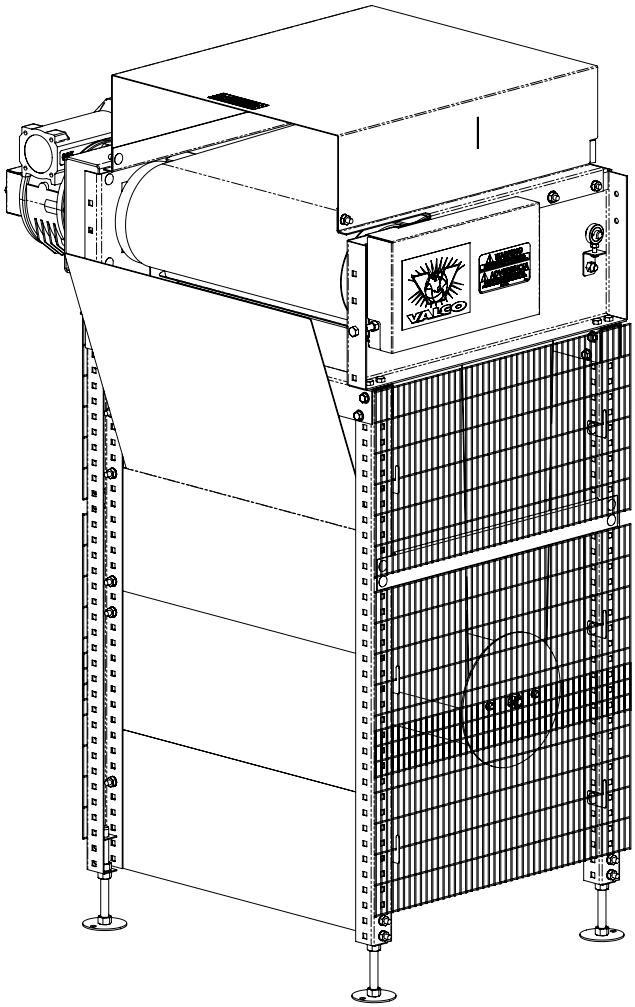
Belt Drive Modification Kit

Installation Quick Sheet

631791

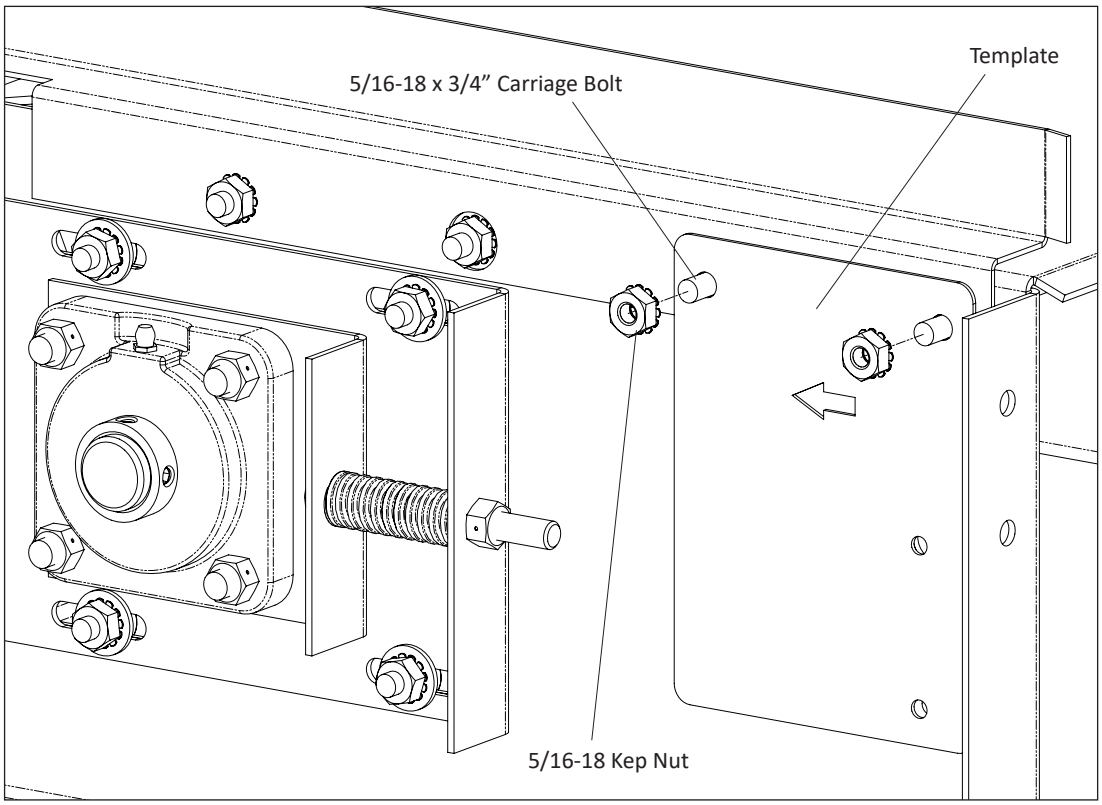


The Belt Drive Modification Kit is designed to work with all existing Val-Co® Community Nest Systems. If issues arise when installing the Belt Drive Modification Kit into an existing Val-Co® Community Nest System, please contact your Val-Co® Sales representative for details as to what new parts to order and/or details on how to field retrofit your current install to enable the installation of the Belt Drive Modification Kit.

Installation

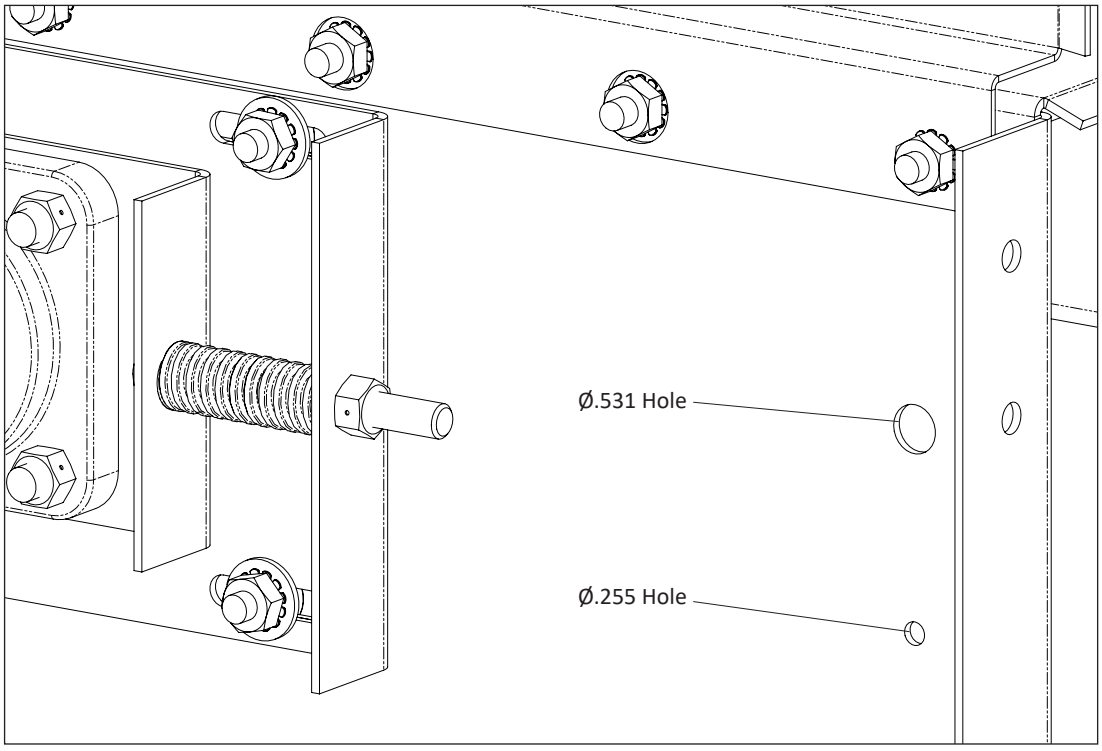
1. Attach the belt drive modification template (631792) to the side of the belt drive using existing 5/16-18 carriage bolts and hex nuts, as shown in Figure 1. The arrow on the template should be pointing towards the drive roller. Use a center punch in each of the Ø.250 holes, then repeat the process on the other side of the belt drive.

Figure 1



2. Drill out (2) holes on each side of the drive, using the center punches as guides. The bottom hole should be Ø.255 (6.5mm) and the top hole should be Ø.531 (13.5mm), as shown in Figure 2.

Figure 2



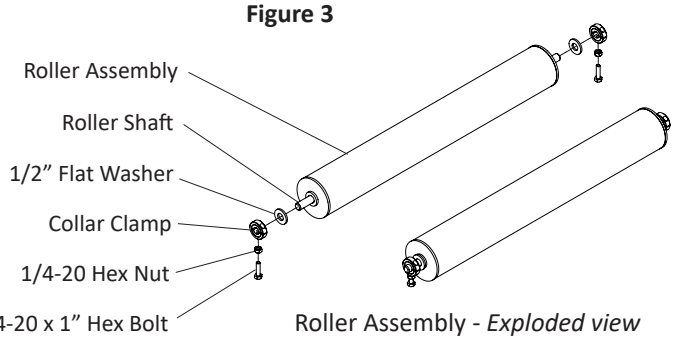
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3. Disassemble the existing egg belt take-up kit (630530) from the nest, as shown in Figures 3, 4, and 5. The weighted roller assembly (630529) will eventually be transferred into the modified egg belt drive, as will (1) roller assembly (630523) and all of its associated parts and hardware, including (1) roller shaft (630520), (2) collar clamps (610772), (2) 1/2” flat washers (690102), (2) 1/4-20 x 1” hex screws (690025), and (2) 1/4-20 hex nuts (690127). Retain these parts to be re-assembled into the modified egg belt drive.

   The remaining roller assembly (630523) and its associated hardware and parts may be kept as spare parts.

   The (2) support channels (630519) and (8) 5/16-18 x 1/2” self-tapping bolts (690005) detailed in Figure 5 serve no further use and may be removed and discarded.

Figure 3



Roller Assembly - *Exploded view*

Figure 4

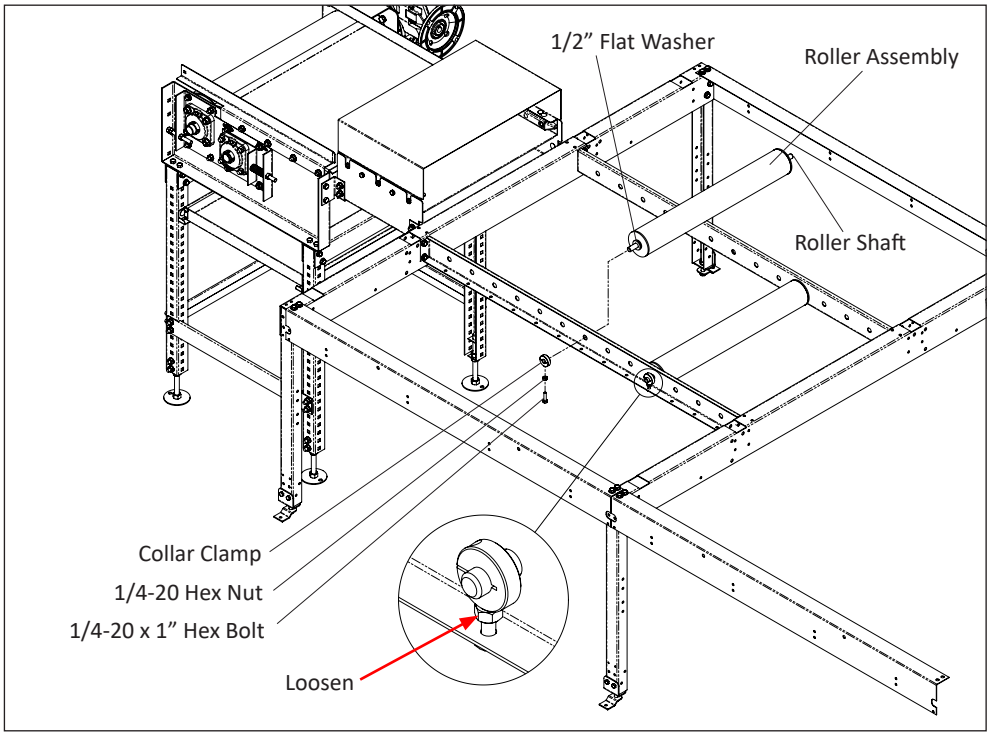
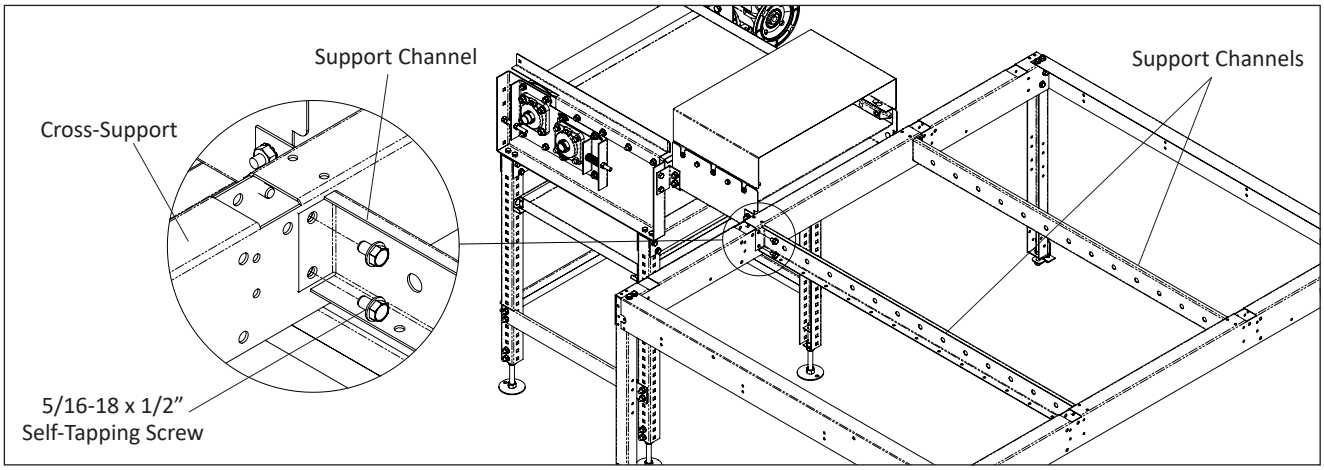


Figure 5

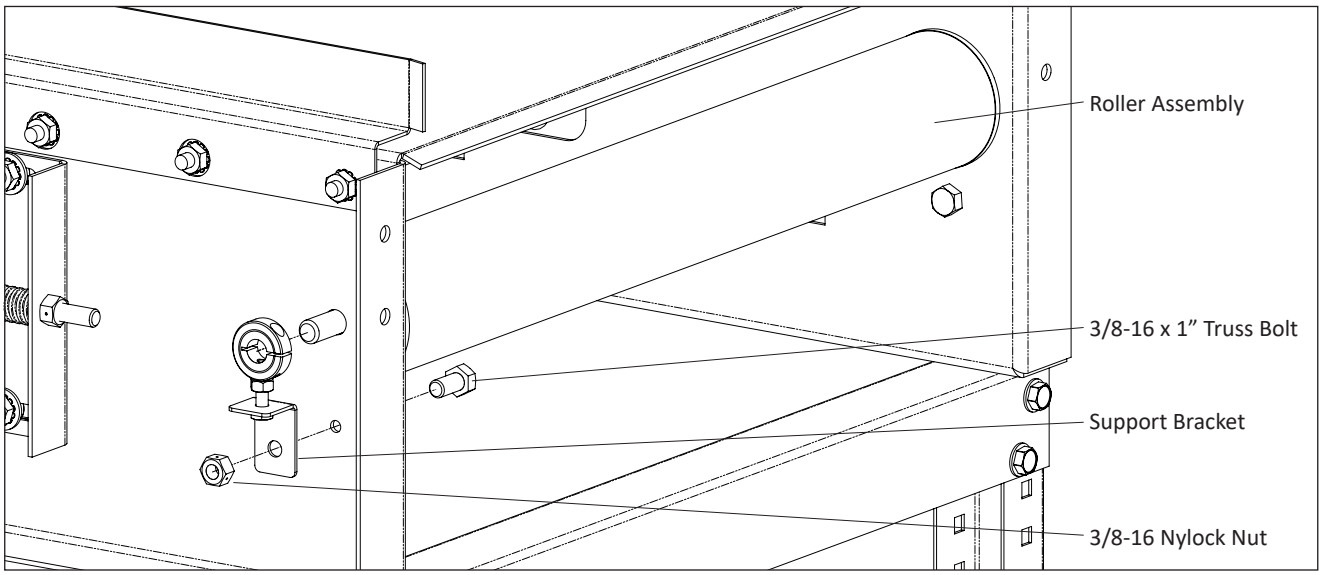


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4. Reassemble one roller assembly (630523) and its associated hardware and parts – (1) roller shaft (630520), (2) collar clamps (610772), (2) 1/2" flat washers (690102), (2) 1/4-20 x 1" hex screws (690025), and (2) 1/4-20 hex nuts (690127) – into the belt drive exactly as it was assembled into the egg belt take-up kit (630530). Refer to Figures 3 and 6 for assembly orientation of parts and hardware. Ensure that the take-up roller is installed *under* the egg belt, or the unit will not function.

   The (2) previously removed and discarded support channels (630519) are replaced by (2) support brackets (631789) and assembled to the smaller Ø.531 drilled holes using (2) 3/8-16 x 1" truss bolts and (2) 3/8-16 nylock nuts, as shown in Figure 6. The roller shaft is inserted into the larger Ø.255 drilled holes, as shown in Figure 6.

Figure 6



Egg belt not shown in Figure 6 for visual clarity.

5. If the manure tray and tray supports (630557) are installed, they should be removed at this point, as shown in Figure 7. If desired, they can be reattached at the very bottom of the legs in the same manner as before. Front (631378) and side (631379) cross braces and their associated hardware should also be removed at this time, to be relocated later, as shown in Figure 8.

Figure 7

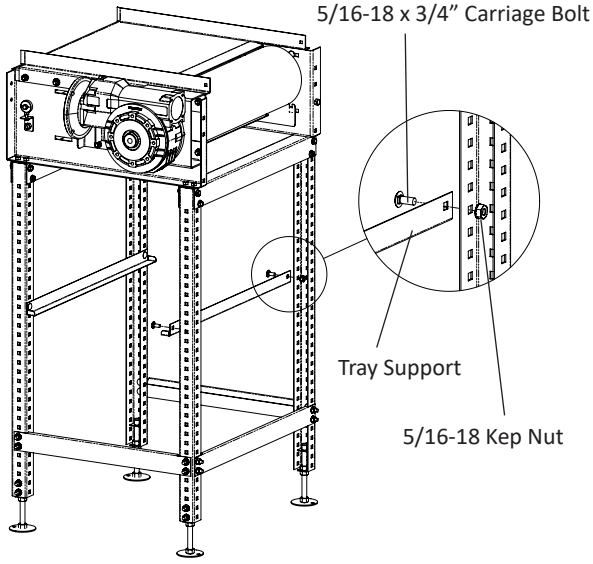
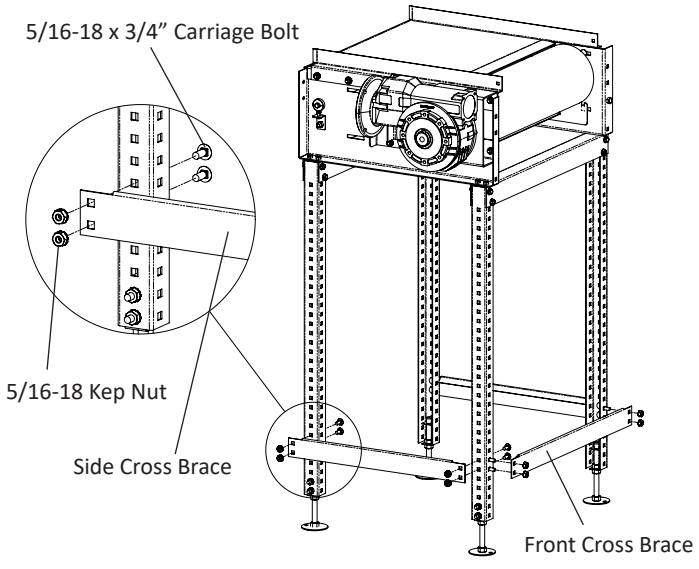


Figure 8

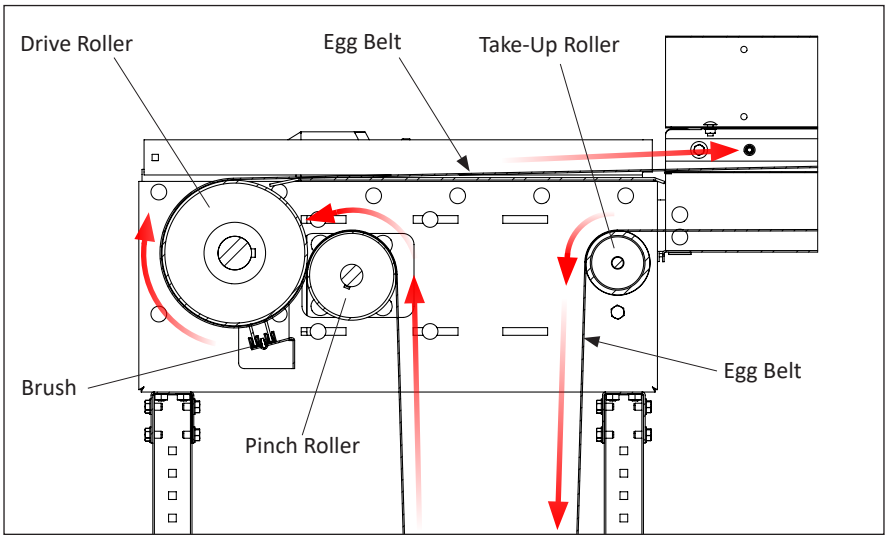


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6. Pull the slack in the egg belt down between the newly installed take-up roller and the drive unit pinch roller, as shown in Figures 9 and 10. Add or subtract egg belt as needed to maintain enough slack in the belt to allow for the weighted roller to be reinstalled. Figure 9 shows the proper path of the egg belt through the egg drive unit.

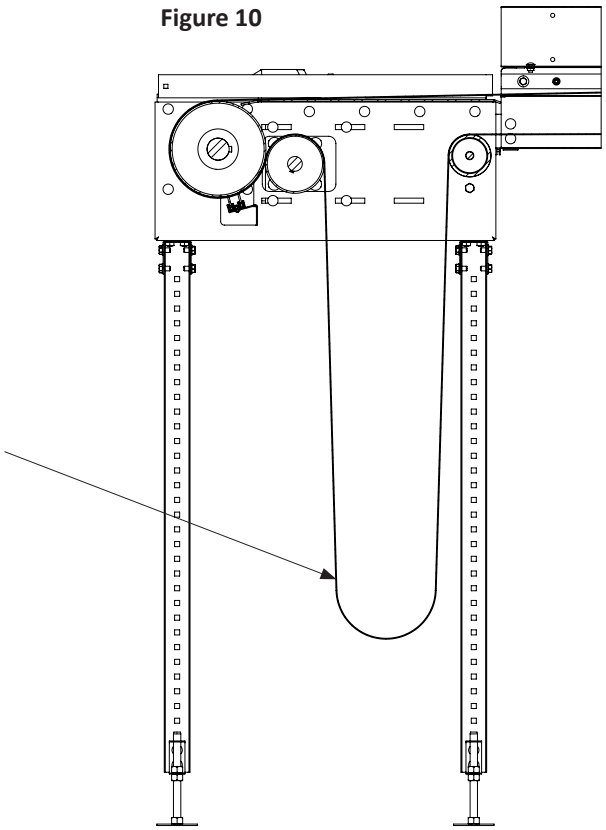
Ensure that the belt goes over the *top* of the take-up roller within the egg belt drive – if installed underneath the take-up roller, the unit will not function. Refer to Figures 9 and 10.

Figure 9



NOTE: This cut-away view shows how to thread the egg belt through the drive assembly with the take-up roller installed. The actual direction that the belt will run when activated will be the opposite of what the arrows show above.

Figure 10

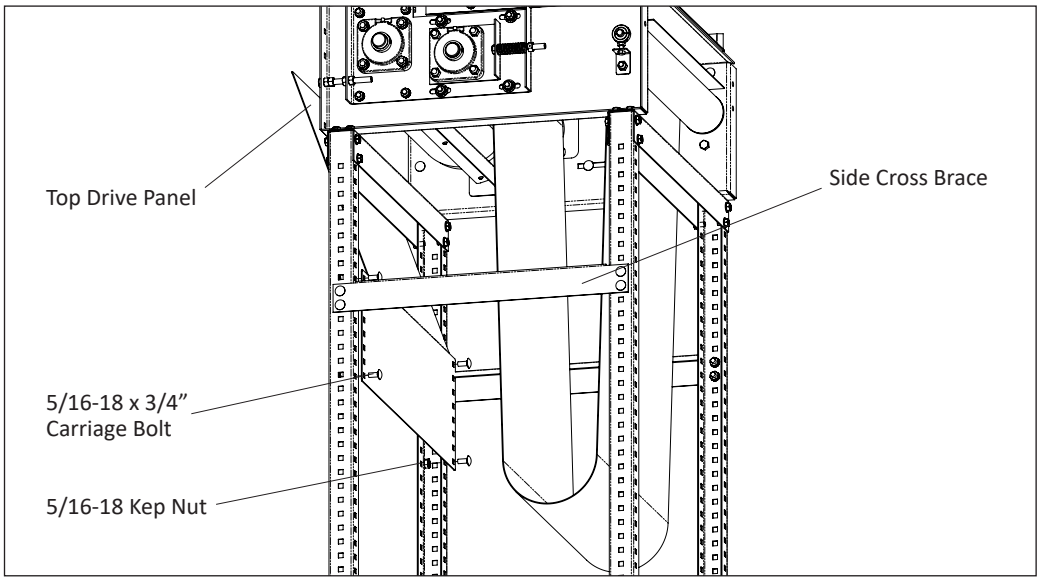


NOTE: The egg belt should extend approximately halfway down from the bottom of the drive unit within an operating range temperature. If the egg belt is too high it could contact the bottom of the drive unit during operation, creating interference. If the egg belt is too low and contacts the floor, it will not take up the necessary slack and cause the belt to run improperly.

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7. Install the top drive panel (631794) on the inside face of the front legs of the drive unit using (2) 5/16-18 x 3/4" carriage bolts (690027) and (2) 5/16-18 kep-hex nuts (690020) in the 9th hole down from the cross support, as shown in Figure 11. Move each side cross brace (631379) and associated hardware, so that they are attached in the 10th and 11th holes down, as shown in Figure 11. The front cross-brace (631378) can be removed and discarded. (It is made obsolete by the new top drive and front panels).

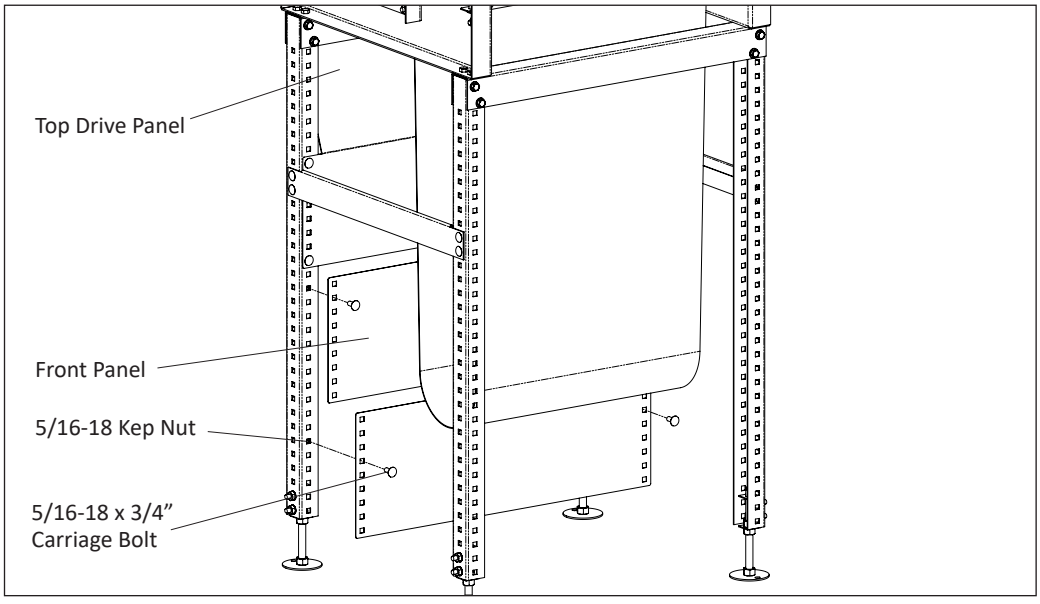
Figure 11



The next step is to attach removable guards to the egg belt drive legs. The legs arrive from the factory 36" long, but are often field cut to a smaller size during installation. The belt drive modification kit comes with enough wire panels (3) to cover the egg belt drive's legs at the maximum height of 36" but not all panels will be used if the legs are shorter.

8. Attach (0-2) front panels (631795) below the top drive panel (631794), overlapping as necessary and attaching with the supplied hardware, 5/16-18 x 3/4" carriage bolts (690027) and 5/16-18 kep-hex nuts (690020), as shown in Figure 12. These panels should extend to the lowest hole on the legs; if the manure tray supports (630557) were reinstalled at the bottom of the legs, these panels should be installed so that they do not interfere with the removal and replacement of the tray.

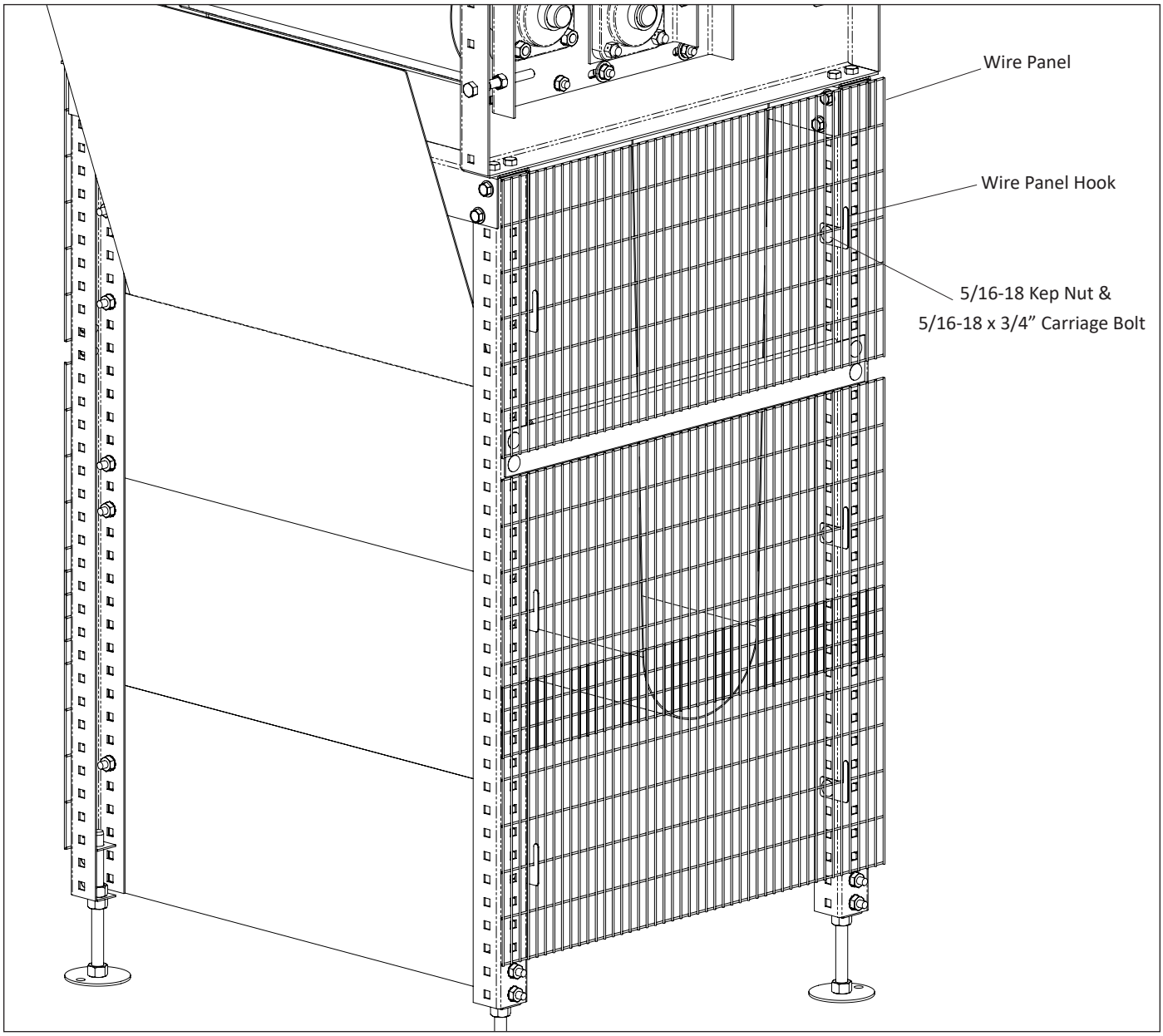
Figure 12



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9. Next, install the wire panel hooks (631793) with the supplied hardware – 5/16-18 x 3/4” carriage bolts (690027) and 5/16-18 kep-hex nuts (690020) – as shown in Figure 13. When looking at the egg belt drive from either side, the hooks are installed on the inside of the legs, as shown in Figure 13. The top hooks should be installed in the 5th hole from the top; the 2nd and 3rd hooks down, if needed, should be installed so that the wire panels (954094) overlap as needed and cover the entire side. Remember to leave room for the manure tray if desired. Attach the wire panels (954094) as shown in Figure 13.

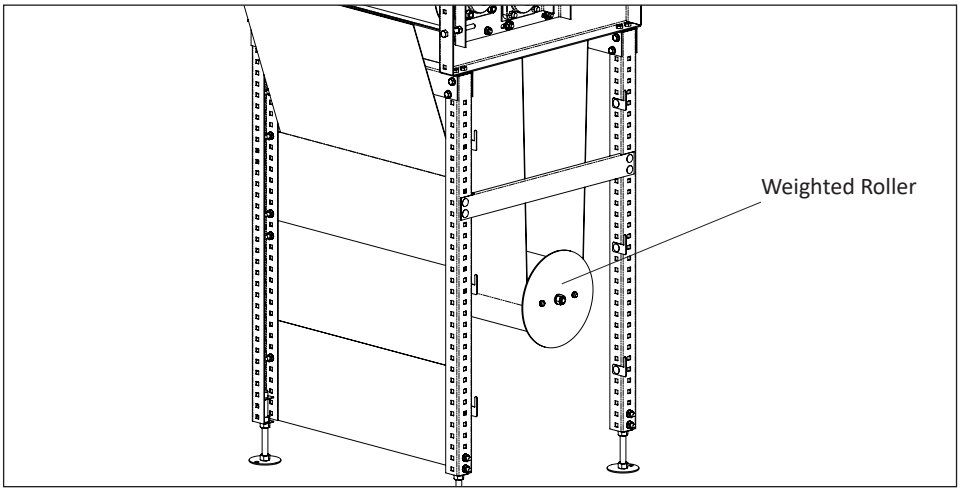
Figure 13



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10. Temporarily remove the wire panels to pull the belt slack down between the pinch roller and the newly installed take-up roller inside the egg belt drive, then insert the weighted roller (630529) as before, as shown in Figure 14. If the roller is too high or too low, the belt may need to be resized. Replace the wire panels once the weighted roller has been installed at the proper height.

Figure 14



11. Once the primary assembly is completed, install guards on the egg drive unit. Assemble (1) belt drive guard (631798), (1) reducer guard (631797), and (1) bearing guard (631796) to the egg drive unit, as shown in Figures 15 and 16.

- The reducer guard attaches to the reducer using (2) 3/8-16 x 1-1/2" hex bolts (010665), as shown in Figure 15.
- The belt drive guard attaches to the top of the egg belt drive unit using (2) 5/16-18 x 3/4" carriage bolts (690027) and (2) 5/16-18 hex nuts (690020), as shown in Figure 16.
- The bearing guard slides down over the bearing assembly, as shown in Figure 16, but does not require hardware to secure it in place.

Figure 15

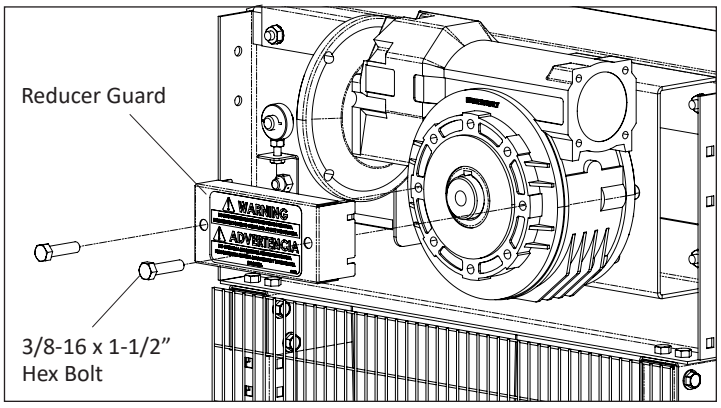
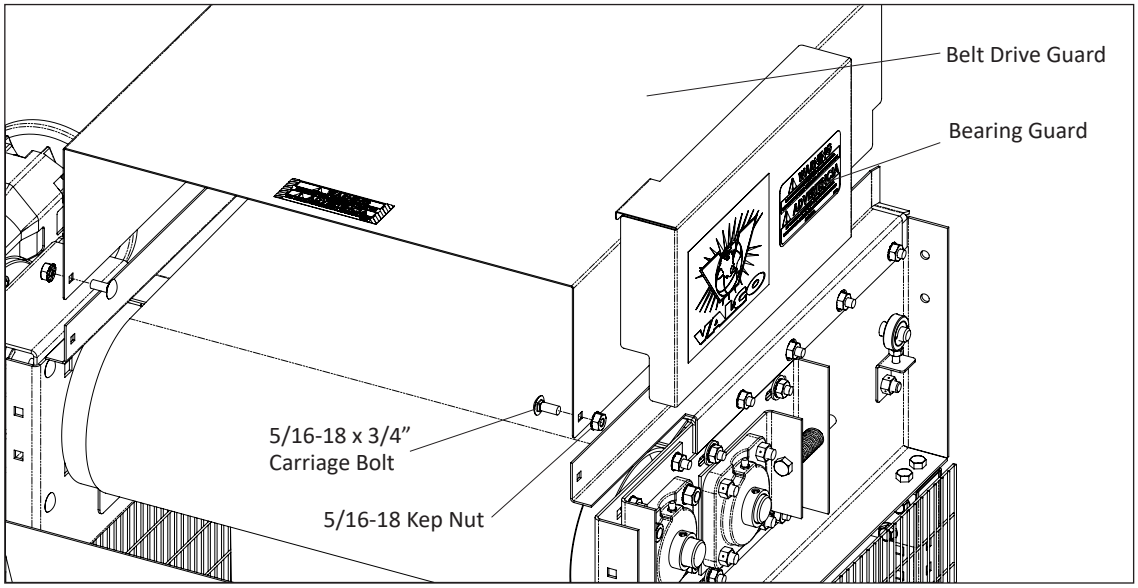
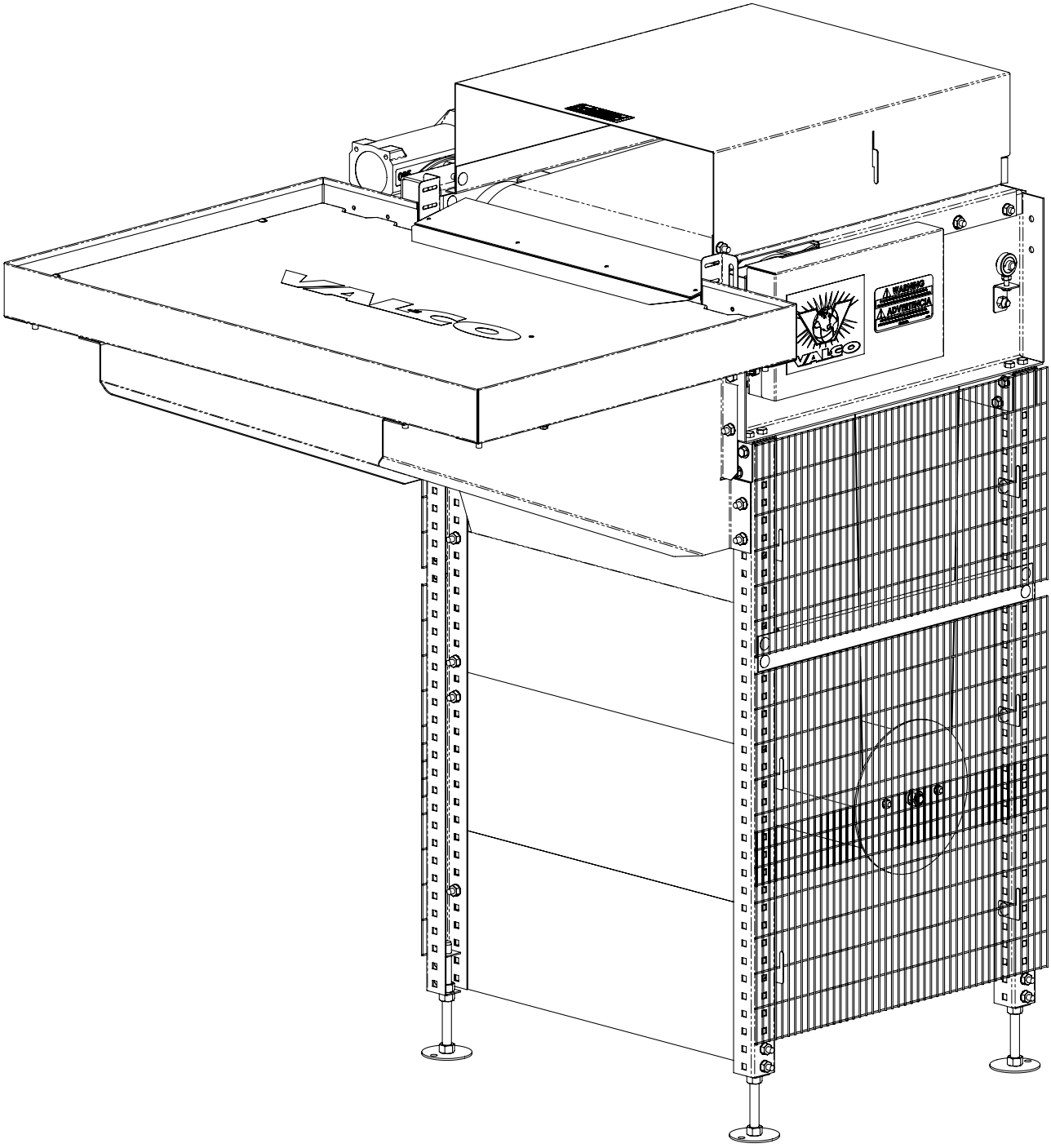


Figure 16



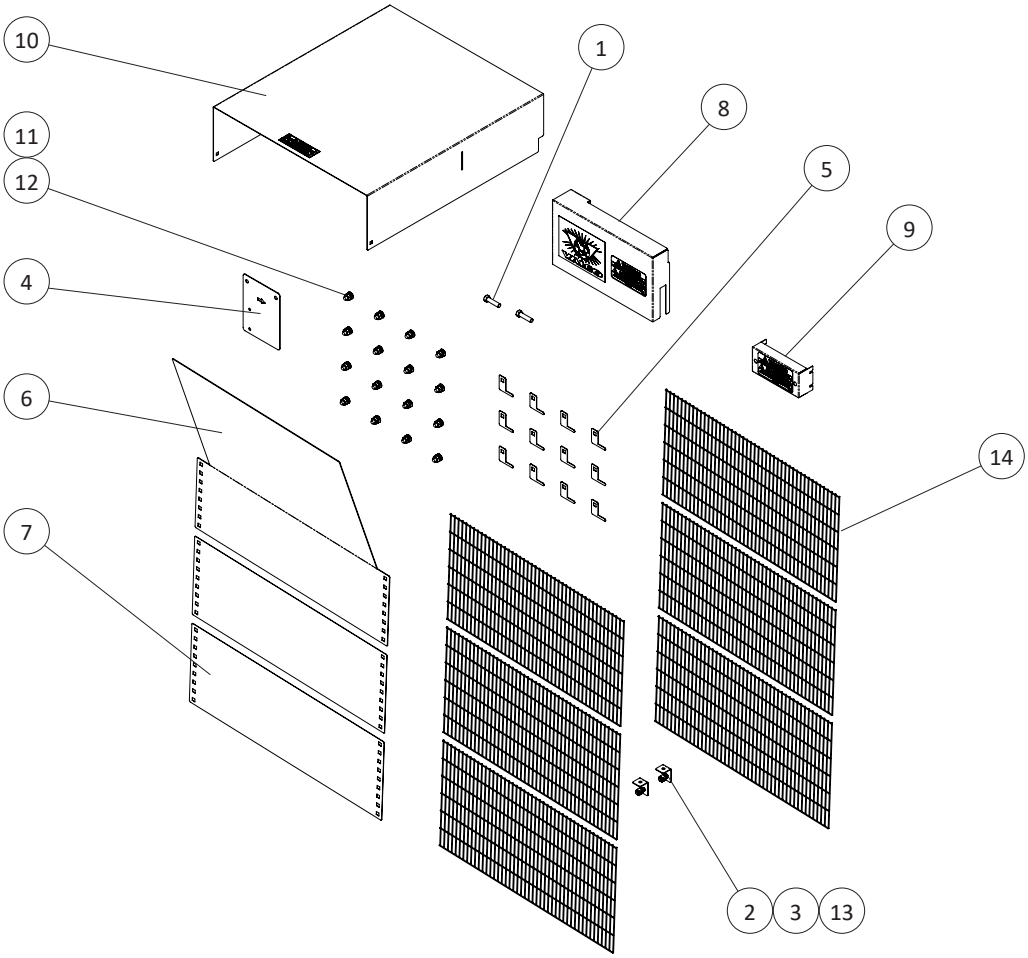
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Completed Assembly *(shown with Egg Tray and Diverter)*



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Parts List



ITEM #	PART #	QTY	DESCRIPTION
BELT DRIVE MODIFICATION KIT (631791)			
1	010665	2	3/8-16 X 1-1/2” HEX BOLT
2	011408	2	3/8-16 X 1” TRUSS BOLT
3	631789	2	TAKE-UP SUPPORT BRACKET
4	631792	1	BELT DRIVE MODIFICATION TEMPLATE
5	631793	12	WIRE PANEL HOOK
6	631794	1	TOP DRIVE PANEL
7	631795	2	FRONT DRIVE PANEL
8	631796	1	BEARING GUARD, EGG BELT DRIVE
9	631797	1	REDUCER GUARD, EGG BELT DRIVE
10	631798	1	BELT DRIVE GUARD, EGG BELT DRIVE
11	690020	16	5/16-18 K-LOCK HEX NUT
12	690027	16	5/16-18 X 3/4” CARRIAGE BOLT
13	690132	2	3/8-16 NYLOCK HEX NUT
14	954094	6	WIRE GUARD SCREEN, 12” X 22.5”

North America:
Phone: 800.99VALCO; 800.998.2526
Fax: 419.678.2200
Email: sales@val-co.com

International:
Phone: (+1) 419.678.8731
Fax: (+1) 419.678.2200
Email: intl.sales@val-co.com