Instruction Manual for Installing a Sliding Door into a Grain Bin

1. Introduction

A. Purpose of the Manual: This manual provides detailed, step-by-step instructions for installing your sliding door into the side of your grain bin. Following these instructions will ensure a safe and efficient installation process.

B. Safety Warnings and Precautions:

- Always wear protective gear, including gloves, safety goggles, and hearing protection.
- Ensure the grain bin is empty and stable before beginning installation.
- Be cautious when handling sharp tools and metal edges.

2. Tools and Materials Needed

A. Tools:

- Level or laser level
- Black marker
- Grinder with metal cutting wheels
- 3/8" masonry bit
- Rotor hammer drill
- 13/64" drill bit for rivets
- 3/16" drill bit for pre-drilling bin wall if needed
- 3/8" extended drill bit (8 to 12" long)
- 5/16" drill bit
- 5/16" hex drive
- Rivet gun for 3/16" and 1/4" rivets
- Caulking gun for sealant
- 1/2" impact socket
- 1/2" wrench
- 9/16" wrench for track roller adjustment
- 9/16" impact socket
- Drill, impact
- Tin snips
- Vice grips

Packing List

CUSTOMER NAME _____ GRAIN BIN DIAMETER _____ *NOTES*:

DOOR SIZE _____ DOOR COLOR _____ SLIDE DIRECTION _____

SHIPPING STREET _____ COUNTRY_____

CITY _____ STATE/TERRITORY_____ ZIP _____ PHONE NUMBER _____

✓	Item	Part Description	QTY. CAN VARY BY DOOR SIZE*	SHIPPED QTY.
☐	**A**	**Jambs for Door Opening**	2	
☐	**B**	**#12x1" hex head Self-Tapping Galvanized Screws with Rubber Washer** - *Used for bin metal to jamb and door latch.*	Varies	
☐	**C**	**3/8x3" Tap-Con Cement Screws and Washers** - *Used for mounting bottom jamb plate to cement pad.*	4	
☐	**D**	**Track with Track Brackets and Door Stop** - *Use 5/16" x 1-1/4" Carriage bolts with flat washers & nuts*	Varies	
☐	**E**	**Rivet Gun**	1	
☐	**F**	**Track Top Cover**	1	
☐	**G**	**Track Face Cover**	1	
☐	**H**	**Track End Caps**	2	
☐	**I**	**Pop Rivets 3/16 x 3/8" Grip Range** - *Used for track top cover, track face cover, and track end caps*	Varies	
☐	**J**	**Gray Sealant** - *Used for top track cover and door jambs*	Varies	
☐	**K**	**Door Top Rail with Rollers** - *Horizontal*	1	
☐	**L**	**Door Mid Rails** - *Horizontal*	Varies	
☐	**M**	Door Bottom Rails - Horizontal	1	
☐	**N**	**Door Side Rails**	2	
☐	**O**	**#12x 1-1/2 Self Tapping Colored Screws for High Rib on Door Sheets**	Varies	
☐	**P**	**Decal –** **Not pictured below*	1	
☐	**Q**	**1/4 x 3/8 Pop Rivets** - *Used for installing horizontal rails to vertical door rails*	Varies	
☐	**R**	**Door Sheets**	Varies	
☐	**S**	**#12x1" Hex Head Self-Tapping Colored Screws with Rubber Washer** - *Used for colored door sheets*	Varies	
☐	**T**	**Door Handle**	1	
☐	**U**	**Door Stop**	1	
☐	**V**	**Draw Latches** - *if applicable*	2	
☐	**W**	**#7x1"Self-Tapping Flat Head Phillips Screws** - *Used for exterior latch lever to jamb and draw latches if applicable*	10	
☐	**X**	**Exterior Latch Kit** – *includes angled striker plate*	1	
☐	**Y**	**Box of Parts –** **Not pictured below*	1	
☐	**Z**	**Installation Instructions –** **Not pictured below*	1	


U
J
Astro
13" HEAVY DUTY HAND RIVETER
E
H
B
B
C
D
D
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S
S
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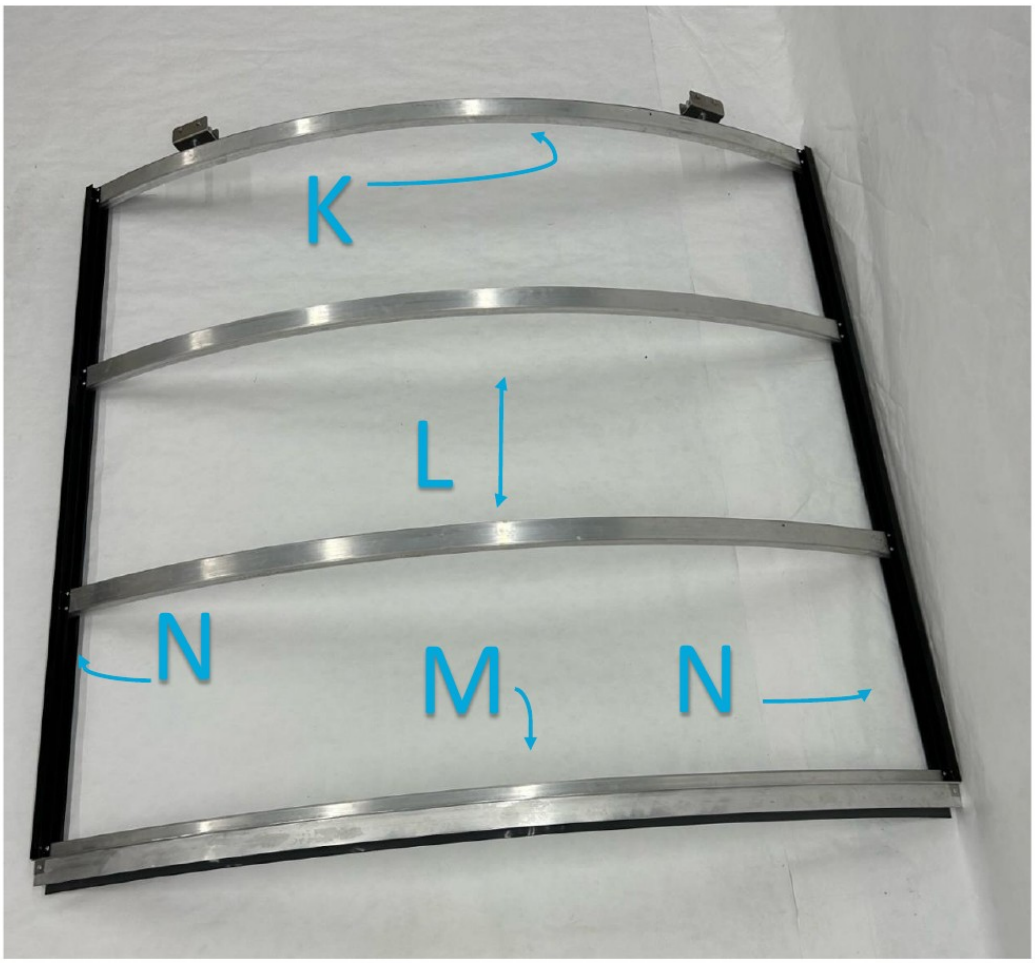
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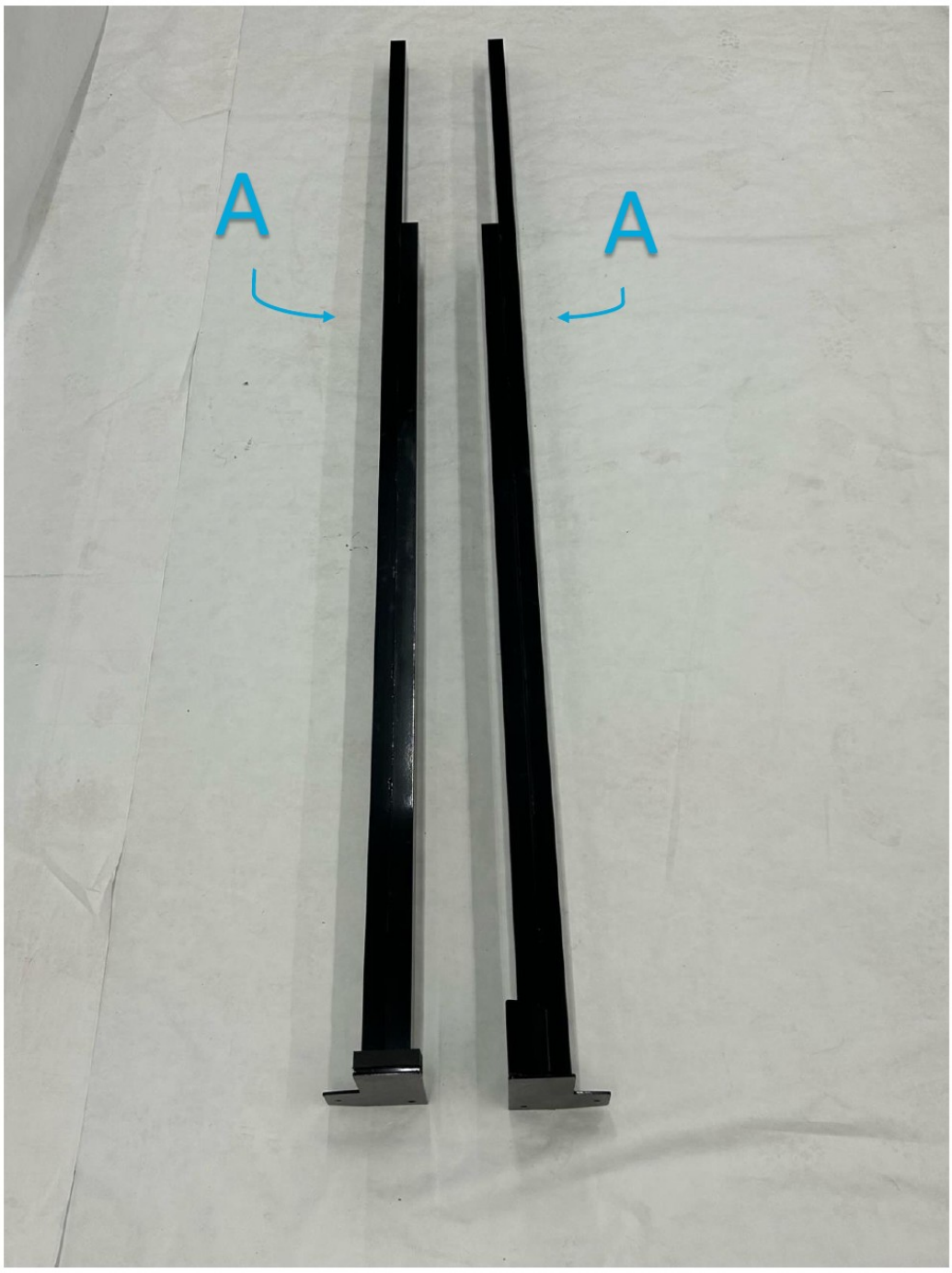
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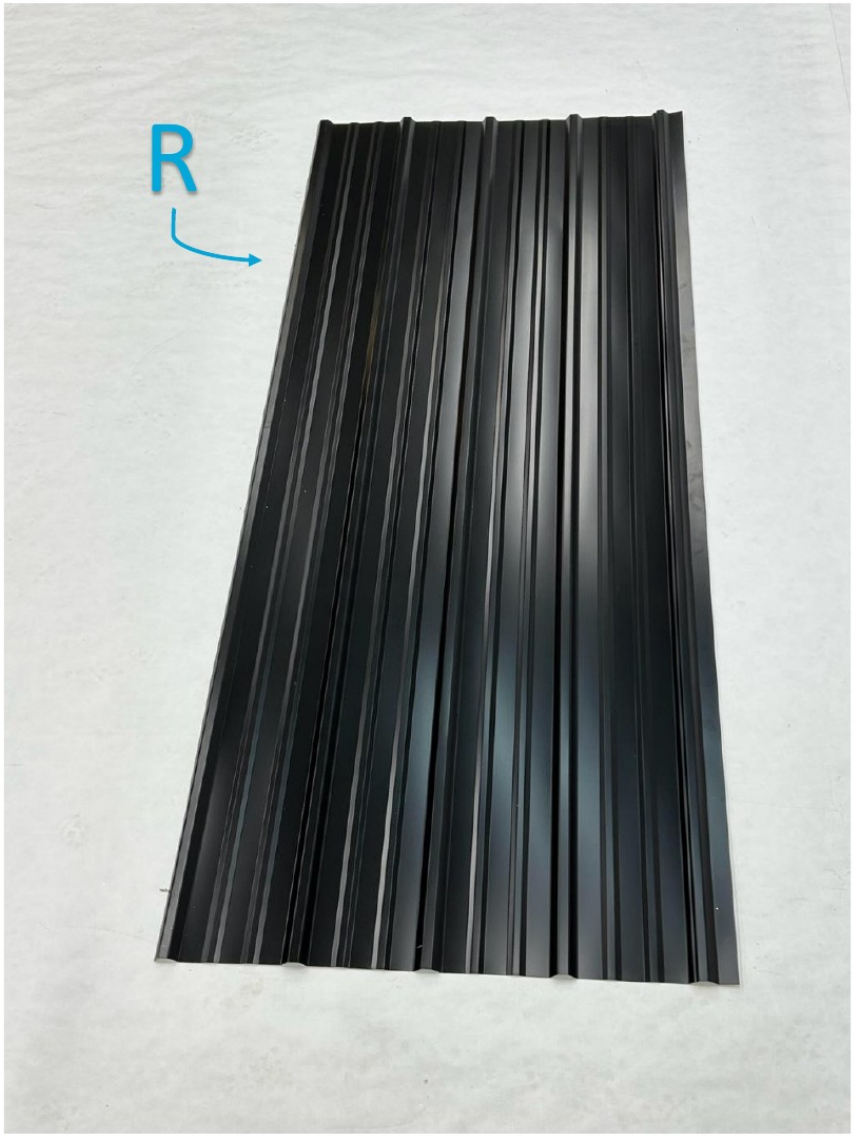
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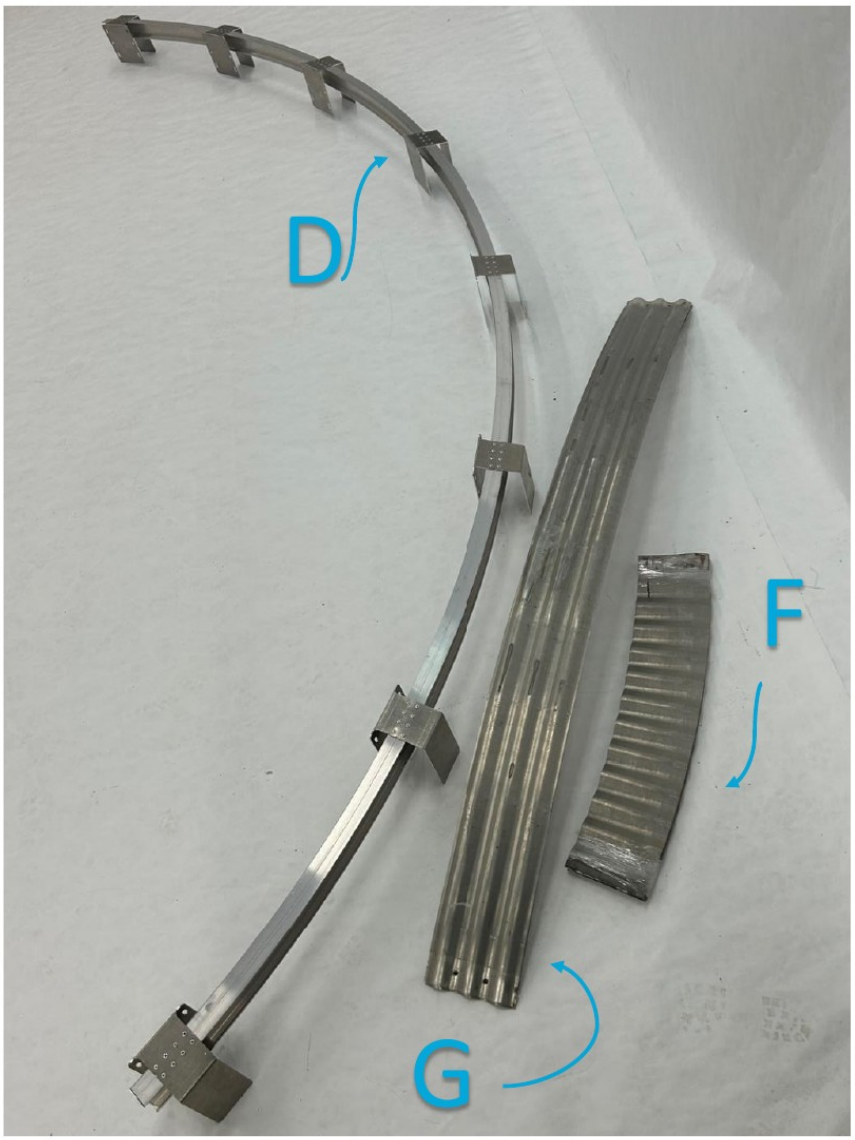
D
F
G

Exterior Latch when installed

B. Materials:

- Jambs for door opening (A)
- #12x1" hex head self-tapping galvanized screws with rubber washer (B)
- 3/8 x 3" tap-con cement screws (C)
- Track with track brackets installed (D)
- Rivet Gun (E)
- Track top cover (F)
- Track face cover (G)
- Track end caps (H)
- Pop rivets 3/16x3/8" grip range (I)
- Gray sealant (J)
- Door top rail with rollers (K)
- Door mid rails (L)
- Door bottom rail (M)
- Door side rails (N)
- #12 1-1/2" Self Tapping Colored Screws for High Rib on Sheets (O)
- Decal (P)
- 1/4" x 3/8" Pop Rivets Grip Range (Q)
- Door sheets (R)
- #12 1" self-tapping hex head colored screws with rubber washer – use for colored door sheets (S)
- Door handles (T)
- Door stop (U)
- Draw Latches where applicable (V)
- #7x1" self-tapping flat head Phillips screws - use for exterior door latch lever to jamb and draw latches if applicable (W)
- Exterior latch (X)
- Box of parts (Y)
- Installation Instructions (Z)

3. Preparation

A. Choosing the Installation Site:

- Select a stable section of the grain bin wall for the door installation.
- Ensure the chosen location allows easy access and operation of the door.

B. Measuring and Marking:

- Position the mid door rail (L) with the wood blocks taped to it on the exterior of the grain bin where the door will be installed. Ensure adequate space is available for the door to open fully to the left or right.
- Mark the grain bin on each end of the horizontal door rail (L) using a black marker. Once that is completed, remove the wood blocks.
- Level vertically from each mark, marking the bin wall to the desired door opening height. Move marks to the interior by drilling a hole.
- Verify the marked lines by positioning the horizontal door rail at the top of the opening to ensure equal spacing.

C. Determining the High Point:

- Determine the high point of the door opening by leveling the cement slab.
- Measure up from the high point to the desired door height (e.g., 10' for an 10' door) and mark the bin wall.
- Level across the top to create a horizontal mark representing the top of the opening.
- Mark the vertical sides and horizontal top of the opening on the bin wall.

4. Temporary Support

A. Supporting the Grain Bin:

- Inside the grain bin, find the center of the door opening.
- Place a vertical 2x6 lumber piece (not included) from the cement floor to above the door opening.
- Drill and screw through the bin wall into the 2x6 to secure it temporarily.
- The support will remain until the door opening is cut and supported by structural jambs (A).

5. Cutting the Opening

A. Safety Precautions:

- Wear protective gear, including gloves and safety goggles.
- Ensure proper ventilation when using power tools.

B. Cutting the Bin Wall:

- Start cutting across the top of the door opening using a grinder with a cutting wheel.
- Cut down each side, removing one row of bin sheets at a time until the opening is complete.
- Smooth the edges with a file or sandpaper to prevent injury and ensure a proper fit for the door jambs.

6. Installing Structural Jambs

A. Installing Structural Jambs:

- Install the structural side jambs (A) on each side of the opening, make sure the screws (B) are installed all the way to the top of the long structural member.
- Secure the jambs with 1" gray self-tapping screws (B). Install screws (B) in every valley.
- Caulk the sides using gray sealant (J).

B. Mounting the Jamb to the Floor:

- Install the bottom jamb plate to the cement floor using 4 tap-cons 3/8"x3" with washers (C) into the floor mounting plates, which are welded to the bottom of the structural jamb.
- Ensure the bin wall remains in its original position during this process.

7. Track Installation

A. Leveling the Track:

- Level across the entire track length and mark the bin wall.
- The bottom of the track support bracket (D) must align with the door opening height.

B. Installing the Track:

- The track comes in two halves. Start the track above the door opening first. Make sure the splice is in the center of the track. Start the track 1" past the outside edge of the finished jamb.
- Install 4-3/16" rivets (I) to splice the two halves.
- Bolt the track to the bin wall using 5/16" x 1-1/4" carriage bolts with flat washers and nuts (E).

8. Door Assembly

A. Assembling the Door:

- Assemble the door on a clean, flat, level surface.
- Take the side rails (N) and lay them on flat, level surface. Install horizontal rails (K) (L) and (M) into side rail (N). Drill and install 1/4" rivets (Q).

B. Door Assembly:

- Once the door frame is assembled, slide the door onto the track.
- At this time you'll want to adjust the door rollers. There are two different adjustments one is to move the door in and out; the other is for adjusting the door for up and down.
- Align door to structural jambs with these two adjustments.

C. Installing the Colored Door Sheets:

- Ensure horizontal rails are not sagging and the door is square before installing the sheets (R).
- Use #12x1" hex-headed colored screws (S) to secure the sheets (R) trimming the last sheet as needed. Use 1-1/2" hex-headed colored screws for the high rib lap if needed (O).

9. Installing Track Covers

A. Top Track Cover:

- Clean the track of all drill filings and debris.
- Install the top track cover (F) starting 2" past the end of the track.
- Drill and install 3/16" aluminum pop rivets (I) into the top of the track.
- Apply gray sealant (J) where the track cover meets the grain bin and smooth if desired.
- IMPORTANT: Clean the track of filings and debris.

B. Face Track Cover:

- Start the track face cover even with the end of the track.
- Overlap the track face covers (G) by approximately 6" and rivet them together.
- Rivet the covers to the track brackets, ensuring sufficient clearance between the door face and the track cover.

- Adjust track brackets if necessary to gain more space.
- Install end caps (H) using pop rivets (I).

10. Installing Door Stops and Latch

A. Door Stop:

- Install the door stop (U) approximately 12" up from the cement floor use 3/8" x 1-1/2" carriage bolts with flat washers and nuts (D).

B. Door Latch:

- Cut back the high rib of the bin metal if necessary to fit the latch.
- Mount the door latch (X) on the outside of the door jamb using 1" gray hex-headed screws (B). Install the strike below the latch on the door, ensuring the latch rod inserts into the strike.
- Install the latch release lever onto the jamb face using self-tapping screws (W).

C. Handle:

- Install exterior door handle (T) using gray screws (B).

D. Draw Latch:

- Install the draw latch (V) onto the door jamb with flat head Phillips screws (W).

11. Final Checks

A. Inspection:

- Inspect the installation for stability and proper alignment.
- Ensure all fasteners are tight and secure.

B. Testing:

- Test the door to ensure it operates smoothly and closes securely.
- Make any necessary adjustments to the door or tracks.