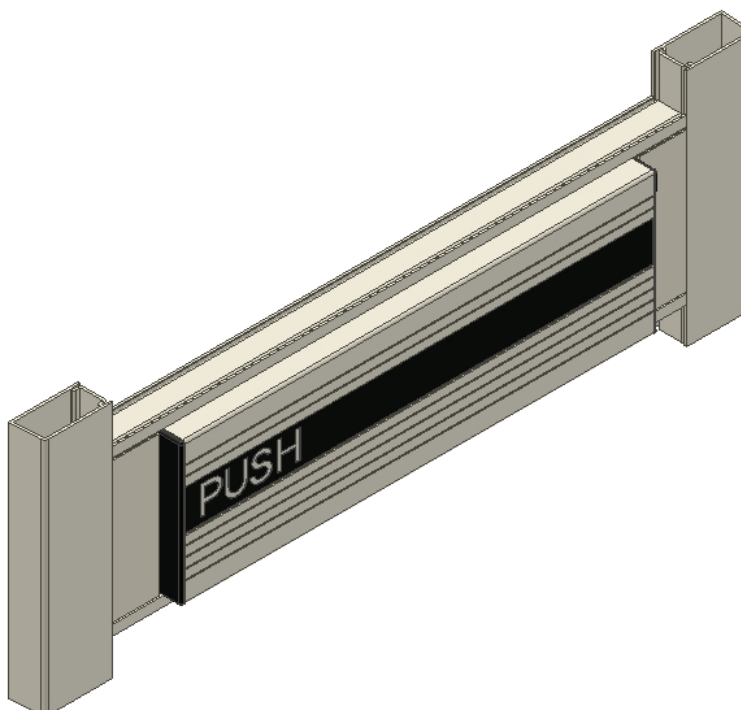


PANELINE™ EXIT DEVICE

SERVICE INSTRUCTIONS

INDEX

DOGGING INSTRUCTIONS AND LOCK CYLINDER	
INSTALLATION	2
CYLINDER MANUFACTURER IDENTIFICATION	2
FRAME PREPARATION AND STRIKE ADJUSTMENT	3
CHASSIS AND FILLER PLATE REMOVAL	4
KEYED DOGGING CYLINDER REPLACEMENT	5
PUSH PANEL REMOVAL	5
PUSH PANEL INSTALLATION	7
CHECK DOOR ROD ADJUSTMENT	8
LIFT LEVER ADJUSTMENT	9
LUBRICATION	10
ROD LENGTH ADJUSTMENT (190/350/500 DOOR)	11
PULL HANDLE SCREW LOCATION	11
CHASSIS AND FILLER PLATES INSTALLATION	13
GLAZING INSTRUCTIONS	15
PRE-1989 PUSH PANEL ASSEMBLY ADJUSTMENT	16
NOTES AND DISCLAIMERS	19



DOGGING INSTRUCTIONS AND LOCK CYLINDER INSTALLATION

DOGGING INSTRUCTIONS

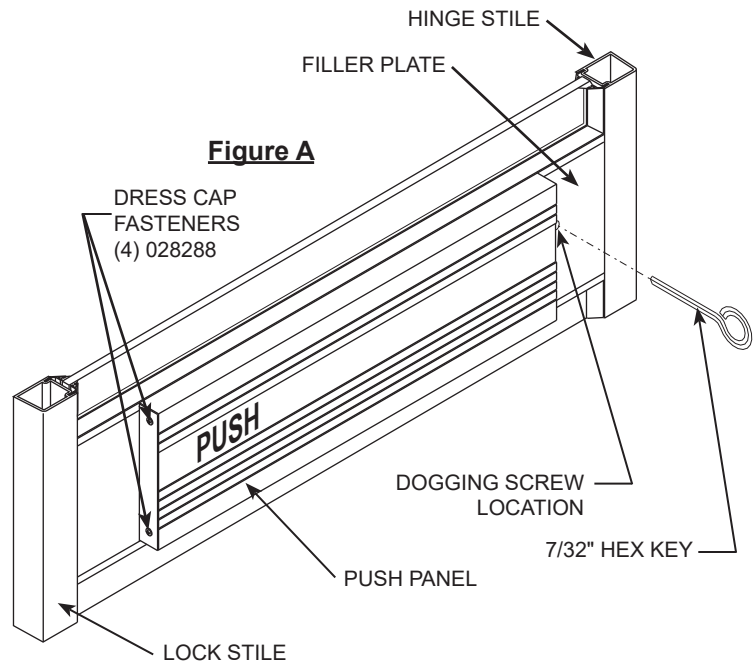
To secure the exit device in the unlocked (dogged) position, follow this sequence:

1. Fully depress push panel.
2. Insert dogging hex key (furnished) into the access hole in the middle of the filler plate closest to the hinge stile. (See Figure A)
3. Turn key one-quarter turn clockwise.

UN-DOGGING INSTRUCTIONS

To return the exit device to the normal operation, follow this sequence:

1. Fully depress push panel.
2. Insert dogging hex key (furnished) into the access hole in the middle of the filler plate closest to the hinge stile. (See Figure A)
3. Turn key one-quarter turn counterclockwise.
4. Release panel.



INSTALLING CYLINDERS BY OTHERS

THE FOLLOWING CYLINDER BRANDS MAY BE USED WITH KAWNEER'S PANELINE™ CR90 EXIT DEVICE:

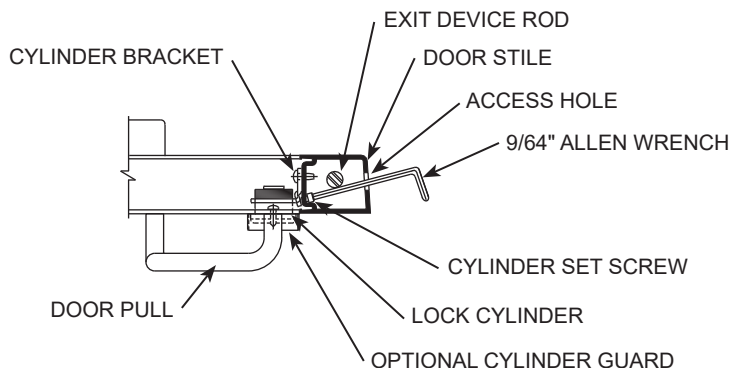
MANUFACTURER	CAM NUMBER
ELKEM-VING	9001
SCOVILL (YALE)	1161
UNICAN (ILCO)	15-L4002-64
SUPERIOR	A
SARGENT	13-0097
BEST	IEC4
SCHLAGE	B502-191
CORBIN / RUSSWIN	A62

NOTE: CYLINDER MUST HAVE 0.950 CAM SWEEP. IF CAM SWEEP IS LONGER IT MUST BE FILED DOWN.

TO REMOVE LOCK CYLINDER

1. Open door and insert 9/64" allen wrench through hole in edge of door stile at an angle that will engage the cylinder set screw.

Figure B



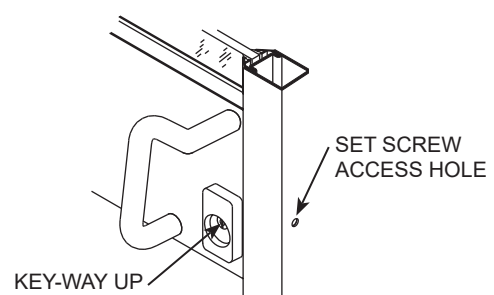
2. Loosen set screw about three full turns. Insert key part way into cylinder key-way and turn to the left to remove lock cylinder.

TO REPLACE CYLINDER

3. Install replacement cylinder with key-way up.

NOTE: Length and tip contour of new cylinder cam must match old cylinder cam. Old cam may be used if necessary.

Figure C

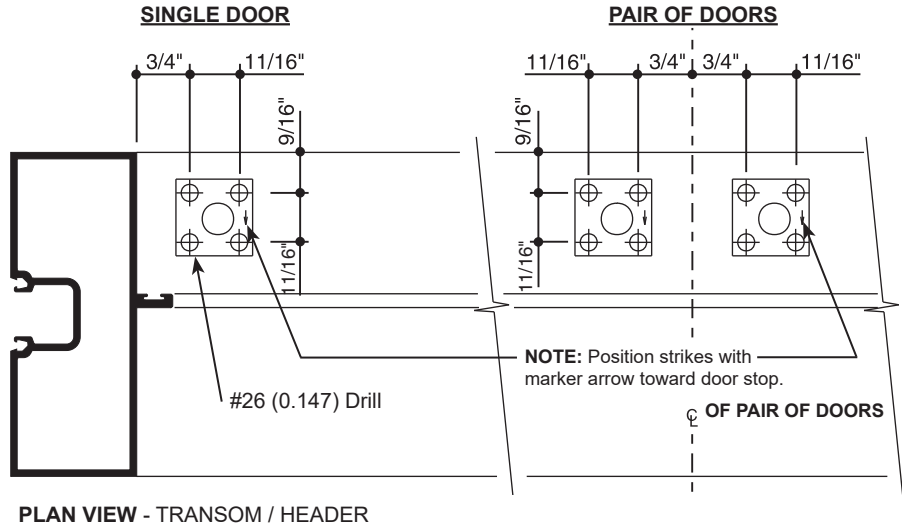
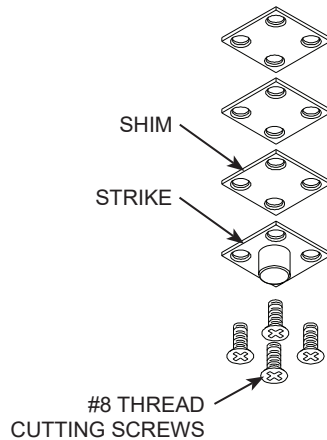


4. Tighten cylinder set screw and check unlocking action with key.

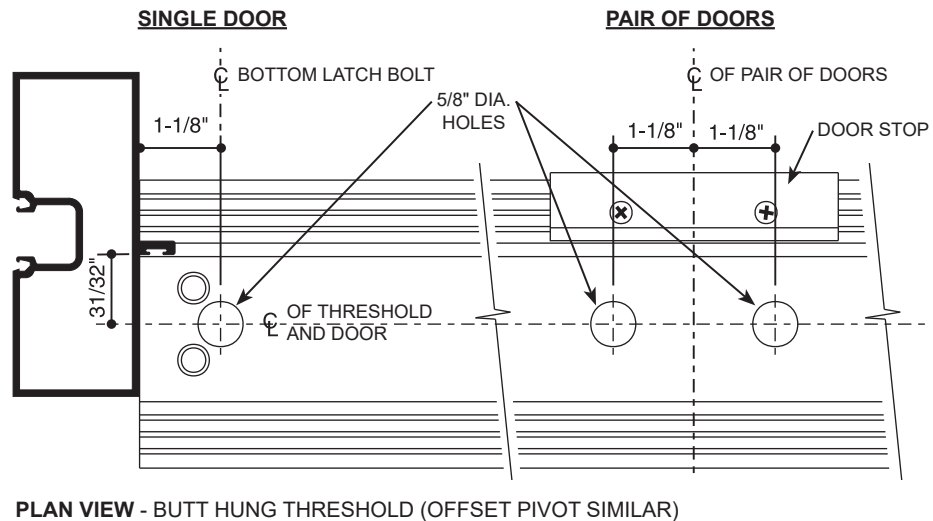
FRAME PREPARATION AND STRIKE ADJUSTMENT

TOP STRIKE INSTALLATION

Install the top strike in the normal position with the marker arrow toward door stop (see sketches below). The strike can be rotated for adjustment purposes, (1) space in and (2) spaces out from normal point. Shim strike to accommodate top door clearance

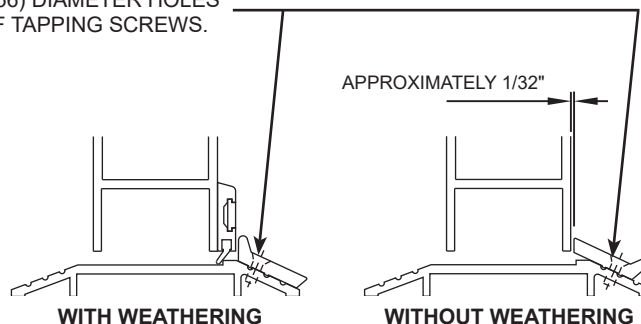


THRESHOLD INSTALLATION



DOOR STOP INSTALLATION

USING 033981 THRESHOLD STOP PACKAGE AS A TEMPLATE, DRILL (2) 5/32" (0.156) DIAMETER HOLES AND SECURE STOP WITH SELF TAPPING SCREWS.



CHASSIS REMOVAL

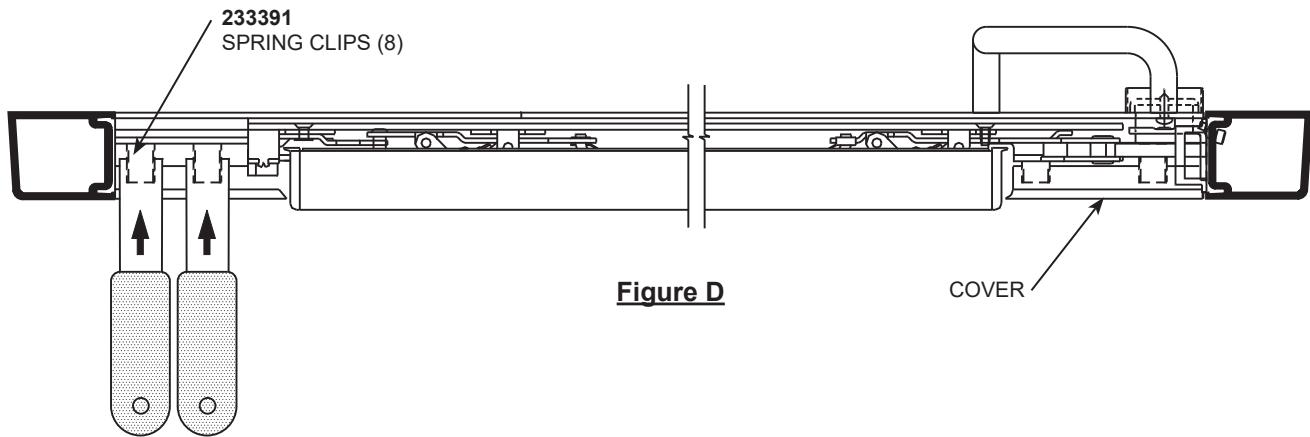


Figure D

1. Dog unit down per instructions on page 2.
2. Being careful not to scratch any finished surfaces, use putty knife at each spring clip location.
3. To remove filler plate, push putty knife in far enough to engage clips and pry away from filler plate (toward vision area).
4. Repeat steps 2 and 3 on the opposite side.

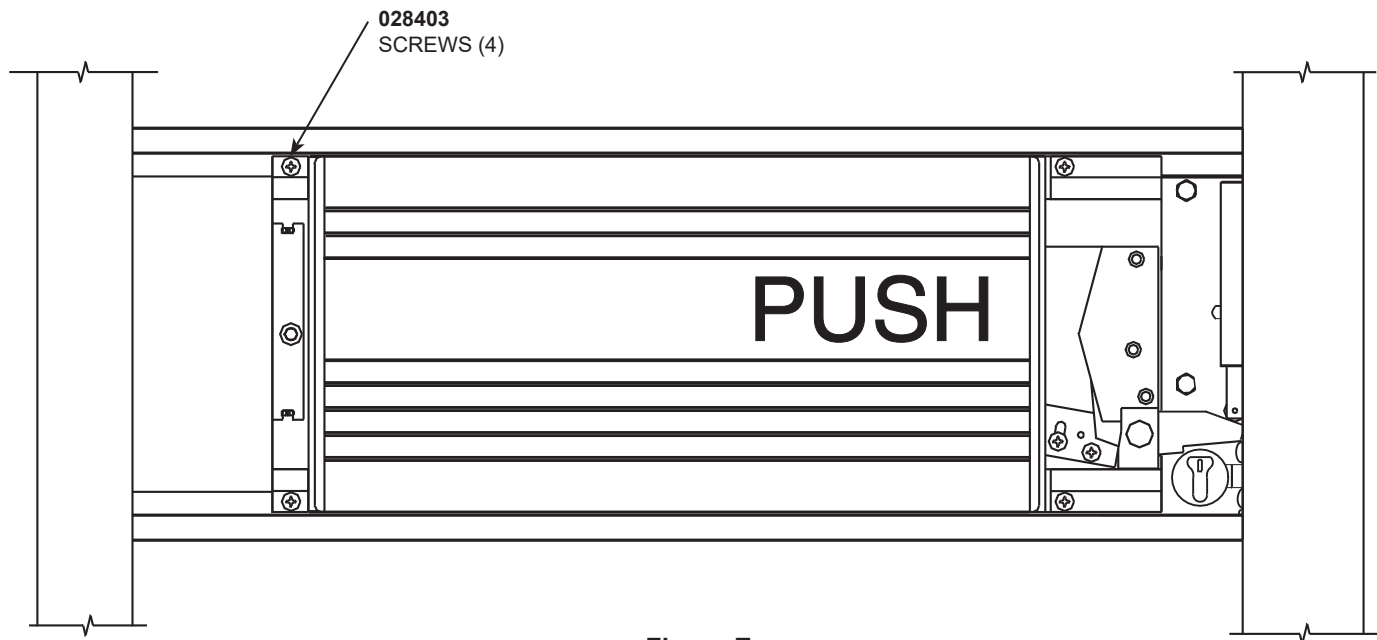


Figure E

5. Remove four mounting screws 028403 to take out the chassis assembly.

Note: Spring clips may need to be moved over to allow clearance for the chassis removal.

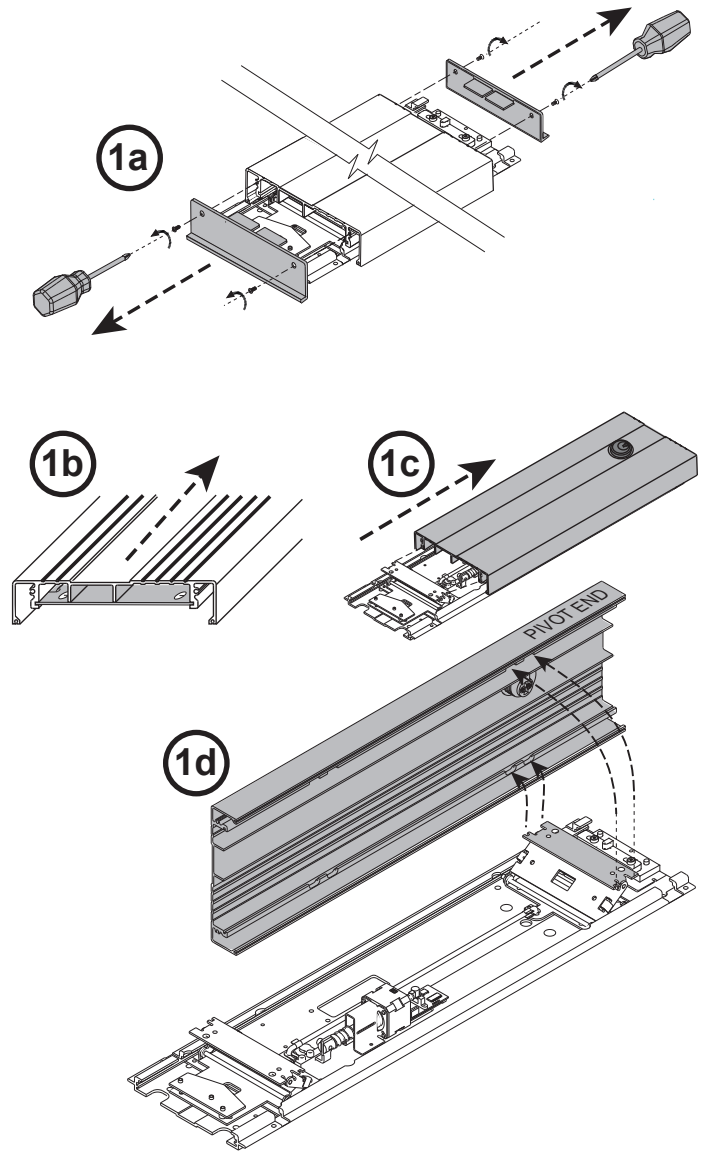
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REPLACING KEYED DOGGING CYLINDER

1. Remove push panel.

- a. Remove two (2) 028352 fasteners from each dress cap - set aside dress caps and fasteners.
- b. Slide push pad toward pivot end to release from lock-end toggle.
- c. Lift upward on push pad and continue sliding toward pivot end.
- d. When push pad releases from pivot-end toggle, lift panel off chassis.



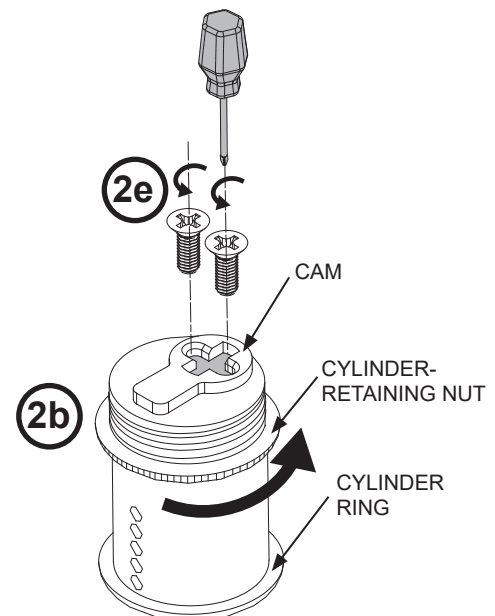
2. Remove cylinder to be replaced.

- a. Flip push pad over onto flat, soft surface.
- b. Use a large pair of pliers to loosen brass cylinder-retaining nut 233192.
- c. Remove nut completely to release cylinder and ring - set aside ring for re-use.

Note: Replacement cylinder must have similar cam sweep (see page 2 for "Installing Cylinders by Others"). Here, we reuse the existing cam with a new cylinder.

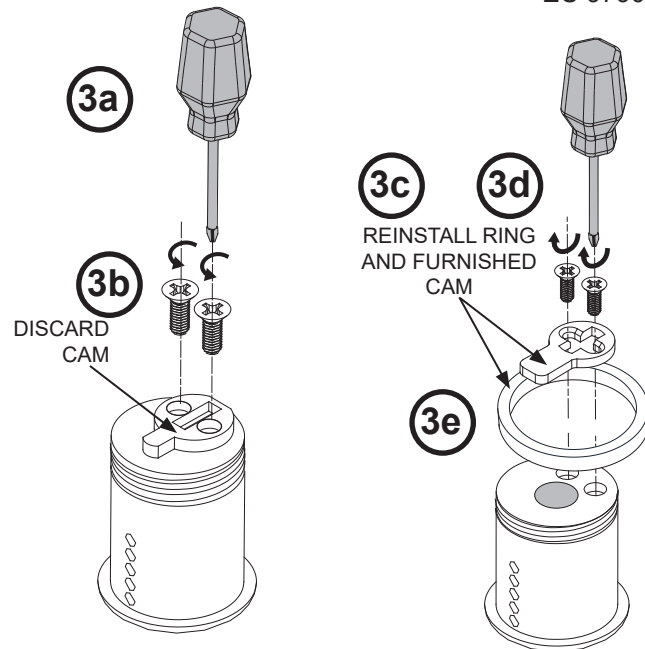
- d. Remove cylinder ring 047790 and set aside.
- e. Remove two (2) small screws holding cam to back of cylinder.
- f. Remove cam and set aside.

Note: Cam and attachment screws retain cylinder internals. Position cylinder with cam up on a flat surface to remove cam. Remove screws and cam carefully to prevent loss or disassembly of cylinder contents.

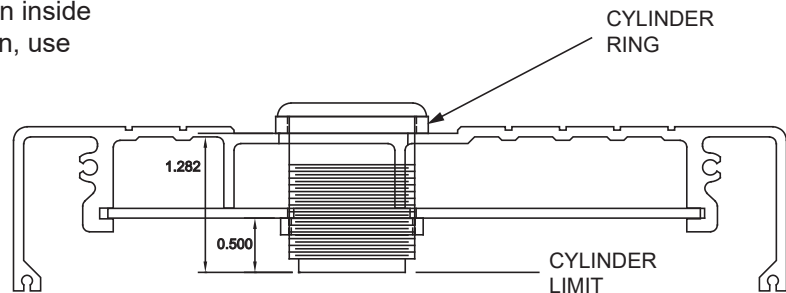


3. Install new cylinder.

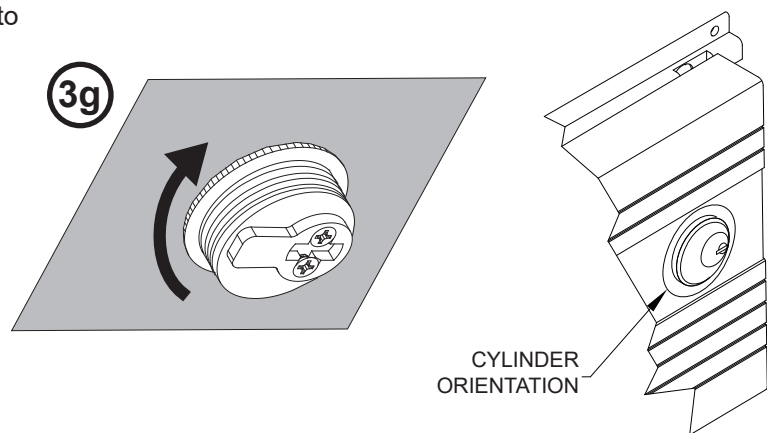
- a. Remove phillips-head screws from back of new cylinder to release cam.
- b. Set aside screws and cylinder ring for re-use; discard cam from new cylinder.
- c. Replace new cylinder's cam with cam from furnished cylinder.
- d. Secure cam with screws removed in step a.
- e. Slide set-aside ring 047790 onto new cylinder.
- f. Install new cylinder with ring into push pad.



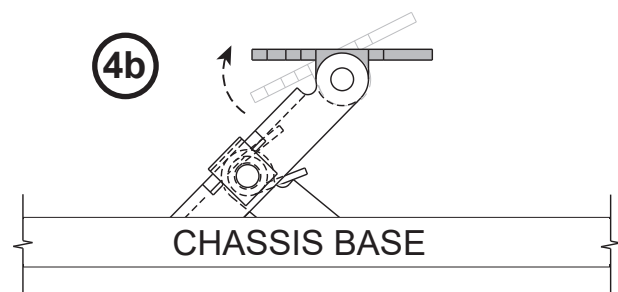
Note: Cylinder must not protrude over 1.282 in inside device. If using a cylinder longer than 1.438 in, use cylinder rings to limit protrusion.



- g. Thread brass cylinder-retaining nut 233192 onto cylinder and tighten.


4. Reinstall push pad.

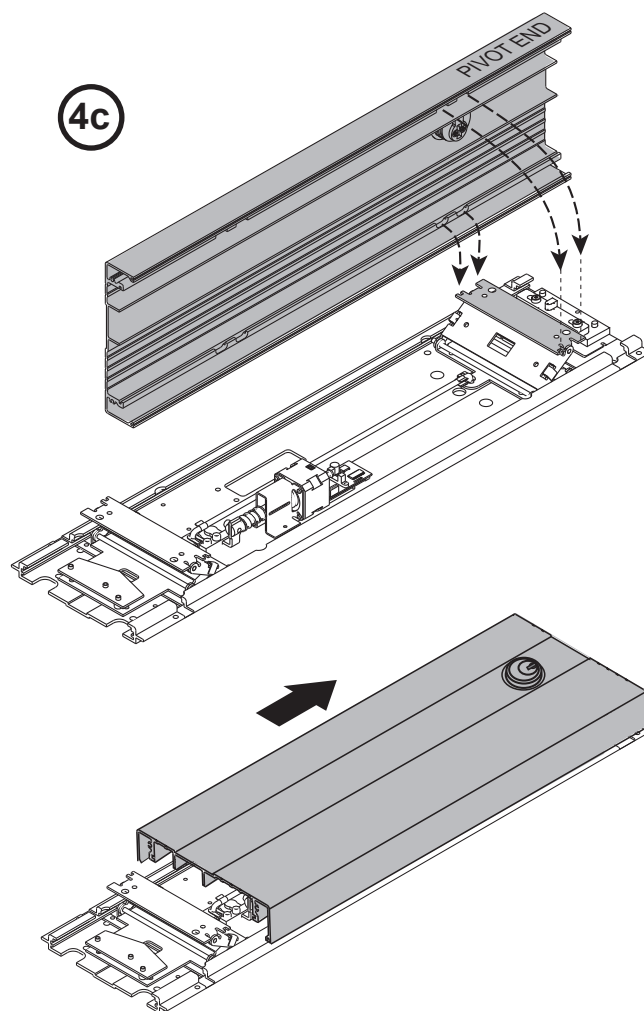
- a. Lay door on horizontal surface with interior facing up.
- b. Tilt toggle assemblies to horizontal, parallel with back of chassis.



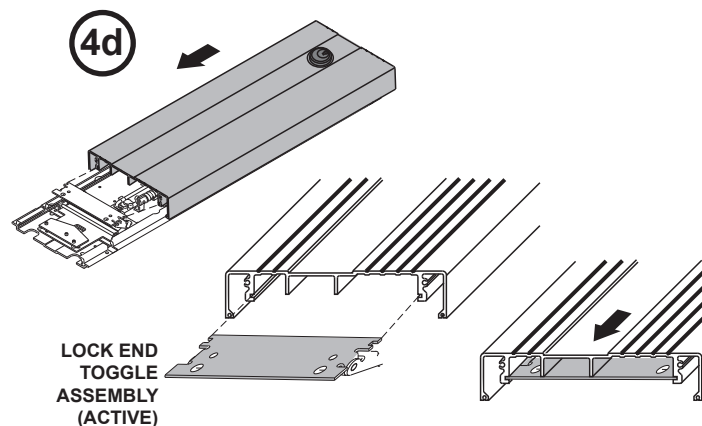
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- c. Engage pivot-end of push pad with pivot-end toggle assembly.
- Align four (4) pivot-end, prefabricated notches with four (4) tabs on pivot-end toggle.
 - Lay push pad on toggles so that tabs pass through notches into slots in panel extrusion.
 - Slide panel toward pivot end.



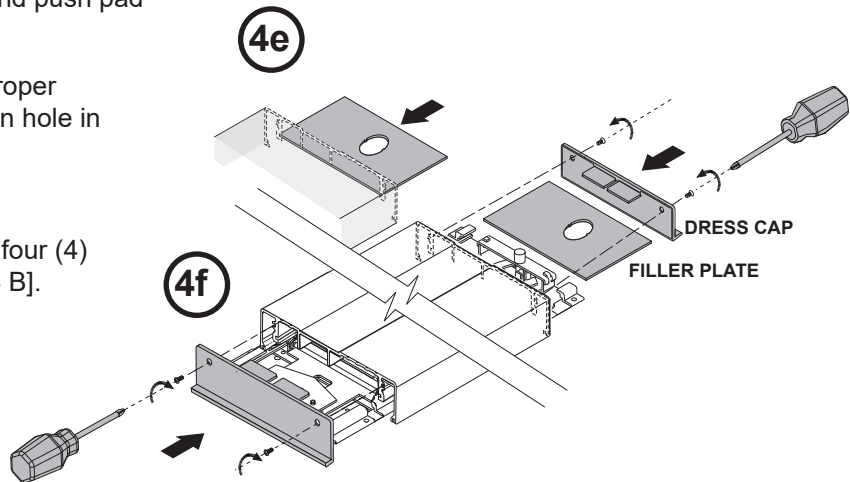
- d. Engage push pad with lock-end toggle assembly.
- Align edge of lock-end toggle with slot in push pad.
 - Slide push pad onto lock-end toggle.
 - Slide until edges of push pad and toggle meet.



- e. Slide filler plate (1) 233191 into pivot-end push pad slots.

Note: Filler plate keeps push pad in proper location. If using cylinder dogging, align hole in filler plate with dogging cylinder.

- f. Attach two dress caps (2) 033109 with four (4) 028288 fasteners [#10X.5in CRPHTFS B].

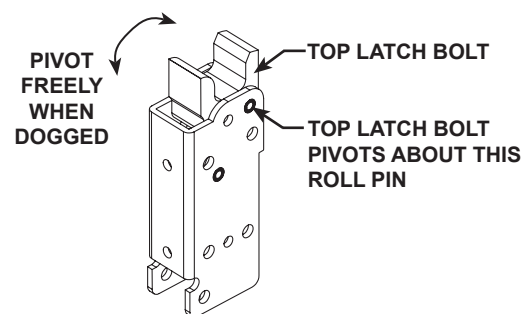


- g. Install lock- and pivot-end filler (finish) plates.

CHECK DOOR ROD ADJUSTMENT

1. Stand door up with a .75 in spacer between door and floor to allow for rod movement (not needed for installed doors).
2. Press push pad (or active toggle) to retract top and bottom rod assemblies.
3. Manually engage dogging mechanism.
4. Check that bottom door rod extends 1/16" or less below bottom of door.
5. Wiggle top latch. Latch should pivot freely in both directions (see Figure F).
6. Trip top latch.

Figure F

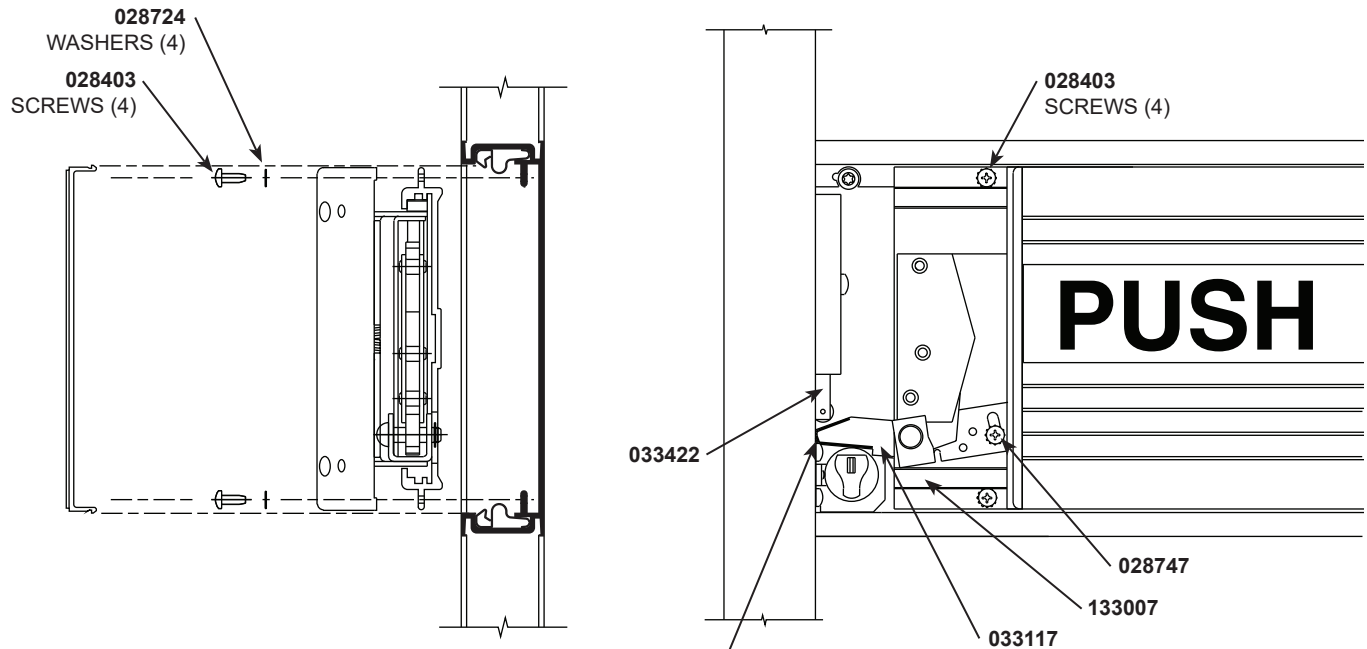


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LIFT LEVER ADJUSTMENT

Figure G



IMPORTANT:
BRUSH GREASE (033203) ON ALL SURFACES
AS SHOWN BY THE DARK LINE.

1. Lubricate lift lever where shown with Teflon grease 033203.
 - traveler in housing
 - lever surfaces touching traveler roller and lock cam.

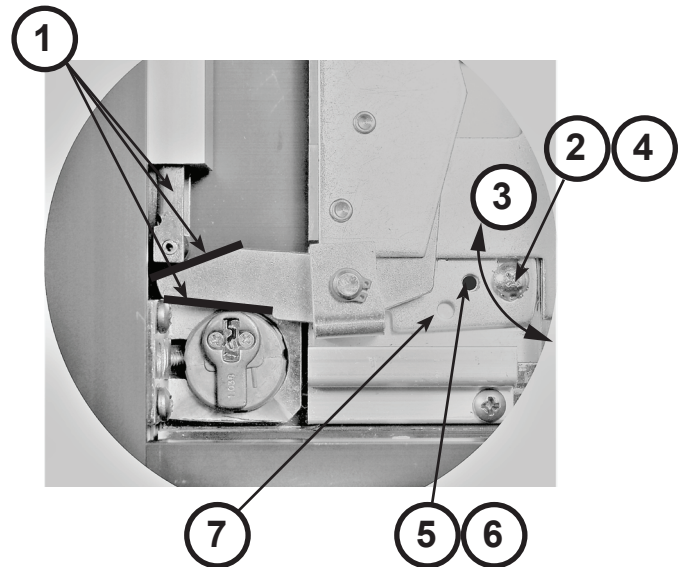
2. Loosen binder screw 028747 on lever axle bracket.
3. Rotate lever axle bracket until lever arm 033117 contacts bottom of traveler 033422 roller with no pressure.

Note: Slight gap between lever arm and bottom of traveler roller is also acceptable.

4. Tighten binder screw 028747 to allow for operation testing.
5. After testing unit thoroughly, drill a hole through chassis where shown using a #23 (0.154 dia.) bit.

Note: Do NOT blow chips into mechanism. Place a shop cloth under bracket while drilling to catch metal chips.

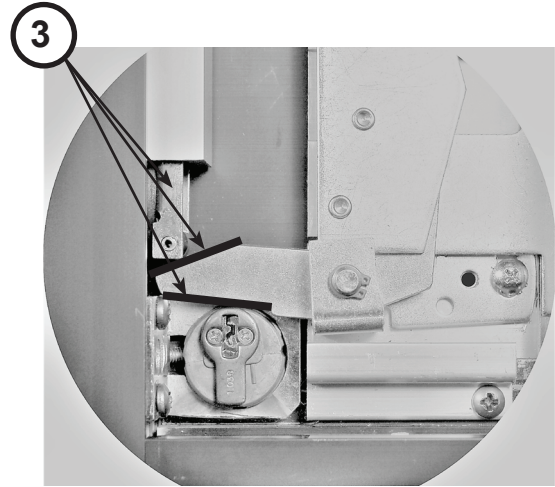
6. Lock lever axle bracket in place with extra fastener 028747.
7. If field readjustment is needed, use the extra hole in lever axle bracket.



LUBRICATION

Exit devices are lubricated before delivery. Periodic lubrication will increase exit device life by preventing excess wear of moving parts.

1. Frequency: Lubricate every four (4) months.
2. Lubricant: Lubricate with Teflon grease 033203 or equivalent.
3. Locations: Lubricate where shown with Teflon grease, 033203.
 - traveler in housing
 - lever surface that touches traveler roller
 - lever surface that touches lock cam.



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ROD ADJUSTMENT

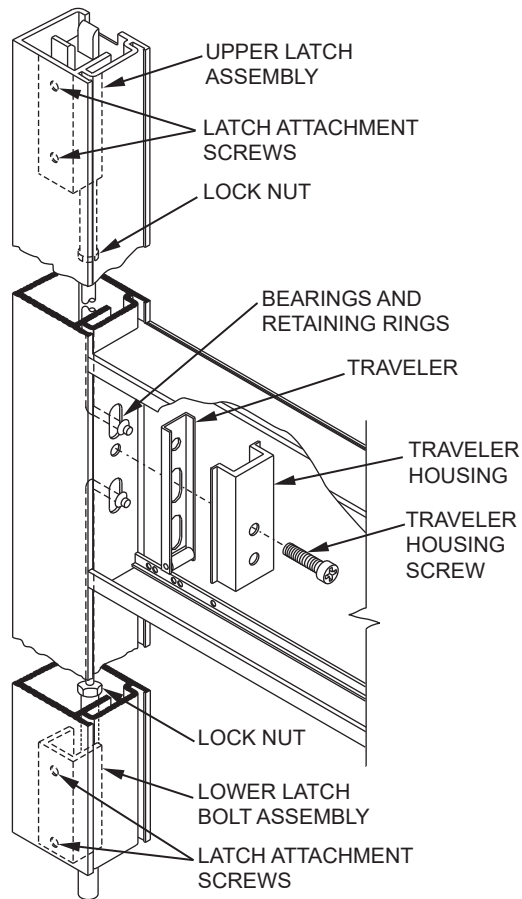


Figure H

"190" DOOR

"350" DOOR

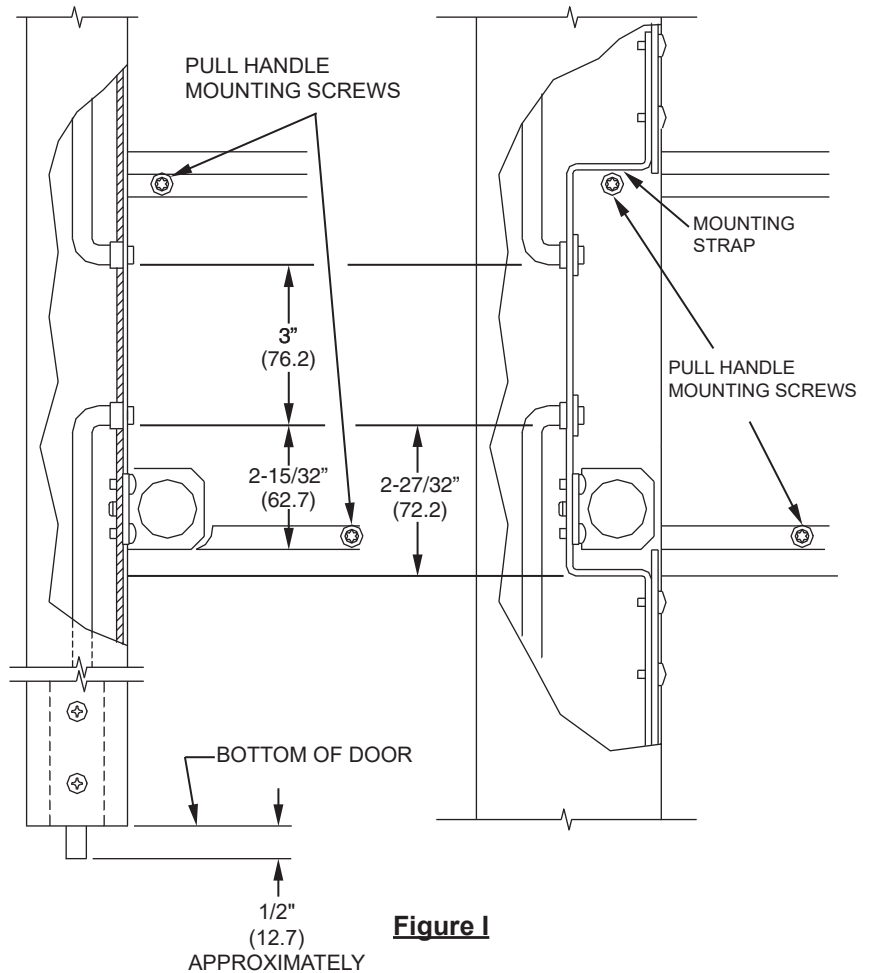


Figure I

ROD LENGTH ADJUSTMENT (TYPE "190" AND "350" DOORS)

1. Remove push panel and chassis assembly and filler plates per instructions on pages 4 and 5.
2. Remove traveler housing and traveler to expose rod ends (see Figure H).
3. Check rod length adjustment page 8. If rod lengths are not correct, proceed to step 4 below.
4. Remove retaining ring and bearing from rod to be adjusted.
5. Remove (2) latch attachment screws and slide rod assembly out of door stile.
6. Loosen lock nut and turn the threaded rod, clockwise to shorten, counterclockwise to lengthen (one revolution of rod equals 3/64" (1.2) of travel). Align rod perpendicular to latch case and tighten lock nut.

NOTE: If one rod is adjusted, the other rod will probably require adjustment to maintain the 3" (76.2) separation (see Figure I).

ROD LENGTH ADJUSTMENT (TYPE "500" DOORS)

1. Remove push panel and chassis assembly and filler plates per instructions on pages 4 and 5.
2. Remove traveler housing and traveler to expose rod ends (see Figure H).
3. Check rod length dimensions per Figure J. If rod lengths are not correct, proceed to step 4 below.
4. Remove (4) mounting strap spacer screws, (4) latch attachment screws, (2) at top and (2) at bottom of door) and lock cylinder, if so equipped, then slide complete rod assembly out of door stile.
5. Loosen lock nut and turn the threaded rod, clockwise to shorten, counterclockwise to lengthen (one revolution of rod equals 3/64" (1.2) of travel).

NOTE: If one rod is adjusted, the other rod will probably require adjustment to maintain the 3" (76.2) separation (see Figure J).

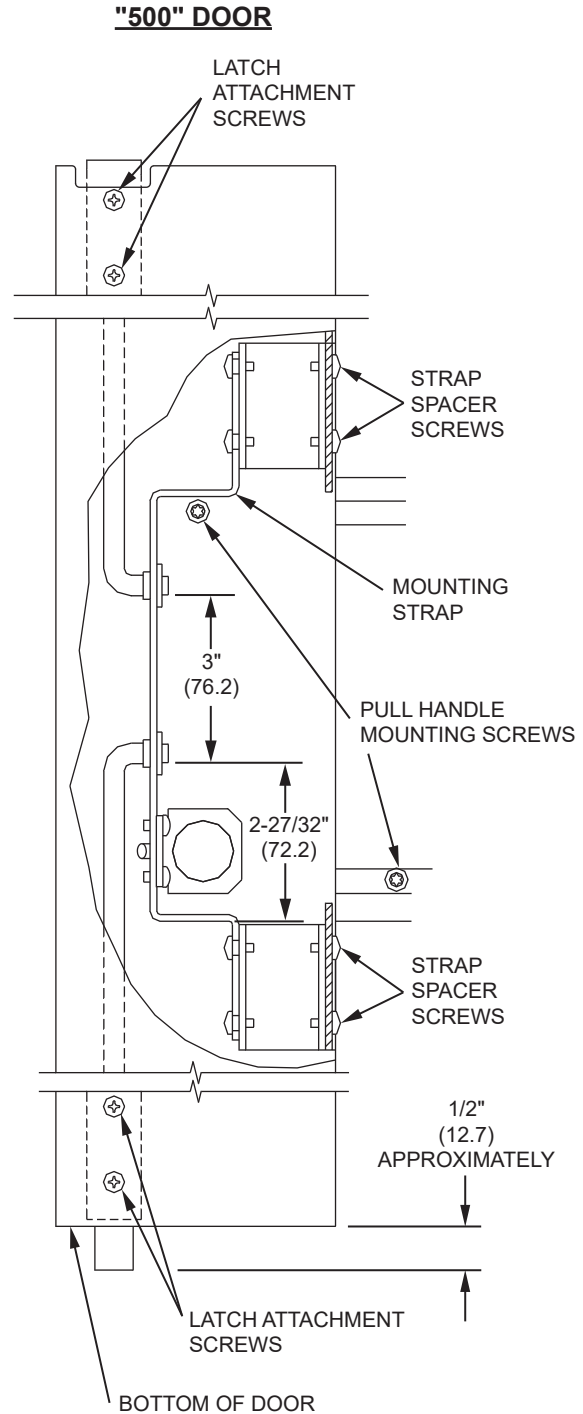


Figure J

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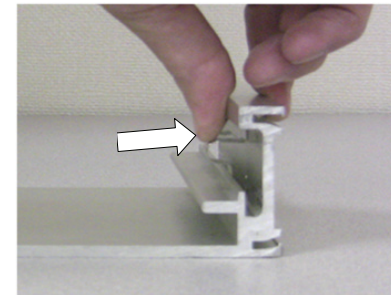
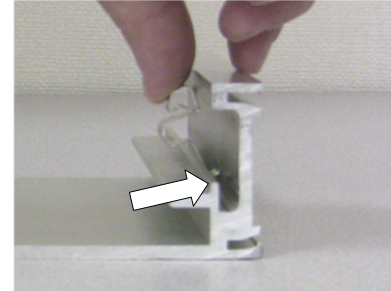
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CHASSIS AND FILLER PLATES INSTALLATION

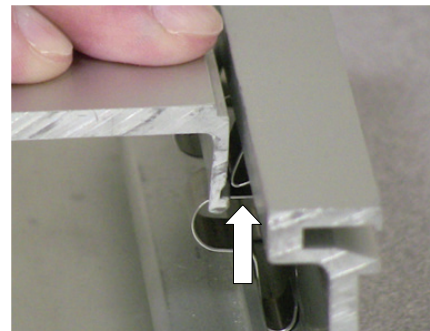
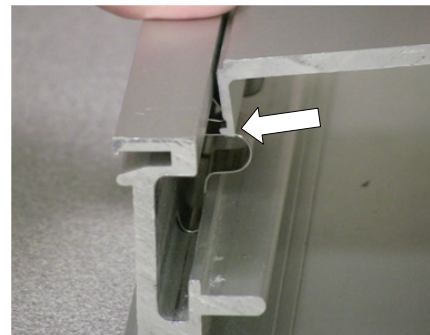
1. Install and grease lever before chassis assembly.
2. Install chassis assembly using screws 028403.
3. Gather equipment for filler plate installation.
 - Eight (8) Spring Clips [narrow- and medium-stile doors] -or-
 - Four (4) Spring Clips [wide-stile doors (500 Entrance Door)]
 - Putty Knife -or- Small Straight Screw Driver

NOTE: Do not scratch finished surfaces.

4. **Dog down the unit!**
5. **Install the spring clips** with the leg of the spring clip inserted into channel as shown.
6. **Press down** with your fingers until the spring clip engages completely.
7. Insert two spring clips at both the top and the bottom.

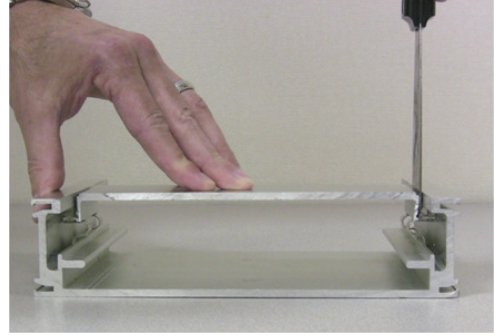


8. Position the bottom side of the filler plate into the exit device, engaging the bottom spring clips.
9. **Gently push the filler plate into a closed position**, engaging the top spring clips.



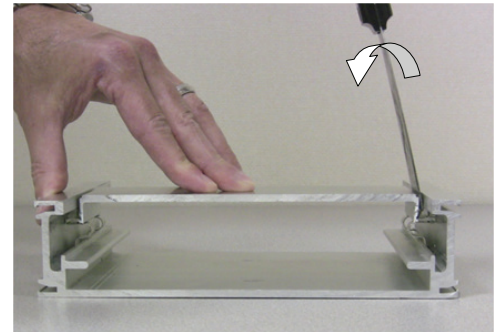
10. Insert a putty knife or small 1/8" straight screw driver (approximately 3/16" deep) between the exit device and filler plate directly above the top spring clip.

DO NOT PRESS DOWN!



11. With the putty knife or small screw driver in place, **carefully pull down on the handle while pushing down lightly on the filler plate** to engage with a spring clip.

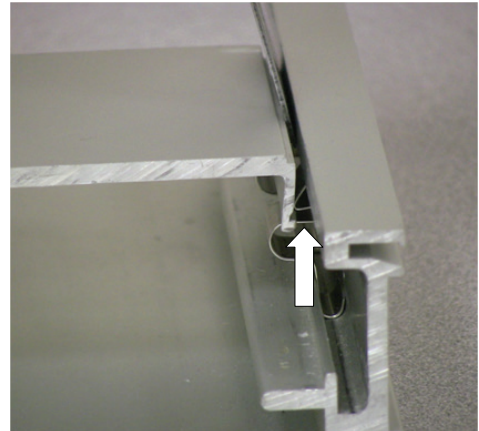
Note: You will hear and feel a click as the filler plate and the spring clip are engaged!



12. Repeat the above step to engage the filler plate with the other spring clip.

All four (4) spring clips must be engaged with the filler plate.

Install the filler plate on the other side of the exit device with the same care and attention to engaging the spring clips while avoiding scratching any finished surface.



13. Snap both filler plates into cross rail.

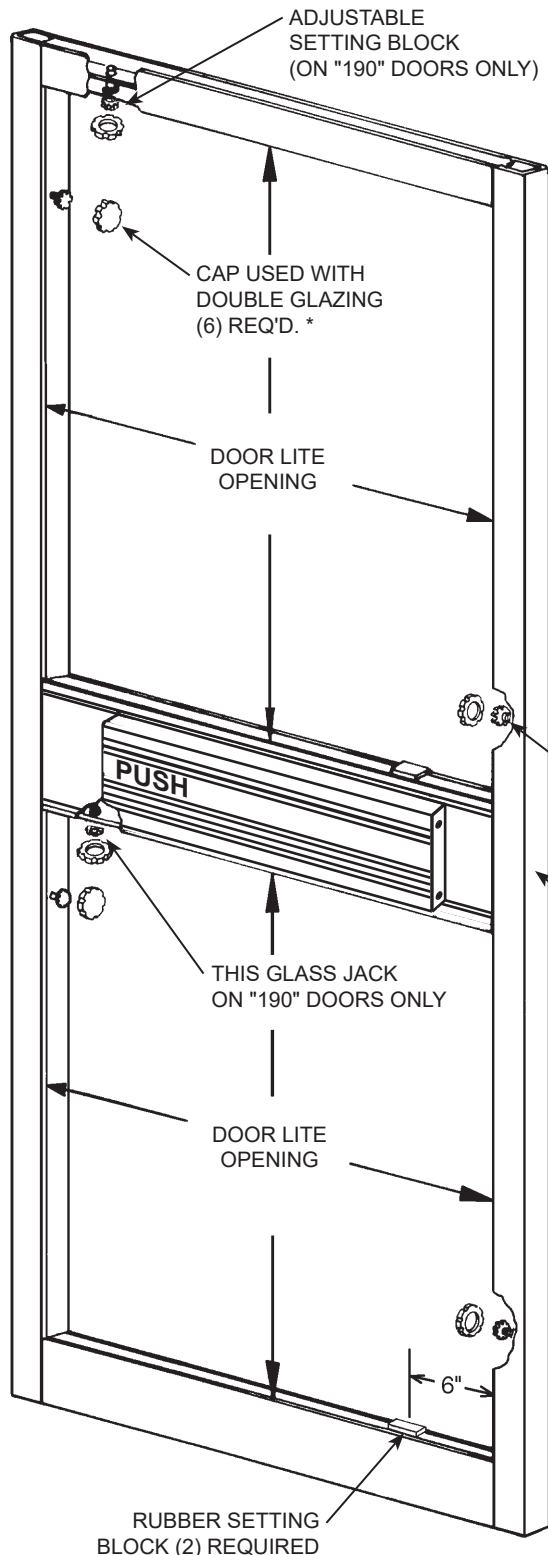
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GLAZING INSTRUCTIONS

Figure K

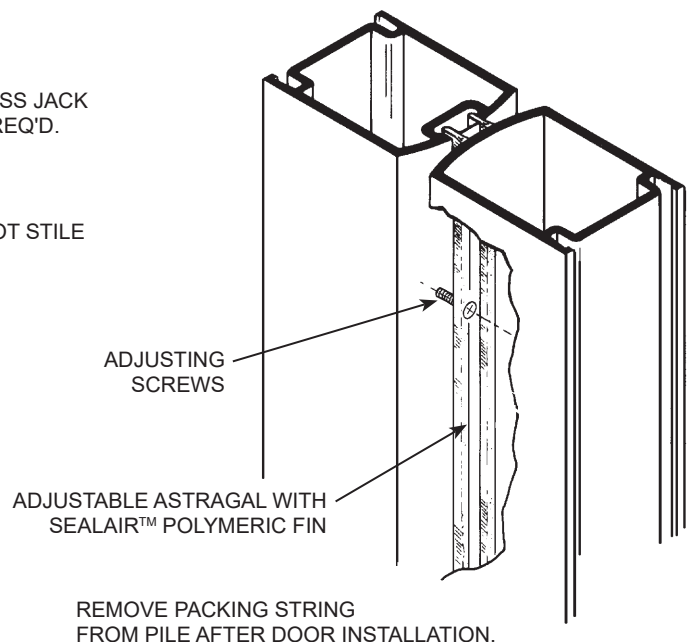
* PARTS INCLUDED IN DOUBLE
GLAZING ACCESSORY PACKAGE



AFTER INSTALLING DOOR IN NORMAL MANNER REQUIRED BY METHOD OF PIVOTING:

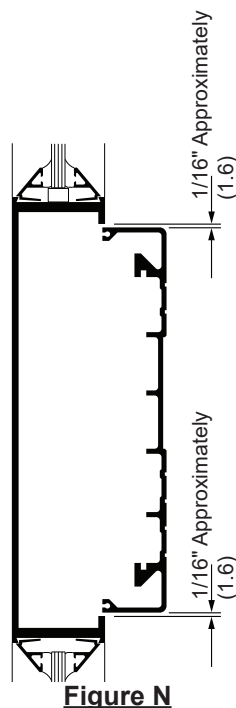
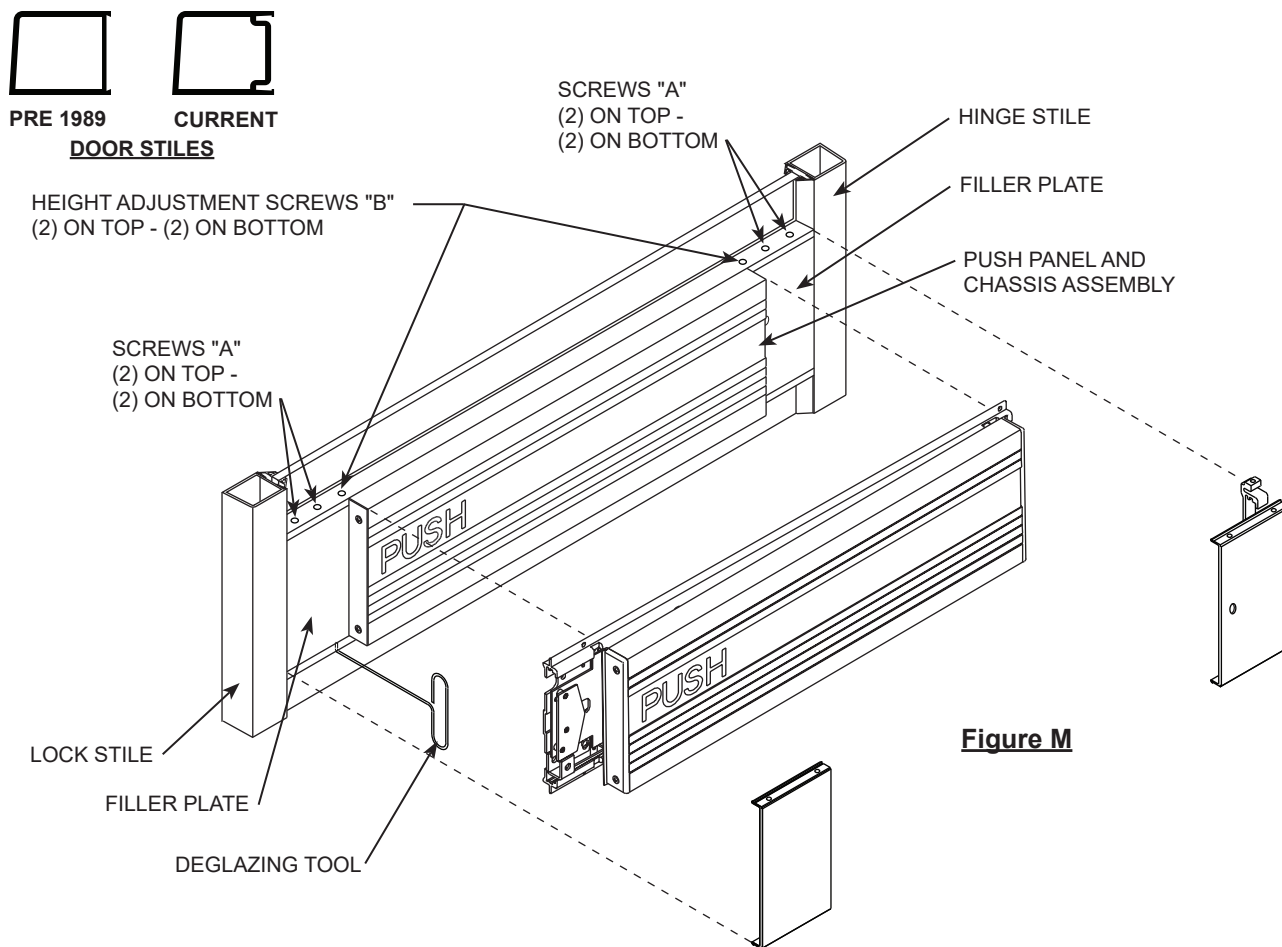
1. Raise adjustable setting block to maximum retracted position.
2. Install vertical glass stops first, then horizontals on one side of door.
3. Install rubber setting blocks (Figure K).
4. Cut glass 3/8" (9.5) less than door lite opening width and height for all types of glazing.
5. Install glass, centered between stiles and tight against bottom rubber setting blocks (Figure K).
6. Using thumb or tool, rotate glass jacks counterclockwise to set against glass.
7. Install remaining vertical glass stops first, then horizontals.
8. Turn the adjustable setting block screw clockwise and adjust for uniform clearance between top edge of door and frame.
9. On pairs of doors, adjust astragal (Figure L).

Figure L



MEETING STILES OF A PAIR OF DOORS

Proper clearance for pairs of doors is maintained by adjusting the weathered astragal. Turn screws clockwise to allow more clearance and counterclockwise to allow less clearance.

ADJUSTING PRE-1989 PUSH PANEL ASSEMBLY**NOTE:**

ALL SERVICE WORK STARTS WITH THE TURNING OR REMOVAL OF THE (12) SCREWS MARKED "A" AND "B" ABOVE. THEY ARE LOCATED UNDER THE OUTSIDE HORIZONTAL GLASS STOPS. DOORS WITH GLASS THICKNESS OF 3/8" (9.5) OR LESS DO NOT HAVE TO BE DEGLAZED FOR ACCESS TO THE SCREWS. THICKER INFILLS DO HAVE TO BE DEGLAZED.

NOTE:

UNITS WITH FILLER PLATES LESS THAN 1-1/2" (38.1) WIDE HAVE ONLY (1) SCREW "A" TOP AND BOTTOM ON EACH END.

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ADJUSTING PRE-1989 PUSH PANEL ASSEMBLY

PUSH PANEL HEIGHT ADJUSTMENT (Figure M)

1. TO RAISE PUSH PANEL:

- a. Loosen (6) screws "A" and "B" on bottom of cross rail (See Figure M).
- b. Tighten top screws "B" closest to center of push panel on each end until proper clearance is obtained between the push panel and cross rail.
- c. Re-tighten (6) screws on bottom of cross rail.
- d. Tighten remaining (4) screws on top of cross rail.

2. TO LOWER PUSH PANEL:

- a. Loosen (6) screws "A" and "B" on top of cross rail (See Figure M).
- b. Tighten bottom screws "B" closest to center of push panel on each end until proper clearance is obtained between the push panel and cross rail.
- c. Re-tighten (6) screws on top of cross rail.
- d. Tighten remaining (4) screws on bottom of cross rail.

**FOR PULL HANDLE SCREW ACCESS, TRAVELER ACCESS, DOGGING ASSEMBLY ACCESS
AND ROD LENGTH ADJUSTMENT, PROCEED PER INSTRUCTIONS BELOW.**

FILLER PLATE REMOVAL (Figure 3):

1. Remove (2) screws "A" (one screw when filler plate is less than 1-1/2" (38.1) wide) from top and bottom of cross rail closest to each door stile.
2. Use deglazing tool or similar device to hook filler plate and pull out (See Figure M).

PUSH PANEL AND CHASSIS ASSEMBLY REMOVAL (Figure 3):

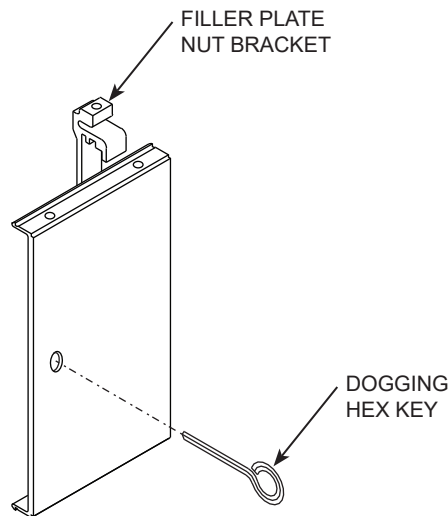
1. Remove (6) screws "A" and "B" from top and bottom of cross rail (See Figure M).
2. Remove filler plates per instructions above.
3. Grasp push panel and chassis assembly and pull out (See Figure M).

NOTE: SEE PAGES 11 & 12 FOR ROD LENGTH ADJUSTMENT.

ADJUSTING PRE-1989 PUSH PANEL ASSEMBLY

RE-INSTALLATION OF UNIT

1. Door should be open and the exit device rods should be in the raised position (unlocked).
2. Place push panel assembly into door rail (panel assembly can either be dogged or un-dogged as long as the exit device rods are raised).
3. Insert screws "B" in top and bottom of cross rail and level and space panel per Figure M.
NOTE: The four screws should be snug but do not overtighten and distort the door rail.
4. Install lock stile filler plate and tighten top and bottom screws. Filler plate can be wedged tight against the lock stile with a tapered wood or plastic stick placed between the filler plate and push panel to align screw holes.
5. Operate unit checking for push panel binding and correct rod lift.
6. Install filler plate nut bracket on the pivot stile filler plate, centering it over the top and bottom holes closest to the pivot stile. Filler plates less than 1-1/2" (38.1) wide do not require use of nut bracket.
7. Install pivot stile filler plate and tighten top and bottom screws. Wedge filler, if necessary, per Step 4 above.
8. Confirm top and bottom screws are secure.
9. Operate unit checking for push panel binding and correct dogging/un-dogging action.



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