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# Technical Document

## PCNC 440™ Enclosure Install

**Product Identification:** Full Enclosure Kit for PCNC 440 Mill (PN 35605)

**Purpose:** This document details installation of the PCNC 440 enclosure.

Item #	PCNC 440 Enclosure	Qty.
1	Left Back Panel	1
2	ATC Cover	1
3	Top Panel	1
4	Top Window	1
5	Left Door Window	1
6	Right Door Window	1
7	Door Edge	1
8	Left Side Panel	1
9	Right Side Panel	1
10	Left Front Panel	1
11	Right Front Panel	1
12	Side Window	2
13	Bottom Trim	1
14	Top Trim	1
15	Short Top Gib	2
16	Long Top Gib	1
17	Large Handle	2
18	Small Handle	2
19	Side Gib	4
20	Right Side Support	1

<sup>1</sup>For PCNC 440 mills with serial numbers 80003-80075

**NOTE:** Some fasteners in this kit may include extras. If any of these items are missing, contact Tormach Customer Service at (608) 849-8381 for a replacement.



Item #	PCNC 440 Enclosure	Qty.
21	10-32 x 3/8" Phillips Screw	81
22	8-32 x 1/2" Phillips Screw	10
23	10-32 x 3/8" Phillips Flat Head Screw	12
24	8-32 Nut	2
25	Door Hinge	4
26	10-32 Nut	16
27	10-32 Flat Washer	4
—	#21 Drill <sup>1</sup>	1
—	10-32 Tap <sup>1</sup>	1
—	Butyl Tape	1

### Required Tools:

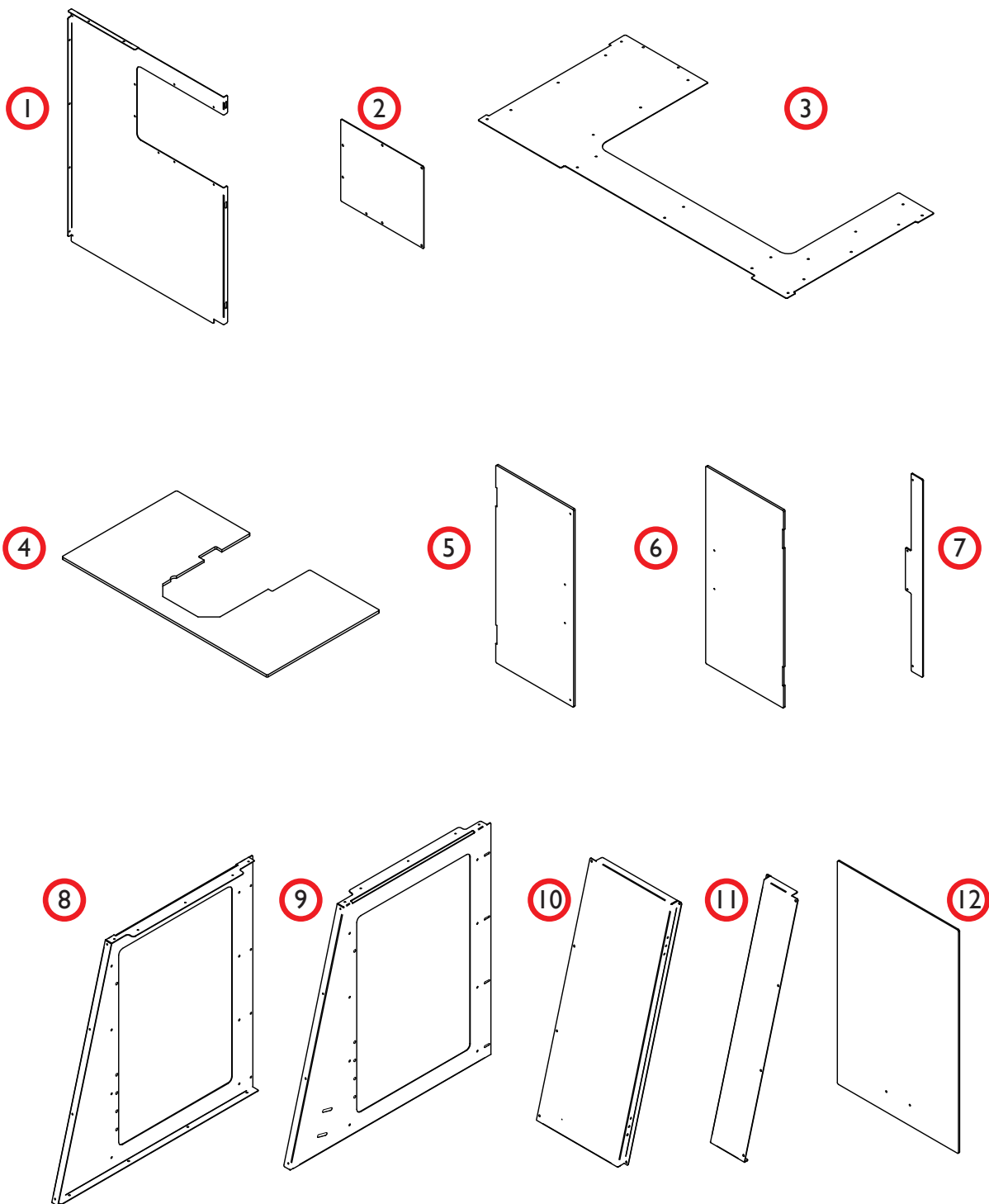
- Phillips screwdriver
- Adjustable wrench
- Electric drill
- Tap handle<sup>1</sup>
- Small flat-head screwdriver



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## Enclosure Parts

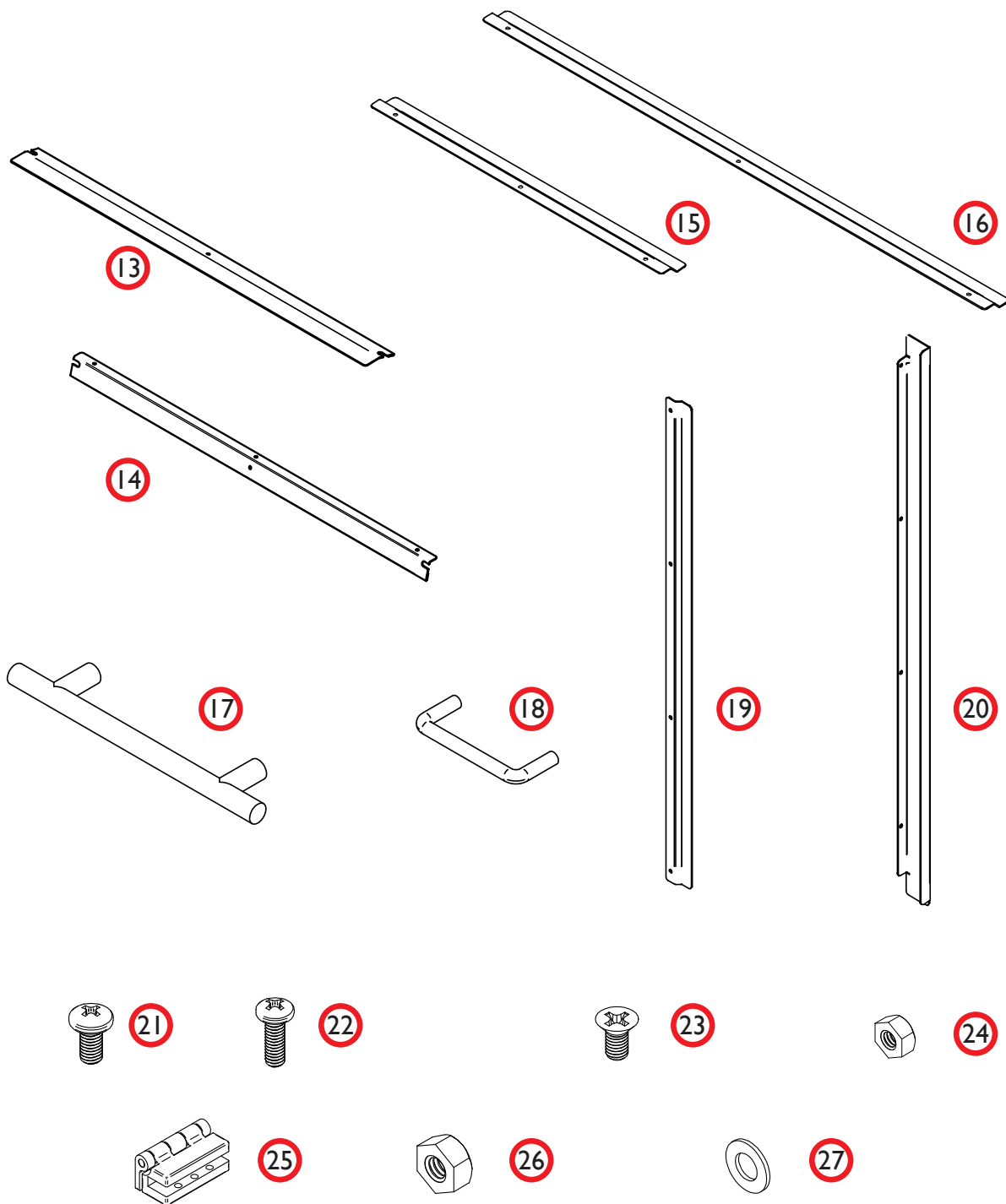




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## Enclosure Parts (continued)

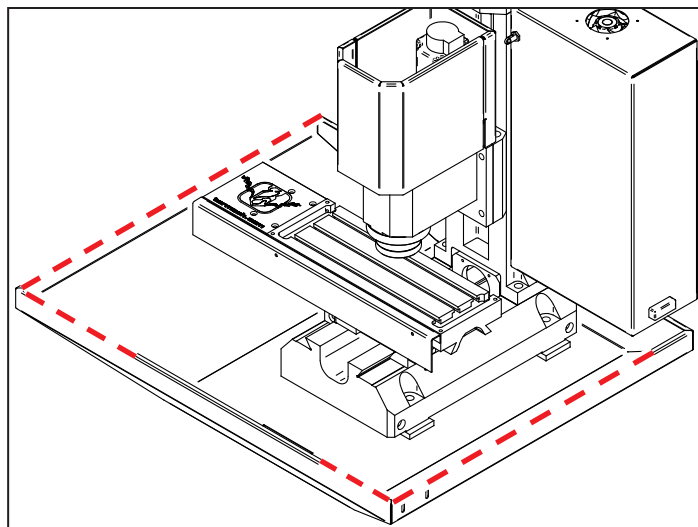


## Enclosure Installation

Loosely fasten all screws during the installation process (steps to follow) and securely tighten down after enclosure assembly is complete.

**NOTE:** This procedure assumes the PCNC 440 Chip Pan (PN 35673) is already installed on the mill. For information on installation, refer to mill Operator Manual.

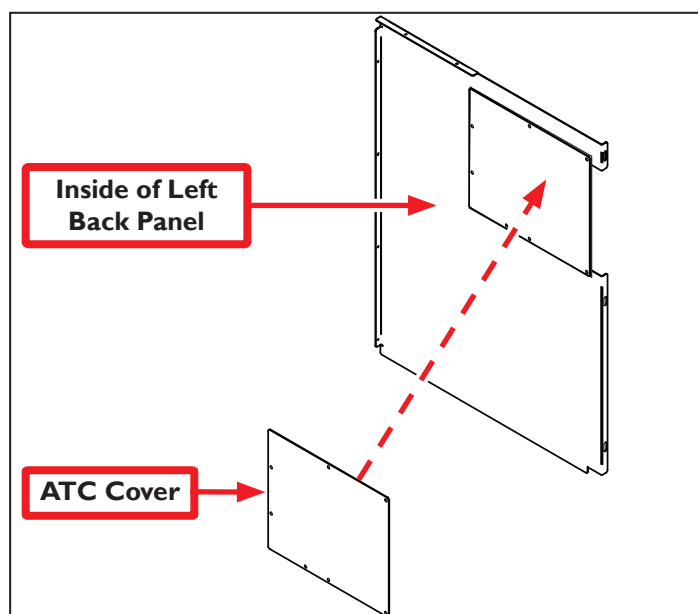
1. To allow for correct positioning of enclosure, loosen four bolts securing mill to chip pan.
2. Apply a strip of Butyl Tape along top of chip pan where chip pan and enclosure sides will meet (see **Figure 1**).



**Figure 1**

3. Using seven 10-32 x 3/8" Phillips Screws, attach ATC Cover to opening on inside of Left Back Panel (see **Figure 2**).

**IMPORTANT!** To ensure oil line routing is clear, install ATC Cover as shown in **Figure 2** so that seven screw heads are inside of Left Back Panel when it is placed on the chip pan.



**Figure 2**

**NOTE:** PCNC 440 mills with serial numbers 80003-80075 require three holes to be drilled and tapped on Machine Column before installing Left Back Panel (see **Figure 3**).

4. Temporarily place Left Back Panel on top of the left rear side of the mill's Chip Pan to use as a template.
5. Using #21 Drill and 10-32 Tap (included), mark, drill, and tap three holes in Machine Column in three screw locations shown in **Figure 3**.
6. Using three 10-32 x 3/8" Phillips Screws, attach Left Back Panel to Machine Column (see **Figure 3**).

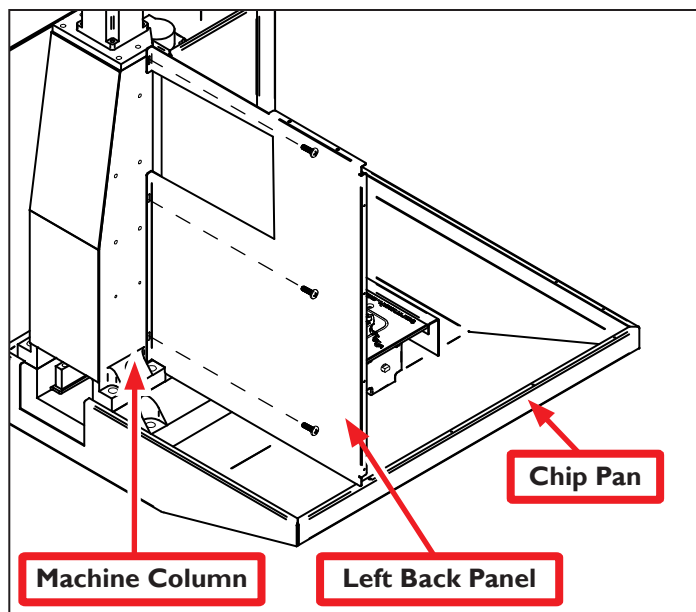


Figure 3

7. Using eight 10-32 x 3/8" Phillips Screws, attach Left Side Panel to mill's chip pan and Left Back Panel (see **Figure 4**).

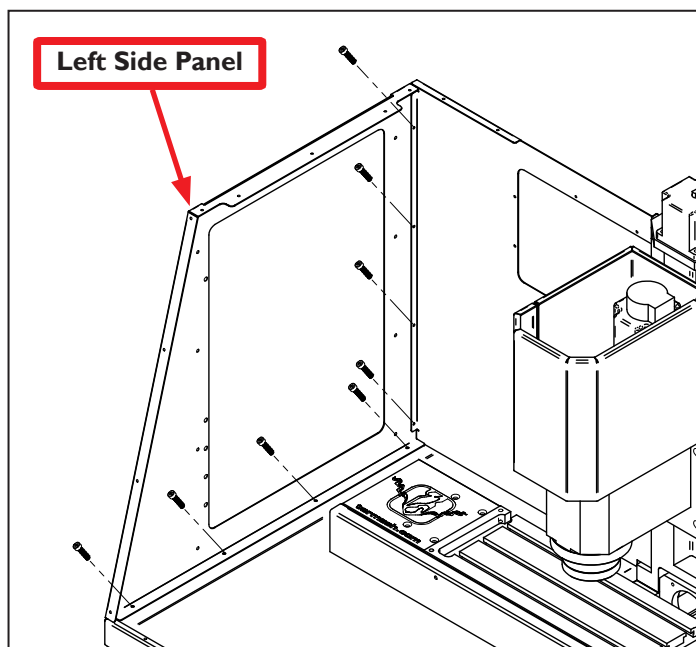
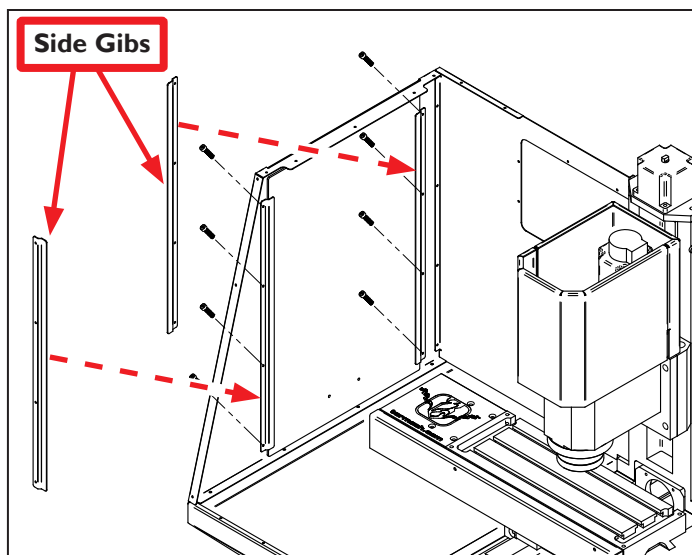


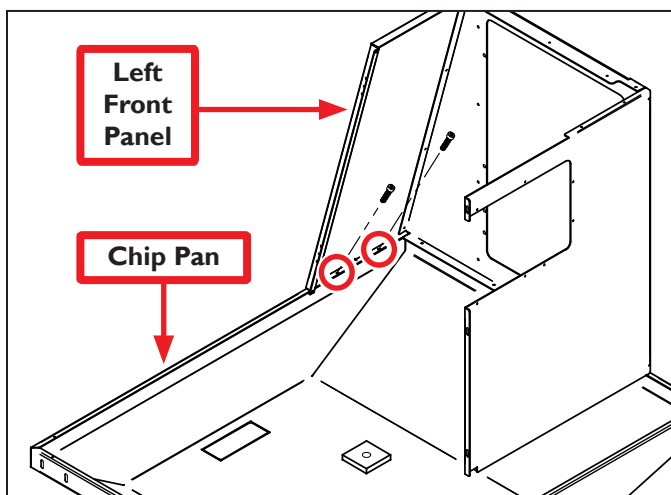
Figure 4

8. Using four 10-32 x 3/8" Phillips Screws for each, attach two Side Gibs to both sides of Left Side Panel (see **Figure 5**).

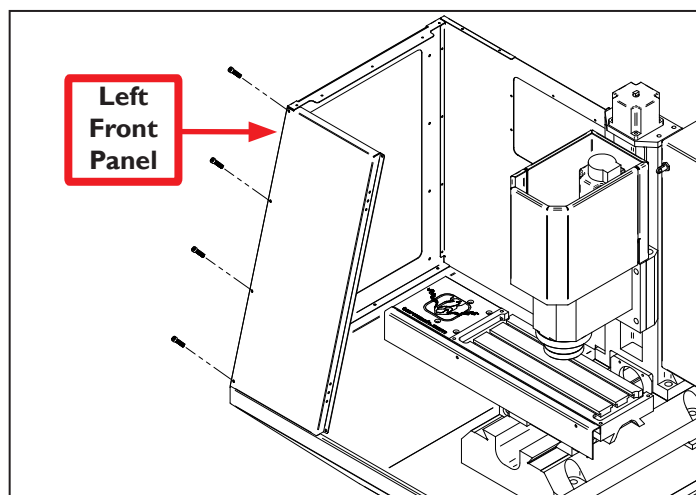


**Figure 5**

9. Loosely attach two 10-32 x 3/8" Phillips Screws to two slots on left front side of Chip Pan; slide base of Left Front Panel over screws (see **Figure 6**).
10. Using four 10-32 x 3/8" Phillips Screws, attach Left Front Panel to Left Side Panel (see **Figure 7**).



**Figure 6**

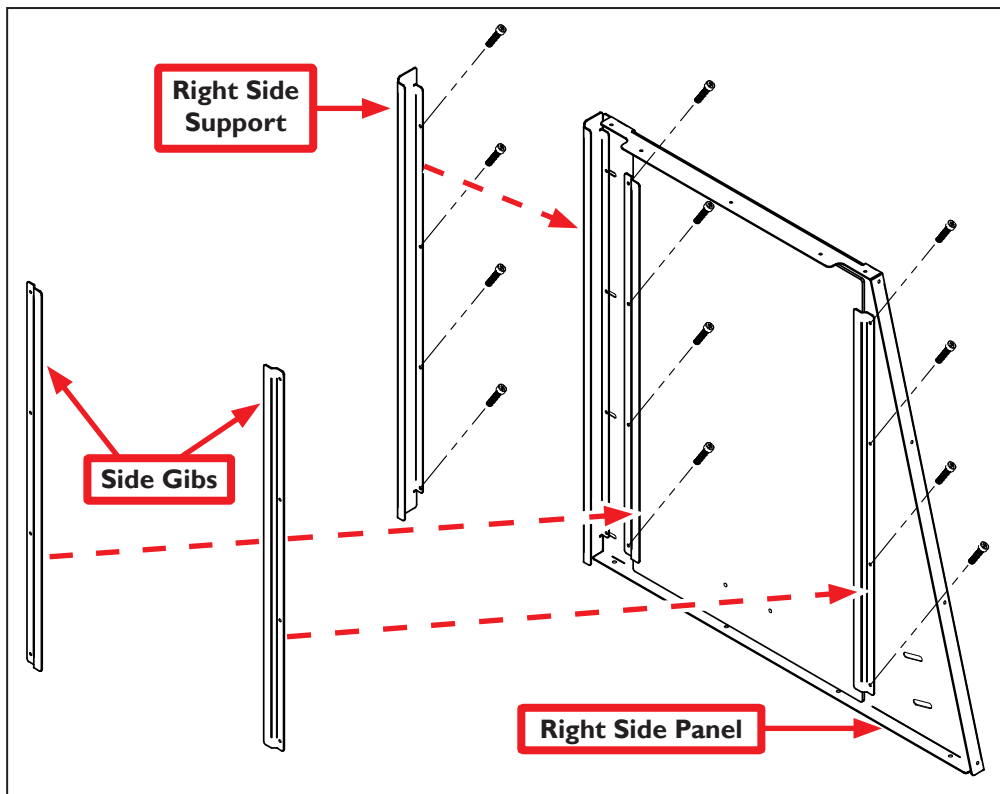


**Figure 7**

11. Using four 10-32 x 3/8" Phillips Screws for each, attach two Side Gibs to both sides of the Right Side Panel (see **Figure 8**).

12. Using four 10-32 x 3/8" Phillips Screws, attach Right Side Support to Right Side Panel (see **Figure 8**).

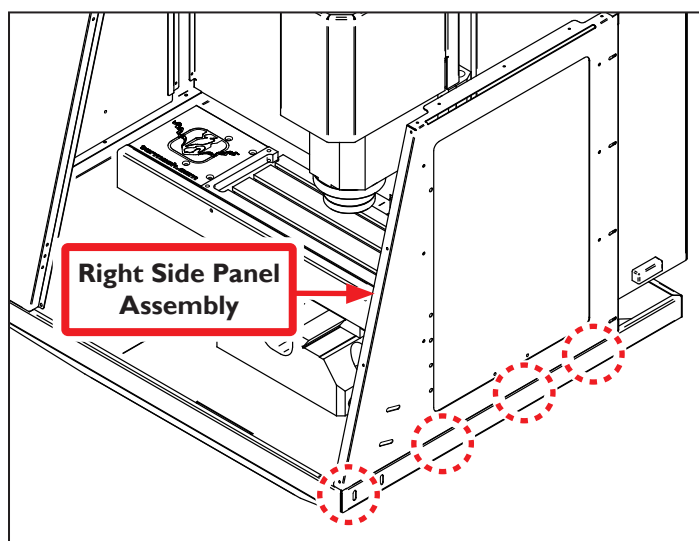
## Right Side Panel Assembly



**Figure 8**

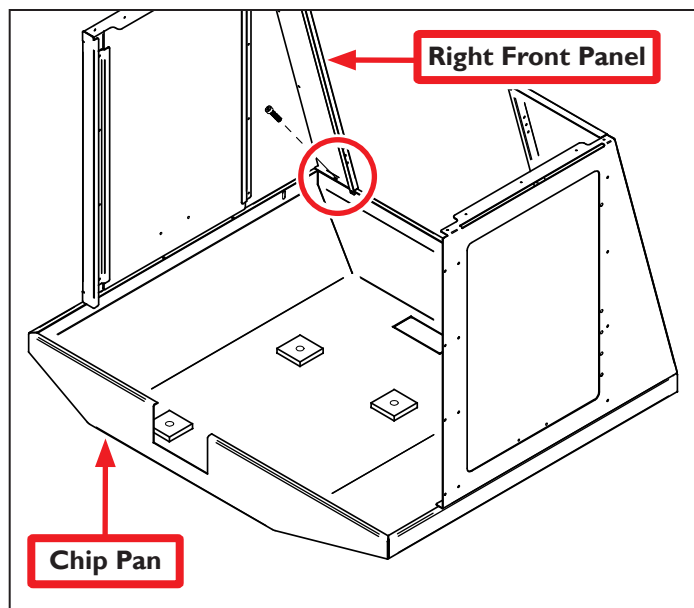
13. Using four 10-32 x 3/8" Phillips Screws, attach Right Side Panel Assembly to mill's chip pan from inside enclosure (see **Figure 9**).

**NOTE:** If necessary, pull the chip pan forward while pushing the mill backward until screw clearance is achieved between chip pan and base of enclosure's Right Side Panel Assembly.



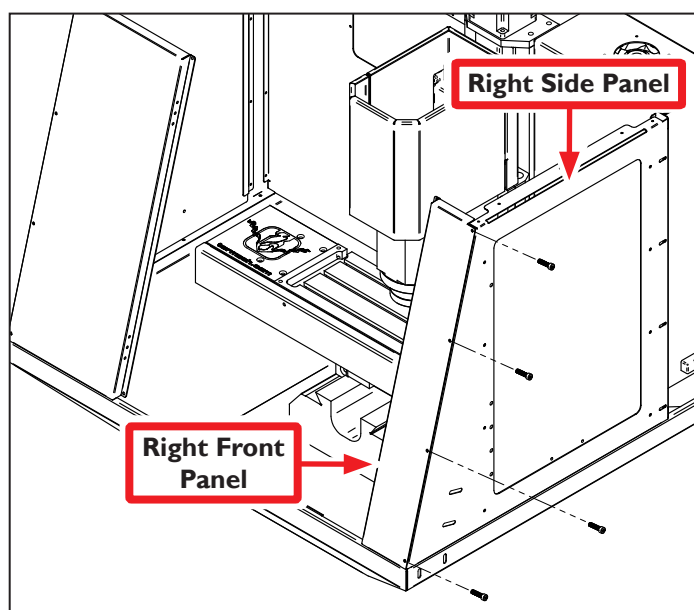
**Figure 9**

14. Loosely attach one 10-32 x 3/8" Phillips Screw to slot on right front side of Chip Pan; slide base of Right Front Panel over screw (see **Figure 10**).



**Figure 10**

15. Using four 10-32 x 3/8" Phillips Screws, attach Right Front Panel to Right Side Panel (see **Figure 11**).



**Figure 11**



16. Using three 10-32 x 3/8" Phillips Screws for each, loosely fasten two Short Top Gibs to sides of Top Panel (see **Figure 12**).
17. Using three 10-32 x 3/8" Phillips Screws, loosely fasten Long Top Gib to Top Panel (see **Figure 12**).
18. Remove protective film from Top Window and discard; slide window into three gibs.

## Top Panel Assembly

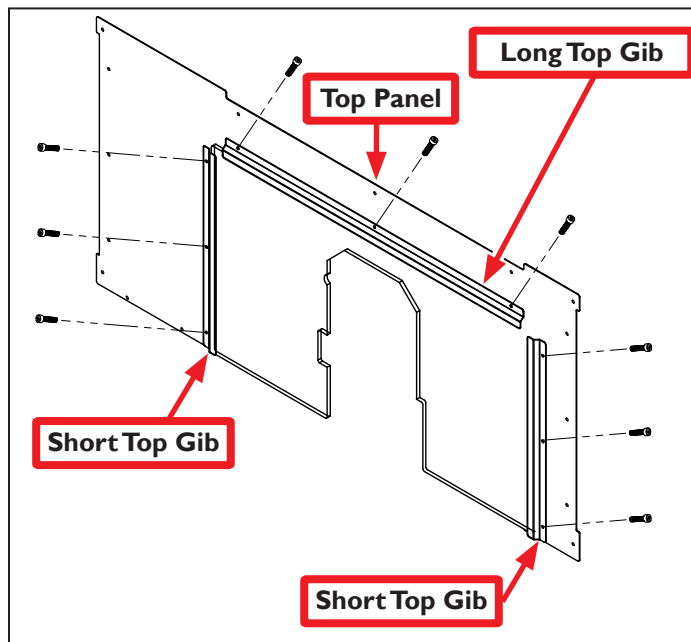


Figure 12

19. Using 12 10-32 x 3/8" Phillips Screws, attach Top Panel Assembly to enclosure as shown in **Figure 13**.

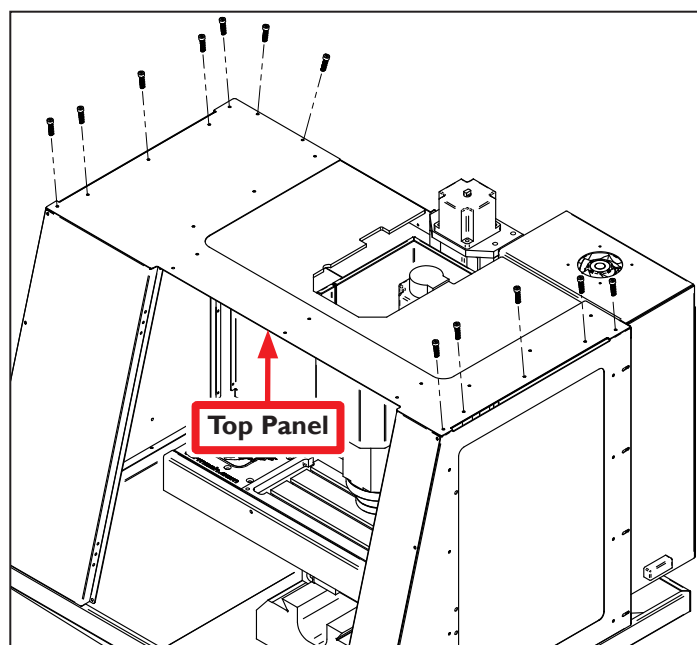


Figure 13

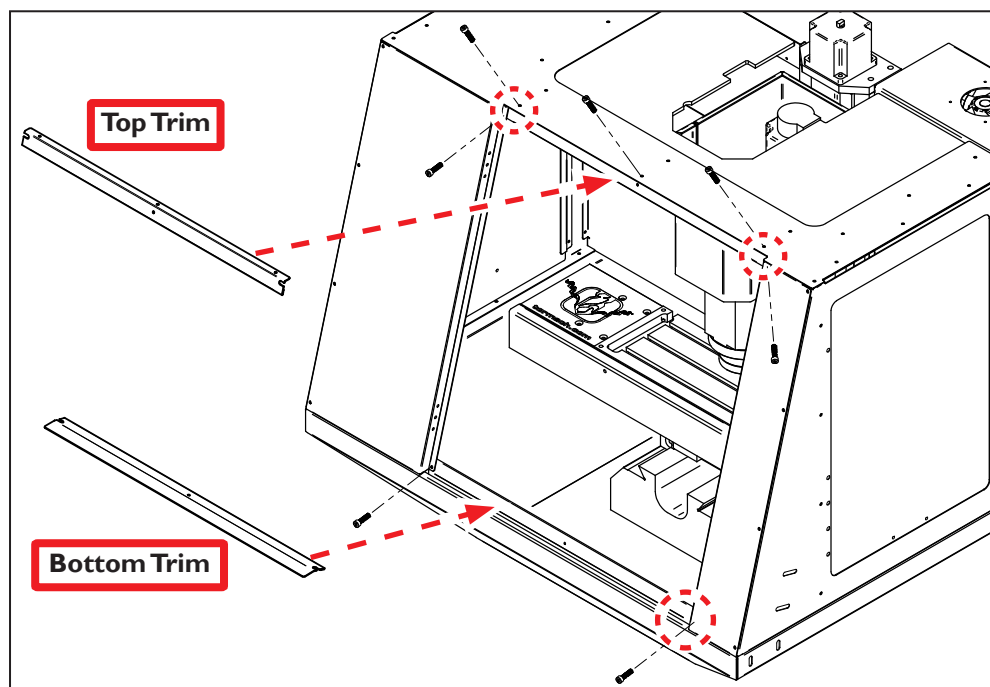


Figure 14

20. Using five 10-32 x 3/8" Phillips Screws, attach Top Trim to enclosure as shown in **Figure 14**; affix two front screws using one 10-32 Flat Washer and one 10-32 Nut for each (see **Figure 15**).
21. Using two 10-32 x 3/8" Phillips Screws, two 10-32 Flat Washers, and two 10-32 Nuts, attach Bottom Trim to enclosure front (see **Figure 14** and **Figure 15**).

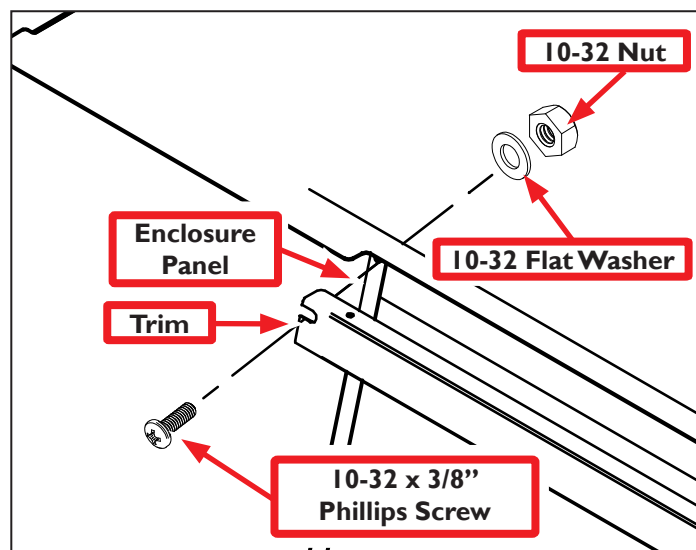


Figure 15

22. Slide four Door Hinges into notches on Left Door Window and Right Door Window (see **Figure 16**); using small flat-head screwdriver, tighten three set screws on each Door Hinge to secure to window.

**NOTE:** Discard additional hardware included with separately packaged Door Hinges.

23. Test fit door windows on enclosure to determine orientation; set Right Door Window aside.

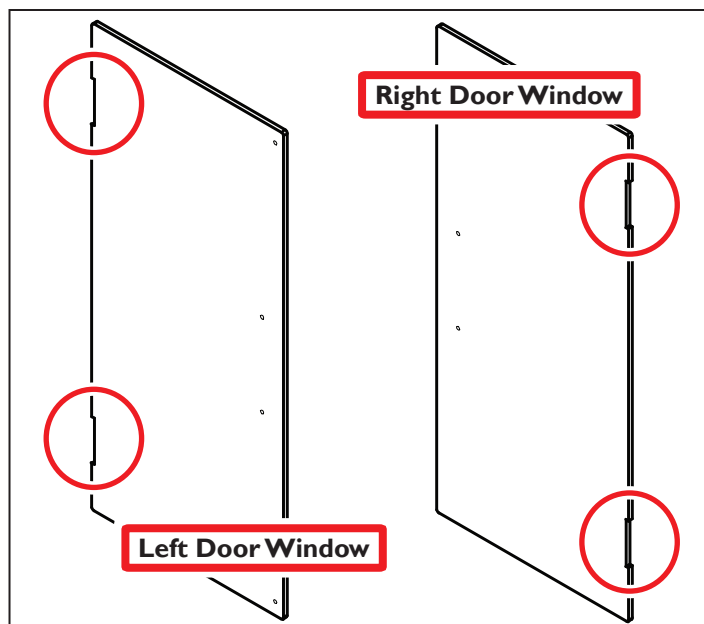


Figure 16

24. Using two 8-32 x 1/2" Phillips Screws and two 8-32 Nuts, attach Door Edge to Left Door Window (see **Figure 17**).
25. Using two 8-32 x 1/2" Phillips Screws, attach one Large Handle to Left Door Window opposite Door Edge (see **Figure 17**); tighten Large Handle screws.

## Left Door Window Assembly

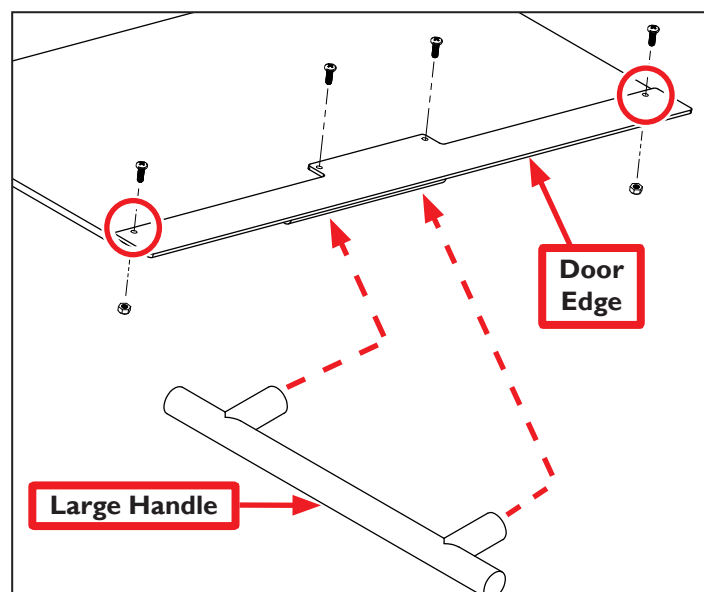


Figure 17

26. Using 12 10-32 x 3/8" Flat Head Phillips Screws and 12 10-32 Nuts, attach Door Hinges on door windows to enclosure in orientation determined in step 23.
27. Using two 8-32 x 1/2" Phillips Screws, attach one Large Handle to Right Door Window (see **Figure 18**).

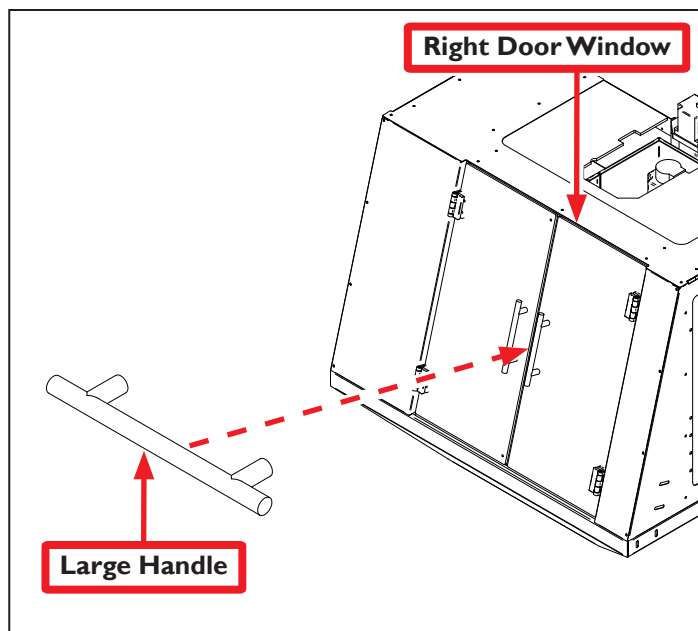


Figure 18

28. Remove protective film from two Side Windows and discard; slide both from above into two Side Gibs on either side of enclosure (see **Figure 19**).
29. Using two 8-32 x 1/2" Phillips Screws for each, attach two Small Handles to two Side Windows on left and right of enclosure (see **Figure 19**).
30. Re-tighten four bolts securing mill to chip pan and securely tighten all screws used in enclosure assembly.

**NOTE:** The operator box – containing E-stop and start button controls – may optionally be mounted to the slots on the Right Side Panel (hardware not included for mounting).

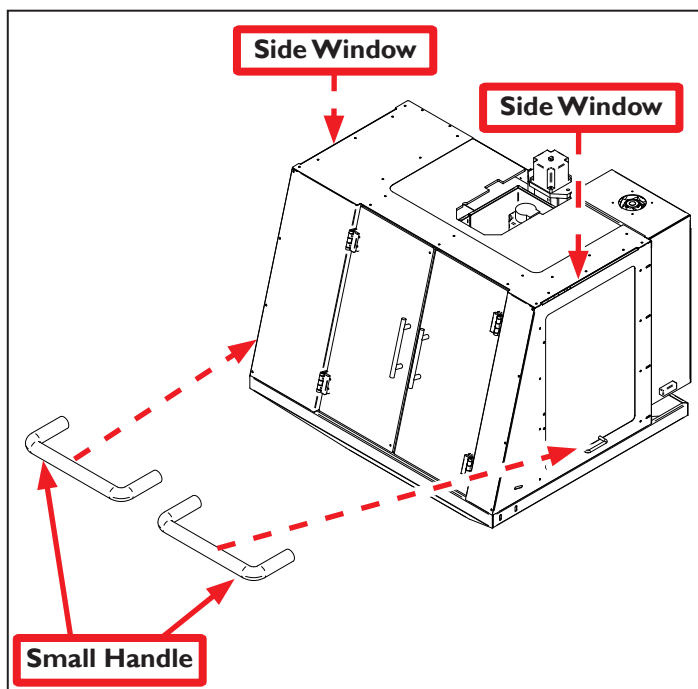


Figure 19