

DETEX 105280 Concealed Vertical Rod Exit Device Instruction Manual

Home » DETEX » DETEX 105280 Concealed Vertical Rod Exit Device Instruction Manual



Detex Corporation, 302 Detex Drive, New Braunfels, Texas 78130-3045 830-629-2900 / 800-729-3839 / Fax 800-653-3839 / Text photos only: 830-481-6433 / INTERNET: www.detex.com

Contents

- 1 105280 Concealed Vertical Rod Exit Device
- 2 Device Parts Breakdown View
- 3 !!!CHECK BEFORE STARTING!!!
- **4 STEP 1: DOOR / OPENING MEASUREMENTS**
- **5 STEP 2: VERIFY DOOR & INSTALL WRAP**
- 6 STEP 3: DOOR PREP for FIRE & NON-FIRE rated applications
- 7 STEP 4: TOP ROD ASSEMBLY & INITIAL ADJUSTMENT
- 8 STEP 5: BOTTOM ROD / LATCH ASSEMBLY & ADJUSTMENT
- 9 STEP 6: VISUAL ALIGNMENT CHECK:
- 10 STEP 7: ATTACH TOP LATCH MOUNTING BRACKETS
- 11 STEP 8: INSERT ROD / LATCH / CENTER LIFT ASSEMBLY INTO

DOOR

12 STEP 9: SECURE ROD / LATCH / CENTER LIFT ASSEMBLY TO

DOOR

- 13 STEP 10: VERIFY CENTER LIFT MECHANISM OPERATION
- 14 STEP 11: HANG DOOR / ASSEMBLE DEVICE TO DOOR
- 15 MORTISE CYLINDER INSTALLATION
- **16 STEP 12: TOP STRIKE INSTALLATION**
- 17 STEP 13: BOTTOM STRIKE INSTALLATION
- **18 STEP 14: FINE LATCH ADJUSTMENT**
- 19 STEP 15: COVER INSTALLATIONS
- 20 STEP 16: INSTALL AUXILIARY FIREBOLT (F71 ONLY)
- 21 Optional Accessories
- 22 Documents / Resources
- 22.1 References
- 23 Related Posts

105280 Concealed Vertical Rod Exit Device

INSTALLATION INSTRUCTIONS FOR 70/71 SERIES CVR WOOD DOOR CONCEALED



Concealed Vertical Rod Exit Device 70 / F70 / 71 / F71 Series for Medium to Wide Stile Wood / Composite door applications Drawing No. 105280

Device Parts Breakdown View

* Note:

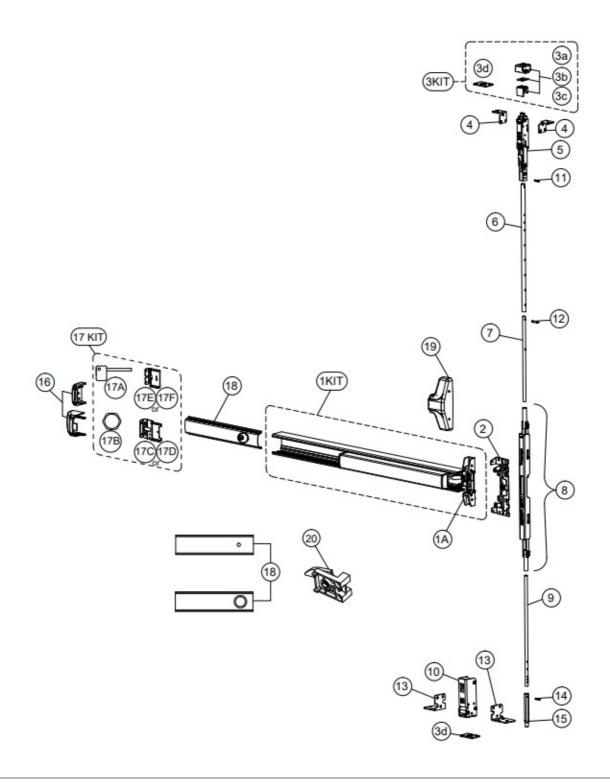
Parts listed will vary according to product configuration.

Mortise cylinder available as an option. Standard Yale-type cam required.

See the Mortise cylinder installation page.

Your particular part or configuration may not be shown:

Contact Detex technical support at 800-729-3839 (option 2)



Device	Device Parts Breakdown Part Numbers			
ITEM	PART # DESCRIPTION			
1KIT	105500-167	S&R 70 x STD1 x RHR Center case/Pushpad Assy		
	105500-168	S&R 70 x STD1 x LHR Center case/Pushpad Assy		

1A	104111-13	Center case, CVR, Wide, RHR	
	104111-14	Center case, CVR, Wide, LHR	
2	104171-1	Mounting plate, Wide, CVR, BP11 (Use with 08/09 lever trim)	
2	104171-2	Mounting plate, Wide, CVR, BP13 (Use with 03 trim)	
ЗКІТ	105257-1	Top/Bottom strike kit	
3a	105235-1	CVR top strike pocket	
3b	105246	CVR strike shim	
3c	105236-1	CVR top strike insert	
3d	105249 CVR Bottom strike (top and bottom rod device only)		
4	105985-1	Top latch mounting bracket RHR	
4	105985-2 Top latch mounting bracket LHR		
E	106340-1	Top latch (Panic)	
5	106340-2	Top latch (Fire)	
	104187	Outer top rod, 7' thru 8'	
6			

	105097	Outer top rod, 8'-1" thru 10'	
7	104172-1	Inner top rod, 7' thru 8'	
/	104172-2	Inner top rod, 8'-1" thru 10'	
0	105990-1	Center lift mechanism assembly, Top & Bottom	
8	105990-2	Center lift mechanism assembly, Top ONLY	
9	105098	CVR bottom rod (top and bottom rod device only)	
10	106330	Bottom bolt case assembly (top and bottom rod device only)	
11	105296	Spring pin 3/16 x 13/16	
12	103423	Spring pin 3/16 x 1/2	
10	105982-1	Bottom bolt mounting bracket, RHR (top and bottom rod device only)	
13	105982-2	Bottom bolt mounting bracket, LHR (top and bottom rod device only)	
14	101607	Spring pin 3/16 x 5/8 (top and bottom rod device only)	
15	103536-1	Bottom bolt (top and bottom rod device only)	
	101642-9	Endcap, EC1 (ramped) Stainless Steel 630	

16		
	104304-9	Endcap, EC2 (flush) Stainless Steel 630
	104612-1	Endcap, EC2 (flush) Aluminum 628
	106431-1	Device Hardware Kit, HD, EC1 (not all components shown, includes Items 17A & 17C)
	106431-2	Device Hardware Kit, CD, EC1 (not all components shown, includes Items 17B & 17C)
	106431-3	Device Hardware Kit, EA, EC1 (not all components shown, includes Items 17B & 17D)
17KIT	106431-21	Device Hardware Kit, HD, EC2 (not all components shown, includes Items 17A & 17E)
	106431-22	Device Hardware Kit, CD, EC2 (not all components shown, includes Items 17B & 17E)
	106431-23	Device Hardware Kit, EA, EC2 (not all components shown, includes Items 17B & 17F)
17a	100450	Hex Key (for Hex Dogging)
17b	100783	Cylinder Nut (for Cylinder Dogging)
17c	100147	Endcap bracket for EC1 (ramped) endcap w/o battery holder
17d	101093	Endcap bracket for EC1 (ramped) endcap w/ battery holder
17e	104303	Endcap bracket for EC2 (flush) endcap w/o battery holder
17f	104636	Endcap bracket for EC2 (flush) endcap w/ battery holder

18	100860-54	Fillerplate Subassembly, S&R, Hex Dogging, HD, 630	
	100860-49	Fillerplate Subassembly, S&R, Cylinder Dogging, CD, 630	
19	102353-9	Center case Cover, Stainless Steel, Wide 630	
	104640-9	Center case Cover, Aluminum, Wide, 628	
20	102216-2	Hex Dogging Assembly	
	102216	Cylinder Dogging Assembly	

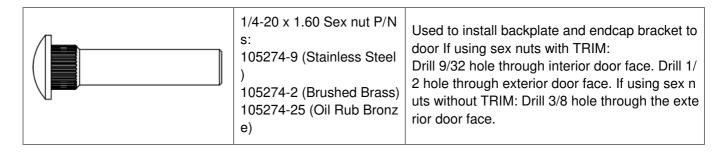
Your particular part or configuration may not be shown: Contact Detex technical support at 800-729-3839 (option 2)

Hardware Table for BASIC device mounting. Additional hardware is provided per the device configuration in kit form and is addressed on the appropriate pages as required.

Device Mounting Hardware

	#14 x 1" PPHS P/N: PP-5 183-108	Used to install backplate & endcap bracket to the door. Drill Bit – 3/16 pilot hole x 1" deep
	1/4-20 x 1" PPH P/N: 100 980	Used with sex bolts or lever trim (1-3/4 door). D rill Bit – #7 or 13/64"
	1/4-20 x 1-1/2" PPH P/N: 100954	ALTERNATE SCREW Used with sex bolts or lever trim (2" plus door) Drill Bit – #7 or 13/64"
	10-24 x 1/4" PPH P/N: PP -5304-104	Used to install device center case to the backpl ate
	10-24 x 3/4" PFH P/N: 10 0112-110	Used to install center lift mechanism to the backplate
	10-32 x 5/16" PFHU P/N: 101632-2	Used to install endcap to endcap bracket. (Multi ple finishes included)
mmm	6-32 x 3/8" PFHU P/N: 10 0162-106	Used to install center case cover to backplate (Multiple finishes included)
507	1/4" Lockwasher P/N: PP- 5067-25	Lockwashers

Sex nuts, if ordered. Sex nuts are used with screws in the device hardware kit.



Strike Mounting Hardware

#10 x 1" PFHU P/N: 1001 09	Used to install bottom strike to the floor. (Used with anchors, two styles of anchors included)
10-24 x 1/2" PFHU P/N: 1 00112-108	Used to install bottom strike to the floor (alterna te)
10-32 x 1/2" PFH P/N: PP- 5802-308	Used to install top strike pocket to the header a nd strike insert to top strike pocket

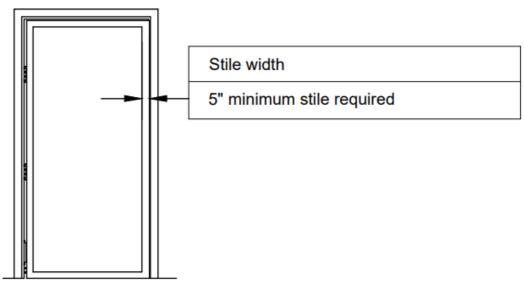
Latch Mounting Hardware

10-24 x 5/16" PFH P/N: 1 00112-105	Used to install a bracket to bottom assembly an d top latch
10-32 x 1/2" PPH P/N: 12 403-1	Used to install a top latch to top of the door (For FIRE RATED)
#10 x 3/4" PPHS P/N: PP- 5183-66	Used to install bottom assembly to the bottom o f door & top latch to top of the door (For NON-FI RE RATED)

Tools Required

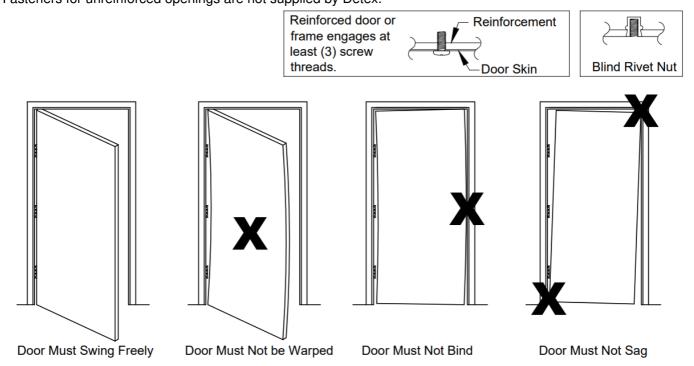
Power Drill Level Screw Drivers	Hammer Pencil Center Punch	Drill Bit Set Pliers	Safety Glasses Tape Measure	Hack Saw (Chopsaw preferred) Tap Wrench/ Hex Wr ench 5/64 Masonry Bits – 3/16" , 5/16" & 1"
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!!!CHECK BEFORE STARTING!!!



Doors and frames with walls having a structural thickness (metal skin plus reinforcement) to engage less than (3) full screw threads are considered unreinforced for hardware.

Unreinforced Doors: Use Sex Nuts and Bolts Unreinforced Frames: Use Blind Rivet Nuts (see sketch). Fasteners for unreinforced openings are not supplied by Detex.

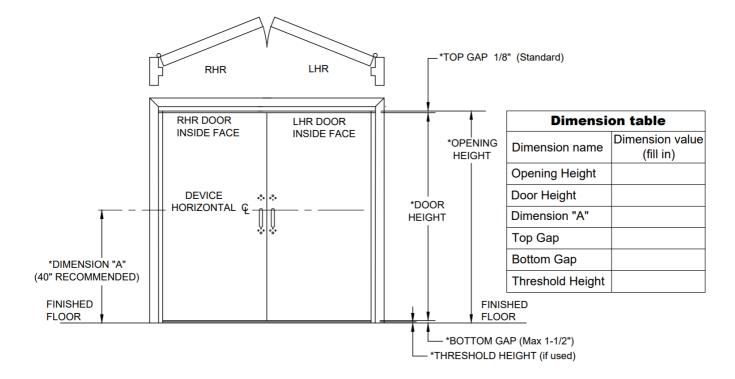


NOTE: LOCAL CODES MAY REQUIRE THROUGH BOLTING. SEX NUTS ARE NOT INCLUDED WITH THIS DEVICE. SEX NUTS CAN BE PURCHASED SEPARATELY.

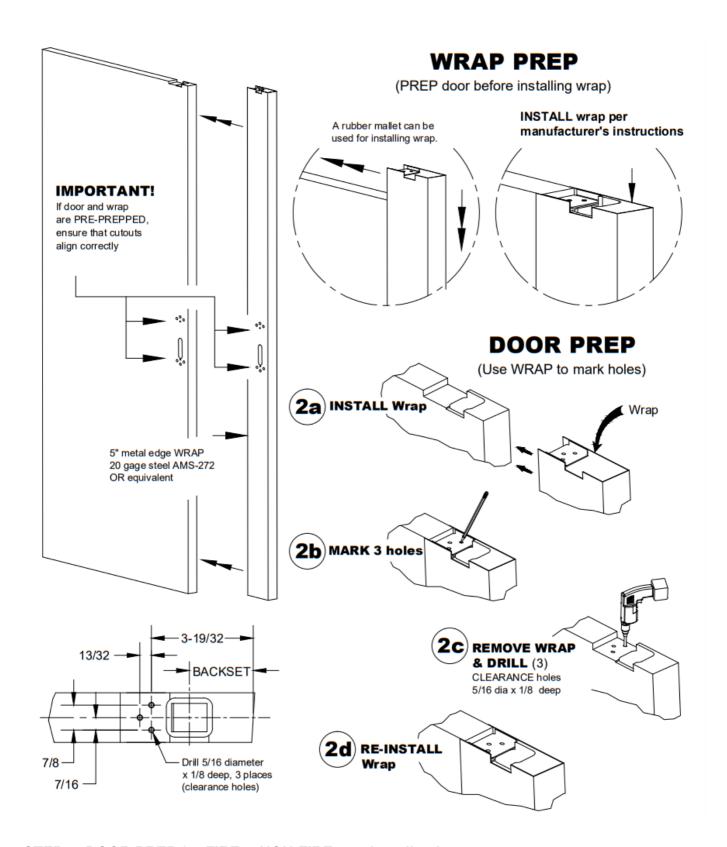
STEP 1: DOOR / OPENING MEASUREMENTS

Measure per figure below:

*These dimensions will be needed during rod length adjustment. Measure door before removing.

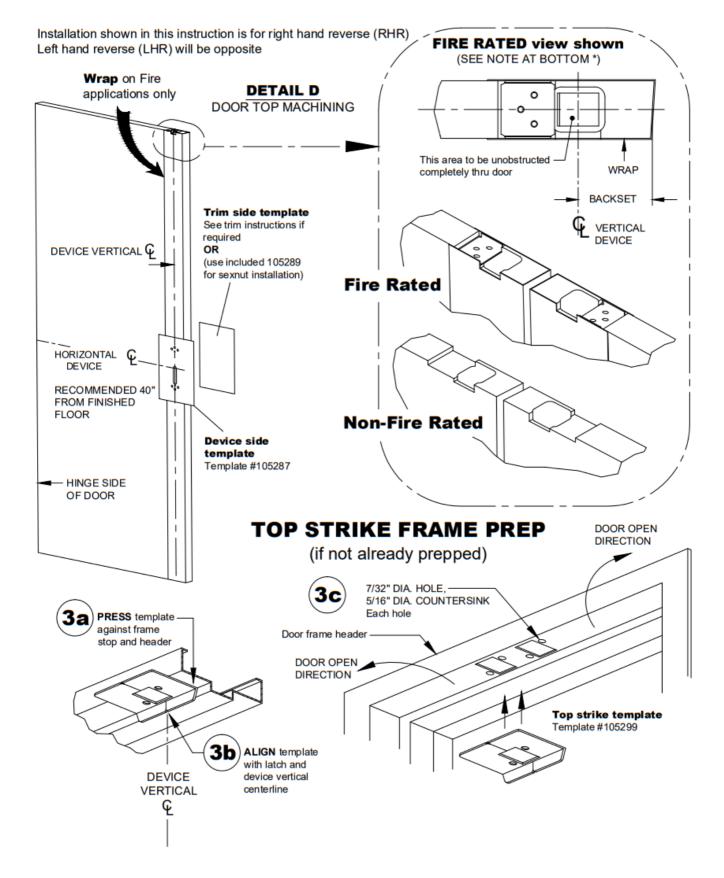


STEP 2: VERIFY DOOR & INSTALL WRAP



STEP 3: DOOR PREP for FIRE & NON-FIRE rated applications

Installation shown in this instruction is for right-hand reverse (RHR) Left hand reverse (LHR) will be opposite



STEP 4: TOP ROD ASSEMBLY & INITIAL ADJUSTMENT

For 6'-8" (80") to 8'-0" (96") Door

- 4a. Align hole A in rod 104187 with a hole in the top latch as shown at right & tap the 13/16" long pin into the latch hole.
- 4b. Measure DIM B as shown below.
- 4c. Use chart to determine pinning location of rods 104187 & 104172-1.

Round DIM B to the nearest value in the chart.

If more than 3/4" different from one of these chart values, drill a .189 (#12 drill bit) diameter hole halfway between the 2 holes nearest to the measured

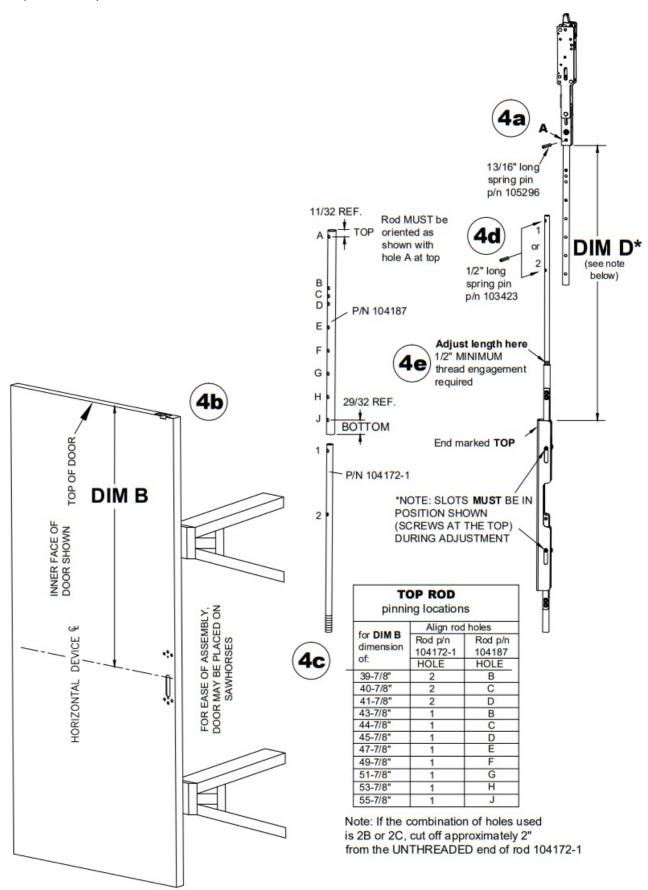
DIM B and use this hole as a pinning hole in the next step.

4d. Insert 104172-1 rod into 104187 rods & line up appropriate pinning holes (from the chart) on both rods and tap in the 1/2" long pin to secure.

4e. Calculate DIM D:

(DIM D = measured DIM B minus 15 7/8")

Thread the assembled rods/latch into the center lift mechanism assembly as shown at right until DIM D is achieved (within 1/16").



For 8'-1" (97") to 10' (120") Door (Non-Fire Rated Applications Only)

- 4a. Align hole A in rod 105097 with a hole in top latch as shown at right & tap the 13/16" long pin into latch hole.
- 4b. Measure DIM B as shown below.
- 4c. Use chart to determine pinning location of rods 105097 & 104172-2.

Round DIM B to the nearest value in the chart.

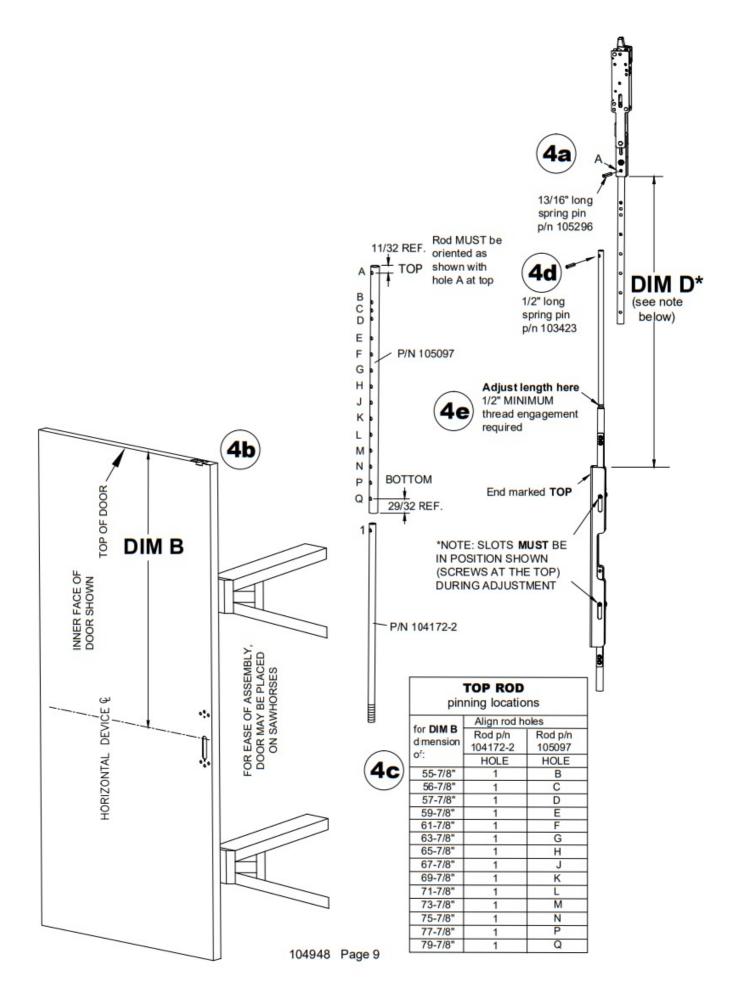
If more than 3/4" is different from one of these chart values, drill a .189 (#12 drill bit) diameter hole halfway between the 2 holes nearest to the measured DIM B and use this hole as a pinning hole in the next step.

4d. Insert 104172-2 rod into 105097 rods & line up appropriate pinning holes (from the chart) on both rods and tap in the 1/2" long pin to secure.

4e. Calculate DIM D:

(DIM D = measured DIM B minus 15 7/8")

Thread the assembled rods/latch into the center left mechanism assembly as shown at right until DIM D is achieved (within 1/16").



STEP 5: BOTTOM ROD / LATCH ASSEMBLY & ADJUSTMENT

(Disregard if the TRO device is being installed)

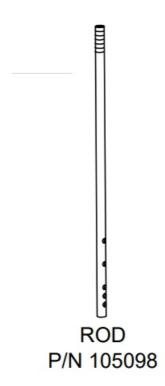
5a. Using DIM A as measured in step 1, use the chart to determine the pinning location.

If DIM A is less than 37-1/4" from the finished floor, a new pinhole must be drilled through the 105098 rods. Subtract the centerline dimension from 38" and measure up this distance from hole V.

Mark and drill a .189-diameter hole (#12 drill).

If DIM A is more than 41-1/2", from the floor, call customer service at 1-800-729-3839 for assistance.

Align rod holes with bottom latch (round DIM A to the nearest value shown)			
DIM A (device CL at distance from floor)	Bottom Rod p/n: 105098 use HOLE		
38"	V		
39"	W		
40"	X		
40-3/8"	Y		
40-3/4"	Z		



Note: If hole V or W is used (or if the new hole is drilled closer to the threaded end), trim off UNTHREADED end of rod as needed to allow rod to slide into the bottom bolt far enough to pin.

5b. DIM C is the target length.

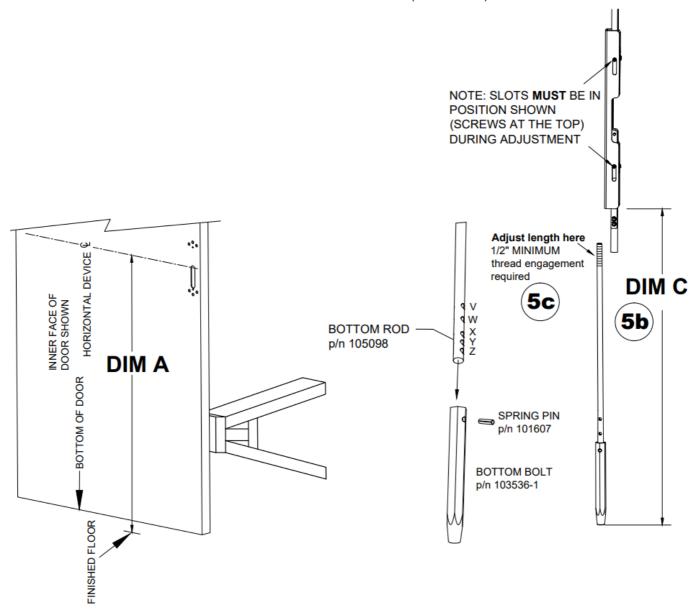
For no threshold or threshold 1/2" or less:

DIM C = measured DIM A minus 8".

For threshold greater than 1/2":

DIM C = measured DIM A minus 8" minus threshold height The bottom bolt vertical travel from fully extended to fully retracted is approximately 9/16.

5c. Thread bottom rod into center lift mechanism to achieve DIM C (within 1/16").



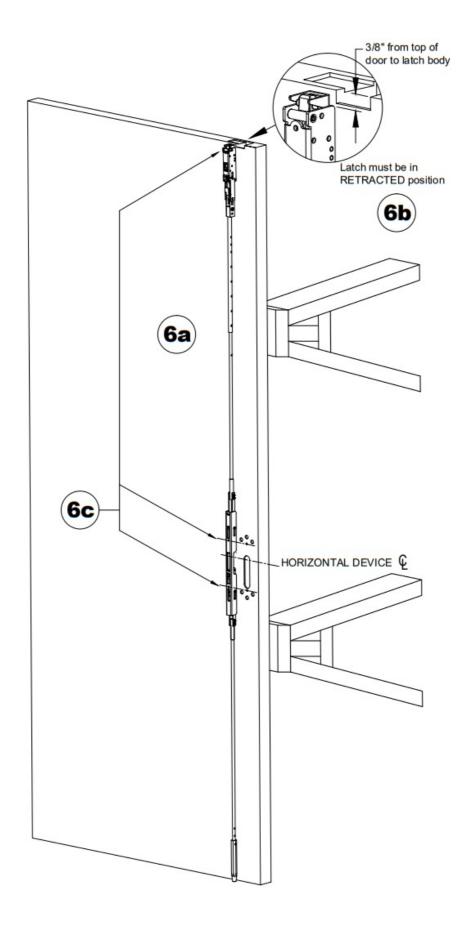
STEP 6: VISUAL ALIGNMENT CHECK:

6a. Lay internal latch components onto the door for a trial fit. Take care to protect the door finish.

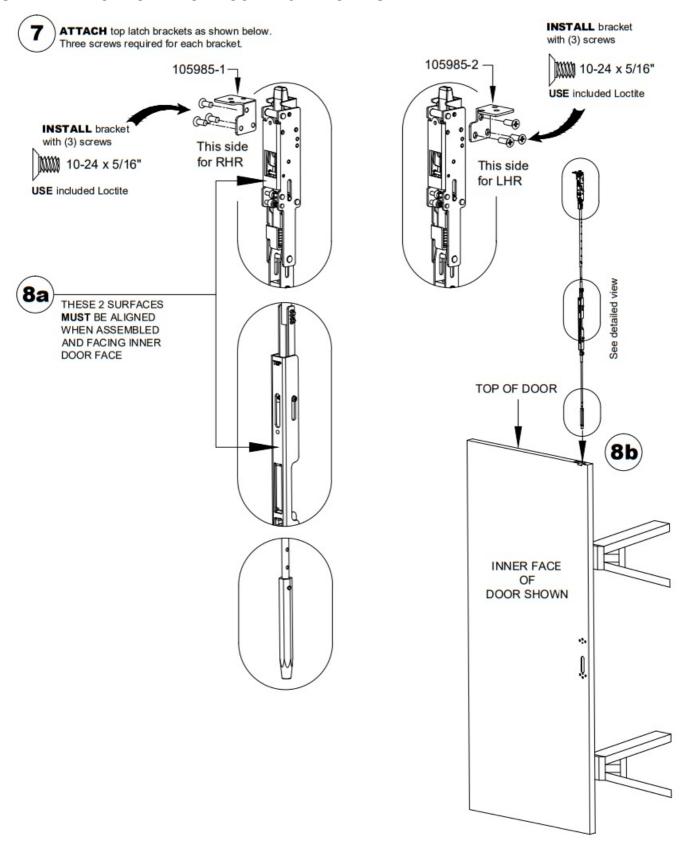
6b. Ensure the top latch is in the retracted position.

Hold the top rod in place and push top latch case towards the device until the latch bolt is fully retracted.

6c. Mounting holes for the center lift should line up with mounting holes in the door, and top and bottom latches should be in the position shown. If not, go back to steps 3 & 4 and verify rod length dimensions.



STEP 7: ATTACH TOP LATCH MOUNTING BRACKETS



STEP 8: INSERT ROD / LATCH / CENTER LIFT ASSEMBLY INTO DOOR

8a. Align surfaces as shown above.

8b. Gently insert assembly through the door top, taking care to maintain assembly orientation.

STEP 9: SECURE ROD / LATCH / CENTER LIFT ASSEMBLY TO DOOR

9a. Attach top latch to door with three screws (six for fire-rated doors).

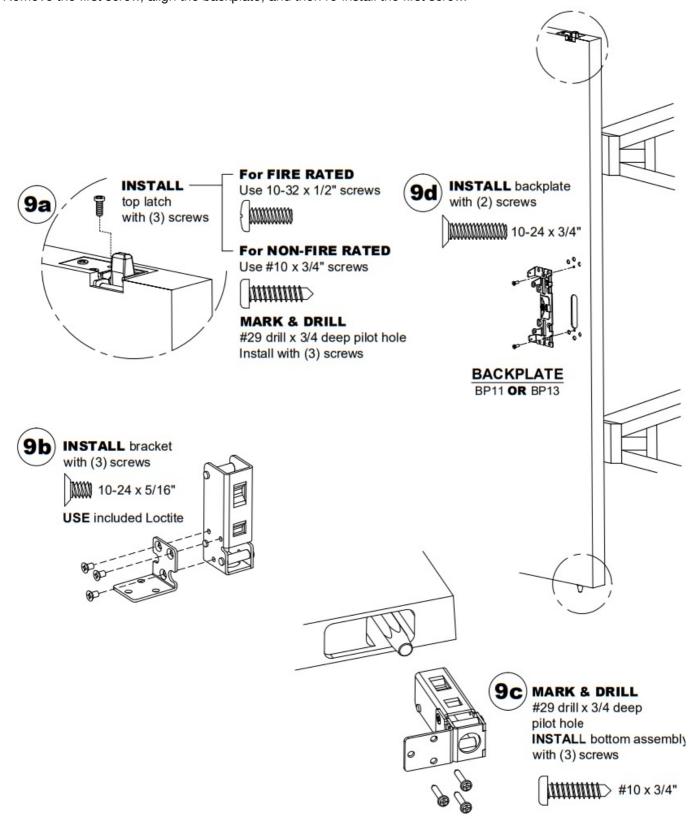
(Disregard steps 9b & 9c if the TRO device is being installed)

9b. Attach the bottom mounting bracket to the bottom latch assembly with three screws.

9c. Attach bottom mounting bracket assembly to door with three screws.

9d. Attach back plate to center lift mechanism with two screws – DO NOT OVERTIGHTEN.

Assembly hint: Assemble one screw loosely without a backplate, then add a second screw through the backplate. Remove the first screw, align the backplate, and then re-install the first screw.

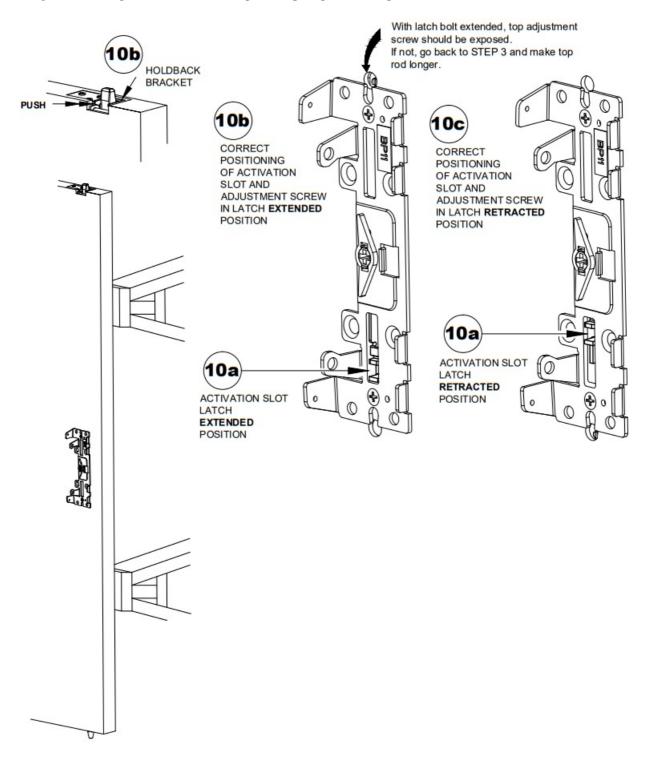


(VIEWED FROM BOTTOM EDGE OF DOOR)

Note: Bottom bracket may slide up on rod during assembly.

It may be necessary to pull it towards the bottom edge of the door with a simple wire hook.

STEP 10: VERIFY CENTER LIFT MECHANISM OPERATION



10a. Check the current center-left position using the views shown.

10b. To extend latches, push and hold down on the holdback bracket to disengage the retraction feature, then use a screwdriver inserted into the activation slot to gently lower the slot to the extended position as shown.

10c. To retract latches, gently insert a screwdriver into the activation slot and raise the slot to the retracted position as shown.

TROUBLESHOOTING:

If the latch bolt is fully extended while the activation slot is not fully in the extended position, then the top rod is too short. Go back to STEP 4 and correct.

If the latch bolt is partially retracted while the activation slot is fully in the extended position, then the top rod is too long. In this case, the latch bolt will be fully retracted before the activation slot can travel fully to the retracted position.

Go back to STEP 4 and correct.

10d. Bottom bolt drag check:

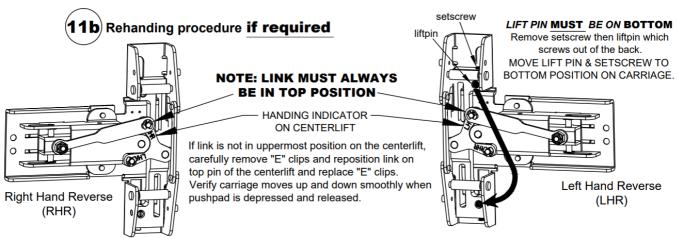
With the top latch in the retracted position, check to ensure that the bottom bolt is not extending from the bottom of the door a distance greater than the bottom gap at the finished floor (minus the threshold height if the threshold is

used).

If it is, then the bottom rod is too long. Go back to STEP 5 and correct it. 10e. Upon completion, retract latches before proceeding to Step 11.

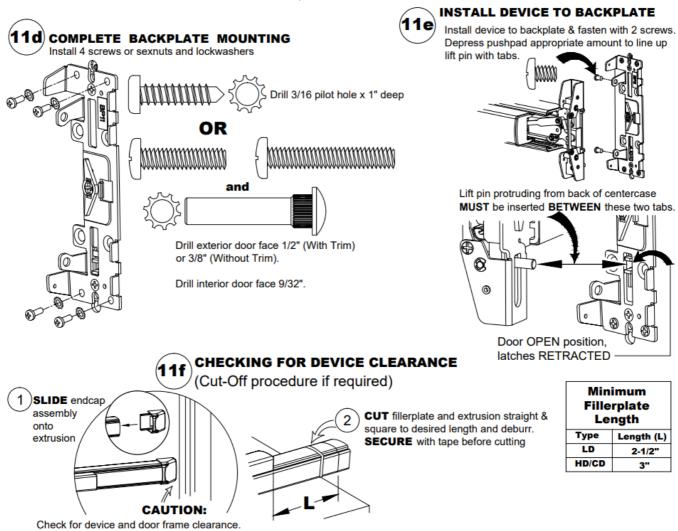
STEP 11: HANG DOOR / ASSEMBLE DEVICE TO DOOR

INSTALL DOOR ONTO FRAME PER MANUFACTURER'S SPECIFICATIONS

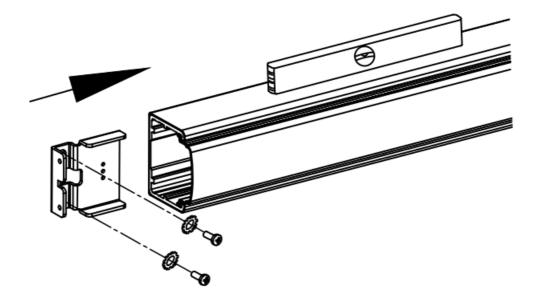


REFER TO TRIM INSTRUCTIONS AT THIS TIME, IF APPLICABLE

If no cut-off needed, proceed to the next page.



For aluminum Advantex finish cutdown applications: After cutting, the baseplate extrusion can be reversed to place the cut end inside the head cover. To do so, loosen the setscrew inside the aluminum baseplate extrusion and slide extrusion out, reverse, & slide back in. Tighten setscrew.

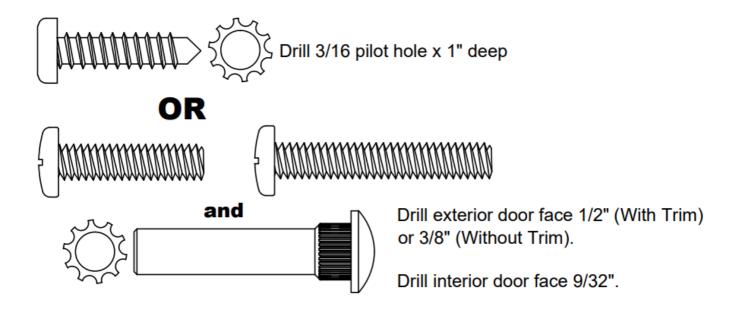


INSTALL bracket with (2) lock washers & screws OR screws & sex bolts

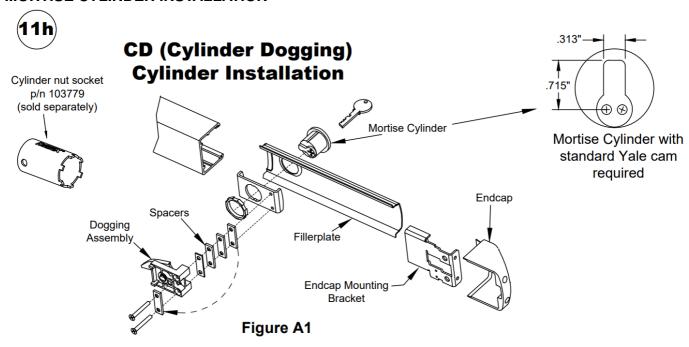
LEVEL devise before installing the endcap bracket

ENSURE that the device does not require cutting (see Step 11g on next page).

TEST device function after installation of endcap is complete by depressing & releasing push pad. Action should be smooth with full return of push pad and latch travel.



MORTISE CYLINDER INSTALLATION



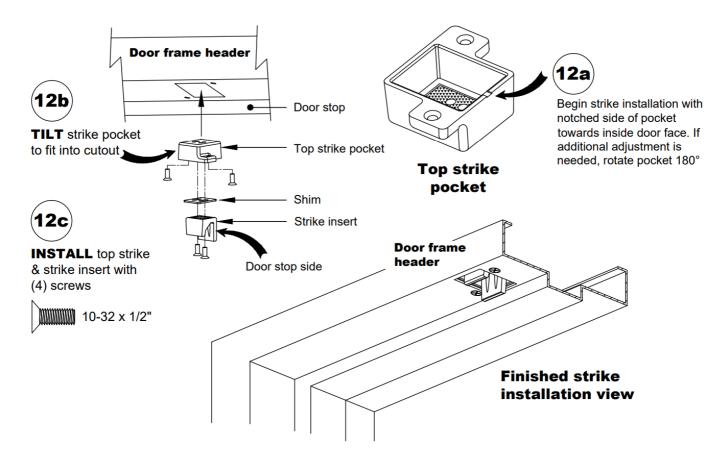
Follow steps "a" through "g" for CD installations

- a. Remove endcap and endcap mounting bracket.
- b. Remove filler plate.
- c. Remove and discard shipping insert and nut. Loosen (2) screws from the dogging assembly.
- d. Install mortise cylinder (sold separately) with large hex nut provided.
- e. Trial fit dogging assembly. If the cylinder is too short, remove spacers as necessary and reattach them under the (2) screw heads. Fasten the (2) screws to the rest of the assembly.

NOTE: The key should easily turn in both directions.

- f. Rotate key counterclockwise
- g. Assembly complete. Continue with Panic Hardware instructions.

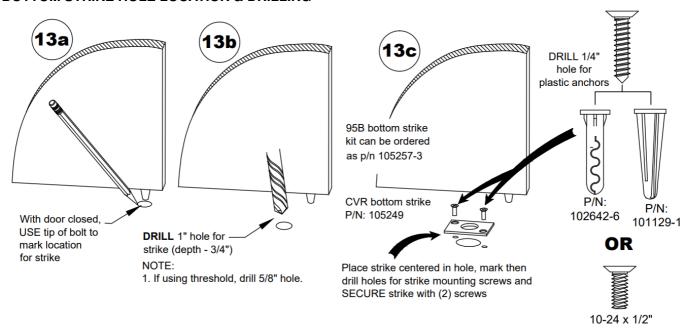
STEP 12: TOP STRIKE INSTALLATION



STEP 13: BOTTOM STRIKE INSTALLATION

(Disregard if TRO device is being installed)

BOTTOM STRIKE HOLE LOCATION & DRILLING



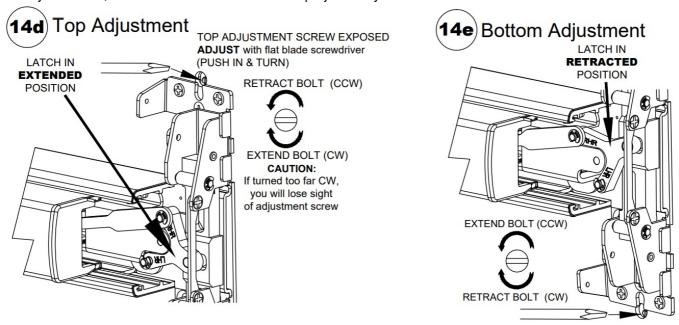
STEP 14: FINE LATCH ADJUSTMENT

14a. Ensure that latches are fully retracted. Gently close the door. Latches should extend when the door is closed. 14b. Depress the push pad and open the door. The top latch should clear the top strike & bottom bolt should not drag. Latches should remain in a retracted position with a push pad released.

FINE LATCH ADJUSTMENT (if needed)

14c. Top strike fine adjustment: Adjust strike engagement by either retaining or removing the shim. Adjust door tightness by moving the insert to the desired position. Note that the strike pocket can be flipped around to achieve additional adjustment (see step 11).

14d: TOP LATCH ADJUSTMENT: With latches extended, turn CCW until the top latch bolt projection begins to visually decrease, then turn CW until the latch bolt projects fully. Rotate CW one additional full turn.



14e: BOTTOM LATCH ADJUSTMENT: With the push pad depressed (retracted position), extend or retract the bottom bolt to desired engagement and clearance.

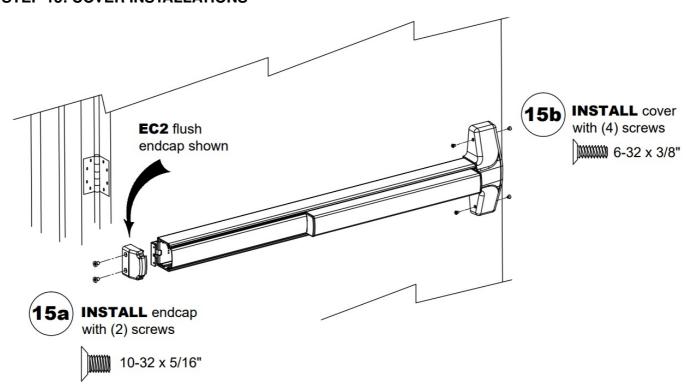
14f. Check device operation. Reference STEP 14a & 14b.

BOTTOM ADJUSTMENT SCREW EXPOSED ADJUST with flat blade screwdriver (PUSH IN AND TURN)

DEVICE OPERATION TROUBLESHOOTING				
SYMPTOM	POSSIBLE CAUSE	SOLUTION		
	The bottom bolt is not properly aligned with the bottom strike hole.	Modify the bottom strike hole for fit.		
	The top strike insert is not installed or not corr ectly aligned with the holdback.	Install and/or position strike insert pe r instructions.		
The device does not lat ch when the door close	Through fasteners for trim (if applicable) are i nterfering with internal center lift assembly.	Loosen and re-position through scre ws to clear.		
S		Adjust rods per instructions.		
	Rods improperly adjusted	Remove the device and re-install it p er instructions.		

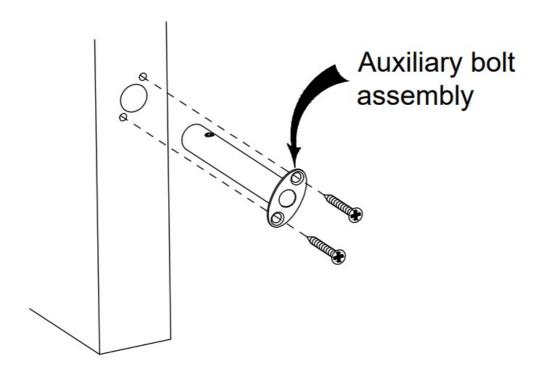
	1	
Latches release, but the push pad will not fully	Device center case lift finger not inserted properly into center lift assembly.	Remove the device from the backplat e and re-install with the lift finger corr ectly inserted.
depress	The top adjustment screw is adjusted too far in the retracted direction (CCW).	Rotate top adjustment screw in the e xtending direction (CW) per the FINE LATCH ADJUSTMENT procedure.
	Device center case lift finger not inserted properly into center lift assembly.	Remove the device from the backplat e and re-install with the lift finger corr ectly inserted.
Latches are not releasi ng when the push pad i s fully depressed	The top adjustment screw is adjusted too far in the extending direction (CW).	Rotate the top adjustment screw in the retracted direction (CCW) per the FINE LATCH ADJUSTMENT procedure.
	The bottom adjustment screw is adjusted too far in the extending direction (CCW).	Rotate the bottom adjustment screw in the retracted direction (CW) per the FINE LATCH ADJUSTMENT procedure.

STEP 15: COVER INSTALLATIONS

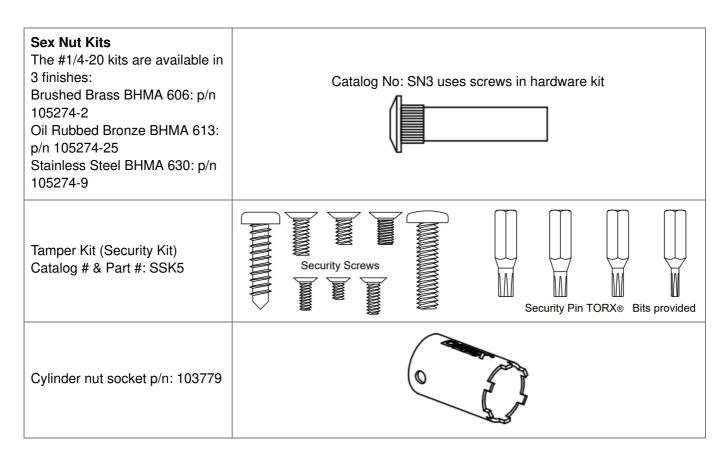


STEP 16: INSTALL AUXILIARY FIREBOLT (F71 ONLY)

See Auxiliary Bolt instructions (p/n 104934) included with kit



Optional Accessories



For WARRANTY information, scan code below or



https://qrs.ly/p9aw78s

Owner's Copy

Should you have a Question/Problem with your Detex device please call Detex Technical Support from the job site at 1-800-729-3839 and choose option 2 on our menu. Please do not return the product to the distributor.

For device installation videos, scan code below or go to www.detex.com/videos



Documents / Resources



<u>DETEX 105280 Concealed Vertical Rod Exit Device</u> [pdf] Instruction Manual 105280 Concealed Vertical Rod Exit Device, 105280, Concealed Vertical Rod Exit Device, Exit Device, Device

References

detex.com

Manuals+,