INSTALLATION INSTRUCTIONS

SERIES 250, 400, 550, AND FLUSH PANEL ENTRANCE DOORS
HANDLING, STORAGE, AND PROTECTION OF ALUMINUM

The following precautions are recommended to protect the material against damage. Following these precautions will help ensure early acceptance of your products and workmanship.

A. HANDLE CAREFULLY.
   All aluminum materials at job site must be stored in a safe place, well removed from possible damage by other trades. Cardboard wrapped or paper interleaved materials must be kept dry.

B. CHECK ARRIVING MATERIALS.
   Check for quantity counts and keep records of where various materials are stored.

C. KEEP MATERIALS AWAY FROM WATER, MUD, AND SPRAY.
   Prevent cement, plaster, or other materials from damaging the finish.

D. PROTECT THE MATERIALS AFTER ERECTION.
   Protect erected frame with polyethylene or canvas splatter screen. Cement, plaster, terrazzo, other alkaline solutions, and acid based materials used to clean masonry are harmful to the finish. If any of these materials come in contact with the aluminum, immediately remove with water and mild soap.

NOTE: Dimensions in parentheses ( ) are millimeters unless otherwise noted.
GENERAL INSTALLATION NOTES

RECOMMENDED GUIDELINES FOR ALL INSTALLATIONS:

1. REVIEW CONTRACT DOCUMENTS. Check shop drawings, installation instructions, architectural drawings and shipping lists to become thoroughly familiar with the project. The shop drawings take precedence and include specific details for the project. Note any field verified notes on the shop drawings prior to installing. The installation instructions are of a general nature and cover most conditions.

2. INSTALLATION. All materials are to be installed plumb, level, and true.

3. BENCH MARKS. All work should start from bench marks and/or column lines as established by the architectural drawings and the general contractor with guaranteed accuracy. Working from these datum points and lines determine:
   a) The plane of the wall in reference to offset lines provided on each floor.
   b) The finish floor lines in reference to bench marks on the outer building columns.
   c) Mullion spacing from both ends of masonry opening to prevent dimensional build-up of daylight opening.

4. FIELD WELDING. All field welding must be adequately shielded to avoid any splatter on glass or aluminum. Results will be unsightly and/or structurally unsound. Advise general contractor and other trades accordingly. All field welds of steel anchors must receive touch-up paint (zinc chromate) to avoid rust.

5. SURROUNDING CONDITIONS. Make certain that construction which will receive your materials is in accordance with the contract documents. If not, notify the general contractor in writing and resolve differences before proceeding with work.

6. ISOLATION OF ALUMINUM. Aluminum to be placed in direct contact with uncured masonry or incompatible materials should be isolated with a heavy coat of zinc chromate or bituminous paint.

7. SEALANTS. Sealants must be compatible with all materials with which they have contact with (full or incidental), including other sealant surfaces. It is the sole responsibility of the glass company to consult the sealant manufacturer for recommendations regarding joint size, shelf life, compatibility, cleaning, priming, tooling, adhesion, etc. It is the responsibility of the Glazing Contractor to submit a statement from the sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants, and interpreting test results relative to material performance, including recommendations for primers and substrate preparation required to obtain adhesion. The chemical compatibility of all glazing materials and framing sealants with each other and with like materials used in glass fabrication must be established. **This is required on every project.**

8. FASTENING. Within the body of these instructions "fastening" means any method of securing one part to another or to adjacent materials. Only those fasteners used within the system are specified in these instructions. Due to the varying perimeter conditions and performance requirements, perimeter and anchor fasteners are not specified in these instructions. For perimeter and anchor fasteners refer to the shop drawings or consult the fastener supplier.

9. BUILDING CODES. Due to the diversity in state/provincial, local, and federal laws and codes that govern the design and application of architectural products, it is the responsibility of the individual architect, owner, and installer to assure that products selected for use on projects comply with all the applicable building codes and laws. U.S. Aluminum exercises no control over the use or application of its products, glazing materials, and operating hardware, and assumes no responsibility thereof.

10. EXPANSION JOINTS. Expansion joints and perimeter seals shown in these instructions and in the shop drawings are shown at normal size. Actual dimensions may vary due to perimeter conditions and/or difference in metal temperature between the time of fabrication and the time of installation. Gaps between expansion members should be based on temperature at time of installation.

11. RACK TEST. As soon as a representative amount of the wall has been glazed (500 square feet or 46.5 m²) a rack test should be conducted in accordance with AAMA 502-08 specifications to check the installation. On all jobs the rack test should be repeated every 500 square feet (46.5 m²) during the glazing operation.

12. COORDINATION WITH OTHER TRADES. Coordinate with the general contractor any sequence with other trades which offset curtain wall installation (i.e. fire proofing, back-up walls, partitions, ceilings, mechanical ducts, converters, etc.).

13. CARE AND MAINTENANCE. Final cleaning of exposed aluminum surfaces should be done in accordance with AAMA 609.1 for anodized aluminum and 610.1 for painted aluminum.
FRAME UNIT FOR BUTT HUNG DOOR
WITH SURFACE CLOSER
450 FRAME SHOWN 400 AND 451 SIMILAR

APK402 Anchor Clip

(2) 10X2PHPSMS

(4) #12-24 x 1/2" FH (Screws included)

APK402 Anchor Clip

(2) ST240 #10 x 1/2" FH

(4) 10X2PHP SMS

(2) #12-24 x 3/8” FH SMS undercut

DS040 at 400
DS047 at 450 and 451
(Not shown at Hinge Jamb for clarity)

TC50000 (Modified)
Anchor Clip with
(2) #12-24 x 3/8” FH SMS

TC50000 (Modified)
Anchor Clip

(2) #12-24 x 3/8” FH SMS undercut

(4) #12-24 x 1/2” FH (Screws included)

Cat. No. 2302711
Hinge Backing Plate
factory installed

(4) #12-24 x 1/2” FH
(Screws included)

DH009 Butt Hinge

Glazing Stops
(2) M740 at 450 and 450
(2) M741 at 451

NOT TO SCALE

FRAME UNIT FOR BUTT HUNG DOOR
WITH SURFACE CLOSER
450 FRAME SHOWN 400 AND 451 SIMILAR

APK402 Anchor Clip

(2) 10X2PHPSMS

(4) #12-24 x 1/2" FH (Screws included)

APK402 Anchor Clip

(2) ST240 #10 x 1/2" FH

(4) 10X2PHP SMS

(2) #12-24 x 3/8” FH SMS (undercut)

TC50000 (Modified)
Anchor Clip

(2) #12-24 x 3/8” FH SMS undercut

TC50000 (Modified)
Anchor Clip with
(2) #12-24 x 3/8” FH SMS

TC50000 (Modified)
Anchor Clip

(2) #12-24 x 3/8” FH SMS undercut

(6) ST251
#10 x 1 HH SMS

NOT TO SCALE
ASSEMBLY INSTRUCTIONS:
1. Verify opening size. Allow for 1/4" (6.4) shim and caulk space at sides, and 1/2" (12.7) space at top of frame. (When using optional AF100 sill flashing, allow 1/4" (6.4) shim space at top of frame).
2. If required, cut off top of vertical jambs to adjust frame to desired height.
3. Cut templates from instructions. Align edge of template with top of vertical and drill holes for head clips.
4. Attach anchor clips for head, door header, and threshold to jambs with provided screws.
5. Butter contact surface of anchor clips with RTV408 Silicone Sealant. See DETAIL A.
6. Assemble head and door header to jambs as shown.
7. Install hinges to door jamb(s).

INSTALLATION INSTRUCTIONS:
1. Set frame into opening plumb and square.
2. Drill holes for #12 installation screws starting 6" (152.4) from corners and not more than 36" (914.4) O.C.
3. Secure jambs and head to opening and threshold to floor with #12 screws. See DETAIL B.
4. Snap door stop with weatherstrip into jambs and door header. Jamb stops run through.
5. Place setting blocks in door header at quarter or eighth points as required, and glaze transom. Glazing sash is required vertically at Series 451 transom.
6. Install glass stops with glazing gaskets on both sides of glass. Roll-in glazing gaskets for jambs and header.

DETAIL A

NOTE: Do not cut templates from this manual; templates are supplied inside frame boxes.
GLASS SIZE FORMULA AT TRANSOM

DOOR AND FRAME PREPARATION
SERIES 400 AND 450

NOTE: Use the same formulas for Flush Panel Models

SERIES 451

NOT TO SCALE
FRAME UNIT FOR OFFSET PIVOT DOOR WITH SURFACE CLOSER

450 TUBULAR FRAME SHOWN 400 AND 451 SIMILAR

APK402
Anchor Clip with
(2) 10X2PHPSMS

0P400
Top Pivot frame Portion
(Supplied with door hardware)

(2) #12-24 X 3/8" FH SMS undercut
(Included in pivot package)

0P400
Bottom Pivot frame Portion
(Supplied with door hardware)

(2) #12-24 X 3/8" FH SMS undercut

(4) #12 X 24 X 1/2" FH (Screws included)

SCREW SPLINE INSTALLATION FOR OPEN BACK FRAMES

Glazing Stops
(2) M740 at Series 400, 450
(2) M741 at Series 451, 1T451

DS047 at Series 450 and 451 Snap-In Door Stop with weatherstrip (Not shown at Hinge Jamb for clarity)

TC50000 (Modified)
Anchor Clip with
(2) #12-24 X 3/8" FH SMS

(6) ST251
#10 X 1" HH SMS

(1) ST240
#10 X 1/2" FH SMS
(4) 10X2PHPSMS

(2) ST240
#10 X 1/2" FH SMS

DS040 at Series 400

(2) #12-24 X 3/8" FH SMS undercut (Included in pivot package)
ASSEMBLY INSTRUCTIONS:
1. Verify opening size. Allow for 1/4" (6.4) shim and caulk space at sides, and 1/2" (12.7) space at top of frame. (When using optional AF100 sill flashing, allow 1/4" (6.4) shim space at top of frame).
2. If required, cut off top of vertical jambs to adjust frame to desired height.
3. Cut templates from instructions. Align edge of template with top of vertical and drill holes for head clips.
4. Attach anchor clips for head, door header, and threshold to jambs with provided screws.
5. Butter contact surface of anchor clips with RTV408 Silicone Sealant. See DETAIL A
6. Assemble head and door header to jambs as shown.
7. Attach bottom pivot(s) to jamb(s), then attach threshold to assembly.
8. Install top pivot to door header.

INSTALLATION INSTRUCTIONS:
1. Set frame into opening plumb and square.
2. Drill holes for #12 installation screws starting 6" (152.4) from corners and not more than 24" (609.6) O.C.
3. Secure jambs and head to opening and threshold to floor with #12 screws. See DETAIL B
4. If pivot is not supported by finished floor, block as required. See DETAIL C.
5. Snap door stops with weatherstrip into jambs and door header. Jamb stops run through.
6. For 1" (25) glazing, snap jamb sash into jambs. Jamb sash runs through.
7. Place glass setting blocks in door header at quarter or eighth points as required and glaze transom.
8. Install sash glazing bead.

NOTE: Do not cut templates from this manual, templates are supplied inside frame boxes.
SERIES 250, 400, 550, AND FLUSH PANEL ENTRANCE DOORS

GLASS SIZE FORMULA AT TRANSOM
(TUBULAR FRAME SHOWN, OPEN BACK SIMILAR)

SERIES 400 AND 450

DIMENSION "A" - 1/8"

7/16" max.

DIMENSION "B" + 5/8"

SERIES 451

DIMENSION "A" - 1/8"

9/16" max.

DIMENSION "B" - 1-1/8"

NOT TO SCALE
FRAME UNIT FOR CENTER HUNG DOOR WITH OVERHEAD CONCEALED CLOSER

450 TUBULAR FRAME SHOWN
400 AND 451 SIMILAR

APK402 Anchor Clip
(2) #10X2PHSMS

(1) ST240
#10 x 1/2" FH SMS

M123 Aluminum Sash Face

(3) #8-32 PH
(Included in closer package)

(2) #10 x 3/8"
FH SMS
(Included in closer package)

Cover plate

(1) ST240
#10 x 1/2" FH SMS

Threshold mounted bottom pivot

Threshold clip
Attach to jamb with (1) #6 x 3/8"

APK402 Anchor Clip with
(4) 10X2PHPSMS

P427 Filler

NOT TO SCALE
ASSEMBLY INSTRUCTIONS:
1. Verify opening size. Allow for 1/4" (6.4) shim and caulk space at sides, and 1/2" (12.7) space at top of frame. (When using optional AF100 sill flashing, allow 1/4" (6.4) shim space at top of frame).
2. If required, cut off top of vertical jambs to adjust frame to desired height.
3. Cut templates from instructions. Align edge of template with top of vertical and drill holes for head clips.
4. Attach anchor clips for head, door header, and threshold to jambs with provided screws.
5. Butter contact surface of anchor clips with RTV408 Silicone Sealant. See DETAIL A
6. Assemble head and door header to jambs as shown.
7. Install bottom pivot in threshold.

INSTALLATION INSTRUCTIONS:
1. Set frame into opening plumb and square.
2. Drill holes for #12 installation screws starting 6" (152.4) from corners and not more than 24" (609.6) O.C.
3. Secure jambs and head to opening and threshold to floor with #12 screws. See DETAIL B
4. Install transom sash. Horizontal sash runs through at door header. Vertical sash abuts over horizontal sash and is mitered at outside to allow for horizontal glazing bead installation. See DETAIL C
5. Attach sash to door header with #6 x 3/8" PH at 18" (457.2) O.C.
6. Place glass setting blocks in door header at quarter or eighth points as required and glaze transom.
7. Install sash glazing bead.
8. Roll-in glazing gaskets for jambs and header.

NOTE: Do not cut templates from this manual, templates are supplied inside frame boxes.
GLASS SIZE FORMULA AT TRANSOM
(OPEN BACK FRAME SHOWN, TUBULAR SIMILAR)
HEADER FOR JACKSON OVERHEAD CONCEALED CLOSER WITH OFFSET ARM

Secure closer mounting bracket to header with (2) #10-32 x 3/4" F.H.

Closer mounting bracket

3/4" x 3-1/2" x 1/4" aluminum shim

(2) #10-32 x 3/4" FH SMS

Aluminum shim

VARIABLE

(4) #10-32 x 3/4" FH SMS

HEADER FOR JACKSON OHCC with butt hung door 90° swing

JACKSON OHCC with offset pivoted door

JACKSON OHCC with butt hung door 105° swing

Option: APK402 anchor clip may also be used to fasten header to jamb when using a Jackson closer with 105° swing HO and offset pivot.

Header mounting bracket

Remove gussets

Remove gussets and flange

Not to scale
1. Install top arm and door portion of bottom pivot as shown in DETAIL A.
2. Position door upright in closed position on the outside of frame.
3. Lift onto floor pivot and tilt to vertical.
4. Adjust top arm as required to receive closer spindle.
5. Install top clamping block using tool provided in closer package see DETAIL B.
6. Drill two holes in top of door to attach cover plate see DETAIL C.
   If vertical adjustment is required, loosen or tighten adjusting screw at bottom pivot (door portion).
7. Adjust top arm centering screws to center door in frame.
BUTT HINGE DOOR WITH JACKSON OVERHEAD CONCEALED CLOSER

90° SHOWN 105° SIMILAR

1. Mount slide channel with (3) #8-32 x 3/8" FH MS. Reverse side block if necessary for proper installation. See closer template.

2. Attach butt hinges to door. Install door by fastening hinges to frame. Backup plates for door and frame are factory installed.

3. Remove arm pin retainer using "C" clip pliers. With door in open position, slip arm over slide pin and secure with pin retainer.

4. Adjust closer to desired door speed.

5. Install arm cover with #8 x 1-1/2" FH screws (provided).
GEARED HINGED DOOR WITH JACKSON OVERHEAD CONCEALED CLOSER

105° SHOWN

1. Mount slide channel with (3) #8-32 x 3/8" FH MS. Reverse side block if necessary for proper installation. See closer template.

2. Attach Geared Hinge to door. Install door by fastening Geared Hinge to frame.

3. Adjust closer to desired door speed.

4. Install arm cover with #8 x 1-1/2" FH screws (provided).
PANIC DOORS CYLINDER REPLACEMENT BY OTHERS

Cylinder removal

1. Remove (2) screws from end of panic device and remove end cap.
2. Remove bottom crossbar/cylinder pad attachment screw as shown.
3. Turn cylinder and pad clockwise approximately 1/4 turn until cylinder releases.
4. Remove locking ring from cylinder and remove cylinder.

Cylinder installation

1. Place cylinder through cylinder pad and install locking ring.
2. Place cylinder into hole in stile and turn counterclockwise approximately 1/4 turn.
3. Check cylinder and panic device for proper operation.
4. Replace end cap onto panic device with (2) screws as shown.
### DH308 MID-PANEL PANIC STRIKE LOCATION FOR DOOR HEADER AND THRESHOLD

**HEADER AT SINGLE DOOR**

![Diagram of Header at Single Door]

**HEADER AT DOOR PAIRS**

![Diagram of Header at Door Pairs]

**THRESHOLD AT SINGLE DOOR**

![Diagram of Threshold at Single Door]

**THRESHOLD AT DOOR PAIRS**

![Diagram of Threshold at Door Pairs]

1. Select detail for required condition.
2. Find door type on chart for needed dimensions.

<table>
<thead>
<tr>
<th>DOOR STILE TYPE</th>
<th>DIMENSION A</th>
<th>DIMENSION B</th>
<th>DIMENSION C</th>
<th>DIMENSION D</th>
</tr>
</thead>
<tbody>
<tr>
<td>NARROW</td>
<td>1-7/32&quot;</td>
<td>(31)</td>
<td>2-3/8&quot;</td>
<td>(60.3)</td>
</tr>
<tr>
<td>MEDIUM</td>
<td>2-11/16&quot;</td>
<td>(68.3)</td>
<td>5-3/8&quot;</td>
<td>(135.5)</td>
</tr>
<tr>
<td>WIDE</td>
<td>4-3/16&quot;</td>
<td>(106.4)</td>
<td>8-3/8&quot;</td>
<td>(212.7)</td>
</tr>
<tr>
<td>VANGARD MEDIUM</td>
<td>N/A</td>
<td>N/A</td>
<td>5-1/4&quot;</td>
<td>(133.4)</td>
</tr>
<tr>
<td>VANGARD WIDE</td>
<td>N/A</td>
<td>N/A</td>
<td>8-3/4&quot;</td>
<td>(222.3)</td>
</tr>
</tbody>
</table>

**NOT TO SCALE**

- [crlaurence.com](http://crlaurence.com)
- [usalum.com](http://usalum.com)
"PANIC DOORS" with DH300 RIM PANIC

Shim at strike location

P050
1-3/4” (44.5) long centered on Strike

Panic housing

Front strike edge aligns with inside edge of door.

Strike

Adjusting plate

P050
1-3/4” (44.5) long

Upper door stop

Lower door stop

ISOMETRIC VIEW OF ASSEMBLY

NOT TO SCALE
CENTER PIVOT - TOP PORTION
FOR SURFACE CLOSER OR FLOOR CLOSER

Cat. No. 20534628 Top Pivot Kit
(Slotted holes allow for door adjustment)

Pivot retractor screw

(2) 1/4-20 FH SMS

Cat. No. 20534628 Top Pivot Kit
NOTE: C of pivot and C of header must align

センターピボット - 上部部品
对于表面闭合器或地板闭合器

Cat. No. 20534628 Top Pivot Kit
（散乱孔允许门调整）

枢轴回缩螺丝

(2) 1/4-20 FH SMS

Cat. No. 20534628 Top Pivot Kit
注意：枢轴和枢轴中心必须对齐

SERIES 250
NARROW STILE

D201

SERIES 400
MEDIUM STILE

D201

SERIES 550
WIDE STILE

WS100

中央枢轴 - 上部部分
对于表面闭合器或地板闭合器

Cat. No. 20534628 Top Pivot Kit
（散乱孔允许门调整）

枢轴回缩螺丝

(2) 1/4-20 FH SMS

Cat. No. 20534628 Top Pivot Kit
注意：枢轴和枢轴中心必须对齐

SERIES 250
NARROW STILE

D201

SERIES 400
MEDIUM STILE

D201

SERIES 550
WIDE STILE

WS100

NOT TO SCALE
Cat. No. 20944
Threshold Mount
Bottom Pivot Set

1/2" (12.7) Dia. hole

(1) 10-32 PH SMS
Install after door pivot has been adjusted

(2) 1/4-20 PH SMS
with lock washers

7/16" (11.1)
Dia. hole for adjusting screw

3-3/4" (95.3)
1-3/4" (44.5)

(1) HOLE FOR #10-32 PH SMS
(AFTER PIVOT HAS BEEN ADJUSTED)

DRILL & TAP
(2) HOLES FOR 1/4-20 PH SMS

1-1/16" (26.9)

BOTTOM DOOR VIEW

FRONT DOOR VIEW

NOT TO SCALE
OFFSET PIVOT - TOP PORTION

(2) 1/4-20 x 1/2" (12.7) FHMS

0P400 Pivot Set
Factory installed in Entrance Package doors

0P400 Pivot Set

CROSS SECTION

Drill and Csk. for (2) 1/4-20 FHMS

NOT TO SCALE
OFFSET PIVOT - BOTTOM PORTION

OFFSET PIVOT - BOTTOM PORTION

0P400
Factory installed in door entrance package

(2) 1/4"-20 x 1/2"
Hex Head Cap screws

(2) #12-24 x 3/8"
FHMS (undercut)

(2) #12-24 x 1/2"
FHMS (undercut)

Adjustable pivot pin

0P400
Bottom frame portion pivot

(2) #12-24 x 1/2"
FHMS (undercut)
(included in pivot package)

0P400
Factory installed in door entrance package

(2) DRILL & CTSK. for #12-24 FHMS (undercut)

(2) DRILL & CTSK. for #12-24 FHMS (undercut)
**DH022 INTERMEDIATE PIVOT**

**DOES NOT REQUIRE BACK-UP PLATE**

**PROCEDURE A**
Hang door on top and bottom pivots. With door in closed position, slide intermediate pivot (assembled together) into frame and pivot (assembled together) into frame and door slots. Open door to secure pivot with fasteners provided. See DETAIL A

**PROCEDURE B**
Install pivot leaves on frame and door. Remove cap screw from jamb portion of pivot and lower pin to clear. Hang door on top and bottom pivots. Raise pivot pin, as required and replace cap screw. See DETAIL B

To remove existing doors with intermediate pivots, Remove cap screw and lower pivot pin to clear.
DH010 INTERMEDIATE PIVOT  
(RIXON OR DOR-O-MATIC M-19 SIMILAR)

Condition 1: Door can open to 180° USE PROCEDURE A, B, or C
Condition 2: Door can open more than 95° but less than 180° USE PROCEDURE A, B, or C
Condition 3: Door can open less than 95° USE PROCEDURE A, B, or C

PROCEDURE A
Hang door on top and bottom pivots.  
Swing door open to 180° and install DH010 (assembled together) with (10) 1/4-20 FH SMS provided. See DETAIL A

PROCEDURE B
Do not install top pivot frame portion.  
Install pivot leaves on frame and door with screws provided. Place door upright in the 95°, or more, open position (to clear header). Lift door onto intermediate pivot pin and floor pivot. Hold down top pivot pin to install top pivot frame portion. See DETAIL B

PROCEDURE C
Install pivot leaves on frame and door with screws provided. Remove cap screw from jamb portion of pivot and lower pin to clear. Hang door on top and bottom pivots. Raise pivot pin, as required, and replace cap screw. See DETAIL C

To remove existing doors with intermediate pivots, remove cap screw and lower pivot pin to clear.
DH009 BUTT HINGE 4-1/2" x 4"

Prepare frame and door for hinges, as shown. Back-up plates are factory installed in prepared doors and frames. Install butt hinges in door. Set door in place and fasten hinges to frame.
JACKSON OVERHEAD CONCEALED CLOSER
FOR CENTER PIVOTED DOOR

Closer mounting bracket is already installed (See FRAME UNITS installation instructions).
1. Mount angle bracket to closer with (2) 1/4-20 hex head SMS and (2) washers.
2. Install (2) 1/4-20 x 5/8" Fillister Head MS into lugs of closer. Do not tighten screws.
3. Install (2) 1/4-20 x 7/8" FH SMS* with (2) 1/4-20 nuts and washers in header.
4. Insert closer lugs into mounting bracket at an angle and raise closer opposite end to align mounting screws with angle bracket holes. Secure bracket to mounting screws using (2) nuts and washers.
5. Tighten Fillister Head screws.

*For 2" x 4-1/2" header, longer screws are provided.
1. Mount corner bracket into header with (2) 10-32 x 3/8" FH SMS. See pages 27 and 29 for bracket location.

2. Mount angle bracket to closer with (2) 1/4-20 x 1/2" Hex Head SMS and washers.

3. Install (2) 1/4-20 x 1/2" Fillister Head SMS with washers into lugs of closer. Do not tighten screws.

4. Set closer onto header and align angle bracket holes with holes in header. Closer lugs shall rest on corner bracket.

5. Fasten angle bracket to header with (2) 10-24 x 3/8" FH SMS. Tighten Fillister Head screws.

6. Install cover plate and secure to angle with (2) 10-24 x 3/8" FH SMS.

7. Mount arm on spindle and secure with 1/4-20 x 7/8" Socket Head Cap Screw.
JACKSON OVERHEAD CONCEALED CLOSER
FOR OFFSET PIVOTED DOOR WITH 90° SWING

HEADER PREPARATION

1-3/4" x 4-1/2" (44.5 x 114.3)  Header shown
1-3/4" x 4" (44.5 x 101.6)  Header similar
2" x 4-1/2" (50.8 x 114.4)  Header requires the use of a shim

NOT TO SCALE

Drill and csk. 82
for (4) #10 FH

Type "B"  Header anchor bracket
Type "C"  Closer mounting bracket

NOTE:  Closer bracket needs to be modified
(by installer) to clear header portion
of top pivot.

Jackson closer

(2) 5/16" Dia.
access holes

1-3/4" Dia.
clearance hole

7/16" x 1-1/4"  clearance slot

3/8" Dia.
clearance hole

11-13/16" (300)
cover plate

Drill and csk. 82
for (4) #10 FH
JACKSON OVERHEAD CONCEALED CLOSER
FOR OFFSET PIVOTED DOOR WITH 105° SWING

HEADER PREPARATION

1-3/4" X 4-1/2" (44.5 x 114.3)  Header shown
1-3/4" x 4" (44.5 x 101.6)  Header similar
2" x 4 1/2" (50.8 x 114.6)  Header requires the use of a shim

Drill and csk. 82 for (4) #10 FH
Drill and csk. 82 for (2) #8-32 F.H.

Type "B" Header anchor bracket
(or Optional APK402 anchor clip)

Type "A" Closer mounting bracket

Jackson closer

7/16" (11.1)
2-3/16" (55.6)

5/8" (15.9)

4-1/2" (114.3)

3/8" DIA. clearance hole
3/8" DIA. clearance hole
1-3/4" DIA. clearance hole
7/16" x 1 1/4" clearance slot
7/16" x 4-1/2" (44.5)
12-9/16" (363.5) cover plate

Jackson closer

2-3/4" (69.9)
2" (50.8)

Drill and csk. 82 for (4) #10 FH

C of spindle

HEADER TOP VIEW

HEADER SIDE VIEW

HEADER BOTTOM VIEW

NOT TO SCALE
SERIES 250, 400, 550, AND FLUSH PANEL ENTRANCE DOORS

JACKSON OVERHEAD CONCEALED CLOSER
CLOSER LOCATION IN HEADER

<table>
<thead>
<tr>
<th>DOOR TYPE</th>
<th>HOLD OPEN</th>
<th>DIMENSION &quot;A&quot;</th>
<th>DIMENSION &quot;B&quot;</th>
<th>REFERENCE PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CENTER PIVOT</td>
<td>90° OR 105°</td>
<td>2-3/4&quot; (69.9)</td>
<td>7/16&quot; (11.1)</td>
<td>20</td>
</tr>
<tr>
<td>OFFSET PIVOT (OP400)</td>
<td>105°</td>
<td>4-1/2&quot; (114.3)</td>
<td>2-3/16&quot; (55.6)</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>90°</td>
<td>3-3/4&quot; (95.3)</td>
<td>1-7/16&quot; (36.5)</td>
<td>28</td>
</tr>
<tr>
<td>BUTT Hinges</td>
<td>105°</td>
<td>3-3/4&quot; (95.3)</td>
<td>1-7/16&quot; (36.5)</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>90°</td>
<td>2-7/8&quot; (73.0)</td>
<td>9/16&quot; (14.3)</td>
<td>15</td>
</tr>
<tr>
<td>GEARED HINGE</td>
<td>105°</td>
<td>3-3/4&quot; (95.2)</td>
<td>1-7/16&quot; (36.5)</td>
<td>16</td>
</tr>
</tbody>
</table>

SLIDE CHANNEL LOCATION IN TOP RAIL FOR OFFSET ARM

OFF-SET ARM COVER CHANNEL
RIGHT HAND SHOWN LEFT HAND OPPOSITE

NOT TO SCALE
OFFSET PIVOT DOOR - FLOOR CLOSER BOTTOM ARM FOR RIXON FLOOR CLOSURE (DOR-O-MATIC SIMILAR)

Door Bottom Adaptor. (Factory installed in prepared doors)

Door Bottom Arm (Handed)

(4) 1/4-20 FH SMS to secure bottom adaptor to rail and corner block.

(4) 1/4-20 x 5/8" FH SMS to secure bottom arm to bottom adaptor.

1/4" (6.4)

3/8" (9.5) for doors with 1/2" threshold
7/8" (22.2) for doors with no threshold

Door bottom adaptor. Use modified adaptor for doors with no threshold.

NOT TO SCALE
DH008 FLUSH BOLT
NARROW STILE SHOWN, MEDIUM AND WIDE STILES SIMILAR

NOTE: Top flush bolt cut-out location for door opening height of 84" (213.4 cm) or less should be 9-1/4" (234.9) from top edge of door. See DETAIL A

1. Install top and bottom flush bolts with (2) #8 FH screws each.
2. Place each lever in the lock position.
3. Adjust flush bolt rods to extend 1/2" (12.7) beyond ends of door stile. See DETAIL B
4. Insert rod guides over rods and into stile at top and bottom. Secure guides with (1) #8 FH screw each.
5. Flip levers to retract both flush bolts.
PUSH BAR HARDWARE - OFFSET HUNG DOOR
TYPE "B" STANDARD PUSH/PULL FOR OFFSET DOORS

1/4-20 Shoulder screw 
(2) at each pull handle

(4) Set screw at each pull handle

1/4-20 Shoulder screw 
(1) at each push bar

(1) Set screw at each push bar

37-1/2" (95.3 cm) to bottom of door

3-1/8" (8.2 cm) to bottom of push bar

Hinge stile

Lock stile

PR032 Pull handle

PR034 Push bar

PR034

NOT TO SCALE
PUSH/PULL HARDWARE - PANIC DOOR

- PR032 Pull Handle
- Hinge stile
- Panic device
- Lock stile

Dimensions:
- 37-1/2" (95.3 cm) at concealed panic

Notations:
- 1/4-20 Shoulder screw (2) at each pull handle
- C of pull handle L
DOOR GLAZING INSTRUCTIONS

Door may be glazed either Installed or Laid horizontal. **NOTE:** Doors are more easily glazed in horizontal position. If glazing horizontally, leveling screw adjustments occur after hanging door.

Raise adjustable leveling screw to maximum retracted position. **See DETAIL A.**

Install glass stops, with glazing gaskets on one side of door only. If using square stops, install vertical stops first. If using beveled stops, install horizontal stops first.

Center glass in opening resting on setting blocks.

Snap-in remaining glass stops.

Turn leveling screw as required to maintain a uniform clearance between door top rail and header.

On pair of doors with Astragal adjust screws to keep proper meeting stiles clearance. **See DETAIL B.**

On all weather stripped door stiles pull the string to release weatherstrip pile after doors are installed. **See DETAIL C.**