



Operators Manual

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Salt Inator® 2413HS

24-inch Variable Rate Spreader

For Use with #1 Free Flowing Rock Salt

Push Model w/13-inch Pneumatic Tires

With Spread Plate & Jigglers

(All Hardware in Hardware Bag Unless Otherwise Specified)

Cam Gauge Settings for Salt:

For first starting set the cam gauge at #65 per picture below.

If this does not apply enough salt adjust to a higher number and try again.

Note: Depending on the size of the salt you may have to adjust to setting #80.

Setting Cam Gauge:

Move cam gauge away from the stop (close bottom openings) before attempting adjustment.

Loosen wing nut and turn cam gauge to desired number, using the top surface of the stop as the setting indicator and then tighten wing nut. See picture of cam gauge set at "65".

For example, if the spreader is to be used with the bottom completely open, the cam gauge would be turned until the graduating mark directly opposite the number 80 is in line with the top edge of the stop.

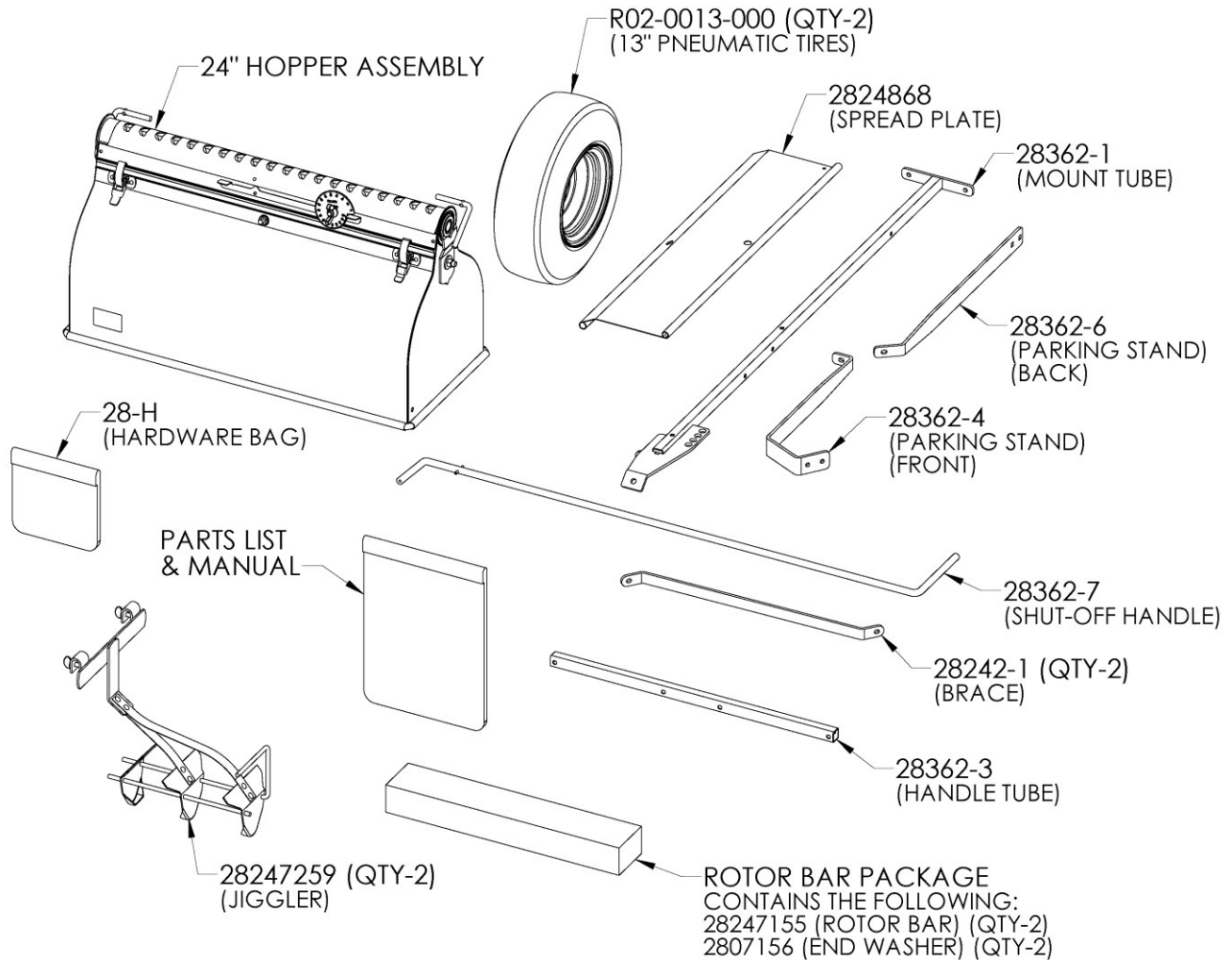
Likewise, if the spreader were to be half open, the graduation mark opposite the number 40 would be in line with the top edge of the stop.

Note: Numbers on the cam gauge DO NOT represent any application rate, they are reference numbers only for setting repeatability.



Carton Containing the Following Parts:

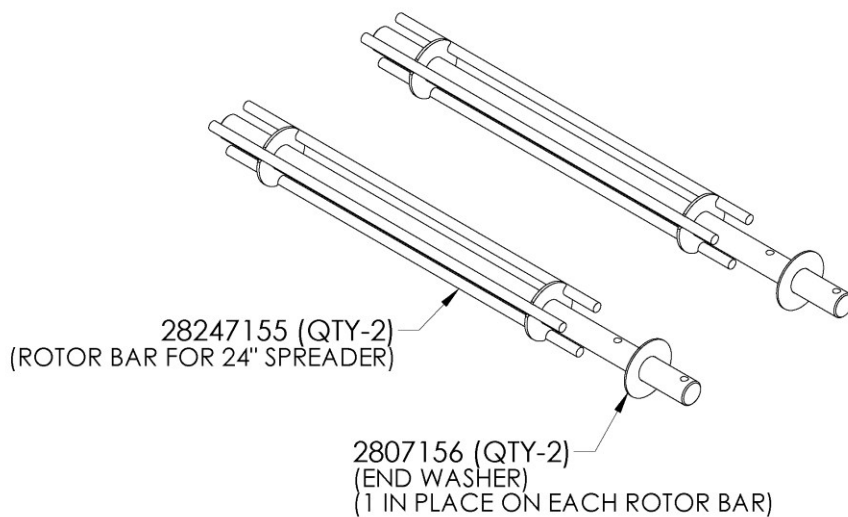
Diagram #1



2824-LG-B1 (1/7/25)

Rotor Bar Package (for 24" Spreader) Contents:

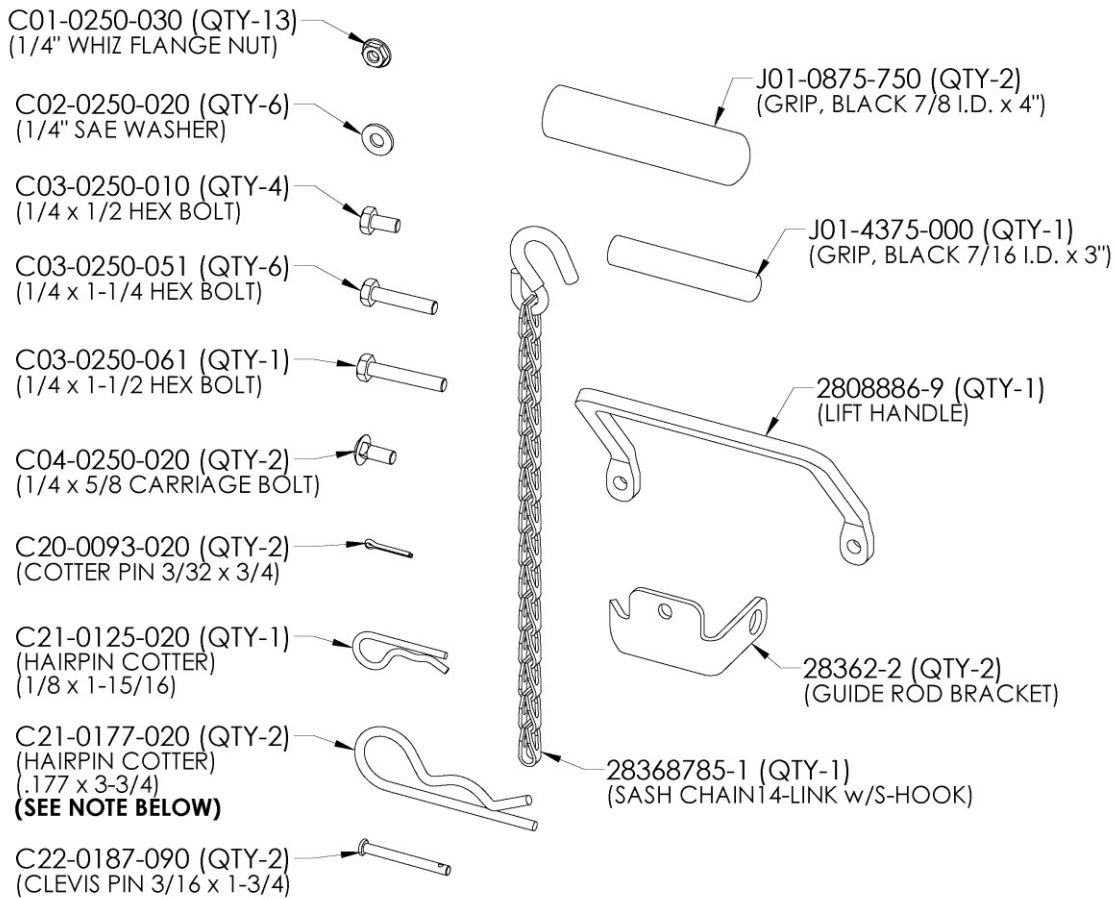
Diagram #2



2824-RP

Hardware Bag 28-H Contents:

Diagram #3



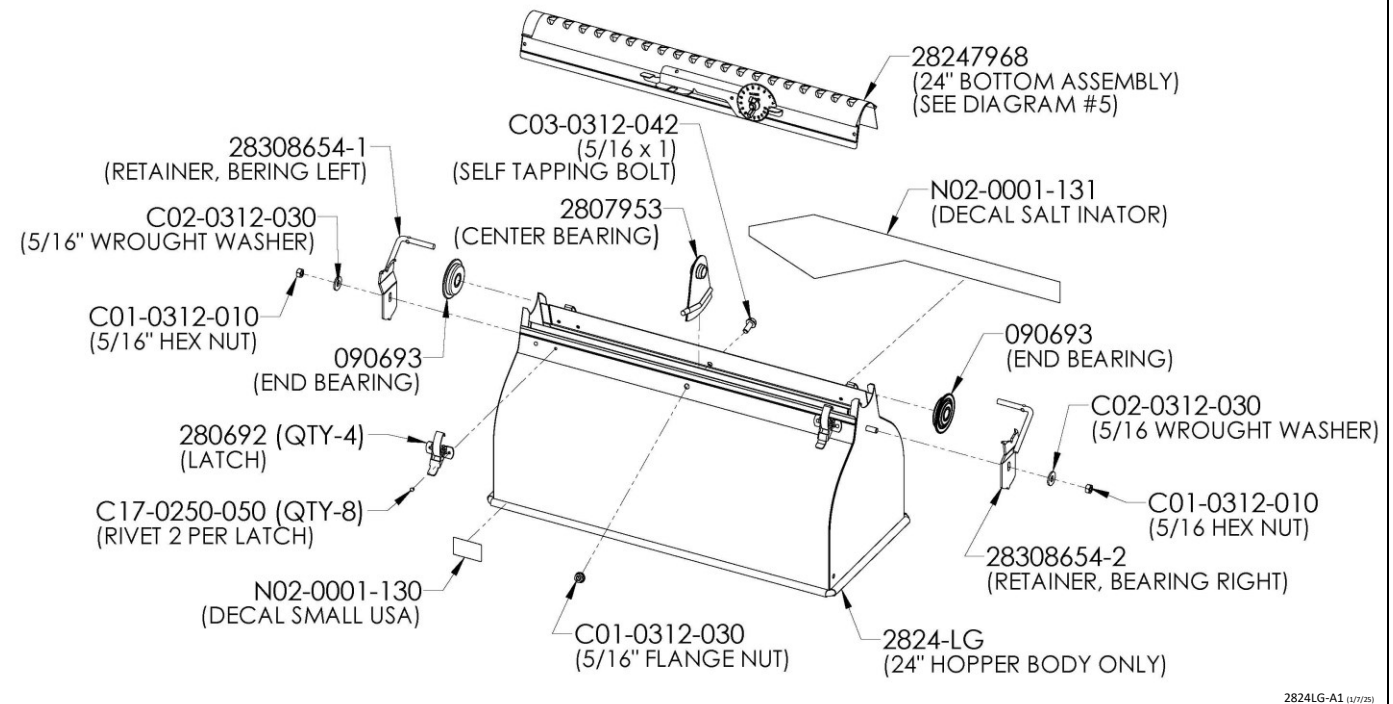
28-H

Note:

Part numbers C21-0177-020 (Qty-2) is not used in this spreader package.

24" Hopper Assembly Schematic

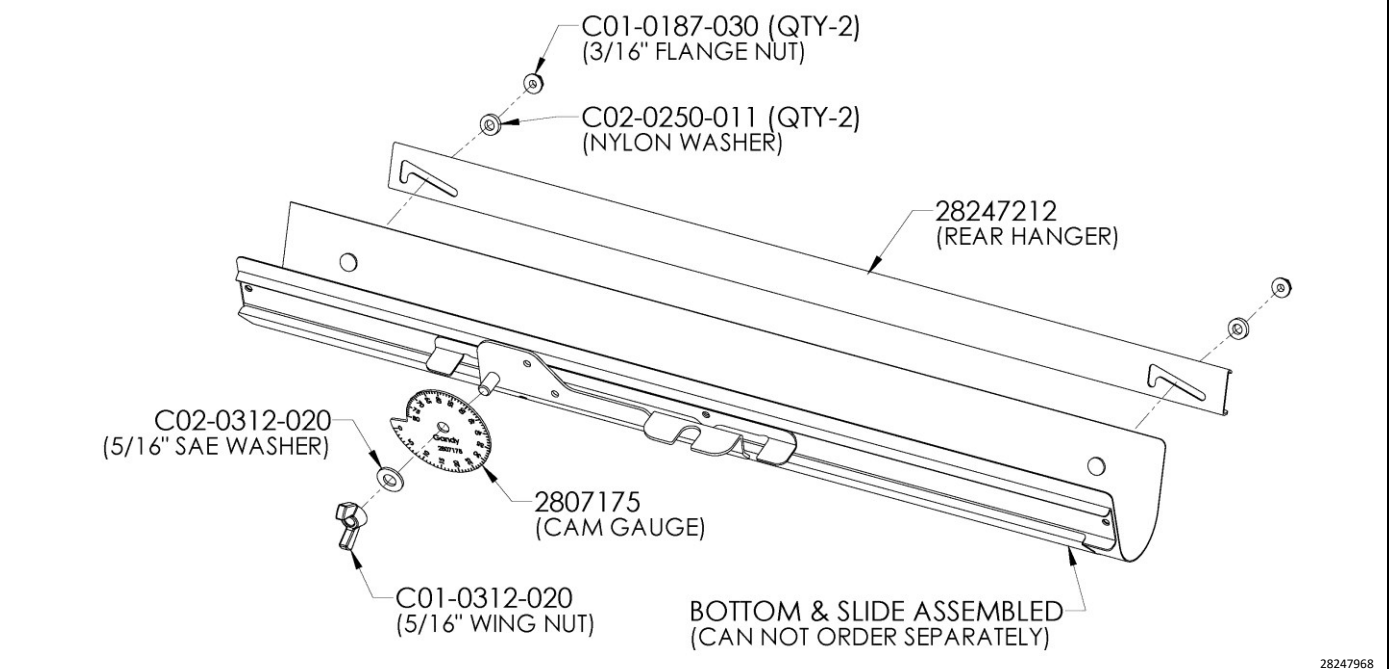
Diagram #4



Bottom Assembly (28247968) Breakdown:

These parts are part of the Bottom Assembly but can be ordered separately.

Diagram #5



Assembly Instructions: (All Hardware & Small Parts in Hardware Bag Unless Otherwise Specified)

Please read and review all instructions before starting to assemble.

Minimum tools required.

Pliers, Two 7/16" Wrenches & One 1/2" Wrench

Step# 1 (Unpacking & Rotor Bar Assembly)

Remove contents from carton and check all parts against page #1 to confirm parts.

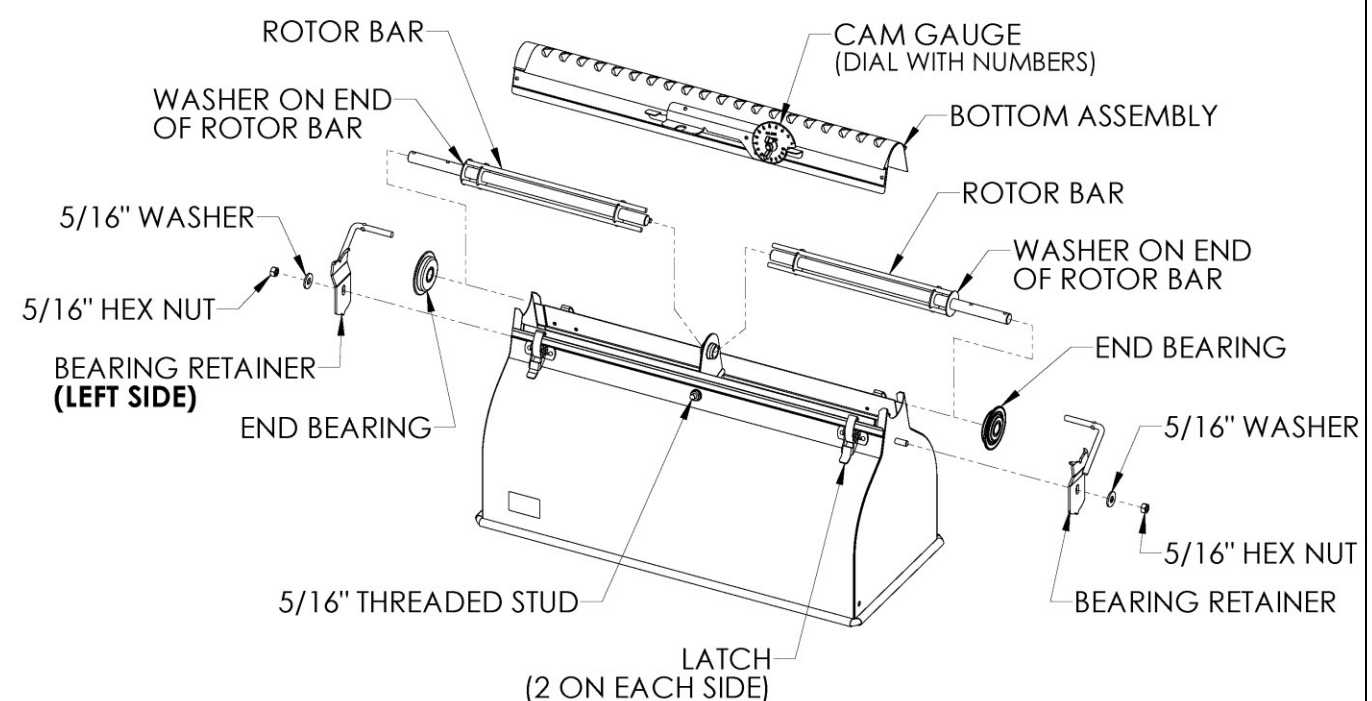
Note: Jijlars are shipped in place. Loosen the four thumb screws (2 on each Jiggler) and remove both.

Un-wrap rotor bars, making sure one washer stays on each long end of rotor bar. (See Diagram #2 on page #2)

Carefully open the hardware bag and check all parts against page #2, Diagram #3 to confirm all parts.

1. **Note:** Lay something down (piece of cardboard or blanket) to protect hopper from being scratched up. Place hopper upside down with cam gauge facing you.
2. Un-snap latches on hopper (two each side) and un-hook from bottom assembly.
3. Remove bottom assembly from hopper by pulling straight up on it.
4. Remove the 5/16" nut and washer from each bearing retainer and remove both bearing retainers. Save the nuts & washer as they will be re-used latter.
5. Remove both bearings from hopper. (Note: Bearing may fall out when removing bearing retainers.)
6. Install rotor bars (short end of rotor bar) into center bearing.
7. Slide bearing onto rotor bar (long end) up to hopper, making sure washer is still on rotor bar. Repeat for other rotor bar. Make sure center bearing is standing straight up.
8. Install bottom assembly back onto hopper. Cam gauge will be on same side as the 5/16" threaded stud.
9. Make sure bearings are pushed into hopper, re-snap all four latches to hold bottom in place.
10. Re-install left side bearing re-using the 5/16" washer and nut to hold bearing retainer in place. When installing make sure the rod on the bearing retainer is on the opposite side of the cam gauge. Other bearing retainer will be re-installed in the next step.

Diagram #6

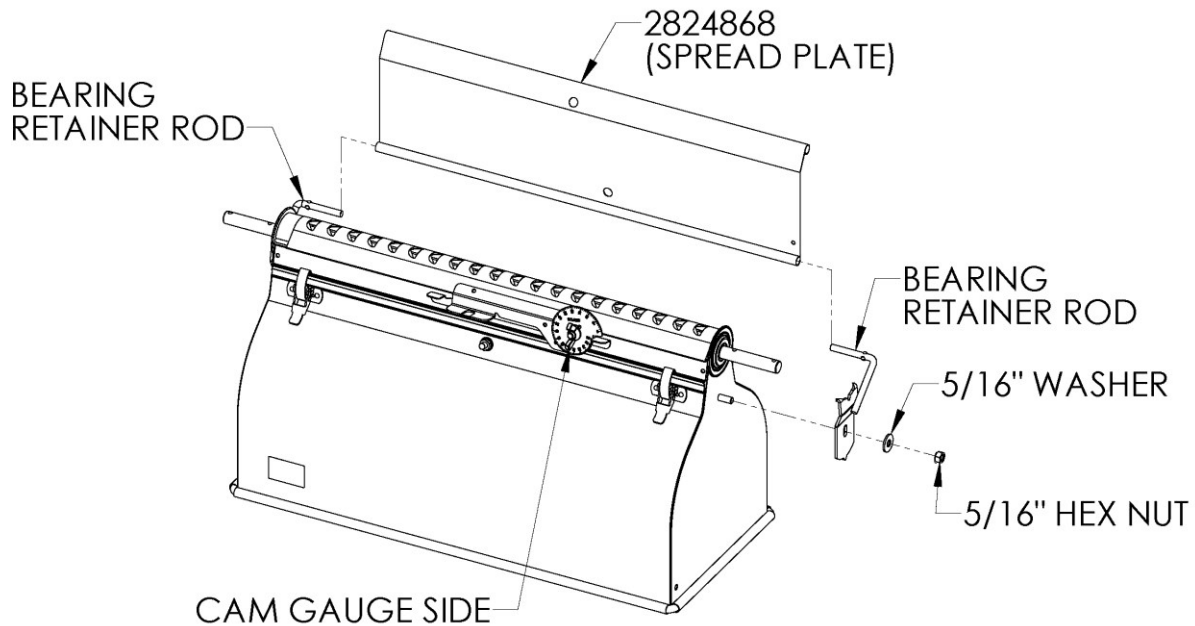


2824LG-A1 (1/7/25)

Step# 2 (Spread Plate Assembly)

1. Locate Spread Plate (2824868).
2. Slide rolled edge (side without bend) of spread plate onto bearing retainer rod as shown in Diagram #7.
3. Re-install the last bearing retainer to hopper and spread plate re-using the 5/16" washer and nut.
3. Adjust bearing retainers so spread plate can pivot freely. Tighten booth 5/16" nuts securely.

Diagram #7

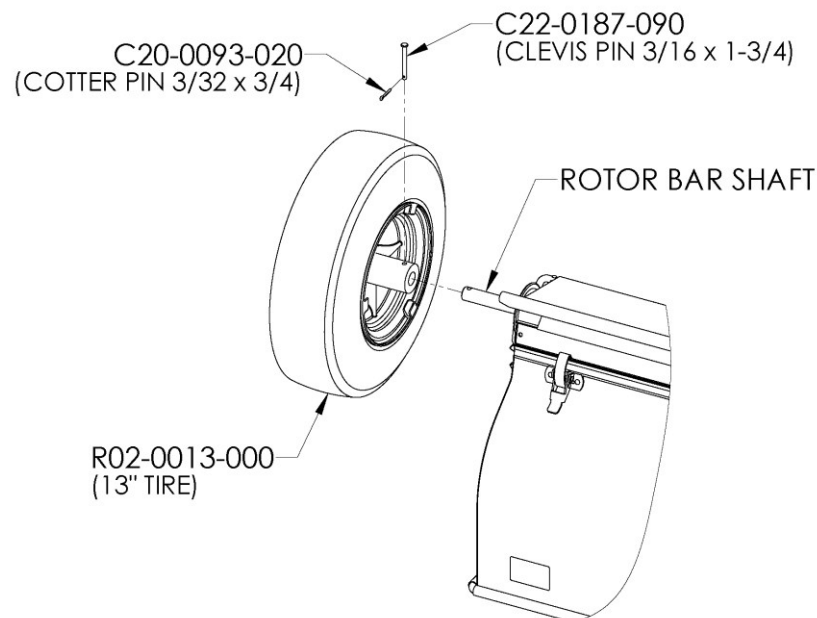


2824A1 (1/7/25)

Step# 3 (Tire Assembly)

Install tire (R02-0013-000) to rotor bar shaft end using the 3/16 x 1-3/4 clevis pin (C22-0187-090) and 3/32 x 3/4 cotter pin (C20-0093-020). Pin tire to the hole in the rotor bar that is closest to hopper. Repeat for other tire.

Diagram #8



2836-A1

Step# 4 (Locate the Following Parts & Hardware)

Parts:

Mount Tube (28362-1)

Shut-Off Rod (28362-7)

Guide Rod Bracket (28362-2) (Qty-2)

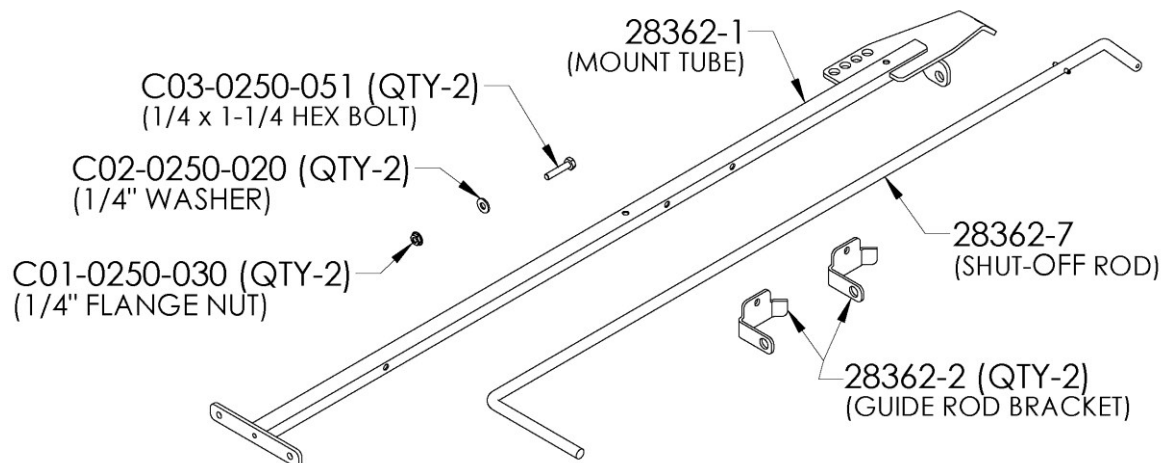
Hardware:

1/4 x 1-1/4 Hex Bolts (C03-0250-051) (Qty-2)

1/4" Washers (C02-0250-020) (Qty-2)

1/4" Flange Nuts (C01-0250-030) (Qty-2)

Diagram #9

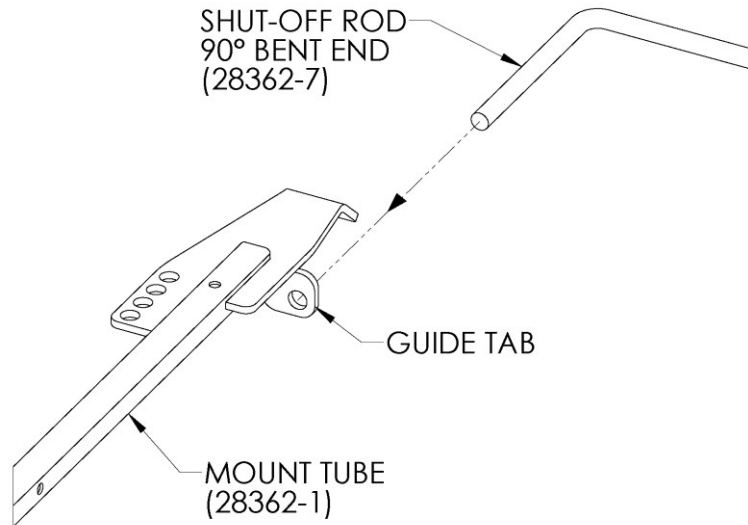


2836-A3

Step# 5 (Mount Tube & Shut-Off Lever Assembly)

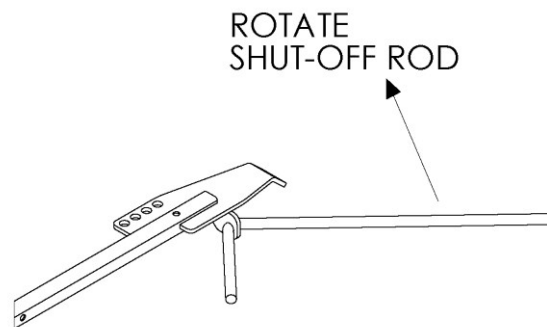
1. Insert the 90° bent end of shut-off rod (28362-7) through guide tab on mount tube (28362-1) as shown in Diagram #10.
2. When 90° bend on shut-off rod hits the guide tab rotate the shut-off rod (see diagram #11) and slide shut-off rod until the spring pin touches the guide tab as shown in Diagram #12.

Diagram #10



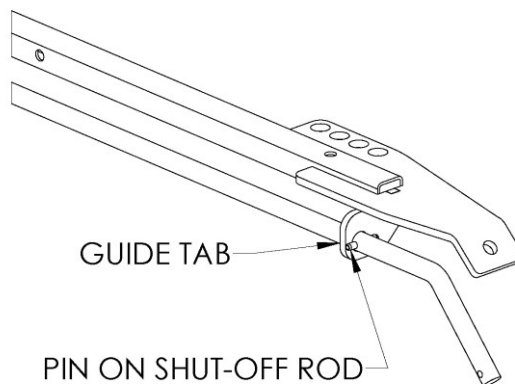
2836-A2

Diagram #11



2836-A2-1

Diagram #12 (Installed View)



2836-A2-2

Step# 6 (First Guide Shut-Off Lever Assembly)

1. Slide the first guide rod bracket (28362-2) over the 90° bent end of the shut-off rod and rotate around the corner of the shut-off rod. Now slide guide all the way down the shut-off rod to the farthest hole down on the square tube. When in place the tab with small slot will be on the opposite side of the square tube as the shut-off rod as shown in Diagram #14.
2. Fasten the guide in place as shown in diagram #15 using the listed hardware. Do not tighten bolt.

Diagram #13

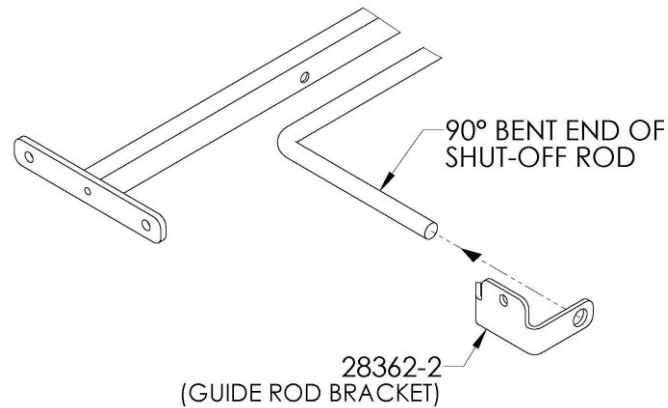


Diagram #14

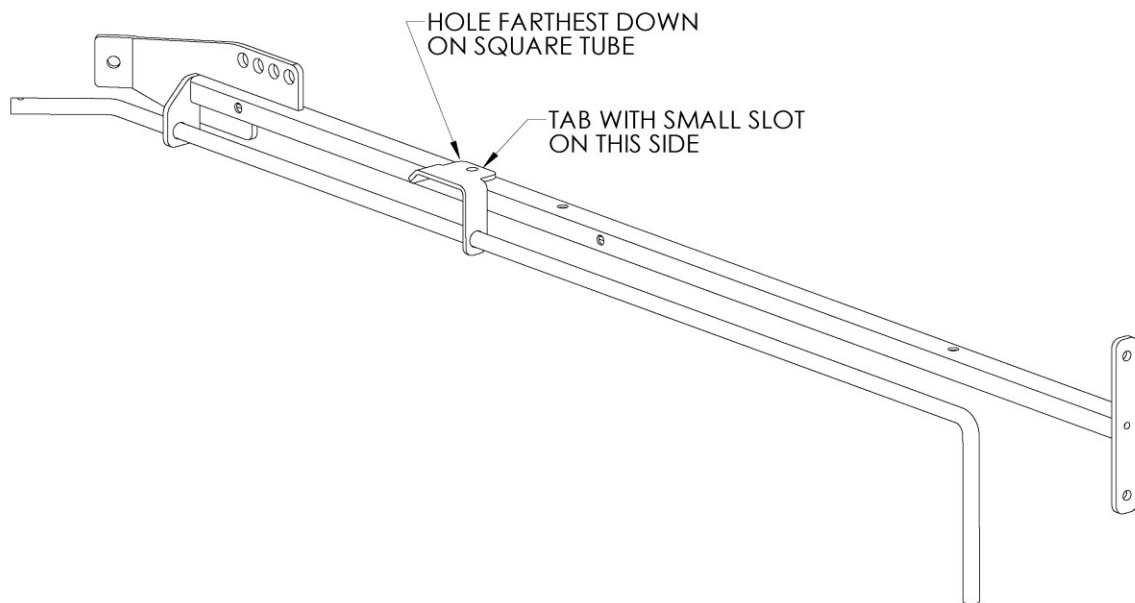
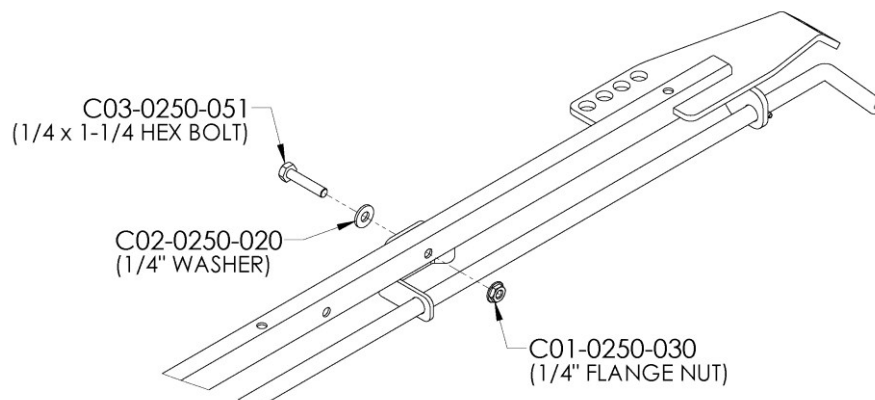


Diagram #15



2836-A12

Step#7 (Second Guide Shut-Off Lever Assembly)

1. Slide the second guide rod bracket (28362-2) over the 90° bent end of the shut-off rod and rotate around the corner of the shut-off rod to the top hole on the square tube. When in place the tab with small slot will be on the opposite side of the square tube as the shut-off rod as shown in Diagram #17.
2. Fasten the guide in place as shown in diagram #16 using the listed hardware.
Tighten hardware from this step & last step securely.

Diagram #16

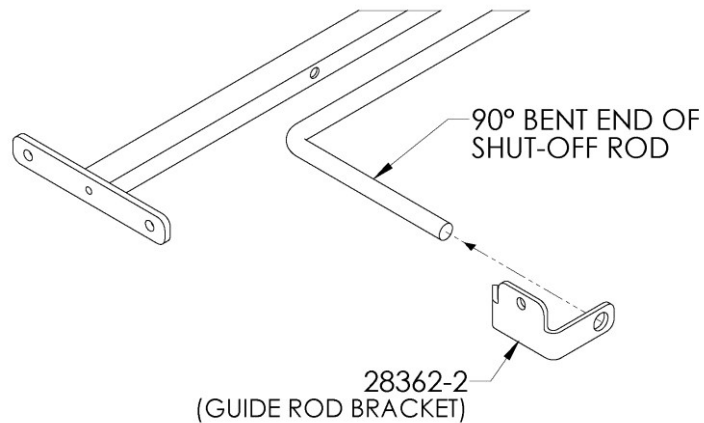


Diagram #17

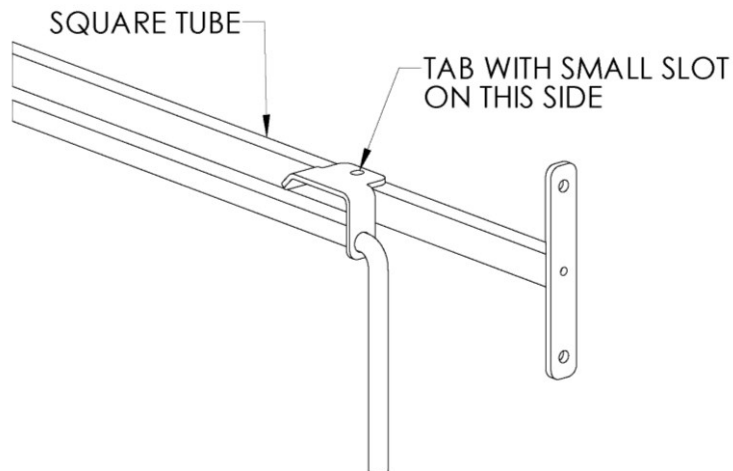
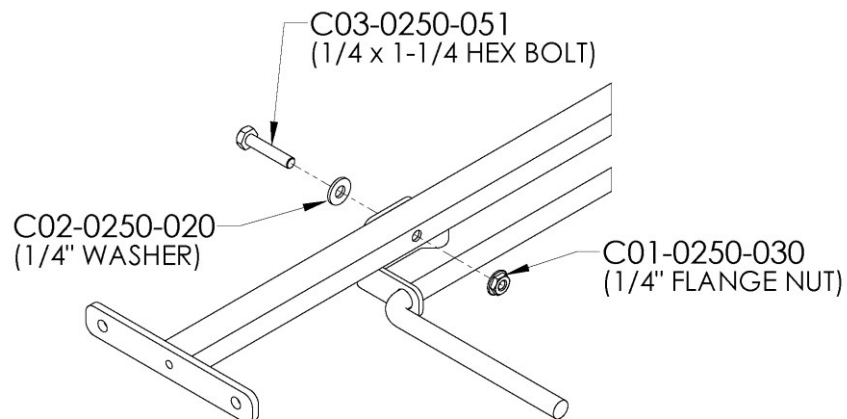


Diagram #18



2836-A4

Step# 8 (Mount Tube to Hopper Assembly)

1. **Note:** Lay something down (piece of cardboard or blanket) to protect hopper from being scratched up. Lay hopper on its side so the cam gauge is up & pivot the spread plate down out of the way as shown in Diagram #19.
2. Remove the 5/16" flange nut from the stud above and to the right of the cam gauge as shown in Diagram #19.
3. Attach the mount tube with shut-off rod in place to the 5/16" stud & re-use the 5/16" flange nut. Make sure the end of the shut-off lever goes into the U-notch as shown in Diagram #20.
Do not tighten, leave nut loose.

Diagram #19

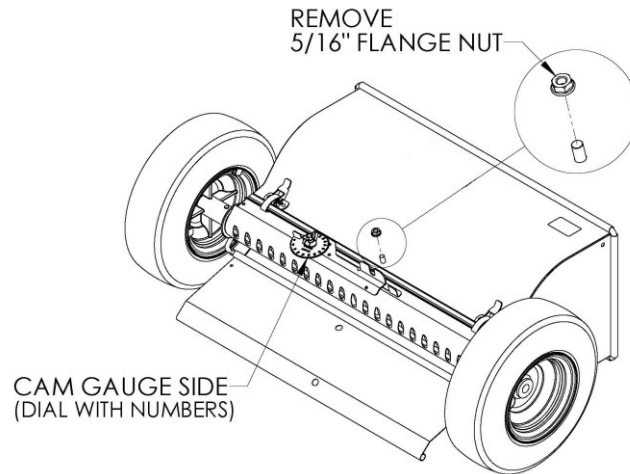
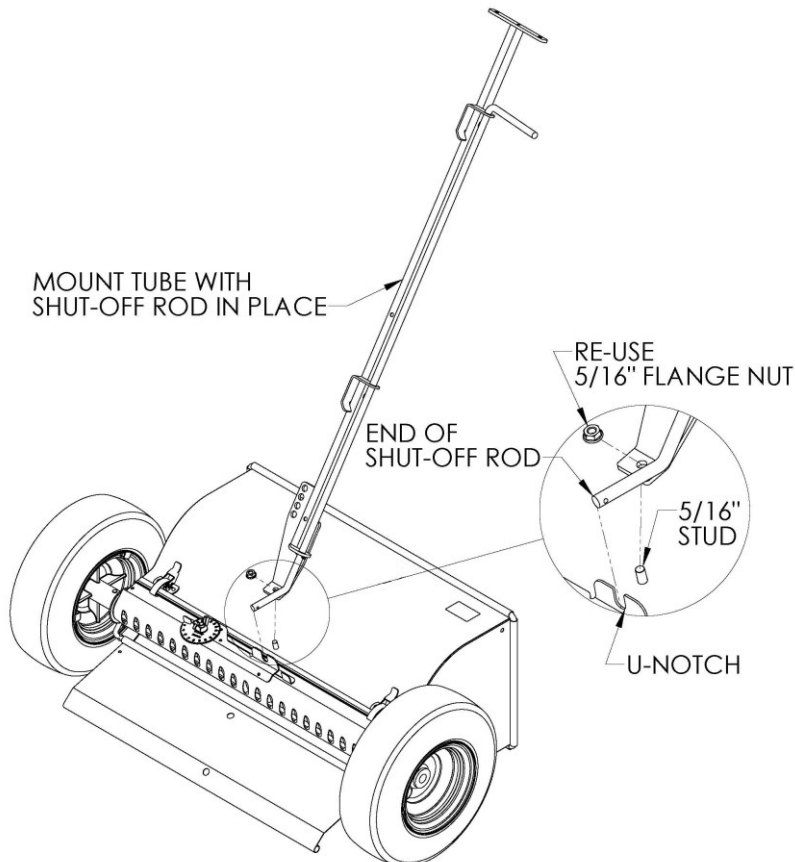


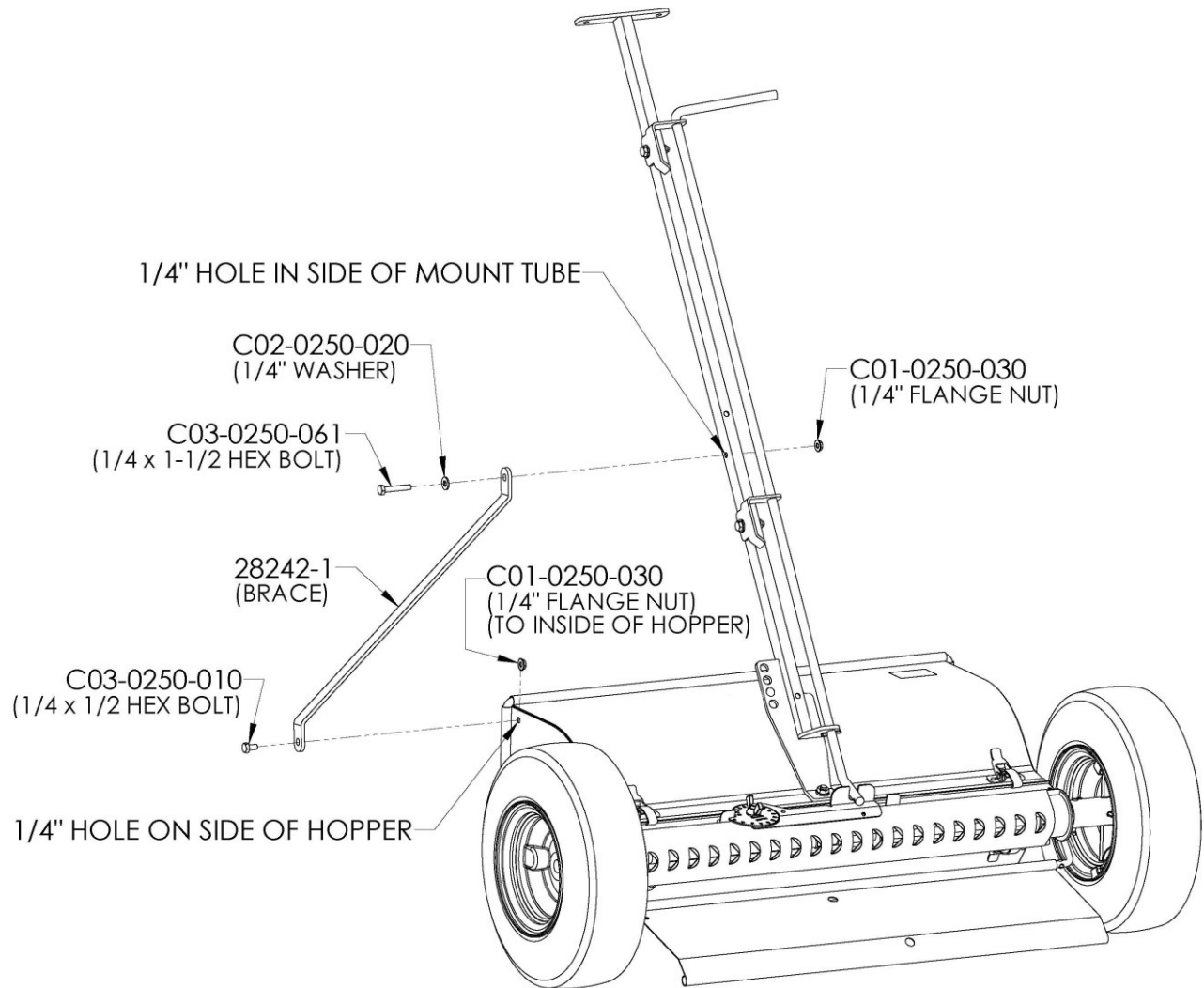
Diagram #20



Step #9 (Left Brace to Mount Tube Assembly)

1. Locate the TWO braces (28242-1), TWO 1/4 x 1/2 hex bolts (C03-0250-010), ONE 1/4 x 1-1/2 hex bolt (C03-0250-061), THREE 1/4" flange nuts (C01-0250-030) and ONE 1/4" washer (C02-0250-020).
2. Attach one end of the brace to the 1/4" hole in the left side of the hopper as shown in Diagram #21 using a 1/4 x 1/2 hex bolt and 1/4" flange nut as shown. Do not tighten bolt.
3. Attach the other end of the brace to the 1/4" hole in the side of mount tube using a 1/4" washer, 1/4 x 1-1/2 hex bolt and 1/4" flange nut. Do not tighten, leave loose.

Diagram #21

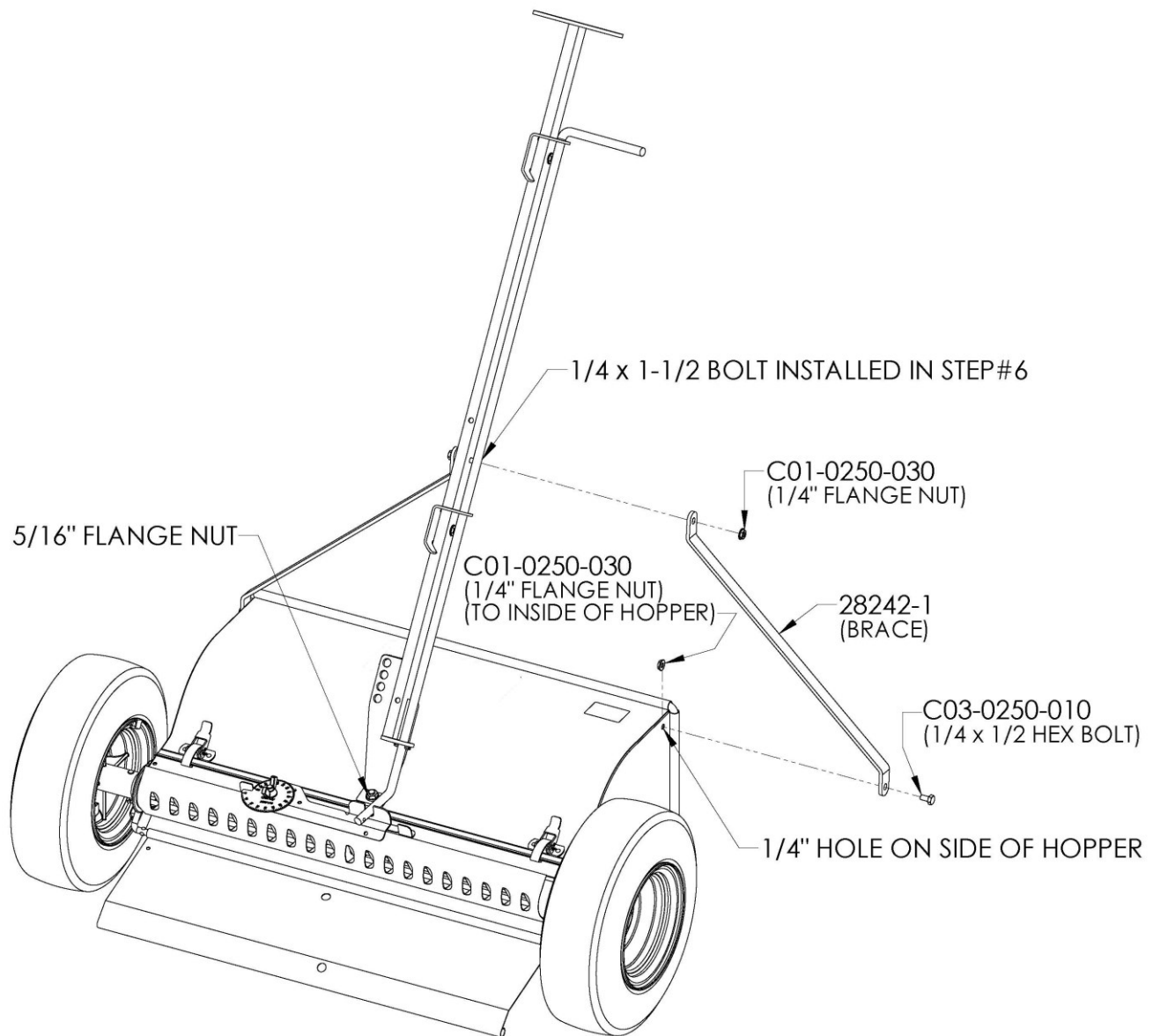


2824-A3

Step #10 (Right Handle Brace Assembly)

1. Attach the second brace (28242-1) to the 1/4" hole on the right side of the hopper using the 1/4 x 1/2 hex bolt and 1/4" flange nut. Do not tighten bolt.
2. Remove the 1/4" flange nut from the 1/4 x 1-1/2 bolt holding the left brace in place to the mount tube.
3. Attach the other end of the brace to the 1/4 x 1-1/2 bolt and re-install the 1/4" flange nut.
4. Next securely tighten the three 1/4" bolts holding the braces in place.
5. Now securely tighten the 5/16" flange nut holding the mount tube to the hopper.

Diagram #22

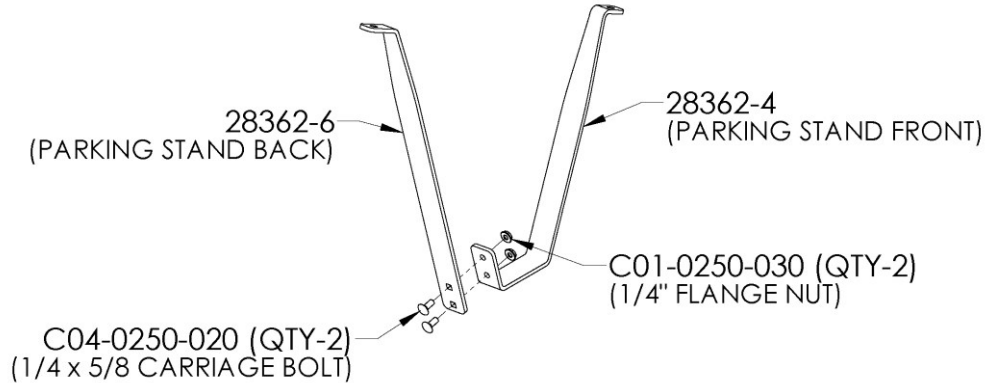


2824-A3

Step #11 (Parking Stand Assembly)

1. Locate the following parts: front parking stand (28362-4), back parking stand (28362-6), TWO 1/4 x 5/8 carriage bolts (C04-0250-020) and TWO 1/4" flange nuts (C01-0250-030) as shown in Diagram #23.
2. Fasten parking stands together using two carriage bolts and flange nuts as shown in Diagram #23.
Do not tighten, leave loose.

Diagram #23

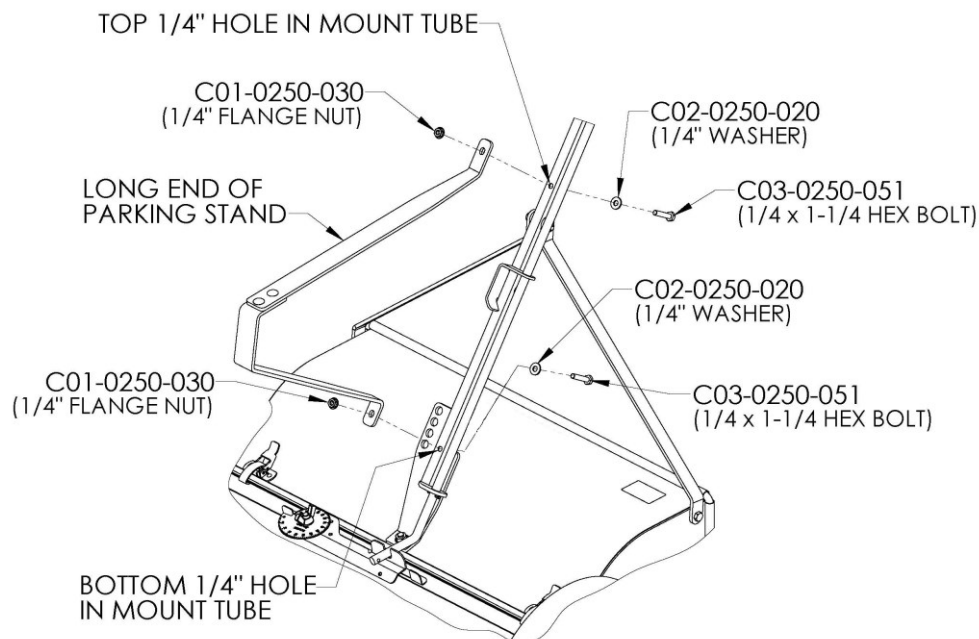


2836-A7

Step #12 (Parking Stand to Mount Tube Assembly)

1. Locate TWO 1/4 x 1-1/4 hex bolts (C03-0250-051), TWO 1/4" washers (C02-0250-020) and TWO 1/4" flange nuts (C01-0250-030).
2. Attach the long end of the parking stand to the top 1/4" hole in the mount tube using a 1/4 x 1-1/4 hex bolt, 1/4" washer and 1/4" flange nut as shown in Diagram #24. Do not tighten.
3. Attach the other end of the parking stand to the bottom 1/4" hole in the mount tube using the same hardware as shown in Diagram #24. Do not tighten.
4. Securely tighten the two carriage bolts from last step first and then then securely tighten the two bolts from this step.

Diagram #24

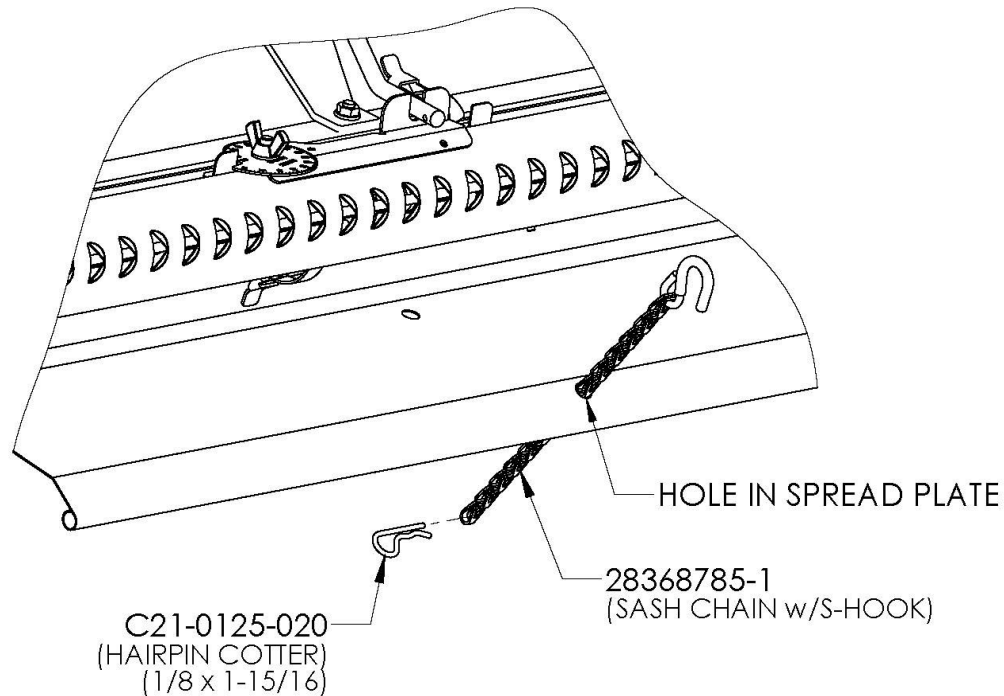


2824-A4

Step #13 (Sash Chain to Spread Plate Assembly)

1. Locate Sash Chain (28368785-1) and the small hairpin cotter 1/8 x 1-15/16 (C21-0125-020).
2. Insert sash chain into hole in spread plate as shown in Diagram #25.
3. Connect the small hairpin cotter to the bottom most link on the sash chain.
4. Pull sash chain up so the hairpin cotter contacts the spread plate.

Diagram #25



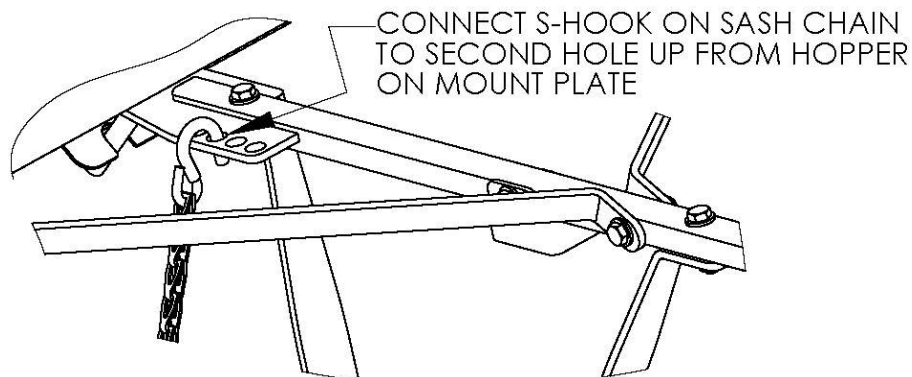
2836-A9

Step #14 (Connect Sash Chain to Handle)

Turn spreader upright so it sits up on its wheels and parking stand.

Pivot spread plate towards the hitch; then connect the S-Hook on the sash chain to the second hole up from the hopper on the mount plate as shown in Diagram #26.

Diagram #26

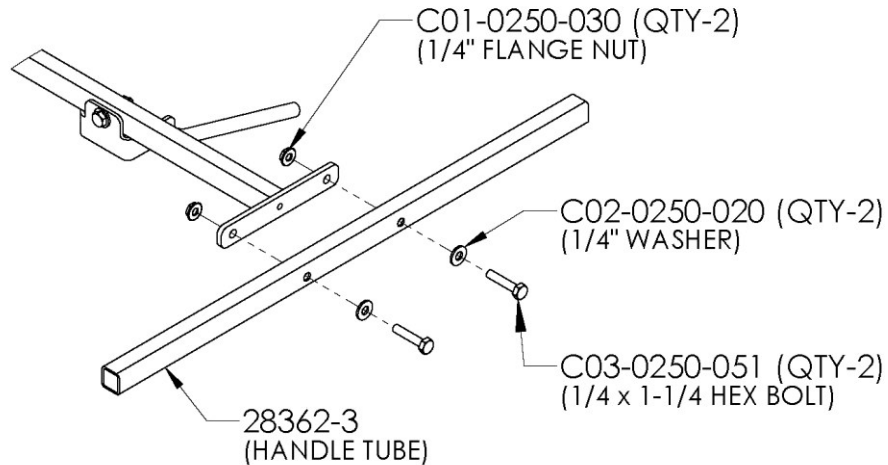


2836-A9

Step #15 (Handle Tube Assembly)

1. Locate the following parts: Handle Tube (28362-3), TWO 1/4 x 1-1/4 hex bolts (C03-0250-051), TWO 1/4" washers (C02-0250-020) and TWO 1/4" flange nuts (C01-0250-030).
2. Attach the Handle Tube to the Mount Tube using the above listed hardware as shown in Diagram #27. Tighten hardware securely.

Diagram #27

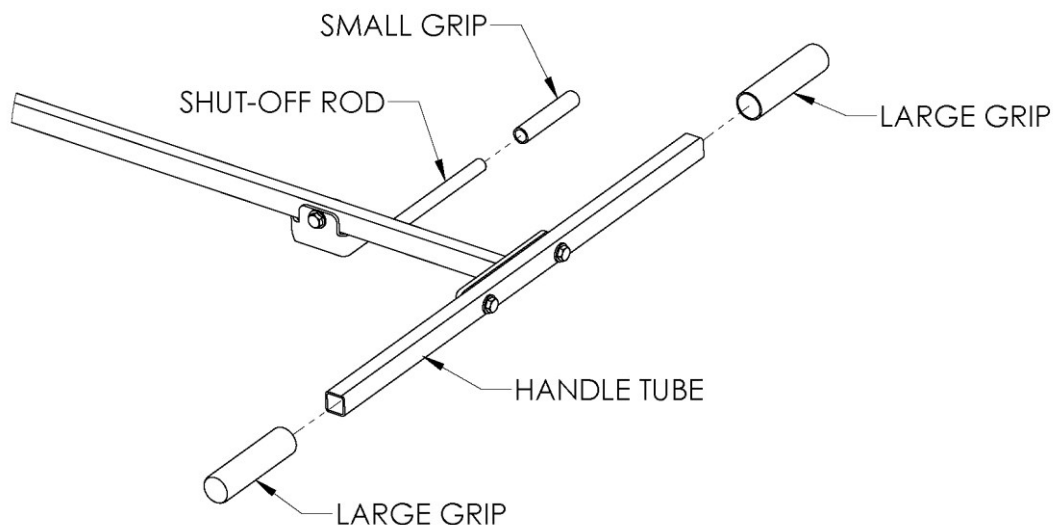


2836-A10

Step #16 (Grip Assembly)

Locate the two large grips and the small grip.
Push the small grip on the Shut-Off Rod as shown.
Push the large grip, one on each end of the Handle Tube as shown.

Diagram #28

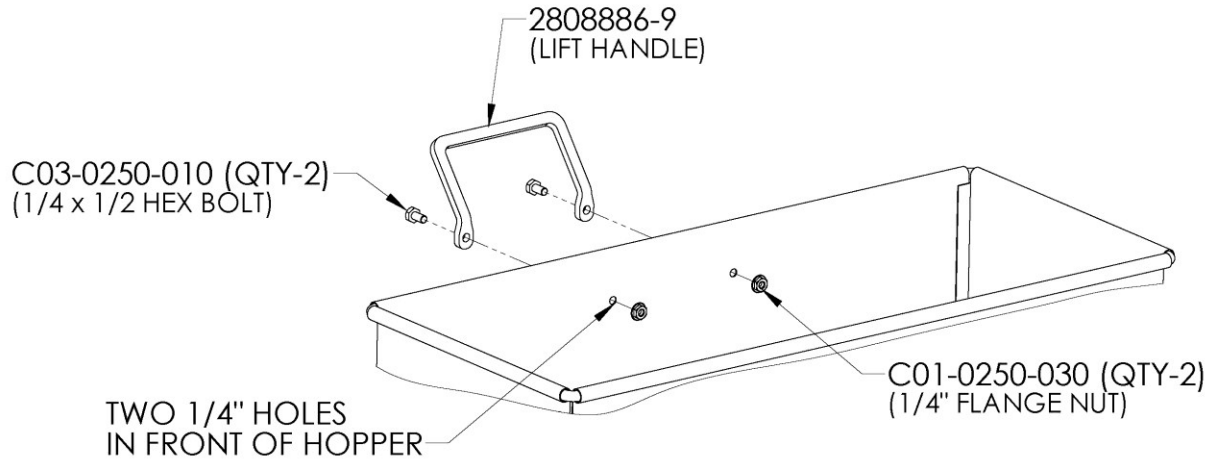


2836-A11

Step #17 (Lift Handle Assembly)

1. Locate Lift Handle (2808886-9), TWO 1/4 x 1/2 hex bolts (C03-0250-010) and TWO 1/4" flange nuts (C01-0250-030).
2. Attach Lift Handle to the two 1/4" hole in the front of the hopper using the above listed hardware as shown in Diagram #29. Tighten hardware securely.

Diagram #29

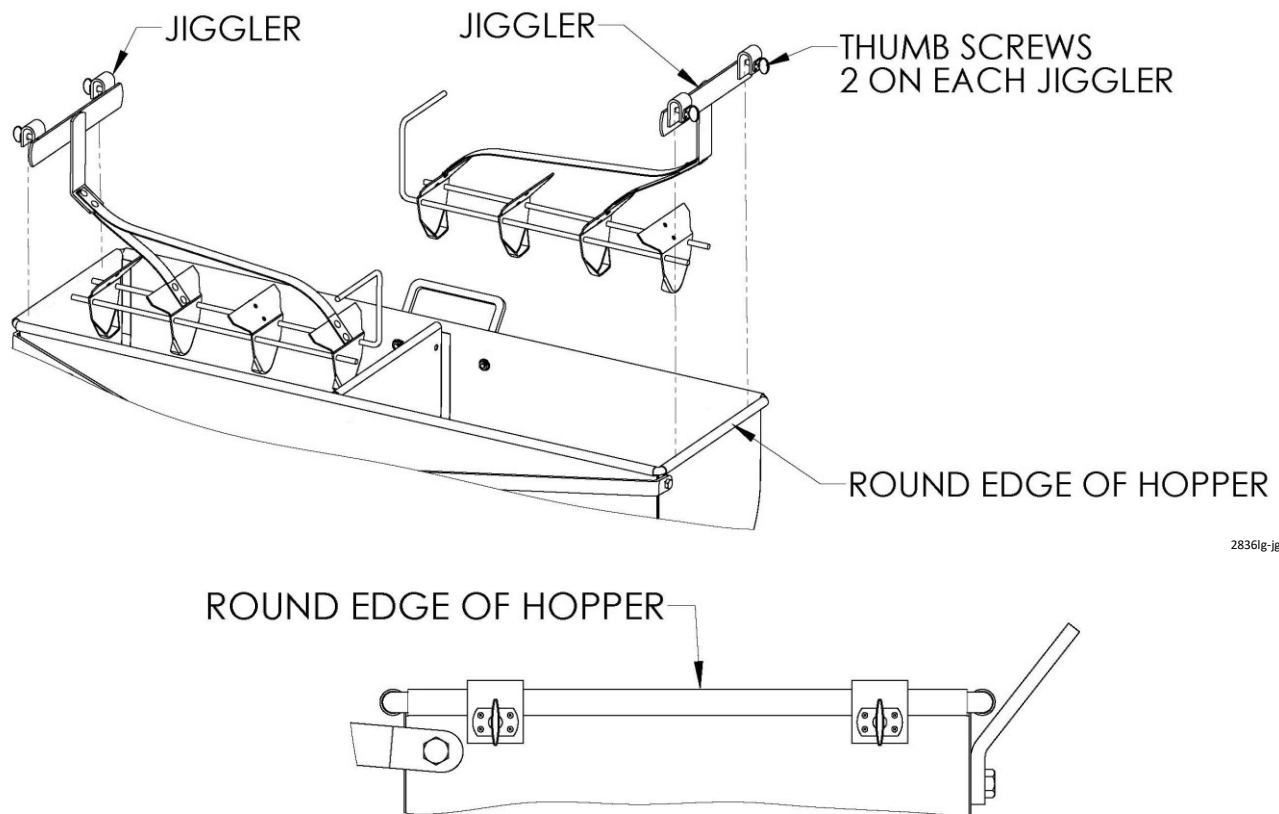


2824-A5

Step #18 (jiggler Assembly)

1. Locate both Jigglers (28247259) that were removed before step #1.
2. Attach Jiggler to hopper by loosening both thumb screws on the Jiggler.
The round part where the Thumb Screws are in the jigglers goes over the round edge of the hopper.
The jigglers will contact the rotor bar in the bottom of the spreader.
Push down on the round part above both thumb screws to push jigglers in place and tighten thumb screws.
Repeat for other jigglers. Note: Jigglers for the 24" spreader will have only 3 plates.
Note: The Jigglers will contact the rotor bars in the spreader.
When the rotor bars turn the jigglers will move up and down to create a vibration and agitate the salt in the spreader to help it flow.

Diagram #30



19. Spread Plate Adjustment:

As shown in Step #14 Diagram #26, connecting the spread plate chain to the second hole up from the hopper on the mount tube plate is a good starting point for most material being applied to produce a "Sheet-Like" flow coming off the spread plate.

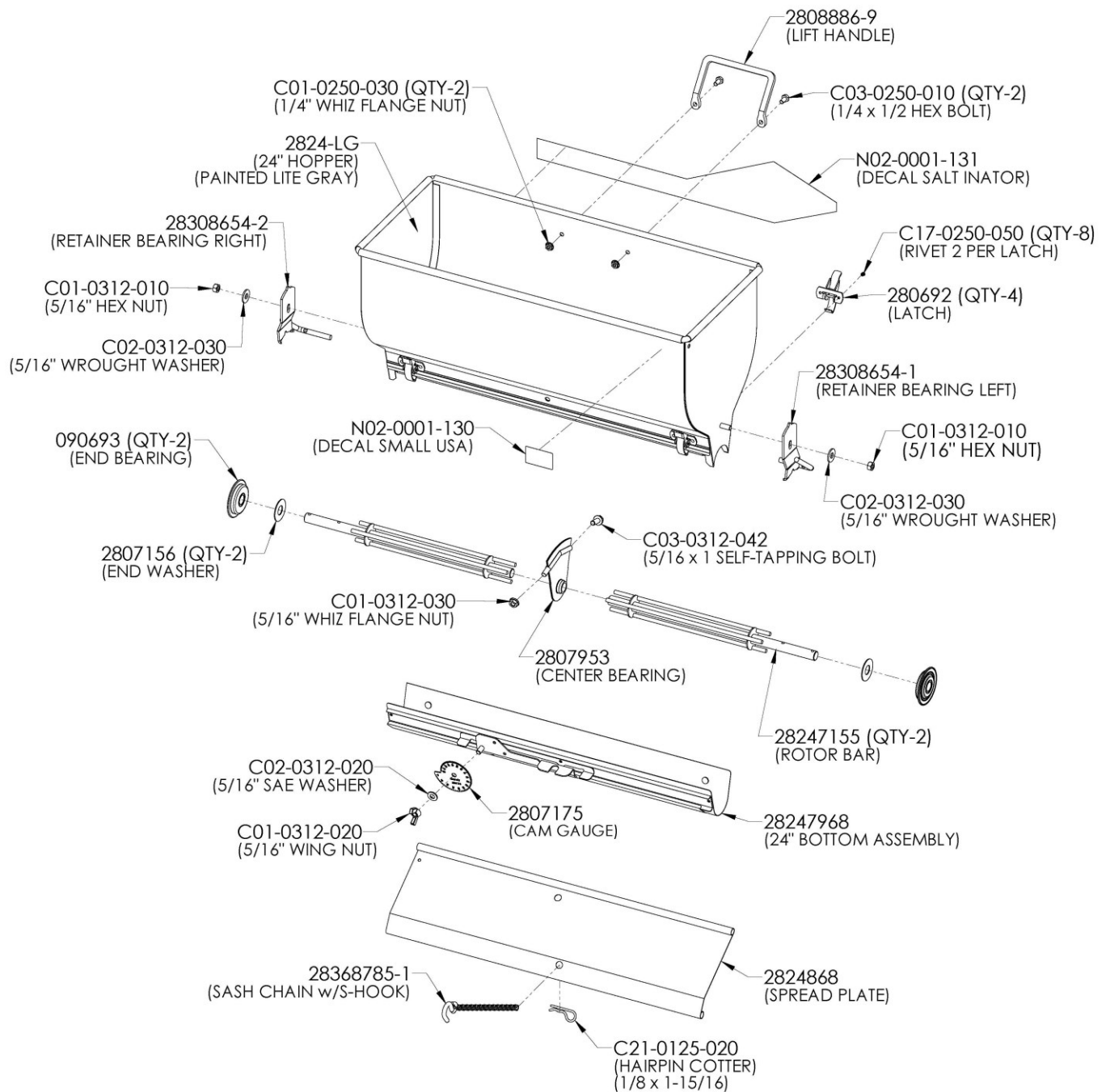
Depending on your application rate and weight of the product being applied you may need to adjust the angle up or down so the material flows freely off the spread plate.

If application without spread plate is desired, lift spreader up and swing spread plate to the lift handle side of the spreader and hook the s-hook on the sash chain over the lip on the spreader.

See operator's manual for more information.

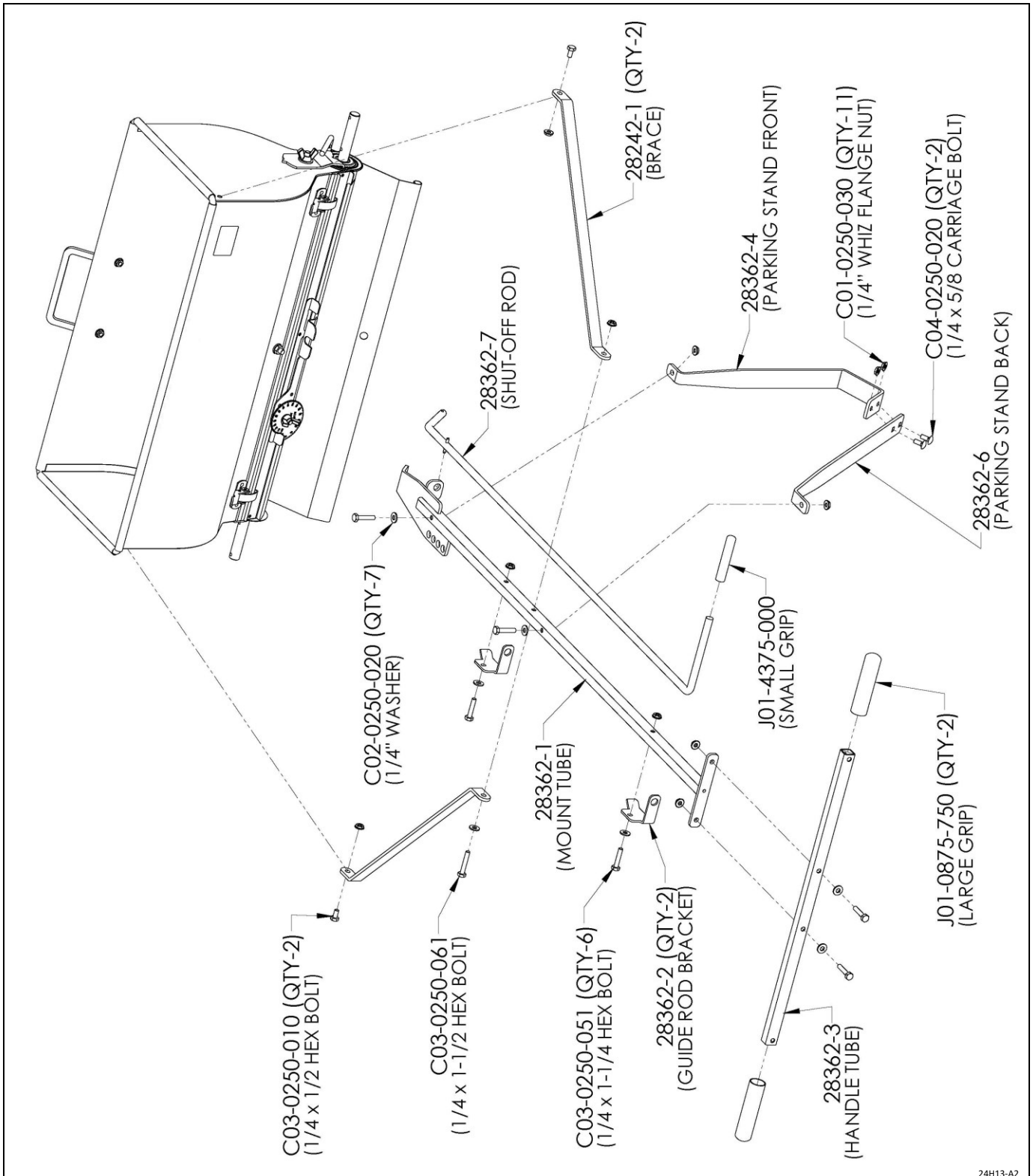
20. Please keep reading for overview of maintenance & cleaning of spreader.

24" Spreader Parts Breakdown:



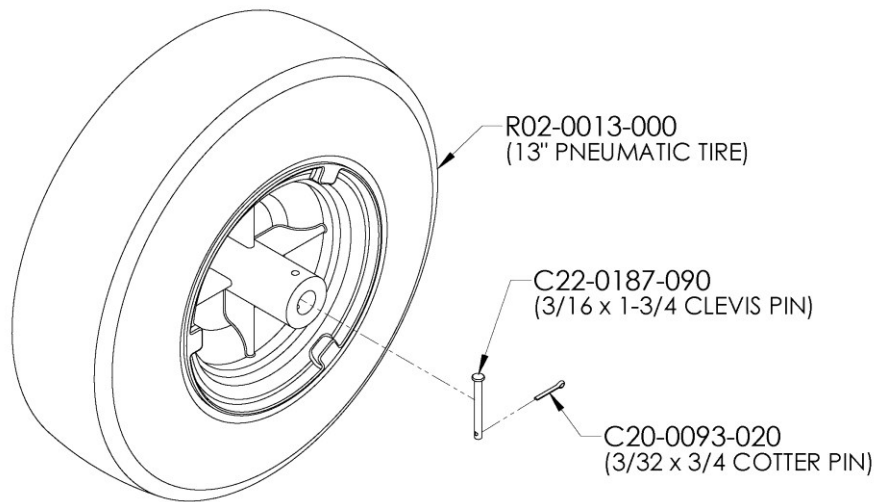
2413HS-A1 (12/23)

24" Push Handle Parts Breakdown:



24H13-A2

13" Pneumatic Tire & Mount Hardware:

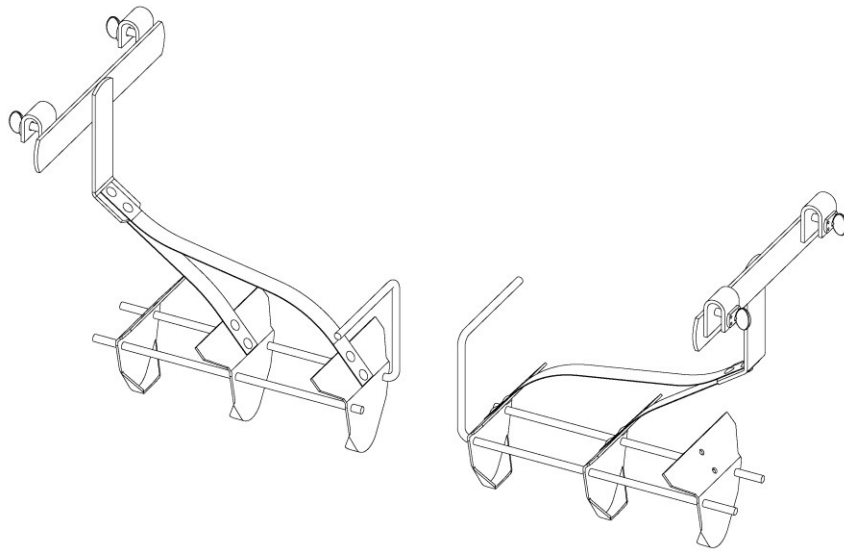


36H13-A3

Jigglers:

Use Jigglers on bridging material.

Installed Jigglers contact the rotor bar and move up and down to help maintain an even material flow.



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Maintenance & Cleaning For Gandy 24" & 36" Turf Tender®

General Maintenance:

Check all bolts for tightness periodically.

Always empty hopper when finished.

Never leave Salt for extended periods of time in the spreader as it can corrode and/or rust the parts.

Cleaning:

Always follow all safety guide lines listed on the product label of material used in spreader when cleaning.

SALT: It is recommended to do a more thorough cleaning.

(For detailed drawings see Parts & Assembly section at start of this booklet supplied with spreader)

1. With spreader empty turn spreader over so the bottom faces up.
2. Remove both tires.
3. Remove the spread plate by removing the wing nuts and washers holding the bearing retainers in place.
4. With the spread plate and bearing retainers removed, un-snap and un-hook the latches holding the stainless bottom in place.
Note: There are 6 latches (3 each side) on the 36" spreader and 4 latches (2 each side) on the 24" spreader. With the latches un-hooked, grab the bottom on one end and pull straight up to remove the bottom.
5. Remove the bearings, rotor bars and end washers (on ends of rotor bar) from the spreader.
6. Wipe & clean all parts including spreader hopper. Clean all material out of the center and end bearings.
Note: See Bottom Disassembly instruction on next page.
7. After cleaning the bearings, place a few drops of light oil on the inside of each bearing.
Note: The bearings are porous and will absorb small amounts of oil.
Note: The center and end bearings do not turn. The shaft turns inside the bearing.
Some materials have fine powder in the mixture, so it may be necessary to oil the bearings more often to prevent powder from working into the bearings.

All parts need to be completely dry before reassembling.

8. Install end washers back on long ends of rotor bars.
Reassemble rotor bars and bearings back on spreader.
9. Reinstall and center the stainless bottom on the spreader making sure the cam gauge is on the handle/hitch side and the shut-off lever is in the U-notch.
Hook all the latches back onto the bottom and snap into place.
10. Reinstall tires.
11. Turn spreader upright on it tires and reconnect spread plate chain.
12. Open and close shut-off lever. If shut-off lever operates hard the bottom can be adjusted to operate easier. (Similarly to Step #6 in the bottom disassembly instructions)
From the side opposite the cam gauge loosen the 3/6" flange nuts. Un-snap the latches on this side only and tap the rear hanger to your right about 1/16" inch. Retighten 3/16" nuts, re-snap latches and try shut-off lever again. Repeat if needed until shut-off lever operates smoothly.

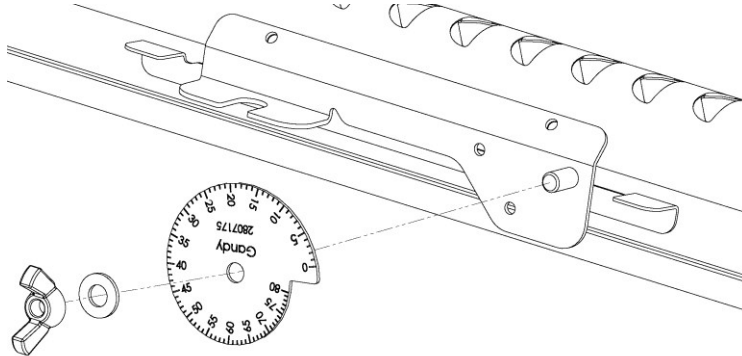
Bottom Disassembly Instructions:

Occasionally it will be necessary to disassemble the stainless bottom for cleaning.

Some materials will build up in between the slide and the bottom especially when atmospheric humidity is high.

1. Remove the 5/16" wing nut, washer and cam gauge from bottom assembly.

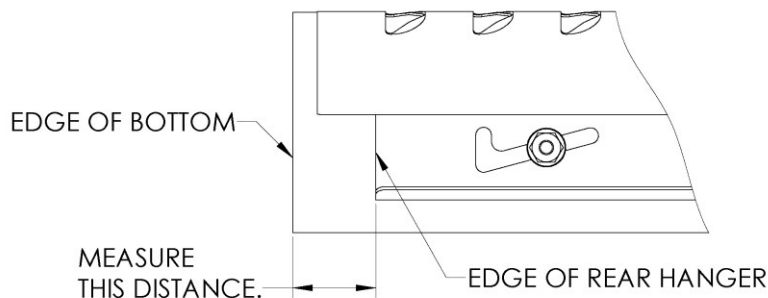
Diagram A



OPP-36-24-A1

2. Measure the distance from the edge of the bottom to the edge of the rear hanger and write that down.
See Diagram B. You will use this dimension to reassemble the bottom.

Diagram B

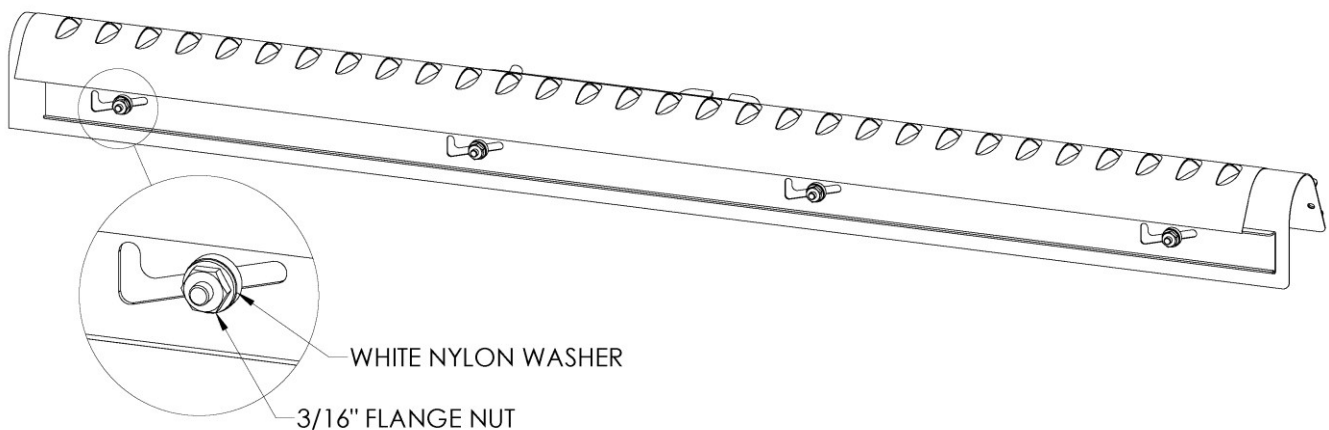


OPP-36-24-A1

3. Remove the 3/16" flange nuts and nylon washers from the rear hanger.

Note: The 36" bottom has 4 nuts and washers. The 24" bottom has 2.

Diagram C



OPP-36-24-A1

4. With the nuts and washers removed you will see the angled slots on the rear hanger.
With a small hammer gently tap on the end of the rear hanger as shown to loosen it from the studs.
See Diagram D.

With the hanger loose, slide it in the direction shown until the threaded studs align with the straight up and down area of the slot. See Diagram E.

Pivot the rear hanger away from the bottom and all the way off the studs.

This will allow the hanger to un-hook from the slide and be removed. See Diagram F.

Lift up and pivot the slide away from the bottom.

This will allow the side to unhook from the front hanger. See Diagram G.

Note: Be careful when handling the bottom & slide so you do not drop, bend, or dent it.

Diagram D

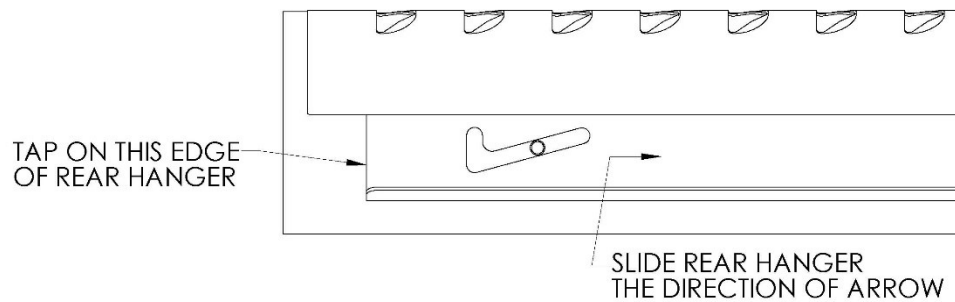


Diagram E

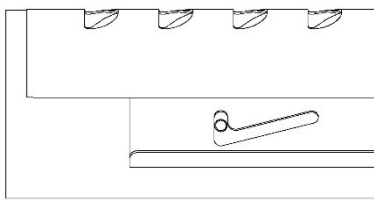


Diagram F

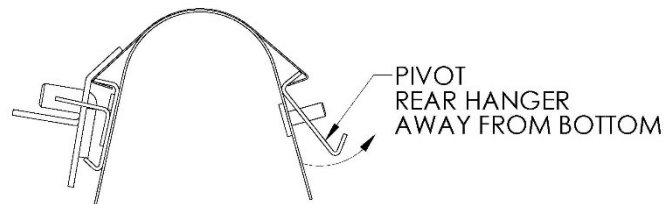
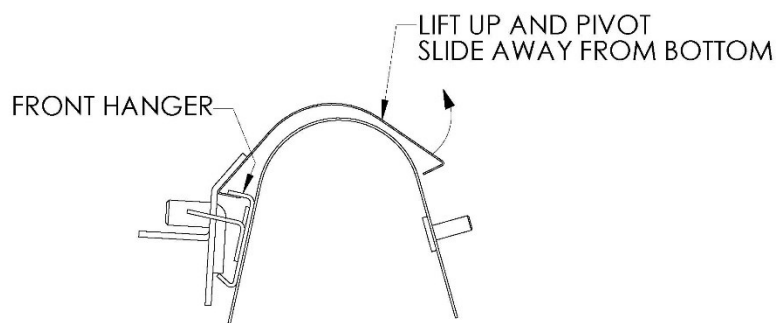


Diagram G



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5. **Note:** Be careful when handling the bottom & slide so you do not drop, bend, or dent it.
 With the bottom & slide disassembled wipe or wash these parts clean.
 If any rust or corrosion has formed on these parts it should be removed.
 (Fine steel wool or a fine scotch-bright pad & WD40 or similar products will work.)
 Make sure all parts are dry and all oil removed before reassembling.
 Do not oil or grease the bottom & slide. This will cause material to collect or stick in between the bottom & slide and cause it to slide harder and/or bind up.

6. Bottom reassembly.

Hook slide to the front hanger as shown in Diagram H and pivot onto bottom.

Hook rear hanger under lip of slide. Align the studs with straight up and down area of the slots on rear hanger and pivot into the bottom as shown in Diagram J.

With a small hammer gently tap on the end of the rear hanger as shown until the rear hanger matches the dimension you took from Step #4, Diagram D. See Diagram K.

Reinstall the nylon washers and 3/16" flange nuts to all studs. Be careful when tightening flange nut as to not over tighten and twist off.

Note: You should be able to move the slide by hand. If you cannot move the slide by hand loosen the 3/16" flange nuts and slightly tap the rear hanger the opposite direction as shown in Diagram K, tighten the 3/16" nuts and try to slide by hand again. Repeat this process if needed.

Reinstall the cam gauge, washer & wing nut.

Reassemble bottom on spreader.

Diagram H

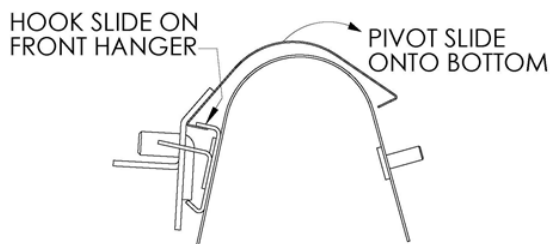


Diagram J

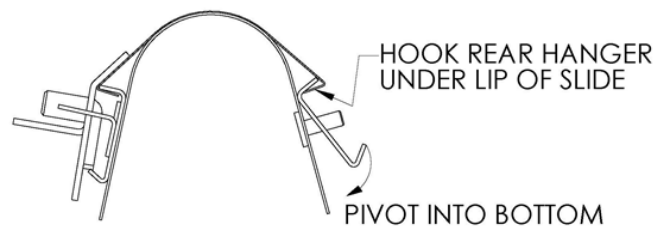
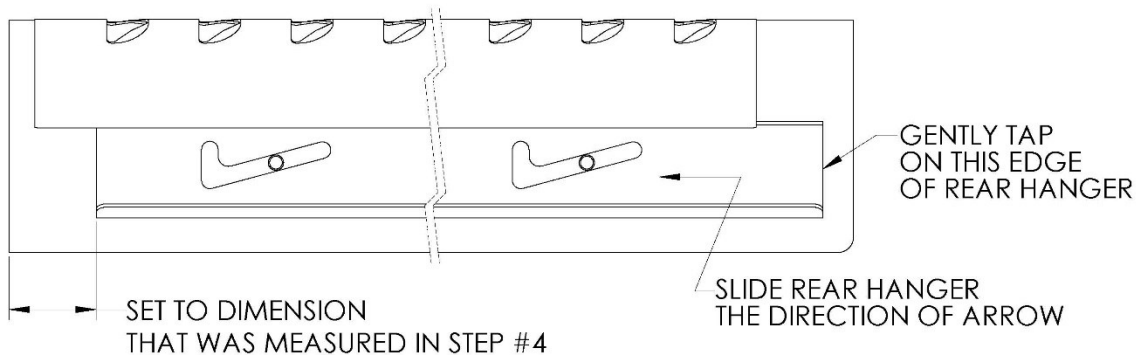


Diagram K



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