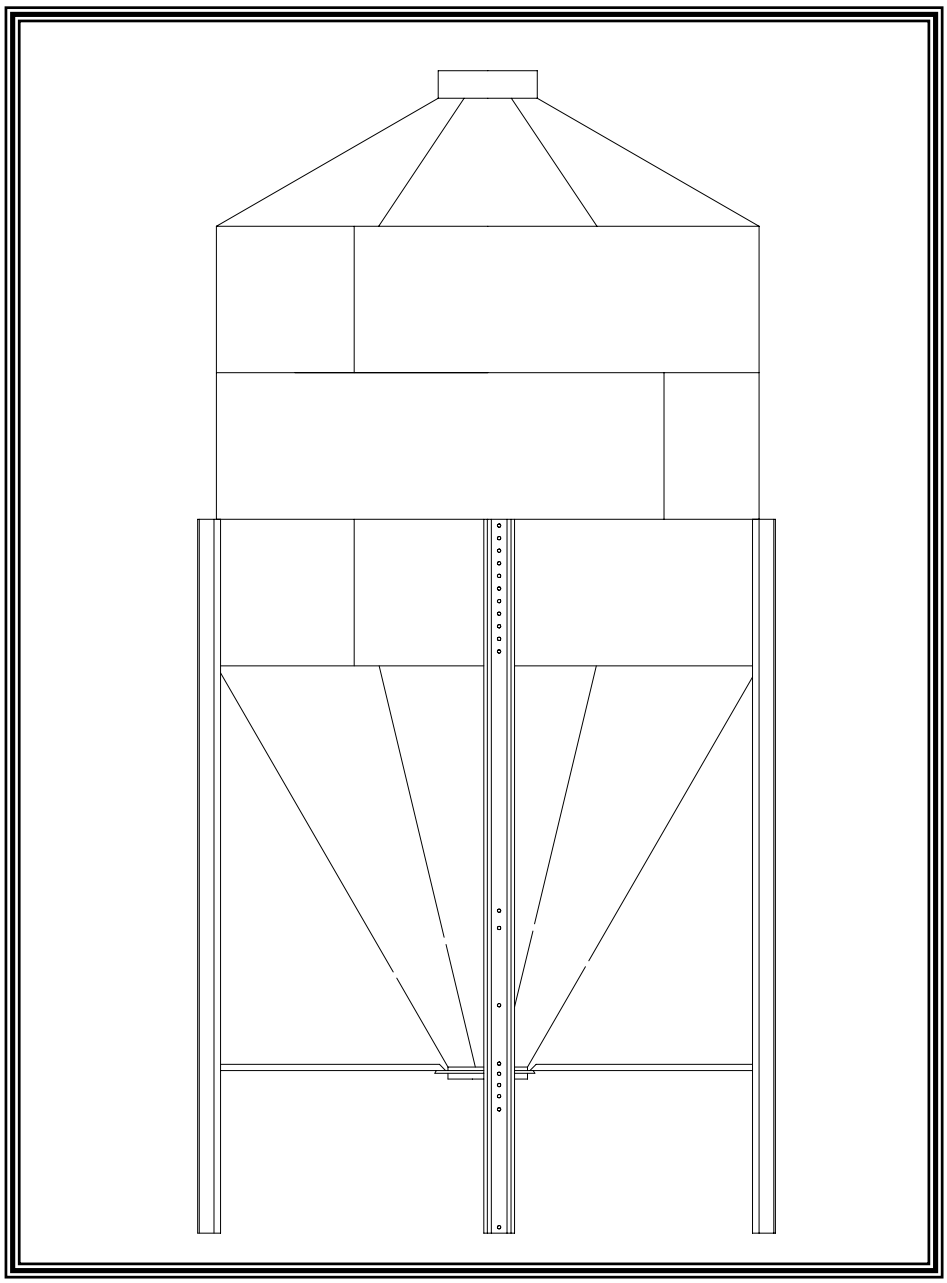
6’ Bulk Bin Owner’s Manual and Assembly Instructions



Quality Livestock and Poultry Equipment

Coldwater, OH 45828 Phone: 1-800-531-1064

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6' BIN PACKING LIST

Check all parts with packing list below before starting assembly. Report any shortages immediately to your supplier. Save all cartons until bin is completed.

6 FT. DIAMETER BIN	BIN SIZE & OPENING	6' - 16" OPENING														
REQUIREMENTS	OPENER TYPE	CHAIN				TRU-LOK				PNEUMATIC				WEIGH		EXT
As of 11-1-98	NUMBER OF RINGS	1	2	3	4	1	2	3	4	1	2	3	4	1	2	
	ORDER NUMBER	506001	506002	506003	506004	506701	506702	506703	506704	506601	506602	506603	506604	506301	506312	506090
CAT #	DESCRIPTION	WEIGHT	QUANTITY REQUIRED PER BIN													
506009	20 ga. Main Hopper - Plain With Drip Edge	40.0	1	2	2	2	1	2	2	2	1	2	2	2	1	2	
506010	20 ga. Main Hopper - Decal With Drip Edge	41.0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	
506007	20 ga. Extension Hopper - Plain	39.0	0	1	3	5	0	1	3	5	0	1	3	5	0	1	2
506008	20 ga. Extension Hopper - Decal	39.0	0	1	1	1	0	1	1	1	0	1	1	1	0	1	
506024	Galv. Leg - 103.25"	37.0	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
506232	Leg-Collar Brace Angle	2.2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
506023	Roof Deck Section	7.0	6	6	6	6	6	6	6	6	4	4	4	4	6	6	
506503	Roof Deck Section - Pneumatic Fill	7.0	0	0	0	0	0	0	0	0	2	2	2	2	0	0	
506018	Taper Hopper Section - 16"	14.0	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
506160	Basic Hardware Carton	40.0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
506072	Extension Hardware Carton	4.0	0	1	2	3	0	1	2	3	0	1	2	3	0	1	1
506166	Components Carton - 16" Chain	37.0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	
506126	Components Carton - 16" Tru Lok	38.0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	
506366	Components Carton - 16" Weigh Bin	40.0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
500759	Components Carton - Pneumatic Fill	34.0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	
500226	TL Basic Tube	8.0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	
500729	TL Extension Tube	2.0	0	0	0	0	0	1	2	3	0	0	0	0	0	0	
506763	TL Roof Deck Tube	2.0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	
	OPTIONAL LADDER		506101	506102	506103	506104	506101	506102	506103	506104	506101	506102	506103	506104	506101	506102	
500190	Basic Ladder	38.0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
500191	Extension Ladder	9.0	0	1	2	3	0	1	2	3	0	1	2	3	0	1	
506034	Ladder Stand-Off Ring	4.0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
506042	Roof Ladder	7.0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

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SAFETY WARNINGS

Pax Steel Products primary concern is your safety. This section is included in the manual as a guide to help and encourage the safe operation of your feeding equipment. It is your responsibility to evaluate the hazards of each operation and implement the safest method of protecting yourself as owner and/or operator. We strongly encourage you to establish and promote a program of safety goals with owner/operator responsibilities that assure safe working practices in your operation.

SAFETY ALERT SYMBOLS

The safety alert symbol shown below is always used on warning signs that invlove your safety. Anytime you see this symbol heed the warning it identifies.

ATTENTION !!

BECOME ALERT !!

YOUR SAFETY IS INVOLVED

- **Avoid any alterations** to the equipment. Such alterations may produce a very dangerous situation where serious injury or death may occur.
- **Keep all safety guards on** equipment
- Ground all electrical equipment. **Do not bypass electrical safety equipment**. Make sure electrical equipment is properly installed and grounded by a qualified electrician.
- Wear a hard hat during construction
- Order and attach warning symbols to danger areas that are not already noted
- **Do not enter bin** during operation or at any time without proper safety precautions.

This manual must be delivered with the equipment to its owner. Failure to read this manual and its safety instructions is a misuse of the equipment !

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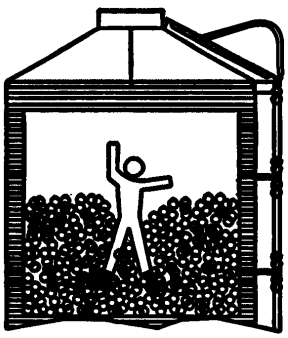
ATTENTION: The decal shown below must be present on the inside of the roof lid cover. If it is not there or damaged contact our sales office at 1-800-531-1064 or 1-419-678-8731 for a free replacement.

⚠ DANGER

YOU CAN SUFFOCATE UNDER MATERIAL IN THIS TANK



FLOWING MATERIAL TRAPS AND SUFFOCATES

CRUSTED MATERIAL COLLAPSES AND SUFFOCATES

NEVER ENTER THIS TANK DURING LOADING AND UNLOADING

AT OTHER TIMES ENTER TANK ONLY IF YOU

1. **SHUT OFF AND LOCK OUT ALL POWER.**
2. **USE A SAFETY HARNESS AND SAFETY LINE.**
3. **WEAR PROPER BREATHING EQUIPMENT.**
4. **AVOID THE CENTER OF THE TANK.**
5. **STATION PEOPLE TO HELP OUTSIDE THE TANK.**

500443

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GENERAL INFORMATION

✴ Read all safety information, instructions and illustrations before starting to assemble your new bulk bin. Please review the complete assembly manual twice before starting and be sure to check your shipment with the packing list for any shortages. Please report shortages promptly.

✴ Metric measurements are shown in millimeters and in parenthesis throughout the manual. Example: 13" (330mm)

✴ The terms horizontal and vertical refer to the bin in a standing position.

✴ Instructions for optional bin accessories are packaged with the components.

✴ To help decide which is the top and bottom of corrugated hoppers, a hole spacing of 3.125" (79mm) is used at the top of all extension hoppers and at the bottom of all main hoppers.

✴ Vertical seams must be staggered on all hopper rings. On 9' x 6 ring and 7' x 5 or 6 ring bins align leg holes on bottom two main hopper rings to accommodate longer legs.

✴ Taper hopper vertical seams and boot collar seam use truss head bin bolts with the head always on the inside of the bin to allow for better feed flow.

✴ Corrugated hoppers and roof deck seams use hex head bin bolts with the head to the outside except to fasten legs to corrugation where the bolt head goes to the inside.

✴ Tighten all bin bolts from the nut side to help reduce the possibility of damaging the rubber seal our bin bolts. Do not allow the bolt heads to spin when tightening.

✴ When assembling corrugation sheets, use a drift pin to help align holes and always overlap sheets in the same direction. Finger tighten nuts until the next ring is assembled.

✴ Remove protective paper from decal before raising bin. Paper may be difficult to remove if exposed to warm sunlight for several hours.

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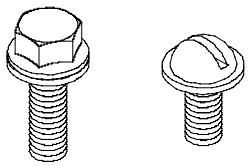
HARDWARE LIST

501440 - 5/16" x 3/4"
Truss Bin Bolt

010603 - 5/16
Hex Nut

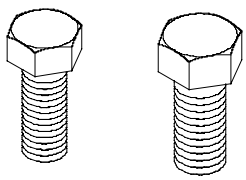
501441 - 5/16"
Flange Nut

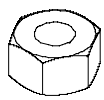
501442 - 5/16" x 1"
Hex Bin Bolt

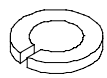


010253 - 3/8"
Lockwasher

010664 - 3/8" x 1"
Hex Bolt







010254 - 7/16"
Lockwasher

011115 - 3/8"
Hex Nut

011116 - 7/16"
Hex Nut

012240 - 7/16" x 1"
Hex Bolt

TOOL LIST

Below is a list of tools required to assemble your new bin. The use of an electric or air impact wrench will greatly reduce your assembly time. However, you must be careful when using power equipment not to over-torque the fasteners.

Open or Box End Wrenches (1/2", 9/16", 5/8", 11/16")
Socket Set with Speed Wrench or Impact
Hammer or Rubber Mallet
Large Screwdriver
12" Drift Punches
Nail Apron

SITE SELECTION

The success of all building projects begins with the ground you start on. This is also the case with assembling your new bulk bin. The selected site must be firm, level ground with good water drainage and a soil bearing capacity of 3500 lbs.. per sq.. ft.. Check with your local soil engineer if you have any questions. When you have determined that the soil is acceptable, you should also consider the following factors: accessibility of feed handling equipment, space for future growth and the absence of overhead obstructions such as power lines or tree branches.

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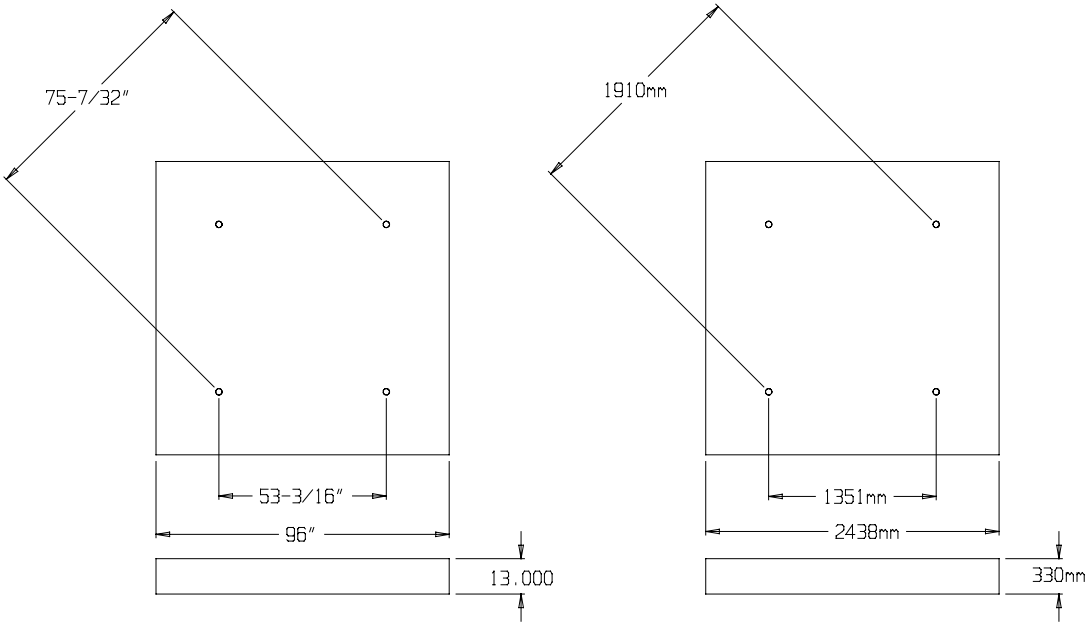
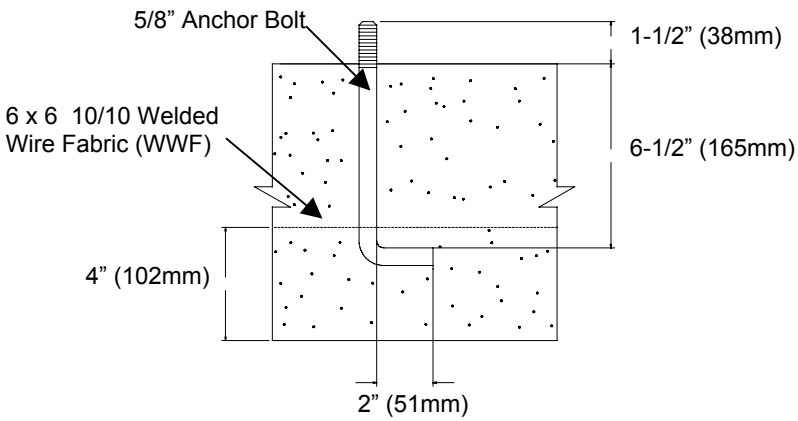
FOUNDATION AND ANCHORING SPECIFICATION

After selecting the best site for your new bin and making sure the soil has the required 3500 psf, you are now ready to begin your foundation. It is extremely important that your bin has a firm and level foundation. The concrete used for this must have a minimum compression rate of 3000 lbs.. per square inch at 28 days. The pad must meet the dimensions listed below and be poured both square and level. When laying out the bolt locations, it is very important to maintain the squareness of the bin. Be sure to check all (3) diagonal measurements and hold the same distance between holes as shown. The "L" shaped anchor bolt shown in diagram below can be purchased from local retailers. When using the optional anchor bolt shown below, holes can be drilled after concrete has set however you must use the same dimensions as shown below to assure bin maintains squareness. **Note: Locating anchor bolt holes by using the assembled bin legs does not assure the bin will be set squarely and can result in damage to equipment and/or personal injury.**





Optional style anchor bolts as shown here can be supplied by Pax. Order kit # 500220 for 6' bins.

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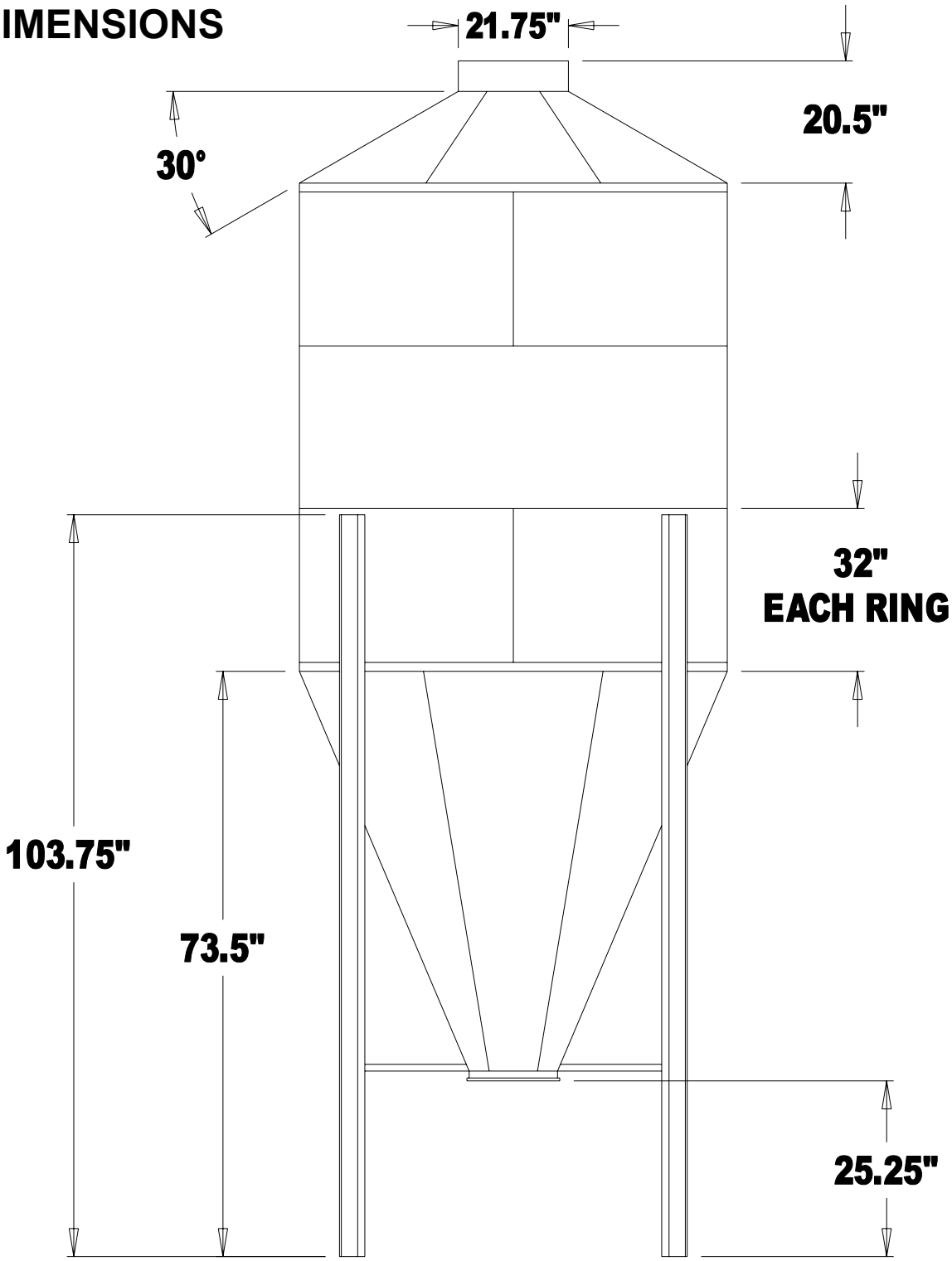
MODEL 506
6' DIAMETER BIN
DIMENSIONS



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6' BIN PARTS LIST

500723 LID COLLAR - (1)

506023 ROOF DECK SECTION - (6)

FOR PNEUMATIC FILL BINS, REPLACE (2) 506023 ROOF DECKS WITH (2) 506503 ROOF DECKS WITH HOLES.

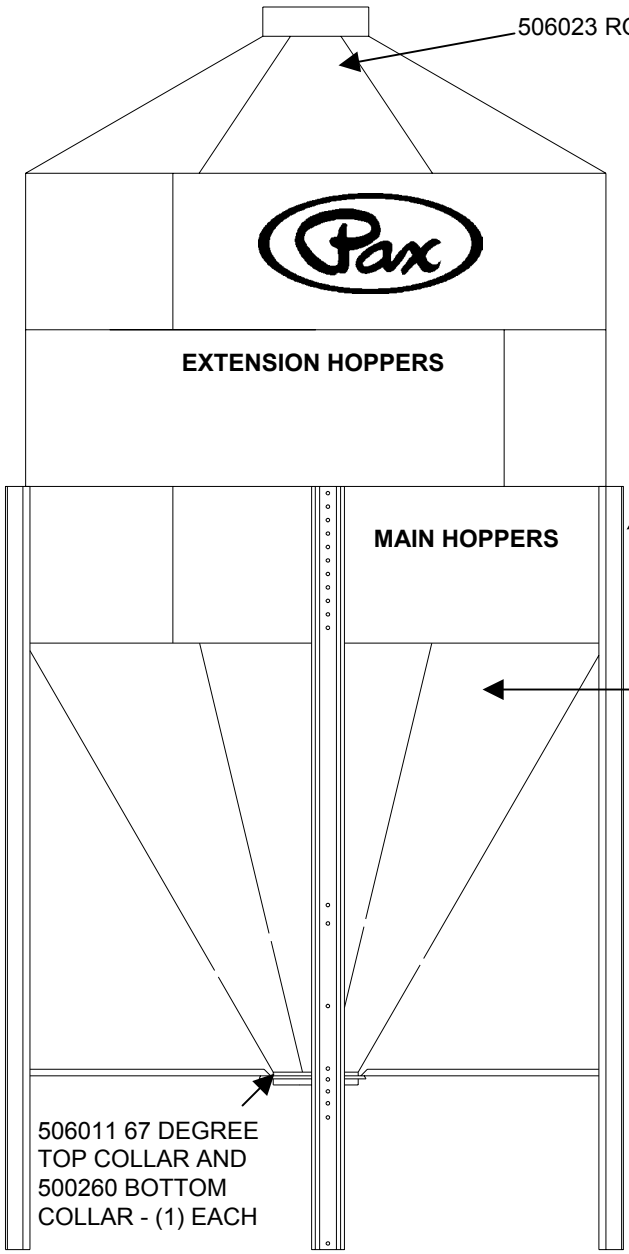
CORRUGATED HOPPERS

1 RING BIN
506009 20ga Main - (1)
506010 20ga Main w/Decal - (1)

2 RING BIN
506009 20ga Main - (2)
506007 20ga Extension - (1)
506008 20ga Ext. w/Decal - (1)

3 RING BIN
506009 20ga Main - (2)
509007 20ga Extension - (3)
509009 20ga Ext. w/Decal - (1)

4 RING BIN
506009 20ga Main - (2)
506007 20ga Extension - (5)
506008 20ga Ext. w/Decal - (1)



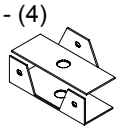
506024 103.75" Leg - (4)

506018 TAPER HOPPER SECTION - (6)

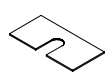
506232 LEG TO COLLAR BRACE - (4)

506011 67 DEGREE TOP COLLAR AND 500260 BOTTOM COLLAR - (1) EACH

500156 TOP LEG PLATE - (4)



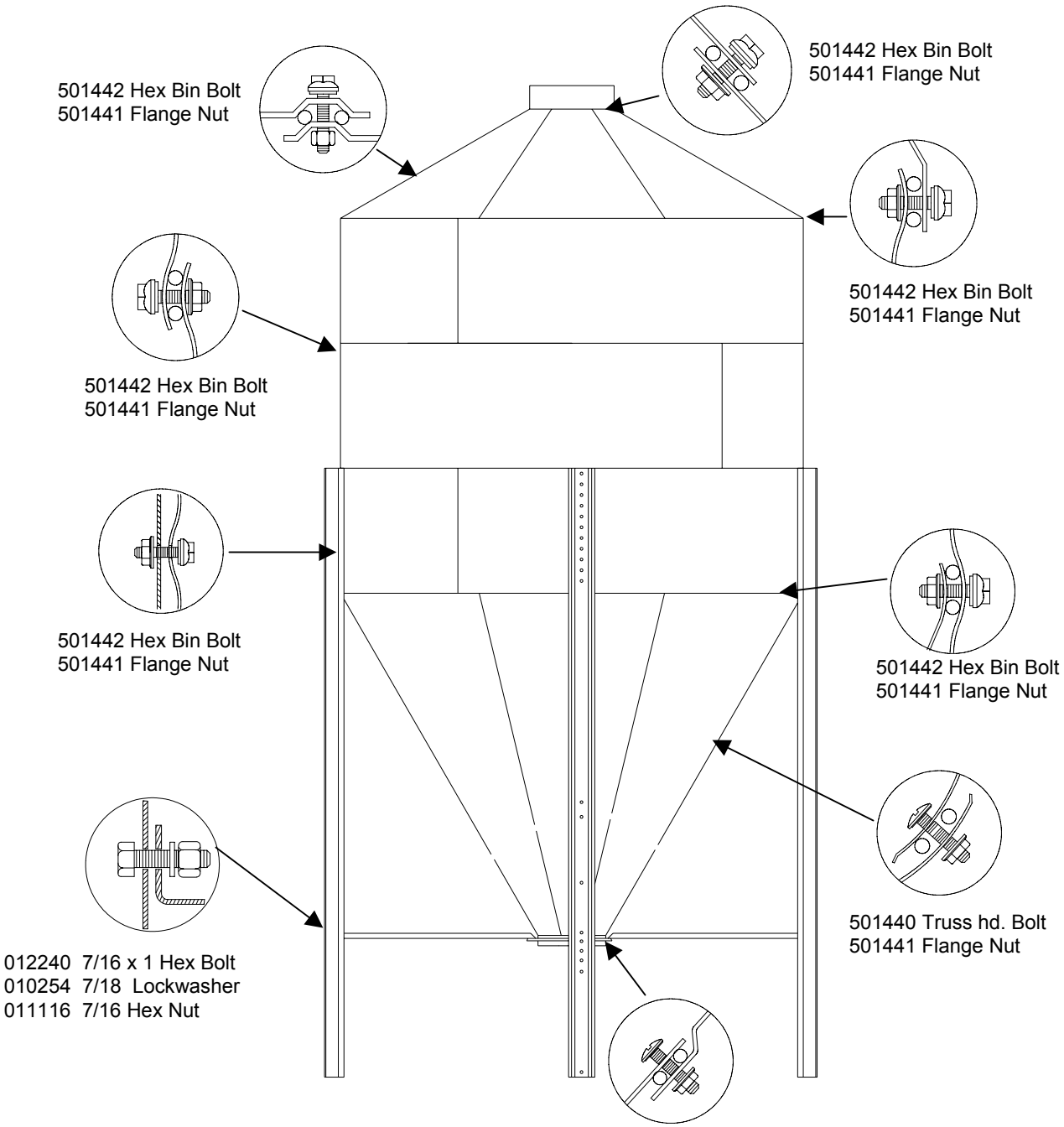
500155 BOTTOM LEG PLATE - (4)



OPTIONAL 500249 LEG SHIMS - VARY

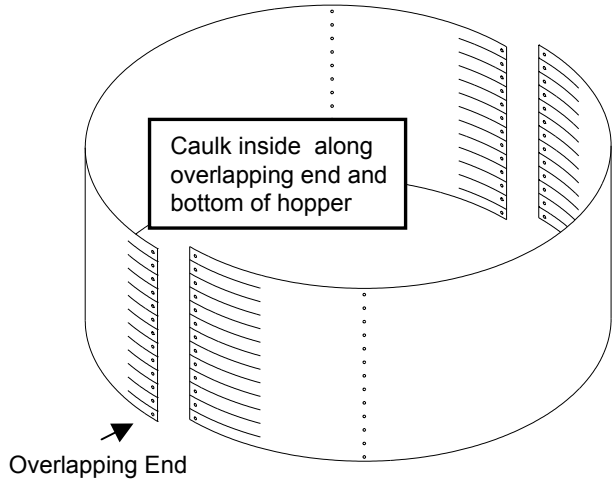
HARDWARE AND ASSEMBLY SUMMARY

This illustration shows the type of fasteners, position of caulking and the location they are used. It can be used as a quick reference when assembling your bin. Refer to the step-by-step instructions for complete assembly details.



CORRUGATED HOPPER ASSEMBLY

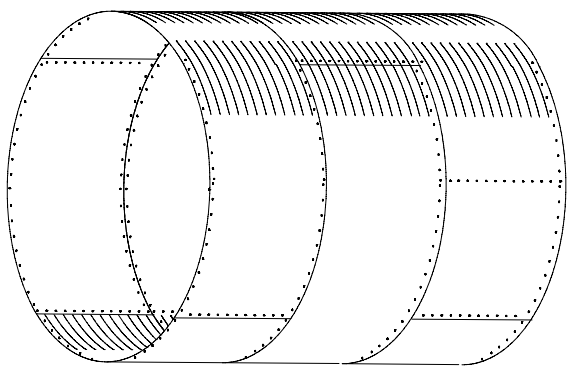
Bin assembly starts with the (2) heaviest corrugated hopper sheets. You can identify them by referring to the color coded tag, the extra row of vertical holes and the bottom row of holes having a 3-1/8" spacing. Apply caulking to the inside of the hoppers along both sides of the bottom row of holes and the left end holes. Place the caulked end **over** the uncaulked end of each adjacent hopper. Assemble ends with 501442 bin bolts and 501441 flange nuts. Do not tighten until all (3) sheets of ring are assembled. **Be sure caulking covers both sides of holes to prevent leaking.**



COLOR CODE	HOPPER THICKNESS
GREEN	16 GA. HOPPER
RED	18 GA. HOPPER
BLACK	20 GA. HOPPER

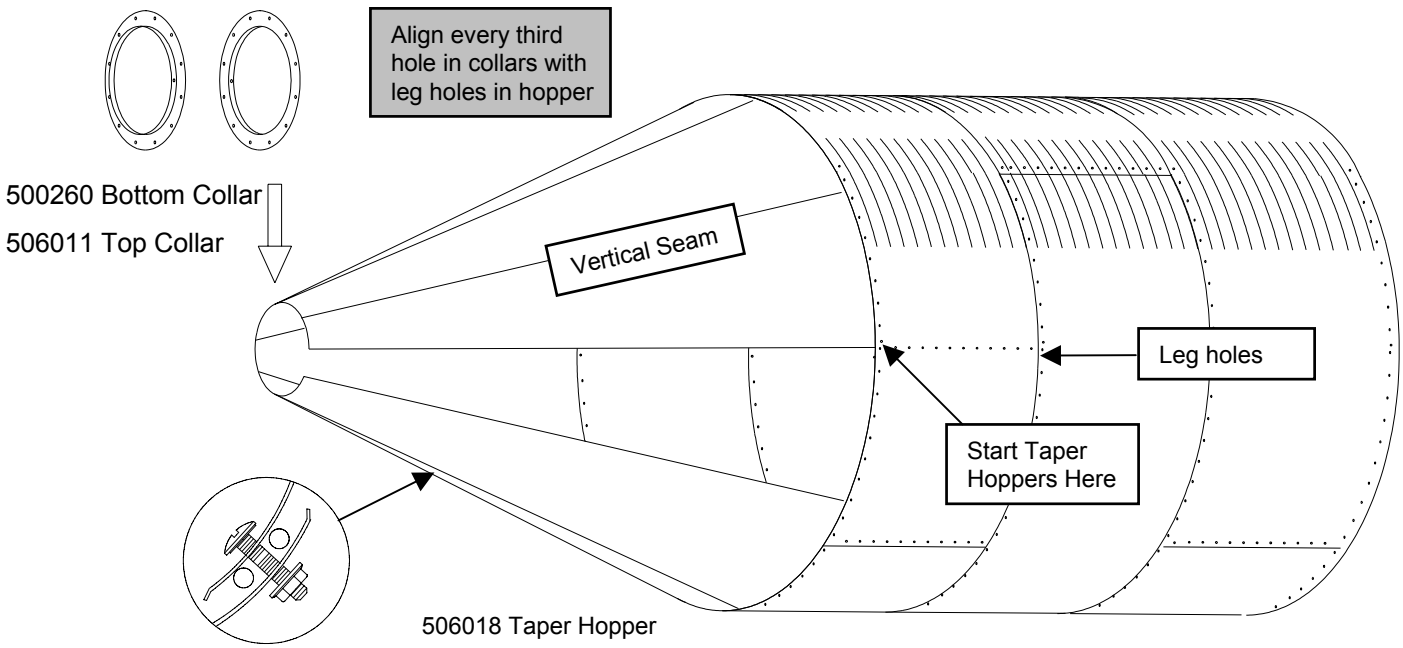
Refer to parts list on page 8 to determine the next sheets required to build additional rings. Place (1) 2nd ring hopper on top of the assembled 1st ring making sure ends are in center of bottom ring hoppers. Align corner hole where the (3) hoppers meet first for easiest assembly. After completing the second ring you should lay assembly on its' side so hoppers can be rolled to make it easier to assemble any additional rings.

Assemble and caulk each additional ring same as instructed above. Remember to complete entire ring before tightening nuts. Tighten horizontal seams by starting in center of hopper and working toward ends. When all hoppers are assembled you should have the heaviest corrugation on the bottom and the decaled sheet on top.



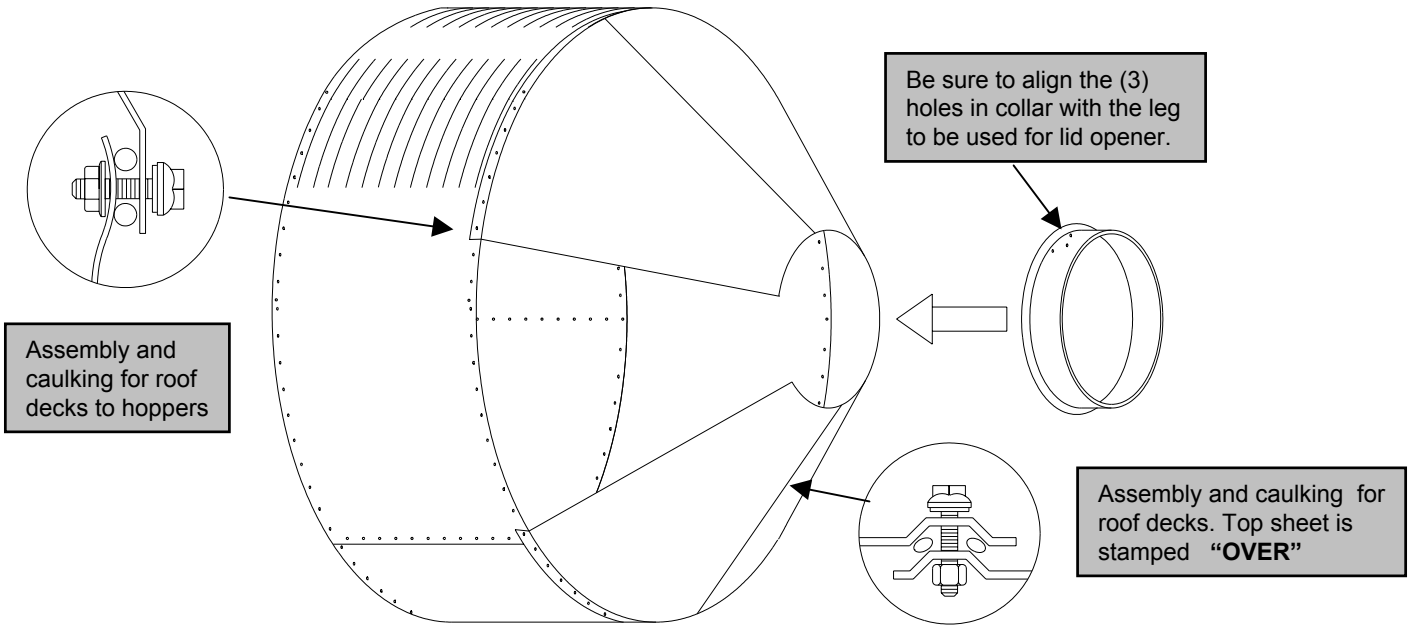
IMPORTANT: Hardware must be tightened from the nut side and held on bolt side to prevent damage to seal on bin bolt

TAPER HOPPER AND COLLAR ASSEMBLY



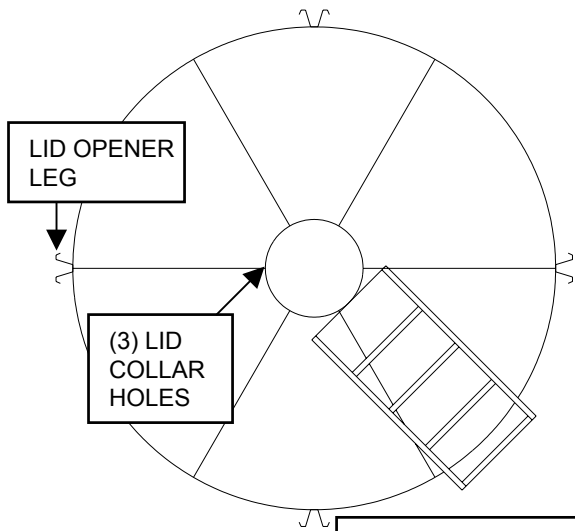
Before assembling taper hopper sections to corrugated hoppers you must apply the proper caulking to assure a watertight seal. Begin caulking around the inside of the bottom row of holes on the bottom ring of corrugated hoppers. **Be sure to caulk both sides of all holes.** Next caulk taper hoppers along the vertical side with the bend towards the inside. Caulk all taper hoppers on same side and apply to both sides of holes. Align first taper hopper section with one set of leg holes and assemble to inside of corrugated hoppers using 501442 hex bin bolts and 501441 flange nuts. Keep bolt heads on outside of assembly. Leave holes that align with leg holes open until assembling legs to bin. Place next taper hopper over previous one and align holes with drift pins. Assemble loosely to corrugated hoppers. Align all holes and assemble as shown in diagram above using 501440 truss head bin bolts and 501441 flange nuts. Truss head bolts go on **inside** of hoppers. Tighten nuts after each sheet. Continue assembling all sections until the last two. Caulk 506011 top collar on both sides of holes on outside of top flange. Place inside the end of the assembled hoppers. Align holes in collar so every third hole is aligned with a row of leg holes in corrugated hoppers. Assemble loosely with same hardware as above. Finish assembling the final (2) sections and top collar. Tighten all hardware. Caulk 500260 bottom collar around opening on top side of collar. Assemble to top collar with (6) 012240 7/16" x 1" hex bolts, 010254 lockwashers and 011116 nuts using the six holes that **do not** align with legs.

ROOF DECK AND LID COLLAR ASSEMBLY

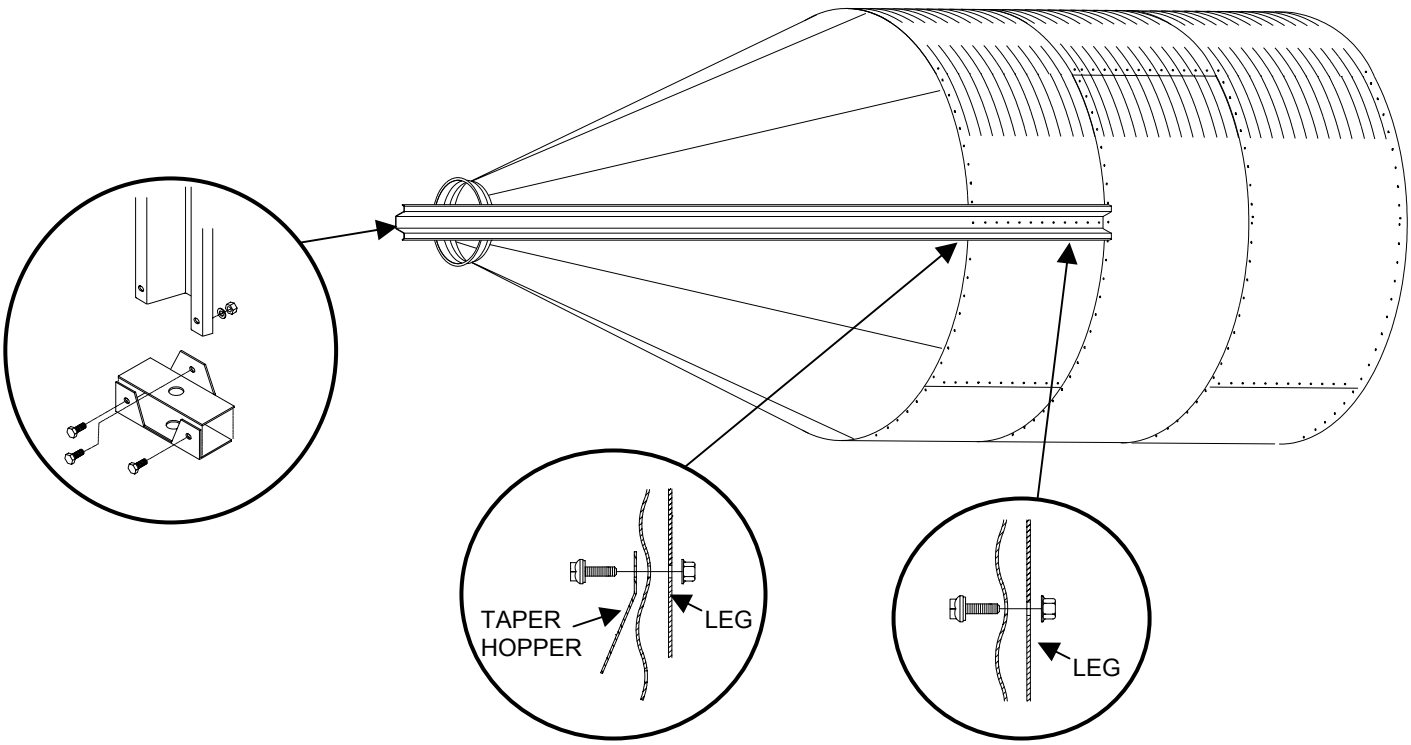


Before assembling roof deck you must decide where the lid opener and ladder will be located. Drawing below shows the preferred layout for locating the lid opener and ladder. Tru-lok lid openers must be located on a roof deck seam that aligns with a leg. Chain openers do not need to align with leg. Ladders should be located approximately 90 degrees from lid opener. After deciding on proper layout, you need to begin caulking roof decks along both sides of bottom holes and holes along side marked "OVER". Assemble roof decks over the top of corrugated hoppers starting with one end aligned with lid opener leg. Refer to drawings. Use 5/16" hex bin bolts and flange nuts. Keep bolt heads to the outside. Overlap sections as marked "over" or "under". Tighten nuts after each section. Double caulk around holes on bottom of 500723 lid collar and position on roof decks so the (3) lid hinge holes align with leg to be used for lid opener. Refer to drawing. Tighten collar and roof decks secure with same hardware as above.

ON PNEUMATIC FILL BINS, REPLACE (2) 506023 ROOF DECKS WITH (2) 506503 ROOF DECKS WITH HOLES. POSITION DIRECTLY ACROSS FROM EACH OTHER



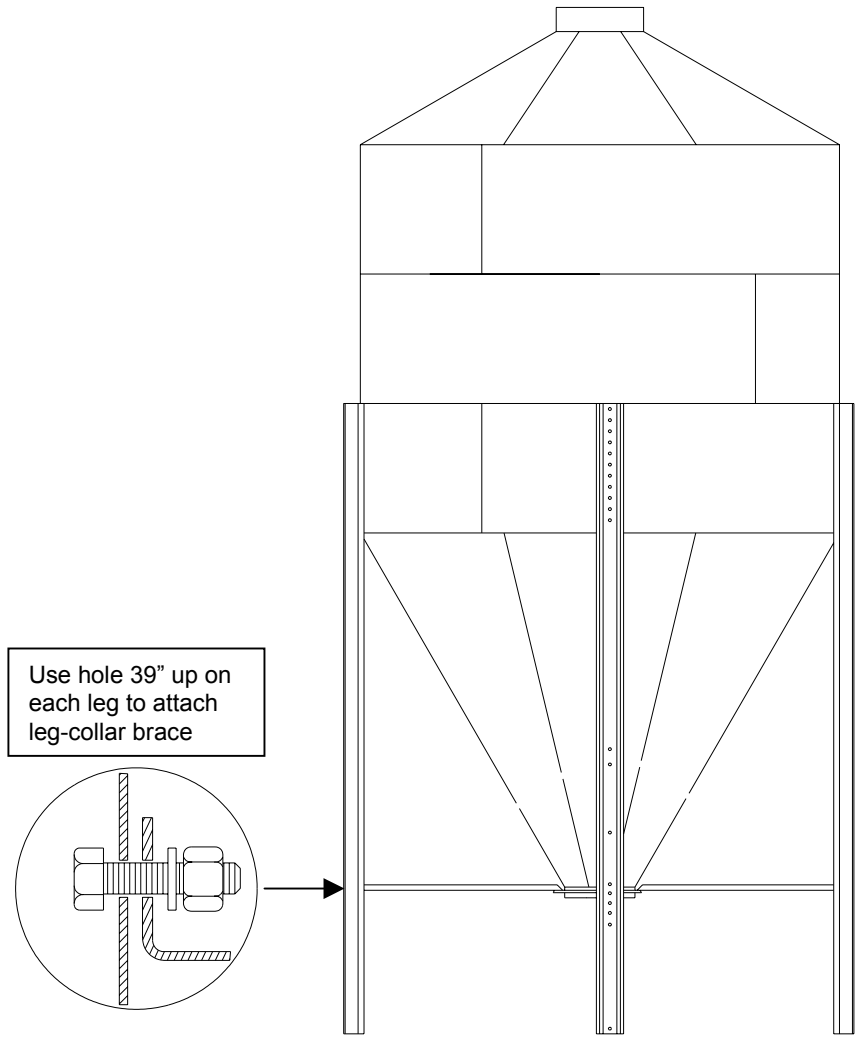
LEG AND TANK ASSEMBLY



After you have finished assembling the tank it is time to attach the bin legs. The 506024 146" bin leg attaches to the (12) leg holes in the bottom ring. To assemble legs you will need someone inside the bin to push bolts thru holes. Align holes with drift pin from outside bin. Hand tighten 501442 bin bolts and 501441 flange nuts on all holes. Refer to drawings above. Roll bin and assemble next leg until all legs are complete. Tighten all nuts secure. Before person exits bin have them check for missing bolts or caulking by darkening bin and looking for light thru open holes. After legs are secure you can now assemble top and bottom leg base plates to each leg. Use (3) 010664 3/8 x 1 hex bolts, (3) 101253 3/8" lockwashers and (3) 011115 3/8" nuts per leg. Refer to drawing above. Tighten nuts secure.

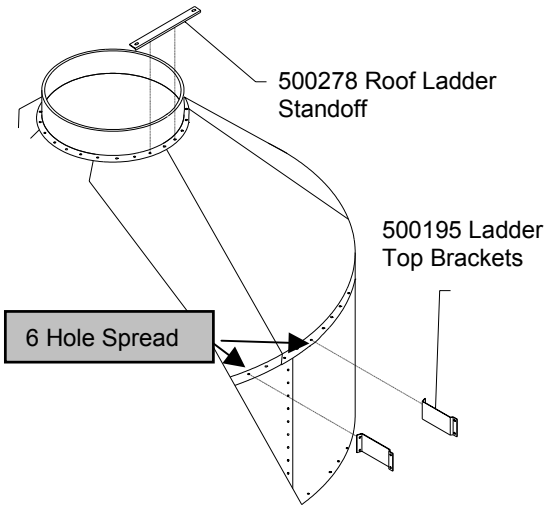
Note: While someone is still in bin you can assemble the ladder brackets as described on pages 15 and 16 and lid tube bracket on page 18 to eliminate having to reenter bin later.

LEG AND BRACE ASSEMBLY

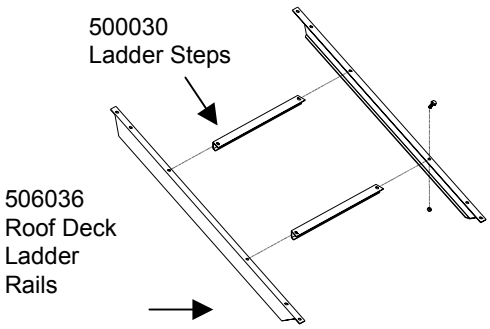


Fasten 506232 Leg to Collar Brace between each leg and top of collar with 012240 7/16" x 1" hex bolt, 010254 7/16" lockwasher and 011116 7/16" nut. Total of (4) braces. Use leg hole shown above and hole in collar that aligns with leg. Tighten hardware after all braces are assembled.

ROOF LADDER ASSEMBLY

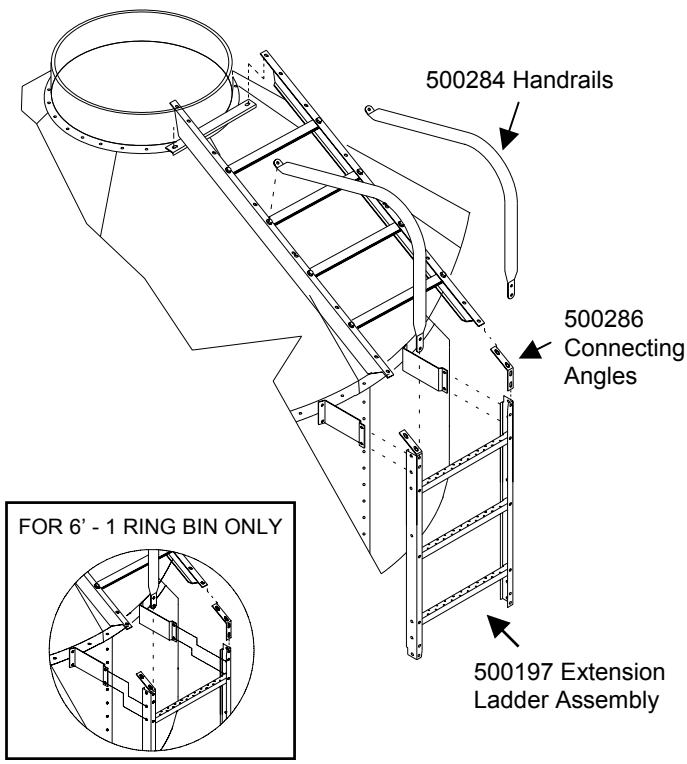


Before assembling the roof deck sections and lid collar we determined where the roof ladder would be located. Remove the (2) bolts in lid collar that align with the holes in the 500278 roof ladder standoff and assemble standoff to lid collar with the same hardware. **The following part of this assembly requires someone inside bin and can be done previously at the same time you are assembling the legs.** Now find the (2) holes in the roof deck and hopper seam that align with the outside holes of the ladder standoff. (6 hole spread) Remove the existing hardware and fasten (2) 500195 top ladder brackets to bin with same hardware using the top hole in each bracket..



Assemble (2) 507036 roof deck ladder rails and (2) 500030 ladder steps with 501442 bin bolts and 012789 locknuts. Keep locknuts to inside of rails. Refer to drawing to determine proper spacing for rails

After roof ladder is assembled, fasten to roof standoff with (2) 010643 5/16" x 3/4" hex bolts and 012789 locknuts. Get (1) 500197 ladder extension assembly and fasten 500286 connecting angle to inside of top end of both rails and 500284 handrail to outside of rails using same hardware as above. Position extension ladder rails over top brackets and slide open end of connecting angles under roof ladder. Align the (2) holes in top brackets and connecting angles with the top 2 holes in ladders and loosely assemble parts with hardware above. On 6' x 1 ring bins use the 2nd set of holes in ladder rails as shown in insert. Assemble top end of the (2) 500284 handrails with same hardware and tighten all nuts secure. All nuts should be to inside of ladders.



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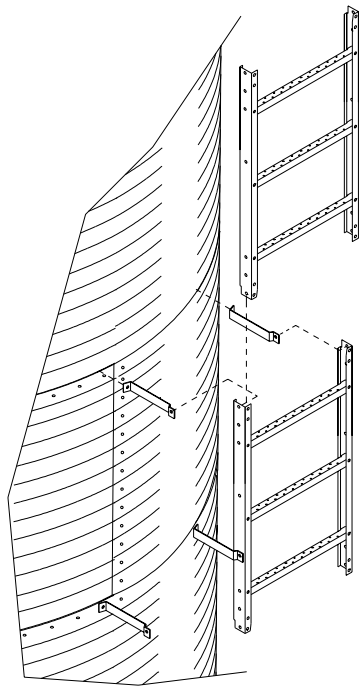
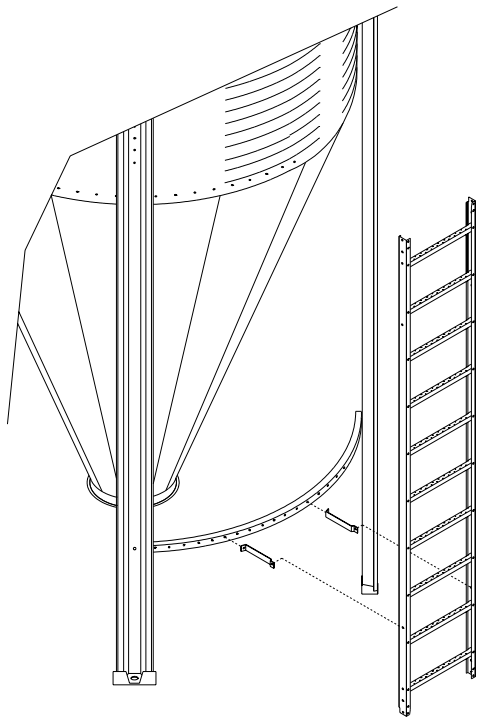
SIDE LADDER ASSEMBLY



In each corrugated hopper seam we must attach (2) 500031 ladder brackets in alignment with the top brackets assembled previously. **This part of assembly requires someone inside bin and can be done previously at same time you are assembling legs.** Remove the bin hardware in each hole that aligns with the top brackets and assemble (2) 500031 ladder brackets per hopper ring using the same hardware just removed. Slip next extension ladder assembly inside bottom of previous ladder and assemble to each other and adjacent ladder brackets with (4) 010643 5/16" x 3/4" hex bolts and 012789 locknuts. Repeat until all ladder extensions are assembled.

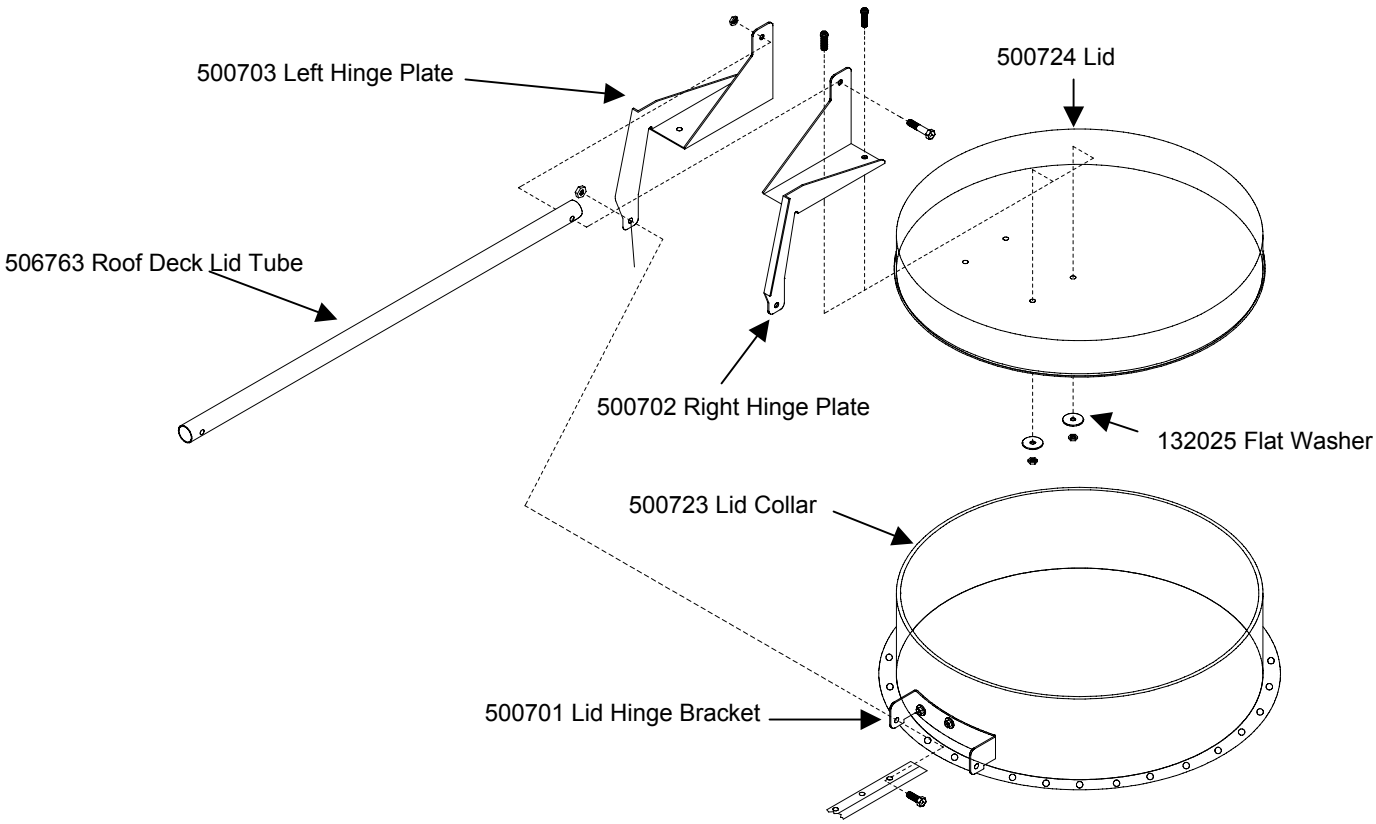


After all extension ladders are assembled, get 506034 ladder standoff rail and assemble between legs below ladders using the bottom hole of each leg (approximately 21" from bottom of leg) and 501442 bin bolts and flange nuts. Align (2) 500031 ladder brackets with ladder brackets above and fasten to standoff rail with 010643 bolts and 012789 locknuts. Slide 500196 basic ladder assembly under bottom rails of extension ladder and assemble to extension ladder and both ladder brackets on standoff rail using 010643 bolts and 012789 locknuts. After ladder is assembled tighten all locknuts.

Make sure all locknuts are tightened securely before proceeding to next step. Do not overtorque locknuts.

TRU-LOK LID OPENER ASSEMBLY

FOR BINS USING CHAIN STYLE LID OPENERS, REFER TO INSTRUCTIONS IN THE CHAIN OPENER COMPONENTS CARTON.



Attach 500701 hinge bracket to 500723 lid collar with (3) 501442 bin bolts and locknuts. Keep bolt heads to the outside. Bracket should be centered over the roof deck seam that aligns with the leg to be used for the lid tube. Tighten bolts securely.

Assemble 500703 left hinge plate and 500702 right hinge plate to the 500724 lid with (2) 501442 bin bolts, 132025 flat washers and locknuts per bracket. Be sure to place washers on inside of lid. Tighten bolts securely.

Attach lid assembly to lid collar by fastening lid hinge plates to lid hinge bracket with (2) 010643 5/16" x 3/4" hex bolts and locknuts. Bolt heads go on inside of hinge bracket. Do not overtighten bolts, lid must open freely.

Fasten 506763 roof deck tube between top holes in both lid hinge plates with 010649 5/16" x 1-3/4" hex bolt and locknut. Do not overtighten bolt, tube must move freely.

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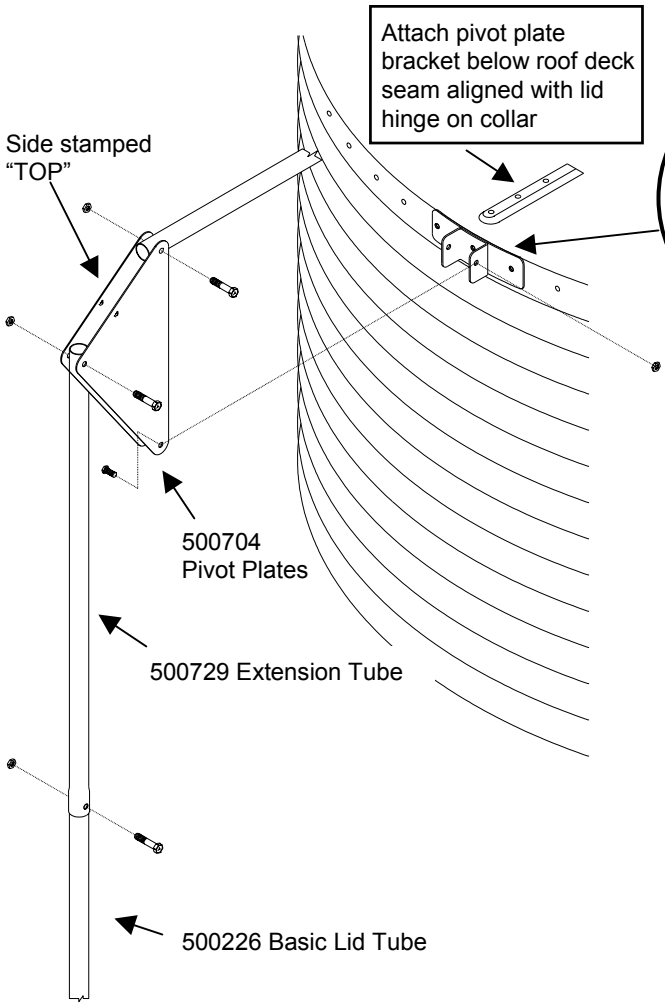
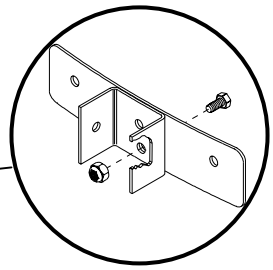
TRU-LOK LID TUBE ASSEMBLY





Attaching pivot plate to bin requires someone inside bin. This assembly can be done previously at same time you are assembling legs.

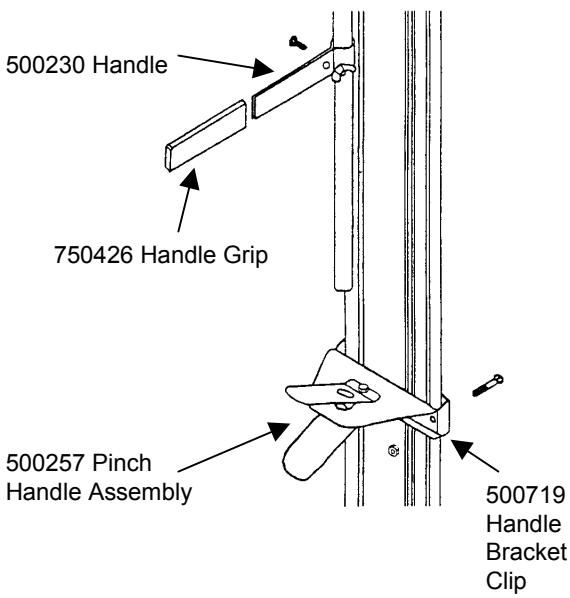
Assemble 500709 pivot plate bracket to 500710 back-up plate with 010643 5/16" x 3/4" bolt and locknut thru bottom holes as shown above. To assemble pivot plate to bin remove (3) bin bolts from holes in roof deck & hopper seam in line with roof deck seam aligned with lid hinge bracket. Reuse bin bolts to attach bracket to bin.

Assemble side marked "TOP" of (2) 500704 pivot plates to end of roof deck tube with 010649 5/16" x 1-3/4" bolt and locknut. Assemble bottom side of pivot plates to the pivot plate bracket with (2) 010643 bolts and locknuts. Bolt heads gon on inside of plates. Refer to drawing. Do not overtighten bolts, pivot plates need to move freely.

Attach all 500729 tube extensions to 500226 basic lid tube with (1) 010649 bolt and locknut per tube. Fasten top extension tube to pivot plates with same hardware.

Place 500257 pinch handle assembly on bin leg approximately 40" from bottom of bin and fasten with (2) 500719 clips and (2) 010649 bolts and locknuts. Exact height can be adjusted for your confort after bin is erect.

Slide 500230 tube handle over bottom of tube and place tube thru pinch handle. Close lid and secure handle approximately 40" above pinch handle with 011434 1/4" x 1" carriage bolt and 010943 wing nut. Wet inside of rubber handle grip and slide over handle.

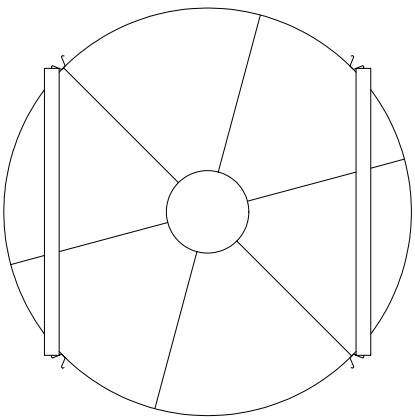


ERECTING THE BIN

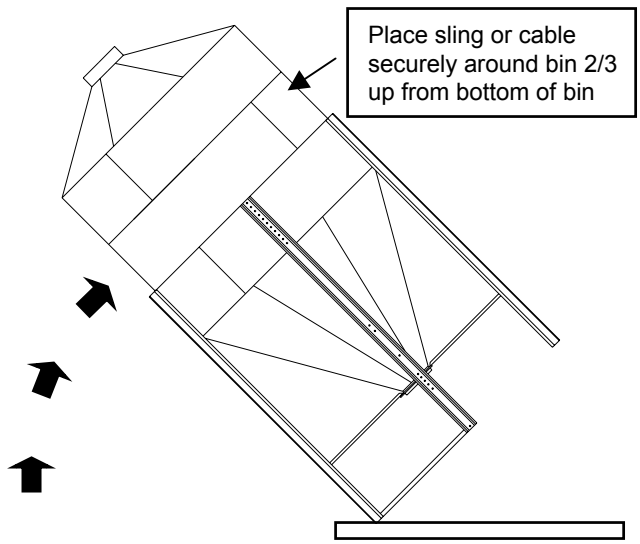
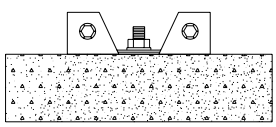
Before erecting your new bin be sure all parts are assembled properly and hardware tightened securely. Peel protective paper off "Pax" decal before raising bin. Place 2" x 4" bracing between legs as shown below to provide extra support. Use of a small crane with cables or slings will be necessary to raise most bins. Be sure to proper strength equipment. After bin is raised you need to level legs to assure stability. Leg shims are available under Pax # 500249.

CAUTION: BEFORE RAISING BIN, CHECK FOR OVERHEAD OBSTRUCTIONS SUCH AS POWER LINES !

Bottom End View



Cut 2" x 4" braces to 51-3/8" long and fasten between legs as shown.



Raise bin with braced legs on bottom.