104948



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#### INSTALLATION INSTRUCTIONS FOR 70/71 SERIES CVR WOOD DOOR CONCEALED

# DUANTEX

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

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For WARRANTY information, scan code below or go to www.detex.com/warranty

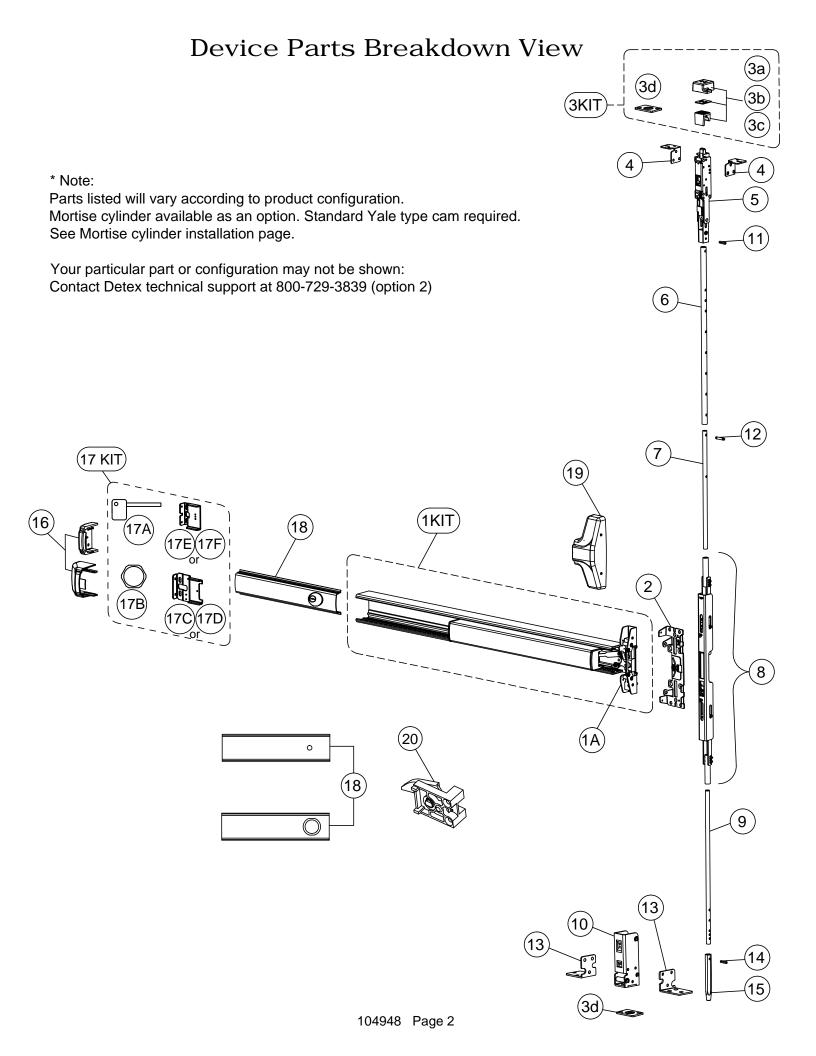
Owner's Copy

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



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.





	Dev	vice Parts Breakdown Part Numbers	
ITEM	PART #	DESCRIPTION	
ALCIT	105500-167	S&R 70 x STD1 x RHR Centercase/Pushpad Assy	
1KIT 105500-168		S&R 70 x STD1 x LHR Centercase/Pushpad Assy	
4.0	104111-13	Centercase, CVR, Wide, RHR	
1A	104111-14	Centercase, CVR, Wide, LHR	
	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)	
3KIT	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)	
	105985-1	Top latch mounting bracket RHR	
4	105985-2	Top latch mounting bracket LHR	
_	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'	
	104172-1	Inner top rod, 7' thru 8'	
7	104172-2	Inner top rod, 8'-1" thru 10'	
	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	
	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)	
10	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/o battery holder	
17a	104303	Endcap bracket for EC2 (flush) endcap w/o battery holder	
17f	104636	Endcap bracket for EC2 (flush) endcap w/o battery holder	
	100860-54	Fillerplate Subassembly, S&R, Hex Dogging, HD, 630	
18	100860-49	Fillerplate Subassembly, S&R, Cylinder Dogging, CD, 630	
	102353-9	Centercase Cover, Stainless Steel, Wide 630	
19	104640-9	Centercase Cover, Stallness Steet, Wide 636  Centercase Cover, Aluminum, Wide, 628	
	102216-2	Hex Dogging Assembly	
20	102216	Cylinder Dogging Assembly	
	102210	Cymraci Dogging Assembly	

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-5183-108	Used to install backplate & endcap bracket to door.  Drill Bit - 3/16 pilot hole x 1" deep	
	1/4-20 x 1" PPH P/N: 100980	Used with sex bolts or lever trim (1-3/4 door). Drill 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"	
- Commo	10-24 x 1/4" PPH P/N: PP-5304-104	Used to install device centercase to backplate	
	10-24 x 3/4" PFH P/N: 100112-110	Used to install centerlift mechansim to backplate	
	10-32 x 5/16" PFHU P/N: 101632-2	Used to install endcap to endcap bracket. (Multiple finishes included)	
	6-32 x 3/8" PFHU P/N: 100162-106	Used to install centercase cover to backplate (Multiple finishes included)	
	1/4" Lockwasher P/N: PP-5067-25	Lockwashers	

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

	1/4-20 x 1.60 Sex nut P/Ns: 105274-9 (Stainless Steel) 105274-2 (Brushed Brass) 105274-25 (Oil Rub Bronze)	Used to install backplate and endcap bracket to door If using sex nuts with TRIM: Drill 9/32 hole through interior door face. Drill 1/2 hole through exterior door face. If using sex nuts without TRIM: Drill 3/8 hole through exterior door face.
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Strike Mounting Hardware			
	#10 x 1" PFHU P/N: 100109	Used to install bottom strike to floor. (Used with anchors, two styles of anchors included)	
	10-24 x 1/2" PFHU P/N: 100112-108	Used to install bottom strike to floor (alternate)	
	10-32 x 1/2" PFH P/N: PP-5802-308	Used to install top strike pocket to header and strike insert to top strike pocket	
Latch Mounting Hardware			
	10-24 x 5/16" PFH P/N: 100112-105	Used to install bracket to bottom assembly and top latch	
	10-32 x 1/2" PPH P/N: 12403-1	Used to install top latch to top of door (For FIRE RATED)	
	#10 x 3/4" PPHS P/N: PP-5183-66	Used to install bottom assembly to bottom of door & top latch to top of door (For NON-FIRE RATED)	

Power Drill Level Screw Drivers Hammer Pencil Center Punch

## **Tools Required**

Drill Bit Set Pliers 104948 Page 4

Safety Glasses Tape Measure Hack Saw (Chopsaw preferred) Tap Wrench/ Hex Wrench - 5/64 Masonary Bits - 3/16", 5/16" & 1"

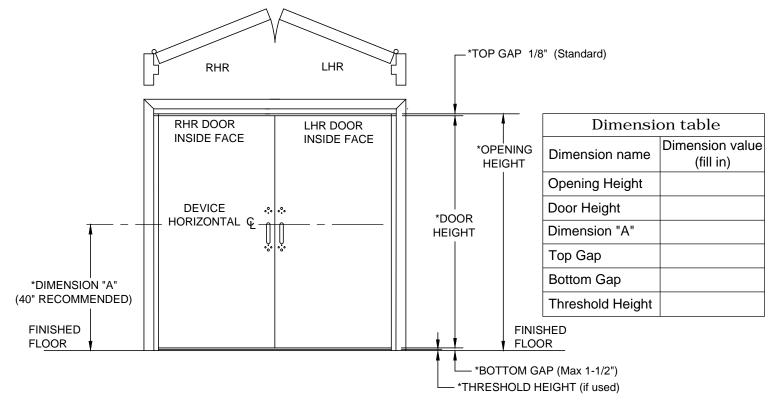
## !!!CHECK BEFORE STARTING!!! Doors and frames with walls having a structural thickness (metal skin plus reinforcement) to engage less than (3) full screw threads, are considered unreinforced for hardware. Stile width Unreinforced Doors: Use Sex Nuts and Bolts 5" minimum stile required Unreinforced Frames: Use Blind Rivet Nuts (see sketch). Fasteners for unreinforced openings are not supplied by Detex. Reinforced door or Reinforcement frame engages at least (3) screw threads. Blind Rivet Nut Door Skin Door Must Swing Freely Door Must Not be Warped Door Must Not Bind Door Must Not Sag

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

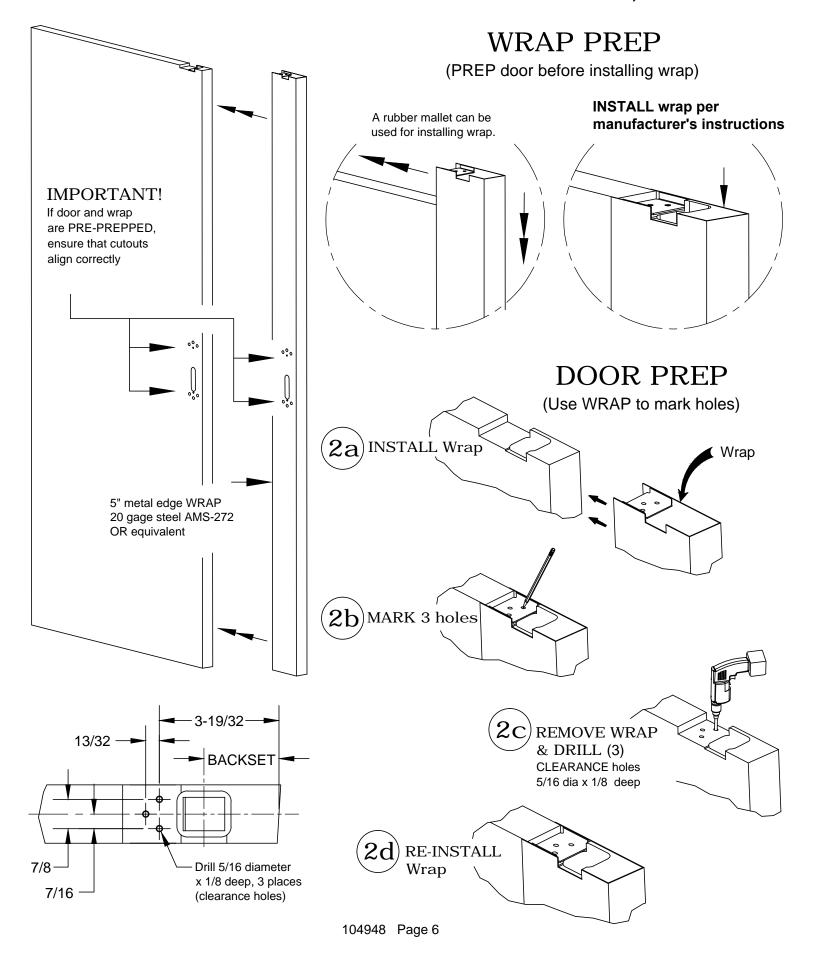
Measure per figure below:

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

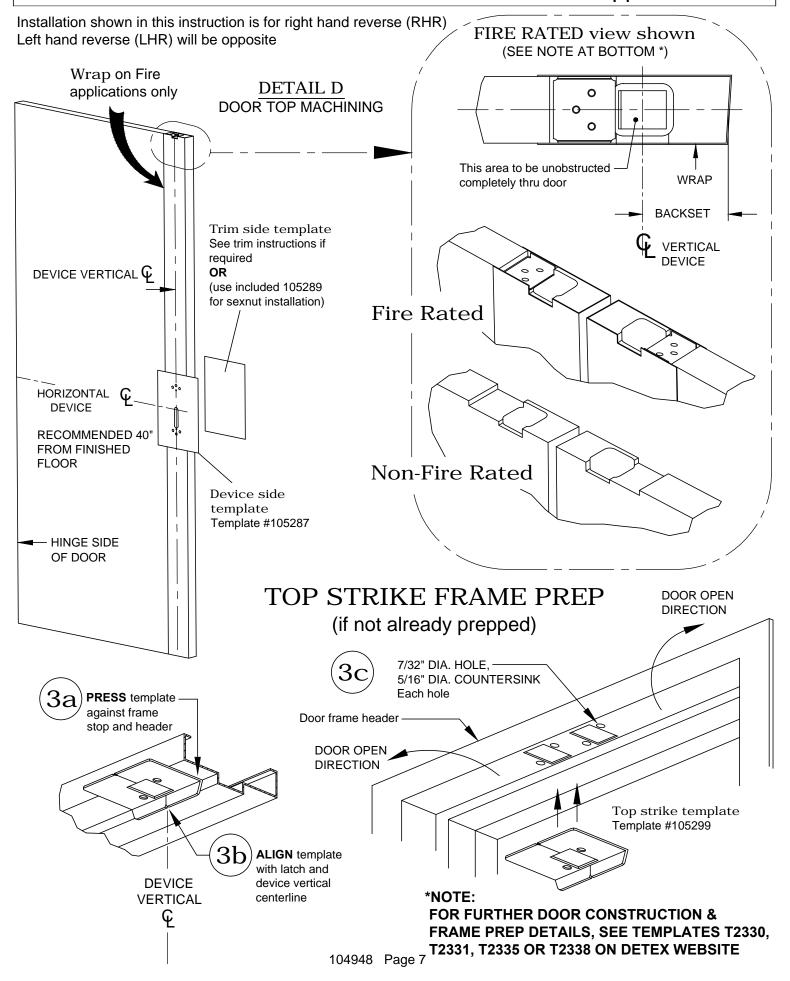


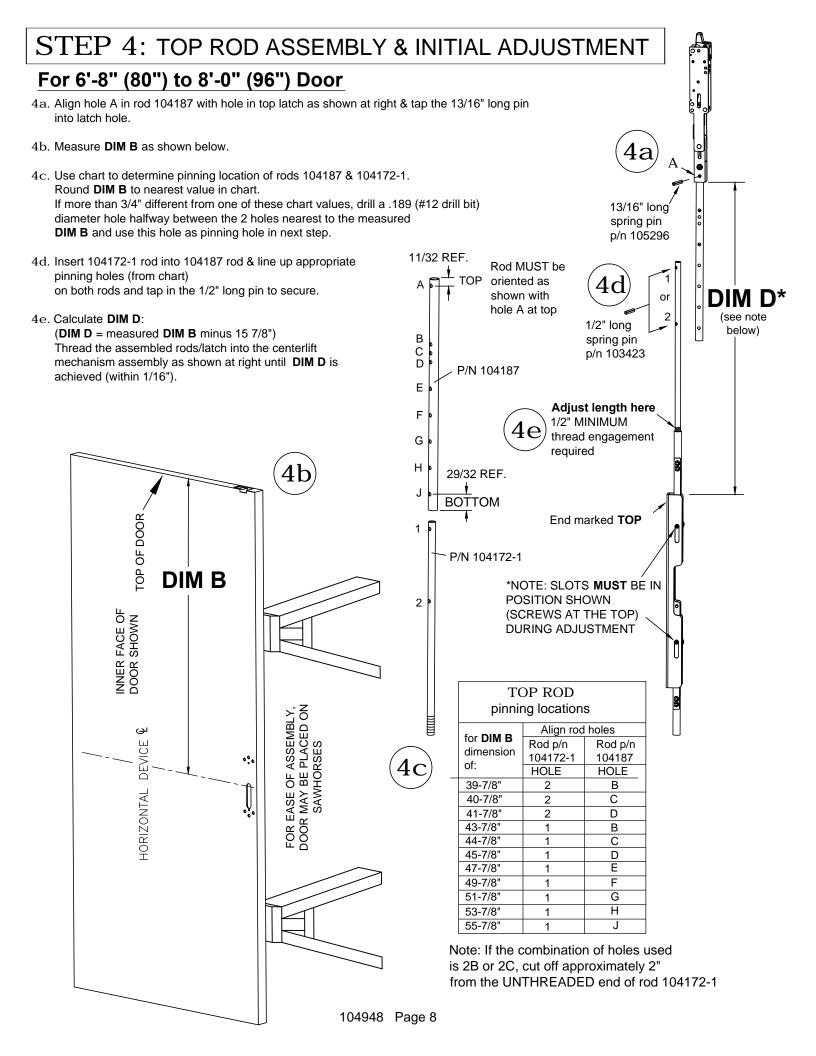
## STEP 2: VERIFY DOOR & INSTALL WRAP

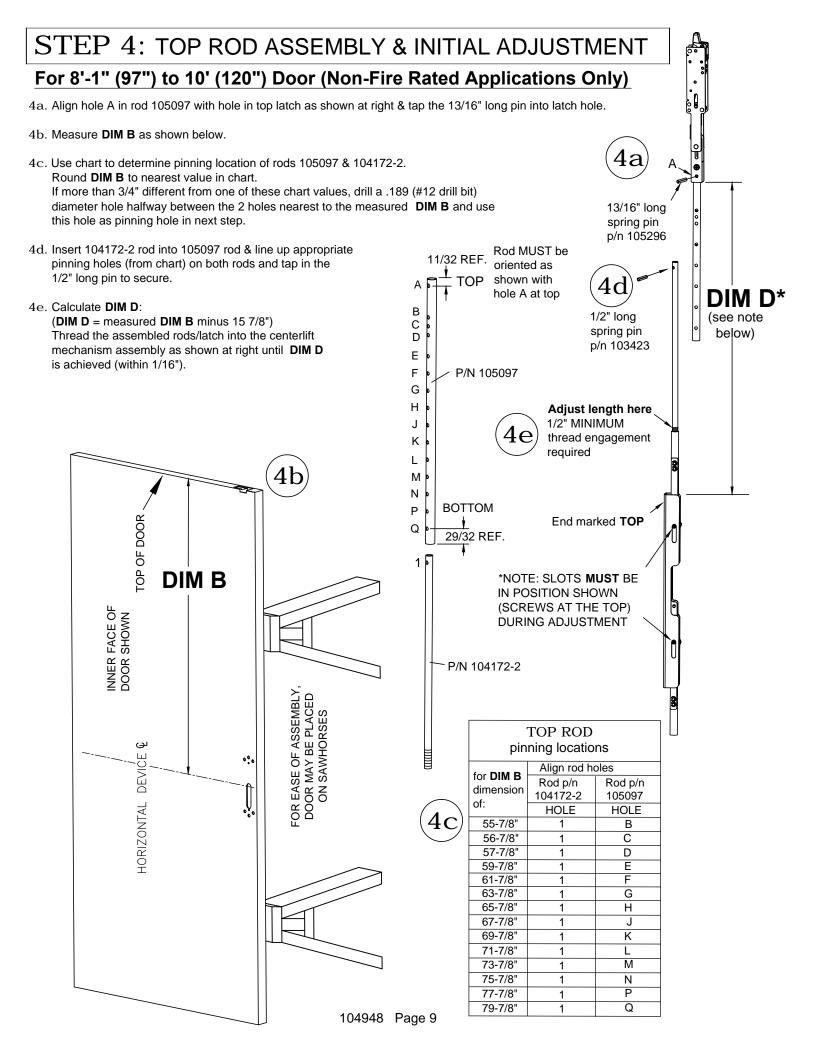
#### FOR F70 & F71 FIRE RATED APPLICATIONS ONLY. FOR NON-FIRE, SKIP TO STEP 3



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







## STEP 5: BOTTOM ROD / LATCH ASSEMBLY & ADJUSTMENT

(Disregard if TRO device is being installed)

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

If **DIM A** is **less** than 37-1/4" from finished floor, a new pin hole must be drilled through 105098 rod. Subtract the centerline dimension from 38" and measure up this distance from hole V. Mark and drill .189 diameter hole (#12 drill).

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

Align rod holes with bottom latch (round <b>DIM A</b> to nearest value shown)		
DIM A	Bottom Rod	]
(device Ç at	p/n: 105098	
distance from floor)	use HOLE	
38"	V	1 11
39"	W	1  ]
40"	Х	
40-3/8"	Y	] []
40-3/4"	Z	
		ROI

NOTE: SLOTS MUST BE IN

P/N 105098

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

5b. **DIM C** is the target length.

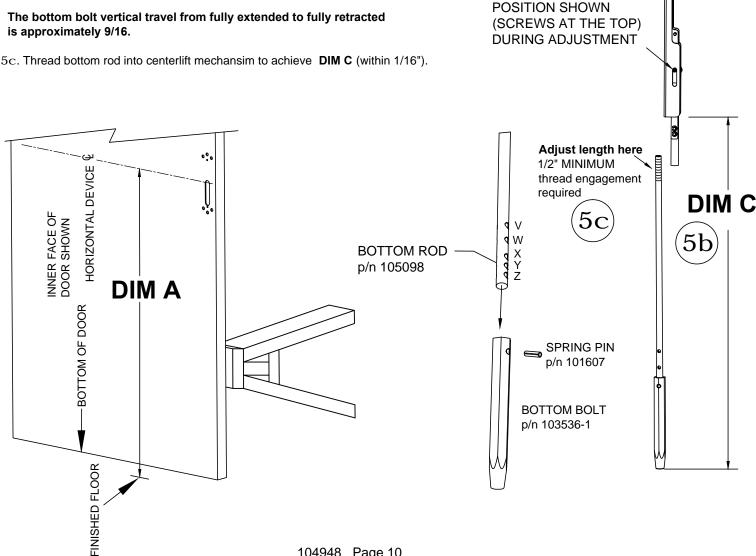
For no threshold or threshold 1/2" or less:

**DIM C** = measured **DIM A** minus 8".

For threshold greater than 1/2":

**DIM C** = measured **DIM A** minus 8" minus threshold height

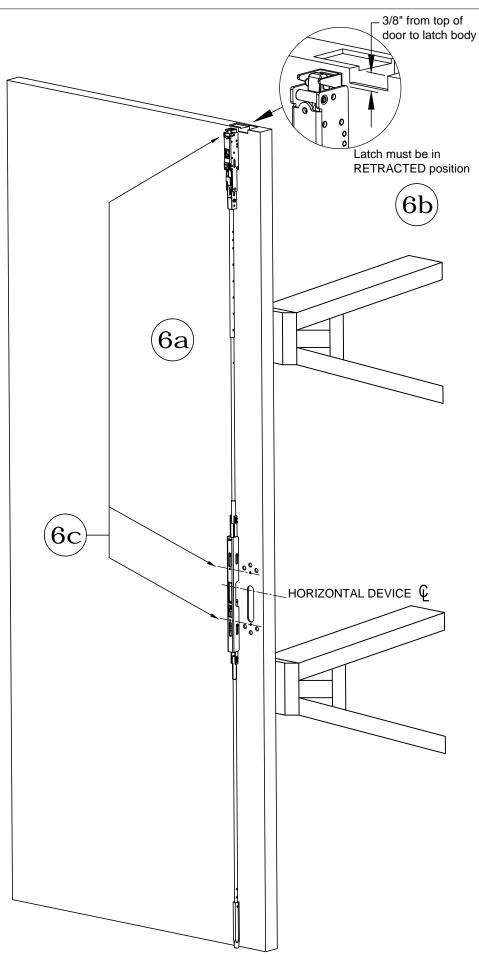
is approximately 9/16.



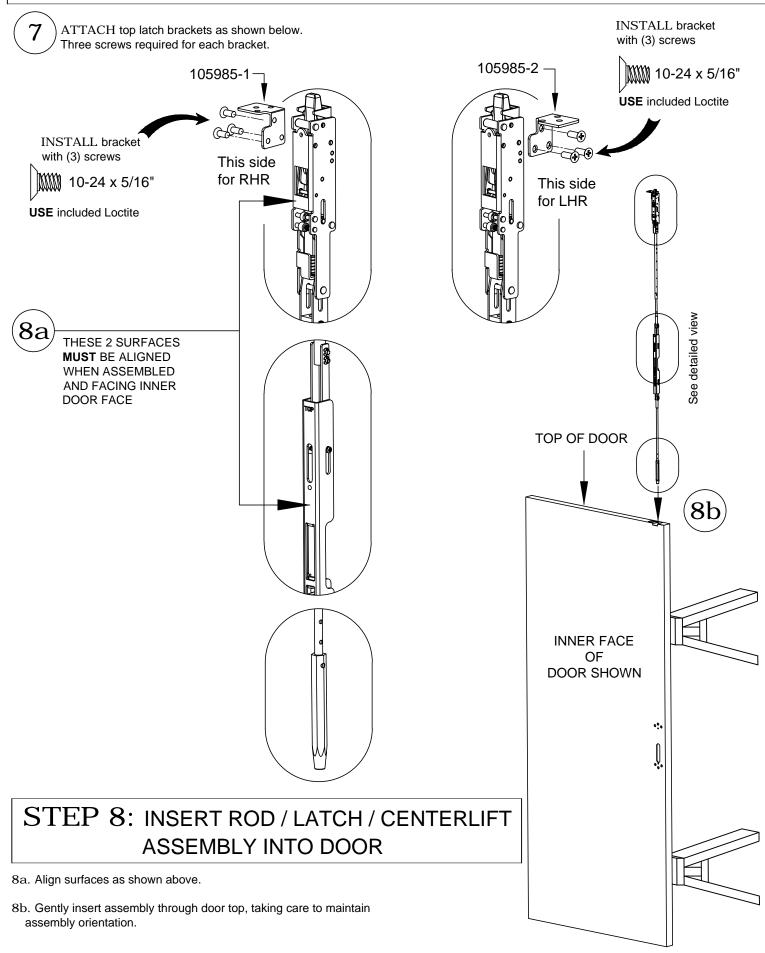
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# STEP 6: VISUAL ALIGNMENT CHECK:

- 6a. Lay internal latch components onto door for trial fit. Take care to protect door finish.
- 6b. Ensure top latch is in retracted position. Hold top rod in place and push top latch case towards device € until latchbolt is fully retracted.
- 6c. Mounting holes for centerlift should line up with mounting holes in door, and top and bottom latches should be in position shown. If not, go back to steps 3 & 4 and verify rod length dimensions.



# STEP 7: ATTACH TOP LATCH MOUNTING BRACKETS

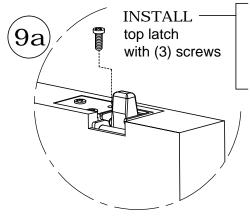


# STEP 9: SECURE ROD / LATCH / CENTERLIFT ASSEMBLY TO DOOR

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

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

- 9b. Attach bottom mounting bracket to bottom latch assembly with three screws.
- 9c. Attach bottom mounting bracket assembly to door with three screws.
- 9d. Attach back plate to centerlift mechanism with two screws DO NOT OVERTIGHTEN. Assembly hint: Assemble one screw loosely without backplate, then add second screw through backplate. Remove first screw, align backplate and then re-install first screw.



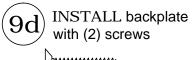
For FIRE RATED Use 10-32 x 1/2" screws

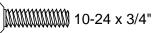


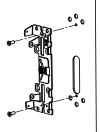
For NON-FIRE RATED Use #10 x 3/4" screws



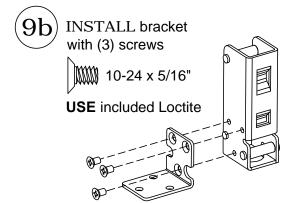
MARK & DRILL #29 drill x 3/4 deep pilot hole Install with (3) screws



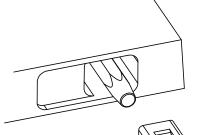


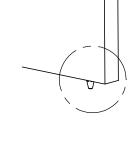


**BACKPLATE** BP11 OR BP13









MARK & DRILL #29 drill x 3/4 deep pilot hole **INSTALL** bottom assembly with (3) screws

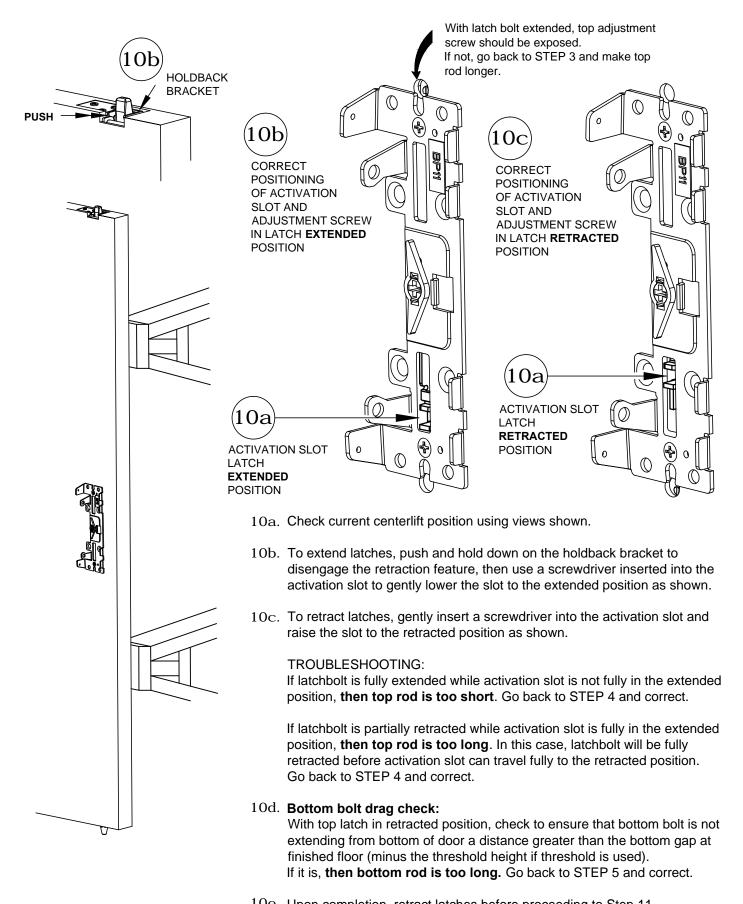


#### (VIEWED FROM BOTTOM EDGE OF DOOR)

Note: Bottom bracket may slide up on rod during assembly. It may be necessary to pull it towards bottom edge of door with a simple wire hook.

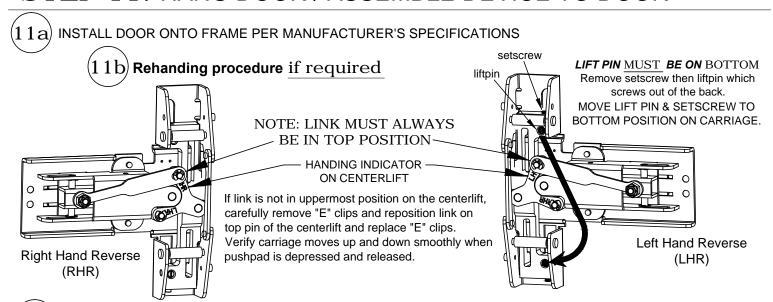


## STEP 10: VERIFY CENTERLIFT MECHANISM OPERATION

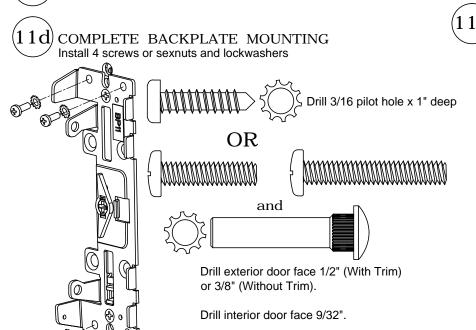


10e. Upon completion, retract latches before proceeding to Step 11.

# STEP 11: HANG DOOR / ASSEMBLE DEVICE TO DOOR

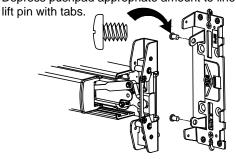


 $(1\,1\,\mathrm{c})$  REFER TO TRIM INSTRUCTIONS AT THIS TIME, IF APPLICABLE

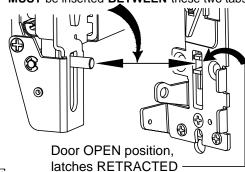


INSTALL DEVICE TO BACKPLATE

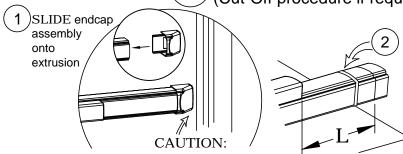
Install device to backplate & fasten with 2 screws. Depress pushpad appropriate amount to line up



Lift pin protruding from back of centercase **MUST** be inserted **BETWEEN** these two tabs.



CHECKING FOR DEVICE CLEARANCE (Cut-Off procedure if required)



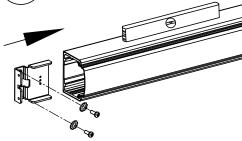
Check for device and door frame clearance. If no cut-off needed, proceed to the next page.

CUT fillerplate and extrusion straight & square to desired length and deburr. SECURE with tape before cutting

Minimum Fillerplate Length	
Type	Length (L)
LD	2-1/2"
HD/CD	3"

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.

# (11g) INSTALL ENDCAP BRACKET

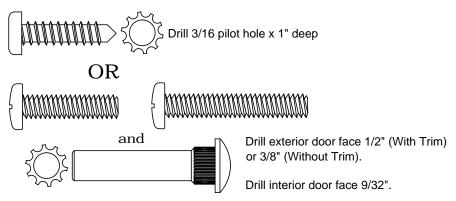


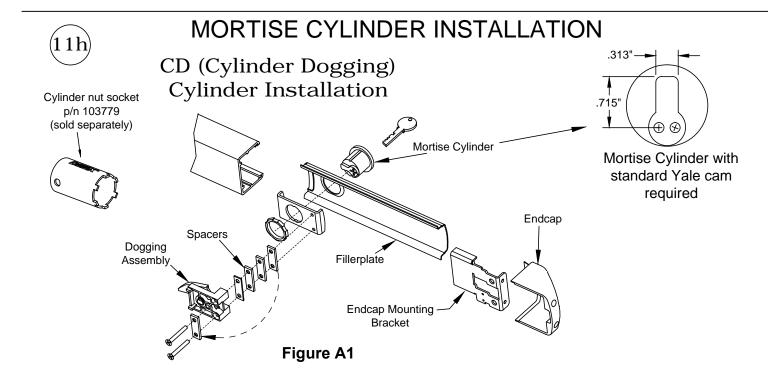
INSTALL bracket with (2) lockwashers & screws **OR** screws & sex bolts

LEVEL device before installing endcap bracket

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

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





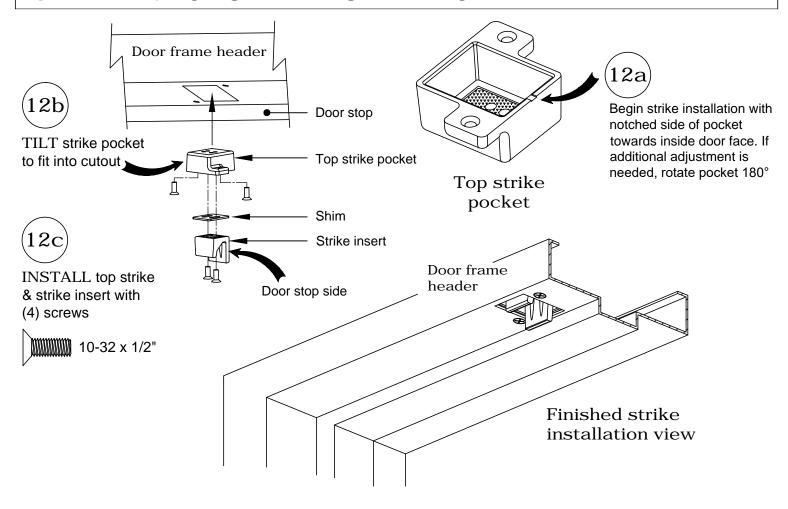
#### Follow steps "a" through "g" for CD installations

- a. Remove endcap and endcap mounting bracket.
- b. Remove fillerplate.
- c. Remove and discard shipping insert and nut. Loosen (2) screws from dogging assembly.
- d. Install mortise cylinder (sold separately) with large hex nut provided.
- e. Trial fit dogging assembly. If 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.

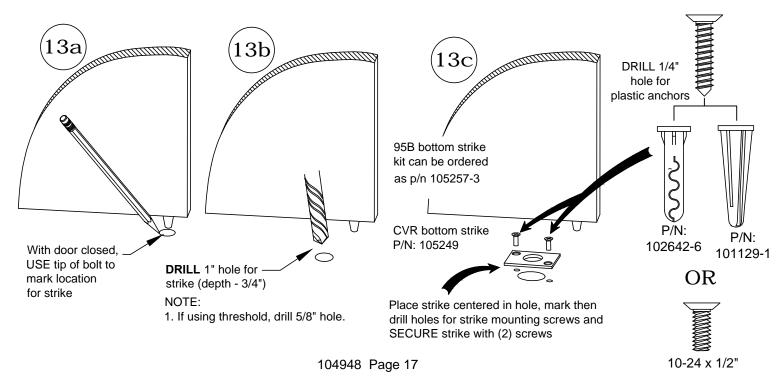
- f. Rotate key counterclockwise
- g. Assembly complete. Continue with Panic Hardware instruction.

## STEP 12: TOP STRIKE INSTALLATION



# STEP 13: BOTTOM STRIKE INSTALLATION

(Disregard if TRO device is being installed)
BOTTOM STRIKE HOLE LOCATION & DRILLING



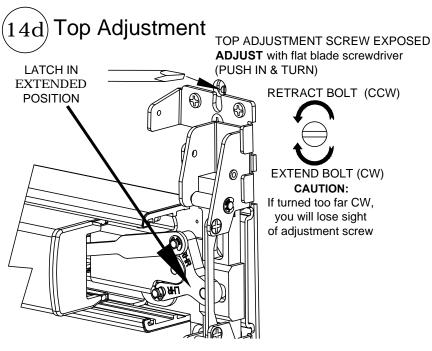
### STEP 14: FINE LATCH ADJUSTMENT

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

#### FINE LATCH ADJUSTMENT (if needed)

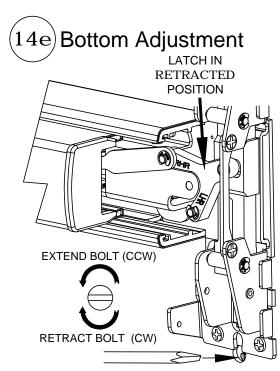
(± 3/8" adjustment possible on both top & bottom rods independently. See diagram below.)

- 14c. Top strike fine adjustment: Adjust strike engagement by either retaining or removing shim. Adjust door tightness by moving insert to desired position. Note that 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 latchbolt projection begins to visually decrease, then turn CW until latchbolt projects fully. Rotate CW one additional full turn.



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

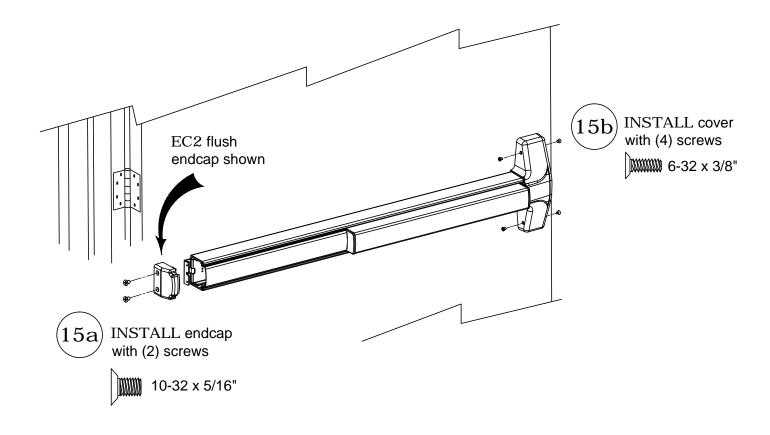
14f. Check device operation. Reference STEP 14a & 14b.



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

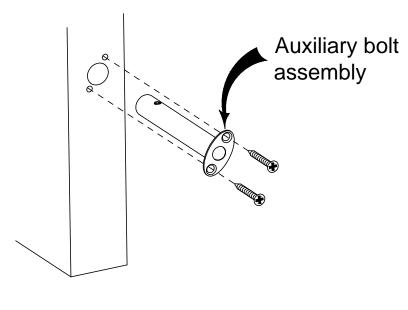
	(FOSH IN AND TOKN)		
DEVICE OPERATION TROUBLESHOOTING			
SYMPTOM	POSSIBLE CAUSE	SOLUTION	
Device not latching	Bottom bolt is not properly aligned with bottom strike hole.	Modify bottom strike hole for fit.	
when door closes	Top strike insert is not installed or not correctly aligned with the holdback.	Install and/or position strike insert per instructions.	
	Through fasteners for trim (if applicable) are interfering with internal centerlift assembly.	Loosen and re-position through screws to clear.	
	Rods improperly adjusted	Adjust rods per instructions.	
		Remove device and re-install per instructions.	
Latches release, but pushpad will not fully depress	Device centercase lift finger not inserted properly into centerlift assembly.	Remove device from backplate and re-install with lift finger correctly inserted.	
	Top adjustment screw is adjusted too far in the retracted direction (CCW).	Rotate top adjustment screw in the extended direction (CW) per FINE LATCH ADJUSTMENT procedure.	
Latches are not releasing when pushpad is fully depressed	Device centercase lift finger not inserted properly into centerlift assembly.	Remove device from backplate and re-install with lift finger correctly inserted.	
	Top adjustment screw is adjusted too far in the extended direction (CW).	Rotate top adjustment screw in the retracted direction (CCW) per FINE LATCH ADJUSTMENT procedure.	
	Bottom adjustment screw is adjusted too far in the extended direction (CCW).	Rotate bottom adjustment screw in the retracted direction (CW) per FINE LATCH ADJUSTMENT procedure.	

## STEP 15: COVER INSTALLATIONS



# STEP 16: INSTALL AUXILIARY FIRE BOLT (F71 ONLY)

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



#### Optional Accessories

#### **Sex Nut Kits**

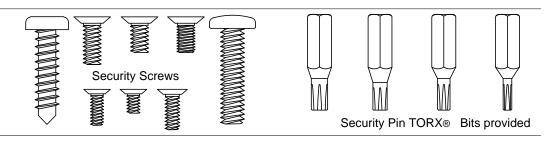
The #1/4-20 kits are available in 3 finishes:
Brushed Brass BHMA 606: p/n 105274-2
Oil Rubbed Bronze BHMA 613: p/n 105274-25
Stainless Steel BHMA 630: p/n 105274-9

Catalog No: SN3 uses screws in hardware kit



Tamper Kit (Security Kit)

Catalog # & Part #: **SSK5** 



Cylinder nut socket p/n: 103779

