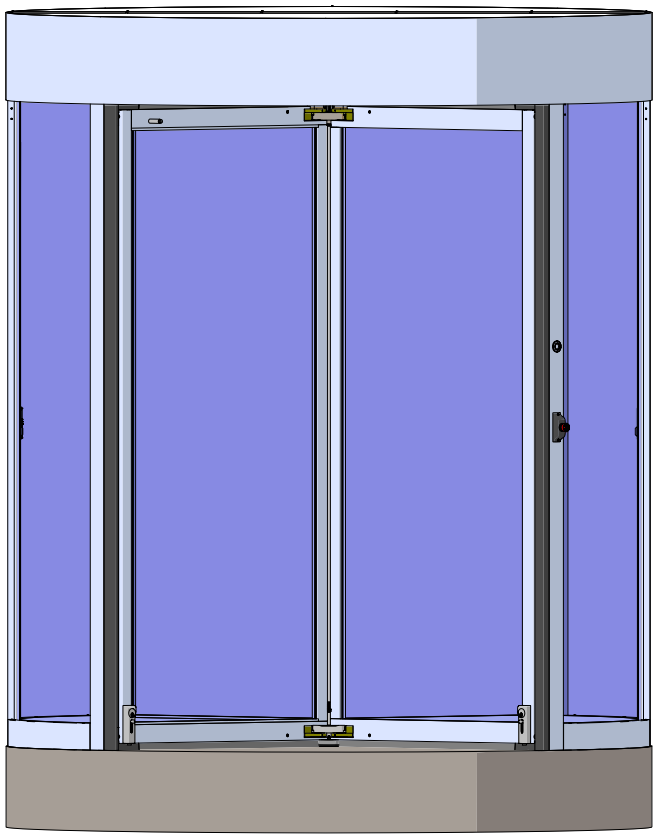
ALVARADO
dormakaba Group



S3 SECURITY REVOLVING DOOR

With Anti-tailgating And Anti-piggybacking

Owner's Manual

RL6000-017 – 04-2022

Table of contents

1 General Information

1.1 S3 security door with anti-tailgating and anti-piggybacking.

An automatically operated revolving door that prevents unauthorized access and minimizes impact on traffic flow (Reference Chapter 6).

- Anti-tailgating prevents unauthorized access in the opposite direction and in the next chamber
- Anti-piggybacking restricts access to a single confirmed person.

1.2 Owner's Manual

This Owner's manual applies to Alvarado S2 security revolving doors with anti-tailgating.

1.3 Manual storage.

This document must be kept in a secure place, and accessible for reference as required.

1.4 Dimensions

Unless otherwise specified, all dimensions are given in inches (“).

1.5 Symbols used in this manual.

⚠ WARNING

This symbol warns of hazards which could result in personal injury or threat to health.

CAUTION

Warns of a potentially unsafe procedure or situation.

TIPS AND RECOMMENDATIONS

Clarifies instructions or other information presented in this document.

2 To Our Customers

We are pleased that an Alvarado S3 security revolving door has been selected for this installation.

The purpose of this manual is to provide you information regarding your Alvarado S3 security revolving door. This includes safety, S3 security operation and maintenance information.

It is essential that you recognize the importance of maintaining your door.

It is your responsibility as owner and caretaker of the equipment, to inspect the operation of your door system to insure that it is safe for use by your customers and employees.

Call your local Alvarado distributor for repair. The distributor is trained to service the revolving door using the applicable Alvarado Installation Manual.

Service availability.
Alvarado has a nationwide network of authorized distributors for sales, installation and service of its products.

3 What You Should Know

3.1 Distributor Information

3.1.1 Alvarado distributor information.

Be sure that the Alvarado distributor has provided the following information for each door installation:

1. Alvarado Owner's Manual RL6000-017.
2. Review of S3 user interfaces (Chapter 5) and S3 security door operation (Chapter 6).
3. Discussion of problems that could result from door operation after a malfunction observed.
4. Number to call for service or questions about your revolving door if you are uncertain of any condition or situation.
5. Location of job number tag on door center shaft assembly (Reference Chapter 7, Fig. 7.4.1).

⚠ WARNING

If there are any problems, discontinue door operation immediately and secure the door in a safe manner.
Call your local Alvarado distributor for repair.

4 Safety

4.1 Intended Use

4.1.1 Intended use.

- The S3 security 4 wing revolving door is designed to provide limited access for pedestrian traffic between two separate areas.
- **Security doors are intended for use only by personnel educated in their proper use.**
- When a bookfold turnstile is used, the revolving door can be used as an emergency exit.

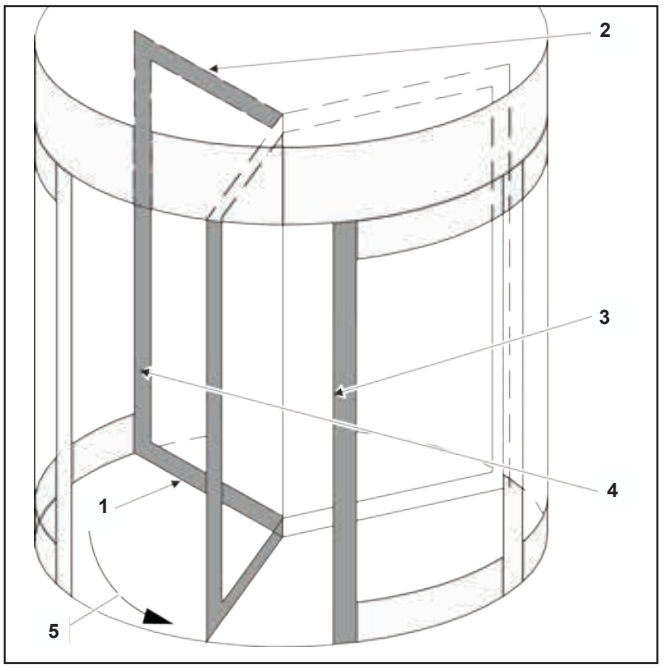
WARNING

In case of emergency, revolving door can be used as an exit, but it is not the primary path of egress. The side door(s) should be used!

4.2 Danger Points Of The Revolving Door

When passing through the revolving door, people may be at risk for injury at the following locations.

Fig. 4.2.1 Revolving door danger points



1 Secondary closing edge floor
2 Secondary closing edge ceiling
3 Opposing closing edge
4 Main closing edge inner wall
5 Wings rotating in a counterclockwise direction

- **The customer can only operate the revolving door after door commissioning by Alvarado service technicians.**

WARNING

Danger of misuse!
Misuse of the revolving door can cause dangerous situations.

- Never mount or hang objects on the revolving door.
- Never stop or block the revolving door with an object.
- Do not walk through the revolving door with bulky objects.
- Do not walk against the wing rotation direction of the revolving door.
- Do not operate the revolving door if there is insufficient lighting.
- Do not operate the revolving door if it is damaged (e.g., broken glass).
- Never use replacement parts that are not approved by Alvarado.

5 User Interfaces

5.1 User Interfaces

5.1.1 Door user interfaces, interior view.

Fig. 5.1.1 S3 door assembly user interfaces, interior view

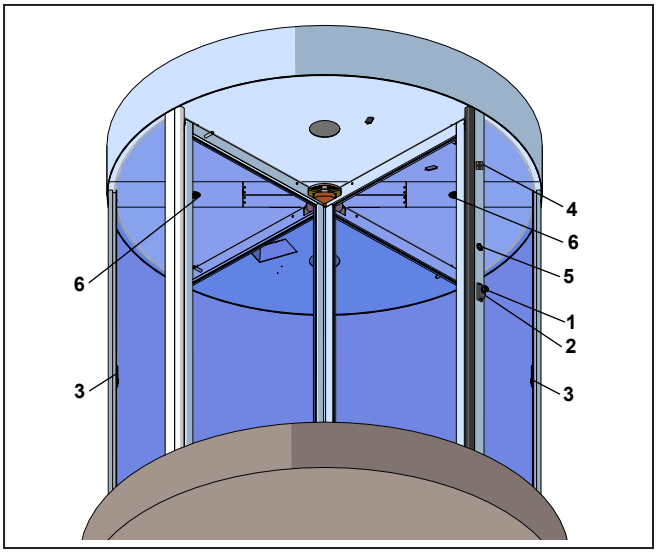


TABLE 5.4.1 Door user interfaces

ID#	Part no.	Function
1	DX3413-010	Switch, Emergency Stop
2	DX3413-020	Housing, Emergency Stop switch
3	DC7004-001	Switch, Push to Reverse
4	DX3399-030	Mode key switch panel assembly
5	DC7007-001	Activation light, interior
6	DC7009-001	Annunciator
7		Card reader, by others

Fig. 5.1.2 Push to Reverse jamb pushplate

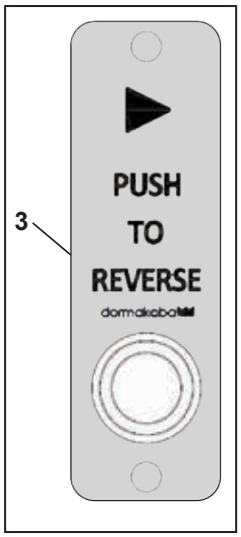


Fig. 5.1.3 Mode key switch

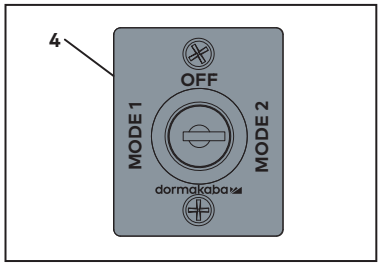


Fig. 5.1.4 Activation light

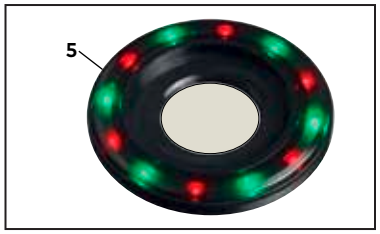


Fig. 5.1.5 Annunciator

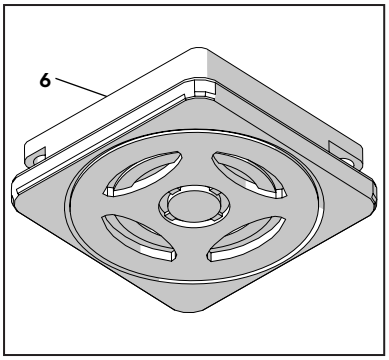
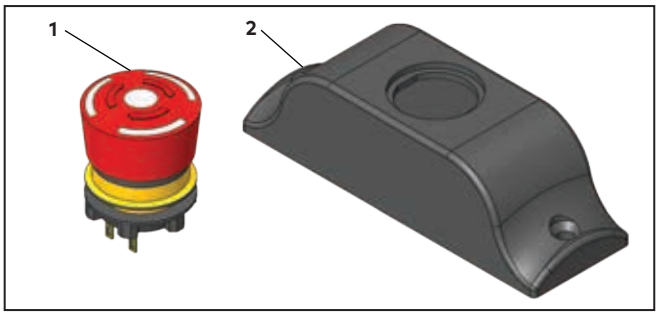


Fig. 5.1.6 Card reader example– by others

Fig. 5.1.7 Emergency stop pushbutton and housing



TIPS AND RECOMMENDATIONS

Mode key switch (4).
Mounted and wired by installer at door installation. Normally placed on right hand post or on the canopy fascia above the indicator on the secure side of the door passage.
Modes:

- Mode 1: Two way security.
- Mode 2: Free egress, security ingress.
- Off: Free wheeling.

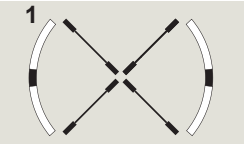
TIPS AND RECOMMENDATIONS

Card reader (7).
Card reader and associated building interface panel installed by general contractor.

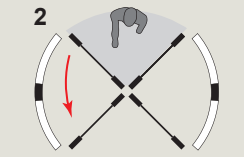
6 S3 Security Door Operation

6.1 S3 Security Door Operation, Standard Passage

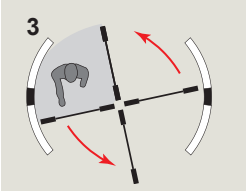
6.1.1 S3 security – standard passage.



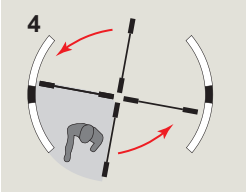
1. Door shall be normally locked in the "X" position
- Door indicator light illuminated red.



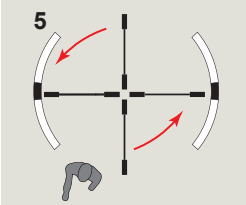
2. Upon receipt of a valid signal from the card reader:
- Door indicator light illuminates green.
- Annunciator voice message will prompt the user to enter the door.



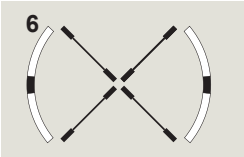
3. When the entry point sensor detects a user while the door indicator is green, the door will start rotating forward (CCW), or continue rotating if it is already in motion from previous cycle.
- The overhead presence sensor detects the person. The controller identifies the validity of the access and allows door to continue the cycle.



4. Person exits the door.



5. Door rotation speed slows down as it nears completion of its cycle and approaches the "X" position.

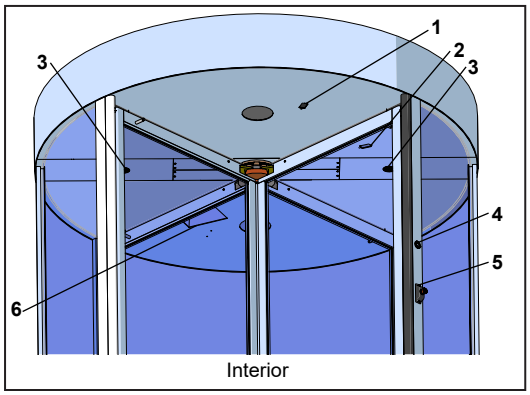


6. At the end of the cycle, the door stops and securely locks at the next ("X") position.
- Door indicator light illuminates red.

Table 6.1.1 S3 security door

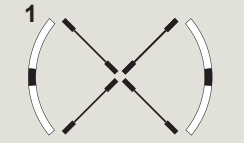
1	Egress entry point sensor
2	Egress 1 presence sensor
3	Annunciator
4	Indicator light
5	Emergency stop
6	Exterior security sensor

Fig. 6.1.1 S3 security door interior view

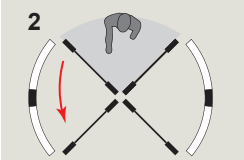


6.2 S3 Security Door Operation, Unauthorized Entry In Opposite Direction

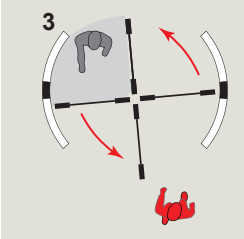
6.2.1 S3 security – unauthorized access in the opposite direction.



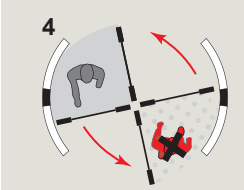
1. Door shall be normally locked in the "X" position.
- Door indicator lights illuminated red.



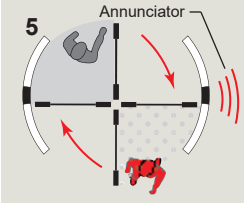
2. Upon receipt of a valid signal from the card reader
- Door indicator will illuminate green.
- Annunciator voice message will prompt the user to enter the door.



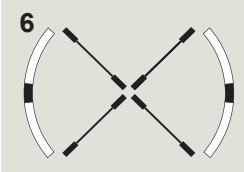
3. When the entry point sensor detects a user while the door indicator is green, the door will start rotating forward (CCW), or continue rotating if it is already in motion from previous cycle.



4. Attempted passage through an unauthorized area from the other side of the door without presenting a valid card signal will result in the door being stopped by the drive.



5. The annunciator will inform the user of an unauthorized person and that the door will reverse.
- The door then reverses to the closest ("+") position and stops rotating. Both pedestrians step out of the door.

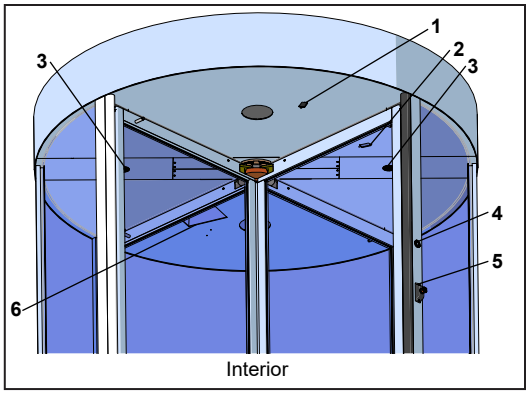


6. When the presence of the unauthorized person at the entrance is no longer detected (Step 4), the door will resume rotating in the forward direction and will securely lock at the next "X" position.
- Door indicator lights illuminated red.

Table 6.2.1 S3 security door

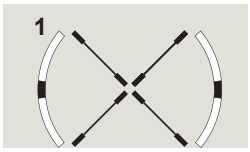
1	Egress entry point sensor
2	Egress 1 presence sensor
3	Annunciator
4	Indicator light
5	Emergency stop
6	Exterior security sensor

Fig. 6.2.1 S3 security door interior view

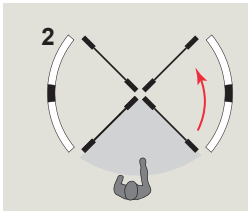


6.3 S3 Security Door Operation, Unauthorized Entry In Next Compartment

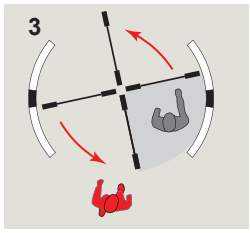
6.3.1 S2 security – unauthorized access in the next compartment (anti-tailgating).



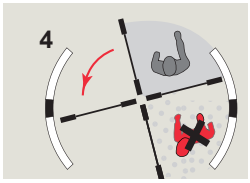
1. Door shall be normally locked in the "X" position.
- Door indicator lights illuminated red.



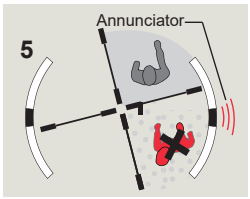
2. Upon receipt of a valid signal from the card reader:
- Door indicator will illuminate green.
- Annunciator voice message will prompt the user to enter the door.



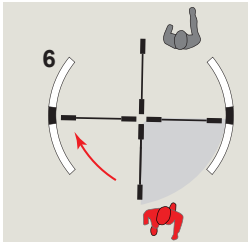
3. When the entry point sensor detects a user while the door indicator is green, the door will start rotating forward (CCW), or continue rotating if it is already in motion from previous cycle.



4. Intruder enters next available compartment.



5. Entry point and presence sensors detect intruder's presence.
- The door stops.
- The annunciator will inform the user of an unauthorized person and that the door will reverse.



6. The door then reverses to the closest ("+") position and stops, allowing the user to complete the authorized entry and the unauthorized person to clear the secured area.
7. When the presence of the unauthorized person at the entrance is no longer detected, the door will resume rotating in the forward direction and will securely lock at the next "X" position.
- Door indicator lights illuminated red.

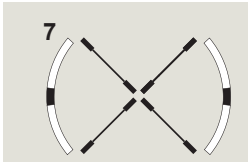
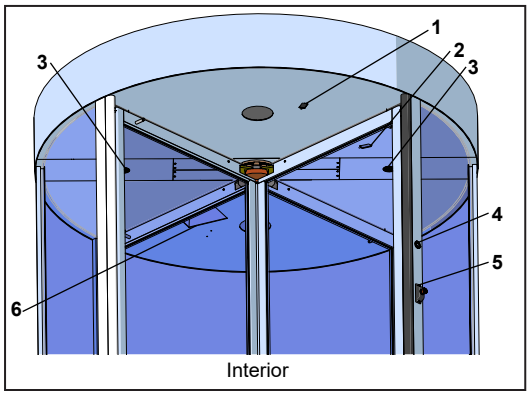


Table 6.3.1 S3 security door

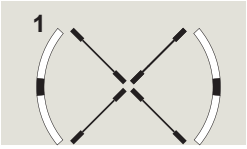
1	Egress entry point sensor
2	Egress 1 presence sensor
3	Annunciator
4	Indicator light
5	Emergency stop
6	Exterior security sensor

Fig. 6.3.1 S3 security door interior view

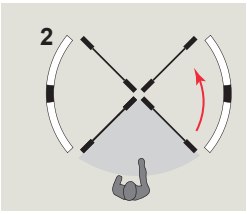


6.4 S3 Security Door Operation, Anti-piggybacking

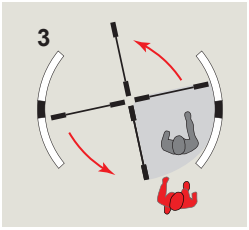
6.4.1 S3 security – Anti-piggybacking



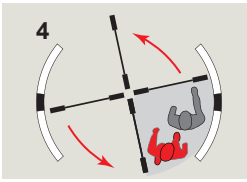
1. Door shall be normally locked in the "X" position.
- Door indicator lights illuminated red.



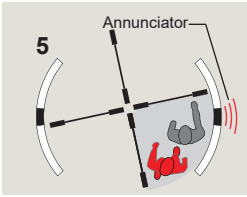
2. Upon receipt of a valid signal from the card reader:
- Door indicator will illuminate green.
- Annunciator voice message will prompt the user to enter the door.



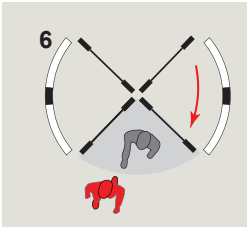
3. When the security sensor detects a user while the door indicator is green, the door will start rotating forward (CCW), or continue rotating if it is already in motion from previous cycle.



4. Intruder follows in same compartment.



5. Security sensor detects intruder's presence.
- The door stops.
- The annunciator will inform the user of an unauthorized person and that the door will reverse.



6. The door then reverses to the closest ("+") position and stops, allowing both occupants to clear the compartment.

7. When the presence of the unauthorized person at the entrance is no longer detected, the door will resume rotating in the forward direction and will securely lock at the next "X" position.
- Door indicators illuminate red.

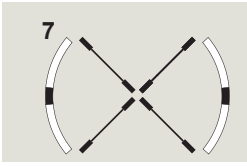
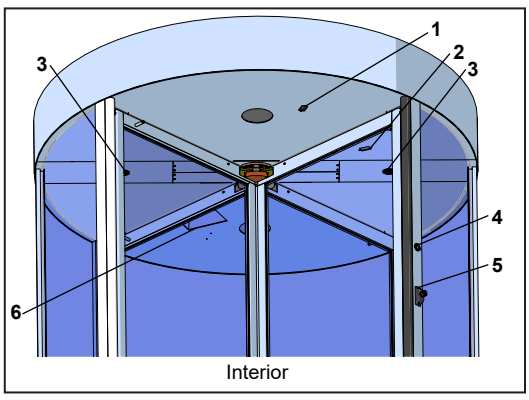


Table 6.4.1 S3 security door

1	Egress entry point sensor
2	Egress 1 presence sensor
3	Annunciator
4	Indicator light
5	Emergency stop
6	Exterior security sensor

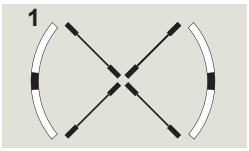
Fig. 6.4.1 S3 security door interior view



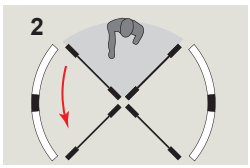
6.5 S3 Security Door Operation, Push To Reverse Buttons

6.5.1 S2 security – Push to Reverse button operation.

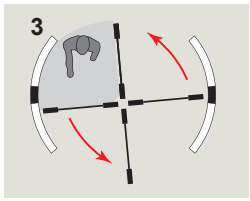
A Push to Reverse button is located on the interior side of each center post.



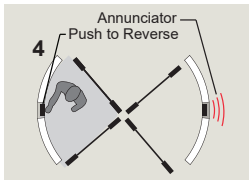
1. Door shall be normally locked in the "X" position.
- Door indicator lights illuminated red.



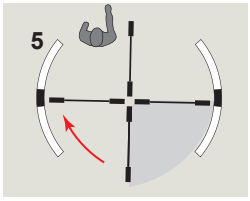
2. Upon receipt of a valid signal from the card reader:
- Door indicator will illuminate green.
- Annunciator voice message will prompt the user to enter the door.



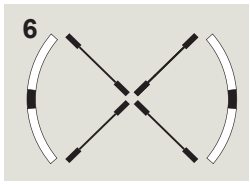
3. When the entry point sensor detects a user while the door indicator is green, the door will start rotating forward (CCW), or continue rotating if it is already in motion from previous cycle.



4. User presses Push to Reverse button:
- Door stops.
- The annunciator will inform the user that the door will reverse.



5. The door then reverses to the closest ("+") position and stops rotating. User steps out of the door.



6. When the user has exited the revolving door (Step 5), the door will resume rotating in the reverse direction and will securely lock at the next "X" position.
- The controller will not accept new requests to pass while the door is rotating in the reverse direction.
- Door indicators illuminated red.

Fig. 6.5.1 Push to Reverse

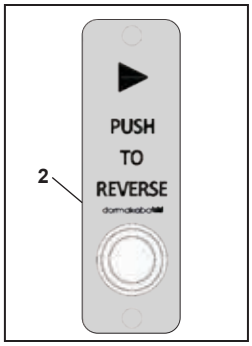
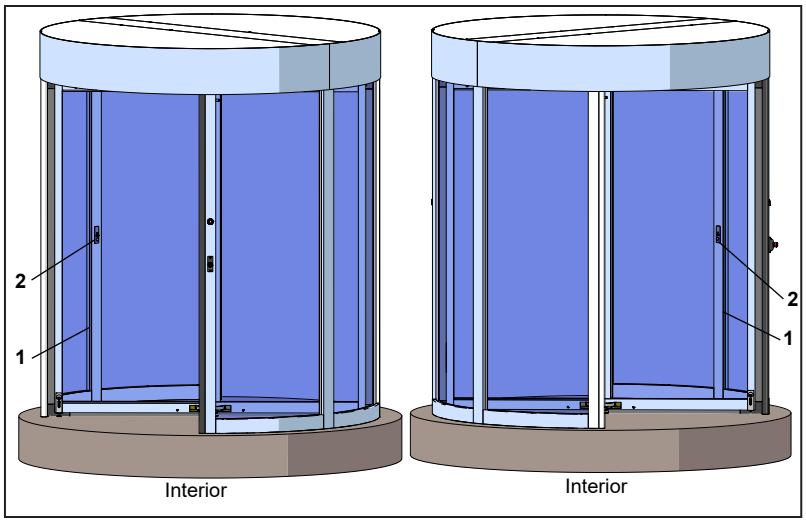


Fig. 6.5.2 S2 security door Push to Reverse buttons



1 Center post
2 Push to Reverse button

7 S3 Security Door Assembly Examples

7.1 S3 Security Door Assemblies

Fig. 7.1.1 Four wing revolving door assembly

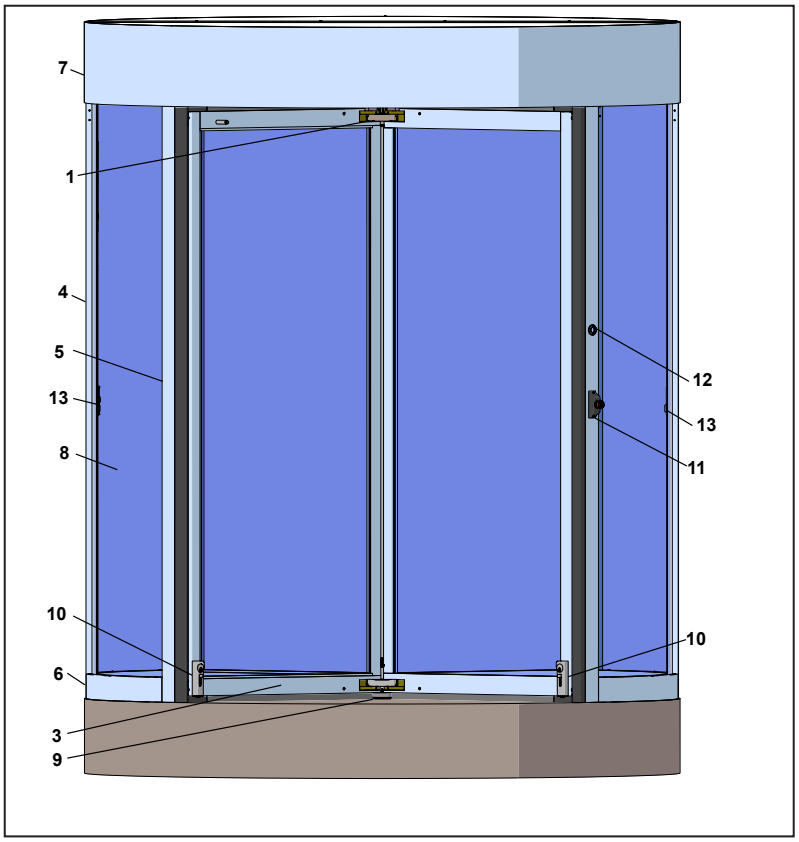


Fig. 7.1.2 Wing assembly

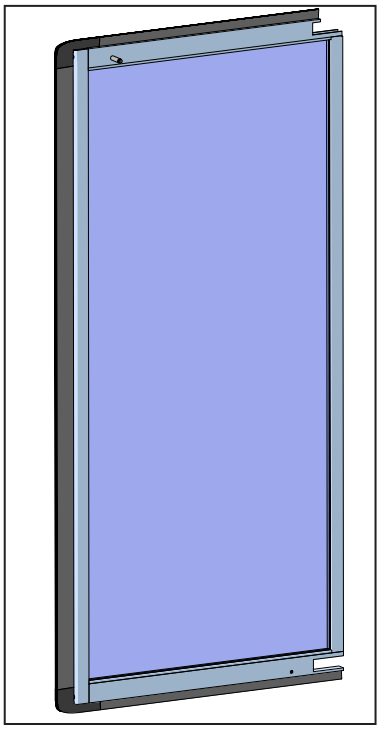


Fig. 7.1.3 Enclosure glass

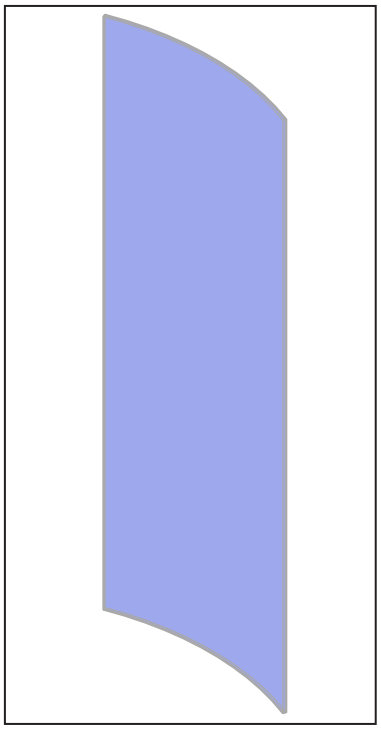


Fig. 7.1.4 Center shaft assembly, enclosure quarter post/end wall assembly and center post

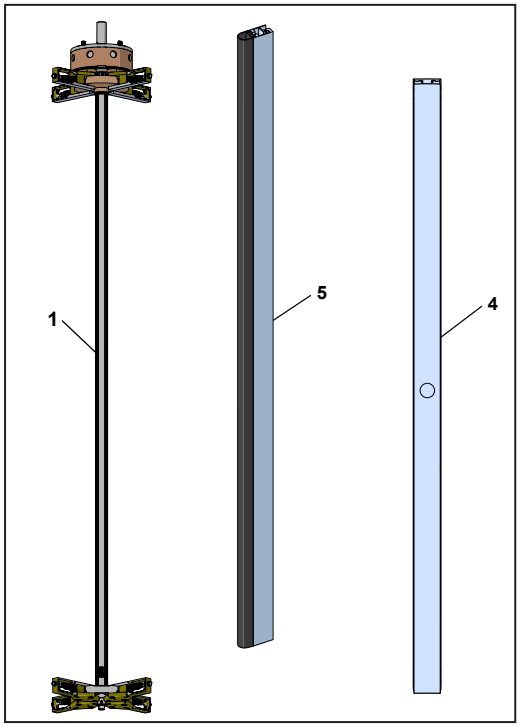


Fig. 7.1.5 Enclosure base and cover assembly

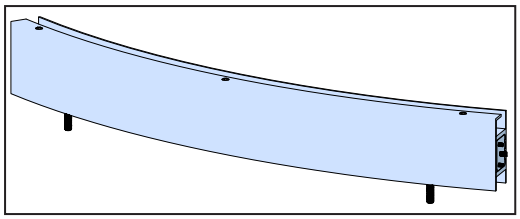


Table 7.1.1 S2 security door assembly

1	Center shaft with bookfold lock assembly
3	Wing assembly
4	Enclosure center post
5	Enclosure quarter post/end wall assembly
6	Enclosure base and cover assembly
7	Canopy assembly
8	Enclosure glass
9	Bottom pivot
10	Flush bolt assembly
11	Emergency stop
12	Activation light
13	Push to Reverse switch plate

Fig. 7.1.7 S3 security canopy bottom view

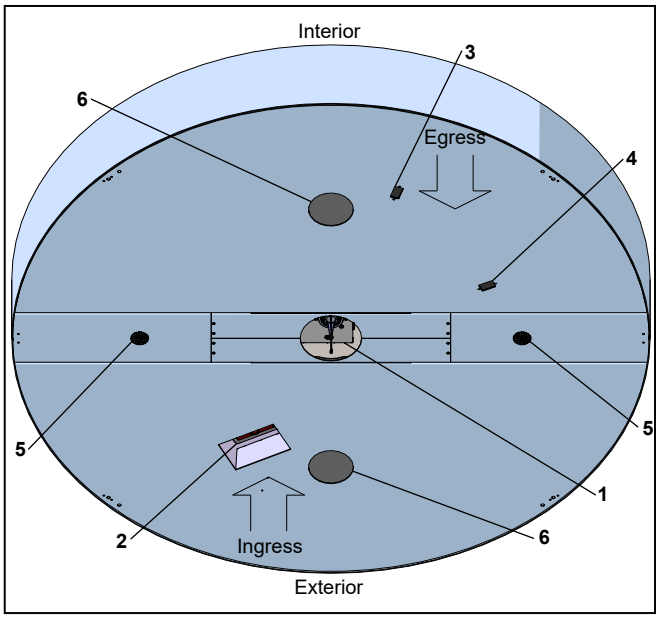
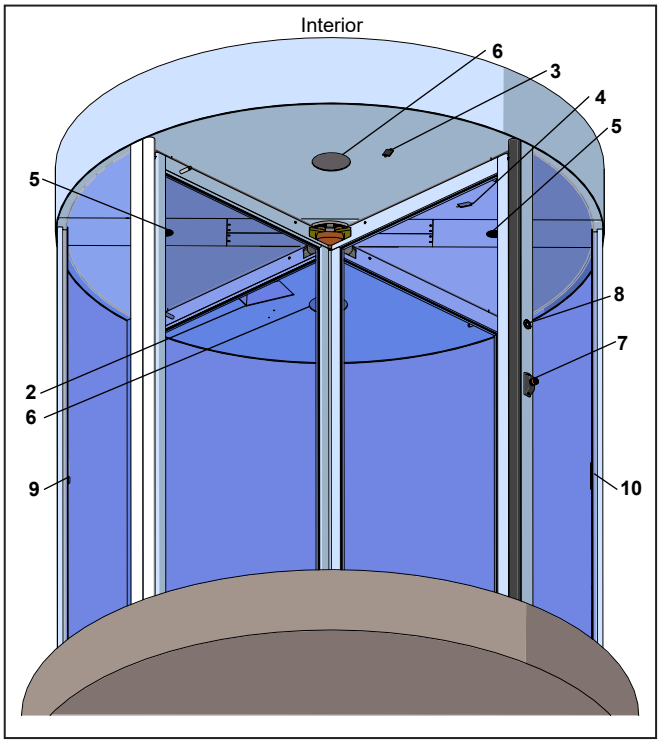


Table 7.1.2 S3 security door and canopy assembly

1	Modular drive assembly (MDS)
2	Ingress security sensor
3	Egress entry point sensor
4	Egress 1 presence sensor
5	Annunciator
6	LED light (option)
7	Emergency stop pushbutton
8	Indicator light
9	Push to Reverse, exterior
10	Push to Reverse, interior

Fig. 7.1.3 S3 security door



7.2 Door Wing Example

Fig. 7.2.1 Aluminum 4 wing assembly

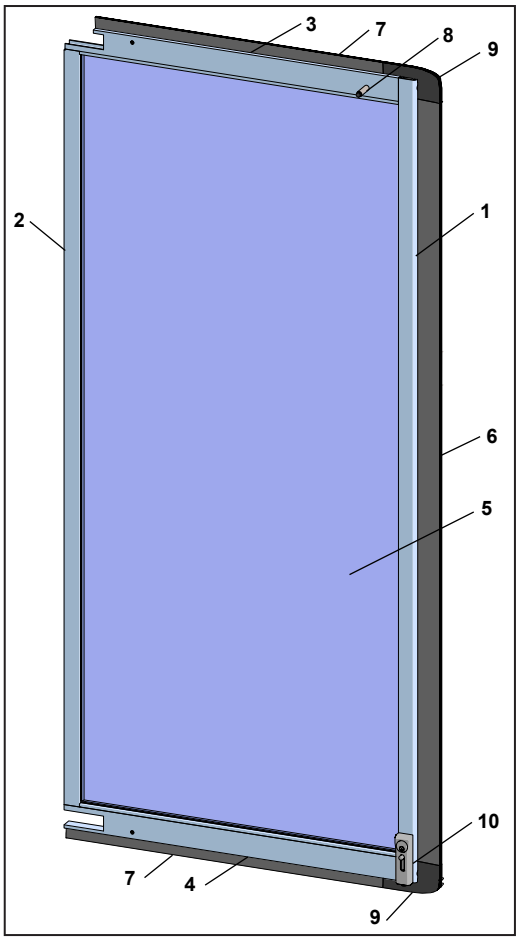
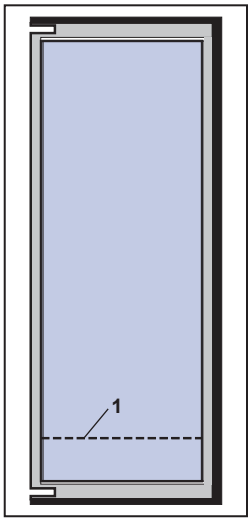


Table 7.2.1 Aluminum 4 wing assembly

1	Wing outer extrusion, flush bolt
2	Wing center extrusion
3	Wing top extrusion
4	Wing bottom extrusion
5	Wing glass
6	Sweep brush vertical
7	Sweep brush horizontal
8	Wing bumper assembly
9	Sweep brush corner
10	Flush bolt

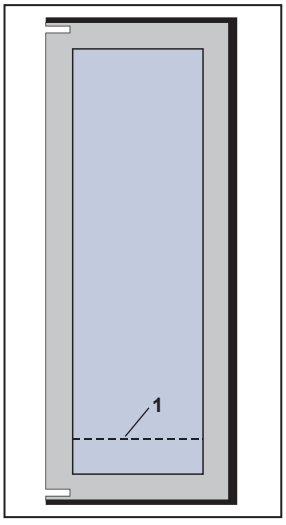
7.3 Door Wing Types

Fig. 7.3.1 Narrow stile



1 Optional tall bottom rail

Fig. 7.3.2 Medium & Wide stile



1 Optional tall bottom rail

Fig. 7.3.3 Patch fitting

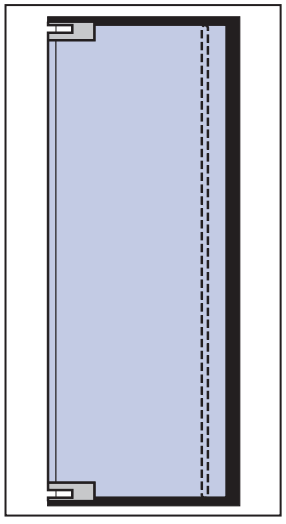
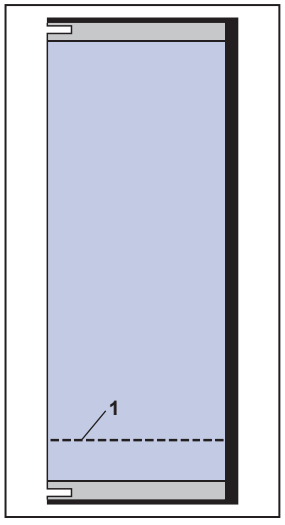


Fig. 7.3.4 Herculite



1 Optional tall bottom rail

7.4 Center Shaft And Bookfold Lock Assembly

7.4.1 Bookfold Lock Overview.

1. Bookfold lock is normally engaged preventing wing bookfolding.

2. Bookfold lock is released when:

- Fire alarm is present.
- Emergency stop pushbutton activated.
- Power is off.

Fig. 7.4.1 Center shaft assembly with bookfold lock

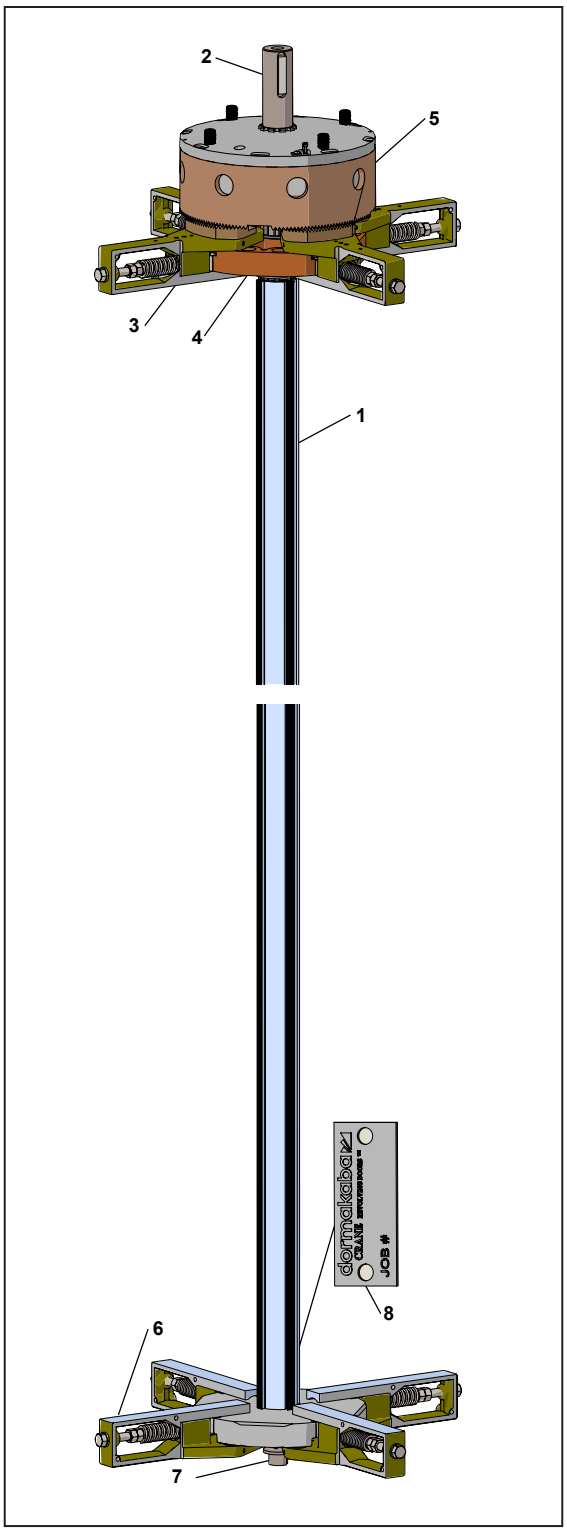
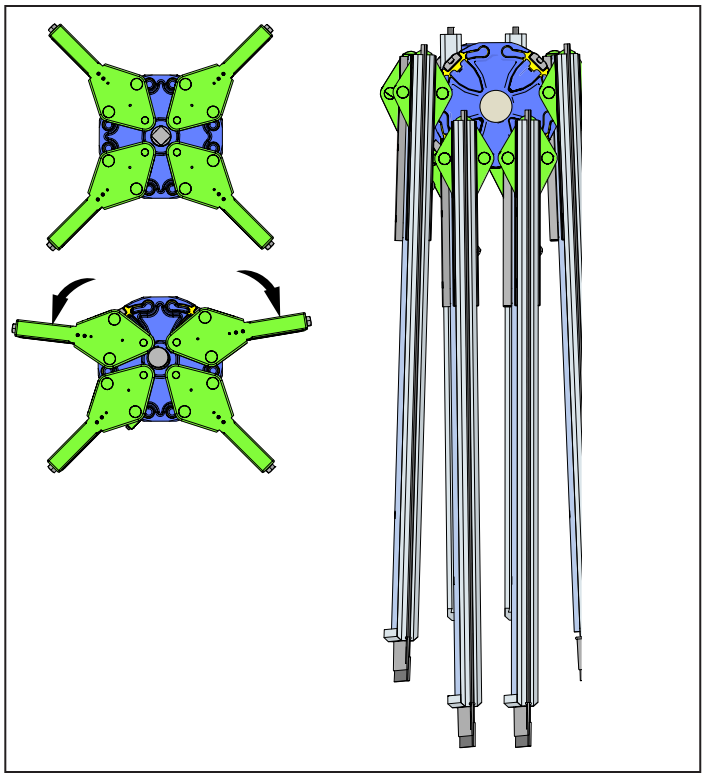


Table 7.4.1 Center shaft with bookfold lock assembly

1	Center shaft assembly
2	Splined shaft
3	Top hanger assembly with AB hanger for bookfold lock
4	Center shaft disc assembly, 4 wing
5	Bookfold lock assembly
6	Bottom hanger assembly
7	Bottom plug
8	Nameplate/job number tag

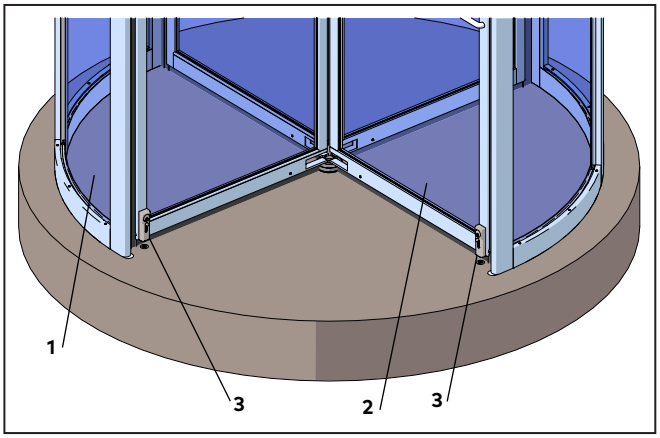
Fig. 7.4.2 Wings in bookfold position



8 Maintenance

8.1 Door and Floor Maintenance

Fig. 8.1.1 4 wing revolving door



1 Enclosure glass
2 Wing glass
3 Flush bolt and floor strike

8.1.1 Floor maintenance.

1. Keep floor surface clean and free of dirt and debris.

8.1.2 Mechanical flush bolts and floor strikes.

1. Keep flush bolts and floor strikes free of dirt and debris.

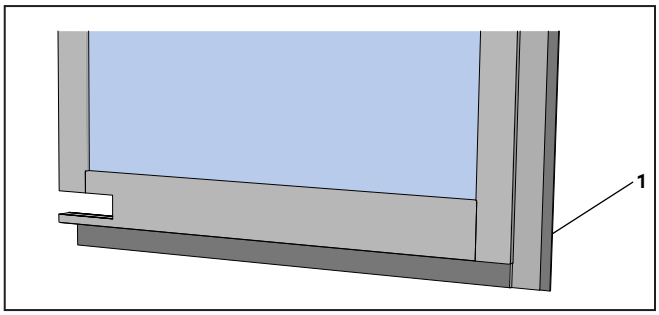
8.1.3 Door glass maintenance.

1. Keep all glass surfaces clean.

- Clean glass surfaces with commercially available glass cleaners.

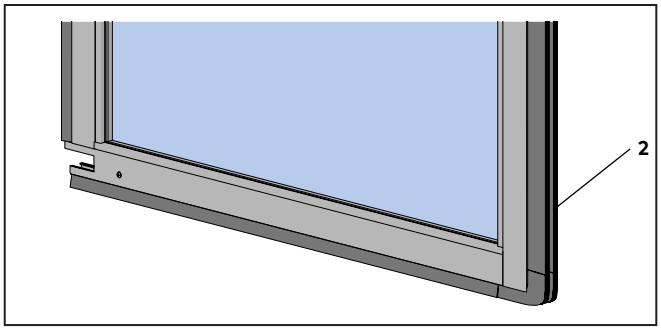
8.2 Weathersweeps

Fig. 8.2.1 T-style weathersweep



1 T-style weathersweep

Fig. 8.2.2 Horsehair weathersweep



2 Horsehair weathersweep

8.2.1 Weathersweep maintenance.

NOTICE

Reducing or trimming the size of the bottom sweep makes the sweep more rigid and voids all warranties.

1. Inspect condition of sweeps.

- Recondition horsehair sweeps if possible using conditioner.

2. Replace weathersweeps as required.

- Contact Alvarado for replacement weathersweeps.

8.3 Center Shaft Assembly Floor Pivot Bearing

Fig. 8.3.1 Floor mounted pivot bearing

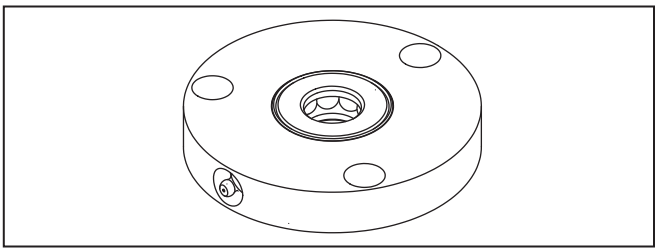
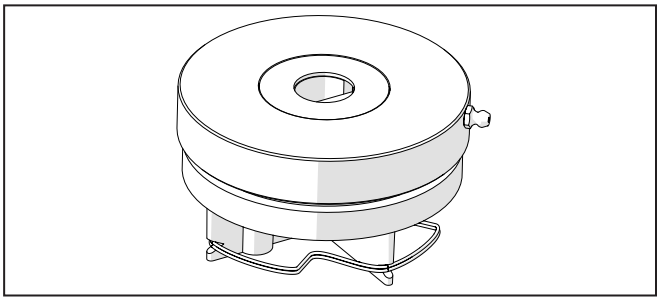


Fig. 8.3.2 In-ground pivot bearing



8.3.1 Pivot bearing lubrication.

1. Grease pivot bearing semiannually.

TIPS AND RECOMMENDATIONS

Use general multipurpose grease.

8.3.2 Cleaning pivot bearing/center shaft.

1. Clean surface area at pivot bearing/center shaft of dirt and debris as required.

8.4 Cleaning surfaces

8.4.1 Aluminum

1. Dust and grime can be removed by regular cleaning.
- Use a mild, non-abrasive soap or cleaning solution and water.
- After cleaning, surfaces should be wiped dry with a clean absorbent material.

2. Tar and built-up dirt can be removed with solvent cleaners such as turpentine if followed by a soap and water cleaning and fresh water rinse.

NOTICE

Avoid acid or alkali cleaners; they may attack the anodized finish.

- After cleaning, surfaces should be wiped dry with a clean absorbent material.

8.4.2 #4 stainless steel.

1. For routine cleaning, use soap, ammonia, or detergent and water.
- Always working in the direction of the grain, rub with a sponge or rag.
- Rinse with water, wipe dry.

2. Stubborn dirt or grime can be removed with a quality commercial stainless steel cleaner.

8.4.3 Mirror finish stainless steel.

NOTICE

Mirror finishes require very special care. Abrasive cleaners and cloths should never be used.

1. Use only mild soap and water or glass cleaner.
- After cleaning, surfaces should be wiped dry with a clean absorbent material.

8.4.4 Bronze

NOTICE

To insure proper maintenance, consult a professional bronze finisher and establish a regular metal cleaning program.

1. Bronze finishes are protected during shipping and installation by a shop coat of lacquer.

NOTICE

Lacquer can be damaged by ammonia in window cleaners, or by acids from masonry cleaners. Protect doors from these cleaners.

NOTICE

Doors must be inspected and worked after installation by a qualified bronze finisher.

8.4.5 Painted finishes.

1. Any mild non-abrasive soap or mild solvent can be used for cleaning.

NOTICE

Strong solvents may dissolve paint. Test any solvent first.

2. Wax can be used to protect the finish.

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