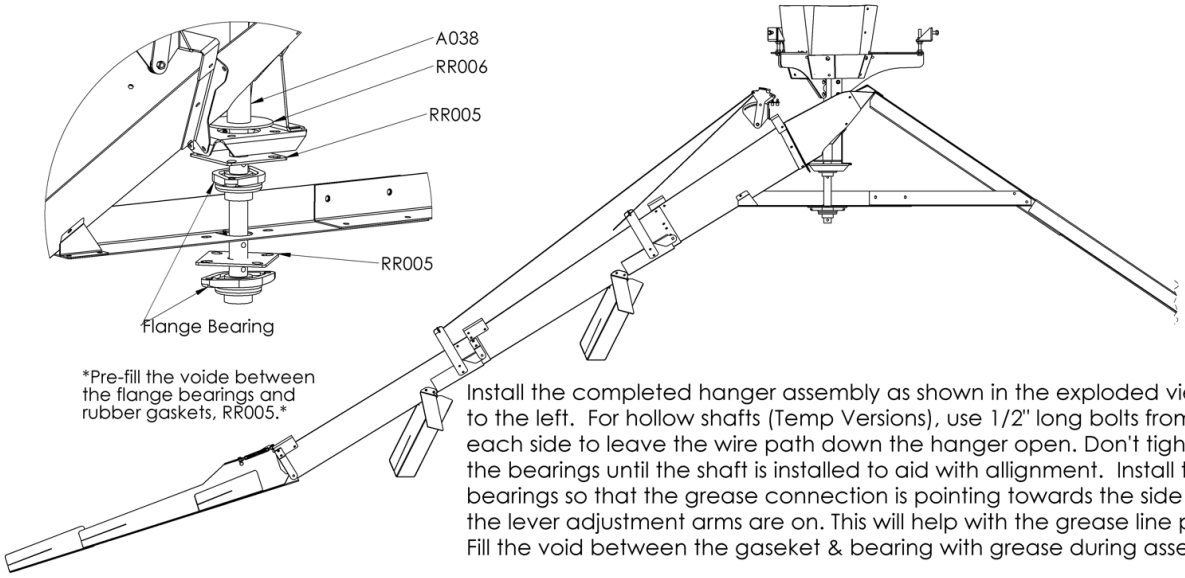
STEP 15:



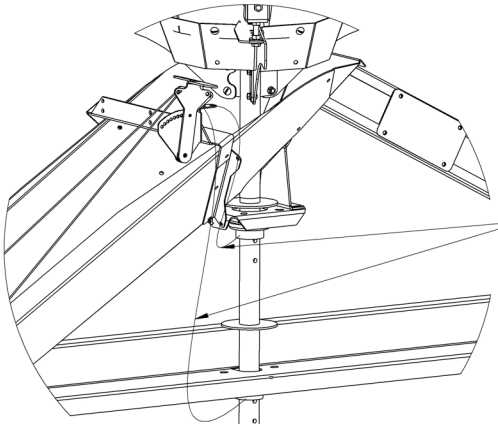


-Using 1/2" x 5" long bolts, washers and jam nuts attach the hanger brackets, H014 to the triangle mount plates. Based on your bin lid opening diameter, choose the best holes to center your hanger assembly. Cut off any excess, but keep as much material as possible by the mount hole you choose for strength.
-A 1/2" x 1.5" bolt and lock nut will be used to attached the hanger brackets to the bin rim.
-The 5" bolt and jam nuts will be used to get the shaft plumb. Once installed and adjusted as vertically as possible, jam all nuts tight so it does not move.

STEP 16:



Install the completed hanger assembly as shown in the exploded view to the left. For hollow shafts (Temp Versions), use 1/2" long bolts from each side to leave the wire path down the hanger open. Don't tighten the bearings until the shaft is installed to aid with allignment. Install the bearings so that the grease connection is pointing towards the side that the lever adjustment arms are on. This will help with the grease line path. Fill the void between the gaseket & bearing with grease during assembly.



RUN EACH GREAS LINE UP TO THE MOUNT HOLES BESIDE THE ADJUSTMENT LEVER. SECURE THE GREASE LINE WITH ZIP TIES.

INITIAL GREASING*

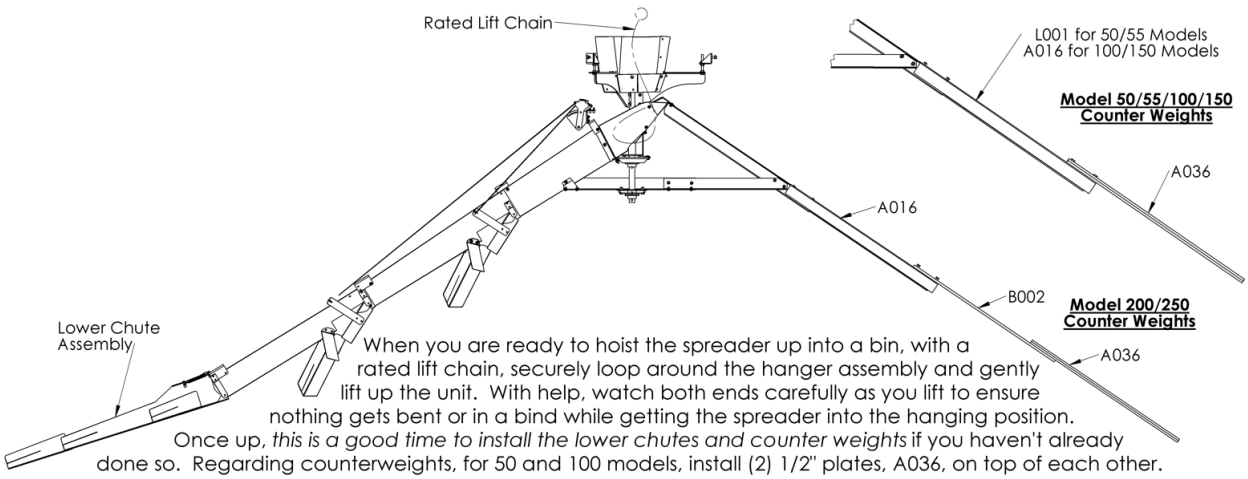
Please make sure you pre-filled the void between the rubber gaskets and flange bearings as shown in the previous step for optimal life.

MAINTENANCE GREASING & ANNUAL CARE*

DO NOT USE A POWER GREASE GUN A special cross hole has been drilled into the flange bearings to allow grease to pass from the bearing to the void made by the rubber gasket. Each time the bin is re-filled, add an additional 10 pumps of grease to each bearing. The rubber gasket will naturally purge during this process. Using a power greaser may pump the grease too fast and not allow the grease to follow the proper paths.

*It is advised to regularly check that the spreader is spinning freely and properly to prevent damage to the bin if the spreader would ever stop spinning.

Step 17:



When you are ready to hoist the spreader up into a bin, with a rated lift chain, securely loop around the hanger assembly and gently lift up the unit. With help, watch both ends carefully as you lift to ensure nothing gets bent or in a bind while getting the spreader into the hanging position. Once up, *this is a good time to install the lower chutes and counter weights* if you haven't already done so. Regarding counterweights, for 50 and 100 models, install (2) 1/2" plates, A036, on top of each other. For 200 models, install (1) 5/8" plate, B002, then install (2) 1/2" plates, A036, on top of each other to the end of the 5/8" plate.

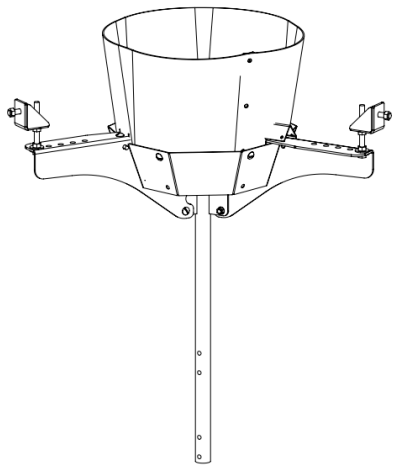
Installation POINTERS and GUIDANCE:

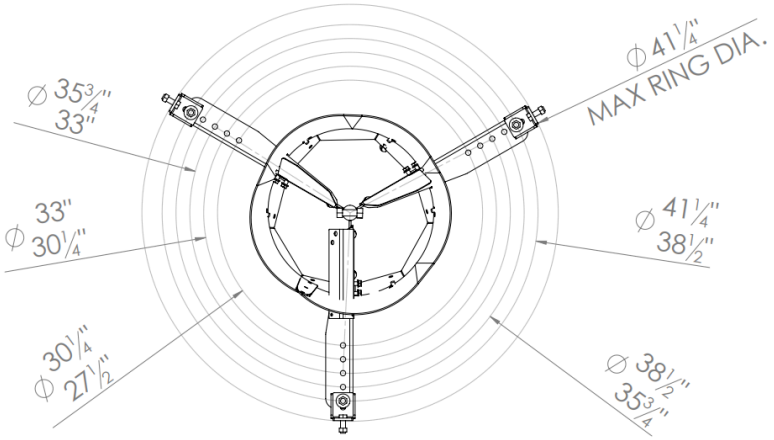
-It is highly advised to watch the coronado assembly video at the website shown at the bottom left of each page. The details and info to guide your assembly/installation experience.

-For smoother operation at higher unload rates, more distance between the unload auger into the grain spreader is desired. If you ever see the spreader backing up/plugging, you need to increase the distance between the auger discharge and the grain spreader inlet. For example, for best performance with 13” augers, you may need a minimum of 3’ drop between the auger discharge and the grain spreaders inlet. This helps increase the grain speed before entering the grain spreader which highly improves operation and max capacity.

-When installing the shaft weldment that the spreader rotates on, it is important to make sure that the spreader does not rub the shaft when rotating. This will slow down the spreader rotation which can affect performance. For best performance, no contact is typically obtainable and ideal.

Mounting adjustments:





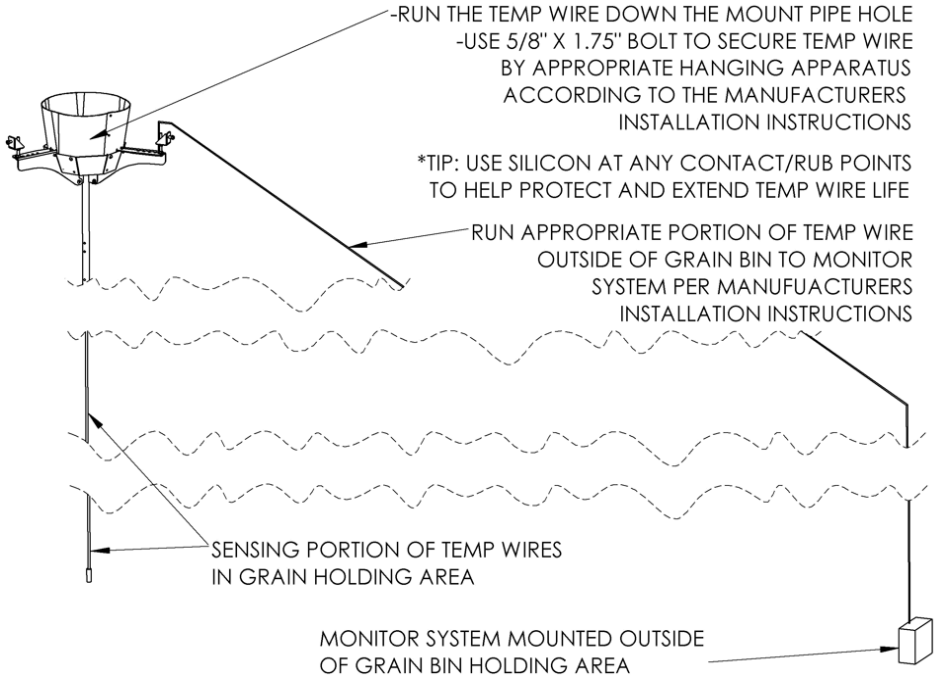
Depending on Grain Bin configuration, you may need to cut off excess bracket, especially in bins with smaller bin lid openings.

TORQUE SHEET (FT*LBS)

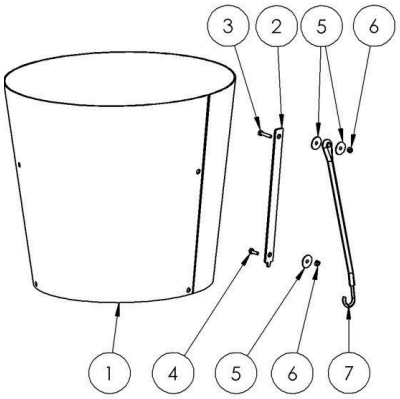
(Torque all bolts to these values)

Size	Grade 2 Coarse	Grade 2 Fine	Grade 5 Coarse	Grade 5 Fine	Grade 8 Coarse	Grade 8 Fine
1/4	4	4.7	6.3	7.3	9	10
5/16	8	9	13	14	18	20
3/8	15	17	23	26	33	37
7/16	24	27	37	41	52	58
1/2	37	41	57	64	80	90
9/16	53	59	82	91	115	129

GRAIN TEMPERATURE MONITOR SYSTEM - OPTIONAL PARTS AND ASSEMBLY:

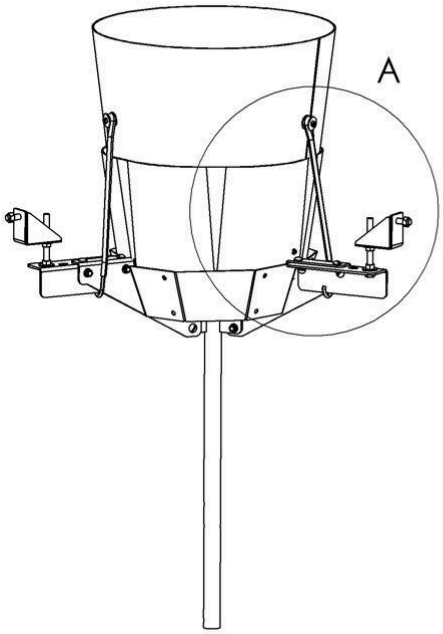


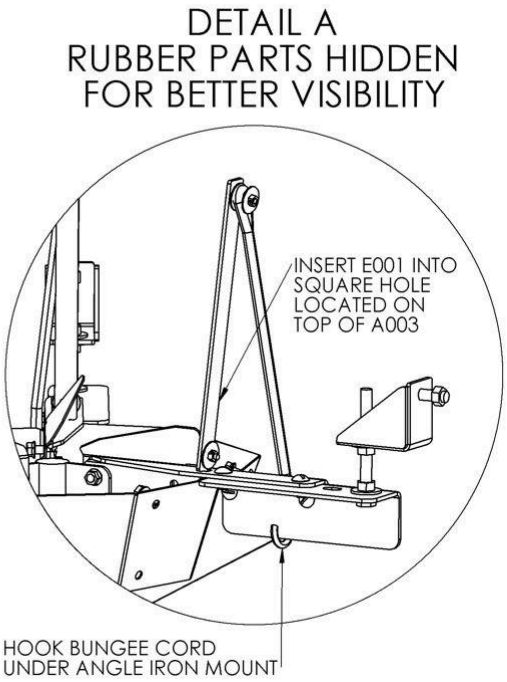
OPTIONAL EXTENDED REMOVABLE RUBBER TOP (Installed after Cornado is completely install in grain bin- Removable Seasonally):



ITEM NO.	PART NUMBER/Desc	Exp ASM 1/QTY.
1	R002 - XL Rubber Extension	1
2	E001	3
3	1/4" x 1-1/4" Hex Bolt	3
4	1/4" x 3/4" Hex Bolt	13
5	1/4" Fender Washer	9
6	1/4" Hex CenterLockNut	6
7	E002	3

Slide the XL Extension into the standard R001 Rubber Funnel, inserting the tab on E001 into the square holes. Pull the bungee strap down and around the already installed tripod angle brackets and hook to the angle brackets as seen in Detail A.





THIS PRODUCT IS COVERED BY ONE OR MORE
OF THE FOLLOWING PATENTS

PATENT: US D931,340S
PATENT: US D930,048S
PATENT: US 11,851,296 B2
PATENT: US 11,878,880 B2
PATENT PENDING